国家科技计划项目汇交科技资源及成果信息（农业领域）

论文:

【题目】Molecularly imprinted polymer layer-coated silica nanoparticles toward dispersive solid-phase extraction of trace sulfonylurea herbicides from soil and crop samples
【中文关键词】无
【英文关键词】Molecular imprinting；Dispersive solid-phase extraction；Programmed heating；Nanosilica Sulfonylurea herbicides；Trace analysis
【中文摘要】无
【英文摘要】This paper reports the preparation of metsulfuron-methyl (MSM) imprinted polymer layer-coated silica nanoparticles toward analysis of trace sulfonylurea herbicides in complicated matrices. To induce the selective occurrence of surface polymerization, the polymerizable double bonds were first grafted at the surface of silica nanoparticles by the silylation. Afterwards, the MSM templates were imprinted into the polymer-coating layer through the interaction with functional monomers. The programmed heating led to the formation of uniform MSM-imprinted polymer layer with controllable thickness, and further improved the reproducibility of rebinding capacity. After removal of templates, recognition sites of MSMwere exposed in the polymer layers. As a result, the maximum rebinding capacity was achieved with the use of optimal grafting ratio. There was also evidence indicating that the MSM-imprinted polymer nanoparticles compared with nonimprinted polymer nanoparticles had a higher selectivity and affinity to four structure-like sulfonylurea herbicides. Moreover, using the imprinted particles as dispersive solidphase extraction (DSPE) materials, the recoveries of four sulfonylurea herbicides determined by highperformance liquid chromatography (HPLC) were 80.2 – 99.5%, 83.8 – 102.4%, 77.8 – 93.3%, and 73.8 – 110.8% in the spiked soil, rice, soybean, and corn samples, respectively. These results show the possibility that the highly selective separation and enrichment of trace sulfonylurea herbicides from soil and crop samplescan be achieved by the molecular imprinting modification at the surface of silica nanoparticles.
【语种】英文
【第一作者】彭艳
【通讯作者】都述虎
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【题目】Tuning of the vinyl groups’ spacing at surface of modified silica in preparation of high density imprinted layer-coated silica nanoparticles: A dispersive solid-phase extraction materials for chlorpyrifos
【中文关键词】无
【英文关键词】Molecular imprinting；Modified silica nanoparticles；Grafting to；Dispersive solid-phase extraction；Phosphate pesticides
【中文摘要】无
【英文摘要】This paper reports the preparation of high density imprinted layer-coated silica nanoparticles towardselective recognition and fast enrichment of chlorpyrifos (CP) from complicated matrices. The molecularlyimprinted polymers (MIPs) were successfully coated at the surface of modified silica through using thechemical immovable vinyl groups at the nanoparticles’ surface, followed by the graft copolymerizationof methacrylic acid (MAA) and ethylene glycol dimethacrylate (EGDMA) in the presence of templates CP.It has been demonstrated that the space of end vinyl groups at the surface of silica can be controlled bychanging the condition of chemical modification, regulating the thickness of imprinted shells and thedensity of efficient imprinted sites. After removal of templates by solvent extraction, the recognitionsites of CP were created in the polymer coating layer. The CP-imprinted nanoparticles exhibited highrecognition selectivity and binding affinity to CP analyte. When the CP-imprinted nanoparticles wereused as dispersive solid-phase extraction (dSPE) materials, the high recovery yields of 76.1 – 93.5% fromvarious spiked samples with only 1 ug/mL analyte were achieved by one-step extraction. These resultsreported herein provide the possibility for the separation and enrichment ofCPfrom complicated matricesby the molecular imprinting modification at the surface of common silica nanoparticles.

【语种】英文
【第一作者】陆庆
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【题目】An efficient hybrid design to prepare highly dense imprinted layer-coated silica particles for selective uptake of trace metsulfuron-methyl from complicated matrices
【中文关键词】无
【英文关键词】Molecular imprinting; “ Grafting from ”; “ Grafting through ”; Quantum mechanics; Metsulfuron-methyl
【中文摘要】无
【英文摘要】This work presents an approach called ‘ ‘ hybrid design ’ ’ which combines ‘ ‘ grafting from ’ ’ and ‘ ‘ grafting through ’ ’ methods, in order to prepare highly dense imprinted layer-coated silica particles for improved binding capacity to metsulfuron-methyl (MSM). The imprinted conditions including the kind of solvent and molar ratio of template to functional monomer were carefully optimized by quantum mechanics method. The obtained imprinted materials were evaluated by transmission electron microscopy and rebinding experiments, exhibiting well-controlled shell thickness (up to 30 nm) and high binding affinity to MSM. Moreover, the rebinding amount of MSM-imprinted particles to MSM was nearly 1.6- and 1.4-folds that of normal surface-imprinted particles, respectively. When the MSM-imprinted particles were used as dispersive solid-phase extraction materials, the recoveries (RSDs) of MSM determined by high-performance liquid chromatography (HPLC) were 93.4% (1.5%), 86.8% (3.2%) and 88.4% (2.7%) in the spiked water, soil and wheat samples, respectively. Therefore, the method will provide new opportunities for enrichment and detection of trace MSM from complicated matrices.
【语种】英文
【第一作者】谢颖
【通讯作者】都述虎
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【引文索引号】无
【学科分类】药物化学

【题目】Molecularly imprinted layer-coated silica nanoparticles toward highly selective separation of active diosgenin from Dioscorea nipponica Makino
【中文关键词】无
【英文关键词】Molecular imprinting；Seed-directing；Thermally cleavable reaction；Diosgenin Separation
【中文摘要】无
【英文摘要】This paper reports the molecularly imprinted layer-coated silica nanoparticles toward highly selective separation of active diosgenin (DG) from the crude extracts of Dioscorea nipponica Makino (DNM). It has been demonstrated that DG templates were efficiently imprinted into the silica layer by the use of thermally cleavable urethane bonds between DG and 3-isocyanatopropyltriethoxysilane (IPTS), which was synchronously coated onto the surface of silicamother nanoparticles through a seed-directing surface condensation reaction between DG-IPTS and tetraethoxysilicane (TEOS). After removal of templates by simple thermal cleavage reaction, a high density of recognition sites of DG were created in the silicacoatinglayer. Afterwards, the DG-imprinted silica nanoparticleswere evaluated by rebinding experiments and showed a higher selectivity and affinity to DG than commercial silica. When the imprinted particles were used as solid-phase extraction (SPE) sorbents, the recovery yield of DG was up to 90% by one-step extraction from the hydrolysate of DNM, and the purity of DGwas larger than 98% by HPLC analysis. These results reported herein provide the possibility for the highly selective separation and purification of activeDG from DNM by the molecular imprinting modification at the surface of common silica adsorbents.

【语种】英文
【第一作者】翟春晓
【通讯作者】都述虎
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【学科分类】药物化学

【题目】磺酰脲类除草剂在水、土壤及小麦中残留分析的前处理方法研究
【中文关键词】磺酰脲类除草剂; 前处理; 固相萃取; 高效液相色谱
【英文关键词】Sulfonylurea herbicides; Pretr eatment; High performance liquid chramatography
【中文摘要】分别采用不同的前处理方法处理水、土壤和小麦样品。水样采用C18固相萃取小柱净化和富集; 土壤样品以二氯甲烷为提取剂, 超声波提取, 液2液分配净化; 小麦样品经二氯甲烷超声波提取, 氟罗里硅土柱净化、富集。样品中磺酰脲除草剂甲磺隆、氯磺隆、苄嘧磺隆的残留量采用高效液相色谱2紫外检测器同时测定。三种磺酰脲除草剂在0. 1~ 4. 0 mg L- 1范围内线性良好, 相关系数在0. 9996~ 0. 9997 之间。水样、土壤样品和小麦样品的平均加标回收率分别为82. 0% ~ 107. 0%、84. 5% ~ 100. 6%、80. 0% ~ 98. 5% , 相对标准偏差在0. 7%~ 11. 2%之间。
【英文摘要】Several pretr eatment methods were used for analysis of metsulfur on2methyl (MSM) ,chlorsulfuron(CS) and bensulfuron-methyl(BSM) in water, soil and wheat. Residues in water were purified by the SPE2C18 column. Soil samples were also extracted with dichloromethane by ultrasonic wave and purified by liquid2liquid extraction. Wheat samples were first extracted with dichloromethane by ultrasonic wave, and followed by passing through a SPE2Florisil column. T he MSM, CS and BSM residues in samples were then determined by high per formance liquid chromatography with UV detector. The linear range was 0. 1~ 4. 0 mg L- 1 with correlation coefficients of 0. 9996~ 0. 9997. T he recoveries were in the range of 82. 0% ~ 107. 0%, 84. 5% ~ 100. 6%, 80. 0% ~ 98. 5%, with relative standard deviations (RSDs) of 0. 7% ~ 2. 0% , 0. 9% ~ 10. 1%, 1. 0% ~ 11. 2% for the spiked water, soil and wheat samples, respectively.
【语种】中文
【第一作者】吴艳娇
【通讯作者】杨红
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【题目】水、土壤和蔬菜中毒死蜱、甲基毒死蜱残留检测前处理方法
【中文关键词】：毒死蜱；甲基毒死蜱；残留；前处理；高效液相色谱法
【英文关键词】chlorpyrifos; chlorpyrifos-methyl; residues; preparation; HPLC
【中文摘要】：建立了环境中水、土壤和蔬菜中毒死蜱和甲基毒死蜱残留量同时检测的前处理方法和高效液相色谱法分析方法。 水样直接用LC-18固相萃取小柱分离、净化和富集；采用乙酸乙酯-石油醚(体积比2∶1)振荡提取，LC-18固相萃取小柱分离和净化，测定土壤中毒死蜱和甲基毒死蜱残留量；以乙腈为提取剂，LC-18固相萃取小柱分离、净化，测定蔬菜样品中毒死蜱和甲基毒死蜱的残留量。 结果表明：高效液相色谱法检测毒死蜱和甲基毒死蜱的线性范围为0.1~8.0 mg/L，相关系数分别为0.999 6、0.999 4，最低检测质量浓度分别为10、5 μg/L。 水样中毒死蜱和甲基毒死蜱加标平均回收率分别为80.5%~81.0%和88.8%~92.4%，相对标准偏差为0.5%~1.4%和2.1%~4.6%；土壤中加标平均回收率为80.7%~98.0%和85.0%~95.5%，相对标准偏差为0.4%~1.0%和1.1%~3.9%；蔬菜中加标平均回收率为80.4%~84.4%和80.7%~83.7%，相对标准偏差为0.8%~3.0%和1.8%~3.3%。
【英文摘要】A preparation method for simultaneous determination of pesticides chlorpyrifos and chlorpyrifos-methyl in water, soil and vegetable by high-performance liquid chromatography (HPLC) was developed. Water samples were exacted and collected by solid-phase extraction LC-18 column. Soil samples were extracted by ethyl acetate-petroleum ether(2:1, by vol) and purifi ed and collected by solid-phase extraction LC-18 column. Vegetable sample was extracted by acetonitrile and purifi ed and collected by solid-phase extraction LC-18 column. The calibration curves of the method were determined in the range of 0.1 to 8.0 mg/L both

chlorpyrifos and chlorpyrifos-methyl, with the correlation coeffi cients (r 2)were 0.9996 and 0.9994 respectively. With the minimal detection limits being 10 and 5 μg/L. The spiked recoveries of chlorpyrifos and chlorpyrifos-methyl in water sample ranged from 80.5 to 81.0% and 88.8 to 92.4%, the soil sample from 80.7 to 98.0% and 85.0 to 95.5%, the vegetable sample from 80.4 to 84.4% and 80.7 to 83.7%, respectively. With the relative standard deviations (RSD) in water, soil and vegetable samples were from 0.5 to 1.4% and 2.1 to 4.6%, 0.4 to 1.0% and 1.1 to 3.9%, 0.8 to 3.0% and 1.8 to 3.3% respectively.

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【第一作者】张 超
【通讯作者】杨红
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【题目】Yan Peng, Jing Luo, Qing Lu, Xuemei Chen, Ying Xie, Lina Chen,Wei Yang, Shuhu Du*. HPLC analysis, semi-preparative HPLC preparation and identi fi cation of three impurities in salidroside bulk drug
【中文关键词】无
【英文关键词】Salidroside bulk drug；Impurities；Identification；HPLC；Determination
【中文摘要】无
【英文摘要】Salidroside is a bioactive compound mainly distributed in Rhodiola L. (Crassulaceae). It has been widely used in Chinese traditional medicine. In this paper, three impurities were found during the analysis of salidroside bulk drug. The enrichment of impurities was carried out by ODS column chromatography, using methanol – water (13:87, v/v) as eluent and the purification of impurities was achieved by semi-preparative HPLC, using methanol – water (11:89, v/v) as mobile phase, respectively.Three impurities were characterized as 4-(2-hydroxylethyl)-phenol-1-O- -d-glucopyranoside,4-hydroxyphenacyl-d-glucopyranoside and p-acetylphenyl-O- -d-glucopyranoside by a variety of spectral data (IR, UV, MS, 1H NMR, 13C NMR, DEPT and 2D NMR). The simultaneous quantitative determination of salidroside and its impurities (Imp. 1, 2 and 3) was performed by reverse-phase HPLCmethod with UV detection. Specificity, linearity, sensitivity, precision and accuracy were evaluated.
【语种】英文
【第一作者】彭艳
【通讯作者】都述虎
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【学科分类】药物化学

【题目】TAIL-PCR对红莲型水稻不育系特异片段HL-sp1侧翼序列的分析
【中文关键词】红莲型水稻；细胞质雄性不育；线粒体；TAI[一PCR
【英文关键词】Hong—lian rice：cytoplasmic male sterility；mitochondria；TAIL-PCR
【中文摘要】以红莲型水稻不育系粤秦A(YTA)线粒体DNA为模板，在具有细胞质遗传的线粒体特异性片段HL—sp侧翼各设计3条特异性巢式引物(LSP1、LSP2、LSP3、RSP1、RSP2、和RSP3)，利用特异性引物和随机引物AD1、AD2和AD3，通过热交错PCR(TAIL—PCR)扩增H，J—spl的侧翼序列。通过扩增和序列分析得到了HL-sp 5 侧翼l 456 bp和3 侧翼2 570 bp的序列。改进后的TAIL—PCR方法为线粒体目的片段的侧翼序列分析提供了一种简单而高效的方法。
【英文摘要】Mitochondrial genomic DNA of Yuetai A—Hong-lian cytoplasmic male sterility (HL—CMS)lines were taken as rood—e1. and three nested special primers sets were designed in the end region of HL-sp， which were named LSP1、LSP2、LSP3、RSP1、RSP2 and RSP3. Improved TAR 一PCR technique was used to amplify the flanking sequence of HL—spl utilizing thosethree nested sequence specific primers with a shorter arbitrary degenerated primer (AD 1，AD2，AD3)，respectively. The am—plifying results and the sequence analysis indicated that a 1 456 bp flanking sequence of 5-end and a 2 570 bp flanking se—quence 0f 3-end of HL—sp，were obtained. TAIL—PCR provided a simple and efficient method for the cloning of the，J—sp lflanking sequences.

【语种】中文
【第一作者】李丕顺
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【题目】籼梧粤泰B成熟胚愈伤组织诱导培养条件初探
【中文关键词】籼稻；粤泰B；成熟胚；愈伤组织；诱导
【英文关键词】Indica rice; Yue-tai B ; 成熟胚；callus; induce
【中文摘要】对籼稻HL-CMS保持系粤泰B种子成熟胚的愈伤组织诱导培养条件进行了初步探讨。结果表明，将存储的成熟种子于50℃预处理2d，种子表面消毒清洗后，晾干2～3h，在12 h 1 800 μmo1·m-2·s-1光照12h /黑暗12h、温度为24～30℃的较大的组织培养室内，采用pH 5.9～6.0、添加3.0 mg·L-1 2，4-D的N6培养基上粤泰B种子的愈伤诱导率可达93%，且愈伤组织的生长状况很好，为不育基因向籼稻HL-CMS保持系粤泰B的遗传转化奠定了基础。
【英文摘要】 In this paper the inducing and culturing condition of callus for indica rice YueTai B were studied. The results showed that under the improved combinative condition the inducible ratio for callus is more than 93%, and the status of the callus growth is very well. The combinative condition included that treating the storage rice seed with 50°C for 2 days, airing the seeds for 2-3 hours after sterilizing and washing, culturing under 12 h 1800 μmo1·m-2·s-1 light/12 h darker, 24-30°C, pH 5.9-6.0 N6 medium with 3.0 mg·L-1 2, 4-D. This result provided a basis for the genetic transformation of indica rice HL-CMS maintainer Yue-tai B.
【语种】中文
【第一作者】周杰
【通讯作者】刘学群
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【题目】红莲型细胞质雄性不育(HL-CMS)水稻不育系与保持系中3个ANTs基因表达模式的比较
【中文关键词】水稻; ANTs; 实时荧光定量PCR; 基因表达
【英文关键词】rice (Oryza sativa); ANTs; real-time quantitative PCR; gene expression
【中文摘要】探讨红莲型细胞质雄性不育(HL-CMS)水稻不育系‘粤泰A’(‘YTA’)和保持系‘粤泰B’(‘YTB’)中3个腺苷酸转位酶(ANT)基因在三叶期根、茎、叶以及不同发育时期的幼穗中的表达模式。结果表明: ANT1和ANT2在‘YTA’和‘YTB’三叶期的根、茎、叶中的表达量都较高, 而在生殖生长不同时期的幼穗中表达量较低。‘YTA’中ANT1在不同时期的幼穗中表达量都较低, 而ANT2的表达量到穗生长期II的幼穗才较低。‘YTB’中ANT1在生殖生长的穗生长期III的幼穗具有很高的表达。ANT3的表达水平在研究的各组织中的表达都较低, 在‘YTB’穗生长期V的幼穗中表达最高。相对于‘YTA’, ‘YTB’中只有ANT3在穗生长期III和穗生长期V的幼穗中呈现明显的优势表达, 而相对于‘YTB’, ‘YTA’中ANT2和ANT3在穗生长期I、ANT2在穗生长期VI幼穗具有明显的优势表达。3个ANTs基因在HL-CMS不育系‘YTA’和保持系‘YTB’不同组织及发育时期的表达模式的差异, 暗示它们可能与HL-CMS水稻不育系和保持系的发育调控有关。
【英文摘要】The expression mode of the three adenine nucleotide translocase (ANT) genes in roots, stems and leaves at the 3-leaf stage, and in spikes at the different developmental phases of sterile line ‘Yuetai A’(‘YTA’) and its maintainer line ‘Yuetai B’(‘YTB’) of Honglian-type cytoplasmic male sterile (HL-CMS) rice was studied in this paper. The results showed that the expression of ANT1 and ANT2 was obviously higher in roots, stems, leaves at the 3-leaf stage than in the spikes at the reproductive stage in both ‘YTA’ and ‘YTB’. Compared with the higher ANT1 expression at spike development stage III in ‘YTB’, the lower expression of ANT1 was observed during the whole reproductive phases in ‘YTA’, and the lower expression of ANT2 was present only after the spike development stage II. The expression of ANT3 at all the detected stages of both ‘YTA’ and ‘YTB’ was lower than ANT1 and ANT2, although a relatively high expression was observed at the spike development stage V in ‘YTA’. There were

the preponderant expressions of ANT2 at the spike development stage I and spike development stage VI in ‘ YTA ’, while ANT3 had the preponderant expression at the spike development stage III and spike development stage V in ‘ YTB ’. The expression mode differences among the three ANTs between ‘ YTA ’ and ‘ YTB ’ may be involved in the developmental control of sterile line and its maintainer line of HL-CMS rice.

【语种】中文
【第一作者】罗凤燕
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【题目】栽培稻与O. officinalis相似群野生稻基因组VDAC基因的比较研究
【中文关键词】栽培稻；野生稻；VDAC基因；比较研究
【英文关键词】cultivated rice; wild rice; VDAC gene; comparative research
【中文摘要】根据水稻基因组文库日本晴的基因组VDAC基因的序列，设计引物分别扩增6种不同基因组的野生稻（BB、CC、BBCC及CCDD）和2种栽培稻（AA基因组）的基因组DNA的VDAC基因片段。所有分别代表8个VDAC基因的8对引物中，除引物VDAC3外，其它7对引物均能扩增出预期大小的特异条带，其中一些片段是所有实验材料共有的，而另一些则具有明显的基因组或种的特异性。AA、BB、CC基因组均具有VDAC1、4、7、和8 引物的扩增位点，而DD基因组则不能确定。VDAC6的引物位点是AA基因组所特有。VDAC2引物的扩增位点存在于基因组AA、BB、DD，而CC基因组中则无此位点。而VDAC5则可区分同为CCDD的宽叶野生稻和高杆野生稻。栽培稻种与野生稻种基因组相比能扩增出更多的VDAC基因片段的实验结果，为进一步研究稻属中VDAC基因的起源及进化关系提供了基础。
【英文摘要】 According the sequence from the rice date base, 8 primer pairs for 8 VDAC genes were designed. The fragments of 8 VDAC genes were amplified with the template DNA of different wild rice (with BB, CC, BBCC and CCDD genome) and cultivated rice (AA genome) through the VDAC 1-8 primers. Within the 8 primers, there were 7 primer pairs that special bands were amplified. The results showed that some VDAC fragments appeared in all studied materials, and some represent the difference between the different genomes or species. AA, BB, CC genome all have the primer sites of VDAC1、4、7 and 8， and DD genome was unconfirmed. The primer site of VDAC6 was special for AA genome. Only in CC genome there was no the primer site of VDAC2。And O. latifolia and O. alta， which both with CCDD genome, could be distinguished by using the primer VDAC5. The results of the cultivated rice have more VDAC sites than the O. Officinalis group wild rice supplied some basic for studying the origin and the evolution of VDAC genes in Oryza L.
【语种】中文
【第一作者】马亢
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【题目】水稻HL-CMS不育系中两个雄性不育候选基因表达模式的初步研究
【中文关键词】水稻；细胞质雄性不育；实时荧光定量PCR；基因表达
【英文关键词】Rice; Cytoplasmic male sterility; Real-time PCR; Gene expression
【中文摘要】采用实时荧光定量PCR技术，比较研究了水稻红莲型细胞质雄性不育(HL-CMS)不育系粤泰A(YTA)中的两个雄性不育候选基因HLsp和 orfH79在根、茎、叶以及减数分裂期小穗和三核期花药中的表达模式。结果表明，HLsp和orfH79均在减数分裂期小穗中表达最高，而在营养生长的根、茎、叶及成熟花粉中表达很低。HLsp在粤泰A不同组织中的表达均低于orfH79，但HLsp在减数分裂期小穗中的表达量与在其它组织中的表达量的差异明显比orfH79的大。两个不育候选基因HLsp和orfH79在HL-CMS不育系YTA不同组织及发育时期的表达差异，暗示二者在水稻HL-CMS的发生中可能行使不同的功能

【英文摘要】The expression mode of two male sterile candidate genes, HLsp and orfH79, in root, stem, leaf, meiosis spikelet, and trinucleate pollen of HongLian cytoplasmic male sterile (HL-CMS) sterile line, YTA, were studied through Real-Time PCR. The results showed that the expressions of both HLsp and orfH79 were much higher in meiosis spikelet than that in the root, stem, leaf, and trinucleate pollen. And the HLsp expression level was lower than that of orfH79 in different tissues of YTA, but the expression difference of HLsp between meiosis spikelet and other tissues was higher than that of orfH79. This difference may be indicates that HLsp and orfH79 play a different role in the process of HL-CMS pollen abortion.
【语种】中文
【第一作者】陈为
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【期刊名称、卷期、页码】华中农业大学学报.2009,28（4）：394-397
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【题目】不同基本培养基对籼稻粤泰A与粤泰B成熟胚愈伤组织诱导及继代的影响
【中文关键词】籼稻；愈伤组织；诱导；继代
【英文关键词】Indica; callus; induce; Subculture
【中文摘要】本实验选用红莲型细胞质雄性不育籼稻不育系粤泰A与保持系粤泰B成熟胚为材料，比较了4种不同基本培养基(N6、NB、MS、CC)对二者愈伤组织诱导率及初愈组织的继代生长的影响。结果表明N6、NB、MS 3种培养基均可用于YTA和YTB种子愈伤的诱导，而用NB及N6培养基进行第1次继代培养效果较好，4种基本培养基均不适合于YTA和YTB进行二次继代培养。在相同培养基上，YTB愈伤诱导率、愈伤生长状况及继代培养时的褐化率都优于YTA，这证明细胞质基因型对愈伤的诱导和生长有重要影响。
【英文摘要】The effects of 4 different basic substrates (N6, NB, MS and CC) on callus inducing and subculturing for indica rice Yue-Tai A and Yue-Tai B, both with same nucleolus and different cytoplasm, were compared. The results showed that N6、NB、MS are suitable for the callus inducing of YTA and YTB, and the first subculture of the callus was better on the NB and N6 medium than MS and CC. 4 kinds of medium were all not suitable for the second subculture of the callus of YTA and YTB. On the same medium, the inducible ratio for callus, status of the callus growth and callus browning in subculture of YTB were better than YTA. This indicated that the genotype of cytoplasm take on important effects on the inducing and growth of callus.
【语种】中文
【第一作者】周杰
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【题目】水稻HL-CMS中orf216蛋白的原核表达和多克隆抗体制备
【中文关键词】水稻；原核表达；亲和纯化；抗体
【英文关键词】rice； protokaryotic expression；affinity purification；antibody
【中文摘要】以常规基因重组技术，将orf216基因克隆入含有内含肽标签的原核表达载体pTYB1中，得到重组质粒pTYB1-orf216，经鉴定正确后，转化至大肠杆菌ER2566感受态细胞，15℃下0.8 mmol/L IPTG诱导15 h后，SDS-PAGE检测到大小约85kD的特异性蛋白条带，融合蛋白以可溶组分形式存在。融合蛋白经亲和纯化后制备多克隆抗体，Western blot分析表明多克隆抗体具有较高的特异性，可与免疫原特异结合。本研究为orf216的下一步研究工作奠定了基础。
【英文摘要】The recombinant prokaryotic expression vector pTYB1-orf216 with the intein tag was constructed and transformed into E.coli ER2566. The optimized protein expression induction condition in E. coli was 0.8 mmol/L IPTG (isopropy- β -D-thiogalacto side) at 15℃ for 15 hours. A band with 85kD of molecular weight was observed on SDS-PAGE, and the protein was mainly existing in the soluble composition. This protein was isolated and purified through affinity chromatography, and then polyclonal antibody was prepared. The results of Western Blotting indicated that the prepared polyclonal antibody was with high specificity.

【语种】中文
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【题目】 籼稻成熟胚愈伤组织继代培养过程中内源多胺含量的测定
【中文关键词】水稻；成熟胚；愈伤组织；高效液相色谱；多胺
【英文关键词】rice; callus; HPLC; polyamines
【中文摘要】采用高效液相色谱法对诱导产生的籼稻粤泰B(YTB)成熟胚愈伤组织继代培养过程中内源多胺组分和含量进行了测定。结果表明采用XDB-C18 柱流动相梯度（从50%甲醇到80%甲醇）洗脱可以使Put、Spd和Spm 3种多胺组分得到很好的分离。水稻粤泰B成熟胚愈伤组织继代培养5d后体内Put和Spd的含量明显增加，而Spm的含量基本不变。推测Put和Spd对水稻愈伤组织的生长发育可能有重要的作用，可为优化水稻愈伤组织培养基的组分提供参考。
【英文摘要】The composing of content of polyamines in callus from matured embryo of indica rice YTB during subculturing was mensurated through HPLC in this paper. The results showed that 3 composion of polyamines, putrecine(Put)、spermidine (Spd)and spermine (Spm), can be separated on XDB-C18 column with a mobile phase of grads(from 50％H2O-50％methanol to 20％H2O-80％methanol)。The content of Put and Spd in the callus from matured embryo at 5 d after subculturing were obviously increased than that at 1 d, and the content of Spm was no variety in 5 d. This suggested that Put and Spd may have effect on the growth and development of rice callus. This results can support a reference for optimizing the composing of the substrate for the culture of rics callus.
【语种】中文
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【题目】一个烟草糖基转移酶启动子在拟南芥中的表达
【中文关键词】拟南芥；GT-MS启动子；甲基茉莉酸；水杨酸；基因表达
【英文关键词】Arabidopsis thaliana; GT-MS promoter; methyl jasmonate; salicylic; gene expression
【中文摘要】本实验室从烟草中克隆到一个受甲基茉莉酸和水杨酸双重诱导的糖苷转移酶基因GT-MS，本实验将其翻译起始位点5’上游 -800~+1启动子序列取代pCAMBIA1301质粒的35S启动子，构建GT-MS启动子与Gus基因融合的植物表达载体，采用花序浸染法转化拟南芥，得到阳性植株。对转基因植株进行组织化学染色的结果表明GT-MS启动子在拟南芥不同生长发育时期及不同器官均有表达，但主要是在维管组织表达，且韧皮部的表达高于木质部。MeJA和SA诱导后GUS活性增强，Gus基因RNA表达量成倍增加。这表明GT-MS启动子与在烟草中相似，在拟南芥中也受MeJA和SA诱导。
【英文摘要】A glycosyltransferase gene (GT-MS) induced by both methyl jasmonate and salicylic acid was cloned from Tobacco early. In this study the fusion vector of the GT-MS promoter (5’-800 ~ +1) and Gus gene within pCAMBIA1301 was constructed，and transferred to Arabidopsis thaliana through dipping flower. The results of histochemical staining of GUS activity showed that the GT-MS promoter expressed in different period for growth and development and different organs of transgenic plants, but mainly in the canaliculus, and higher in phloem than in xylem. GUS activity and Gus RNA expression were increased after the leaves were treated with methyl jasmonate and salicylic. These results showed that the GT-MS promoter was also induced in Arabidopsis thaliana by MeJA and SA, as it was in Tobacco.
【语种】中文
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【题目】16sRNA序列分析及其相关分子生物学方法在乳酸菌分类鉴定中的应用
【中文关键词】16S rRNA;乳酸菌;鉴定
【英文关键词】16S rRNA; lactic acid bacteria; identification
【中文摘要】乳酸菌是一类能在可利用的碳水化合物发酵过程中产生大量乳酸的细菌。目前，在自然界已发现至少43个属的这类菌。近年来，随着乳酸菌益生作用的相继发现，乳酸菌制品的生产及销售量也逐年呈上升趋势，正因如此对乳酸菌进行正确的鉴定已成为乳酸菌产业中的重要内容之一。
【英文摘要】Lactobacillus is a type of carbohydrate in the fermentation process can be used to generate a large number of lactic acid bacteria. At present, at least 43 have been found in nature is of such bacteria. In recent years, with the role of lactic acid bacteria have been found in probiotic, lactic acid production and sales of products is rising year by year, for this reason that the correct identification of lactic acid bacteria Lactic acid bacteria have become an important part of industry.
【语种】中文
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【学科分类】微生物药物学

【题目】PCR-DGGE技术评价抗生素诱导的肠道菌群失调
【中文关键词】PCR2DGGE;肠道菌群失调;头孢曲松;BALB/c小鼠
【英文关键词】PCR2DGGE; Intestinal flora imbalance;Ceftriaxone;BALB/cmice
【中文摘要】"利用 PCR2DGGE技术结合活菌计数评价抗生素引起的肠道菌群失调。方法　SPF级 BALB/c雌性小鼠连续 4 d灌胃头孢曲松溶液 125 mg/ml,0. 4 ml/d,运用基于细菌 16SDNA的 PCR2DGGE技术结合活菌计数分析小鼠肠道菌群变化。结果　活菌计数结果与 PCR2DGGE图谱显示 ,头孢曲松处理 3 d后小鼠肠道菌群出现严重失调。结论　PCR2DGGE技术可直观而灵敏地显示抗生素处理过程中肠道菌群的动态变化 ,适用于评价抗生素引起的肠道菌群失调。"
【英文摘要】"To assess the ceftriaxone2induced intestinal flora imbalance by PCR2DGGE method andplate count. Methods Female SPFBALB/cmicewere treatedwith ceftriaxone in a dose of125 mg/ml,0. 4 ml/d byoral gavage for four days. The amountof fecaldominant bacterium were quantified by viable count, and diversityofmicroflorawas detected by 16S DNA2based PCR2DGGE. Results　Both plate count and PCR2DGGE profile indicated that dysbacteria could be induced by administering ceftriaxone continually for3 days. Conclusion　PCR2DGGE can directly and sensitively display the dynamic succession of mice intestinal flora during the antibiotic treated process,which makes it an efficient method to assess the antibiotic2induced intestinal flora imbalance."
【语种】中文
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【通讯作者】魏泓
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【题目】具有血管紧张素转化酶抑制活性益生菌筛选的研究进展

【中文关键词】降压肽;益生菌;筛选方法
【英文关键词】Antihypertensive peptide; probiotics; screening

【中文摘要】高血压是常见的心血管疾病,是危害人类健康的一个主要因素。目前我国临床常用的抗高血压药 ACEIS,虽具有很好的降压效果,但都具有一定的副作用或不良反应。而来源于食物中的血管紧张素转化酶抑制肽 ACEI 具有降压效果显著、无毒副作用、安全性高、成本低、易吸收等特点,更加符合患者的需求。近几年来,利用酶技术已从鱼、贝、鸡蛋、大豆、大蒜等各种食品蛋白质中分离出不同的血管紧张素转化酶抑制肽。特别随着微生物发酵技术制备乳源 ACE抑制肽.方法的建立也为乳源 ACE抑制肽市场的开发提供了可行性。产生具有特异吸收特性的物质。通过对加入 ACEI前后这种同时,随着消费者对益生菌产品要求的不断提高,具有降压活物质吸收特性的差异变化计算出 ACEI的抑制的大小。ACE性的益生菌将会成为新型降压药物的主流。本文参阅益生菌的降压机制及大量国内外有关 ACE抑制肽筛选方法的研究,为高效、快捷的筛选出具有 ACE抑制活性的益生菌菌株提供参考
【英文摘要】"Hypertension is a common cardiovascular disease, is harmful to human health, a major factor. China's current anti-hypertensive drugs commonly used in clinical ACEIS, although a good antihypertensive effect, but all have certain side effects or adverse reactions. The food from the angiotensin-converting enzyme inhibitory peptides with antihypertensive effect of ACEI significant toxic side effects, safe, low cost, easy to absorb and so on, more in line with the needs of patients. In recent years, the use of enzyme technology from fish, shellfish, eggs, soy, garlic and other food proteins isolated from different angiotensin-converting enzyme inhibitory peptides. Particularly with the preparation of milk-derived microbial fermentation technology ACE inhibitory peptides. The establishment of methods for milk-derived ACE inhibitory peptides provides market development feasibility. Have a specific absorption characteristics of the material. ACEI around this by adding the same time, as consumers of probiotic products requires continuous improvement, with blood pressure differences in absorption characteristics of living matter to calculate the change in the size of the inhibition of ACEI. ACE of probiotics will become the mainstream of new antihypertensive drugs. See this step-down mechanism and a large number of probiotic domestic and foreign ACE inhibitory peptide screening methods for the efficient and fast screening of ACE inhibitory activity of a probiotic strain to provide a reference."
【语种】中文
【第一作者】周洁,邹继宏
【通讯作者】袁杰利
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【学科分类】生物药物学

【题目】Morphology modulation of polymeric assemblies by guest drug molecules:TEM study and compatibility evaluation
【中文关键词】无
【英文关键词】Drugdelivery
Self-assembly
Nanoparticles
【中文摘要】无
【英文摘要】"Amphiphilic copolymers with poly(N-isopropylacrylamide) and ethyl tryptophan,ethyl4-amino-benzoate,orethyl glycinate as side groups weresynthesized.Assemblies based on these copolymerswere employed as model systems to investigate the morphology transformation upon loading of varioushydrophobic drugs.TEM bservation suggested that the loading of non-steroidal anti-inammatorydrugs,including ibuprofen,ketoprofen,indomethacin,naproxen and mefenamic acid,can triggera signicant morphological transformation of assemblies based on copolymers with low substitution ofhydrophobic group.On the other hand,the introduction of steroidal anti-inammatory drugs(medroxyprogesterone acetate,prednisone acetate and dexamethasone)andaliphatic acids(caprylicacid,tetradecanoic acid and stearic acid)has no signicant effect on the morphology of assembliesderived from the samecopolymers,although they do have some effect on the morphology of assembliesbased on copolymers with high content of hydrophobic group.In addition,the morphology of assembliesis well correlated with drug loading efciency.An occurrence of morphology transformation meansahigher drug loading,and vice versa.Various physicochemical parameters including partition coef-cient,molecular volume and solubility parameters were calculated according to group contributionmethod.Analysis of these data pointed to the fact that acombination of molecular volume and solubilityparameters can be used as a measure to judge whether one molecule is active or neutral.This rulel also be applied to evaluate the compatibility between candidate drugs and nanocarriers based on

thesecopolymers."
【语种】英文
【第一作者】JianxiangZhang,ShuhuiLi
【通讯作者】J.Zhang
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【学科分类】微生物药物学

【题目】Prenatal exposure to lipopolysaccharide alters the intrarenal renin – angiotensin system and renal damage in offspring rats
【中文关键词】无
【英文关键词】inflammation;offspring;prenatalstress;RAS
【中文摘要】无
【英文摘要】"Prenatal exposure to inflammation produces offspring that are hypertensive in adulthood. This study explored alterations of the renin-angiotensin system(RAS)during the development of hypertension induced by prenatal exposure to lipopolysaccharid(LPS).Inaddition,the effects of an inhibitor of the nuclear transcription factor(NF)-kB(pyrrolidine dithiocarbamate,PDTC)onthis process were assessed.Pregnant rats were randomly divided into four groups(n=8):a control group,an LPS group,a PDTC1group and an LPS+PDTC group.The rats in these groups were intraperitoneally administered vehicle,0.79mgkg-1LPS, 100mgkg-1PDTC or LPS plus PDTC,respectively.LPS was given on the 8th,10th and 12th days,whereas PDTC was givenfrom the 8th to the 14th day during gestation.At various ages from day1to 25 weeks,plasma renin activity,plasma angiotensinII(AngII)levels,renal function,glomerular number,mRNA expressionl evels of renal cortex renin and angiotensin-convertingenzyme(ACE),the number of AngII-positive cells and NF-kB activation were determined.The results showed that prenatal exposure to LPS resulted in significantly lower glomerular numbers and creatinine clearance rates and higher urinary protein andrenal cortex ACEmRNA expression in adult offspring.Prenatal LPS also decreased the renal cortex renin mRNA expression and the number of Ang II-positive cells in offspring at 1day of age,but these increased at7,16 and 25 weeks,whereas the plasma renin activity and AngII concentration remained unchanged.Simultaneously,PDTCtreatment markedly reversed the action of LPS.In conclusion,prenatal exposure to LPS resulted inalteration of the intrarenal RAS and renaldamage in adult offspring rats."
【语种】英文
【第一作者】Xue-QinHao ,Hai-GangZhang
【通讯作者】X-Hli
【期刊名称、卷期、页码】Hypertension Research 2010,33:76 – 82
【论文发表时间】2009-10-08 00:00:00
【引文索引类型】SCI
【引文索引号】0916-9636
【学科分类】微生物药物学

【题目】Bama Miniature Pigs (Sus scrofa domestica)as a Model for Drug Evaluation for Humans:Comparison of In Vitro Metabolism and In Vivo Pharmacokinetics of Lovastatin
【中文关键词】无
【英文关键词】intrinsic clearance; CYP, cytochrome P450; HA, -hydroxyacid lovastatin; TAO, triacetyloleandomycin
【中文摘要】无
【英文摘要】"The objective of this study was to demonstrate that Bama miniature pigs are a suitable experimental animal model for the evaluation of drugs for man. To this end, in vitro lovastatin metabolism at the minipig liver microsomal level and in vivo pharmacokinetics were studied. Results were compared with those obtained from humans. Our data indicate that the main metabolites and enzyme kinetic parameters of lovastatin metabolism are similar in pigs and humans. Triacetyloleandomycin, a speciic inhibitor of human CYP3A4, inhibited the metabolism of lovastatin in pig and human liver microsomes. In addition, the pharmacokinetic parameters and absolute bioavailability suggested that the absorption and elimination of lovastatin in Bama miniature pigs were similar to those in humans. Lovastatin was distributed across many organs in pigs, but the highest levels were found in the stomach, intestines, and liver. Within 96 h, 7% and 82% of the given dose was excreted in the urine and feces, respectively. In addition, no signiicant species

differences in the plasma protein binding ratio of lovastatin and the rates of lovastatin hydrolysis to -hydroxyacid lovastatin were apparent. From these results, we conclude that Bama miniature pigs are suitable for use in drug evaluation studies."
【语种】英文
【第一作者】Yu Liu, Ben-hua Zeng, Hai-tao Shang, Yan-yan Cen
【通讯作者】Hong Wei
【期刊名称、卷期、页码】Comparative Medicine 2008,58(6):580-587
【论文发表时间】2008-02-13 00:00:00
【引文索引类型】SCI
【引文索引号】1532-0820
【学科分类】微生物药物学

【题目】An in vitro assessment of inhibitory effect of 16 strains of probiotics on the germination of Candida albicans
【中文关键词】无
【英文关键词】Candida albicans, antifungal drugs, germ tube, probiotics, butyric acid.
【中文摘要】无
【英文摘要】"The purpose of the study was to evaluate the antagonistic activity of probiotics isolated from products to germination of Candida albicans in vitro. The spent culture supernatant, live bacteria, heat-killed bacteria of 16 strains of probiotics and main bacterial short-chain fatty acids were applied to inhibit the germination of C. albicans in vitro by crystal violet-based germ tube assay. Neutral SCS of all the probiotcis evaluated in this research could decrease germination significantly and live bacteria of Lactobacillus rhamnosus LGG, Lactobacillus plantarum LA, Lactobacillus johnsonii JCM1022, Bacillus Longum-2, Bacillus sub. and Bacillus lich could partially inhibit the conversion of yeast to germ. However, all the heat-killed bacteria failed to control the germ tube formation. Furthermore, only butyric acid blocked the conversion of yeast to hypha among all the SCFAs. These results suggest that L. rhamnosus LGG, L. plantarum LA and L. johnsonii JCM1022, B.Longum-2, Bacillus sub. and B. lich maybe potential strains to use as antifungal drugs and the inhibition seems to have direct correlation to the metabolites butyric acid. "
【语种】英文
【第一作者】Huan Tang
【通讯作者】Hong Wei
【期刊名称、卷期、页码】African Journal of Microbiology Research 2010,4 (12): 1251-1256
【论文发表时间】2010-05-31 00:00:00
【引文索引类型】SCI
【引文索引号】1996-0808
【学科分类】微生物药物学

【题目】微波技术在我国水产品加工中应用研究的现状
【中文关键词】微波技术;水产品;应用
【英文关键词】microwave technology; aquatic product; application
【中文摘要】微波技术是一种应用在食品工业的新技术。本文介绍了微波技术在水产品灭菌、干燥、膨化、萃取和消解等方面的应用,分析了微波技术应用的现状及存在的问题,提出了微波技术在水产品中的应用发展方向。
【英文摘要】Microwave technology is a new technique that can be applied to food industry at present. The application of microwave technology to sterilization, drying, puffy, extraction and digestion of aquatic product in recent years was introduced in this paper. Some problems exist in the applications were analyzed, and development trends of microwave technology in aquatic product were put forward.
【语种】中文
【第一作者】段振华
【通讯作者】段振华
【期刊名称、卷期、页码】水产科技情报,2008,35(1):5-8
【论文发表时间】2008-02-15 00:00:00
【引文索引类型】其他
【引文索引号】无

【学科分类】食品加工技术

【题目】罗非鱼片渗透处理中的水分传递特性
【中文关键词】罗非鱼 鱼片 渗透 水分 传递
【英文关键词】tilapia, fish fillet, osmotic, moisture, transfer
【中文摘要】选择罗非鱼片为研究对象,采用食盐溶液作为渗透液,在改变渗透液浓度、固液比和鱼片厚度的条件下,研究了罗非鱼片的水分迁移变化特性。结果表明,鱼片在10%浓度的盐水溶液中表现为吸水增重,在20%以上的盐水中才会出现渗透脱水现象;在渗透液浓度和鱼片厚度不变的条件下,鱼片的脱水率随着固液比的增大而升高;同时厚度对鱼片脱水率的影响与渗透时间有关,渗透时间的延长会降低较薄鱼片的脱水率。
【英文摘要】The characteristic of moisture transfer in osmotic treatment of tilapia fillets was investigated in this paper. The changes of weight were quantitatively determined during osmotic treatments of fresh tilapia fillets with the sodium chloride concentration (10-30%), ratio of solid to liquid (1:5-1:15) and fillet thickness (3-10mm) as the independent treatment factors. Results were as follows: First, the weight of fillets was increased when fresh tilapia fillets were soaked in 10% sodium chloride (NaCl) solution. The osmotic dehydration of fillets occurred in 20% NaCl solution or more. Second, if the osmotic solution concentration and fillet thickness were set, the dehydration rate (DH) of fillets was found to increase with increasing of ratio of solid to liquid, which means ratio of weight fillets to solution. Finally, effect of fillet thickness on DH was found to be related to osmotic time. The DH of thinner fillets would be reduced when treatment time was prolonged.
【语种】中文
【第一作者】段振华
【通讯作者】段振华
【期刊名称、卷期、页码】食品科学,2008,29(3):136-139
【论文发表时间】2008-03-15 00:00:00
【引文索引类型】其他
【引文索引号】未知
【学科分类】食品科学技术基础学科

【题目】电导率法研究O/W型罗非鱼油乳状体系的稳定性
【中文关键词】罗非鱼油;乳状液;电导率
【英文关键词】tilapia oil;emulsion;electrical conductance
【中文摘要】以一定浓度的Tween80、Tween20、Span20、SDS、酪朊酸钠、大豆卵磷脂为乳化剂,制备了不同的罗非鱼油乳状液,探讨了在不同油水比例、不同pH的条件下,O/W型中富水相(下相)的电导率变化规律。结果表明,以0.15%Tween80与0.55%大豆卵磷脂复配的乳化剂,在油水比为35:65的O/W型罗非鱼油乳状体系中,pH4乳状液的稳定性低于pH7与pH9。用电导率法来研究O/W型罗非鱼油乳状体系的稳定性,具有快速、简洁的优点。 更多还原
【英文摘要】The Tilapia oil-water emulsions was prepared with Tween80,Tween20,Span20,SDS and sodium caseinate,soybean lecithin as emulsifiers.Under the condition of different rate of oil and water,different pH,the electrical conductance was measured in the lower part of the emulsion.The result showed that on the system of Tilapia oil-water emulsions,under the condition of the emulsifiers of 0.15% Tween80 and 0.55% soybean lecithin,the ratio of oil to water 35：65,the stability of emulsion at pH4 was lower than pH7 and pH9.It is a fast and simple method that study on the stability of Tilapia oil-water emulsion with electrical conductance.
【语种】中文
【第一作者】易美华
【通讯作者】易美华
【期刊名称、卷期、页码】食品工业科技,2008.7:59-62
【论文发表时间】2008-07-15 00:00:00
【引文索引类型】其他
【引文索引号】未知
【学科分类】食品科学技术基础学科

【题目】罗非鱼片的热风微波复合干燥特性
【中文关键词】罗非鱼;热风微波复合干燥;特性

【英文关键词】tilapia fillets; hot-air and microwave drying; characteristics
【中文摘要】研究了罗非鱼鱼片分别在不同热风温度下干燥后,又分别于微波下干燥不同时间的干燥速率变化和热风微波干燥对鱼片品质的影响。结果表明,在热风初干温度和时间不变的条件下,当微波干燥时间一定时,罗非鱼片的含水率随微波功率的增大而降低;当微波功率一定时,罗非鱼片的含水率随微波干燥时间的延长呈现先快后慢的速率下降。在热风初干温度不同时,较高的热风温度有利于鱼片在微波干燥阶段的含水率的降低。罗非鱼片在热风微波后的收缩率和复水率随微波功率的升高而增加,当微波功率一定时,收缩率和复水率随热风初干温度升高而增加。而复原率则随微波功率的增加而降低,当微波功率一定时,热风初干温度如果越高,那么复原率越低。
【英文摘要】The Characteristics of combined hot-air and microwave drying(AMD) of 3 mm of fresh tilapia fillets during drying at different microwave powers (200W-600W)and different hot-air temperatures(40℃-60℃) were investigated . At the same time, the effects of AMD conditions on quality of dried tilapia fillets were determined in this paper. Results showed that an increase in microwave power resulted in a decrease in moisture content of tilapia fillets when other factors including hot-air drying temperature, AMD time were hold. Secondly, the higher the hot-air temperature was, the faster the AMD velocity of fillets was. Thirdly, the shrinkage and rehydration rate of AMD fillets were increased as microwave power or air temperature was improving. However, the change of the recovery rate was contrary to the shrinkage and rehydration rate. Therefore, low air temperature and microwave power were beneficial to keep the quality of dried tilapia fillets.
【语种】中文
【第一作者】段振华
【通讯作者】段振华
【期刊名称、卷期、页码】食品科学,2008,29(9):203-206
【论文发表时间】2008-09-15 00:00:00
【引文索引类型】其他
【引文索引号】未知
【学科分类】食品科学技术基础学科

【题目】罗非鱼头中硫酸软骨素提取的工艺优化
【中文关键词】罗非鱼;硫酸软骨素;碱提取;优化
【英文关键词】Tilapia ,Chondroitin sulfate ,Alkali extraction ,Optimization
【中文摘要】以罗非鱼头为原料,初步探讨了硫酸软骨素的提取工艺,采用稀碱提取,酶解,三氯乙酸沉淀蛋白,乙醇沉淀的方法,考察了碱提取过程中碱浓度、料液比、温度、时间对提取率的影响,在单因素实验的基础上,利用正交试验进行了优化。
【英文摘要】The articles introduced a method of preparation chondroitin sulfate form tilapia,the effects of alkali condition,ratio of solid to liquid,temperature and time on the extraction rate during the alkali extraction was studied by using alkali extraction,enzyme hydrolysis,the precipitation of proein by trichloroacetic acid and of chondroitin sulfate by ethanol,on the basis of single-factor tests these parameter of extraction process was optimized by orthogonal test.
【语种】中文
【第一作者】李川
【通讯作者】段振华
【期刊名称、卷期、页码】食品科学,2009,30(20):234-237
【论文发表时间】2009-09-15 00:00:00
【引文索引类型】其他
【引文索引号】未知
【学科分类】食品加工技术

【题目】罗非鱼骨制备活性钙的技术研究
【中文关键词】罗非鱼骨;活性钙;乳酸
【英文关键词】tilapia bone;active Ca;lactic acid
【中文摘要】罗非鱼骨中钙、镁等营养物质丰富,是一种很好的钙源。研究罗非鱼骨的煅烧条件及罗非鱼骨制备活性钙的工艺优化。结果表明:罗非鱼片加工废弃物中鱼骨的脂肪含量为5.83%,钙26.5%;罗非鱼骨煅烧最佳条件是950℃,煅烧120min;在罗非鱼骨制备液体钙的工艺优化中,乳酸提取钙效果最好,其最优条件为固液比1:20,温度80℃,16%乳酸,反应2h.此时,钙提取率为81%。

【英文摘要】Tilapia bone is rich in calcium, magnesium and other nutrients. It is a good resource of calcium. The calcining conditions of tilapia bones and the technology of preparation of active Ca from tilapia bone were opti- mized. The results showed that the fat and the calcium content in tilpia-processing waste were 5.83 % and 26.5 %, respectively; the optimum condition of calcination was at 950 °C for 120 min; the process of optimization of liquid calcium from tilapia bone showed that lactic acid was the best extraction solvent, and the optimal conditions were: solid-liquid ratio 1∶20, temperature 80 °C, lactic acid concentration 16 %, and reaction time 2 h. At this condition, the calcium cxtractive rate was 81 %.
【语种】中文
【第一作者】易美华
【通讯作者】易美华
【期刊名称、卷期、页码】食品研究与开发,2008.12:85-88
【论文发表时间】2008-12-15 00:00:00
【引文索引类型】其他
【引文索引号】未知
【学科分类】食品加工的副产品加工与利用

【题目】微波技术在鱼鳔蛋白提取中的应用研究
【中文关键词】鱼鳔;微波技术;提取率;蛋白质;考马斯亮蓝
【英文关键词】fish swimbladder; microwave technology; extraction; protein;coomassie brilliant blue
【中文摘要】选取新鲜鱼鳔为原料,以蛋白质提取率为指标,采用考马斯亮蓝法测定提取液中的蛋白质含量,分别研究了微波功率、微波萃取时间和固液比等因素对鱼鳔蛋白提取的影响,并通过正交试验优化了微波提取鱼鳔蛋白的工艺,得出在固液比1∶30,萃取时间2.5 min,萃取功率300W条件下,鱼鳔蛋白质的提取率最高。研究结果为开发微波技术在鱼鳔加工中的应用提供依据。
【英文摘要】A fresh fish swimbladder was used to extract protein by microwave treatment technology. Effect of microwave power, microwave treatment time and ratio of solid to liquid on the extraction rate of proteins, determined by using coomassie brilliant blue G-250, were investigated in this paper. The conditions of extracting protein from swimbladder by microwave treatment were optimized by orthogonal experiment. The results indicated that the optimized conditions were ratio of material to liquid of 1∶30, extraction time of 2.5 min, and the power microwave of 300W respectively. This provided a basis for the development of application of microwave technology in the processing of fish swimbladder.
【语种】中文
【第一作者】段振华
【通讯作者】段振华
【期刊名称、卷期、页码】食品科学,2009,30(16):149-152
【论文发表时间】2009-08-15 00:00:00
【引文索引类型】其他
【引文索引号】未知
【学科分类】食品加工技术

【题目】鱼鳔加工应用的研究进展
【中文关键词】鱼鳔,营养价值,药用价值,加工
【英文关键词】swim bladder, nutritional value, medicinal value, processing and application
【中文摘要】鱼鳔的食用在我国有着悠久的历史,是人们公认的药食两用重要食物资源。本文综述了鱼鳔的营养价值与药用价值,分别从鱼鳔的食用加工、药用加工、胶黏剂加工和其它应用四个方面介绍了鱼鳔的加工技术研究现状,并提出了鱼鳔的加工利用研究发展方向。
【英文摘要】The swim bladders were used as an important traditional resources of food and medcine for a long time in China. The nutritional and medicinal values of swim bladders were reviewed here.The research present status of utilization and processing technology, which includ production of food,medicine,adhesive and other applications with swim bladders, were introduced in this paper,respectively.Finally, the developent trends of utilization and processing of swim bladder were probed in this paper.
【语种】中文
【第一作者】段振华

【通讯作者】段振华
【期刊名称、卷期、页码】中国食物与营养,2009(6):34-36
【论文发表时间】2009-06-15 00:00:00
【引文索引类型】其他
【引文索引号】未知
【学科分类】食品加工技术

【题目】罗非鱼油乳状体系稳定性影响因素的研究
【中文关键词】罗非鱼油;乳状液
【英文关键词】tilapia oil; emulsion
【中文摘要】为了探讨不同乳化剂、油水比例、pH对罗非鱼油/水乳状液稳定性的影响,以一定浓度的tween80、tween20、span20、SDS、酪朊酸钠、大豆卵磷脂等为乳化剂,制备不同的罗非鱼油乳状液,观察罗非鱼油/水乳状液中富水相(下相)的电导率变化规律。结果表明,以0.15%tween80与0.55%大豆卵磷脂复配的乳化剂,在油水比为35∶65的罗非鱼油/水乳状体系中,pH4的乳状液的稳定性低于pH7与pH9的乳状液。结论:用电导率法来研究O/W型罗非鱼油乳状体系的稳定性,快速、简捷。 更多还原
【英文摘要】In order to inquire the effect of different emulsifiers、 rate of oil and water and different pH on the stability of tilapia oil/water emulsion, the different tilapia oil emulsions were prepared using tween80,tween20,span20,SDS and sodium caseinate、soybean lecithin as emulsifier.And the conductivity change regular of water phase in tilapia oil/ water emulsion was also observed in this paper.The result showed that, on the system of Tilapia oil-Water Emulsions , under the condition of the emulsifiers of 0.15% tween80 and 0.55% soybean lecithin, the ratio of oil to water 35∶65, the stability of Emulsion at pH 4 was lower than pH 7 and pH 9.Conductometry is a fast and simple method for study on the stability of Tilapia oil-water emulsion
【语种】中文
【第一作者】郜现良
【通讯作者】易美华
【期刊名称、卷期、页码】中国食品学报, 2009(4)124-128
【论文发表时间】2009-08-15 00:00:00
【引文索引类型】其他
【引文索引号】未知
【学科分类】食品科学技术基础学科

【题目】响应面法研究鱼鳞胃蛋白酶解特性
【中文关键词】响应面;鱼鳞蛋白;胃蛋白酶
【英文关键词】response surface;fish scale protein;pepsin
【中文摘要】以响应面方法研究胃蛋白酶对鱼鳞蛋白的水解特性,得到拟合良好的响应面方程,在选定范围内胃蛋白酶水解鱼鳞的最优条件:PH1.5,时间6小时,温度60摄氏度,此时蛋白得率164.0毫克/克原料。
【英文摘要】The hydrolysis characteristic of pepsin on fish scale protein was studied with response surface method, which leads to a fitting equation between protein extract rate and pH, time and temperature.
【语种】中文
【第一作者】周颖
【通讯作者】刘石生
【期刊名称、卷期、页码】现代农业科学, 2009(7):18-20
【论文发表时间】2009-07-15 00:00:00
【引文索引类型】其他
【引文索引号】未知
【学科分类】食品加工技术

【题目】酶法制备木薯微孔淀粉的工艺优化
【中文关键词】木薯微孔淀粉;复合酶;水解
【英文关键词】microporous cassava starch;complex enzyme;hydrolysis

【中文摘要】为了优化包埋粉末油脂的木薯微孔淀粉工艺、提高吸附性能,利用糖化酶和α-淀粉酶对木薯淀粉进行处理,先通过六组单因素试验确定反应时间、反应温度、pH值、底物浓度、酶浓度以及糖化酶和α-淀粉酶配比最佳范围,再通过L18(37)正交试验,研究这些因素对木薯微孔淀粉吸附性能的影响。结果表明,当反应时间7h、温度60℃、pH6.0、底物浓度40%、酶浓度2.5%、糖化酶和α-淀粉酶配比为1:4(m/m)时制备的木薯微孔淀粉的吸附性能最佳,木薯微孔淀粉对油脂的吸附性与原淀粉相比,从11.5%提高到52%,提高了4.52倍。

【英文摘要】Microporous cassava starch was prepared by combined hydrolysis with glucoamylase and amylase.The effects of hydrolysis time ,pH ,temperature etc on hydrolysis percentage and oil adsorption capacity of microporous cassava starch were analyzed.

【语种】中文

【第一作者】袁学会

【通讯作者】易美华

【期刊名称、卷期、页码】食品科学, 2009,30(18):217-220

【论文发表时间】2009-09-15 00:00:00

【引文索引类型】其他

【引文索引号】未知

【学科分类】食品加工技术

【题目】木薯微孔淀粉微胶囊化罗非鱼油技术研究

【中文关键词】罗非鱼油;微胶囊;

【英文关键词】tilapia oil;microencapsulation

【中文摘要】以自制木薯微孔淀粉和罗非鱼皮胶原蛋白为复合壁材、罗非鱼鱼油为芯材,研究罗非鱼油喷雾干燥制备微胶囊的最佳工艺。结果表明,喷雾干燥用罗非鱼油乳化液的工艺条件为乳化温度55℃、乳化体系pH6.0、均质时间6min、芯材壁材配比1:1.5、罗非鱼皮胶原蛋白质量分数1.1%、乳化剂用量0.15%、固形物质量分数20%、进风温度180℃。依此条件生产的产品,鱼油包埋率达92.1%,微胶囊化效果较满意。

【英文摘要】The aim of present study was to investigae the optimal spray-drying microencapsulation procedure of tilapia oil in a matrix composed lab-made microporous cassava starch and collgen protein from tilapia skin.

【语种】中文

【第一作者】潘颉

【通讯作者】钟秋平

【期刊名称、卷期、页码】食品科学, 2009,30(20):34-37

【论文发表时间】2009-10-15 00:00:00

【引文索引类型】其他

【引文索引号】未知

【学科分类】食品加工技术

【题目】不同致死方法和微冻处理对罗非鱼片保鲜特性的影响

【中文关键词】罗非鱼;微冻;物性

【英文关键词】tilapia;partial freezing;physical properties

【中文摘要】研究用不同方法致死罗非鱼对其鱼体新鲜度的影响及在微冻状态下新鲜度的变化,并探讨罗非鱼在微冻状态下部分物性指标。

【英文摘要】This study investigated the effect of different lethal methods on the freshness of tilapia, and discussed the change of freshness and part physical properties.

【语种】中文

【第一作者】杨光

【通讯作者】林向东

【期刊名称、卷期、页码】食品科学, 2009,30(16):278-281

【论文发表时间】2009-08-15 00:00:00

【引文索引类型】其他

【引文索引号】未知

【学科分类】食品包装与储藏

【题目】高吸油性木薯微孔淀粉复合酶法的制备工艺研究
【中文关键词】木薯微孔淀粉;高吸油
【英文关键词】microporous cassava starch;oil adsorption capacity
【中文摘要】研究木薯微孔淀粉复合酶法的制备工艺,以吸油性能为指标,通过单因素和正交正交试验,研究淀粉乳浓度、复合酶用量、复合酶的配比、反应体系pH值、反应温度和反应时间等因素对木薯微孔淀粉吸油性能的影响。复合酶法生产木薯微孔淀粉的最佳工艺条件:底物浓度60%,酶用量2.5%,α-淀粉酶和糖化酶酶活力配比为1∶5,pH为6.0,反应温度60℃,反应时间7h,所得木薯微孔淀粉的吸油率和比表面积比原淀粉分别提高了53%和54%。
【英文摘要】The preparation technologies of micro-porous cassava starch and its oil adsorption capacity were studied,respectively.The main influence factors including reaction time, temperature,enzyme addition,and so on were studied.
【语种】中文
【第一作者】潘颉
【通讯作者】钟秋萍
【期刊名称、卷期、页码】食品研究与开发,2009(12):65-67
【论文发表时间】2009-12-15 00:00:00
【引文索引类型】其他
【引文索引号】未知
【学科分类】食品加工技术

【题目】几种添加剂对虾肉凝胶强度的影响
【中文关键词】虾肉;凝胶强度
【英文关键词】shrimp;gel strength
【中文摘要】为了探讨影响虾肉凝胶强度的因素,将柠檬酸、碳酸氢钠、乳酸钙、谷氨酰转氨酶(glutamine transaminage,TG-B)分别加入虾肉中制成虾丸,测其凝胶强度,研究该4种添加剂对虾肉凝胶强度的影响。结果表明,各因素的影响主次顺序为柠檬酸>乳酸钙>TG-B酶>碳酸氢钠,最优的添加量(m/m)为柠檬酸0.2%、乳酸钙0.2%、TG-B酶0.4%、碳酸氢钠0.8%。
【英文摘要】Gel strength of meat product is determined for meat product quality because gel strength exhibits a direct effect on texture characteristic.
【语种】中文
【第一作者】周玉莹
【通讯作者】易美华
【期刊名称、卷期、页码】食品科学, 2009,30(24):166-168
【论文发表时间】2009-12-15 00:00:00
【引文索引类型】其他
【引文索引号】未知
【学科分类】食品加工技术

【题目】罗非鱼片的热风微波复合干燥动力学
【中文关键词】罗非鱼片;热风微波干燥;动力学
【英文关键词】tilapia fillets; hot air-microwave drying; dynamics
【中文摘要】对罗非鱼片的热风微波复合干燥的动力学进行了研究。测定了罗非鱼片先在40℃热风温度下分别干燥1~5小时,再在200W、400W不同微波功率下干燥10分钟的水分含量,比较了不同热风初步干燥的鱼片在不同微波功率下的水分含量的变化,分别建立了罗非鱼片在200W和400W微波功率下的热风微波干燥曲线和干燥速率随时间变化的曲线,得出了不同热风时间对鱼片的热风微波复合干燥中的水分含量及干燥速率的影响规律。
【英文摘要】The dynamics of hot air-microwave drying(AMD) of tilapia fillets were investigated in this paper. Firstly, the moisture contents of test samples which were dried under different powers(200W,400W) of microwave after hot-air drying at 40℃ for various times from 1 hour to five hours were determined. Secondly, the changes of moisture contents of samples dried under different powers of microwave after hot-air drying were compared. Thirdly, the drying curves and drying velocity-time curves were established,respectively.Finally, the effects of hot-air pre-drying times on the moisture contents and drying velocity of tilapia fillets

during AMD drying were investigated.
【语种】中文
【第一作者】段振华
【通讯作者】段振华
【期刊名称、卷期、页码】食品研究与开发,2009,30(12):37-40
【论文发表时间】2009-12-15 00:00:00
【引文索引类型】其他
【引文索引号】未知
【学科分类】食品科学技术基础学科

【题目】椰奶面包虾风味影响因素的研究
【中文关键词】面包虾;风味;影响
【英文关键词】bread shrimp;flavour;effect
【中文摘要】对椰奶面包虾的影响因素进行了研究,探讨不同的风味成分对面包虾口味的影响,并采用正交实验法对各种风味成分的影响程度进行综合调整。结果表明,椰奶面包虾的最佳风味配方为:食盐添加量2.0%,椰浆的椰奶浓度1.5%,裹浆中椰子粉与浆粉的比例为1∶2.5或1∶3,裹面包屑阶段面包屑与椰丝的比例为1.5∶1。椰奶和椰丝是影响椰味面包虾风味的重要因素。
【英文摘要】The infuence fators of coconut taste bread shrimp were studied, also the different flavours of the ingredients on bread tastes were discussed by adjusting the effect of the various flavour of shrimp.
【语种】中文
【第一作者】刘娟
【通讯作者】易美华
【期刊名称、卷期、页码】食品科技,2010(01):112-116
【论文发表时间】2010-01-15 00:00:00
【引文索引类型】其他
【引文索引号】未知
【学科分类】食品加工技术

【题目】利用罗非鱼头提取硫酸软骨素的工艺探讨
【中文关键词】The articles introduced a method of preparation chondroitin sulfate form tilapia,the effects of alkali condition,ratio of solid to liquid,temperature and time on the extraction rate during the alkali extraction was studied by using alkali extraction,enzyme hydrolysis,the precipitation of proein by trichloroacetic acid and of chondroitin sulfate by ethanol,on the basis of single-factor tests these parameter of extraction process was optimized by orthogonal test
【英文关键词】Tilapia ,Chondroitin sulfate ,Alkali extraction ,Optimization
【中文摘要】以罗非鱼头为原料,初步探讨了硫酸软骨素的提取工艺,采用稀碱提取,酶解,三氯乙酸沉淀蛋白,乙醇沉淀的方法,考察了碱提取过程中碱浓度、料液比、温度、时间对提取率的影响,在单因素实验的基础上,利用正交试验进行了优化。
【英文摘要】罗非鱼;硫酸软骨素;碱提取;优化
【语种】中文
【第一作者】李川
【通讯作者】段振华
【期刊名称、卷期、页码】食品科技,2010,35(1):235-238
【论文发表时间】2010-01-15 00:00:00
【引文索引类型】其他
【引文索引号】未知
【学科分类】食品加工技术

【题目】调味罗非鱼片的HACCP质量管理体系
【中文关键词】罗非鱼片;质量管理

【英文关键词】tilapia fillet;quality manangement
【中文摘要】依据危害分析与关键控制点(HACCP)理论与方法,对调味罗非鱼片生产中的各种危害进行详细的分析,提出了产品加工中实施HACCP计划时原料及各加工工序的危害因素,确立了生产过程的关键控制点,并建立了卫生操作程序、监控方法和纠偏措施以及验证程序,以确保产品达到国家卫生标准。 更多还原
【英文摘要】The system of quality management for seasoning tilapia fillets was introduced in this paper.Based on Hazard Analysis and Critical Control Point (HACCP) principle and methods, a variety of hazards in producing seasoning tilapia were analysed in detail, thus identified the potential hazards associated with the raw material and processing at all stages, determined the critical control points, and established sanition standard operation procedure, monitoring procedures,corrective actions and verification procedures in order to assure food safety.
【语种】中文
【第一作者】郑元平
【通讯作者】郑元平
【期刊名称、卷期、页码】中国食品工业,2010(10):64-66
【论文发表时间】2010-10-15 00:00:00
【引文索引类型】其他
【引文索引号】未知
【学科分类】食品工业企业管理学

【题目】响应面法优化罗非鱼内源酶酶解工艺
【中文关键词】罗非鱼;蛋白;响应面
【英文关键词】tilapia;protein;RSM
【中文摘要】为促进罗非鱼下脚料的加工利用,采用响应面方法研究了PH、温度和时间对内源酶解罗非鱼蛋白的影响,建立了拟合良好的方程。
【英文摘要】The effects of pH,time and temperature on the hydrolysis of tilapia protein by endogenous enzymes were studied with response surface methods for the full utilization of the byproducts of tilapia processing.
【语种】中文
【第一作者】刘石生
【通讯作者】刘石生
【期刊名称、卷期、页码】现代食品科技, 2010,26(1):85-87
【论文发表时间】2010-01-15 00:00:00
【引文索引类型】其他
【引文索引号】未知
【学科分类】食品加工技术

【题目】罗非鱼片真空微波干燥特性及其动力学研究
【中文关键词】真空;微波;罗非鱼片;干燥;动力学
【英文关键词】Vacuum;Microwave;Tilapia Fillets ;Drying ;Kinetics
【中文摘要】研究了3mm罗非鱼片在真空度0.03、0.06、0.09MPa和微波功率100W、200W、300W下进行了真空微波干燥实验的水分比与时间关系,结果表明:增大微波功率能提高干燥速率;提高真空度能降低最终的水分含量;在高真空度下,微波功率对干燥速率的影响不明显。此外,通过实验数据建立罗非鱼真空微波干燥模型,发现Page模型最适合于拟合微波真空干燥薄层罗非鱼片,并用拟合的模型曲线与真实值进行验证,证明Page模型具有良好的效果。
【英文摘要】Vacuum-microwave drying of tilapia fillets during different vacuum(0.03 to 0.09MPa) and different microwave power(100 to 300W) was investigated. Results showed that the higher microwave power is, the MR decreased more obviously. The higher the vacuum is , the smaller MR is at the end of drying. Meanwhile, the power of microwave had less noticeable influences under high vacuum .In addition, the suitable mathematical model which can be used to describe the relationship of moisture ratio and drying time was established in this paper. The results showed that the model of Page is the most suitable model to predicted values consistent with the observed values. After comparison of fitting curves and the observed values, we find out the model of Page is good at fitting Tilapia Fillets during vacuum-microwave drying.
【语种】中文

【第一作者】杨毅
【通讯作者】段振华
【期刊名称、卷期、页码】食品科技, 2010,35(11):101-104
【论文发表时间】2010-11-15 00:00:00
【引文索引类型】其他
【引文索引号】未知
【学科分类】食品科学技术基础学科

【题目】罗非鱼脱腥技术比较研究
【中文关键词】罗非鱼; 脱腥; 真空微波干燥
【英文关键词】tilapia; deodorization; vacuum microwave drying;
【中文摘要】鱼类所特有的腥臭味让许多消费者难以接受,本文利用酵母、红茶、绿茶、菊花茶、紫苏、白酒、醋以及活性炭八种物质对罗非鱼片进行脱腥处理,以感官评定为标准,确定了各种脱腥方法的最佳工艺条件。结果表明,各种脱腥方法都能在不同程度上去除鱼腥味,且一般随着时间的延长和浓度的增加而使腥味变淡,其中使用1%白酒加3%紫苏和1%白醋2h即可完全去除腥味,且口感好,有特殊香味,脱腥效果最好。 更多还原
【英文摘要】It is hard for most customers to accept the unique unpleasant smell of fish. Deodorizations of tilapia meat by yeast,black tea,green tea,chrysanthemum tea,basil,white wine,vinegar,as well as activated carbon were investigated,and the optimum conditions of each method were determined by sensory evaluation as a criterion. The results showed that the fish smell can be removed to varying degrees by a variety of methods,and it generally got lighter with the longer time and the increase of processing aids in concentration. The optimum deodorizing condition was that using 1% white wine plus 3% basil and 1% vinegar to deal with the tilapia meat for 2h,which can completely remove the smell,and the fish tasted good,with special fragrant smell.
【语种】中文
【第一作者】郑元平
【通讯作者】郑元平
【期刊名称、卷期、页码】食品工业科技, 2011(2):217-219,222
【论文发表时间】2011-02-15 00:00:00
【引文索引类型】其他
【引文索引号】未知
【学科分类】食品加工技术

【题目】真空微冻罗非鱼片保鲜研究
【中文关键词】罗非鱼片; 微冻; 真空包装; 新鲜度
【英文关键词】tilapia fillet; partial freezing; vacuum packaging; freshness;
【中文摘要】为探索罗非鱼片的保鲜方法,采用真空包装和微冻处理罗非鱼片,对其在贮藏过程中的感官特性、水分散失率、僵硬期、肌肉硬度、挥发性盐基氮(TVB-N)和水分活度等进行比较分析,评价罗非鱼片在真空包装和微冻条件下的保鲜效果。结果表明:罗非鱼在3℃水中经30min即可致死,鱼片比自然死亡的僵硬时间可延长约100min;先真空包装再微冻处理比先微冻再真空包装的水分散失率减少约2.6%。经-7℃和-4℃条件贮藏15d,鱼片的TVB-N≤15mg/100g;-7℃条件贮藏的鱼片TVB-N比-4℃的低约25%。
【英文摘要】Changes in physical and chemical properties such as sensory quality,water-loss rate,stiffness period,hardness degree,total volatitle base-nitrogen (TVB-N) value and water activity during the storage of tilapia fillets subjected to both partial freezing and vacuum packaging at-4 ℃ or-7 ℃ were analyzed to evaluate the fresh-keeping effect of vacuum package and partial freezing storage. Results indicated that tilapia lived in 3 ℃ water for 30 min would die. Its stiffness period was extended to 100 min compared with that of the normally dead tilapia. Initial vacuuming treatment followed by partial freezing treatment could reduce water loss rate by 2.6%,when compared with partial freezing first and then vacuum packaging. After 15 days of storage at-4 ℃ or-7 ℃,(TVB-N) values of tilapia fillets were less than 15 mg/100 g,and the values after the storage period at-7 ℃ were approximately 25% lower than those at-4 ℃
【语种】中文
【第一作者】张强
【通讯作者】林向东
【期刊名称、卷期、页码】食品科学, 2011,32(4):232-236

【论文发表时间】2011-02-15 00:00:00
【引文索引类型】其他
【引文索引号】未知
【学科分类】食品包装与储藏

【题目】罗非鱼鱼体僵硬期保鲜方法的初步研究
【中文关键词】罗非鱼;保鲜;研究
【英文关键词】tialpia;freshness keep;study
【中文摘要】对其在贮藏过程中的感官特性、水分散失率、僵硬期、肌肉硬度、挥发性盐基氮(TVB-N)和水分活度等进行比较分析,评价罗非鱼片在真空包装和微冻条件下的保鲜效果.
【英文摘要】Changes in physical and chemical properties such as sensory quality,water-loss rate,stiffness period,hardness degree,total volatitle base-nitrogen (TVB-N) value and water activity during the storage of tilapia fillets subjected to both partial freezing and vacuum packaging at-4 °C or-7 °C were analyzed to evaluate the fresh-keeping effect of vacuum package and partial freezing storage.
【语种】中文
【第一作者】周少明
【通讯作者】林向东
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【学科分类】食品包装与储藏

【题目】Recovery of Proteins from Silver carp By-products with Enzymatic Hydrolysis and Reduction of Bitterness in Hydrolysate.
【中文关键词】鲢鱼;副产物;水解
【英文关键词】Silver carp; By-product; Hydrolysis;
【中文摘要】为了减少环境污染和提高加工的附加值,选择鲢鱼加工下脚料为原料,采用酶解的方法从中提取蛋白质,研究了酶解的工艺和酶解过程中苦味降低的机制。
【英文摘要】The by-products of Silver carp were hydrolyzed to extract protein due to reduce the environmental problems caused by the wastes from filleting and increase the economical values of Silver carp processing. Enzymatic hydrolysis of Silver carp by-products from filleting and subsequent mechanism research of reduction bitterness in hydrolysate were performed in this paper.
【语种】英文
【第一作者】段振华
【通讯作者】段振华
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【题目】Proteomics reveals the effects of gibberellic acid (GA3) on salt-stressed rice (Oryza sativa L.) shoots
【中文关键词】Gibberellic acid (GA3); Salt stress; Proteomics; Rice (Oryza sativa L.)
【英文关键词】Gibberellic acid (GA3); Salt stress; Proteomics; Rice (Oryza sativa L.)
【中文摘要】Salt decreases gibberellic acid (GA3) content in rice. Nevertheless, GA3 may exert a beneficial effect on salt-stressed rice. In our analysis, GA3 reduced NaCl-induced growth inhibition in rice (Oryza sativa L. cv. Nipponbare) in a concentration-dependent manner, including the length of root tissue. However, remains unclear. We employed a comparative proteomic analysis to elucidate the mechanism of GA3 activity in this phenomenon. 5-Day-old seedlings treated with salt and gibberellic acid (H2O, 0.5% NaCl, 0.5% NaCl + 100 mM GA3, and 100 mM GA3) for 48 h were used for the proteomics analysis. Eleven proteins differently regulated by salt and GA3 were revealed by 2D PAGE and were identified by MALDITOF MS. These proteins were identified as glutamyl-tRNA reductase, enolase, salt stress-induced protein (SALT protein), Os09g0249700, hypothetical protein OsJ_014066, putative chaperonin 21 precursor, Os04g0659300, hypothetical protein OsJ_025258, ribulose bisphosphate carboxylase, isoflavone reductase-like protein

and phosphoglucomutase. Some of these proteins are involved in biochemical pathways such as photosynthesis and glycolysis, but others were found to be novel proteins involved specifically in the response to salt in rice. GA3 had a significant influence on the abundance of some saltregulated proteins. Our studies have provided new insight to reveal the modulating effect of GA3 on salt stress in rice

【英文摘要】Salt decreases gibberellic acid (GA3) content in rice. Nevertheless, GA3 may exert a beneficial effect on salt-stressed rice. In our analysis, GA3 reduced NaCl-induced growth inhibition in rice (Oryza sativa L. cv. Nipponbare) in a concentration-dependent manner, including the length of root tissue. However, remains unclear. We employed a comparative proteomic analysis to elucidate the mechanism of GA3 activity in this phenomenon. 5-Day-old seedlings treated with salt and gibberellic acid (H2O, 0.5% NaCl, 0.5% NaCl + 100 mM GA3, and 100 mM GA3) for 48 h were used for the proteomics analysis. Eleven proteins differently regulated by salt and GA3 were revealed by 2D PAGE and were identified by MALDITOF MS. These proteins were identified as glutamyl-tRNA reductase, enolase, salt stress-induced protein (SALT protein), Os09g0249700, hypothetical protein OsJ_014066, putative chaperonin 21 precursor, Os04g0659300, hypothetical protein OsJ_025258, ribulose bisphosphate carboxylase, isoflavone reductase-like protein and phosphoglucomutase. Some of these proteins are involved in biochemical pathways such as photosynthesis and glycolysis, but others were found to be novel proteins involved specifically in the response to salt in rice. GA3 had a significant influence on the abundance of some saltregulated proteins. Our studies have provided new insight to reveal the modulating effect of GA3 on salt stress in rice

【语种】英文
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【学科分类】生物化学

【题目】小麦叶片胞间洗脱液的蛋白质组学检测分析
【中文关键词】小麦 叶片 胞间洗脱液 蛋白质组学 双向电泳
【英文关键词】Wheat(Triticum aestivum) Leaf Intercellular washing fluid(IWF) Proteomics Two-dimensional gel electrophoresis(2-DE)

【中文摘要】植物叶片胞间液蛋白主要是一些低丰度蛋白,其中某些种类在植物抗病反应中起着重要的作用。通过改进已有的技术方法,结合超滤和丙酮沉淀处理,从500 g 抗条锈病近等基因系小麦Taichung29* 6/Yr5 的叶片中获得了1. 5 mg 可溶性的胞间洗脱液蛋白。SDS-PAGE 电泳分析显示,胞间洗脱液蛋白样品和总蛋白样品存在着明显的差异。进一步的双向电泳分析证实,两个样品在胶图上可分别检测到1 241 ±59(n =3) 和1 849 ±138(n =3) 个蛋白点,其中胞间洗脱液样品有1 042 ±47(n =3) 个不同于总蛋白样品的蛋白点,与总蛋白样品共有的蛋白点仅198 ±13(n =3) 个。随意取100 个差异蛋白点进行MALDI-TOF 质谱分析,鉴定到一些已被确证存在于小麦胞间液中的蛋白质,如β-1,3-葡聚糖酶、葡聚糖-β-D-1,3-葡萄糖苷内切酶、几丁质酶、过氧化物酶等。从蛋白质组学角度初步分析了小麦叶片胞间洗脱液的组成,为进一步探索小麦叶片胞间液中低丰度蛋白的抗病功能提供依据。

【英文摘要】The proteins in the intercellular fluid of plant leaves are mostly low abundance proteins and some of them play an important role in disease resistance. In this study,the intercellular washing fluid (IWF) was obtained from 500 g wheat leaves,and then 1. 5 mg soluble apoplast proteins were extracted using an improved method,which combining ultrafiltration and acetone precipitation. In following analysis,significant differences could be detected between IWF protein and wheat leaf total protein on SDS-PAGE gel. When separated using 2-DE,a total of 1 241 ±59 (n =3) spots were detected on IWF protein images and 1 849 ±138 (n =3) spots in total protein images. And there were 198 ±13(n =3) common spots and 1 042 ±47(n =3) particular spots in IWF protein images when compared with total protein images. 100 particular spots that were randomly chosen from2-DE gels have been analyzed by MALDI-TOF-MS, identified some proteins which have been conformed and proved were intercellular protein of wheat leaves,such as β-1, 3-glucanase,glucan endo-1, 3- β-D-glucosidase,chitinase,peroxidase and thioredoxin.In our study,protein constitutes of the intercellular fluid from wheat leaves have been detected by using proteomic technology. This work should be helpful for further understanding of disease resistance functions of the low abundance proteins in wheat intercellular fluid.

【语种】中文
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【题目】抗条锈病小麦品系Taichuang29*6/Yr5接种条锈菌CY32后的蛋白质组学分析
【中文关键词】蛋白质组学;小麦;抗条锈;二维凝胶电泳;肽质量指纹图谱
【英文关键词】proteomics;wheat;stripe rust resistance;two-dimensional gel electrophoresis;PMF
【中文摘要】【目的】了解抗条锈小麦受条锈菌侵染后的蛋白表达变化情况,采用比较蛋白质组学技术鉴定接种条锈菌小种CY32后的抗条锈小麦品系Taichuang29*6/Yr5和同时期未接种对照之间的差异蛋白。【方法】提取接种48 h和同期未接种小麦的叶片蛋白,进行双向电泳分离和分析,选取差异显著的蛋白点进行MALDI-TOF质谱分析及数据库搜索鉴定。【结果】发现13个体积百分比变化大于1.5倍,符合t检验(P<0.05)的显著差异蛋白点,通过MALDI-TOF MS获得了这些差异蛋白点的肽指纹图谱,经数据库搜索,共鉴定出11个蛋白,包括Pathogenesis-related homeodomain protein,beta-glucosidase,glutathione transferase等。【结论】经蛋白质功能分析,推测小麦叶片中这些差异蛋白可能与条锈菌小种CY32的侵染有关
【英文摘要】【Objective】To investigate the biochemical changes of wheat resistance to stripe rust after infected with the stripe rust,a resistive line of wheat(Taichung29*6/Yr5)infected with stripe rust CY32 was compared to mock-inoculated wheat by comparative proteomics technology.【Method】Proteins were extracted from leaves infected with a virulent race of stripe rust CY32 and control group after 48 hours of inoculation,and then separated by using two-dimensional electrophoresis(2-DE).The differential protein spots were selected for MALDI-TOF MS analysis and database searching.【Result】By using 2-DE,2 uniquely expressed spots,5 up-regulated spots and 6 down-regulated spots were observed in Taichung29*6/Yr5 leaves inoculated with stripe rust CY32. Total of 11 proteins,including pathogenesis-related homeodomain protein,beta-glucosidase,glutathione transferase etc,were identified.【Conclusion】Through analysis of protein function,it is presumed that these differential proteins are correlated with the infextation of stripe rust race CY32.
【语种】中文
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【题目】一种简易高效的小麦叶片胞间液蛋白提取方法的建立
【中文关键词】细胞间液小麦叶片蛋白质蛋白质组学提取
【英文关键词】Intercellular fluid Wheat leaf Protein Proteomics Extraction
【中文摘要】植物细胞间液中的蛋白在植物生长发育和抗病抗逆反应及其信号传导过程中发挥着重要作用,是植物学研究的新热点。由于细胞间液含量低,容易因组织细胞损伤性受到胞内成分污染,高纯度的细胞间液蛋白的提取相对困难,参考相关文献报道,建立了一种简易高效的小麦叶片细胞间液蛋白的提取方法。选取小麦品种“铭贤169”幼苗叶片为材料,用50mmol /L NaAc 缓冲液充分浸润,负压处理20 min 后,30 × g 离心5 min 除去叶片表面缓冲液,随后2 000 × g 离心15 min,收集小麦叶片胞间液。将获得的小麦叶片胞间液冷冻干燥后,进行SDS-PAGE 分离分析。电泳胶图上显示出细胞间液提取物与叶片组织提取物的蛋白质组成有极显著差异,使用MALD-TOF/TOF MS 技术分析SDS 胶上的细胞间液蛋白条带,共鉴定到9种非高丰度或假定的蛋白,其中有两种是已报道过的植物细胞间液蛋白。试验结果表明,本方法简易高效,适用于小麦蛋白质组学研究中高纯度的细胞间液蛋白的提取。
【英文摘要】It has been recognized that the proteins of plant intercellular fluid play important roles in the process of growth,disease resistant,degeneration resistant and signal transduction. However, it is not easy to extract these proteins for proteomics research,because of the low abundance of intercellular fluid proteins and the difference of separation of intercellular fluid proteins from plant tissue. Referencing previous reports,we developed a simple method for efficient extraction of proteins from wheat leaf intercellular fluid. With wheat variety “ Mingxian 169 ” as the material,young leaves were completely soaked in 50 mmol /L NaAc buffer and then vacuumed

for 20 min. After that the buffer was removed by centrifugation at 30 × g for 5 min, and the intercellular fluid was collected by centrifugation at 2 000 × g for 15 min. Finally, the proteins were obtained by ultrafiltrating or freeze drying the intercellular fluid. SDS-PAGE was used todetect and separate proteins extracted from wheat leaf intercellular fluid. Observed on electrophoresis gel, intercellular fluid proteins were significantly different with total proteins extracted from wheat leaves. We divided the intercellular fluid proteins into 45 slim straps,and detected them by MALDI-TOF/TOF MS. With this method,9 proteins were identified. Among the identified proteins, two have been reported as plant extracellular proteins. The results indicated that the method is suitable for extracting intercellular fluid in proteomicsresearch.

【语种】中文
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【题目】赤霉素对盐胁迫抑制水稻种子萌发的缓解作用的蛋白质组分析
【中文关键词】水稻; 赤霉素; 盐胁迫; 蛋白质组
【英文关键词】Rice; Gibberellin; Salt stress; Proteome
【中文摘要】用粳稻日本晴(Oryza sativa L. cv. Nipponbare), 研究了盐胁迫对水稻种子萌发的抑制作用和赤霉酸(GA3)对盐胁迫的缓解作用; 分别以H2O(对照), 5 g L − 1 NaCl(处理I), 5 g L − 1 NaCl + 100 μ mol L − 1 GA3 (处理II)培养水稻种苗48 h, 提取芽中的蛋白质, 利用双向电泳(2-DE)和基质辅助激光解吸电离飞行时间质谱(MALDI-TOF MS)技术分析了水稻蛋白质组的变化。结果表明, 在盐胁迫条件下, 日本晴种子的萌发显著受到抑制, 而GA3 能显著缓解这种抑制作用; 用ImageMaster 软件分析2-DE 凝胶,发现有4 个蛋白质斑点表现出显著的变化, 在盐胁迫下斑点S1、S2 和S3 表达下调而斑点S4 消失, 在GA3 与盐共处理时, 这4 个蛋白质点的表达均有不同程度的恢复; 经MALDI-TOF MS 分析, 其中2 个蛋白质斑点(S1, S3)分别被鉴定为isoflavone reductase-like 蛋白与葡萄糖磷酸变位酶, 这些蛋白可能与GA3 提高水稻耐盐性途径相关。
【英文摘要】Salinity stress is a major abiotic stress to most plant including rice. It has been reported that gibberellic acid (GA3) can exert a natural beneficial effect on salt stressed rice. In this paper, the effect of salt stress on rice (Oryza sativa L. cv. Nipponbare) seed germination and the effect of GA3 on salt-stressed rice were investigated. A proteomic approach was employed to further understand the relieving effect of gibberellin on the inhibition of rice seed germination by salt stress. The 5-day-old rice seedlings were treated with H2O (control), 5 g L − 1 NaCl (treated group I), and 5 g L − 1 NaCl + 100 μ mol L − 1 GA3 (treated group II) for 48 h respectively. The proteins extracted from buds were separated by two-dimensional gel electrophoresis (2-DE) and analyzed with Matrix Assisted Laser Desorption/Ionization Time of Flight Mass Spectrometry (MALDI-TOF MS). The results showed that the seed germination of Nipponbare was inhibited by salt stress significantly, while GA3 could reduce the inhibition significantly.Four protein spots showed differential expression in 2-DE. Three of these proteins were down-regulated (spots 1 – 3) and one proteindisappeared (spots 4) under salt stress. Expression levels of these proteins were recovered partly when treated with GA3 andNaCl at the same time. Two protein spots were identified as isoflavone reductase-like protein and phosphoglucomutase. Thesedifferential expression proteins may play important role in the mechanism of the relieving effect of gibberellin on the inhibition ofrice germination by salt stress.
【语种】中文
【第一作者】温福平
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【题目】蛋白质复合体非变性凝胶电泳技术及其应用新进展
【中文关键词】蓝绿温和非变性凝胶电泳 蓝绿温和琼脂糖凝胶电泳 清澈温和非变性凝胶电泳 高分辨清澈温和非变性凝胶电泳 植物蛋白质复合体

【英文关键词】BN-PAGE Blue native agarose-acrylamide composite gel electrophoresis CN-PAGE HrCN-PAGE Plant protein complex

【中文摘要】非变性凝胶电泳技术是研究蛋白质复合体的强有力工具。重点介绍了蓝绿温和非变性凝胶电泳(BN-PAGE)技术的原理和特点,比较了由BN-PAGE 衍生的蓝色温和琼脂糖凝胶电泳、清澈温和非变性凝胶电泳(CN-PAGE) 和高分辨清澈温和非变性凝胶电泳(HrCN-PAGE) 技术的差异和适用范围,并概括地介绍了这些技术在植物蛋白质复合体研究中应用的新进展。

【英文摘要】The native polyacrlamide gel electrophoresis is a powerful technique for the study of protein complexes. In this paper,we compared the technical features,advantages,disadvantages and the scope of application of four native electrophoresises which are known as blue native polyacrlamide gel electrophoresis(BN-PAGE) ,blue native agarose-acrylamide composite gel electrophoresis, clean native polyacrlamide gel electrophoresis(CN-PAGE) and high resolution clean native polyacrlamide gel electrophoresis(HrCN-PAGE) . Then we listed the application of this methods in protein complexes research and looked forward to the applications in the plant proteome research.

【语种】中文

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【题目】小麦叶片类囊体膜蛋白复合体的分离和分析技术研究

【中文关键词】蓝绿温和胶电泳 类囊体膜蛋白复合体 电洗脱 SDS-PAGE 低丰度

【英文关键词】BN-PAGE Thylakoid membrane protein complexes Electroelution SDS-PAGE Low-abundance

【中文摘要】膜蛋白复合体在生命活动中执行着重要的生物化学功能,具有重要的研究意义,但由于其低表达和高度疏水的特点,完整状态和低丰度的膜蛋白复合体的分离分析仍是一大挑战。首先,采用蓝绿温和胶非变性电泳作为第一维分离技术,大量分离制备叶绿体类囊体膜蛋白复合物; 其次,采用电洗脱方法差异富集第一维电泳分离到的各种蛋白复合体; 最后,采用SDS-PAGE 作为第二维分离技术,分析差异富集的不同种蛋白复合体的亚基构成。研究结果表明,利用这种分离分析模式,能有效地富集膜蛋白复合体尤其是低丰度膜蛋白复合体,明显提高第二维分离分析的分辨率和蛋白覆盖率。

【英文摘要】Membrane protein complexes perform important biochemical function in cellular process,but the analysis of membrane protein complexes is a significant challenge due to their hydrophobic properties and relatively low abundance. In this study,blue-native polyacrylamide gel electrophoresis(BN-PAGE) was used to separate and prepare a large number of chloroplast thylakoid membrane protein complexes in the first dimension. Then, electroelution was performed to differentially enrich various native protein complexes separated in the first dimension. Electroeluted protein complexes were analyzed to determine the subunit composition with sodium dodecyl sulfate polyacrylamide gel electrophoresis (SDS-PAGE) in the second dimension. The application of the BN/SDS-PAGE strategy to the separation and analysis of membrane protein complexes,especially in relative low-abundance,demonstrated that a high resolution and protein coverage was achieved by enrichment of low-abundant membrane protein and separation of complexes subunits in the second -dimensionalSDS /PAGE.

【语种】中文

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【题目】表面等离子共振生物传感器技术及在生命研究中的应用

【中文关键词】表面等离子共振;SPR 生物感应器;免疫检测;药物筛选;动力学

【英文关键词】surface plasmon resonance,SPR biosensors,immunodetection, drug screening,kinetics
【中文摘要】表面等离子体共振(sIJrfacePlasmonResonance,sPR)是一种人射光照射引起金属表面产生等离子体共振而导致反射光衰减的现象,反射光衰减程度与人射角和金属表面物质质量相关。根据这一原理研制的表面等离子体传感器,在检测、分析生物分子间的相互作用等方面有广泛的应用前景。本文对表面等离子共振生物传感器的工作原理、技术参数、检测方法进行了详细介绍,同时绍了表面离子共振免疫测、物谢及蛋白质动力学生研究中的应用。
【英文摘要】Surface Plasmon resonance (SPR) is a phenomenon which occurs when light is reflected off thin metal films. Based on this phenomenon,some SPR biosensors have been developed and been extensively used for characterizing and quantifying bimolecular interactions. In this Paper,the working Principles,technical parameters and test method for SPR biosensors are discussed. The main applications of SPR biosensors teleology in life science field, such as immunodetection, drug metabolism, protein dynamics, are also described.
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【题目】蛋白质组学在转基因生物检测和研究中的应用前景
【中文关键词】转基因生物; 蛋白质组学; 分析; 检测
【英文关键词】genetically modified organisms; proteomics; analysis; detection
【中文摘要】现有的常规转基因生物检测和研究方法不能满足快速、准确、灵敏和完整分析转基因生物的需求, 极有必要借助蛋白质组学实现这一目标。概略地介绍了当前常用的转基因生物分析技术, 并着重分析与讨论了一些重要的蛋白质组学技术在转基因生物检测和研究中的应用前景。
【英文摘要】The existing conventional methods for detection and study can not meet the requirements o f rapid, accurate, sensitive and complete analysis of genetically modified organ ism s. It is quite necessary to apply proteomics to improve these methods. This paper briefly introduces the existing conventional techno logy for analyzing genetically modified organisms and discusses about the application prospects of some important proteomics technologies in detecting and studying genetically modified organisms.
【语种】中文
【第一作者】潘映红
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【题目】A one-step real time RT-PCR assay for quantifying rice stripe virus in rice and in
【中文关键词】水稻条纹病毒,灰飞虱,一步实时定量RT-PCR
【英文关键词】Rice stripe virus (RSV),Small brown planthopper (Laodelphax striatellus),Rice,One-step real time RT-PCR,Quantitative
【中文摘要】水稻条纹病毒(RSV)是亚热带和温带地区水稻的重要病害,本文建立了用于定量检测RSV的One Step Real Time RT-PCR方法,在RSV CP序列保守区域内设计特异性的引物和探针;通过在GenBank中用BLAST进行比对,证实引物探针特异性很高。对RSV One Step Real Time RT-PCR反应体系最佳的引物和探针终浓度均为0.2 μ mol/L,检测灵敏度可达到20拷贝/20 μ l体系,比ELISA检测技术的灵敏度高。可应用其对灰飞虱不同部位和水稻不同组织内的RSV进行定量检测。
【英文摘要】Rice stripe virus (RSV) is an important pathogen affecting rice production in subtropical and temperate regions. One-step real time RT-PCR methods using the TaqMan probe are described for quantitative detection of RSV in rice tissues and in Laodelphax striatellus Fallen, the small brown planthopper (SBPH). Primers and probe for specific detection of RSV were designed ithin the conserved region identified within the coat protein (CP) gene sequence. A DNA fragment was amplified for mimicking the

complementary RNA by PCR-based gene assembly, and was used for generation of standard RNA templates. A sensitivity assay showed that the detection limit of the assay was 20 copies, and the standard curve had a linear range from 20 to 2×105 copies, with good reproducibility. An internal control assay designed to target the riceubiquitin 5 gene (UBQ5) was included in detecting RSV in different infected rice tissues. Simultaneously,a real time RT-PCR assay was used to detect the RSV CP gene in viruliferous SBPH. The results showed that the numbers of RSV CP genes in different tissues were variable. Accumulation of the RSV CP gene was greater in rice leaf and SBPH thoraco-abdominal tissue than in rice stem and SBPH head, respectively.As determined by an end-point dilution comparison, one-step real time RT-PCR was close to 104-fold more sensitive than the indirect enzyme-linked immunosorbent assay (ELISA) for RSV detection. This quantitative detection assay provides a valuable tool for diagnosis and molecular studies of RSV biology.

【语种】英文
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【题目】Transmission by Laodelphax striatellus Fallen of Rice black-streaked dwarf virus
【中文关键词】水稻黑条矮缩病毒,灰飞虱,冰冻毒源,传毒
【英文关键词】transmission, Rice black-streaked dwarf virus (RBSDV), Laodelphax striatellus, frozen infected leaves
【中文摘要】在自然界,水稻黑条矮缩病毒(Rice black-streaked dwarf virus ,RBSDV)由灰飞虱(Laodelphax striatellus)、白脊飞虱(Unkanodes sapporona)和小鬼飞虱(U. albifascia)以持久性方式传播,其寄主有重要农作物水稻、玉米、大麦、小麦等。介体传毒试验是病毒鉴定、品种抗病性筛选及评价的基础。本文给出了一种简便、快速、可靠的利用无毒灰飞虱活化水稻黑条矮缩病毒冰冻毒源的方法,并成功的接种到健康的水稻和玉米植株。利用RT-PCR技术对饲食冰冻毒源,且通过10天、15天、22天循环期的灰飞虱进行检测,介体带毒率分别为0、25%和71.43%。而饲食新鲜发病水稻植株叶片介体的带毒率分别为0、28.25%和71.43%。传毒试验结果表明:从饲食冰冻毒源获、通过22天循环期的灰飞虱可以传播病毒,分别接种8株水稻和玉米,其中3株水稻和4株玉米表现出典型症状,发病率分别为37.5%和50%。利用饲食新鲜病叶灰飞虱接种水稻和玉米,其发病率为分别为50%和66.67%。所有表现症状的水稻和玉米植株RT-PCR检测均表现为阳性反应。上述结果表明,利用灰飞虱能有效地从冰冻毒源获得RBSDV病毒,并能将其传播到健康水稻、玉米植株上。
【英文摘要】Rice black-streaked dwarf virus (RBSDV) is transmitted naturally to important crops such as rice, maize,barley and wheat in a persistent manner by the planthoppers,Laodelphax striatellus, Unkanodes sapporona and Unkanodes albifascia. Insect vector transmission tests are the basis for identifying viral incidence, evaluating the resistance of varieties and selecting resistance sources for rice and maize breeding. A simple, rapid and reliable method is described by which virus-free small brown planthoppers (L. striatellus) acquired RBSDV from frozen infected rice leaves and transmitted it to healthy rice and maize plants. After feeding on frozen infected rice leaves, the planthoppers were tested by RT-PCR for the presence of virus after 10,15, and 22 days, respectively. The percentages of RBSDV-containing insects were 0, 25 and 71.43% of L. striatellus fed on frozen infected rice leaves comparedto 0, 28.25 and 71.43% of L. striatellus fed on fresh infected rice leaves, respectively. In transmission tests, three of eight rice seedlings (37.5%) and four of eight maize seedlings (50%) were inoculated by the planthoppers that had fed previously on frozen leaves and had allowed a 22 days latent period and showed typical disease symptoms. As a positive control, four of eight rice seedlings (50%) and four of six maize seedlings (66.67%) became infected. All rice and maize plants expressing disease symptoms were identified as virus-positive by RT-PCR. These results indicated that the planthoppers acquired RBSDV from frozen infected leaves and transmitted the virus to healthy plants.

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【学科分类】病毒学

【题目】主要粮油产品质量全程跟踪与溯源技术研究
【中文关键词】粮油产品;质量跟踪;溯源
【英文关键词】Primary grain and oil products;Quality tracing;Qraceability technique
【中文摘要】溯源制度已成为食品安全管理一项重要手段,全球食品产业和许多国家的政府越来越重视食品溯源系统的建立。针对粮油产品在生产、加工、仓储、流通等环节存在的主要质量问题,本文提出了主要粮油产品质量全程跟踪与溯源技术研究的相关内容及技术路线。
【英文摘要】The system of traceability has been a important method in food safety management.Not onlythe global food industry,but many c.ountries put more energy to build food traceability platform.According to the quality issues in food chain,which including manufacture,process,storage and circulation.This paper introduce the research contents and the technical line of the primary grain and oil products quality traceability research.
【语种】中文
【第一作者】刘世洪
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【学科分类】计算机应用

【题目】粮油产品质量安全可追溯系统构建
【中文关键词】粮油产品;质量安全;可追溯系统;溯源编码
【英文关键词】cereal and oil products; quality safety; traceability system; traceability encode
【中文摘要】【目的】实现粮油产品从“农田到餐桌”的质量安全追溯。【方法】以粮油产品为研究对象,采用信息编码、多平台溯源、硬件研发等技术,建立了多层次、多角色的粮油产品质量安全可追溯系统。【结果】系统功能包括基础信息管理、标准管理、生产管理、FMECA模块、溯源管理等,不仅面向企业实现了产地、生产过程、运输以及销售等环节的质量安全信息管理,并以电话、网络和短信、超市触摸屏、移动溯源终端等多种方式向消费者、监管部门提供服务。【结论】本研究为粮油产品质量安全管理提供了有效手段,并给其它农产品追溯提供参考和借鉴。
【英文摘要】【Objective】 To trace the quality safety information of cereal and oil products from "farm to table". 【Method】The cereal and oil products quality safety traceability system, which is multi-level and multi-role one, was designed and implemented with information encode, multi-platform tracing and hardware R&D technology, according to the study on cereal and oil products.【Result】 The function of the system includes basic information management, standards management, production management, FMECA module and tracing management. The system not only provides the management in origin, processing, circulation and consumption of cereal and oil products for enterprises, but also provides tracing service for customers and supervisors by telephone, internet, SMS, touch machine and mobile traceability terminal. 【Conclusion】 This study has provided an effective way for cereal and oil products quality safety management, meanwhile , set an example for other agricultural products。
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【第一作者】郑火国
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【学科分类】计算机应用

【题目】基于GPRS的农产品移动溯源终端研究与实现
【中文关键词】农产品溯源;GPRS;溯源终端;嵌入式软件;微电子技
【英文关键词】Agricultural products quality tracking, GPRS; tracing terminal; embedded software; microelectronics

【中文摘要】溯源制度已成为食品安全管理一项重要手段,全球食品产业和许多国家的政府日益重视食品溯源系统的建立,溯源终端也偶有涉及。针对农产品在质量安全溯源过程的技术要求,设计研发出基于 GPRS 的农产品移动溯源终端,便于监管机构和消费者随时、随地对农产品质量进行跟踪追溯。
【英文摘要】Traceability system has become an important means for food safety management. Global food industry and many countries have paid increasing attention to the construction of food traceability system, but rarely referred to tracing terminal. According to the technical requirements of cereal and oil products quality safety tracing process, we design and develop a mobile tracing terminal based on GPRS for agricultural products quality tracking to facilitate quality supervisors and consumers to track and trace the quality of related agricultural products anytime ,anywhere.
【语种】中文
【第一作者】郑火国
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【题目】分子印迹基质固相分散-液相色谱法测定牛奶中的氯霉素残留
【中文关键词】氯霉素; 分子印迹聚合物; 基质固相分散; HPLC; 牛奶
【英文关键词】Chloramphenicol; Molecularly imprinted polymer; Matrix solid phase dispersion; HPLC; Milk
【中文摘要】以对模板分子具有较强识别特性的分子印迹聚合物为基质固相分散吸附剂,提取牛奶中痕量氯霉素, 最后用HPLC 法测定。研究了氯霉素分子印迹聚合物对样品中氯霉素的提取和净化效果,在优化条件下,方法的检出限为0.15 ng.mL, 定量限为0.50 ng.mL。不同氯霉素添加量的回收率大于93.2%,RSD< 5.9% 。方法适用于牛奶中氯霉素残留的测定以对模板分子具有较强识别特性的分子印迹聚合物为基质固相分散吸附剂, 提取牛奶中痕量氯霉素,最后用HPLC 法测定。研究了氯霉素分子印迹聚合物对样品中氯霉素的提取和净化效果, 在优化条件下, 方法的检出限为0.15 ng.mL, 定量限为0.50 ng.mL。不同氯霉素添加量的回收率大于93.2%,RSD< 5.9% 。方法适用于牛奶中氯霉素残留的测定。
【英文摘要】
【语种】中文
【第一作者】王荣艳
【通讯作者】王静
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【学科分类】食品科学技术其他学科

【题目】类特异性分子印迹聚合物微球的制备及其吸附性能研究
【中文关键词】磺酰脲类农药;分子印迹聚合物;微球; 吸附性能
【英文关键词】sulfony lurea herb icide;molecularly imprinted po lymer;beads;adsorpt ion property
【中文摘要】采用分子印迹技术, 以氯磺隆(CS) 为模板分子, 甲基丙烯酸乙二胺乙酯(DEMEA) 为功能单体, 三羟甲基丙烷三甲基丙烯酸酯(TRIM)为交联剂, 偶氮二异丁腈(AIBN) 为引发剂,通过沉淀聚合法合成了类特异性印迹聚合物微球(MIPM), 并利用HPLC、SEM等手段对微球的吸附性能进行了表征。结果表明, 聚合物微球对印迹分子及其类似物具有很好的亲合性和选择性,以其为填料的固相萃取小柱实现了氯磺隆及结构相似物与样品干扰物的高效分离。本试验合成的高分子聚合物微球不仅可以用于复杂样品中氯磺隆及其类似物残留的富集,也可有望以HPLC填充介质用于CS等类似物的高效液相色谱分离检测。
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【语种】中文
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【题目】类特异性分子印迹聚合物微球的识别机理及其光谱学研究
【中文关键词】类特异性;分子印迹聚合物;微球 ;光谱学
【英文关键词】Class-specific; Molecular imprinting polymer; Beads; Spectroscopy
【中文摘要】以氯磺隆为模板分子,甲基丙烯酸二乙氨基乙酯为功能单体,三甲氧基丙烷三甲基丙烯酸酯为交联剂,乙腈为致孔剂,在60°C温度下,采用热引发沉淀聚合方法制备了一种能同时吸附氯磺隆、噻吩磺隆、单嘧磺隆的类特异性分子印迹微球,并运用紫外光谱、红外光谱法等手段对其识别机理进行研究。结果表明,该聚合物微球对氯磺隆及其分子结构类似物噻吩磺隆、单嘧磺隆具有类特异性吸附能力,同时揭示了分子印迹微球是通过氢键作用特异性地识别模板分子及其类似物。
【英文摘要】
【语种】中文
【第一作者】佘永新
【通讯作者】王静
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【学科分类】食品科学技术其他学科

【题目】Class-specific molecularly imprinted polymers for the selective extraction and determination of sulfonylurea herbicides in maize samples by high-performance liquid chromatography – tandem mass spectrometry
【中文关键词】类特异性;分子印迹聚合物;微球 ;光谱学
【英文关键词】Class-specific; Molecular imprinting polymer; Beads; Spectroscopy
【中文摘要】
【英文摘要】A novel method based on the molecularly imprinted solid-phase extraction (MISPE) procedure has been developed for the simultaneous determination of concentrations of sulfonylurea herbicides such as chlorsulfuron (CS), monosulfuron (MNS), and thifensulfuron methyl (TFM) in maize samples by liquid chromatography – tandem quadrupole mass spectrometry (LC – MS/MS). The molecularly imprinted polymer (MIP) for sulfonylurea herbicides was synthesized by precipitation polymerization using chlorsulfuron as the template molecule, 2-(diethylamino)ethyl methacrylate (DEAMA) as the functional monomer, and trimethylolpropane trimethacrylate (TRIM) as the cross-linker. The selectivities of the chlorsulfuron template and its analogs on the molecularly imprinted polymer were evaluated by high-performance liquid chromatography (HPLC). The extraction and purification procedures for the solid-phase extraction (SPE) cartridge with a molecularly imprinted polymer as the adsorbent for the selected sulfonylurea herbicides were then established. A molecularly imprinted solid-phase extraction method followed by high-performance liquid chromatography – tandem mass spectrometry for the determination of chlorsulfuron, monosulfuron, and thifensulfuron methyl was also established. The mean recoveries of these compounds in maize were in the range 75 – 110% and the limits of detection (LOD) of chlorsulfuron, monosulfuron, and thifensulfuron methyl were 0.02, 0.75, and 1.45_gkg − 1, respectively. It was demonstrated that the MISPE – HPLC – MS/MS method could be applied to the determination of chlorsulfuron, monosulfuron, and thifensulfuron methyl in maize samples.
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【第一作者】佘永新
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【题目】磺酰脲类除草剂残留检测技术及其研究进展
【中文关键词】磺酰脲类除草剂;残留;检测;研究进展
【英文关键词】sulfony lurea herb icide; residue; determ inat ion; research progress
【中文摘要】磺酰脲类除草剂具有高效、低毒、低残留等特点, 已经成为当前使用量最大的一类除草剂。随着该类除草剂在农业生产中的广泛使用, 其残留问题以及对后茬作物产生的危害已经引起关注。由于磺酰脲类除草剂在环境和生物样品中痕量存在, 且其化学和热不稳定, 酸性条件下易水解, 以及最大残留限量值日益严格, 使其残留分析成为一项极具挑战性的工作。该文综述了近年来磺酰脲类除草剂残留分析的前处理方法和检测技术的研究进展, 并详细介绍了分子印迹技术、在线联用技术和液相色谱- 串联质谱技术在该类除草剂检测中
【英文摘要】
【语种】中文
【第一作者】吕晓玲
【通讯作者】王静
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【题目】Effects of abamectin selection on the genetic differentiation within Plutella xylostella (Lepidoptera: Plutellidae) based on ampli fi ed fragment length polymorphism
【中文关键词】阿维菌素抗性;扩增片段长度多态性标记;遗传分化;小菜蛾
【英文关键词】abamectin resistance;AFLP;genetic differentiation;Plutella xylostella
【中文摘要】小菜蛾是极易产生抗性的害虫之一。本研究中,采用扩增性片段长度多态性(AFLP)技术,评价小菜蛾对阿维菌素产生抗性的遗传分化程度,且利用软件STATISTICA及UPGMA算法,构建了遗传距离的树状图。结果表明,相对敏感种群,在抗性种群中随着抗性倍数的增加,其杂合频率逐渐降低。在抗性倍数低于4.3时,在DNA水平上抗敏之间没有明显遗传分化现象,但在抗性倍数达到5.8时,分化程度开始出现,且抗性倍数在8.1以上时,出现明显遗传分化。结果说明,阿维菌素抗药性和不断增强的小菜蛾遗传多态性相关。
【英文摘要】Diamondback moth, Plutella xylostella (L.) is one of the most serious insect pests for its remarkable ability to develop resistance to virtually every insecticide that has been used against it. In the present study, amplified fragment length poly-morphism (AFLP) is used to study the genetic differentiation as well as the effects of abamectin-selection on population genetic differentiation for P. xylostella. A dendrogram was constructed from the matrix of genetic distances using the STATISTICA software (Version 4.5) and unweighted pair-group method with arithmetic averages (UPGMA). The data demonstrated that compared to the susceptible strain (ABM-s), the heterozygosity in the abamectin-resistant strain (ABM-r) decreased with the increased selection pressure and resistant level. When the resistance ratio was below 4.3, there was no significant differentiation at the genome DNA level. When the resistance ratio reached 5.8, a fairly significant differentiation began to appear, and when the resistance ratio reached and exceeded 8.1, there appeared a significant genetic differentiation. The results suggest that abamectin selection is associated with increased genetic polymorphism in P. xylostella.
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【第一作者】周小毛
【通讯作者】吴青君
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【学科分类】植物保护学

【题目】Effects of injecting cadherin gene dsRNA on growth and development in diamondback moth Plutella xylostella (Lep.: Plutellidae)

【中文关键词】小菜蛾;钙粘蛋白基因;生长发育;RNA干扰

【英文关键词】Plutella xylostella, cadherin gene, diamondback moth, growth and development, RNA interference

【中文摘要】两个小菜蛾种群(DBM.1Ac-S,敏感种群;DBM.1Ac-R,抵抗Cry1Ac 毒素种群)三龄期若虫,在注射钙粘蛋白双链dsRNA后,即钙粘蛋白基因表达沉默后,比较研究其生长发育的响应。结果表明,通过一些基本生物学参数比较,如死亡率、孵化率、繁殖力、蛹重及羽化比例等,发现在双链注射后,种群的死亡率和性比明显增加。另一方面,相比对照,孵化率、繁殖力、蛹重、雌雄虫的羽化率和寿命都显著降低,且卵和蛹长度没有什么显著区别,但卵和蛹宽度显著增加。因此,结果说明钙粘蛋白双链注射会延缓小菜蛾若虫的生长和发育,同时可以为RNAi干涉技术在钙粘蛋白上的应用提供理论基础。

【英文摘要】Two laboratory diamondback moth (DBM) strains were used to study the effects of injecting cadherin gene double-stranded RNA (dsRNA) on the growth and development of Plutella xylostella (L.). Speci fi cally, the susceptible strain named DBM.1Ac-S and the low resistant strain DBM.1Ac-R selected with Cry1Ac toxin were studied. The third larvae of the two strains were injected dsRNA of cadherin gene and their corresponding controls, DBM.1Ac-RH and DBM.1Ac-SH, were both injected diethypyro-carbonate (DEPC)-treated water respectively. The basic biological properties such as death rate, hatching ratio, fecundity, weight of pupa and eclosion rate of the strains mentioned above were likewise studied. Meanwhile, the length and width of the egg and pupa were also measured. The results showed that the cadherin gene dsRNA injection resulted in a significant increase of the death rate and sex ratio. On the other hand, hatching ratio, fecundity, weight of pupa, eclosion rate and adult longevity for male and female of treatments decreased compared to their corresponding controls. As such, there was no signi fi cant difference on the length of egg and pupa in between treatments and the corresponding controls. However, their width increased inversely with their corresponding controls. Hence, the results suggest that cadherin gene dsRNA injection retarded the larval growth and development of P. xylostella. Also, these results can help reveal the function of cadherin gene through the RNA interference technique.

【语种】英文

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【学科分类】植物保护学

【题目】MOLECULAR CLONING, GENOMIC STRUCTURE, AND GENETIC MAPPING OF TWO RDL -ORTHOLOGOUS GENES OF GABA RECEPTORS IN THE DIAMONDBACK MOTH, Plutella xylostella

【中文关键词】小菜蛾;狄氏剂抗性;GABA受体;可变剪切;Z染色体

【英文关键词】Plutella xylostella; Rdl; GABA receptor; alternative splicing; Z chromosome

【中文摘要】GABA受体是潜在的狄氏剂抗性功能基因(Rdl)。环戊二烯类杀虫剂的抗性分子机制涉及Rdl的单氨基酸替代(位点302,丙氨酸,丝氨酸或甘氨酸)。本研究在小菜蛾敏感种群中,克隆及测序两种GABA受体的Rdl直系同源基因(PxGABARa1和PxGABARa2)。在氨基酸水平,PxGABARa1和PxGABARa2分别和果蝇的Rdl基因的同源性分别达到84%和77%。PxGABARa1和PxGABARa2编码区都含有10个外显子,在第三外显子具有2个可变剪切形式。在和果蝇同源的Rdl基因302位点丙氨酸位置,PxGABARa1的Rdl基因282位点具有一个保守的丙氨酸,而PxGABARa2在同样位置具有一个保守的丝氨酸。利用两个成熟的DNA markers,将PxGABARa1和PxGABARa2定位在小菜蛾的Z染色体上。

【英文摘要】The Resistance to dieldrin (Rdl) gene encodes a subunit of the insect g-aminobutyric acid (GABA) receptor. Cyclodiene resistance in many insects is associated with replacement of a single amino acid (alanine at position 302) with either a serine or a glycine in the Rdl gene. Two Rdl-orthologous genes of GABA receptors (PxGABARa1 and PxGABARa2) were cloned and sequenced from a susceptible strain (Roth) of Plutella xylostella. PxGABARa1 and PxGABARa2 showed 84% and 77% identity with the Rdl gene of Drosophila melanogaster at an amino acid level, respectively. The coding regions of PxGABARa1 and PxGA-BARa2 both comprise ten exons, with two alternative RNA-splicing forms in exon 3 of both genes. At the orthologous position of alanine-302 in D. melanogaster Rdl, PxGABARa1 has a conserved alanine at position 282. PxGABARa2 has a serine instead of an alanine at the equivalent position. With two informative DNA markers, both PxGABARa1 and PxGABARa2 were mapped onto the Z chromosome of P. xylostella.

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【第一作者】Guorui Yuan
【通讯作者】吴益东
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【题目】Characterization of resistance to Bacillus thuringiensis toxin Cry1Ac in Plutella xylostella from China
【中文关键词】小菜蛾;Bt毒素;Cry1Ac;抗性;毒素结合
【英文关键词】Plutella xylostella;Bacillus thuringiensis;Cry1Ac;Resistance;Toxin binding
【中文摘要】2002年在中国广东深圳地区寄主甘蓝上收集的一个小菜蛾大田种群材料(SZ),对比室内铭感种群(ROTH),生测结果发现,对Cry1Ab具有2.3倍抗性,对Cry1Ac具有30倍抗性,对Cry1F具有2.1倍抗性,对Cry2Aa具有5.3倍抗性以及对Btk具有6倍抗性。在室内,用Cry1Ac对种群SZ进行连续20代的汰选得到种群SZBT后,相对ROTH,SZBT对Cry1Ac抗性倍数达到1200倍左右,且对Cry1Aa, Cry1Ab, Cry1F和 Btk抗性倍数分别达到31-, 1900-, > 33- 和17-倍,但对Cry1B, Cry1C and Cry2Aa发现基本没有交互抗性。通过杂交遗传分析发现,SZTB的Cry1Ac抗性被单基因,常染色体,不完全隐性基因控制。通过125 I-标记的Cry1Ac结合试验发现,SZTB中肠的BBMVs不能结合Cry1Ac。通过互补等位基因测试发现,控制Bt 抗性的转座子和Cry1Ac-R种群的一样,都是“ mode 1 ”模式。120对成虫(SZTB和三个2008年收集的大田种群之间)F1代的遗传方式研究发现,云南种群的Cry1Ac抗性等位基因频率是0.156,而广州和惠州种群的Cry1Ac抗性等位基因频率分别是0.375和0.472。
【英文摘要】A field population (SZ) of Plutella xylostella, collected from the cabbage fi eld in Shenzhen, Guangdong Province of China in 2002, showed 2.3-fold resistance to Cry1Aa, 110-fold to Cry1Ab, 30-fold to Cry1Ac, 2.1-fold to Cry1F, 5.3-fold to Cry2Aa and 6-fold resistance to Bacillus thuringiensis var. kurstaki (Btk) compared with a susceptible strain (ROTH). The SZBT strain was derived from the SZ population through 20 generations of selection with activated Cry1Ac in the laboratory. While the SZBT strain developed 1200-fold resistance to Cry1Ac after selection, resistance to Cry1Aa, Cry1Ab, Cry1F, and Btk increased to 31-, 1900-,>33- and 17-fold compared with the ROTH strain. However, little or no cross-resistance was detected to Cry1B, Cry1C and Cry2Aa in the SZBT strain. Genetic cross analyses between the SZBT and ROTH strains revealed that Cry1Ac-resistance in the SZBT strain was controlled by a single, autosomal, incompletely recessive gene. Binding studies with 125 I-labeled Cry1Ac showed that the brush border membrane vesicles (BBMVs) of midguts from the resistant SZBT insects had lost binding to Cry1Ac. Allelic complementation tests demonstrated that the major Bt resistance locus in the SZBT strain was same as that in the Cry1Ac-R strain which has ‘ ‘ mode 1 ” resistance to Bt. An F 1 screen of 120 single-pair families between the SZBT strain and three fi eld populations collected in 2008 was carried out. Based on this approach, the estimated frequencies of Cry1Ac-resistance alleles were 0.156 in the Yuxi population from Yunnan province, and 0.375 and 0.472 respectively in the Guangzhou and Huizhou populations from Guangdong province.
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【第一作者】Youjing Gong
【通讯作者】吴益东
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【学科分类】植物保护学

【题目】苏云金芽孢杆菌毒素受体鞘糖脂的研究进展
【中文关键词】苏云金芽孢杆菌;受体;鞘糖脂;抗性;糖基转移酶
【英文关键词】Bacillus thuringiensis(Bt); recepter; glycosphingolipids; resistance; glycosyltransferase
【中文摘要】鞘糖脂(Glycosphingolipids, GSLs)是一类以神经酰胺为母体,由神经酰胺的1-位羟基被糖基化而成的糖苷化合物,参与细胞膜脂筏的构成,影响脂筏结构致密,保证细胞膜结构的稳定性和强度,同时GSLs还参与细胞膜上信号转导,启动信号传递。GSLs作为苏云金芽孢杆菌(Bacillusthuringiensis,Bt)杀虫晶体蛋白受体之一,影响靶标生物对Bt毒素的敏感性。GSLs首先通过特异糖基结构被Bt毒素识别,然后引导毒素插入靶标生物细胞膜,导致靶标生物中肠穿孔,最终死亡。综述了GSLs的分类及其在生物体内的分布与功能、GSLs结构的分析方法、GSLs与Bt毒素的关系以及参与GSLs合成的相关糖基转

移酶等相关研究进展。
【英文摘要】Glycosphingolipid(GSLs) is a class of glucoside compounds, taking ceramide asmaternalstructure and being glycosylated on1-hydroxylgroup of ceramide. As compounds of lipid rafts,GSLs ensure the stability and strength of themembrane structure, and involved in the signal transduction of cellmembrane and activate signal transmission. As one of the receptors ofBacillus thuringiensis(Bt) crystalproteins in invertebrates, GSLs impact the sensitivity of targetorganisms toBt toxins. GSLs are firstly identified by Bt toxins through glycosylation-specific structure, then they guide the Bt toxins inserting into the cellmembrane, resulting in perforation ofmidgut in the target organism and finally the organism die. The classification, distribution and function of GSLs in organisms, the analysismethods of the structure of GSLs, the relationship between GSLs and Bt toxins, theglycosyltransferases involving in synthesis ofGSLswere reviewed.
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【第一作者】李拓
【通讯作者】张友军
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【题目】杀虫剂分子靶标烟碱型乙酰胆碱受体研究进展
【中文关键词】昆虫;烟碱型乙酰胆碱受体;杀虫剂;抗药性机制
【英文关键词】insect;nicotinic acetylcholine receptors(nAChRs);insecticides;resistance mechanism
【中文摘要】昆虫烟碱型乙酰胆碱受体(nicotinic acetylcholine receptors,nAChRs)广泛分布于昆虫中枢神经系统 。是杀虫剂作用的主要靶标。目前昆虫中该受体的天然亚基组成尚不完全明确。果蝇的任意 Ot亚基与脊椎动物的一个亚基共表达是目前最好的异源表达模型,但仍然急需新的研究_T- 具,研究表明一些与受体相关的蛋白质影响着表达。胞内磷酸化的调节作 用为今后受体药理学特 性的研究提供了新方向。受体亚基上一些关键氨基酸在新烟碱杀虫剂对受体的选择作用中起重要 作用。在对吡虫啉抗性的褐飞虱种群中找到了与抗性相关的突变位点,这为新烟碱类杀虫剂靶标 不敏感性研究提供了直接证据。对昆虫碱型乙酰胆碱受体的分子多样性、功能表达 、胞内调节机 制、受体与杀虫剂的选择作用及其抗性分子机理等的研究进展进行了综述。
【英文摘要】Insect nicotinic acetylcholine receptors(nAChRs)are molecular targets of insecticides,they widely expressed in the central nervous system .The natural subunit composition of nAChRs is not yet entirely clear.Coexpression of any Drosophila a subunit with a vertebrate口 subunit constitutes the best available heterologous expression model at present,but still need to provide new robust heterologous expression research too1.Some important nACh receptor.associated proteins effeCt the robust expression in eell lines.Insect nACh rec eptor Can be modulated by intracellular phosphorylation mechanisms.which offers a new approach to studying insec t nACh rec eptor pharmacology.Amino acids within the subunits have a role in the selectivity of neonicotinoids for insect nACh receptor.Researching on brown planthopper found a mutation conferring target—site resistance to imidacloprid,this study provides direct evidence for target insensitivity to neonicotinoid insecticide.Th e latest progress on the molec ular diversity,functional expression,intracellular regulation mechanisms,selectivity of insecticides fo r insect nAChRs and target resistance mechanisms were reviewed.
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【第一作者】封云涛
【通讯作者】张友军
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【学科分类】植物保护学

【题目】小菜蛾烟碱型乙酰胆碱受体α亚基cDNA的克隆、序列分析与不同发育阶段表达分析
【中文关键词】小菜蛾;烟碱型乙酰胆碱受体;α亚基; cDNA克隆;半定量RT-PCR

【英文关键词】Plutella xylostella; nicotinic acetylcholine receptor; α subuni;t cDNA cloning; semi-quantitativeRT-PCR

【中文摘要】烟碱型乙酰胆碱受体(nAChR)介导昆虫中枢神经系统中胆碱能突触兴奋性神经递质的快速传递,也是新烟碱类杀虫剂和多杀菌素的作用靶标。本研究利用RT-PCR和RACE技术,克隆了小菜蛾Plutella ylostellanAChR α 亚基的一个新基因(Px α 8)的全长cDNA(GenBank登录号为EU914853)。Px α 8的cDNA序列全长1 744 bp,开放阅读框为1 602 bp,编码534个氨基酸,具有nAChR α 亚基的典型特征,与其他昆虫nAChR α 8亚基具有77% ~96%的相似性,与果蝇nAChR β 2亚基具有76%的相似性。Px α 8的开放阅读框存在单核苷酸多态性位点,导致多个位点氨基酸的替换。雌性4龄幼虫的多态性位点多于雄性4龄幼虫,而且雌、雄4龄幼虫的多态性位点均不相同。半定量RT-PCR研究结果表明,Px α 8mRNA在成虫期表达量高于蛹期和4龄幼虫期。本研究结果为进一步研究小菜蛾nAChR亚基的多样性和对多杀菌素的靶标抗性机制提供重要基础。

【英文摘要】Nicotinic acetylcholine receptors (nAChR) mediate the fast action of excitatoryneurotransmitter atcholinergic synapses in the centralnervous system of insects and are also the targetsite forneonicotinoids and spinosad. ByusingRT-PCR andRACE technique, the full-length cDNA ofa novel nAChR α subunit (Px α 8) was cloned fromPlutella xylostella(GenBank accession no. EU914853). Sequence analysis showed that the full-length cDNA is1 744 bp in length and contained an open reading frame (ORF) of1 602 bpwhich encodes534 amino acid residues. The deduced amino acid sequence of Px α 8shared typical features of nAChR α subunits and showed 77% -96% amino acid similarity with insectnAChR α 8 subunitorthologues. Interestingly, it also showed 76% amino acid similaritywith the nAChR β 2 subunitofDrosophila melanogaster. There aremany single nucleotide polymorphism (SNP) sites in theORF ofPx α 8, some ofwhich resulted in amino acid substitution. There are more SNPs in female 4th-instar larvae than inmale 4th-instar larvae, and the SNP sites are differentbetween the femaleandmale 4th-instar larvae. Semi-quantitativeRT-PCR analysis indicated that themRNA expression level of Px α 8was higher at adult stage than at either pupal or 4th-instar larval stage. These findings provide importantbasis for further study on diversity of nAChR subunits and mechanism of target resistance to spinosad inP. xylostella.

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【学科分类】植物保护学

【题目】Inheritance of resistance to a new non-steroidal ecdysone agonist, fufenozide,in the diamondbackmoth, Plutella xylostella (Lepidoptera: Plutellidae)

【中文关键词】小菜蛾;呋喃虫酰肼;抗性;遗传;现实遗传力

【英文关键词】Plutella xylostella; fufenozide; resistance; inheritance; realised heritability

【中文摘要】背景介绍:小菜蛾是一种危害十字花科蔬菜的世界性害虫。呋喃虫酰肼是一种新性非甾族的蜕皮激素激动剂农药,在中国用于防治鳞翅目害虫效果显著。我们在实验情况下筛选得到呋喃虫酰肼的抗性小菜蛾种群,并研究其抗性遗传方式。实验结果:经过实验室抗性筛选,得到对呋喃虫酰肼302.8倍的抗性小菜蛾种群。利用抗性种群与敏感种群小菜蛾正反交得到的F1代,经过毒理测定表明:小菜蛾对呋喃虫酰肼的抗性为常染色体不完全显性,抗性显性度为-0.664。F1代子代与抗性种群回交,经卡方检验分析小菜蛾对呋喃虫酰肼的抗性很可能由多基因遗传控制。抗性现实遗传力(h2)为 0.08,说明小菜蛾不容易对呋喃虫酰肼产生抗药性。

【英文摘要】BACKGROUND: The diamondback moth (DBM), Plutella xylostella (L.), is a cosmopolitan pest of cruciferous crops. Fufenozide, a novel non-steroidal ecdysone agonist, exhibits good efficacy and plays an increasingly important role in the control of Lepidopterous pests in China. A laboratory strain of DBM was selected for resistance to fufenozide, and the genetic basis of resistance was studied. RESULTS: The resistant strain, selected under laboratory conditions, exhibited a higher level of resistance to fufenozide (302.8-fold based on LC50s) than the laboratory susceptible strain. Mortality data from the testing of F1 progeny of reciprocal crosses of resistant and susceptible DBM indicated that resistance was autosomal and incompletely recessive with a degree of dominance of − 0.664. Chi-square analysis from responses of a backcross of crossed F1 progeny and the resistant strain and F2 progenywere highly significant, suggesting that the resistancewas probably controlled bymore than one gene. The estimated realised heritability (h2) of fufenozide resistance was 0.08, indicating that diamondback moth may have a lower chance of developing resistance to fufenozide than other kinds of insecticide.

【语种】英文
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【学科分类】植物保护学

【题目】Sequencing and characterization of two cDNAs putatively encoding prophenoloxidases in the diamondback moth, Plutella xylostella (L.) (Lepidoptera: Yponomeutidae)
【中文关键词】基因表达;小菜蛾;酚氧化酶;荧光定量PCR;酪氨酸酶
【英文关键词】Gene expression;Plutella xylostella;Prophenoloxidase;Real-time PCR;Tyrosinase
【中文摘要】摘要:有研究发现,酚氧化酶(EC 1.14.18.1) 对昆虫表皮固化、创伤修复、微生物侵入后的黑化等昆虫重要的生命活性起到重要作用。本研究中,我们利用活性PAGE电泳技术,鉴定出小菜蛾两个酚氧化酶酶原 (PPO, 化胶素酶酶原),利用SDS-PAGE 鉴定其分子量。利用RT-PCR 得到PxPPO1、 PxPPO2两个基因的全长序列。全长PxPPO1 和PxPPO2分别编码了682 和 696个氨基酸,蛋白分子量分别为 78.3 和79.7 kDa。氨基酸序列比对,发现两个PxPPOs的同源性只有48.4% ,与其他昆虫PPOs的同源性在40到 80%之间。荧光定量PCR 分析发现, PPO 在昆虫各个时期都有所表达,预蛹期最高,这与其具有PO活性一致。在大部分时期,PxPPO1基因的表达高于PxPPO2基因的表达。本实验结果为小菜蛾PPOs基因的研究提供了参考。
【英文摘要】Abstract It has long been suggested that phenoloxidases (EC 1.14.18.1) are very important in a variety of biochemical processes for the successful survival of insects, including cuticular sclerotization, wound healing, and melanotic encapsulation of invading microorganisms. In this study, two prophenoloxidases (PPO, zymogen of phenoloxidase) were identified in the diamondback moth, Plutella xylostella, by native-polyacrylamide gel electrophoresis (PAGE), and their molecular masses were determined by SDS-PAGE. Their cDNAs, PxPPO1 and PxPPO2, were also cloned by reverse transcription polymerase chain reaction (RT-PCR). The full-length cDNAs of PxPPO1 and PxPPO2 encoded 682 and 696 amino acids with calculated molecular masses of 78.3 and 79.7 kDa, respectively. Deduced amino acid sequence identity between the two PxPPOs was only 48.4% whereas identities against other insect PPOs ranged from approximately 40 to 80%. Quantitative real-time PCR analysis showed that the PPO genes were expressed in all developmental stages, with the highest in prepupae; this pattern was consistent with that of PO activity. The level of expression of PxPPO1 was significantly higher than that of PxPPO2 in most developmental stages. These results offer basic knowledge for further study of the function of PPOs in P. xylostella.
【语种】英文
【第一作者】Wei Dong
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【题目】利用RNAi技术沉默小菜蛾类钙粘蛋白基因
【中文关键词】小菜蛾;苏云金芽胞杆菌;类钙粘蛋白; RNA干扰;基因沉默
【英文关键词】Plutella xylostella; B;t cadherin-like protein; RNA;i gene silencing
【中文摘要】RNA干扰(RNA interference, RNAi)是一种调控基因表达的方法,其通过体外合成一段与内源靶基因同源的双链RNA(dsRNA)或siRNA,导入生物体内,使内源靶基因中同源mRNA降解,从而达到阻抑基因表达的目的。类钙粘蛋白(cadherin-like protein)是位于昆虫中肠刷状缘膜囊(brush bordermembrane vesicles, BBMV)上与钙粘蛋白(cadherin)结构相似的物质,是多种昆虫体内Bt杀虫蛋白的受体。本研究利用基因特异引物通过RT-PCR扩增了小菜蛾类钙粘蛋白基因的2个片段(CAD1和CAD2),合成相对应的双链RNA(double-stranded RNA, dsRNA);并将dsRNA通过显微注射导入小菜蛾3龄幼虫体内,测定了不同靶位点、不同剂量、不同检测时间对目的基因mRNA表达量的影响。结果表明:将70 nL CAD1对应的dsRNA注射到幼虫体内48 h后,基因表达量显著下降, 72 h后恢复。免疫印迹检测结果表明,类钙粘蛋白在注射dsRNA 48 h后

幼虫BBMV中的含量明显下降。本实验成功实现了小菜蛾类钙粘蛋白基因的沉默,该体系的成功建立为利用RNAi技术分析小菜蛾及其他鳞翅目昆虫基因的功能提供了参考。

【英文摘要】RNA interference (RNAi) is the process of sequence-specific post-transcriptional gene silencing initiated by double-stranded RNA (dsRNA) which is homologous in sequence to the silenced gene. The cadherin-like protein, similar to cadherin, lies in brush bordermembrane vesicles (BBMV) of insec.t Ithad been confirmed to be a receptor ofBacillus thuringiensis(Bt) insecticidal protein in several insects. In this study, two cDNA segments (CAD1andCAD2) encoding the cadherin-like protein genewere cloned through RT-PCR technique using gene specific primers; double-strandedRNA (dsRNA) was synthesized byusing the two gene segments respectively, andmicroinjected into 3rd instar larvae ofPlutella xylostella; and the effectsof differenttargetsites, dose and silencing time on cadherinmRNA expression levelwere assayed. The results showed that the expression of cadherin-like genewas reduced sharply at48 h after the dsRNA corresponding toCAD1segmentwas injected and restored at72 h. The immunoblotting results indicated that cadherin-like protein in BBMV ofP. xylostellawas reduced markedly at48 h after injection. The cadherin-like gene was silenced successfully in this experimen,t and the establishment ofRNAi technique can help reveal the gene function ofP. xylostellaincluding cadherin-like gene.

【语种】中文

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【学科分类】植物保护学

【题目】茄子航天诱变后代变异及其SSR 标记多态性研究

【中文关键词】茄子;航天诱变;SSR 标记

【英文关键词】eggplant; spaceflight mutation; SSR molecular maker

【中文摘要】以“ 实践八号 ”育种卫星搭载的3 个茄子高代自交系为材料,分析茄子航天诱变后代的变异及其SSR 多态性。结果表明:航天诱变处理能显著影响茄子当代(SP1) 种子的萌发,诱使株高、株型、叶片、果形等植物学性状在二代(SP2) 发生变异,多数变异性状可在三代(SP3) 稳定遗传;不同基因型材料对航天诱变处理的敏感度不同,长茄05-18 的敏感性最高,圆茄05-9 较05-7 敏感性高;SSR 多态性检测结果显示,变异株系与其未经航天处理自交系间存在不同程度的多态性,说明航天诱变可以使茄子在分子水平上发生变异。关键词:茄子;航天诱变;SSR 标记

【英文摘要】Seeds of three eggplant varieties (05-7,05-9 and 05-18) were carried by “ Shijian 8 ” satellite for spaceflight treatment. The space flight mutation effects on eggplant were studied and the genetic diversity of mutant lines was analyzed using SSR markers. The results showed that space flight had obvious effects on the seed germination in eggplantSP1 generation and other characters such as plant height,plant type,leaf shape,fruit shape in the second generation .Most of the mutated characters could stably inherit in the third generation. The results also indicated that different eggplant genotypes resporded different to the space flight mutation; the long eggplant 05-18 was much more sensitive than other two varieties. Great variation between variant lines and their original varieties were detected by SSR markers,suggesting that space flight could induce molecular variation in eggplant.

【语种】中文

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【学科分类】园艺学

【题目】日光温室热环境模拟模型的构建

【中文关键词】日光温室;模拟模型; 热环境

【英文关键词】Chinese solar greenhouse;simulation models;thermal environment

【中文摘要】该文建立了日光温室热环境模拟模型,定量描述了日光温室内的太阳辐射、对流换热、辐射换热、热传导、自然通风和水分相变带来的潜热对日光温室热环境的影响,根据质能平衡和传热学理论,得到一组关于覆盖物、室内空气、温室分层后墙、分层地面土壤、分层后坡和作物热平衡的微分方程组。利用MATLAB的强大计算能力与VB的良好用户界面建立模拟计算软件,可求得温室各组成部分的温度。通过试验验证,该模型能够比较准确预测日光温室环境温度。
【英文摘要】The simulation model for thermal environment in Chinese solar greenhouse was established,in which the solar radiation,heat radiation,heat convection,heat conduction,natural ventilation and water phase transformation were described quantitatively.And the impacts on thermal environment were analyzed.According to thermodynamic law of conservation of mass and energy and heat transfer theory,a group of differential equations on thermal balance of cover,thermal balance of indoor air,thermal balance of multi-layers of north wall, thermal balance of multi-layers of soil, thermal balance of multi-layers of north roof and thermal balance of plant were built. The simulation model was developed with MATLAB procedures used to solve differential equations, and good user interface of VB, and the temperatures of different parts could be calculated. It shows that the model canaccurately predict the temperature in greenhouse environment from experimental results.
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【第一作者】孟力力
【通讯作者】杨其长
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【题目】VB调用Matlab的COM组件实现二者混合编程
【中文关键词】VB;Matlab; COM技术;可视化模型
【英文关键词】VB; Matlab; COM builder; visual model
【中文摘要】Matlab具有强大的计算和图形处理能力,VB具有良好的用户界面,将二者有机结合,可开发出功能强大的软件。介绍了常见的五种方法。为了使开发的VB程序脱离Matlab环境,详细介绍了一种基于组件对象模型(COM)的Matlab与VB混合编程方法,以COM Builder为转换工具,将Matlab函数文件转换为COM组件,在VB程序中调用这个组件。并通过温室热环境模拟可视化模型的实现说明此方法。
【英文摘要】Matlab has powerful calculating and graphic processing ability,VB has good user interface.The software with powerful functions is developed based on combination of the above.Five methods are introduced in this paper.In order to develop the VB program without Matlab environment,the method based on COM is introduced in detail.By mean of Matlab COM builder,Matlab ' s function files can be converted into a COM component,which is applied in the VB.The method is demonstrated by implementation of visual simulation model of greenhouse thermal environment.
【语种】中文
【第一作者】孟力力
【通讯作者】杨其长
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【题目】北京地区日光温室温光及蓄热性能的试验研究
【中文关键词】日光温室;气温;地温;墙温;热通量
【英文关键词】无
【中文摘要】对北京郊区生产用日光温室的温度、光照、热通量等环境因子进行测定。总结出各项环境因子变化规律,并对日光温室内外气温的关系,气温与土温、墙温的关系进行回归相关分析。根据其回归R值可以得出各温度值间的显著关系。
【英文摘要】无

【语种】中文
【第一作者】孟力力
【通讯作者】杨其长
【期刊名称、卷期、页码】陕西农业科学,4:61-64
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【题目】热阻帘在日光温室墙体热量释放调节中的应用初报
【中文关键词】日光温室;热阻帘;北墙热通量;热量调节
【英文关键词】Chinese Solar Greenhouse; Heat isolation curtain; Heat flux; Thermal release controlling
【中文摘要】日光温室昼夜温差大,北墙作为主要蓄热体对温室夜间温度调节具有重要影响。冬季凌晨时段日光温室内空气温度较低,对作物生长不利,针对这一现象本文提出在日光温室北墙内侧使用“ 热阻帘 ”以延迟墙体热量释放的时间、从而提高凌晨低温时段室内空气温度的方法。通过在北京地区冬季的试验证明,夜间热阻帘覆盖墙体内表面时(晴天16：00-4：00,阴天16：00-3：00)试验温室墙体内表面热通量比对照温室分别减小38.5%、38.9%,热阻帘卷起后的时段内(晴天4：00-8：30,阴天3：00-8：30)墙体内表面热通量比对照温室分别增大7.2%、13.5%,在此低温时段内试验温室跨中空气温度比对照温室高0.28~0.32°C。
【英文摘要】The north wall is a significant thermal storage structure in Chinese Solar Greenhouse,which could adjust indoor temperature.Low temperature during early morning in the greenhouse could prevent plants growth.So an effective method to increase indoor temperature in early morning was put forward in the study.Heat isolation curtain could adjust the walls thermal flux.The practice in Beijing showed that the curtain covered on the north wall(sunny 16：00-4：00,cloudy 16：00-3：00) prevented 38.5% heat releasing in sunny day and 38.9% in cloudy day. After curtain taken off (sunny 4:00- 8:30, cloudy 3:00- 8:30) , the amount of heat flux was 72% higher than CK greenhouse in sunny day and 13.5% in cloudy day, which mean the indoor temperature was 0.28 ~ 0.32 higher than CK greenhouse during whole early morning.
【语种】中文
【第一作者】王烁
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【题目】温室透光覆盖材料透光特性的测试
【中文关键词】温室覆盖材料; 透光率; 可见光;PAR;测试方法
【英文关键词】greenhouse glazing; light transmittance; visible radiation; PAR; test method
【中文摘要】透光特性是温室透光覆盖材料的一个重要指标,其数值的表达却因测试方法的不同而有所差异。该文介绍了透光覆盖材料太阳辐射透过率的测试及计算方法,选用聚乙烯塑料膜(PE)、浮法玻璃、聚碳酸酯双层中空板(PC)三种典型的覆盖材料进行了测试,计算了国际照明委员会(CIE)规定的标准C、标准A和标准D65三种光源下,在可见光与PAR波段范围内,基于4种权重系数下的覆盖材料透光率和光合有效辐射(PAR)透过率。结果表明,PE薄膜几乎不受影响,浮法玻璃相差2%左右,聚碳酸酯双层中空板差异达2%~3.7%。
【英文摘要】Solar visible transmittance is crucial for greenhouse glazing. Different test methods for solar visible transmittance of glazing induce different results. The present paper described test and calculating methods for solar transmittance of glazing.Three typical glazing materials, namely, polyethylene(PE) film, float glass and double polycarbonate(PC) sheet, weremeasured and calculated under different International Commission on Illumination(CIE) standard sources(A, C and D65),within the visible and photosynthetic active radiation(PAR) spectra, using four response coefficients to solar radiation. Resultsshow that PE film is not affected and float glass differs 2%, the difference of double polycarbonate sheets is up to 2%~3.7%.
【语种】中文

【第一作者】丁小明
【通讯作者】周长吉
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【题目】基于光照的日光温室总体尺寸确定方法研究
【中文关键词】日光温室 光照环境 总体尺寸 确定方法
【英文关键词】solar greenhouse; illumination environment; size; design method
【中文摘要】从日光温室内部光环境变化入手,以满足作物获得充足光照为目标,提出以保证冬至日正午前后4 h内,太阳光对温室前屋面透过后的辐射照度衰减率不超过2%,以及保证栽培区最后一排作物的冠层全天受到太阳照射为条件,建立了一套日光温室总体尺寸的取值方法。并与典型区域的日光温室建造规范进行比对。结果表明:该方法具有较高的可信度,能够为科学指导我国日光温室规范化建设提供理论参考。
【英文摘要】This research based on internal light environment change of solar greenhouse,using fulfilling plants illumination demands as aim,developing ensuring the irradiance decay rates less than 2% after sunlight through the greenhouse roof in 4 h around noon on winter solstice and the last row plant canopy receiving sunlight all day in cultivated area as limitation conditions,established a kind of determination method for solar greenhouse integral sizes.By comparing with construction criterion of solar greenhouse in typical regions, the results showed that this method had high credibility and can provide theoretical reference for scient ifically guiding standardization construction of solar greenhouse in China.
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【题目】Research on Data Acquisition System for Agent-based Bee Product Traceability Platform
【中文关键词】MAS,蜂产品,追溯平台
【英文关键词】MAS,Bee Product, Traceability Platform
【中文摘要】利用MAS技术研究开发蜂产品追溯平台。
【英文摘要】Bee product traceability platform has been set up based on Chinese law and global standards, which can be used to identify every process from farm to table. An integrated bee product traceability system includes the whole process of supply chain, meanwhile, the traceability data will be open to consumer. Thus it can enhance consumer confidence on bee products. In bee product traceability platform, original data acquisition is vital and the data must be secure, precise and timely.In this paper, data acquisition system is developed to solve the problems such as collecting data, managing original data and realizing data interaction in a timely and accurate manner through bee product traceability architecture which is based on multi-agent system (MAS). Thanks to MAS ’ special attributes and features, data acquisition agent and management agent could obtain data as well as apply safety and reliable data for bee product traceability platform.
【语种】中文
【第一作者】刘升平
【通讯作者】刘升平
【期刊名称、卷期、页码】computer and computer technologies in agruculturae IV
【论文发表时间】2012-06-14 00:00:00
【引文索引类型】EI
【引文索引号】

【学科分类】信息技术系统性应用

【题目】Three-Dimension Visualization for Primary Wheat Diseases Based on Simulation Model
【中文关键词】3D,可视化,小麦病害,模拟模型
【英文关键词】3-dimension, visualization, wheat diseases, simulation model
【中文摘要】分析小麦主要病害的发生演变规律,构建小麦生长和病害发生的3D可视化模型。
【英文摘要】Crop simulation model has been becoming the core of agriculturalproduction management and resource optimization management. Displayingcrop growth process makes user observe the crop growth and development intuitionisticly.On the basis of understanding and grasping the occurrence condition,popularity season, key impact factors for main wheat diseases of striperust, leaf rust, stem rust, head blight and powdery mildew from research materialand literature, we designed 3D visualization model for wheat growth anddiseases occurrence. The model system will help farmer, technician and decision-maker to use crop growth simulation model better and provide decisionmakingsupport. Now 3D visualization model for wheat growth on the basis ofsimulation model has been developed, and the visualization model for primarywheat diseases is in the process of development.
【语种】中文
【第一作者】李世娟
【通讯作者】李世娟
【期刊名称、卷期、页码】computer and computer technologies in agriculture III,2010,375-381
【论文发表时间】2010-11-17 00:00:00
【引文索引类型】EI
【引文索引号】20101612871219
【学科分类】农学其他学科

【题目】日光温室结构优化的研究进展与发展方向
【中文关键词】日光温室;结构优化;几何尺寸;桁架结构
【英文关键词】Sunlight greenhouse; structure optimization; geometrical parameter; trusswork
【中文摘要】日光温室的结构直接影响着温室的生产环境和建造成本。日光温室结构优化就是要在保障合理采光、保温和经济用材的条件下,选择确定合理的温室跨度、脊高、采光屋面角、采光屋面形状、后屋面的结构和墙体结构等建筑结构参数。本文在综述我国日光温室结构优化研究的基础上,重点讨论了当前日光温室结构优化存在的主要问题,并提出了今后日光温室结构优化重点研究的方向和内容。
【英文摘要】The structure of sunlight greenhouse affects the environment and the building cost greatly.To optimize the greenhouse structure,the building parameters including span,height,roof shape,as well as roof and wall structure should be studied to keep sufficient light transmission,effective thermal insulation and reasonable building cost.This paper summarized the development situation of sunlight greenhouse structure optimization,and analyzed the urgent issues in the future studies,which would guide the greenhous structure study in the future.
【语种】中文
【第一作者】刘建
【通讯作者】周长吉
【期刊名称、卷期、页码】内蒙古农业大学学报,2007,28(3):264-268
【论文发表时间】2007-03-01 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】农学其他学科

【题目】提高日光温室土地利用率的方法评析
【中文关键词】日光温室 土地利用率 阴阳型日光温室 塑料大棚
【英文关键词】无
【中文摘要】土地利用率不高是日光温室建设和规划的最大难点,提高土地利用率一直是科研和生产部门致力日光温室研究和推广的目标。本文提出了日光温室土地利用率的计算方法,并综述了当前提高日光温室土地利用率的各种方法,提出在传统日光温室的北侧增设种植果树和耐低温弱光植物的越冬阴棚,可显著提高日光温室的土地利用率,较传统日光温室土地利用率可提高30%以上。

【英文摘要】无
【语种】中文
【第一作者】周长吉
【通讯作者】周长吉
【期刊名称、卷期、页码】中国果菜;2009(5);16-20
【论文发表时间】2009-05-01 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】农学其他学科

【题目】Agent-based cooperative analysis and decision support system for regional agricultural economic information
【中文关键词】区域农业;Agent;协同;分析;支持
【英文关键词】Regional agriculture; Agent; Cooperation; Analysis; Decision
【中文摘要】针对区域农业经济,本文提出了基于Agent技术的区域农业经济信息协同分析系统与辅助决策的设计思想和实现方法。
【英文摘要】Multi-agent technology possesses the characteristics of intelligence, interaction and cooperation. Aiming to solve shortages of traditional agricultural economic information analysis and service system in information sharing and complicated decision-making under distributed network environment, the author provides a design idea and realization method for Agent-based cooperative analysis and decision support system for regional agricultural economic information. The agent-oriented system analysis and design method based on AUML (Agent Unified Modeling Language) have been applied to realize the sharing of agricultural economy information and software, cooperation analysis and group decision making. Combining with many kinds of analyzing models and knowledge models, the prediction function has been cooperated and integrated with decision-making function
【语种】中文
【第一作者】诸叶平
【通讯作者】诸叶平
【期刊名称、卷期、页码】Peoceedings of the 2009 international conference on artificial intelligence, Volume I (ICAI 2009), WORLDCOM, 2009:96-99.
【论文发表时间】2009-10-26 00:00:00
【引文索引类型】null
【引文索引号】
【学科分类】信息科学与系统科学其他学科

【题目】Agent-based cooperative analysis and assistant decision-making method for regional agricultural economic information
【中文关键词】区域农业;Agent;协同,分析;辅助决策
【英文关键词】regional agriculture,Agent,cooperative,analysis,assistant decision
【中文摘要】针对传统农业经济信息分析与服务系统在解决分布式网络环境下的信息共享和复杂决策问题的不足,利用多Agent技术智能性、交互性、协作性的优点,实现分布式环境下的农业经济信息共享、软件共享、协同分析和群决策支持;结合多种分析模型和知识模型,实现预测功能和决策功能的有机协同与集成。
【英文摘要】Multi-agent technology possesses the characteristics of intelligence, interaction and cooperation. Aiming to the short of traditional agricultural economic information analysis and service system in information sharing and complicated decision-making under distributed network environment, the author provided design idea and realization method for Agent-based cooperative analysis and assistant decision-making system for regional agricultural economic information. The agent-oriented system analysis and design method based on AUML (Agent Unified Modeling Language) was have been applied to realize the sharing of agricultural economy information and software, cooperation analysis and group decision making. Combing with many kinds of analyzing models and knowledge models, the prediction function was has been cooperated and integrated with decision-making function.
【语种】中文
【第一作者】诸叶平
【通讯作者】诸叶平
【期刊名称、卷期、页码】Sixth international conference on fuzzy systems and knowledge discovery, 2009:317-321

【论文发表时间】2009-11-27 00:00:00
【引文索引类型】EI
【引文索引号】20100712715561
【学科分类】信息科学与系统科学其他学科

【题目】Agent-based Wheat Simulation Model Cooperation Research
【中文关键词】多agent系统,小麦模拟模型,协同
【英文关键词】Multi-agent System, Wheat Simulation Model, Cooperation
【中文摘要】本文提出并实现一种基于agent的小麦模拟模型协同设计思想,耦合作物生长模型和知识模型,实现预测和决策功能的有机结合与集成。
【英文摘要】Cooperative multi-agent systems (MAS) are ones in which several agents attempt, through their interaction, to jointly solve tasks or to maximize utility. Due to the interactions among the agents, multi-agent problem complexity can rise rapidly with the number of agents or their behavioral sophistication. This paper propose a kind of agent-based cooperation design thought and the realization for wheat simulation model, hangs together the growth model and knowledge model of wheat, realize organic coupling and integration between the function of forecast and decision-making.
【语种】英文
【第一作者】刘升平
【通讯作者】刘升平
【期刊名称、卷期、页码】Computer and computing technologies in agriculture,2009:1281-1289
【论文发表时间】2009-04-22 00:00:00
【引文索引类型】ISTP
【引文索引号】
【学科分类】农学其他学科

【题目】Application and estimation of wheat production emulation system in Hebei provinc
【中文关键词】冬小麦,仿真系统,生长发育,模拟模型
【英文关键词】winter wheat, emulation system, growth and development, simulation model
【中文摘要】运用系统工程方法、作物模拟技术、计算机技术,遵循小麦生长发育规律,结合品种特性、气象数据、土壤水平、栽培管理等基础数据资料,建立基于小麦生理生态过程的生长发育协同模型,包括小麦生长模型、阶段发育模型、水分平衡模型、氮素平衡模型等。在协同模型基础上,进一步构建小麦生产仿真系统,主要功能有品种特性参数确定、播种方案决策、生育期和生产性状模拟、氮素淋洗预警、水肥胁迫度模拟、小麦生长三维显示等。利用河北省四个季度的实际试验数据对系统进行校正和验证,结果显示产量和干物质重的预测值与实测值的相关系数分别为0.931和0.832,均达到极显著相关水平;RMSE与实测值平均数的比值分别为5.89%和8.94%,表明系统机理性强、预测性能好,具有较强的通用性和普适性。
【英文摘要】In according with wheat ecophysiological characteristics, the author applied technologies of system engineering method, crop simulation and computer to build wheat developing process cooperative models including growth model, developmental phase models, water balance model and nitrogen balance model etc. with the support of basic data such as variety characteristics, weather data, soil level and cultivation management, then further constructed Wheat Production Emulation System (WPES) with several additional functions such as determining variety characteristic parameters, deciding the planting design, simulating wheat phenology stages and production features, warning of the nitrogen leaching in advance, simulating the water and nitrogen deficit degree and wheat growth three-dimensional display. This system was validated and calibrated through actual experiment for four wheat growing seasons in Hebei province. Predicted yield and biomass were significantly correlated with observed data (R2>0.47), and the Root Mean Square Error were 5.89% and 8.94% of its observed average yield and biomass. The results verified its strong mechanism and prediction performance as well as its universal adaptation.
【语种】英文
【第一作者】李世娟
【通讯作者】李世娟
【期刊名称、卷期、页码】province,Computer and computing technologies in agriculture,2009: 79-88.
【论文发表时间】2010-04-09 00:00:00

【引文索引类型】ISTP
【引文索引号】
【学科分类】农学其他学科

【题目】玉米数字模拟器研究
【中文关键词】玉米;数字化;模拟器
【英文关键词】maize;digJtallzation;simulator
【中文摘要】以玉米为对象,对作物一环境一技术关系磋开了数宁化模拟研究。运用系统分析方法和动态模拟技术.构建了基于玉米生长发育过程的玉米产量与品质形成模拟器系统;廊用组件化程序设计思想,采用标准化接口和模块化封装技术,研究了玉米生长、管理、调控与设计数字化模拟器系统;应用可视化技术实现了玉米动态模拟的可视化输出;从而实现了玉米生产系统预测、管理、调控、设计的数字化和科学化。
【英文摘要】Abstract:Taking rrmizc∞an objective,this paper carries out digilal simulation research on the relationship between crop,environment and technology.It applies systematic analysis and dynamic simulation technology Io build amaize 36eld and quality formation simulator according to mi%growth and development衅es∞ §.Ualng the池a 0f component—based program design and the teehnolosieE of standard interface and module encapsulation.a digital sys‘ tern is developed to manage and monilor maize production,the visuafized technology is applied to realize dynamiesimulation for maize production Finally.digitalize and wientlzation are realized for forecast,marmgement,鼬tingand controlling,designing in maize production system.
【语种】中文
【第一作者】诸叶平
【通讯作者】诸叶平
【期刊名称、卷期、页码】中国农业科技导报, 2007,9(6):84-89
【论文发表时间】2007-09-06 00:00:00
【引文索引类型】null
【引文索引号】
【学科分类】生物工程

【题目】随机天气及其JAVA实现
【中文关键词】天气;随机模型;Java;Web
【英文关键词】weather;stochastic modeling;Java;Web
【中文摘要】应用逐日天气随机模型,设计和开发了基于JAVA的逐日降水、温度和太阳辐射多要素随机模拟器DWSS,论述其功能实现和主要特性,并列举了应用例子.DWSS能够跨平台运行,可以通过浏览器实现远程访问,不仅生成逐日天气随机序列,还向用户提供更多的选择.
【英文摘要】A stochastic simulator prototype DW SS on precipitation.temperature and solar radiation in j A was developed.This paper describes the designing considerations,functions,and features of it.DWSS can be used on desktop or network environ—ment,and a running example with the help of some figures an d table on desktop is presented.This simulator can provide more selec—tions to users than other popular wea ther generators.
【语种】中文
【第一作者】诸叶平
【通讯作者】诸叶平
【期刊名称、卷期、页码】电子学报,35(12):25-29
【论文发表时间】2007-12-05 00:00:00
【引文索引类型】EI
【引文索引号】20080411058627
【学科分类】信息科学与系统科学其他学科

【题目】Agriculture and Forestry Economy Decision Support System Based on Agent
【中文关键词】agent,农林经济,决策支持系统
【英文关键词】agent; agricultural and forestry economies;
decision support system

【中文摘要】agent,农林经济,决策支持系统
【英文摘要】In this paper, we focus on the commonproblems of current information analysis and supportdecision systems in agricultural and forestry economies,such as frequent manual interventions, lackof cooperation among sub-systems, lack of supportfrom distributed computing and group decision making.This research aims to resolve these problems byrebuilding the system with agent technology, anda prototype of the agricultural and forestry economydecision support system (AFEDSS) based onagent is designed and implemented. The AFEDSSis composed of interface agent, management agent,model agent, forecast agent, assistant decision agent,data management agent. The results show that thenew system can simulate and deal with the complexprocesses of agricultural and forestry economies inreasonably short computational times and with lesssubjective uncertainty. This paper also discussesthe decision processes and internal mechanisms inAFEDSS especially on cooperating with dynamicanalysis, evaluation, forecast and optimisation.
【语种】英文
【第一作者】诸叶平
【通讯作者】诸叶平
【期刊名称、卷期、页码】New Zealand Journal of Agricultural Research, 2007,50:1339-1346
【论文发表时间】2007-04-26 00:00:00
【引文索引类型】SCI
【引文索引号】1564
【学科分类】信息与系统科学相关工程与技术其他学科

【题目】Tomato yellow leaf curl virus infection of tomato does not affect the performance of the Q and ZHJ2 biotypes of the viral vector Bemisia tabaci
【中文关键词】无
【英文关键词】Bemisia tabaci, performance, tomato, Tomato yellow leaf curl virus, virus infection
【中文摘要】无
【英文摘要】 To better understand the etiology of begomovirus epidemics in regions under invasion we need to know how indigenous and invasive whitefly vectors respond to virus infection. We investigated both direct and indirect effects of infection with Tomato yellow leaf curl virus (TYLCV) on the performance of the invasive Q biotype and the indigenous Asian ZHJ2 biotype of whitefly Bemisia tabaci. The Q biotype performed better than the ZHJ2 biotype on either uninfected or virus-infected tomato plants. However, virus-infection of host plants did not, or only marginally affected, the performance of either biotype of whiteflies in terms of fecundity, longevity, survival, development and population increase. Likewise, association of the vectors with TYLCV did not affect fecundity and longevity of the Q or ZHJ2 biotypes on cotton, a non-host of TYLCV. These results indicate that the alien Q biotype whitefly, but not the indigenous ZHJ2 biotype, is likely to become the major vector of TYLCV in the field and facilitate virus epidemics.
【语种】英文
【第一作者】李萌
【通讯作者】刘树生
【期刊名称、卷期、页码】Insect Science, 2010, DOI:10.1111/j.1744-7917.2010.01354.x
【论文发表时间】2010-08-30 00:00:00
【引文索引类型】SCI
【引文索引号】000
【学科分类】植物保护学

【题目】Comparative Analysis of Population Genetic Structure in Bemisia tabaci (Gennadius) Biotypes B and Q Based on ISSR Marker
【中文关键词】无
【英文关键词】Invasive mechanism, Bemisia tabaci biotype B, Bemisia tabaci biotype Q, genetic structure; ISSR
【中文摘要】无
【英文摘要】Bemisia tabaci (Gennadius) biotypes B and Q are two invasive biotypes in the species complex. The comparison of the population genetic structure of the two biotypes is of significance to show their invasive mechanism and to their control. The intersimple sequence repeats (ISSR) marker was used to analyze the 16 B-biotype populations and 4 Q-biotype populations worldwide with a rialeurodes vaporariorum population in Shanxi Province, China, and a B. tabaci non-B/Qbiotype population in Zhejiang

Province, China, was used as control populations. The analysis of genetic diversity showed that the diversity indexes of biotype Q including Nei ' s gene diversity index, Shannon informative index, and the percentage of polymorphic loci were higher than those of biotype B. The high genetic diversity of biotype Q might provide the genetic basis for the excellent ecological adaptation. Cluster analysis suggested that the ISSR could not be used in the phylogenetic analysis though it could easily distinguish the biotypes of B. tabaci. The difference of the population genetic structure between the biotype B and the biotype Q exists based on the ISSR marker. Meanwhile, the results suggested that the molecular marker has its limitation in the phylogenetic analysis among the biotypes of B. tabaci.

【语种】英文
【第一作者】褚栋
【通讯作者】张友军
【期刊名称、卷期、页码】Agricultural Sciences in China, 2008, 7(11): 101-105
【论文发表时间】2008-11-10 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】植物保护学

【题目】线粒体细胞色素氧化酶I序列分析揭示扶桑绵粉蚧复合种存在隐存谱系
【中文关键词】扶桑绵粉蚧, 生物入侵, 复合种, 隐存谱系, mtCOI, 发育系统分析
【英文关键词】无
【中文摘要】过去约20年间扶桑绵粉蚧在许多国家造成严重危害。近年来该害虫传入我国,对农业生产构成严峻威胁。外来入侵物种的快速准确鉴定是科学研究及其管理的基础。本研究对来自海南三亚和陵水地区的扶桑绵粉蚧的线粒体细胞色素氧化酶I测序并与美国佛罗里达州的扶桑绵粉蚧序列进行了比较。系统发育树表明该物种存在两个遗传支系,即海南支系与佛罗里达支系;这两个支系的遗传距离约3%。只是利用mtCOI分子标记对我国扶桑绵粉蚧的首次分子鉴定。这些结果提示:(1)扶桑绵粉蚧可能是至少含有两个隐存谱系或姊妹种的复合种;(2)新入侵我国海南三亚和陵水地区的扶桑绵粉蚧是该复合种内的一个隐存谱系或物种,且海南三亚和陵水种群可能不是来自美国佛罗里达州。扶桑绵粉蚧隐存谱系的发现对于该物种的分子鉴定及其入侵生态学研究具有重要意义。
【英文摘要】无
【语种】中文
【第一作者】褚栋
【通讯作者】褚栋
【期刊名称、卷期、页码】昆虫学报, 2009, 52(11): 1261-1265
【论文发表时间】2009-11-20 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】植物保护学

【题目】烟粉虱生物型的监测及其遗传结构研究
【中文关键词】生物入侵, 烟粉虱, 生物型监测, 遗传结构
【英文关键词】无
【中文摘要】烟粉虱Bemisia tabaci (Gennadius) 是一种重要的农业害虫并包括许多生物型,其中B 型和Q 型是入侵性较强的2 种生物型。文章着重介绍近年来在烟粉虱生物型的监测及其遗传结构方面的研究进展。B 型烟粉虱和Q 型烟粉虱这2 个生物型均已入侵我国,其中多数地区烟粉虱是B 型烟粉虱,局部地区有Q 型烟粉虱并呈现不断蔓延趋势。微卫星(SSR) 分子标记分析结果表明我国B 型烟粉虱的入侵来源具有多元化,而云南地区Q 型烟粉虱来源比较单一。化学农药的使用能够影响室内种群的遗传结构,降低种群的遗传多样性。基于RAPD、ISSR 分子标记的分析结果表明,Q 型烟粉虱种群各项遗传多样性指数均比B 型烟粉虱的高。今后加强烟粉虱入侵生物型的遗传结构及其种群动态关系等方面的研究,对于揭示烟粉虱的灾变机制及其控制具有重要的意义。
【英文摘要】无
【语种】中文
【第一作者】褚栋

【通讯作者】褚栋
【期刊名称、卷期、页码】昆虫知识, 2008, 45(3): 601-604
【论文发表时间】2008-06-20 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】植物保护学

【题目】转Bt和CpTI基因棉对烟粉虱种群动态影响及其几丁质酶和β-1 3-葡聚糖酶活性变化
【中文关键词】转Bt+CpTI基因棉, 烟粉虱, 种群数量, 几丁质酶, β-1,3-葡聚糖酶
【英文关键词】无
【中文摘要】本研究调查了转Bt+CpTI基因棉田、其亲本常规棉田SY321棉田以及间作棉田烟粉虱成虫种群的数量,测定了不同时期SGK321棉与SY321棉叶片中几丁质酶、β-1,3-葡聚糖酶的活性及蛋白质的含量。结果表明:在整个生长期间,SGK321棉田烟粉虱的种群数量一直高于SY321棉田和间作棉田。烟粉虱取食的SGK321植株叶片几丁质酶活性呈下降-上升-下降-上升的趋势;SY321上部叶片中呈下降-上升-下降-上升的趋势,其下部叶片为先下降后上升的趋势;SGK321叶片中β-1,3-葡聚糖酶活性变化呈下降-上升-下降-上升的趋势,而SY321叶片基本上均呈先下降后上升取食;SY321与SGK321上部叶片中蛋白质相对含量均呈先上升后逐渐下降取食,下部叶片与上部叶片相似但略有不同。SGK321与SY321处理植株叶片几丁质酶活性之间没有显著差异;SGK321处理叶片β-1,3-葡聚糖酶活性多数时期高于SY321。探讨了棉花防御反应与棉田烟粉虱种群数量差异的相关性,以利于揭示双价抗虫棉对烟粉虱的影响及其生理防御机制,我烟粉虱的综合
【英文摘要】无
【语种】中文
【第一作者】姜涛
【通讯作者】褚栋
【期刊名称、卷期、页码】山东农业科学, 2009, 9: 42-47
【论文发表时间】2009-09-25 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】植物保护学

【题目】烟粉虱刺吸诱导转Bt和CpTI基因棉苯丙氨酸解氨酶和氧保护酶系活性变化
【中文关键词】Bt+CpTI基因棉, 烟粉虱, 苯丙氨酸解氨酶, 保护酶系统
【英文关键词】无
【中文摘要】本研究测定并比较了不同时期转双价基因棉SGK321和其亲本常规棉SY321叶片中苯丙氨酸解氨酶(PAL)、过氧化物酶(POD)、超氧化物歧化酶(SOD)和过氧化氢酶(CAT)的总活性。结果发现,烟粉虱取食诱导使叶片中PAL、POD的活性上升,SOD的活性则是先下降后升高,CAT的活性基本呈下降趋势。SGK321处理在植株叶片中PAL活性在不同时期均高于SY321,而POD活性在不同时期均高于SY321;SGK321处理植株上部SOD活性在处理30d前明显高于SY321,40d时低于SY321;SGK321处理植株叶片中CAT活性多数时期低于SY321。最后,探讨了转双价基因棉与其亲本棉对烟粉虱防御反应的差异。
【英文摘要】无
【语种】中文
【第一作者】姜涛
【通讯作者】褚栋
【期刊名称、卷期、页码】山东农业科学, 2009, 10: 48-53
【论文发表时间】2009-10-20 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】植物保护学

【题目】豚草防治措施综合评价
【中文关键词】豚草, 层次分析法, 综合效益, 综合成本, 综合评价, 生物防治

【英文关键词】无
【中文摘要】运用层次分析法对豚草生物防治、化学防治和不实施任何防治措施的空白对照进行综合评价(对)种防治措施的综合效益和综合成本进行计算和排序,作为选择豚草防治措施的准则(结果表明:豚草生物防治所获得的综合效益最高,综合成本最低;空白对照的综合效益最低,综合成本最高;化学防治的综合效益和综合成本居中(豚草生物防治效益成本比最高,说明其是一种最为理想的防治措施,值得推广应用。
【英文摘要】无
【语种】中文
【第一作者】周忠实
【通讯作者】万方浩
【期刊名称、卷期、页码】应用生态学报, 2008, 19(9): 1917-1924
【论文发表时间】2008-09-25 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】植物保护学

【题目】低温冷藏对豚草天敌广聚萤叶甲存活和生殖力的影响
【中文关键词】广聚萤叶甲, 低温冷藏, 存活率, 繁殖力, 豚草
【英文关键词】无
【中文摘要】广聚萤叶甲是豚草的一种重要天敌。为探明广聚萤叶甲的低温冷藏条件,测定了在相对湿度为60%~70%,黑暗条件下,在4℃、6℃、8℃、10℃和12 ℃等5个梯度低温贮藏不同时期对广聚萤叶甲蛹存活率的影响及羽化后成虫的繁殖力。结果表明,冷藏20d后,5个低温处理储藏的广聚萤叶甲蛹的存活率仍比较高,且存活率随温度的增加而升高。30的后蛹存活率急剧降低,最高仅为3.9%。不同低温冷藏20d后羽化出来的成虫其繁殖力差异较大,产卵数量随冷藏温度的升高而增加。与常温处理的个体相比,4℃~12℃低温下持续冷藏20d,其成虫产卵量下降26.4%~70.4%;不同低温冷藏30d后,羽化的成虫不能产卵。因此,广聚萤叶甲蛹冷藏的适宜温度范围应在8~12℃,冷藏时间不宜超过20d。
【英文摘要】无
【语种】中文
【第一作者】周忠实
【通讯作者】万方浩
【期刊名称、卷期、页码】中国生物防治, 2008, 24(4): 376-378
【论文发表时间】2008-11-20 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】植物保护学

【题目】豚草(Ambrosia artemisiifolia L.)种群控制的研究概况
【中文关键词】豚草, 化学防治, 物理防治, 植物替代, 生物防治, 综合治理
【英文关键词】无
【中文摘要】豚草是世界性重要有害杂草之一,对农业生产和人类健康均造成严重危害。为抑制其种群蔓延,前人开展了化学防治、物理防治、植物替代和生物防治等对豚草的防控研究。文章阐述了各项措施在豚草种群控制中的作用和优缺点。提出以生物防治为主体,结合植物替代控制和物理防治,尽可能地不实施化学防治的的综合治理体系是未来豚草防治的一个主要途径。
【英文摘要】无
【语种】中文
【第一作者】陈红松
【通讯作者】郭建英
【期刊名称、卷期、页码】植物保护, 2009, 35(2): 20-24
【论文发表时间】2009-04-20 00:00:00
【引文索引类型】其他
【引文索引号】

【学科分类】植物保护学

【题目】不同除草剂对空心莲子草的控制作用评价
【中文关键词】除草剂, 空心莲子草, 控制作用
【英文关键词】无
【中文摘要】采用盆栽试验,测定了氯氟吡氧乙酸、草甘膦和五氟磺草胺对不同生育期空心莲子草的控制作用,以株防效、鲜重防效和再生抑制率为指标,评价了不同除草剂对空心莲子草的控制效果。结果表明,药后7 d ,氯氟吡氧乙酸、草甘膦和五氟磺草胺对不同生育期空心莲子草的株防效,均低于15 %;药后15 d ,氯氟吡氧乙酸和草甘膦对不同生育期的空心莲子草的株防效、鲜重防效均达100 % ,但五氟磺草胺对不同生育期的空心莲子草的株防效较差。药后30 d ,氯氟吡氧乙酸和五氟磺草胺对不同生育期空心莲子草的再生抑制作用较强,抑制效果达74 %以上;草甘膦对生长后期的再生抑制作用达81. 3 %。空心莲子草苗期对不同除草剂的反应最为敏感。氯氟吡氧乙酸可以作为水生环境和旱生环境下防除空心莲子草的重点药剂,草甘膦可用于旱地空心莲子草的防除,五氟磺草胺可作为水生环境条件下防除空心莲子草的主要药剂之一。
【英文摘要】无
【语种】中文
【第一作者】马明勇
【通讯作者】郭建英
【期刊名称、卷期、页码】植物保护, 2009, 35(4): 154-157
【论文发表时间】2009-08-20 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】植物保护学

【题目】短时高温暴露对莲草直胸跳甲生殖适应性的影响
【中文关键词】莲草直胸跳甲, 空心莲子草, 高温暴露, 生殖力, 寿命, 羽化率, 生物防治
【英文关键词】无
【中文摘要】以莲草直胸跳甲为对象,测定了在不同高温下暴露1h后,莲草直胸跳甲成虫寿命、产卵前期、产卵量及后代存活力等生殖适应性指标的差异。结果表明:(1)莲草直胸跳甲成虫寿命随暴露温度的升高而降低,25度恒温条件下,雌成虫寿命平均为37.4d,而45度高温暴露1h后,雌成虫寿命仅为20.0d;(2)莲草直胸跳甲雌虫的产卵前期随暴露温度升高而显著延长,25度恒温条件下雌虫产卵前期平均为4.1d;39度高温暴露1h后产卵前期延长至4.8d,45度高温暴露1h后延长至7.3d;(3)短时高温暴露显著降低莲草直胸跳甲的单雌产卵量,25度恒温条件下单雌产卵量平均为965.1粒,39度暴露1h后,其产卵量为638.7粒,45度暴露1h后低于260粒;(4)短时高温暴露对莲草直胸跳甲后代存活能力有显著的影响,随着温度的升高,F1代卵的孵化率从95.4%降低至89.2%,F1代成虫的羽化率从87.0%下降到71.3%。以上结果表明,短时高温暴露导致莲草直胸跳甲生殖适应性下降。
【英文摘要】无
【语种】中文
【第一作者】赵鑫
【通讯作者】郭建英
【期刊名称、卷期、页码】昆虫学报, 2009, 52(10): 1110-1114
【论文发表时间】2009-10-20 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】植物保护学

【题目】表面等离子体共振生物传感器连续检测莱克多巴胺
【中文关键词】表面等离子体共振;生物传感器;动力学;连续检测;莱克多巴胺
【英文关键词】Surface plasmon resonance;Biosensor;Kinetics;Continuous detection;Rectopamine
【中文摘要】利用表面等离子体共振生物传感器对莱克多巴胺抗体与固定在芯片表面的莱克多巴胺衍生物的相互作用进行了分析,解离常数为2.56×10-6 s-1。根据一定范围内相对响应值和时间近似呈线性关系的动力学特性,建立了连续检测的方法,从而简化了实验步骤,有利于提高芯片的使用寿命。检测莱克多巴胺采用抑制法,将莱克多巴胺衍生物固定在芯片的表面,莱克多巴胺抗体与样品混合后流过芯片的表面,所得相对响应值与样品中莱克多巴胺的浓度成反比。单个样品的检

测时间设定为15 min,对应的检出限小于4 ug/L。
【英文摘要】
【语种】中文
【第一作者】李辉
【通讯作者】崔大付
【期刊名称、卷期、页码】分析化学,2010,38(3):381-384
【论文发表时间】2010-03-08 00:00:00
【引文索引类型】SCI
【引文索引号】Doi:10.3724/SP.J1096.2010.00381
【学科分类】化学其他学科

【题目】Continuous Immunoassay for Sulfamethazine by Surface Plasmon
【中文关键词】
【英文关键词】Surface plasmon resonance;Biosensor;Kinetics;Continuous detection;Rectopamine
【中文摘要】
【英文摘要】Regeneration of the sensor chip surface is difficult in many surface plasmon resonance (SPR) biosensor assays. Improper regeneration will reduce life span of the sensor chip and decrease the quality of the data. Considering the advantages of reducing the regeneration frequency, a theoretically feasible continuous SPR biosensor immunoassay for sulfamethazine (SMT) was developed. In the continuous inhibitive immunoassay, the sensor chip surface is regenerated only once after a definite number of tests instead of every test. The SMT-bovine serum albumin (BSA) conjugate was covalently immobilized to a carboxymethyldextran modified gold film. The immobilization conditions of the antigen were studied and the working dilution of the antibody was optimized. The antibody was mixed with SMT of different concentrations prepared with PBS buffer to construct the calibration curve. The limit of detection was 0.5 ngmL_1. The continuous SPR biosensor assay was proved to be simpler and more practical than a normal one.
【语种】英文
【第一作者】李辉
【通讯作者】崔大付
【期刊名称、卷期、页码】Analytical Letters, 43: 3, 499 — 507
【论文发表时间】2010-01-27 00:00:00
【引文索引类型】SCI
【引文索引号】Doi: 10.1080/00032710903402556
【学科分类】化学其他学科

【题目】微波对固体培养基灭菌效果的观察
【中文关键词】微波, 金龟子绿僵菌, 培养基, 灭菌效果
【英文关键词】无
【中文摘要】研究家用微波炉对农业用绿僵菌固体培养基灭菌效果。方法采用载体杀菌试验进行了实验室观察。结果随着负载量的增大,杀菌速度降低。负载量为2OO g以下时,微波处理3 min,全部无菌生长。负载量为250 g时,微波照射4 min,存活菌数仍达100 cfu/g。试验证明,随着微波处理时间的延长,灭菌效果增强。以100 g固体培养基加60 g水的比例经微波处理效果比较好,灭菌处理3 min均能达到灭菌目的。结论微波对绿僵菌固体培养基灭菌最佳工艺为:100 g的固体培养基加60 g水,浸润3 h,在800 W的微波功率处理3 rain,可达到灭菌效果。
【英文摘要】无
【语种】中文
【第一作者】应月青
【通讯作者】张泽华
【期刊名称、卷期、页码】中国消毒学杂志, 2007, 24(1): 36-38
【论文发表时间】2007-02-15 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】植物保护学

【题目】绿僵菌对椰心叶甲的控制作用研究
【中文关键词】椰心叶甲, 绿僵菌, 生物防治
【英文关键词】无
【中文摘要】椰心叶甲是近年来传入我国的危险性有害生物,严重危害椰子、槟榔等棕榈科植物。2005年应用绿僵菌在海南省海口市对椰心叶甲进行生物防治,结果表明:绿僵茵能有效的控制椰心叶甲危害,椰树恢复健康生长,药后3 d防效为37.O% ,15 d时迭最高,防效为81.I% ,100 d时为45.I%
【英文摘要】无
【语种】中文
【第一作者】丁福章
【通讯作者】张泽华
【期刊名称、卷期、页码】西南农业大学学报(自然科学版), 2006, 28(3): 454-456
【论文发表时间】2006-06-20 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】植物保护学

【题目】以G418抗性为选择标记的金龟子绿僵菌原生质体转化
【中文关键词】绿僵菌, G418抗性, 原生质体, 转化
【英文关键词】无
【中文摘要】[目的]提高绿僵菌的生防效果。[方法]利用PEG方法,将含有G418抗性标记的质粒 B34转化绿僵菌原生质体,并在高于绿僵菌敏感的G418浓度下筛选转化子。[结果]转化率达15~23个/ 质粒。将转化子在非选择压力下连续培养5代,其抗性稳定不变。稳定性试验表明,所获得的转化子可通过有丝分裂稳定传代。[结论]该研究为提高绿僵菌的生防效果提供了依据。
【英文摘要】无
【语种】中文
【第一作者】王晓玲
【通讯作者】张泽华
【期刊名称、卷期、页码】安徽农业科学, 2007, 35(28): 8865-8866
【论文发表时间】2007-08-10 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】植物保护学

【题目】真菌农药母药含孢量测定的规范化
【中文关键词】含孢量检测, 规范化, 真菌农药
【英文关键词】无
【中文摘要】:对真菌农药含孢量的检测过程中容易造成误差的关键环节进行了探讨和验证。试验确定,制备孢子悬浮液时可用吐温.80作润湿剂,以高速组织捣碎机8000r/min搅拌60s可使孢子充分分散,单孢率达98% 以上;进行浓度稀释时,应根据预计的含孢量尽量采用较小的稀释梯度间隔和减少稀释次数;点样时应预先固定盖玻片,并用小量程范围的可调微量移液器调节至30~50/A吸取样液点样,得到的计数结果误差较小且稳定性好。试验结果为建立含孢量的标准检测方法提供必要依据。
【英文摘要】无
【语种】中文
【第一作者】农向群
【通讯作者】农向群
【期刊名称、卷期、页码】中国生物防治, 2007, 23(2): 137-141
【论文发表时间】2007-05-15 00:00:00
【引文索引类型】其他

【引文索引号】
【学科分类】植物保护学

【题目】苏云金芽孢杆菌与绿僵菌对椰心叶甲的协同控制作用
【中文关键词】绿僵菌, 苏云金芽胞杆菌, 椰心叶甲, 协同作用
【英文关键词】无
【中文摘要】测定了3个苏云金芽胞杆菌菌株F6、NBT-18、Rt184与绿僵菌菌株HK4复配剂对椰心叶甲致死作用。结果表明,3株Bt菌株对绿僵菌控制椰心叶甲的效果都有不同程度增强。在HK4孢子含量为1O 个/mL时,F6与HK4、NBT 18与HK4的复配剂处理椰心叶甲,5 d后死亡率分别达71.67 、61.35 ,与单独用HK4分生孢子处理(死亡率为3O.71)相比,具有显著差异;而Rt184和HK4复配剂处理的死亡率与HK4单独处理无显著差异。在HK4孢子含量为1o 个/mL时,3种复配剂处理椰心叶甲5 d后,死亡率分别为82.74 、83.O7 、68.6l ,均与绿僵菌HK4单独处理(死亡率61.49)有显著差异;且3个Bt菌株均能使绿僵菌HK4菌株侵染椰心叶甲的致死时间提前。
【英文摘要】无
【语种】中文
【第一作者】边强
【通讯作者】张泽华
【期刊名称、卷期、页码】植物保护, 2009, 35(3): 130-132
【论文发表时间】2009-06-15 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】植物保护学

【题目】基因工程改良在昆虫病原真菌中的应用
【中文关键词】昆虫病原真菌, 基因工程, 转化方法, 菌株改良
【英文关键词】无
【中文摘要】昆虫病原真菌是自然界控制害虫种群的主要生物因子,其研究开发越来越受到重视。但由于存在致死速度慢、防效不稳定、对环境条件要求高等缺点,限制了昆虫病原真菌的应用。近年来,通过基因工程技术对昆虫病原真菌进行遗传改造,提高菌株的致病性和毒力,创造高效、稳定的工程菌株取得了较大进展。对昆虫病原真菌选择标记、遗传转化方法、基因工程改良及应用等方面最新研究进展进行了综述。
【英文摘要】无
【语种】中文
【第一作者】边强
【通讯作者】张泽华
【期刊名称、卷期、页码】中国生物工程杂志, 2009, 29(3): 94-99
【论文发表时间】2009-06-15 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】植物保护学

【题目】BenA3基因双元载体的初步构建及转化绿僵菌189的初步研究
【中文关键词】BenA3基因, pCAMB, IA13002BenA3, 农杆菌, 双元载体, 绿僵菌, 转化
【英文关键词】无
【中文摘要】用XhoⅠ和SalⅠ分别双酶切植物表达载体pCAMB IA1300和含有目的基因的pMD192T2BenA3,定向连接得到重组质粒pCAMB IA13002BenA3,将其导入农杆菌AGL21。经PCR鉴定后,得到可用于绿僵菌转化的农杆菌双元载体。采用的预培养时间、菌液浓度、共培养时间、乙酰丁香酮浓度的条件下,进行农杆菌介导绿僵菌的遗传转化,得到可以稳定性遗传的绿僵菌转化子,随机挑选转化子进行苯菌灵抗性基因的PCR扩增表明,绿僵菌转化子含有了苯菌灵抗性基因。该转化体系的建立,将有利于绿僵菌生防功能基因的克隆和作用机制的研究。
【英文摘要】无
【语种】中文

【第一作者】姚洪平
【通讯作者】张泽华
【期刊名称、卷期、页码】生物技术通报, 2010, (8): 214-217
【论文发表时间】2010-08-20 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】农学其他学科

【题目】绿僵菌与椰甲截脉姬小蜂对椰心叶甲的协同控制作用
【中文关键词】绿僵菌, 椰甲截脉姬小蜂, 椰心叶甲, 生物防治
【英文关键词】无
【中文摘要】在室内条件下,研究了金龟子绿僵菌小孢变种Metarhizium anisopliae var. anisopliae 侵染和椰甲截脉姬小蜂寄生两种生防措施之间的相互影响,并对两种措施协同控制椰心叶甲的效果进行了评价。结果表明,绿僵菌菌株HK4 对椰甲截脉姬小蜂成虫安全; 但绿僵菌侵染使姬小蜂对椰心叶甲的寄生率显著降低。在先接种绿僵菌后接入姬小蜂的情况下,椰甲截脉姬小蜂对椰心叶甲的寄生率仅为10123 %,显著低于其单独寄生的寄生率79155 %; 绿僵菌对椰心叶甲的侵染率为96159 %,高于绿僵菌单独处理的侵染率84109 %,但不显著。而在先接蜂后接种绿僵菌的处理中,绿僵菌对椰心叶甲的侵染率仅为69109 %,显著低于绿僵菌单独处理。对椰心叶甲的生测结果显示,先接种绿僵菌再接入姬小蜂、先姬小蜂寄生再接种绿僵菌、同时接种绿僵菌和接入姬小蜂3 种处理的校正死亡率分别为100 %、100 %、98.86 %,显著高于绿僵菌单独侵染和姬小蜂单独寄生。
【英文摘要】无
【语种】中文
【第一作者】边强
【通讯作者】张泽华
【期刊名称、卷期、页码】中国生物防治, 2009, 26(1): 30-34
【论文发表时间】2010-02-10 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】植物保护学

【题目】入侵杂草紫茎泽兰的化感作用研究进展
【中文关键词】入侵植物, 紫茎泽兰, 化感作用
【英文关键词】无
【中文摘要】入侵杂草紫茎泽兰在我国严重影响农林业生产、威胁生物多样性安全,并且现仍快速向西北地区扩散,而我国目前尚缺乏对其行之有效的控制方法,因此加强对紫茎泽兰种群成功入侵机制的研究显得尤为迫切。近年来,越来越多的研究发现化感作用是紫茎泽兰成功入侵并扩张的重要原因。该文综述了紫茎泽兰化感作用的研究进展,并就其研究前景进行了探讨。
【英文摘要】无
【语种】中文
【第一作者】杨国庆
【通讯作者】万方浩
【期刊名称、卷期、页码】植物保护学报, 2008, 35(5): 463-468
【论文发表时间】2008-10-20 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】植物保护学

【题目】紫茎泽兰水提液的化感潜力及其渗透压的干扰效应
【中文关键词】紫茎泽兰, 水提液, 化感潜势, 渗透压
【英文关键词】无

【中文摘要】采用3种方法(整株、剪碎和风干)和处理时间(6、24和48 h) ,制备了紫茎泽兰地上部分植株不同类型的水提液,分别评价了它们对旱稻种子萌发和幼苗生长的化感潜势,比较分析了不同类型水提液的渗透压值,并检测了该范围内的渗透压对旱稻种子萌发和幼苗生长的影响。结果表明:紫茎泽兰不同类型水提液对旱稻产生了明显的化感抑制潜势, 3种处理方法的水提液化感潜势大小依次为风干、剪碎和整株,且这种作用随着水提液处理时间的延长而增强。不同处理方法的水提液渗透压大小也依次为风干、剪碎和整株,并随着处理时间和浓度的增加,水提液渗透压也在增强。对应于不同处理水提液而逐渐增加的渗透压对旱稻种子萌发和幼苗生长产生了逐步增强的抑制作用。表明渗透压是紫茎泽兰水提液化感潜势评估重要的干扰因子,尤其在剪碎或风干植株的处理中,建议采用整株水提法。
【英文摘要】无
【语种】中文
【第一作者】杨国庆
【通讯作者】万方浩
【期刊名称、卷期、页码】生态学杂志, 2008, 27(12): 2073-2078
【论文发表时间】2008-12-15 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】植物保护学

【题目】紫茎泽兰淋溶主效化感物质对旱稻幼苗根尖解剖结构的影响
【中文关键词】紫茎泽兰, 泽兰二酮, 羟基泽兰酮, 旱稻, 解剖结构
【英文关键词】无
【中文摘要】采用营养液培养法和石蜡切片技术,研究了紫茎泽兰淋溶主效化感物质(泽兰二酮和羟基泽兰酮) 对旱稻幼苗根尖解剖结构的影响。结果表明:两个化感物质分别处理后,旱稻幼苗的根呈现短小肿胀、侧根缺乏、且对营养液的吸收明显减少,这些症状随着化感物质浓度的增加而加剧。石蜡切片的结果表明,和对照相比,化感物质处理后的旱稻幼苗根尖的解剖结构发生了明显的变化,主要表现在顶端分生组织、静止中心和根冠的细胞排列混乱,细胞间隙加大,皮层薄壁组织细胞变得短而粗,以及表皮层细胞大量脱落等。讨论认为,旱稻幼苗根的形态结构变化,主要与紫茎泽兰化感物质对受体植物吲哚乙酸的干扰相关。
【英文摘要】无
【语种】中文
【第一作者】杨国庆
【通讯作者】万方浩
【期刊名称、卷期、页码】植物保护, 2008, 34(6): 20-24
【论文发表时间】2008-12-10 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】植物保护学

【题目】苹果绵蚜在国内的发生概况
【中文关键词】苹果绵蚜, 发生, 影响因素
【英文关键词】无
【中文摘要】本文通过查阅大量文献,概述了目前我国苹果绵蚜的传播概况、发生史、发生与环境的关系以及在苹果树上的空间分布型与抽样等研究进展。
【英文摘要】无
【语种】中文
【第一作者】李刚
【通讯作者】李刚
【期刊名称、卷期、页码】农业科技通讯, 2009, (2): 72-74
【论文发表时间】2009-02-10 00:00:00
【引文索引类型】其他
【引文索引号】

【学科分类】植物保护学

【题目】日光蜂对苹果绵蚜的自然控制作用及其保护和利用
【中文关键词】日光蜂, 苹果绵蚜, 控制作用, 保护和利用
【英文关键词】无
【中文摘要】日光蜂是苹果绵蚜的一种重要寄生性天敌,为了更好地发挥其对苹果绵蚜的控制作用,在山东省莱阳市田间调查研究了日光蜂对苹果绵蚜的自然控制作用,并测定了不同保护措施下日光蜂的越冬羽化率。结果显示,苹果绵蚜在5月底至7月底和9月中旬至10月中旬有2个发生高峰;在整个生长季节日光蜂对苹果绵蚜均有一定的控制作用, 7月上旬至9月上旬温度较高时,日光蜂的田间种群数量较多,对苹果绵蚜的田间自然寄生作用达到高峰,寄生率在50%~90% , 4—5月是日光蜂对苹果绵蚜的控制空缺时期。在使用化学农药的果园,日光蜂的数量和寄生率均降低。田间缚草或采集日光蜂黑蛹放置于室内或室外阳面,越冬存活率均显著高于放置在室外阴面和田间未缚草的日光蜂黑蛹,表明3种越冬保护措施可以有效地增加日光蜂越冬虫源基数。
【英文摘要】无
【语种】中文
【第一作者】周洪旭
【通讯作者】郭建英
【期刊名称、卷期、页码】植物保护学报, 2010, 37(2): 153-158
【论文发表时间】2010-04-20 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】植物保护学

【题目】西花蓟马主要寄主植物可溶性糖和蛋白质含量测定
【中文关键词】西花蓟马, 可溶性糖, 可溶性蛋白质
【英文关键词】无
【中文摘要】测定了8种植物不同器官中可溶性糖(以棉子糖、蔗糖、葡萄糖和果糖为代表)和可溶性蛋白质的含量及比例。总体上,测定的18个样品中可溶性蛋白质的含量均高于可溶性糖,可溶性蛋白质和可溶性糖比例最大为1 627. 00,最小为2. 71,成熟叶中的可溶性糖和可溶性蛋白质的含量大多高于幼叶。辣椒中西花蓟马主要取食的花器中可溶性蛋白质含量高于叶片。
【英文摘要】无
【语种】中文
【第一作者】吴青君
【通讯作者】吴青君
【期刊名称、卷期、页码】中国蔬菜, 2007, (10): 20-22
【论文发表时间】2007-10-15 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】植物保护学

【题目】京、浙、滇地区植物蓟马种类及其分布调查
【中文关键词】田间调查, 蓟马, 种类, 分布
【英文关键词】无
【中文摘要】对北京、浙江、云南等3 个地区植物上蓟马的种类及其分布进行了调查。调查结果表明, 3 个地区的蓟马种类较为相似, 花蓟马、烟蓟马、黄胸蓟马、腹小头蓟马、西花蓟马和稻蓟马是3 个地区共有的种类。其中花蓟马的分布最广、数量也最丰富, 是最为常见的蓟马种类; 新入侵的害虫西花蓟马在北京和云南地区已呈广泛分布状态, 其发展动向值得高度关注。
【英文摘要】无
【语种】中文
【第一作者】吴青君

【通讯作者】吴青君
【期刊名称、卷期、页码】中国植保导刊, 2007, 27(1): 32-34
【论文发表时间】2007-01-25 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】植物保护学

【题目】外来入侵昆虫研究领域发展报告
【中文关键词】入侵昆虫, 研究进展, 学科发展
【英文关键词】无
【中文摘要】近年来,许多相关科研项目的实施,极大地推动了外来入侵昆虫学科的发展,取得了一系列的研究成果。本文重点介绍近年来本学科的新理论和新技术等,比较分析国内外本学科的发展状况和趋势,提出本学科在我国未来几年的发展战略和对策措施,以期推动我国外来入侵昆虫学科的进一步发展,提升该领域的原始创新和集成创新能力。
【英文摘要】无
【语种】中文
【第一作者】万方浩
【通讯作者】万方浩
【期刊名称、卷期、页码】《昆虫学学科发展报告2008-2009》, 中国科学技术出版社, 2009, pp.158-172
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【引文索引类型】其他
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【学科分类】植物保护学

【题目】农杆菌介导的cry1Ia8基因转化甘蓝的研究
【中文关键词】结球甘蓝;小菜蛾;Bt基因;cry1Ia8;转基因;抗虫性
【英文关键词】cabbage;Plutella xylostella;Bt gene;cry1Ia8;transformation;resistance
【中文摘要】以结球甘蓝(Brassica oleracea var. capitata)的下胚轴和具柄子叶为外植体,通过根癌农杆菌(Agrobacterium tumefaciens)介导法将苏云金芽孢杆菌(Bacillus thuringiensis)杀虫蛋白基因cry1Ia8导入结球甘蓝中,共获得38株卡那霉素抗性植株。PCR检测和Southern blot证实甘蓝的基因组已经成功导入和整合了cry1Ia8基因;RT-PCR检测和Western blot表明cry1Ia基因在转录和翻译水平有一定的表达。转化植株叶片离体饲喂敏感小菜蛾(Plutella xylostella)和抗性小菜蛾的实验表明,该基因不仅对敏感小菜蛾有很强的抗性,对Cry1Ac蛋白抗性小菜蛾也具有较强的抗虫性。
【英文摘要】cry1Ia8 gene was transferred to the hypocotyl segments and cotyledon with petiole of cabbage (Brassica oleracea var. capitata) via Agrobacterium tumefaciens, 38 transformants with kanamycin-resistant were obtained. PCR and Southern blot showed that the cry1Ia gene was transferred and integrated into the genome of cabbage. Moreover, RT-PCR and Western blot analysis demonstrated that cry1Ia8 was expressed in RNA and protein level. Bioassay results with the susceptible and resistant diamondback moth (DBM, Plutella xylostella) displayed that most of the transgenic plants were strong resistance to the larvae of susceptible diamondback moth and also to the insect strain which is resistant to Cry1Ac toxin.
【语种】中文
【第一作者】崔磊
【通讯作者】杨丽梅
【期刊名称、卷期、页码】园艺学报 2009,36(8):1161-1168
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【引文索引类型】其他
【引文索引号】
【学科分类】园艺学

【题目】蛋白质转导结构域增加Cry1Ac对小菜蛾的毒力研究
【中文关键词】TAT; Cry1Ac; 小菜蛾
【英文关键词】TAT; Cry1Ac; Plutella xylostella

【中文摘要】蛋白质转导结构域是一类能自动穿透细胞膜,并能作为载体将其他生物大分子携带进入细胞膜内的一段富含精氨酸的多肽。本研究通过遗传重组的方法,构建蛋白质转导结构域TAT与Bt杀虫蛋白Cry1Ac的融合基因及其表达载体TAT—Cry1Ac,对表达蛋白的生测结果表明,TAT极为显著地增加Cry1Ac对小菜蛾的杀虫毒力,增效倍数达到5.54倍,预示着TAT在微生物杀虫蛋白领域可能有着良好的应用前景。

【英文摘要】TAT is a kind of protein transduction domain (PTD),which can penetrate into bio-membrane automatically and act as a vector that take other biological macromolecules into cells. Two fusion genes,namely pET21b-TAT-Cry1Ac and pET21b-Cry1Ac,were constructed and expressed in E.coli. The LC50 analyses of the two expressed proteins to diamondback moth showed that TAT could significantly enhance the susceptibility of DBM to Cry1Ac and its synergistic ratio reached 5.54 folds. The results indicated that TAT might be used in the field of microorganism insecticidal proteins.

【语种】中文

【第一作者】刘玮

【通讯作者】张友军

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【学科分类】植物保护学

【题目】RNAi技术在昆虫功能基因研究中的应用进展

【中文关键词】RNA干扰(RNAi); 双链RNA(dsRNA); 昆虫; 基因功能; 应用

【英文关键词】RNA interference (RNAi); double-stranded RNA (dsRNA); insect; gene function; application

【中文摘要】RNA干扰(RNA interference,RNAi)是指外源或内源的双链RNA(dsRNA)特异性地引起基因表达沉默的现象,它作为一种有效的工具用来产生转录后沉默,从而抑制特定基因的表达,成为基因功能研究的一种新方法,除了在模式昆虫如果蝇Drosophila中广泛应用之外,也在非模式昆虫中得到成功应用.近年来,RNAi技术在导入方法和基因功能分析方面都取得了飞速发展,且与转基因技术相结合成功应用于害虫防治领域.本文综述了RNAi技术在导入方法、昆虫功能基因组功能分析及害虫防治等领域新近的研究成果,并展望了该技术的应用前景.

【英文摘要】RNA interference (RNAi) is a kind of phenomenon that in vitro or in vivo dsRNA induced knockdown of gene expression. RNAi as one of the most promising techniques to knockdown the expression of corresponding gene has been extensively used for sequence-specific loss of gene function in model insects like Drosophila and also in non-model insects. The methods to introduce dsRNA and the functional analysis of gene have been frequently developed, and RNAi technique combined with transgenic technique has been applied to control agriculral pests in recent years. In this revies, we described the application and prospect of RNAi technique in studying gene functions in insects and in pest management.

【语种】中文

【第一作者】杨中侠

【通讯作者】张友军

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【学科分类】植物保护学

【题目】农杆菌介导的Bt基因cry1Ah转化结球甘蓝的研究

【中文关键词】根癌农杆菌; crylAh; Bt基因; 结球甘蓝

【英文关键词】无

【中文摘要】以结球甘蓝(Brassica oleracea var.capitata)的下胚轴和具柄子叶为外植体,通过根癌农杆菌(Agrobacterium tumefaciens)介导法将苏云金芽孢杆菌(Bacillus thuringiensis)杀虫蛋白基因cry1Ah导入结球甘蓝自交系中,共获得34株卡那霉素抗性植株。以cry1Ah基因的引物进行PCR扩增,其中的13株扩增出目的条带。以BT-Cry1Ab/1Ac金标转基因检测试纸条分析,证明外源基因在蛋白质水平有了表达。离体叶片抗虫实验表明,部分转基因植株对延缓目标害虫的生长有显著作用。

【英文摘要】无

【语种】中文
【第一作者】崔磊
【通讯作者】杨丽梅
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【引文索引号】
【学科分类】园艺学

【题目】双Bt基因提高青花菜对菜粉蝶和小菜蛾抗性
【中文关键词】双价转基因; Cry1Ac; Cry1C; 抗虫性; 青花菜
【英文关键词】Double-transgenes; Cry1Ac; Cry1C; Insect resistance; Broccoli
【中文摘要】以青花菜(Brassica oleracea L.ssp.italica)下胚轴为外植体,通过农杆菌介导的遗传转化方法将苏云金芽胞杆菌(Bacillus thuringiensis)晶体毒蛋白基因Cry1Ac和Cry1C分别导入青花菜栽培品种绿彗星中,各获得35株卡那霉素抗性植株.分别以Cry1Ac和Cry1C特异引物对转基因植株进行PCR扩增,结果得到27株Cry1Ac阳性植株和13株Cry1C阳性植株.以目的基因Cry1Ac和Cry1C为探针,进行Southern blot分析,证明多数植株目的基因已经整合到青花菜基因组中.对含有单拷贝目的基因植株自交纯合后通过有性杂交获得带有Cry1Ac和Cry1C双价的转基因青花菜.利用RT-PCR检测Bt基因在转基因植株中的表达情况,发现不同株系间在RNA水平上存在显著的表达差异,部分株系中双价Bt同时得到表达.ELISA检测转基因植株Bt毒蛋白含量为0.12~0.82 μg/gFW.结合室内和田间饲虫试验,证明抗虫效果与Bt毒蛋白表达水平正相关.通过多世代选择,获得高抗菜粉蝶(Pieris rapae L.)和小菜蛾(Plutella xylostella L.)的纯合转基因青花菜材料.双价抗虫基因共同作用,提高了青花菜的抗虫性.
【英文摘要】Bt gene either Cry1Ac or Cry1C was individually transferred into broccoli (Brassica oleracea L. ssp. italica) genome via Agrobacterium-mediated transformation method using Green Comet hypocotyls as explants. And thirty five kanamycin-resistant broccoli plants respectively harboring Cry1Ac or Cry1C were obtained. PCR analysis with primers specific to Cry1Ac or Cry1C identified 27 Cry1Ac positive plants and 13 Cry1C positive plants. Southern blotting analysis with Cry1Ac or Cry1C as probes indicated the Bt gene was intergrated into plant genome. Transgenic broccoli lines with single copy transgene were inbreeded to homozygote and crossed to each other to obtain transgenic lines with double Bt genes. RT-PCR analysis showed the various expression levels in different transgenic lines. The Bt endotoxin protein was about 0.12~0.82 μg /g FW by ELISA assays. Both in vivo bioassays in laboratory and field test supported the improved insect resistance and the resistance level correlated with Bt expression level. Homozygotic broccoli lines with resistance to diamondback moth (Plutella xylostella L.) and imported cabbageworm (Peris rapae L.) were obtained trough selection in successive generations. Double Bt genes improved insect resistance in transgenic broccoli in this study.
【语种】中文
【第一作者】李汉霞
【通讯作者】叶志彪
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【学科分类】园艺学

【题目】转Bt基因青花菜的抗虫性研究
【中文关键词】双价转基因; CryIAc; CryIC; 抗虫性; 青花菜
【英文关键词】无
【中文摘要】以青花菜绿彗星下胚轴为外植体,通过农杆菌介导的遗传转化方法将苏云金芽孢杆菌晶体毒蛋白基因CryIAc和CryIC分别导入青花菜栽培品种中。结果表明:CryIAc和CryIC基因分别转化青花菜,各获得35株卡那霉素抗性植株。分别以CryIAc和CryIC特异引物对转基因植株进行PCR扩增,结果得出27株CryIAc阳性植株和13株CryIC阳性植株。以目的基因CryIAc和CryIC为探针,进行Southern blot分析,证明多数植株目的基因已经整合到青花菜基因组中。对含有单拷贝目的基因植株自交纯合后通过有性杂交获得带有CryIAc和CryIC双价的转基因青花菜。利用RT-PCR检测Bt基因在转基因植株中的表达情况,发现不同株系间在RNA水平上存在显著的表达差异,部分株系中双价Bt同时得到表达。ELISA检测转基因

植株Bt毒蛋白含量为0.12~0.82μg g~(-1)FW。结合室内和田间饲虫试验,证明抗虫效果与Bt毒蛋白表达水平正相关。通过多世代选择,获得高抗菜粉蝶和小菜蛾的纯合转基因青花菜材料。现已获批进行转基因安全的中间试验。
【英文摘要】无
【语种】中文
【第一作者】李汉霞
【通讯作者】叶志彪
【期刊名称、卷期、页码】中国园艺学会十字花科蔬菜分会第六届学术研讨会暨新品种展示会论文集 2008:279-289
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【引文索引号】
【学科分类】园艺学

【题目】观赏羽衣甘蓝高频再生体系的建立
【中文关键词】羽衣甘蓝; 离体培养; 外植体; 不定芽
【英文关键词】Brassica oleracea var.acephala; In vitro culture; Explant; Adventitious shoot
【中文摘要】观赏羽衣甘蓝是一种赏食兼用的耐冻优良景观植物。为了通过基因工程手段赋予其抗虫性,并进一步提高其低温耐受性,获得新的抗性种质,本研究以优良育种品系为试材,详细探讨了影响离体培养不定芽再生的因素,建立了高效再生体系。以8份不同类型羽衣甘蓝基因型的带柄子叶、子叶、下胚轴为外植体,研究了不同基因型、不同外植体、不同的培养基激素浓度配比及添加AgNO3对不定芽诱导的影响。结果表明:无论基因型及使用的培养基,带柄子叶均为最佳外植体;不同的基因型、不同外植体其最佳的芽诱导培养基不同;筛选出两份材料,其带柄子叶分别在L6(MS+6-BA1.0mg/L+NAA0.1mg/L)及L3(MS+6-BA1.5mg/L)培养基中不定芽诱导率为100%,下胚轴诱导率最高也能达88.33%;培养基中添加4mg/L AgNO3不利于羽衣甘蓝的不定芽诱导;再生株生根以MS+NAA0.1mg/L效果好,生根率可达100%。
【英文摘要】Ornamental kale (Brassica oleracea var. acephala) is an edible freezing tolerant excellent landscape plant. To endow it with pest insect resistance and increase the minus temperature tolerance further, genetic engineering will be operated. In this research, the elite breeding lines of ornamental kale were selected as the material, and factors affecting the adventitious shoot regeneration in vitro were studied in detail. A high efficient shoot regeneration system was established. Different explants of eight genotypes representing the main phenotypes of ornamental kale were inoculated on the mediums, and effects of explants, genotypes, phytohormone combination and addition of AgNO3 in the medium on shoot regeneration were examed. The results indicated that whatever the genotypes and culture mediums, cotyledon with petiole was the best explant; the optimum medium for shoot induction varied in different genotypes and different explants; two genotypes with 100% shoot induction rate on L6 or L3 medium respectively using cotyledon with petiole as explants were screened out. Results also proved that the addition of AgNO3 in the medium has negative effect for shoot regeneration of ornamental kale. The feasible rooting medium was MS+NAA 0.1 mg/L and the rooting rate reached to 100%. Rooted plants can be transplanted into greenhouse successfully.
【语种】中文
【第一作者】赵秀枢
【通讯作者】刘凡
【期刊名称、卷期、页码】基因组学与应用生物学 2009,28(1):141-148
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【学科分类】园艺学

【题目】农杆菌介导羽衣甘蓝转化体系的建立
【中文关键词】根癌农杆菌; 遗传转化; 羽衣甘蓝
【英文关键词】Agrobacterium tumefaciens; genetic transformation; Brassica oleracea var. acephala
【中文摘要】以羽衣甘蓝皱白1带柄子叶为外植体,通过农杆菌介导法,研究影响羽衣甘蓝转化的若干因素,建立稳定的遗传转化体系.结果表明,外植体通过2d的预培养,OD600值为0.3的菌液浓度,侵染时间5min,2d的共培养,延迟筛选3d有利于获得较高的转化效率.PCR检测表明,外源基因已整合到羽衣甘蓝基因组中.
【英文摘要】An efficient and stable Agrobacterium-mediated genetic transformation system for Brassica oleracea var.acephala was established through investigating the factors influencing the transformation efficiency.The results showed that the highest

transformation frequency was obtained when the explants were pre-cultivated for 2 days,followed by Agrobacterium infection for 5 min with an OD600 of Agrobacterium of about 0.3,co-culture for 2 days and detention screening for 3 days.Results of PCR proved that the transgene was successfully integrated into the Brassica oleracea var.acephala genome.

【语种】中文
【第一作者】张文玲
【通讯作者】刘凡
【期刊名称、卷期、页码】西南大学学报(自然科学版) 2010,4:61-65
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【引文索引号】
【学科分类】农艺学

【题目】农杆菌介导的Btcry1Ⅰa基因转化花椰菜的研究
【中文关键词】花椰菜; 农杆菌介导转化; cry1Ⅰa基因; 转基因植株
【英文关键词】cauliflower; Agrobacterium-mediated transformation; cry1Ia gene; transgenic plants
【中文摘要】利用苏云金芽胞杆菌(Bacillus thuringiensis,简称Bt)cry1Ⅰa基因构建了双T-DNA边界的植物表达载体pCS1Ⅰa-LR,以瑞士雪球花椰菜具柄子叶和下胚轴为外植体,通过农杆菌介导法将cry1Ⅰa基因导入花椰菜中,共获得30株转化植株,经PCR检测,其中18株为PCR阳性植株,PCR阳性率为60%;RT-PCR和Western杂交检测结果表明,cry1Ⅰa基因在转基因花椰菜中可以正常转录和正确表达。转基因植株用小菜蛾幼虫进行饲虫试验,结果表明,转cry1Ⅰa基因花椰菜对小菜蛾具有很强的毒杀作用,昆虫幼虫的校正死亡率高达100%。获得的转基因花椰菜可用于下一步的抗虫花椰菜的培育。
【英文摘要】The double T-DNA border expression vector pCS1Ⅰa-LR harboring Bacillus thuringiensis cry1Ⅰa gene was introduced into the cotyledon petioles and hypocotyls of cauliflower(Brassica oleracea var.botrytis) mediated by Agrobacterium.Thirty regenerated plants were obtained,18 of them were positive by PCR detection,which demonstrated that cry1Ⅰa gene was integrated into the cauliflower genome.The PCR positive rate is 60%.Moreover,RT-PCR and Western blot analysis showed that cry1Ⅰa gene were transcripted and translated,respectively in transgenic cauliflower.Bioassay results showed that the transgenic cauliflowers harboring cry1Ⅰa gene had the high toxicity to diamondback moth and the mortality of insect larvae was accounted for 100%.The transgenic cauliflower can be used for further insect resistant cauliflower breeding.
【语种】中文
【第一作者】张永侠
【通讯作者】郎志宏
【期刊名称、卷期、页码】中国农业科技导报 2011,13(1):15-19
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【学科分类】园艺学

【题目】北京市通州区农田表观氮素平衡及空间特征分析
【中文关键词】作物; 施肥; 氮素输入; 氮素输出; 土壤表观氮素平衡; OECD 模型
【英文关键词】crop ; fertilizer ; nutrient inp ut ; nutrient output ; surface soil nitrogen balance ; OECD model
【中文摘要】本研究利用OECD 土壤表观氮素平衡模型,通过建立1991 —2004 年北京市通州区农田的氮素平衡核算的框架和数据库,结合GIS 技术对该区域氮素平衡强度及特征进行了分析,通过农户调查通州区典型种植模式和典型作物的肥料投入情况。结果表明:通州区农田氮素输入总量从1991 年的4 万t 降低到了2004 年的117 万t ,平均氮素输入量从567. 86 kg/ hm2 增加到了585. 22 kg/ hm2 ,氮素平衡强度从1991 年的355184 kg/ hm2 增加到了2004 年的389139 kg/ hm2 。将氮素平衡强度划分为5 级,结合空间分布特征分析发现,通州区下属各乡镇的农田氮素平衡量普遍提高,其中近半数氮素平衡强度从1991 年的Ⅰ、Ⅱ级上升到了2004 年的Ⅳ、Ⅴ级。城郊地区氮素平衡强度变化正与城郊农业种养结构调整密切相关,蔬菜作物播种面积的增加和养殖业的发展使农田氮素输入量持续增加,氮素平衡量提升明显,空间变异加大,对农田污染潜在威胁提高。农户调查表明,粮食作物的肥料施用量是比较合理的,而蔬菜作物的施肥量过大。
【英文摘要】The present studies aim to discuss about the nitrogen balance circumstances in Tongzhou area , and to provide helpful data for optimized managing farmland nutrition and controlling p ollution. By applying OECD surface soil nitrogen balance methodology , the framework and database for nitrogen balance budget in Tongzhou District , Beijing were established to evaluate the

imp act of nutrient balance on agricultural production from 1991 to 2004. The regional nitrogen balance intensity was analyzed with the help of GIS. The input of fertilizer of the typical planting patterns and the typical crops were surveyed. Results showed that the nitrogen input quantity in Tongzhou District has been decreased from 40000t in 1991 to 17 000t in 2004 , while the nitrogen input intensity has been increased from 567. 86 kg/ hm2 in 1991 to 585. 22 kg/ hm2 in 2004. The nitrogen balance intensity has been increased from 355. 84 kg/ hm2 in 1991 to 389. 39 kg/ hm2 in 2004. By classifying the nitrogen balance intensity into five grades (Ⅰ to Ⅴ) , combined with analysis of spatial characteristic , it could be shown the general improvement of the nitrogen balance intensity has happened in the townships , Tongzhou District . Nearly half of them increased from Ⅰ, Ⅱ grades in 1991 to Ⅳ, Ⅴ grades in 2004. In suburban area , the changes of the nitrogen balance intensity were closely correlated with the changes of farming and feeding structure in the suburb agriculture . The nitrogen balance intensity together with thenitrogen input intensity has been increasing , and so does the spatial variability , which increases the potential pollution

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【题目】不同氮肥水平对黄瓜产量、土壤硝态氮累积及土壤水溶液硝态氮含量的影响
【中文关键词】环境容量;施肥量;土壤硝态氮;土壤水溶液
【英文关键词】:Environment capacity ;Rate of fertilizer applied ;Soil nitrate2N;Soil solution
【中文摘要】通过在北京通州区的肥料定位试验,研究了不同施肥量对黄瓜产量、土壤硝态氮累积量及土壤水溶液硝态氮累积量的影响。结果表明,施氮量为260 kg/ hm2 时,达到作物最高产量,并取得最佳经济效益,从而确定该施肥量为最佳氮肥投入量通过对不同施肥量条件下土壤NO3- – N 累积量的研究,将该研究区土壤对氮肥环境容量确定为N一年260 kg/ hm2 ;通过测定作物收获后0~90 cm 土壤硝态氮累积量能够有效反映对当茬作物的施肥量水平;土壤0~90 cm水溶液NO3- – N 浓度随着氮肥投入量的增加而增大;作物收获后0~90 cm 土壤水溶液中NO3- – N 含量与其土壤NO3- – N 含量具有显著相关性;通过对0~90 cm土壤水溶液硝态氮含量的测定,能有效反映不同施肥水平对地下水的污染潜力。
【英文摘要】The effects of different nitrogen fertilization levels on yield of cucumber ,the soil nitrate – N content and the soil solution nitrate – N concentration were studied by the experiment in Tongzhou of Beijing. The results showed that cucumber yield was highest at the N rate 260 kg/ ha ,also got best gross economic returns at this N rate ,it was the best N rate input . This studied evaluated the soil nitrate – N content under different nitrogen fertilization levels ,the results showed that the environment capacity of the soil to N fertilizer was preliminarily determined as N 260 kg/ (ha • year) .An end – of – season soil NO3 - – N test in the 0 - 90 cm appeared to be capable of evaluating cucumber N management practices.Nitrate N concentration in the soil solution increased as the total of N applied to the soil .A significant relationship was found be – tween the total mass of NO3 - – N in the 0.9 m soil profile following harvested and the amount of NO3 - – N concentrations in the 0.9 m. It would be useful to predict the potential for nitrate (NO3 -) leaching to the drinking water through the amount of NO3 - – N concentrations test in the 0.9 m.
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【题目】不同种植模式对土壤矿质氮累积量的影响
【中文关键词】种植模式; 蔬菜田; 大田; 硝态氮; 铵态氮
【英文关键词】cropping systems ; vegetable field ; crop field ; nitrate-N; ammonium-N

【中文摘要】运用对通州区的调查资料和试验结果,分析了不同典型种植模式对0-2 m土壤矿质氮累积量的影响。结果表明,不同种植模式对0-2 m土壤矿质氮提取利用能力顺序为: 向日葵—向日葵> 冬小麦—夏玉米(玉米秸秆还田) > 冬小麦—夏玉(玉米秸秆不还田) > 冬小麦—大豆> 玉米—玉米。在大田作物生产中,应进行合理的作物轮作、增加地面覆盖度、轮作中加入有固氮能力的豆科作物、注重与根系发达或深根作物进行轮作,能有效地提取利用土壤深层NO3--N ,并能有效减少氮素向土壤下层的淋洗。蔬菜生产田0-2 m土壤含有较高的NO3--N 和NH+4-N ,累积量达1935.03 kg/ hm2 和201.8 kg/ hm2 ,因此,应通过减少氮肥投入量,优化轮作种植模式以提高作物对深层土壤NO3--N 的回收利用。

【英文摘要】The effects of different cropping systems on soil inorganic nitrogen accumulation was analyzed using survey and experiments date. The results showed that the ability to recover nitrogen fertilizer under different cropping systems was as follows : continuous sunflower >wheat-corn rotation (field covered with crops) > wheat-corn rotation (without covering) >wheat-soybean rotation > continuous corn. Reasonable rotation (i . e. rotation with N2 -fixing legumes , rotation with deep-rooted crops) and stubble-mulch , were recommended because they could utilize NO3- -N from the subsoil , preventlosses of nutrients from leaching. The amount of NO3- -N accumulation and NH4+-N accumulation in vegetable field in 0-2 m soil layer was 1935.03 kg/ ha and 201.8 kg/ ha respectively. The high concentration of residue NO3- -N indicated that the rate of N input should be reduced , and cropping sequence should be adopted to enhance the utilization efficiencyof NO3- -N from the soil at depths below the rooting zone.

【语种】中文

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【学科分类】农学其他学科

【题目】不同施氮水平对春玉米氮素利用及土壤硝态氮残留的影响

【中文关键词】春玉米;氮素利用效率;硝态氮;氮平衡

【英文关键词】spring maize;N utilization eficiency;soil nitrate;N balance

【中文摘要】过量施用氮肥造成的环境问题日益严重,氮肥合理使用成为了人们研究的热点。通过研究不同施氮水平对春玉米氮素利用及土壤硝态氮残留的影响,为氮肥的合理利用提供依据。通过在北京市通州区农业技术推广站进行田间小区试验,研究了不同施氮量(O、50、100、200和300kg.hm-2)对春玉米产量及氮素利用效率、氮平衡和土壤硝态氮累积量的影响。结果表明:(1)春玉米在施氮量为200kg·hm-2时达到最高产量,为9006.4kg.hm-2 ,不同氮肥水平的氮肥利用率在19.7%-25.8%之间,在100 kg.hm-2 时的利用效率最高,达到25.8%。(2)作物吸氮量随输入量的增加而增加,氮盈余主要以土壤残留为主,表观损失在氮盈余中的比例虽小,但随施氮量的增加而增加的趋势更加明显。(3)硝态氮在180cm土层中的累积量随氮素输入量的增加而显著增加,在300kg·hm-2时达到最高值,为195kg·hm-2,在施氮水平为100 kg.hm-2 时作物生长的需要就基本上能够得到满足,而在高施氮水平下(200和300 kg.hm-2)时土壤中的硝态氮出现富集现象,对环境形成一定的威胁。

【英文摘要】The environmental problem caused by excessive use of nitrogen fertilizer is becoming a very important issue and rational use of nitrogen fertilizer has become the focus of concern increasingly.In order to provide evidence for reasonable Use of nitrogen fertilizer,this paper analyzed the effects of nitrogen level on spring maize nitrogen utilization and soil nitrate nitrogen residua1.With 5 level of nitrogen rates(0,50,100,200 and 300 kg · hm-2),this experiment were conducted at Tong zhou District,Beijing.The effects on spring maize production,nitrogen use efficiency,nitrogen balance and nitrate-nitrogen accumulation in soil were discussed in this paper.The results show as following:(1) the highest spring maize yield reached to 9 006.4 kg · hm-2:the nitrogen use efficiency ranged from 19.7% to 25.8% under different rates of nitrogen fertilization,which reached the highest 100 kg.hm-2 when 100 kg · hm-2 was applied; (2)the nitrogen uptake by spring maize increased with the nitrogen fertilizer increasing and surplus nitrogen in soil profile dominated the residual N.Despite apparent nitrogen loss Was a small part of nitrogen surplus,the apparent nitrogen loss significantly increased with the nitrogen fertilizer increasing;(3)The residual Nmin accumulated increased significantly with the nitrogen fertilizer increasing in 180 cm soil profile,which reached to the highest value 195 kg.hm-2 at the rate of300 kg · hm-2 leve1.The nitrogen at the rate of 100 kg · hm-2 could satisfy the spring maize demand.The environment would be threatened when the nitrate Was cumulated in the soil at the rate of 200 and 300 kg · hm-2 .

【语种】中文

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【题目】丛枝菌根真菌和植物寄生线虫的相互作用
【中文关键词】丛枝菌根; 根结线虫; 抗性
【英文关键词】arbuscular mycorrhizal fungi, nematode,resistance
【中文摘要】丛枝菌根是土壤里的一类真菌和植物根系形成的共生体。本文综述了丛枝菌根真菌和植物寄生线虫之间的相互作用, 一般说来, 丛枝菌根真菌可以抑制植物寄生线虫的发生, 而植物寄生线虫也会反过来影响丛枝菌根的侵染和产孢; 并指出了丛枝菌根真菌在不同接种时间、不同接种势、是否土著、以及土壤环境中的磷水平均会对植物寄生线虫产生不同影响。深入研究这些相互关系, 有助于正确理解菌根抗线虫病的作用,从而为其用于生物防治提供理论依据。
【英文摘要】Arbuscular mycorrhizal is a symbiont formed by a type of fungi and plant roots in the soil. This paper reviewed the interaction between the arbuscular mycorrhizal and the plant parasitic nematodes, generally speaking, the arbuscular mycorrhizal fungi can inhibit the occurrence of plant parasitic nematodes while plant parasitic nematodes will influence the arbuscular mycorrhizal infection and sporulation, and it is pointed out that the arbuscular mycorrhizal fungi in different vaccination time, different vaccination potential, whether indigenous,and the level of phosphorus in the soil environment will be different to plant parasitic nematodes.Researching the interaction deeply will be helpful to correct understanding of the role of anti- nematode and to use for biological co
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【题目】含有机硅助剂的阿维菌素微乳剂的研制
【中文关键词】有机硅助剂;阿维菌素;微乳剂;药效;低容量喷雾
【英文关键词】o rganosilicon co2form ulant; abam ectin; m icroem ulsion; eff icacy; low volum e sp ray
【中文摘要】研制了含有机硅助剂的阿维菌素微乳剂,并以常规阿维菌素微乳剂或乳油为对照,从制剂质量技术指标、理化性能及生物学效应等方面进行了评价。所配制的含有机硅助剂(S ilw et 408)的1.8%阿维菌素微乳剂(含质量分数为6%的环己酮、4%的二甲基亚砜、7%的0203B和5%的Silwet408,余量为自来水)不仅达到一般微乳剂的质量要求,阿维菌素热贮分解率为1.12%,有机硅助剂的热贮分解率也低于1% ,而且通过溶剂优化,节约了70%的有机溶剂用量和7%的表面活性剂用量,还比常规微乳剂和乳油的表面张力降低10 mN /m 左右、减小液滴接触角10 ° 以上、增大液滴的扩展面积5 mm2 以上,药液的润湿时间从乳油和常规微乳剂难于润湿降低到1min以内。每公顷7.2 g (有效成分含量)含有机硅助剂的阿维菌素微乳剂对菜青虫的田间防效为96.8% ,显著高于相同剂量的乳油制剂(防效94.5%) ; 特别是低容量喷雾增效更为显著,每公顷3.6g的微乳剂防效为88. 4% ,明显高于同剂量的大容量喷雾(防效82.7%) 。试验结果表明,含有机硅助剂的阿维菌素微乳剂比常规微乳剂或乳油性能更为优越,防效更显著,特别适合于低容量喷雾
【英文摘要】A new form ulation, abamectin microemulsion, was prepared using organosilicon coformulant (Silwet408) .Technical specification, physical-chemical characteristics and biological efficacy of the new formulation was compared with common microemulsion or emulsifiable concentrate (EC) of abamectin. The quality specification of the new formulation [6.0% (W /W) cyclohexanone, 4.0% dimethylsulfoxide, 5.0% Silwet 408,7% 0203B, tapwater were consisted in the optimum formulation] not only met the quality standard of common microemulsion, but also saved 70% solvent and 7% surfactant by optimizing the solvent system. The test of thermal stability showed that the decomposed ratio of abamectin was 1.12%, and that of Silwet 408was below 1.0%, after being stored at (54±2)°Cfor 14 days. The diluted solution of the new preparation showed decreased surface tension by 10 mN /m,reduced contact angle by more than 10 ° , increased spread area by 5 mm2 , and dropped wetting time to less than 1min comparing with common microemulsion or emulsifiable concentrate of abamectin. Field control efficacy of mic- roemulusions containing

Silwet408 against the pest at application rate of 7.2 g (a.i.) / hm2 , was 96. 8% , while that of EC was only 94.5%. When using low volume spray at application rate of 3. 6 g (a. i.) / hm2 , the field control efficacy was 88.4% , higher than that of high volume sprayat the same application rate, which was 82.7%. The trial results suggested that the physical-chemical characteristics and control efficacy of microemulsions containing Silwet 408 was superior to that of common microemulsion or emulsifiable concentrate of abamectin, and it was more suitable to be applied by low volume spray.

【语种】中文
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【题目】大棚生菜平衡施肥研究
【中文关键词】保护地; 肥料利用率; 平衡指数
【英文关键词】green house, fertilizer recovery, balance indexes
【中文摘要】为了探索保护地土壤供肥特点和氮、磷、钾肥施用效应, 以生菜为供试作物, 在北京顺义杨镇松各庄布置了“ 3414 ”平衡施肥试验。结果表明, 施氮210 (kg/hm2)、磷(P2O5) 90 (kg/hm2)和钾(K2O) 150 (kg/hm2)时, 生菜产量最高, 达59967.0 (kg/hm2)。施磷、钾肥对产量无显著影响, 揭示大棚土壤并不缺磷钾。回归分析表明, 氮164 (kg/hm2), 为最佳经济施肥量, 此时生菜产量为59115.8 (kg/hm2)。该田块肥料利用率低, 钾最高只12.0%, 氮肥最高利用率为5.9%, 而磷肥最高也只有5.1%左右。在氮、磷、钾养分平衡指数中最高的钾只有1.73, 最低的磷只有0.27。生产实践中应及时监测土壤养分状况, 合理施肥, 避免资源浪费
【英文摘要】For studying on soil nutrient supply status under greenhouse and effect of N,P,K fertilization on lettuce, a balance fertilization experiment with “ 3414 ” design was carried out on a facility field in Songgezhuang village, Shunyi district of Beijing. The results showed that when N was 210 (kg/hm2), P2O5 was 90 (kg/hm2) and K2O was 150 (kg/hm2), the yield was 59967.0 (kg/hm2), and the phosphorus and potassium fertilizer had no significant influence on lettuce yields, demonstrated that the experimental soil was not lack of available phosphorus, and potassium. Regression analysis indicates that the dose of 164 (kg/hm2) N can give the best economic yield of 59115.8 (kg/hm2). The result also showed that the fertilizer recoveries by lettuce were very low, in which the highest value was potassium with only 12.0%, nitrogen was 5.9% and phosphorus was no higher than 5.1%. In the balance indexes of nutrition for N, P, K, the highest index for K was only 1.73, and the lowest one for P was 0.27. These results also indicated that the recoveries of chemical fertilizer nutrient were very low, so the soil nutrition needs to be monitored regularly, and fertilizing carefully, avoiding from resources waste

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【题目】阴阳型日光温室环境条件初探
【中文关键词】日光温室 温度 阴阳棚 保温
【英文关键词】sunlight greenhouse temperature cool-house insulation
【中文摘要】日光温室具有保温性能好、造价低等特点,在北方地区广大农村得到广泛推广。但其受自然天气条件的影响大,土地利用率不高,使其进一步推广应用受到制约。近年来在一些地区试验推广的阴阳型日光温室具有土地利用率高,阴棚对阳棚具有较好的保温作用,受到多方关注。为了更好地了解这种温室的性能,本文设计了阴阳型日光温室与传统日光温室的对照试验。试验研究表明,在测试期间(2009年3月)阴阳型日光温室阳棚的平均温度比对照温室提高5.9℃,最低温度提高4~7℃;阴棚内温度比室外温度高5℃,基本都保持在7℃以上。在阴棚内种植耐寒作物能够安全生产,且阴棚对阳棚的保

温作用明显。
【英文摘要】Sunlight greenhouse is good at thermal performance and lower in construction cost compared with gutter-connected greenhouse,so it is widely used in China s north areas.As it is a passive solar greenhouse,the thermal performance is closely related to the outside weather condition,and the available cultivation soil is far less than the gutter-connected greenhouse,thus the application is restricted in a certain content In recent year,a kind of sunlight greenhouse with cool-house on its back was developed.The cool house can be used to cultivate cool-tolerance plants and it can also be used as an insulation cover on the unlight greenhouse. In this way, the cultivation soil area is increased and the insulation of the greenhouse is improved. In order to understand and master the environment situation in the greenhouse, a test greenhouse and a reference greenhouse were designed and tested. The investigation results showed that the average temperature is 5.9°C higher and the lowest temperature in everyday is 4~7°C higher in the test greenhouse than the reference greenhouse; the temperature in cool-house was more than 7°C and was 5°C higher than outside temperature during the test period of March 2009. From the results, we can deduce that some cool-tolerant plant can be safely produced in the cool-house and the cool-house has a great contribution on its connected sunlight greenhouse.
【语种】中文
【第一作者】周长吉
【通讯作者】周长吉
【期刊名称、卷期、页码】设施园艺研究新进展——2009中国·寿光国际设施园艺高层学术论坛论文集,2009 :121-126
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【引文索引号】
【学科分类】农学其他学科

【题目】草菇SCAR遗传标记建立及其杂种鉴定应用
【中文关键词】草菇; SCAR; SRAP; 温度梯度; 遗传转化;
【英文关键词】Volvariella volvacea; SCAR; SRAP; temperature gradient; genetic transformation;
【中文摘要】草菇菌丝细胞多核且无锁状联合,缺乏明显的形态标记,遗传育种存在难题。采用SRAP法筛选出亲本单26和亲本单28的遗传差异条带4条,经克隆测序,并根据序列设计的引物优化扩增温度条件后,成功转化成SCAR遗传标记,其中SCAR1与SCAR4为亲单26所特有,SCAR2与SCAR3为亲单28所特有。应用这4个遗传标记,成功地鉴定了菌株2628的杂种性,并将应用于杂种后代单孢分离物的遗传分析等研究,为揭示草菇的性遗传模式提供有效的手段。
【英文摘要】There are multi-nucleus in hypal cells and no clamp-connections in morphology onVolvariellavolvacea . That makes its difficulty to cross breeding. In this study, using SRAP method for screen out different genetic bands between single-spore strain 26 and strain 28, and optimizing temperature conditions of PCR primers designed on sequence of bands, finally, we got four different SCAR genetic markers, which SCAR1 and SCAR4 belong to strain 26 specially, SCAR2 and SCAR3 belong to strain 28 specially. This four SCAR genetic markers have successful identified the hybrid nature of the strains 2628 and will be applied to genetic analysisof hybrid offspring. It reveals the nature of the genetic model of straw mushroom and provides an effective means.
【语种】中文
【第一作者】傅俊生
【通讯作者】谢宝贵
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【学科分类】园艺学

【题目】人工湿地中不同深层基质净化畜禽养殖废水的研究
【中文关键词】垂直流人工湿地;基质;畜禽养殖;净化
【英文关键词】Vertical Flow Wetland, substrates, livestock and poultry breeding, purification
【中文摘要】选用活性炭与炉渣(3∶1)、陶粒和火山岩作为垂直流人工湿地基质,进行不同基质净化畜禽养殖废水的效果研究。结果表明:3种基质对总磷(TP)都有很好净化效果,最大去除率分别得到了99.8%、82.2%和93.3%;三者对浊度也有很强的去除效果,分别得到了99.3%、90.6%和82.8%。活性炭与炉渣混合基质对生物需氧量(COD)和总氮(TN)去除比陶粒和火山岩强,可达到93.2%和68%。在0-5 天这个时间段,模型内污水各项指标降低迅速,随后对废水的净化效果趋于稳定

【英文摘要】Selected activated carbon, slag, ceramsite and volcanic as the substrates of vertical flow wetlands and studied the effect of different substrates on livestock and poultry breeding waste. The results indicate that all of the three substrates had good purification effect on total phosphate (TP), the maximum degradation was 99.6%,79.8% and 92.3% respectively, Three of all had good degradation effect on turbidity and they were 98.5%,90.6% and 82.8% respectively. Among substrates the mixture of activated carbon and slag needed more COD (biological oxygen demand) and had better degradation effect of TN (total nitrogen) than ceramsite and volcanic, they achieved 93.2% and 68%. For the time span from 0 to 5 days, criteria of polluted water reducedquickly then the purification effect of polluted water trended to be stable
【语种】中文
【第一作者】李少朋
【通讯作者】王立刚
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【论文发表时间】2009-03-11 00:00:00
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【学科分类】环境学

【题目】美洲棘蓟马的形态识别与为害
【中文关键词】蓟马科 形态识别 美洲 为害 北京市农林科学院 北美东部 寄主范围 温室作物
【英文关键词】蓟马科 形态识别 美洲 为害 北京市农林科学院 北美东部 寄主范围 温室作物
【中文摘要】美洲棘蓟马于2009年6月在北京市海淀区北京市农林科学院种植的甜椒上发现。经鉴定确认为入侵种类美洲棘蓟马(Echinothrips americanus Morgan)(Mirab—balou et al.,2010;魏书军等,2010)。该虫属缨翅目(Thysanoptera)蓟马科(Thripidae)针蓟马亚科(Panchaetothripinae),原产于北美东部,目前已经入侵扩散至欧洲、泰国和日本等地,寄主范围广,可对温室作物特别是蔬菜造成为害。
【英文摘要】美洲棘蓟马于2009年6月在北京市海淀区北京市农林科学院种植的甜椒上发现。经鉴定确认为入侵种类美洲棘蓟马(Echinothrips americanus Morgan)(Mirab—balou et al.,2010;魏书军等,2010)。该虫属缨翅目(Thysanoptera)蓟马科(Thripidae)针蓟马亚科(Panchaetothripinae),原产于北美东部,目前已经入侵扩散至欧洲、泰国和日本等地,寄主范围广,可对温室作物特别是蔬菜造成为害。
【语种】中文
【第一作者】石宝才
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【学科分类】植物保护学

【题目】韭菜迟眼蕈蚊的识别与防治
【中文关键词】韭菜迟眼蕈蚊,防治,识别,蕈蚊科,双翅目,中草药,韭蛆,为害
【英文关键词】Bradysia odoriphaga yang et zhang
【中文摘要】韭菜迟眼蕈蚊(Bradysia odoriphaga yang et zhang)又名韭蛆,属双翅目蕈蚊科,是我国特有的种类,广泛分布于东北、华北、华中、西北等地,可为害韭菜、葱、蒜、瓜类、莴苣、花卉和中草药等植物。
【英文摘要】韭菜迟眼蕈蚊又名韭蛆,属双翅目蕈蚊科,是我国特有的种类,广泛分布于东北、华北、华中、西北等地,可为害韭菜、葱、蒜、瓜类、莴苣、花卉和中草药等植物。
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【第一作者】石宝才
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【题目】亚致死浓度多杀菌素对西花蓟马解毒酶系活力的影响
【中文关键词】西花蓟马;多杀菌素;亚致死浓度;解毒酶系
【英文关键词】Frankliniella occidentalis; spinosad; sublethal concentration; detoxifying enzymes
【中文摘要】采用亚致死浓度(LC 2 5)多杀菌素对西花蓟马 Franklinie l la o cci denta lis相对敏感(SS)种群进行连续选育,获得亚致死(Sub)种群。处理 36代后, Sub种群对多杀菌素的敏感性下降到 SS种群的 5 . 2倍。用 SS和 Sub种群各自的 LC 10和 LC 25浓度多杀菌素分别处理两种群的 2龄若虫,1、6、 12、24和 48 h后测定羧酸酯酶(C arE)、 谷胱甘肽 S 转移酶 (G ST s)和多功能氧化酶(M FO s)的比活力。结果表明, Sub种群对照组 C arE和 G ST s比活力在除第 48 h外的其他时间段都高于 SS种群对照组,且 6 h时两者 C arE比活力差异显著, Sub种群是 SS种群的 1 . 37倍; Sub种群对照组M FO s比活力在各时间段都高于 SS种群对照组,在 1和 6 h时差异显著, 前者分别是后者的 1. 62和 1. 36倍。再经各自的LC 10和LC 25浓度多杀菌素处理后,在各时间段 Sub种群的 C arE比活力均高于 SS种群; LC 25浓度处理后, Sub种群的 G ST s和MFO s比活力虽在短时间内低于 SS种群,但随处理时间的延长其比活力均高于 SS种群。说明 SS种群经亚致死浓度多杀菌素选育 36代后, 其体内 C arE、G ST s和MFO s比活力有上升趋势;继续用亚致死浓度多杀菌素处理, 则 Sub种群体内解毒酶活力的动态调节能力要强于 SS种群。
【英文摘要】A sublethal strain of western flower thrips (WFT), Frankliniella occidentalis (Sub) was obtained by selecting the relative susceptible strain of WFT (SS) with LC 25 of spinosad. After 36 generations of selection, its sensitivity to spinosad decreased 5.2 fold compared to the SS strain. The second in star larvae o f the SS and Substrains were treated with LC 10 or LC 25 of spinosad and the specific activity of the detoxifying enzymes was deter mined after 1, 6, 12, 24 and 48 h, respectively . The results showed that for the untreated control group the specific activity of the carboxy lesterase (CarE) and the glutathione S-transferase (GST s) in the Sub strain were higher than those in the SS strain except 48 h after treatment. in addition, the difference of CarE activity between the two strains after treatment for 6h was significant, the difference was 1.37 fold . The activity of the mixed function oxidases (MFO s) of the Sub strain were higher than those of the SS strain , and showed significant difference between 1 h and 6 h after treatment The differences were 1.62 fold and 1.36 fold, respectively . For the spinosad treated gro ups a tLC 10 o rLC 25 , the CarE activity in the Substrain was higher than that in the SS strain. The G ST s andM F O s activity in the Substrain was lower than that in the SS strain shortly after treatment by LC 25 of spinosad, but turned to be higher with the tim e prolonged. The results indicated that after the SS strain was selected with sublenthal concentration of spinosad for more than 36 generations , the activity of the detoxification enzymes showed an increasing trend. The Sub strain had stronger ability of regulating the detoxifying enzymes than that of the SS strain when treated with sublethal concentration of spinosad .
【语种】中文
【第一作者】龚佑辉
【通讯作者】吴青君
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【题目】拮抗南方根结线虫PKS基因的筛选及活性评价
【中文关键词】PKS,南方根结线虫,杀线活性,土壤宏基因组文库
【英文关键词】Meloidogyne incognita ; active against nematodes; metagenomic fosmid library
【中文摘要】"土壤环境中蕴藏着巨大的微生物资源,而99%的土壤微生物不能用传统的纯培养。本研究基于西藏米拉山高寒草甸土壤微生物宏基因组Fosmid文库,采用PCR方法从文库中筛选PKS基因,以南方根结线虫(Meloido-gyne incognita)为靶标测定其杀线活性,并验证温室盆栽防效。从Fosmid文库中筛选得到2个含PKS基因的克隆K99和K82。K99属于Ⅰ型PKS,K82属于杂合PKS/NRPS;K99发酵液、热处理发酵液浸泡南方根结线虫J2 12 h后,杀线活性为100%。温室盆栽防效结果表明,K99的发酵菌液对南方根结线虫的防效为89%。K99能产生一种外分泌有杀线活性的物质,其热稳定性好,具有重要的开发利用价值。
【英文摘要】Microorganisms dominate the soil ecosystem, but their roles are unclear due to the limitations associated with the uncultivability of at least 99% o f the microorganisms. Clones containing PKS KS domain we e screened by PCR method from a soil

Fosmid metagenomice library from Tibet Mila Mountain, and the actives of PKS clones against root - knot nematodes were also identified according to control efficiency in plots in greenhouses. The results showed that two clones (K99 and K82) containing PKS were obtained, of which K99 was type PKS and K82 the hybrid PKS/ NRPS. The control effects o f crude zymotic fluid and heat treatment fermentation liquid of K99 clone on J2 of root - knot nematode in 12 hours was 100%, and the control efficiency in plots in greenhouse s to nematode w as 89%. Clone K99 produced some active substances that could kill root - knot nematode and had a property of thermal stability. Therefore it was well worth exploiting and utiliz ing.

【语种】中文
【第一作者】罗坤
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【题目】西藏米拉山土壤微生物PKS基因和NRPS基因系统发育分析
【中文关键词】聚酮合成酶,非核糖体多肽合成酶,土壤,西藏米拉山草甸
【英文关键词】polyketide synthase; nonribosomal peptide synthetase; soil; meadows of Mila Mountain in Tibet
【中文摘要】"为了解西藏米拉山草甸土壤中的聚酮合成酶(PKS)基因和非核糖体多肽合成酶(NRPS)基因多样性,采用直接提取土壤总DNA,PCR扩增Ⅰ型PKS基因KS域和NRPS基因A域,并在NCBI进行Blast比对,分析其系统进化发育.得到27个PKS基因KS片段,经NCBI比对,主要来自蓝细菌(Cyanobaeteria)、α-和γ-变形菌(Proteobaeteria)和不能培养的微生物,得到NPRSA片段32个,主要属于变形菌门、蓝细菌门等.
【英文摘要】The modular polyketide synthase(PKS) and nonribosomal peptide synthetase(NRPS) were found to be involved in natural product synthesis in many microorganisms. Study on their diversities in natural environment may provide important ecological insights besides opportunities for antibacterial drugs development. The phylogenetic analysis of amino acid(AA) sequences indicated that the identified ketosynthase(KS) domains were clustered with those from diverse bacterial groups, including Cyanobaeteria, Proteobaeteria and some uncultured symbiotic bacteria. The NRPS included Cyanobaeteria and Proteobaeteria. One new branch belonging to hybrid PKS/NRPS enzyme complexes and five independent clades were found on the phylogenetic tree. These results revealed the great diversity and novelty of both PKS and NRPS genes from Mila Mountain in Tibetan Plateau.
【语种】中文
【第一作者】罗坤
【通讯作者】谢丙炎
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【题目】南方根结线虫促分裂原活化蛋白激酶(MAPK)基因的R NAi效应分析
【中文关键词】南方根结线虫;卵块;促分裂原活化蛋白激酶(MAPK);RNAi
【英文关键词】Meloidogyne incognita;eggs mass;mitogen—activated protein kinase(MAPK);RNAi
【中文摘要】促分裂原活化蛋白激酶(mitogen—activated protein kinase,MAPK)在线虫的生长发育等方面具有重要作用,本研究探索利用RNAi技术沉默南方根结线虫mapk-j基因来抑制线虫的生长发育。根据mapk-1基因的cDNA序列设计引物,通过体外转录合成约550 bp的dsRNA对南方根结线虫的卵进行RNAi以沉默mapk-1基因。试验结果表明,将南方根结线虫的卵块浸泡在含有2 mg/mL dsRNA的M9缓冲溶液中,24 h后卵块孵化出的2龄幼虫数量明显多于对照组(无dsRNA),但孵化出的幼虫死亡率高达90%,而对照组的死亡率低于5%,说明mapk-1基因的沉默抑制了卵块的孵化和线虫的生长,同时将孵化的幼虫接种番茄,14 d后番茄根部无根结产生,35 d后无卵块产生;而浸泡72 h后卵块孵化出的2龄幼虫几乎全部死亡,并且孵化的线虫数量明显少于对照。提取导入dsRNA的卵块的RNA进行半定量PCR分析,结果表明mapk-1基因的mRNA被降解。
【英文摘要】Mitogen—activated protein kinase(MAPK)plays an important role in development of nematode.Byusing RNA interference technique,controlling was studied the expression of mapk-1 .Primers were designed based on the cDNA sequence of

mapk-1 and a dsRNA about 550 bp was synthesized by vitro transcription to soak the egg masses of Meloidogyne incognita.The results showed that the amount of J2 in egg masses treated with 2 mg/mL dsRNA for 24 hours was significantly greater than that in control group,but the mortality rate in treated group was reached 90% ,however,the value in control group was not more than 5% .In addition,the tomato roots had no knot at 14 days postinfection(dpi)and no egg mass at 35 dpi when inoculated the J2. When egg masses were soaked in 2 mg/mL dsRNA for 72 hours,the morality rate of J2 was almost 100% and the amount of J2 was markedly less than control group.RT—PCR an alysis showed lower tran script abundance for the targeted mRNAs than contro1.

【语种】中文
【第一作者】陈国华
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【题目】南方根结线虫M i-flp-16基因的克隆及原位杂交分析
【中文关键词】南方根结线虫; FLP基因; 基因克隆; 原位杂交
【英文关键词】M eloidogyne incogn ita; FLP gene; Gene cloning; In situ hybridization
【中文摘要】以南方根结线虫2龄幼虫为材料, 根据已知南方根结线虫f lp基因的EST序列设计引物, 利用末端快速扩增法(RACE) 获得FLP基因Mi-flp-16的cDNA全长(GenBank登录号为EU549831) 。该基因全长690 bp, 包括一个528 bp的完整开放阅读框(ORF) , 编码一条176个氨基酸残基的多肽。序列分析表明Mi-flp-16编码3个FLP肽, 即2 个AQTFVRF和1 个GQTFVRF。原位杂交结果显示此基因表达位置在围喉神经环。
【英文摘要】To clone and characterize the encoding FMRFamid-like pep tides genes from M eloidogyneincogn ita, total RNA was extracted from the J2 nematodes. One gene was obtained by RACE and named M i-f lp-16 (GenBank: EU549831). The full length cDNA sequence of M i-f lp-16 was 690 bp, with a 528 bp ORF and encoding a 176 amino acids protein. The protein has three FLPs, including two AQTFVRF and one GQTFVRF. Using in situ hybridization technique to detect the exp ression of M i-f lp-16, found that it was expressed in neurones associated with the circumpharyngeal nerve ring.
【语种】中文
【第一作者】王天阳
【通讯作者】谢丙炎
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【学科分类】植物保护学

【题目】Ras蛋白信号途径及其对线虫生长发育的调控作用
【中文关键词】Ras蛋白 信号传导途径 调控作用 突变体RTK
【英文关键词】Ras protein Signal transduetion pathway Regulation Mutant RTK
【中文摘要】Ras蛋白是一个分子质量为21 kD左右的单体GTP酶,具有两种构象:GTP结合构象(Ras.GTP)及GDP结合构象(Ras.GDP),这两种构象在一定备件下可发生互变。由生长因子介导的Ras信号传导途径是诸多信号途径中与细胞增殖、分化密切相关的重要信号途径。受体型TPK/Ras/MAPK信号转导途径是是目前研究的最为清楚的受Ras蛋白调节的信号传导途径,该途径包括受体型酪氨酸蛋白激酶(RTK)、接头蛋白、鸟苷酸释放因子(GNEF)、Ras蛋白以及MAPK级联反应体系。目前,TPK/Ras/MAPK信号转导途径在秀丽杆线虫(Caenorhabolitis elegans中研究的最为清楚:Ras信号途径对于许多发育进程是必需的,包括阴门、子宫、交合刺、Pl2以及排泄管细胞的诱导分化;控制着性肌原细胞迁移、轴突导向;对细胞减数分裂粗线期具有促进作用。对C.elegans的研究加深了对TPK/Ras/MAPK信号途径结构、突变体表型以及与其他信号途径的互作的了解,将会促进Ras信号途径对植物寄生线虫调控作用的研究。
【英文摘要】Ras protein is a single GTPase that cycles between an inactive GDP—bound state,and an active GTP—bound state,and its molecule weight is about 2 1 kD.TPK/Ras/MAPK signal transduction pathway regulated by Ras protein has been well studied,including receptor tyrosine kinase(RTK),adaptor protein,guanine nucleotide exchange factors(GNEF),Ras protein and

mitogen activated protein kinase(MAPK)cascade reaction system.In Caenorhabditis elegans,it is clear that TPK/Ras/MAPK pathway is required for multiple developmental events,including induction of vulval,uterine,spicule,P1 2 and excretory duct cell fates,control of sex myo—blast migration,axon guidance,and promotion of germline meiosis.Studies of C.elegans have provided insight into the basic framework of this RTK/Ras/MAPK signaling pathway,the phenotype of its mutants,and how interacts with other signaling pathways,all of whichwould promote the researches on plant parasite nematodes.

【语种】中文
【第一作者】张玉
【通讯作者】谢丙炎
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【题目】南方根结线虫伴生细菌宏基因组fosmid文库构建及其特征分析
【中文关键词】南方根结线虫; fosmid文库; 伴生细菌; 互作关系; 多样性
【英文关键词】M eloidogyne incognita; fosmid library; associated bacteria; interaction; diversity
【中文摘要】为了研究南方根结线虫与伴生细菌的互作及其伴生细菌多样性,采用碘海醇介质离心技术、SDS裂解法和酚/氯仿抽提法等构建了南方根结线虫M eloidogyne incognita伴生细菌宏基因组fosmid文库,并进行文库特征分析。结果表明,该文库包含3万个克隆,插入片段大小分布在30~45kb之间,平均长度为40kb左右;共计包含1171Mb DNA;质粒在fosmid传代中稳定遗传,没有发现插入片段的丢失或重排。末端测序结果显示, 文库中南方根结线虫序列占2.04% , 细菌序列占44.90% ,无同源序列占53.06%;南方根结线虫伴生细菌优势种群为Sphingopyx is属和代尔夫特菌属Delftia。
【英文摘要】In order to study the diversity of M eloidogyne incognita associated bacteria, and analyze theinteraction between M. incogn ita and associated bacteria, a fosmid library of genome of M. incognita asso2ciated bacteria has been constructed by the ways of Nycodenz centrifuge, sodium dodecyl sulfate (SDS) lysis and phenol chloroform extracting methods. The results of features analysis indicate that the library consists of 30 000 clones; the length of insertion element is between 30-45 kb, and the average length is about 40 kb; the total size of the fosmid library is estimated to 1171Mb. The insert DNA was stable during the propagation in the fosmid system. The results of end sequencing indicate that the percentage of the M. incognita sequence was 2. 04%, the bacterium sequence was 44. 90% , the sequenceswithout significant similaritywas 53. 06%; Sph ingopyxis and Delf tia were dominant communities of M. incognita as sociated bacteria.

【语种】中文
【第一作者】张玉
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【学科分类】植物保护学

【题目】植物抗线虫基因工程研究进展
【中文关键词】植物寄生线虫;抗线虫基因工程;抗线虫基因; RNAi
【英文关键词】Plantparasitic nematode; Genetic engineering for nematode resistance; Nematode resistance gene; RNAi
【中文摘要】植物寄生线虫是一类世界性分布的植物病原物,其种类繁多,环境适应性强,每年给世界农业造成巨大的经济损失。大部分植物寄生线虫具有特定的寄生策略,能够诱导根细胞分化形成专门的取食结构来完成自身的生长发育和繁殖等,因此防治困难。随着植物与寄生线虫之间相互作用机制的深入研究以及遗传技术的日趋成熟,利用基因工程方法防治线虫病害也有了许多新策略。重点论述了近年来植物抗线虫基因工程的研究进展及其在分子抗病育种中的应用。
【英文摘要】Plant parasitic nematodes are major pathogen of world agriculture, which cause heavy economy losses every year. Most of plant parasitic nematodes employ an advanced parasitic strategy in which they induce redifferentiation of root cells to form specialized feeding structures in order to support nematode growth. The development of genetic technology and clarifying the mechanism for interaction between plants and nematode provide new ways for engineered resistance against p lant2parasitic

nematodes. The advances in plant genetic engineering for nematode resistance and their application in plant disease2resistance breeding were reviewed.
【语种】中文
【第一作者】罗亚丹
【通讯作者】谢丙炎
【期刊名称、卷期、页码】安徽农业科学,38 (11) : 5716 - 5718
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【引文索引号】
【学科分类】植物保护学

【题目】SSR data mined from expressed sequence tags of phytoparasitic nematodes.
【中文关键词】microsatellites, expressed sequence tags, plant parasitic nematodes
【英文关键词】microsatellites, expressed sequence tags, plant parasitic nematodes
【中文摘要】SSR markers have become the most popular resource for studying population genetic variation in eukaryotes. However, few studies with SSR markers have been carried out with phytoparasitic nematodes. In this study a primary survey on EST-SSRs was made utilizing bioinformatics methods to derive SSRs from expressed sequence tags (ESTs) of 16 species of PPN, which belong to 7 genera and 5 families. The results showed that trinucleotide repeats were the most abundant SSRs in coding ESTs, while tetranucleotide SSRs were predominant in non-coding ESTs and genome sequences. AG/CT, AAC/GTT and (AAAN)n motifs were predominant, and CG/GC, ACT/AGT motifs were scanty in the ESTs of most genera and species. SSRs were more abundant in non-coding ESTs than in coding ESTs. The distribution frequencies of SSR motifs in coding ESTs, non-coding ESTs and genomes are different. Our results will provide useful information for screening SSRs from each genus and species for further genetic study of phytoparastic nematodes.
【英文摘要】SSR markers have become the most popular resource for studying population genetic variation in eukaryotes. However, few studies with SSR markers have been carried out with phytoparasitic nematodes. In this study a primary survey on EST-SSRs was made utilizing bioinformatics methods to derive SSRs from expressed sequence tags (ESTs) of 16 species of PPN, which belong to 7 genera and 5 families. The results showed that trinucleotide repeats were the most abundant SSRs in coding ESTs, while tetranucleotide SSRs were predominant in non-coding ESTs and genome sequences. AG/CT, AAC/GTT and (AAAN)n motifs were predominant, and CG/GC, ACT/AGT motifs were scanty in the ESTs of most genera and species. SSRs were more abundant in non-coding ESTs than in coding ESTs. The distribution frequencies of SSR motifs in coding ESTs, non-coding ESTs and genomes are different. Our results will provide useful information for screening SSRs from each genus and species for further genetic study of phytoparastic nematodes.
【语种】英文
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【通讯作者】谢丙炎
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【学科分类】植物保护学

【题目】Life history of western flower thrips, Frankliniella occidentalis (Thysan., Thripae), on five different vegetable leaves
【中文关键词】西花蓟马,生活史,蔬菜叶片
【英文关键词】Frankliniella occidentalis, life history, vegetable leaves
【中文摘要】西花蓟马在5种不同蔬菜(黄瓜Cucumis. sativus L.品种为中农8号、甘蓝Brassica oleracea L.京丰1号、甜椒Capsicum. annuum L.中椒5号、菜豆Phaseolus vulgaris L.供给者和番茄Lycopersicon esculentum M.中杂9号)叶片上的生物学特性表现明显差异。总体上,西花蓟马在黄瓜叶片上的表现最好:发育历期最短、净增殖率和种群增长指数最高,相反在辣椒上的表现最差。西花蓟马在黄瓜、甘蓝、菜豆、辣椒和番茄上从卵到成虫的发育历期分别为9.22 ± 0.13、10.19 ± 0.08、10.42 ± 0.06、12.15 ± 0.07和 12.91 ± 0.04天,在黄瓜、甘蓝和番茄上的存活率较高,为75%-80%,而在辣椒上仅50%发育到成虫。西花蓟马在甘蓝上的繁殖能力最强,平均每雌的一龄若虫数达76.62 ± 11.79头,在黄瓜上的产卵速率最快,平均每雌每天

的若虫数为6.12 ± 1.81头,而在辣椒上繁殖能力和产卵速率都最低,分别仅7.67 ± 3.35和1.89 ± 0.91。西花蓟马在黄瓜上的内禀增长率最高,达到0.208,在甘蓝、菜豆、番茄和辣椒上内禀增长率分别为0.184、0.164、0.100和0.017。

【英文摘要】Biological characteristics of western flower thrips, Frankliniella occidentalis (Pergande) (Thysan., Thripae), were investigated on excised leaves of five vegetables: cabbage (Brassica oleracea L. var. Jingfeng 1), cucumber (Cucumis sativus L. var. Zhongnong 8), capsicum (Capsicum annuum L. var. Zhongjiao 5), kidney bean (Phaseolus vulgaris L. var. Gonggeizhe) and tomato (Lycopersicon esculentum M. var. zhongza 9). The developmental time from egg to adult on the cucumber, cabbage, bean, capsicum and tomato leaf was 9.22 ± 0.13, 10.19 ± 0.08, 10.42 ± 0.06, 12.15 ± 0.07 and 12.91 ± 0.04 days, respectively. Survivorship of immatures on cucumber, cabbage and tomato was high (75 – 80%) but low on capsicum (50%). The total number of first instars produced was highest on cabbage (76.62 ± 11.79), while the daily first instar production was highest on cucumber (6.12 ± 1.81), whereas the total and daily first instar production rates were lowest on capsicum (7.67 ± 3.35 and 1.89 ± 0.91). F. occidentalis had the highest intrinsic rate of increase (rm) on cucumber (0.208), followed by cabbage (0.184), bean (0.164), tomato (0.100) and capsicum (0.017). The results indicate that cucumber was the most suitable host plant for F. occidentalis, whereas capsicum was the least suitable.

【语种】英文

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【通讯作者】吴青君

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【学科分类】植物保护学

【题目】光合细菌PSB07-15对水培黄瓜体系中甲氰菊酯污染的生物修复

【中文关键词】甲氰菊酯;沼泽红假单孢菌PSB07-15;水培黄瓜;生物修复

【英文关键词】fenpropathrin; Rhodopseudomonas palustris PSB07-15;hydroponic cucumber;bioremediation

【中文摘要】为了探索光合细菌PSB07-15降解甲氰菊酯的应用潜力,在实验室研究了光合细菌PSB07-15对水培黄瓜体系中的甲氰菊酯污染的生物修复效率。研究结果表明:培养30 d,光合细菌PSB0-15对黄瓜营养液中100 mg · L-1甲氰菊酯降解率达到47.63%,黄瓜中甲氰菊酯降解率达59.73%。光合细菌PSB07-15可以显著使黄瓜的根长和生物量增加,而黄瓜的根活力以及根H2O2酶活力增加并不显著。本研究工作为利用光合细菌的生物修复提供了理论依据。

【英文摘要】The bioremediation efficiency of fenpropathirn by photosynthetic bacterial strain PSB07-15 in hydroponic cucumber system was evaluated in lab, for actual application of bioremediation by photosynthetic bacterium. The results showed that the strain PSB07-15 could degrade fenpropathrin effectively in hydroponic system. Fenpropathrin was degraded, up to 47.63% at the level of 100 mg · L-1 by the strain PSB07-15 in hydroponics nutrient solution and degraded, up to 59.73% at day 30. The strain PSB07-15 significantly enhanced root-length increment and biomass increment but not the root activity value and root catalase activity value of cucumber. The results indicated this strain PSB07-15 may have an important role in bioremediation in agricultural practice.

【语种】中文

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【学科分类】植物保护学

【题目】甲氰菊酯对蔬菜土中微生物数量的影响

【中文关键词】甲氰菊酯;微生物;蔬菜土;降解

【英文关键词】fenpropathrin; microorganism; vegetable soil; degrade

【中文摘要】在模拟的土壤生态系统中研究了甲氰菊酯对蔬菜土中微生物数量的影响。结果表明:低浓度甲氰菊酯对蔬菜土中微生物数量影响不大,高浓度甲氰菊酯短期内,对土壤微生物具有抑制作用,17 天后恢复至对照水平。土壤微生物30天对土壤中120 mg/kg的甲氰菊酯的降解率为37.71%。

【英文摘要】The effects of fenpropathrin on vegetable soil microbial population was investigated in a microcosm mimicking soil ecosystem. The results showed that the microbial population was slightly inhibited by fenpropathrin at low concentration, but significantly at high concentration. The vegetable soil microorganism could degrade 120 mg/kg fenpropathrin up to 37.71% in 30 d.
【语种】中文
【第一作者】张战泓
【通讯作者】刘勇
【期刊名称、卷期、页码】中国农学通报
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【题目】Genetic Mapping of the Scab Resistance Gene in Cucumber
【中文关键词】黄瓜;黑星病;SSR标记;分子标记辅助选择
【英文关键词】Cucumis sativus, Ccu, SSR, marker-assisted selection, MAS
【中文摘要】利用SSR标记将黄瓜抗黑星病基因定位在黄瓜第二染色体,获得了可以用于分子标记辅助选择育种的SSR标记。
【英文摘要】Scab, caused by Cladosporium cucumerinum Ell. et Arthur, is a prevalent disease of cucumber (Cucumis sativus L.) worldwide. Scab can cause serious losses for cucumber production, especially in protected culture such as high tunnel production. Resistance to cucumber scab is dominant and is controlled by a single gene, Ccu. Breeding for resistant cultivars is the most efficient way to control the disease. Selection for resistance might be made easier if the gene were mapped to linked markers. Thus far, there are no tightly linked (genetic distance less than 1 cM) simple sequence repeat (SSR) markers for the Ccu gene, and no studies on mapping of the Ccu gene in cucumber using SSR markers. The objective of this study was to identify SSR markers for use in molecular breeding of scab resistance. In this study, we used a population of recombinant inbred lines (RILs). The population included 148 ndividuals derived from the cucumber inbred line 9110 Gt (Ccu Ccu) crossed with line 9930 (ccu ccu). The Ccu gene was mapped to linkage group 2, corresponding to chromosome 2 of cucumber. The flanking markers SSR03084 and SSR17631 were linked to the Ccu gene with distances of 0.7 and 1.6 cM, respectively. The veracity of SSR03084 and SSR17631 wastested using 59 diverse inbred lines and hybrids, and the accuracy rate for the two markers was 98.3%. In conclusion, two SSRs closely linked to scab resistance gene Ccu have been identified and can be used in a cucumber breeding program.
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【第一作者】张圣平
【通讯作者】顾兴芳
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【学科分类】园艺学

【题目】Effect of spaceflight duration of subcellular morphologies and defense enzyme activities in earth-grown tomato seedlings propagated from space-flown seeds
【中文关键词】番茄,太空飞行,亚细胞,酶活
【英文关键词】tomato,spaceflight,subcellular morphologies,defense enzyme activities
【中文摘要】比较没经过太空辐射的种子, 在平号空间站经过6年长期飞行的种子和在卫星上经过27天短暂飞行的种子的亚细胞结构和酶活的变化, 一些经过和平号空间站搭载的植株的第一代,部分叶绿体片层结构变得弯曲和松散,部分线粒体的外膜被打破。一些经过卫星搭载的植物,线粒体数目增加,部分叶绿体片层的结构变得弯曲和松散,部分线粒体嵴消失。与地面的对照植株相比, 平号空间站搭载的植株的第一代,第二代,第三代和卫星搭载的植株中叶绿体中淀粉粒的平均数都增加了,但这种差异并不显著。与地面对照相比,经过平号空间站搭载的植株和经过卫星搭载的植株的叶片细胞中的叶绿体数量显著增加。经过卫星搭载的植株中氧化物歧化酶(SOD),过氧化物酶氧化物歧化酶(POD)和过氧化氢酶(CAT)这三种防御性酶活性显著高于地面对照和经过空间站搭载的植株中的这三种酶的活性,但丙二醛含量(MDA)含量则显着下跌。SOD、POD和CAT的酶活和MDA含量在变异系数,以在和平号空间站搭载过的植株最大。经过和平号空间站搭载的第

一,第二和第三代的植株的三种防御性酶的变异系数都高于地面对照植株。一些经过和平号空间站搭载的植株防御酶的活性显著增加。

【英文摘要】Subcellular changes and enzymes activities were compared between Earth-grown plants from the original tomato seeds, 6-year long-term flown in the Mir Station and 27-day short-term flown in the satellite. In some first generation Mir-flown plants, the lamellae ’s structure of some chloroplasts became curved and loose, and some mitochondrial outer membranes were broken. In some satellite-flown plants, the number of mitochondria increased, the lamellae ’s structure of some chloroplasts became curved and loose, and some mitochondrial cristae disappeared. The number of starch grains per chloroplast in first generation, second generation, third generation Mir-flown plants and satellite-flown plants increased significantly compared with the ground control, but the difference between the number of starch grains per chloroplast in Mir-flown plants (include three generations) and satellite-flown plants was not significant. The number of chloroplasts per leaf cell in Mir-flown plants and satellite-flown plants increased significantly compared with the ground control. The activities of three defense enzymes supperoxide dismutase (SOD), peroxidase dismutase (POD) and catalase (CAT) in the satellite-flown plants increased significantly as compared with those of the ground controls and the Mir-flown plants, but the content of malondialdehyde (MDA) decreased significantly. Coefficients of variation of the activities of SOD, POD, CAT and the content of MDA in the satellite-flown plants were lest, and those in the Mir-flown plants were maximum. Coefficient of variation of the activities of SOD, POD, and CAT in the first, second and third generation Mir-flown plants were more than that in the ground control. The activities of defense enzyme in some Mir-flown plants increased significantly.

【语种】英文

【第一作者】鹿金颖

【通讯作者】刘敏

【期刊名称、卷期、页码】Russian Journal of Physical Chemistry B、3 (6)、981-986

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【引文索引号】10.1134/S1990793109060190

【学科分类】园艺学

【题目】1,3-Dichloropropene Distribution and Emission after Gelatin Capsule Formulation Application

【中文关键词】无

【英文关键词】1,3-Dichloropropene; distribution; emission; leaching; gelatin capsule

【中文摘要】无

【英文摘要】The gelatin capsule (gel cap) formulation of 1,3-dichloropropene (1 ,3-D) was developed as a potential means of reducing 1,3-D emissions. The objective of this study was to determine the distribution, emission, and leaching of 1,3-D after applying the gel cap in soil columns. Comparable 1,3-D soil gas concentrations were obtained between a conventional liquid injection control and the gel cap application with film treatment. When the soil surface was irrigated with 39.6 mm water per day during the first 4 days, 1,3-D soil gas concentration was higher than the film treatments at depths below 20 cm, but lower concentrations were observed at 0一15 cm depth. The application of 1,3-D gel cap relatively reduced total 1,3-D emission by about 41%compared to liquid injection with film cover, and total 1,3-D emission was only 0.13% for 1,3-D gel cap application with 4 days ofirrigation without a tarp. The results indicated that 1,3-D gel cap could be a promising new technology for reducing environmental emissions and potential human exposure.

【语种】英文

【第一作者】Qiuxia WANG

【通讯作者】Qiuxia WANG

【期刊名称、卷期、页码】Journal of Agricultural and Food Chemistry;58(1):361-365

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【引文索引类型】SCI

【引文索引号】无

【学科分类】植物保护学

【题目】空间环境诱变甜椒基因组DNA变异的分子检测

【中文关键词】甜椒; 空间环境; DNA变异

【英文关键词】sweet pepper; space environment; DNA variation
【中文摘要】为明确空间环境对甜椒后代的诱变影响,本研究以空间诱变的甜椒第4代及其地面对照为主要研究材料,采用RAPD技术对二者的基因组DNA进行了扩增分析,并对部分差异片段进行了测序。结果发现:空间诱变的甜椒后代与其地面对照变异情况相比,SP4的基因组DNA发生了变异,共检测出8个多态性位点,在对照和变异体中各扩增出4个位点。对其中2条特异片段进行回收测序,序列同源性为97%。研究认为空间环境条件可以诱导甜椒后代植株基因组DNA发生变异。
【英文摘要】To study effects of space environment on genomic DNA variation in the offsprings of sweet pepper,the 4th offspring and its ground control were used as materials.The genomic DNA variation was detected by random amplified polymprphic DNA(RAPD),parts of the different fragments were sequenced.The results showed that the genomic DNA of SP4 after space mutation changed compared to the ground control.Eight polymorphic bands were detected.Four polymorphic bands were amplified in the ground control and variant separately.Two special fragments were sequenced and sequence homology was 97% .So space environment could induce the changes of the genomic DNA in the offsprings of sweet pepper
【语种】中文
【第一作者】谢立波
【通讯作者】郭亚华
【期刊名称、卷期、页码】核农学报
【论文发表时间】2010-03-01 00:00:00
【引文索引类型】其他
【引文索引号】1000-8551(2010)02-0254-05
【学科分类】园艺学

【题目】空间诱变甜椒后代的花粉粒超微结构观察
【中文关键词】甜椒; 空间环境; 花粉粒; 超微结构
【英文关键词】sweet pepper; space environment; pollen grain; ultrastructure
【中文摘要】本文用空间诱变后经连续4代自交授粉获得的变异体(SP06-31)和其对照L06-30为材料,评估材料的花粉生活力和扫描电镜下的花粉粒超微结构。结果发现:与对照相比,部分花粉粒表面附有不确定颗粒物,同时一部分花粉粒形状发生变异。研究认为空间环境条件可以导致甜椒后代植株花粉粒的超微结构发生改变。
【英文摘要】The mutant SP06-31,which was obtained by the four generations of continuous self pollination,and its control L06-30 were used as materials in this study.The experiment was conducted to study the viability and ultrastructure of pollen grains by scan electron microscopy.compared to the control,the surface of parts of pollen grains had uncertain particulate matter,and the shape of pollen also changed.These results indicated that space environment could cause the changes of pollen grain of sweet pepper offspring. 更多
【语种】中文
【第一作者】郭亚华
【通讯作者】谢立波
【期刊名称、卷期、页码】核农学报
【论文发表时间】2010-01-01 00:00:00
【引文索引类型】其他
【引文索引号】1000-8551(2010)01-0046-04
【学科分类】园艺学

【题目】甜椒花药培养抑菌试验分析
【中文关键词】甜椒; 花药培养; 污染; 药剂; 抑菌
【英文关键词】sweet pepper; anther culture; contamination; reagents; bacterial inhibitaion
【中文摘要】以2种甜椒基因型为试验材料,采用4种药剂(包括两种抗生素和两种杀菌剂)9个不同水平处理,研究其对甜椒花药培养的花药膨大率、花药污染率、花药褐化率和胚状体发生率的影响。研究结果表明0.5~1.0 ml/L山农一号Ⅲ对甜椒花药污染抑制效果较好,对胚状体发生抑制最小,可以应用于甜椒花培实验。 更多还原
【英文摘要】Two sweet pepper genotypes were analyzed by 4 kinds of reagents on 9 different levels,including 2 antibiotics and 2 bactericides.Effects of them on anther swelling,contamination,browning and embryopro duction were detected.Results indicated that 0.5~1.0 ml/L Shan Nong Yi Hao IIIw as good at controlling anther contamination and embryo production,which could be used for sweet pepper anther culture. 更多还原

【语种】中文
【第一作者】张晓芬
【通讯作者】耿三省
【期刊名称、卷期、页码】中国农学通报
【论文发表时间】2009-02-10 00:00:00
【引文索引类型】其他
【引文索引号】2009-25(05)-43-47
【学科分类】园艺学

【题目】3个辣椒花药培养再生株群体主要农艺性状及苗期抗病性研究
【中文关键词】辣椒; 花药培养; DH群体; 农艺性状; 抗病性
【英文关键词】Capsicum annuum L.; Anther culture; DH population; Agronomic traits; Virus resistance
【中文摘要】对3个辣椒花药培养再生株DH-R2群体的主要农艺性状,包括株高、株幅、首花节位、叶色、单果质量、商品果横径、商品果纵径、果形指数、老熟果色等进行了较详细的测量和统计分析。结果表明:辣椒花药培养再生株群体的农艺性状存在基因型偏性;再生株群体的单果质量、商品果纵径、果形指数这3个性状都表现为低于供体,株高、株幅、首花节位、商品果横径这4个性状都表现为近似于供体;通过单倍体培养途径可以得到不同颜色层次的老熟果色的辣椒纯系,证明了该途径是多基因控制性状育种的有效途径;对耐TMV和CMV的亲本与感病亲本的杂种进行花药培养,获得了兼具TMV和CMV抗性的株系,证明了单倍体培养途径可以创造新的超亲抗病种质。 更多还原
【英文摘要】Measurement and statistic analysis were taken for the main agronomic traits and virus resistance in 3 double haploid(DH) population derived from anther culture of Capsicum annuum L.Results showed that genotype leaning was existed for the main agronomic traits in the DH population.Data of single fruit weight,longitudinal diameter of fruit,fruit shape index were lower than that of donor plant.Data of plant height,plant breadth,the number of leaves below the first flower bud,transverse diameter of fruit were close to the donor plant.It was proved that homozygous lines with various hiberarchy colored mature fruits could be obtained by DH inducing,and this is a powerful pathway in the new variety breeding for multigene controlling traits.One DH line with high resistance to both TMV and CMV was screened out from the population derived from the hybrid donor plant whose parents were sensitive or tolerant to the both viruses.This result proved that ideal lines with excelled traits could be got in the DH population.These results were utlizable for reversely guiding the choice of donor plant,predicting the phenotype of the regenerated plants,increasing the ratio of aimed plants and so on,which was very significant for the application of anther culture in the breeding of pepper
【语种】中文
【第一作者】陈斌
【通讯作者】耿三省
【期刊名称、卷期、页码】华北农学报
【论文发表时间】2010-01-01 00:00:00
【引文索引类型】其他
【引文索引号】2010-25(1)-231-238
【学科分类】园艺学

【题目】茄子新品种‘农大601’
【中文关键词】茄子; 中早熟; 圆茄; 品种;
【英文关键词】eggplant; mid-early; round eggplant; cultivar
【中文摘要】‘农大601’是以03-621为母本,03-151为父本配制而成的优质、高产、中早熟黑圆茄一代杂种,始花节位8~9节;株形紧凑,生长势强,性状整齐一致,坐果早,膨果快,连续坐果能力强,平均单果质量500g以上;果皮黑亮,着色均匀;果肉紧实,细嫩少籽,商品性状优良;丰产性好,产量达75~105t · hm-2;适于春大棚及露地栽培。
【英文摘要】‘Nongda 601’is a new mid-early eggplant hybrid which has tight plant shapes and high constant fruit setting.The hybrid came from 03-621 × 03-151.The fruit is oblate-shaped and bright black,which has a few seed and a delicate flavour.The average single fruit mass is above 500 g .Its yield is up to 75 – 105 t · hm-2.It is suitable for protected cultivation and open field cultivation in spring. 更多还原
【语种】中文
【第一作者】陈雪平

【通讯作者】申书兴
【期刊名称、卷期、页码】园艺学报
【论文发表时间】2010-05-01 00:00:00
【引文索引类型】其他
【引文索引号】2010-37(5)-855-856
【学科分类】园艺学

【题目】60Co-γ辐射对番茄离体子叶再生及不定芽分化的影响
【中文关键词】60Co-γ辐射; 番茄; 子叶; 愈伤组织; 分化
【英文关键词】60Co-γ irradiation; Tomato; Cotyledon; Callus; Differentiation
【中文摘要】用0~100 Gy的60Co-γ射线对番茄品种‘1479’的组培无菌苗子叶进行辐射,研究60Co-γ辐射对番茄组织培养中外植体分化的辐射效应。结果表明:60★Co-γ射线辐射‘1479’子叶后,其出愈率、胚性愈伤诱导率和胚性愈伤的分化情况受到显著的影响。高辐射剂量(>50 Gy)显著抑制了子叶外植体的出愈率和胚性愈伤组织的形成,并对胚性愈伤中芽的分化产生了显著的影响,但对胚性愈伤不定根的诱导影响较小。番茄子叶外植体半致死剂量为50 Gy左右。 更多还原
【英文摘要】Cotyledons of germ-free tissue-cultured plantlets of the tomato cultivar‘1479’were irradiated by 60Co-γ rays at different doses(0~100 Gy) in order to study the effects of 60Co-γ irradiation on the differentiation of tomato explants during tissue culture.The results showed that 60Co-γ irradiation had significant effects on the cotyledons in callus formation,and inductivity and differentiation of embryonic calli.The irradiation at a dose of more than 50 Gy significantly inhibited the callus inductivity of the cotyledons and the embryonic callus formation and had a significant impact on the shoot regeneration,but less influenced the root regeneration.It was concluded from the test data that the median lethal dose(LD50) to tomato cotyledons should be around 50 Gy.
【语种】中文
【第一作者】朱宗文
【通讯作者】查丁石
【期刊名称、卷期、页码】上海农业学报
【论文发表时间】2010-09-01 00:00:00
【引文索引类型】其他
【引文索引号】2010-26 (3)
【学科分类】园艺学

【题目】抗病砧木抗青一号嫁接防治番茄青枯病的研究
【中文关键词】抗病砧木; 抗青一号; 嫁接; 番茄青枯病;
【英文关键词】high resistance; Kang Qing Yi Hao; graft; tomato bacterial wilt;
【中文摘要】以番茄品种红石串为接穗,抗青一号为砧木进行嫁接栽培,研究其对青枯病抗性和番茄品质的影响。结果表明:相比商品化砧木雪铁基,嫁接砧木抗青一号提高对番茄青枯病的抗性,但并不显著;与红石串自根苗相比,嫁接苗青枯病的抗性和产量显著提高,果实蛋白质、碳水化合物及Vc含量基本一致。
【英文摘要】For preventing tomato bacterial wilt, the grafting experiment using high resistance rootstock variety Kang Qing Yi Hao and scion tomato variety Hong Shi Chuan was fulfilled. The results showed that in condition of fair tomato fruit quality, the grafting variety could significantly raise resistance and yield comparative with tomato variety own-rooted seedlings, and not significantly comparative with the commoditized rootstock variety Xue Tie Ji. 更多还原
【语种】中文
【第一作者】张战泓
【通讯作者】张战泓
【期刊名称、卷期、页码】中国农学通报
【论文发表时间】2010-04-11 00:00:00
【引文索引类型】其他
【引文索引号】2010-26(11)-276-278
【学科分类】园艺学

【题目】芸薹种作物抽薹相关基因BrFLC1的CAPS标记

【中文关键词】白菜类作物;抽薹;BrFLC1基因;CAPS 标记
【英文关键词】Brassica rapa L syn campestris L; bolting; BrFLC1 gene; CAPS marker
【中文摘要】以16份白菜类作物DH系为试材,通过人工春化处理对其抽薹性状进行了鉴定,明确了材料间抽薹早晚存在显著差异;根据BrFLC1基因序列设计引物进行PCR扩增发现,所有16份材料均获得980 bp的片段。多序列比对与抽薹性的关联分析发现,材料的抽薹早晚与扩增片段的碱基变异相关联,并发现关联位点的碱基变异为限制性内切酶Mva I的识别位点;利用该酶对PCR产物酶切可以将材料明显区分开来,从而建立了BrFLC1基因的CAPS标记(命名为G-Mva I)。利用此标记对96份白菜类作物DH材料的验证表明,该基因的分子标记结果与抽薹时间表型显著相关,用该标记可以进行分子标记辅助选择。
【英文摘要】Bolting time of 16 Brassica rapa accessions were investigated under artificial vernalization treatment. The result showed that there was a wide range variation of bolting time among these accessions. Polymerase Chain reaction (PCR) with a primer pair based on the BrFLC1 gene sequence generated a 980 bp fragment from all accessions. A base variation located at P3 was significantly associated with bolting time, and the base variation at this position is the recognition site of restriction enzyme Mva I. Therefore, a Cleaved Amplified Polymorphic Sequnence (CAPS) marker designated as G-Mva I was developed for this locus by digesting the amplified fragment with Mva I. The marker was verified in 96 B. rapa DH lines, displaying a significant association between the bolting phenotypes and the genotypes of G- Mva I. These results indicated that G-Mva I can be easily used for marker-assisted selection (MAS) in late bolting or bolting-resistance breeding.
【语种】中文
【第一作者】原玉香
【通讯作者】王晓武
【期刊名称、卷期、页码】园艺学报, 35(11):1635-1640.
【论文发表时间】2008-10-23 00:00:00
【引文索引类型】其他
【引文索引号】05132353X (2008) 1121635206
【学科分类】园艺学

【题目】活性炭和振荡培养对提高大白菜游离小孢子胚诱导率的研究
【中文关键词】大白菜; 游离小孢子培养; 小孢子胚; 诱导率; 活性炭; 振荡培养
【英文关键词】Chinese cabbage; Microspore culture; Microspore- derived embryos; Embryogenesis frequency; Activated charcoal; Agitation culture
【中文摘要】以11 个大白菜品种(品系) 为材料, 采用NLN 培养基进行游离小孢子培养,研究了活性炭和振荡培养对小孢子胚诱导和形成的影响。结果表明: 11 个大白菜品种有9 个诱导出胚, 每花蕾诱导胚数0.056~12.67 个。在NLN- 13 培养基中添加活性炭(0.5 g/L) , 有利于小孢子胚的诱导和形成, Y536 和Y585 胚诱导率分别提高了16.1 和4.8 倍, 极难诱导出胚的材料Y516 也诱导出胚; 采用振荡培养方式(65 r/min) , Y531 和Y445 胚诱导率较静置培养分别提高了18.23% 和30.91%, 出胚时间提早2~4 d。
【英文摘要】Influence of activated charcoal and agitation culture on embryogenesis from isolated microspore of Chinese cabbage was studied in this project. Embryos were obtained from the isolated microspores of 9 varieties among that l1 varieties tested with the yield of 0.056 to 12.67 embryos per flower bud. Adding activated carbon (0.5 g/L) to NLN- 13 medium improved the embryogenesis, Y536 and Y585 produced 16.1 and 4.8 times more embryos compared with control.Y516, a genotype with difficult to produce embryos, produced embryos with addition of activated charcoal in the culture medium. Frequency of embryogenesis of genotypes Y531 and Y445 increased 18.23% and 30.91% on agitation culture (65 r/min) . The embryogenesis was 2- 4 days earlier on agitation culture.
【语种】中文
【第一作者】蒋武生
【通讯作者】张晓伟
【期刊名称、卷期、页码】中国瓜菜,2008(4)1-3
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【题目】游离小孢子培养育成早熟大白菜新品种‘豫新58’
【中文关键词】大白菜; 游离小孢子培养; 品种
【英文关键词】Chinese cabbage; isolated microspore culture; cultivar
【中文摘要】‘豫新58’是采用游离小孢子培养双单倍体育种技术育成的大白菜一代杂种。该品种早熟,生育期58~60 d。叶球矮桩叠抱, 单球质量115~210 kg。叶质柔嫩, 口感略甜, 风味佳, 生食、熟食皆宜。净菜产量6818 t · hm- 2。抗病性好。
【英文摘要】‘Yuxin 58’is a new Chinese cabbage hybrid, its parents are self2incompatible double haploid lines induced by isolated microspore culture. It is early-maturing and takes 58 to 60 days from sowing to maturaty. A head mass ranges from 115 to 210 kg. The mean yield is 6818 t · hm- 2. It has dwarf-head with leaf-tips overlapping on head top. The leaves are tender, crisp and slightly sweet and suitable for both salad and cooking. It has perfect resistant to virus disease, soft rot, downy midew and black spot.
【语种】中文
【第一作者】姚秋菊
【通讯作者】张晓伟
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【学科分类】园艺学

【题目】大白菜遗传图谱的构建及与染色体关联分析
【中文关键词】大白菜; 分子标记; 遗传图谱; 染色体关联
【英文关键词】Chinese cabbage; Molecular marker; Genetic linkage map; Chromosome assignment
【中文摘要】为构建大白菜遗传图谱,并与国际上公认的白菜参照图谱相关联。以大白菜晚抽薹DH 系Y177-12 和早抽薹DH 系Y195-93 为亲本建立的183 个DH 系为作图群体,利用SRAP、SSR、AFLP、STS、ESTP 和CAPS 等多种分子标记和形态标记构建大白菜遗传图谱,通过参照图上的锚定标记确定连锁群,并用最新的连锁群命名法进行命名。构建了包含10 个连锁群、233 个标记位点的分子遗传图谱,其中包括145 个SRAP 标记、62 个SSR 标记、12 个AFLP 标记、6 个STS 标记、4 个ESTP 标记、3 个形态标记和1 个CAPS 标记。图谱总长度1 036 cM,标记间的平均图距为4.4cM。通过其中的38 个SSR,4 个ESTP 和2 个STS 标记将各个连锁群与国际上认可A1-A10 的参照连锁群相关联。该图谱的构建将为不同图谱的比较与整合及重要农艺性状的基因定位奠定基础。
【英文摘要】The objective of the present study is to construct a genetic linkage map associated with internationally agreed reference linkage map in Chinese cabbage (Brassica rapa L. ssp. pekinensis) . 183 DH lines derived from a cross of two DH lines,Y177-12 and Y195-93,were used for map construction. Six kinds of marker systems including SRAP, SSR,AFLP, STS,ESTP and CAPS loci were used for polymorphic marker screening. The assignment of linkage groups to their chromosomes was determined by using markers which have been mapped in the reference map. A genetic linkage map was constructed for Chinese cabbage, covering 1 036 cM,with an average mapping interval of 4. 4 cM. 233 loci including 145 SRAP, 62 SSR, 12 AFLP,6 STS,4 ESTP,1 CAPS and 3 morphological markers were integrated into 10 linkage groups using JoinMap 3. 0. 38 SSRs,4 ESTPs and 2 STSs provided anchors to previously published linkage map for B. rapa and B. napus and the consensus nomenclature of A1-A10 was adopted in this study. A genetic linkage map of Chinese cabbage associated with chromosomes was constructed,which enabled the alignments and integration between sets of maps and populations and would be useful in gene localization, comparative genomes research and QTL mapping of important agronomic traits for Chinese cabbage.
【语种】中文
【第一作者】原玉香
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【题目】芸薹属蔬菜分子育种研究进展
【中文关键词】芸薹属; 分子遗传图谱; 农艺性状; 分子标记
【英文关键词】Brassica ; Molecular genetic map ; Agronomic t rait s ; Molecular marker s
【中文摘要】综述了近年来芸薹属蔬菜的分子育种研究进展,包括种质资源研究、分子遗传图谱构建及重要农艺性状的分子标记,重点综述了抗病性、抗逆性和品质等方面的主要研究进展,并讨论了我国今后芸薹属蔬菜分子育种的主要研究方向。
【英文摘要】This paper summarized the recent advance on the molecular breeding in Brassica vegetable , which covered germplasm resources , molecular genetic map construction and the markers of important agronomic trait s. Focused on such agronomic traits as disease resistance , environment stress tolerance and quality , and discussed the prospect s of molecular breeding in Brassica.
【语种】中文
【第一作者】原玉香
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【期刊名称、卷期、页码】河南农业科学,2009,9:155-160
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【引文索引号】100423268 (2009) 0920155206
【学科分类】园艺学

【题目】大白菜游离小孢子培养技术研究进展及应用
【中文关键词】大白菜; 游离小孢子培养; 育种
【英文关键词】Chinese cabbage; microspore culture
【中文摘要】回顾了大白菜游离小孢子培养技术研究发展历程及主要成就,阐述了影响游离小孢子培养成功的主要因素及存在问题。
【英文摘要】Review the researches about microspore culture in Brassica rapa
【语种】中文
【第一作者】蒋武生
【通讯作者】徐明磊
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【题目】大白菜细胞核隐性雄性不育系恢复基因BrMf2的标记及定位
【中文关键词】大白菜;细胞核隐性雄性不育;基因定位;分子标记;SRAP
【英文关键词】Brasscia rapa L. ssp. pekinesis; recessive genic male sterile (RGMS); gene mapping; molecular marker; SRAP
【中文摘要】【目的】筛选大白菜细胞核隐性雄性不育(RGMS)育性基因(Mf)的连锁标记,通过定位该基因,为克隆雄性不育基因打下基础。【方法】939A不育系与YQD56A杂交F1S4后代为试材,利用混合分组分析法(BSA),应用SRAP和SRAP-AFLP标记技术筛选引物1 256对。【结果】获得与大白菜细胞核隐性雄性不育恢复基因连锁的标记2个,PM8K4和Me2M49,与恢复基因的遗传距离分别为2.98 cM和10.92 cM。通过调查PM8K4标记在大白菜DH作图群体中的多态性,将该基因定位在A8连锁群,即大白菜第9染色体。【结论】标记PM8K4可以在苗期对大白菜细胞核雄性不育性状进行标记辅助选择。
【英文摘要】【Objective】 Recessive genic male sterility (RGMS) is one of the important methods for F1 seeds production in Chinese cabbage (Brassica rapa L. ssp. pekinensis). Identification of molecular markers linked to RGMS restoring gene not only can accelerate breeding programs, but also can provide information for cloning of RGMS gene by mapping this gene on the corresponding chromosome. 【Methods】 A segregating population was developed from a cross between a male sterile line 939A and a fertile line YQD56A. SRAP and SRAP-AFLP techniques and bulked segregant analysis (BSA) were used to screen markers linked to the RGMS restoring gene. 【Result】 Among the 1256 primer combinations, only PM8/K4 and Me2/M49 showed polymorphism between bulks of male sterile and fertile. The polymorphic bands were named as PM8K4 and Me2M49. The distance of PM8K4 and Me2M49 was 2.98 cM and 10.92 cM, respectively. PM8K4 was subsequently mapped on linkage group A8 (Chr9) using a doubled-haploid mapping

population. 【Conclusion】 The SRAP and SRAP-AFLP markers developed here can be used in breeding programs for Chinese cabbage.
【语种】中文
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【题目】大白菜小孢子提取液中的蔗糖和甘露醇对胚胎发生的影响
【中文关键词】大白菜;小孢子培养;胚胎发生;预处理;蔗糖;甘露醇
【英文关键词】Chinese cabbage; microspore culture; embryogenesis; pretreament; sucrose; mannitol
【中文摘要】研究了大白菜游离小孢子提取过程中,培养基中的蔗糖和甘露醇对后期小孢子胚胎发生的影响。结果表明在小孢子短期的提取过程中提高B5提取培养基的蔗糖浓度或添加甘露醇对小孢子的活力无影响,但会大幅度提高小孢子的胚胎诱导效果,其中17%蔗糖处理和8%甘露醇处理效果最佳,与对照相比平均出胚量都达到极显著水平,同时也促进了难诱导材料的胚胎发生。
【英文摘要】The effects of short-term pretreament were studied on embryogenesis of isolated microspores in Chinese cabbage. The results showed that B5 washing medium addition mannitol and with higher concentration of sucrose during isolation of microspores were not influence microspores viability but can significantly increased the frequency of embryogenesis . In our experiments, all nine cultivars responded to the treatment. B5 washing medium with 17% sucrose treatment and B5-13 washing medium with 8% mannitol treatment were the optimal treatment of two group tests .
【语种】中文
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【学科分类】园艺学

【题目】大白菜显性细胞核雄性不育基因SRAP-AFLP标记筛选
【中文关键词】大白菜;显性细胞核雄性不育(DGMS);SRAP-AFLP;分子标记
【英文关键词】Chinese cabbage; dominant genic male sterility; SRAP-AFLP; molecular marker
【中文摘要】以938A和太NB杂交后代为试材,利用混合分组分析法(BSA),应用SRAP-AFLP标记技术筛选引物578对,找到与大白菜显性细胞核雄性不育(DGMS)基因连锁的标记4个,分别位于不育基因的两侧,其中连锁最紧密的标记为PM8E38,遗传距离为2.80cM,M49BEm8,BMe9E32,和E35BEm10与不育基因的距离分别为4.50cM、5.38cM、5.38cM。这些标记可用于标记辅助选择以及显性雄性不育系的转育工作,并对定位及克隆该基因打下基础。
【英文摘要】A segregating population was developed from a cross between a male sterile line 938A and a fertile line Tai NB. SRAP and SRAP-AFLP techniques and bulked segregant analysis (BSA) were used to screen markers linked to the RGMS restoring gene. Among the 578 primer combinations, four markers showed polymorphism between bulks of male sterile and fertile. The polymorphic bands were named as PM8E38, M49BEm8, BEe9E32 and E35BEm10. The distance of PM8E38 was 2. 8 cM.
【语种】中文
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【题目】大白菜细胞核显性雄性不育基因连锁标记的筛选
【中文关键词】大白菜;雄性不育基因;RAPD标记;SCAR标记
【英文关键词】Chinese cabbage; Male sterile gene; RAPD marker; SCAR marker
【中文摘要】【目的】筛选出大白菜细胞核显性雄性不育基因的连锁标记,利用该标记对显性不育基因跟踪、鉴定,提高选择效率,缩短转育周期,加快育种进程。【方法】以大白菜细胞核显性雄性不育基因的分离群体B00160([938A ×太NB]-2X3-1X2)的115个单株为试材,采用BSA方法和RAPD技术,对400个随机引物进行筛选。【结果】获得了一个与核基因显性雄性不育基因连锁距离为1.74 cM的RAPD标记M264300。将该多态性片段克隆、测序和序列分析,设计了一对长20 bp的特异性引物,成功地将RAPD标记转化成为SCAR标记SM264300。该标记与雄性不育基因的遗传连锁距离为2.61 cM。利用该SCAR标记对另外2份育性分离群体的不育基因进行检测,准确率达到100%。【结论】该标记可用于大白菜核显性不育基因转育过程中的辅助选择。
【英文摘要】【Objective】 Dominant genic male sterility has been playing an increasingly inportant role for efficient production of hybrids in Chinese Cabbage [Brassica rapa L.ssp pekinensis (Lour.) Olsson]. Using marker assisted selection of the dominant male sterile gene can accelerate breeding programs. 【Method】 Bulked segregant analysis was used to identify RAPD markers linked to a dominant male sterile gene in the population of ‘ B00160 ’, a sterile and fertile segregating populatuon in Chinese cabbage.【Result】One RAPD marker, M264300 was identified in the segregating population tightly linked the gene. The polymorphic fragments were cloned and sequenced.A sequence characterized amplified region (SCAR) marker was devveloped besed on the nucleotide sequence information. The SCAR marker showed the same size and pattern of segregation as the original RAPD marker with a map distance of 2.61 cM and the RAPD maker was converted into SCAR maker. 【Conclusion】 The marker developed here will facilitate the breeding for new elite homozygous sterile lines of Chinese cabbage.
【语种】中文
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【题目】白菜的内多倍化现象
【中文关键词】内多倍体; 白菜; 流式细胞仪; C值
【英文关键词】Endopolyploidy; Chinese cabbage; Flow cytometry; C-value
【中文摘要】研究和了解植物内多倍化现象的发生规律和特点对于有效调控器官分化过程, 加速有用器官形成具有重要意义。本文分别以白菜及其近缘属种为材料, 运用流式DNA分析技术, 系统检测了不同发育阶段、不同组织器官以及不同种属植物叶片的内多倍化水平。结果表明, 白菜的内多倍化特点同样具有组织、发育阶段和种属特异性。一些木质化程度较高的输导组织如幼根、胚轴、茎和叶柄比其他非输导组织的叶片、子叶、苞叶具有更高的内多倍化程度; 在给定的组织器官中内多倍化水平随该器官的发育进程而提高, 当器官成熟时, 内多倍化水平也趋于稳定; 显微观察结果表明, 不同倍性的细胞核大小差异悬殊, 呈无规律状态散布于白菜表皮组织相邻的细胞内; 最高倍性水平的细胞核, 在白菜叶片中为64C, 而在甘蓝、芥菜和拟南芥中分别为32C、16C、16C, 在同科的不同植物中显示了不同的内多倍化水平。
【英文摘要】The endopolyploidization is a universal phenomenon existing in the higher plant. The endopolyploidization, on which plant cells maintained a faster growth rate, is an important way of increasing copies of function genes which is necessary for plant to adapt its growing environment. The knowledge and research on the occurring and the feature of plant endopolyploidization phenomenon would be favorite to regulate efficiently differentiation of organs and accelerate the formation of valuable organs. In this paper, the Chinese cabbage and its relatives were used to determine the endopolyloidization level in tissues, organs, and leaves at different developmental stages with the technique of flow DNA analysis. The results showed that in Chinese cabbage the feature of endopolyploidization was also specific for tissues, developmental stages like in other plants reported previously. Some conducting tissues with higher lignification degree such as primary root, hypocotyls, stem and petiole demonstrated higher endopolyploidization level than other nor-conducting tissues such as bract, cotyledon, laminae. In a given organ, the endopolyploidization level was raised in

the progress of the organ development. When the organ was up to maturity its endopolypoidization level tended to be stable. The micros-graph revealed that the nuclei with different ploidies showed obvious difference in size and were scattered randomly into adjacent pellicle tissue cells of petiole of Chinese cabbage. The highest ploidy level of nuclei was 64C in leaves of Chinese cabbage, but 32C, 16C, and 16C in leaves of cabbage, mustard and Arabidopsis thaliana respectively, indicating that the endopolyploidization level of the different plants in the same family is different.

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【学科分类】园艺学

【题目】A Naturally Occurring Splicing Site Mutation in the Brassica rapa FLC1 Gene is Associated with Variation in Flowering Time
【中文关键词】Flowering time, Splicing site mutation, BrFLC1, Splicing pattern
【英文关键词】Flowering time, Splicing site mutation, BrFLC1, Splicing pattern
【中文摘要】FLC是影响白菜抽薹的一个重要基因。本研究发现FLC1基因存在一个G-A的突变,形成可变性剪切,从而形成不同的产物蛋白,导致FLC1基因功能的完整或缺失。
【英文摘要】FLOWERING LOCUS C (FLC), encoding a MADS-domain transcription factor in Arabidopsis, is a repressor of flowering involved in the vernalization pathway. This provides a good reference for Brassica species. Genomes of Brassica species contain several FLC homologs and several of these colocalize with flowering time QTL. Here we report on the analysis of sequence variation of BrFLC1 in Brassica rapa and its association with the flowering time phenotype. The analysis revealed that a G-to-A polymorphism at the 5 ’ splice site in intron 6 of BrFLC1 is associated with flowering phenotype. Three BrFLC1 alleles with alternative splicing patterns including two with different parts of intron 6 retained and one with the entire exon 6 excluded from the transcript were identified, in addition to alleles with normal splicing. It was inferred that aberrant splicing of the pre-mRNA leads to loss-of-function of BrFLC1. A CAPS marker was developed for this locus to distinguish Pi6+1(G) and Pi6+1(A). The polymorphism detected with this marker was significantly associated with flowering time in a collection of 121 B. rapa accessions and in a segregating Chinese cabbage DH population. These findings suggest that a naturally occurring splicing mutation in the BrFLC1 gene contributes greatly to flowering time variation in B. rapa.
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【题目】应用XAFS研究草酸根和胡敏酸对As(V)在红壤中吸附的影响
【中文关键词】As(V);吸附;草酸根;胡敏酸; XAFS;红壤
【英文关键词】Arsenate; Sorption; Oxalate; Humic acid; XAFS; Red soil
【中文摘要】结合吸附实验和X光吸收精细结构光谱(XAFS)分析,研究了草酸根和胡敏酸对As (V)在红壤中吸附的影响,分析了As (V)在红壤中的化学形态和微观结构以及草酸根、胡敏酸的影响特征。结果表明,当pH 6.0时,红壤主要是通过基团交换反应吸附As (V) ,草酸根和胡敏酸可以通过竞争吸附位点抑制红壤中As(V)的吸附,其抑制作用随浓度增大而增强。XAFS光谱学数据表明,红壤中吸附的砷以+5价态存在,主要与铁铝矿物形成以约0.317 nm As-Al和0.328 nm As-Fe原子间距为特征的双齿双核结构的内层复合物,复合物结构类型不受砷浓度和草酸根、胡敏酸的影响。
【英文摘要】Arsenic sorption is the primary factor that governs bioavailability and mobility of arsenic in soils. However, studies on arsenate (As(V)) sorption have been mainly limited to soil minerals, and sorption reactions in soils as a whole in the presence of dissolved organic carbon are poorly understood. Mechanisms of As(V) sorption on red soil in the presence of oxalate or humic acid

(HA) were studied using sorption isotherms and X2ray absorption fine structure (XAFS) spectroscopy. Arsenate, mainly as H2AsO4- in soil solution at pH 6.0, was extensively sorbed by red soil mainly through ligand exchange. Both oxalate and HA could significantly decrease As(V) sorption through competing for sorption sites, and the competition was getting stronger with increasing concentrations of oxalate and HA. The XAFS data indicated that the sorbed As(V) formed inner-sphere complexes of bidentate binuclear configurations characterized by an As-Albond distance of about 0.317 nm and an As-Fe bond distance of about 0.328 nm in red soil. The two As(V) complexes were stable regardless of As(V) loadings varying in the range studied. Their structures were free from the influence of oxalate and HA. This study illuminated the characteristics of As(V) sorption on red soil in the presence of oxalate and HA from molecular level and the findings might be of practical importance in controlling arsenate mobility and toxicity in soils.

【语种】中文
【第一作者】罗磊
【通讯作者】张淑贞
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【题目】草菇杂交菌株2628的鉴定与品比试验
【中文关键词】草菇;杂交;DNA指纹;品比试验;生物转化率
【英文关键词】Volvariella volvacea ; cross; DNA fingerprint; variety test; biological conversion rate
【中文摘要】将2 个匍匐型不孕的草菇单孢菌株单26、单28 进行杂交配对,尖端菌丝细胞分离纯化后得到一气生型菌株2628。RAPD标记和SRAP标记的DNA指纹表明,2628 继承包含了单26 和单28 的所有遗传谱带,是一株杂交种。杂交菌株2628 可出菇,在与当前主栽品种出菇品比试验中,杂交菌株2628 子实体外观较好,产量最高,是主栽品种V23-2产量的2倍多,生物学转化率达到33.4%。

【英文摘要】In this study, with the method of leading-edge mycelium cells separation and cultivation, we got a normal strain 2628 ofVolvariella volvacea , which was crossed by two abnormal and infertile single strain 26 and strain 28 ofVolvariella volvacea. DNA fingerprints of RAPD and SRAP molecular marker showed that strain 2628 was a hybrid strain including the mixed genetic fingerprints from strain 26 and strain 28. The fruiting test showed that strain 2628 is fertile, good quality, high yield and biological conversion rate up to 33.4%. The output of strain 2628 is two times more than the cultivar V23-2.

【语种】中文
【第一作者】傅俊生
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【题目】Genotypic variations in the accumulation of Cd exhibited by different vegetables
【中文关键词】vegetables; cadmium; accumulation; genotypic variations
【英文关键词】vegetables; cadmium; accumulation; genotypic variations
【中文摘要】It is an important approach to use the Cd-contaminated soils properly by growing low accumulator or excluder plants for Cd to produce safe foods. To find the suitable vegetable species for growing in Cd-contaminated soils, in the present study the variations in the Cd accumulation for twenty eight vegetable species and several cultivars of five common vegetables (cowpea, kidney pea, bitter gourd, cucumber and squash) were investigated in two soil Cd levels (1 and 2 mg/kg Cd). Experimental results showed that highly significant differences in Cd concentration were evident among 28 vegetables. For example, spinach Cd concentrations were 110-fold and 175-fold higher than that of sweet pea under the 1 and 2 mg/kg Cd exposures, respectively. For Cd accumulation, the order ofvegetable species was: leafy vegetables > solanaceous vegetables > kale vegetables > root vegetables > allimus > melon vegetables > legumes. Distinctive differences were also identified when comparing different cultivars of the five common vegetables with an average range of 0.003 – 0.094 mg/kg Cd. Our results indicated that a large genotypic variation existed among vegetable species or cultivars

when subjected to Cd exposure. Therefore, it is important and feasible to elect/breed vegetable species/cultivars with low accumulation of Cd, especially in mildly Cd-contaminated soils.

【英文摘要】It is an important approach to use the Cd-contaminated soils properly by growing low accumulator or excluder plants for Cd to produce safe foods. To find the suitable vegetable species for growing in Cd-contaminated soils, in the present study the variations in the Cd accumulation for twenty eight vegetable species and several cultivars of five common vegetables (cowpea, kidney pea, bitter gourd, cucumber and squash) were investigated in two soil Cd levels (1 and 2 mg/kg Cd). Experimental results showed that highly significant differences in Cd concentration were evident among 28 vegetables. For example, spinach Cd concentrations were 110-fold and 175-fold higher than that of sweet pea under the 1 and 2 mg/kg Cd exposures, respectively. For Cd accumulation, the order ofvegetable species was: leafy vegetables > solanaceous vegetables > kale vegetables > root vegetables > allimus > melon vegetables > legumes. Distinctive differences were also identified when comparing different cultivars of the five common vegetables with an average range of 0.003 – 0.094 mg/kg Cd. Our results indicated that a large genotypic variation existed among vegetable species or cultivars when subjected to Cd exposure. Therefore, it is important and feasible to elect/breed vegetable species/cultivars with low accumulation of Cd, especially in mildly Cd-contaminated soils.

【语种】英文

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【学科分类】土壤学

【题目】An inventory of trace element inputs to agricultural soils in China

【中文关键词】Trace element; Contamination; Atmospheric deposition; Livestock manures

【英文关键词】Trace element; Contamination; Atmospheric deposition; Livestock manures

【中文摘要】It is important to understand the status and extent of soil contamination with trace elements to make sustainable management strategies for agricultural soils. The inputs of trace elements to agricultural soils via atmospheric deposition, livestock manures, fertilizers and agrochemicals, sewage irrigation and sewage sludge in China were analyzed and an annual inventory of trace element inputs was developed. The results showed that atmospheric deposition was responsible for 43-85% of the total As, Cr, Hg, Ni and Pb inputs, while livestock manures accounted for approximately 55%, 69% and 51% of the total Cd, Cu and Zn inputs, respectively. Among the elements concerned, Cd was a top priority in agricultural soils in China, with an average input rate of 0.004 mg/kg/yr in the plough layer (0-20 cm). Due to the spatial and temporal heterogeneity of the sources, the inventory as well as the environmental risks of trace elements in soils varies on a regional scale. For example, sewage sludge and fertilizers (mainly organic and phosphate-based inorganic fertilizers) can also be the predominant sources of trace elements where these materials were excessively applied. This work provides baseline information to develop policies to control and reduce toxic element inputs to and accumulation in agricultural soils.

【英文摘要】It is important to understand the status and extent of soil contamination with trace elements to make sustainable management strategies for agricultural soils. The inputs of trace elements to agricultural soils via atmospheric deposition, livestock manures, fertilizers and agrochemicals, sewage irrigation and sewage sludge in China were analyzed and an annual inventory of trace element inputs was developed. The results showed that atmospheric deposition was responsible for 43-85% of the total As, Cr, Hg, Ni and Pb inputs, while livestock manures accounted for approximately 55%, 69% and 51% of the total Cd, Cu and Zn inputs, respectively. Among the elements concerned, Cd was a top priority in agricultural soils in China, with an average input rate of 0.004 mg/kg/yr in the plough layer (0-20 cm). Due to the spatial and temporal heterogeneity of the sources, the inventory as well as the environmental risks of trace elements in soils varies on a regional scale. For example, sewage sludge and fertilizers (mainly organic and phosphate-based inorganic fertilizers) can also be the predominant sources of trace elements where these materials were excessively applied. This work provides baseline information to develop policies to control and reduce toxic element inputs to and accumulation in agricultural soils.

【语种】英文

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【学科分类】土壤学

【题目】重金属污染土壤原位钝化修复研究进展
【中文关键词】重金属;污染;原位钝化;修复;土壤
【英文关键词】heavy metal; contamination; in situ immobilization; remediation; soil.
【中文摘要】重金属原位钝化技术是一种污染土壤的修复方法,指向污染土壤添加一些活性物质(钝化修复剂) ,以降低重金属在土壤中的有效浓度或改变其氧化还原状态,从而有效降低其迁移性、毒性及生物有效性. 本文基于原位钝化修复剂种类、研究方法、评价指标、作用机制以及风险评价等方面的研究,深入分析了该领域的研究现状和存在问题,并提出了今后研究的重点. 目前广泛使用的钝化修复剂主要有粘土矿物、磷酸盐、有机堆肥及微生物材料等. 由于土壤结构和组分的复杂性,钝化修复剂的作用机制尚不完全清楚,其可能的机制主要包括沉淀反应、化学吸附与离子交换、表面沉淀、有机络合和氧化还原等. 今后应加强从分子水平研究重金属的钝化机制,重点关注钝化修复重金属污染土壤时存在的潜在风险以及钝化修复的长期田间效应.
【英文摘要】In situ immobilization of heavy metals in contaminated soils by adding extraneous active amendments has been considered as a cost effective measure for contaminated soil remediation. Application of immobilization amendments can decrease the available fractions of heavy metals or change their redox states, and thus, effectively decrease the mobility, bioavailability, and toxicity of the heavy metals in soils. This paper summarized the present researches about the in situ immobilization of heavy metals in soils, including kinds of immobilization amendments, research methods, immobilization indexes, immobilization mechanisms, and relevant environmental risk assessment. The mostly applied amendments include clay minerals, phosphates, organic composts, and microbes. Due to the complexity of soil matrix and the limitations of current analytical techniques, the exact immobilization mechanisms have not been clarified, which could include precipitation, chemical adsorption and ion exchange, surface precipitation, formation of stable complexes with organic ligands, and redox reaction. The prospects and limitations of in situ immobilization of heavy metals in soils were discussed. Future work should focus on the elucidation of immobilization mechanisms at molecular scale, with specific attention be paid to the potential risks of applying immobilization amendments and its long term effects on field soils.
【语种】中文
【第一作者】王立群
【通讯作者】罗磊
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【学科分类】土壤学

【题目】不同钝化剂和培养时间对Cd 污染土壤中可交换态Cd 的影响
【中文关键词】镉;原位钝化;可交换态;重金属;污染土壤
【英文关键词】cadmium; In-situ immobilization; exchangeability; heavy metals; contaminated soil
【中文摘要】原位化学钝化技术是修复重金属污染土壤的重要途径之一,通过施入一些钝化剂以降低土壤中重金属有效态含量,从而减少其迁移及对植物的毒害。选取羟基磷灰石(HA)、磷矿粉(PRX和PRH)、沸石、赤泥、新鲜植物残体、玉米秸秆粉末以及相应的处理共21 种钝化剂,在同一培养条件和添加浓度下,比较其对人工Cd 污染土壤中可交换态Cd 含量的影响,并分析了其在不同培养时间对钝化效果的时间效应,试验的结果对于筛选Cd 污染土壤钝化剂有着重要的意义。结果表明,纳米化赤泥、羟基磷灰石和纳米化酸洗赤泥可显著降低土壤中可交换态Cd 含量,钝化比例高达35%~55%;赤泥、酸洗赤泥、沸石达15%~25%;富含巯基植物蒜苗、油菜、大葱植物残体也可达20%~25%。磷矿粉、大葱粉末、玉米秸秆和巯基化玉米秸秆的钝化效果相对较差;HA、铵型沸石、纳米赤泥、酸洗纳米赤泥、干油菜粉末、酸洗赤泥对可交换态Cd 的钝化效果的时间效应不明显;赤泥、大葱残体、特别是玉米秸秆和巯基玉米秸秆随时间增长钝化效果增加显著,在8 周和16 周时段钝化效果较好。
【英文摘要】In-situ immobilization of heavy metals by adding extraneous amendments in contaminated soils has been identified as a cost-effective measure for soil remediation. The immobilizing amendments could decrease the concentrations of available heavy metals,

and thus effectively decrease their mobility, toxicity/bioavailability in soils. In the present study, hydroxyapatite (A) phosphate rock powder RH and PRX) zeolite, red mud, plant offal, and their modified products were applied to the Cd-contaminated soils to assess the efficiency of these materials in immobilization of soil Cd. After incubation for different times, the concentration of exchangeable Cd was determined. The results showed that the concentration of exchangeable Cd in soils was decreased using red mud nanoparticles and HA by 35%~55%, using red mud, acid-treated red mud, and zeolite by 15%~25%, and using the sulphydryl (-SH) containing materials including garlic leaf, scallion, rape offal by 20%~25%. The immobilization by PRX, PRH, scallion powder, maize straw and sulfhydrylated maize straw were less effective compared with the above materials. The immobilizing effects of HA, ammonium saturated zeolite, red mud nanoparticles, and acidtreated red mud were stable at different incubation times, while the immobilizing effects of red mud, scallion offal, maize straw and its sulfhydrylation dispose increased along with the incubation times, especially for maize straw and its sulfhydrylated materials after eight weeks or longer incubation time. The results in the present study might be of practical importance in screening of amendments for remediation of soils contaminated with cadmium.

【语种】中文
【第一作者】王立群
【通讯作者】马义兵
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【题目】蜈蚣草对污染土壤中As、Pb、Zn、Cu的原位去除效果
【中文关键词】重金属污染;土壤;植物修复;蜈蚣草;修复潜力
【英文关键词】heavy metal contamination;soil;phytoremediation;Pteris vittata L.;removal potential
【中文摘要】通过2年的原位修复试验,探讨了蜈蚣草对污染土地中As、Pb、Zn、Cu的修复(去除)潜力。研究结果表明,蜈蚣草除了能富集As外,对Pb也有较强的富集能力,地上部Pb含量可高达1303 mg·kg-1。蜈蚣草生物量达到了极大值时,地上部As、Pb、Zn、Cu含量可分别高达1455、937、365、101 mg·kg-1。蜈蚣草对As和Pb都具有良好的修复效果,每年刈割2次蜈蚣草,As、Pb分别能够去除15. 5 kg·hm-2·a-1和8. 5 kg·hm-2·a-1。蜈蚣草对As、Pb、Zn有很强的耐性,在土壤中Pb、Zn、Cu含量高达10913、2511、510 mg·kg-1时,不会显著降低蜈蚣草的生物量。
【英文摘要】Pteris vittata L. is a promising hyperaccumulator in the phytoremediation of arsenic-contaminated soil. However, little is known about its phytoremediation potential for multimetal contaminated soil. A two-year field experiment was carried out to investigate the capacity of P. vittata to phytoremediate As, Pb, Zn and Cu from contaminated soils. The results showed that P. vittata hyperaccumulated both As and Pb. The concentration of Pb in shootswas as high as 1303 mg·kg-1, and the biomass of P. vittata reached a maximum when As, Pb, Zn and Cu concentrations in shoots were 1455, 937, 365 and 101 mg·kg-1, respectively. P. vittata removed 15. 5 kg·hm-2 (As) and 8.5 kg·hm-2 (Pb) per year (with 2 harvests). P. vittata also had a very strong tolerance to As, Pb and Zn. The biomass of P. vittata was not significantly decreased when the heavymetal concentrations of soil were as high as 10913 mg·kg-1 (Pb), 2511 mg·kg-1 (Zn) and 510 mg·kg-1(Cu).
【语种】中文
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【题目】植物修复过程中蜈蚣草对土壤养分的吸收动态: 5年田间定位试验
【中文关键词】吸收动态; 土壤养分; 蜈蚣草; 植物修复; 砷污染土壤
【英文关键词】dynamics; soil nutrients; Pteris vittata L.; phytoremediation; As-contaminated soils
【中文摘要】鉴于砷超富集植物蜈蚣草已被成功地用于修复砷污染土壤,本研究通过连续5年的植物修复田间试验,研究了土壤氮、磷、钾的消减动态和蜈蚣草对土壤氮、磷和钾的吸收动态。结果表明:种植蜈蚣草可使土壤全氮含量降低约

25%(2100-2700mg/kg),土壤全磷和全钾含量的年际变化不明显;蜈蚣草地上部氮、磷和钾含量分别为1.23-2.38、0.14-0.47和1.10-2.01g/kg,地上部带走的总氮、总磷和总钾量分别为23-89、4.4-13.0和21-69kg/hm2/a;与水稻和小麦相比,蜈蚣草对氮、磷和钾的吸收量都较低,但如果在连续种植过程中不施肥,蜈蚣草则可能会出现养分亏缺问题。

【英文摘要】The As-hyperaccumulator Pteris vittata L. has been applied for phytoremediation of A s-contaminated soil in field projects. In order to improve the removal efficiency, a five-year field trial was conducted to study the dynamics of N, P and K contents of soils and the accumulation of these elements in P. vittata during phytoremediation. The results showed that the total N contents of soils in 3 plots with different levels of arsenic decreased significantly (25%) while the total P or K contents of soils in the 3 plots did not decrease obviously by the end of five-years of remediation. The total N, P and K conten ts in shoots of P. vittata were 1.23~2.38, 0.14 ~0.47 and 1.10 ~ 2.01 g/kg, respectively. The annua l accumulation of N, P and K in P. vittata were 23~ 89, 4.4 ~13.0 and 21~ 69 kg/hm2/a-1, respectively. The total quantities of all nutrients accumulated by P. vi ttata from soils were less than that of rice and wheat, so nutrient deficiency might be a problem for growth of P. vittata without fertilizer during continuous remediation.

【语种】中文

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【学科分类】环境学

【题目】不同磷肥对砷超富集植物蜈蚣草修复砷污染土壤的影响

【中文关键词】蜈蚣草;砷;磷肥;植物修复

【英文关键词】Pteris vittata L.;arsenic;phosphorus fertilizer;phytoremediation

【中文摘要】施肥是提高重金属污染土壤的植物修复效率的必要强化措施之一。通过研究农业生产中常用磷肥对砷超富集植物蜈蚣草生长、砷累积及氮磷钾吸收的影响,确定可提高蜈蚣草修复砷污染土壤能力的最佳磷肥类型。结果表明,与不施砷对照组相比,添加砷处理中施用相应磷肥的蜈蚣草总生物量中蜈蚣草均有所降低(除钙镁磷肥外);在添加砷的情况下,钙镁磷肥、磷酸二氢钙和磷酸二氢铵等3个施磷处理总生物量相对较高,显著高于其他磷肥处理和不施磷处理(0.83g/pot);地上部砷累积量由大到小的顺序为:磷酸二氢钙>钙镁磷肥>磷酸二氢铵>磷酸二氢钾>磷酸二氢钠>不施磷》过磷酸钙;磷酸二氢钙处理的砷去除效率高达7.28%。由此可见,磷肥能一定程度提高砷超富集植物的修复能力,但不同磷肥对其砷去除效率的影响可达数倍之差,磷酸二氢钙是首选磷肥类型,综合考虑土壤pH、N、P和有效态砷等各种因子,磷酸二氢铵和钙镁磷肥也可作备选肥料类型。

【英文摘要】Fertilization has become one of the essential measures for enhancing efficiency of phytoremediating contaminated soils with heavy meta1.In order to screen optimal P fertilizer for As—phytoremediation,a greenhouse study was conducted on the growth,As—accumulation and uptake of N,P and K by Pteris vittata L.in As—contaminated soils with diferent forms of P fertilizers.The results indicated that the biomass of plant with As addition decreased compared to no As—addition treatments except fused calcium magnesium phosphate(CaMg—P)treatment.The plants in As addition soils with CaMg-P,calcium dihydrogen phosphate(CDP)and diammonium phosphate(nAP)had higher biomass than those with other P fertilizer and control(0.83 g/pot).The As accumulations of plant aboveground in As addition soils are in order of CDP> CaMg—P> DAP> Potassium Phosphate Monobasic> Monosodium phosphate> control》 Calcium superphosphate.The efficiency of As removal from As addition soils with CDP was the highest.7.28% .Thus it can be seen the ability of phytoremediation using P.vittata could be improved by P fertilization,which CDP should be recommended preferentially and CaMg—P and DAP is considered as replaceable fertilizer for sake of pH,N,P and available As in phytoremediated soils.

【语种】中文

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【学科分类】环境学

【题目】潜在外来入侵甜菜孢囊线虫在中国的适生性风险分析
【中文关键词】适生性风险分析; 甜菜孢囊线虫; 入侵线虫; GARP; MAXENT
【英文关键词】potential g eog raphic distr ibut ion; H eter oder a s chachtii; alien invasiv e nematode; GARP; MAXENT
【中文摘要】本文应用MAXENT 与GARP 两种生态位模型对甜菜孢囊线虫在中国的适生性进行了风险分析和预测。结果表明甜菜孢囊线虫可在中国17 个省市生存, 适生范围为26 N~ 48 N, 77. 6 E~ 136 E。甜菜孢囊线虫入侵的高风险区: 内蒙古南部、新疆西部、河北中南部、山西东北部、宁夏、甘肃北部; 中风险区: 北京、天津、陕西、山西大部、内蒙古西部和东南部、吉林西部、新疆北部; 低风险区: 河南、陕西南部、山东、内蒙古中东部、新疆中部、辽宁、吉林大部、黑龙江南部、江苏、安徽、湖北、湖南、江西、浙江北部; 而青海、新疆南部、西藏、四川、重庆、云南、贵州、广西、广东、福建、海南、内蒙古少数地区和黑龙江部分地区属于基本不发生区。我国内蒙古、新疆、辽宁等省市甜菜种植区均适合甜菜孢囊线虫发生, 对上述地区的进出口岸应加强甜菜孢囊线虫的检疫工作。
【英文摘要】The sugar beet cyst nematode, Heterodera schachtii, is one of the important quarantine nematodes in China as well as in the world. The invasion risk of this nemato de is becoming a more and more serious pro blem with regard to international trade. It is urgent to analyze the potential geographic distribution of H. schachtii in China.MAXENT and GARP, the two models, have been widely used to predict the potential geographic distribution of alien inv asive species. The potential distribution of this nematode in China had been predicted with M AXENT and GARP models. The results indicated that H.schachtii can be distributed in at least 17 provinces in China. The potential distribution region in China is bet ween 26 N - 48 N, 77. 6 E- 136 E. Risk assessment indicated that H.schachtii could occur at the major sugar beet gr ow ing areas of North China. It was suggested that the quarantine measure sat the ports in po tential areas should be strengthened.
【语种】中文
【第一作者】李建中
【通讯作者】彭德良
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【题目】CLIMEX-GIS预测大豆北方茎溃疡病菌在中国的潜在分布
【中文关键词】大豆北方茎溃疡病菌; CLIMEX; GIS; 适生区
【英文关键词】Diaporthe phaseolorum var. caulivora; CLIMEX; GIS; potential distribution areas
【中文摘要】大豆北方茎溃疡病菌是大豆的重要病原菌, 广泛分布于世界主要大豆产区, 造成严重的产量和品质损失。本文应用生物模型CLIMEX 结合GIS 软件预测大豆北方茎溃疡病菌在中国的适生区, 并根据EI 值划分相应的适生等级。结果表明, 大豆北方茎溃疡病菌在我国绝大部分地区适合生长, 其中东北地区、华北地区和云贵高原地区处于中适生区或高适生区。该菌在我国还未报道, 通过分析其在我国潜在分布区对于防止病菌的传入、传播和蔓延有重要的检疫意义。
【英文摘要】Diap of the phaseolorum var. caulivora is one of the most important pathogenson soybeans. The pathogen distributes in major soybean production areas throughout the world and can cause serious yield loss and poor seed quality. In this study, potential distribution areas of D. phaseolorum var . caulivora in China were predicted by using CLIMEX and GIS tools, and its risklevel forpotent ialsurvival areas wasassessed. The results showed that D.phaseolorum var. caulivor a could survive and develop in many provinces of China. Northern area and northeast area,the major soybean production areas of China, were ediumor high risk areas for the pathogen survival. Also most of the south western areas were the high risk areas for the pathogen survival. D. phaseolorum var. caulivora has not been reported in China, so it is urgent to make management measures for preventing invasion, diffusion and expansion of the pathogen.
【语种】中文
【第一作者】崔友林
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【题目】香蕉细菌性枯萎病菌在中国的潜在适生区域
【中文关键词】香蕉细菌性枯萎病 GARP MAXENT 潜在适生区域
【英文关键词】moko disease GARP MAXENT potential distribution area
【中文摘要】青枯菌2号小种引起的香蕉细菌性枯萎病(mokodisease)是香蕉生产上最具毁灭性的病害之一。为指导香蕉细菌性枯萎病的预防控制和制定相关的检疫政策,该研究根据EPPO公布的香蕉细菌性枯萎病在全球范围内的分布资料,分别采用GARP和MAXENT两种预测模型对其在中国的潜在适生区域进行分析预测。结果显示,GARP和MAXENT的预测结果基本一致,均表明香蕉细菌性枯萎病菌在中国的潜在适生区域集中分布于东南部的云南、广西、广东、海南、福建、台湾、江西、湖南、贵州、四川、重庆、浙江、湖北等13个省(市、自治区),其中高风险适生区域包括广东、广西、台湾、海南、福建和云南省.
【英文摘要】Moko disease, caused by race 2 of Ralstonia solanacearum, is a devastating disease of banana, plantain and Heliconia. In order to prevent and manage invasion of R. solanacearum effectively, it is necessary to research the potential geography distribution of this alien species. Based on current geographical distribution of R. solanacearum race 2, both MAXENT and GARP methods were used to predict the potential distribution area of R. solanacearum race 2 in China. The potential distribution areas predicted by GARP and MAXENT are almost identical. The result of two models showed that the potential distribution area of R. solanacearum include Yunnan, Guangxi, Guangdong, Hainan, Fujian, Taiwan, Jiangxi, Hunan, Guizhou, Sichuan, Chongqing, Zhejiang and Hubei provinces. The high suitable probability areas include Guangdong, Guangxi, Taiwan, Hainan, Fujian and Yunnan provinces.
【语种】中文
【第一作者】徐进
【通讯作者】冯洁
【期刊名称、卷期、页码】植物保护学报,2008. 35(3):233-238
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【题目】新疆大豆疫霉的来源分析
【中文关键词】大豆疫霉菌; 遗传多样性; 遗传关系; SSR 标记
【英文关键词】Phytophthor asojae, genetic diversity, genetic relationship, SSR marker
【中文摘要】应用SSR 标记对新疆地区大豆疫霉菌(Phytophthora sojae Kaufmann & Gerdemann) 的遗传多样性和与美国、黑龙江、福建等3 个不同地理来源大豆疫霉菌的遗传关系进行研究。结果表明, 新疆地区大豆疫霉菌遗传多样性相对较低, 遗传背景单一, 推断为外来生物。与大豆疫霉菌美国分离物和福建分离物相比, 新疆分离物与黑龙江分离物的遗传关系最近, 表明新疆大豆疫霉菌可能从黑龙江传入。
【英文摘要】Phytophthora root rot caused by Phytophthora sojae is one of the most destructive diseases of soy bean. This disease has occurred in Xinjiang Auto nomous Region. In this study, the genetic diversity of P. sojae isolates from Xinjiang and relationships between Xinjiang sisolates and isolates from USA, Hei long jiang or Fujian provinces were assessed by using SSR markers. T he results indicated that there was a relatively low genetic diversity and simple genetic background in Xinjiang's P. sojae, and suggested Xin jiang P. sojae should be exotic species. Compared with USA or Fujian isolates, there was the closest genetic distance between Xinjiang isolates and Heilongjiang isolates. It was assumed that P. sojae in Xin jiang might be introduced from Heilongjiang .
【语种】中文
【第一作者】徐静静
【通讯作者】朱振东
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【题目】基于CLIMEX和D IVA-GIS的瓜实蝇潜在地理分布预测
【中文关键词】瓜实蝇; 潜在地理分布; CLIMEX; 地点比较模型; DIVA-GIS; BIOCLIM
【英文关键词】Bactrocera cucurbitae; potential geographical distribution; CLIMEX; compare location model; D IVA-GIS; BIOCLIM
【中文摘要】根据瓜实蝇Bactrocera cucurbitae(Coquillett)的生物学数据和已知地理分布信息,采用CLIM.EX软件的地点比较和DIVA—GIS软件的BIOCLIM两种模型研究瓜实蝇的潜在地理分布。结果表明两种模型均能准确预测出我国34.7~18.1°N,97.5~122.6°E范围内的19个省(市、自治区)是瓜实蝇的潜在地理分布区。广东、广西、海南、福建南部、云南南部、台湾西部以及四川盆地为高度适生区,江西、湖南、贵州、重庆、上海以及四川、云南、福建、浙江、江苏、安徽、湖北、陕西、河南、甘肃局部地区为中低度适生区。对全球的潜在分布区预测结果表明:瓜实蝇目前的地理分布还未达到其最大潜在地理分布范围,瓜实蝇随国际贸易进一步扩散的风险较高。对两种模型的进一步分析表明:在物种相关资料完整的情况下,CLIMEX的地点比较模型预测结果的准确性要高于DIVA—GIS的BIOCLIM模型。
【英文摘要】The paper analyzed the potential geographic distribution of Bactrocera cucurbitae Coquillett)by CLIMEX ’s compare location and DIVA-GIS ’s BIOCLIM models, based on the information of its biological characteristics and current geographical distribution. The results showed that both of two models can accurately predict the B.cucurbitae could prevail in 34. 7 - 18. 1 ° N, 97. 5 - 122. 6 ° E area of 19 districts in China. The high suitable probability areas include Guangdong, Guangxi, Hainan, Sichuan basin, west of Taiwan and south of Yunnan, Fujian. The medium or low suitable probability areas include Jiangxi, Hunan, Guizhou, Chongqing,Shanghai, and parts of Sichuan, Yunnan, Fujian, Zhejiang,J iangsu, Anhui, Hubei, Shaanxi, Henan, Gansu. The global prescient results showed that the current global geographical distribution of B.cucurbitae is still far from itsmaximum potential geographical scope,and the risk of farther sp reading ofmelon fruit fly by international trade is high. Further analysis of two models revealed that the prescient results of CLIMEX ’s compare location model was better then DIVA GIS ’s B IOCLIM model, if the correlate information of the species is sufficient.
【语种】中文
【第一作者】孔令斌
【通讯作者】李志红
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【题目】南美叶疫病菌适生因子及地理分布
【中文关键词】南美叶疫病; 橡胶; 适生因子; 地理分布
【英文关键词】Microcyclus ulei; rubber ; suitability factor ; distribution
【中文摘要】南美叶疫病是橡胶树的一种毁灭性病害。依据已有的研究,本文综述了南美叶疫病菌的适生因子、地理起源、传播历史、地理分布以及适生因子与该菌地理分布的关系,旨在为该菌的风险分析提供依据。
【英文摘要】South American leaf blight is a dest ructive disease on rubber. Based on the literature , the suitability factors, origin, spread, distribution of M. ulei and the relationship between the distribution of M. ulei and suitability factors were reviewed. This is the foundation of pest risk analysis about M. ulei.
【语种】中文
【第一作者】曾 辉
【通讯作者】李志红
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【题目】松突圆蚧在我国潜在的适生性分析

【中文关键词】松突圆蚧;风险分析;Maxent生态位模型;地理信息系统
【英文关键词】Hemiberlesia pitysophila;risk analysis;Maxent ecological niche models;geographical information system
【中文摘要】松突圆蚧已给我国林业生态环境带来了极大破坏,并造成严重的经济损失。本文选用Maxent生态位模型与地理信息系统相结合,综合分析影响松突圆蚧生长发育的环境因素,结合寄主分布特征,非常直观定量地获得了松突圆蚧在我国的潜在发生区,计算结果经ROC曲线分析法验证,Maxent生态位模型的AUG值为0.991(非常接近于1),表明预测获得了较好的效果,研究可为松突圆蚧的检疫及防治决策的制定提供科学依据。
【英文摘要】Abstract:Hemiberlesia pitysophila caused destructive disaster for forest ecological environment and huge economic loss in China. Ecological environment factors affecting its growth and development and the spatial distribution characteristics of plant autoeciousness of Hemiberlesia pitysophila were comprehensively analyzed by combining .Maxent ecological niche models with geographical information system technique in this paper.The relatively exactly potential distribution region of Hemiberlesia pitysophila in whole China was obtained quantitatively and intuitively.Th e checked result conducted by ROC curve an alysis method showed that the AUC value of Maxent ecological niche models reached 0.991(very close to 1),indicating that the predicted results was fairly wel1.This study would provide scientific proo~ for making the policies on the quarantine,the prevention and the control of Hemiberlesia pitysophila.
【语种】中文
【第一作者】冯益明
【通讯作者】张星耀
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【题目】不同干扰措施对松材线虫入侵松林内物种多样性的影响
【中文关键词】松材线虫;入侵;马尾松林;伐除;干扰措施
【英文关键词】Bursaphelenchus xylophilus; invasion; masson pine forest; removal; disturbance ways
【中文摘要】经野外调查发现:松材线虫入侵松林后,对原先林型相同的两块染病松林而言,经过人为伐除和保留受害木这两种干扰措施后,任其自然恢复更新,后恢复的林型会大不相同,即对受害木采取不同的干扰措施会对染病松林内林下植被的更新产生不同的影响。基于以上出发点,以松材线虫入侵后采取不同伐除干扰措施的2 个马尾松受害群落为研究对象,针对受害木移除和保留两种处理方式,选择α 多样性指数函数R é nyi 指数为测量单位,探讨了不同受害木处理方式下植物多样性的变化规律。结果表明:受害木及时移走的松林内林下灌草多样性比受害木保留的要高。
【英文摘要】Through field investigations it was observed that after Bursaphelenchus xylophilus (Steiner and Buhren) Nickle (pine wood nematode) invaded a pine forest, subsequently formed forest types would be significantly different from each other if two managing ways such as human removal and reserving damaged trees were taken before a natural regeneration, namely differentdisturbance measures taken for damaged trees would affect regeneration direction of understory vegetation of an infected pine forest. Based on the above observation, the dynamics of plant diversity under different managements of damaged trees were studied by choosing two Masson pine communities that were subjected to managements of removal and reserving damaged trees,respectively, after the invasion of pine wood nematode. α diversity index function—R é nyi index was used as a measurement. The results showed that the species diversity of shrub and herb layers of the pine forest in which damaged trees were removed timely was higher than that in which damaged trees were reserved.
【语种】中文
【第一作者】石 娟
【通讯作者】骆有庆
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【题目】一种新发生的大豆茎枯病病原菌鉴定
【中文关键词】大豆,大豆拟茎点种腐病菌,大豆茎枯病
【英文关键词】Glycine max,Phomopsis longicolla,Soybean stem blight
【中文摘要】鉴定了一种新发生的大豆茎枯病病原菌。在酸化PDA培养基上所有病原菌分离物菌落呈白色,气生菌丝呈密集的卷毛状,有时部分区域显黄绿色;培养基背面开始无色,随后产生大的、扩展的黑色子座。在接种的大豆茎秆上产生大小不等的黑色子座和分散的分生孢子器。共产生2类分生孢子,其中α型分生孢子丰富,无色,单孢,椭圆至纺锤状形,大小4.05~7.57μm×1.48~3.25μm,含2个油滴;β型分生孢子极少见,无色,线形。在培养基及大豆茎秆上未发现有性态。致病性测定表明选择的分离物引起合丰25大豆100%植株发病和种子腐烂。用AluI、RsaI和HhaI酶切通用引物对ITS4/ITS5扩增的rDNA-ITS产物,所有分离物都产生与大豆拟茎点种腐病菌Phomopsis longicolla一致的酶切谱带;序列比对发现测序的2个分离物ITS序列与GenBank中9个.longicolla分离物ITS序列100%同源。这是我国首次报道大豆田间发现P.longicolla,而且能引发严重的大豆茎枯病。
【英文摘要】The pathogen causing soybean stem blight disease was newly identified. The isolate produced floccose dense white colonies with occasional green-yellowish areas on acidified PDA medium was newly identified. The stromata were large, black and widespread. It was observed that the pycnidia produced both alpha-and beta-conidia when inoculated on soybean stem. Alpha conidia were hyaline, ellipsoidal to fusiform, and guttulate with sizes of 4.05 to 7.57 μm ×1.48to 3.25 μm. Beta-conidia were rare, hyaline, filiform and hamate. Four isolates selected caused seeds rotten and 12-day-old seedlings diseased when inoculated on soybean cultivar Hefeng 25. To indentified the pathogen, rDNA-ITS fragment was amplified using universal primer ITS4 and ITS5, and followed by digesting with Alu I, Rsa I and Hha I restriction enzymes. Phomopsis longicolla characteristic band spectrum was shown in every isolate PCR products. Two isolated ITS sequences were identical to 9 isolates of P.longicolla in GenBank. The results indicated that the pathogen of severe soybean stem blight was just P.longicolla. It was the first report of P. longicolla being isolated from soybean in China.
【语种】中文
【第一作者】崔友林
【通讯作者】朱振东
【期刊名称、卷期、页码】中国油料作物学报, 2010,32(1):99-103
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【学科分类】植物保护学

【题目】亚洲型舞毒蛾在北美的适生性
【中文关键词】亚洲型舞毒蛾,适生性,DYMEX,ArcGIS
【英文关键词】Lymantria dispar, potential geographic distribution, DYMEX, ArcGIS
【中文摘要】采用DYMEX V2.0软件和ArcGIS分析工具相结合的方法,提出亚洲型舞毒蛾Lymantria dispar(L.)的DYMEX参数指标体系和适生性评判标准,分析亚洲型舞毒蛾在北美的适生范围与适生程度。研究表明,加拿大的南部、美国的大部分地区以及墨西哥中南部极少部分区域为该虫的适生区。研究结果将为国家植物保护部门提供有关亚洲型舞毒蛾的植物检疫决策支持。
【英文摘要】The potential geographic distribution of Asian gypsy moth, Lymantria dispar (L.) , in North America was studied with DYMEX 2. 0 and ArcGIS 9. 0, in which DYMEX parameters values and suitability scales has been established based on the distribution of L . dispar in China. The result showed the potential geographic distribution in North America included south of Canada , most of USA , and few areas in the middle and south of Mexico. It will provide decision support of plant quarantine for National Plant Protection Organization (NPPO) in China.
【语种】中文
【第一作者】卢小雨
【通讯作者】李志红
【期刊名称、卷期、页码】昆虫知识, 2009, 46(3):398-402
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【引文索引类型】其他
【引文索引号】
【学科分类】植物保护学

【题目】Impact on forest growth and related growth model of the Pinus massoniana population invaded by Bursaphelenchus xylophilus
【中文关键词】无
【英文关键词】invasion, Pinus massoniana, Pleioblastus amarus, niche
【中文摘要】无
【英文摘要】When pine trees are invaded by pine wilt diseases, the severely infected pine trees will die and fall down, or they will be removed when found to be damaged by the disease. It gives rise to the invasion of other species in these empty niches originally occupied by pine trees, i.e., competing surrounding trees or understory shrubs will invade the empty niches during the following years.As a result, the spatial distribution and pattern of the main tree species in a pine forest will change, and a niche variety in the main population will occur. In the end, the direction of the succession and restoration of the pine forest ecosystem will be affected. In our study, a Pinus massoniana forest with the dominant shrub, Pleioblastus amarus, was invaded by pine wood nematode and was clear cut. Selecting this community as our research object, we studied the effect of the invasion of the pine wood nematode on the growthof the dominant shrub, P. amarus, in this Pinus massoniana forest. Our results show that, after the attacked pine trees were removed,the niche was occupied by Pleioblastus amarus and other shrubs, which benefited the growth of P. amarus to its climax. Growth of P.amarus at the climax stage was greater compared with the unhealthy pine forest and the control group.
【语种】英文
【第一作者】石娟
【通讯作者】骆有庆
【期刊名称、卷期、页码】Acta Ecological Sinica 2008,28(7):3193-3204
【论文发表时间】2009-01-01 00:00:00
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【引文索引号】
【学科分类】植物保护学

【题目】The potential geographic distribution of Radopholus similis in China
【中文关键词】无
【英文关键词】Radopholus similes, niche model, GARP, MAXENT, suitable distribution area
【中文摘要】无
【英文摘要】The burrowing nematode (Radopholus similis) is one of the main quarantine pests in China, and the risk of invasion posed by this nematode is becoming more and more serious with regard to the international trade being intensified day by day.It is urgent to analyse the potential geographic distribution of R. similis in China. Genetic algorithm for rule-set predictionmodeling system (GARP) and maximum entropy (MAXENT), the two niche models which have been widely used to predict the potential geographic distribution of alien species, were used to predict the distribution of R. similis in China.We also presented a model comparison of the results by both threshold-dependent and threshold-independent evaluations.It has been shown that the two niche models could be used to predict the potential distribution of R. similis reliably. The potential distribution of R. similis should be constricted within the south of China, such as Hainan, Guangdong, Guangxi,Fujian, Yunnan provinces, and Taiwan of China. The MAXENT gives a better prediction than that of GARP. R. similis can be introduced to China by flowers and nursery stock ’s international shipping. The predicted results indicate that R.similis can occur in south coastal area of China and Yunnan Province, which are the main flower and nursery stock ’s import export areas in China. Consequently, a strong quarantine program is needed at the ports of such areas to prevent the pest from being introduced to China.
【语种】英文
【第一作者】王运生
【通讯作者】谢炳炎
【期刊名称、卷期、页码】Agricultural Sciences in China 2007, 6(12):1444-1449
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【引文索引号】
【学科分类】植物保护学

【题目】Crop Response to Long-Term Potassium Application as Affected by Potassium‐Supplying Power of
【中文关键词】作物产量,土壤供钾能力,长期施钾,华北平原
【英文关键词】Crop yield, long-termpotassiumapplication, northern China, potassiumsupplying power of soils
【中文摘要】在我国十三个省的试验点,通过田间试验研究了长期施钾肥对土壤供钾能力、作物产量和钾肥利用率的影响,用土壤缓效钾评价发现,土壤供钾能力在中国北方从东到西表现增加,而作物产量呈现出与土壤供钾能力一直的趋势。
【英文摘要】Potash resources in China are very scarce. It is especially important to correctly evaluate the potential potassium-supplying power of soils in northern China in order to use soil potassium sufficiently and potash fertilizer properly.Regional differences in crop yield responses to long-term potassium application in northern China were determined in this study. Twenty-five representative soilsamples from 13 provinces, municipalities, and autonomous regions of major agricultural regions in northern China were collected from the surface layer (0 – 20 cm) before crop seeding in 1993. A soil potassium-depletion study was carried out in a pot experiment with successive planting of corn seedlings for 10 harvests in the 25 soils. Since 1993, field trials on wheat and corn response to long-term potassium application were conducted at the fixed sites of HLJ-SC (Shuangchengof Heilongjiang), JL-LFZ (Liufangzi of Jilin), HB-XJ (Xinji of Hebei), SX-LF (Linfen of Shanxi), QH-NKY (Nongkeyuan of Qinghai), and XJ-CJ (Changji of Xinjiang). Soil-available potassium, slowly available potassium, total potassium, main clay minerals, cation exchange capacity, particle size, other available nutrients, and potassium concentration in plants were measured. The resultsshowed that potential potassium-supplying powers of the 25 tested soils, which were respectively evaluated by the contents of slowly available potassium in soils and the amount of total net potassium uptake in the pot experiment, generally tended to increase from eastern to western regions in northern China. Significant wheat yield responses to long-term potassium application in the field trials werefound since 2000 in the north-central region but not observed until 2004 in the northwestern region. Significant corn yield responses to long-term potassium application in the field trials were found starting in soils of the northeastern region, following in soils of the north-central region, and then in soils of the northwestern region. These were consistent with potential potassium-supplying power of the soils, which tended to increase from east to west regions.
【语种】英文
【第一作者】huang shao wen
【通讯作者】黄绍文
【期刊名称、卷期、页码】Communications in Soil Science and Plant Analysis,40(7-18): 2833-2854
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【学科分类】农业基础学科

【题目】纳米TiO2 光半导体溶胶对植物光合机能的影响
【中文关键词】纳米; TiO2; 光半导体; 光合作用
【英文关键词】nanometer, TiO2, photosemiconductor, photosynthesis
【中文摘要】TiO2 半导体颗粒的光催化机理类似于人工模拟光合作用, 笔者初步探讨了其在植物体上对光合机能的影响; 以锐钛型纳米TiO2 光半导体溶胶为材料, 在栽培试验中, 对黄瓜喷施不同浓度的纳米TiO2溶胶, 然后测定光合参数、根系活力及叶片丙二醛含量的变化; 结果表明, 黄瓜叶片喷施一定浓度的纳米TiO2 溶胶材料后, 在叶片表面形成透明、连续、稳定的TiO2 薄膜, 能显著促进光合速率的增加, 同时根系活力得到提高。这为纳米TiO2 光半导体材料在农业上的应用提供了一定的理论依据和技术参考。
【英文摘要】The mechanism of TiO2 semiconductor photocatalysis had similarity with artificial photosynthesis.The effects of nano-TiO2 photosemiconductor sol on the photosynthesis of cucumber plants had been firstlyreported in this paper. Anatase TiO2 semiconductor used in the experiment was synthesized by sol- gel methods,and its effects on photosynthesis, activities of root systems and contents of leaf cell malondialdehyde hadbeen studies after spray different concentration of nano- TiO2 sol on cucumber leaves in culturing experiments.The experimental results showed that nano- TiO2 sol could form perfectly adhesive, transparent, continuingand stable films on the surfaces of leaves by which net photosynthetic rates and activities of root systemhad been significantly promoted. These results provided some scientific and technical references for applicationof nanomaterials which using TiO2 as effective ingredients in agricultural research.

【语种】中文
【第一作者】张萍
【通讯作者】崔海信
【期刊名称、卷期、页码】植物生理科学,2008,8(24):230-233
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【学科分类】生物物理学

【题目】硅烷偶联剂KH-570对纳米二氧化硅的表面改性研究
【中文关键词】纳米二氧化硅;硅烷偶联剂;改性
【英文关键词】nano-silica; silane coupling agent; modification
【中文摘要】为改善用作农药载体的纳米SiO2 的分散性和疏水性,以硅烷偶联剂KH-570 对纳米SiO2进行了表面改性,通过SEM、XRD、FTIR 以及元素分析等表征方法对产物结构和性能进行了分析,结果表明,KH-570 能够成功地对纳米SiO2 进行改性,并且提高其分散性。最佳偶联改性的反应条件为:改性剂用量5%,改性时间5 h。在此条件下,改性纳米SiO2 的接枝率为11.7%。
【英文摘要】The surface modification of nano-silica materials as pesticide carrier was realized with silane coupling agentKH-570 for the improvement of dispersivity and hydrophobicity. The surface modified nano-silica materials were characterizedrespectively by SEM, low-angle XRD, FTIR and element analysis. The result showed that KH-570 can modificatenano-silica successfully and improve its dispersivity. The optimum surface modifiction conditions: mass fraction of KH-570 is 5%; coupling reaction time is 5 h. Surface grafting ratio of nano-silica with KH-570 obtained under these conditionsis 11.7%.
【语种】中文
【第一作者】刘琪
【通讯作者】崔海信
【期刊名称、卷期、页码】纳米科技,2009,3(6):15-18
【论文发表时间】2009-06-01 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】材料表面与界面

【题目】Effect of Potassium on Ultrastructure of Maize Stalk Pith and Young Rootand Their Relation to Stalk Rot Resistance
【中文关键词】钾,玉米茎腐病,超微结构,抗病能力
【英文关键词】potassium (K), maize stalk rot, ultrastructure, disease resistance
【中文摘要】本文利用电镜、植物生理学技术研究了施钾提高玉米抵抗茎腐病的机理,结果表明,施钾可以提高玉米茎杆细胞稳定性,增加细胞壁强度,降低细菌对细胞的浸染。
【英文摘要】To study the mechanism of potassium (K) application on improvement of maize resistance to stalk rot at cellular level,scanning electron microscope and transmission electron microscope were used to observe the effect of K on the ultrastructureof maize stalk pith tissue and young root tip cell influenced by K and pathogen. In K deficient treatment, parenchyma cellsof stalk pith had abnormal structure, and the cell wall between upper and lower adjacent cell was damaged, resulting in theloss of connections between vascular cells and insufficient supporting capacity. However, an improved K nutritionhelped to keep a quite tight arrangement of root cell with thick cell wall, and prevent the invasion of pathogen effectively.Moreover, K treated root cell had abundant golgi apparatus, which could excrete large amount of secretions to degradeмycelium. Papillary and highly electronic intensity dot were accumulated at the invading point to prevent the developmentof the mycelium. Improved K nutrition could increase the resistant ability of maize plant to stalk rot, through keeping cellstructure stability, preventing the expansion of intracellular space to reduce the chances of pathogen invasions, andthrough reinforcing cell wall and formation of intercellular and intracellular material to restrict further development ofpathogen in host cell.
【语种】英文
【第一作者】李文娟
【通讯作者】何萍

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【引文索引类型】SCI
【引文索引号】000283106400010
【学科分类】农业基础学科

【题目】纳米二氧化硅表面改性及其对阿维菌素吸附和缓释性能
【中文关键词】改性纳米二氧化硅;阿维菌素;控制释放
【英文关键词】Modified nano-SiO2; avermectins; controlled-release
【中文摘要】以纳米SiO2 为原材料,采用硅烷偶联剂KH-570 对其进行表面改性,制备了具有疏水性的改性纳米SiO2,通过SEM、IR 光谱分析以及元素分析,探讨了纳米SiO2 改性后的形貌结构变化,以及其对阿维菌素的吸附和缓释性能。结果表明,经过硅烷偶联剂改性后的纳米SiO2 分散性和亲油性都有了较好的改善,在乙醇中对阿维菌素的吸附率从13.98%提高到31.36%,并对阿维素具有较好的缓释效果,在溶出介质中对阿维菌素的控制释放时间可以持续80 h,所以,经硅烷偶联剂改性后的纳米SiO2 可以作为疏水性药物的控释载体
【英文摘要】Nano-SiO2 surface was modified with the silicon coupling reagent KH570, modified nano-SiO2 was used as a carrier for adsorption and release of avermectins. The experimental results showed that KH-570 was bonded to the nano-SiO2 surface by Fourier infrared(FTIR) spectroscopy, element analysis, the result also indicated the dispersibility of modified nano-SiO2 was improved by scanning electron microscopy(SEM), it has a high absorption capability for avermectins from 13.98% to 31.36% in alcohol with a controlled-release for 80h in medium. Thus, Modified nano-SiO2 can be used as an excellent carrier for hydrophobic drugs.
【语种】中文
【第一作者】林春梅
【通讯作者】崔海信
【期刊名称、卷期、页码】生态环境学报,2009,1(18):197-200
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【引文索引类型】其他
【引文索引号】
【学科分类】资源科学技术

【题目】Effects of applied urea and straw on various nitrogen fractions in two Chinese paddy soils with differing clay mineralogy
【中文关键词】土壤微生物氮,酸溶有机氮,15N示踪,水稻土
【英文关键词】Soil microbial biomass nitrogen . Clay mineral
type . Acid-hydrolysable organic nitrogen fractions . 15N
tracer. Paddy soils
【中文摘要】用盆栽试验研究了化肥、有机肥和秸秆处理对不同土壤组分氮素存在形态的影响。结果表明,与施用尿素氮相比,秸秆还田显著增加了土壤总氮、酸溶态氮、氨基酸态氮和未知态氮,而降低了土壤固定态铵的含量,增加微生物量氮的比例。同时土壤种不同形态氮的比例受土壤矿物类型和微生物量影响较大。
【英文摘要】Combined application of synthetic nitrogen (N) fertilizers and organic materials can enhance soil quality,but little is known about the distribution of fertilizer N among different soil fractions after crop harvest. A pot experiment using 15N tracer was employed to address this question with three treatments, i.e., labeled urea-only (15NU), labeled urea + rice straw (15NU-S) and labeled rice straw + urea (15NS-U) applied to a Ferallic Cambisol (1:1 type soil clay mineral) and a Calcaric Fluvisol (2:1 clay mineral). Soil microbial biomass N, fixed ammonium (fixed NH4 +), exchangeable ammonium and soil organic N fractions by hydrolysis (6 N HCl) and their isotope abundance were determined after the rice harvest. Soil newly formed N in urea + straw (U-S) treatments (15NU-S, 15NS-U) was the sum of labeled urea-N in 15NU-S andlabeled straw-N in 15NS-U. Compared with 15NU, U-S significantly (P<0.05) increased the content and percentage of newly formed total soil N, acid insoluble N, amino acid N, and hydrolysable unknown N in both soils. In U-S treatment, straw amendment significantly (P<0.05) reduced the content and percentage of newly formed fixed-NH4 +-N in Fluvisol as compared with 15NU treatments. Soil microbes contributed to the larger percentage of newly formed amino acid N (P<0.01) in Cambisol as compared with Fluvisol. Fertilizer N in various soil fractions was therefore strongly affected by clay mineral type and microbes after the combined application of organic materials and synthetic N fertilizer. Keywords Soil microbial biomass
【语种】英文

【第一作者】仇少君
【通讯作者】P.-Q. Peng
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【学科分类】农业基础学科

【题目】Effects of Potassium Application on Flavor Compounds of Cherry Tomato Fruits
【中文关键词】钾,樱桃西红柿,口味,风味
【英文关键词】potassium, cherry tomato (l. esculentum var. carasiforme), flavor, volatile compounds, taste compounds
【中文摘要】通过盆栽试验研究了施用钾肥对西红柿果实中挥发性物质、味觉复合物等的影响。结果表明,增加施钾量提高了可滴定酸含量,降低了可溶性糖与可滴定酸的比率。同时发现各种挥发性复合物、可溶糖与可溶性固体关系密切。适量施钾可提高西红柿的风味和口感。
【英文摘要】Apot experimentwas conducted to determine the effects of potassium (K) application onvolatile compounds, taste compounds, and firmness of fresh tomato fruits. Each pot wasfilled with 8 kg of clean sand. The experiment consisted of six K application rates with 0,1.25, 2.5, 5.0, 10.0, and 20.0 mmol K L − 1 in the nutrient solution. Volatile compounds,soluble sugars, soluble solids, titratable acidity, and firmness of fresh tomato fruits weremeasured. The results show that the concentrations of 3-methylbutanal, 1-penten-3-one, hexanal, cis-3-hexenal, 2-methyl-4-pentenal, trans-2-hexenal, 2E-4E-hexadienal,6-methyl-5-hepten-2-one, phenylacetaldehyde, phenylethanol, soluble sugars, and solublesolids tended to increase at first and then decrease between 0 to 10.0 mmol K L − 1.K application rate obtaining the highest values of the concentrations ranged from 1.4 to3.0 mmol K L − 1, with the exception of cis-3-hexenal (1.1 mmol K L − 1), phenylacetaldehyde(4.5 mmol K L − 1), and phenylethanol (4.8 mmol K L − 1). By contrast, increasingK supply increased the concentration of titratable acidity, decreased the ratios of solublesugars to titratable acidity and soluble solids to titratable acidity. Close correlations wereobserved between the concentrations of various volatile compounds, soluble sugars, andsoluble solids. Based on contributions of these compounds to tomato flavor, we assumethat moderate K supply (1.4 – 3.0 mmol K L − 1) improves tomato flavor, whereas tomatofruits with either no K or high K fertilization have poor flavor due to having undesirablelevels of flavor compounds.
【语种】英文
【第一作者】王玉涛
【通讯作者】黄绍文
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【学科分类】农业基础学科

【题目】Evaluation of Agro Services International Soil Test Method for Phosphorus and Potassium
【中文关键词】ASI方法,磷,钾,土壤测试
【英文关键词】ASI method, phosphorus, potassium, soil testing, systematical approach
【中文摘要】通过与常规方法比较,验证ASI法在土壤测试和肥料推荐中的可靠性和稳定性。结果表明,ASI 法提取的土壤速效磷与Mehlich 3 P浸提磷的相关性高于其与 Olsen P的相关性,ASI 法提取的土壤速效钾与Mehlich 3 P和醋酸铵浸提钾的相关性均较高。温室试验表明,ASI法浸提的土壤速效磷和钾可反映土壤肥力水平,可用于土壤养分测试和肥料推荐。
【英文摘要】Soil testing is widely adopted as an essential diagnostic tool for identifying soil nutrientfactors that limit sustained crop production. A systematic approach for rapid soil test- 10ing and fertilizer recommendation has been introduced and widely used in China byAgro Services International (ASI), USA. To verify the usefulness and reliability of theASI method in soil testing and fertilizer recommendation in comparison with other commonlyused traditional soil testing methods, 294 soil samples from major agriculturalregions and soil types in China with a wide range of soil pH, from 5.1 to 8.9, were 15taken and analyzed for available phosphorus (P) and potassium (K) by the ASI multielementextraction solution and selected traditional methods, Olsen extractant for P,ammonium acetate (NH4OAc) extractant for K, and multielement extractant Mehlich 3for P and K. Also, 46 soils were selected from

northern China regions for a greenhousetrial with sorghum seedlings to determine if the soil testing values correlate well with 20plant response. Results indicated that the amount of soil P extracted by the ASI method(ASI P) was correlated to both soil extractable P tested by the Olsen extractant (OlsenP) and Mehlich 3 extractant (Mehlich 3 P). The correlation coefficient of ASI P withMehlich 3 P (R2 = 0.86) was greater than that of ASI P with Olsen P (R2 = 0.74) acrossall selected soils. A good correlation was also found between the exchangeable K from 25the ASI method with the traditional ammonium acetate method (R2 = 0.81) and theMehlich 3 method (R2 = 0.85). The results from the greenhouse trial showed that theextractable P and exchangeable K by the ASI multielement extraction solution could beused to represent the fertility status of soil P and K for the selected soils. Regressionanalysis indicated that the relative dry-matter yield of the sorghum plants can be pre- 30dicted with either ASI P and ASI K values with the correlation coefficients (R2) valuesof 0.78 and 0.72 respectively and could be a good measure for soil testing and fertilizerrecommendation in the selected soils and regions in China.

【语种】英文

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【学科分类】农业基础学科

【题目】Performance of an Optimized Nutrient Management System for Double-Cropped Wheat-Maize Rotations in North-Central China

【中文关键词】优化氮肥管理,小麦。玉米,轮作

【英文关键词】Optimized Nutrient Management,Double-Cropped,wheat,maize

【中文摘要】通过田间试验评价了优化的养分管理对华北小麦-玉米轮作体系的作物产量、氮积累、氮肥利用率和效益的影响。结果表明,与农民习惯施肥相比,OPT施肥处理提高了作物产量、养分利用率和效益。

【英文摘要】Overapplication of N and P and insuffi cient supply of K are considered primary reasons for restriction of yield improvement inthe North China Plain. Optimized nutrient management practices based on soil testing and yield targets have been developed.Other large scale fi eld experiments have indicated that additional improvement for yield and nutrient use benefi ts is needed.Th e objective of this study was to evaluate the eff ects of the optimized nutrient management system on yield, nutrient uptake,nutrient utilization, and profi t in the North China provinces of Shanxi, Hebei, Shandong, and Henan. Treatments consisted ofa check without fertilizer use (CK); a balanced, optimum nutrient application (OPT); the farmers ’ practice (FP); and a series ofnutrient omission treatments (minus N, P, and K, respectively). Th e results indicated that the OPT optimized grain yield, nutrientuse effi ciency, and profi tability. Maize (Zea mays L.) yield increased by 12.2% at Shanxi and 18.5% at Hebei, respectively.Inputs of N and P across the wheat (Triticum aestivum L.) and maize system at the four sites was reduced by 13% (266 kg N ha − 1)and 45% (430 kg P2O5 ha − 1), while K input was increased by 43% (265 kg K2O ha − 1). Th e OPT improved both measurementsof nitrogen use effi ciency (NUE); agronomic nitrogen effi ciency (AEN) and nitrogen recovery effi ciency (REN) in the majorityof cases. Although the OPT tested in this study increased yields and nutrient uptake, there remains considerable potential toimprove AEN and REN further for this intensive winter wheat – summer maize rotation system.

【语种】英文

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【学科分类】农业基础学科

【题目】Simulating water content, crop yield and nitrate-N loss under free and controlled tile drainage with subsurface irrigation using the DSSAT model

【中文关键词】作物系统模型,轮作,模型矫正,模型评价
【英文关键词】Cropping system model, Crop rotation,Corn Soybean, Model calibration ,Model evaluation
【中文摘要】通过田间试验与模型模拟相结合,验证DSSAT模型在模拟作物产量方面的作用。结果表明DSSAT模型在模拟地表水含量,土壤硝态氮含量影响和作物产量方面是十分有用的工具。
【英文摘要】In southwestern Ontario, rain-fed crop production frequently fails to achieve its yield potential becauseof growing-season droughts and/or uneven rainfall distribution. The objective of this study was to determineif the Decision Support System for Agrotechnology Transfer (DSSAT) v4.5 model could adequatelysimulate corn and soybean yields, near-surface soil water contents, and cumulative nitrate-N lossesassociated with regular free tile drainage (TD) and controlled tile drainage with optional subsurface irrigation(CDS). The simulations were compared to observations collected between 2000 and 2004 fromboth TD and CDS field experiments on a Perth clay loam soil at the Essex Region Conservation Authoritydemonstration farm, Holiday Beach, Ontario, Canada. There was good model-data agreement for cropyields, near-surface (0 – 30 cm) soil water content and cumulative annual tile nitrate-N loss in both thecalibration and validation years. For both TD and CDS, the CENTURY soil C/N model in DSSAT simulatedwater content and cumulative tile nitrate-N loss with normalized root mean square error (n-RMSE) valuesranging from 9.9 to 14.8% and 17.8 to 25.2%, respectively. The CERES-Maize and CROPGRO-Soybean cropsystem models in the DSSAT simulated corn and soybean yields with n-RMSE values ranging from 4.3 to14.0%. It was concluded that the DSSAT v4.5 model can be a useful tool for simulating near-surface soilwater content, cumulative tile nitrate-N losses, and corn and soybean yields associated with CDS and TDwater management systems.
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【第一作者】刘海龙
【通讯作者】yangjinyi
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【学科分类】农业基础学科

【题目】Using the DSSAT-CERES-Maize model to simulate crop yield and nitrogen cycling in fields under long-term continuous maize production
【中文关键词】DSSAT模型,作物系统模型,模拟,长期定位试验,
【英文关键词】DSSAT, Cropping system model,CSM-CERES-Maize , Sequential simulation ,Long-term experiment
【中文摘要】研究利用DSSAT和CERES-Maize模型描述了一个50年长期定位试验的作物产量和土壤氮动力学特征,结果表明,模型虽不能预测作物产量,但模拟的产量与其他研究者的结论相符较好,能较好反映出土壤表层的硝态氮变化动态,能反应出施肥处理对作物产量和土壤氮变化的影响。
【英文摘要】Simulation models, such as the DSSAT (Decision Support System for Agrotechnology Transfer)Crop System Models are often used to characterize, develop and assess field crop production practices. In this study, one of the DSSAT Cropping System Model, CERES-Maize, was employed to characterize maize (Zea mays) yield and nitrogen dynamics in a 50-year maize production study at Woodslee, Ontario, Canada (42_130N, 82_440W). The treatments selected for this study included continuous corn/maize with fertilization (CC-F) and continuous corn/maize without fertilization (CC-NF) treatments. Sequential model simulations of long-term maize yield (1959 – 2008), near-surface (0 – 30 cm) soil mineral nitrogen (N) content (2000), and soil nitrate loss (1998 – 2000) were compared to measured values. The model did not provide accurate predictions of annual maize yields, but the overall agreement was as good as other researchers have obtained. In the CC-F treatment, near-surface soil mineral N and cumulative soil nitrate loss were simulated by the model reasonably well, with n-RMSE = 62 and 29%, respectively. In the CC-NF treatment, however, the model consistently overestimated soil nitrate loss. These outcomes can be used to improve our understanding of the long-term effects of fertilizer management practices on maize yield and soil properties in improved and degraded soils.
【语种】英文
【第一作者】刘海龙
【通讯作者】杨靖一
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【学科分类】农业基础学科

【题目】Yield Gaps, Indigenous Nutrient Supply, and Nutrient Use Efficiency of Wheat in China
【中文关键词】小麦,基础养分供应能力,养分利用率,产量差
【英文关键词】yield gap, wheat ,indigenous nutrition suppply, nutrition use efficiency
【中文摘要】研究收集并分析了我国长江中下游和华北平原1022个大田试验的资料,处理包括不施肥对照、OPT处理和农民习惯施肥。结果表明,土壤基础养分供应能力为133.0, 30.2和131.7 kg ha – 1,全国范围内OPT处理下的平均N、P、K农学效率分别为9.8, 19.2和7.2 kg kg-1,养分回收率分别为37.9, 19.0和27.0%。从2000年至2008年,施肥量的增加导致养分利用率均降低,但提高了土壤的基础肥力。
【英文摘要】Great advances in food production have been made in China, but the continuous increase of nutrient inputs has caused a seriesof environmental problems. Nutrient management for crops must be improved. Yield gaps, indigenous nutrient supplies, andnutrient use efficiencies (NUEs) must be assessed to design management strategies for further yield increase. In this study, datafrom 1022 field experiments with wheat (Triticum aestivum L.) conducted between 2000 and 2008 in north central China, themiddle and lower reaches of the Yangtze River, and northwest China were analyzed. Treatments in these experiments consistedof a check without fertilizer use, an optimum nutrient application, the farmers ’ practice, and a series of nutrient omission treatments.The results showed that gaps between attainable yields and yields in experimental plots with farmers ’ practices averaged0.76 Mg ha – 1. Indigenous nutrient supplies of N, P, and K averaged 133.0, 30.2, and 131.7 kg ha – 1, respectively, in the regionsstudied. On a national scale and under optimum fertilization, agronomic efficiency of N, P, and K were 9.8, 19.2, and 7.2 kg kg – 1,while recovery efficiencies were 37.9, 19.0, and 27.0%, respectively. Compared with values obtained 10 yr previous, agronomicefficiencies and recovery efficiencies determined between 2000 and 2008 were lower but also lower than world averages. Successiveinputs of large amounts of nutrients significantly increased the indigenous nutrient supply and therefore are contributing tolower NUE because recommendations for N, P, and K have not been adjusted downward in China.
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【第一作者】刘晓燕
【通讯作者】何萍
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【题目】施氮对高淀粉玉米和普通玉米子粒可溶性糖和淀粉积累的影响
【中文关键词】玉米,糖,淀粉,
【英文关键词】maize, sugar,starch
【中文摘要】:采用田间试验、植株生理生化分析和电镜观察等方法,研究了不同氮肥用量对高淀粉玉米吉单535和普通玉米军单8号子粒糖分与淀粉形成的影响。结果表明,在施氮量0-200kg/ha之间,两品种玉米子粒淀粉含量随着施氮量的增加而增加,过量施氮则淀粉含量降低。灌浆期吉单535子粒蔗糖、果糖、葡萄糖含量均高于军单8号,适量施氮使子粒灌浆期保持较高的蔗糖、果糖和葡萄糖含量,有利于淀粉合成。高淀粉玉米在成熟期淀粉粒充满了细胞,大小均匀,排列有序;普通玉米的淀粉粒则没有充满细胞,大小不一,排列混乱。适宜施氮下淀粉粒大小较为均匀,淀粉粒之间挤压轻微,而过量施氮下淀粉粒相互挤压成多面体状。
【英文摘要】firld experiment was conducted to study the effect the applicatin of N on maize sugar,starch formation in different maize varies.the resuls indicated that the over-fertilizer N decreas the sugar content in maize grain.
【语种】中文
【第一作者】刘海龙
【通讯作者】何萍
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【题目】施氮对不同土壤肥力玉米氮素吸收和利用的影响
【中文关键词】春玉米; 氮肥; 土壤肥力; 产量; 肥料利用率
【英文关键词】sp ringmaize; nitrogen fertilizer; soil fertility; yield; nitrogen efficiency
【中文摘要】采用田间试验,研究了吉林省高、低肥力条件下不同氮肥用量对春玉米产量及氮素吸收和利用的影响。结果表明,范家屯和榆树试验点的最高产量施氮量分别为N 251和206 kg/hm2 ,最佳经济施氮量分别为N 227和134kg/hm2。两试验点的最高产量和最佳经济产量均表现为范家屯试验点高于榆树试验点。适宜增加施氮量可显著提高范家屯低肥力试验点玉米氮素最大吸收速率和吸收总量,提前最大吸收速率出现的天数。玉米收获后0—30cm土层残留的硝态氮呈现出随着施肥量的增加而增加的趋势,其中榆树高肥力试验点土壤硝态氮积累明显高于范家屯低肥力土壤。范家屯低肥力试验点氮素的农学利用率、表观回收率和偏因子生产力高于榆树高肥力试验点。范家屯低肥力条件下可通过增施氮肥提高产量;而榆树高肥力条件下则可通过控制氮肥用量达到提高产量和氮肥利用率的双重目标。
【英文摘要】Field experiments were conducted to study the effect of different nitrogen app lication rates on maizeyield, nitrogen up take and utilization under different soil fertilities in J ilin p rovince. The results showed that, the highestN app lication rates undermaximum yieldswere N 251 and 206 kg/ha for Fanjiatun and Yushu respectively,and the economic op timum N app lication rates under economic op timum yieldswere N 227 and 134 kg/ha for Fan jiatun and Yushu respectively. The maximum N absorp tion rate and totalN up take were significantly imp roved with the increasing N app lication rates, and the date of the maximum N absorp tion rate occurred earlier in Fanjiatunsite. The residual nitrate nitrogen in 0 - 30 cm soil p rofile increased with N app lication rates, and nitrate accumula tion in 0 - 30 cm soil p rofile was observed higher in Yushu than that in Fanjiatun. The nitrogen agronomic efficiency, nitrogen recovery efficiency and nitrogen partial factor p roductivity in Fanjiatun with lower soil fertility were higher than those in Yushu with higher soil fertility. In summary, it was suggested that for the site like Fanjiatun with lower soil fertility, the high yield could be reached by increasing N app lication rate, while for the site like Yushu with higher soil fertility, N app lication rate should be controlled in order to increase the yield and imp rove Nuse efficiency.
【语种】中文
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【通讯作者】何萍
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【题目】施氮对春玉米氮素利用及农田氮素平衡的影响
【中文关键词】春玉米; 施氮量; 土壤硝态氮; 氮肥利用率
【英文关键词】maize; N application; soil NO3-N; N recovery efficiency
【中文摘要】田间试验研究了玉米对不同土壤氮素供应水平下作物氮素吸收利用、土壤氮素供应以及农田氮素平衡的影响。结果表明, 玉米产量随施氮量的增加而显著提高, 当施氮量高于N 240 kg/ hm2 时, 产量有减少趋势; 氮素当季利用率随施氮量的增加逐渐降低。土壤中硝态氮含量在玉米整个生育时期呈现先迅速下降后缓慢升高的趋势; 玉米成熟期, 施氮处理的各层土壤中硝态氮含量显著高于不施氮处理, 各层硝态氮含量基本随施氮量的增加而升高。适量施氮促进玉米对氮素的吸收和利用, 进而提高玉米生物量和产量; 过量施氮导致硝态氮在土壤中大量累积, 提高了硝态氮淋溶风险。施氮处理显著提高了收获后土壤中残留无机氮(Nmin) , 土壤残留Nmin随施氮量的增加而增加; 当施氮量高于N 240 kg/ hm2 时, 残留Nmin有下降趋势。氮素表观损失随施氮量的增加而增加。在本试验条件下, 综合产量、氮肥利用率和土壤硝态氮累积情况考虑, 合理施氮量应控制在N 180~240 kg/ hm2 左右。
【英文摘要】Field experiment was carried out to invest igate N application on plant N uptake and utilizat ion, soil N supply and N balance in spring maize. Results obtained showed that , maize yield increased significantly with the increment of N application rate, and with the trend of decreasing when the nitrogen application rate was higher than N 240 kg/ ha. N recovery efficiency decreased with the N applicat ion rate. Nitrate content in the soil profile throughout the growth stages showed the trends of decreasing rapidly first, and then rose slowly. Nitrogen application signif icantly increased nitratecontent in all layers of soil profile, and nitrate content rose with N application rate. Appropriate rate of nitrogen promoted plant N uptake and utilization, and plant biomass and yields as well. Over use

of N resulted in luxury nitrate accumulation in soils, and therefore enhanced the risk of nitrate leaching into the underground water. At harvest, nitrogen application significantly increased residue mineral N (Nmin) in soils. The residue Nmin in soils rose with N application rate, but the value decreased when N application rate was over N 240 kg/ ha. Under the experimental condit ions, with the consideration of yield, nitrogen ut ilization and soil nitrate accumulation, a reasonable amount of nitrogen application should be controlled at about N 180- 240 kg/ ha.

【语种】中文
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【题目】不同氮效率玉米干物质形成及氮素营养特性差异研究
【中文关键词】氮效率; 玉米; 干物质; 氮素; 转运
【英文关键词】nitrogen efficiency; maize; dry matter; nitrogen; transportation
【中文摘要】通过田间小区试验, 开展了两个氮素供应水平(N0 和N180) 下, 两个不同氮效率玉米品种[氮高效品种先玉335(V1) 低效品种吉单535(V2)] 干物质形成与氮素营养特性差异研究。结果表明, 在氮素胁迫条件下, 氮高效品种先玉335具有较高的耐低氮能力, 表现为N0 处理其干物质量及吸氮量均显著高于氮低效品种吉单535 的N180 处理。成熟期, 先玉335 的子粒干物质量和吸氮量均显著高于吉单535, 且N180 处理显著高于N0 处理; 品种和氮素处理间的交互作用达极显著水平, 表现为N180 处理先玉335 子粒干物质量和吸氮素最高。另外, 两品种子粒中85.%~97.6%的碳来源于粒重形成阶段叶片的光合作用, 仅2.%~ 14.%源于抽雄前营养体的碳素转移。先玉335 子粒氮素来源更多依赖于生育后期根系对氮素的吸收和转移, N0 和N180 处理中, 根系氮素吸收转移量对子粒的贡献分别为45.%和59.%; 而吉单535 子粒的氮素来源则以生育前期地上部营养体的氮素转移为主, N0 和N180 处理中, 转移量对子粒贡献分别为65.%和67.%。先玉335 的氮肥回收利用率、氮肥农学效率及氮肥偏生产力均高于吉单535。
【英文摘要】Field experiment was conducted to investigate dry matter accumulation and N uptake under two N levels (N0and N180) in two maize cultivars with contrasting N use efficiency. The results indicated that Xianyu 335 with high N efficiency had great tolerance to N stress. The dry matter weight and N absorption of Xianyu 335 in N0 treatment were both higher than those of Jindan 535 in N180 treatment. In maturity stage, the dry matter weight and N absorption of grain in Xianyu 335 was significant higher than Jidan 535, and those in N180 treatment was higher than N0 treatment . Moreover,the interaction between variety and N application reached extremely significant level. The dry matter weight and N absorption of grain was highest in Xianyu 335 with 180 kg/ ha N application. In addition, a majority of grain carbon (85.% - 97.%) relied on photosynthesis in the stage of grain formation, only a minority of grain carbon (2.% -14.%) relied on carbon translocat ion from vegetative organs. For Xianyu 335, nitrogen in grain mainly relied on N uptake by root at reproduct ive stage, which accounted for 45.% and 59.% of total N of grain in N0 and N180 treatmentrespectively; but for Jidan 535, N in grain mainly relied on N translocation from vegetative 335 the nitrogen recovery use efficiency (NRUE) , nitrogen agronomic eff iciency (NAE) and nitrogen partial factor productivity organs, which accounted for 65.% and 67.% of total N grain in N0 and N180 treatment respect ively. In Xianyu (NPFP) were all higher than Jidan 535.

【语种】中文
【第一作者】李文娟
【通讯作者】何萍
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【题目】不同氮肥管理措施在华北平原冬小麦上的应用效果
【中文关键词】冬小麦,氮肥管理,基肥,追肥

【英文关键词】Winter wheat; Nitrogen fertilizer management; Basal nitrogen; Topdressing nitrogen
【中文摘要】在河北省衡水和辛集两试验点,采用田间试验研究了不同氮肥用量和不同基追比例对冬小麦生长、产量和土壤氮素变化的影响。结果表明,在衡水试验点,由于土壤基础肥力较高,土壤本底供氮量能满足小麦返青期前的正常生长,施氮肥对小麦增产无效,但与施基肥处理相比,不施基肥、仅在拔节和孕穗期2:1分次追肥显著提高了氮肥利用率;在辛集,不施基肥显著影响小麦返青前的生长,60 kg N /ha能满足小麦拔节前的正常生长,不施基肥、仅在拔节后追肥不能消除前期氮缺乏对小麦生长和高产的影响,240 kg N /ha以基追比1:3施用时能获得较高的产量和氮肥利用率。冬小麦生育期田间氮肥表观损失主要来源于冬前追肥,但中后期追肥比例过大也增加了收获后土壤的无机氮残留。由于土壤的肥力和质地不同,相同的氮肥管理方法在两试验点对小麦的生长、产量和氮肥利用率的影响差异较大,因此,为达到作物高产和氮肥高效,对氮肥的同步调控应结合作物养分阶段需求、土壤养分供应特征和土壤肥力、质地的区域分异特征分区进行。
【英文摘要】The field experiments were conducted to investigate the effects of different nitrogen fertilizer rates and the ratio between basal nitrogen and topdressing nitrogen on winter wheat growth, grain yield and the change of soil nitrogen content in Hengshui and Xinji, in Hebei province, respectively. The results showed that indigenous nitrogen supply could meet the demand of nitrogen for winter wheat normal growth befor regreen stage because of higher soil fertility, and the applied nitrogen fertilizer did not significantly increase wheat grain yield in Hengshui sites, but the application of topdressing nitrogen only at shooting and booting stages at the ratio of 2:1 significantly increased nitrogen use efficiencycompared with the treatments applied basal nitrogen and topdressing nitrogen; in Xinji site, 60 kg N /ha could meet the demand of nitrogen for wheat growth before shooting satge, and all nitrogen were applied as topdressing at shooting stage did not eliminate the effect of nitrogen deficient at early growth stage on wheat growth and high grain yield, the application of 240 kg N /ha at the ratio of 1:3 between basal nitrogen and topdressing nitrogen at shooting stage achieved higher grain yield and nitrogen use efficiency compared with other treatments. The apparent nitrogen loss during winter wheat growth season mainly came from basal nitrogen, but high topdressing nitrogen rates at mid- later stages also increased soil Nmin residual after harvest. Because of the variation of soil fertility and textures, the effect of the same nitrogrn managements method on winter wheat growth, yield and nitrogen use efficiency in two sites were different, so for higher crop yield and higher nitrogen fertilizer use efficiency, the synchronizing regulation of nitrogen fertilizer should combine crop nutrient demand, nutrient supply from soil and regions variation characters of soil fertility and textures.
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【第一作者】赵士诚
【通讯作者】何萍
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【题目】冬小麦- 夏玉米适宜氮磷用量和平衡施肥效应
【中文关键词】氮水平; 磷水平; 平衡施肥; 冬小麦- 夏玉米; 产量
【英文关键词】nitrogen levels; phosphorus levels; balanced fertilization; winterw heat summer corn; yield
【中文摘要】在河北衡水对冬小麦- 夏玉米适宜氮、磷用量及高产高效平衡施肥效应的研究表明, 在土壤中等肥力水平下, 冬小麦- 夏玉米施用氮肥和磷肥均能显著增加产量和效益, 冬小麦和夏玉米施用氮肥分别增产11. 1% ~32.2% (平均22.5%) 和12.5% ~ 24.1% (平均19.2%), 分别增收53.50~ 2 775.0 元/hm2 (平均1 876.60元/ hm2) 和1 352.3 ~ 2 293.7 元/hm2 (平均1 651.4 元/hm2) ; 施用磷肥分别增产8.1% ~ 14. 0% (平均11.7%) 和2.5% ~ 13.2% (平均9.1%), 分别增收563.4~ 1 380. 6元/hm2 (平均974.7元/hm2) 和189.74~1 458. 39元/hm2 (平均765.31元/hm2)。冬小麦- 夏玉米适宜N 用量范围分别为220 ~ 260 kg /hm2和220~ 280kg /hm2, 适宜施氮水平的氮肥利用率分别为36.5% 和26.3%; 适宜P2O5用量分别为90 ~ 110 kg /hm2和95~ 115kg /hm2, 适宜施磷水平的磷肥利用率分别为16.8% ~ 17.3%和11.8% ~ 20. 5%。冬小麦- 夏玉米高产高效平衡施肥较农民习惯施肥增产5.3% ~ 9.0%, 增收454.19~ 992. 5元/hm2, 提高氮肥利用率5.0~ 15.2个百分点。
【英文摘要】Results from the fie ld exper iment inH engshu i show ed that n itrogen application underm idd le so il fertility level sign ificantly increased yield of winter wheat and summer corn by 11.1% ~ 32.2% and 12.5% ~ 24.1%, respective ly, and increased income by 853.50~ 2 775.00 yuan /hm2 and 1352.33~ 2 293.77 yuan/ hm2, respective ly; phosphorus app lication also significantly increased yield of winter wheat and summer corn by 8.1% ~ 14.0% and 2.5% ~ 13.2%, respectively, and increased income by 563.4~ 1380.6 yuan /hm2 and 189.74~ 1 458.39 yuan /hm2, respectively. The proper rate o f N of winter wheat and summer corn was 220~ 260 kg /hm2 and 220 ~ 280 kg / hm2, respectively, and recovery rate of the proper N w as 36.5% and 26.3%, respective ly. The proper rate o f P2O5 of winter wheat and summer corn w as 90~ 110 kg /hm2 and 95~ 115kg /hm2, respectively, and recovery rate of the proper P2O5 was

16.8% ~ 17.3% and 11.8% ~ 20.5%, respectively. Balanced fertilization under different soil fertility leve ls distinctly increased yield, income, and n itrogen recovery rate of winter wheat summer corn by 5.3% ~ 9.0%, 454.19~ 992.5 yuan /hm2, and 5.0~ 15.2 percentage point, respective ly.

【语种】中文
【第一作者】黄立梅
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【题目】吉林省玉米种植区土壤养分空间变异特征研究
【中文关键词】GIS; 空间变异; 地统计学; 克里格插值
【英文关键词】GIS; spatial variability; geostatistics analysis; Kriging
【中文摘要】本文以吉林省中部玉米种植区9 县市为研究区域,采用传统统计学和地统计学相结合的研究方法,探讨研究区域表层土壤(0—20 cm) 有机质、全氮、碱解氮、有效磷、速效钾和pH 值的空间变异特征。结果表明: 各养分的变异系数在10% ~ 100%之间,属中等变异; 有机质、碱解氮、有效磷和速效钾的块金值(C0) 与基台值(C0 + C) 比值介于25% ~ 75%之间,表现出中等强度的空间自相关,而全氮和pH 值表现强烈的空间自相关; 根据决定系数(R2) 和残差平方和(RSS) 进行模型选择,几种养分均用指数模型拟合的效果较好; 依据GIS 所做的养分空间变异图可以很好地反应该地区的土壤养分空间分布状况,可以为该地区土壤养分的综合评价和施肥管理决策提供依据
【英文摘要】Statistics and geostatistics methods were adopted to study spatial variations of soil nutrients including total nitrogen (N) ,available N,available phosphorus (P) ,available potassium (K) ,organic matter and pH in top soils from nine counties /cities in main production areas of Jilin province.The results show that the variation coefficients of the soil nutrients are from 10% to 100%,which indicate that the variations are at their medium levels.The spatial structures (nugget /sill) of available N,available P available K and organic matter are from 25% and 75%,which indicate moderate spatial self-correlations,while pH and total N are strong spatial self-correlations.According to thedecisive coefficients and the least residual sums of squares(RSS) for the model selections,all nutrients are fitted to exponential model well.The GIS-based nutrient spatial variability figures can reflect spatial distributions of the soil nutrients and provide theoretical bases for soil nutrient management and decision-making in the study area.
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【题目】最佳养分管理对华北冬小麦养分吸收和利用的影响
【中文关键词】冬小麦; 最佳养分管理; 养分吸收和利用
【英文关键词】winter wheat; optimum nutrient management; nutrient up take and utilization
【中文摘要】针对华北地区小麦施肥过量和不平衡、产量和肥料利用率较低的现象,进行了河南、山东、河北3个小麦主产区最佳养分管理、农民习惯施肥和减素处理对冬小麦产量、养分吸收、利用和经济效益影响的田间试验。结果表明,在山东和河北较高肥力地区,最佳施肥处理(OPT)与农民习惯施肥(FP)处理相比在减少氮肥施用5.%和43.%的情况下,分别提高氮肥回收利用率7.和4.个百分点; 在河南低肥力地区,OPT处理在比FP处理增加10%氮肥施用量的情况下,冬小麦增产12.%,氮肥回收利用率提高了13.个百分点。同时,OPT处理钾肥和磷肥的回收利用率也有不同程度的提高。由于地区土壤肥力和养分供应能力变异较大,基于土壤养分测定和目标产量的优化养分管理很有必要且切实可行。
【英文摘要】Over-se and unbalanced fertilization is the most important problem forwheat p roduction in North China Plain, and it is one of reasons for low yield and low nutrient use efficiency. Field experiments were conducted to study the effects of op timum nutrient anagement practice (OPT) , farmers practice (FP) and a check without fertilization (CK) on wheat yield, nutrient up take and

utilization, and net return of winter wheat production in Henan,Shandong and Hebei Provinces. The results show that the N recovery efficiencies of the OPT treatment in fields with high soil nutrient levels in Shandong and Hebei Provinces are increased by 7.7% and 4.5% respectively, under the reductions of N fertilizer by 5.4% in Shandong and 43.8% in Hebei; While in Henan Province with low soil nutrient level, winter wheat yield and N recovery efficiency are increased by 12.5% and 13.0% under the balanced OPT treatmentwith only 10% more N fertilizer input. In addition, P and K recovery efficiencies of the OPT treatment are improved as well. Because there are significant variations of soil fertility and nutrient supplying ability among regions, the soil test and target yield management practice is a feasible approach for optimum fertilization.

【语种】中文
【第一作者】沙之敏
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【题目】氮肥减施对稻-麦轮作体系作物氮素吸收、利用和土壤氮素平衡的影响
【中文关键词】氮肥减施; 稻-麦轮作; 氮肥利用率; 土壤无机氮
【英文关键词】reducing N application; rice-wheat rotation; N use efficiency; soil mineral N
【中文摘要】田间试验研究了稻-麦轮作体系中减施氮肥对作物氮素吸收、利用和土壤氮素平衡的影响。结果表明,与当地习惯施肥(小麦: N 225 kg/hm2 ,基肥与分蘖肥各半; 水稻: N 210 kg/hm2 ,基肥和分蘖肥为3∶2)相比,减氮20%~30%处理产量并没有降低,而氮肥当季利用率、氮素农学利用率以及氮素偏因子生产力则有所增加; 而且,氮肥分次追施,能增加子粒产量,并减少氮肥成本。虽然减氮20% ~30%处理0—40 cm土层无机氮含量较习惯施肥处理降低,但是并没有降低植株地上部对氮素的吸收。在小麦和水稻收获期,减施氮肥处理0—100 cm土壤无机氮残留量低于习惯施肥处理; 且稻-麦轮作系统中氮的表观损失主要发生在水稻季。初步认为,在长江中下游平原稻-麦轮作体系氮素过量施用地区,第一个轮作周期减施氮肥20% ~30%不仅不影响产量,而且可提高氮素利用率,有利于保护环境。
【英文摘要】The effects of reducingN application on plan N uptake, utilization, and soil N balance in rice-wheat rotation system were studied using field experiments. The results show that compared with farmers p ractice for N fertilization, N 225 kg/ha for wheat with 1 /2 basal and 1 /2 topdressing at the tillering stage and N 210 kg/ha for rice with the ratio of 3 ∶ 2 for the basal and tillering applications, the grain yields are not decreased under the N app lication amounts with a reduction by 20%- 30% , while the N recovery efficiency, N agronomic efficiency, and N partial factor productivity are increased. Moreover, topdressing N fertilization can increase the grain yields and reduce the cost of the fertilization. Although both soilmineral N content and accumulation are reduced, the N absorptions by crops are not reduced accordingly. There is less residual soil mineral N in 0 - 100 cm layer at the harvest stagesof wheat and rice compared to that of the farmerps practice. In addition, the loss of apparent N in the rice-wheat system is mainly occurred in the rice season. Therefore, it is preliminarily concluded that the reducing N app lication by 20%- 30% is a feasible N management practice under the first rice-wheat rotation system in the middle-lower Yangtze plain with over N fertilization.
【语种】中文
【第一作者】易琼
【通讯作者】何萍
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【题目】氮肥减量后移对土壤氮素供应和夏玉米氮素吸收利用的影响
【中文关键词】氮肥后移;夏玉米;氮肥利用率;硝态氮
【英文关键词】Posting N application; Summer maize; N use efficiency; NO3--N
【中文摘要】采用田间试验研究了氮肥减量后移对土壤氮素供应和夏玉米氮素吸收利用的影响。结果表明,与农民习惯施肥(N240 kg/hm2,基肥和大喇叭口追肥为1:2)相比,氮肥减量后移(N168kg/hm2,基肥、大喇叭口肥和吐丝肥为1:3:1)处理的产

量、植株干物质积累量、植株氮积累量和积累速率均没有降低,而氮肥利用率显著增加。氮肥减量后移可使耕层无机氮供应与作物吸收较好的同步,降低收获期0-100cm土层硝态氮积累,减少氮素的田间表观损失。基于夏玉米不同生育阶段的氮素吸收特征进行氮肥减量后移可节省氮肥30%,是较为理想的氮素施用方式。

【英文摘要】Field experiment was conducted to investigate the effect of reducing and postponing N application on soil N supply、plant N uptake and utilization in summer maize. The result showed, reducing and postponing N application (N 168kg/hm2, 1/5 basal, 3/5 topdressing at stalk enlongation stage and 1/5 topdressing at silking stage respectively) improved N use efficiency without decreasing of grain yield、dry biomass accumulation、N accumulation and N accumulation rate compared with farmers ’ practice (N 240 kg/hm2, 1/3 basal and 2/3 topdressing at booting stage, respectively). Moreover, reducing and postponing N application can improve synchronization of soil N supply and crop demand during maize growth stage, decrease NO3--N accumulation of 0-100 cm soil profile and reduced field apparent N loss at maturity. Therefore it was concluded that reducing and postponing N application based on summer maize N uptake at different growth stages was a feasible N management practice, and nitrogen fertilizer could be saved by 30% as compared with farmers ’ practice.

【语种】中文

【第一作者】赵士诚

【通讯作者】何萍

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【题目】氮肥运筹、配施有机肥和坐水种对春玉米产量与养分吸收转运的影响

【中文关键词】氮肥运筹; 春玉米; 产量; 干物质积累; 养分吸收转运

【英文关键词】nitrogen fertilizer management ; spring maize ; yield ; dynamics of dry matter accumulation ; nutrient uptake and translocation

【中文摘要】采用田间试验方法,研究了氮肥运筹、配施有机肥和坐水种对春玉米产量与养分吸收转运的影响。结果表明,适宜氮肥运筹方式、配施有机肥和坐水种均能显著增加春玉米产量,氮肥两次追肥处理的产量较一次追肥处理的产量增加10.6 %~17.0 % ,配施有机肥增产10.3 %~18.0 % ,坐水种增产9.1 % ,配施有机肥并坐水种增产20.4 %。氮肥两次追施、配施有机肥及配施有机肥并坐水种均能显著提高春玉米干物质最大积累速率和积累总量,分别提高干物质最大积累速率11.1 %~29.5 %、28.0 %~28.8 %和32.1 % ,依次提高干物质积累总量11.9 %~15.5 %、21.2 %~24.4 %和26.9 %。氮肥两次追施、配施有机肥和坐水种均可提高N、P、K养分最大吸收速率和吸收总量,养分最大吸收速率以K最高,N 居中,P 最低; 养分吸收总量以N 最高,K居中,P 最低; 养分最大吸收速率出现的时间以K最早(57.2~60.4 d) ,N 居中(65.3~68.5 d) ,P 最晚(71.4~74.8 d) ,三者均早于干物质积累最大速率出现的时间(82.5~89.3 d) 。氮肥两次追施、配施有机肥和坐水种均有利于N、P、K养分由营养体向子粒的转运量、转运效率、子粒中养分含量以及氮肥利用率的提高,养分转运效率以P 最高(59.3 %~66.1 %) ,其次是N (41.5 %~55.1 %) ,K最低(35.9 %~38.0 %) 。在本实验条件下,施氮量为225 kg/ hm2 ,基肥∶拔节肥比1∶3 ,配施有机肥结合坐水种,为最佳施肥处理。

【英文摘要】This study was conducted to determine the effects of nitrogen fertilizer management , organic manure application and bed-irrigation sowing on maize yield , dry matter accumulation , uptake and translocation of N , P and K, and nitrogen recovery rate. The results showed that proper nitrogen fertilizer management , organic manure application and bed- irrigation sowing significantly increased spring maize yield. The average yield increase was 10.6 %- 17.0 % for nitrogen fertilizer top-dressing for two times, 10.3 %- 18.0 % for organic manure application , 9.1 % for bed-irrigation sowing ,and 20.4 % for the combined organic manure application and bed-irrigation sowing compared to nitrogen fertilizer top-dressing for one time , respectively. Significant increase in rate of maximum dry matter accumulation and total accumulation amount of dry matter was observed by nitrogen fertilizer top-dressing for two times , organic manure application , and the combined organic manure application and bed-irrigation sowing compared to nitrogen fertilizer top-dressing for one time , with respective increase of 11.1 %- 29.5 % , 28.0 %- 28.8 % and 32.1 %for rate of maximum dry matter accumulation , and 11.9 %- 15.5 % , 21.2 %- 24.4 % and 26.9 %for total accumulation amount of dry matter. Maximum uptake rate and total uptake amount of N , P and Kincreased obviously by nitrogen fertilizer top-dressing for two times , organicmanure application , and the combined organic manure application and bed-irrigation sowing. A general order was followed by K > N > P for maximum nutrient uptake rate , N > K > P for total nutrient uptake amount , and K (57.2- 60.4 d) > N (65.3 – 68.5 d) > P (71.4 – 74.8 d) for the appearing time of maximum nutrient uptake rate , whichwere earlier than that of maximum accumulation rate of dry matter (82.5 - 8913 d) . Remarkable increase in translocation amount and efficiency of N , P , Kfrom vegetative organs to grains ,

nutrient content in grain , and nitrogen recovery rate was found by nitrogen fertilizer top-dressing for two times , organic manure application and bed-irrigation sowing , and proportion of nutrients in grains was followed by P (59.3 %- 66.1 %) > N (41.5 %- 55.1 %) > K (35.9 %- 38.0 %) .Under the experiment conditions , the recommend fertilizer formula was nitrogen applied 225 kg/ ha with 1/ 4 nitrogen fertilizer applied as basic fertilizer and 3/ 4 as jointing fertilizer combined with organic manure application and bed-irrigation sowing.

【语种】中文
【第一作者】吴迪
【通讯作者】黄绍文
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【题目】温度胁迫对白灵侧耳菌丝保护酶活性的影响
【中文关键词】白灵侧耳; 温度胁迫; 超氧化物歧化酶; 过氧化物酶; 过氧化氢酶
【英文关键词】Pleurot us nebrodensis ; temp erature st ress ; supe roxide dismutase ; p eroxidase ; catalase
【中文摘要】以白灵侧耳(Pleurot us nebrodensis) 菌株中农一号(CAAS 1) 为试验材料, 研究了温度胁迫(4 ℃和35 ℃) 对菌丝体内超氧化物歧化酶(sup e roxide dismutase ,SOD) 、过氧化物酶(pe roxidase , POD) 和过氧化氢酶(catalase ,CA T) 活性的影响。结果表明,温度胁迫导致3 种保护酶活性均发生显著的变化。SOD 活性随温度胁迫时间的延长先急剧升高后下降, 在胁迫12 h 时均达到最大值(低/ 高温胁迫分别为46. 23 U/ g 和50. 33 U/ g) ; POD 活性呈现先升高后缓慢下降的趋势, 在胁迫处理24 h 时达到最高值(低/ 高温胁迫分别为6. 86 U/ g和7. 22 U/ g) ; CA T 活性在胁迫处理12 h 内迅速上升,之后平稳上升。
【英文摘要】Sup eroxide dismutase (SOD) , catalase (CA T) and p e roxidase (POD) activities were dete rminedove r 60 h time courses in ext racts of Pleurot us nebrodensis (st rain CAAS 1) mycelia incubated at 4 °C, 25 °C(cont rols) or 35 °Cf ollowing growt h at 25 °Cf or 14 d. SOD activities in ext racts of mycelia incubated at 4 °Cand 35 °C increased ma rkedly during t he f irst 12 h f ollowing temp erature shif t and declined t he reaf te r ,whe reas ve ry lit tle f luctuation in enzyme activity was observed in ext racts of mycelium continually maintainedat 25 °C. POD activity increased in ext racts of mycelia incubated at all t hree temp eratures and reached p eakvalues af ter 24 h bef ore declining t hroughout t he next 24 h in mycelium incubated at 35 °Cand t hroughout t henext 36 h in mycelia incubated at bot h 4 °Cand 25 °C. CA T activity in ext racts of mycelia incubated at 4 °Cand 35 °Calso increased ma rkedly during t he f irst 12 h f ollowing temp erature shif t and continued t o slowlyincrease in t he lat te r case . However , enzyme activity in ext racts of mycelium continually maintained at 25 °Cremained at much lowe r , relatively constant , levels t hroughout . CA T and POD activities in mycelia incubatedat 4 °Cand 35 °Cwe re signif icantly (P < 0. 01) highe r t han values recorded in mycelium maintained at t heoriginal growt h tempe rature (25 °C) t hroughout t he 60 h monit oring p e riod. SOD activities we re signif icantly(P < 0. 01) higher f or 48 h and 36 h in ext racts of mycelia incubated at 35 °Cand 4 °C, resp ectively comp aredwit h values recorded in mycelium maintained at t he original growt h temp erature (25 °C) . Our data show t hattempe rature shif ts t o highe r and lower values have a signif icant ef f ect on t he activities of antioxidativeenzymes in P. nebrodensis mycelia .

【语种】中文
【第一作者】刘秀明
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【题目】真菌细胞色素P450 研究进展
【中文关键词】真菌; 细胞色素P450 ; 生物转化; 农药代谢
【英文关键词】Fungi ; cyt ochrome P450 ; bioconve rsion ; pesticide degradation

【中文摘要】介绍了真菌细胞色素P450 及其介导的多环芳烃、固醇类化合物、烷烃的生物转化和它在农药降解中的应用。
【英文摘要】Progress in f ungal cyt ochrome P450 research , t he role of t he enzyme in P4502mediatedbioconversion of p olya romatic hydroca rbons , ste roids and alkanes , and applications in pesticide degradation ,have been reviewed.
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【第一作者】王海燕
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【题目】氮肥运筹对水稻农学效率和氮肥利用率的影响
【中文关键词】氮肥,SPAD值,氮肥利用率,产量
【英文关键词】N, SPAD values, nitrogen use efficiency, yield
【中文摘要】通过田间试验,以不同氮肥量级为参照,结合关键生育期叶片叶绿素含量(SPAD值)指导氮肥施用,以探明潜江地区水稻关键生育期的氮肥适宜用量。结果表明,在施N 90~180 kg/hm2之间水稻产量差异不显著,当超过N 180 kg/hm2,产量降低。根据水稻产量(y)和施氮量(x)拟合得出一元二次关系式:y=-0.0728x2+22.335x+6811.5,R2=0.9442。结合当年水稻价格,肥料投入费用等计算出水稻的经济效益(y)和施氮量(x)之间的函数式:y=-0.134x2+37.097x+12533-M,R2=0.9331;由此得出经济效益最大时水稻的施氮量是N 138 kg/hm2。该施氮量下水稻的氮肥表观利用率、农学利用率和氮肥偏生产力可保持在40.9%、11.5 kg/kg和63.2 kg/kg,与完全依据SPAD值指导关键生育期的氮肥施用量相近似(N 140 kg/hm2),保证了水稻最大的经济效益,同时也保持了较高的氮肥利用率,降低氮素表观损失。
【英文摘要】the field experiments were conducted to study the appropriate N rates in critical growing stages for rice.the results indicated that the application of N at critical growing stages of rice based on SPAD values of leaves can decrease N loss,obtain high N ue,grain yield and profits.
【语种】中文
【第一作者】张秀芝
【通讯作者】何萍
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【题目】草菇gpd启动子的克隆及表达载体的构建
【中文关键词】草菇; gpd启动子;克隆;表达载体;构建
【英文关键词】Volvariella volvacea; gpd p romoter; Cloning; Exp ression vector; Construction
【中文摘要】[目的] 从草菇基因组中克隆内源强启动子,为草菇基因工程育种提供启动子元件材料。[方法]采用PCR技术从草菇基因组DNA中克隆gpd启动子片段,利用生物信息学手段对其序列特征和调控元件进行分析,并构建表达载体。[结果]从草菇基因组中克隆出2条特异gpd启动子片段,大小分别为1 056和614 bp;成功构建了分别以这2条启动子片段驱动的、以gfp基因为报告基因的2个表达载体。[结论]该研究为进一步利用基因工程手段培育品质优良的草菇新菌株奠定了基础。
【英文摘要】[Objective] Promoters were cloned from the genomic DNA of Volvariella volvacea to p rovide strong p romoters for Volvariella volva2cea genetic breeding. [Method] gpd p romoterswere amp lified from the genomic DNA of Volvariella volvacea by PCR and used to construct ex2p ression vector after analyzing the sequence and the regulating elements. [Result] Two p romoters,which were 1 056 and 614 bp respectively,were cloned from Volvariella volvacea. These p romoterswere fused in frame with the gfp reporter gene and constructed two exp ression vectors.[Conclusion] This study laid foundation for farther new Volvariella volvacea strains cultivation with imp roved agriculturally traits by the way ofgenetic engineering.

【语种】中文
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【题目】氮钾水互作对玉米苗期植株生长及钾素吸收的影响
【中文关键词】氮钾水互作; 植株生长; 钾素吸收
【英文关键词】ppotassium, plant grow,potassiun uptake
【中文摘要】采用盆栽试验方法探讨了氮钾水互作对玉米苗期植株生长及养分吸收的影响。结果表明, 水分适宜能明显增加玉米植株株高和干物重, 水分适宜条件下玉米株高和干物重较水分亏缺条件的分别增加7 8% 和13 8%。增施氮肥能显著增加玉米植株株高和干物重, 水分适宜条件下中氮水平的玉米株高和干物重分别较低氮水平的增加10 4%和8 7%, 而水分亏缺条件下株高和干物重均随施氮水平的增加而明显增加; 水分亏缺条件下, 中高量施钾能显著增加玉米植株干物重。水分适宜条件下增施氮肥能明显促进玉米对钾素的吸收, 在水分适宜和亏缺条件下, 不同氮水平的玉米钾素吸收均随施钾水平的增加而显著增加。
【英文摘要】A pot experiment was conducted to study the interactive effects of nitrogen, potassium and water on plant growth and potassium uptake of corn seedling. The results showed that height and dry weight of corn plant under appropriate water condition significantly increased by 7.8% and 13.8% than those under deficit water condition. Significant increases in height and dry weight of corn plant by increasing nitrogen application were found, with respective increase of corn height and dry weight by application of medium nitrogen level being 10.4% and 8.7% under the appropriate water condition, and distinct increasing tendency with increasing nitrogen application under the deficit water condition. Distinct increase in dry weight of corn plant by application of medium and high potassium levels under the deficit water condition was observed. Increasing nitrogen application significantly promoted potassium uptake of corn plant under the appropriatewater condition. Whereas potassium uptake of corn plant under the appropriate or deficit water condition remarkably tended to increase with increasing potassium for different nitrogen levels. Key wor ds: interactive effects of nitrogen, potassium and water; plant growth; potassium uptake
【语种】中文
【第一作者】唐浩
【通讯作者】何萍
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【题目】影响农杆菌介导草菇遗传转化的因素研究
【中文关键词】草菇; 农杆菌; 遗传转化; 转化效率
【英文关键词】Volvariella volvacea; Agrobacterium tum efaciens; transformation; transfer efficiency
【中文摘要】以草菇Volvariella volvacea菌株V51为受体材料,用农杆菌Agrobacterium tum efaciens介导法转入抗冷冻蛋白基因(afp) ,探索不同的转化受体、农杆菌种类、乙酰丁香酮(AS)的浓度、共培养的温度、时间等因素对转化效率的影响,并采用PCR及Southern杂交检测afp基因是否整合到草菇的基因组中. 结果表明:以D660 nm为0115的EHA105为侵染的农杆菌菌株,加入200 μ mol/L AS进行预培养,侵染菌丝球后转入含有AS为200 μ mol/L的IMA培养基上, 28 ℃,共培养60 h为最佳转化条件. PCR与Southern杂交结果证明afp基因已整合到草菇的基因组中.
【英文摘要】afp gene was transformed into Volvariella volvacea via Ag robacterium tum efaciens. We evaluatedsome critical factors influenced transfer efficiency, including exp lant, Agrobacterium strain, concentrationof acetosyringone (AS) , temperature and time of co2culture. The integration of afp gene into V. volvaceagenome was determined by PCR and Southern blot. The results showed that effective transformation wasacquired when mycelium pellets inoculated with A. tum efaciens strain EHA105 with a op tical density atD660 nm of 0115, p re2culture with 200 μ mol/L AS, co2cultivation for 60 h at 28 ℃ on IMA medium contai2ning 200 μ mol/L AS.

afp gene had been introduced into V. volvacea with Agrobacterium 2mediated transfor2mation successfully.
【语种】中文
【第一作者】王杰
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【题目】玉米不同器官元素分布对施肥的响应
【中文关键词】:元素分布;施肥;玉米
【英文关键词】element distribution; fertilizer application; maize
【中文摘要】设置不施肥(CK)、施氮磷肥(NP)、施氮钾肥(NK)、施磷钾肥(PK)、施氮磷钾肥(NPK)5 个处理,用田间试验方法研究了成熟期农大108 玉米茎秆、叶片、籽粒的干重以及N、P、K、Cu、Zn、Fe、Mn 等元素分布对不同施肥处理的响应。玉米干重及元素含量在不同器官的分布存在差异,N 含量为叶片>籽粒>茎秆,P 含量为籽粒>叶片>茎秆,K 含量为茎秆>叶片>籽粒,Fe 含量为叶片>茎秆>籽粒。施肥降低了不同器官间N、P、K、Fe 元素含量的差异,改变了不同器官干重与Cu、Zn 元素含量在整株中的相对比值。除个别处理外,N、P、Fe 与Cu、Zn 元素的对施肥的响应趋势具有一致性。同时,玉米不同器官元素分布对不同肥料组合的响应存在差异性,N、P、K 元素对不同肥料组合响应程度较大,Cu、Zn、Fe、Mn 微量元素响应较小;玉米茎、叶对不同肥料组合响应程度较大,籽粒较小。从总体上看,NPK 处理对玉米元素分布的影响高于NP、NK、PK 处理。另外,玉米不同器官元素的分布受肥料交互效应的影响。不同肥料配施对玉米不同器官元素分布影响的趋势与程度既存在共性也存在差异性,通过调整施肥可以改善作物养分在不同器官的分布,促进养分的吸收和良性循环,从而达到优质高效生产的目的。
【英文摘要】Five fertilizer treatments were designed, i.e.no fertilizer (CK), nitrogen-phosphorus fertilizer (NP), and nitrogen-potassium fertilizer (NK),phosphorus-potassium (PK), and nitrogen-phosphorus-potassium fertilizer (NPK). A field experiment on the response of biomass dry weight and N, P, K, Cu, Zn, Fe, Mn element distribution in stem, leaf and seed of maize to different fertilizer application treatments was carried out. The results showed that dry weight, element content of various organs of maize were different. N content in various organs was in the order of leaf >seed>stem; P content was in the order of seed>leaf>stem; K content was in the order of stem>leaf>seed; Fe content was in the order leaf >stem>seed. Fertilizer application reduced the differences in N, P, K, and Fe content in various organs, and changed the ratio of between dry weight and the Cu, Zn contents in leaf, seed and stem. Except for afew treatments, the response trend of N, P, Fe elements to fertilizer application was similar to Cu and Zn. The response of element content in various organs of maize to different fertilizer combinations was also different. The response extent of the major elements of N, P and K to fertilizer application was larger than microelements Cu, Zn, Fe, and Mn. The response extent of stem and leaf was larger than seed. The response of elements to NPK fertilizer treatment was bigger than NP, NK, and PK. On the whole, response differences of element distribution to various fertilizer treatments were not remarkable. Besides, element distribution in various organs of maize was also influenced by the mutual effect of fertilizer varieties. The response trend and extent of various element distributions to different fertilizer treatments had both similarities and differences. Adjusting fertilizer application could change the biomass dry weight and element distribution in various organs of maize, thus promoting the uptake and cycle of nutrients. This investigation has provided a useful information for high yield production.
【语种】中文
【第一作者】胡昊
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【题目】相对SPAD值用于不同品种夏玉米氮肥管理的研究

【中文关键词】夏玉米,相对SPAD值,氮肥管理,营养诊断
【英文关键词】Summer maize, relative SPAD values, nitrogen fertilizer management, nutrient diagnose
【中文摘要】采用田间试验研究了相同氮肥处理不同玉米品种和生育期间的SPAD值差异和基于相对SPAD阈值的氮肥管理对氮肥用量、籽粒产量、氮肥利用率和土壤氮素变化的影响。结果表明,玉米各关键生育期的SPAD值随施氮量的增加而增加,不同玉米品种和不同生育期间的绝对SPAD值差异显著,利用相对SPAD值可消除不同品种和生育期间的SPAD值差异;生育期追肥量和总施肥量均随相对SPAD阈值的增加而增加,基于相对SPAD阈值的氮肥管理能在保持高产的同时较农民习惯施肥显著降低氮肥用量、田间氮素表观损失和收获后土壤无机氮残留、提高氮肥利用率;本试验条件下,保持两品种玉米高产高效的适宜相对SPAD阈值为0.95-0.98。
【英文摘要】The field experiments were conducted to investigate the differences of SPAD values between different maize varieties and growth stages and the effects of nitrogen(N)fertilizer management methods based on relative SPAD critical values on N rates, grain yield, N use efficiency and the change of soil N content. The results showed that maize SPAD values of critical growth stages increased with increasing N rates, the differences of absolute SPAD values among maize varieties and growth stages were significant, the relative SPAD values can eliminate the differences among different maize varieties and growth stages. The rates of topdressing N and total N increased with increasing provided relative SPAD critical values, N fertilizer management methods based on relative SPAD critical values can decrease N rates, field N apparent loss, soil imorgance N residual after maize harvest and increase N use efficiency while keeping higher grain yield compared with farmer fertilizer practice; in this experiment condition, the feasible relative SPAD critical values range ensuring higher grain yield and higher N use efficiency of two maize varities was 0.95-0.98.
【语种】中文
【第一作者】赵士诚
【通讯作者】何萍
【期刊名称、卷期、页码】植物营养与肥料学报,2011,17(50):1091-1098
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【学科分类】农业基础学科

【题目】白灵菇中农1 号特征特性和栽培技术要点
【中文关键词】中农1 号; 品种; 栽培
【英文关键词】Bailinggu cultiva r ; Pleurot us eryngii ; agronomic cha racte ristics ; cultivation management
【中文摘要】中农1 号是笔者近年经多孢杂交选育的白灵菇(Pleurot us eryngii va r . t uoliensis C. J . Mou) 鲜销型品种,具有出菇早、色泽白、产量高、抗性强、无畸形的优点,栽培过程中对基质含水量、出菇温度、通风等要求也不同于其它品种,本文着重介绍了中农1 号的品种特性和栽培技术要点。
【英文摘要】Zhongnong No. 1 , a new cultivar of Pleurot us eryngii var . t uoliensis C. J . Mou (bailinggu) , wasdevelop ed by multi2sp ore crossing , and by rep eated tissue isolation combined wit h selection based on f ruitbody morp hology and yield. The cultivar p ossessed seve ral advantageous agronomic cha racte ristics including ashorte r growt h p eriod , high yield , high disease resistance and more regula r f ruit body morp hology. Thecultiva r required special cultivation p a ramete rs including a cultivation subst rate wit h a highe r wate r content , ahigher f ruiting temp erature and greate r ventilation.
【语种】中文
【第一作者】张金霞
【通讯作者】张金霞
【期刊名称、卷期、页码】食用菌学报 2010. 17 (3) : 87~89
【论文发表时间】2010-08-31 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】园艺学

【题目】节水灌溉对黄淮海地区冬小麦水分消耗与
【中文关键词】冬小麦; 节水灌溉; 耗水特性; 光合特性
【英文关键词】Winter wheat; water-saving irrigation; water consumption characteristics;photosynthetic and physiological characteristics

【中文摘要】2008~2009年在大田试验条件下研究了节水灌溉对冬小麦耗水特性、光合特性、产量及水分利用效率(WUE)的影响。结果表明,小麦播种至拔节期,以消耗0-40 cm土层水分为主,在此期间42 mm降水条件下,不灌冻水处理在拔节前0-40 cm土层达到重度水分亏缺,灌冻水处理只为轻度水分亏缺。前期重度水分亏缺对后期根系吸收深层水分和旗叶光合速率起到显著影响。轻度水分亏缺条件下,气孔导度下降,蒸腾速率随之降低; 而光合速率可得以维持,单叶水分利用效率提高。随灌水次数增加,总耗水量加大,土壤水和降水的消耗比例显著降低。产量、WUE与耗水量均呈二次曲线关系,但变化趋势不一致,两曲线在耗水量360 mm处相交,为两者理论上最佳结合点。本试验中,冻水+拔节水处理产量最高,达到7753 kg/hm2 ,比不灌水处理(W0)提高了40.2% ,WUE值为119 kg/m3 ,与W0处理差异不显著,为本试验的最优节水高产灌溉方案。

【英文摘要】Field experimentswere conducted during 2008 - 2009. The objective of the research was to find effects ofWater-saving irrigation on water consump tion, photosynthetic characteristic, grain yield and water use efficiency (WUE) of winterwheat. The results showed that, during sowing to jointing stages, under 42 mm p recip itation condition, available water content of 0 - 40 cm soil layer decreased significantly, 0 - 40 cm soil layer of all treatments (excep twintering and jointing treatment)was under seriouswater stress, while wintering and jointing treatment only under lightwater stress. Seriouswater stress before jointing stages remarkably affected root to absorb water in deep soil layer and photosynthetic rate ofwheat in late stages. With increase of irrigation times, totalwater consumption increased, but the percentage of soil-water consump tion and p recip itation consump tion decreased. Under lightwater stress condition, stomatal-conductivity decreased, consequently reduced transp iration rate, but p reserved the netphotosynthetic rate, soWUE of leaves increased. There was a conic relationship between grain yield, WUE and water consump tion, but the two conics did not have the same variation tendency. A point of intersection at 360 mm water consump tion was found which indicated the best combining site of grain yield andWUE. Grain yield of winte-ring and jointing treatment was 7753 kg/ha, which increased 40.2% compared to no irrigation treatment (W0).WUE of wintering and jointing treatmentwas 1.9 kg/m3 , which did not differ withW0. To this effect, wintering and jointing treatmentwas the best water-saving and high yielding treatment under experimental conditions.

【语种】中文

【第一作者】宁东峰

【通讯作者】李志杰

【期刊名称、卷期、页码】植物营养与肥料学报,2010, 16 (4) :852 - 858

【论文发表时间】2009-11-23 00:00:00

【引文索引类型】其他

【引文索引号】

【学科分类】农业基础学科

【题目】47 个香菇主栽菌株的SCAR标记分子鉴别

【中文关键词】香菇; 主栽品种; SCAR 标记; 分子鉴定; 食用菌

【英文关键词】Lentinula edodes st rains ; major cultivars ; SCAR molecula r ma rke r ; molecula r identif ication ; edible mushroom

【中文摘要】利用前期研究开发的10 个SCAR 分子标记对47 个香菇主栽菌株的基因组DNA 进行扩增分析。基于SCAR 标记在检测菌株中的存在与缺失差异,7 个香菇菌株被首先鉴别出来,其余40 个菌株被分成11 个小组,其中一些形态特征极为相近的菌株,如L241 与L24124 、闽丰1 号与L12 、Cr02 与7402 等被相互辨别。

【英文摘要】Forty2seven Lentinula edodes st rains t hat a re p resently cultivated in China on a la rge scale we recollected and analyzed wit h 10 p reviously develop ed stable sequence cha racte rized amplif ied region (SCAR)molecular ma rke rs . Based on detected dif f e rences in SCAR p henotyp es , seven individual L . edodes st rainswe re identif ied , and t he remaining 40 st rains we re sep a rated int o 11 distinct groups . Our data p rovide t hef irst molecula r2based evidence conf irming t he distinction between closely related L . edodes st rains havingsimila r morp hological f eatures , including st rains L241 and L24124 , Minf eng21 and L12 , and Cr02 and 7402.

【语种】中文

【第一作者】赵微微

【通讯作者】付立忠

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【引文索引类型】其他

【引文索引号】

【学科分类】园艺学

【题目】钾素对玉米茎腐病抗性反应中糖类物质代谢的影响
【中文关键词】钾; 玉米茎腐病; 抗性; 糖代谢; 酶活性
【英文关键词】potassium; corn stalk rot resistance; sugar metabolism; enzyme activity
【中文摘要】通过砂培试验比较人工接种禾谷镰刀菌(Fusarium gram inearum)后, 不同钾处理对玉米幼根中糖含量及糖代谢关键酶活性和基因表达的影响。结果表明, 不施钾处理中, 接菌比未接菌处理玉米幼根中蔗糖和葡萄糖含量显著降低, 且蔗糖的下降速率高于葡萄糖的下降速率。随着病原菌入侵时间的延长, 不施钾处理葡萄糖与蔗糖比值显著升高, 接菌8 d后, 缺钾幼根葡萄糖与蔗糖的比值是充足供钾幼根的近10 倍。此外, 钾素有利于病原菌入侵,中蔗糖合成酶(SS)和蔗糖磷酸合成酶(SPS)活性提高, ss和sp s 基因表达量增加; 而缺钾处理中, ss基因的表达量几乎没有发生变化, sp s基因的表达量在接菌后6 d才有所增加。说明在病原菌入侵后, 钾素可以通过调节受侵染组织糖代谢相关酶的活性, 协调受侵染部位糖代谢过程, 增强抗病能力。
【英文摘要】The effects of potassium on sucrose and glucose content, sugar metabolism related enzyme activity and the expression of related genes in maize root infected with Fusar iumgram inearum were studied under sand- culture experiment. The results showed that under K stress, pathogen infection led to significant decrease of sucrose and glucose contents. The sucrose content declinedmore quickly than that of glucose. With the process of infection, the ratio of glucose to sucrose increased in no potassium applied treatment; 8 days after infection, the ratio was 10 times higher in K deficient roots than in K adequate roots. Besides, after inoculation, the activity of sucrose phosphate synthase (SPS) and sucrose synthase (SS) were increased as well as the gene expression of spsandssin potassium treated maize root .In K-treatment, spsgene expression increased in 6 days after inoculation, and nochange of ssexpression was observed in K-stressed root. This study demonstrated that K could enhancemaize resist-ance to stalk rot by regulating sugar metabolism elated enzyme, consequently, mainta in the optimal sugarme tabolism in infected position, and enhance the resistance to stalk rot.
【语种】中文
【第一作者】李文娟
【通讯作者】何萍
【期刊名称、卷期、页码】植物营养与肥料学报,2011, 17(1): 55- 61
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【引文索引号】
【学科分类】农业基础学科

【题目】钾素营养对玉米生育后期干物质和养分积累与转运的影响
【中文关键词】玉米; 干物质; 氮; 磷; 钾; 养分积累; 转运
【英文关键词】maize ; dry matter ; nitrogen ; phosphorus ; potassium; accumulation ; translocation
【中文摘要】为揭示钾素营养与玉米产量形成的关系,研究了3 个施钾水平(K2O 0、113 和225 kg/ hm2) 对玉米生育后期植株不同器官干重及氮、磷、钾积累和转运的影响。结果显示,施钾能显著提高玉米产量。随着施钾量的增加,玉米生育后期干物质积累的最大速率和平均速率提高,最大速率出现时间提前。玉米干物质在各器官中的分配比例随生长发育中心的转移而变化。生育后期干物质和养分由营养体向子粒转运,其中干物质和氮、磷主要来源于穗部营养体的转运,而钾则主要来源于叶片的转运。子粒中氮、磷、钾的积累量分别占总积累量的50.3 %~57.1 % ,59.6 %~67.2 %和14.0 %~33.3 %。施钾不但能增加子粒中干物质和氮、磷、钾养分的分配比例,而且还有助于提高干物质和氮、磷、钾养分向子粒转运的转运率。氮的转运率以K1 处理(K2O 113 kg/ hm2) 最大,为45.7 %; 干物质、磷和钾的转运率以K2 处理(K2O 225 kg/ hm2) 最大,分别为7.4 %、62.6 %和22.4 %; 子粒养分中54.5 %~60.6 %的氮,56.0 %~85.8 %的磷及52.4 %~100.0 %的钾可以依赖于营养体的转运。
【英文摘要】Field experiment was conducted to study the effect of potassium (K) nutrition on dry matter and nutrient accumulation and distribution under three Klevels (K2O 0 , 113 and 225 kg/ ha) at reproductive stage of maize to explore the relationship between K nutrition and grain formation in maize. Results indicated that maize yield was significantly increased by K application. Both the maximum and average dry matter accumulation rate was accelerated , and the maximum dry matter accumulation rate occurred early by K application. The distribution proportion of dry matter in different organs varied distinctly. Dry matter , N and P in grain were mainly translocated from spike , and K in grain was mainly translocated from leaves. The contribution percentage of grain nutrient absorption to the whole plant at maturity was50.3 % - 57.1 % ,59.6 % - 67.2 % , and 14.0 % - 33.3 %for N , P and K, respectively. Kapplication could not only increase the distribution proportion of dry matter , N , P , and K nutrition to grain , but also enhance their

translocation rates. The maximum N translocation rates of 45.7 % was obtained by K1 treatment K2O 113 kg/ ha , while the maximum dry matter , P and K translocation rate of 7.4 % , 62.6 % and 22.4 % was achieved by K2 treatment K2O 225 kg/ ha.54.5 % - 60.6 %of N , 56.0 % - 85.8 %of P and 52.4 % - 100.0 %of Kin grain relied on nutrient translocation from vegetative parts.
【语种】中文
【第一作者】李文娟
【通讯作者】何萍
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【引文索引号】
【学科分类】农业基础学科

【题目】长期施钾及小麦秸秆还田对北方典型土壤固钾能力的影响
【中文关键词】长期施钾;小麦秸秆还田;北方典型土壤;固钾能力
【英文关键词】long-term application of K fertilizer; wheat straw to soil; selected soils from northern China; K fixation capacity
【中文摘要】探索在连续13 年的钾肥施用及小麦秸秆还田条件下耕层土壤对外源钾素的固定能力。【方法】在各点同一氮磷用量水平上长期进行不同用量钾肥投入以及小麦秸秆还田,定位13 年后对不同试验点各处理土壤样品进行不同浓度的KCL 溶液浸泡处理,以研究中国北方典型土壤的固定钾素能力。【结果】长期连续施用钾肥或秸秆还田可显著降低土壤对外源钾素的固定,环境溶液中钾素浓度从1 000 mg · L-1 上升至4 000 mg · L-1时,土壤固钾量亦随之增加。一年两作种植制度下土壤的固钾量较单作制高。土壤固钾能力表现出明显的地带性分布规律,自西向东土壤对钾的固定能力逐渐增强。在环境溶液中钾为1 000 mg · L-1 浓度下,取自西北、华北和东北试验点只施氮磷肥(NP)处理土壤的平均固钾量分别为349、443 和469 mg · kg-1。【结论】连续耗竭及连续施钾的土壤固钾能力差异亦是判断土壤钾素状况的重要特征之一。
【英文摘要】Experiments were conducted to study the difference of potassium fixation capacity. 【Method】Fixed-site researches on cultivated layer of soil under long-term application of K fertilizer and wheat straw to soil for 13 continuousyears in selected regions of north China were carried out. After 13 years, soil samples of different treatments collected from eachfixed-site were treated with different concentrations of KCl solution to study K fixation capacity of typical soil in northern China.【Result】 The results showed that continuous application of K fertilizer and wheat straw could reduce the fixation rate of added Ksignificantly, and when the concentration of K increased from 1 000 mg · L-1 to 4 000 mg · L-1 in the soil solution, K fixation capacityof soils increased at the same time. In the same region, K fixation rate of soils in double cropping regime was higher than that insingle cropping regime. K fixation capacity of soil showed a clear increasing trend of distribution from the west to the east. When theK concentration in the surrounding solution was 1 000 mg · L-1, the average K fixation rates of soils in NP treatment were 348.5, 442.9,and 468.5 mg · kg-1 in Northwest, North China and Northeast China, respectively. 【Conclusion】 Difference in potassium fixation ratebetween soils with depletion of K successively and soils supplied with K successively is an important character for judging the condition of soil potassium.
【语种】中文
【第一作者】谭德水
【通讯作者】金继运
【期刊名称、卷期、页码】中国农业科学 2010,43(10):2072-2079
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【学科分类】农业基础学科

【题目】钾素对玉米茎髓和幼根超微结构的影响及其与茎腐病抗性的关系
【中文关键词】钾(K);玉米茎腐病;超微结构;抗病性
【英文关键词】potassium (K); maize stalk rot; ultrastructure; disease resistance
【中文摘要】采用扫描电镜和透射电镜分别观察施钾后玉米茎髓组织和接菌后施钾与不施钾幼根根尖细胞超微结构的变化。缺钾处理的玉米茎髓薄壁细胞,结构不规则,长边较长。而不缺钾处理茎髓细胞结构规则,呈长方形,整齐排列。缺钾导致维管束间的薄壁细胞破裂,致使茎髓中维管束间失去连接细胞,支撑能力变差。另外,施钾有利于寄主幼根表皮细胞排列紧密而整齐,细胞壁增厚,有效阻碍病原菌的入侵。而且施钾处理细胞中拥有丰富的高尔基体,可以产生大量分泌物将菌丝降解。钾素还有利于菌丝入侵部位乳突的形成及高电子致密物的积累,以阻止菌丝的扩展。钾素能通过稳定细胞结构,防

止细胞间隙的扩大,加固细胞壁,来降低病原菌侵入的机率;通过形成位于胞间及胞内的闭塞物来限制病原物在寄主细胞的进一步发展。

【英文摘要】Scanning electron microscope and transmission electron microscope were used to observe the effect of K on the ultrastructure of maize stalk pith tissue and young root tip cell influenced by K and pathogen.In K deficient treatment, parenchyma cells of stalk pith had abnormity structure and the cell wall between upper and lower adjacent cell was broken, resulting in the loss of connections between vascular cells and bad supporting capacity. In addition,improved K nutrition also helped in keeping a quite tight arrangement of root cell with thick cell wall, prevented the invading of pathogen effectively. Moreover, K treated root cell had abundant golgi apparatus, which could excrete large amount of secretions to degrade mycelium. Papillary and highly electronic intensity dot were accumulated in the invading point to prevent the development of the mycelium. Improved K nutrition could increase the resistant ability of maize plant to stalk rot, through keeping cell structure stability and preventing the expansion of intracellular space to reduce the chances of pathogen invasions; through reinforcing cell wall and formation intercellular and intracellular material to restrict pathogen further development in host cell.

【语种】中文

【第一作者】李文娟

【通讯作者】何萍

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【学科分类】农业基础学科

【题目】限水灌溉下施氮量对冬小麦产量、氮素利用及氮平衡的影响

【中文关键词】限水灌溉; 冬小麦; 产量; 氮素利用; 氮平衡

【英文关键词】lim ited irrigat ion; w interw hea;t gra in y ield; N utilizat ion; N balance

【中文摘要】2008~ 2009年通过大田试验, 研究了限水灌溉条件下, 不同施氮量对冬小麦产量、氮素利用、土壤硝态氮动态变化及氮素平衡的影响。结果表明, 施用氮肥显著增加小麦穗数和穗粒数, 对千粒重无显著影响。作物产量、吸氮量与施氮量均呈抛物线关系, 施氮量超过N 240 kg /hm2, 产量和吸氮量随施氮量增加略有降低。小麦起身期后,0- 100 cm 土层都有硝态氮分布, 且随土层深度增加而减少; 相同土层则随施氮量的增加而增加。土壤硝态氮积累量随生育期推进而降低, N0 和N120处理分别在拔节期和开花期后表现出氮素亏缺; 成熟期, 土壤表观盈余以残留为主, 表观损失量占小部分。氮肥表观利用率、农学利用率随施氮量增加呈降低趋势, 而氮素残留率随施氮量增加呈增加趋势。在本试验条件下, 施氮量在N 180~ 220 kg /hm2 水平可以达到产量、氮素表观利用率、氮素残留率的较好结合, 是限水灌溉下兼顾经济效益与环境效益的适宜施氮量。

【英文摘要】Effects of different N application rates on grain yield and N utilization of winterwheat and soil N balance were studied using field experiment under water-limited irrigation during 2008- 2009. The results show that spike numbers and per spike grains of winterwheat are significantly increased underN applications, while the 1000-gra in weight is not significant increased. The relation ships between grain yield, N uptake and the N app licat ion rates are parabolic, and grain y ield and N uptake are reduced when N app lication rates ex ceed N 240 kg /ha. Soil NO-3 -N is found at 0- 20, 20- 40, 40- 60, 60-80 and 80- 100 cm so il layers a fter the erecting stage of w interw hea.t So ilNO- 3 -N contents are decreased w ith increase of soil layer depth under the same trea tmen,t and are increased w ith increase ofN application rates at the same layer. So ilNO- 3 -N accumu la tions decreasew ith w interwheat grow th and deve lopment. Under the N0 and N120 treatments, there are NO- 3 -N deficienc ies after the jo inting stage and anthesis stage. In the harvest stage, so il residualN in 100 cm soil layer is the main part o f surplus N, and so il lostN accounts for little percentage. W ith increase o fN application rates, N utilization efficiency and N agronomy efficiency appear downtrend, wh ile theN residual e ff iciency appears uptrend. Under th is experim ent cond ition, N app lication rates from N 180 to 220 kg /ha has good combinations of g rain y ield, N ut ilization effic iency and N residual efficiency. Therefore, theN 180- 220 kg /ha are idea lN rates considering both econom ic benefit and env ironmenta lbenefit under water-lim ited irrigation.

【语种】中文

【第一作者】宁东峰

【通讯作者】李志杰

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【学科分类】农业基础学科

【题目】断奶日龄对早期断奶犊牛生长性能的影响
【中文关键词】犊牛;早期断奶;日龄;生长性能
【英文关键词】Calves; Early weaning; Day of age; Growth performance
【中文摘要】利用25头新生荷斯坦奶犊牛,按体重和出生时间一致原则随机分成5组,对照组按常规进食鲜牛奶,于70日龄时断奶;各试验组进食统一规格代乳品,分别于10、20、30、40日龄断奶,试验期为70 d。结果证明:试验结束时,10E、20E组体重、全程平均日增重均显著高于对照组,分别达到83.85 kg、572.10 g/d和78.85 kg、500.oog/d,30E、40E组与对照组间无显著差异;各试验组犊牛与对照组在体长和斜长上无显著差异;10E、20E组犊牛平均胸围值显著高于对照组;各组犊牛管围的平均值差异均不显著。
【英文摘要】
【语种】中文
【第一作者】李辉
【通讯作者】李辉
【期刊名称、卷期、页码】中国畜牧兽医,2006,33(3):14-17
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【引文索引号】
【学科分类】畜牧学

【题目】荧光原位杂交技术在动物肠道微生物定量中的应用
【中文关键词】荧光原位杂交;16S rRNA寡核苷酸探针;肠道微生物
【英文关键词】fluorescence in situ hybridization;16S rRNA-targeted oligonucleotide probes;Intestinal microbe
【中文摘要】以16S rRNA为靶序列的寡核苷酸探针荧光原位杂交技术(fluorescence in situ hybridization,FISH)已广泛应用于分析环境中复杂的微生物群落构成。作者简要介绍了荧光原位杂交技术的原理和操作方法,对其在动物肠道中微生物鉴定和计数上的应用进行了概述,最后探讨了FISH技术的局限性及其应用前景。
【英文摘要】Fluorescence in situ hybridization(FISH)has been widely applied in analyzing the complex compositions of mi crobial community. This paper introduced the mechanism of quantification of fluorescence in situ hybridization technology and its application in quantification of intestinal microbe.
【语种】中文
【第一作者】奚晓琦
【通讯作者】王加启
【期刊名称、卷期、页码】中国畜牧兽医,2008,35(12):53-55
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【引文索引号】
【学科分类】微生物学

【题目】动物多聚免疫球蛋白受体研究概况
【中文关键词】plgR/SC;IgA/IgM;抗体转运;黏膜免疫
【英文关键词】pIgR/SC; IgA/lgM; antibody transportation; mucosa immune
【中文摘要】多聚免疫球蛋白受体(polymeric immunoglobulin receptor,pIgR)是主要组织相容性复合物(MHC)家族中的重要成员,是分泌性免疫系统(SIS)的重要组成成分,在IgA/IgM的转运和黏膜免疫中发挥着重要的作用。作者结合近年来的研究综述了pIgR的分子结构、生物学功能和研究概况。
【英文摘要】Polymeric immunoglobulin receptor(abbreviation as pIgR)is the key member of major histocompatibility complex(MHC)and secretary immune system(SlS).It plays an important role in IgA or IgM transportation and mucosa immune.This article summarizes the molecular structures,biological functions and research advances of pIgR based on recent researches.

【语种】中文
【第一作者】张春刚
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【期刊名称、卷期、页码】中国畜牧兽医,2008,35(7):49-51
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【学科分类】生物化学

【题目】EPA/DHA对体外发酵及瘤胃液脂肪酸组成的影响
【中文关键词】EPA/DHA;人工瘤胃;瘤胃发酵;t11C18:1;c9t11 CLA
【英文关键词】EPA/DHA;artificial rumen;ruminal ferment;transll Cl8:1;cis 9,trans11 CLA
【中文摘要】试验旨在研究日粮中添加不同水平的DHA/EPA对体外发酵和瘤胃液脂肪酸变化的影响。试验通过采用持续动态人工瘤胃装置,向发酵罐中添加EPA/DHA,连续培养7 d,分析脂肪酸组成的变化及发酵模式的改变。试验结果表明,日粮添加EPA/DHA使瘤胃液pH升高(与CK相比,Trtl和Tn2分别升高了o.11和o.35),Trt2与cK相比差异极显著(P<o.01),与CK相比处理组3种主要挥发酸中乙酸浓度下降(P<o.01),丙酸浓度升高(P<o.01),丁酸浓度下降(P<o.01),总挥发性脂肪酸浓度与对照组相比略有下降但差异不显著(P>O.05),日粮添加EPA/DHA使瘤胃液脂肪酸成分发生改变。与CK相比处理组C18,o含量显著下降(P<O.01);t_11 C18-1含量显著升高(P<o.01);c-9,t-11 CLA含量显著升高(|P<O.01),但是两组之间差异均不显著。因此,日粮中添加不同水平的EPA/DHA可以改变瘤胃发酵模式,影响不饱和脂肪酸瘤胃氢化过程,使脂肪酸组成发生改变,为采用新的营养措施调控反刍动物产品中CLA的含量提供理论依据。
【英文摘要】The objectives of this study were to examine the changes of composition and content of fatty acid in ruminal fluid and the changes of volatile fatty acid in ruminal fluid when EPA/DHA was added in diet.The experiment using the RUSITEC(rumen-simulation technique)apparatus.Treatments of the experimental diet were as follows: basal diet(CK,40 : 60 forage to concentrate),or a basal diet plus O.65%EPA/DHA(Trtl),or basal diet plus 1.30%EPA/DHA(Tn2).Experimental period was consisted of 6 d for adaptation and 1 day for sampling. Culture fluid was collected every 2 h over a 12 h period on the last day of the experimental period.Compared with CK,C1 8:O decreased by 76.93%and 80.35%in Tnl and Tn2,respectively; while the concentration of transllCl8:1 increased by 185%and 127%in Trtl and Trt2,respectively,and c9t11CLAincreased by 147%and 222%in Trtl and Trt2,respectively compared with CK.The concentration of VFA,transCl8 :1 and c-9t11CLA in different sampling time were different.EPA/DHA supplementation could markedly affect VFA and fatty acids profile in rumen fluid.
【语种】中文
【第一作者】刘亮
【通讯作者】王加启
【期刊名称、卷期、页码】中国畜牧兽医,2008,35(7):5-10
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【学科分类】畜牧学

【题目】2007~2008年国际反刍动物营养研究进展Ⅰ.瘤胃微生物多样性和功能
【中文关键词】瘤胃微生物群落;多样性;分子生态学;元基因组学
【英文关键词】rumen microflora;diversity;molecular ecology;metagenomies
【中文摘要】随着试验生物学和生物信息学的快速发展,对瘤胃微生物的多样性和功能开展了系统的研究。笔者综述了2007~2008年在CNKI、ADSA—ASAS大会和PubMed等数据库中与瘤胃微生物分子多态性和元基因组学相关的32篇文献。瘤胃微生物群落在“属”分类水平上多样性水平较低,在亚种或菌株水平上表现出极大的多样性,多样性指数估计表明,瘤胃内细菌种类约为900多种,而菌株类型(独特序列型)约为97000种。瘤胃微生物群落结构受到宿主遗传背景、生长发育阶段、日粮、环境条件等多种因素的影响。瘤胃微生物组中蕴藏了大量具有应用潜力的遗传资源,这些结果为准确了解瘤胃微生物群落结构、功能及其调控方式提供了重要的基础。
【英文摘要】The rumen was inhabited by numerous microbes,which form a complex microbial community that deeply affects ruminant physiology.This microbiota is dominated by relatively few divisions that are highly diverse at the strain/subspecies level,which together with its collective genomes(microbiome)provide us with genetic and metabolic attributes the ruminanthave not been

required.New studies taking advantage of molecular microecological and metagenomie are revealing how the ru ’ men microbiota has coevolved with us and how it manipulates and complements our biology in ways that are mutually beneficial.However,how certain keystone members of the macrobiotic operate to maintain the stability and functional adaptability of this microbial organ still need to be answered.which necessitate the combination of high throughput methods and multivariable analysis.

【语种】中文
【第一作者】刘开朗
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【期刊名称、卷期、页码】中国畜牧兽医,2009,36(1):5-11
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【引文索引类型】其他
【引文索引号】
【学科分类】微生物学

【题目】N1 型纳豆芽孢杆菌对泌乳期奶牛产奶量及乳品质的影响
【中文关键词】纳豆芽孢杆菌;牛奶品质;生产性能
【英文关键词】Bacillus subtilis natto; milk quality;production performance
【中文摘要】试验旨在研究N1型纳豆芽孢杆菌(Bacillus subtilis natto)对泌乳期奶牛生产性能及乳品质的影响。试验选用泌乳期、胎次、产奶量、体重相近的荷斯坦奶牛36头。试验设计采用完全随机区组设计,分成3个处理组,分别是试验1组添加N1型纳豆芽孢杆菌固体制剂30 g,试验2组添加N1型纳豆芽孢杆菌固体制剂60 g,对照组不添加。试验期为60 d,预试期10d,分别在试验期的0、30、60 d采集奶样,每周测定1次产奶量。试验结果表明,El粮中添加N1型纳豆芽孢杆菌能够提高产奶量,提高乳脂校正乳产量(P<o.05);提高乳脂含量、乳蛋白含量、干物质含量,提高乳脂产量、乳蛋白产量(P<O.05)、干物质产量(P<O.05),对乳糖含量没有影响;牛奶中体细胞数有降低趋势。
【英文摘要】36 cows with similar age,party and day in milk(DIM)were used to study the effect of dietary Bacillus subtilis natto on milk production and milk composition in lactating dairy COWS.All COWS were randomly allocated to 3 groups.The feeding trial lasted for 60 days.The milk samples were collected in 0,30,60 d,and the milk production was measured every week.The results showed that milk production,milk fat and milk protein were higher than those which are from COWS in control whereas somatic cell counts decreased.
【语种】中文
【第一作者】栾广春
【通讯作者】王加启
【期刊名称、卷期、页码】中国畜牧兽医,2009,36(10):12-15
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【题目】微量元素在反刍动物生产中的应用
【中文关键词】微量元素;反刍动物;生产性能;繁殖性能;瘤胃微生物
【英文关键词】trace elements;performance;reproductive ability t rumen fermentation;rumen microbe
【中文摘要】微量元素在反刍动物体内发挥着重要作用,作者阐述了微量元素在反刍动物体内的营养作用,以及其对反刍动物生产性能、繁殖性能和瘤胃微生物的影响。为合理补饲微量元素、调控瘤胃发酵、提高生产性能和繁殖性能提供参考依据。
【英文摘要】Trace elements are the important nutritional elements for ruminants.In this article,the authors have reviewedthe effect of trace element on performance,reproductive ability and rumen microbe of ruminants.Then supplementing trace elements rationally so as to regulate rumen fermentation,improve performance and breeding performance for ruminants.
【语种】中文
【第一作者】李喜艳
【通讯作者】王加启
【期刊名称、卷期、页码】中国畜牧兽医,2009,36(8):10-13

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【题目】反刍动物小肽的生理特征与营养研究进展
【中文关键词】小肽;吸收;降解;营养;反刍动物
【英文关键词】small peptide; absorption;degradation;nutrition; ruminants
【中文摘要】小肽是动物降解蛋白质过程中产生的中间产物.蛋白质在动物消化道内降解成游离氨基酸和小肽后被吸收。大量试验结果表明,反刍动物以歇吸收为主要形式,劳且其在氨基酸消化、吸收和降解中起着重要作用。作者对小肽生理特征及营养等方面的研究现状进行了综述。
【英文摘要】Small peptide is the midist production in the degeradation of proteins,proteins are adsorpted after degraded intofree animo acids and peptides in the digistive tract of ruminants.The absorption of peptides is dominant way in ruminants and itplays an improtant role in degradation,absorption and metablization of amino acids.The physiological characteristic and nutri—tion of small peptides in ruminants were reviewed.
【语种】中文
【第一作者】刘庆生
【通讯作者】赵国琦
【期刊名称、卷期、页码】中国畜牧兽医,2009,36(1):19-22
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【学科分类】畜牧学

【题目】葡萄糖处理对豆粕过瘤胃蛋白的影响
【中文关键词】葡萄糖;豆粕;蛋白质降解率
【英文关键词】glucose; Soybean meal; Protein degradation rate
【中文摘要】试验采用单因子完全随机试验设计和尼龙袋法,研究添加0.1%、3%、5%、7%、9%葡萄糖保护豆粕,对3头中国荷斯坦奶牛不同时间点内瘤胃蛋白质降解率及其动态降解率的作用效果。结果表明,蛋白质降解率与瘤胃内培养时间密切相关。培养时间越长,降解率增大。在各时间点,提高葡萄糖添加量可使蛋白质降解率逐渐降低,所有实验组与未处理组差异均极显著(P<0.01),CP有效降解率降低最高达24.82%,添加水平为7%、9%两组组间差异不显著(P>0.05)。试验证明葡萄糖与豆粕复合加热处理可有效抑制奶牛瘤胃蛋白质降解,且研究表明葡萄糖的适宜添加水平为7%。
【英文摘要】
【语种】中文
【第一作者】王潍波
【通讯作者】赵国琦
【期刊名称、卷期、页码】饲料工业,2008,29(15):31-33
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【学科分类】畜牧学

【题目】反刍动物共轭亚油酸合成及影响因素与生理功能
【中文关键词】反刍动物;共轭亚油酸;影响因素;生理功能
【英文关键词】Ruminant animals; Conjugated linoleic acid; Influencing factors; Physiological function
【中文摘要】共轭亚油酸(Coniugated linoleic acid,CLA)是指与亚油酸的不饱和双键位置和空间构型不同的一类脂肪酸同分异构体的混合物,CLA的双键在第9和第11位或第10和第12位碳原子上,可呈顺式或反式构型.其具有很强的生理功能,主要有抗癌、抗动脉粥样硬化、抗氧化、降低胆固醇、促进生长、抑制脂肪累积、增强机体免疫能力等功能.共轭亚油酸最早由Pariza等(1983)从研磨的牛肉中发现,以后Shantha,N.C.等(1992)与Boyaval,P.等(1995)发现奶及其制品中也含有CLA(每克脂肪含3~9 mg).近几年的研究发现,C12,t10-CLA异构体的生物活性比C9,t11-CLA异构体强.共轭亚油酸成为目前动物营养等研

究领域的热点
【英文摘要】
【语种】中文
【第一作者】刘庆生
【通讯作者】赵国琦
【期刊名称、卷期、页码】饲料工业, 2008,29(16):52-54
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【学科分类】畜牧学

【题目】体外条件下葡萄糖处理大豆粕对瘤胃内环境参数的影响
【中文关键词】体外培养;葡萄糖;大豆粕;瘤胃环境参数
【英文关键词】In vitro; Glucose; Big meal; Rumen environmental parameters
【中文摘要】近年来,国外报道过一些糖和加热保护处理可降低优质蛋白质饲料在瘤胃中的降解率,此种方法以糖为保护剂,安全、无污染,在保护方法上是一个突破,改变了以往保护剂如血粉、甲醛等不切合实际应用的不足.本试验旨在用瘤胃液体外培养法评定葡萄糖非酶褐化豆粕对奶牛瘤胃内环境参数的影响,为探索新型饲料蛋白质保护剂提供参考.
【英文摘要】
【语种】中文
【第一作者】王潍波
【通讯作者】赵国琦
【期刊名称、卷期、页码】饲料工业,2009,30(17):34-37
【论文发表时间】2009-09-10 00:00:00
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【引文索引号】
【学科分类】畜牧学

【题目】Review of Application of Mathematical Morphology in Crop Disease Recognition
【中文关键词】二进制形态学、灰度形态学、颜色形态学、腐蚀、膨胀、作物病害
【英文关键词】binary morphology, gray-level morphology, color morphology, erosion, dilation, crop disease
【中文摘要】数学形态学是一个非线性二维卷积操作的图像处理方法,包括二进制形态、灰度形态学和颜色的形态。侵蚀、膨胀、打开和关闭操作运行的基础数学形态学的。可以使用数学形态学的边缘检测、图像分割、噪音被广泛应用于图像处理领域。基于当前的进展,分析了综合阐述数学形态学分类和应用的农作物病害的识别。最后,开放的问题和进一步的研究对数学形态学进行了讨论。
【英文摘要】Mathematical morphology is a non-linear image processing method with two-dimensional convolution operation, including binary morphology, gray-level morphology and color morphology. Erosion, dilation, opening operation and closing operation are the basis of math ematical morphology. Mathematical morphology can be used for edge detec tion, image segmentation, noise been widely used in the field of im age processing. Based on the current progress, this thesis gives a comprehens ive expatiation on th e mathematical morphology classification and application of crop disease recognition. In the end, open problems and the further research of mathematical morphology are discussed.
【语种】英文
【第一作者】刁智华
【通讯作者】赵春江
【期刊名称、卷期、页码】Computer and Computing Technologies in Agriculture II,2009,981-990
【论文发表时间】2009-05-05 00:00:00
【引文索引类型】ISTP
【引文索引号】
【学科分类】计算机应用

【题目】嵌入式无线监控系统界面的设计
【中文关键词】嵌入式系统,MiniGUI界面, 监控系统, 无线通信, S3C241
【英文关键词】Embedded system, MiniGUI interface,Monitoring system,Wireless communication, S3C2410
【中文摘要】人机界面是嵌入式系统中人与系统交互的重要途径。为了方便地设定系统工作程序和外围设备参数,清晰地显示系统工作状况,使用MiniGUI开发了无线监控系统的人机界面,更好地实现了人机交互。选择$3C2410X为系统运行的硬件平台,采用ARM—Linux和MiniGUI为系统运行的软件平台。该人机界面已成功应用于无线监控系统中,提供了一个友好、简便的可视化操作界面。
【英文摘要】Man machine interface(MMI)of embedded system is the important path of interaction between human and system.In order to a— chieve simple operation and visual display,as well as to setup system operating program and the parameters of peripheral easily-and show the working status of the system clearly,i.e.,to implement man machine interaction well,the MMI of wireless monitoring system has been developed by adopting MiniGUI.The hardware platform selected is based on$3C2410X;the software platform is ARM—Linux and MiniGUI.The man machine interface has been successfully used in wireless monitoring system。it offers user—friendly and simple visual system interface.
【语种】中文
【第一作者】刁智华
【通讯作者】赵春江
【期刊名称、卷期、页码】自动化仪表,2009,5:20-21,24
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【引文索引号】
【学科分类】计算机应用

【题目】FMECA在食品安全追溯中的应用现状分析
【中文关键词】FMECA,食品安全,追溯链
【英文关键词】无
【中文摘要】本文介绍了FMECA的基本概况,说明了实施FMECA的相关国内外标准和通用实施步骤,阐述了FMECA技术在食品安全追溯中的应用情况,并通过对FMECA的应用现状的分析和应用前景的展望,对下一步的研究工作提出了建议。
【英文摘要】无
【语种】中文
【第一作者】李春华
【通讯作者】李春华
【期刊名称、卷期、页码】《中国食物与营养》 2008年第6期
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【引文索引类型】其他
【引文索引号】
【学科分类】计算机应用

【题目】Growth simulation of Fraxinus chinensis stands damaged by Hyphandria cunea in Beijing area.
【中文关键词】无
【英文关键词】Hyphandria cunea, damage simulation, Forest Vegetation Simulator (FVS)
【中文摘要】无
【英文摘要】Hyphandria cunea is an insect that can damage hundreds of plants in its larval phase and needs to be placed under quarantine at an international level. Its hosts involve 600 plant species, including forest and fruit trees, shrubs, crops, vegetables, weeds and others. In 2006, we surveyed two Fraxinus chinensis Roxb stands, damaged to different degrees, after the invasion of H. cunea in the Changping district of the Beijing area. Given our survey of individual trees and investigation of bio-environmental factors, we provide a preliminarily simulation of the growth situation of F. chinensis stands, damaged by H. cunea, by using the Forest Vegetation Simulator software (FVS), which is supported by the “ 948 ” project from the State Forestry Administration of China. The results will provide a valuable reference in forecasting the effect of H. cunea and other invasive pests in China on forest ecological values.
【语种】英文

【第一作者】BAO Ting-fang
【通讯作者】LUO You-qing
【期刊名称、卷期、页码】Forest Study in China 2008,10(1): 60 – 63
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【引文索引类型】其他
【引文索引号】
【学科分类】植物保护学

【题目】食用油产品追溯链编码研究
【中文关键词】食用油产品,溯源,编码
【英文关键词】无
【中文摘要】溯源制度已成为食品安全管理一项重要手段,全球食品产业和许多国家的政府越来越重视食品溯源拳统的建立。食用油产品是惑国人民广泛食用的农产品,因此,开展食用油产品追溯研究意义重大。要构建食用油产品的可追溯系统,基于追溯链的编码研究是基础也是关键,因此对食用油产品追溯链组成及其信岛进行分析,设计出基于批次管理的食用油产品追溯链,提出产地、加工过程、终产品等核心环节的编码规则,使粮油产品追溯成为可能,同时也为其他农产品追溯提供参考。
【英文摘要】无
【语种】中文
【第一作者】郑火国
【通讯作者】郑火国
【期刊名称、卷期、页码】《中国粮油学报》2009年8月
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【引文索引类型】其他
【引文索引号】
【学科分类】计算机应用

【题目】Traits of Masson pine affecting attack of Pine Wood Nematode
【中文关键词】无
【英文关键词】Bursaphelenchus xylophilus; invasion; Pinus massoniana; resistance; susceptibility; tree characteristics.
【中文摘要】无
【英文摘要】Masson pine characteristics were analyzed in five sample plots in Zhejiang Province, China. Bursaphelenchus xylophilus (Steiner et Buhrer) Nickle (pine wood nematode, PWN) carried by Monochamus alternatus predominately attacked Masson pines in the lower diameter classes. Among the 10 tree characteristics examined, mean crown width, percentage of bole with crown, 5-year cumulative diameter growth, and resin amount showed significant variation between successfully attacked and unattacked trees. The attacked trees had a lower percentage of the bole covered with tree crown, lower crown width, lower radial growth in the last 5 years, and produced less induced resinosis than unattacked trees. Results allowed for effective ranking of the pine forest based on individual tree resistance to PWN. This index of resistance should be considered throughout the development of an “ Evaluation Criterion and Indicator System ”. The preceding ranking can be used to evaluate the resistance and resiliency of the pine forest ecosystem to PWN ’ s invasion, which is similar to Pest Risk Analysis (PRA).
【语种】英文
【第一作者】Juan Shi
【通讯作者】You-Qing Luo
【期刊名称、卷期、页码】Journal of Integrative Plant Biology 2007, 49 (12): 1 – 9
【论文发表时间】2007-12-01 00:00:00
【引文索引类型】SCI
【引文索引号】10.1111/j.1744-7909.2007.00613.x
【学科分类】植物保护学

【题目】Construction of Traceability System for Quality Safety of Cereal and Oil Products

【中文关键词】无
【英文关键词】traceability system,quality and safety,cereal and oil products, traceability encoding
【中文摘要】无
【英文摘要】After several significant food safety incident,global food industry and governments in many countries are putting increasing emphasis on establishment of food traceability systems Food traceability has become an effective way in food quality and safety management.The traceability system for quality safety of cereal and oil products was designed and implemented with HACCP and FMECA method, encoding, information processing,and hardware R&D technology etc, according to the whole supply chain of cereal and oil products.Resuhs indicated that the system provide not only the management in origin,processing,circulating and consuming for enterprise,but also tracing service for customers and supervisor by means of telephone,internet,SMS,touch machine and mobile terminal.
【语种】英文
【第一作者】郑火国
【通讯作者】郑火国
【期刊名称、卷期、页码】CCTA 2009 ,IFIP AICT 317,pp283-290,2010
【论文发表时间】2010-01-01 00:00:00
【引文索引类型】EI
【引文索引号】CNKI:SUN:ZNYK.0.2009-09-030
【学科分类】计算机应用

【题目】Biological activity of the essential oil from the leaves of Piper sarmentosum Roxb and its chemical constituents on Brontispa longissima
【中文关键词】无
【英文关键词】Piper sarmentosum Roxb. Essential oil Brontispa longissima (Gestro)
Biological activity Chemical composition Myristicin Enzyme activity
【中文摘要】无
【英文摘要】The results showed that the essential oil from Piper sarmentosum has strong antifeedant and toxicity effects on Brontispa longissima. The best antifeedant and contact toxicity effects were observed in the 1st – 2nd instar larvae. The essential oil also displayed a notable fumigation effect on the eggs and pupae of B. longissima. It took the control-treated insects 43.34 d to complete one generation, while the insects treated with 2000 mg/L essential oil needed 73.58 d. The essential oil was analyzed by gas chromatography/mass spectrometry and 41 components were identified. Myristicin (65.22%) and trans-caryophyllene (13.89%) were the major components. Myristicin exhibited strong antifeedant and contact toxicity effects on both the 3rd instar larvae and the imagoes of B. longissima, when it showed a significant fumigation effect on the eggs and pupae of B. longissima. Another P. sarmentosum essential oil and myristicin all showed a strong inhibiting effect on the growth and development of B. longissima along with the activity of AChE, CarE, GSTs and Na+, K+-ATPase in B. longissima larvae.
【语种】英文
【第一作者】Weiquan Qin
【通讯作者】Weiquan Qin
【期刊名称、卷期、页码】Pesticide Biochemistry and Physiology 2010, 96:132-139
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【引文索引类型】SCI
【引文索引号】10.1016/j.pestbp.2009.10.006
【学科分类】植物保护学

【题目】Effects of dietary Saccharomyces cerevisiae fermentation product (DVAQUA ®) on
【中文关键词】无
【英文关键词】Saccharomyces cerevisiae fermentation product, DVAQUA, Intestinal autochthonous bacterial community, Non-specific immunity, Hybrid tilapia, Oreochromis niloticus ♀×O. aureus ♂
【中文摘要】无
【英文摘要】In the present study, hybrid tilapias (Oreochromis niloticus ♀ × O. aureus ♂) were fed six isonitrogenous and isoenergetic experimental diets in cages. The diets contained six levels of Saccharomyces cerevisiae fermentation product

(DVAQUA ®): 0 (CK), 0.125 (G1), 0.25 (G2), 0.5 (G3), 1.0 (G4) and 2.0 (G5) g kg − 1 diet. The purpose of this study was to evaluate the effects of dietary DVAQUA on growth performance, intestinal autochthonous bacterial community by using 16S rDNA and denaturing gradient gel electrophoresis (DGGE), and non-specific immunity of hybrid tilapia. Supplementation of dietary DVAQUA showed no effects on growth performance, diet conversion and survival rate of the hybrid tilapia. However, supplementation of DVAQUA affected the autochthonous gut bacteria community. Various potentially beneficial bacteria werestimulated by dietary DVAQUA at different feeding period, while potential harmful species such as Escherichia coli serotype O20: H42-like, uncultured Bacilli bacterium clone MS030A1_F02-like, and Pseudomonas fluorescens strain YC0357-like were depressed by dietary DVAQUA. Non-specific immunity of hybrid tilapia such as serum lysozyme activity, serum alternative complement pathway (C3 and C4) activities, head kidney macrophage phagocytic activity, and head kidney macrophage respiratory burst activity were improved by dietary DVAQUA. The optimum dose of dietary DVAQUA for hybrid tilapia determined based on a broken-line approach varies depending on the variables used: 0.226, 0.467, 0.492 or 0.50 g kg − 1 diet for lysozyme, C3, C4, or phagocytic activity, respectively.

【语种】英文

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【学科分类】水产饲料学

【题目】日粮类型及肠液储存条件对鸭空肠液组成与特性的影响

【中文关键词】鸭;空肠液;消化酶;离子浓度;pH

【英文关键词】Ducks; Jejunal juice; Digestive enzymes; Ion concentration; pH

【中文摘要】本试验旨在通过研究日粮类型及肠液的体外储存条件对鸭空肠液组成的影响, 为人工鸭小肠液的制备提供参考。试验一探讨日粮类型对鸭空肠液组成的影响, 采用完全随机设计, 将36 只安装有空肠T 型套管的成年公鸭随机分成2组, 每组6个重复, 每个重复3只鸭, 分别饲喂玉米—豆粕型日粮和玉米—豆粕—菜粕—棉粕型日粮, 试验期35 d。试验二利用2 x 3 (2 个储存温度: -20 和-70 ℃,3个储存时间:3 0、6 0 和90 d) 完全随机设计, 研究鸭空肠液有效生物学活性的适宜储存条件。结果表明, 2 种日粮条件下鸭空肠液在胰蛋白酶、糜蛋白酶的活性及Mg2+和Cl-浓度上有显著差异(P<0.0 5) , 而在淀粉酶和脂肪酶活性, K + 、Na + 和Ca 2+浓度及pH 上无显著影响(P>0.05)。肠液的储存温度对鸭空肠液的pH有显著影响(P<0.05) , 而对消化酶活性无显著影响(P>0.0 5)。肠液的储存时间对玉米—豆粕—菜粕—棉粕型日粮条件下鸭空肠液胰蛋白酶和淀粉酶活性以及2 种日粮条件下空肠液pH有显著或极显著影响(P<0.05 或P<0.01)。由此可见, 日粮类型是影响鸭空肠液生物学特性的主要因素之一,储存条件对鸭空肠液生物学特性的影响因口粮类型的不同而有所差异。

【英文摘要】Two experiments were conducted to study the effects of dietary type and in vitro storage conditions on the composition and character of jejunal juice in ducks. In experiment 1, a completely random design was used to study the effects of dietary type on the composition and character of jejunal juice in ducks. Thirty-six male adult ducks fitted with a T-cannula in the jejunum were randomly assigned to 2 groups with 6 replicates each and 3 ducks in each replicate, and fed corn-soybean meal diet and corn-soybean meal-rapeseed meal-cottonseed meal diet, respectively. The trial lasted for 35 days. In experiment 2, a 2×3 completely random design of two kinds of storage temperature (-20 and -70 °C) and three storage periods (30, 60 and 90 d) was conducted to study the appropriate in vitro storage conditions of jejunal juice. Results showed that dietary type diets significantly affected the activities of trypsin, chymotrypsin and the concentrations of Mg2+ and Cl- of jejunal juices (P<0.05). But the activities of amylase and lipase, the concentrations of K+, Na+ and Ca2+, pH were not significantly different in two treatments (P>0.05). The storage temperature could significantly affect the pH (P<0.05), but could not significantly affect (P>0.05) the digestive enzyme activity of jejunal juice. The storage time could significantly affect the pH of jejunal juices in these two groups, and the activities of trypsin and amylase of jejunal juice in ducks fed corn-soybean meal-rapeseed meal-cottonseed meal diet (P<0.05 or P<0.01). In conclusion, dietary type was one of the important factors which could affect the biological characters of jejunal juice in ducks, and effects of storage conditions on the biological characters of jejunal juice could be dependent on the dietary type.

【语种】中文

【第一作者】郑卫宽

【通讯作者】张宏福

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【学科分类】畜牧、兽医科学基础学科

【题目】12个豆粕样品鸭代谢能值及氨基酸消化率的比较研究
【中文关键词】鸭 代谢能 氨基酸真消化率
【英文关键词】Duck ; Metabolizable energy; True amino acid digestibility
【中文摘要】本试验旨在通过研究鸭对12个豆粕样品的能量和氨基酸生物学利用率的差异,探讨豆粕原料中主要养分生物学效价的变异因素。试验采用单因素完全随机设计,以每个豆粕样品为1个处理,每个处理4个重复,每个重复3只鸭,以排空强饲法测定12个豆粕样品的代谢能值及氨基酸真消化率。结果表明,3#豆粕样品的鸭代谢能值最高,显著高于4#、8#、9#、10#、11#、12#豆粕样品的代谢能值(P0.05)。7#豆粕样品的鸭代谢能值次之,显著高于8#、11#、12#豆粕样品的代谢能值(P0.05)。在氨基酸消化率的差异上,7#、8#、9#豆粕样品的总氨基酸真消化率显著高于1#、2#、3#、4#、5#、12#豆粕样品(P0.05)。除6#、7#、8#、9#豆粕样品间、2#、3#豆粕样品与1#、4#样品间在17种氨基酸的真消化率上无显著性差异外(P0.05),其他样品两两间在某些氨基酸的真消化率上均存在显著性差异(P0.05)。从豆粕的化学成分与代谢能及氨基酸真消化率的相关关系看,不同来源豆粕代谢能值的差异可能与豆皮的含量有关,而氨基酸真消化率的差异可能与大豆的来源及生产工艺有关。
【英文摘要】The differenees in metabolizable energy and true amino acid digestibility of 12 s o y bean meal sa mples using adult ducks as experimental animals were investigated to study the variation in the bioavailability of macronutrients of soybean meals .A completely randomized design was used an d each samPle of soy bean meal was a treatment with 4 replicates each and 12 ducks in each re plicate . Sibbald ’ s emptying 一fo rce 一feeding method was used to determine the metablizable energy and true amino acid digestibility of soybean meals. The results showed that the metabolizable energy of sample 3was significantly higher than that of samPles 4 , 8 , 9 , 1 0 , 1 1 , 1 2 (P < 0.0 5) and sample 7 was significantly higher than that of samples 8, 11 ,12 (P < 0.0 5). The true digestibilities of total amino a cids of sample 7 , 8 , 9 were significantly higher than those of samples1 , 2 , 3 , 4 , 5 , 1 2 (P < 0.0 5).T here was no significant difference in the true digestibilities of 17 amino acids among samples6 , 7 , 8 , 9 , and between samples 2, 3 and sample s l , 4 (P > 0 . 0 5). T here was significant difference in the true digestibility of some amino acids among other samples (P < 0.0 5). In conclusion , according to the relationship between the chemieal compositions and metabolizable energy, true amino acid digestibility of 12 soybean meals , the difference in metabolizable energy of soy bean meals was probably related to the percentage of soybean hull, however , the difference in true amino acid digestibility was related to the origin of soybean and production process.
【语种】中文
【第一作者】赵峰
【通讯作者】赵峰
【期刊名称、卷期、页码】动物营养学报,2009,21:165-172
【论文发表时间】2009-02-07 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】畜牧、兽医科学基础学科

【题目】苹果货架期的近红外光谱定性分析
【中文关键词】苹果;近红外光谱;货架期;定性分析
【英文关键词】apple; near infrared spectroscopy; shelf life; qualitative analysis
【中文摘要】以嘎啦苹果为试材,使用ASD公司的FieldSpec3光谱仪在常温条件下进行近红外光谱采集,应用OPUS软件的快速比较法和电子称重数据对苹果样品的近红外光谱信息进行处理。结果表明,苹果样品在室内常温及通风条件下10d失重率即可达到5%;货架期苹果的近红外光谱在水分吸收峰1 440nm和1 936nm发生显著变化;快速比较法在使用二阶导数预处理方法可以准确、有效地进行定性鉴别。
【英文摘要】Gala apples as material, apple ’ s near-infrared spectral information was processed. Apple samples reached 5% weight loss at room temperature and ventilation in indoor conditions in 10 days; Near infrared spectroscopy of apples in shelf life changed significantly in the 1 440nm and 1936 nm water absorption. Quick comparison using the second derivative pretreatment can make qualitative identification accurately and effectively.

【语种】中文
【第一作者】樊景超
【通讯作者】周国民
【期刊名称、卷期、页码】中国食物与营养, 2011,17(1):47-49
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【引文索引类型】其他
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【学科分类】应用化学

【题目】苹果近红外光谱采集影响因素研究
【中文关键词】苹果; 近红外光谱; 影响因素
【英文关键词】Apple;Near infrared spectroscopy;Influence factors
【中文摘要】[目的]对不同影响因素条件近红外光谱信息的准确性进行研究,优化嘎啦苹果近红外光谱采集试验条件[方法]以嘎啦苹果为试材,使用ASD公司的filedspec3 光谱仪在常温条件下进行近红外光谱采集,探索了环境杂散光仪器稳定性不同测距不同色差不同部位 不同货架期等条件对采集光谱的影响[结果]杂散光对近红外光谱的可见光区域有明显影响; 固定光谱阵列检测器型光谱仪器在9h内重复测量的稳定性高; 裸光纤在除0mm外的2.5-12.5mm测距上吸光度保持重复稳定; 同一苹果的不同色差对光谱的影响在可接受区间内; 苹果赤道面上的光谱稳定性较果柄和果鄂部好; 常温条件下,不同货架期对苹果样品的近红外光谱产生显著影响[结论]该研究可为苹果近红外研究人员和分析工作者提供参考.
【英文摘要】[Objective] The aim was to optimize experimental conditions of Gala apple NIR (Near Infrared) spectroscopy acquisition through studying on the accuracy of NIR spectroscopy information under different influence factors. [Method]Gala apple was taken as the experimental material,and FieldSpec3 spectrometer (Analytical Spectral Device Company,America) was employed to acquire the NIR spectroscopy at room temperature. Then,the effects of different conditions including the environmental stray light,instrument stability,different distance,different chromatic aberration,different sites and different shelf-life on spectroscopy acquisition were investigated. [Result] The stray light had asignificant effect on the visible light region of NIR spectroscopy;FieldSpec3 spectrometer had higher stability in 9 h; the measure distance of 2.5-12.5 mm could obtain good repeatability of absorbance; the effects of different chromatic aberration of the same apple on spectra was acceptable;the spectral stability of equatorial plane of the apple was better than those of the bottom and stalk;at room temperature;different shelf-life could make significant influence to NIR spectroscopy of the apple simple. [Conclusion]This study will provide reference for the researchers and analysis workers of apple NIR spectroscopy.
【语种】中文
【第一作者】樊景超
【通讯作者】周国民
【期刊名称、卷期、页码】安徽农业科学,2011,39(1):464-467
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【引文索引类型】其他
【引文索引号】
【学科分类】应用化学

【题目】基于可见/近红外光谱的土壤有机质快速测定方法研究
【中文关键词】土壤,有机质,近红外,样本,快速测定
【英文关键词】Soil; Organic matter; Near-infrared; Sample; Fast detection
【中文摘要】[目的]研究在野外直接测定土壤有机质含量的方法。[方法]以重铬酸钾容量法(外加热法)测定土壤样本有机质含量作为真实值,在不进行土壤样本预处理的前提下,利用近红外光谱直接扫描未作处理的土壤样本,测定土壤有机质含量,以其作为土壤有机质含量的预测值。[结果]利用620nm和1900nm的波长组合,可以较好地预测土壤有机质含量,预测模型(定标模型)的相关系数为0.9,极为显著。[结论]经过模型检验,表明该模型对同类土壤有机质含量的预测效果很好,预测值与实测值的相关系数达到0.95。本文未研究模型对不同类型的土壤有机质含量的预测效果。
【英文摘要】[Objective] The research aimed to study the methods for direct determination of organic matter content in the fields. [Method]Take the organic matter content of the soil samples determined by the hydroquinone volumetric method (Heating Method) as a truth value. With the condition of no pretreatment of soil sample, researcher use of near infrared spectral scanning untreated soil sample directly and measuring soil organic matter content In order to make it as predictive value.[Result]It could be good for predict

the content of soil organic matter by use of a combination of wavelength between 620nm and 1900nm. The data for prediction model (calibration model) is 0.9 and effect is very remarkable. [Conclusion] A testing of the model shows that the model has good prediction effect on the content of similar soil organic matter. The correlation coefficient between the predict value and the real value reached 0.95. It is not considered in this paper that the forecast validity of the model for different kinds content of soil organic matter.
【语种】中文
【第一作者】胡林
【通讯作者】胡林
【期刊名称、卷期、页码】安徽农业科学,2012,40(12):7123-7124,7188
【论文发表时间】2012-04-04 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】计算机应用

【题目】Research on Orchard Field Data Service System
【中文关键词】果园,现场数据服务,多终端,服务果农,精准管理
【英文关键词】orchard; field data service; diversified terminals; service for orchard workers; precise management
【中文摘要】果园的精确的管理不能没有支持各种果园现场数据,果园现场数据服务器是一个有效的解决方案。果园现场数据服务器由数据采集单元、数据通信单元、数据分析单元和支持多样的用户终端个人电脑(PC)、笔记本电脑、移动电话和电话。果园里的工人可以根据需求设置数据采集周期,处理过的数据可以在很多方面为果园工人。经过在辽宁和北京等地的许多果园的推广和应用,证明系统使用方便、效果可靠,所以,这个项目取得了良好的社会效益、生态效益和经济效益。
【英文摘要】The precise management of orchards cannot do without the support of various orchard field data, and the orchard field data server is an effective solution thereto. The orchard field data server consists of data acquisition unit, data communication unit, data analysis unit and such diversified server sockets of user terminal as supportive personal computer (PC), notebook computer, mobile phone and telephone. The orchard workers can set data acquisition cycle according to the requirements, and the processed data can serve the orchard workers in many respects. After its promotion and application in many orchards in such regions as Liaoning and Beijing, the said system has been proved to be of easy use and reliable effect, so that the project has achieved good social, ecological and economic benefits.
【语种】英文
【第一作者】胡林
【通讯作者】胡林
【期刊名称、卷期、页码】D.Li and Y.Chen(Eds.).CCTA2011,part1,IFIP,AICT368,pp.209-215,2012.
【论文发表时间】2012-01-02 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】电子技术

【题目】The potential geographical distribution of Bactrocera dorsalis in China based on emergence rate model and Arcgis
【中文关键词】无
【英文关键词】Radopholus similes, niche model, GARP, MAXENT, suitable distribution area
【中文摘要】无
【英文摘要】The burrowing nematode (Radopholus similis) is one of the main quarantine pests in China, and the risk of invasion posed by this nematode is becoming more and more serious with regard to the international trade being intensified day by day.It is urgent to analyse the potential geographic distribution of R. similis in China. Genetic algorithm for rule-set prediction modeling system (GARP) and maximum entropy (MAXENT), the two niche models which have been widely used to predict the potential geographic distribution of alien species, were used to predict the distribution of R. similis in China.We also presented a model comparison of the results by both threshold-dependent and threshold-independent evaluations.It has been shown that the two niche models could be used to predict the potential distribution of R. similis reliably. The potential distribution of R. similis should be constricted within the south of China, such as Hainan, Guangdong, Guangxi,Fujian, Yunnan provinces, and Taiwan of China. The MAXENT gives a better prediction than that of GARP. R. similis can be introduced to China by flowers and nursery stock ’s international shipping. The

predicted results indicate that R.similis can occur in south coastal area of China and Yunnan Province, which are the main flower and nursery stock ’s import-export areas in China. Consequently, a strong quarantine program is needed at the ports of such areas to prevent the pest from being introduced to China.

【语种】中文

【第一作者】王运生

【通讯作者】谢炳炎

【期刊名称、卷期、页码】The Second IFIP International Conference on Computer and Computing Technologies in Agriculture 2009, 293:399-41

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【引文索引类型】其他

【引文索引号】

【学科分类】植物保护学

【题目】应用相似离度法预测红火蚁在中国适生区域及其入侵概率

【中文关键词】外来入侵物种;红火蚁;相似离度;气候相似理论;适生区域;入侵概率;预警级别

【英文关键词】Radopholus similes, niche model, GARP, MAXENT, suitable distribution area

【中文摘要】依据气候相似理论,采用相似离度法预测红火蚁在中国的适生区域及其入侵概率。【方法】收集红火蚁在世界范围的分布数据和国内外气候站点的气候数据,建立红火蚁原产地和严重发生地气候站点集合,采用相似离度法找到与气候站点集合最相似的地区。在气候因素影响下,相似程度相对百分比认为是红火蚁入侵中国政区和气候区的概率值,并且建立了预警级别。【结果】预测结果表明,香港、澳门、广东、广西的入侵概率均大于80%,处于红色警报区;安徽、江苏、上海、江西、浙江、福建、台湾、贵州、云南、海南的入侵概率在50%~80%,处于橙色警报区,其它地区均处于黄色警戒区和绿色小风险区。【结论】红、橙警报区需要采取适当的防控措施,川渝地区和云南东南部的气候与原产地气候较为相似,尽管目前尚未发现有红火蚁入侵,但由于红火蚁对气候具有很强的适应性,因此也应该采取相应的预防措施。此外,相似离度法尽管多用于气象研究领域,但在预测外来物种分布范围时也起到了良好的辅助效果。

【英文摘要】The burrowing nematode (Radopholus similis) is one of the main quarantine pests in China, and the risk of invasion posed by this nematode is becoming more and more serious with regard to the international trade being intensified day by day.It is urgent to analyse the potential geographic distribution of R. similis in China. Genetic algorithm for rule-set predictionmodeling system (GARP) and maximum entropy (MAXENT), the two niche models which have been widely used to predict the potential geographic distribution of alien species, were used to predict the distribution of R. similis in China.We also presented a model comparison of the results by both threshold-dependent and threshold-independent evaluations.It has been shown that the two niche models could be used to predict the potential distribution of R. similis reliably. The potential distribution of R. similis should be constricted within the south of China, such as Hainan, Guangdong, Guangxi,Fujian, Yunnan provinces, and Taiwan of China. The MAXENT gives a better prediction than that of GARP. R. similis can be introduced to China by flowers and nursery stock ’s international shipping. The predicted results indicate that R.similis can occur in south coastal area of China and Yunnan Province, which are the main flower and nursery stock ’s import-export areas in China. Consequently, a strong quarantine program is needed at the ports of such areas to prevent the pest from being introduced to China.

【语种】中文

【第一作者】沈文君

【通讯作者】万方浩

【期刊名称、卷期、页码】The Second IFIP International Conference on Computer and Computing Technologies in Agriculture 2009, 293:399-41

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【引文索引类型】其他

【引文索引号】

【学科分类】植物保护学

【题目】梨部分品种授粉组合选配与自花结实性研究

【中文关键词】梨;授粉;花粉败育;自花结实

【英文关键词】Pear; Pollination; Pollen abortion; Self-fertile

【中文摘要】以中梨1号、中梨2号、新高、黄金梨、早美酥、红香酥、长寿、金二十世纪、红太阳等为试材,通过对各品种花药散粉状态进行镜检观察和杂交组合授粉与自花结实性试验,结果表明,中梨1号、早美酥、红香酥、长寿、金二十世纪6个品种的花药散粉正常、花粉量大,,所配组合坐果率很高,生产上可用作授粉树;新高、黄金梨、红太阳3个品种花粉发育不良、散粉异常或花粉败育,生产上不能作为授粉品种。中梨2号、红香酥、长寿、金二十世纪、新高、黄金梨、红太阳7个品种自花不结实,早美酥和中梨1号可自花结实。

【英文摘要】Zhongli1,Zhongli2,Niitaka,Hangkeumbae,Zaomeisu,Hongxiangsu, Chouju, Goldnijisseiki, and Hongtaiyang were used as materials for studying their pollen scattering ability through microscope observation and examining their suitability for cross pollination and self-fertile ability. The results showed that Zhongli 1, Zaomeisu, Hongxiangsu, Chouju, Goldnijisseiki could be used as pollinizers in production because of their normal pollen scatteration, high pollen amount and high fruit set rate; Niitaka, Hangke...

【语种】中文

【第一作者】李秀根

【通讯作者】李秀根

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【引文索引类型】其他

【引文索引号】

【学科分类】农艺学

【题目】两种聚丙烯酰胺凝胶电泳染色方法对SRAP标记的影响

【中文关键词】银染法;聚丙烯酰胺电泳;SRAP;桃

【英文关键词】Silver—staining method;Polyaerylamide gel electrophoresis;SRAP;Peach

【中文摘要】应用SRAP标记对桃进行标记,比较了两种聚丙烯酰胺凝胶的银染方法。染色结果显示,弱碱银染法背景颜色浅,灵敏度较高。强碱银染法对条带的鉴别力稍差,但因省时省力,适于分子标记辅助选择(MAS)大规模引物筛选时的染色。

【英文摘要】Sixty SRAP primers from peach were used to comparatively analyze two coloration methods 0f detecting SRAPs by polyacrylamide gel electrophoresis system.The result showed that there were some differences between two silver-staining methods.Silver staining detection in strongly alkaline situation had higher eficiency and adaptability especially in MAS than traditional method in alkalescent situation without the consideration 0f the instrument.

【语种】中文

【第一作者】张妤艳

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【引文索引类型】其他

【引文索引号】

【学科分类】分子生物学

【题目】早熟油桃紫金红1号亲本的SSR鉴定

【中文关键词】油桃;SSR;亲本鉴定

【英文关键词】Nectarine;SSR;Parenta1 analysis

【中文摘要】油桃新品种紫金红1号是从早熟油桃中实生选育的,果实经济性状优良。以23个疑似亲本的油桃品种为试材,利用SSR标记共显性的特点,进行了紫金红1号亲本鉴定。SSR.PCR扩增结果表明,163对SSR引物中有48对能在试材中扩增出多态性良好、谱带清晰的产物,其中17对SSR引物扩增出的20个SSR位点呈现共显性带型。基于185个SSR等位基因信息的亲缘关系分析发现,紫金红l号与早红2号之间的亲缘关系最近,相似系数为0.881,在树状图上也聚为一类。经共显性SSR位点遗传规律分析,使用3个SSR引物(CPPCT15、BPPCT031、UDP96—018)的扩增位点,可排除早红2号以外的其他品种作为紫金红l号亲本的可能。认为早红2号自交获得紫金红l号可能性很大,或至少是其亲本之一。

【英文摘要】New nectarine variety Zijinhongl was selected from naturally pollinated seedlings of early matured neetarine because of its superior quality in economic traits.However,its parents were still unknown.Twenty three nectarine varieties which were suspected to be its parents,as well as Zijinhongl itself,were used as plant material,and SSR markers for its CO—dominant characteristic were used to analyze the probable parents.The results of SSR—PCR showed that 48 primers out of 1 63 could produce polymorphism and legible

alleles.Twenty loci amplified by 17 primers performed CO—dominant pattern.Genetic relationship based on 1 85 alleles showed that EarlyRed 2 was the most similar variety to Zijinhongl with a SM coeficient of 0.88 1,and the two varieties were clustered into one group in dendrograme.According to the statistic of inheritance of CO—dominant loci,three loci amplified by CPPCT15,BPPCr031 and UDP96.018,respective1y,could dispose all tested varieties possibly to be the parents of Zijinhongl except EarlyRed 2.So Zijinhongl may most probably selected from self-cross seedlings of EarlyRed 2,or EarlyRed 2 was at least one parent of Zijinhong1。

【语种】中文
【第一作者】沈志军
【通讯作者】俞明亮
【期刊名称、卷期、页码】华北农学报、2009;24(6):205-209
【论文发表时间】2009-06-23 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】园艺学

【题目】红肉桃果实发育过程中色素和糖酸含量的变化
【中文关键词】红肉桃;果肉颜色;花色苷;动态变化;果实发育过程
【英文关键词】Blood- fleshed peach; Flesh color; Anthocyanins; Dynamic changes; Fruit development
【中文摘要】以红肉、白肉和黄肉3 种不同果肉颜色的12 份桃品种为材料分析成熟时果肉中花色苷的含量变化,结果表明,红肉桃与白肉、黄肉品种间花色苷含量差异显著,且红肉桃品种间的花色苷含量差异也很大。利用3 个不同果肉颜色的桃品种进一步研究果实发育过程中色素及其相关物质的变化,结果表明,红肉桃品种天津水蜜在盛花后25 d果肉中花色苷含量较高,而后逐渐减少;直至进入盛花后45 d 才缓慢回升,并在果实发育后期(盛花后86 d) 含量迅速增加;与此对应,该品种果皮在幼果期(盛花后35~45 d) 和果实发育后期(盛花后86 d) 2 次出现红色, 但果肉直到盛花后86 d 才明显变红;在整个果实发育过程中,天津水蜜果肉其它内含物的变化与白肉桃品种豫白和黄肉桃品种NJC83 相似:叶绿素含量逐渐减少;类胡萝卜素和可溶性糖不断增加;可滴定酸前期上下波动变化;但近成熟时天津水蜜的可滴定酸显著高于其它2 个品种。
【英文摘要】The changes of content of anthocyanins in the mesocarp of 12 peach cultivars, including blood- fleshed, white fleshed and yellow fleshed were measured and analyzed. The results showed the contents of anthocyanins were remarkably different among the tested cultivars. 3 of them, Tianjinshuimi (blood- fleshed), Yubai (white fleshed) and NJC83 (yellow fleshed), were used as materials for studying the dynamic changes of contents of pigments (including anthocyanin, carotenoid and chlorophyll), soluble sugar and titratable acid in the mesocarp during fruit development. Result showed that the anthocyanincontents of Tianjinshuimi were higher during the young fruit development, then decreased, but slowly rose again after 45 d after full bloom (DAFB) , and rapidly increased after 86 d of DAFB. The contents of chlorophyll decreased straight on during fruit development, and the contents of carotenoids and soluble sugar increased gradually. Compared with Yubai and NJC83, the content of titratable acidity in the mesocarp of Tianjinshuimi was significantly higher after 86 d of DAFB

【语种】中文
【第一作者】章秋平
【通讯作者】王力荣
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【引文索引类型】其他
【引文索引号】
【学科分类】园艺学

【题目】饲用桑叶对原料乳成分和体细胞数的影响
【中文关键词】饲用桑叶粉; 乳成分; 体细胞数(SCC)
【英文关键词】Feeding mulberry leaf powder; Milk ingredients; Somatic cell count(SCC)
【中文摘要】通过大群饲养试验,在奶牛饲料中添加一定量的饲用桑叶粉。记录奶牛的产奶量, 检测乳脂率、乳蛋白率和体细胞数并进行统计分析,从而评定~种新型的奶牛饲料-饲用桑叶粉对奶牛生产性能的影响。结果表明:饲用桑叶粉能够延缓奶牛泌乳曲线的下降速度,有增加牛奶产量的趋势,但差异不显著。乳脂率有所下降,但是与对照组差异不显著(P>0.05),添加饲用桑叶饲料可以显著提高乳蛋白率(P<0.05)和明显降低体细胞数(P<0.05)

【英文摘要】
【语种】中文
【第一作者】李胜利
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【题目】通过改善奶牛饲料转化效率提高牛奶产量和质量的方法
【中文关键词】饲料转化效率;产奶量;牛奶质量
【英文关键词】Feed conversion efficiency; Milk products; Milk quality
【中文摘要】饲料营养是影响牛奶产量和质量的重要因素。本文就我国奶牛饲料营养的现状通过论述优质粗饲料、低质粗饲料、TMR对饲料转化效率的影响。从理论上阐述了饲料转化效率与牛奶产量及品质密切联系的内在机理,同时提出了实际生产中改善牛奶产量与品质的具体措施。
【英文摘要】
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【第一作者】李胜利
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【题目】直接饲喂微生物培养物对奶牛瘤胃发酵产甲烷及生产性能的影响
【中文关键词】温室效应;酵母培养物;芽孢杆菌培养物;产甲烷量;生产性能
【英文关键词】greenhouse effect;yeast culture;bacillus culture;methane production;production performance
【中文摘要】一个甲烷分子的地球变暖潜力是一个二氧化碳分子的20倍。据预测地球变暖引发的温室效应1/4归咎于大气层中不断增加的甲烷浓度。地球变暖效果的2%是由家畜产生甲烷引起的。家畜所产生的甲烷大部分来源于反刍动物瘤胃发酵。有必要找到一种有效降低反刍动物产生甲烷的方法。本试验包括2个部分。①采用短期人工瘤胃发酵的方法研究了6种不同直接饲喂微生物培养物——酵母培养物和芽孢杆菌培养物对奶牛瘤胃发酵产甲烷的影响。试验分酿酒酵母、热带假丝酵母、扣囊酵母、地衣芽孢杆菌、蜡样芽孢杆菌、枯草芽孢杆菌、空白7个处理,每个处理20个重复,每个重复一支短期人工瘤胃发酵用注射器。于39℃培养24 h,结果表明,3种酵母培养物中的酿酒酵母组和扣囊酵母组显著提高了甲烷产量(P<o.05),热带假丝酵母组显著降低了甲烷产量(P<o.05);3种芽孢杆菌培养物中的地衣芽孢杆菌组显著降低了甲烷产量(P<o.05),蜡样芽孢杆菌组和枯草芽孢杆菌组也降低了甲烷产量,但差异不显著(P>o.05)。②选用32头体况、胎次、泌乳日龄相近的中国荷斯坦奶牛,随机分成4组即地衣芽孢杆菌培养物组、蜡样芽孢杆菌培养物组、枯草芽孢杆菌培养物组和对照组,每组8头,每组设8个重复,每个重复l头。预饲期15 d,试验期3 d。结果表明,地衣芽孢杆菌组显著提高了产奶量(p<o.05)。其它组和对照组比较差异不显著(P>0.05)。
【英文摘要】Each molecule of methane has about 20 times the global warming potential of a carbon dioxide molecule.Increasing atmospheric concentrations of methane are believed tO be responsible for about a quarter of the predicted global warming associated with the SO—called greenhouse effect.The methane produced by livestocks are believed to be responsible for 2%of the global warming of which a great part produced by ruminant animal ’s rumen fermentation.It ’s necessary to find a effective way to decrease the methane production produced by ruminant animals.Two parts were involved in this experiment.1 The short term rumen simulation technique was used in this experiment in order to study the effect of different direct-fed microbial on methane production in the rumen.Seven treatments,i.e.,Saccharo mycopsis fibuligera、Candidatropicalis、Saccharomyces cerevistae,Bacillus Licheniformis,Bacillus Subtilis、Bacillus cereus var.mycoides were used.Each treatment had ten replicates.Each treatment was kept at 39°Cfor 24 hours.Results showed that Candida tropicalis groupand Licheniformis group decreased the methane production(P<O0.05).Saccheromyces cerevisiae group and Saccharomy copsisfibuligera group increased the total gas

production(P<0.05),but both of them had no significant effect on methane production(P>0.05)、Bacillus Subtilis group and Bacillus cereus var.mycoides group decreased the methane production(P>0.05).2 Thirty-two Chinese Holstein COWS with similar body condition、lactation number and days in milk were selected inthis experiment.The Cows were randomly divided into four groups.Four treatments,i.e.,Bacillus Licheniformis group、Bacillus Subtilis group、Bacillus cereus vat.mycoides group and control group.Each treatment had eight replicates,each replicate had one COW.Results showed that Bacillus Licheniformis group increased the milk yield(P<0.05).The other two groups didn't have significant effect on milk yield than the control group(P>0.05).

【语种】中文
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【题目】直接饲喂微生物对奶牛瘤胃发酵和肠道的影响
【中文关键词】直接饲喂微生物;奶牛;瘤胃发酵;肠道
【英文关键词】Direct-fed microbial; dairy cattle; rumen fermentation; intestine
【中文摘要】直接饲喂微生物(DFM)能够提高奶牛的日增重和饲料效率,增加奶牛的产奶量,改善犊牛的健康状况,然而其作用模式不是很明确。本文对目前应用在奶牛养殖方面直接饲喂微生物的种类及其与瘤胃和肠道的关系及作用模式进行综述。
【英文摘要】Direct-fed microbial (DFM) can increase daily gain and feed efficiency, enhance milk production in dairy cows, and improve health and performance of young calves. However, the mode of action remains is unclear. The kinds of microbials, relationship between DFM and rumen bacteria, intestine, and mode action of AFM were summarized in this article.
【语种】中文
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【题目】A fine map for maternal lineage analysis by mitochondrial hypervariable region in 12 Chinese goat breeds
【中文关键词】分子变异分析,线粒体系谱,种系发生,地理系统发生,群体扩张
【英文关键词】analysis of molecular variance, mitochondrial lineage, phylogeny, phylogeography, population expansion.
【中文摘要】正如基因组研究不断确认动物线粒体分支的快速步伐一样,许多独立研究需要一个有力的种系发生推论已经十分明显。本研究的目的是用中国不同的山羊品种更广泛的分析进一步描绘中国西南部起源的山羊母系系谱,最后我们测定到了12个中国山羊品种145个个体的线粒体高变区1(HVR1),系统进化分析显示中国山羊被分为4个不同的分支(A, B, C 和D),这与之前的报道一致,A Mantel test和ANOVA显示中国山羊品种没有明显的地理结构,在错配分布和Fu's统计技术上进行群体扩张分析,在11和29个突变时间单位以前,中国山羊发生过2扩张事件,暗示在B分支中2个星状节点对应2个群体扩张事件。而且B分支的仅仅出现在西南群体及周边群体中。来自本研究和以前的研究多久偶表明B分支起源于中国西南地区。
【英文摘要】As the fast pace of genomic research continues to identify mitochondrial lineages in animals, it has become apparent thatmany independent studies are needed to support a robust phylogenetic inference. The aim of this study was thus to furthercharacterize the maternal lineage, proposed to originate in southwestern region of China, using a wider survey of diversegoat breeds in China. To this end, we sequenced the mitochondrial hypervariable region 1 (HVR1) of the mtDNA controlregion in 145 goats of 12 Chinese breeds. Phylogenetic analysis revealed that Chinese goats were classified into fourdistinct lineages (A, B, C and D) as previously reported. A Mantel test and the analysis of Analysis of Molecular Variance(ANOVA) indicated that there was not an obvious geographic structure among Chinese goat breeds. Population expansionanalysis based on mismatch distribution and Fu's Fs

statistic indicate that two expansion events in Chinese goats occurredrespectively at about 11 and 29 mutational time units ago, revealing two star-like subclades in lineage B corresponding totwo population expansion events. Moreover, lineage B sequences were presented only in the breeds of southwestern orsurrounding regions of China. Multiple lines of evidence from this study and previous studies indicate that for Chinesegoats mtDNA lineage B originated from the southwestern region of China.

【语种】英文
【第一作者】武艳萍
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【题目】含水量对糖处理豆粕过瘤胃蛋白影响的研究
【中文关键词】葡萄糖;豆粕;干物质降解率;蛋白质降解率;尼龙袋法
【英文关键词】glucose;soybean meal;degradability of DM;degradability of CP;the method of nylon bag
【中文摘要】本试验以3头装有永久性瘤胃瘘管的中国荷斯坦奶牛为试验动物,采用尼龙袋法研究在不同水分舍量下(15%、20%、25%、30%、35%)葡萄糖处理豆粕,在奶牛瘤胃内不同时间点干物质(DM)、粗蛋白质(CP)消失率及其动态降解率的作用效果。结果表明:在不同时间点下。随着含水量的增加,DM、CP消失率先降低后升高,所有处理组与对照组差异均显著(P<0.05),DM、CP有效降解率降低最高分别达18.50%和36.10%,含水量在20%以下,DM、CP有效降解率最低,表明以含水量20%的葡萄糖加热处理豆粕保护效果最好。
【英文摘要】This study was carried out to determine the effects of soybean meal(SBM)treated by glucose which was under different water content(15%,20%,25%,30%,35%)on degradability characteristics in situ rumen.In the experiment,three ruminally cannulated Holstein cows were used to measure the degradability characteristics of dry matter(DM)and crude protein(CP)of soybean meal samples at different times.The results showed that rumen effective protein and dry matter degradability values of SBM at different time in the treatments showed down first and then up.by increasing the content of water,and there were significantly differences between the test group and control group(P<O.05).The great reduction in the effective degradability of CP and DM WSS 36.10%and 18.50%.respectively.However,the lowest effect degradability was under the water content of 20%.It concluded that SBM proteins can be effectively protected from degradation in the rumen by glucose treatment and the suitable water content was 20%.
【语种】中文
【第一作者】王潍波
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【题目】胃蛋白酶一胰蛋白酶体外消化豆粕适宜条件的研究
【中文关键词】豆粕;胃蛋白酶;胰蛋白酶
【英文关键词】soybean meal;pepsase;parenzyme
【中文摘要】本试验采用单因素试验设计,在恒温摇床中,用胃蛋白酶和胰蛋白酶体外酶解豆粕。从而确定胃蛋白酶一胰蛋白醇两步法评定蛋白质的体外消化的最适务件。鲒果表明。优化后的胃蛋白酶一胰蛋白酶两步酶解处理豆粕的主要参数是:温度为37 oC,转速85 r/mm,底物的量为0.5 g,缓冲液pH为1.2,胃蛋白酶酶采度为50 ms/mE,锥形瓶中消化6 h后,调节消化液的pH至7.5,添加170rag/mE胰蛋白酶溶液,在39°C恒温摇床中培养18 h。
【英文摘要】A single-factor test design and the homeothermal rocking bed were taken to study the optimum conditionof soybean which W85 digested by pepsase-parenzyme/n vitro.The results showed that the optimum condition wag that thetemperature was 37°C.the rate of rotation wag 85 r/min,the amount of substrate was 0.5 g。 the pH of buffer was 1.2.theconcentration of pepsase was 50 mg/mL.After 6 h digestion in conical beaker.the pH value wag adjusted to 7.5.170 mgparenzyme was added and cultured 18 h in 39°C homeothermal rocking bed.

【语种】中文
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【题目】Establishment and characterization of a fibroblast line from Simmental cattle
【中文关键词】西门塔尔牛,成纤维细胞系,鉴定
【英文关键词】Simmental cattle,Fibroblast line,Establishment identification
【中文摘要】运用直接培养和低温保存技术成功构建西门塔尔牛成纤维细胞系SCF36,生物学分析表明,生物学分析表明,细胞扩增时间为42.8小时,冻存前细胞的平均活率为96.8%,解冻为91.5%,乳酸脱氢酶和苹果酸脱氢酶同工酶分析表明与其他品种间没有交叉污染,核型分析表明二倍染色体数2n = 60几率大于90%,细菌、真菌、病毒和支原体检测均为阴性。加强型银光蛋白(绿色、黄色、红色pEGFP-N3, pEYFP-N1 and pDsRed1-N1)表达基因表达效率11.3%-28.8%之间。荧光蛋白在胞质和细胞核中都有分布,本细胞系不仅在细胞水平保存了这个牛品种的种系信息,而且也为基因组、后基因组合克隆研究提供有价值的材料。这些方法的建立可能为家畜和家禽遗传资源保存提供技术和理论支持。
【英文摘要】A fibroblast line (named SCF36) from ear marginal tissue of Simmental cattle was established successfullyby direct culture of explants and cell cryopreservation techniques. Biological analysis showed that thepopulation doubling time of the thawed cells was 42.8 h. The average viability of the cells was 96.8%before freezing and 91.5% after thawing. Measurements of lactic dehydrogenase and malic dehydrogenaseisoenzymes showed no cross-contamination of this cell line with other species. Karyotyping showedthat the frequency of cells with chromosome number 2n = 60 was more than 90%. Tests for bacteria,fungi, viruses and mycoplasmas were negative. The efficiencies of expression of enhanced green, yellowand red fluorescent protein genes (pEGFP-N3, pEYFP-N1 and pDsRed1-N1) were between 11.3% and 28.8%after transfection; fluorescence was well distributed in the cytoplasm and nucleus except for some cryptomericvesicles. This Simmental cattle fibroblast line not only contains the germline of this importantcattle breed, which is preserved at the cellular level, but valuable material has also been provided forgenomic, postgenomic and somatic cloning research. Moreover, the establishment of these methodsmay provide both technical and theoretical support for preserving the genetic resources of other livestockand poultry at the cellular level.
【语种】英文
【第一作者】李凌凤
【通讯作者】马月辉
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【题目】多功能微生物制剂对农田栽参土壤容重及人参皂苷的影响研究
【中文关键词】人参;微生物制剂;改土;人参总苷
【英文关键词】Panax Ginseng;Microbial Fertilizer;Soil Improvement;Total Ginsenoside
【中文摘要】以多功能微生物制剂、EM微生物肥料、猪粪和鹿粪作为改良剂对农田栽参土壤进行了改良土壤理化性状及对人参皂苷含量影响的试验研究。结果表明:多功能微生物制剂对土壤结构改良效果良好,可明显降低农田土壤容重,施用量以 50g/m2为宜;多功能微生物制剂可提高人参的总苷含量,以 150g/m2施用量最好;施用方法以将多功能制剂用水浸泡 24h 后施入土壤效果最佳。本研究为多功能微生物肥料在人参上的应用提供了科学指导。
【英文摘要】:In the Study,multi- microbial manure, EM microbial fertilizer,pig manure and deer manure were used as soil conditioner to improve soil physical and chemical properties and theginsenoside content .The results showed:that Multi- microbial manure significantly improved soil structure and significantly reduced soil bulk density. The optimal quantity of multi- microbial manure was 50g/m2. The quantityof 150g/m2 was the best for improving the total ginsenoside content,and to put the multi- microbial manure in the water soaked after 24hours pouring into the soil had the best results. For the multi- microbial fertilizer application on the

ginseng provides scientific guidance.
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【题目】利用MAXENT预测玉米霜霉病在中国的适生区
【中文关键词】玉米霜霉病; 适生性分析; MAXENT
【英文关键词】maize downy mildew ; suitability analysis ; MAXENT
【中文摘要】玉米霜霉病是我国重要的对外植物检疫对象,本文用MAXENT 软件对引起玉米霜霉病的5 种检疫性病原菌Peronoscleros pora maydis 、P. sacchari、P. philippinensis、P. sorghi 和S clerophthora rayssiae var. zeae 在我国的潜在分布进行了预测。结果表明,5 种病原菌中P. sorghi 在我国的适生范围最广,根据适生值的大小,其在华北平原、长江中下游平原、东北中部地区、两广、福建及云南西部,均有不同程度的发生风险。在这些地区内种植有大面积的玉米,为玉米霜霉病菌的定殖提供了良好的寄主。加强这些区域的调查监测和检疫对保护当地的玉米生产有重要意义。
【英文摘要】The maize downy mildew caused by Peronoscleros poramaydis, P. sacchari, P. philippi nensis, P.sorghi or Sclerophthora rayssiae var. zeae was important quarantine disease in maize. The potential risks of these pathogens in China were analyzed by using the software MAXENT. The results indicated that P. sorghi had the largest suitable areas among the 5 kinds of pathogens in China. Areas of moderate and high risk covered the North China Plain , middle and lower plain of Yangtze River, central northeastern regions of China , Guangxi Province and Guangdong Province, Fujian Province as well as western Yunnan Province. There are large areas of maize planted in these regions , which could provide available host for maize downy mildew colonization. It is therefore necessary to quarantine and monitor maize downy mildews for maize production in China.
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【通讯作者】周益林
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【题目】Microsatellite analysis revealed genetic diversity and population structure among Chinese cashmere goats
【中文关键词】中国绒山羊,遗传多样性,微卫星,群体结构
【英文关键词】Chinese cashmere goat, genetic diversity, microsatellite, population structure.
【中文摘要】绒山羊大多分布在我国的北部和蒙古,因为他们能为纺织工业提供高品质的天然纤维而被视作珍贵资源,用14对ISAG/FAO的引物首次对9个中国绒山羊群体进行遗传多样性和群体结构分析,此外2个伊朗群体和一个西非山羊群体作为对照也被分析。结果显示中国绒山羊的遗传多样性十分丰富,但略低于伊朗群体。中国群体间所有的配对FST值都差异显著,暗示他们应该被作为单独的品种,最后,聚类分析将中国绒山羊分为至少2个分支,西藏河谷山羊为单独一支,在中国群体中发现广泛的混群(除了河谷山羊),这将对育种管理具有重要的意义。
【英文摘要】Most cashmere goats are found in northern China and Mongolia. They are regarded asprecious resources for their production of high quality natural fibre for the textile industry.It was the first time that the genetic diversity and population structure of nine Chinesecashmere populations has been assessed using 14 ISAG/FAO microsatellite markers. Inaddition, two Iranian populations and one West African goat population were genotyped forcomparison. Results indicated that the genetic diversity of Chinese cashmere goats was rich,but less than those of the Iranian goat populations. All pairwise FST values between theChinese cashmere goat populations reached a highly significant level ($P < 0.001$), suggestingthat they should all be considered as separate breeds. Finally, clustering analysisdivided Chinese cashmere goats into at least two clusters, with the Tibetan Hegu goats alonein one cluster. An extensive admixture was detected among the Chinese goat breeds (exceptthe Hegu), which have important implications for breeding

management.
【语种】英文
【第一作者】狄冉
【通讯作者】马月辉
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【学科分类】畜牧、兽医科学基础学科

【题目】二元线形回归法测定生长猪内源磷排泄量及麦麸和豆粕磷的真消化率
【中文关键词】线性回归法 生长猪 麦麸 豆粕 磷 内源排泄量 真消化率
【英文关键词】regression analysis technique; Growing pigs; Wheat bran; Soybean meal;Phosphrous; Endogenous outputs; Ture digestibility
【中文摘要】本研究采用二元线性回归法测定生长猪内源磷排泄量及麦麸和豆粕磷的真消化率。选用6头健康大白×长白阉公猪为试验动物,平均体重为(34.42±0.64)kg。采用6×6拉丁方设计,设6个总磷水平(0.12%、0.25%、0.28%、0.35%、0.47%和0.54%),日粮以豆粕、葡萄糖、玉米淀粉等为基础原料,麦麸和豆粕为磷来源。日粮中添加0.1%TiO_2作为外源指示剂。试验分6个试验期,每期6 d,4 d适应期,2 d收粪期。结果表明,生长猪粪磷的排出量与日粮磷的摄入量呈线性关系(y=0.515 7x-0.013 3,R2=0.97,P0.01),回归法测得生长猪内源磷的排泄量为0.933 0 g/kg,麦麸和豆粕磷的真消化率分别为48.07%和47.50%。分析粪磷来源发现,内源磷排泄量基本不变(P0.05),而粪磷随日粮磷含量的增加而极显著增加(P0.01)。由结果可知,线性回归法可用于测定猪内源磷排泄量及麦麸和豆粕磷的真消化率。
【英文摘要】Binary linear regression analysis teehnique was used to measure the endogenous PhosPhorus(P) outPuts and true digestibility of P in wheat bran and soybean meal of growing Pigs.SixYork shire X Landraee barrows with average initial body weight of (34.42士0.64) kg,were fed in the metaboliee age.Aeeording to a 6X6 Latinsquare design,the six diets with soybean meal一glueose一corn starch based experimental diet with six levels(0.12%,0.25%,0.28%,0.35%,0.47% and0.54%) were formulated in which the wheat bran and soybean mealwere the P sourees.TIO2:(0.1%) was included in the diets as exogenous indi cator. Each experimental period lasted for 6d with 4 d of adaptation and 2d of fecal colleetion.The results showed that, there existed increasing linear relationships between endogenous p outputs and dietary p inputs (y=0.5157x-0.0133,R2=0.97,p<0.01),and the endogenous poutputs was 0.93309/kg and true digestibility of P in wheat bran and soybean meal were 48.07% and 47.50% with regression analysis teehnique respeetively. There was no significant differences (P>0.05) in endogenous P outputs by analysis of fecal P sourees; while,there was significant inereasing linear relationship P(P<0.01) between fecal P and dietary inputs of P. Inconclusion, it was implicated that regression analysis teehnique was valid for estimating diets endogenous PoutPuts and true digestibility of p in wheat bran and soybean meal of growing pigs.
【语种】中文
【第一作者】罗赞
【通讯作者】贺建华
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【学科分类】畜牧学

【题目】线形回归法测定生长猪内源磷排泄量及鱼粉磷的真消化率
【中文关键词】线性回归法;生长猪;鱼粉;磷;内源排泄量;真消化率
【英文关键词】Regression analysis technique; Growing pigs; Fish meal; Phosphorus; Endogenous outputs; True digestibility
【中文摘要】本研究采用线性回归法测定生长猪内源磷排泄量及鱼粉磷的真消化率。选用5头健康大白×长白阉公猪为试验动物,平均体重为(27.17±0.28) kg。采用5×5拉丁方设计,设5个磷水平(0.08%、0.12%、0.17%、0.21%和0.25%),日粮以葡萄糖和玉米淀粉等为基础原料,鱼粉为磷唯一来源。日粮中添加0.1% TiO2作为外源指示剂。试验分5个试验期,每期6 d,4 d适应期,2 d收粪期。结果表明,生长猪粪磷的排出量与日粮磷的摄入量呈线性关系(y=0.292 7x-0.052 8, R2=0.99, P<0.01),回归法测得生长猪内源磷的排泄量为0.798 5 g/kg,鱼粉磷的真消化率为71.12%。分析粪磷来源发现,内源磷排泄量基本不变

(P>0.05),而粪磷随日粮磷含量的增加而增加(P<0.01)。由结果可知,线性回归法可用于测定猪内源磷排泄量及鱼粉磷真消化率。

【英文摘要】Regression analysis technique was used to measure endogenous outputs of the fecal phosphorus (P) and true digestibility of P in fish meal of growing pigs. Five Yorkshire×Landrace barrows with average initial body weight of (27.17±0.28) kg, were fed in the metabolic cage. According to a 5×5 Latin square design, the five diets with fish meal-corn starch glucose based experimental diet with five P levels (0.08%, 0.12%, 0.17%, 0.21% and 0.25%) were formulated, in which the fish meal was the only P source. TiO2 (0.1%) was included in the diets as exogenous indicator. Each experimental period lasted for 6 d with 4 d of adaptation and 2 d of fecal collection . The results showed that , there existed increasing linear relationships between endogenous P outputs and dietary P inputs (y=0.292 7x-0.052 8, R2=0.99, P<0.01), and the endogenous P outputs was 0.798 5 g/kg and true digestibility of P in fish meal was 71.12% with regression analysis technique. There was no significant differences (P>0.05) in endogenous P outputs by analysis of fecal P sources, while, there was significant increasing linear relationship (P<0.01) between fecal P and dietary inputs of P. In conclusion, it was implicated that regression analysis technique was valid for estimating diets endogenous P outputs and true digestibility of P in fish meal of pigs.

【语种】中文

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【学科分类】畜牧学

【题目】排空-强饲法测定鸭饲料氨基酸真消化率的研究

【中文关键词】北京鸭 氨基酸真消化率 排空-强饲法

【英文关键词】Beijing duck;True digestibility of amino acids;Emptylag-force-feeding method

【中文摘要】本试验旨在通过研究"排空-强饲"条件下,鸭饲料氨基酸的排泄规律是否满足Sibbald"排空-强饲"法的基本条件,为Sibbald法是否适合于鸭饲料氨基酸真消化率的测定提供参考。试验采用单因素完全随机设计,将84只成年公鸭随机分配到7个处理中,即饥饿组和6种试验日粮组(豆粕在试验日粮中的比例分别为0、10%、20%、30%、40%、50%),每个处理4个重复,每个重复3只鸭,以"排空-强饲"法测定日粮的氨基酸排泄量。结果表明,在以豆粕为唯一氨基酸来源的日粮中,成年公鸭17种氨基酸的排泄量与摄入量间呈极显著的线性关系(P0.01)。无氮日粮条件下内源性组氨基酸的排泄量显著地高于饥饿条件下所测值(P0.05),而其他内源性氨基酸的排泄量在饲喂无氮日粮与饥饿条件下无显著差异。鸭氨基酸排泄量与摄入量间回归直线截距中仅精氨酸、组氨酸及甘氨酸的回归截距显著地高于饥饿法所测相应的内源性氨基酸值(P0.05),而其他14种氨基酸的回归截距与饥饿法所测相应的内源性氨基酸无显著差异。因此,Sibbald"排空-强饲"法可以用于鸭饲料氨基酸真消化率的测定。然而,客观、准确地估测内源性氨基酸的量对"排空-强饲"法氨基酸真消化率的测定值至关重要。

【英文摘要】The relationship between output and intake of amino acids in ducks was investigated to study the feasibility of Sibbald ’s emptying-force-feeding method for true digestibility of amino acids determination.Eighty four male adult ducks were randomly divided into 7 treatments with 4 replicates per treatment and 12 ducks per replicate.One treatment was fasted treatment and other 6 treatments were fed with soybean meal with 6 levels in diets<O%,10%。20%,30%,40%,and 50%respectively).Sibbald ’s emptying-force-feeding method was used to determine the volume of amino acid output.The results showed that the significant linear relationship between amino acids output and intake was appeared in these 6 diets using soybean meal as the only protein source<P<O.01).The endogenous losses of 17 amino acids except His were not significantly different between the ducks fed with nitrogen-free diet and the fasted treatment(P<O.05).In the regression intercepts of output and intake of amino acids in ducks,only the regression intercepts of Arg,His and Gly were significantly higher than the corresponding endogenous amino acids value of fasting ducks(P<O。05),In conclusion,Sibbald ’s emptying-force-feeding method can be used for measuring the true digestibility of amino acids of duck feedstuff,but the accuracy of the determination of endogenous amino acids losses is important to the true digestibifity of amino acids in ducks.

【语种】中文

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【题目】棉籽蛋白质饲料猪消化能值估测模型的研究
【中文关键词】化学法 棉籽蛋白质饲料 消化能模型 估测模型 化学成分 相关关系 消化能值 通径分析 试验设计 中性洗涤纤维
【英文关键词】Chemical composition; Cottonseed Meal; Model of digestible energy
【中文摘要】本试验旨在通过研究棉籽蛋白质饲料中的营养物质(NM)和非营养物质(NNM)对其消化能值的影响,探讨通过棉籽蛋白质饲料的化学成分估测其猪消化能值的可行性,为建立棉籽蛋白质饲料猪消化能估测模型提供科学方法。选取体重(35±2)kg、遗传基础接近、健康良好的杜×长×大三元杂交去势公猪8头,采用2个4×4拉丁方试验设计,用全收粪套算法测定8种棉籽蛋白质饲料的消化能(DE),通过分析饲料中CP、EE、CF、Ash、NDF、ADF、ADL、GE与DE的相关关系及对DE变异的影响筛选出用于估测棉籽蛋白质饲料DE的最佳估测因子及估测模型。结果表明,棉籽蛋白质饲料的EE、CP、Ash与DE无显著的相关关系(|r|≤0.51,P0.05),而CF、NDF、ADF、ADL、GE与DE呈高度的相关(|r|≥0.9 5,P0.0 1),但CF、NDF、ADL和GE对DE的影响主要是通过ADF对DE的影响来实现的,因此,估测棉籽蛋白质饲料DE的最佳回归模型为DE(MJ/kg)=1 6.5 2-0.2 8×ADF%(R2=0.95,RSD=0.51,P0.01)。该模型具有较高的估测精度、最少的估测因子和较强的可操作性。
【英文摘要】The relationship between the digestible energy (DE) and nutritive matter (NM) , no nnutritive matter (NNM) were investigated in order to study the feasibility to predict the DE in cottonseed meal with chemical composition. Eight Duroc×Landrance×Largewhite castrate male pigs which w ere about 35 kg in initial body weight were sorted according to Two 4×4 Latin Square design. The DE o f 8 cottonseed meal were determined by difference method. The factor s and models for predicting the DE in cottonseed meal were selected with correlation relationship between DE and NM, NNM. The result showed, there was no significant correlation relationship between DE and EE, C P and Ash(| r | ≤ 0. 51, P> 0. 05) , but the simple correlation relationship between DE and CF (r = - 0. 98) , NDF (r= - 0. 95) , ADF (r = - 0. 97) , ADL (r= - 0. 73) and GE (r = 0. 99) was high significant in cottonseed meal, the influences of CF, NDF, ADL and GE o n the variation of DE were not from themselves directly but from the influence o f ADF on D E, so the best regression equation is DE(M J/ kg)= 1 6. 52- 0. 28 ×AD F% (R2 = 0. 95 , RSD= 0. 5 1, P < 0.01) .
【语种】中文
【第一作者】曾福海
【通讯作者】张宏福
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【题目】直接法与差量法测定豆粕鸭代谢能值的比较研究
【中文关键词】北京鸭 代谢能 直接法 差量法
【英文关键词】Metabolizable energy; Direct method; Difference method
【中文摘要】本试验旨在通过比较研究直接法与差量法测定豆粕鸭代谢能值的差异,为豆粕鸭代谢能值的客观评定提供参考。试验采用单因素完全随机设计,将84只成年公鸭随机分配到7个处理中(豆粕在试验日粮中的比例分别为0%、10%、20%、30%、40%、50%、100%),每个处理4个重复,每个重复3只鸭,以排空强饲法测定日粮的代谢能值。结果表明,日粮中豆粕的含量从10%升高到50%时,日粮的AME和TME的实测值均显著高于其计算值(P0.05)。然而,在试验日粮中豆粕含量为40%时,试验日粮的AMEn和TMEn实测值与计算值无显著差异(P0.05)。在试验日粮中豆粕含量分别为10%、20%、30%时,由差量法测得的豆粕鸭代谢能值(AME、TME、AMEn和TMEn)显著高于直接法测值(P0.05)。在试验日粮中豆粕含量分别为40%、50%时,差量法测得的豆粕AME、TME值显著高于直接法测值,但在AMEn、TMEn上与直接法无显著差异。因此,在鸭的代谢能值测定中,差量法应要求日粮的豆粕含量达到40%~50%。豆粕的AMEn和TMEn值既可选用直接法,也可选用差量法测定,但在AME、TME的测值上建议使用差量法。

【英文摘要】This study was conducted to establish a reasonable method for determining the metabolizable energy (ME) of soybean meal in ducks by comparing direct method with difference method in ME determination. Eighty-four adult ducks were randomly divided into seven treatments with four replicates each and 12 ducks in each replicates. Seven treatments were fed with 7 diets containing 7 levels of soybean meal (0%, 10%, 20%, 30%, 40%, 50%, and 100%, respectively). Sibbald ’ s method was used to determine ME. The results showed that the determined AME and TME values of 5 diets (soybean meal content of 10%, 20%, 30%, 40%, 50%) were significantly higher than their calculated values (P<0.05). However, there was no significant difference between determined value and calculated value of AMEn and TMEn in the diet with 40% soybean meal. When dietary soybean meal contents were 10%, 20%, and 30%, the ME values (AME, TME, AMEn, TMEn) of soybean meal determined with difference method were significantly higher than those determined with direct method (PP0.05).When dietary soybean meal contents were 40% and 50%, the AME and TME values of soybean meal determined with difference method were higher than those determined with direct method (P<0.05), but there was no significant difference in the AMEn and TMEn values determined with these two methods (P>0.05). In conclusion, to determine the ME values of soybean meal with difference method, the optimal dietary soybean meal content should be 40%~50%. The AMEn and TMEn value of soybean meal can be determined with both direct method and difference method, but when determining AME and TME determined values,it was suggested to use difference method.
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【第一作者】赵江涛
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【题目】日粮纤维对反刍动物瘤胃发酵的影响
【中文关键词】日粮纤维;有效纤维;精粗比;瘤胃发酵
【英文关键词】无
【中文摘要】日粮纤维的化学和物理特性对于刺激其咀嚼活动和维持稳定的乳脂率十分重要, 其中有效纤维的含量也是影响瘤胃发酵的重要指标。奶牛对日粮中有效中性洗涤纤维(eNDF) 水平的反应是乳脂率的变化, 而对日粮中物理有效中性洗涤纤维(peNDF) 水平的反应是其咀嚼活动。
【英文摘要】无
【语种】中文
【第一作者】姜芳
【通讯作者】姜芳
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【题目】内标法同时测定挥发性脂肪酸和乳酸的方法探究
【中文关键词】气相色谱;挥发性脂肪酸;乳酸;内标法
【英文关键词】gas chromatogram; volatile fatty acids; lactic acid; intemal standard method
【中文摘要】选用巴豆酸作为内标物,以内标标准曲线法定量,探讨无需任何前处理便能同时测定挥发性脂肪酸和乳酸的最佳色谱条件。用HP-INNOWAX(19091N-133)毛细管柱,以高纯氮作为载气,用氢火焰离子化检测器对挥发性脂肪酸和乳酸进行测定。结果表明:其理想检测条件为载气总压力160kPa,气化室温度250℃,检测室温度270℃,柱温采用程序升温法,初始温度120℃,然后以10℃/min升温速率升至220℃,保持2min。
【英文摘要】Without any pretreatment, the optimal chromatographic conditions for simultaneous determination of VFAs and lactic acid was explored with crotonic acid as an internal standard. By using the HP-INNOWAX, FID and nitrogen as the carrier, the optimal conditions were nitrogen pressure at 160 kPa, injection temperature at 250℃, detection temperature at 270℃. A temperature programmed capillary GC method was used. The initial temperature was at 120℃, then elevated to 220℃ with the rate of 10℃/min

and retention for 2 min.
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【第一作者】姜芳
【通讯作者】刘建新
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【学科分类】畜牧学

【题目】锰对肉仔鸡生长性能、胴体性能和血清生化指标的影响
【中文关键词】锰;肉仔鸡;生长性能;血清生化指标
【英文关键词】无
【中文摘要】采用2×3两因子完全随机设计,选用240只1日龄AA雏鸡,按体重随机分为5个处理,每个处理8个重复,每个重复6只鸡,分别饲喂不添加锰的玉米—豆粕型基础饲粮(对照组)和在基础日粮基础上分别添加100mg/kg和200mg/kg锰(源于硫酸锰和氨基酸锰)的饲粮,试验期为42d。结果表明:添加100mg/kg锰显著降低后期F/G(P0.10),添加100和200mg/kg锰组的肝脏锰含量显著高于对照组(P0.10),同时有提高腿肌率,降低腹脂率的趋势;添加100mg/kg氨基酸锰添加组血清总蛋白(TP)显著高于硫酸锰添加组(P0.10),而添加100mg/kg硫酸锰组的血清高密度脂蛋白胆固醇(HDL-C)含量显著低于对照组(P0.10),添加100mg/kg氨基酸锰和硫酸锰组分别较对照组升高碱性磷酸酶活性35.7%和21.0%(P0.10)。结论:添加100mg/kg锰可降低肉鸡生长后期的耗料/增重比、提高肝脏锰含量,但是两种锰源间差异不显著。
【英文摘要】无
【语种】中文
【第一作者】陈仲建
【通讯作者】吕林
【期刊名称、卷期、页码】《中国家禽科学研究进展——第十四次全国家禽科学学术讨论会论文集》 2009年:794-801
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【学科分类】畜牧学

【题目】鸡用饲料原料中氨基酸评定方法评价分析
【中文关键词】氨基酸消化率;回肠末端法;“ TME ”真代谢能法;鸡饲料
【英文关键词】无
【中文摘要】饲料氨基酸消化率是评定饲料原料营养价值和可利用性的一项重要指标。饲料原料氨基酸消化率的获得为动物可消化氨基酸需要量的测定和更准确地设计日粮配方提供参考数据。本文介绍了"TME"真代谢能法(饥饿-强饲-收粪法)和回肠末端法评定鸡饲料氨基酸消化率过程中的操作方法,并就存在的问题进行了探讨。
【英文摘要】无
【语种】中文
【第一作者】杨桂芹
【通讯作者】杨桂芹
【期刊名称、卷期、页码】畜牧与兽医,2009,41(3):54-57
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【学科分类】畜牧学

【题目】对家禽饲料有效能评定理论及实践中若干问题的探讨
【中文关键词】家禽;有效能;评定
【英文关键词】无

【中文摘要】本文从家禽体内的物质代谢过程及其变异入手,系统分析了现有家禽饲料有效能生物学评定体系在立论依据、测试手段及数据质量等方面存在的问题。在探讨基于模拟消化法评定家禽饲料有效能值的技术体系及发展方向的基础上,提出了建立以体外模拟消化技术为手段的家禽饲料有效能评定体系的必要性和可行性。
【英文摘要】无
【语种】中文
【第一作者】赵峰
【通讯作者】赵峰
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【学科分类】畜牧学

【题目】入侵害虫螺旋粉虱及其在我国的适生区预测
【中文关键词】螺旋粉虱,生物学特征,适生区,中国
【英文关键词】Aleurodicus dispersus,biological characters,suitable distribution area,China
【中文摘要】主要介绍热带亚热带入侵害虫螺旋粉虱Aleurodicus dispersus Russel的形态特征、分布、寄主与生物学特性;利用DYMEX软件分析螺旋粉虱在我国潜在的分布区。模型分析结果表明,最适宜的潜在的适生区主要集中在中国的南部,包括海南、广东、广西以及台湾等的大部分区域;在云南只有零散的潜在适生区;而广大的西北和东北不利于该虫的生存;依据适生性风险预测结果,提出了应急处理措施。
【英文摘要】This paper gives all introduction of invasive alien species,Aleurodicus dispersus Russel,including its morphological characters,distribution,hosts and biological characters.DYMEX software was used to predict its potential distribution in China.Th e resul~ show that it can distribute in southern China.The most suitable areas for this pest establishment are Hainan ,Guangdong and Guangxi Provinces as well as Chinese Taipei,China,and also can occur in some places of Yunnan Province.Moreover,DYMEX analysis shows that the Northwestern and Northeastern areas of China are not suitable for its surviva1. Strategies for its emergency treatment and management are outlined based on its risk assessment.
【语种】中文
【第一作者】沈文君
【通讯作者】万方浩
【期刊名称、卷期、页码】昆虫知识 2007,44(3):367-371
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【学科分类】植物保护学

【题目】气候因子对橘小食蝇生长发育与地理分布的影响
【中文关键词】橘小实蝇, 气候因子, 生长发育, 地理分布
【英文关键词】Bactrocera dorsalis , climatic factors , growth , geographical distribution
【中文摘要】文章概述橘小实蝇Bactrocera dorsalis (Hendel) 生活史、地理分布和生态要求的基础上,分析温度、湿度、降雨以及气候因子与橘小实蝇生长发育的关系,以及对橘小实蝇地理分布的影响。综述结果表明:喜湿热,厌干冷是橘小实蝇主要的生态学特征,低温与干旱不利于其生长发育;温度是橘小实蝇纬度分布中最主要的影响因子,冬季低温是中高纬度分布的主要限制因子,夏季高温是低纬度地区的限制因素之一,降雨影响橘小实蝇在经度上的分布范围。
【英文摘要】Based on the life history , geographical distribution and requirement for the ecological environment of Oriental fruit fly , Bactrocera dorsalis (Hendel) , the relationship between its growth and climatic factors were analyzed in order to clarify the influence oftemperature , humidity , rainfall and other climatic factors for the geographical distribution. The results showed that Oriental fruit fly tended to live in the wet and hot environment , but low temperature and drought was detrimental to its growth and development. Temperature was the main factor on the latitudinal distribution , i. e. , low temperature in winter was the major limited factor in middle and high latitudes , and the high temperature in summer was one of the limited factors in the low latitudes. Rainfall may influence the longitudinal range of Oriental fruit fly.

【语种】中文
【第一作者】孔令斌
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【学科分类】植物保护学

【题目】松材线虫病在我国适生性分布的定量估计
【中文关键词】松材线虫;风险分析;模糊综合评判;地统计学;地理信息系统
【英文关键词】Bursaphelenchus xylophilus;risk analysis;synthetic assessment on fuzzy mathematics;geostatistics;geographical information system
【中文摘要】在前人对影响松材线虫以及媒介昆虫生长发育因素研究的基础上,应用模糊综合评判、地理信息系统、地统计学等理论与方法,综合分析影响松材线虫病定殖的4个基本条件(即寄主植物、松材线虫病原、媒介昆虫和环境条件),直观、定量和较为准确地获得松材线虫病在我国的潜在适生分布范围以及在云南省具体的潜在分布区域。研究可为我国松材线虫病检疫及其防治决策的制定提供科学依据。
【英文摘要】In the light of research achievements on the factors affecting growth and development of Bursaphelenchus xylophilus and its vector insects,four basic conditions (i.e., plant autoeciousness, B. xylophilus pathogen,vector insects and environment)afecting the survival and spread of B.xylophilus were comprehensively analyzed by applying the theories and methods of synthetic assessment of fuzzy mathematics, geographical information system and geostatistics, and the relatively exactly potential distribution region of B.xylophilus in China and the more detail potential distribution region of B.xylophilus in Yunnan province were estimated.The above results would provide scientific bases for making policies in quarantining,preventing and controlling B.xylophilus.
【语种】中文
【第一作者】冯益明
【通讯作者】冯益明
【期刊名称、卷期、页码】林业科学 2009,45(2):65-71
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【学科分类】植物保护学

【题目】外来入侵植物一年蓬在中国的时空扩散动态及其潜在分布区预测
【中文关键词】松材线虫;风险分析;模糊综合评判;地统计学;地理信息系统
【英文关键词】Bursaphelenchus xylophilus;risk analysis;synthetic assessment on fuzzy mathematics;geostatistics;geographical information system
【中文摘要】在前人对影响松材线虫以及媒介昆虫生长发育因素研究的基础上,应用模糊综合评判、地理信息系统、地统计学等理论与方法,综合分析影响松材线虫病定殖的4个基本条件(即寄主植物、松材线虫病原、媒介昆虫和环境条件),直观、定量和较为准确地获得松材线虫病在我国的潜在适生分布范围以及在云南省具体的潜在分布区域。研究可为我国松材线虫病检疫及其防治决策的制定提供科学依据。
【英文摘要】In the light of research achievements on the factors affecting growth and development of Bursaphelenchus xylophilus and its vector insects,four basic conditions (i.e., plant autoeciousness, B. xylophilus pathogen,vector insects and environment)afecting the survival and spread of B.xylophilus were comprehensively analyzed by applying the theories and methods of synthetic assessment of fuzzy mathematics, geographical information system and geostatistics, and the relatively exactly potential distribution region of B.xylophilus in China and the more detail potential distribution region of B.xylophilus in Yunnan province were estimated.The above results would provide scientific bases for making policies in quarantining,preventing and controlling B.xylophilus.
【语种】中文
【第一作者】王瑞
【通讯作者】万方浩

【期刊名称、卷期、页码】林业科学 2009,45(2):65-71
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【学科分类】植物保护学

【题目】应用生态位模型研究外来入侵物种生态位漂移
【中文关键词】胜红蓟; 生态位漂移; 生态位模型; 适生图
【英文关键词】Ageratum conyzoides; niche shift; ecolog ical nichem ode;l hab itat suitab ility map
【中文摘要】由于基础生态位和实际生态位的改变,外来入侵物种在入侵地成功定殖、扩散后常会发生生态位漂移,而物种生态位漂移往往很难直接证明。生态位模型在假设入侵物种的生态位需求保守的前提下,以物种在其原产地的生态位需求为基础,预测其在入侵地的潜在分布,通过比较预测分布与实际分布的差异可以从一定程度上得到外来入侵物种的生态位是否发生漂移的间接证据。以我国入侵杂草胜红蓟在原产地的生态位需求为基础,应用生态位模型预测其在其他地区的潜在分布。研究结果表明,生态位模型可以很好地预测胜红蓟在亚太平洋地区和非洲地区的分布,但在我国,其预测分布与实际分布存在较大差别。胜红蓟在我国预测分布主要为云南、海南、台湾部分地区,而胜红蓟入侵我国后现已广泛分布于长江以南地区,其实际分布比预测分布广泛得多,由此推测胜红蓟在入侵我国后其生态位已经产生了漂移。
【英文摘要】Due to the change of the fundam ental and realized n iche, an invas ive alien species (IAS) often shifts niches after it has established successfully and spread w idely at the invaded reg ion. Usually the d irect evidence of the n iche shift is difficu lt to ach ieve. The ecological niche m odels (ENM s) can be em ployed to predict the potential distribution of an invas ive spec ies in the invaded area based on the niche requirem ent o f the species in its origin areas, g iven that its niche conserved when invaded in another region. Som e indirect evidences of niche sh ift during b iolog ical invasion w ere found by comparing the difference between predicted and actual distribut ion in the invaded areas. The potent ia l d istribution of A geratum conyzoides, a reg ional serious invaded weed in China, is predicted in non-native reg ions based on the niches require in its orig in area us ing ENM s. The previous resu lts showed that the distribution of A. conyzoides in non-native reg ions such as As ia-pac ific region and Africa region could be well pred icted by us ing ENM s, but there was a rem arkable
【语种】中文
【第一作者】王运生
【通讯作者】谢炳炎
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【题目】ROC曲线分析在评价入侵物种分布模型中的应用
【中文关键词】受试者工作特征曲线, 外来物种, 模型评价, 适生区, Radopholus similis
【英文关键词】ROC curve, alien species, model evaluation, suitable distribution area, Radopholus similis
【中文摘要】生态位模型(ecological niche models, ENMs)已广泛应用于物种潜在分布区预测, ENMs的应用也为外来入侵物种的风险分析提供了重要的定量化分析工具, 但如何评价不同模型之间的预测效果成了当今研究的热点问题。本文介绍了受试者工作特征(ROC)曲线分析在评价不同生态位模型预测效果中的应用原理和分析方法, 并以一种植物病原线虫—相似穿孔线虫(Radopholus similis)为例, 应用ROC曲线分析法对其5种模型(BIOCLIM, CLIMEX,DOMAIN, GARP, MAXENT)的预测结果进行了比较分析。5种模型的ROC曲线下面积AUC(Area Under Curve)值分别为0.810, 0.758, 0.921, 0.903和0.950, 以MAXENT模型的AUC值最大, 表明其预测效果最好; 方差分析结果表明,除GARP与DOMAIN模型之间AUC值差异不显著外, 其余各模型之间差异显著。
【英文摘要】Ecological niche models (ENMs), which are widely employed to predict the potential geographicdistribution of species, provide an important tool to quantify the risks imposed by invasive alien species. The problem of how to evaluate the performance of different models as attracted more and more attention. In the present paper, we introduced the principle of the method of Receiver Operating Characteristic (ROC) curve analysis in assessing the accuracy of different ENMs. We predicted the suitable distribution area of Radopholus similis, an important banana toppling disease nematode, with five widely used ENMs and evaluated the performance of different models by ROC curve analysis. The area under ROC curve (AUC) for BIOCLIM,CLIMEX, DOMAIN, GARP, and

MAXENT models was 0.810, 0.758, 0.921, 0.903, and 0.950, respectively.Among these, the biggest value of AUC was assigned to MAXENT, indicating that the result gained by MAXENT should be better than the other four models. According to the results of analysis of variance (ANOVA), there was a remarkable difference in AUC between each model except for DOMAIN and GARP.
【语种】中文
【第一作者】王运生
【通讯作者】谢炳炎
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【学科分类】植物保护学

【题目】Establishment and characterization of a fibroblast cell line derived from Texel sheep
【中文关键词】特克塞尔羊,成纤维细胞系,建立,鉴定
【英文关键词】Texel sheep, fibroblast cell line, establishment, identification.
【中文摘要】运用直接培养和低温保存技术成功构建特克赛尔羊成纤维细胞系TSF19,生物学分析表明,该细胞系为贴壁生长,细胞扩增时间为24.9小时,染色体分析表明,二倍染色体几率大于90%,乳酸脱氢酶和苹果酸脱氢酶同工酶分析表明与其他品种间没有交叉污染,细菌、真菌、病毒和支原体检测均为阴性。将编码荧光蛋白(pEGFP-N3, pECFP-N1, pDsRed1-N1, 和pEYFP-N1)的质粒转染该细胞,研究外源基因在细胞中的表达,转染效率为21.8%-46.5%,该细胞系不仅保存特科塞尔羊这种重要的遗传资源,而且也为基因组、后基因组合克隆研究提供有价值的材料。
【英文摘要】A Texel sheep ear marginal tissue fibroblast cell line (named TSF19) was successfully established by using aprimary explant technique and cell cryoconservation technology. TSF19 cells were adherent, with a population doublingtime of 24.9 h. Chromosome analysis showed that >90% of cells were diploid prior to cell passage 4. Isoenzyme analysesof lactate dehydrogenase and malate dehydrogenase showed that the TSF19 cells had no cross-contamination with otherspecies. Tests for cell line contamination with bacteria, fungi, or mycoplasmas were also negative. Plasmids encoding thefluorescent proteins pEGFP-N3, pECFP-N1, pDsRed1-N1, and pEYFP-N1 were transfected into cells to study exogenousgene expression in the cells. The plasmid transfection efficiency was between 21.8% and 46.5%. This newly establishedcell line will not only preserve the genetic resources of the important Texel sheep at the cell level but will also provide avaluable resource for genomic, postgenomic, somatic cloning research.
【语种】英文
【第一作者】李林凤
【通讯作者】马月辉
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【学科分类】畜牧、兽医科学基础学科

【题目】Establishment and biological characteristics of Ujumqin sheep fibroblast line
【中文关键词】乌珠穆沁羊,成纤维细胞系,生物学特性,低温保存
【英文关键词】Ujumqin sheep , Fibroblast line,Biological characteristics ,Cryopreservation
【中文摘要】运用直接培养和低温保存技术成功构建33只乌珠穆沁羊耳缘组织成纤维细胞系,该细胞系存在在147个冻寸管中,每管细胞数为4.9X106,细胞形态学上符合成纤维细胞的特点,生长曲线为典型的“S”型,细胞数量经过停滞期、对数生长期和平台期,细胞倍增时间为72小时,细菌、真菌、病毒和支原体检测均为阴性。同工酶检测表明细胞在体外的遗传特性是稳定的。核型分析表明,正常染色体数2n=54几率达到95.4%,六个荧光蛋白(pEGFP-N3, pEGFP-C1, pDsRed-N1, pEYFP-N1, pECFP-N1 and pECFP-mito)的最佳转染效率为18.5%-30.1%,转染时间为48小时。细胞系符合ATCC的所有标准,不仅该绵羊品种资源得以在细胞水平保存,该技术平台也为其他畜禽的遗传资源保存提供技术和理论支持。
【英文摘要】A Ujumqin sheep ear marginal tissue(USEM) fibroblast line, frozen in 147 cryovials with4 9 106 cell each, was successfully established from33 Ujumqin sheep ear marginal tissues using explantculture and cryopreservation techniques. The cellswere morphologically consistent with fibroblasts. Thegrowth curve was typical S-shape and the cellpopulation passed through a lag phase, a logarithmicphase and a plateau phase. The population doublingtime (PDT) was approximately 72 h. Tests forbacteria, fungi,

viruses and mycoplasma were allnegative. Isoenzyme polymorphism indicated that thegenetic characteristics of the cell line were stable invitro. Karyotyping analysis indicated that the chromosomenumber of a normal cell was of 2n = 54 and95.4% of the entire population was diploid. Thetransfection efficiencies of six fluorescent proteins(pEGFP-N3, pEGFP-C1, pDsRed-N1, pEYFP-N1,pECFP-N1 and pECFP-mito) optimal at 48 h werefrom 18.5% to 30.1%. The cell line met all criteriafrom the American Type Culture Collection (ATCC).Not only has the germline of this important sheepbreed been preserved at the cell level, but alsovaluable material had been provided for genome,postgenome and somatic cloning research. Moreover,the establishment of this technical platform mayprovide both technical and theoretical support forstoring the genetic resources of other animals andpoultry at the cell level.

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【第一作者】娜日苏
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【题目】奶牛p I gR 基因5＇侧翼区SNP 检测及其与IgA 和IgM含量的相关性研究
【中文关键词】奶牛PIgR基因;IgA和IgM;SNP;单倍型
【英文关键词】dairy cow;pIgR gene,IgA and IgMI SNP;haplotype
【中文摘要】本试验研究了PIgR基因5＇侧翼区的多态性及其对IgA争IgM含量的影响。从NCBI上的Map Viewer数据库下载牛PIgR基因的5＇侧翼区的序列(NW_174143),长度为3.2 kb,设计4对引物进行PCR扩增,通过对25头奶牛的PCR产物直接测序发现并确定SNP位点,并用SNP Stream标签微列阵基因分型系统对189头牛进行基因分型,将其与牛奶和血液中的IgA和IgM的含量进行关联分析。结果表明,PIgR基因在-3128、-3072、-2834、-2348和-515位发现了5个SNP位点,其中SNPl和SNP2为A/G突变,SNP3、SNP4和SNP5为T/C突变。方差分析结果表明,SNPl对牛奶IgM和血液IgA含量有显着的影响(P<0.05),SNP3和SNP5对血液IgM含量有显着影响(P<o.05),其他SNP位点与单倍型组合对乳及血液中IgA和IgM的含量均没有显著影响(P<0.05);多重比较分析表明,SNPl位点的基因型AB个体与BB个体的牛奶IgM和血液IgA含量的最小二来均数差异显著(P<0.05),SNP3和SNP5的不同基因型对血液IgM含量的最小二乘均数分别达到了显著水平(P<0.05)。因此得出,牛pIgR基因5 7侧翼区的多态性影响牛奶和血液中的IgA和lgM的含量,这为进一步研究牛奶中IgA和lgM分泌转运机理提供了理论依据。
【英文摘要】The objective of this study was to detect the polymorphism in the 5＇upstream region of pIgR gene and their association with IgA and IgM concentration in blood and milk. Based on the pIgRgene 5＇flangking region sequence (NW_174143) downloaded from the map viewer database of NCBI, 25 genomic DNA samples of dairy cows were used for SNP detection. The 12-plex SNPstream genotyping was applied to 189 dairy ciws and the association between the polymorphisms and the IgA and IgM concentrations in milk and blood were detected. We found five SNP loci; SNP1 and SNP2 were A/G variation and SNP3, SNP4 and SNP5 were the T/C variation. Statistical analysis indicated that the SNP1 was siginificantly (P<0.05) associated with milk IgA and blood IgM concentrations, whera=eas SNP3 and SNP5 significantly affected blood IgM concentration (P<0.05); other SNPs and diplotypes had no effect on the IgA and IgM concentrations. Cows with genotype AB of SNP1 were significantly(P<0.05) different in milk IgM and blood IgA concentration than cows with genotype BB. The different genotypes of SNP3 and SNP5 had considerable effects on blood IgM concentration (P<0.05). These findings implied that the polymorphisms of 5＇flanking region in bovine pIgR gene had an effect on IgA and IgM concentrations in milk and blood. Our results could provide references for further reaearch on the mechanism of transportation of IgA and IgM into milk.

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【题目】六个不同品种牛的瘤胃微生物群落的比较分析
【中文关键词】牛; 瘤胃细菌群落; 16S rDNA ; 多样性
【英文关键词】bovine ; rumen bacterial community ; 16S rDNA; diversity
【中文摘要】分析不同品种牛的瘤胃微生物群落结构的差异,构建了1 个鲁西肉牛瘤胃细菌16S rDNA 文库,并从公共数据库中搜集来自荷斯坦奶牛、晋南牛、牦牛、黄牛和Hanwoo 的9 个16S rDNA 文库,对序列多样性和文库组成等进行比较分析。结果发现:鲁西肉牛瘤胃细菌16S rDNA 文库共有122 个克隆,可分为109 个操作分类单元。文库中91 %的克隆来自未培养细菌,拟杆菌(B acteroi dales) 和梭菌(Clost ri diales) 是其中的优势菌群。文库的定性和定量比较表明饲喂不同日粮的5 个荷斯坦奶牛16S rDNA 文库组成类似,而与鲁西肉牛等亚洲品种的文库存在显著差异。结果表明,牛的品种是瘤胃细菌群落差异的重要因素,对瘤胃细菌群落组成的影响大于日粮或其他因素。
【英文摘要】To improve our unders tanding of factors that may influence the s tructure of rumen microbial community , wecons tructed bacterial 16S rDNA clone libraries from Chines e Nooxi s teers , extracted nine 16S rDNA libraries from thep ublic databas e and then subjected them to ecological s tatistical analysis . Res ults showed that the Nooxi 16S rDNAlibrary contained 122 clones , covered a re asonable fraction of rumen bacterial community and could be us ed for librarycomp aris on. Princip al comp onent analysis and nonp arametric es timates of library comp aris ons indicated that five 16Slibraries from Holstein cow fed with different diets clus tered together and were clearly dis tinguishable from thos elibraries from Nooxi , J innan cattle , yak , Yunan Yellow cattle and Hanwoo , indicating that the hos t sp ecies is animportant factor influencing the comp osition of rumen bacterial community.
【语种】中文
【第一作者】刘开朗
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【题目】免疫小鼠乳腺乳铁蛋白基因表达变化研究
【中文关键词】小鼠; 免疫刺激; 乳腺; 乳铁蛋白; 基因表达
【英文关键词】immune state ; mammary gland ; lactoferrin; gene expressions
【中文摘要】研究小鼠不同生理阶段以及免疫条件下,乳腺内乳铁蛋白基因mRNA 表达量的变化。选择120 只健康昆明小白鼠,于分娩后4 d 进行如下制剂处理:脂肪酶蛋白(Lipase) 、空免疫刺激复合物(ISCOM) 和Lipase 。于分娩后8 和12 d (即注射后4 和8 d) 用间接EL ISA 法测定乳中和血清中的特异性IgG含量,用Real Time PCR 检测小鼠乳腺中乳铁蛋白基因的相对表达量。另外,正常生理状态乳腺内乳铁蛋白基因mRNA 表达量的变化分别是在分娩后1 、4 、8 和12 d 进行检测。结果表明,正常状态下,小鼠分娩后1 d 时,乳腺内乳铁蛋白基因mRNA 表达量相对较高,而在分娩后4 、8 和12 d 时较低;免疫条件下,乳腺内乳铁蛋白显著上升。免疫刺激可以引起小鼠乳腺乳铁蛋白基因表达上调。
【英文摘要】Using mice as a model animal , we determined changes in the relative expres sion of lactorferrin gene in themammary gland under different natural s tages and the immune s tate . One hundred and twenty KunMing White micewere divided into four groups . They were treated differently at days 4 after p arturition as follows : group A2injectingisotonic Na chloride , group B2injecting Lipase + isotonic Na chloride , group C2 injecting ISCOM, and group D2injectingLip as e + ISCOM. Samples of blood , milk and mammary gland is s ues were collected at days 8 and days 12 afterp arturition (days 4 and days 8 after injecting) , resp ectively. The sp ecific IgG concentration in s erum and milk wasdetermined by indirect ELISA. We us ed the Re al Time PCR to detect the relative expres sion of lactorferrin in themammary gland. In addition , relative expres sion of lactorferrin in the mammary gland under natural s tage weredetected four times (1 , 4 , 8 and 12 days after p arturition) . In the normal s tate , the relative expres sion of lactorferrinon day 1 after p arturition was quite high , but quite low on days 4 - 12. In addition , the relative expres sion oflactorferrin in the mammary gland increas ed significantly under the immune state .
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【题目】全混合日粮裹包贮存效果及对奶牛生产和血液生化指标的影响
【中文关键词】裹包TMR; 贮存; 奶牛; 生产性能; 血液指标
【英文关键词】baled TMR; storage; dairy cow; milk production; blood indices
【中文摘要】研究全混合日粮(TMR)裹包贮存效果及裹包TMR饲喂对泌乳末期奶牛生产性能和血液生化指标的影响。TMR饲粮水分含量调整为40%、50%和60%,利用裹包技术将新鲜制作的TMR饲粮进行裹包,分别存放0、3、7、15和30 d后进行营养物质含量和发酵指标的测定。结果表明:随着贮存时间的延长,TMR饲粮中的营养物质含量由于干物质的损失而有相应的增加,裹包TMR饲粮的pH值显著降低(P<0.05),氨态氮含量显著增加(P<0.05),且随着TMR饲粮初始水分含量增高,pH值降得越低(P<0.05),氨态氮生成量越高(P<0.05)。另外,选择24头泌乳末期荷斯坦奶牛,以常规饲喂(精粗分开)作为对照组,比较裹包TMR饲喂对奶牛生产和血液指标的影响。结果表明:裹包TMR饲喂比对照可显著提高产奶量(14.37 kg/d vs.12.38 kg/d)和产奶效率(0.84vs.0.72)(P<0.05),除血糖(P<0.05)外,其他血液生化指标与对照差异均不显著(P>0.05)。因此认为,裹包技术可以用来在规模化牛场和大型饲料厂进行TMR饲粮的裹包生产,从而实现TMR饲粮的有效贮存和运输,以达到中、小规模养牛场和个体养殖户也可以应用TMR饲喂技术的目的.
【英文摘要】The objective was to study the storage effect of total mixed ration (TMR) wrapped by stretch film and the effect of baled TMR on milk production, milk composition, and blood indices of late lactation dairy cows. The moisture contents of the TMR were adjusted to 40%, 50%, and 60%, respectively. Fresh TMR were wrapped and baled using stretch film. After 0, 3, 7, 15, and 30 days storage, the nutrient content and fermentation quality were determined. The results demonstrated that the nutrient content increased compared with fresh TMR owing to the dry matter losses during storage. The pH of baled TMR showed significant decrease(P~0.05)and the NH3-N content embodied significant increase(P<0.05)along with the proceeding of storage. The pH dropped significantly (P<0.05) and the NH3-N content increased significantly P〈0.05 when the moisture content of initial TMR increased. Twenty-four late lactation dairy cows were selected and randomly assigned to two treatments to compare the effect of baled TMR on milk production and blood indices with separate feeding strategy. The result showed that baled TMR feeding significantly increased the milk yield (14. 37 kg/d vs. 12.38 kg/d)and feed efficiency(0.84 vs. 0. 72)(P<0. 05). There was no significant difference(P>0.05) between two treatments on blood indices except blood glucose(P<0.05). So, it was concluded that baling technology can be used at big dairy farms and feed factory to oroduce baled TMR, and make it be achieved that TMR diet can be stored and delivered, and then make the small-scale farms and individual farms also can use TMR technique.
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【题目】应用移动尼龙袋法和三步法评定反刍家畜常用饲料的蛋白质小肠消化率
【中文关键词】饲料评定;蛋白质;移动尼龙袋法;三步法;小肠消化率
【英文关键词】feed evaluation;crude protein;mobile nylon bag technique;Three-step in vitro procedure;intestinal digestibility
【中文摘要】本研究选用3头装有永久瘤胃瘘管和十二指肠“T”型瘘管的阉牛,采用移动尼龙袋法和三步法测定了15种饲料蛋白质的小肠消化率。结果表明,移动尼龙袋法测得的玉米蛋白粉、菜籽粕、豆粕、棉籽粕、花生饼、小麦麸、黄玉米、啤酒糟、米糠、玉米胚芽饼、酒糟蛋白、苜蓿、羊草、玉米秸秆和玉米青贮中蛋白质小肠消化率分别为90.60%、82.31%、96.32%、80.62%、95.58%、67.89%、89.86%、74.33%、58.65%、79.79%、90.42%、40.00%、44.88%、35.52%、10.52%。同时将三步法与移动尼龙袋法测得的消化率进行线性回归分析,结果显示,不同种类饲料蛋白质小肠消化率差异很大(10%~96%),作为一种简便、可靠的体外酶解评定方法,三步法与移动尼龙袋法呈线性正相关[Y=1.185 1x一5.946 8,n=15,R2=0.891 2;其中,,代表移动尼龙袋法所测饲料瘤胃非降解蛋白质的小肠消化率(%),x代表三步法所测的消化率结果(%)]。

【英文摘要】Apparent small intestinal digestibility(Idg)of 15 feedstuffs was determined by the mobile nylon bagtechnique(MNBT)and three—step in vitro procedure respectively.Residues collected after 16 h rumen incubation by/n situ technique were applied for the MNBT procedure through a T—type proximal duodenal cannula and in vitroprocedure.The Idg determined by MNBT were 90.60%(corn gluten meal),82.31%(rape seed meal),96.32%(soybean meal),80.62%(cotton seed meal),95.58%(peanut cake),67.89%(wheat bran),89.86%(maize),74.33%(brewer ’s grains),58.65%(rice bran),79.79%(corn germ meal),90.42%(distillers dried grains withsoluble),40.00%(alfalfa hay),44.88%(chinese wildrye),35.52%(corn straw)and 10.52%(corn silage),respectively.The Idg of rumen undegraded crude protein(RUP)between the MNBT and three—step in vitro procedure was linearly correlated.The apparent small intestinal digestibility differed among feedstuffs(10%~96%).A linear regression equation was presented between the MNBT and three—step/n vitro procedure(Y=1.1851 X-5.9468,n=15,R2=0.8912,where Y represents apparent Idg of CP with the mobile nylon bag technique,and Xrepresents the digestibility estimated by three—step in vitro procedure),which might be a simple,cheap,convenientand reliable method for feed evaluation in ruminants.
【语种】中文
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【题目】奶牛日粮添加共轭亚油酸和二十二碳六烯酸对瘤胃纤维素酶活性的影响
【中文关键词】奶牛;LA;DHA;纤维素酶
【英文关键词】dairy cows;LA:DHA;cellulase
【中文摘要】试验旨在研究在奶牛日粮中添加亚油酸(Linoleic acid,LA)和二十二碳六烯酸(Docosahexaenoicacid,DHA)对奶牛瘤胃液中纤维素酶(水杨苷酶、木聚糖酶、羧甲基纤维素酶)活性的影响。结果表明,日粮中添加LA会抑制瘤胃中木聚糖酶的活性,但可提高水杨苷酶和羧甲基纤维素酶的活性,而DHA对3种酶的活性均有提高作用,其中LA和DHA对水杨苷酶和羧甲基纤维素酶活性的提高具有协同作用。木聚糖酶和水杨苷酶的活性均在饲喂后2 h达到最高点,而羧甲基纤维素酶的活性则随着时间的变化呈降低趋势。
【英文摘要】dairy cows;LA:DHA;cellulase
【语种】中文
【第一作者】王蕾
【通讯作者】王加启
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【题目】瘤胃微生物蛋白质合成及效率调控的研究进展.
【中文关键词】微生物蛋白合成;微生物蛋白合成效率;瘤胃
【英文关键词】microbial protein synthesis;efficiency of microbial protein synthesis;rumen
【中文摘要】综述了瘤胃微生物生长所需要的底物,影响瘤胃微生物蛋白质合成及其效率的因素,提出了提高瘤胃微生物合成量的具体可行的调控措施和测定方法。
【英文摘要】This paper summarized the substrates which were required by rumen microbes ’growth and the factors which influenced the efficiency of microbial protein synthesis.Feasible control measures and measurements were also proposed to promote the amount of microbial protein synthesis in rumen.
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【题目】瘤胃微生物基因组文库中BAC 末端序列分析
【中文关键词】瘤胃微生物;宏基因组文库;BAc末端序列;Blast比对
【英文关键词】rumen microflora;metagenome;BAC end sequences;blast analysis
【中文摘要】基于前期从瘤胃微生物基因组文库中筛选的功能酶克隆菌,利用T7和pIBRP引物.测定功能酶克隆菌的BAc末端序列。并利用NCBI Blast系统对BAC末端序列进行分析.结果表明:共得到26条BAc末端序列,经Blast比对分析,与已知编码基因的匹配度低。而大部分BAc末端序列与阪崎肠杆菌和环境中的微生物匹配度高,说明瘤胃中的微生物与其它环境中的微生物具有一定的相似性。进一步丰富了对瘤胃微生物的认识.
【英文摘要】The bacterial artificial chromosome(BAC)end sequences of enzyme positive clones screenedfrom the microbial metagenomic library of rumen were sequenced using the primers of T7 and pIBRP.Then the BAC end sequences were blasted to NCBI database. The results revealed that 26 BAC end sequences were attained. These sequences had poor identity to known encoding genes,and had the best identity to Enterobacter sakazarkii and environmental uncultured bacterial. Rumen contained some microbessimilar to other environmental microbes,which deepen the knowledge of rumen microbes.
【语种】中文
【第一作者】赵圣国
【通讯作者】王加启
【期刊名称、卷期、页码】甘肃农业大学学报,2010,45(2):6-9
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【引文索引类型】其他
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【学科分类】畜牧学

【题目】日粮添加亚油酸和二十二碳六烯酸对奶牛瘤胃原虫奇数碳链脂肪酸和支链脂肪酸的影响
【中文关键词】奶牛;亚油酸;二十二碳六烯酸;奇数碳链脂肪酸;支链脂肪酸;原虫
【英文关键词】dairy cow;linoleic acid;docosahexaenoic acid;odd fatty acid;branch-chain fatty add;protozoa
【中文摘要】试验选取4头安装有永久性瘤胃、十二指肠和回肠瘘管的荷斯坦泌乳奶牛,采用4×4拉丁方试验设计,研究日粮中添加亚油酸(LA)和二十二碳六烯酸(DHA)对瘤胃原虫中奇数碳链脂肪酸和支链脂肪酸的影响.试验结果表明:奇数碳链脂肪酸和支链脂肪酸(OBCFA)是原虫脂肪酸的重要组成部分,与对照组相比,日粮中单独添加LA或DHA对瘤胃原虫中主要OBCFA的含量无显著影响,而当LA和DHA协同添加时C15:0和C17:0的含量显著降低(P<0.05),但对异构酸和反异构酸的含量无显著影响.
【英文摘要】Impact of a basal diet supplemented with LA and DHA on fatty acid composition of Hostein dairy cows was studied in this paper.Four Holstein dairy cows with permanent ruminal fistulas were randomly assigned to control(CK) basical diet without additional oil supplementation),basal diet with 2.7%LA(LA),basal diet with 2.7%LA plus 0.5%DHA(LA+DHA),and basal diet with 0.5%DHA(DHA)in a 4 X 4 latin square design.The results showed that odd and branch-chain fatty acids were important components of rumen protozoa.Compared with CK,C15:0 and C17:0 were decreased in LA+DHA group,however,major iso-fatty acids and anteiso-fatty acids were not affected by fat supplement
【语种】中文
【第一作者】王蕾
【通讯作者】王加启
【期刊名称、卷期、页码】甘肃农业大学学报, 2010,45(2):12-15
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【引文索引号】
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【题目】高产奶牛泌乳初期能量需要的研究
【中文关键词】奶牛;泌乳早期;能量需要
【英文关键词】dairy cattle;early lactation;energy requirement
【中文摘要】试验研究高产奶牛泌乳初期能量的需要。选取体重、胎次、泌乳日龄和产奶量基本相同的健康荷斯坦奶牛20头,随机分成5组,每组4头,每组分4个重复,每个重复1头。A组为添加脂肪300 g;B组为添加脂肪450 g;C组为添加脂肪600 g;D组为添加自制脂肪450 g;E组为对照组。预饲期17 dt试验期3 d。加300 g脂肪酸钙的A组增奶效果差异显著(P<O.05)。加3009脂肪酸钙的试验组增加产奶量12.5%(P<O.05)。添加玉米油脂肪酸钙450 g增加产奶量16%(P<0.05)。结果表明,玉米油的性能优于其他脂肪酸钙。添加过瘤胃脂肪使乳脂率显著提高12.5%~16.28%(P>0.05)。随着添加过瘤胃脂肪量的增多,乳蛋白有升高的趋势(P>0.05)。
【英文摘要】Twenty healthy Holstein dairy cows of the same body weight,lactating day,milk yields,wereselected in this experiment.The cows were randomly divided into five groups,each group had four cows,each group had four replicas,each repeat had one cow.A group added 300 g fat;B group added 450 g fat;C groupadded 600 g fat;D group added 450 g self—made fat;E group was the control group.Preparative period was 1 7days,experimental period was 3 days.Adding 300-gram fatty acids calcium increased milk yield by 12.5%(P<0.05).Adding 450一gram corn oil fatty acids calcium increased milk yield by 16%(P<0.05).In conclusion,thecorn oil fatty acids calcium surpassed the other fatty acid calcium.Fatty acids calcium group increased milkprotein by 12.5%一16.28%(P<0.05).But with higher dose of fat,milk protein had the trend of increasing(P>0.05).
【语种】中文
【第一作者】孙满吉
【通讯作者】单安山
【期刊名称、卷期、页码】东北农业大学学报 2006,37(3):340-344
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【题目】DDGS在猪饲料中的能量与氨基酸消化率测定试验
【中文关键词】无
【英文关键词】无
【中文摘要】DDGS(Distillers Dried Grains with Solubles),是使用粮食作物生产酒精后将滤液干燥浓缩再与滤渣混合干燥而获得的饲料,能值、粗蛋白水平均较高,具有较高的饲用价值。DDGS广泛应用于畜禽和水产饲料中,已经成为国内外常用的饲料原料。由于DDGS是一种工业副产物,所以不同的原料、工艺、产地对于DDDGS营养含量和消化率有着很大影响。在我国,DDGS在猪饲料中的应用比较普遍,但是几乎没有文章研究我国市场上DDGS营养成分的消化率问题。本研究以体内法测定了6种DDGS(Distillers Dried Grains with Solubles)在生长育肥猪饲料中的能量和氨基酸消化率。试验一采用全收粪尿法测定了6种DDGS的消化能和代谢能值,采用7×7拉丁方试验设计,应用套算法测定。总共七个试验期,每期7 d,分为4 d预饲期和3 d收粪期。试验选择体重46.0±2.5 kg的健康去势公猪(长白×大白)7头。正试期间准确收集各试验猪每天(24小时)所排粪样、尿样。每天对所收集的全部粪样称重,放入-16℃冰箱中保存备用。正试期间,每天对收集的全部尿样称重,充分混匀后再按1/20取样,取样后放入-16℃冰箱中保存备用。正试期结束后,把3天所取的全部粪样充分混匀,取样于75℃烘箱中烘干,回潮24 h,恒重,粉碎过40目筛备测,把3天所取的全部尿样充分混匀,装瓶,于-16℃冰箱中保存备测。试验二使用回肠末端简单T型瘘管法测定了6种测定6种DDGS饲料的氨基酸标准回肠消化率,采用7×7拉丁方试验设计,以无氮日粮法测定内源氮损失,以Cr_2O_3为指示剂。总共7个试验期,每期7 d,分为4 d预饲期和3 d食糜收集期。试验选择体重43.3±1.7 kg的健康去势公猪(长白×大白)7头。采用简单T型瘘管法收集食糜,以Cr_2O_3为指示剂(添加量0.4%)。为了减少收集食糜对伤口的影响,每半小时更换样品袋。每次换下的小塑料袋立即放入-16℃冰箱中保存。正试期结束后,把3d所收集的全部食糜充分混匀,冷冻干燥后回潮24h,恒重,粉碎过40目筛,装瓶备测。目前正在检测样品、分析数据中。
【英文摘要】无
【语种】中文
【第一作者】薛鹏程
【通讯作者】龚丽敏
【期刊名称、卷期、页码】中国畜牧兽医学会2009学术年会论文集2009, 532

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【题目】体内法评定鸡饲料原料中矿物元素生物学利用率的研究进展
【中文关键词】饲料原料;矿物元素;综述;生物学利用率;鸡
【英文关键词】feedstuffs; minerals; a review; bioavailability; poultry
【中文摘要】动物营养研究的最终目标之一是实现以饲料养分的有效含量来满足动物对饲料养分的有效需要量。目前,无机和有机矿物元素添加剂中矿物元素的生物学利用率评定已受到人们的重视,但对动植物性饲料原料中矿物元素生物学利用率的评定还少见报道。本文综述了体内法评定鸡饲料原料中矿物元素生物学利用率的主要方法、研究进展及存在的问题,并提出了今后进一步的研究方向。
【英文摘要】One of the ultimate objectives of the research of animal nutrition is to meet the effective requirements of animals with available contens of nutrients in feed. At present, the evaluation of bioavailability of minerals in organic and inorganic mineral additives has been emphasized. However, less information was available about the evaluation of bioavailability of minerals in feedstuffs. This article reviewed methods, recent advances, and problems in the evaluation of bioavailability of minerals in feedstuffs for poultry in vivo. Research prospects in the future were also suggested in this paper.
【语种】中文
【第一作者】钟茂
【通讯作者】吕林
【期刊名称、卷期、页码】中国畜牧杂志,2007, 43 (13): 44-48
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【题目】鸡用饲料氨基酸评定方法研究进展
【中文关键词】氨基酸消化率;回肠末端法;“ TME ”;真代谢能法;鸡
【英文关键词】无
【中文摘要】饲料氨基酸消化率是评定饲料原料营养价值和可利用性的一项重要指标。饲料原料氨基酸消化率的获得为动物可消化氨基酸需要量的测定和更准确地设计日粮配方提供参考数据。本文介绍了〝TME〞真代谢能法(饥饿-强饲-收粪法) 和回肠末端法评定鸡饲料氨基酸消化率过程中的操作方法, 并就存在的问题进行了探讨。
【英文摘要】无
【语种】中文
【第一作者】杨桂芹
【通讯作者】杨桂芹
【期刊名称、卷期、页码】畜牧与兽医,2008, 11(2): 440-445
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【题目】马铃薯蛋白粉在仔猪上的营养价值评定
【中文关键词】仔猪;马铃薯蛋白粉;无氮日粮;氨基酸消化率
【英文关键词】piglets; potato protein meal; N- free diet; amino acids digestibility
【中文摘要】选择体重为(16±1.66)kg PIC仔猪18头,在测定马铃薯蛋白粉(PPM)养分、氨基酸含量的基础上进行消化代谢试验。以PPM和豆粕(SBM)分别作为唯一蛋白源配制半纯合日粮,采用无氮日粮法测定两者猪回肠末端氨基酸的表观消化率和真消化率。结果表明:PPM含消化能18.84MJ/kg,可消化粗蛋白质74.08%,蛋白质生物学效价76.87%。均显著高于豆粕。同时,PPM中大部分氨基酸,尤其是Glu、Lys、Pro等的含量、表现消化率或真消化率显著或极显著高于豆粕,回肠真可消化Glu、Lys、Pro的含量分别为20.67%、5.58%、8.16%,分别比豆粕高194.92%、110.34%、94.87%。可见,PPM的能量和蛋白质

氨基酸营养价值明显优于豆粕。
【英文摘要】A digestibility trial to evaluate the nutritional value of potato protein meal(PPM)was conducted on the basis of analyzing nutrients and amino acid content.Eighteen crossbred PIC piglets with 16±1.66 kg were allocated into 3 groups to feed diets with PPM or soybean meal (SBM) as only protein source, and N- free diet to determine endogenous amino acid excretion to calculate amino acid true digestibility.Results showed that the PPM contained 18.84 MJ/kg digestible energy and 74.08 % digestible protein which were higher than those of SBM (P < 0.05) .Biological value of protein was 76.87 % for PPM.Apparent or true ileal digestibilities for most amino acids in PPM, especially for Glu, Lys and Pro, were higher than those of SBM.Contents of true ileal digestible Glu, Lys and Pro were 20.67 %, 5.58 %, 8.16 % respectively, which were higher than those of SBM with the increase by 194.92 %, 110.34 %, 94.87 % respectively.It was concluded that potato protein meal had higher nutritional value in terms of energy and protein than soybean meal.
【语种】中文
【第一作者】唐春红
【通讯作者】唐春红
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【题目】马铃薯蛋白粉对断奶仔猪的应用效果研究
【中文关键词】马铃薯蛋白粉; 断奶仔猪; 生长性能; 腹泻率
【英文关键词】无
【中文摘要】选择30 日龄断奶体重为(6.94±0.69) kg 的二元杂种商品仔猪184 头, 按照窝别、性别、体重相近的原则分为5 组, 饲喂不含马铃薯蛋白粉的基础饲粮和以2%、4%、6%的马铃薯蛋白粉及4%的血浆蛋白粉等氮替代基础饲粮中豆粕的饲粮, 每组4~5 个重复, 每个重复8 头仔猪, 进行28 d的饲养试验。试验第15 d 称重后, 每个重复选择1 头体重接近该圈平均体重的仔猪前腔静脉采血, 测定血液生化指标; 试验第15~18 d, 以圈为单位, 收集粪样, 测定蛋白质表观消化率。研究马铃薯蛋白粉在断奶仔猪上的应用效果, 确定其适宜添加量。结果表明, 饲粮中添加2%马铃薯蛋白粉组, 与基础饲粮组相比, 试验全期可以提高日增重6.14%(P>0.05) 、降低料重比10%(P<0.01) ,降低腹泻率6.24 个百分点(P>0.05) , 效果相当于甚至优于4%血浆蛋白粉。饲粮中添加4%和6%马铃薯蛋白粉, 仔猪生长性能显著或极显著低于基础饲粮组。但6%马铃薯蛋白粉组蛋白质表观消化率高于基础饲粮组和2%马铃薯蛋白粉组(P<0.05), 血浆蛋白粉组蛋白质表观消化率略高于基础饲粮组(P>0.05); 2%马铃薯蛋白粉组血清总蛋白、白蛋白、球蛋白、胆碱酯酶含量最高; 4%血浆蛋白粉组血清尿素氮显著低于基础饲粮组, 极显著低于马铃薯蛋白粉组; 6%马铃薯蛋白粉组谷丙转氨酶活性高于4%、2%马铃薯蛋白粉组(P<0.05) ; 各个处理血液谷氨酰胺、谷氨酸含量以及谷草转氨酶活性差异不显著。由此结论, 马铃薯蛋白粉在断奶仔猪饲粮中的适宜添加量为2%。
【英文摘要】无
【语种】中文
【第一作者】唐春红
【通讯作者】唐春红
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【题目】喷雾干燥破膜血球蛋白粉在断奶仔猪上的营养价值评定
【中文关键词】血球蛋白粉; 营养价值; 氨基酸消化率; 仔猪
【英文关键词】spray- dried animal blood cells; nutritional value; amino acids digestibility; piglet
【中文摘要】试验选用体重(15.6±1.98) kg 杜长大仔猪12 头, 在测定血球蛋白粉常规养分和氨基酸含量基础上进行消化代谢试验。采用单因子试验设计, 用无氮日粮和血球蛋白粉半纯合日粮法测定血球蛋白粉中粗蛋白质和能量的消化利用率及猪回肠末端氨基酸的表观消化率。结果表明: 血球蛋白粉含粗蛋白质91.87 %, 总能20.96 MJ/ kg, 总氨基酸71.85 %, 其中主要限制性氨基酸: 赖氨酸、蛋氨酸、苏氨酸和异亮氨酸含量分别为6.32 %、0.91 %、2.30 %、0.36 %。粗蛋白质表观和真消

化率分别为92.69 %和94.34 %, 总氨基酸回肠表观消化率80.83 %, 消化能19.28 MJ/ kg, 代谢能19.03 MJ/ kg。
【英文摘要】A digestibility trial to evaluate the nutritional value of spray- dried animal blood cells (SDBC) was conducted on the basis of analyzing the common composition and amino acid content.Twelve Duroc ×Londrance ×Yolk piglets with body weight (15.6±1.98) kg were used in the experiment to determine the digestibility of crude protein, energy and amino acids of SDBC.N- free diet and semi- purified diet with SDBC as only protein source were used in two treatments each with 6 replications.The results showed that: SDBC contains crude protein 91.87 %, GE 20.96 MJ/kg, general amino acids 71.85 %, some of its main limited amino acid were: Lys 6.32 %, Met 0.91 %, Thr 2.30 %, Ile 0.36 %.The apparent and true digestibility of the crude protein were 92.69 % and 94.34 %, the apparent ileal amino acids digestibility was 80.83 %, the digestible energy and metabolic energy were 19.28 MJ/kg and 19.03 MJ/kg.
【语种】中文
【第一作者】邓莹莹
【通讯作者】余冰
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【学科分类】畜牧学

【题目】喷雾干燥破膜血球蛋白粉替代鱼粉对断奶仔猪生长性能的影响
【中文关键词】血球蛋白粉;血粉;仔猪;生产性能
【英文关键词】spray- dried blood cells;blood meal;weaned piglet;growth performance
【中文摘要】试验采用单因子试验设计,选用60 头(28±2)日龄断奶,体重(7.08±0.82)kg 二元杂交仔猪,随机分为3 组,每组5 个重复,每个重复4 只猪,分别用0、1.76%、3.52%喷雾干燥破膜血球蛋白粉(SDBC)取代仔猪基础日粮(玉米- 豆粕型,添加4%的血粉)中血粉的0、50%、100%,研究SDBC 部分或全部替代血粉对断奶仔猪生长性能、养分消化率和血液指标的影响。经过28 d 的试验,结果表明:与对照组相比,1.76% SDBC 组和3.52% SDBC 组均可显著提高仔猪ADG、降低F/G。而且1.76% SDBC组的ADG 和F/G 分别比对照组提高了24.7%和降低了14.1%,其养分消化率也最高。由此可见,SDBC能够完全替代血粉,但以添加1.76% SDBC 替代50%的血粉效果最好。
【英文摘要】The design of single factor was adopted to determine the effects of SDBC on growth performanceof weaned piglets compared to blood meal. There were three treatments. Sixty crossbred piglets(7.08±0.82) kg were adopted to determine the effects of SDBC on growth performance of weaned piglets compared to blood meal. 0, 50% and 100% blood meal of diets was substituted with 0,1.76% and 3.52% SDBC respectively and all treatments diets contained the similar level of nutrients. The result indicated that the ADG, ADFI, G/F of the diet containing 1.76% and 3.52% SDBC treatments were higher than blood meal treatment. Compared to 1.76% SDBC and blood meal treatments, the ADG and G/F of 1.76% SDBC treatment increased by 24.7% and decrease 14.1%.The digestibility of nitrogen, energy for 1.76% SDBC group was highest. With the increase of SDBC in diet, the content of total protein (TP), serum urea nitrogen(BUN) increased.The content of serum glucose(Glu) for 1.76% SDBC group was highest.
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【第一作者】邓莹莹
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【题目】喷雾干燥破膜血球蛋白粉替代血粉对断奶仔猪生长性能的影响
【中文关键词】喷雾干燥破膜血球蛋白粉;断奶仔猪;生长性能
【英文关键词】无
【中文摘要】试验采用单因子试验设计,选择60 头(28±2)日龄断奶、体重(7.36±0.73) kg 二元杂交仔猪,随机分为3 组,每组5 个重复,每个重复4 头猪,分别饲喂用0、1% 、1.5% 血球蛋白粉等蛋白质取代仔猪饲粮中鱼粉的饲粮, 研究血球蛋白粉部分替代鱼粉对断奶仔猪生长性能的影响。通过28 d的试验表明,添加1.5% 和1% 血球蛋白粉组,与对照组相比可以提高平均日增重、降低料重比和腹泻率。血球蛋白粉可部分替代鱼粉,且对仔猪的生长性能有一定的促进作用,节约饲料成本,提

高经济效益。
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【第一作者】邓莹莹
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【题目】柠条替代部分粗料对泌乳奶牛产奶量及乳品质的影响
【中文关键词】奶牛;柠条;产奶量;乳品质
【英文关键词】Caragana korshinskii;dairy cattle;milk yield;milk quality
【中文摘要】为了探索不同柠条水平对奶牛产奶量及乳品质的影响,试验选用6头年龄、胎次相同,体质量、泌乳天数相近的中国荷斯坦奶牛,随机分为3组,1组对照组,2组试验组,每组2头牛.整个试验期分为3阶段,进行3×3重复拉丁方饲养试验.2组试验组分别用柠条替代15%和30%的粗料,3组配方为等能等氮,研究柠条的最适添加量.结果表明:3组之间采食量差异均不显著(P>0.05);30%组产奶量高于15%组,略低于对照组,但差异不显著(P>0.05);乳蛋白、乳糖、乳密度和非脂固形物各组差异均不显著(P>0.05);对照组乳脂肪含量显著低于30%组(P<0.05),与15%组差异不显著(P>0.05),30%组与15%组乳脂率差异不显著(P>0.05).
【英文摘要】For evaluating the effect of different Caragana korshinskii levels on milk yield and quality ofmilking cow,the total six Chinese Holstein cows with same age and parities,similar body weight and lactation period were randomly divided 3groups including one control group and two experimental groups.The entire trial period was divided into three stages,repeated for 3×3Latin square feeding trial.For study the best concentration of Caragana korshinskii,two experimental groups rations were replaced theroughage with 15%and 30%of Caragana korshinskii in three rations with same energy and nitrogen level,respectively.The results showed that the feed intake and milk yield between three groups were not significant(P>0.05),the milk yield of experimental group of feeding 30%Caragana korshinskii_____ was higherthan the group that feeding 15%Caragana korshinskii but lower than control group.Milk protein,lactose,milk density and solid of evil fat were no significant difference(P>0.05)among groups,but milk fatcontent of the control group was significantly lower than the group that feeding 30%Caragana korshinskii(P<0.05).The milk fat percentages were not significant between experiment groups(P>0.05).
【语种】中文
【第一作者】方姝娇
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【题目】添加不同水平双乙酸钠对裹包TMR贮存效果的影响
【中文关键词】裹包TMR; 双乙酸钠; 贮存效果
【英文关键词】baled TMR; sodium diacetate; storage effect
【中文摘要】[目的]研究裹包全混合日粮(Total mixed ration, TMR) 中添加不同水平的双乙酸钠(SDA) 对贮存效果的影响。[方法]在裹包TMR 中分别添加鲜重质量分数0, 0. 1%, 0. 3%和0. 5% 的SDA, 于贮存后第0, 3, 7, 15和30 天, 对裹包TMR 的感官、营养成分、发酵指标和有氧稳定性进行分析。 结果 0. 3%和0. 5% SDA 添加组的裹包TMR 可以良好贮存30 d。SDA 添加水平越高, 裹包T MR 的有氧稳定性越好。添加SDA 对裹包TMR 的感官和营养成分影响差异较小。与其他2 个处理相比, 0. 3%和0. 5% SDA 添加水平可以显著降低裹包TMR 的pH 值(P <0. 05) 和NH3-N/ TN 值(P< 0. 05) 。[结论]从经济效益和添加效果考虑, 在裹包TM R 中添加0. 3%SDA 为适宜水平。
【英文摘要】[Objective] This trial was designed to study the storage effect of different levels of sodium diacetate (SDA) on storage of the baled total mixed ration (TMR) of forage to concentrate ratios 50 :50 and moisture content 50%. [Method] The SDA supplement s

w ere 0, 0. 1%, 0. 3%, and 0. 5% of the fresh weight of TMR. After 0, 3, 7, 15, and 30 days of storage, the sensory was evaluated and the chemical composition, fermentation characteristics, and aerobic stability were determined. [Result] The results indicated the baled TMR of 0. 3% and 0. 5% SDA addition could strewell for 30 days. The effects of different lev els of SDA supplement on sensory evaluat ion and chemical compositions were not different. The baled TMR with higher SDA level had hig her aero- bic stability. The baled TMR of 0. 3% and 0. 5% SDA additio n had low er pH(P< 0. 05) and NH3-N/ TN (P < 0. 05) compared with other groups. [Conclusion] Considering the economic benefit and addition effects, it is suggested that the opt imal level of SDA supplement be 0. 3% .

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【题目】晋南牛瘤胃中古菌分子多样性的研究
【中文关键词】晋南牛; 产甲烷菌; 16S rRNA 基因克隆库; 分子多样性
【英文关键词】Jinan Cattle; methanogens; clone; molecular diversity
【中文摘要】采用3 对古菌特异性引物扩增瘤胃古菌16S rRNA 基因分别建立克隆库来研究晋南牛瘤胃古菌的多样性。每个克隆库随机挑选100 个克隆。引物Arch f364/1386 建立的克隆库中, 克隆分为四类, 分别与四种甲烷短杆菌1Y (61%)、SM9 (23%)、NT7 (14%)和AK-87(2%)相似。引物1Af/1100Ar 建立的克隆库中, 克隆分为两类, 分别与Methanobacterium aarhusense(72%) 和Methanosphaera stadtmanae DSM 3091 (28%)相似。引物Met86F/Met1340R 建立的克隆库反映的古菌种类较为全面, 除以上4 种甲烷短杆菌(所占比例分别为47%、26%、11%和3%)外, 还有Methanomicrobium mobile(2%)、以及类似Methanobacterium aarhusense(1%)和Methanosphaerastadtmanae(3%) 的序列, 还有7% 的未匹配序列。系统进化分析表明, 这些克隆属于Methanobrevibacter、Methanobacterium、Methanosphaera、Methanomicrobium, 和未知广域古菌等5 个分支。有25 类属于广域古菌的未知序列, 提示瘤胃中存在大量的未知产甲烷菌。
【英文摘要】Molecular diversities of rumen archaea of Jinnan (South Shanxi Province, China) cattle was analyzedand compared by 16S rRNA gene sequencing from three clone libraries generated using three different archaea-specific primer sets, respectively. DNA from rumen of 4 Jinnan cattle was extracted, and methanogen 16SrRNA gene was amplified using archaea-specific primer sets. Three clone libraries were generated by using vectorpGEM-T and cloning into E.coli JM109. One hundred clones were randomly picked up for each library and RFLPwas analyzed for each clone to obtain OTUs. Sequences from each OTU were analyzed and compared with availablesequences in GenBank. The first library, generated with primers Arch f364/1386, produced four groups ofsequences, affiliated with 4 Methanobrevibacter strains, 1Y (61% of clones), SM9 (23% of clones), NT7 (14% ofclones), and AK-87(2% of clones). The second library, generated with primers 1 Af/1100Ar, two groups of sequences,one affiliated with Methanobacterium aarhusense(72% of clones) and the other with Methanosphaerastadtmanae DSM 3091 (28% of clones). The third library, generated with primers Met86F/Met1340R, produced ahigh degree of diversity. It included the sequence groups found in the first and the second libraries, as well as sequencesaffiliated with the Methanomicrobium mobile (2% of clones) and uncultured euryarchaeote sequences (7% ofclones). The phylogenetic analysis indicated that archaea found in the three libraries were clustered in Methanobrevibacter,Methanobacterium, Methanosphaera, Methanomicrobium, and unidentified euryarchaeote of the Euryarcharota.There were 25 unidentified sequences belonged to Euryarchaeota. This suggests the existence of novelmethanogens in the rumen of Jinnan cattle.
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【第一作者】裴彩霞
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【题目】鸭空肠液中淀粉酶、胰蛋白酶、糜蛋白酶活性变异的研究
【中文关键词】北京鸭; 空肠液; 消化酶
【英文关键词】Peking duck; jejunal fluid; digestive enzyme
【中文摘要】本试验旨在通过研究鸭空肠套管中食糜流量及空肠液中消化酶活性的变异, 探讨获取相对可比的空肠液样品的适宜采样方案, 为鸭小肠中消化酶酶谱的研究提供依据。采用3×6(日期×时间) 完全随机设计, 每4 h 采集1 次空肠食糜, 每采集1 h 后间隔3 h, 隔日重复采样过程, 共采集3 d。试验1, 随机选择15 只荷术鸭, 分成5 个重复, 每个重复3 只鸭, 测定空肠套管中食糜的流量。试验2, 从鸭群中随机选择24 只荷术鸭, 分成6 个重复, 每个重复4 只鸭, 测定空肠液中淀粉酶、胰蛋白酶、糜蛋白酶的活性。结果表明: 空肠套管内的食糜流量呈现出日间及日内变异, 日内食糜流量呈现出先升后降的总体规律。日内采样时间对空肠液中淀粉酶、胰蛋白酶、糜蛋白酶活性有极显著的影响(P< 0.01) 。不同日间, 淀粉酶、糜蛋白酶的日平均活性有显著差异(P< 0.05) , 而胰蛋白酶日间平均活性没有显著差异(P = 0.28) 。3 种消化酶活性均呈现出同一日内随采样时间而逐渐降低的总体现象。鉴于上述现象, 通过套管获取反映鸭空肠中消化酶活性生理水平的采样方案为: 白天采集3 次样品, 每次采集1 h 间隔3h, 隔日重复采样, 共采集3 d。
【英文摘要】The variation of jejunal digesta flux in cannula and digestive enzymes activities in jejuna fluid of Peking duck were investigated to study the scheme of represent ivejejunal fluid sample. The 3 ×6 factorial treatment was performed in two experiments and jejunal digesta samples were collected for 1 h out of every 4 h o n d 16, 18 and 20 of the experiment . In experiment 1, fifteen male Peking ducks of 18 wk of age fitted a Ttype jejunal cannula were randomly allotted into 5 replication with 3 birds per replication. The volume per h of jejunal digesta in cannula was determined. In experiment 2, twenty-four cannulated ducks were randomly selected and divided into 6 replicat ion with 4 birds per replication. T he amylase, trypsin and chymotrypsin activities in jejunal fluid were determined. The result s showed that there was obvious variation of digesta flux in cannula with collection time and collect ion day . Collection time significantly affected the average activities of amylase, trypsin and chymotrypsin in 24 h cycle (P < 0. 01) . Significant dif ferences were also found in the average activities of amylase and chymotrypsin among days (P < 0. 05) .Three digestive enzymes activities were declining with collection time in a 24 h cycle. According to the results, it is possible to develop a representat ive sampling scheme that sampling for 1 h out of every 4 h in the day light at 1 day interval for 5 days for studying in endogenous digestive enzymes.
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【题目】不同品种普通玉米鸭代谢能值的比较研究
【中文关键词】普通玉米;鸭;代谢能
【英文关键词】无
【中文摘要】试验旨在通过比较研究不同品种普通玉米的鸭代谢能值,探讨不同品种玉米的鸭代谢能值的差异及与其化学成分间的关系,为饲料有效能数据中玉米品种是否为其样品描述的必需元素提供依据。采用单因素完全随机设计,将84只成年公鸭随机分成7组,每组4个重复,每个重复3只鸭,采用TME法测定6种普通玉米(白单9、农大108、登海3、掖单981、郑单958、迪卡656)的代谢能值。结果表明:6种普通玉米可分为鸭代谢能值差异显著(P<0.05)的两组,其表观代谢能值分别为3671 kcal/k和3814 kcal/kg。玉米的鸭代谢能值与其中性洗涤纤维的含量显著地负相关(｜r｜≥0.96,P<0.05)。对6种玉米以NDF含量的差异进行分组,可以获得与以代谢能差异的显著性进行分组类似的结果。因此,在鸭饲料原料数据的描述中,玉米的NDF含量可以替代品种对代谢能值的差异进行标识。
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【第一作者】赵峰
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【题目】对家禽饲料代谢能值校正模型的探讨
【中文关键词】家禽;代谢能;校正模型
【英文关键词】Poultry;Metabolisable energy;Correction model
【中文摘要】本文从家禽饲料代谢能值的影响因素人手,对品种、年龄、性别、测试方法、温热环境及饲料化学成分与家禽饲料代谢能值间的关系进行了探讨。鉴于不同元素对饲料代谢能值变异的影响不同,并呈现不同的特性,提出了针对不同的影响因子,代谢能值校正模型应在建模方法与手段上作适当调整。
【英文摘要】The relationship between poultry strain,age,sex,assay method,temperature and chemical composition of feed and the metabolizable energy of feed was discussed according to the factors on the variation of metabolizable energy in poultry feed.Because of different factors having different contribution to the variation of metabolizable energy,the correction model of metabolizable energy for poultry feed would properly adjust the method of modeling according to different factors affecting the metabolisable energy.
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【题目】体外法添加苹果酸与饱和脂肪酸对瘤胃功能菌群数量的影响
【中文关键词】硬脂酸, 苹果酸, Real-time PCR
【英文关键词】Stearic acid, Malic acid, Real-time PCR
【中文摘要】本试验在添加饱和脂肪酸即硬脂酸(Stearic acid, SA)的基础上添加不同水平的苹果酸(Malic acid, MA), 采用体外法对瘤胃微生物进行培养, 通过实时定量(Real-time)PCR 方法检测在添加脂肪酸和苹果酸后, 对瘤胃功能微生物如纤毛虫、产甲烷菌, 纤维分解细菌、氢化细菌以及脂肪分解菌的数量的影响。实验结果表明, 添加硬脂酸后对脂解厌氧弧杆菌(Anaerovibrio lipolytica)和产琥珀酸丝状杆菌(Fibrobacter succinogenes)数量产生了显著影响, 脂解厌氧弧杆菌数量减少了95.8%(P<0.001), 产琥珀酸丝状杆菌数量增加了52.5%(P<0.05)。添加苹果酸后, 添加5 mmol/L MA处理组的脂解厌氧弧杆菌数量减少了91.2%(P<0.001), 添加10 mmol/L MA 处理组, 减少了94.8%(P<0.001), 而MA10 组比MA5 组的该菌数量减少了41.3%(P<0.05)。本研究结论是硬脂酸和苹果酸分别对瘤胃部分微生物产生了显著的影响。二者对瘤胃微生物的互作影响并不显著。
【英文摘要】Using real-time PCR to detect the effect of supplementing with Malic acid and stearic acid onrumen main functional microbe, including ciliate protozoa, methanogen, cellulolytic bacteria, hydrogenatedbacteria and lipolysis bacteria in vitro. The result showed there were significant effect on the quantities ofAnaerovibrio lipolytica, which decreased 95.8%(P<0.001), and Fibrobacter succinogenes, which increased52.5%(P<0.05) after supplemented with Stearic Acid. The quantities of Anaerovibrio lipolytica were decreasedby 91.2%(P<0.001) on 5 mmol/L MA group and 94.8%(P<0.001) on 10 mmol/L MA group, and thelatter were decreased 41.3%(P<0.05) than the former. The conclusion was stearic acid and malic acid were significantly effected on part of rumen microbe respectively, however, both of them were not obviously effectedon them.
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【第一作者】李旦
【通讯作者】王加启
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【题目】肉鸡回肠氨基酸消化率测定方法研究进展
【中文关键词】氨基酸; 表观消化率; 标准消化率; 真消化率; 肉仔鸡
【英文关键词】amino acid, apparent digestibility, standardized digestibility, true digestibility, broilers
【中文摘要】在家禽饲料营养价值评定中, 回肠氨基酸消化率是评价氨基酸生物利用率的敏感指标, 测定饲料回肠氨基酸消化率的精确性和准确性同样重要。回肠氨基酸消化率的测定受试验日粮、试验动物、日龄、性别等的影响。阐明了表观回肠消化率、真回肠消化率和标准回肠消化率3 个术语之间的关系, 并对肉鸡回肠氨基酸消化率测定的注意事项以及影响其测定的因素进行了综述。
【英文摘要】It is recognized that ileal amino acid digestibility is a sensitive indicator of amino acid availability in dietary ingredient for poultry. It is important to be able to determine ileal amino acid digestibility in feedstuffs with both accuracy and precision. Ileal digestibility were affected by many factors, such as diet, animal, age, sex, and so on. Apparent ileal digestibility, true ileal digestibility, standardized ileal digestibility and their interrelation were discussed. Some important tips and affecting factors about ileal amino acid digestibility determination in broilers were reviewed in the article.
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【第一作者】邓雪娟
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【题目】饲用微生物评价研究进展
【中文关键词】饲用微生物;评价体系;益生作用
【英文关键词】direct-fed microorganism, assessment system, beneficial effect
【中文摘要】随着饲用微生物产品的发展,饲用微生物评价方法相应而生。通过综述饲用微生物品种鉴定,耐酸性和耐胆盐一般特性评价,生产功效评价,粘附作用、抑菌作用和免疫刺激作用评价的研究进展,期望为建立完善的饲用微生物评价体系提供参考。
【英文摘要】With the development of direct-fed microorganism products, assessment method and techniquehave built and developed. This paper summarizes recent developments in some aspects of the assessment of di rect-fed microorganism, including strains identification, acid tolerance and bile tolerance property, perfor mance efficiency, adhesion effect, pathogen inhibition effect and immunostimulation effect on animals. Theaim is to provide references to build a comprehensive assessment system of direct-fed microorganism.
【语种】中文
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【题目】小鼠不同组织中催乳素释放肽受体基因表达的研究
【中文关键词】小鼠;催乳素释放肽受体;克隆;表达
【英文关键词】mouse, PrRPR, cloning, expression
【中文摘要】克隆并研究小鼠催乳素释放肽受体基因在妊娠期小鼠不同组织的表达;提取小鼠不同组织总RNA,进行RT-PCR,PCR 产物与pMD-19T 连接后转化E.coli DH5a,检测阳性克隆并测序;测序结果表明,所得序列与小鼠催乳素释放肽编码区序列的相似性为99.49%;克隆所得序列为小鼠催乳素释放肽受体基因片段,催乳素释放肽基因在妊娠期小鼠不同组织中均有表达。

【英文摘要】To clone and analyse the expressions of mouse prolactin-releasing peptide receptor gene in mousedifferent tissues during gestation. Total RNA was extracted from different tissues and amplified by RT-PCR.The PCR products were ligated into the pMD-19T vector, and then transformed into competent cells of E.coliDH5a. The positive cloning was sequenced and analyzed. The cloned nucleotide sequence shared 99.49%homology with the code zone sequence of mouse prolactin-releasing peptide receptor. The cloned nucleotidesequence was part of mouse prolactin-releasing peptide receptor gene and prolactin-releasing peptide receptorgene express in mouse different tissues during gestation.
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【题目】标准回肠氨基酸消化率在肉鸡饲料原料氨基酸营养价值评定中的应用
【中文关键词】标准回肠氨基酸消化率; 基础损失; 肉鸡; 饲料原料
【英文关键词】standardized ileal amino acid digestibility; basal losses; broilers; feed ingredients
【中文摘要】为了获得最佳生产性能,配制满足家禽营养需要的日粮配方和将排泄到环境中的过多养分降到最低,已显得尤为重要。关于蛋白质饲料原料,多通过表观回肠消化率反映其利用率。以表观回肠消化率值为基础配制日粮,低估了饲料原料的氨基酸消化率,导致排泄物中养分含量增加。通过内源氨基酸基础损失校正表观回肠消化率所得的标准回肠消化率,能克服表观回肠消化率的局限性。作者讨论了标准回肠氨基酸消化率和内源氨基酸基础损失的估测方法,并对其在肉鸡饲料原料氨基酸营养价值评定中的应用作一总结。
【英文摘要】For optimal performance, it is important to formulate diets that meet the nutrient requirements for poultry while minimizing the excretion of excess nutrients into the environment. With respect to protein feed ingredients, apparent ileal digestibility is widely used to reflect its bioavailability . If diet formulations are based on apparent ileal digestibility values, the digestibility of amino acid in feedstuffs will be underestimated and may result in an increased level of nutrient excretion. The concept of standardized digestibility system in which corrections are made for basal endogenous amino acid losses as a mean of overcoming the limitations of apparent digestibility estimates is proposed. Standardized ileal amino acid digestibility and t he method of evaluating basal endogenous amino acid losses are discussed. The application of standardized ileal amino acid digestibility in amino acid nutrient evaluation of feeding redients in broilers are reviewed in this article.
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【题目】人体肠道微生物多样性和功能研究进展
【中文关键词】肠道微生物; 多样性; 16S rRNA; 元基因组学; 代谢组学
【英文关键词】Gut microflora; diversity; 16SrRNA; metagenomics; metabolomics
【中文摘要】人体肠道中庞大而复杂的微生物群落对人体自身代谢表型有深远的影响。肠道微生物群落在亚种或菌株水平上表现出极大的多样性。利用微生物分子生态学、元基因组学和代谢组学研究方法,发现肠道微生物与宿主表现出共进化的特点,肠道微生物群落及其基因组为宿主提供了互补的遗传和代谢功能,表现出互惠共生关系。但是,肠道微生物群落中影响宿主代谢表型的关键功能菌鉴定及其作用模式问题仍然悬而未决,综合运用多种高通量研究方法和多维数据分析方法可能成为解决这个问题的突破口。
【英文摘要】The human intestine is inhabited by numerous microbes, which form a complex microbial community that deeply affects human physiology. This microbiota is dominated by relatively few divisions that are highly diverse at the strain /subspecies level

which together with its collective genomes (microbiome) provide us with genetic and metabolic attributes we have not been required to evolve on our own. New studies taking advantage of molecular microecological metagenomic and metabolomic methods are revealing how the gut microbiota has coevolved w ith us and how it manipulates and complements our biology in ways that are mutually beneficial. However, how certain key stone members of them icrobiotaoperate to maintain the stability and functional adapt ability of this microbial organ still need to be answered, which necessitate the combination of high through put methods and multivariable analysis.

【语种】中文
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【题目】环境微生物群落结构与功能多样性研究方法
【中文关键词】群落生态学; 群落遗传学; 种间相互作用; 元基因组学; 鲁棒性
【英文关键词】community ecology; community genetics; interspecies interaction; metagenomics; robustness
【中文摘要】微生物群落的结构及群落内种间相互作用是影响其生态功能的决定性因素。尽管微生物群落是地球生物化学循环的主要驱动者, 但是由于传统的微生物培养方法只能分离约1% 10%的环境微生物, 对复杂的环境微生物群落结构和功能多样性了解甚少。元基因组学、单细胞分析和群落遗传学等方法的出现, 及其与微生物学的交叉融合, 使得人们能够从微生物群落组成、物种功能、种间相互作用和预测模型等方面分析微生物群落。重点综述了元基因组学、单细胞分析和群落遗传学等方法及其在环境微生物群落结构和功能多样性中的应用进展。
【英文摘要】Microbial community structure and interspecies interactions are the key factors that determine the function of the community. Although these communities are the major drivers of many biosphere processes, due to the fact that only 1%-10% of naturalm icrobes could be recovered by classical culture-dependent methods, relatively little is known about their structure and function. Some recently emerged novel methods, e. g. metagenomics, single cell analys is and community genetics enable researcher could decipher the ecological properties of microbial communities on the basis of the questions being asked: the composition of the community, the function of individual species, the model of interspecies interaction and predictive modeling at the commun ity level. In the present review, we describe the current concept and application of metagenom ics, single cell analys is and community genetics to study microbial ecology and progress toward predictive modeling.

【语种】中文
【第一作者】刘开朗
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【题目】体外法添加苹果酸与不饱和脂肪酸对瘤胃发酵及瘤胃功能菌群的影响
【中文关键词】苹果酸;不饱和脂肪酸;瘤胃发酵;瘤胃功能菌;体外法
【英文关键词】malic acid; unsaturated fatty acid; rumen fermentation; rumen functional microbe; in vitro
【中文摘要】采用体外法在不饱和脂肪酸油酸(oleic acid,OA)、亚油酸(linoleic acid,LA)和亚麻酸(linolenic acid,LNA)的基础上添加不同水平苹果酸(malic acid, MA),研究苹果酸和不饱和脂肪酸对瘤胃发酵模式与瘤胃主要功能菌群的影响。结果表明,添加不饱和脂肪酸和苹果酸后,丙酸浓度随着脂肪酸不饱和度的增加显著升高(P <0.01),总产气量和CH4产量显著降低(P <0.01),其它挥发性脂肪酸(VFA)均随着脂肪酸不饱和度的增加显著降低(P <0.01)。添加不饱和脂肪酸LA 与LNA 的甲酸甲烷杆菌(Methanobactrium formicicum) 数量显著增加(P <0.01);白色瘤胃球菌(Ruminococcus albus) 与黄色瘤胃球菌(Ruminococcus flavefaciens)数量比CK 组显著增加(P <0.05);而脂解厌氧弧杆菌(Anaerovibrio lipolytica)和溶纤维丁酸弧菌(Butyrivibrio fibrisolve)数量比CK 组却显著下降(P <0.05)。联合添加苹果酸和不饱和脂肪酸组中,只有在添加10 mmol/L 苹果

酸的OA 组的甲酸甲烷杆菌(M. formicicum),数量明显减少(P <0.05)。研究结果提示,不饱和脂肪酸和苹果酸能够改善瘤胃发酵模式,但二者对体外CH4抑制作用之间没有直接的联系。并且联合添加二者对于瘤胃主要功能菌群没有显著影响。

【英文摘要】This study was conducted to determine the effects of supplementing different level of malic acid (MA) and unsaturatedfat acid, including oleic acid (OA), linoleic acid (LA) and linolenic acid (LNA) on rumen fermentation and microbe species in vitro.The result showed the concentration of propionate acid significantly increased (P <0.01), total gas and CH4 gas production obviouslydecreased (P <0.01), and other volatile fatty acids (VFA) significantly decreased (P <0.01) accompanied with increasing unsaturationof fatty acid;Methanobactrium formicicum in LA and LNA obviously increased (P <0.01),Ruminococcus flavefaciens and R. albussignificant increased (P <0.01) when compared with CK. However, Anaerovibrio lipolytica and Butyrivibrio fibrisolve decreased (P<0.05) than that of CK.Methanobactrium formicicum in 10 mmol/L MA-OA decreased obviously (P <0.05). It can be concluded thatunsaturated fatty acid and malic acid can effectively change rumen fermentation pattern but there were no directly relationshipbetween them to inhibit CH4 production, and no obviously effect of supplementing malic acid and unsaturated fat acid on main rumenmicrobial population.

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【题目】反刍动物饲料中乳源性成分与牛羊肉骨粉的区分
【中文关键词】反刍动物饲料;奶粉;肉骨粉;16S rDNA;PCR
【英文关键词】ruminant feedstuffs; milk powder; meat and bone meal; 16S rDNA; PCR
【中文摘要】利用奶粉的溶解性,通过水和0.5%次氯酸钠溶液洗涤混有乳源性成分和牛、羊肉骨粉的饲料样品,去除饲料中的乳粉成分后,再使用16S rDNA PCR 方法进行动物源性检测。结果表明,实验所建立的方法能够完全区分饲料中的乳粉与肉骨粉。当乳粉含量分别为25%、50%和75%时,混合饲料中牛、羊肉骨粉的检出限分别为2%、0.5%和0.1%。此方法操作简单,容易掌握,可用于鉴别反刍动物饲料中非乳源性成分的牛、羊源性成分。

【英文摘要】A method was established to distinguish milk powder and bovine or ovine meat and bone meal in feedstuffs, whichwere all ruminant-derived. Milk powder in feedstuffs was washed and removed by water and 0.5% sodium hypochlorite solution, subsequently,the ruminant-derived materials were identified using PCR according to 16S rDNA sequence. The detected limitation ofbovine or ovine in feedstuffs with 25%, 50% and 75% milk powder concentrations were 2%, 0.5% and 0.1%, respectively. Taken altogether,this method is a simple and easily grasped way for identification and distinction of the bovine or ovine-derived meat and bonemeal and milk powder in feedstuffs.

【语种】中文
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【题目】奶牛瘤胃微生物元基因组文库中脂肪酶的筛选与酶学性质
【中文关键词】瘤胃微生物, 元基因组文库, 脂肪酶, 底物特异性, 最适pH, 热稳定性
【英文关键词】rumen bacterium, metagenome library, lipase, substrate, optimum pH, thermo stability
【中文摘要】利用含有三油酸甘油酯的脂肪酶选择性筛选培养基, 从奶牛瘤胃微生物元基因组文库15 360 个克隆中, 筛选得到了18 个脂肪酶阳性克隆, 其插入片段大约为60 kb, 并且各个克隆的插入片段各不一样。利用p-NPP 法对脂肪酶克隆的脂肪酶活性分析, 表明均具有大小不等的脂肪酶活性。底物特异性分析表明Lipase6、Lipase7 和Lipase8 分别对C16底物(对硝基苯棕榈酸酯)、C12 底物(对硝基苯月桂酸酯)和C16 底物(对硝基苯棕榈酸酯)水解能力最强。Lipase 6、Lipase7、Lipase

8 的脂肪酶最适pH 为7.5; Lipase8 的脂肪酶活性半衰期随反应温度的升高而缩短, 70oC 时能达到30 min。本研究所筛选的脂肪酶具有不同的底物特异性和较好的热稳定性, 这对于工业化生产具有一定的应用潜力。

【英文摘要】Using lipase segregation agar containing trioleoylglycerol, we obtained 18 lipase positive clones by screening from ametagenome library of dairy rumen microflora containing 15 360 clones. The average insert size of lipase positive clones was about60 kb. Lipase enzyme activity analysis by p-NPP method indicated that Lipase6, Lipase7 and Lipase8 had higher lipolytic activitiesto substrates of p-nitrophenyl palmitate (C16), p-nitrophenyl alaurate (C12) and p-nitrophenyl palmitate (C16) respectively. Theoptimum pH of Lipase 6, Lipase 7 and Lipase 8 were 7.5. The halflife period of Lipase 8 with the value of 15 min in 70oC decreasedwith the increase of temperature. In conclusion, the lipases screened in this study had different substrates specificity and good thermostability, which laid a basis for large-scale industrial application.

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【学科分类】畜牧学

【题目】幽门螺杆菌培养及抗原蛋白的分离纯化

【中文关键词】幽门螺杆菌; 培养; 尿素酶; 空泡毒素; 毒素相关蛋白; 脂多糖

【英文关键词】Helicobacter pylori ; Culture; Urease; Vacuolization cytotoxin A; Cytotoxin associated antigen A; Lipopolysaccharides

【中文摘要】幽门螺杆菌(H pylori)是一种生存于人胃中的弯曲状菌, 能导致人的慢性胃炎, 消化性溃疡和胃癌, 其治疗多用抗生素治疗, 但其副作用较大. 给奶牛免疫H pylori 疫苗后, 其分泌的牛奶中含抗H pylori 的免疫球蛋白, 能够预防和治疗人类H pylori 感染, 且没副作用. 在生产免疫乳时, H pylori 疫苗制备是基础性工作, 并且在亚单位疫苗中, 抗原蛋白的制备和分离纯化又最为关键. 本文就H pylori 的培养(固体和液体培养)和抗原蛋白(尿素酶、空泡毒素、毒素相关蛋白和脂多糖)的理化性质、重组表达以及分离纯化方法进行比较研究.

【英文摘要】Helicobacter pylori (H pylori) live in the stomachof human. It is a kind of curve bacteria whichcan lead to chronic gastritis, peptic ulcer andgastric cancer. Usually, antibiotics are used totreat the patients, but they have a lot of sideeffects. Milk of milch cow immunized withH pylori vaccine can prevent and treat theinfection of H pylori without side effects. Duringthe production of immune milk, the basic workis to prepare vaccine. During the preparationof sub-unit vaccine, key is to isolate and purifythe antigen protein. In this article, we discussthe culture of H pylori (solid and liquid culture),the recombinant expression and purificationof its antigen protein (urease, VacA, CagA andlipopolysaccharide).

【语种】中文

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【学科分类】微生物学

【题目】高效液相色谱法检测奶牛初乳中18种氨基酸

【中文关键词】牛初乳; 氨基酸; 高效液相色谱

【英文关键词】cow colostrum; amino acids; high performance liquid chromatography (HPLC)

【中文摘要】应用高效液相色谱法对奶牛分娩后1~ 3 d初乳中18 种氨基酸的含量变化进行了分析。结果表明: 初乳中各种氨基酸的含量均随泌乳时间的延长而下降, 谷氨酸的含量在第1天达到最高, 而蛋氨酸的含量是初乳氨基酸中最低的。

【英文摘要】The contents of 18 kinds of amino acid in cow colostrum from 1 to 3 days were analyzed by HPLC method. The results indicated that the contents of amino acid was decreasing with time went by. In the first day the content of Glu was the highest and the Met was the least amino acid in the colostrum.

【语种】中文
【第一作者】韩立强
【通讯作者】王艳玲
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【学科分类】生物化学

【题目】大豆异黄酮在畜牧业生产中的应用及研究进展
【中文关键词】大豆异黄酮; 畜牧生产; 应用; 研究进展
【英文关键词】Soybean isoflav one; Animal industry ; Application; Research progress
【中文摘要】近年来, 研究者对大异异黄酮在畜禽生产上的应用效果进行了广泛研究, 发现其生物利用率高, 可调控动物机体养分代谢, 改善饲料利用率, 并具有抗氧化作用, 可改善动物产品品质, 提高动物免疫机能和生产性能等作用, 因此, 有必要对大豆异黄酮对家畜生产的作用及研究进展作以综述。
【英文摘要】The effect of soybean isoflavone in animal industry was researched extensively in recent years. It w as found that the soybean isoflavone could adjust the nutrition metabolism, improve feed utilization level and have antioxidation effect, improve the quality of animal product, advance animal immunity and product ion level. The research progress and application of soy bean isoflavone in animal industry was summarized.
【语种】中文
【第一作者】刘春龙
【通讯作者】单安山
【期刊名称、卷期、页码】大豆科学,2007,26(6):955-960
【论文发表时间】2007-12-01 00:00:00
【引文索引类型】其他
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【学科分类】畜牧学

【题目】Effects dietary yeast culture (DVAQUA) on growth performan- ce, intestinal autochthonous bacterial community and non-specific immunity of hybrid tilapia (Oreochromis niloticus ♀ X O. aureus ♂) cultured in cages.
【中文关键词】无
【英文关键词】Saccharomyces cerevisiae fermentation product; DVAQUA; Intestinal autochthonous bacterial community; Non-specific immunity; Hybrid tilapia; Oreochromis niloticus female xO. aureus male
【中文摘要】无
【英文摘要】In the present study, hybrid tilapias (Oreochromis niloticus female x O. aureus male) were fed six isonitrogenous and iscrenergetic experimental diets in cages. The diets contained six levels of Saccharomyces cerevisiae fermentation product (DVAQU (R)): 0 (CK). 0.125 (G1), 0.25 (G2),0.5 (0), 1.0 (G4) and 2.0 (G5) g kg(-1) diet. The purpose of this study was to evaluate the effects of dietary DVAQUA on growth performance, intestinal autochthonous bacterial community by using 16S rDNA and denaturing gradient gel electrophoresis (DGGE), and non-specific immunity of hybrid tilapia. Supplementation of dietary DVAQUA showed no effects on growth performance, diet conversion and survival rate of the hybrid tilapia. However, supplementation of DVAQUA affected the autochthonous gut bacteria community. Various potentially beneficial bacteria were stimulated by dietary DVAQUA at different feeding period, while potential harmful species such as Escherichia coli serotype 020: H42-like, uncultured Bacilli bacterium clone M5030A1-F02-like, and Pseudomonas fluorescens strain YC0357-like were depressed by dietary DVAQUA. Non-specific immunity of hybrid tilapia such as serum lysozyme activity, serum alternative complement pathway (C3 and C4) activities, head kidney macrophage phagocytic activity, and head kidney macrophage respiratory burst activity were improved by dietary DVAQUA. The optimum dose of dietary DVAQUA for hybrid tilapia determined based on a broken-line approach varies depending on the variables used: 0.226, 0.467,0.492 or 0.50 g kg(-1) diet for lysozyme, C3, C4, or phagocytic activity, respectively. (C) 2009 Elsevier B.V. All rights reserved.
【语种】英文
【第一作者】He, Suxu

【通讯作者】Zhou, ZG
【期刊名称、卷期、页码】Aquaculture. 2009, 294, 99-107
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【引文索引号】000268950700016
【学科分类】水产饲料学

【题目】Molecular characterization of the autochthonous microbiota in the gastrointestinal tract of adult yellow grouper (Epinephelus awoara) cultured in cages
【中文关键词】无
【英文关键词】Gastrointestine (GI); Autochthonous bacteria; Epinephelus awoara; Denaturing gradient gel electrophoresis (DGGE)
【中文摘要】无
【英文摘要】The present study used 16S rDNA PCR denaturing gradient gel electrophoresis (PCR-DGGE) technology to investigate the communities of autochthonous microbiota in the gastrointestinal (GI) tract; including stomach (ST), pyloric caeca (PC), proximal intestine (PI), mid intestine (MI) and distal intestine (DI) of the adult yellow grouper (Epinephelus awoara) cultured in cages. Twenty-two DGGE bands were successfully sequenced. However, ten of these bands were classified as unculturable according to the phylogenetic analysis. The dominant autochthonous bacteria in the GI tract belonged to Proteobacteria, but other bacteria identified belonged to Firmicutes, Bacteroidetes, Deinococcus-Thermus, Spirochaetes and unclassified-bacteria. Pantoea sp. and uncultured Proteobacterium were ubiquitous in all five sections of the GI tract. Empedobacter sp. PH7-1 and Acinetobacter sp. N15 were unique for the ST section, while uncultured bacterium clone F6-37 and gamma-Proteobacterium and Acinetobacter radioresistens Philippines-11 were only observed in PI, MI and DI sections. Furthermore, Lactococcus lactis, Bacteroides and uncultured Streptococcus sp. were also detected in the present study. (C) 2008 Elsevier B.V. All rights reserved.
【语种】英文
【第一作者】Zhou, Zhigang
【通讯作者】Yao, B
【期刊名称、卷期、页码】Aquaculture. 2009, 286, 184 -189.
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【引文索引类型】SCI
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【学科分类】水产饲料学

【题目】Predicting metabolizable energy of normal corn from its chemical composition in adult Pekin ducks
【中文关键词】无
【英文关键词】duck; corn; metabolizable energy; prediction model
【中文摘要】无
【英文摘要】Two experiments were conducted to establish an ME content prediction model for normal corn for ducks based on the grain's chemical composition. In Experiment 1, observed linear relationships between the determined ME content of 30 corn calibration samples and proximate nutrients, acid detergent fiber (ADF), and neutral detergent fiber (NDF) were used to develop an ME prediction model. In Experiment 2, 6 samples of corn selected at random from the primary corn-growing regions of China were used for testing the accuracy of ME prediction models. The results indicated that the AME, AME(n), TME, and TMEn were negatively correlated with crude fiber (r = -0.905), ADF (r = -0.915), and NDF (r = -0.95) contents, and moderately correlated with gross energy (GE; r = -0.55) content in corn calibration samples. In contrast, no significant correlations were found for CP, ether extract, and ash contents. According to the stepwise regression analysis, both NDF and GE were found to be useful for the ME prediction models. Because the maximumabsolute difference between the in vivo ME determinations and the predicted ME values was 61 kcal/kg, it was concluded that, for White Pekin ducks, the latter could be used to predict the ME content of corn with acceptable accuracy.
【语种】英文
【第一作者】F. Zhao
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【引文索引号】000258281300019
【学科分类】畜牧学

【题目】Apparent digestibility of various feedstuffs for bluntnose black bream Megalobrama amblycephala Yih
【中文关键词】无
【英文关键词】apparent digestibility; Megalobrama amblycephala Yih
【中文摘要】无
【英文摘要】The apparent digestibility of 66 different feedstuffs by the bluntnose black bream Megalobrama amblycephala Yih was determined in digestibility trials in a recirculation aquaculture system. The ingredients consisted of 26 distinct energy feedstuffs, 18 nonanimal protein feedstuffs and 22 animal protein feedstuffs. In each of three trials, a reference diet was mixed with various test ingredients in a 70 : 30 ratio; reference and test diets were fed to the fish, and faecal samples were collected using a hand-held screen system. Energy availability for the 26 energy feedstuffs varied between -23.0% (silkworm manure) and 89.5% (millet grain), protein digestibility for the 18 nonanimal protein ingredients varied from 58.0% (pea protein meal) to 98.1% (soybean meal), and protein digestibility for the 22 animal protein feedstuffs varied between -5.7% (feather meal) and 99.1% (fermented dried blood meal). The average protein digestibility of 85.9% for the nonanimal protein feedstuffs was significantly higher than that for the animal feedstuffs ($P < 0.05$), partly validating the assumption that herbivorous bluntnose black bream would digest proteinic nutrients in nonanimal feedstuffs better than in animal ingredients under intensive aquaculture. Finally, the energy availability of nonanimal protein feedstuffs was significantly lower than that of animal feedstuffs ($P < 0.05$).
【语种】英文
【第一作者】Zhou, Z
【通讯作者】Zhou, Z
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【引文索引类型】SCI
【引文索引号】000253883200007
【学科分类】水产饲料学

【题目】The Effects of Dietary Yeast Culture or Short-chain Fructo-oligosaccharides on the Intestinal Autochthonous Bacterial Communities in Juvenile Hybrid Tilapia, Oreochromis niloticus female x Oreochromis aureus male
【中文关键词】无
【英文关键词】GRADIENT GEL-ELECTROPHORESIS; TROUT ONCORHYNCHUS-MYKISS; SALVELINUS-ALPINUS L.; RAINBOW-TROUT; ARCTIC CHARR; GASTROINTESTINAL-TRACT; PHYLOGENETIC ANALYSIS; RIBOSOMAL-RNA; FISH LARVAE; AQUACULTURE
【中文摘要】无
【英文摘要】The effects of dietary yeast culture (YC) or short-chain fructo-oligosaccharides (FOS) on intestinal autochthonous bacterial communities in juvenile hybrid tilapia, Oreochromis niloticus female x Oreochromis aureus male were studied by 16S rDNA denaturing gradient gel electrophoresis (DGGE). Ninety Tilapias in tanks (10 fish per tank) were randomly and equally divided into three groups. At the end of an 8-wk feeding period of CK (the control treatment), YC (3 g/kg), or FOS (1 g/kg), autochthonous gut bacteria were analyzed in intestinal samples of all fish in each tank of a recirculating aquaculture system. The clear differences in the banding patterns indicated the obvious effects of dietary prebiotics on intestinal communities in hybrid tilapia. Higher variation was detected within the dietary YC group. This difference might be due to the effects of certain immune-stimulating agents in YC on the immunity response of hybrid tilapia. It was concluded that dietary prebiotics, YC, and FOS obviously affected the intestinal bacterial community in hybrid tilapia with different patterns for different kinds.
【语种】英文
【第一作者】Zhou, ZG
【通讯作者】Yao, B

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【引文索引类型】SCI
【引文索引号】000268590000003
【学科分类】水产饲料学

【题目】奶牛乳腺脂肪酸合成相关基因研究进展
【中文关键词】乳腺; 脂肪酸; 摄取和转运; 内源合成; 酯化; 基因网络
【英文关键词】Mammary gland; Fatty acid(FA); Uptake and transport; de novo synthesis; Esterify; Gene network
【中文摘要】数量和种类繁多的脂肪酸构成了牛奶中不同分子量和饱和度的甘油三酯, 也是乳脂的主要成分。链长不同的脂肪酸来源也不尽相同, 几乎所有的短链和中链脂肪酸都由乳腺内源合成, 长链脂肪酸主要是由血液中转运而来, 奶牛乳腺在转运和合成脂肪酸过程中起着重要作用。近年来, 研究人员将传统营养与分子生物学研究相结合, 发现了大量与乳脂合成相关基因, 并揭示了其功能和相互之间的作用。就奶牛乳腺的脂肪酸摄取和转运, 脂肪酸的内源合成, 乳腺重要酶类, 脂肪酸酯化和相关基因网络调控几方面对脂肪酸合成相关基因进行归类, 对其研究进展进行介绍。
【英文摘要】Fatty acids with various molecular weight and saturation degree in milk, make up of the triacylg lycero ls which also constituted the main components of milk fat. Shot and medium chain fatty acids are almost exclusively the results of de novo synthesis in mammary gland, while long chain fatty acids are mainly imported from the plasma. Mammary gland plays a pivota l role in the who leprocess of uptaking, importing and synthesizing fatty acid. In recent years, researchers have app lied molecular biology technologies intraditional nutrition field, identified abundance of regulated genes of fatty acid synthesis, and suggested the irfunctions and relationship of these genes. In this paper, these genes regarding to uptaking and importing fatty acid, de novo synthesis o f fatty acid, important enzymes of mammary, esterifing of fatty acid were reviewed.
【语种】中文
【第一作者】胡菡
【通讯作者】王加启
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【学科分类】畜牧学

【题目】基于18S rRNA 基因的PCR/DGGE 技术研究山羊瘤胃原虫动态变化
【中文关键词】山羊; 瘤胃原虫; 18S rRNA; PCR/DGGE
【英文关键词】Goat; Rumen protozoa; 18S rRNA; PCR/DGGE
【中文摘要】应用PCR/DGGE 技术对山羊采食前后瘤胃原虫的多样性随时间的变化进行了研究。采食前和采食后1、2、4 和8h 分别采集瘤胃内容物样品, 对瘤胃原虫特异性的18S rRNA 基因经PCR 扩增、DGGE 电泳分析。结果显示,采食前后DGGE 图谱由10 条左右清晰可辨的谱带组成, 图谱上的泳带反映了瘤胃内的优势原虫, 泳带数量和位置的复杂性说明了瘤胃原虫的多样性。并对其中两个优势条带切胶测序, 基因序列分析分属于毛口目和内毛目。瘤胃原虫区系相似性分析, 采食前为90.5%~94.1% ; 采食后相似性发生改变, 且存在个体差异。多样性指数由采食前的0.82 逐渐上升到采食后8h 的0.90(P>0.05) 。DGGE 指纹技术有效地反映了不同样品中原虫优势种的组成, 并可通过此技术跟踪研究瘤胃原虫区系在不同条件下的动态变化。
【英文摘要】The goats rumen protozoal communities were investigated, and the change of which were monitored byusing PCR/DGGE technique based on 18S rRNA gene. The protozoal diversity and similarity were determined on thebase of the position and number of bands in DGGE gel. The results showed that over ten bright bands were showedand differences were observed for four goats immediately prior to feeding and after feeding at 1, 2, 4 and 8 hour.Different profiles in gel were observed, the amount and position of bands represented respectively the rumen predominantprotozoal species and community variation of different samples. The similarity indices of the protozoa were between90.5%~94.1%, while variation of the similarity were found after feeding. These indicate that the components and thechanges of the rumen predominant protozoa can be reflected effectively by using PCR/DGGE technique, tracing andresearching the variation of the protozoal community at different situation.
【语种】中文

【第一作者】王新峰
【通讯作者】朱伟云
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【学科分类】畜牧学

【题目】菊芋粕对泌乳奶牛营养价值的评定
【中文关键词】菊芋粕;泌乳奶牛;营养价值;评定
【英文关键词】Helianthus tuberosus meal;dairy cow;nutritive value;evaluation
【中文摘要】选用6头2~3胎泌乳中期健康荷斯坦奶牛,采用3×3有重复拉丁方试验设计,通过消化试验就菊芋粕对泌乳奶牛的营养价值进行评定。试验设3个日粮处理,处理1为基础日粮,处理2为菊芋粕替代15%基础日粮(干物质基础),处理3为菊芋粕替代30%基础日粮(干物质基础)。结果表明,菊芋粕风干样品中干物质、粗蛋白、粗脂肪、粗纤维、中性洗涤纤维、酸性洗涤纤维、粗灰分、钙、磷和产奶净能分别为92.43%,12.98%,0.81%,12.67%,25.93%,21.44%,3.92%,0.27%,0.20%和5.18MJ/kg;菊芋粕对泌乳奶牛干物质消化率、粗蛋白消化率、中性洗涤纤维消化率、酸性洗涤纤维消化率分别为61.78%,73.21%,51.65%,61.14%,消化能和产奶净能分别为10.13和5.18MJ/kg;3个处理组试牛产奶量和乳成分无显著差异(P>0.05),表明菊芋粕是一种营养价值略低但养分消化率较高的能量饲料。
【英文摘要】A 3×3latin square design was used to determine the nutritive value of Helianthus tuberosus mealwith six lactating Holstein dairy cows.1)On an air dry basis,dry matter,crude protein,ether extract,crudefiber,nitrogen-free extract,neutral detergent fiber,acid detergent fiber,calcium,phosphorus,and milkingenergy of H.tuberosus meal were 92.43%,2.98%,0.81%,12.67%,25.93%,21.44%,3.92%,0.27%,0.20%and 5.18MJ/kg respectively.H.tuberosus meal was a poor energy feed for dairy cows.2)The digestibility of dry matter,crude protein,neutral detergent fiber and acid detergent fiber of H.tuberosus meal(on anair dry basis),were 61.78%,73.21%,51.65%and 61.14%respectively.The digestible energy and net energy were 10.13and 5.18MJ/kg.In three treatments the digestibility of compendium nutritive matters tended todecrease.H.tuberosus meal was higher in feed digestibility than the common meal and had no influence ondairy cows.3)The addition of H.tuberosus meal to the dairy ration did not affect the production performance.
【语种】中文
【第一作者】赵芳芳
【通讯作者】韩向敏
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【题目】体外法研究延胡索酸二钠对瘤胃微生物发酵活力及甲烷产量的影响
【中文关键词】延胡索酸二钠; 瘤胃微生物; 甲烷; 批次培养
【英文关键词】disodium fumarate; mixed rumen micro organism; methane; batch fermentation
【中文摘要】为探讨延胡索酸二钠对瘤胃甲烷产量及瘤胃微生物发酵活力的影响, 本研究共设计了3 个试验来阐明该问题。试验1 采用体外批次培养, 研究了不同日粮条件下(高牧草日粮、中等水平牧草的日粮和低牧草日粮) 添加延胡索酸二钠(0, 4 和7 mmol/ L) 对山羊瘤胃微生物发酵及甲烷产量的影响。结果表明, 较对照相比, 添加延胡索酸二钠显著提高了累积产气量、pH 值和TVFA 产量(P< 0. 05) , 降低了甲烷产量(P < 0. 05) , 其中高牧草日粮组下降幅度最大。试验2 探讨了延胡索酸二钠对黄化瘤胃球菌发酵粗饲料活力的影响。结果表明, 与对照组相比; 添加延胡索酸二钠显著提高了黄化瘤胃球菌数量及其对黑麦草的降解率(P < 0. 05) ; 试验3 探讨了延胡索酸二钠对瘤胃真菌发酵粗饲料活力的影响, 结果显示, 延胡索酸二钠显著降低了厌氧真菌发酵的总产气量、干物质消失率及羧甲基纤维素酶酶活(P< 0. 05) 。结果说明, 延胡索酸二钠在降低甲烷产量方面与发酵底物的天然特性有关, 其中对高牧草日粮的作用效应最为显著; 延胡索酸二钠可提高瘤胃混合微生物与瘤胃纤维降解菌发酵粗饲料的能力, 但对瘤胃真菌的发酵活力具有抑制效应。
【英文摘要】Three experiments were conducted to investigate the effects of disodium fumarate on CH4 pro duction and fermentation by rumen micro organisms. In experiment 1, rumen contents were collected from three local goats. Disodium fumarate

was added to the incubation bottles to achieve final concent rations of 0, 4 and 8mmol/ L fumarate. Results showed that disodium fumarate addition increased the final pH and the production of acetate and propionate linear ly (P< 0. 001) , and reduced the amount o f NH3- N in the cultures. Compared with the control, adding disodium fumarate to batch cultures r educed CH4 product ion. In experiment 2, the effect of disodium fumarate on the fermentation activity of Ruminococcus flavefaciens was investigated. Disodium fumarate was added to the incubation bottles to achieve final concentrations of 0, 4, 7 and 10 mmol/ L.Disodium fumarate addition increased the dry matter loss, T VFA product io n, and the count s of R . flavef aciens. In experiment 3, the effect of disodium fumarate on ryegrass fermentation by rumen fungi was investigated. Disodium fumarate addition (0, 4, 7, and 10 mmol/ L) reduced the dry mat ter loss and the cumulat ive g aspro duct ion (P < 0. 01) . T hese result s indicate that the ef fect s o f disodium fumarate on rumen fermentation mainly depend on the nature of the incubated substrate, with the high forage diet showing the greatest response. Disodium fumarate addition increased the fermentation activity of the mixed rumen micro organisms and of R . f lavefaciens, but reduced the fermentation activity o f the rumen fungi.

【语种】中文
【第一作者】毛胜勇
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【题目】泌乳晚期大鼠生长抑素基因的表达
【中文关键词】生长抑素; 乳腺; RT-PCR; 大鼠
【英文关键词】som atostatin; mammary gland; RT-PCR; rat
【中文摘要】利用大鼠生长抑素基因设计引物, 对泌乳晚期SD 大鼠的乳腺组织生长抑素基因进行RT PCR 检测,PCR产物与pMD 19T载体连接后转化JM 109感受态细胞, 筛选阳性克隆、测序。结果发现在泌乳晚期大鼠乳腺中有生长抑素基因的表达。
【英文摘要】To investigate the expression of soma tostatin in the mammary gland of later lactating rats, to tal RNA w as extracted from the mammary gland and mRNA sequence o f soma tostatin gene was amplified by RTPCR with designed primers. The PCR products were ligated into the pMD19T vector, and then transformed into competent cells of JM 109. The recombinant plasmid was identified and the sequence was analyzed to detect the soma tostatin in the mammary gland of later lactating Sprague Daw ley rats. Identity analysis showed that there was the expression of soma tosta tin in the mammary gland of later lactating rats.
【语种】中文
【第一作者】李海霞
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【期刊名称、卷期、页码】江苏农业学报,2009,25(1):151-153
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【学科分类】生物化学

【题目】乳腺上皮细胞的钙转运研究进展
【中文关键词】钙; 乳腺上皮细胞; 转运模式
【英文关键词】Calcium; Breast epithelial cells; Transshipment mode
【中文摘要】从参与钙转运的相关分子的角度综述了乳腺上皮细胞钙的跨细胞转运过程, 提出了钙转运进入乳汁的模式。
【英文摘要】
【语种】中文
【第一作者】王月影
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【题目】生长抑素对泌乳大鼠乳腺发育的作用
【中文关键词】生长抑素; 耗竭剂; 乳腺发育; 调节; 大鼠
【英文关键词】Soma tostatin; Exhaust agents; Mammary gland development; Regulation; Rat
【中文摘要】给泌乳SD大鼠皮下注射生长抑素及其耗竭剂, 用RT- PCR法和放射免疫法检测大鼠乳腺中相关基因的表达水平及乳腺和血清生长抑素的水平, 探讨生长抑素与相关因子间的关系。结果表明: 生长抑素能提高大鼠血清和乳腺生长抑素的含量, 下调ER 、PR、GHR、PRLR基因的表达, 上调Leptin和LEPR 基因的表达; 其耗竭剂的作用相反, 降低血清和乳腺中生长抑素的含量, 上调ER 、PR、GHR、PRLR基因的表达, 下调Leptin和LEPR基因的表达。说明生长抑素通过调节乳腺中相关因子的表达对大鼠乳腺发育起作用。
【英文摘要】The lactating Sprague- Dawley rats were subcutaneously injected by somatostatin(SS) and its exhaust agents, the expression of related genes in mammary development, the SS content in serum and mammary gland w ere detected using the RT – PCR and radicalization immunity assay methods to study the correlation of SS to other factors. The results showed that SS improved the SS content in serum and mammary gland of lactating rat, down- regulated ER, PR, GHR and PRLR mRNA expression, up-regulated Leptin and LEPR mRNA expression. On the contrary, its exhaust agents reduced the SS content in serum and mammary gland of lactating rat, up-regulated ER, PR, GHR and PRLR mRNA expression, down- regulated Leptin and LEPR mRNA expression. Somatostatin regulated mammary development by regulating the expression o f the related factors.
【语种】中文
【第一作者】王月影
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【题目】STUDY ON SOIL NUTRIENT MANAGEMENT AND FERTILIZATION MODEL IN NING XIA COUNTYTERRITORY WITH GIS
【中文关键词】GIS;土壤养分;施肥模型;目标产量;施肥参数
【英文关键词】GIS, Soil nutrient; Fertilizer model, Goal output, Fertilizer parameter
【中文摘要】采用GIS技术,以宁夏地图、宁夏全区土壤养分图及其他相关文档数据为基础,对资料进行分类和筛选,建立空间数据库和属性数据库。将宁夏土壤养分数据以县域为界划分,与地理图形有机联系起来,使枯燥的表格数据可视化。在土壤养分数据库基础上,采用三元二次回归正交组合设计方法,建立数学模型,并对数学模型寻优得出了最高产量、最低产量时的氮磷钾肥施用量,将与施肥有关的因素通过计算机进行处理、判断、分析,给出常用肥和专用复合肥的具体配方及用量,从而极大地方便了数据分析和辅助决策,实现了宁夏特色作物施肥配方的自动化。
【英文摘要】By adopting the GIS technology, this thesis tries to collect and recognize the existing pedological map, the soil nutrient graphic document and other related documents data of Ningxia. And with the classification and filtration to the material, the spatial databases and the attribute database can be established to combine the county territory soil nutrient data and the geography graph together to make the uninteresting form data visualized. Based on the soil nutrient database, the mathematical model is established by means of the design of the regression orthogonal combination. And Through the mathematical model optimization, the quantity of nitrophoskas which is employed at the maximum production rate as well as at the lowest can be obtained. With these, the paper proposes a model which can dispose, judge and analyze all the factors related to the fertilization to achieve the concrete formula and the amount of commonly used fat and the special-purpose compound fat. Therefore, the data analysis and the auxiliary decision-making enormously facilitate, and the automatization and the rationalization of all kind of crop's fertilization scheme in Ningxia can be realized.
【语种】英文

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【题目】Extraction of the Rice Leaf Disease Image Based on BP Neural Network
【中文关键词】水稻胡麻斑;BP神经网络;颜色特征,特征提取
【英文关键词】Rice brown spot;BP neuralnetwork;color feature;feature extraction
【中文摘要】水稻叶部病害在全国各地均有发生,包括中国,这对水稻的质量和产量均有严重影响。现在主要靠人工方法进行控制。在本文的研究中,设计了BP神经网络分类器对水稻叶部的健康部分和病害部分进行分类识别。本文选取了水稻胡麻斑病做为研究对象,训练和测试对象均来自宁夏回族自治区北部,结果表明采用图像和BP神经网络来鉴别水稻胡麻斑病是可行的。
【英文摘要】Rice leaf diseases have occurred all over the world,including china.They have had a significant impact on rice quality and yield.Now,the control method rely mainly on artificial means.In this study,BP neural network classifiers were designed for classifying the healthy and diseased parts of rice leaves.This paper select rice brown spot as study object,the training and testing samples of the images are gathered from the northern part of Ningxia Hui Autonomous Region.The result shows that the scheme is feasible to identify rice brown spot using image analysis and BP neural network classifier.
【语种】英文
【第一作者】刘立波
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【题目】人眼视觉特性在植物叶片图像提取中的应用
【中文关键词】植物叶片;图像质量;人眼视觉特性
【英文关键词】Plant leaf image;Image quality; Human visual system
【中文摘要】通过叶片图像分析植物生长状况是目前农林领域的热点问题之一。此类图象中,如何去除背景干扰,获得视觉兴趣区域是研究的重点内容。为将外界噪声降到最低,本文采用灯箱设备采集植物叶片图像,考虑到人眼视觉特性,将图像划分成a×b个大小相等的分块,计算出各分块图像的视觉影响权重因子,并据此从原始图像中去除背景区域,划分出人眼视觉感兴趣的区域图像;随着a、b取值的不同以及图像提取的不断深入,可极大限度的去除无关背景区域。较之原始图像,利用该方法得到的区域图像符合人眼视觉特征,在图像质量和尺寸大小方面均有改善;为提取植物叶片视觉兴趣区域提供了一种新思路。
【英文摘要】Analyzing situation of plant growth from leaf images is one of the hottest issues in the field of agriculture and forestry. How to remove background interference and get region of interest image is important content for this kind of images.In this paper, in order to minimize external noise, use light equipment to acquire leaf images and then evaluate the image quality . According to the characteristics of human vision, image was partitioned into several blocks with equal size. Then abstract the part of interest image from original image by calculating each sub-block image ’ s weight of visual impact and mark off region of interest from the original image. With different values of a,b and deepening of image extraction, background region can be greately removed.Compared to that of original image, image quality and image size for the part of interest image have been improved to some extent. The method based on human visual system, which provides a new way for extraction visual region-of-interest of plant leaf image.
【语种】中文

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【题目】OPTIMIZATION OF ILLUMINATION ENVIRONMENTAL FACTORS BASED ON ORTHOGONAL TEST
【中文关键词】图像采集;漫反射;正交试验,光照强度;光照均匀度
【英文关键词】Image acquisition, Diffuse reflection, Orthogonal test, Illumination intensity, illumination uniformity
【中文摘要】本文将自行设计光照箱内的不同成像环境影响因素进行组合,采用正交试验法设计了9次实验,通过对实验结果进行对比分析力求获得最佳参数组合。物距、灯管数目、灯管高度、灯管侧距4个参数被作为影响成像质量的主要环境因素。为减少试验次数,运用L9(34)正交试验表安排试验,结果表明:在不同的参数组合条件下,图像的光照强度和光照均匀性受物距和灯管数量影响较大。通过上述实验可以得到两个可取的参数组合,经过进一步验证分析和讨论,最终确定了最佳成像参数组合。在该条件下进行图像采集,可以使被测对象获得均匀且具有一定强度的照明效果。
【英文摘要】Rice leaf diseases have occurred all over the world,including china.They have had a significant impact on rice quality and yield.Now,the control method rely mainly on artificial means.In this study,BP neural network classifiers were designed for classifying the healthy and diseased parts of rice leaves.This paper select rice brown spot as study object,the training and testing samples of the images are gathered from the northern part of Ningxia Hui Autonomous Region.The result shows that the scheme is feasible to identify rice brown spot using image analysis and BP neural network classifier.
【语种】英文
【第一作者】刘立波
【通讯作者】周国民
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【题目】基于多层感知神经网络的水稻叶瘟病识别方法
【中文关键词】多层感知器,特征提取,分类器,图像识别,水稻叶瘟病
【英文关键词】multilayer neural networks, feature extraction, classifiers, image recognition, rice leaf blast
【中文摘要】为实现水稻叶瘟病的快速诊断,综合利用图像处理技术和神经网络来进行叶瘟病斑的识别研究。该文设计了3个多层感知分类器来进行病斑识别准确率的对比验证,分别采用叶片正常区域和病斑区域的纹理特征、颜色特征以及纹理和颜色的组合特征作为不同分类器的输入单元; 输出层采用 1 个单元用于输出病斑区域和正常区域的识别结果。 首先,该文将采集到的 RGB 图像转换成灰度图像,利用灰度共生矩阵分别提取叶片正常区域与病斑区域的能量、对比度、熵、逆差距作为纹理特征;紧接着,将 RGB 彩色空间转换至 HIS 和 Lab 空间,分别提取病斑区域和正常区域的 L、a、b 值作为颜色特征。最后,采用不同的 BP 神经网络分类器进行病斑区域识别。该文共采用 120 副图像作为待测对象,试验结果表明,采用颜色和纹理的组合特征进行识别,准确率要比单独使用纹理特征和颜色特征高 10%~15%。本文的研究结果为进一步实现水稻病害自动诊断打下了基础。
【英文摘要】In order to achieve the rapid diagnosis of rice leaf blast, authors utilized image processing techniques and neural network comprehensively for the recognition of leaf blast lesion. For the accuracy rate of comparative analysis on lesion identification, three multilayer perception classifiers were designed. Three features of normal and lesion part which were texture, color and combined feature of texture and color were selected as input unit for different classifierrespectively. Output layer adopted one unit for the identify results of lesion and normal region. First of all, grayscale image was transformed from RGB image, using gray level co-occurrence matrix to extract energy, contrast, entropy,inverse gap as texture features from leaf lesion region and normal region respectively. The RGB color space was transformed to HIS and Lab space, and L, a, b values were extracted as color features from lesion area and normal region respectively, using different BP neural network classifier to identify lesion region.120 images were selected as testobjects. The

experimental results showed that if the combined feature of color and texture was used as input parameters,the accuracy rate would be 10%-15% higher than that of texture features and color features alone. The results of this paper laid a foundation for realization of the automatic diagnosis of rice diseases.

【语种】中文
【第一作者】刘立波
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【题目】基于图像评价的灯箱最佳成像环境因素确定方法
【中文关键词】水稻叶部病害; 图像采集; 正交试验; 图像质量评价
【英文关键词】Rice leaf disease;image acquisition;orthogonal test;image quality evaluation
【中文摘要】为获得高质量的水稻叶部病害图像,在自行设计的灯箱中充分考虑了物距、 灯管数目、 灯管高度、 灯管、侧距等成像环境因素对图像质量的影响,通过主客观评价方法对不同成像环境因素水平下拍摄的照片进行质量评价,最终得出最佳成像环境因素取值水平。该过程分为三步:首先采用正交试验法设计各环境因素取值水平并拍摄照片,然后采用客观评价方法进行图像质量评价,最后通过与主观评价方法对比确定成像环境因素最佳取值水平。经过大量实验分析得出:在不同成像环境因素取值水平下,所拍摄照片的质量是有差别的。因此,基于质量评价的方法来确定最佳成像环境因素取值是可行的,为规范水稻叶部病害图像采集环境提供了新思路。
【英文摘要】In order to obtain high-quality rice leaf diseases images, a image-gathering system based on lamp-box was proposed.The best value of environmental factors could be acquired by image quality evaluation using subjective and objective methods. Shoot distance, lamp number, lamp height, lamp side distance were selected as impact factors.During the orthogonal test and image quality evaluation,the process were seperated:①takeing photo under the level of environmental factors which were designed by orthogonal test.②using objective method to evaluate image quality.③the best environment factors level was determined by the comparison of subjective and objective methods. Through a large number of experimental analysis,the result can be drawed:there are some differences between image quality when taking photos under different level of environmental factors. So, the method which based on quality evaluation to determine the best value of environmental imaging factors is feasible and provides a new way for standard image gathering environment of rice leaf diseases.
【语种】中文
【第一作者】刘立波
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【题目】作物叶片图像采集系统的设计与研究
【中文关键词】图像采集;正交试验;光照强度;光照均匀性
【英文关键词】image acquisition; orthogonal test; illumination intensity; illumination uniformity
【中文摘要】本文研制了一套基于数码相机的图像采集系统,用于拍摄作物叶片。该系统采用漫反射式的多光源正面照明设计方案,具有实时、高效、可控的特点。研究通过正交试验对照明系统参数进行优化,运用matlab对照明箱中光照的均匀性和光照强度进行分析。试验结果表明:光照强度和光照均匀性与灯管数目的多少和灯管的高度关系密切,通过对比验证试验,获得了该图像采集系统的最佳参数。在该条件下进行图像采集,可以使被测对象获得均匀且具有一定强度的照明效果。
【英文摘要】In this paper, a image acquisition system based on digital camera was manufactured for research of crop leaf.The system has some characteristics of real-time, efficient and controllable ,which adopt a blue print of diffuse reflection that use Multi-light source at positive light. Study optimized the parameters of lighting system through orthogonal test, Matlab is used to analyse the illumination

intensity and illumination uniformity of light box. The result show that the illumination uniformity and illumination intensity closed to number and high degree of the lamp. Best parameters of the image acquisition system were obtained by comparing test. When image acquisition under these conditions, illumination uniformity and a certain illumination intensity could be provided for the detected object.
【语种】中文
【第一作者】刘立波
【通讯作者】周国民
【期刊名称、卷期、页码】微计算机信息, 2009年,25(10-1):11-12
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【引文索引类型】其他
【引文索引号】
【学科分类】计算机应用

【题目】基于Agent 技术的小麦生长模拟模型的建立
【中文关键词】Agent; 小麦生长模拟模型; 人工智能
【英文关键词】Agent;Wheat simulation model; Artificial intelligence
【中文摘要】介绍了Agent 技术的相关知识, 分析了利用Agent 技术建立小麦模拟模型的方法, 并以小麦生长模拟为例, 建立了基于Agent技术的小麦生长模拟模型。
【英文摘要】Wheat simulation model based on Agent technology were established taking wheat growmodel as an example. Correlative knowledgeabout Agent technology was introduced in detail. The method for establishing wheat simulation model by Agent technology was analyzed.Reusable soil agent, weather agent, irrigation agent, fertilization agent, nitrogen balance agent, water balance agent and so on were composed.
【语种】中文
【第一作者】刘升平
【通讯作者】刘升平
【期刊名称、卷期、页码】安徽农业科学, 2007, 35(20) : 6026- 6028
【论文发表时间】2007-05-08 00:00:00
【引文索引类型】null
【引文索引号】
【学科分类】农学其他学科

【题目】3种菟丝子种子数学形态特征的初步研究
【中文关键词】计算机视觉技术; 数学形态特征; 检疫性杂草种子
【英文关键词】computer vision technology; geometric characters; quarantine weed seeds
【中文摘要】本研究基于数字图像处理与分析技术,首次用 FeatureExtract 数学形态特征提取软件获取了3 种菟丝子图像的13 项数学形态特征值, 并做了方差分析和聚类分析。结果表明,该技术可应用于杂草种子快速鉴定。同时提出对方法的改进建议,为最终实现杂草种子的快速鉴定奠定了基础。
【英文摘要】Based on the digital image processing and analysis technology , this study firstly applied the geometric character-extracting software to extraction of thirteen parameters of exterior shape feature from three varieties of Cuscuta seeds, which were then subjected to variance and cluster analyses. T he results showed that the technology could be applied to rapid identification of weed seeds. T his may be a new direction for prompt classification of weed seeds, and provide reliable foundation for the quarantine department to classify weed seeds promptly and accurately.
【语种】中文
【第一作者】谢敏
【通讯作者】沈佐锐
【期刊名称、卷期、页码】植物保护,第34卷第6期,P53—P56
【论文发表时间】2008-06-13 00:00:00
【引文索引类型】其他
【引文索引号】

【学科分类】植物保护学

【题目】克伦特罗对映体的生物活性及分离分析研究进展
【中文关键词】克伦特罗 对映体 分离 生物活性 高效液相色谱 毛细管电泳
【英文关键词】Clenbuterol Enantiomer Separation Bioactivity high performance liquid chrom -atography Capillary electrophoresis
【中文摘要】克伦特罗因其在动物食品中的残留危害受到了世界各国的高度关住,研究表明克伦特罗的生物活性主要来源于(-)-R对映体,因此分离其对映体以进行相关的研究具有重要意义。目前用于克伦特罗对映体分离分析的方法报道较多,主要有高效液相色谱法、毛细管电泳法等,本文对这些方法及对映体的生物活性研究进展进行了综述,并对未来的研究重点进行了展望。
【英文摘要】Clenbuterol has been highly given attention in world because of its harm of residue in animal food. Some studies showed that the bioactivity of Clenbuterol mainly originates from its (-)-R-eantiomer, so it ’ s very important to separate two enantiomers of Clenbuterol to carry out relevant studies. At present, some methods including high-performance liquid chromatography and capillary electrophoresis were already reported for enantiomeric separation of Clenbuterol. In this paper, research progresses on resolution and bioactivity of Clenbuterol enantiomers were summarized, and some research contents in the future were proposed.
【语种】中文
【第一作者】邱静
【通讯作者】邱静
【期刊名称、卷期、页码】化学试剂,2008,30(增刊)68-72
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【引文索引类型】其他
【引文索引号】123456789
【学科分类】兽医学

【题目】Enantiomeric Separation and Circular DichroismDetection of Metalaxyl Acid Metabolite by ChiralHigh Performance Liquid Chromatography
【中文关键词】甲霜灵 代谢物 对映体分离 圆二色谱
【英文关键词】Metalaxyl Metabolite Enantiomeric separation
Circular dichroism
【中文摘要】采用纤维素-3,5-二甲基苯基氨基甲酸酯作为手性固定相在高效液相色谱上分离了甲霜灵酸代谢物的对映体,考察了流动相组成、流速和柱温等对拆分的影响。采用正己烷/异丙醇/三氯乙酸作为流动相获得了最好的拆分。圆二色谱检测结果表明甲霜灵酸具有与甲霜灵相似的圆二色谱吸收行为,然而甲霜灵中间体的圆二色谱信号可能随着检测波长的改变而改变。
【英文摘要】The enantiomers of metalaxyl acid metabolite (MX-acid) were separatedby HPLC using cellulose- tris- (3,5-dimethylphenyl-carbamate) (CDMPC)as chiral stationary phase. The effects of mobile phase composition,flow rate and column temperature on the resolution were investigatedand good separation was achieved with n-hexane/2-propanol/trifluoro-acetic acid as mobile phase. The circular dichroisms detection showedthat metalaxyl-acid has similar absorption behaviour to metalaxyl with CDsignals reverse to optical rotation direction of S(+)- and R(-)-enantiomerand CD signals of metalaxyl intermediate enantiomers may be reversedwith change of CD wavelength.
【语种】英文
【第一作者】Jing Qiu
【通讯作者】邱静
【期刊名称、卷期、页码】Asian Journal of Chemistry,2009, 21(8):6095-6101
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【引文索引类型】SCI
【引文索引号】123456789
【学科分类】分析化学

【题目】己烯雌酚残留检测技术的研究进展

【中文关键词】己烯雌酚 残留 检测
【英文关键词】Diethylstilbestrol residue detection
【中文摘要】己烯雌酚是一种人工合成的非甾体雌激素,能有效促进动物生长,因而广泛应用于畜牧养殖业,但由于其易在动物体内残留并产生严重的致癌作用,许多国家已经 禁止在饲料中添加己烯雌酚,但其偷用现象依然存在。本文就己烯雌酚的危害、残留及检测方法作一综述。
【英文摘要】Diethylstilbestrol is a synthetic non-steroidal estrogen, can effectively promote animal growth, which is widely used in animal husbandry and aquaculture. But because it is easy to produce residues in animals and lead to serious carcinogenic effect, many countries have banned its uses in animal feed. However, the phenomenon of illegal uses still exists. This article summarized hazards, residue and detection methods of diethylstilbestrol.
【语种】中文
【第一作者】邓省亮
【通讯作者】杨曙明
【期刊名称、卷期、页码】中国畜牧杂志,2010,46(24):56—60
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【引文索引号】123456789
【学科分类】畜牧学

【题目】半抗原特异性抗体的筛选及亲和力成熟
【中文关键词】噬菌体抗体库 半抗原 免疫检测
【英文关键词】Phageantibodylibrary Hapten Immunodetection
【中文摘要】噬菌体抗体库技术的出现开创了一条便捷的基因工程抗体生产路线,为小分子半抗原抗体的制备提供了一条新途径,具有极大的应用潜力,但得到的抗体片段的亲和力普遍较全分子差,需要优化筛选策略及抗体的体外亲和力成熟来解决这一问题。
【英文摘要】The applicationof phage display technology for the generationof monoclonal antibodies to haptens represents a very exciting alternative to traditional mammalian based hybridoma technology, which combines production,selectionandaffinitymaturationinnumerous imaginativeways. However it is still has some technical andlogistical problems, none the less, it holds great promise inhapten2specificantibodies.
【语种】中文
【第一作者】李平
【通讯作者】杨曙明
【期刊名称、卷期、页码】中国生物工程杂志,2010, 30(2): 1052108
【论文发表时间】2010-02-01 00:00:00
【引文索引类型】其他
【引文索引号】123456789
【学科分类】免疫学

【题目】双烯雌酚残留检测方法研究进展
【中文关键词】双烯雌酚 残留 检测方法
【英文关键词】Dienestrol is a synthetic estrogen, most countries have concernedfor the dienestrol residue in related animal productsowingtoitsobvious toxichazardtohuman. At present, instrumental analysis as the main method for detection dienestrol are not suitablefor the timelysupervisorycontrol due toits tedious analytical procedures,while immunoassays which are inexpensive to develop, sensitive and specific can regard as an independent screening method for veterinaryresidue, therefore it has great applicationprospect
【中文摘要】双烯雌酚是一种人工合成的雌激素,因其残留对人体有明显的毒害,故而其在相关动物性产品中的残留受到世界各国的共同关注。目前,双烯雌酚残留检测方法主为仪器分析法,但其繁琐的分析步骤不适合药物的及时监控,而免疫学分析方法以其耗费低、特异强、灵敏高等优点,可作为兽药残留的筛选方法,因而具有广阔的应用前景。
【英文摘要】Dienestrol is a synthetic estrogen, most countries have concerned for the dienestrol residue in related animal p roducts owing to its obvious toxic hazard to human. At p resent, instrumental analysis as the main method for detection dienestrol are not suitable for the timely supervisory control due to its tedious analytical p rocedures, while immunoassays which are inexpensive to develop, sensitive and specific can regard as an independent screening method for veterinary residue, therefore it has great app lication

p rospect.
【语种】中文
【第一作者】李平
【通讯作者】杨曙明
【期刊名称、卷期、页码】中国畜牧杂志,2010,44(2): 41~45
【论文发表时间】2010-02-01 00:00:00
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【引文索引号】123456789
【学科分类】免疫学

【题目】莱克多巴胺免疫亲和柱的制备与应用研究
【中文关键词】免疫亲和柱 莱克多巴胺 β2受体激动剂 检测
【英文关键词】immunoaffinitycolumn ractopamine β2receptor agonist determination
【中文摘要】用多元酸酐与混合酸酐相结合的方法合成了莱克多巴胺(Rac)抗原, 免疫动物获得特异性抗体, 并以蛋白A柱纯化得到IgG抗体。琼脂糖凝胶(Sepharose4B)经溴化氰(CNBr)活化后与IgG抗体偶联, 制备莱克多巴胺免疫吸附剂。据此建立了尿液中莱克多巴胺的免疫亲和柱净化/液相色谱-荧光法(HPLC- FL)测定的分析方法。免疫制备特异抗体50%抑制浓度(IC50)为5 μg/L。Sepharose4B经CNBr活化后与2mg抗体的偶联率达8714%。1mL吸附剂的柱容量为67157ng。尿液中莱克多巴胺的回收率为76%~90%。
【英文摘要】Apolyclonal antibody2based immunoaffinitycolumn(IAC) was developed as a cleanupMethod for the detection of ractopamine(Rac). Anti-rac specific antibody was gotten with immunized NewZealand rabbit. The IgG was isolated from antiserum with HiTrap Protein AHP column(PrA) and SephadexG25 cartridge. The lmmunosorbents were prepared by coupling anti-Rac IgG with sepha-rose 4B actived by cyanogens bromide. Rac was cleaned up with the prepared immunoaffinity columnand detected by high-performance liquid chromatography with fluorescent detection(HPLC-FL). The titer of anti-Rac antibody was more than 6400 by indirect ELISA and the IC50 was 5 μg/L by indirect competitive ELISA method. The coupling efficiency of 2mg antibody with actived Sepha-rose 4B was 87.4% and the column capacity for 1mL immunosorbents was 67.57ng. The optimal clean-up condition for immunoaffinity column was sequentially rinsed with 5mL phosphate buffer solution, 5mL 10% methanol and eluted with 5mL 95% ethanol (pH=410). The recoveries of fortified samples at levels of 1, 5, 15, 30, 50 ng Rac in 1mL blank pig urine were in the range of 76%- 90%. The immunoaffinity column could keep stable for 3 months in PBS containing 0.02% NaN3 at 4°C.
【语种】中文
【第一作者】王迪
【通讯作者】杨曙明
【期刊名称、卷期、页码】分析测试学报,2010,29(8):812~816
【论文发表时间】2010-08-01 00:00:00
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【引文索引号】123456789
【学科分类】分析化学

【题目】 β2AR表达纯化及其在β2激动剂多残留检测中的应用
【中文关键词】受体 表达 β2激动剂 检测
【英文关键词】 β2AR expression β2-agonist determination
【中文摘要】体外表达制备β2AR, 建立一种基于受体活性的β2激动剂检测方法, 可以检测所有能和该受体结合的β2激动剂药物, 达到多残留同时检测的目的。
【英文摘要】A detection method can be developed based on the activity of β2-agonist receptor by expression in vitro preparation of β2AR, and used to detect all β2-agonists those can integrate with this receptor, to achieve the purpose of detecting multi-residues at the same time.
【语种】中文
【第一作者】陈爱亮
【通讯作者】杨曙明
【期刊名称、卷期、页码】中国兽医杂志,2011,47(1):61-63

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【引文索引号】123456789
【学科分类】兽医学

【题目】双烯雌酚人工抗原的合成及特异性抗体的制备
【中文关键词】双烯雌酚 特异性抗体 ELISA
【英文关键词】dienestro Specific antibody ELISA
【中文摘要】用多元酸酐与混合酸酐相结合的方法合成了莱克多巴胺(Rac)抗原, 免疫动物获得特异性抗体, 并以蛋白A柱纯化得到IgG抗体。琼脂糖凝胶(Sepharose 4B)经溴化氰(CNBr)活化后与IgG抗体偶联, 制备莱克多巴胺免疫吸附剂。据此建立了尿液中莱克多巴胺的免疫亲和柱净化/液相色谱- 荧光法(HPLC - FL)测定的分析方法。免疫制备特异抗体50%抑制浓度(IC50)为5 μg/L。Sepharose 4B经CNBr活化后与2 mg抗体的偶联率达8714%。1 mL吸附剂的柱容量为67157 ng。尿液中莱克多巴胺的回收率为76%~90%。
【英文摘要】A polyclonal antibody-based immunoaffinity column (IAC) was developed as a cleanup method for the detection of ractopamine (Rac). Anti-rac specific antibodywas gotten with immunized New Zealand rabbit. The IgG was isolated from antiserum with HiTrap Protein AHP column (PrA) and SephadexG25 cartridge. The lmmunosorbentswere p repared by coup ling anti-Rac IgGwith seph arose 4B actived by cyanogens bromide. Rac was cleaned up with the p repared immunoaffinity column and detected by high-performance liquid chromatography with fluorescent detection (HPLC - FL). The titer of anti-Rac antibodywasmore than 6 400 by indirect EL ISA and the IC50 was 5 μg/L by indirect competitive EL ISA method. The coup ling efficiency of 2 mg antibodywith actived Sepharose 4B was 8714% and the column capacity for 1 mL immunosorbents was 67157 ng. The op timal cleanup condition for immunoaffinity column was sequentially rinsed with 5 mL phosphate buffer solution, 5 mL 10% methanol and eluted with 5 mL 95% ethanol (pH = 410). The recoveries of fortified samp les at levels of 1, 5, 15, 30, 50 ng Rac in 1 mL blank p ig urine were in the range of 76%- 90%. The immunoaffinity column could keep stable for 3 months in PBS containing 0102%。
【语种】中文
【第一作者】邓省亮
【通讯作者】杨曙明
【期刊名称、卷期、页码】免疫学杂志,2011,27(3):250-258
【论文发表时间】2011-03-01 00:00:00
【引文索引类型】其他
【引文索引号】123456789
【学科分类】免疫学

【题目】己烯雌酚特异性抗体的制备及鉴定
【中文关键词】己烯雌酚 特异性抗体 ELISA
【英文关键词】diethylstilbestrol Specific antibody ELISA
【中文摘要】利用溴丁酸乙酯对小分子半抗原己烯雌酚进行活化引入羧基活性基团,应用活泼酯法将其与牛血清白蛋白(BSA)偶联,合成DES-CP-BSA完全抗原,免疫新西兰长耳白兔,制备特异性抗体。结果显示:成功制备了DES完全抗原,且由此获得了特异性的DES抗体,效价达1.28×105,与己烷雌酚、双烯雌酚的交叉反应分别为9.3%和1.1%,与雌二醇无交叉反应。在此 基础上建立了间接竞争ELISA检测方法,IC50 为7.0ng / ml ,检测限达 0. 3ng / ml,可以满足动物性食品中DES残留检测的需要。
【英文摘要】conjugated to BSA via EDC / NHS as immunogen,New Zealand rabbits were immunized and antisera were prepared.The results showed that complete antigen was successfully synthesized and specific antibody was generated ,with titer of 1.28×105 the antisera cross-reactivity with hexestrol (9. 34 %) ,dienestrol (1. 1%) and no cross-reactivity with 17 β -estradiol.An indirect competitive enzyme-linked immunosorbent assay (IC-ELISA) was developed for determination of DES.In the linear range between 1 and 30ng / ml ,IC50 of 7ng / ml and a detection limit of 0. 3ng / ml for DES were reached.Therefore the assay as screening method can meet the demand of DES residue detection for animal food products.
【语种】中文
【第一作者】邓省亮
【通讯作者】杨曙明

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【引文索引号】123456789
【学科分类】免疫学

【题目】改变半抗原与载体间隔臂的长度对环丙沙星抗体特性的影响
【中文关键词】环丙沙星 间隔臂 特异性抗体 间接竞争酶联免疫吸附法
【英文关键词】Ciprofloxacin Spacer specific antibody indirect competitive ELISA
【中文摘要】目的 在用乙二胺化牛血清白(BSA)为载体合成环丙沙星,免疫原已制备了高特异性抗体(IC50达1 ng/ml)的基础上,尝试延长间隔臂长度,以己二胺进一步修饰BSA,合成免疫原制备抗血清,探索其对环丙沙星抗体灵敏度及特异性的影响。方法 以己二胺修饰BSA,合成环丙沙星免疫原,免疫Balb/c小鼠制备多克隆抗体,同时以天然 乙二胺及己二胺化鸡卵清白蛋白(OVA)为载体合成包被原CIP-OVA、CIP-EDA-OVA和CIP-HMD-OVA,用间接竞争酶联免疫检测方法(ic-ELISA)对抗血清进行评价。结果获得了更高特异性的环丙沙星抗血清,IC50达0.1 ng/ml,抗体的交叉反应性也明显降低,且与CIP-EDA-OVA、CIP-HMD-OVA包被原相比,以CIP-OVA为包被原可显著提高环丙沙星ELISA灵敏度。结论 改变抗原间隔臂长度对特异性抗体的产生有较大影响,且改变包被原间隔臂的结构可显著提高的灵敏度。
【英文摘要】Based on the result that highly specific antibody can be obtained via immunogen prepared by ethylenediamine cationized BSA, this study is aimed to explore the effects of lengthening spacer arm between hapten and carriers on the sensitivity and specificity of antiserum against ciprofloxacin(CIP). Hexamethylenediamine was employed to cationize BSA for preparing CIP immunogen, then polyclonal antibodies were raised in Balb/c mice immunized with CIP immunogen. Moreover coating antigens were synthesized using OVA and cationized O-VA as carriers to screen antisera. The results showed that higher specificity and lower cross-reactivity antibody was raised with IC50 values of 0.1 ng/ml, which indicated that the length of spacer arm involved in immunogen has great effects on the raising of specific antibody. Furthermore, the heterology of space arm incorporated in coating antigen has great influence on the sensitivity of ELISA.
【语种】中文
【第一作者】李平
【通讯作者】杨曙明
【期刊名称、卷期、页码】免疫学杂志,2011,27(4):332-345
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【学科分类】免疫学

【题目】环丙沙星特异性抗体的研制
【中文关键词】环丙沙星 特异性抗体 ELISA
【英文关键词】ciprofloxacin CIP specificantibodies ELISA
【中文摘要】目的:制备抗环丙沙星(CIP)的特异性抗体,以ELISA方法对其进行评价,为进一步研制CIP快速检测试剂盒打基础。方法:以阳离子化牛血清白蛋白(cBSA)为载体合成免疫原CIP-cBSA,免疫新西兰长耳白兔和BALB/c小鼠,同时以天然、阳离子化鸡卵清白蛋白(nOVA、cOVA)为载体合成包被原CIP-nOVA、CIP-cOVA进行抗血清的筛选,以间接(竞争)ELISA法测定抗血清的效价及特异性。结果:本试验获得7种抗血清,其中2种高特异性CIP抗血清,IC50达1μg/L,效价分别为4000和2000(以A450值为1.0时的抗血清稀释倍数表示),两种抗血清与恩诺沙星(ENR)、诺氟沙星(NOR)、氧氟沙星(OFL)存在不同程度的交叉反应,与青霉素(PEN)、卡那霉素(KAN)和庆大霉素(QEN)无交叉。
【英文摘要】AIM:To prepare specific antibodies against ciprofloxacin(CIP) and characterize the antibodies properities with ELISA, then laythe foundation for development of CIP rapid detection ki.t METHODS: New Zealand white rabbitsand BALB/cmicewere mi munizedwith CIP cBSA conjugate, CIP-nOVA and CIP-cOVA serving as coating antigen were used to screen antisera, indirect (competitive)ELISAwasdeveloped todetermine the titer and specificity of the antisera. RESULTS: Seven antisera against CIP were obtained, two of themwere high specific to CIPwith IC501μg/L, the titer ofwhichwas4000and2000, respectively.The antisera had some degree cross reactivitywith ENR,NORand OFL, but had hardly cross reactivitywith PEN,KANand QEN. CONCLUSION: The antibodieswith high specificity developed in thisstudycan be used to develop CIP detecting kit.

【语种】中文
【第一作者】李平
【通讯作者】杨曙明
【期刊名称、卷期、页码】细胞与分子免疫学杂志2011,27(1):
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【学科分类】免疫学

【题目】高效液相色谱-串联质谱法检测牛奶中多种苯并咪唑兽药残留
【中文关键词】苯并咪唑 高效液相色谱 串联质谱法 QuEChERS方法
【英文关键词】Benzimidazole Highperformance liquid chromatography tandem mass spectrometry QuEChERS
【中文摘要】采用正交试验优化的QuEChERS方法处理样品,建立了牛奶中包括前体药物和代谢物在内12种苯并咪唑类(BZs)兽药残留的高效液相色谱　串联质谱检测方法。方法在1~ 500　g/kg范围内线性良好,相关系数为0　9980~0　9996,平均回收率72　4%~ 108　3%,RSD为1　4%~ 9　7%,检出限低于0.5μg/kg,定量限低于1.5μg/kg。
【英文摘要】Amulti-residue analysis method for the simultaneous quantitative determination of 12 benzimidazoles(BZs) inmilkhas beendeveloped andvalidatedby liquidchromatography tandemmass spectrometry.The samples were extracted andpurifiedwith the optimized QuEChERS method. In thismethod, acetonitrile with 0.5% acetic acidwere used as an extractan.t PSA were scavenging materia.l The liquid chromatographic separation was performed on a reversed phase C18 columnwithgradient elution using a mobile phase consisting of water containing 0.005mol formicacidandacetonitrile, andoverall recoveriesrangedfrom72.4% to108.3%.Linearitywas excellent in the fortificationrange examined (1~ 500　g/kg). TheRSDs for the repeatability ranged from1.4% to9.7%. The limitsof detectionwerebelow0.5 μg/kg andthe limitsof quantification forBenzimidazoles were below 1.5 μg/kg.
【语种】中文
【第一作者】刘洪斌
【通讯作者】杨曙明
【期刊名称、卷期、页码】分析试验室,2011,30(3):13-17
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【引文索引号】123456789
【学科分类】分析化学

【题目】两种不同偶联比的莱克多巴胺免疫原免疫效果比较
【中文关键词】莱克多巴胺 半抗原 偶联比 抗体
【英文关键词】Ractopamine semi-hapten Coupling ratio Antibody
【中文摘要】将同窝3月龄体重2 kg左右的新西兰白兔随机分为2组,每组5只,分别用偶联比为2.5∶1、10∶1的莱克多巴胺-BSA(BSA-Rac)免疫6次后,间接ELISA和间接抑制ELISA检测抗血清的效价和特异性。结果表明,偶联比为10∶1的免疫原产生了效价超过1∶10000以上、IC50值约为10 ng/ml的抗体,而偶联比为2.5∶1的免疫原未产生抗体。
【英文摘要】The antibodies from immunogen with different coupling ratios were compared with each other. The results showed that the immunogen with coupling ratio of 10:1 produced antibody with efficiency more than 1:10000 and IC50 value of approximately 10 ng/ml, while the immunogen with coupling ratio of 25:1 did not produce antibodies.
【语种】中文
【第一作者】于洪侠
【通讯作者】杨曙明
【期刊名称、卷期、页码】中国畜牧兽医,2007,34(4):147-148
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【引文索引号】123456789
【学科分类】免疫学

【题目】氯丙嗪残留检测技术研究进展
【中文关键词】氯丙嗪 残留 检测
【英文关键词】chlorpromazine residues detec
【中文摘要】食品安全问题日益成为社会关注的焦点,氯丙嗪作为兽药和饲料添加剂饲喂动物会造成大量残留,作者对现有的各种检测方法作一概述,以便研究者能在此基础上进一步改进和发展。
【英文摘要】The safety of food product is the focus of society. Chlorpromazine as the veterninary and feed addtives feeding animals lead to residues, this paper make review for mainly detect, it would sever as a resource for researchers to do further studies.
【语种】中文
【第一作者】刘建静
【通讯作者】杨曙明
【期刊名称、卷期、页码】中国畜牧兽医,2008,35(10):141-144
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【引文索引类型】其他
【引文索引号】123456789
【学科分类】免疫学

【题目】An Internet-Based Expert System Platform for Assistant Identification of Agricultural Pests
【中文关键词】专家系统;互联网;树状结构;农业病虫害;鉴定
【英文关键词】Expert System, Internet, Dendriform Hierarchical Structure, Agricultural Pests, Identification
【中文摘要】互联网为智能软件的研究和开发提供了很好的环境。基于互联网的专家系统为专家组织与农业病害虫种类和它们的特点相关的知识提供了平台,并依此建立应用型专家系统。系统开发采用服务器/浏览器(S/B)架构,使用PHP语言。用树状结构组织系统中与病害虫种类和特点相关的知识,它可以让专家在知识库里更易进行管理病虫害的信息的,如添加,删除,修改等。专家也可以通过系统索引引擎的索引规则将库中的病虫害种类信息与特点相连接。基于平台系统建立起来的应用型专家系统可以为普通用户提供服务,用户只需准确输入农业病害信息,系统就能鉴定病虫害种类。该系统还具有自学习性。
【英文摘要】The Internet provides a fertile ground for research and development of intelligent software applications. An Internet-Based Expert System was designed to be a platform or tool for experts to organize the knowledge related to the agricultural pest species/category and their characteristics according to their features and to establish the application expert system. The system developed in PHP with AJAX is based upon a Server/Browser(S/B) architecture which employs a user interface that is accessible with standard web browsers. Dendriform hierarchical Structures are employed to organize the knowledge related to the pest species/categories and characteristics in the system, which can make it easier for the experts to manage, such as add, delete or modify, the information of pest insects and diseases and their characteristics in the knowledge-base. Experts can also connect the species/category information to the characteristics in the database as the reference rules for the reference engine in the system. The application expert system could be established on the platform system, and can provide services for the identification of the agricultural pest insects and diseases to common users, it is easy for an ordinary person to tell accurately what the pest is, regardless of their lack of the professional knowledge of the pests. And it can be constantly expanded without any limitation.
【语种】英文
【第一作者】Qiang Li
【通讯作者】Lingwang Gao
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【学科分类】植物保护学

【题目】基于多主体的小麦生长模型系统的研究
【中文关键词】多主体系统;小麦生长模型;面向主体开发方法;协同模型
【英文关键词】Key words:Multi—Agent system;Wheat growth model;Agent oriented programming;Cooperation model
【中文摘要】本文采用面向主体的软件开发方法,以主体为基本概念模型、以主体理论和技术的具体研究成果为基础,结合现有的科研工作,将小麦生长模型和Agent技术、数据库技术、分布式计算技术、人工智能技术以及多主体系统建模技

术等相结合,经过需求分析、系统设计、系统建模,进行小麦生长模型多主体系统的开发.
【英文摘要】Abstract:Based on the agent theory,technology research,agent oriented programming software development method,and thecurrent researches,this paper has built a wheat growth model multi—agent system(MAS),which combined with wheat growth modeltechnology,agent technology,distributed computing technology,artificial intelligence technology,database technology and MASmodeling technology through requirement analysis,system design and system modeling.
【语种】中文
【第一作者】刘升平
【通讯作者】诸叶平
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【学科分类】农学其他学科

【题目】Develop Wheat Growth Model Multi-Agent System with MaSE method
【中文关键词】无
【英文关键词】MaSE, Multi-Agent System, Wheat Growth Model, AOP, Agent Cooperation
【中文摘要】无
【英文摘要】The advent of multi-agent systems has brought together many disciplines and given us a new way to look at intelligent, distributed systems. However, traditional ways of thinking about and designing software do not fit the multi-agent paradigm. Based on agent theory, technology research and multi-agent environment, this paper describes agent oriented programming software development method – MaSE and analyzed wheat growth model. Through requirement analysis, system design and system modeling, this paper builds manage agent, fertilize agent, irrigate agent, weather agent, soil agent, growth agent and simulation agent and develops wheat growth multi-agent system.
【语种】英文
【第一作者】刘升平
【通讯作者】刘升平
【期刊名称、卷期、页码】The First International Conference on Computer and Computing Technologies in Agriculture, 2007:1231-1242.
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【学科分类】农学其他学科

【题目】基于Agent技术的玉米生产管理协同决策系统研究
【中文关键词】玉米管理; 协同决策; Agent; 多Agent 系统
【英文关键词】Corn production management, Co- decision, Agent, Multi- agent System
【中文摘要】针对传统农业信息系统在解决分布式网络环境下的复杂决策问题的不足, 利用多Agent 技术智能性、交互性、协作性的优点, 应用基于UML 的面向Agent 的系统分析方法, 提出了基于Agent 技术的作物生产管理协同决策系统的设计思想和实现方法, 用于实现分布式环境下的作物信息共享、软件共享、协同工作和群决策支持; 本文以玉米为实验对象, 结合玉米生长模拟模型和玉米知识模型, 实现预测功能和决策功能的有机耦合与集成。通过开发实践分析, 多Agent 作物协同决策模型及系统为解决农业系统复杂问题的决策提供了新的技术手段和方法, 提高了作物生长预测和栽培决策的精确性。
【英文摘要】Abstract: Aims at the defects of traditional agriculture information system in solving complex decisionmakingproblems under the distribution network environment, Uses the intelligence, the interaction, thecooperation merit of the multi- agent technology, applies agent- oriented system analysis method based onUML, a kind of agent - based design thought and the realization method be proposed for corn productionmanagement co- decision support system. It's used in to realize crops information sharing, software sharing,the joint operation and the group decision- making support under distributed environment; it can hang togetherthe growth model and knowledge model of corn, realize organic coupling and integration between thefunction of forecast and decision-making. Through the development, practice and analysis, it's proved thatthe multi- agent crop co- decision making model and the

system has provided a new technical means andmethod for the solution of complex decision- making questions in agricultural system, moreover enhancedthe accuracy of crops growth forecast and cultivate policy- making.
【语种】中文
【第一作者】范瑾
【通讯作者】诸叶平
【期刊名称、卷期、页码】中国农学通报, 2007,23(7):572-576
【论文发表时间】2007-07-11 00:00:00
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【引文索引号】
【学科分类】农学其他学科

【题目】Maize Production Emulation System based on cooperative models
【中文关键词】无
【英文关键词】maize; cooperative models; simulation; emulation system
【中文摘要】无
【英文摘要】Based on the maize ecophysiological characteristics, the maize developping process-based cooperative models including growth model, developmental phase models, water balance model and nitrogen balance model etc. was built combined with the basic data such as variety characteristics, weather data, soil level and cultivation management with the technology support of system engineering method, crop simulation and computer. On the basis of cooperative models, this paper further constructed Maize Production Emulation System (MPES) with several additional functions such as, determining variety characteristic parameters, deciding the planting design, simulating maize phenology stages and production features, warning of the nitrogen leaching in advance, simulating the water and nitrogen deficit degree and maize growth three-dimensional display. The system reproduces the maize production process in digital form. MPES was test through actual experiment, and the results veritied its strong mechanism and prediction performance as welll as its universal adaptation.
【语种】英文
【第一作者】李世娟
【通讯作者】李世娟
【期刊名称、卷期、页码】Computer and computing technologies in agriculture, 2007:1213-1221
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【引文索引号】
【学科分类】农学其他学科

【题目】Study on digital maize management system based on model,
【中文关键词】无
【英文关键词】Physiological stages, Simulation model, Maize, 3D visualization
【中文摘要】无
【英文摘要】Based on consulting literatures, using modeling experiences of other countries for reference and arranging field experiments, this paper applied system analysis method and dynamic simulation technology to build physiological stages-based maize growth simulation model system. In accordance with the simulation data, the 3D visualization model was designed implemented by means of 3D animation and image processing technologies, which can simulate maize's configuration. Adopting standardization interface and module encapsulation technologies, maize growth model and 3D visualization model were integrated to Digital Maize Management System. System functions include maize phenology stages simulation, yield and grain quality prediction, water and nitrogen management, soil pollution accumulation and 3D visualization for maize's configuration etc. The results of model calibration and validation showed this system possessed of good prediction performance and universal adaptation
【语种】英文
【第一作者】李世娟
【通讯作者】李世娟
【期刊名称、卷期、页码】Progress of information technology in agriculture: proceeding on intelligent information technology in agriculture, 2007:240-243

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【学科分类】农学其他学科

【题目】Research on remote crop production management system based on crop simulation models and webGIS
【中文关键词】无
【英文关键词】crop model, WebGIS,crop production
【中文摘要】无
【英文摘要】In order to simulate growth and yield of crop in field scale,crop simulation models always require a lot of initial parameters.WebGIS is a powerful tool for obtaining,managing and analyzing spatial data on the Web.With the support of WebGIS,crop models based on web services can be easily run on the web by remote client and provide decision information and measures for crop production.In this paper,a remote crop production management system based on crop models and WebGIS is discussed.After the input variables for the crop model are obtained by WebGIS tool,the model will be run and the database will be updated with the results of the simulation.Spatial analysis and representation of crop model input data and output results can be done effectively on the web.Both the input data for the model and outputs from the model can be displayed on a map.
【语种】英文
【第一作者】张建兵
【通讯作者】张建兵
【期刊名称、卷期、页码】The First International Conference on Computer and Computing Technologies in Agriculture, 2007:1259-1265
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【学科分类】农学其他学科

【题目】Forecast research of crop water requirements based on fuzzy rules
【中文关键词】无
【英文关键词】fuzzy logic system,genetic algorithms,crop water requirements
【中文摘要】无
【英文摘要】this paper put forward the idea of producing fuzzy rules by genetic algorithms based on Takagi-Surgon Fuzzy Logic System from the dataset of multidimension climate data and crop water requirements. the forecast model was tested and the result showed that it was an effective way to forecast crop water requirements by fuzzy ruls model.
【语种】英文
【第一作者】张建兵
【通讯作者】张建兵
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【题目】Designing and algorithm implementing of the expert system platform for assistant identification of agricultural pests based on a dendriform hierarchical structure
【中文关键词】树状结构;专家系统;辅助鉴定,病虫害;算法实现
【英文关键词】Dendriform Hierarchical Structure, Expert System, Assistant Identification, Pest,Algorithm implementation
【中文摘要】用树状结构对繁多的病虫害种类进行分类,并在数据库管理系统(DBMS)中对其数据进行管理,用表格存储病虫害的种类和特征点信息,这些特征是与分类相关的,依此建立一个接点表(x/ref)作为专家系统中病虫害鉴定的知识库,表中包括所有种类的鉴定特征。采用关系演算法来估算潜在的病虫害种类与用户选择的病虫害特征集及知识库中的鉴定特征

集之间的关系。该系统是一个开放的灵活的系统,可以为植保专家建立一个新的应用型专家系统,并为普通农业用户提供病虫害鉴定服务。

【英文摘要】being numerous, the insect and disease pests were organized within classifications described as a dendriform hierarchical(tree-shaped) structure. The data of the structure were managed by database management system(DBMS), tables were designed to store the information about the species/catagory and related characteristics. The characteristics were related to the species/catagory to construct a junction/x-ref table as the knowledge base of expert system for insect and desease pest identification, including sets of identification characteristics for all species/catagory in the table. Relational calculus was employed to estimate the potential species/category of the insect and desease pests in relation to inclusion of the set of characters selected by users and the sets of identification characteristics in the knoledge base of the system. The system can be used as an open and flexible platform for profissional users involved in plant protection to establish new expert application system that provide pest identification services for common agricultural users.

【语种】英文

【第一作者】Lingwang Gao

【通讯作者】Lingwang Gao

【期刊名称、卷期、页码】Conference article (CA) P205-P210

【论文发表时间】2009-05-01 00:00:00

【引文索引类型】EI

【引文索引号】20095312599914

【学科分类】植物保护学

【题目】Extraction and analysis of digital images feature of three kinds of wheat diseases

【中文关键词】分割,形态特征;主成分分析;判别分析

【英文关键词】segmentation; morphological feature; principal component analysis; discriminant analysis.

【中文摘要】通过分析三种小麦病害图像形态特征的方法对其进行自动识别。将小麦白粉病、小麦纹枯病和小麦条锈病三种病害图像分割得到目标区域,然后优化并提取形态学数据,利用统计软件分析数据,采用主成分分析与判别分析的方法,筛选出五个特征参数:球状性、圆形性、Hu1、Hu2、等效半径。三种病害样本的识别率分别为96.7%,93.3%和86.7%。

【英文摘要】In this paper, the method for automatic identification of three wheat diseases was tried by analyzing the morphological characteristics of their images. The target area was got by segmenting three kinds of wheat diseases images on wheat powdery mildew, wheat sharp eyespot, and wheat stripe rust. Then via optimizing and extracting the morphological data, and using statistical analysis software to analysis the data with the principal component analysis and the discriminant analysis, five characteristic parameters that Sphericity, Roundness, Hu1, Hu2, equivalent radius were selected using as identification factors, and the recognizable rates of the samples on the three wheat diseases were 96.7%, 93.3%, and 86.7%, respectively.

【语种】英文

【第一作者】Li Jinghui

【通讯作者】Gao Lingwang

【期刊名称、卷期、页码】Conference article (CA) P2543-P2548

【论文发表时间】2010-05-01 00:00:00

【引文索引类型】EI

【引文索引号】20105213529397

【学科分类】植物保护学

【题目】RFID BASED GRAIN AND OIL PRODUCTS TRACEABILITY AND ITS COMPUTER IMPLEMENTATION

【中文关键词】无

【英文关键词】RFID, traceability, grain and oil products

【中文摘要】无

【英文摘要】Food safety is a widely concerned problem in current world. Traceability technology is an effective measure to solve the problem. This paper describes the study of the traceability of grain and oil products. Include the study contents, and a system we developed for traceability of grain and oil products, and the demonstration of the study. The system we developed was used in Luhua group and some supermarkets and get good feedbacks.

【语种】英文
【第一作者】胡海燕
【通讯作者】胡海燕
【期刊名称、卷期、页码】CCTA 2009,IFIP AICT 317,pp 400-406,2010
【论文发表时间】2010-01-01 00:00:00
【引文索引类型】EI
【引文索引号】ISBN-13:9783642122194
【学科分类】计算机应用

【题目】便携式农田信息采集于无线传输系统研究
【中文关键词】信息采集;PDA;C/S 体系;无线传输
【英文关键词】farm information collection;PDA;C/S structure;Wireless transmission
【中文摘要】研究开发了基于C/S 技术体系的便携式农田信息采集与无线传输系统。结合GPS 定位技术、GPRS 无线传输技术,构建便携式农田病害作物信息的采集、传输与诊断系统雏形。客户端手持设备(PDA)采集病害作物的图像信息、位置信息和用户的初步诊断信息后,提出与服务器连接请求,以无线方式将病害信息发送到服务器,供服务器作进一步处理;服务器监测到客户端的连接请求后,进行连接,实时接收、存储、显示病害信息;服务器的存储诊断结果和防治方案,供客户端实时获取。试验结果表明,系统各项功能均运行稳定;客户端采集设备体积小,便于携带,图形界面友好,操作简单,便于推广应用。
【英文摘要】Abstract: In the paper, a portable system of information collection and transmission was built, used of client-server (C/S)technology system and combined with GPS, GPRS technology. Client obtains picture and GPS information of field crops and associated description information, and then the information will be transported to the Server termination through the GPRS wireless network. After received, feedback will be sent to the Client by the Server termination. So, a portable hardware and software system of field information collection was constituted. The test results show that the system achieved the expected requirements, data collection and transmission, and the expected function are achieved well.Additionally, the system has stable and simply operation.
【语种】中文
【第一作者】蔡义华
【通讯作者】刘刚
【期刊名称、卷期、页码】2010年农业工程学会会议论文集
【论文发表时间】2009-08-22 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】农学其他学科

【题目】Design of Portable Image Capturing Device for Remote Crop Disease Diagnosis System
【中文关键词】作物远程诊断,图像采集,嵌入式系统
【英文关键词】crop remote diagnosis; image capturing; embedded system; Linux;
【中文摘要】无
【英文摘要】With the computer technology applied in agriculture more and more widely, crop disease diagnosis system based on image processing technology has gradually been applied to agricultural production。The intelligent diagnostic system presented in this paper is an interactive distance diagnositc tool for the diagnosis and identificaiton of diseases and insects. The objective of this system is to realize the automaton of the diagnostic process based on interaction of growers and diagnosistic centre via the wireless communication system, to enable diagnosis in crops at the earliest possible stage, using images captured by the portable image capturing device(PICD). The time required to perform a diagnosis with this system was much less than that needed during traditonal diagnosis. At the practical application of system, the reliably accurate acquisition and timely transmission of the clear images of diseased plants is very crucial to the whole diagnosis.
【语种】英文
【第一作者】祁学伟
【通讯作者】王库
【期刊名称、卷期、页码】Intelligent Automation and Soft Computing Vol.15,P1-10

【论文发表时间】2009-04-01 00:00:00
【引文索引类型】SCI
【引文索引号】1079-8587
【学科分类】农业工程

【题目】A REASONING COMPONENT ’S CONSTRUCTION FOR PLANNINGREGIONALAGRICULTURALADVANTAGEOUS INDUSTRY DEVELOPMENT
【中文关键词】区域农业优势产业,推理机,前向链,知识表达
【英文关键词】regional agricultural advantageous industry, reasoning component, forward chaining, knowledge presentation
【中文摘要】无
【英文摘要】The regional characteristic of China ’s agriculture and the present research conditions on regional agriculture have been studied first. After that, a new method is proposed that developing a system for planning regional agricultural advantageous industry development to help leaders and decision-making departments at all levels to make decisions. In order to achieve the construction of a reasoning component of such a system, the key technologies planned to be adopted are clarified in details, and the structure graph and functions graph of it have also been designed.
【语种】英文
【第一作者】范越
【通讯作者】范越
【期刊名称、卷期、页码】Computer and computing technologies in agriculture, II, 2009, pp. 1291-1297.
【论文发表时间】2009-04-30 00:00:00
【引文索引类型】null
【引文索引号】
【学科分类】计算机应用

【题目】on agent-based wheat simulation model cooperation research
【中文关键词】无
【英文关键词】Multi-agent System, Wheat Simulation Model, Cooperation
【中文摘要】无
【英文摘要】Cooperative multi-agent systems (MAS) are ones in which several agents attempt,through their interaction, to jointly solve tasks or to maximize utility. Due to theinteractions among the agents, multi-agent problem complexity can rise rapidlywith the number of agents or their behavioral sophistication. This paper proposea kind of agent-based cooperation design thought and the realization for wheatsimulation model, hangs together the growth model and knowledge model ofwheat, realize organic coupling and integration between the function of forecastand decision-making.
【语种】英文
【第一作者】刘升平
【通讯作者】诸叶平
【期刊名称、卷期、页码】Computer and computing technologies in agriculture, II, 2009, pp.1281-1289
【论文发表时间】2009-05-08 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】计算机应用

【题目】Application and estimation of wheat production emulation system in Hebei province
【中文关键词】无
【英文关键词】winter wheat, emulation system, growth and development, simulation model
【中文摘要】无
【英文摘要】In according with wheat ecophysiological characteristics, the author applied technologies of system engineering method, crop simulation and computer to build wheat developing process cooperative models including growth model,developmental phase models, water balance model and nitrogen balance model etc. with the support of basic data such as variety characteristics, weather data,soil level and cultivation management, then further constructed Wheat Production Emulation System (WPES) with several

additional functions such as determining variety characteristic parameters, deciding the planting design,simulating wheat phenology stages and production features, warning of the nitrogen leaching in advance, simulating the water and nitrogen deficit degree and wheat growth three-dimensional display. This system was validated and calibrated through actual experiment for four wheat growing seasons in Hebei province. Predicted yield and biomass were significantly correlated with observed data (R2>0.47), and the Root Mean Square Error were 5.89% and 8.94% of its observed average yield and biomass. The results verified its strong mechanism and prediction performance as well as its universal adaptation.

【语种】英文
【第一作者】李世娟
【通讯作者】李世娟
【期刊名称、卷期、页码】Computer and computing technologies in agriculture, II, 2009, pp. 79-88
【论文发表时间】2009-04-29 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】计算机应用

【题目】THREE-DIMENSION VISUALIZATION FOR PRIMARYWHEAT DISEASES BASED ON SIMULATION MODEL
【中文关键词】无
【英文关键词】3-dimension, visualization, wheat diseases, simulation model
【中文摘要】无
【英文摘要】Crop simulation model has been becoming the core of agricultural production management and resource optimization management. Displaying crop growth process makes user observe the crop growth and development intuitionisticly. On the basis of understanding and grasping the occurrence condition, popularity season, key impact factors for main wheat diseases of stripe rust, leaf rust, stem rust, head blight and powdery mildew from research material and iterature, we designed 3D visualization model for wheat growth and diseases occurrence. Themodel system will help farmer, technician and decision-maker to use crop growth simulation model better and provide decision-making support. Now 3D visualization model for wheat growth on the basis of simulation model has been developed, and the visualization model for primary wheat diseases is in the process of development.

【语种】英文
【第一作者】李世娟
【通讯作者】李世娟
【期刊名称、卷期、页码】Computer and computing technologies in agriculture, III, 2010, pp. 375-381.
【论文发表时间】2010-04-25 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】计算机应用

【题目】Agent-based Cooperative Analysis and Assistant Decision-MakingMethod for Regional Agricultural Economic Information
【中文关键词】无
【英文关键词】region ; agricultural economy; agent; cooperation; analysis; assistant decision-making
【中文摘要】无
【英文摘要】A method of applying agent technology to study agricultural economic information and construct decision-making system was provided by means of analyzing the problems existed in current assistant decision support system. The design idea and development technologies were discussed. The prototype of agent-based agricultural economic information analysis and decision-making system was built, and realize agricultural economy information and software sharing, cooperation analysis and group decision making in distributed system. Combining with various analyzing models and knowledge models, we implemented the cooperation and integration between prediction function and decision-making function.

【语种】英文
【第一作者】诸叶平
【通讯作者】诸叶平
【期刊名称、卷期、页码】Sixth international conference on fuzzy systems and knowledge discovery,2009,pp:317-321

【论文发表时间】2009-05-28 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】计算机应用

【题目】An Image-Based Diagnostic Expert System for Corn Diseases
【中文关键词】无
【英文关键词】expert system, disease diagnosis, disease image, corn
【中文摘要】无
【英文摘要】The annual worldwide yield losses due to pests are estimated to be billions of dollars. Integrated pest management (IPM) is one of the most important components of crop production in most agricultural areas of the world, and the effectiveness of crop protection depends on accurate and timely diagnosis of phytosanitary problems. Accurately identifying and treatment depends on the method which used in disease and insect pests diagnosis. Identifying plant diseases is usually difficult and requires a plant pathologist or well-trained technician to accurately describe the case. Moreover, quite a few diseases have similar symptoms making it difficult for non-experts to distinguish disease correctly. Another method of diagnosis depends on comparison of the concerned case with similar ones through one image or more of the symptoms and helps enormously in overcoming difficulties of non-experts. The old adage ‘a picture is worth a thousand words’ is crucially relevant. Considering the user’s capability to deal and interact with the expert system easily and clearly, a webbased diagnostic expert-system shell based on production rules (i.e., IF < effects > THEN < causes >) and frames with a color image database was developed and applied to corn disease diagnosis as a case study. The expert-system shell was made on a 32-bit multimedia desktop microcomputer. The knowledge base had frames, production rules and synonym words as the result of interview and arrangement. It was desired that 80% of total frames used visual color image data to explain the meaning of observations and conclusions. Visual color image displays with the phrases of questions and answers from the expert system, enables users to identify any disease, makes the right decision, and chooses the right treatment. This may increase their level of understanding of corn disease diagnosis. The expert system can be applied to diagnosis of other plant pests or diseases by easy changes to the knowledge base.
【语种】英文
【第一作者】LAI Jun-chen
【通讯作者】李少昆
【期刊名称、卷期、页码】Agricultural Sciences in China,2010, 9(8): 1221-1229
【论文发表时间】2010-08-12 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】农业基础学科

【题目】基于Fisher判别分析的玉米叶部病害图像识别
【中文关键词】玉米; 叶部病害; 特征提取; 遗传算法; 费歇尔判别分析;
【英文关键词】maize; leaf disease; feature extraction; genetic algorithm; Fisher discrimination analysis;
【中文摘要】【目的】利用计算机视觉技术实现玉米叶部病害的自动识别诊断。【方法】在大田开放环境下采集病害图像样本,综合应用基于H阈值分割、迭代二值化、图像形态学运算、轮廓提取等算法处理病害图像,抽取病斑,提取病害图像的纹理、颜色、形状等特征向量,采用遗传算法优化选择出分类特征,并利用费歇尔判别法识别普通锈病、大斑病和褐斑病3种玉米叶部病害。【结果】研究中提取了墒、相关信息测度、分形维数、H值、Cb值、颜色矩、病斑面积、圆度、形状因子等28个特征向量,利用遗传算法优选出H值、颜色矩、病斑面积、形状因子等4个独立、稳定性好、分类能力强的特征向量,应用费歇尔判别分析法识别病害,准确率达到90%以上。【结论】综合运用数字图像处理技术、图像纹理、颜色、形状特征分析方法、遗传算法、费歇尔判别分析方法可以有效识别基于田间条件下采集的病害图像,为田间开放环境下实现大田作物病虫害的快速智能诊断提供借鉴。
【英文摘要】【Objective】 The recognition and diagnosis methods of main maize leaf diseases using machine vision were studied in this paper.【Method】 The diseases pictures of different varieties or periods were taken in fields,methods of threshold segmentation based on hue,iteration binarization,image morphological operation and contour extraction were adopted for image processing and image segmentation,then the texture,color and shape features were extracted.Genetic algorithm was used to get approximate features.Finally ...

【语种】中文
【第一作者】王娜
【通讯作者】李少昆
【期刊名称、卷期、页码】中国农业科学 , Scientia Agricultura Sinica, 2009年11期,P3836-3842
【论文发表时间】2009-11-13 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】农业基础学科

【题目】基于G-MRF 模型的玉米叶斑病害图像的分割
【中文关键词】Gauss; Markov; 玉米叶部病斑; 图像分割;
【英文关键词】Gauss; Markov; maize disease spots; segmentation;
【中文摘要】【目的】图像分割是作物病害自动识别系统实现的难点之一,前人研究大多采用基于阈值或聚类的分割算法,方法简单、易于实现,但分割精度较低。本文引入高斯模型的Markov随机场分割模型(G-MRF),对玉米叶部病斑图像进行分割试验,以期提高分割精度。【方法】在VC6.0下实现了G-MRF分割模型,G-MRF既利用了图像像素的灰度信息,又通过像素类别标记的Gibbs光滑先验概率引入了图像的空间信息,是能较好地分割含有噪声图像的算法。采用该算法对大斑病、小斑病、灰斑病和弯孢菌叶斑病等4种主要玉米叶部病害的图像进行了分割测试,并与基于阈值和基于Gauss模型的分割算法进行比较。【结果】基于G-MRF分割模型的分割,目标区域的一致性和边缘的清晰方面明显好于基于阈值和Gauss模型的分割算法,其平均正确分类率达96.35%,分别较基于阈值和基于Gauss模型的分割算法高出3.75%和4.03%,差异达到显著水平。【结论】基于G-MRF模型的分割算法鲁棒性高,能够有效地将病斑区域从叶片部分离,分割正确分类率达96.35%,可用于玉米叶斑类病害图像的分割。
【英文摘要】【Objective】 Image segmentation is one of the difficult issues in crop disease automatic identification systems, in present research, algorithms based on threshold or based on clustering were mostly used. These methods are simple and easy of implementation, but the precision is low. In order to improve the segmentation precision of maize disease spots, Gauss-MRF model was introduced to segment maize disease spot images. 【Method】 The algorithm was implemented on VC6.0. Gauss-Markov random field model takes ad...
【语种】中文
【第一作者】赖军臣
【通讯作者】李绍昆
【期刊名称、卷期、页码】中国农业科学 , Scientia Agricultura Sinica, 2010年 43(7)期,P1363-1369
【论文发表时间】2010-07-02 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】农业基础学科

【题目】基于图像规则的玉米病害诊断系统的设计与实现
【中文关键词】玉米; 病害诊断; 规则推理; 专家系统;
【英文关键词】Maize; Disease diagnosis; Rule-based reasoning; Expert system
【中文摘要】针对传统病害诊断系统在病症推理过程中借助语言文字描述规则诊断病害让农户难以理解和应用的问题,将图像指认方法与传统文字规则推理技术相结合,建立的病害诊断系统更适合于农户使用,并改善了专家系统的应用效果,利于其在玉米生产中的应用。介绍了基于图像规则的玉米病害诊断系统的设计思想、功能特点和实现方法。
【英文摘要】Designing ideas, structure, functions, features and implementation method of the maize disease diagnosis system were introduced minutely in this paper based on image rules. The new method combined image and liter-al rules, which overcomes the disadvantages of understanding and applying problems caused by traditional liter-al-based system, and was more suitable for peasant household. In addition, the system effectively improved the application effect ,and is favorable to be applied and popularized in future.
【语种】中文
【第一作者】明博
【通讯作者】李绍昆
【期刊名称、卷期、页码】玉米科学2009,17(6):132~135

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【引文索引类型】其他
【引文索引号】
【学科分类】农业基础学科

【题目】作物病害机器视觉诊断研究进展
【中文关键词】作物; 病害; 机器视觉; 诊断; 进展;
【英文关键词】crop; disease; computer-vision; diagnoses; progress;
【中文摘要】据统计,由病害引起的作物产量损失平均在12%以上,病害不仅直接影响产量,而且也严重降低农产品的品质。通过快速诊断识别作物病害而及时采取防治措施,提高作物病害的诊断水平是保证有效防治病害的重要组成部分。机器视觉技术的发展为作物病害诊断和识别提供了快捷、低廉、无损检测的可能手段。本文综述了面向多种作物病害机器视觉诊断研究的进展,归纳了作物病害机器视觉诊断的识别模式,分析了诊断中存在的问题,提出了相应的解决方法。
【英文摘要】Statistics indicate that the crops output average loss caused by plant disease is above 12%, plant diseases not only affect the output directly, but also seriously reduce the quality of agricultural products. Taking the preventing and controlling measures promptly through rapid diagnosis and identification of crop diseases and improving the diagnosis level of crop diseases are an important part in preventing and controlling plant disease effectively. Development of computer-vision technology makes it possib...
【语种】中文
【第一作者】赖军臣
【通讯作者】李绍昆
【期刊名称、卷期、页码】中国农业科学, Scientia Agricultura Sinica, 2009年 42(4):1215-1221
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【题目】具条实蝇在中国的适生性研究
【中文关键词】具条实蝇;适生性;DYMEX;ARCGIS
【英文关键词】无
【中文摘要】具条实蝇隶属双翅目实蝇科果实蝇属,被我国列为进境检疫性有害生物。该实蝇危害多种葫芦科植物。本研究在中国748气象站点的气象数据和具条实蝇生物学数据的基础上,综合运用DYMEX2.0软件和ARCGIS9.0软件对具条实蝇在我国的适生性进行研究。结果显示,具条实蝇在我国具有较高的适生性,其中高度适生区主要分布在16N-34N之间,包括台湾、香,湖南、浙江大部分地区港、澳门、海南、广东、广西、云南、福建西南沿海,贵州、重庆、湖北、河南和江苏的部分地区,四川盆地,江西南部、安徽北部,甘肃的武都。本研究提出了针对不同适生程度区域内的防控措施建议,对科学制定我国具条实蝇检疫政策和措施,防止该实蝇入侵和进一步扩散等具有现实意义。
【英文摘要】无
【语种】中文
【第一作者】倪文龙
【通讯作者】倪文龙
【期刊名称、卷期、页码】中国生物防治, 2009, 25(增2):61-67
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【题目】Cre/lox System and PCR-Based Genome Engineering in Bacillus subtilis
【中文关键词】基因的框内删除、基因组的重排
【英文关键词】in-frame deletion、genome rearrangement
【中文摘要】现有的枯草芽孢杆菌遗传操作系统依赖于载体的构建和枯草芽孢杆菌自身的重组系统,耗时长、效率低。本文将Cre/loxP定点重组系统和重叠延伸PCR技术结合建立了一套快捷高效的枯草芽孢杆菌基因组操作方法。用重叠延伸PCR技术代替载体构建快速地将目标敲除位点的上下游同源臂和抗性标记盒融合起来,用Cre/loxP定点重组系统代替菌体

自身的重组系统高效的删除抗性标记,整个操作过程可以在2天内完成,大大提高了效率。应用该方法实现了枯草芽孢杆菌的基因敲除、基因的框内删除以及基因组大片断的删除。该方法还适用于基因组的重排和大规模的基因敲除。
【英文摘要】We have developed a fast and accurate method to engineer the Bacillus subtilis genome that involves fusing by PCR two flanking homology regions with an antibiotic resistance gene cassette bordered by two mutant lox sites (lox71 and lox66). The resulting PCR products were used directly to transform B. subtilis, and then transient Cre recombinase expression in the transformants was used to recombine lox71 and lox66 into a double-mutant lox72 site, thereby excising the marker gene. The mutation process could also be accomplished in 2 days by using a strain containing a cre isopropyl- -D-thiogalactopyranoside (IPTG)-inducible expression cassette in the chromosome as the recipient or using the lox site-flanked cassette containing both the cre IPTG-inducible expression cassette and resistance marker. The in vivo recombination efficiencies of different lox pairs were compared; the lox72 site that remains in the chromosome after Cre ecombination had a low affinity for Cre and did not interfere with subsequent rounds of Cre/lox mutagenesis. We used this method to inactivate a specific gene, to delete a long fragment, to realize the in-frame deletion of a target gene, tointroduce a gene of interest, and to carry out multiple manipulations in the same background. Furthermore,it should also be applicable to large genome rearrangement.
【语种】英文
【第一作者】闫新
【通讯作者】李顺鹏
【期刊名称、卷期、页码】Applied and Environmental Microbiology. 2008, 74(17), 5556-5562
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【学科分类】分子生物学

【题目】崇化大梨×新世纪梨F_1代分子遗传图谱的构建及两个果实性状的QTL分析
【中文关键词】梨;遗传图谱;QTL分析;果实发育期;果形指数
【英文关键词】Pear; Linkage map; QTL analysis; Fruit developing period; Fruit shape index
【中文摘要】利用崇化大梨×新世纪梨杂交得到的94株F1代实生苗为作图群体,应用mapmaker/exp 3.0软件构建了一张包括19个SSR标记,315个SRAP标记,合计335个标记分属于18个连锁群的遗传图谱,图谱总长度为1300 cM,平均图距为3.9 cM。采用区间作图法检测到与果实发育期、果形指数两个果实性状相连锁的QTL位点7个,其中主效的QTL位点2个(LOD≥3.5),分别位于LG2和LG17连锁群。
【英文摘要】A genetic linkage map was constructed from a F1 population comprising 94 seedlings derived from a cross between Chonghuadali × Shinseiki using mapmaker/exp 3.0.The map consisted of 19 SSR markers and 315 SRAP markers which belong to 18 linkage groups and spans 1 300 cM with an average genetic distance of 3.9 cM.The interval mapping was used to identify quantitative trait loci(QTL) associated with fruit developing period and fruit shape index in the F1 population.The results indicated 7 QTLs were linked to...
【语种】中文
【第一作者】王龙
【通讯作者】李秀根
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【引文索引号】
【学科分类】农艺学

【题目】利用正交设计优化桃SRAP-PCR反应体系
【中文关键词】桃;SRAP;正交设计;分子标记
【英文关键词】Peach(Prunus persica);SRAP;Orthogonal design;DNA marker
【中文摘要】以桃基因组DNA为模板,通过正交试验设计,从Mg2+、Taq酶、dNTP、引物、模板5种因素4个水平对桃SRAP反应体系进行优化,建立了适合于桃的SRAP—PCR优化反应体系,该25 μL反应体系:模板DNA 50 ng,MgCl2 2.5 mmol/L,dNTP 200 μmol/L,上下引物各0.4 μmol/L,TaqDNA聚合酶1.5 U,以灭菌双蒸水补齐至25 μL。PCR 反应程序为:94 ℃预变性5 min;94 ℃变性1 min ,35 ℃复性1 min ,72 ℃延伸1 min ,5 个循环;94 ℃变性1 min ,50 ℃复性1 min ,72 ℃延伸1 min ,35

个循环,72 ℃延伸10 min。
【英文摘要】By usi ng the genomic DNA of peach(Prunus pe r si ca) a 8 template,the major components of SRAP,such as the concent r at ion of Mg2 + , dNTPs ,Taq DNA polymerase , primers and template,were optimized byorthogonal design(five factor ×four levels) in this study. The results showed t hat the optimum SRAP reaction system includes DNA template 50 ng, MgCl2 2.5 mmol/ L , dNTPs 200 μ mol/L, primer 0. 4 μ mol/ L and Taq DNA polymerase 1. 5 U in the 25 μ L volume reaction. The most suitable protocol was initially denaturing at 94 ℃ for 5 min , t hen pre2amplifying at 94 ℃ 1 min , 35 ℃1min and 72 ℃1 min for five cycles , finally amplifying for 35 cycles when t he annealing temperat ure was adjusted to 50 ℃.
【语种】中文
【第一作者】张妤艳
【通讯作者】张妤艳
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【学科分类】园艺学

【题目】与桃树性高/矮性状相关的SRAP标记
【中文关键词】桃,矮生性状,SRAP标记
【英文关键词】Peach;Dwarf trait;SRAP marker
【中文摘要】利用矮生型进行密植栽培是桃树生产发展的一个重要方向。利用SRAP标记技术以寿星桃A20(Prunus persica var. densa Makino)与普通桃(P. persica L.Batsch)品系‘ 99-12-34 ’的F1杂交分离群体共l23个单株(矮生型63株,普通型60株)为试材,对控制桃高/矮性状的基因进行分子定位,从而为明确桃的矮化机理提供依据。用分离群体分组分析法(Bulked Segregant Analysis,BSA),通过对336对SRAP引物的筛选,获得了一个与高/矮性状连锁距离为3.2cM 的SRAP标记。利用该标记对本试验群体以外的34个桃品种的DNA进行扩增,符合率达到88.2%,初步认为可以用于桃的分子辅助育种。
【英文摘要】Close planting by brachytic dwarf peach is one of the main direction for peach industry.About123 (1-year—old)hybrid individuals derived from the cross of Shouxing Tao peach (Prunus persica var.densa Makino)A20 and peach[P persica(L.)Batsch]99-12-34 which was used to identify SRAP markers linked to the character of tall normal/brachytic dwarf for understanding of the dwarfing mechanism.Theindividuals were divided into two types.About 63 individuals have the character of brachytic dwarf and 60individuals have the character of tall norma1.Altogether.336 pairs of SRAP primers were screened bybulked segregant analysis(BSA).Finally,a SRAP marker,Me l 1 Era25,which linked to the character of tall normal/brachytic dwarf at a distance of 3.2 cM ,was selected.The marker wea used to test in 34 varieties and has the coincidence rate of 88.2% .The results showed the marker could be used for molecular assisted selection(MAS)in peach.
【语种】中文
【第一作者】张妤艳
【通讯作者】张妤艳
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【学科分类】园艺学

【题目】桃不同类型果实发育的解剖结构特性
【中文关键词】桃; 果实发育; 解剖结构
【英文关键词】Peach; Fruit development; Anatomical structure
【中文摘要】为探讨普通桃、油桃、蟠桃和油蟠桃果实发育期表皮、亚表皮和中果皮细胞的解剖结构差异,试验以同一杂交群体内的这4 种类型(各2 株)为试材,通过显微和超微观察果实表皮、亚表皮和中果皮细胞发育。结果表明,4 种类型果实的横径发育皆呈双S 曲线,果实亚表皮细胞前期变化较小,开始膨大期为盛花后42 d。普通桃、油桃和油蟠桃中果皮细胞在整个果实发育期持续膨大,类型间变化趋势基本一致,而蟠桃中果皮细胞在盛花后70-84 d 存在膨大延缓期。盛花后42-98 d,普通桃和蟠桃亚表皮与中果皮细胞膨大倍数之比大于油桃和油蟠桃。分析认为,果实有毛/无毛基因单独影响着表皮细胞形状和亚表皮与中果皮细胞膨大倍数之比, 而无毛基因与扁平基因共同影响着亚表皮淀粉粒数目,并且这种作用有累加

现象。
【英文摘要】The developmental process of the fruit epidermis, sub-epidermis and mesocarp cells of 4 peach fruit types including common peach, nectarine, flat peach and flat nectarine collected from the trees derived from same crossed population were studied through micro and super-microstructure observation. The results showed that the growth pattern of the transverse fruit section of in 4 types of peach were all of double sigmoid curves. Sub-epidermis cell expanded with a steady speed from the 42th day after full bloom; mesocarp cells of peach,nectarine and flat nectarine expanded with a high rate during total fruit development period,but the mesocarp cells of flat peach had a period from the 70th to 84th day after full bloom with a slow cell expansion. During the period from 42th to 98th day after full bloom the expanded times of the sub-epidermis and mesocarp cell in peach and flat peach was higher than nectarine and flat nectarine. This study indicated that the epidermis cell shape and the ratio of sub-epidermis to mesocarp cell expansion times were influenced by glabrous gene,the additive effect by two gene, glabrous and saucer shape genes on starch grain number were found in the experiment.
【语种】中文
【第一作者】曹珂
【通讯作者】王力荣
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【题目】桃果肉颜色性状的SSR 标记及其在品种中的验证
【中文关键词】桃; 果肉颜色; SSR; 分子标记
【英文关键词】Peach; Flesh color; SSR; Molecule marker
【中文摘要】桃果肉颜色是与果品加工密切相关的一种重要经济性状。以桃栽培种瑞光19(白肉)×Summergrand(黄肉)杂交的104 株F1 后代分离群体为试材,对桃白肉/黄肉的SSR 分子标记进行研究,以期为该性状的分子标记辅助育种奠定理论基础。结果表明,筛选的135 对引物中有4 对引物,CPDCT024、pchgms3、CPPCT026 和BPPCT011,在白肉和黄肉单株以及混合基因池间扩增出差异。分析性状与标记的连锁情况表明,CPDCT024 与白/黄肉性状遗传距离最近,为7.8 cM。试验构建了桃白/黄肉性状的连锁群,根据4 个SSR 标记与参考图谱T×E 和P2175×GN 比对,将控制白/黄肉性状的基因定位在参考图谱第1 连锁群, 对应于桃的第1 条染色体。以CPDCT024 和参考图谱上另一个与白/黄肉性状连锁距离较近的标记CPPCT026 在20 个白肉和黄肉品种上验证,CPDCT024 检测的准确率为70%,优于CPPCT026。
【英文摘要】Flesh color characteristic of peach is very important for processing. In this study,104 individuals of the F1 population derived from Ruiguang 19×Summergrand were used as materials for screening SSR markers linked to flesh color gene to establish the foundation for marker assisted selection in peach breeding. Difference bands were found among the amplified fragment using four primers,CPDCT024,pchgms3,CPPCT026 and BPPCT011 between bulked gene pool of white flesh and yellow flesh varieties,which indicated that the markers should be linked to flesh color character. The nearest marker,CPDCT024,with a distance of 7.8 cM linked to white/yellow flesh color characteristics was acquired. Flesh color gene was located on the group 1 (Chromosome 1) according to the order of SSR marker in reference map. Four SSR loci in common with a saturated reference linkage map T×E and P2175×GN allowed a comparative analysis to be made between the three maps,and homologies were found among the respective linkage groups. CPDCT024 was screened with 20 varieties to validate the marker as well as CPPCT026,a nearer marker linked to flesh color gene in reference map,the results showed that CPDCT024 was more efficiency with a score of 70% in predicating the flesh color prior to CPPCT026.
【语种】中文
【第一作者】曹珂
【通讯作者】王力荣
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【题目】桃花粉育性与花药颜色的关系及其SSR分子标记
【中文关键词】桃;花粉育性;花药颜色;分子标记
【英文关键词】Peach; Po llen fertility; Anther color; Mo lecule marker
【中文摘要】以李属桃亚属的637份桃品种种质和栽培种瑞光19 ×Summ ergrand杂交的138株F1群体为试材, 对桃花粉育性与花药颜色的关系及其SSR 分子标记进行研究。结果表明: 在所有品种中, 橘红花药最多, 占总份数的91.2%, 其中绝大部分花粉可育; 橘黄和黄色花药的种质数量次之; 白色和浅褐花药的种质最少, 且均表现为花粉不稔; 整体表现为红色和黄色花药与花粉可育具有较强的正相关性。本试验从122对SSR 引物中筛选出2 对与花粉育性性状连锁的标记CPDCT013 和CPSCT012, 根据这2个标记参考整合参考图谱的位置, 将控制花粉育性的基因定位在桃第6条染色体上端。对已经报道的2个桃花粉育性标记CPPCT004和NN J I以及第6条连锁群的其他SSR 位点在花粉育性不同的24个品种上验证, 结果表明只有UDP96- 001(125bp) 可以用于桃花粉育性的分子标记辅助育种。
【英文摘要】637 peach cultivars and 138 F1 hybrid seedlings derived from the cross of Ruiguang 19 and Summer grand(Prunus persica (L.) Batsch.) were used to investigate there lationship between anther color and pollen fertility, and screen the SSR markers linked to the pollen fertility. 91.2% o f all cultivars were jac in thanthor, and the most o f them had fertile pollen; the number of cultivars w ith orange and yellow anther took the second p lace, cultivars with white and sandy beige anthor with sterile pollen were the fewest Positive corre lation w as found between red and yellow anther co lo r and pollen fertility. 122 SSRs located at Prunus reference genetic map were screened using bulked segregant analysis(BSA) , and two SSR markers, CPDCT013 and CPSCT012, were found to be linked to fertile/sterile character. Po llen fertility gene was located on the group 6 (chromosome 6) according to the location of two marker in the reference map. CPPCT004 and NNJ I, the pollen fertility markers in peach which reported in other papers together with whole SSR in group 6, were also screened in 24 cultivars with different pollen fertility. The results showed thatUDP96-001 had a higher accuracy when be used for selecting fertile pollen cultivar.
【语种】中文
【第一作者】曹珂
【通讯作者】王力荣
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【题目】桃遗传图谱的构建及两个花性状的分子标记
【中文关键词】桃; 遗传图谱; 雌蕊发育; 重瓣; 分子标记
【英文关键词】peach; genetic linkage map; p istil development; double petal; molecularmarker
【中文摘要】以桃‘红垂枝’与其近缘种山桃‘白花山碧桃’杂交的52株F1群体为试材,采用SSR、AFLP和SRAP分子标记进行遗传分析。筛选扩增稳定且多态性丰富的38对SSR引物、61对AFLP引物和38对SRAP引物进行群体分离分析, 获得符合1∶1分离的标记441个,亲本为双杂合位点的标记52个。应用Mapmaker分析软件将符合1∶1分离的标记和雌蕊发育性状一起构建了包含11个连锁群的遗传图谱, 该图谱共206个标记(18个SSR,126个AFLP、61个SRAP和1个形态学标记),全长1 19312 cM。每个连锁群的平均长度为10815 cM, 标记间平均图距为518cM。根据18个SSR标记与T×E参考图谱比对,本试验中的11个连锁群对应于参考图谱的G1至G8, 标记的线性符合度较好。雌蕊发育性状标记定位在第1连锁群,对应于1号染色体。应用Mapmaker分析软件将亲本为双杂合位点标记和花单瓣/重瓣性状一起分析,获得1个新单瓣/重瓣基因的两个AFLP标记。
【英文摘要】A linkage map of peach was constructed with SSR, AFLP and SRAPmarkers in 52 F1 population derived from the cross of Prunus persica (L.) Batsch.‘ Hongchuizhi ’and P. david iana (Carr.) Franch.‘ Baihuashan Bitao ’. The selected p rimers including 38 SSR, 61 AFLP and 38 SRAP with rich polymorphism and steady bandswere tested in p rogeny. Four hundred and forty2one markers in 1∶1 ratio by μ2 test and 52 markers for double heterozygous lociwere scored. Mapmaker software were used to assigned the markers in 1∶1 ratio and p istil abortion trait to 11 linkage group s, the map was composed of 206 loci (18 SSRs, 126 AFLPs, 61 SRAPs, and one morphological trait) distributed in 11 linkage group s, the map covers 1 19312 cM of the peach genome. The average length of 11 group s is 10815 cM, the average distance between adjacent loci is 518cM. Eighteen SSR loci in common with a saturated reference linkage map (T×E) of Prunus allowed a comparative analysis to be made between the two map s, homologieswere found among the respective linkage group s, the map in this study showed better identitywith peach reference map. Pistil development

trait, were p laced on the group 1 (chromosome 1). Two AFLPs linked to a new double petal gene were obtained through analysis of the markers for double heterozygous loci.
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【第一作者】曹珂
【通讯作者】王力荣
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【题目】The phylogeographic system survey of native sheep breeds in The phylogeographic system survey of native sheep breeds in
【中文关键词】亚洲东南部,遗传分化,本地绵羊,种系发生类群
【英文关键词】Eastern and Southern of Central Asia; genetic
differentiation; native sheep; phylogenetic
group.
【中文摘要】本研究旨在对中亚东南部本地绵羊品种的遗传多样性和种系发生进行分析。聚类分析、主成份分析,结构分析及F 统计分析都显示这一地区的本地绵羊品种被分为2个遗传类群,蒙古-西藏绵羊类群,亚洲南部-东南部类群。蒙古羊类群和西藏羊类群在古代就有一定程度的基因交流,本研究证明中国本地绵羊属于蒙古-西藏绵羊类群。然而,中国的蒙古绵羊类群间在地理距离上没有明显的相关性。
【英文摘要】The genetic diversity and phylogenetic survey of native sheep breeds inthe eastern and southern Central Asia were assessed in the presentstudy. The clustering, principal components, structure and F statistics alldemonstrate that the native sheep breeds in these regions be classifiedinto two genetic groups: Mongolia-Tibetan sheep group and South-Southeast Asia sheep group. The Mongolia sheep group and the Tibetansheep group had a certain degree of gene communication from theancient times. In the present study we demonstrated that the Chinesenative sheep populations belonged to Mongolia-Tibetan sheep group.However, the relationships among the sheep populations in Mongoliasheep group in China were not closely related to the geographical distanceamong sheep populations.
【语种】英文
【第一作者】孙伟
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【学科分类】畜牧、兽医科学基础学科

【题目】黄瓜抗病基因类似序列(RGA) 的同源性分析和Southern鉴定
【中文关键词】黄瓜; 抗病基因类似序列; 同源性; Southern杂交
【英文关键词】Cucumber; Cucum is sativus L. ; RGA; Homology; Southern hybridization
【中文摘要】使用ClustalW和DNAMAN 3.0分析了本实验室克隆的15个黄瓜抗病基因类似序列(RGA)之间以及与烟草的N基因、亚麻的L6基因和拟南芥的RPS2基因之间的同源性, 并对这些RGA进行了PCR和Southern验证与分析。结果表明: 15个黄瓜RGA中, 核苷酸序列同源性最高的是CsRGA2、CsR2GA4和CsRGA5, 其次是CsRGA6、CsRGA7、CsRGA8和CsRGA9、CsRGA1和CsRGA3也存在较高的同源性; 其余的RGA同源性较低。在氨基酸序列上也表现了相同的特征。与N、L6和RPS2等抗病基因的产物之间同源性最高46% , 最低22%。根据核苷酸序列设计了15对特异引物, 用PCR方法验证了所有黄瓜RGA的存在, 其中CsRGA3在黄瓜品种间表现出多态性。利用特异引物PCR方法合成了15个黄瓜RGA的地高辛探针, 与EcoR Ⅴ酶解的黄瓜‘ 215 ’、‘ 129 ’和‘ L18 ’的基因组DNA进行Southern杂交, 证实了各个RGA在基因组上的存在, 同时发现, CsRGA9、CsRGA11~CsRGA15都是多拷贝, CsRGA3是单拷贝, 其余为双拷贝。
【英文摘要】The homology among fifteen RGAs of cucumber cloned in authorsplaboratory and the homology between the RGAs and N gene from tobacco, and L6 gene from flax, and RPS2 gene from Arabidopsiswas analyzed using ClustalW and DNAMAN 3.0 program. The fifteen RGA s were identified by PCR and Southern hybridization. The results showed that the highest homology of

nucleotide sequence existed between CsRGA2, CsRGA4 and CsRGA5. Higher homology existed between CsRGA6, CsRGA7, CsRGA8 and CsRGA9, also existed between CsRGA1 and CsRGA3, Less homology existed in the other RGAs. The amino acid sequence homologies of the products translated from the RGAs were also similar to the above. The highest homology, 46% , and the lowest homology, 22% , between the RGAs and three novel disease resistance genes, N, L6 and RPS2, were exhibited. The RGA s were identified using PCR with fifteen pairs of special primers based on the nucleotide sequence of the RGAs. CsRGA3 showed polymorphism in cucumber varieties. The fifteen digoxin (DIG) labeling probe, which produced by performing special primer PCR, hybridized with genomic DNA of 215, 129 and L18, digested by EcoR V , using Southern blotmethod. The existence of the RGAs in cucumber genome was certified. CsRGA9, CsRGA11 - CsRGA15 had multicopies, respectively, CsRGA3 had single copy, the others had two copies.

【语种】中文
【第一作者】丁国华
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【题目】黄瓜抗霜霉病相关基因cDNA片段的克隆与分析
【中文关键词】黄瓜; 霜霉病; 抗病相关基因; mRNA 差异显示
【英文关键词】cucumber; downym ildew; disease resistance-related genes; mRNA differential display
【中文摘要】以抗霜霉病黄瓜‘东农129’为试材, 利用基因差异显示技术(DDRT-PCR) 研究了黄瓜接种霜霉病菌前后基因表达的差异。共分离出4个接菌后在叶片中特异表达的cDNA 片段, 分别命名为49-2、50-5、50-7和52-14。同源性比对发现, 50-7号片段与黄瓜脂氧合酶基因部分同源, 其余为未知新基因序列。表达分析显示, 所筛选的4个差异表达基因片段与黄瓜感染霜霉病菌有密切关系。49-2号片段在所检测的整个感染过程都有很强的表达; 50-5号片段与病菌侵染也有较密切的关系, 但相对49-2表达延迟;50-7和52-14仅在接种24 h有一定表达, 显示出与病菌诱导之间的特殊关系。
【英文摘要】Differential display reverse transcriptase PCR (DDRT- PCR) method was used to explore the differential gene expression in cucumber resistant cultivar‘ Dongnong 129 ’ before and after inoculated with P seudoperonospora cubensis. Four special expressed cDNA segments were obtained in the inoculated cucumber leaves, which were named as 49-2, 50-5, 50-7 and 52-14. BLAST analysis revealed that the nucleo tide sequence of 50-7 was homologous partly to the lipoxygenase-9 in cucumber, and the others were the unknown sequences of novel genes. Further analysis on expression showed that the 4 fragments were closely related with the infection of P. cubensis. The fragment of 49-2 expressed intensely during the total time of infection; the fragment of 50-5 also had a close relationship with pathogen infection and its expression was delayed than that of 49-2; the fragments of 50-7 and 52-14 only expressed at 24 h after inoculation, which showed the special relation with the pathogen inoculation. This study provided some useful information for further understanding of them echanism of resistance to downymildew in cucumber and isolating the resistance gene for application of molecular breeding

【语种】中文
【第一作者】李金鑫
【通讯作者】周秀艳
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【题目】绵、山羊生产科技支撑现状与未来需求技术研究分析
【中文关键词】绵、山羊生产;科技支撑现状;需求技术
【英文关键词】sheep and goat production ; technology support situation ; demand technology
【中文摘要】发展绵、山羊生产是畜牧业生产结构调整的重点环节,是节粮型畜牧业发展的主要方向之一,有很大的发展潜力。作者简要介绍了中国养羊生产中主要的绵、山羊品种资源、选育技术和饲养方式等科技支撑现状,并对目前养羊生

产的限制因素作了简要分析,阐述了今后绵、山羊生产的进一步发展对育种、繁殖、饲料加工与调制、疫病防治等技术的需求。

【英文摘要】Developing sheep and goat production is the st ress point in modulation of animal husbandry productive st ructureand one of the major directions in livestock raising model of economized foodstuff ,which has an enormous potential. In this pa2per ,the primary sheep and goat breed resources , breeding selection technologies and raising modes were int roduced firstly ,andthen the rest ricted factors in sheep and goat production were analyzed. In the end , the demanding technologies on sheep andgoat production in the future were set forth such as breeding , reproducing ,processing and concocting of feedstuff s ,preventionand t reatment of epidemic diseases and so on.

【语种】中文

【第一作者】乔海云

【通讯作者】马月辉

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【学科分类】畜牧学

【题目】黄瓜分枝性遗传分析

【中文关键词】黄瓜; 分枝性; 遗传分析; 相关性

【英文关键词】无

【中文摘要】选用性状差异明显的4 个分枝多的品系作为母本和对其具有互补性状的4 个分枝少的品系作为父本,采用不完全双列杂交, 配置16 个组合, 同年种植F2 群体。结果表明, 加性效应和非加性效应对黄瓜株型杂交后代性状都有重要作用, 且这些性状的基因加性效应均对杂种后代的性状起主导作用; 黄瓜分枝性在F2 代分离群体中呈现连续性变异而且符合正态分布, 黄瓜分枝性是多基因控制的数量遗传, 由主效基因控制; 黄瓜分枝性符合加性- 显性- 上位性模型, 以加性遗传效应为主, 兼有上位性效应, 显性效应不显著, 而且黄瓜分枝性的广义遗传力和狭义遗传力较高。

【英文摘要】无

【语种】中文

【第一作者】李开盛

【通讯作者】秦智伟

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【学科分类】园艺学

【题目】黄瓜植株高度遗传分析及其分子标记

【中文关键词】以129、D9419 和602、D0462 共4 个黄瓜品种为亲本, 按照Griffing 方法I 配制双列杂交组合, 对亲本、F1 株高, 采用加性- 显性- 上位性(ADAA) 模型进行遗传分析。结果表明, 黄瓜株高属于数量性状, 以加性效应为主, 狭义遗传力和广义遗传力分别为51.321%和67.888%。以高株129 与矮株D0462 两个亲本杂交的F2 分离群体为基础, 采用SSR 分子标记构建遗传连锁图谱, 利用复合区间定位方法对植株高度性状进行QTL 定位。结果表明, CWGATT01A、CSWGATT01C 和CSWTAAA01 3 个标记位于同一连锁群上, 连锁群长约51.5 cM; 检测到株高的两个QTL, 两个QTL 距离最近标记的图距分别为4.0 cM和7.0 cM; 贡献率分别为23.02%和8.36%; 加性效应分别为38.64%和28.13%。

【英文关键词】无

【中文摘要】黄瓜; 株高; ADAA 模型; SSR; QT

【英文摘要】无

【语种】中文

【第一作者】辛明

【通讯作者】秦智伟

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【学科分类】园艺学

【题目】益生素对奶牛生产性能及瘤胃发酵影响的研究
【中文关键词】益生素; 瘤胃发酵; 生产性能; 甲烷产量
【英文关键词】Probiotic; Rumen fermentation; Performance;Methane production
【中文摘要】试验分为 3 个部分。一、 选用 32 头体况、 胎次、 泌乳日龄相近的中国荷斯坦奶牛, 随机分成 3 个处理组, 即地衣芽孢杆菌培养物组 (菌号: 1.813) 、 枯草芽孢杆菌培养物组 (菌号: 1.1086) 和对照组, 每组 8 头, 用液- 固两相方法进行菌体制备。 每克培养物中含有 1× 109cfu 菌体, 每头牛每天饲喂 50g,预饲期 15d, 试验期 3d, 记录全天产奶量。 结果表明 , 地衣芽孢杆菌组显著地提高了产奶量 (p<0.05) , 枯草芽孢杆菌组和对照组比较差异不显著(p>0.05)。 地衣芽孢杆菌组显著提高了乳蛋白的浓度和产量 (p<0.05) 。枯草芽孢杆菌处理组和对照组比较差异不显著 (p>0.05) 。二、采用 3× 3 拉丁方试验设计, 选用体况良好、 平均体重 550kg、 安装有永久性瘤胃瘘管的中国荷斯坦奶牛 3 头作为试验牛。分 3 期进行, 每期 20d, 中间为间隔 15d 的过渡期, 过渡期饲喂试验组饲粮, 在 3d 试验期进行采样分析。试验结果表明地衣芽孢杆菌组显著提高了奶牛瘤胃的细菌总数(p<0.05)、 显著降低了氨态氮的浓度(p<0.05)、 提高了总挥发性脂肪酸的浓度(p>0.05)及乙酸和丙酸的比例 (p>0.05) 。三、 采用短期人工瘤胃发酵技术研究了三种培养物对奶牛瘤胃发酵甲烷产量的影响。试验设地衣芽胞杆菌培养物、 枯草芽胞杆菌培养物和对照组三个处理。每个处理设10 个重复, 每个重复用一支人工瘤胃发酵用注射器。 结果表明地衣芽孢杆菌培养物降低了甲烷的产量 (p<0.05) , 降低了能量损失, 并可降低由于反刍动物瘤胃发酵产生甲烷所引起的温室效应。
【英文摘要】Three parts were involved in this experiment. 1.Thirty- two Chinese Holstein cows with relatively similar body condition, lactation number and days in milk were selected in this experiment. The cows were randomly divided into three groups. Three treatments, i.e., Bacillus Licheniformis group (1.813) , Bacillus Subtilis group (1.1086) , and the control group. Each treatment had eight replicates.The cultures were prepared byliquid cultivation and solid fermentation. Bacillus cultures contained 1× 109 live cells/g , Everycowwas fed 50gculture per day . Pretrial periodwas 15 days. Post - trail periodwas 3 days, andDailymilk yieldwas recorded in this period.Results showed thatBacillus Licheniformis group increased themilkyield (p<0.05) . The other group didn' t have significant effect on milk yield than the control group (p>0.05) . Lincheniformis group increased the concentration and yield of milk protein (p<0.05);2.Three Chinese Holstein cows with permanent fistula were used in this part. 3× 3 Latin square design was used in this part which had three periods. Each period was 20 days. Interval period was 15 days. The ruminal fluid samples were collected and analyzed on the last three days in each period. Bacillus Licheniformis culture increased total ruminal micro- organism (p<0.05),decreased the ammonia nitrogen concentration (p<0.05). Bacillus Licheniformis culture increased the total volatile fatty (p>0.05), increased therate of acetic acid to propionate acid (P>0.05); 3.The short term rumen simulation technique was used to study the effect of different bacillus cultures on methane production in vitro. Three treatments i.e. Lincheniformis, Subtilis and control group were involved in this experiment. Each treatment had ten replicates. Each replicate had one syringe for the use of rumen simulation technique. Results showed that Lincheniformis culture decreased the methane production (p<0.05), which will play a role to promote the situation of energy utilization, and decrease the socalled green house effect via rumen fermentation in dairy cattle.
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【题目】黄瓜果瘤的遗传及SSR 标记
【中文关键词】黄瓜; 遗传; 分子标记; SSR; 果瘤
【英文关键词】无
【中文摘要】通过对以荷兰温室无瘤黄瓜(cucumis sativus)品种Z1 和Z3为母本(tutu), 有瘤黄瓜品系东农129为父本(TuTu)的杂交后代F1 和F2的统计分析, 结果表明:在F1 代,2个组合果实都有果瘤, 有果瘤为显性; 凡代果实有瘤与无瘤呈现分离, 其比

例分别是2.92:1和2.95:1, 表明Tu基因是独立遗传的, 即有瘤(Tu)对无瘤(tu) 为显性。为了获得与黄瓜果瘤基因连锁的SSR(simple sequence repeat)标记, 从129×Z3F2群体中选取有瘤、无瘤单株的DNA各10个, 构建有瘤、无瘤近等基因池。用86对SSR引物在亲本及DNA 混合池之间进行筛选, 并对F2群体的75个单株进行验证。筛选得到了5对与果瘤相关的SSR引物, 经MAPMAKER/EXP version 3.0b 其中CSSWGATT01B、CSSWGATT01C、CSCT335和CSSWGATT01A四个标记位于同一连锁群上.Tu基因位于这4个标记构建的连锁群中, 具体位置为CSSWGATT01C-Tu-CSCT335,距离两侧标记的遗传距离分别为20.0CM和14.1cM
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【第一作者】王桂玲
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【学科分类】园艺学

【题目】日粮不同NFC\RDP水平对围产期奶牛血液NEFA、BHBA、ALB和TP浓度的影响
【中文关键词】围产期奶牛 NFC/RDP 非酯化脂肪酸 羟丁酸 白蛋白 总蛋白
【英文关键词】Transition cows; NFC/RDP; BHBA; NEFA; ALB; TP
【中文摘要】本文旨在研究围产前期日粮不同 NFC/RDP 水平对奶牛血液 NEFA BHBA ALB 和 TP 浓度的影响 选择 2 5胎产奶量 体重和体况评分值相近的围产期荷斯坦牛 48 头 随机分为六组 每组 8 头 于产前第 28 天开始 各组分别饲喂 NFC/RDP 为 5.14 Ⅰ 3.46 Ⅱ 4.00 Ⅲ 5.12 Ⅳ 3.35 Ⅴ 2.87 Ⅵ 的日粮 分娩后各组均饲喂相同的产奶日粮 至产后第 7 天结束 结果表明 产后第 7 天, Ⅲ组血清 NEFA 浓度显著低于Ⅵ组 P<0.05 低于其余四组 但差异不显著 P>0.05 产后第 1 天 Ⅲ组血清 BHBA 水平显著低于Ⅵ组 P<0.05 低于其余四组,但差异不显著 P>0.05 从产前第 14 天到产后第 7 天, Ⅲ组血清 ALB 浓度均高于其余五组 但差异不显著 P>0.05 产后第 7天 Ⅲ组 TP 浓度显著高于Ⅰ组和Ⅳ组 P<0.05 高于Ⅱ组 Ⅴ组和Ⅵ组 但差异不显著 P>0.05 在本试验条件下NFC/RDP 为 4.00 Ⅲ 的日粮饲喂效果最佳
【英文摘要】Abstract The research was con ducted to investigate the effect of different level of NFC/RDP during the prepartum period on serum concentrations of NEFA, BHBA, ALB and TP in transition Holstein Cows. Forty-eight transition Holstein cows were randomly allocated into six groups according to the parity,milk production,body weight and body condition score. The NFC/RDP level was 5.14 Ⅰ ,3.46 Ⅱ ,4.00Ⅲ ,5.12 Ⅳ ,3.35 Ⅴ and 2.87 Ⅵ , respectively, from the day 28 prior parturtum to calving. After calving, all the cows were offered the same lactation ration to the day 7 postpartum. The result showed that: the concentration of serum non-esterified fatty acids(NEFA) of cows in Ⅲ group was evidently lower than that of Ⅵ group P<0.05 , lower than that of other four groups(P>0.05 at the seventh day after calving; the concentration of serum -hydroxybutyric acid(BHBA)of cows in Ⅲ group was evidently lower than that of Ⅵ group P<0.05 , lower than that of other four groups(P>0.05 at the first day after calving; the concentration of serum albumin(ALB) of cows in Ⅲ group was higher than that of other five groups(P>0.05 from the day 14 prepartum to the day 7 postpartum; the concentration of serum total protein(TP) of cows in Ⅲ group was evidently higher than that of Ⅰ and Ⅳ groups P<0.05 , higher than that of Ⅱ, Ⅴ and Ⅵ groups(P>0.05 at the seventh day after calving.Analysis indicated that Ⅲ group with the NFC/RDP level was 4.00 was the best among the six diets.
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【第一作者】赵永生
【通讯作者】王海荣
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【题目】与大白菜干烧边性状相关的SSR和SRAP标记分析
【中文关键词】大白菜,干烧心,SSR ,SRAP,QTL

【英文关键词】Chinese cabbage (Brassica campestris L. ssp. pekinensis), Burntip trait, SSR, QTL
【中文摘要】以大白菜感干烧边品种A67和抗干烧边品种A53配制的F2群体为材料,采用混合集群分析法构建构建大白菜的感病池和抗病池,对104对SSR引物和320对SRAP引物进行筛选,并对与干烧边性状相关的QTL和对应的连锁关系进行了初步分析。获得2个与大白菜干烧边性状相关的QTL,同时获得3个与这2个QTL连锁的标记,其中S29-890和E6-400标记与其最近QTL位点的连锁距离分别为1.6cM和7.1cM。为大白菜抗干烧边性状的分子辅助育种奠定了基础。
【英文摘要】英文摘要　population of F2 generation including 141 individual plants was derived from the cross between the susceptible lines A67 and the resistance lines A53.In this paper,104 pair SSR primers and 230 pair SRAP primer were employed in constructing a molecular genetic map and mapping QTL controlling tipburn disorder resistance in Chinese cabbage. Results showed that 25 primer pair combinations could amplify polymorphic bands stably between two gene pools and 2 QTLs concerning tipburn were detected. 3 markers(S29-890 and E6-400) were found to be linked with their nearest QTLs at a distance of 7.1cM and 1.5cM,resprctively.These markers provided a scientific tool to marker-assisted selection for tipburn resistance in Chinese cabbage breeding
【语种】中文
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【学科分类】园艺学

【题目】不同加工方式对牛奶中乳铁蛋白的影响
【中文关键词】乳铁蛋白; 稳定性; 加工方式
【英文关键词】无
【中文摘要】乳铁蛋白是一种铁结合性糖蛋白, 广泛存在于哺乳动物的分泌物中。研究报道, 乳铁蛋白具有多种生物学功能。本文就不同加工方式对牛奶中乳铁蛋白的影响进行简要评述。
【英文摘要】无
【语种】中文
【第一作者】程金波
【通讯作者】王加启
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【题目】Development of molecular markers linked to Cladosporium fulvum resistant gene Cf-6 in tomato by RAPD and SSR methods
【中文关键词】番茄;叶霉病;Cf-6抗病基因;分子标记
【英文关键词】Cf-6 resistant gene,Cladosporium fulvum, molecular markers
【中文摘要】番茄叶霉病是一种非常严重的病害,它由番茄叶霉病菌引起。本试验采用一系列鉴别寄主对来自中国东北三省的叶霉病主要生理小种进行了鉴定,结果显示目前的主流生理小种为1.2.3, 1.3, 3,1.2.3.4和1.2.4,试验中使用的F1, F2和BC1番茄植株来自抗叶霉病品种03748(含有Cf-6抗病基因)和感病品种03036杂交组合。采用抗感池分析法对210对RAPD引物和50对SSR引物进行筛选,获得了3对10碱基RAPD引物和2对SSR引物用于进一步的作图分析。这些筛选出的引物可以在亲本,F1和F2代植株中扩增出多态性条带,证明这些标记是和Cf-6基因连锁的。3个RAPD标记的遗传距离分别为8.7 cM, 20.3 cM, 和 33.4 cM.2个SSR标记的遗传距离分别为12.6 cM 和9.7 cM。通过对S674619/559标记进行转化,获得了可以在抗感材料中扩增出差异性条带的SCAR标记,这些标记将在今后的番茄抗病育种工作中发挥重要作用。
【英文摘要】Leaf mold, caused by the fungus Cladosporium fulvum, is a serious disease of tomato. In the current study, the main physiological races of C. fulvum collected from three northeastern provinces of China were identified using a set of identification hosts.The results showed that the prevalent pathogenic physiological races were 1.2.3, 1.3, 3,1.2.3.4, and 1.2.4. F1, F2, and BC1 tomato

plants were obtained by crossing C. fulvumresistant cultivar 03748 carrying the Cf-6 gene and susceptible cultivar 03036. Three 10-mer oligonucleotide random amplified polymorphic DNA (RAPD) primers and two simple sequence repeat (SSR) primers were selected for the further molecular marking analysis after 210 RAPD primers and 50 SSR primers were screened using the bulked segregate analysis method. The polymorphic DNA bands were amplified among parents, 10 F1 plants, 184 F2 plants including 145 resistant plants and 39 sensitive plants using three RAPD primers and two SSR primers so that three RAPD molecular markers and two SSR molecular markers linked to the Cf-6 loci were identified. Three RAPD markers were linked to the Cf-6 resistant locus separated with 8.7 cM, 20.3 cM, and 33.4 cM. Also, one RAPD codominant marker S374619/559 was found. The locations of the two SSR markers were 12.6 cM and 9.7 cM away from the Cf-6 locus. After cloning and sequencing two specific DNA fragments closely connected to the Cf-6 resistant and susceptible alleles respectively, in the RAPD codominant marker S374619/559 and one codominant sequence characterized amplified region marker S674619/559 was converted from RAPD marker S374619/559. In the RAPD marker S374619/559, the length difference of two specific fragments, 619-bp fragment and 559-bp fragment, is the result of one insertion (60 bp) in the 619-bp fragment. These markers will facilitate the selection of resistant tomato germplasm containing the Cf-6 gene and cloning of Cf-6 to breed new C. fulvum resistant tomato cultivars.

【语种】英文
【第一作者】王傲雪
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【题目】番茄耐热性相关的SSR和RAPD标记筛选
【中文关键词】番茄;耐热性;数量性状位点
【英文关键词】tomato;heat tolerance;quantitative trait loci(QTL)
【中文摘要】以番茄热敏感材料01137和耐热材料CIN200lA杂交产生的256个FZ单株为作图群体,应用SSR和RAPD分子标记技术筛选得到与耐热性相关的l个SSR标记和l个RAPD标记,对其耐热性遗传的贡献率分别为5.2%和7.7%。利用单标记法在第3和第7连锁群上几各检测到l个与耐热性有关的QTL。利用筛选出的与番茄耐热性显著相关的2个分子标记对43份番茄耐热、热敏种质资源进行SSR和RAPD分析,将43份番茄种质资源分成2组,耐热组和热敏组的分组准确率分别为93.3%和96.5%

【英文摘要】A F2 population was derived from a cross between a heat sensitive line 01137 and a heat toler- ance line CLN2001A of tomato.The colony was analyzed using SSR and RAPD techniques to select molecular markers related to tomato heat tolerance.One SSR marker and one RAPD marker were detected,and the ge- netic contribution rates of these markers for heat tolerance were 5.2% and 7.7%,respectively.Two QTLs were mapped in linkage group 3 and linkage group 7.The SSR and RAPD techniques were used to evaluate the genetic diversity of 43 tomato germplasm materials in heat resistance and susceptibility.Two markers (Tom59-60 and OPN02-600)which were significantly interrelated to the heat—tolerance of tomato were used to group the 43 tomato germplasm materials under two groups,the heat • tolerance and the heat—sensitive,and the veracity of grouping were 93.3%and 96.5%.respectively。

【语种】中文
【第一作者】许向阳
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【题目】番茄耐热性遗传分析
【中文关键词】番茄 耐热性 遗传模型 一般配合力 特殊配合力

【英文关键词】Tomato, Locule number, Correlative characters, Genetic effect
【中文摘要】摘选择耐热性不同的6份番茄亲本,采用半轮配法配制双列杂交组合,对F1、F2、B1、B2、P1、P26个世代进行耐热性遗传模型分析和遗传参数估算。结果表明:番茄耐热性符合加性?显性遗传模型,以加性效应为主,兼有显性效应;狭义遗传力较高,一般配合力方差居主导地位,基因加性效应大于显性效应。
【英文摘要】The heredity of locule number, fruit shape index, fruit weight, sepal number in tomato and the ircorrelation with locule number were analyzed with methods of quantitative genetics, on the basis of data from crossing two inbred lines with different locule number and back crossing with F1. The results showed that genetic model of four fruit characters belonged to add itive-dom inancem ode.l The genera l inheritabilities of fruit shape index, fruit weight, sepal number, locule number were 57. 30%, 36. 25%, 58. 99%, 69. 44% respectively. The narrow inherit abilities of fruit shape index, fruit weight,sepa l number, locule number were 40. 10%, 36. 24%, 58. 98%, 52. 98% respetively. The sequence of correlation withlocu le number was sepa l number, fruit weight and fruit shape index.
【语种】中文
【第一作者】安凤霞
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【学科分类】园艺学

【题目】番茄新品种东农711的选育
【中文关键词】番茄 东农711 一代杂种 耐贮藏
【英文关键词】Tomato,Dongnong 711,F1 hybrid,Long—storage
【中文摘要】摘 要 东农711是以94-208为母本,以94-125为父本配制而成的中晚熟番茄一代杂种,高抗ToMV、枯萎病和黄萎病。中型果,果实红色,果面光滑美观,果肉厚,硬度0. 56 kg·cm-1,耐贮运,室温下(25℃)货架期长达25 d(天),单果质量160-180 g。丰产性好,每667 m2产量8 500-13 000 kg,适合保护地和露地栽培。
【英文摘要】Dongnong 711 is a new mid-later maturing tomato F1 hybrid,developed by crossing 94-125 as male parent and 97-208 as female parent.It is high resistant to ToMV,Fusarium wilt and Verticillium wilt.The fruit is medium size,red color,regular shape and good commodity with shelf life of 25 days in 25 ℃.Average head weight is 160-180 g.The yield is 127.5-195.0 t·hm-2.It is suitable for protected cultivation.
【语种】中文
【第一作者】许向阳
【通讯作者】李景富
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【题目】番茄新品种东农712的选育
【中文关键词】番茄 东农712 一代杂种 耐贮运
【英文关键词】tomoto 'Dongnong712' F1 hybrid, tolerance to storage and transportation
【中文摘要】东农712是以01HN43为母本,以01HN37为父本配制而成的中晚熟番茄一代杂种,生育期117 d(天)左右,高抗番茄花叶病毒(ToMV)、叶霉病、枯萎病和黄萎病。果实高圆形,单果质量240~300 g,果实粉红色,果面光滑圆整,成熟果硬度0.49 kg·cm-2,耐贮运;丰产性好,每667 m2产量6 500~8 500 kg,适合全国各地保护地和露地栽培。
【英文摘要】‘Dongnong 712’is a new mid-later maturing tomato F1 hybrid,developed by crossing 01HN37 as male parent with 01HN43 as female parent.It takes 117 days from sowing to harvesting.It has high resistance to ToMV,leaf mold,Fusarium wilt and Verticillium wilt.The fruit is global.Its average fruit weight is 240-300 g.The average firmness of fruit is 0.49 kg·cm-2.It has good commodity character for storage and transportation.The average yield is 97.5-127.5 t·hm-2.It is suitable for uncovered field cultivation and protected cultivation.

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【第一作者】许向阳
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【题目】番茄资源对叶霉病抗性鉴定和SSR标记遗传变异分析
【中文关键词】番茄;叶霉病;抗病性; SSR
【英文关键词】Cladosporium fulvum; resistance; SSR
【中文摘要】摘要:对62份番茄种质资源进行了抗番茄叶霉病鉴定,共筛选出抗病材料17份,其中对全部生理小种(1.2.3、1.2、2.3、1.2.3.4、1.2.4)均表现抗病或免疫的材料9份;抗3个生理小种的材料4份;抗2个生理小种的材料2份;抗4个生理小种的材料2份。并应用SSR标记技术对62份种质资源进行了遗传多样性分析,50对SSR引物中筛选出11对多态性明显、条带清晰、反应稳定的引物,共扩增出94条谱带,平均每个引物扩增出8.55条带,多态性条带比例达63.94%,遗传相似系数在0-1之间,表现出丰富的遗传多态性,可将番茄野生种和栽培种分开,反映了种间的遗传差异
【英文摘要】Sixty-two tomato germplasms were evaluated for resistance to all races(1.2.3、1.2、2.3、1.2.3.4、1.2.4) of Cladosporium fulvum.Seventeen varieties were resistant.Among them,nine were resistant or immune to 5 races,four were resistant to 3 races,two were resistant to 2 races and two were resistant to four races.At the same time,their relationships were analyzed with SSR.Eleven primers were selected from 50 SSR primers,and 94 DNA fragments were amplified from 62 samples including 7 wild species and 55 ltivated species. Of which, 94 fragments were polymo rphic(percentage of polym orph icbands was 63. 94%) , and the average number o f DNA bands was 8. 55 perprimer. The genetic similarity among all species ranged from0 to 1. The results indicated that SSR technique possessed better stability and was useful in revealing the genetic diversity and genetic relationships among tomato species.
【语种】中文
【第一作者】许向阳
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【题目】加工番茄新品种东农713的选育
【中文关键词】加工番茄 东农713 一代杂种
【英文关键词】Processing tomato, Dongnong 713, F1 hybrid
【中文摘要】东农713是以T512为母本、以T511为父本配制而成的加工专用型番茄一代杂种,高抗ToMV、枯萎病和黄萎病。果实鲜红色,长圆形,果形指数1.33,果实硬度0.65 kg·cm-2,耐贮运,可溶性固形物含量5.6%,番茄红素98mg·kg-1。成熟期110 d(天)左右,单果质量85-90 g,每667 m2产量6000-6500 kg,适合在≥10°C的活动积温大于2500°C的地区栽培。
【英文摘要】‘Dongnong 713’is a new processing tomato F1 hybrid,developed by crossing T511 as male parent with T512 as female parent.It is high resistant to ToMV,Fusarium wilt and Verticillium wilt.The average single fruit weight is 85-90 g.It is red in color and oval in shape.The average fruit firmness is 0.65 kg·cm-2,soluble solid content is 5.6 %,and lycopene content is 98 mg·kg-1.The yield is 90-97.5 t·hm-2.
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【第一作者】李景富
【通讯作者】许向阳
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【题目】加工番茄粘稠度性状的配合力和遗传力分析
【中文关键词】加工番茄;粘稠度;配合力;遗传力
【英文关键词】processing purpose tomato;viscoelasticity;combining ability;heritability
【中文摘要】试验以加工番茄7个品系为试验材料,采用Griffing第2种方案配制21个杂交组合,对番茄粘稠度性状进行配合力分析和遗传力分析。结果表明,粘稠度性状一般配合力较高的亲本80、77和81,其杂交后的组合77×80、77×81的特殊配合力也最高;粘稠度性状是以基因的非加性效应为主,狭义遗传力较低,不宜早期时代进行选择。但杂种一代值具有超亲优势现象,存在杂种优势。因此,高粘稠度品种育种应以优势育种为主,辅之以杂交育种。
【英文摘要】Seven strains in processing tomato are selected as the experimental samples 21 hybrid com-binations were designed according to No.2 Griffing principle to analyze the combining ability and heritability of viscoelasticity.The results showed that general combining abilities of parents 80,77 and 81 were high.Special combining abilities of hybrid combinations 77×80 and 77×81 were highest in all hybrid combinations.The inheri-tance of viscoelasticity was mainly from additive effect,and its narrow heritability is low,not suitable for selection in early generations.The heterosis of viscoelasticity Was obvious.Therefore,heterosis breeding should be mainly used for breeding hish viscoelasticity tomato cuhivars.
【语种】中文
【第一作者】许向阳
【通讯作者】李景富
【期刊名称、卷期、页码】东北农业大学学报 2008;39(3):26-28
【论文发表时间】2008-03-19 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】园艺学

【题目】加工番茄粘稠度与其他农艺性状的相关与通径分析
【中文关键词】番茄 粘稠度 果胶 干物质 相关分析 通径分析
【英文关键词】Tomato, Viscoe lasticity, Pectin, Dry matter content, Correlation analysis, Path analysis
【中文摘要】通过对加工番茄28个品种或杂交组合的主要农艺性状相关及通径分析,估测了番茄10个主要性状对粘稠度形成影响的相对重要性。结果表明:番茄果胶含量和干物质含量与粘稠度呈极显著正相关,对粘稠度的直接效应最大,是影响粘稠度的主要因素,在加工番茄高效育种中果胶含量和干物质含量可作为主要选择性状。
【英文摘要】28 cultivars or crossing combinations of tomato were used for conducting the correlation and path analysis of ten main characters which form the viscoelasticity of processing tomato.The results showed that the viscoelasticity had very significant positive relationship with pectin and dry matter content,At the same time,pectin and dry matter content had the greatest influence than others on the viscoelasticity of processing tomato.Pectin and dry matter content were main factors which directly influenced the viscoe lasticity of processing tomato and can be major characters for breeding new processing tomato cultivars with high quality.
【语种】中文
【第一作者】关法春
【通讯作者】张贺
【期刊名称、卷期、页码】中国蔬菜 2007(3):15-17
【论文发表时间】2008-03-07 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】园艺学

【题目】分散饲养条件下奶牛TMR饲喂技术推广中存在的问题及对策
【中文关键词】分散饲养 奶牛 TMR
【英文关键词】无
【中文摘要】全混合日粮 TMR 是指根据不同类群或泌乳阶段奶牛的营养需要 按设计比例 将青贮 干草等粗饲料切割成一定长度 并和精饲料及各种矿物质 维生素等添加剂进行充分搅拌混合而调制成的一种营养相对平衡的日粮近年来 TMR 饲

喂技术在国内一些规模化养殖场已开始应用 并取得了显著的效果 生产实践证明TMR 技术能够提高饲料采食量 提高产奶量和乳脂率改善奶牛的健康状况 减少消化道 繁殖及营养代谢等疾病 提高生产性能和经济效益
【英文摘要】无
【语种】中文
【第一作者】宋增廷
【通讯作者】王加启
【期刊名称、卷期、页码】中国奶牛2009 09-0059-03
【论文发表时间】2009-09-19 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】畜牧学

【题目】奶牛日粮阴阳离子差对采食量影响的Meta分析
【中文关键词】M e t a分析 日粮阴阳离子差 干物质采食量 泌乳前期奶牛
【英文关键词】Meta-analysis;DCAD;DMI;Early lactating dairy cows
【中文摘要】Meta分析作为一种科学客观的定量综述形式,已经广泛应用于国外农业研究。本文利用这一方法,分析奶牛干物质采食量(DM I) 与日粮阴阳离子差(DCAD) 的潜在关系。研究所用资料取自已发表的8篇关于泌乳前期奶牛日粮阴阳离子平衡对 DM I影响的文献数据, 对实际观测值进行了研究间效应的校正。分析结果表明, 泌乳前期奶牛校正后的 DM I随 DCAD增加呈二次增加(P<0 .01, R2=0 . 7 4) ,在 DCAD为2 9 8 .3 mmol /kg DM 时达到最高值;校正后的 DM I随血液 HCO 3- 浓度以及血液P H增加而二次增加(P<0 .01, R2=0 .91 ; P<0 . 01,9 R2=0 .87) , 在血液 HCO 3- 浓度为2 9.2mm ol/L时达到最大。校正后的 DM I与血液 HCO 3- 以及血液P H的关系分析表明, DM I与泌乳前期奶牛体内酸碱平衡相关性很大 ODCAD通过影响机体的酸碱平衡, 并最终影响奶牛的自由采食量。
【英文摘要】The Meta-analysis has been widely used in the agriculture research abroad and is considered to be a new scientific way for quantitative summarizations of literature data.A meta-analysis was conducted to examine the potential empirical relationships between dietary cation-anion difference(DCAD) and the dry matter intake(DMI) .The database was developed from 8 studies in which the effect of the DCAD was observed in the early lactating dairy cows .Observed DMI values were adjusted for study effects .There sults showed that , adjusted DMI increasing with DCAD (quadratic;P<0.01.R2=0.74),peaking at 298.3 mmol/kg DM;adjusted DMI also increased with the increasing blood HCO3- concerntrations (quadratic;P<0.01.R2=0.0.91)with peaking at 29.2 mmol/L; adjusted DMI increased with increasing acid-base status in early lactating dairy cows, and that DCAD affacted systemic acid-base balane, which in turn affacted voluntary intake of lactating dairy cows.
【语种】中文
【第一作者】陈波
【通讯作者】刘建新
【期刊名称、卷期、页码】动物营养学报 2 0 1 0 0 1 - 0 0 4 6 - 0 5
【论文发表时间】2010-01-11 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】畜牧学

【题目】苜蓿皂苷对体外发酵pH值、氨氮及微生物蛋白浓度的影响
【中文关键词】苜蓿皂苷;pH值;氨氮;微生物蛋白;体外
【英文关键词】alfalfa saponins;pH value;NHs-N;microprotein;in vitro
【中文摘要】试验采用体外培养法研究了日粮中添加苜蓿皂苷对山羊瘤胃微生物发酵功能的影响。苜蓿皂苷的添加水平分别为底物基础的O%(对照组)、1%、2%、3%及4%。结果表明:日粮中添加苜蓿皂苷未对瘸胃液pH值和原虫蛋白浓度产生显著影响;添加苜蓿皂苷可提高氨氮浓度,但仅4%组增幅达显著水平(P<0.05);4%组细菌蛋白浓度显著高于对照组(P<0.01),其余各组间差异不显著(P>0.05)。结论:在本试验条件下。苜蓿皂苷添加量为0%一4%时均不影响瘤胃液pH值和原虫蛋白浓度。添加4%的皂苷是可显著提高NH3-N和细菌蛋白浓度。
【英文摘要】The study were conducted to investigate the effect of addition of alfalfa saponins in dietary on lumen fermentationof growing goats in vitro culture.The addition levels of alfalfa saponins were 0%(control group),l%,2%,3%and 4% of substrate respectively.The results showed:Alfalfa saponins did not affect pH value and the concentrationof protozoon protein;Adding alfalfa

saponins could increase the concentration of NH3一N in each treatment group.but onlythe 4%treatment group was significantly higher than control group(P<0.05);the concentration of bacterial protein in4%treatment group was extremely significantly higher than control group(P<0.01),but no significant effect betweenothers(P>0.05).In conclusion,adding 0%一4% alfaffa saponins did not affect pH and the concentration of protozoonprotein,while the addition of 4% could significantly enh8nee the concentration of NH3-N and bacterial protein.
【语种】中文
【第一作者】王雅倩
【通讯作者】赵国琦
【期刊名称、卷期、页码】中国饲料,2009,1:22-25
【论文发表时间】2009-01-05 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】畜牧学

【题目】瘤胃甲烷调控方法评述
【中文关键词】反刍动物:瘤胃:甲烷:氢利用
【英文关键词】Ruminant animals: rumen: methane: hydrogen use
【中文摘要】反刍动物释放的甲烷不仅消耗6%~10%的能量摄入,而且是重要的温室效应气体。过去20多年以来,研究人员围绕瘤胃甲烷生成及其调控展开了大量的研究,目前采取的主要措施包括:(1)提供电子释放新途径;(2)利用疫苗、生物控制剂(噬菌体和细菌素)以及化学抑制剂等抑制产甲烷菌,以及(3)去原虫、添加植物提取物或有机酸等促进产乙酸菌增加.降低产甲烷菌可利用的氢。瘤胃生态系统是一个复杂的生态系统,能够将复杂碳水化合物转化成为挥发性脂肪酸.这个过程部分依赖于甲烷的生成和氢的消耗。因此,虽然各种调控措施能够在短期内抑制甲烷生成.但瘤胃微生态系统能够恢复原有的甲烷生成水平,这表明我们对瘤胃中氢代谢仍然认识不足。进一步提高对瘤胃内氢和甲烷生成的微生物生化机制的了解.有助于我们找到有效的甲烷调控措施。
【英文摘要】
【语种】中文
【第一作者】刘开朗
【通讯作者】王加启
【期刊名称、卷期、页码】中国微生态学杂志,2009,21(4):354-358
【论文发表时间】2009-04-15 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】畜牧学

【题目】牛奶风味影响因素的研究进展
【中文关键词】日粮;牛奶;牛奶风味;风味活性物质
【英文关键词】diet, milk, milk flavor, active substances
【中文摘要】牛奶风味的影响因素包括多个方面,其主要取决于复杂的风味活性物质。一些风味活性物质直接来源于奶牛的饲料成分,但有些风味活性物质的来源还不确定。介于风味活性物质的复杂性,一些相关的信息较少,主要有两个假设,一是来源于动物所采食的饲料成分,一是消化产物的衍生物。
【英文摘要】Flavor of milk depends on many aspects and active substances play a major role in flavor of milk. Active substancesare composed of a variety of chemical compounds, derived from numerous sources. Some compounds found in milk are directlylinked to the diet of the animal producing the milk. In many cases, it is uncertain where the compounds originated. Given thecomplexities of flavor analysis, even cow milk research is very limited. Two main hypotheses are that they originated in the plantseaten by the animal or they are products of digestion of precursors.
【语种】中文
【第一作者】顾小卫
【通讯作者】赵国琦
【期刊名称、卷期、页码】乳业科学与技术,2010,141:95-99

【论文发表时间】2010-04-01 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】畜牧学

【题目】牛奶中唾液酸含量的动态变化规律研究
【中文关键词】牛奶;唾液酸;高效液相色谱法;动态变化规律
【英文关键词】milk;Sialic acid;high performance liquid chromatography;dynamic variation rule
【中文摘要】探讨牛奶中唾液酸含量的动态变化规律。利用酸水解法把牛奶中的唾液酸释放出来,以邻苯二氨盐酸盐为衍生化试剂,80℃水浴锅中衍生40 min,采用Symmetry C18柱(250 minx4.6 mm,5 urn),流动相为1.0%的四氢呋喃水溶液(含0.2%磷酸)-乙腈(92:8),流速为1.0 mL/min,柱温35℃,紫外检测波长230 nm,结果表明唾液酸在10~320ug/mL范围内线性良好,平均回收率为96.5%。试验也表明了初乳中的唾液酸含量是最高的,并且随着泌乳期牛奶中的唾液酸含量是迅速下降的。
【英文摘要】To discuss the dynamic variation rule of sialic acid content in milk.Sialic acid in milk was releasedby acid hydrolysis,and then was derivated with O-pheny-Ienediamine.2HCL(10 mg/mL)at 80℃for 40 min.The column:Symmetry C18 column(250 mmx4.6 mm,5斗m).The mobile phase:1.O% tetraphdrofuran(containing 0.2%phosphoric acid)-acetonitrile(92:8).The flow rate is 1.0 mL/min;The column temperatue is 35℃:The detection wave length is 230 nm.The results indicated the linear rang of Sialic acid was l0-320 pg/mL.The average recovery was 96.5%:and also the results indicated that the sialic acid detected in milk Was the highest in colostrums,and the sialic acid content in milk decrease rapidly along lactation.
【语种】中文
【第一作者】冯君
【通讯作者】杨国宇
【期刊名称、卷期、页码】食品科技,2008,4:85-87
【论文发表时间】2008-04-10 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】畜牧学

【题目】TMR日粮不同颗粒大小对奶牛采食行为的影响
【中文关键词】颗粒大小;物理有效中性洗涤纤维(peNDF);咀嚼;奶牛
【英文关键词】The particle size; Physical effective neuter washing fiber (peNDF); Chew; cows
【中文摘要】选择6头体况良好,产奶天数(DIM)接近的荷斯坦奶牛,采用3x3重复拉丁方设计。通过给奶牛饲喂由不同颗粒片段大小(长切割L,短切割S,中等水平M)的玉米青贮组成的TMR日粮来研究其对奶牛采食、反刍行为等的影响。结果表明:降低日粮颗粒片段大小,奶牛的干物质采食量(DMI)、中性洗涤纤维采食量(NDFI)及酸性洗涤纤维采食量(ADFI)均下降,但各处理组间差异不显著(P>O.05);物理有效中性洗涤纤维采食量(peNDFI)也下降,L组与S组间差异显著(P<0.05);降低日粮颗粒大小,奶牛的采食时间、反刍时间及总咀嚼时间下降,L组与S组间奶牛的采食和反刍时间差异显著(P<0.05);奶牛的总咀嚼时间L组与M组、M组与S组间差异显著(P<0.05)。而L组和S组间差异极显著(P<0.01)。试验表明,改变日粮颗粒大小对奶牛的DMI等影响不显著,对奶牛的咀嚼活动则有显著的影响。
【英文摘要】
【语种】中文
【第一作者】栗文钰
【通讯作者】赵国琦
【期刊名称、卷期、页码】饲料工业,2009,30(1):15-18.
【论文发表时间】2009-01-10 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】畜牧学

【题目】高效液相色谱法测定奶粉中唾液酸的含量
【中文关键词】奶粉;唾液酸;高效液相色谱法(HPLC)

【英文关键词】milk powder; sialic acid; high performance liquid chromatography(HPLC)
【中文摘要】利用酸水解法可释放出奶粉中的蛋白结合态的唾液酸,以邻苯二氨盐酸盐为衍生化试剂,80°C水浴衍生40min,采用SymmetryC18柱(250mm*4.6mm,5um),流动相为1.0%的四氢呋喃水溶液(含0.2%磷酸)-乙腈(92:8),流速为1.0ml/min,紫外检测波长227nm。结果表明,唾液酸在质量浓度为20-500mg/L范围内线性良好,平均回收率为96.8%。该方法具有灵敏度高,重复性好等特点,可准确测定奶粉中唾液酸的质量浓度。
【英文摘要】Protein-binding sialic acid in milk powder was released by acid hydrolysis, and the samples were derivated with O-pheny-lenediamine.2HCL(10 mg/mL) at 80°C for 40 min. Using Symmetry C18 column (250 mm*4.6mm, 5um), 1.0% tetrahydrofunan (containing 0.2% phosphoric acid)-acetonitrile (92:8) as the mobile phase, sialic acid could be separated at flow rate of 1.0 mL/min. The detection wave length was 227nm. The results indicated that the linear rang of sialic acid was 20-500ug/mL and the average recovery was 96.8%; The method has the characteristic of good reproducibility and high sensitivity. It can be used to determine the contents of sialic acid in milk powder.
【语种】中文
【第一作者】冯君
【通讯作者】李宏基
【期刊名称、卷期、页码】中国乳品工业,2008,36(6):62-64
【论文发表时间】2008-06-01 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】生物化学

【题目】瘤胃尼龙袋法和体外产气法评定反刍动物饲料营养价值的比较,
【中文关键词】瘤胃尼龙袋法;体外产气实验;反刍动物
【英文关键词】NiLongDai rumen method; The gas production in vitro experiment; Ruminant animals
【中文摘要】试验通过评定菜籽粕、玉米、米糠、苜蓿、玉米青贮和玉米秸秆的营养价值来比较瘤胃尼龙袋法和体外产气实验。结果表明:各种饲料的干物质有效降解率分别为52 90%、54 27%、65.70%、40 76%、37 24%和38 17%,精饲料干物质有效降解率(EDMD)中,a部分占比例较高(其中米糠达到64 51%);每克饲料DM的渐进产气量(A)分别为105 00、180 51、109 30、172 71、147 76和148.66mL,粗饲料的产气量普遍高于精饲料;两种方法中,产气参数A、B与EDMD均呈负相关(r=-0.55和r=-0.61)。从速率曲线来看,降解速率曲线主要反映了b部分的降解情况,而饲料产气的速率曲线却能明显反映出两相的发酵情况。
【英文摘要】
【语种】中文
【第一作者】谢春元
【通讯作者】杨红建
【期刊名称、卷期、页码】中国畜牧杂志,2007(43),17:39-42
【论文发表时间】2007-09-10 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】畜牧学

【题目】小肠上皮细胞分离纯化方法的研究进展
【中文关键词】分离方法;成纤维细胞;综述;小肠上皮细胞
【英文关键词】Separation methods; Fibroblasts; Review; Small intestinal epithelium cells
【中文摘要】小肠是消化吸收的重要部位,用获取的小肠上皮细胞来研究小肠功能、营养物质吸收机制等具有重要意义,而成功分离小肠上皮细胞则是前提,可以用组织块培养法、非酶学消化法、酶消化分离法等来分离小肠上皮细胞。本文就目前国内外分离小肠上皮细胞的方法进行了综述。
【英文摘要】
【语种】中文
【第一作者】王海霞
【通讯作者】赵国琦

【期刊名称、卷期、页码】中国畜牧杂志,2008,44(1):54-57
【论文发表时间】2008-01-10 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】畜牧学

【题目】葡萄糖处理豆粕对蛋白质保护效果的研究
【中文关键词】葡萄糖;豆粕;干物质降解率;蛋白质降解率;尼龙袋法
【英文关键词】Glucose; Soybean meal; Dry matter degradation rate; Protein degradation rate; NiLongDai method
【中文摘要】以3头装有永久性瘤胃瘘管的中国荷斯坦奶牛为试验动物,采用尼龙袋法研究分别添加0、1%、3%、5%、7%、9%葡萄糖保护豆粕,对奶牛瘤胃内不同时间点DM、CP消失率及其动态降解率的作用效果。结果表明:在不同时间点下,提高葡萄糖添加量可使DM、CP消失率逐渐降低,所有试验组与未处理组差异均极显著(p<0.01),DM、CP有效降解率降低最高分别达28.78%和24.82%,不同添加量下,添加量为7%、9%的2组组间差异不显著(P>0.05)。本试验结果证明,葡萄糖加热处理是一种有效保护豆粕蛋白质的方法,且葡萄糖的适宜添加水平为7%。
【英文摘要】
【语种】中文
【第一作者】李智春
【通讯作者】赵国琦
【期刊名称、卷期、页码】中国畜牧杂志,2009,45(7):22-25
【论文发表时间】2009-04-10 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】畜牧学

【题目】马铃薯渣和玉米秸秆混合青贮料对奶牛生产性能的影响
【中文关键词】马铃薯渣;玉米秸秆;奶牛;产奶量;经济效益
【英文关键词】Potato slag; Corn straw; The cow; Milk products; Economic benefits
【中文摘要】将马铃薯渣和玉米秸秆混合青贮料部分或全部替代全株青贮玉米饲喂奶牛,结果表明,混合青贮料试验组与对照组奶牛的产奶量差异不显著,但奶牛饲喂混合青贮料后的牛奶品质有所提高。说明混合青贮料可以替代全株青贮玉米饲喂奶牛.且能节约奶牛的饲养成本及提高经济效益。
【英文摘要】
【语种】中文
【第一作者】闫晓波
【通讯作者】韩向敏
【期刊名称、卷期、页码】广东农业科学,2009,5:144-146
【论文发表时间】2009-05-15 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】畜牧学

【题目】奶牛亚急性瘤胃酸中毒的发病机理、诊断和预防
【中文关键词】亚急性瘤胃酸中毒;机理;诊断;预防
【英文关键词】Subacute rumen acidosis; Mechanism; Diagnosis; prevention
【中文摘要】亚急性瘤胃酸中毒(SARA)是高产奶牛群一种常见病.此病一年四季均可发生,但以冬春季较多.临产牛和产后3 d内的牛发病率高,产奶量愈多发病率愈高.本文主要就奶牛瘤胃酸中毒的发病机理、诊断及预防措施作简要综述.
【英文摘要】
【语种】中文
【第一作者】张乐颖
【通讯作者】王加启

【期刊名称、卷期、页码】黑龙江畜牧兽医,2009,9:76-77
【论文发表时间】2009-05-10 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】畜牧学

【题目】结球甘蓝抗 TuMV 基因的 RAPD 和 SCAR 标记研究
【中文关键词】甘蓝, TuMV, RAPD, SCAR
【英文关键词】Cabbage, TuMV, RAPD, SCAR
【中文摘要】运用 RAPD 技术, 采用混合分组分析法,获得了 2 个与甘蓝抗 TuMV 基因连锁的RAPD 标记 U16/660 和 AG13/2000。 利用BSA 法需要构建抗感基因池,试验结果的可靠性依赖于抗病植株和感病植株的准确鉴定, 本试验中采用的抗病性鉴定方法是通用的标准方法, 能够确保抗病性鉴定结果的准确。由于 RAPD 标记是用 10 个核苷酸的随机引物进行 PCR扩增得到的,对反应条件的变化很敏感,目前应用很少。SCAR 标记与 RAPD标记相比有更多的优势, 不仅缺少了其它片段的干扰,而且,退火温度可以提 高到 50~60 ℃,特异性增强,扩增条带也更明显。 但是通常情况下, SCAR 标记转换的成功率是很低的, 这也是目前发展 SCAR 标记的一个主要困难。 转化SCAR标记失败的RAPD标记多态性位点有可能位于引物的 3 ’端。Vidlal 等人提出了解决 SCAR 转化失败的新方案:根据测序结果在10碱基随机引物的3'端增加 4~8 个碱基, 可检测到原有的多态性,同时提高了扩增稳定性。本研究借鉴前人试验中的经验, 设计的引物经过实验检验是成功的,表明两个 RAPD标记 U16 和 AG13 已经分别转化成了SCAR 标记 USC16 和 ASC13。
【英文摘要】One hundred and forty-four F2 individuals from a cross combination between 1047 (susceptible) and A21(resistant) were analyzed for the presence of random amplified polymorphic DNA (RAPD) markers linked to Turnip Mosaic Virus （TuMV) resistant gene in cabbage by using bulked segregant analysis(BSA). Two polymorphic markers were screened out of 200 random primers. These two RAPD fragments were linked to the resistant gene at 7.7cM and 8.38 cM respectively and converted to SCAR markers successfully.
【语种】中文
【第一作者】高金萍
【通讯作者】王超
【期刊名称、卷期、页码】植物病理学报 2008.5(549-552)
【论文发表时间】2008-05-01 00:00:00
【引文索引类型】null
【引文索引号】
【学科分类】园艺学

【题目】中早熟甘蓝新品种东农 611 的选育
【中文关键词】甘蓝, 品种, 选育
【英文关键词】Cabbage,Cultivar,Breeding
【中文摘要】“ 东农 611 ”是东北农业大学甘蓝课题组选育的适合北方寒地栽培的中早熟甘蓝一代杂种,高抗 TuMV、抗黑腐病。叶球近圆形,紧实度高,叶质脆嫩,Vc含量超过 400mg/kg 鲜重,丰产性好,产量达 70~100t/hm2以上,适合春、秋早熟栽培。
【英文摘要】A new mid-early maturing cabbage hybrid, ‘ Dongnong611 ’has been releasedby Cabbage Group of Norhtest Agricultural University. It is plantedeither the bare or protected field incold region. It is resistant to TuMV andBlackrot,tight and round leafy head .Vccontent of the leafy head is up to400mg/kg . The yield is up to 70 ~100t/hm2.The variety is suitable for production in spring and autumn.
【语种】中文
【第一作者】王超
【通讯作者】王超
【期刊名称、卷期、页码】中国蔬菜 2009.12,(190),71-73
【论文发表时间】2009-06-30 00:00:00
【引文索引类型】其他
【引文索引号】

【学科分类】园艺学

【题目】中早熟甘蓝新品种东农 611
【中文关键词】甘蓝, 品种, 栽培
【英文关键词】Cabbage,Cultivar,Cultivation.
【中文摘要】“ 东农 611 ”是东北农业大学甘蓝课题组选育的适合北方寒地栽培的中早熟甘蓝一代杂种,高抗 TuMV、抗黑腐病。叶球近圆形,紧实度高,叶质脆嫩,Vc含量超过 400mg/kg 鲜重,丰产性好,产量达 70~100t/hm2以上,适合春、秋早熟栽培。
【英文摘要】A new mid-early maturing cabbage hybrid, ‘ Dongnong611 ’ has been releasedby Cabbage Group of Norhtest Agricultural University. It is plantedeither the bare or protected field incold region. It is resistant to TuMV andBlackrot,tight and round leafy head .Vccontent of the leafy head is up to400mg/kg . The yield is up to 70 ~100t/hm2.The variety is suitable for production in spring and autumn .
【语种】中文
【第一作者】王超
【通讯作者】王超
【期刊名称、卷期、页码】中国蔬菜 2009.13,26
【论文发表时间】2009-07-05 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】园艺学

【题目】Genetic diversity analysis of Brassica oleracea L.by SSR
【中文关键词】甘蓝,遗传多样性,亲缘关系.
【英文关键词】Brassica oleracea.L,SSR,Genetic diversity,Relationship
【中文摘要】本文用 SSR 标记从 DNA 水平上对 30个供试的甘蓝类蔬菜材料进行遗传多样性分析,从 36 条引物中选出 5条扩增效果较好的引物, 扩增产物用其 6.0%变性聚丙烯酰胺凝胶检测,银染观察并照相。利用NTSYSpc2.1软件计算品种间的遗传相似性系数并用类平均法(UPGMA)进行聚类。结果表明:5 对多态性引物扩增的等位基因数为 21 个,每对引物扩增等位基因为 2-5 个, 平均为 4.2 个。 PIC为 0.257-0.921,平均为 0.543。品种之间 SSR 遗传相似性系数平均为0.423。聚类分析除了来自日本的 3个品种以外, 实验中所采用的国内品种分为 4 大类:夏甘蓝、春甘蓝、大型晚熟甘蓝、秋甘蓝。
【英文摘要】SSR are short tandem nucleotide repeats of 1-6bp that can be repeated up 100 times (Tautz&Schlotterer, 1994).But in different literature there are different definitions on repeat times and the number of tandem repeat unite. According to difference in the number of repeats between plant varieties and high rate of mutation, so SSRs can provide an abundant class of polymorphisms among plant genomes. The size of SSR can be determined by PCR with a pair of specific primers designed on microsatellite flanking regions. So SSRs typically require the development of genomic libraries for identification, cloning and sequencing of repeats, from which flanking sequences are used to develop specific primers (Munammet &Philip, 2004). Library construction is time consuming, expensive, which have restricted the development of SSR markers. But these kinds of DNA markers offer the advantage of being simpler (easy) to use, less time-consuming than RFLPs (Powell, et al.1996) or AFLP (Lanham and Brenner 1999). They can be conveniently used to rapidly evaluate plant genetics and plant breeding including genetic mapping, cultivar discrimination, and detection of genetic diversity. SSRs are relatively recent molecular markers that have been mainly used in human and animal genetics(Weber 1990)and, more recently, in such plants as soybean (Maughan et al. 1995), wheat (Prasad et al., 2000), apple (Hokanson et al.,1998), grape(Lamboy&Alpha,1998) to measure genetic similarity.The aim of this study was estimate genetic diversity and relationships among Brassica oleracea L cultivars by using SSRs.
【语种】英文
【第一作者】田源
【通讯作者】王超
【期刊名称、卷期、页码】东北农业大学学报 2007.3
【论文发表时间】2007-03-05 00:00:00
【引文索引类型】其他
【引文索引号】

【学科分类】园艺学

【题目】甘蓝类蔬菜亲缘关系的 RAPD 初步分析
【中文关键词】甘蓝类蔬菜 RAPD 遗传多样性亲缘关系
【英文关键词】Brassica oleracea.L RAPD Relationship
【中文摘要】本文用 RAPD 标记从 DNA 水平上对 30个供试的甘蓝类蔬菜材料进行亲缘关系和遗传多样性分析,从 100 条引物中选出10条扩增效果较好的引物,用其共扩增出 90 条带,其中多态条带为 72 条,多态率为 80%。对 RAPD结果进行 UPGMA 分析,结果表明,在相似系数在 0.66 处可以清楚的将它们划分为 6 组,并且从分子生物学的角度分析了它们之间的亲缘关系。
【英文摘要】RAPD analysis on relationship of 30 samples was carried out .10 primers selected from 100 primers were used to amplify 30 samples,and a total of 90bands were amplified,among which 72 (80%)were polymorphic.The results of RAPD were analyzed by UPGMA clustering.The result showed that all the samples could be classified into 6 groups ,and analysed their relationship among them.
【语种】中文
【第一作者】田源
【通讯作者】王超
【期刊名称、卷期、页码】中国蔬菜 2008.1,20-22
【论文发表时间】2007-03-05 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】园艺学

【题目】甜椒雄性不育两用系AB91不育株与可育株花药同工酶分析
【中文关键词】甜椒;雄性不育;同工酶;电泳
【英文关键词】sweet pepper; male sterility; isoenzyme; electrophoresis
【中文摘要】本文通过聚丙烯酰胺凝胶电泳法(PAGE)对甜椒核雄性不育两用系AB91不育株与可育株的花药POD、CAT和酯酶同工酶谱带的分析,以及对其SOD同工酶活性的分析。结果表明这几种同工酶的活性和谱带均与不育性有一定的关系,具体表现为POD、CAT、酯酶在不育株谱带数少,而可育株谱带数多;POD、SOD的活性不育株高于可育株,而CAT、酯酶的活性则是可育株高于不育株。
【英文摘要】By means of vertical slab polyacryla mide gel electrophoresis, isoenzymecs of peroxidase (POD)、esterenzyme、catalase in the anther of male sterile lines in sweet pepper were analyzed,the activities of SOD was analyzed. Results showed that isoenzyme bands and activities of four enzymes existed in the male sterile line and its maintainer. The POD, CAT, EST enzymes showed more isoenzyme bands in the male sterile line than that in its maintainer. The activities of POD, SOD are higher in the male sterile line than that in its maintainer, the activities of CAT, EST are lower in the male sterile than that in its maintainer.
【语种】中文
【第一作者】李运朝
【通讯作者】范妍芹
【期刊名称、卷期、页码】植物遗传资源学报 2007;8(1):102-105
【论文发表时间】2007-06-04 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】园艺学

【题目】利用雄性不育系育成大果型甜椒新品种‘ 冀研13号 ’
【中文关键词】甜椒;雄性不育两用系;品种
【英文关键词】Sweet pepper; Male sterile lines; Cultivar
【中文摘要】‘ 冀研13号 ’是利用甜椒雄性不育两用系AB91-ZH4-7-2为母本,以优良自交系DL-1-1-4H为父本配制成的大果型甜椒杂交一代新品种。该品种植株生长势较强,中熟,果实灯笼形,深绿色,果大肉厚,果长11~12cm,果宽9~10cm,果肉厚0.65~0.75 cm,单果质量220~350 g,商品性好。抗CMV,耐TMV和疫病,适宜保护地栽培,一般产量60 000kg·hm-2。

【英文摘要】‘ Jiyan13 ’is a hybrid of sweet pepper selected from the crossing the genic male sterile line AB91-ZH4-7-2 with inbred line DL-1-1-4H. The cultivar has an middle maturity and healthy growth. It is resistant to CMV, tolerant to TMV and Phytophthora blight. It has large fruit size and good quality. The fruit is lantern-like with green, and is 11-12 cm in length, 9-10 cm in width, and 0.65-0.75 cm in flesh thickness. The fruit weights is 220-350 g, The variety is suitable for protected field production. The yield is about 60 000kg • hm-2.
【语种】中文
【第一作者】范妍芹
【通讯作者】范妍芹
【期刊名称、卷期、页码】园艺学报 2010;37(8):
【论文发表时间】2010-03-17 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】园艺学

【题目】与甜椒隐性细胞核雄性不育基因紧密连锁的SRAP分子标记的研究
【中文关键词】甜椒;两用系AB91;隐性核不育基因;SRAP标记
【英文关键词】sweet pepper; dual purpose line AB91; recessive genic male sterile gene; SRAP marker
【中文摘要】以甜椒隐性细胞核雄性不育两用系AB91为材料,采用混合集群分析法(BSA)构建了不育池与可育池。利用SRAP分子标记技术,筛选了225对SRAP引物组合及1393对EcoR I和Mse I引物组合,获得了与隐性核不育基因连锁的2个SRAP标记:E37M39、E44M93,片段长度约为200bp和500bp,与育性基因的遗传距离为6 cM和12cM。
【英文摘要】SRAP biotechnology combining with bulked segregation analysis (BSA) was used to identify the molecular markers linked to recessive genic male sterile gene in a dual purpose line AB91 of Capsicum annuum L. A total number of 256 SRAP primer combinations and 1393 EcoR I – Mse I primer combinations were used , and two SRAP markers E37M39 and E44M93 were identified to be linked to the recessive genic male sterile gene. The length was about 200bp and 500bp, and the genic distance was 6cM and 12cM respectively.
【语种】中文
【第一作者】严慧玲
【通讯作者】范妍芹
【期刊名称、卷期、页码】华北农学报 2011;26(4):42-45
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【引文索引类型】其他
【引文索引号】
【学科分类】园艺学

【题目】不同培养基和激素对辣椒花药培养的影响
【中文关键词】辣椒;花药培养;基本培养基;激素;基因型;愈伤组织;胚状体
【英文关键词】hot pepper;cultured anther;basal medium;hormone;genotypes;callus; embryoid
【中文摘要】选用试验前期筛选出的易产生愈伤组织和胚状体的8个不同基因型辣椒进行花药培养,对基本培养基成分、激素种类和浓度、材料基因型等影响花药培养的因素进行研究.结果表明:1)NTH培养基为适宜于辣椒花药培养的最佳培养基,MS和B5培养基次之.2)以NTH为基本培养基培养红艳花药,0.5 mg/L NAA+1.0 mg/L KT+0.3 mg/L BA+1.0 mg/L 2,4一D是花药愈伤组织诱导培养最适宜的激素组合;0.3 mg/L NAA+1.0 mg/L KT+0.1 mg/L BA是花药胚状体诱导培养最适宜的激素组合.3)在相同条件下,不同基因型辣椒花药培养后的愈伤组织诱导率和产胚率均不同,愈伤组织诱导率为8.0%~23.5%,胚状体诱导率最高为2%,最低为零.
【英文摘要】Eight different hot pepper cultivars,liable to induce callus and embryoids.were studied for anther culture.The main factors influencing anther culture were investigated,including the basal mediums,hormone,genotypes and etcThe result showed that:1)NTH basal medium was an optimum medium for the anther ulture;MS and B5 basal medium were also good mediums for the anther culture.2)With NTH basal medium,the combination of NAA at 0.5 mg/L andKT at 1.0mg/L and BA at 0.3 mg/L and 2,4-D at 1.0 m L was suitable for Hongyan to induce callus;the combination of NAA at 0.3 m L and KT at 1.0 m L and BA at 0.1 mg/L was suitable for Hongyan to induce embryoids.3)There existed obvious diferences at the inducing rate among diferent genotypes of hot pepper.The callus frequency was from 8.0% to 23.5%.and the embryoids frequency was from 0 to 2% .

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【第一作者】杨博智
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【题目】辣椒净光合速率杂种优势与农艺性状的相关分析
【中文关键词】辣椒;净光合速度;杂种优势;农艺性状;相关分析
【英文关键词】pepper(Capsicum),net photosynthetic rate,heterosis,agronomic character,correlative analysis
【中文摘要】为了选育高产辣椒品种,用6个亲本,按(1/2)n(n-1)双列杂交法配制15个杂交组合,研究了辣椒净光合速率杂种优势与农艺性状的相关性。结果表明,辣椒净光合速率离中优势在开花结果前期受叶片、疫病抗性的影响较大;中期主要受叶片、植株生长势和分枝力的影响,对果实发育、产量形成、营养含量产生较大的影响;后期主要受植株生长势和分枝力的影响,对产量形成、抗病性产生较大的影响。超亲优势在开花结果前、中、后期受叶片、CMV、疫病抗性的影响较大,受植株生长势和分枝力的影响较小,3个时期都对果实发育、产量形成、干物质、纤维素含量产生较大的影响。
【英文摘要】In order to breed high-yield hybrid pepper varieties,this study was conducted to analyse the correlation between heterosis of net photosynthetic rate and agronomic character in pepper by the use of 15combinations hybridized from 6 parents by(1/2)n (n-1)diallel crosses.The results indicated that the heterosis over the mean parental value(mid-parent heterosis)of net photosynthetic rate in pepper was relatively greatly affected by leaf blade and phytophthora resistance at the early phase of flowering and fruiting;then mainly influenced by leaf blade,plant growth vigour and branching ability at the medium phase,which had relatively great effects on fruit growth,yield formation and nutrient content;and then mainly affected by plant growth vigour and branching ability at the late phase,which exerted relatively great effects on yield form ation and disease resistance.The heterobeltiosis was more greatly influenced by leaf blade,CMV and phytophthora resistance than by plant growth vigour and branching ability at the early,medium and late phases of flowering and fruiting,which had relatively great effects on fruit growth,yield formation,dry matter and cellulose content.
【语种】中文
【第一作者】邹学校
【通讯作者】邹学校
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【题目】辣椒新品种福湘二号的选育
【中文关键词】辣椒;福湘2号;一代杂种;选育
【英文关键词】hot pepper;Fuxiang 2;Fl hybrid;breeding
【中文摘要】福湘2号是以S2002为母本,H3885为父本配制而成的早熟泡椒品种。果实粗牛角形,果长约14—15 cm,横径5.0-6.0 cm,果肉厚0.45 cm,单果重80-100 g,一般667㎡产量3 000 kg左右。适合于早春大棚和露地栽培,也适合于作秋延后栽培。
【英文摘要】Fuxiang 2 is an early-maturity F1 hybrid derived from the cross of the maternal line S2002 and the patemal line H3885. Its fruit is large horn-shaped,about 14-15cm in length,5—6cm in diameter and 0.45cmin thickness of fruit wal1.The single fruit weight is 80-100g and the fresh fruit yield about 4.50x104 kg ha-1.It is adapted to both protective and open field cultivations in early spring,or delayed cultivation in autumn。
【语种】中文
【第一作者】张竹青
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【题目】辣椒植株性状Hayman双列杂交分析
【中文关键词】辣椒;双列杂交;植株性状;遗传参数估算
【英文关键词】Pepper(Capsicam annuum L.);Diallel crosses;Plant character;Genetic parameter estimation
【中文摘要】用辣椒(Capsicam annuum L.)6个亲本,按(1/2)n(n-1)双列杂交法配制15个杂交组合,用Hayman双列杂交分析法估算了5个植株性状的遗传参数。Wr对Vr的回归分析结果表明,侧枝数、株高、株幅、主茎高和首花节位的遗传都符合加性一显性模型。Wr+Vr 与Yr间相关分析表明,侧枝数、株高、株幅、主茎高呈负相关,说明含有更多显性基因的亲本具有较小的Wr+Vr值;首花节位呈正相关,且达到极显著水平,说明含有更多显性基因的亲本具有较大的 Wr+Vr值。遗传参数估算表明侧枝数、株幅、主茎高和首花节位性状的遗传以加性效应为主,加性效应比显性效应更加重要。株高的遗传中加性效应和显性效应都很重要。
【英文摘要】Six pepper(Capsicam annuum L.)parents were used to produce 1 5 combinations by dialle1 crosses excluding reciprocals.Genetic parameters for 5 plant characters were estimated according to Hayman's method.Analysis of regression Wr against Vr indicated that inheritance of lateral branches per plant, plant height,plant spread,main stem height and the first flower node conformed to the additive-dominant mode1. Correlation analysis showed that there was a negative correlation between Wr+Vr and Yr for lateral branches per plant,plant height,plant spread and main stem height.implying that the parents possessing more dominant genes have lower Wr+Vrvalue.However.there was a positive corelation between Wr+Vr and Yr for the first flower node at 1% significant level,which means that the parents possessing more dominant genes for larger value of the first flower node have relatively high Wr+Vr value. The genetic parameters estimated indicate that the additive effect was main genetic effect,more importance than the dominance effect in inheritance of lateral branches per plant,plant spread,mainstem height and the first flower node.However,the dominance effect variance and additive effect variance were allvery importance in inheritance of plant height.
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【第一作者】邹学校
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【题目】培养基中附加物质对辣椒花药培养的影响
【中文关键词】辣椒;花药培养;愈伤组织;胚状体;附加物质
【英文关键词】hot pepper;anther culture;callus;embryoids;adjunctions
【中文摘要】以辣椒红艳为试材,采用均匀设计法考察培养基中不同含量的活性炭、蔗糖和单核苷酸对辣椒花药培养中愈伤组织诱导率和胚状体诱导率的影响。结果表明各因素对辣椒花药愈伤组织诱导率和胚状体诱导率的影响大小均为:蔗糖含量>活性炭含量>单核苷酸含量。诱导愈伤组织的最优条件是1.5g/L 活性炭、65 g/L蔗糖和3O mg/L 单核苷酸的组合;诱导胚状体的最优条件为1.5g/ L活性炭,3O g/L蔗糖和3O mg/L单核苷酸的组合。
【英文摘要】In order to studv the effects of different contents of active carbon, sucrose and mononucleotide on the callus induction rate (CIR)and embryoids induction rate (EIR)0f anther culture of hot pepper,the expefiments were conducted with uniform design method and hot pepper Hongyan.The results showed that the effects of each factor on CIR and EIR 0f hot pepper anther were as the following descending order:content of sucrose>content of active carbon>content of mononuc1eotide.The optimum condition of callus induction was the combination of 1.5 g/L carbon, 65 g/L sucrose and 30 m/L mononucleotide; the optimum condition of embryoids induction was the combination 0f 1.5g/L active carbon,30 g/L sucrose and 30 mg/Lmononucleotide was the best conditions of embryoids yields.
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【题目】白菜紫色性状RAPD 连锁标记的筛选与染色体定位研究
【中文关键词】紫色性状; RAPD标记; 同源性分析; 染色体定位
【英文关键词】purple character; RAPD marker; identity analysis; chromosome location
【中文摘要】以紫菜薹自交系95T2-5、大白菜自交系94S17-1及其F1、F2、BC1 植株为材料, 进行RAPD分析,从640个随机引物中筛选出2个引物S79和S123, 分别能扩增出与紫色性状连锁的条带S79-934和S123-750。连锁分析发现,标记S79-934和S123-750与紫色基因间的遗传距离分别为13. 73cM和18.65cM,并且位于紫色基因的两边。回收S79-934特异带,克隆转化并测序, 比较分析表明其与大白菜1号染色体上已知克隆KBrH077A05的全序列(113253bp) 有99%的相似性,初步推断控制紫色性状的主基因位于大白菜1号染色体上。
【英文摘要】Using the genomic DNA extracted from inbreed lines` young leaves of Chinese cabbage inbred line 94S17-1, purple cai-tai inbred line 95T2-5(Brassica compestris L. var. purpurea Bailey) and its hybrids F1, F2, BC1, 640 random primers were analyzed with RAPD technique. S79 andS123 could generate differential profiles linking to purple character among F2 and its parents. Primer S79 could generate characteristic band S79-934andS123 could generate band S123-750. The linkage analysis showed that the distances to purple gene are 13. 73cM (band S79-934) and18. 65cM (band S123-750) respectively, which are located in both sides of purple gene. Furthermore, characteristic bands S79-934was reclaimed, cloned, transformed and sequenced, its sequence had 99% identity with whole sequence (113253bp) of the clone KBrH077A05 from 1st chromosome of Chinese cabbage by BLAST analysis. Therefore, a speculation was that main gene controlled purple character was located in1st chromosome of Chinese cabbage.
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【第一作者】张明科
【通讯作者】张鲁刚
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【题目】大白菜带柄子叶离体不定芽再生过程中的组织学观察
【中文关键词】大白菜; 带柄子叶;不定芽再生; 组织学变化
【英文关键词】Brassica campestris L. ssp. pekinensis (L.) ; Chinese cabbage; Cotyledons with petiole; Adventitious shoot regeneration; Histological change
【中文摘要】以普通大白菜品种秋早55和彩色大白菜材料06J28的带柄子叶为试验材料, 对离体带柄子叶不定芽再生过程中的组织学变化进行了观察研究。结果表明, 在带柄子叶离体培养过程中,培养2~ 3d, 子叶柄切口端皮层及维管束薄壁细胞开始启动,细胞迅速分裂形成分生细胞团, 秋早55和06J28分别在培养5d、6d时出现明显芽原基,不定芽的产生方式为直接出芽, 在秋早55中还观察到有个别芽再生发生于愈伤组织内部,为内起源。
【英文摘要】The cotyledons with petiole were used as explants from common Chinese cabbage ” Qiuzao55 ” and orange-heading Chinese cabbage ” 06J28 ” . Investigation was carried out on histological change during the process of in vitro shoot regeneration from cotyledons with petiole. It was found that the cortex and vascular parenchyma cells on petiole incision end were induced to start division at 2~ 3 days cultured, then the cells divided rapidly and formed meristematic cells mass. At 5 days cultured, the bud primordial appeared from the cut section of petiole of “ Qiuzao55 ” ; at 6 days, the bud primordia were formed from ” 06J28 ” . The results of histological observation indicated that the adventitious shoots regenerated directly from the cut end of cotyledons with petiole. It was also observed that the individual shoot of ” Qiuzao 55 ” regenerated from internal callus and was endogenius.
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【题目】大白菜温敏雄性不育系育性转化相关基因的cDNA-AFLP分析
【中文关键词】大白菜; 温敏雄性不育;TsCMS7311,cDNA-AFLP
【英文关键词】Chinese cabbage; TsCMS; cDNA-AFLP
【中文摘要】为了分析大白菜温敏雄性不育系TsCMS7311育性转化的相关基因,先对现蕾的TsCMS 7311低温处理, 然后不同时间连续提取幼蕾(≤ 1. 0mm, 包括顶端分生组织) 的RNA,进行cDNA-AFLP表达差异分析. 结果表明,用256对引物扩增出连续性差异片段212条,按照时间顺序, 划分为4种差异带类型,即“ 无→有→无"、“ 有→无→有"、“ 无→有"、 ”有→无".在175条低温诱导产生的差异带型中, “ 无→有→无"类型165条, 占总差异带的78%; ” 无→有"类型10条,占总差异带的5%.对部分差异片段进行回收、克隆、测序,共得到100条序列,其大小为100~700bp. 经BLAST序列比对分析发现, 温度调控的育性转化与新陈代谢、能量、防御、细胞构建、蛋白质合成及运输、转录翻译、细胞通信及信号转导等相关蛋白有关.
【英文摘要】In order to finding the genes related in the fertility changeover of TsCMS7311, a thermo-sensitive CMS of Chinese cabbage (Brassica campestris L. ssp. pekinensis) , the plants of TsCMS7311with flower buds were treated under low temperature first, then the RNAs were extracted from small buds(≤1. 0mm, including apical meristem) within10continues days, and were analyzed with cDNA-AFLP(cDNA amplified fragment length polymorphism). The results showed that 212 differentially-expressed fragments were obtained with 256 primer pairs, and which was divided into four types as the day going: they were “ absent →present →absent", “ present →absent →present", “ absent →present", “ present →absent" respectively. Among the fragments, the type of “ absent →present →absent" was occupied 78% and “ absent →present" was occupied 5%, which means that most differentially-expressed fragments were produced by low temperature inducement. 100 ESTs were obtained by recovered, cloned and sequenced. By Blasting search to NCBI dbEST, we found that the low temperature inducing fertility-changeover was related to many proteins, such as metabolism, energy, defense, cell construction, protein synthesis and transport, transcription and translation, cellular communication/ signal transduction mechanism correlative protein and so on, which maybe form a network.
【语种】中文
【第一作者】张少丽
【通讯作者】张鲁刚
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【题目】利用体外法研究不同水平维生素A对奶牛瘤胃内环境参数的影响
【中文关键词】维生素 A ;瘤胃内环境参数;体外法
【英文关键词】VA ; Ruminal envi ronmental p a ramete rs ; In vi t ro
【中文摘要】本研究以 3 只安装有永久性瘤胃瘘管的荷斯坦奶牛作为试验动物,利用体外培养法研究 3 个不同水平的VA (分别为 813 ×10 - 2mg/ mL (A 组) 、 215 ×10 - 1mg/ mL (B 组)和 4117 ×10 - 1mg/ mL (C 组))对瘤胃 p H、 氨氮(N H32N) 、尿素氮和挥发性脂肪酸 (V FA) 浓度随时间的动态变化的影响以及 VA 在瘤胃中的消失情况。结果表明,随着 VA 添加量的增加培养液 p H 呈上升趋势,N H32N 和 V FA 的平均浓度呈下降趋势但差异不显著(P >0105) 。C 组培养液尿素氮浓度极显著高于 A、 B 两组(P < 0101) 。在高产奶牛的 TMR 日粮条件下,培养液 VA 浓度随着 VA 添加量的增加而增加,且不同 VA 水平下,培养液中 VA 浓度的峰值均出现在培养 8 h 后。
【英文摘要】To study t he ef f ects of dif f e rent levels of VA on t he ruminal envi ronmental p a ramete rs in vi t ro , t hree Holstein cows f it ted wit h t he ruminal cannula we re used t o determine t he ef f ects of VA on p H , ammonia2N (N H32N) , urea2 2N , volatile f at ty acids (V FA) concent rat ion in culture f luid in vi t ro. Three levels of VA we re 813 ×10 - 2mg/ mL (A) ,215 ×10 - 1mg/ mL (B) , 4117 ×10 - 1mg/ mL (C) respectively. The results showed 1) p H increased , as well as N H32N and urea2N concent ration in culture f luid decreased wit h t he increase of VA. The re were no signif icant dif f e rences in p H , N H32N concent rat ion among t hree levels of VA (P > 0105) ; 2) t he highest urea2N concent ration was observed in level C , much higher t han t hat in level A

and B (P < 0101) ; 3) higher VA supplement increased t he VA concent ration of culture f luid. Little VA was detected during 0~8 h of incubation. The highest VA concent ration were observed af te r incubating 8 h in culture fluid.
【语种】中文
【第一作者】匡 伟
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【题目】日粮添加LA 和DHA 对乳脂脂肪酸含量及比值的影响
【中文关键词】亚油酸;二十二碳六烯酸;乳成分;脂脐酸;奶牛
【英文关键词】Linoleie acid;Doeosahexacnoic acid;Milk COWS
【中文摘要】试验选用带有永久性瘸胃、十二指肠和回肠瘘管的泌乳荷斯坦奶牛4头,采用4×4拉丁方试验设计,研究日粮添加亚油酸(LA)和二十=碳六烯酸(DHA)对乳常规组成、消化道各段食糜pH以及现脂脂肪酸梅成的影响。实验结果表明:添加LA和DHA不影响乳蛋白和乳糖含量(P>O.05),而添加DHA有显著降低乳脂含量的趋势(P>O.05);日粮共同添加LA和DHA能提高十二指肠消化道的PH,但差异不显著(P>O.05),而单独添加DHA显著降低了回肠的PH (P<O.05);日粮单独添加DHA增加乳脂中C23:0脂肪酸的含量,但并不降低乳脂中总饱和脂肪酸量。与对照组相比,LA和DHA共同添加时乳脂中总多不饱和脂肪酸增加了100%(P<O.05)。LA和DHA共同添加是乳脂中饱和脂肪酸/不饱和脂肪酸由3.18降低至1.24(P<O.05)。添加DHA使乳脂中总不饱和脂肪酸/多不饱和脂肪酸由5.94降低至3.00(P<O.05)。上述研究结果表明,日粮添加LA和DHA可改变乳脂中脂肪酸的组成与比例,有利于人体健康,但DHA使产奶量有一定程度的降低。
【英文摘要】The obiective of this study was to evaluate milk fatty acid profiles and milk composition of lactating COWS when LA and DHA were supplemented in diets.Four dairy COWS with ruminal,ileac and duodenal fistulas were randomly assigned to control(CK,without additional oil supplementation),basal diet with 2.7%从(LU,2.7%LA plus 0.5%DHA(LA+DHA), or 0.5%DHA(DHA)in a 4×4 latin square with 12一week durational periods。The results showed that compared with CK,milk yield and milk fat content decreased when DHA was supplemented,but there were no significant differences amongfour treatments(P>0.05).The pH in duodenal digesta numerically increased with LA and DHA combinational addition(P>0。05)。The pH of ileac digesta decreased significantly(P<O。05)only when DHA was supplemented compared with CK.C23:0 content of milk fat in DHA treatment increased,while total saturated fatty acid concentration did not change in contrast with CK.Compared with CK,total polyunsaturated fatty acid was improved by 100%in milk fat from combinational addition of LA and DHA(P<O.05).In addition。saturated fatty acids to unsaturated fatty acids ratio in milk fat decreased(P<O.05)from 3.18 in CK to 1.24 in LA+DHA treatment,while monounsaturated to polyunsaturated fatty acid ratio decreased(P<0.05)from 5.94 in CK to 3.OO in DHA treatment.In conclusion,our study indicated that fatty acid profiles were changed.and milk quality was improved by dietary LA and DHA supplementation.However,DHA addition in diets had slight negative effect on milk yield
【语种】中文
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【学科分类】畜牧学

【题目】妊娠期小鼠下丘脑-垂体-卵巢轴中PrRP和PrRP-R mRNA表达规律的研究
【中文关键词】催乳素释放肽;受体;妊娠;小鼠
【英文关键词】prolactin2releasing peptide ; receptor ; pregnancy ; mouse
【中文摘要】为探讨妊娠期小鼠下丘脑2垂体2卵巢轴中催乳素释放肽(PrRP)及其受体(PrRP2R) mRNA 的表达规律 ,选用妊娠 6、 12、 18 d 小鼠(n = 6) ,取下丘脑、 垂体、 卵巢组织 ,利用半定量 PCR 方法测定下丘脑2垂体2卵巢轴中PrRP和PrRP2R mRNA 表达水平 ,另外利用放射免疫法(RIA)测定血浆孕酮(P) 、 雌二醇(E2)和催乳素(PRL) 水平 ,探究下丘脑2垂

体2卵巢轴 PrRP和 PrRP2R mRNA 与血浆 P、 E2、 PRL 的相关关系。结果表明: 妊娠期小鼠下丘脑、 垂体、 卵巢中都有 PrRP、 PrRP2R mRNA 的表达 ,其中卵巢 PrRP mRNA 表达量较高 ,而下丘脑 PrRP2R mRMA的表达量较高。妊娠期小鼠血浆 P水平与垂体 PrRP mRNA 表达量呈显著负相关 ,而垂体 PrRP mRNA 与下丘脑PrRP2R mRNA 表达量呈显著正相关 ,结果提示妊娠期血浆高水平的 P 可能通过抑制垂体 PrRP mRNA 的表达 ,进而作用于下丘脑参与妊娠相关调控。妊娠期小鼠血浆 PRL 水平与下丘脑、 垂体、 卵巢 PrRP 和 PrRP2R mRNA的表达量均无显著相关关系 ,提示血浆 PRL 水平可能不受上述组织 PrRP的影响。

【英文摘要】To investigate PrRP and PrRP2R mRNA exp ression in hypot halamus-pit uitary-ovaryaxis during pregnancy ,hypot halamus , pit uitary and ovary were sampled on 6 , 12 and 18 days of pregnancy respectively for determination of PrRP and PrRP2R mRNA exp ression level s using semi2RT2PCR met hod. The concent ration of plasma progesterone (P) , est rodiol (E2) and prolactin (PRL) were measured by RIA to probe t heir cor relations wit h PrRP and PrRP2R mRNA. Results indicated t hat bot h PrRP and PrRP2R mRNA were expressed in hypot halamus , pit uitary and ovary during pregnancy. Ovary had highest PrRP mRNA level and hypot halamus had highest PrRPR mRNA level . Correlation analysis result s showed that plasma P had significant negative cor relation wit h PrRP mRNA in pit uitary , and PrRP mRNA in pit uitary had significant positive correlation wit h PrRP2R mRNA in hypot halamus , which suggested that higher plasma P level during pregnancy might inhibit pit uitary PrRP mRNA expression , then worked on hypot halamus to participate in pregnant regulation. The result s showed t hat plasma PRL level had no signifant cor relation wit h PrRP in pot halamus , pituitary and ovary ,which f urt her proved t hat plasma PRL level might not be regulated by tissue PrRP.

【语种】中文

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【学科分类】畜牧学

【题目】10 个山羊品种线粒体DNA 的遗传多态性

【中文关键词】山羊;线粒体DNA;D-loop;遗传多态性

【英文关键词】goat; mitochondrial DNA;D-loop;genetic diversity

【中文摘要】用PCR-SSCP 分析了10 个山羊(Capra hircus)品种的线粒体DNA 编码区变异情况,这些品种分别来自我国9 个省和自治区,1 个国外品种安哥拉山羊,共计465 个个体。根据PCR-SSCP 的结果挑选出118 个个体进行D-loop 第1 高变区测序,并截取测定序列的481 bp 进行分析,系统建树显示,10 个山羊品种很明显地分成了4 个支系A、B、C 和D。对所有样本进行分子差异等级分析(AMOVA),品种内的方差组分占77.77%,表明10 个山羊品种间没有出现显著的遗传分化,品种间表现弱的遗传结构。对118 条序列进行歧点分布分析表明,整个山羊群体曾经历过2 次群体扩张事件。

【英文摘要】PCR-SSCP were used to analyze the mitochondrial DNA (mtDNA) encode region variation of 465 individuals of 9native goat (Capra hircus)breeds from 9 provinces and autonomous region in China and 1 foreign breed Angora goat. According tothe results of PCR-SSCP, the mitochondrial hypervariable region 1 (HVR1) of 118 individuals were sequenced. The analysis of thesesequences revealed that the goat breeds were classified into four distinct lineages A, B, C and D. The variation (77.77%) within breedssuggested that most of the total genetic variation was due to variation within populations, and revealed a weak phylogeographicalstructure in the goat breeds. Mismatch distribution analysis showed that 2 population expansions happened among goat populations.

【语种】中文

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【学科分类】畜牧、兽医科学基础学科

【题目】RSAP标记技术新引物设计及其反应体系的优化
【中文关键词】限制性位点扩增多态性;引物设计; 反应体系;体系优化
【英文关键词】restriction site amplified polymorphism; primer design; reaction system; optimization
【中文摘要】【目的】 对限制性位点扩增多态性(Restriction site amplified polymorphism, RSAP) 标记技术进行改进,并优化了其反应体系。【方法】 遵循引物设计原则, 使限制性位点序列位于中间, 在其3`端增加3个选择性碱基,5`端设计为10~12个碱基的随机序列,设计了14条长为19bp的限制性位点扩增多态性(RSAP) 新引物。以大白菜、紫菜薹自交系及其F1、F2 的DNA为模板,对新引物的反应体系进行了优化,并对其重复性和适用性进行了检验。【结果】新设计引物PCR扩增的前5个循环退火温度为35°C ,后35个循环为52°C ;在25 μL优化反应体系中, 模板DNA用量为2.0 μL (20.0ng/ μL) Mg2+ 3.0 μL (25mmol/ L)、Taq 酶(5U/ μL)1.5U、dNTPs 2.0 μL (2.5mmol/L)、引物各0. 6 μL (10 μmol/L) ;新引物扩增出的谱带较原引物更多, 多态性更好; 只改变选择性碱基,新设计引物就能扩增出新的谱带;新设计引物的重复性、稳定性好, 在荞麦和小麦品系, 以及紫菜薹、大白菜及其F1、F2 中,新引物均能扩增出清晰谱带。【结论】 新引物适用性和重复性好,可广泛应用于其他作物的基因组DNA分析。
【英文摘要】[Objective] RSAP marker technique was improved and its reaction system was optimized. [Method] The sequence of restriction site (4-6bases) located in the middle, three selective nucleotides were added to its 3`end and 10 to12 bases long of random sequence lied in its 5`end. Fourteen new primers of restriction site amplified polymorphism (RSAP) were redesigned 19 nucleotides long. Then, using DNA from inbreed lines` young leaves of Chinese cabbage (Brassica campestris L. ssp. pekinensis), Purple-caitai (Brassica compestris L. var. purpurea Bailey) and their F1 , F2 as trial materials, its reaction system was optimized and reproducibility and applicabtivity were tested. [Result] PCR amplification of new primers was run for the first 5 cycles with an annealing temperature of 35°C, followed by 35 cycles with an annealing temperature of 52°C; the optimum PCR reaction system of 25 μL included 2.0 μL DNA templates (20.0ng/ μL), 3.0 μL of Mg2+ (25mmol/ L), 1.5U of Taq DNA polymerase, 2.0 μL of dNTPs (2.5mmol/L), and 0. 6 μL of each primers (10 μmol/ L) . New primers could amplify more strips and polymorphism was better than former primers. In the varieties of buckwheat and wheat, new primer could amplify vivid strips too. [Conclusion] The applicability and reproductivity of new primers were very good, and application would be broad.
【语种】中文
【第一作者】张明科
【通讯作者】张鲁刚
【期刊名称、卷期、页码】西北农林科技大学学报(自然科学版) 2009,(2)
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【题目】体内和体外法比较保护蛋氨酸和赖氨酸产品在瘤胃和小肠的释放率
【中文关键词】蛋氨酸;赖氨酸;瘤胃;小肠;释放率;体外;体内
【英文关键词】met hionine ; lysine ; rumen ; small intestine ; release rate ; i n si t u ; i n vi t ro
【中文摘要】采用不同材料制得 6 种保护蛋氨酸和 4 种保护赖氨酸产品 ,蛋氨酸分别以丙烯酸树脂 IV号(M1) ,丙烯酸树脂 IV 号和乙基纤维素(M2) ,丙烯酸树脂 IV 号和乙基纤维素及羟丙基甲基纤维素(M3) ,乙基纤维素(M4) ,丙烯酸树脂 IV 号和氢化植物油(M5) ,氢化植物油(M6)包被;赖氨酸分别以丙烯酸树脂 IV号和乙基纤维素(L1) ,丙烯酸树脂IV 号和羟丙基甲基纤维素(L2) ,丙烯酸树脂 IV 号和氢化植物油(L3) ,乙基纤维素和氢化植物油(L4)包被。对 10种产品进行了体外和尼龙袋法稳定性检验。结果表明 ,用尼龙袋在 4 头荷斯坦奶牛瘤胃中培养 4、 8、 24、 48 h ,丙烯酸树脂 IV 号和氢化植物油保护的 M5 和 L3 的释放率最低 ,分别为 11. 72 %~50. 67 %、 35. 70 %~72. 09 %;其在p H6. 6 缓冲溶液中培养相应时间的释放率分别为 24167 %~38144 % ,42105 %~75102 % ,体外法与尼龙袋法测定结果显著相关 ,相关系数分别为 RM2= 01867 5 , RL2= 01963 0。M5 和L3 在真胃和小肠及在p H214 缓冲溶液中的释放率均为 100 %。
【英文摘要】Rumen 2p rotected methionines (RPMet) were obtained f rom polyoxylate IV(M1) ,polyoxylate IVand et hyl2cellulose (M2) , polyoxylate IVand et hyl2cellulose and hydroxyprpoyl met hylcellulose (M3) , et hyl2cellulose (M4) , polyoxylate IVand hydrogenated vegetable oil (M5) ,and hydrogenated vegetable tallow (M6) . Rumen2protected lysines (RPLys) were obtained wit hpolyoxylate IVand et hyl2cellulose (L1) , polyoxylate IVand hydroxyprpoyl met hylcellulose (L2) ,polyoxylate IVand hydrogenated vegetable oil (L3) ,et hyl2cellulose and hydrogenated vegetable oil(L4) . The stability of RPMet and RPLys was tested by i n vi t ro and i n si t u. Af ter incubating for4 , 8 , 24 and 48 h in t he rumen ,the ruminal release rate of nit rogen was lower and ranged f rom11172 % - 50167 % and 35170 % - 72109 % in M5 and L3 , respectively . However ,when incuba2ted in the buffer solution (p H = 616) for 4 , 8 , 24 and 48 h , nit rogen release rate ranged f rom24167 %- 38144 % and 42105 % - 75102 % in M5 and L3 , respectively.

There was a significantpositive linear relationship (RM2= 01867 5、 RL2= 01963 0) of t he degradability of RPMet andRPLys between i n vi t ro and i n si t u. Nit rogen release rate was 100 % in M5 and L3 in the small intestine and t he buffer solution (p H = 214) .
【语种】中文
【第一作者】郭玉琴
【通讯作者】王加启
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【题目】达草灭对橙色大白菜愈伤组织中类胡萝卜素含量的影响
【中文关键词】橙色大白菜; 达草灭; 愈伤组织; 类胡萝卜素; 高效液相色谱
【英文关键词】orange-heading Chinese cabbage; norflurazon; calli; carotenoid; HPLC
【中文摘要】依据橙色大白菜的愈伤组织呈现橙色, 而普通大白菜的愈伤组织呈现浅黄色这一现象, 以橙色大白菜‘金冠1号’和普通大白菜‘秦白2号’培养的愈伤组织为材料, 在培养基中添加0.1 mmol·L-1的八氢番茄红素脱氢酶抑制剂达草灭分别处理5、10、20和40 d。用HPLC法测定处理后的愈伤组织中各种类胡萝卜素含量的结果表明:‘秦白2号’愈伤组织中以β-胡萝卜素为主,‘金冠1号’愈伤组织中的类胡萝卜以番茄红素和β-胡萝卜素为主, 且类胡萝卜素总含量比‘秦白2号’高出10.4倍; 随着达草灭处理时间的延长, 愈伤组织的颜色逐渐变白, 其中番茄红素和β-胡萝卜素的含量逐渐下降, 而八氢番茄红素的含量则逐渐升高,至处理40 d时, 两品种的愈伤组织中积累的八氢番茄红素差异不明显。据此, 推论橙色大白菜中类胡萝卜素的积累并不是由于类胡萝卜素生物合成能力的提高引起的。
【英文摘要】According to the phenomenon that the calli derived from ‘Qinbai 2’ seedlings showed a light yellow color and the calli derived from ‘Jinguan 1’ exhibited orange yellow, the calli from ‘Qinbai 2’ and ‘Jinguan 1’ were treated for 5d, 10d, 20d and 40d with 0.1 mmol·L-1 norflurazon, an effective inhibitor of phytoene desaturase. The carotenoid content of treated calli were measured by High Pressure Liquid Chomatography (HPLC). The results showed that β-carotene was the main component of carotenoid in the calli derived from ‘Qinbai 2’, lycopene and β-carotene were the main components of carotenoid in the calli derived from ‘Jinguan1’. The total carotenoid content in ‘Jinguan 1’ was 10.4 times more than that in ‘Qinbai 2’. With the treatment of norflurazon, the growing calli became white and the contents of lycopene and β-carotene were decreased but phytoene content increased. After the treatment of norflurazon for 40 d, there was no obvious difference of phytoene accumulation between the ‘Qinbai 2’ and ‘Jinguan 1’ calli. These results suggested that carotenoid accumulation in the orange-heading Chinese cabbage didn’t result from an increased capacity of carotenoid biosynthesis.
【语种】中文
【第一作者】张华敏
【通讯作者】张鲁刚
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【题目】大白菜游离小孢子胚诱导及植株再生
【中文关键词】大白菜;小孢子;胚状体;再生植株
【英文关键词】Heading Chinese cabbage; Microspore; Embryoid; Plantlet
【中文摘要】以15个大白菜 [Brassica campestris ssp. Pekinensis (Lour .) Olsson]自交系和杂交种为试材进行游离小孢子培养,研究了影响胚状体发生及植株再生的几个主要因素。结果表明,有12个品种的游离小孢子在NLN-13液体培养基上诱导出胚;各品种间小孢子胚产量差别很大,每个花蕾产胚在0. 25~65. 4个之间;将成熟的子叶形胚及时转移至再生培养基上,对提高植株获得率至关重要;在NLN-13液体培养基上附加0.2mg·L-1的6-BA对胚状体的发生和发育有促进作用;B5 +0.2mg·L-1 6-BA+ 0.02mg·L-1 NAA的培养基有利于小孢子胚发育成植株;1/ 2MS+0.1mg·L-1 NAA为小孢子植株生根最适宜的培养基。

【英文摘要】Isolated microspore culture was carried out with15 F1 hybrids and inbred lines of heading Chinese cabbage (Brassica campestris ssp. Pekinensis (Lour.) Olsson). Major factors influenced embryogenesis in Chinese cabbage during microspore culture were investigated. The results showed that 12 varieties of heading Chinese cabbages were cultured in NLN-13 liquid medium and produced microspore-derived embryos and plantlet regeneration. The production of microspore-derived embryos varied remarkably among these varieties. Embryo yield per bud ranged from 0.25 to 65.4. Transferring mature cotyledonary embryos to the regeneration medium in time was essential to increase plantlet regeneration rate. The effect of different hormone concentrations in NLN medium on embryogenesis was compared. It showed that NLN-13 medium added with 0.2mg • L-1 6-BA promoted genesis and development of the embryoids. Microspore-derived embryos on B5 medium with 6-BA 0.2mg • L-1 and NAA 0. 02 mg • L-1 were favorable to regenerating plantlets. For rooting of microspore plantlets,1/2 MS added with 0.1mg • L-1 NAA was suitable.
【语种】中文
【第一作者】付文婷
【通讯作者】张鲁刚
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【题目】大白菜花蕾败育相关基因的cDNA-AFLP差异表达分析
【中文关键词】大白菜;花蕾败育;cDNA-AFLP技术;ESTs
【英文关键词】Chinese cabbage, Aborting bud, cDNA-AFLP technology, ESTs
【中文摘要】本研究以大白菜(Brassica campestris ssp. Pekinensis (Lour.) Olsson) 败育花蕾到正常花蕾的10个连续时期的花蕾为材料,采用cDNA-AFLP技术和生物信息学分析等方法研究了败蕾过程中的基因表达差异,获得了192个大白菜败蕾相关差异表达片段,随机挑选88个序列进行测序,获得72个新表达序列标签(ESTs),将长度大于100bp的67个ESTs在GenBank进行了登录,登录号为GR308155-GR308221。根据生物信息学分析结果,其中 Blastx比对分值大于80的62条ESTs可分为能量和新陈代谢膜和运输转录和翻译氨基酸合成和加工信号传导防御及分类不确定7类。其中EST46、EST3-1、EST13-2、EST20-1和EST30-2等5个ESTs为大白菜花蕾败育材料中新发现的。
【英文摘要】Abstract cDNA-AFLP technology and bioinformatics analysis were used to analyze gene expression difference at 10 consecutive periods bud from bud aborted to normal bud in Chinese cabbage (Brassica campestris ssp. pekinen- sis (Lour.) Olsson), 192 differentially expressed sequences were obtained, then 88 sequences were chosen randomly to sequence, 72 novel expressed sequence tags (ESTs) were obtained after sequencing. 67 ESTs which size is longer than 100 bp had been entered to GenBank, their entering number were GR308155-GR308221. 62 ESTs which Blastx score is greater than 80, were divided into seven types by bioinformatics analyzing, such as energy and metabolism, membrane and transport, transcript and translation, amino acid synthesizing and processing, signal conduction, and unclear classified et al, moreover, 5 ESTs, such as EST46, EST3-1, EST13-2, EST20-1 and EST30-2, were newly found in Chinese cabbage bud aborting.
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【第一作者】张鲁刚
【通讯作者】张鲁刚
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【题目】健能赢的理念和核心体系
【中文关键词】健能赢DHI 分析 评估
【英文关键词】无
【中文摘要】健能赢是光明荷斯坦 50 多年养牛经验的技术管理集成 它以 DHI 数据为切入点 实现对牛场的精细管理健能赢首先通过 DHI 测试及各类数据采集 对专业化信息管理进行系统汇总 分析 评估 为牧场提供最佳方案 改善生产管理。

【英文摘要】无
【语种】中文
【第一作者】刘光磊
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【题目】4 个绵羊品种双肌臀基因基因型的检测
【中文关键词】PCR2RFL P ;双肌臀基因;单核苷酸多态性;绵羊
【英文关键词】PCR2RFL P ; Callipyge gene ; SNP ; sheep
【中文摘要】绵羊的双肌臀(Callipyge , CL PG) 基因表型为后臀肌肉增大近30 % ,是由位于绵羊18 号染色体GTL2 基因上游32. 8 kb处存在1 个A →G的单核苷酸多态性(SNP) 标记(命名为SNPCLPG) 产生的,该SNP 标记的存在与CL PG表型完全吻合。通过对SNPCLPG的分子检测,期望发现CL PG基因型种羊,为今后选育肉用性状更优异的新品系奠定基础。为此,选择设计合成了1 对引物,采用聚合酶链式反应2限制性片段长度多态性(PCR2RFL P) 方法,分别以引进的纯种陶塞特羊、特克塞尔羊、夏洛莱羊和美利奴羊作为研究样本,进行了SNPCLPG位点的PCR 检测。获得了预期的493 bp 扩增片段,并检测到CL PG基因型特征性的SNPCLPG突变(A →G) 。
【英文摘要】The buttocks muscle can be increased about 30 % by Callipyge (CL PG) , resulting f rom an apparent A →G muta2tion in 32. 8 kb upst ream of GTL2 in the ovine chromosome 18. The mutation polymorphism is referred to as SNPCLPG , whichwas later shown to be the only difference between the callipyge and wild2type chromosome. The objective of the research is toselect carriers of the callipyge gene by the molecular biological techniques , which is the basis of selection of the excellent meatt rait s. The SNPs were detected by PCR2rest riction f ragment length polymorphisms (PCR2RFL P) with one pairs of primers ingenome of Dorset sheep , Texel sheep , Charolais sheep and Merino sheep. A →G substitution was found and one special prod2uct s (493 bp) were amplified.
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【第一作者】孟详人
【通讯作者】马月辉
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【题目】11 个绵羊品种MSTN 基因非翻译区的变异
【中文关键词】MSTN; UTR; PCR-RFLP; MicroRNA; 多态性
【英文关键词】MSTN; UTR; PCR-RFLP; MicroRNA; polymorphism
【中文摘要】利用PCR-RFLP 技术对特克塞尔羊、夏洛莱羊、小尾寒羊、蒙古羊、乌珠穆沁羊、阿勒泰羊、呼伦贝尔羊、塔什库尔干羊、多浪羊、湖羊和岗巴羊11 个品种的345 个个体的肌肉生长抑制素(Myostatin, MSTN)基因非翻译区(UTR)的变异进行了多态性分析。结果表明大小为271 bp 和1 003 bp 的扩增片段经限制性内切酶Mbo Ⅱ和Bsa Ⅰ酶切后表现多态, 经卡方检验所有品种在该基因座位均处于平衡状态(P>0.05), 3 种基因型在11 个绵羊品种中的分布差异极显著(P<0.01)。通过限制性内切酶HpyCH4IV 酶切实验, 证明我国9 个地方绵羊品种不存在特克塞尔绵羊中发现的导致肌肉发达的SNP 位点, 并在3 ′ UTR 区发现了个别碱基突变位点能够形成miRNA 作用的靶基序, 测序表明3 ′ UTR 区的突变频率较高。
【英文摘要】PCR-RFLP was applied to analyze the polymorphism of MSTN gene UTR in 345 sheep that comprised of elevensheep breeds, namely Texel sheep, Charolais sheep, Small-tailed Han sheep, Monggolian sheep, Ujumqin sheep, AltayFat-rumped sheep, Hulunbeir sheep, Tashikurgan sheep, Duolang sheep, Hu sheep, and Gangba sheep. A 271 bp and a1 003 bp long PCR products were digested with Mbo Ⅱ and Bsa Ⅰ to demonstrate polymorphism in the eleven sheep breeds,which were all at Hardy-Weinberg equilibrium (P>0.05). The distribution of 3 genotypes in 11 sheep breeds was significantlydifferent (P<0.01). Digestion of the PCR products with HpyCH4IV proved that 9 domestic local sheep breeds weredifferent from Texel sheep in the SNP site that was associated

with muscularity. The individual mutation base could generatethe motifs for miRNA in the 3′UTR, and sequencing analysis demonstrated high frequency of mutation in the 3′UTR region

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【第一作者】孟详人
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【题目】Analysis of Cell Wall Components and Ultra-structure for Brittleness Mutation Rice
【中文关键词】脆性突变水稻;细胞壁组分;超微结构;饲料稻;
【英文关键词】Brittleness mutation rice;Cell wall component;Ultra-structure;Fodder-rice
【中文摘要】细胞壁的组件和大植物比较脆性突变(BM)水稻种子获得的伽马射线(γ)治疗和它从Zhonghua-11野生型粳稻品种在这个研究。纤维素含量的叶、茎和根的BM-rice显著降低(P < 0.01)18.99%、37.29%和23.34%,相比那些野生型的分别,而半内容在叶、茎、根BM-rice显著增加(P < 0.01),分别为46.07%、85.26%和61.96%。叶子的薄壁大很多的BM-rice比野生型水稻扫描电镜的观察。对于BM-rice,厚壁组织的叶子是萎缩,维管束的叶子被减少,strumae的外表皮干细胞是稀疏和链接的韧皮部根拆散和分散。将层次结构墙厚壁组织细胞的BM-rice叶不明显,观察的瞬变。此外,安排的薄壁组织细胞BM-rice茎的无序和外观的薄壁组织细胞BM-rice knaggy墙的根。总之,BM-rice有潜在的优势在利用作为一个fodder-rice。
【英文摘要】The cell wall component and ultra-structure of plant were compared between brittleness mutation (BM) rice obtained by seed gamma-ray (γ) treatment and its wild type from japonica variety Zhonghua-11 in this study. The cellulose content in leaf, stem, and root of BM-rice significantly decreased (P<0.01) by 18.99%, 37.29% and 23.34% compared with those of wild type, respectively, while the hemi-cellulose content in leaf, stem and root for BM-rice significantly increased (P<0.01) by 46.07%, 85.26% and 61.96%, respectively. The leaf parenchyma of BM-rice was much larger than that of wild type rice by the observation of SEM. For the BM-rice, the sclerenchyma of leaves was shrunken, vascular bundle of leaves was reduced, the strumae of outer epidermis of stem was sparse and the link of phloem of root was loosed and dispersed. The hiberarchy of sclerenchyma cell wall of BM-rice leaf was not obvious by the observation of TEM. Besides, the arrangement of parenchyma cells of BM-rice stem was disordered and the exterior of parenchyma cell wall of BM-rice root was knaggy. In conclusion, BM-rice has potential advantages in utilization as a fodder-rice.
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【第一作者】苏衍
【通讯作者】赵国琦
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【题目】Polyamine Accumulation in Transgenic Tomato Enhances the Tolerance to High Temperature Stress
【中文关键词】高温胁迫处理,番茄,多胺,酿酒酵母,硫腺苷甲硫氨酸脱羧酶,转化
【英文关键词】heat stress; Lycopersicon esculentum; polyamines; Saccharomyces cerevisiae; S-adenosylmethionine decarboxylase; transformation
【中文摘要】多胺在植物抵抗非生物胁迫中具有重要的作用。硫腺苷甲硫氨酸脱羧酶(SAMDC)是多胺合成中的关键酶。为了验证多胺合成在番茄抗高温胁迫中的作用,将从酿酒酵母中分离出的 SAMDC cDNA转入到番茄中,并通过 Southern 和 Northern 来检验转基因的表达情况。在高温胁迫条件下,转基因番茄的亚精胺和精胺的合成量是野生植株1.7-2.4倍。这表明与野生番茄相比,转基因番茄的抗高温(38°C)能力有所提高。本实验证明,在植物中提高多胺的合成量可能是培育抗高温种质的有效途径。
【英文摘要】Polyamines play an important role in plant response to abiotic stress. S-adenosyl-l-methionine decarboxylase (SAMDC)is one of the key regulatory enzymes in the biosynthesis of polyamines. In order to better understand the effect ofregulation of polyamine biosynthesis on the tolerance of high-temperature stress in tomato, SAMDC cDNA isolated fromSaccharomyces

cerevisiae was introduced into tomato genome by means of Agrobacterium tumefaciens through leafdisc transformation. Transgene and expression was confirmed by Southern and Northern blot analyses, respectively.Transgenic plants expressing yeast SAMDC produced 1.7- to 2.4-fold higher levels of spermidine and spermine than wildtypeplants under high temperature stress, and enhanced antioxidant enzyme activity and the protection of membranelipid peroxidation was also observed. This subsequently improved the efficiency of CO2 assimilation and protected theplants from high temperature stress, which indicated that the transgenic tomato presented an enhanced tolerance to high temperature stress (38 ◦ C) compared with wild-type plants. Our results demonstrated clearly that increasing polyaminebiosynthesis in plants may be a means of creating high temperature-tolerant germplasm.

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【第一作者】卢钢
【通讯作者】卢钢
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【学科分类】园艺学

【题目】Identification of two AFLP markers linked to bacterial wilt resistance in tomato and conversion to SCAR markers.
【中文关键词】番茄; DNA-AFLP; SCAR;青枯病
【英文关键词】Tomato; DNA-AFLP; SCAR; Bacterial wiltdecarboxylase; transformation
【中文摘要】在热带、亚热带及湿润地区,番茄青枯病(BW)是影响产量的重要因素。本研究筛选出了与BW的抗性基因连锁的AFLP分子标记。为了达到研究目的,我们在F2代群体中利用混合分组分析法来筛选。F2代是源于抗BW的栽培种T51A和感病栽培种 T9230杂交。遗传分析发现BW是由两个不完全显性基因控制的。我们利用CTAB法并加以改良来提取感病番茄叶片DNA,利用256对引物进行筛选,其中有2个AFLP标记与BW抗性基因连锁。随后我们将这两个AFLP标记改造成为共显性的 SCAR标记,并命名为 TSCAR AAT/CGA 和TSCARAAG/CAT。连锁分析发现,两个标记在 TRSR-1的两侧。TSCAR AAT/CGA和 TRSR-1的遗传距离为 4.6 cM,TSCARAAG/CAT和 TRSR-1的遗传距离为8.4 cM。
【英文摘要】Tomato bacterial wilt (BW) incited by Ralstoniasolanacearum is a constraint on tomato production in tropical, subtropical and humid regions of the world. In this paper, we present the results of a research aimed at the identification of PCR-based markers amplified fragment length polymorphism (AFLP) linked to the genes that confer resistance to tomato BW. To this purpose, bulked segregant analysis was applied to an F2 population segregating for the BW resistant gene and derived from the pair-cross between a BW resistant cultivar T51A and the susceptible cultivar T9230. Genetic analysis indicated that tomato BW was conferred by two incomplete dominant genes. A CTAB method for total DNA extraction, developed by Murray and Thompson with some modifications was used to isolation the infected tomato leaves. Thirteen differential fragments were detected using 256 primer combinations, and two AFLP markers were linked to the BW resistance. Subsequently, the AFLP markers were converted to co-dominant SCAR markers, named TSCAR AAT/CGAand TSCAR AAG/CAT. Linkage analysis showed that the two markers are on the contralateral side of TRSR-1. Genetic distance between TSCAR AAT/CGA and TRS-1 was estimated to 4.6 cM, while 8.4 cM between TSCARAAG/CAT and TRS-1.
【语种】英文
【第一作者】卢钢
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【题目】植物腺苷甲硫氨酸脱羧酶研究进展
【中文关键词】腺苷甲硫氨酸脱羧酶; 多胺; 生物学功能
【英文关键词】S-adenosylmethionine decarboxylase; polyamine; biological function
【中文摘要】多胺对植物生长发育的调控以及生物或非生物逆境胁迫反应中起着重要的作用。腺苷甲硫氨酸脱羧酶(S-adenosylmethionine decarboxylase, SAMDC)是植物体多胺生物合成途径中一个关键酶, 催化腺苷甲硫氨(S-

adenosylmethionine, SAM)形成脱羧的SAM, 为多胺生物合成提供氨丙基供体。现对植物中 SAMDC 的种类、SAMDC 基因的特征以及功能研究现状进行了综述。

【英文摘要】olyamine plays important roles in plant growth and the response to biotic and abiotic stress. S-adenosylmethionine decarboxylase (SAMDC) is a key enzyme involved in the biosynthesis of the polyamines. The substrate for the SAMDC is S-adenosylmethionine (SAM) and the product is decarboxylated SAM which provides the aminopropyl groups for subsequent synthesis of spermidine and spermine. This article reviews the progress on classification, evolution, structure character and biological function of SAMDC genes in plants.

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【学科分类】园艺学

【题目】Isolation of a novel tomato caffeoyl CoA 3-O-methyltransferase (CCoAOMT) gene following infection with the bacterium Ralstonia solanacearum.

【中文关键词】番茄; DNA-AFLP; 混合分组分析法; CCoAOMT,青枯病

【英文关键词】Tomato; DNA-AFLP; SCAR; Bacterial wilt decarboxylase; transformation

【中文摘要】将 cDNA- AFLP与混合分组分析法(BSA)进行结合,筛选番茄青枯病抗性基因。F2代中的抗性基因源于野生的抗性群体T51A和野生的感病群体 T9230杂交。利用cDNA- AFLP技术在F2代抗池(BR)、F2代感池(Bs)、T51 A抗池(BA)及T9230感池(BB)进行筛选,共筛选出34个只能在BR和BA中有条带的标记。通过在F2代抗性植株中进行进一步的单株验证,从中筛选出一个编码乙酰CoA 3-O – 甲基转移酶 (CCoAOMT)的基因,这个基因在番茄中从未有报道,但与烟草和马铃薯的CCoAOMT类似。这个基因可能在自身抵抗病原菌侵害中发挥着重要作用。CCoAOMT基因在愈创木基木质素合成中发挥重要作用,并且为紫丁香基木质素的合成提供原料。

【英文摘要】We combined cDNA amplified fragment length poly-morph ism (cDNA - AFLP) with bulked segregant analysis (BSA) to detect genes that control tomato(Lycopersicon esculentum) bacterial wilt infected with Ralstonia solanacearum , resistance in F2 population derived from a cross between a bacterial wilt-resistant variety, T51 A, and a bacterial wilt-susceptibl e variety, T92 30. In c DNA-AF LP analysis among bulked-resistant F2(BR) pool, bulked-susceptible F2(BS) pool ,bulked-resistant T51 A (BA) pool and bulked-susceptible T92 30 (BB) pool , 34 differentially expressed transcript-derived fragments (DE- TDF s) that were present in only BR and BA pools were detected. Analysis ofdifferential DE -TDF expression in individual resistant F2 resulted in the isolation of a caffeoyl CoA 3-O – methy- ltransferase (CCoA OMT) gene not previously described from tomato and which showed similarity to an CCoAO MT gene from tobacco and potato plants .This CCoAO MT gene may play a role in innate generalized response to pathogen infection as it was down-regulated in suscept -ible tomato following infection with the bacterium. CCoAOMT gene plays an essential role in the synthesis of guaiacyl lignin units and supply substrates for the syn- thesis of syringyl lignin units .

【语种】英文

【第一作者】卢钢

【通讯作者】卢钢

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【学科分类】园艺学

【题目】酵母SAMdc基因表达载体构建以及农杆菌介导转化番茄的研究.

【中文关键词】SAMDC基因; E8启动子;番茄;载体构建;农杆菌介导

【英文关键词】SAMDCgene; E8 promoter; tomato; vector construction; Agrobacterium tumefaciensgene transformation

【中文摘要】SAMDC(腺苷甲硫氨酸脱羧酶)是参与植物多胺合成的一个关键酶.通过GenBank上已经发表的序列,设计两对引物,分别以酵母基因组DNA和番茄基因组DNA为模板克隆出SAMDC基因和E8启动子.构建了以CaMV35S和E8为启动

子的两个SAMDC基因植物表达载体,酶切分子鉴定后,经农杆菌介导以叶盘法转入番茄中,获得了转基因植株.经PCR检测和X2Gluc组织化学染色检测,目的基因已经成功转入番茄中.为研究多胺在番茄中代谢活性以及SAMDC基因对番茄抗逆性和番茄果色的影响提供了研究基础.

【英文摘要】S-adenosylmethionine decarboxylase (SAMDC) is a key enzyme involved in the biosynthesis of the polyamines, viz. spermidine and spermine. Two pairs of primers were designed based on the published sequences in the GenBank. The SAMDC gene and E8 promoter were amplified using yeast and tomato genome DNA as templates, respectively. Then two SAMDC gene expression vectors containing CaMV35S and E8 promoters separately were constructed. The SAMDC gene was introduced into tomato genome by Agrobacterium tumefaciens mediated transformation. The PCR and X2Gluc histochemical assay results showed that SAMDC had been integrated into the genome of tomato successfully. The results provided a helpful tool for understanding the physiological function of polyamines and the effects of SAMDC gene on resistance to abiotic stress and fruit color in tomato.

【语种】中文

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【学科分类】园艺学

【题目】TSA 对滩羊成纤维细胞作为供体细胞的作用

【中文关键词】滩羊; TSA ;成纤维细胞;乙酰化

【英文关键词】Tan sheep ; TSA ; fibroblast cell ; acetylation

【中文摘要】为探索成纤维细胞作为供体细胞的潜能和Trichostatin A(TSA) 处理供体细胞的适合浓度,提高克隆胚胎的发育水平。本研究分别利用100 、50 、25 、10 ng ・mL - 1 TSA 处理滩羊成纤维细胞,观察细胞形态,统计细胞活率,利用流式分选技术分析处理前后细胞的周期时相,同时通过间接免疫荧光法检测细胞乙酰化水平,并以经过10~50 ng ・mL - 1 TSA 处理的成纤维细胞作为供体细胞,检测其重构胚发育水平。结果发现,当TSA 的浓度达100ng ・mL - 1时,细胞大量死亡,不同浓度TSA 处理细胞24 h 后,细胞周期被明显抑制在G0 / G1 期,乙酰化水平明显高于对照组,其中供体细胞经10 ng ・mL - 1 TSA 处理的克隆胚胎卵裂率和囊胚率明显升高(P < 0. 05 , (85. 2 ±3. 4) % vs (68. 6 ±6. 7) % , (35. 6 ±5. 7) % vs (10. 4 ±8. 3) %) 。结果表明,经10 ng ・mL - 1 TSA 处理的滩羊成纤维细胞周期同步化明显,乙酰化维持较高水平,重构胚胎发育水平明显提高,适合作为成纤维细胞的处理方法和浓度。

【英文摘要】In order to investigate t he potential of fibroblast s as donor cell s , and find out t he opti2mal concent ration of TSA used to t reat fibroblast s , and f urt her to improve t he developmental lev2el of cloned embryos , the fibroblast s were t reated wit h 100 , 50 , 25 , 10 ng ・mL - 1 TSA , cellmorp hology and viability were investigated. Flow cytomet ry were adopted to analyse cell cycle.Acetylation level was detected by indirect immunofluorescence , and t he developmental level ofcloned embryos was evaluated. Most cell s t reated with 100 ng ・mL - 1 TSA were dead , but a sig2nificant increase of acetylation level was detected ; the cell cycle was arrested at G0 / G1 checkpointwit h t he existence of TSA ; generally ,there was a higher proportion of cleavages and blast ulas (P< 0. 05 , (85. 2 ±3. 4) % vs (68. 6 ±6. 7) %, (35. 6 ±5. 7) % vs (10. 4 ±8. 3) %) when the cell swere t reated wit h 10 ng ・mL - 1 TSA. The result s suggested t hat acetylation level , cell morp hol2ogy and embryonic developmental level were imp roved and optimal for t he donor cell s t reated wit h10 ng ・mL - 1 TSA.

【语种】中文

【第一作者】李向臣

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【学科分类】畜牧、兽医科学基础学科

【题目】鸡鸭异种间转基因嵌合体的制备

【中文关键词】鸡;鸭;原始生殖细胞;种间嵌合体;转基因鸡;p EGFP2N3
【英文关键词】chicken ; duck ; primordial germ cell s ; inter2species chimeras ; t ransgenic chicken ; p EGFP2N3
【中文摘要】为研究异种间嵌合体的制作方法及供体和受体的嵌合情况,同时探讨绿色荧光蛋白(p EGFP2N3) 基因作为报告基因在转基因动物制作中的应用价值。本研究利用脂质体介导法将外源p EGFP2N3 质粒转入到北京鸭原始生殖细胞(PGCs) 中,将转染后的PGCs 以微注射法转移至受体北京油鸡的胚下腔,探索转基因鸡鸭嵌合体的制作方法。结果显示: PGCs 在转染后6 h 开始有外源基因的表达,体外培养24 h 后获得了33. 6 %的转染效率。120枚蛋在整个孵化期中共有33 枚鸡胚发育,但最终无孵化成活鸡。在13 个鸡胚中检测到有外源基因的存在,阳性率为10. 8 %。PCR 扩增禽类W染色体特异性的重复序列发现,8 只嵌合体公鸡的性腺都嵌合了供体异性的细胞。研究结果表明所采用的嵌合体制作方法制备转基因禽类是可行的。鸭PGCs 能够迁移并定居到鸡胚性腺中,并有可能在鸡性腺中增殖分化成有功能的配子。
【英文摘要】In this st udy , plasmid p EGFP2N3 was int roduced into t he duck PGCs via lipofectaminei n vi t ro. The t ransfected PGCs were injected into t he subgerminal cavity of t he recipient chickento find a kind of met hod which would produce inter species duck/ chicken chimeras and cont ributeto t ransgenic st udy via chimeras. The Beijing duck was used as t he donor and t he Beijing Fat tychicken was t he recipient , t he duck/ chicken chimeras were const ructed via Windowing technique.The exogenous gene was expressed in PGCs t ransfected for 6 h later , and cult ured for 24 h i nvi t ro , t he t ransfection rate reached 33. 6 %. 33 chicken embryos of 120 chicken eggs were ob2tained. Event ually 13 chimeric embryos were obtained , but t here was no a surviving chicken. Theexogenous gene were detected in 10. 8 % (13/ 120) of t he embryos examined. Heterosexual cell swere found in the gonads of 8 chimeras t hrough PCR to amplify the W2specific repeating se2quences. The result s indicated t hat it was possible to produce t ransgenic avians by const ructingchimeras wit h t he met hod adopted in t his st udy. Furt hermore , t hese result s suggested t hat duckPGCs could migrate , colonize and proliferate in chicken gonads toget her with chicken ′ s PGCsduring development .
【语种】中文
【第一作者】李林凤
【通讯作者】马月圆
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【学科分类】畜牧、兽医科学基础学科

【题目】梨部分优良品种授粉组合选配与自花结实性研究
【中文关键词】梨; 授粉; 花粉败育; 自花结实;
【英文关键词】Pear; Pollination; Pollen abortion; Self-fertile
【中文摘要】以中梨1号、中梨2号、新高、黄金梨、早美酥、红香酥、长寿、金二十世纪、红太阳等为试材,通过对各品种花药散粉状态进行镜检观察和杂交组合授粉与自花结实性试验,结果表明,中梨1号、早美酥、红香酥、长寿、金二十世纪6个品种的花药散粉正常、花粉量大,所配组合坐果率很高,生产上可用作授粉树;新高、黄金梨、红太阳3个品种花粉发育不良、散粉异常或花粉败育,生产上不能作为授粉品种。中梨2号、红香酥、长寿、金二十世纪、新高、黄金梨、红太阳7个品种自花不结实,早美酥和中梨1号可自花结实。
【英文摘要】Zhongli 1, Zhongli 2, Niitaka, Hangkeumbae, Zaomeisu, Hongxiangsu, Chouju, Goldnijisseiki, and Hongtaiyang were used as materials for studying their pollen scattering ability through microscope observation and examining their suitability for cross pollination and self- fertile ability. The results showed that Zhongli 1, Zaomeisu, Hongxiangsu, Chouju, Goldnijisseiki could be used as pollinizers in production because of their normal pollen scatteration, high pollen amount and high fruit set rate; Niitaka, Hangkeumbae, Hongtaiyang cann ’ t be used as pollinizers in production because of their abnormal pollen scatteration, pollens dysplasia or pollens abnormality. Zhongli 2, Hongxiangsu, Chouju, Goldnijiseiki, Niitaka,hangkeumbae , Hongtaiyang were self-incompatible; while Zaomeisu and Zhongli 1 were self- fertile.
【语种】中文
【第一作者】李秀根
【通讯作者】李秀根
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【学科分类】园艺学

【题目】驯养经济动物养殖及种群遗传多样性的研究方法
【中文关键词】野生动物; 驯养经济动物; 遗传多样性
【英文关键词】wild animal ; economic domesticated animal ; genetic diversity
【中文摘要】我国貉、银狐、北极狐、水貂、梅花鹿等野生动物养殖作为一项新兴的产业已成为建设新农村新的经济增长点,但是无论是野外资源的保护成效,还是人工驯养繁殖业的发展状况以及野生动物及其产品的经营利用秩序与社会需要和客观要求相比,还存在着相当大的差距。与野外环境中的种群比较,圈养种群是进行遗传学研究的最好的模型对象,对于研究野生种群近交与群体灭绝间的关系是非常合适的材料。目前国内外对于驯养经济动物与野生种群遗传多样性的研究主要集中于线粒体DNA、核糖体DNA、微卫星分子标记及主要组织相容性复合体等几个方面。作者针对目前国内外尤其是国内有关驯养经济动物养殖现状及其与野生种群形态、遗传多样性差异几个重要研究技术方面的研究进行了详细的论述和探讨,旨在通过利用我国养殖的野生小种群遗传学特性,为珍稀野生动物种群保护遗传学研究及加快国内经济动物养殖提供理论支持。
【英文摘要】In China , wild animals breeding has been the new rural const ruction of the new point of economic growth , suchas racoon Dog , silver fox , Arctic fox , mink , deer and other wild animals. However , both the effectiveness of the protection ofwild resources and the development of artificial breeding as well as the operation of order and social needs and the objective re2quirement , there is still a considerable gap. The domesticated population genetics research is the best model for studying wildpopulations inbreeding. Now , the genetic diversity research between domesticated population and wild population focused onmitochondrial DNA , ribosomal DNA , microsatellite markers and the major histocompatibility complex. Access to a large num2ber of this year of relevant researches , we discussed breeding status of wild animals , the difference of morphology and geneticdiversity , and it was aimed to supply a theoretical support for rare wild animals genetics research and wild animal breeding.
【语种】中文
【第一作者】刘长青
【通讯作者】马月辉
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【题目】寿光鸡腺苷酸琥珀酸裂解酶ADSL 基因的表达与克隆化细胞株的筛选
【中文关键词】寿光鸡;腺苷酸琥珀酸裂解酶;基因结构;基因表达;基因定位
【英文关键词】Shouguang chicken ; adenylo succinate lyase ; gene st ruct ure ; gene expression ; subcel2
lular location ;
【中文摘要】利用RT2PCR 与RACE 方法检测寿光鸡心、肝、脾、肺、肾、脑、腿肌与胸肌8 种组织腺苷酸琥珀酸裂解酶(ADSL) 基因mRNA 的差异表达水平,构建A DSL 基因融合表达载体p GEX2ADSL ,转化大肠杆菌BL21 (DE3) ,筛选阳性克隆,IPTG诱导表达,通过构建真核表达载体p EGFP2ADSL ,利用脂质体介导法转染寿光鸡成纤维细胞,并进行阳性细胞的克隆化筛选与检测。结果表明: A DSL 基因开放阅读框序列长为1 455 bp ,编码485 个氨基酸;5′端非转录调控区具有典型管家基因的特征,在邻近起始密码子- 28 bp 处发生C →T 突变,该突变使该位点变为核呼吸因子2 (NRF22) 结合位点;经SDS2PAGE 电泳显示,p GEX2ADSL 重组融合蛋白在分子量约为8015 ku 处有特异的蛋白条带出现,与预期分子量大小一致,等电点为6179 ,纯化后用Western2blot 检测为寿光鸡ADSL 蛋白。p EGFP2ADSL 转染寿光鸡成纤维靶细胞后24 、48 和72 h ,转染率在2614 %~4112 %之间,绿色荧光均匀分布于细胞质与细胞核中,随表达量的增加,绿色荧光在细胞核中聚集成团块状或颗粒状,经药物筛选和克隆化培养,获得表达p EGFP2ADSL 融合蛋白的阳性克隆细胞株,经RT2PCR 扩增与Western2blot 检测确认ADSL 融合蛋白基因已经整合到寿光鸡成纤维细胞的基因组中,获得正常表达。研究结果为揭示我国优良地方鸡种的风味基因结构,研究其生物学功能奠定基础。
【英文摘要】The specific expression of A DSL gene in 8 different tissues of Shouguang chicken wasinvestigated by RT2PCR and RACE in t his st udy. The f usion expression vector p GEX2ADSL wasconst ructed and t ransformed into Escherichi a col i BL21 (DE3) , po sitive cloning screened , in2duced and expressed by IPTG. Eukaryotic expression vector p EGFP2ADSL was t ransfected intoShouguang chicken fibroblast cell s using lipofectin met hod. The result s of sequences analysisshowed t hat the open reading f rame

of 1 455 nucleotides encode a protein of 485 amino acids ; Thepromoter of chicken A DSL cDNA showed typical feat ures of house keeping genes ,t here was a C-28 T mutation which caused t he site mutate to NRF22 binding site. The SDS2PA GE elect rop hore2sis result s showed t hat there were specific bands , about 8015 ku and an isoelect ric point of 6179 ,and Western2blot analysis showed that t he f used protein was ADSL. Af ter t ransfection 24 , 48and 72 h , t ransfection rate of p EGFP2ADSL were between 2614 % - 4112 %, and green fluores2cent could be observed in cytoplasm and nucleus well2dist ributed except cryptomere vesicle. Bot hof RT2PCR and Western2blot confirmed that the p EGFP2ADSL had been integrated into t heShouguang chicken fibroblast cell genome , and accessed to t he normal f usion protein expression.This research revealed the A DSL gene st ructure of excellent native chickens of China , establishedt he foundation for f urt her research wit h it s biological f unction.

【语种】中文
【第一作者】刘长青
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【题目】转基因动物克隆技术的应用及生物反应器的建立
【中文关键词】转基因动物克隆;生物反应器;核移植;基因打靶
【英文关键词】Transgenic animal cloning;Bioreactor;Nuclear transplantation;Gene targeting
【中文摘要】:利用转基因克隆技术实现外源基因的导入宿主染色体基因组内稳定整合,并能遗传给后代,已在基因表达与调控的理论研究、人类遗传病动物模型的建立、药用蛋白的生产、抗病育种、人类移植用的器官的研究等方面得到广泛应用。转基因动物的研究与应用也已经成为21 世纪生命科学领域最活跃、最具有实际应用价值的方向之一,尤其是作为生物反应器和医学上为人类提供所用器官方面,其经济价值和社会效益将是不可估量。在查阅大量近年来国内外相关资料的基础上,本文以转基因动物克隆为中心,对转基因动物克隆所采用显微注射技术、核移植技术、基因打靶与真核B A C 表达载体制备等主要研究技术,以及转基因动物克隆在异种器官移植、构建生物反应器等方面的应用进行了综合性论述与分析,同时阐述了各种转基因技术的优点与缺点,以其为转基因动物克隆研究提供理论基础与技术支撑
【英文摘要】Exogenous genescan be introduced into the hostgenom e chrom osom e,stably integrated and transm itted to future generationsby transgenic cloning technology.Transgenic cloning technology has been extensively applied to theoreticalresearch ofthe geneexpression and regulation,anim alm odels establishm entofhum an genetic diseases,pharm aceuticalprotein production,disease resistancebreeding and the hum an organ transplantresearch.Transgenic anim alresearch and application in the 21stcentury have becom e the m ostpopular technology in the life sciences.In particular,as a bioreactor itcan provide m edicalvalue of hum an organs.its econom ic valueand socialbenefits w illbe incalculable.In this paper,w e have discussed m ain technologies of transgenic anim alcloning,such as m icroinjectiontechnology, nuclear transfer technology, gene targeting and eukaryotic expression vector of B A C ,and its application inxeno-transplantation and building bioreactor.The advantages and disadvantages oftransgenic technologies w ere discussed in details here,This paperw as aim ed to supply a basis forthe transgenic anim alcloning researches.

【语种】中文
【第一作者】刘长青
【通讯作者】马月辉
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【题目】Rapid prototyping of paper-based microfluidics with wax for low-cost, portable bioassay
【中文关键词】无
【英文关键词】Bioassay Microfluidics Paper-based microfluidics Wax
【中文摘要】无

【英文摘要】Here we present a simple and low-cost production method to generate paper-basedmicrofluidic devices with wax for portable bioassay. The wax patterning method weintroduced here included three different ways: (i) painting with a wax pen, (ii) printingwith an inkjet printer followed by painting with a wax pen, (iii) printing by a wax printerdirectly. The whole process was easy to operate and could be finished within 5 – 10 minwithout the use of a clean room, UV lamp, organic solvent, etc. Horse radish peroxidase,BSA and glucose assays were conducted to verify the performance of wax-patternedpaper.
【语种】英文
【第一作者】陆遥
【通讯作者】林炳承
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【学科分类】分析化学

【题目】DNA 甲基化与组蛋白修饰对克隆胚发育的影响
【中文关键词】DNA 甲基化;组蛋白甲基化;组蛋白乙酰化;胚胎发育
【英文关键词】DNA methylation ; Histone methylation ; Histone acetylation ; Embryonic development
【中文摘要】在正常的受精、发育过程中,基因组DNA 不对称的去甲基化、重新甲基化以及组蛋白修饰作用发生在整个受精和胚胎发育过程中。本文将从DNA 甲基化、DNA 不对称的去甲基化和组蛋白修饰作用就其原理,相互之间的关系及其对胚胎发育情况的影响作以综述,并对近年来,DNA 甲基化与组蛋白修饰作用在胚胎发育过程中的研究作以总结。
【英文摘要】In the normal process of fertilization and development , the asymmetric genomic DNA methylation ,remethylation and modification of histone happen in the all process of fertilization and embryo development. This article will make a summary through the principle and the relationship of asymmetric genomic DNA methylation , remethylation and modification of histone ,then make a conclusion that the effect of DNA methylation and histone modification in the development of embryos.
【语种】中文
【第一作者】姚雅馨
【通讯作者】马月辉
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【题目】供体细胞的不同选择和处理对重编程过程的影响
【中文关键词】供体细胞; 核移植; 重编程
【英文关键词】donor cell; nuclear transfer; reprogramming
【中文摘要】供体细胞核移入去核的卵母细胞后, 必定要经过表观遗传修饰的重编程过程, 回到胚胎开始发育的全能状态。若重编程过程不完全, 必定会导致克隆效率降低。但是, 体细胞核的重编程能力不仅仅是在其移入去核的卵母细胞后所体现, 它在不同的供体细胞当中的潜能也是不尽相同的。并且, 对供体细胞进行不同的处理,也会导致其重编程的能力和程度不同。文章首先阐述了供体细胞的类型、代数、周期、年龄以及物种的不同选择对其核移植后重编程过程的不同影响, 其后又通过对供体细胞的冷冻保存, 血清饥饿以及不同试剂的处理等方面对重编程过程所起到的作用作出了概况性的论述与分析。
【英文摘要】The donor nucleus must experienced the epigenetic modification of the process reprogramming and went back tothe initial state after the donor cell was injected into the oocytes. If the reprogramming is not completed, the efficiency ofcloning will be reduced. However, reprogramming of nucleus muct was not only embodied in its ability after it wastransferred into the oocytes. It was different in the potential if the cell type was not identical. In addition, different treatmentto the donor cells resulted in different ability and the level of reprogramming. This paper described different effects of thetype, algebra, cycles, age, and species of the donor cells after nuclear transplantation on the reprogramming. An overview ofthe exposition and analysis through the donor cell cryopreservation, serum starvation, and different reagent treatments werediscussed

【语种】中文
【第一作者】姚雅馨
【通讯作者】马月辉
【期刊名称、卷期、页码】遗传,2008 ,30(11): 1392—1396
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【学科分类】畜牧、兽医科学基础学科

【题目】Microvalves actuated sandwich immunoassay on an integrated microfluidic system
【中文关键词】无
【英文关键词】Human immunoglobulin G / Immunoassay / Integration / Microfluidics / Microvalve
【中文摘要】无
【英文摘要】In this study, we developed an integrated and automatic microfluidic immunoassaysystem, which comprised a multi-layer immunoassay microfluidic chip and a rotaryconfocal LIF scanner. The normally closed elastomeric microvalves were integrated onthe multi-layer microfluidic chip to realize flexible reagents delivery for the rapidimmunoassay. The various operations of immunoassay including coating, blocking andwashing could be performed on a single chip with reduced reagents consumption andanalysis time. The homemade rotary LIF scanner was able to detect the signals from themultichannels sequentially in a short period of time, enabling the potential capability forhigh-throughput immunoassay. The performance of this system was demonstrated bythe sandwich immunoassay of human immunoglobulin G with a LOD o10 ng/mL(S/N53). The linear range was from 500 ng/mL to 100 mg/mL. This system has alsobeen applied to the measurement of human immunoglobulin G from 15 real samples,demonstrating the potential of this platform for biomedical applications.
【语种】英文
【第一作者】Xinghua Gao
【通讯作者】林炳承
【期刊名称、卷期、页码】Electrophoresis 2009, 30, 2481 – 2487
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【学科分类】分析化学

【题目】Development of micropump-actuated negative pressure pinched injection for parallel electrophoresis on array microfluidic chip
【中文关键词】无
【英文关键词】Array / Injection / Microfluidic chip / Microvalve
【中文摘要】无
【英文摘要】A micropump-actuated negative pressure pinched injection method is developed forparallel electrophoresis on a multi-channel LIF detection system. The system has ahome-made device that could individually control 16-port solenoid valves and a highvoltagepower supply. The laser beam is excitated and distributes to the array separationchannels for detection. The hybrid Glass-PDMS microfluidic chip comprises twocommon reservoirs, four separation channels coupled to their respective pneumaticmicropumps and two reference channels. Due to use of pressure as a driving force, theproposed method has no sample bias effect for separation. There is only one high-voltagesupply needed for separation without relying on the number of channels, which issignificant for high-throughput analysis, and the time for sample loading is shortened to1 s. In addition, the integrated micropumps can provide the versatile interface forcoupling with other function units to satisfy the complicated demands. The performanceis verified by separation of DNA marker and Hepatitis B virus DNA samples. And thismethod is also expected to show the potential throughput for the DNA analysis in thefield of disease diagnosis.
【语种】英文
【第一作者】Li Bowei

【通讯作者】林炳承
【期刊名称、卷期、页码】Electrophoresis 2009, 30, 3053 – 3057
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【学科分类】分析化学

【题目】3 种吸附剂对黄曲霉毒素B1 吸附能力的研究
【中文关键词】吸附剂;黄曲霉毒素B1;吸附能力
【英文关键词】absorbent; AFB1; absorption efficacy
【中文摘要】【目的】体外试验评价3 种吸附剂(吸附剂A:主成分为酵母细胞壁提取物;吸附剂B:主成分为水合铝硅酸盐;吸附剂C 为复合物,主成分是酵母细胞壁及水合铝硅酸盐)对黄曲霉毒素B1(AFB1)的吸附效果,并通过吸附剂对摄入AFB1 肉仔鸡生长性能及血清蛋白水平的影响验证体外试验结果。【方法】(1)pH 为2.0、6.0、8.0 的磷酸盐缓冲溶液(PBS 溶液)、人工胃液和人工肠液环境下吸附剂对AFB1 的吸附能力;(2)吸附剂对AFB1 的结合速率;(3)吸附剂结合AFB1 形成的复合体的稳定性;(4)240 只1 日龄雄性AA 肉仔鸡,随机分为8 个处理,比较吸附剂对摄入AFB1 肉仔鸡生长性能及血清蛋白水平的影响。【结果】(1)5 种酸碱条件下吸附剂结合AFB1 的能力大小顺序为B>C>A;(2)吸附剂B 在10 min 内对AFB1 吸附率达到97.69 %,且60 min 内一直处在96.03 %以上,而吸附剂A、C 在60 min 内对AFB1 的吸附能力不稳定;(3)与吸附剂A、C 相比较,体外条件下吸附剂B 与AFB1 形成的复合体解吸附率最低;(4)与基础组比较,AFB1 组肉仔鸡采食量、体重增加显著下降,料重比显著增加(P<0.05),血清总蛋白(TP)、白蛋白(ALB)、球蛋白(GLOB)水平均显著下降(P<0.05)。3 种吸附剂均能提高肉仔鸡生长性能,吸附剂B 能显著改善摄入AFB1 污染日粮(98.98 μg·kg-1)的肉仔鸡血清蛋白水平的降低,添加吸附剂A 或C 效果不显著。【结论】3 种吸附剂对AFB1 均有一定的吸附作用,吸附剂B 的作用效果优于吸附剂A 和吸附剂C。结果提示,将吸附剂B 应用于被AFB1 污染的家禽饲料中,与其它霉菌毒素管理措施相结合,能降低AFB1 对肉仔鸡的危害。
【英文摘要】【Objective】 In this study, the in vitro sorption of aflatoxin B1(AFB1) onto different absorbents was characterized,and the in vitro assay result was verified by comparing growth performance and serum protein levels of broilers exposed toaflatoxin-contamination feed. Three absorbents were product A (the main component is yeast cell extracts), product B (the maincomponent is HSCAS) and product C (the compound of yeast product and HSCAS). 【Method】 AFB1 binding capacity by threeadsorbents at pH 2.0, 6.0, 8.0, simulated gastric fluid and simulated intestinal fluid condition, were compared. AFB1 binding speed bythree absorbents in vitro conditions were compared. Stability of absorbent-AFB1 complexes in vitro conditions were studied. A totalof 240 broilers were assigned to 8 treatments, and the effects of three adsorbents on growth performance and serum protein levelswere compared. 【Result】 Product B showed the highest in vitro affinity for AFB1, followed by product C and product A. Product Bbounded 97.69% of the AFB1 in solution in 10 min, and it remained over 96.03% in 60 min at pH 8.0. Product A and product C didnot show the same efficacy as product B. The product B-AFB1 complex was much stronger than the other two kinds of complex invitro condition. Feed intake and weight gain decreased (P<0.05) and feed gain ratio increased (P<0.05) in the treatment fedaflatoxin-contaminated feed as compared with the control. Serum total protein (TP), albumin (ALB), globulin (GLOB) levels weresignificantly decreased (P<0.05). Product B (0.15%) increased growth performance and improved serum protein levels, product Aand product C did not show so effectively as product B. 【Conclusion】 Three absorbents all showed binding capacity for AFB1 insome extent and product B could bind AFB1 more effectively than products A and C. These results indicated that product B couldalleviate some of the toxic effect in broilers. It might prove to be beneficial in the management of aflatoxin-contaminated feedstuffsfor poultry.
【语种】中文
【第一作者】李娟娟
【通讯作者】苏晓鸥
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【学科分类】畜牧、兽医科学基础学科

【题目】Low cost, portable detection of gold nanoparticle-labeled microfluidic immunoassay with camera cell phone
【中文关键词】无

【英文关键词】Camera phone / Detection / Gold nanoparticle / Immunoassay / Microfluidics
【中文摘要】无
【英文摘要】This paper describes the use of camera cell phone to detect the gold nanoparticle-labeledimmunoassay results on microfluidic chip. On-chip heterogeneous immunoassaybetween anti-human IgG and human IgG (hIgG) was performed and the results wereamplified by gold nanoparticle-enhanced silver staining to transform the nano-scaleprobe into detectable silver precipitation film. The detection results obtained by cameraphone showed good correlation with the concentration of hIgG. This detection scheme issimple, low cost and easy to use and has significant promise for portable diagnosis andpoint of care testing on microfluidic platform.
【语种】英文
【第一作者】陆遥
【通讯作者】林炳承
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【学科分类】分析化学

【题目】Micropumps actuated negative pressure injection for microchip electrophoresis
【中文关键词】无
【英文关键词】Integrated micropump / Microchip electrophoresis / Negative pressure pinched
injection
【中文摘要】无
【英文摘要】A simple negative pressure pinched sample injection method was presented. Thismethod combined diaphragm micropumps and a single voltage supply to generatecontrollable well-defined sample plug, and led to effective electrophoresis separation. Thepinched plug was found to be favorable for obtaining representative and reproducibleresults that the RSD of the migration time and peak height of sodium fluorescein were0.5 and 2.1%, respectively (n525). The established method had been applied inseparation of amino acid samples. This method has the advantages of well-defined plug,free sample bias effect, high reproducibility and convenience of controlling the negativepressure by the integrated pumps on the microchip. In addition, the single high voltagesupply and the world-to-chip interface simplified the instrumentation, which is of benefitto the minimization and automation. These advantages demonstrate the potential of thismethod for a wide range of applications.
【语种】英文
【第一作者】Li Bowei
【通讯作者】林炳承
【期刊名称、卷期、页码】Electrophoresis 2008, 29, 4906 – 4913
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【学科分类】分析化学

【题目】A microfluidic device integrated with multichamber polymerase chain reaction and multichannel separation for genetic analysis
【中文关键词】无
【英文关键词】Microfluidic
Parallel analysis
Multichamber polymerase chain reaction
Pathogen detection
Genotyping
【中文摘要】无
【英文摘要】This work describes a microfluidic device integrated with multichamber polymerase chain reaction (PCR)and multichannel separation for parallel genetic analysis. The microdevice consists of three functionalunits: temperature control, multiple

PCR (four chambers PCR), and multiple channel separation (four separationchannels, each channel connected to a PCR chamber). Platinum (Pt)/titanium (Ti) microheater wasused to ensure homogeneous temperature field, and Pt-chip sensor was used for temperature monitoring.The interface between chip-PCR and chip separation was simplified by connecting the PCR chamber withseparation channel directly. After chip-PCR, PCR products were introduced into parallel separation channelsfor subsequent separation/detection by applying an electric field automatically. This microdevicewas successfully applied for detection of pathogens including hepatitis B virus (HBV) and Mycobacteriumtuberculosis (MTB), and genotyping of human leucocyte antigen (HLA)-B27 as well, demonstrating thefeasibility of the integrated microdevice for parallel genetic analysis

【语种】英文

【第一作者】Pan Xiaoyan

【通讯作者】林炳承

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【学科分类】分析化学

【题目】A simple photolithography method for microfluidic device fabrication using sunlight as UV source

【中文关键词】无

【英文关键词】Microfabrication Photolithography
Sunlight-photolithography

【中文摘要】无

【英文摘要】A straightforward method for microfluidicdevices fabrication using sunlight as the ultraviolet (UV)source is established in this work. This method is based onphotolithography, but obviates the need for specialized UVexposure facility. Substrates coated with photoresist wereplaced directly under sun in a perpendicular direction to thesunlight for exposure. Exposure conditions were optimizedfor patterning features with different kinds of photoresist,photoresist of different thicknesses and dimensions.Exposure time can be adjusted to obtain designed featureson a mask with good lateral structure according to theenergy measured by UV meter (with a constant intensity ofUV in sunlight). Masters produced under optimum exposureconditions were used for the fabrication of severalmicrofluidic devices with different materials, structures, orfunctions. Resultant devices were shown eminently suitablefor microfluidic applications such as electrophoreticseparation, multiple gradient generator, and pneumaticvalve-based cell culture. This photolithographic method issimple, low cost, easy to operate, and environmentalfriendly. Especially, the masters can be obtained in parallelsimultaneously, which is suitable for chip fabrication formass production. It is also more attractive for the laboratories,in which the support for photolithographic facility isnot available.

【语种】英文

【第一作者】Ma Jingyun

【通讯作者】林炳承

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【学科分类】分析化学

【题目】Binding Capacity for Aflatoxin B1 by Different Adsorbents

【中文关键词】无

【英文关键词】adsorbent, AFB1, absorption efficacy

【中文摘要】无

【英文摘要】In this article, in vitro adsorption of aflatoxin B1 (AFB1) onto different adsorbents was characterized and the result wasverified by comparing the growth performance and serum protein levels of broilers exposed to aflatoxin-contamination feed.Main components of adsorbents selected were yeast cell extracts (Product A), HSCAS (Product B), and a mixture of yeastproduct and HSCAS (Product C), respectively. A total of 240 broilers were assigned to eight treatments, and the effects ofthree types of adsorbents on growth performance and serum protein levels were evaluated. Results indicated that ProductB had the highest in vitro affinity for

AFB1, followed by Product C and Product A. Product B bound 97.69% of the AFB1 insolution in 10 min, and it remained over 96.03% in 60 min at pH 8.0. The B-AFB1 complex was much stronger than the othertwo complexes in vitro condition (P < 0.05). Feed intake (FI) and average daily gain (ADG) decreased (P < 0.05) and feed gainratio increased (P < 0.05) in the treatment fed aflatoxin-contaminated feed versus treatment on the basal feed. Serum totalprotein (TP), albumin (ALB), and globulin (GLOB) levels were significantly decreased (P < 0.05). Product B (0.15%) increasedgrowth performance and improved serum protein levels, Product A and Product C were not as effective as Product B. Threeadsorbents tested here had sufficient potential to AFB1 in some extents and Product B could bind AFB1 more effectively thanProduct A and Product C. These results indicated that Product B could alleviate some of the AFB1 toxic effect in broilers.

【语种】英文
【第一作者】李娟娟
【通讯作者】苏晓鸥
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【学科分类】畜牧学

【题目】Screening and determination of melamine residues in tissue and body fluid samples
【中文关键词】无
【英文关键词】Melamine
Enzyme-linked immunosorbent assay
Gas chromatography – mass spectrometry
Quantification
【中文摘要】无
【英文摘要】Melamine is a chemical product that was sporadically mixed into animal feeds to boost protein content.Excessive melamine in animal feed can induce renal failure and even death in animals. Theresidue of melamine in edible animal products also threatens human health. Currently, there is noreal-time and high throughput method to detect residual melamine in animal tissues. Successful developmentof such methods is very important for fast and on-site screening of melamine residue inanimal tissues to eliminate the potential threat to human health. Here we demonstrate the detectionof residual melamine from swine and chicken tissues and body fluids using indirect competitiveenzyme-linked immunosorbent assay (ELISA) method. A detection sensitivity of 0.5 gmL − 1 and alimit of detection of 0.05 gmL − 1 were achieved with this method. A gas chromatography – massspectrometry (GC – MS) method was also developed to act as a confirmatory and quantitative procedurefor the ELISA results. The limits of quantitation (LOQ) of were 0.01 gg − 1 and 0.005 gmL − 1for tissues and body fluids, respectively. The two methods showed good agreement (r2 > 0.992). Themethod developed was performed on samples of tissues from chickens fed with melamine-spiked feed.
【语种】英文
【第一作者】王宗义
【通讯作者】贺平丽
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【学科分类】分析化学

【题目】不同吸附剂对黄曲霉毒素B1 吸附效果的研究
【中文关键词】吸附剂;AFB1 ;吸附效果;肉仔鸡
【英文关键词】absorbent ; AFB1 ; absorption efficacy ; broilers
【中文摘要】作者通过体外试验和动物饲养试验,研究3 种吸附剂对黄曲霉毒素B1 (AFB1) 的吸附效果。3 种吸附剂分别是吸附剂A(主成分为酵母培养物提取物) 、吸附剂B(主成分为水合铝硅酸盐) 、吸附剂C(为复合物,主成分为酵母培养物及水合铝硅酸盐) 。体外试验研究p H 为2. 0 、6. 0 、8. 0 的磷酸盐缓冲液(PBS 溶液) 、人工胃液和肠液环境下3 种吸附剂对AFB1 的吸附能力,比较p H 8. 0 条件下3 种吸附剂对AFB1 的结合速率。结果表明,各种条件下吸附剂B 的吸附能力最强。p

H 8. 0 条件下,吸附剂B 在10 min 内对AFB1 吸附率达到97. 69 % ,且60 min 内吸附率一直处在96. 03 %以上。吸附剂A 和吸附剂C 对AFB1 的作用效果较吸附剂B 弱。动物饲养试验选择240 只1 日龄健康雄性AA 肉仔鸡,随机分为8 个处理,每个处理3 个重复,每个重复10 只鸡,饲养周期21 d。结果表明,与基础组相比较,AFB1 组(污染水平为98. 8 μg/ kg) 肉仔鸡生长性能和肝脏功能发生显著变化,吸附剂A、B、C 均能不同程度地缓解AFB1 对肉仔鸡生长性能和肝脏损伤方面的毒性作用,与吸附剂A、C相比,吸附剂B 能更有效的防止肉仔鸡黄曲霉毒素B1 中毒。结果提示,使用吸附剂B 能很好的降低AFB1 对肉仔鸡的危害程度。

【英文摘要】The aim of this paper was to study the efficacy of three absorbent s to sorb aflatoxin B1 (AFB1) . The main com2ponent of product A is yeast product , the main component of product B is HSCAS , and product C is the compound of yeastproduct and HSCAS. I n vi t ro t rial , AFB1 binding capacity by three sorbent s at different in vi t ro condition and AFB1 bindingspeed by three sorbent s at p H 8. 0 in vi t ro condition were compared. Product B showed the highest in vi t ro affinity for AFB1 ,and the rate of sorption reached to 97. 69 % in 10 min and it remained over 96. 03 % in 60 min at p H 8. 0. Product A and prod2uct C did not showed so efficacy as product B. I n vi vo t rial , a total of 240 broilers were assigned to 8 t reatment s (3 pens of 10broilers per t reatment) . Af ter 21 d , the aflatoxin2contaminated feed significantly decreased the growth performance and the liv2er function of broilers. The three product s tested alleviated the adverse effect s caused by aflatoxin , but compared with productA and C , product B could alleviate some of the toxic effect s of AFB1 more effectively.

【语种】中文

【第一作者】李娟娟

【通讯作者】苏晓鸥

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【学科分类】畜牧学

【题目】超高压液相色谱- 串联四极杆质谱法对牛奶中 24种磺胺类药物残留的检测

【中文关键词】液相色谱- 质谱; 磺胺类药物; 残留; 检测; 牛奶

【英文关键词】UPLC - MS /MS; su lfonam ides(SA s) ; residue; determ ination; m ilk

【中文摘要】利用超高压液相色谱- 电喷雾串联四极杆质谱(UPLC - M S /M S)联用技术, 建立了一种能在10 m in内快速分离和测定牛奶中24种磺胺类药物残留的方法。样品经匀浆、超声、乙腈重复提取、氮吹浓缩, 流动相溶解, 饱和正己烷脱脂。采用ACQU ITY UPLCTM BEH C18柱(100 mm 2 1 mm i d , 1 7 m), 以乙腈-0 2% 乙酸水溶液(体积比1 9)为流动相, 梯度洗脱, 目标分析物使用超高压液相色谱- 电喷雾串联质谱进行测定; 以保留时间和离子对进行定性和定量, 在ESI(+) 和MRM 监测模式下进行样品分析。该方法检出限(LOD) 为0 04~ 1 35 g /kg; 在1~ 200 g /L范围内线性关系良好, 回收率为61% ~ 117% , 相对标准偏差为2 92% ~ 18 98% 。该法样品前处理简单、分析速度快、回收率和灵敏度高、检出限低, 可以满足各国对牛奶中24种磺胺类药物的检测要求。

【英文摘要】A novelme thod has been developed for the rap id separation and determ inat ion of 24 su l fonam ides(SAs) in m ilk by ultra performance liqu id chromatog raphy- quadrupo le mass spectrometry(UPLC - MS /MS) in 10 m in. Sulfonam ides residues from m ilk w ere ex tracted w ith aceton itrile, fo l low ed by homogenizing, u ltrasound treating and centrifug ing. The ex tract w as dried under n itrogen stream, redissolved in the mobile phase and defatted w ith n hexane saturated by aceton itrile. Thechromatograph ic analysis w as performed on an ACQU ITY UPLCTM BEH C18 column (1 7 m, 100mm 2 1 mm i d) by a g radient elution employ ing o f 0 2% form ic ac id- acetonitr ile(9 1, by vo lume) as a mobile phase. The ana ly tes w ere detected using electrospray ion ization tandem mass spectrometry w ith mu lt ip le reaction monitoring (MRM) in positive ion scan mode. The calibration curves show ed good linearity in the range of 1- 200 g /L for all SA sw ith detection lim its o f 0 04- 1 35 g /kg. The recoveries of 24 SAs at the sp iked concentration levels o f 10, 20 and 50 ng /g ranged from 61% to 117% w ith RSD of 2 92% - 18 98% . The resu lts obtained indicated thatUPLC- MS /MSm ethod w as rap id and sensit ive, and w as su itab le for confirm atory assay o f SA s residues in m ilk accord ing w ith international demand into execut ion.

【语种】中文

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【学科分类】分析化学

【题目】分子印迹基质固相分散　　液相色谱法 测定牛奶中的氯霉素残留
【中文关键词】氯霉素; 分子印迹聚合物; 基质固相分散; HPLC; 牛奶
【英文关键词】Chloramphenicol; Molecularly imprinted polymer; Matrix solid　　phase dispersion; HPLC; Milk
【中文摘要】以对模板分子具有较强识别特性的分子印迹聚合物为基质固相分散吸附剂, 提取牛奶中痕量氯霉素, 最后用HPLC 法测定。研究了氯霉素分子印迹聚合物对样品中氯霉素的提取和净化效果, 在优化条件下, 方法的检出限为0　　15 ng　　mL, 定量限为0　　50 ng　　mL。不同氯霉素添加量的回收率大于93　　2%,RSD< 5　　9% 。方法适用于牛奶中氯霉素残留的测定。
【英文摘要】The CAP was extracted by MSPD using molecularly imprinted polymer of CAP, the clean procedure was performed using HLB solid phase extraction cartridge and the quantitative analysis was carried out by HPLC. The clean effect of MSPD was examined. The results indicated that the limit of detection (LOD) and limit of quantity (LOQ)were 0. 15 and 0. 50 ng　　mL respectively under opt imum conditions. The developedmethod was applied to the determi　　nation of CAP in milk, the recoveries of different quantit ies of CAP are above 93. 2% , and the relative standard deviations (RSD) is below 5. 9%. This method possesses the merits of convenient operation, high sensitivity, good repeat　　lity, and no need for abundant solvents,which is a feasible method for analysis of CAP in milk samples.
【语种】中文
【第一作者】王荣艳
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【学科分类】分析化学

【题目】分子印迹技术的研究的新进展及应用
【中文关键词】分子印迹技术氯霉素分子印迹聚合物固相萃取色语分离传感器
【英文关键词】molecularly imprinted technique chloramphenicol molecularly imprinted polymers solid phase extraction chromatographic fractionating sensor
【中文摘要】分子印迹技术是近年来发展起来的一种新的分子识别技术, 通过分子印迹技术获得的分子印迹聚合物具有选择性高、德定性好及制备简单的特点。分子印迹聚合物作为固相苹取、色语分离和传感器的功能材料广泛应用于生物、医药、环境样品等复杂基体中难童分析物的分析。本文详细介绍了分子印迹技术的研究进展, 阐述了分子印迹聚合物及其在氯霉紊分析中的应用。
【英文摘要】Molecularly imprinting technique, an emerging technique for preparing synthetic polymer with molecular recognition, is developing rapidly in recent years. the polymers which are made using MIT can be applied into highly selective separation and enrichment of trace analysis in complicated biological materials, pharmacy and environmental samples as the functional material of solid phase extraction and chromatographic fractionating and sensor, because of tis characteristics of high selectivity, chemical stability and easy preperation. this review introduces the progress of molecular imprinting technique and summarized tis application in chloraphenicol analysis.
【语种】中文
【第一作者】王荣艳
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【题目】改良彗星实验检测黄曲霉毒素B1 致雏鸭DNA 损伤
【中文关键词】黄曲霉毒素B1 ;彗星实验;DNA 损伤;雏鸭
【英文关键词】aflatoxin B1 ; comet assay ; DNA damage ; duckling
【中文摘要】试验旨在通过改良彗星实验检测黄曲霉毒素B1 (aflatoxin2B1 ,AFB1) 对雏鸭肝细胞DNA 损伤的影响。雏鸭经AFB1 灌胃染毒,2 h 后分离肝细胞,并通过改良彗星实验测定DNA 损伤。结果显示,AFB1 能够导致雏鸭肝细胞DNA 损伤,表现为尾长、尾部DNA 百分含量、尾矩、Olive 尾矩等彗星参数与空白和溶剂对照组相比显著增加(P < 0. 05) 。表明改良彗星实验能够用于AFB1 导致肝细胞DNA 损伤的检测,试验还提示,在体肝细胞彗星实验能够作为雏鸭AFB1 暴露的遗传毒性标志物。
【英文摘要】:The present study was to use modified comet assay to detect DNA damage induced by aflatoxin B1 (AFB1) in duckling hepatic cells. Ducklings were administered orally with AFB1 and the samples of liver cells were isolated at 2 h post treatment . The modified comet assay was performed and the DNA damage was determined by an increase in the comet parameters in tested animals. The result s showed that AFB1 exposure could significantly increase tail length , the percentage of tailDNA (tail DNA %) , tail moment and Olive tail moment compared with blank and solvent cont rol , indicating that the assay can be used for the assessment of primary DNA damage caused by AFB1 . The result also suggested that the modified comet assay performed liver cells was a valuable genotoxic marker for exposure to AFB1 in duckling.
【语种】中文
【第一作者】王瑞国
【通讯作者】苏晓鸥
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【学科分类】畜牧学

【题目】高速逆流色谱法分离制备蓖麻籽中的蓖麻碱
【中文关键词】蓖麻籽;蓖麻碱;两相溶剂体系;高速逆流色谱;纯化
【英文关键词】caster bean;ricinine;two-phase solvent system;high-speed counter-current chromatography (HSCCC); purification
【中文摘要】利用高速逆流色谱法对蓖麻籽中蓖麻碱粗提物进行纯化,以液相色谱对纯化结果进行检测,用质谱、核磁对纯化产物进行结构确定。去壳后的蓖麻籽经过石油醚- 乙醚(2:1,V/V)脱脂,以95% 乙醇索式提取,所得产物浓缩、冻干后得到蓖麻碱粗提物。采用三氯甲烷- 甲醇- 水(2:1:1,V/V)两相溶剂体系对粗提物进行高速逆流色谱纯化一次进样100mg,可得到74mg 样品。纯化所得主要组分经面积归一化法确定其纯度达到9.62%。质谱、核磁验证纯化产物为蓖麻碱。高速逆流色谱可用于大量制备高纯度蓖麻碱。
【英文摘要】The preparative high-speed counter-current chromatography (HSCCC) method was applied to isolate and purifyricinine from the crude extract of Ricinus cammunis L. seeds, and the purity of purification product was measured by HPLC andits structure was analyzed by MS and NMR. After being defatted using a mixture of petroleum ether and ethyl ether (2:1, V/V) twice, caster bean seeds without shell was subjected to ricinine extraction using 95% ethanol in a Soxhlet extractor followed by vacuum concentration and freeze drying. The preparative HSCCC was performed using a two-phase solvent system composedof chloroform, methanol and water (2:1:1, V/V). A total amount of 70 mg of ricinine with over 99.62% purity was obtained from 100 mg of the crude extract. Ricinine was identified as the main component in the crude extract by MS and NMR. The preparative HSCCC is suitable for large-scale preparation of ricinine with high purity.
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【第一作者】陈亚房
【通讯作者】石波
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【题目】高效液相色谱
【中文关键词】高效液相色谱, 电感耦合等离子体质谱, 洛克沙肿, 阿散酸
【英文关键词】H igh performance liqu id chrom atography, inductive ly coup led plasma mass spectrometry, roxar sone, p arsan ilic ac id
【中文摘要】研究建立了高效液相色谱 电感耦合等离子体质谱测定饲料中有机肿 洛克沙肿(ROX) 和阿散酸(p ASA)的方法。用反相高效液相色谱(Rp H PLC)分离ROX和p ASA, 用电感耦合等离子体质谱(ICP MS)在线分析砷含量, 并与ROX和p ASA 标准色谱图和工作曲线对照, 实现了对ROX和p ASA 两种常见的饲料添加肿制剂的分析。优化了液相色谱分离条件、电感耦合等离子体质谱的检测条件和提取条件, 考察了样品基体对ROX和p ASA的干扰。在优化条件下, ROX 和p ASA的检出限分别为0 6 ng /g和0 2 ng /g; 不同浓度的ROX和p ASA 添加回收率为82 7% ~ 97 6%; 相对标准偏差低于8 1%。本方法操作简便, 灵敏度高, 重现性好, 适合于饲料中ROX和p ASA 分析。
【英文摘要】A novelm ethod for the determ ination of roxarsone (ROX) and p arsan ilic acid (p ASA) in anima lfeed by using high perform ance liqu id chromatography (HPLC) inductive ly coupled plasmamass spectrom etry(ICP MS) w as deve loped. A reversed phaseHPLC w as app lied to separa teROX and p ASA, at themeantimean ICP MS w as comb ined forROX and p ASA determ ination on line. A ccording to the standard chromatogramsand ca libration curves o fROX and p ASA, the qua litat ive and quantitative ana lysis ofROX and p ASA in ani ma l feed w ere perfo rmed. The HPLC and ICP MS cond it ions w ere opt im ized, the extraction o f ROX and p ASA in samples w as rev iew ed and the interference o f an imal feed matrix w as exam ined. Under optimum conditions, the detection lim its are 0 6 ng /g and 0 2 ng /g respectively, the linear calibration range is 2 5- 3 8 104 ng /g forROX and 5 3~ 8 0 104 ng /g for p ASA. The develop ing method w as used to the deter m inat ion of ROX and p ASA in feed, the recoveries of d ifferen t quantities o f ROX and p ASA are betw een 82 7% and 97 6% , the relative standard deviat ions (RSD) are below 8 1% . Th is m ethod possesses themerits o f convenient operation, high sensit iv ity and good repeatab ility, wh ich is a feasib lemethod for ana lysis of ROX and p ASA in feed samples
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【第一作者】王培龙
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【题目】氯霉素分子印迹聚合物的合成及应用
【中文关键词】氯霉素; 分子印迹聚合物; 吸附特异性; 固相萃取; 牛乳
【英文关键词】chloramphen ico;l mo lecularly imprinted po lym er; adso rpt ive selectivity; so lid phase ex traction; m ilk
【中文摘要】研究了氯霉素分子印迹聚合物的热聚合方法及最佳合成条件。应用扫描电子显微镜对氯霉素分子印迹聚合物的表面结构进行表征。研究了模板分子与功能单体比例对聚合物吸附性能的影响。将氯霉素分子印迹聚合物作为固相萃取填料制成固相萃取柱, 并用含痕量氯霉素的牛乳考察此柱对氯霉素的选择吸附性, 结果表明吸附率达94 7% , 最大吸附量为4 670 g /g。
【英文摘要】The m ethod for synthesizing ch lo ramphen icol mo lecu larly imprinted polymer(CAP M IP)and its optim al preparation cond itions w ere stud ied. The surface structure of CAP M IP w as character ized by scann ing e lectronm icroscope(SEM). The effects of the template to functional monomer ratioon the adsorptiv ity capac ity of CAP M IP w ere exam ined. The CAP M IP w as used as the filler for thesolid phase ex traction co lumn. The se lect ive adso rpt ion o f the co lumn w as then evaluated by the milk containing trace amount of CAP. Experimental resu lts showed tha t the adso rpt iv ity rate of CAP MIP was up to 94 7% and them ax imum adso rpt ion capacity w as 4 670 g /g
【语种】中文
【第一作者】王荣艳

【通讯作者】王静
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【题目】酶解棕榈粕制备甘露寡糖及其组分的结构确定
【中文关键词】棕榈粕,甘露寡糖,制备,结构
【英文关键词】p a lm m e a l; m a nna - o lig os a c c ha rid e s; p rep a ra tion; s truc tu re
【中文摘要】以棕榈粕为底物,用中性β-甘露聚糖酶降解得到甘露寡糖粗品,并对其采用纸层析法分离纯化其中的各组分,最终得到甘露二糖、甘露三糖和甘露四糖三种寡糖组分。通过气相色谱(GC)检测可知,这三种寡糖中只含有甘露糖和葡萄糖,且甘露糖和葡萄糖的比例依次为119 ∶1、318 ∶1和318 ∶1。采用基质辅助激光解析电离飞行时间质谱(MALD I-TOF-MS)测定分离得到的三种寡糖的结构。
【英文摘要】The s amp le of m a nno- o lig os a c c ha rid e s (MO S) wa s p rep a re d from p a lm m e a l b y ne u tra l β - m a nna na s e1 The c omp one n ts of m a nno - o lig os a c c ha rid e s w e re s ep a ra te d a nd p u rifie d b y p ap e r c h rom a tog rap hy, a nd th re ed iffe re n t d e g re e of p o lym e riza tion (D P) of o lig os a c c ha rid e s w e re ob ta ine d: m a nnob ios e, m a nno trios e a ndm a nno te tra os e1The s truc tu re s of them w e re d e te rm ine d b y m a trix- a s s is te d la s e r d e s o rp tion / ion iza tion - tim e - offligh tm a s s sp e c trom e try (MALD I- TO F MS) a nd g a s c h rom a tog rap hy (GC) 1The re s u lts of GC s howe d tha t they w e re a ll c om p os e d of m a nnos e a nd g luc os e, a nd the ra tio of m a nnos e a nd g luc os e w e re 119∶1, 318∶1 a nd 318∶1,resp e c tive ly1Wh ile the re s u lts of MS s howe d tha t the th re e o lig os a c c ha rid e s D P w e re D P2, D P3 a nd D P4,re sp e c tive ly
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【题目】免疫亲和- 光化学柱后衍生高效液相色谱 荧光法测定花生粕中黄曲霉毒素的研究
【中文关键词】免疫亲和柱; 光化学衍生; 高效液相色谱; 黄曲霉毒素; 花生粕
【英文关键词】immunoaffinity column; photochemical derivatization; HPLC; Aflatoxin; peanut residues
【中文摘要】研究建立了光化学柱后衍生- 高效液相色谱(HPLC) - 荧光检测器测定花生粕中黄曲霉毒素B1、B2、G1 和G2 的方法。甲醇/ 水提取样品中黄曲霉毒素B1、B2、G1 和G2, Afla- P 黄曲霉毒素免疫亲和柱净化, 经高效液相色谱分离后, 由光化学柱后衍生, 通过荧光检测器测定。结果表明: 在优化条件下, 黄曲霉毒素B1、B2、G1 和G2 的检出限分别为1.0、0.3、1.0 μg/ kg 和0.3 μg/ kg, 回收率为67.0 % ~117 %, 相对标准偏差(RSD) 低于18.2 %。该方法简便快速、灵敏度高、重现性好, 满足饲料用花生粕中黄曲霉毒素检测的需要。
【英文摘要】A method for determination of Aflatoxin B1, B2, G1 and G2 by using photochemical derivatization-HPLCfluorescencedetector was developed.The Aflatoxin B1, B2, G1 and G2 in samples were extracted by methanol / water andwere cleaned up by immuno affinity columns.The separation of Aflatoxin B1, B2, G1 and G2 was conducted by HPLC, thedetermination was carried out by fluorescence detector after photochemical derivatization.Under optimum conditions, thelimits of determination of Aflatoxin B1, B2, G1 and G2 were 1.0, 0.3, 1.0 μg/kg and 0.3 μg/kg respectively, the recoveries of analytes were from 67.0 % to 117 % and the relative standard deviations were below 18.2 %.The method is simple, high sensitive and good repeatability, which is suitable for the determination of Aflatoxin in peanut residues.
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【题目】免疫亲和柱荧光光度法和高效液相 色谱法测定饲料中黄曲霉毒素
【中文关键词】饲料; 黄曲霉毒素检测; 免疫亲和柱; 荧光光度法; 高效液相色谱法
【英文关键词】无
【中文摘要】利用免疫亲和柱荧光光度法和高效液相色谱法测定饲料中黄曲霉毒素。免疫亲和柱—荧光光度法测定饲料中的黄曲霉毒素的测定范围0~50 μg/kg; 线性相关系数0.99; 检测灵敏度1 μg/kg; 变异系数<18%; 回收率82%~120%; 分析时间20 min, 不需要剧毒的黄曲霉毒素标准品。免疫亲和柱- 高效液相色谱法测定可以分别定量地检测饲料中黄曲霉毒素B1, B2, G1, G2, 在黄曲霉毒素B1 为0~50 μg/kg 测定范围内其线性相关系数0.91; 检测灵敏度1 μg/kg; 变异系数<10%; 回收率81%~110%。
【英文摘要】无
【语种】中文
【第一作者】陈新
【通讯作者】陈新
【期刊名称、卷期、页码】中国畜牧杂志 2007 年第43 卷第24 期 50-54
【论文发表时间】2007-12-13 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】畜牧学

【题目】气相色谱2质谱法确证分析饲料中6 种利尿剂的研究
【中文关键词】利尿剂; 配合饲料; 气相色谱2质谱
【英文关键词】Diuretics ; Animal feed ; GC2MS
【中文摘要】研究建立了气相色谱2质谱确证分析配合饲料中依他尼酸、氢氟噻嗪、氯噻嗪、呋噻米、氯噻酮和氢氯噻嗪等6 种利尿剂的方法。本研究用磷酸盐缓冲液和甲醇混合提取液提取饲料中6 种利尿剂, 通过液液提取净化, 在碳酸钾催化下用碘甲烷衍生, 气相色谱2质谱定性和定量分析。确定了磷酸盐缓冲液和甲醇的提取体系, 优化了6 种利尿剂的色谱分离条件和质谱检测条件。在优化条件下, 6 种利尿剂线性范围为0. 05~1. 0 μgPmL , 线性相关系数高于0. 99 , 方法的定量限为0. 5 μgPg。在饲料样品中, 不同添加浓度水平回收率高于57. 6 % ,相对标准偏差低于12 %。该方法适用于饲料样品中6 种利尿剂的定性和定量分析。
【英文摘要】A stable method for the confirmation analysis of six kinds of diuretics including ethacrynic acid , hydroflumethiazide , furosemide , chlorthalidone , chlorothiazide and ydrochlorothiazide in animal feed by gas chromatography mass spectrometry was developed. The diuretics in animal feed were extracted with phosphate buffer and methanol , thecleaning procedure was carried out by liquid2liquid extraction , the diuretic derivatives were gained in acetone by using methane iodide , and the determination was performed by GC2MS. The extraction solution and the parameters of GC2MS for diuretics were optimized. Under optimum condition , there is a good linear correlation (the correlation coefficient isabove 0199) in the range of 0105~110 μgPmL. The limits of quantitation were 015 μgPg. The recoveries of all diuretics in animal feed were above 5716 % , the relative standard deviation was below 12 %. The method is suitable for the determination of the diuretics in animal feed , and it possesses some advantages including simple operation procedure , high sensitivity and precision.
【语种】中文
【第一作者】王培龙
【通讯作者】范理
【期刊名称、卷期、页码】分析试验室 2009 28(12) 31-34
【论文发表时间】2009-03-20 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】分析化学

【题目】气相色谱氮磷检测器测定饲料中呋喃丹的研究
【中文关键词】关键词:气相色谱;氮磷检测器;呋喃丹
【英文关键词】无
【中文摘要】本研究应用配有氮磷检测器的毛细管气相色谱检测饲料中呋喃丹残留量的方法。样品经丙酮提取,弗洛里硅土填充柱净化,然后采用毛细管柱气相色谱分离,氮磷检测器测定。对色谱分离条件和样品前处理条件进行了优化,研究了饲料基体及氨基甲酸酯类和有机磷类农药对呋喃丹的干扰。呋喃丹在浓度0.2~20μg/mL范围内线性良好,相关系数高于0.990;在不同浓度范围内,平均加标回收率高于70.3%;相对标准偏差低于14.9%。该方法简便、快速、灵敏、净化效果好。可满足不同饲料中呋喃丹农药残留量的检测需要。
【英文摘要】无
【语种】中文
【第一作者】董志远
【通讯作者】王培龙
【期刊名称、卷期、页码】饲料广角 2008年 23期 35-37
【论文发表时间】2008-12-11 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】畜牧学

【题目】微流控芯片分析化学实验室
【中文关键词】微流控芯片; 分析化学实验室; 分子水平; 细胞水平; 临床诊断; 药物筛选
【英文关键词】M icrofluidic ch ip; Analysis laboratory; Mo lecular leve;l Ce ll leve;l C lin ica l d iagnostics; Drug screen ing
【中文摘要】以作者课题组近10年所开展的系统研究工作为基础,介绍微流控芯片分析化学实验室操作单元构建及系统整体集成,并特别关注芯片分析化学实验室在分子水平、细胞水平和模式生物水平的应用,在科学研究层面上证明了这种置于芯片上的分析化学实验室的可行性,显示了其在生物医学领域广阔的应用前景.
【英文摘要】This artic le prov ides an overv iew o f the recent achievements of ana lysis labo ratory on am icrofluidicch ip and the ir applications in molecular, cell and organ ism level based on thew orks ma in ly carr ied out in theautho rs laboratory. The ch ip fabrication capabilit ies have been extended into design and fabr icate ch ips w ithhigher degree of comp lex ity in differentm aterials, quartz, g lass, PMMA, PDMS, and hydrogel etc. Variousfunctional un its such as sampling, separation, m icro pumps/valves, drople,t membrane, SPE, PCR reaction,cell cu lture, sorting and lysis etc. w ere prepared and integrated. And these devicesw ith h igher degree of com2plex ity and functional un its have been demonstrated fo r a w ide range o f b iomedical applicat ions. M icrofluidicdev ices built for drug metabolites and drug screening in ce ll and organism levelw ere described in this rev iew.
【语种】中文
【第一作者】林炳承
【通讯作者】林炳承
【期刊名称、卷期、页码】高等学校化学学报 2009年第3期 433-445
【论文发表时间】2008-12-08 00:00:00
【引文索引类型】SCI
【引文索引号】0251
【学科分类】分析化学

【题目】维生素E对赭曲霉毒素A 毒性的缓解作用研究
【中文关键词】小鼠 脂质过氧化 赭曲霉毒素A(OTA) 维生素E
【英文关键词】无
【中文摘要】研究不同水平赭曲霉毒素A 对小鼠肾组织脂质过氧化的影响,同时观察维生素E 对赭曲霉毒素A(OTA) 引起小鼠肾毒性作用的影响。将体质量为22~25 g 健康的108 只ICR 雄性小鼠随机分为9 组,每组12 只鼠,经灌胃给药。在第7 天试验结束后采集小鼠血清和肾组织,测定血清和肾组织中丙二醛(MDA) 含量,超氧化物歧化酶(SOD) 和谷胱甘肽过氧物酶(GSH - Px) 酶活力单位。试验结果表明,OTA 可引起小鼠肾组织脂质过氧化反应加剧,降低组织和血清中GSH - Px 活性,而添加维生素E 可有效缓解小鼠肾组织脂质过氧化反应的程度,显著提高肾组织和血清中GSH - Px 活性,同时使SOD 活性呈

升高趋势,最终提高机体的抗氧化能力。
【英文摘要】无
【语种】中文
【第一作者】马永杰
【通讯作者】苏晓鸥
【期刊名称、卷期、页码】饲料研究 2009年 第5期 25-28
【论文发表时间】2009-03-16 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】畜牧学

【题目】畜禽体外培养细胞生长规律研究
【中文关键词】畜禽;成纤维细胞;生长规律;生长曲线;分裂期
【英文关键词】livestock and poult ry ; fibroblast cell ; growth rule ;growth curve ; division period
【中文摘要】本研究利用组织块贴壁培养法对鲁西黄牛、蒙古马、北京鸭和狼山鸡等4 个品种体外培养细胞的生长、分化规律进行了研究。通过绘制其生长曲线和在激光共聚焦显微镜下拍摄细胞生长过程,初步分析成纤维细胞的生长、分化规律。试验结果表明,4 个品种的细胞生长曲线均呈明显的“ S ”形,家畜和家禽的细胞潜伏期和停滞期的长短以及细胞群体倍增时间均有明显差异,蒙古马和狼山鸡体外培养细胞的单个细胞分裂期也有显著差异,蒙古马为97 min ,而狼山鸡为85 min。本试验构建的4 个品种成纤维细胞系不仅使畜禽遗传资源在细胞水平永久保存下来,而且为分子生物学研究提供宝贵材料。
【英文摘要】In order to study on the growth and differentiation rule of cells cultured in vit ro of Luxi cattle ,Mongolia horse ,Peking duck and Langshan chicken ,the vit ro four cell lines were established successfully in this study with tissure attachmentculture method. Analysis on the growth and differentiation rule of fibroblast cell through rendering the growth curve and photo2graphing the cells growth process by Confocal Laser Scanning Microscopy. The experimental result s indicate that : the four cellgrowth curves are all showed significantly s2shape , the length of retention period and incubation period are obviously differentbetween livestock and poult ry cells , and the doubling time for livestock and poult ry cells are also , in addition , the single celldivision period of Mongolia horse and Langshan chicken cells cultured in vit ro are obviously different too , the former is 97 minand the latter is 85 min.
【语种】中文
【第一作者】陆涛峰
【通讯作者】关伟军
【期刊名称、卷期、页码】中国畜牧兽医 2008,35 (11):65-69
【论文发表时间】2008-11-12 00:00:00
【引文索引类型】其他
【引文索引号】无
【学科分类】畜牧、兽医科学基础学科

【题目】硝基咪唑类药物检测技术研究进展
【中文关键词】硝基咪唑类药物;检测技术;综述
【英文关键词】5-Nitroimidazoles; determination methods; a review
【中文摘要】本文介绍了硝基咪唑类药物的理化性质、作用、应用现状及检测方法,重点论述了动物组织,产品及排泄物中药物残留和饲料中原药的检测技术。
【英文摘要】This paper reviewed the properties, functions, and utilization status in quo of a class of veterinary drugs, 5-nitroimidazoles, focusing on the common determination methods of theses compounds in feedstuffs and their residues in animal tissues, products, and excreta.
【语种】中文
【第一作者】尚彬如
【通讯作者】张丽英
【期刊名称、卷期、页码】中国畜牧杂志 2010 年第46 卷第1期 61-64
【论文发表时间】2009-11-26 00:00:00

【引文索引类型】其他
【引文索引号】
【学科分类】畜牧学

【题目】液相色谱2串联质谱法同时检测饲料中7种精神类药物
【中文关键词】液相色谱-串联质谱; 饲料; 精神类药物
【英文关键词】Liquid chromatography2tandem mass spectrometry; Feed; Mental drug
【中文摘要】建立了液相色谱2串联质谱同时检测饲料样品中7种精神类药物(硝西泮、奥沙西泮、氯丙嗪、异丙嗪、地西泮、奋乃静、硫利达嗪)的方法。通过对提取溶剂、净化等预处理条件及LC2MS/MS分析条件的优化,可以同时检测饲料中7种违禁精神类药物。饲料样品经乙腈/水(9∶1, V /V)提取后,过MCX固相萃取柱净化,氮吹至干,用1 mL乙腈/水(2∶8, V /V)溶解后测定,采用SRM模式进行定性与定量分析。7种精神类药物在饲料中的回收率为53. 9% ~110. 2%; 相对标准偏差为3. 4%~18. 4%;硝西泮、奥沙西泮、氯丙嗪、异丙嗪的检出限为1. 0 ng/g;对地西泮、奋乃静、硫利达嗪的检出限为5. 0 ng/g。结果表明,本方法可用于饲料中7种精神类药物的测定。
【英文摘要】A method was established for the simultaneous determination of seven mental drugs yLC2MS/MS.In this method, the conditions of app rop riate extracting solvent, SPE cartridge and LC2MS/MS were op timized. The drugs were extracted with acetonitrile /water (9 ∶1, V /V) , and then purified by MCX solid2phase extraction (SPE) column. The elution was evaporated by nitrogen blow, dissolved in acetonitrile / water (2∶8, V /V) and analyzed by LC2MS/MS. The limit of detection (LOD) was 1. 0 ng/g of nitrazepam, oxazepam, p romethazine and chlorp romazine, and 5. 0 ng/g of diazepam, perphenazine; and thioridazine.The recoverieswere 53. 9% - 110. 2% , and RSDswere 3. 4% - 18. 4%. Results showed that this developed method was very reliable for the determination of seven mental drugs in feeds.
【语种】中文
【第一作者】索德成
【通讯作者】苏晓鸥
【期刊名称、卷期、页码】分析化学 2010 38(7) 1023-1026
【论文发表时间】2010-02-08 00:00:00
【引文索引类型】null
【引文索引号】
【学科分类】分析化学

【题目】用HPLC- MS/MS 研究动物毛发中 克伦特罗的残留及代谢规律
【中文关键词】高效液相色谱串联质谱; 猪毛发; 盐酸克伦特罗; 代谢
【英文关键词】LC- MS/MS; swine hairs; clenbuterol; residue elimination
【中文摘要】研究建立了高效液相色谱- 串联质谱(HPLC- MS/MS) 测定毛发中盐酸克伦特罗残留的方法。猪毛发以0.1 moL/ L 盐酸溶液提取, MCX 固相萃取柱净化, 流动相溶解定容。以SB- C18 柱为分离柱, 1%乙酸水溶液和甲醇(60∶40,V∶V)作为流动相, MS/MS 进行定性和定量分析。在优化条件下的最低检出限为0.05 μg/ kg, 定量限为0.2 μg/ kg。毛发样品中添加不同浓度盐酸克伦特罗, 测得回收率在79.0 %~86.2 %之间, 变异系数均低于15.2%。应用该方法研究了盐酸克伦特罗在猪毛发中的代谢并初步探讨其代谢机理。结果表明:在较高饲喂浓度(10 mg/ kg)时, 用药5 d 后, 黑色猪毛发有少量盐酸克伦特罗残留, 而白色猪毛发中未检出。从第7 天起猪毛发中盐酸克伦特罗蓄积量逐渐增加, 最高蓄积浓度为4852.5 μg/ kg。
【英文摘要】A method for determination of clenbuterol hydrochloride residue in swine hairs by using high performance liquid chromatography coupled with tandem mass spectrometry was developed. The clenbuterol hydrochloride was extracted from swine hair samples by employing 0.1 mol/L hydrochloride acid aqueous solution, the cleaning procedurewas performed by MCX solid phase extraction cartridge. The clenbuterol hydrochloride was determined by HPLC- MS/MSon SB- C18 column with 1% acetic acid aqueous solution : methanol (60 ∶40) as the mobile phase. Under optimumconditions, the recoveries of different quantities of clenbuterol hydrochloride in swine hairs were from79.0 % to 86.2 %, white the relative standard deviation was below 15.2%. The limit of determination and limit of quantitative for the method were 0.05 μg/kg and 0.20 μg/kg, respectively. The developing method was applied to study the metabolize behavior andmechanism of clenbuterol hydrochloride in swine hair. The result indicated that a little of clenbuterol hydrochloride wasfound in black hairs of swine which were feed clenbuterol hydrochloride after five days while no found in white swine hair. From the seventh day, the content of clenbuterol hydrochloride in swine hairs was increased gradually, and the highest content of clenbuterol hydrochloride was 4852.5 μg/kg。

【语种】中文
【第一作者】苏晓鸥
【通讯作者】苏晓鸥
【期刊名称、卷期、页码】2008 年第44 卷第11期 41-46
【论文发表时间】2008-02-10 00:00:00
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【引文索引号】
【学科分类】畜牧学

【题目】转基因豆粕及蛋白质水平 对肉鸡的营养生物学效价
【中文关键词】转基因豆粕 肉鸡 生产性能
【英文关键词】无
【中文摘要】抗草甘膦转基因大豆自商业化生产以来,其主要应用对象是世界范围内的畜禽养殖业。为评价饲用安全性,有较多的学者研究了其农艺学特性、营养组成及其对动物的饲喂价值,用于评价的动物有大鼠、家禽、奶牛、鲶鱼和猪等。然而,不同种植批次间的大豆营养组成存在一定的差异,并且有关肉鸡的试验较少。试验旨在研究转基因豆粕及蛋白质水平对肉鸡的营养生物学效价。
【英文摘要】无
【语种】中文
【第一作者】马永喜
【通讯作者】马永喜
【期刊名称、卷期、页码】饲料研究 2009年 第10期 29-30
【论文发表时间】2009-06-22 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】畜牧学

【题目】Analysis Laboratory on a Chip
【中文关键词】无
【英文关键词】Microfluidic; Lab on a chip; Analysis laboratory; Biomolecule; Cell.
【中文摘要】无
【英文摘要】Microfluidic chip offers a promising platform for chemical or biological analysis on the basis of flexibleintegration of various functional operation units. This article provides an overview of the recentachievements of microfluidic chip and its applications based on the works mainly carried out in the authors ’ lab, especially for the purpose of constructing analytical laboratory on amicrofluidic chip. Different operation units and some representative applications in molecules, cell and organism analysis are described.
【语种】英文
【第一作者】林炳承
【通讯作者】林炳承
【期刊名称、卷期、页码】Journal of the Chinese Chemical Society, 2009, 56, 1-15
【论文发表时间】2008-11-04 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】分析化学

【题目】黄曲霉毒素B1致雏鸭肝脏细胞DNA的损伤效应
【中文关键词】黄曲霉毒素B1;DNA损伤;彗星试验;雏鸭
【英文关键词】aflatoxin B1; DNA damage; comet assay; duckling
【中文摘要】【目的】(1)研究黄曲霉毒素B1(AFB1)不同染毒水平(3, 30, 300 μg · kg-1 BW)染毒后,在不同时间点导致雏鸭肝细胞DNA损伤情况;(2)探明AFB1染毒剂量及染毒时间与雏鸭肝细胞DNA损伤之间的关系,为AFB1遗传毒性提供研究模型。【方法】96只雄性北京鸭雏鸭,随机分为16组,每组6只。第1组为对照组,第2至6组为低剂量(染毒)组、第7至11组为中

剂量(染毒)组、第12至16组为高剂量(染毒)组。对照组、低剂量组、中剂量组、高剂量组雏鸭分别灌胃25% DMSO水溶液,0.25,2.5,25μg·mL-1溶液各1 mL,对照组于灌胃1 h后,各剂量染毒组分别于灌胃染毒1、2、8、24、48 h用彗星试验检测肝细胞DNA损伤。【结果】试验表明,雏鸭对于AFB1导致的肝细胞DNA损伤非常敏感,肝细胞DNA损伤程度与AFB1摄入量以及摄入时间有关。经口染毒2 h左右DNA损伤达到高峰,所有染毒组在尾长、尾部DNA百分含量、尾矩、Olive尾矩等指标上均显著高于对照组(P<0.05);随着AFB1染毒剂量增加,DNA损伤程度加深、持续时间延长。【结论】(1)AFB1致雏鸭肝细胞DNA损伤的效应非常强,低剂量(3 μg〃kg -1 BW)AFB1暴露就能够引起雏鸭肝细胞DNA发生显著损伤。(2)经口染毒AFB1 2 h后雏鸭肝细胞DNA损伤达到高峰,此时DNA损伤程度与AFB1暴露之间的量效关系最为明显。(3)雏鸭是研究AFB1遗传毒性的一个良好动物模型,彗星试验能够反映AFB1致雏鸭肝细胞DNA损伤的量效关系。

【英文摘要】【Objective】 Aflatoxin B1 (AFB1) is one of the most potent naturally occurring carcinogens and classified as a group I carcinogen. This study has two objectives: (1) To evaluate the effect of 3, 30, 300 μg·kg-1 BW on DNA damage in hepatic cells in Beijing ducklings at different times after administrated by oral feeding. (2) To study the relationship between the level of DNA damage and concentration of AFB1, time after exposed to AFB1, to provide research model for genotoxicity of AFB1. 【Method】 Ninety-six male Beijing ducklings were randomly divided into 16 groups with 6 ducklings in each one. Each duckling in group 1 was administered orally with 1 ml 25% DMSO solution as control, and low (group 2 to 6), moderate (group 7 to 11), high (group 12 to 16) AFB1 exposure groups were given 1 ml with 0.25, 2.5, 25 μg·mL-1 25% DMSO solution by gavage, respectively. The modified comet assay was performed at 1 h in control group, and at 1, 2, 8, 24, 48 h in AFB1 exposure groups on hepatic cells after AFB1 administration. 【Result】 The results showed that ducklings were sensitive to hepatic DNA damage induced by AFB1, and the level of DNA damage was associated with concentration and time after AFB1 intake. DNA strand breaks reached peak value at 2 h of exposure, and all different doses of AFB1 could induce significantly higher tail length, tail DNA%, tail moment, Olive tail moment than in control group (P<0.05). With AFB1 concentration increasing, the duration of DNA damage prolonged, and under thecondition of the same treatment time, the DNA damage was more serious. 【Conclusion】 From the results, three conclusions were drawn as follows: (1) Ducklings are sensitive to DNA damage in live cells induced by AFB1, and low level (3 μg·kg-1 BW) exposure of AFB1 can induce significantly hepatic DNA damage in ducklings. (2) The level of DNA damage reached the peak at 2 h after a single oral administration of AFB1, and at this time the dose-effect relationship was obvious in this experiment. (3) Duckling is an ideal animal model for study of AFB1 genotoxicity, and comet assay is an useful tool for monitoring the hepatic DNA damage induced by AFB1 in ducklings.

【语种】中文

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【学科分类】畜牧学

【题目】Integrated microfluidic immunoassay for the rapid determination of clenbuterol

【中文关键词】无

【英文关键词】microfluidic chip

【中文摘要】无

【英文摘要】An integrated microfluidic immunoassay system was established for high throughput analysis ofclenbuterol. This system consisted of an integrated microchip and a linear confocal laser inducedfluorescence (LIF) scanner. The microchip was composed of three layers: a fluidic channel layer,a PDMS membrane layer and a pneumatic control layer. The multi-layer chip was integrated with36 pneumatic micro-valves and multiple micro-pumps to realize the flexible reagent delivery,facilitating the automatic assays with less consumption of samples and reduced analysis time. Thehomemade LIF scanner was able to simultaneously detect multi-channels and provide the potentialcapability of high throughput assays. The performance of the system was demonstrated by thedetermination of clenbuterol, one of the most widely used b-agonists. Under the optimal conditions,the linear range and the limit of detection of clenbuterol were 0 5.0 ng mL 1 and 0.088 ng mL 1,respectively. The recovery rates determined with pig urine samples of 1.0 ng mL 1 and 2.0 ng mL 1were 98.74% and 102.51% (n ¼ 3), respectively. The total detection time was less than 30 min. Thesystem had the potential application for rapid detection of multiple b-agonists in clinical,pharmaceutical and chemical analyses.

【语种】英文

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【学科分类】分析化学

【题目】Microvalve-actuated precise control of individual droplets in microfluidic devices
【中文关键词】无
【英文关键词】microvalves microfluidic chip
【中文摘要】无
【英文摘要】Integrated microvalves have been used to precisely and flexiblycontrol the generation, size, composition of individual droplets andfusion of different droplets in microfluidic devices.
【语种】英文
【第一作者】Zeng Shaojiang
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【学科分类】分析化学

【题目】微波消解-石墨炉原子吸收光谱法测定花生中镉含量
【中文关键词】花生; 镉; 微波消解; 石墨炉原子吸收法
【英文关键词】Peanuts; Cadmium; Microwave digestion; Graphite furnace atomic absorption spectrometry
【中文摘要】本文研究了高脂肪高蛋白材料花生中镉含量测定方法。采用微波消解法处理花生样品,使用石墨炉原子吸收光谱法测定花生中镉含量。从广东、湖北和辽宁3省随机抽取收获的 9 个花生样品进行检测,镉含量范围为0.061~0.529mg /kg,RSD为1.22%~8.75%(n = 6,c = 0.859~7.409ng /mL) 。该方法检出限为0.000 19mg /kg,加标回收率为95.4% ~ 100.1%,具有灵敏、快速、准确的特点,可用于高脂肪高蛋白样品中镉含量的测定。
【英文摘要】A method for determination of cadmium in high fat and high protein peanut samples was established by graphite furnace atomic absorption spectrometry and microwave digestion for pretreatment. Cadmium content in peanuts from Guangdong, Hubei and Liaoning provinces was analyzed by this method. Results showed that the cadmium content was 0.061~0.529mg /kg with RSD 1.22% ~8.75%(n = 6,c = 0.859 ~ 7.409ng /mL) . The minimum amount could be detected by this method was 0.000 19mg /kg and the recovery rate was between 95.4% to 100.1%. This method was sensitive,fast and precise in testing cadmium content in high fat and high protein peanuts
【语种】中文
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【题目】土壤类型与作物基因型对花生籽实镉积累的影响
【中文关键词】土壤类型;基因型 ;花生; 籽实; 镉; 积累
【英文关键词】soil type; genotype; Arachis hypogaea L.; kernel; Cadmium; accumulation.
【中文摘要】选择花生主产区的棕壤和潮土为供试土壤,种植面积最大的白沙1016、花育22和湛油27基因型花生(Arachis hypogaea L.)为供试作物,采用不添加Cd和添加Cd(1.5 mg • kg-1)处理进行盆栽试验,研究了土壤类型和作物基因型对花生籽实Cd积累的影响.结果表明:无论何种土壤中,3种基因型花生籽实Cd含量在未加Cd处理下均低于国家食品安全标准0.5

mg • kg-1(GB2762-2005),而在加Cd处理下均高于食品安全标准.无论土壤未加Cd处理还是加Cd处理,3种基因型花生籽实Cd含量在同种土壤中差异显著(P < 0.05),均表现为湛油27>白沙1016>花育22,且棕壤土中的花生籽实Cd含量皆高于潮土.棕壤土中花生籽实吸收积累的Cd总量显著高于潮土(P < 0.05),这与棕壤中较高的肥力水平和较多的生物可利用性有效态Cd有关.3种花生基因型中,湛油27花生籽实对土壤Cd积累能力最强.尽管加Cd处理提高了湛油27花生籽实产量,但籽实Cd积累的不利效应远远超过其产量的增加效应.3种基因型花生籽实Cd生物富集系数在未加Cd处理下均大于1.00,而在加Cd处理下大多小于1.0,表明花生籽实对土壤中固有Cd的累积能力较强,且籽实对土壤Cd的生物富集能力随土壤Cd处理含量的增加而降低

【英文摘要】A pot experiment was conducted to elucidate the effect of soil types and genotypes on Cd accumulation in kernels of peanut(Arachis hypogaea L.)without or with Cd spiked at 1.5 mg • kg-1 in the soil. Three peanut genotypes (Baisha1016, Huayu22 and Zhanyou27) widely grown and two soil types (burozem and fluvo-aquic soil) broadly distributed in the main peanut producing areas in China were used. The results showed that no matter what kind of soil, Cd concentrations in kernels of three peanut genotypes under the condition of non-Cd spiked control were lower than 0.5 mg • kg-1(Maximum levels of contaminants in foods in China, GB2762-2005).However, Cd concentrations in kernels of all genotypes under the condition of Cd spiked treatment were higher than 0.5 mg • kg-1. Both in the conditions of non-Cd spiked control and Cd spiked treatment, Cd concentrations in kernels of three peanut genotypes under the same condition of soil had significant differences (P < 0.05). The ability of Cd accumulation in kernels of different genotypes of peanut was Zhanyou27>Baisha1016>Huayu22. Cd concentrations in kernels of all genotypes under the condition of burozem were higher than that of fluvo-aquic soil. In addition, total Cd uptake in kernels of all genotypes under the condition of burozem were significantly (P < 0.05) higher than that of fluvo-aquic soil. These were related with the higher fertility levels and the more effective bioavailability of Cd in burozem. Among three genotypes of peanut, the strongest Cd accumulation ability was found in the kernel of zhanyou27 peanut. Although Cd spiked treatment increased the kernel biomass of zhanyou27 genotype, the adverse effect of Cd accumulation in kernels was far more than the increasing effect of its production. Cd bioaccumulation factors in kernels of three peanut genotypes under the condition of non-Cd spiked control were higher than 1.0. By contrast, most of Cd bioaccumulation factors under the condition of Cd spiked treatment were lower than 1.0. These showed that peanut kernels had the stronger accumulation abilities to inherent Cd in soils and the Cd bioaccumulation ability in peanut kernel decreased with the increasing of Cd treatment in soils.

【语种】中文
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【题目】不同土壤类型对花生籽实镉积累特性的影响

【中文关键词】花生籽实;土壤类型;镉;棕壤;潮土;生物富集量
【英文关键词】peanut (Arachis hypogaea L.) kernel; soil type; Cd; burozem; fluvo-aquic soil; bioaccumulation capacity

【中文摘要】为了在不同土壤环境下选育出低镉(Cd)积累型花生品种以提高花生品质, 以‘ 白沙1016号 ’ 品种花生(Arachis hypogaea L.)为供试作物,棕壤和潮土为供试土壤,采用盆栽试验的方法, 研究了2种类型土壤对花生籽实Cd积累特性的影响。结果表明:2种类型土壤条件下的花生籽实生物量差异显著(P<0.05);在供试土壤Cd处理范围内(≤10.0 mg/kg),籽实生物量均随2种土壤Cd处理浓度增加呈“ 低促高抑 ”现象。花生籽实对土壤Cd的生物富集系数均随2种土壤Cd处理增加呈显著降低趋势(P<0.05),且土壤类型间差异不显著。花生籽实Cd含量和Cd生物富集量均随2种土壤Cd处理的增加而显著增加(P<0.05),但两者在棕壤介质中均显著大于潮土(P<0.05)。土壤类型对花生籽实Cd积累差异的影响主要体现在籽实Cd含量和生物富集量方面。而土壤pH、 氧化还原电位(Eh)等均是影响籽实对Cd积累差异的重要因素。

【英文摘要】To select peanut cultivars of low absorption in different soil and improve the quality of peanut, a pot experiment was conducted with one kernel variety of ‘ Baisha 1016 ’ under two soil of types (burozem and fluvo-aquic soil) to study the effect of the two soil types on characteristics of Cd accumulation in kernels of peanut (Arachis hypogaea L.). The results indicated that biomass of peanut kernel in two types of soil tread with the same Cd concentration have no significant at 95% probability .Within the range of soil Cd treatments in the experiment, the biomass of peanut kernels exhibited the phenomenon of “ hormesis effect ” with the increasing of Cd concentrations in soil. Bioaccumulation factor (BF) of Cd in kernels of peanut decreased significantly (P<0.05) with the increasing

of Cd concentrations in soil and there was no significant difference between the two types of soil (P>0.05). Cd contents and bioaccumulation capacity in kernels of peanutincreased significantly (P<0.05) with the increasing of Cd concentrations in soil and were higher in burozem than that in fluvo-aquic soil. The effect of soil type on Cd accumulation in kernels of peanut was mainly reflected in the bioaccumulation capacity of Cd in kernels of peanut.Peanut kernels accumulation ability to Cd in soil was related with the soil Ph,redox potential and so on.

【语种】中文
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【题目】香菇中镉含量的检测与分析
【中文关键词】镉富集,品种,地区,潮次,形态部分
【英文关键词】cadmium accumulation, variety, region, times of harvest, morphological portion
【中文摘要】为了解影响香菇镉富集的一些因素,对不同品种、不同地区、不同潮次的香菇以及香菇不同形态部分中的镉含量进行了比较研究。结果表明:不同品种香菇、不同地区以及不同潮次香菇中的镉含量具有一定的差异;此外,香菇的不同形态部分中镉的含量也不一样,其镉含量从高到低的顺序为:菌褶>菌盖>菌柄
【英文摘要】As a toxical element, cadmium in Lentinula edodes has been drawn much attention. In order to investigate the accumulation mechanisms of cadmium in Lentinula edodes, the effects of varieties, cultivation regions, times of harvest and morphological portions on accumulation of cadmium in Lentinula edodes have been studied. The results showed that, the distinction of cadmium content would be resulted from all the four factors above. The contents of cadmium in different part of Lentinula edodes fruit body were ranked as follow: gill > cap > stipe.

【语种】中文
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【题目】不同区域与品种的海带中砷富集特征的差异
【中文关键词】海带; 总砷; 无机砷; 富集规律
【英文关键词】kelp; total arsenic; inorganic arsenic; accumulation regularity
【中文摘要】通过分析不同养殖海域 不同品种海带中无机砷和总砷含量在养殖期间的变化,研究海带中总砷及无机砷的富集规律 结果显示,在生长期内海带对总砷的富集呈增长趋势,而无机砷含量则逐渐降低,其占总砷的比例由3月份1 36% ~ 1.47% 下降到 7 月份的 0.41% ~0.57%; 同一海域、 不同品种的海带对总砷和无机砷的富集具有差异性; 同时期在不同养殖海域采收的同品种海带总砷和无机砷含量差异显著 基于监测数据对海带中的无机砷进行分析,所有海带样品中无机砷含量远低于现行食品卫生标准中的限量要求,不对食用安全性造成影响
【英文摘要】The experiments aim to study the enrichment regularity of inorganic arsenic and total arsenic inkelp by analyzing the variation of inorganic and total arsenic in kelps which are from different maritime regions and different species during their growth. The content of inorganic arsenic is detected by HPLC- AFS,while the content of the total arsenic is examined by hydride atomic fluorescence spectrophotometry in GB /T 5009.11-2003.The results show that the enrichment in kelps of total arsenic displays an increase trend in growing season,whereas the content of inorganic arsenic is decreasing. The percentage of inorganic arsenic in total arsenic decreased from 1.36% 1. 47% (March) to 0.41% 0.57% (July) .The enrichment of inorganic and total arsenic varies from kelp to kelp even they are cultivated in the same maritime region,meanwhile, the same types of kelps have dramatically different contents of inorganic and total arsenic,whichdepends on the variety of maritime regions.Judging from the data,the contents of inorganic arsenic in

all examined kelps are far below the MRL and will have no negative effects on food safety.The study provides relevant theory foundation for food safety and processing.
【语种】中文
【第一作者】舒本胜
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【题目】海藻中铝的化学形态分析
【中文关键词】海藻; 铝; 形态
【英文关键词】seaweed; aluminium; speciation
【中文摘要】首次对我国主要养殖海藻中的总铝含量进行调查,结果显示海藻中总铝含量差异很大,含量在53 2 ~ 2714. 6 mg /kg,其中坛紫菜中总铝含量最高.利用连续平衡静态浸提法研究了海带和紫菜中铝的化学形态 .研究结果表明,海藻中铝存在多种形态,主要以稳定的、不易被生物体吸收的有机铝(AlONL) 形态存在,占总铝的82.0% ~ 87. 6%,而毒性较高的无机态铝含量很低,占3.75% ~ 4.94% 。本实验进一步证明,以总铝含量作为评价海藻铝食用安全的评价标准具有一定局限性, 亟需针对不同形态铝建立不同限量标准, 对海藻及其制品进行科学的食用安全评价,以保障海藻产业顺利发展。
【英文摘要】The aluminum content in seaweed was first researched in out country.The results showed that thealuminum content ranged from 53. 2 mg /kg to 2 714. 6 mg /kg, especially for laver which had highest averagevalue.The speciation analysis of aluminum was first conducted in seaweed using sequential chemical extraction.There were several forms of aluminum in seaweed and the main speciation was organic aluminum which was stable and not easy to be absorbed by organism.It accounted for 82.5%-87.6% of the total aluminum.The inorganic aluminum which had higher toxicity accounted for only 3.75%-4.94% of the total amount.The present research further proved that it was not enough to use total aluminum as the standard to evaluate the safety of the seaweed, and it was urgent to establish different limitation standards according to different aluminum speciation in order to accurately evaluate the safety of the seaweed and guarantee thehealthy development of the seaweed industry
【语种】中文
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【中文关键词】加工方式;海带;紫菜;总砷;砷形态
【英文关键词】无
【中文摘要】本文研究了浸泡、油炸、水煮和烘烤四种加工方式对海带和紫菜中总砷及其形态含量的影响,并对其食用安全性进行评价。研究结果表明:浸泡和水煮都能减少海带和紫菜中总砷和四种砷化合物含量。油炸和高温烘烤过程影响砷形态和含量的变化:油炸样品中总砷含量减少,DMA、MMA和无机砷含量变化表现出不一致性;除250°C外,其他温度烘烤的样品总砷含量均增加,DMA、MMA、无机砷含量随着温度的升高而增加,到250°C时最多增加了近3倍,对食用安全性带来一定的影响;在150°C油炸15min和200°C烘烤的样品中有新的砷化合物生成,其结构和毒性尚难确定。 一般常用的加工方式和烹饪方式的热处理温度都在150°C以下,所以水煮、低温油炸和烘烤不会对海带和紫菜的食用安全性造成大的影响
【英文摘要】The aims of experiment are to study the influence on the contents and forms of total arsenic and different arsenic compounds in kelp and Porphyra by different ways of processing including soaking, deep-frying, water cooking and baking, and to evaluate the edible safety of the foods by those cooking methods. The results showed that the contents of four arsenic compounds decreased in nearly all soaking and water cooking samples. Both the form and contents of arsenic changed in the cooking process of deep-frying and high-temperature baking. The contents of total arsenic decreased in deep-fried samples, while increased in baking

samples except for temperaturein 250°C. As for the forms of arsenic compounds, the changes of content of DMA, MMA and inorganic arsenic are discordant in deep-fried samples, while increased with a rise in temperature and increased by nearly 3 tim es at 250°Cin baking samples, which brought some effects to the edible safety. A kind of arsenic compound was found in the fried samples at 150°C for 15m in and the baked samples at 200°C for 7m in, w ith the structure and toxicity hard to be definited. In the traditional methods for processing and cooking, the temperature is almost below 150°C, so, the edible safety of kelp and Porphyra has been hardly affected by those methods including water cooking, deep-frying and baking in low temperature

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【题目】海带中砷脱除方法研究
【中文关键词】海带;总砷;无机砷;砷脱除率;
【英文关键词】kelp; total arsenic;inorganic arsenic;obviation rates
【中文摘要】本文以总砷和无机砷脱除率为考察指标,通过最佳食用脱除剂选择、单因素试验、正交试验和感官评定选出最佳脱砷工艺。结果表明,以 3%柠檬酸为脱除剂,料液比为 1:15,温度为40°C,时间为40min 的脱砷工艺效果较为理想,总砷脱除率达到65.71%,无机砷脱除率达到 74.39%。对脱砷后的海带样品进行基本营养成分分析发现,粗蛋白、粗脂肪、氨基酸和总糖含量均显增加,灰分和矿物质元素含量有所减少,未对营养成分造成影响
【英文摘要】In this study, using the obviation rates of total arsenic and inorganic arsenic as index, the optimum dearsenification conditions of kelp was fixed through food removal agent selection, single-factor test, orthogonal design and organoleptic investigation. The results showed that the optimal dearsenification conditions were as follows: 3% citric acid (removal agents), 1:15 (W/V ratio), 40°C(process temperature) and 40 min (process time), under these conditions, the obviation rates of total arsenic and inorganic arsenic were 65.71% and 74.39%, respectively. The contents ofcrude protein, crude fat, amino acid and total sugar of kelp increased after dearsenification, with the diminution of ash content and mineral elements. Therefore, the nutrient content was not influenced in this process

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【题目】食源性健康风险评估的二维蒙特卡罗方法
【中文关键词】风险评估;蒙特卡罗;变异性;不确定性
【英文关键词】Risk assessment Monte Carlo,Variability,Uncertainty
【中文摘要】目的 探讨食源性健康风险评估中变异性和不确定性的定量描述策略。方法 对变异性和不确定性分别用不同的概率分布来描述,用二维蒙特卡罗方法对变异性和不确定性作定量研究, 并将结果与一维蒙特卡罗方法做对比。结果 多重一维蒙特卡罗方法可以获得与二维蒙特卡罗方法相接近的结果。在参数不确定性的来源较多时, 二维蒙特卡罗方法具有更高的执行效率。结论 二维蒙特卡罗方法可以给出任意百分位风险取值的概率分布, 可为风险管理者判定特定百分位的风险值是高于还是低于所关注的风险水平提供分析依据
【英文摘要】Objective T his paper aimed to discuss strategies to quantitatively describe the variability and uncertainty in food-borne health risk. Methods The methodology were to use two- imensionalMonte Carlo analysis to quantitativel y characterize the variability and uncertainty described with different probability distributions , and compared the result with that obtained by one dimensi onal Monte Carlo analysis . Results The simulation result in dicated that although the multiple one di mensional Monte Carlo simulations

and two dimensional Monte Carlo analysis could yield the sa meresul , the latter was more efficient when there were numerous sources of uncertainties . Concl usion In conclusion, the two-dimensional Monte Carlo analysis can provide probability distribut ion of ris k value at any percentile , which allows risk managers to determine the ris k(above or b elow a risk level of concern) regarding to the level of certainty .

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【题目】暴露评估中稻米重金属汞污染的适宜采样量
【中文关键词】稻米;汞;暴露评估;We i b u ll 分布;百分位数;采样量
【英文关键词】milled rice;mercury;exposure assessment;Weibull distribution;percentile;sample size
【中文摘要】稻米中的重金属汞是风险评估的热点。考虑其污染检测数据呈右偏分布的特殊性,在暴露评估中,适宜的采样量是评估高效准确的保证。本研究用Weibull分布拟合稻米中汞的检测数据,就评估关注的高百分位数估计与采样量的关系进行模拟研究。结果表明:峰右侧的百分位数越高,准确估计其所需的采样量就越大。且估计值随采样量的加大趋近理论值,精度也随之增大。采样量达到400、7 0 0 和 1 5 0 0 时,即可保证相应的 P 9 5、P97.5和P99 估计值的准确度与精确度。但1500 的采样量仅能保证对P99.9 估计值的准确度,无法满足精度要求。而采样量的不足极可能造成对高百分位数的低估,而最终导致对风险的低估。在实施稻米重金属汞的暴露评估时,对其污染检测数据采样量的关注可避免结果偏差及人力物力的浪费
【英文摘要】The mercury exposure in milled rice has become a hotspot in risk assessment. Considering the positively skewed contamination data, an economic and effective assessment must be based on an appropriate sample size. With the benefit of computer simulation, this paper set out to study the relationship between sample size and percentile estimate with Weibull distribution, which was used to fit the mercury contamination data. The simulation results showed that accurately estimating a higher percentile of positively skewed distribution, specially the one on the right side of peak, would require a larger sample size. And a larger sample size always resulted in a more accurate and more stable estimated percentile. As sample size increased to exceed 400, 700 and 1500, estimates of P95, P97.5 and P99 could obtain guaranteed accuracy and precision respectively, while a sample size of 1500 could only satisfy the accuracy but not precision of P99.9 estimates. Furthermore, insufficient samples would always lead to an underestimate of high percentile, and then lead to an underestimate of risk. When it comes to risk assessment of mercury exposure in milled rice, the in-depth study of sample size promises not only a possibility of an accurate result, but also an economical resource allocation
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【题目】暴露评估中样本采集量的模拟研究
【中文关键词】右偏分布;百分位数;污染数据;样本容量;暴露评估
【英文关键词】无
【中文摘要】选择暴露评估常用的4种右偏分布,就评估关注的高百分位数估计与采样量的关系进行模拟研究;又以对数正太分布为代表,从分布形态和变异的角度做了细致探讨,结果表明:(1)对右偏分布来说,百分位数越高,准确估计所需的采样容量就越大,而其估计都随采样量的增大而趋近理论值,精度也随之增大,采样量500时,本文考察的4种右偏分布除P99.9外的其它百分位数都得到了较为准确的估计。(2)估计相同的百分位数,对数正太分布所需的样本容量要比正太分布大得多;而其分布变异越大,所需的采样量也就越大。本研究可为暴露评估中数据的采样调查提高借鉴。

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【题目】南方6省稻米总汞含量调查及其膳食暴露评估
【中文关键词】稻米;总汞;膳食暴露;概率评估
【英文关键词】milled rice; total mercury; dietary exposure; probabilistic assessment
【中文摘要】为评价中国南方6省稻米中总汞污染现状,于2009年在江西 、湖北、 湖南 、广东、 广西和四川 6 省抽样检测了 1 321 份稻米样品,结合中国居民20个性别年龄组人群的稻米消费量和体重信息,采用非参数概率方法对稻米中总汞的膳食暴露量进行了评估。 总汞含量采用电感耦合等离子体质谱仪(ICP-MS)测定,检出限(LOD)为0.000 8 mg kg-1。结果表明,稻米的总汞含量在地区间存在着差异,虽然有 76.2%的样本总汞含量(0.000 8 0.063 4 mg kg-1)高于检出限,但仅有 2.3%的样本超出了最高限量(ML 0.02mg kg-1) 将评估结果比照JECFA 推荐的总汞暂定每周耐受摄入量(PTWI) 5 g(kg bw) -1,我国居民食用这 6省稻米产生的汞暴露风险较小 但在 99.9的高百分位水平下, 14岁以下人群的摄入量相对较高,占 PTWI 的 41.5% 62.9%,其中 2 4 岁儿童和 4 7 岁男童的摄入量占PTWI 的60%以上,潜在风险较大 建议应对稻米中重金属汞的含量进行追踪监测
【英文摘要】The study aims to investigate the occurrence of total mercury in milled rice from 6 provinces of Southern China during harvest in 2009, and determine the dietary exposure of target population using a non-parameter probabilistic model with information on rice consumption and body weight. Altogether 1 321 milled rice samples were collected from Jiangxi, Hubei, Hunan, Guangdong, Guangxi and Sichuan Provinces. Total mercury was measured by inductively coupled plasma-mass spectrometry (ICP-MS) , and the limit of detection (LOD)for it was 0.000 8 mg kg-1. The analytical results showed that 76.2% of the samples contained detectable concentrations of total mercury, which ranged from 0.000 8 to 0.063 4 mg kg-1, but levels were generally low, with only 2.3% of the samples having concentrations above 0.02 mgkg-1, the maximum level (ML) . On the other hand, there was an apparent regional difference found for the concentrations of total mercury in milled rice. The provisional tolerable weekly intake (PTWI)of mercury, as recommended by Joint FAO/WHO Expert Committee on Food Additives (JECFA)is 5 g(kg bw) -1. The estimated exposure values for populations of interest were compared to the PTWI. For the relevant population, this study confirmed the low probability of health risks from total mercury via the milled rice from the 6 provinces of Southern China. But exposure to total mercury for the population below 14 years old at 99.9 represented 41.5% 62.9% of the PTWI. While for children aged 2 4 years and boy aged 4 7 years, their estimated exposure at 99.9 were all over 60% of the PTWI. Considering the potential risk, this study suggests that a yearly monitoring program for total mercury in milled rice is necessary
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【题目】中国花生镉含量调查与膳食风险评估
【中文关键词】花生;铬;膳食暴露;风险评估
【英文关键词】peanut; cadmium; dietary exposure; risk assessment
【中文摘要】为考察中国花生中铬元素含量水平及地区、品系间的差异,对其膳食暴露风险进行评估,2009、 2010 年在安徽等 13 个花生主产省对多个品系抽样检测了 2578 份花生样品,结合中国居民 4 个消费人群及其亚群的花生消费量与体重信息,采用非参数概率方法对花生铬的膳食暴露量进行了估计。 铬含量采用原子吸收分光光度计 TAS-986(G)测定,最低检

测限(LOD)为 0.0001 mg' kg-1 ,定量限(LOQ)为 0.0003 mg' kg-1 。 检测结果表明:花生俑元素的平均含量为 0. 1634 mg'kg飞仅有 2.4%的样品俑含量超出最高限量(ML , 0.5 mg'kg-1); 各省花生中铺含量的差异不明显,不同年份、品系间及品系内的铺含量存在一定差异。 将膳食暴露评估结果比照 JECFA 推荐的暂定每月耐受摄入量(凹'MI)25 问. (kg ' bw) -1 ,花生铺的膳食暴露风险,总体轻微。 一般消费水平下,人群的暴露量远低于 PTMI 值;高消费水平下,人群中有 5%的个体暴露量接近或超过 PTMI 值,有一定潜在风险

【英文摘要】This study aims to investigate the variation of cadmium levels in peanut in China classified according to different region and plant strains, and determine its dietary exposure to tbe target population. Altogether 2578 peanut samples were collected from Anhui and other provinces in 2009-2010. Cadmium was measured by atomic absorption spectrophotometer TAS-986(G). A non-parameter probabilistic model was used to assess the potential risk of cadmium from dietary exposure based on the information of peanut consumption and body weight oin four consumer groups and their subgroups. The limit of detection (LOD) for cadmium determination was 0.000 1 mg' kg-1 , and its limit of quantification(LOQ) was 0.0003 mg' kg-1 . The analytical results showed tbat tbe average cadmium level of peanut was 0.1634 mg' kg with only 2.4% of the samples having concentration above 0.5 mg' kg-1 , the maximum limit(ML). The cadmium levels in peanut didn't show regional difference, however, it exhibited differences among years, in different strains and within the same strains. The provisional tolerable monthly intake(PTMI) of cadmium, as recommended by Joint FAOIWHO Expe时 Committee on Food Additives(JECFA) is 25 ug' (kg' bW)-I. The established exposure values for populations of interest were compared to the PTMI.This study claimed that in general, the probability of healty risk of cadmium via peanuts exposure to Chinese population was low. In tbe normal consumption level, the exposure values of 4 consumer groups were far below the PTMI. In tbe high consumption level, five percent of individuals had tbe exposure values close to or over PTMI, which have potential risk.

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【题目】基于U-V模拟分析方法的农产品质量安全评估模型
【中文关键词】食用农产品;质量安全;风险评估,U-V模拟,RAMA模型
【英文关键词】edible agro-products; quality and safety; risk assessment; U-V simulation; RAMA model
【中文摘要】为加强监测信息利用,提升我国现有农产品质量安全评估水平,本研究基于Monte Carlo和Bootstrap抽样方法,结合概率建模理论,提出了质量安全概率评估的U-V模拟分析方法,并在此基础上用R和Java语言开发出基于Web应用的RAMA模型。实例分析结果表明:相对于@Risk和SAS软件,RAMA模型不仅分析结果可信,且具有执行效率高、操作简便、便于推广应用等特点。RAMA模型的建立填补了我国农产品质量安全概率评估模型的空白,对促进农产品质量安全风险管理、丰富风险决策信息等方面具有重要的现实意义

【英文摘要】In order to make better use of monitoring information, and enhance the level of quality and safety assessment for agro-products in China, U-V simulation analysis method based on monte carlo and bootstrap sampling was proposed. Then, integrating probabilistic modeling theories, RAMA(Risk Assessment Model for Agro-products), a web-based probabilistic model was formed in R and Java language. The results of case study showed that: compare to @ Risk and SAS, RAMA model not only got accurate results but also behaved effect, feasible and friendly. The establishment of RAMA could fill the gaps in the field of probabilistic risk assessment for agro-products, enrich decision information and be favorable to risk management

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【题目】HPLC法测定香菇中有机酸含量的检测技术研究
【中文关键词】HPLC;香菇;酸提;有机酸
【英文关键词】HPLC;Lentinus edodes;Acid extraction;Organic acids
【中文摘要】本实验建立了HPLC法同时测定香菇中酒石酸、苹果酸、乙酸和柠檬酸的方法。在酸提条件下,利用Agela Venusll MP C18 色谱柱,以2% CH3OH – 20 mM (NH4)2HPO4 (pH 2.40)为流动相,流速为1.0 mL/min,柱温为35℃,检测波长为210 nm,进样量为10 μL。四种有机酸均在8 min内出峰。本法准确、可靠、快速、简便,检出限较低,适合于大批量样品的分析与检测。
【英文摘要】In this experiment, a HPLC method for determination of organic acids in Lentinus edodes was developed. These organic acids contained tartaric acid, malic acid, acetic acid and citric acid. Under acid extraction, Agela Venusll MP C18 column was used at 35℃ and mobile phase was 2% CH3OH – 20 mM (NH4)2HPO4 (pH2.40), with the flow rate of 1.0 mL/min. Detection wavelength was 210nm. Four organic acids were well separated in 8 minute. The method is accurate, reliable, rapidly and simple with low detection limit. It is suitable for the analysis and determination of samples in large quantity
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【题目】Effect of thermal treatments on arsenic contents in Porphyra
【中文关键词】无
【英文关键词】arsenic, Porphyra, thermal treatments
【中文摘要】The contents and forms of total arsenic and different arsenic compounds in Porphyra were determined by different thermal treatments including soaking, water cooking, deep-frying, baking and microwave treatment. The results showed that the contents of four arsenic compounds decreased in nearly all soaking and water cooking samples. The contents of total arsenic decreased in deep-fried samples, while increased in baking samples except for temperature in 190℃. As for the forms of arsenic compounds, the changes of content of DMA, MMA and inorganic arsenic are discordant in deep-fried samples, while increased with a rise in temperature and increased by nearly 2 times at 200℃ in baking samples,which brought some effects to the edible safety. With the microwave power streagthening, the content of DMA, MMA and inorganic arsenic content showed a rapid increase tread in general, and the content of DMA is higher than that of MMA. Commonly used thermal treatment impaced the content and compouds of arsenic obviously. A relative low tempreture treatment will reduce the safety risk.
【英文摘要】The contents and forms of total arsenic and different arsenic compounds in Porphyra were determined by different thermal treatments including soaking, water cooking, deep-frying, baking and microwave treatment. The results showed that the contents of four arsenic compounds decreased in nearly all soaking and water cooking samples. The contents of total arsenic decreased in deep-fried samples, while increased in baking samples except for temperature in 190℃. As for the forms of arsenic compounds, the changes of content of DMA, MMA and inorganic arsenic are discordant in deep-fried samples, while increased with a rise in temperature and increased by nearly 2 times at 200℃ in baking samples,which brought some effects to the edible safety. With the microwave power streagthening, the content of DMA, MMA and inorganic arsenic content showed a rapid increase tread in general, and the content of DMA is higher than that of MMA. Commonly used thermal treatment impaced the content and compouds of arsenic obviously. A relative low tempreture treatment will reduce the safety risk.
【语种】英文
【第一作者】朱兰兰
【通讯作者】翟毓秀
【期刊名称、卷期、页码】Agricultral and Food Chemistry
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【学科分类】农学其他学科

【题目】Speciation Analysis of Arsenic in Fruits and Vegetables by High Performance Liquid Chromatography-Hydride Generation-Atomic Fluorescence Spectrometry with Ultrasonic Extraction
【中文关键词】Speciation Analysis; HPLC; Atomic Fluorescence
Spectrometry; Fruit; Vegetable; Ultrasonic Extraction
【英文关键词】Speciation Analysis; HPLC; Atomic Fluorescence
Spectrometry; Fruit; Vegetable; Ultrasonic Extraction
【中文摘要】A method was developed for simultaneously determination of four arsenic speciation including trivalent arsenic (As (III)), pentavalent arsenic (As (V)), monomethylarsinic acid (MMA) and dimethylarsinic acid (DMA) in fruits and vegetables. Arsenic speciation in samples were extracted with methanol/water (50/50, v/v) after samples were dried at 105 ° C, and then detected by high performance liquid chromatography-hydride generation- atomic fluorescence spectrometry (HPLC-HG-AFS). The recoveries of four arsenic speciation were 81.7% 103.9% with RSD of 0.88% 5.03%, and detection limits were 0.8 2.0 μg/kg. This indicates that the developed method has good accuracy and high sensitivity. The method was then applied to detect eleven types of fruits and vegetables samples randomly purchased from supermarkets. The analytical results showed that the main arsenic speciation were As (III) and As (V) in vegetables and As (III) in fruits. The concentrations of As (III) in vegetables were obviously higher than those in fruits
【英文摘要】A method was developed for simultaneously determination of four arsenic speciation including trivalent arsenic (As (III)), pentavalent arsenic (As (V)), monomethylarsinic acid (MMA) and dimethylarsinic acid (DMA) in fruits and vegetables. Arsenic speciation in samples were extracted with methanol/water (50/50, v/v) after samples were dried at 105 ° C, and then detected by high performance liquid chromatography-hydride generation- atomic fluorescence spectrometry (HPLC-HG-AFS). The recoveries of four arsenic speciation were 81.7% 103.9% with RSD of 0.88% 5.03%, and detection limits were 0.8 2.0 μg/kg. This indicates that the developed method has good accuracy and high sensitivity. The method was then applied to detect eleven types of fruits and vegetables samples randomly purchased from supermarkets. The analytical results showed that the main arsenic speciation were As (III) and As (V) in vegetables and As (III) in fruits. The concentrations of As (III) in vegetables were obviously higher than those in fruits
【语种】中文
【第一作者】戴守辉
【通讯作者】王敏
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【学科分类】农学其他学科

【题目】Quality safety traceability technologies for cereal and oil products
【中文关键词】无
【英文关键词】Traceability, Tracking, Code, RFID and Agricultural Products
【中文摘要】无
【英文摘要】Food companies and governments in many countries are putting increasing emphasis on establishment of food traceability systems. Food traceability has become an effective way in food safety management. Aimed at food safety problems of cereal and oil products existing in the production, processing, warehousing, distribution and other links in the supply chain, this paper firstly proposes a new traceability framework combines the information flow with critical control points and quality indicators. Then it introduces traceability database design and data access mode to realize the framework. In practice, Code design for tracing is a challenge, so this paper put forward a code system based on UCC/EAN-128 standard. Middleware and Electronic terminal design are also briefly introduced to accomplish traceability system for cereal and oil products.
【语种】英文
【第一作者】刘世洪
【通讯作者】刘世洪
【期刊名称、卷期、页码】IMETI 2009,IIIS PROCEEDINGS VIII ,pp 94-97

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【引文索引号】
【学科分类】计算机应用

【题目】粮食龙头企业质量安全可追溯系统研究与实现
【中文关键词】农产品质量安全; 可追溯系统; 农业企业; 粮食产品;
【英文关键词】Agricultural Products Quality Safety; Traceability System; Agriculture Enterprise; Cereal Product;
【中文摘要】粮食产品是我国人民广泛食用的农产品,在人们日常饮食中占据着主导地位。特别对我国这样以植物类食品消费为主的国家来说,其质量安全问题显得尤为重要。本论文以粮食龙头企业为切入点,以禾谷类作物物中的小麦和油料中的花生为主要研究对象,针对粮食产品在种植、检验、仓储、加工、流通等核心环节存在的主要质量问题,从危害源、污染途径、污染种类到安全生产与质量检测等角度出发,开展粮食产品可追溯方法与系统研究,以期对完善农产品质量安全体系、提高农业企业质量安全管理水平做出微薄的贡献。本论文的研究工作主要包含以下三方面:(1)梳理农产品与食品质量安全法律法规规章,构建粮食产品质量安全法律体系。在收集、整理和分析现有农产品和食品法律法规规范的基础上,针对粮食产品的基本属性,提出了从原粮生产、原粮存储到原粮精深加工的粮食产品质量法律体系,基本覆盖了从农业生产投入品直到粮食产品市场流通的粮食产品供应链过程。(2)依据粮食产品质量安全法律体系,结合粮食龙头企业实际情况,确定企业质量安全可追溯系统设计准则。在分析企业主要业务流程规则与质量安全管理实例的基础上,重点针对粮食龙头企业在原粮采购、生产加工和产品销售过程中的质量安全问题,充分利用企业质检信息,建立基于粮食产品质量安全技术标准的可追溯系统架构。(3)面向粮食龙头企业,开发粮食产品质量安全可追溯系统。利用Web Services和XML技术,选用Visual Studio 2005+SQL Server 2005为基础开发平台,开发粮食龙头企业可追溯系统,实现基于产品批次编号、原料批次编号、生产班组的多角度质量安全信息可追溯,向企业、监管部门和消费者提供公开准确的粮食产品质量安全信息。在研究过程中,笔者采用了法律体系、供应链管理和HACCP等理论和方法,对粮食龙头企业质量安全可追溯系统的设计和构建进行了综合性研究。通过研究,本论文从理论和实践上证明了在粮食龙头企业目前的管理和技术条件下,可以构建基于产品批次编码的可追溯系统,为农产品全程质量安全可追溯研究提供了方法和技术上的支持。 更多
【英文摘要】Cereal products are the majority of consumable agricultural products in China and play a significant role in diets of ordinary people. Particularly to China, a country which plant food contains key parts, the importance of cereal products becomes indispensable.Taking key cereal enterprise as entering point and choosing wheat (grain) and peanut (oil plant) as targets, this paper mainly focuses on the primary problems in planting, capturing, storage, process and logistics. Starting with analysis on pollution sources and pollution tracks, specific researches are launched on methods of constructing cereal product traceability systems. It is expected that the dissertation would make contribution to improve agricultural product quality safety management in enterprise and in food chain.The major research work and contributions of this dissertation are as follows:(1) Coordinate quality safety laws, regulations and procedures on agricultural product and food, and then build cereal product quality safety legal system. On the analysis of existing laws and regulations of Food Quality Safety, it puts forward "From Farm to Table" Cereal Product Quality Safety Legal System which contains basic parts from production input to end product circulation.(2) Based on cereal product quality safety legal system and combined with enterprise practice, this paper establishes designing rules of building traceability system. On basis of investigation of procurement, production and delivery, it makes fully use of information on the department of quality safety management and consequently build the framework of traceability system.(3) Oriented key cereal enterprises, this paper develops the traceability system. By adopting XML and Web Services and on the development platform constitute of Visual Studio 2005 and SQL Server 2005, it designs and develops traceability system grounded on cereal product batch number. Hence, it could provide comprehensive traceability information from the point of view of customer, surveillance and enterprise itself.Several research methods are utilized in the total process of dissertation, such as legal system, supply chain management and HACCP. Through research and implementation, it is demonstrated that traceability system is practicable and feasible to the key cereal enterprise in terms of its management and technology abilities. It will support the construction Project of Cereal Product Quality Safety Traceability on Whole Course in the future.
【语种】中文
【第一作者】朱海鹏
【通讯作者】朱海鹏
【期刊名称、卷期、页码】中国农业科学院硕士论文 2007
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【题目】Design and implementation of quality traceability label for cereal and oil products based on UCC/EAN-128 Bar Code
【中文关键词】无
【英文关键词】none
【中文摘要】无
【英文摘要】Compared with animal products, fruit &vegetable products and marine products, cereal and oil products have a longer supply chain, involving much more links and even more complicated factors. In order to carry out cereal and oil products quality safety tracking and tracing, provide an easy way for consumer and inspector to get the quality safety information, this paper design the traceability code based on the UCC/EAN-128 encoding rules. The code is made up of commodity identification code, which includes enterprise identification code and commodity item code, and batch code. Generate the tracing number based on the traceability code according to “ Guideline for Numbering of Agriculture Products for Tracing ”, and then print the tracing number on traceability label with the component technology automatically.
【语种】英文
【第一作者】郑火国
【通讯作者】郑火国
【期刊名称、卷期、页码】World Automation Congress (WAC), 2010,pp469-473
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【学科分类】计算机应用

【题目】Change of soil organic matter as affected by household land use based on 3S technology in urban fringes of north China.
【中文关键词】土壤有机质
【英文关键词】3S; household land-use behaviour; SOM; urban fringe
【中文摘要】土壤有机质变化
【英文摘要】Different land-use managements accompany different land-use objectives in the changingphases of household economic development. These management changes lead to a number of changes in soil nutrients such as in soil organic matter (SOM). This article, with support from global positioning system (GPS) and geographic information system (GI S) monitoring, analyses and compares SOM change in an area of urban fringe in north China from 1982 to 2000 and then from 2000 to 2006. SOM increased by 27% (5.43 g kg – 1 – 6.90 g??? kg – 1) duringthe first period but decreased by 7% during the second. In the first period, with the implementation of the “ Household Responsibility System ”, material inputs, especially of fertiliser was very high when the central household objective was to “ have a fullstomach ”. Yields also increased quickly, so there were corresponding increases in the amount of organic materials returned to the fields and SOM also increased during this earlier period. In the second period, household objectives developed making a trade-off between consumption and income above subsistence level. Land-use types evolved from subsistence field cropping to the growing of cash crops. Changing material inputs and managements between the different cropping systems affected soil nutrients such as SOM. SOM decreased in most of the region during this second period. Dynamic monitoring (GPS and GIS) is needed in the regionto conduct scientific research on fertiliser use and management.
【语种】英文
【第一作者】Qin Jing
【通讯作者】Kong Xiangbin
【期刊名称、卷期、页码】New Zealand Journal of Agricultural Research,,2007,50:1093~1102
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【学科分类】土壤学

【题目】Study and development of mobile tracing terminal for agricultural products quality tracking based on GPRS
【中文关键词】无

【英文关键词】cereal and oil products - full supply chain - traceability - tracking - electronic terminal - RFID
【中文摘要】无
【英文摘要】Traceability system has become an important means for food safety management. Global food industry and many countries have paid increasing attention to the construction of food traceability system, but rarely referred to tracing terminal. According to the technical requirements of cereal and oil products quality safety tracing process, we design and develop a mobile tracing terminal based on GPRS for agricultural products quality tracking to facilitate quality supervisors and consumers to track and trace the quality of related agricultural products anytime ,anywhere.
【语种】英文
【第一作者】刘世洪
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【期刊名称、卷期、页码】CCTA 2009,IFIP AICT 293,pp 335-343,2009
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【引文索引号】10.1007/978-1-4419-0209-2_36
【学科分类】计算机应用

【题目】Study on Full Supply Chain Quality and Safetytraceability Systems For Cereal And Oilproducts
【中文关键词】无
【英文关键词】cereal and oil products - full supply chain - traceability - tracking - electronic terminal - RFID
【中文摘要】无
【英文摘要】Food traceability has become an effective way in food safety management. Global food industry and Governments in many countries are putting increasing emphasis on establishment of food traceability systems. Aimed at the major quality problems of cereal and oil product existing in the production, processing, warehousing, distribution and other links in the supply chain, this paper focuses on the framework and implementing scheme for establishing cereal and oil product full-supply-chain quality and safety traceability systems, then briefly introduces our research on this subject.
【语种】英文
【第一作者】刘世洪
【通讯作者】刘世洪
【期刊名称、卷期、页码】CCTA 2009,IFIP AICT 295,pp 2265-2273,2009
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【学科分类】计算机应用

【题目】单片机系统中GB码与Unicode码间相互转换
【中文关键词】GB Unicode I~C总线 对分查表
【英文关键词】none
【中文摘要】介绍了基手EEPROM芯片AT24C512和对分查表法实现GB码与Unicode码间相互转换的硬件连接与编程方法。
【英文摘要】none
【语种】中文
【第一作者】孟泓
【通讯作者】孟泓
【期刊名称、卷期、页码】电脑编程技巧与维护, 2008年 07期 ,pp72-76
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【学科分类】计算机应用

【题目】基于FMECA的粮油产品质量安全追溯链的研究
【中文关键词】粮油产品; 追溯; 质量安全; 元数据; FMECA;
【英文关键词】Grain and Oil Products; Traceability; Quality and Safety; Metadata; FMECA;
【中文摘要】粮油产品是我国主要农产品,其质量安全问题必然是当前政府、社会普遍关注的重点。构建“从农田到餐桌”的食品全程可追溯体系已成为加强食品质量安全监管的重要手段之一,其核心是构建相应的全程追溯链。由于全程追溯链涉及供应链中各类组织和各个生产环节,其复杂性可想而知,因而加强对追溯链的可靠性进行研究具有重要的意义。本文的研究工作主要包含以下三个方面:1.制定了粮油产品追溯链的元数据,包括追溯链控制环节元数据和控制要素元数据,实现对粮油产品追溯链的规范化描述。在分析了粮油产品追溯链控制环节和控制要素共性特点和参考国内外元数据标准的基础上,制定了粮油产品追溯链的控制环节和控制要素元数据,并据此组织了花生油追溯链控制环节和控制要素的数据。2.采用 FMECA 技术研究分析粮油产品追溯链的关键控制点,包括关键控制环节和关键控制要素。以花生油为例,在采用追溯链元数据对追溯链的控制环节和控制要素进行规范化描述的基础上,应用 FMECA 方法,通过分析影响追溯链断裂或追溯信息丢失的故障及其危害度,确定了追溯链的关键控制环节和关键控制要素。3.设计和实现了基于 FMECA 的追溯链的管理系统。利用 ASP.NET 技术,选用 Visual Studio2005+SQL Server 2000 为基础开发平台,开发了基于 FMECA 的追溯链管理系统。该系统具有对追溯链的管理和分析功能,能够实现对追溯链控制环节和控制要素的元数据和具体数据的维护,基于 FMECA 的追溯链分析,确定追溯链的关键控制环节和关键控制要素。本文在研究粮油产品质量安全追溯链的结构特点基础上,利用通用的元数据描述方法制定了追溯链元数据标准(草案),从而实现了对粮油产品追溯链的规范化描述。在此基础上,构建了FMECA 的应用模型,实现对追溯链的可靠性分析,为粮油产品追溯体系的有效实施提供了一个重要的基础前提,对追溯制度和理论的进一步完善将有一定的推动作用。
【英文摘要】Grain and oil products are widely consumed by the Chinese people as major agricultural products.Their quality and safety problems must be the focus of the current government, and the community‘ sattention. Constructing‘ from farmland to dining table’ food system, the core of which is building fulltraceability chain, has become one of the important means to strengthen the monitoring of food qualityand safety. Because the full traceability chain is involved in various organizations and productionprocesses , any lack of coordination of which may leads to fragmentation of traceability chain or loss ofimportant information. As a result, study on the reliability of the traceability grain has becomeindispensable.The major research work and contributions of this dissertation are as follows:(1) Establish a metadata standard to describe the traceability chain of grain and oil products, including control links’ metadata and control elements’ metadata. Based on core data standards of agricultural science and technology information metadata, it establish a metadata standard of control links and control elements’ metadata for grain and oil products’ traceability chain, after studying the traceability chain of grain and oil products. Taking peanut oil as an example, it identified the data of peanut oil’s control links and control elements in traceability chain.(2) FMECA is applied to find key points of grain and oil products’ traceability chain, including keycontrol links and key control elements. Take peanut oil as an example, FMECA is applied to find the key points, according to the criticality of the fault leading to fragmentation of the grain and oil products traceability chain or the loss of important information. Finally, several suggestions are proposed to improve the effectiveness of FMECA’s application in analysis of traceability chain.(3) Design and implement a management system of traceability system based on FMECA. By adopting ASP.NET technology and the development platform constitute of Visual Studio 2005 and SQL Server 2000, it designs and develops a system to maintain the metadata and specific data of grain and oil products, to analysis the traceability chain based on FMECA, in order to find the key control links and control elements.This paper has studied the structural features of traceability chain of grain and oil products, andestablished a metadata to describe it, based on which FMECA is applied to find the key points of the chain. It provides an important prerequisite for the effective implementation of Grain and oil products’ traceability system and play a certain role in raising the level of quality and safety of food.
【语种】中文
【第一作者】李春华
【通讯作者】李春华
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【题目】区域优质小麦生产示范效果分析(I)——陕西省岐山县小麦生产现状调查
【中文关键词】小麦 县域 优质品种 品质性状

【英文关键词】Wheat County region Good quality variety Quality property
【中文摘要】优质小麦生产是一项系统工程,涉及到种子供应、栽培技术、品质检验、收购贮藏、政策支持等。为了解陕西省岐山县小麦生产的状况以及优质小麦品种推广的效果,以岐山县为区域,直接在农户田间抽取收获的小麦样本,现场调查相关生产要素,分析该县的小麦生产现状及存在的问题。结果表明,岐山县属于硬粒、高蛋白质、高筋、强筋小麦产区;田间调查表明,通过优质小麦的推广,主栽品种的比例提高,品种数量减少;稳产、高产、管理简单、便于机械收获、适宜间套的小麦品种深受当地农民欢迎。政府部门应在减少生产品种数量、落实优质优价政策方面做更多的工作。
【英文摘要】Production of good quality wheat is a systematic project involving the seed supplying, cultivation managing, quality testing, purchasing, storage and policy supporting. In this investigation, in order to investigate the present situation of wheat production and the promotion effective of good quality wheat varieties in Qishan county, Shaanxi province, drawing harvesting wheat sample directly from the farming field, the factors related to the production on-site were investigated, and present situation and problem of the local wheat production were analyzed. The results showed that the Qishan county was belong to the region where could produce hard kernel, high protein, and strong gluten wheat product. Field surveys showed that through the extension of good quality wheat variety, the proportion of major varieties increased, and the amount of varieties on the farming field decreased. The wheat variety which was stable and high yield, simple managing, easy for mechanical harvesting and suitable for setting of inter-planting was welcomed by local farmers. Governmental departments should do more works for decreasing the amount of wheat varieties on the farming field, and establishing the policies for good quality with high price.
【语种】中文
【第一作者】魏益民
【通讯作者】魏益民
【期刊名称、卷期、页码】《麦类作物学报》 2009年第29卷第2期 256-260页
【论文发表时间】2009-02-01 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】农学其他学科

【题目】县域优质小麦生产效果分析 II.陕西省岐山县优质小麦示范效果调查
【中文关键词】小麦; 县域; 生产示范; 品质性状;
【英文关键词】Wheat; County region; Production and Demonstration; Quality property;
【中文摘要】为了给优质小麦品种的生产、示范和推广提供依据,以国家审定品种小偃503为材料,以陕西关中平原岐山县10个小麦主产乡镇示范点为基地,研究小偃503的生产优势、籽粒品质变化,分析其示范效果。结果表明,示范田生产的小麦达到了国家优质强筋小麦标准,籽粒品质整体优于农户田间样品和当地商品小麦,且性状相对均匀一致,有利于加工企业加工优质产品;小偃503的品质性状在年度之间和地点之间变异系数较大。这些结果说明,不能忽视优质小麦的生产管理措施;通过优质小麦生产示范,可以大批量生产优质小麦原料。
【英文摘要】Good quality wheat variety is defined by the kernel property which is suitable to make a foodtype, and has high economic and ecological benefits. The production situation and efficiency of good quality wheat varieties are problem that are valuable to trace and study. In this experiment, wheat variety Xiaoyan 503 as good quality variety was studied at 10 demonstration fields with a scale of 100 Mu (1 Mu=1/15 ha) in 10 towns of Qishan county. The kernel productivity potential and kernel quality stability of the wheat variety were studied, and the demonstration efficiency was analyzed. The results showed that the wheat kernel quality produced from the demonstration fields reached national good quality wheat standards. Between years and between towns, there were larger variation coefficients in the quality properties of Xiaoyan 503. Therefore, the production and management measures for good quality wheat could not be ignored. The kernel quality of Xiaoyan 503 harvested in the demonstration fields was relatively uniform, so that processing enterprises could enhance processing efficiency, and ensure product quality. Production demonstration of good quality wheat helps to provide large scale good quality wheat products.
【语种】中文
【第一作者】魏益民
【通讯作者】魏益民
【期刊名称、卷期、页码】麦类作物学报 2009年 02期 261-266
【论文发表时间】2009-02-01 00:00:00
【引文索引类型】其他
【引文索引号】

【学科分类】农学其他学科

【题目】县域优质小麦生产效果分析 III.陕西省岐山县商品小麦质量调查
【中文关键词】商品小麦; 县域; 品质性状;
【英文关键词】Commercial wheat; County region; Quality property;
【中文摘要】为了探明优质小麦在一个县域范围的发展变化情况,以陕西省岐山县优质小麦示范区3年11~12个粮食贮备库商品小麦质量变化为依据,对该县优质小麦生产和示范效果进行了跟踪研究。结果表明,调查年份该县商品小麦品质性状有所改善,表现为蛋白质含量有逐年提高的趋势,粉质参数中的软化度明显降低,面粉质量值有所改进,虽然优质示范田小麦样品品质明显优于商品小麦,但优质小麦示范和推广对商品小麦的质量改进效果迟缓。建议在建设优质小麦基地时,应考虑持续推广一组优质小麦品种;除了改进优质小麦的生产技术外,管理和政策因素的改善也越来越迫切。
【英文摘要】he effectiveness of demonstration and extension for good quality wheat should be measured byhow far to meet the demands on the market and consumption. And the improvement of wheat quality in demonstration region is one of important evaluation properties. This research based on the investigation on the wheat quality analysis of 12, 12, 11 state silos in demonstration region of Qishan county during 3 years. The results showed that the protein content increased year by year during 3 years, and the softening degree of Farinograms reduced significantly, the quality value of flour improved, and the improving effec-tiveness of demonstration and extension of good quality wheat variety on the commercial quality in state si-los was relatively slower. A group of good quality wheat varieties should be considered to extend continu-ally when establishing the demonstration region of good quality wheat. The production of good quality wheat was affected by the factors of management and policy more and more, except the factors of technique.
【语种】中文
【第一作者】魏益民
【通讯作者】魏益民
【期刊名称、卷期、页码】麦类作物学报 2009年 02期 267-271
【论文发表时间】2009-02-01 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】农学其他学科

【题目】番木瓜长尾实蝇在中国的适生性初步研究
【中文关键词】番木瓜长尾实蝇;适生性分析;DYMEX;ArcGIS
【英文关键词】Taxotrypana curvicauda;potential geographical distribution;DYMEX;ArcGIS
【中文摘要】番木瓜长尾实蝇Toxotrypana curvicauda Cerstaecker 是美洲地区严重危害水果生产的重要害虫。本研究采用DYMEX地点比较模型与ArcGIS分析相结合的预测方法对该实蝇在我国的适生性进行初步研究。研究发现番木瓜长尾实蝇在我国南方适生性较高,其中台湾的西南部、广东的南端、比海南的大部分地区、广西、云南、四川的零星地区为高度适生区。建议进一步加强针对番木瓜长尾实蝇的植物检疫措施力度,严防该虫传入我国。
【英文摘要】Papaya fruit fly ,Toxotrypana curvicauda Gerstaecker is one of the important danderous insect pests causing considerable economic losse of fruits in America. The potential geographical distribution of papaya fruit fly in China was predicted in this study using DYMEX and ArcGIS.The results showed that the papaya fruit fly had a wide potential distribution area in south of China,in which southwest of Taiwan,south of Guangdong,vast areas of Hainan,several small parts of Guangxi,Yunnan,Sichuan were predicted with high suitability.According to the potential geographical distribution of papaya fruit fly in China,plant quarantine measures should be en hanced in order to prevent the introduction of this dangerous fruit fly.
【语种】中文
【第一作者】曲伟伟
【通讯作者】李志红
【期刊名称、卷期、页码】中国生物防治, 2009, 25(增2):68-73
【论文发表时间】2009-12-02 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】植物保护学

【题目】Effect of CO2 Elevation on Root Growth and Its Relationship with Indole Acetic Acid and Ethylene in Tomato Seedlings
【中文关键词】CO2 enrichment, hormones, plant growth, root development, root hairs
【英文关键词】CO2 enrichment, hormones, plant growth, root development, root hairs
【中文摘要】A hydroponic experiment was carried out to study the effect of elevated carbon dioxide (CO2) on root growth of tomato seedlings. Compared with the control (350 μL L − 1), CO2 enrichment (800 μL L − 1) significantly increased the dry matter of both shoot and root, the ratio of root to shoot, total root length, root surface area, root diameter, root volume, and root tip numbers, which are important for forming a strong root system. The elevated CO2 treatment alsosignificantly improved root hair development and elongation, thus enhancing nutrient uptake. Increased indole acetic acid concentration in plant tissues and ethylene release in the elevated CO2 treatment might have resulted in root growth enhancement and root hair development and elongation.
【英文摘要】A hydroponic experiment was carried out to study the effect of elevated carbon dioxide (CO2) on root growth of tomato seedlings. Compared with the control (350 μL L − 1), CO2 enrichment (800 μL L − 1) significantly increased the dry matter of both shoot and root, the ratio of root to shoot, total root length, root surface area, root diameter, root volume, and root tip numbers, which are important for forming a strong root system. The elevated CO2 treatment alsosignificantly improved root hair development and elongation, thus enhancing nutrient uptake. Increased indole acetic acid concentration in plant tissues and ethylene release in the elevated CO2 treatment might have resulted in root growth enhancement and root hair development and elongation.
【语种】英文
【第一作者】WANG Yue
【通讯作者】zhang yongsong
【期刊名称、卷期、页码】Pedosphere,19(5):570~576
【论文发表时间】2009-07-01 00:00:00
【引文索引类型】SCI
【引文索引号】ISSN 1002-0160/CN 32-1315/P
【学科分类】农业基础学科

【题目】双钩异翅长蠹在我国潜在的适生性分析.
【中文关键词】双钩异翅长蠹;风险分析;Maxent生态位模型;地理信息系统
【英文关键词】Heterobostrychus aequalis;risk analysis;maxent ecological niche models;geographical information system
【中文摘要】双钩异翅长蠹(Heterobostrychus aequalis)是破坏性最大的一种钻蛀性甲虫之一,该虫食性杂,寄主广,破坏性大,是现代竹、木、藤质装饰的重要害虫。本文选用Maxent生态位模型与地理信息系统相结合,综合分析影响双钩异翅长蠹生长发育的环境因素,结合寄主分布特征,非常直观的定量地获得了双钩异翅长蠹在我国的潜在发生区,计算结果经ROC曲线分析法验证,Maxent生态位模型的AUC值为0.965(非常接近于1),表明预测获得了较好的效果,研究可为双钩异翅长蠹的检疫及防治决策的制定提供科学依据。
【英文摘要】Heterobostrychus aequalis is one kind of wood—boring beetle.It is characterized by omnivorous habit,broad host range and severe destruction.At present,it is one kind of important pest of modem bamboo-wood and vine furniture.Ecological environment factors affecting its growth and development and the spatial distribution characteristicsof plant autoeciousness of Heterobostrychus aequalis were comprehensively analyzed by combining Maxent ecological niche models with geographical information system technique in this paper.The relatively exactly potential distribution region of Heterobostrychus aequalis in the whole China was obtained quantitatively and intuitively.The checked result conducted by ROC curve analysis method showed that the AUC value of Maxent ecological niche models reached 0.965(very close to 1),indicating that the predicted results was fairly wel1.This study would provide scientific proofs for making the policies on the quarantine,the prevention and the control of Heterobostrychus aequalis.
【语种】中文
【第一作者】刘洪霞
【通讯作者】冯益明
【期刊名称、卷期、页码】青岛农业大学学报(自然科学版) 2009,26(1):24-28
【论文发表时间】2009-02-02 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】植物保护学

【题目】Genetic diversity of Ralstonia solanacearum strains
【中文关键词】无
【英文关键词】Genetic diversity . Phylogeny. Phylotype .Ralstonia solanacearum . Sequevar
【中文摘要】无
【英文摘要】A survey of bacterial wilt in China collected 286 strains of Ralstonia solanacearum from 17 plant species in 13 Chinese provinces to investigate genetic diversity using the biovar (bv.) and phylotype classification schemes. A phylotype-specific multiplex-PCR showed that 198 isolates belonged to phylotype I (bv. 3, 4 and 5) and 68 to phylotype II (bv. 2 and bv. 1). A phylogenetic analysis examined the partial sequence of the egl and hrpB gene of all strains and the genetic diversity of 95 representatives was reported, demonstrating that Chinese strains are partitioned into phylotype I (Asia) and II (Americas). Phylotype I strains (historically typed bv. 3, 4 and 5), had considerable phylogenetic diversity, including 10different sequevars: seven previously described.
【语种】英文
【第一作者】J. Xu
【通讯作者】J. Feng
【期刊名称、卷期、页码】Acta Ecological Sinica 2008,28(7):3193-3204
【论文发表时间】2008-09-02 00:00:00
【引文索引类型】SCI
【引文索引号】10.1007/s10658-009-9512-5
【学科分类】植物保护学

【题目】人工染色体载体的研究和应用
【中文关键词】无
【英文关键词】no
【中文摘要】无
【英文摘要】no abstract
【语种】中文
【第一作者】潘春留
【通讯作者】关伟军
【期刊名称、卷期、页码】中国现代医药杂志,2008,10(10):120-123
【论文发表时间】2008-10-30 00:00:00
【引文索引类型】其他
【引文索引号】无
【学科分类】畜牧、兽医科学基础学科

【题目】动物转基因技术的发展及应用
【中文关键词】转基因技术;外源基因;核移植
【英文关键词】无
【中文摘要】综述了动物转基因技术的发展及应用情况,并对目前常用的动物转基因技术及其优缺点做了较系统的概述,指出了该技术目前存在的问题,并对其发展前景进行了展望。
【英文摘要】NO abstract
【语种】中文
【第一作者】余露露
【通讯作者】关伟军
【期刊名称、卷期、页码】安徽农业科学,2009 ,37(5) :1932 - 1933 ,1938
【论文发表时间】2009-05-15 00:00:00
【引文索引类型】其他
【引文索引号】无
【学科分类】畜牧、兽医科学基础学科

【题目】基因打靶技术研究及其应用
【中文关键词】无
【英文关键词】无
【中文摘要】无
【英文摘要】NO abstract
【语种】中文
【第一作者】王会
【通讯作者】关伟军
【期刊名称、卷期、页码】中国现代医药杂志2009 ,11 (3):131-134
【论文发表时间】2009-03-20 00:00:00
【引文索引类型】其他
【引文索引号】无
【学科分类】畜牧、兽医科学基础学科

【题目】骨骼肌卫星细胞生物学特性及临床应用前景
【中文关键词】骨骼肌卫星、细胞生物学特性、临床应用
【英文关键词】Satellite cells Biological characteristics Clinical app lication
【中文摘要】骨骼肌卫星细胞是位于肌细胞膜和基膜之间的具有增殖和分化潜力的生肌干细胞,对于出生后骨骼肌的生长、再生修复和维持具有重要的意义。主要对卫星细胞的含量与分布、细胞标志、可塑性和不均一性等生物学特性做了综述,最后展望了卫星细胞移植在临床上的应用前景。
【英文摘要】Satellite cells are myogenic stem cells which lie in the p lasmalemal of the muscle fiber. The basement membrane sur2rounding the fiber are responsible for the post2natal growth repair and maintenance of skeletalmuscle. In this article, current knowledgeof the cellular andmolecular biology of satellite cells, such as Content and distribution,molecularmakers, p lasticity, nohomogeneityweremainly reviewed. Finally, the perspectire of therapy of satellite cell transp lantation was in p rospect.
【语种】中文
【第一作者】李方华
【通讯作者】关伟军
【期刊名称、卷期、页码】生物技术通报,2009(10):45-48,59
【论文发表时间】2009-10-05 00:00:00
【引文索引类型】其他
【引文索引号】无
【学科分类】畜牧、兽医科学基础学科

【题目】大蒜素诱导肿瘤细胞凋亡研究进展
【中文关键词】大蒜素;肿瘤细胞;凋亡;作用机制
【英文关键词】allicin ; t umor cell ;apoptosis ; mechanism
【中文摘要】近年来许多体外研究表明大蒜素能够诱导包括白血病、肝癌、卵巢癌、胃癌等多种肿瘤细胞的凋亡,并取得了很好的效果,其诱导肿瘤细胞凋亡的途径可能是通过影响细胞生长周期、相关凋亡基因、caspase 蛋白表达、细胞端粒酶活性等方式来实现的。大蒜素作为大蒜的主要活性成分,其抗癌效果备受人们的关注。大蒜素诱导肿瘤细胞凋亡是一个比较复杂的生物学过程,论文对大蒜等诱导肿瘤细胞凋亡的作用机制进行了综述。
【英文摘要】In recent year s , many st udies in vi t ro showed t hat allicin could induce apoptosis in various t umorcell s , such as t hose of leukemia ,liver cancer , ovarian cancer , gast ric cancer and so on , and achieved goodresult s , Mechanisms t hat allicin induce t umor cell apoptosis are probably executed by cell cycle arrest ,expression of apoptosis2related genes , activation of caspases , telomerase activity , etc. Allicin ,t he main ac2tive ingredient of garlic , has many advantages , including source variety , less expenditure , negligible sideeffect and so on , Nowadays it s anti2cancer activities are highly valued by people ,alt hough t he allicin2in2duced t umor cell apoptosis is a fairly complicated biological process. Garlic allicin and ot her Chinese t radi2tional medicines are used to cure cancer in t he background when bio2medical technology is highly developedtoday. It would not only serve a new means for cancer recovery , but al so provide a new direction for t hedevelopment of t raditional Chinese medicines. At t he same time , it would al so lay t he foundation for t heChinese t raditional medicines to spread worldwide , Therefore , researches on allicin2induced apoptosis oft umor cell s are of great significance.

【语种】中文
【第一作者】王广彬
【通讯作者】关伟军
【期刊名称、卷期、页码】动物医学进展,2010 ,31 (1) :73276
【论文发表时间】2010-01-23 00:00:00
【引文索引类型】其他
【引文索引号】无
【学科分类】畜牧、兽医科学基础学科

【题目】药物诱导乳腺癌细胞凋亡作用机理的研究
【中文关键词】药物;乳腺癌;细胞凋
【英文关键词】drugs; breast cancer; apoptosis
【中文摘要】乳腺癌是女性常见的恶性肿瘤,乳腺癌的诊断、治疗及预后与其细胞凋亡密切相关。本文对国内外有关药物诱导乳腺癌细胞凋亡的作用机制如药物对细胞周期、线粒体膜电位、细胞内钙离子浓度及caspase 家族的影响等内容进行概述,试图为抗乳腺癌新药物的研发找到新的途径。
【英文摘要】Breast cancer is a common malignant tumor in women. Apoptosis is related to the response and resistance to treatmentin breast cancer. This paper further summarize the research progress on the mechanisms of drug-induced apoptosis in breast cancer cells,effects of cell cycle, mitochondrial membrane potential, intracellular calcium concentration and caspase families, and attempts to findnew strategies for anticancer efficacy of new drug.
【语种】中文
【第一作者】赵瑞杰
【通讯作者】关伟军
【期刊名称、卷期、页码】现代生物医学进展:2009,9(14):2789-2790,2797
【论文发表时间】2010-09-05 00:00:00
【引文索引类型】其他
【引文索引号】无
【学科分类】畜牧、兽医科学基础学科

【题目】基因打靶技术在乳腺生物反应器中的应用
【中文关键词】基因打靶 乳腺 生物反应器 打靶策略 打靶位点
【英文关键词】Gene targeting Mammary gland Bioreactor Targeting strategy Target site
【中文摘要】利用转基因动物的乳腺生产人类重组蛋白,可以获得安全而有效的药用蛋白。目前采用的转基因技术由于其固有的局限性,未能使乳腺生物反应器的研究取得长足的进步。基因打靶克服了随机整合的盲目性和危险性,是一种理想的修饰、改造生物遗传物质的方法。简述了制备乳腺生物反应器过程中靶细胞、基因打靶的策略、打靶位点及问题,并对其发展方向进行了小结及展望。
【英文摘要】The p roduction of human recombinant p roteins in milk of transgenic animals offers a safe and cost2effective source ofcommercially p roteins that cannot be p roduced as efficiently in adequate quantities by othermethods1 But the current transgenic tech2nologies have its limitation, thus, resulted in p reventing the development ofmammary gland bioreactor1 Gene targeting as an idealmeth2od ofmodifying and modifying organisms genetic material, could overcome the risk and the blindness of the random integration1The ar2ticle reviewed the selection of gene targeting cells, targeting strategies, targeting gene locus, aswell as p roblems and p rospects of develo2p ingmammary gland bioreactor of transgenic animals1
【语种】中文
【第一作者】朱超
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【题目】内皮祖细胞的分离培养与鉴定
【中文关键词】内皮祖细胞分离鉴定
【英文关键词】Endothelial progenitor cells Isolation Identification
【中文摘要】内皮祖细胞的分离方法有免疫磁珠分离法、淋巴细胞分离液分离法(1. 077)和差速贴壁法,这3种方法已被人们广泛使用,均可分离到一定的目的细胞。分离到的目的细胞在培养过程中逐渐分化、成熟、发育为内皮细胞。在内皮细胞和内皮祖细胞的鉴别区分,使用CD34 + /CD133 + /KDR +鉴定为内皮祖细胞,同时使用内皮祖细胞吞噬Dil2ac2LDLF ITC2UEA双阳性的方法也可鉴定为内皮祖细胞。
【英文摘要】There are three isolation methods of endothelial p rogenitor cells, including immunomagnetic beads, lymphocyte separa2tingmedium (1. 077) and differential adhesion,which has been widely used and could isolate a certain number of the desired cells.These cells gradually differentiate,mature, and develope into endothelial cells in culture p rocess. In identification, cells with CD34 + /CD133 + /KDR + are identified as endothelial p rogenitor cells, and at the same time, the double positive phagocytosis assay ofDil2ac2LD2LF ITC2UEA also help to identify endothelial p rogenitor cells.
【语种】中文
【第一作者】白春雨
【通讯作者】关伟军
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【学科分类】畜牧、兽医科学基础学科

【题目】山西晋南黄牛的超数排卵配种研究
【中文关键词】黄牛; 超数排卵; 冲胚; 促黄体素释放激素A3
【英文关键词】Huangniu; superovulation; collect the embryo; luteinizing hormone releasing hormone A3 for injection
【中文摘要】试验采用两种不同来源的促卵泡素对山西晋南黄牛进行了超排处理, 并对发情配种过程中注射促黄体素释放激素A3 的超排效果进行了观察。结果表明, 超排处理时使用国产的促卵泡素平均每头可用胚胎达3.9 枚, 平均可用胚胎率为51.5%, 与新西兰产的促卵泡素平均每头可用胚率23.1%比较, 差异显著(P<0.05) 。在配种的同时注射促黄体素释放激素A3 后冲胚, 对照组获取的平均可用胚胎(34.1%) 较试验组(75.8%) 的差异显著(P<0.05) , 说明超数排卵过程中使用国产激素也能获得较好的效果, 同时在超排过程中使用促黄体素释放激素A3, 可以获得更加理想的效果。
【英文摘要】Superovulation was very important for embryo transplantation, which was affected by many factors, types andquality of hormone, reaction of hormone on individual (sensitivity) were key factors for Superovulation. Shanxi JinnanHuangniu was treated with two follicle stimulating hormone. The effect of Luteinizing hormone releasing hormone A3 for injectionwas observed in the experiment of estrus and mating. The result showed that average 3.9 embryos were got by usingdomestic FSH during superovulation experiment, the average percentage of available embryo was 51.5%, there was significantdifference (P<0.05) between the domestic group and Newzealand group (23.1%) . Domesetic FSH was better than FSH ofNewzealand. Luteinizing hormone releasing hormone A3 for injection was used to collect embryo during the mating experiment,there was significant difference (P<0.05) between experimental group (75.8%) and control group (34.1%) on averageavailable embryo. The result showed that using domesetic hormone and Luteinizing hormone releasing hormone A3 for injectionin the superovulation could gain better effects.
【语种】中文
【第一作者】乔利敏
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【题目】亮甲酚蓝染色对牛未成熟卵母细胞体外成熟与体外受精的影响

【中文关键词】牛;卵母细胞;体外受精;亮甲酚蓝
【英文关键词】Cow;oocytes ; IVF;brilliant cresyl blue
【中文摘要】为研究亮甲酚蓝(BCB) 染色对牛未成熟卵母细胞体外成熟与体外受精(IVM2IVF) 的影响,在牛卵母细胞成熟培养前用亮甲酚蓝进行染色选择,通过IVF 检测选择效果。本试验以未进行染色处理的牛卵丘2卵母细胞复合体(COCs) 作为对照组,在成熟培养前用26 μ mol/ L 亮甲酚蓝染色90 min 作为处理组,将处理组依照胞质的颜色分为蓝色组(BCB +) 和无色组(BCB -) 。成熟培养后进行体外受精,授精后48 h 统计卵裂率,7~8 d 后检查囊胚率。结果表明: (1) 染色后着色的卵母细胞成熟率(80. 83 %) 与对照组(60. 20 %) 和无色组(51.92 %) 差异显著(P < 0. 05) ; (2) IVF 后蓝色组囊胚率(32. 99 %) 较对照组(17. 64 %) 和无色组(3. 57 %) 差异显著(P < 0. 05) 。由此可见,亮甲酚蓝对牛卵母细胞染色的选择被证明可以作为判断卵母细胞质量的一个标记。
【英文摘要】The aim of this investigation was to study the effect of brilliant cresyl blue (BCB) staining on IVM2IVF in cow.For this purpose ,oocytes were stained by BCB and selected by IVF examination before mature culture. COCs without BCBstaining was considered as control group , and COCs stained with BCB in 26 μ mol/ L for 90 min as treatment group beforemature culture. Treated oocytes were divided into BCB - (colourless cytoplasm) and BCB + (coloured cytoplasm) . AfterIVM, oocytes were fertilized in vitro (IVF) . The cleavage rate of eggs at 48 h and the proportion of blastocysts at 8 d afterIVF were compared. The results showed that : (1) The BCB + oocytes had a significantly higher proportion of mature rate(80. 83 %) than control group and BCB2 oocytes (60. 20 % and 51. 92 %) (P < 0. 05) ; (2) The BCB + oocytes had a sig2nificantly higher proportion of blastocysts (32. 99 %) than control group and BCB2 oocytes (17. 64 % and 3. 57 %) (P <0. 05) . These results showed that the staining of bovine cumulus2oocyte complexes with BCB before IVM could be a usefulmethod for determining the oocyte quality.
【语种】中文
【第一作者】乔利敏
【通讯作者】关伟军
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【题目】亮甲酚蓝染色对牛卵母细胞体外成熟的影响
【中文关键词】牛;卵母细胞;体外成熟;亮甲酚蓝染色;浓度;葡萄糖262磷酸脱氢酶
【英文关键词】cow ;oocytes ; IVM;brilliant cresyl blue ;concent ration ; G6PDH
【中文摘要】为了探讨不同浓度亮甲酚蓝对牛卵母细胞染色选择后对其体外成熟(IVM) 的影响,本研究在牛卵母细胞成熟培养前直接用不同浓度梯度的亮甲酚蓝进行不同时间的染色。结果表明: ①经过不同浓度的亮甲酚蓝染色后,所选择卵母细胞染色后着色的百分率及其成熟率是不同的。用26 、39 、52 μ mol/ L 的亮甲酚蓝染色后所得到的胞质蓝色组(27. 7 %、27. 6 %、31. 9 %) 较13 μ mol/ L 的亮甲酚蓝染色后所得到的胞质蓝色组(2. 1 %) 差异显著(P < 0. 05) ; ②经过不同浓度的亮甲酚蓝染色后,胞质蓝色组(77. 4 %) 较胞质无色组(51. 3 %) 和对照组(60. 2 %) 成熟率差异显著(P < 0. 05) ; ③不同浓度亮甲酚蓝染色的胞质蓝色组间成熟率差异不显著(P > 0. 05) ; ④不同浓度亮甲酚蓝染色组与对照组卵母细胞的成熟率差异不显著(P > 0. 05) ;⑤经过不同时间的亮甲酚蓝染色后,所选择卵母细胞着色的百分率是不同的。用26 μ mol/ L 的亮甲酚蓝染色90 min 后所得到的胞质蓝色组(75 %) 较亮甲酚蓝染色60 、30 min 后所得到的胞质蓝色组(57. 14 % ,40 %) 差异显著(P < 0. 05) 。以亮甲酚蓝染色为基础的牛卵丘2卵母细胞复合体的区分可以用来有效的选择更具发育活力的牛卵母细胞。
【英文摘要】The aim of the present investigation was to study the effect of IVM of cow with different concent ration brilliantcresyl blue (BCB) staining on the oocytes selection. For this purpose , Compact cumulus oocyte complexes (COCs) were recov2ered f rom slaughterhouse2collected bovine ovaries and classified as cont rol group , which were cultured immediately without ex2posure to BCB stain ;t reatment group were stained with different concent rations BCB(13 ,26 ,39 and 52 μ mol/ L BCB) for differ2ent time before culture. Treated oocytes were then classified according to their cytoplasm coloration : oocytes with a blue cyto2plasm or grown oocytes (BCB +) and oocytes without a blue cytoplasm or growing oocytes (BCB -) . Oocytes were stained withdifferent concent ration BCB for different time before culture in this study. The result showed that : ①The percentage of Colour2ing and mature for selected oocytes was different by t reated with different concent rations BCB. The percentages of BCB + oo2cytes obtained after staining with 26 μ mol/ L (27. 7 %) ,39 μ mol/ L (27. 6 %) and 52 μ mol/ L BCB (31. 9 %) were higher (P <0. 05) than those obtained with 13 μ mol/ L (2. 1 %) ; ②BCB + oocytes exhibited a higher (P < 0. 05) maturation rate (meanrate :77. 4 %;n = 62) than BCB2(51. 3 %;n = 236) and cont rol oocytes (60. 2 %;n = 98) ; ③There were no significant differencesin the percentages of BCB + oocytes reaching the MII stage among BCB concent rations ; ④There were no significant differencesin nuclear maturation between cont rol and BCB2 exposed oocytes (BCB

+ plus BCB -) ,independent of the BCB concent ration ;⑤Af ter exposure different time BCB , the result showed that the percentage of BCB + oocytes were different . The percentagesof BCB + oocytes obtained af ter staining with 26 μ mol/ L BCB for 90 min (75 %) were a higher (P < 0. 05) than those oocytes ob2tained af ter staining with 26 μ mol/ L BCB for 60 min (57. 14 %) and 30 min (40 %) . These result s show that the staining of cowcumulus2oocyte complexes with BCB before in vit ro maturation could be used to select developmentally competent oocytes.

【语种】中文
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【学科分类】畜牧、兽医科学基础学科

【题目】卵母细胞体外成熟的影响因素
【中文关键词】卵母细胞;体外成熟;影响因素
【英文关键词】无
【中文摘要】随着哺乳动物体外受精、细胞核移植技术的不断深入,人们对成熟卵母细胞以及哺乳动物胚胎需求量日益增加,卵巢内丰富的卵泡资源是胚胎工程迅速发展的基础。本文从卵巢因素、供体、体外培养条件和成熟培养液中添加成分等对卵母细胞IVM 的影响进行了分析,为胚胎的体外生产提供理论基础和科研依据。
【英文摘要】NO
【语种】中文
【第一作者】乔利敏
【通讯作者】关伟军
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【题目】牛超数排卵影响因素分析
【中文关键词】牛超数排卵;影响因素;科学体系
【英文关键词】无
【中文摘要】高效、稳定的超数排卵方法是获得充足卵源,充分发挥胚胎移植实际应用效果,扩大优良母畜繁殖速度的技术支撑和保障。长期以来,对于牛超数排卵影响因素的研究一直是生殖生物学家关注的热门课题之一,因此本文在查阅大量相关文献资料、总结实验经验和综合分析的基础上,紧密结合胚胎工程研究与应用过程中的实际需要,就环境条件、个体情况和超排处理方法对超排效果的影响因素等关键技术环节进行了概括性的论述,为建立牛超数排卵的科学体系奠定基础。
【英文摘要】无
【语种】中文
【第一作者】乔利敏
【通讯作者】关伟军
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【题目】三种瓜类作物SSR扩增的通用性与多态性分析

【中文关键词】瓜类作物;SSR;通用性;多态性
【英文关键词】Cucurbitaceae;SSR;Transferability;Polymorphism
【中文摘要】利用940对SSR引物,对甜瓜、黄瓜和西瓜三套重组自交系群体的作图亲本DNA进行PCR扩增,分析SSR 引物在不同瓜类作物间的通用性与多态性。结果表明,上述SSR引物在甜瓜、黄瓜和西瓜等不同瓜类作物间具有一定的通用性,最小通用率超过24%,说明不同瓜类作物基因组间存在一定的相似性。但瓜类SSR引物的种属特异性很强,能够检测的多态率很低,三套作图亲本之间能够共用的多态性SSR引物比例甚至不足l%。
【英文摘要】In this study,by PCR amplification with the genomic DNA of three mapping parents,940 SSRs primers were tested for analysis their versatility and polymorphism in melon,cueumber and watermelon.The results indicated that these SSR primers had some versatility in the above crops.The minimum SSR transferability was higher than 24%.showing some similarity in the genome of these crops.But these SSR primers also had strongly genus specialty,their polymorphism level was very low.the ratio of common polymorphism SSR primers among these crops was lower than 1%.
【语种】中文
【第一作者】李楠
【通讯作者】张海英
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【学科分类】园艺学

【题目】与黄瓜白粉病抗病基因紧密连锁的SSR分子标记研究
【中文关键词】黄瓜;白粉病;SSR
【英文关键词】Cucumis sativus; Powdery mildew;SSR
【中文摘要】黄瓜白粉病是影响黄瓜生产的主要病害,为建立黄瓜抗白粉病分子标记辅助选择体系,我们以黄瓜抗白粉病亲本WIS2757和感白粉病亲本19032以及它们的F2群体为试材,采用SSR分析技术,对相对抗性基因的连锁分子标记进行了研究。获得了2个与黄瓜白粉病主效抗病基因连锁的SSR分子标记SSR97-200,SSR273-300,连锁距离分别为5.13cM,这些SSR标记可以作为黄瓜抗白粉病辅助选择的分子标记。
【英文摘要】Powdery mildew was one of the major diseases in Cucumis sativus L. production. In order to establish its molecular marker-assisted selection system, we aimed to identify molecular markers linked to the resistant gene. With a F2 population between a resistant parent(WIS2757) and susceptible parent(19032), we found two co-dominant SSR markers SSR97-200 and SSR273-300 were linked to the powdery mildew resistant gene, the genetic distances was 5,13cM respectively. These SSR markers could be useful in marker-assisted selection in cucumber breeding.
【语种】中文
【第一作者】张海英
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【题目】黄瓜抗病毒性状的序列特征性扩增区域标记
【中文关键词】黄瓜;西瓜花叶病毒(WMV);抗性基因;AFLP;SCAR
【英文关键词】cucumber;Watermelon mosaic virus(WMV);resistant gene;AFLP;SCAR
【中文摘要】以抗西瓜花叶病毒(Watermelon mosaic virus,WMV)的黄瓜(Cucumis sativus)品种秋棚和感该病毒的欧洲八号为亲本,构建了120个F6重组自交系群体。根据苗期抗病接种鉴定结果进行遗传分析,发现黄瓜抗WMV的基因是由隐形单基因控制。利用集团分离分析法和相关分子标记技术,获得的特异片段E-ACT/M-CTT-427与WMV的抗性基因连锁,连锁距离为8cM,双亲差异片段测序结果显示感病亲本目标片段存在6个T碱基的缺失。根据测序结果设计了1对与目的基因遗传距离为8cM的序列特征性扩增区域(SCAR)引物,该引物可用于黄瓜抗WMV病毒的分子标记辅助育种。

【英文摘要】Markers linked to Watermelon mosaic virus (WMV)resistant gene in cucumber (Cucumis sativus)were identified using 120 recombinant inbreed lines(RIL6)made between a resistant and susceptible parent(Qiupeng x No.8 European). Genetic analysis based on virus inoculation at the seedling stage showed that the resistant trait in Qiupeng was controlled by a single recessive locus.The AFLP marker E-ACT/M-CTT427 was linked to the resistant gene with a genetic distance of 8 cM.The polymorphism came from a 6 bp deletion of poly(T)repeat in the susceptible parent.And this AFLP marker was conveged into a co-dominant sequence-characterized amplified region(SCAR)marker which could be useful in marker—assisted breeding for WMV resistance.
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【学科分类】园艺学

【题目】Identification of SCAR markers linked to or, a gene inducing beta-carotene accumulation in Chinese cabbage
【中文关键词】无
【英文关键词】Chinese cabbage (Brassica rapa L. ssp.
pekinensis) · Orange head leaf gene (or) · SCAR
markers · Gene mapping · Marker-assisted selection
【中文摘要】无
【英文摘要】Identification of SCAR markers linked to or, a gene inducing beta-carotene accumulation in Chinese cabbage | Chinese cabbage (Brassica rapa L. ssp pekinensis); orange head leaf gene (or); SCAR markers; gene mapping; marker-assisted selection | The or mutation in Chinese cabbage (Brassica rapa L. ssp. pekinensis) is a recessive, single-locus mutation that causes the head leaves of the plant to accumulate carotenoids and turn orange. In China, considerable attention has been focused in recent years on breeding the variety with orange head leaves. In this study, sequence-characterized amplified region (SCAR) markers linked to the or gene were identified based on random amplified polymorphic DNA (RAPD) and amplified fragment length polymorphism (AFLP) by performing a bulked segregant analysis (BSA) using a doubled haploid (DH) population derived from the F-1 cross between 91-112 (white head leaves) and T12-19 (orange head leaves) via microspore culture. Two RAPD markers-OPB01-845 and OPAX18-656-and 1 AFLP marker, namely, P67M54-172, were identified to be linked to the or gene, and they were successfully converted into the SCAR markers SCR-845, SCOR204, and SCOR127, respectively. In a linkage analysis, these 3 SCAR markers and 2 previously published simple sequence repeat markers, namely, BRMS-51 and Ni4D09 (located on R9 linkage group), were mapped to the same linkage group with the or gene at a LOD score of 6.0, indicating that the or gene should be located on the linkage group R9 of the A genome. In addition, accuracies of 92%, 90%, and 89.1% were obtained when 110 different inbred breeding lines of Chinese cabbage were used for investigation with these 3 SCAR markers, indicating that these makers could be used in marker-assisted selection in orange head leaf breeding programs for Chinese cabbage.
【语种】英文
【第一作者】张凤兰
【通讯作者】张凤兰
【期刊名称、卷期、页码】EUPHYTICA 2008; 164 (2): 463
【论文发表时间】2008-06-05 00:00:00
【引文索引类型】SCI
【引文索引号】DOI: 10.1007/s10681-008-9721-6
【学科分类】园艺学

【题目】不结球白菜PR4蛋白基因的克隆与诱导表达分析
【中文关键词】不结球白菜;PR4;实时定量PCR(qPCR);系统获得抗性(SAR);RACE
【英文关键词】non-heading Chinese cabbage (Brassica campestrisssp.chinensis);
PR4;real-time quantitative PCR (qPCR);
systemic acquired resistance (SAR);RACE

【中文摘要】本研究克隆了不结球白菜PR4蛋白基因全长序列,对其分子特性进行研究,结合本实验室前期研究(PRs基因与植物抗性的相互关系),有助于了解信号传导物质(SA)在诱导系统获得抗性(SAR)提高植物体在霜霉病抗性反应中的作用,促进不结球白菜抗真菌病害基因工程发展。

【英文摘要】A SA and pathogen induced cDNA clone inBrassica campestrisssp.chinensiscv.Suzhouqing wasisolated and characterized.The gene was designated asBcPR4(DDBJ accession number AB325873),whichcontains 593 bp nucleotide and encodes 140 amino acids.BcPR4 shows high similarity withPR4 gene fromother plants.Phylogenetic analysis revealed the evolutionary conservation of these proteins among diversespecies.Genomic DNA gel blot showed thatBcPR4 belong to a multigene family.Real-time quantitativePCR (qPCR) analysis revealed thatBcPR4 transcript was increased after inoculated with SA andPeronos-pora parasitica.Expression characterization ofBcPR4 in non-heading Chinese cabbage leaves indicated thatit might be involved in host resistance against pathogens.

【语种】中文

【第一作者】陈晓峰

【通讯作者】侯喜林

【期刊名称、卷期、页码】西北植物学报,2008,28(1):0001~0006

【论文发表时间】2008-01-16 00:00:00

【引文索引类型】其他

【引文索引号】

【学科分类】园艺学

【题目】Molecular characterization of two important antifungal proteins isolated by downy mildew infection in non- heading Chinese cabbage

【中文关键词】无

【英文关键词】Downy mildew

Non-heading Chinese cabbage (Brassica rapa ssp. chinensis L.)

Plant chitinase Plant defensin Real-time quantitative PCR

Systemic acquired resistance

【中文摘要】无

【英文摘要】Two cDNA clones for a pathogen inducedgenes in non-heading Chinese cabbage (Brassica rapa ssp.chinensis L. cv. Suzhouqing) were isolated and character-ized. The two full-length cDNA clones, designated Bcchiand BcAF were isolated during the resistance response toPeronospora parasitica. Sequence analysis of corre-sponding cDNA clones con fi rmed the translation productsof both genes showed high degree of homology to otherplant chitinases and plant defensins, respectively. GenomicDNA Southern blot analysis indicated that each gene rep-resented a small multi-gene family. Upon inoculation withP. parasitica, both genes transcripts were rapid accumu-lated in the infected leaves. Tissue-speci fi c expression ofboth genes showed that 24 h post-inoculation the highestexpression tissue of Bcchi mRNA was leaves, and 12 hpost-inoculation the highest expression tissue of BcAFmRNA was leaves. These data revealed that both genesmay be involved in plant resistance against fungal patho-gen infection.

【语种】英文

【第一作者】Xiaofeng Chen

【通讯作者】侯喜林

【期刊名称、卷期、页码】Molecular Biology Reports,2008, 35:621~629

【论文发表时间】2007-08-31 00:00:00

【引文索引类型】SCI

【引文索引号】10.1007/s11033-007-9132-0

【学科分类】园艺学

【题目】不结球白菜游离小孢子培养及再生植株的倍性鉴定

【中文关键词】不结球白菜;小孢子培养;再生植株;倍性鉴定

【英文关键词】Brassica campestrisssp · chinensis;

microspore culture; regenerated plants; ploidy identification

【中文摘要】本研究以10份不结球白菜品种为材料,在前人研究基础上,对在不同开花时期取样和不同质量浓度琼脂上培养的小孢子胚再生进行研究,获得了大量子叶形胚状体和再生植株,并分析其倍性组成,为不结球白菜小孢子培养及其应用

提供依据。
【英文摘要】Several factors affecting isolated microspore culture of non-heading Chinese cabbage were studied. The results showedthat the genotypewas themost important factor on the inducing rate ofmicrospore-derived embryos, and no significant differencewas observed between reciprocal cross. The best inflorescence age of the donorplantswas 6-10 d afterbloom. Higher agar concen-tration from 8 g · L-1to 12 g · L-1could significantly promote the regeneration of embryos. Based on the flow cytometry andidentification of themorphological characteristics, a high levelof the spontaneous doubling efficiency from microspore-derived plantswas observed in non-heading Chinese cabbage, even to 90%, and therewere obvious differences between genotypes.
【语种】中文
【第一作者】成妍
【通讯作者】侯喜林
【期刊名称、卷期、页码】南京农业大学学报,2009,32(2):25~29
【论文发表时间】2009-02-10 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】园艺学

【题目】不结球白菜BcDF1.2基因克隆与诱导表达
【中文关键词】不结球白菜;植物防卫素;实时定量PCR;系统获得抗性(SAR);RACE
【英文关键词】Brassica campestrisssp.chinensis;
plant defensin;real-time quantitative PCR;
systemic acquired resistance (SAR);RACE
【中文摘要】本研究中采用RACE技术获得了完整的不结球白菜防卫素基因,并对防卫素基因受病原菌和重要的抗病信号转导物质诱导的转录表达特点进行分析,结合前期研究(PR蛋白基因与植物抗性的相互关系),有助于了解真菌病害和寄主抗性(主要是诱导系统获得抗性)之间的相互作用,对不结球白菜抗真菌病害基因工程发展有重要的意义.
【英文摘要】Using RACE technology,a plant denfensin gene was cloned fromBrassicacampestrisssp.chinen-sisgenomic DNA.The plant denfensin gene,designatedBcDF1.2,contains 532 bp nucleotides with a 96 bpintron sequence (DDBJ accession No.AB302891).BcDF1.2 encodes a polypeptide of 79 amino acids,andshowed high degree of homology to other plant defensin genes and antifungal proteins.Phylogenetic analy-sis revealed the evolutionary conservation of this protein among different plants.Genomic DNA gel blotshowed thatBcDF1.2 belongs to a small multigene family.Upon inoculated with salicylic acid (SA) andP.parasitica,BcDF1.2 mRNA transcript was increased not only in infected leaves but also in uninfectedsystemic leaves. Expression characterization ofBcDF1. 2 inBrassica campestrisssp.chinensisleavesshowed it might be involved in host resistance against downy mildew (DM).
【语种】中文
【第一作者】陈晓峰
【通讯作者】侯喜林
【期刊名称、卷期、页码】西北植物学报,2009,29(6):1073~1078
【论文发表时间】2009-06-25 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】园艺学

【题目】不结球白菜感染芜菁花叶病毒后4种防御酶活性变化及其抗病相关性
【中文关键词】不结球白菜;芜菁花叶病毒;超氧化物歧化酶;过氧化氢酶;苯丙氨酸解氨酶;多酚氧化酶
【英文关键词】non-heading Chinese cabbage;Turnipmosaic virus(TuMV); SOD; CAT; PAL; PPO
【中文摘要】经TuMV抗源鉴定与筛选试验,不结球白菜的不同品种对TuMV的抗性存在着明显差异,本试验采用苗期接种的方法研究了不结球白菜不同抗性品种感染TuMV后SOD、CAT、PAL、PPO在20 d内的动态变化,为探索不结球白菜抗TuMV机制和抗病育种提供理论依据。
【英文摘要】Four inbred lines of different resistance toTurnip mosaic virus(TuMV) of non-heading Chinese cabbage (Brassicacampestrisssp · chinensisMakino) 003-R-5, Y3-R-2, 109-S-8 and 003-S-13 were conducted in studying the relationship between theresistance and the activities ofSOD, CAT, PAL, and PPO. The activity ofSOD, CAT, PAL, and PPO was tested after the in-

oculation at seedling stage and a simple linear regression analysiswasmade associated with the disease index. The resultswere asfollows: the resistance varieties had higher values ofCAT, PAL, PPO and lower SOD than the susceptible varieties in uninfectedplants. Compared with controlgroup these fourprotective enzyme activities increased significantly after inoculationwithTuMV, andthe resistance varietiesweremore sensitive than the susceptible varieties. Correlative analysis revealed thatSOD, CAT, PAL andPPO were positive correlated to the resistance toTuMV of non-heading Chinese cabbage inbred lines, and the correlate coefficientwere 0・776 0, 0・959 1, 0・977 4, 0・999 1, respectively. The activity of PPO correlated very significantly with the resistance,and the activity ofPAL of8th day leaves after inoculation correlated significantlywith the resistance (r=0・937 5).

【语种】中文
【第一作者】刘琳
【通讯作者】侯喜林
【期刊名称、卷期、页码】南京农业大学学报,2009,32(3):14~18
【论文发表时间】2009-03-17 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】园艺学

【题目】Mapping QTLs for mineral accumulation and shoot dry biomass under different Zn nutritional conditions in Chinese cabbage (Brassica rapa L. ssp. Pekinesis)
【中文关键词】无
【英文关键词】Brassica rapa L. ssp. pekinensis .
Quantitative trait loci (QTL) .Minerals . Zinc response
【中文摘要】无
【英文摘要】Chinese cabbage (Brassica rapa L. ssp.pekinensis) is one of the most important vegetables inChina. Genetic dissection of leaf mineral accumula-tion and tolerance to Zn stress is important for theimprovement of the nutritional quality of Chinesecabbage by breeding. A mapping population with 183doubled haploid (DH) lines was used to study thegenetics of mineral accumulation and the growthresponse to Zn. The genetic map was constructedbased on 203 AFLPs, 58 SSRs, 22 SRAPs and fourESTPs. The concentration of 11 minerals was determined in leaves for 142 DH lines grown in anopen field. In addition shoot dry biomass (SDB)under normal, deficient and excessive Zn nutritionalconditions were investigated in hydroponics experi-ments. Ten QTLs, each explaining 11.1 – 17.1% of theNa, Mg, P, Al, Fe, Mn, Zn and Sr concentrationvariance, were identified by multiple-QTL model(MQM) mapping. One common QTL was foundaffecting SDB under normal, deficient and excessiveZn nutritional conditions. An additional QTL wasdetected for SDB under Zn excess stress only. These results offer insights into the genetic basis of leafmineral accumulation and plant growth under Znstress conditions in Chinese cabbage.
【语种】英文
【第一作者】武剑
【通讯作者】武剑
【期刊名称、卷期、页码】Plant Soil (2008) 310:25 – 40
【论文发表时间】2008-03-13 00:00:00
【引文索引类型】SCI
【引文索引号】10.1007/s11104-008-9625-1
【学科分类】园艺学

【题目】The TLR expression pattern on monocyte-derived macrophages for Lipopolysaccharid stimulation of calves
【中文关键词】样受体,牛,巨噬细胞,脂多糖
【英文关键词】TLR, bovine, macrophage, LPS
【中文摘要】在本文中,单核细胞来源的巨噬细胞Toll样受体的表达模式(毒素)的脂多糖刺激检查。颈内静脉血液样本来自4个日本犊牛获得和外周血单个核细胞(细胞)分离。外周血单个核细胞培养7天,单核细胞来源的巨噬细胞在收集repcell。外周血单个核细胞刺激脂多糖的24小时和基因表达模式的受体和细胞因子的单核细胞来源的巨噬细胞(mod-mφ)分析。结果表明,内毒素刺激mod-mφ可能增加的表达水平的基因的肿瘤坏死因子-α,IL - 6,IL - 8和。此外,表达水平的基因的肿瘤坏死因子-α6组中的脂多糖刺激的最显着(<0.01)高于对照组的表达水平TLR 1,3,5,8,和10均显着(<0.05)降低脂多糖刺激后。没有任何差异的基因表达tlr2,4,6,和7组之间的控制和脂多糖刺激。此外,表达TLR 9没有被发现。它建议

,单核细胞来源的巨噬细胞响应脂多糖和他们可能起重要作用的先天免疫。重要功能的细胞可能有助于更好的疾病的治疗。

【英文摘要】In this paper, toll-like receptor expression pattern in monocytes-derived macrophages by lipopolysaccharid (LPS) stimulation was examined. Jugular venous blood samples from 4 Japanese calves were obtained and the peripheral blood mononuclear cells (PBMC) were isolated. The PBMC were cultured for 7 d so as to collect monocytes-derived macrophages in Repcell.The PBMC were stimulated by LPS for 24 h and the mRNA expression pattern of TLR and cytokines in monocytes derived macrophages (Mod-Mφ) was analyzed. Results showed that LPS stimulation of Mod-Mφ could increase the mRNA levels of the genes of TNF-α, IL-6, and IL-8. In addition, the mRNA levels of the genes of TNF-α and IL-6 in the group of LPS stimulation were most significantly ($P < 0.01$) higher than those in control group and the mRNA levels of TLR1, 3, 5, 8, and 10 were significantly ($P < 0.05$) decreased after LPS stimulation. There was no difference in the mRNA expressions of TLR2,4, 6, and 7 between the groups of the control and LPS stimulation. Besides, expression of TLR9 was not found. It suggested that monocytes-derived macrophages could respond to LPS and they might take an important role in the innate immunity. The important function of the cells might contribute to better disease treatment.

【语种】英文

【第一作者】GUO Yi-jie

【通讯作者】ZHAO Guo-qi

【期刊名称、卷期、页码】Agricultural Sciences in China,2009,8(7):864-871

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【引文索引类型】其他

【引文索引号】

【学科分类】畜牧学

【题目】1QZ-5.4型清膜整地联合作业机的研制

【中文关键词】清膜整地,联合作业机,残膜污染,弹齿,主要技术参数,拖拉机,工作原理,地表,试验情况,行走机构

【英文关键词】清膜整地,联合作业机,残膜污染,弹齿,主要技术参数,拖拉机,工作原理,地表,试验情况,行走机构

【中文摘要】简要分析了播前清除地表残膜的必要性,介绍了1QM-5.4清膜整地联合作业机的结构、工作原理、主要技术参数、特点及试验情况。

【英文摘要】简要分析了播前清除地表残膜的必要性,介绍了1QM-5.4清膜整地联合作业机的结构、工作原理、主要技术参数、特点及试验情况。

【语种】中文

【第一作者】曹肆林

【通讯作者】王序俭

【期刊名称、卷期、页码】新疆农机化, 2010,(1):32-33

【论文发表时间】2010-01-01 00:00:00

【引文索引类型】其他

【引文索引号】

【学科分类】农学其他学科

【题目】Effects of super-absorbent polymers on the physical and chemical properties of soil following different wetting and drying cycles

【中文关键词】无

【英文关键词】Super-absorbent polymer; soil moisture; bulk density; available P; available K; drying; wetting cycle

【中文摘要】无

【英文摘要】Super-absorbent polymers (SAPs), a group of new water-saving materials and soil conditioners, have been widely adopted in agriculture, but little is known about their effects on soil physical and chemical properties under alternating dry and wet conditions. This study assesses soil moisture, bulk density, pH, electrical conductivity (EC) and available P and K after different wetting and drying cycles. Four types of SAPs, labelled BF, JP, BJ and WT, with organic macromolecules were mixed with sandy soils to give concentrations of 0%, 0.05%, 0.1%, 0.2% and 0.3%, with the aim of determining water retention and soil properties after amendment with the SAPs. Soil moisture increased by 6.2-32.8% with SAP application, while soil bulk density was reduced by 5.5-9.4% relative to the control, especially with a moderate water deficit when the relative soil moisture contents were about 40-50%. The largest increase in

soil moisture and the greatest reduction in bulk density resulted from the WT treatment. The effects of SAPs on soil pH and EC were contrary. Soil available P increased slightly while available K significantly decreased, except following the first wetting and drying cycle. Available K increased with drying, but the opposite effect was observed for available P. Particular SAPs (JP and WT) seem more suitable under alternating dry and wet conditions. The effects on soil-water retention and other soil properties varied according to the structure of the SAP and soil moisture.

【语种】英文
【第一作者】白文波
【通讯作者】宋吉青
【期刊名称、卷期、页码】SOIL USE AND MANAGEMENT, 26, 253-260
【论文发表时间】2010-09-06 00:00:00
【引文索引类型】SCI
【引文索引号】643HI
【学科分类】环境学

【题目】典型棉区地膜应用及污染现状的研究
【中文关键词】典型棉区;地膜应用回收;残膜污染
【英文关键词】cotton planting area; use and recovery of plastic film; pollution from plastic mulch film
【中文摘要】残膜污染已经成为影响棉区农田生态环境的重要因子,以黄河流域棉区(河北邯郸)和西北内陆棉区(新疆兵团)典型覆膜棉田为研究对象,通过农户问卷调查和典型样点采集的方式,对地膜的应用、回收及污染现状进行系统的研究。结果表明,由于气候条件和生产方式的不同,两个棉区地膜投入量差异很大,河北邯郸地区地膜投入量为33.0 kg · hm-2,农田覆膜比例为46.4%,而新疆地区地膜投入量为61.4 kg · hm-2,农田覆膜比例高达84.8%。两个棉区地膜回收率基本相当,但由于投入量不同,新疆地区棉田土壤残膜量远大于邯郸地区,河北邯郸地区棉田0~30 cm 土层残膜量平均为80.5 kg · hm-2,而新疆地区则达到208.5 kg · hm-2,是邯郸地区的2.59 倍。残膜在土壤中主要分布在0~20 cm 的耕层中,从各层次残膜分布比重来看,新疆棉田土壤残膜污染程度更深。农户调查表明,绝大多数农民已经意识到地膜污染的危害性,特别是在新疆地区,但在回收处理以及再利用等方面还存在技术制约,影响了残膜的回收和污染治理。
【英文摘要】Pollution caused by residual plastic film in agricultural fields has been an important factor that is contributing to the deterioration of the agricultural environment. This study was conducted in the Yellow River Basin cotton planting area(Handan city in Hebei Province)andin the western inland cotton planting area(production and construction corps in Xinjiang Province)in 2007. The input of plastic film, recovery and pollution of residual plastic film in the study areas were evaluated by means of farmer survey and field sampling. The results showed that the input amount of plastic film varied in the different cotton planting region due to the difference of climate condition and farming system.The input amount of plastic film was 33 kg · hm-2 in Handan, but in Xinjiang it reached 61.4 kg · hm-2. There was no significantly different recovery ratio observed between both sites, but the amount of residual plastic film was quite different due to the difference of input amount. The average amount of residual plastic film in the soil (0~30 cm)was 80.5 kg · hm-2 in Handan, but in Xinjiang it was 208.5 kg · hm-2. The residual plastic film was mainly distributed in the tilled soil layer (0~20 cm)in both sites and the pollution in Xinjiang was more seriousthan that of Handan viewed from the depth of polluted soil layer. Most farmers had realized the pollution of plastic film, but due to the lack of a suitable technique to recove and reuse, the plastic film pollution continuesd to be a big problem in these areas, especially in Xinjiang.
【语种】中文
【第一作者】何文清
【通讯作者】严昌荣
【期刊名称、卷期、页码】农业环境科学学报,2009,28(8):1618-1622
【论文发表时间】2009-08-01 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】农业基础学科

【题目】4 种保水剂吸持水特性的比较研究
【中文关键词】保水剂;吸水性;持水性;释水性;pH
【英文关键词】superabsorbent ; water absorbing ; water retaining ; water releasing ; pH

【中文摘要】通过室内试验,比较研究了白金子(BJ) ,沃特(WT) ,巴斯夫(BF) ,黑金子(HJ) 等4 种保水剂的吸持水特性及对不同酸碱溶液的反应。结果表明,4 种保水剂在蒸馏水中的吸水倍率最大,其次为1∶5 的土壤浸提液中,在0. 9 %的NaCl 溶液中的最小;且在土壤浸提液中,吸水倍率大小依次为:白金子(BJ) > 沃特(WT) > 巴斯夫(BF)> 黑金子(HJ) 。4 种保水剂在pH 5~9 的范围内,能吸收比自身重200 多倍的水分。保水剂在蒸馏水中重复使用6 次后,其吸水倍率仍可达到初始吸水倍率的50 %以上。4 种保水剂中,BF 和WT 具有快速吸水、缓慢释放的特性。初步认为测试的4 种保水剂中BF 的吸持水特性最好,其次为WT ,最后是BJ 和HJ 。

【英文摘要】Experiment was made to compare water absorbing and retaining characteristics of four superab2sorbent s , and their corresponding response to different alkali - saline solutions. The result s indicated that the water absorption rate was the largest in distilled water , while in 0. 9 % NaCl solution , it was the least . In 1 :5 soil saturation ext ract , the water absorption rate of the superabsorbent s was compared as the following : BJ >WT >BF > HJ . The four superabsorbent s could absorb water more than 200 times of their own weight , and the water absorption rate maintained over 50 % of their original water absorption rate , even when they were reused for six times. BF and WT had the ability to absorb water quickly and release water slowly. We concluded that BF had the best water absorbing and retaining characteristics in four superabsorbent s ; secondly , it was WT. BJ and HJ were relatively worse.

【语种】中文

【第一作者】白文波

【通讯作者】宋吉青

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【学科分类】土壤学

【题目】华北典型农区棉田土壤中地膜残留特点研究

【中文关键词】华北地区,棉田,地膜残留,时空分布

【英文关键词】North China,cotton field,residue ofmulching plastic film,spatio- temporal pattern

【中文摘要】以华北典型农区- 河北省邯郸市作为研究对象, 对不同覆膜年限棉田地膜残留状况进行了分析研究, 力求揭示棉田土壤中残膜数量、形态的时空变化特点。结果显示, 邯郸地区棉田地膜平均残留量在59.1~103.4 kg · hm-2 之间。土壤中残膜含量与覆膜年限有关, 覆膜年限越久, 残留量越高。连续覆膜2a、5a 和10a 的棉田中地膜残留量分别为59.1、75.3 和103.4 kg · hm- 2, 且土壤中的残膜数量分别为393 万片 · hm-2、544 万片 · hm-2 和965 万片 · hm-2。残留地膜主要集中在表层土壤中, 3 个土层(0~10 cm、10~20 cm、20~30 cm) 中的残膜数量依次约占总量的75%、20%和5%。研究结果还显示覆膜时间越长, 深层土壤残膜量越高。小块膜明显多于大块膜, 3 种不同面积大小(<4cm2,4~25cm2,>25 cm2) 的残膜片数分别约占总量的65%、30%和5%。

【英文摘要】Handan in Hebei province was selected to investigate the status and the spatio- temporal pattern of residual mulching plastic film in the typical cotton field that was mulched with agricultural plastic filmfor different years. The paper ′ s aim was to identify the spatio- temporal pattern of residual mulching plastic film. The results indicated that the average amount of residual plastic film in cotton field was from 59.1~103.4 kg · hm- 2, which increased with the increasing of mulched years. And the total amount of residual plastic film in cotton field were 59.1, 75.3 kg · hm- 2and 103.4 kg · hm- 2 for 2 years, 5 years and 10 years respectively. The total piece amount of residual plastic film in cotton field in 2 years, 5 years and 10 years were 3.93, 5.44 and 9.65 million per hectare respectively. Most of residual mulching plastic film was distributed in top soil, and the percentage of residual plastic filmin three layers of soil (0~10 cm, 10~20 cm, 20~30 cm) were 75%, 20% and 5% respectively. With the mulched years increased, the amount of residual mulching plastic film in deep soil and small piece of residual mulching plastic filmincreased, and which percentages of three kinds piece of residual piece of mulching plastic film (<4 cm2, 4~25 cm2, >25cm2) accounted for are about 65%, 30% and 5% respectively.

【语种】中文

【第一作者】马辉

【通讯作者】何文清

【期刊名称、卷期、页码】农业环境科学学报,2008,27(2):570- 573

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【引文索引号】

【学科分类】农业基础学科

【题目】农用地膜残留污染的现状与防治
【中文关键词】农用地膜,残留污染,防治对策
【英文关键词】mulching plastic film; residue pollution of mulching plastic film; prevent ion and controlling measures
【中文摘要】农用地膜良好的增温保墒效果已对中国农业产生了重大的、积极的作用,但同时随着地膜覆盖技术的普及,残留农用地膜也已经带来了一系列的负面影响,大量的残留地膜破坏土壤结构、危害作物正常生长发育并造成农作物减产,进而影响到农业环境,通过对中国有关地膜残留研究文献的综述,对农用地膜的应用现状、残留地膜的分布特征及影响因素,以及残留地膜的危害特点进行了综合分析,并针对目前存在的实际情况,提出了农用地膜残留污染的防治技术措施。
【英文摘要】Increasing temperature and keeping soil moisture effect of mulching plastic film have brought apositive and important progress in agricultural productivity , and also the residue of mulching plastic film in the field has already become a negative factor that affected agricul tural environment , which destroyed soil structure and harmed growth of crop. Based on results of domestic study on this issue, the authors comprehensively analyzed the application situation of mulching plastic film in agriculture, and the distribut ion characteristics as w ell as the influencing factors, the harm ways of the residue of mulching plastic film. According to the actualsituat ion, the techniques of preventing and controlling measures for residue pollution of mulching plastic film were put forward.
【语种】中文
【第一作者】严昌荣
【通讯作者】梅旭荣
【期刊名称、卷期、页码】农业工程学报,2006,22(11),269-272
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【引文索引号】
【学科分类】农业基础学科

【题目】我国地膜应用污染现状及其防治途径研究
【中文关键词】地膜;残膜污染;防治途径
【英文关键词】plastic film; pollution by plastic film residue; measures of prevention and controlling
【中文摘要】地膜是农业生产的重要物质资料之一,我国每年地膜应用量近百万吨,地膜覆盖面积1000 多万hm2,覆盖作物达40 多种。地膜技术的应用极大地促进了我国农业的发展,但随着地膜应用量和使用年限的不断增加,大量残留地膜造成的“白色污染”不但严重影响了农业生产的进行,而且对农业环境的安全与健康也构成了巨大的威胁。农田残留地膜已经成为影响农业环境、破坏土壤结构、危害作物正常生长发育并造成农作物减产的重要因素之一。通过对统计数据的整理分析,以及在国内外研究文献总结和归纳的基础上,对我国农用地膜应用、污染现状进行了全面的分析和论述。在此基础上,针对我国的地膜污染的现状,从地膜的标准化生产、节约使用、高效回收以及未来需要研发的新材料、新技术等方面提出相应的防治技术途径。
【英文摘要】Abstract:Plastic film covers are important in the Chinese agricultural production. In recent years, one million ton per year of plastic film hasbeen applied in the agricultural fields of China. The coverage area has reached over ten millions hectares. Application of plastic film raises agriculturalproduction. With the increase of plastic film application amounts, the pollution by residue of mulching plastic film in the field has become a serious problem. It has affected the neighboring environment, destroyed soil structure, and harmed crops ’ normal growth. This study analyzed application of and pollution by the mulching plastic film based on a former domestic study results and analysis of statistical data, discusses the field distribution characteristics, the influencing factors and the harmful effects of mulching plastic film residue, and the techniques for preventing and controlling mulching plastic film pollution as well as the development trend in the future are proposed based on forecasted agricultural production situation.
【语种】中文
【第一作者】何文清
【通讯作者】严昌荣
【期刊名称、卷期、页码】农业环境科学学报,2009,28(3):533-538
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【学科分类】农业基础学科

【题目】新疆石河子地区棉田土壤中地膜残留研究
【中文关键词】石河子地区,棉田,地膜残留
【英文关键词】Shihezi district; cotton field; plastic film residue
【中文摘要】以新疆石河子棉区作为研究对象, 对连续20a覆膜单作棉花、棉花-西红柿轮作和连续10a单作棉花棉田的地膜残留状况进行了调查, 研究结果显示石河子地区棉田地膜残留污染十分严重, 土壤中平均残留量高达(300. 65±49. 32)kg# hm-2。土壤中残膜量与覆膜年限有关, 覆膜年限越久, 残留量越高。连续覆膜20a和10 a棉田中地膜残留量分别为(307.9±35.84)kg# hm-2和(259.7±36.78) kg# hm-2, 同时, 种植模式对残膜量也存在一定的影响, 连续20a覆膜种植棉花-西红柿的土壤中残留量最高, 达到(334.4±47.88) kg# hm-2, 且层间分布均匀。3种种植模式下棉田土壤中残留地膜的片数都非常多, 在1000~2000万片/hm2 之间, 主要集中在0~10cm 的表层土壤中。研究结果还显示大多数残膜面积较小, 集中在1~25cm2之间, 小于25cm2 的片数超过总片数的80%以上。
【英文摘要】The study investigated effects of mulching plastic film residue in mono-cotton planting system w ith mulched plastic film lasting for 20 years, and cotton-tomato, and mono-cotton planting system mulched plastic film lasting for 10 years in Shihezi district. The result shows that there has been a very serious pollution. The average amount of residue of mulchingplastic film remained in the cotton field soils is (300.65±49.32) kg# hm-2, and the distribution of residue is relatively uniformity in 0-30 cm layer. The amount of plastic film residue depends on duration of utilization ofmulching plastic film,and the longer the duration of utilization, the more plastic film residue is left in the field. For the mono cotton planting system mulched plastic film for 10 years and 20 years, the amount of plastic film res iduesare (307.9±35.84) kg# hm- 2 and (259.7±36.78) kg# hm- 2, respectively. At the sametime, it is found that the amount of plastic film residue is also affected by the planting method. For the cotton-tomato rotation system mulched plastic film lasting 20 years, the plastic film residuegave a maxmium value of about (334.4±47.88) kg# hm . The pieces are from 10 to 20 million per hectare, most of them are pieces are of small size area of about 1-25 cm2 and over 80% of the residue piece are less than 25cm2.
【语种】中文
【第一作者】严昌荣
【通讯作者】何文清
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【学科分类】农业基础学科

【题目】不同基因型小白菜硝酸盐积累差异及筛选研究
【中文关键词】小白菜;硝酸盐;基因型差异;筛选
【英文关键词】chinese cabbage; nitrate; genotypic differences; screen
【中文摘要】采用溶液培养方法研究了/& 种基因型小白菜在不同硝铵比条件下体内硝酸盐含量的变化情况。结果表明,不同基因型小白菜的硝酸盐含量差异较大,东妃青梗菜、上海白叶四月蔓和夏优高抗为低硝酸盐含量基因型小白菜,而高雄甜脆小白菜、宝大矮棋青和苏州青为高硝酸盐含量基因型小白菜。硝铵比%" F %" 是最适宜筛选的氮素形态比例,而叶片中的硝酸盐含量也是最适宜的筛选指标。对上述, 个基因型小白菜进一步分析结果表明,不同部位硝酸还原酶、根系硝态氮最大吸收速率以及亲和力这三个因素对小白菜各部位的硝酸盐积累都有显著的影响,但在不同部位,这三个因素所起的贡献率不同。
【英文摘要】hydroponic experiments were carried out to study the nitrate accumulation of 43 chinese cabbage genotypes under the nutrient solution of different NO3-/NH4+ ratio. the results indicated that the discrepancies in nitrate contents among different genotypes were significant, and accordingly, Dongfei, Shanghai baiye and Xiaoyou gaokang as the low nitrate concentration genotypes, and Gaoxiong tiancui, Baoda aiqi, Suzhouqing as the high nitrate concentration genotypes were screened out. Here, the nitrate source of NO3-/NH4+ 50/50 and nitrate content in leaves can be considered as the best nutrient solution and index for nitrate accumulation screening. Furtehr study on these six genotypes of chinese cabbage suggested that the effects of nitrate reductase, maximum nitrate uptake and affinity on nitrate accumulation were significant, while showed different contribution in different part of plants.
【语种】中文

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【通讯作者】章永松
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【学科分类】农业基础学科

【题目】保水剂对土壤水分垂直入渗特征的影响
【中文关键词】积水入渗;入渗率;土壤含水率;保水剂;湿润锋
【英文关键词】ponding infiltration; infiltration rate; soil water content; super absorbent polymer; wetting front
【中文摘要】为了探明保水剂对土壤水分入渗性能及变化过程的影响,该文通过室内积水入渗试验,比较分析了保水剂作用下土壤水分的入渗率、累积入渗量及湿润锋等的动态变化。结果表明:保水剂对入渗率的影响具有稳定性和一致性。上层混施(0~10 cm)和层施(5 cm)保水剂会限制土壤水分向下运移,30 min 后累积入渗量分别比对照显著减少了17.3%~36.6%和5.5%~46.6%;而且随着保水剂用量增加,抑制效应增大。相比较而言,这种减缓入渗的程度在保水剂层施,且用量为0.1%时更为明显。下层(10~20 cm)混施和层施(10 cm 和15 cm)保水剂对土壤水分入渗的抑制是有限的,约比对照降低了4.9%~11.9%;但当保水剂层施量为0.1%时,土壤水分入渗反而会随着入渗进程而增加,累积入渗量可达到对照的1.1 倍。层施保水剂后,保水剂层及保水剂下层土壤含水率会普遍增加1.1~1.9 倍。
【英文摘要】In order to determine the effects of super absorbent polymer on characteristics and dynamic changes of soil water infiltration, the dynamic changes of infiltration rates, cumulative infiltration, and wetting front of soil water under super absorbent polymer were analyzed through the lab experiments. The results showed that the influences of super absorbent polymer on infiltration rate were stable and consistent. Mixed (0-10 cm) and layered (5 cm) application of super absorbent polymer in upper soil layer would restrict soil water downward movement. After 30 minutes, the cumulative infiltration significantly decreased by 17.3%-6.6% and 5.5%-46.6% compared with the control. The restraining effect was increased with the increasing concentration of super absorbent polymer, and it was more obvious in layered application, especially in the concentration of 0.1%. Whereas, mixed (10-20 cm) and layered (10 cm and 15 cm) application of super absorbent polymer in lower soil layer had limited inhibitory effect, it reduced by 4.9%-11.9% compared with the control. While in layered application (10 cm and 15 cm) with the concentration of 0.1%, infiltration capacity of soil water would be enhanced, and the relevant cumulative infiltrations were about 1.1 times larger than the control. The water content in the soil layer with super absorbent polymer and the corresponding under soil layer would increase 1.1-1.9 times through layered application.
【语种】中文
【第一作者】白文波
【通讯作者】宋吉青
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【学科分类】土壤学

【题目】保水剂对土壤体积膨胀率及土壤团聚体影响研究
【中文关键词】保水剂;土壤结构;土壤体积膨胀率;土壤团聚体
【英文关键词】Absorbent; Soil structure; Soil volume expansion ratio; Soil aggregates
【中文摘要】:为了研究保水剂对土壤体积膨胀率和土壤团聚体的影响,实验设置保水剂的3 个不同浓度(重量比)水平:0.1%、0.2%、0.3%,研究得到土壤吸水后土壤体积膨胀率随保水剂用量的增加而增加,保水剂在短期内对<2 mm 土壤团聚体粒径影响不大,而对于增加>2 mm土壤团聚体含量效果明显
【英文摘要】For studying effects of absorbent on soil aggregates and soil volume expansion ratio, 3 treatments for different contents of absorbent in soil were set up in this experiment: 0.1%, 0.2%, and 0.3%(w/w). Results showed that the soil volume expansion ratio increased with absorbent contents in soil. In a short time, absorbent has no effect on the particle size of <2 mm aggregates but significantly increased the >2 mm aggregates contents.

【语种】中文
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【学科分类】土壤学

【题目】马铃薯孢囊线虫在我国的适生性风险分析与控制预案
【中文关键词】马铃薯白线虫生物学风险分析
【英文关键词】无
【中文摘要】马铃薯金线虫Globodera rostochiensis和马铃薯白线虫G.pallida,是马铃薯等茄科植物上两种最重要的孢囊线虫,一般造成马铃薯产量损失9%~20%,在热带地区,为害严重时造成产量损失80%~90%,甚至绝收。马铃薯金线虫在全世界72个国家有发生和分布,马铃薯白线虫在全世界51个国家有发生和分布,全世界100多个国家都将马铃薯金线虫和白线虫列为重要的对外检疫性有害生物,我国目前尚无马铃薯金线虫和白线虫发生为害的报道,因此是我国重要对外检疫性有害线虫。根据国外现有马铃薯金线虫和白线虫发生分布信息,利用生态位GARP和MAXENT模型,对马铃薯金线虫和白线虫在我国的适生区进行了风险分析。MAXENT模型预测马铃薯金线虫在我国的高风险区包括河北南部、江苏、安徽、河南东南部、湖北东部、湖南东部、贵州北部;中风险区包括辽宁中部、河北东南部、山东大部、河南西部、陕西南部、甘肃东南部、云南北部。运用MAXENT生态位模型预测马铃薯白线虫在我国的适生区,江苏东南部、云南西部、海南大部、广东西南部、四川东南部等是高度风险区,江苏南部、云南东部、贵州西部、广西中部、浙江北部为中风险区。根据马铃薯孢囊线虫在我国的适生性风险分析结果,提出了应急处理措施和控制预案。作者认为对马铃薯孢囊线虫的控制,主要是要加强检疫封锁,并对其适生区进行适时和定点监测,筑牢防范其入侵的第一道防线。
【英文摘要】无
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【第一作者】李建中
【通讯作者】彭德良
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【学科分类】植物保护学

【题目】Factors affecting the transfer of immunoglobulin G1 into the milk of Holstein cows
【中文关键词】免疫球蛋白类;转移;牛奶;荷斯坦奶牛生产的因素;
【英文关键词】Immunoglobulin G1; Transfer; Milk; Holstein cow; Production factors
【中文摘要】免疫球蛋白(免疫球蛋白)的浓度牛奶荷斯坦奶牛来确定是否转移和集中在 fl 严重的生产因素(一些哺乳期,哺乳阶段,每天产奶量,乳成分)(牛奶脂肪,蛋白质,乳糖,和总固形物含量)或血清IgG 1浓度。二百九十九中国荷斯坦奶牛,随机选择四个群共含1600以上的哺乳期的动物。浓度的牛奶和血清IgG 1抗体酶联免疫吸附试验测定。牛奶IgG 1浓度之间0.030和0.614毫克/毫升和意义 fi 主要与哺乳号码,哺乳阶段,每天的牛奶产量和体细胞数。IgG 1群众被发现高度相关,哺乳期,哺乳阶段,每日牛奶产量和乳蛋白含量。哺乳数量有直接关系的最高阳性IgG 1浓度。
【英文摘要】Immunoglobulin (Ig) G1 concentrations in milk from Holstein cows was measured to determine if transfer and concentration was in fl uenced by production factors (lactation number, stage of lactation, daily milk production), milk composition (milk fat, protein, lactose, and total solids content) or by serum IgG1 concentration. Two hundred and ninety-nine Chinese Holstein cows were randomly selected from four herds containing a total of more than 1600 lactating animals. The concentration of IgG1 in the milk and serum was determined by ELISA.Milk IgG1 concentrations varied between 0.030 and 0.614 mg/mL and signi fi cantly correlated with lactation number, stage of lactation, daily milk production and somatic cell count. The IgG1 mass was found to highly correlate with lactation number, stage of lactation, daily milk production and milk protein content. Lactation number had the highest positive direct relationship with IgG1 concentration

【语种】英文
【第一作者】G.L.Liu
【通讯作者】Jiaqi Wang
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【学科分类】畜牧学

【题目】充分与非充分灌溉条件下冬小麦光合速率与产量的关系
【中文关键词】冬小麦;水分;光合速率;产量;相关性
【英文关键词】W inter wheat; Water; Photosynthetic rate; Yield; Correlation
【中文摘要】选用北方栽培的10个冬小麦品种,设定充分灌溉和非充分灌溉(自然降水)两种水分条件,旨在分析光合速率与产量的关系。结果表明:充分灌溉条件下冬小麦的光合速率和产量均高于非充分灌溉;在生殖生长期光合速率与产量具有显著的正相关关系,自然光下光合速率在抽穗开花期和灌浆初期与产量的相关性最显著,给光下光合速率在抽穗开花期、灌浆初期、灌浆中期与产量的相关性最显著。因此,在抽穗开花期和灌浆期适当增加灌溉量,可提高光合速率,促使小麦增产。
【英文摘要】Ten species ofwinterwheatwhich grown in Northern China were selected in this study, theywere treated by two water conditions: Full Irrigation and Insufficiency Irrigation (Rainfall). Tthen we analyzed the correlation between the photosynthetic rate and the yield. The result showed that under Full Irrigated condition, both the photosynthetic rate and the yield were higher than that under insufficiency irrigation ’s. The positive correlativity between the photosynthet ic rate and the yield was remarkable during the p rocreate growth period. During the heading blooming and the beginning of grain2filling stage, the correlation between the photosynthetic rate (Natural light) and the yield was the most remarkable. For the photosynthetic rate (LED) , the most remarkable correlation was during the stage of heading-blooming, the beginning grain2filling and the mid-grain filling. Therefore,more irrigation during heading blooming and grouting stage could enhance the photosynthetic rate and increase the yield of winter wheat.
【语种】中文
【第一作者】徐凡
【通讯作者】李茂松
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【学科分类】环境水利

【题目】Influence on cellular signal transduction pathway in dairy cow mammary gland epithelial cells by galactopoietic compound isolated from Vaccariae Segetalis
【中文关键词】王不留行,舒张压,奶牛,乳腺上皮细胞,信号转导,微RNA
【英文关键词】Vaccaria segetalis, DBP, dairy cow, mammary gland epithelial cells, signal transduction, miRNAs
【中文摘要】催乳机制的王不留行仍然是未知的。了解邻苯二甲酸二丁酯(舒张压)脱离王不留行的表达的信号转导基因的哺乳期乳腺上皮细胞,包括催乳素受体,雌激素受体α,Ak t1,SOCS 2,激活γ和elf5,将有助于揭示的分子机制。免疫印迹和qrt-pcr被用来研究的变化,而α,总之,SOCS 2,激活γ,和elf5在基因和蛋白水平的表达。定位表达催乳素受体(催乳素受体)和雌激素受体α(雌α)观察免疫荧光;表达变化为(21,143,和195的,)和分泌β-酪蛋白和乳糖检测qrt-pcr和反相高效液相色谱法。结果表明,王不留行活性化合物也有类似的作用雌激素和/或催乳素(催乳素)在奶牛乳腺上皮细胞(dcmecs),表达的增加,而α,蛋白质,和elf5基因,而压抑的激活γ表达式。舒张压促进SOCS 2基因表达,但其表达的压抑。此外,双方舒张压和泌乳素可以抑制表达mirna-125b,mirna-143和mirna-195在dcmecs。舒张压可以压制表达mirna-21,而影响泌乳素mirna-21不certain.dbp可促进泌乳能力的dcmecs调节和催乳素受体细胞信号转导通路。
【英文摘要】The galactopoietic mechanism of Vaccaria segetalis is still unknown. Understanding dibutyl phthalate (DBP) separated from Vaccaria segetalis on the expression of lactation signal transduction genes of mammary gland epithelial cells,including prlr, er α , akt1, socs2, ppar γ and elf5, will be helpful to reveal the molecular mechanism.Western blot and qRT-PCR were used to study the change of prlr, er α , akt, socs2, ppar γ , and elf5 expression at mRNA and protein level. Colocalization expression of prolactin

receptor (PRLR) and estrogen receptor α (ERα) was observed by immunofluorescence; the expression changes of miRNAs (21, 125b, 143, and 195) and the secretion of β-casein and lactose were detected by qRT-PCR and RP-HPLC. The results showed that Vaccaria segetalis active compound had similar fuctions as estrogen and/or prolactin (PRL) in dairy cow mammary gland epithelial cells (DCMECs), increased the expressions of prlr, erα, akt1,and elf5 genes, while repressed pparγ expressions. DBP promoted socs2 mRNA expression, but its protein expressions were repressed. Furthermore, both DBP and PRL could repress the expressions of miRNA-125b, miRNA-143 and miRNA-195 in DCMECs. DBP could repress the expression of miRNA-21, while the influence of PRL on miRNA-21 was not certain.DBP could promote the lactation ability of DCMECs by regulating the ER and PRLR cellular signal transduction pathway.

【语种】英文

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【通讯作者】GAO Xue-jun

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【学科分类】畜牧学

【题目】Influence of fish/soybean oil supplementation on milk conjugated linoleic acid and mammary gland SCD gene expression in dairy cows

【中文关键词】鱼油,共轭亚油酸,猝死

【英文关键词】Fish Oil, Conjugated Linoleic Acid, SCD

【中文摘要】本研究的目的是审查的影响,添加鱼油、豆油对奶牛乳脂c18:2顺9跨11共轭亚油酸(共轭亚油酸)和乳腺猝死基因的表达。十八中国荷斯坦奶牛(176±16点心)在随机设计是基本的饮食喂养(细胞),或基底饮食补充鱼油或2%(对)或结合2%鱼油和2%大豆油(sbfo)。基础日粮含40%和60%集中混合饲料。油添加取代玉米饲料。实验时间为9周。饮食中平均16.6±0.3%和1.56,1.64和1.72多通道/千克马克细胞,和sbfo,分别。牛奶产量记录每天和牛奶样品收集每周连续3乳品和分析的组成和脂肪酸(英格兰)简介。在每个治疗,3头牛被用于乳腺活检取样。乳腺组织是从后方季度结束时的治疗期。相对基因表达数据分别计算了2-ΔΔ方法。β-肌动蛋白是用来作为参考的基因。方差分析的变量使用的是混合进行。意义被宣布在<0.05。饲料和牛奶产量没有不同处理间。奶牛和sbfo治疗2.50b和2.86b %脂肪的牛奶,分别比3.63a %细胞。油酸的比例(弗吉尼亚州)和独联体- 9跨11共轭亚油酸异构体0.75b,7.88a,和8.54a,0.56b,大师和4.15a %足总甲酯,和sbfo,分别。中所占的比例不饱和足总杯的增加和附近的治疗相比,细胞。丰富的猝死基因在乳腺减少了50%和57%附近比较细胞。喂养2%鱼油()或2%鱼油加2%大豆油(sbfo)奶牛共轭亚油酸含量的增加和牛奶中的乳脂含量下降560%和26%相比,细胞无油。

【英文摘要】The objective of this study was to examine the effect of adding fish oil and soybean oil to dairy cows on milk fat C18:2 cis-9 trans-11 conjugated linoleic acid (CLA) and mammary gland SCD gene expression. Eighteen Chinese Holstein dairy cows (176 ± 16 DIM) in a randomized design were fed a basal diet (CTL), or basal diet supplemented with either 2% fish oil (FO) or a combination of 2% fish oil and 2% soybean oil (SBFO). The basal diet contained 40% forage and 60% concentrate mix. Oils were added by replacing the corn in the diet. Experimental duration was 9 wk. Diets contained an average 16.6 ± 0.3% CP and had 1.56, 1.64 and 1.72 Mcal NEL/kg DM in CTL, FO and SBFO, respectively. Milk yields were recorded daily and milk samples were collected weekly from 3 consecutive milkings and analyzed for composition and fatty acid (FA) profile. Within each treatment, 3 cows were used for mammary gland biopsy sampling. Mammary gland tissues were taken from a rear quarter at the end of the treatment period. Relative gene expression data were calculated by 2-ΔΔCT method. β-actin was used as the reference gene. Analysis of variance for variables was conducted using the MIXED procedure of SAS. Significance was declared at P < 0.05. Feed DMI and milk yields were not different among treatments. Cows in FO and SBFO treatments had 2.50b and 2.86b % fat in milk, respectively compared to 3.63a % in CTL. The proportions of vaccenic acid (VA) and cis-9 trans-11 CLA isomer were 0.75b , 7.88a , and 8.54a , 0.56b , 3.20a and 4.15a percent of total FA methyl esters in CTL, FO and SBFO, respectively. The proportions of unsaturated FA were increased in FO and SOFO treatments compared to CTL. The abundance of SCD mRNA in the mammary gland was reduced by 50% in FO and 57% SOFO compared to CTL. Feeding 2% fish oil (FO) or 2% fish oil plus 2% soybean oil (SBFO) to dairy cows increased the content of VA and CLA in milk by 560% and decreased the milk fat content by 26% compared to CTL without oil.

【语种】英文

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【通讯作者】J.Q.Wang

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【学科分类】畜牧学

【题目】Flow of fatty acids to the duodenum and fatty acid profile of milk from cows fed diets differing in forage fiber level
【中文关键词】饲料,脂肪酸,奶牛
【英文关键词】Forage, Fatty Acids, Dairy Cow
【中文摘要】一项研究进行了评价的影响,饮食不同饲料中性洗涤纤维(fndf)的　流脂肪酸(英格兰)的十二指肠和牛奶足总杯概况。四荷斯坦奶牛(483±21kg体重;175±6点心)安装永久性瘤胃和简单的T形套管近端十二指肠中使用了一个4×4拉丁方设计实验。每一期为21d。前2周被认为是适应的饮食和测量了在过去一周在每一个时期。饮食在4治疗fndf含量为46.71(trt-1),37.01(trt-2),26.43(trt-3)和18.50%(干物质基础trt-4)。不同层次的fndf饮食是由不同比例的饲料和浓缩型饲料。牧草用于制定饲料玉米青贮或苜蓿干草,羊草。在制定了饮食是低脂肪。足总杯内容的饮食是0.86,1.14,1.46和1.71在治疗1至4,分别为。在最后一周在每一个时期样品的rumenuid和十二指肠食糜收集研究流动的足总杯。牛奶样品进行分析的足总杯概况。瘤胃液PH值为6.56a,6.55,6.45和6.26在治疗1至4,分别为。减少fndf含量的饮食往往增加流动的C18 : 1跨11(弗吉尼亚州;<0.09)。流动c18:0C16,18 : 1,独联体- 9和c18:2到十二指肠增高减少fndf在饮食治疗。流动的c18:2顺9跨11异构体的共轭亚油酸(共轭亚油酸)并不受饮食疗法。不同的fndf在本研究中没有影响牛奶脂肪酸的个人资料包括共轭亚油酸的含量。结果表明,不同饲料中性洗涤纤维含量从46.7到18.5%的饮食糖尿病流动脂肪的饮食(2%的饮食)影响不大,牛奶脂肪酸剖面。
【英文摘要】A study was conducted to evaluate the effects of diets differing in forage NDF (fNDF) on the　flow of fatty acids (FA) to the duodenum and milk FA profile. Four Holstein cows (483±21kg BW; 175±6 DIM) fitted with permanent ruminal and simple T-shaped cannulae in the proximal duodenum were used in a 4×4 Latin square design experiment. Each period was 21 d. First 2 wk were considered as adaptation to the diets and measurements were made during the last week in each period. Diets in 4 treatments had fNDF content of 46.71(Trt-1), 37.01(Trt-2), 26.43 (Trt-3) and 18.50% (Trt-4) on dry matter basis. The different levels of fNDF in diets were achieved by varying the ratio of forage and concentrate and type of forage. The forages used to formulate diets were corn silage, Chinese wildrye or Alfalfa hay. The diets were formulated to be low-fat. The FA content of the diets was 0.86, 1.14, 1.46 and 1.71 in treatments 1 through 4, respectively. During the last week in each period samples of the rumenuid and duodenal chyme were collected to study the flow of FA. Milk samples were analyzed for FA profiles. Ruminal fluid pH was 6.56a , 6.55 a , 6.45 a and 6.26 b in treatments 1 through 4, respectively. Decreasing fNDF content of the diets tended to increase the flow of C18:1 trans-11 (VA; P < 0.09). The flow of C16:0, C18:0, C18:1 cis-9 and C18:2 to the duodenum increased signicantly with decreasing fNDF in the treatment diets. The flow of C18:2 cis-9 trans-11 isomer of conjugated linoleic acid (CLA) was not affected by dietary treatments. Varying the fNDF in the present study had no influence on milk fatty acid profile including CLA content. The results suggest that varying forage NDF content from 46.7 to 18.5 % of diet DM in flow fat diets (< 2% of diet) had little effect on milk fatty acid profile.
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【第一作者】D.P.Bu
【通讯作者】J.Q.Wang
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【题目】Fatty acids composition of milk from cows fed oilseeds
【中文关键词】油料,牛奶脂肪酸,激素
【英文关键词】Oilseeds, Milk Fatty Acids, Hormones
【中文摘要】本研究的目的是审查的影响在　油料补充牛奶脂肪酸(英格兰)亲　乐和等离子体参数奶牛。四十荷斯坦奶牛(150±25点心)被随机分配到四个治疗。在四个治疗喂基础日粮(细胞)或基底饮食补充或者整个大豆(财政司司长),膨化大豆(胚胎),或混合整个棉籽,整个大豆和大豆(混合)。饮食中1.57,1.59,1.60和1.64通道/千克干细胞,财政司司长,和混合处理。所有饮食iso-nitrogenous和包含了平均16.50%的实验时间为6周处长。测量了在过去3周。日采食量和产奶量记录。每周

的牛奶样品进行分析的组成和脂肪酸　乐。血液样本取自尾静脉或动脉在3小时后喂养的最后一天,实验和分析血液化学。统计分析使用混合程序和一个完全随机设计反复措施。产量的牛奶,脂肪和蛋白质之间没有不同的治疗。比例的短期和中链(C4 : 0 – c12:0)均降低,长链足总增加奶牛喂食种子与牛细胞。膨化大豆喂养奶牛胚胎治疗增加了c18:2顺9跨11共轭亚油酸异构体在牛奶84%与细胞治疗。浓度的共轭亚油酸在牛奶是一样的,财政司司长和混合处理。平均浓度的血浆胆固醇,脂蛋白胆固醇,游离脂肪酸,瘦素,血糖,甘油三酯,胰岛素和β-羟丁酸之间并没有不同的治疗。结果表明,膨化大豆喂养奶牛提高c18:2顺9跨11共轭亚油酸异构体在不影响　饲料摄入量,产奶量,乳成分和血液参数。

【英文摘要】The objective of this study was to examine the in　uence of oilseeds supplementation on milk fatty acid (FA) pro　le and plasma parameters in dairy cows. Forty Holstein dairy cows (150 ± 25 DIM) were randomly assigned to four treatments. Cows in four treatments were fed a basal diet (CTL) or basal diet supplemented with either whole soybeans (FS), expanded soybeans (ES), or a mix of whole cottonseed, whole soybeans and expanded soybeans (MIX). Diets contained 1.57, 1.59, 1.60 and 1.64 NEL/kg DM in CTL, FS, ES and MIX treatments. All diets were iso-nitrogenous and contained an average 16.50% CP. Experimental duration was 6 week. Measurements were made during the last 3 weeks. Daily feed intake and milk yield were recorded. Weekly milk samples were analyzed for composition and fatty acid pro　le. Blood samples were taken from the coccygeal vein or artery at 3h post-feeding on the last day of experiment and analyzed for blood chemistry. Statistical analysis was conducted using the MIXED procedure of SAS for a completely randomized design with repeated measures. Yields of milk, fat and protein were not different among treatments. The proportions of short and medium chain (C4:0 – C12:0) were decreased and long chain FA increased in cows fed oil seeds compared with cows in CTL. Feeding expanded soybeans to cows in ES treatment increased the C18:2 cis-9 trans-11 isomer of CLA in milk by 84% compared with CTL treatment. The concentrations of CLA in milk were the same in CTL, FS and MIX treatments. Mean concentration of plasma cholesterol, lipoprotein cholesterol, NEFA, Leptin, glucose, triglyceride, insulin and β-hydroxybutyric acid was not different among treatments. Results suggest that feeding expanded soybeans to dairy cows enhances the C18:2 cis-9 trans-11 isomer of CLA without in　uencing feed intake, milk yield, milk composition and blood parameters.

【语种】英文

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【学科分类】畜牧学

【题目】Relationship between milk odd and branched-chain fattyacids and duodenal flow of microbial protein

【中文关键词】奇数和支链脂肪酸,微生物蛋白,奶牛

【英文关键词】odd and branched-chain fatty acids, microbial protein,
dairy cows

【中文摘要】影响精制二十二碳六烯酸(二十二碳六烯酸)和精制游离亚油酸(洛杉矶)或其组合上奇数和支链脂肪酸(obcfa)概况牛奶进行了研究。之间的相关性是obcfa分泌和十二指肠流动微生物蛋白在哺乳期的奶牛。四个产荷斯坦奶牛奶牛瘤胃和十二指肠瘘管平均139±10点心中使用了一个4×4拉丁方设计实验。有4个时期,每3周。奶牛饲料喂养65%和35%集中饮食。除了基础日粮奶牛收到0(控制)或0.5%,2.73%,和0.5% +2.3%组合。脂肪的添加取代谷物的饮食。牛奶和十二指肠食糜样品收集17,18,19,16,17,18,分别为。数据统计分析的使用过程中的混合。饲料摄入量不影响脂肪补充控制相比。牛奶产量18.6,17.2,18.4,和17公斤/天,鱼油,洛杉矶,和二十二碳六烯酸+洛杉矶治疗,分别和不影响脂肪补充磷>0.05。牛奶脂肪和蛋白质的比例是相同的脂肪补充治疗和控制。与对照组相比,浓度线性不饱和脂肪酸(15 : 0和c17:0)牛奶减少了洛杉矶的治疗,然而,脂肪酸补充剂并没有显着(>0.05)影响的浓度iso-fatty酸或anteiso-fatty酸。没有强烈的线性关系(注册商标=0.166)之间obcfa乳汁分泌和十二指肠流动胞嘧啶进行观察研究,表明牛奶obcfa不能被用作标记十二指肠流动微生物蛋白质时,提供饮食与脂肪酸补充剂。

【英文摘要】Effects of refined docosahexaenoic acid (DHA) and refined free linoleic acid (LA) or their combination on odd and branched-chain fatty acids (OBCFA) profiles of milk was studied. A correlation was developed between OBCFA secretion and duodenal flow of microbial protein in lactating dairy cows. Four multiparous Holstein-Friesian dairy cows with ruminal and duodenal cannulas averaging 139±10 DIM were used in a 4 × 4 Latin square design experiment. There were 4 periods of 3 wk each. Cows were fed 65% forage and 35% concentrate diet. In addition to the basal diet cows received either 0 (Control) or 0.5% DHA, 2.73% LA, and 0.5% DHA + 2.3% LA in combination. Fat was added by replacing grain in the diet. Milk and duodenal digesta samples were collected on 17, 18, 19 d and 16, 17, 18 d, respectively. Data were analyzed statistically by using PROC MIXED of SAS. Feed intake was not

affected by fat supplement compared to control. Milk yields were 18.6, 17.2, 18.4, and 17.0 kg/d for control, DHA, LA, and DHA+LA treatments, respectively and were not affected by fat supplementation P > 0.05. Milk fat and protein percentages were the same in fat supplemented and control treatment. Compared with control, the concentrations of linear odd-chain fatty acids (C15:0 and C17:0) in milk were reduced by LA+DHA treatment, however, fat supplements had no significant (P>0.05) effects on the concentrations of iso-fatty acids or anteiso-fatty acids. No strong linear relationship (R=0.166) between milk secretion OBCFA and duodenal flow of cytosine were observed in this study, suggesting that milk OBCFA could not be used as a marker for duodenal flow of microbial protein when cows offered diets with fat supplements.

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【题目】Effects of duodenal infusion of linolenic acid on milk fatty acid composition in dairy cows
【中文关键词】亚麻酸,营养物质消化率,牛奶的组成
【英文关键词】linolenic acid, nutrient digestion, milk composition
【中文摘要】提高亚麻酸含量的牛奶脂肪可能是可取的,以满足消费者的偏好。我们的目标是确定可能改变的内容含量的牛奶中的十二指肠灌注高含量的游离脂肪酸混合物。四产中国荷斯坦奶牛(体重=556±19公斤,暗=93±9)配备十二指肠插管管理的2个治疗交叉设计。治疗的均质混合物水溶液α－亚麻酸(低噪声放大器;82.4%个独联体－9,独联体－12,独联体－15：3;独联体14.7%－9,独联体12－2;2.8%个独联体－918：1)或控制只含有乳化成分。控制输注由15克/天的黄原胶,5克/天海藻酸钠,和25克/天吐温80在10升的水。每一期长达5周,其中2头牛每年收到的金额(0,40,80,120,和160克/天)的低噪声放大器每1周,和其他2个奶牛收到承运人只输注。测量了在过去3天的每个输液量。数据统计分析的使用过程中的混合。多项式的反差是由线性,二次,三次量的影响及处理。意义是宣布在<0.05。增加的数额低噪声放大器注入十二指肠线性浓度增加338动画。脊髓损伤。87卷,e-suppl。2 / J乳品科学。92卷,e-suppl。1独联体－9,独联体－12,独联体－15含量(0.16,6.49,12.42,18.75,和25.38%低噪声放大器注入0,40,80,120,160克/天,分别)和独联体－9,独联体－12c18:2(2.38,2.94,3.19,3.77,和4.16%)。提高低噪声放大器下降百分比的短链脂肪酸,c14:0,并使之≤C16总足总杯(65.2,60.7,57.8,51.4,46%)呈线性下降。提高低噪声放大器线性下降百分比独联体－9C18：1(17.4,16.6,13.7,11.7,11.5%)与顺9,反－11c18:2(0.37,0.37,0.28,0.26,0.18%)牛奶中的脂肪。牛奶的脂肪含量－5独联体,独联体－8,独联体－11,cis-14,独联体－17c20:5(0.09,0.18,0.22,0.21,0.22%)是二次影响,而浓度c18:0,跨18：1－9,反－11C18：1,和反－10,独联体－12c18:2没有影响。增加供应的亚麻酸对小肠的线性增加,亚麻酸牛奶脂肪和明显改变牛奶的脂肪成分。
【英文摘要】Increasing the linolenic acid content of milk fat might be desirable to meet consumer preference. Our objective was to determine the potential to alter the content of C18:3 in milk by duodenal infusion of a high C18:3 free fatty acid mixture. Four multiparous Chinese Holstein cows (BW = 556 ±19 kg, DIM = 93 ± 9 d) fitted with duodenal cannulas were administered 2 treatments in a crossover design. Treatments were homogenized aqueous mixtures of α－linolenic acid (LNA; 82.4% cis－9, cis－12, cis－15 18:3; 14.7% cis－9, cis－12 18:2; 2.8% cis－9 18:1) or control containing only the emulsifying ingredients. The control infusate consisted of 15 g/d of xanthan gum, 5 g/d sodium alginate, and 25 g/d of Tween 80 in 10 L of water. Each period lasted 5 wk, in which 2 cows received each amount (0, 40, 80, 120, and 160 g/d) of LNA for 1 wk each, and the other 2 cows received only the carrier infusate. Measurements were made during the last 3 d of each infusion amount. Data were analyzed statistically by using PROC MIXED of SAS. Polynomial contrasts were constructed of linear, quadratic, and cubic effects of amount by treatment. Significance was decleared at P < 0.05. Increasing the amount of LNA infused into the duodenum linearly increased concentrations of 338 J. Anim. Sci. Vol. 87, E-Suppl. 2/J. Dairy Sci. Vol. 92, E-Suppl. 1 cis－9, cis－12, cis－15 C18:3 (0.16, 6.49, 12.42, 18.75, and 25.38% for LNA infused at 0, 40, 80, 120, 160 g/d, respectively) and cis－9, cis－12 C18:2 (2.38, 2.94, 3.19, 3.77, and 4.16%). Increasing LNA decreased percentages of short-chain fatty acids, C14:0, and C16:0 so that total FA ≤16C (65.2, 60.7, 57.8, 51.4, 46.0%) decreased linearly. Increasing LNA linearly decreased percentages of cis－9 C18:1 (17.4, 16.6, 13.7, 11.7, 11.5%) and cis-9, trans－11 C18:2 (0.37, 0.37, 0.28, 0.26, 0.18%) in milk fat. Milk fat content of cis－5, cis－8, cis－11, cis-14, cis－17 C20:5 (0.09, 0.18, 0.22, 0.21, 0.22%) was quadratically affected, whereas concentrations of C18:0, trans－9 C18:1, trans－11 C18:1, and trans－10, cis－12 C18:2 were not affected. Increasing the supply of linolenic acid to the small intestine linearly increased linolenic acid in milk fat and markedly altered milk fat composition.

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【题目】饲料中添加吡喹酮在鸡蛋中的残留及其对孵化率的影响
【中文关键词】吡喹酮;鸡蛋;种蛋孵化率
【英文关键词】Praziquantel;egg;hatching rate
【中文摘要】试验在蛋种鸡饲料中按1：4 000比例添加吡喹酮,连喂3 d后测定血清和蛋黄中吡喹酮的存留量,停喂后1天收集种蛋进行孵化,以检验吡喹酮对孵化性能的影响。结果表明,吡喹酮在鸡血液中的存留时间较短,但在鸡蛋中还是有积累效应。饲喂吡喹酮期间和以后一段时间内种蛋的受精率和孵化率受到显著影响。
【英文摘要】
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【通讯作者】宁中华
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【题目】Diversity of ureC genes from rumen microflora metagenomic library
【中文关键词】宏基因组,尿酶素C多样性,瘤胃微生物多样性
【英文关键词】metagenome, ureC diversity, rumen microflora
【中文摘要】原因是,大多数细菌瘤胃仍然落后,信息瘤胃脲酶基因序列及系统发育多样性的恐慌。要解决这个问题,一个功能屏幕urease-active无性系进行了瘤胃细菌人工染色体图书馆从奶牛瘤胃微生物。聚合酶链反应简并引物的基础上urec基因是保守的ureolytic细菌被用来设计和放大urec基因的阳性克隆。通用16细菌引物扩增基因基因的阳性克隆。序列与Gen Bank数据库进行抨击,和进化树建造的巨型4软件。十六系(u1-u16)被确定为ureolytic积极采用尿素酶分离琼脂。四系(U 1,U 5,u13和u15)含有urec基因被确定。进化树的基础上urec透露,U 5,u13和u15聚集,厚壁, ε -变形菌, β -变形菌、放线菌,分别为。所克隆包含一个部分基因序列最有身份的金黄色,这是协议urec系统发育分析。考虑在一起,这项研究提供了第一个证据的系统发育多样性的ureolytic从奶牛瘤胃细菌。
【英文摘要】Due the fact that the majority of rumen bacteria were still uncultured, information about ruminal urease gene sequence and phylogenetic diversity were scare. To resolve this problem, a functional screen for urease-active clones was conducted for a rumen bacterial artificial chromosome library from dairy cow rumen microflora. Polymerase chain reaction degenerate primers based on the ureC gene which was conserved in ureolytic bacteria were designed and used to amplify the ureC genes from positive clones. The universal 16s bacterial primers were used to amplify the 16s rRNA gene of positive clones. Sequences were blasted against GenBank database, and phylogenetic tree were built by Mega 4.0 software. Sixteen clones (U1-U16) were identified as ureolytic positive using urease segregation agar. Four clones (U1, U5, U13 and U15) containing ureC genes were identified. The phylogenetic tree based on ureC revealed that U1, U5, U13 and U15 clustered to Firmicutes, ε -Proteobacteria, β -Proteobacteria and Actinobacteria, respectively. U1 clone contained a partial 16s rRNA sequence had the most identity to Staphylococcus, which was in agreement with ureC phylogenetic analysis. Taking together, this study provided first evidence for the phylogenetic diversity of ureolytic bacteria from cow rumen.
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【题目】Effects of protein sources in calf milk replacers on growth and fecal score of dairy calves
【中文关键词】犊牛,大豆蛋白,牛奶蛋白质
【英文关键词】calves, soybean protein, milk protein
【中文摘要】本研究的目的是评估大豆和牛奶的蛋白质来源的牛奶替代品前和断奶后生长的女性荷斯坦奶牛牛犊。四十八个小牛犊(房屋户外个人窝在蒙牛澳大利亚国际乳品农场)受阻的体重和随机分配的块一两个牛奶替代品的治疗:牛奶替代品含有大豆蛋白(mr-s,3.07美元/千克)或牛奶蛋白(mr-m,4.31元/公斤)。牛奶替代品含有大豆蛋白(大豆浓缩蛋白提供50%的总蛋白)或牛奶蛋白(乳清蛋白)。喂犊牛500 g /糖尿病分为相等的喂养混合成2升的水每喂养,从D - 4到10,然后减少到400克/天从11到断奶。牛奶替代品含有22%和18%脂肪。体重,枯萎身高,胸围和血液样本进行测量和收集出生,然后在11,18,25,32,39,46,53,断奶,60。小腿起动(政务司司长,$0.55/公斤)和水提供广告随机消费和政务司司长的D - 4,饲料拒绝每日测定。没有干草喂。粪便分数记录每日。断奶的标准是最低的基础上每日摄入900克的起动机≥连续2天。体重,枯萎身高,胸围,干物质摄入量从母乳替代品和小腿简化版,并获得饲料的比例没有差异处理。和所有选定的血液代谢物(尿素氮,葡萄糖,游离脂肪酸和bhba)也没有什么不同从出生到60。粪便分数之间出生和14均显着高于(<0.05)犊牛喂mr-s与mr-m,但并没有不同的15至28,29和断奶,断奶60老。饲料成本(包括母乳替代品和起动)每小腿明显大于(<0.01)犊牛喂mr-m.这项研究的条件下,与牛奶蛋白的牛奶替代品,犊牛喂mr-s取得同样水平的身体生长和降低饲料成本26%。
【英文摘要】The objective of this study was to evaluate soybean and milk protein sources in milk replacer on pre- and post-weaning growth of female Holstein dairy calves. Forty-eight calves (housing outdoors in individual hutches at Mengniu Australia International Dairy Farm) were blocked by BW and assigned randomly within block to one of two milk replacer treatments: milk replacer containing soy protein (MR-S, $3.07/kg) or milk protein (MR-M, $4.31/kg). Milk replacers contained soybean protein (soy protein concentrate to provide 50% of total protein) or milk protein (whey protein). Calves were fed 500g/d DM divided into two equal feedings mixed into 2 liters water per feeding, from d-4 to 10, and then reduced to 400 g/d from d-11 until weaning. Milk replacers contained 22% CP and 18% fat. Body weight, wither height, heart girth and blood samples were measured and collected at birth, and then on d 11, 18, 25, 32, 39, at weaning, 46, 53, and 60. Calf starter (CS, $0.55/ kg) and water were offered for ad libitum consumption from d-4, and CS feed refusals were measured daily. No hay was fed. Fecal scores were recorded daily. Weaning criterion was based on a minimum daily starter intake of ≥900 g for 2 consecutive days. Body weight, wither height, heart girth, dry matter intake from both milk replacer and calf starter, and gain to feed ratio were not different between treatments. And all of the selected blood metabolites (BUN, GLU, NEFA and BHBA) were also not different from birth to 60d. Fecal scores between birth and 14 d were significantly higher(P<0.05) for calves fed MR-S versus MR-M, but did not differ for d 15 to 28, 29 to weaning, and weaning to 60 d old. Feed cost(including milk replacer and starter) per calf was significantly greater (P<0.01) for calves fed MR-M. Under conditions of this study, compared with the milk protein milk replacer, the calves fed MR-S achieved the same level of body growth and reduced feed cost by 26%.
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【学科分类】畜牧学

【题目】基于Ajax技术的动态匹配检索
【中文关键词】Ajax Google建议 XMLHttpRequest 动态匹配检索
【英文关键词】Ajax google suggest XMLHttpRequest dynamicmatching search
【中文摘要】针对网站信息检索精确度不高、交互效率低下以及用户体验感不佳等问题,在仔细分析Google Suggest功能与实现原理的基础上,结合Ajax技术在提高数据交互性能以及解决页面重载问题所具有的明显优势,提出基于Ajax技术的动态匹配检索方法,实时响应用户请求,及时刷新检索结果,并有针对性地获取用户检索兴趣,从而扩展网站的检索功能,改善用户

的检索体验。
【英文摘要】Concerning about the problems, like inaccuracy ofwebsite information searching, inefficiency of interacting between brow-ser and server, and unsatisfactory user experience, the article discusses theAjax ’ s significant advantages in improving data exchangeperformance and solving page reloading problem, analyzes the function and principle detailly, and puts forward a dynamic matchingsearchmethod based on Ajax. It can response users ’ request all the time, and refresh the results in time. Furthermore, It can alsocapture users ’ interests pertinently, so as to strengthen thewebsite ’ s functions, and improve users ’ searching experience.
【语种】中文
【第一作者】吴江寿
【通讯作者】吴江寿
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【学科分类】计算机应用

【题目】基于本体的农业科技信息用户建模系统设计与实现
【中文关键词】用户建模; 本体; TF×IDF;
【英文关键词】User modeling Ontology TF×IDF;
【中文摘要】采用构建用户模型和领域本体的方法,对用户检索历史记录进行研究和分析并提取用户信息,提出构建基于本体的用户建模研究。用户模型由两部分组成,包括用户知识本体以及概念向量。实验表明,本研究对用户文献检索结果的排序有所改善。
【英文摘要】This paper adopts the method of building user modeling and domain Ontology approach,and extracts the user information through studying and analyzing the user search history.Then the user modeling that consists of user Ontology and user concept vectors is constructed.The experiment shows that this study improves the order of the user retrieval results.
【语种】中文
【第一作者】张瑜
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【学科分类】计算机应用

【题目】LODE本体开发系统客户端的主要功能与特点
【中文关键词】知识本体; 知识管理系统; 本体开发工具;
【英文关键词】ontology; knowledge management system; ontology development tool;
【中文摘要】本文从知识领域管理、本体编辑维护、词汇管理及文档标注等方面介绍了LODE(Large Ontology Development Environment)知识本体开发环境客户端的主要功能和特点。
【英文摘要】The main functions and characters of LODE s client were introduced in the aspects of knowledge-domain management,ontology editing and maintaining,vocabulary management and document annotation in detail.
【语种】中文
【第一作者】苏晓路
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【学科分类】计算机应用

【题目】The potential geographic distribution of Radopholus siimilis in China
【中文关键词】无
【英文关键词】Radopholus similes niche model GARP MAXENT suitable distribution area
【中文摘要】无
【英文摘要】The burrowing nematode (Radopholus similis) is one of the main quarantine pests in China, and the risk of invasion posed by this nematode is becoming more and more serious with regard to the international trade being intensified day by day. It is urgent to analyse the potential geographic distribution of R. similis in China. Genetic algorithm for rule-set prediction modeling system (GARP) and maximum entropy (MAXENT), the two niche models which have been widely used to predict the potential geographic distribution of alien species, were used to predict the distribution of R. similis in China. We also presented a model comparison of the results by both threshold-dependent and threshold-independent evaluations. It has been shown that the two niche models could be used to predict the potential distribution of R. similis reliably. The potential distribution of R. similis should be constricted within the south of China, such as Hainan, Guangdong, Guangxi, Fujian, Yunnan provinces, and Taiwan of China. The MAXENT gives a better prediction than that of GARP. R. similis can be introduced to China by flowers and nursery stock ’s international shipping. The predicted results indicate that R. similis can occur in south coastal area of China and Yunnan Province, which are the main flower and nursery stock ’s import-export areas in China. Consequently, a strong quarantine program is needed at the ports of such areas to prevent the pest from being introduced to China.
【语种】英文
【第一作者】王运生
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【题目】基于JavaME与WAP的移动信息系统实现
【中文关键词】JavaME; Web服务; WAP; MIDlet;
【英文关键词】JavaME; Web Services; WAP (Wireless Application Protocol); MIDlet;
【中文摘要】根据JavaME开发的移动应用程序具有可移植性特点,并结合Web Services有效地实现客户端与服务端间的数据交互,提出移动信息服务框架,研发满足个性化需求的移动客户端MIDlet。同时,基于移动Internet接入方式,推出相应的移动WAP服务。简要分析了整个系统的实现过程,为企业构建移动电子商务平台提供了一个现实、可行的解决方案。
【英文摘要】According to the portability of mobile application program developed by JavaME, and efficient data exchange between Client and Server by JavaME and Web Services, a mobile information service framework is put forward , and mobile Client MIDlet is developed to meet personalized demands. Meanwhile, based on mobile internet accessing, mobile WAP service is provided. Furthermore, the paper simply analyzes the whole system ’s implementation process which will greatly help to offer a practical and feasible solution for companies to construct a mobile e-business platform.
【语种】中文
【第一作者】吴江寿
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【学科分类】计算机应用

【题目】基于JavaME与Web Services的企业移动应用
【中文关键词】企业移动应用; JavaME; Web服务; JSR172;
【英文关键词】none
【中文摘要】从企业移动业务拓展角度出发,介绍了一种基于JavaME与Web Services的系统架构,实现了服务端信息点播服务的构建与发布机制,并参照JSR172(JavaME Web Services Specification172),研发了支持远程Web服务访问的移动客户端应用

程序,以期为企业构建移动信息服务平台提供一种现实、可行的思路。
【英文摘要】none
【语种】中文
【第一作者】吴江寿
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【题目】OWLFull表示的顶级本体到OWLDL的转换研究
【中文关键词】顶级本体 OWL子语言转换 OWL Full OWL DL
【英文关键词】Top Ontology OWL- based transformation between different sublanguages OWL Full OWL DL
【中文摘要】为使领域本体利用顶级本体中的常识知识进行有效的推理,开展将OWLFull表示的顶级本体SUMO和OpenCyc转换为由OWLDL表示的研究,在尽可能保持原逻辑关系的前提下,针对类、属性及实例的定义在转换中出现的各种问题进行了相应的处理,使转换后的顶级本体符合OWLDL语言标准。
【英文摘要】In order to utilize general knowledge of top Ontology for effective reasoning by domain Ontology, this paper studies translating of top Ontology expression from OWL Full to OWL DL, such as SUMO and OpenCyc. Problems appeared during definition translating of classes, properties and instances are handled to make the translated top Ontology accordant to the OWL DL language.
【语种】中文
【第一作者】苏晓路
【通讯作者】苏晓路
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【题目】基于领域本体的智能检索技术应用研究
【中文关键词】领域本体,构建,推理,Oracle 11
【英文关键词】domain ontology, construction, reasoning, Oracle 11g
【中文摘要】目前,万维网的信息每天以爆炸式增长,如何高效地获取有价值的目的信息是信息检索研究面临的最大挑战。传统信息检索系统主要基于内容分类目录的检索和基于关键词的检索,基于关键词的检索很大程度上由用户的经验所左右,而且关键词容易产生语义混淆;而基于内容分类目录的检索虽然通过人工加入了人类的知识,但是加入的人类知识很难保证及时性和准确性。因此,传统信息检索系统帮助用户找到的信息资源总是差强人意。针对传统信息检索系统存在的问题,本研究设计了基于领域本体的信息检索系统框架。该系统框架以领域知识的定义和分类为基础,构建了领域本体,并采用Oracle 11g对领域本体中的概念集合和概念之间的关系集合进行存储,通过用户自定义的领域规则进行选择推理,从而提高检索精度。本研究的主要研究内容与成果如下:(1)深入研究了语义web和本体技术的基本理论,如本体的基本要素、本体描述语言、本体建设工具等。深入研究了本体构建方法,并使用prot é g é 构建领域本体。要实现专业领域的检索系统,需充分发挥语义在检索系统上的优势,提供专业化的优于大型通用检索系统的网络信息检索服务。因此,需要建立充分、完整、权威性的领域本体库,并在本体库中充分利用和体现该领域的特点,以达到更佳效果。利用自定义规则使用jena实现向上推理,利用它作为逻辑推理和语义分析的工具和平台,为实现语义Web提供基础,重新设计检索系统,使检索系统更具智能化,检索结果更能符合用户的需求,提高搜索结果集的查准率。利用JSP技术,基于Eclipse3.1+Tomcat5.0+Lomboz3.0构建本体检索系统,实现领域用户和服务器的动态交互。(2)本研究不仅构建了领域本体知识库,还实现了专业领域的检索系统。由于引用了jena推理机,使用用户自定义的推理规则进行选择推理,系统在查全和查准方面都有所提高。系统利用了JSP技术加强领域用户和服务器的交互,而且借助本体库资源,设计出更容易被用户接受的人机接口智能化界面。本研究还采用了Oracle 11g数据库持久化本体,这使得我们维护为本体更为方便容易。

【英文摘要】Currently, the World Wide Web's information grow explosively every day, how to obtain valuable information efficiently is biggest challenge. Traditional information retrieval system searching information mainly based on content categories and keyword-based. The system based on keywords mainly depends on the user's experienc, but keywords are prone to be semantic confusion. And retrieval system of content-based categories has been joined by artificial human knowledge, but joining the human knowledge is difficult to ensure timeliness and accuracy. Therefore, the traditional information retrieval system is always unsatisfactory.To deal with problems of traditional information retrieval system, this research designs a framework of domain ontology-based information retrieval system. Based on the definition and classification of domain knowledge, the framework constructs domain ontology, uses Oracle 11g to deposit the concept sets and the relationship sets among the concepts of domain ontology and infers the related knowledge with a user-defined rulebase, which improves retrieval accuracy.The research contents and results are as follows: (1) Deep study the semantic web and the basic theory of ontology technology, such as the basic elements of ontology, ontology language and ontology building tools. Deep study the method of building ontology, and use the prot é g é build domain ontology. To construct the domain intelligence search engine and to release full potential energy of the semantic on search engine will need professional search engine better than the large general network information retrieval services. Therefore, it is necessary to establish the full, complete and authoritative domain ontology library and be full use of the library and reflect the characteristics of the field in order to achieve better results. Using custom defining rules, achieving up reasoning using jena, using its logical and semantic analysis tools and platforms can provide the basis for the Semantic Web, make search engine re-design more intelligent, reflect the user's demand better and improve search precision ratio result. Using JSP technology, based on Eclipse3.1 + Tomcat5.0 + Lomboz3.0 building ontology retrieval systems can achieve the interaction of domain users and servers.(2) This study not only build the domain ontology knowledge library, but also realize domain search engines. Because of using jena reason machine and using user-defined rules to reason, the system improve the recall and precision rates. The system also uses JSP technology to strengthen the interaction of the domain users and server, and the use of ontology library resources is easy to design the intelligent human-machine interface which is accepted by the users. The study also uses Oracle 11g database to persist ontology, which makes it more convenient for us to maintain the ontology easily.

【语种】中文
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【学科分类】计算机应用

【题目】Transformation of Sulfate and Organic S in Rice Straw in Flooded Paddy Soils and Its Availability to Plants Using Sulfur-35 Labeling.

【中文关键词】35S;硫酸盐;转化;有效性;水稻田土壤
【英文关键词】35S; Sulfur fraction; Transformation; Availability; Flooded paddy soil

【中文摘要】硫的转化及植物有效性在黑龙江黑土和江西红壤两种水稻土进行了调查。在一个封闭的系统使用35S标记无载体35S－SO42－及35S标记稻草,孵化后120天,51.1%和60.3%标记的S分别发现两种水稻土的硫酸盐中。种植水稻后,土壤pH和氧化还原电位增加,造成硫化物－和OI-S可以转化为植物可以利用的硫酸盐。植物吸收利用的35S绝大多数来自sulfate－35S, sulfide－35S and OI－35S,少量来自C－O－35S, C-bonded 35S 和 NRO－35S。在35S标记的水稻秸秆处理中,23.3%和26.4%的35S标记发现硫酸盐中,25.3%和26.3%－硫化物、6%和6.1% OI－35S、16.4%和14% C－O－S、18.9%和18.9%C-bonded S分别发现在培育120天的两种水稻土中。来自水稻秸秆C－O－35S, C-bonded 35S and NRO－35S,与来自35S标记无载体35S－SO4相比,具有更高的植物有效性。

【英文摘要】Sulfur transformation and its availability to plants in two flooded paddy soils, derived from Black soil in Heilongjiang (soil 1) and from Red earth in Jiangxi (soil 2), were investigated in a closed incubation system using carrier-free 35S－SO42－ and 35S-labeled rice straw. After incubation for 120 days, 51.1% and 60.3% of the 35S added in the Na235SO4 treatment were found in the sulfate－S fraction, 14.0% and 11.1% as sulfide－S, 5.2% and 5.3% as other non-sulfate inorganic S fraction (OI-S), 9.5% and 6.0% as C－O－S, 8.1% and 7.3% as C-bonded S, and 12.1% and 10.0% as non-reducible organic S fraction (NRO-S) for soil 1 and soil 2, respectively. Since soil Eh increased greatly after planting the rice, sulfide－S and OI-S could be transformed into sulfate as plant-available S. Most of the 35S uptake by plants came from sulfate－35S, sulfide－35S and OI－35S, with little contribution from C－O－35S, C-bonded 35S or NRO－35S. In the treatment with 35S-labeled rice straw, 23.3% and 26.4% of the 35S applied was found in the sulfate－S fraction, 25.3% and 26.3% as sulfide－S, 6.0% and 6.1% as OI-S, 16.4% and 14.0% as C－O－S, 10.1% and

8.3% as C-bonded S, and 18.9% and 18.9% as NRO-S at 120th day of incubation in these two soils, respectively. Higher availability of C – O – 35S, C-bonded 35S and NRO – 35S from 35S-labeled straw was observed in the 35S-labeled straw treatment, compared to the carrier-free Na235SO4 treatment.

【语种】英文
【第一作者】周卫
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【学科分类】土壤学

【题目】晋北半干旱区免耕对玉米光合和蒸腾特性的影响
【中文关键词】免耕;覆盖;玉米;蒸腾速率;光合速率
【英文关键词】No-tillage; mulch; maize; transpiration; photosynthesis
【中文摘要】采用田间小区试验,对覆盖免耕、留茬免耕和传统翻耕三种耕作方式下玉米不同生育期土壤温度、土壤含水量以及玉米蒸腾速率和净光合速率进行观测。结果表明:免耕与翻耕相比,可降低土壤温度,覆盖免耕对玉米地土壤温度降低幅度较大,而留茬免耕则较小,免耕对土壤温度的降低幅度随着玉米的生长发育而减弱。免耕能够提高土壤含水量,尤其是0-60cm土层。免耕与翻耕相比,在玉米苗期,玉米蒸腾与光合速率降低,其中覆盖免耕玉米日平均蒸腾与光合速率比翻耕分别降低了8.5%和9.7%,差异显著;留茬免耕略有降低,但差异不显著。在拔节前期免耕与翻耕玉米蒸腾与光合速率无显著差异。在拔节后期、抽穗期和灌浆期,覆盖免耕玉米蒸腾与光合速率比翻耕显著提高;留茬免耕在灌浆期玉米蒸腾与光合速率比翻耕显著提高,其它时期与翻耕差异不显著
【英文摘要】The experiment was carried out in the field with three treatments: i.e. conventional till (CT), non-till retaining maize stubble (NT), and mulch-till with un-chopped maize straw mulch (MT).The soil temperature, soil water content, transpiration and photosynthesis of maize which were sowed with three kinds of tillage (CT, NT, MT) were observed. The results indicate: the soil water content and soil temperature are different under different tillage, and so is the photosynthesis and transpiration of maize. The temperature of soil in MT and NT at early stage is lower than CT, These differences gradually become smaller at later stage. Also, MT and NT can significantly improve the soil water content, especially in 0~60cm depth. Compared with CT, The photosynthesis and transpiration rate of maize in MT and NT, at early stage are lower .At early jointing stage they have no significant differences. Compared with CT, the photosynthesis and transpiration rate of maize in MT are significantly increased after the jointing stage. At the filling stage, The photosynthesis and transpiration rate of maize in NT are higher than CT .At other they have no significant differences between CT and NT.
【语种】中文
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【题目】水分对苜蓿叶片光合特性的影响
【中文关键词】灌水量, 苜蓿, 原初光能转换效率, 光合速率, 蒸腾速率
【英文关键词】irrigation amount, Medicago sativa, original light conversion efficiency, photosynthesis rate, transpiration rate
【中文摘要】采用田间试验, 对每茬灌水3次(W3)、2次(W2)、1次(W1)和不灌水(W0)四种条件下的土壤水分, 苜蓿(Medicago sativa)叶片的叶绿素荧光参数、气孔导度(Gs)、净光合速率(Pn)和蒸腾速率(Tr)进行测定。结果表明, 灌水提高了苜蓿叶片的原初光能转换效率(Fv/Fm)、Pn和Tr, 并随着灌水量的增加而增加。苜蓿叶片的Fv/Fm、Pn和Tr的日均值与土壤含水量均呈极显著正相关关系。苜蓿叶片的Pn与Fv/Fm和光合有效辐射(PAR)的乘积呈正相关关系。灌水还改变了苜蓿叶片Pn的日变化格局。灌水较多的处理(W3和W2), 苜蓿叶片没有出现光合“午休”现象, Pn的日变化趋势呈现“单峰

”型。而灌水较少和不灌水的处理(W1和W0),苜蓿叶片出现了明显的光合“午休”现象,其Pn的日变化进程呈现“双峰”型。在相同的水分条件下,初花期苜蓿叶片的Pn高于再生期的,Tr则相反。

【英文摘要】Aims Alfalfa (Medicago sativa) is the most extensive perennial leguminous forage. In the semi-arid region, wateris the most important limiting factor for alfalfa growth. Our objective was to study the effect of soil water contenton physiological properties of alfalfa.Methods Our field experiment consisted of four treatments: non-irrigation (W0) and irrigated (75 mm each) once(W1), twice (W2) and three times (W3) for each crop. We evaluated soil moisture, leaf chlorophyll fluorescenceparameters, stomatal conductance (Gs), transpiration rate (Tr), and net photosynthetic rate (Pn).Important findings The original light conversion efficiency (Fv/Fm), Gs, Tr, and Pn of alfalfa were significantlyimproved by increasing irrigation. Moreover, correlation analysis showed that the mean value of the day of Fv/Fm,Gs, Tr, and Pn had significantly positive relationships with the average soil water content of 0 – 280 cm depth. Pnhad a significantly positive relationship with Fv/Fm × PAR (photosynthetically active radiation). Additional irrigationalso changed the diurnal courses of leaf Pn. Photosynthesis of alfalfa under W2 and W3 treatments did notpresent the “midday depression”, and the diurnal courses were unimodal. Nevertheless, treatments W1 and W0exhibited an apparent “midday depression” phenomenon, and the diurnal variation was bimodal. There were differentphysiologically activities at different growth stages of alfalfa. Pn of alfalfa in the early flowering stage wasobviously higher than in the regeneration stage, in contrast Tr was lower at the early flowering stage.

【语种】中文

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【学科分类】生态学

【题目】谷豆覆膜条带种植技术及其光合水分变化研究

【中文关键词】谷子 大豆 地膜覆盖 条带种植
【英文关键词】Millet, Soybean, Plastic mulching, Strip-planting

【中文摘要】通过谷豆条带种植技术、谷子覆膜穴播栽培技术、大豆膜际条播栽培技术的进一步集成,形成一套新的高产高效种植模式。该模式发挥了3种技术的优势,能够充分利用自然光热资源,明显改善谷子和大豆的光合、呼吸及水分交换环境。谷子光合速率(Pn)分别比普通条带谷子和单作谷子提高19.2%、32.4%,气孔导度(Cleaf)分别提高6.3%、42.2%,蒸腾速率(E)与单作谷子相近;大豆光合速率分别比普通条带大豆和单作大豆提高5.6%、56.1%,蒸腾速率分别提高3.1%、46.1%,气孔导度分别提高31.3%、148.9%;谷子水分利用效率(WUE)分别比普通条带谷子和单作谷子提高32.3%和31.9%,大豆水分利用效率分别比普通条带大豆和单作大豆提高2.6%和7.0%。模式总产量显著高于单作大豆,与单作谷子相近,比普通谷豆条带种植模式高17.7%;总效益比单作谷子增加1 413.75 元・hm－2,比单作大豆和普通谷豆条带种植模式分别增加2 242.5 元・hm－2、1 542.0 元・hm－2。模式具有显著的增产、增收、节水效果。

【英文摘要】A new strip-planting pattern under plastic mulching of millet and soybean is developed by integration and optimization ofalternate strip-planting technique of millet and soybean, spot-planting technique under film mulching of millet and strip-plantingtechnique under film mulching of soybean. The new planting pattern is more advanced because not only photosynthesis, respirationand water utilization of millet and soybean are improved, but the yields are higher as well. Compared with the ordinary models ofalternate strip-planting and monocropping millet, leaf photosynthetic rate (Pn) of millet in the new pattern increases by 19.2% and32.4% respectively. Stomatal conductance of leaves (Cleaf) is higher by 6.3% and 42.2% respectively, while leaf transpiration rate (E)is similar to that in monocropping millet. For soybean, Pn under the new pattern is higher by 5.6% over that under ordinary alternatestrip-planting; and by 56.1% over that under monocropping soybean. E increases by 3.1% and 46.1% respectively. Cleaf also increasesby 31.3% and 148.9% respectively. Under the new pattern, water use efficiency (WUE) of millet and soybean are markedly enhanced,especially in millet where WUE exceeds 30% increment over the two old planting patterns. Total output is obviously higher than thatin monocropping soybean, very close to that for monocropping millet. Yield increases by 17.7% compared with ordinary alternatestrip-planting. Total economic benefit respectively increases by 1 413.75 yuan・hm－2, 2 242.5 yuan・hm－2 and 1 542.0 yuan・hm－2over monocropping millet and monocropping soybean, and alternate strip-planting system.

【语种】中文

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【学科分类】农业基础学科

【题目】旱作区河沟地多作高效种植模式比较分析
【中文关键词】旱作区; 河沟地; 间套作
【英文关键词】无
【中文摘要】通过对玉米套种西葫芦模式,西葫芦套种芥菜模式,玉米套种西葫芦、架豆复种大白菜模式,西瓜套种白萝卜复播红胡萝卜模式4 种多作高效种植模式的比较研究得出,玉米套种西葫芦、架豆复种大白菜模式总产值达5 37716 元/667m2 ,为效益最高模式。其余模式虽西瓜套种白萝卜复播红胡萝卜模式产值相对较低,但产值也均在2 000 元/ 667 m2以上,相对玉米等粮食作物的产值要显著增高。
【英文摘要】无
【语种】中文
【第一作者】郭志利
【通讯作者】郭志利
【期刊名称、卷期、页码】耕作与栽培,2008(5):31-32
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【引文索引类型】其他
【引文索引号】
【学科分类】农艺学

【题目】旱地农业研究支撑我国农业发展
【中文关键词】旱地农业;科学技术;农业发展;中国
【英文关键词】Dryland farming; Science and technology; Agricultural development; China
【中文摘要】经过20多年的旱地农业综合研究,系统划分了我国北方旱地农业类型区、查明了我国北方旱农区的降水利用状况,揭示了我国北方旱地农田水分动态和水分平衡规律,探明了我国北方旱农区降水生产潜力开发的障碍因素和适宜开发度,研制了一系列抗旱节水关键技术,发展了若干旱地高效用水的种植模式及配套技术体系,集成了寿阳旱地农业综合发展模式,取得了累累硕果,并以此为基础,研究编制了与旱地农业有关的农业发展战略和农业发展规划,为我国旱农地区农业的发展提供了强有力的科技支撑。
【英文摘要】Through over 20 years of dryland farming comprehensive researches, many achievements had been obtained. The dryland agricultural types in north China were systematically classified. The basic information on rainfall utilization was obtained, the rules of field water dynamic movement and water balance of the north dryland farming areas were revealed. The obstacle factors and suitable extent of exploitation were clarified for the precipitation production potentialities of dryland farming in north China. A series of key technologies for drought resistance and water saving were produced, and a few of planting model and adaptable technology systems for high efficient water use were developed. Based on all these results, agricultural developing strategies and plans related to dryland farming were worked out, all these achievements provide strong scientific and technological support for the agriculture development of dryland farming areas in China.
【语种】中文
【第一作者】梅旭荣
【通讯作者】梅旭荣
【期刊名称、卷期、页码】中国农业科学 2007,40(增刊1):307-310
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【学科分类】农业基础学科

【题目】The delineation of agricultural management zones with high resolution remotely sensed data

【中文关键词】快鸟影像,管理区,优化的土壤调整植被指数,冬小麦
【英文关键词】Quickbird imagery, Management zone (MZ), Optimized soil-adjusted vegetation index (OSAVI), Winter wheat
【中文摘要】遥感(RS)技术已被广泛认为是一种很有前途的土地管理的决定的信息源。本研究的目的是在冬小麦上发展和比较划定管理区的方法。采集了土壤样品和小麦产量,五个主要作物养分分析:总氮(TN),硝酸盐氮(NN),有效磷(AP)提取钾(EP)和有机物(OM)。在小麦抽穗期,一个场景植被QuickBird卫星影像获取和处理和优化调整土壤指数(OSAVI)被确定。模糊k-means聚类算法被用来MZS定义,沿着模糊性能指数(FPI),和修改分区熵(MPE)确定最优簇数目。结果表明,最优目前的研究领域MZS数量是三个。三个的的MZS被划定方式;根据土壤和产量数据,农作物遥感信息和土壤的结合,产量和遥感信息。每个组MZS评价结果表明,三种方法划定区域,都可以减少作物养分的变异,小麦光谱参数和不同的区域内的产量。考虑到一致的关系之间的作物养分,小麦产量和小麦的光谱参数,卫星遥感检测显示承诺作为评估土壤性质变化的工具和产量的影响耕地面积。这项研究的结果表明,采用遥感数据进行管理区的划定是可靠和可行的。
【英文摘要】Remote sensing (RS) techniques have been widely considered to be a promisingsource of information for land management decisions. The objective of this study wasto develop and compare different methods of delineating management zones (MZs) in afield of winter wheat. Soil and yield samples were collected, and five main crop nutrientswere analyzed: total nitrogen (TN), nitrate nitrogen (NN), available phosphorus (AP),extractable potassium (EP) and organic matter (OM). At the wheat heading stage, a sceneof Quickbird imagery was acquired and processed, and the optimized soil-adjusted vegetationindex (OSAVI) was determined. A fuzzy k-means clustering algorithm was used todefine MZs, along with fuzzy performance index (FPI), and modified partition entropy(MPE) for determining the optimal number of clusters. The results showed that the optimalnumber of MZs for the present study area was three. The MZs were delineated in threeways; based on soil and yield data, crop RS information and the combination of soil, yieldand RS information. The evaluation of each set of MZs showed that the three methods ofdelineating zones can all decrease the variance of the crop nutrients, wheat spectralparameters and yield within the different zones. Considering the consistent relationshipbetween the crop nutrients, wheat yield and the wheat spectral parameters, satellite remotesensing shows promise as a tool for assessing the variation in soil properties and yield in arable fields. The results of this study suggest that management zone delineation using RSdata was reliable and feasible.
【语种】英文
【第一作者】Xiaoyu Song
【通讯作者】Xiaoyu Song
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【引文索引号】SCI
【学科分类】农业基础学科

【题目】Influence of long-term nitrogen fertilization on micronutrient density in grain of winter wheat (Triticum aestivum L.)
【中文关键词】微量元素;氮肥;小麦籽粒;研磨组分
【英文关键词】Micronutrient; Nitrogenfertilization; Wheatgrain; Milling fraction
【中文摘要】采用长期定位试验(1999 – 2007)研究三种施肥水平下(0, 130, and 300 kg N/ha)氮肥对小麦籽粒微量元素营养及制粉性状的影响。在成熟期,谷物收获分离为面粉、次粉和麸皮,用于微量营养素和氮分析。与对照相比,施用氮肥增加了小麦iron (Fe), zinc (Zn), 和copper (Cu)含量。但是当施肥水平从130增加到 300 kg N/ha,并没有增加小麦谷物中三种微量元素的浓度。麸皮中的各种微量元素高于面粉中的各种微量元素。在三种磨成的粉末中,施用N肥增加Zn 和Cu浓度; 增加了次粉和麸皮中Fe的浓度,没有增加面粉中Fe的浓度。增施氮肥没有改变小麦谷物中manganese (Mn)的浓度。施用氮肥改变了面粉和麸皮Fe 和 Cu的比例,并不影响Zn在小麦谷物中的分布。因为氮肥增加了小麦谷物中微量元素的积累,所以优化的氮肥管理有利于提高小麦营养品质。
【英文摘要】A long-term (1999 – 2007) field experiment was conducted to investigate the effects of three nitrogen (N) fertilization rates (0, 130, and 300 kg N/ha) on micronutrientdensity in wheatgrain and its milling fractions. At maturity, grains were harvested and fractionated into flour, shorts, and bran for micronutrient and N analysis. N fertilization increased iron (Fe), zinc (Zn), and copper (Cu) density in wheatgrain compared to the control. Increase of N application rate from 130 to 300 kg N/ha, however, did not further increase the three micronutrientdensities in grain. Micronutrient concentrations were usually highest in the bran and lowest in the flour. High N application increased Zn and Cu densities in all three milling fractions and increased Fe concentration in shorts and bran but not in flour. N application did not affect the manganese (Mn) concentration in grain. N fertilization changed the proportions of Fe and Cu in flour and bran but did not affect the distribution of Zn. Because N fertilization increased micronutrient accumulation in wheatgrain, proper management of N fertilization has the potential to enhance the nutritional quality of this important food.

【语种】英文
【第一作者】Shi Rongli
【通讯作者】邹春琴
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【学科分类】土壤学

【题目】Effects of B, Mo, Zn, and their interactions on seed yield of rapeseed (Brassica napus L.)
【中文关键词】硼;油菜;钼;籽粒产量;锌
【英文关键词】boron ;Brassica napus;molybdenum;seed yield ;zinc
【中文摘要】大田试验研究B、Mo 、Zn 配合对甘蓝型油菜双低品种华双4号产量和品质的影响。结果表明,沙质土壤施用硼肥,与对照相比,增加种子产量46.1%;与单独应用钼和锌肥相比,也种子产量也显著增加,这表明本试验中硼是油菜双低品种华双4号产量的一个主要限制因素。油菜产量的增加主要是由于施用B肥增加了单株角果数量以及单角果种子数量。B 、Mo 和 Zn肥共同施用比单独施用B 、Mo 和 Zn肥油菜产量显著提高,高出对照产量68.1%。油菜种子干物质积累呈一个典型的S形曲线。与对照相比,各种处理下油菜种子的产油量微量增加、品质有所改善。上述结果表明,在贫瘠土壤优化施用B 、Mo 和 Zn肥可以显著提高种子产量和产油品质。
【英文摘要】A field experiment was conducted to study the effects of boron (B), molybdenum (Mo), zinc (Zn) and their interactions on seed yield and yield formation of rapeseed (Brassica napus L. var. Huashuang 4). Application of B fertilizer to a sandy soil increased the seed yield by 46.1% compared to the control (CK) and also created a considerably higher seed yield than the two treatments solely applying Mo and Zn fertilizers, which suggested that B was a main constraint for the seed yield of Huashuang 4 in this experiment. The effect of B fertilizer on the seed yield was attributed to an increase in the number of seeds per silique and siliques per plant. The combined application of B with Mo or Zn resulted in higher seed yield than the application of B, Mo or Zn alone, and the seed yield of the B+Mo+Zn treatment was the highest in all treatments, 68.1% above the control. Dry matter accumulation of seed followed a typical S-shaped curve and it was higher in plants supplied with B than in plants without B. A small but significant increase in the seed oil content and an improvement in the oil quality were also observed in all treatments compared with the control. These results suggested that optimal micronutrient application could provide both yield and quality advantages for rapeseed in poor soil.
【语种】英文
【第一作者】Mei YANG
【通讯作者】徐芳森
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【引文索引号】SCI
【学科分类】土壤学

【题目】4个甘蓝型油菜双低品种干物质积累及养分吸收动态研究
【中文关键词】双低油菜; 氮磷钾; 干物质积累; 养分吸收;
【英文关键词】double-low rapeseed; N; P; K; accumulation of dry matter; nutrient uptake;
【中文摘要】采用田间试验研究了4种双低油菜整个生育期内干物质积累及氮磷钾养分吸收动态。结果表明:播种后140d(苗期)、140~170d(蕾薹期)、170~199d(花期)和199~212d(角果期)4个油菜品种的干物质积累比例分别为12.7%~20.9%、15.3%~20.0%、60.3%~71.7%和-27.4%~-9.1%;氮素积累比例分别为33.3%~47.8%、11.9%~14.7%、15.5%~28.1%和17.7%~28.8%;磷素积累比例分别为23.4%~37.9%、22.5%~29.4%、32.7%~54.1%和-17.2%~-3.0%;钾素积累比例分别为24.7%~33.9%、16.2%~35.9%、31.0%~53.3%和-43.0%~-23.5%。表明油菜干物质累积与养分吸收量的变化趋势基本相同,氮素积累量最大时期为苗期,干物质、磷、钾积累量最大时期为花期,干物质及氮磷钾养分积累速率最大时期均为花期。每生产100 kg 籽粒养分的需求量平均为N 4. 3 kg、P2O5 2. 7 kg 和K2O 8. 7 kg。在同等施肥量水平下,4个油菜品种中,华油杂9 号籽粒产量最高,达3 574 kg/ hm2 ;N、P、K养分偏生产力顺序为:中双9 号> 华油杂9号> 华双5 号> 华双4 号。
【英文摘要】A field experiment was conducted to st udy the dry matter accumulation and nut rient up-take of 4 double-low rapeseed varieties. The result s showed that t he proportion of dry matter accumulation during t he period of seedling (140 d af ter sowing)

,budding (140~170 d after sowing) , blooming (170~199 d after sowing) and podding (199~212 d after sowing) were 12. 7 %~20. 9 % ,15. 3 %~20. 0 %,60. 3 %~71. 7 % and - 27. 4 %~ - 9. 1 % , respectively. The uptake proportion of nit rogen (N) were 33. 3 %~47. 8 % ,11. 9 %~14. 7 % ,15. 5 %~28. 1 % and 17. 7 %~28. 8 %,of p hosp horus (P2 O5) were 23. 4 %~37. 9 % ,22. 5 %~29. 4 % ,32. 7 %~54. 1 % and~17. 2 %- 3. 0 % ,of potassium (K2 O) were 24. 7 %~33. 9 % ,16. 2 %~35. 9 % ,31. 0 %~53. 3 % and - 43. 0 %- 23. 5 % , respectively. These result s demonst rated t hat t he dry matter accumulation and nut rient uptake t rends were similar among t he 4 varieties. Seedling stage was t he maximum stage of nit rogen absorption ,and t he largest quantity of dry matter accumulation ,p ho sp horus and potassium absorption occurred during blooming. The maximum accumulation rate of dry mat ter and N , P , K nut rient s were all in blooming period. The amount s of N , P2O5 and K2O required by double-low rapeseed for producing every 100 kg seeds were 4. 3 ,2. 7 and 8. 7kg. Under t he same fertilizer level ,t he seed yield of H YZ No. 9 wit h 3 574 kg/ hm2was t he highest amongt he 4 varieties rapeseed. The order of nut rient efficiency was ZS No.9 > H YZ No. 9 > HS No. 5 > HS No. 4.

【语种】中文
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【学科分类】土壤学

【题目】Estimation of vertical distribution of chlorophyll concentration by bi-directional canopy reflectance spectra in winter wheat
【中文关键词】冬小麦,双向反射差函数,叶绿素浓度,垂直分布,冠层叶绿素反向指数
【英文关键词】Winter wheat, Bi-directional reflectance difference function, Chlorophyll concentration, Vertical distribution, Canopy chlorophyll inversion index
【中文摘要】作物管理中,在大尺度范围内测定叶片叶绿素含量(Chl)来确定施肥量可能是一种非常有效的工具。本研究的目的是探讨双向反射差函数(BRDF)数据枝叶叶绿素层垂直分布的反演,以提供监测冬小麦的生长和发展提供指导的理论基础化肥的应用。遥感可以提供一个功能强大的工具,为大面积的叶绿素估计。由于在小麦干叶的垂直分布,叶绿素的垂直分布特征表明,从树冠顶部到地面明显的下降趋势。转化叶绿素吸收反射指数(TCARI)的比例,优化土壤调节植被指数(OSAVI)被称为冠层叶绿素反演指数(CCII)在这项研究中。煤炭信息研究院在dir的值,±20和±30度,在最低点,±30,±40度,并在最低点,±50和±60度视角的选择和组装,底层叶绿素反演指数(BLCI),中间层叶绿素反演指数(MLCI的),和上层叶绿素反演指数(ULCI),分别为叶绿素反演,在垂直的底层,中间层,上层。根之间的BLCI的,MLCI的,衍生ULCI-和实验室测量叶绿素为0.7841,0.9426,1.7398,分别垂直枝叶叶绿素反演,可以用来监测作物生长状况和平方误差(RMSE)指导施肥和灌溉管理。结果表明,从双向反射光谱(例如,BLCI,ULCI,MLCI的)派生的植被指数来反演叶绿素的垂直分布能获得满意的结果。
【英文摘要】An effective technique to measure foliage chlorophyll concentration (Chl) at a large scale and within a short time could be a powerful tool to determine fertilization amount for crop management. The objective of this study was to investigate the inversion of foliage Chl vertical-layer distribution by bi-directional reflectance difference function (BRDF) data, so as to provide a theoretical basis for monitoring the growth and development of winter wheat and for providing guidance on the application of fertilizer. Remote sensing could provide a powerful tool for large-area estimation of Chl. Because of the vertical distribution of leaves in a wheat stem, Chl vertical distribution characteristics show an obvious decreasing trend from the top of the canopy to the ground surface. The ratio of transformed chlorophyll absorption reflectance index (TCARI) to optimized soil adjusted vegetation index (OSAVI) was called the canopy chlorophyll inversion index (CCII) in this study. The value of CCII at dir, ±20 and ±30 , at nadir, ±30 and ±40 , and at nadir,±50 and ±60 view angles were selected and assembled as bottom-layer Chl inversion index (BLCI), middle-layer Chl inversion index (MLCI), and upper-layer Chl inversion index (ULCI), respectively, for the inversion of Chl at the vertical bottom layer, middle layer, and upper layer. The root mean squared error (RMSE) between BLCI-, MLCI-, and ULCI-derived and laboratory-measured Chl were 0.7841, 0.9426, and 1.7398, respectively.The vertical foliage Chl inversion could be used to monitor the crop growth status and to guide fertilizer and irrigation management. The results suggested that vegetation indices derived from bi-directional reflectance spectra (e.g., BLCI, ULCI, and MLCI) were satisfactory for inversion of the Chl vertical distribution.
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【第一作者】Wenjiang Huang
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【学科分类】农业基础学科

【题目】Analysis on DNA sequence of KiSS-1 gene and its association with litter size in goats
【中文关键词】山羊;Kiss-1;性早熟;产羔数;PCR-RFLP
【英文关键词】Goat;Kiss-1;Sexual precocity;Litter size;PCR-RFLP
【中文摘要】克隆了山羊KiSS-1基因4118 bp的序列,预测含408 bp的ORF,编码135 aa。该蛋白质含有一个17 aa的信号肽,是一个分泌型蛋白。其序列与牛、绵羊的同源性较高,分别为91.11%和95.24%,与人、小鼠、大鼠、猪的同源性较低,分别为60.53%、58.12%、59.66%、72.50%。在山羊KiSS-1内含子1中发现3个突变位点(G296C、G454T和T505A),外显子2中没有发现突变位点,内含子2中发现一个18 bp缺失(-)/插入(+)突变(1960-1977),外显子3中发现两个突变位点(G3433A[A86T]和C3688A)。这些突变位点在性早熟和性晚熟山羊品种之间的基因型分布没有规律性差异。296位点CC型济宁青山羊产羔数比GG、GC型分别多0.80只 (P<0.01)和0.77只(P<0.01),GG与GC基因型个体间产羔数差异不显著。1960-1977位点-/-个体比+/+、+/-个体产羔数分别多0.77只(P<0.01和0.73只(P<0.01),+/+与+/-间差异不显著。其他4个位点基因型间产羔数差异不显著。本研究初步表明山羊KiSS-1基因296位点C等位基因和1960-1977位点的(-)等位基因可能与济宁青山羊的高产羔数有关。
【英文摘要】Three pairs of primers were designed to clone the goat KiSS-1 and scan polymorphisms and four pairs to detect polymorphisms in sexual precocious and sexual late-maturing goat breeds. A 4118 bp DNA fragment was obtained, which contains an ORF of 408 bp and encodes 135 amino acids, having a high homology with other mammals. The protein was predicted containing a signal peptide of 17 amino acids. There are two mutations (G3433A [A86T] and C3688A) in exon 3, three mutations (G296C, G454T and T505A) in intron 1 and a 18 bp deletion (-)/insertion (+) (1960-1977) in intron 2 and no mutations in exon 2. The genotype distribution didn't show obvious difference between sexual precocious and sexual late-maturing goat breeds and no consistency within the sexual late-maturing breeds. For the 296 locus, the Jining Grey goats with genotype CC had 0.80 ($P < 0.01$) or 0.77 ($P < 0.01$) kids more than those with genotype GG or GC, respectively. No significant difference ($P > 0.05$) was found in litter size between GG and GC. For the 1960-1977 locus, the Jining Grey goat does with genotype -/- had 0.77 ($P < 0.01$) or 0.73 ($P < 0.01$) kids more than those with +/+ or +/-, respectively. No significant difference ($P > 0.05$) was found in litter size between +/+ and +/- genotypes. For the other four loci, no significant difference ($P > 0.05$) was found in litter size between different genotypes in Jining Grey goats. The present study preliminarily indicated an association between allele C of the 296 locus and allele (-) of the 1960-1977 locus in KiSS-1 and high litter size in Jining Grey goats.
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【第一作者】曹贵玲
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【学科分类】畜牧、兽医科学基础学科

【题目】Polymorphisms of coding region of BMPR-IB gene and their relationship with litter size in sheep
【中文关键词】骨形态发生蛋白受体IB基因,PCR-SSCP,高繁殖力,绵羊
【英文关键词】Bone morphogenetic protein receptor IB gene, PCR-SSCP, Prolificacy, Sheep
【中文摘要】无
【英文摘要】The bone morphogenetic protein receptor IB (BMPR-IB) was studied as a candidate gene for the prolificacy of sheep. Nine pairs of primers (P1-P9) were designed to detect single nucleotide polymorphisms (SNPs) of exons 1-4 and 6-10 of the BMPR-IB gene in both high (Small Tail Han and Hu sheep) and low prolificacy breeds (Texel and Chinese Merino sheep) by polymerase chain reaction (PCR)-single strand conformation polymorphism (SSCP). Only the products amplified by primers P2, P5, P6, P7, P8 and P9 displayed polymorphisms. The present study identified 22 SNPs in partial coding regions of ovine BMPR-IB, in which 20 SNPs were reported for the first time. In total of the 22 mutations, 18 DNA variations were originated from the Hu breed, three were found in the Small Tail Han breed (two of them were found in other sheep breeds), three in the Chinese Merino breed, and none in the Texel breed.

These results preliminarily demonstrated that BMPR-IB is a major gene affecting the hyperprolificacy in Small Tail Han and Hu sheep, and could be used as a molecular genetic marker for early auxiliary selection for hyperprolificacy in sheep.
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【第一作者】储明星
【通讯作者】储明星
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【学科分类】畜牧、兽医科学基础学科

【题目】Association between expression of reproductive seasonality and alleles of melatonin receptor 1A in goats
【中文关键词】山羊,繁殖季节性,褪黑激素受体1A基因,PCR-RFLP
【英文关键词】Goat, Reproductive seasonality, Melatonin receptor 1A gene, PCR-RFLP
【中文摘要】无
【英文摘要】To determine whether a link exists between reproductive seasonality and the structure of the melatonin receptor 1A (MTNR1A) gene, the latter was studied in year-round estrous breeds (Jining Grey and Boer goats) and seasonal estrous breeds (Liaoning Cashmere, Inner Mongolia Cashmere, Wendeng milk and Beijing native goats). A large fragment of exon 2 of MTNR1A gene was amplified by PCR using sheep sense and antisense primers in 260 does of six breeds. The uniform 824 bp PCR product was digested with restriction endonucleases MnlI and RsaI, and checked for the presence of restriction sites. No polymorphism at the MnlI cleavage sites was detected in all six goat breeds and no relationship could be established between the MnlI cleavage sites of MTNR1A gene and reproductive seasonality in goats. For polymorphic RsaI cleavage site at base position 53, only genotype RR (267 bp/267 bp) was detected in Jining Grey goats, both genotype RR and genotype Rr (267 bp/320 bp) were found in all other goat breeds, no genotype rr (320 bp/320 bp) was detected in all six goat breeds. Frequency of genotype RR was obviously higher, and frequency of genotype Rr was obviously lower in year-round estrous goat breeds than in seasonal estrous goat breeds. Sequencing revealed one mutation (G52A) in genotype Rr compared with genotype RR. For polymorphic RsaI cleavage site, the differences of genotype distributions were significant ($P<0.05$) between year-round estrous goat breeds and seasonal estrous goat breeds. These results preliminarily showed an association between genotype RR and year-round estrus in goats, and an association between genotype Rr and seasonal estrus in goats.
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【第一作者】储明星
【通讯作者】储明星
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【题目】Association between PCR-SSCP of bone morphogenetic protein 15 gene and prolificacy in Jining Grey goats
【中文关键词】骨形态发生蛋白15基因,山羊,PCR-RFLP,高繁殖力
【英文关键词】Bone morphogenetic protein 15 gene, Goat, PCR-SSCP, Prolificacy
【中文摘要】无
【英文摘要】The Jining Grey is a prolific local goat breed in P.R. China. Bone morphogenetic protein 15 (BMP15) gene that controls high fecundity of Inverdale, Hanna, Lacaune, Belclare, Cambridge, and Small Tailed Han ewes was studied as a candidate gene for the prolificacy of Jining Grey goats. According to the sequence of ovine BMP15 gene, six pairs of primers were designed to detect single nucleotide polymorphisms in exon 1 and exon 2 of the BMP15 gene in both high fecundity breed (Jining Grey goats) and low fecundity breeds (Boer, Liaoning Cashmere, and Inner Mongolia Cashmere goats) by single strand conformation polymorphism (SSCP). Two pairs of primers (F1/R1 and F2/R2) were used to amplify the exon 1. Four pairs of primers (F3/R3, F4/R4, F5/R5, and F6/R6) were used to amplify the exon 2. Only the products amplified by primer F5/R5 displayed polymorphism. Results indicated that two genotypes (AA and AB) were detected in prolific Jining Grey goats and only one genotype (AA) was detected in low fecundity goat breeds. In Jining Grey goats frequencies of genotypes AA and AB were 0.10 and 0.90, respectively. Sequencing revealed two point mutations

(G963A and G1050C) of BMP15 gene in the AB genotype in comparison to the AA genotype. In Jining Grey goats the heterozygous AB does had 1.13 ($p < 0.01$) kids more than the homozygous AA does. These results preliminarily showed that the BMP15 gene is either a major gene that influences the prolificacy of Jining Grey goats or a molecular genetic marker in close linkage with such a gene.
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【学科分类】畜牧、兽医科学基础学科

【题目】Polymorphisms of BMPR-IB gene and their relationship with litter size in goats
【中文关键词】山羊,高繁殖力,骨形态发生蛋白受体IB基因,PCR-SSCP
【英文关键词】Goat,Prolificacy,Bone morphogenetic protein receptor IB gene,PCR-SSCP
【中文摘要】无
【英文摘要】The bone morphogenetic protein receptor IB (BMPR-IB) gene was studied as a candidate gene for the prolificacy of goats. According to mRNA sequence of ovine BMPR-IB gene, ten pairs of primers were designed to detect single nucleotide polymorphisms (SNPs) of exon 1, exon 2, exon 6 to exon 10 and 3' untranslated region (UTR) of the BMPR-IB gene in both high prolificacy breed (Jining Grey goat) and low prolificacy breeds (Wendeng Dairy and Inner Mongolia Cashmere goats) by polymerase chain reaction (PCR)-single strand conformation polymorphism (SSCP) method. Only the products amplified by primers P8 and P10 of the 3'UTR displayed polymorphisms. For primer P8, three genotypes (AA, AB and BB) were detected in Jining Grey and Wendeng Dairy goats, two genotypes (AA and AB) were in Inner Mongolia Cashmere goats. Sequencing revealed one mutation (71C-->T) of the BMPR-IB gene in genotype BB compared with AA. The differences of least squares mean (LSM) for litter size between genotypes AA, AB and BB were non-significant ($P > 0.05$) in Jining Grey goats. For primer P10, three genotypes (CC, CD and DD) were detected in Jining Grey and Wendeng Dairy goats and one genotype (CC) in Inner Mongolia Cashmere goats. Sequencing revealed one mutation (130T-->C) of the BMPR-IB gene in genotype DD compared with CC. The differences of LSM for litter size between genotypes CC, CD and DD were non-significant ($P > 0.05$) in Jining Grey goats. These results preliminarily showed that the detected loci of the BMPR-IB gene had no significant effect on prolificacy of Jining Grey goats.
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【第一作者】储明星
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【题目】Association between sexual precocity and alleles of KISS-1 and GPR54 genes in goats
【中文关键词】山羊,GPR54,KISS-1,PCR-SSCP,高繁殖力,性早熟
【英文关键词】Goat;GPR54 (G protein-coupled receptor 54); KISS-1; PCR-SSCP; Prolificacy; Sexual precocity
【中文摘要】无
【英文摘要】KISS-1 and GPR54 were regarded as key regulators for the puberty onset and fundamental gatekeepers of sexual maturation in mammals. To explore the possible association between variations in KISS-1 and GPR54 with sexual precocity, mutation screening of exon 1 of KISS-1 and exon 1, exon 3, and partial exon 5 of GPR54 was performed in a sexual precocious breed (Jining Grey goats) and sexual late-maturing breeds (Inner Mongolia Cashmere, Angora, and Boer goats) by PCR-SSCP. The results showed that five novel mutations were identified in exon 1 and partial exon 5 of GPR54 including C96 T, T173C, G176A, G825A, and C981 T. The Jining Grey goats with genotype BB or AB had 1.07 ($P < 0.05$) or 0.40 ($P < 0.05$) kids more than those with AA. The Jining Grey goats with genotype DD or CD had 1.80 ($P < 0.05$) or 0.55 ($P < 0.05$) kids more than CC, respectively. The present study preliminarily showed an association between alleles B and D of GPR54 with high litter size and sexual precocity in Jining Grey goats.

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【第一作者】冯涛
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【题目】哺乳动物性早熟相关基因的研究进展
【中文关键词】性早熟,初情期,基因,生殖,调控
【英文关键词】sexual precocity;pubety;gene;reproduction;modulation
【中文摘要】人类的性早熟是一种病理状态,而在动物上,性早熟可能是一个在生产上具有价值的数量性状。一些物种在进化过程中形成了性早熟的特性并能在群体中稳定遗传。性早熟在很大程度上与遗传密切相关,是一个由多基因决定的复杂性状。文章主要介绍了KiSS-1基因、GPR54基因、LHR基因、FSHR基因、CYP基因家族、ER基因、TGFα基因、IGF-Ⅰ基因、GNAS1基因、HSD382基因、SHBG基因、VDR基因等与哺乳动物性早熟的关系。
【英文摘要】In mammals and humans,reproductive capacity is attained at pubety as the end-point of a complex series of developmental and neuroendocnne events that lead to true sexual maturity.As for humans,sexual precocity looks like a pathologic status.While for some animals,sexual precocity may be a valuable quantitative character.For some species,the character of sexual precocity was developed in the evolutionary process and stably tran smitted to future generations.Sexual precocity is a complex character determined by polygenes.This review introduced the association between KISS-1,GPR54,LHR,FSHR,CYP,ER,TGFet,IGF-1,GNAS1,HSD3B2,SHBG,VDR genes and sexual precocity mammals.
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【题目】哺乳动物繁殖季节性相关基因的研究进展
【中文关键词】繁殖季节性,基因,多态性
【英文关键词】reproductive seasonality; gene; polymorphism
【中文摘要】光照周期或季节更替调控松果体褪黑激素的分泌,下丘脑-垂体-性腺轴接收来自褪黑激素的信息并整合机体内部生理状态后调控下丘脑GnRH的脉冲释放,确保动物在一年中最适宜的时间进行繁殖。哺乳动物在长期进化过程中形成了一定的繁殖节律,已确定一些基因与繁殖的季节性有关。笔者简要介绍了褪黑激素受体1A基因、褪黑激素受体1B基因、KiSS-1/GPR54基因等与哺乳动物繁殖季节性的关系。
【英文摘要】In mammals, the melatonin secreted by pineal gland was modulated according to the photoperiod and season. The hypothalamic-pituitary-gonadal axis accepted the messages from melatonin and integrated both external and internal status and appropriately altered the activity of the GnRH . All these supported mammals to maximize reproductive success and avoid breeding during inappropriate conditions. Reproductive rhythm was formed and fixed in the process of long evolution in mammals and some genes were identified to be related with reproductive seasonality . This review briefly introduced the relationships between MTNR1A, MTNR1B and KiSS-1/GPR54 genes and reproductive seasonality in mammals.
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【题目】神经肽Y-Y1受体基因(NPY-Y1R)多态性及其与山羊繁殖性能关系
【中文关键词】山羊,繁殖性能,神经肽Y-Y1受体基因,多态性
【英文关键词】goat; reproductive performance; neuropeptide Y-Y1 receptor gene (NPY-YIR); polymorphism
【中文摘要】设计5对引物(P1~P5),用限制性片段长度多态性(RFLP)和单链构象多态性(SSCP)方法检测神经肽Y-Y1受体(neuropeptide Y-Y1 receptor,NPY-Y1R)基因在山羊(Caprar hircus)性早熟、高繁殖力品种(济宁青山羊),性晚熟、中等繁殖力品种(波尔山羊)以及性晚熟、低繁殖力品种(安哥拉山羊和内蒙古绒山羊)中的单核苷酸多态性(SNP),同时研究该基因对济宁青山羊性早熟和高繁殖力的影响。结果发现仅引物P2、P4和P5的扩增片段具有多态性。引物P2在济宁青山羊、安哥拉山羊和内蒙古绒山羊中检测到AA、AB和BB型,在波尔山羊中只检测到AA和AB型;测序发现BB型与AA型相比存在1个突变(C625G),没有引起氨基酸变化;济宁青山羊AA、AB与BB基因型之间产羔数差异均不显著(P>0.05)。引物P4在4个山羊品种中均检测到CC和CD基因型;测序发现CD型与CC型相比发生了G1141A突变,没有引起氨基酸变化;济宁青山羊CC和CD基因型之间产羔数差异不显著(P>0.05)。引物P5在济宁青山羊中检测到EE和EF基因型,在其余3个山羊品种中只检测到EE型;测序发现EF型与EE型相比发生了C1330T突变,没有引起氨基酸变化;济宁青山羊与波尔山羊、安哥拉山羊和内蒙古绒山羊之间NPY-Y1R基因型分布差异均达到极显著(P<0.01)水平,后3个品种之间均无显著差异(P>0.05);EF型济宁青山羊产羔数均值比EE型多0.58只(P<0.01)。研究结果初步表明NPY-Y1R基因的F等位基因与济宁青山羊性早熟和高繁殖力相关。
【英文摘要】Five pairs of primers (P1~P5) were designed to detect single nucleotide polymorphism(SNP) of neuropeptide Y-Y1 receptor (NPY-Y1R) gene in goat (Caprar hircus) sexual precocity and high fecundity breed (Jining Grey goat), sexual precocity and moderate fecundity breed (Boer goat) and sexual late-maturing and low fecundity breeds(Angora and Inner Mongolia Cashmere goats)by PCR-RFLP and PCR-SSCP. The results showed that only the products amplified by primers P2, P4 and P5 displayed polymorphisms. As for P2, three genotypes (AA, AB and BB) were detected in Jining Grey, Inner Mongolia Cashmere and Angora goats, only two genotypes (AA and AB) were in Boer goats. Sequencing revealed one mutation (C625G) in genotype BB compared with genotypeAA, which caused no amino acid change. No significant difference (P >0.05) was found in litter size between AA, AB and BB genotypes in Jining Grey goats. As for P4, two genotypes (CC and CD) were detected in four goat breeds. Sequencing revealed one mutation (G1141A) in genotype CD compared with genotype CC, which caused no amino acid change. No significant difference(P>0.05) was found in litter size between CC and CD genotypes in Jining Grey goats. As for P5, two genotypes (EE and EF) were detected inJining Grey goats, only one genotype EE was in other three goat breeds. Sequencing revealed one mutation (C1330T) in genotype EF compared with genotype EE, which caused no amino acid change. The differences of genotype distribution were highly significant (P <0.01) between Jining Grey goats and three late-maturing breeds, and no significant difference (P >0.05) was found between three late-maturing breeds. The Jining Grey goat does with genotype EF had 0.58 (P <0.01) kids more than those with genotype EE. These results preliminarily indicated that F allele of NPY-YIR gene is associated with sexual precocity and prolificacy in Jining Grey goats.
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【题目】骨形态发生蛋白15基因的研究进展
【中文关键词】骨形态发生蛋白15,骨形态发生蛋白15基因,繁殖性能
【英文关键词】bone morphogenetic protein 15; bone morphogenetic protein 15 gene; reproductive performance
【中文摘要】作者主要介绍了骨形态发生蛋白15的结构、功能与调控;骨形态发生蛋白15基因的结构、染色体定位,并讨论了该基因与哺乳动物繁殖性能的关系。
【英文摘要】In this review, the structure, function and regulation of bone morphogenetic protein 15 (BMP15) were introduced. The structure and chromosome mapping of BMP15 gene were introduced. The relationships between BMP15 gene and reproductive

performance were also discussed in mammals.
【语种】中文
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【题目】促性腺激素释放激素受体(GnRHR)基因多态性及其与济宁青山羊高繁殖力关系
【中文关键词】山羊,繁殖力,促性腺激素释放激素受体基因,PCR-SSCP
【英文关键词】goat;prolificacy;gonadotropin releasing hormone receptor(GnRNR)gene;PCR-SSCP
【中文摘要】设计8对引物,应用聚合酶链式反应-单链构象多态性(PCR-SSCP)技术检测促性腺激素释放激素受体(gonadotropin releasing hormone receptor,GnRHR)基因外显子1、外显子2和外显子3在高繁殖力山羊(Caprar hircus)品种(济宁青山羊)和低繁殖力山羊品种(安哥拉、波尔和内蒙古绒山羊)中的单核苷酸多态性,同时研究该基因对济宁青山羊高繁殖力的影响。结果发现引物P4扩增片段具有多态性,其余7对引物的扩增片段都不存在多态性。对于引物P4扩增片段,在济宁青山羊、波尔山羊和内蒙古绒山羊中均检测到AA、AB和BB基因型,而在安哥拉山羊中只检测到AA和AB基因型,未检测到BB基因型;测序分析发现BB型与AA型相比在外显子1有1个突变(757G→A),但未引起氨基酸改变;济宁青山羊AA、AB和BB基因型频率分别为0.623、0.300和0.077,BB型济宁青山羊平均产羔数比AB型和AA型分别多0.69只(P<0.05)和0.82只(P<0.05),AA型和AB型济宁青山羊产羔数的最小二乘均值差异不显著(P>0.05)。
【英文摘要】The gonadotropin releasing hormone receptor fGnRHR1 gene was studied as a candidate gene for the high prolificacy of Jining grey goat(Caprar hircus).Eight pairs of primers were designed to detect single nucleotide polymorphisms of exon 1,exon 2 and exon 3 of GnRHR gene in high fecundity breed (Jining grey goat)and low fecundity breeds(Angora,Boer and Inner MongoliaCashmere goats)by PCR—SSCP Only the products amplified by primer P4 displayed polymorphisms.For primer P4,three genotypes (AA,AB and BB)were detected in Jining grey,Boer and Inner Mongolia Cashmere goats only AA and AB genotypes were in Angora goats.Sequencing revealed one mutation (757G—A)of exon 1 in genotype BB compared with genotype AA.which did not causeamino acid changes.In Jining Grey goats,frequency of AA, AB and BB genotypes was 0.623 0.300 and 0.077.respectively. The Jining grey with genotype BB had 0.69(P<0.05)or 0.82(P<O.05)kids,more than those with AB or AA.respectively.The diference ofthe least squares means for litter size between AA and AB was nonsignificant(P>0.05)in Jining grey goat.
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【题目】4个山羊品种BMP6基因部分片段的多态性分析
【中文关键词】山羊,骨形态发生蛋白6基因,PCR-SSCP
【英文关键词】goat ; bone morphogenetic protein 6 gene; PCR-SSCP
【中文摘要】根据GenBank发表的绵羊骨形态发生蛋白6(bone morphogenetic protein 6,BMP6)基因部分序列所包含的外显子5、6、7和小鼠BMP6基因外显子5、6、7序列设计3对引物,采用PCR-SSCP技术检测BMP6基因外显子5、6和7在济宁青山羊、安哥拉山羊、波尔山羊、内蒙古绒山羊4个山羊品种250个个体中的单核苷酸多态性。结果发现这3对引物的扩增片段在检测的4个品种中均无多态性,说明所检测的BMP6基因外显子5、6、7序列比较保守。
【英文摘要】Single nucleotide polymorphisms (SNPs) of exons 5, 6, 7 of bone morphogenetic protein 6 (BM P6) gene were detected in four goat breeds (Jining Grey, Angora, Boer and Inner Mongolia Cashmere goats) with three pairs of primers by polymerase chain reaction (PCR) single strand conformation polymorphism (SSCP) . No polymorphisms were detected in theamplified regions of three pairs of primers in four goat breeds tested, which may indicate that the sequences of exons 5, 6, 7 of BMP6

gene were rather conserved.
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【题目】棉花单叶黄萎病病情严重度高光谱反演模型研究
【中文关键词】棉花;黄萎病;病情严重度;高光谱特征变量;反演模型
【英文关键词】Cotton;Verticfllium wilt;Severity level;Hyperspectral characteristic variables;Retrieval model
【中文摘要】对棉花单叶黄萎病病情严重度与原始及一阶微分光谱反射率、高光谱特征参数进行相关分析,构建病情严重度反演模型。结果表明:可见光和短波红外波段光谱反射率随病情严重度增加而增大,且可见光波段光谱反射率差异比短波红外波段更为显著。以红边面积为自变量的线性模型(r一0.669 6)及以波长694nlrl处原始光谱反射率为自变量的对数模型(r一0.679 4)均能较好反演病情严重度。通过模型精度检验发现,以714 nin处一阶微分光谱反射率为自变量的线性模型为病情严重度诊断的最佳模型,即:-282.3x+3.811 2,该模型具有最大相关系数(拟合r一0.699 2,预测r一0.941 0),最小均方根误差(O.257 1)和相对误差(12.74)。文章结果对深人研究棉花黄萎病遥感监测机理提供了理论依据,对利用高光谱遥感数据获取病害信息具有重要应用价值。
【英文摘要】The correlation of cotton leaf verticillium wilt severity level with raw hyperspectral reflectance,first derivative hyperspectral reflectance,and hyperspectral characteristic parameters was analyzed.Using linear and nonlinear regression methods,the hyperspectral remote sensing retrieval models of verticillium wilt severity level with remote sensing parameters as independ—ent variables were constructed and validated.The result showed that spectral reflectance increased significantly in visible and short infrared wave band with the increase in the severity level,and this is especially significant in visible band.The raw spectral reflectance has the maximum coefficient of determ ination at 694 nIn(R 一0.461 6)with severity leve1 and the logarithm mode1constructed with reflectance at this point iS the better one as compared to linear mode1.By the precision evaluation of retrieva1 models,the linear model with the first derivative reflectance at 717 nin as independent variable was proved to be the best,with R —0.488 9,RMSE=0.257 1,and relative error= l2.74 ,f0r the estimation of verticllium wilt severity leve1 of cotton leaf.The results provide a good basis for further studying monitoring mechanism of cotton verticiltium wilt by remote sensing data,and have an important application in acquiring cotton disease information using hyperspectral remote sensing.
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【题目】山羊催乳素受体基因部分片段的克隆与序列分析
【中文关键词】山羊,催乳素受体基因,克隆,序列分析
【英文关键词】goat; prolactin receptor gene; cloning; sequence analysis
【中文摘要】采用PCR技术扩增出济宁青山羊催乳素受体基因长892 bp的片段,该片段含有97 bp的部分外显子8序列(外显子8全长为100 bp)、683 bp的内含子8、70 bp的外显子9及42 bp的部分内含子9。将该片段克隆到pGEM-T Easy质粒中,重组质粒用PCR进行阳性克隆鉴定,然后测定核苷酸序列,并推导其氨基酸序列。该序列与绵羊、母牛、人、大鼠、小鼠的催乳素受体基因mRNA的对应序列的核苷酸同源性分别为99.4%、97.01%、89.22%、89.22%、88.02%,氨基酸同源性分别为100%、94.55%、81.88%、81.82%、83.64%。
【英文摘要】The 892 bp fragment (97 bp of part of exon 8 (the full length of exon 8 was 100 bp), 683 bp of intron 8, 70 bp of exon 9 and 42 bp of part of intron 9)of prolactin receptor (PRLR) gene was amplified successfully in Jining Grey goats by PCR and cloned into

pGEM2T Easy vector. The positive clones were further identified by PCR analysis. The nucleotide sequence was detected and the peptide sequence of this fragment was deduced. This sequence shared 99.4 %, 97.01%, 89.22%,89.22%, 88.02% nucleotide homology with the published mRNA of PRLR gene of sheep, cow, human, rat and mouse separately, and the amino acid homology was 100%, 94.55%, 81.88%, 81.82%, 83.64% separately.
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【题目】不同水分条件对小麦-玉米两熟制作物生长和水分利用的影响
【中文关键词】小麦; 玉米; 两熟制; 土壤水分; 水分利用; 秸秆覆盖; 保水剂;
【英文关键词】Wheat; Corn; Two crops harvest; Soil moisture; Water utilization; Straw mulching; Water-retaining agent
【中文摘要】为探明不同水分条件对小麦-玉米两熟制水分利用的影响,通过秸秆覆盖和施用保水剂等水分调控措施,进行了不同灌水量对小麦、玉米生长发育和产量、土壤水分及水分利用等方面的影响研究。结果表明:合理灌水有益小麦群体发育,提高成穗数量、株高、穗粒数和千粒重,从而促进小麦增产,其中以补充灌水1 200 m3/hm2效果最佳,增产11.83%;但过多灌水反而影响小麦产量,补充灌水2 400 m3/hm2减产1%,并影响玉米产量。小麦灌水处理的玉米分别比对照增产7.31%~16.15%,其中补充灌水1 800 m3/hm2增产效果最佳,增产16.15%。夏秋两季作物产量结果表明,河南省中产灌区在秸秆覆盖和施用保水剂的情况下,小麦-玉米两熟制最佳补充灌溉量为1 200~1 800m3/hm2。土壤含水量动态变化表明,秸秆覆盖与保水剂相结合,并进行适量补充灌水有利于改善和补偿土壤水分,而且有影响全年作物生长的趋势。。玉米收获后,土壤有效养分和有机质有所下降,表明种植夏玉米应追施适量磷、钾肥,同时加大夏季作物秸秆的还田量,以提高土壤有机质。
【英文摘要】To investigate the effect of different water condition on water use of wheat-corn,application of the straw-mulching,nutrition water-retaining agent and different irrigation were carried out to research the wheat-corn growth,yield,soil moisture and water utilization.The result indicated that rational irrigation plays an active role to wheat population dynamics developing and improve wheat spike length,plant height,spike grains,1 000 grains weight and yield.The highest wheat yield was 1 200 m3 /ha of supp lement irrigation, it increased 11183% comparing to CK. The worst one was 2 400 m3 /ha of supp lement irrigation, itminus 110%. The more important thingwas the irrigation of wheat could affect the corn yield,which of them imp roves 7131% to 16115% comparing to CK, and the best one was 1 800 m3 /ha of supp lement irrigation. The result ofwheat2corn yield stated the best volume of comp lement irrigation was 1 200 m3 /ha to 1 800 m3 /ha under the app lication of straw2mulching and nutrition water2retaining agent for wheat2corn two crop s harvest system in mid2p roduction irrigated zone in Henan p rovince. The changes of soilmoisture stated p rogressively that the straw2mulching and nutrition water2retaining agent app lication could imp rove and compensate soilmoisture and affect the tendency of crop growth and development in a year. The result of soil nutrition changes stated it ’ s necessary to app ly phosphate and ium fertilizer and add straw recession volume for autumn crop.
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【题目】催乳素受体基因多态性及其与部分山羊品种产羔数关系
【中文关键词】山羊,产羔数,催乳素受体基因,PCR-SSCP
【英文关键词】goat; little size; prolactin receptor gene; PCR-SSCP
【中文摘要】催乳素(prolactin,PRL)是一种垂体前叶肽类激素,PRL的所有功能都由催乳素受体(prolactin receptor,PRLR)调节。本研究采用单链构象多态(single strand conformation polymorphism,SSCP)方法检测PRLR基因外显子3至外显子9和内含

子9在高繁殖力山羊品种(济宁青山羊)和低繁殖力山羊品种(辽宁绒山羊和安哥拉山羊)中的多态性,并对具有SSCP多态性的DNA片段进行测序比较分析,旨在寻找与产羔数相关的遗传标记,为山羊高繁殖力的标记辅助选择提供科学依据。
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【题目】高通量筛选差异表达基因技术及其在家畜中的应用
【中文关键词】差异表达基因,高通量,家畜
【英文关键词】differentially expressed genes ;high throughput ;domestic animals
【中文摘要】差异表达基因筛选技术是研究生物重要经济性状相关基因或抗病相关基因的有力工具。作者总结了近年来发展起来的几种高通量筛选差异表达基因的技术,并对其原理、流程及在家畜中的应用作了简要介绍。
【英文摘要】Screening technology of differentially expressed genes is a powerful tool to study genes associated with important economic t rait s and diseases. In this review ,several kinds of high throughput screening technologies of differentially expressed genes were summarized , their principle ,procedure and application in domestic animals were briefly int roduced.
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【题目】绵羊和山羊BMP15基因FecX~R突变的检测
【中文关键词】绵羊,山羊,繁殖力,骨形态发生蛋白15基因,FecXR突变,PCR-SSCP
【英文关键词】sheep ; goat ; prolificacy ; BMP15 gene ; FecXR mutation ; PCR-SSCP
【中文摘要】为了检测骨形态发生蛋白15(BMP15)基因在绵羊和山羊中的突变,本研究采用PCR-SSCP方法在高繁殖力绵羊品种(小尾寒羊和湖羊)、山羊品种(济宁青山羊和波尔山羊)和低繁殖力绵羊品种(多赛特和特克塞尔)、山羊品种(内蒙古绒山羊和安哥拉山羊)中检测BMP15基因FecXR突变,并对小尾寒羊和济宁青山羊扩增片段进行核苷酸和氨基酸序列分析。结果表明,这8个羊品种均没有发生与Rasa Aragonesa绵羊相同的FecXR突变;小尾寒羊核苷酸序列与GenBank中绵羊BMP15序列(AF236079,NM_001114767)完全一致,济宁青山羊与小尾寒羊相比存在3处碱基不同(T529G、C530G和T576C)和2个氨基酸差异(V155G和S171P)。可见BMP15基因影响Ra-sa Aragonesa绵羊高繁殖力的突变FecXR对小尾寒羊、湖羊、济宁青山羊和波尔山羊的繁殖力均没有显著影响。
【英文摘要】To detect the mutations of bone morp hogenetic protein 15 (BMP15) gene in both highprolificacy breeds (Small Tail Han sheep , Hu sheep , Jining Grey goat and Boer goat) and low prolificacy breeds (Dorset sheep , Texel sheep , Inner Mongolia Cashmere goat and Angora goat) ,the method of PCR-SSCP was used. Both the nucleotide sequences and the amino acid sequences were compared in the amplification fragments of both Small Tail Han sheep and J ining Grey goat.The results indicated that none of the four sheep and the four goat breeds carried the same FecXR mutation of the BM P15 gene as Rasa Arag nesa sheep . The nucleotide sequence of Small Tail Han sheep was completely identical with that of the sheep BMP15 sequence (AF236079 , NM_001114767) in the GenBank. Three base substit utes (T529G, C530G and T576C) and two amino acid changes (V155G and S171P) were found in Jining Grey goat compared with Small Tail Han sheep . The FecXR mutation of t he BM P15 gene had no significant effect on high prolificacy of Small Tail Han sheep , Hu sheep , Jining Grey goat and Boer goat .
【语种】中文

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【题目】山羊促黄体素受体基因(LHR)外显子11的PCR-SSCP分析
【中文关键词】山羊,性早熟,促黄体素受体基因,PCR-SSCP
【英文关键词】goat; sexual precocity; luteinizing hormone receptor gene; PCR-SSCP
【中文摘要】设计6对引物,用聚合酶链式反应-单链构象多态性(PCR-SSCP)和序列分析方法检测促黄体素受体(luteinizing hormone receptor,LHR)基因外显子11在性早熟、高繁殖力山羊(Caprahircus)品种(济宁青山羊)和性晚熟、低繁殖力品种(波尔山羊、安哥拉山羊和内蒙古绒山羊)中的单核苷酸多态性,同时研究该基因对济宁青山羊性早熟和高繁殖力的影响。结果发现,仅引物P3和P6的扩增片段具有多态性。引物P3在波尔山羊中检测到AA、AB和BB基因型,在济宁青山羊和安哥拉山羊中均检测到AA和AB基因型,在内蒙古绒山羊中只检测到AA基因型;测序发现BB基因型与AA基因型相比存在1个突变(G1522A),导致505位氨基酸由缬氨酸变为甲硫氨酸(V505M);济宁青山羊AA和AB基因型频率分别为0.919和0.081,在P3位点上处于哈迪-温伯格平衡状态($\chi 2$=0.26,P=0.877);济宁青山羊与波尔山羊、安哥拉山羊和内蒙古绒山羊之间LHR基因型分布差异分别达到极显著(P<0.001)、显著(P<0.05)和不显著(P>0.05)水平;济宁青山羊AA和AB基因型之间产羔数差异不显著(P>0.05)。引物P6在4个山羊品种中均检测到CC和CD基因型;测序发现CD与CC基因型相比发生了A2039G突变,导致677位氨基酸由谷氨酰胺变为精氨酸(Q677R);济宁青山羊CC和CD基因型频率分别为0.161和0.839,在P6位点上处于哈迪-温伯格不平衡状态($\chi 2$=77.79,P=0.000);济宁青山羊与波尔山羊、安哥拉山羊和内蒙古绒山羊之间LHR基因型分布差异分别达到极显著(P<0.001)、极显著(P<0.001)和显著(P<0.05)水平;济宁青山羊CC和CD基因型之间产羔数差异不显著(P>0.05)。研究结果初步表明LHR基因外显子11对济宁青山羊的性早熟和高繁殖力没有显著影响。
【英文摘要】The luteinizing hormone receptor (LHR) gene was studied as a candidate gene for the sexual precocity of Jining Grey goats (Capra hircus). Six pairs of primers were designed to detect single nucleotide polymorphisms of LHR gene exon 11 in sexual precocity and high prolificacy breed (Jining Grey goat) and delayed puberty and low prolificacy breeds (Boer, Angora and Inner Mongolia Cashmere goats) by sequence analysis and PCR-SSCP. The results showed that only the products amplified by primers P3 and P6 displayed polymorphisms. For primer P3, three genotypes (AA, AB and BB) were detected in Boer goats, two genotypes (AA and AB) were in Jining Grey and Angora goats, only AA genotype was in Inner Mongolia Cashmere goats. Sequencing revealed one mutation (G1522A) in genotype BB compared with genotype AA, which caused valine substitution with methionine (V505M). The frequency of AA and AB genotypes was 0.919 and 0.081 in Jining Grey goats. The fitness tests showed that the Jining Grey goatpopulation was in Hardy-Weinberg equilibrium ($\chi 2$ =0.26, P =0.877). Genotype distributions of LHR gene were at different levels (P<0.001, P <0.05, P >0.05) between Jining Grey goats and Boer, Angora and Inner Mongolia Cashmere goats. No significant difference (P >0.05) was found in litter size between AA and AB genotypes in Jining Grey goats. For primer P6, CC and CD genotypes were detected in four goat breeds. Sequencing revealed one mutation (A2039G) of genotype CD compared with genotype CC, which resulted in amino acid substitution of Q677R. The frequency of CC and CD genotypes was 0.161 and 0.839 in Jining Grey goats. Thefitness tests showed that the Jining Grey goat population was not in Hardy-Weinberg equilibrium ($\chi 2$ =77.79, P =0.000). Genotype distributions of LHR gene were at different levels (P <0.001, P <0.001, P <0.05) between Jining Grey goats and Boer, Angora andInner Mongolia Cashmere goats. No significant difference (P >0.05) was found in litter size between CC and CD genotypes in Jining Grey goats. The results preliminarily indicated that exon 11 of LHR gene had no significant influence on the sexual precocity and prolificacy in Jining Grey goats.
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【题目】促黄体素β基因多态性及其与济宁青山羊产羔数的关系
【中文关键词】山羊,繁殖力,促黄体素β亚基基因,PCR-SSCP
【英文关键词】无
【中文摘要】为了解促黄体素β基因多态性与济宁青山羊产羔数的关系,采用PCR-SSCP技术检测促黄体素β亚基(Luteinizing hormone beta-subunit,LHβ)基因5′调控区和3个外显子在高繁殖力(济宁青山羊)、中等繁殖力(波尔山羊)和低繁殖力山羊品种(辽宁绒山羊和安哥拉山羊)中的单核苷酸多态性,同时研究该基因对济宁青山羊高繁殖力的影响。结果表明:山羊与绵羊的LHβ基因核苷酸序列相似性为98%。6对引物中,仅引物P1和P5扩增片段存在多态性。对于P1扩增片段,在4个山羊品种中均检测到AA、AB和BB 3种基因型;测序分析发现BB与AA基因型相比在5′调控区存在2处突变202C→A和210C→T;济宁青山羊3种基因型之间产羔数差异均不显著(P>0.05)。对于P5扩增片段,在济宁青山羊中检测到CC、CD和DD 3种基因型,辽宁绒山羊中检测到CC和CD2种基因型,波尔山羊和安哥拉山羊中都只检测到CC基因型;测序分析发现DD与CC基因型相比在外显子2存在单碱基突变1124C→T;济宁青山羊CC、CD和DD基因型频率分别为0.38、0.44和0.18;DD和CD基因型济宁青山羊平均产羔数分别比CC基因型的多0.99(P<0.01)和0.87只(P<0.01)。济宁青山羊在P1、P5两个座位上都处于哈迪-温伯格平衡状态(P1座位:χ2=1.66,P=0.437;P5座位:χ2=1.22,P=0.544)。
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【题目】哺乳动物繁殖节律相关基因的研究进展
【中文关键词】繁殖节律,基因,多态性
【英文关键词】reproductive rhythm;gene;polymorphism
【中文摘要】季节性繁殖动物在长期进化过程中形成了固定的生殖节律,保证后代出生在一年中最适宜的季节。已经确定一些基因与哺乳动物繁殖的节律性有关,笔者简要介绍了钟基因、Leptin基因、RFamide-related peptide基因与繁殖节律的关系。
【英文摘要】Reproductive rhythm was formed and fixed in the process of long evolution in mammals and some genes were identified to be related with the rhythm of reproductive seasonality,which supported mammals to maximize reproductive success and avoid breeding during inappropriate conditions. This review briefly introduced the relationships betweenClock, Leptin,RFamide-related peptidegenes and reproductive rhythm in mammals.
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【题目】KISS-1/GPR54基因及其在生殖中的作用
【中文关键词】KISS-1基因,GPR54基因,Kisspeptin,生殖,调控
【英文关键词】KISS-1 gene; GPR54 gene; kisspeptin; reproduction; modulation
【中文摘要】KISS-1及其受体GPR54基因对青春期的正常启动具有重要作用。青春期开始前后,动物下丘脑中KISS-1和GPR54 mRNA水平很高,Kisspeptins(KISS-1基因产物)通过激活GPR54增加促性腺激素的释放,KISS-1基因的表达受性腺类固醇激素的调控。GPR54基因突变可以导致人和鼠的特发性促性腺激素分泌不足性腺机能减退症和促性腺激素依赖性性早熟。文章还介绍了KISS-1、GPR54基因的结构、表达、多态性以及和其它生殖调控因子之间的相互关系。

【英文摘要】KISS-1 gene and its receptor gene GPR54 play key roles in the initiation of puberty onset. The peptide product of the KiSS-1 gene, Kisspeptins stimulate gonadotrophins release to initiate puberty through the expression of GPR54 gene in the brain. So the level of KISS-1 and GPR54 mRNA in hypothalamus was very high on the onset of puberty. The expressionof KISS-1gene was regulated by steroid hormone in different nuclei within the forebrain to control the reproduction in puberty. Loss of function mutations of GPR54 gene could cause idiopathic hypogonadotropic hypogonadism (IHH) and gonadotrophin-dependant premature puberty. This review also introduced the structure, expression, homology comparison,polymorphism of KISS-1 and GPR54 genes and their interrelation with other regulators of reproduction.
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【题目】哺乳动物性晚熟相关基因的研究进展
【中文关键词】性晚熟,基因,突变
【英文关键词】delayed puberty;gene;mutation
【中文摘要】人和哺乳动物性的发育和成熟源于下丘脑性腺激素释放激素(gonadotropin releasing hormone,GnRH)脉冲式释放。GnRH释放受到抑制或破坏,就会导致性腺机能减退,人在发育前和发育期就会出现发育迟缓和性发育不良,表现为无精症或闭经;动物则表现为初情期延迟、生殖能力下降等表型。编码促性腺激素及其受体基因的突变可能引起哺乳动物性晚熟。笔者简要介绍了GPR54、GnRH/GnRHR、FSH/FSHR、LH/LHR基因与哺乳动物性晚熟的关系。
【英文摘要】Sexual maturation of humans and mammals was driven by an intermittent discharge of gonadotropin-releasing hormone(GnRH)generated by a network of hypothalamic neurons known as the GnRH pulse generator.Reproductive disorder will present once GnRH release was suppressed or destroyed, which will result in hypothalamic hypogonadism. As for humans,this disorder presents azoospermatism and amenorrhea resulted from hypoevolutismus and sex hypoplasia.Animals affected by hypothalamic hypogonadism present puberty delay and reproductive capacity degression.Mutations of the genes encoding gonadotrophins and their receptors may cause delayed puberty.This review briefly introduced the relationships betweenGPR54,GnRH/G'nRHR,FSH/FSHR,LH LHR genes and delayed puberty in mammal.
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【题目】哺乳动物性晚熟5个相关基因的研究进展
【中文关键词】性晚熟,基因,突变
【英文关键词】delayed puberty;gene;mutation
【中文摘要】越来越多的基因突变对哺乳动物性发育有影响。在造成青春期异常的原因中,约75%是由于基因突变造成的。作者简要介绍了DAX1、KAL1、FGFR1、PROP1、PROKR2/PROK2基因突变与哺乳动物性晚熟的关系。
【英文摘要】Mutations have been identifed in an increasing number of genes that influence the onset and progression of puberty.These mutations accounted for about 75% of the variation in the timing of puberty.This review briefly introduced the relationships between mutations of DAX1,KAL1.FGFR1,PROP1,PROKR2/PROK2 genes and delayed puberty in mammals.
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【题目】山羊神经肽Y基因外显子克隆及序列分析
【中文关键词】山羊,神经肽Y基因,PCR-SSCP
【英文关键词】goat;neuropeptide Y gene;PCR-SSCP
【中文摘要】采用PCR-SSCP技术检测神经肽Y(neuropeptide Y,NPY)基因全部3个外显子在高繁殖力山羊品种(济宁青山羊)、中等繁殖力山羊品种(波尔山羊)和低繁殖力山羊品种(内蒙古绒山羊和安哥拉山羊)中的单核苷酸多态性,分析该基因对济宁青山羊高繁殖力的影响;并对济宁青山羊NPY基因3个外显子进行克隆测序,推导出编码的氨基酸序列,同时将济宁青山羊核苷酸和氨基酸序列与绵羊、牛、人、大鼠、小鼠和鸡6个物种的序列进行比较。结果表明,在4个山羊品种中未检测到NPY基因3个外显子的多态性;这7个物种的核苷酸和氨基酸序列的同源性分别为71.6%~99.7%和81.4%~100%;与牛、人等6物种相比,济宁青山羊NPY基因氨基酸序列38位存在特有突变(E38D)。可见,物种间NPY基因保守性强,NPY基因可能不是影响山羊高繁殖力的主效基因。
【英文摘要】The neuropeptide Y(NPY)gene was studied as a candidate gene for high prolificacy in some goatbreeds(Capra hircus).Single nucleotide polymorphisms (SNPs) ofall three exons (exons1,2 and 3) of NPY gene were detected in high prolificacybreed (JiningGreygoat), medium prolificacybreed (Boergoat) and low prolificacy breeds (InnerMongolia Cashmere and Angora goats) by polymerase chain reaction-single strand conformation polymorphism (PCR-SSCP). No polymorphism was detected in the amplified region in the fourgoatbreeds tested. DNAfragments of exons1,2 and 3 ofJiningGrey goatNPYgenewere cloned into pGEM-TEasy vector.The positive clones were further identified by PCR. The nucleotide sequenceswere detected and the amino acid sequences of these three fragmentswere deduced. The comparison of the fragments ofall three exons of Jining Grey goat NPY gene with those of human, cattle, sheep, ra,t mouse and chicken NPYgene showed that the homologies of the nucleotide sequences and amino acid sequences of the fragments among these seven specieswere from 71・6% to 99・7% and from 81・4%to 100% respectively. One specialvariationwas found in the 38th position ofamino acid sequence, whichwas aspartic acid in JiningGrey goats and glutamic acid in other species.The results indicated that theNPYgene was highly conserved amongmammals, andmay notbe amajorgene that affects the high prolificacy in goats.
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【题目】济宁青山羊多羔性候选基因BMP15的研究
【中文关键词】山羊,多羔性,骨形态发生蛋白15基因,PCR-SSCP
【英文关键词】goat;prolificacy;bone morphogenetic protein 15 gene;PCR—SSCP
【中文摘要】根据绵羊骨形态发生蛋白15(bone morphogenetic protein 15,BMP15)基因序列设计2对引物(P1和P2),分别扩增随机选取的安哥拉山羊和济宁青山羊各5个个体的BMP15基因外显子1、2并克隆测序。测序结果与绵羊BMP15基因外显子1(AF236078)相比,山羊BMP15基因外显子1在第268-270位插入3个核苷酸CTT(268insCTT),导致编码的氨基酸第12位插入亮氨酸(12insL);山羊BMP15基因外显子2序列长度与绵羊(AF236079)一致,但存在7处核苷酸不同,引起4个氨基酸变化,济宁青山羊与安哥拉山羊相比在963位存在核苷酸变化(A963G)。依据A963G变异设计引物P3,利用PCR-SSCP方法检测BMP15基因外显子2在高繁殖力品种(济宁青山羊)、中等繁殖力品种(波尔山羊)和低繁殖力品种(安哥拉山羊和内蒙古绒山羊)中的单核苷酸多态性,分析该基因对济宁青山羊多羔性的影响。结果在济宁青山羊中检测到AA、AG和GG基因型,在波尔山羊中检测到AG和GG基因型,在安哥拉山羊和内蒙古绒山羊中仅检测到AA基因型;测序分析发现GG与AA基因型相比存在1个突变(A963G),导致第300位的丝氨酸变为甘氨酸(S300G);济宁青山羊AA、AG和GG基因型频率分别为0.008、0.059和0.933;高

繁殖力山羊品种与中、低繁殖力山羊品种之间BMP15基因型分布存在显著(P<0.05)和极显著(P<0.001)差异;GG基因型济宁青山羊产羔数最小二乘均值比AG和AA基因型的分别多0.71只(P<0.05)和1.57只(P<0.05),AG基因型比AA基因型的多0.86只(P<0.05)。本研究结果初步显示BMP15基因可能是影响济宁青山羊多羔性的一个主效基因或是与之紧密连锁的一个标记。

【英文摘要】According to the sequence of sheep bone morphogenetic protein 15(BMP15)gene,twopairs of primers(P1 and P2)were designed to amplify the exons 1 and 2 of BMP15 gene in fiverandomly selected individuals from Angora and Jining Grey goats, respectively. Sequencingshowed that sequences of BMP15 exon 1(P1 amplification)of Angora and Jining Grey goats wereidentica1.There were three nucleotides (CTT) insertion from 268 to 270 positions in goat BMP15 exon 1 compared with that of sheep (AF236078),which caused a leucine insertion at the12th position in amino acid sequence.Sequence length of goat BM P15 exon 2(P2 amplification)was identical with that of sheep(AF236079),but there were seven nucleotide and four amino acid changes between goat and sheep. The nucleotide at the 9 6 3 rd position in BMP15 exon 2 was A for Angora goat and sheep,and G for Jining Grey goat.Based on A963G mutation,primer P3 was designed to detect SNP of BM P15 exon 2 in high prolificacy breed (Jining Grey goat),moderate prolificacy breed (Boer goat)and low prolificacy breeds(Angora and Inner Mongolia Cashmere goats)by PCR—SSCP.Three genotypes(AA,AG and GG)were detected in Jining Grey goats,tWO genotypes(AG and GG)in Boer goats,only AA genotype in Angora and Inner M ongoliaCashmere goats.Sequence analysis revealed one mutation (A963G) in genotype GG comparedwith genotype AA。and this mutation resulted in an amino acid change of serine glycine(S300G).In Jining Grey goats,frequencies of AA ,AG and GG genotypes were 0.008,0.059and 0.933,respectively.Genotype distributions of BM P15 gene were significantly different(P<0.05 Or P< O.001)among Jining Grey goats and Boer,Angora,Inner Mongolia Cashmere goats.In Jining Grey goats,the individuals with genotype GG had 0.71(P< O.05)or 1.57(P<0.05) kids more than those with genotypes AG or AA ,the individuals with genotype AG had 0.86(P< O.05)kids more than those with genotype AA. These results preliminarily indicated that the BMP1 5 gene is either a maj or gene which affects the prolificacy in Jining Grey goats or a molecular marker in close linkage with such a gene.

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【题目】山羊胰岛素样生长因子Ⅰ基因多态性及序列分析
【中文关键词】山羊,胰岛素样生长因子Ⅰ基因,PCR-SSCP
【英文关键词】goat; insulin like growth factor gene; PCR-SSCP
【中文摘要】采用PCR-SSCP技术检测胰岛素样生长因子Ⅰ(insulin like growth factor Ⅰ,IGF-Ⅰ)基因外显子在性早熟、高繁殖力品种(济宁青山羊)和性晚熟、中等繁殖力(波尔山羊)以及性晚熟、低繁殖力品种(安哥拉山羊和内蒙古绒山羊)中的单核苷酸多态性,分析该基因对济宁青山羊性早熟和高繁殖力的影响;并对济宁青山羊IGF-Ⅰ基因扩增片段进行克隆测序,拼接出山羊IGF-Ⅰ基因4个外显子序列,将济宁青山羊IGF-Ⅰ基因外显子核苷酸序列和推导的氨基酸序列与绵羊、牛、人、大鼠、小鼠和鸡6个物种的序列进行比较。结果表明,IGF-Ⅰ基因4个外显子在所检测的4个山羊品种中均不存在多态性;这7个物种的核苷酸和氨基酸序列同源性分别为79.6%~99.3%和77.8%~99.4%;与牛、人等6物种相比,济宁青山羊IGF-Ⅰ基因氨基酸序列不存在特有变化。可见,物种间IGF-Ⅰ基因保守性强,IGF-Ⅰ基因可能不是影响济宁青山羊性早熟和高繁殖力的主效基因。

【英文摘要】The insulin like grow th factor (IGF) genew as studied as a candidate gene for sexual precocity and high prolificacy in some goat (Capra hircus) breeds. Single nucleotide polymorphisms (SNPs) of all exons of IGF gene were detected in sexual precocity and high prolificacy breed (Jining Grey goat) and sexual late maturing andmoderate fecundity breed (Boer goat) and sexual late maturing and low fecundity breeds (Angora and InnerMongolia Cashmere goats) by polymerase chain reaction single strand conformation polymorphism (PCR-SSCP) . No polymorphism was detected in the amplified region in the four goat breeds tested. DNA fragments amplified in this research were cloned in to pGMT vector. The posit ive clonesw ere further identified by PCR. The nucleotide sequencs of four exons in goat IGF were spliced and the correspond ing am inoacid sequences were deduced. The comparison of the fragments of all four exons of Jining Grey goat IGF gene with those of human, cattle, sheep, rat, mouse and chicken showed that the homologies of the nucleotide sequences and amino acid quences o f the fragments among these seven species w ere

from 79 6% to 99 3% and from 77 8% to 99 4% respectively. No specia l variation was found in amino acid sequence of Jining Grey goat The results ind icated that the IGF gene was high ly conserved amongmamma ls, and may not be a major gene that affects the sexual precocity and high prolificacy in Jining Grey goats.
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【题目】山羊雌激素受体(ESR)基因部分外显子多态性分析
【中文关键词】山羊,雌激素受体基因,PCR-SSCP
【英文关键词】goat;estrogen receptor(ESR)gene;PCR-SSCP
【中文摘要】雌激素受体(estrogen receptor,ESR)与雌激素专一性地结合,并通过与雌激素的相互作用来调节生殖机能相关基因的表达,在动物繁殖中起着重要作用。研究采用PCR-SSCP和测序方法分析ESR基因外显子1、4在部分山羊(Capra hircus)品种中的单核苷酸多态性,并研究该基因对山羊繁殖力的影响。结果表明:ESR基因外显子1、4在所检测的济宁青山羊、波尔山羊、安哥拉山羊和内蒙古绒山羊中均不存在多态性;山羊扩增片段核苷酸和氨基酸序列与人、牛、猪、马、绵羊、大鼠、小鼠和鸡8个物种的同源性分别为51.3%~97.3%和64.5%~98.3%;山羊ESR基因氨基酸序列存在2处特有突变,分别是外显子1第81位插入一个脯氨酸(P)和外显子4第4位由天冬氨酸突变为天冬酰胺(D4N)。哺乳动物ESR基因外显子1、4序列保守性强,该区域可能不是影响山羊高繁殖力的功能结构域。
【英文摘要】The estrogen receptor (ESR)plays an important role in animal reproduction through binding specifically with estrogen and interacting with estrogen to regulate the expression of related genes of reproductive function,and was studied as a candidate gene for prolificacy in some goat(Capra hircus)breeds.Single nucleotide polymorphisms (SNPs)of exons 1 and 4 of ESR gene were detected in high prolificacy breed(Jining Grey goat),moderate prolificacy breed(Boer goat)and low prolificacy breeds(Inner Mongolia Cashmere and Angora goats)by polymerase chain reaction—single s~and conformation polymorphism (PCR—SSCP).Results showedthat no polymorphism was detected in the amplified region in the four goat breeds tested.The nucleotide sequences of these two flagments were detected and the corresponding amino acid sequences were deduced.The comparison ofthe fi-agments ofexons 1 and 4 of goat ESR gene with those of human,cattle,pig,horse,sheep,rat,mouse and chicken ESR gene showed that the homologies of the nucleotide sequences and amino acid sequences ofthe fragments with these eight species were from 5 1.3% to 97-3% and from 64.5% to 98-3%respectively.Two special variations were found in amino acid sequence ofgoats,which were 81st(proline insertion)in exon 1 and 4th (D4N)in exon 4.The results indicated that the ESR gene was highly conserved among mammals,and exons 1 and 4 may not be the functional domains that affect the high prolificacy in goats.
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【题目】坡缕石/聚丙烯酸(钠)高吸水复合材料的溶胀行为
【中文关键词】坡缕石;矿物/聚丙烯酸(钠);高吸水复合材料;溶胀行为
【英文关键词】palygorskite; mineral/PAANa; superabsorbent composites; swelling behavior
【中文摘要】以水溶液聚合法制备了坡缕石/聚丙烯酸(钠)(PAANa)高吸水复合材料,对复合材料的吸水溶胀性能进行了研究,并采用FTIR对复合材料进行表征。结果表明:10%坡缕石/PAANa复合材料吸蒸馏水和0.9 wt%盐水倍率分别达1666 g/g、115 g/g,较纯PAANa的724 g/g、58 g/g明显提高;坡缕石/PAANa复合材料具有优异的保水及反复吸水性能;坡缕石/PAANa的吸液倍率随电解质溶液离子强度的升高而降低,降低程度顺序为Al3+Ca2+Na+;坡缕石/PAANa复合材料与其他6种矿物

/PAANa复合材料相比,吸液性能特别是吸蒸馏水及0.9 wt%盐水性能大幅提高。
【英文摘要】Palygorskite / poly (sodiumacrylate) (PAANa) super absorbent composites were synthesized via aqueous solution polymerization with palygorskite and acrylate acid (AA) as raw materials. Swelling properties of palygorskite / PAAN a superabsorbent composites were investigated. The superabsorbent composite was characterized by Fourier transform infrared spectroscopy (FTIR). The results show that the distilled water absorbency and physiological saline solution absorbency of 10% palygorskite/PAANa superabsorbent composites reach 1666 g/g and 115g / g, respectively. In comparison to the distilled water absorbency and physiological saline solution absorbency of PAANa, 724 g / g and 58 g / g, the performance of palygorskite / PAANa composites is improved largely. Palygorskite / PAANa composites have excellent water retention and repeat water absorbency properties. Palygorskite / PAANacomposites water absorbency reduces along with the electrolyte solution ion intensity ascension, the reduction degree orderbeing Al3+>Ca2+.Na+.
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【题目】PEG/ 木薯淀粉接枝丙烯酰胺丙烯酸三元共聚物溶胀性能研究
【中文关键词】水凝胶;木薯淀粉; PEG;接枝共聚;溶胀
【英文关键词】thermal evaporation ;ZnO nanorods ;photoluminescence
【中文摘要】以木薯淀粉(CSt) 和丙烯酰胺(Am) 、丙烯酸(AA) 为主要原料,硝酸铈铵与过硫酸铵为复合引发剂(CAN———S2O2 -8) ,N ,N ′2 亚甲基双丙烯酰胺(MBA)为交联剂,聚乙二醇6000 (PEG 6000) 为成孔剂,采用水溶液聚合法制备了淀粉接枝聚丙烯酰胺丙烯酸复合PEG(PEG/ CSt2g2PAAm) 水凝胶材料。研究了PEG对水凝胶溶胀行为的影响, 以及PEG/CSt2g2PAAm与CSt2g2PAAm 两种凝胶在不同温度下的溶胀行为。实验结果表明,PEG6000 的加入对凝胶材料的重复使用性能有显著改善作用,并可显著增加凝胶的溶胀速率及溶胀能力,温度可以影响PEG/ CSt2g2PAAm 凝胶的溶胀速率。
【英文摘要】Ordered ZnO nanorod arrays have been successf ully deposited on top of well2ordered Al2O3 membrane by t hermal evaporation of Zn powder ,which overcomes t he use of catalyst or complicated procedure during the formation process of aligned ZnO nanorods. The morp hology and st ructural properties of prepared samples were st udied by Scanning elect ron microscope ,t ransmission elect ron microscope and X2ray diff raction. The experimental result sndicate that ZnO nanorods on top of membrane have bet ter crystal quality and ordering degree ,suggesting that the formation of well2ordered nanorods should be related to t he existence of negative charges localized on t he surface of membrane. Compared wit h the p hotoluminescence spect rum of disordered ZnO nanorods deposited on the Si subst rate ,t he ordered ZnO nanorod arrays formed on top of Al2O3 membrane display st ronger ult raviolet peak ,which suggest s f urther that aligned ZnO nanorods have bet ter crystal quality and optical properties.
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【学科分类】生物材料

【题目】海泡石矿物含量对海泡石/ 聚丙烯酸(钠) 复合材料吸水保水性能的影响
【中文关键词】非金属矿物/ 高分子高吸水保水复合材料;海泡石粘土;聚丙烯酸(钠) ;性能
【英文关键词】mineral/ polymer superabsorbent composites ; sepiolite clay ; polyacrylic acid nat rium; property
【中文摘要】利用水溶液聚合法制备了海泡石粘土/ 聚丙烯酸(钠) 高吸水保水复合材料,研究了海泡石粘土在0 %~10 %及20 %~150 %添加量范围对复合材料的吸水保水、重复吸水及抗电解质溶液性能的影响。结果表明,海泡石添加量在4 %和40 %~60 %范围时,复合材料的吸蒸馏水倍率达到极大值。海泡石添加量大于60 %时,复合材料吸水倍率急剧下降。复合材

料的保水率随着海泡石添加量的增加而小幅增加;海泡石粘土添加量在40 %~60 %范围时,复合材料的重复吸水性能比较稳定;复合材料吸蒸馏水的倍率随各电解质溶液离子强度的升高而不断降低,且海泡石粘土添加量高的复合材料对外界溶液离子强度的敏感程度较高。

【英文摘要】Sepiolite/ PAA (PAAS) super absorbent composite was prepared using solution polymerization method. Effect of sepiolite clay content at the range of 0 %~10 % and 20 %~150 %on water absorbency , water holding performance , repeated water absorbency , elect rolyte resistance and microst ructure of the as2synthesized composite was discussed respectively. The result s show that the maximum distilled water absorbency and the maximum 0. 9 % saline water absorbency of composite are both received when sepiolite mineral content is equal to 4 %. Sepiolite mineral/PAA (PAAS) composite reaches to the maximum distilled water absorbency (800 g/ g) within the range of 40 %~60 %. Water absorbency of composite is declining sharply within the range of 60 %~150 %. It is noticeable that water absorbency of composite containing sepiolite clay mineral is larger than that of polyacrylic acid nat rium f ree sepiolite clay. Water holding of composite increases ratherish along with sepiolite content augmentation. Repeated waterabsorbency of composite is steady2going while sepiolite clay content within the range of 40 %~60 %. The distilled water absorbency of composite is decreased simultaneously when ionic st rength of elect rolyte solution enlarges. The higher the compsite with sepiolite clay content , the faster the exoteric elect rolyte solutions absorbency descend.

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【题目】淀粉接枝衣康酸/ 丙烯酸高吸水材料制备与性能

【中文关键词】superabsorbent polymer ; starch graf t copolymer s ; itaconic acid ; swelling kinetics
【英文关键词】superabsorbent polymer ; starch graf t copolymer s ; itaconic acid ; swelling kinetics

【中文摘要】旨在为降低吸水材料成本、拓宽原料来源、提高生物降解性、减少对石油化工产品的依赖提供指导, 以水溶液接枝共聚法制备了淀粉接枝衣康酸/ 丙烯酸高吸水材料(S/ IA/ AA) , 讨论了淀粉糊化条件、中和度、单体含量、反应温度等因素对材料吸水性能的影响, 采用FTIR、SEM、EDX 等对吸水材料进行表征。研究表明:淀粉糊化最佳条件为糊化温度80 °C, 糊化比为10 g ・g - 1 , 糊化时间30 min ; 吸水材料合成最佳条件为中和度50 % , 衣康酸40 % , 淀粉20 % , 引发剂为4 ×10 - 3 mol ・L - 1 , 交联剂01075 % , 反应温度50 °C; 利用40 %衣康酸替代丙烯酸所制S/ IA/ AA 同S/ AA 相比, 其吸水性能有一定提高且保水性能优良。

【英文摘要】The ternary starch graf ted itaconic acid/ acrylate acid superabsorbent polymer s (S/ IA/ AA) were synthesized vi a aqueous solution polymerization wit h maize starch , itaconic acid (IA) and acrylate acid (AA) as raw materials1 The factor s t hat influenced t he sample ’ s properties were investigated1 The superabsorbent was characterized by Fourier t ransform inf rared spect roscopy (F TIR) , scanning elect ron microscopy (SEM) and energy dispersive X2ray detector (EDX) . Preliminary result s indicated t hat S/ IA/ AA polymer , which was synt hesized by using IA in addition to AA , exhibited improved water absorbency compared wit h t hat of S/ AA polymer1 Starch gelatinization optimum conditions were obtained as follows : elatinization temperat ure 80 °C, gelatinization time 30 min and starch to water ratio 10 g ・g - 1 , respectively1 The optimized polymerization process of S/ IA/ AA was concent rations of cross2linker 01075 % , concent ration of initiator 4 ×10 - 3 mol ・L - 1 , IA to AA ratio 40 %, starch to monomer ratio 20 % , neut ralization degree 50 % , and polymerization temperat ure 50 °C1 Kinetic curves of composite indicated t hat S/ IA/ AA had high a bso rbency rate and excellent water retentio n1 For starch species superabsorbent, this study was significant for reduced cost of production , widened source of raw material , increased biodegradability and reduced dependence on pet rochemicals.

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【学科分类】复合材料

【题目】磷矿粉复合保水材料的制备及性能研究
【中文关键词】活化磷矿粉;磷矿粉复合保水材料;制备;吸水性能;释磷性能
【英文关键词】modified p hosp horite powder ;p hosp horite powder ;composite material ;preparation ;water absorbent performance ;phosp horus releasing performance
【中文摘要】研究以过硫酸钾为引发剂,N ,N2亚甲基双丙烯酰胺为交联剂,丙烯酸、丙烯酰胺为主要原料,经部分酸化和无机材料改性处理的活化磷矿粉为主要添加原料,采用水溶液聚合法制备活化磷矿粉/ PAA2AM 复合保水材料。进而探讨活化磷矿粉添加量、中和度、交联剂和引发剂用量对复合保水剂吸液性能的影响。当中和度为70 %、活化磷矿粉、交联剂、引发剂添加量分别为单体的45 % ,0104 % ,015 %时,所得复合保水材料吸蒸馏水、自来水、生理盐水倍率分别为390 倍,200 倍,62 倍。通过释磷性能研究表明该复合材料具有较好的可持续供磷性能、有利于改良土壤、改善土壤的缺磷状况。同时,还通过谱学分析(XRD 和F2IR) ,探讨该复合材料的释磷机理。
【英文摘要】The incorporating of nut rition wit h superabsorbent polymer is a new t rend in current research. Modified p hosp horite powder/ PAA2AM superabsorbent composite material was prepared by copolymer of acrylate acid and acrylamide with potassium per sulp hate2sodium t hiosulfate as initiator ,N ,N ′ 2met hylene2bis2acylamide as cross linking agent ,acrylic acid and acrylamide as main material s , p hosp horite powder which is acidified partly and modified by inorganic nonmetal material as additive material ,by means of solution copolymerization. The influence of the amount of modified p hosp horite powder ,degree of neut ralization of AA ,t he amount of cross linking agent and initiator ,on absorbency was investigated and optimized. The optimum polymerization conditions were obtained. The absorbance of distilled water ,water and saline water was 390 ,200 and 62 respectively under t he best condition. The polymer composite material can keep supplying p hosp horus in a certain time and favor s the improvement of soil and p hosp horus deficiency. Meanwhile ,t he p hosp horus releasing mechanism of t his composite material was st udied in detail by spect rum analysis (XRD and IR) .
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【题目】不同类型保水剂性能及其对玉米生长效应的比较
【中文关键词】保水剂; 吸水保水;玉米;菌根;生长速率
【英文关键词】water retentive agent; water swelling and conservation; maize; mycorrhiza; growth speed
【中文摘要】为了比较各类保水剂在同等条件下的性能和应用效果差异,促进保水剂在抗旱节水中的合理应用。本文对国内聚丙烯酸钠、淀粉接枝丙烯酸钠、凹凸棒(元机)/聚丙烯酸钠(有机)、腐殖酸/聚丙烯酸钾4种主要类型农用保水剂进行性能测定,比较其吸水倍率、吸水速率、抗离子特性、pH值、反复吸水性等性能的差异。结果表明,不同类型保水剂的性能差异较大,单一性保水剂聚丙烯酸盐在吸水倍率、吸水速率和保水性等方面表现最好,但反复吸水时吸水率降低较快;淀粉接枝丙烯酸钠第7次吸水时已丧失吸水性;复合型保水剂凹凸棒/聚丙烯酸钠、腐殖酸/聚丙烯酸钾抗二价(Ca ”,M92+)和三价(Fe ”)离子特性明显,反复吸水性能好;盆栽玉米实验证明,复合型保水剂及其与菌根配比使用能显著促进玉米生长。
【英文摘要】In order tO understand the property of different kinds of water retentive agents and the appfied effects SO that to use it reasonably on drought resistance and water saving.The paper is to test the capabilities of major four kinds of water retentive agents,including Poly(acrylate sodium),Starch—sodium acrylate graft copolymers,Poly(acrylate sodium)/attapulgite,Poly(acrylic acid—potassium acrylate)/humic—acid.It was analyzed the ab—sorbency,swelling rate,anti—ionic property,pH,frequent absorbency and SO on.The results showed that the ca—pabilities of four different kinds of water retentive agents is very different and the best one of them is Poly(acry—late sodium)that recapitulate swelling rate is decreased fast in re—absorbent swelling;Starch—sodium acrylate graft copolymers has lose the capacity of water swelling in 7th process of water swelling;multi—component water reten—tive agents,such as Poly(acrylate sodium)/attapulgite and Poly(acrylic acid—potassium acrylate)/humic—acid have a special characteristic on anti—ion with bivalent(Ca2+,M92+)and anti—ion with three combination(Fe3+)marked—ly,respectively,and they all have a good capacity on recapitulate swelling rate.The pot experiments showed that Poly(acrylate sodium)/attapulgite and Poly(acrylic acid—potassium

acrylate)/humic—acid,compared to Poly(acry—late sodium) and starch——sodium Acrylate Graft Copolymers as well as mixed use of water retentive agents and mycorrhiza can increase the growth of maize.
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【题目】保水剂对土壤氮素淋溶及脲酶活性的影响
【中文关键词】保水剂; 氮素; 尿素; 淋溶; 脲酶
【英文关键词】super absorbent polymer(SAP); nitrogen; urea; urease; eluviations
【中文摘要】施用化学各处理的土壤脲酶活性与氮素淋溶量达到了显著正相关是减小土壤氮素淋溶和提高氮素利用效率的重要途径。为了分析保水剂对土壤氮素淋溶效应和土壤脲酶活性影响。本文通过模拟试验,对施用同量尿素条件下,三种不同类型高分子保水剂(聚丙烯酸钠保水剂、有机-无机复合保水剂、腐植酸型保水剂)对尿素淋溶和土壤脲酶活性进行比较。多次浇水淋溶实验表明,三种保水剂都明显降低了土壤尿素淋失量,8 次浇水后氮素淋溶累积量分别比对照减少37.44%、33.05%、31.66%。多次浇水中保水剂对氮肥淋溶量动态变化表明,保水剂减小氮素淋溶损失的重要机理是保水剂具有缓冲氮素释放作用;保水剂处理有效促进土壤脲酶活性,土壤脲酶活性与氮素淋溶量显著正相关。相对而言,聚丙烯酸钠盐保水剂降低氮素流失,提高氮肥利用效率效果较优。
【英文摘要】Chemical agent application is an important way to decrease nitrogen fertilizer losing and raise the use efficiency. In order to analyze the inference of super absorbent polymer(SAP) on nitrogen eluviations and the urease activity of soil,it was used simulation experiment to study the effects of three kinds of SAP, including polyacrylic acid SAP, organic-inorganic hybrid SAP and humic acid-contained SAP, on urea eluviations and the urease activity of soil. Under same level of urea fertilizer application, the experiment was shown that three kinds of SAP all strongly restrained the leaching loss of urea in soil,and the urea losing amount was decreased 37.44%、33.05%、31.66% than that of the control. In the processing of different time watering, the mechanism of nitrogen eluviations decreasing was cushion action of SAP to nitrogen releasing. SAP can enhance a urease activity that is corresponded with the nitrogen leaching amounts. And relativity, the urea maintaining effect of polyacrylic acid SAP is the most obviously.
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【题目】新型多功能腐植酸基农林保水生态治理剂
【中文关键词】腐植酸; 保水; 保水剂
【英文关键词】humic acid; saving water; absorbents
【中文摘要】论述了新型多功能腐植酸基农林保水生态治理剂研制开发的意义,提出了保水剂在农林业应用中存在的问题及目前的研究方向,并介绍了新型多功能腐植酸基农林保水生态治理剂的特点、效果及项目实施的可行性。
【英文摘要】The benefits of the new superabsorbent polymer of potassium humic and acrylamide were expatiated. The significance and the developments both here and abroad of superabsorbent polymer were introduced. The problems existing in agriculture and horticulture, and the research direction at present for absorbents were put forward. The characteristics, effect and feasibility actualization of the new superabsorbent polymer were introduced.
【语种】中文
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【题目】CTS—g—PAA/SH高吸水性树脂的缓释和保水性能
【中文关键词】高吸水性树脂;腐殖酸钠;保水性能;缓释功能
【英文关键词】Superabsorbent,Sodium humate,Water retention capacity,Slow-release
【中文摘要】以壳聚糖(CTS)、丙烯酸)和腐殖酸钠(sH)为原料,在水溶液中通过接枝共聚反应合成壳聚糖接枝聚丙烯酸/腐殖酸~tJ(CTS-g—PAA/SH)高吸水性树脂;考察CTS—g—PAA/SH树脂在不同浓度盐溶液中的溶胀行为、反复吸抽}生能、SH的缓释性能和在土壤中的实际保水效果;在SH含量为10%时,CTS—g—PAA/SH树脂在蒸馏水和生理盐水中的吸水倍率分别达到183g/g和41g/g;CTS-g-PAA/SH 高吸水性树脂具有较好的反复吸水性能;与CTS—g—PAA相比,含有1.0%CTS-g-PAA/SH树脂的沙土,20d后仍然具有6.75%的保水率;SH能与AA发生聚合反应,形成网络结构,"-3 SH含量超过30%时,过量的SH是以物理填充方式存在于高吸水性树脂的交联网络中,且容易释放; SH能改善cTs—g—PAA的吸水性,CTS—g—PAA/SH高吸水性树脂不仅可降低产品成本,而且还具有缓释腐殖酸的功能。
【英文摘要】A novel superabsorbent of chitosan-g-poly (acrylic acid)/sodium humate (CTS—g-PAA/SH)was synthesized through graft polymerization among chitosan,acrylic acid and sodium hu—mate in aqueous solution. The water absorbency in various s~ine solutions,resweling behaviors,the slow—release behavior of SH and the pracfic~ water ab sorbency in soil of CTS—g—PAA/SH superab sorbent were systematically investigated. The CTS—g-PAA/SH superabsorbent with 10%sodium humate gave water absorbency of 183g/g in distilled water and 41g/g in 0.9% NaC1 solution.The CTS—g—PAA/SH superab—sorbents have better resweling behaviors.Comparing with C11s—g—PAA,6.75% of water can still be saved in the san d soil containing 1.0% superabsorbent after 20 days.SH reacts with PAA during the polymerization process an d forms a more intact polym eric network.When the SH content is above 30% in superabsorbent,the excess SH on1v acts aS filler in the polymeric network and the slow—release of SH is easy. IntroducingSH could improve water absorbency of the CTS—g—PAA superab sorbent.CTS-g—PAA/SH superabsorbent not only Can reduce significan tly production cost,but also have slow-release capacity of humic acid.
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【题目】新型抗蒸腾剂对玉米的节水增产效应
【中文关键词】抗蒸腾剂; 玉米; 光合速率; 水分利用效率
【英文关键词】无
【中文摘要】为获得具有代谢调节、膜阻断等多功能的复合型抗蒸腾剂,本研究采用黄腐酸(FA)为主要成分,配以高分子材料、氨基酸液肥、微量元素以及生长素等组分,按照不同方案配制A、B、C3种新型抗蒸腾剂。在盆栽条件下比较其对作物生长的影响及其生理效用。结果表明,玉米拔节后期叶面喷施后,B和C可降低玉米的蒸腾速率、降低气孔导度、提高光合速率和单叶水分利用效率(WUE),并增加玉米株高和干重,促进玉米生长;A抑制蒸腾作用不明显,但能提高光合速率和单叶WUE,增加玉米的株高和干重,促进玉米生长。B和C可作为新型抗蒸腾剂应到农业节水。
【英文摘要】无
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【题目】氮、磷、钾、硼肥对甘蓝型油菜籽品质的影响
【中文关键词】油菜; 施肥; 含油量; 蛋白质含量; 硫甙; 芥酸
【英文关键词】Brassica napus ; fertilization ; oil content ; protein content ; glucosinolate ; erucic acid
【中文摘要】以多个正在大面积应用的甘蓝型油菜品种为研究对象,在长江流域冬油菜主产区的10 个省(市) 布置氮、磷、钾和硼肥田间肥效试验共284 组,通过多点试验分别探讨当前生产条件下施用氮、磷、钾、硼肥对双低和双高甘蓝型油菜籽含油量、蛋白质、芥酸、硫甙的影响。结果表明,双低油菜籽平均含油量为41166 % ,双高油菜含油量明显低于双低油菜,仅为38192 %。氮、磷、钾和硼肥施用对油菜籽的品质效应在不同试验点表现不尽相同,其总体趋势是: 在磷、钾、硼肥基础上施用氮肥提高籽粒蛋白质含量而降低油分含量,且随氮肥用量的增加效果更明显,施氮对双高油菜油分及蛋白质含量的影响程度大于双低油菜; 施磷、钾或硼肥有提高油菜籽含油量而降低蛋白质含量的趋势; 施肥对油菜籽硫甙和芥酸含量有一定影响,但对品质影响不大。油菜籽含油量与收获指数、千粒重显著正相关,与蛋白质含量呈负相关。研究结果显示,在施氮的基础上配合施用磷、钾和硼肥能减少因施氮引起的油分损失。
【英文摘要】284 field experiments were conducted in 10 main rapeseed product provinces along the Yangtze River Basin. Our research aimed at the effects of nitrogen(N) , phosphorus (P) , potassium(K) and boron (B) on rapeseed main quality items such as concentration of oil , protein , glucosinolate and eurcic acid in seed of double low rape (Brassica napus . with low glucosinolate and erucic acid content) and double high rape (Brassica napus .with high glucosinolate and erucic acid content) . The average oil content of double low rape was 41166 % , which was 2174 % higher than double high rape. The effects of N, P , K and B fertilizer on rapeseed qualities were not uniform at different experimental sites. Oil concentration was significantly decreased , and protein concentration in the seed was increased with the increasing of N application rate. The effect of N fertilizer application on oil and protein content in double high rape was stronger than that in double low rape. Seed oil content was enhanced with the application of P, Kand B fertilizer. Fertilization also influenced the glucosinolate and erucic acid content, but the effect was not significance. Oil content was positively correlated with harvest index and 10002seed weight, negatively correlated with seed protein content . It was concluded that the combination of P, K and B fertilizer with N could alleviate oil content losses caused by unique N fertilizer application.
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【题目】东北黑土玉米单作体系氨挥发特征研究
【中文关键词】黑土;氨挥发;优化施氮;玉米
【英文关键词】Black soil;Ammonia volatilization; Optimized N application; Maize
【中文摘要】采用通气法测定了东北黑土玉米单作体系田间土壤的原位氨挥发.试验设5个氮肥处理,即:施氮量(N)分别为0、150、225和300 ks/hm2(分别用N0、N1、N2和N3表示),N1、N2和N3处理基施氮肥和拔节期追肥各1/2,其中N3为习惯施肥;同时,设置优化施肥处理N4,用量为N 225 kg/hm2,基施氮肥、拔节肥和孕穗期肥各1/3.结果表明,来自肥料的氨挥发持续时间较短,一般发生在施肥后的7 d内.由于追肥期高温低湿,追肥期氨挥发量显著高于基施氮肥.随施氮量增加,氨挥发损失增加;优化施肥(N4)的氨挥发损失量明显低于习惯施肥,N1、N2、N3和N4处理来自氮肥的氨挥发依次为N 5.09、9.18、13.47和7.14 kg/hm2,相当于施氮量的3.39%、4.08%、4.49%和3.17%.可见,优化施肥对于我国东北集约化农区节省氮肥和提高氮肥利用率有晕要意义.
【英文摘要】Ammonia volatilization (AV) from soil is an important pathway for fertilizer N loss from field, while less information is available on AV from black soil in Northeast China. For understanding the seriousness of AV in this area, a venting method was used to investigate AV from black soil in maize monoculture system, treatments of nitrogen fertilizer (Urea) application included: (1) N0 (Control, no nitrogen application); (2) N1 (N 150 kg/hm2); (3) N2 (N 225 kg/ hm2); (4) N3 (N 300 kg/ hm2).The N3 represented the

traditional N application, and for N1, N2, and N3, 1/2 was used before sowing as basal, and 1/2 used at jointing stage as top-dressing. One more treatment was added as N4 (N 225 kg/ hm2), 1/3 the total amount was used respectively before sowing, at jointing stage,and at booting stage, and this represented optimized N application approach. In field condition,it was found that ammonia volatilization lasted short,and took place within a week after N application. The amount of AV from N fertilizer as top-dressing was found to be higher than that as basal, due to the higher temperature and the lower soil moisture at jointing stage and booting stage. The N loss through AV increased with the application rate of nitrogen fertilizer. For N1, N2 , N3 and N4 treatment, the amount of AV from N fertilizer were N 5.09, 9.18, 13.47 and 7.14 kg/ hm2,which were equivalent to 3.39%, 4.08%, 4.49% and 3.17% of fertilizer N applied, respectively. Optimized N application approach lowered the N loss by AV greatly compared to traditional N application. Therefore, optimized fertilization is of great importance for increasing N use efficiency and saving N fertilizer in intensive cropping area in Northeast China.

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【题目】Study on superabsorbent composites. XXI. Synthesis, characterization and swelling behaviors of chitosan-g-poly(acrylic acid)/organo-rectorite nanocomposite superabsorbents
【中文关键词】无
【英文关键词】nanocomposite superabsorbent; chitosan;rectorite; water absorbency; swelling rate
【中文摘要】无
【英文摘要】A novel chiston-g-poly(acrylic acid)/organo-rectorite (CTS-g-PAA/OREC) nanocomposite superabsorbent was synthesized by aqueous polymerization using N,N'-methylenebisacrylamide as a crosslinker and ammonium persulfate as an initiator. Rectorite was organified with four different degree of hexadecyltrimethyl ammonium bromide, and the organification of rectorite was proved by FTIR and XRD. The effect of organification degree of rectorite on water absorbency of CTS-g-PAA/OREC with different organo-rectorite content was investigated. The swelling behaviors in distilled water and various pH solutions were also studied. The results from IR spectroscopy and XRD data show that acrylic acid had been grafted polymerization with chitosan and organo-rectorite and formed nanocomposite. Introducing organo-rectorite into the CTS-g-PAA polymeric network can improved water absorbency and swelling rate of CTS-g-PAA/OREC.
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【学科分类】复合材料

【题目】基于多时相棉花长势遥感的棉田质量诊断
【中文关键词】棉花长势;多时相;遥感监测;棉田质量
【英文关键词】Cotton growth; Multi-temporal; Remote-sensing monitoring; Cotton field quality
【中文摘要】【目的】研究多时相遥感信息对棉田质量进行诊断的技术和方法,为棉花生产提供具有针对性的管理方案,促进棉田均衡增产、增效。【方法】研究分析多时相遥感数据对地物信息的动态分析与评判能力,以及棉花长势指标动态变化与棉田质量的关系,对棉花生长盛期多时相的LANDSAT-5 多时相遥感数据进行融合,将棉田质量状况划分为健康棉田、有障碍棉田和疑似有障碍棉田三类。【结果】数据分析结果表明,棉花生长盛期(花铃期)单时相的LANDSAT-5 反射率数据可以作为棉田生长状况的判断指标,划分健康生长与生长障碍的阈值为0.820;利用多时相遥感数据的棉田质量划分方法,可以将棉田质量分为健康、有障碍和疑似有障碍三类。依据此方法对新疆建设兵团148 团约1 1705.3 ha 的417 块棉田

进行分类,得出健康、有障碍和疑似有障碍三类棉田所占比例分别为36.4%、34.1%和29.5%;经过8 块条田(426.5 ha)的地面同步调查证实了这种方法的准确性,造成该区棉田质量障碍的主要因素为耕地盐渍化、不平整、土壤质地不匀。【结论】研究表明棉田多时相遥感数据进行棉田质量诊断是可行的。利用这种方法,结合不同质量棉田形成机理,能够得到棉田质量状况及影响因素精细分布的信息,为进一步进行的棉田土壤改良与生产管理采取针对性的措施提供数据支撑。

【英文摘要】【Objective】The cotton field quality was diagnosed with the remote sensing technology, and the results wouldprovide the technology support to take the active measurements for cotton industry, and would promote to increase the yield andefficiency.【Method】In terms of the determination ability of multi-temporal remote sensing data for dynamic information, and therelationship between cotton growth and cotton field quality, the multi-temporal remote sensing of the flower-boll stages data wasfused in the years form A.D. 2005 to A.D.2006. The cotton field quality conditions were divided into the three styles of the healthycotton field, handicapped cotton field and suspected cotton field with handicap.【Result】The results showed that the 0.82 ofLANDSAT-5 TM4 reflective was reasonable to divide the healthy and handicapped cotton fields with the single-time remote sensingimages in the flower-boll stages of cotton, and then 417 cotton fields about 1 1705.3 ha was classified using the method with themulti-temporal data, the results were that the three-style proposition of cotton field quality was 36.4%, 34.1% and 29.5% respectively;the validity of classification was proved by the synchronization investigation based on the eight cotton field (426.5 ha), and thetesting results of soil character and total salt indicate that the main factors of handicapped cotton field were salting, disunity ofcharacter, difference of level.【Conclusion】It was believed to diagnose the cotton field with multi-temporal remote sensing data ofcotton growth and map the information of cotton field quality on the base of the its mechanism , the precise information of cottonfield quality would provide the data support to improve the cotton soil conditions.

【语种】中文

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【题目】氮肥后移对土壤氮素供应和冬小麦氮素吸收利用的影响

【中文关键词】氮肥后移;冬小麦;土壤硝态氮;氮肥利用率

【英文关键词】postponing N application;winter wheat;soil NO3-N;N use efficiency

【中文摘要】采用田间试验研究了氮肥后移对土壤氮素供应和冬小麦氮素吸收利用的影响。结果表明,与农民习惯施氮(N 300 kg/hm2,基肥和拔节肥各占1/2)比较,氮肥后移处理(N210kg/hm2,基肥、拔节肥和孕穗肥各占1/3)在不降低小麦产量的同时,大大提高了氮肥利用率,且全生育期氮素表观损失极低。过量施用氮肥(N 300 kg/hm2)明显提高了60 cm以下土层硝态氮含量,增加了其向地下水淋溶迁移的风险。氮肥后移可提高小麦成熟期0-20cm土层硝态氮积累量,降低其在20-100cm土层的积累。基于冬小麦不同生育阶段的氮素吸收量而进行氮肥后移是可行的,氮肥后移可节省氮肥30%,是较为理想的施氮方式。

【英文摘要】Field experiment was carried out to investigate postponing N application on soil N supply, plant N uptake and utilization in winter wheat. Results obtained showed that, compared with farmers’ practice (N 300 kg/ha, 1/2 basal and 1/2 topdressing at jointing stage, respectively), postponing N application treatment (N 210kg/ha, 1/3 basal, 1/3 topdressing at jointing stage and 1/3 topdressing at booting stage, respectively) improved N use efficiency greatly, and minimized apparent N losses without grain yield losses. Excessive N application (N 300 kg/ha) increased NO3--Ncontent below 60 cm soil profile at different growth stage, which would result in high risk of NO3--Nleaching into underground water. Postponing N application increased nitrate accumulation in the soil of 0-20 cm and reduced nitrate accumulation in 20-100 cm soil profile. Therefore it was concluded that postponing N application based on plant N uptake at different growth stage is a feasible N management practice, and nitrogen fertilizer could be saved by 30% as compared with farmers’ practice.

【语种】中文

【第一作者】裴雪霞

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【题目】湖北省油菜氮肥效应及推荐用量研究
【中文关键词】油菜;氮肥;产量;经济效益;氮肥推荐用量
【英文关键词】Rapeseed (Brassica napus L.) ; Nitrogen (N) ; Yield; Profit; Optimized N recommendation rates
【中文摘要】通过15个田间试验,研究湖北省油菜主产区氮肥效应和适宜用量。结果表明适量施用氮肥对油菜具有明显的增产增收效果,施氮比不施氮对照增收油菜籽402~2 759kg/hm2 ,平均增产1270kg/hm2 ,平均增产率达133. 0%;施氮纯利润平均为3 403 元/hm2 , 产投比平均达6. 00; 氮肥偏生产力和农学利用率平均分别为17. 6kg/kg N和8. 0kg/kg N。根据肥料效应方程,在当前生产条件下,油菜生产的氮肥最佳经济用量为120. 1~325. 4kg N /hm2 ,平均用量为199. 6kg N /hm2。土壤碱解氮含量与油菜氮肥最佳经济推荐用量呈极显著负相关性 (r = - 0. 773 43 3, n = 12) ,根据土壤碱解氮含量(x,单位为mg/kg)水平,湖北省目前油菜生产适宜用氮量(y,单位为kg/hm2)可通过公式y 553. 72 . 74. 699Ln (x)求得。
【英文摘要】15 field trialswere carried out to study the response to nitrogen (N) and the op timal result from N app lication were recommended for rapeseed in Hubei Province. The results showed that N app lication significantly increased both rapeseed yield and p rofit. Yield increment ranged from 402 kg/hm2 to 2 759kg/hm2 , the average increment was 1 270kg/hm2. This was a 133. 0 percent increase compared with the controlwhich had no N app lication. The average net p rofit of N app lication was 3 403Yuan /hm2 and the value cost ratio (VCR) was 6. 00. The average partial factor p roductivity of app lied N (PFPN) and agronomic N use efficiency (ANUE) were 17.6kg/kg N and 8. 0kg/kg N respectively. According to fertilizer response equations, the economical N app lication rateswere 120. 1kg/hm2 to 325. 4 kg/hm2, with the average rates 199. 6kg/hm2. The result indicated that the economical N app lication rates had significant negative correlation with soil available N level and the correlation coefficient (r) was 0. 773 4 (n = 12). The economical N app lication rates of rapeseed can be obtained through the equation y =553. 72 - 74. 699Ln (x) (y is app lied rate of N and x is soil available N content.) in Hubei Province.
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【第一作者】李银水
【通讯作者】鲁剑巍
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【题目】马γ-干扰素单克隆抗体的制备及其特性的鉴定
【中文关键词】马γ- 干扰素; 单克隆抗体
【英文关键词】equine IFN- γ ; monoclonal antibody (McAb)
【中文摘要】将原核表达的重组马γ- 干扰素成熟蛋白(mEIFN- γ) 免疫BALB/c 小鼠(Mus musculus) , 经4 次免疫后, 取脾细胞与SP2/0 骨髓瘤细胞进行融合, 以昆虫杆状病毒表达系统获得的重组马γ- 干扰素作为检测抗原进行间接ELISA 检测, 共筛选并最终得到了12 株能稳定分泌抗体的单细胞克隆株。利用间接免疫荧光(IFA) 试验对12 株单克隆抗体进行鉴定, 结果证实所获得的12 株细胞分泌的抗体均为针对马γ- 干扰素的特异性抗体。单克隆抗体亚型鉴定结果显示, 4 株为IgG1、2 株为IgG2a、3株为IgG2b 和3 株为IgM, 而且所有单克隆抗体的轻链均为" 链。将此12 株单克隆抗体分别与用原核系统分节段表达的重组马γ- 干扰素GST-mEIFN- γ (1~84) 和GST-mEIFN- γ (80~146) 蛋白进行特异性ELISA 检测, 结果表明有7 株单克隆抗体识别GST-mEIFN- γ (1~84), 而另5 株单克隆抗体与GST-mEIFN- γ (80~146)发生反应, 说明所获得的12 株单克隆抗体至少针对2 个或2 个以上不同的抗原表位。
【英文摘要】BALB/c mice (Mus musculus) were immunized intraperitoneally with purified recombinant mEIFN- γ protein. Murine myeloma cells were fused with splenocytes of the immunized mice. An indirect ELISA with recombinant mEIFN- γ derived from faculovirus expression system as antigen was used to screen antibody-producing hybridomas. Twelve hybridomas cells could produce McAbs steadily after 3 cycles of subcloning. Additionally, all McAbs showed positive reaction to mEIFN- γ in indirect fluorescence assay (IFA) tests. Four McAbs were IgG1, two McAbs were IgG2a, three McAbs were IgG2b and three McAbs were IgM isotype,respectively. The light chains of all McAbs were " chain. Furthermore, seven McAbs showed positive reaction to GST-mEIFN- γ (1~84) protein, and the others showed positive reaction to GST-mEIFN- γ (80~146) protein in specific ELISA tests. The results

indicated that 12 McAbs could recognize two or more mEIFN- γ epitope. Therefore, these McAbs can be useful as a basis of detection methods for equine IFN- γ , monitoring immune state and investigating immunologic mechanism.
【语种】中文
【第一作者】白宇
【通讯作者】吴东来
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【题目】优化施肥条件下华北冬小麦/夏玉米轮作体系的土壤氨挥发
【中文关键词】冬小麦;夏玉米;优化施肥;土壤氨挥发
【英文关键词】winter wheat ; summer corn ; optimized fertilization ; soil ammonia volatilization
【中文摘要】采用密闭室间歇通气法研究优化施肥条件下华北冬小麦/夏玉米体系的土壤氨挥发损失。结果表明,肥料氮素氨挥发损失主要发生在施肥后的14 d 内, 冬小麦和夏玉米两个生长季氨挥发损失总量及其损失率均表现出随施氮量的降低而降低,玉米季氨挥发损失高于小麦季。习惯施肥小麦季和玉米季氨挥发总量是氮肥减量后移的2.28和2.03倍,而氮肥减量后移处理的小麦和玉米产量显著高于习惯施肥。氮肥后移可节省氮肥30%,是降低氨挥发损失的理想施肥方式。
【英文摘要】An enclosed intermittent vent method was adopted to determine ammonia volatilization (AV) from soil of winter wheat-summer corn rotation system in North China. Results showed that AV from soil in both winter wheat and summer corn growing season occurred mainly within 14 days after fertilization, and the cumulative AV amount from fertilizer N in winter wheat growing season was found to be less than that in summer corn growing season. Cumulative AV amounts from soil of winter wheat-summer corn rotation system were observed to be reduced with decreasing of N application rate. Total AV amounts under conventional fertilization were 2.28 and 2.03 times as high as that under optimized N fertilization, where N application rate was decreased by 30%. Compared with conventional fertilization (N 300 kg/ha), the N rate was decreased by postponing N application, but the grain yield was significantly increased. Therefore, 30% of nitrogen fertilizer could be expected to be saved by optimized fertilization, and postponing N application is a rational and practicable N fertilization method for reducing AV in winter wheat-summer corn rotation system.
【语种】中文
【第一作者】王秀斌
【通讯作者】周卫
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【题目】优化施肥下华北冬小麦/夏玉米轮作体系农田反硝化损失与N2O排放特征
【中文关键词】冬小麦 ; 夏玉米 ;氮肥优化施用 ;反硝化 ;氧化亚氮
【英文关键词】winter wheat;summer corn;optimized N fertilization;denitrification;N2O
【中文摘要】在田间条件下,应用乙炔抑制-原状土柱培养法测定优化施肥下华北冬小麦/夏玉米轮作体系土壤反硝化和N2O的排放特征。研究表明:冬小麦和夏玉米整个生育期反硝化速率和N2O排放通量均表现出明显的季节性变化,且均与土壤水分和无机氮浓度呈显著正相关。小麦季和玉米季的反硝化损失量及N2O排放量均表现出随施肥量的降低而降低,夏玉米季的反硝化损失量和N2O排放量均高于小麦季。小麦季的反硝化损失量和N2O排放量习惯施肥处理是氮肥减量后移处理的1.62和1.67倍,玉米季分别为2.01和2.00倍。氮肥减量后移可能是通过改变土壤无机氮浓度而降低反硝化损失量和N2O排放量。
【英文摘要】A field experiment was conducted characterize denitrification and N2O emission from soil under optimized nitrogen fertilization in winter wheat-summer corn rotation system in North China using acetylene inhibition-intact soil core incubation technique. Results showed that there were significant seasonal variations of denitrification rate and N2O emission flux during winter wheat-summer corn growth periods, and positive correlations existed between inorganic nitrogen concentration (NH4+-N, NO3--N) and denitrification rate. Total denitrification losses and N2O emission amounts from soil in winter wheat-summer corn rotation system

were observed to be reduced with decreasing of N application rate, and which in winter wheat season were found to be less than those in summer corn season. Total denitrification losses and N2O emission amounts under conventional N fertilization were respectively 1.62 and 1.67 times as high as those under optimized N fertilization during winter wheat growth periods, and 2.01 and 2.00 times during summer corn growth periods, which N application rate decreased by 30% and postponing N application as compared with conventional N fertilization with an application rate of N300 kg/hm2. Therefore, postponing N application could reduce denitrification losses and N2O emission through modifying soil inorganic nitrogen concentration.

【语种】中文

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【学科分类】农学其他学科

【题目】优化施氮下稻-麦轮作体系氮肥氨挥发损失研究

【中文关键词】稻麦轮作 ;氨挥发;水稻土; 优化施氮

【英文关键词】wheat-rice rotation system;ammonia volatilization ;paddy soil ;optimizing N application

【中文摘要】采用密闭室连续通气法研究了优化施氮下湖北稻-麦轮作体系农田氨挥发损失。结果表明,肥料氮素氨挥发损失量随施肥量增加而增加。施肥处理小麦季氨挥发损失量为N 11.37~17.05 kg/hm2,肥料氮氨挥发损失率为4.75%~5.43%,氨挥发峰值大约发生在施肥后的第3~5 d,肥料氨挥发过程持续7~10 d;水稻季氨挥发损失量为N 32.50~62.82 kg/hm2,肥料氮氨挥发损失率为8.24%~19.38%,氨挥发峰值大约发生在施肥后的第2~3 d,氨挥发过程持续5~ 7 d。水稻季和小麦季氨挥发之间差异显著,整个稻-麦轮作体系氨挥发主要发生在水稻季,约占整个轮作体系的74.08%~78.65%。同习惯施氮相比,基于作物阶段氮素吸收增加追肥比例和施肥次数的优化施氮能有效减少肥料氮的氨挥发损失。

【英文摘要】Abstract: A continuous airflow enclosure method was used to measure the ammonia volatilization (AV) from paddy field under the wheat-rice rotation system in Hubei Province. The results indicated that total amount of AV loss generally increased with the urea application rate. In wheat growing season, AV loss varied from N 11.37-17.05 kg/ha which accounted for 4.75 to 5.43 percent of applied N, the AV from fertilizer N lasted for 7-10 days and peak of AV occurred within 3-5 days after fertilization ; While in rice growing season, AV loss varied from N 32.50-62.82 kg/ha which ranged from 8.24 to 19.38 percent of applied N, the AV from fertilizer N lasted for 5-7 days and the peak occurred within 2-3 days after fertilizer was applied. Most of the AV loss occurred in the rice season, which ranged from 74.08% to 78.65% of total AV loss in the entire rotation system. Compared to farmer practice, optimizing N application associated with increasing ratios of dress N to base N fertilizer and times of split application based on plant N uptake at different growth stages could obviously reduce the AV loss under the rice-wheat rotation system.

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【题目】优化施氮下稻-麦轮作体系土壤N2O排放研究

【中文关键词】稻-麦轮作; N2O排放 ;水稻土 ;优化施氮

【英文关键词】wheat-rice rotation system;N2O emission ;paddy soil ;optimizing N application

【中文摘要】采用了静态箱法研究优化施氮下湖北稻-麦轮作体系农田N2O排放特征。结果表明,农田N2O排放量随施氮量增加而增加。N2O排放通量峰值大约发生在施氮后的第3~7 d。小麦季土壤N2O排放量范围为N2O 2.43~4.84 kg/hm2,肥料氮通过N2O排放的损失率为0.54%~0.74%。水稻季土壤N2O排放量为N2O 0.89~2.45 kg/hm2,肥料氮通过N2O排放的损失率为0.39%~0.47%。小麦季和水稻季施氮后0~15 d N2O排放量占当季总排放量的百分比分别为62.79%~66.72%和87.97%~93.14%。与习惯施氮相比,基于作物阶段氮素吸收增加追肥比例和施氮次数的优化施氮能有效减少土壤N2O排放

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【英文摘要】Abstract: The static chamber-gas chromatograph method was used to measure the N2O emission from paddy field under the wheat-rice rotation system in Hubei Province. The results indicated that total N2O emission generally increased with the N application rate. The peak of N2O flux occurred within 3-7 days after fertilizer was applied. In wheat growing season, N2O emission varied from 2.43 to 4.84 kg/ha N2O which accounted for 0.54% to 0.74% of applied N; While in rice growing season, N2O emission varied from 0.89 to 2.45 kg/ha N2O which ranged from 0.39% to 0.47% of applied N. Majority of total N2O emission occurred over the first 15 days after N application, ranged from 62.79% to 66.72% and 87.97% to 93.14% in the wheat season and rice season respectively. Compared to farmer practice, optimizing N application associated with increasing ratios of dress N to base N fertilizer and times of split application based on plant N requirement at different growth stage could obviously reduce the N2O emission under the rice-wheat rotation system.
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【题目】不同施氮量棉花冠层高光谱特征研究
【中文关键词】棉花; 冠层; 高光谱; 氮素敏感波段; 监测
【英文关键词】Cotton ; Canopy ; High spect ral ; Nitrogen sensitive band ; Monitoring
【中文摘要】棉花精准生产对于无损、快速的植株氮含量监测技术有迫切需求。研究棉花冠层光谱特征及其与植株氮含量间的定量关系, 可以实现棉株氮素的无损监测。通过连续两年不同施氮量试验, 采集棉花冠层高光谱数据并同步测定冠层植株氮含量, 分析不同氮肥处理下棉花冠层高光谱特征及其与棉株氮含量间的关系。结果表明: 不同时期棉株氮含量与光谱反射率在可见光波段(400~700 nm) 显著负相关, 在近红外700~1 300 nm 波段显著正相关, 而在短波红外1 300~1 800 nm 波段的相关性较为复杂。冠层尺度下, 在棉花整个生育阶段, 可见光波段均为棉株氮含量的敏感波段, 而近红外波段仅在盛铃期是棉株氮含量的敏感波段; 短波红外波段仅在盛蕾期是棉株氮含量的敏感波段。利用不同时期棉株氮素敏感波段可以构建棉株氮素监测指标。
【英文摘要】Cotton production for accurate nondest ructive , rapid monitoring of plant nit rogen content there is an urgent demand. Canopy spect ral characteristics of the cotton plant and it s quantitative relationship between nit rogen content , can achieve non destructive monitoring of cot ton nit rogen. Two consecutive years by different nit rogen test , cotton canopy hyperspect ral data collection and simultaneous determination of canopy nit rogen content , analysis of different fertilizer t reatment s of cotton canopy spect ral characteristics and the relationship between nit rogen content of cotton , the results show that: nit rogen content of cotton plant in different periods and spect ral reflectance in the visible band (400~700 nm) was negatively related to the near infrared 700~1 300 nm band was a significant positive correlation , and in the short2wave inf rared 1 300~1 800 nm band correlation is more complicated. Canopy scale , the whole growth stage of cotton , the visible band are sensitive to nit rogen content in cotton band , and near2inf rared only is the cotton boll nitrogen content of the sensitive band ; shortwave infrared band only in the budding period Cotton nit rogen sensitive band. Using nit rogensensitive bands in different periods can be const ructed Cotton Cotton Nitrogen monitoring indicators.
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【第一作者】王克如
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【题目】棉花黄萎病病叶光谱特征与病情严重度的估测

【中文关键词】棉花;黄萎病;高光谱;识别模型
【英文关键词】Cotton; Verticillium wilt; Hyper spectrum; Recognition model
【中文摘要】【目的】阐明棉花黄萎病病叶光谱特征并对其病情严重度进行估测,为今后通过航空、航天遥感大面积监测棉花黄萎病提供依据。【方法】试验采用不同品种棉花黄萎病的病叶材料,在不同发病时期的病谱田和大田同步测定其光谱和发病严重度,定性和定量地分析病叶光谱反射特征、微分光谱特征差异。【结果】棉花不同品种、不同发病时期的黄萎病的病叶光谱均随发病严重度的增加而表现出有规律的变化,可见光(400~700nm)到近红外区(700~1 300 nm)波段,光谱反射率随病情加重呈现上升趋势,可见光520~680 nm 波段范围内尤为明显。当病叶严重度达到b2(25%)时,可作为病害识别的临界,对其进行早期诊断。对光谱一阶微分特征研究表明,在红边范围内(680~780 nm)处理间变幅最大,分析后发现红边斜率减小,红边位置发生了“ 蓝移 ”,表现出了病害特有的特征。试验证明:434~724 和909~1 600 nm 为棉花黄萎病病叶光谱敏感波段,建立的多个遥感估测模型均达到极显著水平。【结论】棉花黄萎病病叶光谱特征明显,建立的相应病害反演模型中利用一阶微分光谱723 nm 建立的模型精度最高,可用来定量反演棉花单叶黄萎病的发生情况。
【英文摘要】【Objective】The aims are elucidation of spectrum characteristics of cotton leaf infected by verticillium wilt and estimation of its SL (severity level) and providing theoretic foundation for further monitoring cotton verticillium wilt at large scale using airborne and airspace remote sensing. 【Method】The spectrum reflectance of cotton single leaf infected by verticillium wilt was measured in cotton disease nursery and field in different growth phases, in the meanwhile, SL of single leaf infected by verticillium wilt was investigated. The method of first derivative spectrum was used to estimate accurately the disease of cottonsingle leaves infected by compared with the reflectance spectrum of different single leaves infected by verticillium wilt. 【Result】 The results indicated that spectrum characteristics of cotton leaf infected by verticillium wilt had better regularity with the increaseof SL in different periods and varieties. Spectrum reflectance increased significantly in visible light region (400-700 nm) and near-infrared region (700-1 300 nm) with the increase of the SL, and especially significant in visible light regions (525-680 nm).When SL attained b2 (25%), cotton leaf infected by verticillium wilt could be used as a threshold and diagnose index in early period. There were evident different characteristics of first derivative spectra in these diseased leaves, it changed significantly inred edge ranges (680-780 nm) in different SL, red edge of first derivative spectrum swing decreased, and red edge position equal moved to the blue. The results indicated that 434-724 nm and 909-1 600 nm should be selected out as sensitive bands region to SL of single leaf. Some inversion models for estimating cotton leaf SL of verticillium wilt all reached the best significant level.【Conclusion】The results suggested that different spectrum characteristics of cotton leaf infected by verticillium wilt were marked. The model in which the first derivative spectra at 723 nm could invert accurately the cotton leaf SL, and it may be used to forecast the position of cotton leaf infected by verticillium wilt quantitatively.
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【第一作者】陈兵
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【题目】微生物生产共轭亚油酸的研究进展
【中文关键词】共轭亚油酸 微生物 气相色谱法
【英文关键词】Conjugated linoleic acid; microbe; gas chromatography;
【中文摘要】共轭亚油酸(CLA)是一种具有多种生理活性的天然脂肪酸,具有抗癌、抗粥状动脉硬化、提高机体免疫力等作用。就CLA的微生物合成、分析方法等方面,对国内外的研究进行了综述。乳酸菌、丙酸菌及丁酸弧菌可以特异性地转化合成CLA,气相色谱法能够对CLA的各种异构体进行分析。
【英文摘要】Conjugated linoleic acid (CLA) is a naturally occurring fatty acid found in animal and dairy fats that exhibits a number of health benefits. It has been proved to reduce mutagenesis, carcinogenesis and body fat. The advances in CLA production by microbial fermentation and the analysis methods were reviewed. The Lactobacillus spp., Butyrivibrio spp. and Propionibacterium spp. appear to produce CLA effectively. The most simple and efficient analytical method is gas chromatography.
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【学科分类】食品科学技术基础学科

【题目】费氏丙酸杆菌费氏亚种在不同基质中转化生成共轭亚油酸的研究
【中文关键词】共轭亚油酸; 费氏丙酸杆菌费氏亚种; MRS乳酸钠培养基; 脱脂乳培养基;
【英文关键词】conjugated linoleic acids; P.freudenreichii ssp.freudenreichii; MRS; SLM; skim-milk;
【中文摘要】研究了在MRS、乳酸钠和脱脂乳三种培养基质下温度、时间、底物浓等因素对P.freudenreichiissp.freudenreichii生成CLA的影响,结果表明P.freudenreichiissp.freudenreichii在MRS、乳酸钠和脱脂乳中均具有生成CLA的能力,三种培养基质中一定浓度的葵花籽油对P.freudenreichiissp.freudenreichii的生长都有明显的抑制作用,在MRS培养基中葵花籽油浓度为12mg/ml,菌液量10%(V/V),30℃培养24hCLA生成量最大为24.813μg/ml。
【英文摘要】The effects of temperature,time and sunflower oil level on the formation of conjugated linoleic acids(CLA)by P.freudenreichii ssp.freudenreichii in MRS/SLM and skim-milk were investigated.The formation of CLA in three media was observed and the growth of P.freudenreichii ssp.freudenreichii was inhibited by sunflower oil in the media.Inoculation of P.freudenreichii ssp.freudenreichii into MRS medium under anaerobic conditions for 24h incubation is most effective in promoting CLA formation.
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【题目】费氏丙酸杆菌谢氏亚种和植物乳杆菌亚油酸异构酶结构及酶学性质
【中文关键词】共轭亚油酸(CLA) 植物乳杆菌(L.plantarum) 费氏丙酸杆菌谢氏亚种(P.freudenreichii ssp.shermanii) 亚油酸异构酶
【英文关键词】conjugated linoleic acid(CLA); L.plantarum; P.freudenreichii ssp.shermanii; linoleate isomerase;
【中文摘要】【目的】对来源于植物乳杆菌(Lactobacillu plantarum)和费氏丙酸杆菌谢氏亚种(Propionibacteriu freudenreichii ssp.shermanii)亚油酸异构酶酶学特性开展研究,探讨不同来源的亚油酸异构酶酶学性质存在的差异。【方法】通过酶反应动力学方法及电泳技术测定了酶的最适反应条件、米氏常数、酶的分子量,并在此基础上,采用高效液相色谱(HPLC)与电喷雾离子化/质谱(ESI-MS)相结合的方法测定了L.plantarum和P.freudenreichii ssp.shermanii亚油酸异构酶的氨基酸序列。【结果】P.freudenreichii ssp.shermanii亚油酸异构酶的最适pH为8.0,最适反应温度是30°C,Km=20.53μmol·L-1,Vmax=0.44μg·ml-1·min-1;L.plantarum亚油酸异构酶的最适pH为7.5,最适反应温度是为50°C,Km=17.85μmol·L-1,Vmax=0.73μg.ml-1·min-1。【结论】来源于L.plantarum和P.freudenreichii ssp.shermanii亚油酸异构酶的全氨基酸序列不同,但两者具有一定的同源性,且两者酶学特性也有差异
【英文摘要】The attributes of linoleate isomerases from both Propionibacteriu freudenreichii ssp.shermanii and Lactobacillu plantarum were studied to understand the different characters of linoleate isomerase originated from different strains.【Method】Dynamic and characteristic parameter such as Michaelis constant,molecular weight of linoleate isomerase with different origins were determined using the method of enzyme activity analysis and electrophoresis.The peptide mass fingerprints produced by P.freudenr...
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【第一作者】王丽敏
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【题目】发酵条件对植物乳杆菌产共轭亚油酸的影响
【中文关键词】共轭亚油酸; 植物乳杆菌; 发酵条件;
【英文关键词】conjugated linoleic acid; L.plantarum; fermentation condition;
【中文摘要】以植物乳杆菌(L.plantarumA6-1)菌株为研究对象,系统研究了发酵条件对共轭亚油酸形成的影响,结果表明:反应温度、培养时间、底物浓度、初始pH、接种量对共轭亚油酸的转化有明显的影响.在接种量2%,37℃培养32 h,初始pH值7.0,底物亚油酸(LA)的浓度为1mg/mL,A6-1转化生成共轭亚油酸的产量可达91.4μg/mL.
【英文摘要】Effects of the fermentation conditions on the formation of conjugated linoleic acid(CLA) by selecting L.planturum A6-1(LA) strain as research object were investigated.The results indicated that the reaction temperature,incubation time,substrate concentration,initial pH,and inoculation amount had significant influence on the formation of CLA.The yield of CLA is up to 91.4 μg/mL in the presence of A6-1 under the conditions of inoculation amount 2%,initial pH 7.0,incubation temperature 37 °C,incubation time 32 ...
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【第一作者】孟宪军
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【题目】离子注入诱变植物乳杆菌选育CLA高产突变株的研究
【中文关键词】离子注入; 诱变; 共轭亚油酸(CLA); 高产菌株;
【英文关键词】implantation; mutation; CLA; high yield strain;
【中文摘要】以A6-1为出发菌株,采用N+离子注入的方法进行诱变处理,注入能量为50keV,注入剂量为1×1013、3×1013、5×1013、8×1013、10×1013、30×1013、50×1013、80×1013、100×1013ion/cm2,真空度为10-3Pa。结果显示,菌体的存活率随离子注入剂量的增加呈"马鞍型"曲线,"鞍脊"出现在30×1013ions/cm2~50×1013ions/cm2之间,此时菌体的存活率在20%~35%之间。综合考虑存活率、总突变率、正突变率和突变幅度等因素,推荐30×1013ions/cm2作为离子注入植物乳杆菌的适宜诱变剂量。从所有的注入处理中挑选CLA转化能力提高了50%以上的突变株进行传代稳定性试验,发现F菌株经8次传代后产CLA的稳定性最好。该突变株各代的产量平均为162.5μg/ml,比出发菌株提高了69.87%,将此突变菌株命名为A6-1F。
【英文摘要】The initial lactic acid bacteria strain A6-1 was treated by N~ + ions implantation of 50 keV with doses of 1×10~ 13 , 3×10~ 13 , 5×10~ 13 , 8×10~ 13 , 10×10~ 13 , 30×10~ 13 , 50×10~ 13 , 80×10~ 13 , and 100×10~ 13 ions/cm~2. The survival curve showed a saddle model, and the high survival rate was 20%~35% from the treatments of 30×10~ 13 ions/cm~2 and 50×10~ 13 ions/cm~2 implantation. Considering the survival rate, positive mutation and range of mutation rate, N~ + ions implantation of 30×10~ 13 ions/cm~2 wa...
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【第一作者】李淑荣
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【题目】产共轭亚油酸菌株的筛选和鉴定
【中文关键词】共轭亚油酸(CLA); 筛选; 鉴定; 植物乳杆菌;
【英文关键词】conjugated linoleic acid(CLA); screening; identification; Lactobacillus plantarum;
【中文摘要】通过测定乳酸菌发酵液中共轭亚油酸(CLA)的含量筛选出具有高共轭亚油酸(CLA)转化能力的非厌氧菌株。本研究测定了40株乳酸菌液中的CLA含量,筛选出A6-1和SL-3两株具有较高CLA转化能力的菌株;将A6-1和SL-3分别接种

于含1.0%LA的MRS培养基中,37℃培养24h,采用气相色谱(GC)分析发酵液中CLA的组成,结果表明,A6-1的发酵液中两种活性异构体c-9,t11CLA和t-10,c12CLA的含量分别为61.554μg/ml和14.235μg/ml;SL-3发酵液中c-9,t11和t-10,c12CLA含量分别为46.161μg/ml和8.7399μg/ml。经API50鉴定系统确定,A6-1和SL-3均为植物乳杆菌。

【英文摘要】The objective of the research is to select the high CLA producing strains from aerobic and aerotolerant bacterium in the broth fermentation.Stains of A6-1 and SL-3 were selected and showed a higher ability of CLA formation from 40 lactic acid bacteria strains tested.Then,A6-1 and SL-3 were cultured in MRS medium contain 0.5% LA at 37°C for 24h.The product of CLA in the broth was analyzed by Gas Chromatography.Results indicated that the product was a mixture of CLA isomer,there were 61.554 μg/ml of c-9,t11 CLA...

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【题目】费氏丙酸杆菌谢氏亚种和植物乳杆菌中亚油酸异构酶的分离纯化

【中文关键词】共轭亚油酸(CLA); 费氏丙酸杆菌费氏亚种(P.freudenreichii ssp.shermanii); 植物乳杆菌(L.plantarum); 亚油酸异构酶;

【英文关键词】conjugated linoleic acid (CLA); P. freudenreichii ssp. shermanii; L. plantarum; linoleate isomerase;

【中文摘要】采用盐析、Sephacryl S-200HR凝胶过滤层析、DEAE Sepharose F.F.离子交换层析相结合的方法,分别建立了来源于费氏丙酸杆菌谢氏亚种(P.feudenreichii ssp.shermanii)和植物乳杆菌(L.plantarum)的亚油酸异构酶的分离提取步骤。结果表明不同来源的亚油酸异构酶在纯化的过程中表现出不同的洗脱特性,P.freudenreichii ssp.shermanii亚油酸异构酶的分子质量约为56kDa,L.plantarum亚油酸异构酶的分子质量为50.65kDa。不同来源亚油酸异构酶的分离纯化方法存在差异。

【英文摘要】Using salting-out method, combined with Sephacryl S-200HR gel filtration chromatography and DEAE Sepharose F.F. ion exchange chromatography, linoleate isomerase was isolated and purified from P. freudenreichii ssp. shermanii and L. plantarum, respectively. linoleate isomerase from different sources showed different elution characteristics in the purification process. The molecular weight of linoleate isomerase from P. freudenreichii ssp. shermanii was 56 kDa, and that from L. plantarum was 50.65 kDa. The re...

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【题目】Production of conjugated linoleic acid by propionibacterium frenderreichii

【中文关键词】共轭亚油酸

【英文关键词】conjugated linoleic acid;P.freudenreichii; SLM;MRS;Skim-milk

【中文摘要】研究了在MRS、乳酸钠和脱脂乳三种培养基质下温度、时间、底物浓等因素对P.freudenreichiissp.freudenreichii生成CLA的影响,结果表明P.freudenreichiissp.freudenreichii在MRS、乳酸钠和脱脂乳中均具有生成CLA的能力,三种培养基质中一定浓度的葵花籽油对P.freudenreichiissp.freudenreichii的生长都有明显的抑制作用,在MRS培养基中葵花籽油浓度为12mg/ml,菌液量10%(V/V),30℃培养24hCLA生成量最大为24.813μg/ml。

【英文摘要】The effects of temperature,time and sunflower oil level on the formation of conjugated linoleic acids(CLA)by P.freudenreichii ssp.freudenreichii in MRS/SLM and skim-milk were investigated.The formation of CLA in three media was observed and the growth of P.freudenreichii ssp.freudenreichii was inhibited by sunflower oil in the media.Inoculation of P.freudenreichii ssp.freudenreichii into MRS medium under anaerobic conditions for 24h incubation is most effective in promoting CLA formation.

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【题目】二倍体小麦种间气孔与光合特征差异
【中文关键词】二倍体;小麦;光合特性;气孔特征;基因型
【英文关键词】dip loidy; wheat; photosynthetic and stomatal characteristics; genotype
【中文摘要】选取5个二倍体小麦种为实验材料,利用数码图像显微镜处理系统、气体交换参数测定系统和叶绿素荧光动力学参数测定系统,研究了二倍体小麦种间气孔特征与光合特性的差异。结果表明,二倍体小麦种间气孔和光合特征存在较大的差异:其中S基因型(Ae. Sect. S itopsis)的气孔长度、周长和面积最大,而其宽度、密度和气孔指数却是最小的; D基因型(Ae. Tauschii)的气孔宽度、密度和气孔指数最大,而其长度、周长和面积却是最小的; D基因型(Ae. Tauschii)的净光合速率最大,而S基因型(Ae. Sect. S itopsis)的净光合速率最小。气孔周长与气孔面积呈显著正相关关系,而气孔密度与气孔面积呈显著负相关关系。二倍体小麦的净光合速率与气孔导度呈显著正相关关系,同时气孔限制值的变化趋势与细胞间隙CO2浓度的变化趋势相反,说明二倍体小麦的光合能力主要受气孔限制。在几个种中,乌拉尔图小麦(T. urartu)具有较高的净光合速率和气孔导度,同时细胞间隙CO2浓度最低,气孔限制值最大,在光合能力和耐光抑制方面有较明显的优势;而野生一粒小麦(T. boeoticum)则在光合能力和耐光抑制方面不存在优势。同时,乌拉尔图小麦(T. urartu)的叶绿素含量最高,而野生一粒小麦(T. boeoticum)最低,叶绿素含量可能也是造成二倍体种间光合能力差异的原因之一。
【英文摘要】Five dip loidy wheat species were chosen as research materials in this research to determine the differences in stomatal and photosynthetic characteristics. The results of the study showed that specieswith S genomes (Ae. Sect. S itopsis) had the largest values in stomatal length, girth and area, and the lowest values in stomatal width, density and index. On the contrary, the specieswith D genomes (Ae. Tauschii) had the highest values in stomatalwidth, density and index, and the lowest values in stomatal length, girth and area. The net photosynthetic rate (Pn) and stomatal conductance (Gs) were higher in species with D genomes (Ae. Tauschii) and lower in species with S genomes (Ae. Sect. S itopsis) , respectively. The net photosynthetic rate showed significant correlation with stomatal conductivity, and the changes of intercellular CO2 content showed the opposite trend to the changes of stomata limitation, indicating that the stomatal conductivity is the main factor limiting the photosynthetic rate. T. urartu with higher net photosynthetic ability showed higher values in stomatal conductivity and stomata limitation, and lower values in intercellular CO2 content. However, T. boeoticum showed the opposite trend. T. urartu had higher values in chlorophyll content of flag leaf area while T. boeoticum had lower values, indicating that higher chlorophyll contentmight be another reason for its higher photosynthetic ability among dip loidy wheat species.
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【题目】小麦进化过程中叶片气孔和光合特征演变趋势
【中文关键词】小麦;进化;气孔特征;基因型
【英文关键词】evolution; genotype; stomatal characteristics; wheat
【中文摘要】根据小麦属内种间的进化关系选取21种小麦品种为实验材料,研究了小麦进化过程中气孔特征和光合特征的演变趋势。结果表明,无论是A,B,D染色体组还是A, G染色体组,气孔长度、宽度、周长、面积均随倍性水平的升高而呈增大趋势,而气孔指数无显著变化;A,B,D染色体组气孔密度随倍性升高呈减少趋势。二倍体小麦的Pn值最高,六倍体小麦的Fv/Fm 值较高,二倍体小麦叶片叶绿素含量显著高于四倍体和六倍体小麦。不同倍性小麦的净光合速率与气孔导度间均存在

极显著相关关系,表明气孔传导力是小麦光合能力的主要限制因 素之一。气孔导度与单一气孔特征之间无显著相关关系。A,B,D染色体组不同倍性小麦叶片气孔密度差异显著,其大小顺序为二倍体>四倍体>六倍体; A, B,D染色体组不同倍体小麦叶片的气孔长度、宽度、周长、面积差异显著,顺序均为六倍体>四倍体>二倍体,气孔密度降低可能是A,B,D染色体组六倍体小麦光合能力降低的原因。随着倍性的升高,小麦的抵抗光抑制能力越强,因此光化学能转换效率可能不是小麦进化过程中光合能力变化的原因。A,B,D染色体组中二倍体的叶绿素含量显著大于四倍体和六倍体,而A, G染色体组中倍体间叶绿素含量差异不显著,说明叶绿素的降低可能是A,B,D染色体组六倍体光合能力降低的原因之一。

【英文摘要】According to the evolution relationship s among Triticum varieties, 21 wheat varieties were chosen as research materials in this experiment to determine the evolutional trends of stomatal and photosynthetic characteristics. The results showed that as p loidy increase, the stomatal length, width, girth and area were found to increase. The stomatal densitywas found to decrease in A,B,D genomes; however, no differenceswere found in stomatal indices among p loidies indicating that the stomata became larger but were less in evolution p rogress. The Dip loidy had the highest Pn, which was less in Hetrap loidy, and was the least in Hexap loidy. On the contrary, the Hexap loidy had the highest values in Fv /Fm. The Dip loidy had the highest chlorophyll content. The net photosynthetic rate had significant correlationship with stomatal conductivity, however, no significant relationship was found among stomatal conductivity and any stomatal characteristics, indicating that the stomatal conductivity is one of the factors limited the photosynthetic rate while the single stamatal characteristics is not the reason that inducing the photosynthetic rate change. The stomatal density showed significant differences among ploidy materials in A,B,D genomes and the trend of genotype was in order of 2n > 4n > 6n; the stomatal length, width, girth and area showed significant differences among p loidy materials and the trends of genotype was in the order 6n > 4n > 2n. The results indicate that the low density might induce the low conductivity and low photosynthetic ability in Hexap loidy. Furthermore, the Dip loidy had higher values in chlorophyll content of flag leaf area among ploidy materials in A, B, and D genomes, indicating that higher chlorophyll content might be a reason for higher photosynthetic ability in Dip loidy wheat species.

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【题目】抑制蒸腾剂的研究进展
【中文关键词】旱地农业;抑制蒸腾剂
【英文关键词】Dry land farming; Antitranspirant
【中文摘要】化学抗旱节水技术是节水抗旱技术的一种新途径,它以土壤、作物、水面为对象,以提高作物产量和水分利用效率为主要目的。本文主要对化学抗旱节水技术中的抑制蒸腾剂的概况进行阐述,包括抑制蒸腾剂作用的原理、类型以及目前的研究情况和应用等。

【英文摘要】Chemical drought resistance technology is a new approach of water saving technology. It aimed to increasing crop yields and imp roving water use efficiency, considering soil, crop s, water surface together. The paper mainly described Antitranspirant traits in drought resistance and water saving technology, including the p rincip les, the types, the current research situations and the applications.

【语种】中文
【第一作者】何爽
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【题目】保水剂重复吸水性能的比较研究

【中文关键词】保水剂; 重复吸水性; 吸水倍率; 吸水形态;
【英文关键词】super-absorbent polymer; repeated water-absorbing capacity; water absorbency; water-absorbing status;
【中文摘要】通过模拟试验,比较研究了4种高分子树脂类保水剂在不同介质中的重复吸水性能。结果表明:相比蒸馏水,在自来水和土壤介质中,保水剂的初次吸水倍率和重复使用性有不同程度的降低;水质对保水剂初次吸水能力降低的效应大于土壤介质;保水剂用量的增加对其吸水能力有明显的促进效应,但随着重复使用次数的增加,促进效应递减。初步分析认为,4种保水剂中,日本触媒(JP)的持续使用性最好,巴斯夫(BF)和沃特(WT)次之,白金子(BJ)最差。保水剂的使用寿命与其自身吸水形态、吸水稳定性和凝胶结构有关。
【英文摘要】In different solutions,the repeated water-absorbing capacities of four types of super-absorbent polymers (SAPs) with organic macromolecules were comparatively studied by simulated experiments. The result showed that in tap water and soil solution,the original water absorbency and repeated water-absorbing capacity of SAPs were reduced relative to those in distilled water. The reduced effect of water quality on the original water absorbency of SAP was higher than that of soil solution. The water-absorbing abilities of SAPs would be increased in higher concentrations, but the increase were reduced with the repeated utilization. It was preliminarily considered that among four types of SAPs labeled BF, JP, BJ and WT, JPconduct the best performance in sustaining use, BF and WT took the second place, while BJ was the worst. The sustaining effects of SAPs varied according to their water-absorbing status, stability and gel structure.
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【题目】病害胁迫下棉花叶片色素含量高光谱遥感估测研究
【中文关键词】棉花; 病害胁迫; 高光谱; 色素含量; 估测模型
【英文关键词】Cotton; Disease stress; Hyperspectra; Pigment contents; Estimation models
【中文摘要】通过小区和大田同步调查棉花黄萎病, 在不同生育期测定病叶光谱及其色素含量。将病叶光谱反射率、一阶微分及相应的特征参数与色素含量进行相关分析, 建立病叶色素含量估测模型并检验。结果表明: 病叶叶绿素a, b 及a+ b 含量可见光反射率、与一阶微分光谱在蓝边、黄边和红边处与除红边振幅(Dr)外的其他光谱特征参数间均达极显著相关。转换叶绿素吸收反射指数(T CARI) 和新建归一化植被指数(NDVI[702, 758]) 对叶绿素a, b 及a+ b 含量的估测精度最高, 相对误差均小于11 3%。考虑到NDVI [702,758] 建立的模型更实用, 可做为病叶叶绿素a, b 和a+ b 含量的最佳估测模型。研究结果对高光谱信息定量估测病害棉叶色素含量, 对利用高光谱监测棉花长势及病害影响评价均具有较高的实用价值。
【英文摘要】The spectrum reflectance and pigment contents of co tton leaves inf ected w ith Ver ticillium w ilt wer e measured in cotton disease nur ser y and field in differ ent g rowth phases, and sever ity level of Vert icillium w ilt w as inv est igat ed. T he cor relation between pigment co nt ents o f co tton leaves w ith Ver ticillium wilt and spectra reflectance, the fir st derivativ e of reflectance and spectral character istic parameters w ere analy zed respectively. T he estimat ion models about leaves pigment contents of disease cottonwer e established and tested. The results indicated that the correlations were best significant between chloro phy ll a, b and a+ b contents of leaves and spectral reflectance invisible wave bands, the first derivative spectrum at the wav elength regions of blueedge, yellow edge and red edge, and all spectral char acter istic parameter s (excluding r ed edge swing Dr) . The models of tr ansformed chlor ophyll absorptio n in reflectance index (TCAR) and the new model of normalized differ ence vegetat ion index (NDVI[702, 758]) had best estimated pr ecision, and the relative err ors w ere in aver age w ithin 11 3%. Giv en that the model o f NDVI[702, 758] is ver y simple and practical, it w as commended as a best model to estimate chlor ophyll a, b and a+ b co ntents of disease cotton. T his study show s that leav es hyperspectr a data can be used to estimat e the pigment contents o f cott on leaves quantitatively. This conclusion has also g reat pr act ice and applicatio n value for mo nitor ing the growth state and disease influence evaluation on cotton by using hyper spectral remot e sensing.
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【题目】基于机器视觉的棉花群体叶绿素监测
【中文关键词】棉花群体; 机器视觉; 叶绿素; RGB; HIS; 图像覆盖度
【英文关键词】Cotton population; Machine vision; Chlorophyll content; RGB; HIS; Percent ground cover of image
【中文摘要】研究了利用机器视觉技术快速获取棉花群体叶绿素信息的方法, 以期获得预测性高的颜色特征参数。结果表明, RGB 颜色系统的G- R、(G - R)P(G+ R)、r 与g 的组合值和棉花功能叶叶绿素含量、群体绿色指数呈极显著相关,而且拟合度较高; HIS 颜色系统的Hue 值和棉花功能叶叶绿素含量、群体绿色指数之间也极显著相关。对筛选出的两组模型进行检验, 预测精度在84107%~ 93104%之间, 推荐预测精度最高的G - R 参数作为获取棉花群体叶绿素信息的最佳颜色指标。G- R 预测叶绿素含量和群体绿色指数的模型分别为y= - 113008+ 01 2125(G - R) - 010038(G - R) 2(R2 = 01 8669* *) 和y= - 019726+ 011227(G - R) - 010016(G - R) 2(R2 = 017487**) 。
【英文摘要】Machine vision have been successful applied tomonitor crop morphological and physiological status, such as leaf area index, nitrogen content, chlorophyll content and so on. The trials was conducted from 2004 to 2006 at the experiment station of Shehezi University located in Shihezi, Xingjiang Province to monitor cotton canopy chlorophyll information under field conditions by processing cotton populat ion digital image, which is one measurement method with advantages of convenient, real time, quick and nondestructive. In order to obtain uniform cotton canopy digital images, the assistant device was used. In the field, the cotton canopy images were taken by a digital photo camera (OLYMPUS) at the squaring stage, early flowering stage, full flowering stage, peak boll stage and opening boll stage, respectively. The color characteristics of cotton population images were extracted with the image processing software developed by our lab. The correlation between color parameters of cotton canopy digital image and chlorophyll content of cotton functional leaf was analyzed. The results showed that the correlation of the color characteristics such as G - R, (G- R)P(G + R) , rPg, gPr , and g- r in the RGB color system, and Hue in the HIS color system with chlorophyll content of functional leaf was significant at P< 01011 There was also a significant correlation between the population greenness index (PGI) and colorparameter. The chlorophyll predicted modelswere established. The tested results about the regression models suggested that G- R was the best parameter to monitor cotton population chlorophyll information. The relative error of chlorophyll content and PGI estimations was about 6196% and 11160%, and RMSE was 011138 and 0116431 The chlorophyll contentpredicted model was y= - 113008+ 012125(G- R) - 010038(G- R) 2(R2= 018669**) , and PGI predict model was y = - 019726+ 011227(G- R) - 010016(G- R) 2(R2= 017487* *) .
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【中文关键词】氮素丰度(NR);反射率差值(ΔR);冬小麦;模型;监测
【英文关键词】Nitrogen richness(NR);Reflectance difference(ΔR);Winter wheat;Model;Monitoring
【中文摘要】生物量、氮素含量和LAI(leaf area index)是生态系统中表征作物长势最重要的参数,叶干重、叶片氮素含量和LAI实时动态监测对小麦氮素营养诊断和管理调控具有重要意义。选用了五个小麦品种和四个氮素水平的比较实验,研究不同处理冬小麦抽穗到黄熟期氮素丰度(NR)与光谱反射率差值(ΔR)的关系,建立冬小麦后期氮素丰度监测模型。结果表明,不同品种的冬小麦冠层叶片氮素丰度随生育进程推进而增加,不同氮素处理氮素丰度大小为N0>N3>N1>N2,光谱参量TCARI和VD672与氮素丰度的相关性最好,相关系数(r)分别为0.870和0.855,其建立氮素丰度估测模型的决定系数分别为0.757和0.731,预测准确率达84.56%和80.13%。光谱参数TCARI和VD672可以有效地评价小麦后期冠层叶片氮素状况,可以对氮素丰度进行准确可靠的监测。
【英文摘要】Biomass,leaf area index(LAI)and nitrogen status are important parameters for indicating crop growth potential and photosynthetic productivity in wheat.Nondestructive,quick assessment of leaf dry weight,LAI and nitrogen content is necessary for

nitrogen nutrition diagnosis and cultural regulation in wheat production.In order to establish the monitoring model of nitrogen richness in winter wheat of growth anaphase,studying the relationship between the nitrogen richness(NR)containing nitrogen density,LAI and leaf dry weight and the difference of hyperspectral reflectance rates(Δ R),we conducted a comparableexperiment with five winter wheat varieties under nitrogen application level of 0,100,200and 400kg · N · ha-1.The resultsindicated the NRs of the different varieties of winter wheat leaves increased with increasing growth stage while in the different nitrogen levels it was sequenced as:N0>N3>N1>N2.Twelve vegetation indices were compared with corresponding NR.The NR had significantly negative correlation to TCARI and VD672in those vegetation indices,and their correlations(r)arrived at0.870and 0.855,respectively.The coefficients of determination(R2)of two models were 0.757and 0.731by erecting model with the two indexes and NR.Root mean square error(RMSE),relative error(RE)and determination coefficient betweenmeasured and estimated NR were employed to test the model reliability and predicting accuracy.Accuracy rates of the models based on TCARI and VD672achieved 84.56%and 80.13%.The overall results suggested that leaf nitrogen status of growth anaphase in winter wheat has stable relationships with some vegetation indexes,especially index of TCARI and VD672.

【语种】中文
【第一作者】唐强
【通讯作者】肖春华
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【题目】动物季节性繁殖分子调控机理研究进展
【中文关键词】季节性繁殖,分子调控,褪黑激素,Kiss1,促甲状腺素
【英文关键词】seasonal reproduction; molecular regulation; melatonin; Kiss1; thyroid-stimulating hormone
【中文摘要】动物季节性发情繁殖涉及下丘脑-垂体-性腺轴系统复杂的神经内分泌过程,并受光照周期等环境因素的影响。褪黑激素则作为光周期信号分子调控动物季节性繁殖活动。近年来研究发现,对GnRH分泌有重要影响的Kiss1/GPR54系统既受褪黑激素的调控又受到性腺类固醇激素反馈调节,Kiss1/GPR54系统很可能是调控动物季节性繁殖的关键因子;同时动物季节性繁殖很可能还存在一条涉及TSH-DIO2/DIO3系统的逆向调控通路,该系统同样显著影响GnRH合成释放并受褪黑激素调控。文章就褪黑激素中心信号,特别是Kiss1/GPR54和TSH-DIO2/DIO3系统对繁殖季节性调控的最新研究进展进行综述。
【英文摘要】Animal seasonal reproduction involves complicated neuroendocrine processes of the hypothalamo-pituitary-gonadal axis. It is dominantly regulated by photoperiod, a crucial environmental cue. Melatonin, as internal photoperiod signal, regulates seasonal reproduction of animals. In recent years, it has been found that Kiss1/GPR54 system,which may influence GnRH secretion evidently, is regulated by both melatonin and feedback action of gonadal steroidhormones. Consequently, Kiss1/GPR54 system may play a key role in seasonal reproduction. Additionally, there exists another potential retrograde control pathway of seasonal breeding, which involves TSH-DIO2/DIO3 system. TSH-DIO2/DIO3 system affects synthesis and secretion of GnRH and is regulated by melatonin, as well as Kiss1/GPR54 system. In this article, melatonin signal, especially the research advances of Kiss1/GPR54 system and TSH-DIO2/DIO3 system werereviewed.
【语种】中文
【第一作者】黄冬维
【通讯作者】储明星
【期刊名称、卷期、页码】遗传,33(7),35-46
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【学科分类】畜牧、兽医科学基础学科

【题目】以水溶性大豆多糖为壁材制备植酸酶微胶囊的研究
【中文关键词】水溶性大豆多糖;植酸酶;微胶囊;活力保留率

【英文关键词】soluble soybean polysaccharides; phytase; microencapsulation; vitality retention rate
【中文摘要】研究水溶性大豆多糖与明胶复凝聚制备植酸酶微胶囊的方法。大豆多糖、明胶、植酸酶的混合比例分别为5∶1∶1时,高温处理不同时间后,微囊植酸酶的活力保留率最稳定,且保留了较高的活性;同时,比较了3 种包被方法制备的植酸酶微胶囊的耐高温特性,以水溶性大豆多糖与明胶为壁材的复凝聚法制备的微胶囊,包被效果及耐高温特性最好。
【英文摘要】This paper studies the gelatin and soluble soybean polysaccharides complex pool of phytase microencapsulation methods, when soybean polysaccharide, gelatin, phytase mix of 5 ∶1 ∶1, respectively, at different times after high temperature treatment, phytase microcapsules retain the most stable of the vitality retention rate, and retain higher activity; At the same time, comparison of the three packages prepared by the phytase microcapsule high-temperature tolerance characteristics, and Soluble soybean polysaccharides Gelatin for the complex coacervation wall material prepared by the microcapsule, coating effects and high-temperature tolerance characteristics of the best.
【语种】中文
【第一作者】王兴敏
【通讯作者】秦玉昌
【期刊名称、卷期、页码】食品科技,2008 年第33 卷第12 期
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【学科分类】畜牧、兽医科学其他学科

【题目】我国预混合饲料加工工艺流程分析
【中文关键词】预混合饲料;加工工艺;工艺流程
【英文关键词】premixed feed; processing technology; technological process
【中文摘要】本文介绍了预混料加工基本工艺要求和我国常用的主要加工工艺流程,包括人工配料加工工艺、载体与常量成分自动配料加工工艺和全自动配料加工工艺,分析了各加工工艺的优缺点及预混料加工工艺发展趋势。
【英文摘要】
【语种】中文
【第一作者】李军国
【通讯作者】李军国
【期刊名称、卷期、页码】饲料工业,2007年第21期,5-7
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【学科分类】畜牧、兽医科学其他学科

【题目】万寿菊提取物对蛋黄颜色和抗氧化物的试验研究
【中文关键词】抗氧化物质 蛋黄颜色 提取物 万寿菊 叶黄素 沉积规律 种母鸡
【英文关键词】antioxidant material; yolk color; extracts ;the marigold; lutein ;deposition law; layer
【中文摘要】目前少有叶黄素种蛋蛋黄颜色及种蛋内抗氧化物质影响的系统研究报道,因此,试验通过种母鸡日粮中添加万寿菊提取物,来研究叶黄素等抗氧化物质的沉积规律和叶黄素对蛋颜色的影响.为万寿菊提取物在种禽日粮中的应用提供依据。
【英文摘要】There are no system studies about effect of lutein on yolk color and antioxidants of hatching egg have been reported. Therefore,marigold extracts were added in diets of breeder hens to study deposit law of antioxidants like lutein and the influence on yolk color,which provide the evidence for application of marigold extracts in avian diets.
【语种】中文
【第一作者】李庆德
【通讯作者】田河山
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【题目】小反刍兽疫病毒N基因在大肠杆菌中的表达及鉴定
【中文关键词】小反刍兽疫病毒;N基因;原核表达
【英文关键词】Peste des petits ruminants virus(PPRV);N gene;prokaryotic expression
【中文摘要】参照GenBank中小反刍兽疫病毒((Peste des pefits ruminants virus,PPRV)N基因序列(Nigeria/75/1)(1 578 bp)设计了1对添加EcoR I和Not I酶切位点的引物,对从奥地利引进的pCI.neo—PPRN质粒进行PCR扩增,克隆至pGM.T载体,并转化大肠杆菌(Escherichia colt)TOPIO感受态细胞,获得重组质粒pGM—T—PPRNo将重组质粒经EcoR I和Not I双酶切的产物插入原核表达载体pET一32a(+),构建原核表达质粒pET—PPRN,将其转化进BL21(DE3)感受态细胞中后用IPTG诱导表达,收集菌液进行SDS—PAGE电泳和Western blot分析,结果表明’/J、反刍兽疫病毒N基因在BL21(DE3)成功表达。所表达融合蛋白的相对分子质量约为80 kD,并能被组氨酸单抗、PPRV标准阳性羊血清及PPRV疫苗免疫羊血清所识别。
【英文摘要】A pair of primers added EcoR I and Not I sites was designed and synthesized based on the sequence of the nucleocapsid(N)protein gene ofPeste despetits ruminants virus fPPRV)for amplifying the full—length Ngene fragment ofpCI—neo—PPRNplasmid from Austria.The fragment was cloned into pGM—T vector and transformed into Escherichia coli TOP10.Then the cloned flagment was subcloned into prokaryotic expression vector pET一32a(+),and the recombinant expression plasmid pET—PPRN was expressed in E.coH BL2 1(DE3)with IPTG.The size of the recombinant N fusion protein was 80 kD.The recombinant PPRV N fusion protein could be detected with Histidine monoclonal antibody or goat anti—PPRV sera by Western blot.
【语种】中文
【第一作者】贾凤芹
【通讯作者】李刚
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【题目】小反刍兽疫病毒间接ELISA抗体检测方法的建立与初步应用
【中文关键词】小反刍兽疫病毒;N蛋白;间接酶联免疫吸附试验
【英文关键词】peste des petits ruminants virus(PPRV); nucleocapsid protein; prokaryotic expression; indirect ELISA
【中文摘要】本研究利用原核表达的小反刍兽疫病毒核衣壳(N)蛋白作为标准抗原蛋白,建立PPRV抗体检测方法,同时对建立的检测方法的相关条件进行了优化。通过优化确定抗原的最佳包被浓度为10 mg/L,血清最佳稀释度为 1:4O,二抗的使用浓度为1:200,血清及二抗的最佳反应条件为37 C孵育60 min,底物的最佳反应时间为37 C 15 rain。通过批内及批间重复性的评价,变异系数均小于0.1,表明本检测方法具有较高的可重复性。经过临床样品检测证明,建立的检测方法可用于临床PPRV抗体的检测。
【英文摘要】This study established an indirect antibody enzyme-linked assay system based on the nucleocapsid(N) protein of peste des petits ruminants virus(PPRV).We optimized some factors such as antigen coating concentration(10 mg/L),the dilution of serum was 1：40,the work concentration of HRP-labeled anti-goat IgG(1：200),reacted conditions of samples and HRP-labeled anti-goat IgG(37 °C,60 min).The CV is not beyond 0.1.The developed method is suitable for PPRV monitoring and detection,especially for screening large number of samples in farms
【语种】中文
【第一作者】贾凤芹
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【题目】快速检测小反刍兽疫病毒RT-LAMP方法的建立
【中文关键词】小反刍兽疫病毒; RT-LAMP; 核酸检测
【英文关键词】PPRV; RT-LAMP; nucleic acid detection
【中文摘要】本研究采用一步法反转录环介导等温扩增技术(RT-LAMP)建立了一种快速、灵敏、高度特异的检测小反刍兽疫病毒(PPRV)的方法。针对PPRV-N基因保守区域设计4条引物,在Bst大片段聚合酶的作用下,可以实现DNA的梯状等温扩增。优化RT-LAMP的反应体系,并检验其灵敏性、特异性。一步法RT-LAMP检测方法从核酸抽提到检测结果出现仅需70 min,该方法具有良好的特异性,与同属的犬瘟热病毒无交叉反应,灵敏度是RT-PCR的1 000倍,是巢式RT-PCR的100倍。结果证明,RT-LAMP方法可快速、灵敏、特异、经济地检测PPRV,在基层和实验室都具有良好的应用前景
【英文摘要】A one-step reverse transcription loop-mediated isothermal amplification(RT-LAMP) assay was developed for rapid and sensitive detection of peste des petits ruminants virus(PPRV).A set of four primers were designed based on the PPRV N gene sequence;RT-LAMP was performed using Bst DNA polymerase large fragment,and ladder like DNA fragments were observed on agarose gel electrophoresis assay.The process takes only 70 minutes and the amplification results could be visualized with SYBR Green I.The sensitivity test indicated that the RT-LAMP was 1000 times higher than that of RT-PCR,while 100 times higher of nest RT-PCR.The method described in this study was proved to be a sensitive,specific and rapid way for the detection of PPRV in infected cells and tissues.It has a potential application of both laboratorial and pen-side detection of PPRV
【语种】中文
【第一作者】李伟
【通讯作者】李刚
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【题目】小反刍兽疫病毒H基因的原核表达与鉴定
【中文关键词】小反刍兽疫病毒; H基因; 原核表达
【英文关键词】peste des petits ruminants virus(PPRV); H gene; prokaryotic expression
【中文摘要】根据GenBank中已发表的小反刍兽疫病毒(PPRV)Nigeria75/1株的H基因序列,设计上下游引物并添加BamH Ⅰ酶切位点,以含有小反刍兽疫病毒H基因的Topo-PPRVH质粒为模板进行PCR扩增,扩增产物克隆于pEASY-T载体中,用BamH Ⅰ单酶切后将目的片段连接到原核表达载体pET-32a(+)中,核酸序列分析证明,成功构建了PPRVH原核表达质粒pET-32a-H。将pET-32a-H重组质粒转化大肠杆菌BL21(DE3)进行融合表达,经SDS-PAGE电泳,可见H蛋白获得了高效表达,融合蛋白的分子量约为87ku,表达产物以包涵体的形式存在,其表达量达到菌体总蛋白的38%,占包涵体蛋白的80%以上。Western blot鉴定表明,所表达的重组蛋白能被抗组氨酸单抗、抗PPRV标准阳性羊血清及抗PPRV疫苗的羊血清所识别,具有良好的免疫原性。
【英文摘要】The H glycoprotein gene of peste des petits ruminants virus(PPRV) Nigeria 75/1 strain was amplified by PCR and cloned into prokaryotic expression vector pET-32a(+).The pET-32a-H plasmid was transformed into BL21(DE3) and protein expression was analyzed by SDS-PAGE.The result showed that the H protein was efficiently expressed as an 87 ku fusion protein, which made up 38 % of total bacteria protein and more than 80 % of the inclusion body.The recombinant H protein could be detected with anti-histidine monoclonal antibody or goat anti-PPRV serum by western blotting.
【语种】中文
【第一作者】李伟
【通讯作者】李刚
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【题目】小反刍兽疫病毒N基因重组杆状病毒的构建及间接ELISA抗体检测方法的建立

【中文关键词】小反刍兽疫病毒;杆状病毒;昆虫细胞;间接ELISA
【英文关键词】Peste des Petitis Ruminants Virus;baculovirus;insect cells;indireet ELISA
【中文摘要】本研究旨在建立基于真核表达的小反刍兽疫病毒(PPRV)N蛋白的诊断小反刍兽疫的间接ELISA方法.利用Bac-to-Bac杆状病毒-昆虫表达系统,构建含有PPRV N基因的重组供体质粒pFastBacHTA-N,转化E.coli DH10Bac感受态细胞,得到重组穿梭质粒pBacmid-PPRV-V,转染昆虫细胞Sf21,获得含有PPRV N基因的重组杆状病毒.用重组病毒感染昆虫细胞后,SDS-PAGE鉴定出60 ku左右的表达蛋白,Western blot检测该蛋白具有很好的反应原性.以重组Bacmid-PPRV-N蛋白作为包被抗原,建立间接ELISA检测方法.临床检测来自西藏疫区的37份山羊血清和来自青海省非疫区的92份山羊血清,与法国蒙彼利埃农学发展研究国际合作中心(CIRAD-EMVT)提供的竞争ELISA试剂盒相比较,特异性为96.2%,敏感性为100%,二者的符合率达到96.9%.结果表明本研究建立的间接ELISA方法可以很好地用于小反刍兽疫的临床诊断.
【英文摘要】This experiment was conducted to diagnose Peste des Petitis Ruminants based on the eukaryo—expressed PPRVnucleoprotein through indirect ELISA.The full—length PPRV nucleoprotein gene was obtained from viral genome RNA by RT—PCR.The amplified fragments were cloned into baculovirus donor vectors pFastHTA of Bac-to—Bac system.These recombinant plasmids,pFastHTA—PPRV—N,were transformed into DHl0Bac host bacteria to get recombinant shuttle plasmids。pBacmid—PPRV—N.Recombinant baculovirus。Bacmid—PPRV—N,was generatedfor expressing PPRV nucleoprotein by transfecting recombinant pBacmid-。PPRV-N withLipofectAMINE 2000 into Sf2 1 insect cells.PPRVnucleoprotein which efficiently expressed by baculovirus in Sf21 cells was verified bv SDS-PAGE and Western blot.Furthermore,indirect ELISA was developed using recombinant PPRV nucleoprotein as coating antigen.37 goats ’ sera from epidemic area in Tibet Autonomous Region and 92 goats sera from non—infected area in Qinghai Province were detected by indirect ELISA and international standard cELISA kit simultaneously.The sensitivity and specificity of indirect ELISA were 100 oA and 96.2%compared with cELISA kit.The coincidence rate of the two methods was 96.9%.The results demonstrated that the indirect ELISA established in this studyworks well in the PPR diagnosis.
【语种】中文
【第一作者】李伟
【通讯作者】李刚
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【题目】Sepiolite is recommended for the remediation of Cd-contaminated paddy soil
【中文关键词】镉;石灰;水稻;稻田;海泡石
【英文关键词】Cadmium, lime, rice, paddy soil, sepiolite
【中文摘要】本研究旨在评估后水稻应用土壤改良剂石灰(的Ca(OH)2)和海泡石萃取镉(Cd)和镉的吸收。在镉污染的稻田进行了一个水稻(Oryza sativa)栽培试验。采用石灰,海泡石,以及两者的混合物作为土壤改良剂,土壤pH值呈显着增加(P <0.05)后,和硝酸钠,氯化钙,和DTPA提取土壤中的镉,减少了61-100%52-98%,12-15%,分别为(P <0.05)。交换镉量显着减少(P <0.05)显示,在所有的治疗,我们发现在碳酸盐结合形式的比例增加,铁/锰氧化物的约束,残留在土壤中的镉,作为测量连续提取法。粮食或稻草量既没有显着影响任何实验修正案,而大米中镉的吸收,显着降低所有治疗(P <0.05)。结果表明没有任何优势,在应用比单独适用于固定在土壤中的镉海泡石海泡石和石灰的混合物。用石灰混合使用的海泡石,海泡石或超过有效地固定在土壤中的镉,单独使用石灰。因此,我们建议海泡石修复镉污染的水稻土作为土壤改良剂
【英文摘要】This study aimed to assess the extractability of cadmium (Cd) and Cd uptake by rice after applying soil amendments of lime (Ca(OH)2) and sepiolite. A rice (Oryza sativa) cultivation experiment was conducted in a Cd-contaminated paddy field. After applying lime, sepiolite, and a mixture of the two as soil amendments, soil pH showed a significant increase (p<0.05),and Cd in soil extracted with NaNO3, CaCl2, and DTPA, was reduced by 61 100%, 52 98%, and 12 15%, respectively (p<0.05). The amount of exchangeable Cd showed a significant decrease in all treatments (p<0.05), and we found increases in the proportion of forms of carbonate-bound, Fe/Mn oxide-bound, and residual Cd in the soils, as measured by a sequential extraction method. The grain or rice straw biomass was neither significantly influenced by any amendment in the experiment, while the uptake of Cd by rice significantly decreased in all treatments (p<0.05). The results reveal no advantage in applying a mixture of sepiolite and lime compared with applying sepiolite alone in immobilizing Cd in the soil. The use of sepiolite or sepiolite mixed with lime was more effective than the use of lime alone in the immobilization of Cd in the soil. We therefore recommend sepiolite as a soil amendment to remediate Cd-contaminated paddy soil.

【语种】英文
【第一作者】朱奇宏
【通讯作者】黄道友
【期刊名称、卷期、页码】Acta Agriculturae Scandinavica, Section B - Plant Soil Science, 2009, 60: 110-116.
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【学科分类】环境学

【题目】小反刍兽疫N蛋白单克隆抗体的制备及竞争ELISA方法的建立
【中文关键词】小反刍兽疫病毒,单克隆抗体,竞争性ELISA
【英文关键词】Peste des petits ruminant virus(PPRV),Monoclonal antibodies(mAbs),Competitive ELISA(c-ELISA)
【中文摘要】小反刍兽疫(PPR)是由小反刍兽疫病毒(PPRV)~I起的一种危害严重的急性接触性传染病。为了检 测血清中存在的抗PPRV的抗体,本研究利用纯化后的真核表达的PPRVN蛋白重组蛋 (rBacmid.PPRN) 作为免疫原免疫BALB/c小鼠(Mus musculus),并使用原核表达的PPRVN蛋白重组蛋白(rpET.PPRN)作为 间接ELISA检测抗原,共筛选得到8株抗PPRV N蛋白的单克隆抗体(mAb)。其中1D5单抗腹水效价达1: 10 ,分泌单抗亚类为IgG2b。以1D5作为竞争抗体、纯化后的rpET.PPRN蛋白作为包被抗原,建立了检Nd, 反刍兽疫血清抗体的单抗竞争性ELISA(c.ELISA)方法。所建立的c—ELISA方法能够特异性的区分牛瘟阳性 血清和小反刍兽疫阳性血清,并具有较高的灵敏度和特异性。应用建立c—ELISA检测方法检测共129份山 羊(Capra hircus)ffll清样品,与标准c—ELISA试剂盒的符合率为96.9%。本研究成功地建立了可特异性检测动物血清中抗PPRV抗体的竞争性ELISA方法,对小反刍兽疫的诊断、疫苗免疫水平的监控及控制其流行具有重要意义。
【英文摘要】Peste des petits ruminants(PPR)is an acute and highly contagious disease caused by Peste des petits ruminants virus(PPRV).For the detection of IgG against PPRV in sera.BALB/c mice(Mus musculus)were immunized with purified recombinant nucleoprotein of PPRV expressed in eukaryotic expression system.The hybridomas were screened by indirect ELISA using purified recombinant nucleoprotein of PPRV expressed in prokaryotic expression system as coating antigen.Eight monoclonal antibodies(mAbs)against PPRV N protein were filtered and the best was 1 D5.Isotype of the 1 D5 was IgG2b,and the titer of theascites induced bv 1 D5 was 1:1 O .A competitive EL1SA fc-ELISA)for the detection of antibodies agaist PPRV was established using rpET—PPRN protein as coating antigen and mAb 1 D5 as detecting antibody.The C-ELISA could differentiate rinderpest(RP)and PPR positive sera,and was sensitive and specific.According to the test results of 129 goat (Capre hirc us)serum samples,the C-ELISA established in this stlldv had a hJ gh coincidence rate of 96.9% compared with the c-ELISA kit supplied by CIRAD—EMVT.In this study a c—ELISA to detect IgG against PPRV in sera specifically is established,it ’S significant for diagnosis and control of the disease and monitoring the effectiveness of vaccine.
【语种】中文
【第一作者】邱文英
【通讯作者】李刚
【期刊名称、卷期、页码】农业生物技术学报,2011年,第 19卷,第5期,第 967~972页
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【引文索引类型】其他
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【学科分类】兽医学

【题目】石灰和海泡石对镉污染土壤的修复效应与机理研究
【中文关键词】石灰; 海泡石; 土壤镉污染修复; 水稻; 萝卜
【英文关键词】lime; sepiolite; remediation of Cd contaminated soil; rice; radish
【中文摘要】研究了稻作和旱作两种种植制度下,施用石灰、海泡石及两种改良剂配施对镉污染土壤pH值、土壤镉形态变化及作物对镉的吸收等的影响。结果表明,施用改良剂使稻作条件下的土壤pH提高0.3~1.8个单位,旱作条件下土壤pH提高幅度为0.3~2.0个单位;两种种植制度下,作物有效性较高的酸提取态镉含量显著减少,而作物有效性较低的可还原态和残渣态镉含量显著增加,进而引起了水稻和萝卜对镉的吸收量降低。其中以石灰和海泡石配施的效果最好,单施海泡石次之,单施石灰效果最差,且各处理均随改良剂用量的增加效果增强。虽然,施用改良剂可以有效降低土壤中镉的作物有效性,但对水稻产量和生物量及镉在水稻和萝卜两种作物地上部分的分配规律均没有明显的影响。

【英文摘要】The effects of lime,sepiolite and lime in combination with sepiolite on soil pH,speciation of cadmium in soil and uptake of Cd by rice and radish by field experiments in a contaminated paddy soil and an arable soil,respecitively.The results indicated: Compared with the CK treatment,amendments significantly increased soil pH by 0.3 to 1.8 units in the paddy soil and by 0.3 to 2.0 units in the arable soil.The percents of acid extractable Cd in soil were significantly decreased,whilst the reducible Cd and residual Cd were significantly increased in both soils.The increasing of soil pH and redistribution of Cd speciation in soils caused the decrease of uptake of Cd by both crops.The efficiencies of different amendments in increasing soil pH and immobilizing Cd in soils was follow the order as: lime in combination with sepiolite > sepiolite > lime,and it was becoming better as long as the applied amount of amendments increased.However,the application of amendments decreased the bioavailability of Cd in soils,no increase of the productivity and biomass of rice was observed and the distribution of Cd in over ground parts of neither rice nor radish was affected.
【语种】中文
【第一作者】朱奇宏
【通讯作者】黄道友
【期刊名称、卷期、页码】水土保持学报,2009,,23(1):111-116
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【引文索引类型】其他
【引文索引号】
【学科分类】土壤学

【题目】不同轮作制度下红壤旱地水分时空变化对稻草覆盖的响应
【中文关键词】红壤旱地; 轮作制度; 稻草覆盖; 土壤水分
【英文关键词】upland in red soil hilly region; cropping rotation system; rice straw mulching; soil moisture
【中文摘要】依托湖南桃源红壤旱地轮作施肥长期定位试验,研究了不同轮作制度下(甘薯-油菜,绿豆-蚕豆)两种类型旱地(平旱地、坡旱地)土壤水分时空变化对稻草覆盖的响应差异。结果表明,随着土层的加深,红壤旱地土壤水分含量增加,稳定性增强,其中坡旱地的含水量和变异幅度均高于平旱地(尤其在0-20 cm,20-40 cm土层);稻草覆盖后,同一轮作制度坡、平两种类型旱地0-20 cm表土层水分含量均有增加,平旱地效果更为明显,20-40 cm,40-60 cm土层土壤含水量则明显下降;同在坡旱地覆盖稻草,绿豆-蚕豆轮作地土壤绝对含水量明显增加(0-20 cm,40-60 cm效果更加明显),而甘薯-油菜轮作明显提高了0-20 cm表土层水分含量,吸收消耗了20-40 cm,40-60 cm深层相对丰裕的水分;夏季持续高温干旱时期各处理0-20 cm表土层水分含量均呈持续下降趋势,与休闲地相比,除平旱地甘薯-油菜+稻草覆盖外,其它处理土壤含水量均有不同程度的增加,表明稻草覆盖是亚热带红壤旱地季节性干旱防御的有效措施。
【英文摘要】Based on the long-term field experiment of cropping rotation and fertilization in Taoyuan county,Hunan,the paper reported the response of spatial and temporal variation of soil moisture to rice straw mulching in different cropping rotation systems(i.e.,sweet potato-rape cropping rotation and horsebean-mung bean cropping rotation) in different upland types(mellowing upland and slope upland).The results showed that the content and stability of soil water in red upland increased with soil depth;moreover,the content and variation range of soil water was larger in slope upland especially in the layer of 0-20 cm and 20-40 cm than that in mellowing upland.After rice straw mulching,the content of soil water in the 0-20 cm layer under the same rotation system in two uplands increased to some degree,and it did more obviously in mellowing upland.The content of soil water in the layers of 20-40 cm and 40-60 cm decreased clearly due to more roots distributed and strong transpiration,which indicated the efficiency of water was improved.In the slope upland under rice straw mulching,the soil moisture increased visibly in the horsebean-mung bean cropping rotation especially in the layers of 0-20 cm and 40-60 cm,while that in 0-20 cm layer in sweet potato-rape cropping rotation gained greatly owe to having depleted comparative rich water from the layers of 20-40 cm and 40-60 cm.During the period of drought with high temperature in summer,the content of soil water in 0-20 cm in all the treatments declined.Compared with the corresponding fallow,the soil moisture increased to some extent except the sweet potato and rape cropping rotation in mellowing upland,which demonstrated that straw mulching was an effective measure to withstand seasonal drought in hilly red soil region.
【语种】中文
【第一作者】肖孔操
【通讯作者】黄道友
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【学科分类】土壤学

【题目】湖南省主要蔬菜土壤的肥力特征与蔬菜硝酸盐污染现状研究
【中文关键词】蔬菜基地; 土壤肥力特征; 产品硝酸盐污染; 湖南省
【英文关键词】vegetable production bases; soil fertility properties; nitrate pollution; Hunan Province
【中文摘要】通过典型区域调研,全面查明了湖南省主要蔬菜基地的主要肥力特征与环境硝酸盐的污染现状,阐明了土壤硝态氮和地下水硝酸盐的分布特点与成因,发现菜园土硝态氮的含量主要与距施氮时间长短密切相关;系统分析各类蔬菜硝酸盐的污染现状及其分布特征,探明了蔬菜硝酸盐的污染与其施氮水平和生态环境等的关系及其发展趋势,指出叶菜类的硝酸盐污染最为严重,是蔬菜硝酸盐污染防控研究的重点。
【英文摘要】With field survey in typical region, the soil fertility properties of the main vegetable production bases and nitrate pollution status in the environment were found out. The distribution of soil nitrate and grounder water nitrate, together with the reasons of their changing were revealed. Nitrate content in vegetable garden soil was mainly determined by the time since nitrogen fertilizers application last time. The nitrate pollution status and regional distribution characteristics of the main vegetable products were analyzed systematically. The changing trend of the vegetable nitrate pollution and the correlations between the nitrate pollution of vegetable and the amount of applied nitrogen fertilizer, growing conditions were also investigated and revealed. It is pointed out that the nitrate pollution of leafy vegetable were most serious and should be paid more attention.
【语种】中文
【第一作者】黄道友
【通讯作者】黄道友
【期刊名称、卷期、页码】农业现代化研究,2008,29(6):747-750
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【引文索引类型】其他
【引文索引号】
【学科分类】土壤学

【题目】稻草易地还土对丘陵红壤团聚体碳氮分布的影响
【中文关键词】水稳定性团聚体; 有机碳; 全氮; 分布; 丘陵红壤
【英文关键词】water-stable aggregates; organic C; total N; distributions; hilly red soils
【中文摘要】利用新垦坡地、熟化旱地两个定位试验的典型处理(不施肥、化肥、稻草+NP),研究稻草易地还土对丘陵红壤水稳定性大团聚体(>0.25 mm)内碳、氮分布的影响。结果表明,稻草易地还土提高了土壤大团聚体含量;团聚体粒径越大,有机碳和全氮的含量越高;与对照相比,稻草易地还土提高大团聚体内的有机碳含量10.1%~78.5%、全氮含量9.4%~63.6%(p<0.05),同时也显著提高二者在较大粒径(1~2 mm,2~5 mm)团聚体内的分配比例;与化肥处理相比,稻草易地还土提高>0.5 mm各粒级大团聚体内的有机碳含量6.5%~46.1%,也提高了0.5~1 mm,1~2 mm,2~5 mm团聚体内的全氮含量8.7%~16.1%(p<0.05)。水稳定性大团聚体对土壤碳、氮具有强富集和物理保护作用;稻草易地还土提高水稳定性大团聚体内碳、氮的含量和分配比例,是改良丘陵红壤结构、提高并协调土壤肥力的有效保育措施。
【英文摘要】Two experiments in newly-culltivated slope land and upland with three treatments,Nil(CK),NPK(NPK),Straw+NP(SNP),were selected to analyze the effects of ex situ rice straw incorporation on the distribution of organic carbon and nitrogen in water-stable macro-aggregates of hilly red soils.Results showed that,ex situ incorporation of straw increased water-stable macro-aggregates and the concentrations of organic carbon and nitrogen increased with increase of water-stable aggregate-size;ex situ incorporation of straw significantly increased the concentrations of organic carbon and nitrogen in water-stable macro-aggregates by 10.1%~78.5% and 9.4%~63.6%(p<0.05),and also increased the ratios of organic carbon and nitrogen in water-stable macro-aggregates(2~5 mm or 1~2 mm) to soil;Compared to inorganic fertilizer,ex situ incorporation of straw significantly increased the concentrations of organic carbon by 6.5%~46.1% in 0.5~1 mm,1~2 mm,2~5 mm,>5 mm water-stable aggregates and nitrogen by 8.7%~16.1% in 0.5~1 mm,1~2 mm,2~5 mm water-stable aggregates.Water-stable macro-aggregates have high potential to accumulate organic C and N,and ex situ incorporation of straw increased the concentrations and distributions of organic C and total N in water-stable macro-aggregates,which increased the ability of regulating soil fertility.Therefore,ex situ incorporation of straw was effective measure to improve soil structure,enhance and regulate soil fertility in hilly red soils.
【语种】中文
【第一作者】朱捍华

【通讯作者】黄道友
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【学科分类】土壤学

【题目】Changes of local agricultural landscape patterns induced by land consolidation in hilly and mountainous Southwestern China
【中文关键词】无
【英文关键词】land consolidation; land use; local agricultural landscape pattern; landscape patch; hilly and mountainous in Southwestern China
【中文摘要】无
【英文摘要】Land consolidation (LC), as a type of human disturbance, improves land production efficiency and changes landscape distribution through land parcel reallocation. The objective of this study was to comparatively analyze the changes of landscape patches before and after a land consolidation project (LCP) and the effects of land levelling, irrigation and drainage work and road engineering on the landscape structure. FRAGSTAT3.3 and buffer zone analysis were used to investigate those changes. The results suggest that the heterogeneity of landscape depressed, and tended to simplification after LC. Dry land was the most highly variable land use pattern, and the change of forestland was least due to its locations at a gradient larger than 25 ° . LC resulted in a more rational use of land, and could be an important step in promoting rural development in depressed and fragmented agricultural areas through unused land exploitation, small-patch combination, irrigation and water conservancy, and road construction. Land levelling leveled off the gradient field surface and decreased the slope. The fragmentized patches were much more incorporated with increasing slope. On the other hand, the ridge of a field became longer so that the length of field surf ace and area of patch were increased. Land levelling regulated, simplified and combined patches, so that the complexity degree was reduced. It is found that the buffer distance of 35 m was a turning point of human disturbance by irrigation and drainage systems, and patches presented flaky distribution when the buffer distance was smaller than 35 m. Meanwhile, the distance range between 25 m to 50 m was an impressible area for road engineering, which was sensitive to human actions, and the changes of all landscape metrics were larger than those in other buffer zones. In general, LC not only reallocated fragmented parcels, but als o improved agricultural conditions.
【语种】英文
【第一作者】张贞
【通讯作者】魏朝富
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【学科分类】土壤学

【题目】保护性耕作对丘陵区水稻土团聚体稳定性的影响
【中文关键词】团聚体,稳定性,有机碳,保护性耕作,水稻土
【英文关键词】aggregates, stability, organic carbon, conservation tillage, paddy soil
【中文摘要】长期保护性耕作通过增加土壤有机碳而成为稻田土壤结构改良的一项有效措施,而保护性耕作对土壤团聚体稳定机制的影响尚未完全清楚。本文供试土样采自耕作制定位试验水旱轮作、冬水免耕、垄作免耕和厢作免耕耕层(0~20 cm)土壤,土样经过糊化作用、湿润作用和再次糊化作用等预处理,用以阐明稻田土壤团聚体的破碎机制。研究结果表明:糊化作用和湿润作用后紫色水稻土团聚体稳定性差异不明显,而保护性耕作显著影响团聚体的稳定性。糊化作用后团聚体水稳性强弱顺序为:垄作免耕>厢作免耕>冬水免耕>水旱轮作,湿润作用后团聚体水稳性强弱顺序为:厢作免耕>垄作免耕>冬水免耕>水旱轮作。糊化作用下团聚体稳定性与有机碳浓度相关性不显著(r=0.432,p>0.05),湿润作用下团聚体稳定性与有机碳浓度呈极显著正相关(r=0.626,p<0.01)。因此,研究结果说明保护性耕作有利于紫色水稻土大团聚体有机碳含量提高,进而增强团聚体的水稳性。
【英文摘要】Long-term conservation tillage is an effective agricultural management to improve soil structure in severely destroyed paddy soil by increase of soil organic carbon (SOC). More work is still needed to understand the impacts of conservation tillage on the

mechanisms of aggregates stability.Soil samples in 0-20 cm layer were adopted from the long-term tillage experiment: (1) paddy-upland rotation and plain culture (rice-rape) (PU-R-RR), (2)no-tillage and ridge culture (rice-fallow) (NT-R-RF), (3) no-tillage and ridge culture (rice-rape) (NT-R-RR) and (4) no-tillage and plain culture (rice-rape) (NT-P-RR).Different pretreatments, such as slaking in fast wetting, wetting and subsequent slaking, were applied to simulate the breakdown mechanisms of aggregates in paddy soil. The results showed that no significant difference of aggregate stability between slaking and wetting pretreatments was observed, while tillage patterns affected greatly aggregate stability. The aggregate stability under slaking and wetting pretreatment ranked in the order of NT-R-RR > NT-P-RR > NT-R-RF > PU-R-RR and NT-P-RR > NT-R-RR > NT-R-RF > PU-R-RR, respectively. The organic carbon concentrations in aggregates were significantly positive related to the aggregates stability under wetting ($r=0.626$, $p<0.01$), while low correlation linear relationships were observed under slaking treatment ($r=0.432$, $p>0.05$). The results suggest that long-term conservation tillage favorably led to the increase of SOC concentrations in aggregates and the enhancement of aggregates water stabilization.

【语种】中文
【第一作者】唐晓红
【通讯作者】魏朝富
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【学科分类】土壤学

【题目】Effects of different fertilization and precipitation on balances of nutrients of farmland soil and nitrogen use efficiency in northeast China
【中文关键词】施肥;长期田间试验;氮肥利用率;土壤养分收支;玉米
【英文关键词】Fertilization; Long-term field trial; Nitrogen use efficiency; Soil nutrient budget; Maize
【中文摘要】基于16年长期定位试验与气象数据,研究了不同降雨年份施肥对农田土壤养分收支与氮肥利用率的影响。无肥对照处理产量仅为3,520 kg ha-1,而N、P、K与循环有机肥配施时玉米产量最高,达7,470 kg ha-1。NPKM处理玉米对养分的吸收量也可达对照处理的2-3倍。不同施肥条件下,平水年份玉米产量最高,旱年或涝年玉米产量最低,仅为平水年份产量的44.7 – 58.5%。同时,降水条件改善后玉米对NPK养分吸收较旱涝年份更为强烈。当仅施化肥N或仅有循环有机肥施用时,土壤N含量明显降低,而土壤N降低幅度最大的仍未对照处理,1990至2005年间N素亏缺557 kg ha-1。N肥的施用也加剧了P素养分的亏缺,NP或N的施用同样造成更为严重的土壤K赤字。土壤P赤字最为严重的是空白和N处理,土壤K赤字最为严重的为NP处理。通过本研究发现化肥N用量为150 kg N ha-1 year-1时,不足以平衡土壤N收支,仅靠循环有机肥也无法阻止土壤P、K养分赤字。化肥N、P、K肥用量为150 kg N ha-1 year-1, 25 kg P ha-1 year-1 和 60 kg K ha-1 year-1,并配合2-3吨有机肥有利于保持土壤肥力水平。N肥利用率随降水条件的改善和均衡施肥而明显提高,NPK与NPKM处理在平水年份均可得到较高的N肥利用效率。综上,本研究的结果表明化肥配施有机肥更利于提高作物产量、改善N肥利用效率和保持土壤肥力水平。
【英文摘要】Based on a consecutive 16-year field trial and meteorological data, the effects of fertilization on the nutrient budget and nitrogen use efficiency in farmland soil under different precipitation years were studied. With no fertilization treatment, the grain yield of maize was 3,520 kg ha-1 (mean yield over 13 years). But the maximum yield increased to 7,470 kg ha-1 when treated with mineral N, P and K fertilizers and recycled manure. The nutrient uptake also increased by twofold to threefold in NPKM treated field compared with that in the control treatment. The highest yields were obtained in years with normal precipitation, despite the different fertilization schemes. The lowest yields were obtained in drought or waterlogging years, which were 44.7 – 58.5% of the yields in years with normal precipitation. It also appeared that the deficits of N, P and K were greater in the years with proper precipitation than those in arid or flood years, because more production was removed from the field. Soil total N decreased significantly when treated with mineral fertilizer or recycled manure alone. The maximum deficit of soil total N was observed in control treatment (557 kg ha-1) from 1990 to 2005. The N treatment resulted in a significant negative balance of P, due to the high yield of the crop in response to applied N. The application of NP or N to soils resulted in a greater negative K balance than that of the control. The greatest negative balance of total P and available P were obtained under the control and N treatment, and the highest deficit of soil total K and exchangeable K were obtained under NP treatment. We found that the rate of 150 kg N ha-1 year-1 was inadequate for maintaining soil N balance, and amendment of soil with organic source could not stop the loss of soil P and K. The applying rates of 150 kg N ha-1 year-1, 25 kg P ha-1 year-1, and 60 kg K ha-1 year-1 combined with 2 – 3 t ha-1 organic manure were recommended to maintain soil fertility level. The nitrogen use efficiency (NUE) was greatly improved in the years with proper precipitation and balanced fertilization. Higher NUE and

grain yields were achieved under NPK and NPKM treatments in years with normal precipitation. The results clearly demonstrated that both organic and mineral fertilizers were needed to increase crop production, improve NUE and maintain soil fertility level.
【语种】英文
【第一作者】马强
【通讯作者】宇万太
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【学科分类】农业基础学科

【题目】构建重庆市耕地保护体系
【中文关键词】耕地占补平衡;保障体系i重庆市
【英文关键词】farmland requisition-compensation balance;guarantee system;Chongqing
【中文摘要】耕地保护制度是我国最基本、最严格的制度之一,是保障我国粮食安全,社会持续稳定发展的基础制度之一。通过文献资料法从政策、法律、经济、技术四个方面构建了实现重庆市耕地总量动态平衡的保障体系。严格执行耕地保护法规,制定切实可行的政策措施,加大耕地建设的财政投入,建立以3S技术为支撑的土地动态监测系统,以保障重庆市耕地总量动态平衡。
【英文摘要】Protecting cultivated land is one of the fundamental and strictest institutions in China and it is an essential institution for guaranteeing food security of the country and sustained and stable development of the society. Based on a textual research-a guarantee system on farmland requisition-compensation balance in Chongqing is developed in the four aspects of law, policy, economy and technology. The cultivated land could be protected by strictly implementing the relevant laws and regulations, formulating practicable policies, increasing financial inputs and establishing a land-use dynamic monitoring system based on the 3S technology.
【语种】中文
【第一作者】尚慧
【通讯作者】魏朝富
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【学科分类】土壤学

【题目】A remote wireless system for water quality online monitoring in intensive fish culture
【中文关键词】水质监测;无线通信技术;集约化养鱼;人工神经网络
【英文关键词】Water quality monitoring, Wireless communication technology, Intensive fish culture,ANN
【中文摘要】水质监测和预报,在现代集约化养鱼管理中起着重要的作用。本文介绍了在集约化养鱼的水质在线监测系统中国,Web服务器的嵌入式技术与移动通信技术相结合。根据历史数据,该系统的设计与人工神经网络水质预测(人工神经网络)和水质控制时间,以减少灾难性的损失。预测模型溶解氧提前半小时已与实验数据的验证。结果表明:多参数,长途电话和在线监测水质资料使用此建立的监测系统,准确地获取和预测。
【英文摘要】Water quality monitoring and forecasting plays an important role in modern intensive fish farming management.This paper describes an online water quality monitoring system for intensive fish culture in China, which combined web-server-embedded technology with mobile telecommunication technology. Based on historical data, this system is designed to forecast water quality with artificial neural networks (ANNs) and control the water quality in time to reduce catastrophic losses. The forecasting model for dissolved oxygen half an hour ahead has been validated with experimental data. The results demonstrate that multi-parametric, long-distance and online monitoring for water quality information can be accurately acquired and predicted by using this established monitoring system.
【语种】英文
【第一作者】Xiuna Zhu
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【题目】黑土反射光谱特征影响因素分析
【中文关键词】反射光谱;母质;有机质;水分;耕作措施
【英文关键词】Spectral reflectance; Parent material; Organic matter; Soil moisture; Tillage practice
【中文摘要】以黑土高光谱反射率为研究对象,运用去包络线处理、光谱角度/特征匹配方法,分析黑土反射光谱特征主要影响因素。结果表明,成土母质决定了土壤反射光谱的基本特征;有机质是小于1000nm范围黑土反射光谱特征的决定因素,同时由于有机质与土壤水分、机械组成的相关关系,间接影响着大于1000nm的波谱范围;土壤光谱反射率随含水量的变化过程可以用三次方程模型进行定量描述;铁对黑土反射光谱特性影响较小;粗糙度主要影响土壤反射率的大小;秸秆覆盖对土壤反射率大小与形状特征的影响均较大;不同耕作措施土壤反射率大小依次为免耕、翻耕、组合、少耕、旋松。
【英文摘要】To develop soil properties quick measuring methods, promote the development of quantitatively remote sensing studies relating to terrestrial ecosystem, and deepen the application of remote sensing in agriculture, the hyperspectral reflectance of black soil in Songnen Plain, northeast China, was analyzed with spectral analysis methods (continuum removal, spectral angle match and spectral feature fitting) and statistic methods to discover the reflectance spectral characteristics and its influencing factors. The results are as follows: the soil parent material determines the basic characteristics of reflectance of the black soil, which is the mixture of montmorillonite and illite, and consistent with mineral analysis result. Organic matter is the main factor determining the curve shape of black soil reflectance in the region shorter than 1 000 nm, and indirectly influencing the reflectance in the region longer than 1 000 nm because of the correlation with soil moisture and mechanical composition. The varying process of soil reflectance with changing soil moisture can be quantitatively described with cubic equation, and moisture mainly changes the reflectance value but not the curve shape. Black soil reflectance is not influenced significantly by Fe, which is different from soils of south China. Roughness mainly impacts on the soil reflectance value but not the shape feature. The spectral feature of straw reflectance is remarkably different to that of black soil, and impacts on both the value and curve shape of black soil reflectance. Different soil tillage measurements result in different moisture holding ability and the amount of straw for different farm fields, and influence the reflectance further, with the order of soil reflectance from high to low is: no tillage, moldboard tillage, combination tillage, reduced tillage, and rotary tillage.
【语种】中文
【第一作者】刘焕军
【通讯作者】刘焕军
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【学科分类】土壤学

【题目】中国东北黑土带土壤线空间变异规律
【中文关键词】土壤;植被;辐射;土壤线;MODIS;叶面积指数
【英文关键词】Soils; Vegetation; Radiation; Soil line; MODIS; Leaf area index
【中文摘要】利用遥感影像分析土壤参数和监测植被长势要求准确的土壤线参数。利用MODIS反射率产品计算东北黑土带不同分区土壤线参数,研究其空间分布规律;并利用不同分区土壤线参数计算与土壤线性相关的植被指数,分析不同植被指数与作物叶面积指数、光合有效辐射分量之间的相关关系。结果表明:东北黑土带土壤线斜率的总体趋势是,由北向南先增加后减小,最大值(1.5921)在北纬47°~47.7°之间的黑土带范围(对应行政范围为海伦南部,望奎北部);最低值(1.1319)在德惠南部与九台中部。与土壤线性相关的植被指数与作物两个生理参数的相关关系显著高于归一化植被指数(NDVI);改进的转换型土壤植被指数(ATSAVI)对土壤线参数的敏感性最高,利用分区不同土壤线参数计算的ATSAVI与作物生理参数的相关系数高于利用单一土壤线参数计算的结果;引入土壤线参数可以提高植被指数反演作物生理参数的精度。
【英文摘要】Accurate soil line parameters are significant for monitoring vegetation or crop and analyzing soil properties with remote sensing images. Soil line parameters of different areas in black soil zone, Northeast China were calculated with MODIS reflectance products to analyze the spatial distribution of soil line parameters; then the vegetation indices relating to soil line were established, and

the correlation coefficients between vegetation indices and crop leaf area index, the fraction of photosynthetically active radiation were analyzed. The results were as follows: the overall distribution of soil line slope in black soil zone was that from north to south, the value increased and reached maximum at south Hailun city and central Wangkui County (47 ° N-47.7 ° N), then decreased, the minimum value lay at south Dehui City and central Jiutai City. The correlation coefficients between vegetation indices relating to soil line and crop leaf area index, the fraction of photosynthetically active radiation were significantly greater than that between Normalized Difference Vegetation Index and crop physiological parameters; the most sensitive vegetation index to soil line parameters was Adjusted Transformed Soil-adjusted Vegetation Index, and the vegetation indices calculated with soil line parameters in different zones showed more significant correlation with leaf area index and the fraction of photosynthetically active radiation than that calculated with single soil line parameter. With the introduction of soil line parameters, the precision of crop physiological parameters predicted with vegetation indices is much better.

【语种】中文
【第一作者】刘焕军
【通讯作者】刘焕军
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【学科分类】土壤学

【题目】不同土地利用类型下土壤活性有机碳库的变化
【中文关键词】土地利用类型;土壤活性有机碳;活性有机碳分配比例
【英文关键词】Land use type; Soil active organic carbon; allocation proportion of active organic carbon
【中文摘要】分析了中国科学院沈阳生态试验站不同土地利用类型长期定位试验土壤0~40 cm活性有机碳含量,结果表明:0~20cm土层内荒地土壤有机碳、易氧化碳、微生物生物 量碳、溶解性有机碳和轻组有机碳含量高于割草地和裸地,而割草地颗粒有机碳含量略高 于荒地;在20~40cm土层,割草地土壤有机碳、易氧化碳和颗粒有机碳含量较高,而荒地 微生物量碳、溶解性有机碳和轻组有机碳含量较高。不同土地利用类型土壤活性有机碳含 量均随着土层加深而递减。土壤微生物量碳、溶解性有机碳和轻组有机碳的分配比例为荒 地>割草地>裸地,易氧化碳和颗粒有机碳的分配比例为割草地>荒地>裸地。土壤活性 有机碳的分配比例随土层加深而下降,但溶解性有机碳的分配比例变化趋势相反。
【英文摘要】The measurement of active organic carbon content in 0-40 cm soil layer under different land use types in Shenyang Eco-experiment Station of Chinese Academy of Sciences showed that in 0-20 cm soil layer, the contents of organic carbon (OC), readily oxidizable carbon (ROC), microbial biomass carbon (MBC), dissolved organic carbon (DOC) and light fraction organic carbon (LFOC) were higher in fallow field than in mowing field and bare field, while the content of particulate organic carbon (POC) was relatively higher in mowing field than in fallow field. In 20-40 cm soil layer, the contents of OC, ROC and POC were higher in mowing field, while those of MBC, DOC and LFOC were higher in fallow field. The profile distribution of soil active organic carbon under different land use types appeared a declining trend with soil depth. The allocation proportion of MBC, DOC and LFOC in soil active organic carbon followed the order of fallow field> mowing field > bare field, while that of ROC and POC was in the order of mowing field > fallow field > bare field. The allocation proportion of soil active organic carbon had a declining trend with depth, while that of DOC was in adverse.
【语种】中文
【第一作者】宇万太
【通讯作者】马强
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【学科分类】土壤学

【题目】大田玉米长势的三维图像监测与建模
【中文关键词】图像分析,监测,模型,大田玉米,双目立体视觉,NURBS 曲面,三维重建

【英文关键词】image analysis, monitoring, models, corn plant parameters inspection, binocular stereovision, NURBS surface, 3D reconstruction

【中文摘要】基于双目立体视觉对大田间玉米生长参数进行测量,并建立玉米三维生长模型,以实现大田玉米生长参数的实时测量和生长过程的三维虚拟显示。以上次测量的平均株高平面为测量区域基准面,利用大津法提取测量区域的玉米叶片。对测量区域进行均匀网格分割,通过对左右网格的匹配,求得覆盖面积和平均颜色。对网格的形心,通过左右视觉的对应进行三维重建,获得形心点云的三维数据和平均株高。利用标杆的测量方法佐证了三维株高测量的正确性。利用上述测量参数,构建了玉米的三维生长模型,并利用OpenGL 实现了玉米生长过程的三维虚拟显示。为下一步玉米生物量的实时无损检测以及更精确的玉米三维虚拟建模奠定了基础。

【英文摘要】Some growth parameters of corn plants were measured in field based on binocular stereovision technology, and a 3D structure model of corn plants was established. The average height of corn plants measured in previous period was established as the base plane of measure area, which binarized by Ostu method. The measure region was divided into grids. The plant area and the average color were measured by matching these grids on left and right visions. Thepoint cloud consisted of grid ’s core was established by the 3D reconstructing of these grids. The average height of corn plant was calculated by using the point cloud, and validated by measuring the labeled pole. The 3D structure model of corn plant was established with above data by OpenGL. This study established a base work to real time measure theplant value without scathe, and to model the 3D plant more accurately.

【语种】中文

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【通讯作者】陈兵旗

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【学科分类】农业基础学科

【题目】基于成像光谱仪的冬小麦苗期冠层叶绿素密度监测

【中文关键词】冬小麦; 苗期; 冠层; 叶绿素密度; MSI200 型成像光谱仪; ASD Fieldspc FR2500 型非成像地物光谱仪

【英文关键词】Winter wheat; Seedling; Canopy; Chlorophyll density; Imaging spectrometer MSI200; Non-imaging spectrometer ASD Fieldspc FR2500

【中文摘要】利用自主研发的MSI200 型成像光谱仪对冬小麦苗期叶绿素密度进行遥感监测, 并与ASD Fieldspc FR2500型非成像地物光谱仪测定数据相比。结果表明, 两种仪器所得R720、FD660、FD550、TCARI、GNDVI、PPR(550, 450)、NRI等光谱特征参量均与叶绿素密度显著相关, 拟合度较高, 说明MSI200 型成像光谱仪测定的作物光谱数据是可靠的。对筛选出的模型进行检验, ASD Fieldspc FR2500 模型的预测精度达86.61%~92.79%, MSI200 达91.26%~95.54%,其中PPR 对叶绿素密度预测精度最高, RMSE 分别为0.8391 和0.0979。与传统非成像地物光谱仪相比, 成像光谱仪能够提取纯冠层光谱信息, 所得模型精度高、误差小, 筛选的植被指数和特征波段对于航天、航空遥感器的定标有重要意义。

【英文摘要】Imaging spectrometer is a new kind of remote sensing sensor, which receives images of ground objects and their spectrum components. It has great potentials in accurately quantitative analysis with remote sensing of high spatial and spectral resolutions. MSI200 is an imaging spectrometer manufactured by the authors. It was used in this study to monitor canopy chlorophyll density in winter wheat (Triticum aestivum L.) at seedling stage in comparison with ASD Fieldspc FR2500, a well-known non-imaging spectrometer. Correlation analysis showed that R720, FD660, FD550, TCARI, GNDVI, PPR (550, 450), and NRI obtained by the 2 spectrometers were both significantly correlated (P<0.01) with canopy chlorophyll density. This primarily indicated the reliability of MSI200. The precisions of predicted model on chlorophyll density were 91.26 – 95.54% and 86.61 – 92.79% for MSI200 and ASD Fieldspc FR2500, respectively. Among these parameters, PPR was the best one to monitor canopy chlorophylldensity with root mean square error (RMSE) of 0.0979 and 0.8391 for MSI200 and ASD Fieldspc FR2500, respectively. Compared with the traditional non-imaging spectrometers, MSI200 predicted better the canopy chlorophyll density in wheat with smaller errors, and the selected wavelengths were important to spaceflight and airborne remote sense.

【语种】中文

【第一作者】谭海珍

【通讯作者】李少昆

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【学科分类】农业基础学科

【题目】基于短信的烟草生产环境监测系统通信设计
【中文关键词】环境监测; 通信协议; GSM; PDU
【英文关键词】environment monitoring; communication protocol; GSM; PDU
【中文摘要】本文开发了一个烟草生产环境监测系统的通信协议,该协议基于GSM PDU(Protocol Description Unit) 短信建立,协议包含实时数据传送、工作状态查询、实时时钟校准等内容。文章所涉及的监测系统已经在红塔集团烟叶基地部署了20 台,并正常运行半年。系统的部署,为企业原料采购提供重要的决策支持。
【英文摘要】In this paper, a communication protocol in environment monitoring system for Tobacco Production communication is developed.That based on GSM PDU (Protocol Description Unit) message and includes the real-time data transmission, the work of state inquiries and real-time clock calibration and so on. Twenty monitoring systems have been deployed in bases of in Hongta Tobacco Group. All monitoring systems have functioned normal for half a year, which provide an important support for Hongta Tobacco Group in making decision for procurement of raw materials.
【语种】中文
【第一作者】鲁绍坤
【通讯作者】贺冬仙
【期刊名称、卷期、页码】《微计算机信息》(测控自动化)2009 年第25 卷第10-1 期, 3-5
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【引文索引类型】其他
【引文索引号】
【学科分类】农业基础学科

【题目】基于叶片光谱透过特性的植物氮素测定
【中文关键词】叶绿素含量,含氮量,光谱特征参数,分光光谱透过率,无损检测
【英文关键词】chlorophyll content, nitrogen content, spectral feature parameter, spectral transmittance, nondestructive detection
【中文摘要】该文通过不同施氮水平下营养液栽培的水稻和黄瓜叶片在300~1100 nm 的分光光谱透过率,与其叶绿素含量和含氮量的相关性分析,确定了560、650 和720 nm 作为特征波长,940 nm 作为参比波长可用于植物营养的快速无损诊断。以上述波长的光谱透过率构建的21 组光谱特征参数中,(T940-T560)/(T940+T560)、log(T940/T560)和log(T940/T650)与水稻和黄瓜叶片的叶绿素含量和含氮量的相关性较好,且经回归估测检验的相对误差均小于8%。因此,上述光谱特征参数可作为植物氮素营养指标用于植物叶片的叶绿素含量和含氮量的快速无损估测,从而为植物营养无损诊断提供技术支持。
【英文摘要】Spectral transmittances in wavelength ranged from 300 to 1100 nm of rice and cucumber leaves treated with culture solution in five different nitrogen levels were measured in this study. The correlated relationships between the above spectral transmittances and their chlorophyll contents and nitrogen contents indicated that the 560, 650, and 720 nm as feature wavelength and 940 nm as reference wavelength were useful for plant nutrient diagnosis. Correlationanalysis and their regression examination between 21 spectral feature parameters composed by the transmittances a above wavelength, and the leaf chlorophyll contents and nitrogen contents showed that spectral feature parameters of (T940-T560)/(T940+T560), log(T940/T560) and log(T940/T650) were available for plant nutrient diagnosis with less than 8%relative error in measurement tests of rice and cucumber leaves. Therefore, the above spectral feature parameters as plant nitrogen indices can be used to estimate the chlorophyll content and nitrogen content and thus support for nondestructive plant nutrient detection.
【语种】中文
【第一作者】贺冬仙
【通讯作者】贺冬仙
【期刊名称、卷期、页码】农业工程学报,2011,27(4):214-218
【论文发表时间】2011-04-08 00:00:00
【引文索引类型】EI
【引文索引号】EI
【学科分类】农业基础学科

【题目】计算机视觉技术在农业生产中的应用与展望
【中文关键词】计算机视觉 农业生产 应用与展望
【英文关键词】computer vision, agriculture p roduction, app lication and expectation
【中文摘要】该文从植物外部生长参数的测量、植物营养胁迫诊断、病虫害监测及杂草识别、果蔬采摘机器人、农产品品质监测与分级等几个方面, 对计算机视觉技术在农业生产中的应用进行综述, 并展望了未来的发展方向。
【英文摘要】This paper summarizes the app lication of computer vision technology in agriculture production from the aspects of testing p lant external growth parameter, diagnosing p lant nutrition stress, supervising and identifying disease and insect damage, fruit and vegetable p icking robot, quality inspecting and grading of agriculture products. It also p rospects the orientation for future development.
【语种】中文
【第一作者】马彦平
【通讯作者】马彦平
【期刊名称、卷期、页码】中国农业资源与区划,2009, 30, 14, 21-27
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【引文索引号】
【学科分类】农业基础学科

【题目】可控环境下光照时间对铁皮石斛组培苗生长发育的影响
【中文关键词】叶绿素含量;可控环境;光合速率;多糖含量
【英文关键词】chlorophyll content; controlled environment; photosynthetic rate; polysaccharide content
【中文摘要】在人工光型密闭式植物工厂的可控环境条件下,光照时间会影响铁皮石斛(Dendrobium off icinale)组培苗的生长发育。将鲜重约为300 mg的铁皮石斛单腋芽作为外植体在温度22 ±1℃、湿度65 ±5%、光照强度68 ±9 μmol · m- 2 · s- 1、光期的CO2浓度800 ±50 μmol · mol- 1的环境条件下,设置光照时间为6 h · d- 1、9h · d- 1、12 h · d- 1、15 h · d- 1、18 h · d- 1的5组试验区进行培育。该可控环境下培育92 d后,光照时间为12h · d- 1的试验区的铁皮石斛组培苗的净光合速率和叶绿素含量较高,干重和腋芽数增加较多,表现出良好的生长与繁殖能力。因此,人工光型密闭式植物工厂内铁皮石斛组培苗的适宜光照周期为12 h · d- 1。
【英文摘要】The effect of photoperiod on growth and development of Dendrobium off icinale in vitro was studied under controlled environment in a closed p lant factorywith artificial lighting. Single exp lant each with 300 mg fresh mass of D. officinale were p lanted in five treatmentswith photoperiods of 6, 9, 12, 15, and 18 h · d- 1 under controlled environment atair temperature of 22 ±1℃, relative humidity of 65 ±5%, lighting intensity of 68 ±9 μmol · m- 2 · s- 1 , and CO2 concentration of 800 ±50 μmol · mol- 1 in photoperiod. The net photosynthetic rate, chlorophyll content, dry mass, and buds in treatment of photoperiod of 12 h · d- 1 were higher than that in other treatments, and resulted in greater growth andreproduction forD. officinale production in vitro after the exp lantswere cultured 92 days. Therefore, the photoperiod of 12h · d- 1 forD. officinale production in vitro is suitable in the closed plant factorywith artificial lighting.
【语种】中文
【第一作者】鲍顺淑
【通讯作者】贺冬仙
【期刊名称、卷期、页码】中国农业科技导报, 2007, 9 (6) : 90 - 94
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【引文索引类型】其他
【引文索引号】
【学科分类】农业基础学科

【题目】基于熵权法赋权的区域耕地整理潜力评价
【中文关键词】耕地整理; 潜力评价; 熵权法; 重庆市
【英文关键词】Cultivated land consolidation and rehabilitation; Potentiality evaluation; Entropy weight method; Chongqing municipality

【中文摘要】在构建区域耕地整理潜力评价指标体系的基础上, 将熵权法与综合评价法结合起来对重庆市耕地整理潜力进行了定量化评价。重庆市耕地整理潜力评价结果表明, 在评价指标权重分布上, 投入产出率> 林地面积比重提高率> 耕地产出提高率> 增加耕地系数, 耕地整理潜力由大到小可划分为4 个等级, 从潜力等级的分布来看, 耕地整理潜力最大的区域主要分布在三峡生态经济区, 而耕地整理潜力次之的区域主要在渝西地区。就重庆市耕地整理潜力而言, 渝西地区经济基础比较好, 发展速度相对较快, 投入产出率高, 耕地整理投入优势显著, 而三峡库区未来生态效益较高, 耕地整理对实现资源可持续利用有利。

【英文摘要】Based on constructing evaluation index system for regional potentiality of land consolidation and rehabilitation, potentiality of cultivated land consolidation and rehabilitation in Chongqing municipality was quantificationally evaluated using entropy weight method and synthetical evaluation method . Results indicated that indicator weight was followed such a sequence : input - output rate >increasing ratio of forestland pro-portion >increasing ratio of cultivated land output > increased cultivated land coefficient. The potentiality of cultivated land consolidation and rehabilitation was divided into four grades, and it was highest in ecological economic zones in Three Gorges reservoir area and higher in Western Chongqing Region. Western Chongqing Region, whose development rate and input - output rate were higher , played an important role in the economic development of Chongqing, thus the advantages of cultivated land consolidation potentiality were prominent. The ecological benefits of Three Gorges reservoir area were so high that cultivated land consolidation and rehabilitation could achieve the sustainable development.

【语种】中文

【第一作者】李萍

【通讯作者】魏朝富

【期刊名称、卷期、页码】农业资源与环境科学, 2007, 23(6): 536-541

【论文发表时间】2007-06-02 00:00:00

【引文索引类型】其他

【引文索引号】

【学科分类】土壤学

【题目】密闭式植物工厂的嵌入网络式环境监控系统

【中文关键词】Closed plant factories using artificial lighting will be extended commercially because of the large scale requirement s of the transplant sorplant such as vegetables, forest tree, m edicinal herb, and spice plant in the 21st century. In o rder to research the optimal environmental control and electronic consumption accounting in the closed plant factories, a web based environmental control system was developed using MSSQL Server 2000 and Visual Basic 6. 0. The control strategy and control targets can be adjusted by end user in local or remo teareas via any browsers and the controlled equipment can be adjusted or improved easily with different levels of system security. All control variables and measured environmental data and plant images are monitored dynamically using web server embedded technology. The environm ental control and electriccon sumption accounting were carried out in a pilottype closed plant factory operated for two years in China Agricultural University.

【英文关键词】control stratagy; electric power consumption; environmental monitoring; predicted control;
web server embedded technology

【中文摘要】21 世纪对蔬菜、林木、药草、香料等各类种苗或植物的大量需求将推动完全使用人工光源的密闭式植物工厂的大力发展。为了配合密闭式植物工厂内的适度环境控制和能源收支核算的研究需要, 基于关系数据库M S SQL Server 2000和面向对象的程序设计语言V isualBasic 6. 0 开发了通用型嵌入网络式环境监控系统软件。用户可根据实际生产需要选择适当的控制策略和控制目标, 也可调整控制参数来增减或改善执行机构的运行。植物工厂内所有控制参数和实时监测的数据和图像都可以动态地进行W EB 发布, 用户界面友好并实施各级安全自动管理。经过近两年的实际运行, 该环境监控系统软件有效地实现了人工光型密闭式植物工厂内的嵌入网络式动态环境监控和电能消耗自动计量。

【英文摘要】控制策略; 电能消耗; 环境监测; 预测控制; 嵌入式网络技术

【语种】中文

【第一作者】贺冬仙

【通讯作者】贺冬仙

【期刊名称、卷期、页码】农业工程学报, 2007, 23 (12) : 156- 160.

【论文发表时间】2007-12-07 00:00:00

【引文索引类型】EI

【引文索引号】EI

【学科分类】农业基础学科

【题目】铁皮石斛在人工光型密闭式植物工厂的适宜光照强度
【中文关键词】叶绿素含量; 可控环境; 光合速率; 多糖含量
【英文关键词】Chlorophyll, Controlled environment, Photosynthetic rate, Polysaccharide content
【中文摘要】人工光型密闭式植物工厂适于高附加值植物尤其是珍贵药用植物的大规模/低成本化生产,其环境调控对珍贵药用植物的产量和质量有重要影响。笔者研究探索在控制温度、湿度、CO2浓度和光周期的条件下,光照强度对铁皮石斛(Dendrobium officinale)组培苗生长发育的影响,以期找到铁皮石斛组培阶段在人工光可控环境下的适宜光照环境。鲜重约300 mg的铁皮石斛单腋芽作为外植体在温度24±1℃、湿度65±5%、光周期12 h/d、及光期CO2浓度800±50 μmol/mol的环境条件下,设置光照强度为37、68、92、120 μmol/(m2·s)的4组试验区,并使用容积为380 mL的方型聚碳酸酯组培容器在人工光型密闭式植物工厂中培育92d。组培容器的顶部留2个直径为10 mm的圆孔覆盖高分子透气膜用来与容器外进行气体交换。铁皮石斛组培苗的生长发育和生理活性在光照强度为68 μmol/(m2·s)时最佳,超过92 μmol/(m2·s)时呈现明显的光抑制;多糖含量随着光照强度的增强而增加,超过92 μmol/(m2·s)时呈下降趋势,但是68和92 μmol/(m2·s)光照强度试验区的多糖含量没有显著性差异。因此,铁皮石斛组培苗在人工光型密闭式植物工厂内培育的适宜光照强度为60~70 μmol/(m2·s)。
【英文摘要】Closed plant factory under artificial lighting is suitable for producing value - added plantespecially trueborn medicinal herbs in low cost and large scale, and the controlled environments are important for their yield and quality. The suitable lighting intensity with controlled temperature, humidity, CO2 concentration and photoperiod were studied for Dendrobium officinale in vitro in a closed plant factory using fluorescent lamps as the lighting source. Single D. officinale explants each with 300 mg fresh mass were planted in polycarbonate culture vessels with volume of 380 mL and filtered by twoф10 mm gas - permeable filters on the vessel tops. The four treatments with lighting intensities of 37, 68, 92, 120 μmol/(m2·s) were controlled at air temperature of 24±1℃, relative humidity of 65±5%, photoperiod of 12 h/d and CO2 concentration of 800 ±50 μmol/mol for 92 days for the D. officinale in vitro. The growth and physiological characters of D. officinale in vitro on day 92 were better in the treatment with lighting intensity of 68 μmol/(m2·s) and were shown in photoinhibition over lighting intensity of 92 μmol/(m2·s). The polysaccharide contents increased with increasing lighting intensity less than 92 μmol/(m2·s), but nosignificant differences were found between treatments with lighting intensities of 68 and 92 μmol/(m2·s).Therefore, the suitable lighting intensity for D. officinale in vitro is 60~70 μmol/(m2·s) in the closed plant factory under artificial lighting.
【语种】中文
【第一作者】鲍顺淑
【通讯作者】贺冬仙
【期刊名称、卷期、页码】中国农学通报, 2007,23(3):469-473
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【引文索引类型】其他
【引文索引号】
【学科分类】农艺学

【题目】下辽河平原降雨中氮素的动态变化
【中文关键词】降雨; 氮素; 农田生态系统; 下辽河平原
【英文关键词】precipitation; nitrogen; agroecosystem; lower reach of Liaohe River Plain
【中文摘要】为了了解降雨中氮对农田生态系统的影响,分析了2004-2006年下辽河平原连续3年定位收集的降雨观测资料与历史资料.结果表明:降雨中氮输入量季节变化显著,夏季最高,这主要与降雨量及空气中NH4 -N浓度变化有关;降雨中DON量与NO3--N含量相当,均接近24%,是雨水中氮的重要组分;与1985年相比,近3年降雨输入到该地区农田生态系统的年氮通量已有较大提高,降雨较多的2005年输入的无机氮量更是20年前的2倍以上;2004-2006年随降雨输入农田生态系统的氮平均占可利用肥料氮的28.3%,对农田生态系统有着重要影响
【英文摘要】To understand the effects of nitrogen(N) in precipitation on agroecosystems, the precipitation samples at the Shenyang Ecological Station located in lower reach of Liaohe River Plain were collected from 2004 to 2006,and their N forms and amounts were measured. The results showed that the N amount in precipitation had an obvious seasonal change, being the highest in summer due to the higher concentrations of NH4 -N in precipitation and atmosphere. The proportions of dissolved organic nitrogen(DON) and NO3--N to total nitrogen(TN) in precipitation were all about 24%,and the annual N flux imported to the agroecosystems by wet deposition was more abundant in recent three years than 20 years ago. The N amount in precipitation in 2005 was increased by one time, compared with that in 1985.On average, the N import from precipitation in 2004-2006 accounted for 28.3% of the applied

fertilizer N, suggesting that the N input from precipitation had greater effects on agroecosystem.
【语种】中文
【第一作者】宇万太
【通讯作者】马强
【期刊名称、卷期、页码】生态学杂志,2008,27(1):33-37
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【引文索引类型】其他
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【学科分类】农业基础学科

【题目】烟草生产环境监测系统的开发与应用
【中文关键词】环境监测; 紫外辐射; 日照全辐射; GSM
【英文关键词】environment monitoring ; UV radiation ; sunshine radiation ; GSM
【中文摘要】开发了一个烟草生产环境监测系统, 该系统可对烟草生产过程中环境温度、湿度、降雨量、日照全辐射和紫外辐射进行监测。系统测试的数据可通过GSM 网络传送到数据中心, 用户可通过访问数据中心服务器查询到相关的生产环境数据; 为保证数据的安全性,系统采集到的数据还被保存到SD 卡上; 可将多个系统组建成为一个监测网络, 用于对多个生产基地生产环境进行动态监测; 监测系统已经在红塔集团烟叶基地部署了20 台, 并正常运行半年; 系统的部署, 为企业原料采购提供重要的决策支持。
【英文摘要】A tobacco production environmental monitoring system has been developed to collect t he data on temperature , humidity , rainfall , solar radiation and UV radiation. The data collected is t ransmitted to t he data center server t hrough t he GSM network where users canquery data. For t he data security , all t he data are replicated and stored in a SD card in t he system. Multiple systems can be formed into a monitoring network for monitoring of some production areas. Twenty monitoring systems have been deployed in bases of Hongta TobaccoGroup , which functioned normal for half a year , providing an important support for t he Group in decision making for procurement of raw materials.
【语种】中文
【第一作者】鲁绍坤
【通讯作者】贺冬仙
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【学科分类】农业基础学科

【题目】长期定位试验下施肥对潮棕壤活性碳库及碳库管理指数的影响
【中文关键词】施肥; 易氧化碳; 溶解性有机碳; 微生物量碳; 土壤碳素有效率; 土壤碳库管理指数
【英文关键词】Fertilization; Readily oxidizable carbon; Dissolved organic carbon; Microbial biomass carbon; Available ratio of soil carbon; Soil carbon pool management index
【中文摘要】分析了长期不同施肥制度对潮棕壤活性碳库及碳库管理指数的影响。结果表明:长期施肥不同施肥制度对土壤活性碳库、碳素有效率及碳库管理指数有很大影响,长期施用有机循环肥处理,尤其是循环肥配合均衡化肥(NPK+O)施用处理的土壤有机碳、易氧化碳(ROC)、溶解性有机碳(DOC)、微生物量碳含量(MBC)、土壤碳素有效率及土壤碳库管理指数明显高于对照处理的土壤。潮棕壤活性碳库中不同形态的碳素含量大小顺序为:CROC>CMBC>CDOC,同一施肥处理水平下,不同形态碳素有效率以ACC>ABC>AAC。相关分析表明:土壤碳素有效率和碳库管理指数与土壤的化学性质尤其是土壤养分因子呈显著或极显著相关,反应了农业生产措施对土壤碳库的影响,运用土壤碳库管理指数可以很好地反映出土壤碳库的动态变化。
【英文摘要】The effect of long-term different fertilization on soil available carbon pool and carbon pool management index in aquic brown soil was discussed in the paper. The results indicated that different fertilization had great effect on soil available carbon pool and available ratio of soil carbon. Treatments of recycled manure, especially the NPK with recycled manure treatment had higher contents of soil organic carbon, readily oxidizable carbon, dissolved organic carbon, microbial biomass carbon, also had higher available ratio of soil carbon and soil carbon pool management index than CK treatment. In aquic brown soil of available carbon pool the order of different type of carbon was CROC>CMBC>CDOC. In the same treatment, the order of available ratio of soil carbon was

ACC>ABC>AAC. Correlation analysis showed that there were significant or extremely significant relationships between available ratio of soil carbon, soil carbon pool management index and chemical properties of soil, especially nutrient factors, the indexes were sensitive to agricultural measures, which indicated that it was practical to assess soil carbon pool under different management practices using carbon pool management index.
【语种】中文
【第一作者】宇万太
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【题目】下辽河平原不同水-肥条件下玉米地土壤养分收支及氮肥利用效率
【中文关键词】下辽河平原; 玉米; 长期田间试验; 降水; 施肥; 土壤养分收支; 氮肥利用效率
【英文关键词】Low Reach of Liaohe River Plain; Maize; Long-term field trial; Precipitation; Fertilization; Soil nutrient budget; Fertilizer-nitrogen use efficiency;
【中文摘要】【目的】了解下辽河平原地区施肥与水分条件对玉米地土壤中氮、磷、钾养分收支以及氮肥利用效率的影响。【方法】利用持续16年的长期田间试验结果结合气象观测资料,对不同水肥条件下玉米农田养分收支与氮肥利用效率进行研究。【结果】施肥条件差异可使玉米移出农田的养分量高出无肥处理2~3倍。水分条件对农田养分移出量的作用虽不如施肥明显,但在较好的降水条件下,即使较为理想的施肥模式,玉米地土壤中养分仍有可能出现赤字;氮肥的施用加剧了土壤磷的赤字,而氮、磷肥施用可加剧土壤钾收支赤字,有机肥的施用可以使养分收支赤字得到缓解;水分条件的改善则加速了养分收支赤字的出现,但适宜的水分供给对氮肥利用效率的提高作用显著。【结论】在下辽河平原地区,水肥条件对玉米土壤养分收支有显著影响,水分条件适宜土壤养分收支出现赤字的可能性增大,但保持农业系统养分循环再利用并根据土壤肥力适当施用化肥,既可满足作物丰产的养分需求又有利于平衡土壤养分收支,提高氮肥利用效率,减少农业对环境的影响。
【英文摘要】【Objective】The objectives of this paper are to elucidate the effects of nutrient-water on the nutrient budget of N, P, K and the fertilizer-nitrogen use efficiency in farmland soil. 【Method】 The effects were studied by the information of long-term field trial and meteorological observation data.【Result】The quantity of nutrients uptaken by maize were more significantly influenced by fertilization than precipitation, and increased by two or three times with different fertilization conditions. It was also possible that the deficit of soil nutrient appeared with proper precipitation, even under the best fertilization pattern. N fertilizer made the deficit of soil P larger; and the fertilizer of N and P made the deficit of K higher. Nutrient deficit in soil were getting smaller with manure applying. It is easy to occur to nutrients deficit with precipitation condition improving. The appropriate precipitation can improve fertilizer-nitrogen use efficiency significantly. 【Conclusion】In Low Reach of Liaohe River Plain, soil nutrient budget in maize farmland was influenced by water and fertilization conditions obviously. There was a high possibility that the nutrient deficit would appear in normal precipitation year. The use of recycled nutrients in the farming systems with appropriate amount of fertilizer applied according to the soil nutrient supplying ability could not only produce high crop yield but also balance the soil nutrient budget and improve fertilizer-nitrogen use efficiency so that there were no significant surplus of nutrients which may emit or leach out of soil into environment.
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【第一作者】马强
【通讯作者】宇万太
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【题目】土地利用方式对潮棕壤微生物群落影响研究
【中文关键词】潮棕壤; 土地利用方式; 农田生态系统; 自然生态系统; 土壤微生物; 季节变化

【英文关键词】Aquic brown earth; Land use patterns; Agroecosystem; Natural ecosystem; Soil microbe; Seasonal variation
【中文摘要】以中国科学院沈阳生态试验站的长期定位试验为平台,研究了不同土地利用方式下土壤三大类微生物细菌、放线菌、真菌和农业上常见致病菌灰霉菌、枯萎菌、镰刀菌的分布及动态变化。结果表明,在农田生态系统中,施肥特别是氮磷钾配施循环猪圈肥能够提高土壤微生物总量,施用氮磷钾和氮磷钾配施循环猪圈肥均提高了细菌和放线菌数量,但化肥配施有机肥降低了真菌数量;不同土地利用方式下微生物分布存在差异,有机物料归还量较大的荒地和林地微生物数量较高,每年移出地表植物的割草处理略低,而裸地处理最低,细菌和放线菌分布规律一致,均为:荒地>林地>割草>裸地,真菌分布略有差别,为:荒地>割草>林地>裸地,土壤微生物含量和比例可大致反映土地利用类型;不同生态系统中,灰霉菌、枯萎菌、镰刀菌的分布不同,农田生态系统中的致病菌数量普遍高于自然生态系统,尤其是枯萎菌,仅在农田生态系统中检测到;微生物数量随着季节的变化而变化,随着温度的升高有增加的趋势,在七月左右达到最大值。
【英文摘要】Through a consecutive 15 years field trial on the aquic brown soil in Shenyang suburb of Northeast China, in this paper, the seasonal variations in the number of bacteria, actinomyces, fungi, botrytis cinerea, fusarium oxysporum f.sp and fusarium in the soils of agroecosystems and natural ecosystems were studied. The results indicated that fertilization enhanced the amount of soil microbe in agroecosystems, especially bacteria and actinomyces, NPK and application with NPK and recycled manure enhanced the amount of bacteria and actinomyces while application with NPK and recycled manure decreased the amount of fungi; microbial allocation differed under different land use patterns in natural ecosystems, the microbial numbers of the waste land and the forest land are higher, the mowing land is lower, and the bared land is the lowest; bacteria allocation is accorded to actinomyces: waste land > forest land > mowing land > bared land,fungi allocation is: waste land > mowing land > forest land > bared land, soil microbial amounts and ratio could reflect land use pattern roughly; the allocation of botrytis cinerea, fusarium oxysporum f.sp and fusarium is different under different ecosystems, they are higher in natural ecosystem than in agroecosystem, fusarium oxysporum f.sp exists only in agroecosystem; the amount of microbes increased with temperature, it got the highest pot in July.
【语种】中文
【第一作者】毕明丽
【通讯作者】宇万太
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【题目】Effects of land use patterns on soil aggregate stability in Sichuan Basin, China
【中文关键词】无
【英文关键词】aggregate size distribution; soil aggregate stability; fractal dimension; land use pattern; purple soil; Sichuan Basin; China
【中文摘要】无
【英文摘要】Soil aggregate stability as a key indicator of soil structure, is a product of interactions between soil environment, management practices, and land use patterns. The objective of this study was to analyze the impact of various land use patterns on soil aggregate stability in Sichuan Basin of Southwestern China. The dry- and water-stable aggregate size distributions were determined by manual dry sieving procedure and Yoder's wet sieving procedure, respectively, while microaggregates and its mechanical and chemical stabilities by Kachisky's method, oscillator method, and citrate-dithionate (C-D) reagent method, separately. The results indicated that fractal dimension and surface fractal dimension were useful indicators to reflect soil aggregate distribution. Land use patterns have an obvious influence on soil aggregate stability. In the study area, water stability, mechanical stability, and chemical stability followed the sequence, Barren land > forestland > orchard > cropland, and the original stability and collapse velocity were sensitive to soil properties and soil structure. The difference of aggregate stability under different land use patterns is mainly due to the intensity of human disturbance and cultivation. Improper land use patterns will lead to breakdown of unstable aggregates, producing finer and more-easily transportable particles and microaggregates. In the future, inappropriate cultivation and land use patterns should be changed to protect soil structure, to improve soil aggregate stability and soil fertility in Sichuan Basin. (c) 2008 Chinese Society of Particuology and Institute of Process Engineering, Chinese Academy of Sciences. Published by Elsevier B.V. All rights reserved.
【语种】英文
【第一作者】张贞
【通讯作者】魏朝富

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【题目】稳定同位素15N在农业研究中的应用
【中文关键词】稳定性核素15N; 氮肥; 氮素转化; 农业环境保护
【英文关键词】stable isotope 15N; N fertilizer; N cycling; agricultural environment protection
【中文摘要】稳定性核素示踪是现代农业研究中一门新兴技术。稳定性核素^15N作为一种有效手段在农业施肥研究、氮素循环研究中发挥着极为重要的作用。本文介绍了15N的相关概念,列举了20世纪80年代以来15N在氮肥研究、氮素转化研究以及农业环境保护中的应用进展,阐明了应用15N的新技术已解决的问题,以及将要解决的问题,并展望了性核素示踪技术的应用前景。
【英文摘要】Stable nuclide tracer is a new method in modern agricultural research, and it also plays a very important role in the research of nitrogen fertilizer and nitrogen cycling. In this paper, the concept related to 15N application were introduced and interpreted, and the studies on N fertilizer research, N cycling and agricultural environment protection since 1980 were reviewed in detail. The problems, those ^15N technique has been resolved and will be resolved, were presented.
【语种】中文
【第一作者】周桦
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【学科分类】农业基础学科

【题目】光谱数据变换对玉米氮素含量反演精度的影响
【中文关键词】叶片光谱反射率;数据变换;氮素;反演精度
【英文关键词】leaf spectral reflectance;data transformation;nitrogen;retrieval precision
【中文摘要】通过对玉米叶片光谱数据进行6种变换,分析了变换后的光谱值与叶片氮素含量的相关关系,探讨了550nm和680nm两波段处不同形式光谱变量对氮素含量反演的精度。结果表明,微分处理(D(R)、D(Log(R))和D(N(R)))显著改变了氮素含量与光谱值的相关性,归一化(N(R))次之,对数处理几乎无变化(R与Log(R),N(R) 与Log(N(R)))。不同的变换形式之间,与氮素含量相关性高的,则所建立的回归模型的决定系数也高,模型的精度也较高。在波段550nm和680nm波段处,光谱数据的归一化对数处理(Log(N(R)))能显著提高回归模型对氮素含量的反演精度。
【英文摘要】It was analyzed that correlation between the transformed spectrum value and leaf nitrogen content, further more it was researched that retrieval precision for the nitrogen content with different form spectrum variables in 550nm and 680nm wave band by carrying on 6 kind of transformations to the corn leaf spectrum data. The results showed that differential form(D(R),D(Log(R))and D(N(R))) could significantly change the correlation between the nitrogen content and the spectrum value, and the normalized form(N(R))was next and the last was logarithm form(R and Log(R), N(R)and Log(N(R))). In addition, determined coefficient of regression model was larger and the model precision was higher correspondingly with better correlation between different form spectrum variables and nitrogen content. In this study, the normalized logarithm form(Log(N(R))) parameter of spectrum data could significantly improve the precision of regression model for retrieval nitrogen content in 550nm and 680nm wave band.
【语种】中文
【第一作者】王磊
【通讯作者】王磊
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【学科分类】农业基础学科

【题目】基于光谱分析的玉米氮素营养诊断
【中文关键词】玉米;氮素营养;光谱特征参量;诊断模型
【英文关键词】Corn, N nutrition, Spectral characteristic parameters, Diagnosis model
【中文摘要】利用光谱技术实时、快速、无损监测作物氮素营养状况是现代农业的研究热点之一。本研究的目的是基于池栽试验的系统观测资料,寻求基于叶片水平的玉米氮素营养光谱诊断模型。本试验根据玉米氮素营养的生理特点,在关键生育期有针对性的选择第6片完全展开叶和第12片完全展开叶(果穗叶)进行光谱监测。结果表明:被考察的19个光谱特征参量中,红边斜率(Dr)、绿峰最大反射率(Rg)、比值植被指数(RNIR/Red)和归一化差值植被指数(R(NIR-Red)/(NIR+Red))与叶片氮含量均存在较好的相关关系。考虑到诊断模型的简单实用性,选择RNIR/Red与叶片氮含量建立估测模型;根据RNIR/Red在玉米生育前期和后期与不同叶片氮含量的相关性,确立在玉米生育前期以第6片完全展开叶为诊断对象,在生育后期以第12片完全展开叶(果穗叶)为诊断对象;经过回归分析和验证, RNIR/Red与叶片氮含量建立的对数模型和指数模型分别在生育前期和生育后期具有较高的可靠性和稳定性,确立玉米生育前期以对数模型,生育后期以指数模型为氮素营养的光谱诊断模型。该结果为研发低成本便携式作物氮素营养光谱诊断仪具有实际意义。
【英文摘要】It is one of modern agriculture research focuses which real-time, fast, nondestructively monitoring crops nitrogen nutrition condition by using the spectrum technology. Its research goal was that spectrum diagnosis models were constructed on the leaf blade level for corn nitrogen nutrition on the base of the whole pooled experimental data. In this study, according to the physiological characteristics of corn (Zea mays L.) nitrogen nutrition, the 6th and 12th (fruit leaf) full-expanded leaf were acted as observed object using the spectrum technology at key growth stages. Results showed that as follows: among 19 spectrum characteristic parameters, better correlation between the red-edge slope (Dr), green summit maximum reflectance (Rg), ratio vegetation index (RNIR/Red), normal differential vegetation index (R(NIR-Red)/(NIR+Red)) and leaf nitrogen content was expressive, respectively. In view of simpleness and practicality of diagnosis models, ratio vegetation index (RNIR/Red) was chosen to acted as spectrum variable and with leaf N content together, spectrum models for corn N nutrition diagnosis were constructed. Based it on that correlation relationship between RNIR/Red and different leaf N content was higher in the 6th leaf than in the 12th leaf at early growth stage, and higher in the 12th leaf than in the 6th leaf at late growth stage, so it was made it certain that the 6th full-expanded leaf was acted as object for nutritional diagnosis at early growth stage and the 12th full-expanded leaf was acted as object for nutritional diagnosis at late growth stage. Passed through regression analysis and validation, logarithmic model and exponential model with variables RNIR/Red and leaf N content had high reliability and stability, respectively at early growth stage and at late growth stage. So those models with variables RNIR/Red and leaf N content were regarded as diagnosis models for corn nitrogen nutrition at different growth stage. The results were provided with practical significance for researching and exploiting low cost and portable crop nitrogen nutrition diagnosis instrument.
【语种】中文
【第一作者】王磊
【通讯作者】王磊
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【题目】长期施肥对潮棕壤无机磷形态的影响
【中文关键词】潮棕壤; 长期定位施肥; 化肥; 循环猪圈肥; 无机磷; 有效磷
【英文关键词】Aquic brown-soil; Long-term fertilization; Chemical fertilizer; Circulated pig manure; Inorganic phosphorus; Available phosphorus
【中文摘要】为提高磷肥利用效率、维持并提高土壤供磷力,在潮棕壤上进行了15年的定位施肥试验,试验处理涵盖了中国典型的8种施肥模式:不施肥(CK)、施循环猪圈肥(M)、单施氮肥(N)、施氮肥+循环猪圈肥(N+M)、施氮磷肥(NP)、施氮磷肥+循环猪圈肥(NP+M)、施氮磷钾肥(NPK)、施氮磷钾肥+循环猪圈肥(NPK+M),对不同施肥模式下耕层(0~20cm)土壤无机磷进行了分级测定。研究表明:有效或缓效态无机磷(Ca2-P、Ca8-P、Al-P、Fe-P)含量在无化学磷肥直接投入的情况下均有不同幅度的下降,导致土壤无机磷库亏损;在有化学磷肥直接投入的情况下这些形态的无机磷不但能满足当季作物需求还有盈余,且以NP+M处理盈余最多,丰富了土壤无机磷库。各处理O-P、Ca10-P形态的无机磷均有所增加,且其中部分可由盈余的有效磷素缓慢转化而来。循环猪圈肥(M)的施用能减缓各形态无机磷含量的下降;氮肥和钾肥均能极大促进

植物对磷素的吸收,加速土壤磷库亏损。NP+M施肥模式最有利于短期提高土壤供磷力,促进土壤供磷力发展。本研究还发现,有效或缓效态无机磷(Ca2-P、Ca8-P、Al-P、Fe8P)与有效磷相关性很好,这进一步完善了土壤供磷力的指标体系。

【英文摘要】In order to enhance the utilization ratio of P fertilizer and to improve supply capacity of soil phosphorus, a 15-year trial of 8 classical modes of fertilization, CK (non-fertilization), M (circulated pig manure fertilization), N (nitrogen fertilization), N + M, NP (nitrogen and phosphorus fertilization), NP + M, NPK (nitrogen, phosphorus and potassium fertilization) and NPK + M, was conducted in aquic brown-soils. Inorganic phosphorus (P~) content in 0 - 20 cm soil layer was then investigated. The results show rapid or slow decreases in soil available Pi (Ca2-P, Ca8 -P, Al-P and Fe-P) under no chemical phosphorus fertilization, resulting in soil P~ pool deficit. It is, however, the contrary under chemical phosphorus fertilization, especially for NP + M treatment. This is because chemical phosphorus fertilizer not only meet plant growth requirement, but also enriches soil Pi pool. In the short-run, NP + M treatment has the most favorable conditions for improving supply capacity of soil phosphorus. Though O-P and Ca10 -P are not available to plants, they both increase yearly, part of them are from the transformation of excess Pi (Ca2-P, Ca8 -P, Al-P or Fe-P). Circulated pig manure slows down reduction of the different forms of Pi, while nitrogen and potassium fertilizers accelerate plant absorption of phosphorus, leading to soil phosphorus pool deficit. The relationship between available phosphorus and Ca2-P, Ca8-P, Al-P, Fe-P is significant, providing more indexes for soil phosphorus supply capacity evaluation.

【语种】中文

【第一作者】丁怀香

【通讯作者】宇万太

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【引文索引类型】其他

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【学科分类】土壤学

【题目】不同施肥制度对肥料利用率的影响

【中文关键词】N肥; P肥; K肥; 肥料利用率

【英文关键词】N fertilizer; P fertilizer; K fertilizer; Fertilizer utilization efficiency

【中文摘要】通过17年的长期定位肥料试验,研究了不同施肥制度对肥料利用率的影响,以期为合理施肥提供理论依据。结果表明:N、P、K肥的当季利用率随施肥不同差异较大,施用有机肥的处理作物对N、P、K的利用率高于单施化肥的处理。P肥累积利用率在各个处理中均有明显的增加,表现出极好的残效;除单施N肥处理外,其他处理的N肥累计利用率均呈增加趋势;K肥的累计利用率在施用有机肥的处理上表现出明显的增加趋势,其他处理不明显。

【英文摘要】Based on a consecutive 17 years field trial, this paper was to explore the effects of different fertilization systems on the fertilizer utilization efficiency, in order to give guidance for application of fertilizers. The result indicated that there were differences in annual fertilizer utilization efficiency with different fertilization. Annual N、 P and K fertilizer utilization efficiency were higher with manure than those without manure. There was a significant increase on accumulated P fertilizer utilization efficiency in each treatment, and there was a significant increase in accumulated N fertilizer utilization efficiency in each treatment, expect for treatment of N fertilizer application. There was a significant increase on accumulated K fertilizer utilization efficiency with manure application, and no difference in other treatments.

【语种】中文

【第一作者】宇万太

【通讯作者】宇万太

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【引文索引号】

【学科分类】农业基础学科

【题目】农田生态系统微量元素循环研究进展

【中文关键词】微量元素; 养分循环; 农田生态系统

【英文关键词】Trace elements; Nutrients cycling; Agroecosystems

【中文摘要】微量元素含量很低,但对生物却有着重要的生物学效应,因而微量元素研究的重要性也逐渐被人们所认同,许多人对土壤中微量元素的形态、有效性进行了研究。从农田生态系统中微量元素的含量、影响循环效率的因素及前人研究概况等方面对农田生态系统微量元素循环方面的研究进行了综述,同时指出了未来的研究方向。

【英文摘要】Though low in content, trace elements have an important biological effect on organisms, so more and more people realize the importance of study on trace elements. Forms and the validity of the trace elements in soil had been researched. The content of trace elements in agroecosystems, factors that affect the ratio of cycling and the general situation about the cycling of trace elements in agroecosystems were reviewed. The prospects on the cycling of trace elements in agroecosystems were also put forward.

【语种】中文

【第一作者】朱先进

【通讯作者】宇万太

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【引文索引号】

【学科分类】农业基础学科

【题目】不同水肥条件对大豆产量的影响

【中文关键词】长期肥料试验; 大豆产量; 水肥交互作用; 降雨

【英文关键词】Long-term fertilization experiment; Soybean yield; Water-nutrient interaction; Precipitation

【中文摘要】以沈阳生态试验站一组持续17年的长期定位试验为平台,研究了不同降水年景作物对施肥的增产反应,估算了下辽河平原地区水肥交互作用对大豆产量的影响。结果表明,该地区大豆蒸散耗水与其生育期内降水之间关系密切,且不同的施肥处理对大豆消耗水分量影响不大;肥料对产量的影响大于水分的影响,钾肥的施用提高了大豆抗旱能力,随着水分条件的改善磷肥增产作用提高,而水分过多会对大豆造成毒害作用。该地区平、丰水年份磷、钾肥交互作用以叠加效应为主,平水年份各处理大豆产量均达到最高,水肥交互作用对大豆增产贡献亦达到最大。

【英文摘要】The response of increase of soybean yield to fertilization was investigated based on a long-term experiment in 17 successive years.The effect of water-nutrient interaction on soybean yield was estimated in different precipitation years.The results showed that there was significant correlation between soybean evapotranspiration and the precipitation in the growing period,and the water consumption of soybean was similar under different fertilization treatments.The soybean yield was strongly affected by fertilizer supply.The drought resistance of soybean was enhanced by application of potassium(K) fertilizer.The increment of yield induced by phosphorus(P) fertilizer was improved in moderate water condition.However,excessive water supply might reduce the soybean yield.Accumulation effect of P and K on soybean yield was shown in normal and higher precipitation years.The soybean yield reached the maximum,and the effect of water-nutrient interaction on soybean yield was the most significant with appropriate water supply(normal precipitation).

【语种】中文

【第一作者】马强

【通讯作者】宇万太

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【学科分类】农业基础学科

【题目】农田生态系统微生物多样性研究方法及应用

【中文关键词】微生物多样性; 研究方法; 分子生物学; 农田生态系统

【英文关键词】Microbial diversity; Research method; Molecular biology; Agro-ecosystem

【中文摘要】微生物在农田生态系统中占据着很重要的作用,其结构和功能的多样性及变化在一定程度上反映了农田生态系统的基本状态,因此非常有必要应用有效的方法来研究农田微生物的多样性、分布及行为等。但是通过传统的微生物培养和鉴定方法得到的微生物信息很片面,不足以代表微生物在农田生态系统中的真实情况。而近几十年来兴起的微生物研究新方法突破了传统方法的限制,极大地促进了微生物学的发展。本文介绍了现在常用的微生物多样性研究方法及其在农田生态系统中的应用现状。

【英文摘要】Microorganism plays a key role in agro-ecosystem,and microbial diversity of structure and function,to a certain extent,reflects the status of agro-ecosystem.It is very important to investigate microbiological diversity,distribution and action with,effective technology.It is unilateral to study microorganism with traditional cultural method,which could not reflect microbial true situation in agro-ecosystem.The improvement of new microbial technology breaks the limitation of traditional cultural method and promotes the development of microbiology.This paper gave a review on the main microbial methods and application in agro-ecosystem.
【语种】中文
【第一作者】毕明丽
【通讯作者】宇万太
【期刊名称、卷期、页码】土壤通报,2009,40(6):1460-1466
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【学科分类】农业基础学科

【题目】区域土地利用变化驱动力研究前景展望
【中文关键词】土地利用变化;区域尺度;驱动力;驱动机制;过程模拟
【英文关键词】Land use change; Regional scale; Drivers; Driving mechanism; Process simulation.;
【中文摘要】区域土地利用变化驱动力研究旨在从典型区域角度揭示土地利用变化背后的真正动因及其作用机理,进而动态模拟、预测区域土地利用变化过程。土地利用系统的自组织性及其内驱动因子作用的复杂性,决定了其研究必须与某一特定区域相联系,以便确定合适的可定量指标来体现外生驱动因子的驱动效果。系统地识别土地利用系统在不同控制状态下的驱动因子及其多种时空尺度效应,建立具有综合模拟的区域土地利用变化动态模型,能减少土地利用系统通常受临界域和突变所左右的局面。区域土地利用变化驱动因子识别、区域土地利用变化驱动机制分析、区域土地利用变化驱动过程模拟到呢个的研究现状表明,为更好地理解区域土地利用变化的机制和原因,测度现有及未来土地利用变化的速率、过程和地点,支持政府相关决策的制定与实施,促使区域土地利用变化向有利于人类的方向发展。区域土地利用变化驱动力分析应优先考虑的研究领域:(1)驱动力因子识别及其作用效应的尺度依赖性;(2)驱动力因子的贡献量化及其在具体区域的非均一分布;(3)驱动力因子作用过程的自然反馈机制模型化。
【英文摘要】This paper reviews the research on the drivers of regional land use change. The study of regional land use change drivers is to reveal the realmotivation behind the land use change and its inter acting mechanism in the aspect of the typical region, so as to simulate and predict the process of land use change. Presently, studies rooting from different natural and socioeconomic backgrounds, and from different scales, have deepened the under-standing and cognition of regional land use change driving forces. In order to confirm the fit quantifiable index to embody the driving effect of outer driving factor, the study in the future need to be related with a special region determined by the self-organization of land use system and the complexity of its inner driving forces function. To comprehensively identify the driving factor of land use system under the control of different states and its multiple spatial temporal scales domino effect and to establish the regional land use change dynamic models of comprehensive simulation, will reduce the situation of land use system impacted by critical threshold and break. Providing a scientific understanding of the causes and process of regional land use change, the measurements of how, why and where 'of current or future changes in regional land use, the impacts of different land use decisions, and the ways that decisions are affected by a changing environment and increasing ecological variability are priority areas for research: (1) identification of divers of regional land use change and scale dependency of their effects; (2) contribution quantification of drivers of regional land use change and their non-uniform distributions in specific region; and (3) incorporation of biophysical feedbacks in land use change models. These issues are very basic. The incorporation of dynamic feedbacks between changing regional land use and changing environmental conditions and vice versa, therefore needs to focus on solving these problems. These findings will be useful to supply fine ground and knowledge for establishing appropriate land use practices, and be important policy implications for the promotion of environmentally and economically sound land use.
【语种】中文
【第一作者】邵景安
【通讯作者】魏朝富
【期刊名称、卷期、页码】地球科学进展, 2007, 22(8): 789-809
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【学科分类】土壤学

【题目】重庆岩溶区土壤有机碳库的估算及其空间分布特征
【中文关键词】土壤有机碳密度;有机碳储量;有机碳丰度指数;重庆岩溶区
【英文关键词】soil organic density; soil organic carbon storage; the index of soil organic abundance; Chongqing karst area
【中文摘要】基于重庆市第二次土壤普查和2007年测土配方施肥的1412个土壤剖面数据,结合重庆岩溶区土壤图、土地利用现状图和行政区划图,在地理信息系统技术的支持下,对重庆岩溶区土壤有机碳密度及储量进行了估算,同时引入有机碳丰度指数这一指标,对有机碳在不同土壤和不同景观中的分布特征进行了分析。结果表明:重庆岩溶区20cm和100cm深度的土壤有机碳储量分别为1. 43×1011kg和3. 29×1011kg。不同土地利用方式下重庆岩溶区土壤有机碳密度分布不均匀,20cm深度的土壤有机碳密度介于1. 26~7. 20kgm- 2之间,100cm深度的土壤有机碳密度介于1. 43~25. 72kgm- 2之间。重庆岩溶区土壤有机碳库在不同土壤和不同景观中的分布具有高度的空间变异性, 20cm深度的土壤和景观有机碳丰度指数分别在0. 73~1. 74和0. 39~1. 20之间,100cm深度的土壤和景观有机碳丰度指数分别在0. 32~3. 00和0. 46~1. 70之间。与全国的平均水平相比,单位面积上20cm深度土壤有机碳储量重庆岩溶区高于全国的平均水平,但单位面积上100cm深度土壤有机碳储量重庆岩溶区低于全国的平均水平,总体而言,重庆岩溶区是土壤有机碳储量相对贫乏的区域
【英文摘要】The estimation of soil organic carbon storage is very important to the research of carbon cycle. The soil organic carbon density and storage of Chongqing karst area was estimated, using the data of 1412 soil profile from the second soil survey of China and formulating fertilization for soil conditions in2007. Integrating the soil map, land use status quo map and district map of Chongqing karst area, the index of soil organic abundance were introduced and the characteristic of soil organic distribution indifferent soil and land scapes were analyzed. Results showed: the storage of soil organic carbon of Chongqing karst area to the depths of 20 cm and 100 cm were 1.43×1011kg and 3.29×1011kg, respectively. Carbon density of 20 cm soil was 1. 26-7. 20 kg m-2 , and carbon density of 100 cm soil was 1. 43-25.72 kg m-2. The amount of soil organic carbon varied significantly at different soils and landscapes, the index of soil organic abundance of soils and landscapes at 20cm depth ranged from 0.73-1.74 and 0.39-1.20, and that at 100 cm depth changed between 0. 32-3.00 and 0. 46-1.70, respectively. The soil organic carbon storage of unit area at 20 cm depth was above the average level of China, but that at 100 cm depth was below the average level of China in Chongqing karst area. In a word, the soil organic carbon storage was relatively indigent in Chongqing karst area.
【语种】中文
【第一作者】倪九派
【通讯作者】倪九派
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【学科分类】土壤学

【题目】不同氮营养冬小麦冠层光谱红边特征分析
【中文关键词】冬小麦;冠层;氮水平;红边参数
【英文关键词】Winter wheat; canopy; nitrogen level; red edge parameters
【中文摘要】利用光谱仪测定了不同氮素处理冬小麦冠层光谱,分析其红边特征变化规律及其与农学成分的相关关系。结果表明,波长550nm,680nm,980nm,1100nm,350-680nm,750-1100nm可作为氮素营养诊断的敏感特征点与波段范围。随着施氮量的提高,拔节期、抽穗期以及灌浆期的红边位置、红谷位置与光谱反射率一阶微分极大值均增大,红边宽度则有减小的趋势。总体上看,施氮与无氮处理在整个生育期均存在较大差异,施氮处理之间差异较小。冠层反射光谱的红边位置、红谷位置随生育期向长波方向移动,呈现“红移”现象;从抽穗期开始逐渐减小,呈现“蓝移”现象。冬小麦红边参数中红边位置与农学组分之间的相关性优于其他参数,除与地上部生物量正相关显著外,与叶面积指数、叶含水率、叶绿素含量、叶可溶性蛋白含量、叶鲜重、叶含氮量均呈正相关且达到极显著水平。红谷位置则与叶面积指数、叶含水率、叶绿素含量、叶鲜重以及@B)G 值呈极显著正相关,与可溶性蛋白呈显著正相关。红边宽度与叶面积指数、叶含水率、叶氮含量、叶绿素含量以及叶鲜重均呈极显著正相关,与可溶性蛋白含量呈显著正相关。反射率一阶导数极大值与叶面积指数、叶含水率、叶鲜重呈极显著正相关,与叶含氮量极显著负相关。通过红边参数与农学组分稳定良好的数学关系,可以对农学组分进行预测估算。

【英文摘要】The spectrometer measured at different Nitrogen for Winter Wheat Canopy spectral analysis of the variation of red edge characteristics and agronomic composition relationship. The results show that the wavelength of 550nm, 680nm, 980nm, 1100nm,350-680nm,750-1100nm can be used as Nitrogen Nutrition Diagnosis sensitive feature points and the wavelength range. With the amount of nitrogen increases, the red edge position of the jointing, heading and filling stage, the great value of the first derivative of the position and spectral reflectance in the Red Valley are increased, the width of the red edge tends to decrease. Overall, nitrogen and nitrogen processing in the whole growth period there is a big difference, small difference between the N treatment. The red edge position of the canopy reflectance spectra, with the growth period, the Red Valley location to move to longer wavelengths, showing the "red shift" phenomenon; from heading gradually decreases, showing a "blue shift" phenomenon. Red Edge Parameters correlation between the red edge position and agricultural components is superior to other parameters, and aboveground biomass positively correlated significantly outside with the leaf area index, leaf moisture content, chlorophyll content, leaf soluble protein content leaf fresh weight, leaf nitrogen content showed a positive correlation reached a significant level. Red Valley location with the leaf area index, leaf moisture content, chlorophyll content, leaf fresh weightAnd @ B) G values were highly significant positive correlation with the soluble protein was significantly positively correlated. The red edge width and leaf area index, leaf moisture, leaf nitrogen content, chlorophyll content and leaf fresh weight showed a very significant positive correlation with the soluble protein content was significantly positively related. Maxima of the first derivative reflectance and leaf area index, leaf moisture, leaf fresh weight was highly significant positive correlation was significantly negatively correlated with leaf nitrogen content. The mathematical relationship of the red edge parameters and agricultural components, the forecast estimates on the agriculture component.

【语种】中文

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【学科分类】农业基础学科

【题目】基于SPAD-502 与GreenSeeker 的冬小麦氮营养诊断研究

【中文关键词】冬小麦 氮 营养诊断 SPAD-502 GreenSeeker

【英文关键词】Winter wheat, Nitrogen, Nutrition diagnosis, SPAD-502, GreenSeeker

【中文摘要】用GreenSeeker 和SPAD-502 测定了不同氮素处理的冬小麦冠层NDVI 与叶片SPAD 值, 分析了它们与叶片全氮、叶绿素含量及产量间的关系。结果表明: 冬小麦抽穗期SPAD 值和NDVI 值均与叶绿素含量呈极显著正相关; 除抽穗期和返青期外, SPAD 值与叶氮含量、叶绿素含量的相关系数在其余各生育期均达到显著或极显著水平; NDVI 值与叶氮含量、叶绿素含量在拔节期、乳熟期的相关性同SPAD 值一致; SPAD 值可以进行叶绿素的诊断, NDVI 值可以进行氮的诊断。氮营养诊断时期应该选择拔节期。通过回归建立了基于SPAD值、NDVI 值的产量估测模型, 可以通过SPAD 值、NDVI 值对冬小麦产量进行估算。

【英文摘要】Leaf SPAD and canopy NDVI of winter wheat under different nitrogen treatments were analyzed using GreenSeeker and SPAD-502 with the aim of building a quick, timely and accurate method for diagnosing nitrogen nutrition. The results show significant positive correlations among leaf SPAD, canopy NDVI and chlorophyll content. Correlation coefficients for leaf SPAD and leaf N and chlorophyll content are significant, except during heading and reviving stages. Correlations for canopy NDVI with leaf N and chlorophyll content at jointing and milking stages are similar to that for leaf SPAD. While SPAD can be used to evaluate chlorophyllcontent, NDVI can be used to assess nitrogen content. The recommended period for diagnosing nitrogen status is jointing stage. Using SPAD and NDVI, a linear regression model is developed for assessing yield of winter wheat.

【语种】中文

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【学科分类】农业基础学科

【题目】Effect of tillage system on distribution of aggregates and organic carbon in a Hydragric Anthrosol
【中文关键词】无
【英文关键词】aggregates; Hydragric Anthrosol; organic carbon; tillage system
【中文摘要】无
【英文摘要】The effect of different tillage systems on the size distribution of aggregates and organic carbon distribution and storage in different size aggregates in a Hydragric Anthrosol were studied in a long-term experiment in Chongqing, China. The experiment included three tillage treatments: conventional tillage with rotation of rice and winter fallow (CT-r) system, no-till and ridge culture with rotation of rice and rape (RT-rr) system, and conventional tillage with rotation of rice and rape (CT-rr) system. The results showed that the aggregates 0.02-0.25 turn in diameter accounted for the largest portion in cacti soil layer under all treatments. Compared with the CT-r system, in the 0-10 cm layer, the amount of aggregates > 0.02 turn was larger under the RT-rr system, but smaller under the CT-rr system. In tire 0-20 cm layer, the organic carbon content of all fractions of aggregates was the highest under the RT-rr system and lowest under the CT-rr system. The total organic carbon content showed a positive linear relationship with the amount of aggregates with diameter ranging from 0.25 to 2 mm. The storage of organic carbon in all fractions of aggregates under the RT-rr system was higher than that under the CT-r system in the 0-20 cm layer, but in the 0-60 cut soil layer, there was no distinct difference. Under the CT-rr system, the storage of organic carbon in all fractions of aggregates was lower than that under the CT-r system; most of the newly lost organic carbon was front the aggregates 0.002-0.02 and 0.02-0.25 mm in diameter.
【语种】英文
【第一作者】高明
【通讯作者】高明
【期刊名称、卷期、页码】Pedosphere, 2008, 18(5): 574-581
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【引文索引号】000259219500004
【学科分类】土壤学

【题目】Soil Aggregation and Its Relationship with Organic Carbon of Purple Soils in
【中文关键词】无
【英文关键词】aggregation of soil primary particle, soil structure, soil organic carbon, aggregate size distribution, complexing of organo-mineral, purple soil
【中文摘要】无
【英文摘要】The interaction of soil aggregate dynamics with soil organic carbon is complex with varied spatio-temporal processes in macro-and micro-aggregates. This paper is to determine the aggregation of soil aggregates in purple soils (Regosols in FAO Taxonomy or Entisols in USDA Taxonomy) for four types of land use, cropland [corn (Zea mays L.)], orchard (citrus), forestland (bamboo or cypress), and barren land (wild grass), and to explore their relationship with soil organic carbon in the Sichuan basin of southwestern China. Procedures and methods, including manual dry sieving procedure, Yoder's wet sieving procedure, pyrophosphates solution method, and Kachisky method, are used to acquire dry, wet, and chemically stable aggregates, and microaggregates. Light and heavy fractions of soil organic carbon were separated using 2.0 g mL -1 HgI 2 -KI mixed solution. The loosely, stably, and tightly combined organic carbon in heavy fraction were separated by extraction with 0.1 M NaOH and 0.1 M NaOH-0.1M Na4P2O7 mixed solution (pH 13). The results show that the contents of dry and wet macroaggregates > 0.25 mm in diameter were 974.1 and 900.0 g kg-1 highest in red brown purple soils under forestland, while 889.6 and 350.6 g kg-1 lowest in dark purple soil and lowest in grey brown purple soils under cropland, respectively. The chemical stability of macroaggregates was lowest in grey brown purple soil with 8.47% under cropland, and highest in red brown purple soil with 69.34% under barren land. The content of microaggregates in dark purple soils was 587 g kg -1 higher than brown purple soils, while 655 g kg -1 in red brown purple soils was similar to grey brown purple soils (651 g kg -1). Cropland conditions, only 38.4% of organic carbon was of the combined form, and 61.6% of that existed in light fraction. Forestland conditions, 90.7% of organic carbon in red brown purple soil was complexed with minerals as a form of humic substances. The contents and stability of wet aggregates > 0.25 mm, contents and stability of chemically stable aggregates > 0.25 mm, contents of microaggregates > 0.01 mm, contents of aggregated primary particle (d < 0.01 mm) and degree of primary particles (d < 0.01 mm) aggregation were closely related to the concentrations of total soil organic carbon, and loosely and tightly combined organic carbon in heavy fraction. Soil microaggregation could be associated with organic carbon concentration and its combined forms in heavy fraction.

There was a direct relationship between microaggregation and macroaggregation of soil primary particles, because the contents of wet aggregates > 0.25 mm and its water stability of aggregates were highly correlated with the contents of aggregated primary particle (d < 0.01 mm) and the degree of primary particles (d < 0.01 mm) aggregation.
【语种】英文
【第一作者】魏朝富
【通讯作者】魏朝富
【期刊名称、卷期、页码】Agricultural Sciences in China, 2008, 7(8): 987-998
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【学科分类】土壤学

【题目】农业活动对景观格局的影响
【中文关键词】景观格局; 人为干扰; 放牧; 植树造林; 农作物种植; 土地整理
【英文关键词】Landscape pattern, Human disturbance, Grazing, Afforesting, Cropping, Land consolidation and rehabilitation
【中文摘要】景观格局是自然和人类共同作用的结果, 并随着经济发展和人口增长, 农业活动在景观格局中起着愈来愈大的作用。放牧过程导致土壤退化和生物群落的不稳定, 间歇式放牧会提高物种丰富度, 促进生态系统的进化; 植树造林不但有利于生态恢复和重建, 而且对经济建设有巨大作用, 更是保护生物多样性的手段; 农作物种植包括物理干扰和化学干扰过程, 改变了微生物的活性, 同时对土壤性质产生影响; 土地整理是人为的、强制性、时效性强的一种干扰, 能在短期内对生态系统及景观格局产生剧烈影响, 通过调整景观结构、改善景观破碎化, 改变农业土地利用结构, 使得社会效益、生态效益和环境效益均有所增加。
【英文摘要】Landscape pattern is acted on natural and human disturbance. With economic development and increasing population, agriculture practice have played a very important role in society. Grazing results in soil degradation and instability of biology community. The rotation grazing enhances the species abundance and advance ecosystem evolvement. Afforesting is propitious to ecological environment renew and reconstruction, favor in economy, and even to be a method of protecting ecological diversity. The disturbances of cropping are divided into physical and chemical perturbation processing, which accelerate microbial character, and influence the soil properties. Land consolidation and rehabilitation is the strongest perturbation in all kinds of human disturbances, and make the benefit of social, ecological and environmental incremental by adjusting landscape structure, meliorating fragmentation of landscape, increasing the area of the farmland, and changing the structure of agricultural land- use.
【语种】中文
【第一作者】亢远飞
【通讯作者】魏朝富
【期刊名称、卷期、页码】中国农学通报, 2007, 23(8): 413-419
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【学科分类】土壤学

【题目】长期定位施肥对土壤养分与作物产量的影响
【中文关键词】长期定位试验; 有机肥; 化肥; 土壤养分; 作物产量
【英文关键词】long-term located experiment; organic manure; chemical fertilizer; soil nutrient; crop yield
【中文摘要】【目的】研究探讨长期施用有机肥、化肥、有机无机结合等不同施肥条件下的作物增产效果与土壤养分演变规律【方法】以在山东禹城连续22年的长期施肥定位试验为依据,对历年土壤养分和作物产量测试结果进行系统总结试验采用冬小麦一夏玉米一年二熟栽培制度,分别设置①无肥对照,②常量有机肥无机肥配施,③常量有机肥,④常量化肥,⑤高量有机肥,⑥高量化肥,共6个施肥处理【结果】在作物产量方面,试验之初的8-10年间表现为化肥对冬小麦的增产作用优于有机肥,而在夏玉米上则表现出相反结果,有机无机结合处理大部分年份作物产量处于较高水平;随着试验时间的延长,各施肥处理产量逐渐趋于一致;22年间土壤有机质含量始终表现出随有机肥施用量的增加而增高,且有逐年增长之趋势;化肥在提高土壤有机质、全氮等营养方面受生物产量和根茬残留量影响而与施肥量无明显关系,增施化肥可以迅速提高速效养分含量,并在一定水平上保持相对稳定【结论】长期施用有机肥与化肥均表现出持续提高作物产量的良好作用,且二者效果不相上下,常规栽培条件下,当产量提高到一定水平后,继续高量施肥无助于作物产量的提高;有机肥与化肥均表现出持续提

高土壤有机碳、氮含量之作用,有机肥效果明显优于化肥,且表现出随有机肥用量的增加而增加而继续提高化肥施用量无助于土壤有机碳、有机氮的积累;一向被认为钾素含量的黄淮海平原土壤在连续施用氮磷化肥5-8年左右作物即表现明显缺钾现象,由此揭示出高产条件下氮磷钾平衡施肥的重要作用;在对提高土壤速效养分效果方面的差异表现在,化肥可以迅速提高速效养分含量并在这一水平上保持相对稳定,而有机肥则具有持续提高土壤速效养分含量的作用。

【英文摘要】[Objective] To evaluate the effect of organic manure and fertilizers long term located application on soil nutrients and crop yield. [Method] The results of crop yields and soil nutrients were measured and collected based on a 22-year long-term located application of organic manure and fertilizers experiment in Yucheng city of Shandong Province chemical fertilizers on winter wheat yield was better than organic manure during the first 8-10 years, [Result] The effect of chemical fertilizers on winter wheat yield was better than organic manure during the first 8-10 years, but the reverse result was observed in summer maize yield. The combined effect of chemical fertilizers with organic manure on wheat and maize yields was very obvious. However, with prolonged application, the yields of each treatment, no matter with organic manure or chemical fertilizer or combined, turned out similar. Soil organic matter content increased with time and application level of organic manure during the 22 years. Soil organic matter and total nitrogen contents were found unrelated to the application rate of chemical fertilizers in this long term experiment. Increased application of chemical fertilizer could enhance soil available nutrient contents and at the same time be kept relatively stable to some extent. [Conclusion] The effect of chemical fertilizer on winter wheat yield was better than organic manure during the first 10 years, however, a reverse result was observed in summer maize yield, and after that the crop yields of all treatments were found similar. Therefore, increased application of fertilizer did not improve the crop yield. The effect of organic manure on soil organic C and N content increase was much better than chemical fertilizer, and the soil organic C and N content increased with the application rate of organic manure. Soil organic C and N content could not be improved by application increase of chemical fertilizer. With prolonged application, organic manure could improve soil available nutrients content continually, and its effect was found much obvious than that of chemical fertilizer.

【语种】中文

【第一作者】林治安

【通讯作者】赵秉强

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【学科分类】农学其他学科

【题目】生物降解塑料研究进展及性能

【中文关键词】生物降解; 塑料; 研究进展; 评价标准

【英文关键词】biodegradable; plastics; research progress; evaluation standards

【中文摘要】综述了近年来降解高分子材料的进展情况,重点介绍了生物降解材料的近况,以及一些具备生物降解性能的材料的合成、改性新方法文章同时详述了国家标准中规范的检测生物降解塑料性能的方法,包括塑料力学性能评价和降解性能评价,同时列举塑料降解性能的表征方法最后,文章对可降解材料的现状提出了问题,并做了展望。

【英文摘要】The research progress of degradable plastics is reviewed with focuses on the development in biodegradable polymers, and some new synthesis and modification methods are summarized. The specifications of national standards for properties testing of degradable plastics are listed in detail, including evaluation of mechanical properties and degradation. including evaluation of mechanical properties and degradation properties. Characterization methods for degradable plastics are also described. Finally, the existed problems and development prospects in degradable materials are discussed.

【语种】中文

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【学科分类】农学其他学科

【题目】生物肥料对油菜的促生及菌核病防治的研究
【中文关键词】生物肥料; 油菜; 促生; 防治
【英文关键词】Bio-fertilizer; 0ilseed rape; Promoting growth; Prevention
【中文摘要】盆栽试验证明,施用枯草芽抱杆菌Tu-100制作的生物肥料,油菜5叶期,植株干重比对照增加1. 80%,叶绿素含量增加17.15 %;油菜根际的好气性细菌总数比对照有一定的提高,产量比对照增加7.90%。田间小区试验表明,施用生物肥料的处理在油菜5叶期,植株干重比对照增加3. 88%叶绿素含量增加3.67%,植株全磷和全钾的含量也有不同程度的增加,产量增加4.90%;此生物肥料对油菜菌核病菌核的萌发有一定的抑制作用。
【英文摘要】Bacillus subtilis Tu-100 was applied in bio-fertilizer to promote oilseed rape growth and resistance to Sclerotinia sclerotiorum. After application of the bio-fertilizer in pots, plant dry weight increased 1.80% with chlorophyll content increased 17.15% at the 5-leaf stage, and the total aerobic bacteria of rhizo sphere was also above that of the control The treatment of bio-fertilizer led to 7.90% increase of yield in pots Field experiments of bio-fertilizer treatment showed that plant dry weight increased 3.88%, chlorophyll content 3.67%, and the total plants phosphorus and potassium increased at 5-leaf stage. The plant yield increased 4.90%. The bio-fertilizer also showed its inhibitory effect on sclerotinia germination of Sclerotinia sclerotiorum.
【语种】中文
【第一作者】胡小加
【通讯作者】廖星
【期刊名称、卷期、页码】中国油料作物学报,2009,31(4):540-543
【论文发表时间】2009-12-01 00:00:00
【引文索引类型】其他
【引文索引号】-
【学科分类】农学其他学科

【题目】施用液体肥料对冬瓜产量和品质的影响
【中文关键词】冬瓜: 液体肥料; 产量; 品质
【英文关键词】Wax Gourd; fluid fertilizer; yield; quality
【中文摘要】田间试验研究冬瓜使用液体肥料(20-7-18)的效果,结果显示:使用不同用量的液体肥料冬瓜产量与等氮磷钾比例的固体混合肥处理(每667m2施氮量为18kg)比较,产量著提高,相对增产率达10.46%~22.11%,每667m2液体肥料用量为60L(每667m2施氮量为12kg)时,增产效果最好,比固体混合肥处节省氮磷钾用33.3%
【英文摘要】The field experiments of different fluid fertilizers (20-7-18) application were conducted to study the yield and quality of wax gourd. The results showed that the fluid fertilizer treatment improved yields by 10.46%-22.11 % compared with solid mixed fertilizer treatment (15-15-15,net N content 18 kg per 667 m2)The 60 L per 667 m2 fluid fertilizer (net N content 12 kg per 667 m2) get the best yield increase effect and save 33.3% nitrogen, phosphorus and potassium amounts compared to solid mixed fertilizer treatment.
【语种】中文
【第一作者】杨少海
【通讯作者】杨少海
【期刊名称、卷期、页码】广东农业科学,2009(11):65-66
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【引文索引类型】其他
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【学科分类】农学其他学科

【题目】增值尿素对氨挥发和土壤脲酶活性的影响
【中文关键词】增值尿素; 土壤培养; 氨挥发; 脲酶活性
【英文关键词】Value-added urea; Soil incubation; Ammonia volatilization; Soil urease activity
【中文摘要】通过向普通尿素中添加不同类型有机物料增值剂,利用熔融造粒工艺研制出不同类型的增值尿素新产品,在25°C、土壤培养条件下与普通尿素比较,研究了不同类型增值尿素的氨挥发、土壤脲酶活性及二者之间的关系。结果表明,培养4周后,与普通尿素(U)相比,增值尿素品种F-5和H-5的氨挥发累积量分别减少了15.2%和13.3%,其中前者推迟了氨挥发高峰出现的时间,两者显著降低了氨挥发的峰值,且在整个培养期表现出了较好的稳定性。F-5和H-5品种在施肥后的前1周都显著降低了土壤脲酶活性,延缓了尿素态氮在土壤中的转化进程。与普通尿素相比,F类和H类增值尿素在减少氨挥发损失和抑制脲酶活性方面表现效果良好。

【英文摘要】Soil incubation under 25°C was applied to study the ammonia volatilization and soil urease activity of normal urea and value-added urea which was manufactured by melted urea with different organic synergists.The results showed that the value-added urea F-5 and H-5 decreased the accumulation of ammonia volatilization by 15.2% and 13.3% compared to the normal urea.The peak of ammonia volatilization was deferred by the treatment F-5 and the peak value was brought down by the two treatments whose variation curves were relatively stable.The treatment F-5 and H-5 could inhibit the soil urease activity and prolong the release time of urea.Compared with normal urea,the effects of F and H value-added urea on the ammonia volatilization reduction and the soil urease activity inhibition were significant.
【语种】中文
【第一作者】殷文鹏
【通讯作者】李絮花
【期刊名称、卷期、页码】山东农业科学,2010,(6):60-62,71
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【学科分类】农学其他学科

【题目】熔体造粒法生产尿基复合(混)肥工艺技术的比较
【中文关键词】熔体造粒; 尿基复合(混)肥; 工艺技术比较
【英文关键词】melt granulation method; urea-based compound fertilizer; comparison of technology
【中文摘要】对我国开发应用的塔式造粒、冷冻结晶造粒、油冷造粒、钢带冷却造粒等熔体法生产尿基复合(混)肥造粒工艺技术特点进行了比较,为国内各复合(混)肥厂家新建生产装置或技术改造提供参考。
【英文摘要】The granulation characteristics of urea-based compound fertilizer technologies developed and applied in China are compared, such as tower, freezing crystallization, oil cooler and steel-belt-cooling etc., as a reference for new-built production devices or technical transformation of compound fertilizer manufacturers in China.
【语种】中文
【第一作者】石学勇
【通讯作者】石学勇
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【学科分类】农学其他学科

【题目】AZF工艺水热平衡分析
【中文关键词】AZF工艺; 水平衡; 热平衡; 工艺计算
【英文关键词】AZF process; water balance; heat balance; process calculation
【中文摘要】由于AZF复合肥生产工艺(管式反应器喷浆造粒工艺)的产业链短,所用原料价格居高不下,成本高,使得该类工艺的装置开车率较低。为配合AZF工艺装置的技改,对AZF工艺全系统及造粒、干燥、洗涤等关键部分进行了水、热平衡的计算分析,为技改提供一条可行的分析思路和方法。
【英文摘要】With the short industrial chain of AZF process for compound fertilizer production, the high price of raw materials results in a high production cost, even a low operating rate of AZF plants. The calculation and analysis on the water and heat balances of the whole process and key sections such as granulator dryer, and scrubber are described to provide a feasible idea and way for technology transformation.
【语种】中文
【第一作者】马凯
【通讯作者】马凯
【期刊名称、卷期、页码】磷肥与复肥,2009,24(3):41-44
【论文发表时间】2009-05-01 00:00:00
【引文索引类型】其他

【引文索引号】-
【学科分类】农学其他学科

【题目】全熔融低塔风冷结晶造粒技术及应用
【中文关键词】尿基复合(混)肥; 低塔风冷结晶造粒;工艺特点
【英文关键词】urea-based compound fertilizer; crystallization granulation with air cooling in lower grilling
【中文摘要】简述全烙融低塔风冷结品造粒技术生产尿基复合(混)肥工艺的原理、流程、特点以及应用与推广情况,为国内各复合(混)肥厂家新建生产装置或技术改造提供参考。
【英文摘要】The principle, process, technological characteristics, application and extension are described of the melt crystallization granulation with air cooling in lower grilling tower and for urea-based compound fertilizer production, which takes a reference for new-built or improved plant at home and abroad.
【语种】中文
【第一作者】张兵印
【通讯作者】张兵印
【期刊名称、卷期、页码】磷肥与复肥,2009,24(3):51-53
【论文发表时间】2009-05-01 00:00:00
【引文索引类型】其他
【引文索引号】-
【学科分类】产品应用专用性技术

【题目】硝酸磷肥生产除钙过程中钾携带问题研究
【中文关键词】硝酸磷肥; 除钙; 钾携带
【英文关键词】nitric phosphate; decalcium; potassium carrying
【中文摘要】硝酸磷肥生产中采用硫酸钾除钙离子,可以生产氮磷钾三元复合肥,但是在生成石膏沉淀的过程中会有少量硫酸钾与硫酸钙生成复盐形式析出。研究了沉淀温度、浓度、硫酸钾加入量、硫酸钾加入方式等因素对钾携带的影响。当采用56%稀硝酸分解磷矿粉所得的酸解液加入400g硫酸钾/L水的悬浮液,沉淀温度100℃,钾石膏沉淀中的钾含量低于0.5%,总带出量小于1%,钾石膏生成量较大,钙离子沉淀完全。
【英文摘要】NPK compound fertilizer was produced by adding potassium sulphate to decomposite slurry product of nitric phosphorite, but a small quantity of potassium sulphate was lost by coprecipitating with precipitaed gypsum phase. The effects of precipitating temperature, concentration, quantity of potassium sulphate addition and state of added potassium sulphate on potassium carrying was studied. When nitric acid(56% mass fraction) decomposing phosphorite, the optimum reaction conditions were obtained: materialmass ratio m(K2SO4)in (H20) was 0.4:1, precitating temperature was 100°C,and K2O content in gypsum was under 0.5%, potassium loss was under 1%, and calcium was precipitated completed.
【语种】中文
【第一作者】马凯
【通讯作者】马凯
【期刊名称、卷期、页码】应用化工,2009,38(7):1084-1086
【论文发表时间】2009-07-01 00:00:00
【引文索引类型】其他
【引文索引号】-
【学科分类】化学其他学科

【题目】传统复合肥装置转产颗粒钾小试验研究
【中文关键词】颗粒钾肥; BB肥; 黏结剂; 滚筒造粒
【英文关键词】granular potash fertilizer; BB fertilizer; binding agent; rotary drum granulator
【中文摘要】小试验研究了传统的AZF工艺复合肥装置通过加入四组不同的黏结剂和水,并采用滚筒造粒法生产颗粒钾肥。结果表明,方案可行,且尿甲醛是比较好的黏薪结剂,另外磷石膏作为黏结剂生产颗粒钾肥也可以获得废物利用和减少环境污染的效果。
【英文摘要】A small-scale test is carried out to study the production of a granular potash fertilizer in the conventional compound fertilizer unit based on the AZF process with the addition of four series of different binding agents and water and the use of a rotary

drum granulator. The results show that the scheme is feasible, urea-form aldehyde is a good binding agent, and the use of phosphogypsum as the binding agent to produce granular potash fertilizer is away to utilize a waste product, abating environmental pollution.
【语种】中文
【第一作者】马凯
【通讯作者】马凯
【期刊名称、卷期、页码】化肥工业,2009,36(4):35-38
【论文发表时间】2009-08-01 00:00:00
【引文索引类型】其他
【引文索引号】-
【学科分类】农业工程

【题目】湿法磷酸净化生产工业磷酸一铵研究
【中文关键词】湿法磷酸净化; 工业磷酸铵; 肥料磷酸铵
【英文关键词】wet process phosphoric acid purification; industrial monoammonium phosphate; fertilizer grade monoammonium phosphate
【中文摘要】磷酸铵用作灭火剂、阻燃剂等工业领域需要有较高的纯度。传统的湿法磷酸氨化法生产的磷酸铵杂质含量高,主要用作农业肥料,无法作为工业品使用。工业用磷酸铵一般采用热法磷酸来生产,成本高、污染重。研究了将湿法磷酸净化来生产工业用磷酸铵的方法,同时副产肥料级磷酸铵。研究结果表明,该方法可以生产磷(以五氧化二磷计)质量分数在59%以上的工业用磷酸铵,磷(以五氧化二磷计)收率在70%以上,副产的肥料级磷酸铵有效磷(以五氧化二磷计)质量分数在30%~40%,有效磷收率为15%~20%。
【英文摘要】Monoammonium phosphate(MAP) used as fire extinguishing agent and anti combustion additive etc requires a higher purity MAP produced by traditional wet process phosphoric acid(WPA) amination method is mainly applied in agriculture fertilizers and can not be used as industrial product because of high content of impurities. Industrial is usually produced from thermal phosphoric acid, however, the cost is high and the pollution is severe. The method that through purification of WPA to produce MAP and by producing fertilizer grade MAP at the same tine was studied. Results showed that the industrial MAP prepared by this method with mass fraction of phosphorus(as P2O5) was more than of 59% and absorption ratio of phosphorus(as P2O5) was above 70%; mass fraction of available phosphorus(as P2O5) by produced fertilizer grade MAP was 30%-40% and absorption ratio of available phosphorus was 15%-20%.
【语种】中文
【第一作者】马凯
【通讯作者】马凯
【期刊名称、卷期、页码】无机盐工业,2009,41(10):45-46
【论文发表时间】2009-10-01 00:00:00
【引文索引类型】其他
【引文索引号】-
【学科分类】应用化学

【题目】块状磷矿石硝酸溶浸试验研究
【中文关键词】块状磷矿石; 硝酸; 浸取
【英文关键词】massive phosphorite ore; nitric acid; leaching
【中文摘要】采用硝酸自接分解浸取块状磷矿石,磷浸出效果较好。在矿石粒度3.5~5mm,硝酸浓度为20%~60%,浸出时间1~2h、微沸条件下,高、中、低三种品位磷矿石的浸出率均在95%以上。
【英文摘要】Direct leaching of massive phosphorite ore with nitric acid, and the leaching efficiency of phosphor was good. Under the following conditions as massive phosphorite ore diameter 3.5-5 mm, nitric acid concentration 20%-60%, leaching time 1-2 hours and slightly boiling, the leaching ratio of high, middle and low grade phosporite ore reached more than 95%.
【语种】中文
【第一作者】马凯
【通讯作者】马凯

【期刊名称、卷期、页码】矿产保护与利用,2010,(1):30-32
【论文发表时间】2010-02-01 00:00:00
【引文索引类型】其他
【引文索引号】-
【学科分类】应用化学

【题目】全熔融新型塔式风冷造粒工艺生产尿基复合(混)肥技术及应用
【中文关键词】尿基复合(混)肥; 全熔融塔式风冷造拉; 应用
【英文关键词】urea-based compound fertilizers; air-cooled prilling of liquid melt in tower; application
【中文摘要】对全熔融新型塔式风冷造粗法生产尿基复合(混)肥工艺的原理、流程、特点以及实际应用、推广情况进行了分析和总结。为国内各复合(混)肥厂家新建生产装呈或技术改造提供参考。
【英文摘要】An analysis and a sum-up are given of the compound fertilizers场air-cooled prilling of liquid melt in technology for the production of urea-based the new-type tower, its process principle, flow sheet, characteristics compound fertilizer plants actual application, and popularization, for the reference by all domestic in building new production units or urea-based compound fertilizers air-cooled technological transformation.
【语种】中文
【第一作者】石学勇
【通讯作者】石学勇
【期刊名称、卷期、页码】化肥工业,2010,37(2):36-39
【论文发表时间】2010-04-01 00:00:00
【引文索引类型】其他
【引文索引号】-
【学科分类】工业工程学

【题目】含氯钾肥的低温脱氯试验研究
【中文关键词】氯化钾; 低温脱氯; 研究
【英文关键词】potassium chloride; low-temperature dechlorination; study
【中文摘要】比较了曼海姆法和硫酸氢钾法的优缺点,选择了反应条件进行研究,即浓硫酸与氯化钾的投料摩尔比0.5-1.0,反应温度取160-300℃。试验结果表明:当浓硫酸与氯化钾摩尔配比为0.6、0.7和0.8,反应温度为160-300℃,反应时间2-6h,总氯根脱除率都能达到96.5%以上,大部分试验样的第2步反应氯根脱除率可达92.0%以上,反应条件均比较温和,在工业生产上更易于实现。
【英文摘要】The merits and demerits of the Mannheim process are compared with those of the potassium bisulfate process, and reaction conditions are chosen for carrying out the study,viz., the feed mole ratio of concentrated sulfuric acid and potassium chloride at 0.5-1.0 and the reaction temperature at 160-300°C. The test results show that when the mole ratio is 0.6, 0.7 and 0.8,the reaction temperature is 160-300°C, and the reaction time is 2-6h, then over 96.5% of the total chloride is removed, over 92.0% of the second-step reaction chloride in most test samples is removed, the reaction conditions are rather mild, and this is easy to be realized in industrial production.
【语种】中文
【第一作者】马凯
【通讯作者】马凯
【期刊名称、卷期、页码】化肥工业,2010,37(2):27-28
【论文发表时间】2010-04-01 00:00:00
【引文索引类型】其他
【引文索引号】无
【学科分类】应用化学

【题目】有机复合肥养分高效优化技术研究
【中文关键词】有机无机复合肥; 有机肥资源; 养分协同优化技术
【英文关键词】organic-inorganic compound fertilizer; organic fertilizer resource; optimization technology of cooperative nutrients

【中文摘要】介绍了全国及北京、湖南、陕西、广东、河南、吉林、山东、重庆的有机肥料资源及利用情况;有机肥料企业、有机无机复合(混)肥料行业的概况;有机无机复合(混)优化配方、技术开发;我国发展有机肥有机无机肥存在的问题及发展前景。
【英文摘要】The resources and utilization of organic fertilizer in China, Beijing, Hunan, Shaanxi, Guangdong, Henan, Jilin, Shandong and Chongqing are introduced. The organic fertilizer enterprises, the general situation of organic-inorganic compound fertilizer industry, the optimized formulation and technology development of organic-inorganic compound fertilizer, the existing problems and development prospects of organic fertilizer and organic-inorganic compound fertilizer are also described.
【语种】中文
【第一作者】赵秉强
【通讯作者】赵秉强
【期刊名称、卷期、页码】磷肥与复肥,2008,23(5):39-42
【论文发表时间】2008-09-01 00:00:00
【引文索引类型】其他
【引文索引号】-
【学科分类】农学其他学科

【题目】中国肥料产业未来发展道路-提高肥料利用率减少肥料用量
【中文关键词】我国肥料产业; 发展适路; 提高肥料利用率; 减少肥料用量; 腐植酸
【英文关键词】China's fertilizer industry; developing route; increasing fertilizer use efficiency; decreasing fertilizer consumption; humic acid(HA)
【中文摘要】探讨我国肥料产业的发展战略。提出肥料产业实施"质量替代数量"推动产业技术升级的发展适路,多方位论述肥料改性增效的措施,以提高肥料利用率。分析我国腐植酸的资源特点,综合评述了腐植酸在调控肥效以及提高肥料养分利用率的作用原理;展望了腐植酸在促进我国肥料产业技术升级中的重要作川和地位。
【英文摘要】The development strategy of fertilizer industry in China is discussed, and the view"improving fertilizer quality instead of increasing quantity" is considered as the developing route for the technological progress of fertilizer industry in China. The modification and synergism measures of fertilizer are discussed from multi-direction so as to improve the fertilizer use efficiency. Types, resources and properties of humic acid(HA) in China are analyzed, and the mechanisms of HA in improving fertilizer nutrients use efficiency(NUE) are reviewed. The importance and significance of HA in promoting fertilizer technology upgrade in China are perceived and prospected.
【语种】中文
【第一作者】赵秉强
【通讯作者】赵秉强
【期刊名称、卷期、页码】磷肥与复肥,2008,23(6):1-4
【论文发表时间】2008-11-01 00:00:00
【引文索引类型】其他
【引文索引号】-
【学科分类】农学其他学科

【题目】腐植酸尿素氨挥发特性及影响因素研究
【中文关键词】熔融造粒; 腐植酸尿素; 氨挥发; 脲酶活性; 溶出率; 铵态氮
【英文关键词】melting granulating; humic acid urea; ammonia volatilization; urease activity; leaching rate; NH4+-N
【中文摘要】采用室内模拟,研究了腐植酸尿索在土壤培养条件下其氨挥发特性及其与土壤脲酶活性、氮溶出率以及土壤铵态氮、硝态氮含量变化的关系。结果表明,研制的4种腐植酸尿索氨挥发量分别比普通尿素降低了48.14%、47.99%、30.89%、59.22%,其中水溶性腐植酸含量11.78%的腐植酸尿素降低最多。腐植酸尿素降低氨挥发量与其养分释放模式和形成的土壤环境密切相关。土壤氨挥发总量与脲酶活性在培养前期相关系数较高,培养48和96h分别达到0.825和0.808;土壤氨挥发总量与肥料累积溶出量相关系数为0.903,培养前期土壤氨挥发量与铵态氮含量相关系数达到0.869。
【英文摘要】Behaviors of humic acid compound urea in soil were studied under laboratory conditions. Results show that compare with common urea,the total ammonia volatilization from four humic acid compound urea fertilizers were decreased by 48.14%, 47.99%, 30.89 % and 59.22%, among them the compound urea with water soluble humic acid content being 11.78% decreased most The ammonia volatilization reduction of humic acid urea correlated significantly with its nutrient-release mode and soil ambient. The

total ammonia volatilization correlated significantly with soil urease activity during initial period of incubation, the correlation coefficient between total ammonia volatilization and soil urease activity was 0.825 and 0.808 for the fertilizer incubated for 48 hours and 96 hours,respectively. The correlation coefficient between total ammonia volatilization and N leaching rate was 0.903. The correlation coefficient between total ammonia volatilization and content of NH4+-N was 0.869 at the initial stage of incubation.

【语种】中文
【第一作者】刘增兵
【通讯作者】赵秉强
【期刊名称、卷期、页码】植物营养与肥料学报, 2010,16(1):208-213
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【学科分类】农学其他学科

【题目】熔融造粒腐植酸尿素的缓释性能研究
【中文关键词】熔融造粒; 腐植酸; 尿素; 缓释性
【英文关键词】melting granulating; humic acid; urea; slow-release property
【中文摘要】用碱处理风化煤得到水溶性腐植酸和沉淀混合物以及未处理的风化煤细粉(80目)分别与熔融尿素混合造粒,制得3种类型的腐植酸尿素产品,并利用土柱淋洗方法研究不同腐植酸尿素产品的缓释性能。结果表明,除添加10%的未处理风化煤处理外,其余腐植酸尿素产品与普通尿素相比,均表现出具有氮缓释性能。其中,以添加水溶性腐植酸的产品缓释性最强,且当水溶性腐植酸与尿素比例为3∶7时,肥料的缓释效率最高。在本试验条件下,风化煤类腐植酸熔融造粒工艺下制成腐植酸复合尿素的缓释性能,与添加腐植酸的数量呈正相关;水溶性腐植酸添加比例与腐植酸复合尿素缓释性能相关性较低。3种类型的腐植酸复合尿素,以添加水溶性腐植酸的肥料质量最稳定。对风化煤进行活化后提取水溶性腐植酸,适量添加到熔融尿素中进行造粒,可生产出具有较好缓释性能的腐植酸尿素产品。
【英文摘要】Weathering coal was treated with alkaline to get water soluble humic acid and deposition.Weathering coal,humic acid and deposition were compounded with melted urea respectively to produce the three kinds of compound ureas.Slow release properties of the ureas were studied by using the nitrogen soil leaching method.The results show that nitrogen release capacities of all compound ureas are slow except for the urea of adding 10 percent weathering coal,and the release capacity of urea of adding humic acid is lowest.The slow release efficiency of the compound urea of adding 30 percent humic acid is the highest.The slow release capability of weathering coal are different among three kinds of compound ureas,and there is a positive correlation between the slow release capability and the adding amount of humic acid.However,there is poor correlation between the slow release capacity and humic acid adding percent.The compound urea of adding water soluble humic acid has stable quality as a fertilizer.To use water soluble humic acid extracted from weathering coal,and introduce a suitable proportion of the acid and urea could produce humic acid compound urea with a better slow release property.
【语种】中文
【第一作者】刘增兵
【通讯作者】赵秉强
【期刊名称、卷期、页码】植物营养与肥料学报, 2009,15(6):1444-1449
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【学科分类】农学其他学科

【题目】长期定位施肥对盐化潮土土壤腐殖质组分的影响
【中文关键词】长期施肥; 腐殖质; 胡敏酸; 富里酸
【英文关键词】Long-term fertilization; Humus; Humic; Fulvic acid
【中文摘要】本文以中国农业科学院禹城试验站轻壤质盐化潮上(黄河冲积平原土壤)的20年肥料长期定位试验为平台,系统研究了长期施用无机肥、有机肥及有机无机配施对土壤腐殖质形态和组分的影响。结果表明:长期施用有机肥不仅能显著或极显著提高土壤有机碳、腐殖质及胡敏酸、富里酸的含量,而且能提高HA/FA比值,促进土壤有机碳活化与更新,改善腐殖质的品质,而且其含量随有机肥用量的增加而提高;长期施用化肥虽然也能在一定程度上提高土壤有机碳、胡敏酸等的含量,但其含量基本不受化肥用量增加的影响。在等氮量的条件下,长期有机无机肥配施比常量有机肥处理更能提高耕

层上壤HA/FA。
【英文摘要】The experiment was designed to evaluate the influence o long-term located fertilization for 20 years on humus form and composition in light-loamy salinized fluvo-aquic soil(the Alluvial soils by the Yellow River). The results showed that long-term application of organic manure could increase the contents of organic carbon, humus humic acid and fu1vic acid and the ratio of Humic acid-Fulvic acid(HA /FA) remarkab1ely, promote the activation and renewal of organic carbon in soi1 and improve the quality of soil humus and the humus content increased with the use level of organic manure. Although chemical fertilizer had the similar effects on the contents of humus and its composition to same extent, their contents were not influenced by the amount of chemical fertilizer. At the same amount of nitrogens combined application of organic and inorganic fertilizers increased HA/FA in arable layer more than constant organic fertilizer.
【语种】中文
【第一作者】王薇
【通讯作者】李絮花
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【学科分类】土壤学

【题目】有机无机肥料长期配施对作物产量及氮素吸收利用的影响
【中文关键词】长期施肥; 有机无机肥料配施; 作物产量;氮素吸收利用
【英文关键词】Long-term fertilization; Combined application of organic and inorganic fertilizers; Crop yield; Nitrogen uptake
【中文摘要】以中国农业科学院禹城试验站轻壤质盐化潮土(黄河冲积平原土壤)20年肥料长期定位试验为平台,系统研究了有机无机肥料长期配施对作物产量及氮素吸收利用的影响。结果表明:在等氮量条件下,长期施用常量无机肥虽然小麦和玉米秸秆的含氮量较高,但向籽粒氮转移量和生理效率却较低;长期施用常量有机肥小麦和玉米生理效率较高,而含氮量和氮转移量却较低;只有常量有机无机肥料配施才能逐步提高小麦和玉米产量、经济系数、含氮量、氮素转移量和生理效率。
【英文摘要】Based on the 20 year fertilization experiment in light-loamy salinized fluvo-soil(alluvial soil by the Yellow River) in Yucheng experiment station of Chinese Acadamy of Agricultural Science, the research system atically studied the effects of long-term combined application of organic and inorganic fertilizers on crop yield and nitrogen uptake. The results were as follows. At the same amount of nitrogen in the treatment of long-term fertilization of normal inorganic fertilizer, the nitrogen content in wheat and maize stalk was higher but the nitrogen quantity transported to grain and its physiological efficiency was lower. In the treatment of long-teen fertilization of organic manure the nitrogen physiological efficiency in wheat and maize was higher while the nitrogen content and nitrogen transfer amount were lower. Only long-term combined application of organic and inorganic fertilizers had increased the grain yield, economic coefficient, nitrogen contents, nitrogen transfer amount and its physiological efficiency.
【语种】中文
【第一作者】晁赢
【通讯作者】李絮花
【期刊名称、卷期、页码】山东农业科学,2009,(3):71-75
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【学科分类】农学其他学科

【题目】山东省施肥演变与现状分析
【中文关键词】山东省; 施肥演变; 有机肥料; 施肥结构; 施肥量; 边际产量
【英文关键词】Shandong province; evolution of fertilization; organic fertilizer; fertilization structure; fertilization quantity; marginal yield
【中文摘要】采用统计资料和农户调查相结合的方法,对山东省历年养分投入的数量、结构、比例以及平衡状况进行系统地分析。结果表明,山东省有机肥料投入严重不足,粮食作物的边际产量急剧下降,化肥养分利用效率相对较低,氮磷钾比例的失调仍然存在。增加有机肥料投入,提高化肥的利用效率,减少化肥的浪费和对环境的污染是今后全省施肥工作的重点

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【英文摘要】On the basis of the statistical data and peasants household investigation, the fertilization status including nutrients quantity, fertilization structure, proportion and balance in recent years in Shandong province is systematically analyzed. It shows that there are series of problems on fertilization such as seriously deficient input of organic fertilizers, sharply descended marginal yield, lower fertilizer efficiency and relatively unreasonable NPK proportion. In the future, increasing organic fertilizer input, raising fertilizer efficiency reducing wastes and decreasing environmental pollution should be the focuses of fertilization in Shandong province.
【语种】中文
【第一作者】冀建华
【通讯作者】李絮花
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【学科分类】农学其他学科

【题目】长期施肥下灰漠土矿物颗粒结合有机碳的含量及其演变特征
【中文关键词】长期施肥; 灰漠土; 矿物颗粒; 结合有机碳; 演变特征
【英文关键词】long-tem fertilization; gray desert soil; organic carbon associated with particle-size fractions; evolution characteristics
【中文摘要】采用物理分组方法分析了长期(1990~2007年)不同施肥条件下灰漠土各粒径矿物颗粒结合有机碳含量和分布差异及其随施肥时间的演变特征,结果表明:与不施肥相比,配施有机肥对增加各有机碳组分的效果最显著,并以砂粒有机碳含量的增速(0134g · kg-1 · a-1)最高,对施肥最敏感;撂荒地可以显著增加不同豁粉粒结合有机碳含量;秸秆还田仅能维持各级矿物颗粒结合有机碳的含量;长期施用化肥不利于各级颗粒结合有机碳含量的增加。从分配比例来看,以粗粉粒(27119%)和粗黏粒(2711%)有机碳所占比例最高,是固持有机碳的重要组分;配施有机肥使砂粒有机碳比例显著提高11914%,细粉粒和粗黏粒有机碳比例却分别降低了4013%和3719%,从而提高了颗粒有机碳含量(WPOC)与矿物结合有机碳含量(WMOC)的比值,改良了土壤有机碳性质。长期配施有机肥是增加灰漠土各级矿物颗粒结合有机碳积累和提升灰漠土肥力的最佳万式。
【英文摘要】Physical fractionation technique was used to analyze the content distribution and temporal evolution of organic carbon associated with particle-size fractions of grey desert soil under 1ong-term(1990- 2007) fertilization. Compared with no fertilization, a combined application of manure and chemical fertilizers increased the organic carbon associated with particle-size fraction significantly, with the highest increment(0134 g · kg-1 · a-1) in sand Fallowing also increased the organic carbon associated with clay and silt significantly. Straw return to crop land only maintained the organic carbon content in different particle-size fractions, while long-term application of chemical fertilizers was not beneficial to the organic carbon increase in particle-size fractions. Coarse silt and coarse clay had the highest distribution rates of organic carbon(2719% and 2711%, respectively), being the important fractions in sequestrating organic carbon. When manure was applied with chemical fertilizers, the organic carbon in sand was significantly increased by 11914%, while that in fine silt and coarse clay was significantly decreased by 4013% and 3719%, respectively which resulted in the increase in the ratio of particulate organic carbon content(WPOC) to mineral-associated organic carbon content(WMOC), and improved soil carbon properly Long-tem application of manure combined with chemical fertilizers was best mode to increase the organic carbon content in particle-size fractions and improve the fertility of grey desert soil.
【语种】中文
【第一作者】刘骅
【通讯作者】徐明岗
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【学科分类】农学其他学科

【题目】长期定位施肥对灰漠土钾素形态的影响
【中文关键词】长期定位施肥; 灰漠土; 钾素形态

【英文关键词】Long-term located fertilization; grey desert soil; potassium forms
【中文摘要】灰漠土钾素含量较高,主要是以矿物钾和难交换性固定钾的形式存在,占土壤全钾的98.6%。水溶性钾和交换性钾含量较低,仅占土壤全钾的1.2%左右。土壤中各种形态钾素之间紧密相关,土壤水溶性钾、交换性钾和非特殊吸附钾与土壤速效钾之间达显著相关,是植物易吸收利用的有效性钾。特殊吸附钾与土壤速效钾之间呈负相关关系,是土壤交换性钾中植物不能直接吸收利用的钾。长期定位施肥改变了土壤钾素存在形态,配施有机肥使土壤有效性钾含量增加24%~56%,并促进土壤特殊吸附钾转化为其它形态的钾;施化肥钾使土壤水溶性钾含量平均均增加35%,提高了土壤钾素的供应水平,同时加速了土壤特殊吸附钾的积累。
【英文摘要】The content of potassium was very high in the desert soil. Mineral K and Non-exchangeable was its main form, which was 98.6% of total K. The content of water soluble K were low, 1.2% of total K. Potassium forms in the soil had close correlation. correlation. Water soluble K, exchangeable K, specific absorbed K and available K in the soil had significant correlation, and the plant was easy to make use of them. There was negative correlation between specific absorbed kand and the plant could not absorb it directly in exchangeable K of soil. The combined application of organic manure could make the content of available K in the soil increase by 24%~56%, transform specific absorbed K into other form potassium in the treatments of organic manure. The content of water soluble K in the soil increased by 35%, K supply level was improved, and specific K accumulation in the soil was increased in the treatments of potassium fertilizer.
【语种】中文
【第一作者】刘骅
【通讯作者】刘骅
【期刊名称、卷期、页码】新疆农业科学,2008,45(3):423-427
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【学科分类】土壤学

【题目】缓控释氮素肥料的研究现状与展望
【中文关键词】缓控释氮肥; 缓控材料; 缓控机理
【英文关键词】Slow/Controlled release nitrogen fertilizer; Slow/Controlled material; Slow/Controlled mechanism
【中文摘要】在前人有关缓控释肥料文献的基础上,介绍了缓控释贺肥的缓效途径和研究发展情况。重点阐述了缓控释氮肥的分类和缓控释机理。此外,对今后缓控释肥料研究发展提出了一此见解。
【英文摘要】On the base of literature about slow/controlled release fertilizer, an introduction about the approach of slow-affecting progress and present status of slow/controlled release nitrogen fertilizer was summaried. The classification and nutrient release mechanism of slow/controlled release nitrogen fertilizer was discussed and some opinions were given for the research and development of them.
【语种】中文
【第一作者】谷佳林
【通讯作者】徐秋明
【期刊名称、卷期、页码】土壤通报,2008,39(2):431-434
【论文发表时间】2008-04-01 00:00:00
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【学科分类】农学其他学科

【题目】聚合物包膜尿素氮释放特性及其对高羊茅草坪生长的影响.
【中文关键词】高羊茅; 包膜尿素; 初期溶出率; 微分溶出率; 草坪质量
【英文关键词】tall fescue; coated urea; preliminary solubility; differential solubility; turf quality
【中文摘要】通过静态水溶试验和草坪施肥试验,研究了高分子聚合物包膜尿索(PCU)的养分释放特性及春季次性施用对高羊茅草坪生长的影响。结果表明,由于肥料所处环境温度不同导致实验室静态水溶法测定PCU养分释放速度快于其在田间的实际释放速度。田间试验中一次性施用该肥料可以满足高羊茅草坪整个春季生长对氮索养分的需要;与尿素和市场上的草坪肥料相比,草坪质量无显著差异,且草坪生长速度均匀,草屑量相对较少,起到了减少草坪修剪次数降低养护强度的作用。

【英文摘要】The nitrogen release characteristic of macromolecule polymer coated urea(PCU) by laboratorymethod of water dissolve and the effects of applied PCU on tall fescue turf as basal application in spring was studied. The results showed that the rate of PCU nitrogen release by laboratory method of water dissolve is faster than the rate in the turf field because of their different circum stance temperature affect. Applying PCU once in early spring could meet nitrogen need of tall fescue growth in spring season. Compared with urea and turf special fertilizer, no significant difference was observed in turf quality. So, applied PCU play an important role in reducing turf maintenance strength through keeping even growth of turf grass and less clippings production.
【语种】中文
【第一作者】谷佳林
【通讯作者】曹兵
【期刊名称、卷期、页码】园艺学报,2009,36(3):385-390
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【学科分类】农学其他学科

【题目】分光光度法测定树脂包衣尿素溶出的研究
【中文关键词】对二甲氨基苯甲醛分光光度法; 包衣尿素溶出; 测定
【英文关键词】dimethylam ino-benzaldehyde spectrophotometry method; coated urea release rate; detection
【中文摘要】研究了对二甲氨基苯甲醛分光光度法应用于树脂包衣尿素养分溶出测定的可行性。对二甲氨基苯甲醛与尿素在酸性条件下生成黄色物质,其吸光值与尿素溶液的浓度成正比。结果表明,该方法与蒸馏后滴定法测定尿素相关性非常好,测定过程中缩二脲和硝态氮、铵态氮的干扰少。树脂包衣尿素养分溶出测定期间尿素样品分解量少,分光光度法与蒸馏后滴定法的测定结果相关性非常好。试验证明两种方法测定包衣尿素溶出均可给出满意的结果,但分光光度法更快速、简便,适用于大批量样品的测定。
【英文摘要】This article refers to dimethylam ino-benzaldehyde spectrophotometry method used in the detection of coated release rate. Dimethylam ino-benzaldehyde and urea react to form a stable yellow complex in thin hydrochloric acid solution, the color could maintain for more than 24 hours. Biuret, nitrate and amonium had little interference. During the examination of coated urea released rate, the urea sample decompose little, the results using spectrophotometry method and the digest-distill method had good correlationship. The two methods could all give out satisfied results, but spectrophobmetry method was simple and rapid in operation, and suit to mass samples.
【语种】中文
【第一作者】李亚星
【通讯作者】徐秋明
【期刊名称、卷期、页码】中国土壤与肥料,2010,(1):84-87
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【学科分类】分析化学

【题目】包膜控释肥料在旱地农田的应用研究进展与展望
【中文关键词】控释肥料; 养分释放;环境影响
【英文关键词】Upland crops; Controlled-release fertilizer; Nitrogen release; Environmental effects
【中文摘要】就国内外控释肥料在旱地农田中的应用效果、田间养分释放,以及高效施用做了综述,重点总结了控释肥料在不同作物上的增产效果和当前应用研究中存在的问题。施用控释肥料可以提高肥料利用率,减少氮素淋溶损失,并具有增加作物产量和改善蔬菜品质的优点,但控释肥料应用中也存在着养分在土壤中的转化和去向不明,养分释放与作物生长对应性差,忽视环境条件对养分释放影响等问题。并对今后高效施用控释肥的技术研究进行了展望。
【英文摘要】Recent advances of application of controlled-release fertilizer are reviewed in this article. The author summarized the agronomic effects, methods and nutrients release of controlled-release fertilizer applied in upland field, especially focused on the yield-increase and problems in application. We can conclude from many experiments mainly that the controlled-release fertilizer particularly polyolefin-coated fertilizers, showed higher nitrogen recovery rate, less nitrogen leaching, yield-increase and quality improving comparing to common readily available nitrogen fertilizers. However, there are still some problems unresolved, such as the unclear

transformation and fate of controlled-release nitrogen in the field soil, non-synchronization between controlled-release nitrogen supplying and crop uptaking, and ignoring environmental effects on nitrogen release. Future outlook in technologies related to efficient using controlled-release fertilizer is also discussed.
【语种】中文
【第一作者】杨俊刚
【通讯作者】曹兵
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【题目】不同释放期的包衣尿素在夏玉米上的应用效果研究
【中文关键词】包衣尿素; 释放期; 夏玉米; 产量; 氮肥利用率
【英文关键词】Coated Urea; Release duration; Summer Corn; Nitrogen use efficiency
【中文摘要】通过田间试验比较研究了释放期分别为35天和60天的包衣尿素(以下称PCU35和PCU60)全量基施与普通尿素分次施用对夏玉米生长、产量、氮肥利用率的影响。结果表明,包衣尿素在田间的溶出较实验室慢,包衣尿素的养分溶出过程可以用y=ax2+bx+c的双曲线方程模拟。施氮在夏玉米生长和增产方面的作用不明显,不同处理间的夏玉米株高、最大叶幅和叶片叶绿素含量差异不大。施氮处理的夏玉米产量增幅在0.91%~11%之间,氮肥利用率在11.74%~22.98%之间,PCU35处理的夏玉米产量和氮肥利用率不仅高于PCU60,而且也高于施用普通尿素的处理。综上所述,在京郊正常气候条件下,选用释放期较短(如PCU35)的包衣尿素更易满足夏玉米生长期对氮素的需求。
【英文摘要】Field experiment was conducted to investigate impacts of coated urea of different release duration (35 d and 60 d) with single basal application and urea with split application on summer corn ’s growth, yield and nitrogen use efficiency. The results showed that the nutrient release of coated urea under field condition was slower than that of laboratory method, and relative low soil water content was the main limited factor of nutrient release, the nutrient release pattern of coated urea under field condition could be simulated by the hyperbolical formula of y=ax2+bx+c. N application didn ’t markedly increase summer corn ’s growth, and the difference of plant height, maximum leaf width and chlorophyll content among treatments was not significant. N application increased summer corn ’s yield in the range of 0.91% to 11%, the corresponding figure of nitrogen use efficiency was 11.74% to 22.98%, the yield and nitrogen use efficiency of PCU35 was not only higher than those of treatment with urea, but also higher than those of PCU60. In summary, in the conventional climate of Beijing suburb, coated urea with relative short release duration (such as PCU35) could comparably match the N need of summer corn.
【语种】中文
【第一作者】曹兵
【通讯作者】曹兵
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【题目】伊犁地区土壤培肥技术
【中文关键词】新垦区; 贫瘠土壤; 培肥; 地力提升
【英文关键词】无
【中文摘要】土地资源质量的高低,最终体现在土壤的生产能力上,而生产能力的高低,主要取决于土壤不断供给植物生长所需的水-肥-气-热的能力,即土壤肥力。国内外对新垦贫瘠土壤的培肥熟化研究已较为全面,取得很多有特色的研究成果。针对伊犁河流域新垦贫瘠土壤的快速培肥,应以当地农业生产结构为指导,发展农区畜牧业,搞好农区内部农、林、牧之间的结构调整,实行农牧结合;增施有机肥料,推广秸秆还田技术,节能增效,实现粮多(草多)-畜多-肥多-粮多(草多)的良性循环;推广草田轮作、麦棉轮作和间套作栽培技术,增加黄豆、绿肥等作物茬口,满足作物吸收利用营养元素即不同而又具有互补的作用,使作物能均衡地利用土壤养分,充分发挥土壤的生产潜力;重视推广平衡施肥技术,提高化肥利用率。在采取平衡施肥、作物推荐施肥的基础上,兼顾"种养结合、农牧结合"的种植模式,达到既能快速培肥土壤,同时又能快速增产增效

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【英文摘要】无
【语种】中文
【第一作者】刘骅
【通讯作者】刘骅
【期刊名称、卷期、页码】新疆农业科学,2008,45(S3):33-40
【论文发表时间】2008-10-15 00:00:00
【引文索引类型】其他
【引文索引号】-
【学科分类】土壤学

【题目】新疆灰漠土区不同肥料配比土壤氨挥发原位监测
【中文关键词】氨挥发; 长期定位试验; 氮肥利用率; 原位监测
【英文关键词】ammonia volatilization; long-term field experiment; nitrogen use efficiency; in situ monitoring
【中文摘要】在17a的新疆国家灰漠土土壤肥力与肥料效益长期定位试验区,采用通气法对春小麦种植体系8种处理,即(1)对照(种植、不施肥,CK)、(2)施氮肥(N)、(3)施氮磷肥(NP)、(4)施氮钾肥(NK)、(5)施氮磷钾肥(NPK)、(6)施氮磷钾肥+有机肥增量(NPKM1)、(7)施氮磷钾化肥+有机肥常量(NPKM2)、(8)施氮磷钾化肥+秸秆还田(NPKS)的氨挥发损失与不同肥料配比、长期不同施肥土壤特性变化之间关系进行研究。结果表明:(1)在当地春小麦种植典型施肥模式,,即“基肥撒施后机械翻耕,追肥撒施后灌水”下,在施氮量为84.97~241.5 kg·hm-2的条件下,不同处理基肥氨挥发累积量为0.194~2.236 kgN·hm-2之间;追肥氨挥发累积量在0.078~0.210 kgN·hm-2之间,远低于基肥氨挥发量;基肥和追肥氨挥发损失氮素之和占总施氮量的0.39%~1.23%。(2)相同施氮量241.5 kg·hm-2的N、NP、NK、NPK4个处理,氨挥发累积量分别为1.017、0.944、1.988、2.437kg N·hm-2,氨挥发量与不同处理土壤速效钾含量相关性达显著水平(r=0.951,P<0.05,n=4)。(3)施氮量分别为151.8、84.9、216.7 kgN·hm-2有机肥处理NPKM1、NPKM2、NPKS的氨挥发累积量分别为1.404、1.041、1.583 kgN·hm-2,氨挥发量与氮肥使用量呈显著正相关(r=0.581,P<0.05,n=18)。以上结果表明,氨挥发不是新疆灰漠土长期定位试验春小麦体系氮肥损失的主要途径;不同肥料配比和长期不同肥料配比造成土壤特性的变化是7种施氮肥处理氨挥发差异的主要原因。
【英文摘要】Ammonia volatilization loss of nitrogenous fertilizers in Grey Desert soil Field of Xinjiang were monitored in situ by the method of phosphoric acid and glycerol-sponge venting chamber.Ammonia volatilization loss Characteristics were measured under different fertilization-cropping systems in the oasis of Xingjiang.The fertilizer treatments were CK(without fertilizer),N alone,N+P,N+P+K,N+P+K+M1(M1-manure at increased application rate),N+P+K+M2(manure at normal application rate),and N+P+K+S(S-plant residue returned to field).The obtained results are summarized as follows:(1) In the long-term spring wheat cropping system,with a typical fertilization mode of "field ploughed deeply after basal fertilizer application and irrigation conducted immediately after topdressing application",ammonia volatilization loss was 0.27-2.48kg hm-2 with the N fertilizer application rates of 84.97-241.5kg·hm-2,and the loss represented 0.39%-1.23% of the total applied fertilizer N,The ammonia volatilization loss from basal fertilizers was higher than that from topdressing.(2)At the same N rate,the accumulated N loss by ammonia volatilization was 1.02,0.94,1.99,and 2.44 kg·hm-2,respectively for N,N+P,N+K,and N+P+K treatment and significantly correlated with available K in the soils(r=0.951,P<0.05,n=4).(3) the accumulated volatilization N loss was 1.40,1.04,and 1.58 kg·hm-2,respectively for the N+P+K+M1,N+P+K+M2,and N+P+K+S treatment and significantly correlated with N fertilizer rate(r=0.581,P<0.05,n=18).These results indicate that ammonia volatilization loss from N fertilizers was not the major pathway of N losses under the current dominant cropping system(spring wheat).The differences in volatilization N loss in the green belt of Xinjiang are mainly caused by various combinations of organic and inorganic fertilizers,which change soil properties in the long run.
【语种】中文
【第一作者】徐万里
【通讯作者】廖宗文
【期刊名称、卷期、页码】生态学报,2009,29(8):4565-4571
【论文发表时间】2009-08-15 00:00:00
【引文索引类型】其他
【引文索引号】-
【学科分类】农学其他学科

【题目】差减法计算氮肥利用率方法的改进
【中文关键词】氮肥利用率; 差减法; 计算方法
【英文关键词】apparent recovery efficiency of applied nitrogen; subtraction method; calculation method
【中文摘要】为了阐明我国氮肥利用率低的原因,正确评价我国氮肥污染程度,从改进计算方法的角度进行尝试;分析解释了常规差减法方法计算氮肥利用率公式的含义,提出对计算公式合理的修正方法,并用实际试验结果进行计算;通过改进规范计算方法,氮肥利用率比通常算法计算的略高,计算的氮肥利用率也比较稳定,有利于正确评价我国氮肥利用率及氮肥污染问题。
【英文摘要】In order to explain the the reasons of China’s apparent recovery efficiency of applied nitrogen(REN) is low,attempt to improve the REN calculation method.Explaine the customary REN calculation method.
【语种】中文
【第一作者】田昌玉
【通讯作者】田昌玉
【期刊名称、卷期、页码】第三届全国农业环境科学学术研讨会论文集,2009:520-524
【论文发表时间】2009-10-01 00:00:00
【引文索引类型】其他
【引文索引号】-
【学科分类】农学其他学科

【题目】包膜控释尿素对高羊茅草坪建植期生长的影响
【中文关键词】包膜控释尿素; 高羊茅; 建植期; 生物量
【英文关键词】coated controlled-release urea; tall fescue; growth stage; biomass
【中文摘要】应用盆栽试验研究了释放期为30d(U30)和80d(U80)的控释包膜尿素一次性基施对高羊茅Festuca arundinacea草坪建植期生长情况的影响。结果表明:在施氮量相等的情况下,单一施用U80处理草坪成坪时间最短,仅为51d,播种85d后,其叶绿素仪读值(SPAD)高于其他处理。出苗后各处理地上生物量呈现先升高后降低的单峰变化趋势。单一施用U80处理草坪成坪后,生长速度较其他处理更为平缓。此外,单一施用U80处理和U80配施30%普通尿素处理,草坪地下生物量积累总量明显高于单一施用普通尿素处理。 更多还原
【英文摘要】The effect of coated controlled-release urea on the growth of tall fescue (Festuca arundinacea) was studied in potted condition and two types of coated controlled-release urea (U30 and U80, the release duration was 30 days and 80 days) were used. The results indicated that the turfgrass growing time was the shortest (only 51 days) treated with U80 and its content chlorophyll was higher than other treatments after 85 days growth. The aboveground biomass of turfgrass showed a pattern of increasing at the beginning and declining later. The underground biomass of turfgrass treated with U80 or U80 plus 30% of common urea was significantly higher than other treatments only with common urea (P<0.05).
【语种】中文
【第一作者】武良
【通讯作者】谷佳林
【期刊名称、卷期、页码】草业科学,2009,26(4):139-143
【论文发表时间】2009-04-15 00:00:00
【引文索引类型】其他
【引文索引号】-
【学科分类】农学其他学科

【题目】不同比例氮、磷、钾配合施用对白浆土区连作大豆生育性状及产量的影响
【中文关键词】氮磷钾; 连作; 大豆
【英文关键词】N,P,K; Continuous planting; Soybean
【中文摘要】通过平衡施肥的方法,针对不同生育时期大豆需肥规律,调节氮、磷、钾比例,筛选出适宜白浆土区连作大豆生长的氮、磷、钾配比。结果表明:氮磷钾配比为N3P4.5K4.5+N3时增产最多,增产348.1 kg.hm-2,增产率为18.6%;其次为N3P4.5K4.5处理,增产率为16.0%。氮磷钾配比为N3P4.5K4.5+N3时,鼓粒期大豆株高增加最多,比对照增加28.4%;大豆鼓粒期叶面积增加到最大,比对照处理增加93.6%。氮磷钾配比为N4P6K6时,结荚期大豆根长比对照增加12.6 cm,叶片中叶绿素含量最高。白浆土中连作大豆最好的氮磷钾配比为1∶0.75∶0.75。

【英文摘要】We screened out the optimal ratios of nitrogen,phosphorous and potassium fertilizers by analyzing the demand pattern of fertilizer at different growth stages with the method of balance fertilization in white paste soil.The results showed that seed yield of N3P4.5K4.5 + N3 and N3P4.5K4.5 treatment increased by 18.6% and 16.0% compared with N2P2K1(CK).The plant height in N3P4.5K4.5+N3 treatment increased by 28.4% compared with that of CK at seed filling.Moreover,the leaf area of N3P4.5K4.5+N3 treatment increased by 93.6% compared with CK.The root length increased 12.6 cm compared with CK and the content of chlorophyll was the highest at pod bearing stage in N4P6K6 treatment.In conclusion,the optimal ratio of N,P,K nutrient was 1：0.75：0.75,with half of nitrogen top-dressed at R1 for continuous planting soybean in the white paste soil.
【语种】中文
【第一作者】张喜林
【通讯作者】张喜林
【期刊名称、卷期、页码】大豆科学,2010,29(4):659-662
【论文发表时间】2010-08-25 00:00:00
【引文索引类型】其他
【引文索引号】-
【学科分类】农学其他学科

【题目】氮肥利用率概念与15N示踪测定方法研究进展
【中文关键词】氮肥利用率; 15N示踪法 ; 综述
【英文关键词】fertilizer nitrogen recovery rate; 15N tracer method; review
【中文摘要】中国粮食作物氮肥利用率平均为35%左右,与发达国家50%的氮肥利用率相比,低15个百分点,针对这一问题,介绍了15N示踪法测定氮肥利用率的方法及概念,分析评价了15N示踪法测定氮肥利用率结果,提出了这种测定方法可能存在的一些问题,以及氮肥利用率测定方法进一步改进的建议。
【英文摘要】The average apparent recovery efficiency of applied nitrogen (REN) was low in Chinese food crops (35%) compare with developed countries (50%). The article introduced the concept and measurement methods of REN by 15N tracer. The REN results from document search had been analyzed and evaluated. Some problems had been put forward in REN calculation. The way to improve REN calculation had been recommended.
【语种】中文
【第一作者】田昌玉
【通讯作者】左余宝
【期刊名称、卷期、页码】中国农学通报,2010,15
【论文发表时间】2010-09-05 00:00:00
【引文索引类型】其他
【引文索引号】-
【学科分类】农学其他学科

【题目】有机肥与无机肥氮素平行施用对土壤硝态氮积累与玉米产量的影响
【中文关键词】有机氮肥与无机氮肥; 硝态氮储量; 效益
【英文关键词】Organic and inorganic fertilizer nitrogen; Nitrate-N reserves; Efficiency
【中文摘要】通过有机肥与无机肥对比定位试验,揭示氮肥肥效与硝态氮在土壤储存的一些规律。结果表明,有机氮肥能够实现作物高产,有机氮肥最高产量13092 kg hm-2、无机氮肥最高产量12773 kg hm-2。玉米作物产投比1.0时的最佳推荐施氮量有机氮为:252.72 kg hm-2、无机氮为:381.84 kg hm-2。施氮量在120~300 kg hm-2范围内,有机肥处理的土壤硝态氮储量高于无机氮处理。有机氮用量在80 kg hm-2以下,不会引起土壤硝态氮储量增加;无机氮用量在160 kg hm-2以下,不引起土壤硝态氮储量增加。
【英文摘要】By the comparison of organic and inorganic fe rtilizers located experiment, the mechanics of nitrogen fertilizer efficiency and soil nitrate-N reserves were revealed. The results showed as follows. High yield could be achieved by organic fertilization and the highest maize yield was 13092 kg hm-2,while that amended with inorganic fertilization was 12773 kg hm-2.In the condition of output/input ratio being 1.0,the optimum recommended amounts of organic and inorganic fertilizers were respectively 252.72 kg hm-2 and 381.84 kg hm-2.When the applied nitrogen rates were between 120-360 kg hm-2,soil nitrate-N reserves in organic fertilization were higher than inorganic fertilization.Soil nitrate-N reserves did not increase as the rate of organic fertilizer-N being lower than 80 kg hm-2 or that of inorganic fertilizer-N being lower than 160 kg hm-2.

【语种】中文
【第一作者】田昌玉
【通讯作者】左余宝
【期刊名称、卷期、页码】土壤通报,2010,41(6):1418-1422
【论文发表时间】2010-12-06 00:00:00
【引文索引类型】其他
【引文索引号】-
【学科分类】农学其他学科

【题目】施肥方式对夏玉米产量和养分吸收利用的影响
【中文关键词】施肥方式; 玉米; 产量; 养分吸收
【英文关键词】fertilization mode; maize; yield; nutrient uptake
【中文摘要】比较了根际深施与耕层混施对夏玉米产量和氮素养分吸收利用的影响,研究表明根际深施肥能够提高玉米产量和生物量;在等氮量条件下,一次性根际深施有助于玉米对氮素的吸收,提高肥料利用率,降低土壤氮素依存率。
【英文摘要】The effects of rhizosphere fertilization and mix application in root layer on yield and nitrogen uptake of summer maize were compared to each other.The results indicated that rhizosphere fertilization can increase yield and biomass of maize;under the same nitrogen fertilizer rate,rhizosphere fertilization once can help maize to absorb nitrogen,enhance fertilizer efficiency,and reduce the dependence rate of nitrogen in soil.
【语种】中文
【第一作者】王川
【通讯作者】李絮花
【期刊名称、卷期、页码】湖南农业科学,2011(03):36-37
【论文发表时间】2011-02-15 00:00:00
【引文索引类型】其他
【引文索引号】-
【学科分类】农学其他学科

【题目】巨大芽孢杆菌对油菜根系分泌物所含有机酸和糖类的趋化性研究
【中文关键词】巨大芽孢杆菌; 油菜; 有机酸; 糖类; 趋化性
【英文关键词】Bacillus megaterium; oilseed rape; organic acids; glucide; chemotaxis
【中文摘要】采用高效液相色谱测定出油菜根系分泌物中所含的7种有机酸和10种糖类;用巨大芽孢杆菌A6分别对7种有机酸和10种糖类和油菜根系进行趋化性试验。结果表明A6对6种有机酸有趋化性,其中苹果酸的趋化性最强,对8种糖类有趋化性,其中山梨醇的趋化性最强;A6对油菜根系也有趋化性。
【英文摘要】kinds of organic acids and 10 kinds of glucide from oilseed rape roots exudates were determined by high performance liquid chromatography(HPLC),the chemotaxis experiment was tested with Bacillus megat.
【语种】中文
【第一作者】胡小加
【通讯作者】廖星
【期刊名称、卷期、页码】编辑部邮箱 , 2011年03期
【论文发表时间】2010-07-16 00:00:00
【引文索引类型】其他
【引文索引号】-
【学科分类】微生物学

【题目】Overexpression of ethylene response factor TERF2 confers cold tolerance in rice seedlings
【中文关键词】无
【英文关键词】Cold,TERF2, Oryza sativa ,Transcriptional regulation , Reactive oxygen species
【中文摘要】无
【英文摘要】Rice (Oryza sativa L.) is a warm-season plant exposed to various stresses. Low temperature is an important factor limiting extension of rice cultivation areas and productivity. Previously, we have demonstrated that tomato ERF protein TERF2

enhances freezing tolerance of transgenic tobacco and tomato plants. Herein, we report that overexpression of TERF2 enhances transgenic rice tolerance to cold without affecting growth or agronomic traits. Physiological assays revealed that TERF2 could not only increase accumulation of osmotic substances and chlorophyll, but also reduce reactive oxygen species (ROS) and malondialdehyde (MDA) content and decrease electrolyte leakage in rice under cold stress. Further analysis of gene expression showed that TERF2 could activate expression of cold-related genes, including OsMyb, OsICE1, OsCDPK7, OsSODB, OsFer1, OsTrx23, and OsLti6, in transgenic rice plants under natural condition or cold stress. Thus, our findings demonstrated that TERF2 modulated expression of stress-related genes and a series of physiological adjustments under cold stress, indicating that TERF2 might have important regulatory roles in response to abiotic stress in rice and possess potential utility in improving crop cold tolerance.

【语种】英文

【第一作者】田云

【通讯作者】黄荣峰

【期刊名称、卷期、页码】Transgenic Res. 2011 Aug;20(4):857-66.

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【引文索引类型】SCI

【引文索引号】DOI: 10.1007/s11248-010-9463-9

【学科分类】植物学

【题目】西南丘陵山区土地整理方案比选研究

【中文关键词】西南丘陵山区; 土地整理; 净耕地系数; 系统效益; 方案比选;

【英文关键词】the hilly and mountainous in southwestern China; land consolidation; net cultivated land coefficient; systemic benefits; comparisons;

【中文摘要】新增耕地潜力是土地整理项目立项决策的重要依据,而新增耕地率是新增耕地潜力的反映,直接影响项目工程布局、投资预算以及效益问题。该文以重庆市忠县拔山土地整理项目为例,依据国土资源部不同土地开发整理项目新增耕地的两种最低门槛值10%和3%,进行土地整理方案比选设计,计算得到两种土地整理方案的新增耕地率分别为10.3%和4.02%,并从经济、生态和社会3方面,分别采用动态投资评估法、可拓物元分析法、综合指数法对两方案进行比选分析。结果表明:旱地坡改梯工程布局是造成两种土地整理方案新增耕地面积差异的主要原因;农田水利、道路工程以及防护林工程布局差异不大,只存在布局力度上的差异;从方案的系统效益看,新增耕地率10.3%的方案无论是动态投资回收年、生态环境关联度、社会效益指数,还是系统效益指数均优于新增耕地率为4.02%的方案;通过典型田块采用加权算法计算净耕地系数,可以作为西南丘陵山区土地整理项目净耕地系数的计算方法,但该方法中修正系数确定需要经过实地勘测和类比,这样可避免典型田块选择的主观性。

【英文摘要】Newly-increased cultivated land potential is an important foundation of decision-making for land consolidation projects, and is reflected by newly-increased cultivated land ratio. Based on 10% and 3% of newly-increased cultivated land ratio from criterion of the Ministry of Land and Resources, two schemes whose newly-increased cultivated land ratio were 10.3% and 4.02% in Bashan land consolidation project were designed; mean-while, dynamic investment evaluation method, extension element model and comprehensive index method were used to comparatively analyze their integrative benefits separately. The results indicate that newly-increased cultivated land area is greatly dependent on terracing slope fields in dryland and there are no significant difference among irrigation and drainage engineering, road engineering and shelter-belt engineering except their layout intensity. Scheme, that newly-increased cultivated land ratio is 10.3%, is much better in payback period for dynamic investment, annual net benefits, eco-environment correlation value, social benefit index and systemic bene-fit index than another one which cultivated land ratio is 4.02%. Choosing representative farmlands and using weighted algorithm are effective methods to calculate net cultivated land coefficient, thus providing scientific foundation for studying newly-increased cultivated land in hilly and mountainous, southwestern China. And using analogism and field survey, the subjectivity of choosing representative farmlands could be avoided.

【语种】中文

【第一作者】张贞

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【学科分类】土壤学

【题目】Functional analyses of ethylene response factor JERF3 with the aim of improving tolerance to drought and osmotic stress in transgenic rice

【中文关键词】无

【英文关键词】Drought,ERF protein JERF3,Osmotic stress,Rice,Transcriptional regulation

【中文摘要】无

【英文摘要】Ethylene response factor (ERF) proteins play important roles in regulating plant stress response and development. Our previous studies have shown that JERF3 activates the expression of oxidative stress responsive genes in transgenic tobacco and enhances tolerance to salt, drought, and freezing, indicating that JERF3 is a very important transcriptional regulator in dicot plants. In the study reported here, we further addressed the regulatory function of JERF3 in a monocot, rice, by generating transgenic rice plants overexpressing JERF3 and comparing these with non-transgenic rice plants for physiological and molecular alterations and tolerance to drought and osmotic stresses. Growth and development under normal growth conditions were the same in both the transgenic and non-transgenic rice. Interestingly, the JERF3 transgenic plants exhibited better stress tolerance, whereas the non-transgenic rice seedlings showed serious stress symptoms and ultimately died after the drought and osmotic treatments. Biochemical analysis revealed that the contents of soluble sugars and proline were significantly increased in transgenic rice compared with non-transgenic plants under dehydration conditions. In addition, overexpression of JERF3 in rice led to the up-regulated expression of two OsP5CS genes in response to drought treatment compared with their expression in non-transgenic plants. JERF3 also activated the expression of stress-responsive genes, including WCOR413-like, OsEnol, and OsSPDS2, in transgenic rice under normal growth conditions. These data suggest that JERF3 plays important roles in transgenic rice and that it is likely to be beneficial in engineering crop plants with improved tolerance to drought and osmotic stresses.

【语种】英文

【第一作者】张海文

【通讯作者】黄荣峰

【期刊名称、卷期、页码】olume 19, Number 5 (2010), 809-818,

【论文发表时间】2010-10-16 00:00:00

【引文索引类型】SCI

【引文索引号】DOI: 10.1007/s11248-009-9357-x

【学科分类】植物学

【题目】基于AHP和熵权法赋权的区域土地开发整理潜力评价

【中文关键词】土地开发整理,区域规划,环境评价,潜力评价,AHP,熵权法,重庆市

【英文关键词】land consolidation; regional planning; environmental assessments; potentialities evaluation; AHP; entropy weight method; Chongqing province

【中文摘要】针对耕地整理、未利用土地开发、废弃土地复垦和农村居民点整理构建多层次区域土地开发整理潜力评价指标体系,将改进AHP、熵权法与综合评价法结合起来对重庆市土地开发整理潜力进行了定量化评价。重庆市土地开发整理潜力评价结果表明,土地开发整理潜力由大到小可划分为4个等级,耕地整理潜力是土地开发整理潜力的主要组成部分,耕地整理投入产出率和林地比重提高率是重庆市土地开发整理潜力的主导影响因素。同时未利用土地开发和废弃土地复垦潜力在重庆市土地开发整理潜力也占有重要的地位,未利用地空间规模指数、废弃土地复垦新增园林地系数和空间规模指数也是重庆市土地开发整理潜力的重要影响因素。此外,农村居民点整理在主城区及其周边经济快速发展地区地发展有重要的意义。

【英文摘要】Multi-hierarchy index system for regional land consolidation was established for cultivated land consolidation, virgin land reclamation,disused land reclamation and country residential area consolidation. And land consolidation potentialities were evaluated based on AHP, entropy weight method and synthetically evaluation method in Chongqing. Results indicated that cultivated land consolidation potentialities were the central portion of land consolidation potentialities, and the ratio of input-output and the improved ratio of woodland for cultivated land consolidation which were primary influencing factors in Chongqing. In the same way, virgin land reclamation potentialities and disused land reclamation potentialities were also the significant portions of land consolidation potentialities and the special scope index for virgin land reclamation and the improved ratio of woodland and special scope index for disused land reclamation, which were similarly important factors in Chongqing. Moreover, country residential area consolidation is important to development in the main city zone and neighbor areas.

【语种】中文
【第一作者】倪九派
【通讯作者】倪九派
【期刊名称、卷期、页码】农业工程学报, 2009, 25(5): 202-209
【论文发表时间】2009-05-12 00:00:00
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【引文索引号】0
【学科分类】土壤学

【题目】四川盆地丘陵区农户行为对耕地质量的影响
【中文关键词】土地利用,数学方法,农户行为,耕地质量评价,四川盆地丘陵区,影响力系数,Cobb-Douglas生产函数
【英文关键词】land use; mathematical method; household behavior; cultivated land quality assessment; the hilly and mountainous areas in Sichuan Basin; influence coefficient; Cobb-Douglas production function
【中文摘要】农户行为是耕地质量变化的直接推动者,农户对不同质量耕地的响应直接影响耕地现实生产能力。该文采用BP神经网络模型对重庆市大足县耕地自然质量进行评价,发现研究区水田自然质量等级以二等地和三等地为主,旱地以一等地和二等地为主,耕地自然质量总体偏高;但耕地自然质量仅仅是耕地自然属性的反映,因此在基于对研究区农户行为调查的基础上,采用“影响力系数”对耕地自然质量进行修正,并将农户收益作为耕地质量货币化价值的表现,进一步讨论了耕地自然质量和农户投资结构对这种价值的影响以反映对耕地质量的影响。结果显示,耕地自然质量指数和农户收益间的数学关系以三项式模型、二项式模型等曲线方程模拟效果最佳,重庆市大足县大部分乡镇都是受到某单一投入因素的制约,通过分析弹性系数大小可以调整研究区农户投资结构。该文阐明耕地质量不仅仅取决于耕地自然属性,还受到农户行为诸如投入水平、管理方式、种植模式等因素的制约,因此,应进一步规范农户行为以提高耕地质量。
【英文摘要】Household behaviors are the leading driving forces for the change of cultivated land quality, and their responses to cultivated land quality will affect the actual productivity. Cultivated land quality was assessed by BP neural network in Dazu County, Chongqing.The assessment results showed that paddy lands were mainly of the second-grade and third-grade,while dry lands were mainly of the first-grade and second-grade. It illustrated the high natural quality of the cultivated land, but the natural quality only reflected land natural characteristics. Therefore, influence coefficient was used to modify natural quality index based on the investigation to households. At the same time, by using the household income as the value of cultivated land, the impact of natural quality and investment structure on the value were further discussed. The results showed that trinomial equation and binomial equation were fitted to reflect the relationship between natural quality and income. In other words, household incomes were not only depended on natural attributes of cultivated land, but also affected by input and management. Because most of studied towns in Dazu County are restricted by one of investment factors,the elasticity coefficient can used to adjust the investment structure. The study shows that the cultivated land quality is not only determined by its natural properties, but also by investment, management, crop patterns and so on. Hence, measures should be taken to regulate the household behaviors in order to improve land quality.
【语种】中文
【第一作者】张贞
【通讯作者】魏朝富
【期刊名称、卷期、页码】农业工程学报, 2009, 25(4): 230-236
【论文发表时间】2009-04-09 00:00:00
【引文索引类型】EI
【引文索引号】0
【学科分类】土壤学

【题目】土地整理工程影响下农业生态系统服务价值的变化
【中文关键词】土地整理; 生态服务价值; 成本效益分析; 工程影响; 合川;
【英文关键词】land consolidation; ecosystem services value; cost-benefit analysis; project effect; Hechuan;
【中文摘要】以重庆市合川土地整理项目区为例,对项目区整理前(2003年)、后(2007年)农业生态系统功能的变化进行量化描述,将工程设计和影子价格法相结合对干扰功能进行了量化,并采用成本效益分析法进一步解释生态系统功能的经济学意义,分析了工程影响下区域农业生态系统服务价值的变化.结果表明:与土地整理之前相比,研究区农业生态系统服务价值在整理后有所改善,其中增幅最大的是养分循环功能,变化最小的是土壤保持功能;在土地整理项目中,农田水利、田间道路和土地平整工程带来的生态服务价值改变主要体现为干扰功能的变化.项目建成后第7年到第35年,研究区成本效益率处

于高速增长期,之后趋于稳定,表现为较弱的生态压力和较少的生态服务价值损失,有利于区域生态环境的改善.
【英文摘要】This paper quantitatively described the changes of agroecosystem functions before (2003) and after (2007) the implementation of Gaolong land consolidation project in Hechuan o Chongqing. Engineering design and shadow price were integrated to quantify the effects of the project on the functions, and cost-benefit analysis was used to further explain the economic meaning so the functions, and to analyze the changes of the agroecosystem services value under effects of the project. Compared with that before the land consolidation, the agroecosystem services value after the land consolidation was somewhat improved, with the largest increment of nutrient cycling function and the smallest change of soil conservation function. In the implementation of the project the changes of the agroecosystem services value induced by farmland water conservancy, field road building, and land-leveling engineering mainly manifested in the change of disturbance function. From the 7th to35th year after the project the cost benefit would have a rapid increase, and tended to be stable after then, giving a weak ecological pressure and little services value loss, and benefiting the improvement of regional ecological environment.
【语种】中文
【第一作者】张贞
【通讯作者】魏朝富
【期刊名称、卷期、页码】应用生态学报, 2010, 21(3): 723-733
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【引文索引类型】其他
【引文索引号】
【学科分类】土壤学

【题目】未来区域土地利用驱动力研究的重要命题:尺度依赖
【中文关键词】土地利用; 驱动力; 尺度依赖; 尺度转换;
【英文关键词】Land use; Driving forces; Scale; Scaling;
【中文摘要】尺度问题的处理是亚全球土地利用情景分析中一个复杂而又关键的新前缘。现有研究实现了尺度转换或尺度效应,加深了人们对土地利用驱动因素的多时空变化的理解和认识。但土地利用的信息和过程特征使得众多研究主题局限于某一领域。要实现不同尺度间土地利用数据信息的转换,理解不同尺度众多驱动因素间的作用过程,并正确描述土地利用轨迹,未来与土地利用有关的尺度问题应注重尺度推绎:①借助高分辨率/局地数据和低分辨率/区域数据的结合获取多空间尺度数据信息,减少尺度转换过程中土地利用数据的损失;②把握土地利用不同类型和方式间的流向,识别诱导其发生演变的主导驱动变量及其相互作用;③理解土地利用效应的跨尺度相互作用对环境管理的影响,弄清局地效应放大和区域影响根植于局地的过程;④考虑土地利用政策的跨尺度交互作用,联合自上而下和自下而上的方法确定不同尺度间政策运用新问题的解决思路。这些问题以及它们间的复杂依赖性,仍然是理解土地利用及其影响间的间接和跨尺度链接所面临的挑战。
【英文摘要】Land use systems are characterized by complex interactions between human decision-making and physical environment.Scale issues is a key to the sub-global land use scenarios analysis that have attracted much attention from researches due to their ecological and socio-economic implications.Nowadays,many studies on land use have already presented and discussed scaling and scale effects, and deepened the understanding of the spatial-temporal properties of land use and the change of multi spatial-temporal driving forces. However, a large number of research topics focused on a particular area or a single discipline due to the characteristics of data and process of land use. To achieve the conversions of land use data, understand the processes of many drivers and characterize correctly the patterns and processes of land use among different scales , the research on scale issue of land use might be focused on scale extrapolation in the future , which means using the integrations of high and low resolution or local and regional data to obtain land use data of multi-spatial scale , and to reduce the loss of land use data scaling; grasping the flows of different land use types and patterns , and identifying the dominant drivers and their interactions resulting in land use change ; understanding the impacts of the interactions of cross2 scale land use effects on the environmental management , and measuring the processes of the amplification of local land use effects and the impacts of regional land use rooted in local land use; and considering the interactions of cross-scale land use policies , and determining the resolution for problems resulted from the operations of land use policies among different scales. These issues and their complex interdependency pose challenges to understand indirect and cross-scale linkages between the scale of land use and their impacts.
【语种】中文
【第一作者】邵景安
【通讯作者】魏朝富

【期刊名称、卷期、页码】资源科学, 2008, 30(1): 58-63
【论文发表时间】2008-01-11 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】土壤学

【题目】重庆市浅丘带坝区土地利用与景观空间格局分析
【中文关键词】土地利用; 景观空间格局; 景观格局指数; GIS; 浅丘带坝区; 重庆市;
【英文关键词】land use; landscape spatial pattern; landscape pattern metrics; GIS; shollow hill region; Chongqing City;
【中文摘要】选取重庆市沙坪坝区陈家镇为研究区,采用其建立的土地利用现状数据库,运用GIS的图形处理与空间分析功能,生成6种景观格局图并输入Fragstats for ArcView3.X软件,提取景观格局指数,借助于景观格局指数在生态过程与土地利用间所建立的一种关联,分析并探讨土地利用诱发下景观空间格局特征的响应。其结果:水田景观在景观类型中占据着绝对优势,其连接度表现较高,是景观类型明显的基质,受人类活动干扰强;冬水田景观要素接近于水田景观本底,且冬水田景观要素斑块个数、类型面积随着河流缓冲区距离的增大而增加;旱地景观中各景观要素斑块总体上分布比较零散,规律性不强;农村居民点景观要素是建设用地景观的主要类型,其斑块几何形状简单、规整,各斑块间的相似性强,外围边界接近于正方形或者矩形。
【英文摘要】Taking Chengjiaqiao Town in Shapingba District, Chongqing as a study area, this paper adopted the current land use database, re-modified the classification of land use, and created six landscape pattern maps relying on the spatial analysis and graphics processing of ArcGis8.3 and ArcView3.2 software. Individual landscape metrics were calculated by function of Fragstats3.3 software. Landscape metrics is seen as a bridge between ecological process and land use, thus the paper analyzed and explored characteristics of landscape pattern resulting from land use. The result indicated that in the study area, the paddy land landscape was dominant landscape types. They were landscape matrix and the main location of human activities, and controlled landscape patterns and their evolvements too. Winter water-stored paddy field landscape element is closely approach to background of paddy land landscape. Moreover, their patch number and area were raised along with the distance of river's buffer zone by Buffer analysis. The patches of dry land landscape element distributed erratically in dry land landscape. Rural settlement landscape element was dominant in the construct land landscape. Their patches are simple, trim, and con form.
【语种】中文
【第一作者】王成
【通讯作者】魏朝富
【期刊名称、卷期、页码】地域研究与开发, 2008, 27(1): 82-87
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【引文索引号】
【学科分类】土壤学

【题目】土壤有机碳、氮动态模型研究进展
【中文关键词】土壤有机碳; 土壤有机氮; 解析模型; 模拟模型;
【英文关键词】Soil Organic Carbon; Soil Organic Nitrogen; Analytical Model; Simulation Model;
【中文摘要】土壤有机质的含量、分解、合成等动态变化与土壤质量有着密切的联系。SOM模型为定量研究土壤有机质动态变化过程及其变化机制提供了有效途径。本文对国内外现有的土壤有机碳、氮动态模型进行了综述,并对应用最广泛的Century模型、RothC模型以及DNDC模型进行评述,分析了现有SOM模型存在的问题及未来的发展趋势。
【英文摘要】There is closely relationship between soil quality and its dynamics, which contains the content, decomposition, composition of the soil organic, etc.SOM models have supplied efficient approaches for quantitative description of the process of soil organic matter dynamics.An overview of existing soil organic carbon and nitrogen dynamics was summarized.It also evaluated the most widely-applied models, such as Century, RothC and DNDC.The future development of existing SOM models were analyzed.
【语种】中文
【第一作者】陈凌静
【通讯作者】高明
【期刊名称、卷期、页码】土壤通报, 2009, 40(2): 432-438

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【引文索引号】
【学科分类】土壤学

【题目】Rolling circle amplification-mediated hairpin RNA (RMHR) library construction in plants.
【中文关键词】RMHR发夹结构系统,植物
【英文关键词】Rolling circle amplification-mediated hairpin RNA, plant
【中文摘要】长发夹RNA诱导基因沉默,RMHR发夹结构系统可以成功地营养在拟南芥等多种物种。
【英文摘要】Long hairpin RNA (lhRNA) construct-induced genesilencing facilitates the study of gene functionin plants and animals, but constructing multiplelhRNA vectors using traditional approaches is bothtime-consuming and costly. Also, most of the existingapproaches are based on sequence-specificcloning of individual sequences, and are thereforenot suitable for preparing hpRNA libraries from apool of mixed target sequences. Here we describea rolling-circle amplification (RCA)-mediated hpRNA(RMHR) construction system suitable for generatinglibraries of lhRNA constructs from any gene of interestor pool of genes. Using RMHR we successfullygenerated a lhRNA library from a Arabidopsis cDNApopulation containing known and unknown genes,with an average size of 500 – 800 bp for the invertedrepeatinserts. To validate the RMHR system, lhRNAconstructs targeting the b-glucuronidase (GUS)gene were tested using Agrobacterium infiltrationand shown to be effective at inducing GUS silencingin tobacco leaves. Our results indicate that theRMHR technique permits rapid, efficient and lowcostpreparation of genome-wide lhRNA expressionlibraries.
【语种】英文
【第一作者】王磊
【通讯作者】王磊
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【引文索引类型】SCI
【引文索引号】PMC2602787
【学科分类】分子生物学

【题目】Transcriptional modulation of ethylene response factor protein JERF3 in the oxidative stress response enhances tolerance of tobacco seedlings to salt, drought, and freezing
【中文关键词】JERF3,乙烯反应,转录调控,氧化逆境
【英文关键词】JERF3, ethylene responses, transcriptional regulation, oxidative stress responses
【中文摘要】JERF3能在转录水平上调控乙烯介导的氧化逆境反应。
【英文摘要】Abiotic stresses such as drought, cold, and salinity affect normal growth and development in plants. The production andaccumulation of reactive oxygen species (ROS) cause oxidative stress under these abiotic conditions. Recent research haselucidated the significant role of ethylene response factor (ERF) proteins in plant adaptation to abiotic stresses. Our earlierfunctional analysis of an ERF protein, JERF3, indicated that JERF3-expressing tobacco (Nicotiana tabacum) adapts better tosalinity in vitro. This article extends that study by showing that transcriptional regulation of JERF3 in the oxidative stressresponse modulates the increased tolerance to abiotic stresses. First, we confirm that JERF3-expressing tobacco enhancesadaptation to drought, freezing, and osmotic stress during germination and seedling development. Then we demonstrate thatJERF3-expressing tobacco imparts not only higher expression of osmotic stress genes compared to wild-type tobacco, but alsothe activation of photosynthetic carbon assimilation/metabolism and oxidative genes. More importantly, this regulation of theexpression of oxidative genes subsequently enhances the activities of superoxide dismutase but reduces the content of ROS intobacco under drought, cold, salt, and abscisic acid treatments. This indicates that JERF3 also modulates the abiotic stressresponse via the regulation of the oxidative stress response. Further assays indicate that JERF3 activates the expression ofreporter genes driven by the osmotic-responsive GCC box, DRE, and CE1 and by oxidative-responsive as-1 in transient assays,suggesting the transcriptional activation of JERF3 in the expression of genes involved in response to oxidative and osmoticstress. Our results therefore establish that JERF3 activates the expression of such genes through transcription, resulting indecreased accumulation of ROS and, in turn, enhanced adaptation to drought, freezing, and salt in tobacco.
【语种】英文
【第一作者】吴立军

【通讯作者】黄荣峰
【期刊名称、卷期、页码】Plant physiology, 148:1953-1963
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【学科分类】分子生物学

【题目】EMB1211 is required for normal embryo development and influences chloroplast biogenesis in Arabidopsis
【中文关键词】EMB1211,质体发育,胚胎发育,拟南芥
【英文关键词】EMB1211, chloroplast biogenesis, embryogenesis, Arabidopsis
【中文摘要】质体发育与植物胚胎和幼苗的发育密切相关。EMB1211的突变导致胚胎发育异常、幼苗死亡。电镜结果显示胚胎的质体发育异常,EMB1211:GUS转基因植物发现该基因的转录定位在胚胎。
【英文摘要】Chloroplast biogenesis is tightly linked with embryogenesis and seedlingdevelopment. A growing body of work has been done on the molecularmechanisms underlying chloroplast development; however, the molecularcomponents involved in chloroplast biogenesis during embryogenesis remainlargely uncharacterized. In this paper, we show that an Arabidopsis mutantcarrying a T-DNA insertion in a gene encoding a multiple membraneoccupation and recognition nexus (MORN)-containing protein exhibits severedefects during embryogenesis, producing abnormal embryos and therebyleading to a lethality of young seedlings. Genetic and microscopic studiesreveal that the mutation is allelic to a previously designated Arabidopsisembryo-defective 1211 mutant (emb1211). The emb1211 +/− mutant plantsproduce approximately 25% of white-colored ovules with abnormal embryossince late globular stage when primary chloroplast biogenesis takes place,while the wild-type plants produce all green ovules. Transmission electronmicroscopic analysis reveals the absence of normal chloroplast development,both in the mutant embryos and in the mutant seedlings, that contributes tothe albinism. The EMB1211 gene is preferentially expressed in developingembryos as revealed in the EMB1211::GUS transgenic plants. Taken together,the data indicate that EMB1211 has an important role during embryogenesisand chloroplast biogenesis in Arabidopsis.
【语种】英文
【第一作者】梁秋菊
【通讯作者】张春义
【期刊名称、卷期、页码】Physiologia Plantarum, 40:380-394
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【引文索引类型】SCI
【引文索引号】20738804
【学科分类】发育生物学

【题目】Determination of folate content in rice germplasm (Oryza sativa L.) using tri-enzyme extraction and microbiological assays
【中文关键词】营养,育种,水稻种质,叶酸缺乏
【英文关键词】Nutrition, breeding, rice germplasms, folate deficiency
【中文摘要】叶酸缺乏导致神经管发育缺陷等疾病。利用三酶法和微生物法来分析78个水稻种质的叶酸含量多样性。研制新的煮饭方法对保持熟饭中高的叶酸含量非常重要
【英文摘要】Nutritional deficiencies of folate cause neural tube defects and several other diseases. The tri-enzyme method andmicrobiological assays were used to investigate folate variation in 78 rice germplasms. The effects of storage and cooking onfolate content were also analyzed. Folate contents of brown rice varied substantially from 13.3 to 111.4 mg/100 g, whereas milledrice varied from 10.3 to 77.7mg/100 g. Four cultivars from South China with high folate levels were identified in both subspecies.The average folate losses caused by storage and cooking were 23% and 48.3%, respectively. The highest folate content incv. Laoshuya when cooked was 26.3 mg/100 g, about 25% of the recommended dietary intake (400mg/day), assuming a dailyper-capita consumption of 400 g/day cooked rice. The results suggested that it is potentially possible to screen for higher folatecontent varieties in germplasm and in breeding. It is also essential to develop new processing methods for maintaining higherfolate contents in cooked rice.
【语种】英文
【第一作者】董薇
【通讯作者】万建民

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【引文索引号】21438705
【学科分类】植物学

【题目】Wax crystal-sparse leaf2, a rice homologue of WAX2/GL1, is involved in synthesis of leaf cuticular wax
【中文关键词】角质蜡层,水稻,非常长链脂肪酸,蜡质稀疏叶片突变2
【英文关键词】Cuticular wax,Rice (Oryza sativa L.),Verylong-chain fatty acid (VLCFA),Wax crystal-sparse leaf2
【中文摘要】角质蜡层对于植物防护UV和物理抗病都非常重要。本文描述了水稻基因WSL2的突变导致的性状并通过图位克隆克隆岛该基因。该基因突变主要导致非常长链脂肪酸的品质急剧下降。
【英文摘要】Epicuticular wax in plants limits non-stomatal water loss, inhibits postgenital organ fusion, protects plants against damage from UV radiation and imposes a physical barrier against pathogen infection. Here, we give a detailed description of the genetic, physiological and morphological consequences of a mutation in the rice gene WSL2, based on a comparison between the wild-type and an EMS mutant. The mutant's leaf cuticle membrane is thicker and less organized than that of the wild type, and its total wax content is diminished by ~80%. The mutant is also more sensitive to drought stress. WSL2 was isolated by positional cloning, and was shown to encode a homologue of the Arabidopsis thaliana genes CER3/WAX2/YRE/FLP1 and the maize gene GL1. It is expressed throughout the plant, except in the root. A transient assay carried out in both A. thaliana and rice protoplasts showed that the gene product is deposited in the endoplasmic reticulum. An analysis of the overall composition of the wax revealed that the mutant produces a substantially reduced quantity of C22-C32 fatty acids, which suggests that the function of WSL2 is associated with the elongation of very long-chain fatty acids.
【语种】英文
【第一作者】毛炳刚
【通讯作者】万建民
【期刊名称、卷期、页码】Planta,235(1):39-52.
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【引文索引类型】SCI
【引文索引号】21809091
【学科分类】发育生物学

【题目】ZmCBF3 overexpression improves tolerance to abiotic stress in transgenic rice (Oryza sativa) without yield penalty
【中文关键词】非生物逆境,CBF,转基因植物,转录激活,水稻
【英文关键词】Abiotic stress tolerance, CBF,Transgenic plants,Transcriptional activator,Rice
【中文摘要】玉米ZmCBF3在胚胎发育过程中被ABA和低温诱导表达。将该基因转入水稻发现转基因植物对干旱、高岩和低温逆境的抗性都得到明显提高,与此相关的基因转录水平都被激活。
【英文摘要】Plant productivity is greatly affected by environmentalstresses such as drought, salt, and freezing. Wepreviously described a C-repeat binding transcription factorfrom maize (ZmCBF3) that was upregulated by bothabscisic acid and low-temperature and actively expressedduring embryogenesis. To understand the stress response inrice, transgenic ZmCBF3 rice with ubiquitin promoter wasdeveloped. T3 generation was planted and analyzed. Theresults showed that overexpression of ZmCBF3 in rice didnot cause growth retardation under normal growth conditionswith improved tolerance to drought, high-salt, andlow-temperature stresses. Moreover, the transgenic ricegrain yield was similar to wild type plants under normalconditions. The transgenic plants showed enhanced survivalrate and reduced malondialdehyde content and relativeconductivity under drought, salt, and low-temperaturestresses. ZmCBF3 overexpression in transgenic riceincreased the transcript levels of stress-induced genes andenhanced the tolerance to drought, salt, and low-temperaturestresses.
【语种】中文
【第一作者】徐妙云
【通讯作者】王磊
【期刊名称、卷期、页码】Plant Cell Reports, 30(10):1949-1957

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【引文索引类型】SCI
【引文索引号】21811828
【学科分类】分子生物学

【题目】Land Consolidation-induced Effects on Local Landscape Patterns in Hilly and Mountainous Southwestern China
【中文关键词】无
【英文关键词】Land Consolidation Project, landscape pattern, landscape pattern metrics
【中文摘要】无
【英文摘要】Land Consolidation Project (LCP), as a kind of drastic disturbance by human intentional activities, significantly changes landscape pattern. The information of landscape pattern from land-use map and planning map (scale: 1:2000) were extracted by taking the land consolidation project in hilly and mountainous area of Bashan Town, Zhong County, Chongqing, Southwestern China as an example. The whole landscape structure and each land use type class level metrics of landscape pattern were calculated. Then their effects on local landscape patterns were estimated by Fragstats for Arcview. Sixteen metrics had been chosen to describe the changes before and after LCP. The total area of the research region was 1037.45 hm2 , and arable land area accounted for 80.95%, therefore heterogeneous map was mosaic. Land Leveling Project (LLP) got each patch of arable land expanded. The fragmentation was sharply reduced .The complex of patches edge was decreased. The shape of each field was ruled. And all above were beneficial for the growth of crop and plantation, especially in a large scale. LCP could reallocate fragment parcels and improve agricultural conditions.
【语种】英文
【第一作者】樊芳玲
【通讯作者】魏朝富
【期刊名称、卷期、页码】Advanced Materials Research, 2012,(356-360): 2980-2990
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【引文索引号】20114514502385
【学科分类】土壤学

【题目】国内耕地资源价值研究现状及展望
【中文关键词】土地资源; 耕地价值; 现状展望
【英文关键词】land resource; the value of cultivated land; status quo and outlook
【中文摘要】针对国内耕地价值研究进行了回顾与展望,运用文献资料法指出现有研究存在的不足和未来深入研究的方向同时,介绍了目前耕地价值研究集中于耕地价值构成 区域尺度上的耕地价值核算及其核算方法和耕地价值影响因素等几个方面研究表明: 耕地价值的实现提升地块研究尺度评估模型影响因素模型及农户行为影响等方面的研究有待加强。
【英文摘要】The purpose of the paper is to review and forecast the study of cultivated land value in china, and point out flaws in the existing studies and the in-depth directions in future studies. Method of documentation was employed. Results indicate that existing studies of cultivated land value mainly focus on the constitution of value、value calculation in regional scale、calculation method and influencing factor. It is concluded that the studies regarding the realization、promotion、parcel research scale、evaluation model、influencing factor model、farmer behaviour shall be enhanced.
【语种】中文
【第一作者】吴兆娟
【通讯作者】魏朝富
【期刊名称、卷期、页码】农机化研究,2012,1:29-32
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【引文索引号】
【学科分类】土壤学

【题目】转录因子ABP9基因过表达对植物生长发育的影响分析.

【中文关键词】转录因子ABP9;ABRE;植物激素ABA:生长发育调节:
【英文关键词】Transcription factor ABP9,A BRE,A BA,Plant growth and development
【中文摘要】【研究目的】为分析玉米ABA/逆境响应转录因子ABP9基因过量表达对植物生长发育的影响以利用该基因开展抗逆分子育种。【方法】本研究构建了35S启动子驱动ABP9组成型表达的植物表达载体。获得了过表达ABP9基因的拟南芥转基因株系,并在正常生长条件下。比较了转基因植株和野生型在种子萌发、营养生长和生殖生长阶段的形态和生理变化,分析了可能的分子机制。【结果】结果表明,正常生长条件下。转基因植株与野生型相比表现出萌发。幼苗生长以及开花阶段的生长抑制;气孔开度减小.叶片内源A鲋含量降低;ABA信号传导基因表达增强。而ABA合成基因表达降低;而且这些效应在ABP9基因表迭相对较强的转基因株系中表现更明显。【结论】说明ABt@基因过量在正常生长条件下即诱导转基因植株产生耐逆反应,抑制植株的生长发育。因此.在利用A曰尸9基因进行转基因抗逆育种时须考虑控制ABP9基因适时适量表达。
【英文摘要】Abstract:[OBJECTIVEIln order to analyze the effects on plant growth and development of over——expressingABP9,an ABA/stress-responsive transcription factor gene from maize,aiming at genetic engineering cropsfor abiotic stress toleranee,[METHOD]an plant expression vector on which the expression of ABP9 is drivenby 35S promoter was constructed and transgenic Arabidopsis lines over-expressing ABP9 were obmined.Themorphological,developmental,physiological and gene expression changes in transgenic plants comparing towild type were analyzed at germination,vegetative and reproductive growth stages.[RESULTSIThe resultsshowed that under normal growth conditions,comparing to that of wild type plants,the growth anddevelopment of transgenic plants was delayed at germination,seedling growth and flowering stages;thestomata pores and leaf ABA levels reduced;the expression of genes involved in A BA signaling increasedwhereas that of A BA biosynthetic genes decreased.All of the effects are positively correlated with theexpression levels of ABP9.[CONCLUSION]The data indicates that ABP9 OVer-expression induces stressresponses in transgenic plants even under normal growth conditions and retards growth and development.This suggests that the timing and kVels of A BP9 expression should be tightly controlled when using it toimprove plant stress tolerance.
【语种】中文
【第一作者】孟慧
【通讯作者】孟慧
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【学科分类】分子生物学

【题目】Rolling circle amplification-mediated hairpin RNA (RMHR) library construction in plants.,
【中文关键词】Rolling circle amplification-mediated hairpin RNA (RMHR) ,library, RNAi
【英文关键词】Rolling circle amplification-mediated hairpin RNA (RMHR) ,library, RNAi
【中文摘要】Long hairpin RNA (lhRNA) construct-induced genesilencing facilitates the study of gene functionin plants and animals, but constructing multiplelhRNA vectors using traditional approaches is boththime-consuming and costly. Also, most of the existingapproaches are based on sequence-specificcloning of individual sequences, and are thereforenot suitable for preparing hpRNA libraries from apool of mixed target sequences. Here we describea rolling-circle amplification (RCA)-mediated hpRNA(RMHR) construction system suitable for generatinglibraries of lhRNA constructs from any gene of interestor pool of genes. Using RMHR we successfullygenerated a lhRNA library from a Arabidopsis cDNApopulation containing known and unknown genes,with an average size of 500 – 800 bp for the invertedrepeatinserts. To validate the RMHR system, lhRNAconstructs targeting the b-glucuronidase (GUS)gene were tested using Agrobacterium infiltrationand shown to be effective at inducing GUS silencingin tobacco leaves. Our results indicate that theRMHR technique permits rapid, efficient and lowcostpreparation of genome-wide lhRNA expressionlibraries.
【英文摘要】Long hairpin RNA (lhRNA) construct-induced genesilencing facilitates the study of gene functionin plants and animals, but constructing multiplelhRNA vectors using traditional approaches is boththime-consuming and costly. Also, most of the existingapproaches are based on sequence-specificcloning of individual sequences, and are thereforenot suitable for preparing hpRNA libraries from apool of mixed target sequences. Here we describea rolling-circle amplification (RCA)-mediated hpRNA(RMHR) construction system suitable for generatinglibraries of lhRNA constructs from any gene of interestor pool of genes. Using RMHR we successfullygenerated a lhRNA library from a Arabidopsis cDNApopulation containing known and unknown genes,with an average size of 500 – 800 bp for the invertedrepeatinserts. To validate the RMHR system, lhRNAconstructs targeting the b-glucuronidase (GUS)gene were tested using Agrobacterium infiltrationand shown to be effective at inducing GUS silencingin tobacco leaves. Our results indicate that theRMHR technique permits rapid, efficient and lowcostpreparation of genome-wide lhRNA expressionlibraries.

【语种】英文
【第一作者】王磊
【通讯作者】王磊
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【学科分类】分子生物学

【题目】原、异位保存东乡野生稻主要农艺性状的比较研究
【中文关键词】东乡野生稻;原位保护;异位保存;农艺性状
【英文关键词】Dongxiang wild rice;In—situ conservation;Ex—situ conservation;Agronomic characteristics
【中文摘要】为了解原、异位保存东乡野生稻主要农艺性状的变化,对庵家山普通野生稻原、异位群体进行了考察和比较分析。结果表明,原、异位保存的东乡野生稻在每穗总粒数、每穗实粒数、结实率等方面存在较大的差异,如异位保存的东乡野生稻每穗总粒数平均为58.28粒,比原位多11.44粒,但其每穗实粒数却较少,为9.89粒,结实率降低了45.43%。从种植环境可以发现,异位保存圃的环境不适宜东乡野生稻的生长,应该选择与原生境相类似的种植环境,以便于东乡野生稻的保存、研究与利用。
【英文摘要】To find out the differences of the main agronomic characteristics between wild rice populations in-situ and ex-situ conserved in Dongxiang County,Jiangxi Province,the comparative analysis was done on several characteristics using wild rices in AnJiaShan in-situ and ex-situ conservation.The results indicated there were some variations on total grains per panicle,full grains per panicle and seeds setting rate etc.The total grains per panicle of ex-situ conservation was 58.28,more than in-situ conservation wild rice. However, its number of full grains per panicle was 9.89,less than in-situ population,while its seeds setting rate was reduced 45.43%. The field survey results showed the environment of ex-situ conservation was not suitable for the growth of Dongxiang wild rice.meaning that the ex-situ conservation nursery of Dongxiang wild rice must be re-built in the area where the environment is similar to the original habitat
【语种】中文
【第一作者】余丽琴
【通讯作者】无
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【引文索引号】无
【学科分类】植物保护学

【题目】城市土壤重金属污染及其生态环境效应
【中文关键词】城市土壤;重金属污染;生态环境效土壤- 植物系统中镉的研究进展
【英文关键词】Urban soil; Heavy metals pollution;Eco-environmental effect
【中文摘要】对城市土壤中重金属的来源、空间分布特征、化学形态、在不同介质间的迁移转化及其污染的生态环境效应等近年来的研究进展进行了回顾,指出今后的研究重点是建立城市土壤重金属污染风险评价和标准体系,并应对重金属在城市环境中的迁移转化机制及城市土壤质量演变与郊区之间的关系开展研究。
【英文摘要】The research development in recent yearswas reviewed at source, characteristic of spatial distribution, chemical form, in differentmediums of transformation and eco-environmental effect of heavymetal pollution in urban soil. The research work in future should focus on risk evaluation and environmental quality standard system for heavymetal pollution in urban soil. Itwas necessary to study transformation mechanism of heavymetals in urban environment and relationship between quality change of soil in urban and suburban areas.
【语种】中文
【第一作者】张浩
【通讯作者】王济
【期刊名称、卷期、页码】环境监测管理与技术,22(2):11- 18

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【学科分类】环境科学技术及资源科学技术其他学科

【题目】贵州喀斯特矿区废弃地土壤环境问题的现状及治理对策
【中文关键词】喀斯特矿区;废弃土地;土壤环境问题;土壤修复;贵州
【英文关键词】karst mining area;derelict land; edatope problem problem; soil rehabilitation; Guizhou
【中文摘要】分析贵州喀斯特矿区及矿山废弃地的分布、开发与利用现状,得出矿区废弃土地生态环境主要存在以下问题:(1金)属重污染严重。研究发现赫章等地土壤中锌含量达到162.23-877.88m g/kg-37.24mg/kg,镉为0.50mg /kg-16.43mg/kg,大大超过当地土壤的背景值;(2)生境干旱; (3)水土流失加剧。据调查,贵州矿山土壤的平均侵蚀模数一般都高达5000-15000t/km2·a;(4)多物生样性差。进而介绍矿区污染土壤的修复和复垦现状,并提出贵州喀斯特矿区废弃地土壤环境治理的关键问题及相关研究技术:喀斯特矿山土壤机制改良研究;植物—微生物综合治理手段研究;循环利用技术研究。
【英文摘要】According to the analysis on the distribution and development as well as using status of the karst mining derelict land in Guizhou Province, it is found that there are four edatope problems: 1) serious heavy metal pollution, such as the Zn contelt gets up to 162. 23-877.88mg/kg , Pb 37 . 24- 305.56 mg /kg and Cd0. 50-16. 43mg/kg in Hezhang and some other regions, which have significantly surpass the local background level; 2)drought habitat; 3) intensifying soil loss, with average erosion modulus up to 5000-15000 t/km2 • a in most case according to the investigation; 4)low bio - diversity. The status quo of the rehabilitation and reclaimation to the delelict land are also introduced in the paper. Furthermore, the key problems and related technique needed to be studied for the harness of edatope problem in karst mining derelict land in Guizhou, such as amelioration for soil, synthetic botanic and microbial harnessing methods, recycling techniques etc, are put forth.
【语种】中文
【第一作者】张一修
【通讯作者】王济
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【学科分类】环境科学技术及资源科学技术其他学科

【题目】Genetic diversity of Chinese indigenous sheep breeds inferred from microsatellite markers
【中文关键词】无
【英文关键词】Chinese sheep
Microsatellite
Genetic diversity and differentiation
Bayesian clustering
【中文摘要】无
【英文摘要】To determine the genetic diversity and phylogenetic relationships among Chinese sheep,10 indigenous breeds and one introduced breed were genotyped for 19 microsatelliteloci. The mean number of alleles per breed ranged from 5.44 (Guide Black Fur sheep)to 9.13 (Ujumqin sheep and Hulunbeier sheep), the expected heterozygosity variedfrom 0.623 (Guide Black Fur sheep) to 0.737 (Zhaotong sheep), and the allelic richnessranged from 5.169 (Guide Black Fur sheep) to 7.610 (Zhaotong sheep). The deviationfrom Hardy – Weinberg equilibrium (HWE) was statistically significant ($P < 0.05$) at threeloci (SRCRSP5, OarAE129 and DYMS1) in most of the breeds. Chinese sheep breeds hadmaintained a high level of within-population genetic differentiation (95.23%), with theremainder explained by differentiation among populations (4.77%). The genetic differentiationpattern and genetic relationships among Chinese sheep breeds displayed a highconsistency with the traditional classification. Both the Bayesian cluster and principal componentanalyses showed a reliable clustering pattern, which revealed three major clustersin Chinese indigenous sheep (Mongolian sheep, Kazakh sheep and Tibetan sheep), exceptZhaotong and Guide Black Fur sheep. There were probably caused by different breeding history,geography isolation and different levels of inbreeding. This study will help to interpretthe genetic characters of Chinese indigenous sheep and benefit to the future conservationprograms.

【语种】英文
【第一作者】仲涛
【通讯作者】关伟军
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【学科分类】畜牧、兽医科学基础学科

【题目】北京油鸡ADSL基因的克隆、表达及其结构与功能分析
【中文关键词】北京油鸡;腺苷酸琥珀酸裂解酶:结构分析:基因表达
【英文关键词】Beijing fatty chicken;Adenylosuccinate lyase;Structure analysis;Gene expression
【中文摘要】:采用RT-PCR与RACE方法扩增出北京油鸡腺苷酸琥珀酸裂解酶(ADSL)基因全长cDNA序列,亚克隆和序列分析结果表明:该基因开放阅读框长为1455个碱基,编码485个氨基酸;5 端非转录调控区具有典型管家基因的特征,在临近起始密码子-27号碱基发生C—T突变,该突变使得本来不是核呼吸因子2(NRF-2)结合位点的CTCC突变为NRF一2结合位点CTTC。将ADSL基因完整开放阅读框重组至融合表达载体pGEX一4T.1中,构建成北京油鸡ADSL基因融合表达载体pGEX—ADSL,转化大肠杆菌BL21(DE3),筛选阳性克隆,IPTG诱导表达。经SDS—PAGE电泳显示重组融合蛋白在约80.5kD处有特异蛋白条带出现,与预期分子量大小一致,等电点为6.79。该蛋白的表达量随诱导时间的延长而增加,5h达最高值,达到细胞总蛋白的26.9%,且主要以不可溶的包涵体形式存在,经优化表达条件,成功地获得了可溶性的融合蛋白,经Glutathione Sepharase4B凝胶纯化后Western blotting检测表明其为北京油鸡ADSL蛋白,为其进一步的生物学功能及其应用研究鉴定基础。
【英文摘要】The 11.1ength of the cDNA sequence of Belling fatty chicken ADSL gene was investigated bv RT_PCRand RA CE in this study.The results demonstrated that the complete ADSL cDNA revealed an open reading flame of 1455nucleotides coding for 485 amino acid residues.The promoter of chicken ADSL cDNA showed typical features ofhouse—keeping genes:no canonical TATA and CAAT boxes,72.65% GC in 234bp near the start codon.and there was aC-27T mutation.which caused the site CTCC mutating to the NRF.2 binding site CTTC.The complete open readingflame of the ADSL gene was inserted into expression vector pGEX一4T_1 and the fusion expression vector pGEX—ADSLwas constructed.The pGEX—ADSL was~ansformed into Escherichia coli BL2 1(DE3).positive cloning screened.induced an d expresses bv IPTG The SDS.PAGE electrophoresis results showed that there were specific bands about 83.5kD and an isoelectric point of 6.79.which reached 26.9% of total eell proteins induced in 5hrs,and was an insolubleinclusion body.Under optimal conditions.ADSL was purified by Glutathione Sepharase 4B affinity chromatography,an dWestem bloting analysis showed that the fused protein was ADSL.This research was a foundation for further researchinto ADSL ’s biological function and its application identification.
【语种】中文
【第一作者】刘长青
【通讯作者】关伟军
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【学科分类】畜牧、兽医科学基础学科

【题目】北京油鸡α1-AGP基因结构与表达特征研究
【中文关键词】北京油鸡; 1一酸性糖蛋白基因;荧光蛋白;成纤维细胞;亚细胞定位
【英文关键词】Beijng fatty chicken; α1—acid glycoprotein;fluorescent protein;fibroblast cell;subcellular location
【中文摘要】提取北京油鸡心、肝、脾、肺、肾、脑、腿肌与胸肌等不同组织的总RNA,利用RT—PCR方法检测0c1.酸性糖蛋白基因(一AGP)mRNA 的差异表达。将al—AGP基因完整开放阅读框定向插入pEGFP—C1,构建带有GFP报告基因的重组表达载体pEGFP—al—AGE 将其导入北京油鸡体外培养细胞中,并进行G418药物筛选和克隆化培养。结果表明:t~l AGP基因开放阅读框长度为612bp,编码203个氨基酸,在北京油鸡肝、肺、腿肌和胸肌中有表达;转染后24、48和72 h,pEGFP. 1.AGP转染率在31.3%~47.6%之间,绿色荧光主要集中在细胞核中,随着表达量的增加,绿色荧光在细胞核中聚集成团块状或颗粒状,经药物筛选和克隆化培养,获得表达pEGFP一0【l—AGP融合蛋白的阳性克隆细胞株,利用RT-PCR与

Western blotting检测确认pEGFP. l—AGP已整合到北京油鸡成纤维细胞的基因组中,在优化的条件下,阳性细胞凋亡率、形态、生长与增殖状况与对照组比较差异不显著(P>0.05)。

【英文摘要】The specific expression of ocl—AGP gene in eight diferent tissues of Beijing fatty chicken was investigated RT-PCR.The fu11一length cDNA of GP was inserted into pEGFP—C1 multi—cloning sites to construct recombinant eu—karyotic expression vector pEGFP—al—AGE Th e lipofectin method was used to Wansfect the pEGFP—al—AGP into Belling fatty chicken fibroblast cells.The open reading frame of Beijing fatty chicken al AGP gene was 612 base pairs in length,which was expressed higher in liver and lung than in muscle.This gene did not express in heart and kidney.The expression efficiency ranged from 31.3% to 47.6% in 24.48.and 72 h after transformation.Th e green fluorescence mainly concen—trated in the nucleus.W ith the increase of the expression of green fluorescence.granula was observed in the nucleus.RT-PCR and Western blotting analyses showed that pEGFP-ttl-AGP had been integrated into the genome of Beijing chicken fibroblast cell with normal expression leve1.In optimized condition,there was no significant effect(P>0.05)on apoptosis ratio,positive cell shape,growth and reduplication state comparing with the control group.This research estab—lished the foundation for further function research of ttl-AGP gene and application in transgenic animal cloning.

【语种】中文

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【学科分类】畜牧、兽医科学基础学科

【题目】动物乳腺生物反应器的应用与展望

【中文关键词】:乳腺;生物反应器;应用;特点

【英文关键词】Galactophore; Bioreactor; Application; Trait

【中文摘要】:应用转基因技术生产乳腺生物反应器可以获得高效、安全、足量的人类重组蛋白、药用蛋白及其目的蛋白。本文概述了制备转基因动物过程中目的基因选择、载体构建等技术环节的研究现状;通过叙述乳腺生物反应器的原理和应用现状来分析乳腺生物反应器的优势及特点,为乳腺生物反应器的发展和应用奠定理论基础。

【英文摘要】Secure human recombined albumen, medicine albumen and other albumen could be obtained through transgenic animal'smammary gland bioreactor effectively. In this paper, the research status for selection of target gene, vector construction in constructingtransgenic technology was summarized. The principles, application status, advantages and characteristics of Animal mammarygland bioreactor were also analyzed, hoping to lay a theoretical foundation for development and application of mammary gland bioreactor.

【语种】中文

【第一作者】余露露

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【学科分类】畜牧、兽医科学基础学科

【题目】绵羊H-FABP基因单核苷酸多态性的研究

【中文关键词】绵羊;心脏型脂肪酸结合蛋白基因;单核苷酸多态性

【英文关键词】sheep;H.FABP;SNP

【中文摘要】:以小尾寒羊(48只)、宁夏滩羊(121只)、滩寒杂交羊F1(23只)、无角陶塞特(48只)、萨福克(24只)5个绵羊群体为实验材料,利用PCR—SSCP和DNA测序技术对心脏型脂肪酸结合蛋白(H—FABP)基因(GenBank登录号:AY157617)~b显子2和内含子2部分序列进行单核苷酸多态性(SNPs)检测及遗传多态性分析。结果表明:(1)5I物2的PCR扩增产物中存在981(G/A)、1014(A/C)、1019(T/C)和1058(一/G)4个SNP位点,表现为AA、BB、CC、AB、AC、BC、AD、CD和BD 9种基因型,其中AA为优势基因型。经)c2检验后,除滩羊和萨福克羊外,其他群体的基因频率和基因型频率均处于Hardy—Weinberg平衡状态。群体遗传多态性分析表明:宁夏滩羊、小尾寒羊和无角陶塞特羊3个群体中的多态信息含量

(P1C)均处于0.25和0.50之间,为中度多态,萨福克羊和滩寒杂交羊F 为低度多态(PIC<O.25),表明脂肪酸结合蛋白基因在不同绵羊品种中具有单核苷酸多态性,可以进一步作为候选基因来分析其与肌内脂肪含量性状的关联性。(2)引物4的PCR扩增产物中检测到1个SNP多态位点为2407(T/C),表现为HH、 和hh 3种基因型,基因型频率大小为HH>Hh>hh,经jc2检验后,在滩羊和无角陶塞特羊中均为达到Hardy—Weinberg平衡状态,其多态信息含量均为低度多态(PIC<O.25),而在小尾寒羊、滩寒杂交羊F.和萨福克羊均没有多态出现。

【英文摘要】Abstract:PCR—SSCP and DNA sequencing approaches were applied to assess the single nucleotide polymorphisms(SNPs)and analyze the genetic polymorphisms at partial exon 2 and intron 2 of H—FABP(Heart fatty acid—binding pro—tein)gene.and five sheep populations that comprised of Small—Tailed Han sheep(SH,48),Ningxia Tan sheep(Tan,121),Tan X SH F1(23),Poll Dorset(48)and Suffolk(24)sheep were screened in this stuty.The result showed:(1)four SNPs at981(G/A),1014(A/C)1019(T/C)and 1058(_/G)and nine genotypes(AA,BB,CC,AB,AC,BC,AD,CD and BD)weredetected using primer 2.tI1e AA was the predominant genotype.A chi—square analysis suggested that the allele frequencie and genotype frequencies of H-FABP were in Hardy—Weinberg equilibrium except the Tan and Suffolk populations.Stmisticalanalysis revealed a low polymorphism information content(P/C)in the Suffolk and Tan X SH F1 populations(PIC<0.25)but an intermediate P/C in the remaining three populations(0.25<PIC<0.50).It meant that the fragment of H—FABPhad polymorphisms,which could be used as a candidate gene associated gene with phenotypic traits like intramuscular fatcontent in different sheep populations.(2)Three genotypes(H Hh and hh)determ ined by a SNP at 2407(T-C)were de—tected using primer 4.The genotype frequencies were in the order of HH >Hh>hh.A chi—square an alysis suggested thatthe allele frequencies and genotype frequencies of H-FABP were in Hardy—Weinberg equilibrium in the Tan and Poll Dorsetpopulations。and the PIC values were low LPIC<o.25).However there was no polymorphisms in SH,Tan X SH Fl andSuffolk populations.

【语种】中文

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【学科分类】畜牧、兽医科学基础学科

【题目】细菌人工染色体基因组文库构建关键技术研究

【中文关键词】细菌人工染色体,基因组文库构建,质粒纯化,高分子量DNA

【英文关键词】Bacterial artificial chromosome Genomic library Plasmid purification HMW nuclear DNA

【中文摘要】基因组文库是进行分子克隆和基因结构与功能研究的基础,完整覆盖的基因组文库的构建,使基因组任何DNA片段的筛选和获得成为可能。细菌人工染色体(Bacterial Artificial Chromosome,BAC)与其它载体系统相比具有转化效率高、嵌舍体少、插入片段易回收,高覆盖率、稳定性强,并且具有易分离和操作等特性等优点而被广泛应用。作为物种保护策略的重要部分,构建我国濒危动植物品种基因组BAC文库,对于其遗传资源的保护和研究具有非常重要的作用。在查阅大量国内外相关资料的基础上,就BAC基因组文库构建过程中载体的制备、高分子量DNA的制备、大片段DNA的回收、连接与电击转化、基因组BAC文库质量鉴定等几个重点、难点问题进行了详细的论述和分析,对于构建高分子量插入片段、高覆盖率和稳定性的基因组文库提供理论基础与技术支撑。

【英文摘要】The construction of a genomic library is essential to research on genome structure and function.Acomprehensive genomic fibrary makes it possible to screen and isolate any genomic DNA fragments from it.Artificialbacterial chromosome can hold large segm ent DNA,which have higher coverage ratio and stabihty than other vectors inthe construction of genome library.It is also easv to separate and manipulate.Some problems of the construction ofgenome library about preparation of BAC vector,isolation of high molecular weight nuclear DNA,isolation ofsize—selected DNA from agarose,more coverage ratio and stability were discussed,thus being able to supply a basis forthe genome library of large—size insert,more coverage and stability.

【语种】中文

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【学科分类】畜牧、兽医科学基础学科

【题目】细菌人工染色体载体的发展和应用
【中文关键词】BAC 载体;文库构建;基因组测序;转基因;动物品种资源保存
【英文关键词】BAC vectors; Genomics construction; Genomics sequencing; Transgene; Animals conservation
【中文摘要】:细菌人工染色体(Bacterial artificial chromosome,BAC)是在大肠杆菌F 质粒的基础上建成的高容量、低拷贝的质粒载体。BAC载体已广泛应用于基因组文库的构建及筛选、基因组测序、新基因的发现、图位克隆、BAC 微阵列、转基因和动物品种资源保存等方面。本文综述了BAC 载体的发展及其应用
【英文摘要】The development of Bacterial Artificial Chromosome (BAC), which is a High-capacity and low copy plasmid, isbased on the well-characterized Escherichia coli F-factor. BAC is currently used in a wide array of applications including genomicsconstruction, genomics sequencing, discovery of new genes, map-based cloning, BAC microarray, Transgene and animal species savingand so on. This paper described the key elements in the development of the BAC systemand its current applications.
【语种】中文
【第一作者】陈献伟
【通讯作者】马月辉
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【学科分类】畜牧、兽医科学基础学科

【题目】中国7个绵羊品种mtDNA D—loop区序列的系统发育与起源研究
【中文关键词】:绵羊;线粒体DNA;控制区;起源
【英文关键词】words:sheep;mtDNA ;control region;origin
【中文摘要】:为探讨中国绵羊的起源、进化及遗传多样性,对新疆、内蒙古、西藏、云南、宁夏、山东等地区7个地方绵羊品种和1个外来品种共59个体的线粒体D-loop全序列进行了测序分析。7个地方绵羊群体的单倍型多样度(Hd)和核苷酸多样度( )分别平均为0.996 0和0.030 6,表明我国地方绵羊品种的控制区遗传变异丰富。系统发育和网络进化分析均将中国绵羊分为3个明显的支系,揭示中国绵羊存在3个独立的母系起源;并发现欧洲摩佛仑羊与支系B聚在一起,表明摩佛仑羊与中国绵羊有较近的亲缘关系。对mtDNA D-loop的3个支系进行核苷酸不配对分布曲线分析和Fu,S中性检验,结果显示3个支系的分布曲线均呈单峰形,且中性检验差异显著,表明绵羊3个支系可能曾经历群体扩张。
【英文摘要】To investigate the origin, evolution and genetic diversity of Chinese dom estic sheep(ovis).complete D-loop sequences of 59 individuals from 7 local breeds from Xinjiang,InnerM ongolia,Tibet,Yunnan,Ningxia and Shandong and 1 imported breed were sequenced. H aplo—type diversity (Hd)and nucleotide diversity(7c)among 7 Chinese sheep population were 0.996 0and 0.030 6 averagely,which indicate genetic variance within control region of Chinese sheep is a—bundant.Ne our-j oining tree was constructed based on 5 9 D-loop sequences from 8 domesticsheep populations together with previously published wild sheep sequences. It supports there arethree distinct lineages(A,B and C) in Chinese sheep.M ouflon was clustered with lineage B,which showed that it had close relationship with Chinese sheep.Further median—joining networkanalysis also showed three lineages were determined in Chinese sheep. The result suggests thatChinese sheep derived from three independent maternal ancestors.Analysis of mismatch distribu—tion showed unimodal distribution of three lineages.And Fu ’ S test of selective neutrality revealedthat three lineages were in departure from the neutrality,which the difference were significant(Pd 0.001).It implies three lineages of Chinese sheep ever experienced population expansion possi—bly.
【语种】中文
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【学科分类】畜牧、兽医科学基础学科

【题目】转基因猪异种器官移植应用前景
【中文关键词】:转基因;猪;异种移植;异种排斥;内源性逆转录病毒
【英文关键词】Transgenic; pig; xenotransplantation; xenograft rejection; PERV
【中文摘要】:转基因猪能为人类提供可移植的异种器官,解决移植器官短缺的问题。但是,异种移植后产生的免疫排斥反应,主要包括超急性排斥反应和迟发性排斥反应,它们最终将导致移植物的致命损伤,是限制异种器官广泛应用的最大障碍。最近的一些研究,在克服免疫排斥方面已经取得了可喜的成果。作为异种器官供体,猪携带的内源性逆转录病毒也可能对人体产生潜在的威胁。迄今,还没有研究证明其不会感染人类机体。本文针对异种器官移植后的免疫排斥发生的机理,克服免疫排斥的方法以及逆转录病毒的潜在感染等方面进行了综述和讨论。
【英文摘要】Transgenics can provide organs of xenotransplantation for human to solve the shortage of organs. But the major limitationto more widespread utilization is immune rejection after transplantation, including hyperacute rejection and delayed rejection,which will eventually lead to graft a fatal injury. A number of recent studies have achieved encouraging results in overcoming the immunerejection .As for donor of xenogenic organs, pigs carrying the to humans may have a potential threat. To date, no studays prove thatthe endogenous retrovirus will not infect human body. This article reviews xenograft rejection and biosafety issues on genetically modifiedpigs for xenotransplantation. This paper reviewed and discussed mechanismof immune rejection, the method of overcoming immunerejection and potential infection of endogenous retrovirus after xenotransplantation.
【语种】中文
【第一作者】冯宝刚
【通讯作者】马月辉
【期刊名称、卷期、页码】现代生物医学进展,2009,9(10):1967-69
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【学科分类】畜牧、兽医科学基础学科

【题目】Preventing protein aggregation by its hyper-acidic fusion cognates in Escherichia coli
【中文关键词】Protein aggregation, Hyper-acidic, Fusion cognate, TEL-SAM, Ab42
【英文关键词】Protein aggregation, Hyper-acidic, Fusion cognate, TEL-SAM, Ab42
【中文摘要】Preventing protein aggregation is crucial for various protein studies, and has a large potential for remedy of protein misfolding or aggregates-linked diseases. In this study, we demonstrated the hyper-acidic protein fusion partners, which were previously reported to enhance the soluble expression of aggregation-prone proteins, could also significantly prevent aggregation (or improve the solubility) of disease-associated and amyloid/fibril-forming polypeptides such as TEL-SAM and A β 42 in Escherichia coli cells. Further and most importantly, the solubility of all poorly soluble target proteins examined was greatly elevated by their corresponding highly soluble hyper-acidic fusion cognates when they were co-expressed, in despite of a concomitant compromise of the cognates' solubility. The extent of such a solubility enhancement appeared to be in parallel with the ratio of the levels of co-expressed hyper-acidic fusion cognate and target protein. The hyper-acidic fusion cognates might function as intermolecular solubilizing effectors to prevent aggregation of the target proteins, and a plausible model for interpreting these results is also proposed.
【英文摘要】Preventing protein aggregation is crucial for various protein studies, and has a large potential for remedy of protein misfolding or aggregates-linked diseases. In this study, we demonstrated the hyper-acidic protein fusion partners, which were previously reported to enhance the soluble expression of aggregation-prone proteins, could also significantly prevent aggregation (or improve the solubility) of disease-associated and amyloid/fibril-forming polypeptides such as TEL-SAM and A β 42 in Escherichia coli cells. Further and most importantly, the solubility of all poorly soluble target proteins examined was greatly elevated by their corresponding highly soluble hyper-acidic fusion cognates when they were co-expressed, in despite of a concomitant compromise of the cognates' solubility. The extent of such a solubility enhancement appeared to be in parallel with the ratio of the levels of co-expressed hyper-acidic fusion cognate and target protein. The hyper-acidic fusion cognates might function as intermolecular solubilizing effectors to prevent aggregation of the target proteins, and a plausible model for interpreting these results is also proposed.
【语种】英文
【第一作者】邹竹荣

【通讯作者】张春义
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【学科分类】生物化学

【题目】作物叶酸检测方法的研究进展
【中文关键词】作物;叶酸衍生物;微生物法;高效液相色谱法
【英文关键词】crop; folate derivatives; microbiologicalmethod; high performance liquid chromatography
【中文摘要】叶酸是一种水溶性的维生素,是介导一碳单位转移极其重要的辅助因子。由于人类不能自身合成叶酸,而且作物中叶酸的含量通常较低,尤其是在谷物中含量更低,所以叶酸缺乏是一个全球性的问题。目前正通过基因工程或育种技术来提高作物中的叶酸水平,如何获得作物中各种叶酸衍生物含量的可靠数据非常重要。介绍了植物叶酸的提取过程,以及各种叶酸检测方法的原理、适用范围和各自的优缺点;重点阐述了微生物法和高效液相色谱法的方法学建立、原理以及目前的应用情况,并进行了展望。
【英文摘要】Folic acid is a water2soluble vitamin and an extremely important co2factor that can mediate one2carbon unittransfer. Human cannot synthesize folate de novo, and the folate content in crop s is usually quite low, especially incereal grains, thus causing a global p roblem of folate deficiency in human. At p resent, peop le are imp roving thefolate content in crop s through biofortification. How to obtain reliable data about the content of folate derivatives incrop s is very important. This paper p rovides a brief overview of folate extraction and various methodologies for folateanalysis, with focus on microbiological method and high performance liquid chromatography (HPLC) concerningdetection method establishment, technical p rincip les and app lications
【语种】中文
【第一作者】常娜宁
【通讯作者】张春义
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【引文索引号】
【学科分类】植物学

【题目】水稻L-半乳糖途径相关基因的表达特性
【中文关键词】水稻(Oryza sativa);抗坏血酸;L-半乳糖途径;基因表达分析
【英文关键词】rice(Oryza sativa) ascorbic acid L-galactose pathway gene expression
【中文摘要】摘要: 维生素C又称抗坏血酸(AsA),在植物中不仅是重要的抗氧化剂,还具有许多其它重要的生理功能。研究发现L-半乳糖途径是双子叶植物拟南芥AsA合成的主要途径,但单子叶植物水稻中AsA合成的L-半乳糖途径的功能和调控机理还不清楚。通过同源序列比对,在水稻基因组中检索到与拟南芥L-半乳糖途径相关酶的同源基因,通过分析水稻根与叶中及持续光、暗处理下叶片中AsA含量变化及L-半乳糖途径中相关酶基因的表达,初步探究了水稻L-半乳糖途径中调控AsA合成的关键酶基因。
【英文摘要】Vitamin C or ascorbic acid (AsA), is not only an important antioxidant, but also an active substance with many other physiological functions. The L-galactose pathway has been proven to be the key pathway of ascorbic acid in Arabidopsis thaliana. However, limited information about L-galactose pathway of ascorbic acid synthesis in rice is reported. In this research, through sequence alignments, the homologous genes putatively encoding rice L-galactose pathway enzymes were obtained. Then based on analysis of tissue specificity and leaf treatment with continuous light or darkness, AsA content and gene expression related to L-galactose pathway enzyme were determined, preliminarily evidencing the key genes controlling the synthesis of AsA in rice.
【语种】中文
【第一作者】邓载安
【通讯作者】黄荣峰
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【引文索引类型】其他
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【学科分类】分子生物学

【题目】Phosphorus efficiency in long-term (15 years) wheat – maize ropping systems with various soil and climate conditions
【中文关键词】小麦,玉米,磷,长期,产量,效率,平衡
【英文关键词】Wheat,Maize,Phosphorus,Long-term,Yield,Efficiency,Balance
【中文摘要】Long-term (over 15 years) winter wheat (Triticum aestivum L.) – maize (Zea mays L.) crop rotation experiments were conducted to investigate phosphorus (P) fertilizer utilization efficiency, including the physiological efficiency, recovery efficiency and the mass (the input – output) balance, at five sites across different soil types and climate zones in China. The five treatments used were control, N, NP, NK and NPK, representing various combinations of N, P and K fertilizer applications. Phosphorus fertilization increased average crop yield over 15 years and the increases were greater with wheat (206%) than maize (85%) across all five sites. The wheat yield also significantly increased over time for the NPK treatments at two sites (Xinjiang and Shanxi), but decreased at one site (Hunan). The P content in wheat was less than 3.00 g kg_1 (and 2.10 g kg_1 for maize) for the N and NK treatments with higher values for the Control, NP and NPK treatments. To produce 1 t of grain, crops require 4.2 kg P for wheat and 3.1 kg P for maize. The P physiological use efficiency was 214 kg grain kg_1 P for wheat and 240 kg grain kg_1 P for maize with over 62% of the P from P fertilizer. Applying P fertilizer at 60 – 80 kg P ha_1 year_1 could maintain 3 – 4 t ha_1 yields for wheat and 5 – 6 t ha_1 yields for maize for the five study sites across China. The P recovery efficiency and fertilizer use efficiency averaged 47% and 29%, respectively. For every 100 kg P ha_1 year_1 P surplus (amount of fertilizer applied in excess of crop removal), Olsen-P in soil was increased by 3.4 mg P kg_1. Our study suggests that in order to achieve higher crop yields, the long-term P input – output balance, soil P supplying capacity and yield targets should be considered when making P fertilizer recommendations and developing strategies for intensively managed wheat – maize cropping systems.
【英文摘要】Long-term (over 15 years) winter wheat (Triticum aestivum L.) – maize (Zea mays L.) crop rotation experiments were conducted to investigate phosphorus (P) fertilizer utilization efficiency, including the physiological efficiency, recovery efficiency and the mass (the input – output) balance, at five sites across different soil types and climate zones in China. The five treatments used were control, N, NP, NK and NPK, representing various combinations of N, P and K fertilizer applications. Phosphorus fertilization increased average crop yield over 15 years and the increases were greater with wheat (206%) than maize (85%) across all five sites. The wheat yield also significantly increased over time for the NPK treatments at two sites (Xinjiang and Shanxi), but decreased at one site (Hunan). The P content in wheat was less than 3.00 g kg_1 (and 2.10 g kg_1 for maize) for the N and NK treatments with higher values for the Control, NP and NPK treatments. To produce 1 t of grain, crops require 4.2 kg P for wheat and 3.1 kg P for maize. The P physiological use efficiency was 214 kg grain kg_1 P for wheat and 240 kg grain kg_1 P for maize with over 62% of the P from P fertilizer. Applying P fertilizer at 60 – 80 kg P ha_1 year_1 could maintain 3 – 4 t ha_1 yields for wheat and 5 – 6 t ha_1 yields for maize for the five study sites across China. The P recovery efficiency and fertilizer use efficiency averaged 47% and 29%, respectively. For every 100 kg P ha_1 year_1 P surplus (amount of fertilizer applied in excess of crop removal), Olsen-P in soil was increased by 3.4 mg P kg_1. Our study suggests that in order to achieve higher crop yields, the long-term P input – output balance, soil P supplying capacity and yield targets should be considered when making P fertilizer recommendations and developing strategies for intensively managed wheat – maize cropping systems.
【语种】英文
【第一作者】Xu Tang
【通讯作者】Jumei Li
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【学科分类】农学其他学科

【题目】施用污泥堆肥对土壤和小麦重金属累积的影响
【中文关键词】污泥堆肥,重金属,小麦
【英文关键词】Sewage compost, heavy metals, wheat

【中文摘要】以小麦为供试作物,以施用化学肥料为对照,通过施用不同量的污泥堆肥和化肥配合,研究了污泥堆肥对土壤和小麦重金属累积的影响。结果表明:土壤中zn、Cu、Cd、As、Hg等5种重金属含量随污泥堆肥用量的增加而增加;植株中Zn、As、Cr含量随污泥堆肥用量的增加而增加。各处理土壤中8种重金属Hg、Cd、Pb、As、Zn、cu、cr、Ni含量均未超出“GB 15618—1995(《土壤环境质量标准》)”的二级标准。小麦籽粒中Hg、cd、Pb含量未超出国家食品卫生标准的标准值,污泥用量18 000 kg~n2时As含量超出标准值0.02 mg/kg;微量元素zn、Cu在秸秆中的含量小于籽粒中的含量,而其他重金属在秸秆中的含量是籽粒的2~40倍。由此推断,适量污泥堆肥农用短期内不会引起土壤重金属污染,也不会影响可食部分的食用,重复使用多年后应及时监测。

【英文摘要】A field experiment was conducted to study the heavy metals accumulation in soil and winter wheat supplied with different rates of sewage sludge and chemical fertilizer.The results showed that the content of Zn,Cu,Cd,As,Hg in soil were increased responding to sewage sludge proportion.The same tendency with Zn,As,Cr in wheat.The content of Hg,Cd,Pb,As,Zn,Cu,Cr and Ni were not exceed the second class of the standard of soil environmental quality.Hg,Cd,Pb in wheat grain was not exceeding the national food and healthy standard value.While as content was exceeded standard value by 0.02 mg/kg at the amount of 1 8 000 kg/hm2。Level of sludge compost.Zn,Cu content in straw was lower than grain,and other heavy metals content was 2—40 times of grain.So in a short time,proper amount of sewage sludge fertilizer will not caused pollution in soil,or bring effectsin edible part,either.But years of repeated application demand timely monitoring.

【语种】中文

【第一作者】陈曦

【通讯作者】王甲辰

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【学科分类】农学其他学科

【题目】Correlation between polymorphisms in ADSL and GARS-AIRS-GART genes with inosine 5'-monophosphate (IMP) contents in Beijing-you chickens

【中文关键词】水溶性前体;牛肉味;肌苷-5' -磷酸;温度;肌肉

【英文关键词】WATER-SOLUBLE PRECURSORS; BEEF FLAVOR; INOSINE-5'-MONOPHOSPHATE; TEMPERATURE; MUSCLE

【中文摘要】无

【英文摘要】1. The association of single nucleotide polymorphisms identified within the ADSL (adenylosuccinate lyase deficiency) gene and GARS-AIRS-GART (glycinamide ribonucleotide synthetase-aminoimidazole ribonucleotide synthetase-glycinamide ribonucleotide transformylase) gene with the content of inosine 5'-monophosphate (IMP) was studied in a population of male Beijing-you (BJY) chickens slaughtered at 90 d of age. 2. A single nucleotide polymorphism in exon 2 of the ADSL gene had an effect on IMP content. Chickens inheriting the positive allele at ADSL, both homozygous and heterozygous genotypes, had a higher content of IMP in breast muscle than did individuals without it. 3. Similar results were obtained for the GARS-AIRS-GART gene. The marker at the 5' untranslated region (UTR) of the GARS-AIRS-GART gene was also significant for the IMP value. Chickens inheriting the genotypes with the positive allele at this locus had a much higher content of IMP than did those homozygous for the unfavourable one. 4. Interactions between ADSL and GARS-AIRS-GART were detected for such traits as body weight and muscle yields in the tested population. The two loci acted in an additive fashion. Because IMP is one of the most important flavour components in meat, markers developed at these two genes, as well as the combination genotypes, could be used as potential molecular markers for improving chicken quality.

【语种】英文

【第一作者】Ye, M. H.

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【学科分类】畜牧学

【题目】Determining critical values of soil Olsen-P for crop yields using long-term experiments under various soil and climate conditions in China

【中文关键词】长期,临界值,玉米,模型, Olsen磷,冬小麦

【英文关键词】Long-term,Critical value,Maize,Model,Olsen-P,Winter wheat

【中文摘要】The critical value of soil Olsen-P is the point above which the probability of crop yield response to fertilizer P is small or nil. Determining this critical value is fundamental when making appropriate P fertilizer recommendations. In this study, the critical values were determined for continuous maize (Zea mays L.)-winter wheat (Triticum aestivum L.) cropping systems from a 15-year field experiment across three sites in China using linear-linear, linear-plateau and Mitscherlich models. The mean critical values for maize using the three models ranged from 12.1 to 17.3 mg P kg − 1 (average 15.3 mg P kg − 1) and for winter wheat from 12.5 to 19.0 mg P kg − 1 (average 16.3 mg P kg − 1) among study sites. The mean critical value for maize was approximately 7% lower than that for winter wheat across all sites based on the three models. Critical values identified by the Mitscherlich model were 1.4 to 2.1 times those from linear-linear and 1.3 to 1.9 times of those from linear-plateau and were crop and site dependent. There was a significant negative correlation (P<0.05) between the mean critical value from the three models and the observed P uptake by either maize or wheat. Our study shows that the critical values can vary with sites, crops and models used, and thus caution should be taken when selecting the most appropriate one when making P fertilizer recommendations for agronomic return and to minimize chances of negative environment impact from overfertilization.

【英文摘要】The critical value of soil Olsen-P is the point above which the probability of crop yield response to fertilizer P is small or nil. Determining this critical value is fundamental when making appropriate P fertilizer recommendations. In this study, the critical values were determined for continuous maize (Zea mays L.)-winter wheat (Triticum aestivum L.) cropping systems from a 15-year field experiment across three sites in China using linear-linear, linear-plateau and Mitscherlich models. The mean critical values for maize using the three models ranged from 12.1 to 17.3 mg P kg − 1 (average 15.3 mg P kg − 1) and for winter wheat from 12.5 to 19.0 mg P kg − 1 (average 16.3 mg P kg − 1) among study sites. The mean critical value for maize was approximately 7% lower than that for winter wheat across all sites based on the three models. Critical values identified by the Mitscherlich model were 1.4 to 2.1 times those from linear-linear and 1.3 to 1.9 times of those from linear-plateau and were crop and site dependent. There was a significant negative correlation (P<0.05) between the mean critical value from the three models and the observed P uptake by either maize or wheat. Our study shows that the critical values can vary with sites, crops and models used, and thus caution should be taken when selecting the most appropriate one when making P fertilizer recommendations for agronomic return and to minimize chances of negative environment impact from overfertilization.

【语种】英文

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【学科分类】农学其他学科

【题目】Phosphorus efficacy in four Chinese long-term experiments with Different soil properties and climate characteristics

【中文关键词】作物轮作, 肥料, 水稻, 小麦

【英文关键词】Crop rotation, fertilizers, rice, wheat

【中文摘要】Four long-term experiments in China were used to study the efficacy of phosphorus (P) fertilizers in soils. The results showed that the increased yield by P fertilization varied with different crops: early rice . late rice. We suggest applying the P fertilizer heavily on winter wheat and early rice. The P agronomic efficiency was about 27 kg rice grain kg21 and 30.8 – 55.7 kg wheat grain kg21. The P recovery efficiency by plants was .80% in three of four sites, and the fertilizer-use efficiency was 34% on average. The current applications of about 40 kg P ha21year21 for rice – rice rotation could maintain yields of 8 – 11 t ha21 year21, and 65.5 kg P ha21 year21 applied for wheat – maize rotation could maintain yields of 5.3 – 6.2 t ha21 for wheat and 4.2 – 6.0 t ha21 for maize, although no P was added to maize. However, sustaining higher yields will require soil P-supplying capacity and farm-specific management targets and strategies.

【英文摘要】Four long-term experiments in China were used to study the efficacy of phosphorus (P) fertilizers in soils. The results showed that the increased yield by P fertilization varied with different crops: early rice . late rice. We suggest applying the P fertilizer heavily on winter wheat and early rice. The P agronomic efficiency was about 27 kg rice grain kg21 and 30.8 – 55.7 kg wheat grain kg21. The P recovery efficiency by plants was .80% in three of four sites, and the fertilizer-use efficiency was 34% on average. The current applications of about 40 kg P ha21year21 for rice – rice rotation could maintain yields of 8 – 11 t ha21 year21, and 65.5 kg P ha21 year21 applied for wheat – maize rotation could maintain yields of 5.3 – 6.2 t ha21 for wheat and 4.2 – 6.0 t ha21 for maize, although no P was added to maize. However, sustaining higher yields will require soil P-supplying capacity and farm-specific management targets and strategies.

【语种】英文

【第一作者】Linping Zhao

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【学科分类】农学其他学科

【题目】Nitrogen efficiency in long-term wheat – maize cropping systems under diverse field sites in China

【中文关键词】小麦, 玉米,氮, 长期效率

【英文关键词】Wheat Maize Nitrogen, Long-term efficiency

【中文摘要】Efficiency of fertilizer N is becoming increasingly important in modern agricultural production owing to increasing food requirement and growing concern about environments. However, there is almost no study regarding its long-term efficiency in wheat and maize cropping systems. Long-term (15 years) experiments involving wheat (Triticum aestivum L.) and maize (Zea mays L.) rotations at five field sites with various soil and climate characteristics in China were used to determine the nitrogen (N) efficiency, including the physiological efficiency, recovery efficiency and N mass balance of soil – plant systems in response to different fertilization treatments. The present study consisted of nine treatments: unfertilized, N, phosphorus, potassium, straw and manure or their combinations. The contribution of N fertilizers to wheat yield was higher than to maize and suggested that wheat could be given priority over maize when determining N application rates. Uptake of 1 kg N produced 35.6 kg of wheat grain and 39.5 kg of maize grain. The deficit of N in soils without applied N ranged from 40 to 103 kg N ha − 1 year − 1, while N surpluses in soils with applied N fertilizers ranged from 35 to 350 kg N ha − 1 year − 1. The apparent accumulated N recovery efficiency (NREac) varied widely from 4% to 90%: unbalanced fertilization and other soil limiting factors (such as aluminium toxicity) were associated with low NREac. In the treatments of combination of N, phosphorus and potassium with normal application rates, the average of NREac in four out of five sites reached 80%, which suggested that best management of N fertilizers could recover most of N fertilizers applied to soils. The results will be helpful to understand the long-term fate of N fertilizers and to optimize the N fertilization for agricultural practices and environment protection.

【英文摘要】Efficiency of fertilizer N is becoming increasingly important in modern agricultural production owing to increasing food requirement and growing concern about environments. However, there is almost no study regarding its long-term efficiency in wheat and maize cropping systems. Long-term (15 years) experiments involving wheat (Triticum aestivum L.) and maize (Zea mays L.) rotations at five field sites with various soil and climate characteristics in China were used to determine the nitrogen (N) efficiency, including the physiological efficiency, recovery efficiency and N mass balance of soil – plant systems in response to different fertilization treatments. The present study consisted of nine treatments: unfertilized, N, phosphorus, potassium, straw and manure or their combinations. The contribution of N fertilizers to wheat yield was higher than to maize and suggested that wheat could be given priority over maize when determining N application rates. Uptake of 1 kg N produced 35.6 kg of wheat grain and 39.5 kg of maize grain. The deficit of N in soils without applied N ranged from 40 to 103 kg N ha − 1 year − 1, while N surpluses in soils with applied N fertilizers ranged from 35 to 350 kg N ha − 1 year − 1. The apparent accumulated N recovery efficiency (NREac) varied widely from 4% to 90%: unbalanced fertilization and other soil limiting factors (such as aluminium toxicity) were associated with low NREac. In the treatments of combination of N, phosphorus and potassium with normal application rates, the average of NREac in four out of five sites reached 80%, which suggested that best management of N fertilizers could recover most of N fertilizers applied to soils. The results will be helpful to understand the long-term fate of N fertilizers and to optimize the N fertilization for agricultural practices and environment protection.

【语种】英文
【第一作者】Jie Liu
【通讯作者】Yibing Ma
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【学科分类】农学其他学科

【题目】不同种植年限和施肥量对日光温室土壤锌累积的影响
【中文关键词】有机肥;温室土壤;重金属;锌
【英文关键词】organic manure; greenhouse soil; heavy metal; zinc
【中文摘要】以辽宁省沈阳市郊某黄瓜生产基地较为常见的5a、2a和1a温室大棚作为研究对象,对表层土壤(0~10、10~20、20~40cm)进行分析,探讨不同种植年限和施肥条件下温室土壤锌的累积情况及其来源。结果表明,不同种植年限的温室土壤锌含量均未超过国家土壤环境质量一级标准(Zn≤100mg·kg-1),其中种植年限为5a的温室土壤锌含量最高,达到47.17mg·kg-1。土壤锌含量随土壤深度的增加呈下降趋势,而且与温室种植年限呈极显著正相关(P0.01),与土壤有机质呈极显著正相关(P0.01)。通过设置不同有机肥施肥处理(0、10、20、40和60t·hm-2)的田间小区试验发现,所有年限温室土壤锌含量都高于对照(1a温室施10t·hm-2有机肥处理除外),并且随着施肥量的增加而增加,说明有机肥是蔬菜温室土壤锌累积的重要来源。
【英文摘要】Soil samples (0~10, 10~20 and 20~40 cm)were collected from a greenhouse having been planted with cucumber for 1, 2, and 5 years in Shenyang suburb to explore the effects of different planting years and organic manure fertilization on Zn accumulation in soil, and toidentify the source of the Zn. The results showed that under the condition of no organic manure fertilization, the Zn content in the soils withdifferent planting years in greenhouse did not surpass the Chinese Environmental Quality Standard for Soils (GB 15618—1995)(SEPAC,1995)(Zn≤100 mg·kg-1), being the highest (47.17 mg·kg-1)in the soil planted for 5 years. The soil Zn content had a decreasing trend with soil depth, and had significant positive correlations with planting year (P<0.01)and soil organic matter content (P<0.01). After organic manure fertilization(10, 20, 40, and 60 t·hm-2), the Zn content of soils with different planting years was higher than the contrast, except the soil planted for 1 year and applied with 10 t·hm-2 of organic manure, and increased with increasing fertilization rate, suggesting that the Zn accumulation in greenhouse soil was mainly attributed to organic manure.
【语种】中文
【第一作者】王俊
【通讯作者】陈欣
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【学科分类】环境科学技术基础学科

【题目】氢化物发生-原子荧光光谱法对土壤铅的测定研究
【中文关键词】氢化物发生- 原子荧光法; 铅; 土壤
【英文关键词】Hydride generation- Atomic fluorescence spectrometry; lead; soil
【中文摘要】应用双道无色散原子荧光光谱仪, 采用HNO3 - HC lO4 体系消解土壤样品, 研究了光电管负高压、灯电流、载气和屏蔽气流量、硼氢化钾和铁氰化钾浓度对土壤铅测定结果的影响。在选定实验条件下, 铅的线性范围为0~ 100 μg L- 1, 检出限为0. 04 μg L- 1, 相对标准偏差为1. 25%, 加标回收率为93. 8% ~ 105. 6%。测定表明该方法简便、快捷, 测定结果准确可靠。
【英文摘要】A double-channel and dispersion less atomic fluorescence spectroscopy has been developed for determination of trace lead in soils after digestion using HNO3 - H C lO4 system. The effect o f the experimental conditions and instrumental operating parameters (e. g. negative voltage, current o f lamp KBH 4 concentration and K3 Fe (CN) 6 concentration, e t a l.) on the determination o f Pb is investigated. Under the optimum conditions, the linear range of determination is 0~ 100 μg L- 1, and the detection limit is 0. 04 μg L- 1. The instrumental relative standard deviation is 1. 25% and the recoveryis about 93. 8%~ 105. 6%. This method is simple and rap id. The results are accurate and re liable.

【语种】中文
【第一作者】王俊
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【学科分类】环境科学技术基础学科

【题目】Evaluation of heavy metal accumulation in greenhouse soils in Shenyang, Northeast China
【中文关键词】温室土壤;重金属;多变量分析;源
【英文关键词】Greenhouse soil, Heavy metal, Multivariate analysis, Source
【中文摘要】本文以以新民市大民屯镇设施蔬菜生产基地为研究对象,通过田间调查、小区实验,阐明了设施菜地重金属的来源及累积规律,研究发现,所有调查的温室均未发生土壤重金属污染,只有Cd高于国家土壤环境质量一级标准(Cd≤0.2mg·kg-1),略低于无公害食品设施蔬菜产地土壤环境质量标准(Cd≤0.3mg·kg-1,pH 6.5-7.5),对设施菜地土壤安全构成潜在威胁。通过多元统计和对肥料样品的抽样分析,认为有机肥、化肥及农药等农用化学品的使用是导致温室表层土壤Cu、Zn、Cd和As积累的主要原因,而Cr和Pb主要来自于母质。有机肥小区试验的结果也表明有机肥的使用是导致土壤重金属累积的原因之一,发现土壤重金属Cu、Zn、Cd全量和有效态含量都会随着有机肥施用量的增加而增加,并且随着土壤深度的增加表现出递减趋势,说明有机肥的“激活”效应是导致土壤有效态重金属含量显著提高的主要机制。
【英文摘要】Soil heavy metals are considered being originated from two major sources, natural and anthropogenic. With the spring-up of greenhouse farming in the suburbs of big cities, heavy metals accumulation in greenhouse soil is becoming a serious environmental problem. In order to evaluate and ascertain the accumulation status and origins of heavy metals in the greenhouse soils of Shenyang suburb, the Cu, Zn, Cd, As, Cr and Pb contents in soil samples collected from the greenhouse fields with different cultivation years were determined by using atomic absorption spectroscopy (AAS) and hydrogen-atomic fluorescence spectrometer (HG-AFS), and the origins of these heavy metals were analyzed by employing correlation analysis, principle component analysis (PCA) and hierarchical cluster analysis (HCA). No obvious soil heavy metals accumulation was observed, but the Cu, Zn, Cd and As contents in greenhouse soils increased with increasing years of cultivation. Two significant components were extracted by PCA, explaining 70.013% of total variance. The Cu, Zn, Cd and As in test soils were mainly associated with anthropogenic input, whereas Cr and Pb were related to parent rocks. HCA confirmed and completed the results obtained by PCA, classifying the data in two groups representing different origins. Cluster Ⅰ included Cu, Zn, Cd and As representing human inputs, while Cluster Ⅱ included Cr and Pb representing natural sources. Moreover, the results obtained by the correlation analysis also agreed with PCA and HCA, also helping in elucidating the relationship between heavy metals and soil properties. More attention should be paid to the anthropogenic inputs of Cu, Zn, Cd and As in Shenyang greenhouse fields, especially for those having been cultivated for 5 years or more.
【语种】英文
【第一作者】王俊
【通讯作者】陈欣
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【学科分类】环境科学技术基础学科

【题目】沈阳张士灌区6种蔬菜的镉污染现状及积累特征研究
【中文关键词】张士灌区; 蔬菜; 镉污染; 土壤; 低积累植物
【英文关键词】Zhangshi irrigation area; vegetables; cadmium pollution; soil; low accumulated plants.
【中文摘要】在张士Cd 污灌区蔬菜种植地采集了6 种季节性蔬菜(莴笋、辣椒、茄子、花椰菜、西红柿和大葱) 及土壤样品,进行了Cd 含量分析,采用超标倍数法评价了蔬菜可食部Cd 的吸收积累,采用富集系数和转移系数法评价了Cd 从土壤至蔬菜的吸收转运能力。结果表明: 在6 种蔬菜中,莴笋、辣椒和茄子的可食部Cd 较高,分别为4. 01、1. 78 和1. 24 mg·kg - 1DW; 其可食部Cd 分别超标1. 92、2. 28 和2. 01 倍(叶菜类标准0. 20 mg·kg - 1 FW,茄果类标准0. 05 mg·kg - 1 FW) ; 西红柿

、花椰菜和大葱可食部Cd 未超标,分别为1. 02、1. 20 和0. 83 mg • kg - 1 DW; 花椰菜、大葱和西红柿的富集系数分别为0. 28、0. 36 和0. 52,符合低积累蔬菜标准,莴笋的富集系数1. 26,在张士及类似污染水平土壤中种植将产生较大生态风险。

【英文摘要】Six seasonal vegetable species (lettuce,pepper,eggplant,cauliflower,tomato andwelsh onion) and soil samples were collected from the vegetable growing farmland of Zhangshiwastewater irrigation area for Cd analysis. The uptake and accumulation ability of Cd in the ediblepart of the vegetable was evaluated using over proof multiple method,and the enrichment coefficient(EE) and translocation coefficient (TC) was employed to assess the efficiency of Cd uptakeand transportation from soil to vegetables. Results indicated that Cd concentrations in the edibleparts of lettuce,pepper and eggplant were higher among the six vegetables investigated,being4. 01,1. 78 and 1. 24 mg • kg - 1 DW,respectively. The overpro of amount of Cd in the edible partof these vegetables corresponded to 1. 92,2. 28 and 2. 01 times of that of the national food limitedstandards (0. 20 mg • kg - 1 FW for leaf vegetables,and 0. 05 mg • kg - 1 FW for solanaceous vegetables). Cd concentrations in the edible part of the rest vegetables were within the national foodlimited standards. The Cd concentration was 1. 02,1. 20 and 0. 83 mg • kg - 1 DW for tomato,cauliflower and welsh onion,respectively,with EE of 0. 28,0. 36 and 0. 52,respectively,whichmatched to the standard for low accumulated vegetables. EE was higher for lettuce with a value of1. 26,which indicated a comparatively large eco-risk if lettuce is to plant in Zhangshi soil or soilwith similar Cd concentration level.

【语种】中文

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【通讯作者】宋玉芳

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【学科分类】环境科学技术基础学科

【题目】作物叶酸代谢工程

【中文关键词】作物;叶酸;生物合成;代谢工程

【英文关键词】Keywords: food crops folate;biosynthesis;metabolic engineering

【中文摘要】叶酸是指四氢叶酸及其衍生物的一类物质,是介导一碳单位转移的重要辅助因子。人体自身不能合成叶酸,必须从食物中获取。当人体叶酸缺乏时,贫血、神经系统疾病、心血管病及癌症等发病率显著增加。结合本实验室的工作,系统阐述了番茄、水稻和玉米作物的叶酸代谢工程研究策略以及研究进展,对叶酸合成前体喋呤和对氨基苯甲酸(PABA)含量与叶酸合成之间的关系进行了深入分析,并对今后叶酸代谢工程的发展进行了展望。

【英文摘要】Folate includes tetrahydrofolate (THF) and its derivatives are a kind of important cofactor for one-carbon (C1) transferring, which cannot be synthesized in human and must be taken up from foods. Suboptimal folate intake perturbs C1-metabolism, which increased the risks of megaloblastic anemia, neural tube defects, cardiovascular disease and certain cancers. Combining the work of our lab, this paper reviews the current status of folate metabolic engineering in crops such as tomato, rice and maize; makes a deep analysis on association between the contents of pteridine, p-aminobenzoate moiety and folate biosynthesis; and finally prospects the development of folate metabolic engineering in the future.

【语种】中文

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【学科分类】植物学

【题目】大豆2-甲基-6-植基-1,4-苯醌甲基转移酶基因(Gm VTE3)的克隆及对转基因烟草种子中生育酚组成的影响

【中文关键词】大豆;2-甲基-6-植基-1,4-苯醌甲基转移酶(VTE3);生育酚;转基因烟草

【英文关键词】soybean; 2-methyl-6-phytyl-1,4-benzoquinol methyltransferase (VTE3); vitamin E; transgenic tobacco

【中文摘要】【目的】克隆大豆2-甲基-6-植基-1,4-苯醌甲基转移酶基因(Gm VTE3),研究其在烟草中过量表达对转基因烟草种子中生育酚(维生素E)组分的影响。【方法】利用EST 拼接和RT-PCR 技术,从大豆中分离了大豆2-甲基-6-植基-1,4-苯

醌甲基转移酶(VTE3)的全长cDNA 序列,通过烟草转化研究过量表达VTE3 对转基因植株维生素E 组分的影响。【结果】Gm VTE3 全长1 026 bp,编码342 个氨基酸,与其它物种的VTE3 氨基酸同源性很高,在烟草中过量表达该基因使烟草种子中γ-生育酚与δ-生育酚的比值最高增加2 倍。【结论】首次克隆了大豆2-甲基-6-植基-1,4-苯醌甲基转移酶基因Gm VTE3,它能够催化烟草植株中2-甲基-6-植基-1,4-苯醌(MPBQ)的甲基化,从而改变烟草种子中生育酚的组成成分。说明可以利用克隆的Gm VTE3 来改变植物种子中生育酚的组成和提高α-生育酚的含量。

【英文摘要】【Objective】 VTE3 is a key enzyme in vitamin E pathway. A VTE3 like gene (Gm VTE3) was cloned from soybean,and the expression of Gm VTE3 in tobacco and effect on tocopherol composition of seed were studied. 【Method】 A putative VTE3was cloned and characterized from soybean via EST sequence splicing and RT-PCR, the expression was analyzed and the effect ofoverexpression of Gm VTE3 on tocopherol composition of seed was studied in tobacco.【Result】The full-length cDNA of Gm VTE3is 1 026 bp, which encodes a polypeptide of 342 amino acids. The amino acid homologies of MPBQ MT among different speciesshare higher similarities. Expression of Gm VTE3 in transgenic tobacco increased the ratio of γ-tocopherol and δ-tocopherol by twotimes compared with the control. 【Conclusion】 Gm VTE3 is the first VTE3 cloned in soybean and may catalyze the methylation of2-methyl-6-phytyl-1,4 benzoquinol in tobacco plant and alter seed tocopherol composition. These findings demonstrate that the geneidentified in Glycine max may be used to alter the tocopherol composition of other commercial seed oils.

【语种】中文

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【学科分类】分子生物学

【题目】大豆2-甲基-6-植基-1,4-苯醌甲基转移酶基因(Gm VTE3)对转基因拟南芥生育酚组成的影响

【中文关键词】关键词:大豆;拟南芥;维生素E;生育酚;大豆2-甲基-6-植基-1,4-苯醌甲基转移酶

【英文关键词】soybean;Arabidopsis thaliana ; vitamin E; tocopherol; MPBQ-MT

【中文摘要】2-甲基-6-植基-1,4-苯醌甲基转移酶(MPBQ-MT,VTE3)是维生素E合成途径中的关键酶之一,通过转化模式植物拟南芥,研究大豆VTE3(GmVTE3)基因在拟南芥中过量表达对维生素E组分含量的影响。成功构建了植物表达载体pZP212-GmVTE3,将其转入模式植物拟南芥,获得转基因纯系植株6个;利用HPLC检测技术对转基因拟南芥种子和叶片中维生素E含量进行了测定。结果表明:6 个转基因纯系植株种子中,γ-生育酚/δ-生育酚比值均比野生型有所提高,为野生型的1.7 倍;叶片中未检测到δ-生育酚。表明GmVTE3可以有效地把δ-生育酚转化为γ-生育酚,从而改变植物体内VE的组成。

【英文摘要】MPBQ-MT (2-methyl-6-phytyl-1,4-benzoquinone methyltransferase,VTE3) was a key enzyme inthe biosynthesis of vitamin E,GmVTE 3 was transformed intoArabidopsis thaliana for investigating the effectof its overexpression on the content and composition of vitamin E. In the study, plant expression vectorpZP212-GmVTE3 was constructed forArabidopsis transformation, and obtained six homozygous lines, andvitamin E were measured in the seeds and leaves of transgenic lines by HPLC. The results showed that theratio of γ -tocopherol / δ -tocopherol in the seeds of six transgenic homozygous lines was 1.7 times of wildtype, and in the leaves δ-tocopherol was undetectable, thus indicating thatGmVTE 3 gene was able to increasethe content of γ -tocopherol and decrease the content of δ-tocopherol, and then changed the content andcomposition of vitamin E .

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【学科分类】分子生物学

【题目】SUMO基因的内在原核启动子活性及其在大肠杆菌蛋白表达系统中的应用

【中文关键词】SUMO 基因,原核启动子,SUMO 融合系统,共表达,大肠杆菌

【英文关键词】SUMO gene, prokaryotic promoter, SUMO fusion system, co-expression, Escherichia coli
【中文摘要】SUMO 融合系统已成为目前大肠杆菌重组蛋白生产的重要手段,但在载体构建效率和蛋白可溶性等方面仍有待改进。本研究在PCR 克隆酿酒酵母SUMO 基因Smt3(Sm) 时意外发现Sm 具有组成型原核启动子活性;而且经软莓BPROM 程序预测发现大多数物种SUMO 基因编码区都具有依赖σ70 的原核启动子。进一步通过整合Sm 启动子和Sm 3′末端Stu Ⅰ位点特性以及引入His 标签和超酸增溶标签,构建了基于Sm’-LacZα 融合基因的一系列通用克隆表达载体,并通过蓝白斑筛选和SDS-PAGE 分析进行了多个靶蛋白基因的克隆和表达,结果表明实现了基因表达载体的快速构建、蛋白高可溶性表达和关联蛋白的共表达等目标。因此,集成诸多特性而改良的SUMO 融合技术可以成为大肠杆菌蛋白表达系统的有力工具,建立的共表达载体系统还可以用作研究细胞内蛋白间的相互作用。
【英文摘要】Nowadays, SUMO fusion system is important for recombinant protein production in Escherichia coli, yet a fewaspects remain to be improved, including the efficacy for vector construction and protein solubility. In this study, we found theSUMO gene Smt3 (Sm) of Saccharomyces cerevisiae conferred an unexpected activity of constitutive prokaryotic promoter duringits PCR cloning, and the gene coding regions of SUMOs in most species had a σ70-dependent prokaryotic promoter embedded,through the prediction via the BPROM program developed by Softberry. By combining the characters of Sm promoter activity andthe Stu I site (added at the 3’-terminal of Sm), and introducing a His-tag and a hyper-acidic solubility-enhancing tag, we furtherconstructed a set of versatile vectors for gene cloning and expression on the basis of Sm’-LacZα fusion gene. Experimentallystarted from these vectors, several target genes were subcloned and expressed through blue-white screening and SDS-PAGEanalysis. The results manifest a few of expectable advantages such as rapid vector construction, highly soluble protein expressionand feasible co-expression of correlated proteins. Conclusively, our optimized SUMO fusion technology herein could confer alarge potential in E. coli protein expression system, and the simultaneously established co-expression vector systems could also bevery useful in studying the protein-protein interactions in vivo.
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【第一作者】亓燕红
【通讯作者】张春义
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【学科分类】生物化学

【题目】水稻品种中VC含量及抗氧化特征分析
【中文关键词】VC;抗氧化剂;水稻品种;抗逆性
【英文关键词】Vitamin C antioxidant rice varieties stress resistance
【中文摘要】VC(Vitamin C)又叫抗坏血酸(ascorbic acid, AsA),是植物体内重要的抗氧化剂,在植物抗氧化胁迫应答过程中具有重要的调控作用。VC在植物如拟南芥、小麦抗氧化功能方面已有许多研究,但在水稻中的相关研究较少。通过比较水稻品种中花17、日本晴、扬稻6号和扬稻2号中的VC含量,发现不同品种间VC含量存在明显的差异。结合MV(methyl viologen)处理,进一步比较了由于VC含量的差异导致氧化胁迫下超氧阴离子、H2O2的含量的变化。结果表明VC含量与水稻抗氧化作用可能存在密切的联系。本研究进一步证明了VC在水稻的抗氧化胁迫中的重要作用,从而为提高水稻的抗逆性提供依据。
【英文摘要】Vitamin C (VC), also known as ascorbic acid (AsA), is a pivotal antioxidant in response to plant oxidative stress. Many research results have revealed that VC functions in resistance to oxidative stress in different plant species including Arabidopsis and wheat, but little is known in rice. In this paper, the VC contents in rice varieties Zhonghua17, Nipponbare, Yangdao6 and Yangdao 2 were compared. and found that their VC contents were obvious different. Combining with the treatment of MV (Methyl Viologen), changes in superoxide anion and H2O2 levels among these varieties were also compared. The results showed that there was close relationship between VC contents and oxidative stress resistance of rice. Those results proved that VC played an important role in rice resistance to oxidative stress, which provided a basis for improving rice resistance to stress.
【语种】中文
【第一作者】张传玉
【通讯作者】张治礼
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【引文索引类型】其他
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【学科分类】植物学

【题目】Cloning and Functional Expression of A α-Galactosidase from Yersinia pestis biovar Microtus str. 91001.
【中文关键词】重组表达,半乳糖苷酶,Yersinia pestis biovar Microtus str. 91001
【英文关键词】Functional Expression, α-Galactosidase ,Yersinia pestis biovar Microtus str. 91001
【中文摘要】肠杆菌科来源的半乳糖苷酶异源表达
【英文摘要】A gene encoding a glycoside hydrolase (GH) family 36 alpha-galactosidase was cloned from Yersinia pestis biovar Microtus str. 91001 and expressed in Escherichia coli. The purified recombinant alpha-galactosidase (Aga-Y) was optimally active at 37 degrees C and pH 6.8. The features of temperature profile, thermoliability, kinetics, and amino acid composition indicated that Aga-Y had properties of a cold-adapted enzyme.
【语种】英文
【第一作者】曹雅男
【通讯作者】姚斌
【期刊名称、卷期、页码】Bioscience Biotechnology and Biochemistry, 2008, 72(8): 2203-2205
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【学科分类】生物化学

【题目】不同农业利用方式对土壤重金属累积的影响及原因分析
【中文关键词】土壤;土地利用方式;重金属;累积
【英文关键词】soil; land use types; heavy metal elements; accumulation
【中文摘要】【目的】探讨不同农业利用方式下土壤中重金属的累积及其影响要素,制定有效降低土壤中重金属含量的技术和策略。【方法】系统采集了吉林省四平市部分区域内设施菜地、露天菜地、大田玉米地及林地4 种土地利用类型的148 个样品,分析了其Cr、Ni、Cu、As、Cd 、Pb、Zn 等重金属的含量,并进行了相应的调查。【结果】在研究区域内,不同利用方式对土壤中Cr、Ni、Cu、As、Cd、Zn 的含量有较大的影响,平均含量顺序均为:设施菜地>露天菜地>大田>林地,但对Pb 含量的影响不显著。4 种土地利用方式中,以设施菜地中Cr、Ni、Cu、As、Cd、Zn 的累积最多,其次是露天菜地、大田玉米地,林地未出现累积。研究的7 种重金属元素中以Cd 的累积较严重,其次是Cu。其中设施菜地的Cd 含量平均达0.467 mg·kg-1,超过了《土壤环境质量标准》(GB15618-1995)中II 级标准(0.3 mg·kg-1,6.5<pH<7.5),也相当于自然状态下林地Cd 含量平均值的5.2 倍;但4 种利用类型中其它重金属含量的平均值均低于国家II 级标准。分析认为,与土地利用年限相比,农用化学品、特别是肥料的质量和数量是导致不同利用方式下土壤重金属含量差异的重要原因。【结论】土地利用方式对Cr、Ni、Cu、As、Cd、Zn 的累积具有显著影响,其中以设施菜地累积较显著,避免重金属含量较高化肥、有机肥和农药的施用是防止土壤重金属累积、促进土壤健康和可持续利用的重要保障。
【英文摘要】【Objective】 Heavy metals accumulation and their influential factors were studied in different land use soils, which will provide a theoretical basis for controlling the content of heavy metals in soils. 【Method】 To identify the effects of land use on the accumulation of heavy metals in soils, 148 samples were collected from four land use types including greenhouse, open vegetable field, maize field and forest land in Siping area, Jilin Province, and Cr, Ni, Cu, As, Cd, Pb, and Zn contents of those samples were determined with ICP-Mass. 【Result】 The result showed that there was a rather large difference in effects of the accumulation of Cr, Ni, Cu, As, Cd, Zn in soils under different land use types, except Pb. Based on the assessment compared with background concentrations in soil, the higher accumulation of heavy metals was found in greenhouse and open vegetable field, lesser in maize field and forest field. The order of mean contents of heavy metals in soils was greenhouse>open vegetable field>maize field>forest field. Cd , Cu had relatively serious accumulation in soils compared with Cr, Ni As and Zn. The mean content of Cd in greenhouse was 0.467 mg·kg-1, which exceeded the Grade II of Chinese Soil Quality Criterion GB15618-1995 (6.5<pH<7.5) for Cd standard of 0.3 mg·kg-1, and was 5.2 times of Cd in forest field. The mean contents of Cr, Ni, Cu, As, Pb, Zn in soils under four land use types were lower than grade II of Chinese Soil Quality Criterion. Compared with the age of land use, agricultural chemical compounds application (especial the quality and quantity of applied fertilizer) was the important reason for leading to difference in accumulation of heavy metals in soils under the studied land use types. 【Conclusion】 Heavy metals (Cr, Ni, Cu, As, Cd, Zn) accumulation in soils was significantly affected by land use types, soil in greenhouse accumulates more heavy metals than others. It is suggested that the application of high contents of heavy

metals in chemical fertilizer, organic fertilizer and pesticides should be avoided to prevent the accumulation of heavy metal and keep high quality soils for sustainable use.
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【第一作者】白玲玉
【通讯作者】曾希柏
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【学科分类】环境科学技术基础学科

【题目】改良剂对镉污染酸性水稻土的修复效应与机理研究
【中文关键词】改良剂;cd污染;酸性水稻土;水稻;cd有效性;提取态cd;cd形态
【英文关键词】Amendment; Cadmium pollution;Acid paddy soil; Ricc;Cd availadility; Extractable Cd;Cd fraction
【中文摘要】为探明田间条件下施用石灰、钙镁磷肥、海泡石和腐殖酸等改良剂对Cd污染酸性水稻土的修复效应和作用机理, 通过在Cd污染区建立田间小区试验, 研究了改良剂单施和与石灰配施对Cd污染酸性水稻土中Cd作物有效性的影响。结果表明, 施用改良剂有效地改变了土壤中Cd的存在形态, 除腐殖酸外, 其他改良剂均使土壤酸提取态Cd不同程度地转化为可还原态Cd和残渣态Cd; 施用改良剂可使0.1 mol·L-1 NaNO3和 0.01 mol·L-1CaCl2提取态Cd 降低26%~97%, 降低效果为石灰+海泡石>海泡石>石灰+钙镁磷肥>钙镁磷肥>石灰>石灰+腐殖酸>腐殖酸; 改良剂使水稻地上部分的Cd吸收量降低6%~49%。试验结果还显示, 施用改良剂提高土壤pH是引起土壤中Cd作物有效性降低的主要原因之一。根据田间试验的结果, 海泡石可推荐作为Cd污染酸性水稻土的改良剂, 而腐殖酸则不宜使用。
【英文摘要】A field experiment was conducted to study Cd immobilization in Cd contaminated soils. The study analyzed the remediation effects of lime (L), fused calcium magnesium phosphate (P), sepiolite (S), humic acid (H) and mixed lime amendments (LP, LS and LH) on Cd bioavailability in a Cd contaminated acid paddy soils. The results indicate that amendments significantly change the proportion of Cd forms in contaminated soils. Except for H, the other 3 amendments lower acid extractable fraction of Cd, while increasing oxidation fraction and residual Cd. The 4 amendments reduce the 0.1 mol·L-1 NaNO3 and 0.01 mol·L-1 CaCl2 extracted Cd by 26%~97%. The order of reduction is LS > S > LP > P > L > LH > H. The content of Cd in the aboveground parts of rice decreases by 6%~49% under amendment application. Amendment increasing soil pH is the main factor influencing soil Cd immobilization. In conclusion therefore, sepiolite could be a suitable amendment of Cd contaminated acid paddy soils. However, humic acid is not so suitable for remediating Cd contaminated acid paddy soils.
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【第一作者】朱奇宏
【通讯作者】黄道友
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【题目】高耐砷真菌的分离及其耐砷能力
【中文关键词】砷,真菌,分离,耐砷能力
【英文关键词】arsenic; fungi; isolation; arsenic-tolerant ability.
【中文摘要】从湖南石门县及郴州市重金属矿周边地区采集的6 个砷污染土壤样品中,初步分离得到13 株具有较强耐砷能力的真菌菌株,其中3 株真菌的耐砷能力最强,经形态与分子鉴定分别为微紫青霉(Penicillin janthinellum) 、尖孢镰刀菌(Fusarium oxysporum) 和棘孢木霉(Trichoderma asperellum) . 培养试验表明: 微紫青霉、尖孢镰刀菌和棘孢木霉分别在30000 mg·L - 1、30000 mg·L - 1和20000 mg·L - 1的砷胁迫平板中表现出很好的菌落生长状况; 在砷浓度分别为0 ~ 50、0 ~ 50 和0 ~ 80 mg·L - 1的液态培养基中培养2 d 后,尖孢镰刀菌、棘孢木霉和微紫青霉的生物量均随砷浓度增加而增加,且在相应最高浓度(50、50、80 mg·L - 1) 下的生物量显著高于不加砷的对照. 此外,高浓度砷对该3 株真菌的产孢能力没有影响
【英文摘要】A total of thirteen fungal strains with higher arsenic (As) -tolerance ability were isolatedfrom six As-contaminated soil samples collected from the mining areas of Shimen County and Chenzhou City in Hunan Province. Among the strains

isolated,Penicillin janthinellum,Fusarium oxysporum,and Trichoderma asperellum had the highest As-tolerance ability,based on the morphological identification and phylogenetic analysis. Culture experiment showed that on the solid plates with 30000,30000,and 20000 mg·L-1 of As,P. janthinellum,F. oxysporum,and T. asperellum had a better colony growth,and after cultured in the liquid medium with 0-50,0-50,and 0-80 mg·L-1 of As for 2 days,respectively,the dry mycelia masses of the three strains all increased with increasing As concentration. When the As concentration reached 50,50,and 80 mg·L-1,respectively,the fungal biomass of F. oxysporum,T. asperellum,and P. janthinellum increased significantly,compared with CK. High concentration As had no significant effects on the sporalation of the three fungal strains.

【语种】中文
【第一作者】苏世鸣
【通讯作者】曾希柏
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【题目】PEI介导外源基因进入植物细胞的瞬时表达
【中文关键词】聚乙烯亚胺;纳米基因载体;植物细胞;瞬时表达;拟南芥
【英文关键词】polyethylenimine; nano-gene vector; plant cell; transient expression; Arabidopsis thaliana
【中文摘要】【目的】医学方面的大量研究证实,聚乙烯亚胺(polyethylenimine,PEI)作为一种新型阳离子多聚物基因载体可以吸附和浓缩DNA,通过与细胞膜亲和粘附和细胞吞噬作用运载外源基因进入细胞并实现表达。本实验研究旨在探索PEI作为非病毒基因载体介导外源基因进入植物细胞并获得瞬时表达的可能性。【方法】制备PEI/DNA复合物,利用凝胶阻滞分析PEI与DNA的结合情况,采用电子显微镜观察PEI/DNA复合物的形态。以绿色荧光蛋白基因为报告基因研究不同N/P比条件下PEI/DNA复合物对拟南芥原生质体细胞的转化效率,并与PEG转化方法进行比较分析。【结果】PEI与DNA的质量比为5∶1~1∶4,PEI可以与DNA稳定结合,形成粒径约100~200 nm的球形复合物。PEI/DNA复合物对拟南芥原生质体细胞的转化效率随其N/P比的增大而提高,N/P=5时PEI的转化效率达到最高且明显高于PEG介导的转化效率,N/P>5时转化效率反而下降,容易使细胞破碎和变形。【结论】PEI作为一种新型的外源基因运送载体对拟南芥原生质体细胞具有良好的介导基因转移效果。
【英文摘要】【Objective】 The experimental research was carried out to investigate the possibility and method of gene delivery into plant cells by nano-vector polyethylenimine (PEI) and obtain transient expression of gene, based on some research results that PEI can condense DNA into granules of nanometer size for delivering gene into cells in the field of medical science. 【Method】PEI/DNA complexes were prepared. The ability of PEI to combine and protect DNA was investigated by agarose gel electrophoresis retardation assay. The surface characteristics of PEI/DNA complexes were observed with transmission electron microscope. For Arabidopsis thaliana protoplasts, transformation efficiency of PEI/DNA at different charge ratios (N/P) was analyzed and compared with PEG. 【Result】 When the quality rate of PEI and DNA is in range of 5∶1-1∶4, PEI could bind and condense DNA, and form stable PEI/DNA complexes with nanoparticles diameter in 100-200 nm. Transformation efficiency of PEI/DNA can be improvedwith the increase of N/P ratios and reached highest at N/P=5. There was higher transformation efficiency of PEI/DNA complexes than PEG at N/P=5, but began to decrease at N/P>5 with higher toxicity to cells. 【Conclusion】 The experimental results confirmed that PEI is a new kind of efficient gene vector for transferring genes into Arabidopsis thaliana protoplasts.
【语种】中文
【第一作者】李颖
【通讯作者】崔海信
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【题目】Effects of cadmium on growth and photosynthetic activities in pakchoi and mustard

【中文关键词】镉;生长;光合活性
【英文关键词】Cadmium; Growth; Photosynthetic activities
【中文摘要】在这个研究中,我们评价了温室条件下不同浓度土壤镉(0-24mg·kg-1)对盆栽小白菜和芥菜生长及叶片光合活性的影响。小白菜和芥菜的地上和根重都随Cd浓度增加而减少;总叶绿素含量与土壤Cd浓度呈负线性关系:白菜(r2=-0.681, P<0.01) ,芥菜(r2=-0.463, P<0.05);随镉浓度增加,净光合速率和气孔导度下降;对于这个研究我们发现,小白菜的光合活性比芥菜更敏感。
【英文摘要】In this study, we determined the effects of different concentrations of soil cadmium (0-24mg·kg-1) on growth and photosynthetic activities in leaves of pakchoi and mustard using pot experiments under greenhouse conditions. Both shoot and root weight decreased progressively with increasing Cd concentration for pakchoi and mustard. Negative linear relationships were observed between total Chlorophyll contents and Cd concentrations in soils in pakchoi (r2=-0.681, P<0.01) and mustard (r2=-0.463, P<0.05). In comparison to the controls (Cd=0mg·kg-1), significant reductions of chlorophyll-a and chlorophyll-b were both observed at 24 mg Cd kg-1soil. The increase in cadmium concentration also caused a decline in the net rate of photosynthesis(Pn) and stomatal conductance (Gs). At lower concentrations of Cd (e.g. 6 mg·kg-1), a retarded development was observed only in mustard. However, a significant decrease of Gs for both plants was observed at concentrations above 12 mg Cd kg-1 soil. From this study, we found the photosynthetic activity of pakchoi more sensitive to Cd stress than that of mustard.
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【第一作者】陈欣
【通讯作者】陈欣
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【学科分类】环境科学技术基础学科

【题目】苯并(a)芘对蚯蚓细胞色素P450和抗氧化酶影响
【中文关键词】苯并(a)芘;蚯蚓(Eisenia fetida);细胞色素P450;抗氧化酶;生物标记物
【英文关键词】Benzo (a) pyrene;earthworms;cytochrome P450;antioxidant enzymes;biomarker
【中文摘要】研究了苯并(a)芘(BaP)低剂量污染胁迫下对蚯蚓(Eisenia fetida)体内细胞色素P450 酶系和抗氧化酶系的影响。通过滤纸接触染毒法,按指数递增设计暴露质量浓度为10-6 到10-2mg·mL-1,染毒时间48h,检测指标分别为蚯蚓细胞色素P450 含量、超氧化物歧化酶(SOD)、过氧化物酶(POD)和过氧化氢酶(CAT)活性。结果表明,在供试质量浓度范围内,蚯蚓体内P450 含量和SOD 活性与苯并(a)芘污染胁迫存在明显的响应关系,POD 活性在BaP 的最大暴露质量浓度下(10-2mg·mL-1)被显著诱导,而CAT 活性对BaP 暴露无明显的指示作用。这表明,BaP 的代谢过程诱发了蚯蚓体内P450 含量的增加,同时又抑制了SOD 酶活性,从而使生物体对活性氧自由基的防御能力下降而更易受到毒害,这可能是BaP 对生物体毒性作用的机制之一。
【英文摘要】The effects of Benzo (a) pyrene on cytochrome P450 and antioxidant enzymes of earthworms (Eisenia fetida) were studied to use these responses as biomarkers for monitoring PAH-contaminated soil in sublethal concentrations and to elucidate the possible metabolic mechanisms of BaP in earthworms. By contacting with contaminated filter paper, earthworms were exposed to the pollutant. The concentrations of pollutant were ranged from 10-6 to 10-2 mg/mL. After48 hours’ exposure, the whole body of earthworm was used to detect total cytochrome P450 content, the activities of superoxide dismutase (SOD), peroxidase (POD) and catalase (CAT). Results showed that, within the test concentrations limits, total P450 content and SOD activity were very sensitive to the toxicity of Benzo (a) pyrene. POD activity was elevated only when earthworms exposed to the maximum BaP concentration (10-2mg·mL-1). CAT activity did not show any response to BaP exposure. The results revealed that BaP metabolism in earthworm induced the increase of P450 content and also at the same time inhibited SOD activity. The decrease of SOD activity weakened the protection organism from the oxidative stress. This may be one of the mechanisms for BaP toxicity to organism.
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【第一作者】张薇
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【学科分类】环境科学技术基础学科

【题目】设施菜地土壤-植物系统中有机肥源抗生素的影响研究进展
【中文关键词】有机肥; 抗生素; 设施菜地土壤- 植物系统
【英文关键词】Organic manure; antibiotics; greenhouse soil- plant system
【中文摘要】有机肥一直被认为是培肥土壤和有机农业的理想肥料, 但实验证实, 含有抗生素残留的禽畜粪便作为有机肥施于农田, 是农田土壤抗生素的主要来源之一。在针对设施菜地土壤- 植物系统中有机肥源抗生素的影响等方面的研究进展进行综述的基础上, 提出了开展有机肥源抗生素在设施菜地土壤- 植物系统中迁移转化规律研究的建议。
【英文摘要】Organic manure is regarded as ideal manure for amendment soils and organic agriculture, however, previous studies have approved that the application of animal manure to agricultural land is an important source o f antibiotics in the agricultural soils. The newly progress in the effects of antibiotics from organic manure on greenhouse soil- plant system w ere review ed. Despite the detection o f antibiotics, little was known about their distribution, mobility and persistence in greenhouse soil- plant system. Future system atic research in this field were also recommended
【语种】中文
【第一作者】史奕
【通讯作者】史奕
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【学科分类】环境科学技术基础学科

【题目】好气条件下不同形态外源砷在土壤中的转化
【中文关键词】好气条件, 土壤 ,砷, 形态转化
【英文关键词】aerobic condition; soil; arsenic form; transformation.
【中文摘要】在35%的田间持水量下,通过模拟试验研究了外源二甲基砷酸盐(DMA) 、一甲基砷酸盐(MMA) 、五价无机砷[As(V)]在土壤中的形态转化. 结果表明: 外源砷进入土壤后,其含量均有随时间推延而逐渐下降的趋势,两种不同形态的有机砷DMA 和MMA 在土壤中主要发生脱甲基化过程,经150 d 的恒温恒湿培养,其在土壤中主要转化为As(V) ,DMA 处理仅在120 d 时检测到少量MMA,而MMA 处理则在7 ~ 60 d 内均有少量的DMA 生成. 培养结束时土壤中DMA 和MMA 含量均显著降低(P < 0. 01) ,降幅分别为99. 5%、94. 3%,而两者的主要转化产物As(V) 的含量则分别显著增加了4. 61 和5. 15 倍.表明外源有机态砷在土壤中基本上被转化为无机形态; 与有机态外源砷相比,外源As(V) 进入土壤后其形态基本上没有发生转化.
【英文摘要】An incubation test was conducted to study the transformation of exogenous dimethylarsenic acid (DMA) ,monomethylarsenic acid (MMA) ,and arsenate [As(V)]in soil under the condition of 35% of water-holding capacity. After added into soil,the concentrations of test arsenic forms all showed a decreasing trend with time. The DMA and MMA were mainly demethylated,and after 120 days incubation at constant temperature and humidity,transformed into As(V) . A small amount of MMA was detected in the treatment with added DMA on the 120th day of incubation,and a small amount of DMA was detected in the treatment with added MMA during the period of 7 - 60days incubation. By the end of the incubation test,the concentrations of added DMA and MMA in soil decreased significantly (P < 0. 01) ,with the decrement being 99. 5% and 94. 3% and the concentrationof transformed As(V) increased by 4. 61 and 5. 15 times,respectively. Comparing withDMA and MMA,the As(V) after added into soil had less form transformation.
【语种】中文
【第一作者】和秋红
【通讯作者】曾希柏
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【学科分类】环境科学技术基础学科

【题目】介孔活性炭阿维菌素载药系统的性能研究
【中文关键词】介孔活性炭;阿维菌素;载药系统;缓释;控释;光降解
【英文关键词】mesoporous activated carbon; abamectin; delivery system; sustained release; controlled release; photo-degradation
【中文摘要】研究了介孔活性炭对阿维菌素的载药特性,以判断其作为阿维菌素载体的可能性。以扫描电子显微镜、比表面积分析仪和粒度分析仪对其进行了物理性状表征。将其负载阿维菌素的能力与常规农药载体进行比较,并进一步分析和评价了该载药系统的吸附动力学特性、缓-控释性能和抗紫外光降解能力。结果表明:供试活性炭载体为不规则球形颗粒状介孔材料,平均粒径为814nm,比表面积为1719.25 cm2/g,孔容积为0.043 cm3/g,孔径为4.80 nm。吸收动力学数据符合伪二级动力学模型,对阿维菌素的载药量为220.6 mg/g,显著高于其他常规农药载体,呈现了优良的吸附性能;载药系统的释药时间从90 h延长到672 h以上,表现出了良好的缓释效果;在紫外光照射72h后,阿维菌素原药的分解率为77%,而有活性炭载体保护的阿维菌素的分解率为30%,表明该载药系统有效地减缓了阿维菌素的光降解速率。研究表明,以介孔活性炭作为阿维菌素载体,可显著改善药物的缓-控释特性以及分散性和光稳定性。
【英文摘要】The loading properties of mesoporous activated carbon for abamectin were studied to determine its potential as the carrier of abamectin. Physical properties of mesoporous activated carbon were characterized by scanning electron microscope,specific surface area analyzer and particle size analyzer. Drug-loading capacity of mesoporous activated carbon was compared with other conventional pesticide carriers, and the adsorption kinetics, sustained- release properties and resistance to UV degradation of the drug delivery system were analyzed and evaluated. The results showed that the trial mesoporous activated carbon were irregular spherical particles with specific surface area of 1719.25cm2/g , pore volume of 0.043cm3/g and average pore diameter of 4.80nm and its drug-loading capacity for abamectin reached 220.6mg/g and was significantly excellent over other conventional pesticide carriers. The adsorption processes followed a pseudo second-order kinetic rate equation. Drug release time was extended from 90 h to 672 h, which may significantly extend the duration of drug. The drug degradation rate was 77% in the original drug of abamectin , while in abamectin delivery system with mesoporous activated carbon only 31% decomposed under UV radiation, which showed that mesoporous activated carbon effectively inhibited the photo-degradation of the drug. These results indicated that mesoporous activated carbon can be used as drug carrier for abamectin to improve properties of sustained-controlled release, dispersity in water and photo- stability.
【语种】中文
【第一作者】孙长娇
【通讯作者】崔海信
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【题目】植物CytP450和抗氧化酶对土壤低浓度菲、芘胁迫的响应
【中文关键词】土壤; 植物; CytP450; 抗氧化酶; 菲; 芘
【英文关键词】soil; plant; CytP450; antioxidant enzymes; phenanthrene; pyrene
【中文摘要】以小麦(Triticum acstivnm)为供试植物,草甸棕壤为供试土壤,以微粒体细胞色素P450及抗氧化酶SOD、POD和CAT酶活性为指标,进行了土壤中菲、芘单一及复合胁迫响应研究。结果初步表明,菲、芘胁迫引起植物体内解毒代谢和抗氧化防御酶反应。菲、芘单一胁迫浓度为1mgkg-1时对细胞色素P450产生显著诱导;4mgkg-1时P450酶含量明显被抑制,表明低浓度菲、芘单一胁迫对植物代谢解毒系统产生损伤;而菲、芘复合1mgkg-1时P450酶含量明显被抑制,说明菲、芘复合胁迫对植物的代谢解毒具有协同毒性效应。土壤中菲、芘单一胁迫未引起SOD酶活性的明显改变,复合胁迫下SOD酶活性出现微弱下降;菲、芘单一胁迫对CAT和POD酶活性具有显著抑制作用;复合胁迫对CAT产生抑制作用,而POD酶活性并未对菲、芘复合产生增强毒性响应。研究从代谢解毒和抗氧化防御酶系统两方面,为土壤低浓度PAHs污染诊断提供了实验依据。
【英文摘要】Wheat(Triticum aestivum) was chosen to analyze the effect of two polycyclic aromatic hydrocarbons(PAHs),Phenanthrene(PHE) and Pyrene(PY) in brown meadow soil at low concentrations.The effects of PHE and PY were determined by analyzing the changes in activity of Cytochrome P450(CytP450) and antioxidant enzymes superoxide dismutase(SOD), peroxidase (POD) and catalase (CAT).Results indicated that both PHE and PY caused changes in activity of CytP450 and the antioxidant enzymes, SOD,POD and CAT.CytP450 activity was significantly stimulated with 1 mg kg-1 of both PHE

and PY individually and significantly inhibited with 4 mg kg-1,which showed that pollution stress of PHE or PY can damage the metabolism and detoxification systems of plants. Moreover, as PHE and PY combined at 1 mg kg-1, CytP450 was increased significantly more than when PHE and PY were applied individually, which illustrates obvious synergistic effects. No significant variation were found in activity of SOD in response to individual exposure of PHE or PY in soil, but SOD activity decreased slightly in response to a combined PHE and PY exposure. Great decrease variation was found in CAT and POD activity in response to individual exposure of PHE or PY in soil. No enhanced toxic effects were shown by POD in response to a PHE and PY combined exposure, however CAT showed increased inhibition. From the aspects of metabolism and detoxification as well as antioxidant enzyme activity, our study has provided experimental basis for the pollution diagnosis of PAHs in soils at low concentrations.

【语种】中文
【第一作者】宋玉芳
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【题目】黄河流域近40a积温动态变化研究
【中文关键词】积温; 动态变化; GIS; 黄河流域
【英文关键词】accumulated temperature; dynamic variation; GIS; Yellow River Basin
【中文摘要】论文应用国家气象局提供的黄河流域109个气象站点40a的气象资料和中国数字高程模型,采用“回归分析计算+残差插值”法对黄河流域≥0°C和≥10°C的积温进行栅格化,得到10a尺度的栅格面,在ArcGIS中分别对≥0°C和≥10°C的积温栅格面进行空间分析和统计分析。结果表明: 40a间≥0°C积温保持不变的面积占84159% ,积温段ⅰ(< 2 000°C)升到积温段ⅱ(2 000~3 000°C)的为2107% ,积温段ⅱ升到ⅲ(3 000~4 000°C)的为3114% ,积温段ⅲ升到ⅳ(4 000~5 000°C)的为3135% ,积温段ⅳ升到ⅴ(> 5 000°C)的为3176%; 40a间≥10°C积温保持不变面积占85158% ,积温段ⅱ升到ⅲ的为7131% ,积温段ⅰ升到ⅱ、积温段ⅲ升到ⅳ和积温段ⅳ升到ⅴ占的面积较小,分布不集中。总体来说黄河流域≥0°C、≥10°C年积温值呈升高的趋势,主要是受全球气候变暖的影响。
【英文摘要】Based on the meteorological data from 1961 to 2000, longitude and latitude of 109 me2teorological stations in the Yellow River Basin (YRB) from ChinaMeteorological Administration,and Chinese GTOPO30, rasterizing accumulated temperature data was conducted using “ modelbased computation result p lus spatialized residues ”. Spatial analysis and statistical analysis werecarried out on eight ten2year2scale grid surfaces with accumulated temperature≥0°C and ≥10°Cwith accumulated temperature in ArcGIS. The intensity and characteristic of dynamic variationwith ≥0°C accumulated temperature in recent 40 years in the YRB indicated that the areaunchanged was 84159% , the area of accumulated temperature segment ⅱ rising from ⅰ was2107% , the area of accumulated temperature segment ⅲ rising from ⅱ was 3114% , the area ofaccumulated temperature segment ⅳ rising from ⅲ was 2107% , and that the area of ⅴ risingfrom ⅳ was 2107%. And the characteristic of dynamic variation of ≥10°C accumulated tempera2ture showed that the area remained unchanged was 85158% , the area of accumulated temperatureSegment ⅲ rising from ⅱ was 7131%, and that the other variation area was small, whose distribution was sporadic. In a word, the annual increasing trend of the value of accumulated temperature was caused by global climate change.
【语种】中文
【第一作者】刘勤
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【题目】山西寿阳县旱作农业土地生产潜力
【中文关键词】土地生产潜力,机制法,GIS,寿阳县,北方旱区

【英文关键词】land potential productivity, mechanism method, GIS, Shouyang county, northern arid region
【中文摘要】北方旱区是中国最具开发潜力的农业生产基地,土地生产潜力作为土地最本质的属性,它的研究越来越受到人们的重视。该文以山西寿阳县33 a 气候数据、土壤理化数据和图件资料为基础,采用“ 机制法 ”对土地生产潜力分别进行了光合、温度、水分和土壤的逐级订正,估算土地生产潜力。研究结果表明:水分不足是气候生产潜力的主要限制因子,经水分订正后,多年平均气候生产潜力相对光温生产潜力减少了三分之二;土地生产潜力分布特点基本满足地形地貌类型的分布特点,河谷盆地生产潜力较高,山地部位生产潜力较低,而土壤养分总体含量较低,存在重用轻养现象,肥力补偿差。
【英文摘要】It is widely acknowledged that northern arid region is agricultural production base considered as the most promising potential area. Land potential productivity (LPP) as land essential attribute is drawing increasing attention.Based on the climate data from 1967 to 1999, soil physiochemical data and maps, with the support of geographic information system (GIS), LPP was computed according to the factors such as radiation, temperature, precipitation, and soil using mechanism method. The results show that water deficiency is the main limiting factor of climatic potential productivity, because climatic potential productivity becomes one third of light-temperature potential productivity according to water correction coefficient; the distribution characteristic of LPP is influenced by many factors, which is same as distribution characteristic of landform. The value of land potential productivity in the basin valley is the highest,and the value in mountain is the lowest.
【语种】中文
【第一作者】刘勤
【通讯作者】严昌荣
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【题目】纳米化阿维菌素悬浮剂的制备及部分性质研究
【中文关键词】阿维菌素;纳米悬浮剂;壳聚糖
【英文关键词】无
【中文摘要】为了使阿维菌素的分散性、稳定性、适应性更强,利用壳聚糖带阳离子的特性,使其与带阴离子的三聚磷酸钠发生离子交联,包裹部分阿维菌素颗粒后形成纳米载药颗粒,制备了水基纳米阿维菌素悬浮剂。透射电子显微镜、粒度分析仪和紫外分光光度法检测结果显示,在纳米阿维菌素悬浮剂中,悬浮粒子呈不规则圆形,87.46%粒子的粒径位于18~102.2 nm 之间,平均粒径为28.46 nm,阿维菌素的载药量为48.25%,在光照下的稳定性增强,经过16 h 紫外光照,纳米阿维菌素悬浮剂中阿维菌素降解率为38.41%,比同样条件下制备的纳米化阿维菌素微乳剂降解率低11.46%,比原药的降解率低29.41%。该悬浮剂的分散性、离心稳定性都为优级,对水温、不同水质水的适应能力强。
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【第一作者】林春梅
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【题目】黄河流域积温数据栅格化方法优选
【中文关键词】栅格化;积温;黄河流域
【英文关键词】rasterizing; spatial distribution; accumulated temperature; Yellow River Basion
【中文摘要】在获得黄河流域109个气象站点45a的逐日平均气温、各气象站的经纬度以及海拔高度数据和中国数字高程模型的基础上,采用Cokriging、积温垂直递减和“ 回归分析计算+残差插值 ”三种方法对黄河流域≥0℃的积温栅格化进行了探讨,结果表明:相关性为“ 回归分析计算+残差插值 ”>积温垂直递减>Cokriging,T检验的双尾显著性概率Sig.:“ 回归分析计算+残差插值 ”<积温垂直递减<0.05<Cokriging,Cokriging方法结果差异不显著,“ 回归分析计算+残差插值 ” 方法比积温垂直递减差异性更显著,比较分析可知“ 回归分析计算+残差插值 ”是最适合的

【英文摘要】Based on the average temperature from 1961 to 2005, longitude and latitude, height above sea level of 109 meteorological stations in the Yellow River Basin (YRB), and China DEM, accumulated temperature data were rasterized using different methods, viz, Cokriging, accumulated temperature vertically descending and “ model based computation result plus spatialized residues ”. The results show that the magnitudes of the correlation coefficients can be ranked in the following order, “ model based computation result plus spatialized residues ” > accumulated temperature vertically descending>Cokriging. But also, the magnitudes of the T-test Sig. can be ranked in the following order, “ model based computation result plus spatialized residues ” < “ model based computation result plus spatialized residues ” <0.05<Cokriging. Therefore, “ model based computation result plus spatialized residues ” has the highest accuracy.
【语种】中文
【第一作者】张燕卿
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【题目】山东寿光不同农业利用方式下土壤铅的累积特征
【中文关键词】农业;土壤;铅;设施菜地
【英文关键词】agriculture; soil; lead; greenhouse vegetable field
【中文摘要】采用田间实地调查、地统计学和ICP-MS 等方法,研究了基于GIS 分析的山东省寿光市农业土壤中铅的含量及其空间分布特征,并比较了农业利用方式的影响。结果表明,研究区域农田中铅的平均含量为(17.97±1.22)mg·kg-1,与1990 年山东省土壤背景值比较,有8.59%的样本出现了累积趋势,而以国家土壤质量Ⅱ级标准(GB 15618—1995)为基础进行分析则尚未发现超标样本;研究区域内4 种主要农业利用方式比较,小麦/玉米/棉花为主的传统种植模式下土壤的铅含量最高,达(19.83±5.34)mg·kg-1,其后依次为露天菜地、设施菜地和对照土壤;研究区域内土壤铅含量在空间分布上以东北部、西部和西南部较高,且有由东北和西南向中部逐渐降低的趋势。设施种植条件下,土壤铅含量有随设施年限增加而升高的趋势(P<0.05),年累积速率为0.40 mg·kg-1,导致这种结果的原因可能在一定程度上与含铅量较高的有机肥大量施用有关。总体来说,目前研究区域土壤中铅含量尚处于正常范围,但从长远看仍需要注意其累积问题。
【英文摘要】Abstract:Through field survey, geostatistics and ICP-MS technology, the lead(Pb)content and its spatial distribution characteristics in agricultural soils in Shouguang City of Shandong Province were investigated. The effect of different land-use type on the soil lead content was analyzed as well. The results indicated that the average content of lead in Shouguang City was by(17.97±1.22)mg·kg-1. Compared to the soil background value of Shandong Province in 1990, the lead content of 8.59% samples of the total samples showed an accumulated trend, while it was not exceeded, compared to the National Soil Quality Level Ⅱ(GB 15618—1995). Among the four kinds of the land-use patterns, thelead content in the soils was the highest by wheat, maize and cotton fields under traditional farming pattern, which was with(19.83±5.34)mg·kg-1, whereas it was followed by field vegetable, greenhouse vegetable and forest soils, which was as control soils. The spatial distribution of lead contents made by using GIS technology showed that the relative high lead content was found in the Northeast, West and Southwest and a decreasing trend of the lead contents from the Northeast and Southwest to the central part. The lead content in the greenhouse vegetable soilsincreased significantly at P<0.05 level as the cultivation time prolonged, and yearly accumulation rate of lead was by 0.40 mg·kg-1. The reason for the lead accumulation in greenhouse vegetable field could be related to the application of the high lead content organic fertilizer. Generally, the lead contents in the studied areas were in the commen range, but it was necessary to pay attention to the lead accumulation in agricultural soils in the long run.
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【第一作者】李莲芳
【通讯作者】曾希柏
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【题目】黄河流域干燥度时空格局变化研究
【中文关键词】黄河流域;干燥度;Penman - Monteith 法;时空格局;克里格法
【英文关键词】Yellow River Basin (YRB) ; arid index ; Penman - Monteith method ; spatial - temporal pat2
tern ; Kriging
【中文摘要】根据国家气象局整编的1957~2001 年(45 a) 黄河流域93 个气象站点气象资料,应用1998 年FAO 最新推荐的Penman - Monteith 法计算干燥度中的潜在蒸散项,并在此基础上使用克里格(kriging) 插值法生成黄河流域干燥度的分布图。研究结果显示,黄河流域多年平均干燥度空间分布格局受气候、地形地貌等多种因素的影响,具有明显的地域性差异,干燥度总的特点是北大南小,呈现由北向南逐渐递减趋势;从时间尺度上看,自1957 年以来,干燥度总体上呈波动增大趋势,干燥度季节变化为冬季> 春季> 秋季> 夏季,全年以7~9 月份干燥度最小,11月~翌年3 月最大,且不同区域之间存在着明显的差异。
【英文摘要】The arid index was calculated with Penman - Monteith method recommended by the FAO in1990 , based on climatic data of 93 meteorological stations in Yellow River Basin (YRB) authorized by the Na2tional Meteorological Bureau f rom 1957 to 2001 , and the arid index dist ribution in Yellow River basin was alsocreated through the kriging method. The result shows that the spatial dist ribution of arid index is st rongly af2fected by climatic and geographical factors , and the arid index decreases f rom the north to the south. From 1957to the end of 1990s , the t rend of arid index was stable at first and then increased. At the same time , the season2al variation of the arid index was obvious , which was winter > spring > autumn > summer. The maximum valueof the arid index occurred in J uly ,August and September in the upper , middle and lower reaches of the YRB re2spectively , and the minimum values were f rom November to the next March with a distinct regional variation.
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【第一作者】史建国
【通讯作者】张燕卿
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【题目】设施菜地重金属的剖面分布特征
【中文关键词】设施菜地 土壤剖面 重金属 累积
【英文关键词】facility vegetable field; soil p rofile; heavy metal; accumulation.
【中文摘要】以山东省寿光市种植1~12年的蔬菜大棚及相邻的小麦地为对象,研究了设施菜地中As、Cd、Cu、Zn、Cr、Ni 6种重金属在土壤剖面中的分布特征. 结果表明:在0~150 cm土层内,随着土层深度的增加,设施菜地与小麦地中6种重金属含量均呈下降趋势;与小麦地相比,相同土层设施菜地中6种重金属的含量均明显较高,设施菜地0~20 cm土层中As、Cd、Cu、Zn、Cr、Ni的含量分别比小麦地相同土层高出3510%、14612%、6516%、3614%、2115%和1410% , 120~150 cm土层分别高出1016%、17815%、1914%、2012%、1512%和913% , 20~120 cm各土层中的含量亦高于小麦地. 设施菜地0~20 cm土层中, Cd、Cu、Zn含量与种植年限呈显著正相关,随着种植年限的增加,其累积速率分别为01027、11153和21830 mg·kg-1·a-1;设施菜地中6种重金属的含量与土壤有机碳、全氮含量呈正相关,除Ni和As外的4种重金属含量亦与土壤全磷含量呈极显著相关,有机肥等的施用可能在一定程度上导致设施菜地中重金属的累积.
【英文摘要】Taking the facility vegetable fields having been p lanted for 1 - 12 years and the adjacent wheat land in Shouguang City of Shandong Province as test objects, this paper studied the distribution characteristics of arsenic (As) , cadmium (Cd) , copper (Cu) , zinc (Zn) , chromium (Cr) ,and nickel (Ni) in their soil p rofiles (0 - 150 cm). W ith the increase of soil dep th, the test heavy metals contents in the soil p rofiles all had a decreasing trend, and in the same soil layers, the contentswere obviously higher in facility vegetable fields than in wheat land. Comparing with those inthe same soil layers of wheat land, the average contents ofAs, Cd, Cu, Zn, Cr, and Ni in 0 – 20 and 120 - 150 cm soil layers of facility vegetable fieldswere 3510%, 14612% , 6516% , 3614%, and 2115% , and 1016% , 17815%, 1914%, 2012% , 1512% , and 913% higher, respectively, and the average contents of the heavy metals in 20 - 120 cm soil layer of facility vegetable fields were also higher in some degree. In the 0 - 20 cm soil layer of facility vegetable fields, the Cd, Cu, and Zn contents had significant positive correlationswith p lanting years (P < 0105) , with the accumulation rates of Cd, Cu, and Zn being 01027, 11153, and 21830 mg·kg-1·a-1 , respectively. In facility vegetable fields, the test six heavy metals contents were significantly positively correlated with the contents of soil organic carbon and total nitrogen, and the Cd, Cu, Zn, and Cr contentswere significantly

correlated with the content of soil total phosphorus (P < 0101). App lying organic fertilizer could induce the heavy metals accumulation in the soils of facility vegetable fields to some extent.

【语种】中文
【第一作者】李树辉
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【题目】施用有机肥对高砷红壤中小白菜砷吸收的影响
【中文关键词】猪粪 鸡粪 土壤有效砷 小白菜
【英文关键词】pig dung; chicken manure; soil available arsenic; pakchoi (B rassica ch inensis).
【中文摘要】通过盆栽试验,研究了施用猪粪和鸡粪条件下红壤中的砷对小白菜生长和吸收的影响及土壤有效态砷含量的变化. 结果表明:向高砷红壤中施用猪粪和鸡粪两种有机肥均使小白菜的生物量有不同程度的增加,其中,施用猪粪处理的小白菜生物量显著高于对照处理(P < 0105) ;猪粪和鸡粪两种有机肥的施用可导致土壤有效砷含量明显提高,施用猪粪后土壤有效砷含量增幅达39419% ~103316%,而施用鸡粪的土壤有效砷含量增幅为3014% ~9411%; 施用有机肥明显促进了小白菜对砷的吸收,其中猪粪处理下小白菜的砷吸收量比对照增加2017%~5319%. 根据本研究结果,对砷含量较高的高风险农田,施用猪粪、鸡粪等有机肥可能会在一定程度上提高土壤有效砷含量和作物对砷的吸收量,使农产品质量和环境风险增加
【英文摘要】A pot experimentwith arsenic contaminated red soilwas conducted to study the effects ofapp lying pig dung and chicken manure on the growth and arsenic absorption of pakchoi (B rassicachinensis) , and on soil available arsenic. App lying p ig dung and chicken manure to the arsenic2contaminated red soil increased the biomass of pakchoi to some extent. Comparingwith the control,app lying p ig dung increased the pakchoi biomass significantly (P < 0105). The soil available arsenic content after app lying pig dung increased by 39419% - 103316% (P < 0105) , and that after app lying chicken manure increased by 3014% - 9411%. Organic fertilization p romoted the arsenic absorp tion of pakchoi, with the arsenic up take after app lying pig dung increased by 2017% -5319%. The app lication of p ig dung and chicken manure to arsenic2contaminated red soil could somewhat increase the soil available arsenic content and the arsenic up take by crop s, and thus, increase the risks of agricultural p roduct quality and environment.
【语种】中文
【第一作者】李莲芳
【通讯作者】曾希柏
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【题目】马-干扰素双抗体夹心ELISA检测方法的建立
【中文关键词】马γ-干扰素; 夹心ELISA
【英文关键词】equine IFN-γ; sandwich ELISA
【中文摘要】目的: 建立检测马γ2干扰素的双抗体夹心EL ISA,为马传染病的免疫学研究提供新方法。方法: 将识别不同表位的抗马γ2干扰素的2株单克隆抗体(mAb, A5和SB10)纯化后, 利用生物素标记试剂盒对其中1株纯化的mAb (SB10)进行标记, 通过对重组马IFN2γ进行EL ISA检测来建立马γ2干扰素双抗体夹心EL ISA。结果: 经过方阵滴定实验确定捕获抗体的最佳浓度为1 mg/L, 检测抗体的工作效价为1∶1 000。利用建立的方法对不同稀释度的重组马γ2干扰素和丝裂原刺激的马外周血单核细胞培养上清进行检测。结论:此方法检测敏感度达到1μg/L, 特异性良好, 为马的细胞免疫学研究提供了方法, 并为建立马γ2干扰素EL ISPOT检测方法奠定了基础。
【英文摘要】AIM : To develop a quantitaive ELISA by measuring interferon (IFN-γ) of equine lymphocytes. METHODS: Sandwich ELISA for equine IFN-γ was developed using mAb A5 as a capture antibody and biotinylated mAb SB10 as a detection antibody. RESULTS: The detection limit of the sandwich EL ISA for equine IFN-γ was 1μg /L and did not show cross-reactivity with recombinant equine L-18. Equine IFN-γ was detected by ELISA inculture medium of the peripheral blood mononuclear cells (PBMC

s) stimulated with ConA or PMA / Ionomycin. CONCLUSION: This method can be used to help understand the role of this cytokine in various equine diseases and develop specific cell-mediated immunity assay.
【语种】中文
【第一作者】白宇
【通讯作者】吴东来
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【题目】Differential Responses Between Monocytes and Monocyte-Derived Macrophages for Lipopolysaccharide Stimulation of Calves
【中文关键词】Toll样受体,单核细胞,单核细胞来源的巨噬细胞,牛
【英文关键词】Toll-like receptor, monocyte, monocyte-derived macrophage, bovine
【中文摘要】在这个实验中Toll样受体的表达模式的单核细胞和单核细胞来源的巨噬细胞内毒素(脂多糖)刺激检查。颈内静脉血收集了来自四个日本牛犊,和外周血单个核细胞(单核细胞)分离。细胞单核细胞直接用于收集磁性细胞分选和培养7天收集的单核细胞来源的巨噬细胞在repcell。然后,我们分析了基因表达模式的受体和细胞因子的单核细胞和单核细胞来源的巨噬细胞内毒素刺激后24小时内毒素刺激单核细胞和单核细胞来源的巨噬细胞都导致增加的转录水平的肿瘤坏死因子-　,IL - 6和IL - 8。此外,肿瘤坏死因子-　和白细胞介素- 6基因表达明显增强内毒素刺激单核细胞来源的巨噬细胞。受体基因表达不变后,内毒素刺激单核细胞,而受体基因表达的单核细胞来源的巨噬细胞是复杂的。TLR 1,3,5,8和10均显着降低脂多糖刺激后,有没有不同的基因表达TLR 2,4,6和7之间的对照组和内毒素刺激。此外,没有表达TLR 9被发现。作为抗原呈递细胞,单核细胞和单核细胞来源的巨噬细胞的反应不同,所以他们可能有不同的职能的先天免疫系统。
【英文摘要】In this experiment Toll-like receptor expression pattern in monocytes and monocyte-derived macrophages by lipopolysaccharide (LPS) stimulation was examined. Jugular venous blood was collected from four Japanese calves, and the peripheral blood mononuclear cells (PBMCs) were isolated. The cells were directly used for collecting monocytes by magnetic cell sorting or cultured for 7 days to collect monocyte-derived macrophages in Repcell. Then we analyzed the mRNA expression pattern of TLRs and cytokines in monocytes and monocyte-derived macrophages after LPS stimulation for 24 h. LPS stimulation of both monocytes and monocyte-derived macrophages resulted in an increase in the levels of mRNA transcripts for TNF-　, IL-6 and IL-8. Moreover, TNF-　and IL-6 mRNA expressions were significantly augmented by LPS stimulation in monocyte-derived macrophages. TLRs mRNA expressions were unchanged after LPS stimulation of monocytes, while TLRs mRNA expressions in monocyte-derived macrophages were complicated. TLR1, 3, 5, 8 and 10 were significantly decreased after LPS stimulation and there were no differences in the mRNA expressions of TLR2, 4, 6 and 7 between the groups of control and LPS stimulation. Besides, no expression of TLR9 was found. As antigen presenting cells, monocytes and monocyte-derived macrophages respond differently to LPS, so they may have different functions in the innate immune system
【语种】英文
【第一作者】Yi jie Guo
【通讯作者】Guoqi Zhao
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【题目】石门雄黄矿周边地区土壤砷分布及农产品健康风险评估
【中文关键词】矿区;土壤;砷;风险
【英文关键词】mining area; soil; arsenic; risk.
【中文摘要】对石门雄黄矿区周边土壤和作物进行了系统研究. 结果表明: 矿区表层(0 ~ 20 cm)土壤砷含量平均为99. 51 mg • kg - 1,比湖南省土壤砷含量背景值高出5. 34 倍,为当地普通农田土壤的9. 70 倍; 矿区水田和旱地表层土壤砷含量分别为43. 51 和115. 1 mg • kg - 1,分别超出国家土壤环境质量II 级标准0. 45 和1. 87 倍,相应的表层土壤样本超标率分别为62.

5%和50. 0%; 矿区粮食作物、蔬菜和水果可食部位砷含量分别为0. 16、0. 06、0. 01 mg·kg - 1,作物样本超标比例由高至低的顺序为粮食作物> 蔬菜> 水果,其中以稻米、红薯中砷含量超标较严重,稻米砷含量最高达0. 84 mg·kg - 1,超过国家食品质量标准4. 6 倍,样本超标率达62. 5%. 土壤砷含量与作物砷含量呈极显著正相关(P < 0. 01) ,当地居民通过食用矿区农产品进入人体的平均日摄取砷量为6. 416 μg·kg - 1· d - 1,远高于WHO 的推荐标准,相应人群健康风险指数为21. 39,是对照区的15. 39 倍.

【英文摘要】A systematic investigation was carried out on the arsenic content in the soils and plants surrounding Shimen arsenic sulphide mine. The arsenic content in top soils (0 - 20 cm) was averagely 99. 51 mg·kg - 1,being 5. 34 times higher than that of the background value in Hunan Province and 8. 70 times higher than that of local farmland soil. The topsoil arsenic content in paddy field and dry land was 43. 51 and 115. 1 mg·kg - 1,respectively,being 0. 45 and 1. 87 times higher than that of the grade II level (paddy field 30 mg·kg - 1 ; dry land 40 mg·kg - 1) commended by the National Soil Quality (GB 15618 - 1995) ,and the corresponding arsenic exceeding rate was 62. 5% and 50. 0%,respectively. The arsenic content in edible parts of foodstuff,vegetables,and fruits was 0. 16,0. 06,and 0. 01 mg·kg - 1,respectively,and the arsenic exceeding rate of crop samples compared to food security standard ranked in the order of foodstuff > vegetables > fruits.Rice and sweet potato were relatively seriously contaminated by arsenic. The highest arsenic content of rice was up to 0. 84 mg·kg - 1,which was 4. 6 times higher than that of the National Standard,with the exceeding rate of 62. 5%. Statistical analysis demonstrated that there was a positive correlation between the arsenic contents of soil and plant. The average daily intake of arsenic by local people through the consumption of the crops was 6. 416 μg·kg - 1·d - 1,which was much higher than the standard commended by WHO,and the related health risk index was 21. 39,which was 14. 39 times higher than that in the control region.

【语种】中文

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【通讯作者】曾希柏

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【学科分类】环境科学技术基础学科

【题目】重组马-干扰素抗病毒活性测定及单克隆抗体抑制活性鉴定

【中文关键词】马γ-干扰素, 抗病毒活性测定, 单克隆抗体

【英文关键词】equine IFN-γ, antiviral assay, monoclonal antibody

【中文摘要】为了测定大肠杆菌和杆状病毒表达的重组马γ-干扰素是否具有抗病毒活性, 利用这两种干扰素处理马胎肾细胞(EFK-78), 然后接种表达绿色荧光蛋白(GFP)的重组水泡性口炎病毒(VSV*GFP), 观察干扰素对病毒表达GFP 的抑制,测出其抗病毒活性单位分别为1×103 AU/mL、1×105 AU/mL。评价了制备的九株抗重组马γ-干扰素单克隆抗体是否可抑制重组马γ-干扰素抗病毒活性, 证实其中一株可中和重组马γ-干扰素的抗病毒活性。结果表明: 杆状病毒表达的马γ-干扰素具有较高的抗病毒活性, 其活性可被一株制备的抗重组马γ-干扰素单克隆抗体抑制; 首次获得原核表达的具有抗病毒活性的马γ-干扰素。

【英文摘要】Equine interferon-gamma (eIFN-γ) expressed both in E. coli and baculovirus were evaluated for antiviral activity against recombinant Vesicular Stomatits Virus expressing green fluorescence protein (rVSV-GFP) in EFK-78 cells. The assays were conducted in 96-well plate. Virus infectivity was measured by quantifying GFP-positive cells, instead of quantifying the CPE reduction. Prior to infection of EFK-78 cells with rVSV-GFP, the cells were incubated with eIFN-γ. The GFP expression in the EFK-78 cells dramatically decreased in the cells treated with eIFN-γ in a dose-dependent manner, comparing with the mock-treated cells. The titers of antiviral activity were 1×103AU/mL and 1×105AU/mL of eIFN-γ expressed from E. coli and baculovirus,respectively. The antiviral activities of the recombinant eIFN-γ were highly efficient and specific, as it was blocked by mAbs against eIFN-γ.

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【学科分类】免疫学

【题目】土壤中砷的形态转化及其分析方法
【中文关键词】土壤 砷 转化 分析方法
【英文关键词】soil; arsenic; transformation; method of analysis.
【中文摘要】在分析土壤中砷的来源及存在形态的基础上,简要探讨了不同形态砷之间相互转化的过程. 对土壤砷形态的提取和检测方法进行了较系统的比较,认为高效液相色谱2氢化物发生2原子荧光光谱(HPLC2HG2AFS)联用技术具有灵敏度高、检测限低、选择性强、运行成本低、不同形态砷之间相互转化较少的优点,可以作为砷形态检测的首选方法. 结合相关研究结果,对土壤中砷形态转化及相关研究的发展方向进行了讨论.
【英文摘要】Based on the analysis of the sources and existing forms of soil arsenic, this paper ap2 p roached the inter2transformation of different arsenic forms in soil. In the meanwhile, the extractionand determination methods of different soil arsenic formswere also compared. Itwas considered that HPLC2HG2AFS had the advantages of high sensitivity, low detection limit, better selectivity, low operation cost, and less inter2transformation of different arsenic forms, being able to be used as the p riormethod for the detection of different arsenic forms. Combiningwith p revious research results,the form transformation of arsenic in soil and the p romising research aspectswere also discussed.
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【第一作者】和秋红
【通讯作者】曾希柏
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【题目】外源二甲基砷对油菜生长及土壤中砷生物有效性的影响
【中文关键词】二甲基 砷 油菜 生物有效性 去甲基化
【英文关键词】dimethylarsinic acid; Brassica campestris; bioavailability; demethylation.
【中文摘要】通过盆栽试验研究了土壤中添加外源二甲基砷(DMA) 对油菜(Brassica campestris)生长及土壤中砷生物有效性的影响. 结果表明: 随着外源DMA 添加量的增加,油菜的出苗率和生物量均在一定程度上表现出了低浓度促进而高浓度抑制的现象. 当外源DMA 添加量达到90 mg • kg - 1 时,第2 季盆栽油菜的出苗率和生物量与对照相比分别下降了9. 5% 和57. 0%,表明DMA 对油菜生长的影响具有长期性; 随着外源DMA 浓度的增加,土壤中有效态砷及油菜体内的砷含量均表现出增加的趋势,相关性分析表明,该三者间具有极显著相关关系; 添加入土壤中的DMA 主要发生去甲基化作用,产物主要为As(V) 及少量的As(III) ,且随着外源DMA 添加量的增加,As(V) 和As(III) 的浓度均表现出增加的趋势.
【英文摘要】A pot experiment was conducted to study the effects of exogenous dimethylarsinic acid(DMA) on the growth of Brassica campestris and the bioavailability of soil arsenic (As) . With the increasing concentration of applied DMA,the emergence rate and biomass of B. campestris increased at low concentration DMA,but decreased at high concentration DMA. When the DMA concentration reached 90 mg • kg - 1,the emergence rate and biomass of B. campestris in the second cropping decreased by 9. 5% and 57. 0%,respectively,compared with those in the control,indicating that exogenous DMA had longer term effects on the growth of B. campestris. The soil available As and the As uptake by B. campestris all increased with increasing concentration of exogenous DMA,and there existed significant correlations among them. After applied into soil,the exogenous DMA demethylated,with As(V) as the main product and lesser amount of As (III) ,and the concentrations of soil As(V) and As(III) increased with increasing application rate of exogenous DMA.
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【第一作者】白玲玉
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【学科分类】环境科学技术基础学科

【题目】重组马白细胞介素-18生物学活性的测定及单克隆抗体中和活性鉴定
【中文关键词】马白细胞介素-18; 生物学活性; 单克隆抗体
【英文关键词】equine interleukin-18(EIL-18); bioactivity; monoclonal antibody
【中文摘要】应用实时荧光定量RT-PCR 方法评价了大肠杆菌表达的重组马白细胞介素-18 (rEIL-18) 刺激马外周血单核细胞(PBMCs)产生马IFN-γ (EIFN-γ)的活性。在重组人IL-12(rhIL-12)的协同作用下,rEIL-18 在体外刺激马PBMCs 产生EIFN-γ 的效应是阴性对照的20 倍,并且在一定rhIL-12 浓度的条件下,rEIL-18 在体外诱导马PBMCs 产生EIFN-γ 的能力呈一定的剂量依赖性。此外,评价了制备的9 株抗rEIL-18 单克隆抗体中和rEIL-18 的生物学活性的能力,证实其中1 株可中和rEIL-18 的生物学活性,并且呈一定的剂量依赖性
【英文摘要】To examine the bioactivity of recombinant equine interleukin-18 (rEIL-18) obtained from Escherichia coli, rEIL-18 was evaluated to see if it showed a synergistic effect with recombinant human interleukin-12 (rhIL-12) for the induction of equine interferon-γ (EIFN-γ) gene expression from equine peripheral blood mononuclear cells (PBMCs) by Real-time RT-PCR. REIL-18 could induce EIFN-γ mRNA expression from equine PBMCs about 20-fold higher than that of negative control in the presence of rhIL-12.And the effect to induce EIFN-γ gene expression was dose-dependent with rEIL-18 in a fixed concentration of rhIL-12. Nine anti-rEIL-18 monoclonal antibodies (mAbs) were also evaluated if they could neutralize the bioactivity of rEIL-18. And one of the 9 mAbs could neutralize rEIL-18 bioactivity and its effect was dose-dependent.
【语种】中文
【第一作者】童铁钢
【通讯作者】吴东来
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【学科分类】免疫学

【题目】外源砷形态和添加量对作物生长及吸收的影响研究
【中文关键词】砷形态;小油菜;生长;吸收
【英文关键词】outer source arsenic; small rape (Brassica campestris); growth; absorb
【中文摘要】采用盆栽模拟试验,研究了不同形态外源砷对小油菜生长及吸收砷的影响。结果表明,添加低量砷有利于提高小油菜的出苗率,而高量砷则导致出苗率显著下降。其中,当砷添加量为90 mg·kg-1 时,二甲基砷(DMA)和As(V)处理下小油菜的出苗率比对照分别降低了20.7%和19.5%。随着砷添加量的增加,添加DMA 处理小油菜的生物量不断下降,而添加As(V)处理在添加量小于15mg·kg-1 时对小油菜具有一定的增产效果,超过15 mg·kg-1 时则随着添加量的增加而下降。无论是添加DMA 还是As(V),小油菜植株中的砷含量均有随添加量增加而升高的趋势。与此同时,随着外源砷添加量的增加,土壤中有效态砷的含量亦呈显著增加的趋势(P<0.01),其中,添加DMA 时的增加趋势更为明显,且其生物有效性和植物毒性均大于As(V)。
【英文摘要】The pot experiments under simulated condition were conducted to study the influence of the different speciation and added amounts of outer source arsenic (As) on rape (Brassica campestris) growth and absorption of arsenic. The results indicated that the low added amount of As was beneficial to improve the seeding rate of rape, while the high added amount of As led to decrease of the seeding rate significantly. As the added amount of As was up to 90 mg·kg-1, the seeding rate of rape in Dimethylarsinic Acid (DMA) and As (V) treatments deceased by 20.7% and 19.5% respectively. With the added amount of DMA increased, the biological yield of rape continuously decreased. However, the biological yield of rape increased as the added amount of As in the As(V) treatment was lower than 15 mg·kg-1. Only when the added amount of As(V) exceeded 15 mg·kg-1, the biological yield of rape decreased. The arsenic concentration in rape plant was gradually increased with the increase of the added amount of both DMA and As (V). Meanwhile, the available arsenic concentration in soils was significantly increased with the increase of the added arsenic content(P<0.01), which was more obvious in the DMA treatment. In comparison with As (V), the DMA had much higher biological validity and toxicity for rape plant.
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【题目】微生物对砷的作用机理及利用真菌修复砷污染土壤的可行性
【中文关键词】砷 真菌 生物累积 生物挥发
【英文关键词】arsenic; fungi; bioaccumulation; bio-volatilization.
【中文摘要】利用真菌修复砷污染土壤和水体具有很大的发展潜力,是环境科学领域研究的热点. 环境中存在的砷虽然不能像有机污染物那样被微生物降解,但可以通过微生物对砷的氧化/还原、吸附/解吸、甲基化/去甲基化、沉淀/溶解等作用影响其生物有效性,从而达到降低环境中的砷毒害、修复砷污染环境的目的. 本文阐述了微生物对砷的作用机理,综述了真菌对砷累积与挥发研究的最新进展,探讨了其在修复砷污染土壤方面的可行性,旨在为利用真菌来修复砷污染土壤提供理论依据.
【英文摘要】Utilizing fungi to remediate arsenic-contaminated soil and water body has a great potential,which has been focused and highlighted in environmental sciences. Though the arsenic in environment can not be biodegraded as organic contaminants,its bioavailability can be affected by microorganisms via the processes oxidation /reduction,absorption /desorption,methylation /demethylation,and precipitation /dissolution,etc. ,and thereby,its toxicity could be reduced,and the arsenic-contaminated environment could be remediated. This paper introduced the action mechanisms of microorganisms on arsenic,summarized the research progress in the arsenic bioaccumulation and bio-volatilization by fungi,and discussed the feasibility of utilizing fungi in the remediation of arsenic-contaminated soil,aimed to provide theoretical reference for the bioremediation strategies of arsenic-contaminated soils.
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【通讯作者】曾希柏
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【题目】两种阳离子纳米基因载体及植物基因介导效果的研究
【中文关键词】聚乙烯亚胺 壳聚糖 纳米粒 基因载体 转基因
【英文关键词】Polyethylenimine Chitosan Nanoparticles Gene vector Transgene
【中文摘要】以阳离子聚乙烯亚胺(polyethylenimine, PEI)和壳聚糖(chitosan, CS)作为两种植物基因载体,分别制备了载基因PEI纳米粒(PEI/DNA)和壳聚糖2DNA纳米粒(CS/DNA) ,并对其形态、粒度分布、包封率、DNA结合的稳定性及纳米颗粒对DNA的保护等方面进行表征。并以GFP基因为报告基因进行植物细胞转染,比较两者转化效率。结果表明PEI/DNA纳米粒稳定性,对DNA的保护以及转染效率等方面均优于壳聚糖2DNA纳米粒。
【英文摘要】Polyethyleneimine (PEI) and chitosan (CS) were used to p repare PEI2DNA (PEI/DNA) and CS2DNA (CS/DNA)comp lexes as gene carriers forDNA delivery1 The characteristics of the comp lexes such asmorphology, particle size, association efficiency, stability ofDNA binding, and protection ability to DNA were investigated1Transfection efficiency mediated by PEI/DNA andCS/DNA were examined with GFP gene as report gene, respectively1 The results showed that PEI/DNA nanoparticleswere superior to chitosan-DNA nanoparticles in stability, p rotection ability of DNA and transfection efficiency A rabidopsis thaliana to protop lasts.
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【第一作者】宋瑜
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【中文关键词】长期肥料试验; 施肥制度; 土壤微生物生物量碳; 土壤微生物生物量氮; 土壤微生物生物量磷
【英文关键词】long-term fertilization exp eriment ; fertilization sys tems ; s oil microbial biomas s carbon ; s oil microbial biomas s nitrogen; soil microbial biomas s phosphorus
【中文摘要】通过设置在北京昌平区的长期肥料定位试验,研究16 年的长期不同施肥制度下,土壤微生物生物量碳、氮、磷的状况。试验设置冬小麦2夏玉米复种连作和小麦2玉米→小麦2大豆复种轮作2 种不同种植制度以及长期撂荒处理(CK0) ,其中冬小麦2夏玉米复种连作种植制度(种植方式Ⅰ) 包括4 个施肥处理,分别为:对照(CK,不施肥,但种植作物) 、氮磷钾(NPK) 、氮磷钾+ 猪厩肥(NPK + M) 、氮磷钾+ 玉米秸秆(NPK + S) ;小麦2玉米→小麦2大豆复种轮作种植制度(种植方式Ⅱ) 包括1 个施肥处理为氮磷钾+ 种植方式Ⅱ(NPKF) 。试验结果表明:1) 长期撂荒土壤的有机质和全氮的含量、微生物量碳(SMB2C) 和氮(SMB2N) 均显著高于2 种不同种植制度的农田土壤,但土壤微生物生物量磷含量较低; 2) 2 种不同的种植制度中,施肥处理(NPK、NPKM、NPKS 和NPKF) 农田的土壤养分含量、微生物量生物量碳、氮、磷均高于不施肥但种植的农田(CK) ,与CK 相比,NPK、NPK + M、NPK + S 和NPKF 处理的微生物量生物量碳增加了26 %、70 %、36 %和46 %,微生物量生物量氮增加了92 %、251 %、130 %和159 % ,以及微生物量生物量磷增加了519 %、1 495 %、898 %和712 %; 3) 小麦2玉米→小麦2大豆复种轮作并且施氮磷钾肥(NPKF) 农田的土壤微生物量生物量碳、氮和磷高于长期小麦2夏玉米复种连作并且施氮磷钾肥(NPK) 的农田;4) 在施肥处理中(NPK、NPK+ M、NPK + S 和NPKF) ,长期氮磷钾化肥与有机肥配合施用的处理(NPK + M)的土壤上述指标高于其他施肥处理(NPK、NPK+ S 和NPKF) ; 5) 土壤微生物与土壤养分之间具有很好的相关性,其中土壤微生物生物量碳、氮与土壤有机质、全氮呈极显著的正相关,土壤微生物生物量磷与土壤全磷和速效磷呈显著正相关。
【英文摘要】A s tudy of s oil microbial biomas s carbon (SMB2C) , microbial biomas s nitrogen (SMB2N) , and microbialbiomas s phosphorus (SMB2P) in arable s oils with different fertilizer regimes was carried out bas ed on a 152ye ar longterm fertilizer exp eriment in a Fluvo2aquic soil in Beijing. Thirte en treatments were es tablished in 1990. Six tre atmentswere chos en for this work : Four were in a wheat2maize rotation receiving either no fertilizer (CK) , mineral fertilizers(NPK) , mineral fertilizers plus farmyard manure (NPKM) or mineral fertilizers with maize straw incorp orated (NPKS) .One tre atment was in a wheat2maize/ whe at2soybe an rotation receiving NPK (NPKF) . The other was an abandonedarable land (CK0) colonized by weeds . The amount (kg/ hm2) of chemical fertilizer p er ye ar was 150 N , 75 P2O5 , 45K2O , and (t/ hm2) 2215 manure and 2125 maize s traw. The main results were as follows : The s oil organic C(SOC) andtotal N(STN) as well as microbial biomas s C and N were higher in long2term (15 ye ars) abandoned arable s oils than incultivated arable soils . However , the microbial biomas s P in the fallow s oil was lower than that in tre atments withfertilizer application. The s oil nutrient concentration and microbial biomas s C , N and P were higher in treatments withfertilizer application (NPK、NPKM、NPKS and NPKF) than the no fertilizer tre atment (CK) . The above s oil p arameterswere als o higher in whe at2maize/ wheat2s oybean rotation than continuous whe at2maize cropping sys tem. Among thefertilizer application treatments , NPKM had relatively higher s oil nutrients and microbial biomas s C , N and P than otherfertilizer tre atments (NPK、NPKS and NPKF) . The correlation between soil microbial biomass and soil fertility wassignificant . There was a positive correlation between the soil microbial biomass C & N and the contents of organic matter andtotal N. A positive correlation was also found between the soil microbial biomass P and Total P and Olsen P.
【语种】中文
【第一作者】刘恩科
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【题目】我国农田生态系统重金属的循环与调控
【中文关键词】重金属 农田生态系统 循环 调控

【英文关键词】heavy metal; agro2ecosystem; cycling; regulation.
【中文摘要】本文系统分析了我国农田土壤重金属的含量状况,探讨了农田生态系统中重金属的输入、输出及其平衡. 农田生态系统中重金属存在一定的累积效应,但整体上超标风险较小,而部分作物、特别是蔬菜可能存在一定的超标风险. 在采矿区和冶炼厂周边地区,以及废弃物利用强度较大的农区,土壤和作物中重金属超标的风险较大,是普通农区的十倍甚至数十倍以上. 针对我国农田重金属污染现状,提出了调控农田生态系统重金属循环的有效措施,并对相关领域今后的研究进行了展望.
【英文摘要】This paper analyzed the current situation of heavy metal contamination in crop land soils in China, and discussed the input, output, and balance of heavymetals in crop land ecosystems. It was considered that heavy metals had definite accumulation in crop land ecosystems, but overall speaking, this accumulation had relatively small environmental risk, and only some p lants, especially vegetables, accumulated heavymetals over the standards. In mining areas, adjacent areas of smelting p lants, and the farming areas using larger amounts of related wastes, the heavymetals content in p lants and soilswas at least ten times higher than that in normal crop lands, existing larger environmental risk. Aiming at the current situation of heavymetal contamination of farmland soils in China, some effective regulation measures for the heavy metal cycling in the crop land ecosystems were p roposed, and the further research p rospects in related fieldswere discussed.
【语种】中文
【第一作者】曾希柏
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【题目】淹水条件对土壤砷形态转化的影响
【中文关键词】土壤 淹水 砷 形态转化
【英文关键词】soil; flooding; arsenic; form transformation.
【中文摘要】通过淹水条件下的培养试验,探讨了外源二甲基砷酸(DMA) 、一甲基砷酸(MMA) 、砷酸盐[As(V)]在土壤中的动态转化规律. 结果表明: 随着培养时间的推移,加入土壤中的DMA 和MMA 均主要转化为As(V) ,且土壤中As(V) 含量均呈增加趋势,培养到150 d 时土壤中As(V) 含量均显著高于1 d 时的含量(P < 0. 01) . 外源DMA 通过脱甲基化作用,在30 d内即基本转化为As(V) ,且有少量的亚砷酸盐[As(Ⅲ)]生成; 而外源MMA 的转化速度相对较慢,培养60 d 后才基本完成向As(V) 的转化,同时伴随少量DMA 和As(Ⅲ) 的生成; 在淹水条件下外源As(V) 含量随培养时间的增加而逐渐降低,该过程中除有少量As(Ⅲ) 生成外,其形态基本未发生改变.
【英文摘要】An incubation test was conducted to study the dynamics of exogenously supplied dimethylarsenic acid (DMA) ,monomethylarsonic acid (MMA) ,and As(V) in soil under flooding. With the increasing time of incubation,the exogenously supplied DMA and MMA were mainly transformed into As (V) ,and the As (V) concentration increased,being significantly higher after incubated for 150 days,compared with that after incubated for 1 day. The exogenously supplied DMA was demethylated into As(V) within 30 days,accompanied by a little As(III) ,while the transformation rate of exogenously supplied MMA was rather slow within 60 days,accompanied by a little As(Ⅲ) and DMA. The exogenously supplied As(V) decreased with increasing time of incubation, and its form had less change except that a little As(Ⅲ) occurred.
【语种】中文
【第一作者】曾希柏
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【学科分类】环境科学技术基础学科

【题目】基于多元回归方法的土壤水分预测模型研究

【中文关键词】土壤水分;多元回归;预测模型
【英文关键词】soilmoisture;multip le regression; forecasting model
【中文摘要】通过对气象因子与土壤水分相互关系分析,并采用多元回归法中“后退法”和“逐步前进法”进行自变量筛选. 两种回归方法所选择标准虽然不同,但却得到了基本相同的结果,同时,研究结果也显示两种方法各有优点,“后退法”善于发现联合作用较强的变量,而“前进法”则善于发现单独作用较强的变量1通过多元回归法构建了延安地区0~50 cm共计5层土壤湿度的预测模型,分别是: Y1 = 681154 9 + 01619x1 - 012110x2 + 11294 8x3 + 01187 5x6;Y2 = 1081906 5 + 01537 4x1 - 01226 9x2 + 01716 9x3 + 01339 0x6 + 01132 5x7; Y3 = 1311937 2 + 01441 2x1 - 01241 5x2 +01265 3x3 + 01423 1x6 + 012257x7 + 011444x8; Y4 = 1491489 8 + 013859x1 - 013143x2 - 012404x4 + 01303 3x5 + 01501 4x6 +01307 9x7 + 01239 3x8 + 01177 4x9; Y5 = 1441892 3 + 01303 3x1 - 01302 0x2 - 01276 9x4 + 01359 2x5 + 01443 6x6 + 01312 4x7 +01268 6x8 + 01207 8x91通过验证发现模型预测值和实测值可以发现二者之间具有较好的一致性
【英文摘要】By analyzing the relationship of climate factors and soil moisture, it selects the independentvariableswith the backward elimination and forward regression of multip le regression method. Althoughthe selection standards of the two methods have some differences, the selection results are basically thesame. At same time, we also found the two methods have different advantages, and it is easy to get the u2nite variable with the back regression, and solitude variable with forward regression. With the methods,the five equations constructed are as follows: Y1 =681154 9 + 01619x1 - 012110x2 + 11294 8x3 + 01187 5x6 ;Y2 =1081906 5 + 01537 4x1 - 01226 9x2 +01716 9x3 +01339 0x6 +01132 5x7 ; Y3 =1311937 2 +01441 2x1 -01241 5x2 + 01265 3x3 + 01423 1x6 + 01225 7x7 + 01144 4x8 ; Y4 = 1491489 8 + 01385 9x1 - 01314 3x2 -01240 4x4 + 01303 3x5 + 01501 4x6 + 01307 9x7 + 01239 3x8 + 01177 4x9 ; Y5 = 1441892 3 + 01303 3x1 -01302 0x2 - 012769x4 +013592x5 +014436x6 +013124x7 +012686x8 +01207 8x91And the validated resultshows that the forecasting value and the model and measured value are consistent.
【语种】中文
【第一作者】严昌荣
【通讯作者】严昌荣
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【题目】减蛋综合征病毒环介导等温扩增检测方法的建立
【中文关键词】减蛋综合征病毒;环介导等温扩增;检测
【英文关键词】egg drop syndrome virus ;loop2mediated isot hermal amplification ;detection
【中文摘要】根据GenBank 登录的减蛋综合征病毒(EDSV) 六邻体基因的保守区,设计了3 对环介导等温基因扩增(LAMP) 引物,优化反应体系,并对其灵敏性、特异性进行验证. 结果表明:LAMP 优化后的反应体系为外引物浓度0. 1 μ mol ・L - 1 ,内引物浓度0. 8 μ mol ・L - 1 ,环引物浓度0. 4 μ mol ・L - 1 ,Mg2 + 浓度8. 0 mmol ・L - 1 ,dNTP 浓度0. 8 mmol ・L - 1 ,甜菜碱浓度0. 5 mmol ・L - 1 ,BstDNA 聚合酶浓度8 U ,最佳反应温度65 ℃;扩增出的EDS V 基因呈特征性梯状条带,显色反应呈绿色荧光;检测EDSV 的灵敏度高,是普通PCR 检测的10 倍,可检测到60 个拷贝的基因组DNA ;特异性强,与鸡新城疫病毒(NDV) 、传染性法氏囊病毒(IBDV) 、传染性支气管炎病毒(IBV) 、鸡胚致死孤儿病毒(CELO) 无交叉反应;该方法重复性好,稳定性高,可准确快速地进行减蛋综合征病毒的检测
【英文摘要】In order to develop an efficient ,rapid and highly specific loop2mediated isot hermal gene am-plification (LAMP) assay to detect egg drop syndrome virus (EDSV) ,t hree pair s of primer s were designed according to hexon conservative region of EDSV. The LAMP was performed using Bst DNA polymeraselarge f ragment under the effect of isot hermal amplification. The LAMP reaction system was optimized and the sensitivity and specificity were tested. The result s showed t hat a bat ter amplification of LAMP was abtained wit h t he reaction system containing 0. 1 μ mol ・L - 1 outer primer ,0. 8 μ mol ・L - 1 imner primer ,0. 4 μ mol ・L - 1 ring primer , 8 mmol ・L - 1 mg2 + , 0. 8 mmol ・L - 1 dN TP , 0. 5 mmol ・L - 1 betaine , 8 UBst DNA polymerase ,reaction temperat ure was 65 ℃. The product s amplified by LAMP f rom EDSV were distinctively ladder-like band in agarose gel elect rop horesis ,and green fluorescence should be seen in color-able reaction. The sensitivity of LAMP assay developed in t his st udy was 10 times higher t han t hat of PCR.It had no cross reaction wit h NDV , IBDV , IBV and CELO. The LAMP assay was more simple and conven-ient ,which could be used economically and effectively in both laboratorial and pen-side testing.
【语种】中文
【第一作者】董春娜

【通讯作者】李刚
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【学科分类】兽医学

【题目】Bioaccumulation and Biovolatilisation of Pentavalent Arsenic by Penicillin janthinellum, Fusarium oxysporum and Trichoderma
【中文关键词】
【英文关键词】Bioaccumulation 、Biovolatilisation、arsenic
【中文摘要】
【英文摘要】Some fungi are able to control and remediatearsenic (As)-contaminated soil, sediment, or water. Here,we investigate potential accumulation and volatilisation ofAs by three fungi strains. Results indicated that the highestlevel of As was accumulated by Penicillin janthinellumwith 39.54 lg after 10 days in the culture system amendedwith 2,500 lg As(V), which represents 50 mg/l As.Fusarium oxysporum showed the highest amount of vo-latilised As with 304.06 lg after 15 days. The As contentin the treated system (fi lter paper ? As ? fungi) was sig-ni fi cantly higher than that in the control (fi lter paper ? As; fi lter paper ? fungi; fi lter paper). Trichoderma asperellumand F. oxysporum showed superior abilities for theabsorption of extracellular As and accumulation of intra-cellular As, which accounted for 82.2 and 63.4% of thetotal accumulated As, respectively. However, P. janthin-ellum presented an equal distribution of intracellular andextracellular As. Scanning electron microscope (SEM)analysis suggested that little impact on mycelium growth ofthe three fungal strains was seen after exposure to 50 mg/lAs(V) for 5 days, while the growth of fungi in the controlwas inhibited. The present results demonstrate thatP. janthinellum, F. oxysporum, and T. asperellum would beexpected to tackle As-contaminated environments.
【语种】英文
【第一作者】Su shiming
【通讯作者】Zengxib
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【学科分类】环境科学技术基础学科

【题目】Effect of β-Carotene on Selected Indices of In Vitro Rumen Fermentation in Goats
【中文关键词】β-胡萝卜素,山羊,瘤胃发酵,体外
【英文关键词】β-carotene, rumen fermentation, goat,in vitro
【中文摘要】三只装有瘤胃瘘管被用作捐助者ofrumen流体。底物孵体外缓冲盖碗流体24小时不同层次的β-胡萝卜素(五组:10,50100200,500毫克/升)增加了五组,以确定它是否影响瘤胃体外发酵相比,作为空白样品controls.nh_3-n浓度与50100和200毫克β-胡萝卜素/我组被发现明显低于空白样品(P<0.01)。微生物蛋白的浓度在所有β- carotene-added组高于空白,而那些在200和500毫克/我组均显着高于(P 0.05和0.01,分别)。总挥发性脂肪酸似乎没有受到影响,增加β-胡萝卜素(P 0.05),虽然丙酸和丁酸的浓度变化。结果表明,β-胡萝卜素可以提高利用nh_8-n瘤胃微生物,从而促进其生长的影响。
【英文摘要】Three goats fitted with rumen fistula were used as donors ofrumen fluid.Substrates were incubated in vitro with buffered tureen fluid for 24 h.Different levels of β-carotene(five groups:10,50,100,200, 500 mg/l)were added as five treatment groups to determine whether it affected rumen fermentation in vitro as compared with blank samples used as controls.NH_3-N concentrations with 50,100 and 200 mg β-carotene/I group were found significantly lower than that in blank samples(P0.01).Microbial protein concentrations in all β-carotene-added groups were higher than in blanks,while those found in 200 and 500 mg/I groups were significantly higher(P0.05 and 0.01,respectively).Total VFAs seemed not to be affected by added β-carotene(P0.05),although propionate and butyrate concentrations changed.It is concluded that β-carotene can enhance the utilization of NH_8-N by rumen microorganisms and thus promote their growth in vitro.
【语种】英文

【第一作者】H.X.Yan
【通讯作者】Guoqi Zhao
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【学科分类】畜牧学

【题目】The arsenic speciation transformation in artificially
【中文关键词】
【英文关键词】As(V); MMA; DMA; conversion; adsorption-desorption
【中文摘要】
【英文摘要】Arsenic (As) speciation transformation often accompanies adsorption-desorption when exogenous arsenide is poured into soil. Disregarding the speciation transformation when evaluating adsorption-desorption of As can greatly influence the experimental results. In this study, batch experiments were conducted, and the results in-dicated that exogenous monomethylarsonic acid (MMA) or dimethylarsinic acid (DMA) added to fluvo-aquic soil collected from agricultural area in Beijing of China, was completely converted into As(V) after cultivated for 60 or 90 days. However, when exogenous As(V) was added to the soil, no speciation transformation of As(V) was observed. Furthermore, although the total As concentration, which was 6.55 or 11.55 mg/kg in aqueous extracts of the soil to which MMA or DMA had been added, respectively, remained stable after cultivated for 30 or 60 days, the As speciation transformation of MMA or DMA into As(V) in soil still occurred. Differences in As speciation can result in different fates and behaviors of As in soil, and As speciation transformation should be taken into ac-count when evaluating the adsorption-desorption of As
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【第一作者】Zeng Xibai
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【题目】西部地区农田和草地生态系统现状与建设途径
【中文关键词】西部地区;农田和草地;建设途径
【英文关键词】western area of China; farmland and grassland; p rotection and construction
【中文摘要】农田和草地是我国西部地区主要土地利用类型,加强耕地和草地资源的建设和保护,对实现资源的可持续利用具有重要的作用。对西部地区农田和草地资源现状和存在问题的分析结果表明,西部地区农田和草地资源虽然丰富,但生产力十分低下,不断恶化的生态环境已经严重制约了资源的开发与持续利用。农田和草地不仅是西部地区粮食安全的保障,而且还是保护环境的重要生态屏障,加强立法、加大投入、提高生产技术水平、实行资源长期的监测与评价是建设与保护西部地区耕地和草地资源的重要措施
【英文摘要】Farmland and grassland are the main land utilization pattern in the western China. For resource sustainabledevelopment and utilization, it is urgent to strengthen the p rotection and construction of farmland and grasslandresource. Comp rehensive analysis on the status of farmland and grassland show that the resource of farmland andgrassland are rich, but low p roductivity and deteriorative environment have been a serious drawback for the devel2opment ofwestern China. The farmland and grassland is not only a guarantee of food safety, but also an important barrierfor environment p rotection. Strengthen law construction and cap ital inputting, increasing technique and carrying outlong term monitoring and evaluation of farmland and grassland in the western China are the main ways for the p rotec2tion and construction of farmland and grassland resource.
【语种】中文
【第一作者】何文清
【通讯作者】何文清

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【学科分类】农学其他学科

【题目】Arsenic biotransformation by arsenic-resistant fungi Trichoderma asperellum
【中文关键词】
【英文关键词】Arsenic,Speciation transformation,Fungi
Cultivation period,Eh,pH
【中文摘要】
【英文摘要】Bioremediation of arsenic (As)-contaminated soil using microorganisms has been a focus of research because it is environment friendly and cost-effective. The As-resistant fungi Trichoderma asperellum SM-12F1, Penicil-lium janthinellum SM-12F4, and Fusarium oxysporum CZ-8F1 were exposed to 50 mg l − 1 of As(V), and the biotransformation of As and the concomitant variance of Eh and pH in the media were studied. Fresh weights of all three isolates increased and then decreased depended on cultivation period. After cultivation for 2 or 3 days, the As(V) added to the media had been completely changed into As(III), whilst As(V) was predomi-nate in fungal cells with concomitantly little As(III) during cultivation. After 15 days, little monomethylarso-nic acid (MMA) and dimethylarsinic acid (DMA) besides of As(V) and As(III) were found in the cells of T. asperellum SM-12F1, and the total As content was the highest in cells of P. janthinellum SM-12F4 (about 41.5 μg) according to the quantitative analysis of As speciation in cultures. Moreover, when cultivation period reached 3 days, the Eh and pH in the media of T. asperellum SM-12F1 (312.5 mV and 4.8), P. janthinellum SM-12F4 (411.1 mV and 4.2), and F. oxysporum CZ-8F1 (269.4 mV and 4.8) might not responsible for the reduc-tion of As(V) based on the previous study. Therefore, it is speculated that import/export, reduction, and methylation of As are conducted in fungal cells. Future studies investigating the biochemical behaviour of fungi responding to As are needed to gain a better understanding of bioremediation of As-contaminated soils
【语种】英文
【第一作者】苏世鸣
【通讯作者】Zeng Xibai
【期刊名称、卷期、页码】Science of the Total Environment 409(23)
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【学科分类】环境科学技术基础学科

【题目】北方旱区保护性耕作对农田土壤水分的影响
【中文关键词】保护性耕作,土壤水分,农田水分平衡,DSSAT 模型
【英文关键词】conservation tillage, soil water, field water balance, DSSAT model
【中文摘要】土壤水分是中国北方旱区农业生产的主要限制因子,研究保护性耕作技术体系下土壤水分的动态变化,明确不同耕作模式下的水分平衡规律,对于选择适宜的保护性耕作技术,提高北方旱区土壤水分的利用效率具有重要的指导意义。该文在2 a 田间试验的基础上采用DSSAT 模型对4 个不同保护性耕作处理的土壤体积含水量、水分平衡以及水分利用效率进行了模拟和检验。结果表明干旱年份保护性耕作处理土壤体积含水量较传统耕作高,RMSE 误差在0.025~0.063;干旱年份传统耕作土壤储水量减少最多,为144.6 mm,降水较多年份减少也最多,为46.1 mm;干旱年份水分利用效率1.52~1.78 kg/m3,免耕覆盖水分利用效率最高,降水较多年份水分利用效率1.70~1.71 kg/m3,各处理间差异并不显著。研究结果为保护性耕作技术对农田土壤水分的影响研究提供了理论依据
【英文摘要】Soil water content is the key factor that affect the agriculture production in northern arid regions of China. It ishelpful to select proper tillage methods and improve water productivity based on the study of soil water content changing. Soilwater content, water balance and water use efficiency were simulated and checked used the DSSAT model based on two-yearfield experiment. The results show that in dry year the soil water content of conservation tillage is higher than the conventionaltillage, RMSE is 0.025-0.063. In dry year, and the largest decrease of soil water storage is conventional tillage (144.6 mm), andthe same in normal year (46.1 mm). Water use efficiency in dry year is 1.52-1.78 kg/m3, the largest is no tillage with residuecover treatment, in the normal year is 1.70-1.71 kg/m3. The differences between different treatments are not obvious. Theresults provide theoretical foundation for the research of effects of

conservation tillage on soil water in the field.
【语种】中文
【第一作者】杜建涛
【通讯作者】严昌荣
【期刊名称、卷期、页码】农业工程学报,2008,24(11):25-29
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【引文索引类型】EI
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【学科分类】土壤学

【题目】Genetic Mapping of the Scab Resistance Gene (Ccu) in cucumber (Cucumis sativus L.)
【中文关键词】黄瓜;黑星病;SSR标记;分子标记辅助选择
【英文关键词】cucumis sativus L.; Ccu gene;SSR marker; marker assisted selection (MAS)
【中文摘要】完成了黄瓜黑星病抗性基因的染色体定位,获得了准确率高的SSR标记用于分子标记辅助选择育种。
【英文摘要】Scab, caused by Cladosporium cucumerinum, is an important disease of cucumber, Cucumis sativus L., worldwide. Scab can cause serious losses for cucumber production, especially in protected culture, such as high tunnel production. Resistance to cucumber scab is dominant and controlled by a single gene, Ccu. Breeding for resistant cultivars is the most efficient way to control the disease. Selection for resistance might be made easier if the gene were mapped to linked markers. So far, there are no tightly linked (genetic distance less than 1 cM) SSR markers for the Ccu gene, and no studies on mapping of the Ccu gene in cucumber using SSR markers. The objective of this study was to identify SSR markers for use in molecular breeding of scab resistance. In this study, we used a population of recombinant inbred lines (RILs). The population included 148 individuals derived from the cucumber inbred line 9110 Gt (Ccu Ccu) crossed with line 9930 (ccu ccu). The Ccu gene was mapped to linkage group 2, corresponding to chromosome 2 of cucumber. The flanking markers SSR03084 and SSR17631 were linked to the Ccu gene with distances of 0.7 and 1.6 cM, respectively. The veracity of SSR03084 and SSR17631 was tested using 59 diverse inbred lines and hybrids, and the accuracy rate for the two markers was 98.3%. In conclusion, two SSRs closely linked to scab resistance gene Ccu have been identified, and can be used in a cucumber breeding program.
【语种】英文
【第一作者】张圣平
【通讯作者】顾兴芳
【期刊名称、卷期、页码】J. Amer. Soc. Hort. Sci.
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【引文索引号】135(1):53 – 58. 2010.
【学科分类】园艺学

【题目】栽培黄瓜种质遗传多样性的SSR鉴定
【中文关键词】黄瓜;遗传多样性;SSR;聚类分析;主成分分析
【英文关键词】Cucumber; Genetic diversity; SSR; Cluster analysis; PCA
【中文摘要】利用62对多态性SSR引物对59份黄瓜材料进行了遗传多样性分析。聚类分析结果将供试材料分为7大类群,第1类包含6个欧洲温室型材料,全为无刺瘤类型;第2类是4个美国类型种质,属于小果型材料;版纳黄瓜D59单独聚为第三类,且与其他材料的遗传距离均大于0.33;疑为华南型种质的D38,单独聚为第四类,其果实为乳白色;第五类包括D13及其父本D39,两者含有欧洲和华北血缘;第六类为叶色突变材料D28,是欧洲型和华北型黄瓜的后代;第七类包括33个华北型材料、7个华南型材料、4个日本型材料。主成分分析与系统聚类分析结果基本一致。两种分析方法的分类结果与形态学分类相吻合。
【英文摘要】62 polymorphic SSR primers were used to study the genetic relationships of 59 cucumber materials. The germplasms used in this study were divided into 7 groups by cluster analysis. Six European greenhouse ecotype materials with no spines were in the 1st group . Four American ecotype germplasms with small fruits belonged to the 2nd group. The Xishuangbanna cucumber D59 formed the 3th group. The genetic distance between D59 and other materials were more than 0.33. The white fruited accession D38 belonged to 4th group. The accession D13 and its male parent D39 which were the progenies of European greenhouse ecotype and North China ecotype cucumber were in the 5th group.The leaf color mutant D28, was the only accession in the 6th group. The 7th

group were consisted of 33 north China type materials, 7 south China type accessions and 4 Japanese type germplasms. The results obtained from the principal coordinate analysis were consistent with those from the cluster analysis, which were in according with the morphological taxonomy on cucumber.
【语种】中文
【第一作者】穆生奇
【通讯作者】顾兴芳
【期刊名称、卷期、页码】园艺学报
【论文发表时间】2008-05-03 00:00:00
【引文索引类型】其他
【引文索引号】无
【学科分类】园艺学

【题目】基因型和6-BA对黄瓜子叶节再生频率的影响
【中文关键词】黄瓜; 子叶节; 基因型; 6 - BA
【英文关键词】Cucumber; Cotyledon nodes; Genotypes; Phytohormone
【中文摘要】以华北、华南类型, 欧洲、日本类型及美国加工类型黄瓜为材料, 研究了基因型和激素(6 - BA) 对黄瓜子叶节再生频率的影响。结果表明: 基因型是子叶节再生频率的主要影响因素之一, 不同基因型 黄瓜子叶节在同一培养基上每外植体再生芽数明显不同; 6 - BA是子叶节分化所需的重要激素, 材料228、 185、65G随着6 - BA浓度的升高, 每外植体再生芽数增加; 四川白瓜、吉林旱瓜、K2148随6 - BA浓度的升 高, 每外植体再生芽数反而降低; 其中, 四川白瓜的再生频率最高, 在MS1 (MS + 015 mg · L - 1 6 - BA + 210 mg · L - 1 AgNO3) 培养基上, 每外植体再生芽数可达6.4个。
【英文摘要】The effects of genotypes and phytohormone (6 - BA) were studied by using cucumber (Cucum is sa tivus L1) cotyledon nodes as exp lant in this experiment. The results showed that genotype was one of the main influencing factors on shoot regeneration frequency, the cotyledon nodes of different geno2 types cultured in the same medium showed different shoot regeneration frequency. Moreover, 6 - BA was essential for the regeneration of cotyledon node. The shoot regeneration frequency of material 228, 185, 65G increased with the increasing concentration of 6 - BA, while the shoot regeneration frequency of ‘ Si2 chunbaigua ’, ‘ J ilinhangua ’, K2148 decreased along with the increasing concentration of 6 - BA. The highest shoot regeneration frequency happened on ‘ Sichuanbaigua ’, which reached 614 shoots per exp lant cultured inMS1 (MS + 015mg · L - 1 6 - BA + 210 mg · L - 1 AgNO3) medium.
【语种】中文
【第一作者】张若纬
【通讯作者】顾兴芳
【期刊名称、卷期、页码】中国蔬菜
【论文发表时间】2009-05-04 00:00:00
【引文索引类型】其他
【引文索引号】无
【学科分类】园艺学

【题目】A novel highly acidic β-mannanase from the acidophilic fungus Bispora sp. MEY-1: gene cloning and overexpression in Pichia pastoris.
【中文关键词】无
【英文关键词】acidic, beta-mannanase, Bispora sp. MEY-1
【中文摘要】无
【英文摘要】Using degenerate polymerase chain reaction (PCR) and thermal asymmetric interlaced PCR, a 1,347-bp full-length complementary DNA fragment encompassing the gene man5A, which encodes a 429-amino acid beta-mannanase with a calculated mass of 46.8 kDa, was cloned from acidophilic Bispora sp. MEY-1. The deduced amino acid sequence (catalytic domain) displayed highest identity (54.1%) with the Emericella nidulans endo-beta-1,4-D-mannanase, a member of the glycoside hydrolase family 5. Recombinant MAN5A was overexpressed in Pichia pastoris, and its activity in the culture medium reached 500 U ml(-1). The enzyme was acidophilic, with highest activity at pH 1.0-1.5, lower than any known mannanases, and optimal temperature for activity was 65 degrees C. MAN5A had good pH adaptability, excellent thermal and pH stability, and high resistance to both pepsin and trypsin. The specific activity, K(m), and V(max) for locust bean gum substrate was 3,373 U mg(-1), 1.56 mg ml(-1), and 6,587.6 micromol min(-1)

mg(-1), respectively. The enzymatic activity was not significantly affected by ions such as Ca(2+), Cr(3+), Co(2+), Zn(2+), Na(+), K(+), and Mg(2+) and enhanced by Ni(2+), Fe(3+), Mn(2+) and Ag(+). These favorable properties make MAN5A a potential candidate for use in various industrial applications.
【语种】英文
【第一作者】罗会颖
【通讯作者】姚斌
【期刊名称、卷期、页码】Applied Microbiology and Biotechnology,2009, 82(3): 453-461
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【引文索引类型】SCI
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【学科分类】分子生物学

【题目】狂犬病病毒糖蛋白在Bac- to- bac 杆状病毒系统中的表达及应用
【中文关键词】狂犬病病毒;糖蛋白;杆状病毒表达系统
【英文关键词】rabies virus; glycoprotein; baculovirus expression system
【中文摘要】为表达狂犬病病毒(RV)糖蛋白(G),本研究通过RT-PCR 方法克隆RV Flury LEP 病毒株G 基因,将其克隆至质粒pFastBac HT α 中,重组质粒pFastBac-RV-G 转化DH10Bac 感受态细胞,经同源重组获得重组杆状病毒穿梭质粒Bacmid-RV-G,将其转染昆虫细胞sf21 获得含有G 基因的重组杆状病毒。采用SDS-PAGE 和western blot 对重组蛋白进行鉴定及抗原性分析,以重组G 蛋白作为包被抗原的ELISA 检测36 份犬血清样品。结果表明,在Bac-to-bac 杆状病毒系统中表达的RV G 蛋白能与his-tag 单克隆抗体及RV 阳性血清发生特异性反应,其相对分子量为60 ku;与以RV 为包被抗原的商品化ELISA 试剂盒相比,以重组RV G 蛋白为抗原建立的间接ELISA 的敏感性、特异性和符合率分别为80%、81.8 %和80.6 %,表明杆状病毒系统表达的RV G 蛋白是检测RV 抗体的理想抗原蛋白,作为一种亚单位疫苗具有潜在的应用前景.
【英文摘要】The glycoprotein gene of rabies virus Flury LEP strain was amplified by RT-PCR and cloned into pFastBacHTa vector. The resultant recombinant plasmid was transformed into competent cells of E. coli DH10Bac to construct recombinant bacmid. The recombinant baculovirus was generate by transfection of recombinant bacmid into sf21 insect cells. Expression of the recombinant glycoprotein (rG) was detected by SDS-PAGE with a MW of 60 ku, which was recongized with both ant-his tagmonoclonal antibody and rabies virus positive serum by western blot test. A indirect ELISA was establish with rG as coating antigen, comparing with a commercial ELISA kit coating rabies virus as antigen, tested on 36 clinic serum samples,the indirect ELISA had 80.6% coincidence.
【语种】中文
【第一作者】范晓娟
【通讯作者】李刚
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【学科分类】兽医学

【题目】A xylanase with high pH stability from Streptomyces sp. S27 and its carbohydrate-binding module with/without linker region truncated versions.
【中文关键词】无
【英文关键词】xylanase,high pH stability,Streptomyces sp. S27 ,carbohydrate-binding module
【中文摘要】无
【英文摘要】A xylanase gene, xynAS27, was isolated from a genomic library of Streptomyces sp. S27. The full-length gene consists of 1,434 bp and encodes 477 amino acids, including a putative signal peptide of 41 residues at its N-terminus. The mature xylanase comprises two functional domains, a family 10 glycoside hydrolase, and a family 13 carbohydrate-binding module (CBM), which were joined by a short Gly/Pro-rich linker region. The intact, the CBM-truncated and the CBM-linker-truncated versions of the mature proteins were expressed in Escherichia coli BL21 (DE3), purified to electrophoretic homogeneity and subsequently characterized. XynAS27 showed high pH stability over the pH range 2.2-12.0. XynAS27 may be a compelling tool for the food industry because it generates xylobiose (85% w/w) as the main product of xylan hydrolysis. The truncated versions showed less pH and thermal stability, and less affinity and hydrolytic activity to insoluble substrate than the intact one. These results indicate that the CBM of XynAS27 plays

a key role in the hydrolysis of insoluble substrate, and the CBM and linker region are also important for the enzyme stability, and the linker region contributes more.
【语种】英文
【第一作者】李宁
【通讯作者】姚斌
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【学科分类】生物化学

【题目】纳米SiO2表面改性及其对阿维菌素吸附性能的影响
【中文关键词】纳米SiO2;表面改性;阿维菌素;吸附
【英文关键词】SiO2nanoparticles; surfacemodification; abamectin; adsorption
【中文摘要】采用硅烷偶联剂KH-570对纳米SiO2进行了表面接枝改性,并探讨了改性材料对阿维菌素的吸附性能。通过X射线衍射(XRD)、扫描电子显微镜(SEM)、傅立叶变换红外光谱(FTIR)等技术对表面改性纳米SiO2的结构和性能进行了分析。结果表明,纳米SiO2粒子经KH-570进行表面改性后,其分散性得以改善,对阿维菌素的包封率比改性前的大幅提高,提高率最高达92.6%。用KH-570改性的纳米SiO2可作为一种较为理想的新型生物农药载体。
【英文摘要】SiO2nanoparticlesweremodified by silane coupling agentKH-570and their effects on theadsorption capacity of abamectinwere studied. The structure and physicochemical properties of silane modified SiO2 were characterized byXRD, SEM and FTIR. It was shown that SiO2 nanoparticles were modified by KH-570 successfully and dispersivity of the surface modified SiO2nanoparticles was improved. As a result SiO2 nanoparticles modified by KH-570 can be used as an ideal carrier for biological pesticide.
【语种】中文
【第一作者】刘琪
【通讯作者】崔海信
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【学科分类】化学其他学科

【题目】猪圆环病毒2 型间接ELISA 抗体检测试剂盒的研制及初步应用
【中文关键词】猪圆环病毒2 型;Cap 蛋白;间接EL ISA ;抗体检测试剂盒
【英文关键词】porcine circovirus serotype 2 ; capsid protein ; indirect EL ISA ; antibody detection kit
【中文摘要】以大肠杆菌原核表达系统表达的猪圆环病毒2 型Cap 蛋白为抗原,建立猪圆环病毒2 型间接EL ISA 检测方法,优化EL ISA 反应条件,研制猪圆环病毒2 型EL ISA 抗体检测试剂盒。与商品化试剂盒相比,该检测试剂盒敏感性、特异性和符合率分别为95. 12 %、92. 86 %和94. 55 %;同时与猪圆环病毒1 型(PCV1) 、猪瘟病毒(CSFV) 、猪繁殖与呼吸综合征病毒(PRRSV) 等多种病毒阳性血清无交叉反应。试剂盒具有较好的重复性,在- 20 ℃至少可保存1 年以上,将其应用于临床血清样品的检测,结果安徽、广东、广西采样猪场的PCV2 阳性率分别为100 %、48. 39 %、100 %。
【英文摘要】Using the purified Cap recombinant protein as coating antigen of indirect EL ISA ,detecting kit was developed by the optimal reaction conditions of EL ISA. In comparative experiment s with commercial EL ISA kit for detection of 55 serum samples , the sensitivity , specificity and coincidence rate of the established EL ISA method were 95. 12 % ,92. 86 % and 94. 55 % respectively. The established EL ISA method had no cross-reactivity with the reference sera of other swine viruses (PCV1 , CS-FV , PRRSV , PPV , PRV) . The int ra-assay variation coefficient was 2. 3 % to 4. 5 % , inter2assay variation coefficient was 1. 12 % to 2. 63 % respectively. The EL ISA antibody detection kit could be stable at - 20 ℃ at least for one year. 66 serum samples of three pig farms f rom Anhui , Guangdong , Guangxi were detected by detection kit , and the positive rate was 100 % , 48. 39 % , 100 % respectively.
【语种】中文
【第一作者】胡小华

【通讯作者】李刚
【期刊名称、卷期、页码】中国畜牧兽医,2011年,第38卷,第3期,第120~123页
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【学科分类】兽医学

【题目】Paenibacillus sp. Strain E18 Bifunctional Xylanase-Glucanase with a Single Catalytic Domain.
【中文关键词】无
【英文关键词】Paenibacillus sp.,Bifunctional, Xylanase, Single Catalytic Domain
【中文摘要】无
【英文摘要】Xylanases are utilized in a variety of industries for the breakdown of plant materials. Most native and engineered bifunctional/multifunctional xylanases have separate catalytic domains within the same polypeptide chain. Here we report a new bifunctional xylanase (XynBE18) produced by Paenibacillus sp. E18 with xylanase and beta-1,3-1,4-glucanase activities derived from the same active center by substrate competition assays and site-directed mutagenesis of xylanase catalytic Glu residues (E129A and E236A). The gene consists of 981 bp, encodes 327 amino acids, and comprises only one catalytic domain that is highly homologous to the glycoside hydrolase family 10 xylanase catalytic domain. Recombinant XynBE18 purified from Escherichia coli BL21(DE3) showed specificity toward oat spelt xylan and birchwood xylan and beta-1,3-1,4-glucan (barley beta-glucan and lichenin). Homology modeling and molecular dynamic simulation were used to explore structure differences between XynBE18 and the monofunctional xylanase XynE2, which has enzymatic properties similar to those of XynBE18 but does not hydrolyze beta-1,3-1,4-glucan. The cleft containing the active site of XynBE18 is larger than that of XynE2, suggesting that XynBE18 is able to bind larger substrates such as barley beta-glucan and lichenin. Further molecular docking studies revealed that XynBE18 can accommodate xylan and beta-1,3-1,4-glucan, but XynE2 is only accessible to xylan. These results indicate a previously unidentified structure-function relationship for substrate specificities among family 10 xylanases.
【语种】英文
【第一作者】石鹏君
【通讯作者】姚斌
【期刊名称、卷期、页码】Applied and Environmental Microbiology, 2010, 76(11): 3620-3624
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【学科分类】生物化学

【题目】转录因子ABP9基因在不同启动子驱动下对转基因拟南芥生长发育的影响
【中文关键词】诱导型启动子;转录因子;ABP9;生长发育
【英文关键词】inducible promoter;ttranscription factor;A8P9;growth and development
【中文摘要】本研究构建了由IND(6xABRE.mini35s)和Pabp9启动子分别驱动AB尸9基因的两种诱导型表达的植物表达载体,得到拟南芥转基因株系;并在正常生长的条件下,与转空载体pcH乃和转35s—ABP9的两种转基因株系在种子萌发、根系伸长、营养和生殖生长等方面进行比较,分析转录因子A曰尸9基因在不同启动子的驱动下,对转基因拟南芥各生长发育时期的影响。研究结果表明,在转基因拟南芥中,利用上述两种诱导型启动子驱动A胼)9基因表达能够一定程度上的解除由组成型表达A曰尸9基因导致的生长延迟。
【英文摘要】Plant expression vechors in which the expression 0f ABP9 is driven by IND(6xABRE-mini35s)or Pabp9 promoter were constructed in this research,and the transgenic Arabidopsis plants respectively transformed with IND- ABP9 and pabp9-ABP9 were obtained. Morphological,developmental and physiological changes at germination,Vegetadve and reproductive growth stages were examined between these transgenic plants and the others which wererespectively transformed with vector pCHF3 and ABP9 driven by routine 35s promoter,to evaluate the effects 0f transcription factor ABP9 driven by different promoters on plant growth and development.The results indicated that the growth retardation defect caused by constitutive expression of ABP9 can be alleviated by expressing ABP9 with aninducible promoter.
【语种】中文

【第一作者】陈铮
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【学科分类】分子生物学

【题目】An α-galactosidase from an acidophilic Bispora sp. MEY-1 strain acts synergistically with β-mannanase.
【中文关键词】无
【英文关键词】α-galactosidase ,acidophilic, Bispora sp. MEY-1 ,synergistically
【中文摘要】无
【英文摘要】An alpha-galactosidase gene (AgalB) was cloned from the acidophilic fungus Bispora sp. MEY-1 and expressed in Pichia pastoris. The deduced amino acid sequence showed highest identity (35%) to the alpha-galactosidase from Penicillium simplicissimum, belonging to the glycosyl hydrolase family 27. The purified recombinant alpha-galactosidase (r-AgalB) exhibited optimal activity at pH 3.5 and 55 degrees C, was stable at pH 2.2-8.0, and showed higher hydrolytic activity towards galactomannan polysaccharides (guar gum and locust bean gum) than toward small galacto-oligosaccharides (melibiose, raffinose and stachyose). A synergistic (3-fold) increase in guar gum hydrolysis was observed when beta-mannanase Man5A from Bispora sp. MEY-1 and r-AgalB were combined. Further, an increase in the reaction time from 5h to 12h or increase of the temperature from 37 degrees C to 55 degrees C enhanced guar gum degradation by the enzyme combination. These properties make r-AgalB a good candidate for extensive application in the pulp/paper, food, and feed industries.
【语种】英文
【第一作者】王慧
【通讯作者】姚斌
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【学科分类】微生物学

【题目】BF2/肽四聚体的构建及其在特异性T细胞检测上的应用
【中文关键词】BF2/肽四聚体;传染性支气管炎病毒;核蛋白;特异性T细胞
【英文关键词】BF2/peptide tetramer; Infectious bronchitis virus (IBV); nucleoprotein; specific T cells
【中文摘要】为构建可溶性鸡组织相容性复合体(MHC)Ⅰ类分子(BF2)/肽复合物,大量表达并纯化了可生物素化的MHCⅠ类分子重链(BF2-BSP)和轻链(Chβ2m),并合成了鸡传染性支气管炎病毒(IBV)核蛋白N71~78T细胞表位肽,将其与纯化后的重组蛋白BF2-BSP和Chβ2m在重折叠缓冲液中复性。复性后在快速蛋白液相色谱仪(FPLC)上分离出复性组装成功的BF2/肽单体复合物。将该单体复合物在体外进行生物素化,其产物再次采用FPLC通过分子筛分离出生物素化后的BF2/肽单体复合物;然后将生物素化后的BF2/肽单体复合物与藻红蛋白(PE)标记的链霉亲和素按一定比例反应生成BF2/肽四聚体。为了检测所制备BF2/肽四聚体是否能应用于检测特异性T细胞,从感染IBV H52株10 d后的SPF鸡分离外周血单核细胞(PBMC),染色后采用流式细胞术检测,结果表明,所制备的BF2/肽四聚体可用于检测IBV N蛋白特异性T淋巴细胞,检测1周龄SPF鸡接种H52后10 d时针对N蛋白的特异性T细胞比率为3.65%。
【英文摘要】For the construction of BF2/peptide tetramer, large amount of recombinant chicken major histocompatibility complex (MHC) Ⅰ heavy chain (BF2-BSP) and light chain Chβ2m were expressed and purified. And a peptide originated from avian Infectious bronchitis virus (IBV) nucleoprotein (N71~78) was synthesized. Afterwards, BF2-BSP and Chβ2m were refolded with IBV N71~78 in refolding buffer to generate the monomer of BF2/peptide complex. Then the folded product was treated with enzymatic biotinylation by BirA enzyme and followed by a gel filtration column to purify the BF2/peptide fraction. Finally, the BF2/peptide tetramer wasformed by mixing purified, biotinylated monomer with phycoerythrin(PE)-labeled streptavidin at a molar ratio of 5∶1. In order to test if the prepared BF2/peptide tetramer could be employed to detect the efficiency of specific T cell, the peripheral blood mononuclear cells(PBMCs) were isolated from the SPF chickens infected with IBV H52 at 10 days post infection and subjected to flow cytometry staining.The cytotoxitic T lymphocytes (CTLs) response of IBV-infected chicks was evaluated with the prepared

BF2/peptide tetramer and 3.65% of CTLs frequency specific to IBV N was detected. All these results indicated that the prepared BF2/peptide tetramer can be used to evaluate the specific T cell immune responses of IBV.
【语种】中文
【第一作者】刘光亮
【通讯作者】吴东来
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【学科分类】免疫学

【题目】含禽源启动子的禽流感病毒核蛋白表达载体的构建及其免疫原性的检测
【中文关键词】禽流感;核蛋白;真核表达载体;血清抗体
【英文关键词】Avian influenza virus (AIV); nucleoprotein; eukaryotic expression vector; serum antibody
【中文摘要】为了研究禽流感病毒核蛋白(nucleoprotein,NP)在鸡体内所引起的免疫反应,将其NP 基因从重组质粒pVAX-NP上酶切后亚克隆至含禽源启动子的真核表达载体pCAGGS 中,经筛选鉴定后获得重组子pCAGGS-NP,将鉴定正确的阳性重组子体外转染真核细胞,利用间接免疫荧光法检测目的基因的瞬时表达;采用腿部肌肉注射途径将重组子免疫SPF 鸡,利用ELISA 检测免疫后血清抗NP 蛋白抗体效价。结果表明,该重组子无论在体外还是体内均能正确表达禽流感NP 蛋白,且所表达的蛋白均具有良好的免疫原性。
【英文摘要】In order to investigate the immune responses to the nucleoprotein (NP) of Avian influenza virus, NP gene cut from recombinant plasmid pVAX-NP was subcloned into a eukaryotic expression vector pCAGGS with an avian-derived promoter. The recombinant plasmid pCAGGS-NP was obtained after PCR identification and sequencing. Then the positive pCAGGS-NP was subjected to transfect eukaryocyte and to immunize SPF chickens. Indirect florescent assay (IFA) was engaged to detect the transient expression of NP, and ELISA was used to detect the serum antibody of the immunized chickens which was resistant to NP protein. The resultsshowed that NP was successfully expressed both in vitro and in vivo and had good immunoreactivity.
【语种】中文
【第一作者】王群
【通讯作者】吴东来
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【题目】农产品和食品领域可追溯系统的研究现状
【中文关键词】食品安全;可追溯系统;条码识别;无线射频识别技术(RFID);研究现状
【英文关键词】food safety;traceability system;bar code marker ;radio frequency identification (RFID) ;research situation
【中文摘要】可追溯系统是产品质量安全管理控制的有效手段,能够对产品的全部生产和销售过程进行无疏漏的跟踪, 以确保产品质量。通过对可追溯系统概念的阐述,介绍可追溯系统的关键技术之一---- 标识技术的发展状况。着重给出条码自动识别技术和无线射频识别技术(RFI D)的发展,并对未来标识技术研究的新方向, 生物识别技术进行展望。在对国内外农产品和食品领域可追溯系统研究和分析的基础上, 针对我国在该方面的现状,提出了相应的对策及建议。
【英文摘要】The traceability system is an effective method to manage and control product quality and safety; it can ensure product quality by way of tracing all the procedures of products from product in to sales. The article elaborated the basic principle of trace ability system, introduced identification technology development , which is one of the key technologies of t race ability system. Besides, the bar code technology and the radio frequency identification (RFID) technology were highlighted. The biometric identification technology, a new research t rend of future marker technology, was briefly
【语种】中文
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【学科分类】畜牧、兽医科学其他学科

【题目】鸡IFN-γ DNA 壳聚糖纳米粒的制备及外源基因表达
【中文关键词】壳聚糖;纳米颗粒;鸡γ - 干扰素基因;体外转染
【英文关键词】Chitosan; Nanoparticals; ChIFN-γ gene; transfection
【中文摘要】为检测纳米载体对表达重组质粒的保护效果,本实验构建了鸡γ 干扰素(IFN-γ)真核表达重组质粒pCAGGS-ChIFN-γ;并将其与200 μg/mL 壳聚糖醋酸溶液制备成DNA/壳聚糖纳米颗粒(CNPs)。透射电镜观察CNPs 呈不规则球形,光子相关色谱(PCS)仪测定显示CNPs 的平均粒径为172.6 nm±5.1 nm;Zeta 电位为20.8 mV±2.9 mV;CNPs 重组质粒包埋效率和载药量分别为91.21 %±2.54 %和31.93 %±0.16 %。鸡胚成纤维细胞(CEF)体外转染实验表明:携带的外源基因能在CEF 中释放、表达,其表达效率约为阳离子脂质体转染试剂LipofectamineTM 2000 转染后的16.3 %,同时CNPs 对细胞基本无毒性。CNPs 稳定实验也证实其稳定性良好。
【英文摘要】In present study, the protection of nanoparticles on recombinant plasmid was investigated by evaluating the DNA-chitosan nanoparticles (CNPs) carrying chicken interferon-γ (ChIFN-γ) recombinant plasmid. The nanoparticles were spherical shape with a mean diameter of 1726 nm under the electronic microscope and had the Zeta potential of 20.8 mV±2.9 mV measured by the Photon Correlation Spectroscopy (PCS). The encapsulation efficiency of DNA was 91.21 %±2.54 % and the DNA content in the nanoparticles was 31.93 %±0.16 %. The capsulated DNA could be protected from the degradation by DNase Ⅰ.The transfection efficiency of CNPs was about 16.3% of that the LipofectamineTM 2000 reagent. Our results also showed that CNPs could express successfully in the CEF cells, and were nontoxic to cultured cells.
【语种】中文
【第一作者】殷喆
【通讯作者】吴东来
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【题目】鸡白细胞介素2(IL-2) DNA- 壳聚糖纳米粒的制备及体外转染
【中文关键词】壳聚糖;纳米粒子;表征;转染
【英文关键词】chitosan; nanoparticles; characterize; transfection
【中文摘要】构建了携带鸡白细胞介素2(IL-2)编码基因的重组真核表达质粒,通过复凝聚法制备了含有该重组真核表达质粒的壳聚糖纳米粒子。对制备的IL-2 DNA- 壳聚糖纳米粒子(IL-2 DNA-chitosan nanoparticles)进行了表征。纳米粒子呈球形,粒径分布范围为50~500 nm,表面带正电,电势为+17.8 mV,DNA 质量占纳米粒子总质量的40.2%。DNA 酶保护性、稳定性和体外释放试验证明,制备的纳米粒子在微酸性(pH 6.0)和微碱性(pH 7.4)环境中稳定性较高,可保护携带的DNA 分子不被0.6~0.8U/mL DNA 酶的降解。用制备的纳米粒子转染Df-1 细胞系,间接免疫荧光检测结果证明,该纳米粒子可携带质粒DNA 进入细胞,使携带的外源基因获得表达。流式细胞术检测证明,纳米粒子的转染效率为0.2%,与裸DNA 转染对照组相比较,包封入壳聚糖纳米粒子中可提高DNA 的转染效率。
【英文摘要】The plasmid carrying chicken interleukin-2 (IL-2) gene was constructed and used to prepare DNA-chitosan nanoparticles by complex coacervation process. The important parameters of the nanoparticles were investigated. The nanoparticles synthesized were globule and the diameter ranged from 50 to 500 nm. The nanoparticles were positively charged with a zeta potential of +17.8 mV. DNA counted for 40.2% of the weight of the nanoparticles. Enzyme protection test, stability test and in vitro release test showed that the nanoparticles prepared were stable at pH 6.0 and pH 7.4, and could protect the encapsulated plasmid DNA from nuclease degradation at the nuclease concentration of 0.6~0.8 U/mL. Df-1 cells were transfected by nanoparticles, the result of indirect immuno-fluorescence test demonstrated that the nanoparticles could take the plasmid DNA into cells and the exogenous gene could beexpressed by the cells. The transfection efficiency was 0.2% studied by flow cytometry, higher than that of naked DNA transfection control. It demonstrated that encapsulating into nanoparticles can improve the transfection efficiency of DNA.

【语种】中文
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【题目】串口技术在农产品微量组分配料系统中的应用
【中文关键词】串口通信;MSComm;微量组分
【英文关键词】serial communication;MSComm;microcomponent
【中文摘要】文章针对农产品加工过程中微量组分配料称量精度问题,以计算机为上位机、以电子秤为下位机、以RS-232作为两者之间的通信总线,利用 Visual Basic中的 MSComm控件等软件系统开发其应用程序,通过多次性能试验和改进,实现了农产品微量组分的可靠配料和准确称量。
【英文摘要】Aiming to problem about accuracy of burdening weighing of microcomponent in processing procedures of agricultural products, using computer as upper system, electronic scale as lower system, RS-232 as communication line between them, application program was developed by MSComm in Visual Basic. Through repeated performance experiment and improvement, reliable burdening and accurate weighing of microcomponent in agricultural products have been realized.
【语种】中文
【第一作者】张春艳
【通讯作者】王顺喜
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【题目】抗马干扰素-单克隆抗体的异硫氰酸荧光标记及应用
【中文关键词】马干扰素-γ;单克隆抗体;异硫氰酸荧光素;细胞内细胞因子染色
【英文关键词】Equine IFN-γ; Monoclonal antibody; Fluorescein isothiocyanate(FITC); Intracellular cytokine staining(ICS)
【中文摘要】目的用异硫氰酸荧光素(FITC)标记抗马干扰素-γ(IFN-γ)单克隆抗体,为建立马IFN-γ 细胞内细胞因子染色方法提供实验材料。方法利用FITC 标记纯化的抗马IFN-γ 单克隆抗体(SB10),荧光抗体经系列稀释后,对马外周血单核细胞(PBMC)进行细胞内细胞因子IFN-γ 单染色的流式细胞术检测,同时与商品化FITC 标记的抗牛IFN-γ 单克隆抗体(CC302)进行流式细胞术检测对比试验。结果FITC-CC302 染色马PBMC,1 μl 荧光抗体染色106 个细胞时,分泌IFN-γ 的细胞频率为9. 35%,而FITC-SB10 经系列稀释染色,在用0. 25 μl 荧光抗体染色106 个细胞时,分泌IFN-γ 的细胞频率为9. 90%。结论所制备的FITC 标记的抗马IFN-γ 单克隆抗体,可为建立马细胞免疫学研究方法奠定物质基础,进而为建立监测马机体免疫状态和研究机体免疫机制提供技术平台。
【英文摘要】Objective To label equine IFN-γ monoclonal antibody(McAb)with fluorescein isothiocyanate(FITC)and provide an experimental material for intracellular cytokine staining (ICS)assay of IFN-γ in equine lymphocytes. Methods Purified equine IFN-γ McAb SB10 was labeled with FITC, then diluted serially and used for ICS assay of IFN-γ in equine PBMCs by flow cytometry.The result was compared with that of flow cytometry by using commercial FITC-labeled bovine IFN-γ McAb CC302. Results When 106 PBMCs were stained with 1 μl of FITC-CC302, the frequency of PBMCs secreting IFN-γ was 9. 35%. However, when 106 PBMCs were stained with 0. 25 μl of FITC-SB10, the frequency was 9. 90%. Conclusion The prepared FITC-labeled equine IFN-γ McAb laid a material foundation of developing the methods for immunological study on equine cells and provided a technical platform for monitoring the immune state and investigating the immunological mechanism.
【语种】中文
【第一作者】白宇

【通讯作者】吴东来
【期刊名称、卷期、页码】中国生物制品学杂志 2009,22(2):188-191
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【引文索引类型】其他
【引文索引号】
【学科分类】免疫学

【题目】饲料安全控制及其对策探讨
【中文关键词】饲料安全;饲料加工;控制措施
【英文关键词】feed safety;feed processing;control measures
【中文摘要】从饲料加工安全的角度,分析了目前饲料安全隐患的成因和控制要点,探讨了饲料安全控制的对策。
【英文摘要】The cause of formation of feed safety and control point were analyzed by feed processing angle,and some control countermeasures of feed safety were discussed in this article.
【语种】中文
【第一作者】李丽
【通讯作者】王顺喜
【期刊名称、卷期、页码】农产品加工,2008年第12期,7~9
【论文发表时间】2008-12-15 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】畜牧、兽医科学其他学科

【题目】基于JSP 的饲料安全可追溯网络化系统研究与设计
【中文关键词】饲料安全;可追溯; 网络化; JSP
【英文关键词】feed security; traceability; net- work system; JSP
【中文摘要】研究了饲料安全可追溯网络化系统的基本组成, 应用 B/ S架构技术构建了饲料安全可追溯网络化系统基本框架, 利用SQL Server 2000技术和JSP (Java Server Page)技术研究开发了系统网络数据库和系统动态网页等功能单元, 通过多项技术的有机组合完成了饲料安全可追溯网络化系统的研发。
【英文摘要】The basic composition of a traceable network system for feed security was studied. The basic frame of the traceable network system for feed security was built by application of B/ S structuring technique. The functionelements such as data base of the system network and dynamic network page of the system were researched and developed by means of SQL Server 2000 t echnique and JSP (Java Server Page) technique. The traceable net system for feed security was achieved through an organic combination of multiple techniques
【语种】中文
【第一作者】邓云鹏
【通讯作者】王顺喜
【期刊名称、卷期、页码】粮食与饲料工业,2010年第5期,28~31
【论文发表时间】2010-05-15 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】畜牧、兽医科学其他学科

【题目】检测马白细胞介素-18双抗体夹心ELISA方法的建立
【中文关键词】马白细胞介素218; 单克隆抗体; 夹心ELISA
【英文关键词】无
【中文摘要】目的: 建立检测马白细胞介素218 (equine interleu2 kin218, EIL218)的双抗体夹心ELISA, 为马传染病的免疫学研究提供新方法。方法: 将识别不同表位的EIL218的2株单克隆抗体(mAb)B1G1和S6A3纯化后, 利用生物素标记试剂盒对B1G1 株mAb进行标记, 以重组马白细胞介素218 (rEIL2 18)为捕获抗原进行ELISA 检测来建立EIL218 双抗体夹心ELISA。结果: 经过方阵滴定试验确定捕获抗体的最佳浓度为4 mg/L, 检测抗体的工作效价为1∶2 000。建立的方法可检测马血清中的EIL218, 与猪、牛和羊血清中的IL218不发生交叉性反应, 此方法检测敏感度达到15 ng/L, 特异性良好。结论: 成功建立了

EIL218的双抗体夹心EL ISA, 为马细胞免疫学研究提供了方法, 也为下一步E IL218 ELISA试剂盒的商品化开发奠定了坚实基础。
【英文摘要】无
【语种】中文
【第一作者】童铁钢
【通讯作者】吴东来
【期刊名称、卷期、页码】细胞与分子免疫学杂志　2009,25(4):364-368
【论文发表时间】2008-04-02 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】免疫学

【题目】鸡γ-干扰素基因(ChIFN-γ)的瞬时表达及其抗病毒活性检测
【中文关键词】鸡γ-干扰素基因;瞬时表达;抗病毒活性检测
【英文关键词】ChIFN-γ gene; transient expression;antiviral assay
【中文摘要】采用PCR 技术从质粒pET-ChIFN-γ 中扩增得到鸡(Gallus gallus) γ-干扰素(chicken interferon gamma, ChIFN-γ)基因,将其亚克隆到真核表达载体pCAGGS 中。将鉴定正确的克隆命名为pCAGGS-ChIFN-γ,体外转染鸡胚成纤维(CEF)细胞,24 h 后经间接免疫荧光(IFA)和免疫印迹(Western blot)检测,表达蛋白具有良好的免疫原性。然后利用表达绿色荧光蛋白(GFP)的重组水疱口炎病毒(VSV*GFP)在CEF 细胞上检测表达的ChIFN-γ 抗病毒活性(AVA),经检测其抗病毒活性为2×103AU/mL,并且其活性可被抗鸡IFN-γ 的多克隆抗体阻断。
【英文摘要】The chicken interferon gamma (ChIFN-γ) gene was amplified from a recombinant plasmid pET-ChIFN-γ by PCR and subcloned into a eukaryotic expression vector pCAGGS and the recombinant vector was designated as pCAGGS-ChIFN-γ. CEF cells were transfected by the high quality prepared pCAGGS-ChIFN-γ. IFA and Western blot showed that the ChIFN-γ was expressed transiently in the CEF cells. In this study, recombinant VSV*GFP (Vesicular stomatitis virus expressing green fluorescence protein) and CEF cells were used in the antiviral assay (AVA) of the recombinant ChIFN-γ. The recombinant ChIFN-γ could inhibit the replication of the VSV*GFP in CEF cells and its antiviral activity were 2 ×103 AU/mL. The antiviral activity of ChIFN-γ could be inhibited by the antibodies against ChIFN-γ.
【语种】中文
【第一作者】殷喆
【通讯作者】吴东来
【期刊名称、卷期、页码】农业生物技术学报 2009,17(6): 954~959
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【引文索引类型】其他
【引文索引号】
【学科分类】免疫学

【题目】载牛冠状病毒N 蛋白壳聚糖微球的免疫效果评价
【中文关键词】壳聚糖;牛冠状病毒核衣壳蛋白;吸附;动物接种;缓释作用
【英文关键词】chitosan; bovine coronavirus N protein; absorption; animal inoculation; slow-release effect
【中文摘要】为了对壳聚糖分子作为佐剂的缓释效果进行免疫学评价,本研究合成了牛冠状病毒DB2 毒株N 蛋白基因的3'端第487 位~1287 位碱基,用大肠杆菌对其进行了高效表达,通过SDS-PAGE 电泳分离、电洗脱纯化该牛冠状病毒N 蛋白(BCV N)。以戊二醛为交联剂,采用乳化交联的方法制备空白壳聚糖微球。利用吸附法制备载BCV N 蛋白的壳聚糖微球,通过肌肉注射途径免疫BALB/c 小鼠,用间接ELISA 方法检测免疫鼠血清中的抗体水平,由此评价壳聚糖微球对BCV N 的缓释作用和佐剂效应。结果表明,壳聚糖微球的形态较好、表面光滑、分散性较好,平均粒径为6.50±1.77 μm,电势分布在36 mV,吸附BCV N 蛋白的壳聚糖微球在体内所产生的免疫效果明显优于唯N 蛋白组,说明载BCV N 蛋白的壳聚糖微球在体内具有一定的缓释效果,使N 蛋白在体内缓慢释放而长时间诱导抗体的产生,该研究结果为以壳聚糖微球作为疫苗佐剂积累了实验数据。
【英文摘要】A DNA fragment corresponding to the 3' terminus 487-1 287 bases of the N protein gene of bovine coronavirus DB2 strain were artificially synthesized and expressed in E. coli. Blank chitosan microspheres were prepared using glutaraldehyde as crosslinkers followed by emulsification. The expressed BCV N protein was purified by electric elution and loaded on to chitosan

microspheres by absorptive method. These microspheres were used to immunize BALB/c mice. The dynamic antibody level in serum was monitored by indirect ELISA to evaluate the slow-release and adjuvanted effect of the BCV N-loaded chitosan microspheres. The results showed that the microspheres had a good shape with smooth surface and an average size of 6.50±1.77 μm. The BCV N-loaded chitosan microspheres induced better antibody response than the N protein alone in mice, indicating that the BCV N-loaded chitosan microspheres had slow-release effect as adjuvant.

【语种】中文
【第一作者】孙庆申
【通讯作者】于力
【期刊名称、卷期、页码】中国预防兽医学报 2009,31(11):882-886
【论文发表时间】2009-11-03 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】农学其他学科

【题目】Cadmium Accumulation in Vegetable Plantation Land Soils under Protected Cultivation: A Case Study
【中文关键词】积累,镉,设施栽培,土壤,蔬菜
【英文关键词】Accumulation, cadmium, greenhouse, soil, vegetable
【中文摘要】admium (Cd) accumulation in vegetable plantation land soils under a greenhouse was investigated in Shouguang County, Shandong Province, China. A total of 128 soil samples were collected from different agricultural fields. Soil samples were digested with the mixture of hydrogen peroxide (H2O2) and nitric acid (HNO3), and Cd content in the digested solution was detected with inductively coupled plasma – mass spectrometry (ICP-MS). The results indicated that the concentration of Cd in the greenhouse vegetable field was significantly more than that in open vegetable field, cotton field, wheat/maize field, and uncultivated soils. Cadmium concentration increased with the cultivation age, and the related accumulation rate was 0.0289mg Cd kg-1y-1 in a greenhouse vegetable field. Organic fertilizer such as livestock manure was the major source for Cd accumulation in the greenhouse vegetable field with the average input amount of 70.7 g Cd ha-1 y-1from organic manure. Thus, a decrease of Cd input from organic fertilizer into greenhouse soils is necessary.
【英文摘要】Cadmium (Cd) accumulation in vegetable plantation land soils under a greenhouse was investigated in Shouguang County, Shandong Province, China. A total of 128 soil samples were collected from different agricultural fields. Soil samples were digested with the mixture of hydrogen peroxide (H2O2) and nitric acid (HNO3), and Cd content in the digested solution was detected with inductively coupled plasma – mass spectrometry (ICP-MS). The results indicated that the concentration of Cd in the greenhouse vegetable field was significantly more than that in open vegetable field, cotton field, wheat/maize field, and uncultivated soils. Cadmium concentration increased with the cultivation age, and the related accumulation rate was 0.0289mg Cd kg-1y-1 in a greenhouse vegetable field. Organic fertilizer such as livestock manure was the major source for Cd accumulation in the greenhouse vegetable field with the average input amount of 70.7 g Cd ha-1 y-1from organic manure. Thus, a decrease of Cd input from organic fertilizer into greenhouse soils is necessary.
【语种】英文
【第一作者】Lian-Fang Li
【通讯作者】Zeng Xibai
【期刊名称、卷期、页码】Communications in Soil Science and Plant Analysis, 40: 2169 – 2184, 2009
【论文发表时间】2009-06-14 00:00:00
【引文索引类型】SCI
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【学科分类】土壤学

【题目】乳液聚合法制备阿维菌素微胶囊及其生物活性研究
【中文关键词】微胶囊;乳液聚合;阿维菌素;结构表征;生物活性
【英文关键词】microcapsule; emulsion polymerization; abamectin; structure characterization; bioactivity
【中文摘要】利用乳液聚合法制备了阿维菌素微胶囊,其包裹率达99. 98% ,载药率达37. 5%。用动态光散射粒度分析仪和冷场发射扫描电子显微镜进行了测试, 结果显示, 微胶囊颗粒平均粒径为278 nm,单分散性较好。渗透性与传导性试验结果表明,在植物体内,该阿维菌素微胶囊比乳油具有更好的渗透性与传导性。室内杀虫活性研究表明,该阿维菌素微胶囊制剂

的杀虫活性与原药相近。
【英文摘要】Abamectin microcapsules with an encapsulation eff iciency (EE) of 99. 98% and a loadingcapacity (LC) of 37. 5% w ere ob tained by em u ls ion po lym eriza tion. L aser ligh t sca tte ring and scanning e lectron m icroscopy show ed that the m icrocapsu les had a mean diameter of 278 nm, with a narrow distribution. Comparing with the emulsifiable concentrate, abamectin microcapsules showed better penetration and translocation in the plant. The insecticidal activity study ind icated that the activity of abamectin microcapsules was not better than that of the abamectin technical.
【语种】中文
【第一作者】宋倩
【通讯作者】梅向东
【期刊名称、卷期、页码】农药学学报 2009, 11 (3) : 392-394
【论文发表时间】2009-07-01 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】植物保护学

【题目】纳米颗粒混悬剂----新兴的农药制剂
【中文关键词】纳米混悬剂;制备;特征;农药
【英文关键词】nanosuspension; preparation; characterization; pesticide
【中文摘要】对纳米混悬剂的研究进展,包括其制备方法、表征和应用进行了综述,并且介绍了纳米混悬剂技术在植物保护化学品上的应用。作为一种新的制剂技术,纳米混悬剂在提高低溶解度农药的生物利用度和药效等方面具有重要意义。
【英文摘要】The recent progress of nanosuspension was reviewed, including the preparation, characterization and applications. The applications of nanosuspension in crop-protection chemicals were introduced. As a new formulation technology, it has considerable significance not only in increasing the bioavailability of the poor solubility pesticides, but also in raising the efficacy.
【语种】中文
【第一作者】宋倩
【通讯作者】梅向东
【期刊名称、卷期、页码】现代农药 2009, 8(2):1-5
【论文发表时间】2009-04-03 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】植物保护学

【题目】除草剂的主要作用靶标及作用机理
【中文关键词】除草剂;靶标;作用方式;作用机理;使用量
【英文关键词】herbicide;target;mode of action;mechanism of action;use rate
【中文摘要】现代除草剂的使用量在100~300 ga.i./hmz范围内,呈逐渐下降的趋势。磺酰脲类和环状亚胺类除草剂的低使用量10ga.i./hm:)促使农药专家去探索更加有活性的化合物。综述了植物所特有的除草剂的作用靶标,即叶绿素、类胡萝卜素、质体醌、氨基酸、脂肪酸、光合电子传递体系和细胞壁,并介绍了作用机理。全面了解除草剂的作用靶标与作用机理,对新除草剂的研究开发,特别是高效、低毒、低使用量除草剂的设计具有重要的指导作用。
【英文摘要】At present,the use-rate of herbicides is in the range of 100—300 g a.i./ha,with a tendency to decline.The low use—rate(10 g a.i./ha1 of the sulfonylurea and cyclic imide herbicides promoted agrochemical scientists to search for even more active compounds.Plant—specific herbicidal targets,namely chlorophylls,carotenoids,plastoquinone, amino acids,fatty acids and photOsynthetic electron transport and cell wall were introduced in this paper,together with the modes of action.Understanding how herbicides work is usefui for the discovery of novel herbicides.especially the design of high—efi cient,low toxicity,low use-rate herbicides.
【语种】中文
【第一作者】宋倩
【通讯作者】梅向东
【期刊名称、卷期、页码】农药 2008, 47(10): 703-705

【论文发表时间】2008-10-08 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】植物保护学

【题目】新烟碱类簇合物的合成及其生物活性
【中文关键词】新烟碱类杀虫剂;簇合效应;合成
【英文关键词】neonicotinoid insecticides:cluster effect:synthesis
【中文摘要】:为寻找高活性的新烟碱类杀虫剂,根据簇合效应原理,以吡虫啉为母体,合成了几类酰基连接的吡虫啉二效价簇合物。其化学结构经 H NMR和元素分析确证。初步的生物活性测试结果表明,化合物4a、4c在100 mg/L时对麦长管蚜Macrosiphum avenae的平均致死率分别达78.4% 和77.3% ,但活性均低于对照药剂吡虫啉。
【英文摘要】In search for neonicotinoid insecticides with high activity.seven novel bivalent compoundswere prepared from imidacloprid as precursor compound.Their structures were confirmed by H NMR and elementa1 an alysis.The preliminary bioassay indicated that these compounds showed insecticidal activity.The average mortality of 4a and 4c to Macrosiphum avenae at the concentration of 100 me-/Lreached 78.4% and 77.3% .respectively.But the activity of these compounds was not as good as imidacloprid.the con~ol pesticide.
【语种】中文
【第一作者】杨国权
【通讯作者】梅向东
【期刊名称、卷期、页码】农药学学报 2008,10(3). 367-370
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【引文索引类型】其他
【引文索引号】
【学科分类】植物保护学

【题目】Synthesis and Bio-activity of Bivalent Im idazolinones
【中文关键词】多位点结合;簇合效应;合成;双甲基咪草烟
【英文关键词】m ultiva lent interactions; cluster effec t; synthes is; bis2im azap ic
【中文摘要】在生物体系中,二效价配体比单效价配体对受体有更强的亲和力。根据乙酰乳酸合成酶与咪唑啉酮类复 合物的3D 结构信息特点,设计并合成了8个对称的双甲基咪草烟类化合物,其结构经红外、核磁及元素分析等确证。初步生物活性测定结果表明:咪唑啉酮二效价簇合物对乙酰乳酸合成酶的亲和力没有增加,在100 μ g /mL 浓度下,对油菜B rass ica campestris L. 根长抑制率与单效价化合物相当。
【英文摘要】In biological system, bivalent ligands of ten possess increased functional affinity for theirreceptors compared with monovalent ligands. Based on the information of 3D structure of AHAS 2imazaquin (IQ) complex, 8 symmetrical bivalent molecules of imazapic were designed and synthesized.The irstructures were confirmed by IR, 1H NMR and elementary analysis. The preliminary bioassay results show ed tha t the inhibition rate to the ace tohydroxy acid synthase from dimeric compounds were less po tent than that of im azap ic. A nd the inhibition ra te to the g row th of rape (B rass ica campestris L.) root from bivalent compounds were very close to that of imazapicat concentration of 100 μ g /mL.
【语种】英文
【第一作者】马洪菊
【通讯作者】梅向东
【期刊名称、卷期、页码】农药学学报 2009, 11 (2) : 176-180
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【学科分类】植物保护学

【题目】不同类型农药助剂协同作用下的溶液表面张力变化
【中文关键词】农药助剂;表面张力;协同作用;分散剂;润湿剂

【英文关键词】pesticide adj uvant;surface tension;synergistic reaction;wetting agent;dispersing agent
【中文摘要】为TN确农药制剂配方中不同类型助剂对药液性能的影响,用旋滴法测定了分散剂、润湿剂及复合表面活性剂体系水溶液的表面张力变化.结果表明,分散剂1)(204、润湿剂WLNO 200与其它农药助剂比较,具有较高的表面活性,二者复配后表面活性剂体系水溶液的表面张力曲线与润湿剂的表面张力曲线相近,复配比在3:1时可产生明显的协同效应,表面张力最低.
【英文摘要】In order to study the effect of pesticide adjuvant on the property of pesticide solution,thesklrfaee tension the solution added with dispersant,wetting agent and their combination were determined by spinning drop method.The results showed that the treatments added with dispersant DC04 and wetting agent W I NO 200 had higher surface activity,the curves of the surface tension of the combination treatment and the wetting agent treatment were similar,and the surface tension reached to the lowest when the ratio of the dispersant to the wetting agent was 3:1。under this ratio the synergistic reaction of the dispersant and the wetting agent was obvious.
【语种】中文
【第一作者】孙宝利
【通讯作者】黄啟良
【期刊名称、卷期、页码】甘肃农业大学学报 2010,44(6):93-96
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【学科分类】植物保护学

【题目】反应时间、芯壁比及表面活性剂用量对阿维菌素微囊制备的影响
【中文关键词】阿维菌素;微囊悬浮荆;甲基丙烯酸甲酯;聚合时间;载药量;粒径
【英文关键词】abamectin;capsule suspensions;methyl methacrylate;polymerization time;drug—loading rate;particle size
【中文摘要】以甲基丙烯酸甲酯为壁材,采用乳液聚合法制备了阿维菌素微囊悬浮剂。研究了聚合反应时间、芯壁比(芯材与壁材的质量比)和表面活性剂(十二烷基硫酸钠,SDS)用量对所制备微囊的包裹率、栽药量和粒径的影响规律,并对其贮存稳定性和释放性能进行了测定。结果发现:所制备微囊的包裹率、载药量和粒径均与聚合反应时间呈正相关,包裹率和载药量在聚合反应3 h后达到相对稳定,粒径在聚合反应l h后变化幅度明显减小;芯壁比对所制备微囊的载药量和粒径影响较为明显,随着芯壁比的增加,载药量增加、粒径减小,当芯壁比从l:5增大到l:2时,载药量由15.59%增加到30.33%,平均粒径(D∞)由5.47减小到2.18 ¨ m,但芯壁比对微囊包裹率的影响不明显;SDS用量对所制备微囊的包裹率和栽药量影响较小,对粒径的影响较大,当SDS的质量分数为8%时,微囊的D,。最小且更为均一。研究表明,反应时间等3个因素对阿维菌素微囊悬浮剂成囊均有一定的影响,当反应时间大于3 h、芯壁质量比为l:3至l:2、SDS质量分数为6%至8%时,有利于形成粒径均一、形态规则、包裹率和载药量都较高,且具有良好的贮存稳定性和释放特性的阿维菌素微囊悬浮剂。
【英文摘要】Abamectin capsule suspensions(CS)with methyl methacrylate as wall material wereprepared by emulsion polymerization.The influence of polymerization time,ratio of COle material to wall material(core to wall)and percentage of SDS on the entrapment rate,drug-loading rate and mean size of CS was studied,stability at high and low temperature and the controlled release effect were also studied.The results showed that the entrapment rate,drug—loading rate and mean size of CS Were positive correlation witll the polymerization time.The entrapment rate and drug—loading rate were relatively steady when the polymerization time was more than 3 hours,and the change of mean particle size Was obviously reduced when the polymerization time Was more than 1 hours.The drug—loading rate and mean size were significantly affected by COre to wall.As the core to wall increased from 1:5 to 1:2,the drug—loading rate increased from 15.59%tO 30.33%and the D∞varied from 5.47 o.m to2.1 8 ixm.The influence of percentage of SDS on entrapment rate and drug—loading rate was not evident,but it was evident on mean particle size.When the percentage of SDS Was 8%,the Dso of CS was smallest and the particles were more uniform.It indicated that each of the three factors had certain effects on the microencapsulation of abamectin.The acceptable abamectin capsule suspensions which had uniform mean size,regular shape,high entrapment rate and drug—loading rate,good stability at high and low temperature and good sustained release effect could be made when the polymerization time Was more than 3 h,the COre to wall was between 1:3 and 1:2 and the percentage of SDS was between 6%and 8%.
【语种】中文
【第一作者】滑海涛
【通讯作者】黄啟良
【期刊名称、卷期、页码】农药学学报　2010,12(1):54-60

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【学科分类】植物保护学

【题目】激活蛋白PeaT1诱导烟草对TMV的系统抗性
【中文关键词】激活蛋白;TMV;病程相关基因;系统获得抗性
【英文关键词】elicitor PeaT1;TMV ;pathogenesis—related gene;SAR
【中文摘要】枯斑三生烟草(Samsun—NN)经激活蛋白PeaT1诱导后接种烟草花叶病毒(Tobacco mosaic virus,TMV),对TMV产生了明显的系统获得抗性,枯斑抑制率达54.15% ,枯斑大小也受到一定程度的限制。研究结果表明,PeaT1处理烟草植株下位三片叶不同时间后,其上部叶片中PPO、POD和PAL 3种抗病防御酶活性均比对照提高,第4 d酶活性达到最高值。实时荧光定量PCR检测结果显示,经PeaT1诱导4 d后烟草叶片中抗病相关基因PR1a、PRlb、NPR1在转录表达水平上较未诱导对照都有不同程度的上调。由以上结果我们推测PeaT1诱导烟草产生了系统获得抗性,本研究为进一步阐明PeaT1诱导植物抗病的信号传导途径奠定了基础。
【英文摘要】The systemic resistance to tobacco mosaic virus(TMV)was induced aher treatment of Samsun—NN tobacco leaves with elicitor PeaT1,the inhibition rate of necrosis was up to 54.15% . Smaller size of TMV lesions was also detected on these leaves. W hen the three lower leaves of tobacco plants were treated with PeaT1 by foliar spraying。 the significant increase of PPo ,POD and PAL activities was observed in an treated upper leaves.and the maximum of them appeared at the 4 day after treatment.The real—time Q—PCR study revealed that the level of resistance related genes PRl a,PRl b,NPRl expression was also increased compared with contro1.The results indicated that elicitor PeaT1 could induce disease resistance in tobacco plant,which would lay a basis for studying signal transduction of disease resistance induced by PeaT1 in plant
【语种】中文
【第一作者】张薇
【通讯作者】杨秀芬
【期刊名称、卷期、页码】植物病理学报 2010, 40(3), 290-299
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【题目】猪T细胞受体α链基因的克隆、序列分析
【中文关键词】猪T细胞受体α链基因;基因克隆;序列分析;生物信息学
【英文关键词】Porcine T cell receptor alpha chain gene (pTCR2α) ; Gene cloning; Sequence analysis;Bioinformatics
【中文摘要】旨在为研究猪T细胞受体分子结构与功能,并首次在国内克隆了猪T细胞受体α链基因。以GenBank上登载的猪T细胞受体(T cell recep tor, TCR) α链(AB087988)为参考序列,从甘肃合作猪外周血液淋巴细胞中用RT2 PCR的方法克隆了TCR2α链基因(pTCR2α) 。结果表明:克隆的TCR2α基因具有完整的ORF,全长819 bp,编码272个氨基酸,预测蛋白分子量为30 kDa,含18个强碱性氨基酸, 23个强酸性氨基酸, 87个疏水性氨基酸和103个极性氨基酸,含有一段20个氨基酸的信号肽序列;与GenBank上登载的TCR2α参考序列(AB087988)的同源性为94. 6% ,与其他具有完整ORF的猪TCR2α相比,同源性为54. 4%~80. 3%。推测可能是一新的TCR2α基因转录本。同时,应用生物信息学技术分析了其基因序列及编码蛋白的结构特征,这为猪T细胞受体分子结构与功能的研究奠定了基础。
【英文摘要】In order to studymolecular structure and function of T cell receptor, porcine T cell receptor alpha chain gene was cloned from peripheral2blood lymphocyte (PBL) of Gansu hezuo pig at the first time in domesdic. The sequence analysis shows that the ORF of total pTCR2α gene is 819 bp in length, encoding 272 amino acids with a signal peptide composed of 20 amino acids. The protein molecularweight is about 30 kDa,with 18 StronglyBasic (+) Amino Acids, 23 Strongly Acidic (-) Amino Acids, 87 Hydrophobic Amino Acids and 102 PolarAmino Acids. The homology of nucleotide sequence of porcine TCR2α with the referenced sequence (AB087988) is up to 94. 6%. Compared with other porcine genes of TCR2α published in GenBank, the homology is about 54. 4% - 80. 3%. It may be a novel transcript of TCR2α family. In order to research molecular structure and function of T cell receptor, this study also uses bioinformatics to ana2lyze its gene sequences and structural feature of encoding protein.
【语种】中文

【第一作者】冯海燕
【通讯作者】景志忠
【期刊名称、卷期、页码】华北农学报 2010,25(1):23-29
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【引文索引号】
【学科分类】分子生物学

【题目】Molecular Clone, Expression, and Prediction of Construction and Function to Key Genes of Interleukin Family of Porcine
【中文关键词】无
【英文关键词】porcine interleukin, gene family, analysis of homologies, prediction of construction
【中文摘要】无
【英文摘要】This research was to clone, express, and analyze the structure and function of major olecules of porcine interleukin family. Genes of porcine interleukin family were cloned by RT-PCR from stimulated porcine PBMC by LPS and PHA, and then expressed in E. coli, and the structure and function of these molecules were predicted by ExPASY. The results showed that genes of IL-4, IL-6, and IL-18 were successfully cloned and expressed. Furthermore, the expression productsof recombinant IL-4 and IL-6 both have multiple biological activities. By analyzing these genes with the NCBUGenBank data, the homologies of the nucleotide acid sequence are 99.25, 99.21, and loo%, respectively, and have great species differences when compared with other animal species. The results of the prediction showed that all these molecules contain several phosphorylation, glycosylation, protein kinase, and signal transduction bonding sites in secondary structure, and all are compact globularity protein in space configuration. These characteristics of structure are the basis for their multiple biological functions. The genes, structure and function of key molecular of porcine interleukin family were successfully cloned, expressed, and analyzed in this paper.
【语种】英文
【第一作者】景志忠
【通讯作者】景志忠
【期刊名称、卷期、页码】Agricultural science in China　2007,6(7): 869-876
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【学科分类】分子生物学

【题目】规模化复合预混料加工工艺设计分析
【中文关键词】预混料;加工工艺;工艺设计
【英文关键词】premixed feed, processing technology, technological design
【中文摘要】本文对规模化复合预混料加工不同工段的加工工艺包括配料工艺、原料上料方式、混合打包工艺、通风除尘等进行了分析比较,并详细说明了原料清理、配料仓数量和结构形式、防冲秤工艺设计、配料秤配料精度工艺保证、混合机小料投料口工艺设计、混合均匀度工艺保证等具体工艺设计的注意事项,以期提高我国复合预混料生产加工工艺技术水平。
【英文摘要】
【语种】中文
【第一作者】李军国
【通讯作者】李军国
【期刊名称、卷期、页码】饲料工业,2008年第17期,1-4
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【学科分类】畜牧、兽医科学其他学科

【题目】Toll样受体7介导的抗病毒天然免疫研究进展

【中文关键词】Toll 样受体7 ;单链RNA ;髓样分化因子88 ;抗病毒免疫
【英文关键词】TLR7 ; ssRNA ;MyD88 ;antiviral immunity
【中文摘要】概述了Toll 样受体(TL Rs) 的发现、种类及其作用模式,重点介绍了TLR7 的分子结构、组织分布、识别的配体以及依赖MyD88 接头分子的信号转导通路,最后,综述了TL R7 介导的抗病毒效应的研究进展。提出,对TL R7 及其作用机制的研究必将有助于新型动物用疫苗的创制。
【英文摘要】The discovery of TL Rs ,f unction pat terns and sort s were summarized. The review is focusedon t he molecular st ruct ure , tissue dist ribution , recognized ligands and signaling pathways dependent on MyD88 of TLR7. Finally t he advance in TL R72mediated anti2viral immune responses was discussed. It is believed on t hat TLR7 could help develope new vaccines for animals.
【语种】中文
【第一作者】何小兵
【通讯作者】景志忠
【期刊名称、卷期、页码】中国兽医科学 2010 ,40 (06) :645-649
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【学科分类】农学其他学科

【题目】近红外光谱技术(NIRS)测定玉米粉碎粒度的研究
【中文关键词】近红外光谱技术;粉碎粒度;偏最小二乘法
【英文关键词】Near Infrared Reflectance Spectroscopy (NIRS), Particle Size, Partial Least Squares
【中文摘要】本文研究了近红外光谱技术(NIRS)快速测定玉米粉碎粒度的应用。建立的近红外定量预测模型定标决定系数Rc2为0.9463,相对标准差RSD为6.5619%,相对分析误差RPD为4.3771,定标结果较好;并对模型的预测能力进行了验证,其中验证决定系数Rv2为0.9186,相对标准差RSD为6.8646%,相对分析误差RPD为4.0856,预测能力较好,表明近红外技术具有较高的准确度。本实验研究结果对饲料生产过程中粉碎粒度的控制具有重要的实际意义。
【英文摘要】In the present paper, measuring the particle size of grinding maize by Near Infrared Reflectance Spectroscopy(NIRS) was studied. As to the NIRS model, the coefficient of determination in calibration (Rc2) was 0.9463, the Relative Standard Deviation (RSD) was 6.5619%, and the Relative Predictive Determination (RPD) was 4.3771.The statistical data showed a good result. Then used the model to predict the validation set samples, the coefficient of determination in prediction (Rp2) was 0.9186, the Relative Standard Deviation (RSD) was 6.8646%, and the Relative Predictive Determination (RPD) was 4.0856.The prediction ability was satisfactory and the NIRS could replace the conventional method. The present research is of great practical importance in paticle size control of feed processing.
【语种】中文
【第一作者】王海东
【通讯作者】秦玉昌
【期刊名称、卷期、页码】饲料工业,2008年第19期,41-44
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【学科分类】畜牧、兽医科学其他学科

【题目】甘肃合作猪白细胞抗原经典Ⅱ类分子DR基因的克隆及生物信息学分析
【中文关键词】猪白细胞抗原;合作猪;RT2PCR ;生物信息学
【英文关键词】swine leukocyte antigen (SLA) ; Hezuo pig ; RT2PCR ; bioinformatics
【中文摘要】为了克隆甘肃合作猪白细胞抗原(SLA) DRA 和DRB 基因,分析SLA2DR 基因特性和抗原多态性,首次研究了甘肃合作猪在异种移植等研究领域中的应用前景。应用RT2PCR 分别扩增合作猪SLA2DRA 和SLA2DRB 基因并进行测序,将所获得基因序列登录GenBank (登录号分别为FJ905823 和FJ9058258) ,再用NCBI 中的BLAST和ExPASy 等相关软件进行生物信息学分析。发现在猪2人异种移植中,近亲繁殖的合作猪种在与人类主要组织相容性复合体遗传基因水平相似性方面有一定优势,也可作为备选猪种对相关基因进行必要的修饰和改造。
【英文摘要】Class Ⅱ DRA and DRB genes of swine leukocyte antigen (SLA) of Gansu Hezuo pigs were cloned , and their characteristics and polymorp hism were analyzed to explore immunological basic parameter s for xenot ransplantation f rom pigs to

humans. SLA2DRA and SLA2DRB genes of Hezuo pigs were cloned by RT2PCR , sequenced and submited to Genbank (accession number s :FJ 905823 and FJ 9058258) . Analysis result s t hrough BLAST in NCBI and related sof tware in Ex2PASy suggested t hat this kind of inbred st rain of pig would be t he animal model of choice for the porcine2human xenot ransplantation af ter modification wit h gene engineering met hods.
【语种】中文
【第一作者】莫斯科
【通讯作者】景志忠
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【学科分类】农学其他学科

【题目】颗粒饲料淀粉糊化度的快速检测方法研究
【中文关键词】淀粉糊化度;近红外光谱分析方法;快速黏度分析法
【英文关键词】degree of Starch gelatinization,Near Infrared Reflectance Spectroscopy (NIRS), Rapid Visco-analysis
【中文摘要】淀粉糊化度是评价颗粒饲料加工质量的重要指标,直接影响畜禽吸收利用饲料中能量物质的效率,进而影响饲料的转化效率和畜禽生长状态。本实验研究建立了颗粒饲料淀粉糊化度的两种快速检测方法,其中近红外光谱分析方法(NIRS)检测淀粉糊化度的定标和验证模型的决定系数(R2)分别为0.8759和0.9608;而快速黏度分析法(RVA)预测淀粉糊化度的定标和验证模型的决定系数分别为0.8025和0.8746。实验结果表明近红外光谱分析技术和快速黏度分析法均可快速且较准确地预测颗粒饲料的淀粉糊化度,在一定程度上能较好满足实时监测饲料加工过程淀粉糊化程度、实现颗粒饲料精细加工的需要。
【英文摘要】
【语种】中文
【第一作者】王海东
【通讯作者】秦玉昌
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【学科分类】畜牧、兽医科学其他学科

【题目】饲料生产过程控制与质量追溯系统研究建立
【中文关键词】过程控制;质量追溯;防错系统
【英文关键词】process control, The quality of retrospective,Error proofing system
【中文摘要】本文主要介绍了饲料生产过程控制与质量追溯系统的系统目标、系统功能、系统结构、系统特点和应用效益,该系统可以实现饲料生产过程的可控性、产品质量的可追溯性。
【英文摘要】
【语种】中文
【第一作者】李军国
【通讯作者】李军国
【期刊名称、卷期、页码】饲料工业,2009年第9期,55-57
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【学科分类】畜牧、兽医科学其他学科

【题目】蕨麻猪白细胞抗原Ⅰ类分子3 基因的克隆和序列分析
【中文关键词】蕨麻猪; SL A23 基因;序列分析;克隆;生物信息学

【英文关键词】J uema swine ; SL A23 ; sequencing ;cloning ;bioinformatics
【中文摘要】参照GenBank 上登录的猪SL A23 基因序列(GenBank 登录号:AF464010) 设计1 对引物,从经ConA 刺激的蕨麻猪外周血液淋巴细胞中提取RNA ,进行克隆、测序以及同源性分析和蛋白结构预测分析. 结果表明:克隆的蕨麻猪SL A23 基因大小为1 086 bp ,含一个完整的开放阅读框,编码361 个氨基酸,还含有一段21 个氨基酸的信号肽序列;核苷酸序列与GenBank 上登录的SL A23 参考序列的同源性为93. 1 %;与牛、绵羊、山羊的同源性较高,而与鸡的同源性最低. 蛋白分子结构预测表明,猪SL A23 基因编码的蛋白分子是由胞外区(303 个氨基酸) 、跨膜区(23 个氨基酸) 和胞内区(35 个氨基酸) 组成的一种跨膜蛋白.
【英文摘要】Swine lymp hocyte antigen23 (SLA23) gene was cloned by reverse t ranscription2polymerasechain reaction (RT2PCR) from perip heralblood lymp hocyte stimulated by ConA in J uema swine. These 2 quence analysis showed that the SL A23 gene was 1 086 bp in lengt h and encoded 361 amino acids which was about 40 KD wit h 36 strongly basic (+) amino acids ,44 st rongly acidic (-) amino acids ,110 hydrophobic amino acids and 102 polar amino acids ,including a signal peptide of 21 amino acids. The similarity of nucleotide sequence of porcine SL A23 to t he p ublished (AF464010) was up to 93. 1 %. The homology of nucleotide sequence of SL A23 to those of B os taurus ,Ovisaries , Caprahircus was much higher than as of Homosa piens Pongo , G. gorilla , Pant roglod ytes , Equus cabal l us , Fel is cat us and t he lowest was that of Gallus gallus . The protein st ruct ure prediction demonst rated that the SL A23 was at ransmembrane protein composed of ext racellular domain ,transmembrane domain and intracellular domain.
【语种】中文
【第一作者】莫斯科
【通讯作者】景志忠
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【学科分类】农学其他学科

【题目】预混料加工条码过程控制与质量追溯
【中文关键词】预混料;过程控制;质量追溯
【英文关键词】premixed feed, process control,The quality of retrospective
【中文摘要】本文主要介绍了条码技术在预混料加工原料批次管理、小料配料称量控制、投料控制、产品批号管理与质量追溯等方面的应用,以期实现预混料生产过程的可控性、产品质量的可追溯性。
【英文摘要】
【语种】中文
【第一作者】李军国
【通讯作者】李军国
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【题目】挤出滚圆--琉化床包衣法制备鲟鱼饵料加工工艺研究
【中文关键词】挤出滚圆;人工饵料;加工工艺
【英文关键词】extrusion-spheronization;Artificial bait;processing technology
【中文摘要】用良好的人工饵料取代生物饵料,可以降低鲟鱼的饲养成本。试验对挤出滚圆--流化床包衣法制备鲟鱼饵料的加工工艺进行了研究,得到了试验条件下的最佳工艺参数。结果表明采用挤出滚圆工艺加工鲟鱼饵料是可行的。
【英文摘要】
【语种】中文
【第一作者】梁玮
【通讯作者】王红英
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【学科分类】畜牧、兽医科学其他学科

【题目】Application of identified QTL-marker associations in rice quality improvement through a design breeding approach
【中文关键词】chromosome segment substitution lines, QTL, double cross, selection methodology
【英文关键词】chromosome segment substitution lines, QTL, double cross, selection methodology
【中文摘要】A permanent mapping population of rice consisting of 65 non-idealized chromosome segment substitution lines (denoted as CSSL1 to CSSL65) and 82 donor parent chromosome segments (denoted as M1 to M82) was used to identify QTL with additive effects for two rice quality traits, area of chalky endosperm (ACE) and amylose content (AC), by a likelihood ratio test based on stepwise regression. Subsequently, the genetics and breeding simulation tool QuLine was employed to demonstrate the application of the identified QTL in rice quality improvement.When a LOD threshold of 2.0 was used, a total of 16 chromosome segments were associated with QTL for ACE, and a total of 15 segments with QTL for AC in at least one environment.Four target genotypes denoted as DG1 to DG4 were designed based on the identified QTL, and according to low ACE and high AC breeding objectives. Target genotypes DG1 and DG2 can be achieved via a topcross (TC) among the three lines CSSL4, CSSL28, and CSSL49. Resultsrevealed that TC2: (CSSL4 · CSSL49) · CSSL28 and TC3: (CSSL28 · CSSL49) · CSSL4 resulted in higher DG1 frequency in their doubled haploid populations, whereas TC1: (CSSL4 · CSSL28) · CSSL49 resulted in the highest DG2 frequency. Target genotypes DG3 and DG4 can be developed by a double cross among the four lines CSSL4, CSSL28, CSSL49, and CSSL52. In a double cross, the order of parents affects the frequency of target genotype to be selected. Results suggested that the double cross between the two single crosses (CSSL4 · CSSL28) and (CSSL49 · CSSL52) resulted in the highest frequency for DG3 and DG4 genotypes in its derived doubled haploid derivatives. Using an enhancement selection methodology, alternative ways were investigated to increase the target genotype frequency without significantly increasing the total cost of breeding operations.
【英文摘要】A permanent mapping population of rice consisting of 65 non-idealized chromosome segment substitution lines (denoted as CSSL1 to CSSL65) and 82 donor parent chromosome segments (denoted as M1 to M82) was used to identify QTL with additive effects for two rice quality traits, area of chalky endosperm (ACE) and amylose content (AC), by a likelihood ratio test based on stepwise regression. Subsequently, the genetics and breeding simulation tool QuLine was employed to demonstrate the application of the identified QTL in rice quality improvement.When a LOD threshold of 2.0 was used, a total of 16 chromosome segments were associated with QTL for ACE, and a total of 15 segments with QTL for AC in at least one environment. Four target genotypes denoted as DG1 to DG4 were designed based on the identified QTL, and according to low ACE and high AC breeding objectives. Target genotypes DG1 and DG2 can be achieved via a topcross (TC) among the three lines CSSL4, CSSL28, and CSSL49. Resultsrevealed that TC2: (CSSL4 · CSSL49) · CSSL28 and TC3: (CSSL28 · CSSL49) · CSSL4 resulted in higher DG1 frequency in their doubled haploid populations, whereas TC1: (CSSL4 · CSSL28) · CSSL49 resulted in the highest DG2 frequency. Target genotypes DG3 and DG4 can be developed by a double cross among the four lines CSSL4, CSSL28, CSSL49, and CSSL52. In a double cross, the order of parents affects the frequency of target genotype to be selected. Results suggested that the double cross between the two single crosses (CSSL4 · CSSL28) and (CSSL49 · CSSL52) resulted in the highest frequency for DG3 and DG4 genotypes in its derived doubled haploid derivatives. Using an enhancement selection methodology, alternative ways were investigated to increase the target genotype frequency without significantly increasing the total cost of breeding operations.
【语种】英文
【第一作者】王建康
【通讯作者】万建民
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【题目】国家种质库保存大豆和菜豆种质的种传病毒检测
【中文关键词】大豆,菜豆,种质,种传病毒,检测

【英文关键词】Soybean, Common bean, Germplasm, Seed-borne virues, Detection
【中文摘要】本研究以国家种质中期库提供的300份大豆、100份菜豆种质为材料,分别采用血清学和分子生物学方法,对种传病毒的种类进行了检测。结果表明:在大豆种质中检测出大豆花叶病毒(SMV)、黄瓜花叶病毒(CMV)、苜蓿花叶病毒(AMV)三种病毒,阳性检出率分别为24.67%(74份)、12.67%(38份)和4.67%(14份)。大豆种质中还存在大豆花叶病毒与黄瓜花叶病毒、大豆花叶病毒与苜蓿花叶病毒的复合侵染。在菜豆种质中检测出菜豆普通花叶病毒(BCMV)阳性材料92份,种质带毒率高达92%。这些信息将会对今后采取相关措施提高入国家种质库保存的豆类种质的质量提供帮助。
【英文摘要】In this study, 300 soybean and 100 common bean germplasm conserved in National Crop GeneBank were screened for seed-borne viruses by serological and molecular biological methods. For the soybean germplasms, 74(24.67%), 38(12.67%) and 14 (4.67%) were positive to Soybean mosaic virus (SMV), Cucumber mosaic virus (CMV), and Alfalfa mosaic virus (AMV) respectively. Some were infected by two viruses, such as SMV and CMV, or SMV and AMV. In common bean 92% were infected by Bean common mosaic virus (BCMV). These information will be useful to understand the status of seed-borne viruses in leguminous crops in genebank and to take measures for control virus diseases during seed reproductions in field.
【语种】中文
【第一作者】韩俊丽
【通讯作者】王晓鸣
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【学科分类】植物保护学

【题目】牦牛α-干扰素基因的克隆及其原核表达的研究
【中文关键词】牦牛IFN-α-A 基因; 牦牛IFN-α-Ⅱ基因; 分子克隆; 遗传演化关系; 表达分析
【英文关键词】yak interferon-α-A; yak interferon-α-Ⅱ gene; molecular cloning; phylogenetic analysis; expression analysis
【中文摘要】植物血凝素(PHA) 诱导培养牦牛外周血淋巴细胞, 提取总RNA, 采用RT-PCR 技术扩增牦牛IFN-α-A 和IFN-α-Ⅱ基因, 分别经PCR、酶切鉴定及测序分析后, 再分别构建原核表达重组质粒, 用SDS-PAGE 和Western blot 分析IPTG 诱导表达的重组蛋白。序列分析表明, 牦牛IFN-α-A 基因ORF 为570 bp,与NCBI 上发表的奶牛IFN-α-A 参考序列同源性为94.4 %, 与黄牛IFN-α-B 基因(M10953)的同源性最高, 为97.0 %; 牦牛IFN-α-Ⅱ基因ORF 为588 bp, 与NCBI 上发表的奶牛IFN-α-Ⅱ参考序列同源性为94.2 %, 与黄牛IFN-δ-1 基因(XM-871297)的同源性最高, 为96.1 %。分子遗传进化树分析表明牦牛IFN-α-A 和IFN-α-Ⅱ与黄牛、奶牛和水牛亲缘关系最近, 与猪、马、人的次之, 与其它动物都较远, 说明这两基因均具有种属差异性。诱导表达重组蛋白分析表明, pGEX4T/IFN-α-A 和pGEX4T/IFN-α-Ⅱ在大肠杆菌中得到了正确表达, 均可表达约44 ku 的融合蛋白, 主要以包涵体形式存在, 且具有与抗血清发生反应的生物活性。
【英文摘要】Total RNA was isolated from yak peripheral blood lymphocytes stimulated with PHA. The yak interferon-α-A (IFN-α-A) and the yak interferon-α-Ⅱ(IFN-α-Ⅱ) cDNAs were amplified by RT-PCR, and sequenced. The yak IFN-α-A gene contained a ORF of 570 bp in length, which shared 94.4 % sequence homology with the cow IFN-α-A gene and 97.0 % with cattle IFN-α-B (M10953) gene. The yak IFN-α-Ⅱgene had a ORF of 588 bp in length, and shared 94.2 % and 96.1 % sequence identities with that of cow and cattle IFN-δ-1 (XM-871297). Phylogenetic analysis showed that the yak IFN-α-A and IFN-α-Ⅱ genes were both species-specific. The yak IFN-α-A and the IFN-α-Ⅱ were cloned into vector pGEX4T-1, respectively, and expressed in BH21 E.coli cells by IPTG induction. SDS-PAGE analysis showed that both fusion proteins of about 44 ku were expressed in the form of inclusion bodies. Western blot analysis showed that yak IFN-α-A and IFN-α-Ⅱ were both expressed with specific antigenic activities.
【语种】中文
【第一作者】景志忠
【通讯作者】才学鹏
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【学科分类】分子生物学

【题目】颗粒饲料中真空后喷涂添加酶制剂的试验研究
【中文关键词】颗粒饲料;植酸酶;真空后喷涂
【英文关键词】pellet feed;phytase;Vacuum after spraying
【中文摘要】以植酸酶为研究对象, 考察了真空后喷涂系统对液态添加酶制剂的效果, 试验结果表明真空后喷涂试验能有效提高酶活力保存率、颗粒间均匀性和颗粒内外均匀性。当混合时间6 min、喷嘴流量1.5 l/min、喷涂压力0.4 MPa 时, 试验系统使颗粒间均匀性达到最优; 对植酸酶进行真空后喷涂试验结果表明: 当颗粒直径为2 mm、真空压力0.02 MPa、真空释放时间120 s 时, 颗粒内部均匀性达最优。
【英文摘要】
【语种】中文
【第一作者】董颖超
【通讯作者】董颖超
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【题目】Effects of Nano-TiO2 photocatalystor sol on preventing plant diseases
【中文关键词】无
【英文关键词】nanomaterial; TiO2;sol;semiconductor;plant diseases;prevention
【中文摘要】无
【英文摘要】[Objective]The effects of nano-TiO ¬ 2 semiconductors sol(nano-TiO ¬ 2 ¬ sol)on plant diseases prevention were studied.[Methods]The antibacterial abilities of nano-TiO2 sol were identified by using bacterial pathogens of Pseudomonos syringae pv.lachrymans and Xanthomonas vesicatoria.The effects of nano-TiO2 sol on plant diseases prevention were measured by method of artificial inoculation experiment with cucumber plants inoculated with Pseudomonos syringae pv.lachrymans and field experiment with cucumber seedling naturally infected by Pseudoperonospora cubensis.[Results] Results showed that nano-TiO2 sol possessed strong antibacterial power by forming continuous and stable antibacterial films on surface of substances.Artificial inoculation experiment and field experiment indicated that spraying cucumber leaves with certain concentration of nano-TiO2 sol could significantly reduce lesion areas,disease incidences and disease indexes.[Conclusion] It was initially confirmed that nano-TiO2 sol could effectively inhibit the development and pervasion of plant bacterial/fungal diseases.
【语种】英文
【第一作者】张萍
【通讯作者】崔海信
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【引文索引号】
【学科分类】植物保护学

【题目】锤片式饲料粉碎机若干关键技术问题的探讨
【中文关键词】饲料;锤片式粉碎机;关键技术;粉碎理论
【英文关键词】feed; hammermill; important technology; comminution theory
【中文摘要】综合了国内外的粉碎理论和研究成果,针对锤片式饲料粉碎机的筛分效率、使用寿命、噪声和振动等技术难题,从粉碎理论的角度和实际应用的效果对其进行了探讨,为今后进行深入的研究提供了理论上的参考。
【英文摘要】Based on comminution theory and study results at home and abroad, the technical problems such as sieving efficiency,service life, noise and vibration etc. of feed hammer mills were discussed in respect of comminution theory and practical application effect. This provided a theoretical reference for further study.
【语种】中文

【第一作者】曹丽英
【通讯作者】曹丽英王顺喜
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【题目】Inclusive composite interval mapping (ICIM) for digenic epistasis of quantitative traits in biparental populations
【中文关键词】epistasis, QTL, inclusive composite interval mappping, two-dimensional scanning
【英文关键词】epistasis, QTL, inclusive composite interval mappping, two-dimensional scanning
【中文摘要】It has long been recognized that epistasis or interactions between non-allelic genes plays an important role in the genetic control and evolution of quantitative traits. However, the detection of epistasis and estimation of epistatic effects are difficult due to the complexity of epistatic patterns, insufficient sample size of mapping populations and lack of efficient statistical methods. Under the assumption of additivity of QTL effects on the phenotype of a trait in interest, the additive effect of a QTL can be completely absorbed by the flanking marker variables, and the epistatic effect between two QTL can be completelyabsorbed by the four marker-pair multiplication variables between the two pairs of flanking markers. Based on this property, we proposed an inclusive composite interval mapping (ICIM) by simultaneously considering marker variables and marker-pair multiplications in a linearmodel. Stepwise regression was applied to identify the most significant markers and marker-pair multiplications. Then a two-dimensional scanning (or interval mapping) was conducted to identify QTL with significant digenic epistasis using adjusted phenotypic values based on thebest multiple regression model. The adjusted values retain the information of QTL on the two current mapping intervals but exclude the influence of QTL on other intervals and chromosomes. Epistatic QTL can be identified by ICIM, no matter whether the two interacting QTL have any additive effects. Simulated populations and one barley doubled haploids (DH) population were used to demonstrate the efficiency of ICIM in mapping both additive QTL and digenic interactions.
【英文摘要】It has long been recognized that epistasis or interactions between non-allelic genes plays an important role in the genetic control and evolution of quantitative traits. However, the detection of epistasis and estimation of epistatic effects are difficult due to the complexity of epistatic patterns, insufficient sample size of mapping populations and lack of efficient statistical methods. Under the assumption of additivity of QTL effects on the phenotype of a trait in interest, the additive effect of a QTL can be completely absorbed by the flanking marker variables, and the epistatic effect between two QTL can be completelyabsorbed by the four marker-pair multiplication variables between the two pairs of flanking markers. Based on this property, we proposed an inclusive composite interval mapping (ICIM) by simultaneously considering marker variables and marker-pair multiplications in a linearmodel. Stepwise regression was applied to identify the most significant markers and marker-pair multiplications. Then a two-dimensional scanning (or interval mapping) was conducted to identify QTL with significant digenic epistasis using adjusted phenotypic values based on the best multiple regression model. The adjusted values retain the information of QTL on the two current mapping intervals but exclude the influence of QTL on other intervals and chromosomes. Epistatic QTL can be identified by ICIM, no matter whether the two interacting QTL have any additive effects. Simulated populations and one barley doubled haploids (DH) population were used to demonstrate the efficiency of ICIM in mapping both additive QTL and digenic interactions.
【语种】英文
【第一作者】李慧慧
【通讯作者】王建康
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【学科分类】农业基础学科

【题目】Establishment and biological characterizations of the fibroblast cell line from the Langshan Chicken
【中文关键词】Langshan chicken; fibroblast line;biological characteristic;cryopreservation
【英文关键词】Langshan chicken; fibroblast line;biological characteristic;cryopreservation

【中文摘要】Objective: We needed to establish an embryonicfibroblast cell line from the Langshan chicken(LSCEF61) to preserve their important geneticresources at the cellular level.Material and methods: The cell line was establishedfrom 9-day-old embryos by direct explant cultureand cryopreservation techniques. Cell morphology,dynamic proliferation and any contamination presentwere tested, and the karyotype and levels of isoenzymesof lactic dehydrogenase and malic dehydrogenasewere analysed. Four types of fluorescent proteinexogenous genes for pEGFP-C1, pEGFP-N3, pEYFP-N1 and pDsRed1-N1 were transfected into thecells.Results: Results showed that the cells were healthyand were of spindle shaped structure, without changein morphology. Cell growth curves were of typicalS-shape. Assays for microbial contamination werenegative. The LSCEF61 line showed no cross-contaminationwhen assessed by isoenzyme analysis.Chromosome number (2n) = 78 on more than 90%of occasions. The four types of fluorescent proteinextro-genes appeared to be expressed effectivelywith high transfection efficiency between 15.6% and38.6%.Conclusion: The cell line met each of the qualitycontrol standards required for the American TypeCulture Collection. It had not only preserved thegenetic resources of the important Langshan chickenat the cellular level, but also provided valuable materialfor genomic, post-genomic and somatic cell cloningresearch and other applications.

【英文摘要】Objective: We needed to establish an embryonicfibroblast cell line from the Langshan chicken(LSCEF61) to preserve their important geneticresources at the cellular level.Material and methods: The cell line was establishedfrom 9-day-old embryos by direct explant cultureand cryopreservation techniques. Cell morphology,dynamic proliferation and any contamination presentwere tested, and the karyotype and levels of isoenzymesof lactic dehydrogenase and malic dehydrogenasewere analysed. Four types of fluorescent proteinexogenous genes for pEGFP-C1, pEGFP-N3, pEYFP-N1 and pDsRed1-N1 were transfected into thecells.Results: Results showed that the cells were healthyand were of spindle shaped structure, without changein morphology. Cell growth curves were of typicalS-shape. Assays for microbial contamination werenegative. The LSCEF61 line showed no cross-contaminationwhen assessed by isoenzyme analysis.Chromosome number (2n) = 78 on more than 90%of occasions. The four types of fluorescent proteinextro-genes appeared to be expressed effectivelywith high transfection efficiency between 15.6% and38.6%.Conclusion: The cell line met each of the qualitycontrol standards required for the American TypeCulture Collection. It had not only preserved thegenetic resources of the important Langshan chickenat the cellular level, but also provided valuable materialfor genomic, post-genomic and somatic cell cloningresearch and other applications.

【语种】英文

【第一作者】W.J. Guan
【通讯作者】Y.H. Ma;

【期刊名称、卷期、页码】Cell Prolif. 2010, 43, 157 – 163
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【学科分类】畜牧、兽医科学基础学科

【题目】Establishment and characterization of a Chinese Game chicken embryo fibroblast bank.

【中文关键词】Chinese Game chicken fi broblasts ; biological characteristics ; genetic conservation
【英文关键词】Chinese Game chicken fi broblasts ; biological characteristics ; genetic conservation

【中文摘要】For preserving the genetic resources of the Chinese Game chicken and exploring a new method to preserve endangered animals, a Chinese Game chicken embryo fi broblast cell bank was established by the attachment culture method and the cryopreservation biotechniques. Th is bank includes 43 embryo samples and has stocks of 178 cryovials, with each containing 4.0×10 6 cells respectively. Quality assays and biological characteristics of the bank established showed that the cells cultured in vitro were all typical fi broblast and the cell population doubling time (PDT) was about 2 days. Th e cell viability before freezing was 97.37% ± 2.25% and 91.43% ± 3.22% after thawing. Tests for microbial contamination by bacteria, fungus, viruses and mycoplasmas were all negative. Th e frequency of cells having the diploid number of chromosomes (78) was 94.65% ± 3.29%. Isoenzyme analysis confi rmed that there was no cross-contamitation in the culture. Th e fl uorescence could be observed well-distributed in cytoplasm and nucleus except for some cryptomere vesicles at 24 h after transfection, and the expression effi ciency of pEGFP-C1, pEGFP-N3, pEYFP-N1, pECFP-N1, pECFP-mito and pDsRed1-N1 were all between 9.5%~34.6% at 24 h, 48 h and 72 h after transfection. Th is research provided both technical and theoretical support for preserving the genetic resources of other animals and poultry at the cell level.

【英文摘要】For preserving the genetic resources of the Chinese Game chicken and exploring a new method to preserve endangered animals, a Chinese Game chicken embryo fi broblast cell bank was established by the attachment culture method and the cryopreservation biotechniques. Th is bank includes 43 embryo samples and has stocks of 178 cryovials, with each containing 4.0×10 6 cells respectively. Quality assays and biological characteristics of the bank established showed that the cells cultured in vitro were all

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【语种】英文

【第一作者】X.C. Li

【通讯作者】W.J. Guan;

【期刊名称、卷期、页码】Animal Biology 60 (2010) 283 – 297

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【引文索引号】xx

【学科分类】畜牧、兽医科学基础学科

【题目】Establishment and biological characteristics of Qingyuan partridge chicken fibroblast line.

【中文关键词】Qingyuan partridge chicken; fibroblast line;biological characteristic;cryopreservation

【英文关键词】Qingyuan partridge chicken; fibroblast line;biological characteristic;cryopreservation

【中文摘要】The aim of this work was to seek a different approach to conserving important domestic animals in imminent danger. A Qingyuan partridge chicken embryonic fibroblast line, containing 336 cryovials with 8x10(6) cells each, was successfully established from 60 Qingyuan partridge chicken embryos using explant culture and cryopreservation techniques. The cells were morphologically consistent with fibroblasts. The growth curve was a typical "S" shape having a detention phase, a logarithmic phase, and a plateau phase. The population doubling time was approximately 72 h. Tests for bacteria, fungi, viruses, and Mycoplasma were all negative. Isoenzyme polymorphism indicated that the genetic characteristics of the cell line were stable in vitro. Karyotyping analysis suggested that the chromosome number of a normal cell was 2n=78 and 93.4% of the entire population was diploid. The transfection efficiencies of 6 fluorescent proteins (pEGFP-C1, pEGFP-N3, pDsRed-N1, pEYFP-N1, pECFP-N1, and pECFP-mito) optimal at 48 h were from 15.1 to 39.8%. The cell line met all of the criteria from the American Type Culture Collection. Not only has the germline of this important chicken breed been preserved at the cell level, but also valuable material has been provided for genome, postgenome, and somacloning research. Moreover, the establishment of this technical platform may provide both technical and theoretical support for storing the genetic resources of other animals and poultry at the cell level.

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【语种】英文

【第一作者】R.S. Na

【通讯作者】W.J. Guan;

【期刊名称、卷期、页码】Poult Sci 89(6): 1207-1216

【论文发表时间】2010-02-18 00:00:00

【引文索引类型】SCI

【引文索引号】20460668

【学科分类】畜牧、兽医科学基础学科

【题目】Isolation, Culture and Biological Characteristics of Primordial Germ Cells from Beijing Fatty Chicken.
【中文关键词】Beijing fatty chicken;Biological Characteristic;differention;Primordial Germ Cells
【英文关键词】Beijing fatty chicken;Biological Characteristic;differention;Primordial Germ Cells
【中文摘要】The aim of this study was to explore the isolation and culture process of Beijing fatty chicken primordial germ cells (PGCs) and investigate their biological characteristics. The PGCs isolated from the genital ridges of Beijing fatty chicken (Gallus domesticus) embryos after 5.5 days of incubation were co-cultured with mice embryonic fibroblasts (MEF). The results showed that the PGCs of the Beijing fatty chicken were positive for periodic acid Schiff (PAS) and alkaline phosphatase (AKP) staining. These cells could proliferate for a prolonged time in vitro and maintain diploid karyotype. Immunocytochemical staining showed that they expressed SSEA-1, SSEA-4, TRA-1-60 and TRA-1-81, and real-time PCR showed that they expressed Cvh, CDH and Dazl. They could form simple embryoid bodies and differentiate into osteoblasts in vitro. In addition, after transfected with pEGFP-N3, pEYFP-N1 and pDsRed-N1 vectors by liposomal transfection, enhanced green, yellow and red fluorescent protein-positive cells could be visualized using a laser confocal microscope. The above results suggested that PGCs from the Beijing fatty chicken not only had strong self-renewal ability, but also had the potential to differentiate towards mesoblast cells. These cells are suitable for genetic manipulation as nuclear donors.
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【语种】英文
【第一作者】Y. Wang
【通讯作者】W.J. Guan;
【期刊名称、卷期、页码】J Reprod Dev 56(3): 303-308
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【引文索引号】20228615
【学科分类】畜牧、兽医科学基础学科

【题目】Derivation and characteristics of pluripotent embryonic germ cells in duck
【中文关键词】Beijing duck , embryonic germ cell , biological characteristic , derivation
【英文关键词】Beijing duck , embryonic germ cell , biological characteristic , derivation
【中文摘要】Embryonic germ (EG) cells derived from primordial germ cells are undifferentiated and pluripotent stem cells. In our study, primordial germ cells isolated from the genital ridges of Beijing duck (Anas domestica) embryo at stage 28 were co-cultured with mice embryonic fibroblasts. Duck EG cells grew with a high nuclear:cytoplasm ratio and were positive for periodic acid-Schiff and alkaline phosphatase staining. The duck EG cells could proliferate for more than a month in repeated subculture and maintain a diploid karyotype. They expressed the pluripotent markers such as stage-specific embryonic antigen-1, stage-specific embryonic antigen-4, tumor rejection antigen-1-60, and tumor rejection antigen-1-81. Furthermore, the EG cells could form embryoid bodies and differentiate to osteoblast in vitro. This study explored the isolation and culture process of duck EG cells using the culture methods of chicken EG cells and investigated biological characteristics of Beijing duck EG cells. Our results showed that methods published for the culture of chicken EG cells could be applied to the culture of duck EG cells. Duck EG cells will be useful for the differentiation of EG cells in avian species.

【英文摘要】Embryonic germ (EG) cells derived from primordial germ cells are undifferentiated and pluripotent stem cells. In our study, primordial germ cells isolated from the genital ridges of Beijing duck (Anas domestica) embryo at stage 28 were co-cultured with mice embryonic fibroblasts. Duck EG cells grew with a high nuclear:cytoplasm ratio and were positive for periodic acid-Schiff and alkaline phosphatase staining. The duck EG cells could proliferate for more than a month in repeated subculture and maintain a diploid karyotype. They expressed the pluripotent markers such as stage-specific embryonic antigen-1, stage-specific embryonic antigen-4, tumor rejection antigen-1-60, and tumor rejection antigen-1-81. Furthermore, the EG cells could form embryoid bodies and differentiate to osteoblast in vitro. This study explored the isolation and culture process of duck EG cells using the culture methods of chicken EG cells and investigated biological characteristics of Beijing duck EG cells. Our results showed that methods published for the culture of chicken EG cells could be applied to the culture of duck EG cells. Duck EG cells will be useful for the differentiation of EG cells in avian species.
【语种】英文
【第一作者】W.J. Guan
【通讯作者】Y.H. Ma;
【期刊名称、卷期、页码】Poult Sci 89(2): 312-317
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【引文索引类型】SCI
【引文索引号】20075284
【学科分类】畜牧、兽医科学基础学科

【题目】Establishment and Characterization of a Fibroblast Line from Landrace
【中文关键词】Landrace, fi broblast, cell bank, biological characteristics
【英文关键词】Landrace, fi broblast, cell bank, biological characteristics
【中文摘要】Up to 32 Landrace ear marginal tissue samples were used for establishing a fibroblast cell bank by the means of primary explantation and cryopreservation. Biological analysis suggested that the Population Doubling Time (PDT) of the cell line was approximately 24h. The diploid accounted for 97.2% of the whole population; isozyme analysis of Lactic Dehydrogenase (LDH) and Malic Dehydrogenase(MDH) disproved cross-contamination from other cell lines. The results of bacterium, fungus, virus and mycoplasma tests were all negative. The transfection rates of three fluorescent proteins were high, indicating that the exogenous genes could be effectively expressed in the cells. It had not only preserved the precious germplasm resource of the Landrace on the cell level but also provided valuable material for the researches of genomics, postgenomics, somatic cloning and so on.
【英文摘要】Up to 32 Landrace ear marginal tissue samples were used for establishing a fibroblast cell bank by the means of primary explantation and cryopreservation. Biological analysis suggested that the Population Doubling Time (PDT) of the cell line was approximately 24h. The diploid accounted for 97.2% of the whole population; isozyme analysis of Lactic Dehydrogenase (LDH) and Malic Dehydrogenase(MDH) disproved cross-contamination from other cell lines. The results of bacterium, fungus, virus and mycoplasma tests were all negative. The transfection rates of three fluorescent proteins were high, indicating that the exogenous genes could be effectively expressed in the cells. It had not only preserved the precious germplasm resource of the Landrace on the cell level but also provided valuable material for the researches of genomics, postgenomics, somatic cloning and so on.
【语种】英文
【第一作者】C.Y. Bai
【通讯作者】W.J. Guan;
【期刊名称、卷期、页码】Artif Cells Blood Substit Immobil Biotechnol 38(3): 129-135
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【引文索引号】20297920
【学科分类】畜牧、兽医科学基础学科

【题目】Establishment and characterization of a fibroblast cell line from the Mongolian horse
【中文关键词】Mongolian horse;Fibroblast line;Establishment;Characterization
【英文关键词】Mongolian horse;Fibroblast line;Establishment;Characterization
【中文摘要】A fibroblast line was successfully established from Mongolian horse ear marginal tissue by using a primary explant technique and cell cryogenic preservation technology. Biological analysis showed the following: The cells were adherent and exhibited

density-dependent inhibition of proliferation; assays of microbial contamination from bacteria, fungi, and mycoplasma were negative; the population doubling time of the cells was 33.9 h; and a 2n chromosome number of 64 at a frequency higher than 80%. A lack of cross-contamination of this cell line with other species was confirmed by isoenzyme analysis of lactic and malic dehydrogenases. In order to study exogenous gene expression, four fluorescent proteins, pEGFP-N3, pEGFP-C1, pDsRed1-N1, and pEYFP-N1, were transfected into the cells. The corresponding fluorescence was distributed throughout the cytoplasm and nucleus 12 h after transfection. This cell line not only preserves the genetic resources of the Mongolian horse at the cellular level but also provides valuable materials for genomic, postgenomic, and somacloning research in this species.

【英文摘要】A fibroblast line was successfully established from Mongolian horse ear marginal tissue by using a primary explant technique and cell cryogenic preservation technology. Biological analysis showed the following: The cells were adherent and exhibited density-dependent inhibition of proliferation; assays of microbial contamination from bacteria, fungi, and mycoplasma were negative; the population doubling time of the cells was 33.9 h; and a 2n chromosome number of 64 at a frequency higher than 80%. A lack of cross-contamination of this cell line with other species was confirmed by isoenzyme analysis of lactic and malic dehydrogenases. In order to study exogenous gene expression, four fluorescent proteins, pEGFP-N3, pEGFP-C1, pDsRed1-N1, and pEYFP-N1, were transfected into the cells. The corresponding fluorescence was distributed throughout the cytoplasm and nucleus 12 h after transfection. This cell line not only preserves the genetic resources of the Mongolian horse at the cellular level but also provides valuable materials for genomic, postgenomic, and somacloning research in this species.

【语种】英文

【第一作者】L.F. Li

【通讯作者】W.J. Guan;

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【学科分类】畜牧、兽医科学基础学科

【题目】Establishmen and Characterization of the Fibroblast Line from Silkie Bantam

【中文关键词】Silkie Bantam, Embryo Fibroblast Line, Establishment, Identification

【英文关键词】Silkie Bantam, Embryo Fibroblast Line, Establishment, Identification

【中文摘要】A Silkie Bantam embryo fibroblast line (named SBF59 line) was successfully established by using direct explant culture and cryopreservation techniques. Cell morphology, viability, dynamic growth and contamination were tested and the karyotype and levels of isoenzymes of lactic dehydrogenase and malic dehydrogenase were analyzed. Four kinds of fluorescent protein extrogenes, including pEGFP-N3, pECFP-N1, pEYFP-N1 and pDsRed1-N1 were transfected into the cells. The results showed that the cells were healthy and possessed a fibrous structure without a change in morphology. The average viability of the cells was 96% before freezing and 90.5% after thawing. The growth curve appeared as typical “ S ” shape and the cell growth passed through a detention phase, a logarithmic phase and a platform phase; the estimated population doubling time (PDT) was 38.5 h; assays for the presence of bacteria, fungi, viruses and mycoplasmas were negative; the cell line showed no cross contamination when assessed by isoenzyme analysis; the chromosome number was 2n = 78 on more than 88% of occasions; four kinds of fluorescent protein extro-genes appeared to be expressed effectively with a high transfection efficiency between 18.3% and 42.3%. The cell line met the required quality control standard. It not only preserves the genetic resources of the important Silkie Bantam at the cellular level but also provides valuable materials for genomic, post-genomic, somatic cell cloning research and other applications.

【英文摘要】A Silkie Bantam embryo fibroblast line (named SBF59 line) was successfully established by using direct explant culture and cryopreservation techniques. Cell morphology, viability, dynamic growth and contamination were tested and the karyotype and levels of isoenzymes of lactic dehydrogenase and malic dehydrogenase were analyzed. Four kinds of fluorescent protein extrogenes, including pEGFP-N3, pECFP-N1, pEYFP-N1 and pDsRed1-N1 were transfected into the cells. The results showed that the cells were healthy and possessed a fibrous structure without a change in morphology. The average viability of the cells was 96% before freezing and 90.5% after thawing. The growth curve appeared as typical “ S ” shape and the cell growth passed through a detention phase, a logarithmic phase and a platform phase; the estimated population doubling time (PDT) was 38.5 h; assays for the presence of bacteria, fungi, viruses and mycoplasmas were negative; the cell line showed no cross contamination when assessed by isoenzyme analysis; the chromosome number was 2n = 78 on more than 88% of occasions; four kinds of fluorescent protein extro-genes appeared to be expressed effectively with a high transfection efficiency between 18.3% and 42.3%. The cell line met the required quality control standard. It not only preserves the genetic resources of the important Silkie Bantam at the cellular level but also provides valuable

materials for genomic, post-genomic, somatic cell cloning research and other applications.
【语种】英文
【第一作者】L.F. Li
【通讯作者】W.J. Guan;
【期刊名称、卷期、页码】Asian-Aust.J.Anim.Sci.April 2009.Vol.22,No.4:492-499
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【学科分类】畜牧、兽医科学基础学科

【题目】Establishment and characterization of a fibroblast cell line derived from Jining Black Grey goat for genetic conservation
【中文关键词】Jining Black Grey goat;Fibroblast cell bank;Characteristics;Genetic conservation
【英文关键词】Jining Black Grey goat;Fibroblast cell bank;Characteristics;Genetic conservation
【中文摘要】An ear marginal fibroblast cell bank was established from the Jining Black Grey (JBG) goat using attachment culture and freezing biotechniques. This bank included 32 ear samples (15 males and 17 females) and has stocks of 168 cryogenically preserved vials, each vial contained 4.0×106 cells per milliliter. The cells of the bank that were checked for the quality and the biological characteristics showed a typical fibroblast morphology when they cultured in vitro. The growth curve consisted of a growth curve consisting of a latent phase, logarithmic growth phase and stationary phase, cell population doubling time (PDT) of 48 h. The chromosome analysis showed that the frequency of cells having the diploid number of chromosomes (60) was 98.65±2.89%, and no microbe contamination (bacteria, epiphyte, virus or mycoplasma) was detected. In addition, lactate dehydrogenase (LDH) and malate dehydrogenase (MDH) zymography indicated that this cell bank was free of crosscontamination. At 24, 48 and 72 h after transfection, the expression efficiency of pEGFP-C1, pEGFP-N3, pEYFP-N1, pECFP-N1, pECFP-mito and pDsRed1-N1 were between 11.8% and 56.3%. The fluorescence could be observed well-distributed in cytoplasm and nucleus except for some cryptomere vesicles at 24 h after transfection. These newly established cell lines meet all the quality control standards established by the American Type Culture Collection. We have employed a new method for conserving the genetic resources of an important and endangered animal breed. The fibroblast bank that we have established from the JBG goat also provides an invaluable material resource for future studies that will utilize molecular and cell biology applications.
【英文摘要】An ear marginal fibroblast cell bank was established from the Jining Black Grey (JBG) goat using attachment culture and freezing biotechniques. This bank included 32 ear samples (15 males and 17 females) and has stocks of 168 cryogenically preserved vials, each vial contained 4.0×106 cells per milliliter. The cells of the bank that were checked for the quality and the biological characteristics showed a typical fibroblast morphology when they cultured in vitro. The growth curve consisted of a growth curve consisting of a latent phase, logarithmic growth phase and stationary phase, cell population doubling time (PDT) of 48 h. The chromosome analysis showed that the frequency of cells having the diploid number of chromosomes (60) was 98.65±2.89%, and no microbe contamination (bacteria, epiphyte, virus or mycoplasma) was detected. In addition, lactate dehydrogenase (LDH) and malate dehydrogenase (MDH) zymography indicated that this cell bank was free of crosscontamination. At 24, 48 and 72 h after transfection, the expression efficiency of pEGFP-C1, pEGFP-N3, pEYFP-N1, pECFP-N1, pECFP-mito and pDsRed1-N1 were between 11.8% and 56.3%. The fluorescence could be observed well-distributed in cytoplasm and nucleus except for some cryptomere vesicles at 24 h after transfection. These newly established cell lines meet all the quality control standards established by the American Type Culture Collection. We have employed a new method for conserving the genetic resources of an important and endangered animal breed. The fibroblast bank that we have established from the JBG goat also provides an invaluable material resource for future studies that will utilize molecular and cell biology applications.
【语种】英文
【第一作者】X.C. Li
【通讯作者】W.J. Guan;
【期刊名称、卷期、页码】Small Ruminant Research 87 (2009) 17 – 26
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【学科分类】畜牧、兽医科学基础学科

【题目】Differentiation potential of bone marrow mesenchymal stem cells in duck
【中文关键词】duck; mesenchymal stem cells; induction; differentiation
【英文关键词】duck; mesenchymal stem cells; induction; differentiation
【中文摘要】The bone marrow mesenchymal stem cells (MSCs) are multipotent stem cells which can differentiate into mesenchymal cells in vitro. In this study, MSCs in duck were isolated from bone marrow by density gradient centrifuge separation, purified and expanded in the medium. The primary MSCs were expanded for passages. The different-passage MSCs were induced to differentiate into osteoblasts and neuron-like cells. Karyotype analysis indicated that MSCs kept diploid condition and the hereditary feature was stable. The different-passage MSCs expressed CD44, ICAM- and SSEA-4, but not CD34, CD45 and SSEA-when detected by immunofluorescence staining. There was no significant difference among the positive rates of passages 2, 6 and 8 ($P > 0.05$), but a significant difference existed among those of passages 2, 6, 8 and 11 ($P < 0.05$). After the osteogenic inducement was added, the induced different-passage MSCs expressed high-level alkaline phosphatase (ALP), and are positive for tetracycline staining, Alizarin Red staining and Von Kossa staining. After the neural inducement was added, about 70% cells exhibited typical neuron-like phenotype, the induced different-passage MSCs expressed Nestin, neuron-specific enolase (NSE) and glial fibrillary acidic protein (GFAP) when detected by immunofluorescence staining. There was no significant difference among the positive rates of passages 3, 4 and 6 ($P>0.05$), but a significant difference existed among those of passages 3, 4, 6 and 8 ($P<0.05$). These results suggest that MSCs in duck were capable of differentiating into osteoblasts and neuron-like cells in vitro.
【英文摘要】The bone marrow mesenchymal stem cells (MSCs) are multipotent stem cells which can differentiate into mesenchymal cells in vitro. In this study, MSCs in duck were isolated from bone marrow by density gradient centrifuge separation, purified and expanded in the medium. The primary MSCs were expanded for passages. The different-passage MSCs were induced to differentiate into osteoblasts and neuron-like cells. Karyotype analysis indicated that MSCs kept diploid condition and the hereditary feature was stable. The different-passage MSCs expressed CD44, ICAM- and SSEA-4, but not CD34, CD45 and SSEA-when detected by immunofluorescence staining. There was no significant difference among the positive rates of passages 2, 6 and 8 ($P > 0.05$), but a significant difference existed among those of passages 2, 6, 8 and 11 ($P < 0.05$). After the osteogenic inducement was added, the induced different-passage MSCs expressed high-level alkaline phosphatase (ALP), and are positive for tetracycline staining, Alizarin Red staining and Von Kossa staining. After the neural inducement was added, about 70% cells exhibited typical neuron-like phenotype, the induced different-passage MSCs expressed Nestin, neuron-specific enolase (NSE) and glial fibrillary acidic protein (GFAP) when detected by immunofluorescence staining. There was no significant difference among the positive rates of passages 3, 4 and 6 ($P>0.05$), but a significant difference existed among those of passages 3, 4, 6 and 8 ($P<0.05$). These results suggest that MSCs in duck were capable of differentiating into osteoblasts and neuron-like cells in vitro.
【语种】英文
【第一作者】L.F. Li
【通讯作者】W.J. Guan;
【期刊名称、卷期、页码】J Genet Genomics 36(3): 133-140
【论文发表时间】2009-01-21 00:00:00
【引文索引类型】SCI
【引文索引号】19302969
【学科分类】畜牧、兽医科学基础学科

【题目】Establishment and biological characteristics of Luxi cattle fibroblast bank
【中文关键词】Luxi cattle; Fibroblast bank; Biological characterization
【英文关键词】Luxi cattle; Fibroblast bank; Biological characterization
【中文摘要】Afibroblast line from ear marginal tissue of Luxi cattle (LXCEM2/2)was successfully established by direct culturing of explants. Biologicalanalysis showed that the population doubling time (PDT) for reviving cells was approximately 24 h. Measurement of lactic dehydrogenase(LDH) and malic dehydrogenase (MDH) isoenzymes showed no cross-contamination among the cells. Karyotyping showed that the frequency of cells with chromosome number 2n = 60 was 90.7 – 92.2%. Tests for bacteria, fungi, viruses and mycoplasma were negative. The efficiencies of expression of pEGFP-N3, pEYFP-N1 and pDsRed1-N1 were between 6.3% and 31.6% at 24 h, 48 h and 72 h after transfer; at 24 h, fluorescence was well distributed in the cytoplasm and nucleus except for some cryptomeric vesicles. Every index of the Luxi cattle cell line meets the quality control standards of the American Type Culture Collection (ATCC). Not only has the germline of this important cattle breed been preserved at the cell level, but also valuable material

had been provided for genome, postgenome and somacloning research. Moreover, the establishment of this technical platform may provide both technical and theoretical support for storing the genetic resources of otheranimals and poultry at the cell level.

【英文摘要】Afibroblast line from ear marginal tissue of Luxi cattle (LXCEM2/2)was successfully established by direct culturing of explants. Biologicalanalysis showed that the population doubling time (PDT) for reviving cells was approximately 24 h. Measurement of lactic dehydrogenase(LDH) and malic dehydrogenase (MDH) isoenzymes showed no cross-contamination among the cells. Karyotyping showed that the frequency of cells with chromosome number 2n = 60 was 90.7 – 92.2%. Tests for bacteria, fungi, viruses and mycoplasma were negative. The efficiencies of expression of pEGFP-N3, pEYFP-N1 and pDsRed1-N1 were between 6.3% and 31.6% at 24 h, 48 h and 72 h after transfer; at 24 h, fluorescence was well distributed in the cytoplasm and nucleus except for some cryptomeric vesicles. Every index of the Luxi cattle cell line meets the quality control standards of the American Type Culture Collection (ATCC). Not only has the germline of this important cattle breed been preserved at the cell level, but also valuable material had been provided for genome, postgenome and somacloning research. Moreover, the establishment of this technical platform may provide both technical and theoretical support for storing the genetic resources of otheranimals and poultry at the cell level.

【语种】英文

【第一作者】C.Q. Liu

【通讯作者】W.J. Guan;

【期刊名称、卷期、页码】Tissue and Cell 40 (2008) 417 – 424

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【引文索引类型】SCI

【引文索引号】18579172

【学科分类】畜牧、兽医科学基础学科

【题目】Establishment and characteristics of white ear lobe chicken embryo fibroblast line and expression of six fluorescent proteins in the cells

【中文关键词】White ear lobe chicken embryo; Fibroblast bank; Biological characteristics

【英文关键词】White ear lobe chicken embryo; Fibroblast bank; Biological characteristics

【中文摘要】A white ear lobe chicken embryo (WELCE) fibroblast cell bank, containing 322 tubes of frozen cells, was successfully established fromprimary explants of 57 embryo samples. The cells were morphologically consistent with fibroblasts, and the growth curve was sigmoidal witha population doubling time (PDT) of 48 h. Karyotyping and G-banding indicated a total chromosome number of 2n ¼ 78; the rate of diploidy inthe cell bank was 97.62%. The cells were also free from bacterial, fungal, viral and mycoplasma contamination. Analysis of lactate dehydrogenase(LDH) and malate dehydrogenase (MDH) isoenzymes ruled out cross-contamination between cells. In order to study exogenous geneexpression, six fluorescent proteins were transfected into the WELCE cells. The transfection efficiency of these genes was between 10.1 and41.9%. The corresponding fluorescence was distributed throughout the cytoplasm and nucleus 24 h after transfection. The results indicate thatthe quality of the cell line meet the quality requirements of the ATCC (American Type Culture Collection).

【英文摘要】A white ear lobe chicken embryo (WELCE) fibroblast cell bank, containing 322 tubes of frozen cells, was successfully established fromprimary explants of 57 embryo samples. The cells were morphologically consistent with fibroblasts, and the growth curve was sigmoidal witha population doubling time (PDT) of 48 h. Karyotyping and G-banding indicated a total chromosome number of 2n ¼ 78; the rate of diploidy inthe cell bank was 97.62%. The cells were also free from bacterial, fungal, viral and mycoplasma contamination. Analysis of lactate dehydrogenase(LDH) and malate dehydrogenase (MDH) isoenzymes ruled out cross-contamination between cells. In order to study exogenous geneexpression, six fluorescent proteins were transfected into the WELCE cells. The transfection efficiency of these genes was between 10.1 and41.9%. The corresponding fluorescence was distributed throughout the cytoplasm and nucleus 24 h after transfection. The results indicate thatthe quality of the cell line meet the quality requirements of the ATCC (American Type Culture Collection).

【语种】英文

【第一作者】Hongmei Wu

【通讯作者】W.J. Guan;

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【引文索引类型】SCI

【引文索引号】18775786

【学科分类】畜牧、兽医科学基础学科

【题目】Vitamin E antagonizes UVB-induced apoptosis of chicken embryonic fibroblasts
【中文关键词】Apoptotic model; Beijing fatty chicken; Embryonic fibroblast line; Ultraviolet light; Vitamin E; Ca2+
【英文关键词】Apoptotic model; Beijing fatty chicken; Embryonic fibroblast line; Ultraviolet light; Vitamin E; Ca2+
【中文摘要】Apoptosis researches were focused on several model species in the past decades, 2 while fields concerning non-mammalian vertebrate, particularly that of birds, were 3 almost untouched. According to the exigent situation to expand the biodiversity of 4 apoptotic researches, an apoptotic model of Beijing fatty chicken embryonic 5 fibroblasts by ultraviolet radiation was established through primary explantation and 6 serial passage. A myriad of antioxidants were able to antagonize UVB-induced 7 apoptosis by virtue of scavenging reactive oxygen species. For a better understanding 8 of the possible anti-apoptotic effects and mechanisms of Vitamin E against 9 UVB-induced apoptosis in chicken embryonic fibroblasts, the cells treated with 10 Vitamin E upon UVB irradiation were stained with AO/EB and Fluo-3/AM to 11 visualize chromatin distribution and calcium homeostasis respectively and subjected 12 to flow cytometry to detect mitochondrial transmembrane potential, cell cycle 13 progression and apoptotic rates. RT-PCR was also performed to analyze the 14 expression of some apoptosis-related genes. Typical events including cell shrinkage, 15 blebbing and nuclear condensation occurred after radiation. With the existence of 16 Vitamin E, positive cells upon ultraviolet light decreased; cases of Ca2+ were reduced 17 temporarily; cell cycle arrested at S/G2 checkpoint were modified nearly to normal. 18 fas decreased while procaspase-3 remained nearly unchanged with and without 19 Vitamin E, and bcl2/bax ratio was upregulated, indicating possible anti-apoptotic 20 mechanisms through mitochondrial pathway. This research caulked the vacancy of 21 apoptosis researches on birds especially poultry, expand the species spectrum of 22 apoptosis investigations, and hence contribute tremendously to further development of 23 apoptosis theories for interested researchers.
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【语种】英文
【第一作者】D.P. Jin
【通讯作者】W.J. Guan;
【期刊名称、卷期、页码】Cell Biology International Immediate Publication. Nov 2010
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【引文索引类型】SCI
【引文索引号】xx
【学科分类】畜牧、兽医科学基础学科

【题目】基于ZigBee 网络的温室环境远程监控系统设计与应用
【中文关键词】远程监控,数据采集,无线传感器网络,温室环境,ZigBee
【英文关键词】Remote monitoring, data acquisition, a wireless sensor network, greenhouse environment, ZigBee
【中文摘要】针对温室环境数据信息监控特点,本文进行了基于ZigBee 协议的传感器节点技术的开发,并在此基础上组成现场监控无线传感器网络,通过网络汇聚节点与无线移动网络(GPRS/CDMA)和INTERNET 的无缝连接,实现数据远程传输至指定数据库服务器。无线传感器网络组建采用星型拓扑结构,通过软件设置在需求时唤醒ZigBee 网络节点,使监控设备

具有组网灵活、拆移便捷等优点。通过在实际生产过程中应用表明,该系统工作性能稳定,在数据采集和传输等方面均达到了设计要求,尤其是有效简化了现场设备安装与拆移等过程,使之更适合各类农业现场数据监控的需要。

【英文摘要】in greenhouse environment information monitoring data characteristics, this paper based on the agreement on the ZigBee sensor node technology development, and based on this composition is nowField monitoring wireless sensor network, through the network node and wireless mobile network convergence (GPRS/CDMA) and the INTERNET seamless connection, realize data remoteTransmission to the designated database server. Wireless sensor network sets up the star topology structure, through the software installed on the demand wake ZigBee network node, make of prisonControl equipment network platform is flexible and convenient removed, etc. In practical production process through application shows that the system has stable performance, in data collection and transmission, etcIt has reached the design requirements, especially effective to simplify the site equipment installation and removed process, make it more suitable for all kinds of agricultural field data monitoring needs.

【语种】中文

【第一作者】韩华峰

【通讯作者】孙忠富

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【学科分类】计算机应用

【题目】玉米低温冷害远程诊断管理系统的设计

【中文关键词】玉米低温冷害; 决策支持系统; 远程诊断; 网络管理; J2EE;

【英文关键词】maize chilling damage; decision and support system; remote diagnosis; web-based management; J2EE;

【中文摘要】夏季低温冷害是中国低温灾害的主要类型之一,尤其在东北地区发生比较频繁,造成影响相当严重,基于此,笔者旨在为玉米低温冷害设计一个基于网络的远程诊断与管理的系统平台。通过对基于web的远程诊断管理系统关键技术的分析,在总结东北地区玉米低温冷害领域专家经验和知识的基础上,初步实现了一个基于web技术的玉米低温冷害远程诊断与管理系统。该系统采用J2EE技术规范和Java语言进行开发,并且与无线远程监测系统相结合,使之具有实时管理功能。用户可以通过访问该系统,实现玉米低温冷害主动和被动防御、低温冷害实时监控管理、专家知识浏览和系统维护等功能。该系统具有可靠性、易维护、易操作和普适性等性能,并可通过重建知识库和数据库,为更多种类作物气象灾害提供远程诊断及管理服务。 更多还原

【英文摘要】Chilling damage is one of the main types of China ’s low-temperature disasters which particularly happens in the northeast and causes very serious impact. Because of this, the author provides a web-based remote diagnosis and management system platform for maize chilling damage. Through investigating the key technologies of the remote diagnosis and management system,a web-based management system was presented on the basis of collecting and processing the experience and knowledge related to maize chilling damage in northeast China. For the computer program, this system was developed by J2EE and Java. Combined with analysis of the environmental data acquired from the wireless telemonitoring system setting up in the field, the real-time forecast of maize chilling damage may be made out just through the Internet. By logging in this system, users can get the following services: choosing active and passive countermeasures for reducing maize chilling damage, making real-time management, getting reference of experts ’ knowledge and executing system administration, etc. Besides reliability, easy maintenance and operation, the system also has wide applicability that could provide an universal system platform of remote diagnosis and management for more crops meteorological disasters by rebuilding the data-base and knowledge base. 更多

【语种】中文

【第一作者】刘爽

【通讯作者】孙忠富

【期刊名称、卷期、页码】中国农学通报,24(9):475-479

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【引文索引号】

【学科分类】计算机科学技术其他学科

【题目】基于ARM_Linux和GPRS的农业环境无线远程监控系统
【中文关键词】ARM-Linux GPRS/CDMA 数据采集 无线远程监控 环境监测
【英文关键词】ARM-Linux GPRS/CDMA data acquisition wireless remote monitoring of environmental monitoring
【中文摘要】本文设计和实现了基于嵌入式ARM-Linux和GPRS/CDMA技术的农业环境无线远程监控系统,为偏僻分散条件下的农业对象监控提供了一种有效的解决方案。首先,嵌入式监测设备采集农业现场环境信息,然后通过无线GPRS网络实时传送给远程服务器。经长时间运行和验证表明,系统已达到了实用的要求,在农业研究和生产领域将有广阔的应用前景。
【英文摘要】In this paper the design and realization based on embedded ARM-Linux and GPRS/CDMA technology agricultural environment wireless remote monitoring system for remote under the condition of scattered agricultural object monitoring provide a kind of effective solutions. First of all, embedded monitoring equipment acquisition agricultural field environment information, and then through the wireless GPRS network real-time transfer to the remote server. A long time of operation and simulation results show that the system has reached the practical requirement, in agricultural research and production areas will have broad application prospects.
【语种】中文
【第一作者】孙忠富
【通讯作者】孙忠富
【期刊名称、卷期、页码】《农业网络信息》2008年 第6期12-15
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【引文索引号】
【学科分类】农业基础学科

【题目】温室环境远程监控与诊断管理系统设计
【中文关键词】远程监控; 温室控制; 远程诊断; 无线通讯;
【英文关键词】Telemonitoring technology; Greenhouse control; Remote diagnosis; Wireless communication;
【中文摘要】基于远程监控技术、Web技术和面向对象技术,本文初步设计实现了一个温室环境诊断与管理系统。通过实时远程监控技术自动获取的现场数据,并结合历史数据的分析与挖掘、农业专家经验与知识,该系统可以有效地对温室的环境进行诊断与综合评价,进而为调控管理提供决策支持服务。 更多还原
【英文摘要】Based on the remote monitoring technology,Web technology and object-oriented technology,this paper designed a system for diagnosis and management of greenhouse environment.Combined with historical data analysis and mining expert experience and knowledge,that could effectively make comprehensive evaluation and diagnosis,and further provide for decision-making support services on regulation and control through automatic access to real-time remote monitoring field data.
【语种】中文
【第一作者】孙忠富
【通讯作者】孙忠富
【期刊名称、卷期、页码】农业网络信息 , 2008年09期 14-16
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【学科分类】农业基础学科

【题目】短信息服务技术在农业环境远程
【中文关键词】数据采集; 远程监控; 短消息服务(SMS) ; GPRS/CDMA
【英文关键词】Data acquisition; Remote monitoring; Short message Service(SMS); GPRS/CDMA
【中文摘要】为了快速准确获取各种农业环境现场信息, 在已开发的温室综合环境无线远程监控系统的基础上, 设计了一种基于GPRS/CDMA 技术的短信发送解决方案。在研究中应用AT 命令和PDU(Protocol Description Unit)模式编码技术, 实现了以短消息的形式将各种现场监测数据发送给相关用户, 增加了监测系统移动办公的性能。
【英文摘要】In order to get various agricultural field information promptly and exactly, a technical solution for short message sendingwas conducted on the basis of a wireless- remote system for greenhouse environment monitoring with GPRS/CDMA. The system wasdesigned by using AT commands under the PDU(protocol description unit) mode, various agricultural information

acquired from thefield monitoring system setting up in the remote sites can be transmitted to the authorized users who are at any time and in anyplaces. It provided a lot of convenience in handling daily management and control of agricultural environment.
【语种】中文
【第一作者】韩华锋
【通讯作者】孙忠富
【期刊名称、卷期、页码】《农业网络信息》2007 年第5 期9-11
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【学科分类】计算机科学技术其他学科

【题目】西葫芦根腐病药剂防治试验
【中文关键词】西葫芦根腐病; 药效试验;
【英文关键词】Root rot of summer squash; Chemical controlling;
【中文摘要】对西葫芦根腐病病原的室内药剂敏感性测定和田间药效试验结果表明:对烟草疫霉毒力较强的药剂为烯酰吗啉、甲霜灵.锰锌、甲霜灵、百菌清和杜邦克露,对尖孢镰刀菌毒力较强的药剂为施普乐甲托、五氯硝基苯、甲硫.霉威、森茂和苯醚甲环唑。用50%烯酰吗啉可湿性粉剂2 000倍液+70%施普乐甲托可湿性粉剂500倍液灌根对西葫芦根腐病防治效果最好。从防治效果看出,单靠药剂防治西葫芦根腐病存在一定的局限性,应与其他防治方法配合使用。
【英文摘要】The sensitivity of the pathogen of summer squash root rot to fungicides was determined in the house and experiment of chemical control was carried out in the field.The results were showed as following:The fungicides to which P.nicotianaer was sensitive were Dimethomorph,Metalaxyl Mancozeb,Metalaxyl,Chlorothalonil and Cymoxanil Mancozeb,The fungicides to which F.oxysporum was sensitive were Thiophanate-methyl sulfur,Terraclor,Ddiethofencarb Thiophanatemethyl,Amobom and Difenoconazole;The controlling effect of 50%Dimethomorph power 2 000 times and 70%fungicides Thiophanate-methyl sulfur 500 times irrigated in the root was the best.The result of experiment showed that chemical control was limited,and it should be better to combined with other prevention methods.
【语种】中文
【第一作者】郭尚
【通讯作者】孙忠富
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【学科分类】农业基础学科

【题目】秸秆还田对日光温室黄瓜生产的影响
【中文关键词】秸秆还田; 黄瓜; 早熟性; 丰产性; 抗病性;
【英文关键词】returning straw to soil; cucumber; early maturity; productivity; disease resistance;
【中文摘要】研究沃丰宝秸秆还田技术对冬季日光温室内地温的提高作用和对黄瓜早熟性、丰产性和抗病性的作用。采用沃丰宝秸秆还田技术在冬季日光温室栽培黄瓜,利用远程无限环境监测系统对地温进行监测;对黄瓜生育时期、产量、抗病性调查和分析。研究表明采用沃丰宝秸秆还田技术可以明显提高地温,前期10cm和20cm地温分别提高1.42℃和2.48℃,采收期20cm地温可提高0.44~0.93℃;可显著增强黄瓜对白粉病的抗性,发病初期降低发病率20.08%,降低病情指数35.52%,中后期降低发病率9.59%,降低病情指数30.85%;对黄瓜有显著增产作用,总产量增加17.01%。沃丰宝秸秆还田技术可提高地温、促进黄瓜早熟、延长采收期、提高抗病性并增加产量。
【英文摘要】The effects of returning straw to soil of ’Wofengbao’ technology on soil temperature and cucumber cultivating are studied in this paper.The system of wireless telemonitoring system with multi-sensors is used to measure the soil temperature.The growth stages,resistance to powdery mildew and yield of cucumber are investigated and analysed.Results shows that compared with normal(non-straw)cultivating,in the environment of cultivating through straw-return of ’Wofengbao’ technology,soil temperature of 10cm and 20cm are improved by 1.44 ℃ and 2.54 ℃ respectively in the beginning of growth stage,the soil temperature of 20 cm is improved from 0.44 ℃ to 0.93 ℃ in the stage of picking.Growth stages is advanced,harvesting stage is prolonged for 8 days.Resistance to powdery mildew is increased obviously,disease rate and index are reduced for 20.08% and 35.52% respectively in early stage,for

9.59% and 30.85% respectively later.Yield is increased for 17.01%.As a result,cultivating through straw-return of ’Wofengbao’ technology can improve soil temperature,increase the yield and disease resistance and it is benefit to early mature of cucumber.
【语种】中文
【第一作者】毛丽萍
【通讯作者】郭尚
【期刊名称、卷期、页码】中国农学通报, 2008年12期 372-375
【论文发表时间】2008-12-01 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】植物保护学

【题目】Association and haplotype analysis of purH gene with inosine monophosphate content in chickens
【中文关键词】无
【英文关键词】Chicken; Inosine monophosphate content; Meat quality; purH gene; Single nucleotide polymorphism
【中文摘要】无
【英文摘要】The current study was designed to investigate the effects of the purH gene on chicken muscle inosine monophosphate (IMP) content. Muscle IMP content was measured in five chicken breeds. Single nucleotide polymorphisms (SNPs) were detected by PCR-SSCP and DNA sequencing. Two SNPs were detected, A/T substitution at position 8023 in exon 9, and T/C substitution at position 17446 in exon 16. The results indicated that only T17446C polymorphism was associated with IMP content. The haplotype effect was higher than the single genotype effect. We tentatively conclude that purH gene is a candidate locus or linked to a major gene that affects muscle IMP content. Haplotypes are superior to single genotypes as potential molecular markers for meat quality traits in chicken.
【语种】英文
【第一作者】束靖婷
【通讯作者】陈国宏
【期刊名称、卷期、页码】Animal Biotechnology,2008;19(4): 310-314
【论文发表时间】2008-04-01 00:00:00
【引文索引类型】SCI
【引文索引号】000260034900007
【学科分类】畜牧学

【题目】Correlation analysis between single nucleotide polymorphisms in ADSL and IMP content in chicken
【中文关键词】无
【英文关键词】ADSL gene; Chicken; SNP; Inosine monophosphate content
【中文摘要】无
【英文摘要】This study was designed to investigate the effect of adenylosuccinate lyase (ADSL) gene on inosine monophosphate content (IMP) in chicken. Exogenous Recessive White chicken and indigenous Chinese chicken breeds such as Silkies, Baier, Tibetan and Xiaoshan were used. Thirteen pairs of primers were designed to scan all exons of ADSL gene by PCR-SSCP, mutation detected was directly sequenced. A silent mutation at 3484bp in exon 2 was substitute C/T SNP, whereas point mutation at 9839bp in exon 9, was alter C/A SNP and his corresponding amino acid (Pro -> Thr). Individuals with TT genotype in exon 2 had significantly higher IMP content than those with CT and CC genotype; in contrast different genotypes in exon 9 were no significantly affected IMP content. We Putatively drew the conclusion that SNP in exon 2 of ADSL gene could be used as the potential molecular marker for meat quality trait in chicken.
【语种】英文
【第一作者】包文斌
【通讯作者】包文斌
【期刊名称、卷期、页码】The Indian Journal of Animal Sciences,2009;79 (4): 384-387
【论文发表时间】2009-04-01 00:00:00
【引文索引类型】SCI

【引文索引号】000265594400014
【学科分类】畜牧学

【题目】Genetic diversity and relationship between genetic distance and geographical distance in 14 Chinese indigenous chicken breeds and red jungle fowl
【中文关键词】无
【英文关键词】genetic diversity; microsatellite; genetic distance; geographical distance; chicken
【中文摘要】无
【英文摘要】Genetic diversity and the relationship between genetic distance and geographical distance in red jungle fowl and 14 Chinese indigenous chicken breeds were evaluated using 29 microsatellite loci. The number of alleles per locus ranged from 2 to 25 and the average expected heterozygosity and PIC of all loci were 0.6683 and 0.50, respectively. The average number of alleles per locus ranged from 3.41 in Gushi chicken breed to 6.28 in Wannan Three-yellow chicken breed. The overall expected heterozygosity of 15 Chinese chicken breeds was 0.6686 +/- 0.0254 and all breeds showed relatively large heterozygosity. The average of genetic differentiation among populations was 16.4% ($P < 0.001$). Red jungle fowl and Gushi chicken had distant genetic relationship from other breeds, while Huainan Partridge and Tibetan chicken were more closely related with other breeds. The results did not provide enough support for a significant correlation between the genetic and geographical pair-wise distances
【语种】英文
【第一作者】包文斌
【通讯作者】陈国宏
【期刊名称、卷期、页码】CZECH JOURNAL OF ANIMAL SCIENCE,2009;54 (2): 74-83
【论文发表时间】2009-02-01 00:00:00
【引文索引类型】SCI
【引文索引号】000263933700004
【学科分类】畜牧学

【题目】Identification of Single Nucleotide Polymorphism of H-FABP Gene and Its Association with Fatness Traits in the Chicken.
【中文关键词】无
【英文关键词】chicken; H-FABP gene; single nucleotide polymorphism (SNP); fat deposition traits; PCR-SSCP
【中文摘要】无
【英文摘要】Heart fatty acid-binding protein gene (H-FABP) is an important candidate gene for meat quality. One of the objectives of this study was to screen single nucleotide polymorphisms (SNP) of chicken H-FABP gene among 252 individuals that included 4 Chinese domestic chicken breeds (Fengkai Xinghua (T04), Huiyang Huxu (H), Qingyuan Ma (Q), Guangxi Xiayan (Sl)), 2 breeds developed by the Institute of Animal Science, Guangdong Academy of Agricultural Sciences (Lingnan Huang (DC), dwarf chicken (E4)) and one introduced broiler (Abor Acre (AA)). Another objective of this study was to analyze the associations between polymorphisms of the H-FABP gene and fat deposition traits in chickens. PCR-SSCP was used to analyze SNPs in H-FABP and 4 SNPs T260C, G675A, C783T and G2778A) were detected. Associations between polymorphic loci and intramuscular fat (IMF), abdominal fat weight (AFW) and abdominal fat percentage (AFP) were analyzed by ANCOVA method. The results showed that the T260C genotypes were significantly associated with IMF ($p = 0.0233$) and AFP ($p = 0.0001$); the G675A genotypes were significantly associated with AFW, AFP ($p < 0.01$) and IMF ($p < 6.05$); at the C783T locus, AFW and AFP differed highly between genotypes. However, the G2778A loci did not show any significant effect on fat deposition traits in this study. In addition, we found that there were some differences between AFP and definite haplotypes through a nonparametric statistical method, so the haplotypes based on the SNPs except G2778A loci were also significantly associated with IMF, AFW (g) ($p < 0.05$) and AFP (%) ($p < 0.001$). Significantly and suggestively dominant effects of H4H4 haplotype were observed for IMF and the H2H3 was dominant for AFW (g) and AFP (%). The results also revealed that H5H7 haplotype had a negative effect on IMF, while the H5H6 had a positive effect on AFW (g) and AFP (%).
【语种】英文
【第一作者】王严
【通讯作者】朱庆
【期刊名称、卷期、页码】Asian-Australasion Journal of Animal Sciences. ,2007; 20(12): 1812 -1819
【论文发表时间】2007-12-01 00:00:00

【引文索引类型】SCI
【引文索引号】000250686300005
【学科分类】畜牧学

【题目】Associations of A-FABP and H-FABP markers with the content of intramuscular fat in Beijing-you chicken
【中文关键词】无
【英文关键词】A-FABP; Chicken; Genetic marker; H-FABP; Intramuscular fat
【中文摘要】无
【英文摘要】This study has assessed the association of single nucleotide polymorphisms (SNP) identified in the adipocyte fatty acid binding protein (A-FABP) and heart-type fatty acid binding protein (H-FABP) genes with the content of intramuscular fat (IMF) in a population of male Beijing-You chickens. A previously described SNP in the chicken A-FABP gene had a significant (P0.05) effect on IMF content. Chickens inheriting the homozygous BB genotype at A-FABP had a significantly higher content of IMF in thigh muscles and breast muscles than did those inheriting the AA and AB genotypes. A novel SNP, identified here, in the H-FABP gene was also significantly (P0.05) associated with IMF content in thigh and breast muscle. Chickens inheriting the genotypes of DD and CD had much higher content of IMF than those inheriting the homozygous genotype of CC. Markers at the A-FABP and H-FABP genes were associated with IMF content in the studied population. Chickens inheriting the BB genotype at A-FABP, along with the CD genotype at H-FABP, produced muscles with a much higher content of IMF when compared with all other genotypes. A weak interaction between A-FABP and H-FABP was detected (P0.09) for IMF content in the tested population. The statistical significance of interaction is tentative because of the limited number of observations for some genotypic combinations. Markers identified within the A-FABP and H-FABP genes are suitable for future use in identifying chickens with the genetic potential to produce more desirable muscle with higher IMF content, at least in the population of Beijing-You male chickens.
【语种】中文
【第一作者】叶满红
【通讯作者】文杰
【期刊名称、卷期、页码】Animal Biotechnology,2009;21(1):14-24
【论文发表时间】2009-12-17 00:00:00
【引文索引类型】SCI
【引文索引号】000272899200002
【学科分类】畜牧学

【题目】Sensitivity and specificity of High-Resolution Melting analysis in screening unknown SNPs and genotyping a known mutation
【中文关键词】无
【英文关键词】A-FABP; CAPN1; chicken; HRMA; SSCP analysis
【中文摘要】无
【英文摘要】High-resolution melting analysis (HRMA) was used to screen potential SNPs in the exons of chicken CAPN1 (mu-calpain/large subunit) gene. A total of 312 DNA samples from Beijing-you chickens were used for detection. Twelve pairs of primer were designed to amplify twelve different exons and SNPs were detected in five of them. HRMA was also compared with PCR-SSCP analysis for genotyping of a known SNP site in the chicken adipocyte fatty acid binding protein gene (A-FABP). Amplicons of 275-bp fragment, bracketing the polymorphic site, were grouped by PCR-SSCP into three genotypes designated as CC, TT and CT. Small amplicons (56 bp) within the 275-bp fragments were designed to maximize the Tm difference between homozygotes and to genotype all possible three genotypes after a single melting analysis successfully. Results from different methods were cross-validated and sequencing results from randomly selected heterozygotes and homozygotes confirmed the specificity of HRM technique. The full consistency proved that HRMA was a useful tool for rapid, close-tube genotyping of polymorphic sites. It has great potential for SNPs detection and scanning especially on a large scale.
【语种】中文
【第一作者】叶满红
【通讯作者】文杰

【期刊名称、卷期、页码】Czech Journal of Animal Science,2010;28(2):161-170
【论文发表时间】2010-02-15 00:00:00
【引文索引类型】SCI
【引文索引号】000278697000007
【学科分类】畜牧学

【题目】11个地方鸡品种性状间的典型相关分析
【中文关键词】地方鸡品种; 体尺性状; 屠宰性状; 产蛋性状; 生态性状; 典型相关
【英文关键词】native chicken breeds; body measurement traits; carcass traits; egg laying traits; ecological traits; canonical correlation
【中文摘要】对中国部分地方鸡品种的体尺性状、屠宰性状、产蛋性状和生态性状等4组性状间的17个变量关系进行了典型相关分析。结果表明,体尺性状和屠宰性状间、体尺性状与生态性状间以及屠宰性状与生态性状间的第1个典型相关系数达极显著水平,分别占总相关信息的38.17%、42.73%和42.13%,其典型相关系数分别为0.998、0.997和0.998;体尺性状与产蛋性状间和产蛋性状与生态性状间的第1个典型相关系数达显著水平,分别占总相关信息的42.55%和66.79%,其典型相关系数分别为0.965和0.984。研究结果对于鸡的遗传育种具有一定的参考价值。
【英文摘要】Seventeen variants of four sets of traits including body measurement traits,carcass traits,egg laying traits and ecological traits were analysed using canonical correlation analysis in Chinese native chicken breeds.The results showed that highly significant correlation coefficients of the first canonical correlation were obtained between body measurement traits and carcass traits(0.998),body measurement traits and ecological traits(0.997),as well as between carcass traits and ecological traits(0.998).They accounted for 38.17%,42.73% and 42.13% of total correlation,respectively.The first canonical correlation coefficient between body measurement and egg laying traits(0.965),as well as between egg laying traits and ecological traits(0.984)were significant.They a ccounted for 42.55% and 66.79% of total correlation,respectively.The results of analysis may be useful for genetics and breeding of chickens.
【语种】中文
【第一作者】吴信生
【通讯作者】陈国宏
【期刊名称、卷期、页码】畜牧兽医学报,2008;39 (5): 576-581
【论文发表时间】2008-05-01 00:00:00
【引文索引类型】其他
【引文索引号】无
【学科分类】畜牧学

【题目】5个地方鸡种肌肉脂肪酸相对含量比较及主成分分析
【中文关键词】地方鸡种; 脂肪酸; 因子分析; 聚类分析
【英文关键词】无
【中文摘要】以5个地方鸡品种(白耳鸡、狼山鸡、萧山鸡、北京油鸡、泰和乌骨鸡)为研究对象,比较13项肌肉脂肪酸组成指标的相对含量在品种间的差异,并对13项脂肪酸组成指标进行因子分析和系统聚类分析.结果表明:泰和乌骨鸡和狼山鸡的饱和脂肪酸相对含量最高(分别为44.96 %和43.26 %),均与白耳鸡的饱和脂肪酸相对含量之间存在显著差异(P<0.05).白耳鸡的不饱和脂肪酸相对含量最高(63.99 %),与泰和乌骨鸡、狼山鸡的不饱和脂肪酸相对含量之间存在显著差异(P<0.05).白耳鸡的必需脂肪酸相对含量最高(6.76 %),且与狼山鸡(3.84 %)、泰和乌骨鸡(4.17 %)相对含量间存在显著差异(P<0.05),但与萧山鸡(5.98 %)、北京油鸡相对含量(6.72 %)之间差异不显著(P>0.05).主成分分析获得的前3个主成分可以解释全部变异的94.865 %,其中第1、2、3主成分分别解释总变异的58.632 %、22.479 %和13.754 %.基于主成分值的UPGMA聚类图和3-D聚类图,将5个地方鸡种聚为3大类,萧山鸡、狼山鸡和北京油鸡聚为一类,白耳鸡、泰和乌骨鸡分别形成独立分支.
【英文摘要】无
【语种】中文
【第一作者】张学余
【通讯作者】张学余
【期刊名称、卷期、页码】甘肃农业大学学报 ,2009;44(4):41-45
【论文发表时间】2009-04-01 00:00:00
【引文索引类型】其他

【引文索引号】无
【学科分类】畜牧学

【题目】6个地方鸡种羽毛性状遗传的研究
【中文关键词】地方鸡种;羽型;羽色;羽速;遗传规律
【英文关键词】无
【中文摘要】:以丝羽乌骨鸡(s)、仙居鸡(x)、固始鸡(G)、萧山鸡(XIS)、北京油鸡(Y)、狼山鸡(L)6个地方鸡种为试验素材,通过品种间的正反交试验、回交试验、横交试验,观测羽型性状、羽色性状、羽速性状在不同组合下产生的F。和F2代中的表现和分离比例,分析各性状遗传规律。结果表明:羽型性状受常染色体基因H/h控制,片状羽型对丝状羽型为显性,片状羽型在仙居鸡、固始鸡、萧山鸡、北京油鸡、狼山鸡群体中均为显性纯合,遗传符合孟德尔遗传规律,观测值与理论值相一致(P>0.05);狼山鸡的黑羽,北京油鸡的红羽和萧山鸡、仙居鸡、固始鸡的黄羽对丝羽乌骨鸡隐性白羽的遗传方式是完全显性遗传;各鸡种具有独特的羽速种质特性,丝羽乌骨鸡、仙居鸡为快羽型,固始鸡、北京油鸡、萧山鸡为慢羽型。狼山鸡为快慢羽混合型,伴性快慢羽基因(k/K)在6个地方鸡种中遗传稳定,符合伴性遗传规律,观测值与理论值相一致(P>O.05)。
【英文摘要】无
【语种】中文
【第一作者】张以训
【通讯作者】张以训
【期刊名称、卷期、页码】云南农业大学学报,2009;24(2):235-238
【论文发表时间】2009-12-01 00:00:00
【引文索引类型】其他
【引文索引号】无
【学科分类】畜牧学

【题目】7个地方鸡种间遗传分化和聚类分析
【中文关键词】微卫星;地方鸡种;遗传分化;聚类分析
【英文关键词】无
【中文摘要】利用29个微卫星标记,通过计算亚群体杂合度(Hs)、总群体杂合度(Ht)、遗传分化系数(Gst)和基因流(Nm),并基于Reynolds遗传距离、Nei遗传距离运用NJ和UPGMA聚类法构建4类聚类图,比较分析国家地方禽种遗传资源基因库保存的7个地方鸡品种(仙居鸡、鹿苑鸡、固始鸡、大骨鸡、河南斗鸡、狼山鸡和萧山鸡)间的遗传分化和亲缘关系.结果表明,7个地方鸡种29个微卫星标记的总群体杂合度和亚群体杂合度的平均值分别为0.642和0.551,平均遗传分化系数为0.142;7个地方鸡品种间,萧山鸡与鹿苑鸡的基因流动最大,为 5.832 7;狼山鸡与固始鸡的基因流动最小,为 0.805 3;基于Reyonalds遗传距离运用 NJ 聚类法获得的7个鸡种间的聚类图较为准确地反映了7个地方鸡种间的遗传分化和亲缘关系.
【英文摘要】无
【语种】中文
【第一作者】张学余
【通讯作者】张学余
【期刊名称、卷期、页码】云南农业大学学报,2008;23(2):225-229
【论文发表时间】2008-03-01 00:00:00
【引文索引类型】其他
【引文索引号】无
【学科分类】畜牧学

【题目】ADSL和GARE-AIRS-GART基因多态位点及聚合基因型对白耳鸡胸肌肌苷酸含量的效应分析
【中文关键词】ADSL;GARS.AIRS—GART基因;自耳鸡;基因聚合;肌苷酸
【英文关键词】无
【中文摘要】肌苷酸(IMP)是影响肌肉鲜味的重要物质,已成为衡量肉质优良的重要指标。基因聚合(gene pyramiding)就是将分散在不同品种或同一品种中的优良性状基因通过杂交、回交、复合杂交等手段聚合到同一个品种或个体中。白耳鸡是我国优良的地方鸡种,具有成熟早、产蛋性能高等特性。本文以国家地方禽种资源基因库保存的白耳鸡为素材组建基础群,研究ADSL基因和GARS-GART AIRS基因多态位点及聚合基因型对胸肌肌苷酸含量的影响,以进一步提高白耳鸡肉品质
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【英文摘要】无
【语种】中文
【第一作者】张学余
【通讯作者】张学余
【期刊名称、卷期、页码】农业生物技术学报 ,2009;(4):577-581
【论文发表时间】2009-04-10 00:00:00
【引文索引类型】其他
【引文索引号】无
【学科分类】畜牧学

【题目】G-A-G基因编码区多态性对鸡肉IMP含量影响的研究
【中文关键词】鸡;GARS-AIRS-GART基因;肌苷酸;单核苷酸多态性
【英文关键词】chicken;GARS-AIRS-GARTgene;IMP;single nueleotide polymorphism
【中文摘要】以鸡GARS-AIRS-GART基因为侯选基因,隐性白羽鸡、丝羽乌骨鸡、萧山鸡、白耳鸡、藏鸡为实验材料,采用PCR-SSCP法对GARS-AIRS-GART基因所有外显子进行SNPs检测.结果在外显子3、4和21中各发现了一个单核苷酸多态性位点.方差分析结果表明:外显子3和外显子21的基因型与IMP含量之间不存在显著关联;外显子4中的6　545处的C→A突变位点对胸肌IMP含量的影响在不同鸡种之间的表现不完全一致.在隐性白羽鸡、萧山鸡和白耳鸡群体中,三种基因型个体之间的IMP含量差异均不显著.在丝羽乌骨鸡和藏鸡群体中,AA型个体的IMP含量显著高于AC型和CC型,推测该位点的基因型效应可能是其等位基因与丝羽乌骨鸡、藏鸡群体中的特殊遗传背景之间存在交互作用,或者是与影响肌肉IMP含量的QTL之间存在着暂时的连锁不平衡的缘故.
【英文摘要】This study W&S designedtOinvestigatethesingle nucleotidepolymorphism(SNP)of GARS-AIRS-GARTgene in variousbreeds,including RecessiveWhitechickens,Silkies chickens,Baier chickens,Tibetan chickens and Xiaoshan chickens.The primers for a11 the 21exonsin GARS-AIRS-GART gene were designed andthe SNPs were detectedby PCR-SSCP and DNA sequencing.Three SNPs were detected in the exon3,exon 4andexon21.The results from analysis of variation suggested that there wasnosignificant relationship betweenexon3 andexon21 SNP sites andIMPcontentin chickens,the effect of exon4 polymorphicsiteonIM.Pcontentof breast muscle werenotconsistent in different chicken breeds.No difference ofIMPcontentWas found among CC,AC and AA individuals inRW,XSand BE populations.In SC and TC.IMPcontentof individuals with AA genotype was significantly higher thanthat of individuals with AC and CCgenotype.Wearguedthatthegenotypeeffects of this locus may beaninteraction between its allele and the specificbackgroundsof Silkies and Tibetan chickens,oratemporary linkage disequilibrium between the lOCUS and the QTLwhich affects IMPcontentsof muscle in chickens.
【语种】中文
【第一作者】张学余
【通讯作者】张学余
【期刊名称、卷期、页码】甘肃农业大学学报,2008;43(4):1-6
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【学科分类】畜牧学

【题目】GPAT/AIRC基因对白耳鸡群体肌肉肌苷酸含量的遗传效应分析
【中文关键词】GPAT基因;AIRC基因;单核苷酸多态;肌苷酸;单倍型;白耳鸡
【英文关键词】无
【中文摘要】本研究以GPAT/AIRC基因为侯选基因,以白耳鸡为试验材料,采用PCR-SSCP方法对GPAT基因外显子2、AIRC基因外显子8进行SNPs检测.结果各发现了一个单核苷酸多态性位点.各种基因型与胸肌IMP含量的方差分析结果表明:GPAT基因外显子2中AA型个体的肌肉肌苷酸含量显著地高于AB型和BB型个体,AB型个体也稍高于BB型,但差异不显著;AIRC基因外显子8中CG型个体的肌肉肌苷酸含量显著地高于GG型和CC型个体,GG型个体的胸肌肌苷酸含量也显著地高于CC型.两个基因的单倍型对IMP含量也有显著的影响:单倍型为AACG的个体比单倍型为BBCC的个体高1.006mg/g,单倍型的遗传效应大于最优秀的单个基因型效应.因此,可以利用该单倍型对鸡的肉质风味性状进行标记辅助选择.
【英文摘要】无

【语种】中文
【第一作者】张学余
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【期刊名称、卷期、页码】云南农业大学学报,2009;24(4):557-561
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【引文索引号】无
【学科分类】畜牧学

【题目】PRL和POU1F1基因及基因聚合对白耳鸡产蛋数的效应分析
【中文关键词】PRL; POU1F1; 白耳鸡; 基因聚合; 产蛋数;
【英文关键词】PRL; POU1F1; Baier chicken; gene pyramiding; egg production;
【中文摘要】以PRL和POU1F1为影响鸡产蛋数的候选基因,采用PCR-SSCP方法检测白耳鸡PRL基因调控区和POU1F1基因外显子3区域的单核苷酸多态性,并分析PRL、POU1F1基因多态位点和两基因聚合基因型与72周龄产蛋数的关联.结果表明:PRL调控区的插入/缺失基因型AA型和POU1F1基因exon3的突变(A5331T)基因型CC型与72周龄产蛋数显著相关(P<0.05),AA、CC型对产蛋数的加性效应分别为3.65和3.57.聚合基因型AACC型个体72周龄产蛋数(除AACD型外)与对照组比较差异显著(P<0.05).两基因间的互作效应并不显著(P>0.05).
【英文摘要】The PRL and POU1F1 genes in Baier chicken were selected as candidate genes,PCR-SSCP method was used to identify the polymorphism sites in the promoter region of PRL(prolactin) gene and in the exon 3 region of POU1F1(neuropeptide Y)gene.Association between the founded polymorphism sites as well as pyramiding genotypes and egg production traits were tested by least square analysis.The results showed the founded polymorphism sites PRL had significant correlation with the egg number at 72 weeks(P<0.05).
【语种】中文
【第一作者】张学余
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【引文索引号】无
【学科分类】畜牧学

【题目】安卡鸡肌肉脂肪酸组分的气相色谱-质谱联合分析
【中文关键词】卡鸡;脂肪酸;气相色谱一质谱
【英文关键词】无
【中文摘要】[目的]分析安卡鸡脂肪酸组分.[方法]应用气相色谱-质谱联合技术对安卡鸡脂肪酸组分进行分析,并计算各脂肪酸的相对含量.[结果]安卡鸡肌肉中共分离和鉴定出16种脂肪酸,其中饱和脂肪酸7种,包括月桂酸、豆蔻酸、十五烷酸、棕榈酸、十七烷酸、硬脂酸和花生酸,其含量占总脂肪酸的38.55%;不饱和脂肪酸9种,包括11-十四碳烯酸、9-十六碳烯酸、9-十八碳烯酸、9,12-十八碳二烯酸、6,9,12-十八碳三烯酸、11-二十碳烯酸、10,13-二十碳二烯酸、7,10,13-二十碳三烯酸以及5,8,11,14-二十碳四烯酸,其含量占总脂肪酸的61.45%.多不饱和脂肪酸占总脂肪酸含量的23.58%,必需脂肪酸占23.04%.[结论]该研究为家禽肌肉中脂肪酸成分分析及营养价值的评定提供了依据.
【英文摘要】无
【语种】中文
【第一作者】雷黎立
【通讯作者】陈国宏
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【引文索引号】无
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【题目】标记辅助选择在动物育种中的研究进展
【中文关键词】动物育种; 标记辅助选择; 研究进展;
【英文关键词】无
【中文摘要】随着大量与QTL紧密连锁的分子遗传标记以及一些主效基因的发现,标记辅助选择成为数量遗传学的一个研究热点。综述了标记辅助选择使用的模型、算法、影响其效率的因素、优化方法,以及标记辅助选择在动物育种中利用的经济效益等研究现状,分析了标记辅助选择在动物育种中的利用前景。
【英文摘要】无
【语种】中文
【第一作者】李娅兰
【通讯作者】李娅兰
【期刊名称、卷期、页码】广东农业科学,2009;1:82-85
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【引文索引号】无
【学科分类】畜牧学

【题目】不同鸡种对新城疫和禽流感的免疫性能差异分析
【中文关键词】新城疫;禽流感;抗体
【英文关键词】无
【中文摘要】随机抽取如皋、文昌和安卡鸡各80只,经新城疫和禽流感免疫后分别于30、41、56、71和89日龄检测抗体水平变化。结果表明,如皋鸡公母抗体水平无明显差异,而文昌鸡和安卡鸡在性别之间差异显著。文昌鸡新城疫抗体在所有检测日龄均低于如皋鸡和安卡鸡,而安卡鸡禽流感抗体在所有检测日龄均极显著低于如皋鸡和文昌鸡(P0.01)。本研究初步表明,就新城疫和禽流感而言,不同鸡种以及性别之间的免疫性能存在明显差异。
【英文摘要】无
【语种】中文
【第一作者】王存波
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【期刊名称、卷期、页码】中国动物检疫,2009;26(2):54-55
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【学科分类】畜牧学

【题目】不同鸡种早期生长规律比较及其生长曲线拟合
【中文关键词】鸡;生长规律;kgistic模型;生长曲线
【英文关键词】chickens; developmental biology; domesticated birds; ontogenesis
【中文摘要】采用Logistic模型进行生长曲线拟合对0-12周龄如皋鸡、文昌鸡和安卡鸡的体重生长规律进行了研究.结果显示,不同性别间除初生重之外其余周龄体重均呈显著差异,但生长发育变化呈现一致趋势.不同品种间生长发育存在较大差异,除如皋鸡和文昌鸡之间6周龄相对生长率和12周龄日绝对生长量差异不显著,以及如皋鸡和安卡鸡10周龄相对生长率差异不显著外,其余周龄品种间的生长发育均呈显著差异.Logistic模型生长曲线对3个品种均能较好的拟合(R20.99),预测体重与实际体重较为接近.
【英文摘要】The study was conducted to determine the growth and growth curves of 0-12-week-old Rugao chicken (RG), Wenchang Chicken (WC), and Anka Chicken (AK). The nonlinear curves of Logistic model were used to fit the growth model. Results revealed that there were significant differences (P<0.05) in the body weight between male and female birds at 2-12-week-old, but the growth and development were the same. There were significant differences among the chicken breeds because the growth and development were significantly different among the breeds, but there was no significant difference in the relative growth rate of 6-week-old and absolute mass growth per day on 12-week-old RG and WC, and the relative growth rate of 10-week-old RG and AK. The growth of all three chicken breeds can be demonstrated by Logistic model (R 2>0.99). The predicted body weight was close to the true body weight.

【语种】中文
【第一作者】王存波
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【期刊名称、卷期、页码】江西农业大学学报,2009;31(2):322-325
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【引文索引号】无
【学科分类】畜牧学

【题目】不同禽类核型似近系数聚类分析
【中文关键词】禽类; 核型; 似近系数; 进化距离; 聚类分析;
【英文关键词】fowl; karyotype; resemblance-near coefficient; evolutionary distance; cluster analysis
【中文摘要】对北京油鸡和金定鸭染色体核型进行了研究。结果表明:北京油鸡和金定鸭常染色体形态存在较大差异,北京油鸡的No.4、No.6和No.8染色体分别为st、sm型和m型染色体;而金定鸭的No.4、No.6和No.8染色体均为t型染色体;北京油鸡的Z、W染色体为m型染色体;而金定鸭的Z和W染色体分别为st型和t型染色体。此外,核型似近系数和进化距离聚类分析表明6种禽类可分为3类,Ⅰ类包括金定鸭和五龙鹅;Ⅱ类包括鹌鹑、石鸡和北京油鸡;而稚鸡单独成类,其结果与形态分类学和系统分类学大致相同。
【英文摘要】Karyotype analysis was carried out to study Beijing fatty chickens and Jinding ducks.The results showed thatthe karyotypes of the two species were different from each other.The No.4, No.6 and No.8 chromosome of Beijing fatty chickens were subtelocentrics, submetacentrics and metacentrics, respectively.However, the No.4, No.6 and No.8 chromosome of Jinding ducks were all telocentrics.The Z and W chromosome of Beijing fatty chickens both were metacentrics, while Z and W chromosome of Jinding ducks were subtelocentrics and telocentrics, respectively.Additionally, the six species of fowls were clustered 3 colonies according to karyotype resemblance-near coefficient and evolutionary distance when the all same data were collected.The first colony included Jinding ducks and Wulong geese, the second colony included Beijing fatty chickens, quails and partridges, the last colony only included pheasants, which was approximately uniform to morphological taxonomy and systematics.
【语种】中文
【第一作者】吉挺
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【引文索引号】无
【学科分类】畜牧学

【题目】肌苷酸合成酶系3个基因对白耳鸡胸肌肌苷酸含量的遗传效应
【中文关键词】GPAT基因; AIRC基因; PURH基因; 肌苷酸含量; 合并基因型; 鸡;
【英文关键词】GPAT gene; AIRC gene; PURH gene; inosine monophosphate content; combined genotype; chicken;
【中文摘要】GPAT、AIRC和PURH基因作为肌苷酸合成过程中的酶系基因,它们对鸡肌肉肌苷酸含量均具有显著的效应。为了进一步验证这3个基因对肌苷酸含量的遗传效应,本研究以白耳鸡为试验材料,采用PCR-SSCP和测序相结合的方法,分析了这3个基因的单基因以及合并基因型对鸡胸肌肌苷酸含量的影响。结果表明:GPAT、AIRC和PURH基因均对白耳鸡胸肌肌苷酸含量的差异产生影响,均与鸡肌肉IMP含量存在显著关联(P<0.05),这3个位点可作为影响鸡肌肉肌苷酸含量的分子标记;合并基因型的遗传效应要高于最优秀的单个基因型效应。因此,可以利用合并基因型对鸡的肉质风味性状进行标记辅助选择。
【英文摘要】GPAT,AIRC and PURH genes are involved in the de novo purine biosynthesis,they all have significant effect on muscle IMP content.This study was designed to investigate the effect of GPAT,AIRC and PURH genes on muscle IMP content in Baier chickens,single genotype effects as well as the combined genotype effects were all studied.PCR-SSCP and DNA sequencing were applied to detect SNPs in three genes.The results showed that GPAT,AIRC and PURH genes had significant effect on the muscle IMP content in Baier chickens(P<0.05),they are candidate loci or linked to major genes that affect muscle IMP content;The combined genotype effects were higher than the single genotype effects.It was concluded that combined genotypes are superior to single genotypes as potential molecular markers for meat quality traits in chicken.

【语种】中文
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【引文索引号】无
【学科分类】畜牧学

【题目】鸡ADSL基因和G-A-G基因对鸡肉肌苷酸(IMP)含量的影响
【中文关键词】腺苷琥珀酸裂解酶基因,GARS-AIRS-GART基因,单核苷酸多态性,肌苷酸,鸡
【英文关键词】ADSL gene; GARS-AIRS-GART gene; SNPs; inosine monophosphate content; chicken
【中文摘要】以鸡ADSL基因、GARS-AIRS-GART基因为侯选基因,以隐性白羽鸡、丝羽乌骨鸡、萧山鸡、白耳鸡、藏鸡为试验材料,采用PCR-SSCP方法对ADSL外显子2、GARS-AIRS-GART基因5'侧翼序列进行SNPs检测.结果各发现了一个单核苷酸多态性位点.各种基因型与胸肌IMP含量的最小二乘分析结果表明ADSL基因TT型个体的胸肌肌苷酸含量极显著地高于CC型、显著地高于CT型个体,CT型个体也高于CC型,但差异不显著GARS-AIRS-GART基因TT型个体的胸肌肌苷酸含量极显著地高于CT型和CC型个体,CT型个体也高于CC型,但差异不显著.ADSL和GARS-AIRS-GART基因的合并基因型对IMP含量也有显著的影响,合并基因型为TTTT的个体IMP含量显著高于CCCC合并基因型的个体,高出1.584 mgg,因此可以利用该合并基因型对鸡的肉质风味性状进行标记辅助选择.
【英文摘要】:This study was designed to investigate the effect of ADSL,GARS-AIRS—GART and combinationgenotypesof ADSL and GARS-AIRS—ARTonIMPcontentinchicken meat.Five chicken breeds,including RecessiveWhite,Silkies,Baier,Tibetanand Xiaoshanchickens were used.The primers for the ezon2 in ADSL gene and 5 ’ UTR region in GARSAIRS~GART gene weredesignedand the SNPs weredetected by PCR—SSCP method and DNA sequencing.Two SNPs were detected in exon2 of ADSL gene and 57UTR region of GARSA II °CS—GART gene sepa—rately.The least square analysisshowedthat TTgenotypebirds had greatly significant higher IMPcontentthanCC(P<O.01)andsignificant higher than CT(P<0.05)genotype birds,TC genotypebirds alsohadalittle higher IMPcontent than CC genotypebirds,but the difference was not significant in ADSL gene.TT genotype birds had significant higherIMPcontentthan CC and CTgenotypebirds(P<0.05),TCgenotypebirds also hadalittle higherIMPcontentthan CCgenotype birds,butthe difference wasnotsignificantin GARS-AIRS-GARTgene.Thecom—binationgenotypesof ADSL and GARS-AIRS—GARTgenesalso hadsignificanteffectonIMP content.TheIMPcontentof the individuals with TTTTcombinationgenotype was 1.584mg/g higherthan theindividuals with CCCC combinationgenotype.Thereforeweputativelydrew the conclusion that thecombinationgenotypesof ADSL and GARS-AIRS—GART gene could be used asthemolecular genetic markertOselect the chicken formeatqualitytraits.
【语种】中文
【第一作者】束婧婷
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【题目】鸡AIRC基因多态性及其对肌肉肌苷酸含量的遗传效应分析
【中文关键词】AIRC基因; 单核苷酸多态性; 肌苷酸含量; 合并基因型; 鸡
【英文关键词】AIRC gene; SNPs; inosine monophosphate content; combined genotype; chicken
【中文摘要】以鸡AIRC基因为侯选基因,以丝羽乌骨鸡、萧山鸡、白耳鸡、藏鸡、隐性白羽鸡为试验材料,采用PCR-SSCP方法对AIRC基因所有外显子及部分内含子区域进行SNPs检测,在外显子3和8中各发现1个单核苷酸多态位点。各种基因型与胸肌肌苷酸(IMP)含量的方差分析结果表明,外显子3中CC基因型个体的肌肉IMP含量显著高于TC和TT基因型个体,TC基因型个体也稍高于TT型,但差异不显著;外显子8中CG基因型个体的肌肉IMP含量显著高于GG和CC基因型个体,GG基因型个体的胸肌肌苷酸含量也显著高于CC型。外显子3和8的合并基因型对IMP含量也有显著的影响,合并基因型为CCCG的个体比TTCC合并基因型的个体高2.25mg.g-1,合并基因型的遗传效应大于最优秀的单个基因型效应。因此,可以利

用该合并基因型对鸡的肉质风味性状进行标记辅助选择。
【英文摘要】Single nucleotide polymorphisms(SNPs) of AIRC gene were investigated in various breeds(including Recessive White chickens,Silkies chickens,Baier chickens,Tibetan chickens and Xiaoshan chickens)by PCR-SSCP and DNA sequencing methods.Two SNPs were detected in exon 3 and 8.The least square analysis showed that birds with CC genotype had significant higher IMP content than those with TC and TT genotypes,birds with TC genotype also had a little higher IMP content than those with TT genotype,but the difference was not significant in exon 3;In exon 8,CG was the excellent genotype,individuals with CG genotype had significant higher IMP content than those with GG and CC genotypes,birds with GG genotype also had significant higher IMP content than those with CC genotype.The combined genotypes of exon 3 and 8 also had significant genetic effect on IMP content.The IMP content of the individuals with CCCG combined genotype was 2.25 mg · g-1 higher than the individuals with TTCC combined genotype.The genetic effect of the combined genotype was larger than that of excellent single genotype.Therefore,it was concluded that the combined genotypes could be used as the molecular genetic marker to select the chicken for meat quality traits.
【语种】中文
【第一作者】束婧婷
【通讯作者】陈国宏
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【题目】鸡Apo VLDLII基因内含子多态性与肉质关联分析
【中文关键词】鸡; PCR-SSCP; Apo VLDLⅡ; 多态性; 肉质
【英文关键词】chicken; PCR-SSCP; Apo VLDLⅡ; polymorphism; meat quality
【中文摘要】根据鸡Apo VLDLⅡ基因3个内含子序列设计9对引物,采用PCR-SSCP技术对如皋黄鸡、安卡肉鸡2个品种进行多态性检测,探讨其与肉质的相关性。结果表明:Apo VLDLⅡ基因内含子1发生了3处突变,分别为2522处A/C、2705处A/C及2793处C/T。突变对应的基因型在这2个品种间的分布差异极显著(P<0.01);单个引物所对应的不同基因型间肉质性状差异不显著(P>0.05),不同合并基因型在嫩度、pH和肉色3个性状上差异显著(P<0.05)。
【英文摘要】The polymorphism of Apo VLDLⅡ gene was investigated with PCR-SSCP in two chicken breeds:Rugao yellow chicken and Anak red broilers.9 primers were designed according to the introns of Apo VLDL Ⅱgene and the mutations were detected by PCR-SSCP method.Three mutations were found among all the individuals,which were:2522(A/C),2705(A/C)and 2793(C/T)in intron Ⅰ.The statistic results showed that the genotypes of Anak red broiler was significantly different from Rugao yellow chicken(P<0.01);the least square analysis showed that there were remarkable differences of the meat quality(tenderness,pH and meat color)between combined genotypes(P<0.05),but not the genotypes of single primer(P>0.05).
【语种】中文
【第一作者】程金花
【通讯作者】陈国宏
【期刊名称、卷期、页码】扬州大学学报(农业与生命科学版),2008;29 (1): 37-40;
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【学科分类】畜牧学

【题目】鸡G-A-G基因的5＇侧翼序列单核苷酸多态性及其与鸡肉IMP含量的关联分析
【中文关键词】鸡;GANN-A/P岱一GART基因;肌苷酸f单棱苷酸多态性
【英文关键词】hickenbreedsGARS—AdRS-GARTgeneIMP;singlenucleotide polymorphism
【中文摘要】以鸡GARS-AIRS-GART基因为候选基因,根据5＇侧翼序列设计引物,用PCR-SSCP方法对隐性白羽鸡、丝羽乌骨鸡、萧山鸡、白耳鸡及藏鸡进行单核苷酸多态性分析,并检测到多态性,表现为3种基因型,对2种纯合子进行直接测序,结果发现-179位点发生了突变,由C突变为T。对3种基因型的肌肉肌苷酸(IMP)含量采用最小二乘法分析,结果显示TT型(突变型)个体的肌肉IMP含量极显著高于CT型、CC型个体,CT型个体稍高于CC型,但差异不显著,初步推测该位点可能与肌肉IMP含量有关,可作为肌肉IMP含量的辅助选择标记。

【英文摘要】This study was designedtoinvestigate the single nucleotidepolymorphlsm(SNP)of G^RS—ARS—GARgene in various broed$,including RecessiveWhitechickens,Sikies chickens,Xiaoshan chickens,Baiexchickens andTibetanchickens.The primers for 51 flanking in GARs—AIRs—GA}n ’ gene were designed from the aatabad chicken genomiesequenceand the SNPs wele dete ted hy PCR—SSCP and DNA sequencing.Three genotypes were found smong indlviduals within越I breeds andoneSNP(179)waftfound.However.the amino acid wasnotchangedbccatl it wasasilence mlttation.The least squareanalysisshowedthat7Tgenotypebirds hadsignificanthigher(P<O · 01)IMPcontentthan TC and CC genotype birds · TC genotype birds also hadalittle higher IMPcontentthan CCgenotype birds,but the difference wasnotsignificant.we concluded thatthere may bearelationshipbetween this SNP site andIMPcontentin chickens.
【语种】中文
【第一作者】束婧婷
【通讯作者】陈国宏
【期刊名称、卷期、页码】扬州大学学报(农业与生命科学版),2007;28(3):27-30;
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【学科分类】畜牧学

【题目】鸡白细胞介素-1β基因内含子1、2多态与部分免疫性状的相关性分析
【中文关键词】白细胞介素-1β基因;单核苷酸多态性;免疫性状;鸡
【英文关键词】IL-1β gene;SNP;immune traits;chicken
【中文摘要】[目的]以白细胞介素-1β(Interleukin-1 β,IL-1 β)基因为候选基因,研究其单核苷酸多态性(single nucleotide polymorphisin,SSP),及其与部分免疫性状的关系.[方法]根据红色原鸡IL-1 β基因序列设计引物一对,利用PCR-SSCP方法检测了如皋鸡、文昌鸡以及安卡鸡IL-1 β基因内含子1,2的SNP,同时检测了56日龄的血清IL-1浓度、异嗜性粒细胞/淋巴细胞(heterophil/lymphocyte,H/L)值,绵羊红细胞(sheep red blood cell,SRBC)抗体滴度.新城疫(newcastle disease,ND)抗体滴度、禽流感(avian influenza,AI)抗体滴度5个免疫性状,并进一步分析了SNP位点与免疫性状的关系.[结果]共检测出6个SNP位点,分别为T107G突变、T130A突变,C143T突变、A208C突变、T241G突变及T274C突变.经关联分析,发现107、208、241及274位点存在显著的基因型效应(P<0.05或P<0.01),基因型组合对H/L值及ND抗体滴度两个性状上存在显著效应(P<0.05).[结论]241位点突变型个体3个免疫性状均优于野生型,有望在鸡的抗病育种中筛选为新的标记位点.利用基因型组合选择效果优于对单个位点的选择.
【英文摘要】[Objective]The SNPs of IL-1β gene and their correlations with some immune traits were tested. [Method]A pair of primers were designed as the sequence of IL-1 β of red jungle fowls,and the SNPs of intron 1 and 2 of IL-1β gene in Rugao Chicken(RG),Wenchang Chieken(WC),and Anka Chicken(AK) were detected using PCR-SSCP.Meanwhile,concentration of IL-1,H/L value,SRBC andbody filer,ND antibody tiler and AI antibody filer were detected at 56 days of age.Then,the correlation between SNP sites and immune traits were analyzed. [Results]Totally 6 SNP sites were detected at T107G,T130A,C143T,A208C,T241G and T274C.Furthermore,the mutation at 107,208,241 and 274 sites were found association with immune traits (P<0.05 or P<0.01),and some genotype combinations significantly affected H/L value and ND antibody tiler (P<0.05).[Conclusion]The mutation at 241 site may be selected as a new candidate mark in disease resistance breeding because of its better performance in three immune traits than that of wild type chickens.Selecting breeder chickens by genotype combinations had more effect than by single.genotype of SNPs.
【语种】中文
【第一作者】王存波
【通讯作者】陈国宏
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【题目】鸡肌内脂肪性状的多基因聚合效应分析
【中文关键词】多基因聚合; 单核苷酸多态性; 鸡; 肌内脂肪

【英文关键词】polygene pyramiding; single nucleotide polymorphism(SNPs); chicken; intramuscular fat
【中文摘要】以如皋鸡为试验材料,采用PCR-SSCP技术对影响鸡肌内脂肪性状的3个候选基因(H-FABP,A-FABP和Δ9-FAD)进行单核苷酸多态性和基因聚合效应分析。结果发现,在3个基因中分别检测到A2980G,A1763G和C197T的SNP突变及3种基因型。肌内脂肪最小二乘差异显著性检验表明,H-FABP和Δ9-FAD基因中BB型与A-FABP基因中AB型为优势基因型,显著高于其他两种类型(P<0.05);但聚合基因型(两基因和三基因)并未表现出其相应的优势,无明显遗传规律可循,可见简单的优势基因型聚合并不是最佳的聚合方案,应建立在单个候选标记遗传效应明确且一致的基础上,尤其是针对复杂的肉质性状如肌内脂肪等。
【英文摘要】Single nucleotide polymorphisms (SNPs)and effect of polygene pyramiding of 3 candidate genes affecting Rugao chicken intramuscular fat trait,H-FABP,A-FABP and Δ9-FAD,were analyzed by PCR-SSCP technique. Three mutations of A1243G,A1763G and C197T and three kinds of genotypes were detected. As a result,BB genotype of H-FABP and Δ9-FAD gene and AB genotype of A-FABP gene were significantly higher than the other two types in intramuscular fat content by test of minimum least-squares analysis (P<0.05). But the pyramiding genotypes,whether belong to two genes or three genes,had not shown the corresponding advantages with the single gene,and obvious genetic rules to follow. It was concluded that pyramid simply each advanced genotype was not the best pyramiding plan. It should be based on the clear and consistent genetic effect of each single candidate marker,especially for complex traits such as intramuscular fat and other meat traits.
【语种】中文
【第一作者】常国斌
【通讯作者】陈国宏
【期刊名称、卷期、页码】中国家禽,2009;31(19)25-28
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【学科分类】畜牧学

【题目】狼山鸡核型参数与生产性能的关系研究
【中文关键词】狼山鸡; 生产性能; 核型参数
【英文关键词】Langshan chickens; production performance; karyotypic parameter
【中文摘要】对狼山鸡核型参数与生产性能的关系进行研究,结果表明,狼山鸡No.1染色体相对长度水平与屠宰性状、产蛋性状存在较大的关联,当No.1染色体相对长度水平为4(22.00%<RL≤23.00%)时,屠体重、半净膛重、全净膛重、腿肌重和胸肌重往往表现较低;当No.1染色体相对长度水平为3(21.00%<RL≤22.00%)时,总产蛋量、开产蛋重往往表现较低,说明家鸡的No.1染色体的相对长度可用于辅助育种。
【英文摘要】The relation between karyotypic parameter with productive performances of Langshan chickens was analyzed in this study. The results showed that the dressed weight,semi-eviscerated weight,eviscerated weight,breast muscle weight and leg muscle weight of Langshan chickens were lower at level 4 of relative length for chromosome 1 (22.00%<RL≤23.00%)than other levels. Besides,egg production and egg weight of first laying were lower at level 3 of relative length for chromosome 1 (21.00%<RL≤22.00%)than other levels. The results implied that the karyotypic parameter could be used as an important criteria for assisted breeding.
【语种】中文
【第一作者】徐 琪
【通讯作者】陈国宏
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【学科分类】畜牧学

【题目】两脂肪酸结合蛋白基因SNPs及基因聚合对白耳鸡IMF的遗传效应
【中文关键词】心脏脂肪酸结合蛋白基因; 脂肪细胞脂肪酸结合蛋白基因; 白耳鸡; 肌内脂肪
【英文关键词】无

【中文摘要】肌内脂肪(Intramuscular fat,IMF)是影响鸡肉风味的一个重要因素,我国大部分地方鸡品种肌内脂肪含量较高,脂肪分布均匀,因此肉质风味较好,这也是我国地方鸡种开发利用的优势。由于肌内脂肪在活体动物上很难直接测定,采用常规育种方法进展较慢。
【英文摘要】无
【语种】中文
【第一作者】张学余
【通讯作者】张学余
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【题目】三鸡种白细胞介素-1β基因多态与血清中白细胞介素-1含量相关性分析
【中文关键词】白细胞介素-1; 白细胞介素-1β基因; 单核苷酸多态性; 鸡
【英文关键词】interleukin-1; IL-1β gene; SNP; chicken
【中文摘要】本研究旨在通过检测鸡白细胞介素-1β(interleukin-1β,IL-1β)基因部分区域单核苷酸多态位点,以期查找与血清中IL-1含量相关的遗传标记。根据红色原鸡IL-1β基因序列设计2对引物,利用PCR及单链构象多态性(Single-Strand Conformation Polymorphism,SSCP)方法对如皋鸡、文昌鸡和安卡鸡进行单核苷酸多态性(Singlenucleotide polymorphism,SNP)分析,并利用试剂盒ELISA法对56日龄血清IL-1含量进行检测。结果表明血清中IL-1含量安卡鸡极显著高于如皋鸡(P0.01)和文昌鸡(P0.001)。IL-1β基因476位点发生G→A突变、482位点发生T→C突变、1 215位点发生C→T突变、1 507位点发生T→C突变。对多态位点和IL-1含量作关联分析,只发现1 215位点与IL-1含量有关,TT基因型个体IL-1含量显著高于CC型个体。本研究初步表明IL-1β基因1 215多态位点可以作为抗病育种中的候选遗传标记。
【英文摘要】The aim of the present study was to detect single nucleotide polymorphism(SNP) in some areas of IL-1β gene of chicken to find genetic marker influencing on IL-1 content in serum.Two pairs of primers were designed according to the sequence of IL-1β gene of red jungle fowls,and the SNP of Rugao chicken(RG),Wenchang chicken(WC),and Anka chicken(AK) were analysed by PCR-SSCP,meanwhile,the IL-1 content in serum were detected at 56 days with reagent kit by ELISA.The results showed that the IL-1 content in serum of AK was significantly higher than that of RG(P<0.01) and WC(P<0.001).The mutation were found at four sites in all three breeds,and they were mutation G→A at 476 site,mutation T→C at 482 site,mutation C→T at 1 215 site and mutation T→C at 1 507 site.Then,the correlation between polymorphic sites and content of IL-1 were analysed,and only 1 215 site had relationship with IL-1 content in serum,which showed that chicken with TT genotype had significantly higher IL-1 content in serum than those with CC genotype.This study indicated that the 1 215 polymorphic site could be a genetic marker for IL-1content in serum.
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【第一作者】王存波
【通讯作者】陈国宏
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【学科分类】畜牧学

【题目】文昌鸡肌肉脂肪酸组分的气相色谱-质谱联合分析
【中文关键词】文昌鸡; 脂肪酸; 气相色谱—质谱
【英文关键词】Wenchang chicken; fatty acids; GC-MS
【中文摘要】应用气相色谱—质谱联合技术对文昌鸡肌肉脂肪酸组分进行分析,并以面积归一法,计算各脂肪酸的相对百分比含量。结果表明,文昌鸡肌肉中共分离和鉴定出16种脂肪酸,其中饱和脂肪酸7种,包括n-十二烷酸、n-十四烷酸、十五烷酸、n-十六烷酸、十七烷酸、n-十八烷酸和二十烷酸,其含量分别为0.75%、1.23%、0.43%、23.86%、2.04%、11.18%、0.13%,占总脂肪酸的39.63%;不饱和脂肪酸9种,包括11-十四碳烯酸、9-十六碳烯酸、9-十八碳烯酸、9,12-十八碳二烯酸、6,9,12-十八碳三烯酸、11-二十碳烯酸、10,13-二十碳二烯酸、7,10,13-二十碳三烯酸及5,8,11,14-二十碳四烯酸,其含量分别为0.15%、1.79%、25.84%、21.99%、0.48%、0.32%、0.45%、0.61%、8.75%,占总脂肪酸含量的60.37%。多不饱和脂肪酸占

总脂肪酸含量的32.29%,而必需脂肪酸占总脂肪酸含量的31.23%。这一结果为家禽肌肉中脂肪酸成分分析及营养价值的评定提供了基础依据。

【英文摘要】The components of fatty acids in Wenchang chicken were analyzed by gas chromatogrphy-mass spectrometry technology(GC-MS),and the relative content of each fatty acid were calculated.16 kinds of fatty acids were seperated from Wenchang chicken.Among them,7 kinds of fatty acids,including lauric anid,myristic acid,pentadecanoic acid,palmitic acid,margaric,stearic acid and eicosanoic,were saturated fatty acids.The content of those 7 fatty acids were 0.75%,1.23%,0.43%,23.86%,2.04%,11.18%,0.13%,accounts for 39.63% of the total fatty acid.9 kinds of fatty acids,including 11-teteadecenoic acid,9-hexadecenoic acid,9-vaccenic acid,9,12-octadecadienoic acid,6,9,12-octadecatrienoic acid,11-eicosenoic acid,10,13-eicosenoic,7,10,13-eicosatriennoic and 5,8,11,14-arachidonic acid,were unsaturated fatty acids.The contens of 9 kinds of fatty acids were 0.15%,1.79%,25.84%,21.99%,0.48%,0.32%,0.45%,0.61%,8.75%,accounts for 60.37% of the total fatty acid.The polyunsaturates fatty acids accounted for 32.29% of the total fatty acids and the essential fatty acids accounted for 31.23%.The results provided the basis for analysis on fatty acid acid component and evaluation on the nutritive value.

【语种】中文

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【题目】萧山鸡体尺性状、产肉性状与血液生化性状的典型相关分析

【中文关键词】萧山鸡;体尺性状;产肉性状;血液生化性状;典型相关

【英文关键词】Xiaoshan chicken;bedy measurements;carcass traits;blood biochemical trails;canonical correlation analysis

【中文摘要】对萧山鸡体尺、产肉与血液生化3组性状12个变量进行典型相关分析明:体尺性状与血液生化性状间的第一个典型相关系数达极显著水平,占两组性状信息的83.98%;体尺性状与产肉性状间和产肉性状与血液生化性状间的第一个典数达显著水平,分别占两组性状间总相关信息的64.51%和77.67%,其典型相关系0.948、0.979和0.912。在3组性状中起主要作用的性状有:体斜长、胸肌重、全净膛重胆固醇含量和碱性磷酸酶活性。

【英文摘要】Canonical correlation analysisof 3setsof variablesincluding12tmits ofXiaoshan chickensWagperformed.The results showed thatthe firstcanonical correlation coefficients between bodymeasurement and bloodbiochemicaltraits(0.948)was highly significant and expressed 83.98%of total correlation.The first canonical correlationcoefficient between body measurement andcarcasstraits(0.979),as wellasbetweencarcasstraits and blood biochemicaltraits(0.912)weresignificant.Theyconstituted64.51%and77.67%of totalcorrelation,respectively.Theanalysis indicatedthat main traits for the canonical correlationcoefficientswerethe biaslength,breast weigh,eviscerated weight,leg weight,thecontentof cholesterol and theactivityof alkalinephosphatase.

【语种】中文

【第一作者】吴信生

【通讯作者】陈国宏

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【引文索引号】无

【学科分类】畜牧学

【题目】植物气孔气态失水与SPAC系统液态供水的相互调节作用研究进展

【中文关键词】植物气孔; 水力信号; 等水行为; 午休现象; 木质部气穴; 气穴逆转

【英文关键词】plant stomata; hydraulic signal; isohydric behavior; midday depression; xylem cavitation; cavitation reversal

【中文摘要】讨论了植物气孔气态失水与SPAC系统液态供水相互作用研究领域的一些重要现象和行为.当植物水力信号和化学信号共同作用促进气孔对叶水势的调节时,植物对叶水势的调节表现为等水行为.气孔对环境湿度变化响应的反馈机制可用来解释土壤干旱条件下气孔和光合的午休现象,以及气孔导度和水流导度之间的相关关系;而气孔对环境湿度变

化响应的前馈机制,则可用来解释气孔导度对大气-叶片间水汽饱和差的滞后反应.植物最大限度地利用木质部传输水分的策略,要求气孔快速响应以避免木质部过度气穴化和短时间内将气穴逆转的相应机制.

【英文摘要】Some important phenomena and behaviors concerned with the coordination effect between vapor water loss through plant stomata and liquid water supply in SPAC were discussed in this paper.A large amount of research results showed that plants show isohydric behavior when the plant hydraulic and chemical signals cooperate to promote the stomatal regulation of leaf water potential.The feedback response of stomata to the change of environmental humidity could be used to explain the midday depression of stomatal conductance and photosynthesis under drought condition,and also,to interpret the correlation between stomatal conductance and hydraulic conductance.The feedforward response of stomata to the change of environmental humidity could be used to explain the hysteresis response of stomatal conductance to leaf-atmosphere vapor pressure deficit.The strategy for getting the most of xylem transport requires the rapid stomatal responses to avoid excess cavitation and the corresponding mechanisms for reversal of cavitation in short time.

【语种】中文

【第一作者】刘利民

【通讯作者】刘利民

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【引文索引号】

【学科分类】农学其他学科

【题目】猪T细胞受体γ链基因的克隆及生物信息学分析

【中文关键词】猪T 细胞受体γ 链;基因克隆;生物信息学;结构预测

【英文关键词】porcine T cell receptor gamma chain; gene cloning; bioinformatics; structure prediction

【中文摘要】目的:克隆猪T 细胞受体γ 链(pTCR-γ)基因,用以研究猪T 细胞受体分子结构与功能。方法与结果:以GenBank 上登载的pTCR-γ 基因为参考序列,用RT-PCR 法从猪外周血淋巴细胞中克隆pTCR-γ 基因。序列分析表明,pTCR-γ 基因开放读框为1026 bp,编码341 个氨基酸残基,含有由23 个氨基酸残基构成的信号肽序列;与参考序列相比,在核苷酸和推导氨基酸序列上的同源性分别为95.6%和88.8%;系统进化分析发现,该基因与绵羊、恒河猴、人、马、牛的同源性相对较高,与褐鼠、家犬、家鼠、家猫的同源性次之,而与禽类、鱼类的同源性最低;生物信息学结构预测表明猪T 细胞受体γ 链含2 个结构域,其中1 个为IG_LIKE1 结构域(IGv 结构域),由第14~114 位共101个氨基酸残基组成;另一个为IG_LIKE2 结构域(IGc 结构域),由第143~238 位共96 个氨基酸残基组成。结论:克隆并应用生物信息学技术分析了猪T 细胞受体γ 链基因序列及编码蛋白的结构特征,为进一步研究γ 链的结构与功能奠定了基础。

【英文摘要】Objective: To clone porcine T cell receptor gamma chain(pTCR-γ) gene for the study on molecular structure and function of porcine T cell receptor. Methods & Results: Based on the gene sequence of pTCR-γ from the GenBank database, pTCR-γ gene was cloned by reverse transcription-polymerase chain reaction from porcine peripheral-blood lymphocyte. Sequence analysis showed that pTCR-γ gene was 1026 bp in length and encoded 342 amino acids, including a signal peptide of 23 amino acids. Comparing with the reference sequence,pTCR-γ gene shared 95.6% homology with the published sequence of nucleotide and 88.8% homology of amino acids. The homology was high comparatively with Ovis aries, Macaca mulatta, Homo sapiens, Equus caballus and Bos taurus, second with Rattus norvegicus, Mus musculus, Canis lupus familiais and Felis catus, the lowest with Gallus and Paralichthys. Two domains had been found by the structure prediction of bioinformatics, one was IGv domain that contains 101 amino acids with position of 14~114, another was IGc domain that contains 96 amino acids with position of 143~238. Conclusion: The porcine T cell receptor gamma chain gene was cloned, and its gene sequences and structural feature of encoding protein were analyzed by bioinformatics. This study laid a foundation for further research of structure and function of porcine T cell receptor gamma chain.

【语种】中文

【第一作者】李玩生

【通讯作者】景志忠

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【引文索引类型】其他

【引文索引号】

【学科分类】分子生物学

【题目】猪T 细胞受体β链基因的克隆及生物信息学分析
【中文关键词】猪TCR2β链基因;基因克隆;生物信息学;结构预测
【英文关键词】porcine T cell receptor beta chain gene ;gene cloning ;bioinformatics ; st ruct ure prediction
【中文摘要】以GenBank 上登载的猪的T 细胞受体β(p TCR2β) 基因为参考序列,用RT2PCR 法从猪的外周血淋巴细胞中克隆了TCR2β链基因,并进行生物信息学分析. 结果表明: p TCR2β基因含有一个完整的开放阅读框架(ORF) ,大小为849 bp ,编码283 个氨基酸,且含有一段27 个氨基酸的信号肽序列,与参考序列相比,在核苷酸序列上的同源性为80. 4 % ,在氨基酸序列上的同源性为70. 3 %;生物信息学结构预测发现2 个结构域,一个为IG结构域,由第32 - 138 位共107 个氨基酸残基组成;另一个为IG_L IKE 结构域,由第164 - 211 位共48 个氨基酸残基组成.
【英文摘要】Based on t he gene of porcine T cell receptor beta chain (AB079529) f rom the GenBank data2base , T cell receptor beta chain gene was cloned by rever se t ranscription2polymerase chain reaction (RT-PCR) from porcine perip heral2blood lymp hocyte (PBL) . Sequence analysis showed t hat p TCR2β gene was 849 bp in length and encoded 283 amino acids ,including a signal peptide of 27 amino acids ,comparing with the reference sequence p TCR2β gene shared 80. 4 % homology with the p ublished sequence of nucleotide and shared 70. 3 % homology of amino acids ; two domain had been found by the st ruct ure prediction of bioinformatics ,one was IG domain t hat contained 107 amino acids wit h position of 32 - 138 ,another was IG_like domain that contained 48 amino acids with position of 164 - 211. The p TCR2β gene was cloned successfully ,which provided a foundation for the study of structure and function of beta chain.
【语种】中文
【第一作者】李玩生
【通讯作者】景志忠
【期刊名称、卷期、页码】甘肃农业大学学报 2010,45(3):1-6
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【引文索引类型】其他
【引文索引号】
【学科分类】分子生物学

【题目】双向凝胶电泳技术及其应用
【中文关键词】双向电泳,操作程序,应用
【英文关键词】Two-dimensional electrophoresis Operation procedure Application
【中文摘要】介绍了双向电泳的基本原理、操作过程及其在动植物和医学中的应用。同时对当前双向电泳技术面临的挑战和发展前景进行了介绍。
【英文摘要】This article introduced the technical principle,process of two-dimensional electrophoresis and researchapplication involved in animal,botany and medicine industry.
【语种】中文
【第一作者】冯海燕
【通讯作者】景志忠
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【学科分类】分子生物学

【题目】抑制性消减杂交技术的应用
【中文关键词】抑制性消减杂交 差异表达 功能基因 DSN均一化技术 cDNA微阵列
【英文关键词】Supp ression subtractive hybridization Differential exp ression Functional genes DSN (dup lex-specific nuclease)-normalization method cDNA microarray
【中文摘要】基因的差异表达是调控各种生命活动的核心分子机制,而分离、克隆并进一步研究差异表达基因已成为现代分子生物学研究的热点,也是功能基因组学研究的重要内容。在研究差异表达基因的诸多项技术中,抑制性消减杂交(SSH)技术具有特异性强、假阳性率低、灵敏度高和快速简便等优点,被广泛地应用于生命科学和医学领域的基因差异表达的研究中。近年来,抑制性消减杂交(SSH)技术得到了相应的改进和完善,而在许多研究领域,该技术在广度和深度上都

有了一些新进展。主要就抑制性消减杂交技术的产生背景、原理、技术流程、特点及其最新应用研究进展等方面作简要综述。

【英文摘要】Abstract: Differential expression of genes is the centralmolecularmechanism of regulating all kinds of life actions.Among all the technologies of identifying differential expressed genes, suppression subtractive hybridization (SSH) is considered to be with high specificity, low background, high sensitivity, convenient manipulation, and had been widely app lied in life science and medicine research fields1 In this paper, the principle,method, characteristics and the research p rogress of SSH technique were introduced.

【语种】中文

【第一作者】李小庆

【通讯作者】李小庆

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【学科分类】分子生物学

【题目】猪白介素-4重组表达质粒在小鼠体内的组织分布及环境释放安全性

【中文关键词】猪白介素24 ;小鼠;重组表达质粒;生物安全性;组织分布;基因组整合;转移和扩散

【英文关键词】swine IL24 ;mouse ; recombinant expression plasmid ; biosafety ; tissue dist ribution ; genomic integra2 tion ;t ransfer and spreading

【中文摘要】为了探讨pcDNA3.1/IL24 重组表达质粒作为疫苗佐剂进入临床应用的生物安全性,本试验就pcDNA3.1/IL24 重组表达质粒在小鼠体内的组织分布和环境释放安全性进行了研究。将pcDNA3.1/IL24 重组表达质粒经肌肉途径免疫BALB/c小鼠,免疫后不同时间剖杀动物并摘取各种组织,抽提基因组DNA。利用PCR 技术分析其在组织内的分布及与细胞基因组发生整合的可能性,同时检测了免疫动物现场环境,以监测pcDNA3.1/IL24 重组表达质粒上的猪IL24 基因、CMV 启动子基因和抗性基因是否在环境细菌中发生转移和扩散。结果表明,免疫后1 d在3/ 3 小鼠各组织中仅注射部位肌肉存在重组表达质粒,免疫后5 d 仅有1/ 3 小鼠于注射部位肌肉中存在重组表达质粒,免疫后15 d 所有小鼠的各组织中无重组表达质粒存在;未发现pcDNA3.1/IL24 重组表达质粒整合到宿主细胞基因组和转化到环境其他细菌中。因此,认为pcDNA3.1/IL24 重组表达质粒对动物和环境是安全的。

【英文摘要】In order to evaluate the biosafety of recombinant pcDNA3. 1/ IL24 plasmid before it will be used as aimmunological adjuvant ,We investigated it s tissue dist ribution and biosafety in mice. Recombinant pcDNA3. 1/ IL24 plasmid was inoculated through int ramuscular injection , then the animals were slaughtered at the different time points for extracting the gDNA. The tissue dist ribution and integration of recombinant pcDNA3. 1/ IL24 plasmid in mice was analyzed by PCR. The environmental fecal and soil samples in the experimental site were also tested for the presence of plasmid DNA in native bacteria. The result s showed that plasmid DNA was only detected in muscle of all mice at 1 d af ter injection. The f ragment of plasmid was amplified f rom the muscle of one2third mice by PCR at 5 d.The plasmid existed in tissue for no more than 15 days af ter injection and no integration was detected. The results also demonst rated that the recombinant pcDNA3. 1/ IL24 plasmid was not detected in environmental bacteria. Therefore ,we concluded that the recombinant pcDNA3. 1/ IL24 plasmid is safe to both mice and the surrounding environment .

【语种】中文

【第一作者】蒙学莲

【通讯作者】蒙学莲

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【学科分类】农学其他学科

【题目】牦牛外周血单个核细胞cDNA文库的构建及部分差异表达分子的克隆分析

【中文关键词】关键词:外周血单个核细胞(PBMC);诱导刺激;抑制消减杂交,cDNA 文库

【英文关键词】PBMC; stimulation; suppression subtractive hybridization(SSH); cDNA libraries

【中文摘要】为筛选牦牛外周血单核细胞(PBMC)差异性基因,以刀豆素A (ConA)和脂多糖(LPS)联合刺激的PBMC cDNA为实验组,未经诱导刺激的PBMC cDNA 为驱动组,利用抑制性消减杂交技术(SSH)构建了丝裂原诱导刺激PBMC 的消减文

库并对其部分阳性克隆进行了EST 序列分析。从消减文库中随机挑取16 个阳性克隆,进行PCR 鉴定,显示克隆的重组率大于93 %,插入片段大小大部分集中在200 bp~1 000 bp 之间。随机挑取100个克隆进行测序及同源性分析,初步获得27 条差异表达基因片段,其中24 个为已知基因,3 个为新ESTs 序列;随机选择非重复的6 个差异表达的序列设计引物,以半定量PCR 方法验证其消减效率。结果显示,均从构建的消减文库中扩增到目的片段,其中5 个为诱导性差异表达分子,1 个为诱导特异性表达分子,说明该文库有较高的质量。本研究应用抑制消减杂交技术构建了牦牛PBMC 的差异表达cDNA 文库,并高通量克隆鉴定了相关功能基因片段,表明该技术手段有助于快速发现牦牛新功能基因。

【英文摘要】SA subtractive cDNA library was constructed by suppression subtractive hybridization (SSH) using cDNA from Yak peripheral blood mononuclear cells (PBMC) treated with lipopolysaccharide (LPS) and concanavalinA (ConA). The library contained 93% recombinants with insert size ranged from 200 bp to 1000 bp. One hundred positive clones were randomly sequenced and analyzed, and 24 differentially expressed genes and 3 novel ESTs were identified. The subtraction efficiency of the SSH cDNA library was confirmed by randomly testing 6 non-repeat sequences by semi-quantitative RT-PCR, of which 5 differential expression molecules were detected. These results suggest that SSH is an effective technique to study gene differentialexpression gene.

【语种】中文

【第一作者】何延华

【通讯作者】景志忠

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【学科分类】农学其他学科

【题目】Interactions Between Markers Can Be Caused by the Dominance Effect of Quantitative Trait Loci

【中文关键词】F2 populations, dominance, interactions, inclusive linear model

【英文关键词】F2 populations, dominance, interactions, inclusive linear model

【中文摘要】F2 populations are commonly used in genetic studies of animals and plants. For simplicity, most quantitative trait locus or loci (QTL) mapping methods have been developed on the basis of populations having two distinct genotypes at each polymorphic marker or gene locus. In this study, we demonstrate that dominance can cause the interactions between markers and propose an inclusive linear model that includes marker variables and marker interactions so as to completely control both additive and dominance effects of QTL. The proposed linear model is the theoretical basis for inclusive compositeinterval QTL mapping (ICIM) for F2 populations, which consists of two steps: first, the best regression model is selected by stepwise regression, which approximately identifies markers and marker interactionsexplaining both additive and dominance variations; second, the interval mapping approach is applied to the phenotypic values adjusted by the regression model selected in the first step. Due to the limited mapping population size, the large number of variables, and multicollinearity between variables, coefficients in the inclusive linear model cannot be accurately determined in the first step. Interval mapping is necessary in the second step to fine tune the QTL to their true positions. The efficiency of including marker interactions in mapping additive and dominance QTL was demonstrated by extensive simulations using three QTL distribution models with two population sizes and an actual rice F2 population.

【英文摘要】F2 populations are commonly used in genetic studies of animals and plants. For simplicity, most quantitative trait locus or loci (QTL) mapping methods have been developed on the basis of populations having two distinct genotypes at each polymorphic marker or gene locus. In this study, we demonstrate that dominance can cause the interactions between markers and propose an inclusive linear model that includes marker variables and marker interactions so as to completely control both additive and dominance effects of QTL. The proposed linear model is the theoretical basis for inclusive compositeinterval QTL mapping (ICIM) for F2 populations, which consists of two steps: first, the best regression model is selected by stepwise regression, which approximately identifies markers and marker interactionsexplaining both additive and dominance variations; second, the interval mapping approach is applied to the phenotypic values adjusted by the regression model selected in the first step. Due to the limited mapping population size, the large number of variables, and multicollinearity between variables, coefficients in the inclusive linear model cannot be accurately determined in the first step. Interval mapping is necessary in the second step to fine tune the QTL to their true positions. The efficiency of including marker interactions in mapping additive and dominance QTL was demonstrated by extensive simulations using three QTL distribution models with two population sizes and an actual rice F2 population.

【语种】英文

【第一作者】张鲁燕

【通讯作者】王建康
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【学科分类】农业基础学科

【题目】猪TLR7基因胞外区部分片段的克隆、表达及其重组蛋白的纯化分析
【中文关键词】猪TLR7胞外区片段;重组蛋白;抗原性
【英文关键词】Porcine TLR7 extracellular domain fragment; Recombinant protein;Antigenicity
【中文摘要】[目的]获得高表达量的蛋白,为进一步研制单克隆抗体提供较好的免疫原,同时也可为TLR7胞外区该片断蛋白未知区域的结构和功能研究奠定基础。[方法] 应用PCR技术从重组质粒pcDNA3. 1 /CT2GFP2pTLR7上扩增出编码猪TLR7基因胞外区N端第27~202位氨基酸序列,利用B amH Ⅰ和HindⅢ酶切位点将其插入到原核表达载体PET30a中,重组质粒转化BL21 (DE3)后,在不同条件下诱导表达。[结果] 经SDS2PAGE分析表明,重组菌表达出约26 kD的融合蛋白,并证实主要以包涵体形式表达,其最佳诱导表达条件是37 ℃、0. 5 mmol/L IPTG诱导6 h,表达量可接近50%;纯化的重组蛋白免疫小鼠后,间接EL ISA检测抗体效价,结果该蛋白免疫BALB / c小鼠效价达105。[结论] TLR7胞外区该片断重组蛋白具有很好的抗原性,可以作为单克隆抗体研制的免疫原。
【英文摘要】Abstract [Objective] To obtain a high expression of the p rotein, in order to further the development ofmonoclonal antibodies into Lunogen to provide better immune2derived. but also for the extracellular domain of TLR7 p rotein fragments of unknown structure and function of the region lay the foundation for research. [Methods] PCR technology from the recombinant plasmid was amp lified pcDNA3. 1 /CT2GFP2pTLR7 porcine TLR7 gene encoding the extracellular domain ofN2section 27 - 202 of amino acid sequence, using B amH Ⅰ and Hind Ⅲ restriction siteswill be its insert2ed into the p rokaryotic exp ression vector PET30a, the recombinant plasmid into BL21 (DE3) after induction of exp ression under different conditions. [Results] by SDS2PAGE analysis showed that the expression of recombinant bacteria of about 26 kD fusion protein and confirmed that the main form of exp ression in inclusion bodies, the best conditions induced the expression of 37 ℃, 0. 5 mmol/L IPTG induced 6 h, expression of volume close to 50%; purified recombinant protein immol/Lunized mice, the indirect ELISA detection of antibody titers, the results of the p rotein inthe immol/Lune BALB / c mice up to 105 small price. [Conclusion] TLR7 extracellular domain of the recombinant p rotein fragment of the antigen has a very good, and the development of monoclonal antibodies can be used as the immol/Lunogen.
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【第一作者】和燕玲
【通讯作者】景志忠
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【题目】我国主要畜禽粪便养分含量及变化分析
【中文关键词】畜禽粪便;养分含量;分析
【英文关键词】animal manure; nutrient content; annlysis
【中文摘要】取样并分析了我国 20 个省(市)主要畜禽粪便的养分含量。结果表明,畜禽粪便中养分含量变异很大,鸡粪和猪粪的氮(N)、磷(P2O5)、锌(Zn)、铜(Cu)含量明显高于牛粪和羊粪,而钾素(K2O)含量相当。鸡粪中 N、P2O5、K2O、Zn、Cu 平均含量分别为 2.08%、3.53%、2.38%、306.6 mg · kg-1和 78.2 mg · kg-1;猪粪中分别为 2.28%、3.97%、2.09%、663.3 mg · kg-1和 488.1 mg · kg-1;牛粪中分别为1.56%、1.49%、1.96%、138.6 mg · kg-1和 48.5 mg · kg-1;羊粪中分别为 1.31%、1.03%、2.40%、88.9 mg · kg-1、23.5 mg · kg-1。按照德国腐熟堆肥的标准,鸡粪中 Zn、Cu 的超标率分别为 27.1%和 15.3%;猪粪中 Zn、Cu 的超标率分别为 62.5%和 70.0%;牛粪中 Zn、Cu 的超标率分别为 3.8%和 9.6%;羊粪中 Zn、Cu 不超标。与上世纪 90 年代相比,鸡粪、猪粪、牛粪中 P2O5的平均含量分别增加 65.7%、93.7%和 52.0%;鸡粪、猪粪、牛粪、羊粪 K2O 的平均含量分别增加 138.7%、54.8%、71.9%、50.9%;鸡粪和猪粪中 Zn 的平均含量分别增加92.1%和 383.5%,猪粪含 Cu 量增加近 12 倍。畜禽粪便的电导率(EC)值主要集中在 50~150 mS · cm-1,pH 主要集中在 7.0~8.0。这一研究为畜禽粪便的安全合理施用提供了参考。

【英文摘要】Nutrient contents in animal manure from 20 provinces in China were analyzed and discussed. Results indicated that the contents of N, P, Zn, Cu were obvious higher in chicken and pig manures than in cattle and sheep manures, but K contents were similar. The average content of N, P2O5, K2O, Zn and Cu was 2.08%, 3.53%, 2.38%, 306.6 mg · kg-1 and 78.2 mg · kg-1 in chicken manure, 2.28%, 3.97%, 2.09%, 663.3 mg · kg-1 and 488.1 mg · kg-1 in pig manure, 1.56%, 1.49%, 1.96%, 138.6 mg · kg-1 and 48.5 mg · kg-1 in cattle manure, 1.31%, 1.03%,2.40%, 88.9 mg · kg-1and 23.5 mg · kg-1 in sheep manure, respectively. For Zn and Cu about 27.1% and 15.3% of chicken manure samples, 62.5% and 70.0% of pig manure samples, 3.8% and 9.6% of cattle manure samples exceed the limits of mature compost in Germany. Compared with the results investigated in 1990s, the average P2O5 content in chicken manure, pig manure and cattle manure increased by 65.7%,93.7% and 52.0%, respectively. The average K2O content in chicken, pig, cattle and sheep manure increased by 138.7%, 54.8%, 71.9% ,50.9%, respectively. Zn content in chicken and pig manure increased by 92.1% and 383.5%, respectively, and Cu content in pig manure was12 times higher. Electrical conductivity (EC) of most samples is in the range of 50 to 150 mS · cm-1 and pH is in the range of 7.0 to 8.0 in most samples.
【语种】中文
【第一作者】李书田
【通讯作者】李书田
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【学科分类】环境科学技术基础学科

【题目】猪Toll样受体9基因的克隆、序列分析及其结构预测
【中文关键词】猪Toll 样受体9 基因;基因克隆;序列分析;生物信息学
【英文关键词】Porcine Toll2like receptor 9 gene (p TLR9) ;gene cloning ; sequence analysis ;bioinformatics
【中文摘要】本研究应用反转录2聚合酶链式反应(RT2PCR) 扩增技术,从猪脾脏淋巴细胞中,克隆了猪Toll 样受体9 基因(p TLR9) 。基因序列分析表明,克隆的p TLR9 基因ORF 为3 093 bp ,编码1 030 个氨基酸,含1815 %的亮氨酸,含有24 个氨基酸的信号肽序列,属于 I 型跨膜受体,具有富含亮氨酸的重复序列(LRR) 和Toll/ IL21R 同源区结构域;与GenBank 上登载的p TLR9 参考序列(A Y859728) 的同源性为9913 % ,与牛、马、羊和人的同源性较高,与家鼠、褐鼠的次之,TLR9 的演化关系与亲缘关系密切。
【英文摘要】In this study ,porcine Toll2like receptor 9 (p TLR9) gene was cloned by reverse transcriptionpolymerase chain reaction (RT2PCR) from porcine mesenteric lymph nodes (MLNs) . The sequence analysis shows that the totalp TLR9gene is 3 093 bp in length ,encoding 1 030 anino acids with a signal peptide composed of 24 amino acids and 18.5 % leucines. The structure prediction demonst rates that the p TLR9 is a typical type I t ransmembrane proteincomposed of ext racellular region ,t ransmembrane region and int racellular region. The pTLR9 contains multiple tandem copies of LRR motif in the ext racellular domain ,and the intracellular region contains a very conserved st ructure named the Toll/ IL21R receptor homologus (TIR) domain. The homology of nucleotide sequence of porcine TLR9 withthe published sequence A Y859728) is up to 99. 3 %. The homology of nucleotide sequence of p TLR9 with those of cattle ,equine ,sheep and human is much higher than that of mice.
【语种】中文
【第一作者】段凤云
【通讯作者】景志忠
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【题目】猪白介素4在CHO-K1细胞中的表达及生物学活性分析
【中文关键词】白介素4 ;真核表达;CHO 细胞;生物活性
【英文关键词】interleukin4 ;eukaryotic expression ;CHO cell ,bioactivity
【中文摘要】将猪白介素4 (Porcine interleukin4 , PIL24) 基因亚克隆到真核表达载体p EGFP2N1 中,构建重组表达质粒pEGFP-PIL-4 ,利用脂质体法转染CHO2K1 细胞,采用荧光显微镜实时观察、RT-PCR 和Western-blot 分别检测CHO 细胞转

录表达目的分子的情况,通过MTT 法检测所表达蛋白的生物学活性。结果在将重组质粒转染CHO2K1 细胞中24 、48 h 后的均观察到绿色荧光;经G418 筛选14~20 d 后转染的细胞形成了阳性细胞集落,用RT-PCR 扩增出约339 bp 的目的基因片段;经Western-blot 检测到约为39 000 的特异蛋白分子条带,并证明在转染重组质粒的细胞中表达了高生物活性的重组蛋白。

【英文摘要】The IL24 gene of porcine was subcloned into the eukaryotic expression vector p EGFP-N1 to construct the recombinant plasmid pEGFP-PIL-4 ,which was transfected into the CHO-K1 cells by the method of using Lipofectin ,The expression of PIL24 was determined by fluoroscopy ,RT-PCR and Western-blot. After 24 hours and 48 hours ,the Green fluorescence can be observed under fluorescence microscope and a 339 bp cDNA was detected by RT-PCR after screening 14 days with G418 ,39 000 protein was detected by Western2blot . The results indicate that fusion protein of Po IL-4 and EGFP was successfully expressed in CHO2K1 cells. And expressed protein had obviously biological activity.

【语种】中文

【第一作者】陈国华

【通讯作者】景志忠

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【学科分类】分子生物学

【题目】猪CD8β基因的克隆、表达及其结构与功能分析

【中文关键词】猪CD8β 基因; 克隆; 表达; 结构预测

【英文关键词】porcine CD8β; gene cloning; expression; structure analysis

【中文摘要】本研究应用RT-PCR 技术, 从猪胸腺细胞总RNA 中扩增、克隆了猪CD8β 基因, 序列分析表明CD8β 含621 bp 的开放阅读框, 编码207 个氨基酸, 与NCBI/GeneBank 已发表的参考基因的核苷酸及推导氨基酸序列的同源性分别为97.8 %和96.8 %, 与人、小鼠和鸡CD8β 蛋白的氨基酸同源性分别为75.7 %、67.9 %和33.3 %。根据大肠杆菌密码子偏嗜性改造目的基因, 构建了pET28a/PCD8β 原核表达系统, 并经诱导获得高效表达的分子量为24 ku 的重组蛋白(rPCD8β), 表达量占菌体蛋白总量的30 %。利用生物信息学和分子生物学软件对猪CD8β 基因编码的蛋白进行结构预测, 表明猪CD8β 成熟蛋白为跨膜蛋白, 其中172aa 在胞外区, 22aa 在跨膜区, 10aa 在胞内区; 蛋白骨架内含有较多的柔性区域, 而且分布不均匀, 能形成结构松散的球状蛋白; 猪CD8β 分子V 区三维结构与鼠的具有非常相似的空间结构, 与人的差别较大, 这为猪CD8β 蛋白结构与功能的进一步研究奠定了基础。

【英文摘要】A CD8β gene was amplified by RT-PCR from total RNA of porcine thoracic gland lymphocytes and sequenced.The gene contained a 621 bp open reading frame encoding a 207 amino acids and shared 97.8 % sequence identities at the nucleotide level and 96.8 % at amino acid level with published sequences, The homology at the amino acid level with human,mouse, rat, and chicken was 75.7 %, 67.9 %, 67.8 % and 33.3 %, respectively. The CD8β gene was inserted into expression vector pET28 and expressed in E.coli. SDS-PAGE analysis showed that the expressed protein had a molecular weight of 24.0 ku and accounted for 30.0 % of total mass of bacterial proteins. In addition, structural prediction indicated the porcine CD8β might be a typical transmembrane protein comprising an extracellular region, a transmembrane region and an intracellular region,respectively. It contained many flexible regions and maldistributed, forming a globule protein. The three-dimensional structure of V region of the protein was similar to that of mouse but different from the human.

【语种】中文

【第一作者】王生富

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【学科分类】农学其他学科

【题目】猪IFN-γ和IL-4重组质粒对口蹄疫疫苗的免疫佐剂效应研究

【中文关键词】重组质粒;佐剂效应; CD4 + / CD8 + T 细胞;口蹄疫

【英文关键词】recombinant plasmid ; adjuvant effect ; CD4 + / CD8 + ; foot2and2mout h disease
【中文摘要】为了研究猪IFN2γ和IL24 对疫苗的免疫佐剂效应,用pcDNA311/ IFN2γ和pcDNA311/ IL24 的重组质粒与口蹄疫双价疫苗配伍免疫小鼠, 检测小鼠抗口蹄疫抗体水平和CD4+/CD8+T 细胞比值的动态变化, 观察其免疫佐剂效应。结果表明pcDNA311/ IFN2γ和pcDNA311/ IL24 重组质粒都能显著提高小鼠抗口蹄疫抗体水平(P <0101) ,其中pcDNA311/ IFN2γ提高亚洲Ⅰ型FMD 抗体水平的佐剂效应较pcDNA311/ IL24 的显著(P< 0101) ,而pcDNA311/ IL24 提高O 型FMD 抗体水平的佐剂效应显著高于pcDNA311/ IFN2γ(P < 0101) ,pcDNA311 也显示出了一定的佐剂效应;免疫后不同时间pcDNA311/ IFN2γ和pcDNA311/ IL24 组CD4 + / CD8 + T 细胞比值显著高于其他组(P < 0101) ,且第21 天与第7 、45 天的差异极显著(P < 0101) 。
【英文摘要】In order to certify t he immunological adjuvant effect of recombinant pcDNA311/ IFN2γ and pcDNA311/ IL24 plasmid , we investigated t he changes of antibody level s and the CD4 + /CD8 + relative value induced by a vaccine against foot2and2mont h disease and t he mentioned adjuvant s. The result s showed that t he recombinant plasmids significantly increased t he level of antibody against foot2and2mouth disease (P < 0101) , and t he adjuvant effect of pcDNA311/ IFN2γ was much higher t han that of pcDNA311/ IL24 concerning the antibody level of Serotype Asia Ⅰ(P < 0101) ,whereas the adjuvant effect of pcDNA311/ IL24 was more obvious t han t hat of pcDNA311/ IFN2γ concerning t he antibody level of Serotype O(P < 0101) . Relative values of CD4 + /CD8 + in group s pcDNA311/ IFN2γ and pcDNA31 1/ IL24 were statistically significantly higher than that of the other group s (P < 0101) , and that on 21 d post immunization was statistically significantly higher than both on 7 and 45 d (P < 0101) .
【语种】中文
【第一作者】蒙学莲
【通讯作者】景志忠
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【题目】猪IFN-α1基因的原核表达及其蛋白质结构的预测
【中文关键词】猪IFN2α1 基因;克隆;原核表达;结构预测
【英文关键词】porcine interferon2α1 gene ;cloning ;p rokaryotic expression ; st ructure prediction
【中文摘要】利用RT2PCR 技术,从被诱导的猪外周血单核细胞中克隆出了猪α1 干扰素(IFN2α1) 基因。序列分析表明,克隆的猪IFN2α1 基因序列与GenBank 上登录的猪IFN2α1 基因的同源性为97. 8 %。用克隆的猪IFN2α1 基因构建了重组表达质粒p GEX24 T212IFN2α1 。探讨了猪IFN2α1 基因表达的最佳条件,并在大肠杆菌中对此基因进行了表达。结果表明, IPTG的最佳诱导浓度为0. 5 mmol/ L ,最适诱导温度为42 ℃,诱导9h 表达量最大,表达产物约占菌体总蛋白的30 %。SDS2PA GE 分析表明,表达产物的分子质量为45 ku ,且目的蛋白主要以包涵体的形式存在。经预测,猪IFN2α1 蛋白为一结构松散的球状蛋白。
【英文摘要】Using RT2PCR ,porcine IFN2α1 gene was cloned f rom porcine PBMC stimulated by L PS and PHA. Af ter sequencing , compared with Po IFN2α1 gene p ublished in GenBank , t he cloned gene shared 97.8% homology. Then ,the recombinant expression plasmid (p GEX-4 T-1-IFN-α1) was const ructed and expressed with induction of IPTG. The result s showed t hat t he optimal temperat ure ,concent ration of IPTG,and induction time for the recombinant expression plasmid were 42 ℃,0.5 mmol/L and 9 h ,respectively.SDS-PAGE analyses showed that the fusion protein with a molecular mass of 45 ku existed in inclusion bodies and the expressed protein made up above 30 % of t he total proteins. It was predicted that porcine IFN2α1 was a loose globular protein.
【语种】中文
【第一作者】陈国华
【通讯作者】景志忠
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【学科分类】生物化学

【题目】猪TOLL 样受体2 基因在CHO - K1 细胞中的表达
【中文关键词】猪Toll 样受体2 ; CHO - K1 细胞;转染
【英文关键词】porcine Toll2like receptor 2 ;CHO - K1 cell s ;t ransfection
【中文摘要】将含猪TLR2 (猪Toll 样受体2 ,p TLR2) 基因的真核表达载体PcDNA3. 1/ CT - GFP - p TLR2 ,采用脂质体法转染到CHO - K1 细胞,用G418 持续筛选获得了阳性细胞克隆. 阳性细胞克隆系经PCR 和RT - PCR 检测表明: p TL R2 基因得到稳定整合并能成功地转录. 荧光显微镜观察,转染细胞可见绿色荧光,表明获得了表达p TL R2 的克隆细胞系.
【英文摘要】The recombinant plasmid PcDNA3. 1/ CT - GFP - p TL R2 was t ransfected into the CHO -K1 cell s by lipofectin and the positive cell clone was obtained af ter screening by G418 for 2~3 weeks. Analysis of the exogenous gene by PCR and RT - PCR indicated t hat t he p TL R2 gene was integrated into the CHO - K1 cells. The expression of pTLR2 - GFP fusion protein was observed by intensity fluorescence microscope at different time after transfection. The results indicated t hat p TLR2 - GFP f usion protein was successf ully expressed in the cells and these cells could be further used to investigate t he f unctions of pTLR2.
【语种】中文
【第一作者】房永祥
【通讯作者】景志忠2
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【学科分类】分子生物学

【题目】Simultaneous selection of major and minor genes: use of QTL to increase selection efficiency of coleoptile length of wheat (Triticum aestivum L.).
【中文关键词】quantitative trait loci, simultaneous selection, marker-assisted selection, phenotypic selection
【英文关键词】quantitative trait loci, simultaneous selection, marker-assisted selection, phenotypic selection
【中文摘要】Plant breeders simultaneously select for qualitative traits controlled by one or a small number of major genes, as well as for polygenic traits controlled by multiple genes that may be detected as quantitative trait loci (QTL). In this study, we applied computer simulation toinvestigate simultaneous selection for alleles at both major and minor gene (as QTL) loci in breeding populations of two wheat parental lines, HM14BS and Sunstate. Loci targeted for selection included six major genes affecting plant height, disease resistance, and grain quality, plus 6 known and 11 ‘ ‘ unidentified ’ ’ QTL affecting coleoptile length (CL). Parental line HM14BS contributed the target alleles at two of the major gene loci, while parental line Sunstate contributed target alleles at four loci. The parents have similar plant height, but HM14BS has a longer coleoptile, a desirable attribute for deep sowing inrainfed environments. Including the wild-type allele at the major reduced-height locus Rht-D1, HM14BS was assumed to have 13 QTL for increased CL, and Sunstate four; these assumptions being derived from mapping studies and empirical data from an actual HM14BS/Sunstatepopulation. Simulation indicated that compared to backcross populations, a single biparental F1 cross produced the highest frequency of target genotypes (six desired alleles at major genes plus desired QTL alleles for long CL). From 1,000 simulation runs, an average of 2.4individuals with the target genotype were present in unselected F1-derived doubled haploid (DH) or recombinant inbred line (RIL) populations of size 200. A selection scheme for the six major genes increased the number of target individuals to 19.1, and additional marker-assistedselection (MAS) for CL increased the number to 23.0. Phenotypic selection (PS) of CL outperformed MAS in this study due to the high heritability of CL, incompletely linked markers for known QTL, and the existence of unidentified QTL. However, a selection scheme combining MAS and PS was equally as efficient as PS and would result in net savings in production and time to delivery of long coleoptile wheats containing the six favorable alleles.
【英文摘要】Plant breeders simultaneously select for qualitative traits controlled by one or a small number of major genes, as well as for polygenic traits controlled by multiple genes that may be detected as quantitative trait loci (QTL). In this study, we applied computer simulation toinvestigate simultaneous selection for alleles at both major and minor gene (as QTL) loci in breeding populations of two wheat parental lines, HM14BS and Sunstate. Loci targeted for selection included six major genes affecting plant height, disease resistance, and grain quality, plus 6 known and 11 ‘ ‘ unidentified ’ ’ QTL affecting coleoptile length (CL). Parental line HM14BS contributed the target alleles at two of the major gene loci, while parental line Sunstate contributed target alleles at four loci. The parents have similar plant height, but HM14BS has a longer coleoptile, a desirable attribute for deep sowing inrainfed environments. Including the wild-type allele at the major reduced-height locus Rht-D1, HM14BS was assumed to have 13 QTL for

increased CL, and Sunstate four; these assumptions being derived from mapping studies and empirical data from an actual HM14BS/Sunstatepopulation. Simulation indicated that compared to backcross populations, a single biparental F1 cross produced the highest frequency of target genotypes (six desired alleles at major genes plus desired QTL alleles for long CL). From 1,000 simulation runs, an average of 2.4individuals with the target genotype were present in unselected F1-derived doubled haploid (DH) or recombinant inbred line (RIL) populations of size 200. A selection scheme for the six major genes increased the number of target individuals to 19.1, and additional marker-assistedselection (MAS) for CL increased the number to 23.0. Phenotypic selection (PS) of CL outperformed MAS in this study due to the high heritability of CL, incompletely linked markers for known QTL, and the existence of unidentified QTL. However, a selection scheme combining MAS and PS was equally as efficient as PS and would result in net savings in production and time to delivery of long coleoptile wheats containing the six favorable alleles.

【语种】英文

【第一作者】王建康

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【学科分类】农业基础学科

【题目】Investigating the efficiency of the single backcrossing breeding strategy through computer simulation

【中文关键词】single backcrossing, breeding strategy, computer simulation, single backcrossing breeding strategy(SBBS)

【英文关键词】single backcrossing, breeding strategy, computer simulation, single backcrossing breeding strategy(SBBS)

【中文摘要】A strategy combining single backcrossing with selected bulk breeding has been successfully used in wheat improvement at CIMMYT to introgress rust resistant genes from donor parents to elite adapted cultivars. In this research, the efficiency of this breeding strategy was compared to other crossing and selection strategies through computer simulation. Results indicated this breeding strategy has advantages in retaining or improving the adaptation of the recurrent parents, and at the same time transferring most of the desired donor genes in a wide range of scenarios. Two rounds of backcrossing have advantages when the adaptationof donor parents is much poorer than that of the adapted parents, but the advantage of three rounds of backcrossing over two rounds is minimal. We recommend using the single backcrossing breeding strategy (SBBS) when three conditions are met: (1) multiple genes govern the phenotypic traits to be transferred from donor parents to adapted parents, (2)the donor parents have some favorable genes that may contribute to the improvement of adaptation in the recipient parents, and (3) conventional phenotypic selection is being applied, or individual genotypes cannot be precisely identified. Weenvisage that all three conditions commonly exist in modern breeding programs, and therefore believe that SBBScould be applied widely. However, we do not exclude the use of repeated backcrossing if the transferred genes can be precisely identified by closely linked molecular markers, andthe donor parents have extremely poor adaptation.

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【第一作者】王建康

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【学科分类】农业基础学科

【题目】中国蔬菜土壤重金属含量及来源分析
【中文关键词】中国;菜地;重金属含量
【英文关键词】China;Vegetable land;Content of heavy metal
【中文摘要】为系统了解并客观评价中国菜地土壤的重金属含量状况,促进中国蔬菜生产向优质高效方向发展。【方法】系统收集了1989年以来中国蔬菜土壤重金属研究的相关资料,并利用相关方法对所收集到的数据进行了统计分析。【结果】中国菜地土壤重金属中以Zn含量最高,其次是Cr,再次是Cu;而毒性较大的元素As、Hg、Cd的含量相对较低,其平均含量分别为8.03、0.12、0.28 mg·kg-1。与国家土壤质量II级标准GB15618-1995(6.5<pH<7.5)相比,Cd含量超标的问题较为突出,全国约24.1%的菜地样本超标;Hg含量其次,样本超标率为10.3%;As的超标率为9.2%。各种重金属按含量超标率排序为:Cd>Hg>As>Zn>Cu>Cr>Pb。若按地区比较,则东部地区Cd含量超标较为严重,其次是Hg和Zn;中部地区以As和Cd含量超标为主,亦存在少量的Hg、Zn、Cu超标;西部地区亦以As、Cd超标为主,并伴随有少量的Cu、Cr和Hg超标。不同类型菜地比较,工矿/污灌区菜地的As、Cd、Hg、Zn含量均最高,尤其是其Hg含量平均高达2.36 mg·kg-1,超出其它类型菜地含量的10.5~21.1倍;设施菜地的Cu、Cr含量在所有类型中是最高的,而城市郊区菜地则Pb含量相对较高。对全国各地的蔬菜基地进行单独分析,发现除Pb含量稍高外,其它几种重金属的含量均较低,全国普通菜地的整体质量状况较好。【结论】在中国当前菜地利用方式下,除工矿/污灌菜地、市郊菜地土壤中个别重金属含量超标外,中国菜地土壤、特别是蔬菜基地土壤的重金属含量基本上未超过国家标准,整体质量状况较好。
【英文摘要】The objective of this investigation was to study the content of heavy metals in soils of vegetable lands systematically through assessment objectively to promote the development of vegetable production with high quality and efficiency. 【Method】 Statistical analysis of reported data on the heavy metals in Chinese vegetable plantation soils,from previous literatures published since 1989 was carried out systematically in this investigation.【Result】It is concluded that Zn,Cr,Cu had relatively high concentrations while the mean concentrations of toxic metals,As,Hg,Cd was 8.03,0.12,0.28 mg·kg -1 separately with comparatively low concentrations in vegetable lands in China.Compared to Chinese Soil Quality Criterion GB 15618-1995(6.5< pH<7.5),about 24.1%,10.3%,9.2%of the total samples was contaminated by Cd,Hg and As respectively,and the descending order of heavy metals was Cd>Hg>As>Zn>Cu>Cr>Pb.When compared among different regions,the relatively serious heavy metal contamination was found in eastern China vegetable lands and the main contamination elements were Cd,Hg and Zn.In the mid region,vegetable plantation land soil was mainly polluted by As and Cd,as well as Hg,Zn and Cu in some extent.In the west region of China,Cd and As contamination was also observed in some degrees,along with few soil samples exceeding the grade II level of GB 15618-1995(6.5<pH<7.5)for Cu,Cr and Hg content.Compared to the five vegetable plantation land patterns,the highest concentration of As,Cd,Hg and Zn occurred in the industrial/sewage irrigation vegetable lands,especially for Hg with 2.36 mg·kg-1 content which is 10.5-21.1 times higher than other four types of vegetable lands in average.The highest oncentration of Cu and Cr occurred in greenhouse vegetable land soils,and urban vegetable land soil had the highest Pb content comparing to other types of vegetable plantation land patterns.Through analysis of heavy metal content under different vegetable land patterns,it was found that vegetable producing base soil had relatively low heavy metal concentrations except for Pb with a little higher amount in city suburbs.The soil quality of common vegetable land was good with the lowest concentrations for most heavy metals.【Conclusion】Under present utilization patterns of vegetable land,the soil quality in Chinese vegetable base land was good with comparatively low concentrations of heavy metals and mostly not exceeding the grade II level of Chinese Soil Quality Criterion GB 15618-1995(6.5<pH<7.5).However,comparatively serious contamination was found in industrial/sewage irrigation and city suburb vegetable land soils.Key words:
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【题目】Simulation Modeling in Plant Breeding: Principles and Applications
【中文关键词】breeding simulation, genetic model, breeding strategy, design breeding
【英文关键词】breeding simulation, genetic model, breeding strategy, design breeding
【中文摘要】Conventional plant breeding largely depends on phenotypic selection and breeder ’ s experience, therefore the breeding efficiency is low and the predictions are inaccurate. Along with the fast development in molecular biology and biotechnology, a large amount of biological data is available for genetic studies of important breeding traits in plants,which in turn allows the conduction of genotypic selection in the breeding process. However, gene information has not been effectively used in crop improvement because of the lack of appropriate tools. The simulation approach can utilize the vast and diverse genetic information, predict the cross performance, and compare different selection methods. Thus,the best performing crosses and effective breeding strategies can be identified. QuLine is a computer tool capable of defining a range, from simple to complex genetic models, and simulating breeding processes for developing final advanced lines. On the basis of the results from simulation experiments, breeders can optimize their breeding methodology andgreatly improve the breeding efficiency. In this article, the underlying principles of simulation modeling in crop enhancement is initially introduced, following which several applications of QuLine are summarized, by comparing the different selectionstrategies, the precision parental selection, using known gene information, and the design approach in breeding. Breeding simulation allows the definition of complicated genetic models consisting of multiple alleles, pleiotropy, epistasis, and genes, by environment interaction, and provides a useful tool for breeders, to efficiently use the wide spectrum of geneticdata and information available.
【英文摘要】Conventional plant breeding largely depends on phenotypic selection and breeder ’ s experience, therefore the breeding efficiency is low and the predictions are inaccurate. Along with the fast development in molecular biology and biotechnology, a large amount of biological data is available for genetic studies of important breeding traits in plants,which in turn allows the conduction of genotypic selection in the breeding process. However, gene information has not been effectively used in crop improvement because of the lack of appropriate tools. The simulation approach can utilize the vast and diverse genetic information, predict the cross performance, and compare different selection methods. Thus,the best performing crosses and effective breeding strategies can be identified. QuLine is a computer tool capable of defining a range, from simple to complex genetic models, and simulating breeding processes for developing final advanced lines. On the basis of the results from simulation experiments, breeders can optimize their breeding methodology andgreatly improve the breeding efficiency. In this article, the underlying principles of simulation modeling in crop enhancement is initially introduced, following which several applications of QuLine are summarized, by comparing the different selectionstrategies, the precision parental selection, using known gene information, and the design approach in breeding. Breeding simulation allows the definition of complicated genetic models consisting of multiple alleles, pleiotropy, epistasis, and genes, by environment interaction, and provides a useful tool for breeders, to efficiently use the wide spectrum of geneticdata and information available.
【语种】英文
【第一作者】王建康
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【题目】数量性状基因的完备区间作图方法
【中文关键词】数量性状; QTL 作图; 完备区间作图; 加显性效应; 上位型互作
【英文关键词】数量性状; QTL 作图; 完备区间作图; 加显性效应; 上位型互作
【中文摘要】结合分子标记和表型数据的QTL 作图已成为数量性状遗传分析的常规方法。复合区间作图是近10 多年来广泛应用的一种QTL 定位方法, 但它在算法上有一些缺陷, 致使QTL 效应可能会被侧连标记区间之外的标记变量吸收, 同时不同的背景标记选择方法对作图结果的影响较大, 并且难以推广到上位型互作QTL 的定位。针对这些问题,笔者提出完备区间作图方法。本文介绍了该方法的遗传和统计原理, 并通过一个大麦加倍单倍体群体说明其在定位加性QTL 和加性×加性互作QTL 中的应用。完备区间作图包含两个步骤: 首先利用所有标记的信息, 通过逐步回归选择重要的标记变量并估计其效应; 然后利用逐步回归得到的线性模型校正表型数据, 通过一维扫描定位加(显)性效应QTL, 通过二维扫描定位上

位型互作QTL。这种作图策略简化了复合区间作图中控制背景遗传变异的过程, 提高了对QTL 的检测功效。
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【语种】中文
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【学科分类】农业基础学科

【题目】山东寿光不同种植年限设施土壤的酸化与盐渍化
【中文关键词】寿光;设施菜地;酸化;盐渍化
【英文关键词】greenhouse soil; acidification; salinization; ShouguangCity
【中文摘要】以山东寿光不同种植年限设施菜地为对象,研究并分析了土壤的酸化与盐渍化状况,结果表明:设施菜地土壤pH值平均为6. 86,全盐含量为2.47 g.kg-1,与露天菜地、自然土相比有较明显的酸化与盐渍化现象;设施菜地在连续种植0-12.7a间,土壤pH值随种植年限增加而降低,12. a后则出现随种植年限增加而升高的现象,土壤全盐含量则表现出与pH值相反的变化趋势,其发生变化的转折年限约为8.4a;设施土壤中的Na+,Mg2+,Cl-,SO42- 含量随种植年限的变化均表现出与土壤全盐量相同的趋势,且与种植年限的相关性均达到显著水平,这4种离子含量的变化可能是导致土壤全盐量随种植年限变化的重要原因;从土壤盐分离子组成来看,设施菜地土壤主要以SO42-、Cl-、Ca2+为主,分别占全盐量的62.4%、10.6%、9.3%,设施菜地中SO42-、Cl-、Mg2+、Na+含量与全盐量均呈极显著相关,其中相关性程度最大的为SO42- (r=0. 9291)和Mg2+(r=0.7224)。设施菜地中SO42-含量与pH值变化存在极显著相关(r=-0. 5508),其大量累积可能是造成调查区域设施土壤酸化的重要原因。
【英文摘要】The acidification and salinization in greenhouse soilofdifferent cultivating years of Shouguang City in Shandong provincewere studied. The results showed that the pH and total salts in greenhouse soil were 6.86 and 2.47g • kg-1, respectively, and the significant acidification and salinizaion were found in greenhouse soil compared with open vegetable soil and natural soil; In two planting periods of 1-12.7a and 12.7-15a of greenhouse soil, the trends of pH values were observed to decrease gradually and then it increased again, but the opposite changing trend with pH was observed for the total salts and the turning point was 8.4a. With the increasing of cultivating years the contents of Na+, Mg2+, Cl-, SO42- showed ($P<0.05$) to increase gradually and then it had decreasing trends and it had smiilar trendswith the changing trend of the total salts, the change in Na+, Mg2+, Cl-, SO42- contents brought about the change for the total salts with the increasing of cultivating years. Studies on salt ions in greenhouse soil indicated that a large part of total salts was accounted by SO42-, Cl-, Ca2+, the proportions were 62.4%, 10.6%, 9.3%, respectively. The very significantly correlations were obtained between SO42, Cl-, Mg2-, Na+and total salts. However, it was most to SO42- (r=0.9291) and Mg2+ (r=0.7224) among these correlations;The correlation between SO42-and pH was very remarkable, and a large accumulation of SO42-was one of the mi portant reasons for the acidification in greenhouse soil.
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【第一作者】曾希柏
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【学科分类】土壤学

【题目】山东寿光不同利用方式下农田土壤有机质和氮磷钾状况及其变化
【中文关键词】寿光;不同利用方式;有机质;氮磷钾
【英文关键词】Shouguang; different soil using styles; soil nutrients
【中文摘要】通过对山东省寿光市不同利用方式下土壤相关性质的比较,探讨了农田土壤有机质和氮磷钾含量状况,并分析了设施菜地种植年限与有机质、全量氮磷含量的相互关系。研究结果表明:山东寿光农田土壤有机质和全量氮磷含量与第二次土壤普查时比较均有较大幅度增加,其中以设施菜地增加幅度最大,分别达120%、160%和364%,但全钾含量的增加幅度很小,仅为17.5%;不同利用方式比较,设施菜地土壤有机质、全氮、全磷含量均明显高于露天菜地、小麦/玉米地及棉花地,而全钾含量则低于小麦/玉米地和棉花地;从养分含量的分级结果看,设施菜地有机质、全量氮磷钾含量主要分布于>20g.kg-1、>1.2g.kg-1、>1.0 g.kg-1、20~25g.kg-1的级别中;设施菜地种植年限与土壤有机质、全量氮磷含量变化间有显著相关性,且均可用Y=a+bX+cX2的形式来表示,即随种植年限增加,有机质与氮磷含量首先呈逐步增加的趋势,并分别在第9.6年、8.9年和11.4年时达到最高值,之后则有随种植年限延长而下降的趋势
【英文摘要】The contents oforganicmatter, nitrogen, phosphorus, potassium in different agricultural soilswere analyzed to study the status and changes of these nutrients. The relationship between nutrient contents and cultivated yearswas also studied. The results indicated that comparedwith the results from the SecondNationalSoilSurvey, the contents of organic matter, total nitrogen and phosphorus were largely increased, which even increased by 120%, 160% and 364%, respectively, in greenhouse soils; while the potassium contentwas only increased by 17.5%. In comparison with those among different-used soils, the content of Organic Matter, Nitrogen, Phosphorus in greenhouse soil was higher than that in other used soils, while the content of potassium in greenhouse soil was lower than that in the soil of wheat/corn field and cotton field. The contents of Organic Matter, Nitrogen, Phosphorus, Potassium were respectively in the levels of > 20g • kg-1, > 1.2g • kg-1, > 1.0 g • kg-1, 20-25 g • kg-1 in greenhouse soil. The studies on the relationship between cultivating years and the contents of nutrients indicated that with the increasing of cultivating years, the contents of Organic Matter, Nitrogen, Phosphorus in greenhouse soil were increased, and the greatest levels of them appeared after 9.6, 8.9, and 11.4 years of cultivation, respectively. Thereafter the contents of nutrients were found to decrease. The decrease of greenhouse soil quality has been a very prevalent problem after a long farming time.
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【学科分类】土壤学

【题目】Identification of Indica rice chromosome segments for the improvement of Japonica inbreds and hybrids
【中文关键词】chromosome segment substitution (CSS) lines, heterosis, Quantitative trait loci
【英文关键词】chromosome segment substitution (CSS) lines, heterosis, Quantitative trait loci
【中文摘要】Exploitation of heterosis has brought significant advance in plant breeding and agricultural production, although its genetic basis is still poorly understood. In this study, a total of 66 chromosome segment substitution (CSS) lines, derived from a cross between japonica rice inbred line Asominori (as the recurrent parent) and indica rice inbred line IR24 (as the donor parent), were used to investigate the genetic basis of heterosis in indica 9 japonica inter-subspecific rice hybrids. Each CSS line was crossed with the background parent Asominori, and the heterosis of F1 hybrids was estimated by comparing the F1 performancewith its two parental lines. Field experiments were carried out across six different environments to evaluate yield and yield-related traits in the 66 CSS lines and their 66 corresponding F1 hybrids. Quantitative trait loci (QTL) analyses were conducted using a likelihood ratio test based on the stepwise regression. Thirty-six QTL were identified withsignificant effects in CSSL, 21 with significant effects in hybrids and 13 with significant effects in both. On the basis of average dominance degree, of all the 70 QTL affectingyield-related agronomic traits, 28.6% (20) showed an overdominance, 35.7% (25) a partial dominance and 30% (21) an additive effect, indicating that all effects contribute to trait variation in japonica – indica rice hybrids. Effects of these QTL were examined to identify Indica rice chromosome segments of interest for the improvement of japonica inbred lines and hybrids.
【英文摘要】Exploitation of heterosis has brought significant advance in plant breeding and agricultural production, although its genetic basis is still poorly understood. In this study, a total of 66 chromosome segment substitution (CSS) lines, derived from a cross

between japonica rice inbred line Asominori (as the recurrent parent) and indica rice inbred line IR24 (as the donor parent), were used to investigate the genetic basis of heterosis in indica 9 japonica inter-subspecific rice hybrids. Each CSS line was crossed with the background parent Asominori, and the heterosis of F1 hybrids was estimated by comparing the F1 performancewith its two parental lines. Field experiments were carried out across six different environments to evaluate yield and yield-related traits in the 66 CSS lines and their 66 corresponding F1 hybrids. Quantitative trait loci (QTL) analyses were conducted using a likelihood ratio test based on the stepwise regression. Thirty-six QTL were identified withsignificant effects in CSSL, 21 with significant effects in hybrids and 13 with significant effects in both. On the basis of average dominance degree, of all the 70 QTL affectingyield-related agronomic traits, 28.6% (20) showed an overdominance, 35.7% (25) a partial dominance and 30% (21) an additive effect, indicating that all effects contribute to trait variation in japonica – indica rice hybrids. Effects of these QTL were examined to identify Indica rice chromosome segments of interest for the improvement of japonica inbred lines and hybrids.

【语种】英文
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【学科分类】农业基础学科

【题目】冬小麦品种抗霜力鉴定与霜冻害防御新对策
【中文关键词】冬小麦; 霜冻害; 拔节期; 磷脂酶D;
【英文关键词】winter wheat; frost damage; jointing stage; phospholipase D;
【中文摘要】冬小麦发育进入拔节期和出现霜冻低温是形成其霜冻害的两个要素。霜冻低温的出现主要与气候因素有关。而拔节期的早晚则受初春气温、播种期和选用品种等多种因素的影响。影响品种抗霜力的重要因素是幼穗分化时期。品种抗霜力的鉴定必须在相同的幼穗分化期,建议在药隔期进行。品种的抗霜力还与第1茎节的长度有关,而与抗冻力和叶片可溶性糖含量的相关性不显著。通过研究,提出了下列抗霜对策:在把握地区霜冻温度出现规律的基础上,合理规划抗霜品种与避霜品种的布局;通过常规育种和基因工程手段,改良品种的抗霜力;通过遗传操作磷脂酶D基因,改良冬小麦的抗霜性。
【英文摘要】Developing into jointing stage and occurrence of frost temperature are two main factors for frost damage of winter wheat.The occurrence of frost temperature is mainly impacted by local climate condition,while the time of jointing stage is determined by many factors as mean air temperature in early spring,sowing time,and the varieties selected etc.Differentiation stage of young ears is an important factor that affects frost resistance of winter wheat. Therefore,evaluation of frost resistance of different varieties is suggested to be performed at a same stage in order to get reliable result.Among those stages,anther connective stage is recommended as an appropriate evaluation stage. Frost resistance of winter wheat varieties correlates with the length of the first internode,and no significant correla- tion are found between freezing resistance and content of soluble sugar of leaves.Following strategies for preventing frost damage to winter wheat are proposed:planning the planting pattern for frost resistant and frost avoiding varie- ties feasibly according to the occurrence of frost temperature in local area,improving frost resistance of the varieties through breeding and genetic engineering and enhancing frost resistance of winter wheat through genetic manipula- tion of phospholipase D
【语种】中文
【第一作者】钟秀丽
【通讯作者】钟秀丽
【期刊名称、卷期、页码】自然灾害学报,2006,15:332-337
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【学科分类】农学其他学科

【题目】双季稻田改制对作物生长及土壤养分的影响
【中文关键词】种植制度;作物生长;经济效益;土壤养分

【英文关键词】Cropping system;Crop growth;Economic benefit;Soil nutrient
【中文摘要】【目的】探讨红壤地区双季稻田改制对作物生长及土壤养分变化的影响,为灌溉条件较差稻田种植制度改革提供有效模式。【方法】利用田间定位试验方法,研究了双季稻田改种牧草、水旱轮作及旱作等模式对作物生长、产量和经济效益的影响,并分析了土壤有机质和养分含量的变化。【结果】按各处理生产产品的市场价格进行折算,稻田改制可增加产值、提高产投比。各处理比较,以水旱轮作产值最高,分别比对照、牧草和旱作处理增加34.7%、21.4%和2.2%,且牧草和旱作处理也分别较对照增加11.0%31.8%;牧草、水旱轮作和旱作处理产投比值分别比对照高0.9、0.6和0.3。种植牧草对提高土壤有机质和全氮、全磷及速效磷含量有较好效果,但各处理土壤碱解氮、全钾、速效钾的含量均有一定幅度下降,说明在本研究的施肥水平下,有必要增加氮素、特别是钾素养分的投入。【结论】在当前红壤地区双季稻田肥力状况、气候及作物栽培管理条件下,对灌溉条件较差的稻田进行改制是可行的,其中,种植牧草或实行水旱轮作对提高经济效益、提升土壤肥力有较好效果。
【英文摘要】【Objective】This paper aimed to determine the effects of cropping system change for red soil paddy field with double harvest rice on crops growth and soil nutrient.It also aimed to provide with optimum pattern for cropping system reform under bad irrigation condition.【Method】Through located field experiments,effects on crops growth,yield and economic benefit were studied under different cropping systems.These included systems from paddy field with double harvest rice to pasture, paddy-upland rotation,upland cropping et al,and the change of related soil organic matter and nutrient content under various cultivation systems was also investigated.【Result】The results proved that economic benefit and the ratio of output to input were all increased in terms of the market price for the crops under various treatments.The greatest economic benefit occurred in the treatment of paddy-upland rotation,and the corresponding economic benefit was increased by 34.7%, 21.4% and 2.2% in comparison with equivalent of control (rice-rice-astragali), pasture,upland cropping treatments. The economic benefit from pasture, upland cultivation treatments was increased by 11.0% and 31.8% respectively compared to the equivalent of control.The ratio of output to input under pasture, paddy-upland rotation, upland cropping treatments was enhanced 0.9, 0.6 and 0.3, respectively, in comparison with that of control. It is acceptable to plant pasture grass for improving soil fertility since the contents of soil organic matter,total nitrogen, total phosphorus and available phosphorus were all enhanced obviously. However, the concentrations of soil available nitrogen, total potassium, available potassium was some what reduced for all the treatments, suggesting that increasing the input of nitrogen, particularly potassium, was necessary under present fertilization level.【Conclusion】Based on the condition of the fertility, climate, cultivation and management in red soil paddy with double harvest rice regions, it is feasible to change the cultivation system of paddy fields with bad irrigation conditions. In particular, such cultivation systems as Pasture and Paddy-Upland Rotation were worth adopting for better economic benefit and improvement of soil fertility in the purpose region.
【语种】中文
【第一作者】曾希柏
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【学科分类】土壤学

【题目】几种化学物质对番茄幼苗耐低温弱光能力的影响
【中文关键词】番茄; CaCl2; 甜菜碱; 5-氨基乙酰丙酸; 低温弱光;
【英文关键词】tomato; CaCl2; glycine-betaine; 5-aminolevulinic acid; chilling under low light;
【中文摘要】以4叶期番茄为试材,对叶面喷施不同浓度的CaCl2、甜菜碱和ALA(5-氨基乙酰丙酸),用人工霜箱进行低温弱光胁迫处理,通过观测、计算冷害指数,测定净光合速率、气孔导度等指标,结果表明,CaCl2、甜菜碱和ALA等几种化学物质能够提高番茄幼苗的耐低温弱光能力,其中CaCl2的适宜浓度为0.4~1 mmol/L,甜菜碱的适宜浓度为2.5 mmol/L,ALA的适宜浓度为30mg/L。
【英文摘要】Solutions of CaCl2,GB(glycine betaine)and ALA(5-aminolevulinic acid)etc.with different concentra- tions were sprayed on four-leaved tomato seedlings,then the seedlings were treated under the action of chilling and low light controlled by artificial frost-box.Through observation and calculation of the chilling damage index and measurement of the net photosynthetic rate and stomate conductivity,several effective chemicals such as CaCl2,GB and ALA were selected,which can enhance the resistant ability of tomato seedling to chilling under low light.The effective concentration were 0.4~1mmoL/L for CaCl2,2.5mmol/L for GB and 30mg/L for ALA respectively.

【语种】中文
【第一作者】苏常红
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【学科分类】农学其他学科

【题目】Nitrogen fixation island and rhizosphere competence traits in the genome of root—associated Pseudomonas stutzeri A1501
【中文关键词】无
【英文关键词】genome sequencing root-associated diazotroph
【中文摘要】无
【英文摘要】The capacity to fix nitrogen is widely distributed in phyla of Bacteria and Archaea but has long been considered to be absent from the Pseudomonas genus. We report here the complete genome sequencing of nitrogen-fixing root-associated Pseudomonas stutzeri A1501. The genome consists of a single circular chromosome with 4,567,418 bp. Comparative genomics revealed that, among 4,146 protein-encoding genes, 1,977 have orthologs in each of the five other Pseudomonas representative species sequenced to date. The genome contains genes involved in broad utilization of carbon sources, nitrogen fixation, denitrification, degradation of aromatic compounds, biosynthesis of polyhydroxybutyrate, multiple pathways of protection against environmental stress, and other functions that presumably give A1501 an advantage in root colonization. Genetic information on synthesis, maturation, and functioning of nitrogenase is clustered in a 49-kb island, suggesting that this property was acquired by lateral gene transfer. New genes required for the nitrogen fixation process have been identified within the nif island. The genome sequence offers the genetic basis for further study of the evolution of the nitrogen fixation property and identification of rhizosphere competence traits required in the interaction with host plants; moreover, it opens up new perspectives for wider application of root-associated diazotrophs in sustainable agriculture.
【语种】英文
【第一作者】燕永亮
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【学科分类】分子生物学

【题目】成年蜜蜂脑神经细胞的培养和电生理特征
【中文关键词】蜜蜂 神经元 兴奋性 钠电流 钾电流 膜片钳
【英文关键词】Apis mellifera neuron excitability sodium current potassium current whole-cell patch-clamp
【中文摘要】为了研究杀虫剂等对蜜蜂毒性作用的神经机制,需在体外建立成年蜜蜂脑神经细胞的分离培养和电生理记录技术并研究其正常电生理特征,而对成年蜜蜂脑神经细胞的分离培养和电生理特性的研究报道甚少。我们采用酶解和机械吹打相结合的方法获得了数量较多且活力较好的成年意大利蜜蜂Apis mellifera 脑神经细胞,并用全细胞膜片钳技术研究了成年意大利蜜蜂脑神经细胞对电流和电压刺激的反应,获得了成年意蜂脑神经细胞的基本电生理特征以及钠电流和钾电流的特性。全细胞电流钳的记录结果表明,在体外培养条件下,细胞无自发放电发生,注射电流后仅引起细胞单次放电,引起细胞放电的阈电流平均为60.8±6.3 pA ;细胞动作电位产生的阈电位平均为-27.4±2.3 mV。用全细胞电压钳记录了神经细胞的钠电流和钾电流。钠电流的分离是在电压刺激下通过阻断钾通道和钙通道实现。细胞的内向钠电流在指令电压为-40~-30 mV 左右激活,-10 mV达峰值,钠通道的稳态失活电压V1/2为-58.4 mV;外向钾电流成份至少包括较小的快速失活钾电流和和较大的缓慢失活钾电流(占总钾电流的80%),其半激活膜电位V1/2 为3.86 mV,无明显的稳态失活。结果提示缓慢失活钾电流的特征可能是细胞单次放电的机制之一。
【英文摘要】To explore the neuronal mechanisms underlying pesticides intoxication in adult honeybees, the primary culture of brain neurons of adult honeybees and electrophysiological recordings are required. However, little is known of the electrophysiological properties and sodium currents or potassium currents in normal adult honeybee brain neurons. We first dissociated neurons from

brains of adult Apis mellifera by gentle trituration after a 15-min incubation with papain. This preparation resulted in a large number of isolated viable neurons. Using the whole-cell configuration of the patch-clamp technique, we investigated the neuronal responses of the isolated neurons to the current or voltage stimulation. Current-clamp date showed that the tested neurons showed no spontaneous discharges but were capable of firing a single action potential in response to depolarizing current injection. The mean current threshold for action potential was 60.8±6.3 pA and the mean voltage threshold -27.4±2.3 mV. Under voltage clamp, sodium currents were isolated by blockade of potassium channel and calcium channel. The sodium current was activated at command potentials more positive than -40mV with a maximum around -10mV and a half-maximal voltage for inactivation of -58.4mV. The neurons expressed at least two distinct K+ currents, a small transient current and a large sustained current (80% of total K+ current) with a half-maximal voltage for activation of 3.86mV. The large sustained potassium current showed little or no inactivation. The results suggest that the prominent sustained potassium current might account for the a single spiking in the recorded adult honeybee neurons.
【语种】中文
【第一作者】周婷
【通讯作者】孙继虎
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【学科分类】分子生物学

【题目】氨肽酶N(APN)与鳞翅目昆虫对Bt抗性的关系
【中文关键词】苏云金芽孢杆菌(Bt) 氨肽酶N (APN) 受体 突变 抗性
【英文关键词】Bacillus thuringiensis (Bt) aminopeptidase N (APN) receptor mutation resistance
【中文摘要】使用Bt Cry 毒素防治农业害虫是作物生产上的一个革命性的进步, 受体与Bt杀虫蛋白结合能力的改变可能是昆虫对B t产生抗性的主要原因。氨肽酶N (am inopeptidase N, APN) 是一类存在于昆虫中肠内的Bt毒素受体蛋白, 通过讨论APN与Bt毒素的结合作用, 综述了APN基因变异与鳞翅目昆虫Bt抗性相关的分子机理, 并介绍了(Bt) Cry毒素与APN相关的作用方式新模型。
【英文摘要】The use of Cry toxins from Bacillus thuringiensis (Bt) to control insect pests is a revolutionary progress in crop production. Change in binding ability between Bt insecticidal proteins and its receptors may be the main mechanism of Lepidoptera insect resistance to Bt toxin. Aminopeptidase N (APN) is one kind of receptors for Bacillus thuringiensis (Bt) toxin in insect midguts. Through discussing its binding capability with Bt toxin, this paper sumarizes the molecular biology mechanism of APN gene and Bt resistance of Lepidoptera, and introduces a new model for the mode of Cry1Ac toxin action.
【语种】中文
【第一作者】苗素丽
【通讯作者】程红梅
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【题目】Recombinant Bacillus thuringiensis strain shows high insecticidal activity gainst Plutella xylostella and Leptinotarsa decemlineata without affecting nontarget species in the field
【中文关键词】无
【英文关键词】Bacillus thuringiensis bioassay microbial population variation nontarget organisms recombinant strain
【中文摘要】无
【英文摘要】Aims: To construct a recombinant Bacillus thuringiensis (Bt) strain with broad insecticidal spectrum and investigate its impact on nontarget organisms in field. Method and Results: The cry-type gene of wild Bt strain UV17 was identified and a novel cry1Ba gene was cloned. The cry3Aa7 gene, which was highly toxic to coleopteran pests, was introduced into UV17, and a recombinant strain designated as UV173A was obtained. Bioassay results showed that UV173A was not only highly toxic against Plutella xylostella (50% lethal concentration [LC50] = 18.03ug ml – 1), but also against coleopteran Leptinotarsa decernlineata (LC50 = 0.19 mg ml – 1).

The recombinant strain was then tested in field trials to monitor its spatial variation of population and to investigate the impact on nontarget invertebrates. Conclusions: A recombinant Bt stain UV173A with broad insecticidal spectrum was obtained, and it did not cause adverse effects on the population of nontarget organisms. Significance and Impact of the Study: The results obtained here indicated that cry1Ba3 gene may be useful for the resistance management of P. xylostella, and the recombinant stain UV173A was potential for field application against some crucifer vegetable pests as well as L. decemlineata.
【语种】英文
【第一作者】G,wang
【通讯作者】张杰
【期刊名称、卷期、页码】Journal of Applied Microbiology 105 (2008) 1536 – 1543
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【题目】Insecticidal action of Quinomycin A from Streptomyces sp. KN—0647, isolated from a forest soil
【中文关键词】无
【英文关键词】Insecticidal activity Quinomycin A 16S rRNA gene Streptomyces sp.
【中文摘要】无
【英文摘要】An actinomycete strain KN-0647 was isolated from a forest soil sample collected from Dali Cangshan mountain, Yunnan Province, China. The strain was identified as Streptomyces sp. according to the morphological, physiological characteristics and whole nucleotide sequence analysis of 16S rRNA gene, and could not be identified up to species level, just suggesting a potential new taxon. The ethyl acetate extract from this strain displayed growth inhibition on the test pathogenetic insects, such as Spodoptera exigua, Dendrolimus punctatus, Plutella xylostella, Aphis glycines and Culex pipiens. The active compound was isolated and identified through a combination of spectral and chemical methods (UR, MS, and HNMR) as quinomycin A. This is the first report on the insecticidal activity of antibiotic quinomycin A.
【语种】英文
【第一作者】Huamei Liu
【通讯作者】张杰
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【学科分类】分子生物学

【题目】A novel RPMXR motif among class II 5-enolpyruvylshikimate-3-phosphatesynthases is required for enzymatic activity and glyphosate resistance
【中文关键词】无
【英文关键词】Class II 5-enolpyruvylshikimate-3-phosphate synthase RPMXR motif Enzymatic activity Glyphosate resistance Pseudomonas stutzeri A1501
【中文摘要】无
【英文摘要】The shikimate pathway enzyme 5-enolpyruvylshikimate-3-phosphate (EPSP) synthase is an attractive target for drugs and herbicides. Here we identified a novel RPMXR motif that is strictly conserved among class II EPSP synthases. Site-directed mutational analysis of this motif showed that substitutions of the four strictly conserved amino acid residues, Arg127, Pro128, Met129, and Arg131, resulted in complete loss of enzymatic activity, whereas changes in the non-conserved Asn130 residue strongly influenced glyphosate resistance (all numbering according to Pseudomonas stutzeri A1501 EPSP synthase). These experimental results, combined with 3D structure modeling of the location and interaction of the RPMXR motif with phosphoenolpyruvate (PEP) and shikimate-3-phosphate (S3P), demonstrate that the novel motif is required for enzymatic activity and glyphosate resistance of class II EPSP synthases.
【语种】英文

【第一作者】李亮;陆伟
【通讯作者】林敏;蒋彦
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【学科分类】分子生物学

【题目】Quantitative measurement of pH influence on SalR regulated gene expression in Acinetobacter baylyi ADP1
【中文关键词】无
【英文关键词】Acinetobacter baylyi ADP1 Bioluminescence LysR-type transcriptional regulator pH tolerance Salicylate
【中文摘要】无
【英文摘要】The influence of medium pH conditions on regulation of the sal operonwas quantitatively measured by using a genetically engineered Acinetobacter baylyi ADP1 strain ADPWH_lux. Live-cell based bioluminescence assays determined that the SalR, a LysR-type transcriptional regulator (LTTR), functioned in a range of medium pH conditions. During exponential growth, SalR regulated bioluminescence production peaked at the neutral pH and tolerated medium pH changes of 5.5 – 9.0. In the stationary phase, the SalR regulated gene expression reached 20 – 35% of the maximum productivity during the exponential phase. This report reveals the influence of pH conditions on a LTTR system and demonstrates that the biosensor strain can be a useful tool for understanding transcriptional regulations in different environments.
【语种】英文
【第一作者】Chao Li
【通讯作者】Jie Zhang;Hui Wang
【期刊名称、卷期、页码】Journal of Microbiological Methods 79 (2009) 8 – 12
【论文发表时间】2009-07-17 00:00:00
【引文索引类型】SCI
【引文索引号】doi:10.1016/j.mimet.2009.07.004
【学科分类】分子生物学

【题目】离子环境对Acinetobacter sp. ADP1的salR基因活性的影响
【中文关键词】Acinetobacter sp. ADP1 salR基因 LysR型转录调节子 离子耐受性 生物发光
【英文关键词】Acinetobacter sp. ADP1 salR Gene LysR-type transcrip tional regulator Ions tolerance Bioluminescence
【中文摘要】革兰氏阴性菌Acinetobacter sp. ADP1可以利用水杨酸作为惟一的碳源和能源生长,与这一代谢过程相关的基因为sal基因。利用sal基因启动子与细菌荧光素酶基因(lux)编码区融合而构建的工程菌AcinetobacterADPWH_ lux,通过定量测定活细胞发光度可以检测出salR基因在不同离子环境中的活性。本试验测定了不同浓度梯度的10种金属离子对处于指数期和稳定期的细菌的salR基因活性的影响。发光度检测表明重金属离子均会抑制指数期和稳定期的细菌的发光能力。RT2PCR试验也证明,凡能够抑制细菌发光能力的离子,均会抑制细菌的salA基因的转录。
【英文摘要】Acinetobacter sp. ADP1, a gram2negative bacterium, can utilize salicylate as the unique carbon source and energy source, and sal operon is required for the metabolism. Genetically engineered AcinetobacterADPWH_ lux containing fusion gene com2 bined with full salA gene and p romoter less luxCDAB E gene, was used for live2cell based quantitatively bioluminescence assay to deter mine the SalR activities in different ions conditions. The influence of 10 kinds of cations in different concentrations on salR in Acineto bacter sp. ADP1 in the exponential and stationary phaseswas determined. The bioluminescence assay illuminated most of heavymetal ions inhibit the bioluminescence abilities of the bacterium in both exponential and stationary phases. The corresponding RT2PCR experiments also p roved that all the ionswhich inhibit the bioluminescence abilities, can also inhibit the transcrip tion of salA gene.
【语种】中文
【第一作者】李超
【通讯作者】张杰
【期刊名称、卷期、页码】生物技术通报,2009年第9期,p57-63
【论文发表时间】2009-09-01 00:00:00

【引文索引类型】其他
【引文索引号】无
【学科分类】分子生物学

【题目】Mutation of an aminopeptidase N gene is associated with Helicoverpa armigera resistance to Bacillus thuringiensis Cry1Ac toxin
【中文关键词】无
【英文关键词】Aminopeptidase N1 Helicoverpa armigera Cry1Ac Bt resistance
【中文摘要】无
【英文摘要】A Cry1Ac-resistant strain (Bt-R) of Helicoverpa armigera, with 2971-fold resistance, was derived by selection with Cry1Ac toxin for 75 generations.We used cDNA-amplified fragment length polymorphism analysis to identify those genes differentially expressed in the Cry1Ac-resistant and -susceptible strains, which revealed 212 differentially expressed transcripts among 2000 screened cDNAs. Among these transcript-derived fragments (TDFs), 37 showed some homology to known sequences, including Aminopeptidase N (APN), which is expressed in the midgut epithelium and has been implicated as a Cry1A subfamily receptor in several moths, including H. armigera.We confirmed the TDF by RT-PCR and identified a deletion mutation of apn1 in the Bt-R strain. We expressed the TDF in bacteria. The partial HaAPN1-96S wild-type protein, bound to Cry1Ac on ligand blots, whereas HaAPN1-BtR did not. This suggested that HaAPN1 is a receptor for Bt Cry1Ac and that its deletion mutation is associated with Cry1Ac resistance in H. armigera. The absence of one binding site is responsible for its resistance to Cry1Ac. We developed an allele-specific PCR to monitor whether the apn1 gene in an H. armigera field population produced a similar mutation. No deleted mutants were found in 2250 individuals collected from the field in 2006 – 2007.
【语种】英文
【第一作者】Shaoping Zhang
【通讯作者】吴孔明
【期刊名称、卷期、页码】Insect Biochemistry and Molecular Biology 39 (2009) 421 – 429
【论文发表时间】2009-04-09 00:00:00
【引文索引类型】SCI
【引文索引号】doi:10.1016/j.ibmb.2009.04.003
【学科分类】分子生物学

【题目】Construction of a Bacillus thuringiensis engineered strain with high toxicity and broad pesticidal spectrum against coleopteran insects
【中文关键词】无
【英文关键词】Bacillus thuringiensis Engineered strain Homologous recombination Anomala corpulenta Holotrichia parallela
【中文摘要】无
【英文摘要】A newly engineered strain, denominated BIOT185, was constructed through integrating the cry8Ca2 gene into the endogenous plasmid of BT185 (contains cry8Ea1) by homologous recombination. The thermosensitive plasmid vector was eliminated by the rising temperature of recombinant cultures. No antibiotic gene or other unnecessary genes were introduced to the new strain. Sodium dodecyl sulfate – polyacrylamide gel electrophoresis and Western blot analysis demonstrated that the cry8Ca2 gene was expressed normally and produced a 130-kDa protein in the BIOT185 strain. Bioassay results showed that the new strain had high toxicity to the pests Anomala corpulenta and Holotrichia parallela, which often damage the same fields.
【语种】英文
【第一作者】Jingjing Liu
【通讯作者】张杰;黄大昉
【期刊名称、卷期、页码】Appl Microbiol Biotechnol (2010) 87:243 – 249
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【引文索引号】DOI 10.1007/s00253-010-2479-5
【学科分类】分子生物学

【题目】Application of oligonucleotide microarray for the detection and genotyping of cry genes in Bacillus thuringiensis
【中文关键词】无
【英文关键词】oligonucleotide microarray cry genes genotyping random primer labeling bioinformatics
【中文摘要】无
【英文摘要】Bacillus thuringiensis d-endotoxin toxin – DNA protoxin – DNA aggregation We have developed a parallel, rapid, high-throughput oligonucleotide microarray-based assay for the reliable detection and genotyping of three cry genes (cry1, cry2 and cry9) in Bacillus thuringiensis (Bt). After the nonpolymerase chain reaction (PCR), amplified Bt genomic DNA were fluorescent-labeled using a random primer. The corresponding oligonucleotide probes were designed for the different cry genes that can hybridize Bt genomic DNA after cluster analysis and were printed on glass slides. This microarray has unambiguously detected and identified the cry genes in 10 isolates and reference Bt. Our data demonstrates that the microarray assay is simple and rapid for the detection and genotyping of genes. This type of assay is also a potentially valuable tool for identification and characterization of bacterial functional genes in general.
【语种】英文
【第一作者】Liu Xu-Guang
【通讯作者】张杰
【期刊名称、卷期、页码】CHILEAN JOURNAL OF AGRICULTURAL RESEARCH 70(2):213-220
【论文发表时间】2009-04-22 00:00:00
【引文索引类型】SCI
【引文索引号】无
【学科分类】分子生物学

【题目】Effect of bacteriaphage and exopolysaccharide on root colonization and rhizosphere competence by Pseudomonas fluorescens
【中文关键词】无
【英文关键词】Pseudomonas fluorescens Root colonization Rhizosphere competence . Bacteriophage Exopolysaccharide
【中文摘要】无
【英文摘要】Pseudomonas fluorescens TC222 is a biocontrol agent. In this study, we focused on the influence of bspA encoding bacteriophage signal peptide protein and epsB encoding a putative Mig-14 family protein on the rhizosphere colonization and competence. After inoculation with each of strains individually, the number of each mutated strain was much lower than that of the wild-type strain. Both mutants inoculated with the wild-type strain at a ratio of 1:1 were outcompeted by the wild-type strain. Furthermore, both mutants showed a reduced biocontrol activity to Rhizoctonia solani and Gaeumannomyces graminis. To our knowledge, this is the first report that bspA and epsB are involved in root colonization and rhizosphere competence by P. fluorescens.
【语种】英文
【第一作者】Hong Juan Nian
【通讯作者】D. F. Huang
【期刊名称、卷期、页码】Ann Microbiol (2010) 60:369 – 372
【论文发表时间】2010-05-01 00:00:00
【引文索引类型】SCI
【引文索引号】DOI 10.1007/s13213-010-0050-3
【学科分类】分子生物学

【题目】转双价抗真菌病害基因大豆对根际土壤微生物群落结构的影响
【中文关键词】转基因大豆 变性梯度凝胶电泳 土壤微生物 群落结构
【英文关键词】transgenic soybean denaturing gradient gel electro phoresis soil microorganism comunity structure
【中文摘要】采用传统的平板计数法和变性梯度凝胶电泳技术,对转chi+rip(几丁质酶和核糖体失活蛋白)双价抗真菌 基因大豆转基因G0431以及其亲本非转基因大豆黑农35种植后的根部土壤可培养细菌(含芽胞杆菌、产荧光假单胞菌)、真菌、放线菌进行平板计数及细菌和真菌的群落结构分析. 结果表明,二者根部土壤可培养细菌(含芽胞杆菌和 产荧光假单胞)、真菌和放线菌的数量并无显著差异;此外,变性梯度凝胶电泳图谱的聚类分析结果显示,时间变化 是造成根部土壤细菌和真菌群落结构变化的主要因素,而同一时间内转基因G0431和黑农35根部土壤的细菌和真菌群 落结构之间并无显著不同. 在大豆的整个生长期内,根部土壤细菌群落多样性指数为5.32~5.37,群落分布均匀度指数 为0.91~0.95;根部土壤真菌群落多样

性指数为4.78~4.91,群落分布均匀度指数为0.81~0.89. 以上结果说明,几丁质酶和 核糖体失活蛋白双价基因的导入并没有对大豆根际可培养细菌(含芽胞杆菌和产荧光假单胞)、真菌和放线菌的数量 以及细菌和真菌的群落结构产生显著影响. 图4 表2 参22

【英文摘要】G0431 is the genetically modified soybean by transformation of two anti-fungus genes, “ chi ”(chitinase gene from bean) and “ rip ”(barley ribosome-inacti vating protein gene) into the natural strain, Heinong 35. The methods of classical plate counting and denaturing gradient gel electro phoresis (DGG E) were em ployed to analy ze the amounts of culture microbes in rhi zos phere soil and the comunity structure of bacteria (including Bacillus and fluorescent Pseudomonas), fungi and actinomycetes . The results showed that there was no significant difference between the amounts of culture soil microorganisms in the rhi zos phere soil of the transgenic G0431 and Heinong 35. Moreo ver, the results of cluster analysis of DGG E profile of bacteria and fungi indicated that the time was the main factor which afected the comunity structure of rhi zos phere soil microbes . For the two in vestigations, the Shanon ’ s inde x of the bacterial comunity in the rhi zos phere soil was 5.32~5.37 and the evenness inde x was 0.91~0.95; the Shanon ’ s inde x of the fungal comunity in the rhi zos phere soil was 4.78~4.91 and the evenes inde x was 0.81~0.89. The same as the comunity structure of bacteria and fungi , there was no remar kable diference in the rhi zos phere soil betwen the transgenic and non-transgenic soybean in the numbers of culture bacteria (including Bacillus and fluorescent Pseudomonas), fungi and actinomycetes . It im plied that the transformation of the two extra antifungus genes into soybean didn ’ t cause any significant efect on the amounts and comunity structure of its rhi zos phere soil microbes . Fig 4, Tab 2, Ref 22

【语种】中文

【第一作者】周琳

【通讯作者】张杰

【期刊名称、卷期、页码】应用与环境生物学报 2010,16 (4): 509~514

【论文发表时间】2010-08-25 00:00:00

【引文索引类型】其他

【引文索引号】无

【学科分类】分子生物学

【题目】群落分析中的16S rRNA及其基因16S rDNA优化扩增

【中文关键词】16SrRNA 可变区 保守区 异常序列

【英文关键词】16S rRNA variable region conserved region artifacts

【中文摘要】本文较为完整地综述了16S rRNA在细胞中的地位和作用、转录组成、其全长基因中可变区与保守区的位置、在不同种类中的拷贝数、二级结构,及其在群落研究过程中PcR扩增产生的16S rRNA的异常序列与解决方法;以期为更多的科研工作者提供可靠参考和借鉴,提高以16S rRNA为靶分子的群落研究结果的准确性和真实性.

【英文摘要】The purpose of this review was to offer reference for the study of community analysis in which 16S rRNA was taken as target molecule.We summarized the information of 16S rRNA including its function in cells,transcription organization,the position of variable regions and conserved regions,copies numbers of 16S rRNA gene,secondary structure,some artifacts generated during PCR amplification and the solution to avoid the artifacts.

【语种】中文

【第一作者】周琳

【通讯作者】张杰

【期刊名称、卷期、页码】微生物学报,2010,50(6)

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【引文索引类型】其他

【引文索引号】无

【学科分类】分子生物学

【题目】对Bt 蛋白抗性和敏感的棉铃虫中肠细菌群落的比较

【中文关键词】棉铃虫 中肠菌群 16S rDNA 变性梯度凝胶电泳 抗性 苏云金芽孢杆菌

【英文关键词】Helicoverpa armigera bacterial community 16S rDNA DGGE resistance Bacillus thuringiensis

【中文摘要】[目的]通过比较Cry1Ac蛋白抗性及敏感棉铃虫中肠细菌群落的结构组成,研究中肠微生物是否与棉铃虫Bt抗性产生有关.[方法]首先提取了棉铃虫中肠微生物基因组DNA,通过PCR扩增获得了16S rDNA全长片段及V3区.采用基于16S rDNA的免培养技术-16S rDNA文库建立和变性梯度凝胶电泳(DGGE)研究了国内特有的Bt抗性和敏感品系棉铃虫中肠细

菌群落组成,并对其进行分析和比较.[结果]16S rDNA文库测序结果表明,抗性品系与敏感品系棉铃虫中肠细菌群落特别是优势菌群非常相似,但在部分劣势菌群上存在差异.抗性品系中主要优势菌有:不可培养微生物(Uncultured bacterium)占56.4%,鹑鸡肠球菌(Enterococcus gallinarum)占17.0%,铅黄肠球菌(Enterococcus casseliflavus)占17.0%;敏感品系中主要优势菌为不可培养微生物(Uncultured bacterium)60.2%,鹑鸡肠球菌(Enterococcus gallinarum)占19.3%,铅黄肠球菌(Enterococcus casseliflavus)占14.7%.随后进行的PCR验证表明,部分有差异的劣势菌在两种品系虫体都存在.DGGE图谱分析表明,这两个品系棉铃虫中肠菌群相似性达到92.3%.[结论]敏感品系与抗性品系棉铃虫肠道菌群组成极其相似,推测抗性的产生与肠道微生物无直接关系.

【英文摘要】无

【语种】中文

【第一作者】姜玮瑜

【通讯作者】张杰

【期刊名称、卷期、页码】微生物学报,2010,50(2)

【论文发表时间】2010-06-01 00:00:00

【引文索引类型】其他

【引文索引号】无

【学科分类】分子生物学

【题目】转基因作物对土壤微生物的影响

【中文关键词】转幕凶作物 微生物群落 草甘膦除草剂 Bt杀虫蛋白 影响

【英文关键词】transgenic crops microbial community glyphosate Bacillus thuringiem'is endotoxins impact

【中文摘要】世界大环境下,随着转基凶技术在农、忆E的不断发展,转基因作物的推广和应用取得了很大的进展,其风险评估也受到高度重视。转基因作物对上壤微生物的影响被认为是转慕凶作物对环境影响领域中不可缺少的一个方面,被纳入风险评估的范围。本文将以近十年旧内外已经发表相关研究为理论依据,概述了转基因作物对于土壤微生物的影响,为系统评价转慕因作物释放对于上壤微生物影响研究提供相关信息。

【英文摘要】Under the overall international environment,along with the continuous development of transgenic technology in agriculture,the generalization and application of transgenic crops is progressing rapidly.At the sanle time,its risk assessment is also gaining high attention by the human beings.The effects of transgenic crops on soil microbes are regarded as one of the most important domain in risk assessment of environment. ‘ Faking the relative studies made in last ten years as theoretic reliance,this paper outlines the effects of GM(genetically modified)plants on soil microbes and provides information for systemic evaluation on impacts of GM plant release to soil microbial communities.

【语种】中文

【第一作者】李鑫鑫

【通讯作者】陆伟

【期刊名称、卷期、页码】中围农业科技导报,2010,12(6):24—27

【论文发表时间】2010-09-10 00:00:00

【引文索引类型】其他

【引文索引号】无

【学科分类】分子生物学

【题目】Identification of the minimal active fragment of the Cry1Ah toxin

【中文关键词】无

【英文关键词】Bacillus thuringiensis Cry1Ah Toxicity Minimal active fragment Plutella xylostella

【中文摘要】无

【英文摘要】cry1Ah1, a novel holo-type gene cloned from Bacillus thuringiensis strain BT-8, encoded a protein exhibiting strong insecticidal activity against lepidopteran insects. To identify the minimal active fragment of the Cry1Ah toxin, 9 pairs of primers were designed to generate different PCR products. Seven PCR products were amplified by different primers using the cry1Ah1 gene as a template and cloned into a pET-21b vector. These positive clones were separately transformed into Escherichia coli. Insecticidal activity against 2nd-instar larvae of Plutella xylostella was performed using the leaf-dip bioassay: the minimal active fragment of the Cry1Ah toxin was located between amino acid residues 50I and 639E.

【语种】英文
【第一作者】Jing Xue
【通讯作者】张杰;黄大昉
【期刊名称、卷期、页码】Biotechnol Lett (2011) 33:531 – 537
【论文发表时间】2010-11-03 00:00:00
【引文索引类型】SCI
【引文索引号】DOI 10.1007/s10529-010-0452-0
【学科分类】分子生物学

【题目】The role of DNA binding with the Cry8Ea1 toxin of Bacillus thuringiensis
【中文关键词】无
【英文关键词】Bacillus thuringiensis d-endotoxin toxin – DNA protoxin – DNA aggregation
【中文摘要】无
【英文摘要】The Cry8Ea1 protoxin is a DNA – protein complex. Both forms of the Cry8Ea1 toxin (with or without DNA binding) were obtained separately, and their stability and ability to insert into a phospholipid monolayer in vitro were compared. The presence of DNA can prevent the toxin from aggregation. Data regarding the penetration of the Cry8Ea1 toxin and Cry8Ea1 toxin – DNA complex into the air/water interface without a phospholipid monolayer show that the Cry8Ea1 toxin – DNA complex is more likely to move towards the air/water interface and is more hydrophobic. Experiments examining the protein interaction with the phospholipid monolayer show that the ability of the Cry8Ea1 toxin – DNA complex to insert into the lipid bilayer is much greater than that of the Cry8Ea1 toxin without DNA.
【语种】英文
【第一作者】Shuyuan Guo
【通讯作者】张杰
【期刊名称、卷期、页码】FEMS Microbiol Lett 317 (2011) 203 – 210
【论文发表时间】2011-02-22 00:00:00
【引文索引类型】SCI
【引文索引号】DOI:10.1111/j.1574-6968.2011.02230.x
【学科分类】分子生物学

【题目】宏转录组学在微生物生态学研究中的应用
【中文关键词】红转录组学 原理 特点 微生物生态
【英文关键词】metatranscriptomics principle characteristic microbial ecology
【中文摘要】宏转录组学是一门在整体水平上研究某一特定环境、特定时刻群体微生物基因转录的情况及转录调控规律的学科。概述了新兴的宏转录组学在微生物生态学研究中的进展,并总结了其与微生物宏基因组学研究方法相比的优缺点。宏转录组学是一种新颖有效的方法,在微生物生态学,甚至在复杂的微生物群落的生态学研究中具有广阔的应用前景。
【英文摘要】Metatranscriptomes is an aera to study the gene transcriptional rules of certain microorganisms in specific environment and time. This paper summarized the progress of metatranscriptomics on microbial ecology, and compared its advantages and disadvantages with meta-genomics. Metatranscriptomics has a promising future as a direct and ef fi cient method to study transcription and gene regulation in microbial ecology and with complex microbial communities.
【语种】中文
【第一作者】李晓晖
【通讯作者】陆伟
【期刊名称、卷期、页码】中国农业科技导报,2011,13(4):58-69
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【学科分类】分子生物学

【题目】精氨酸激酶蛋白及分子生物学的研究进展

【中文关键词】精氨酸激酶 免疫力 抗性进化 特异性表达
【英文关键词】Arginine kinase Immunity Resistance Evolution Specific-tissue expression
【中文摘要】在无脊椎动物体内,精氨酸激酶(arginine kinase) 在能量代谢过程中发挥着重要的作用。随着研究的深入,越来越多的数据表明,精氨酸激酶的作用不仅限于提供和维持能量的平衡,而且对生命活动的调控起到重要作用。综述无脊椎动物体内精氨酸激酶的进化历程、蛋白特性、特异表达及生物学功能等方面的研究进展,为深入研究无脊椎动物的抗性调控机制提供必要的参考。此外,对无脊椎动物精氨酸激酶的重要性和研究中存在的问题进行讨论。
【英文摘要】In invertebrate,arginine kinase(AK) plays a critical role in energy metabolism. With the deeply study,increasing data show that the functions of arginine kinase not only are confined to provide energy and maintain the balance of power,but also play an important role in regulating the activities during invertebrate ’s whole life. We reviewed the evolution of AK protein,the AK protein characterization,the specific-tissue expressions that mediate unique biological functions and the application in production and life of arginine kinase in invertebrate. Meanwhile,the significance and existent problems of the related studies were also discussed.
【语种】中文
【第一作者】苏晓锋
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【学科分类】分子生物学

【题目】三株高效秸秆纤维素降解真菌的筛选及其降解效果
【中文关键词】秸秆纤维素; 降解菌; 筛选; 纤维素酶
【英文关键词】Straw-cellulose; degrading microorganism; screening; cellulase
【中文摘要】【目的】利用多种筛选方法,获得高效秸秆纤维素降解真菌,并研究其秸秆纤维素的降解能力。【方法】采用滤纸片孔洞法、滤纸条降解法、羧甲基纤维素钠(CMC-Na) 水解圈测定法、秸秆失重法、纤维素分解率测定法、胞外酶活测定法等常规秸秆纤维素降解菌的筛选方法。【结果】筛选到3株具有较强纤维素降解能力的真菌菌株,经初步鉴定菌株98MJ 为草酸青霉(Penicillium oxalicum)、菌株W3为木霉(Trichoderma sp.)、菌株W4 为扩张青霉(Penicillium expansum)。菌株W4 具有非常强的秸秆纤维素降解能力,10d 内对秸秆的降解率可达56.3% ,对纤维素、半纤维素和木质素的分解率分别为59.06%、78.75% 和33.79%。菌株W4 的胞外纤维素酶活力在14.25-49.75U/mL之间。【结论】筛选获得3 株高效秸秆纤维素降解真菌菌株,其中菌株W4 的纤维素酶活高于已报道的菌株,是一株十分具有研究开发潜力的纤维素酶生产菌株。
【英文摘要】[Objective]The aim of this study was to screen straw-cellulose degrading microorganisms and to investigate their degradation ability of straw-cellulose.[Methods]The methods used to screen the high effect straw-cellulose degrading microorganism included the traditional isolation methods of straw-cellulose degrading microorganism such as holes observation method on filter paper sheet,disintegration test of filter paper scrip,hydrolysis spot diametermeasurement method of CMC-Na,weight lose assay method of straw,measurement method of cellulose decomposition rate,measurement method of extracellular enzyme activity.[Results]We isolated 3 fungi with cellulose degrading ability,of which 98MJ was identified as Penicillium oxalicum,W3 as Trichoderma sp.,and W4 as Penicillium expansum. Strain W4possessed high straw-cellulose degrading ability with straw-cellulose degrading rate of 56.3% ,cellulose 59.06% ,hemicellulose 78.75% and lignin 33.79% in 10 days.[Conclusion]Strain W4 was a cellulase-producing strain withbroad development potential.
【语种】中文
【第一作者】王洪媛
【通讯作者】范丙全
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【学科分类】微生物学

【题目】冬小麦抗霜性与抗冻性的关系
【中文关键词】冬小麦; 霜冻害; 抗霜性; 抗冻性;
【英文关键词】winter wheat; frost damage; frost resistance; freezing resistance;
【中文摘要】拔节期霜冻害是制约冬小麦生产的主要因素之一。然而关于冬小麦拔节期抗霜性的鉴定工作,国内外的研究报导还很少。选取了13个起源地和春化特性不同的小麦品种,通过利用人工霜箱模拟田间自然霜冻发生过程的试验方法,在小麦幼穗分化进程中的低温敏感期——药隔期进行抗霜性鉴定。同时,对这13个小麦品种越冬期间的抗冻性进行了鉴定。最后对冬小麦品种的抗冻性与抗霜性之间的相关性进行了分析。结果表明:抗霜性与抗冻性之间不存在显著的相关关系。抗冻力较强的冬性品种,抗春霜冻的能力不一定就强;相反,抗冻力较低、发育进程快的早熟品种也可能具有较强的抗霜性。
【英文摘要】Frost injury of winter wheat during its jointing stage has become one of the factors that restricting winter wheat production.But fewer studies on evaluation of frost resistance in jointing stage had been reported up to now. In this study,13 winter wheat varieties were selected as research materials,which differ in original place and ver- nalization characteristic.Frost resistance of those varieties were identified using an artificial frost chamber to simu- late natural frost at anther connective formation phase,low temperature sensitive phase in proceeding of young ear ’ s differentiation phase.Meanwhile,freezing resistance in wintering stage were also evaluated for these varieties. Thereafter,the relationship between frost resistance and freezing resistance of winter wheat varieties was analyzed to explore if a strong correlation exist between them.The result indicates that no significant correlation exist between the two kinds of resistance.Varieties with high freezing resistance may not be of strong frost resistance.Contrarily, freezing sensitive varieties that develop into maturation earlier can also be of frost resistance.
【语种】中文
【第一作者】赵鹏
【通讯作者】孙忠富
【期刊名称、卷期、页码】自然灾害学报 , 2006,15:281-285
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【学科分类】农学其他学科

【题目】Development rule of intramuscular fat content in Chicken
【中文关键词】无
【英文关键词】Chicken;intramuscular fat;breast muscle;age;breed;development rule
【中文摘要】无
【英文摘要】The content of Intramuscular Fat (IMF) of Anka chicken, Wenchang chicken and Rugao chicken from 4-12 weeks old were tested in this study. The results showed that Intramuscular fat content in three chicken breeds increased with the age. Herein, the IMF of breast muscle in Anka chicken sharply increased after 8 weeks old and was higher than that of Wenchang and Rugao chicken. But, there was no significant difference between different breeds before 8 weeks old. The IMF of hen is higher than that of cock in all three breeds, but only in Wenchang chickens the significant difference were detected between different sex.
【语种】英文
【第一作者】常国斌
【通讯作者】陈国宏
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【学科分类】畜牧学

【题目】夏季高温下快大黄羽肉种鸡产蛋后期最适能量和蛋白质水平的研究
【中文关键词】黄羽肉种鸡; 夏季高温; 蛋白质; 能量; 生产性能
【英文关键词】无
【中文摘要】试验选取55周龄快大黄羽肉种鸡1350只,随机分为9组,每组10个重复,每重复15只。在夏季高温环境下[平均舍温(30.09±3.12)℃],进行不同能量和蛋白质水平对肉种鸡生产和孵化性能影响的试验。采用3个能量水平(11.08、11.29、

11.50MJ/kg)×3个蛋白水平(15.5%、16.5%、17.5%)的双因子交叉试验设计9种不同能量、蛋白水平的日粮进行饲喂,试验期8周。试验结果表明,不同蛋白水平对种鸡生产性能有显著影响,低蛋白水平的D、G两组比高蛋白的C、F、I三组在日均采食量、产蛋率、合格种蛋率、受精率、活胚率、入孵蛋孵化率等指标上均表现优异,有些指标差异达显著水平(P<0.05)。而不同能量水平对这些指标影响不显著。所以夏季高温环境下,过多提高日粮的蛋白质水平不一定有利于提高或保持种鸡的产蛋和孵化性能。试验得出的最适宜营养水平为:代谢能11.29~11.50MJ/kg,蛋白质15.5%,蛋能比为13.48~13.73g/MJ。
【英文摘要】无
【语种】中文
【第一作者】马杰
【通讯作者】杨纯芬
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【学科分类】畜牧学

【题目】运用模型分类法分析9个地方鸡品种间遗传结构和亲缘关系
【中文关键词】微卫星; 地方鸡种; 模型聚类法; Structure程序
【英文关键词】Microsatellite; indigenous chicken breeds; Model-based cluster method; Structure program
【中文摘要】以16个中度或高度多态性微卫星标记,运用基于模型分类法的Structure程序推断9个地方鸡品种群体遗传结构,构建聚类图分析相互间亲缘关系,并鉴定群体中迁移个体和具有复杂遗传基础个体的分布。结果表明:Structure程序在预先未标明品种起源的条件下准确推断出9个地方鸡种群体所属类别,揭示按照体型外貌、地理分布等为依据划分的9个地方鸡品种类型,也真实反映了其在遗传上的差异。Structure聚类图在K=2时将9个地方鸡种分为轻体型的鸡种(包括茶花鸡、藏鸡、仙居鸡、固始鸡和白耳鸡)和重体型的鸡种(包括大骨鸡、北京油鸡、鹿苑鸡和萧山鸡)两个类别;K=4、5、6时北京油鸡、固始鸡、大骨鸡分离出来形成独立类群;仙居鸡与白耳鸡在K=6、萧山鸡与鹿苑鸡在K=7、藏鸡与茶花鸡在K=8时仍聚在同一类别中,这与9个地方鸡种的地理分布及形成历史相吻合。9个地方鸡品种群体中均有具有复杂遗传基础的个体分布,迁移个体只分布在藏鸡、萧山鸡和鹿苑鸡群体中。
【英文摘要】The Structure program,based on model clustering method,was used to infer the genetic structure of nine indigenous chicken breeds,assign individuals to populations,and identify migrants and admixed individuals using 16 microsatellite markers.The results showed that Structure program properly inferred the presence of genetic structure at the condition of not defining the origin of individuals.It indicated that the nine chicken breeds defined by locations,phenotypes or culture reflected the underlying genetic variations.At K=2,nine breeds were divided into two main clusters,one was light weighted(including CHA,TIB,XIA,GUS and BAI),the other was heavy weighted(including YOU,XIS,LUY and DAG).YOU,GUS and DAG were classified into independent clusters respectively at K=4、5、 6.XIA and BAI,XIS and LUY,TIB and CHA were still belongs to one cluster at K=6、7、8.This was consistent with locations and breeding history of the nine breeds.The admixed individuals distributed in all the nine breeds,but migrants only distributed in TIB,XIS and LUY populations
【语种】中文
【第一作者】束靖婷
【通讯作者】陈国宏
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【题目】鸡QTL定位的研究进展
【中文关键词】鸡; 标记-QTL连锁分析; QTL定位
【英文关键词】无
【中文摘要】近年来,对鸡的染色体上QTL定位工作有了迅猛的发展,成为动物基因定位工作中一个异常活跃的领域。对鸡数量性状的研究也已发展为直接将研究目标指向各个数量性状位点,借助各种遗传标记,构建遗传连锁图谱,通过一定的统计分析方法,从而将影响数量性状的多个基因剖分开来,将其定位于特定的染色体区域。作者重点介绍了QTL定位的方

法及鸡QTL定位的现状。　更多还原
【英文摘要】无
【语种】中文
【第一作者】梁敏
【通讯作者】康相涛
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【题目】固始鸡免疫器官内细胞增殖动态变化
【中文关键词】细胞增殖; 流式细胞术; 免疫器官; 固始鸡
【英文关键词】cell proliferation; flow cytometry; immune organ; Gushi chicken
【中文摘要】应用流式细胞术研究了固始鸡免疫器官内细胞增殖的动态变化。结果表明:(1)固始鸡不同免疫器官内细胞均以G1期细胞为主,少量细胞为S期和M期,无异倍体细胞。不同免疫器官细胞周期动态变化相似,部分发育阶段之间存在差异。(2)不同发育阶段固始鸡免疫器官细胞增值指数由大到小依次是脾脏、法氏囊和胸腺;在8周龄(胸腺)、或12周龄(脾脏和法氏囊)以前,免疫器官细胞增值指数处于上升阶段,而后逐渐下降,这一结果与固始鸡免疫器官生长发育的测定及其动态变化的分析基本一致。
【英文摘要】Dynamic changes for cell proliferation in immune organs of Gushi chickens were measured and analyzed with flow cytometry.The results indicated that:(1) the majority of cells,in different immune organs of Gushi chickens,were in G1 phase,and a few in S phase and M phase.Heterploid cells were not found.The dynamic changes of cell cycles in different immune organs were similar to each other,but significant differences existed between some developmental stages.(2) The proliferous indexes(PI),from large to small,were spleen,Bursa and thymus in order during different developmental stages.The PI increased before 8 weeks(thymus) or 12 weeks(spleen and Bursa),and then decreased gradually.The latter result was basically as same as the study on the growth and development of immune organs of Gushi chickens.
【语种】中文
【第一作者】李奎
【通讯作者】康相涛
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【题目】父母代固始鸡十二指肠的发育形态学观察
【中文关键词】固始鸡; 十二指肠; 发育形态学
【英文关键词】Gushi chickens; duodenum; developmental morphology
【中文摘要】应用大体解剖学和组织切片技术,对0~20周龄父母代固始鸡的十二指肠进行了发育形态学研究。结果表明,十二指肠的长度、体质量、周长和肠绒毛的长度、肠腺隐窝的深度、肠腺宽度及各肌层厚度等指标随周龄的增加而增长;十二指肠相对生长率、肠腺密度和十二指肠指数则呈下降趋势;肠绒毛有分支现象;淋巴组织的发育比较缓慢,到6周龄后才出现有淋巴小结;通过建立Logistic方程模型模拟十二指肠重量的生长变化,得到其生长方程:♂:Y=9.72/(1+15.31e-0.33t),♀:Y=8.29/(1+12.50e-0.31t)。　更多还原
【英文摘要】The developmental morphology of the duodenum were observed with the technique of gross anatomy and histological section in the parental line of Gushi chickens during 0~20 week.The results showed that the length,weight,perimeter of the duodenum and intestinal villus length,intestinal glands recessus depth,intestinal gland width and the thickness of layers of muscles increased with the week age.Relative growth of the duodenum,density of intestinal gland(Gl.intestinal)and the duodenum index varied inversely with the week age.Branches were found on the intestinal villus.The lymph tissue developed slowly with the lymphonodulus to be observed after 6 week age.Logistic equations were set up to imitate the variation of the duodenum weight.The equations were:♂:Y=9.72/(1+15.31e-0.33t),♀:Y=8.29/(1+12.50e-0.31t).

【语种】中文
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【题目】鸡白细胞中抗菌肽的分离纯化及活性鉴定方法的建立
【中文关键词】鸡白细胞; 抗菌肽; 纯化; 活性检测
【英文关键词】chicken leucocyte; antimicrobial peptide; purification; activity identification
【中文摘要】【目的】建立鸡白细胞中抗菌肽的分离纯化及活性鉴定方法。【方法】通过腹腔注射酪蛋白生理盐水,从鸡人工腹水中得到白细胞;将收集的白细胞,通过超声波反复破碎、体积分数10%乙酸浸提、低温高速离心、旋转蒸发除去乙酸和冷冻干燥等方法,得到抗菌肽粗提物;将得到的粗提物,经CM-Sepharose Fast Flow弱酸性阳离子交换层析和反相高效液相色谱(RP-HPLC)纯化,收集分离的各组分,使用微量琼脂糖弥散法检测各组分的抗菌活性和最小抑菌浓度。【结果】共获得鸡抗菌肽粗提物0.270 g,经RP-HPLC分离纯化,抗菌肽离子交换阳性组分共分离出18个峰,其中6个峰对3种细菌均表现较强的抑菌活性,对鸡大肠杆菌E.coliO78(峰13)、金黄色葡萄球菌S.au-reus1056MRSA(峰15)和白色念珠菌C.albicansATCC10231(峰15)的最小抑菌浓度分别为0.627,0.001和0.035 μg/mL。【结论】该法可以在实验室中用于鸡抗菌肽的提取及活性鉴定。
【英文摘要】【Objective】 The study was to extablish isolation,purification and activity identification method of chicken leucocyte antimicrobial peptides.【Method】 Sterile peritoneal exudates were harvested from chicken after injecting saline with starch,then the white blood cells were collected.The white blood cells were sonicated to release the neutrophil granules.These granules were suspended in acetic acid and mixed overnight to extract the antimicrobial peptides.Iox-exchange chromatography and reversed phase high performance liquid chromatography(RP-HPLC) were used to seperated the components present in the crude extract.Antimicrobial activity and the minimum inhibitory concentrations(MICs) were determined by the radial diffusion plate assay method.【Result】 0.270 g chicken crude extract was obtained.Using RP-HPLC the components in the active cationic fraction were separated into 18 peaks;peak 8 had good activity against all three test organisms;the minimum inhibitory concentrations of peak 13 against chicken E.coli O78,peak 15 against S.aureus 1056MRSA and peak 15 against C.albicans ATCC10231 was 0.627,0.001 and 0.035 μg/mL respectively.【Conclusion】 This method could be widely used to purify chicken antimicrobial peptides and identify antimicrobial activity in laboratory.
【语种】中文
【第一作者】齐珂珂
【通讯作者】康相涛
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【学科分类】畜牧学

【题目】鸡微卫星DNA标记与其生长性状的相关分析
【中文关键词】鸡; 微卫星DNA标记; 生长性状; 相关分析
【英文关键词】Chicken; Microsatellite DNA marker; Growth traits; Correlation analysis
【中文摘要】测定了固始鸡与安卡鸡杂交后自交F2代500多个个体的0,2,4,6,8,10,12周龄体重,检测10个微卫星DNA标记,对标记基因型生长性状值进行方差分析和多重比较。结果表明:对于2,8,12周龄体重,MCW166各基因型间有显著差异(P<0.05);6周龄体重,MCW166各基因型间有极显著差异(P<0.01);对于2周龄体重,ADL169各基因型间有极显著差异(P<0.01),4,6,8周龄体重,ADL169各基因型间有显著差异(P<0.05)。 更多还原
【英文摘要】In the present study,the body weights at birth,2,4,6,8,10 and 12-week of more than 500 F2 chickens derived from the self-hybrid of gushi chicken with anka chicken were tested,respectively.Simultaneously,ten microsatellite DNA markers were determined and the values of growth traits marked by different genotypes were calculated by using the methods of variance analysis and

multiple comparison.The results showed that the differences among each genotype of MCW166 are significant at 2,8,12-week and most significant at 6-week.For each genotype of ADL169,the differences at 4,6,8-week are significant while that at 6-week are most significant.
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【第一作者】杨菊凤
【通讯作者】康相涛
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【学科分类】畜牧学

【题目】固始鸡免疫器官内细胞凋亡相关蛋白Bax和Bcl-2的动态表达
【中文关键词】细胞凋亡; Bax; Bcl-2; 凋亡相关蛋白; 免疫组织化学; 免疫器官; 固始鸡
【英文关键词】apoptosis; Bax; Bcl-2; apoptosis related protein; immunohistochemistry; immunity organ; Gushi chicken
【中文摘要】应用免疫组织化学技术和Leica显微图像处理系统,对细胞凋亡相关蛋白Bax和Bcl-2在固始鸡免疫器官内的动态表达进行了研究。结果:Bax蛋白在不同发育阶段固始鸡免疫器官内均有表达,但表达量不同;Bax蛋白表达于固始鸡免疫器官内淋巴细胞细胞膜、细胞质和细胞核;Bax蛋白表达阳性细胞在固始鸡不同免疫器官内分布位置不同,呈散在或簇团状分布:脾脏内不同部位均有分布,主要在动脉周围淋巴鞘、红髓、淋巴小结边缘、边缘区,很少出现在淋巴小结内;胸腺内主要分布于胸腺小叶的皮质与髓质交界处,其次是胸腺小叶髓质,极少出现于皮质;法氏囊内阳性细胞主要分布于黏膜靠近上皮细胞的固有膜层内、淋巴滤泡间的区域,在淋巴滤泡边缘的少量淋巴细胞也有Bax蛋白表达,淋巴滤泡内极少有阳性细胞。Bcl-2蛋白在固始鸡免疫器官内的表达与Bax相似,但表达量与Bax相比较少。以上结果表明,细胞凋亡相关蛋白Bax和Bcl-2参与了固始鸡免疫器官内淋巴细胞发育分化过程中的凋亡调控,对免疫器官的稳定发挥重要作用。 更多还原
【英文摘要】Study on dynamic expression of the apoptosis related protein Bax and Bcl-2 in immunity organs of Gushi chickens was performed and analyzed by using immunohistochemistry technology and Leica Microsystems.The results showed that the expressions of Bax protein in different immunity organs were observed,however,numbers of the positive cells of Bax protein were different on different developmental stages.The positive Bax-protein was found in cell membrane,cytoplasm and nucleus of lymphocytes.The positive cells were dispersedly(or in clusters) distributed in different places for different immunity organs.Most of the positive cells,in spleen,were found in periarterial lymphatic sheath,red pulp,edge of splenic nodules and marginal zone,few of them in inner of splenic nodules.The positive cells,in thymus,were localized mainly in the connective zone of thymic cortex and thymic medulla,secondly in thymic medulla,and a few in thymic cortex.In Bursa,the majority of positive cells were observed in lamina propria of mucous membrane and areas between lymphoid follicles,a few in edge of lymphoid follicles,and few in inner of lymphoid follicles.The expression of Bcl-2 in the immunity organs of Gushi chickens was similar to that of Bax,but the expression level of Bcl-2 was less than that of Bax.All results mentioned above indicated that the apoptosis related protein Bax and Bcl-2 participated in the regulation of apoptosis of thymocytes and lymphocytes,and played the important roles in keeping the immunity organs stable.
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【第一作者】李奎
【通讯作者】康相涛
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【题目】如皋鸡Mx基因2032位点多态性与经济性状的关联分析
【中文关键词】Mx基因; 抗性基因; 经济性状; 鸡
【英文关键词】Mx基因; 抗性基因; 经济性状; 鸡
【中文摘要】采用错配PCR-RFLP对如皋鸡Mx基因2032位点多态性进行检测,结果如皋鸡Mx基因2032位点经RsaⅠ酶切后,检测到AA、AG和GG3种基因型,基因型频率分别为0.161、0.678和0.161,抗性等位基因A的频率为0.500。χ2适合性检验表明,如皋鸡Mx基因在RsaⅠ酶切位点上等位基因的分布显著偏离Hardy-Weinberg平衡状态。分析这3种基因型与如皋鸡一些经济性状间的关联性,结果表明:抗性纯合子AA基因型的个体各阶段体重、体尺以及主要屠宰性状均小于AG和GG基因型

的个体,但是除了体斜长和胫围外,AA基因型个体的重要经济性状包括常规肉质与AG和GG基因型的个体差异不显著。 更多还原

【英文摘要】The Mx gene in Rugao chicken was analyzed with mismatch PCR-RFLP method,the results showed that M2032 locus of Mx gene digested by restriction endonuclease Rsa Ⅰ could be divided into three kinds of genotypes,AA,GG and AG.The frequencies of these genotypes were 0.161,0.678 and 0.161,respectively.The frequency of resistance allele A was 0.500.The result of Chi Square test indicated that the frequencies of Mx gene digested by Rsa Ⅰ were significantly deviated from Hardy-Weinberg equilibrium in this study.The correlation between the three genotypes and some commercial traits was analyzed,the results showed that the body weight of different developmental stage,body size and mainly slaughter traits of the individuals with resistant genotype AA were lower than those with susceptible genotype AG and GG,but except for bias length and shank circumference,all other commercial traits including meat quality of the individuals with resistant genotype AA were not significantly different with those individuals with AG and GG genotypes in Rugao chicken.

【语种】中文

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【学科分类】畜牧学

【题目】优质肉鸡矮小型母系品系(S2系)产蛋性状的通径分析

【中文关键词】优质肉鸡; 矮小型品系; 产蛋性状; 通径分析

【英文关键词】quality chicken; dwarf line; laying traits; path coefficient analysis

【中文摘要】以4429只优质肉鸡矮小型母系品系(S2系)核心群个体产蛋数据为试验材料,运用通径分析法研究开产日龄(X1)、开产体重(X2)、开产蛋重(X3)、24周产蛋数(X4)、28周产蛋数(X5)5个产蛋性状因子与43周产蛋总数的关系。结果表明:各性状因子的通径系数分别为-0.17576、0.051788、-0.02997、0.259459、0.597501;28周产蛋数是影响43周产蛋数的主要决定因子。各性状(Xi)对43产蛋数(Y)的最优回归方程为:Y=56.826-0.292X1+0.006X2-0.030X3+0.770X4+3.106X5(P<0.01),总相关系数为0.8760,决定系数为0.7674。 更多还原

【英文摘要】Laying traits data of 4 429 dwarf female line(age at first egg,body weight at first egg,egg weight at first egg, egg number at 24 weeks old,egg number at 28 weeks old,egg number at 43 weeks old) were used to analyze correlation coefficient and path coefficient. The results showed that correlation coefficients were -0.17576,0.051788, -0.02997, 0.259459,0.597501,respectively. Egg number at 28 weeks old had a main effect on egg number at 43 weeks old. The path coefficient analysis was revealed the exact relationship between independent variables and dependent variable. We established the best regression equation:Y=56.826-0.292X1+0.006X2-0.030X3+0.770X4+3.106X5. Correlation coefficient and decision coefficient between all traits and egg number at 43 weeks old were 0.8760 and 0.7674,respectively.

【语种】中文

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【学科分类】畜牧学

【题目】ADSL、GARS-AIRS-GART基因多态位点和聚合基因型对白耳鸡胸肌肌苷酸(IMP)含量的效应分析

【中文关键词】ADSL;GARS.AIRS—GART基因;白耳鸡;基因聚合;肌苷酸

【英文关键词】无

【中文摘要】肌苷酸(IMP)是影响肌肉鲜味的重要物质,已成为衡量肉质优良的重要指标。基因聚合(gene pyramiding)就是将分散在不同品种或同一品种中的优良性状基因通过杂交、回交、复合杂交等手段聚合到同一个品种或个体中。白耳鸡是我国优良的地方鸡种,具有成熟早、产蛋性能高等特性。本文以国家地方禽种资源基因库保存的白耳鸡为素材组建基础

群,研究ADSL基因和GARS-GART AIRS基因多态位点及聚合基因型对胸肌肌苷酸含量的影响,以进一步提高白耳鸡肉品质。

【英文摘要】无
【语种】中文
【第一作者】张学余
【通讯作者】张学余
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【学科分类】畜牧学

【题目】PURH基因对鸡肉肌苷酸含量的遗传效应及其表达.
【中文关键词】鸡; 发育性变化; 肌苷酸; PURH基因; 单核苷酸多态性
【英文关键词】chicken; developmental stage; inosine monophosphate content; PURH gene; single nucleotide polymorphism
【中文摘要】以鸡氨基咪唑氨甲酰核苷酸转甲酰基酶/次黄嘌呤核苷酸环水解酶基因(PURH)为影响肌肉肌苷酸(IMP)含量的侯选基因,以鸡(Gallus gallus)5个品种为材料,采用PCR-SSCP与测序相结合的方法对PURH基因所有外显子及部分内含子区域进行单核苷酸多态性(SNPs)检测;同时采用实时荧光定量PCR方法对PURH基因在白耳鸡不同组织中的发育性表达进行了初步研究。结果共发现2个单核苷酸多态性位点,分别为外显子9中的A8023T突变和外显子16中的T17446C突变,仅T17446C位点的多态性与肌肉肌苷酸含量存在显著的关联,两个位点单倍型的效应要高于单个基因型的效应,推测PURH基因可能是影响IMP含量的主效基因或与主效基因相连锁,以单倍型作为鸡肉质性状的潜在的分子标记更有优势。在白耳鸡不同生长阶段不同组织中均检测到PURH mRNA的表达,其表达量呈明显的时序性变化,提示PURH基因的表达对肌苷酸的沉积具有一定程度的影响。
【英文摘要】The effects of the 5-aminoimidazole-4-carboxamide ribonucleotide formyltransferase/ inosine monophosphate(IMP) cyclohydrolase gene(PURH) on chicken(Gallus gallus)muscle IMP content and its expression characterization were investigated.Muscle IMP content was measured in five chicken breeds.Single nucleotide polymorphisms(SNPs) were detected by PCR-SSCP and DNA sequencing.The developmental pattern of PURH mRNA expression in different tissues in Baier chickens were determined by quantitative real-time PCR.Two SNPs were detected, A/T substitution at position 8023 in exon 9, and T/C substitution at position 17 446 in exon 16.Only T17446C polymorphism was associated with IMP content.The haplotype effect was higher than that of the single genotype effect.It could be concluded that PURH gene is a candidate locus or linked to a major gene that affects muscle IMP content.Haplotypes are superior to single genotypes as potential molecular markers for meat quality traits in chicken.The mRNA of PURH gene was detected in different tissues of different growth stages;and the pattern of developmental changes of PURH mRNA in different tissues were similar, which increased with the age before 12-week-old, the peak level be found at 12-week-old, and then declines.This result suggested that PURH gene expression has a certain extent effect on IMP content.
【语种】中文
【第一作者】束婧婷
【通讯作者】陈宽维
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【学科分类】畜牧学

【题目】Mx基因抗性位点在12个地方鸡种中的分布及遗传结构分析.
【中文关键词】鸡种; Mx基因; 遗传结构; 聚类分析
【英文关键词】chicken breed; Mx gene; genetic structure; clustering analysis
【中文摘要】通过PCR-RFLP技术检测Mx基因S631N位点的抗性等位基因A和敏感性等位基因G在我国地方鸡种中的分布差异。结果表明:PCR-RFLP能准确检测出抗性等位基因A与敏感性等位基因G在12个地方鸡种内的突变,抗性等位基因A在所有群体内的基因频率平均为0.304,敏感性等位基因G的频率平均为0.696;12个地方鸡种群体Mx基因S631N位点的观察杂合度平均为0.657 2,Shannon信息指数平均为0.524 0。在该位点上,12个地方鸡种除仙居鸡显著偏离Hardy-Weinberg平衡

(P<0.01)外,其余11个群体均处于Hardy-Weinberg平衡状态(P>0.05);经Ewens-Watterson中立性检验,该位点在各群体内(除白耳鸡群体外)都属于中立性选择。基于该位点等位基因频率构建的UPGMA聚类图将12个地方鸡种分为3大类,聚类结果反映了12个地方鸡种在Mx基因抗性方面存在的差异和优势。

【英文摘要】In the experiment,PCR-RFLP technique was used to detect the diffrences of the resistant and sensitive alleles distribution of S631N locus of Mx gene in twelve Chinese indigenous chicken populations.The results showed that the PCR-RFLP technique properly detected the mutation between resistant allele A and sensitive allele G.Among the twelve populations,the average frequencies of resistant allele A and sensitive allele G were 0.304 and 0.696,respectively.The average value of observed heterozygosis and Shannon ' s index at this locus were 0.657 2 and 0.524 0,respectively.Except for Xianju chicken,the other eleven populations were all in Hardy-Weinberg equilibrium at this locus(P>0.05).Except for Baier chicken,the Ewens-Watterson test indicated that this locus was neutral in all the other populations.The dendrograms based on allele frequency divided the twelve indigenous chicken populations into three clusters,which reflected the difference and advantage of Mx antiviral property in twelve indigenous chicken populations. 更多

【语种】中文

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【学科分类】畜牧学

【题目】日粮添加苜蓿草粉对固始鸡体重、体尺指标和内脏器官发育的影响

【中文关键词】固始鸡; 苜蓿草粉; 体重; 体尺指标; 内脏器官

【英文关键词】Gushi chickens; Alfalfa meal; Body weight; Body measurements; Internal organs

【中文摘要】本试验旨在研究日粮不同苜蓿草粉添加水平对同始鸡体重、体尺指标和内脏器官发育的影响,探讨固始鸡对饲粮中苜蓿草粉的耐受水平。选取同批孵化的健康固始鸡慢羽纯系雏鸡1 152只,随机分为6组,每组设4个重复,每个重复48只,公母各占1/2,分别饲喂含0、5%、10%、15%、20%和25%苜蓿草粉的日粮,试验期8周。结果表明:在2、4、6及8周龄时试验组固始鸡体重、各肠段长度、大多数内脏器官重和器官指数、8周龄时体尺指标与对照组间差异均不显著(P>0.05)。试验结果表明,日粮中添加0~25%苜蓿草粉对1~8周龄固始鸡体重和体尺指标没有产生显著影响;对其大多数内脏器官发育没有产生显著影响。说明固始鸡对粗饲料有一定的耐受能力,其日粮中可以添加较高水平的苜蓿草粉。

【英文摘要】This experiment was conducted to study the effects of alfalfa meal addition in diet on body weight,body measurements and internal organs development of Gushi chickens,and to find out alfalfa meal addition level that Gushi chickens could tolerate in diet.One thousand one hundred and fifty-two healthy Gushi chickens were selected and randomly assigned to six groups with four replicates in each group and forty-eight chickens (half male and half female) in each replicate.Six groups were fed diets with 0,5%,10%,15%,20% and 25% alfalfa meal,respectively.The experiment lasted for 8 weeks.The results showed that there were no significant effects on body weight,body measurements,length of duodenum, jejunum,ileum and cecum,weight and indices of most internal organs of Gushi chickens at 2,4,6,8 weeks of age between control group and exprimental groups (P>0.05).These results indicated that there were no significant effects on body weight,body measurements and most internal organs development of Gushi chickens with alfalfa meal content from 0 to 25% in diets.Gushi chickens could tolerate certain level of crude fiber in diet,and higher level alfalfa meal could be added to the diet of Gushi chickens.

【语种】中文

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【通讯作者】康相涛

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【学科分类】畜牧学

【题目】饲粮纤维水平对固始鸡盲肠纤维素酶活性和血清生化指标的影响

【中文关键词】粗纤维; 固始鸡; 盲肠纤维素酶; 血清生化指标
【英文关键词】Crude fiber; Gushi chicken; Caecum cellulase; Serum biochemical index
【中文摘要】将体重相近的9周龄健康固始鸡慢羽纯系母鸡120只随机分成2个处理组,每组3个重复,每个重复20只,进行11周的饲养试验。在饲喂等能量、等蛋白饲粮条件下,研究不同粗纤维水平(3%、5%)对固始鸡盲肠纤维素酶活性和部分血清生化指标的影响。结果表明:高纤维饲粮显著地提高了盲肠纤维素酶、碱性磷酸酶(AKP)活性,降低了白蛋白(AP)、磷(P)(P<0.05)含量;但对总蛋白(TP)、球蛋白(GP)、总胆固醇(TC)、甘油三脂(TG)、低密度脂蛋白(LDL)、尿素(UR)、钾(K)、钠(Na)没产生显著影响(P>0.05)。
【英文摘要】In order to study the effects of diets containing different levels of crude fiber(3%,5%) with equal energy and protein on caecum cellulase activity and partial serum biochemical indices of Gushi chicken,120 heads of 9-week-old healthy slow feather pure-line female chickens with similar body weight were randomly divided into two treatments,three repeats per treatment and 20 chickens per repeat,they were fed for 11 weeks.Results showed that there was significant difference between two treatments in cellulase activity,alkaline phosphatase(AKP),albumin(AP),phosphorous(P)(P<0.05),but high-level crude fiber diets had not significant effect on the content of total protein(TP),globulin(GP),total cholesterol(TC),triglyceride(TG),low density lipoprotein(LDL),urea(UR),potassium(K) and sodium(Na)(P>0.05).
【语种】中文
【第一作者】曹向阳
【通讯作者】康相涛
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【题目】固始-安卡鸡F2资源群Δ-9脂肪酸脱氢酶基因第4、5、6外显子SNP及其脂肪酸相关性研究
【中文关键词】鸡; Δ-9脂肪酸脱氢酶基因; 单核苷酸多态性; PCR-SSCP; 脂肪酸
【英文关键词】Chicken; Δ-9 desaturase gene; SNP; PCR-SSCP; Fatty acid
【中文摘要】利用PCR-SSCP(single strand conformation polymorphism)方法,对固始-安卡鸡F2代资源群△-9脂肪酸脱氢酶基因第4、5、6对外显子多态性进行分析,发现存在一个单核苷酸多态(SNP,single nucleotide polymorphisms)位点。在△-9脂肪酸脱氢酶基因第4外显子编码区(89nt)发生了碱基的转换突变(G→A)。在整个F2代资源群中进行了该多态位点与脂肪酸性状的相关分析,结果表明:在8个脂肪酸性状中,AA型个体十六碳二烯酸(C16∶2)含量显著高于GG型和GA型个体(P<0.05);家系1中AA型的C16∶0、C16∶2、C18∶0含量均显著高于GG型和GA型(P<0.05);家系3中AA型的C14∶0含量显著高于GG型和GA型(P<0.05)。
【英文摘要】PCR-SSCP technology was used to analyze the polymorphisms of extron 4,5,6 of △-9 desaturase gene in F2 chickens derived from Gushi chick to Anka chick.A SNP locus and G→A mutation at 89 nt of the extron 4 were found.The correlation statistical analysis indicated that F2 chickens with genotype AA had significantly higher C16∶2 content(P<0.05).Family 1 chickens with genotype AA had significantly higher C16∶0,C16∶2,C18∶0 content(P<0.05).Family 3 chickens with genotype AA had significantly higher C14∶0 content(P<0.05).
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【第一作者】刘凯
【通讯作者】康相涛
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【题目】鸡经济性状相关基因单核苷酸多态性的研究进展
【中文关键词】鸡; 经济性状; 单核苷酸多态性; 单链构象多态性; 限制片段长度多态性
【英文关键词】无

【中文摘要】随着分子生物学技术的发展,国内外采用分子标记的方法对鸡脂肪、生长屠体和繁殖等性状的相关基因进行了单核苷酸多态性的检测和关联分析,当关联被确定为富有成效的标记时,其潜在的可能性被直接用于育种方案。笔者对鸡经济性状重要功能基因单核苷酸多态性的研究加以综述,以期为今后的研究提供参考。 更多还原
【英文摘要】无
【语种】中文
【第一作者】韩瑞丽
【通讯作者】康相涛
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【题目】神经肽(NPY)基因多态性与邵伯鸡繁殖性状的关联性分析
【中文关键词】邵伯鸡; SNP; NPY基因; 繁殖性状
【英文关键词】Shaobo chicken; SNP; NPY gene; reproduction traits
【中文摘要】以神经肽(NPY)基因为候选基因,利用PCR-SSCP技术检测该基因的SNPs,并分析基因多态性与邵伯鸡母系母鸡的开产日龄、开产蛋重、开产体重以及300日龄总产蛋数之间的关联性。结果显示,在NPY基因上发现1个SNP位点,带有1对等位基因A和B,基因频率分别为0.35和0.65;不同基因型仅与开产体重性状间有显著相关,表现为基因型AA个体的平均开产体重比基因型AB个体的平均开产体重重119.03 g,且差异显著(P<0.05),基因型AA个体的平均开产体重比基因型BB个体的平均开产体重重47.6 g,但差异不显著(P>0.05);基因型BB个体的平均开产体重比基因型AB个体的平均开产体重重71.43 g,差异显著(P<0.05)。
【英文摘要】In this study,neuropeptideY(NPY) gene was used as a candidate gene to analyze the association of polymorphisms sites with reproduction traits in female line of Shaobo chicken,which included age at first egg(AFE),weight at first egg(WFE),the body weight at first egg(BWFE) and the total number of eggs with 300 age(EN).The result indicated that a SNP site was detected by PCR-SSCP.Frequencies of allele A and B at the SNP site were 0.35 and 0.65,respectively.The significant difference was found only between genotypes and the body weight laying at first egg.The average body weight at first egg of genotype AA is 119.03 g and 47.6 g more than that of genotype AB and BB,respectively,and the difference between genotypes AA and AB is significant(P<0.05);The average body weight at first egg of genotype BB is 71.43 g more than that of genotype AB,and the difference between the two genotypes is not significant(P>0.05). 更多
【语种】中文
【第一作者】黄华云
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【学科分类】畜牧学

【题目】秸秆还田技术在中国生态农业发展中的作用
【中文关键词】秸秆; 生态农业; 土壤有机质
【英文关键词】straw, ecological agriculture, soil organic matter
【中文摘要】中国的秸秆资源丰富,含有大量的营养元素,是宝贵的可再生资源。秸秆还田技术可以大面积以地养地,是低耗持续的农业生产方式,对提高土壤有机质的含量和质量,改善土壤的物理性状,培肥土壤,增加土壤微生物活性,提高农作物增产的潜力,防止农田土壤沙化和改善农业生态环境有重要的作用。同时,通过秸秆还田技术,减少农业生产造成的污染,实现秸秆的资源化利用,促进循环农业的快速发展。
【英文摘要】The straw is not only abundance in our country, but also is valuable regenerative resource containing lots of nutrient element. It is low and sustaining consumption mode of production in agriculture of the technology of straw returning to field, which can use soil to cultivate terra, enhance the content and quality of the soil organic matter , meliorate the soil fertility, improve the soil physical properties, fortify the activity of the edaphon, increase the crop yield, prevent the land from deserting and improve the

agricultural entironment. At the same time, we can achieve the resource utilization of straw, reduce the pollution by agriculture production and promote the fast development of cyclic agriculture by the technology of straw returning to field.
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【第一作者】刘娣
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【学科分类】农业基础学科

【题目】冬小麦品种抗霜冻力的影响因素分析
【中文关键词】冬小麦; 幼穗; 抗霜冻力; 发育期;
【英文关键词】Winter wheat; Young ear; Frost resistance; development stage;
【中文摘要】应用移动式人工霜箱,研究了冬小麦幼穗抗霜冻力随发育期的变化规律。结果表明,随发育期进程,幼穗抗霜冻力呈下降趋势,从药隔前期开始进入低温敏感期。利用室内人工霜箱,在药隔前期对21个品种进行了抗霜冻力鉴定,进而分析了不同品种、冬春性、越冬抗冻力以及叶片可溶性糖含量等对冬小麦抗霜冻力的影响。结果表明,除少数品种有一定抗霜冻力外,多数品种抗霜冻力无显著差异。品种抗霜冻力与其冬春性和越冬抗冻力均无显著相关性,与叶片可溶性糖含量之间亦无显著相关性。
【英文摘要】Frost often causes young ear injury at the elongation stage of wheat,the frost-sensitive period,leading to yield reduction.The objectives of this study were to understand how frost resistance of young ears(FRYE) varied with development progression to find the most frost-sensitive stage,and the factors affecting the FRYE,which is of importance for determining the feasible phase to evaluate the frost resistance of different wheat cultivars and,providing guidance to select the cultivars with frost resistance,as well as developing the frost prevention technologies.In this study,change in FRYE with development progression was investigated with 4 cultivars of winter wheat(Triticum aestivum L.),using the Movable Artificial Climate Chamber.Frost resistance of young ears of 21 cultivars were tested at earlier stage of anther connective formation phase(ACFP) using the Room Climate Chamber and the effects of several factors on FRYE,such as cultivars,varietal types,winter hardiness,and soluble sugar content of leaves were analyzed.Degree of injury was examined using the microscopes.The results showed that there was a decreasing trend for FRYE with procession of development and a sharp drop at the beginning of ACFP,suggesting that the sensitive phase to low temperature for young ears started with ACFP.Frost resistance of young ears closely related to development progression,and difference in frost injury among cultivars was mostly caused by differences in plant development progression;no significant differences could be found among most of the cultivars,except a few ones with a strong frost resistance;no significant correlations existed between varietal pattern and FRYEs,between FRYEs and winter hardiness,and between FRYEs and soluble sugar contents of leaves.Therefore,evaluation of FRYE and selection of cultivars with frost resistance need to perform in same development stage,especially in the frost-sensitive stage.And some indices for winter hardiness can not be used to estimate frost resistance of cultivars.
【语种】中文
【第一作者】钟秀丽
【通讯作者】孙忠富
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【题目】黄淮麦区小麦拔节后霜害的风险评估
【中文关键词】冬小麦; 拔节期; 霜害; 风险评估;
【英文关键词】winter wheat; jointing stage; frost injury; risk assessment;
【中文摘要】小麦拔节后抗寒力迅速减弱,遇强冷空气侵入会发生霜害。该文首先分析了黄淮麦区小麦拔节期的变化规律和霜害温度出现的规律。结果表明:逐日进入拔节期的概率随日序的变化可以用正态分布函数来表示;霜害温度出现的累积概率随日序的变化可以用指数方程表示。根据拔节期和霜害温度出现的规律,建立了霜害的风险评估模式。给出了霜害

风险度的地区分布,并指出利用模式中的参数值可以判断几种防御措施的有效性。

【英文摘要】The resistance of the winter wheat drops rapidly when the plants begin to joint in early spring,in which season air temperatures fluctuate frequently.Winter wheat plants are prone to spring frost injury once strong cold air invades.The variation in wheat jointing date and the occurrence of low temperatures for frost injury(LTFI) in Huang-Huai wheat production areas are analyzed.The jointing date is affected mainly by cultivars growth.The occurrence of LTFI is mainly determined by the local climate.The variation in probability of wheat developing into jointing stage with Gregorian day could be expressed well by normal distribution function,and the accumulative probability of the occurrence of LTFI by exponential function.Based on these analyses,the mathematical model for assessing the degree of frost injury risk(DFIR) is then established.DFIR is mainly determined by such parameters as the termination date for some frost temperature(μ),the earliest jointing date(K),the standard deviation of the jointing date(σ),and the rate of variation in the accumulative probability of frost temperature with Gregoran day proceeding(b) etc.Parameters in the assessment model differ among the counties located in Huang-Huai and around area,leading to the different DFIR.According to the DFIR function,the zone with high DFIR is from the upriver region of Hanshui River that lies to the south of the Qinling Mountain,via the western Huang-Huai plain,to the plain lying in the mid-lower region of Huaihe River.The DFIR tends to drop gradually northwards and southwards,more rapidly for the former than the latter.Some effective measures could be chosen according to the properties of the parameters in the given area.In the area with high b value and low σ value,postponing the jointing stage may reduce the DFIR effectively;while in the area with high σ value,avoiding wheat jointing particularly early,appropriate cultivars and sowing date seem to be a good strategy to reduce DFIR;for the area of high DFIR calculated from the function with combined parameters,growing the frost resistant varieties becomes the most effective measure to avoid frost injury.

【语种】中文

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【题目】不同农业利用方式下土壤铜和锌的累积

【中文关键词】农田; 铜含量; 锌含量; 累积

【英文关键词】farmlands; copper content; zinc content; accumulation

【中文摘要】通过对山东寿光表层农业土壤(0~20cm)铜和锌的调查研究,了解不同农业利用方式下土壤铜和锌含量的差异,揭示其空间分布规律及其累积特征。从研究区域采集来自设施菜地、露天菜地、小麦/玉米/棉花地和自然土壤等4类当地主要农业利用方式的土壤(n = 127) ,样点覆盖寿光整个农业生产区域。结果表明,山东寿光农业土壤的铜含量均值为26.43mg.kg- 1,极差69 11 mg.kg- 1,锌含量均值为80.50mg.kg- 1,极差210. 8 mg.kg- 1。不同农业利用方式的土壤铜锌含量从高至低的顺序均为:设施菜地>露天菜地>小麦/玉米/棉花地>自然土壤,不同农业土壤铜锌含量均出现了明显累积趋势,其中,以设施菜地的累积问题最为突出,其铜锌含量分别为33.91、124.2mg·kg- 1,显著高于其它农业利用土壤类型,但均未超过国家土壤环境质量II级标准;从研究区域铜锌含量的空间分布看,当地农业土壤铜锌含量均表现为北部、南部区域较低、中部地带较高的趋势;在集约化种植模式下,设施菜地铜锌含量随着设施年限的延长显著增加(p < 0.05),其累积速率分别为1.49mg·kg- 1.a- 1和2. 59 mg.kg- 1.a- 1,这可能与铜锌含量相对较高的有机肥大量施用有关。

【英文摘要】This paper presented the differences among the content of copper and zinc in the upper soils (0 - 20cm) under different agricultural practices and their corresponding spatial distribution through the investigation in Shouguang, Shandong province. The characteristics of accumulation of copper and zinc content in the farmlands and natural field of the studied region were also discussed. In this study, a total of 127 soil samples were collected from greenhouse vegetable field, open vegetable field, wheat /maize / cotton field and natural field. The sampling location covered all the agricultural production region of Shouguang County. The results indicated that the range for the content of copper in local agricultural lands was 69.11 mg.kg- 1 with the average content 26.43 mg.kg- 1 , and the range for zinc was 210.8 mg·kg- 1 with the average amount of 80.50 mg.kg- 1. In comparison with different agricultural lands, the highest concentration for copper and zinc appeared in the vegetable land under p rotected cultivation with the average content of 33.91 mg.kg- 1 for copper, 1. 38 -1.56 times higher than that of any other agricultural land, and the content of zinc was 124. 2 mg.kg- 1 , which is also 1.49 - 1.69 times higher than that in soils of other agricultural lands. The content of copper and zinc in different soils ranked in this order: Greenhouse vegetable field > Open vegetable lands > Wheat /maize / cotton field > Contrast soils. Though accumulation of copper and zinc in agricultural soils occurred in different agricultural lands, the content of copper and zinc did not

exceed the permitted limit. The spatial distribution map of copper and zinc showed that relatively higher content occurred in the middle part, and relatively lower concentration appeared in the northern and southern region. Under the pattern of intensive farming, the content of copper and zinc in vegetable land under p rotected cultivation increased significantly in linear trend ($p < 0.05$) with the cultivation years p rolonged, and related accumulation rate in soils was 1.49 mg kg- 1 a - 1 for copper and 2.59 mg.kg- 1 a - 1 for zinc, which was probably related to application of abundant organic fertilizer with high content of copper and zinc.

【语种】中文
【第一作者】李莲芳
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【题目】一株新的溶磷棘孢青霉菌Z32的分离、鉴定及其土壤定殖与溶磷特性
【中文关键词】溶磷菌;刺孢青霉;定殖;无机磷分级
【英文关键词】phosphate-dissolving microorganism; Penicillium aculeatum; colonization; inorganic-P fraction
【中文摘要】【目的】从植物根部土壤中分离到一株高效溶磷真菌Z32,进行了分类学鉴定和土壤定殖与溶磷特性的初步研究。为溶磷微生物的应用提供新的菌株。【方法】通过形态特征、培养特征和ITS rDNA 序列分析方法进行菌株鉴定。通过菌株Z32 在土豆液体培养基培养过程中培养液pH 的变化确定溶磷菌株的溶磷能力。利用菌株土培试验,进行菌株的土壤定殖和土壤中不同形态无机磷转化试验。【结果】菌株Z32 鉴定为棘孢青霉菌(Penicillium aculeatum)。菌株Z32能在4d内完全溶解固体培养基中的磷酸三钙,18h内将土豆液体培养基的pH值从7.0降低到1.5左右。菌株Z32在20°C时的定殖效果最好,21d 时,菌数达到起始的9 83倍,而且能够保持到49d 不消亡。在20°C时,添加菌株Z32的土培实验在21d 时,土壤中Ca8H2(PO4)6·5H2O、AlPO4和FePO4等难溶无机磷向可溶性的CaHPO4转化,CaHPO4含量增加了58.83%。49d时,土壤中的Ca8H2(PO4)6·5H2O、AlPO4和FePO4被转化后,没有随着微生物的减少而完全被固定。【结论】筛选到一株新的溶磷菌株Z32在土壤中很好定殖,能够转化土壤中多种形态的难溶无机磷为可溶性的CaHPO4,显著增加土壤CaHPO4的含量。同时阻滞了Ca8H2(PO4)6·5H2O、AlPO4和FePO4等难溶无机磷的固定。
【英文摘要】[Objective]To obtain new strains that can dissolving phosphate,we screened and identified a new strain Z32capabile of phosphate dissolving from soil samples. We studied the colonization and phosphate-dissolving characteristics ofZ32 in soil. [Methods] Morphological,growth on various media,and ITS rDNA sequences homology analysis were performed to identify the strain Z32. We conducted a soil experiment in pot to investigate the colonization and the capbility of the different forms of inorganic phosphorus transformation of the strain Z32. [Results]The strain Z32 was identified as Penicillium aculeatum. Z32 dissolved all Ca3(PO4)2 in solid culture for 4 days and decreased the pH from 7. 0 to 1. 5 in potato liquid culture for 18 hours. Z32 presented high colonization ability in soil and the optimum colonization temperature was 20°C. The number of Z32 increased 9. 83 times in 21 days and kept alive in 49 days at the optimum temperature. Z32 promoted the transformation of insoluble phosphate like Ca8H2(PO4)6·5H2O,AlPO4 and FePO4 to soluble CaHPO4 and the CaHPO4 content increased by 58. 83% in soil compared to CK at the 21st d at 20°C. [Conclusion]A new strain Z32 with high performance of phosphate dissolving had colonized well in soil. Z32 showed high phosphate-dissolving ability for different kinds of inorganic phosphorus in soil. At the same time,Z32 inhibited the transformation of CaHPO4 to insoluble phosphate.
【语种】中文
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【题目】黄淮麦区冬小麦拔节期的时空变化研究
【中文关键词】黄淮麦区; 冬小麦; 拔节期; 时空变化;

【英文关键词】Huang-Huai wheat production area; Winter wheat; Elongating time; Temporal-spatial variation;
【中文摘要】依据黄淮麦区及其周边地区的36个农业气象观测站20a的观察资料,分析了影响冬小麦拔节期的主要因子;建立了已拔节概率随时间变化的方程,分析其重要参数的地区分布。并讨论了造成地区差异的原因和生产应用上应注意的问题。
【英文摘要】Twenty years data of winter wheat elongating time, varieties,vernalization feature,and average air temperature of every 10 days in spring,occurrence and injury of frost,etc. were collected from 36 agro-meteorological observation stations, which are located in Huang-Huai wheat production area and its around areas. With these data, the main factors that affect the elongating time of winter wheat were analyzed; the function on accumulative probability with time was established and the variations of some main parameters in this area were also analyzed. Finally,the causes for the variation in parameters were discussed and the guidance for the practical production was also proposed.
【语种】中文
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【题目】黄淮麦区冬小麦拔节后霜冻温度出现规律研究
【中文关键词】冬小麦; 拔节; 霜冻; 频率; 黄淮麦区;
【英文关键词】Winter wheat; Elongation; Frost; Frequency; Huanghuai wheat production zone;
【中文摘要】用37个农业气象观测站20年逐日最低气温资料,统计出现<0℃和<-1.4℃的累积频率,它们随时间的变化可用指数方程来描述。分析了表征方程特点的参数b、<0℃和<-1.4℃基本终止日期的地区分布规律。根据遭遇霜冻温度的累积频率和拔节期,找出霜冻的可能多发区,并讨论了b值在制定防御霜冻对策中的应用。
【英文摘要】Data on minimum day air temperature after wheat elongation was collected over a period of 20 years from 37 agrometeorological observation stations in Huanghuai wheat production zone and the environs.Using the data,cumulative occurrence probability of temperatures lower than 0℃(G<0℃)and-1.4℃(G<-1.4℃) were statistically analyzed.Results indicate variations in G<0℃and G<-1.4℃ with time are well described by exponential functions.Variations in area of b value,function characteristic parameter,and approximate termination dates of air temperatures lower than 0℃ and-1.4℃ were also analyzed.Based on the occurrence probability of low temperatures and spatio-temporal variations in wheat elongation time,potential areas of frequent frost occurrence were delineated.Finally,application of b value in frost prevention strategies was discussed.
【语种】中文
【第一作者】钟秀丽
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【题目】纤维素降解真菌Y5的筛选及其对小麦秸秆降解效果
【中文关键词】筛选; 真菌; 赭绿青霉; 酶活力; 纤维素降解
【英文关键词】isolation; fungi; Penicillium ochrochloron; cellulase activity; cellulose degradation
【中文摘要】为了利用纤维素降解菌促进作物秸秆快速腐解还田,解决秸秆资源浪费和污染环境问题,进行了高效秸秆纤维素降解微生物的筛选和降解效果研究. 采用固体平板和液体摇瓶培养,从黑龙江黑土样品中筛选出1 株能够降解羧甲基纤维素、秸秆木质纤维素、高产纤维素酶的丝状真菌Y5,通过形态学观察和ITS rDNA 序列分析对该真菌进行了初步鉴定. 利用DNS 还原糖方法,对菌株在不同的培养时间、纤维素类型、氮源种类以及初始pH 值情况下纤维素酶活力进行了研究. 采用失重法、液体摇瓶法对菌株降解小麦秸秆的能力进行了研究. 结果表明,筛选的秸秆降解菌株Y5 经鉴定为赭绿青霉(Penicillium ochrochloron)。菌株Y5 液体培养4 d 的全酶活(FPA) 和内切酶活(EG) 最高,分别为53 IU /mL和55 IU /mL,比对照

菌株(绿色木霉AS3. 3711) 高出22. 6% 和18. 2% ;Y5 菌株以小麦秸秆为作用底物时的酶活最高,2 种酶活分别比对照菌株提高27. 5% 和24. 8% ;以NaNO3为氮源时酶活性最大,FPA 和EG 比菌株AS3. 3711 分别提高35. 7% 和14. 9% ;培养液初始pH 为6 时全酶活最大为51. 4 IU /mL. 菌株Y5 培养10 d 降解小麦秸秆纤维素、半纤维素、木质素分别达到了43. 5% 、49. 7% 和9. 3% ,对小麦秸秆纤维素与半纤维素降解能力强. 赭绿青霉Y5 对小麦秸秆纤维素具有很强的降解能力,其纤维素酶活高于已报道的菌株,该菌株的获得为秸秆降解菌剂的研究与应用提供了具有较高潜力的菌种.

【英文摘要】In order to promote the decomposition of crop straw and return it to soil rapidly and solve the problems such as the waste of straw resources and pollution,we screened the bacterial or fungi with high-efficient degradation of straw lignocelluloses and studied its capability of degradating wheat straw. An isolate of filamentous fungus with higher cellulase activity and ability to decompose CMC and straw lignocellulose was screened from black soil samples taken from Heilongjiang province by using the soil dilution,plating and liquid culture methods. Morphological status on various media,and ITS rDNA sequences homology analysis were performed to identify the taxonomy of the isolate. The effects of different time,different N resources,different cellulose resources and different pH values on enzyme activities produced by fungus was analyzed,and The ability of wheat straw degradation of Y5 was determinated by using weigh. loss method and liquid culture. The fungus was identified as Penicillium ochrochloron and named Y5. Filter paper activity(FPA) and endo-1,4- β -D-glucanase (EG) were both reached the maximum after the first fourth day inoculated,averaged 53 IU /mL and 55 IU /mL,respectively,which were 22. 6% and 18. 2% higher than that of strain Trichoderma viride(AS3. 3711) ,respectively. Enzyme activities were the highest under the condition of wheat straw used as C resources,which were 27. 5% and 24. 8% higher than that of AS3. 3711. The FPA and EG activities were 35. 7% and 14. 9% higher than the AS3. 3711 strain with NaNO3 as nitrogen source. The optimal pH value of liquid culture was 6. The cellulose,hemicellulose and lignin contents were degraded by 43.5% ,49.7% and 9.3% after the first 10 days inoculated,respectively,which indicated that Y5 had strong enzyme activities on degradation of cellulose and hemicelluloses of wheat straw. The Penicillium ochrochloron Y5 has strong ability of wheat straw cellulose degradation,and its cellulase activities are higher than some published researches. The Penicillium ochrochloron Y5 strain has the great potential in research and development for inoculant of crop straw decomposition.

【语种】中文
【第一作者】殷中伟
【通讯作者】范丙全
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【学科分类】微生物学

【题目】土壤中砷的形态和生物有效性研究现状与趋势
【中文关键词】砷;价态;形态分析;生物有效性;测定方法
【英文关键词】arsenic;valence; speciation analysis; bioavailability; determination methods
【中文摘要】砷在自然界中分布极为广泛,与人类生活密切相关,在工农业生产活动中得到了广泛应用。但砷是高毒元素,在微量水平上就能对动植物体产生一定危害。砷的危害通过生物有效性予以表达,其生物有效性与其在土壤中的累积量及形态密切相关。本文就砷在土壤中的存在价态、与土壤胶体的结合形态、砷生物有效性及不同形态砷的测定技术与方法等方面进行了简要综述,并对未来相关领域的研究发展趋势作了展望,以期为深入开展土壤中砷形态及其生物有效性研究提供科学参考。

【英文摘要】Arsenic is distributed widely in nature and closely related to human life. It has been widely used in industrial and agricultural production activities. However, arsenic is a highly toxic element, and harmful to animals and plants, even at low concentration. The hazards of arsenic are usually expressed by bioavailability, which has a close relationship with the accumulated amount and its speciation in soils. This paper is mainly discussed the valence of arsenic, the combination of soil colloidal forms, the bioavailability and the determination methods of different arsenic forms, and the future trend in interrelated fields was also discussed for providing scientific reference on further research of the soil arsenic speciation and bioavailability.

【语种】中文
【第一作者】胡留杰
【通讯作者】曾希柏
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【题目】黄淮麦区小麦拔节后霜冻的农业气候区划
【中文关键词】黄淮麦区; 小麦; 霜冻; 区划; 防御措施;
【英文关键词】Huang-Huai wheat production zone; Wheat; Frost injury; Division; Preventive measure;
【中文摘要】本文根据黄淮地区及其周边地区1981~2000年农业气象资料,导出1个计算小麦拔节后遭遇霜冻温度风险度(F)的经验方程,以F为指标做出黄淮麦区小麦霜冻的农业气候区划。进而根据F和方程中的参数,评价各类防御措施在各分区的必要性、有效性和可行性。
【英文摘要】Winter wheat becomes sensitive to frost injury once in elongation stage.Based on agricultural climatic data of Huang-Huai Area and the environs,an assessment function was developed to assess the degree of risk(F)wheat encounters in frost temperature.The agricultural climatic division of frost was then plotted out,using F as an indicator.Based on F and the function parameters,application of frost preventive measures in the different divisions was discussed in terms of necessity,validity and feasibility.
【语种】中文
【第一作者】钟秀丽
【通讯作者】钟秀丽
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【题目】河北种质库部分作物种子生活力监测分析
【中文关键词】作物;发芽率;长期贮藏;河北种质库
【英文关键词】Crops;Seed germination percentage;Long-term storage;Hebei Genebank
【中文摘要】对河北省种质库中21种作物1.3万多份种子进行了生活力监测,结果表明,①贮存12~17年后,94.55%以上的被监测种子发芽率仍保持在80%以上,但有292份种子(占被监测份数的2.00%)发芽率出现了明显下降(从80%以上降至70%以下)。②不同作物种子发芽率的变化趋势不完全相同,燕麦和冬小麦亲本两种作物种子平均监测发芽率出现了显著下降。同一作物不同品种、荞麦、冬小麦和玉米不同类型、燕麦入库不同批次、夏大豆不同收获年代等贮藏后发芽率的变化也存在明显差异。与黄粒玉米相比,白粒玉米监测发芽率显著低于入库发芽率,但尚需扩大监测品种数量以验证其普遍性。
【英文摘要】Seed viability of 13137 accessions in 21 crops was monitored after storage for 12-17 years in Hebei Genebank, China. More than 94.5% accessions still maintained high germination percentage (GP) (over 80%). The GP of 292 accessions, accounting for 2% in total monitoring accessions, declined significantly from over 80% to under 70%. The change tendencies of seed viability of different crops were not completely same after storage. Mean GP declined significantly in oats and winter wheat parents after storage. Many factors including different varieties in the same crop, different types in buckwheat and winter wheat and corn, different storing sets in oat, different harvesting years in summer soybean, resulted in obvious difference of GP after storage. Mean GP of white corn declined significantly compared with yellow corn after storage, but further experiments with more accessions need to be done in order to test its universality.
【语种】中文
【第一作者】耿立格
【通讯作者】耿立格
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【题目】河北省绿子叶黑豆种质资源表现型和ISSR标记遗传多样性分析

【中文关键词】绿子叶黑豆;种质资源;农艺性状;ISSR;遗传多样性
【英文关键词】Green-cotyledon black soybean; Germplasm; Agronomic character; ISSR ; Genetic diversity
【中文摘要】为了揭示河北省绿子叶黑豆种质资源的遗传多样性,为其研究利用提供理论根据,以46份原产河北省的绿子叶黑豆种质资源为试验材料,对其基于表型性状及ISSR标记鉴定结果进行了聚类分析,结果表明:7个ISSR引物共检测出60个等位变异,平均每个位点有8.6个等位变异,变幅为5~17个;ISSR引物的多态性信息量PIC变幅为0.721~0.927,平均0.820;利用表型性状和ISSR标记数据进行品种间遗传多样性分析,遗传相似系数变化范围分别为0.07~0.53和0.43~1.00,平均为0.284和0.704,遗传相似性变幅较大,河北省不同绿子叶黑豆品种间存在着丰富的遗传多样性。聚类结果显示,类群与品种来源地有关。
【英文摘要】The genetic diversity of green-cotyledon black soybean cultivars native to Hebei province was evaluated based on ISSR and agronomic characters. The results indicated that 60 alleles of 7 ISSR markers were detected among 46 cultivars with an average of 8.57 alleles per ISSR marker, and the number of alleles per primer ranged from 5 to 17. The value of allelic polymorphism information content (PIC) ranged from 0.721 to 0.927, on the average of 0.82 per primer. The value of genetic similarity (GS) indices of 46 cultivars based on the 14 agronomic traits and ISSR data varied from 0.067 to 0.533 and 0.43 to 1.0 respectively, with an average of 0.284 and 0.704, indicating that the genetic diversity among green-cotyledon black soybean cultivars from Hebei is abundant. The clustering results showed that the groups could reflect the origin of the cultivars.
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【第一作者】耿立格
【通讯作者】耿立格
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【题目】磷脂酶Dδ参与植物的低温驯化过程
【中文关键词】低温驯化; 磷脂酶Dδ; 信号转导;
【英文关键词】cold acclimation; phospholipase Dδ; signaling;
【中文摘要】对经低温驯化和未经低温驯化的磷脂酶Dδ(PLDδ)基因敲除突变体与野生型植株进行冻害胁迫处理后,比较2种基因型植株的抗冻性。结果发现,经低温驯化的PLDδ敲除突变体的抗冻性明显低于野生型,而未经低温驯化的PLDδ敲除突变体与野生型的抗冻性没有显著差异,表明PLDδ参与植物的低温驯化过程。对PLDδ的作用途径进行分析,发现PLDδ在低温驯化过程中不参与抗氧化酶活性的调节,对脯氨酸和可溶性糖的积累起负调节作用,但是参与低温信号转导物质ABA诱导抗冻性的过程。
【英文摘要】We compared cold-acclimated and non-acclimated phospholipase D (PLD) δ-knockout and wild-type Arabidopsis thaliana plants for tolerance to freezing.PLDδ-knockout plants showed lower freezing tolerance than did wild-type plants with cold acclimation;without cold acclimation,the two genotypes did not differ in freezing tolerance.Therefore,the PLDδ gene is involved in the process of cold acclimation.The pathways through which PLDδ acts in the process of cold acclimation were then analyzed.During cold acclimation,PLDδ was not involved in the activation of SOD,CAT,or POD anti-oxidative enzymes;it negatively regulated the accumulation of proline and soluble sugar,and mediated the process of freezing resistance induced by the low temperature signaling molecule ABA.
【语种】中文
【第一作者】王涛
【通讯作者】钟秀丽
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【题目】脂质组学研究方法及其应用

【中文关键词】色谱; 脂质组学; 质谱; 代谢组学; 软电离;
【英文关键词】chromatogram; lipidomics; mass spectrometry; metabolomics; soft ionization;
【中文摘要】脂质不仅是生物膜的骨架成分和能量贮存物质,越来越多的证据表明,脂质也参与细胞的许多重要功能。脂质组学是代谢组学的一个重要分支,主要研究生物体内所有的脂质分子的特性以及它们在蛋白质表达和基因调控过程中的作用。脂质组学是依赖技术驱动的科学。近年来,随着人们对脂质研究的重视,脂质组学研究方法和策略有了突破性进展,在动物上开发出的脂质组学分析方法已经扩展应用到植物上。该文重点介绍脂质组学的研究方法及其应用,以期推动脂质组学,特别是植物脂质组学的进一步发展。
【英文摘要】Lipids provide both the structural basis of the cell membrane and fuel for metabolism. In plants, increasing evidence has demonstrated roles for lipids in cellular processes. As one of the most important branches of metabolomics, lipidomics may be a comprehensive strategy to study the cellular lipidomes and their biological roles in terms of protein expression and gene regulation involved in lipid metabolism and function. Progress in lipidomics has been driven by development in analytical methods and approaches. In recent years, with the increasing attention to and interest in lipidomics, great progress has been made in analytical strategies for lipidomics. Some advanced strategies to analyze lipid composition in animals have been successfully extended to plants. This review gives an overview of the current strategies in lipid profiling, to promote the development of lipidomics, especially plant lipidomics.
【语种】中文
【第一作者】王涛
【通讯作者】钟秀丽
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【学科分类】植物保护学

【题目】Critical Research for Dryland Conservation Agriculture in the Yellow River Basin,China
【中文关键词】Yellow River Basin; Rainfed field; Farming systems; Conservation agriculture
【英文关键词】Yellow River Basin; Rainfed field; Farming systems; Conservation agriculture
【中文摘要】Yellow River Basin (YRB) is the cradle of Chinese civilization. Agriculture production plays a very important role in regional food security.Currently, soil erosion, poverty and water shortages are three major problems that affect the development of agriculture in YRB. Severesoil erosion is leading to loss of fertile topsoil and decreasing soil productivity. These processes are particularly evident in dry and slopinglands associated with rainfed agriculture. How to face and resolve these problems in agriculture? And what are the key techniques toimprove rainwater use efficiency? According to the results in the drylands conservation agriculture research and practice, CA is the mostpromising approach for sustainable development in agriculture, such as harvesting of rainwater using residue mulches, which canincrease crop production, and the reduction of soil tillage and construction of water harvesting and supplementary irrigation system. Notonly does it generate immediate benefits in terms of increased farm productivity, it also offers social benefits of great relevance to YRB.
【英文摘要】Yellow River Basin (YRB) is the cradle of Chinese civilization. Agriculture production plays a very important role in regional food security.Currently, soil erosion, poverty and water shortages are three major problems that affect the development of agriculture in YRB. Severesoil erosion is leading to loss of fertile topsoil and decreasing soil productivity. These processes are particularly evident in dry and slopinglands associated with rainfed agriculture. How to face and resolve these problems in agriculture? And what are the key techniques toimprove rainwater use efficiency? According to the results in the drylands conservation agriculture research and practice, CA is the mostpromising approach for sustainable development in agriculture, such as harvesting of rainwater using residue mulches, which canincrease crop production, and the reduction of soil tillage and construction of water harvesting and supplementary irrigation system. Notonly does it generate immediate benefits in terms of increased farm productivity, it also offers social benefits of great relevance to YRB.
【语种】英文
【第一作者】严昌荣
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【题目】甘薯种质资源遗传稳定性及遗传多样性SSR分析
【中文关键词】甘薯;遗传稳定性;遗传多样性;SSR
【英文关键词】Sweetpotato; Genetic stability; Genetic diversity; SSR
【中文摘要】应用SSR标记检测国家种质徐州甘薯试管苗库中离体保存5年和8年的24份种质资源及其对应的田间圃材料的遗传稳定性,同时对24份甘薯种质的遗传多样性进行分析。20对SSR引物分析表明,24份甘薯材料扩增得到了清晰的DNA条带30条,其中多态性条带21条,多态性百分率为70%,全部品种在两种保存方式下谱带一致,说明两种保存方式的效果相同。应用NTSYS软件对材料进行遗传相似性和UPGMA聚类分析,24份甘薯种质资源遗传相似系数在0.57-0.93之间,平均为0.74。在0.72的相似系数上24份材料可以聚成三大类,表明我国的甘薯品种种质资源还是比较丰富的。该研究为甘薯种质资源长期离体保存及甘薯杂交育种提供理论依据。
【英文摘要】Genetic stability of 24 sweetpotato germplasm maintained in vitro more than 5 years in the National Sweetpotato in vitro Genebank in Xuzhou, was analyzed using Simple Sequence Repeat (SSR) molecular markers. 20 pairs SSR primers were used. The result showed that all sweetpotato germplasm stored in vitro had the same amplified products as the controls preserved in field nursery, indicating that the two different methods have the same effect on preserving sweetpotato germplasm stability. Meanwhile, we analyzed the genetic diversity of 24 sweetpotatoe germplasm. The dendrogram generated by UPMGA showed the genetic relationship among 24 accessions. The genetic similarity among 24 accessions varied from 0.57 to 0.93. The total number of bands and polymorphic bands in the 20 primer combinations were 30 and 21 respectively. The 24 accessions were divided into 3 groups by cluster analysis. The results may provide a theoretical basis for sweetpotato germplasms maintained in vitro and the breeding of sweetpotato.
【语种】中文
【第一作者】赵冬兰
【通讯作者】赵冬兰
【期刊名称、卷期、页码】植物遗传资源学报 2011,12(3):389-395
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【学科分类】分子生物学

【题目】Rainfed conservation agricultural systems in the Yellow River Basin, China
【中文关键词】rainfed farming system; agricultural research; No‐till; stubble mulch; water productivity; soil and water conservation
【英文关键词】rainfed farming system; agricultural research; No‐till; stubble mulch; water productivity; soil and water conservation
【中文摘要】The agricultural sector of the Yellow River Basin (YRB) plays an importantrole in national food security. It contains 15.3 million hectares of cultivatedland, representing about 12.4% of the total cultivated land in China. Some63% of the cultivated land of the YRB lies in central portion of the Basin andmost of it can be characterized as dry, rainfed, farming systems. In the YRB,the main dryland food grain crops are wheat, maize and millet, and the maincash crops are cotton, oil seeds (peanut, sesame and rape), tubers, fruit(notably apple) and sugar beet. Typically, one crop is grown per year in theupper and central regions, whereas in the downstream areas in Henan andShandong Provinces two crops per year are common, with the main rotationsbeing wheat‐maize, wheat‐soybean and wheat‐potato. Soil erosion, povertyand water shortages are three major problems that constrain thedevelopment of agriculture in the YRB. Severe soil erosion is leading to lossof the most fertile topsoil and decreasing soil productivity, particularlyevident in dry and sloping lands associated with rainfed agriculture whererural poverty is also widespread. Water use efficiency is generally quite lowin rainfed agriculture in the Basin due to high evaporation rates and runoff.Conservation agriculture (CA) is the most promising option for sustainableagriculture in the YRB. Not only does CA generate immediate benefits interms of increased farm productivity, it also offers social benefits of greatrelevance to YRB. Results from Shouyang County in 2007 and 2008 show thatno tillage and reduced tillage can increase soil water availability and soilorganic carbon (SOC stocks). Straw retention in tilled and no till systemssignificantly increased grain yield in both years, however yields with tillagewere significantly higher than no‐till, both with and without residueretention, and the reasons for this require further investigation.

【英文摘要】The agricultural sector of the Yellow River Basin (YRB) plays an importantrole in national food security. It contains 15.3 million hectares of cultivatedland, representing about 12.4% of the total cultivated land in China. Some63% of the cultivated land of the YRB lies in central portion of the Basin andmost of it can be characterized as dry, rainfed, farming systems. In the YRB,the main dryland food grain crops are wheat, maize and millet, and the maincash crops are cotton, oil seeds (peanut, sesame and rape), tubers, fruit(notably apple) and sugar beet. Typically, one crop is grown per year in theupper and central regions, whereas in the downstream areas in Henan andShandong Provinces two crops per year are common, with the main rotationsbeing wheat – maize, wheat – soybean and wheat – potato. Soil erosion, povertyand water shortages are three major problems that constrain thedevelopment of agriculture in the YRB. Severe soil erosion is leading to lossof the most fertile topsoil and decreasing soil productivity, particularlyevident in dry and sloping lands associated with rainfed agriculture whererural poverty is also widespread. Water use efficiency is generally quite lowin rainfed agriculture in the Basin due to high evaporation rates and runoff.Conservation agriculture (CA) is the most promising option for sustainableagriculture in the YRB. Not only does CA generate immediate benefits interms of increased farm productivity, it also offers social benefits of greatrelevance to YRB. Results from Shouyang County in 2007 and 2008 show thatno tillage and reduced tillage can increase soil water availability and soilorganic carbon (SOC stocks). Straw retention in tilled and no till systemssignificantly increased grain yield in both years, however yields with tillagewere significantly higher than no – till, both with and without residueretention, and the reasons for this require further investigation.

【语种】英文
【第一作者】严昌荣
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【学科分类】农学其他学科

【题目】Modeling the effects of conservation agriculture on land and water productivity of rainfed maize in the Yellow River Basin, China.

【中文关键词】tillage, mulch, incorporation, residues, CERES, DSSAT
【英文关键词】tillage, mulch, incorporation, residues, CERES, DSSAT

【中文摘要】In the dryland regions of North China, water is the limiting factor for rainfedcrop production. Conservation agriculture (featuring reduced or zero tillage,mulching, crop rotations and cover crops) has been proposed to improve soiland water conservation and enhance yields in these areas. Conservationagriculture systems typically result in increased crop water availability andagro – ecosystem productivity, and reduced soil erosion. To evaluate thepotential of conservation agriculture to improve soil water balance andagricultural productivity, the DSSAT crop model was calibrated using thedata of a field experiment in Shouyang County in the semi – arid northeasternpart of the Yellow River Basin. The average annual precipitation at the site is472 mm, 75% of which falls during the growing season. The site had a maizefallow – maize rotation. We used data from two crop seasons (2005 and 2006)and four treatments for calibration and analysis. The treatments were:conventional tillage (CT), no – till with straw mulching (NTSM), all – strawincorporated (ASRT) and one – third residue left on the surface with no – till(RRT). The calibration results gave satisfactory agreement between fieldobserved and model predicted values for crop yield for all treatments exceptRRT, and for soil water content of different layers in the 150cm soil profile forall treatments. The difference between observed and predicted values was inthe range of 3 – 25% for maize yield and RMSE was in the range of 0.03 – 0.06cm3/cm3 for soil water content measured periodically each croppingseason. While these results are encouraging, more rigorous calibration andindependent model evaluation are warranted prior to makingrecommendations based on model simulations. Medium – term simulations(1995 – 2004) were conducted for three of the treatments using the calibratedmodel. The NTSM and ASRT treatments had similar or higher yields (by upto 36%), higher crop water productivity by up to 28% and reduced runoff ofup to 93% or 43 mm compared to CT.

【英文摘要】In the dryland regions of North China, water is the limiting factor for rainfedcrop production. Conservation agriculture (featuring reduced or zero tillage,mulching, crop rotations and cover crops) has been proposed to improve soiland water conservation and enhance yields in these areas. Conservationagriculture systems typically result in increased crop water availability andagro – ecosystem productivity, and reduced soil erosion. To evaluate thepotential of conservation agriculture to improve soil water balance andagricultural productivity, the DSSAT crop model was calibrated using thedata of a field experiment in Shouyang County in the semi – arid northeasternpart of the Yellow River Basin. The average annual precipitation at the site is472 mm, 75% of which falls during the growing season. The site had a maizefallow – maize rotation. We used data from two crop seasons (2005 and 2006)and four

treatments for calibration and analysis. The treatments were:conventional tillage (CT), no‐till with straw mulching (NTSM), all‐strawincorporated (ASRT) and one‐third residue left on the surface with no‐till(RRT). The calibration results gave satisfactory agreement between fieldobserved and model predicted values for crop yield for all treatments exceptRRT, and for soil water content of different layers in the 150cm soil profile forall treatments. The difference between observed and predicted values was inthe range of 3‐25% for maize yield and RMSE was in the range of 0.03‐0.06cm3/cm3 for soil water content measured periodically each croppingseason. While these results are encouraging, more rigorous calibration andindependent model evaluation are warranted prior to makingrecommendations based on model simulations. Medium‐term simulations(1995‐2004) were conducted for three of the treatments using the calibratedmodel. The NTSM and ASRT treatments had similar or higher yields (by upto 36%), higher crop water productivity by up to 28% and reduced runoff ofup to 93% or 43 mm compared to CT.

【语种】英文

【第一作者】严昌荣

【通讯作者】严昌荣

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【学科分类】农学其他学科

【题目】不同储藏温度下油菜种子生活力的基因型差异

【中文关键词】油菜; 储藏; 基因型; 种子生活力

【英文关键词】Rapeseed; Storage; Genotype; Seed viability

【中文摘要】以发芽率为指标,研究了40 份甘蓝型、白菜型和芥菜型油菜在-20°C、4°C、25°C、37°C、60°C温度储藏3个月、6 个月、12 个月后种子生活力的变化。结果显示: -20°C和4°C储藏下,不同基因型间种子发芽率变异较小,而25°C、37°C和60°C储藏下,基因型间种子生活力存在明显差异,选择60°C高温储藏不同时间的种子进行生活力鉴定,从甘蓝型、白菜型和芥菜型油菜中均筛选得到耐储藏的基因型。

【英文摘要】Commercial varieties of rapeseed need to survive hot summer from harvest to next planting in Yangtze River area - the main production area of China.Therefore retaining seed viability is important. Genotype effect on seed storage was shown to be crucial apart from environmental factors as low moisture and low temperature.In present study,germination rate was used to evaluate seed viability. 40 genotypes of Brassica napus,Brassica juncea and Brassica rapa were tested at temperature of -20°C,4°C,25°C,37°C,60°C for 3 months,6 months and 12 months respectively. Results showed that germination rate did not change significantly at low temperature of -20°C and 4°C. But it declined slightly with storage time at temperature of 25°C,37°C and 60°C. So the seed viability at high temperature of 60°C was chosen to be a criterion for evaluating the storage resistant genotype. The criterion was used to screen materials from B.campestris,B.rapa and B.juncea. Excellent germplasms with slow declining in seed viability were found in this study. They showed potential on heat - storage resistant breeding and on preserving seed viability in production.

【语种】中文

【第一作者】高桂珍

【通讯作者】伍晓明

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【学科分类】农学其他学科

【题目】国家作物种质库油菜种子发芽和出苗监测研究

【中文关键词】油菜;种子;贮藏;发芽;出苗;国家作物种质库

【英文关键词】rape; seeds; storage; germination; seedling emergence; national crop genebank of China

【中文摘要】【目的】了解国家作物种质库中不同贮藏时间的油菜种子发芽和出苗状况,明确影响油菜种子发芽力变化的关键因素,评估野生近缘种质的保存效果,为国家作物种质库贮存油菜种子及其它作物种子生活力监测及更新方案的制定提供参考,达到长期安全保存种质资源的目的。【方法】监测在国家作物种质库贮藏8—22 年的347份具有代表性的油菜种子的发芽与出苗情况,采用SPSS 10.0 软件进行相关分析、t 测验及方差分析,对不同起始发芽率、不同贮藏时间以及不同种

质类型种子的保存效果进行综合评价。【结果】83.6%的种子在国家作物种质库贮存8—22 年后其发芽率仍保持在油菜种质栽培种入库最低标准85%以上;有29 份种质(占被监测份数的8.3%)的发芽率出现了明显下降,从80%以上下降至70%以下;有142 份(占被监测份数的40.9%)材料发芽率显著下降(在2.5%水平下)。总体上讲,随着起始发芽率的下降或者贮藏时间的延长,发芽率显著下降(在2.5%水平下)的份数所占监测份数的比例不断增加。油菜种子在长期库中保存15 年后,发芽率出现显著下降。油菜野生近缘种发芽率显著下降种质的比例明显高于栽培种。【结论】入库起始发芽率95%为长期库种子安全贮藏的分界限,起始发芽率在95%以上的种子入国家作物种质库保存会更安全;对于在国家作物种质库中贮藏的野生近缘种或者贮藏时间在15 年以上的种子,应进行生活力的密集监测并及时安排繁殖更新。

【英文摘要】【Objective】The objective was to study seed germination and seedling emergence of rape accessions stored in the National Crop Genebank of China (NCGC), and to realize the key factors on germinating ability variation of seeds including initial germination percentage level and storage-time, and to assess the effect of storage on rapeseed wild relatives, and to provide a scientific basis for monitoring seed viability and making renewal protocols of rapeseed and other crops stored in the NCGC.【Method】 Seed germination and seedling emergence of 347 rapeseed accessions stored in the NCGC for 8-22 years were monitored. The effect of storage on stored seeds of different initial germination percentages, storage-time and germplasm-type were analyzed with Pearson Correlation, T-test and One-way ANOVA by the software SPSS 10.0.【Result】The results showed that after8-22 years ’ storage in the NCGC, more than 83.6% of the 347 monitored accessions of rape seeds maintained a germination percentage above 85%, the lowest initial viability standard for rape cultivated species seeds when put into a low-temperature genebank. The germination percentage of 29 accessions, accounting for 8.3% of the total, declined significantly from above 80% to below 70%. The germination percentage of 142 accessions, accounting for 40.9% of the total, declined significantly (α =2.5%).The ratio of significant declining (α =2.5%) of germination percentages increased along with the declining of initial germination percentage level or with the extending of storing-time of rapeseed as a whole. After above 15 years of storage, the seed germination percentage of rape accessions stored in the NCGC significantly declined. The ratio of significant declining of germination percentages of rapeseed wild relatives was remarkably higher than that of cultivated rapeseed species.【Conclusion】For the safe storage of germplasm resources, the initial germination percentages standard should be above 95% for most of the rapeseeds in the NCGC. The seeds of wild rape relatives or that being stored for above 15 years in the NCGC should be monitored intensively and arranged timely for breeding.

【语种】中文
【第一作者】陈碧云
【通讯作者】伍晓明
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【题目】HPLC 法分析油菜种子油中维生素E 的组成与含量
【中文关键词】油菜; 维生素E; 生育酚; 高效液相色谱法
【英文关键词】Qilseed rape; Vitamin E; Tocopherol ; HPLC
【中文摘要】利用HPLC 法分析了50 份遗传背景丰富的白菜型油菜、甘蓝型油菜、芥菜型油菜和芸芥种子油中维生素E 的组成与含量。研究结果显示,油菜种子油中主要含α-生育酚和γ-生育酚,且α-生育酚、γ-生育酚和维生素E 总量均存在明显的基因型差异,甘蓝型油菜种子油中维生素E 含量总体水平最高,平均总量较高,为123.11 mg /100g 油,维生素E 含量最高的Omega,总量为144.73 mg /100g 油,α/γ-生育酚比值最高可达0.77。α-生育酚、γ-生育酚和维生素E 总量与类胡萝卜素含量均呈现显著负相关,种子油中α-生育酚与含油量呈现显著正相关,α-生育酚、γ-生育酚和维生素E 总量与生育期均呈现显著或极显著正相关,α-生育酚和维生素E 总量与株高均呈现显著正相关,维生素E 总量与千粒重呈显著正相关,而α-生育酚、γ-生育酚和维生素E 总量与全株角果数和每角粒数相关不显著。

【英文摘要】Seed oil tocopherol content in 50 divergent genotypes of oilseed rape of Brassica campestris L., Brassica napus L.,Brassica juncea Coss. and Eruca stiva Mill. were analyzed by HPLC method,the results indicated that α-tocopherol and γ-tocopherol are two dominant tocopherols in seed oil,which significant variation in both composition and content could be found among different genotypes. tocopherol content in seed oil of Brassica napus L. is the highest among all species,with a average content of 123. 11 mg /100g oil,the genotype Omega has the highest total content of 144.73 mg /100g oil,the highest ratio of α-tocopherol and γ-tocopherol is 0.77. α-tocopherol, γ-tocopherol and total tocopherol content showed significant negative correlation with carotenoid content,a significant positive correlation were found between α-tocopherol content and oil content. α-tocopherol, γ-tocopherol and total tocopherol content presented significant positive correlation with growth peroid, α-tocopherol and total

tocopherol content were significantly correlated with plant height,total tocopherol content demonstrated significant positive correlation with 1000 seeds weight. However, α -tocopherol, γ -tocopherol and total tocopherol content showed no correlation with number of siliques and Seeds number per silique.
【语种】中文
【第一作者】吕培军
【通讯作者】伍晓明
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【学科分类】农学其他学科

【题目】Efffects of no-tillage management on soil biochemical characteristics in northern China.
【中文关键词】no-tillage
【英文关键词】no-tillage
【中文摘要】Field experiments (15 years) were carried out to study the effects of no-tillage (NT) and conventionaltillage (CT) management practices on the soil chemical properties, microbial biomass, soil enzymaticactivities and winter wheat yield on a cinnamon soil in Shanxi, on the Chinese Loess Plateau.Compared to CT, NT increased soil organic carbon, soil total nitrogen and soil total phosphorus inthe 0 – 100 mm layer by 25, 18 and 7%, respectively. Microbial biomass C and N contents under NTwere 41 and 57% greater than under CT on the same layer. In general, higher enzymatic activitieswere found in the more superficial layers of soil under NT than under CT in the same layer. Winterwheat yield was c. 20% higher under NT than under CT. These findings have implications forunderstanding how conservation tillage practices improve soil quality and sustainability in therainfed dryland farming areas of northern China.
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【语种】英文
【第一作者】刘恩科
【通讯作者】刘恩科
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【题目】中国作物分子设计育种
【中文关键词】作物; 分子设计育种; 育种模拟; 目标基因型; 育种策略
【英文关键词】作物; 分子设计育种; 育种模拟; 目标基因型; 育种策略
【中文摘要】分子设计育种通过多种技术的集成与整合, 对育种程序中的诸多因素进行模拟、筛选和优化, 提出最佳的符合育种目标的基因型以及实现目标基因型的亲本选配和后代选择策略, 以提高作物育种中的预见性和育种效率, 实现从传统的“ 经验育种 ”到定向、高效的“ 精确育种 ”的转化。分子设计育种主要包含以下3 个步骤: (1)研究目标性状基因以及基因间的相互关系, 即找基因(或生产品种的原材料), 这一步骤包括构建遗传群体、筛选多态性标记、构建遗传连锁图谱、数量性状表型鉴定和遗传分析等内容; (2)根据不同生态环境条件下的育种目标设计目标基因型, 即找目标(或设计品种原型), 这一步骤利用已经鉴定出的各种重要育种性状的基因信息, 包括基因在染色体上的位置、遗传效应、基因到性状的生化网络和表达途径、基因之间的互作、基因与遗传背景和环境之间的互作等, 模拟预测各种可能基因型的表现型, 从

中选择符合特定育种目标的基因型; (3)选育目标基因型的途径分析, 即找途径(或制定生产品种的育种方案)。本文评述近几年来我国在遗传研究材料创新、重要性状遗传分析、育种模拟工具开发和应用、设计育种实践、分子设计育种技术体系建设等方面取得的重要进展, 结合国内外研究现状对分子设计育种的未来进行展望, 最后指出我国近期应加强育种预测方法和工具、基因和环境互作、遗传交配设计、作物功能基因组学、生物信息学方法和工具、设计育种技术体系和决策支持平台等领域的研究, 同时重视人才培养和团队建设。

【英文摘要】分子设计育种通过多种技术的集成与整合, 对育种程序中的诸多因素进行模拟、筛选和优化, 提出最佳的符合育种目标的基因型以及实现目标基因型的亲本选配和后代选择策略, 以提高作物育种中的预见性和育种效率, 实现从传统的“经验育种”到定向、高效的“精确育种”的转化。分子设计育种主要包含以下3 个步骤: (1)研究目标性状基因以及基因间的相互关系, 即找基因(或生产品种的原材料), 这一步骤包括构建遗传群体、筛选多态性标记、构建遗传连锁图谱、数量性状表型鉴定和遗传分析等内容; (2)根据不同生态环境条件下的育种目标设计目标基因型, 即找目标(或设计品种原型), 这一步骤利用已经鉴定出的各种重要育种性状的基因信息, 包括基因在染色体上的位置、遗传效应、基因到性状的生化网络和表达途径、基因之间的互作、基因与遗传背景和环境之间的互作等, 模拟预测各种可能基因型的表现型, 从中选择符合特定育种目标的基因型; (3)选育目标基因型的途径分析, 即找途径(或制定生产品种的育种方案)。本文评述近几年来我国在遗传研究材料创新、重要性状遗传分析、育种模拟工具开发和应用、设计育种实践、分子设计育种技术体系建设等方面取得的重要进展, 结合国内外研究现状对分子设计育种的未来进行展望, 最后指出我国近期应加强育种预测方法和工具、基因和环境互作、遗传交配设计、作物功能基因组学、生物信息学方法和工具、设计育种技术体系和决策支持平台等领域的研究, 同时重视人才培养和团队建设。

【语种】中文

【第一作者】王建康

【通讯作者】万建民

【期刊名称、卷期、页码】ACTA AGRONOMICA SINICA 2011, 37(2): 191　201

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【学科分类】农业基础学科

【题目】牦牛IFN-γ基因的表达及其产物的生物学活性分析

【中文关键词】牦牛; IFN2γ基因;表达;生物学活性

【英文关键词】yak ;interferon2γgene ;expression ;bioactivity

【中文摘要】用植物血凝素和脂多糖诱导牦牛外周血淋巴细胞,提取细胞总RNA ,利用RT2PCR 技术克隆了牦牛IFN-γ(YakIFN-γ) 基因,然后设计了1 对表达引物,从p GEM2YakIFN-γ载体上扩增YakIFN2γ成熟蛋白基因,将牦牛IFN-γ基因与表达载体pET230a 连接,构建了重组表达质粒pET-30-YakIFN-γ。用IPTG诱导表达的可溶性表达产物经镍柱亲和纯化,用纯化的重组YakIFN-γ蛋白进行了MTT、抑制肿瘤细胞增殖和细胞病变抑制的生物学特性研究。结果显示,成功克隆和表达了YakIFN-γ基因;序列分析表明:克隆的YakIFN-γ基因序列与GenBank 上登录的黄牛IFN2γ基因序列的同源性为99. 0 %。SDS-PAGE 分析和Western-blot 检测证实,获得了高纯度的重组YakIFN-γ蛋白。重组YakIFN-γ(r YakIFN-γ) 对伪狂犬病病毒的活性单位为2. 2 ×103 U/ mg。表明表达并纯化的r YakIFN-γ蛋白具有较高的生物学活性和干扰病毒

【英文摘要】Total RNA was extracted from yak perip heral blood lymphocytes stimulated with phytohemagglutinin (PHA) and lipopolysaccharide (LPS) . The Yak interferon-γ(YakIFN2γ) cDNAs were amplified by RT-PCR. One pair of primers were designed to amplify the gene encoding YakIFN-γ from p GEM-T2 YakIFN-γ,and cloned it into pET-30a vector ,named pET-30a-YakIFN-γ. The expressed YakIFN-γ protein was purified by Niagaro segel . The p urified expressed product was analyzed by SDS-PAGE and Western-blot . The biological characteristics of YakIFN2γ(r YakIFN-γ) protein was examined by MTT , tumor cell proliferation test . Homology analysis showed that YakIFN-γ gene shared 99. 0 % with bovine IFN-γ gene available in GenBankTM . The activity of r YakIFN2γagainst pseudorabies virus (PRV) was about 2. 2 ×103 U/ mg.

【语种】中文

【第一作者】王生富

【通讯作者】景志忠

【期刊名称、卷期、页码】中国兽医科学 2008,38(11): 983-989

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【引文索引类型】其他

【引文索引号】

【学科分类】农学其他学科

【题目】适应玉米生产的溶磷真菌筛选及其应用
【中文关键词】溶磷菌;玉米;定殖;适应性
【英文关键词】phosphate-dissolving microorganism; corn; colonization; adaptability
【中文摘要】【目的】从土壤中筛选溶磷菌株,提供适应玉米生产的溶磷微生物。【方法】利用难溶磷无机盐培养基从作物根际土壤样品中筛选溶磷菌株,通过菌株在土豆液体培养基培养过程中培养液pH 的变化确定溶磷菌株的溶磷能力。利用菌株在平板和土壤中对玉米根系的适应性,选择对玉米适应性好的菌株应用到盆栽实验和大田实验。【结果】从土壤中筛选到具有较高溶磷效果的真菌15 株,经鉴定其中9 株为草酸青霉,2株为变幻青霉,1 株为刺孢青霉、1 株为绿色木霉、1 株为黑曲霉、1 株为构巢曲霉。15 株真菌能够显著降低PDB 溶液的pH 值,其中5 株能够将溶液的pH 从7. 0 降到2. 0 以下。实验室平板和土培试验发现菌株Z15 + 、ZQ3、ZI1、Zh 和Z30 能够在以玉米根系分泌物为C 源的平板和土壤中很好地生长、定殖,表明这5 株菌能够有效利用玉米的根系分泌物。将这5 株菌进行盆栽种植玉米,菌株ZI1 和Zh 处理后,能显著的提高土壤中的有效磷含量,在第49 天时,有效磷含量分别高于土壤初始含量的28. 05% 和37. 04% ,收获的玉米干重比对照分别高26. 04% 和20. 21%。将菌株ZI1 和Zh 制成菌剂进行大田试验,试验结果表明菌剂Zh 使大田玉米产量提高13. 22% ,达到10873. 05 kg / hm2。而使用ZI1 菌剂的大田玉米产量与CK 相比没有显著差异。【结论】本实验获得的适应玉米的溶磷菌株Zh 为构巢曲霉。
【英文摘要】[Objective]To obtain phosphate-dissolving strains which can be suitable for cornproduction. [Methods]We screened phosphate-dissolving strains from soil samples. We conducted the plate experiment and soil experiment in laboratory,pot experiment in greenhouse and field experiment to test the insoluble phosphate dissolving ability of thestrains. [Results]Fifteen strains of phosphate-dissolving fungi were isolated from soil samples,including 9 Penicillium oxalicum,2 Penicillium variabile,1 Penicillium aculeatum,1 Trichoderma viride,1 Aspergillus niger,and 1 Aspergillus nidulans. The 15 strains could obviously drop the pH in culture media. Five strains (Z15 + 、ZQ3、ZI1、Zh and Z30) reduced the pH value from 7. 0 to below 2. 0 in 18 h. The plate experiment and soil experiment in laboratory indicated that these 5 strains could propagate in plates and soil by using the root secretion of corn as sole carbon source. The pot experiment inoculating with the 5 strains was conducted in greenhouse by planting corn. The result demonstrated that thecontent of available phosphorous was increased remarkably with strains ZI1 and Zh. The content of available phosphorous at 49th day increased 28. 05% and 37. 04% ,respectively,than initial content in strains ZI1 and Zh treatment. The dry matter yield of corn significantly increased 26. 04% and 20. 21% than the control,respectively. Then strains ZI1 and Zh were used in field experiment as microbial inoculums. The yield of corn treated with strain Zh increased 13. 22% than that of the control,reaching 10873. 05 kg / ha. However,the yield of corn treated with strain ZI1 presented no significant difference with the control. [Conclusion]The phosphate-dissolving strain Zh obtained in this experiment was identified as Aspergillus nidulans ,which is suitable for corn production.
【语种】中文
【第一作者】龚明波
【通讯作者】范丙全
【期刊名称、卷期、页码】微生物学报,2010 December;50(12):1619-1625.
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【引文索引号】
【学科分类】微生物学

【题目】产纤维素酶真菌QSH3-3的筛选及其特性研究
【中文关键词】纤维素酶、木聚糖酶,产酶条件,酶学性质
【英文关键词】Cellulase; Xylanase;Optimized fermentation; Characterization of the enzymatc reactions conditions
【中文摘要】在富含纤维素类物质的土壤中筛选到一株产纤维素酶菌株QSH3-3,通过形态观察和ITS序列分析,鉴定为草酸青霉Penicillium oxalicum QSH3-3。摇瓶产酶试验结果表明,得出最佳产酶条件为在0.5% 碱处理过的玉米粉,0.2% 硫酸铵,起始pH为7 ,接种量5% ,30°C下培养4 d,FPase、CMCase、木聚糖酶活力最高,分别为12 U/mL、33 U/mL、605 U/mL。该菌株在15°C即可产生高峰值70% ~80% 的酶活力。部分酶学性质研究表明,FPase、CMCase、木聚糖酶属于酸性酶,最适作用pH值分别为5、4、5,最适反应温度均为50°C,在pH值4 ~9 范围内均具有较高的酶活,具有较强耐碱性,FPase、CMCase在40~50°C热稳定性较好,木聚糖耐热性较差。

【英文摘要】one strain QSH3-3 of fungi producing cellulases was screened and isolated from the soil, classified as Penicillium oxalicum QSH3-3 by the analysis of its morphology and 18S rRNA gene sequences. According to the effect of various substance on the cell growth and activity of cellulase,the components of optimized medium and fermentation conditions were confirmed.Different conditions including incubating tirne, carbon source, nitrogen source, initial pH, inoculating quantities, temperature were 4d, alkali maize cellulose, ammonia sulfate, pH 7, 5%, and 30°C. Under optimized conditions, 12 U/mL of FPase, 30 U/mL of CMCase and 605 U/mL of Xylanase in cultured supernatant were obtained after 4d fermentation. The enzyme activity can reached the 70%~80% of the highest value at 15°C. FPase, CMCase and xylanase of the optimal conditions for the enzymatic reaction were all of about 50°C and pH5, 4, 5, respectively; and pH4~9 the enzyme showed high activity and good stability, FPase、 CMCase showed high activity and good stability under50°C,and xylanase showed poor thermal stability.
【语种】中文
【第一作者】刘爽
【通讯作者】范丙全
【期刊名称、卷期、页码】植物营养与肥料学报, 2012, 18 (1): 218-226;
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【引文索引类型】SSCI
【引文索引号】
【学科分类】微生物学

【题目】Development of a Web-Based Wireless Telemonitoring System for Agricultural Environment
【中文关键词】数据采集,无线移动网络(GPRS / CDMA),网络TCP / IP的软件设计,
【英文关键词】Data collection, wireless network (GPRS/CDMA), the network of TCP/IP software design,
【中文摘要】为了满足这些需求的权威数据采集,一个项目计划的无线远程控制系统被标绘出根据农业的特点scattered-sites远离发达社区,多个环境因素、可变的条件被自然灾害,等等。结合现代信息技术(IT),环境数据采集系统,称为WITSYMOR V1.0,研制出了被设计成兼容绝大多数普通传感器(如温度和水分对空气和土壤、技术、气压、标准杆,总太阳辐射、土壤的pH值和EC,等等。内核技术是实现无缝连接的无线移动网络(GPRS / CDMA)和网络TCP / IP的软件设计,数据从远程农业网站的期权获得和传播到中央数据库服务器,可以浏览、下载和应用授权用户随时随地在任何地方。目前,它已经成立,在一些农业站、园艺温室、methane-gas池以及在动物收容所。结果表明,该系统工作稳定,而且更自适应监测各种农业环境因素在站点很远。
【英文摘要】In order to satisfy the requirements of agro-environmental data acquisition,a project scheme of wireless telemonitoring system was plotted out according to the agricultural characteristics of scattered-sites far from developed community,multiple environmental factors,mutable conditions disturbed by natural disasters,and so forth.Integrated with modern information technology (IT),an environmental data acquisition system,named WITSYMOR V1.0, was developed,which was designed to be compatible with most of common sensors,such as temperature and moisture for air and soil,CO_2,air pressure, PAR,total solar radiation,soil pH and EC,etc.The kernel techniques were to realize a seamless connection between wireless mobile network (GPRS/CDMA) and Internet with TCP/IP software design,the data from the remote agricultural sites were real-timely acquired and transmitted to the central database servers,and could be browsed,applied and downloaded by authorized users at anytime and in anywhere.At present,it has been set up in some agricultural stations,horticultural greenhouses,methane-gas pools,as well as in animal shelters.The results show that the system works stably,and it is much adaptive to monitor various agricultural environmental factors in the sites far away.
【语种】英文
【第一作者】杜克明
【通讯作者】孙忠富
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【引文索引类型】其他
【引文索引号】
【学科分类】计算机科学技术其他学科

【题目】猪α干扰素基因的克隆及结构的分析
【中文关键词】pIL218 , 毕赤酵母, 基因表达, 纯化, 生物活性

【英文关键词】interleukin218 , Pichia pastoris , gene expression , purification , analysis of bioactivity
【中文摘要】采用PCR 方法从pGEM2IL218 重组质粒中扩增出IL218 基因并构建真核融合表达载体pPIC9K-IL-18 ,电激法转化入毕赤酵母GS115 ,采用G418 抗性梯度法筛选得到多拷贝重组菌株,甲醇诱导表达,应用SDS-PAGE 分析重组蛋白的表达情况,并将表达蛋白用凝胶层析柱纯化后,用MTT法检测其生物学活性。实验结果表明重组的GS115 酵母菌株可表达分泌pIL-18 ,其表达在72h 时达高峰,分泌量可达160mgPL ,纯化的重组pIL-18 蛋白具有显著的促进淋巴细胞增殖的活性,说明本试验已在毕赤酵母中在国内首次成功表达了具有生物学活性的pIL-18。
【英文摘要】The porcine IL-18 gene was amplified from recombinant plasmid pGEM-IL-18 by PCR ,then the pPIC9K2IL218 of fusion expression vector was constructed by inserting IL-18 fragment ,and was transformed to GS115 by electroporation ,multi-copy recombinant strains were screened by G418. The expression of recombinant fusion protein was induced by methanol ,SDS-PAGEwas used to analyze expression product ,fusion protein was purified by Sephadex G-100 column ,bioactivity of IL-18 was measured by MTT assays. Experiment results show fusion protein of pIL-18 secreted by GS115 ,expression reaches the secretion peak of 60mgPL at 72h. We have expressed and purified successfully the recombinant pIL-18 with obvious biological activity in Pichia pastoris .
【语种】中文
【第一作者】宋世斌
【通讯作者】景志忠
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【学科分类】分子生物学

【题目】Absorption and accumulation of cadmium by ramie (Boehmeria nivea) cultivars: A field study
【中文关键词】品种,稻田土壤,植物修复,苎麻
【英文关键词】Cultivar, paddy soil, phytoremediation, ramie.
【中文摘要】苎麻是来自中国的有很大的能力,容忍和积累重金属的纤维作物。这项研究分析苎麻品种的能力,吸收和积累,通过两年的微区域实地镉(Cd)研究表明,压力和镉的高浓度下显着影响苎麻生物量25mg/kgCd促进增长和发展的苎麻品种苎麻1和9。 Cd含量在不同部分苎麻韧皮以下排名:皮>茎>叶。镉浓度不同苎麻品种有显着不同,土壤中的镉浓度增加显着增加。苎麻有能力,积累了大量的镉,25和100mg/kg条件下,三次苎麻丰收,每年除去0.76和0.97 kg Cd/ha。从这项研究的结果表明苎麻品种的植物修复镉污染农田的可行性,已经取得镉积累通过筛选和培训的能力。
【英文摘要】Ramie is a fibre crop originating from China that has great ability to tolerate and accumulate heavy metals. This study has analysed the capacity of ramie cultivars to absorb and accumulate cadmium (Cd) through two years of micro-regional field study and shown that stress under high concentration of Cd significantly affects the biomass of ramie; 25 mg kg 1Cd treatment promotes the growth and development of ramie cultivars B. nivea 1 and 9. The Cd contents retained in different parts of ramie are ranked as the following: bast>stems>leaves. Cd concentrations in shoot systems among different ramie cultivars are significantly different and increase dramatically in association with the increasing Cd concentration in the soil. Ramie has the ability to accumulate large amounts of Cd; under the treatment with 25 and 100 mg kg-1 of Cd, three times of ramie harvest annually remove 0.76 and 0.97 kg hm-2a-1 of Cd respectively. The results from this study demonstrate the feasibility of phytoremediation of Cd-contaminated farmland by ramie cultivars that have obtained Cd accumulating capacity through screening and training.
【语种】英文
【第一作者】佘玮
【通讯作者】揭雨成
【期刊名称、卷期、页码】Acta Agriculturae Scandinavica, Section B - Soil & Plant Science, 61:7, 641-647
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【学科分类】土壤学

【题目】猪白细胞介素4重组蛋白的纯化及其生物学特性分析
【中文关键词】猪白细胞介素4 ;重组表达;纯化;活性分析

【英文关键词】bioactivityporcine interleukin 4 ; recombinant expression ; p urification ; bioactivity analysis
【中文摘要】用已构建好的重组表达载体pGEX-4T2IL24转染E-coli ,在最适条件下诱导表达,表达产物经SDS-PAGE分析,表达出38 ku 的融合蛋白,表达量占菌体总蛋白的25 % ,表达产物主要以包涵体的形式存在;对表达产物经变性、复性及初步纯化后再结合饱和硫酸铵沉淀和Sephadex-G100 凝胶层析柱进一步纯化,所得蛋白的纯度约在90 %以上。在体外利用MTT 法检测其生物学特性,结果表明其具有较好的生物学活性,本试验为获得猪IL-4 重组蛋白奠定了基础。
【英文摘要】The recombinant expression vector pGEX-IL-4 was induced by IPTG in optimal conditions in E.coli1 SDS-PAGE analysis showed that the expressed fusion protein with a molecularweight of 38 ku existed in the inclusion body1 The fusion protein , which was of 25 % in total bacterial proteins , was denatured , renatured , and purified with saturated ammonium sulfate precipitation and Sephadex-G100 with the purity of above 90%.MTT analysis indicated that purified protein has good bioactivity , which has laid a foundation for the production and development of recombinant protein of porcine IL-41
【语种】中文
【第一作者】陈国华
【通讯作者】景志忠
【期刊名称、卷期、页码】畜牧兽医学报 2007,38(10):1072~1076
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【学科分类】农学其他学科

【题目】东北与黄淮海地区低温灾害发生规律与区划研究进展
【中文关键词】低温灾害,发生规律,区划
【英文关键词】Low temperature disasters, the occurring pattern and divisions
【中文摘要】低温灾害是影响作物产量的重要灾害之一。近年来各种灾害的发生有不断增加的趋势。本文通过分析低温灾害的类型,参考国内外关于低温灾害的研究标准。论述了中国东北与黄淮海两大区域低温灾害的标准,时空分布规律及区划的研究。并讨论了未来可能的发展趋势。
【英文摘要】Low temperature disasters is the effect of crops yield one of important disasters. In recent years, all kinds of disasters had had an increasing trend. Through analysis of the types of low temperature disasters, reference about low temperature disasters at home and abroad research standards. Discusses the northeast China huanghuaihai and two large area low temperature disaster of the standard, the time and space distribution and the division of research. And discussed the development trend of future possible.
【语种】中文
【第一作者】郭晓丽
【通讯作者】孙忠富
【期刊名称、卷期、页码】生态农业标准体系及循环农业发展全国学术研讨会论文集,2008:322-326
【论文发表时间】2008-08-01 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】农学其他学科

【题目】Water infiltration in urban soils and its effects on the quantity and quality of runoff
【中文关键词】压实,渗透率,径流系数,城市生态,城市土壤
【英文关键词】Compaction . Infiltration rate . Runoff coefficient .Urban ecology. Urban soils
【中文摘要】目的:城市土壤的特性,特别是土壤物理性质,是由于压实戏剧性的变化TION由密集的人类活动,这可能会导致在雨季洪水频发事件。的宗旨,本研究旨在探讨水渗透字符istics的城市不同程度的压实土壤并确定对环境的影响渗透在市区的问题。材料和方法:十大典型土地利用方式各种植被和年龄选择在南京城,中国确定由双环入渗率方法。三个复制网站在同一结合模式。在同一时间,其他土壤的物理和化学性质,可能会影响入渗率分别为还决心。此外,城市地表径流系数根据最终渗透和估计ficients降雨强度在不同程度的土壤板结。从强烈的暴雨洪水中的质量在南京的主要道路进行了分析。结果与讨论:城市的最终入渗率土壤高度可变(从很慢的速度非常快)。土壤入渗率较低等许多因素相关;然而,城市土壤板结的领先者之一。增加散装入渗率下降密度和充气孔隙度减少。因此,大量的孔隙增加入渗率减少地表径流。COM的径流系数低渗透率pacted土壤高,尤其是非常压实土壤。因此,患病率洪水是在压实土壤高,质量在水浸事件减少地表径流水。 浓度的NO3-氮,总氮,钼活性磷,总磷,悬浮城市地表径流中的材料均显着高于比那些在森林或农业流域中观察

到。结论:在城市地区,造成低渗透率土壤板结对生态的负面影响环境,提高城市和结果在瞬时neous洪水和地表水环境质量较差。因此,要改善市区生态环境,金额必须增加绿地土壤和土壤板结减少。

【英文摘要】Purpose Urban soil characteristics, especially soil physical properties, are subject to dramatic changes due to compaction by intensive human activities, which may cause frequent flood events during the rainy seasons. The aim of this study was to explore the water infiltration characteristics of urban soils with different degrees of compaction and to determine the effects of infiltration on environmental problems in urban areas.Materials and methods Ten typical land use patterns with various vegetation and age were selected in Nanjing City, China to determine the infiltration rates by the dual-ring method. Three replicated sites were done in the same combined mode. At the same time, other soil physical and chemical properties that may affect infiltration rate were also determined. In addition, urban surface runoff coefficients were estimated according to final infiltrations and rain intensities in the different degrees of soil compaction. The quality of flood water from a strong rainstorm in a main road in Nanjing was analyzed.Results and discussion The final infiltration rates of urban soils were highly variable (from very slow to very fast). Low soil infiltration rates are related to many factors; however, urban soil compaction is the leading one. Infiltration rates decreased with an increase in the bulk density and with a reduction in the air-filled porosity. Thus,large amounts of macropores increase the infiltration rateand reduce surface runoff. Runoff coefficients of compacted soils with low infiltration rates were high, especially for extremely compacted soil. As a result, the prevalence of flooding is high in compacted soils, and the quality ofsurface runoff water is reduced during flooding events. The concentrations of NO3-N, total nitrogen, molybdate-reactive phosphorus, total phosphors, and suspended material in urban surface runoff were significantly higher than those observed in forested or agricultural watersheds. Conclusions In urban areas, low infiltration rates caused by soil compaction have negative effects on the ecoenvironment of the city and result in increased instantaneous flooding and poor surface water quality. Thus, to improve the eco-environment of urban areas, the amount ofgreenbelt soil must be increased and soil compaction must be reduced.

【语种】英文

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【学科分类】土壤学

【题目】猪MyD88基因的克隆及其结构预测分析

【中文关键词】猪MyD88 基因;分子克隆;序列分析;结构预测

【英文关键词】porcine mydoid differentiation factor 88 (pMyD88) ;molecular cloning ; sequence analysis ; structure prediction

【中文摘要】应用反转录-聚合酶链反应(RT2PCR) 技术,从猪的脾脏淋巴细胞中克隆了猪MyD88 基因(pMyD88) 。基因序列分析表明,克隆的pMyD88 基因含一个完整的开放阅读框(ORF) ,大小为882 bp ,共编码293 个氨基酸,分子质量33. 28 ku ,A + T = 41.38 % , G + C = 58.62%。DNA Star 软件分析发现,与GenBank 上登载的猪AB292176 核苷酸和氨基酸序列同源性分别为99.5 %和100 % ,与其他物种的核苷酸序列同源性均在80 %以上,说明MyD88 基因在各物种间相对保守,在遗传系统发生上亲缘关系密切。对猪MyD88 蛋白分子的结构预测发现, α2螺旋占41.3 % ,伸展结构占14.33 % ,无规则卷曲占44.37 %;存在N 端的死亡区和C 端的Toll 区两个结构域,表明MyD88 是Toll 受体的关键接头分子。

【英文摘要】The pMyD88 gene was cloned successf ully ,this provides a foundation for the studing the role of TLR signaling pathway and the role of the disease. In this report , MyD88 gene was cloned from porcine perip heral blood mononuclear cells (PBMC) by RT-PCR. Sequence analysis showed that pMyD88 gene contained a 882 bp open reading frame , encoding 293 amino acids , with the molecular weight of 33. 28 ku.The content s of A + T and G+ C were 41. 38 % and 58. 62 % , respectively. The nucleotide acide sequence and deduced amino acide sequence of the cloned pMyD88 gene shared 99.5 % and 100% homologies with that of porcine MyD88 gene published in Genbank , respectively. And the similarity between the nucleotide acide sequence of the cloned pMyD88 gene and t hat of ot her species was up to 80 %. These data implied that MyD88 gene was relatively conserved among different species. St ructure prediction found that α -helix ,extended strand and random coil in pMyD88 molecular were 41. 3 % , 14. 33 % and 44. 37 %, respectively.Furthermore , there were a death domain at its N terminus and toll-like receptor homologous domain at its C terminus , which showed that MyD88 was an important adaptor molecular for TLR.

【语种】中文

【第一作者】曾爽

【通讯作者】景志忠
【期刊名称、卷期、页码】动物医学进展 2010,5:1-5
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【引文索引号】
【学科分类】农学其他学科

【题目】青海省互助县粮食安全长期保障机制研究
【中文关键词】耕地需求量; 粮食安全; 保障机制; 互助县;
【英文关键词】无
【中文摘要】中国西部尽管人少地多,但生产条件较差,粮食一直处于自产自供的水平。通过对青海省互助县粮食产量和需求量的关系进行预测分析可知,按照历史上生产技术发展速度,近期基本能保证粮食安全,考虑到未来发展趋势如人口增加、耕地面积减少、气候变化等因素影响粮食供给就会失衡,要解决此问题,需建立粮食长期保障机制。
【英文摘要】无
【语种】中文
【第一作者】罗 轶
【通讯作者】夏卫生
【期刊名称、卷期、页码】粮食科技与经济, 2010, 35(3): 12-14
【论文发表时间】2010-06-15 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】农学其他学科

【题目】E ff ect of Land Use Conversion from Rice Paddies to Vegetable Fields on Soil Phosphorus Fractions
【中文关键词】无机磷,有机磷,城郊农业,磷富集,土壤肥力
【英文关键词】inorganic phosphorus, organic phosphorus, peri-urban agriculture, phosphorus accumulation, soil fertility
【中文摘要】过剩的农业土壤磷(P)的水体富营养化。样本(N= 60)从稻田已转换为0到菜地网站,<10,10-20,和> 20岁和分析五个无机磷(Pi)的分数,三个有机磷(PO)馏分,和一些土壤参数,以探讨土地利用转换的影响在中国的城郊地区,许多农业区土壤特性的PI和PO分数亚洲。可溶性和松散的PI(SL-PI)显着增加33,281,293和438毫克公斤1铝结合PI(AL-PI),钙结合PI(CA-PI)和铁结合PI(FE-PI),分别从水稻转换后稻田菜地。渭增加最多的是铁丕形式,从8总磷(TP),上升百分之对水稻土>20年蔬菜种植土壤,其次是铝皮,从2%提高到19%至31%总磷。宝组分,是在P浓度没有显着的变化。从水田的土地用途转换高强度菜田造成土壤中的磷组分的显着变化。管理做法引起土壤磷的积累,主要是在铁PI分数,其次是钙皮和铝皮分数。如果目前的趋势继续下去,TP的30%-70%的增长,可望在未来的20年。在该地区的农民,应减少磷使用,以最大限度地提高磷的吸收。
【英文摘要】Excess phosphorus (P) from agricultural soils contributes to eutrophication in water bodies. Samples (n = 60) weretaken from sites where rice paddies have been converted to vegetable fi elds for 0, < 10, 10 – 20, and > 20 years and analyzedfor fi ve inorganic P (Pi) fractions, three organic P (Po) fractions, and several soil parameters to investigate how land useconversion a ff ects Pi and Po fractions in a peri-urban area of China with soils characteristic of many agricultural areasof Asia. Signi fi cant increases of 33, 281, 293, and 438 mg kg − 1 were found for soluble and loosely bound Pi (SL-Pi),aluminum-bound Pi (Al-Pi), calcium-bound Pi (Ca-Pi), and iron-bound Pi (Fe-Pi), respectively, after conversion from ricepaddies to vegetable fi elds. Most of the increase in Pi was in the form of Fe-Pi, which increased from 8% of total P (TP)on paddy soil to 31% on the soil with > 20-year vegetable cultivation, followed by Al-Pi, which increased from 2% to 19%of TP. For Po fractions, there was no signi fi cant change in P concentrations. The conversion of land use from paddy fi eldsto high intensity vegetable fi elds was causing signi fi cant changes in soil P fractions. Management practices were causinga buildup of soil P, primarily in the Fe-Pi fraction, followed by Ca-Pi and Al-Pi fractions. If current trends continue, a30% – 70% increase in TP could be expected in the next 20 years. Farmers in the area should reduce P application anduse to maximize P uptake.
【语种】英文
【第一作者】J. L. DARILEK
【通讯作者】黄标

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【学科分类】土壤学

【题目】湖南省丘岗茶园土壤的酸化特征及其对土壤肥力的影响
【中文关键词】丘岗茶园; 土壤酸化; 土壤肥力; 湖南
【英文关键词】Tea garden in hillock; Soil acidification; Soil fertility; Hunan
【中文摘要】通过对湖南省10个丘岗茶园土壤的调查取样与室内分析,研究了亚热带丘岗茶园土壤的酸化现状及其对土壤肥力的影响。结果表明:在所调查的10个茶园中,仅1个茶园的土壤处于茶树生长的适宜pH值范围,3个茶园土壤的pH值在4.5以下,平均低于4.0,土壤酸化十分严重;随着土壤pH值的下降,交换性酸和交换性Al3+含量增加,土壤pH值和交换性酸及交换性Al3+之间表现为极显著的负相关关系;土壤酸化导致土壤全磷、全钾、全钙和缓效钾等含量降低,土壤供应氮、磷、钾的能力下降。
【英文摘要】Through the survey and sampling of 10 tea garden soils in hillock of Hunan Province, the tea garden soils acidification current status and its impact on soil fertility were researched. The results showed as follows: (1) Among 10 tea gardens, only one tea garden soil pH value was suitable for tea growth, and three tea garden soils pH values were below 4.5, with averages below 4.0. Soil acidification was very serious. (2) The contents of exchangeable acid and exchangeable Al3+ increased with the decline of soil pH value, and there were significantly negative correlation between soil pH value and the contents of exchangeable acid and exchangeable Al3+, respectively. (3) Soil acidification leaded to the decrease of total P, K, Ca and slowly released K, and therefore the supplying ability of N, P and K in soil drops.
【语种】中文
【第一作者】黄运湘
【通讯作者】黄运湘
【期刊名称、卷期、页码】土壤通报,2010,41(3):633-638
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【学科分类】土壤学

【题目】海泡石对典型水稻土镉吸附能力的影响
【中文关键词】海泡石; 水稻土; 镉; 吸附
【英文关键词】sepiolite; paddy soil; cadmium; sorption
【中文摘要】通过吸附解吸实验研究了添加海泡石后典型水稻土对Cd的吸附解吸特性及其对吸附溶液pH值变化的响应。结果表明,Freundlich方程可以较好地拟合红黄泥、黄泥田和红沙泥3种典型水稻土对Cd的等温吸附过程(R2>0.962)。在溶液初始Cd浓度相同的情况下,添加海泡石可使3种水稻土对Cd的吸附量增加20%以上,增强土壤对Cd的吸附强度,有效降低吸附Cd的解吸率,其效果随海泡石添加量的增大而增强。3种水稻土吸附Cd的解吸率均高于70%,而且都随吸附量的增加而上升。溶液的pH值是影响土壤吸附Cd的一个重要因素,在低pH值的条件下(pH<4),随着溶液pH值的降低,土壤对Cd的吸附量迅速降低,当溶液pH值高于5时,pH值的变化对吸附量的影响较小。在溶液初始pH值2~8范围内,添加海泡石均能有效提高3种水稻土对Cd的吸附能力。 更多还原
【英文摘要】The adsorption-desorption of cadmium(Cd) by clay minerals or soils have been extensively studied,however,the effect of the application of sepiolite on Cd adsorption-desorption in soils remains poorly understood.The aim of this study was therefore to investigate Cd sorption and desorption by 3 typical paddy soils pretreated with sepiolite through a batch equilibration method.Our results indicated that the sorption amount of Cd on each tested soil increased with the Cd equilibrium concentration,after adding cadmium ion ranged from 0 to 20 mg.L-1,but did not reach a maximum.Freundlich equations were fitted well(R2> 0.962) to all the sorption experimental results.Sepiolite not only enhanced Cd adsorption,but also increased the retention of Cd by the three soils.At the same initial Cd concentrations,sepiolite added at 5 and 10 mg.kg-1 increased the adsorption amount by 17%~34% and 25%~60%,and decreased the release percentage by 1.4%~13.6% and 10.3%~25.0%,respectively,as compared with the controls.Solution initial pH was also an important factor affecting the adsorption of Cd in soil.The enhancement of Cd sorption caused by the solution initial pH increase was apparent with the pH ranged from 2 to 4,but the effect was minimal with the pH ranged from 5 to 8.Moreover,addition of

sepiolite obviously increased the sorption amount of Cd by the 3 soils with the pH ranged from 2 to 8.These results provide support for the feasibility of sepiolite used as amendment for the immobilization of Cd in pad-dy soil.
【语种】中文
【第一作者】朱奇宏
【通讯作者】黄道友
【期刊名称、卷期、页码】农业环境科学学报, 2009, 28(12): 2318-2323
【论文发表时间】2009-12-15 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】土壤学

【题目】The effect of glycolic acid monomer ratio on the emulsifying activity of PLGA in preparation of protein-loaded SLN
【中文关键词】无
【英文关键词】Lactic/glycolic acid copolymers (PLGA)
Emulsifying activity
Glycolic acid monomer
Solid lipid nanoparticles (SLN)
【中文摘要】无
【英文摘要】Our previous work demonstrated that lactic/glycolic acid copolymer (PLGA) was an efficient emulsifier for the primary w/o emulsion in the formulation of protein-loaded solid lipid nanoparticles (SLN)by w/o/w double emulsion-solvent evaporation technique. In this work, the effect of PLGA composition on the emulsifying activity was studied with PLGA of different lactic/glycolic acid ratios (90/10,75/25, 50/50). The results demonstrated that the glycolic acid monomer ratio significantly affected the emulsifying activity of PLGA. Increasing the glycolic acid monomer ratio from 10% to 50% decreased the minimum PLGA content needed to produce stable w/o emulsions. With same PLGA contents, increase of the glycolic acid monomer ratio increased the stable time of the w/o emulsion, yielded smaller and narrower-distributed SLN, and enhanced the encapsulation efficiency and loading capacity.
【语种】英文
【第一作者】谢书宇
【通讯作者】周文忠
【期刊名称、卷期、页码】Colloids and Surfaces B: Biointerfaces 2009 ;74(1):358-61
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【学科分类】生物物理学

【题目】株洲城郊土壤重金属污染状况及防治对策
【中文关键词】土壤; 污染; 防治对策; 株洲城郊
【英文关键词】soil; contaminate; countermeasures; Zhuzhou suburbs
【中文摘要】根据湖南省和株洲市政府要求,检测了株洲城郊土壤重金属含量。结果表明:该污染区的土壤镉含量普遍偏高,铜、锌、镍等重金属的复合污染严重,且土壤中重金属元素的有效态含量高、对作物的活性强,容易导致农产品污染。针对土壤污染的特点,提出了相应的治理对策。
【英文摘要】According to the requirement of Hunan provincial government and Zhuzhou municipal government, the content of heavy metal in soil of Zhuzhou suburbs was determined. The results showed that in the soil of this polluted area, the content of cadmium was generally higher than normal level; the combined pollution of copper, zinc and nickel was serious; the content and the activity of available heavy metals was high, it was easier lead to agricultural product polluted. The correspongding measures were proposed according to the characters of contaminated soil.
【语种】中文
【第一作者】郭立军
【通讯作者】郭立军
【期刊名称、卷期、页码】湖南农业科学, 2009, (9): 49-51

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【学科分类】土壤学

【题目】Effects of poly (lactic-co-glycolic acid) as a co-emulsifier on the preparation and hypoglycemic activity of insulin-loaded solid lipid nanoparticles
【中文关键词】无
【英文关键词】Poly (lactic-co-glycolic acid) (PLGA)
Polymeric emulsifier
Emulsification
Solid lipid nanoparticles (SLN)
Hydrophilic protein
【中文摘要】无
【英文摘要】Most proteins are hydrophilic and poorly encapsulated into the hydrophobic matrix of solid lipid nanoparticles(SLN). To solve this problem, poly (lactic-co-glycolic acid) (PLGA) was utilized as a lipophilic polymeric emulsifier to prepare hydrophilic protein-loaded SLN by w/o/w double emulsion and solvent evaporation techniques. Hydrogenated castor oil (HCO) was used as a lipid matrix and bovine serum albumin (BSA), lysozyme and insulin were used as model proteins to investigate the effect of PLGA on the formulation of the SLN. The results showed that PLGA was essential for the primary w/o emulsification.In addition, the stability of the w/o emulsion, the encapsulation efficiency and loading capacity of the nanoparticles were enhanced with the increase of PLGA concentration. Furthermore, increasing PLGA concentration decreased zeta potential significantly but had no influence on particle size of the SLN. In vitro release study showed that PLGA significantly affected the initial burst release, i.e. the higher the content of PLGA, the lower the burst release. The released proteins maintained their integrity and bioactivity as confirmed by sodium dodecyl sulphate-polyacrylamide gel electrophoresis (SDS-PAGE) and biological assay. These results demonstrated that PLGAwas an effective emulsifier for the preparation of hydrophilicprotein-loaded SLN.
【语种】英文
【第一作者】王斯良
【通讯作者】周文忠
【期刊名称、卷期、页码】Colloids and Surfaces B: Biointerfaces 2009 ;74(1):358-61
【论文发表时间】2009-04-06 00:00:00
【引文索引类型】SCI
【引文索引号】000273047600002
【学科分类】化学物理学

【题目】苎麻镉耐受性及其修复镉污染土壤潜力研究
【中文关键词】苎麻; Cd; 土壤污染; 植物修复
【英文关键词】ramie; Cd; contaminated soil; phytoremediation
【中文摘要】为阐明苎麻修复Cd污染土壤的可行性,应用田间微区试验,研究了苎麻对Cd的耐受能力、累积特性及其对土壤Cd污染修复的潜力。结果表明,低浓度Cd处理(添加<10 mg/kg土)能促进苎麻生长,高浓度Cd处理(添加>10 mg/kg土)则引起毒害,但添加Cd浓度达到100 mg/kg土时,苎麻仍可完成正常生理周期,原麻产量仅比对照降低27.6%。苎麻出麻率受土壤Cd污染影响较小。添加Cd量在65 mg/kg内时,随添加量的增大,苎麻对Cd的富集量增加,而富集系数在1.01~4.55范围内逐渐减小。在中低程度Cd污染土壤种植苎麻可以切断食物链,产生较好的经济和环境效益,应用前景良好,但其修复Cd污染土壤需要较长时间,应进一步选育Cd超积累苎麻品种。
【英文摘要】To illuminate the phytoremediation feasibility of ramie for cadmium contaminated soil,a farmland microplot experiment was made to study the potential of tolerance,accumulate trait and remediation for Cd.The results showed that with low Cd application(<10 mg/kg soil),the growth of the ramie was improved;ramie injured when Cd concentration exceeded 10 mg/kg soil.The ramie could tolerate concentration of Cd as high as 100 mg/kg with the biomass of the aboveground of ramie was 27.6% lower than the control.The uptake of Cd by ramie increased as the addition amount(<65 mg/kg soil) of Cd increased,the bioaccumulation coefficient(BC) reduced from 4.55 to 1.01.For low or moderate Cd contaminated soil,using ramie could prevent the harm of Cd apart from the food chain,and bring great economical and environmental benefits,has bright application prospects.Forecasting result show

that a longer period of time would be needed for improving the Cd contaminated soil,a further selection and cultivation of Cd hyperaccumulator ramie is essential.
【语种】中文
【第一作者】朱光旭
【通讯作者】黄道友
【期刊名称、卷期、页码】农业现代化研究, 2009, 30(6): 752-755
【论文发表时间】2009-11-15 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】土壤学

【题目】苎麻抗重金属污染研究现状与应用前景
【中文关键词】苎麻; 土壤; 重金属污染; 植物修复
【英文关键词】Ramie (Boehmeria nivea L.) ; Soil ; Heavy metal pollution; Pytoremediation
【中文摘要】就苎麻在各种重金属矿区的分布调查、 目前开展的苎麻抗重金属的研究及苎麻在修复重金属污染土壤上的优势进行了综述。苎麻具有抗逆境能力强、 生长迅速、 繁殖能力强、 根系庞大、 生物产量高等特点, 可以弥补现有植物修复的缺点和不足, 是较理想的土壤重金属污染植物修复资源。
【英文摘要】The dist r ibut i on invest igat i on of ram ie in var i ous heavymetalm ining areas, the cur rent research on resistance to heavy metal po llut i on of ram ie and the advantages of ram ie in remediat ing heavy metal contam inated so ilw ere review ed in th is paper . W ith the p roper t ies of st rong endurance to adverse environment, fast grow ing, st rong rep roduct ive capacity, heavy roo t system and h igh bi omass, ram ie can make up the defect and sho r tages of phyto remediat i on at p resent, so it is a kind of ideal resource in phyto remediat i on of so il contam inated by heavy metals
【语种】中文
【第一作者】佘玮
【通讯作者】揭雨成
【期刊名称、卷期、页码】作物研究, 2009, 23(4): 283-286
【论文发表时间】2009-04-15 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】土壤学

【题目】石灰和海泡石对镉污染土壤的修复　效应与机理研究
【中文关键词】石灰;海泡石;土壤镉污染修复;水稻;萝卜
【英文关键词】lime ; sepiolite ; remediation of Cd contaminated soil ; rice ; radish
【中文摘要】研究了稻作和旱作两种种植制度下,施用石灰、 海泡石及两种改良剂配施对镉污染土壤 p H 值、 土壤镉形态变化及作物对镉的吸收等的影响。结果表明,施用改良剂使稻作条件下的土壤 p H 提高 0. 3~1. 8 个单位,旱作条件下土壤p H 提高幅度为 0. 3~2. 0 个单位;两种种植制度下,作物有效性较高的酸提取态镉含量显著减少,而作物有效性较低的可还原态和残渣态镉含量显著增加,进而引起了水稻和萝卜对镉的吸收量降低。其中以石灰和海泡石配施的效果最好,单施海泡石次之,单施石灰效果最差,且各处理均随改良剂用量的增加效果增强。虽然,施用改良剂可以有效降低土壤中镉的作物有效性,但对水稻产量和生物量及镉在水稻和萝卜两种作物地上部分的分配规律均没有明显的影响。
【英文摘要】The effect s of lime , sepiolite and lime in combination wit h sepiolite on soil p H , speciation of cadmium in soil and uptake of Cd by rice and radish by field experiment s in a contaminated paddy soil and an arable soil , respecitively. The result s indicated : Compared wit h t he CK t reatment , amendment s significant ly increased soil pH by 0. 3 to 1. 8 unit s in t he paddy soil and by 0. 3 to 2. 0 unit s in t he arable soil . The percents of acid ext ractable Cd in soil were significant ly decreased , whil st the reducible Cd and residual Cd were significantly increased in bot h soil s. The increasing of soil p H and redist ribution of Cd speciation in soil s caused the decrease of uptake of Cd by bot h crop s. The efficiencies of different amendment s in increasing soil pH and immobilizing Cd in soil s was follow t he order as : lime in combination with sepiolite > sepiolite > lime ,and it was becoming bet ter as long as t he applied amount of amendment s increased. However , t he application of amendment s decreased t he bioavailability of Cd in soil s , no increase of the productivity and biomass of rice was observed and the dist ribution of Cd in over ground part s of neit her rice nor radish was affected.

【语种】中文
【第一作者】朱奇宏
【通讯作者】黄道友
【期刊名称、卷期、页码】水土保持学报, 2009, 23(1): 111-116
【论文发表时间】2009-02-15 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】土壤学

【题目】用于表征三七种植区土壤中可利用态砷的化学提取剂的筛选
【中文关键词】三七; 砷; 植物可利用态; 化学提取剂
【英文关键词】Panax Notoginseng; arsenic; phytoavailability; chemical extracting agents
【中文摘要】为正确表征云南文山三七种植区土壤中植物可利用态砷,选取NaH2PO4(0.5mol · L-1)、H2O、H3PO4(0.2mol · L-1)、EDTA(0.0625mol · L-1,pH=7)、NH4C(l1.0mol · L-1)和(NH4)2SO(40.05mol · L-1)6种提取剂,比较了它们对土壤中砷的提取效果,及其所提取的砷与三七植株各部位砷含量之间的相关关系。结果表明,NaH2PO4、H3PO4和(NH4)2SO4这3种提取态砷与土壤总砷呈极显著正相关,相关系数分别为0.8359、0.8177和0.8810。NaH2PO4和H3PO4的提取效率较高,平均提取效率分别为6%和11%;而(NH4)2SO4提取效率较低,平均仅为0.084%。NaH2PO4和(NH4)2SO4提取态砷与三七主根、须根和茎部砷含量呈显著正相关,H3PO4提取态砷与三七主根和须根砷含量呈显著正相关。综合考虑认为NaH2PO(40.5mol · L-1)是最佳提取剂,H3PO(40.2mol · L-1)提取剂次之,这两种提取剂均可较好地表征土壤中砷的三七可利用性。
【英文摘要】In order to characterize the plant availability of arsenic(As) in the soil of a Panax notoginseng plantation in Wenshan(Yunnan Province,China),six chemical extracting agents including 0.5 mol · L-1 NaH2PO4,H2O,0.2 mol · L-1 H3PO4,0.062 5 mol · L-1 EDTA(pH=7),1.0 mol · L-1 NH4Cl,and 0.05 mol · L-1(NH4)2SO4 were selected to extract As from soil samples.The correlation between the As concentrations of the soil extracts and the total As in the soil were analyzed.The results showed that the As concentrations in the soil solutions extracted by 0.5 mol · L-1 NaH2PO4,0.2 mol · L-1 H3PO4 and 0.05 mol · L-1(NH4)2SO4 were correlated well with the total As concentration in the soils,with correlation coefficients of 0.835 9,0.817 7,and 0.881,respectively.The extract efficiencies of 0.5 mol · L-1 NaH2PO4 and 0.2 mol · L-1 H3PO4 were 6% and 11%,respectively,which were much higher than that of 0.05 mol · L-1(NH4)2SO4.The correlation of As concentrations between the extract and different parts of the plant is important for selecting appropriate chemical extracting agents.The As concentrations in the 0.5 mol · L-1 NaH2PO4 and 0.05 mol · L-1(NH4)2SO4 extracts were significant positively correlated with the As concentrations in the taproot,fiber and stem of P.notoginseng,whereas that of the 0.2 mol · L-1 H3PO4 extract was significantly positively correlated only with the taproot and fiber portion.In conclusion,NaH2PO4(0.5 mol · L-1) and H3PO4(0.2 mol · L-1) both could be selected to characterize soil bio-effective As on Panax Notoginseng.
【语种】中文
【第一作者】于冰冰
【通讯作者】阎秀兰
【期刊名称、卷期、页码】农业环境科学学报 2011,30(8):1573-1579
【论文发表时间】2011-08-15 00:00:00
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【引文索引号】
【学科分类】土壤学

【题目】强烈人为作用下城镇周围汞的空间变异及其积累迁移规律
【中文关键词】汞; 土壤; 水稻; 大气沉降; 城镇发展
【英文关键词】Mercury; Soil; Rice; Atmospheric deposition; Urban development
【中文摘要】究土壤中汞(Hg)元素积累的空间变异和迁移转化规律对土壤利用、环境评价和污染修复具有重要参考价值。本研究选择经济发展迅速的苏南某地为研究区域,对土壤、水稻和大气降尘中的Hg进行了详细分析。结果表明,该区域土壤全汞平均含量达1 345 μg kg-1,有效汞(HC l-Hg)平均含量51 μg kg-1,水稻Hg平均含量20 μg kg-1,大气Hg沉降量为5.13 g km-230 d-1。土壤和水稻高含量Hg主要积聚于城镇周边,随着与城镇距离的增加其含量逐渐减少。大气Hg沉降量在空间上变化不大。进入土壤中的Hg主要在土壤表层0~20 cm范围内富集,但直至60 cm深处依然存在积累现象,整个剖面土壤活

性态汞和半活性态汞含量占全汞的比例变化不大。研究区土壤出现了明显Hg积累,导致水稻Hg吸收明显增加,不少样点超过了国家土壤环境质量二级标准(300μg kg-1)和国家食品污染物限量标准(20μg kg-1),可能对环境和人体健康产生危害。较低的大气Hg沉降量和土壤积累的Hg已与土壤条件达到平衡的事实表明,目前Hg的积累已明显减少。今后应采取措施修复污染土壤或者通过改变作物种类来减少土壤Hg含量或抑制作物对Hg的吸收,达到环境治理的目的。

【英文摘要】The research on spatial variability,accumulation and transfer of soil mercury(Hg) has great reference values to soil utilization,environmental assessment and polluted soil remediation.Mercury in the soil,rice and atmospheric deposition in an area with fast developing economy in the South Jiangsu was analyzed.It was found that on average,the soil total Hg was 1 345 μg kg-1,available(HCl-extractable or HCl-Hg) 51 μg kg-1,Hg in rice 20 μg kg-1 and Hg in atmospheric deposition 5.13 g km-2 30 d-1.Spatially,high Hg concentrations in soil and rice were found mainly in places closely around the town,and the concentration decreased exponentially with the distance of the sampling site from the town.Atmospheric Hg deposition was found low in variability within the whole study area.Mercury in the soil accumulated mainly in the 0~20 cm soil horizon,however,Hg accumulation could still be found at 60 cm in depth.The percentages of soil Hg in mobile and semi-mobile state to total Hg did not vary much in the whole soil profile.Obvious soil Hg accumulation observed in the studied area led to higher Hg concentrations in rice.The concentration in quite a number of sampling sites already exceeded the second grade criterion of the National Standard for Soil Environmental Quality(300 μg kg-1) and the National Food Safety Standard(20 μg kg-1),and would bring about hazard to the environment quality and human health.The fact that balance is maintained between the soil conditions and Hg accumulation in soil and that the low atmospheric Hg deposition indicate that the ongoing accumulation is not as significant.Measures such as remediation of the polluted soil or rotation of low-Hg-uptake crop species should be taken to reduce soil Hg or to inhibit Hg uptake by crops,and hence to achieve the target of environmental management.

【语种】中文

【第一作者】王梅

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【学科分类】土壤学

【题目】基于密切值法的湖南省水资源利用现状评价

【中文关键词】水资源; 密切值; 湖南省

【英文关键词】ter resource; osculating value method; Hu ’nan Province

【中文摘要】应用密切值法,对湖南省14个设(区)市的水资源利用现状进行分区评价,并利用各设(区)市密切值的散点图,将其开发利用发展水平分成3类:开发利用低度区、中度区和高度区,绘出了分区等级图。结果表明,湖南省水资源开发利用低度区有5个,开发利用中度区有6个,开发利用高度区有3个,其中开发利用低度区占35.7%,开发利用中度区、高度区共占64.3%。整体而言,湖南省的水资源利用非常不均衡,需要在不同的地区采取合适的开发利用措施。 更多还原

【英文摘要】A zonal evaluation of water resource use in the fourteen cities of Hu ’nan Province was carried out using the osculating value method.According to the scatter plot of the osculating values,the utilization level of water resource was categorized into three zones:(1) weakly developed zone,(2) moderately developed zone,and(3) highly developed zone.A detailed map was drawn based on the classification.The results show that among the fourteen cities,five cities were classified as weakly developed zone,six cities as moderately developed zone and three cities as highly developed zone.The weakly developed zone accounts for 35.7% of the total area.Overall,the water resource use in Hu ’nan Province is imbalanced.Appropriate practices are need in areas with different development levels.

【语种】中文

【第一作者】邹新波

【通讯作者】夏卫生

【期刊名称、卷期、页码】水土保持通报,2011,31(1):165-168

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【引文索引号】

【学科分类】土壤学

【题目】湖南省稻谷成本构成要素分析
【中文关键词】谷价格; 劳动力成本; 差异性补贴
【英文关键词】Price of Rice; Cost of Labour; Differentiate Subsidy
【中文摘要】为了充分调动农民的种粮积极性,达到同工同酬的目的,通过大量现场调研并对湖南省典型地区生产成本、销售成本和政府补贴的综合计算和分析提出具有可操作性的直接补贴参考标准。结果表明,早、中、晚稻的生产成本存在明显的类型差异性和地区差异性,特别是地区差异非常显著;最高地区的日工资为71元,还未达到市场工资标准,但已是最低地区的2.6倍;为了达到同工同酬的目标,有必要实施地区差异性补贴。拟将湖南省各地区分为4个梯度,进行差异性补贴,使日工资基本接近,从而缩小农村内部的贫富差距,提高农民生产的积极性。 更多还原
【英文摘要】To stimulate farmers’initiatives effectively and to make sure that people get the same amount of wage for doing the same kind of work,a criterion of direct subsidies was provided on the basis of lots of field work.Calculation and analysis of the typical areas of Hunan Province based on the production cost,cost of sales and government subsidies indicated that in terms of production cost of early,middle and late rice,significant differences in types and areas were found.Differences among areas were especially noticeable.The highest daily wage of some areas,though failed to reach the standard wage set by the market,was 2.6 times that of other areas,which was at the bottom.Therefore,to make sure that people in different areas get the same amount of wage for doing the same kind of work,it is quite necessary to implement the differentiated subsidy policy.And at this stage,in order to narrow the financial gap among farmers and to stimulate farmers’initiatives,this program plans to divide Hunan Province into four districts of various production-cost gradients,so as to implement the differentiated subsidy policy well.
【语种】中文
【第一作者】范丹蓉
【通讯作者】夏卫生
【期刊名称、卷期、页码】农学学报,2011,(7):50-54
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【引文索引类型】其他
【引文索引号】
【学科分类】土壤学

【题目】湖南长株潭城市群灾害应急管理能力评价
【中文关键词】应急管理能力; 指标体系评价; 层次分析法; 湖南; 长沙; 株洲; 湘潭
【英文关键词】emergency management ability; index system evaluation; AHP; Hunan; Changsha; Zhuzhou; Xiangtan
【中文摘要】以城市应急管理能力及其内涵为基础,运用层次分析法,对湖南长株潭城市群灾害应急管理能力进行综合评价。结果表明:①从时间上看,长株潭灾害应急管理能力综合评分值由2005年的5.67、3.66、3.34分别增加到2006年的5.82、4.20、3.98,说明长株潭灾害应急管理能力均有所增强,这是因为应急管理能力是随城市社会经济的发展而增强的;②从空间上看,长株潭灾害应急管理能力存在一定的区域差异;③从整体上看,长株潭的灾害应急管理能力排名为长沙市>株洲市>湘潭市,其主要是由城市化水平及经济实力的差异所致。
【英文摘要】According to urban emergency management ability and its meaning,disaster emergency management ability of Hunan Changsha-Zhuzhou-Xiangtan city group is comprehensively evaluated by using analytic hierarchy process(AHP).The results show as follows.① In time,the evaluation score of disaster emergency management ability of Changsha-Zhuzhou-Xiangtan increases from 5.67,3.66,3.34 in 2005 respectively to 5.82,4.20,3.98 in 2006.The ability is proved to have been enhanced due to the city’s socio-economic development;②In space,there are some regional differences in Changsha-Zhuzhou-Xiangtan disaster emergency management capability;③ On the whole,the order of Changsha-Zhuzhou-Xiangtan disaster emergency management capacity is:Changsha City> Zhuzhou City> Xiangtan City.It is determined by the urbanization and economic level.
【语种】中文
【第一作者】莫靖龙
【通讯作者】夏卫生
【期刊名称、卷期、页码】灾害学,2009,24(3):137-140
【论文发表时间】2009-03-15 00:00:00
【引文索引类型】其他
【引文索引号】

【学科分类】农学其他学科

【题目】不同温度下促释材料活化磷矿粉效果的研究
【中文关键词】促释材料;磷矿粉;腐植酸;温度
【英文关键词】promoted-release material;phosphate rock;humic acid;temperature
【中文摘要】采用连续水浸提、盆栽试验,研究不同温度下两种促释材料活化的磷矿粉磷素动态释放特性及肥效。结果表明:(1)与磷矿粉相比,促释磷矿粉连续浸提水溶性磷累积量显著提高;提高幅度最大的是经加温处理的WZ促释磷矿粉,较未加温处理提高了42.95%,是磷矿粉的2.13倍。表明活化磷矿粉经加温处理能明显促进磷矿粉水溶性磷的释放。(2)促释磷矿粉肥效显著优于磷矿粉,WZ处理效果较佳,加温处理后肥效最佳,不亚于SP。
【英文摘要】With the combination of continuous water extraction and pot experiment,the effects of the two promoted-release materials at different temperature on phosphorus releasing dynamics of phosphate rock were studied.The major results were summarized as follows:(1)Compared to phosphate rock,the accumulative rate of water-soluble phospho-rous in promoted-release phosphate rock(PRPr)was significantly increased,and that of WZ-PRPr with heating wasincreased by 42.95%than PRPr,and by 2.13 times than phosphate rock.(2)The fertilizer effect of PRPr was more sig-nificant than that of phosphate rock.Among them,the best treatment is WZ-PRPr with heating,which was as good as super-phosphate fertilizer,and the second is WZ treatment.
【语种】中文
【第一作者】熊金涛
【通讯作者】廖宗文
【期刊名称、卷期、页码】腐植酸
【论文发表时间】2009-01-02 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】土壤学

【题目】复合保水剂的水肥调控模拟及其肥效研究
【中文关键词】复合保水剂; 溶出率; 肥料利用率; 玉米
【英文关键词】complex super absorbent polymers; dissolving rate; fertilizer use efficiency; maize
【中文摘要】利用土柱模拟试验和盆栽试验研究了复合保水剂对水肥淋失和玉米农艺性状的影响, 土柱试验结果表明,加入复合保水剂后能够较对照减少淋出液体积, 显著降低氮磷钾的累计淋溶率; 盆栽试验结果表明, 施用复合保水剂能够显著提高玉米的生物学产量和肥料的利用率。
【英文摘要】Th is paper studied the effects of comp lex super absorbent polymers on nitrogen and w ater leach ing and agriculture character of the maize th rough soil column test and pot experiment. The soil column test show ed that the volume of eluviations w as reduced; the accumulative leach ing losses of soil nitrogen, phosphorus and kalium were depressed in treatment with complex super absorbent polymers. The pot experiment showed that the biomass of maize and fertilizer use efficiency w as increased visibly in treatment with Complex super absorbent polymers.
【语种】中文
【第一作者】李世坤
【通讯作者】廖宗文
【期刊名称、卷期、页码】水土保持学报
【论文发表时间】2007-08-09 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】土壤学

【题目】Yak interferon-alpha loaded solid lipid nanoparticles for controlled release
【中文关键词】无
【英文关键词】Yak IFN-α
Solid lipid nanoparticles
Antiviral activity
Toxicity

Controlled release
【中文摘要】无
【英文摘要】To explore the potential of a novel animal interferon formulation for controlled release, the yak interferon-alpha (IFN-α) glutathione S-transferase (GST) fusion protein was expressed in Escherichia coli(E. coli) and the purified recombinant IFN-α was encapsulated into solid lipid nanoparticles (SLN) by double emulsion solvent evaporation (w/o/w) method. The particle size and zeta potential of IFN-α-loaded SLN were 124.2 ± 10.2 nm and 11.2 ± 0.6 mV. The encapsulation efficiency of IFN-α and loading capacity of the SLN were 83.7 ± 4.5% and 1.73 ± 0.15%, respectively. In vitro release study and antiviral assay demonstrated that the IFN-α released from the SLN in a 16-day period exhibited antiviral activity in Madin – Darby bovine kidney (MDBK) cells against vesicular stomatitis virus (VSV), and showed a release pattern of an initial burst release followed by a sustained and slow release. Cytotoxicity assay in cell culture demonstrated that the SLN were not toxic. The results of this exploratory study suggest that the IFN-α-loaded SLN could be a useful formulation for controlled release in veterinary therapeutics.
【语种】英文
【第一作者】李少阳
【通讯作者】周文忠
【期刊名称、卷期、页码】Res Vet Sci.2010; 88(1):148-53
【论文发表时间】2009-09-02 00:00:00
【引文索引类型】SCI
【引文索引号】000273916000028
【学科分类】农学其他学科

【题目】Effect of PLGA as a polymeric emulsifier on preparation of hydrophilic protein-loaded solid lipid nanoparticles
【中文关键词】无
【英文关键词】Poly (lactic-co-glycolic acid) (PLGA)
Polymeric emulsifier
Emulsification
Solid lipid nanoparticles (SLN)
Hydrophilic protein
【中文摘要】无
【英文摘要】Most proteins are hydrophilic and poorly encapsulated into the hydrophobic matrix of solid lipid nanoparticles(SLN). To solve this problem, poly (lactic-co-glycolic acid) (PLGA) was utilized as a lipophilic polymeric emulsifier to prepare hydrophilic protein-loaded SLN by w/o/w double emulsion and solvent evaporation techniques. Hydrogenated castor oil (HCO) was used as a lipid matrix and bovine serum albumin (BSA), lysozyme and insulin were used as model proteins to investigate the effect of PLGA on the formulation of the SLN. The results showed that PLGA was essential for the primary w/o emulsification. In addition, the stability of the w/o emulsion, the encapsulation efficiency and loading capacity of the nanoparticles were enhanced with the increase of PLGA concentration. Furthermore, increasing PLGAconcentration decreased zeta potential significantly but had no influence on particle size of the SLN. In vitro release study showed that PLGA significantly affected the initial burst release, i.e. the higher the content of PLGA, the lower the burst release. The released proteins maintained their integrity and bioactivityas confirmed by sodium dodecyl sulphate-polyacrylamide gel electrophoresis (SDS-PAGE) and biological assay. These results demonstrated that PLGAwas an effective emulsifier for the preparation of hydrophilic protein-loaded SLN.
【语种】英文
【第一作者】谢书宇
【通讯作者】周文忠
【期刊名称、卷期、页码】Colloids Surf B Biointerfaces 2008;67(2):199-204
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【引文索引类型】SCI
【引文索引号】000261665600008
【学科分类】材料化学

【题目】不同地区城郊用地土壤重金属含量特征的比较

【中文关键词】城郊区;重金属;变异系数;累积指数
【英文关键词】Suburb area, Heavy metals, Variation coefficient, Cumulative index
【中文摘要】对京津唐、张家港和长株潭3 个地区的露天菜地、设施菜地、水田和旱地进行的调查表明,城郊区大部分农田土壤重金属含量尚低于国家相关的土壤质量二级标准,但部分重金属含量超出了当地背景值,说明重金属在城郊土壤中有所积累。菜地土壤重金属含量总体上要高于水田和旱地,说明高强度利用投入会导致土壤重金属累积。对长株潭一个污染区的研究表明,发生污染的土壤很难再恢复利用。京津唐城郊区的土壤重金属含量的变异系数总体上高于张家港地区。
【英文摘要】In this paper, on the base of the investigation of open vegetable fields, facility vegetable fields, dry fields and paddy fields in Zhangjiagang region, Chang-Zhu-Tan region and Jing-Jin-Tang region, it found that heavy metal contents in most suburb fields were lower than the national 2nd standard of soil quality, but some heavy metal contents were higher than the local background values, which indicated that heavy metals accumulated in suburb fields. Heavy metal contents in vegetable fields were usually higher than paddy and dry fields due to the higher intensive input and use. The study in a special region of Chang-Zhu-Tan showed that it is difficult to reuse the fields after the soil was seriously contaminated. The variation coefficients of soil heavy metals in Jing-Jin-Tang region was higher than Zhangjiagang region.
【语种】中文
【第一作者】席晋峰
【通讯作者】李德成
【期刊名称、卷期、页码】土 壤 (Soils), 2011, 43 (5): 769-775
【论文发表时间】2011-05-06 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】土壤学

【题目】Ion-pairing high-performance liquid chromatography determination of amitrole in apple after solid-phase extraction and precolumn derivatization
【中文关键词】无
【英文关键词】Amitrole . Precolumn derivatization .
4-Chloro-3,5-dinitrobenzotrifluoride (CNBF) .
High-performance liquid chromatography . Apple
【中文摘要】无
【英文摘要】A novel method based on solid-phase extraction was studied for the extraction of amitrole (3-amino-1,2,4-triazole), and its residue determination in apples has been developed. The samples were derivatized with 4-chloro-3,5-dinitrobenzotrifluoride (CNBF). The derivatization conditions and the influence of elution composition on the separation were investigated. In pH 9.5 H3BO3 – Na2B4O7 media, the reaction of amitrole with CNBF was complete at 60 ° C after 30 min. The separation of derivatized amitrole was achieved at room temperature within 13 min by gradient elution mode with cetyltrimethylammonium bromide in mobile phase as ion-pair reagent. The method correlation coefficient was 0.9996, in concentrations rangingfrom 1.66 to 415 mg L − 1. The calculated recoveries of the proposed method were from 94.17% to 105.67%, and relative standard deviations were 1.57% to 6.44% in the application to the quantitative determination of amitrole in apples. The detection limit of amitrole was 0.10 mg L − 1 with a signal-to-noise ratio of 3.
【语种】英文
【第一作者】孙妍
【通讯作者】曹永松
【期刊名称、卷期、页码】Analytical and Bioanalytical Chemistry, 2009; 395: 465-471
【论文发表时间】2009-07-26 00:00:00
【引文索引类型】SCI
【引文索引号】000254764200015
【学科分类】分析化学

【题目】Residue Determination of Glyphosate in Environmental Water Samples with High-performance Liquid Chromatography and UV Detection after Derivatization with 4-Chloro-3,5-Dinitrobenzotrifluoride

【中文关键词】无
【英文关键词】Glyphosate
Pre-column derivatization
4-Chloro-3,5-dinitrobenzotrifluoride
High-performance liquid chromatography
【中文摘要】无
【英文摘要】A pre-column derivatization high-performance liquid chromatographic method for glyphosateanalysis has been developed. Derivatization of glyphosate was performed with 4-chloro-3,5-dinitrobenzotrifluoride (CNBF). In pH 9.5 H3BO3 – Na2B4O7 media, the reaction of glyphosate with CNBF completed at 60 ◦ C for 30 min. The labeled glyphosate was separated on a Kromasil C18 column(250mm×4.6mm, 5 m) at room temperature and UV detection was applied at 360 nm. The separation of labeled glyphosate was achieved within 15 min by gradient elution mode. Compared to other precolumn derivatization, this derivatization was performed more mildly, the derivative was more stable, and the detection limits of a few reagents were higher than CNBF, except 9-fluorenylmethyl chloroformate (FMOC-Cl) using fluorescence and mass spectrometry, however, this reagent avoid to be removedafter derivatization like FMOC-Cl. The detection limit of glyphosate was 0.009mgL − 1 (S/N = 3) without preconcentration and reach MRL, which is set at the level of 0.1mgL − 1 in China. The method linearity correlationcoefficient was 0.9999, in concentrations ranging from 0.3 to 48.5mgL − 1. The proposed methodhas been applied to the quantitative determination of glyphosate in environmentalwater with recoveries of 91.80 – 100.20% and R.S.D. of 2.27 – 6.80, depending on the sample investigated.
【语种】英文
【第一作者】钱坤
【通讯作者】曹永松
【期刊名称、卷期、页码】Analytica Chimica Acta, 2009; 635:222-226
【论文发表时间】2009-02-18 00:00:00
【引文索引类型】SCI
【引文索引号】000263764500014
【学科分类】分析化学

【题目】Determination of Biogenic Amines in beer with Pre-chromatographic Derivatization by High Performance Liquid Chromatography
【中文关键词】无
【英文关键词】Biogenic amines
Pre-column derivatization
4-Chloro-3,5-dinitrobenzotrifluoride
(CNBF)
High performance liquid chromatography
Chinese beer
【中文摘要】无
【英文摘要】Eighteen samples of commercially available Chinese beerwere analyzed in order to determine the content of biogenic amines. The method involves pre-column derivatization of the amines with 4-chloro-3,5-dinitrobenzotrifluoride (CNBF) and subsequent analysis by RP-HPLC (reversed phase-high performance liquid chromatography) with diode array detection. The labeled biogenic amines were separated on a Kromasil C18 column (250mm×4.6mm, 5 m) at room temperature and UV detection was applied at 254 nm. The separation of seven labeled biogenic amineswas achieved within 22 min by elution acetonitrile and HAc – NaAc buffers. The method linearity, calculated for each biogenic amine, has a correlation coefficient higher than 0.9925, in concentrations ranging from 2.9 μ mol L − 1 to 565 μ mol L − 1. Detection limits of biogenic amineswere 0.056 – 0.87 μ mol L − 1, at a signal-to-noise ratio of 3. The proposedmethodhas been applied to the quantitative determination of spermine, phenethylamine, spermidine, histamine, tyramine, tryptamine and putrescine in beer with recoveries of 91.9 – 103.1% and R.S.D. of 2.86 – 5.63%.Quantitation is relative to external standards. The results showed that each kind of beer examined contained at least three biogenic amines. Putrescine, histamine and tyramine were detected in all samples. Spermidine was detected in 89% of the beers. Spermine, tryptamine and phenylethylamine occurred in 78%, 61% and 44% of the beers examined, respectively. These levels were below the level that may elicit direct adverse reactions for most consumers.
【语种】英文

【第一作者】汤涛
【通讯作者】曹永松
【期刊名称、卷期、页码】Journal of Chromatography B　2009;877:507-512
【论文发表时间】2009-01-06 00:00:00
【引文索引类型】SCI
【引文索引号】000263623900008
【学科分类】分析化学

【题目】An intramolecular disulfide bond is required for the thermostability of methyl parathion hydrolase, OPHC2
【中文关键词】甲基对硫磷水解酶;二硫键;定向进化;热稳定性
【英文关键词】Methyl parathion hydrolase; Disulfide bond; Site-directed mutagenesis; Thermostability
【中文摘要】在本文中介绍了关于影响甲基对硫磷水解酶结构稳定性的一个关键因素(二硫键)。
【英文摘要】OPHC2, a methyl parathion hydrolase (MPH) from Pseudomonas pseudoalcaligenes C2-1 (CGMCC 1150), can degrade a wide range of organophosphate pesticides. Compared with other MPHs, OPHC2 exhibits high thermostability. Its thermostability mechanism, however, remains unknown. In the present study, sequence analysis demonstrated that two cysteines (Cys110 and Cys146) exist in OPHC2, but not in other MPHs. The three-dimensional structural model of OPHC2 performed by computer-assisted homology modelling revealed a potential stacking network with residues Cys110 and Cys146, which probably formed an intramolecular disulfide bond. Furthermore, both sodium dodecyl sulphate-polyacrylamide gel electrophoresis and thiol-titration analyses indicated that OPHC2 contains a disulfide bond. Substitution of the disulfide bond-forming cysteines with alanine, leucine or methionine residues substantially decreased the thermostability of OPHC2, suggesting that disulfide bond formation affects conformational stability. These results, combined with three-dimensional structural modelling, demonstrated that the formation of a C110-C146 disulfide bond may stabilise the conformation of OPHC2, contributing to its thermostability.
【语种】英文
【第一作者】初晓宇
【通讯作者】伍宁丰
【期刊名称、卷期、页码】APPLIED MICROBIOLOGY AND BIOTECHNOLOGY,2010,88:125-131
【论文发表时间】2010-06-16 00:00:00
【引文索引类型】SCI
【引文索引号】638RZ
【学科分类】分子生物学

【题目】High yield expression of an AHL-lactonase from Bacillus sp. B546 in Pichia pastoris and its application to reduce Aeromonas hydrophila mortality in aquaculture.
【中文关键词】高效表达, 毕赤酵母
【英文关键词】HIGH-LEVEL EXPRESSION; QUORUM-SENSING MOLECULES; PSEUDOMONAS-AERUGINOSA; ERWINIA-CAROTOVORA; ENZYMATIC DISRUPTION; QUENCHING ENZYMES; SIGNAL MOLECULES; LUXRI HOMOLOGS; VIRULENCE; INFECTION
【中文摘要】本文介绍了毕赤酵母高效表达N-酰化高丝氨酸内酯酶及腹腔注射预试实验。
【英文摘要】Background: Aeromonas hydrophila is a serious pathogen and can cause hemorrhagic septicemia in fish. To control this disease, antibiotics and chemicals are widely used which can consequently result in "superbugs" and chemical accumulation in the food chain. Though vaccine against A. hydrophila is available, its use is limited due to multiple serotypes of this pathogen and problems of safety and efficacy. Another problem with vaccination is the ability to apply it to small fish especially in high numbers. In this study, we tried a new way to attenuate the A. hydrophila infection by using a quorum quenching strategy with a recombinant AHL-lactonase expressed in Pichia pastoris.Results: The AHL-lactonase (AiiA(B546)) from Bacillus sp. B546 was produced extracellularly in P. pastoris with a yield of 3,558.4 +/- 81.3 U/mL in a 3.7-L fermenter when using 3-oxo-C8-HSL as the substrate. After purification with a HiTrap Q Sepharose column, the recombinant homogenous protein showed a band of 33.6 kDa on SDS-PAGE, higher than the calculated molecular mass (28.14 kDa). Deglycosylation of AiiA(B546) with Endo H confirmed the occurrence of N-glycosylation. The purified recombinant AiiA(B546) showed optimal activity at pH 8.0 and 20 degrees C, exhibited excellent stability at pH 8.0-12.0 and thermal stability at 70 degrees C, was firstly confirmed to be significantly protease-resistant, and had wide substrate specificity. In application test, when co-injected with A. hydrophila in common carp, recombinant AiiA(B546) decreased the mortality rate and delayed the

mortality time of fish.Conclusions: Our results not only indicate the possibility of mass-production of AHL-lactonase at low cost, but also open up a promising foreground of application of AHL-lactonase in fish to control A. hydrophila disease by regulating its virulence. To our knowledge, this is the first report on heterologous expression of AHL-lactonase in P. pastoris and attenuating A. hydrophila virulence by co-injection with AHL-lactonase.
【语种】英文
【第一作者】陈瑞东
【通讯作者】周志刚
【期刊名称、卷期、页码】MICROBIAL CELL FACTORIES,2010,9: 39
【论文发表时间】2010-05-01 00:00:00
【引文索引类型】SCI
【引文索引号】617GX
【学科分类】分子生物学

【题目】Molecular characterization of the auto- chthonous microbiota in the gastrointestinal tract of adult yellow grouper (Epinephelus awoara) cultured in cages.
【中文关键词】无
【英文关键词】Gastrointestine (GI); Autochthonous bacteria; Epinephelus awoara; Denaturing gradient gel electrophoresis (DGGE)
【中文摘要】无
【英文摘要】The present study used 16S rDNA PCR denaturing gradient gel electrophoresis (PCR-DGGE) technology to investigate the communities of autochthonous microbiota in the gastrointestinal (GI) tract; including stomach (ST), pyloric caeca (PC), proximal intestine (PI), mid intestine (MI) and distal intestine (DI) of the adult yellow grouper (Epinephelus awoara) cultured in cages. Twenty-two DGGE bands were successfully sequenced. However, ten of these bands were classified as unculturable according to the phylogenetic analysis. The dominant autochthonous bacteria in the GI tract belonged to Proteobacteria, but other bacteria identified belonged to Firmicutes, Bacteroidetes, Deinococcus-Thermus, Spirochaetes and unclassified-bacteria. Pantoea sp. and uncultured Proteobacterium were ubiquitous in all five sections of the GI tract. Empedobacter sp. PH7-1 and Acinetobacter sp. N15 were unique for the ST section, while uncultured bacterium clone F6-37 and gamma-Proteobacterium and Acinetobacter radioresistens Philippines-11 were only observed in PI, MI and DI sections. Furthermore, Lactococcus lactis, Bacteroides and uncultured Streptococcus sp. were also detected in the present study.
【语种】英文
【第一作者】周志刚
【通讯作者】姚斌
【期刊名称、卷期、页码】AQUACULTURE,2009,286, 184-189
【论文发表时间】2009-08-01 00:00:00
【引文索引类型】SCI
【引文索引号】395RT
【学科分类】分子生物学

【题目】Effects of dietary Saccharomyces cerevisiae fermentation product (DVAQUA (R)) on growth performance, intestinal autochthonous bacterial community and non-specific immunity of hybrid tilapia (Oreochromis niloticus female xO. aureus male) cultured in cages
【中文关键词】酵母培养物,肠道定植菌群,非特异性免疫,罗非鱼
【英文关键词】Saccharomyces cerevisiae fermentation product; DVAQUA; Intestinal autochthonous bacterial community; Non-specific immunity; Hybrid tilapia; Oreochromis niloticus female xO. aureus male
【中文摘要】本文介绍了用于阳性对照的酵母培养物的罗非鱼应用实验。
【英文摘要】In the present study, hybrid tilapias (Oreochromis niloticus ♀ × O. aureus♂) were fed six isonitrogenous andisoenergetic experimental diets in cages. The diets contained six levels of Saccharomyces cerevisiaefermentation product (DVAQUA ®): 0 (CK), 0.125 (G1), 0.25 (G2), 0.5 (G3), 1.0 (G4) and 2.0 (G5) g kg − 1diet.The purpose of this study was to evaluate the effect s of dietary DVAQUA on growth performance, intestinalautochthonous bacterial community by using 16S rDNA and denaturing gradient gel electrophoresis (DGGE),and non-speci fi c immu nity of hybrid tilapia. Supplementation of dietary DVAQUA

showed no effects ongrowth performance, diet conversion and survival rate of the hybrid tilapia. However, supplementation ofDVAQUA affected the autochthonous gut bacteria communi ty. Various potentially benefi cial bacteria werestimulated by dietary DVAQUA at different feeding period, while potentia l harmful species such as Escheri-chia coli serotype O20: H42-like, uncultured Bacilli bacterium clone MS030A1_F02-like, and Pseudomonas fluorescens strain YC0357-like were depressed by dietary DVAQUA . Non-speci fi c immunity of hybrid tilapia such as serum lysozym e activity, serum alternative complement pathway (C3 and C4) activities, head kidney macrophage phagocytic activity, and hea d kidney macrophage respiratory burst activity were improved by dietary DVAQUA . The optimum dose of dietary DVAQUA for hybrid tilapia determined based on a broken-lineapproach varies dependin g on the variables used: 0.226, 0.467, 0.4 92 or 0.5 0 g kg − 1 diet for lysozym e, C3, C4,or phagocytic activity, respectively.

【语种】英文

【第一作者】何夙旭

【通讯作者】周志刚

【期刊名称、卷期、页码】Aquaculture,2009, 294, 99-107

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【引文索引类型】SCI

【引文索引号】483GK

【学科分类】分子生物学

【题目】Effects of dietary potassium diformate (KDF) on growth performance, feed conversion and intestinal bacterial community of hybrid tilapia (Oreochromis niloticus female x O. aureus male)

【中文关键词】罗非鱼,二甲酸钾,黄霉素,喹烯酮,肠道菌群

【英文关键词】Oreochromis niloticus female x O. aureus male; Potassium diformate (KDF); Flavomycin; Quinocetone; Intestinal bacterial community

【中文摘要】本文介绍了用于阳性对照的二甲酸钾在罗非鱼中的应用研究。

【英文摘要】The aim of the present study was to investigate the effect of dietary inclusion of potassium diformate (KDF), a possible non-antibiotic growth promoter, and two widely-used antibiotics, flavomycin and quinocetone, on growth performance, feed conversion ratio and gut microbiota of hybrid tilapia. An 8 week feeding trial was conducted with five levels of KDF: 0 (C), 3.0 (KDF3), 6.0 (KDF6), 9.0 (KDF9), and 12.0 (KDF12) g kg(-1) diet and three antibiotic treatments: flavomycin (8 mg kg(-1), AF), quinocetone (100 mg kg(-1), AQ), and flavomycin (4 mg kg(-1)) + quinocetone (50 mg kg(-1)) (AFQ). At the end of the experiment, fish were starved for one day and bulk weighed. Pooled gut contents sampled from four replicate tanks were analyzed for bacterial community by 16 S rDNA PCR, denaturing gradient gel electrophoresis (DGGE) and Bio-1D++ software. The results indicate that the addition of dietary KDF and antibiotics had no significant effect on tilapia growth performance, feed conversion ratio or survival compared to the control group. Among the experimental groups, however, fish fed the KDF3 and KDF6 diets showed improved growth performance and feed conversion ratio with higher final body weight and specific growth rate and lower feed conversion ratio compared to those fed the AFQ diet. Dietary KDF and antibiotics showed effects on the gut microbiota. Dietary KDF3 and KDF6 improved the relative richness of some intestinal allochthonous bacteria such as Mycobacterium sp. partial MHSD12-like, Mycobacterium peregrinum-like, Pseudomonas sp. HMPB4-like and six uncultured bacterium-like species. However, alpha Proteobacterium IMCC1702-like, Rhodococcus sp. P14-like, and three uncultured bacterium-like species were depressed in the gut. Based on these results, the possible beneficial effects of KDF on gut bacteria will be discussed.

【语种】英文

【第一作者】周志刚

【通讯作者】姚斌

【期刊名称、卷期、页码】Aquaculture,2009, 294, 89-94

【论文发表时间】2009-04-03 00:00:00

【引文索引类型】SCI

【引文索引号】452CV

【学科分类】分子生物学

【题目】Solid-phase extraction and residue determination of glyphosate in apple by ion-pairing reverse-phase liquid chromatography with pre-column derivatization

【中文关键词】无
【英文关键词】Apple / 4-Chloro-3,5-dinitrobenzotrifluoride (CNBF) / Glyphosate / Ion-pairing reversephase liquid chromatography / Pre-column derivatization
【中文摘要】无
【英文摘要】A new method for glyphosate residue determination in apple has been developed. A SPE cartridge was used to clean up the samples before derivatization. Glyphosate was derivatized with 4-chloro-3,5-dinitrobenzotrifluoride (CNBF) and quantified by reverse ion-pair liquid chromatography using cetyltrimethylammonium bromide (CTAB) as ion-pair reagent. In pH 9.5 H3BO3 – Na2B4O7 medium, the reaction of glyphosate with CNBF was complete after 30 min at 608C. The stability of the derivative on exposure to light at room temperature in methanol – water was demonstrated.The labeled glyphosate was separated on a Kromasil C18 column (25064.6 mm,5 μ m) at room temperature and UV detection was applied at 360 nm. Separation was achieved within 15 min in gradient elution mode. The correlation coefficient for the method was 0.9998 at concentrations ranging from 0.1 to 50 lg/g. The calculated recoveries for glyphosate in apple were from 86.00 to 99.55%, and the relative standard deviations (n = 6) were from 1.43 to 6.32. The limit of detection was 0.01 μ g/g for glyphosate in apple.
【语种】英文
【第一作者】钱坤
【通讯作者】曹永松
【期刊名称、卷期、页码】Journal of Separation Science, 2009;32:2394-2400
【论文发表时间】2009-07-02 00:00:00
【引文索引类型】SCI
【引文索引号】000268595800008
【学科分类】分析化学

【题目】Determination of Amitrole in Environmental Water Samples with Precolumn Derivatization by High-Performance Liquid Chromatography
【中文关键词】无
【英文关键词】Amitrole; precolumn derivatization; 4-chloro-3,5-dinitrobenzotrifluoride (CNBF); high-performance liquid chromatography
【中文摘要】无
【英文摘要】Amitrole is a nonselective polar herbicide that can easily pollute ground and surface waters because of its high solubility in water. A precolumn derivatization high-performance liquid chromatographic method for amitrole analysis has been developed. Derivatization of amitrole was performed with 4-chloro-3,5-dinitrobenzotrifluoride (CNBF). The derivatization conditions and the influence of elution composition on the separation were investigated. In pH 9.5 H3BO3-Na2B4O7 media, the reaction of amitrole with CNBF was complete at 60 C after 30 min. The stability of the derivative under light irradiation and room temperature in methanol-water samples was demonstrated. The derivatized amitrole was separated on a K C18 column (250 mm 4.6 mm, 5 μ m) at room temperature, and UV detection was applied at 360 nm. The separation of derivatized amitrole was achieved within 18 min by gradient elution mode. The method correlation coefficient was 0.9995, in concentrations ranging from 1.59 to 318 mg L-1. The detection limit of amitrole was 0.16 mg L-1 with a signal-to-noise ratio of 3. The proposed method was applied to the quantitative determination of amitrole in environmental water with recoveries of 92.0-103.0% and RSDs of 2.22-6.26, depending on the sample investigated. This method has good accuracy and repeatability that can be used to quantify amitrole in environmental water.
【语种】英文
【第一作者】孙妍
【通讯作者】曹永松
【期刊名称、卷期、页码】Journal of Agricultural and Food Chemistry, 2009;57: 4540-4544
【论文发表时间】2009-08-05 00:00:00
【引文索引类型】SCI
【引文索引号】000266649800010
【学科分类】食品科学技术基础学科

【题目】High-performance liquid chromatographic method for determination of amino acids by precolumn derivatization with 4-chloro-3,5-dinitrobenzotrifluoride

【中文关键词】无
【英文关键词】Amino acids
Precolumn derivatization
4-Chloro-3,5-dinitrobenzotrifluoride
Liquid chromatography
【中文摘要】无
【英文摘要】This work presents an high-performance liquid chromatography method for the determination of amino acids after precolumn derivatization with 4-chloro-3,5-dinitrobenzotrifluoride (CNBF) which can readily react with both primary and secondary amines. The precolumn derivatization conditions, including the CNBF concentration, reaction pH, temperature and reaction time were investigated for method optimization.In pH 9.0 borate buffer, the reaction of amino acids with CNBF was carried out at 60 ◦ C for 30 min,the optimized concentration of CNBF was 70mmol*L − 1 and the molar ratio of amino acids to CNBF was1:5.25. The chromatographic separation of 19 amino acids derivatives was performed on a Kromasil ODS C18 column (250mm × 4.6mm, 5 μ m) with good reproducibility, and ultraviolet detection was applied at260 nm. The mobile phase was a mixture of phase A (acetonitrile) and phase B (acetate buffer, acetonitrile,triethylamine; 82.8:17:0.2, pH 4.9), and the flow rate was 0.4mLmin − 1. The separation of all the labeled amino acids was achieved within 45 min at room temperature by gradient elution mode. The method linearity,calculated for each amino acid, had a correlation coefficient higher than 0.9979, in concentrations ranging from 9.60 to 3330.00 mol L − 1. The detection limits of amino acids were 2.40 – 6.50 μ mol*L − 1, at a signal-to-noise ratio of 3. The proposed method was applied for the determination of amino acids in beer with recoveries of 97.0 – 103.9% and relative standard deviations of 2.62 – 4.22%, respectively. This method showed good accuracy and repeatability that can be used for the quantification of amino acidsin real samples.
【语种】英文
【第一作者】石天玉
【通讯作者】曹永松
【期刊名称、卷期、页码】Journal of Agricultural and Food Chemistry, 2009;57: 4540-4544
【论文发表时间】2009-09-26 00:00:00
【引文索引类型】SCI
【引文索引号】000271886600009
【学科分类】分析化学

【题目】Preparation of Ag-doped TiO2 nanoparticles for photocatalytic degradation of acetamiprid in water
【中文关键词】无
【英文关键词】Ag-doped TiO2; photocatalytic degradation; acetamiprid
【中文摘要】无
【英文摘要】BACKGROUND: Surface modification by doping with metal ions and organic polymers has been proven to be an efficient route to improve the photocatalytic activity of TiO2. Pesticide photocatalysis has been conducted with fine TiO2 particles suspended in an aqueous phase.RESULTS: It has been found that the Ag dopant accelerates TiO2 anatase to rutile transformation. At relatively low Ag concentrations (2 – 6%), anatase grain sizes decreased and specific surface areas of the TiO2 powders increased. The presence of Ag in crystalline TiO2 was found to increase the photocatalytic activity of TiO2 in the photocatalytic degradation of acetamiprid at 25 ◦ C.CONCLUSION: All photocatalytic degradations of acetamiprid followed pseudo-first-order degradation kinetics(Ct = C0e − kt) and parameters like the concentration of doped Ag appeared to play an important role affecting the reaction rate. The photocatalytic degradation velocity constant (k) was found to increase quickly with the Ag content, increasing from n = 0.02 to 0.06, and decreased slowly from n = 0.08 to 0.12. The half-lives of degradation(t1/2) were 18.8, 11.3, 16.2, 10.0, 6.9, 8.4 and 14.7min at n = 0, 0.02, 0.04, 0.06, 0.08 and 0.12, respectively. The optimal mole percentage of Ag in TiO2 should be between 4% and 8%.
【语种】英文
【第一作者】曹永松
【通讯作者】曹永松
【期刊名称、卷期、页码】J Chem Technol Biotechnol 2008;83:546 – 552
【论文发表时间】2008-02-08 00:00:00
【引文索引类型】SCI
【引文索引号】000254764200015
【学科分类】化学生物学

【题目】4- Chloro -5- [(5,5-dimethyl-4,5- dihydroisoxazol-3-yl) sulfonylmethyl] -3-methyl-1- (2,2,2-trifluoroethyl) -1H-pyrazole
【中文关键词】无
【英文关键词】R factor = 0.040; wR factor = 0.097; data-to-parameter ratio = 13.6. single-crystal X-ray study; T = 173 K; mean σ (C – C) = 0.003 A °
【中文摘要】无
【英文摘要】The molecule of the title compound, C12H15ClF3N3O3S, is twisted, as indicated by the C—S—C—C torsion angle of 66.00 (18) ° for the atoms linking the ring systems. An intramolecular C—H · · · F short contact occurs. In the crystal,non-classical C—H · · · O interactions, one of which has a short H · · · O contact of 2.28 A ° , link the molecules.
【语种】英文
【第一作者】马洪菊
【通讯作者】宁君
【期刊名称、卷期、页码】Acta Crystallographica Section E. 2009, E65, o2702-o2703
【论文发表时间】2009-10-02 00:00:00
【引文索引类型】SCI
【引文索引号】000271977700020
【学科分类】有机化学

【题目】4-Bromo-5- [(5,5-dimethyl-4,5- dihydroisoxazol-3-yl) sulfonylmethyl] -3-methyl-1- (2,2,2-trifluoroethyl) -1H-pyrazole
【中文关键词】无
【英文关键词】single-crystal X-ray study; T = 173 K; mean (C – C) = 0.003 A ° ;R factor = 0.034; wR factor = 0.093; data-to-parameter ratio = 17.1.
【中文摘要】无
【英文摘要】In the title compound, C12H15BrF3N3O3S, which has potential herbicidal activity, the molecule is twisted, as indicated by the C—S—C—C torsion angle of 67.86 (19) ° for the atoms linkingthe ring systems. An intramolecular C—H · · · F short contact occurs and intermolecular C—H · · · O interactions link the molecules in the crystal.
【语种】英文
【第一作者】马洪菊
【通讯作者】宁君
【期刊名称、卷期、页码】Acta Crystallographica Section E. 2009, E65, o2702-o2703
【论文发表时间】2009-10-04 00:00:00
【引文索引类型】SCI
【引文索引号】000271977700020
【学科分类】有机化学

【题目】Efficient synthesis of allose-containing analogue of the phytoalexin-elicitor glucohexaose and its dodecyl glycoside
【中文关键词】无
【英文关键词】oligosaccharides, synthesis, glycosides, glycosylations,stereoselectivity
【中文摘要】无
【英文摘要】An allose-containing analogue 2 of the phytoalexin elicitor b-(1→3)-branched b-(1→6)-linked glucohexatose and its dodecyl glycoside 3 has been regio- and stereospecifically synthesized.As a typical example of the method, the synthesis of 2 was achieved via coupling of the trisaccharide donor 2,3,4,6-tetra-O-benzoyl-b-D-glucopyranosyl-(1→3)-[2,3,4,6-tetra-O-benzoyl-b-D-glucopyranosyl-(1→6)]-1,2-O-isopropylidene-a-D-allopyranosyl trichloroacetimidate(9) with a trisaccharide acceptor. The donor was prepared easily from 1,2:5,6-di-O-isopropylidene-a-D-allofuranose(5) and 2,3,4,6-tetra-O-benzoyl-a-D-glucopyranosyl trichloroacetimidate(4) in a regio- and stereoselective manner.
【语种】英文
【第一作者】马洪菊
【通讯作者】宁君
【期刊名称、卷期、页码】Synthesis 2009, 2, 199-204

【论文发表时间】2008-12-19 00:00:00
【引文索引类型】SCI
【引文索引号】000271977700020
【学科分类】化学工程基础学科

【题目】Immunogenicity and protective efficacy of a replication-defective infectious bronchitis virus vaccine using an adenovirus vector and administered in ovo.
【中文关键词】无
【英文关键词】Infectious bronchitis virus
S1
Immune responses
【中文摘要】无
【英文摘要】In ovo vaccination remains an attractive option for a cost effective, uniform and mass application of vaccines for commercial poultry. However, the vaccines which can be delivered safely by this method are limited and there is no currently licensed embryo-safe vaccine against infectious bronchitis virus(IBV). In this study, a recombinant adenovirus expressing the S1 gene of nephropathogenic IBV (rAd-S1) was constructed and the immune responses and protective efficacy against homologous challenge were evaluated after in ovo vaccination. The results showed that the rAd-S1 led to dramatic augmentation of humoral and cellular responses in birds vaccinated in ovo followed by an intramuscular inoculation.Both IFN- and IL-4 in chicken ’s lymphocytes were produced by this strategy. Following challenge with IBV, the chickens vaccinated with recombinant adenovirus showed fewer nephropathic lesions and lesssevere clinical signs as compared to those receiving wild-type adenovirus or PBS. The construction of non-replicating human adenovirus vector encoding S1 gene of IBV and its in ovo delivery demonstrated the potential of an alternative vaccination strategy against IBV.
【语种】英文
【第一作者】姜平
【通讯作者】姜平
【期刊名称、卷期、页码】Journal of Virological Methods 2010,166(1-2):
【论文发表时间】2010-02-16 00:00:00
【引文索引类型】SCI
【引文索引号】000278029600008
【学科分类】病毒学

【题目】Effects of dietary energy and protein contents on the pH and electrolyte ion concentrations of jejunal fluid in Pekin ducks
【中文关键词】无
【英文关键词】jejunal fl uid, electrolyte, duck
【中文摘要】无
【英文摘要】The pH and electrolyte ion concentrations of intestinal fl uid play an importantrole in the activities of digestive enzymes and some amino acid transporters inintestine. Because energy and protein are the main macronutrients in poultrydiets, research to determine the response of intestinal pH and electrolyte ionconcentrations to dietary ME and CP content is warranted to explain nutrientutilization of ducks. The present experiment was conducted to investigatethe effect of dietary ME and CP content on jejunal pH and electrolyte ionconcentrations of Pekin ducks. Seventy-two male cannulated ducks wererandomly alloted into 4 groups. Four treatments consisting of combinationsof 3,050 and 2,800 kcal of ME/kg and 17.50 and 14.40% CP content wereavailable ad libitum. Jejunal digesta samples were collected for 1 h every 4h from 0930 h to 1830 h on d 31, 33, and 35 of the experiment. The jejunalfl uid was prepared by centrifuging jejunal digesta. Subsequently, the pH andconcentrations of sodium, potassium, chloride, calcium, and magnesium ions injenunal fl uid were determined. Dietary energy and protein contents did not affectthe pH of jenunal fl uid in Pekin ducks. Greater dietary ME content increased thechloride ion concentration ($P < 0.05$) but did not affect the sodium, potassium,calcium, and magnesium ion concentrations of jenunal fl uid. Greater dietaryCP content increased the sodium and calcium ion concentrations in the jenunalfl uid ($P < 0.05$) but did not change the concentrations of chloride, potassium,and magnesium ions. In conclusion, dietary energy and protein contents did notaffect the pH of jenunal fl uid, which indicated a constant jejunal pH was presentin Pekin ducks. However, a few electrolyte ions were affected by dietary theME and CP content.

【语种】英文
【第一作者】赵峰
【通讯作者】赵峰
【期刊名称、卷期、页码】ASASCAAV-2009,45
【论文发表时间】2009-11-08 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】畜牧学

【题目】Effects of Dietary Energy on Growth Performance and Carcass Quality of White Growing Pekin Ducks from Two to Six Weeks of Age
【中文关键词】无
【英文关键词】duck, energy, requirement
【中文摘要】无
【英文摘要】Adose-response experiment with 6 dietary energy levels (2,600, 2,700, 2,800, 2,900, 3,000, 3,100 kcalofAME/kg) was conducted to study the effects of dietary energy on growth performance and carcass quality of White Pekin ducks from 2 to 6 wk of age. Six hundred 14-d-old White Pekin ducks were randomly divided to 6 dietary treatments, each containing 5 replicate pens with 10 males and 10 females per pen, and these birds were raised until 6 wk of age. At 42 d of age, weight gain, feed intake, and feed:gain of ducks from each pen were measured, and 2 ducks (1 male and 1 female) selected randomly from each pen were slaughtered to evaluate the yields of abdominal fat, breast meat (including pectoralis major and pectoralis minor), and leg meat (including thigh and drumstick). As dietary energy increased from 2,600 to 3,100 kcal of AME/kg, the weight gain of ducks increased significantly, and the feed intake and feed:gain decreased significantly. According to the broken-line regression analysis, the AME requirements of White Pekin ducks from 2 to 6 wk of age for optimal weight gain and feed:gain were 3,008 and 3,030 kcal/kg, respectively, when dietary protein was 18%. On the other hand, high dietary energy did not affect breast and leg meat (P 0.05), but abdominal fat increased (P 0.05) when dietary AME was above 2,700 kcal/kg.
【语种】英文
【第一作者】樊红平
【通讯作者】侯水生
【期刊名称、卷期、页码】poultry science,2008, 87:1162-1164
【论文发表时间】2008-07-01 00:00:00
【引文索引类型】null
【引文索引号】
【学科分类】畜牧学

【题目】胶体金免疫层析检测犬、猫抗狂犬病病毒IgG抗体的研究
【中文关键词】狂犬病;N 蛋白;胶体金免疫层析; IgG抗体;SPA
【英文关键词】rabies ; nucleoprotein ; gold immunochromatographic assay ; IgG antibodies ; staphylococcal protein A
【中文摘要】目的 建立检测犬、猫抗狂犬病病毒(RV) IgG抗体的胶体金免疫层析方法。方法 采用柠檬酸三钠还原法制备胶体金用以标记SPA ,同时将重组RV N 蛋白、抗SPA 抗体分别包被至硝酸纤维素膜的检测线与质控线上,制备一种检测犬、猫抗RV IgG抗体的胶体金检测卡,进行了特异性和灵敏度试验,并与EL ISA 同时检测临床样品、统计结果。结果 GICA 试纸条检测灵敏度为0. 5 IU/ mL ,与犬瘟热病毒、犬细小病毒等阳性血清无交叉反应,并与EL ISA 相比,两者的符合率为94. 6 %。结论 成功建立了检测犬、猫抗RV IgG抗体的通用型胶体金免疫层析方法,该方法灵敏度高,特异性强,检测速度快,操作简便,可广泛应用于基层。
【英文摘要】To develop a gold immunochromatographic assay (GICA) for detection of rabies virus (RV) IgG antibodies ,SPA was conjugated with colloidal gold particles prepared by t ri2sodium cit rate reduction method. Meanwhile the recombinant RV nucleoprotein and anti2SPA antibodies were st riped in the test line position and the cont rol line position respectively. The assay could detect RV antibody in dogs and cat s with a sensitivity of 0. 5 IU/ mL. There was no cross reaction to canine distem-per or canine parvovirus positive serum. Compared with EL ISA ,the coincidence rate of these two methods was 94. 6 %. Fur-thermore ,GICA was rapid (15min) and easy to perform without requirement s of professional skills ,reagent s and equipment s. Itsuggest s that GICA is an acceptable alternative for clinical laboratories lacking specialized equipment .

【语种】中文
【第一作者】范晓娟
【通讯作者】李刚
【期刊名称、卷期、页码】中国人兽共患病学报,2010,26(8):753-757
【论文发表时间】2010-08-02 00:00:00
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【引文索引号】
【学科分类】兽医学

【题目】生长前期北京鸭赖氨酸需要量的研究
【中文关键词】北京鸭;赖氨酸;需要量
【英文关键词】duck,lysine, requirement
【中文摘要】试验采用单因子完全随机试验设计研究赖氨酸对7~21日龄雄性北京鸭生产性能和胴体品质的影响,进而探讨生长前期北京鸭赖氨酸需要量。280只7日龄雄性北京鸭随机分为5个处理,每处理8个重复,每重复7只鸭。各处理组北京鸭随机饲喂赖氨酸水平分别为O.65%,O.80%,0.95%,1.10%和1.25%的试验日粮。饲养期为7~21日龄。结果表明:赖氨酸对北京鸭生产性能和胴体品质均产生显著影响(P<0.05)。以日增重、料肉比和胸肉重为评价指标.依据二次曲线模型,北京鸭生长前期赖氨酸需要量分别为1.06%、1.07%和1.12%。
【英文摘要】
【语种】中文
【第一作者】张婷
【通讯作者】侯水生
【期刊名称、卷期、页码】中国饲料,2008,19:13-15
【论文发表时间】2008-10-01 00:00:00
【引文索引类型】null
【引文索引号】
【学科分类】畜牧学

【题目】Suppression of porcine reproductive and respiratory syndrome virus replication in Marc-145 cells by shRNA targeting to ORF1 region
【中文关键词】无
【英文关键词】PRRSV;RNA interference (RNAi);Short hairpin RNA (shRNA); ORF1b
【中文摘要】无
【英文摘要】Porcine reproductive and respiratory syndrome(PRRS) is an economically important disease in swine producing area. The current vaccine strategies cannot provide complete protection against PRRSV. The objective of this study was to determine if specific short-hairpin RNA (shRNA) directed against different genomic regions of ORF1b of PRRSV could be utilized to inhibit virus replication in MARC-145 cells. Two shRNA expression vectors targeting ORF1b gene of PRRSV were constructed and delivered into MARC-145 cells, and then infected withPRRSV. The results showed that PRRSV-specific cytopathic effect (CPE) could be inhibited in the cells transfected with pSUPER-P2 and pSUPER-P3, and the virus titers in the cells transfected with pSUPER-P2 and pSUPER-P3 were lower than those control cells by approximately100 fold. Moreover, the expression of ORF1 of PRRSV in the cells was reduced both at RNA and protein levels comparing to the controls. It indicated that vectorbased shRNA targeting ORF1 region could effectively inhibit PRRSV replication in MARC-145 cells.
【语种】英文
【第一作者】姜平
【通讯作者】姜平
【期刊名称、卷期、页码】Virus Genes 2007,35(3):673-679
【论文发表时间】2007-08-02 00:00:00
【引文索引类型】SCI
【引文索引号】000251060200024
【学科分类】病毒学

【题目】Inhibition of porcine reproductive and respiratory syndrome virus replication by adenovirus-mediated RNA interference both in porcine alveolar macrophages and swine
【中文关键词】无
【英文关键词】PRRSV
Adenovirus vector
RNAi
shRNA
【中文摘要】无
【英文摘要】Porcine reproductive and respiratory syndrome virus (PRRSV) has been mainly responsible for the heavy economic losses in many swine-producing regions. Current vaccination strategies and antiviral drugs provide only limited protection. Consequently, there is a need to develop a new antiviral strategy. In this study, two recombinant adenoviruses expressing short-hairpin RNAs (shRNAs) directed against ORF1b of PRRSV S1 strain were constructed and the inhibition of PRRSV replication was determined. The results showed that pretreatment with these shRNAs delivered by recombinant adenovirus could induce a significant inhibition of viral RNA and protein level in Marc-145 cells infected with PRRSV S1 strains. One recombinant adenovirus (rAd-P2) was found to be also effective in inhibiting the replication of highly virulent PRRSV SY0608 strain in Marc-145 cells and porcine alveolar macrophages at both the proteinand ORF1b mRNA level. The antiviral effect was dose-dependent and sustained for at least 96 h. Twenty 6-week old piglets were assigned to four groups each with five piglets. Groups 1 and 2 were inoculated intramuscularly with rAd-P2 and mock construct rAd-mP2 individually. After 24 h, groups 1, 2 and 3were challenged intramuscularly with the SY0608 strain. Group 4 remained unchallenged but with PBS as mock. The results showed that the viral load of PRRSV in serum and lung tissue of swine was suppressed effectively by rAd-P2. The clinical signs and pathological lesions in the pigs inoculated with rAd-P2 were milder than those in rAd-mP2 negative and PRRSV control. These results indicated that shRNAs mediated by the adenovirus could inhibit PRRSV infection sufficiently in vitro as well as in vivo. RNAi mediated byrecombinant adenovirus might be a potential new tool for controlling PRRSV infection. Of course, the protective efficiency of rAd-P2 should be made by using a large number of pigs in future.
【语种】英文
【第一作者】姜平
【通讯作者】姜平
【期刊名称、卷期、页码】Antiviral Research 2009, 82:157 – 165
【论文发表时间】2009-02-26 00:00:00
【引文索引类型】SCI
【引文索引号】000266186400009
【学科分类】病毒学

【题目】Effective suppression of porcine reproductive and respiratory syndrome virus replication by adenovirus-mediated small interfering RNAs targeting ORF1b, 5 and 7 genes
【中文关键词】无
【英文关键词】PRRSV
Adenovirus
RNAi
shRNA
【中文摘要】无
【英文摘要】Porcine reproductive and respiratory syndrome virus has caused hundreds of thousands of deaths in pig farms in many swine-producing areas in the world in recent years. However, at present there is no effective method to prevent and control the disease, and there is a need to develop new antiviral strategies. In this study, four recombinant adenoviruses expressing shRNAs targeting ORF1b, ORF5 and ORF7were constructed,and it was found that they could down-regulate effectively specific gene expression and inhibit viral replication in MARC-145 cells when compared to the controls. They could also inhibit effectively PRRSV replication in porcine alveolar macrophages. The inhibition effect was dose-dependent and could be sustained for at least 96 h in macrophages. In addition, PRRSV replication could be suppressed significantly by shRNA in cells infected previously or simultaneously with PRRSV. The results indicated that the shRNA-expressing rAd5 targeting to various gene regions of PRRSV might be a potential anti-PRRSV

strategy
【语种】英文
【第一作者】姜平
【通讯作者】姜平
【期刊名称、卷期、页码】Journal of Virological Methods 2009, 157: 40-46
【论文发表时间】2010-01-20 00:00:00
【引文索引类型】SCI
【引文索引号】000264667000006
【学科分类】病毒学

【题目】Construction and Function Test of Chicken MHC I (BF2*15)/peptide Tetramer
【中文关键词】无
【英文关键词】Chicken MHC class I; BF2*15-BSP and b2 microglobulin genes; BF2*15/peptide tetramer
【中文摘要】无
【英文摘要】The major histocompatibility complex class I (MHC class I) peptide tetramer is a sensitive and valuable tool to evaluate antigenspecific cytotoxic T lymphocytes (CTLs) of many animal species. To date, no chicken MHC class I peptide tetramer has been reported. In this report, we describe construction and functional evaluation of a chicken MHC-I (BF2*15)/peptide tetramer. To construct the chicken MHC class I peptide tetramer, genes of the chicken MHC-I a chain (BF2*15) and b2 microglobulin (Chb2m)were synthesized by RT-PCR from the total RNA of PBMCs and the signal sequences were deleted. The BF2*15 was then fused with the BirA substrate peptide (BSP) sequence at the C terminus. Next, the synthesized PCR products of BF2*15 and Chb2m were cloned into the expression vector pET-28a (+) and expressed in Escherichia coli strain BL21 (DE3). Highly purified BF2*15-BSP heavy chain and Chb2m were obtained by a Ni2+ NTA column affinity purification, yielding approximately 1.6 mg of BF2*15-BSP and 2.4 mg of Chb2m per 1 g of the pelleted bacteria. The purified BF2*15-BSP heavy chain and Chb2m were refolded with synthetic peptide originated from infectious bronchitis virus nucleoprotein (IBV N71 – 78) in refolding buffer to generate the monomer of BF2*15/peptide complex. The monomer was then biotinylated and tetramerized using PE-labeled streptavidin. Upon functional evaluation of the construct by using flowcytometry, we observed that 3.65% of CTLs were specific to IBV nucleoprotein.This demonstrates that the CTL response of IBV-infected chicks could effectively be evaluated using the prepared MHC-I BF2*15/peptide tetramer.
【语种】英文
【第一作者】刘国梁
【通讯作者】吴东来
【期刊名称、卷期、页码】Vet Immun Immunopathol 2008,122: 1 – 7.
【论文发表时间】2007-10-25 00:00:00
【引文索引类型】SCI
【引文索引号】000254766000001
【学科分类】畜牧、兽医科学基础学科

【题目】异养型亚硝酸细菌固定化颗粒质量评价的研究
【中文关键词】亚硝酸细菌固定化颗粒, 包埋法, 含氮污水, 物理性状, 化学性能
【英文关键词】AOB immobilized beads ; embedding method ; ammonia2nit rogen containing sewage ; physical character ; chemical character
【中文摘要】采用聚乙烯醇和海藻酸钠凝胶共包埋异养型亚硝酸细菌制备固定化颗粒,从物理性状和化学性能2 个方面综合评价异养型亚硝酸细菌固定化颗粒的质量。物理性状主要指颗粒是否成球、胶体粘连状况、颗粒弹性、稳定性和传质性能等;化学性能指异养型亚硝酸细菌固定化颗粒对氨氮的去除能力。试验结果表明,通过优化制备颗粒的配方可改善固定化颗粒的物理性状;污水中添加碳源有利于提高固定化颗粒的除氮能力;在稳定处理期包埋2 种活菌量的固定化颗粒去除氨氮效果差异不显著。此外,也发现固定化颗粒去除人工污水中氨氮的过程较为复杂,物理吸附、分子扩散和微生物硝化作用同时存在,其中微生物起主要作用。
【英文摘要】Series of immobilized microbial beads was prepared with polythene alcohol (PVA) and Na-alginate as gel mat rix and content rapping heterot rophic ammonium oxidizing bacteria (AOB) . The impact of sodium alginate concent ration ,activated carbon concent ration ,polyvinyl alcohol concent ration and crosslinking time on immobilized beadsquality was investigated by analyzing their

physical and chemical characteristics such as conglutination ,forming ,flexibility ,stability ,mass t ransfer efficiency and ammonia nit rogen removal capacity. The result s showed that the optimum proportion could improve physical characteristics of immobilized beads ,and more carbon source was beneficial to theammonia nit rogen removal capacity. The AOB immobilized beads presented perfect performance for ammonia nit rogenremoval ,and the influence of AOB concent ration on ammonia nit rogen removal rate was negligible. The t reatment of nit rogen containing sewage by AOB immobilized beads was a complicated process including physical adsorption ,molecule diffuse and nit rification ,among which ,microbe played an important role.

【语种】中文

【第一作者】肖晶晶

【通讯作者】朱昌雄

【期刊名称、卷期、页码】环境污染与防治,2011,33(4):46-49,90

【论文发表时间】2011-04-01 00:00:00

【引文索引类型】其他

【引文索引号】

【学科分类】环境科学技术及资源科学技术其他学科

【题目】Expression of biologically active recombinant equine interferon- γ in Escherichia col

【中文关键词】无

【英文关键词】Interferon- γ ; Expression; Biological activity

【中文摘要】无

【英文摘要】Interferon gamma (IFN- γ) is a pleiotropic cytokine that is recognized as an important modulator of the immune response. To date, there is no report that prokaryocyte-derived recombinant equine IFN- γ has antiviral activity. In this report, the gene coding equine IFN- γ (EIFN- γ) mature protein was cloned into pET-28a (+) and the recombinant EIFN-g was expressed in Escherichia coli (E. coli). The antiviral activity of expressed recombinant EIFN- γ was evaluated by using a recombinant Vesicular Stomatits Virus expressing green fluorescence protein (rVSV-GFP) system in the equine fetal kidney-78 cell line (EFK-78). The GFP expression in the EFK-78 cells dramatically decreased in the cells treated with EIFN-g in a dose-dependent manner, comparing with the mock-treated cells. The titer of antiviral activity was 1 103 AU/ml. These results demonstrated that the EIFN-g expressed in this study had good biological activity. Pure forms and sufficient quantities of biologically active IFN- γ could facilitate the study of its activities in modulating immune responses both in vivoand in vitro.

【语种】英文

【第一作者】白宇

【通讯作者】吴东来

【期刊名称、卷期、页码】Comparative Immunology, Microbiology and Infectious Diseases 2009, Mar 9. [Epub ahead of print].

【论文发表时间】2008-12-02 00:00:00

【引文索引类型】SCI

【引文索引号】000279410400005

【学科分类】免疫学

【题目】Expression, purification and monoclonal antibodies preparation ofrecombinant equine mature interleukin-18

【中文关键词】无

【英文关键词】Interleukin-18 (IL-18)
Expression
Bioactivity
mAb
Equine

【中文摘要】无

【英文摘要】IL-18 is a cytokine originally discovered as an important modulator of immune responsesand subsequently shown to be pleiotropic. In this report, we expressed the recombinantequine mature interleukin-18 (rEMIL-18) in E. coli and purified it by nickel affinity gelcolumn chromatography. Purified rEMIL-18 had biological activity commensurate withrecombinant human IL-18, as determined by its synergistic effect with recombinant humanIL-12 (rhIL-12) on the induction of IFN- gene expression in equine peripheral bloodmononuclear cells (PBMC). Following intraperitoneal (i.p.) immunization of BALB/c mice with rEMIL-18, nine

monoclonal antibodies (mAbs) against equine interleukin-18 (EIL-18) were obtained and characterized. These mAbs recognized different epitopes on equine mature interleukin-18 (EMIL-18) protein based on their reactivity with two peptides containingdifferent amino acid sequences and one of these mAbs has neutralization activity against EIL-18 in an IFN- γ -induction assay.
【语种】英文
【第一作者】童铁钢
【通讯作者】吴东来
【期刊名称、卷期、页码】Vet. Immunol. Immunopathol.　2010, doi:10.1016
【论文发表时间】2010-03-01 00:00:00
【引文索引类型】SCI
【引文索引号】000280511500002
【学科分类】畜牧、兽医科学基础学科

【题目】不同措施对北方地区冬季户用沼气池料液温度及产气量的影响
【中文关键词】北方; 冬季; 户用沼气池; 温度; 产气量
【英文关键词】northern; winter; household biogas digesters; temperature; gas production
【中文摘要】提高农村户用沼气池冬季产气量, 是当前循环农业领域面临的主要问题。通过实验室筛选、培养并制取了低温沼气微生物菌剂, 在山东省德州市选取农村户用沼气池进行冬季产气试验, 研究采取不同措施对户用沼气池池内料液温度及沼气产量的影响。结果表明, 对于池容为10 m3 的猪粪原料沼气池, 三种保温措施都能使沼气池内料液温度达到10e以上, 各种措施效果依次为: 暖棚> 简易塑料薄膜> 深埋; 在提高产气量方面, 暖棚加菌剂>简易塑料薄膜加菌剂> 深埋加菌剂> 暖棚> 简易塑料薄膜> 深埋。
【英文摘要】Increasing gas production of rural household biogas digesters in winter is the major problems of current recycling agriculture. Through laboratory screening, cultivation, preparation of the low-temperature microbial agent, the gas production tests were carried out with household biogas digesters in winter in Dezhou city of Shandong Province. The effect of different heat preservation measures on digester temperature and gas production were studied. The results showed that, for the biogas digesters of 10 m3, the methods of greenhouses, plastic film covering, and deep buried digester, could make digester temperature above 10°C in northern winter. And the order of gas production improving was greenhouses plus microbial agent,plastic film covering plus microbial agent, deep buried digester plus microbial agents.
【语种】中文
【第一作者】王艳芹
【通讯作者】刘英
【期刊名称、卷期、页码】中国沼气,2010,28(5):31-34
【论文发表时间】2010-05-01 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】环境科学技术及资源科学技术其他学科

【题目】生物滤池在处理VOCs和异味气体中的应用研究进展
【中文关键词】VOC;异味气体;生物滤池
【英文关键词】VOC; Odor; Biofilter
【中文摘要】挥发性有机物(VOCs)和异味气体的排放对生态环境和人类健康都会造成极大的危害。生物处理方法与传统方法相比不仅节省资源而且对环境污染少,在处理VOCs和异味气体领域备受推崇,其中生物滤池法更是一种简便有效的方式。本文对用于VOCs和异味气体处理的生物滤池法的各项参数、构造、生物降解过程及未来发展需求等方面进行了综述。
【英文摘要】Volatile organic compounds (VOCs) and odorous compounds discharged into the environment create ecological and health hazards. In the recent past, biological waste air treatment processes using bio- reactors have gained popularity in control of VOCs and odour, since they offer a cost effective and environ- ment friendly alternative to conventional air pollution control technologies. This review provides an overview of the biofilters that are used in VOC and odour abatement, along with details on their configuration and design, mechanism of operation, insights into the microbial biodegradation process and future R&D needs in this area.

【语种】中文
【第一作者】陈晓亮
【通讯作者】王世平
【期刊名称、卷期、页码】可持续发展， 2012,2(1):34-40
【论文发表时间】2012-02-01 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】环境科学技术及资源科学技术其他学科

【题目】DNA-chitosan nanoparticles improves DNA vaccine-elicited immunity against Newcastle disease virus through shuttling chicken interleukin-2 gene
【中文关键词】无
【英文关键词】chicken interleukin-2 gene; DNA – chitosan nanoparticles; immunity; Newcastle disease virus
【中文摘要】无
【英文摘要】In this study, pCAGG-ChIL2 plasmid DNA containing the chicken interleukin-2 (ChIL-2) gene was used to prepare DNA – chitosan nanoparticles (CNPs). The CNPs prepared were spherical, with mean diameters between 100 and 200 nm, have a positive surface charge, and could protect DNA against DNase I degradation.The CNPs prepared were successfully used to transfect the Df-1 cell line with almost no cytotoxicity.CNPs prepared at an amino group to phosphate group ratio (N/P ratio) of 16 provided the highest 15 transfection efficiency (1.1%) in medium with a pH of 6.5. When pCAGG-ChIL2 CNPs were administered to chickens simultaneously with a DNA vaccine against Newcastle disease virus (NDV), haemagglutination inhibition antibody titers and serum interferon-γ (IFN-γ) levels were significantly higher than in chickens immunised with the NDV DNA vaccine alone (p50.05). The results demonstrate that pCAGG-ChIL2 CNPsimprove DNA vaccine-elicited immunity against NDV challenge.
【语种】英文
【第一作者】吴东来
【通讯作者】吴东来
【期刊名称、卷期、页码】Journal of Microencapsulation 2010, Accepted
【论文发表时间】2010-06-08 00:00:00
【引文索引类型】SCI
【引文索引号】000283689900004
【学科分类】药剂学

【题目】对《城镇污水处理厂污泥处置农用泥质》的思考
【中文关键词】污泥; 处置; 农用泥质; 标准
【英文关键词】sewage sludge; disposal; sludge for agricultural use; standard
【中文摘要】2008年制订了《城镇污水处理厂污泥处置农用泥质》标准,对污泥农用时重金属浓度指标实行分级控制。根据作物试验结果,并结合我国农田土壤的实际情况,对毒性强、危害大的重金属元素从严控制,对毒性和污染风险小的锌和铜,则适当放宽限制;对种植非食用农作物的农田,也适当放宽重金属浓度的限制。另外,增加了污泥中有机污染物、病原菌、腐熟度和污泥施用时间、施用量、禁用区域等方面的具体规定。
【英文摘要】D isposal of S ludge from M unicipal W astewater Treatm en t Plant: the Quality of S ludgeUsed in Agriculturewas set up in 2008, which establishes the requirements for the heavymetals in sewage sludge when app lied to the land. The requirements of the heavy metals concentrations are divided into ClassA and Class B, which depend on the types of crop s p lanted in agricultural land. Based on the experiments and the element background of farmland in China, some heavy metals whose toxicity is more harmful to the crop and human body should be strictly controlled. However, some heavy metals such as Zn, Cu are regulated with a reasonable concentration for the weak toxicity and low risk. The requirements for heavymetals in sewage sludge app lied to the crop swhich do not enter the food chain directly are reasonably relaxed. Also added in this standard are organic pollutants, pathogenic bacteria, maturity, app lication quantity and time limit, the p rohibited app lied areas and so on for sewage sludge app lied to the agricultural land.
【语种】中文
【第一作者】陈同斌
【通讯作者】陈同斌

【期刊名称、卷期、页码】中国给水排水,2009,25(9):101-108
【论文发表时间】2008-12-13 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】环境科学技术及资源科学技术其他学科

【题目】SPME法分析玉米芯物理吸附恶臭气体特征研究
【中文关键词】玉米芯;恶臭气体;固相微萃取;吸附
【英文关键词】Corn-Cob; Odors; SPME; Absorption
【中文摘要】本研究考察以农副产品玉米芯为填料净化恶臭气体的效果,并以SPME-GC(固相微萃取-气相)联用作为监测方法。实验对固相微萃取的萃取头类型、萃取时间及条件进行了优化,对气相色谱的色谱条件进行了筛选,针对填料玉米芯的含水率、进气流量、填料高度等因素对净化效果的影响进行了重点探索,最后考察了最优条件下玉米芯对恶臭气体的物理净化效果。结果表明:采用75 μm CAR/PDMS萃取头吸附恶臭气体5 min,可以实现恶臭气体的有效检测;气相色谱的升温程序能够有效分离三种硫醇物质,FPD检测器能够实现有效检测;玉米芯吸附恶臭气体的最优条件为含水率70%、自然堆积密度0.12 g·cm－3、填料高度65 cm、进气流速0.1 m3·h－1;最优条件下,吸附塔动态吸附恶臭气体47 h,对恶臭气体净化率维持在85%~95%,效果良好。
【英文摘要】This study explored the decontamination effect of corn-cob on odors by using SPME-GC (solid phase mi-cro-extraction, gas chromatography). The type of extraction fiber, the time and condition of the extraction on SPME were optimized, and the chromatographic condition on GC was screened. The study focused on investigating the opti-mum condition of the decontamination effect of corn-cob including the moisture content, the inlet air flow rate and the filling height. Results: The study indicated that using 75 μm CAR/PDMS extraction fiber to absorb odors for 5 minutes could effectively test the odors; three mercaptan could be separated by temperature-programming and effectively de-termine by FPD; the optimum condition of absorption was moisture content 70%, natural packing density 0.12 g·cm－3, filling height 65 cm and inlet air flow rate 0.1 m3·h－1. Under the optimum condition, the decontaminating efficiency of corn-cob on odors maintained at 85%~95% in 47 h.
【语种】中文
【第一作者】陈晓亮
【通讯作者】王世平
【期刊名称、卷期、页码】生物过程,2012,2(1):21-26
【论文发表时间】2012-01-01 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】环境科学技术及资源科学技术其他学科

【题目】农田水污染物排放控制标准研究
【中文关键词】标准; 水环境; 农田污染; 非点源污染控制
【英文关键词】standard; water environment; farmland pollution; non-point source pollution control
【中文摘要】农田非点源污染带给我国水环境的污染负荷越来越大,现行的水资源保护标准体系尚不完善,且明显缺位,难以对农田水环境污染进行定量化管理和控制。本文分析了建立农田水污染物排放标准的必要性,阐述了建立该标准应遵循的原则,构建了将农田管理与污染物排放相协调的农田水污染控制标准框架与体系,探索该标准在实践过程中的推行机制,为该标准制定和实施进行了前瞻性研究。
【英文摘要】Since China’s current water resources protection standard systems are not well equipped for managing and controling farmland pollutant by using quantitative control system,China’s water environment was overburdened by farmland non-point source pollution.This paper analyzed the significance and necessity of establishign a farmland water pollutant discharge standard,elaborated on theprinciples this standard is based on,constructed the standard frame and the indication factors system which unified the farmland management technical standard and the pollutant discharge standard. It also discussed the mechanism for this standard’s application. All of these are aimed to provide prospective research for this standard’s formulation and implementation.
【语种】中文
【第一作者】王迎春
【通讯作者】王迎春

【期刊名称、卷期、页码】中国人口·资源与环境,2011,21(3):427-430
【论文发表时间】2011-03-01 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】环境科学技术及资源科学技术其他学科

【题目】南方城市近郊农村生活垃圾现状调查与处理模式研究
【中文关键词】面源污染;生活垃圾;垃圾分类;垃圾减量化;垃圾腐熟
【英文关键词】none
【中文摘要】随着生活水平的提高,农村生活垃圾的数量和种类正趋向于城市垃圾,基于农村人口居住地较为分散,经济发展水平也低于城市水平,农村生活垃圾的处理技术与模式是建设新农村的重要技术课题。本文在湖南省长沙县、安徽省巢湖市等地近郊农村生活垃圾调查的基础上,对可腐熟降解类生活垃圾的养分含量进行检测,并对农村生活垃圾的处理模式进行了探讨,通过分类处理模式可使农村生活垃圾在村级水平减量60%~70%。
【英文摘要】...
【语种】中文
【第一作者】李世贵
【通讯作者】李世贵
【期刊名称、卷期、页码】农业环境与发展,2012, 29(2) :61-64
【论文发表时间】2012-02-01 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】环境科学技术及资源科学技术其他学科

【题目】微生物菌剂在农业废弃物堆肥腐熟过程中的应用及其田间试验效果
【中文关键词】微生物菌剂; 农业废弃物; 生活垃圾; 蘑菇渣; 堆肥
【英文关键词】microbial agent; agricultural junks; living garbage; mushroom residue; compost
【中文摘要】以农村生活垃圾中的可堆肥腐熟成分和蘑菇渣为堆肥原料,通过添加微生物菌剂进行堆肥试验,研究其在农业废弃物堆肥腐熟过程中的作用,并通过田间试验研究堆肥腐熟后肥料样品对黄瓜和青椒的增产效果,以验证其肥效。结果表明添加微生物菌剂有助于堆肥腐熟后样品的氮、磷、钾的保全和有机质的增加,促进养分均衡。添加微生物菌剂的堆肥腐熟肥料样品在田间试验中对黄瓜和青椒的增产效果最为显著,分别为22. 21%和19. 87%。
【英文摘要】The compost decomposition experiment was carried out using decomposable component of living garbage in the countryside and mushroom residue as compost raw material to study the compost composition process using agricultural junks by adding microbial agent,and carried out field experiment to study their effect on production increment of cucumber and green pepper of the fertilizer samples after compost composition in order to verify the fertilizer effect.The result showed that adding microbial agent was conducive to preserve nitrogen,phosphorus,potassium,and increasing organic matter,and promoting nutrient balance after the compost composition process. The output of the cucumber and green pepper increased by 22.21% and 19.87% respectively with significant production increment in the field experiment of the samples of compost composition manure adding microbial agent.
【语种】中文
【第一作者】李世贵
【通讯作者】李世贵
【期刊名称、卷期、页码】微生物学杂志,2011,31(6):62-65
【论文发表时间】2011-06-01 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】环境科学技术及资源科学技术其他学科

【题目】对《农用污泥中污染物控制标准》中几个问题的商榷
【中文关键词】城市污泥; 土地利用; 重金属; 病原菌; 有机污染物; 环境风险
【英文关键词】municipal sludge; land app lication; heavy metal; pathogenic bacteria; organic pollutant; environmental risk

【中文摘要】系统的、科学的污泥农用标准是监控污泥土地利用和防止污泥污染的重要前提。根据城市污泥农用过程中重金属、病原菌、有机污染物、杂草种子、蚊蝇滋生及盐分、N、P的流失等方面存在的环境风险问题,重点分析了《农用污泥中污染物控制标准》(GB 4284—84)在标准名称、施用范围、污染物限定值以及标准的可操作性等方面存在的问题,并提出了相应的修改意见和建议。

【英文摘要】A systematic and scientific standard for agricultural use of sewage sludge is an importantp remise of supervising sewage sludge land app lication and p reventing sewage sludge pollution. According to the risks of heavy metals, pathogenic bacteria, organic pollutants, weed seed, mosquito, fly, salinity and loss of nitrogen and phosphorus in agricultural use of sewage sludge, some p roblems existing in Control S tanda rds for Pollutants in S ludges from Agricu ltura lUse, such as standard name, app lication range,limit values of contaminants, standard maneuverability and so on are analyzed, and the corresponding amendments and suggestions are offered.

【语种】中文

【第一作者】郑国砥

【通讯作者】陈同斌

【期刊名称、卷期、页码】中国给水排水,2009,25(9):97-100

【论文发表时间】2008-12-12 00:00:00

【引文索引类型】其他

【引文索引号】

【学科分类】环境科学技术及资源科学技术其他学科

【题目】微生物发酵床垫料微生物总DNA提取方法的研究

【中文关键词】微生物菌剂; 农业废弃物; 生活垃圾; 蘑菇渣; 堆肥

【英文关键词】microbial agent; agricultural junks; living garbage; mushroom residue; compost

【中文摘要】以农村生活垃圾中的可堆肥腐熟成分和蘑菇渣为堆肥原料,通过添加微生物菌剂进行堆肥试验,研究其在农业废弃物堆肥腐熟过程中的作用,并通过田间试验研究堆肥腐熟后肥料样品对黄瓜和青椒的增产效果,以验证其肥效。结果表明添加微生物菌剂有助于堆肥腐熟后样品的氮、磷、钾的保全和有机质的增加,促进养分均衡。添加微生物菌剂的堆肥腐熟肥料样品在田间试验中对黄瓜和青椒的增产效果最为显著,分别为22.21%和19.87%。

【英文摘要】The compost decomposition experiment was carried out using decomposable component of living garbage in the countryside and mushroom residue as compost raw material to study the compost composition process using agricultural junks by adding microbial agent,and carried out field experiment to study their effect on production increment of cucumber and green pepper of the fertilizer samples after compost composition in order to verify the fertilizer effect.The result showed that adding microbial agent was conducive to preserve nitrogen,phosphorus,potassium,and increasing organic matter,and promoting nutrient balance after the compost composition process. The output of the cucumber and green pepper increased by 22.21% and 19.87% respectively with significant production increment in the field experiment of the samples of compost composition manure adding microbial agent.

【语种】中文

【第一作者】刘云浩

【通讯作者】朱昌雄

【期刊名称、卷期、页码】福建农业学报,2011,26(2):153-158

【论文发表时间】2011-02-01 00:00:00

【引文索引类型】其他

【引文索引号】

【学科分类】环境科学技术及资源科学技术其他学科

【题目】利用CAPS标记辅助辣椒PVY抗性基因Pvr4转育的研究

【中文关键词】CAPS标记;辣椒;分子标记辅助选择;抗马铃薯Y病毒;PVr4基因

【英文关键词】CAPS marker;pepper;marker assisted selection;resistant to PVY;PVr4 gene

【中文摘要】利用国外报道的与PVr4基因紧密连锁的CAPS标记,对辣椒抗PVY基因PVr4的转育进行了研究和探讨。采用与报道的相同抗原材料CdM334为回交的供体亲本,与5个自交系77013、75-7-3-1、83077、83078、83-163进行回交,在BC1代进行了分子标记的选择。从5个BC1群体中分别检测出含有抗病连锁标记的单株21株、15株、10株、11株、12株。

【英文摘要】

【语种】中文

【第一作者】王立浩
【通讯作者】王立浩
【期刊名称、卷期、页码】辣椒杂志,2006,(4):1-3
【论文发表时间】2006-12-20 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】园艺学

【题目】Simultaneous Heterotrophic Nitrification and Aerobic Denitrification by Bacterium Rhodococcus sp. CPZ24
【中文关键词】无
【英文关键词】Heterotrophic nitrification;Aerobic denitrification;Rhodococuus sp.
【中文摘要】无
【英文摘要】Rhodococcus sp. CPZ24 was isolated from swine wastewater and identified. Batch (0.25 L flask) experiments of nitrogen removal under aerobic growth conditions showed complete removal of 50 mg/L ammonium nitrogen within 20 h, while nitrate nitrogen removal reached 67%. A bioreactor (50 L) was used to further assess the heterotrophic nitrification and aerobic denitrification abilities of Rhodococcus sp. CPZ24. The results showed that 85% of the ammonium nitrogen (100 mg L 1) was transformed to nitrification products (NO-3 -N and NO-2 -N) (13%), intracellular nitrogen (24%), and gaseous denitrification products (48%) within 25 h. The ammonium nitrogen removal rate was 3.4 mg L 1 h 1. The results indicate that the strain CPZ24 carries out simultaneous nitrification and denitrification, demonstrating a potential use of the strain for wastewater treatment.
【语种】英文
【第一作者】Peizhen Chen
【通讯作者】Ligang Wang
【期刊名称、卷期、页码】Bioresource technology,2012,(116),266-270
【论文发表时间】2012-02-01 00:00:00
【引文索引类型】SCI
【引文索引号】22531166
【学科分类】环境科学技术及资源科学技术其他学科

【题目】通过分层堆肥提高城市污泥堆肥处理效果的研究
【中文关键词】城市污泥; 分层堆肥; 调理剂
【英文关键词】municipal sludge; layered composting; bulking agent
【中文摘要】在不改变整个堆体中污泥和调理剂配比的情况下,研究了改变强制通风静态垛堆体的上、下层物料配比对城市污泥堆肥处理效果的影响。结果表明,在不改变整个堆体中污泥和调理剂配比的情况下,适当减少堆体下层的污泥比例并同时增加堆体上层的污泥比例,可明显改善堆肥的通风效果、促进堆体内部氧气的扩散、增加堆体的最低氧气浓度、加快堆体下层升温并带动堆体上层升温。当堆体上层的污泥和调理剂比例为1∶0.5(体积比)、下层的为0.5∶1(体积比)时,堆体的升温效果最为理想。在不改变整个堆体中污泥和调理剂配比的情况下,采用分层堆肥可明显提高堆肥的处理效果和处理速度。
【英文摘要】The influence of changing the ratio of municipal sludge to bulking agent in the upper and lower layer of the p ile on the treatment effect of municipal sludge composting was studied when the ratio ofmunicipal sludge to bulking agent in the whole p ile was not changed. The results show that under the above condition, reducing the lower layer sludge ratio and increasing the upper layer sludge ratio can improve the ventilation effect obviously, p romote the diffusion of internal oxygen, increase the minimum oxygen concentration, speed up the lower layer temperature rise and drive the upper layer temperature rise. When the ratio ofmunicipal sludge to bulking agent of upper layer is 1 ∶ 0.5, and that of lower layer is 0.5 ∶ 1, the temperature rise effect is desirable. The layered composting can significantly imp rove the treatment efficiency and speed when the ratio ofmunicipal sludge to bulking agent of the whole p ile is not changed.
【语种】中文
【第一作者】郑国砥
【通讯作者】陈同斌
【期刊名称、卷期、页码】中国给水排水,2009,25(11):114-120

【论文发表时间】2009-01-25 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】环境科学技术及资源科学技术其他学科

【题目】造纸污泥工厂化堆肥过程中理化性质的动态变化
【中文关键词】造纸污泥;堆肥;温度;好氧速率
【英文关键词】compost; oxygen consumption; pulp mill sludge; temperature
【中文摘要】工厂化强制通风静态垛好氧堆肥试验结果表明,造纸污泥与木屑按10∶1比例混合后,2~3 d即可达到60 ℃,高温期维持时间超过10 d,完全符合我国标准CJJ/T52-93规定,达到无害化要求;堆肥过程中堆体上层温度大于下层;高温堆肥后物料含水率降低20.2%,脱水效果明显;造纸污泥堆肥过程中物料的挥发性固体持续降低;堆体耗氧速率在升温阶段后期上升到最大值,此后持续降低,到堆肥后期趋于稳定。
【英文摘要】The technology of aerobic composting of pulp and paper sludge was studied on a large scale. Composting of paper mill sludge and wood shaves was made in forced-aeration static pile system, and the changes of temperature, oxygen, moisture and content of volatile substance during the composting were monitored and analyzed. The duration of the hermophilic phase was found to be long enough to meet the sanitary standard of the non-hazardous treatment of paper sludge when the sludge and wood shaves were mixed at rate of 10∶1 (V/V) on a large scale (300 t/d). The consumption rate of oxygen was the highest at the end of temperature incremental stage, and then decreased until the hermophilic phase. The moisture and content of volatile substance decreased during whole process of composting, and gradually tended to be stable eventually. Compared with the results in the initial stage, the moisture and content of volatile substance in the pile decreased 20.2% and 5.9%, respectively, at the end of composting process.
【语种】中文
【第一作者】黄建东
【通讯作者】陈同斌
【期刊名称、卷期、页码】生态环境 2007, 16(5): 1386-1389
【论文发表时间】2007-09-04 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】环境科学技术及资源科学技术其他学科

【题目】利用分子标记对辣椒抗马铃薯Y病毒的3个QTLs进行选择
【中文关键词】辣椒;马铃薯Y病毒;分子标记辅助选择;QTLs
【英文关键词】Capsicum annuum L.;pepper;PVY;markels assisted selection;QTLs
【中文摘要】为获得含有特定基因型的个体,深入研究辣椒抗马铃薯Y病毒(PVY)不同QTLs之间的关系,利用AFLP、SCAR和CAPS标记在辣椒材料'Perennial'和'Yolo Wonder'组成的BC2和BC1S1分离世代对抗PVY的3个QTLs位点进行了选择.结果从BC2群体中选出47个在主效QTL上含有抗性位点的单株,从中选出25个在LG9 PY2染色体上含有抗性位点的单株,最后选出11个在LG11 P10染色体上含有抗性位点的单株;从BC1S1群体中选出55个在LG9 PY2染色体上具有纯合抗性位点的单株,从中选出12个在主效QTL上纯合抗性位点的单株.经卡平方检测,实际分离比例同理论分离比例差异不显著.
【英文摘要】
【语种】中文
【第一作者】王立浩
【通讯作者】张宝玺
【期刊名称、卷期、页码】园艺学报,2008,35(1):53-58
【论文发表时间】2008-01-25 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】园艺学

【题目】造纸污泥土地利用的资源价值与潜在风险
【中文关键词】造纸污泥; 堆肥; 资源化; 土地利用;风险评估

【英文关键词】paper sludge; composting; resource; land app lication; risk assessment
【中文摘要】随着造纸工业的发展,造纸污泥产生的环境问题日益显露出来。造纸污泥含水量高达75% ~80% ,有机物含量高,易腐烂、有恶臭、不便于运输和施用,必须对污泥进行稳定化、无害化处理。造纸污泥经过堆肥无害化处理后可以作为一种价廉优质的有机肥料,造纸污泥不仅含有丰富的有机质,且含有N、P、K等其他营养元素,土地利用不会导致重金属、有机污染物、硝酸盐淋失等污染风险。大量的研究表明,施用造纸污泥及其堆肥,可以增加土壤的有机质含量,降低土壤容重,促进团粒结构形成,改善土壤结构,提高土壤孔隙度和保水、保肥能力,增强土壤酶活性。施用造纸污泥还可改善土壤的养分状况,且具有一定的增产效果和后效。造纸污泥经过堆肥后制成有机肥或有机复混肥是解决造纸污泥出路的主要途径。
【英文摘要】The pulp and paper industry generates a considerable amount of sludges from the papermaking p rocesses. With the development of papermaking industry, the environment concerns about paper sludge have increased. Paper sludge has high water content from 75% to 80% and high organic matter. It is easily to be rotten and has odor, and also isn ' t inconvenient to transport and land app lication. Therefore, paper sludge should be stabilized and used non2hazardoustreatment. Composting can be an effective strategy to stabilize the sludge and reduce its environmental risk p rior to land app lication. The composting p rocess biologically stabilizes heterogeneous raw paper sldge and reduces mass and volume and thus hauling costs. Paper sludge is rich in organic matter and other nutrients and its land app lication don ' t lead to the heavy metal contamination, the organic chemicals and nitrate leaching risk.Many studies involving paper sludge and compost land app lication highlight the effects on soil chemical and physical properties. Application of paper sludge can increase soil C, water holding p roperties and aggregation, also can imp rove soil structure, decrease soil bulk density, and p romote the soil enzyme activity. Paper sludge and compost can also imp rove soil nutrients status, and increase crop p roduction and has residual effect. It is a main avenue to dispose paper sludge that paper sludge after composting p rocess mixes with chemical fertilizer as compound organic fertilizer.
【语种】中文
【第一作者】杜伟
【通讯作者】陈同斌
【期刊名称、卷期、页码】生态学报,2008,28(10):5095-5103
【论文发表时间】2008-05-30 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】环境科学技术及资源科学技术其他学科

【题目】辣椒分子连锁遗传图谱的构建及抗疫病QTL定位
【中文关键词】辣椒 遗传图谱 抗疫病 QTL
【英文关键词】pepper, genetic map, Phytophthora bligh-risistant,QTL
【中文摘要】以抗疫病材料perennial和感疫病材料83 - 60杂交得到的F2 群体144个单株为试材,利用AFLP、RAPD、SSR等分子标记,采用JoinMap 3. 0构建辣椒分子连锁遗传图谱,该图谱包括12个连锁群, 70个标记位点,其中AFLP标记54个, RAPD标记15个, SSR标记1个,覆盖长度为429. 02 cM,平均图距为6. 13 cM,连锁群长度在4. 30-85. 85 cM之间。对F2 群体进行辣椒疫病的室内人工接种,利用Windows QTL Cartographer 2. 0软件进行QTL分析,在第4连锁群上检测到两个QTL,解释表型差异的贡献率分别为9. 5 %和16. 4 %。
【英文摘要】
【语种】中文
【第一作者】安静
【通讯作者】张宝玺
【期刊名称、卷期、页码】中国蔬菜,2007,(10):9-12
【论文发表时间】2007-05-15 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】园艺学

【题目】全球环境压力下的增值肥料发展策略
【中文关键词】环境压力;生物燃料;强化栽培;有机无机微生物肥料;灌溉施肥

【英文关键词】environmental pressure;biofuel;intensified cultivation;organic,inorganic and microorganism fertilizer;fertigation
【中文摘要】世界经济繁荣造成的富裕阶层对生活的更高要求,成为全球环境压力的主因。生产生物燃料,增加了耕地的产出强度。利用尽可能少的耕地生产更多粮食的强化栽培是现代农业的必然趋势。为此,提出了基肥以有机肥为主,以枸溶性化学肥料为辅,添加多种有益微生物;追肥以新型非水溶性作物营养源的灌溉施肥,提供大量营养元素的肥料发展策略。
【英文摘要】The higher life requirements of the rich stratum caused by world economy prosperity becomethe main global environmental pressure. The production of biofuel increases output strength of cultivatedland. The intensified cultivation for producing the more grain with the lest arable land is the trend of modernagriculture. A development strategy is proposed:in base application,organic fertilizer is main,citric acid soluble fertilizer is of subsidiary role,and add many microorganism species,meanwhile,in dress application,a new type fertigation with water insoluble nutrients source for crops.
【语种】中文
【第一作者】许秀成
【通讯作者】许秀成
【期刊名称、卷期、页码】磷肥与复肥;第23卷第6期;5-8
【论文发表时间】2008-11-06 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】无机化学工程

【题目】Accumulations of Cadmium,Zinc, and Copper by Rice Plants Grown on Soils Amended with Composted Pig Manure
【中文关键词】积累,浓度,猪粪,重金属,水稻
【英文关键词】Accumulation, concentration, heavy metal, pig manure, rice
【中文摘要】通过盆栽试验从土壤与肥料角度进行评估水稻(水稻)金属积累,其中猪粪堆肥应用土壤率为0%,0.5%,1.5%,3%,和5%(W/W),在土壤中模拟添加不同数量的镉(Cd),铜(Cu),锌(Zn),结果表明,水稻籽粒中镉浓度超过极限0.2mg/kg,当浓度0.14 mg/kg或超过这个值在含铝的粪便中应用,但它不超过石灰性始成土的极限。精米中锌含量不超过允许的限值为土壤中含量为50 mg/kg。铜浓度在水稻籽粒略超过10 mg/kg在铁铝土而不是在石灰性始成土。结果表明重金属污染的肥料对水稻的铁铝土比石灰性始成土风险更大。
【英文摘要】A pot experiment, in which composted pig manure was applied to soils at rates of 0%, 0.5%, 1.5%, 3.0%, and 5.0% (W/W) to simulate additions of different amounts of cadmium (Cd), copper (Cu), and zinc (Zn) to soil, was conducted to assess accumulation of metals by rice (Oryza sativa L.) plants from soils treated with manure. Results indicated that Cd concentrations inrice grains were more than the limit of 0.2mg kg21 when 0.14 mg kg21 or more Cd was loaded to Ferralsols by manure application, but it was not more than the limit in Calcaric Cambisols. Zinc contents in polished rice grains did not exceed the permissible limit of 50 mg kg21 in two soils. Copper concentrations in rice grain were slightly more than the limit of 10 mg kg21 in Ferralsols but not in Calcaric Cambisols. Results suggested greater risk of heavy-metal contamination from manure to paddy rice in Ferralsols than in Calcaric Cambisols.
【语种】英文
【第一作者】李书田
【通讯作者】李书田
【期刊名称、卷期、页码】Communications in Soil Science and Plant Analysis,2009,40:1889-1905
【论文发表时间】2008-03-31 00:00:00
【引文索引类型】SCI
【引文索引号】10.1080/00103620902896779
【学科分类】环境科学技术及资源科学技术其他学科

【题目】中国城市污泥的重金属含量及其变化趋势
【中文关键词】城市污泥; 重金属; 含量变化
【英文关键词】municipal sludge; heavy metal; variation of concentration
【中文摘要】于2006年从全国范围内选取107个城市污泥样品,测定了其重金属含量。结果表明,污泥中As、Cd、Cr、Cu、Hg、Ni、Pb和Zn的平均含量分别为20.2、2.01、93.1、219、2.13、48.7、72.3和1 058 mg/kg。与2001年以前的调查结果

相比,污泥中的重金属含量总体呈下降趋势,其中Cd、Cr、Cu、Hg、Ni、Pb和Zn的含量分别降低了32. 3%、49. 7%、54. 9%、25%、37. 2%、44. 8%和27%。与《城镇污水处理厂污染物排放标准》(GB 18918—2002)相比,城市污泥中Cd、Cu、Ni和Zn含量的超标率相对较高,其超标率分别为6. 5%、6. 5%、6. 5%和11. 2%。

【英文摘要】To identify the concentrations of heavymetals in municipal sludge of China, samp les ofmunicipal sludge were collected from 107 sewage treatment p lants in China in 2006. The results indicate that the average concentrations of As, Cd, Cr, Cu, Hg, Ni, Pb and Zn in the sludge are 20. 2 mg/kg,2. 01 mg/kg, 93. 1 mg/kg, 219 mg/kg, 2. 13 mg/kg, 48. 7 mg/kg, 72. 3 mg/kg and 1 058 mg/kg respectively. Compared with the results of heavy metals in municipal sludge taken before 2001, there is a significant decrease in heavymetals in the sludge, and the average concentrations of Cd, Cr, Cu, Hg,Ni, Pb and Zn are decreased by 32. 3%, 49. 7% , 54. 9% , 25% , 37. 2% , 44. 8% and 27% respectively. However, the concentrations of Cd, Cu, Ni and Zn in the samp les exceed the heavymetal limits of D ischarge S tandard of Pollutants forM unicipalW astewater Treatm ent Plant (GB 18918 - 2002) , being 6. 5% , 6. 5% , 6. 5% and 11. 2% respectively.

【语种】中文

【第一作者】杨军

【通讯作者】陈同斌

【期刊名称、卷期、页码】中国给水排水,2009,25(13):122-124

【论文发表时间】2009-02-10 00:00:00

【引文索引类型】其他

【引文索引号】

【学科分类】环境科学技术及资源科学技术其他学科

【题目】城市污泥生物干化的研究进展与展望

【中文关键词】城市污泥; 生物干化; 热干化; 好氧堆肥

【英文关键词】sewagesludge; bio drying; thermaldrying; aerobiccompostin

【中文摘要】城市污泥生物干化技术利用微生物高温好氧发酵过程中有机物降解所产生的生物能,配合强制通风促进水分的蒸发去除,从而实现污泥快速干化。干化过程受物料特性、堆体环境以及通风策略的影响,实时在线监测和反馈控制有利于提高生物干化效果。与热干化相比,生物干化具有投资低、设备运行稳定、能耗和运行成本低、产品用途灵活等优点。

【英文摘要】

Sewagesludgebio dryingusesthebio energyproducedbybiodegradationoforganicsinthermophilicaerobicfermentationofmicroorganisms.Accompaniedwithforcedaeration,thewatercane vaporateeasilytoachievefastdryingofsewagesludge.Theprocessofbio dryingisinfluencedbythecharacterofmaterial,theenvironmentinpileandtheventilationstrategy,soreal timeon linemonitoring andfeedbackcontrolarefavorabletoimprovetheeffectofbio drying.Comparedwiththermaldrying,bio dryinghastheadvantagesoflessinvestment,morestableequipmentoperation,lowerenergyconsumptionandoperationcost,andmoreflexibleproductapplications.

【语种】中文

【第一作者】郭松林

【通讯作者】陈同斌

【期刊名称、卷期、页码】中国给水排水,2010,26(15):1-4

【论文发表时间】2010-03-10 00:00:00

【引文索引类型】其他

【引文索引号】

【学科分类】环境科学技术及资源科学技术其他学科

【题目】河南省有机无机复合(混)肥现状

【中文关键词】有机无机复合(混)肥;河南省;现状;建议

【英文关键词】organic-inorganic compound fertilizers; Henan province; situations; proposal

【中文摘要】本文介绍了河南省有机无机复混肥的基本情况及骨干企业,对发展有机无机生物肥提出了建议,并建议组建有机无机生物肥战略同盟。

【英文摘要】Basic situations and main enterprises of organic-inorganic compound fertilizers in Henan province are introduced, and proposals for developing organic-inorganic compound fertilizers are put forward, and strategic alliance is suggested to be set up.

【语种】中文
【第一作者】李荫萍
【通讯作者】李荫萍
【期刊名称、卷期、页码】磷肥与复肥 2008,23(5):63-65
【论文发表时间】2008-10-15 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】化学工程其他学科

【题目】低温对弱光影响甜椒光和作用的胁迫效应
【中文关键词】甜椒;弱光;低温;光合特性;叶绿素荧光;吸收光能分配
【英文关键词】sweet pepper; low light; lower temperature; photosynthetic characters; chlorophyll fluorescence; absobrbed light allocation
【中文摘要】以弱光耐受性不同的甜椒(Capsicum annuum L.) 幼苗为材料,研究弱光低温逆境下及其恢复过程中叶片光合特性、PS Ⅱ光化学活性和吸收光能分配的变化。结果表明,弱光低温及弱光适温处理均导致甜椒净光合速率(Pn) 、PS Ⅱ光化学效率(ΦPS Ⅱ) 和光化学猝灭系数(qP) 明显下降,PS Ⅱ光化学反应中心能量(P) 显著减少,天线耗散(D) ,尤其是反应中心能量耗散(Ex) 显著增加。弱光低温或弱光适温处理下Pn 的下降是非气孔限制的结果,低温降低了植株的弱光耐受性。光温逆境解除后,甜椒光合碳同化的恢复滞后于PS Ⅱ光化学效率的恢复,并且弱光下不同试材对低温的耐受性有所不同。
【英文摘要】
【语种】中文
【第一作者】眭晓蕾
【通讯作者】张宝玺,张振贤
【期刊名称、卷期、页码】核农学报,2008,22(6):880-886
【论文发表时间】2008-12-20 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】农业基础学科

【题目】失水胁迫下辣椒幼苗离体叶片光合作用对弱光的响应
【中文关键词】辣椒;弱光;失水胁迫;相对含水量;光合速率;水合补偿点
【英文关键词】capsicum ;low light; water loss stress; relative water content; net photosynthetic rate; water compensation point
【中文摘要】以弱光耐受性不同的辣椒(Capsicum annuum L.)4个自交系为试材,在人工气候室的受控环境中研究叶片短期离体失水胁迫条件下光合作用对弱光(75-100μmol·m-2·s-1)的响应。结果表明,对于正常光照或弱光环境下的辣椒幼苗在轻度和中度水分胁迫下,气孔限制因素是引起叶片光合速率下降的主要因素,而严重的水分胁迫使光合速率大幅度下降则是受非气孔因素的限制。在轻度和中度水分胁迫时,辣椒叶片光合作用对弱光的响应较迟缓,即弱光下光合速率随叶片相对含水量(RLWC)减小而下降的趋势相对缓慢,光合速率对水分的变化不敏感。失水胁迫下辣椒(果实味辣)对弱光的适应性强于甜椒(果实味甜)。弱光环境下生长的辣椒叶片水势较高,水合补偿点有减小的趋势。
【英文摘要】
【语种】中文
【第一作者】眭晓蕾
【通讯作者】张宝玺,张振贤
【期刊名称、卷期、页码】园艺学报,2008,35(7):987-994
【论文发表时间】2008-07-25 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】园艺学

【题目】辣椒中可用于辅助选择的分子标记及其研究进展
【中文关键词】辣椒 分子标记 辅助选择
【英文关键词】capsicum; molecular marker; markers assisted selection
【中文摘要】分子标记辅助选择已成为植物育种领域的热点,在辣椒的育种中具有广阔的应用潜力。对分子标记辅助选择方法及其在辣椒育种中的应用进行综述,并对其发展前景进行展望。
【英文摘要】
【语种】中文
【第一作者】华明艳
【通讯作者】张宝玺,云兴福
【期刊名称、卷期、页码】长江蔬菜,2008,5b,14-17
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【引文索引类型】其他
【引文索引号】
【学科分类】园艺学

【题目】覆膜集雨与限量补灌对土壤水分及冬小麦产量的影响
【中文关键词】覆膜集雨;冬小麦;限量补灌;土壤含水率;耗水量;产量
【英文关键词】field rainwater harvesting; winter wheat; complementary irrigation; soil water; water consumption; yield
【中文摘要】依据北京昌平2005年~2006年冬小麦田间试验,探讨覆膜集雨和限量补灌措施对土壤水分及产量影响,结果表明:限量补灌明显的增加了田间土壤水分和耗水量,1.6m土层耗水量比对照增加45.8%,比覆膜增加29%~39%,产量是对照的1.63~1.95倍,比单纯覆膜增产32%~58%,结合覆膜比单纯补灌略增加上层土壤水分,但产量效应不明显;在覆膜面积占种植面积40%,降雨是常年水平一半的条件下,覆膜集雨提升上层土壤水分,降低深层水分,1.6m土层耗水量较对照增加3.68%~12.23%,且对深层水的利用是对照的1.55~1.69倍,小麦抗旱能力增强,增产63%~95%,1m土层水分生产效率提高55.8~73.8%(与上年结论一致);在都有覆膜的前提下,追肥比早秋施肥和一次基肥更好地保持了苗期土层水分。总体来看,覆膜结合补灌追肥和限量补灌措施抗旱增产效果显著,值得在华北地区旱地农田推广应用。
【英文摘要】Based on the field experiment conducted in year 2005~2006 in Changping, Beijing, the effects of field rainwater harvesting of plastic mulch and the complementary irrigation on the soil moisture and yield of winter wheat were studied. Results showed that under the complementary irrigation treatment, soil moisture was improved significantly and water consumption increased by 45.8% in contrast to the control, while by 29%~39% increasing with the rainwater harvesting of plastic mulch came from depth of 1.6 m. At the same time, the yield is 1.63~1.95 times to the control, by 32%~58% increasing than the field rainwater harvesting of plastic mulch. In addition, for the combination with plastic mulch and irrigation treatment, the corresponding yield almost changed nothing. Under the condition of the rainfall closes to normal half level and plastic mulch area reaches 40% of the total planting area, soil moisture within 1.6m depth was improved and water consumption increased by 3.68%-12.23%, while, the deep soil water utilization is 1.55~1.69 times than the control, and the yield of winter wheat increase by 63%~95%. The water production efficiency in the depth of 1m increased by 55.8%~73.8%, as the same as one of last year. For the same consideration of plastic mulch, Spring top-dressing had the best effect for keeping the soil water at seeding stage than fall fertilizer and basal fertilizer. In conclusion, both of Spring top-dressing when in irrigation with plastic mulch and complementary irrigation can greatly increased yield while improved capacity of drought resistance, it is worth expanding in drought area of North China.
【语种】中文
【第一作者】李巧珍
【通讯作者】李玉中
【期刊名称、卷期、页码】农业工程学报、26(2)、25-30
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【引文索引类型】EI
【引文索引号】152.7
【学科分类】农学其他学科

【题目】小麦籽粒氨基酸碳氮稳定同位素的测定与分析
【中文关键词】GC-C-IRMS;NPP 氨基酸酯; δ 13C; δ 15N

【英文关键词】GC-C-IRMS; NPP amino acid esters; δ13C; δ15N
【中文摘要】目的是利用气相色谱-燃烧-同位素比值质谱仪(gas chromatography-combustion-isotope ratio massspectrometry,GC-C-IRMS)测定小麦籽粒氨基酸碳氮稳定同位素组成。【方法】以小麦临汾50744 为材料,水解得到其籽粒蛋白质氨基酸,将氨基酸标准样品以及小麦籽粒氨基酸衍生化为N-新戊酰基,O- 异丙醇(N-pivaloyl-isopropyl,NPP)氨基酸酯,利用GC-C-IRMS 测定其碳氮稳定同位素组成。【结果】氨基酸标准样品的碳氮同位素组成分析表明,NPP 氨基酸酯的平均重现性δ13C 为0.47‰,δ15N 为0.28‰,并没有产生大的同位素分馏,因此δ13C 和δ15N 都能得到满意的测定结果。运用GC-C-IRMS 测定了小麦临汾50744 籽粒蛋白质氨基酸的稳定碳氮同位素的自然丰度,其中δ13C 的变化范围在-28.7‰到-34.7‰,δ15N 的变化范围为-6.2‰到9.5‰。采用系统聚类分析进行分类,根据δ13C 可以将氨基酸分为两类;根据δ15N 可以将氨基酸分为三类。【结论】运用GC-C-IRMS 结合NPP 氨基酸酯衍生物可以测定小麦籽粒氨基酸的稳定碳氮同位素,这对于揭示氨基酸代谢途径的差异以及逆境胁迫下氨基酸的合成差异具有重要的意义。
【英文摘要】To measure the stable carbon and nitrogen isotope composition of amino acids in wheat grain by gaschromatography-combustion-isotope ratio mass spectrometry (GC-C-IRMS). 【Method 】 The N-pivaloyl-isopropyl (NPP)derivatives of the protein amino acids, which hydrolyzed with 6M HCl in wheat grain Linfen 50744, and standard amino acids weremeasured by GC-C-IRMS.【Result】 Analysis of stable carbon and nitrogen isotope composition of N-pivaloyl-isopropyl (NPP)amino acid standard esters shows the mean reproducibility of δ13C is 0.47‰ and δ15N is 0.28‰. Good results can be got as lessisotope fractionation is observed in this study. The δ13C values of NPP derivatives were from -28.7‰ to -34.7‰, and the δ15N valuesof NPP derivatives were -6.2‰ to 9.5‰. Amino acids can be divided into two categories according to δ13C, and three categoriesaccording to δ15N by hierarchical cluster analysis. 【Conclusion】 It is feasible to determine the composition of stable carbon andnitrogen isotope of amino acids in wheat with NPP amino acid esters by GC-C-IRMS, which will make great significance to revealthe difference of metabolism and synthesis of amino acids under adverse environment.
【语种】中文
【第一作者】徐春英
【通讯作者】李玉中
【期刊名称、卷期、页码】中国农业科学
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【学科分类】生物学其他学科

【题目】GC- C- IRMS 分析氨基酸碳氮同位素的衍生化方法及其展望
【中文关键词】碳氮稳定同位素; 氨基酸; GC-C-IRMS; 衍生化
【英文关键词】stable carbon nitrogen isotope; amino acids, GC- C- IRMS, derivatization
【中文摘要】碳氮稳定同位素在地球科学、生命科学、环境科学、农业科学等各个领域有着广泛的应用。由于同时含有碳氮原子的氨基酸是蛋白质的构成单位, 参与机体的代谢, 具有重要的生物功能, 因此在利用同位素示踪中, 氨基酸有其重要的研究价值。本文仅就利用气相色谱- 燃烧- 同位素比值质谱仪(gas chromatography-combustion-isotope ratio mass spectrometry, GC-C-IRMS) 分析氨基酸的碳氮同位素比值的衍生化方法进行总结, 比较各种方法的优缺点, 以期对于分析氨基酸的碳氮同位素比值的研究工作提供有益的帮助。
【英文摘要】Stable carbon and nitrogen isotopes have been extensive application in the area of geosciences,biosciences, environmental sciences, agricultural sciences et al. Amino acids include carbon and nitrogen element simultaneously, in the other hand, amino acids take on important biological funtion as the basic unit of proteins to participate in the metabolism of body. Therefore, amino acids play a great role during the research of isotope trace. In this paper, the derivatizative methods of amino acids will be given, whose stable carbon or nitrogen are analyzed by GC- C- IRMS. The advantages and disadvantages of every methods arecompared , which will be expected to provide some beneficial instruction for the research of stable carbonand nitrogen of amino acids.
【语种】中文
【第一作者】徐春英
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【学科分类】生物学其他学科

【题目】N-新戊酰,O-异丙醇酯衍生法分析小麦氨基酸含量与碳氮稳定同位素
【中文关键词】N-新戊酰,O-异丙醇酯(NPP);小麦;氨基酸;气相色谱-质谱仪;气相色谱-燃烧-同位素比值质谱仪
【英文关键词】N-pivaloyl-isopropyl ester (NPP); wheat; amino acids; gas chromatography-mass spectrograph; gas chromatography-combustion-isotope ratio mass spectrograph
【中文摘要】以2-氨基己二酸为内标,采用异丙醇和新戊酰氯将氨基酸衍生化成N-新戊酰基,O-异丙醇酯(NPP),利用气相色谱-质谱仪分析了小麦籽粒蛋白质氨基酸含量,同时利用气相色谱-燃烧-同位素比值质谱仪分析了氨基酸的碳氮稳定同位素组成。结果表明,N-新戊酰基,O-异丙醇酯(NPP)衍生化法可以得到丙氨酸、甘氨酸、缬氨酸、亮氨酸、异亮氨酸、脯氨酸、苯丙氨酸、赖氨酸和酪氨酸的较高的回收率(83.3%~104.9%)和较好的线性关系(相关系数为0.994~1.000);此方法还可以得到丙氨酸、甘氨酸、缬氨酸、亮氨酸、异亮氨酸、脯氨酸、天冬氨酸/天冬酰胺、苏氨酸、丝氨酸、蛋氨酸、谷氨酸/谷氨酰胺、苯丙氨酸、赖氨酸和酪氨酸的可靠的碳氮同位素比值。此方法可以为今后作物品质、营养和氨基酸代谢的深入研究提供更加有利的手段。
【英文摘要】The content and stable carbon and nitrogen isotope composition of amino acids can be analyzed by gas chromatography-mass spectrograph and gas chromatography-combustion- isotope ratio mass spectrograph with 2-aminoadipic acid as internal standard based on N-pivaloyl-isopropyl (NPP) derivatives in wheat grain. Higher recoveries of amino acids were in the range of 83.3%-104.9% and good linear correlation coefficients were in the range of 0.994-1.000, including alanine, glycine, valine, leucine, isoleucine, proline,phenylalanine, lysine and tyrosine by this method. On the other hand, reliable stable carbon and nitrogen isotope composition of amino acids were obtained by this method, including alanine, glycine, valine, leucine, isoleucine, proline, aspartate/asparagine, threoine, serine, methionine, glutamic acid/glutamine, phenylalanine, lysine and tyrosine. The method provides a new way for developing the study of crop quality, nutrition, and amino acids metabolism.
【语种】中文
【第一作者】徐春英
【通讯作者】李玉中
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【学科分类】生物学其他学科

【题目】不同水肥组合对冬小麦产量的影响
【中文关键词】氮磷钾;灌水量;有机肥;小麦产量
【英文关键词】Combined app lication of nitrogen, phosphorus and potassium fertilizers; Irrigation; Organic fertilizer; Winter wheat yield
【中文摘要】试验于2007 /2008年度在北京市昌平区进行,采用5因子4水平的田间试验方案研究不同氮磷钾、有机肥和灌水量的组合对小麦产量的影响。方差分析表明,各因素对产量的影响顺序为氮肥>灌水>钾肥>有机肥>磷肥,同时存在交互作用;水分和产量成较好的正相关,有机肥对产量的提高虽然不如氮肥、钾肥和灌水,但是对产量的影响也达到了极显著水平;在各种组合中,以施氮量为75kg · hm- 2配合12000kg · hm- 2的有机肥、75kg · hm- 2的磷肥、150kg · hm- 2的钾肥以及3000kg · hm- 2灌水量处理的产量较高,为本年度最佳水肥组合。
【英文摘要】To study the effects of different combinations of nitrogen, phosphorus, potash, organic fertilizers and irrigation on winter wheat yields, the field experiments were conducted in Changp ing, Beijing from 2007 to 2008. The results showed that the effects of each factor was nitrogen > irrigation > potassium > organic fertilizer > phosphorus, and interaction was still existed. There was positive correlation between irrigation and yields. Organic fertilizer had a significant relationship with yields, though its effect was less than nitrogen fertilizer, potash fertilizer and irrigation. The most op timum treatment was 75kg/ha nitrogen, 12000kg/ha organic fertilizer, 75kg/ha phosphorus, 150kg/ha potasssium and 3000kg/ha irrigation.
【语种】中文
【第一作者】王丹
【通讯作者】李玉中

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【学科分类】农业基础学科

【题目】氮、氧同位素与地下水中硝酸盐溯源研究进展
【中文关键词】地下水;硝酸盐;氮同位素;氧同位素
【英文关键词】groundwater, nitrate, nitrogen isotope, oxygen isotope
【中文摘要】地下水的硝酸盐氮污染已经成为人们普遍关注的问题。最根本的解决办法就是找到硝酸盐的来源,切断污染源。不同N来源的硝酸盐具有不同的N、O同位素组成,利用NO3-中δ15N和δ18O对硝酸盐污染进行示踪研究是当前地下水污染研究的一个重要方向。介绍了水样NO3-氮、氧同位素分析的多种预处理方法、N、O同位素的测定技术以及存在的问题,并对未来发展的方向做了阐述。
【英文摘要】Nitrate pollution of groundwater has become a widespread concern. The most fundamental solution is to find the source of nitrate and cut it off. Different sources of nitrate have different N, O isotopic composition. The use of δ15N and δ18O on a tracer study in nitrate pollution of groundwater is currently an important direction. This paper describes many pretreatment methods、analysis technologies of N, O isotope、existing problems and future development directions.
【语种】中文
【第一作者】贾小妨
【通讯作者】李玉中
【期刊名称、卷期、页码】中国农学通报、25(14)、233-239
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【学科分类】生物学其他学科

【题目】HarpinXooc蛋白在毕赤酵母中的分泌表达及其生物活性检测
【中文关键词】毕赤酵母 HarpinXooc蛋白 生物活性检测
【英文关键词】Pichia pastoris harpinXooc bioactivity detection
【中文摘要】采用PCR方法从水稻细菌性条斑病菌RS105菌株中扩增harpinXooc编码基因hrf2,将其克隆到酵母表达载体pPICZαA的分泌信号肽基因下游,获得重组表达质粒pPICZαA-hrf2。重组表达质粒线性化后电击转化至毕赤酵母宿主菌X-33,经抗生素Zeocin筛选和PCR鉴定后,得到重组酵母菌X-33/pPICZαA-hrf2。用甲醇诱导重组酵母菌表达目标蛋白,发酵上清液经浓缩后进行SDS-PAGE电泳分析,在约18kD处有特异目标条带出现。Western blot检测表明表达产物具有良好的抗原性。生物活性检测表明酵母重组表达蛋白harpinXooc能够诱导烟草产生过敏反应和促进烟草生长,活性高于在大肠杆菌中表达的harpinXooc
【英文摘要】The hrf2 gene was amplified from genome of Xanthomonas oryzae pv. oryzicola RS105 by PCR and inserted into the downstream of the α-factor signal sequence of the Pichia pastoris expression vector pPICZαA. The linearized recombinant plasmid was transformed into P. pastoris strain X-33 by electroporation. The recombinant strains were chosen by YPDS plates containing Zeocin and identified by PCR. SDS-PAGE analysis proved a special band about 18 kD and Western blot demonstrated good antigenicity of the expressed protein. The results of bioactivity detection showed that the recombinant harpinxooc had higher activity to induce hypersensitive response and promote tobacco growth than harpinXooc expressed in Escherichia coli.
【语种】中文
【第一作者】何丹
【通讯作者】高学文
【期刊名称、卷期、页码】中国生物防治 2007,24 (1) : 46 - 52
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【引文索引类型】其他
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【学科分类】分子生物学

【题目】Distribution of organic matter in aggregates of eroded Ultisols, Central China
【中文关键词】无
【英文关键词】Distribution; Erosion; Organicmatter; Soil aggregates; Ultisol
【中文摘要】无
【英文摘要】The relationship between organic matter contents and soil aggregates of particle size ranging from >4,2 – 4, 1 – 2, 0.5 – 1 to 0.25 – 0.5 mm in three eroded (slightly, moderately and severely) Ultisols in central China was investigated using dry-sieving and wet-sieving methods, as well as chemical analyses. In different eroded Ultisols, the size distribution percentages of >4 and 2 – 4 mm macroaggregates obtained by dry-sieving method were all higher than that by wet-sieving method by separately between 12.3 and 45.7%, 3.0 and 24.7%, but the percentages of 0.25 – 0.5, 0.5 – 1 and 1 – 2 mm macroaggregates showed opposite trend. Microaggregates (<0.25 mm) averagely constituted the 30.1, 39.7 and 58.2% of aggregates after wet sieving in slightly,moderately and severely eroded soils, respectively. As the degree of erosion increased, the average content of >0.25 mm water-stable aggregates (WSA) and average of mean weight diameter (MWD) decreased from slightly eroded soil to severely eroded soil by 28.0% and 0.14 mm, respectively. The organic matter (OM) content of macroaggregate fractions from slightly and moderately eroded Ultisols rose with increasing in particle size fractions from 0.25 – 0.5 to >4 mm, but that of macroaggregates fractions from severely eroded Ultisols decreased with increasing in particle sizes. The percentages of >0.25 mm WSA correlated well with the OM contents of eroded Ultisols (r2 = 0.6573, n = 19). The OM contents of macroaggregates in eroded soils showed high correlation with that of the bulk soil, and the correlation coefficients decreased in the order of slightly > moderately > severely eroded Ultisols.
【语种】英文
【第一作者】Li Huang
【通讯作者】Li Huang
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【引文索引号】doi:10.1016/j.still.2010.03.003
【学科分类】土壤学

【题目】Distribution and accumulation of copper and cadmium in soil-rice system as affected by soil amendments.
【中文关键词】Heavy metals; Amendment; Distribution; Accumulation; Rice; Soil solution
【英文关键词】Heavy metals; Amendment; Distribution; Accumulation; Rice; Soil solution
【中文摘要】The effects of seven amendments on the distribution and accumulation of copper and cadmium in a soil – rice system were investigated using a pot experiment. Results showed that application of limestone, calcium magnesium phosphate (Ca – Mg – P fertilizer), calcium silicate (silicon fertilizer), Chinese milk vetch, pig manure, and peat significantly decreased the concentrations of Cu and Cd in rice roots by 24.8 – 75.3% and 9.7 – 49.9%, respectively. However, no significant difference was observed between zinc sulfate (zinc fertilizer) and the control treatment. The concentrations of Cu and Cd in different parts of rice followed the order: root > straw > grain, and all amendments restrained the transfer of Cu and Cd from rice root to stem. Copper and Cd concentrations in rice stems at the tillering stage were the highest, and then decreased from the tillering stage to the heading stage. However, they increased again at the ripening stage. The results also showed that application of amendments changed Cu and Cd solubility in soil and decreased their bioavailability, which resulted in the reduction of Cu and Cd uptake by rice. Significant correlations between the concentrations of Cu and Cd in soil solutions and in rice stems were found. The result demonstrated that limestone has the best efficiency among all the amendments used in reducing Cu and Cd contamination to rice production.
【英文摘要】The effects of seven amendments on the distribution and accumulation of copper and cadmium in a soil – rice system were investigated using a pot experiment. Results showed that application of limestone, calcium magnesium phosphate (Ca – Mg – P fertilizer), calcium silicate (silicon fertilizer), Chinese milk vetch, pig manure, and peat significantly decreased the concentrations of Cu and Cd in rice roots by 24.8 – 75.3% and 9.7 – 49.9%, respectively. However, no significant difference was observed between zinc sulfate (zinc fertilizer) and the control treatment. The concentrations of Cu and Cd in different parts of rice followed the order: root > straw > grain, and all amendments restrained the transfer of Cu and Cd from rice root to stem. Copper and Cd concentrations in rice stems at the tillering stage were the highest, and then decreased from the tillering stage to the heading stage. However, they increased again at the ripening stage. The results also showed that application of amendments changed Cu and Cd solubility in soil and decreased their bioavailability, which resulted in the reduction of Cu and Cd uptake by rice. Significant correlations between the concentrations of

Cu and Cd in soil solutions and in rice stems were found. The result demonstrated that limestone has the best efficiency among all the amendments used in reducing Cu and Cd contamination to rice production.

【语种】英文
【第一作者】Ping Li
【通讯作者】Xingxiang Wang
【期刊名称、卷期、页码】Water, Air, and Soil Pollution, 2009, 196:29-40
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【引文索引号】DOI 10.1007/s11270-008-9755-3
【学科分类】土壤学

【题目】Effects of several amendments on rice growth and uptake of copper and cadmium from a contaminated soil.
【中文关键词】heavy metals; amendment; bioavailability; uptake; rice
【英文关键词】heavy metals; amendment; bioavailability; uptake; rice
【中文摘要】Heavy metals in variable charge soil are highly bioavailable and easy to transfer into plants. Since it is impossible to completely eliminate rice planting on contaminated soils, some remediation and mitigation techniques are necessary to reduce metal bioavailability and uptake by rice. This pot experiment investigated the effects of seven amendments on the growth of rice and uptake of heavy metals from apaddy soil that was contaminated by copper and cadmium. The best results were from the application of limestone that increased grain yield by 12.5 – 16.5 fold, and decreased Cu and Cd concentrations in grain by 23.0% – 50.4%. Application of calcium magnesium phosphate, calcium silicate, pig manure, and peat also increased the grain yield by 0.3 – 15.3 fold, and effectively decreased the Cu and Cd concentrations in grain. Cd concentration in grain was slightly reduced in the treatments of Chinese milk vetch and zinc sulfate. Concentrations of Cu and Cd in grain and straw were dependent on the available Cu and Cd in the soils, andsoil available Cu and Cd were significantly affected by the soil pH.
【英文摘要】Heavy metals in variable charge soil are highly bioavailable and easy to transfer into plants. Since it is impossible to completely eliminate rice planting on contaminated soils, some remediation and mitigation techniques are necessary to reduce metal bioavailability and uptake by rice. This pot experiment investigated the effects of seven amendments on the growth of rice and uptake of heavy metals from apaddy soil that was contaminated by copper and cadmium. The best results were from the application of limestone that increased grain yield by 12.5 – 16.5 fold, and decreased Cu and Cd concentrations in grain by 23.0% – 50.4%. Application of calcium magnesium phosphate, calcium silicate, pig manure, and peat also increased the grain yield by 0.3 – 15.3 fold, and effectively decreased the Cu and Cd concentrations in grain. Cd concentration in grain was slightly reduced in the treatments of Chinese milk vetch and zinc sulfate. Concentrations of Cu and Cd in grain and straw were dependent on the available Cu and Cd in the soils, andsoil available Cu and Cd were significantly affected by the soil pH.
【语种】英文
【第一作者】Ping Li
【通讯作者】Xingxiang Wang
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【学科分类】土壤学

【题目】长期不同施肥对红壤旱地肥力的影响
【中文关键词】长期施肥; 红壤旱地; 土壤肥力
【英文关键词】long-term fert ilizat ion; upland red so il; soil fert ility
【中文摘要】通过长期不同施肥对红壤旱地肥力影响的定位研究, 发现施肥耕作18 年后, 施用有机肥料不但增加了土壤可培养细菌、真菌和放线菌的数量, 而且也增加了功能性微生物的数量; 秸秆还田抑制真菌的生长, 对反硝化细菌、好气性纤维素分解菌和好气性自生固氮菌的生长也没有促进作用。长期施肥耕作可提高土壤养分含量, 其效果以有机肥料与化学肥料配合施用最为显著, 长期施用化学氮磷钾肥料, 导致土壤盐基饱和度下降、土壤pH 下降1. 1 个单位, 土壤酸化。在

红壤地区旱地现有生产水平下, 长期单施有机肥料可以保持土壤肥力稳定和逐步提高。

【英文摘要】T he ef fects o f long- term fert ilizat ion on the fert ility of red upland so il w ere studied. The quantityof culturable bacteria, act inomycetes and fungi in soil w ere increased by the applicat ion of org anic manure after18 years cultivat ion, and the quant ity of funct ionality microbe in the soil w er e also increased. T he gr ow thof fungi in the so il w as inf luenced by the t reatment of st raw return to the f ield (NPKS) . That w as no benef itto the grow th of denit rifying bacteria, aer obic cellulose-decompo sing bacteria and aero bic nit rog en-f ixing bacteria.The soil nutr ients co ntent w ere increased by the applicat ion of long term fer tilizat ion, especial ly by theapplication of lo ng term manure combing w ith chemical fert ilizer (NPKM) . T he base saturat io n (BS) and pHin the soil declined after applicat ion o f long term chemical fert ilizer (NPK) . T he pH in the soil w as reducedby 1. 1 and the soil w as acidif ication. T he soil fert ility w ere keep stable and increased gradually by the appl-ication of long term manure (M) in the curr ent production lev els in upland red soil reg ion.

【语种】中文

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【学科分类】土壤学

【题目】长期施肥对红壤有机碳矿化及微生物活性的影响

【中文关键词】红壤; 长期施肥; 有机碳矿化; 微生物群落结构

【英文关键词】Red soil; long-term fertilization; mineralization of organic carbon; microbial community structure

【中文摘要】为评价不同施肥条件下红壤有机碳矿化和微生物活性及两者之间的关系, 对长期定位试验施有机肥(M) , 施用氮、磷、钾化肥(NPK) , 有机肥配合化肥(NPKM) , 秸秆配合化肥(NPKS) 和不施肥(CK) 共5个处理的红壤进行室内培养, 分析不同施肥处理下红壤有机碳矿化的CO2 释放量、微生物数量及微生物碳源代谢特征。结果表明, 不同施肥处理的土壤有机碳矿化释放CO2 量差异显著, 由一级反应动力学方程拟合计算出土壤潜在有机碳矿化释放CO2-C 量的大小顺序: M> NPKM> NPK >NPKS> CK, 其值分别为180.3、88.5、47.6、43.4 和34.5mg/kg。培养初期微生物活性较弱时CO2 的释放速率最高, 微生物数量的增长落后于有机碳矿化速率变化, 但培养14、35 和69 d 时3 种微生物数量大小顺序为M> NPKM> NPK >NPKS > CK, 各处理间差异显著且与CO2 释放量显著相关。不同施肥处理间微生物群落结构差异显著, 其趋势与有机碳矿化相符合。说明长期施肥特别是长期施用有机肥能影响微生物的群落结构,提高红壤微生物活性, 进而促进微生物对有机碳的矿化。

【英文摘要】To investigate mineralization of organic carbon, microbial activity and their relationship under different fertilization inred soil, five kinds of samples from long-term fertilized soil (manure, M; nitrogen plus phosphorus plus Potassium, NPK;manure plus NPK, NPKM; NPK plus straw, NPKS; without any fertilization, CK) were incubated, and the CO2 productionrate, the number of and metabolic diversity of microbes of samples were evaluated. The result shows that : soil CO2 productionamoung samples is significantly different, the order of potential CO2-C production of the five kinds of samples, which derivedfrom the f irst-order kinetic model, is as follows: M(180.3 mg/kg) > NPKM(88.5 mg/kg) > NPK(47.6 mg/kg) > NPKS(43.4 mg.kg) > CK (34.5 mg/kg) . The number of increasing bacteria, fungi and Act inomycete which is later than theirmineralization rate of organic carbon, however, is significantly different between the samples under different fertilization at the14th , 35th , 69th day of incubation. The order pattern: M> NPKM> NPK >NPKS > CK, is significantly correlatived with those of CO2 production. The microbial communities of the samples under different fertilizations are obviously different, which issimilar to their mineralization of organic carbon. The result shows that long-term fertilization, especially the use of manure,has significant effect on microbial communities, enhances activity of microbe, and then increases the microbial mineralizat ionof organic carbon.

【语种】中文

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【学科分类】土壤学

【题目】湘南丘陵区红壤旱地红薯钾肥最佳用量与产量关系.
【中文关键词】红壤丘陵;红薯;钾最佳用量;红薯产量
【英文关键词】red soil hilly regions; sweet potato; the best application of potassium fertilizer; sweet potato yield
【中文摘要】为了寻求红薯的最佳钾肥施用量,提高钾肥利用率,笔者在湘南红壤丘陵区,设置钾肥5 水平肥料效应田间试验,并采用田间试验和室内分析相结合的研究方法,分别测产,测定红薯养分含量以及土壤速效养分。试验结果表明:在钾肥施用量为225 kg/hm2时,红薯的经济效益最高,每公顷的纯收入为9624.5 元,增收率为47.7%,红薯的经济产量也较高,为19501.5 kg/hm2,每公顷增产52.9%。同时,在该施肥水平下,整株红薯的氮、磷、钾养分吸收总量和钾肥利用率均最高,钾肥利用率达到15.6%。相反,在钾肥施用量为225 kg/hm2时,0~20 cm耕层土壤的速效养分含量和其他钾肥用量的处理相比较,均降低。综合考虑,在五个施钾水平中,笔者得出湘南丘陵区红薯钾肥的最佳施用量为225 kg/hm2。
【英文摘要】In order to find the best application of potassium fertilizer on sweet potato, and improve potassiumfertilizer use efficiency, the article set up the field experiment on red soil hilly region of southern Hunan,applying potassium fertilizer for five levels. And they measured yield, nutrient content of sweet potato, and soilavailable nutrient, by combining field experiment with laboratory analysis. The results indicated that, when thepotassium application on sweet potato was 225 kg/hm2, the economic benefits of sweet potato was highest, andthe net income per hectare was 9624.5 Yuan, with increased 47.7 percent compared to control. The economicyield of sweet potato was also higher on this potassium application, which was 19501.5 kg/hm2, with increased52.9 percent compared to control. At the same time, the total nitrogen phosphorus and potassium nutrientabsorption of whole sweet potato and potassium fertilizer use efficiency was highest than other treatments onthis potassium application. The potassium fertilizer use efficiency reached to 15.6%. Oppositely, the 0-20 cmsurface soil available nutrient content was decreased when the potassium application on sweet potato was225 kg/hm2, which compared to other treatments of potassium application. By comprehensive consideration, inthe five applications of potassium fertilizer, the article concluded that the best application on sweet potato was225 kg/hm.
【语种】中文
【第一作者】刘淑军
【通讯作者】刘淑军
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【学科分类】土壤学

【题目】长期施肥对红壤旱地剖面硝态氮累积的影响
【中文关键词】红壤旱地;长期施肥;硝态氮
【英文关键词】red soil dry land; long-term fertilization; NO3--N
【中文摘要】研究了长达18 a 长期不同施肥处理下红壤旱地剖面中NO3--N 分布和累积的特征。结果表明:施用化肥的处理中,磷肥和有机肥料的施用能显著降低NO3--N 在0~100 cm 土体中的积累(P<0.05);不同施肥处理(除氮钾处理),均在40~60 cm 之间形成NO3--N 累积层,氮钾配施的旱地土壤20~40cm 层中NO3--N 峰值最高达70.72 mg/kg;各施肥处理NO3--N 残留率在0.69%~8.31%之间,有机肥的施用能显著降低NO3--N 在0~100 cm 土体中的残留(P<0.05)。
【英文摘要】Effects of Long-term (18 years) different fertilization on distribution and accumulation of NO3--N in profile of red soil dry land were studied. The results showed that the applications of organic fertilizer and phosphate fertilizer couldreduce the accumulation of NO3--N in the 0 to 100 cm soil layers significantly (P<0.05); the NO3--N, which under different fertilizer treatments (except the treatments of nitrogen and kalium), could be accumulated in 40 to 60 cm soil layers, and the highest peak value of NO3--N reached 70.72 mg/kg in 20 to 40 cm soil layers of dry land with combined application of nitrogen fertilizer and kalium fertilizer; the residual ratio of NO3 --N in soil under different fertilization treatments was from 0.69% to 8.31%; the application of organic manure could reduce the residue of NO3--N in the 0 to100 cm soil significantly (P <0.05).
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【第一作者】黄晶
【通讯作者】刘洪斌
【期刊名称、卷期、页码】湖南农业科学,2010,(1):60-62,65

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【学科分类】土壤学

【题目】红壤长期不同施肥对玉米氮肥回收率的影响
【中文关键词】长期施肥; 红壤; 酸化; 玉米; 氮肥回收率
【英文关键词】long-term fertilization; red soil; acidification; maize; nitrogen recovery efficiency
【中文摘要】为阐明长期不同施肥下玉米氮肥回收率的变化特征,揭示影响红壤玉米氮肥回收率的关键土壤因素,为红壤氮肥合理施用和提高氮肥回收率提供科学依据,在湖南红壤上连续观测了18年不施肥,施氮、磷、钾化肥,化肥配施有机肥和单施有机肥条件下玉米氮肥回收率的变化特征及其原因。结果表明,与施用化肥相比,玉米的子粒产量和植株氮素积累量在化肥配施有机肥下分别增加了61.5%和63.1%。氮、磷、钾化肥施用8年后,玉米氮肥回收率呈显著下降趋势,年平均下降速率达3.34个百分点; 而化肥配施有机肥下氮肥回收率以每年1.24个百分点的速率显著增加; 单施有机肥下氮肥回收率保持持平并略有上升。土壤pH、全氮和有机质含量均与氮肥回收率呈显著线性正相关,其中土壤pH对氮肥回收率的影响最明显。在土壤pH 4.5~6.3范围内,红壤pH每降低1个单位,玉米氮肥回收率下降10.9%。长期施用化肥的土壤pH以每年0.06的速率下降; 单施有机肥尽管可缓解土壤酸化,但玉米产量较低,而化肥配施有机肥能同时抑制土壤酸化和提高玉米产量及氮肥回收率。因此,化肥配施有机肥具有明显的增产和保肥效果,是红壤上农业生产可持续性的施肥模式。
【英文摘要】The effects of an 18-year different fertilization on nitrogen recovery efficiency(NRE) ofmaize, yield, Naccumulation and NRE were studied in up land red soil. There were four treatments: unfertilized control (CK) , in-organic fertilization (NPK) , combined inorganic withmanure fertilization (NPKM) andmanure (M). Soil pH and itsrelationship with NRE were also studied. The results indicate that compared with the NPK app lication, the grainyield and N accumulation in plants ofmaize are increased by 6115% and 6311% under the NPKM fertilization, re-spectively. The yield and NRE of maize show a constant trend in the M fertilization, which are higher than those ofthe CK, and lower than those in NPKM. The nitrogen recovery efficiency keep s constant in the beginning of 8 yearsafter the NPK is app lied, while it significantly decreased with a rate of 3134% per year at 8 - 18 years, and itsNRE is 24.7% on average of the 18 years. The NRE in the NPKM is increased with a rate of 1124% per year, andits NRE reaches to 42.6% on average of the 18 years. There is positive linear relationship between NRE and soilpH (r = 0.542) in the NPK and NPKM, which suggests that every decrease of 1 pH would result in the decrease of1019% NRE when soil pH is in the range of 4.5 - 6.3. Soil pH shows a decrease trend in the NPK, and keep sconstant in the CK, NPKM andM, which indicates that the inorganic fertilization would reduce soil pH and leads toa low NRE, while manure app lication could remit the acidification, further imp rove the NRE and grain p roduction.Chemical fertilizer in combination with manure is a more effective fertilization to imp rove grain yield and maintain soil fertility, and it is strongly recommended for sustainable agriculture.
【语种】中文
【第一作者】段英华
【通讯作者】徐明岗
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【学科分类】土壤学

【题目】长期施肥对中国3种典型农田土壤活性有机碳库变化的影响
【中文关键词】长期施肥;有机碳;活性有机碳;黑土;灰漠土;红壤
【英文关键词】long-term fertilization; organic carbon; labile organic carbon; black soil; grey-desert soil; red soil
【中文摘要】【目的】观测分析了中国3 种典型农田土壤——黑土、灰漠土和红壤有机碳在时间与空间上对长期不同施肥措施的响应特征,为农田土壤培肥提供理论依据。【方法】通过有机碳分组对比分析了长期施肥后土壤总有机碳与活性有机碳的含量与比例变化。【结果】16 年后,不施肥(CK)灰漠土总有机碳、活性有机碳含量均呈显著下降趋势,下降幅度分别为11.7%和34.9%,且活性有机碳占总有机碳的比例也显著下降了5.4 个百分点;长期施用氮肥(N)3 种土壤总有机碳含量基本保持不变,但活性有机碳所占比例显著下降,其中黑土下降幅度高达9.5个百分点;化肥配施(NP,NPK)后,黑土和灰漠土活性有机碳占总有机碳的比例仍显著下降,红壤则略呈上升趋势;有机无机配施(NPKM、1.5NPKM),3 种土壤的总有机碳、活性有机碳及活性有机碳占总有机碳的比例均显著提高,其中红壤上升幅度最大,NPKM 处理提高幅度分别为80.6%、

146.2%和7.5 个百分点,其次是灰漠土,分别提高了64.4%、138.0%和5.0 个百分点;实施秸秆还田(NPKS)后,红壤的总有机碳、活性有机碳及活性有机碳占总有机碳的比例分别增加了21.6%、59.0%和7.5 个百分点,黑土和灰漠土则相对较稳定。【结论】活性有机碳占总有机碳比例对施肥措施反应敏感,长期不施肥或只施氮肥多数导致土壤总有机碳含量和活性有机碳所占比例下降,有机无机配施能维持和提高土壤有机碳含量和活性有机碳所占比例,且效果优于秸秆还田,优于化肥(NPK)配施。

【英文摘要】【Objective】 Based on 3 long-term experiments, temporal and spatial responses of total soil organic carbon (TOC)and labile organic carbon (LOC) in red soil, black soil and grey-desert soil to various long-term fertilizations were discussed.【Method】 Fractionation method of soil organic carbon was applied to determine the contents of LOC and the percentage of LOC toTOC in black soil, grey-desert soil and red soil. 【Result】 Results showed that the content of TOC and LOC and the percentage ofLOC to TOC under 16 years of non-fertilization (CK) in grey-desert soil decreased significantly by 11.7%, 34.9% and 5.4 percentagepoints, respectively. After long-term application of chemical nitrogen fertilizer (N), the content of TOC of the 3 soils kept nosignificant change throughout the studied period. However, the percentage of LOC to TOC for the 3 soils all decreased significantly.It decreased by 9.5 percentage points in black soil, which was the most of the 3 studied soils. After 16 years application of NP andNPK, the percentage of LOC to TOC in black soil and grey-desert soil decreased significantly. While there was increasing trend forred soil. There was significant increase in the contents of TOC and LOC and the percentage of LOC to TOC under long-termapplication of chemical fertilizers combinated with manure (NPKM、1.5 NPKM). After long-term application of NPKM, the contentsof TOC, LOC and the percentage of LOC to TOC in red soil increased by 80.6%, 146.2% and 7.5 percentage points, respectively,which was the most. For grey-desert soil it was 64.4%, 138.0% and 5.0 percentage points, respectively. For long-term applicationof NPK with straw return (NPKS), the contents of TOC, LOC and the percentage of LOC to TOC in red soil increased by 21.6%,59.0% and 7.5 percentage points. However, it was stable in black soil and grey-desert soil. 【Conclusion】 The percentage of LOC toTOC response sensitively to long-term fertilization and could be one of the indicators for the quality of soil organic carbon.Long-term non-fertilization and only chemical nitrogen fertilizers lead to decrease in the contents of total soil organic carbon and thepercentage of LOC to TOC in most cases. Long-term application of NPKM could maintain and improve quality and quantity of soilorganic carbon. The effect of long-term application of NPKM was better than that of NPKS, and they were both better than that oflong-term application of NPK.

【语种】中文
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【学科分类】土壤学

【题目】中国典型农田土壤磷素演化对长期单施氮肥的响应
【中文关键词】长期定位试验;单施氮肥;土壤全磷;Olsen-P
【英文关键词】long-term fertilization; single N fertilization; soil total phosphorus; Olsen-P

【中文摘要】【目的】探讨中国典型土壤长期单施氮肥对土壤全磷和Olsen-P 磷的影响。【方法】以土壤肥力与肥料长期定位试验为基础,应用常规化学分析法和数学统计方法,分析不同气候、不同耕作制度下15 年单施氮肥(每季作物的施氮量为150 kg · hm-2)处理对6 种典型土壤全磷和Olsen-P 含量变化的影响。【结果】在长期单施氮肥条件下,耕作土壤全磷含量和土壤Olsen-P 均呈下降趋势,全磷含量下降幅度为2.7%~25.0%。单施氮肥全磷含量下降幅度大于不施肥。Olsen-P 含量下降有一定阈值,阈值大约为4 mg · kg-1。土壤Olsen-P 含量下降率比全磷高几倍。耕层Olsen-P 含量(y)与土壤磷素表观平衡(x)相关方程为y=0.0005x+3.9986,相关方程斜率很小,表明Olsen-P 含量基本不受磷素表观平衡影响。【结论】长期单施氮肥加速了土壤全磷和Olsen-P 的减少速度,其中全磷含量较低的土壤其下降幅度更大。

【英文摘要】【Objective】 The influence of long term single nitrogen fertilization on the total P and Olsen-P of several typicalsoils in China was studied. 【Method】 The phosphorus changes of 6 typical soils under different cropping systems and climates werestudied based on a 15-year long-term fertilization experiment in China. 【Result】 Results showed that total P and Olsen-P of alltested soils decreased, and the range of total P decrease was from 2.7% to 25.0%. The content of the total P with single nitrogenfertilization decreased more than that of non-fertilizer. The Olsen-P decreased to a value of about 4 mg · kg-1, and its decreased ratiowas a few times higher than that of the total P. 【Conclusion】 Therefore, single nitrogen fertilization accelerated the decrease of thetotal P and Olsen-P, and the soils with low total P decreased much more.

【语种】中文
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【学科分类】土壤学

【题目】化肥有机肥配合施用下双季稻田氮素形态变化
【中文关键词】稻田; 氮素动态; 有机无机肥配合
【英文关键词】paddy field ; nitrogen dynamic ; chemical fertilizer combining with organic manure
【中文摘要】为揭示有机无机肥配合施用下稻田氮素的动态及迁移特征,在湘南双季水稻农作区第四纪红土发育的红黄泥稻田上进行了连续6 年田间试验。通过比较不施氮肥(PK) 、施用有机肥猪粪(M) 、化肥(NPK) 及有机肥化肥配合(NPKM) ,研究稻田表层全氮、无机氮动态变化,不同层次(25 —30、55 —60、85 —90 cm) 土壤溶液无机氮动态,耕层土壤无机氮动态等。结果表明,NH+4-N 是红壤双季稻田无机氮素存在的主要形态,施用化学肥料处理(NPK) 施肥后1~3 d 表面水NH+4-N 浓度占全氮比例可达0.5~0.9 ,有机肥处理(M) 为0.3 左右。不同层次土壤溶液及其土壤氮素浓度呈现一致的特征,即施肥后短期内出现浓度峰值随后迅速下降,且随着往下推移,氮素峰值出现时间延长,表层水全氮及无机氮在施肥后1~2 d 出现浓度高峰,耕层土壤及25 —30 cm土壤溶液无机氮浓度高峰约在施肥后3~5 d。化肥有机肥配施有利于水稻稳产高产,年产量达12.2 t/ hm2 ,比不施氮肥的对照产量(7.3 t/ hm2) 增加68 %; 土壤有机质6 年提升18.5 % ,显著高于化肥。施用有机肥(M) 及有机无机肥配合(NPKM) 显著降低了稻田表层水全氮及不同层次土壤溶液和耕层土壤NH+4-N 峰值浓度,提高水稻产量和培肥土壤,有利于减少当前氮肥过量施用带来的环境负荷。
【英文摘要】A six year field experiment was conducted in Quaternary Period red clay soil in double rice region of south Hu-nan province. Its purpose was to disclose dynamics and transferred characteristics of nitrogen under the application ofchemical fertilizer combined with manure. Four treatments , namely , no nitrogen (PK) , swine manure (M) , chemicalfertilizer (NPK) and swine manure applied combined with chemical fertilizer (NPKM) were selected to study the dynam-ics of total nitrogen and inorganic nitrogen in surface water , and as well as the dynamics of inorganic nitrogen in soil solu-tion in different layers (25 - 30 ,55 - 60 and 85 - 90cm) and tillage soil . The results show that NH+4-N is the predominantinorganic nitrogen in red double rice paddy soil , and the ratio of NH+4-N/ total N reaches to 0.5 - 0.9 in surface waterwithin 1 - 3 days after chemical fertilizer (NPKtreatment) applied , while that of organic manure treatment is about 0.31The peak values of nitrogen concentration are detected within 1 - 2 days in surface water and 3 - 5 days in soil solution indifferent layers after fertilizer application. The peak values of nitrogen concentration in surface water , in soil solution andin tillage soil are lower in organic manure (M) , and chemical fertilizer applied combined with organic manure (NPKM)treatments than those of the other two treatments. The NPKM treatment achieves a 12.2 t/ ha mean annual yield (68 %higher than that of PK) . The soil organic matter in tillage soil is increased by 18.5 % during the six-year plantation at the NPKM which is significantly higher than that of the NPKtreatment . Application of chemical fertilizer combined withorganic manure is propitious to reduce environment load due to excessive chemical nitrogen applied
【语种】中文
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【学科分类】土壤学

【题目】不同钾肥对赤红壤和水稻土中铅有效性的影响
【中文关键词】钾肥;铅;植物有效性;赤红壤;水稻土
【英文关键词】potassiumfertilizer;Pb:phytoavailability;redlatersol;paddy soil
【中文摘要】采用盆栽试验,研究了赤红壤和水稻土上,施用4种钾肥(KH_2PO_4、K_2SO_4、KNO_3、KCl),在各为5种用量(K 0、60、140、240、360 mg/kg)条件下,小油菜对铅的吸收量及土壤溶液铅和植株吸收铅之间的关系。结果表明,赤红

壤上KCl、KNO_3、K_2SO_4各处理土壤溶液铅的浓度均随钾肥施入量的增加而显著增加。其中KCl最高用量(360 mg/kg)下土壤溶液铅增加最高,达106.9%,K_2SO_4(K)240 mg/kg水平下增加97.8%;水稻土上3种钾肥的情况与之类似,只是增加幅度略低,这可能与赤红壤具有较多的可变电荷和因其CEC较小而缓冲性也小有关。两种土壤施用KH_2PO_4下,随施入量的增加,土壤溶液的铅均显著减少;KH_2PO_4最高用量下,赤红壤和水稻土水溶性铅分别比对照减少45.0%和63.8%。另外,种植第2季作物后,施用KH_2PO_4,两种土壤溶液铅含量与植株茎叶和根系吸收铅浓度之间均表现为良好的正相关。

【英文摘要】Effects of four kinds of potassium fertilizer(KH2PO4,K2SO4,KNO3, and KCl) at five levels (K0,60,140,240,360mg/kg) on the Pb concentration of rape and relationship between Pb content of paddy soil and red latersol solution significantly incteased with application of KNO3, KCl, and K2SO4. The application of KCl (360mg/kg) and K2SO4(240mg/kg) can increase Pb content of soil solution up to 106.9% and 97.8%, respectively. There were similar effects of three kinds of potassium on paddy soil and increased rate was lower than that of laersol soil. The main reason was that latersol soil had more inconstant charges CEC than paddy soil. However, Pb contect of soil solution was significantly decreased with application rate of KH2PO4, moreover Pb content of rape shootalso decreased in both paddy soil and latersol, and under its hightest application rate the decreased rates of Pb concentration in latersol and paddy soil were 45.0% and 63.8%, respectively, compared with the control treatment. In the second season in KH2PO4 treatment, there were positive correlations between Pb absorbed by shoots and roots of rape and Pb content of soil solution.

【语种】中文

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【学科分类】农业基础学科

【题目】长期不同施肥模式对潮土有机碳组分的影响

【中文关键词】长期施肥; 潮土; 有机碳组分; 分布
【英文关键词】long-term fertilization; fluvo-aquic soil; organic carbon fractions; distribut ion

【中文摘要】采用物理分组方法分析了长期不同施肥模式条件下潮土有机碳组分变化及其分布规律。结果表明, 与不施肥(CK) 比较, 长期氮、磷、钾平衡施用(NPK) 、秸秆还田(NPKS) 和有机无机肥配施(NPKM 和1 5NPKM) 均显著提高了潮土粗自由颗粒有机碳(cfPOC) 、微团聚体内物理保护颗粒有机碳(iPOC) 及矿物结合有机碳(mSOC) 的含量, 其中以粗自由颗粒有机碳增幅最高, 达114 5%~ 278 9%, 对施肥最敏感, 能较好地反映长期施肥下土壤有机碳库的变化。矿物结合有机碳是潮土固存有机碳的主要形式, 它占总有机碳的67 0%~ 80 4%。除偏施化肥(N 和NP) 外,其他施肥模式增加的总有机碳的49 1%~ 58 1%进入矿物结合有机碳组分; 26 2%~ 31 7%进入粗、细自由颗粒有机碳组分; 15 7%~ 20 9%进入物理保护有机碳组分。偏施化肥(N 和NP) 有利于自由颗粒有机碳的增加。综上分析, 长期有机无机肥配施或秸秆还田是提升潮土不同组分有机碳库较好的施肥模式。

【英文摘要】The density fractionation scheme was used to study the changes of organic carbon fract ions and their distribu tion in fluvo aquic soil under different long term fert ilizations. The results showed that compared to no fert ilization (CK) ,contents of coarse free particulate organic carbon (cfPOC) , physical protected intra microaggregate particulate organiccarbon (iPOC) and mineral associated soil organic carbon(mSOC) were all increased significant ly under the balancedchemical fertilizat ion(NPK) , straws plus with chemical fertilization (NPKS) , and manure added with chemical fertiliza tion (NPKM and 1 5NPKM) . The cfPOC fract ion with the highest magnitude of increased by 114 5% - 278 9% indi cates it was more sensitive to the fertilizations than other organic carbon fractions. The mSOC, accounting for 67 0% to80 4% of total organic carbon (TOC) , was main form for organic carbon sequestration in fluvo aquic soil. Application ofunbalanced chemical fertilization (N and NP) was apt to increase free POC content, and for other fertilizat ions, about49 1%- 58 1% of TOC was transferred to mSOC, 26 2% - 31 7% to free POC and 15 7%- 20 9% to iPOC. Itcould be concluded that long term manure applicat ion with chemical fertilizers or straw incorporation to soil was more ben efit to organic carbon pools upgrade in fluvo aquic soil.

【语种】中文

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【学科分类】农业基础学科

【题目】控释氮肥对双季水稻生长及氮肥利用率的影响
【中文关键词】控释肥;早稻;晚稻;生长;氮肥利用率
【英文关键词】controlled-release nitrogen fertilizer; early rice;late rice;growth;nitrogen use effciency
【中文摘要】为阐明控释氮肥的产量和生态效应,选用N75和150kg/hm2两种不通用量的控释氮肥和尿素对比,在南方典型双季稻区第四纪红壤发育的水稻土上进行早稻和晚稻田间试验,观测控释肥氮素田间释放规律和水稻的生长、产量和氮肥利用率。
【英文摘要】Controlled-release nitrogen fertilizer ("Meister" made by Japan) were chosen with two application rates,N75 and 150kg/ha, to investigate the nitrogen ralease dynamics of controlled-release fertlilzer and its effect on growth, yield, and nitrogen use efficiency of early rice and late rice in red soil paddy field of Qiyang, Hunan province of Southern China. The results showed that the nitrogen relesae dynamics of S9 and LP70(40%) +LPS100(60%) met with uptake by early rice, and late rice satisfactorily. Furthermore,a significant positive positive correlation was observed between the accumulate N uptake by early rice and N release from S9(R2=0.9764),and the accumulate N uptake by late rice and N release from LP70(40%)+LPS100(60%)(R2=0.9968).Compare to the same application rate of urea, applying controlled-release N fertilizer N75kg/ha increased the grain yield by 3.6%and 9.3%,and nitrogen use efficiency by 29.9 percent point and 10.4 percent for early rice and late rice, respectively. Controlled-release nitrogen fertilizer N 75kg/ha of controlled-release nitrogen fertilizer. Thus, application controlled release nitrogen fertilizer N 75kg/ha was recommended as best ferrtilization approach with comprehensive consideration on high yield and high efficiency
【语种】中文
【第一作者】徐明岗
【通讯作者】徐明岗
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【学科分类】农业基础学科

【题目】共存阳离子(Ca、Zn、K)对土壤镉有效性的影响
【中文关键词】镉;共存离子;小油菜;赤红壤;有效性
【英文关键词】Cd; coexistence cations; rape; lateritic red soil; bioavailability
【中文摘要】采用盆栽与吸附试验,研究了镉污染赤红壤上,施用相同摩尔浓度的钙、钾与锌对小油菜生物量、镉吸收量及土壤镉吸附的影响。结果表明,低和高镉污染赤红壤上,施用锌明显增加小油菜地上部生物量,较对照分别增产21.1%和7.82%。不同阳离子(钠、钙、钾和锌离子)共存改变土壤吸附镉能力的程度不同,与钠体系相比,钙、钾和锌体系中土壤镉吸附量分别降低65.6%、72.0%和96.9%,共存离子降低土壤镉吸附量的次序为锌离子>钾离子和钙离子,锌离子的影响最为明显。高镉污染赤红壤上,钙和钾使小油菜吸镉量分别增加5.5%和14.4%,低于低镉污染赤红壤上钙和钾使小油菜吸镉的增加量(分别为16.6%和19.6%);锌明显降低小油菜吸镉量,高和低镉污染赤红壤上,较对照分别减少45.8%和35.0%。3 种阳离子与镉共存时,对土壤镉生物有效性的影响差异取决于竞争吸附与竞争吸收的大小,其机制有待进一步探讨。
【英文摘要】Abstract:Existence of different cations in soils may change phytoavailability of cadmium. The objective of this study was to investigate how and to what extent coexistence cations(Ca, Zn, K)affected the bioavailability of Cd. Pot and sorption experiments were carried out to investigate effects of different cations(Ca, Zn, K)applied to lateritic red soil together with cadmium on rape biomass and related Cd uptake by rape, and as well as sorption of cadmium. The results showed that there was significant influence on rape growth under applied Zn. Rape biomass increased by 21.1% and 7.82%, compared to the controls under low and high contamination of lateritic red soil respectively. Effect of cations(Ca, Zn, K)on capability of adsorption of Cd was significant. The sorption amount of Cd decreased by 65.6%,96.9%, and 72.0% compared to single Na system, respectively. The capacity for releasing Cd from soil particles decreased in the following order:Zn>K>Ca. Zinc could reduce the most of Cd adsorption among three cations. In the lateritic red soils containing high concentration of cadmium, The Ca and K co-existence system, addition of Ca and K enhanced Cd uptake by 5.50% and 14.4%, respectively. As for the lateritic red soil with low concentration of cadmium, the Ca and K co-existence, addition of Ca and

K enhanced Cd uptake by 16.6% and 19.6%, respectively. Zn could decrease significantly Cd content in rape. In the lateritic red soil with higher and lower concentration of cadmium, addition of Zn decreased Cd uptake by rape by 45.8% and 35.0% compared to control treatment, respectively. It was concluded that co-existence of Cadmium with the Ca, K and Zn could influence Cd bioavailability depending on competition absorption and its extent. The mechanism need to be further investigated.
【语种】中文
【第一作者】宋正国
【通讯作者】徐明岗
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【学科分类】农业基础学科

【题目】不同磷酸盐下红壤对镉离子的吸附-解吸特征
【中文关键词】磷酸盐;镉;红壤;吸附;解吸
【英文关键词】phosphate; cadmium; red soil; adsorption; desorption
【中文摘要】采用等温吸附法研究了红壤对镉离子的吸附特性,分析加入不同形态的磷酸二氢盐(磷酸二氢铵、磷酸二氢钾和磷酸二氢钙)对镉离子吸附-解吸特征的影响。结果表明,在加入镉浓度0~20 mg · L-1 范围内,红壤对镉离子的吸附量随平衡液中镉离子浓度的升高而增加,吸附等温线符合Freundlich 方程。土壤吸附镉离子后,在磷添加浓度为0~160 mg · L-1 下,土壤对镉离子的等温吸附仍然符合Freundlich 方程(R2>0.94),但磷酸盐对镉离子吸附具有明显影响;磷酸二氢钙使镉离子的最大吸附量降低了2.5%~7.9%,使镉离子的吸附率降低10%~20%,而磷酸二氢铵和磷酸二氢钾对镉离子的吸附特征无明显影响。随加入磷量的增加,3 种磷酸盐下镉离子解吸量和解吸率均显著降低,解吸量降幅为15.8%~27.8%,解吸率降低了3.7%~9.5%;但在低镉时磷酸二氢钙对红壤镉离子的解吸率显著高于磷酸二氢铵和磷酸二氢钾。由于Ca2+与Cd2+之间存在较强的竞争吸附,使得磷酸二氢钙对红壤镉离子吸附-解吸的影响大于磷酸二氢铵和磷酸二氢钾。
【英文摘要】Abstract:The characteristics of cadmium adsorption and the effects of different kinds of phosphate(NH4H2PO4, KH2PO4, Ca(H2PO4)2)on the adsorption-desorption of cadmium in red soil were investigated by a batch experiment. The results showed that the adsorption amount of cadmium increased with the concentration of cadmium in the equilibrium solution under the range of initial concentration of cadmium from 0 to 20 mg · L-l. The relationship between the adsorption amount of cadmium and the concentration of cadmium in the equilibrium solution couldbe described by the Freundlich equation. After the red soil adsorbed cadmium, the adsorption isotherms of cadmium in red soil could also be described by the Freundlich equation (R2>0.94)in the presence of phosphate from 0 to 160 mg · L-1. But the added phosphate markedly affectedon the adsorption of cadmium. The maximum amount of adsorbed cadmium by the red soil decreased by 2.5%~7.9% after adding Ca(H2PO4)2. The adsorption ercentage of cadmium substantially declined by 10%~20% with the increasing concentration of Ca(H2PO4)2.Whereas, NH4H2PO4 and KH2PO4 didn ' t influence on the adsorption amount of cadmium in red soil. The desorption amount and desorption rate of cadmium from the red soil significantly decreased by 15.8%~27.8% and 3.7%~9.5% with the increasing concentration of phosphates.The desorption rate of cadmium by Ca(H2PO4)2 was higher than H4H2PO4 and KH2PO4 when the cadmium adsorption was lower. Ca(H2PO4)2 had more significant effect on adsorption-desorption of cadmium in red soil than NH4H2PO4 and KH2PO4 because of competitive adsorptionbetween Ca2+ and Cd2+.
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【第一作者】陈苗苗
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【题目】长期不同施肥下我国旱地红壤N2O释放特征及其对土壤性质的响应
【中文关键词】N2O 释放;红壤;长期施肥;土壤性质

【英文关键词】N2O emission; red soil; long-term fertilization; soil property.
【中文摘要】为评价长期不同施肥下红壤N2O 释放特征及其与土壤性质的关系,以湖南祁阳摞荒地(CKo)、不施肥对照(CK)、单施氮磷钾化肥(NPK)、施有机肥(M)、有机肥配施化肥(NPKM)和秸秆配施化肥(NPKS)6 个处理的红壤为研究对象,进行为期30 d 的培养,测定其N2O 释放量、有机质、全氮、碱解氮、速效磷、速效钾、NH+4-N、NO-3-N 含量及其pH 值。结果表明:6 个处理的N2O 释放量差异显著(P<0.05),大小排序为NPK>NPKS>M≈NPKM>CK>CKo。施用有机态氮与等量无机态氮相比,前者N2O 释放量较低。N2O释放量与土壤性质的关系较为复杂,其与铵态氮、硝态氮和碱解氮呈极显著正相关(P<0.01),而与C/N、pH 值呈极显著负相关(P<0.01)。多元回归和通径分析进一步显示,全氮、C/N、碱解氮、硝态氮和pH 值与N2O 的释放量直接相关。本研究表明长期施肥及其土壤性质显著影响红壤N2O 释放量。
【英文摘要】To investigate N2O emission under different fertilization and its relationship with soil properties,measurement of N2O emission was conducted in red soil at a long-term experiment station in Qiyang county of Hunan Province, Southern China. Soil samples were collected from fallow land(CKo), control(no fertilization, CK), inorganic nitrogen-phosphorus-potassium fertilization(NPK), manure application(M), NPK plus manure application(NPKM), NPK plus straw return(NPKS). Subsamples were incubated for 30 days to determine N2O emission.Soil organic matter, total nitrogen, available nitrogen, available phosphorus, available potassium, NH+4 -N, NO-3 -N and pH were measured. This study shows that the amount of N2O emission is significantly different(P<0.05)among six treatments with the following order as NPK>NPKS>M≈NPKM>CK>CKo. The amount of N2O emission is much smaller under the organic nitrogen fertilization than that the same amount of inorganic nitrogen fertilization. The relationship between soil properties and the amount of N2O emission is complex. The amount of N2O emission has significant positive correlations(P<0.01)with the available nitrogen, NH+4-N and NO-3-N. However, the amount of N2O emission has a significantly negative correlation with C/N ratio and pH value(P<0.01). A further analysis of regression and pathway show that total nitrogen,C/N ratio, available nitrogen, NO-3 -N and pH value is significantly correlated with the amount of N2O emission. This study indicates that fertilization management and soil properties have significant influences on N2O emission in red soil.
【语种】中文
【第一作者】李梦雅
【通讯作者】徐明岗
【期刊名称、卷期、页码】农业环境科学学报, 2009,28(12):2645-2650
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【学科分类】农业基础学科

【题目】长期施肥红壤矿物颗粒结合有机碳储量及其固定速率
【中文关键词】长期施肥;有机碳;储量;土壤颗粒;红壤
【英文关键词】long-term fertilization; organic carbon; reserves; particle-size fractions; red soil
【中文摘要】采用物理分组方法分析了长期不同施肥模式下红壤耕层(0~20 cm)不同大小矿物颗粒结合态有机碳储量差异及其固定速率。结果表明,与不施肥相比,长期施肥均显著增加了耕层土壤砂粒、粗粉粒、细粉粒及粗黏粒结合有机碳的储量,且以配施有机肥(M、NPKM 和1.5NPKM)效果最显著,固碳速率分别达到0.13~0.24、0.19~0.23、0.05~0.16 及0.12~0.36 Mg · hm-2 · a-1;施化肥(NPK、NP、N)和秸秆还田(NPKS)有利于增加细黏粒有机碳储量,且固碳速率高于配施有机肥,分别达到0.08~0.13 和0.11 Mg · hm-2 · a-1。17 a 有机肥配施有利于增加固存于粗粉粒(30.5%)和粗黏粒(30.7%)中的有机碳;而秸秆还田(NPKS)和化肥施用下,有利于增加固存于粗粉粒(32.9%)和细黏粒(42.9%)中的有机碳,说明无论化肥配施还是有机无机配施,红壤粗粉粒是固定新增有机碳的主要组分,而长期配施有机肥是提升红壤各级颗粒有机碳库的较好施肥模式。
【英文摘要】Abstract:The density fractionation scheme was used to study change characteristics of organic carbon stocks and sequestration rate of particle-size fractions in red soil under long-term fertilization. Our results showed that compared to non-fertilization(CK), long-term fertilization significantly increased the organic carbon stock that combined with sand(S), coarse silt(CS), fine silt(FS), and coarse clay(CC). Especially, applications with manure(M, NPKM, 1.5NPKM)showed highest carbon sequestration rate in S-OC(0.13~0.24 Mg · hm-2 · a-1), CS(0.19~0.23Mg · hm-2 · a-1), FS(0.05~0.16 Mg · hm-2 · a-1), and CC(0.12~0.36 Mg · hm-2 · a-1), respectively. Applications of chemical fertilizers(NPK、NP、N)and straw incorporation were more effective to increase organic carbon in FC and the carbon sequestration rate were 0.08~0.13 and 0.11Mg · hm-2 · a-1 respectively, which were higher than the rates of applications with manure. Applications with manure were apt to sequester more organic carbon in the CS(30.5%)and CC(30.7%)particles. However, application of straw incorporation(NPKS)and chemical fertilizerssequenstered more organic carbon in CS(32.9%)and FC(42.9%)particles. Therefore, CS was the main carbon pool that sequestrated organic carbon in red soil under long-term fertilization. Moreover, long-term application with manure was helpful fertilization practices to increase organic

carbon in all particle-size fractions of red soil.
【语种】中文
【第一作者】佟小刚
【通讯作者】徐明岗
【期刊名称、卷期、页码】农业环境科学学报, 2009,28(12):2584-2589
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【学科分类】农业基础学科

【题目】长期施肥下三类典型农田土壤小麦磷肥利用效率的差异
【中文关键词】长期施肥;小麦;产量;磷肥利用率;磷肥农学利用效率
【英文关键词】long-term fertiliza tion; w hea;t y ield; phosphorus use efficiency; agronomy efficiency o f phospho rus.
【中文摘要】对我国北方长期施肥下三类典型农田土壤(塿土、潮土和褐潮土)的小麦产量、小麦磷肥农学利用效率、小麦磷肥利用率进行了研究. 结果表明: 长期施用磷肥处理(氮磷化肥配合施用、氮磷钾化肥配合施用、氮磷钾化肥和秸秆配合施用、氮磷钾化肥和有机肥配合施用)的小麦产量为2914~ 6219 kg hm- 2, 较不施磷肥处理(不施肥对照、单施化肥氮、氮钾化肥配合施用)提高了2~ 4倍, 各施磷肥处理之间无显著差异. 试验起始年施用氮磷钾化肥处理的塿土、潮土和褐潮土上的小麦磷肥农学利用效率分别为17 0、20 3和13 3 kg kg- 1, 小麦磷肥利用率分别为15 3% 、31 2%和23 8%; 施肥15年后, 小麦磷肥农学利用效率每年分别增加3 9、2 5和2 8 kg kg- 1, 小麦磷肥利用率每年分别增加1 3% 、0 9% 和1 0% . 同一类型土壤不同施磷处理间的磷肥农学利用效率和利用率差异不显著. 在我国北方地区, 长期施用磷肥可以显著提高小麦产量和磷肥利用效率; 氮磷钾化肥和有机肥配施处理下, 塿土平均每年增长的小麦磷肥农学利用效率和磷肥利用率较潮土和褐潮土高.
【英文摘要】Field experim ents w ere conducted on three typ ical farm land soils (loess soil f luvo-aquic soil and c innamon fluvo-aqu ic soil) in Northern Ch ina to study the gra in y ie ld, phosphorus agronomic efficiency (PAE), and phospho rus use effic iency (PUE) ofw heat under effects of long-term fertilizat ions. Seven treatments w ere installed, i. e. , non-fertilizat ion (CK), n itrogen fert ilization(N), n itrogen-potassium fert ilization (NK) , nitrogen-phosphorus fertilizat ion (NP) , nitrogenphosphorus-potassium fertilizat ion (NPK) , NPK plus straw returning (NPKS) , and NPK p lusm anure application (NPKM). The averaged wheat gra in y ields under long-term P fertilizat ions (trea-tments NP, NPK, NPKS, and NPKM) ranged from 2914 kg hm- 2 to 6219 kg hm- 2, being 200%- 400% h igher than those under no P fertilizations (treatm ents CK, N, and NK) , and no significant d ifferences w ere observed betw een the P fert ilizations. In the early years of the experimen,the PAE in treatment NPK on the loess so i,l fluvo-aqu ic so i,l and c innamon fluvo-aqu ic so ilw as17 0 kg kg- 1, 20 3 kg kg- 1, and 13 3 kg kg- 1, and the PUE w as 15 3% , 31 2% , and 23 8% , respectively. A fter 15-year fertilization, the PAE and PUE in treatmentNPK increased nnuallyby 3 9 kg kg- 1 and 1 3% on loess so i,l 2 5 kg kg- 1 and 0 9% on fluvo-aqu ic so i,l and 2 8 kg kg- 1 and 1 0% on cinnamon fluvo-aquic so i,l respect ive ly. There w ere no significantd ifferences in the PAE and PUE among the P treatmen ts for the same soils. In N orthern China,long-term P fertilization could increase the wheat gra in y ie ld and PUE significant ly, and the m eanannual increase of PAE and PUE in treatment NPKM w as higher on loess so il than on f luvo-aquicso il and c innamon fluvo-aqu ic soil
【语种】中文
【第一作者】高静
【通讯作者】徐明岗
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【学科分类】农业基础学科

【题目】钙对土壤镉有效性的影响及其机理
【中文关键词】镉;钙;小油菜;赤红壤;有效性
【英文关键词】Cd; Ca; rape; lateritic red soil bioavailability

【中文摘要】采用盆栽试验,研究了赤红壤上两种镉污染水平下,施用4种钙量(0、40、100、200mg/kg-1)对小油菜生物量、镉吸收量及土壤溶液中钙、镉浓度的影响.结果表明:在低镉或者高镉污染水平下,与对照相比,小油菜干质量均以高钙用量处理的增幅最大,两季平均增加了5.5%(低镉)和17.3%(高镉);增加钙的施用量,使土壤溶液中钙浓度明显增加,小油菜体内钙浓度也明显增加;当钙施用量为100 mg/kg-1时,土壤溶液中镉浓度较对照分别增加74.5%(低镉)和31.0%(高镉),而小油菜体内镉浓度较对照分别降低4.5%(低镉)和13.1%(高镉).两种镉污染水平下,土壤溶液中钙/镉(质量比)值与小油菜体内镉浓度均呈显著正相关.土壤溶液中钙/镉比值影响土壤镉的有效性,进而影响小油菜对镉的吸收.

【英文摘要】A pot experimentw ith Cd po lluted lateritic red so ilsw as conducted to study the effects o fapply ing different concentration (0, 40, 100, and 200mg/kg-1) Ca on the rape b iomass, its Cduptake, and the Ca and Cd concentrations in so il so lution. Comparing w ith no Ca application, ap ply ing Ca increased the rape drymass, w hether under h igh or low leve lCd pollu tion. The incremento f the dry mass in tw o cropping seasons w as average ly 5 5% (low level Cd pollution) and 17 3%(h igh leve lCd po llu tion). The Ca concentration both in so il solution and in rape plan t increasedmarked ly w ith increasing Ca applicat ion rate. A t the Ca app lication rate 100 mg/kg-1, the Cdconcen trat ion in soil solution increased by 74.5% (low Cd pollution) and 31.0% (high level Cdpollution), while that in rape plant decreased by 4.5% (low Cd po llution) and 13.1% (h igh level Cd pollution). There was a positive relationsh ip betw een the Ca /Cd (mass ratio) in so il solutionand the Cd concentration in rape p lant under bo th low and h igh levels Cd po llut ion. The Ca /Cd(mass ratio) in so il so lut ion a ffected the b ioava ilability o f soil Cd, and further, affected the Cd up take by rape.

【语种】中文

【第一作者】宋正国

【通讯作者】徐明岗

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【学科分类】农业基础学科

【题目】湘南三种典型红壤生土长期施肥对十字花科作物产量影响

【中文关键词】长期施肥;典型红壤生土;十字花科作物;产量

【英文关键词】long term fertilization, typical material red soil, cruciferae crops, crops production

【中文摘要】为了全面系统地研究土壤熟化这一相当复杂的过程,寻求适宜的熟化方式,为开发利用红壤丘陵区的各种荒地资源、为生产示范、领导决策提供科学依据,以长期定位试验为基本材料,研究了湘南3种典型红壤生土27年长期施肥对十字花科作物(油菜)产量的影响。结果表明:⑴3种母质以紫色土油菜产量(地上部干物重)为最高(紫色土以NPK处理为最高),四纪红土次之,花岗岩油菜产量为最低(2种母质油菜生长均不好,产量差不多)。⑵3种母质种植油菜(生物产量)均以NPK处理为最高。其次是有机物—稻草处理,CK(不施肥)最低。⑶3种母质种植油菜均表现为:归还处理好于带走处理;⑷据试验收产时(2009年3月25日)发现,四纪红土和花岗岩二种母质的NPK处理(尤其是NPK-T处理)的油菜除靠近水泥梗边行长有部分油菜外(占小区面积20%),小区中间(占小区面积80%)的油菜生长不正常或死亡,产量极低;3种母质共18个小区,只有花岗岩母质的NPK处理长有禾本科植物马唐草,其余16个小区很少或没有;四纪红土NPK处理油菜病害(尤其是小区的中间部分)严重。主要症状:叶片有褐色斑点,尤其以基部老叶严重。

【英文摘要】influence of 27 years fertilization into soil on crops outputs of Cruciferae (cole) were studied in threetypical parent material soils in south Hunan under long-team location test. The results showed that: (1) Amongthe three types of parent material, the yield of rape (above-ground dry weight) planted in purple soil was thebest (NPK treatment was the best in purple soil), quaternary red soil and granitization red soil were followed re spectively (both of the two types of parent material appeared poorly growth vigor and had a consistent yield). (2)With planting rape in the three types of parent material, NPK treatment could get more harves (biologicalyield), organic matter-straw treatmemt and CK (no fertilization) were followed restectively. (3) The result alsoshowed that the effect of planting rape with returned treatment was better than taken treatment. (4) Accordingto the experiment when the rape was harvested (In March 25th, 2009), it was found that the rape with NPK treat ment, especially with NPK-T treatment in quaternary red soil and in granitization red soil, grew abnormality ordead in the centre of district (80%), which yield was extremely low, but grew better to the remaining(20%) closeto the cement ridge. Among the three types of parent material, eighteen districts,Dischaemum Schreb of gramine ae plants could only grow in granitization red soil with NPK treatment, and the other sixteen districts were littleor even no. The rape planted in Quaternary red soil with NPK treatment got disease especially in the centre ofthe district. The main symptoms: there are some chocolate spot on leaf ,particularly severe on old basal leaves.

【语种】中文
【第一作者】高菊生
【通讯作者】高菊生
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【学科分类】农业基础学科

【题目】稻田常用化学除草剂对水稻生长及土壤生态影响的初步研究
【中文关键词】化学除草剂; 水稻生长; 土壤微生物; 土壤酶
【英文关键词】chemical herb icide; rice grow th; so ilm icrobe; soil enzyme
【中文摘要】化学除草是目前稻田草害防治的重要手段之一, 针对稻田化学除草剂使用量大且年趋增多的趋势, 开展了稻田常用化学除草剂对水稻生长及土壤生态的影响研究, 研究表明: 稻田常量施用化学除草剂可有效地防除杂草、减轻杂草的危害, 对水稻生长无明显不良影响, 但加量施用在一定程度上会影响水稻的分蘖及产量; 另外, 化学除草剂的使用在一定程度上还降低了土壤中微生物的数量及土壤中一些酶的活性, 从而影响了稻田土壤质量及供肥能力, 施药量越大影响越大。
【英文摘要】Using chem ica l herb icide forw eed control in paddy field is an important method in practice atpresent, In v iew o f the trend that large amount o f chem ical herb icide is used in paddy fie ld and the amount isincreasing year by year, the effects o f five k inds of chem ica l herbic ide on rice grow th and so il eco logy w erestud ied. The result ind icated that proper amount o f chem ical herb icide cou ld contro lw eeds grow th and reduceits harm to rice effective ly, moreover, its effects on rice grow th w ere not obviouse. But excessive amoun t o fherbic ide could inf luence to some ex tent the number o f rice tillers and y ield, even reduce so ilm icrob ial quanti ty and the activ ity of enzymes in soi,l thus reduce the so il qua lity and its capac ity o f supplying nutrients, thegreater amount of herbic ide, the g reater effec.t
【语种】中文
【第一作者】陈先茂
【通讯作者】陈先茂
【期刊名称、卷期、页码】江西农业大学学报,2009,31(5) :850-854.
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【学科分类】农业基础学科

【题目】锌对土壤镉有效性的影响及其机制
【中文关键词】镉; 锌; 小油菜; 赤红壤; 有效性
【英文关键词】Cd; Zn; rape; lateritic red soil; availability
【中文摘要】采用盆栽试验, 研究了赤红壤上两种镉污染水平下, 施用不同用量锌对小油菜生物量、镉吸收量及土壤溶液中锌、镉浓度等的影响。结果表明, 低镉污染水平时, 增加锌的施用量, 可明显促进小油菜的生长; 高镉污染水平时, 不同用量的锌间, 第一季时小油菜的生长有明显不同。两种镉污染水平下, 增加锌的施用量, 土壤溶液中锌浓度明显增加, 镉浓度变化不大; 小油菜体内镉含量明显降低。低、高镉污染水平下, 锌用量为64 mg · kg- 1 土时, 小油菜体内镉含量较不施锌肥分别降低31.8%、28.4%(两季平均值) 。在两种镉污染水平的赤红壤上, 锌/镉比(质量比) 与小油菜体内镉含量呈显著负相关。在同一镉污染水平下, 增加锌的用量后, 土壤溶液中锌/镉(质量比) 的大小可以反映镉有效性的高低。
【英文摘要】Effects of zinc with various application rates on dry weight and Cd content in rape plant, Zn and Cd concentration in lateritic red soil solution were determined by pot trial. The results indicated that dry weight of rape was significantly improved with the increasing additionof zinc fertilizer in lowCd- polluted soil, especially in high Cd- polluted soils with first harvest season. Zn concentration in soil solution wassignificantly improved and Cd content in rape was decreased significantly, but Cd concentration in soil solution did not significantly changewith application of zinc fertilizer in two levels of Cd polluted lateritic red soil. Cd content in rape decreased by 31.8% and 28.4% (averaged in two harvest seasons) at highest rate of Zn (64 mg · kg- 1soil) than that without application of Zn in both lowand high Cd- polluted soils, respectively. Ratio of Zn/Cd in soil solution had significantly negative correlation with Cd content of rape in the contaminated lateritic red soil withhigh or lowcontent of Cd. Thus, ratio of Zn/Cd in soil

solution could reflect the availability of cadmium with the increasing addition of zincfertilizer in the same level of Cd polluted soil.
【语种】中文
【第一作者】宋正国
【通讯作者】徐明岗
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【学科分类】农业基础学科

【题目】长期施肥对红壤和潮土颗粒有机碳含量与分布的影响
【中文关键词】长期施肥;有机碳;含量;土壤颗粒;红壤;潮土
【英文关键词】Long-term fertilization; Organic carbon; Content; Particle-size fractions; Red soil; Fluvo-aquic soil
【中文摘要】【目的】为阐明长期施肥对红壤和潮土不同大小颗粒有机碳含量和分布的影响,探讨土壤持续利用培肥模式。【方法】采集17 年长期施用不同肥料后的红壤和潮土,通过物理分组方法得到砂粒、粗粉粒、细粉粒、粗黏粒及细黏粒,观测了不同颗粒有机碳含量和分布的状况。【结果】与不施肥(CK)相比,施用有机肥(M、NPKM)和秸秆还田(NPKS)均可显著增加红壤和潮土总有机碳及不同颗粒有机碳组分的含量,其中以配施有机肥效果最为明显。施化肥有利于增加细黏粒的有机碳含量。各级颗粒中以砂粒的有机碳(POC)含量增幅最高,在红壤和潮土中分别增加1.7~3.8 倍和1.9~2.8 倍,对施肥最敏感。施肥使红壤和潮土有机碳在砂粒中的分布比例分别提高了37.7%~91.5%和63.6%;黏粉粒中有机碳的分布比例因颗粒大小不同而有差异,但总体上施肥降低了黏粉粒中矿物结合态有机碳(MOC)的分布比例,相应地施肥提高了POC 与MOC 的比率(WPOC/WMOC),改良了土壤有机碳性质。【结论】长期施肥下壤质红壤比轻质潮土固存了更多的有机碳。配施有机肥和秸秆还田是提高两种土壤不同颗粒有机碳含量的有效措施。
【英文摘要】【Objective】 The objective of this study was to clarify the effect of long-term fertilization on content and distribution of organic carbon in particle-size fractions in red soil and fluvo-aquic soil, and discuss fertility maintaining model forsustainable land use. 【Method】 The red soil and fluvo-aquic soil with different long-term fertilizations, collected from the seventeen years filed experiments, were separated into sand, coarse silt, fine silt, coarse clay and fine clay by physical way, and the content and distribution of organic carbon in these particle-size fractions were analyzed. 【Result】 Compared with treatment of CK, the treatment of M, NPKM and NPKS significantly increased the content of total organic carbon (TOC) and organic carbon in particle-size fractions in the two soils, however, application of chemical fertilizer was more favorable for increasing organic carbon in fine clay. Application of manure was the most effective practice for increase soil organic carbon. The POC in sand was the most sensitive fraction to the fertilization among the particle-size organic carbon fractions, as its increase extent of the content was the highest after fertilization and reached 1.7-3.8 times and 1.9-2.8 times in the red soil and fluvo-aquic soil, respectively. Thedistribution percentage of organic carbon in sand was significantly increased after fertilization by 37.7%-91.5% and 63.6% in the red soil and fluvo-aquic soil, respectively. However, the percentage in different-sized clay and silt was significantly different, but it was decreased as a whole, followed by corresponding increase the ratio of POC to MOC (WPOC/WMOC), which aroused improvement of soil organic carbon. 【Conclusion】 Loam red soil could retain more organic carbon than light fluvo-aquic soil and the application of organic manure or straw is a better way to increase organic carbon in particle-size fractions of the two soils.
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【题目】化肥有机肥配施对水稻养分吸收和产量的影响
【中文关键词】水稻;化肥;有机肥;养分吸收;产量
【英文关键词】Rice yield; Chemical fertilizer; Organic manure; Nutrient absorption

【中文摘要】【目的】综合评价中国南方双季稻地区化肥有机肥配合施用下水稻产量及土壤肥力效应。【方法】在湖南双季稻区第四纪红土发育的稻田上进行连续6 年的田间定位试验,比较不施氮肥(PK)、施用等量氮磷钾养分的有机肥(猪粪,M)、化肥(NPK,氮肥为尿素)及化肥有机肥配合施用(NPKM,化肥有机肥氮各占一半)水稻地上部养分吸收量、水稻产量、氮肥利用率及土壤有机质含量变化。【结果】化肥有机肥配施有利于水稻稳产高产,产量(12.2 t · ha-1 · a-1)最高,比不施氮肥对照的产量(7.3 t · ha-1 · a-1)增加68%;有机无机肥配施有利于水稻中后期干物质累积和养分吸收,提高单位面积总穗数和穗粒数。化肥有机肥配施的氮肥利用率平均为36.3%,土壤有机质含量5 年提高了18.5%,均显著高于化肥处理。【结论】化肥有机肥配合施用能提高水稻产量和肥料利用率、减少环境污染、培肥土壤,是南方水稻田简单易行的环境保护性施肥技术。

【英文摘要】【Objective】To evaluate the effect of organic manure application on rice yield and soil fertility synthetically indouble-rice cropping region in south China. 【Method】 Successive 6-year field experiments were conducted under quaternary redclay conditions in south Hunan of China. Four different treatments with mixed chemical and organic fertilizers, no nitrogen with chemical P and K (PK), swine manure only (M), N, P and K chemical fertilizers only (NPK; urea as N), and half chemical fertilizers, half swine manure (NPKM) with four replications were examined. Each N, P and K application rate was the same at all the treatments (except the N application rate at PK). All fertilizers applied to soil with once application as base fertilizers. The nutrients uptake rate, grain yield, nitrogen use efficiency and soil organic matter content at each treatment were measured/calculated for comparison. 【Result】 During the six years plantation, the NPKM treatment achieved a 12.2 t · ha-1 mean annual yield, (68% higheryield than that of PK). Higher dry matter accumulation and nutrients absorption were observed during the middle-later growth period in the NPKM treatment, with higher panicle number per unit and filled-grain number per panicle. Its average nitrogen use efficiency was 36.3% and soil organic matter increased by 18.5% during the five-year plantation in the NPKM, which were significantly higher than those in the NPK. 【Conclusion】 Organic manure application with chemical fertilizers increased the yield and nitrogen use efficiency of rice, reduced the risk of environmental pollution and improved soil fertility significantly. It could be said that this is a good practical technique that protects the environment of south China with keeping or raising the rice yield in this region.

【语种】中文

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【学科分类】农业基础学科

【题目】红壤双季稻田不同施肥下的氨挥发损失及其影响因素.

【中文关键词】氨挥发;化肥;有机肥;双季稻田

【英文关键词】Ammonia volatilization; Fertilizer; Organic fertilizer; ShuangJiDao field

【中文摘要】在红壤双季稻田上采用密闭气室法测定了施用等氮量化肥(尿素)、有机肥(猪粪)及化肥有机肥(有机氮无机氮各占一半)配施下氨挥发及其田间表面水NH4+-N 含量、温度和pH 动态变化,研究氨挥发损失及影响因素。结果表明,与施用尿素相比,单施有机肥及化肥有机肥配施显著降低了稻田氨挥发,施用尿素的早稻和晚稻氨挥发损失率分别达41.4%和39.9%,单施有机肥的分别为0.3%和0.9%,化肥有机肥配施的分别为19.6%和8.9%。施肥后, 短期内田面水NH4+-N 含量和pH 均显著上升,其与氨挥发速率均呈显著正相关。

【英文摘要】Ammonia volatilization using a closed chamber method from paddy field soil and the dynamic of NH4+-N concentration, temperature, and pH in surface water were conducted in double rice cropping system. The effects of different types of nitrogen fertilizers applied as urea, swine manure and half of urea with swine manure in the basis of equal nitrogen on ammonia volatilization were studied. The results showed that applied swine manure and urea combing with swine manure reduced ammonia volatilization from paddy field soil significant comparing with applied chemical fertilizer urea. The N losses via ammonia volatilization account for 41.4% of total N input during early rice growth period and for 39.9% during late rice growth period by urea applied only, while the N losses via ammonia volatilization account for 0.3% during early rice growth period and 0.9% during late rice growth period for the treatment of swine manure. For the treatment of urea with swine manure, it was found that the N losses via ammonia volatilization were 19.6% during early rice growth period and 8.9% during late rice growth period, respectively. The concentration of NH4+-N and pH in surface water increased shortly after fertilization. Also, the positive correlation between ammonia volatilization rate with NH4+-N concentration and pH in surface water were obtained.

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【第一作者】李菊梅
【通讯作者】徐明岗
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【题目】A SCAR marker linked to the N gene for resistance to root knot nematodes (Meloidogyne spp.) in pepper (Capsicum annuum L.)
【中文关键词】辣椒,抗病,根结线虫,SCAR,N基因,分子标记辅助选择
【英文关键词】Pepper,Capsicum annuum L., Disease resistance, Root-knot nematode, Meloidogyne spp., SCAR, N gene, Marker assisted selection
【中文摘要】根结线虫(Meloidogyne spp.)是一种重要的线虫,在世界范围内对辣椒有严重危害。至今仍没有关于与根结线虫抗性基因N-基因连锁的分子标记的报道。本文以携带抗根结线虫的N-基因的甜椒自交系“ Carolina Wonder ”和园艺性状优良的自交系“ 20080-5-29 ”的F2代320株单株为试验群体,对亲本、F1、F2的抗性进行根结线虫接种鉴定。利用分离群体法筛选了512对AFLP引物。根据F2的抗性鉴定和AFLP的多态性鉴定结果,计算了AFLP标记与N-基因的遗传距离。获得一个AFLP标记E39/M41-339,并将其转化为一个SCAR标记,抗性等位基因扩增片段为315bp,感性等位基因扩增片段为331bp,分子标记和线虫抗性N-基因的遗传距离为6.3cM。本研究为辣椒抗线虫分子标记辅助选择提供了有效工具。
【英文摘要】The root-knot nematodes (Meloidogyne spp.) are important nematode pests and cause serious diseases in pepper in the world. No molecular markers linked to the nematodes resistance N gene have been reported. In this paper, ‘ Carolina Wonder ’ (Capsicum annuum L.), a sweet pepper line resistant to root-knot nematode with N gene, ‘ 20080-5-29 ’ (C. annuum L.), an inbred line susceptible to root-knot nematode with good horticultural characteristics, and their F2 progeny with 320 individuals were used as materials. Evaluation of resistance and susceptibility of parental lines, F1 and F2 progeny inoculated with root-knot nematodes(Meloidogyne incognita) were carried out. ‘ Bulked segregant analysis ’ method was used to search for polymorphic markers from 512 pairs of AFLP primers. Based on the assessment of resistance and susceptibility and polymorphism of the AFLP marker in F2 population, the genetic linkage distance between the AFLP marker and the N gene was estimated. One AFLP marker E39/M41-339 was obtained and transferred to a SCAR marker amplifying a 315 bp DNA fragment linked to the N resistant allele and a 331 bp fragment linked to the N+ susceptible allele. The distance between the molecular marker and the nematodes resistance N gene is 6.3 cM. This research delivered a valuable tool for the marker assisted selection of nematodes resistance in pepper.
【语种】英文
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【通讯作者】张宝玺
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【学科分类】园艺学

【题目】宁夏地下水中硝态氮含量状况及其影响因素
【中文关键词】地下水;硝态氮;作物类型;埋深;水质;宁夏
【英文关键词】groundwater, nitrate, crop types, burying depth, water quality, Ningxia
【中文摘要】研究了宁夏地区不同作物种植体系下地下水中的硝态氮含量状况及其影响因素,同时对宁夏地区的地下水水质进行评价。结果表明,不同作物种植体系下地下水中硝态氮含量具有明显差异,其中果园>温室菜>葡萄地>林地>小麦玉米>水稻>盐碱地,地下水中硝态氮的总体平均含量都低于20 mg/L,均达到Ⅲ类水质标准。果园所对应地下水的硝态氮含量最大,平均为7.94 mg/L,盐碱地所对应地下水的硝态氮含量最小,平均为0.74 mg/L。综上,宁夏地区地下水情况比较乐观,但个别地区已接近污染警戒,如果不采取合理的预防措施,情形将趋向恶化。地下水中硝态氮含量随埋深的变化,有可能受土壤地质层或地下水补给途径的影响,没有呈现明显的规律性,这也可能与样点的选取和样点多少有关。

【英文摘要】The nitrate concentrations of groundwater as well as their influence factors under different croppingsystems were studied in this paper. At the same time, the quality of groundwater in Ningxia was evaluated. Theresult indicated that there were obvious differences among different cropping systems in the content of nitrate inthe groundwater. Among them, Orchard>Greenhouse Vegetable>Grape>Forest land>Wheat-corn>Paddy rice>Saline and alkali land. The average content of nitrate in the groundwater was all lower than 20 mg/L, which allmet the groundwater quality standard III. The content of nitrate corresponding orchard in the groundwater wasthe highest, whose average was 7.94 mg/L, the lowest of the content of nitrate in the groundwater correspondedsaline and alkali land, its average was 0.74 mg/L. In sum, the quality situation of groundwater in Ningxia wasoptimistic, but individual areas have approached to pollution level. If not take the measures to prevent andcontrol, the situation would deteriorate. The nitrate contents of the groundwater had no obvious regularity alongwith the burying depth, which might be affected by textures of local soil or recharge ways of groundwater. It alsomight be associated with places and numbers of sampling points.Key words: groundwater, nitrate, crop types, burying depth, water
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【第一作者】贾小妨
【通讯作者】李玉中
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【题目】土壤脲酶抑制剂和硝化抑制剂的研究进展
【中文关键词】土壤;硝态氮;脲酶抑制剂;硝化抑制剂
【英文关键词】soil, nitrate, urease inhibitor, nitrification inhibitor
【中文摘要】氮素是农作物生长必不可少的元素,在促进农作物生长,提高产量方面起到了不可忽视的作用。所以,土壤中氮肥的施用成为控制高产的主要因素。但是随着氮肥施用量的增加,土壤过多累积的硝态氮又导致了环境污染方面的问题。为了解决这种污染问题,许多学者在对脲酶抑制剂和硝化抑制剂的研究上取得了很好的进展,利用脲酶抑制剂和硝化抑制剂可以很好的抑制土壤中铵态氮的硝化作用,控制硝态氮的大量积累所导致的环境污染。
【英文摘要】Nitrogen is essential to the plant. It makes important effects which promote the growth of the plant,increase the yield. So the nitrogen fertilizer became one of the limiting factors which control the yield.However, if too much nitrogen fertilizer is applied into the soil, it will result some problems. Nitrate residue inthe soil produces many problems to the environment. So many scientists made some good processes on theurease inhibitor and nitrification inhibitor. They used the inhibitors to reduce the pollution which the nitrateresidue existed in the soil.
【语种】中文
【第一作者】倪秀菊
【通讯作者】李玉中
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【题目】高效固氮芽孢杆菌筛选及其生物学特性研究
【中文关键词】生物固氮;芽孢杆菌;菌种筛选;微生物肥料
【英文关键词】biological nitrogen fixation; bacillus; strain selection; microbial fertilizer
【中文摘要】【目的】筛选高效固氮芽孢杆菌,研究固氮微生物固氮酶活性、竞争适应能力与接种固氮效能的关系,探讨接种固氮芽孢杆菌对根际细菌多样性的影响。【方法】采用无氮培养基富集、加热筛选固氮芽孢杆菌。乙炔还原法测定固氮酶活性,采用盆栽小白菜选育高效固氮芽孢杆菌、研究菌种竞争适应能力与接种固氮效能。通过形态、生理生化特征和 16S rDNA 序列分析鉴定菌种。【结果】筛选到了3 株固氮酶活性相对较高、固氮能力较强的菌株GD062、GD082 和GD282,初步鉴定为芽孢杆菌Bacillus spp.和类芽孢杆菌Paenibacillus sp.。进一步的研究结果表明菌株GD082竞争适应能力较强,在盆栽试验自然土壤条件下接种固氮效能与施用化肥试验处理效果相当,可望进一步研发用于生产固氮微生物肥料。

试验结果同时显示,供试菌株的固氮酶活性与其接种固氮效能并不直接相关,菌株的竞争适应能力对接种固氮效能影响很大,接种固氮芽孢杆菌使小白菜根际土壤细菌多样性显著增加。【结论】接种固氮微生物为农作物提供氮素养分具有生产实践意义。高效固氮菌种的筛选是一个复杂的过程,菌株的固氮酶活性与其接种固氮效能并不直接相关,竞争适应能力对接种固氮效能影响很大。筛选到的芽孢杆菌GD082固氮酶活性较高、固氮能力较强、竞争适应能力很强,可望进一步研发成为优良的固氮微生物肥料生产用菌种。

【英文摘要】【Objective】Efficient nitrogen-fixing bacilli were isolated, and the relationships between microbial nitrogenase activity, competition ability and inoculation effect were investigated. The influence of inoculating nitrogen-fixing bacillus on the bacterial community in crop rhizosphere was explored. 【Method】Nitrogen-free medium was used to isolate nitrogen-fixers and heat treatment was used for the nitrogen-fixing bacilli. Nitrogenase activity was determined with acetylene reduction assay. Microbial competition ability and inoculation effect were tested with pot culture in greenhouse. Strain identification was carried out based on the morphology, physiology, biochemical test and 16S rDNA sequences analysis. 【Result】 Three strains termed as GD062, GD082 and GD282 with relative high nitrogenase activity and strong nitrogen-fixing ability were isolated, which were identified as Bacillus spp. and Paenibacillus sp. respectively. Further result showed that strain GD082 have strong competition ability, produced an inoculation effect as well as the chemical fertilizer treatment did in the natural soil. Result also indicated that no correspondence between nitrogenase activity and inoculation effect was found. Strain competition ability influences the inoculation effect. Rhizosphere bacterial community increased significantly with the inoculation of nitrogen-fixing bacilli.【Conclusion】It is meaningful in agricultural practice to offer crop nitrogen nutrient through inoculation of nitrogen-fixers. Selection of efficient nitrogen fixer is a complexed process. There is no correspondence between nitrogenase activity and inoculation effect. Strain competition ability influences the inoculation effect even stronger. A nitrogen-fixing bacillus GD082 with high nitrogenase activity, strong nitrogen-fixing ability and competition ability was obtained, which is possible to be further developed as an excellent strain used in the microbial fertilizer production.

【语种】中文

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【学科分类】土壤学

【题目】中国十三省市土壤中非共生固氮微生物菌种资源研究

【中文关键词】非共生;生物固氮;微生物资源;系统发育

【英文关键词】Asymbiotic; biological nitrogen fixation; microbial resources; phylogeny

【中文摘要】从全国13个省市自治区的70份土样中分离、采集到了非共生固氮微生物资源181份。从形态特征、生理生化特征和16S rDNA序列分析表明,采集到的菌种资源在科学分类上属于24属66种,大约占到已报道非共生固氮微生物属的一半,具备一定的多样性和代表性。资源在分类学上的特点是分类地位相对集中,有65株菌属于类芽孢杆菌属,占总量的36%;52株菌属于芽孢杆菌属,占总量的29%;19株菌属于节杆菌属,占总量的11%;这3个属菌株合计占采集资源总量的76%。随地域和作物种类分布的特点是芽孢杆菌和类芽孢杆菌两个属的菌种资源具有很强的地域广泛性和作物广泛性,即从采自全国各地、各种作物的土壤样品几乎都可以分离到这两类菌种。这个研究结果对微生物肥料菌种选育和生产应用具有指导意义。

【英文摘要】One hundred and eighty one asymbiotic nitrogen-fixing bacterial strains were isolated from 70 soil samples collected from 13 provinces over China. Results based on the determination of morphology and chemical properties, together with 16S rDNA sequencing, indicated that these strains belong to 66 species of 24 genera, which account for about a half of currently reported genera of asymbiotic nitrogen-fixing bacteria. Taxonomic distribution of these strains was relative converging, 65 strains belongs to Paenibacillus, 52 strains belongs to Bacillus and 19 strains belongs to Arthrobacter, which accounts for 36%, 29% and 11% of gross resource, respectively. Strains of these 3 groups make up 76% of gross resource. Strains of Paenibacillus and Bacillus showed significant diversity on the distribution regarding to geography and crops. Namely strains of these 2 groups could be isolated from almost every sample collected from root area of crops all over China.

【语种】中文

【第一作者】孙建光

【通讯作者】孙建光

【期刊名称、卷期、页码】植物营养与肥料学报,2009,15(6):1451-1466
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【引文索引类型】其他
【引文索引号】1008-505X(2009)06-1450-16
【学科分类】土壤学

【题目】固氮芽孢杆菌GD272的筛选鉴定及其固氮性能研究
【中文关键词】生物固氮;芽孢杆菌;菌种选育;微生物肥料
【英文关键词】Biological nitrogen fixation; bacillus; strain breeding; microbial fertilizer
【中文摘要】对所选育出的一株固氮芽孢杆菌(编号为 GD272)进行了形态、生理生化测定和接种效果研究。通过 16S rDNA基因比对以及生理生化鉴定表明,该菌株属于芽孢杆菌Bacillus sp.。乙炔还原法测定显示该菌株具有较高的固氮酶活性;小白菜盆栽试验看出, 接种GD272菌达到了施用化学氮肥的同等效果。菌株GD272在固氮微生物肥料生产中具有较好的开发应用前景。
【英文摘要】Global energy shortage and the high cost of chemical fertilizer make the research of biological nitrogen fixation become necessary and urgent. Research on the breeding and biology of nitrogen-fixing bacteria is the base for nitrogen-fixing microbial fertilizer industry. A nitrogen-fixing bacillus strain GD272 was isolated and its morphology, physiology and chemical properties were studied. Identification with 16S rDNA sequencing, morphology, physiology and chemical properties showed that strain GD272 is Bacillus sp. Relative high nitrogenase activity of GD272 was determined with acetylene reduction assay. Green house test indicated that pakchoi inoculated with GD272 grew as well as those supplied with chemical nitrogen fertilizer. Strain GD272 shows a good prospect in nitrogen fixing microbial fertilizer production.
【语种】中文
【第一作者】张燕春
【通讯作者】孙建光
【期刊名称、卷期、页码】植物营养与肥料学报,2009,15(5):1196-1201
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【学科分类】土壤学

【题目】长期不同施肥对水稻产量及土壤肥力的影响
【中文关键词】长期定位试验;施肥;水稻产量;土壤有机质;土壤养分
【英文关键词】long-term experiment; fertilizer application; rice yield; soil organic matter; soil nutrients
【中文摘要】【目的】研究化肥、有机肥对水稻产量、土壤有机质的影响,以及化肥氮磷钾、有机肥氮磷钾提高土壤养分的异同。【方法】依托祁阳站有机无机、肥水稻长期定位试验,分析历史样品及数据。【结果】有机肥与化肥氮磷钾配合施用对水稻高产稳定有显著作用;长期施用化肥和有机肥对提高土壤有机质都有显著作用,但施用化肥只能提高土壤有机质含量至28.1 g·kg-1,与试验开始时相比只提高了42%。凡施用牛粪能使土壤有机质平均最高增加到41.6 g·kg-1,比试验开始时提高了 91%;有机肥氮提高土壤全氮、碱解氮含量的效果优于化肥氮,土壤全氮、碱解氮含量比化肥处理提高了30%和16%。而施入的有机肥磷在土壤中累积较少,土壤全磷、速效磷提高较少, 施入的化肥磷在土壤中累积较多, 土壤全磷、速效磷含量提高幅度较大。与有机肥相比,化肥提高土壤全磷30%,提高速效磷115%。【结论】有机肥与化肥氮磷钾配合施用对水稻高产稳产和提升土壤肥力有重要的作用。
【英文摘要】【Objective】 The objective of this study was to probe the effects of chemical and organic fertilizers on rice yield, soil organic matter and soil nutrients.【Method】Field investigation and soil sample analysis methods were adopted on a long-term experiment in Qiyang, Station, Hunan province, China.【Result】The combined use of chemical and organic fertilizers was an optimum way for high yield and improvement of soil fertility. Application of both chemical and organic fertilizers significantly increased soil organic matter, and application of organic fertilizers increased soil organic matter by 48% compared with the chemical fertilizer. Organic fertilizers made a great contribution to improvement of soil total nitrogen and hydrolysable nitrogen than chemical fertilizer N, but less contribution to soil total P and available P than that of chemical fertilizer phosphorus. The organic fertilizer increased soil total N by 30% and hydrolysable N by 16% while the chemical P fertilizer increased 30% more total P and 115% more available P than did the organic fertilizer. 【Conclusion】Combined use of chemical fertilizer and manure is important for high yield of rice and improvement of soil fertility.

【语种】中文
【第一作者】张国荣
【通讯作者】李菊梅
【期刊名称、卷期、页码】中国农业科学,2009,42(2):543-551
【论文发表时间】2008-03-21 00:00:00
【引文索引类型】其他
【引文索引号】10.3864/j.issn.0578-1752.2009.02.020
【学科分类】土壤学

【题目】不同农田管理措施对土壤有机磷影响的研究进展
【中文关键词】土壤有机磷;施肥;秸秆还田
【英文关键词】Soil organic phosphorus; fertilization; straw retention
【中文摘要】综述了土壤有机磷种类、来源、含量、分布及影响因素。重点介绍了不同耕作方式、秸秆还田、施用无机磷肥及有机肥对土壤有机磷变化的影响。开垦、轮作有利于土壤有机磷下降;秸秆还田、施用有机肥提高土壤有机磷含量,但由于有机物性质不同,有机磷组分转化不同。施用无机磷肥后,有部分无机态磷转化为有机态。外源有机酸、磷酸酶有利于有效性低的有机磷组分向有效性高的组分转化。
【英文摘要】Summary of the soil organic phosphorus sources, complements, content, distribution and influencing factors. Focuses on the different farming measures, straw retention, application of phosphorus fertilizer and organic manure on soil organic phosphorus change. Cultivation and crop rotation was make for soil organic phosphorus decreased; straw retention and organic fertilizer applications could improve soil organic phosphorus contents, but because of the nature of different organic compounds, organic phosphorus transformation were different. After using phosphate fertilizer, part of inorganic phosphorus transform into organic state. Exogenous organic acids and phosphates are conducive to the low effectiveness organic phosphorus component to the high effectiveness conversion.
【语种】中文
【第一作者】文方芳
【通讯作者】李菊梅
【期刊名称、卷期、页码】中国土壤肥料,2009,(3):10-14
【论文发表时间】2008-03-12 00:00:00
【引文索引类型】其他
【引文索引号】1673-6257(2009)03-0010-07
【学科分类】土壤学

【题目】载Harpin_(Xooc)蛋白纳米粒的制备及生物学效应测定
【中文关键词】HarpinXooc蛋白 纳米粒 理化性质 生物学效应
【英文关键词】HarpinXooc nanoparticles physicochemical properties bioactivities
【中文摘要】为了评价载HarpinXooc蛋白纳米粒的性状及其在农业领域的应用效果,利用静电聚合原理,以壳聚糖为载体,多聚磷酸钠为交联剂制备载HarpinXooc蛋白纳米粒,测定其粒径、zeta电位、包封率、载药量和释放情况,考察振荡时间对纳米粒的影响。结果显示:载HarpinXooc蛋白纳米粒形态均一,粒径、zeta电位、包封率和载药量分别为(270.0±3.0)nm、(16.5±0.9)mV、62.7%±1.8%和12.6%±2.4%,具有缓释效应,可以诱导烟草产生过敏性反应和更好地促进植物生长。表明:此方法制备条件缓和,工艺简单,包封率较高,制得的载HarpinXooc蛋白纳米粒生物学效应好。
【英文摘要】The HarpinXooc loaded nanoparticles were prepared for assaying their bioactivities in agriculture.In this study,the HarpinXooc loaded nanoparticles were prepared by ionic gelation of chitosan with tripolyphosphate,and the effect of shaking time on nanoparticles ′ physicochemical properties was studied.The size and zeta potential of the HarpinXooc nanoparticles were(270.0±3.0)nm and(16.5±0.9)mV.The encapsulation efficiency and loading capacity of nanoparticles were 62.7%±1.8% and 12.6%±2.4%.Moreover,the nanoparticles induced hypersensitive response and promoted the growth of tobacco roots.In general,the HarpinXooc loaded nanoparticles exhibited some attractive features which included subsequent release,mild preparing conditions,simple method,high encapsulation efficiency and promoting bioactivities.
【语种】中文
【第一作者】湛江

【通讯作者】高学文
【期刊名称、卷期、页码】南京农业大学学报　2010,33 (3): 57- 61
【论文发表时间】2010-03-02 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】农学其他学科

【题目】利用高代回交群体定位野生醋栗番茄发芽期耐盐QTL
【中文关键词】番茄; 耐盐; 种子萌发; AB-QTL
【英文关键词】tomato; salt tolerance; seed germination; AB-QTL
【中文摘要】以野生醋栗番茄(Solanum pim pinellifolium) LA722和栽培番茄(Solanum lycopersicum) 9706为材料, 结合发芽期大规模盐胁迫筛选方法和AB2QTL 技术进行耐盐QTL 定位和转育研究, 建立了包括280个BC3S1单株的高代回交群体, 利用26个CAPS、66个SSR和39个SRAP多态性标记构建了分子遗传图谱并进行了耐盐性QTL定位。利用发芽20、24、28 d的发芽指数分别检测耐盐相关的QTL, 确定发芽24 d时的指数为检测QTL的最优指标,共检测出11个与耐盐相关的QTL, 8个来自于野生醋栗番茄LA722。研究获得了58个极耐盐株系, 对部分耐盐株系进行QTL qST2821 和qST2922 的基因型分析, 其中23021和23023株系含QTL qST2821, 22824株系含主效QTL qST2922, 23126, 21027, 22621, 22626, 22627和20427株系同时含有2个主效QTL, 这些株系的农艺性状接近栽培番茄9706, 可作为耐盐育种种质。
【英文摘要】
【语种】中文
【第一作者】潘颖
【通讯作者】杜永臣,胡鸿
【期刊名称、卷期、页码】园艺学报,2010,37(1):39-46
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【引文索引类型】其他
【引文索引号】
【学科分类】园艺学

【题目】宁夏灌区不同氮磷组合对水稻产量及氮肥利用率的影响
【中文关键词】水稻;产量构成;氮磷组合;总氮吸收;氮肥利用率
【英文关键词】Rice; Yield components; N and P coup ling; Total N up take; N use efficiency
【中文摘要】依据2008年5 - 10月在宁夏灵武灌区的田间试验资料,探讨最优氮磷组合对水稻产量及氮肥利用率的影响。结果表明: 12个氮磷组合处理的产量为7361~10680kg/hm2 ,比对照增产28% ~85%,差异极显著(F =281013, P = 010001) 。氮磷交互作用显示,低氮水平适量增施磷肥增产,低磷水平适量增施氮肥增产,即处理6(N15 P6) 、4 (N15 P9) 、5 (N15 P3) 、3 (N10 P9)增产明显,其中处理6 (N15 P6)投入氮肥225kg/hm2、磷肥90kg/hm2 ,产量构成因子为524穗/m2 , 93粒/穗,结实率93%,千粒重2315g,各因子增长较均衡,产量最高,为10680kg/hm2 ,氮肥利用率4515% ,比当地常规施肥(氮肥300kg/hm2、磷肥45kg/hm2)增产1714% ,节约氮肥25% ,增施磷肥50% ,氮肥利用率提升2017%,可消减和降低氮素对土壤和水体的污染,该组合值得在当地推广应用。
【英文摘要】Based on field experimental data for irrigation rice in L ingwu, the effects of differentN /P fertilizer app lication on rice yield and N use efficiency were studied. The results showed that the yields of 12 N /P treatments were 71361 t/ha~101680 t/ha, 28%~85% higher than CK. The yield increased if adding app rop riate fertilizerN based on low level of P, as same as adding app rop riate fertilizer P based on low level ofN. So treatments 6 (N15 P6) , 4 (N15 P9) , 5 (N15 P3) , 3 (N10 P9) got the best yield2composition, ofwhich treatment 6 got best yield as 101679 t/ha. The treatment saved N by 25% , increased yield by 1714% and efficiency of N by 2017%. In conclusion, coup ling of N15 P6 was a best solution to app ly and extend in irrigation area of Ningxia.
【语种】中文
【第一作者】李巧珍
【通讯作者】李玉中
【期刊名称、卷期、页码】中国气象学报
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【引文索引类型】其他

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【学科分类】农学其他学科

【题目】Absence of nerve growth factor and comparison of tyrosine kinase receptor A levels in mature spermatozoa from oligoasthenozoospermic, asthenozoospermic and fertile men
【中文关键词】无
【英文关键词】Human spermatozoa; Nerve growth factor; Tyrosine kinase receptor; Expression; Infertility
【中文摘要】无
【英文摘要】Background: Nerve growth factor (NGF) and the Tyrosine kinase receptor (TrkA) are expressed in mammalian ovaries and testes, where they are involved in oocyte maturation and spermatogenesis. We assessed the possibility that NGF and TrkA gene products are present in human spermatozoa, and explored differences in levels of NGF and TrkA in spermatozoa from oligoasthenozoospermic, asthenozoospermic and fertile men.
【语种】英文
【第一作者】Chunjin Li
【通讯作者】Xu Zhou
【期刊名称、卷期、页码】Clinica Chimica Acta.2010,411(19-20):1482-1486
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【引文索引类型】SCI
【引文索引号】000280906800014
【学科分类】畜牧学

【题目】两个不同来源的番茄GGPS基因克隆和序列分析
【中文关键词】番茄;GGPS;上游侧翼序列;基因克隆;序列分析
【英文关键词】Tomato;GGPS;5'-flanking regions;Gene cloning;Sequence analysis
【中文摘要】据本实验室得到的GGPS基因片段与NCBI公布的GGPS基因cDNA(DQ267903)序列设计引物,以两份番茄红素含量差异显著的番茄材料:普通番茄(编号E6203)和源于多毛番茄的渐渗系(编号TA517)为试材,分别克隆其DNA和eDNA序列。序列分析显示:GGPS基因不含有内含子。所推导氨基酸序列比对表明:2个不同来源的GGPS基因存在13个差异位点,其中9个位点的氨基酸性质发生了变化。氨基酸变异导致了2个GGPS基因的二级结构与磷酸化位点的不同,初步推测番茄红素含量的差异可能与氨基酸变异有关;采用双链接头介导的染色体步移技术,克隆了GGPS基因5 侧翼序列,进一步分析结果显示:两份材料GGPS上游区序列差异明显,但所包含的顺式元件的分布相对保守,且存在明显的转录调控序列;利用RT-PCR方法对不同器官的GGPS基因表达进行初步研究,结果表明:GGPS基因主要在果实和花器官中表达。
【英文摘要】
【语种】中文
【第一作者】钟秋月,国艳梅
【通讯作者】杜永臣
【期刊名称、卷期、页码】华北农学报,2009,24(3):15-22
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【引文索引号】
【学科分类】农业基础学科

【题目】抗旱种衣剂对大豆抗旱性及产量性状的影响
【中文关键词】抗旱种衣剂; 大豆; 抗旱性; 增产
【英文关键词】Drought resistant seed coating, Soybean, Drought resistance, Increasing yield
【中文摘要】为评价两种抗旱种衣剂在大豆上的抗旱与增产作用, 开展田间试验, 对两种制剂处理下大豆的种子萌发、生长、产量以及与抗旱性相关的指标进行观测。结果表明, 两种抗旱种衣剂均有抗旱增产的功能。抗旱种衣剂1 号处理下, 与对照相比, 大豆的种子出苗率提高4.8%, 平均株高增加4cm, 单株根瘤数量增加13 个, 产量增加7.3%, 净光合速率增加1.4 μmolCO2/(m2·s)。种衣剂2 号处理下, 大豆的种子出苗率提高5.2%, 平均株高增加5.6cm, 单株根瘤数量增加65 个, 产量增加6.3%, 蒸腾速率、叶片失水速率下降,根体积、根冠比增加。表明种衣剂2 号的抗旱效果更强, 种衣剂1 号的增产效果更明显。

【英文摘要】Field experiments were carried out to evaluate the effects of 2 kinds of drought resistant seed coatings (DRSC) on enhancing drought resistance and yield. Seed germination, growth, yield formation and some parameters relative to drought resistance were investigated and measured in soybean plants treated with and without DRSC. The results showed that both the 2 kinds of DRSC effectively promoted drought resistance and yield in soybean. For soybean plants treated with DRSC 1, seed germination increased by 4.8% , plant height, 4cm, root nodule numbers, 13, yield, 7.3% , and net photosynthetic rate was significantly higher than cK. While for those treated with DRSC 2, seed germination increased by 5.2%, plant height, 5.6cm, root nodule numbers, 65, yield, 6.3%, transpiration rate and water loss rate of leavesdecreased, root volume and root/shoot ratio all increased. The study demonstrated that DRSC 2 is more effective in improving drought resistance, while DRSC 1, in promoting photosynthesis and increasing yield.
【语种】中文
【第一作者】李玉中
【通讯作者】李玉中
【期刊名称、卷期、页码】农业工程科学、23(2)、437-440
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【引文索引号】
【学科分类】农学其他学科

【题目】Expression of HpaGXooc protein in Bacillus subtilis and its biological functions
【中文关键词】无
【英文关键词】HpaGXooc, Bacillus subtilis, biological function
【中文摘要】无
【英文摘要】HpaGXooc, from rice pathogenic bacterium Xanthomonas oryzae pv. oryzicola, is a member of the harpin group of proteins, eliciting hypersensitive cell death in non-host plants, inducing disease and insect resistance in plants, and enhancing plant growth. To express and secret the HpaGXooc protein in Bacillus subtilis, we constructed a recombinant expression vector pM43HF with stronger promoter P43 and signal peptide element nprB. The SDS-PAGE and Western blot analysis demonstrated the expression of the protein HpaGXooc in B. subtilis. The ELISA analysis determined the optimum condition for HpaGXooc expression in B. subtilis WBHF. The biological function analysis indicated that the protein HpaGXooc from B. subtilis WBHF elicits hypersensitive response (HR) and enhances the growth of tobacco. The results of RT-PCR analysis revealed that HpaGXooc induces expression of the pathogenesis-related genes PR-1a and PR-1b in plant defense response.
【语种】英文
【第一作者】伍辉军
【通讯作者】高学文
【期刊名称、卷期、页码】J. Microbiol. Biotechnol. 2009 19(2):194-203
【论文发表时间】2008-09-19 00:00:00
【引文索引类型】SCI
【引文索引号】000263801900013
【学科分类】微生物学

【题目】番茄黄化卷叶病毒(TYLCV)的研究进展
【中文关键词】番茄;番茄黄化卷叶病毒病;抗病育种
【英文关键词】tomato;tomato yellow leaf curl viruses;resistant breeding
【中文摘要】综述了国内外番茄黄化卷叶病毒病的研究现状,包括TYLCV的发病症状与鉴定、病毒的发生与流行及病原物的生物学特征、抗病遗传资源、抗病基因分子标记和抗病育种等方面的研究进展。
【英文摘要】
【语种】中文
【第一作者】国艳梅
【通讯作者】杜永臣
【期刊名称、卷期、页码】中国农业科技导报,2009,11(5):30-35
【论文发表时间】2009-10-15 00:00:00

【引文索引类型】其他
【引文索引号】
【学科分类】农业基础学科

【题目】番茄雌核发育诱导及胚珠再生植株再生研究初报
【中文关键词】番茄;雌核发育;子房;胚珠;大孢子;单倍体
【英文关键词】tomato;gynogenesis;ovary;ovule;megaspore;haploid
【中文摘要】番茄单倍体培养技术的建立对于番茄育种、分子标记、遗传图谱构建、基因定位、基因克隆等均有极其重要的意义。目前诱导番茄雄核发育——花药和小孢子培养是获得单倍体的主流技术,但未获得理想的结果。作者探索另一条获得番茄单倍体的途径——诱导雌核发育,目前已从离体胚珠获得大量愈伤组织,并获得一再生植株,其来源有待鉴定。
【英文摘要】
【语种】中文
【第一作者】王孝宣
【通讯作者】王孝宣
【期刊名称、卷期、页码】园艺学报,2008,35(8):1174
【论文发表时间】2009-08-25 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】园艺学

【题目】干旱状况小区域灌溉冬小麦农田生态系统水热传输
【中文关键词】该文采用涡度相关技术测定小区域灌溉冬小麦农田实际蒸散量和农田能量平衡各分量,分析表征农田地表获取能量再分配经典参数Priestly-Taylor 系数(α=LE/LEeq)的变化特征。结果表明,在华北地区冬小麦返青至成熟期内,日变化过程中白天时间段内, Priestley-Taylor 系数呈“U”型变化趋势,7∶00~18∶00 时刻内,α平均值为(1.324±0.334),正午前后保持在1.05~1.17 之间。在冬小麦生育期季节变化过程中,Priestley-Taylor 系数(α)平均值为(1.473±0.454),远高于在湿润下垫面时(α=1.26)的数值,在抽穗开花期内土壤水分充足时α最大值为2.317,拔节时期土壤水分胁迫时α值为0.410。干旱少雨状况下,进行小面积充分灌溉时,由于存在农田热平流现象将导致过多的蒸发蒸腾水分耗散,降低农田灌溉水的利用效率。
【英文关键词】crops, small area irrigation, ecological system, winter wheat field, eddy correlation method, Priestley-Taylor parameter, water and heat transport
【中文摘要】该文采用涡度相关技术测定小区域灌溉冬小麦农田实际蒸散量和农田能量平衡各分量,分析表征农田地表获取能量再分配经典参数Priestly-Taylor 系数(α=LE/LEeq)的变化特征。结果表明,在华北地区冬小麦返青至成熟期内,日变化过程中白天时间段内, Priestley-Taylor 系数呈“U”型变化趋势,7∶00~18∶00 时刻内,α平均值为(1.324±0.334),正午前后保持在1.05~1.17 之间。在冬小麦生育期季节变化过程中,Priestley-Taylor 系数(α)平均值为(1.473±0.454),远高于在湿润下垫面时(α=1.26)的数值,在抽穗开花期内土壤水分充足时α最大值为2.317,拔节时期土壤水分胁迫时α值为0.410。干旱少雨状况下,进行小面积充分灌溉时,由于存在农田热平流现象将导致过多的蒸发蒸腾水分耗散,降低农田灌溉水的利用效率。
【英文摘要】Actual evapotranspiration and components of field energy balance were measured by eddy correlation system, and the variations of Priestley-Taylor parameter (α), characterizing the energy partition over winter wheat field surface were analyzed. At the diurnal course, daily average of parameter α was 1.324±0.334, at noon, the value was 1.05-1.17. And the graph of parameter α with time had a concave-up shape from 7∶00 to 18∶00 after regreening stage in winter wheat field in the North China Plain. The seasonal average of parameter α was 1.473±0.454, above the value of 1.26 under wetness surface. The maximum of parameter α was 2.317 under the condition of enough soil water content during winter wheat tassel and anthesis stage, and the minimum of parameter α was 0.410 with soil water stress during stemelongation in winter wheat field. Water use efficiency of small area irrigation in wheat winter field is decreased because of heat advection under drought condition.
【语种】中文
【第一作者】郭家选
【通讯作者】李玉中
【期刊名称、卷期、页码】农业工程学报、
【论文发表时间】2008-12-01 00:00:00

【引文索引类型】EI
【引文索引号】511.072
【学科分类】农学其他学科

【题目】番茄S-腺苷蛋氨酸脱羧酶基因SlSAMDC1的克隆与序列分析
【中文关键词】番茄;多胺;s-腺苷蛋氨酸脱羧酶;基因克隆
【英文关键词】tomato; Solanum lycopersicum; polyamine; S-adenosylmethionine decarboxylase; gene cloning
【中文摘要】以蔓陀罗s一腺苷蛋氨酸脱羧酶全长cDNA序列为信息探针,筛选NCBI番茄EST数据库,依据同源EST信息,经人工拼接、RT—PCR及RACE技术验证,获得了1个新的SAMDC基因家族成员,命名为SISAMDC1(GenBank登录号:EF550528),并利用染色体步移技术克隆了879 bp的上游调控区域。SISAMDC1 cDNA序列全长1847 bp,5'-UTR和3'-UTR分别长523和241bp;存在3个ORF(微型uORF、小型uORF和主ORF),主ORF编码360个氨基酸的SAMDC酶原;SISAMDC1基因组序列全长3 648 bp,有3个内含子,均位于5'-UTR,所有内含子的剪切位点均符合真核生物“ GT—AG ”规则。SISAMDC1基因与其它植物来源SAMDC基因同源性较高,与人、大肠杆菌以及酵母的同源性较低。表达谱分析发现,SISAMDC1基因在番茄根、茎、叶、花蕾、果实等器官中均表达,果实中的表达量相对较高。生物信息学分析表明,SISMDC1基因的上游调控序列存在多个顺式作用元件,如W—box、 rATA—box、CAAT—box等。
【英文摘要】
【语种】中文
【第一作者】刘志勇
【通讯作者】杜永臣
【期刊名称、卷期、页码】园艺学报,2008,35(8):1137-1146
【论文发表时间】2008-08-25 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】园艺学

【题目】高温胁迫下番茄叶片差异表达基因的cDNA-AFLP分析
【中文关键词】番茄;高温胁迫;cDNA—AFLP;差异表达基因
【英文关键词】tomato;Solanum lycopersicum ;heat stress;cDNA-AFLP;differentially expressed genes
【中文摘要】为鉴定番茄高温胁迫响应基因,应用cDNA—AFLP技术,以番茄耐热品系Saladette幼苗为研究对象,对高温胁迫早期叶片基因表达进行了mRNA指纹分析。通过768对引物组合的筛选,共分离得到187个差异表达的转录衍生片段(TDF),其中增强表达或高温胁迫下特异性表达TDF153条,抑制表达34条。对其中47个TDF进行了克隆、测序和序列分析。结果表明:34个TDF与NCBI或TIGR已有序列同源(E—Value<0.0001),功能涉及信号传导、转录调控以及逆境诱导蛋白等,另有l3个TDF无同源序列或同源性低,预测是一些未知功能基因。
【英文摘要】
【语种】中文
【第一作者】刘志勇
【通讯作者】杜永臣
【期刊名称、卷期、页码】园艺学报,2008,35(7):1011—1016
【论文发表时间】2008-07-25 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】园艺学

【题目】番茄CONSTANS类似基因的克隆与表达分析
【中文关键词】番茄; 开花时间; CONSTANS 类似基因
【英文关键词】tomato; Solanum lycopersicum; flowering time; CONSTANS-like gene
【中文摘要】以一个受生物钟调节的番茄转录衍生片段(transcrip tion2drived fragment, TDF) 为信息探针,通过在NCB I EST数据库中进行电子延伸和RT2PCR验证, 获得了番茄CO类似基因的cDNA全长序列, 命名为SlCO1 (GenBank登录号, EU636698) 。SlCO1蛋白含有386个氨基酸, 氨基端存在两个B2box型锌指结构, 羧基端含有一个TTC结构域。SlCO1蛋白与CO类蛋白的氨基酸一致性为34%-46% , 但在B2box锌指和CCT结构域处高度保守。基因组序列包含1个535 bp的内含子, 位

于B2box锌指和CCT结构域之间。表达谱分析表明,SlCO1在叶片中优势表达, 在根和茎中表达较弱。SlCO1的克隆为了解CO类似基因在番茄开花中的作用奠定了基础。
【英文摘要】
【语种】中文
【第一作者】叶雪凌
【通讯作者】杜永臣
【期刊名称、卷期、页码】园艺学报,2008,35(11):1607-1612
【论文发表时间】2008-11-25 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】园艺学

【题目】茄子单性结实基因的遗传分析及AFLP分子标记
【中文关键词】茄子;单性结实基因;遗传规律;AFLP标记
【英文关键词】eggplant;parthenoearpie gene;genetic regulation;AFLP molecular marker
【中文摘要】以茄子单性结实自交系D 1O和非单性结实自交系03—2为试验材料,研究了单性结实基因的遗传特性及其AFLP标记。对杂交后代F 、F 、BC 单性结实性表现型分离比例的分析表明,茄子D一10的单性结实性由单显性核基因控制,其基因符号用Pat表示。采用AFLP分析技术和改良BAS法,通过512对E/M引物组合的筛选,获得1个与茄子单性结实基因紧密连锁的AFLP标记E75/M53-70,该标记与单性结实基因间的遗传图距为15.38 cM,可用于茄子单性结实性的鉴定和单性结实分子标记辅助育种,加速茄子单性结实基因的转育和利用。
【英文摘要】
【语种】中文
【第一作者】刘富中
【通讯作者】刘富中
【期刊名称、卷期、页码】园艺学报,2008,35(9):1305-1309
【论文发表时间】2008-09-25 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】园艺学

【题目】我国部分番茄主栽品种抗疮痂病评价和标记辅助选择
【中文关键词】番茄;疮痂病;抗性鉴定;分子标记辅助选择
【英文关键词】Solanum lycopersicum ;Bacterial spot;Resistance evaluation;Marker-assisted selection
【中文摘要】为了明确我国主栽品种对番茄疮痂病抗性状况,本研究以我国番茄疮痂病主要小种T1和T3的菌株接种我国目前种植的39个番茄品种,并通过分子标记进行分析和辅助育种。结果表明,虽然有些品种具有了抗性材料的特征条带,但所有材料对T1和T3小种都不能产生过敏反应。采用与T1小种抗性位点Rx3紧密连锁的分子标记,成功地将抗病品种OH9834的抗性位点Rx3转移到9个不同的感病品种中,获得了抗病植株。从本研究可以看出,我国番茄品种缺乏对番茄疮痂病的抗性,同时也表明分子标记辅助选择可以用于番茄疮痂病的抗性育种中。
【英文摘要】
【语种】中文
【第一作者】张晓敏
【通讯作者】杨文才
【期刊名称、卷期、页码】华北农学报,2009,24(4):183-187
【论文发表时间】2009-08-28 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】农业基础学科

【题目】Nitrous oxide emissions from irrigated and fertilized spring maize in semi-arid northern China

【中文关键词】Automated measurement; Nitrous oxide emissions; Nitrous oxide uptake; Emission factor; Fertilizer rate
【英文关键词】Automated measurement; Nitrous oxide emissions; Nitrous oxide uptake; Emission factor; Fertilizer rate
【中文摘要】As maize requires a high input of fertilizer nitrogen, it is likely to be an important source of nitrous oxide (N2O). Detailed information on N2O emissions over long time periods, and management practices that aim to reduce N2O emissions from spring maize fields in China is lacking. Consequently we measured the emissions of N2O from a spring maize field continuously from 2007 to 2009 at Yuci, Shanxi Province, China using newly developed automated chambers and explored strategies to reduce N2O emissions. The results showed that the Optimal fertilizer treatment (120 kg N ha − 1 y − 1) produced the same yield of grain as the Traditional fertilizer treatment (330 kg N ha − 1 y − 1), and significantly reduced N2O emissions by 48%. Topdressing with urea was the main source of N2O, which on average accounted for 58% of thetotal N2O emissions each year. Uptake of N2O occurred during the late stage of maize growth when soil mineral N content was less than 46.4 mg N kg − 1 soil. The N2O emission factors were lower than the IPCC default value. Nitrous oxide emissions could also be reduced if farmers did not apply fertilizer N during periods of heavy rainfall and did not irrigate immediately after fertilization.
【英文摘要】As maize requires a high input of fertilizer nitrogen, it is likely to be an important source of nitrous oxide (N2O). Detailed information on N2O emissions over long time periods, and management practices that aim to reduce N2O emissions from spring maize fields in China is lacking. Consequently we measured the emissions of N2O from a spring maize field continuously from 2007 to 2009 at Yuci, Shanxi Province, China using newly developed automated chambers and explored strategies to reduce N2O emissions. The results showed that the Optimal fertilizer treatment (120 kg N ha − 1 y − 1) produced the same yield of grain as the Traditional fertilizer treatment (330 kg N ha − 1 y − 1), and significantly reduced N2O emissions by 48%. Topdressing with urea was the main source of N2O, which on average accounted for 58% of thetotal N2O emissions each year. Uptake of N2O occurred during the late stage of maize growth when soil mineral N content was less than 46.4 mg N kg − 1 soil. The N2O emission factors were lower than the IPCC default value. Nitrous oxide emissions could also be reduced if farmers did not apply fertilizer N during periods of heavy rainfall and did not irrigate immediately after fertilization.
【语种】英文
【第一作者】刘运通
【通讯作者】李玉娥
【期刊名称、卷期、页码】Agriculture, Ecosystems and Environment, 2011,141:287 – 295
【论文发表时间】2011-04-20 00:00:00
【引文索引类型】SCI
【引文索引号】doi:10.1016/j.agee.2011.03.002
【学科分类】农业基础学科

【题目】利用抑制差减杂交技术分离辣椒细胞质雄性不育育性恢复相关EST
【中文关键词】辣椒; 细胞质雄性不育; 恢复基因; 抑制消减杂交; 差异表达
【英文关键词】pepper; cytoplasmic male sterility; restorer gene; suppression subtractive hybridization; differential expression
【中文摘要】以辣椒(Capsicum annuum L.) 细胞质雄性不育系23A、121A, 和其相应的近等基因恢复系23C、121C为试验材料, 利用抑制消减杂交(SSH) 技术成功构建了CMS恢复基因诱导表达的消减cDNA文库。结合高密度点阵膜杂交差异筛选, 获得了282个阳性克隆。通过测序, 除去重复序列共得到175个Unique ESTs。在GenBank上进行BLAST分析, 55个EST片段未找到对应的同源序列, 可能代表了新基因;120个EST片段找到了对应的同源序列, 包括103个已知功能基因和17个未知功能基因。按照M IPS功能分类法, 将其分为14个功能组, 涉及代谢、胁迫应答、蛋白活性、转录因子、信号转导等多方面的功能。
【英文摘要】
【语种】中文
【第一作者】郭爽
【通讯作者】沈火林
【期刊名称、卷期、页码】园艺学报,2009,36(10):1443-1449
【论文发表时间】2009-10-25 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】园艺学

【题目】How water saving irrigation contributes to climate change resilience—a case study of practices in China
【中文关键词】Water saving irrigation; Climate change; Mitigation and adaptation; Greenhouse gases
【英文关键词】Water saving irrigation; Climate change; Mitigation and adaptation; Greenhouse gases
【中文摘要】A warming climate system is now an indisputable fact. An effective response to climate change should include both mitigation and adaptation. Water is essential to human survival and social development. But the shortage of water resources is a worldwide problem, which in China has been exacerbated by climate change. In order to find out how to cope with climate change successfully, this study, on the basis of China statistical data 2007 – 2009, quantitatively analyzes the role of water saving irrigation (WSI) in addressing climate change. The study shows that water saving irrigation (WSI) can serve as a useful enabler in dealing with climate change. From the perspective of mitigation, the 3-year total CO2 emission reduction stands at 34.67 (21.83~47.48) Mt, about per year 11.56(7.28~ 15.83)Mt. From the perspective of adaptation, the total water saved from 2007 to 2009 stands at 96.85 (61.81~129.66) Gm3. If per unit farmland irrigation takes a 3-year average of agricultural water consumption, the water saved in 2009 is enough to irrigate additional 5.70 (3.80~7.80)Mhm2, or to increase the grain yield by 22.04 (14.68~30.15) Gt. In addition, WSI can reduce soil salinization and conserve soil to sustain land productivity and environmental benefits. So WSI can be a positive measure in coping with climate change when it is rightly deployed. However, the costs and local context of such practices call for further studies.
【英文摘要】A warming climate system is now an indisputable fact. An effective response to climate change should include both mitigation and adaptation. Water is essential to human survival and social development. But the shortage of water resources is a worldwide problem, which in China has been exacerbated by climate change. In order to find out how to cope with climate change successfully, this study, on the basis of China statistical data 2007 – 2009, quantitatively analyzes the role of water saving irrigation (WSI) in addressing climate change. The study shows that water saving irrigation (WSI) can serve as a useful enabler in dealing with climate change. From the perspective of mitigation, the 3-year total CO2 emission reduction stands at 34.67 (21.83~47.48) Mt, about per year 11.56(7.28~ 15.83)Mt. From the perspective of adaptation, the total water saved from 2007 to 2009 stands at 96.85 (61.81~129.66) Gm3. If per unit farmland irrigation takes a 3-year average of agricultural water consumption, the water saved in 2009 is enough to irrigate additional 5.70 (3.80~7.80)Mhm2, or to increase the grain yield by 22.04 (14.68~30.15) Gt. In addition, WSI can reduce soil salinization and conserve soil to sustain land productivity and environmental benefits. So WSI can be a positive measure in coping with climate change when it is rightly deployed. However, the costs and local context of such practices call for further studies.
【语种】英文
【第一作者】邹晓霞
【通讯作者】李玉娥
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【题目】辣椒遗传多样性的SSR分析
【中文关键词】辣椒;遗传多样性;SSR
【英文关键词】Capsicum;Genetic diversity;SSR markers
【中文摘要】采用109对SSR特异引物对89份辣椒材料进行分析,其中87对引物扩增出条带,52对引物具有多样性,扩增带分子量在150 2 000 bp之间,231条谱带中175条谱带具有多态性,多态率占75.760/0,平均每个引物可扩增出2.66条带,说明辣椒材料的遗传多样性相对较小。89份材料经过NTSYS2.1.0软件分析后,计算出材料间遗传距离,并做出SSR分子标记聚类图。结果显示,89份材料在遗传相似系数0.60处分为两类,可以将栽培种和野生种区分开来,在遗传相似系数0.80处可以分为四类,总体上看,将果实类型相似的种质基本都聚在一起,说明用SSR标记进行辣椒遗传多样性的分析是可行的。
【英文摘要】
【语种】中文
【第一作者】周晶
【通讯作者】沈火林
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【题目】辣椒育性恢复相关基因消减文库的质量分析
【中文关键词】辣椒;恢复基因;抑制消减杂交;消减文库
【英文关键词】Pepper;Restorer genes;Suppression subtractive hybridization(SSH);Subtracted library
【中文摘要】本试验对构建的辣椒育性恢复相关基因的消减cDNA文库进行质量分析。通过对文库构建过程中的各个环节,包括总RNA的提取,mRNA的分离纯化,RasI酶切,接头连接,消减效率检测以及菌落PCR等,进行分析和评估,证明利用抑制消减杂交技术(SSH)所构建的消减文库是准确可靠的,富集了大量与辣椒育性恢复相关的基因,为进一步精确筛选、克隆、分析辣椒育性恢复相关基因奠定了基础。
【英文摘要】
【语种】中文
【第一作者】郭爽
【通讯作者】沈火林
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【题目】Effects of irrigation, fertilization and crop straw management on nitrous oxide and nitric oxide emissions from a wheat-maize rotation field in northern China
【中文关键词】Emission factor; Grain yield; Wet deposition;Dissolved organic carbon;Inorganic N
【英文关键词】Emission factor; Grain yield; Wet deposition;Dissolved organic carbon;Inorganic N
【中文摘要】One-year winter wheat – summer maize rotation is the most popular double cropping system in northcentral China, and this highly productive system is an important source of nitrous oxide (N2O) and nitric oxide (NO) emissions due to the high fertilizer N and irrigation water inputs. To sustain the high crop production and mitigate the detrimental impacts ofN2O andNOemissions, improved management practices are extensively applied. The aim of this study is therefore to evaluate the effects of an improved management practice of irrigation, fertilization and crop straw on grain yield and N2O and NO emissions for a wheat – maize rotation field in northern China. Using automated and manual chamber measuring systems,we monitored N2O and NO fluxes for the conventional (CT, 2007 – 2008), improved (IT, 2007 – 2008),straw-amended (WS, 2008 – 2009), straw-not-amended (NS, 2008 – 2009), and no N-fertilizer treatments (WS – NN, 2008 – 2009), respectively, for one rotation-year. The grain yields were determined for CT and IT for three rotation-years (2005 – 2008) and for WS, NS and WS – NN for one rotation-year (2008 – 2009). The improved management of irrigation and fertilization reduced the annualNfertilization rate and irrigation amount by 17% and 30%, respectively; increased the maize yield by 7 – 14%; and significantly decreased the N2O and NO emissions by 7% ($p < 0.05$) and 29% ($p < 0.01$), respectively. The incorporation of wheat straw increased the cumulative N2O and NO emissions in the following maize season by 58% ($p < 0.01$) and 13%, respectively, whereas the effects of maize straw application were not remarkable. The N2O andNO emission factors of applied N were 2.32±2.32% and 0.42±1.69% for wheat straw and 0.67±0.23% and 0.54±0.15% for chemical N-fertilizers, respectively. Compared to conventional management practices using high application rates of irrigation water and chemical N-fertilizer as well as the field burning of crop straw, the improved management strategy presented here has obvious environmentally positive effects on grain yield and mitigation of N2O and NO emissions.
【英文摘要】One-year winter wheat – summer maize rotation is the most popular double cropping system in northcentral China, and this highly productive system is an important source of nitrous oxide (N2O) and nitric oxide (NO) emissions due to the high fertilizer N and irrigation water inputs. To sustain the high crop production and mitigate the detrimental impacts ofN2O andNOemissions, improved management practices are extensively applied. The aim of this study is therefore to evaluate the effects of an improved management practice of irrigation, fertilization and crop straw on grain yield and N2O and NO emissions for a wheat – maize rotation field in northern China. Using automated and manual chamber measuring systems,we monitored N2O and NO fluxes for the conventional (CT, 2007 – 2008), improved (IT, 2007 – 2008),straw-amended (WS, 2008 – 2009), straw-not-amended (NS, 2008 – 2009), and no N-fertilizer treatments (WS – NN, 2008 – 2009), respectively, for one rotation-year. The grain yields were

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【语种】英文
【第一作者】刘春岩
【通讯作者】郑循华
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【题目】辣椒花器官发育MADS-box基因的克隆与表达分析
【中文关键词】辣椒;花器官发育;MADS-box 基因;PPI 基因;RACE;RT-PCR
【英文关键词】pepper;floral organ development;MADS-box gene;PPI gene;RACE;RT-PCR
【中文摘要】采用RACE 技术从辣椒(Capsicum annuum L.)花药中获得了一个控制辣椒花器官发育的MADS-box 基因,命名为PPI(GenBank 登录号:GU812276)。该基因全长952 bp,编码215 个氨基酸,具有典型的MADS 结构域和K 结构域,与番茄花器官发育MADS-box 基因TPI 高度同源,同源性达88%。系统进化树分析表明,PPI 基因属于花器官发育B 类基因。RT-PCR 表达分析表明,该基因在辣椒花瓣中的表达高于在花药、萼片以及子房等花器官中的表达,在营养器官叶片中没有表达。
【英文摘要】
【语种】中文
【第一作者】郭爽
【通讯作者】沈火林
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【学科分类】园艺学

【题目】Nitrous oxide and nitric oxide emissions from an irrigated cotton field in Northern China
【中文关键词】Emission factor; Soil nitrogen;Fertilization;Irrigation; Cotton; Sampling frequency
【英文关键词】Emission factor; Soil nitrogen;Fertilization;Irrigation; Cotton; Sampling frequency
【中文摘要】Cotton is one of the major crops worldwide and delivers fibers to textile industries across the globe. Its cultivation requires high nitrogen (N) input and additionally irrigation, and the combination of both has the potential to trigger high emissions of nitrous oxide (N2O) and nitric oxide (NO), thereby contributing to rising levels of greenhouse gases in the atmosphere. Using an automated static chamber measuring system, we monitored in high temporal resolution N2O and NO fluxes in an irrigated cotton field in Northern China, between January 1st and December 31st 2008. Mean daily fluxes varied between 5.8 to 373.0 μg N2O-N $m^{-2}h^{-1}$ and −3.7 to 135.7 μg NO-N $m^{-2}h^{-1}$, corresponding to an annual emission of 2.6 and 0.8 kg N $ha^{-1}yr^{-1}$ for N2O and NO, respectively. The highest emissions of both gases were observed directly after the N fertilization and lasted approximately 1 month. During this time period, the emission was 0.85 and 0.22 kg N ha^{-1} for N2O and NO, respectively, and was responsible for 32.3% and 29.0% of the annual total N2O and NO loss. Soil temperature, moisture and mineral N content significantly affected the emissions of both gases ($p<0.01$). Direct emission factors were estimated to be 0.95% (N2O) and 0.24% (NO). We also analyzed the effects of sampling time and frequency on the estimations of annual cumulative N2O and NO emissions and found that low frequency measurements produced annual estimates which differed widely from those that were based on continuous measurements.

【英文摘要】Cotton is one of the major crops worldwide and delivers fibers to textile industries across the globe. Its cultivation requires high nitrogen (N) input and additionally irrigation, and the combination of both has the potential to trigger high emissions of nitrous oxide (N2O) and nitric oxide (NO), thereby contributing to rising levels of greenhouse gases in the atmosphere. Using an automated static chamber measuring system, we monitored in high temporal resolution N2O and NO fluxes in an irrigated cotton field in Northern China, between January 1st and December 31st 2008. Mean daily fluxes varied between 5.8 to 373.0 μg N2O-N m − 2h − 1 and − 3.7 to 135.7 μg NO-N m − 2h − 1, corresponding to an annual emission of 2.6 and 0.8 kg N ha − 1yr − 1 for N2O and NO, respectively. The highest emissions of both gases were observed directly after the N fertilization and lasted approximately 1 month. During this time period, the emission was 0.85 and 0.22 kg N ha − 1 for N2O and NO, respectively, and was responsible for 32.3% and 29.0% of the annual total N2O and NO loss. Soil temperature, moisture and mineral N content significantly affected the emissions of both gases ($p<0.01$). Direct emission factors were estimated to be 0.95% (N2O) and 0.24% (NO). We also analyzed the effects of sampling time and frequency on the estimations of annual cumulative N2O and NO emissions and found that low frequency measurements produced annual estimates which differed widely from those that were based on continuous measurements.
【语种】英文
【第一作者】刘春岩
【通讯作者】郑循华
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【题目】Responses of N2O and CH4 fluxes to fertilizer nitrogen addition rates in an irrigated wheat-maize cropping system in northern China
【中文关键词】N2O and CH4 fluxes;irrigated wheat-maize cropping system
【英文关键词】N2O and CH4 fluxes;irrigated wheat-maize cropping system
【中文摘要】Model and field studies generally posit that when the application rates of nitrogen fertilizer exceed crop needs, nitrous oxide (N2O) emissions will increase nonlinearly, though linear responses are also extensively reported by field studies. We conducted year-round measurements of crop yield, N2O and methane (CH4) fluxes for treatments of six fertilizer nitrogen levels (0, 135, 270, 430, 650 and 850 kgNha − 1 yr − 1 in the form of urea) in a typical irrigated wheat-maize rotation field in northern China. Linear models characterized the responses of cumulative N2O emissions to fertilizer rates well; therefore, the calculated N2O emission factors of 0.17±0.02 %, 0.73±0.05% and 0.49±0.02% for the wheat season, maize season and annual scale, respectively, were appropriate for the different fertilizer rates. The cumulative CH4 uptake by the soil tended to be enhanced at higher fertilizer rates (_350 kgNha − 1) in the maize season whereas no effect was observed for the wheat season. When the annual fertilizer rates increased from 270 to 430, from 270 to 650, and from 270 to 850 kgNha − 1 yr − 1, the crop yields increased only 3_15% (0.5_2.1 t ha − 1 yr − 1), but cumulative N2O emissions increased 35_115% (0.9_3.0 kgNha − 1 yr − 1). We recommend 270 kgNha − 1 yr − 1as the locally optimum fertilizer rate. Considering the nitrogen inputs by fertilization (270 kgNha − 1 yr − 1), irrigation (4.3±0.2 kgNha − 1 yr − 1) and deposition (wet deposition: 30.5±1.5 kgNha − 1 yr − 1), the slightly positive soil nitrogen balance could maintain the current crop yield (_13.8 t ha − 1 yr − 1) and reduce the present high N2O emissions (>3.51 kgNha − 1 yr − 1) of the local farmers ’ practice (fertilizer rate>430 kgNha − 1 yr − 1).
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yr − 1) and reduce the present high N2O emissions (>3.51 kgNha − 1 yr − 1) of the local farmers ’ practice (fertilizer rate>430 kgNha − 1 yr − 1).
【语种】英文
【第一作者】刘春岩
【通讯作者】郑循华
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【题目】Effect of biochar amendment on maize yield and greenhouse gas emissions from a soil organic carbon poor calcareous loamy soil from Central China Plain
【中文关键词】Biochar; CO2 emission ; CH4 emission;N2O emission ;Maize productivity
【英文关键词】Biochar; CO2 emission ; CH4 emission;N2O emission ;Maize productivity
【中文摘要】Aims A field experiment was conducted to investigate the effect of biochar on maize yield and greenhouse gases (GHGs) in a calcareous loamy soil poor in organic carbon from Henan, central great plain, China. Methods Biochar was applied at rates of 0, 20 and 40 tha − 1 with or without N fertilization. With N fertilization, urea was applied at 300 kg N ha − 1, of which 60% was applied as basal fertilizer and 40% as supplementary fertilizer during crop growth. Soil emissions of CO2, CH4 and N2O were monitored using closed chambers at 7 days intervals throughout the whole maize growing season (WMGS). Results Biochar amendments significantly increased maize production but decreased GHGs. Maize yield was increased by 15.8% and 7.3% without N fertilization, and by 8.8% and 12.1% with N fertilization under biochar amendment at 20 tha − 1 and 40 tha − 1, respectively. Total N2O emission was decreased by 10.7% and by 41.8% under biochar amendment at 20 tha − 1 and 40 tha − 1 compared to no biochar amendment with N fertilization. The high rate of biochar (40 tha − 1) increased the total CO2 emission by 12% without N fertilization. Overall, biochar amendments of 20 tha − 1 and 40 tha − 1 decreased the total global warming potential (GWP) of CH4 and N2O by 9.8% and by 41.5% without N fertilization, and by 23.8% and 47.6% with N fertilization, respectively. Biochar amendments also decreased soil bulk density and increased soil total N contents but had no effect on soil mineral N. Conclusions These results suggest that application of biochar to calcareous and infertile dry croplands poor in soil organic carbon will enhance crop productivity and reduce GHGs emissions.
【英文摘要】Aims A field experiment was conducted to investigate the effect of biochar on maize yield and greenhouse gases (GHGs) in a calcareous loamy soil poor in organic carbon from Henan, central great plain, China. Methods Biochar was applied at rates of 0, 20 and 40 tha − 1 with or without N fertilization. With N fertilization, urea was applied at 300 kg N ha − 1, of which 60% was applied as basal fertilizer and 40% as supplementary fertilizer during crop growth. Soil emissions of CO2, CH4 and N2O were monitored using closed chambers at 7 days intervals throughout the whole maize growing season (WMGS). Results Biochar amendments significantly increased maize production but decreased GHGs. Maize yield was increased by 15.8% and 7.3% without N fertilization, and by 8.8% and 12.1% with N fertilization under biochar amendment at 20 tha − 1 and 40 tha − 1, respectively. Total N2O emission was decreased by 10.7% and by 41.8% under biochar amendment at 20 tha − 1 and 40 tha − 1 compared to no biochar amendment with N fertilization. The high rate of biochar (40 tha − 1) increased the total CO2 emission by 12% without N fertilization. Overall, biochar amendments of 20 tha − 1 and 40 tha − 1 decreased the total global warming potential (GWP) of CH4 and N2O by 9.8% and by 41.5% without N fertilization, and by 23.8% and 47.6% with N fertilization, respectively. Biochar amendments also decreased soil bulk density and increased soil total N contents but had no effect on soil mineral N. Conclusions These results suggest that application of biochar to calcareous and infertile dry croplands poor in soil organic carbon will enhance crop productivity and reduce GHGs emissions.
【语种】英文
【第一作者】张阿芳
【通讯作者】潘根兴
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【学科分类】农学其他学科

【题目】Effects of biochar amendment on soil quality, crop yield and greenhouse gas emission in a Chinese rice paddy: a field study of 2 consecutive rice growing cycles

【中文关键词】Biochar; Soilamendment; Global warming potential; C intensity; Rice production; Biochar effect intensity
【英文关键词】Biochar; Soilamendment; Global warming potential; C intensity; Rice production; Biochar effect intensity

【中文摘要】Biochar production and application from crop straw had been proposed as one effective countermeasure to mitigate climate change. We conducted a2-year consecutivefield experiment in 2009 and 2010 in rice paddy to gain insight into the consistency over years of biochar effects on rice production and greenhousegasesemissions. Biochar was amended in 2009 before rice transplanting at rates of 0, 10, 20 and 40 t ha − 1, soilemissions of carbon dioxide (CO2), methane (CH4) and nitrous oxide (N2O) were monitored with closed chamber method at 7 days interval throughout the whole ricegrowing season (WRGS) both in 2009 and 2010. The results showed that biocharamendment increased rice productivity, soil pH, soil organic carbon, total nitrogen but decreased soil bulk density in both cycles of rice growth. Soil respiration observed no significant difference between biocharamendment and the corresponding control both in the first and second cycle, respectively. However, biocharamendment decreased nitrous oxide emission but increased methane emission in both cycles. No significant difference in carbon intensity of rice production (GHGI) and global warming potential (GWP) were observed between the biocharamendment at the rate of 10 t ha − 1 and 40 t ha − 1 and control though the GWP and GHGI was increased by 39% and 26% at the rate of 20 t ha − 1 respectively, in the first cycle. However, in the second cycle, both of overall GWP and GHGI were observed significantly decreased under biocharamendment as compared to control, ranging from 7.1% to 18.7% and from 12.4% to 34.8%, respectively. The biochar effect intensity on global warming potential were observed from − 2.5% to 39.2% in the first cycle, and from − 18.7% to − 7.1% in the second cycle. However, the biochar effect intensity on C intensity of rice production was observed from − 10.2% to 25.8% in the first cycle, and from − 36.9% to − 18.6% in the second cycle. Therefore, biochar effect on reducing the overall C intensity of rice production could become stronger in the subsequent cycles than that in the first cycle though a consistently strong effect on reducing N2O emission in a single cropcycle after biocharamendment. Nevertheless, these effects were not found in proportional to biocharamendment rates and a high riceyield but lowest C intensity was achieved under biocharamendment at 10 t ha − 1 in both cycles of the rice paddy in the present study.

【英文摘要】Biochar production and application from crop straw had been proposed as one effective countermeasure to mitigate climate change. We conducted a2-year consecutivefield experiment in 2009 and 2010 in rice paddy to gain insight into the consistency over years of biochar effects on rice production and greenhousegasesemissions. Biochar was amended in 2009 before rice transplanting at rates of 0, 10, 20 and 40 t ha − 1, soilemissions of carbon dioxide (CO2), methane (CH4) and nitrous oxide (N2O) were monitored with closed chamber method at 7 days interval throughout the whole ricegrowing season (WRGS) both in 2009 and 2010. The results showed that biocharamendment increased rice productivity, soil pH, soil organic carbon, total nitrogen but decreased soil bulk density in both cycles of rice growth. Soil respiration observed no significant difference between biocharamendment and the corresponding control both in the first and second cycle, respectively. However, biocharamendment decreased nitrous oxide emission but increased methane emission in both cycles. No significant difference in carbon intensity of rice production (GHGI) and global warming potential (GWP) were observed between the biocharamendment at the rate of 10 t ha − 1 and 40 t ha − 1 and control though the GWP and GHGI was increased by 39% and 26% at the rate of 20 t ha − 1 respectively, in the first cycle. However, in the second cycle, both of overall GWP and GHGI were observed significantly decreased under biocharamendment as compared to control, ranging from 7.1% to 18.7% and from 12.4% to 34.8%, respectively. The biochar effect intensity on global warming potential were observed from − 2.5% to 39.2% in the first cycle, and from − 18.7% to − 7.1% in the second cycle. However, the biochar effect intensity on C intensity of rice production was observed from − 10.2% to 25.8% in the first cycle, and from − 36.9% to − 18.6% in the second cycle. Therefore, biochar effect on reducing the overall C intensity of rice production could become stronger in the subsequent cycles than that in the first cycle though a consistently strong effect on reducing N2O emission in a single cropcycle after biocharamendment. Nevertheless, these effects were not found in proportional to biocharamendment rates and a high riceyield but lowest C intensity was achieved under biocharamendment at 10 t ha − 1 in both cycles of the rice paddy in the present study.

【语种】英文
【第一作者】张阿芳
【通讯作者】潘根兴
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【学科分类】农学其他学科

【题目】Biochar Amendment Greatly Reduces Rice Cd Uptake in a Contaminated Paddy Soil: A Two-Year Field Experiment
【中文关键词】Biochar; Cd; rice paddy; contaminated soil; metal mobility; soil amendment
【英文关键词】Biochar; Cd; rice paddy; contaminated soil; metal mobility; soil amendment
【中文摘要】Biochar; Cd; rice paddy; contaminated soil; metal mobility; soil amendmentBioResources, 2011, 6(3): 2605-2618
【英文摘要】Biochar; Cd; rice paddy; contaminated soil; metal mobility; soil amendmentBioResources, 2011, 6(3): 2605-2618
【语种】英文
【第一作者】Cui Liqiang
【通讯作者】潘根兴
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【学科分类】土壤学

【题目】Grain yield and water use efficiency of two types of winter wheat cultivars under different water regimes
【中文关键词】Harvest index; Aboveground biomass; Grain yield; Water-use efficiency; Winter wheat; Water regimes
【英文关键词】Harvest index; Aboveground biomass; Grain yield; Water-use efficiency; Winter wheat; Water regimes
【中文摘要】there were no significant differences in the TWUs of the two cultivars. The water-use efficiency at grainyield level (WUEy) of Shijiazhuang 8 increased significantly upon irrigation in the dry year, did not change in the normal year, and showed a clear decline in the humid year, while the WUEy of Xifeng 20 was reduced by irrigation in each of the three growing seasons. The harvest index (HI) was not altered by irrigation but it did vary by growing season. The HI of Shijiazhuang 8 was always higher than that of Xifeng 20. A positive correlation was found between both the WUEy and the water-use efficiency at the aboveground-biomass level (WUEbm) and the HI. This suggests that the changes in WUEy as a result of irrigation are mainly due to changes in the WUEbm and that the differences in WUEy between the two cultivars were due to differences in WUEbm and HI. These results suggest the following. (1) The TWUs in the two cultivars were roughly equal, although their levels of drought tolerance differed. (2) A wheat cultivar with moderate drought tolerance is expected to be more suitable for the semi-arid region of the NCP. The variety with strongly drought tolerance was able to keep its biomass high and to maintain grain yield under serious drought stress. (3) In order to both increase grain yield and WUEy, two irrigations in a dry year, one irrigation in a normal year, and no irrigation in a humid year will give optimal results in the studied region.
【英文摘要】there were no significant differences in the TWUs of the two cultivars. The water-use efficiency at grainyield level (WUEy) of Shijiazhuang 8 increased significantly upon irrigation in the dry year, did not change in the normal year, and showed a clear decline in the humid year, while the WUEy of Xifeng 20 was reduced by irrigation in each of the three growing seasons. The harvest index (HI) was not altered by irrigation but it did vary by growing season. The HI of Shijiazhuang 8 was always higher than that of Xifeng 20. A positive correlation was found between both the WUEy and the water-use efficiency at the aboveground-biomass level (WUEbm) and the HI. This suggests that the changes in WUEy as a result of irrigation are mainly due to changes in the WUEbm and that the differences in WUEy between the two cultivars were due to differences in WUEbm and HI. These results suggest the following. (1) The TWUs in the two cultivars were roughly equal, although their levels of drought tolerance differed. (2) A wheat cultivar with moderate drought tolerance is expected to be more suitable for the semi-arid region of the NCP. The variety with strongly drought tolerance was able to keep its biomass high and to maintain grain yield under serious drought stress. (3) In order to both increase grain yield and WUEy, two irrigations in a dry year, one irrigation in a normal year, and no irrigation in a humid year will give optimal results in the studied region.
【语种】英文
【第一作者】董宝娣
【通讯作者】董宝娣
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【学科分类】农学其他学科

【题目】不同氮、磷肥用量下双季稻田的 CH4 和 N2O 排放
【中文关键词】稻田;CH4;N2O; 氮肥;磷肥
【英文关键词】rice field; CH4; N2O; nitrogen fertilizer; phosphate fertilizer
【中文摘要】以红壤双季稻田为研究对象,采用静态暗箱-气相色谱法对2009 年水稻生长期内不施肥(CK) ,平衡施肥(BF)、减氮磷一(DNP1)、减氮磷二(DNP2) 和增氮磷(INP) 等5 个处理的CH4和N2O排放通量以及环境因素进行观测. 结果表明,早稻生长期间BF、DNP1、DNP2 和INP 的CH4平均排放通量为4. 57、5. 42、4. 70 和4. 65 mg · (m2 · h) - 1 ,较CK 分别增加39% 、49% 、41% 和40% ;晚稻生长期间CH4排放量普遍高于早稻排放,BF、DNP1、DNP2 和INP 较CK 增加11% 、1% 、26% 和- 4% . 与CK 相比,施氮磷肥均提高早、晚稻返青期的CH4排放. 早、晚稻生长期内所有施肥处理间CH4平均排放通量差异均不显著(p> 0. 05) . 双季稻田晒田期无N2O排放峰值,而晒田后的干湿交替阶段出现较高排放.早、晚稻生长期内N2O排放量占氮肥投入量的0. 18% . 环境因素分析表明,气温、土壤Eh 和土壤湿度决定了稻田CH4排放的季节变化,而N2O排放与水、热等相关环境因子无相关性. CH4是早、晚稻田主要的温室气体,对二者整体温室效应的贡献约占90% ,减排措施应针对CH4排放为主. 综合考虑温室效应和水稻产量,当地早稻施肥量以BF 为宜(N-P2O5 -K2O 用量150-90-90 kg · hm - 2) ,而晚稻施肥量可以在BF(N-P2O5 -K2O用量180-90-135 kg · hm - 2) 基础上少量增加氮磷用量.
【英文摘要】Two non-CO2 greenhouse gas emissions (methane and nitrous oxide) and related environmental factors were measured within rice growing season under five treatments including non-fertilization (CK) , balanced fertilization (BF) , decreased nitrogen and phosphate 1 (DNP1) ,decreased nitrogen and phosphate 2 (DNP2) and increased nitrogen and phosphate 1 (INP) in double rice fields of red clay soil in 2009,using the method of static chamber-gas chromatograph techniques. The results showed that the average CH4 emission fluxes for treatments of BF,DNP1,DNP2 and INP were 4. 57,5. 42,4. 70 and 4. 65 mg • (m2 • h) - 1 during early rice growing period,which increased by 39% ,49% ,41% and 40% compared with non-fertilizer treatment,respectively. The average CH4 emission fluxes in late rice growing season was higher than preseason's. Compared to CK,CH4 emission increased by 11% ,1% , 26% and - 4% in treatments of BF,DNP1,DNP2 and INP within late rice growing season. Applying nitrogen and phosphate enhanced CH4 emission in turning green period for early and late rice. No significant difference was observed between the CH4 emissions of five treatments during early and late rice growing season (p > 0. 05) . N2O emission was very little during mid-seasonal drainage period. In contrast,N2O emission peaks were observed in period of alternation of wetting and drying after mid-seasonal drainage in this experiment. N2O emission was,on average,equivalent to 0. 18% of the nitrogen applied in double rice growing season. Statistically,air temperature,soil Eh and soil moisture(water-filled pore space,WFPS) at 0-10cm depth significantly affected the fluctuations of the seasonal CH4 flux,but no significant correlationship has been found between N2O flux and related environmentalfactors. CH4 was the dominated greenhouse gas in double rice fields which contributed approximately 90% for the integrated global warming potential of CH4 and N2O released during the rice growing season. Therefore,the mitigation options should focus on how to reduce CH4 emission in local area. The result indicates that BF is a recommended fertilization method for early rice production,and a optimum fertilization for late season can increase rates of nitrogen and phosphate fertilizers on the basis of BF treatment slightly by considering total global warming potential and grain yield. The rates of BF treatment were 150-90-90 kg • hm - 2 N-P2O5 -K2O for early rice,and 180-90-135 kg • hm - 2 N-P2O5 -K2O for late rice,respectively.
【语种】中文
【第一作者】石生伟
【通讯作者】李玉娥
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【学科分类】农学其他学科

【题目】不同氮磷肥施用对春玉米农田N2O排放的影响
【中文关键词】春玉米; 氮磷肥; N2O排放
【英文关键词】spring maize; nitrogen and phosphorus fertilizer; N2O emission

【中文摘要】农田过量施肥会增加N2O排放,使农田土壤成为重要的温室气体排放源。为减少农田N2O排放,利用自动观测系统研究了春玉米农田中不同肥料对N2O排放的影响,并结合作物产量及N2O的排放量探索减少温室气体排放的施肥措施。采用田间试验方法设定了不施肥(CK)、尿素(U)、尿素加磷肥(NP)和硝酸磷肥(NOP)4个处理进行研究。结果表明,各处理下N2O排放总量分别为:CK0.21kgN·hm-2、U1.19kgN·hm-2、NP0.93kgN·hm-2、NOP0.69kgN·hm-2;N2O排放主要受施肥、灌溉,降雨和土壤温度的影响;在作物生长后期土壤含氮量小于7mgN·kg-1的情况下,观测到土壤吸收N2O的情况;各处理下排放因子均小于政府间气候变化委员会(IPCC)的缺省值1%,表明IPCC推荐的排放因子不适用于估算中国北方的春玉米农田N2O排放。施加磷肥有助于减少农田N2O排放并提高产量,硝态磷肥较尿素可以显著减少N2O排放。综合考虑产量和N2O排放,相对于施用尿素和尿素加磷肥处理,硝酸磷肥处理不仅可节约15%和30%的肥料投入,而且分别减少42%和26%的N2O排放,具有减排不减产的良好效果。

【英文摘要】Excessive fertilizer application to cropland results in high N2O emissions, cropland becomes an important source of greenhouse gas(GHG) emission. In order to reduce N2O emissions, this study investigated the effects of fertilizer types on N2O emissions in spring maize field in northern China, which was monitored continuously by automatic measurement system. The responses of grain yield, in addition to N2O emissions, were examined to explore feasible strategies to reduce N2O emission. Four fertilization management practices were selected, viz.(1)zero fertilizer as control treatment(CK),(2)urea treatment(U),(3)urea and phosphorus treatment(NP)and(4)nitric phosphate treatment(NOP). The results indicated that the total N2O fluxes under each treatment were CK:0.21 kg N·hm-2,U:1.19 kg N·hm-2,NP:0.93 kg N·hm-2,NOP:0.69 kg N·hm-2 respectively. The N2O emissions were mainly influenced by fertilization, irrigation, precipitation and soil temperature. Soil N2O uptake was observed during the later growth stage of spring maize when the soil mineral N was lower than 7 mg N·kg-1. The N2O emission factor(EF) of every fertilizer treatment was lower than 1% which was suggested by the Intergovernmental Panel on Climate Change(IPCC). This meaned the default EF of IPCC should not be used for estimation of the regional N2O fluxes in spring maize field in northern China. Phosphorus fertilizer not only could reduce the N2O emissions but also increase maize grain yield, whereas nitric phosphate was significantly more effective than urea in reducing the N2O emissions. Evaluation based on crop yield and N2O emissions showed that NOP treatment was a better management practice in the sense that, when compared to U and NP treatments, it reduced not only N2O emission by 42% and 26% separately, but also farmers′ expenditure on fertilizers by 15% and 30%, while maintaining crop yield.

【语种】中文

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【学科分类】农学其他学科

【题目】Identification and mapping of quantitative resistance to late blight (Phytophthora infestans) in Solanum habrochaites LA1777

【中文关键词】番茄;晚疫病;数量抗性;多毛番茄;渐渗系

【英文关键词】Tomato; Late blight; Phytophthora infestans; Quantitative resistance; Solanum habrochaites; Introgression lines

【中文摘要】晚疫病是一种世界性的病害,会对番茄生产造成毁灭性的灾害。大多数番茄商用品种对晚疫病是敏感的。质量和数量性状抗性已经在番茄野生种中阐述。一般来说,质量性状抗性很容易由于新的进化小种的侵染而丧失。对3种多毛番茄进行了整株抗病测验,结果表明,LA1777对几种晚疫菌小种有较高的抗性。为挖掘此野生种的抗晚疫病位点,试验以LA1777渐渗系群体为材料,通过离体叶接种测验,对抗性基因所在染色体进行了筛选。采用2个主要的小种T1,2和T1,2,4进行接种,以叶片病斑面积和叶片发病率2个参数进行评估,不同的渐渗系之间的抗性有很大差异。本试验鉴定的QTLs可以减少叶片病斑面积,但是不能降低叶片发病率。得到的5个QTL(Rlbq4a、Rlbq4b、Rlbq7、Rlbq8、Rlbq12)有明显的抗性,其中,Rlbq4b为新发现的QTL,另外4个QTL与先前报道的来自LA2099的QTL同位。

【英文摘要】Late blight (Phytophthora infestans) can have devastating effects on tomato production over the whole world. Most of the commercial cultivars of tomato, Solanum lycopersicum, are susceptible. Qualitative and quantitative resistance has been described in wild relatives of tomato. In general qualitative resistance can more easily be overcome by newly evolved isolates. Screening of three S. habrochaites accessions (LA1033, LA2099 and LA1777) through a whole plant assay showed that accession LA1777 had a good level of resistance to several isolates of P. infestans. To explore the potential in this wild species, an introgression line (IL) population of S. habrochaites LA1777 was used to screen individual chromosome regions of the wild species by a detached leaf assay. Two major isolates (T1,2 and T1,2,4) were used and two parameters were measured: lesion size (LS), and disease incidence (DI). Substantial variation was observed between the individual lines. QTLs were identified for LS but not for DI. The presence of five QTLs derived from LA1777

(Rlbq4a, Rlbq4b, Rlbq7, Rlbq8 and Rlbq12) results in unambiguous higher levels of resistance. All QTLs co-localized with previously described QTLs from S. habrochaites LA2099 except QTL Rlbq4b, which is therefore a novel QTL.
【语种】英文
【第一作者】李君明
【通讯作者】李君明
【期刊名称、卷期、页码】Euphytica,2011,179(3):427-438
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【引文索引号】000290175200007
【学科分类】农艺学

【题目】利用高代回交群体定位醋栗番茄发芽期与幼苗期耐冷QTL
【中文关键词】番茄;醋栗番茄;耐冷性;高代回交QTL分析
【英文关键词】tomato;Solanum pimpinellifolium;cold tolerance;advanced backcross QTL(AB-QTL)
【中文摘要】以醋栗番茄LA722 和普通番茄9706 为材料,利用发芽期大规模低温胁迫筛选方法和AB-QTL 方法对野生醋栗番茄发芽期和幼苗期的耐冷性QTL 进行了定位研究,构建了包括273 个BC3S1株系的高代回交作图群体,以种子相对发芽指数和苗期耐冷指数作为耐冷指标,检测到5 个与发芽期耐冷性相关的QTLs,分别位于第1、2、5、11 染色体上,2 个与幼苗期耐冷性相关的QTLs,分别位于第2和第8 染色体上。其中,控制发芽期耐冷性的qRGI-2-1 和qRGI-5-1 贡献率分别为12.8%和32.9%。有12个单株的自交后代(BC3S2)在发芽期和幼苗期的耐冷性都达到或优于LA722 的水平,且果实质量等农艺性状均接近或优于普通番茄9706,可作为番茄耐冷育种材料。
【英文摘要】
【语种】中文
【第一作者】刘冰
【通讯作者】杜永臣
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【学科分类】园艺学

【题目】Genetics of flesh color and nucleotide sequence analysis of phytoene synthase gene1 in a yellow-fruited tomato accession PI114490
【中文关键词】遗传;基因组DNA序列;番茄红素;Psy1;黄色果肉
【英文关键词】Genetics; Genomic DNA sequence;Lycopene; Psy1; Yellow flesh
【中文摘要】番茄黄色果肉是由于茄红素合成酶基因1非正常的转录而造成。然而,本研究的初始探索过程中,一个黄果肉的品系PI114490具有Psy1基因全长的基因组DNA序列。为探究PI14490中果肉颜色的遗传,以红色果肉品系(OH9242、LA3189)与此黄色果肉品系杂交,得到了F1代和F2代。对来自PI114490和OH9242的Psy1u基因进行了测序。F1均为红果,F2红果和黄果的分离比例为3:1,表明在PI114490黄色果肉性状由隐性单基因控制,通过对4个r基因突变体(LA2056,LA3003,LA0353和LA3532)和PI114490的测验,发现控制黄色果肉的隐性单基因与r基因为等位基因。测序分析发现,PI114490具有完整的Psy1基因的基因组DNA序列,只是在第4个内含子中有1个核苷酸的差异:在PI114490中为G,而在OH9242中为A。此核苷酸的替代造成了F2群体中黄色果肉的出现。在PI114490和黄色果肉的F2中没有或只有极少的番茄红素。番茄红素在F1中的含量为9.77mg/100g,高于两亲本的平均值6.52mg/100g,在F2的红果当中番茄红素的含量介于0到11.69mg/100g之间,表明番茄红素含量为数量遗传。
【英文摘要】Yellow flesh color in tomato is believed to be caused by abnormal transcript of phytoene synthase gene 1 (Psy1). However, our initial work indicated that a yellow-fruited line PI114490 might have full length of genomic DNA sequence for Psy1. To understand the genetics of flesh color in PI114490, we crossed this line to red-fruited lines, OH9242 and LA3189, to develop F1 and F2 progenies, and sequenced the genomic DNA fragment of Psy1 from PI114490 and OH9242. All F1 plants had red fruits, and F2 populations segregated as 3:1 for red and yellow, indicating that one single recessive gene controlled the yellow flesh color in PI114490. This gene was allelic to the known r gene based on tests between PI114490 and four rmutants LA2056, LA3003, LA0353, and LA3532. Sequence analysis indicated that PI114490 had a complete genomic DNA sequence for Psy1 gene with only one nucleotide difference in

the fourth intron: G in PI114490 and A in OH9242. This substitution was associated with yellow flesh in the F2 population. There was no detectable or very low lycopene in PI114490 and all yellow-fruited F2 individuals. Lycopene in the F1 (9.77 mg/100 g) was higher than the mean (6.52 mg/100 g) of two parents, and ranged from 0 to 11.69 mg/100 g in all red-fruited F2 individuals. These results suggested that lycopene content was quantitatively inherited.
【语种】英文
【第一作者】袁冬娟
【通讯作者】杨文才
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【学科分类】园艺学

【题目】不同施肥结构和调理剂对侵蚀红壤的修复效应
【中文关键词】侵蚀红壤;施肥技术;修复效应
【英文关键词】eroded red soil;fertilization; restoration effect
【中文摘要】利用盆栽试验方法,研究了几种肥料配比和调理剂施用对侵蚀红壤的培肥效应。结果表明:土壤调理剂2号的施用与施用NPK化肥相比可以提高旱地红壤的有效磷含量,减轻因施用化肥带来的土壤酸化,提高大豆和油菜对肥料磷、钾的利用率,增加作物生物量,且对土壤好气性细菌、真菌和硝化细菌数量具有明显的促进作用。施用有机肥可以较快地提高土壤速效钾和有机质含量,与施用化肥相比显著提高了大豆和油菜对肥料氮、磷、钾的利用率,施用有机肥或土壤调理剂2号的施肥措施是提高红壤旱地肥力的较好的施肥方法。因豆科植物具有根瘤菌共生固氮作用,大豆种植生物量大,肥料利用率高,选取大豆作为先锋物种,可较好地提高侵蚀红壤的修复效应。
【英文摘要】Effect of 6 fertilization systems in restoring the eroded red soil caused by soil erosion, which is severely eroded red soil derived from Quaternary Red Clay, were studied with a pot experiment. The result showed that applying soil ameliorant II could increase content of available P compared with appling chemica fertilizer, and also it could alleviate soil acidification and promote the use efficiency of soybean and rape for fertilizer P and K. Applying organic fertilizer can increase the content of available K and organic material while it also promote the use efficiency of soybean and rape for fertilizer N, P and K, and increase the biomass compared with applying chemical fertilizer. Because of the symbiotic nitrogen fixation function of rhizobium on leguminous, the biomass and nutrient use efficiencies of soybean is larger, it also could enhance the restoring effect of eroded red soil by selecting the soybean as the pioneer crop.Key words:eroded red soil;fertilization; restoration effect
【语种】中文
【第一作者】刘杰
【通讯作者】张杨珠
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【题目】施肥措施对不同母质侵蚀红壤的修复效应
【中文关键词】施肥措施;侵蚀红壤;有机肥;土壤调理剂
【英文关键词】fertilization;eroded red soil;organic fertilizer;soil ameliorant
【中文摘要】通过大豆盆栽试验,研究几种肥料配比和调理剂施用对不同母质发育的侵蚀红壤的培肥效应.结果表明:1)与施用NPK化肥相比,土壤调理剂2号的施用可以提高旱地红壤的有效磷和有机质含量,减轻因施用化肥带来的土壤酸化,提高大豆对肥料氮、钾的利用率,增加作物生物量,提高土壤微生物数量;施用有机肥可以较快地提高土壤速效氮、磷、钾和有机质含量,显著提高大豆对肥料氮、磷、钾的利用率和土壤微生物活度,施用有机肥或土壤调理剂是提高红壤旱地肥力较好的技术措施.2) 3种母质发育的红壤相比较,第四纪红土红壤速效养分较高,板岩发育的红壤植物氮磷肥利用率较高,而花岗岩发育的红壤植物钾肥利用率较低,应重视板岩发育红壤和花岗岩发育红壤的钾素资源补充.
【英文摘要】Effect of 3 fertilization systems in restoring the eroded red soil caused by soil erosion,which is a severely eroded red soil derived from Quaternary Red Clay,granite and slate,were studied with a pot experiment.The results showed that applying soil

ameliorant II could increase content of available P and organic material compared with applying chemical fertilizer,and also it could alleviate soil acidification and promote the use efficiency of soybean for fertilizer N and K, increase biomass and the number of microbe in soil.Applying organic fertilizer can increase the content of available N,P and K and organic material,while it also promote the use efficiency of soybean for fertilizer N,P and K,and increase microbial activities compared with application of chemical fertilizer.Of the three kinds of red soil derived from parental material,the available nutrient of Quaternary Red Clay was higher than granite and slate,and the utilization efficiency of soybean for fertilizer N grown on slate was higher than granite,but the utilization efficiency of soybean for fertilizer K grown on granite was lower than Quaternary Red Clay and slate, more fertilizer K should be applied to granite and slate.

【语种】中文
【第一作者】刘杰
【通讯作者】张杨珠
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【题目】A naturally occurring splicing site mutation in the Brassica rap FLC1 gene is associated with variation in flowering time
【中文关键词】无
【英文关键词】BrFLC1, fl owering time, splicing pattern, splicing site mutation.
【中文摘要】无
【英文摘要】FLOWERING LOCUS C (FLC), encoding a MADS-domain transcription factor in Arabidopsis, is a repressor of fl owering involved in the vernalization pathway. This provides a good reference for Brassica species. Genomes ofBrassica species contain several FLC homologues and several of these colocalize with fl owering-time QTL. Here theanalysis of sequence variation of BrFLC1 in Brassica rapa and its association with the fl owering-time phenotype isreported. The analysis revealed that a G/A polymorphism at the 5 ’ splice site in intron 6 of BrFLC1 is associatedwith fl owering phenotype. Three BrFLC1 alleles with alternative splicing patterns, including two with different partsof intron 6 retained and one with the entire exon 6 excluded from the transcript, were identi fi ed in addition to alleleswith normal splicing. It was inferred that aberrant splicing of the pre-mRNA leads to loss-of-function of BrFLC1.ACAPS marker was developed for this locus to distinguish Pi6+1(G) and Pi6+1(A). The polymorphism detected withthis marker was signi fi cantly associated with fl owering time in a collection of 121 B. rapa accessions and ina segregating Chinese cabbage doubled-haploid population. These fi ndings suggest that a naturally occurringsplicing mutation in the BrFLC1 gene contributes greatly to fl owering-time variation in B. rapa.
【语种】英文
【第一作者】原玉香
【通讯作者】王晓武
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【学科分类】园艺学

【题目】红壤地区土壤退化及恢复重建研究(I)红壤退化
【中文关键词】红壤;退化;恢复重建
【英文关键词】red soil;degradation;restoration and reconstruction
【中文摘要】由于红壤的生态脆弱性及亚热带的暖湿气候特征,亚热带红壤区已成为自然生态系统破坏与退化的严重区域,亚热带红壤的退化机理及恢复与重建成为土壤学、水土保持、生态学研究的热点问题之一。综述了近年来有关红壤退化的过程、机理及影响因素等方面的研究进展,并提出了退化红壤的生态恢复及重建的技术措施。
【英文摘要】The red soil region of subtropics is one of the most densely populated areas in China in which natural ecosystem has been heavily destructed and degraded to ecological weakness and climatic characteristics.The research of degradation,restoration and reconstruction in these regions has become one of the hot points in soil science,water and soil conservation science and ecology.The

research has concentrated on causes,process,mechanism and features of soil degradation.The ecological restoration about degraded red soil was discussed.

【语种】中文
【第一作者】刘杰
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【题目】一个结球甘蓝 D H 群体主要农艺性状的遗传效应分析
【中文关键词】结球甘蓝;
D H 群体;
农艺性状;
主基因 +
多基因;
遗传分析
【英文关键词】Bra s s
i e a
K e y w o r
d s : o
l e
r a c e a v a r e
a P i , a t a ;
D H p o p u
l a tio n ; a g r o n o m y t r a i t ; m i x e
d In
a j o r g e n e a n
d
po
l y g e n e g e r 一 e l i e Ix lo
d e
l: in
l l e r i t a 一 l e e a n a l y s is
【中文摘要】摘 要:采用游离小饱子培养方法,构建了一个甘蓝 F.(62 4 义 2 4 一) 的 D H 群体 ,利用该 D H 群体重复试验数据建立了结球甘蓝主要农艺性状的数量性状主基因 +多基因混合遗传模型 ,分析了结球甘蓝 8 个主要农艺性状的遗传效应。结果表明,除开展度没有主基因只有多基因存在外,其余7 个性状均符合2 对主基因 +多基因遗传模型。其中,数量性状主基因的遗传率中最 高的是最大外叶柄 长,为9 0.4 4 % ,最大外叶宽次之,为6 7.2 2 % ;外短缩茎长和中心柱长的主基因遗传率较高,分别为 5 8.62 % 和 5 6.0 0 % ;叶球高主基因遗传率最低,为2 0.3 0 % ,其次为最大外叶长和株高,分别为 2 3.犯% 和 3 1.7 4 % ;多基因遗传率中最高的是叶球高度,为4 9.8 0 % ;开展度环境效应方差占总表现型方差的8 1.3 5 % ,受环境影响最大,而外叶柄长的环境效应方差只占总表现型方差的9.5 6 % ,受环境影响最小
【英文摘要】A b str a et :T he s e gr e g a tio n a n al ys is m e thod of id e n t if yin g m ix ed m a jo r g e n e s a nd p ol yg e n e s by u sin g ao ubl ed ha p l o id (D H) po p ul a ti o nd e r i v ed f r o m F.In i er o s p o r e e ult u r e of a e r o s sbe tw e e n6 2 4 a nd 2 4一5 w a snd u e ted to s tudy the inhe rita n (: e of 8 a gr o n o m i e traits in e abba g e.E x o e Pt the p l a n t s p r e ad in g sh o w ed a m od-l o f p ol y罗n e s ,th e o the rinher i ta n e e s of the7 tr a its sho w ed the m od el s of tw o m a j o r g e n e s p l u s p ol y罗n e s.hel a rg e s t p e tiol el e ng t h had thehig he s t he r i tabil i ty of m a j o r g e n e s of 9 0.4 4 % ,thehe ritabil i ty of thel a嗯e s ta v e w id th w a s6 7.2 2 % ,ba si e s te m l e n g th a nd e o rel e n g th h ad al o w e rher i tab i l ity of m a j o r g e n e s of8.6 2% a nd 5 6.0 0 % ,he ad height had thel o w e s t he ritab i l ity of m a j.) r g e n e s of 2 0.3 0 % ,th e n e x t ar e ther g e s t l e a v el e n g th a nd p l a n t hei g h* of 2 3.3 2% a rld 3 1.7 4 % ,re sPe e tiv el y.H e ad heigh t had th ehig he s t he ri-bil i ty of p ol yg e n e s of 4 9.80 % .T he inf lu e n e e of e n v i r o n m e n t o n t r ait 一)f t l i e p l a n t s p r e ad in g w a s th ebe s t,e e n v iro n m e n t al v ar i a n e e w a s8 1.3 5 % of p he n o typ ie v a r i a n e

e.The i nf l u e n e e of e n v iro n m e n t o n tr a it of thee tiol el e n g th w a s th el e a s t th e e n v ir o n m e n tal v a r i a n e e w a s9.5 6 % 〔)f p he n o typ ie v a ria n e e.

【语种】中文
【第一作者】缪体云
【通讯作者】刘玉梅
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【题目】多样性序列芯片技术 (DArT) 的原理及应用
【中文关键词】多样性序列芯片技术; 基因组; 分子标记
【英文关键词】D iversi ty A rrays Techno l ogy (DA r T) ; Genom e ; Mo lecularm ar ker
【中文摘要】摘 要: 多样性序列芯片技术 (DA r T) 是一种基于杂交的分子标记技术, 利用芯片技术来辨认和检测DNA多态性的分子标记, 用于基因组型分析具有高质量、高通量、低成本且不需要已知序列信息等优点。本文介绍了 DArT技术的原理及要点, 以及对基因组复杂性降低方法的改进; 阐述了其在种质资源、遗传图谱构建等方面的应用。
【英文摘要】Abstract : D iversi ty A rray Technology (DA r T) is a hybr i d iza ti on based genotyp i ng method wh ichuses m icroarray techno l ogy to type and i dentify DNA po lymorph is m. DA r T has advantages o f high quali ty ,high throughpu, t lo w cost and t he independence on pr i or sequence i n for m ation . I n th is paper , w erev ie w ed the me t hodo l ogy o f DA r T and i mprovemen t on i ts procedure , app licat i on in genet ic mapconstr uct i on and crop var i e ty identificat i on .
【语种】中文
【第一作者】冯艳丽
【通讯作者】武剑
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【题目】大白菜回交导入系群体构建及其遗传分析
【中文关键词】大白菜; 遗传图谱; DH群体; BIL群体
【英文关键词】B rassica camp est ris ; geneticm ap ; double haplo i d populat i on ; backcross i ntrogressi on li nes
【中文摘要】摘 要: 利用大白菜栽培品种的 DH系 Z16和白菜型油菜自交系 L144杂交的 F1获得包括 119个株系的DH群体。用相同亲本的 F1与 Z16进行独立回交, 利用 25个独立回交的 BC2分别得到这些株系的 DH系,选择每个 BC2的 4~ 6个 DH系构建 121个株系的 B I L群体。进一步利用 SSR 和 SRAP标记构建了 DH 群体遗传图谱, 由 10个连锁群组成, 包括 245个分子标记, 总长度 714 c M, 平均遗传图距 2 9 c M。再以此图谱为参照, 用锚定在染色体上的 97个 SSR标记研究供体亲本 L144的染色体片段在 B I L群体中覆盖基因组比率。在 B IL群体中来源于 L144的基因组片段占 0 84 % ~ 35 00%, 平均为 11 31%, 接近理论遗传预期值 12 50%。在 25个 BC2的 B IL株系中供体亲本 L144等位位点占 1 69% ~ 27 36%, 平均为 11 03%。
【英文摘要】Abstract : Th is paper reported the genetic str ucture ana l ysis for a backcross i ntrogressi on lines (BI Ls)o fBrassica ca mpest ris L. based on a genetic li nkagem ap const ructed usi ng a doubled haplo i d (DH) popula tion . the B I Ls popu lation w i th 121 li nes derived f rom a cross bet w een a DH li ne of a commerc ial F1 (Z16)and an o il typeB. camp est ris inbred li ne (L144) , wh ich w as developed by t w ice consecut i ve l y backcrossi ngusing Z16 as a recipient paren. t The characteristics of i ntrog ression of L144 in B I Ls w as ana l yzed using 97SSR mar kers mapped on the DH geneticm ap . The resu l ts sho w ed that the variation o f percentage o f the donorparent (L144) genome presen ti ng i n the B I Ls w as f rom 0 84% to 35 00 %, w i th an average of 11 31 % ,consistent w i th the theore tica l expectat i on o f 12 50 % . The percentage of the dono r paren t (L144) a llelespresenti ng in t he 25 BC2 o f B I L plants ranged f rom 1 69 % to 27 36 %, and the average ratio was 11 03 %.
【语种】中文

【第一作者】汪 骞
【通讯作者】武剑
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【题目】红壤地区土壤退化与恢复重建研究(Ⅱ)退化红壤的防治对策
【中文关键词】红壤;退化;防治对策;恢复重建
【英文关键词】red soil; degradation; control strategy; restoration and reconstruction
【中文摘要】由于红壤的生态脆弱性及亚热带的暖湿气候特征,亚热带红壤区已成为自然生态系统破坏与退化严重的区域,亚热带红壤的退化机理及恢复与重建成为土壤学、水土保持、生态学研究的热点问题之一。从红壤侵蚀、红壤渍化与潜育化、红壤酸化和红壤污染几种退化形式论述了退化红壤的防治对策及重建措施。
【英文摘要】The red soil region in subtropical area is one of the ar eas in which natural system was destructed and degraded most heavily for ecological weakness and subtropical climatic characteristics. The research of degradation, restoration and reconstruction of red soil in subtropical areas has become one of the hot points in soil science, water and soil conservation science and ecology. The control strategies and ecological restoration for degraded red soil was discussed from four degraded forms that were eroded red soil, red soil acidification and gleization, red soil acidification and red soil contamination.
【语种】中文
【第一作者】刘杰
【通讯作者】张杨珠
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【题目】Sources for Heat-Stable Resistance to Southern Root-Knot Nematode in Solanum lycopersicum
【中文关键词】非温敏抗性,南方根结线虫,番茄
【英文关键词】heat-stable resistance, Meloidogyne incognita, tomato
【中文摘要】伴随塑料拱棚和日光温室的发展,南方根结线虫逐渐成为中国蔬菜生产中的一大问题,采用抗性品种是控制此种病害的有效途径。目前已经报道了从Mi-1至Mi-9的9个抗性基因,在番茄抗性育种中只成功使用了Mi-1基因。然而,当温度高于28 ° C时,Mi-1基因处于失活状态。为了挖掘对南方根结线虫热稳定性的抗性材料,试验采用了53个不同基因型的番茄材料,接种1种南方根结线虫小种,在28 ° C或32 ° C的生长箱中培养,进行初步筛选。其中28个基因型的根瘤数少于25个,作为抗性候选材料。对此25个基因型材料中抗性较高的16个基因型材料,在32 ° C下接种相同的小种,进行进一步筛选,其中ZN17、ZN48和LA03853个基因型材料,每株的根瘤数不超过10个,表现出热稳定性抗性。LA0385是一个野生种,ZN17、ZN48是优良的育种材料。将3个材料在温室中种植两季,平均每株根瘤数均少于10个,表现出高抗性,因此,可将其作为番茄抗南方根结线虫育种中的优良材料。
【英文摘要】Southern root-knot nematode (Meloidogyne incognita) is a major problem in vegetable production in China due to the expansion of plastic tunnel and solar greenhouse. Using resistant cultivars is an effective approach to control the disease. Nine genes, Mi-1 to Mi-9, have been reported and only Mi-1 has been successfully used in tomato breeding. However, Mi-1 is inactive at a temperature above 28 ° C. In order to identify sources for heat-stable resistance to southern root-knot nematode, 53 genotypes of tomato (Solanum spp.) were inoculated with an isolate of M. incognita in the growth chamber at 28 or 32 ° C for initial screening. 28 lines had less than 25 galls and were considered as resistant candidates. Thetop 60% (16 in total) of resistant candidates obtained from each temperature were subject to re-evaluation at 32 ° C using the same nematode isolate. Three lines ZN17, ZN 48, and LA0385 showed heat-stable resistance with an average of 10 galls or less per plant. LA0385 is a wild species, while ZN17 and ZN48 are elite breeding lines. These lines were grown in a greenhouse for two seasons, and also showed high resistance with less than 10 galls per plant. Thus they were considered as good sources for breeding resistance to southern root-knot nematode in tomato.

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【题目】大白菜细胞核隐性雄性不育系恢复基因 BrMf2 的标记及定位
【中文关键词】大白菜;细胞核隐性雄性不育;基因定位;分子标记;SRAP
【英文关键词】Brasscia rapa L. ssp. pekinesis; recessive genic male sterile (RGMS); gene mapping; molecular marker; SRAP
【中文摘要】摘要:【目的】筛选大白菜细胞核隐性雄性不育(RGMS)育性基因(Mf)的连锁标记,通过定位该基因,为克隆雄性不育基因打下基础。【方法】939A 不育系与 YQD56A 杂交 F1S4 后代为试材,利用混合分组分析法(BSA) ,应用 SRAP 和 SRAP-AFLP 标记技术筛选引物 1 256 对。【结果】获得与大白菜细胞核隐性雄性不育恢复基因连锁的标记2个,PM8K4和Me2M49,与恢复基因的遗传距离分别为2.98 cM和10.92 cM。通过调查PM8K4标记在大白菜DH作图群体中的多态性,将该基因定位在A8连锁群,即大白菜第9染色体。【结论】标记PM8K4可以在苗期对大白菜细胞核雄性不育性状进行标记辅助选择。
【英文摘要】Abstract: 【Objective】 Recessive genic male sterility (RGMS) is one of the important methods for F1 seeds production in hinese cabbage (Brassica rapa L. ssp. pekinensis). Identification of molecular markers linked to RGMS restoring gene not only can ccelerate breeding programs, but also can provide information for cloning of RGMS gene by mapping this gene on the orresponding chromosome. 【Methods】 A segregating population was developed from a cross between a male sterile line 939A and fertile line YQD56A. SRAP and SRAP-AFLP techniques and bulked segregant analysis (BSA) were used to screen markers linked o the RGMS restoring gene. 【Result】 Among the 1 256 primer combinations, only PM8/K4 and Me2/M49 showed polymorphism etween bulks of male sterile and fertile. The polymorphic bands were named as PM8K4 and Me2M49. The distance of PM8K4 and Me2M49 was 2.98 cM and 10.92 cM, respectively. PM8K4 was subsequently mapped on linkage group A8 (Chr9) using a oubled-haploid mapping population. 【Conclusion】 The SRAP and SRAP-AFLP markers developed here can be used in breeding rograms for Chinese cabbage.
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【学科分类】园艺学

【题目】湖南省旱耕地土壤养分状况研究
【中文关键词】湖南;旱耕地;土壤养分
【英文关键词】
【中文摘要】通过野外采样与室内分析相结合的方法,研究了湖南省某些旱耕地土壤的养分状况。结果表明:供试土壤碱解氮含量变动在20.8-164.3 mg/kg,平均为95.9 mg/kg;速效钾含量为55.4-340.5 mg/kg,平均为174.1 mg/kg;有效磷含量为2.0-154.4 mg/kg,平均为30.5 mg/kg。因成土母质不同土壤养分状况明显不同:土壤碱解氮含量顺序为耕型湖潮土>耕型河潮土>耕型花岗岩红壤>耕型板岩红壤>耕型砂岩红壤>耕型棕色石灰土>耕型石灰性紫色土;土壤速效钾含量顺序为耕型花岗岩红壤>耕型板岩红壤>耕型湖潮土>耕型河潮土>耕型石灰性紫色土>耕型砂岩红壤>耕型棕色石灰土;土壤有效磷含量顺序为耕型花岗岩红壤>耕型河潮土>耕型湖潮土>耕型板岩红壤>耕型砂岩红壤>耕型石灰性紫色土>耕型棕色石灰土。
【英文摘要】
【语种】中文
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【题目】土壤质量管理〈I〉土壤功能和土壤质量
【中文关键词】土壤质量管理;土壤功能;土壤质量;土壤质量评价
【英文关键词】soil quality management;soil function;soil quality;soil quality evaluation
【中文摘要】土壤质量管理是对土壤功能、土壤质量、土壤退化、土壤修复及其关系的研究和成果应用的科学实践活动。各种土壤的不同功能有其空间分异、历史演替和强弱序列;土壤质量及其评价建立在土壤功能之上。本文阐述了土壤功能、土壤质量及其评价指标和方法,并对今后的土壤评价研究提出了建议。
【英文摘要】The soil quality management is the scientific practice to study the soil function,soil quality,soil degradation and remediation,and their relationships,and the application of the obtained achievements.All soil ’s functions have their spatial variations,historical evolution and strength differences.Soil quality research and its evaluation are performed based on the soil functions.In the thesis the soil functions,and the soil quality and its evaluation indexes and methods were discussed.And suggestion was proposed for further soil quality evaluation.
【语种】中文
【第一作者】将端生
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【题目】Geographical and climatic differences in long-term effect of organic and inorganic amendments on soil enzymatic activities and respiration in field experimental stations of China
【中文关键词】呼吸 化肥 酶活性 有机肥 土壤肥力
【英文关键词】Basal respiration, Chemical fertilizers, Enzyme activity, Organic manure, Soil quality, Zonality
【中文摘要】本研究表明,在评价不同地区长期施肥对土壤生物活性和土壤肥力的影响时,应该充分环境因子(主要为土壤温度、土壤质地和pH)。
【英文摘要】Soil enzymatic activities and basal respiration are two important bio-indicators of soil quality and are closely related to soil fertility and sustainable crop growth. We collected soil samples from four long-termexperimentalstations of China differing both geographically and climatically – Shenyang Agro-Ecological ExperimentalStation (brown soil), Fengqiu State Key Agro-Ecological ExperimentalStation (fluvo-aquic soil), Taoyuan Agro-Ecological ExperimentalStation (paddy soil) and Qiyang Red SoilExperimentalStation (red soil) – to investigate the effect of long-term application of chemical fertilizer and/or organic manure on soilenzymaticactivities and basal respiration. In general, soilenzymaticactivities and basal respiration increased in soils with long-term application of chemical fertilizers and manures, especially organic manure. Among stations, soilenzymaticactivities were not consistently increased with organic manure alone (e.g. the sucrase and phosphatase activities in the paddy soil from Taoyuan and red soil from Qiyang). As well, soilenzymaticactivities were characterized by distinct zonality. Soil cellulase and urease activity were the two main indicators of soil fertility as evaluated by principal component analysis. Regression analysis of the major abiotic factor(s) influencing enzyme activity revealed a dependence on the specific enzyme tested and the activity of specific soil enzymes depended on the location of the experimentalstation. Environmental factors, mainly soil temperature, moisture and pH, as well as soil texture, should be taken into account in evaluating the effects of long-term fertilization on soil biological activity and soil fertility in fieldexperimentalstations differing geographically and climatically.
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【题目】Impacts of soil organic matter, pH and exogenous copper on sorption behavior of norfloxacin in three soils.
【中文关键词】铜 pH 有机质 吸附
【英文关键词】copper, norfloxacin, pH, soilorganicmatter, sorption
【中文摘要】本文研究了黑土、潮土和红壤对诺氟沙星的吸附以及土壤有机质、pH和铜含量的影响。结果表明三种原状土壤及有机质去除土壤中的诺氟沙星吸附均符合Freundlich和Langmuir模型。当缓冲溶液pH为6时,诺氟沙星的吸附常数KD和KOC。土壤吸附诺氟沙星也受土壤铜含量的影响,但与土壤类型和铜浓度有关。
【英文摘要】Norfloxacin sorption and the factors (soilorganicmatter (SOM), pH, and exogenouscopper (Cu) influencing the sorption were investigated in a black soil (soil B), a fluvo-aquic soil (soil F), and a red soil (soil R). With increasing norfloxacin concentrations, sorption amount of norfloxacin increased in both the bulk soils and their SOM-removed soils, but the sorption capacity of SOM-removed soils was higher than that of their corresponding bulk soils, indicating that the process of norfloxacinsorption in soil was influenced by the soil properties including SOM. The sorption data in all bulk soils and SOM-removed soils were fitted to Freundlich and Langmuir models. The correlation coefficients suggested that the experimental data fitted better to Freundlich equation than to Langmuir equation. Furthermore, the data from soil F and SOM-removed F could not be described by Langmuir equation. The norfloxacinsorption amount decreased in soil B and soil F, whereas it increased in soil R as solution pH increased. The maximum KD and KOC were achieved in soil R when the equilibrium solution pH was 6. The norfloxacinsorption was also influenced by the exogenous Cu2+, which depended on the soil types and Cu2+ concentrations. With increasing Cu2+ concentrations in solution, generally, sorption amount, KD and KOC for norfloxacin in soils increased and were up to a peak at 100 mg/L Cu2+, and then the sorption amount decreased regardless of norfloxacin levels
【语种】英文
【第一作者】张杰
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【学科分类】土壤学

【题目】Analysis of 8 organophosphorus pesticide residues in fresh vegetables retailed in agricultural product markets of Nanjing, China
【中文关键词】生菜 活性碳 气相色谱 氮 磷
【英文关键词】Fresh vegetables, Organophosphorous pesticides, Activated carbon, Gas chromatography, Nitrogen, phosphorus detection
【中文摘要】本文建立了一种采用活性碳、固相萃取和气相色谱测定生菜中有机磷农药的新方法。
【英文摘要】A method to effectively remove pigments in fresh vegetables using activated carbon followed cleanup through solid phase extraction (SPE) cartridge to further reduce matrix interference and contamination, was established to determine eight organophosphorous pesticides (OPPs) by gas chromatography (GC) with nitrogen – phosphorus detection (NPD) in this study, and it has been successfully applied for the determination of eight OPPs in various fresh vegetables with the recoveries ranging from 61.8% to 107%. To evaluate eight OPPs residue level, some fresh vegetables retailed at three agricultural product markets (APM) of Nanjing in China were detected, the results showed that phorate in Shanghai green (0.0257 μg g?1) and Chinese cabbage (0.0398 μg g?1), dimethoate in Shanghai green (0.0466 – 0.0810 μg g?1), Chinese cabbage (0.077 μg g?1), and spinach (0.118 – 0.124 μg g?1), methyl-parathion in Shanghai green (0.0903 μg g?1), Chinese cabbage (0.157 μg g?1), and spinach (0.0924 μg g?1), malathion in Shanghai green (0.0342 – 0.0526 μg g?1), chorpyrifos in spinach (0.106 – 0.204 μg g?1), and Chinese cabbage (0.149 μg g?1), chlorfenvinfos in carrot (0.094 – 0.131 μg g?1), were found. However, fonofos and fenthion were not detected in all the collected

vegetable samples.
【语种】英文
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【学科分类】土壤学

【题目】Soil biological activity and their seasonal variations in response to long-term application of organic and inorganic fertilizers
【中文关键词】酶活性 微生物生物量 有机质 土壤质量 呼吸
【英文关键词】Enzymatic activity, Microbial biomass, Organic C, Soil fertility, Soil respiration
【中文摘要】本文研究了长期不同施肥对微生物量、土壤生物活性的季节性变化,及其与土壤肥力的关系。 结果表明,施用有机肥显著提高土壤C和N含量、土壤呼吸、微生物生物量和多种酶活性,而无机肥则显著减低这些指标。因此本研究表明,应该提倡有机和无机肥混施,以提高土壤微生物量、土壤生物活性和土壤肥力。
【英文摘要】The objectives of this study were to explore the effects of long-term and continued application of fertilizers and manures on microbial biomass, soil biological activity and their seasonal variations in surface and subsurface soils in relation to soil fertility. For this, soils were sampled in spring, summer and autumn from Shenyang Long-term Experimental Station, northeastern China. The results showed that soil total nitrogen (N), organic carbon (C), basal respiration, microbial biomass and enzymatic activity increased in manure-amended surface soils, but decreased with soil depth. Long-term application of inorganic fertilizers significantly decreased soil pH value, sucrase activity and microbial biomass C, but increased soil metabolic quotient (qCO2). However, no significant effect of inorganic fertilizers on soil total N, urease activity and microbial biomass N was observed in comparison with CK0 (neither tillage nor fertilization) and CK (no fertilizers). There was no significant difference between CK0 and CK in soil total N, organic C and microbial activity in surface soil layer (0 – 20 cm), but these parameters in subsurface soil layer (20 – 40 cm) were higher in CK than in CK0. Moreover, seasonal changes were observed in terms of soil nutrient contents, enzymatic activity, microbial biomass and soil respiration. There were significant correlations between soil microbial biomass C and N, between organic C and sucrase activity and between total N and urease activity, respectively. It is recommended that combined use of organic manure with inorganic fertilizers should be considered to maintain higher microbial biomass, soil biological activity and soil fertility. Considering considerably high nutrients reserve and microbial activity in subsurface layers of soil and wind-erosion-caused nutrient loss in spring in north China, we also propose that low tillage should be considered to make use of nutrients in soils.
【语种】英文
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【学科分类】土壤学

【题目】Effects of nutrient cycling on grain yields and potassium balance
【中文关键词】长期施肥 产量 钾平衡
【英文关键词】Different treatments, Grain yields, Potassium balance
【中文摘要】本文表明光施化肥存在明显不足,而当化肥配合循环有机肥配施时,能持续维持产量和土地生产力。
【英文摘要】Soybean-maize rotation is a profitable cropping system and is used under rain fed conditions in north China. Since crop yields have been reported to decrease when K fertilizers are not used, we analyzed the productivity trends, soil-exchangeable and non-exchangeable K contents, and K balance in a continuous cropping experiment conducted in an area with an alfisol soil in the Liaohe River plain, China. The trial, established in early 1990 and continued till 2007, included 8 combinations of recycled manure and N, P, and K fertilizers. In the unfertilized plot, the yields of soybean and maize were 1,486 and 4,124 kg ha?1 respectively (mean yield over 18 years). The yields of both soybean and maize increased to 2,195 and 7,476 kg ha?1, respectively, in response to the application of

inorganic N, P, and K fertilizers. The maximum yields of soybean (2,424 kg ha?1) and maize (7,790 kg ha?1) were obtained in the plots under treatment with N, P, and K fertilizers and recycled manure. K was one of the yield-limiting macronutrients: regular K application was required to make investments in the application of other mineral nutrients profitable. The decrease in the yields of soybean and maize owing to the absence of K application averaged 400 and 780 kg ha?1, respectively. Soybean seed and maize grain yields significantly increased with the application of recycled manure. For both these crops, the variation coefficients of grain were lower with treatments that included recycled manure than without treatment. After 18 years, the soil-exchangeable and non-exchangeable K concentrations decreased; the concentrations in the case of treatments that did not include K fertilizers were not significantly different. Treatment with N, P, and K fertilizers appreciably improved the fertility level of the soil, increased the concentration of soil-exchangeable K, and decreased the non-exchangeable K concentration. In soils under treatment with N, P, and K fertilizers and recycled manure, the soil-exchangeable and non-exchangeable K levels in the 0 – 20 cm-deep soil layer increased by 34% and 2%, respectively, over the initial levels. Both soil-exchangeable and non-exchangeable K concentrations were the highest with on treatment with N, P, and K fertilizers and recycled manure, followed by treatment with N, P, and K fertilizers. These concentrations were lowest in unfertilized soils; the other treatments yielded intermediate results. The results showed a total removal of K by the crops, and the amount removed exceeded the amount of K added to the soil; in treatments that did not include K fertilizers, a net negative K balance was observed, from 184 to 575 kg ha?2. The combined use of N, P, and K fertilizers and recycled manure increased the K content of the 0 – 20 cm-deep soil layer by 125% compared to the increase obtained with the application of N, P, and K fertilizers alone. The results clearly reveal that current mineral fertilizer applications are inadequate; instead, the annual application of recycled manure along with N, P, and K fertilizers could sustain future yields and soil productivity.

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【第一作者】宇万太
【通讯作者】宇万太
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【学科分类】土壤学

【题目】Long-term fertilization impacts on corn yields and soil organic matteron a clay-loam soil in Northeast China
【中文关键词】玉米产量 长期施肥 有机肥 化肥 单作
【英文关键词】corn yield,farmyard manure,long-term experiment,mineral fertilizer,monoculture,soil organic matter
【中文摘要】本文研究了创立于1980年的吉林省公主岭长期施肥试验玉米单作的产量变化规律。结果表明该地区长期施用化肥能够维持玉米高产,而化肥配施有机肥能提高土壤有机质含量。
【英文摘要】A long-term fertilization experiment with monoculture corn (Zea mays L.) was established in 1980 on a clay-loam soil (Black Soil in Chinese Soil Classification and Typic Halpudoll in USDA Soil Taxonomy) at Gongzhuling, Jilin Province, China. The experiment aimed to study the sustainability of grain-corn production on this soil type with eight different nitrogen (N)-, phosphorus (P)-, and potassium (K) – mineral fertilizer combinations and three levels (0, 30, and 60 Mg ha – 1 y – 1) of farmyard manure (FYM). On average, FYM additions produced higher grain yields (7.78 and 8.03 Mg ha – 1) compared to the FYM0 (no farmyard application) treatments (5.67 Mg ha – 1). The application of N fertilizer (solely or in various combinations with P and K) in the FYM0 treatment resulted in substantial grain-yield increases compared to the FYM0 control treatment (3.56 Mg ha – 1). However, the use of NP or NK did not yield in any significant additional effect on the corn yield compared to the use of N alone. The treatments involving P, K, and PK fertilizers resulted in an average 24% increase in yield over the FYM0 control. Over all FYM treatments, the effect of fertilization on corn yield was NPK > NP = NK = N > PK = P > K = control. Farmyard-manure additions for 25 y increased soil organic-matter (SOM) content by 3.8 g?kg – 1 (13.6%) in the FYM1 treatments and by 7.8 g?kg – 1 (27.8%) in the FYM2 treatments, compared to a 3.2 g?kg – 1 decrease (11.4%) in the FYM0 treatments. Overall, the results suggest that?mineral fertilizers can maintain high yields, but a combination of?mineral fertilizers plus farmyard manure are needed to enhance soil organic-matter levels in this soil type.

【语种】英文
【第一作者】朱平
【通讯作者】朱平
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【学科分类】土壤学

【题目】下辽河平原玉米水肥交互作用及对产量的影响
【中文关键词】地统计 遥感 土壤有机碳 黑土 海伦市
【英文关键词】lower reach of Liaohe River Plain, long—term fertilization trial, maize yield, water—nutrient interaction
【中文摘要】以沈阳生态试验站一组持续16年的长期定位试验为平台,研究了不同降水年景作物对施肥的增产反应及水分对肥料增产的促进作用,估算了下辽河平原地区水肥交互作用对作物增产的贡献。结果表明,该地区玉米蒸散耗水与其生育期内降水之间关系密切,且不同的施肥处理对玉米消耗水分量影响不大。过少或过多的降水均会降低玉米产量。在高肥力水平下平水年(降水400-550 mm)玉米产量最高,水肥交互作用对作物增产的贡献亦达最大,可占总增产量的44.9%。
【英文摘要】Based on a long-term located experiment with 16 years, the authors investigated the response of increasing crop yields to fertilization. The effects of water-nutrient interaction on maize yields in lower reach of Liaohe River plain were estimated in different precipitation years. It was shown that the evapotranspiration was significantly correlated with the precipitation in the growth stage of maize. Under different conditions of fertilization, the water consumption of maize was similar. At the same time, the crop growth was directly influenced by the water supply, and the yield decreased markedly in waterlogging or drought years. Under high level fertilization treatments and fitting water supply (normal rainfall), the increase of crop yields was the highest, the effect of water-nutrient interaction on maize yields was the most significant, and it accounted for 44.9% of the total increased crop yields.
【语种】中文
【第一作者】马强
【通讯作者】宇万太
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【学科分类】土壤学

【题目】遥感与地统计方法在表层土壤有机碳空间格局研究中的应用比较
【中文关键词】地统计学 遥感 有机质 海伦
【英文关键词】geostatistics, remote sensing, soil organic carbon, phaeozem, Hailun
【中文摘要】土壤有机碳为土壤肥力的核心指标之一,精确、及时、低耗的土壤有机碳空间格局估测对促进精准农业的发展和科学施肥具有重要意义,分别利用地统计方法和遥感技术测定法分析了海伦市表层土壤有机碳的空间分布格局,发现:1)表层土壤有机碳与遥感影像的TM1波段之间存在着极显著的相关性($p<0.01$),而与TM2、TM3和NDSVI显著相关($p<0.05$); 2)通过对两种方法所得结果比较得出在精度基本一致的前提下,遥感技术测定法所需样本量低于地统计法所需样本量,且前者所得结果与当地实际情况更为相符,是一种潜在、高效的表层土壤有机碳空间格局研究方法.
【英文摘要】Soil organic carbon is a core index of soil fertility. It was important for precision agriculture and rational fertilization to understand soil organic carbon (SOC) concentration and its spatial distribution pattern. In this study, geostatistics and remote sensing methods were used to analyze the surface soil organic carbon (SSOC) of Hailun City of Heilongjiang Province respectively. The results show that SSOC is very significantly correlated with TM1($r=0.32$, $p<0.01$) and significantly correlated with TM2, TM3 and NDSVI ($p<0.05$). At the same time, remote sensing method has significant advantages in sample numbers and conformed with reality compared with geostatistics, under the same accuracy. Therefore, remote sensing method was a potential and high performance way to study SSOC spatial distribution pattern.
【语种】中文
【第一作者】李欣宇
【通讯作者】宇万太
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【学科分类】土壤学

【题目】不同施肥模式对下辽河平原水稻生态系统生产力及养分收支的影响
【中文关键词】施肥模式 生产力 养分收支
【英文关键词】fertilization pattern, productivity, nutrient budget.
【中文摘要】采用田间肥料试验,研究了不同施肥模式对稻田生态系统的生产力和养分收支的影响。结果表明:随养分配施均衡程度的增加,系统的生产力逐渐提高,其中氮磷钾处理的生产力最高;氮肥对水稻生产力的贡献最大(对生物量的贡献约20% ,对籽实产量的贡献约34%) ,磷肥和钾肥的贡献相当;在水稻各部位对氮、磷、钾养分的吸收中,氮的吸收主要集中在籽实和秸秆中,磷的吸收则主要集中在籽实中,钾的吸收主要集中在秸秆中;在各施肥处理中,土壤全量养分和有机质的变化不大,而速效养分的变化较大,特别是速效磷库和速效氮库;单施化肥处理的土壤,其速效养分含量不高,而施有机肥处理土壤的速效养分含量较高,表明有机肥较有利于土壤养分的积累。
【英文摘要】To study the effects of different fertilization patterns on the rice ecosystem's productivity and nutrient budget in the lower reaches ofL iaohe River p lain, a field experimentwas conducted at the Shenyang Ecological Experimental Station of Chinese Academy of Sciences The results showed thatwith the increasing degree of balanced fertilization, rice ecosystem ’ s p roductivity in creased gradually, being the highest in treatmentNPK. Among the chemical fertilizers, N fertilizer contributed most to the rice p roductivity (20% to biomass and 34% to grain yield) , while P and K fertilizers had the similar contribution rates. As for the allocation of the absorbed nutrients in rice p lant, N wasmainly in grain and stalk, while P and K were more concentrated in grain and in stalk, respectively. Under fertilization, less fluctuation was observed on the contents of soil organic matter and totalN, P and K, but the amounts of soil available nutrients varied greatly, especially for available P and available N. Fertilization with organic manure induced a higher content of soil available nutrients, compared with app lying chemical fertilizers alone.
【语种】中文
【第一作者】宇万太
【通讯作者】宇万太
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【学科分类】土壤学

【题目】不同土地利用方式对潮棕壤有机碳含量的影响
【中文关键词】潮棕壤 土地利用 土壤有机碳 C/N 有机碳储量
【英文关键词】land use, soil organic matter, C/N ratio, carbon sequestration
【中文摘要】对潮棕壤不同土地利用方式下0-100cm土体中土壤有机碳含量的剖面分布、有机碳储量及C/N 进行了研究+结果表明:不同土地利用方式下土壤有机碳含量的剖面分布差异明显,林地、割草、荒地及裸地处理各土层有机碳含量高于农田生态系统;不同土地利用方式下的土壤有机碳与全氮呈极显著的正相关性;土壤C/N 随剖面土层深度的增加呈下降趋势,林地土壤的C/N相对较高,割草、荒地和裸地次之,农田生态系统的土壤C/N 较低,在0-100cm 深度土壤,荒地每年截获的土壤有机碳分别比农田不施肥、农田循环猪圈肥处理、农田化肥NPK处理、农田化肥+ 循环猪圈肥处理高4.52,4.25,4.46和3.58 t · hm-2 说明荒地在增加土壤有机碳储量方面有很大潜力。
【英文摘要】The profile distribution of soil organic carbon(SOC),its storage,and carbon) nitrogen(C)N)ratio at the depth of 0r100 cm under different land use types were investigated in this paAper. The results showed that the profile distribution of SOC varied significantly with land use type.The SOC contents in each soil layer in forestland,mowing land and wasteland were all higher thanthat in agricultural land. In all land use types,SOC was significantly correlated with soil total N.Soil C) N ratio generally decreased with depth,which was higher in forestland than in mowing land,wasteland and bare land,and was the lowest in agricultural land. At the depth of 0r100 cm,theannual sequestration of SOC in wasteland was 4. 52,4. 25,4. 46 and 3. 58 t · hm r 2 more than thatin farmland with no fertilization,farmland with recycled manure application,farmland with N,Pand K fertilization,and farmland with the application of both recycled manure and N,P and K,reAspectively,suggesting that wasteland had a great potential in increasing SOC storage
【语种】中文
【第一作者】宇万太
【通讯作者】宇万太

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【学科分类】土壤学

【题目】基于TM影像的表层土壤有机C空间格局分析
【中文关键词】遥感 黑土 模型精度 回归分析
【英文关键词】remote sensing,phaeozem,model precision,regression analysis
【中文摘要】土壤有机碳是土壤肥力的核心指标之一,理解其空间分布格局对促进精准农业的发展和科学施肥具有重要意义。本研究旨在检验TM影像结合地面采样数据分析黑龙江省黑土分布区表层土壤有机碳空间分布格局的可行性。结果表明:1)表层土壤有机碳浓度与TM 5波段呈显著正相关(r=0.553,P<0.01),与TM 4、TM 5波段影像像素值之间满足二次多项式回归关系(R =0.6791,P<0.05);2)回归模型对表层土壤有机碳空间分布格局具有较好的预测效果(R =0.7097,P<0.05);3)海拔高于200 m的地区表层土壤有机碳浓度显著高于海拔低于200 m的地区(P<0.05)。
【英文摘要】Soil organic carbon(SOC)is one of the core indices of soil fertility.To understand the spatial distribution pattern of SOC is of importance in promoting the development of precision agriculture and in implementing scientific fertilization.The objective of this study was to examine the feasibility of using TM image combined with field observation data in approaching the spatialdistribution pattern of surface SOC in Heilongjiang Phaeozem region.The results indicated thatthe SOC had a significant positive correlation(r=0.553,P<0.01)with TM 5 band,and a bi—nomial regression(R =0.6791,P<0.05)with the image intensities ofTM 4 and 5 bands.Re—gression model could better predict the spatial distribution pattern of SOC (R =0.7097,P<0.05),and the SOC concentration was significantly higher in the regions with an altitude>200 than those with the altitude of< 200 m (P<0.05).
【语种】中文
【第一作者】李欣宇
【通讯作者】宇万太
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【引文索引号】无
【学科分类】土壤学

【题目】不同土地利用方式对潮棕壤微生物量碳及其周转率的影响
【中文关键词】土地利用方式 土壤微生物量 周转率
【英文关键词】land used pattern,soil microbial biomass,turnover rate.
【中文摘要】利用长期定位试验,研究了下辽河平原不同土地利用方式下潮棕壤土壤微生物量碳的变化。结果表明:裸地的微生物量碳最低;不施肥处理(CK)和 NPK 处理土壤微生物量碳较低;NPK 配合猪厩肥处理(NPK + C)的微生物量碳显著高于 CK 和 NPK 处理;荒地由于返回的植物残体量很大,积累的有机物很多,所以其微生物量碳最大;其次为割草地和林地。不同土地利用方式的土壤微生物量周转速率为:NPK + C > 林地 > 荒地 > 割草地 >CK >NPK > 裸地。
【英文摘要】A long:term fertilization experiment was conducted on an aquic brown soil in the lowerreaches of Liaohe River plain to study the effects of different land use patterns on soil microbialbiomass carbon(MBC). The results showed that in agroecosystem the MBC values decreased inthe following order:integrated use of NPK and recycled manure > CK > NPK > bare land. Alarge numbers of plant residue returned to soil had increased the content of organic carbon andhumic substances,resulting in a higher MBC in waste land. The content of MBC,either in wood:land or in mowing land,decreased significantly than that of in wasteland. The rate of soil MBCwas as follows:NPK + C > woodland > wasteland > mowing land > CK > NPK > bare land
【语种】中文
【第一作者】宇万太
【通讯作者】宇万太
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【学科分类】土壤学

【题目】不同土地利用方式对土壤微生物生物量氮的影响
【中文关键词】土地利用方式 微生物量氮(MBN) 周转率
【英文关键词】Land—used types, Microbial biomass nitrogen(MBN), Turnover rate
【中文摘要】研究了长期定位试验不同土地利用方式下土壤微生物生物量氮的变化,结果表明:农田生态系统中,长期施用化肥并不能提高微生物生物量氮的水平,但可以加快其周转速率。NPK配合猪厩肥处理的微生物体氮含量最高,周转也最快。林地和草地生态系统中,荒地处理由于积累的有机物很多,其微生物量氮最大,其次是林地处理和割草处理,裸地处理的微生物生物量氮最低。各处理的土壤微生物量周转速率为:NPK+M>荒地>林地=割草>NPK>CK>裸地。
【英文摘要】The effect of different land—use types on the soil microbial biomass nitrogen fMBN1 was studied inlong-term experiment.The results showed that not MBN content but turnover rate was promoted by long-term chemical fertilization in farmland ecosystem.The MBN content and turnover rate reached the maximum in NPK+pig manure treatment.Th e MBN content in wasteland treatment was the highest in woodland and grass ecosystem due to large numbers of organic matter.and it was a little lower in woodland and mowing lan d.The MBN content was the lowest in bare land no matter in farmland or woodland an d grass ecosystem.The turnover rate of soil MBN was NPK+M>wasteland>woodland=mowing land>NPK >CK >bare lan d treatment.
【语种】中文
【第一作者】周桦
【通讯作者】宇万太
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【学科分类】土壤学

【题目】不同有机物料及其配施对潮棕壤轻组有机碳的动态影响
【中文关键词】轻组有机碳 有机物料 潮棕壤
【英文关键词】Light fraction organic carbon, Organic material, Aquic brown earth
【中文摘要】用埋袋法研究了潮棕壤中加入单一物料(玉米秸秆,稻草秸秆,苜蓿,鸡粪,猪粪)和混合物料(玉米秸秆- 鸡粪- 猪粪和苜蓿- 鸡粪- 猪粪)后土壤中轻组有机碳的一年内动态变化。结果表明:施不同有机物料后,土壤中轻组有机碳与对照相比都有较大幅度提高。随着培养时间的推移,不同处理的土壤中轻组有机碳碳含量都逐渐下降,且其下降趋势与添加物料的C/N 比值呈显著的正相关。相关分析表明,施用混合物料处理中轻组有机碳的含量与单一物料处理都呈显著的正相关。
【英文摘要】A nylon mesh bag method was conducted to study the dynamic changes of light fraction organic carbon(LF-OC) in aquic brown earth in seven organic matter treatments, including maize stalk (y), rice straw (d), alfalfa(m), pig manure(z), chook excrement(j), y-j-z mixed (h1), m-j-z mixed(h2). The results showed that the content of LF-OC reached maximum immediately after the addition of organic materials, and then decreased gradually. There was a significant correlation between the decrease tendency and the C/N ratio of each material. Correlation analysis also showed that the content of LF-OC in mixed matter in soil was significant correlated with that of each component.
【语种】中文
【第一作者】宇万太
【通讯作者】宇万太
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【学科分类】土壤学

【题目】不同时期土壤有机碳(SOC)空间格局研究的主要方法
【中文关键词】土壤有机碳 传统统计学 地统计学 Kriging 插值 遥感

【英文关键词】SOC, Conventional Statistics, Geostatistics, Kriging, Remote Sensing
【中文摘要】土壤有机碳作为陆地生态系统中的一个区域化随机变量,在系统内部垂直和水平发生变化的同时与大气圈和生物圈这两个碳库之间产生循环作用。为了揭示土壤有机碳的空间分布特性,传统统计学、地统计学、遥感与地理信息系统等方法被相继引入且逐渐走向成熟,其中利用遥感与地理信息系统相结合的方法来反演土壤有机碳库储量及其空间分布格局受到了越来越多的专家学者所推崇。本文在对不同方法基本理论进行简单阐述的基础上,介绍了它们在土壤有机碳的空间分布格局的研究中所取得的一些成果,并就遥感技术在反演表层土壤有机碳的空间分布格局中的应用前景进行了展望。
【英文摘要】Soil organic carbon (SOC) as one regionalized variable of terrestrial ecosystem, cycled between atmosphere and biosphere, while it changed in horizontal and vertical direction inside the system. In order to reveal the spatial distribution characters of SOC, conventional statistics, geostatistics, remote sensing and geographic information system (GIS) etc were used and becoming perfect gradually. Among these methods, the combination of remote sensing and GIS is canonizing by more and more professors and researchers to inverse SOC storage and its spatial distribute pattern. In this paper, the basic theories and some applied products of them in SOC spatial distribute pattern were troduced and it also discussed the perspective of remote sensing in SOC spatial distribute pattern research.
【语种】中文
【第一作者】李欣宇
【通讯作者】宇万太
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【题目】氯仿熏蒸浸提法测定土壤微生物量碳的改进
【中文关键词】氯仿薰蒸浸提法 微生物量碳 转换系数(KEC)
【英文关键词】Fumigation extraction method, Microbial biomass carbon, Conversion factor (KEC)
【中文摘要】对氯仿薰蒸浸提法测定微生物量碳进行改进,使用消煮仪取代恒温电热板进行加热,并优化了升温方式和恒温时间,取得令人满意的试验结果。另外,还对该方法的原理以及试剂的作用和需要注意的事项进行了讨论。最后,将化学法测定结果与仪器分析方法测定结果进行对照,根据测定结果的一致性提出两种测定方式的转换系数应一致。
【英文摘要】In this study a modified fumigation extraction method was described for the determination of microbial biomass carbon, and digestion block was used for heating, with which heating mode and constant temperature time were optimized and the result was satisfactory. Experimental principle, the effect of reagent and necessary notice were discussed. The method comparison experiment was carried out in order to validate the accuracy of the modified method. The results of manual method and instrumental method were consistent with each other, so the transition coefficient should be consistent according to the result.
【语种】中文
【第一作者】周桦
【通讯作者】宇万太
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【学科分类】土壤学

【题目】下辽河平原不同磷肥用量对作物产量及潜在养分的影响
【中文关键词】磷肥利用率 养分收支 磷肥效应 玉米 大豆
【英文关键词】fertilizer phosphorous use efficiency, nutrient budget, phosphorous fertilization effect, Zea mays, Glycine max.
【中文摘要】通过6年的定位试验,对下辽河平原不同磷肥用量条件下,土壤养分库的建立及磷肥的肥料效应、土壤磷的自然释放速率等进行了研究。结果表明:磷肥可以提高作物的产量,且对大豆的增产幅度大于玉米,但磷肥年用量超过25 kg · hm- 2时,增产效果不明显;磷肥也可以提高作物的养分移出量,但养分移出量增加的比例大于作物产量增加的比例;磷肥利用率随着磷肥用量的增加而减小,当磷肥年用量为25 kg · hm- 2时,磷肥利用率约为30% ,但残留磷肥转化为有效磷的比例

随着磷肥用量的增加而增大;磷肥施入土壤后,残留磷肥转化为迟效磷的比例高达80% ,且残留磷肥转化为迟效磷的量随着磷肥用量的增加而增加,这对于构建土壤磷库有重要意义。

【英文摘要】A six years field experimentwas conducted at the lower reaches of L iaohe River Plain to study the effects of different app lication rate of phosphorous (P) fertilizer on the use efficiency of app lied fertilizer P, establishment of soil P pool, and the release rate of soil P. The resultsshowed that P fertilization increased crop yield, and the yield increment of soybean was greaterthan that of maize. However, when the P app lication rate exceeded 25 kg · hm- 2 per year, theyield increasing effect was not significant. Phosphorous fertilization also increased the P up takeby crop s, and the increment was higher than yield increment. When the P app lication rate was25 kg · hm- 2 per year, the fertilizer P use efficiencywas about 30%. With the increase of P app lication rate, the use efficiency of fertilizer P decreased, but the p roportion of soil available P transformed from residual fertilizer P increased. After the P fertilization, the transformation rate of residual fertilizer P into soil less available P reached as high as 80% , and the p roportion of the transformed soil less2available P increased with increasing P app lication rate, which was of significance in the establishment of soil P pool.

【语种】中文

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【学科分类】土壤学

【题目】几种酸性土壤供氮力测定方法的综合评价

【中文关键词】棕壤 黑麦草 供氮力 指标

【英文关键词】brown soil, ryegrass, nitrogen supp lying capacity, index

【中文摘要】模拟旱地条件进行黑麦草盆栽试验, 对不同供氮力指标与黑麦草吸氮量相关性进行研究, 结果表明, 短期好气培养法测定的可矿化氮与吸氮量相关系数为01820; 氯化钾与氯化钙浸提的硝态氮与黑麦草吸氮量的相关系数分别为01892和01916, 表明硝态氮含量作为土壤供氮能力指标具有一定的稳定性; 微生物量氮的测定结果不够稳定且与黑麦草吸氮量相关性不高(r = 01751) 。分析表明, 氯仿熏蒸- 浸提全氮与吸氮量的相关性最好,相关系数可达01941, 是一个较好的供氮力指标。

【英文摘要】A pot culture experiment simulated dryland soilwas conducted to study the relationship between different indexes of nitrogen supp lying capacity and up take nitogen by ryegrass. The results showed that the correlation coefficient ofmineralizable nitrogen from short aerobic incubation and up take nitrogen by ryegrass was 01820. And a good correlation between nitrate nitrogen extracted by KCl and up take N by ryegrass was found, so was CaCl2. The correlation coefficient were 01892 and 01916, respectively. It indicated that nitrate nitrogen extracted by KCl and CaCl2 was a good index to evaluate nitrogen supp lying capacity. Lower correlation (r = 01751) between soil microbial biomass nitrogen and up take nitrogen by ryegrass imp lied that the content of soilmicrobial biomass nitrogen was less suitable for reflecting nitrogen supp lying capacity. The fumigation extraction nitrogen was significantly correlated with up take nitrogen by ryegrass (r = 01941). Among the indexes, the fumigation extraction nitrogen was the bestway to evaluate nitrogen supp lying capacity.

【语种】中文

【第一作者】宇万太

【通讯作者】宇万太

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【引文索引号】无

【学科分类】土壤学

【题目】不同磷肥用量对下辽河平原作物体内养分分配的影响

【中文关键词】磷 作物 养分分配

【英文关键词】phosphorus, crop, nutrients alloction

【中文摘要】磷是植物生长所必需的元素之一。作物体内磷素分配一直是相关学科研究的热点,而对于不同磷肥水平下作物体内养分含量变化的研究却不多见。本文以中长期田间试验为平台,就不同磷肥用量下作物体内养分含量、分配及单位经济产量养分收获量的变化进行了分析,以期为合理利用磷肥提供理论依据。1材料与方法田间试验在中国科学院沈阳生态实验站进行,该站处于下辽河平原中部偏东。年均≥10℃活动积温为3300~3400℃。年降雨量平均600~700 mm。年蒸发量1480~1756 mm。试验地土壤为草甸棕壤,2002年试验开始时,主要理化性质为:全氮(N)1·04 g/kg,全磷(P)0·47 g/kg,全钾(K)17·4 更多还原。
【英文摘要】Phosphorus is one of the ensential elemental nutrients of plant.
【语种】中文
【第一作者】朱先进
【通讯作者】宇万太
【期刊名称、卷期、页码】中国土壤与肥料,2009年,(2):78-79
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【引文索引号】无
【学科分类】土壤学

【题目】有机肥用量对玉米体内养分浓度和养分分配的影响
【中文关键词】有机肥 施肥量 养分浓度 养分分配 玉米 养分奢侈吸收
【英文关键词】Organic fertilizer, Manure application rate, Nutrient content, Nutrient distribution, Maize, Lavish nutrient absorption
【中文摘要】通过5 年(2002~2006 年)的田间定位试验, 研究了不同施肥量处理对玉米体内养分浓度、养分分配及每形成单位籽实产量收获养分量的影响。结果表明:施有机肥具有稳产高产作用, 随着有机肥施用量的增加,玉米的稳产作用更为明显;玉米籽实的氮素和磷素浓度均随有机肥用量的增加而增加, 钾素浓度与有机肥用量未呈现出明显相关性, 玉米秸秆中的养分浓度大体上随有机肥用量的增加而增加;玉米收获产品中氮、磷含量在籽实和秸秆中的分配比与产量均呈现较好的相关性, 钾表现不明显;玉米生长愈好(施肥愈多), 每形成单位经济产量消耗的氮、磷、钾就愈多, 说明玉米对氮、磷、钾的利用都存在一定程度奢侈吸收。
【英文摘要】A consecutive 5-year (2002~2006) field trial in the lower reaches of Liaohe River was conducted. The study investigated the effect of manure application rates on nutrient content, distribution in plant and amount in each harvested unit grain of maize. The results show that manure is an important factor in stable and high maize yield. The content of N and P in grain and stalk increases with increasing rate of manure application. K content in stalk shows the same tendency, but in grain is unrelated to the amount of applied manure. The results also indicate that maize yield is directly correlated with the ratios of N and P content in grain to stalk, and not K. Increasing nutrient consumption to produce unit grains with increased manure application implies that N, P and K are lavishly absorbed by maize crops.
【语种】中文
【第一作者】周桦
【通讯作者】宇万太
【期刊名称、卷期、页码】中国生态农业学报,2009年,17(4):647-650
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【引文索引号】无
【学科分类】土壤学

【题目】不同施肥模式下潮棕壤微量元素含量及其变化状况
【中文关键词】微量元素 施肥 养分循环 潮棕壤 茬口
【英文关键词】Trace elements ,Fertilization ,Nutrients cycling ,Aquic brown soil ,Stubble
【中文摘要】了解下辽河平原地区不同施肥模式对于土壤微量元素含量及其变化的影响。利用下辽河平原18 年的定位试验,对不同施肥处理下土壤中Fe、Mn、Zn、Cu、Pb 的含量及其变化进行研究。下辽河地区所测微量元素含量均略低于全国平均水平,长期采用常规施肥方式不会对土壤造成污染;除了Fe 以外,试验前后所测元素的变化量在施肥处理与CK间均有显著差异,而各元素的变化量在养分循环处理与化肥处理间无显著差异;长期试验过程中,对照处理除了Zn 以外均表现出下降的趋势,施肥处理除Cu 以外均表现为增加的趋势;重茬玉米地中Cu 含量比豆茬玉米地高。下辽河平原地区不同施肥模

式下微量元素含量均低于国家限定标准,不会对土壤造成污染;不同施肥模式下微量元素变化不同,但养分循环再利用能够增加农田中微量元素的输入,对于维持农田生态系统的可持续发展有重要意义。

【英文摘要】Objectives of this paper are to elucidate the effect of different fertilization treatments on the contents and changes of trace elements in acquic brown soil . The effect was studied by a consecutive 18 years field trial on aquic brown soil in Shenyang suburb of Northeast China. The contents of trace elements in this area were lower than that of the national average ,and there is no risk of pollution on soil under those fertilizations. Changes of contents of measured elements except Fe in soil between fertilization treatments and the control were significant ,and there were no significant difference between the fertilizer treatment and the nutrient cycling treatment in those changes.All the measured elements except Zn declined during the trial under the control treatment ,while all the measured elements except Cu increased under fertilization treatments. The content of Cu in the soil with continuous maize stubble was higher than that in the soil with soybean stubble. The contents of trace elements under different fertilization treatments in the lower reach of Liaohe Plain were lowerthan the environment quantity standard for soils ,so those fertilization treatments can not make damage to the soil for a long time ;And there are some differences in the changes of trace elements among treatments ,while nutrients cycling can improve the inputs of trace elements in agroecosystem and has an important effect on the sustainable of agriculture.

【语种】中文

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【通讯作者】宇万太

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【学科分类】土壤学

【题目】施用有机肥对土壤肥力的影响

【中文关键词】有机肥 潮棕壤 土壤肥力 作物产量

【英文关键词】manure,aquic brown soil,soil fertility,crop yield

【中文摘要】在潮棕壤上进行了 5 年的定位试验,研究不同有机肥用量对作物产量和土壤肥力的影响。结果表明,施用有机肥处理与对照处理相比,施用有机肥有明显的增产和稳产作用。不施肥处理,除土壤全钾以外,土壤其他各项养分指标(C、N、P)均有所下降;施用有机肥能显著提高速效 P、K 养分含量和有机碳及全磷含量。5 年时间,低量有机肥处理土壤碱解氮含量下降了 9.19 mgG kg,说明低量有机肥并不能保证土壤氮的供给;中量有机肥处理土壤碱解氮含量略有上升,土壤全氮收支基本平衡;高量有机肥处理土壤碱解氮含量有明显增加,土壤全氮也有较大程度的盈余。

【英文摘要】Effects of manure application rates on crop yield and soil fertility were studied on a five5year field experimentin an aquic brown soil. The results indicate that the manure application plays an essential role in increasing and stabiliz5ing yield. Contents of total C,total N and total P are decreased in the control treatment while total K is not inceased.Contents of available P,available K,organic carbon and total phosphorus are increased significantly with the manure ap5plication. Soil alkali5hydrolyzed nitrogen content is decreased by 9.19 mgGkg in five years under the low manure ratewhich shows that the demand of nitrogen uptake could not be met,while that under the moderate manure rate is slightlyincreased. Content of alkali5hydrolyzed nitrogen is significantly increased and a positive total N balance is observed at thehigh manure rate

【语种】中文

【第一作者】宇万太

【通讯作者】宇万太

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【学科分类】土壤学

【题目】施肥和土壤管理对土壤微生物生物量碳、氮和群落结构的影响

【中文关键词】施肥 土壤管理 微生物多样性 变性梯度凝胶电泳 微生物生物量 氨氧化细菌

【英文关键词】long-term fertilization, soil management, genetic diversity, DGGE, microbial biomass, ammonia-oxidizing bacteria

【中文摘要】以中国科学院沈阳生态试验站的长期定位试验为平台,研究了不同施肥和土壤管理对潮棕壤微生物生物量碳、氮和群落结构的影响。结果表明,裸地和农田处理的微生物生物量碳、氮较低,但是农田处理下施肥增加了微生物生物量,其中NPK +M效果最明显。DGGE图谱显示,处理间细菌条带分布较相似,其中裸地的细菌多样性最高;长期施肥和土壤管理改变了土壤真菌群落结构,施肥增加了真菌多样性,且有机肥的影响大于化肥;不同处理间氨氧化细菌群落结构差异显著,NPK +M显著增加了氨氧化细菌多样性,且无机肥和有机肥对氨氧化细菌群落影响不同。施肥和土壤管理对细菌影响较小,但显著改变了真菌和氨氧化细菌的群落结构。聚类分析结果显示,土壤管理措施较施肥对细菌、真菌和氨氧化细菌群落的影响更为显著。

【英文摘要】Based on a field study of the aquic brown soil in the suburbs of Shenyang City in Northeast China over a consecutive 19 years, the effects of fertilization and soilmanagement on the microbial biomass (C and N) and communities were investigated. The results showed thatmicrobial biomass of the bare land and farmland was low. Fertilization increased the microbial biomass, especially when mineral fertilizers and p ig manure (NPK +M) were app lied. DGGE fingerp rinting indicated a high similarity in the distribution ofmost bacterial bands among all treatments, and the bacterial diversity of thebare land was the highest. There were significant variations of fungal community structure among different treatments. Long-term fertilization increased fungal diversity and manure wasmore effective than mineral fertilizer to increase fungal diversity. Long term fertilization and soilmanagement had a large effect on the ammonia2oxidizing bacteria structure in soil. Moreover, manure and mineral fertilizer influenced the ammonia2oxidizing bacterial communities in different ways. When app liedtogether NPK +M increased the diversity most significantly. On the contrary, fertilization and soil management had less effect on the bacterial communities. Cluster analysis suggested that soil management p ractice had a larger effect on the community structures of bacteria, fungi and ammonia2oxidizing bacteria than fertilization

【语种】中文

【第一作者】毕明丽

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【学科分类】土壤学

【题目】氮肥施用对作物吸收土壤氮的影响——兼论作物氮肥利用率

【中文关键词】15N标记肥料试验 加入氮交互作用(ANI) 氮肥利用率 比值法

【英文关键词】15N 1abelled fertilizer experiment:Added nitrogen interaction(ANI),Fertilizer N recovery,proportion method

【中文摘要】在15N标记肥料微区试验巾采取了抑制土壤中氮生物同持作用的措施——用长期不施肥试验地、小麦拔节前施＂N标记KNO,,成功显示了影响施氮作物吸收土壤氮的另一个过程:肥料氮对土壤氮库的稀释作用(或作物吸收养分过程中肥料氮和土壤氮的库替换作用)的存在;试验中施氮作物较不施氮作物少吸收土壤氮,呈现负的ANI(加入氮交互作用)。生物固持作用和肥料氮对土壤氮库的稀释作用是两个作用相反且交织在一起的过程,其相互抵消、平衡后的最终结果可以是正ANI,也可以是负ANI,决定于两者影响力的强弱。由于受上述过程的影响,用田间试验估测作物氮肥利用率,无论＂N标记法或传统的差值法,均不可能获得可信的结果。作为替代方法,比值法可避免上述过程的影响,经本试验检验,结果良好。

【英文摘要】In a microplot 15N 1abelied fertilizer N experiment。where measures were taken to inhibit bio-immobiliza—tion of nitrogen,application of ＂N—labelled KN03 to wheat prior to its shooting stage,and the microplot experiment being carried out in Treatment CK(a treatment of another field experiment that has never been fertilized)successfully exposed another process that affected uptake of soil N by crops.i.e.dilution of soil N pool or substitution of N in the pool by fertilizer N.The crops applied with N fertilizer absorbed less soil N than those applied with nothing,showing negative ANI.Biological N immobilization and dilution of(fertilizer N on)soil N pool are two opposite and intermingled actions.Coun—teraction and balance of the two actions might lead to positive ANI or negative ANI depending on which one is stronger.As is affected bv the abore-discussed proce8s,it is almost impossible to assess N fertilizer recovery rate with reliable result by means of field experiment using either ＂N—labelling method or traditional difference method. As an alternative,the proportion method could help skid over the obstacle and has been verified in this experiment with better results.

【语种】中文

【第一作者】宇万太

【通讯作者】沈善敏

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【学科分类】土壤学

【题目】黑土有机培肥对土地生产力及土壤肥力影响研究
【中文关键词】黑土 有机培肥 土地生产力 土壤肥力
【英文关键词】black soil, organic soil fertility improving material, soil productivity, soil fertility
【中文摘要】20 年定位监测结果表明,有机肥与化肥配施处理,可显著提高土壤有机质、全氮、全磷、碱解氮、速效磷和速效钾含量。其中,高量有机肥与氮、磷、钾化肥配施处理耕层有机质与全氮含量比试验前分别增加3910 %和3017 %。化肥与有机肥长期配施对土地生产力贡献优于相应化肥单施。N 素化肥生产力贡献率7219 % ,与有机肥配施对土地生产力贡献率9212 % ,增产贡献率8610 % ,比氮、磷、钾化肥处理增产贡献率高118 %。有机肥对土地生产力贡献为8013 % ,无肥处理贡献率为3916 %。高量有机肥与氮、磷、钾化肥配施对土地生产力贡献居首,能有效增加土壤养分含量,是提高生产力水平和培肥地力的最佳施肥结构。
【英文摘要】The 20-year field monitoring location experiments indicated that the treatment of integrated use of organic manure and chemical fertilizers can significantly increase the contents of soil organic matter,total N and P,available N,P and K.With the combined application of high quantities of organic manure and chemical fertilizer,organic matter N,P and K increased by 39.0% and total N by 30.7%.With respect to the contribution to land productivity,the long-term integrated use of organic manure and chemical fertilizers was superior to the mere application of chemical fertilizer.The productivity contribution of N fertilizer was 72.9% and that of the integrated application was 92.2%.Its contribution to yield-increase was 86.0%,1.8% higher than that under the N,P and K fertilizer treatment.The contributions of organic manure and no application treatment to land productivity were 80.3% and 39.6% respectively.The combination of high quantities of organic manure and N,P and K fertilizer was the highest as to productivity contribution,and could increase the nutrient contents of soil.It is the best fertilization structure of increasing productivity level and improving soil fertility
【语种】中文
【第一作者】高洪军
【通讯作者】窦森
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【学科分类】土壤学

【题目】长期施肥和气候因素对东北黑土区玉米产量的影响
【中文关键词】玉米　施肥　产量　气候
【英文关键词】corn, soil, yield, climate
【中文摘要】本试验以公主岭国家黑土监测基地为平台,研究玉米连作条件下施肥及气候因素对产量的可持续性影响。试验共设有机肥和化肥N、P、K的不同组合共24个试验处理。结果表明,与不施有机肥相比,施用常量有机肥和高量有机肥(FYM1、FYM2)均可以显著提高玉米产量,产量分别达到7668kg/hm2和7925kg/hm2,FYM(无有机肥)处理为5718kg/hm2。有机肥配施化肥比单施化肥也有明显的增产作用,施用N肥165kg/hm2可以显著增加玉米产量,单施磷素、钾素及磷钾配施增产作用不明显,表明土壤中的磷钾营养水平没有限制作物产量。降雨量与产量的相关分析结果表明,磷、钾处理的产量与8月份的降雨量显著相关。
【英文摘要】A long-term monoculture corn experiment was established at Gongzhuling, China, to study the sustainability of corn grain yield under the conventional management. Twenty-four treatments consisting of different compositions of chemical N, P, K, and farmyard manure (FYM) were included. Farmyard manure treatments produced more corn grain yields(7 668 kg/ha and 7 925 kg/ha in FYM1 and FYM2) compared to that of non-FYM treatment (5 718 kg/ha). The application of 165 kg N/ha increased grain yield significantly, but the addition of P, K or PK gave no significant response, suggesting that the soil supply of these nutrients did not limit corn yield. Corn grain yields increased and remained relatively constant with time in fertilized and FYM addition treatments and decreased in no-fertilizer addition treatment. Precipitation in August was proportional to corn grain yields only to P and K treatments. Adequate application of fertilizer and FYM can sustain monoculture corn production.

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【第一作者】彭畅
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【题目】农田氮磷流失与农业非点源污染及其防治
【中文关键词】农田 氮磷流失 农业非点源污染
【英文关键词】Farmland, Loss of nitrogen and phosphorus, Agricultural non-point source pollution,
【中文摘要】农田氮、磷的流失,不仅造成化肥利用率的降低,还会引起农业非点源污染。通过分析国内外由于农田氮磷流失而引起的农业非点源污染现状和流失途径,提出加强污染源监控预警,综合运用管理措施和生态工程等,控制和减少农田氮磷流失对水体环境的污染。
【英文摘要】loss of nitrogen and phosphorus lead to not only the decrease of utilization of fertilizer,but also the agricural non-point source pollution.Through the analysis of nitrogen and phosphorus at home and abroad due to the loss of farmland caused by agricultural non-point source pollution status and the loss of channels.The author put forward to strengthen early warning pollution monitoring and use measures and ecological projects synthetically to control and reduce the pollution to the water body due to the loss nitrogen and phosphor of farmland.
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【题目】长期培肥对土壤肥力及玉米产量的影响
【中文关键词】玉米 土壤 培肥 产量
【英文关键词】Corn, Soil, Fertilization, Yield,
【中文摘要】在吉林省中部重点产粮区的黑土上进行了近30年的土壤定位培肥研究。结果表明,连续30年不施肥料,耕层土壤有机质含量年均减少0.1 g/kg左右,单施化肥土壤有机质年平均矿化率约为0.38%,施入不同数量有机肥及与化肥配合施用的耕层土壤有机质平均年增加0.3 g/kg左右,土壤全氮含量的变化与土壤有机质趋势相同。施用有机肥可以降低土壤容重,下降幅度在0~0.06 g/cm3,不施肥和单施化肥区土壤容重呈增加趋势。施用高量有机肥,耕层土壤总孔隙、田间持水孔隙增加。长年施用有机肥的玉米产量与单施化肥的处理基本相同。有机-无机肥配施有利于土壤有机质的积累,改善耕层土壤理化性状,玉米产量稳定增加。
【英文摘要】The black soil locate-fertilization research works in key grain middle area of Jilin province in recent 30 years were studied.The results showed that soil organic contents of plough layer reduce 0.11 g/kg per year by no-fertilizer treatment and the rate of mineralization was about 0.38% by single chemical fertilizer application.The increase rate was 0.3 g/kg per year by organic-inorganic fertilization.The transform trend of content of soil total nitro-gen was similar to soil organic matter.By organic fertilizer application can lessen soil unit weight and the range was between 0-0.06 g/cm3 while the trend showed expanding by no-fertilization and chemical fertilization.The soil total porosity and field capacity porosity of plough layer were increase and the vent porosity changed irregular.The maize yield of single organic fertilization was equal to chemical fertilization.Organic-inorganic compound fertilization was benefit to accumulation of soil organic matter,improve soil physical-chemical property,promote soil fertility,and the yield could stable increased
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【题目】东北黑土有机硫矿化动力学特征及其影响因素》
【中文关键词】黑土 有机硫 矿化动力学 影响因素
【英文关键词】Black soil, Organic sulfur, Mineralization dynamics, Affecting factor,
【中文摘要】利用开放培养系统分别在20℃和30℃条件下,研究了不同地区(北安、海伦、公主岭)黑土和黑土在不同施肥条件下有机硫的矿化特征。结果表明:在好气培养条件下,黑土有机硫累积矿化量随培养时间的增加不断增加,两者之间的数量关系遵从一级动力学模式,前4周的矿化量占14周矿化总量的50%~62%。公主岭黑土有机硫的供硫潜力最大,且矿化速率快,供硫强度较北安、海伦高。温度越高土壤有机硫矿化势值越大,矿化化学反应速率常数也越大,半衰期越短。长期肥料定位试验地土壤有机硫的矿化势依次为施用有机肥(M)>有机肥+NPK(MNPK)>NPK(NPK)>未施肥(CK),表明施用有机肥可提高土壤供硫潜力。可见,施用有机肥对维持黑土有机硫肥力具有重要作用。 更多还原
【英文摘要】An open incubation method was used.Samples of black soils,collected from different areas(Beian,Hailun,and Gongzhuling)and plots of a long-term fertilization experiment,were incubated aerobically at 20°C or 30°C,respecfively to study characteristics of organic S mineralization in the soils.Results show that in aerobic incubation,cumulative organic S mineralization increased with the time going on,followed the first-order kinetic model.The cumulative organic S mineralization in the first 4 weeks accounted for 50%-62% of the total mineralization in 14 weeks.The black soil in Gongzhuling was the highest in S supply capacity,and stronger in S supply intensity and quicker in organic S mineralization rate than in Hailun and Beian.The higher the temperature,the higher the mineralization potentiality of organic S,the higher the velocity constant of mineralization reaction,and the shorter the half-life period.In terms mineralization potential of organic S in the long term fertilization experiment,the treatments were in the order of M>MNPK>NPK>CK,showing that organic fertilizer was the major source of soil organic S,and improved soil S supply capacity
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【题目】哈尔滨市黑土全量养分空间变异分析——以方正县德善村为例》
【中文关键词】空间异质性 黑土 土壤养分 地统计学
【英文关键词】spatial heterogeneity, Black soil, soil nutrient, Geostatistics
【中文摘要】利用地统计学和GIS相结合的方法分析了哈尔滨市方正县德善村土壤养分有机质、全氮、全磷、全钾空间变异状况。采集土壤表层0~20 cm土样51个,面积约50 hm2。经常规化验分析和空间分析结果表明:有机质变异系数<0.1为弱变异,全氮、全磷、全钾在0.1~0.9为中等变异;土壤有机质、全氮的理论模型均为球状模型;全磷和全钾理论模型为指数模型;有机质和全氮的C0/(C0+C)分别为8.3%、8.9%,说明这两种养分具有较强的空间相关性;全磷、全钾的C0/(C0+C)分别为49.6%、49.9%,具有中等空间相关性。
【英文摘要】To provide scientific suggestions on soil nutrient management and balanced fertilization in Harbin city,Geostatistics method and Geographic Information Systems were introduced to study soil spatial heterogeneity in Deshan village in Fangzheng county.51 soil samples at the depth 0~20 cm were collected from a 50 hm2 stubble field,and the soil properties that organic matter,total N,total P,total K were analyzed.After treated with routine chemical mothod and spatial analysis,the results indicated: soil organic matter(OM) showed weak variation,and the coefficient of variation(CV) was less than 0.1;total N,total P and total K showed medium variation,with CV between 0.1 and 0.9;the theoretic semivariogram models of OM and total N were spheroid;that models of total P and total K were exponent;the ratios between Nugget and Sill of OM and total N were 8.3% and 8.9%,respectively,which indicated the strong spatial correlation between these two nutrients;the ratios of total P and total K were 49.6% and 49.9%,respectively,so they show medium spatial correlation.

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【题目】哈尔滨市黑土养分空间异质性分析——以方正县德善村为例》
【中文关键词】黑土 养分含量 空间异质性 方正县
【英文关键词】Spatial heterogeneity, Black soil, Soil nutrients, Geostatistics
【中文摘要】利用地统计学和GIS相结合的方法分析了哈尔滨市方正县德善村土壤养分空间异质性。采集土壤表层0~20cm土样51个,面积约50hm2。经常规化验分析和空间分析结果表明有机质变异系数<0.1为弱变异,全氮、速效氮、速效磷、速效钾在0.1~0.9之间为中等变异;土壤有机质、全氮、速效氮的理论模型均为球状模型;速效磷和速效钾理论模型为指数模型;有机质和全氮的C0/(C0+C)分别为8.3%、8.9%,说明这两种养分具有较强的空间相关性;速效氮、速效磷、速效钾的C0/(C0+C)分别为25%、49%、50%,具有中等空间相关性,其中速效磷和速效钾受随机性因子影响较大。本研究旨在为哈尔滨市土壤养分管理和平衡施肥提供科学依据。 更多还原
【英文摘要】Geostatistics method and geographic information systems were introduced to study soil nutrient spatial heterogeneity in Deshan village, Fangzheng county, Harbin. 51 soil samples at the depth 0-20 cm were collected from a 50 hm2 field and measured with routine chemical methods and space analysis. The results were as follows. Soil organic matter (OM) showed weak variation, and the coefficient of variation (CV) was less than 0.1. Total N, available N, available P and available K showed medium variation with CV between 0.1 and 0.9. The theoretic model of OM, total N and available N were spheroid. Models of available P and available K are exponent. The ratios between C0 and C0+C of OM and total N were 8.3% and 8.9%, respectively which indicates the strong spatial correlation of these two nutrients. The ratios of available N, available P and available K were 25%, 49% and 50%, respectively. They showed medium spatial correlation, and available K and available P were strongly affected by random factors. This study aimed at providing scientific gist for soil nutrient management and balanced fertilization in Harbin.
【语种】中文
【第一作者】张久明
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【题目】嫩江县土壤速效养分差异分析
【中文关键词】空间异质性 黑土 土壤养分 地统计学
【英文关键词】spatial heterogeneity, black soil, soil nutrients, geostatistics
【中文摘要】利用地统计学和GIS相结合的方法分析了嫩江县土壤速效养分空间异质性。采集土壤表层0~20 cm土样6 900个,采集土地利用类型为耕地,面积约35.6万hm2,进行化验分析和空间分析。结果表明:速效氮、速效磷、速效钾变异系数均在0.1~1.0,为中等变异;土壤速效磷的理论模型均为指数模型;速效氮和速效钾理论模型为球状模型;速效磷、速效钾的C0/(C0+C)分别为49.9%、50.2%,在25%~75%,变量具有中等空间相关性,而速效氮的C0/(C0+C)为79.5%,变量空间相关性较弱,表明土壤养分速效氮受随机性因子影响较大。
【英文摘要】Geostatistics method and Geographic information systems(GIS) were introduced to study soil nutrient spatial heterogeneity in Nenjiang county of Heilongjiang province.6 900 soil samples at the depth 0~20 cm were collected over 356 000 hm2 farmland and measured with routine chemical methods and spatial analysis.The results showed that the soil available N,available P and available K were medium variation,and the coefficients of variation(CV) were all between 0.1 and 0.9;The theoretic model of available P is exponent;The theoretic models of available N and available K are spheroid;The ratios between C0 and C0+C of available P and available K were 49.9% and 50.2%,between 25% and 75%,respectively,which indicates the medium spatial correlation of these two

nutrients;The ratios between C0 and C0+C of available N was 79.5%,it indicates weak spatial correlation,and available N was strongly affected by random factors.
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【题目】不同条件下有机物料在黑土中分解规律的研究
【中文关键词】有机物料 黑土 分解规律
【英文关键词】organic materials, black soil, decomposed regularity
【中文摘要】通过在土壤中埋置砂滤管的方法明确不同积温、水分、pH以及有机物料与黑土不同配比条件下有机物料的分解情况。结果表明:小麦和草木樨秸秆分解不受温度高低的影响,低温条件下分解较快,分解速率为草木樨>小麦秸秆;在浇水条件下小麦和草木樨秸秆易于分解,表现为第一年分解速率较高,比正常条件下分解率高出20%左右,第二年分解缓慢平均分解率只有10%左右;玉米秸秆加入量最少分解最快。当加入量为1%时,第一年就分解了75.6%,第二年达88.8%;小麦秸秆在pH7时分解率为63.1%,在pH8.7时的分解率为75.6%,其余也都相差10%左右。埋管第二年,各种物料分解速率趋于平稳。因此,土壤有机物质的分解不仅因有机物料的种类而有差异,而且也受土壤的某些性质(如水分,pH)和气候(如温度)以及还田数量等因素影响。 更多还原
【英文摘要】The method of sand strainer tube was used in this trial for studying the decomposing regularity of organic materials on the condition of different accumulated temperature, moisture, pH, materials and soil proportion. The result shows that: wheat and sweet clover straw were prone to decompose at low temperature, decomposition rate was sweet clover higher than wheat straw. In water condition, sweet clover and wheat straw were prone to decompose in the first year were 20% higher than normal, average decomposition rate was only 10% in the second year. The fastest decomposition, the least addition. When adding amount of 1% straw, the decomposition rate is 75.6% in first year, and the second year up to 88.8%. Wheat straw decomposition rate is 63.1% at pH 7 and 75.6% in pH 8.7, the remaining also have a difference of about 10%. Pipes next year, decomposition rate of various materials were stabilized. Therefore, soil organic matter decomposition not only because of the type of organic materials there are differences, but also by some properties of the soil (such as moisture, pH) and climate (such as temperature) as well as to field the quantity of factors
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【题目】三江平原地区不同有机物料腐解规律的研究
【中文关键词】玉米 大豆 秸秆还田 腐解规律 养分释放率 组织结构
【英文关键词】Maize, Soybean, Stalk returning into soil, Decomposition regularity, Nutrition release rate, Tissue structure
【中文摘要】利用网袋法模拟田间还田方式,研究不同还田方式下玉米、大豆秸秆的腐解特征。结果表明:经过150d的分解,玉米和大豆秸秆残留率在33.7%~61.1%之间,秸秆还田分解趋势为:土埋处理>露天处理,土埋玉米秸秆>土埋大豆秸秆,露天条件下大豆和玉米秸秆分解速率一致。从细胞结构上看,玉米秸秆随着还田时间的延长,基本组织和维管束遭到破坏,细胞壁变薄,细胞内物质消失,细胞排列疏松;大豆秸秆组织结构变化不明显。露天和土埋处理各有机物料有机碳分解率分别为39.9%~48.9%、49.6%~65.8%,土埋玉米和大豆秸秆腐解速度明显高于露天处理。两个处理氮、钾分解率无太大差异,分别为51.1%~67.7%、74.6%~91.7%,而磷素变化比较明显,露天和土埋处理玉米秸秆的磷释放率平均比大豆秸秆高49.4%、56.7%。作为还田物料玉米秸秆要好于大豆秸秆。 更多还原

【英文摘要】Net bag method was used to determine the decomposition characteristics of soybean and maize stalks under two approaches of returning crop residues into soils. The results show that after 150 days of composting, residual rates of maize and soybean stalks are between 33.7%~61.1% under the two treatments. The order of decomposition rate of the stalks is: soil-covered treat-ment > open-air treatment, soil-covered maize stalk > soil-covered soybean stalk. Decomposition regularities of soybean and maize stalks in open-air are almost the same. As for the cell structure, with the time of treatments, tissues become blurred and loose, parenchyma and vascular bundles break-down, and intracellular matters disappear in maize stalk. However, there is no significant change in tissue structures of soybean stalk. Organic carbon decomposition rates of different organic materials are respectively 39.9%~48.9% and 49.6%~65.8% under open-air and soil-covered treatments. Stalk decomposition rates under soil-covered treatments are higher than open-air treatments. Decomposition rates of total N and K are respectively 51.1%~67.7% and 74.6%~91.7%. For maize, the decomposition rates of total P are respectively 49.4% and 56.7% higher than soybean under open-air and soil-covered treatments. With regard to material returned to the soil, maize stalk is superior to soybean stalk

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【题目】不同还田方式下大豆秸秆腐解特征研究

【中文关键词】大豆 秸秆还田 腐解规律

【英文关键词】Soybean, Stalk returning, Decomposition regularity

【中文摘要】利用网袋法模拟秸秆还田方式,研究不同还田方式不同阶段大豆秸秆有机碳、氮、磷、钾养分释放特征。结果表明:经过150d的分解,大豆秸秆生物量有39.2%~55.9%被分解,埋于土壤的大豆秸秆分解速度明显高于露天处理。腐解后大豆秸秆从组织结构上变得松散。露天与土埋处理秸秆有机碳分解率均随着时间的延长而增加,150d时大豆秸秆分解了40.7%~59.2%,加入腐熟剂效果不明显。经150d腐解后,大豆秸秆的氮、磷、钾养分释放率分别为60.1%~65.4%、18.3%~39.4%和74.6%~86.4%。

【英文摘要】Net bag method was used to determine nutrition decomposing characteristics of organic carbon,N,P,and K of soybean stalks under two different crop stalk returning approaches.The results showed that after 150 days,decomposition rate of soybean stalks were between 39.2% ~ 55.9%.The trend of stalk decomposition of soil coverage treatment was higher than open-air treatment.Tissue of soybean stalk became loose after decomposing.Organic carbon decomposition rate of straw was increased with time under open-air and soil coverage treatments.The soybean straw decomposition rate was 40.7% ~ 59.2% after 150 days.Adding decomposition accelerator had not improved the speed of organic C decomposing.The decomposition rate of N,P and K were 60.1% ~ 65.4%,15.4% ~ 39.4%,74.6% ~ 86.4%,respectively

【语种】中文

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【学科分类】土壤学

【题目】不同耕作技术模式对土壤理化性状及大豆产量的影响

【中文关键词】耕作技术模式 理化性状 土壤有机质 大豆产量

【英文关键词】Cultivation technique pattern, Physical-chemical properties, Organic matter, Soybean yield

【中文摘要】以退化黑土为对象,对7种耕作技术模式下土壤物理、化学特性进行研究。结果表明:"测土施肥+浅翻深松+秸秆还田"和"测土施肥+浅翻深松+有机肥"2种技术模式降低容重、提高田间持水量的效果最好。与原垄种相比,各种技术模式对土壤有机质都有一定的提升作用,且以加有机肥和加秸秆还田的2种模式效果相对最佳,分别增加17.8%、

22.4%;"测土施肥+浅翻深松"和"测土施肥+浅翻深松+有机肥"2种技术模式对大豆生长发育具有明显的促进作用,与常规施肥+原垄种相比分别增产9.7%和5.7%。不同技术模式中以浅翻深松加秸秆还田和有机肥的处理对改良退化土壤效果最好。

【英文摘要】Soil physical and chemical properties were studied in degenerated soil under seven cultivation technique patterns.Results showed that treatments of soil-test-fertilization + deep loosening shallow ploughing + stalk returning and soil-test-fertilization + deep loosening shallow ploughing + organic matter could increase field capacity and reduce soil bulk density significantly.Compared with original ridge growing,soil organic matter could be improved by all cultivation technique patterns,especially,soil-test-fertilization + deep loosening shallow ploughing + stalk returning treatment and soil-test-fertilization + deep loosening shallow ploughing + organic fertilizer treatment could increase content of soil organic matter about 17.8% and 22.4% respectively.Treatments of soil-test-fertilization + deep loosening shallow ploughing and soil-test-fertilization + deep loosening shallow ploughing + organic fertilizer promoted soybean growth obviously,the yield of soybean increased about 9.7% and 5.7%,compared with treatment of conventional method + original ridge growing.Treatments of deep loosening shallow ploughing + stalk returning + organic fertilizer would improve degenerated soil much better in different cultivation technique patterns

【语种】中文
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【学科分类】土壤学

【题目】不同还田方式下有机物料有机碳分解规律研究
【中文关键词】有机物料 秸秆还田方式 有机碳 分解率
【英文关键词】organic material, incorporation method, organic carbon, decomposition rate
【中文摘要】利用网袋法和砂滤管法模拟田间还田方式,研究不同处理下各有机物料有机碳的腐解特征。结果表明,网袋法玉米、大豆秸秆经过150 d后,其秸秆生物量有38.9%~46.6%被分解。秸秆还田分解趋势为:土埋处理>露天处理;土埋玉米秸秆>土埋大豆秸秆;露天大豆秸秆和玉米秸秆分解规律一致。从组织结构上看,玉米秸秆随着还田时间的增加,组织结构模糊、松散,基本组织和维管束遭到破坏,大豆秸秆组织结构变化不明显。不同还田方式下秸秆有机碳的分解规律为:玉米秸秆>大豆秸秆。在砂滤管模拟条件下玉米、大豆秸秆和根茬有机碳分解趋势基本相似,均表现为埋管初期分解较快,后期分解较慢,其有机碳分解率趋势为:玉米秸秆>大豆秸秆;降低C/N后,各有机物料有机碳分解率均高于不调节C/N。 更多还原

【英文摘要】Net bag method and sand strainer tube were used to determine decomposition characteristics of corn and soybean stalks of organic carbon under different incorporation methods into the field.The results showed that after 150 d in net bag method,biology quantity of corn and soybean stalks were decomposed from 38.9% to 46.6%.The decomposition trend of stalks was soil coverage treatment >open air treatment,and corn stalk of soil coverage>soybean stalk of soil coverage,decomposing regularities of soybean and corn stalk in the open air were almost the same.From the view of tissue structure,tissue had become blurred and loose,when the basic tissue and vascular bundle were broken in corn stalk the following time.But tissue structure of soybean stalk did not change significantly.The decomposition regularity of stalksorganic carbon in different incorporation methods was corn stalk>soybean stalk.Under simulated conditions of the sand strainer tubes,corn,soybean stalk and root stubble were similar trends in organic carbon decomposition.All the decomposition regularities were faster at the beginning of buried tubes,and slower at the later.The decomposition rate of organic carbon was corn stalk>soybean stalk.After reducing C/N,the organic carbon decomposition rate of various organic materials was higher than that of no adjusting.

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【学科分类】土壤学

【题目】砂滤管条件下有机物料的腐解规律
【中文关键词】有机物料 腐解规律 C/N
【英文关键词】different material, decomposition regularity, C/N
【中文摘要】采用砂滤管法研究不同有机物料中有机碳及氮、磷、钾分解规律。结果表明:不同有机物料中有机碳在埋管初期分解较快,后期分解较慢,分解趋势为玉米秸秆>大豆秸秆>玉米根茬>大豆根茬;经过150 d的分解,氮、磷、钾有79.9%~90.2%、93.7%~99.0%、50.6%~78.4%被释放出来。与不调节C/N相比较,各有机物料调节C/N后有机碳分解速率加快,玉米秸秆、玉米根茬、大豆秸秆、大豆根茬平均提高22.8%、19.4%、13.9%、18.7%,尤其埋管后45 d,调节C/N能明显提高秸秆的分解速度。经过150 d的分解,有72.3%~78.1%的氮被释放出来,磷素有90%左右被释放,C/N的调节对钾素影响不大。
更多还原
【英文摘要】Sand strainer tube method was used to determine decomposition regularity of different organic material of organic C and N,P,K.The results showed that the organic C decomposition rate of different organic material were faster at the beginning of buried tubes,and slower at the later.The trend of organic C decomposition rate was corn stalk>soybean stalk>corn root stubble>soybean root stubble.After 150 days,N,P and K release rate were 79.9%~90.2%、93.7%~99.0%、50.6%~78.4%.Compared with no adjusting C/N,adjusting C/N accelerates organic C decomposition rate of various organic materials,Corn stalk,corn root stubble,soybean stalk,soybean root average of 22.8%,19.4%,13.9%,18.7%,decomposition rate had obviously improved especially 45 days after embedding.And N was decomposed 72.3%~78.1%,P was about 90%,but K has not obvious influence
【语种】中文
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【学科分类】土壤学

【题目】土地利用变化与长期施肥对黑土有机碳密度的影响
【中文关键词】土地利用 长期施肥 有机碳密度 黑土
【英文关键词】SOC density, land use change, long-term fertilization, black soil
【中文摘要】土壤管理方式影响土壤碳库储量,进而影响土壤的源汇功能。该研究通过测定草地(GL)、裸地(BL)、农田无肥(NF)、化肥(NP)和化肥配施有机肥(NPM)处理的有机碳含量和土壤容重,估算了不同土地利用和施肥管理方式下的土壤有机碳密度的变化及农田的固碳潜力。结果表明,土壤有机碳含量表层最高而且变化较大,向下逐渐降低且变化较小。对于不同植被覆盖的3个处理,草地0-20cm土层土壤有机碳含量比裸地和无肥分别高出20.6%和16.4%。对于不同施肥管理方式,化肥有机肥配施土壤有机碳含量比无肥和化肥分别高出25.4%和15.5%,所有处理有机碳含量在160-200cm土层没有显著差异。0-40cm土层及0-100cm土体有机碳密度的变化趋势是NPM>GL>NP>NF>BL;40cm以下有机碳储量无规律性变化,表现出较大的变异性,这可能与土壤本身的空间异质性有关。草地100cm土体有机碳储量比裸地和无肥分别增加6.8%和5.7%,裸地和无肥无显著差异;化肥加有机肥100cm土体有机碳储量比化肥和无肥分别增加10.4%和5.9%。经估算,松嫩平原黑土区0-100cm土体有机碳库储量约为1.35Pg,农田有机培肥后碳库储量可达到0.96Pg,其固碳潜力约为0.05Pg。0-100cm土体有机碳密度与0-20cm土层有机碳含量及有机碳密度呈极显著正相关(r=0.99;r=0.97,P<0.01),表明土壤表层有机碳含量及密度对0-100cm土壤有机碳库具有决定作用
【英文摘要】Soil management practices have impacts on soil organic carbon (SOC) pools and the function of source-sink of soil.SOC content at 0-40 cm layer varied much more drastically than layers below.SOC density and C sequestration capacity were estimated by determining the SOC contents in grassland (GL),bareland (BL),and no fertilizer application (NF) plot,nitrogen and phosphorus chemical fertilizer application alone (NP) plot,and NP amended with organic manure (NPM) plot in arable lands.SOC content in grassland increased by 20.6% and 16.4% respectively,as compared with bareland and NF plot attributing to the difference of vegetation cover.For the cropland of different fertilizer treatments,SOC content of NPM plot increased by 25.4% and 15.5% compared with NF and NP plots.No significant difference of SOC content occurred at 160-200 cm soil layer for all plots.SOC density gradually decreased with the soil profile,decreasing in an order of NPM > GL > NP > NF > BL at both 0-40 cm and 0-100 cm soil horizon.SOC density in grassland at 0-100 cm layer increased by 6.8 and 5.7% compared to BL and NF plot,while no difference was observed between

BL and NF plot.In addition,SOC density in NPM plot increased by 10.4% and 5.9% compared to NF and NP plot.The C pool storage at 0-100 cm soil horizon in Songnen Plain of northeast China was roughly estimated as 1.35 Pg,and 0.91 Pg in croplands within the Plain.Long-term organic amendment can contribute 0.96 Pg carbon to the carbon pool of arable land in this region,thus 0.05 Pg can be available for the carbon sequestration capacity.A significant correlation was found between SOC density at 0-100 cm layer and either SOC content or SOC density at 0-20 cm layer,indicating that SOC stocks at surface layer play a key role in the stability of C pool of 0-100 cm bulk matrix.In sum,SOC contents and density were significantly influenced by land use change and long-term fertilization.
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【学科分类】土壤学

【题目】土壤微生物对不同作物根系活性的响应
【中文关键词】土壤微生物数量 施肥 根
【英文关键词】quantity of soilmicrobe, soybean, maize, wheat, roots
【中文摘要】以中国科学院海伦农业生态实验站为平台 , 研究了不同作物 (大豆、小麦和玉米) 根系对根际微生物种群 (细菌、真菌和放线菌) 组成和数量的影响。结果表明 : 3种作物根际微生物数量均表现为细菌的数量显著多于放线菌和真菌的数量 , 作物之间的微生物总数量多少表现为大豆 >小麦 >玉米 , 各作物间差异显著 (P <0105)。根际三大微生物种群的变化情况为真菌、放线菌数量的变化趋势相同 , 均表现为大豆 >玉米 >小麦 , 细菌数量的变化情况为大豆 >小麦 >玉米。不同施肥处理中 , 玉米根际微生物总数变化情况为 NPK >NK > PK > CK, 且施 NK和 NPK处理极显著增加根际微生物数量(P <0101) , 增幅为 5419% 和 24312%; NK处理下 , 大豆根际真菌数量表现为显著性降低 (P < 0105) , 而细菌显著性增加 (P <0105) ; 小麦根际微生物数量在 NK处理下极显著增加 , 增幅为 6419% (P <0101) 。
【英文摘要】Based on the long2term site experiments in Hailun Agricultural Ecology Station of Chinese Academy of Sciences, the m icroor2ganism (Bacterium, Fungus and Actinomyces) affected by different crop roots (such as soybean, wheat andmaize) were investigated.The results showed that among the three different kinds of crops, the amount of bacteria wasmuch larger than that of fungus and actino2mycetes in soils. The order of the soil microorganism amount as affected by different crops roots was as follows: soybean >wheat >maize and the difference was significantly at 0105 leve1. However, the trend of Fungi and actinomyces numberwas soybean >maize >wheat, while rhizosphere bacteria was soybean > wheat > maize. In different fertilization systems for rhizospheresmicroorganism ofsoybean, the orderwasNPK >NK > PK >CK. The amount of rhizosphere microorganism of soybean increased afterNK applied exceptfungi, and the amount of bacteria and fungi both showed significant difference at 0105 leve1. Comparedwith the control, fertilizationincreased the amount ofmicroorganism inwheat rhizospheres, moreover, comparedwith the control, the amountof bacterium and acti2nomyces indicated significant difference at 0101 leve1.
【语种】中文
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【题目】缺磷胁迫下的大豆根系形态特征研究
【中文关键词】低磷胁迫 根系形态 总氮量 磷积累 磷效率 大豆
【英文关键词】Phosphorus deficiency, Root morphology, Total nitrogen content, Phosphorus accumulation, Phosphorus efficiency, Soybean,
【中文摘要】采用砂培培养方法研究了缺磷胁迫对大豆根系形态和氮磷吸收积累的影响,结果表明:缺磷胁迫促进了大豆根系的生长,根长、根表面积、根体积等均比正常供磷条件下增加,从而增大了大豆根系对磷的吸收利用。大豆植株体内

总氮含量随着营养液中磷水平的增加而增加,缺磷抑制了大豆对氮磷的吸收利用,不同器官中的氮磷含量,籽粒中最高,根瘤中的氮含量显著高于地上部和根,表明根瘤是氮素贮存的一个主要场所;不同磷处理间,无磷与高磷以及低磷与高磷处理间均达到了5%的显著差异。缺磷胁迫增加了大豆的磷素吸收效率,而降低了大豆的磷素利用效率,这是大豆对缺磷胁迫的一种适应机制。

【英文摘要】A sand experiment was conducted to study the effects of phosphorus deficiency stress on root morphology, total nitrogen concentration and phosphorus accumulation in soybean (Glycine max L.) at glassroom condition. The results showed that phosphorus deficiency stress improved root growth which embody in root length, root surfacearea and root volume all increased compared with normal phosphorus supplying so that the uptake of soybean roots for phosphorus was increased. The total nitrogen concentration in soybean plant increased with the concentration of P in supplying nutrient solution. While phosphorus deficiency restrained the absorption of soybean for N and P, N and P content in grain was the highest than that in other organs of soybean, and N concentration in nodule was higher than that in shoot and root, suggested that nodule was a main site for nitrogen reserving. There was significant difference between no P and high P treatment, and low P and high P treatment (P<5%). Phosphorus deficiency enhanced the efficiency of P absorption while made the efficiency of P utilization dropped compared with normal P supplying, this is an adaptation mechanism of soybean to phosphorus deficiency.

【语种】中文

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【学科分类】土壤学

【题目】长期施用有机肥对黑土肥力及作物产量的影响

【中文关键词】黑土 有机肥 土壤肥力 作物产量

【英文关键词】black soil, organic manure, soil fertility, crop yield

【中文摘要】在东北黑土区中部进行长期定位试验,研究了长期施用有机肥对黑土肥力以及作物产量的影响。结果表明:施用有机肥能够提高土壤肥力,与供试前土壤相比,施用有机肥处理的土壤有机质、全氮、全磷、碱解氮、速效磷和速效钾含量都表现为增加,长期施用氮磷钾化肥处理的有机质、全氮、碱解氮、全磷和速效磷表现为增加,而全钾、速效钾则减少,长期无肥处理的土壤除全氮和全磷表现为增加以外,均呈减小的趋势;各处理土壤C/N均表现为减小,在11.32~12.01之间波动;长期施用有机肥能使土壤的pH稳定在一个适合作物生长的范围内;施用有机肥可以增加土壤>0.25 mm水稳性团聚体的数量,不同处理>0.25 mm水稳性团聚体的含量表现为:化肥+高量有机肥(NPKM2)>化肥+低量有机肥(NPKM1)>化肥(NPK)>无肥(CK);不同处理玉米和大豆产量由高到低的顺序均为:NPKM2>NPKM1>NPK>CK,各处理的玉米产量年际间均表现出增加的趋势,而大豆产量年际间变化不显著。生物耗竭试验表明,长期施用有机肥可提高黑土的生产能力。 更多还原

【英文摘要】Based on long-term experiment located in central section of the northeast black soil,the effect of organic manure application on black soil fertility and crop yield was studied.The results show that long-term organic manure application could enhance black soil fertility,compared to pre-test,organic matter content,total nitrogen,total phosphorus,available nitrogen,available phosphorus and available potassium under organic manure application treatment demonstrated increase trend,organic matter content,total nitrogen,available nitrogen,total phosphorus,available phosphorus of fertilizer treatment showed increase trend, however,total potassium and available potassium showed opposite trend;under no fertilizer treatment,all indicators except total phosphorus and total potassium showed increase trend;C/N under different treatments demonstrated decrease,the range of values from 11.32 to 12.01;pH was suitable range for crop grow attributed to organic manure application.>0.25 mm water stability aggregate under different treatments was in the order of fertilizer plus high organic manure(NPKM2) > fertilizer plus low organic manure(NPKM1) > fertilizer(NPK) > no fertilizer(CK);the yield of maize and soybean indicated increase with fertilizer and organic manure application,and,annual yield of maize under different treatments showed increase trend,but,the same trend was not found in yield of soybean.The bio-exhausting experiment proved that organic manure application could increased black soil productivity.

【语种】中文

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【学科分类】土壤学

【题目】不同培肥方式对黑土供磷能力的影响
【中文关键词】培肥方式 供磷能力 黑土
【英文关键词】fertilization system, P supplying ability, black soil
【中文摘要】利用采自海伦农田生态系统国家野外科学观测研究站长期定位试验地的三个施肥处理:无肥(CK)、化肥(NP)、化肥配施有机肥(NPM)的土壤进行框栽试验,研究了不同培肥方式对黑土供磷能力的影响。结果表明:CK、NP、NPM土壤中的有机磷都能自然矿化,其中CK土壤有机磷矿化能力较弱,而NP、NPM土壤有机磷矿化能力较强,并且种植作物有利于土壤磷的矿化;CK土壤基础供磷能力较弱,施用磷肥可提高CK土壤的供磷能力,而NP、NPM土壤基础供磷能力较强,施用磷肥对土壤供磷能力影响不大;长期种植作物不施磷肥土壤中的磷处于耗竭状态,施NK肥种植作物处理能加剧土壤中磷的消耗;CK土壤供磷能力较弱,作物对土壤磷的依存率较低,对磷肥的利用率高,施用磷肥增产效果明显;NP、NPM土壤供磷能力较强,作物对土壤磷的依存率较高,对磷肥的利用率低,施用磷肥增产效果不大。
【英文摘要】Soil samples without fertilizer(CK),and with chemical fertilizer(NP) and chemical fertilizer amended with organic manure(NPM) were collected from the Hailun Agricultural Ecology Station of the Chinese Academy of Sciences to study the effects of different fertilizations on phosphorus supplying in black soil by pot experiment.The results showed that organic P in NP and NPM soils had stronger mineralization than that in CK soil,and planting maize was in favor of mineralization of soil P;The basic P supplying ability of CK soil was weaker than that of NP and NPM soils,and fertilization improved P supplying ability of CK soil,however,fertilization had little effect on the P supplying ability.Long-term planting crops wiout fertilizer application made P of soil in exhausting, and NK fertilization and planting crops increased the comsumption of soil P.CK soil had weaker P supplying ability,and the dependence of crops on soil P was lower,but it had higher efficiency in P utilization,so that P fertilization had obvious effect on crop yield increasing,however,NP and NPM soil had a reverse effect.
【语种】中文
【第一作者】王凤菊
【通讯作者】韩晓增
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【学科分类】土壤学

【题目】大豆共生固氮能力对土壤无机氮浓度的响应与调控
【中文关键词】大豆 共生固氮 土壤环境氮浓度 无机态氮
【英文关键词】Soybean, Symbiotic nitrogen fixation, Soil nitrogen concentration, Inorganic nitrogen
【中文摘要】通过对国内外大豆共生固氮总量及占大豆一生需氮量的比例,以及大豆共生固氮能力对土壤无机氮浓度的响应的综述,提出了如何提高大豆共生固氮能力的途径。明确了协调土壤环境氮浓度和大豆根瘤固氮之间的关系,是充分发挥大豆共生固氮潜力和提高产量的关键所在。 更多还原
【英文摘要】The paper analyzed the ratio of soybean symbiotic nitrogen fixation in the total lifetime need proportion of soybean nitrogen at home and abroad,and reveiwed the response of soybean symbiotic nitrogen-fixing ability on soil inorganic nitrogen concentration,and suggested the effective ways to improve the symbiotic nitrogen-fixing ability of soybean. Meanwhile,it clearly coordinated the relationship between nitrogen concentration in soil environment and nitrogen-fixing nodules of soybean. Therefore,it is the key to fully exploit the potentiality of symbiotic nitrogen fixation and increase the production.
【语种】中文
【第一作者】韩晓增
【通讯作者】韩晓增
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【学科分类】土壤学

【题目】黑土区长期施肥后土壤供氮能力与氮肥利用特征的研究
【中文关键词】供氮能力 氮肥利用率 长期施肥 黑土
【英文关键词】nitrogen supplying, nitrogen use efficiency, long-term fertilization, black soil
【中文摘要】利用采自中国科学院海伦农业生态实验站长期定位试验地土样,进行框栽试验,种植玉米,比较了长期不同施肥后黑土供氮能力的变化特征和长期不同施肥对氮肥利用率的影响。结果表明:与长期不施肥处理相比,施肥能显著增加土壤铵态氮、硝态氮、可矿化氮含量和土壤生产力、植株吸氮量;与长期单施化肥相比,化肥配施有机肥能够提高土壤铵态氮、硝态氮、可矿化氮含量和土壤生产力、植株吸氮量。长期不施肥处理土壤的氮肥利用率最高,其次为长期单施化肥处理,氮肥利用率最低为化肥配施有机肥处理,这进一步说明长期施肥能够提高土壤氮素肥力。
【英文摘要】The experiment was carried out to study the characteristics of nitrogen use efficiency and soil nitrogen supplying of lack soil in Hailun Agricultural Ecology Station,Chinese Academy of Sciences after long-term fertilization. The results showed that compared with control (no fertilizer application),applying fertilizer could increase the content of soil ammonia,soil nitrate,mineralizable N,plant N and soil productivity obviously; compared with single application of nitrogen fertilizer,chemical fertilizer amended with manure could increase the content of soil ammonia,soil nitrate,mineralizable N,plant N and soil productivity significantly. Moreover,with applying nitrogen fertilizer into the sample soils which were collected from long-term fertilization plot,we found that the highest efficiency of N was in no fertilizer soil,however,the lowest efficiency of nitrogen appeared in nitrogen fertilizer together with manure soil.
【语种】中文
【第一作者】朱霞
【通讯作者】韩晓增
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【引文索引号】无
【学科分类】土壤学

【题目】长期不同施肥条件下黑土水稳性团聚体中磷的分布及其有效性
【中文关键词】长期施肥 磷 磷的有效性 黑土 水稳性团聚体
【英文关键词】Long-term fertilization, Phosphorus, Phosphorus availability, Black soil, Soil water-stable aggregate
【中文摘要】利用中国科学院海伦农业生态实验站的长期定位试验,研究了长期不同施肥条件下[对照(CK)、施用化学氮磷肥(NP)、化学氮磷肥配施有机肥(NP+OM)]农田黑土不同粒径水稳性团聚体中磷的分布及其有效性。结果表明,施肥增加了黑土各粒级水稳性团聚体中全磷含量,其中,NP处理比对照(CK)全磷含量增加28.9%~37.8%,NP+OM处理比NP处理增加44.0%~63.9%。施肥增加了黑土各粒级水稳性团聚体中有效磷含量,NP处理比CK处理有效磷含量增加146%~183%,NP+OM处理有效磷含量是NP处理的3.4~5.3倍。各处理水稳性团聚体全磷和有效磷均表现为较均匀地分布在>0.053mm的各粒级水稳性团聚体中,而<0.053mm粒级水稳性团聚体内全磷和有效磷均显著降低。施磷可显著增加土壤磷的有效率,且以化肥配施有机肥处理表现更为明显。NP处理不同粒径水稳性团聚体中磷的有效率是CK处理的1.94~2.32倍,NP+OM处理是NP处理的2.13~2.83倍。
【英文摘要】The distribution and availability of P in black soil water-stable aggregates were studied in a long-term fertilization field experiment. The field is located at Hailun Station of Agro-ecology Research, Chinese Academy of Sciences. The experiment included a control with no fertilization (CK), treatments with only chemical (N and P) fertilization (NP) and with chemical and pig manure (NP+OM) fertilization. The results show that fertilization increases total P content in the soil water-stable aggregates. Total P in the soil water-stable aggregates under NP treatment increases by 28.9%~37.8% compared with CK, whereas that under NP+OM treatment increases by 44.0%~63.9% over NP treatment. Available P content is significantly different for different treatments. Available P in the soil water-stable aggregates under NP treatment increases by 146%~183% compared with CK, whereas that under NP+OM treatment is 3.4~5.3 times as much as treatment NP. Though total P and available P for all the treatments are evenly distributed in the >0.053 mm soil water-stable aggregate, a significantly drop is noted in the soil water-stable aggregates which are smaller than 0.053 mm. Calculated

percent values of available P in total P indicate that fertilization favors P availability in soils. This is especially the case under NP+OM treatment. Percent values of available P in total P in the soil water-stable aggregates under treatment NP are 1.94~2.32 times as much as treatment CK, while those of treatment NP+OM are 2.13~2.83 times as much as treatment NP.
【语种】中文
【第一作者】宋春
【通讯作者】韩晓增
【期刊名称、卷期、页码】中国生态农业学报, 2010, 18(2): 272-276
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【引文索引号】无
【学科分类】土壤学

【题目】不同形态氮素对种植大豆土壤中微生物数量及酶活性的影响
【中文关键词】土壤微生物 脲酶 蔗糖酶 氮形态 大豆
【英文关键词】soil microbes, urease, invertase, nitrogen form, soybean
【中文摘要】采用框栽试验方法,研究6种不同形态氮素[生物固氮(N0)、硝态氮(N1)、铵态氮(N2)、氨基酸态氮(N3)、蛋白态氮(N4)和酰胺态氮(N5)]对种植大豆土壤中微生物数量及土壤酶活性动态变化的影响。结果表明:各大豆生育期内真菌、细菌、放线菌数量和土壤脲酶、蔗糖酶活性对不同形态氮素的反应不同;三大菌群在组成上以细菌数量占绝对优势,数量上均在花期时达到峰值,即均随着大豆生育期的推进呈单峰曲线变化;花期不同形态氮处理下的土壤微生物总数量有差异,具体表现为N5>N3>N2>N1>N4>N0。土壤多样性指数的变化趋势随着生育期的推进呈缓慢下降趋势,与土壤微生物数量的变化趋势不一致,因此,评价土壤生物多样性指数应将两者结合起来。土壤脲酶和蔗糖酶活性随着生育期的推进亦为单峰曲线变化趋势,但脲酶与蔗糖酶活性的变化趋势不同,其高峰期出现在鼓粒期。 更多还原
【英文摘要】In this paper,pot experiments were conducted to study the effects of different N forms,including biological nitrogen fixation(N0),NO-3-N(N1),NH+4-N(N2),amino acid-N(N3),protein-N(N4) and amide-N(N5) on microbial quantity and enzyme activities in soil at the growth stages of soybean.All N fertilizers were applied as base fertilizers with the same amount.The results show that bacteria are the predominant ones among microorganisms.The maximum population of bacteria,actinomyces and fungi are observed at the flowering stage,and the change of microorganism is a single-peaked curve at the whole growth stages.As the growing phases of soybean,the total amounts of microorganisms and biodiversity indices were different among treatments supplied with different forms of nitrogen. Moreover,the amounts of the microorganisms change with different forms of nitrogen treatments at the flowering stage with an order: N5>N3>N2>N1>N4>N0.In addition,the change of the biodiversity indices shows a slowly decreased trend.Therefore,the two important factors should be combined to evaluate quality of the soil.The activities of urease and invertase were single-peaked curves with the growing phases as well,however,the maximum urease activity appears at the podding stage while that of the invertase activity at the flowering stage.
【语种】中文
【第一作者】严君
【通讯作者】韩晓增
【期刊名称、卷期、页码】植物营养与肥料学报, 2010, 16(2): 341-347
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【学科分类】土壤学

【题目】不同施氮量及供氮方式对大豆根瘤生长及固氮的影响
【中文关键词】根瘤 固氮 供氮方式 大豆
【英文关键词】nodule, nitrogen fixation, nitrogen supply method, soybean
【中文摘要】采用框栽试验方法,研究一次供氮(指在总氮量一定的情况下以基肥的形式一次性施入,设3种总供氮量处理:75 kg/hm2、150 kg/hm2、225 kg/hm2)和分次供氮(指在总氮量一定的情况下,分别于播种前、苗期、花期和鼓粒期分4次平均施入,与一次供氮处理相同,设3种总供氮量处理)对大豆根瘤干重和数量、氮积累量、固氮酶活性及豆血红蛋白含量的影响。结果表明:一次性施氮方式下,各处理地上氮积累量随着施氮量的增加而增加,根系氮积累量则随着施氮量的增加呈先增加后下降的趋势。分次施氮方式下,花期和鼓粒期根瘤干重和数量的变化趋势一致;苗期,各组织氮积累均以一次性施

氮方式高于分次施氮和对照,且随着施氮量的增加而增加(地上);随着生育时期的推进,分次施氮对大豆植株氮积累促进作用增大,各组织氮积累表现为分次施氮>一次性施氮>对照。施氮量对固氮酶和豆血红蛋白含量的影响与一次性施氮方式下相似,但整体上较之抑制作用更强。

【英文摘要】A pot culture experiment was carried out to study the effects of one-off nitrogen supply(ONS,i.e.the fertilizer was applied once as base fertilizer at three levels of 75 kg/hm2,150 kg/hm2,225 kg/hm2)and discrete nitrogen supply(DNS,i.e.all the fertilizer was divided into four equal parts,one of which was then applied at the stages of before sowing,seedling,flowering and podding,respectively,at the same rates as those of ONS) on the variation of nodule dry weight(DW),nodule number,N accumulation,nitrogenase activity and leghemoglobin(Lb) concentration in the nodule of soybean(Glycine max L.).Under ONS,the shoot N accumulation increased with the increment of N application rate,however,the root N accumulation showed another trend of increasing before decreasing.Under the DNS,the nodule DW and number at flowering and podding stages showed the same trend.The N accumulation of ONS was higher than that of DNS and CK,and increased with the N application rate of shoot.Besides,the DNS accelerated the N accumulation of soybean.ONS and DNS had the same effects on nitrogenase activity and Lb concentration,but the ONS exhibited stronger inhibition.

【语种】中文

【第一作者】严君

【通讯作者】韩晓增

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【学科分类】土壤学

【题目】土地利用方式对黑土酶活性的影响

【中文关键词】土壤酶 自然恢复 土地利用 休闲裸地 种植作物 黑土

【英文关键词】Soil enzyme, Natural restoration, Land-use, Bare-land, Corpping system, Black soil

【中文摘要】基于中国科学院海伦农业生态实验站长期定位试验,研究不同土地利用方式下4月份和7月份黑土脲酶、转化酶、磷酸酶活性的变化。结果表明:土地利用方式不同,黑土酶活性有较大差异。草地与裸地相比,4月份脲酶、转化酶、磷酸酶活性分别增加24.66%、29.56%、34.67%,7月份分别增加56.12%、128.40%和30.42%,表明经过自然植被恢复,土壤生物活性增强,土壤肥力提高;农田3种施肥方式相比,脲酶、转化酶、磷酸酶活性大小均为化肥+有机肥处理>化肥处理>无肥处理。3种不同生态系统相比,转化酶、磷酸酶活性大小依次为草地生态系统>农田生态系统>裸地生态系统,脲酶活性大小依次为农田化肥+有机肥处理>草地生态系统>农田化肥处理>农田无肥处理>裸地生态系统。表明采取一定的施肥措施和草地自然植被恢复可增加黑土酶活性,提高土壤肥力。土壤脲酶、磷酸酶和转化酶活性与土壤有机质含量和全氮含量均有显著相关关系,能较好地反映土壤肥力水平。

【英文摘要】Based on long-term experiment at Hailun Agricultural Ecology Station of Chinese Academy of Sciences, the characteris- tics of soil enzyme activity in black soil under different land-use types were investigated. The results show significant differences among the soil enzyme activity under different land-use types. In comparison with bare-land (BL), urease, invertase and phosphatase activity in grassland (GL) respectively increases by 24.66%, 29.56% and 34.67% in April, and 56.12%, 128.40% and 30.42% in July. This suggests that after natural restoration, soil bioactivity increases and soil fertility improves significantly. Compared, however, with the control (i.e. zero-fertilizer; ZF), soil enzyme activity in the cropping treatments follow the same order: nitrogen and phosphorus fertilizers plus organic manure (NPM) > nitrogen and phosphorus fertilizers (NP) > zero-fertilizer (ZF) application. Invertase and phosphatase activity in the ecosystems have the following order: GL > cropping system > BL, and urease activity is the order of: NPM treatment in cropping system > GL > NP treatment in cropping system > ZF treatment in cropping system > BL. This indicates that some fertilization patterns and natural restoration increase soil enzyme activity thereby improving soil fertility. Urease, invertase and phosphatase activity is significantly positively correlated with soil organic matter and total N content, largely reflecting soil property

【语种】中文

【第一作者】侯雪莹

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【引文索引号】无
【学科分类】土壤学

【题目】黑土区不同土地利用方式土壤水分动态变化特征研究
【中文关键词】黑土 土地利用方式 土壤水分
【英文关键词】black soil, land use type, soil moisture
【中文摘要】在中国科学院海伦农田生态系统国家野外科学观测研究站,应用田间定位试验研究了玉米地、休闲地、苜蓿地和裸地4种不同土地利用方式下农田黑土水分动态变化特征。结果表明:土壤剖面0-190 cm水分含量随深度的增加呈先增加后减小的趋势,不同土地利用方式下农田黑土表层0-30 cm的土壤含水量差异较明显,总体表现为裸地相对较高,其次为休闲地、苜蓿地和玉米地;研究时段内土壤水分的动态变化具有明显的季节性,一般可以划分为水分相对稳定期、水分消耗期和水分补给期3个时期;根据变异系数将土壤水分的垂直变化划分为活跃层、次活跃层和相对稳定层,变异系数随土层深度的增加而减小。 更多还原
【英文摘要】Based on field fixed experiment in Hailun national field research station,dynamic change characteristic of soil moisture with different land use types were analyzed.The results showed that soil moisture(0-190 cm) presented increase-decrease with the increase of soil depth,and the difference of soil moisture in various land use types was significant in 0-30 cm soil layer,soil moisture increased in the order of corn land<alfalfa land<fallow land<bare land.Soil moisture seasonal change was found in observation period,and was divided into three stages: relative stabilization,consumption and supplement stage.Based on variation coefficient of soil moisture,vertical change of soil moisture was divided into three layers generally: the active,the sub-active and relatively steady layer,and variation coefficient decreased with the increase of soil depth.
【语种】中文
【第一作者】邹文秀
【通讯作者】韩晓增
【期刊名称、卷期、页码】水土保持学报, 2009, 23(2): 236-239
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【引文索引类型】其他
【引文索引号】无
【学科分类】土壤学

【题目】东北黑土区大豆生产中存在的主要问题、技术需求及发展对策
【中文关键词】东北黑土区 大豆 技术需求 发展对策
【英文关键词】black soil zone, soybean, technique requirement, development strategy
【中文摘要】通过对巴彦县、绥棱县、海伦市、五大连池市和嫩江县的调查,总结了影响东北黑土区大豆生产的关键技术和主要因子,提出了目前大豆生产中的主要问题和技术需求,在此基础上给出了解决对策和发展对策,为大豆的生产提供指导。
【英文摘要】A five county survey was conducted to identify the key farming techniques and environmental factor which influence soybean production.
【语种】中文
【第一作者】韩晓增
【通讯作者】韩晓增
【期刊名称、卷期、页码】大豆科技, 2009, (3): 5-7
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【学科分类】土壤学

【题目】构建黑土肥沃耕层对大豆产量影响的研究
【中文关键词】黑土 肥沃耕层 构建 技术
【英文关键词】black soil, fertile soil, establish, technique
【中文摘要】根据黑土耕作土壤质地粘重,在长期不合理的耕作中形成的犁底层,是大豆产量提高主要限制因子的实际情况,提出了构建黑土肥沃耕层的3项技术,即打破"犁底层"并向其中分别施入秸秆、有机肥和化肥。试验结果表明与常规耕

法相比,黑土肥沃耕层构建技术能够提高大豆产量的16.9%~45.9%,其中在犁底层施用秸秆和有机肥效果最好。因此,可以向黑土耕作土壤的"犁底层"中施入秸秆和有机肥来达到构建肥沃耕层,提高大豆产量的目的。
【英文摘要】A practical technique was established to improve the poor soil physical quality for soybean production.
【语种】中文
【第一作者】韩晓增
【通讯作者】韩晓增
【期刊名称、卷期、页码】大豆科技, 2009, (3): 8-9
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【引文索引类型】其他
【引文索引号】无
【学科分类】土壤学

【题目】大豆重迎茬研究展望
【中文关键词】大豆 重迎茬 现状 展望
【英文关键词】soybean, sequential cropping, status, overlook
【中文摘要】通过对大豆重迎茬研究现状与控制减产技术的分析,明确了今后在研究大豆重迎茬工作中的重点,提出控制大豆重迎茬减产的关键技术,为重迎茬种植大豆时提高大豆产量提供科学依据。
【英文摘要】Techniques alleviating soybean continous cropping are established based on a deep analysis of current status.
【语种】中文
【第一作者】韩晓增
【通讯作者】韩晓增
【期刊名称、卷期、页码】大豆科技, 2009, (3): 10-11
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【引文索引类型】其他
【引文索引号】无
【学科分类】土壤学

【题目】干旱条件下黑土农田水分特征研究
【中文关键词】干旱年 黑土 作物耗水 土壤供水 施肥
【英文关键词】Dry year, Black soil, Water consumption of crop, Soil water supply, Fertilization
【中文摘要】在中国科学院海伦农田生态系统国家野外科学观测研究站,应用长期定位试验研究了干旱年份不同施肥处理下的黑土农田水分状况。结果表明:在干旱年份,大气降水不能满足玉米对水分的需求,土壤利用"土壤水库"中的水分进行补给,在玉米全生育期土壤供水量占玉米耗水量的比例为22.23%~25.99%;肥料的施用能够调节土壤的供水能力,表现为化肥+有机肥处理>化肥处理>无肥处理;玉米的耗水量和耗水强度也表现出相同趋势;肥料的施用,特别是化肥和有机肥配合施用能够提高玉米的水分利用效率。 更多还原
【英文摘要】An experiment was carried out to study the effect of different fertilization treatments on soil moisture in black soils during relatively dry years. The study was based on long-term field experiment in Hailun Experimental Station of Agricultural Ecology, Chinese Academy of Sciences. The results show that precipitation is below corn water requirement in dry years. The water deficit is met by soil moisture reserve. The ratio of soil water supply to maize water consumption is 22.23% ~ 25.99% for the entire maize growth season. The capacity of soil water supply is regulated by fertilization. The order of effect of treatments on soil moisture is chemical fertilizer plus organic manure (F3)> chemical fertilizer (F2)>no fertilizer (F1). A similar trend is observed for the amount and rate of maize water consumption. Fertilization enhances water use efficiency of corn, especially chemical fertilizer plus organic manure treatment.
【语种】中文
【第一作者】邹文秀
【通讯作者】韩晓增
【期刊名称、卷期、页码】中国生态农业学报, 2009, 17(4): 677-680
【论文发表时间】2009-04-01 00:00:00
【引文索引类型】其他

【引文索引号】无
【学科分类】土壤学

【题目】黑土区土壤剖面水分动态变化研究
【中文关键词】黑土 土壤剖面 土壤水分 变异系数
【英文关键词】black soil, soil profile, soil moisture, variation coefficient
【中文摘要】通过对2007年5—9月作物生长季内农田黑土土壤剖面水分含量的监测,分析了黑土区土壤剖面水分分布特征,季节性动态变化和变异系数。结果表明,在观测期内农田黑土水分在剖面上随土层深度的增加呈现出先增加,再减少,后增加的趋势;土壤剖面各土层土壤水分含量随时间的变化表现为先减小,后增加,再减小的波浪式,这与降雨量的季节性分布和作物生长发育密切相关;在观测期内没有发现激变层,土壤水分变异系数的最大值出现于0—10 cm,随着土层深度的增加变异系数呈减小的趋势。 更多还原
【英文摘要】Soil moisture of soil profile(0—210 cm) in a black soil during crop growth(May to September) was monitored.Distribution characteristics of soil moisture of soil profile,seasonal dynamic variation,and variation coefficient were analyzed.Results showed that the variation of soil moisture in the soil profile had an "increasing—decreasing—increasing" trend with soil depth increasing in observation period.Soil moisture in each layer presented a "decreasing—increasing—decreasing" trend with time increasing and it was closely related with rainfall and crop growth.The acute change layer was not found in observation period.The biggest variation coefficient of soil moisture was observed within 10 cm of surface soil and the variation coefficient decreased with soil depth increasing. 更多
【语种】中文
【第一作者】邹文秀
【通讯作者】韩晓增
【期刊名称、卷期、页码】水土保持通报, 2009, 29(3): 130-132
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【引文索引号】无
【学科分类】土壤学

【题目】长期施肥对大豆地土壤蒸发和水分利用效率的影响
【中文关键词】土壤蒸发 水分利用效率 施肥管理 大豆地 黑土
【英文关键词】Soil evaporation, Water use efficiency, Fertilization, Soybean land, Black soil
【中文摘要】以中国科学院海伦农业生态实验站长期定位试验为研究平台,利用Micro-lysimeter法,研究了东北黑土区不同施肥管理对大豆地土壤蒸发和水分利用效率的影响。结果表明:长期施肥通过改变土壤的水分物理性质和作物叶面积指数,进而调控土壤蒸发,不同处理间土壤蒸发表现如下:无肥(F1)>单施化肥(F2)>化肥+有机肥(F3);大豆不同生育时期土壤蒸发强度表现为:开花期-结荚期>子叶期-开花期>出苗期-子叶期>鼓粒期-成熟期>结荚期-鼓粒期,同时土壤蒸发强度与土壤表层含水量间呈显著正相关;在不同施肥管理中化肥+有机肥处理的水分利用效率最高,其次为单施化肥和无肥。因此,在东北黑土区可以通过施肥的方式调控土壤蒸发,提高大气降水的利用效率。 更多还原
【英文摘要】Based on the long-term position experiments at Hailun Agricultural Ecology Station of Chinese Academy of Sciences,the experiment was carried out to investigate the impact of long-term different fertilizations on soil evaporation and water use efficiency in soybean land of northeast black soil using Micro-lysimeter method.The results showed that chemical fertilizers and organic manure application could regulate soil evaporation through changing soil hydro-physical properties and crop leaf area index.Soil evaporation decreased in the order of no fertilizer(F1)>chemical fertilizer(F2)>chemical fertilizer plus organic matter(F3).Soil evaporation rate at different growing stages of soybean decreased in the order of flowering-podding stage>cotyledon-flowering>emergence-cotyledon>pod filling-maturing>podding-pod filling,a significant positive correlation was found between soil evaporation rate and soil moisture,simultaneously.Water use efficiency showed an order as follows:chemical fertilizer amended with organic manure>chemical fertilizer>no fertilizer.Therefore,soil evaporation could be regulated by fertilization in order to enhance water use efficiency in black soil.
【语种】中文
【第一作者】邹文秀
【通讯作者】韩晓增

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【学科分类】土壤学

【题目】北部黑土区旱年大豆适宜施肥量的研究
【中文关键词】黑土 旱年 大豆 适宜施肥量
【英文关键词】black soil, drought year, soybean, optimum fertilize rate
【中文摘要】试验采用氮磷钾的不同组合,对氮磷钾施用量的配比与北部黑土区旱年大豆产量间的关系及对肥料利用率和经济效益的影响进行了研究。施肥与产量的分析结果表明,当满足磷钾肥施用量时,以氮肥施用纯量为75 kg/hm2的处理产量最高;当满足氮钾肥施用量时,以磷肥施用纯量为90 kg/hm2的处理产量最高;当满足氮磷肥施用量时,以钾肥施用纯量48 kg/hm2的处理产量最高。对施肥量与产量的关系进行回归分析,得出最高大豆产量所需的施肥量为:N 78.3 kg/hm2、P2O583.3 kg/hm2。通过肥料利用率和经济效益的计算,得出经济效益最高的处理对应的施肥量为:N 75 kg/hm2、P2O590 kg/hm2、K2O 48 kg/hm2,相对最佳经济施肥量为:N 45 kg/hm2、P2O560 kg/hm2、K2O 48 kg/hm2。最终根据当地的气候因素,将北部黑土区大豆最佳施肥量定为:N 60 kg/hm2、P2O575 kg/hm2、K2O 48 kg/hm2,最佳施肥配比为N∶P2O5∶K2O=1.25∶1.56∶1。
【英文摘要】The experiment adopts different ratios of N,P and K fertilizer,and the relationships among the ratio of fertilizer,soybean yield,use ratio of fertilizer and economic benefit are studied in north black soil district of China in drought year.The testing results show:when P and K fertilizer is sufficient,soybean yield is the highest under the N fertilizer application at N 75 kg/hm2,;when N and K fertilizer is sufficient,soybean yield is the highest under the P fertilizer application at P2O5 90 kg/hm2,when N and P fertilizer is sufficient,soybean yield is the highest under K fertilizer application at K2O 48 kg/hm2.The results of regression analysis show that the optimum applied amount of fertilizer is N 78.3 kg/hm2 and P2O5 83.3 kg/hm2 in order to gain the highest yield.By calculating the use ratio of fertilizer and economic benefit,the best applied amount of fertilizer is N 75 kg/hm2,P2O5 90 kg/hm2,K2O 48 kg/hm2 in order to obtaining the highest economic benefit.And the optimum relatively economic ratio of fertilizer is N 45 kg/hm2,P2O5 60 kg/hm2,K2O 48 kg/hm2.Finally,according to the climate factors,the optimum applied amount of fertilizer is N 60 kg/hm2,P2O5 75 kg/hm2,K2O 48 kg/hm2 and the optimum ratio of N∶P2O5∶K2O is 1.25∶1.56:1.
【语种】中文
【第一作者】宋春
【通讯作者】韩晓增
【期刊名称、卷期、页码】农业系统科学与综合研究, 2009, 25(3): 375-379
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【引文索引号】无
【学科分类】土壤学

【题目】不同形态氮对大豆根瘤生长及固氮的影响
【中文关键词】根瘤 固氮酶活性 不同形态氮 大豆
【英文关键词】Nodule, Nitrogenase activity, Different forms nitrogen, Soybean
【中文摘要】采用框栽的培养方法,通过施用不同形态氮肥,探讨不同形态氮对大豆根瘤生长、含氮量、氮积累量以及固氮酶活性的影响。结果表明:不同形态的氮源,对根瘤干重、数量有促进作用,同时增加了根瘤中的含氮量和氮积累量。根瘤干重及数量的变化均为铵态氮(N2)>蛋白氮(N4)>硝态氮(N1)>氨基酸态氮(N3)>酰胺态氮(N5)>生物固氮(N0),其中N0处理的根瘤干重、数量最少,而N2处理的根瘤干重和数量最多。根瘤含氮量的变化为N1>N4>N5>N2>N3>N0,其中N1处理下的根瘤中的根瘤含氮量最高,N1、N4和N5各处理与N0处理间差异显著(P<5%)。而氮积累的变化为N2>N4>N1>N5>N3>N0,各处理与N0处理相比,差异极显著(P<1%),与含氮量的变化趋势略有不同。添加不同形态的氮源对根瘤固氮酶活性有抑制作用,其变化趋势为N0>N5>N3>N2>N4>N1,N0处理的固氮酶活性最高。
【英文摘要】Nitrogen plays an important role in nitrogen fixation of soybean.In this paper,a pot culture experiment was carried out to study the effects of different forms nitrogen on the variation of dry weight(DW),number,nitrogen content,nitrogen accumulation and nitrogenase activity in nodule of soybean(Glycine max L.) at flowering stage.The results showed that different forms nitrogen promoted nodule formation and growth,which embodied in dry weight and number significantly increased compared with biological

nitrogen fixation.The order of the nodule DW and nodule number were NO+4-N(N2)>Protein-N(N4)>NO-3-N(N1)>Amino Acid-N(N3)>Amide-N(N5)>Biological Nitrogen Fixation(N0),the least nodule DW and number appeared in N0 treatment,while the most occurred in N2 treatment.Meanwhile different forms nitrogen increased N content and N accumulation in nodule.The trend of the nitrogen content in nodule was as follows:N1>N4>N5>N2>N3>N0,and nitrogen content was the highest in the N1 treatment,moreover,the difference among N0,N1,N4,N5 was significan at 5% level.However,the order of the N accumulation was N2>N4>N1>N5>N3>N0.The different forms nitrogen remarkably affected nitrogenase activity,the trend was N0>N5>N3>N2>N4>N1,and the nitrogenase activity was the highest in N0 treatment.Therefore,different forms nitrogen had different effects on nitrogen fixation of soybean

【语种】中文

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【学科分类】土壤学

【题目】水钾耦合对大豆产量及品质的影响

【中文关键词】水钾耦合 生育时期 大豆 产量 品质

【英文关键词】Water-potassium coupling, Growth stages, Soybean, Yield, Quality

【中文摘要】采用盆栽试验,研究了不同供钾水平下不同生育时期水分状况对大豆产量及品质的影响。结果表明:除营养生长期涝害能一定程度上增加蛋白质含量外,开花期和结荚期土壤干旱或涝害胁迫均降低了蛋白质及脂肪的含量;钾肥有提高大豆脂肪、降低蛋白质含量的趋势,但只有在水分供应适宜时,钾肥效果才显著。各生育时期土壤干旱或涝害胁迫均影响大豆产量的形成,但干旱引起的减产程度要大于涝害。干旱胁迫对各生育时期引起的减产程度表现为:结荚期>开花期>营养生长期;而涝害胁迫对各生育时期所引起的减产程度则是相近的。无论何生育时期控水,本试验中产量最优的处理是W 2K3(适宜水分+0.136 gK2O/kg土),而经济系数最优的处理是CK(适宜水分+0.068 g K2O/kg土)。钾肥能促进大豆子粒产量的形成,但只有在营养生长期控水条件下,钾肥才显著地影响大豆产量的形成,而开花期、结荚期控水,钾肥的产量效应并不显著;开花期、结荚期控水条件下,水钾互作都显著地影响大豆子粒产量的形成,但营养生长期控水条件下水钾互作对大豆产量的影响未达到显著差异。

【英文摘要】Soybean yield and quality are sensitive to soil moisture.Potassium fertilizer application may enhance the effect of soil moisture on the quality and biomass/seed yield of soybean at different growth stages,but few reports have focused on it.In this study,pot-experiments were carried out to investigate the effect of water-potassium coupling on quality and biomass/seed yield of soybean.Three water supply levels and three potassium fertilizer application levels were applied at vegetative stage(V2-R1),flowering stage(R1-R3) and podding stage(R3-R5),respectively.The results showed that soil waterlogging at vegetative stage increased soybean protein content to a certain extent,however,both soil drought and waterlogging stress reduced the percentage of soybean protein/oil on other growth stages.Potassium fertilizer was beneficial to protein accumulation but not to oil accumulation,indicating that potassium fertilizer played an important role only when soil water content was suitably supplied.For all the stages,both drought and waterlogging conditions were found to decrease the yield of soybean,in which drought condition reduced the yield more significantly.The negative effect of soil drought condition at different stages on soybean yield showed in the order: podding stage> flowering stage>vegetative stage,and soil waterlogging had the similar negative effect on soybean yield.W2K3 was the treament with the highest biomass accumulation,and CK was the one with the optimal economic coefficient at all time for all the stages.In general,the soybean seed yield increased with increasing application of potassium fertilizer,and potassium fertilizer have the positive effect on soybean seed yield when the soil water content was controlled at vegetative stage,however,no effect was observed when the soil water content was controlled at flowering stage and podding stage.The interactive effect of water×potassium fertilizer on soybean seed yield was not found when water was controlled at vegetative stage,whereas the effect was significant as water was controlled at flowering stage and podding stage

【语种】中文

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【学科分类】土壤学

【题目】长期施肥对不同热量带土壤供氮能力的影响
【中文关键词】长期施肥 不同热量带 氮素 作物生物量
【英文关键词】Nitrogen, Long-term fertilization, Different thermal zones, Crop biomass
【中文摘要】研究利用中国科学院海伦、栾城、鹰潭农业生态试验站长期定位试验,结合温室盆栽,研究了长期施肥对不同热量带土壤供氮能力的影响。为我国不同热量带下农田土壤的生产潜力,平衡施肥等提供理论依据。结果表明:长期不同施肥土壤全氮、碱解氮和矿质态氮含量的高低顺序均表现为:化肥+有机肥>化肥>无肥。长期施肥对红壤供氮能力的增加幅度最高,其次为潮褐土,最低为黑土,且长期施肥对土壤供氮能力的增加幅度与土壤所处热量带的有效积温呈显著正相关(P<0.05)。在长期不同施肥的土壤上种植小麦后,施肥土壤的作物生物量显著高于不施肥土壤(P<0.05),且作物生物量的变化规律与土壤氮素含量的变化规律大体一致,说明通过生物试验所得的生物量可作为评价土壤氮素肥力的生物学指标。
更多还原
【英文摘要】Long-term position experiments were conducted in Hailun,Luancheng and Yingtan Agricultural Ecology Station of Chinese Academy of Sciences together with pot experiment aimed to examine the influence of long-term fertilization on nitrogen supply capacity in different thermal zones soil.Results showed that under different long-term fertilization,the amount of total N,alkaline N and mineral N decreased in an order of NPKOM>NPK>CK.Long-term fertilization enhanced the capacity of soil nitrogen supply in different soils with an order of red soil>cinnamon soil>black soil.There was significant positive correlated relationship between the degree of long-term fertilization increased nitrogen supply capacity and the effectively accumulated temperature(P<0.05).In addition,crop biomass of fertilization soil was significantly higher than no fertilization soil,and the tendency of crop biomass was the same with the tendency of soil nitrogen content.It showed that crop biomass could be chosen as index for evaluating soil nitrogen supplying capacity
【语种】中文
【第一作者】朱霞
【通讯作者】韩晓增
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【学科分类】土壤学

【题目】降水年型对黑土区土壤水分动态变化的影响
【中文关键词】降水年型 黑土区 土壤水分 植被类型 变异系数
【英文关键词】yearly rainfall pattern, black soil region, soil moisture, land-cover type, variance coefficient
【中文摘要】利用长期定位试验,研究了黑土区不同降水年型下荒地、裸地和农田土壤水分的变化特征。结果表明,降水年型能够影响不同植被类型下土壤水分的季节性动态变化和垂直变化。丰水年不同植被类型土壤含水量均呈"V"型曲线变化,最低值出现在7月份,观测期内裸地较高;平水年呈"W"型曲线变化,分别在6月份和8月份出现两个低值,不同植被类型表现为裸地>荒地>农田;枯水年除裸地在观测后期土壤含水量略有增加外,荒地和农田均持续下降。降水年型对土壤水分变异系数的影响表现为枯水年>平水年>丰水年,其中荒地土壤水分变化最为剧烈,表现在枯水年出现了速变层,而在丰水分内次活跃层也较农田向土壤深层延伸,其次为农田和裸地。
【英文摘要】Based on long-term experiment,the dynamic change of soil moisture in grassland,bare land and farmland in black soil region under effects of different yearly rainfall patterns was analyzed.The result showed that dynamic and vertical changes of soil moisture under different land-covers were effected by different yearly rainfall patterns.In rainy year,change of soil moisture under different land-covers presented "V" type,the lowest value was found in July,bare land was higher than grassland and farmland in observed period;soil moisture in normal year varied in "W" type,two low value were found in June and August,respectively,different land-covers decreased in the order of bare land > grassland > farmland;in dry year,grassland and farmland decreased continually in observed period,while bare land had a little of increase in late period.The effect of different yearly rainfall patterns on variance coefficient of soil moisture decreased in the order of dry year > normal year > rainy year.Because fast-changing layer of soil moisture was found in grassland and its second active layer were deeper than farmland in rainy year,so,change of soil moisture of grassland was the best

active,followed by farmland and bare land.In observed period,soil presented status of supplying water,amount of supplying water of dry year,normal year and rainy year were 103.2 mm,38.8 mm和23.3 mm,respectively

【语种】中文
【第一作者】邹文秀
【通讯作者】韩晓增
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【学科分类】土壤学

【题目】外加可溶性碳氮对不同热量带土壤N_2O排放的影响
【中文关键词】N2O排放 可溶性碳 氮肥 长期施肥 不同热量带
【英文关键词】nitrous oxide emissions, soluble carbon, nitrogen, long-term fertilization, different thermal zones
【中文摘要】在室内条件下研究了外加可溶性碳、氮对不同热量带经长期施肥的3种农田土壤:黑土、潮褐土和红壤N2O排放的影响。结果表明,在单施氮肥和可溶性碳配施氮条件下,不同热量带土壤N2O排放量从高到低分别为潮褐土(0.868、3.07 μg.g-1),红壤(0.511、0.731 μg.g-1),黑土(0.221、0.294 μg.g-1),且添加可溶性碳显著促进了土壤N2O排放量。在黑土、潮褐土和红壤长期不同施肥土壤中,单施氮肥和可溶性碳配施氮后N2O排放量均表现为化肥+有机肥土壤>化肥土壤>无肥土壤,且与无肥土壤相比,红壤的化肥土壤N2O排放量增加254%,潮褐土化肥土壤增加49.5%,黑土化肥土壤增加1.74%,说明在有效积温越高的土壤上长期施肥对土壤N2O损失的贡献越大。研究结果还表明,外加可溶性碳、氮后,潮褐土铵态氮含量的减少幅度和硝态氮含量的增加幅度均显著高于黑土和红壤,说明潮褐土中氮素损失潜能大。 更多还原
【英文摘要】A laboratory experiment was conducted to study the influence of soluble carbon and nitrogen on nitrous oxide emission from different thermal zones soil,such as black soil,red soil and cinnamon soil. Results showed that the amount of N2O emission in cinnamon soil ranged from 0.868 to 3.07 μg.g-1,which in red soil from 0.511 to 0.731 μg.g-1 and from 0.221 to 0.294 μg.g-1 in red soil applied with only nitrogen or nitrogen amended with soluble carbon. Moreover,soluble carbon increased N2O emission if it was amended with nitrogen. The amount of N2O emission was in an order of NPKOM > NPK > CK,regardless of soil types and experiment treatments. It showed that long-term fertilization increased N2O emission,and amounts of increase were 1.74%,49.5%,254% in black soil,cinnamon soil and red soil separately. In addition,the variances of NH4+ -N and NO3--N contents in cinnamon soil were larger than other soils,which suggested that cinnamon soil had high potential of nitrogen loss
【语种】中文
【第一作者】朱霞
【通讯作者】韩晓增
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【学科分类】土壤学

【题目】黑土肥沃耕层构建效应
【中文关键词】黑土 肥沃耕层 构建效应
【英文关键词】black soil, fertile cultivated layer, construction effect
【中文摘要】东北黑土区粘重的耕地土壤,经多年不合理耕作后产生了较厚的"犁底层",成为该地区农业生产的主要限制因子.本研究利用田间试验,分析了构建肥沃耕层对作物产量、土壤物理性质、土壤含水量和微生物数量的影响.结果表明:肥沃耕层构建后,土壤形成了一个深厚的耕层,作物产量增加.与常规耕作法相比,向20~35cm土层施用秸秆和有机肥使土壤容重分别降低了9.88%和6.20%,总孔隙度分别增加了9.58%和6.02%,饱和导水率分别增加了167.99%和73.78%,表明肥沃耕层的构建能够有效地改善土壤的通气透水性,提高大气降水的入渗能力;向"犁底层"施用秸秆和有机肥处理0~100cm土层土壤含水量和水分利用效率均显著高于常规耕作法,该处理玉米出苗率与0~35cm土层土壤含水量之间呈显著正相关关系.肥沃耕层的构建由于增加了土壤中的有机碳源和透气性,从而增加了土壤中的微生物数量. 更多还原
【英文摘要】The clayey farmland soil in black soil region of Northeast China,due to the existence of thicker plough pan created by unreasonable tillage,is a main limiting factor for local agricultural production. In this paper,a field experiment was conducted to study

the construction effect of fertile cultivated layer on crop yield,soil physical properties,soil moisture content,and soil microbial number. After the construction of fertile cultivated layer,the soil had a thicker cultivated layer,and the crop yield was increased. Comparing with traditional tillage,applying straw and organic manure into 20-35 cm soil layer decreased soil bulk density by 9.88% and 6.20%,increased soil porosity by 9.58% and 6.02%,and enhanced soil saturated hydraulic conductivity by 167.99 and 73.78%,respectively,indicating that the construction of fertile cultivated layer could improve soil aeration and water permeability,and enhance the infiltration of rainfall. The soil moisture content and water use efficiency under the application of straw and organic manure into plough pan were higher than those under traditional tillage,and a positive correlation was observed between the moisture content in 0-35 cm soil layer and the emergence of maize seedlings. Due to the increased organic carbon source and aeration in the constructed fertile cultivated layer,soil microbial number was also increased.

【语种】中文
【第一作者】韩晓增
【通讯作者】韩晓增
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【学科分类】土壤学

【题目】外加可溶性碳氮对不同热量带土壤N2O排放的影响
【中文关键词】N2O排放 可溶性碳 氮肥 长期施肥 不同热量带
【英文关键词】nitrous oxide emissions, soluble carbon, nitrogen, long-term fertilization, different thermal zones
【中文摘要】在室内条件下研究了外加可溶性碳、氮对不同热量带经长期施肥的3种农田土壤:黑土、潮褐土和红壤N2O排放的影响。结果表明,在单施氮肥和可溶性碳配施氮条件下,不同热量带土壤N2O排放量从高到低分别为潮褐土(0.868、3.07 μg.g-1),红壤(0.511、0.731 μg.g-1),黑土(0.221、0.294 μg.g-1),且添加可溶性碳显著促进了土壤N2O排放量。在黑土、潮褐土和红壤长期不同施肥土壤中,单施氮肥和可溶性碳配施氮后N2O排放量均表现为化肥+有机肥土壤>化肥土壤>无肥土壤,且与无肥土壤相比,红壤的化肥土壤N2O排放量增加254%,潮褐土化肥土壤增加49.5%,黑土化肥土壤增加1.74%,说明在有效积温越高的土壤上长期施肥对土壤N2O损失的贡献越大。研究结果还表明,外加可溶性碳、氮后,潮褐土铵态氮含量的减少幅度和硝态氮含量的增加幅度均显著高于黑土和红壤,说明潮褐土中氮素损失潜能大。
【英文摘要】A laboratory experiment was conducted to study the influence of soluble carbon and nitrogen on nitrous oxide emission from different thermal zones soil,such as black soil,red soil and cinnamon soil. Results showed that the amount of N2O emission in cinnamon soil ranged from 0.868 to 3.07 μg.g-1,which in red soil from 0.511 to 0.731 μg.g-1 and from 0.221 to 0.294 μg.g-1 in red soil applied with only nitrogen or nitrogen amended with soluble carbon. Moreover,soluble carbon increased N2O emission if it was amended with nitrogen. The amount of N2O emission was in an order of NPKOM > NPK > CK,regardless of soil types and experiment treatments. It showed that long-term fertilization increased N2O emission,and amounts of increase were 1.74%,49.5%,254% in black soil,cinnamon soil and red soil separately. In addition,the variances of NH4+ -N and NO3--N contents in cinnamon soil were larger than other soils,which suggested that cinnamon soil had high potential of nitrogen loss.
【语种】中文
【第一作者】朱霞
【通讯作者】韩晓增
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【学科分类】土壤学

【题目】不同土地利用下黑土密度分组中碳、氮的分配变化
【中文关键词】土地利用 土壤有机碳 密度组分 结合态腐殖质 黑土
【英文关键词】Land use, Soil organic carbon, Density fractions, Combined humus, Black soil
【中文摘要】陆地生态系统植被覆盖会影响有机质在土壤及其各组分中的分布,是控制土壤有机质储量的重要因子。通过对黑土有机碳、氮含量的估算,阐明土地利用变化对土壤有机碳库及轻组、重组有机碳、氮含量和结合态腐殖质有机碳含

量的影响以及有机碳、氮的消长变化。结果表明:(1)不同土地利用方式下土壤0~20cm土层总有机碳(TOC)、全氮(TN)含量存在显著差异(p<0.05),自然土壤被破坏或转为农田,土壤总有机碳和全氮含量会持续下降,但农田化肥和有机肥配施后,土壤总有机碳和全氮含量显著增加;草地经过20年的植被恢复,土壤总有机碳含量显著高于农田化肥和无肥处理,有机碳库储量显著提高;(2)游离态轻组(Free-LF)和重组(HF)有机碳和氮含量与土壤总有机碳和全氮呈显著或极显著正相关,闭蓄态轻组(Occluded-LF)有机碳和氮在土壤中呈随机分布;(3)游离态轻组的C/N比高于全土和其他组分,易受微生物作用而降解,是土壤不稳定碳库的主要成分;(4)松结态胡敏酸碳含量与土壤总有机碳显著相关(p<0.05),土壤肥力随着胡敏酸的增加而提高。农田有机培肥不但能够提高有机质含量和土壤质量,也能显著提高农田生态系统抵押大气CO2的能力。

【英文摘要】Vegetation coverage in terrestrial ecosystem affects distribution of organic matter in soils and soil density fractions,thus is an important factor controlling storage of soil organic matter.An experiment was conducted to determine soil organic carbon and nitrogen concentration,by using density fractionation,of soil samples collected from the fields of three long-term experiments and evaluate the impact of land use on soil and density fractions.Results show that(i)soils different in land use differed significantly(p<0.05)in total organic carbon(TOC)or total nitrogen(TN),and TOC had a significant positive correlation with TN(p<0.01).Natural ecosystems,subjected to human disturbance or transferred into cropland,suffered chrono TOC and TN losses,however,application of chemical fertilizer plus organic manure increased significantly TOC and TN contents in cropland.Organic carbon storage of black soil under grassland has been increasing in the past 20 years of vegetation rehabilitation;(ii)OC or N contents in free-LF(free light fraction)and HF(heavy fraction)were significantly related to TOC or TN in the whole soil at p<0.05 or p<0.01,respectively,indicating that accumulation of free-LF and HF is very important to net increase in TOC or TN.Occluded-LF,randomly distributed in soils,was less important to accumulation of TOC or TN;(iii)C/N ratio of free-LF was higher than that of the whole soil and other fractions,which suggested that free-LF is a major part of the labile carbon pool on account of its susceptibility to microbial decomposition;(iv)OC contents of humic acid of loosely combined humus significantly correlated with TOC,indicating that increase in humic acid leads to improvement of soil fertility.Application of organic manure to cropland not only led to accumulation of organic matter and improved soil quality,but also increased the capacity of agro-ecosystem to sequester atmospheric CO2.

【语种】中文
【第一作者】李海波
【通讯作者】韩晓增
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【学科分类】土壤学

【题目】钾对大豆干物质积累、产量及品质的影响
【中文关键词】大豆 钾 干物质积累 根冠比 蛋白质 脂肪 产量
【英文关键词】Soybean, Potassium, Dry matter accumulation, Root to shoot, Protein, Fat, Yields
【中文摘要】盆栽条件下,通过设置不同的钾素水平,研究钾肥对大豆干物质积累及其产量和品质的影响。结果表明,钾增加了R1期根及地上部的干物质积累,但处理间差异不显著;R3、R5时期取样,随着钾肥用量的增加,根及地上部干物重表现为先增加后降低的趋势,K3(0.068g K2O kg-1土)处理干物质积累量最多,但R3时期取样处理间差异不显著,R5时期取样处理间差异显著。随着大豆的生长发育,根冠比逐渐减小,R5时期根冠比值最小。R1、R3时期随着钾肥用量的增加根冠比表现为先增加后逐渐降低的趋势,K2(0.034g K2O kg-1土)处理根冠比值最大;R5时期以K3处理根冠比值最大。钾有提高大豆脂肪降低蛋白质含量的趋势。钾能促进大豆产量的形成,以K5(0.136g K2O kg-1土)处理产量最高,并且显著高于不施钾肥的处理。
更多还原

【英文摘要】Spring soybean is one of main crops cultivated in Heilongjiang province in China.The annual planted area is 2-2.3 million hectares.Thus,it is urgent to enhance the yield and its quality.Potassium fertilizer plays a vital role in the period of crop growth and development as well as its quality improving.The objective of current research was to provide technical support for high yield and quality of soybean production with high efficiency fertilization in Heilongjiang province.Pot-experiments were carried out to study the effect of potassium fertilizer on dry matter accumulation,yield and quality of soybean.Five potassium fertilizer supply levels 0,0.034,0.068,0.102,0.136 g K2O kg-1 soil denoted as K1,K2,K3,K4,K5,were used in this experiment.The results showed that potassium enhanced the dry matter accumulation at flowering (R1),however,no significant difference was observed for the five K treatments.The dry matter accumulation showed increased and then decreased trend with the increment of potassium amount at podding(R3) and pod filling(R5),and significant difference among different treatments were observed at pod filling (R5) but not at podding(R3).The

optimum application rate of potassium was K3 (0.068 g K2O kg-1 soil) for dry matter accumulation at podding(R3) and pod filling (R5).The ratio of root to shoot decreased with the growing of soybean,which was lowest at pod filling (R5).The root to shoot ratio declined sharply after the peak in K2 with potassium fertilizer application at flowering (R1) and podding(R3).K3 was the maximum value for the root to shoot ratio at pod filling stage (R5).The application of potassium fertilizer was beneficial to oil accumulation but not to protein accumulation.The more the application of potassium fertilizer,the more yield soybean would reach.The optimum rate of potassium fertilizer for yield was K5 (0.136 g K2O kg-1soil),which was significantly superior to no-potassium (K1) treatment.
【语种】中文
【第一作者】闫春娟
【通讯作者】韩晓增
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【学科分类】土壤学

【题目】黑土区玉米-大豆轮作条件下施肥效应的研究
【中文关键词】黑土区 施肥效应 产量 肥料利用率 经济效益
【英文关键词】Black soil region, Fertilization effect, Yield, Fertilizer use efficiency, Economic benefit
【中文摘要】试验设在海伦农田生态系统国家野外科学观测研究站示范区内,采用N、P、K三因素多水平的不完全设计,旨在从16个不同氮、磷、钾水平的组合中筛选出适合当地的最适宜施肥量。不同氮、磷、钾肥用量玉米两年均获得较高产量的为处理4(N2P2K2),氮磷钾最佳施用量为N 150 kg hm-2,P2O5 90 kg hm-2,K2O 40 kg hm-2。不同氮、磷、钾肥用量大豆两年均获得高产的为处理4(N2P2K2),氮磷钾最佳施用量为N 60 kg hm-2,P2O5 60 kg hm-2,K2O 40 kg hm-2。通过对不同氮、磷、钾肥施用量和大豆与玉米产量进行一元二次方程拟合,建议黑土区玉米最适宜的施肥量为N 150~200 kg hm-2,P2O5 70~90 kg hm-2,K2O 30~40 kg hm-2;大豆为N 50~80 kg hm-2,P2O5 60~90 kg hm-2,K2O 30~40 kg hm-2。肥料利用率随施肥量的增加而降低,玉米与大豆的经济效益和其产量达到最高时的处理相同。 更多还原
【英文摘要】The experiments,located in Hailun national field research station,adopted incomplete design with different rates of nitrogen,phosphorous and potassium fertilizers to find out the optimum fertilization rate for local crops out of sixteen combinations of nitrogen,phosphorous,potassium fertilizers.The highest yields of maize and soybean were obtained in treatment 4(N2P2K2) in two years,and the amounts of the applied fertilizers were as follows: N 150 kg hm-2,P2O5 90 k g hm-2,and K2O 40 kg hm-2 for maize;N 60 kg hm-2,P2O5 60 kg hm-2,K2O 40 kg hm-2 for soybean.By using quadratishe gleichung to simulate the amounts of nitrogen,phosphorous,potassium fertilizers and the yields of maize and soybean,the study suggested that the best suitable amounts of fertilizer were: N 150-200 kg hm-2,P2O5 70-90 kg hm-2,and K2O 30-40 kg hm-2 for maize;N 50-80 kg hm-2,P2O5 60-90 kg hm-2,and K2O 30-40 kg hm-2 for soybean.Fertilizer use efficiency showed decreasing trend as the increase of fertilizing amount,and the highest yield and the most economic benefit of maize and soybean were found in the same treatment
【语种】中文
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【学科分类】土壤学

【题目】温度和水分对不同肥料条件下黑土磷形态转化的影响及机制
【中文关键词】温度 水分 黑土 磷形态转化 土壤酶活性
【英文关键词】temperature, moisture, black soil, phosphorus transformation, soil enzyme activity
【中文摘要】采用室内微宇宙试验法,研究了温度(25℃和10℃)、土壤湿度(湿度分别为最大持水量的50%和25%,即50%WHC和25%WHC)对不同肥料条件下黑土磷素形态转化及土壤磷酸酶活性的影响。结果表明,土壤温度和水分及其交互作用对不同肥料条件下土壤磷形态转化以及土壤酶活性有显著影响。土壤温度(25℃)和土壤湿度(50%WHC)显著增加了土壤有效磷、Ca2-P、Ca8-P的含量,而土壤有机磷含量显著降低;在土壤中添加氮、磷、钾肥料后,这种作用变得尤为明

显。高的土壤温度(25°C)和合适的土壤湿度(25%WHC)能够显著提高土壤磷酸酶的活性,土壤磷酸酶活性与土壤有效磷含量呈显著正相关,表明可以通过提高土壤温度和保持土壤合适的湿度来提高土壤磷酸酶,活化和提高土壤磷的有效性,进而促进土壤磷释放。

【英文摘要】Microcosm experiments were conducted to study the effects of temperature such as 25°C & 10°C and soil moisture such as 50%,and 25% of the largest water holding capacity of soil(WHC) on transformation of phosphorus,and the activities of acid phosphatase in the black soil receiving nitrogen & potassium fertilizers(NK),and nitrogen,phosphate,and potassium fertilizers(NPK).The statistic significant effects of temperature and moisture on phosphate transformation,and acid phosphatase activities were found in the present paper.High temperature such as 25°C and moisture such as(50%WHC) can significantly increase contents of available phosphorus,Ca2-P,and Ca8-P,however,significantly decrease the content of organic phosphorus in soils especially in the soils manured with NPK.High temperature such as 25°C and appropriate moisture such as 25%WHC can enhance acid phosphatase activities.The significantly positive correlation between the activity of acid phosphatase and the content of available phosphorus was also found in the present paper.It indicates that we can increase acid phosphatase activity to activate and enhance the availability of phosphorus in soil and to promote phosphorus to be released from black soil through adjusting soil temperature and moisture

【语种】中文

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【学科分类】土壤学

【题目】覆膜对不同施肥条件下玉米苗期生长和光合及生理参数的影响

【中文关键词】覆膜 施肥 玉米 生长 光合及生理参数

【英文关键词】plastic film mulching, fertilization, corn, growth, photosynthesis physiological parameters

【中文摘要】在田间试验条件下,研究了东北早春低温条件下,覆膜对不同施肥处理下玉米苗期生长、光合及生理参数的影响。结果表明:(1)覆膜对玉米苗期生长的影响与施肥条件有关。不覆膜情况下,除NPK处理能够显著增加玉米地上部干重外,其余施肥处理对苗期玉米地上部干重影响不显著。覆膜处理能够显著增加玉米地上部的干重,增幅为27.8%~126.3%。其中以单施磷肥的处理,覆膜处理对玉米地上部干重的影响较大,增幅为126.3%,施用氮磷钾肥料处理的影响最小,增幅仅为27.8%。(2)覆膜对玉米叶片光合及生理参数的影响同样也受施肥条件的影响。覆膜处理能够明显增加各施肥处理玉米叶片的蒸腾速率,而对气孔限制值没有显著影响;能明显增加CK、N、P处理玉米叶片光合速率、气孔导度,显著提高N、P处理的水分利用率,而对其他施肥处理影响不显著。上述结果表明,在东北地区玉米生产过程中,覆膜栽培应该根据土壤养分情况综合考虑玉米的施肥。 更多还原

【英文摘要】In order to investigate the effects of plastic film mulching(PFM) on corn,the effects of PFM were studied in the present paper on the growth and photosynthetic parameters of corn receiving different fertilizers at seedling stage in the field condition.The results were presented as follows:(1) The effects of PFM on corn growth depended on the fertilization.Without the presence of PFM,the dry weight of corn plant was significantly increased by the NPK treatment,however,no effect of other fertilizer treatments was observed on dry weight of corn plant.PFM could significantly increase the dry weight by 27.85 ~ 126.3% .The strongest effect of PFM was observed on the growth of corn,which receives the phosphorus fertilizer along,with the increase of dry weight by 126.3% .The weakest effect of PFM was observed on the growth of corn,which receives the nitrogen,phosphorus,and potassium fertilizers together,with the increase of dry weight of corn plant only by 27.8% .(2) Effects of PFM on photosynthetic and physiological parameters also atributed to fertilization.PFM treatments could obviously inprove transpiration rate(Tr),and had no significant effects on stomatal limitation value(Ls) of leaves of corn receiving different fertilizers.PFM could significantly enhance photosynthetic rate(Pn),stomatal conductance(Gs) of leaves of corn in the treatments of CK,N,and P,could also significantly increase the water use efficiency(WUE) of leaves of corn in the treatments of N,and P,with no significant effects on these parameters of leaves of corn in other treatments.For example,PFM increased the photosynthetic rates of leaves of corn by 89.2% 、 49.2% and 28.1% ,respectively,in the treatments of CK,N,and P,compared to the corresponding treatments without PFM.All these results indicated that the conditions of nutrients in soils and fertilization should be considered when PFM were used in corn production in Northeastern China.

【语种】中文

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【学科分类】土壤学

【题目】长期不同施肥对暗棕壤甲烷氧化菌群落特征与功能的影响
【中文关键词】暗棕壤 甲烷氧化菌 pmoA基因 实时定量PCR 甲烷氧化速率 冗余分析 Monte Carlo检验 PCR-DGGE
【英文关键词】dark brown soil, methanotrophs, pmoA gene, real time PCR, methane oxidation rate, redundancy analysis, Monte Carlo test, PCR-DGGE
【中文摘要】不同施肥方式对我国旱地农田土壤甲烷氧化影响的微生物机制尚不明确.本研究利用PCR-DGGE和实时荧光定量PCR技术,结合甲烷氧化速率和土壤性质测定,探索了长期不同施肥条件下暗棕壤的"土壤性质-甲烷氧化菌群落特征-土壤甲烷氧化速率"关系.结果表明,有机肥和无机肥配施处理显著降低了土壤甲烷氧化速率,降幅为61.2%,而单独施用有机肥或无机肥对暗棕壤甲烷氧化速率的影响不显著;与对照相比,有机肥处理土壤甲烷氧化菌多样性指数增加91.9%,有机肥和无机肥配施处理增加102.5%,而单施无机肥后土壤甲烷氧化菌多样性指数变化不明显;有机肥处理土壤的pmoA基因丰度显著增加,平均pmoA基因丰度为不施用有机肥的12.7倍;土壤甲烷氧化速率与甲烷氧化菌的群落结构和比活性呈显著正相关,相关系数分别为0.363和0.684,但与甲烷氧化菌群落丰度和多样性不相关;甲烷氧化菌的群落结构和比活性与土壤pH值、全氮和有机质含量呈显著正相关.上述结果说明,长期不同施肥可以通过改变暗棕壤的pH值、全氮和有机质含量等土壤性质,改变甲烷氧化菌群落结构和比活性,进而影响土壤甲烷氧化速率;有机肥和无机肥配施土壤甲烷氧化菌多样性和丰度大幅度增加,而甲烷氧化速率却显著降低,说明有机肥和无机肥配施土壤中只有部分微生物发挥了甲烷氧化活性,但有待进一步研究.
【英文摘要】The microbial mechanisms of how different long-term fertilizations change methane oxidation of Chinese upland arable soil is unclear so far.In the present study,we attempted to investigate the "soil properties-community properties of methanotrophs-methane oxidation"relation of dark brown soil in Northeastern China under different long-term fertilization regimes.Community structure and abundance were monitored with PCR-DGGE and real time PCR,respectively.Methane oxidizing rate and soil properties were measured as well.The results show that combined use of mineral fertilizer and compost(MNP) reduce soil methane oxidation by 61.2%,whereas either mineral fertilizer(NP) or compost(M) shows no effect.Comparing with no fertilizer(CK),M and MNP increase the Shannon index of methanotrophs by 91.9% and 102.5%,respectively,whereas NP has no effect.Similarly,M(M or MNP) significantly increases pmoA gene abundance by up to 12.7 folds compared with no M addition(CK or NP).Methane oxidizing rates are significantly correlated with community structure and specific activity of methanotrophs,with correlation coefficients of 0.363 and 0.684,respectively.However,methane oxidizing rates do not correlate with abundance and diversity of methanotrophs.In addition,community structures and specific activity of methanotrophs are significantly correlated with soil pH and content of total nitrogen and organic matter.Our results suggest that long-term different fertilizations may change soil properties(such as pH and content of total nitrogen and organic matter) and thereafter the community structure and specific activity of soil methanotrophs,by which long-term different fertilizations influence soil methane oxidizing rate.The opposite change of methane oxidation to methanotrophs diversity and abundance in MNP suggests that only parts of the methanotrophs are active,which needs further research.
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【学科分类】土壤学

【题目】土壤及植物复合体系中有机酸的测定
【中文关键词】土壤及植物复合体系; 有机酸; 测定

【英文关键词】integrated system of soil and plant; organic acid; determination
【中文摘要】通过对10 种有机酸的色谱条件试验、样品处理试验(以4℃和-20℃作为样品运输和储存条件)以及加标回收率试验,建立并优化了土壤及植物复合体系中10 种有机酸的测定方法。方法添加回收率在74%~92%,变异系数CV≤4.1%,方法的最低检测限为0.2~50 μg/kg,应用该方法测定了番茄植物及其土壤样品中的有机酸,结果表明该方法能够满足测量田间环境条件下土壤及植物复合体系中mg/kg 痕量级有机酸含量要求。
【英文摘要】A method of determination of trace level of 10 kinds of organic acids from integrated system of soil and plant was established through experimentation of HPLC instrument, sample preparation under sample transportation and conversation at 4~20°C respectively and recovery trails at different fortification levels, with recoveries, coefficient variations and limit of detection of the method as 74%~92%, ≤4.1%, 0.2~50 μg/kg respectively. Results of the determination of tomato plants and its soil showed that the method could accurately monitor the trace level of 10 kinds of organic acids in the integrated system of soil and plant.
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【第一作者】孙宝利
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【学科分类】土壤学

【题目】稻草易地还土对丘陵红壤有机质和主要物理性质的影响
【中文关键词】稻草;土壤有机质;水稳定性团聚体;容重;田间持水量;孔隙度
【英文关键词】rice straw; soil organic matter; water2stable aggregates; bulk density; field water2holding capacity; porosity
【中文摘要】选取新垦坡地和熟化旱地2种典型土地利用类型,研究了稻草易地还土对丘陵红壤有机质含量和主要物理性质的影响,并探讨了土壤有机质、田间持水量、容重、孔隙度间的相关性。结果表明:稻草易地还土可提高丘陵红壤有机质含量,改良土壤物理性质,增强土壤蓄水性能。与不施肥或化肥处理相比,稻草易地还土提高了耕层(0~20 cm)土壤有机质含量5.8% ~28.9%和 > 0.25 mm水稳性大团聚体含量;降低了亚表层(10~15 cm)土壤容重,降低幅度为4.5%~7.5%,提高了亚表层土壤的田间持水量和孔隙度,提高幅度分别为6.8%~16.2%和4.8%~7.7% (P <0.05)。相关分析表明,土壤有机质含量(0~20 cm)与亚表层土壤容重(r = - 0.799)、孔隙度(r = 0.803)、田间持水量(r = 01844)呈极显著相关(P <0101);表层、亚表层土壤田间持水量与土壤容重(r = - 01638) 、孔隙度(r = 0.664)呈显著相关(P <0.05)。
【英文摘要】Two typical land-use types, newly cultivated slope land and mellow upland, were selected to investigate the effects of ex-situ rice straw incorporation on the organic matter content, field water-holding capacity, bulk density, and porosity of hilly red soil, and to app roach the correlations between these parameters. The results showed that ex-situ incorporation of rice straw increased soil organic matter content, ameliorated soil physical properties, and improved soil water storage. Comparing with non-fertilization and applying chemical fertilizers, ex-situ incorporation of rice straw increased the contents of organic matter (5.8%- 28.9%) and > 0.25 mm water-stable aggregates in 0- 20 cm soil layer, and increased the field water2holding capacity (6.8%- 16.2%) and porosity (4.8%- 7.7%) significantly (P < 0.05) while decreased the bulk density (4.5%-7.5%) in 10-15 cm soil layer. The organic matter content in 0-20 cm soil layer was significantly correlated to the bulk density, porosity, and field water-holding capacity in 10- 15 cm soil layer (P< 0.01) , and the field water-holding capacity in 0-20 cm and 10-15 cm soil layers was significantly correlated to the bulk density and porosity in these two layers (P < 0.05).
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【第一作者】朱捍华
【通讯作者】黄道友
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【题目】农业环境监测协作共用网的构建设想
【中文关键词】数据共享;时效性;协作共用;管理
【英文关键词】data sharing; time effectiveness; cooperation and sharing; management
【中文摘要】针对农业环境监测领域存在的数据信息点贫乏和数据服务时效性滞后的问题,提出建设农业环境监测协作共用网的构想,借助于管理意识和管理手段的创新,推动数据的共享,带动整个农业环境领域大联合,使环境监测、环境预警与控制3个环节紧密联合,提高农业环境管理效率和效益。另外,分析了农业环境协作共用网的内涵和体系结构与功能,并讨论了建设中的一些关键问题。
【英文摘要】Considering the p roblems of information insufficiency and data service lagging behind time in agriculture environmentmonitoring, the paper puts forward a thought about constructing a cooperative and sharing network for agriculture environmentmonitoring. By means of innovating management consciousness and tools, this network can help to accelerate data sharing, p romote cooperation between all agricultural fields, and tightly link environment monitoring, environment forecast and environment control as a whole, so as to eventually imp rove the efficiency and benefit of agriculture environmentmanagement. The paper also analyses the connotation and function of this network, and discusses several key issues concerning its construction.
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【题目】不同土地利用方式对农田土壤养分含量的影响
【中文关键词】有机质;土壤养分;土地利用方式;时空变化
【英文关键词】organic matter; soil nutrients; land use patterns; temporal-spatial variability
【中文摘要】本研究以湖南省祁阳县为例,探讨了南方丘陵区不同土地利用方式下农田土壤养分含量的时空变化及剖面含量分布,并与第二次土壤普查时(1980 年)的土壤养分状况相比较。结果表明,水稻土有机质、全氮、碱解氮及速效磷平均含量高于旱地,而速效钾含量低于旱地土壤。与第二次土壤普查时相比,水稻土和旱地的全氮、碱解氮和速效磷含量都明显增加,水稻土的增加幅度要高于旱地土壤;而速效钾含量有不同程度的下降,水稻土下降程度小于旱地。水稻土各剖面层土壤有机质和全氮含量均远高于旱地土层,各土层全磷含量略高于旱地,而全钾含量则略低于旱地土壤。不同土地利用方式下施肥水平与施肥结构、耕作制度、田间管理等可能是造成研究区域农田土壤养分含量变化的主要原因。
【英文摘要】The study investigated the effect of land use on farmland soil organic matter and nutrients and their temporal-spatial variability in Qiyang County, Hunan Province. The results showed that, the paddy soil organic matter, total nitrogen, alkali-hydrolysable nitrogen and available phosphorus contents were higher than upland field, while available potassium contents were lower than it. Compared with the results of the Second Soil Census, total nitrogen, available nitrogen and available phosphorus contents both in paddy field and in upland field were significantly increased, with higher increased rates in paddy field, while available K content declined at different degrees in paddy field and upland field. Soil organic matter, total nitrogen and total phosphorus contents in paddy soil profile were higher than upland soil profile, and the total potassium content were slightly lower than upland field. Fertilizer levels, fertilizer structure, farming system and field management in different land use patterns may be the main factors to the change of soil nutrients.
【语种】中文
【第一作者】阿拉腾希胡日
【通讯作者】曾希柏
【期刊名称、卷期、页码】农业现代化研究 2010, 31(4):492-495
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【学科分类】土壤学

【题目】HPLC法测定微乳中伊维菌素的含量
【中文关键词】伊维菌素 伊维菌素微乳 高效液相色谱法
【英文关键词】ivermectin ivermectin mieroemulsion HPLC
【中文摘要】建立了HPLC测定伊维菌素微乳中伊维菌素含量的方法。色谱柱为ZirchromC18(4.6mm×250 mm,5μm),流动相为甲醇：水(85：15),测定波长为245 nm,流速为1.0 mL/min,柱温为40°C。伊维菌素与辅料及溶剂峰分离良好,在2.22~111.0μg/mL时线性关系良好(R^2=0.999 9)。HPLC测定伊维菌素方法便捷、准确、重复性好,可用于伊维菌素微乳含量的测定
【英文摘要】An HPLC method for determining the content of ivermectin in ivermectin microemulsion was established. Zirchrom C18(4.6 mm × 250 mm, 5 μm)was employed, and the mobile phase consisted of methanol: water (85: 15). The detective wavelength was set at 245 nm. The flow rate was 1.0 mL/min, and the column temperature was at 40 °C. There was good resolution between ivermectin and the excipients under this chromatographic condition. The calibration curve was linear in the range of 2.22 - 111.0 μg/mL(R^2 =0.999 9). The method is simple and accurate in determining the content of ivermeetin in ivermectin mieroemulsion.
【语种】中文
【第一作者】刘根新
【通讯作者】张继瑜
【期刊名称、卷期、页码】中国兽药杂志 2008,42(11):34-36
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【学科分类】分析化学

【题目】纳米技术在中药研究中的应用进展
【中文关键词】纳米技术 中药 纳米粒 囊泡
【英文关键词】nanotechnology traditional Chinese medicine nanoparticale noisome
【中文摘要】纳米技术是在纳米尺度下对物质进行制备、研究和工业化,以及利用纳米尺度物质进行交叉研究和工业化的综合性研究体系。中药产生的药理作用不完全归功于该药物特有的化学组成,还应该与药物的物理状态(如颗粒大小)密切相关,通过将纳米技术引入现代中药的研究开发,可以扩展中药的理论和实践研究,扩大中药的应用范围。通过对近年来纳米技术在中药研究中的应用进行综述,介绍了纳米技术应用于中药研究领域的发展状况,重点从纳米中药的特点、类型、制备技术、研究方向、研究中面临的问题等方面进行了系统论述。
【英文摘要】Nanotechenology is a new comprehensive system,which prepares substances or materials at molecular or nuclear levels in nanometer scale,and nano materials can be explored to apply on broad aspects of industrial engineering sciences. The pharmacological reaction of traditional Chinese medicine can not only be contributed to its specific chemical composition but also be closely related to the phsical status of the medicine such as the particle size etc. Nanotechnology is intruduced for the research and development of medern Chinese medicine,to extend the theory and practice research,to expand the adhibition extension. The application of nanotechnology in the research of traditional Chinese medicine were reviewed in this ar- ticle,the development,character, category,preparative technique, the trend and matter of research in the traditional Chines medicine were discussed after the application of nanotechnology.
【语种】中文
【第一作者】刘根新
【通讯作者】张继瑜
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【学科分类】农学其他学科

【题目】小鼠口服青蒿琥酯纳米乳的急性毒性研究
【中文关键词】小白鼠 青蒿琥酯纳米乳 半数致死量 急性毒性
【英文关键词】Mice Artesunate nano-emulsion Median lethal dose Acute toxicity

【中文摘要】[目的]研究3种不同配方青蒿琥酯(Artesunate,AS)纳米乳的急性毒性,筛选出安全性最好的配方。[方法]采用小鼠灌胃给药,观察14 d内小鼠的活动情况及死亡情况,记录小鼠的死亡数。用改良寇氏法测定各配方AS纳米乳的半数致死量(LD50)及可信限。[结果]AS1、AS2纳米乳的LD50分别为7.76和7.56 g/kg;可信限为6.90~8.68和6.42~8.87。AS3纳米乳的LD0为15 g/kg。[结论]在国内首次成功制备的3种不同配方AS纳米乳,均属于实际无毒范围,AS3纳米乳较之AS1、AS2更安全。

【英文摘要】[Objective] The research aimed to study the acute toxicity of 3 kinds of artesunate with different formula and screen out the formula with the best safety.[Method] The drugs were infused into stomach of mice to observe the activity situation and death situation of mice within 14 days.The number of dead mice was recorded.The median lethal dose(LD50) and confidence limit of AS nano-emulsion with different formula were determined by using improved Karber method.[Result] LD50 of AS1 and AS2 nano-emulsion were 7.76 and 7.56 g/kg resp.and the confidence limit of the two were 6.90-8.68 and 6.42-8.87 resp.LD50 of AS3 nanoemulsion was 15 g/kg.[Conclusion] 3 kinds of nano-emulsion with different formula prepared successfully in China for the time all had no actual toxicity.AS3 nano-emulsion was safer than AS1 and AS2.

【语种】中文

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【通讯作者】张继瑜

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【学科分类】农学其他学科

【题目】水样硝酸盐离子交换色层法氮、氧同位素分析预处理条件试验

【中文关键词】硝酸盐;同位素分析;离子交换色层法;吸附率;洗脱率

【英文关键词】nitrate; isotope analysis; ion exchange chromatography; sorption efficiency; elution recovery

【中文摘要】在地下水硝酸盐溯源的研究过程中,预处理方法是关键,直接关系到N、O同位素测定的准确与否。为提高地下水硝酸盐溯源工作的准确性,对水样硝酸盐氮、氧同位素分析的预处理方法做进一步研究和探讨,对前人的方法做出改进。实验中所采用的方法为离子交换色层法,预处理后转化成的AgNO3直接经TC-EA在线转化为N2和CO引进IRMS进行δ15N和δ18O的测定,省去了以往繁锁的转化步骤。结果表明,Bio-rad3公司生产的AG1-X8 型阴离子交换树脂对NO3-具有较好的吸附性,吸附率能达到98%以上,采用体积为15 mL,浓度为6 mol/L 的HCl 溶液进行洗脱,洗脱率能达到94%以上。此外,δ15N和δ18O测定结果重现性较好,测试精度分别达到0.22‰和0.4‰。此方法已达到国外同类研究水平,能满足水体中硝酸盐溯源和水文地质研究的要求,适用于NO3--N浓度属于中高水平水样的预处理。

【英文摘要】During the process of identifying the sources of nitrate in groundwater, the preprocessing method which could influence the accuracy of δ15N and δ18O values was essential. The preprocessing method for δ15N and δ 18O analysis was further studied and improved in this paper in order to increase the accuracy of identifying sources. The method of Ion exchange chromatography was used in this paper. AgNO3 converted by this method was transformed into N2 and CO directly by TC-EA avoiding the complicated conversion steps in the past. The results indicated that the AG1-X8(Cl-, 200-400mesh) anion resin produced by Bio-rad Corporation had a relatively high affinity for nitrate which made the sorption efficiency achieve more than 98percent. The elution recovery achieved more than 94 percent by using 15 mL of 6 M HCl. Moreover, the reproducibility of δ15N and δ18O values was good. The testing accuracy was 0.22‰ for δ15N and 0.4‰ for δ18O. This method had reached the level of similar studies abroad and met the requirements of the hydrogeological applications and it was suited for waters with moderate nitrate concentrations.

【语种】中文

【第一作者】贾小妨

【通讯作者】李玉中

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【学科分类】生物学其他学科

【题目】叶面肥的营养机理及应用研究进展
【中文关键词】植物营养;叶面营养;叶面肥;叶面施肥
【英文关键词】plant nutrition; foliar nutrition; foliar fertilizer; foliar application
【中文摘要】综合评述了植物叶面营养机理以及叶面肥应用的研究进展。植物叶片与根一样可以吸收利用养分,叶片对养分的吸收主要是通过叶面气孔和表皮亲水小孔进行的,还可以通过胞间连丝进行主动吸收。植物种类及其生长状况、叶面喷施液的组成与养分元素的性质以及温度、光照等环境条件都影响叶面养分的吸收与利用。叶片类型及叶表蜡质层结构与组成的不同造成双子叶植物叶面施肥效果好于单子叶植物,甚至同种类不同品种的植物叶面养分吸收也不同;植物生长时期不同叶面肥施用效果也不同;表面活性剂等助剂因可以提高叶面喷施效果而成为叶面肥中不可缺少的成分,但通常沿用农药中常用的活性剂种类,由于成分间相溶性差而影响叶面喷施效果。叶面营养机理的研究推动了叶面肥的发展与应用,叶面施肥逐渐成为现代农业中一项重要的施肥措施,但因其施肥量有限只能作为土壤施肥的一种有效辅助措施而不能代替土壤施肥。近年来,中国叶面肥产品数量和种类增长迅速,但产品质量较差,使用技术也有待提高。在今后的发展中,应加强叶面营养机理以及助剂等物质的研究与应用,提高产品质量和施用效果,强化专用叶面肥研究,优化和推广叶面肥施用技术。
【英文摘要】Advances in study of mechanisms of foliar nutrition and foliar fertilizer application were reviewed. Plant leaves canabsorb nutrients as roots do. There are two basic pathways for nutrients entering into the plant tissue: one is through the stomata andthe other is via cuticle hydrophilic pores. Some plant leaves also can absorb nutrients actively through plasmodesmata. So the foliaruptake of nutrients depends upon plant types and the state of plants growth, composition of foliar fertilizer, characters of nutrientsand environmental factors such as temperature, illumination and so on. Foliar application to dicotyledon is better than tomonocotyledon because of different leaf types and structures of surface wax, and of different varietals plants of homogeneity. It isnecessary to spray right fertilizers at right stage of plant growth. Some assistants, such as surfactants are required to enhance nutrientsabsorption in foliar fertilizers, however, most of the surfactants have a poor solubility among compositions of foliar fertilizers as theyare pesticides surfactants. The development of foliar application was promoted by the research on mechanism of foliar nutrition, andnow foliar application is becoming an important fertilization method. But soil application can not be replaced by foliar application offertilizers. Foliar spray can be only as an efficiency assistant method to soil application because the quantity of nutrients supplied is limited. In recent years, foliar fertilizers developed promptly both in quantity and variety, but the quality is poor in China. So the techniques of foliar application need to be improved. Scientists should intensify their research on the mechanism of foliar nutritionand the utilization of assistants in foliar fertilizers. In future, it is necessary to enhance the quality of foliar fertilizers and foliar fertilization, study on optimization of specialized foliar fertilizers and the techniques of foliar application.
【语种】中文
【第一作者】李燕婷
【通讯作者】赵秉强
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【学科分类】农业基础学科

【题目】中观尺度果园蒸散研究进展
【中文关键词】果园蒸散; 中观尺度; 测定方法; 估算方法
【英文关键词】Orchard epotranspiration; Mesoscale; Measurement methods; Estimation methods
【中文摘要】提高水资源利用效率是农业可持续发展的关键。中观尺度的果园水分耗散及其规律研究对于指导果园科学灌溉管理、提高水资源利用效率更具有实践生产意义。着重概述中观尺度植被蒸散的测算方法, 及其在果园生态系统蒸散研究的应用。目前, 应用于中观尺度果园蒸散测定技术主要有涡度相关技术、波文比- 能量平衡技术和闪烁通量仪; 广泛应用于果园蒸散估算模型主要有Penman-Monteith 模式和Priestley- Taylor 模式和作物系数法。最后, 展望中观尺度果园蒸散研究的热点问题。
【英文摘要】Increasing water use efficiency is important for developing sustainable agriculture. Study on orchard water depletion and its disciplinarian at mesocale has practical significance for water resource management. In this paper, we initially present the well known evapotranspiration (ET) measurement methods at field scale, such as eddy correlation method,Bowen Ratio- Energy Balance method, and Scintillometer used measuring regional average ET. In the following, we describe the methods to estimate orchard ET, such as Penman-Monteith and Priestley- Taylor models. In conclusion, we focus attention on the most interesting newguidelines for research on the measurement and estimation of actual orchard ET.

【语种】中文
【第一作者】王有年
【通讯作者】王有年
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【题目】双季稻田改制对土壤剖面构型及性质的影响
【中文关键词】种植制度;土壤剖面构型;土壤团粒;土壤养分;腐殖质
【英文关键词】cropping system; soil profile form; soil aggregates; soil nutrients; humus
【中文摘要】利用田间试验方法,研究了红壤区双季稻田改为稻-稻-紫云英、牧草、水旱轮作和旱作4种种植模式对土壤剖面构型及耕层土壤性质的影响.结果表明:与试验前相比,旱作种植模式下,耕作层厚度增加了4 cm、犁底层厚度减少了2 cm、湿筛>2 mm粒级团粒含量提高了6.94%、湿筛法平均质量粒径增加了0.37mm、水稳性结构商是试验前的1.78倍,腐殖酸碳和富里酸碳含量分别提高了0.15和0.49 g.kg-1;水旱轮作种植模式下,土壤水稳性结构商较高(95.86)、养分含量变幅小;稻-稻-紫云英种植模式下,除有机质含量(增加1.3 g.kg-1)和土壤水稳性结构商(降低8.82)变化较大外,其余指标变化不大;牧草种植模式下,耕作层厚度增加2 cm、过渡层厚度增加9 cm、土壤水稳性结构商增加1.39,而土壤有机质和全钾含量分别下降5.6和2.8 g.kg-1,在所有处理中变化幅度最大。表明在当前红壤地区对灌溉条件较差的双季稻田进行改制是可行的,建议优先考虑改成旱作或水旱轮作,但无论在何种耕作方式下,均应注意土壤钾素的亏损问题。
【英文摘要】Field experimentswere conducted on the double rice cropping paddy field in red soil area to evaluate the influence ofcropping system innovation on soilprofile form and related soil characteristics. Four cropping systems of rice-rice-Chinese Milkvetch (Astragalus sinicus Linn.), forage, paddy-upland rotation, and uplandwere substituted for the double rice cropping system. The results indicated that compared with those under double rice cropping system, the thickness of cultivated horizon underupland cropping system increased by 4 cm, thatofplow pan declined by 2 cm, >2mm aggregates inwet-sieved particle-size fractions increased by 6 • 94%, wet-sieved mean-mass diameter increased by 0.37 mm, contents of humic acid carbon and fulvic acid carbon increased by 0.15 and 0.49 g • kg-1, respectively, and quotient of aggregates water stability was 0.78 times higher. Under paddy-upland rotation, the quotient of aggregates water stability was higher(95.86), while soilnutrient contents changed a little. Under rice-rice-Chinese Milkvetch system, soil organicmattercontent increased by 1.3 g • kg-1, quotient of aggregates water stability declined by 8.82, but other parameters had less changes. Under forage system, the thickness of cultivated and transitional horizons increased by 2 cm and 9 cm, respectively, quotient of aggregates water stability increased by 1.39, while the contents of soil organic matter and total potassium decreased by 5.6 and 2.8 g • kg-1, respectively. Among all test cropping systems, forage system had the greatest changes in soil characteristics. It was completely feasible to substitute the local double rice.
【语种】中文
【第一作者】曾希柏
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【题目】纳米乳在药剂学中的研究进展及其应用
【中文关键词】纳米乳 表面活性剂 给药系统 生物利用度
【英文关键词】nanoemulsion surfactant delivery system bioavailability
【中文摘要】综述纳米乳作为新型药物载体的优势,形成纳米乳的各组分发挥的作用以及不同给药途径在药剂学方面的应用状况。查阅大量近年来国内外的相关文献并进行归纳、总结。结果表明,纳米乳在透皮给药、口服给药、黏膜给药、注射给药等多个给药途径中较之普通乳剂有明显的优势。纳米乳作为一种新型药物载体系统具有对难溶性药物强大的增溶作用.还具有明显的缓释作用、靶向性及较高的生物利用度等优点,在药剂学领域有广阔的应用前景。

【英文摘要】The advantages of nanoemulsion as a novel vehicle of the drug delivery system, the roles of the ingredients and the application of various methods of administration in pharmaceutics were systematically reviewed. The application of nanoemulsions in drug delivery systems including transdermal, mueosal, oral and injection delivery systems was better than ordinary emulsions. Nanoemulsions, with a very good prospect in pharmaceutics in the future, had many good characters such as good solubilization to indissolvable drugs, delayed release, targets and high bioavailability.
【语种】中文
【第一作者】胡宏伟
【通讯作者】张继瑜
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【题目】基于MODIS 数据的草地植被光合过程参数估算
【中文关键词】光合有效辐射; 光合有效辐射吸收系数;吸收性光合有效辐射; 时空变化
【英文关键词】Photosynt hetic active radiation (PAR) ; Fraction of p hotosynthetic active radiation (FPAR) ; Absorbed p hotosynt hetic active radiation (APAR) ; Spatiotemporal variations
【中文摘要】以内蒙古自治区为例,利用MODIS 遥感影像和TOMS 紫外波段反射率数据,在GIS 和RS 软件支持下,计算分析了内蒙古草地生长季的光合有效辐射(PAR) 、光合有效辐射吸收系数(FPAR) 、吸收性光合有效辐射(APAR) 及其时空变化,并分析了气候因子对FPAR、PAR 的影响。结果表明:内蒙古草地生长季的PAR、FPAR、APAR 的估算值与其他研究者基本一致,方法可行,可为草地NPP 估算及建模提供参考。内蒙古草地生长季平均PAR 为197318 MJ / m2 , FPAR 为01275 ,APAR 为516164 MJ / m2 。内蒙古草地生长季的PAR、FPAR、APAR 时空变化明显: FPAR 及APAR 空间上呈东北向西南地区递减的趋势,PAR 与之相反。4 月份(生长季初期) 以后,随着时间的推移PAR、FPAR、APAR 都开始增加,但出现峰值的时间不同。内蒙古草地生长季,不同草地类型的FPAR及APAR 差异明显,在草地NPP 估算及建模时应引起重视。
【英文摘要】Wit h t he aid of geograp hic information system (GIS) sof tware ArcGIS and remote sensing imageprocessing sof tware ERDAS IMA GE , using MODIS data and TOMSps reflectivity of UV band , p hotosyn2t hetic active radiation (PAR) , f raction of p hotosynthetic active radiation (FPAR) and absorbed p hotosyn2t hetic active radiation (APAR) of grassland in growing season in Inner Mongolia were estimated , and t heirspatiotemporal variations , and t he climate factors impacting FPAR , PAR were analyzed. The result sshowed that t he calculated PAR , FPAR and APAR values were identical wit h ot her researchers ’ result s.The met hods is available to model and estimate grassland ’ s NPP. The average PAR , FPAR and APARwere about 1973. 8 MJ / m2 , 0. 275 and 516. 64 MJ / m2 respectively in growing season in Inner Mongolia.Their spatiotemporal variations in growing season in Inner Mongolia were obvious : The spatial dist ributionof PAR and FPAR was gradually descending f rom t he nort heast to sout hwest , while PAR was on t he con2t rary. From beginning of the growing season , t he PAR , FPAR and APAR was gradually increasing , butt he peak value presented at different month. The variation of FPAR and APAR of different grassland typewas very obvious , which should be paid more at tention to when grassland ’ s NPP was modeled and esti2mated.
【语种】中文
【第一作者】李刚
【通讯作者】辛晓平
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【题目】Study of Agricultural Search Engine based on FAO Agrovoc ontology and Google API
【中文关键词】无
【英文关键词】COINFO, conference, up to 5 keywords
【中文摘要】无

【英文摘要】This template illustrates preparation of manuscripts for the COINFO 2009 Conference. It defines the format of various components of your submission (title, authors, abstract, keywords, headings, text, reference citation, etc.). Please follow the format of this document. The ‘ Abstract ’ should be in Times New Roman font to write your manuscript. The title should be 14pt bold, followed by the name of the authors (11pt) and their affiliation (10pt). The ‘ Abstract ’ should be in 10pt, italic and centred with 0.5cm left and right indentation.
【语种】英文
【第一作者】崔运鹏
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【题目】3种土壤对水溶性有机物的吸附和解吸研究
【中文关键词】土壤;水溶性有机物;吸附;解吸
【英文关键词】Soil;Dissolved organic matter(DOM);Adsorption;Desorption
【中文摘要】了解不同类型土壤对水溶性有机物的吸附和解吸差异,为有机肥的合理施用以及进一步研究其化学行为提供参考。【方法】选择普通肥熟旱耕人为土(黑土母质发育)、石灰肥熟旱耕人为土(褐土母质发育)和酸性肥熟旱耕人为土(第四纪红壤母质发育)3种理化性质差异较大的土壤,开展添加水溶性有机物(DOM)后不同吸附时间下土壤对DOM的吸附和解吸试验,并利用相关模型计算了土壤对DOM吸附和解吸的参数。【结果】外源DOM进入土壤后,能很快被土壤胶体吸附,并在1 h内达到平衡;3种土壤对DOM的吸附差异明显,其达到平衡时的吸附量分别为10 236、8 372和10 088 mg.kg-1,即以有机质含量高的普通肥熟旱耕人为土和pH低的酸性肥熟旱耕人为土对DOM的吸附量大;3种土壤对所吸附DOM的解吸量比较,在吸附量达到最大时,解吸量占吸附量的比例分别为63.2%、42.1%和93.3%;3种土壤对所吸附DOM的解吸能力比较,亦为酸性肥熟旱耕人为土>普通肥熟旱耕人为土>石灰肥熟旱耕人为土。【结论】土壤性质与其对DOM的吸附和解吸密切相关,因此,不同类型土壤在有机肥施用量和施用方法上也需要相应进行改变。
【英文摘要】The objective of this investigation was to compare the difference of adsorption/desorption of dissolved organic matter (DOM) in different types of soils,and to give guidance of correct application of organic fertilizer and further research on corresponding chemical behavior of DOM.【Method】Three kinds of soils including Typic Fimi-Orthic Anthrosols(black soils-parent material), Calcaric Fimi-Orthic Anthrosols (cinnamon soils-parent material) and Dystric Fimi-Orthic Anthrosols (quaternary red clay-parent material) with great difference each other were selected for studying the adsorption,desorption and fixation of DOM. Some parameters on adsorption/desorption of DOM in soils were calculated using corresponding model through the adsorption/desorption experiment under the condition of different amounts of DOM added into soils at various times.【Result】The study indicated that DOM from external source could be adsorbed by soil colloid,and adsorption and desorption of DOM would reach the balance within one hour.There was a great difference in the adsorption of DOM among the three kinds of soils,and the greatest adsorped amount of DOM in Typic Fimi-Orthic Anthrosols,Calcaric Fimi-orthic Anthrosols and Dystric Fimi-orthic Anthrosols was 10 236, 8 372 and 10 088 mg • kg-1, respectively, when the balance between adsorption and desorption appeared, suggesting the relatively higher amount by adsorption occurred in Typic Fimi-Orthic Anthrosols with relatively higher organic matter content and in Dystric Fimi-Orthic Anthrosols and relatively lower pH value.In comparison with the desorption ability of three kinds of soils,the decreasing order rank was Dystric Fimi-Orthic Anthrosols>Typic Fimi-Orthic Anthrosols>Calcaric Fimi-Orthic Anthrosols【.Conclusion】There is a close relationship between the soil quality and DOM amount in soils through desorption/sorption process.Therefore,some changes in the application amount and methods of organic fertilizer are needed for different types of soils.
【语种】中文
【第一作者】杨佳波
【通讯作者】曾希柏
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【学科分类】土壤学

【题目】塔里木河干流景观地球化学特征及影响因素研究
【中文关键词】:景观地球化学; 水文过程; 干旱区; 塔里木河;驱动因素
【英文关键词】landscape geochemist ry ; hydrology process ; arid zone ; Tarim River ; driving factors
【中文摘要】首先概述了景观地球化学在国内外的研究现状,然后以干旱区内陆河的典型代表———塔里木河干流为例,对地表水系统的水文地球化学特征、土壤元素的地球化学特征及不同植被类型的生物地球化学特征分别进行了系统分析。最后对影响塔里木河干流景观地球化学环境演变的自然及人为因素进行了分析。自然因素包括气候、地质、地形地貌及水文地质地球化学环境因素等,而在塔里木河流域开展的大规模水利工程及人类的农业生产活动是该区景观地球化学环境演变的重要动力因素。
【英文摘要】This article has first outlined the current situation in the study of landscape geochemist ry both at home and abroad ,and then took the Tarim River , a typical representative of Inland River in arid zone as the case study. The hydrological geo2chemist ry characteristic of surface water ,the soil element geochemist ry characteristic and the different vegetation type biogeo2chemist ry characteristic were analyzed separately. Finally ,the natural and human factors which affected the evolvement of land2scape geochemist ry environment were analyzed. Natural factors includes climate ,geological ,terrain landform and hydrology geol2ogy geochemist ry environmental factor and so on ,and large2scale hydraulic engineering and humanity ’s agricultural productionactivity are important power factor in the evolvement of landscape geochemist ry environment in the Tarim River basin.
【语种】中文
【第一作者】黄青
【通讯作者】黄青
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【题目】羊草草甸草原FPAR时间变化规律分析
【中文关键词】羊草草甸草原;时间变化规律;FPAR ; PAR ;呼伦贝尔
【英文关键词】leymus chinensis meadow2steppe ; temple variation law ; FPAR ; PAR ; Hulunbeier
【中文摘要】:FPAR 是植被叶子在光合有效辐射(400~700nm) 波段有多少太阳光能被吸收的一个度量,表示了植被冠层能量的吸收能力,是描述植被结构以及与之相关的物质与能量交换过程的基本生理变量。FPAR 模型是否能真实反映植被冠层吸收光合有效辐射状况,将直接影响遥感估算草地NPP 的不确定性程度。本文通过对长生季羊草草甸草原冠层PAR 各分量的观测,研究了入射PAR、冠层反射PAR 及透过冠层到达地面的PAR 的时间变化规律,并以观测的PAR 为基础计算分析了羊草草甸草原FPAR 的时间变化规律。结果表明,羊草草甸草原入射PAR 及透射PAR 日变化规律明显,呈较标准的正弦曲线变化;晴天FPAR 的日变化呈较标准的余弦曲线变化,FPAR 在早晚值较高,最高值约0181 ,日平均FPAR 值可以用9 :30/ 太阳天顶角为48 ° 时瞬时的FPAR 值或14 :30/ 太阳天顶角为30 ° 时瞬时的FPAR 值表示。
【英文摘要】FPAR is a measure of how large a f raction of the sunlight leaves absorb in the 400~700nm spect rum and FPAR thusexpresses a canopyps energy absorption capacity. FPAR is one of the key biophysical variables which describe canopy st ructureand are related to functional process rates of energy and mass exchange. While FPAR model can represent the vegetation ab2sorbed photosynthetically active radiation on vegetation canopies , it will influence directly the uncertainty of NPP estimation u2sing remote sensing data. On the basis of an observation to Leymus chinensis meadow2steppes canopy PAR during the growingseason of 2007 in Hulunbeier , the incident PAR , the reflective PAR of the canopy , the t ransmittance of PAR through the cano2py , the reflectance of land surface were studied respectively in this paper. The FPAR at an interval of one hour and the averageof a day were calculated and analyzed according to each PAR component s in canopy. The result showed that the incident PARand the t ransmittance PAR diurnal variation was a standard curve of sine ; the diurnal FPAR variation was a curve of cosine inclear day , FPAR was found to be highest in the morning and late af ternoon due to large solar zenith angles and lowest aroundnoon where the solar zenith angle is low , the highest value of a day is 0. 81. The daily average of FPAR may be approximatedthe incident FPAR values when the solar zenith angle was 48 ° at 9 :30 am or when the solar zenith angle was 30 ° at 14 :30 pm.
【语种】中文

【第一作者】李刚
【通讯作者】辛晓平
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【题目】锡林浩特市草地载畜量及草畜平衡分析
【中文关键词】载畜量;草畜平衡; GRAZFEED 模型
【英文关键词】carrying capacity ;livestock2feeds balance ; GRAZFEED
【中文摘要】以北方典型代表区域———锡林浩特市为例,利用GRAZFEED 模型,模拟了不同月乌珠穆沁羊在没有补饲的情况下的体质量的变化以及气候因子对其体质量的影响;同时结合统计资料对锡林浩特市各苏木的草地载畜量及草畜平衡状况进行了分析。结果表明, 7 - 9 月乌珠穆沁羊体质量日均增质量约8. 7 g ,其他月体质量及膘情具有不同程度的下降,若要维持体质量或增质量,需额外补充饲料。气候因子也是影响乌珠穆沁羊产出的一个重要因子,4 、10 月气温较低,乌珠穆沁羊需付出额外的能量才能维持正常的生理活动。在没有补饲的情况下,锡林浩特市除了达布希勒图苏木5 - 9 月的载畜量可做进一步调整外,其他苏木均已超过其能承受的最大载畜量,或者说草畜已经严重失衡。锡林浩特市各苏木畜牧业要得到健康持续的发展,还需进一步的进行调控和管理。草地和牲畜要得到双赢的发展,需出栏一部分牲畜,或加大对牲畜的补饲量。
【英文摘要】Xilinhot City , t he typical nort h part of China , was selected as the research area to simulatet he body weight variation of Ujimqin sheep under zero supplementation and impact of climate factor onbody weight with GRAZFEED model , meanwhile , t he grassland carrying capacity and livestock2feedsbalance were analyzed. The result s showed t hat t he daily body weight gain was around 8. 7 g f rom J u2ly to September ; t he body condition was poor in ot her mont hs and t he supplementation was necessary.Climate was al so an important factor affecting production of Ujimqin sheep . In April and October , t hetemperat ure is low and the additional energy is needed to maintain normal p hysiological activities. Un2der zero supplementation condition , overgrazing was common in t he most areas. So , t he animal pop u2lation should be reduced to maintain the balance between livestock and feeds.
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【题目】施肥措施对不同母质发育的稻田生态系统土壤微生物量碳、氮的影响
【中文关键词】稻田生态系统; 施肥措施; 微生物量碳; 微生物量氮; 土壤肥力
【英文关键词】paddy soil; fertilization system; microbialbiomass C and N; soil fertility.
【中文摘要】以湖南省稻田土壤肥力监测点为基础,研究了稻田生态系统土壤微生物量碳、氮的特性。结果表明,不同施肥措施对不同地域和母质发育的稻田生态系统土壤微生物量碳、氮的影响程度不同。经过18年的不同施肥处理,不同母质发育的稻田生态系统土壤微生物量碳、氮的变化趋势基本一致,变化顺序为湖积物发育的水稻土>河流冲积物和第四纪红土发育的水稻土>石灰岩发育的水稻土>板页岩发育的水稻土。土壤微生物量碳为259.5~864.4 mg.kg-1,土壤微生物量氮为8.7~70.7 mg.kg-1。施肥可以明显提高稻田生态系统土壤微生物量碳、氮含量;有机肥是改善土壤微生物量碳、氮的主要基础物质,但以有机无机配合施用效果最好。与对照相比,施化肥和有机无机配施处理土壤微生物量碳、氮最大增量分别为407.6和59.2 mg.kg-1,最大增长率分别为102.8%和514.8%。
【英文摘要】Based on the monitoring of soil fertility, this paper studied the characteristics of microbialbiomass C (MBC) and N (MBN) in paddy soils derived from different parent materials in Hunan Province. The results showed different fertilization systems had different effects on soil MBC and MBN. After18 years fertilization, the MBC and MBN in different paddy soils had similar variation trend, with the sequence of paddy soil derived from lake sediment>from river alluvium and quaternary red earth>from limestone>from shale. Soil MBC content ranged from 259.5 to 864.4 mg.kg-1, while MBN ranged from 8.7 to 70.7 mg • kg-1. Fertilization could

increase soil MBC and MBN markedly. Organic fertilizer was the main element for the promotion of soil MBC and MBN, and combined application of organic and inorganic fertilizers could obtain the greatest effect .The increment of soil MBC and MBN after applying inorganic fertilizer and its combination with organic fertilizer was 407.6 and 59.2 mg • kg-1, in maximum, and the maximum increasing rate was 102.8% and 514.8%, respectively, compared with no fertilization.
【语种】中文
【第一作者】周卫军
【通讯作者】曾希柏
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【题目】Detection of nerve growth factor (NGF) and its specific receptor (TrkA) in ejaculated bovine sperm, and the effects of NGF on sperm function
【中文关键词】无
【英文关键词】Bovine sperm; Nerve growth factor; Tyrosine kinase receptor; Expression
【中文摘要】无
【英文摘要】The objective was to confirm the presence of nerve growth factor (NGF) and its specific receptor TrkA, in ejaculated bovine sperm, and to investigate the effects of NGF on specific aspects of bovine sperm function Both TrkA transcripts and immunoreactivity typical of the translated protein were detected by RT-PCR and western blotting However only the NGF protein was detected in bovine sperm using western blotting and there was no RT PCR evidence for NGF transcripts in sperm Using an immunofluorescent technique NGF immunoreactivity was localized to the sperm head and tail whereas that of TrkA was detected in the acrosomal cap nucleus, and tail regions When sperm were treated with exogenous NGF both leptin secretion and sperm viability were increased (P < 0 05) moreover the percentages of late apoptotic and dead sperm were increased (P < 0 05) However NGF had no effects on insulin secretion mitochondrial activity, intracellular calcium levels, or the acrosome reaction of sperm (P > 0 05) In conclusion the presence of TrkA transcript as well as NGF and TrkA immunoreactivity were confirmed in bovine sperm Furthermore exogenous NGF had significant effects on the secretion of leptin, cell viability and sperm apoptosis This study provided strong evidence that NGF/TrkA may have roles in regulation of sperm physiology and perhaps male fertility and infertility (C) 2010 Elsevier Inc All rights reserved
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【第一作者】Chunjin Li
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【学科分类】畜牧学

【题目】呼伦贝尔草甸草原景观格局时空演变分析
【中文关键词】呼伦贝尔草原、modis、 时空特征
【英文关键词】Hulunber grassland, MODIS, character of spatial-temporal
【中文摘要】本文基于2000-2008年的MODIS NDVI数据,针对呼伦贝尔草原中低地草甸、温性草原、温性草甸草原、山地草甸主要的四类草地类型,分析研究了其9年来的年季NDVImax空间变化趋势、波动程度、出现时间等植被指数时空特征。结果显示:9年间呼伦贝尔草原植被趋于恶化的形势严峻。四类草原年季NDVImax平均值波动明显,特别是温性草原年季NDVImax平均值最大波动幅度接近50%。在各等级草原面积变化上,尽管NDVImax介于(0.4,1]之间的草原平均面积约占总面积的91%,表明呼伦贝尔草原植被状况总体较好,但NDVImax值介于(0.2,0.4]、(0.8,1]之间的草地面积趋于减少,NDVImax在(0.4,0.8]之间的中高盖度草地面积趋于增加,总体形势不容乐观。在空间上,66.25%的草原面积植被状况趋于恶化,33.75%的草原面积植被状况趋于好转。此外,有62.85%的区域NDVImax出现在每年第193天至225天期间(即7月中旬到8月初),因此该时期是呼伦贝尔草原植被最重要的生长季节。

【英文摘要】This paper based on the 2000-2008 MODIS NDVI datam, research on spatial-temporal character of annual NDVImax slope, annual NDVImax standard deviation, annual NDVImax coefficient of variation, The time of annual NDVImax in, low-land meadow, temperate steppe , temperate meadow steppe, up-land meadow, in 2000-2008 years. The results indicated that degeneration trend of hulunber grassland is seriously in the recent years. The annual NDVImax mean of four kinds of grassland types are all instability, especially to temperate steppe, the change range of annual NDVImax mean close to 50%. In the area change of different rank grassland. The grassland area of NDVImax value in (0.2,0.4]、(0.8,1] are inclined to decrease, and the grassland area of NDVImax value in (0.4,0.8] are inclined to increase, the general trends is not optimistic. In spaces, 33.75 percent of the Hulunber grassland is in restored tendency, 66.25 percent of the Hulunber grassland is in degenerate tendency. Furthermore, annual NDVImax spring up form 193rd to 225th day in 62.85 percent of the Hulunber grassland, so this period is important growing season of hulunber grassland.
【语种】中文
【第一作者】张宏斌
【通讯作者】辛晓平
【期刊名称、卷期、页码】草业学报,2009,18(1):134-143
【论文发表时间】2009-06-01 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】地理学

【题目】不同施肥对退化稻田土壤肥力恢复的影响
【中文关键词】退化;施肥措施;土壤肥力
【英文关键词】degradation; fertilizationmeasure; soil fertility.
【中文摘要】为了探明不同施肥修复措施对退化水稻土壤肥力的修复作用,自2005年起采用盆栽试验连续3年对长期缺肥退化水稻土进行了土壤肥力培肥试验研究。结果表明:6种施肥修复措施均可以显著地改善退化水稻土的肥力特征,土壤有机质含量最多提高了14.0%,土壤有效磷显著增加,最高增加量达到39.0 mg.kg-1,土壤速效钾均恢复到中等水平(80mg.kg-1)以上,但土壤碱解氮除水稻专用复合肥(ZY)处理基本维持试验前水平外,其他施肥措施均有所下降;不同施肥修复措施均可明显地提高土壤微生物数量、微生物活性以及微生物生物量C、N、P含量,但以有机无机肥配合效果最佳;有机无机肥配合还可以促进稻谷产量和显著提高肥料农学效率;对于长期不施肥导致的退化稻田土壤肥力的修复以在施用水稻专用复合肥的基础上配施有机肥的效果最佳。
【英文摘要】A 3-year pot experimentwas conducted at the experimental base of College of Resources and Environmen,t Hunan AgriculturalUniversity to study the improvement effect of different fertilization on degraded paddy soil fertility in red earth region Since 2005. All the test six fertilizationmeasures improved the soil fertility significantly. The soil organic matter content increased up to 14.0%, soil available P increased up to 39.0 mg • kg-1, soil available K recovered tomedium level (80mg • kg-1), but soil available N decreased except that it was maintained at the level before experiment in rice-specific fertilizer treatmen.t All fertilization treatments increased the soil microbes ’amoun, soil microbial activity, and soil microbial biomass C, N and P, with the best effect in treatment inorganic fertilizers incorporating with organic manure. The combined application of chemical fertilizers and organicmanure also increased the rice grain yield and fertilizer agriculturaluse efficiency. Itwas suggested thatapplying rice-specific fertilizer in combining with organic manure could have the best improvement effect for the degraded paddy soil fertility resulted by long term non-fertilization.
【语种】中文
【第一作者】周卫军
【通讯作者】张杨珠
【期刊名称、卷期、页码】生态学杂志 2010,29(1): 29-35
【论文发表时间】2010-01-01 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】土壤学

【题目】1982-2003年中国草地生物量时空格局变化研究
【中文关键词】草地生物量; 时空格局; 气候变化;
【英文关键词】grassland biomass; spatial and temporal pattern; climate change;

【中文摘要】论文结合草地生物量调查资料、对应时段NDVI数据,分析了1982—2003年不同时期我国草地生物量空间格局变化特征及其与气候变化的关系。结果表明:20世纪80年代初期到末期,全国大部分地区草地生物量增加或基本持平;80年代末期到90年代初,大面积范围内草地生物量降低,热性草丛、温性草甸草原、山地草甸、低地草甸下降幅度分别为10.86%、4.96%、4.86%、3.49%;90年代末期后,北方大部分地区草地生物量上升到80年代的水平,南方草地生物量略有上升;1982—2003年草原区平均气温上升0.6~1.5℃,降雨量减少23.3%,草地生物量变化与降水量变化有弱相关关系(相关系数0.29),与气温变化无关。

【英文摘要】In this paper,we used a simple regulated model to explore long term trends in China s grassland biomass and its spatial and temporal pattern,using a time series data set for the Normalized Difference Vegetation Index(NDVI) for maximum growth season(July 15th to August 15th) from 1982 to 2003,together with ground truth biomass data during 1991-1994 and 2002-2003 and historical climate data.We found that grassland biomass increased in the mid 1980s and began to decrease after 1990.The country s grassland biomass.

【语种】中文

【第一作者】辛晓平

【通讯作者】辛晓平

【期刊名称、卷期、页码】自然资源学报,2009,24(9): 1582-1592

【论文发表时间】2009-06-17 00:00:00

【引文索引类型】其他

【引文索引号】

【学科分类】地理学

【题目】A General agriculture mobile service platform

【中文关键词】无

【英文关键词】Mobile service – Mobile platform – SMS protocol – MMS protocol – Mobile protocol

【中文摘要】无

【英文摘要】Most of today ’s information services on the web are designed for PC users. There are few services fit to be accessed by mobile devices. In the countryside of China, most of the mobile phone users can not access the Internet. For this reason, We developed General Agriculture Mobile Service Platform. The Platform is designed to make these information services fit to be accessed by mobile users, and to make those mobile phone users can use these services without Internet connection. To achieve that, a descriptive language is designed to describe the services ’ inputs and outputs, used to passing requests and responses between the platform and the mobile client software. With those descriptions, client software can generate user interface on the client mobile device. Using that interface, user can manipulate service. The communication between client side and the platform can be carried by SMS, MMS as well as TCP, so that the devices which don ’t have Internet connection can access those services.

【语种】英文

【第一作者】胡海燕

【通讯作者】胡海燕

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【论文发表时间】2011-02-28 00:00:00

【引文索引类型】EI

【引文索引号】DOI: 10.1007/978-3-642-18333-1_6

【学科分类】计算机应用

【题目】长期定位施肥对湖南水稻土有效态微量养分的影响

【中文关键词】长期定位施肥;有效态微量养分;水稻土;湖南

【英文关键词】long-term fertilization;available trace elements nutrition;paddy soils;Hunan

【中文摘要】为探明合理施肥和土壤培肥的理论依据,研究了长期定位施肥(长期不施肥、单施化肥、施30%有机肥、施60%有机肥共4个处理) 对湖南主要水稻土微量养分(有效硼、有效铁、有效锰、有效铜、有效锌)含量的影响。结果表明,长期定位施肥处理影响不同水稻土的微量养分含量,其含量变动趋势及机理因不同土壤而异。相对于长期不施肥处理,各施肥处理土壤有效硼、有效铜、有效锌含量的增加是因施肥增加的土壤有机物料使土壤固定态硼、铜、锌活化所致,也因为施肥将硼、铜、锌带入了土壤;有效硼、有效铜、有效锌含量的减少是因在单施化肥处理下作物生物量的增加加强了对它们的吸收。有效铁、有效锰含量的增加主要是因施用有机肥降低了土壤Eh,也因施用有机肥将铁、锰带入了土壤;有效

铁、有效锰含量的减少主要是因土壤pH上升及有机质固定所致。
【英文摘要】The variation of trace elements caused by different fertilization in paddy soils in Hunan province were studied for the first time.Trace elements were measured based on long-term sited fertilization experiments with four treatments including CK, NPK, OM30, and OM60, which have been conducted for twenty years on purple tidal clayey earth, reddish yellow clayey earth,blue gray clayey earth,alluvial sandy earth,yellow clayey earth,and whitish clayey earth. The result shows:long-term sited fertilization altered the contents of trace elements nutrition in different paddy soils; the change trends and mechanisms for trace elements differ from various paddy soils and fertilizations.Compared with CK, the contents of available B,available Cu, and available Zn in the paddy soils under fertilization treatments are either increased either through freeing the trace elements fixed in soil by increasing organic matter or inputting B, Cu, and Zn with long term fertilization,or decreased because of the plants with larger biomass taking in more available B, Cu, and Zn under NPK treatment for long term;the contents of available Fe and Mn went up due to the declining of Eh and pH in paddy soils and the inputting of Fe and Mn from organic manure fertilization,while it declined due to the rising of pH and the intensifying of organic matter ’ s adsorption.
【语种】中文
【第一作者】陈建国
【通讯作者】张杨珠
【期刊名称、卷期、页码】湖南农业大学学报(自然科学版) 2008,34(5):591-595
【论文发表时间】2008-10-01 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】土壤学

【题目】放牧制度对短花针茅荒漠草原主要植物种光合特性日变化影响的研究
【中文关键词】短花针茅; 荒漠草原; 植物种; 放牧制度; 光合日变化;
【英文关键词】Stipa breviflora; desert steppe; plant species; grazing system; diurnal variation of photosynthetic characteristic;
【中文摘要】以内蒙古苏尼特右旗短花针茅荒漠草原为研究对象,通过划区轮牧与自由放牧的比较试验,研究3种主要植物种短花针茅、无芒隐子草和碱韭光合特性日变化对不同放牧制度的响应。结果表明,1)短花针茅、无芒隐子草和碱韭光合速率、蒸腾速率和气孔导度均表现为双峰型,具有明显的"午休"现象。胞间CO2浓度表现为双谷型。2)在其他条件相同时,放牧方式的不同对主要植物种的净光合速率、蒸腾速率无影响,但对双峰值出现的时间有所影响。3)对照禁牧和划区轮牧较自由放牧提高荒漠草原疏丛型禾草无芒隐子草的气孔导度和胞间CO2浓度。
【英文摘要】A comparison of rotational grazing and continuous grazing was conducted on S t i p a brevi f lora desertsteppe in t he Sunit Right Banner of Inner Mongolia. The st udy on response of diurnal variation of p hotosyn2t hetic characteristic of major plant species in different grazing system showed : 1) Double2peaks on the curves ofdiurnal changes of p hotosynt hetic rates , t ranspiration rates and stomatal conductance of S . brevi f lora , Cleisto2genes songorica and A l l i um pol y rhi z um , and t here was a distinct p henomenon of “ noon break ” . There was adouble2valley on t he curves of diurnal changes of internal CO2 concent ration. 2) The different grazing regimeshad no effect on t he net p hotosynthetic rate or t ranspiration of t he main plant species , but doubled t he peaktime in other t he same conditions. 3) Rotational grazing and banning grazing increased stomatal conductanceand internal CO2 concent ration of C. songorica.
【语种】中文
【第一作者】闫瑞瑞
【通讯作者】辛晓平
【期刊名称、卷期、页码】草 业 学 报,18(5):160-167
【论文发表时间】2009-06-01 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】畜牧学

【题目】The Development of Text-to-Speech System Based on XF-S4240 Module
【中文关键词】无
【英文关键词】Text-to-speech XF-S4240 module microelectronics

【中文摘要】无
【英文摘要】The Broadcast and Television coverage has increased to more than 98% in my country. Information services by radio have wide coverage, low cost, easy-to-grass-roots farmers to accept and so on characteristics. In order to better play the role of broadcast information service, R D design text-to-speech system based on modules of the XF-S4240, to facilitate the expansion of grassroots radio station information.
【语种】英文
【第一作者】郑火国
【通讯作者】郑火国
【期刊名称、卷期、页码】《Microcomputer Information》 2009-35 ,PP52-53,195
【论文发表时间】2009-06-09 00:00:00
【引文索引类型】EI
【引文索引号】CNKI:SUN:WJSJ.0.2009-35-024
【学科分类】计算机应用

【题目】Variation in reference crop evapotranspirationcaused by the A ° ngstro ¨ m – Prescottcoefficient: Locally calibrated versus the FAO recommended
【中文关键词】无
【英文关键词】Reference crop evapotranspiration
A °
ngstro ¨ m – Prescott coefficients
Penman-Monteith
【中文摘要】无
【英文摘要】Accurate estimation of the reference crop evapotranspiration (ET0) is investigated due to its critical role in affecting calculation of crop water use and efficiency in agricultural ecosystems. The main emphasis in this paper is to clarify the possible uncertainty in the estimation of ET0 associated with using uncalibrated A ° ngstro ¨ m – Prescott (A – P) coefficients. We first calibrated the coefficients using long-term data records from 34 sites in the Yellow River basin in China, and then applied these coefficients to estimate short wave irradiance (Rs) and ET0 at 16 sites to evaluate the difference in ET0 between the FAOrecommended and the locally calibrated. We found that the direct use of the FAO recommendedcoefficients significantly affected the estimation of ET0 at most sites, which differed from 3% to 15% at daily scale and from 4% to 16% at monthly scale from the locally calibrated ones. These differences are comparable with or larger than those caused by some alternatives of the FAO recommended algorithms for net irradiance or vapor pressure, which further highlights the importance of using the locally calibrated coefficients. The degree of difference in ET0 showed a significant threshold relation with altitude and longitude in such a way that relatively small impact lies around 2233 mand 988E, and away from these, the effect begins to increase. Given the large overestimation in water use as a consequence ofthe significant overestimation in ET0 associated with the direct use of the FAO coefficients, especially in those high yield production areas with altitude <1200 m, we developed several relationships between the A – P coefficient a, b, (a + b) and other easily obtainable factors (altitude, longitude and air temperature). A three-step procedure was recommended in applying these relations, which was (1) determine if calibration is needed or not for a given location; (2) estimate one of the A – P coefficients, either a or b if calibration is needed; (3) estimate the remaining coefficient using relations of (a + b) due to its higher coefficient of determination. In summary, we have revealed the errors and areas that aremost affected when using the un-calibrated coefficients, and discussed the consequence of such error on agricultural production, and proposed practical solutions to avoid large errors. These results are intended to make the research community aware of such errors so that more appropriate choice of these coefficients is made. We hope that similar assessment will be done in other climates, contributing to managing water resources efficiently in water basins.
【语种】英文
【第一作者】刘晓英
【通讯作者】刘晓英
【期刊名称、卷期、页码】Agricultural water Management,96(7),1061-1180
【论文发表时间】2009-04-09 00:00:00
【引文索引类型】SCI
【引文索引号】0378-3774
【学科分类】农学其他学科

【题目】The Study and Implementation of Text-to-Speech System for Agricultural Information
【中文关键词】无
【英文关键词】text-to-speech - software - hardware device - microelectronics
【中文摘要】无
【英文摘要】The Broadcast and Television coverage has increased to more than 98% in china. Information services by radio have wide coverage, low cost, easy-to-grass-roots farmers to accept etc. characteristics. In order to play the better role of broadcast information service, as well as aim at the problem of lack of information resource in rural, we R & D the text-to-speech system. The system includes two parts, software and hardware device, both of them can translate text into audio file. The software subsystem was implemented basic on third-part middleware, and the hardware subsystem was realized with microelectronics technology. Results indicate that the hardware is better than software. The system has been applied in huailai city hebei province, which has conversed more than 8000 audio files as programming materials for the local radio station.
【语种】英文
【第一作者】郑火国
【通讯作者】郑火国
【期刊名称、卷期、页码】IFIP Advances in Information and Communication Technology, 2010, Volume 317/2010, 291-296
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【引文索引号】DOI: 10.1007/978-3-642-12220-0_42
【学科分类】计算机应用

【题目】稻田生态系统退化的研究进展
【中文关键词】稻田;生态系统;退化;研究进展
【英文关键词】
【中文摘要】本文在阐述了稻田生态系统退化概念及其评价标准的基础上,分析了稻田生态系统健康退化的主要原因,并提出了现阶段改善稻田生态系统的研究重点。
【英文摘要】
【语种】中文
【第一作者】陈建国
【通讯作者】张杨珠
【期刊名称、卷期、页码】湖南农业科学 2008,(4):72-74
【论文发表时间】2008-04-01 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】土壤学

【题目】现代数字草业理论与技术研究进展与展望
【中文关键词】数字草业;研究进展;发展趋势
【英文关键词】Digital grassland ;Research advance ;Development tendency
【中文摘要】综述了国内外数字草业理论、技术与方法的研究进展,重点介绍了我国草业信息系统、草业生产过程监测、管理决策等方面的数字草业理论与技术平台的研究与应用,探讨了我国数字草业理论与技术的发展趋势。
【英文摘要】The advances of techniques and related t heories on digital grassland were summarized , andt he research and application of " The digital grassland technique platform of China" including grassland in2formation system , monitoring on grassland ecosystem and grassland2livestock management and decisionmaking were int roduced. Additionally , development tendency in digital grassland t heories and techniqueswere discussed.
【语种】中文
【第一作者】唐华俊
【通讯作者】唐华俊
【期刊名称、卷期、页码】中国草地学报,31(4):1-8

【论文发表时间】2009-07-07 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】地理学

【题目】Evaluation of temperature-based global solar radiation models China
【中文关键词】无
【英文关键词】Global solar radiation
Temperature-based model
Bristow and campbell
Hargreaves
【中文摘要】无
【英文摘要】Estimation of global solar radiation (Rs) from the daily range of air temperature (DT) offers an important alternative in the absence of measured Rs or sunshine duration because of the wide availability of air temperature data. In this paper, we assessed 16 Rsmodels including modified versions of the Bristow and Campbell (B – C) and the Hargreaves (Harg) models across a wide range of agro-ecological conditions in China. Using long-term data from 15 sites in Northeast, North China Plain and Northwest China, we explored the main factors affecting model parameters and the predictive accuracy and proposed empirical equations to estimate these parameters. Two schemes in calculating DT were employed: DT1 (based on single day Tmin) used in the Harg and DT2 (based on 2-day average of Tmin) used in the B – C model. Results showed that the original B – C model performed similarly to the best performing modifiedHarg model, but significantly outperformed the original Harg model with a 4 – 7% higher accuracy. The common practice of fixing some parameters in the B – C model caused the most significant effect and resulted in a 3 – 9% lower accuracy than that of the original model. In contrast, modifications had the smallest effect and yielded little improvement and are thus unnecessary. The DT scheme had a moderate effect, with DT1 generally resulting in a higher accuracy especially in high altitude areas. This indicates that the effect of cold or warm air advection is negligible in the B – C model even in a temperate climate. The accuracy of the temperature-based models was affectedmainly by the magnitude of DT, with largerDT resulting in higher accuracy. Parameters of the B – C model correlated significantly with many commonly used geographical and meteorological factors, meaning that they are more easily obtainable without the need for calibration and consequently Rs measurement. The parameter of the original Harg model correlated insignificantly with all the examined factors,meaning that it has to be calibrated. Main findings in this study are valuable in clarifying the relative impact of different approaches in applications on model accuracy, in demonstrating the advection effect, in identifying the dominant factors of model parameters and thus in increasing their availability.
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【题目】2000-2008年内蒙古草原MODIS NDVI时空特征变化
【中文关键词】MODIS,植被指数,时空特征,温带草原
【英文关键词】MODIS, vegetation index, characteristics of spatial-temporal, steppe
【中文摘要】该文选用2000-2008年的MODIS NDVI数据,采用统计学的分析方法,研究了内蒙古草原中温性草原、温性荒漠、低地草甸、温性荒漠草原、温性草甸草原、温性草原化荒漠、山地草甸七类主要植被类型,9年来年度NDVImax空间变化趋势、波动程度、出现时间等植被指数时空特征。结果显示,2000-2008年间,内蒙古草原植被总体趋于恢复。各类型草原年度NDVImax平均值趋于增加,NDVImax介于(0,0.4]之间的低盖度草原植被面积趋于减少,NDVImax介于(0.4,1]之间的高盖度草原植被面积趋于增加。在空间上, 67.15%的草原面积植被状况趋于好转,32.85%的草原面积植被状况趋于恶化,2008年植被状况是9年来最好的一年。除温性荒漠外,内蒙古草原各植被类型NDVImax从6六月底开始集中出现,至9月底结束,其中8月是草甸草原和典型草原NDVImax集中出现的重要时期。

【英文摘要】Time-series MODIS NDVI datasets for 2000-2008 were used in this study to investigate the characteristics of spatial-temporal changes in annual NDVImax for seven typical grassland types, i.e., temperate steppe, desert grassland, low-land meadow, desert steppe, temperate meadow steppe, steppe desert, up-land meadow in Inner Mongolia grassland. The analysis focused on the spatial change trends, the standard deviations and the occurrence time point of annual NDVImax for the period of 2000-2008. The results indicated that Inner Mongolian grassland vegetation was inclined to recovery from 2000 to 2008. The mean of annual NDVImax in seven grassland types were inclined to increase. The areas with NDVImax values in (0, 0.4] are decreased largely, and the areas with NDVImax values in (0.4, 1] show a increasing trend for the study period. Overall, the restoring grassland takes up about 66.25% of the total area; the deteriorating grassland takes the rest. The vegetation of Inner Mongolian grassland in 2008 is the best in the past nine years. The study also showed that there is all of grassland except desert grassland where the NDVImax occurs from June to September in each year. Especially August is the most important growing season for temperate steppe and meadow steppe in Inner Mongolia grassland.

【语种】中文

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【学科分类】地理学

【题目】Calibration of the A ° ngstrom-Prescott conefficients (a,b) under different time scales and their impacts in estimating globalsolar radiation in the Yellow River basin

【中文关键词】无

【英文关键词】A °
ngstro ¨ m – Prescott coefficients
Time scale
Calibration
Global solar radiation estimation

【中文摘要】无

【英文摘要】The A ° ngstro ¨ m – Prescott (A – P) equation relating in its current form the incident top-ofatmospheresolar radiation to the solar radiation received at the surface, is one of the mostaccurate and widely used sunshine-based methods estimating global solar radiation (Rs).The key in its application is the calibration of the locally specific coefficients. Although thecoefficients have been extensively studied and calibrated in many places over the world,their relations with time scale are much less investigated. This paper addressed thevariation in these coefficients caused by time scale and how this variation results on theaccuracy of Rs predictions. This was done using long-term data at 31 sites from the YellowRiver basin in China by parallel calibration at three time scales: daily, monthly mean dailyand yearly mean daily. We found that the A – P coefficients obtained using monthly datagenerally had higher a and lower b and larger variations over those using daily data. Atyearly time scale, the sunshine – radiation relationship can no longer be described by thelinear A – P formula. The difference in coefficients between daily and monthly calibrationwas rather large accounting for 71% of the differences in a and 61% in b that in turn weregreater than 0.03, corresponding to 81% for a and 49% for b being greater than 10%. Timescale had a larger effect on a than on b, and it caused a maximum variation of 82% in a and43% in b in the basin, equaling half of the variation caused by geographical location.However, the large effect of time scales on a and b produced no significant impact onthe estimation accuracy of Rs because of the conservative response of the sum a + b to timescale. In this sense, the coefficients calibrated at daily scale are interchangeable with thosecalibrated at monthly scale, indicating the high flexibility of the A – P formula. Nevertheless,calibration made at daily scale has two important advantages over monthly scale in that itrequires fewer years ’ data to obtain stabilized coefficients, and that it is easily predictedmore accurately with common site information. Our findings have two implications. Firstly,they provide an additional guidance on the explanation of the large variability of thecoefficients found in the literature for the same geographical location. Secondly, theyfacilitate the choice of the coefficients in practical applications by proving their interchangeabilityin the estimation of Rs.

【语种】英文

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【题目】地下水硝酸盐污染来源的推断与溯源方法概述
【中文关键词】地下水;硝酸盐;污染;溯源
【英文关键词】Key words: ground water; nitrate; contamination; trace the source
【中文摘要】硝酸盐已经成为中国地下水的一种主要污染物之一,弄清地下水硝酸盐污染物的来源,对于有效控制地下这种物质的污染具有十分重要的意义。不同地区的地下水中硝酸盐污染物的来源可能不同,这些差异可以通过一定的方法分析和追溯,笔者概述了前人在地下水硝酸盐污染来源的推断与溯源几种常用方法,包括六成分法、派珀图法、相关性分析以及稳定同位素方法,希望能够为硝酸盐溯源的研究和污染控制提供参考。
【英文摘要】At present the nitrate has been one of the main pollutants for China ground water. The cause ofground water nitrate contamination is varied, the deduction and trace the source methods for ground waternitrate contamination are the basis for recovery the ground water environment. Some deduction and trace thesource methods which include stiff diagram, piper trilinear diagram, association matrix and stable isotopemethods are introduced in this paper. The authors hope this summary could provide the useful information forrelated research.
【语种】中文
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【题目】高效液相色谱法测定土壤中有机酸
【中文关键词】有机酸; 测定
【英文关键词】无
【中文摘要】通过对10种有机酸的色谱条件试验、样品处理试验(以4 和- 20 作为样品运输和储存条件)以及加标回收率试验, 建立并优化了土壤中10种有机酸的测定方法。方法添加回收率在74% - 92%, 变异系数CV 4. 1% , 方法的最低检测限为0. 2~ 50 g kg- 1, 应用该方法测定了土壤及根际区域土壤样品中的有机酸, 结果表明该方法能够满足测量田间环境条件下土壤和根际区域土壤样品中mg kg- 1痕量级有机酸含量要求。
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【语种】中文
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【题目】基于ASI方法的推荐施肥在东北玉米上的应用
【中文关键词】ASI方法;推荐施肥;玉米
【英文关键词】ASI method;fertilizer recommendation;maize
【中文摘要】为了进一步完善基于ASI方法的施肥指标体系建设,本文以东北地区16个玉米试验为研究对象,对基于ASI方法推荐施肥和农民常规施肥进行了对比。结果表明:相对于农民习惯施肥,基于ASI方法的推荐施肥平均提高玉米产量

8.9%,氮、磷、钾肥表观回收率分别平均提高7.2、6.7、5.7个百分点,平均增加农民收入630 yuan/hm2。
【英文摘要】In order to improve fertilizer recommendation indices, 16 experiments were conducted to compare fertilizer recommendation based on ASI systematic approach with the farmer practice in maize in the Northeast of China. Three treatments were included: check without fertilizer application (CK), farmer practice (FP), and fertilizer recommendation (OPT) based on ASI method. Results showed that the OPT produced the yields of maize in an average of 8.9% more than the farmer practice. the apparent nutrient recovery of N,P,K increased,on average, by 7.2, 6.7 and 5.7 percentage point, respectively, and farmers ’ net income increased by 630 Yuan RMB/hm2
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【题目】张家口市塞北管理区种草养畜的成本收益分析
【中文关键词】农牧交错带 种草养畜 奶牛 成本收益分析
【英文关键词】Farming-pastoral zone; Livestock raising based on forage cultivation; Dairy cattle; Cost and benefit analysis
【中文摘要】为给华北农牧交错带典型区域张家口市塞北管理区的农、牧业结构调整提供决策支持,在实地调研基础上,对当地种草养畜进行成本收益分析。结果表明:饲草、饲料作物的成本纯收益率为45.2%-125.1%,依次是青贮玉米〉青稞〉禾本科牧草≥豆科牧草;青贮玉米和多年生牧草的生产成本分别为其购入价格的44.4%-59.1%和48.6%-68.9%;投入不足是限制青贮玉米生产效益提高的主要因子;“ 全年舍饲 ”模式下,产奶量4550-6300 kg/头的中、高产奶牛的养殖纯收益为-86.5-1544.2元/头,成本纯收益率为-1.1%-15.5%,盈亏临界产奶量为4588.1-4789.8 kg/头;“ 舍饲+暖季放牧 ”模式下,种草养畜(中、高产奶牛)的纯收益为1453.6-3435.2元/头,51.0%以上的纯收益来源于饲草种植,成本纯收益率为22.7%-42.5%,盈亏临界产奶量为2850.0-3182.8 kg/头。
【英文摘要】In order to provide the basis for the configuration adjustment of agriculture and animal husbandry by local farmer and government,the costs and benefits of cultivating forage to raise livestock were evaluated based on the survey and data collection on the spot in Saibei precinct of Zhangjiakou city,a typical region of the farming-pastoral zone.The results show: 1.Net benefit-cost ratio of the main forage grasses and feed crops varied from 45.2% to 125.1% with the priority of silage corn>highland barley>gramineous grass≥leguminous grass;2.The production costs of silage corn were 44.4% to 59.1% of their purchased price,and those of the perennial forage grass were 48.6% to 68.9%;3.The mostly limiting factor was lack of funds and raw materials for benefit amplification of silage corn production;4.In the mode of ’ all-time pen feeding ’,the net benefit of dairy cattle raising with annual milk production from 4550 to 6300 kg/cow were-86.5 to 1544.2 RMB/cow,the net benefit-cost ratios were-1.1% to 15.5%,and the profit and loss critical milk production were 4588.1 to 4789.8 kg/cow;5.In the mode of ’ pen feeding+warm-season grazing ’,the net benefits from cultivating forage to raise dairy cattle with annual milk production of 4550 to 6300 kg/cow were 1453.6 to 3435.2 RMB/cow,above 51.0% of whose net benefits derived from forage cultivation,the net benefit-cost ratios were 22.7 to 42.5%,and the profit and loss critical milk production were 2850.0 to 3182.8 kg/cow
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【题目】长期不同施肥对水稻土交换性钙、镁和有效硫、硅含量的影响
【中文关键词】长期定位施肥;水稻土;交换性钙;交换性镁;有效态硫;有效硅;湖南

【英文关键词】long-term fertilization;paddy soils;exchangeable Ca;exchangeable Mg;a vailable S;available Si;Hunan
【中文摘要】为探明合理施肥和土壤培肥的理论依据,研究了4种长期定位施肥(CK、NPK、OM30、OM60)对湖南主要水稻土交换性钙、交换性镁、有效硫、有效硅含量的影响。结果表明,长期不同施肥改变了供试水稻土中上述养分的含量。在含钙较低的黄泥田、河沙泥、红黄泥中,施肥使土壤交换性钙含量显著升高,在相同土壤中其含量高低依序为OM30,OM60,NPK;在含钙较多的青灰泥、白鳝泥、紫潮泥中,施肥使土壤交换性钙含量降低,降低幅度与施入的有机肥量呈负相关。在黄泥田、河沙泥、青灰泥、白鳝泥、紫潮泥中,施肥使交换性镁含量降低,而在红黄泥中施肥则使交换性镁含量升高。NPK处理使含硫较高的黄泥田、青灰泥、白鳝泥、紫潮泥有效硫含量升高,使含硫较低的红黄泥有效硫含量降低;有机、无机肥配施处理(OM30、OM60)使所有试验水稻土有效硫含量升高。施用钙镁磷肥和有机肥能够提高土壤有效硅含量。
【英文摘要】The regularities of secondary elements ’change caused by different fertilization in paddy soils in Hunan province were studied.The levels of exchangeable Ca and Mg,available S and Si in paddy soils were measured based on experiments for twenty years with 4 treatments including CK, NPK, OM30, and OM60. The results showed that long-term fertilization altered the contents of those elements nutrition in different paddy soils surely. The contents of exchangeable calcium were increased significantly under fertilization treatments,in which the order for increasing exchangeable Ca value in the same soil was: OM30>OM60>NPK>CK, in Yellow clayey earth,Alluvial sandy earth,and Reddish yellow clayey earth,in which content of calcium was less;contrarily, the contents under CK in Blue gray clayey earth, whitish clayey earth,and Purple tidal clayey earth,in which contents of calcium was more, were much higher than that under NPK, OM30, and OM60, in which the exchangeable Ca value negatively correlated to the amount of organic manure applied.The contents of exchangeable magnesium under fertilization treatments decreased in Purple tidal clayey earth,Blue gray clayey earth,Alluvial sandy earth,Yellow clayey earth,and Whitish clayey earth,but increased significantly in Reddish yellow clayey earth.The contents of available sulfur under NPK treatment were more than that under CK in Purple tidal clayey earth, Blue gray clayey earth, Yellow clayey earth, and Whitish clayey earth, which have a high sulfur concentration, and less in Alluvial sandy earth and Reddish yellow clayey earth which have a low sulfur concentration; however,the contents of available sulfur under OM30 and OM60 were increased in all the experimental soils.The contents of available silicon also rose under fertilization treatments in all experimental soils.
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【通讯作者】张杨珠
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【题目】不同配方施肥对长期缺施钾肥的红壤性水稻土微生物特性的影响
【中文关键词】缺钾水稻土;施肥;土壤微生物区系;土壤微生物活度;土壤微生物生物量
【英文关键词】paddy soil with K-defieieney;fertilizations;microbial flora;microbial activities; soil microbial biomass
【中文摘要】为了验证平衡施肥对长期缺施钾肥的南方红壤性水稻上的修复效果,通过2年盆栽试验,以五种不同施肥处理(NPK、NPKSi、NPKOM、NPhK、NPhKOM),研究了长期缺施钾肥的水稻土的微生物特性,结果发现,在对照(NPK)基础上增施硅肥(NPKSi)、钾肥(NPhK)能促进细菌和放线菌数量的增长,提高微生物活度,加速微生物量N、P的转化,同时也能提高微生物量C相反,在淹水条件下配施有机肥(NPKOM),由于降低了水稻根际环境的氧化还原电位,使根际微生物生长萎缩,微生物活度、微生物量C无显著提高;虽然土壤微生物量N、P随之增加,但有机N的矿化减弱,植株可吸收的有效态养分减少增施钾肥的同时配施有机肥(NPhKOM)具有增施钾肥的优点,即可提高微生物活度提高微生物量C,加速有机N、P的矿化,但同时也会减少微生物数量。因此在缺钾水稻土的修复实践中,常规施肥的基础上对水稻增施硅肥、钾肥应是有效举措。而配施有机肥则须谨慎,有机肥或需适量酌施,或需结合增施钾(硅)肥。
【英文摘要】To test remediation effects of balanced fertilization on a paddy soil with long-term K-deficiency, a pot experiment has been being carried out since April,2005 with five fertilization treatments(NPK、NPKSi、NPKOM、NPhK、NPhKOM) .The resultsshowed that the amount of bacterium actinomyces,microbial biomass C and the microbial activities increased, and the rate of mineralization of organic nitrogen and phosphorus promoted with the increasing application rate of silicon fertilizer(NPKSi) or potassium fertilizer (NPhK), While the above mentioned parameter appeared an apposite trend with the addition of organic manure (NPKOM) because it resulted in a worse anaerobic condition though the microbial biomass N and P inceased. Increasing patassium application companied with organic manure (NPhKOM) inceased microbial biomass C and microbial activity, but decreased the amounts of mirobe. Consequently, applying silicon or potassium fertilizer may remediate the paddy soil with long-term K-deficiency

more effciently. Excessive application of organic manure application should be avoided. Combine application of silicon fertilizer of potassium fertilizer was recommended suppose large amount of organic manure was addressed under our study condition.
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【题目】外源水溶性有机物对红壤中铜形态的影响
【中文关键词】水溶性有机物;红壤;铜形态
【英文关键词】Dissolved organic matter (DOM); Red soil; Copper from
【中文摘要】利用模拟培养试验研究了外源水溶性有机物(DOM)添加量和培养温度对红壤中 Cu形态的影响。结果表明:与不添加 DOM 比较,添加不同量的DOM 均可提高土壤中交换态Cu的含量、降低铁锰结合态 Cu 含量;随着培养时间的延长,不同DOM 添加量下土壤交换态Cu含量呈逐渐下降趋势;至试验结束时,DOM 添加量为 250 mg.L-1时土壤交换态和碳酸盐结合态 Cu 含量最高, 添加量为 500 mg.L-1时铁锰结合态 Cu 含量最高;不同 DOM 添加量下,土壤中有机结合态 Cu 含量较 CK 增加 10.67% ~23.66%。在 25℃和 45℃温度条件下,添加 DOM 后土壤交换态和铁锰结合态 Cu 含量均随培养时间的延长呈下降趋势,但在 5℃下变化趋势相反;3 种温度下添加 DOM 后土壤碳酸盐结合态 Cu 含量有随培养时间延长而增加的趋势。随着培养温度的升高,土壤有机结合态 Cu 含量增加,但在温度较低(5℃)时土壤残渣态 Cu 含量下降。
【英文摘要】A simulating incubation experiment was conducted to evaluate the influence of added Dissolved Organic Matter (DOM) content and temperature on the copper forms in the red soil. Comparing with the control, adding different amount of DOM increased thr content of soil exchangeable Cu ,but decreased the content of Fe-Mn bound Cu. With increasing time of incubation, the content of soil exchangeable Cu in all DOM-added treatments had a decreasing trend. By the end of the incubation, treatment 250 mg DOM • L-1 had the highest amount of exchangeable Cu and carbonate bound Cu, while treatment 500 mg DOM • L-1 had the highest content of Fe-Mn bound Cu. In the treatments with DOM addition, the content of soil organic bound Cu increased by 10.67%-23.66%, compared with the control. At incubation temperature 25°C and 45°C, the contents of exchangeable Cu and Fe-Mn bound Cu decreased with increasing time of incubation; while at 5°C, an opposite trends was observed. At these three temperatures, the content of soil carbonate bound Cu in treatments with DOM addition increased with incubation time. The content of soil organic bound Cu increased with increasing temperature, but that of soil residual Cu decreased at lower temperature (5°C).
【语种】中文
【第一作者】曾希柏
【通讯作者】曾希柏
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【学科分类】土壤学

【题目】Study on Development Rule of Muscle Fiber in Different Duck Breeds.
【中文关键词】无
【英文关键词】animal anatomy; breeds; morphology; muscles; poultry
【中文摘要】无
【英文摘要】Objective: The aim of this study was to investigate the development rule of muscle fiber in different duck breeds during various developmental stages. Method: Cherry valley duck, Jinding duck, White muscory duck and Suma duck (Cherry valley duck [female] * Jinding duck [male]) were fed for 10 weeks to observe the ultrastructure of muscle fiber by electron microscope, and the myofibril diameter and sarcomere length were also determined. Result: The myofibril diameter increased with ages. Sarcomere length and myofibril diameter did not change significantly with the increasing ages (P>0.05). The myofibril diameter of White muscory duck and Jinding duck were thicker, while that of Cherry valley duck and Suma duck were thinner. Moreover, the sarcomere length of Suma

duck and White muscory duck were longer, while that of Cherry valley duck and Jinding duck were shorter. Thus, the basic characteristics of ultrastructure of muscle fiber were consistent in these duck breeds. Conclusion: The results have an important meaning for duck breeding.
【语种】英文
【第一作者】廖静
【通讯作者】陈国宏
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【引文索引号】20093333216
【学科分类】畜牧学

【题目】Polymorphism in Intron-1 of ApoVLDL-II Gene and its Association with Meat Quality and Fatness Traits in Duck
【中文关键词】无
【英文关键词】Duck; apoVLDL-II gene; polymorphism; meat quality; fatness traits; association analysis
【中文摘要】无
【英文摘要】Very Low Density apolipoprotein-II (apoVLDL-II) is a major constituent of Very Low Density Lipoprotein (VLDL) and is involved in lipid transportation in bird species. The current study was designed to investigate the associations of an apoVLDL-II gene intron-1 polymorphism on duck meat quality and fatness traits. The results showed that there were two alleles (A and B) and three genotypes (AA, AB and BB) in the experimental populations. AA genotype and A allele frequency were highest. Eight SNPs (T667C, C669G, T673C, G674A, G683A, G688A, C708G and T715G) and inserted/deleted GT after position 764 bp were found by sequencing. The apoVLDL-II gene intron-1 polymorphism was associated with multiple traits of meat quality and fatness in the 170 individuals, including pH-value, tenderness, water holding capacity, IMF, serum total cholesterol, serum triglyceride and abdominal fat. This research suggests that apoVLDL-II intron-1 has broad effects on meat quality and fatness traits in duck.
【语种】英文
【第一作者】张依裕
【通讯作者】陈国宏
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【学科分类】畜牧学

【题目】鸡ADSL基因和GARS-AIRS-GART基因对鸡肉肌苷酸(IMP)含量的影响
【中文关键词】腺苷琥珀酸裂解酶基因,GARS-AIRS-GART基因,单核苷酸多态性,肌苷酸,鸡
【英文关键词】ADSL gene; GARS-AIRS-GART gene; SNPs; inosine monophosphate content; chicken
【中文摘要】以鸡ADSL基因、GARS-AIRS-GART基因为侯选基因,以隐性白羽鸡、丝羽乌骨鸡、萧山鸡、白耳鸡、藏鸡为试验材料,采用PCR-SSCP方法对ADSL外显子2、GARS-AIRS-GART基因5'侧翼序列进行SNPs检测.结果各发现了一个单核苷酸多态性位点.各种基因型与胸肌IMP含量的最小二乘分析结果表明ADSL基因TT型个体的胸肌肌苷酸含量极显著地高于CC型、显著地高于CT型个体,CT型个体也高于CC型,但差异不显著GARS-AIRS-GART基因TT型个体的胸肌肌苷酸含量极显著地高于CT型和CC型个体,CT型个体也高于CC型,但差异不显著.ADSL和GARS-AIRS-GART基因的合并基因型对IMP含量也有显著的影响,合并基因型为TTTT的个体IMP含量显著高于CCCC合并基因型的个体,高出1.584 mgg,因此可以利用该合并基因型对鸡的肉质风味性状进行标记辅助选择.
【英文摘要】:This study was designed to investigate the effect of ADSL,GARS-AIRS—GART and combinationgenotypesof ADSL and GARS-AIRS—ARTonIMPcontentinchicken meat.Five chicken breeds,including RecessiveWhite,Silkies,Baier,Tibetanand Xiaoshanchickens were used.The primers for the ezon2 in ADSL gene and 5 ’ UTR region in GARSAIRS~GART gene weredesignedand the SNPs weredetected by PCR—SSCP method and DNA sequencing.Two SNPs were detected in exon2 of ADSL gene and 57UTR region of GARSA II °CS—GART gene sepa—rately.The least square analysisshowedthat TTgenotypebirds had greatly significant higher IMPcontentthanCC(P<O.01)andsignificant higher than CT(P<0.05)genotype birds,TC genotypebirds alsohadalittle higher IMPcontent than CC genotypebirds,but the difference was not significant in ADSL gene.TT genotype birds had significant

higherIMPcontentthan CC and CTgenotypebirds(P<0.05),TCgenotypebirds also hadalittle higherIMPcontentthan CCgenotype birds,butthe difference wasnotsignificantin GARS-AIRS-GARTgene.Thecom—binationgenotypesof ADSL and GARS-AIRS—GARTgenesalso hadsignificanteffectonIMP content.TheIMPcontentof the individuals with TTTTcombinationgenotype was 1.584mg/g higherthan theindividuals with CCCC combinationgenotype.Thereforeweputativelydrew the conclusion that thecombinationgenotypesof ADSL and GARS-AIRS—GART gene could be used asthemolecular genetic markertOselect the chicken formeatqualitytraits.

【语种】中文
【第一作者】束婧婷
【通讯作者】陈国宏
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【引文索引号】无
【学科分类】畜牧学

【题目】Δ6-脂肪酸脱氢酶研究进展
【中文关键词】脂肪酸脱氢酶; 多不饱和脂肪酸; 脱氢酶基因; 结构域; 形成过程; 哺乳动物; 亚麻酸; 细胞色素; 中国烟草; 组氨酸
【英文关键词】无
【中文摘要】长链多不饱和脂肪酸(LC-PUFA)是机体组织生物膜的组成成分,具有维持细胞正常功能和增加机体抗逆性的作用,在大脑发育、胎儿视觉发育、炎症反应和止血等方面具有重要的生理功能。动物自身只能初步合成饱和、单不饱和脂肪酸,但动物可以通过体内的脂肪酸脱氢酶催化与载体结合的脂肪酸在脂酰链上脱氢形成双键,将外源性的亚油酸、α-亚麻酸、花生四烯酸等转化为一系列的多不饱和脂肪酸,从而满足自身的需要。根据脂肪酸脱氢酶的定位和对辅因子需求的不同,脂肪酸脱氢酶可以分为两类:可溶性的脂肪酸脱氢酶和膜整合的脂肪酸脱氢酶。Δ6-脂肪酸脱氢酶属于膜整合的脂肪酸脱氢酶,能催化已有的双键和羧基之间形成另一个双键,是多不饱和脂肪
【英文摘要】无
【语种】中文
【第一作者】白义春
【通讯作者】康相涛
【期刊名称、卷期、页码】河南农业科学,2008,(2):9-12
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【学科分类】畜牧学

【题目】固始鸡免疫器官内细胞调亡相关蛋白Bax和Bcl-2的动态表达
【中文关键词】细胞凋亡; Bax; Bcl-2; 凋亡相关蛋白; 免疫组织化学; 免疫器官; 固始鸡
【英文关键词】apoptosis; Bax; Bcl-2; apoptosis related protein; immunohistochemistry; immunity organ; Gushi chicken
【中文摘要】应用免疫组织化学技术和Leica显微图像处理系统,对细胞凋亡相关蛋白Bax和Bcl-2在固始鸡免疫器官内的动态表达进行了研究。结果:Bax蛋白在不同发育阶段固始鸡免疫器官内均有表达,但表达量不同;Bax蛋白表达于固始鸡免疫器官内淋巴细胞细胞膜、细胞质和细胞核;Bax蛋白表达阳性细胞在固始鸡不同免疫器官内分布位置不同,呈散在或簇团状分布:脾脏内不同部位均有分布,主要在动脉周围淋巴鞘、红髓、淋巴小结边缘、边缘区,很少出现在淋巴小结内;胸腺内主要分布于胸腺小叶的皮质与髓质交界处,其次是胸腺小叶髓质,极少出现于皮质;法氏囊内阳性细胞主要分布于黏膜靠近上皮细胞的固有膜层内、淋巴滤泡间的区域,在淋巴滤泡边缘的少量淋巴细胞也有Bax蛋白表达,淋巴滤泡内极少有阳性细胞。Bcl-2蛋白在固始鸡免疫器官内的表达与Bax相似,但表达量与Bax相比较少。以上结果表明,细胞凋亡相关蛋白Bax和Bcl-2参与了固始鸡免疫器官内淋巴细胞发育分化过程中的凋亡调控,对免疫器官的稳定发挥重要作用。
【英文摘要】Study on dynamic expression of the apoptosis related protein Bax and Bcl-2 in immunity organs of Gushi chickens was performed and analyzed by using immunohistochemistry technology and Leica Microsystems.The results showed that the expressions of Bax protein in different immunity organs were observed,however,numbers of the positive cells of Bax protein were different on different developmental stages.The positive Bax-protein was found in cell membrane,cytoplasm and nucleus of lymphocytes.The

positive cells were dispersedly(or in clusters) distributed in different places for different immunity organs.Most of the positive cells,in spleen,were found in periarterial lymphatic sheath,red pulp,edge of splenic nodules and marginal zone,few of them in inner of splenic nodules.The positive cells,in thymus,were localized mainly in the connective zone of thymic cortex and thymic medulla,secondly in thymic medulla,and a few in thymic cortex.In Bursa,the majority of positive cells were observed in lamina propria of mucous membrane and areas between lymphoid follicles,a few in edge of lymphoid follicles,and few in inner of lymphoid follicles.The expression of Bcl-2 in the immunity organs of Gushi chickens was similar to that of Bax,but the expression level of Bcl-2 was less than that of Bax.All results mentioned above indicated that the apoptosis related protein Bax and Bcl-2 participated in the regulation of apoptosis of thymocytes and lymphocytes,and played the important roles in keeping the immunity organs stable.

【语种】中文

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【学科分类】畜牧学

【题目】固始鸡免疫器官内细胞凋亡基因Fas和FasL的动态表达

【中文关键词】细胞凋亡; Fas; FasL; 凋亡基因表达; 免疫组织化学; 免疫器官; 固始鸡

【英文关键词】Apoptosis; Fas; FasL; Expression of apoptosis gene; Immunohistochemistry; Immunity organ; Gushi chicken

【中文摘要】【目的】探讨固始鸡免疫器官内细胞凋亡基因Fas和FasL的动态表达。【方法】应用免疫组织化学技术和Leica显微图像处理系统,对细胞凋亡基因Fas和FasL在固始鸡免疫器官内的动态表达进行研究。【结果】Fas在不同发育阶段固始鸡免疫器官内均有表达,但表达量均不相同,呈波浪样动态变化;Fas表达于固始鸡免疫器官内淋巴细胞细胞膜和细胞质,不表达于细胞核;Fas表达阳性细胞在固始鸡不同免疫器官内分布位置不同,呈散在或簇团状分布:法氏囊内阳性细胞主要分布于黏膜靠近上皮细胞的固有膜层内、淋巴小结与淋巴小结之间区域、淋巴小结边缘,淋巴小结内少量淋巴细胞也有Fas表达;胸腺内主要分布于胸腺小叶髓质,极少出现在皮质内;脾脏内主要分布于红髓和边缘区、淋巴小结周围和动脉周围淋巴鞘周围的区域,动脉周围淋巴鞘极少有Fas表达,淋巴小结无Fas表达。FasL在固始鸡免疫器官内的表达与Fas相似,但表达量与Fas相比较少。【结论】细胞凋亡基因Fas和FasL参与了固始鸡免疫器官内淋巴细胞发育分化过程中的凋亡调控,并对免疫器官的稳定发挥重要作用。 更多还原

【英文摘要】【Objective】 Dynamic expression of apoptosis gene Fas and FasL in immunity organs of Gushi chickens was studied. 【Method】 By using the immunohistochemical techniques and Leica image-processing system. 【Result】 The results showed that Fas gene expressed in immunity organs at different developmental stages, but the expression products varied and the dynamic changes were different. Fas expressed in the cell membrane and the cytoplasm in the immunity organs, while negatively in the nucleus of lymphocytes. Fas gene positively expressed cells distributed in various locations in different immunity organs, scatteredly or in clusters. The positively expressed cells in bursa were mainly found in the lamina propria of mucous membrane, among the lymphoid nodules and at the edges of lymphoid nodules. Fas also expressed in a few lymphocytes inside the lymphoid nodules. The positive cells in the thymus localized mainly in the thymic medulla, and a few in the thymic cortex. Fas predominantly expressed in the red pulp, the marginal zones, and the zones around the splenic nodules and the periarterial lymphatic sheath in the spleen. The expression of Fas gene was faintly positive in the periarterial lymphatic sheath and negative in the splenic nodules. The expression of FasL in the immunity organs of Gushi chickens was similar to that of Fas, but the expression product of FasL was less than that of Fas. 【Conclution】 All results mentioned above indicated that Fas and FasL genes participated in regulation of the lymphocytes apoptosis in the immunity organs of Gushi chickens, and played important roles in keeping the immunity organs stable

【语种】中文

【第一作者】李 奎

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【学科分类】畜牧学

【题目】家禽免疫器官内细胞凋亡及其凋亡相关基因调控研究进展
【中文关键词】细胞凋亡; 凋亡相关基因; 免疫器官; 家禽
【英文关键词】apoptosis; apoptosis-related genes; immune organs; poultry
【中文摘要】细胞凋亡是生物界广泛存在的一种重要的生命过程,是多细胞动物为调节机体发育、维护内环境稳定、有基因调控的细胞主动性死亡过程。在细胞凋亡的分子生物学研究过程中,发现已有多种基因参与细胞凋亡的调控,其中包括Bcl-2家族和Bax、p53、Fas和FasL等。家禽免疫器官胸腺、脾脏和法氏囊内存在着自然凋亡现象,许多学者用物理性、化学性和生物性因素诱导了家禽免疫器官细胞凋亡,证实了细胞凋亡相关基因参与了家禽免疫器官内细胞凋亡的调控。
【英文摘要】Apoptosis is a basic process of lives in the multi-cellular creatures. It is a programmed cell death controlled with many genes including Bcl-2 family members, p53, Fas and FasL, etc., which regulates development of cells and homeostasis in organisms. Apoptosis not only exists in immune organs of poultry naturally, but would also be induced by many physiological factors, chemical factors and biological factors. All results indicated that apoptosis in immune organs of poultry is controlled by many apoptosis-related genes.
【语种】中文
【第一作者】李 奎
【通讯作者】康相涛
【期刊名称、卷期、页码】动物医学进展,2008,29(6):76-79
【论文发表时间】2008-06-01 00:00:00
【引文索引类型】其他
【引文索引号】无
【学科分类】畜牧学

【题目】多重PCR法在微卫星标记中的效果观察
【中文关键词】微卫星; 多重PCR; 标记;
【英文关键词】Microsatellite; Multiplex PCR; Marker
【中文摘要】通过建立一种同时检测3个位点(MCW0083、MCW0037、LEI0166)的多重PCR方法,在同一样品中同时扩增这3个微卫星位点。混合扩增产物与各位点单引物PCR法扩增产物进行聚丙烯酰胺凝胶电泳检测,用BandScan软件分析各微卫星位点的等位基因大小。多重PCR方法扩增出的DNA片段与单PCR扩增的结果表明,每个个体标记等位基因的片段大小差异不大,初步认为该方法是可行的。 更多还原
【英文摘要】Through building a kind of multiplex PCR method that can test 3 sites(MCW0083,MCW0037,LEI0166) at the same time,3 microsatellite sites are amplified in the same sample at the same time.Muli-amplified products and single primer products are tested by polyacrylamide gel electrophoresis,and allele size was analyzed with BandScan software.The results of DNA fragments amplified by multiplex PCR show that the difference of allele size of each marker is not significant,this method is primarily feasible.
【语种】中文
【第一作者】张艳芳
【通讯作者】康相涛
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【学科分类】畜牧学

【题目】固始鸡与安卡鸡资源群体屠体性状的遗传分离特性
【中文关键词】鸡; 资源家系; 屠体性状; 遗传分离;
【英文关键词】Chicken; Resource population; Carcass traits; Genetic segregation;
【中文摘要】以固始鸡和安卡鸡杂交建立的F2代资源群为研究材料,探讨屠体重、屠体重率、全净膛率、半全净膛率、胸肌重率和腿肌重率的遗传分离规律。结果表明:6个屠体性状在不同性别、批次和家系中均呈极显著差异,母鸡的胸肌率极显著高于公鸡,而其他屠体性状却低于公鸡;第三家系的全净堂率极显著高于其他家系,并且该家系6个屠体性状的最小二乘均值均大于其他家系,正交系各屠体性状值高于反交系。结果显示:该资源群体可有效地用于屠体性状位点定位和相关功能基因的克隆。

【英文摘要】The genetic segregation rules of six carcass traits,including carcass weight,carcass rate,breast muscle rate,leg muscle rate,eviscerated yield with giblet rate and eviscerated yield rate in the F2 resource population established by Gushi chicken crossing with Anka chicken,were conducted in this experiment.The results showed that six carcass traits were extremely in the sex,batch effect and family;Breast muscle rate in male were extremely higher than that in female group but extremely lower in other carcass traits.Third family was more extremely than other family in the eviscerated yield rate.Comparsion of least square mean of third family was more than other family in the six carcass traits.Six carcass traits in direct cross was higher than that in reciprocal cross.This indicates that the resource population can be efficiently used for the mapping of QTL and functional gene cloning of these carcass traits.
【语种】中文
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【学科分类】畜牧学

【题目】固始鸡免疫器官内T淋巴细胞亚群动态变化
【中文关键词】T淋巴细胞亚群; 流式细胞术; 免疫器官; 固始鸡
【英文关键词】T cell subsets; flow cytometry; immunity organ; Gushi chicken;
【中文摘要】应用流式细胞仪结合免疫荧光抗体技术对固始鸡和固始鸡胚胎免疫器官内T淋巴细胞亚群的动态变化和发育分化规律进行了研究。结果发现,(1)胚胎时期,胸腺内T淋巴细胞发育分化低,表现为成熟的T淋巴细胞(CD3+)和不成熟的胸腺细胞均较少;出壳后,固始鸡胸腺内成熟T淋巴细胞增多,占胸腺细胞的30%左右,但大部分仍是未成熟的胸腺细胞。(2)脾脏内T淋巴细胞为成熟的T淋巴细胞(CD3+),占淋巴细胞的60%左右。胚胎时期脾脏内CD3+水平低,出壳后2周已达脾脏内正常水平(60%左右)。(3)法氏囊内有少量的成熟T淋巴细胞(10%左右)。结果表明,T淋巴细胞在固始鸡胸腺内增殖分化和成熟,脾脏和法氏囊内的成熟T淋巴细胞均来源于胸腺。
【英文摘要】Dynamic changes,development and differentiation of T cell subsets in immunity organs of Gushi chickens and their embryo were carried out by applying flow cytometry.The mature T cells(CD3+) and young T cells in thymus of the embryo were less than those of Gushi chickens.The majority of thymocytes in thymus of Gushi chickens was young,and only about 30% was mature.All of T cells in spleen were mature,and originated from thymus,accounting for about 60% of lymphocytes.The mature T cells(CD3+) in embryo spleen,however,were less than those of Gushi chickens.Its percentage became normal level at 2 weeks after birth.A few mature T cells(about 10%) in Bursa originated from thymus.Results that thymus is only one original place of proliferation and differentiation and maturation of T lymphocytes.
【语种】中文
【第一作者】李 奎
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【学科分类】畜牧学

【题目】固始鸡免疫器官指数的发育规律
【中文关键词】生长发育; 免疫器官; 器官指数; 固始鸡
【英文关键词】growth and development; immune organ; organ index; Gushi chicken;
【中文摘要】为研究固始鸡免疫器官指数的发育规律,应用大体解剖学方法,经过SAS(6.12)软件对数据分析处理,结果表明,雄性和雌性固始鸡活体重、免疫器官重量和指数之间存在差异(P<0.01),但免疫器官生长发育规律相似;1周龄~20周龄内,前期固始鸡活体重和免疫器官重量均呈上升趋势,后期活体重仍增加,而免疫器官重量维持较平稳水平。随着固始鸡的生长发育,不同免疫器官指数总体而言均呈下降趋势,免疫器官生长速度小于增重速度。
【英文摘要】The developmental regularity of immunity organ indexes in Gushi chickens were measured and analyzed by using the anatomy technology and SAS(6.12) software.The results indicated that it was different significantly between male and female for body

weight,immune organ weight and immune organ indexes(P<0.01),however,male was similar to female for its regularity of growth and development of immune organs.On the early developmental stages,in 1-20 weeks,both body weight and immune organ weight increased,but,body weight increased,while immune organ weight was stable on the last developmental stages.The immune organ indexes decreased generally as growing of Gushi chickens,which indicated that the growing speed of immune organs was smaller than that of chicken weight

【语种】中文
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【题目】文昌鸡免疫性状与部分生长性能的相关分析
【中文关键词】文昌鸡; 免疫性状; 生长性能;
【英文关键词】Wenchang chicken; Immune traits; Growth performance;
【中文摘要】随机选择同批出雏文昌鸡80只,隔周称量体质量,并于49日龄均分为两组,分别腿肌注射25%绵羊红细胞(SRBC)悬液0.5 mL(A组)和1 mL(B组),56日龄翅静脉采血,检测异嗜性粒细胞与淋巴细胞的比值(H/L)以及SRBC抗体滴度,分析生长性能和免疫性状之间的相关性。结果表明:H/L值与相对生长率和日绝对生长量之间均呈负相关(r=-0.0370,r=-0.1180),A、B组SRBC抗体滴度值呈显著差异(P<0.05),A组与相对生长率和日绝对生长量之间呈显著的负相关(r=-0.3980,r=-0.4000),B组与生长性能均不存在显著相关。研究结果显示腿肌注射0.5 mL SRBC抗原能更好的评估文昌鸡的免疫性能。
更多还原
【英文摘要】Random sampling 80 chickens from population of Wenchang Chicken(WC),and weighing every two weeks.Meanwhile,dividing 80 chickens into two groups at 49 days of age,A and B,each of them contained 40 members.Group A and group B had injected of 0.5 mL and 1mL 25% suspension of sheep red blood cell(SRBC),respectively.The value of Heterophil/Lymphocyte(H/L) and SRBC antibody titer were detected from blood of vein wing at 56 days of age,and the correlation between immune traits and growth performance were also analyzed.Both relative growth rate and absolute mass growth per day had a negative correlation with H/L value,whose coefficients were-0.0370 and-0.1180,respectively.There was significant difference of SRBC antibody titer between the two groups,A and B(P<0.05).Moreover,A group had significant negative correlation with relative growth rate and absolute mass growth per day,whose coefficients were-0.3980 and-0.4000,while B group had no significant correlation with any growth traits,The present researches showed that 0.5ml antigen of SRBC inoculated into the thigh muscle could evaluate immune ability better.
【语种】中文
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【学科分类】畜牧学

【题目】安卡鸡Mx基因A2032G变异位点对经济性状的效应分析
【中文关键词】鸡; Mx基因; 经济性状; 遗传效应;
【英文关键词】chicken; Mx gene; commercial trait; genetic effect;
【中文摘要】采用错配PCR-RFLP对安卡鸡Mx基因2032位点多态性进行检测,结果表明,安卡鸡Mx基因2032位点经Rsa Ⅰ酶切后,检测到AA、AG和GG 3种基因型,基因型频率分别为0.232、0.681和0.087,抗性等位基因A的频率为0.572。χ2适合性检验结果表明,安卡鸡Mx基因在Rsa Ⅰ酶切位点上等位基因的分布显著偏离Hardy-Weinberg平衡状态。分析这3种基因型与安卡鸡一些经济性状间的关联性,结果表明,抗性纯合子AA基因型的个体各阶段体重、体尺、主要屠宰性状及常规肉质与AG和GG基因型的个体差异不显著,安卡鸡Mx基因2032位点对重要经济性状没有显著的负效应。

【英文摘要】The Mx gene in Anka chicken was analyzed with mismatch PCR-RFLP method,the results showed that M2032 locus of Mx gene digested by restriction endonuclease Rsa Ⅰ could be divided into three kinds of genotypes,AA,GG and AG.The frequencies of these genotypes were 0.232,0.681 and 0.087,respectively.The frequency of resistance allele A was 0.572.The result of Chi Square test indicated that the frequencies of Mx gene digested by Rsa Ⅰ were significantly deviated from Hardy-Weinberg equilibrium in this study.The correlation between the three genotypes with some commercial traits was analyzed,the results showed that the body weight of different developmental stage,body size mainly slaughter traits and meat quality of the individuals were with resistant genotype AA were not significant different with those individuals with AG and GG genotypes in Anka chicken,which indicated that M2032 locus of Mx gene had no significantly negative genetic effects on commercial traits in Anka chicken
【语种】中文
【第一作者】刘艳
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【期刊名称、卷期、页码】中国畜牧兽医 ,2009,36 (5): 116-119
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【题目】硫胺素在鸡肌肉中的沉积规律研究
【中文关键词】鸡; 组织; 硫胺素含量;
【英文关键词】chicken; tissue; thiamine content;
【中文摘要】为研究鸡肌肉组织中硫胺素的沉积规律,以如皋鸡和文昌鸡为素材,分不同家系、周龄、组织进行取样,采用高效液相色谱法检测样品中的硫胺素含量。结果显示,不同品种、家系、周龄及组织间硫胺素含量均存在显著或极显著差异(P<0.05或P<0.01)。此外,硫胺素含量的遗传力为0.494,与体重的遗传相关为-0.404。以上结果初步表明,硫胺素在机体的沉积受遗传因素影响,且表现为一定的时间和组织变化规律,可以通过选择进行提高。
【英文摘要】To research the accumulation rule of thiamine in muscle,Rugao Chicken(RG) and Wenchang Chicken(WC) were sampled as family,age and tissue,and the thiamine content in samples were detected by high performance liquid chromatography(HPLC).The results showed that,there were significant or extremely significant differences(P<0.05 or P<0.01) between different breeds,families,ages and tissues.Furthermore,thiamine ’s heritability was-0.494,and the genetic correlation with body weight was-0.404.The results demonstrated that accumulation of thiamine in body were impacted by genetic factors,and changed with time and tissues.So thiamine concentration could be improved by selection
【语种】中文
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【题目】鸡不同发育阶段体重的主基因+多基因混合遗传模型分析
【中文关键词】鸡; 体重; 主基因+多基因混合遗传;
【英文关键词】无
【中文摘要】由于基因表达具有时序性,鸡不同周龄体重的遗传规律略有差异。本研究应用四世代数量性状主基因+多基因混合遗传分析方法,以仙居鸡和隐性白羽鸡为材料,测定亲本(P1、P2)、F1和F2四群体2、4、6、8、10、12周龄体重,分析不同发育阶段体重的主基因的变化及多基因的效应,为鸡的体重选育提供参考。结果表明,鸡体重主要是一对或两对主基因+多基因的混合遗传模式,6~10周龄多基因的效应较大,揭示在利用分子标记对体重选育时也要考虑多基因的效应。
【英文摘要】无
【语种】中文
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【题目】地方鸡保种技术方案.
【中文关键词】地方鸡; 保种; 技术方案;
【英文关键词】无
【中文摘要】鸡肌内脂肪性状的多基因聚合效应分析
【英文摘要】无
【语种】中文
【第一作者】王克华
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【学科分类】畜牧学

【题目】冷应激对家禽神经内分泌系统的影响
【中文关键词】冷应激; 家禽; 神经内分泌;
【英文关键词】Cold stress; Poultry; Neuroendocrine;
【中文摘要】冷应激可引起家禽生产性能下降,诱发多种疾病,甚至造成死亡。研究家禽冷应激发生机制,探索科学的应激监测方法,对提高应激预防水平,保障畜牧业发展有重要意义。冷应激反应的生理机制几乎涉及所有器官和组织,能量代谢、神经内分泌、行为和生产性能等均发生改变,其中,神经内分泌在整合调节过程中起主导作用。主要综述了寒冷应激对以交感神经-肾上腺髓质(SAM)系统、下丘脑-垂体-肾上腺皮质(HPA)轴和下丘脑-垂体-甲状腺(HPT)轴为主的神经内分泌机能的影响。 更多还原
【英文摘要】利用H /L值分析鸡抗应激能力差异
【语种】中文
【第一作者】屠云洁
【通讯作者】屠云洁
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【引文索引号】无
【学科分类】畜牧学

【题目】利用H /L值分析鸡抗应激能力差异
【中文关键词】鸡; 抗应激能力; 异嗜性粒细胞/淋巴细胞; 品种; 日龄;
【英文关键词】Chicken; stress resistance; Heterophil/Lymphocyte; breed; age.;
【中文摘要】通过H/L值的比较,对不同品种鸡的抗应激能力进行评价。随机抽取如皋鸡、文昌鸡以及安卡鸡各80只,分别检测了41、56、71和89日龄的异嗜性粒细胞(H)、淋巴细胞(L)及H/L值。结果表明:(1)在41、56日龄时,如皋鸡与文昌鸡、安卡鸡相比H、L及H/L值呈极显著差异(P<0.01);89日龄的H/L值在文昌鸡和安卡鸡之间呈极显著差异(P<0.01)。(2)如皋鸡在41日龄和71日龄间H、L及H/L值呈极显著差异(P<0.01),其余差异均不显著。文昌鸡H、L及H/L值在各日龄间变化较大,41和71日龄间呈显著差异(P<0.05),41和89日龄、56和71日龄以及56和89日龄间呈极显著差异(P<0.01)。安卡鸡各值只在56和89日龄间呈显著差异(P<0.05),其余差异均不显著。研究初步表明家禽的抗应激能力存在品种间差异,如皋鸡的抗应激能力优于安卡鸡,文昌鸡晚期表现出较好的抗应激能力,随着日龄的增加,品种之间的抗应激能力差异会减小。 更多还原

【英文摘要】The present study evaluated the stress resistance in different chicken breeds by H/L ratio.Random sampling of 80 chickens was taken from population of Rugao Chicken(RG),Wenchang Chicken(WC),and Anka Chicken(AK),respectively.The value of Heterophil(H),Lymphocyte(L) and Heterophil/Lymphocyte(H/ L) at 41,56,71 and 89 days of age was detected.The results showed that there were extremely significant differences(P<0.01) in the H,L and H/L ratio between RG and WC,as the same as RG and AK at 41 and 56 days of age,meanwhile,the same difference in H/L ratio between WC and AK were found at 89 days of age.In the same population,the H,L and H/L ratio of RG had extremely significant differences(P<0.01) between 41 and 89 days of age.The corresponding value of WC varied significantly among different days of age,which indicated that the values presented significant differences(P<0.01) between 41 and 89,as well as between 56 and 71 or 89 days of age,and significant differences(P<0.05) between 41 and 71 days of age.AK only showed significant difference(P<0.05) between 56 and 89 days of age.The results demonstrated that there were differences in resistance to stress between different chicken breeds.RG chickens had better resistance to stress than AK chickens,and WC chicken ranked third.The difference of resistance to stress between different breeds might be reduced with age
【语种】中文
【第一作者】王存波
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【题目】不同鸡种早期生长规律比较及其生长曲线拟合.
【中文关键词】鸡; 生长规律; Logistic模型; 生长曲线;
【英文关键词】chicken; rule of growth; Logistic model; growth curve;
【中文摘要】采用Logistic模型进行生长曲线拟合对0~12周龄如皋鸡、文昌鸡和安卡鸡的体重生长规律进行了研究。结果显示,不同性别间除初生重之外其余周龄体重均呈显著差异,但生长发育变化呈现一致趋势。不同品种间生长发育存在较大差异,除如皋鸡和文昌鸡之间6周龄相对生长率和12周龄日绝对生长量差异不显著,以及如皋鸡和安卡鸡10周龄相对生长率差异不显著外,其余周龄品种间的生长发育均呈显著差异。Logistic模型生长曲线对3个品种均能较好的拟合(R2>0.99),预测体重与实际体重较为接近。
【英文摘要】Studies on the law of body growth of 0~12-week-old Rugao chicken(RG),Wenchang Chicken(WC),and Anka Chicken(AK),and the nonlinear curves of Logistic model were used to fit the growth model.The result s were as follows.There were significant differences(P<0.05) in the body weight between male and female in 2~12-week-old,but the growth and development had the same change.There were great differences between the breeds of chickens,because the growth and development had significant differences in all time among breeds,but there was no significant difference in the relative growth rate on 6-week-old and absolute mass growth per day on 12-week-old between RG and WC,and in the relative growth rate on 10-week-old between RG and AK.All the three breeds of chickens ’ growth can be demostmted greatly according to Logistic model(R2>0.99).The predicted body weight was close to ture body weight
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【第一作者】王存波
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【学科分类】畜牧学

【题目】H-FABP基因在鹿苑鸡和隐性白羽鸡肉质中的差异表达
【中文关键词】鸡; 荧光定量逆转录PCR; 基因表达; 肉品质;
【英文关键词】chicken; FQ-RT-PCR; gene expression; meat quality;
【中文摘要】以鹿苑鸡和隐性白羽鸡为研究对象,选用心脏脂肪酸结合蛋白(H-FABP)基因作为影响鸡肌内脂肪(IMF)的候选基因,利用实时荧光定量逆转录PCR,对12周龄H-FABP基因mRNA进行定量分析,结合IMF含量和屠宰性状测定,分析H-

FABP基因表达水平对IMF含量等性状的影响。结果表明:H-FABP和内参基因GAPDH熔解曲线均为单峰,无杂峰及二聚体,定量准确。鹿苑鸡胸肌和腿肌的IMF含量显著高于隐性白羽鸡。H-FABP基因mRNA表达量与IMF含量呈显著的负相关。隐性白羽鸡H-FABP基因mRNA在胸肌和腿肌的IMF的表达量显著高于生长较慢的鹿苑鸡。 更多还原

【英文摘要】Luyuan chicken and Recessive white chicken were used as experimental populations.FQ-RT-PCR technique was used to study gene expression in hear fatty acid-binding protein(H-FABP) gene at 12 weeks of age.Melting curve analysis showed a single peak of H-FABP and GAPDH gene.IMF content in breast muscle and leg muscle of Luyuan at 12 weeks was higher than that of Recessive white.Statistic analyses showed that the H-FABP mRNA expression level had significantly negative correlation with IMF contents.The H-FABP mRNA expression level in IMF content in Recessive white was significantly higher than that of Luyan which grows slowly.

【语种】中文

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【学科分类】畜牧学

【题目】固始鸡与安卡鸡F2资源群Myf5基因PCR-SSCP分析条件的优化

【中文关键词】固始鸡与安卡鸡F2资源群; Myf5基因; PCR-SSCP; 正交试验; 分析条件优化;

【英文关键词】Gushi-Anka Crossing F2 Generation Chickens; Myf5 gene; PCR-SSCP; orthogonal experiment; optimization of analysis conditions;

【中文摘要】为进行固始鸡与安卡鸡F2资源群Myf5基因的多态性研究,建立适合于该资源群的Myf5基因PCR-SSCP分析方法,对影响单链构象多态性(SSCP)图谱分辨率的凝胶浓度、甘油浓度、电泳电压、电泳温度、电泳时间、PCR产物与上样缓冲液的比例、电泳缓冲液浓度、上样量等影响因素进行了比较系统的优化试验研究。结果表明:凝胶浓度10%、甘油浓度50%、上样量10μL、PCR产物与变性缓冲液比例为10∶10、电泳缓冲液为1×TBE、室温下300 V预电泳10 min后120 V电压电泳16 h,染色后条带细而清晰,能够准确分辨各基因型,为试验SSCP分析的最佳条件组合。 更多还原

【英文摘要】In order to establish proper conditions of polywerase chain reaction-single strand conformation polymorphism(PCR-SSCP) for studies in Gushi-Anka Crossing F2 Generation Chickens Myf5 gene,an optimization test was carried out on influential factors including gel concentration,glycerol concentration,voltage,temperature,time,proportion of PCR product to loading dye,ionic strength of runing buffer,loading amount etc.The results showed that the optimal experiment conditions were as follows: glycerol concentration of 50%,gel concentration of 10%,PCR product loading amount 10 μL,10∶10 of PCR product to loading dye,running buffer of 1.0 ×TBE,and pre-voltage of 300 V 10 min,then 200 V electrophoresis for 16 hours at room temperature.With above optimized conditions,the best PCR-SSCP method for analysis of the polymorphism in Gushi-Anka Crossing F2 Generation Chickens Myf5 gene was established

【语种】中文

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【学科分类】畜牧学

【题目】鸡基因组DNA不同提取方法的比较研究

【中文关键词】鸡; 基因组DNA; PCR扩增; 提取方法;

【英文关键词】gallus; genomic DNA; PCR amplification; extraction method;

【中文摘要】实验用优化煮沸法提取鸡血液基因组DNA,经核酸蛋白定量仪检测,DNA的OD260/OD280达1.77±0.06,证明所提DNA质量较好,用于PCR扩增,可以得到满意的扩增效果。与酚-氯仿法相比,优化煮沸法避免了用氯仿、酚等剧毒试剂,且节约了时间和成本,是一种较好的提取基因组DNA的方法。

【英文摘要】The optimized cooking extraction method was used in this study to extract gallus genomic DNA.OD260 /OD280 was up to 1.77±0.06 by the SmartspecTMplus test.The result showed that the quality of DNA extracted by the optimized cooking extraction method was very good,clear and bright fragments were detected through PCR amplification.Compared with the Phenol-chloroform extraction method,The optimized cooking extraction method is free from chloroform,phenol and other toxic reagents,and saves time and costs,hence a good method for extracting genomic DNA.
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【题目】鸡白细胞介素-1β基因内含子1、2多态与部分免疫性状的相关性分析.
【中文关键词】白细胞介素-1β基因; 单核苷酸多态性; 免疫性状; 鸡;
【英文关键词】IL-1β gene; SNP; immune traits; chicken;
【中文摘要】【目的】以白细胞介素-1β(Interleukin-1β,IL-1β)基因为候选基因,研究其单核苷酸多态性(single nucleotide polymorphism,SNP),及其与部分免疫性状的关系。【方法】根据红色原鸡IL-1β基因序列设计引物一对,利用PCR-SSCP方法检测了如皋鸡、文昌鸡以及安卡鸡IL-1β基因内含子1、2的SNP,同时检测了56日龄的血清IL-1浓度、异嗜性粒细胞/淋巴细胞(heterophil/lymphocyte,H/L)值、绵羊红细胞(sheep red blood cell,SRBC)抗体滴度、新城疫(newcastle disease,ND)抗体滴度、禽流感(avian influenza,AI)抗体滴度5个免疫性状,并进一步分析了SNP位点与免疫性状的关系。【结果】共检测出6个SNP位点,分别为T107G突变、T130A突变、C143T突变、A208C突变、T241G突变及T274C突变。经关联分析,发现107、208、241及274位点存在显著的基因型效应(P<0.05或P<0.01),基因型组合对H/L值及ND抗体滴度两个性状上存在显著效应(P<0.05)。【结论】241位点突变型个体3个免疫性状均优于野生型,有望在鸡的抗病育种中筛选为新的标记位点。利用基因型组合选择效果优于对单个位点的选择。
【英文摘要】【Objective】 The SNPs of IL-1β gene and their correlations with some immune traits were tested. 【Method】 A pair of primers were designed as the sequence of IL-1β of red jungle fowls,and the SNPs of intron 1 and 2 of IL-1β gene in Rugao Chicken(RG),Wenchang Chicken(WC),and Anka Chicken(AK) were detected using PCR-SSCP. Meanwhile,concentration of IL-1,H/L value,SRBC antibody titer,ND antibody titer and AI antibody titer were detected at 56 days of age. Then,the correlation between SNP sites and immune traits were analyzed. 【Results】 Totally 6 SNP sites were detected at T107G,T130A,C143T,A208C,T241G and T274C. Furthermore,the mutation at 107,208,241 and 274 sites were found association with immune traits (P <0.05 or P<0.01),and some genotype combinations significantly affected H/L value and ND antibody titer (P<0.05). 【Conclusion】 The mutation at 241 site may be selected as a new candidate mark in disease resistance breeding because of its better performance in three immune traits than that of wild type chickens. Selecting breeder chickens by genotype combinations had more effect than by single genotype of SNPs.
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【题目】苏禽黄鸡2号选育
【中文关键词】肉鸡; 品种; 选育; 生产性能; 苏禽黄鸡2号;
【英文关键词】无
【中文摘要】苏禽黄鸡2号为三系配套系,各系遗传性能稳定,是通过9个以上世代的系统选育,培育而成的快速型优质肉鸡配套系,种鸡产蛋性能较好。商品代鸡黄羽、黄脚、黄皮肤,56日龄平均体重2059.5克,饲料转化比2.15:1,成活率98.33%,屠宰率91.55%,具有品质好、生长快、饲料报酬高、整齐度好等显著优点。于2009年10月通过国家畜禽遗传资源委员会审定。

【英文摘要】无
【语种】中文
【第一作者】王克华
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【题目】利用实时荧光定量RT-PCR检测鸡A-FABP和H-FABP基因的差异表达
【中文关键词】荧光定量逆转录PCR; A-FABP基因; H-FABP基因; 相对定量; 鸡;
【英文关键词】FQ-RT-PCR; A-FABP gene; H-FABP gene; relative quantification; chicken;
【中文摘要】依据鸡A-FABP和H-FABP基因及参照基因GAPDH序列设计引物,以鸡心肌、胸肌和腿肌、肝脏和腹脂总RNA逆转录合成的cDNA为模板,GAPDH基因为参照基因,应用SYBRGreenI实时荧光定量PCR检测如皋黄鸡和安卡红鸡A-FABP和H-FABP基因的差异表达。结果表明:A-FABP、H-FABP基因和参照基因GAPDH基因融解曲线为单峰,无杂峰及二聚体,其扩增效率分别为99.7%、99.8%和100.0%。如皋黄鸡H-FABP基因在心肌、胸肌和腿肌的差异表达量分别是安卡红鸡的0.0860、0.0680倍和0.0580倍(P<0.05)。H-FABP基因mRNA表达量与肌内脂肪含量呈显著负相关。如皋黄鸡A-FABP基因在腹脂和肝脏的表达量分别是安卡红鸡的15.9640倍和10.9640倍(P<0.05),而在心肌、胸肌和腿肌的表达量差异不显著。

【英文摘要】The relative expression in heart and adipocyte fatty acid-binding protein(H-FABP and A-FABP) genes was detected using real time quantitative RT-PCR in Rugao and Anka chicken.The primers were designed according to the sequences of H-FABP,A-FABP and GAPDH gene.GAPDH gene was the internal reference gene.The cDNA fragment was amplified from leg muscle,breast muscle,cardiac muscle,liver and abdominal fat mRNA;H-FABP,A-FABP and GAPDH gene expression was detected using SYBR Green I real-time fluorescent quantity PCR.Melting curve analysis showed a single peak of H-FABP,A-FABP gene and GAPDH gene.PCR efficiency of H-FABP,A-FABP and GAPDH was 99.7%,99.8% and 100.0% respectively.The relative H-FABP mRNA level(ratio of Anka to Rugao) in cardiac muscle was 0.0860,0.0680 and 0.0580,significantly higher than that of the other tissues(P < 0.01).H-FABP mRNA expression level was significantly negative correlation with IMF contents.The relative A-FABP mRNA level(ratio of Anka toRugao) in abdomen fat and liver was 15.9640 and 10.9640,significantly higher than that of the other tissues(P < 0.01).The relative A-FABP mRNA level in abdomen fat was higher than that of Liver.There were no significant differences between leg muscle,breast muscle and cardiac muscle of relative A-FABP mRNA levels.
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【题目】番鸭A-FABP基因部分序列多态性与屠宰、肉质性状和血清甘油三酯含量关系
【中文关键词】番鸭; A-FABP基因; SSCP; 性状; 肌内脂肪; 甘油三酯;
【英文关键词】muscovy; A-FABP gene; SSCP; trait; intramuscular fat; serum triglyceride;
【中文摘要】根据家鸭A-FABPmRNA序列和鸡A-FABP基因组序列设计1对引物扩增番鸭A-FABP基因内含子1序列。同时根据扩增产物设计5对引物,利用PCR-SSCP对番鸭A-FABP基因部分进行多态性研究及多态性与部分屠宰性状、肉质性状、胸肌肌内脂肪含量和血清甘油三酯含量关系。结果显示,克隆序列包含番鸭A-FABP基因外显子1、2部分序列和完整的内含子1序列,与家鸭和鸡A-FABP基因内含子1分别有序列94.43%和72.95%的同源性;经SSCP检测,在引物P3扩增片段上发现2处碱基突变:分别为1074处T-G和1089处A-C突变,这2处突变产生3种基因型AA、BB和AB型,χ2检验显示番鸭群体符合Hardy-Weinberg平衡(P>0.05)。最小二乘分析显示,AA、AB型个体在胸肌率、肌肉pH值以及胸肌肌内脂肪含量均存在显著性差异(P<0.05)。结果表明,番鸭A-FABP基因内含子1多态性可能对个体生产性能产生重要的影响。 更多还原

【英文摘要】A pair of primers P-in1 were designed according to the sequences of adipocyte fatty acid-binding protein (A-FABP) gene mRNA in duck and A-FABP gene in chicken to amplify muscovy A-FABP intron-1,then 5 pairs of primers were designed according to the cloned gene.The SNPs were detected by technique of PCR-SSCP,confirmed by sequencing,then studied the association of polymorphisms of A-FABP gene with the slaughter trait,meat quality trait and content of intramuscular fat and serum triglyceride.The results indicated that the product of primer P-in1 included partial exon-1,exon-2 and complete intron-1 after cloned and sequenced and homologous comparison with muscovy and duck,chicken A-FABP gene,was 94.43% and 75.1%.T-G at 1 074 and A-C at 1 089 nucleotide mutation were found in the products of primer P3,which resulted in 3 genotypes and the results of Chi-Square test showed that the groups was fit with the Hardy-Weinberg equilibrium (P>0.05).The least square analysis showed that there was significant difference (P<0.05) between AA and AB genotype birds in percentage of breast muscle,pH value and IMF.The results suggested that the polymorphisms of intron 1 of A-FABP gene have a certain effect on performance trait.

【语种】中文

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【题目】鸭脂肪型脂肪酸结合蛋白基因(A-FABP)内含子1序列多态性分析

【中文关键词】鸭; 脂肪型脂肪酸结合蛋白基因; 克隆; SSCP;

【英文关键词】Duck; Adipocyte fatty acid-binding protein gene(A-FABP); Clone; SSCP;

【中文摘要】根据鸭A-FABP mRNA序列和鸡A-FABP基因组序列设计1对引物扩增出鸭脂肪型脂肪酸结合蛋白基因(A-FABP)内含子1序列(GenBank登录号:FJ536257),并根据扩增产物设计4对引物,利用PCR-SSCP对鸭A-FABP基因部分序列进行SNP检测,且对不同鸭群体进行群体遗传学分析。结果表明:克隆序列包含鸭A-FABP基因外显子1、2部分序列和完整的内含子1序列,与鸡A-FABP基因内含子1同源性为75.1%;经SSCP检测,发现引物P1扩增片段有3处碱基突变,引物P3扩增片段有6处碱基突变,这些突变分别产生了3种和8种基因型。在P1位点樱桃谷鸭和苏牧麻鸭偏离了Hardy-Weinberg平衡(P<0.01),金定鸭基因型分布符合Hardy-Weinberg平衡(P>0.05),在P3位点3个群体均符合Hardy-Weinberg平衡(P>0.05)。同时,这些基因型在不同鸭群体中分布存在显著或极显著差异(P<0.05或P<0.01)。群体遗传学分析结果显示A-FABP基因在不同鸭群体中具有丰富的单核苷酸多态性,可以进一步作为候选基因来分析其与脂肪性状相关性。

【英文摘要】In this research the intron-1 sequence of adipocyte fatty acid-binding protein gene(A-FABP) was cloned(GenBank accession No.FJ536257) by a pair of primers P-in1,designed according to the sequences of A-FABP mRNA in duck and A-FABP gene in chicken,then four pairs of primers were designed according to the amplification product.The intron-1 of A-FABP gene SNPs were detected by technique of PCR-SSCP,confirmed by sequencing and to study the genetic discrepancy in different groups.The results indicated that the product amplificatory by P-in1 included partial exon-1,exon-2 and complete intron-1 after cloned and sequenced.Homologous comparison was done between duck and chicken intron-1 of A-FABP gene,the homology was 75.1%.Three and six nucleotide mutations were found in the products of primer P1 and P3,and three and eight genotypes were detected,respectively.And the distribution of the genotypes were significant difference or extremely significant difference in various groups(P<0.05 or P<0.01).The results of Chi-square test showed that Cherry Valley duck and Sumu duck deviated from the Hardy-Weinberg equilibrium(P<0.01) except Jingding duck in P1 locus,but all of the three groups fit with it in P3 locus(P>0.05).Genetic analysis showed that there is a high level of polymorphism in different duck groups,can be used as a candidate gene to analysis the correlation between polymorphism and fat traits in duck

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【学科分类】畜牧学

【题目】鸭A-FABP基因内含子1多态性与肌内脂肪和血清甘油三酯含量相关研究
【中文关键词】鸭; A-FABP基因; 克隆; SSCP; 肌内脂肪; 血清甘油三酯;
【英文关键词】duck; A-FABP gene; clone; SSCP; intramuscular fat; serum Triglyceride;
【中文摘要】本研究旨在探讨鸭脂肪型脂肪酸结合蛋白(Adipocyte Fatty Acid-Binding Protein,A-FABP)基因部分序列多态与鸭肌内脂肪和血清甘油三酯含量关系。根据鸭A-FABPmRNA序列和鸡A-FABP基因组序列设计1对引物扩增鸭A-FABP基因内含子1序列。同时根据扩增产物设计4对引物,利用PCR-SSCP对鸭A-FABP基因部分序列进行多态性研究并探究序列多态性与鸭肌内脂肪和血清甘油三酯含量的关系。结果表明:克隆序列包含鸭A-FABP基因外显子1、2部分序列和完整的内含子1序列,与鸡A-FABP基因内含子1同源性为75.1%;经SS-CP检测,发现引物P1扩增片段有3处碱基突变,引物P3有6处碱基突变,这些突变分别产生了3种和8种基因型。在P1位点樱桃谷鸭和苏牧麻鸭偏离了Hardy-Weinberg平衡(P<0.01),金定鸭基因型分布符合Hardy-Weinberg平衡(P>0.05),在P3位点3个群体均符合Hardy-Weinberg平衡(P>0.05)。同时,这些基因型在不同群体中分布存在显著或极显著差异(P<0.05或P<0.01)。最小二乘分析显示,肌内脂肪和血清甘油三酯含量在各群体中有显著差异(P<0.05),P1和P3位点各基因型对肌内脂肪含量无显著影响(P>0.05),仅在P3位点CD基因型个体血清甘油三酯含量显著高于其他基因型个体(P<0.05)。结果提示,鸭A-FABP基因内含子1多态对血清甘油三酯含量有一定影响,但是否影响鸭肌内脂肪沉积,还需进一步研究。
【英文摘要】This experiment was conducted to study the association of the polymorphism of partial Adipocyte Fatty Acid-Binding Protein(A-FABP) gene with the content of intramuscular fat and serum Triglyceride in ducks.A pair of primers P-in1 was designed according to the sequences of A-FABP gene mRNA in duck and A-FABP gene in chicken to amplify duck intron-1 of A-FABP gene,then 4 pairs of primers were designed according to the cloned gene.The SNPs were detected by PCR-SSCP,confirmed by sequencing,then the association of polymorphism of A-FABP gene with the content of intramuscular fat and serum Triglyceride was studied.The results indicated that the product by P-in1 included partial exon-1,exon-2 and complete intron-1 of A-FABP gene after clone and sequence,and homologous comparison was done between duck and chicken A-FABP gene,which showed the homology was 75.1%.Three and six nucleotide mutations were found in the products by primer P1 and P3,respectively,which resulted in three and eight genotypes,respectively.The results of Chi-Square test showed that Cherry Valley duck and Sumu duck deviated from the Hardy-Weinberg equilibrium(P<0.01) except Jingding duck in P1 locus,and all of the three groups fit with it in P3 locus(P>0.05),while the distribution of them was different in various groups(P<0.05 or P<0.01) at the same time.The least square analysis showed that the content of IMF and TG were significant difference in different groups(P<0.05),but the content of IMF had no significant difference between genotypes in P1 and P3(P>0.05),only content of TG had significant difference in various genotypes in P3 and the ducks with CD genotype had higher content of TG than those with other genotypes(P<0.05).These results suggested that polymorphism in intron-1 of A-FABP gene have certain effect on TG content,also indicated that it needs further study to get a conclusion if these SNPs can influence the intramuscular fat trait in duck.
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【题目】白羽番鸭脂联素基因外显子1与肉质、TC和TG的关联分析
【中文关键词】白羽番鸭; 脂联素基因; PCR-SSCP; 关联分析;
【英文关键词】White Muscovy; adiponectin gene; PCR-SSCP; association analysis;
【中文摘要】采用PCR-SSCP法对白羽番鸭脂联素基因外显子1进行SNP检测,并分析SNP对肉质、血清总胆固醇(TC)和甘油三酯(TG)的遗传效应。结果表明,检测到3种基因型(AA、AB和BB)和2个等位基因(A和B),AA和A分别为优势基因型和优势等位基因,序列比对发现在外显子1存在1个SNP位点:A167G,为沉默突变,该位点在白羽番鸭群体中表现为中度多态,处于Hardy-Weinberg平衡状态(P>0.05);最小二乘法分析表明,AA基因型个体的肌内脂肪(IMF)和血清总胆固醇(TC)显著高于BB基因型个体(P<0.05),而失水率则显著低于BB基因型个体(P<0.05)。结果揭示,A167G位点对脂肪沉积、失水率和胆固醇浓度可能有显著的遗传效应。 更多还原

【英文摘要】The 230 bp fragment of adiponectin gene exon 1 of White Muscovy was amplified with the primer designed from Cairina moschata DNA sequence(GQ873067),and its polymorphism was detected by PCR-SSCP method,and then its association with meat quality and serum total cholesterol(TC) and triglyceride(TG) were analyzed.2 alleles(A and B) and 3 genotypes(AA,AB and BB) were observed,in which A and AA were predominant.One SNP(A167G) was found in exon 1 of adiponectin gene,which belonged to silent mutation.The A167G loci belonged to medium polymorphism,and it was in accordance with Hardy-Weinberg equilibrium(P>0.05).The birds of genotype AA had significantly higher IMF and TC than those of genotype BB(P<0.05).The birds of genotype AA had significantly lower percentage of chest muscle loss water than those of genotype BB(P<0.05).The study suggested that the A167G loci has significant genetic effect on fatty deposition,percentage of chest muscle loss water and TC concentration.
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【第一作者】张依裕
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【题目】半番鸭及其亲本生长曲线拟合与杂种优势分析
【中文关键词】生长曲线; 杂种优势; 白羽番鸭; 樱桃谷鸭; 苏牧麻鸭;
【英文关键词】growth curve; heterosis; White Muscovy; Cherry Valley duck; Sumu duck;
【中文摘要】实验测定了樱桃谷鸭、白羽番鸭、苏牧麻鸭、白羽番鸭♂×樱桃谷鸭♀(樱番鸭)、白羽番鸭♂×苏牧麻鸭♀(苏番鸭)早期体重数据,发现樱番鸭杂种优势率为12.8%,苏番鸭为22.04%。用Logistic、Von Bertalanffy和Gompertz3种非线性生长模型拟合其生长曲线,通过比较拟合优度、复相关指数和进行适合性χ2检验,发现Gompertz模型拟合效果最好。比较5组鸭Gompertz模型拟合参数,结果表明:在亲本鸭组中白羽番鸭初始重较樱桃谷鸭和苏牧麻鸭高,初始生长速度、最大周增重较这2个亲本组低,拐点时间也比其晚。2个杂交组最大周增重、成熟速度、极限体重、拐点体重、初始重和拐点时间都有很大提高,存在明显的杂种优势。 更多还原
【英文摘要】The early bodyweight of White Muscovy,Cherry Valley duck,Sumu duck,White Muscovy♂×Cherry Valley duck♀,White Muscovy♂× Sumu duck♀ were measured,and three nonlinear curves of Logistic,Von Bertalanffy and Gompertz model were used to fit the growth curve in this study.The results showed that Gompertz model generated the best effect concerned with goodness of fit(R2),residual sum of squares(E),which the suitability of χ2 test.Further more,the fitting parameters of 5 groups fitted by Gompertz model were compared,which the results indicated that White Muscovy had higher body weight than Cherry Valley duck and Sumu duck,but initial growth rate and weight gain per week were lower than other two groups,and the inflection age was later also.There were high increase in weight gain per week,mature speed,mature weight,inflection point weight,initial weight and inflection age in the two duck crossed groups compared with pure-blood ducks,which had obvious heterosis.
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【题目】白羽番鸭TLR7基因多态性与部分生产性状的关联分析
【中文关键词】TLR7; 片段长度多态; 生产性状; 白羽番鸭;
【英文关键词】无
【中文摘要】以白羽番鸭为研究材料,根据鸭的TLR7基因序列(DQ888644)设计引物,扩增TLR7基因的第1外显子和部分内含子,并分析其多态性对生产性状的遗传效应。结果表明:PCR产物出现片段长度多态,产生AA和AB2种基因型,其中AA型为优势基因型,A为优势等位基因;测序结果显示,在内含子区209位碱基发生C→T突变,在280位碱基之后缺失/插入3个碱基AAT;χ2检验结果表明,该座位处于Hardy-Weinberg平衡状态;AA型个体的体重、半潜水长和胫围极显著高于AB型

(P<0.01),胫长显著高于AB型(P<0.05),其他指标在各基因型间的差异均未达到显著水平(P>0.05),AA型是白羽番鸭生长性状较为有利的基因型。
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【第一作者】张依裕
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【题目】金定鸭LPL基因内含子5多态性对生产性能的影响
【中文关键词】金定鸭; LPL基因; 多态性; 生产性能;
【英文关键词】无
【中文摘要】LPL基因是动物脂肪代谢和沉积以及畜禽肉质研究的重要候选基因。根据鸡的LPL基因组序列和鸭的LPL基因mRNA序列外显子的高度同源区设计1对特异性引物对金定鸭LPL基因内含子5进行扩增,利用PCR-SSCP方法检测单核苷酸多态,并分析其对体重、体尺、屠体和肉质性状的遗传效应,结果表明,所扩增片段大小为347 bp,内含子序列为187 bp,检测到3种基因型:AA、AB和BB,AA为优势基因型,A为优势等位基因,序列比对发现在内含子内存在4个SNP,分别为T243A、A244T、G265A和G269A,遗传杂合度为0.09,属低遗传杂合度,基因型分布符合Hardy-Weinberg平衡;AB基因型个体的半潜水长、胸深、胫长和胫围显著高于AA基因型(P<0.05),其他各基因型在各指标之间的差异均不显著(P>0.05),研究结果提示AB基因型是体尺性状的有利基因型。
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【题目】白羽番鸭生长曲线拟合比较分析
【中文关键词】白羽番鸭; 生长曲线; 体重; 模型; 拟合;
【英文关键词】White Muscovy; growth curve; bodyweight; model; fitting;
【中文摘要】试验测定不同性别法国白羽番鸭早期体重,用Logistic、Von Bertalanffy和Gompertz 3种非线性生长模型拟合其生长曲线。研究结果表明,白羽番鸭公鸭、母鸭4周龄前生长缓慢,后期公鸭生长快于母鸭;通过比较拟合优度(R2)、残差平方和(E)和进行适合性χ2检验结果发现,Gompertz模型拟合效果最佳。进一步比较不同性别Gompertz模型拟合参数,结果发现公鸭与母鸭相比,有较高的初始体重、极限体重、最大周增重和拐点体重,较低的初始生长速度。公鸭拐点周龄为7.03周,较母鸭的5.37周龄晚;公鸭4周龄前相对生长率小于母鸭,4周龄后则超过母鸭,绝对生长率差异较大。 更多还原
【英文摘要】The early bodyweight of White Muscovy with different gender were measured,and three nonlinear curves of Logistic,Von Bertalanffy and Gompertz model were used to fit the growth curve in this study.The results showed that White Muscovy grown slowly before the age of 4 weeks,but the male Muscovy showed higher growth rate than female duck after this stage.The Gompertz model generated the best effect concerned with goodness of fit(R2),residual sum of squares(E),and suitability of χ2 test.Further more,the fitting parameters of Gompertz model between genders were compared,the male Muscovy showed higher initial weight,mature weight,largest weight gain per week and inflection point weight and lower initial growth rate than female Muscovy.The inflection age of male Muscovy was 7.03 weeks and female Muscovy was 5.37 weeks,respectively.The relative growth rate of male Muscovy was lower than female before 4 weeks but higher after 4 weeks and the difference of absolute growth rate was high between genders

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【题目】鸭生长激素(GH)基因编码区及调控区多态性分析
【中文关键词】鸭; 生长激素基因; 单核苷酸多态性
【英文关键词】duck; growth hormone gene; single nucleotide polymorphism
【中文摘要】根据鸭生长激素基因编码区及调控区的序列设计8对引物,利用PCR-SSCP方法对北京鸭、西湖野鸭、樱桃谷鸭、金定鸭、山麻鸭、荆江鸭、绍兴鸭、缙云麻鸭等8个鸭种进行单核苷酸多态性分析。结果共发现3个突变位点,分别为230处(C→G)、244处(C→A)和3 701处(C→T)。前两处突变位于5′调控区,3 701处突变位于编码区第4外显子,但该编码区的突变是沉默突变,3′调控区表现了高度的保守性。统计结果发现:⑴在5′调控区基因座上,金定鸭的等位基因B频率显著高于其他品种;⑵在外显子4基因座上,基因型频率的分布与品种有关,且肉用型鸭的CC基因型频率显著高于蛋用型。可以推测,本研究所检测到的基因座可能与生产性能相关。
【英文摘要】The single nucleotide polymorphism(SNP) of growth hormone gene was investigated in various breeds of duck,including Beijing ducks,Xihu mallards,Cherry Valley Meat ducks,Jinding ducks,Shan Partridge ducks,Jingjiang ducks,Shaoxing ducks and Jinyun Partridge ducks.Eight pairs of primers for coding and regulation regions of GH gene were designed based on the database of duck genomic sequence and the SNPs were detected by PCR-SSCP method.Three SNPs were found among individuals,which were 230(C→G),244(C→A) in 5′-UTR and 3 701(C→T) in exon 4,respectively.However,the mutation at 3 701 was a silence mutation.And the 3′-UTR represented its own high conservativeness.The analysis results showed that: ⑴At locus of 5′-UTR,the frequency of B allele in Jinding ducks was significantly higher than that in other breeds.⑵At locus of exon 4,the frequencies of genotypes in different breeds were significantly different,and the frequency of CC genotype in meat-type ducks were significantly higher than that in laying-type ducks.According to the results above,we can conclude that these SNPs may have relationship with some productive traits of ducks.
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【题目】鸭生长激素基因内含子2、3多态性分析
【中文关键词】鸭; 生长激素基因; 单核苷酸多态性
【英文关键词】duck; growth hormone gene; single nucleotide polymorphism
【中文摘要】根据鸭生长激素基因内含子2、3的序列设计5对引物,利用PCR-SSCP方法对北京鸭、西湖野鸭、金定鸭、山麻鸭、荆江鸭、绍兴鸭等6个鸭品种进行了单核苷酸多态性分析,并检测其多态性。结果共发现8个突变位点,其中内含子2有7个:2593处C-T,2770处G-A,2813处T-A,2829处C-A,2894处C-T,2896处T-C,3100处C-G;内含子3有1个:3270处A-G。统计结果显示,这8个变异位点的基因型频率分布与品种有关,在这些基因座的变异水平上,北京鸭和绍兴鸭表现出了相当的品种保守性,本研究所检测到的这些基因座可能与鸭的生产性能有关。
【英文摘要】The single nucleotide polymorphism (SNP) of growth hormone gene was investigated in various breeds of duck, including Beijing ducks, Xihu mallards, Jinding ducks, Shan Partridge ducks, Jingjiang ducks and Shaoxing ducks. The primers for intron 2 and 3 in GH gene were designed based on the database of duck genomic sequence and the SNPs were detected by PCR-SSCP method. Eight SNPs were found among individuals within a breed, which were 2593(C-T), 2770(G-A), 2813(T-A), 2829(C-A), 2894(C-T), 2896(T-C), and 3100(C-G) in intron 2 and 3270(A-G) in intron 3. The analytic results showed that the frequencies of

genotypes in different breeds were significantly different. Based on these SNPs, Beijing ducks and Shaoxing ducks represented their own unique conservativeness, indicating that these SNPs may have relationship with some productive traits of duck.
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【题目】鸭生长激素基因5-’UTR和3-’UTR多态性分析
【中文关键词】鸭; 生长激素基因; 单核苷酸多态性
【英文关键词】duck; growth hormone gene; single nucleotide polymorphism
【中文摘要】作者根据生长激素基因5’-UTR和3’-UTR的序列设计5对引物,用PCR-SSCP的方法对北京鸭、西湖野鸭、樱桃谷鸭、金定鸭、山麻鸭、荆江鸭、绍兴鸭、缙云麻鸭等8个品种共436个样本进行了单核苷酸多态性分析,并在第1对引物中检测到了多态性。对2种类型的片段纯化测序,结果发现在5’-UTR第230位和244位碱基发生了突变,分别由C突变为G、由C突变为A。但只在金定鸭、荆江鸭、绍兴鸭中发现多态,统计分析结果显示金定鸭的AB基因型频率显著高于荆江鸭和绍兴鸭,且金定鸭A等位基因的频率也显著高于荆江鸭和绍兴鸭。
【英文摘要】The single nucleotide polymorphism(SNP) of GH gene was investigated in various breeds,including beijing ducks,xihu mallards,cherry valley meat ducks,jinding ducks,shan partridge ducks,jingjiang ducks,shaoxing ducks,jinyun partridge ducks.Five primers for 5’-UTR and 3’-UTR of GH gene were designed according the database of duck genomic sequence and the SNPs were detected by PCR-SSCP method.Polymorphism(C/G at 230 and C/A at 244) was only found among individuals within jinding ducks,jingjiang ducks,shaoxing ducks.Population genetics analysis showed that the frequency of AB genotype in jinding ducks was significantly higher than that of jingjiang ducks and shaoxing ducks and the frequency of A allele in jinding ducks was significantly higher than that in jingjiang ducks and shaoxing ducks.
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【题目】The Ecological Compensation of Land Consolidation and Its Evaluation in Hilly Area of Southwest China
【中文关键词】
【英文关键词】land consolidation; ecological compensation; hilly area; ecological environment
【中文摘要】
【英文摘要】Land consolidation is an important action to realize the reasonable disposition of land resource and enhance the land utilization efficiency in China. But as a regional reconstructive activity, there are inevitably directly or indirectly, positive or negative impacts on its regional ecological environment in land consolidation process. To minimize the negative impact of land consolidation, positive practices for ecological compensation was necessary. Taken a land consolidation project in Yujia and Qiaoting village in Wanzhou District of Chongqing as case, the ecological compensation measures and ecological effect was studied in this paper. The result show that compensation practices such as protecting the arable layer, building slope-terrace, taking stone as the raw material for channels, irrigation channel and drainage channel separately in channel design, adopting the mud-gravel road, and building culvert in the intersections of roads and channels can significantly reduce the negative ecological effect in the processes of land consolidation. So, the eco-design in land consolidation project can realize ecological compensation and also achieve the coordinated development of economy, ecology, and society.

【语种】英文
【第一作者】YIN Shuai
【通讯作者】WEI Chao-Fu
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【学科分类】土壤学

【题目】三峡库区生态柑橘园建设的工程技术
【中文关键词】柑橘园; 梯田; 改土; 排水; 灌溉; 三峡库区
【英文关键词】Citrus orchard; Terrace; Soil improvement; Drainage; Irrigation; Three Gorges reservoir area
【中文摘要】从柑橘园建设的梯田工程、改土工程及排灌工程3个方面综合分析了当前三峡库区生态柑橘园建设的工程技术。梯田工程以修筑坡式梯田为主,加强地力提升与水土保持; 改土工程应根据不同土壤条件,旱地、水田采取相应的改土措施; 排灌工程应采用喷灌、微灌等先进灌水方法,以提高柑橘园对水分的利用。
【英文摘要】The engineering technologies of citrus orchard construction in the Three Gorges reservoir area are summarized from three aspects: terrace engineering technology,soil improvement engineering technology,irrigation and drainage engineering technology. Problems on engineering technologies and focus of future researches are put forward: terrace would be considered mainly and reinforce ascend with soil and water conservation need to be studied intensely in terrace engineering technology; according to different soil conditions,corresponding methods are taken into account in soil improvement engineering technology; sprinkler,microspray irrigation or other advanced irrigation methods are employed in irrigation engineering,in order to improve the efficiency of water resources.
【语种】中文
【第一作者】马杰
【通讯作者】魏朝富
【期刊名称、卷期、页码】安徽农业科学 2011,39(26):15885 - 15887,15908
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【学科分类】土壤学

【题目】繁殖群体量及隔离对蚕豆种质遗传完整性的影响
【中文关键词】蚕豆;繁殖更新; AFLP;遗传完整性;种质保存
【英文关键词】Vicia faba L. ; Regeneration; AFLP; Genetic integrity; Germplasm conservation
【中文摘要】为研究繁殖群体量和隔离方式对常异花授粉作物蚕豆种质繁殖更新的影响, 以9 份蚕豆地方种质为对象, 以国家库保存的原种为对照群体, 采用 AFLP 分子标记方法, 对比了50 株和20 株群体量及开放无隔离群体和网棚隔离群体更新后代的遗传完整性差异 结果表明:与对照群体相比, 50 株和20 株群体的多态性位点数 多态位点百分率每位点有效等位基因数 香农指数 遗传多样性指数均出现不同程度下降, 但下降幅度 20 株大于 50 株群体; 遗传相似性和 UPGMA 聚类分析表明50 株群体与对照群体的遗传相似性高于20 株群体;网棚隔离可降低群体间串粉与花粉污染, 但其遗传完整性却较开放无隔离群体低
【英文摘要】The genetic integrity of nine faba bean landraces and their regeneration groups were studied to investigate the effects of sample sizes and isolation methods on the regeneration of faba bean (Vicia faba L.) using AFLP markers.Seeds stored in the national genebank were used as control. The results showed that: compared with those of the control group,the number of polymorphic loci,rcentage of polymorphic loci, effective number of alleles per locus,Shannon index,and genetic diversity index decreased in 50 and 20 plants groups, but the decline was greater in 20 plants group.Genetic similarity analysis and UPGMA cluster results showed that the genetic similarity between control and 50 plants group was higher than that between control and 20 plants group. Cages isolation can reduce pollen contamination, but their genetic integrity was lower than that of the open pollination groups.
【语种】中文
【第一作者】刘 敏
【通讯作者】卢新雄

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【学科分类】农业基础学科

【题目】植物种子衰老与线粒体关系的研究进展
【中文关键词】种子;衰老;线粒体;呼吸作用;抗氧化系统
【英文关键词】Seed; Aging; Mitochondria; Respiration; Antioxidant system
【中文摘要】种子的衰老是一个复杂的从量变到质变的生物学过程 种子衰老与线粒体功能异常密切相关, 衰老的线粒体学说认为, 线粒体中活性氧的过量产生是种子衰老的主要原因 深入了解种子衰老过程中线粒体的变化对于揭示种子衰老机理和种子安全保存具有重要意义 本文主要介绍了当前有关种子衰老过程中线粒体结构 呼吸作用和抗氧化系统的研究现状,并对种子衰老与线粒体关系研究中存在的问题进行了讨论
【英文摘要】Seed aging is a complex biological progress from quantitative change to qualitative change. Seed aging is closely related to the dysfunction of mitochondria. In the view of the “ mitochondria aging theory ” ,the excessive accumulation of ROS in mitochondria is the main reason of seed aging. Understanding the changes takes place in mitochondria during seed aging is important to reveal the mechanism of seed aging and ensure safe conservation of seeds.In this paper,the current process of mitochondrial structure,respiration and antioxidant systems during seed aging were reviewed. Moreover,problems in the study of seed aging and mitochondria were discussed.
【语种】中文
【第一作者】田 茜
【通讯作者】卢新雄
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【学科分类】农业基础学科

【题目】香石竹种质离体保存研究进展
【中文关键词】香石竹;种质;离体保存;超低温保存
【英文关键词】Carnation; Germplasm; in vitro conservation; Cryopreservation
【中文摘要】香石竹是世界四大切花之一, 具有重要的观赏价值 其种质资源主要依靠田间种质圃和离体库进行保存 离体保存包括试管苗保存和超低温保存, 这两种方法作为田间种质圃保存的补充可以分别对种质资源进行短中期和长期保存 本文对香石竹离体保存的相关研究进行了概括总结, 旨在为香石竹种质资源的保存提供参考。
【英文摘要】Carnation is one of the world's four cut flowers with important ornamental value. Its germplasm resources are mainly conserved in field genebanks and in vitro genebanks,which including tissue culture and cryopreservation.As complementary to conservation in field genebanks,in vitro genebanks can conserve the germplasms in short,medium and longterm. In this paper,the related researches in the carnation germplasms in vitro conservation were studied summarily,aims at providing references to carnation germplasm conservation.
【语种】中文
【第一作者】张晓宁
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【题目】Cryopreservation of in vitro-grown apical meristems of Liliumby droplet-vitrification

【中文关键词】百合;离体茎尖;正交设计;小滴玻璃化法;超低温保存
【英文关键词】Apical meristem; Cryopreservation; Droplet-vitrification method; Lily (Lilium L); Orthogonal experimental design
【中文摘要】以西伯利亚百合试管苗离体茎尖为试材,通过正交设计试验和单因素试验对预培养基中蔗糖浓度、预培养时间、装载时间和PVS2处理时间等影响超低温保存存活率的主要因素进行了研究,并对小滴玻璃化法和玻璃化法保存效果的差异进行了分析。结果表明,百合离体茎尖在蔗糖浓度为0.3M的预培养基上预培养2天,装载20~40min,PVS2处理90~120min,获得的存活率和再生率最高,小滴玻璃化法优于玻璃化法。三个百合品种,西伯利亚、卷丹、雪皇后的存活率分别为65.0%,83.8%和43.3%;再生率分别为 62.0%,67.6% 和35.0%。
【英文摘要】In this study, apical meristems from adventitious buds of three lily (Lilium L.) cultivars were successfully cryopreserved by droplet-vitrification. The most effective techniques were as follows. Excised meristems from in vitro plantlets which had been subcultured for about 2 months were cold-hardened at 4 ° C for 1 week, precultured on MS medium supplemented with 0.3 mol L − 1 sucrose for 2 days, osmoprotected in loading solution for 20 – 40 min at room temperature and then soaked in PVS2 solution for 90 – 120 min at 0 ° C, frozen in microdroplets of vitrification solution placed on aluminium foils, which were immersed rapidly in liquid nitrogen. The meristems were then rapidly rewarmed by dilution solution, transferred to regeneration medium and stored in the dark for two weeks at 20 ° C, and then cultured under white fluorescent light at an intensity of 2000 lux, with a 16 h photoperiod at 20 ° C. The highest post-thaw survival percentages of three cultivars ‘ Siberia ’ (Lilium ×siberia), Lilium lancifolium Thunb. and ‘ Snow Queen ’ Lilium×longiflorum were 65.0%, 83.8% and 43.3%, and regenerationpercentages were 62.0%, 67.6% and 35.0%, respectively. The study demonstrated that cryopreservation by droplet-vitrification increased survival and regeneration percentages of certain lily cultivars compared with vitrification. Thus to cryopreserve lily meristems, droplet-vitrification method is preferable to the vitrification method.
【语种】英文
【第一作者】X.-L. Chen
【通讯作者】卢新雄
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【学科分类】农业基础学科

【题目】Effects of different conservation methods on the genetic stability of potato germplasm
【中文关键词】马铃薯;基因库保存;农艺性状;同工酶;SSR标记;遗传稳定性
【英文关键词】Solanum tuberosum, germplasm conservation, agronomic character, isoenzyme, SSR marker, genetic stability
【中文摘要】本文从农艺性状调查、同工酶生化标记和SSR分子标记3个水平对在国家种质克山马铃薯试管苗库和种质圃均保存15年的50份马铃薯种质资源进行了遗传稳定性检测。结果显示,每一份田间种质圃和试管保存材料的农艺性状与原始记录相比都有较大的差异。试管苗在田间种植两年后,其农艺性状与原始记录的相似程度比种植一年有所增加;有10个品种的种质圃和试管苗保存材料之间存在同工酶酶带的差异。SSR分析结果显示50份资源的种质圃和试管苗保存材料之间都存在着遗传差异,遗传相似系数在0.735~0.993之间;有3份资源的田间种质圃和试管保存材料两者没能够首先聚类到一起。试管保存和大田种质圃保存材料在长期保存过程中都有可能使马铃薯资源产生遗传变异。利用试管苗保存种质资源比较方便,而且劳动强度低,有利于快速繁殖和资源交流;利用田间种质圃保存种质资源则费时费力。因此,马铃薯资源保存时,可以以试管苗保存为主,辅助以田间种质圃种植相结合,并在保存过程中定期进行遗传稳定性检测,以最大限度地保持种质资源的遗传完整性。
【英文摘要】A total of 50 potato (Solanum tuberosum L.) varieties were maintained in vitro or under field conditions at Keshan National Genebank (KNG) for 15 years. At the end of the conservation period, a two year field trial was conducted to evaluate the effect of conservation methods on the genetic stability of accessions,using agronomic characters, isoenzyme markers, and DNA molecular markers. None of the 50 varieties maintained under field conditions had completely preserved agronomic characters. Plants kept in vitro dem onstrated still lower level of stability than those conserved under field conditions. Differences in the isoenzyme electrophoresis patterns were found in ten of the varieties tested. The SSR (simple sequence repeat)analysis indicated genetic variation between each variety maintained in vitro and under field conditions and showed the genetic similarity coefficient ranged from 0.735 to 0.993. Three of the accessions maintained in vitro and under field conditions did not cluster together. The results suggest that the genetic stability of varieties maintained under field conditions was higher than those maintained in vitro. Therefore, in order to maintain the genetic integrity of potato germplasm resources, field conservation should be used for long term conservation of potato germplasm

collections, and the genetic stability should be checked regularly.
【语种】英文
【第一作者】J. M. Bai
【通讯作者】卢新雄
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【题目】论植物营养智能化递释系统与精准施肥
【中文关键词】智能化递释系统; 缓/控释肥料; 纳米材料; 精准施肥
【英文关键词】smart delivery system; slow / controlled release fertilizers; nano2materials; p recision fertilization
【中文摘要】化学肥料的增产效应受报酬递减率的制约,随着单位面积施肥量的增加,其投入产出效率和有效利用率将会持续降低,养分流失所引发的水体与面源污染也将愈发突出。因此智能化控释肥料的开发与应用是促进环境友好型、可持续农业发展的重要途径。应用纳米技术,特别是以纳米材料为肥料载体或控释介质构建“植物营养智能化递释系统”,有利于突破智能化肥料发展的关键技术瓶颈。本文基于纳米材料学与纳米药物学的观点,针对植物营养智能化递释系统的构建、养分释放与靶向传输的智能化调控机理、智能化肥料设计与精确施肥等理论问题进行了综合评述与讨论。
【英文摘要】The yield2increasing effect of chemical fertilizers is subjected to the law of diminishingmarginal returns.With increasing amount of fertilization per unit area, its input2output efficiency and nutrients absorbing rate will reduce continually; consequently, cause water body and point source pollution. Thus, the development of chemical ertilizerswith intelligently controlled release function has become one of important app roaches for promoting the development of environment-friendly and sustainable agriculture. The application of nanotechnology has been approved to be promising for developing smart fertilizer by using nano-structured materials as fertilizer carriers or a controlled-releasing media for construction of so2called“ plant nutrients delivery system ”. Based on the point of view of nano-pharmacology, this paper reviewed and discussed the underlying theory of smart fertilizer and precise fertilization based on nanotechnologies, such as the interp retation and construction of plant nutrients delivery system, rhizosphere-targeted delivery of soil nutrients, intelligently controlled release patterns and regulatingmechanism of fertilizer nutrients, parameter design of“ smart ”fertilizers and precision fertilization, etc
【语种】中文
【第一作者】崔海信
【通讯作者】崔海信
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【题目】猪MyD88基因的原核表达
【中文关键词】猪MyD88分子;原核表达;大肠埃希菌
【英文关键词】porcine mydoid differentiation factor 88(pM yD88);prokaryotic expression;Escherichia coli
【中文摘要】:采用PCR方法从pGEM—pMyD88重组质粒中克隆了猪MyD88分子全长基因,构建了无信号肽序列的原核表达载体pET一30a—pMyD88一ED,在不同IPTG浓度和时间下进行诱导表达,利用切胶洗脱法纯化表达的融合蛋白。结果表明,在IPTG诱导浓度为0.05 mmol/L,诱导时间为6 h时表达量达到最大,SDS—PAGE分析表明表达出约35 ku的融合蛋白,主要以包涵体的形式存在;通过切胶纯化后,融合蛋白的纯度可达90%;Western blot分析显示,表达的融合蛋白能被抗His标签的单克隆抗体识别,说明目的蛋白在大肠埃希菌中得到了成功表达。
【英文摘要】Porcine MyD88 molecule fragment(pM yD88一ED)was amplied by PCR method from the pGEM—T—pM yD88 recom binant plasmid,the pM yD88一ED was cloned into pET~30a vector and expressed inEscherichia coli.The recombinant strain was induced in different IPTG concentrations and different time.The results showed that the optimum concentrations of IPTG is 0.05 mmol/L,‘ the optimum time is 6 h.SDS—PAGE analysis showed that the recombinant protein was expressed with a molecular weight of 35 ku and existed mainly in the form of inclusion bodies.The protein was purified by elution methods and the purity reached 90 . The

Western—blot analysis indicated that the hybridization bands is appeared around 35 ku · and it showed that the fusion protein was identified by the monoclonal antibody of HIS label protein,so the target protein was expressed successfully in the Escherich ia coli.
【语种】中文
【第一作者】曾爽
【通讯作者】景志忠
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【学科分类】分子生物学

【题目】茄子甲硫氨酸亚砜还原酶(SmMsrA)基因cDNA 全长的克隆和分析
【中文关键词】茄子;单性结实;甲硫氨酸亚砜还原酶;表达分析
【英文关键词】eggplant;Solanum melongena;parthenocarpy;methionine sulfoxide reductase;
expression analysis
【中文摘要】以茄子单性结实品系D-10 花后7 d 的单性结实果实为试材,并以在茄子单性结实抑制差减文库中差异表达的EST 片段Z569 为基础,利用RACE 技术,获得一个934 bp 的cDNA 全长序列,为甲硫氨酸亚砜还原酶A 基因,命名为SmMsrA。基因编码区共600 bp,编码199 个氨基酸。氨基酸序列分析显示该基因编码的蛋白具有甲硫氨酸亚砜还原酶基因家族结构域和保守基本序列GCFWG,与杨树甲硫氨酸亚砜还原酶A(MsrA)蛋白三级结构相似性较高,为67%。蛋白多序列比对和进化树分析表明,SmMsrA与番茄MsrA 蛋白的同源性最高(92%),进化距离最近。采用荧光定量PCR 对单性结实品系D-10 和非单性结实品系03-2 中不同结实性果实发育过程中SmMsrA 的表达量进行测定,结果表明:在不同结实性的子房和果实发育过程中SmMsrA 基因都有表达,单性结实品系在低温条件下开花当天子房中的SmMsrA的表达量最高。
【英文摘要】Abstract:Using parthenocarpic fruit of eggplant(Solanum melongena)harvested seven days afteranthesis from line D-10 as material,based on the EST Z569 from eggplant parthenocarpic suppressionsubtractive hybridization library,a full cDNA(934 bp)was cloned by rapid amplification of cDNA ends(RACE). The cloned gene was Methionine sulfoxide reductase A(MsrA)gene(SmMsrA),containingan open reading frame(600 bp)and encoding a protein of 199 amino acids. The predicted protein was amember of the peptide methionine sulfoxide reductase(PMSR)superfamily,and contained a conservedsequence GCFWG. The tertiary structure of SmMsrA was similar to the poplar MsrA model(2j89)with asimilarity of 67%. Multiple sequence alignments and phylogenetic tree analyses showed that SmMsrA hadthe highest similarity(92%)with the tomato MsrA(accession number P54153). The expression of SmMsrAwas determined by real-time quantitative RT-PCR during the fruit development of line D-10(parthenocarpic fruits and seeded fruits)and line 03-2(unparthenocarpic fruits and seeded fruits). Theresult showed that the SmMsrA gene was expressed throughout eggplant fruit development in differentcultivars,and in parthenocarpic ovaries the highest expression was at anthesis day and under suboptimaltemperatures.
【语种】中文
【第一作者】张映
【通讯作者】刘富中
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【学科分类】园艺学

【题目】牦牛IFN-β基因在毕赤酵母中的分泌表达
【中文关键词】牦牛;IFN-β 基因;巴斯德毕赤酵母;分泌表达
【英文关键词】yak;IFN-β gene;Pichia pastoris;secretion expression
【中文摘要】用真核表达引物从pGEM-yakIFN-β重组质粒中扩增出牦牛IFN-β 基因,将目的基因和真核表达载体pPIC9K连接转入E.coli的JM109中,得到pPIC9K-yakIFN-β重组表达质粒.通过电击法将经Sal Ⅰ线性化的pPIC9K-yakIFN-β质粒转化到巴斯德毕赤酵母GS115感受态细胞中,采用G418抗性梯度法筛选得到多拷贝重组菌株,利用甲醇诱导表达,分泌表达产物用MTT法检测其生物学活性.经SDS-PAGE电泳分析表明:表达出约22ku大小分泌于胞外的牦牛IFN-β蛋白分子量,比理论值稍大;MTT结果表明:纯化的重组yak-IFN-β蛋白具有促进淋巴细胞增殖的活性.

【英文摘要】The yak IFN-β gene was amplified from pGEM-yakIFN-β with expression primer,the yakIFN-β gene was inserted into the expression vector pPIC9Kand transformed into E.coli.Positive recombinants were selected,sequenced and named pPIC9K-yakIFN-β.It was linearized by Sal Ⅰ,then the linearDNA transformed into Pichia pastoris GS115by electroporation,multi-copy recombinant strains werescreened by G418.The expression of recombinant fusion protein was induced by methanol and bioactivity ofyak IFN-β was measured by MTT assays.The secreted supernatant was tested by SDS-PAGE.The results showed that the secreted yak IFN-β protein was about 22ku and had been expressed successfully in Pichia pastoris through the shake culture respectively.The high-level expression of yak IFN-β in the Pichia pastoriswas observed in the supernantant with a little larger molecular weight than that of natural yak IFN-β.The results of MTT showed that the recombinant yak IFN-β with obvious biological activity.
【语种】中文
【第一作者】王生富
【通讯作者】景志忠
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【学科分类】农学其他学科

【题目】Toll 样受体2、4 对病毒囊膜蛋白的识别
【中文关键词】Toll 样受体;先天性免疫;囊膜蛋白;抗病毒免疫
【英文关键词】TLRs; Innate immunity; Envelope protein; Antiviral immunity
【中文摘要】TLR2、4 是TLRs 家族中重要的成员,通过识别囊膜病毒的PAMPs/DAMPs,活化依赖和非依赖于MyD88 的信号通路,诱导促炎性细胞因子和趋化因子等的释放,介导先天性抗病毒免疫反应。本文就TLR2、4 的基本概况、结构特征、抗病毒信号通路以及对不同囊膜病毒的天然免疫反应等相关研究进展进行简要综述。
【英文摘要】TLR 2 and 4 are impor tant members of the TLRs family, which are utilized by the innateimmune system to recognize viral PAMPs/DAMPs. TLR 2 and 4 play critical roles in initiating innate antiviral immune responses by activating the MyD88 dependent and independent signaling pathway, and leading to induction of proinflammatory cytokines and chemokines. In this review, we focus on the current knowledge of TLR 2 and 4 mediated antiviral innate immune responses to viral infections, including molecular features, antiviral signaling pathway, and antiviral immune responses.
【语种】中文
【第一作者】何小兵
【通讯作者】景志忠
【期刊名称、卷期、页码】免疫学杂志,2011,10,902-908.
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【学科分类】免疫学

【题目】猪IFN-γ和CpG基序双因子重组质粒增强亚洲Ⅰ型口蹄疫灭活病毒抗原免疫水平的研究
【中文关键词】γ干扰素;CpG基序;口蹄疫病毒灭活抗原;免疫佐剂
【英文关键词】Interferon-gamma(IFN-γ);CpG ODN;killed FMDV;adjuvant
【中文摘要】分析CpG基序与猪IFN-γ基因组合的重组表达质粒对口蹄疫灭活抗原的免疫佐剂效应。以亚洲Ⅰ型口蹄疫灭活病毒为抗原,与含有猪IFN-γ基因和CpG基序的重组质粒配伍,采用肌肉注射法免疫小鼠,加强免疫后检测口蹄疫特异性抗体和中和性抗体水平、T淋巴细胞增殖反应、体内细胞毒性T细胞杀伤反应以及细胞因子IL-4、IL-6和IFN-γ的分泌水平。发现猪IFN-γ和CpG基序双因子重组质粒相对单一的因子能诱导更强的体液免疫和细胞免疫反应水平,尤其在中和性抗体和抗原特异性CTL反应方面更为明显。猪IFN-γ和CpG基序在诱导小鼠抵抗亚洲Ⅰ型口蹄疫灭活病毒免疫方面具有良好的佐剂效应,其重组质粒可望成为一种有前途的新型免疫佐剂。
【英文摘要】Abstract:The present experiment was performed to determine whether a recombinant expressionplasmid of IFN-γ and CpG ODN co-administrated with FMD antigen can enhance the immunological response.The mice were vaccinated intramuscularly with the conventional FMD antigen alongwith a recombinant plasmid inserted porcine IFN-γ gene and CpG ODN sequence.Specific antibody and neutralizing antibody of FMDV,lymphocyte proliferation,specific cytotoxic T lymphocyte(CTL)reaction and the

secretory cytokines were detected.Adjuvant effect of the combination compared with CpG ODN alone on the antigen was able to elicit much stronger humoral immunity and cellular immunity in mice vaccinated,especially increase the neutralizing antibody leveland CTL roles.Porcine IFN-γ and CpG ODN can enhance the immunological response against theFDMV antigen in mice,the recombinant plasmid of porcine IFN-γ and CpG ODN is potential to bean alternative adjuvant for the future FMD vaccine.
【语种】中文
【第一作者】赵娜
【通讯作者】景志忠
【期刊名称、卷期、页码】畜牧兽医学报, 2010,10,1281-1289.
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【学科分类】农学其他学科

【题目】猪IL-2基因在毕赤酵母中的高效表达及生物活性分析
【中文关键词】猪IL-2基因;毕赤酵母;活性分析
【英文关键词】porcine interleukine 2gene;Pichia pastoris;bioactivity analysis
【中文摘要】本研究根据密码子偏爱原则设计猪IL-2引物,克隆其基因后构建pPIC9k-IL-2重组表达载体,线性化后电转化毕赤酵母GS115,获得优化密码子的重组酵母转化子;再用G418抗性梯度法筛选得到多拷贝重组菌株,不同条件下进行甲醇诱导表达。结果表明:经PCR鉴定IL-2基因已整合到酵母基因组中。表达产物经SDS-PAGE电泳分析发现相对分子质量为16、20ku两条目的蛋白表达带,脱糖基化分析表明目的蛋白得到了适度的糖基化修饰,Western blotting分析显示表达的蛋白具有良好的免疫反应性,分子筛纯化可以获得纯度为95%的蛋白质,淋巴细胞增殖活性分析表明所得的蛋白质具有促淋巴细胞增殖的活性。毕赤酵母表达系统可以高效地表达具有生物活性的重组猪IL-2蛋白分子。
【英文摘要】A pair of primers was designed to clone IL-2gene according to the codon bias principle and the recombinant expressed vector pPIC9k-IL-2was constructed.The recombinant plasmid was transformed into P.pastoris GS115by electroporation,the positive recombinant strains was screened with different G418concentration and induced with methanol.The result showed that IL-2gene was integrated with chromosome of P.pastoris by PCR identification.The expressed product had a molecular weight of 16and 20kD bands by SDS-PAGE analysis.The result of deglycosylation analysis indicated that the protein was glycosylated moderately.The protein was purified with sephadex column and had a bioactivity of lymphocyte proliferation.The Western blotting analysis showed that target protein had immunological activity.P.pastoris expressed system is an efficient way of production of pIL-2,the expressed product had a good bioactivity
【语种】中文
【第一作者】陈国华
【通讯作者】景志忠
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【题目】Adsorption of avermectins on activated carbon: equilibrium, kinetics, and UV-shielding
【中文关键词】无
【英文关键词】activated carbon; avermectins; adsorption; UV-shielding
【中文摘要】无
【英文摘要】The adsorption of biopesticide avermectins onto activated carbon from ethanol solution with different initial concentrations at 303.15 K was performed. The obtained equilibrium and kinetic data of the adsorption process were assayed to evaluate the adsorption potential of activated carbon for avermectins. The results show that the activated carbon is effective for the adsorption of avermectins. Moreover, the adsorption of avermectins onto activated carbon agrees with Langmuir isotherm model,while pseudo-second-order kinetics model is better fitable for such adsorption process. In addition, activated carbon can efficiently protect adsorbed avermectins from photodegradation.

【语种】英文
【第一作者】顾微
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【期刊名称、卷期、页码】Transactions of nonferrous metals society of China 2009,19:845-850
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【学科分类】材料化学

【题目】Transient Expression of Exogenous Gene into Plant Cell Mediated by PEI Nanovector
【中文关键词】无
【英文关键词】polyethylenimine, gene nanovector, plant cell, transient expression, Arabidopsis thaliana protoplast
【中文摘要】无
【英文摘要】This study was carried out to investigate the transfection effect of exogenous gene into plant protoplast cell mediated by polyethylenimine (PEI) nanovector, based on PEI gene delivery system in the field of medical science. PEI/DNA complexes were prepared by using PEI polymer to bind the plant expression plasmid, pCMl205-GFPn. The ability of PEI combiningand protecting DNA was investigated by agarose gel electrophoresis retardation assay. The surface characteristics of PEI/DNA complexes were observed with transmission electron microscope. The transfection efficiency of Arabidopsis thaliana protoplasts mediated by PEI/DNA complexes at different N/P ratios was analyzed based on observation of transient expression of green fluorescent protein with confocal laser scanning microscope. PEI could bind and condense DNA, and form stable 100-200 nm PEI/DNA complexes when the proportion of PEl and DNA is in the range of 5:1-1:4.Transfection efficiency of PEI/DNA complexes increased with N/P ratios in range of N/P<5 and reached the highest at N/P=5, and began to decrease beyond N/P>5 as higher toxicity to cells. The transfection efficiency of PEI/DNA complexesat N/P=5 was higher than PEG. This study confirmed that PEI nanovector could effectively mediate foreign gene entering into A. thaliana protoplast cell to obtain transient expression, which may be developed as a hopeful and novel transgenic method combined with plant protoplast regeneration.
【语种】英文
【第一作者】李颖
【通讯作者】崔海信
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【学科分类】分子生物学

【题目】纳米Cu2+/TiO2抗菌膜对禽流感病毒(H9N2)的灭活效应
【中文关键词】Cu2 + / TiO2 ; 禽流感病毒(H9N2) ; 光催化;灭活效应
【英文关键词】Cu2 + / TiO2 ; avian influenza (H9 N2) ; photocatalysis ; inactivation eff iciency
【中文摘要】利用病毒滴度测定和MDCK细胞电镜观察法,初步探讨了在365nm 的黑光灯(UV) 照射下,纳米Cu2 + / TiO2 抗菌膜对禽流感病毒(H9N2) 的光催化灭活效应,并分别考察了UV 强度、UV 照射时间以及H9N2 病毒量对H9N2 病毒光催化灭活效应的影响。实验结果表明, 在365nm 黑光灯的照射下, 纳米Cu2 + / TiO2 抗菌膜对H9N2 病毒具有显著的灭活效应,在UV 强度为0. 5mW/ cm2 、UV 照射时间为2. 5h 、病毒量为0. 1ml 时, H9N2 病毒的灭活率达到了100 %。研究结果表明,纳米Cu2 + / TiO2 抗菌膜在抑制禽流感(H9N2) 病毒在环境媒介中的扩散与传播方面有潜在的应用价值。
【英文摘要】Nano2Cu2 + / TiO2 was synthesized through a sol2gel met hod , and it s p hotocatalysis of inactivation efficiency on avian influenza (H9N2) were evaluated under 365nm UV black light . Hemagglutination test s were used to determine t he change of the titer of H9N2 . Microscope was used to observe t he deformation of MDCK cell s. The inactivation efficiencies of nano2Cu2 + / TiO2 sol on H9N2 virus were st udied by adjusting t he UV intensity , t he UV illumination time , and the quantity of H9N2 . The result s show that nano2Cu2 + / TiO2 has a remarkable inactivation on H9N2 virus under 365nm UV irradiation. It s inactivating rate on H9N2 viruses can be reached up to 100 %, when t he UV intensity is 0. 5mW/ cm2 , the quantity of H9N2 is 0. 1ml , and the UV illumi2 nation time is 2. 5h. This suggested t hat t he nano2Cu2 + / TiO2 sol has great potential as a kind of anti2virus agent for preventing Avian Influenza.

【语种】中文
【第一作者】姜建芳
【通讯作者】崔海信
【期刊名称、卷期、页码】功能材料　2009,40(8):1403-1406
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【学科分类】病毒学

【题目】磁性纳米颗粒作为基因载体的研究发展概况
【中文关键词】磁性纳米颗粒;磁性转染;基因治疗
【英文关键词】magnetic nanoparticles; magnetofection; gene therapy
【中文摘要】磁性纳米颗粒作为非病毒基因载体介导的基因转染(即磁性转染)是基因治疗中极具运用前景的技术之一。主要介绍了磁性纳米颗粒的种类和性质,介导基因转染的最新研究进展,在细胞内的定位和动态过程,面临的问题以及将来的发展前景。
【英文摘要】As a nonviral gene vector,the magnetic nanoparticle mediated gene transfection (magnetofection) has been one of the most prospective technology in gene therapy. This paper mainly introduces: (1) the varieties and characteristics of magnetic nanoparticles as gene vector; (2) the recent progress on magneto-fection; (3) the localization and dynamics of magnetic nanoparticles complexes in cell; and (4) present problems and future prospect.
【语种】中文
【第一作者】李瑶
【通讯作者】崔海信
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【学科分类】生物物理学

【题目】纳米TiO2半导体溶胶的光生物学效应
【中文关键词】纳米材料;TiO2;植物病害;防治;光合色素
【英文关键词】nanomaterial;TiO2:Plant disease:Prevention:Photosynthetic Pigments
【中文摘要】通过溶胶一凝胶法制备了纳米TIO:半导体溶胶材料(nan,Tio:semiconductor501,NTSS),并测定了抗菌性能;以黄瓜为研究对象,初步探讨了NTSS在防治植物细菌性/真菌性病害及增加叶片光合色素含量方面的光生物学效应.试验结果表明,溶胶材料中TIO:颗粒的结晶型为锐钦矿型,平均粒径为30.6nm;TIO:溶胶材料可在叶片等固体表面形成连续、稳定的抗菌薄膜,具有很强的光氧化活性,抗菌率达到99.9%;通过人工接种病原菌试验及田间病害调查试验发现,黄瓜喷施一定浓度的NTSS后,可显著降低叶片病斑面积、发病率及病情指数,对黄瓜细菌性角斑病/霜霉病的发生具有抑制效果;测定叶片光合色素含量发现,NTSS对叶绿素(Chi)及类胡萝卜素(Car)的生成具有促进作用.
【英文摘要】Nano-TiO2 semiconductors sol (NTSS)was synthesized through a sol-gel method,and its antibacterial abilities were identified by using bacterial Pathogens of P seudomonos syringae Pv. Lachrymans and Xanthomonasvesicatoria. Taking cucumber plants as experimental objects,the Photobiologieal effeets of NTSS on preventing fromplant bacterial/fungal diseases and promoting eontents of photosynthetic pigments were primarily studied. Results show that crystal species of TiO2 particles synthesized in experiments are inanatase Phase with average size of about30.6nm. NTSS Possesses strong oxidizing power with over 99.9% antibacterial rate by forming eontinuous and stable antibacterial films on surfaces of substance. Lesion areas, disease incidences and disease indexes of leaves can be significantly reduced by spraying NTSS on cucumber leaves: however,content of chlorophyll and carotenoid in leaves can be significantly promoted. It is proved that NTSS can significantly Prevent and control the development and pervasion of bacterial angular leaf spot of cucumber. The experimental results lay an important theoretieal foundation and technical approach for developing and applying of biofuntional nanomaterials in agricultural areas.
【语种】中文
【第一作者】张萍

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【题目】不同施肥处理下双季稻田CH4和N2O排放的全年观测研究
【中文关键词】稻田;CH4; N2O;施肥
【英文关键词】rice field,CH4,N2O,fertilization
【中文摘要】南典型红壤双季稻田为研究对象, 采用静态箱— 气相色谱法对不施肥对照(CK)、常规施化肥(NPK)、新鲜稻草与化肥配施(RS+ NPK1)、菌渣与化肥配施(MR+ NPK1)、新鲜牛粪与化肥配施(CD+NPK2)和沼渣与化肥配施(BD+NPK2)等6个处理的CH4和N2O排放通量进行为期一年的观测(早稻、晚稻和休闲期),研究排放特征与驱动因素。结果表明,不同处理的CH4排放均表现出“ 早稻生长期少,晚稻生长期多,休闲期弱 ”的特点,而N2O排放主要发生在水稻生长期内(78%以上),休闲期内排放较少。NPK的CH4排放比CK增加了35% ,差异不显著(P>0. 05,P是拒绝原假设的犯错概率)。有机无机配施处理中,RS+ NPK1和CD+ NPK2的CH4全年累计排放量分别是MR+ NPK1和BD+NPK2的2.44和2.45倍(P<0.05), 但后者的N2O全年累计排放量分别比前者提高了59%和102%(P>0. 05)。与单施化肥相比,有机无机配施使稻田氮肥N2O—N直接排放系数降低45%~80%。相关环境因素分析表明,水、热变化是驱动稻田CH4排放季节变化的主要因素。本研究未发现水分变化与N2O排放通量之间存在直接联系,而且CH4和N2O在排放时间上不存在消长关系。CH4和N2O的整体温室效应表明,CH4是当地双季稻田的主要温室气体。采用腐熟后的菌渣和沼渣代替新鲜的稻草和牛粪还田可以使稻田CH4排放量降低约60%,CH4和N2O的整体温室效应降低约50%,而稻谷产量保持不变。
【英文摘要】Annual CH4 and N2O emission fluxes were measured from double rice cropping systems under six fertilization treatments by using the method of static chamber-gas chromatograph techniques.The different treatments including non-fertilizer(CK),conventional chemical fertilizers(NPK),fresh rice straw with chemical fertilizers(RS+NPK1),mushroom residue with chemical fertilizers(MR+NPK1),fresh cow dung with chemical fertilizers(CD+NPK2),and biogas digestion with chemical fertilizers(BD+NPK2) were dedicated to this experiment in order to study the characteristics of CH4and N2O emissions and the relationship between gas emission fluxes and related environmental factors.The results showed that,seasonal variation of CH4emission fluxes under different treatments displayed the same trend,which can be described as “ lower in early rice growing period,higher in late rice growing stage,and negligible in the fallow season ”.The majority of N2O emissions(more than 78%)occurred in rice growing periods,and small amounts of N2O emission occurred in the fallow season.Although the annual accumulated CH4emission amount for NPK was increased by 35%compared with CK,the difference between them was not significant at 0.05level.Among different treatments of organic and mineral fertilizers,the annual accumulated CH4emission amount for RS+NPK1was 2.44times more than that for MR+NPK1(P<0.05,Pis the significance level),while the annual N2O emission amount for the latter was 59%higher than that for the former(P>0.05).The annual accumulated CH4emission amount for CD+NPK2was 2.45times more than that for BD+NPK2(P<0.05),but the annual N2O emission amount for the latter increased by 102%compared with CD+NPK2(P>0.05).The fertilizer-induced direct N2O emission factor(E)was reduced by 45%-80%under the treatments of combined application of chemical and organic fertilizers in paddy fields compared to NPK.In this analysis, water status and temperature were main driving factors which affected the seasonal variation of CH4emission fluxes. However,N2O emission fluxes did not have direct relation with water status in double rice paddies and a temporal trade-off relationship between the two gas emission fluxes was not observed in this study.CH4was the dominant greenhouse gas which contributed more than 75%to the integrated global warming potential of CH4and N2O emissions in local double rice fields.By using composted mushroom residue and biogas digestion to substitute for fresh rice straw and cow dung for returning fields,CH4emission and integrated global warming potential of CH4and N2O emissions reduced by approximately 60%and 50%,respectively,and the grain yield will not be affected.
【语种】中文
【第一作者】石生伟
【通讯作者】李玉娥
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【学科分类】农业基础学科

【题目】施肥处理和环境因素对华北平原春玉米田 N2O排放的影响——以山西晋中为例
【中文关键词】施肥处理;环境因素; N2O通量;春玉米田
【英文关键词】Fertilization; Environment factor; N2O flux; Spring corn field
【中文摘要】采用静态箱自动采样监测系统,对生长季内华北平原春玉米田在不同施肥处理下(化肥、有机肥、有机无机配施和不施肥)的土壤N2O排放通量进行监测,分析各处理的土壤N2O排放量和变化规律,探讨土壤温度、水分和有效氮含量对土壤N2O排放通量的影响,并在相同施氮量条件下寻求既能增产又能减少N2O排放的施肥措施。结果表明:不同施肥处理下N2O排放通量存在显著差异(P<0.05),其中施肥处理的农田N2O-N排放总量为0.99~1.17kg.hm-2,占总施氮量的0.45%~0.55%;N2O通量与土壤铵态氮含量呈极显著正相关(P<0.01);土壤含水量是影响农田N2O排放的一个主要因子,N2O通量与土壤含水量呈显著正相关;在产量无显著下降的情况下,有机无机配施的减排效果最好。
【英文摘要】N2O fluxes of sp ring corn fields in North China Plain with different fertilization (mineral fertilizer,manure,combination ofmineral fertilizer and manure, and no fertilizer) were measured using automatic samp ling and analyzing system based on static chambers and gas chromatography (GC) 1N2O emissions from sp ring corn fields with different treatmentswere calculated and the regulations of emission were analyzed1The relationship s between soilN2O fluxes and soil temperature, moisture and available nitrogen content were analyzed1 Fertilization measures which would reduce N2O emission and increase yield under the same level of nitrogen app lication were identified1 Experiment results showed that significant differences (P < 0105) in the N2O flux among different treatments1The totalN2O2N emission offertilized fields ranged from 0199 to 1117kg · ha- 1 , accounting for 0145%~0155% of the app lied N1 There was a significantly positive correlation between N2O flux and soil ammonium nitrogen content (P < 0101) 1 Soilwater contentwas found to be a key factor to regulate N2O emission1There was a significant positive correlation between N2O flux and soil water content1Combination app lication ofmineral fertilizer and manure was the best p ractice to reduce N2O emission without significant yield reduction.
【语种】中文
【第一作者】周鹏
【通讯作者】李玉娥
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【学科分类】农学其他学科

【题目】中国农业领域温室气体主要减排措施研究分析
【中文关键词】农业活动;农村生活;增加碳汇;生物质能源;温室气体减排
【英文关键词】emission reduction; agricultural activity; rural life; increased carbon sinks; biomass energy
【中文摘要】气候变暖已成不争事实, 主要是由于人为温室气体(GHG)排放增加所致,为减缓气候变暖趋势, 各领域迫切需要采取减排措施; 农业是一个重要的GHG排放源,农业领域采取减排措施对于减少我国GHG排放、保护农村生态环境有重要意义。文章在大量阅读前人研究结果的基础上,总结我国农业领域主要的减排管理措施,主要从农业活动、农村生活和生物质能源利用三方面进行阐述,并简要分析各措施的减排效果和存在问题。分析发现,农业活动的水肥管理是农田温室气体减排的研究热点, 但由于地域和管理流程上的差异,对措施的减排效果尚存在争议;农村生活中存在巨大的减排潜力,采取恰当的减排措施不但可以减少GHG排放,还可以改善农村生态状况和环境卫生条件;农村生物质能源有很大发展潜力,合理开发利用,可以有效替代化石能源消耗,缓解能源危机,减少GHG排放,保护生态环境。总之,在农业领域采取积极的减排措施,有助于国家效应对气候变化,降低农业源污染和GHG排放,减轻环境压力, 转换农业发展模式,加速农业现代化,促进农业生产的可持续发展和社会主义新农村建设。
【英文摘要】Climate change, an indisputable fact, is mostly caused by the increased anthropogenic greenhouse gas emissions. In order to slow down the resultant warming, it is urgently necessary to take emission reduction measures in various fields. Agriculture is a major source of GHG emissions. Reduction measures taken in this field are of great importance to the reduced GHG emissions and conserved rural ecology in China. On the basis of a large number of previous studies, this paper reviews selected reduction management measures taken in agricultural China, which are elaborated on from three perspectives: agricultural activities, rural life, and biomass energy use. A brief analysis is made respectively of their strengths and weaknesses. The study finds that water and fertilizer management in agricultural activities is a focus in the research into agricultural GHG reduction. However, due to differences in geography and

management processes, there still exist controversies on the role of such a measure in mitigation. Since rural life promises a huge potential for reduction, a balanced exploitation can contribute to reduced GHG emissions as well as an improved ecological and sanitary conditions. Biomass energies in rural areas suggest a great potential for development. If rightly exploited, they can be used as a very alternative to fossil energy to reduce GHG emissions and protect environment. In summary, smart measures andactions taken in agricultural sector in this regard do help with the national climate change resilience campaign and contribute to the reduced agricultural pollution, mitigated environmental pressure, shifted agricultural development model, accelerated agriculturalmodernization, more sustainable agricultural production and emerging rural lifestyle as envisaged in the so-called new socialist countryside program.
【语种】中文
【第一作者】邹晓霞
【通讯作者】李玉娥
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【题目】秸秆热裂解木醋液成分及其对辣椒生长及品质的影响
【中文关键词】木醋液; 有机成分; 辣椒; 作物生长; 维生素C
【英文关键词】pyroligneous solution; organic components; pepper spice; crop growth; vitamin C
【中文摘要】采用气相色谱- 质谱联用仪分析了木醋液的主要化学成分,并将不同稀释倍数(100、300 和500 倍) 的木醋液对辣椒进行叶面喷施温室试验,以清水为对照,考察木醋液对辣椒生长及品质的影响。结果表明: 木醋液是一种成分复杂的液态混合物,主要含有酚类和烯- 酮类等物质。叶面喷施木醋液能提高辣椒的株高、产量以及果实中维生素C 含量。其中稀释300 倍的木醋液叶面喷施对增加辣椒株高及维生素C 含量效果最好,而喷施稀释500 倍的木醋液对辣椒增产效果最好,表明木醋液含有植物生长促进物质,具有开发为农用叶面喷施制剂的应用潜力。
【英文摘要】Organic components of pyroligneous solution(PLS) from straw pyrolysis was analyzed using GC-MS. A greenhouse experiment was conducted on the effect on yield and vitamin C content of pepper spice. The results showed that PLS solution was a mixture containing mainly ethylene,phenolic and ketones groups. Spraying of diluted solution of PLS increased height,yield and vitamin C content of pepper compared to those of water. Dilution at 300 times seemed to have greatest effect on enhancing plant height and the vitamin C content,but biggest increase in yield of pepper was observed at dilution of 500 times. This study showed that the pyroligneous solution from straw pyrolysis contains components beneficial to plant growth and has the potential to be used as foliar sprayer for crops in agriculture.
【语种】中文
【第一作者】闫钰
【通讯作者】潘根兴
【期刊名称、卷期、页码】南京农业大学学报2011,34(5):58-62
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【学科分类】农学其他学科

【题目】Development and validation of a HPLC method for determination of levonorgestrel and quinestrol in rat plasma.
【中文关键词】无
【英文关键词】HPLC method ,levonorgestrel ,quinestrol , rat plasma
【中文摘要】无
【英文摘要】Levonorgestrel and quinestrol, commonly known as EP-1, has long been used in the control of wild rodents. Up to the present time, however, no method for simultaneous quantification of levonorgestrel and quinestrol in rat plasma has been reported. In the present study, a sensitive reverse-phase high-performance liquid chromatography with ultraviolet detection (RP-HPLC-UV) method for quantification of levonorgestrel and quinestrol in rat plasma has been developed. It uses a Kromasil ODS C(18) column and acetonitrile-0.1% formic acid (85 : 15, v/v) mobile phase at ambient temperature. The plasma sample was prepared by hexane-isoamyl alcohol extraction (90 : 10, v/v). The flow rate and detection wavelength were 1.0 mL/min and 230 nm. The correlation coefficients

were greater than 0.9995 within 0.08-50 microg/mL for levonorgestrel and 0.12-50 microg/mL for quinestrol, and the limits of detection were 0.02 and 0.05 microg/mL for levonorgestrel and quinestrol, respectively. Average recovery ranged from 92.5 to 96.3% and inter-day RSDs were less than 7.56%. This method can be applied to the further pharmacokinetic study of levonorgestrel and quinestrol in rat plasma.

【语种】英文
【第一作者】汤涛
【通讯作者】曹永松
【期刊名称、卷期、页码】Biomedical Chromatogy,. 2010; 24:706-710.
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【学科分类】分子生物学

【题目】Biodegradation and chiral stability of fipronil in aerobic and flooded paddy soils
【中文关键词】无
【英文关键词】Biodegradation; Chiral; HPLC; Fipronil; Soil
【中文摘要】无
【英文摘要】Microbiological degradation of the racemic mixture, the enantiopure R- and S-fipronil was examined under both aerobic and flooded conditions in three Chinese paddysoils. The degradation kinectics and enantiomer fraction (EF) were determined by means of high-performance liquid chromatography (HPLC) with chiral Chiralcel OD-H column, while desulfinyl, sulfone and sulfide derivatives were monitored by reversed phase HPLC with diode array detection (DAD). The degradation/transformation of enantiomers of fipronil in the three live soils under aerobic and flooded conditions generally complied with the first-order kinetics ($R2 \geq 0.94$). The calculated t1/2 values of the enantiomers of fipronil ranged between 21 and 34 days for aerobic incubation experiments and between 8 and 19 days under flooded conditions incubation, respectively. The calculated EF values of fipronil during the incubation time were all close to 0.5, indicating that the degradation/transformation of fipronil was almost nonenantioselective. The main metabolites of fipronil formed in the incubation experiments were sulfone and sulfide derivatives by oxidative and reductive processes, respectively. The oxidative pathway seemed more active. Under flooded conditions, S-fipronil was preferentially degraded in the three soil samples used. The main metabolite was determined as fipronil sulfide. In control experiments, almost no removal of enantiomers of fipronil was observed indicating that the degradation of fipronil in the paddysoil used was attributed to microbial mediated processes under both aerobic and flooded conditions. In addition, no enantiomerization of fipronil was observed in the soil samples examined under both aerobic and flooded conditions. These results for major differences in the degradation of the enantiomers as well as the formation of toxic metabolites may have some implications for better environmental and ecological risks assessment for chiral pesticides.
【语种】英文
【第一作者】谭辉华
【通讯作者】李建强
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【学科分类】环境学

【题目】Antimicrobial Activity Investigation on Wuyiencin Fractions of Different Polarity
【中文关键词】无
【英文关键词】Wuyiencin; antimicrobial activity; Rhodotorula rubra; Bacillus subtilis; Bacillus megaterium; Escherichia coli; Cladosporium fulvum; Staphylococcus aureus
【中文摘要】无
【英文摘要】The aim of this study was to evaluate the antimicrobial activity of Wuyiencin fractions with different polarities against six indicator microorganisms: Rhodotorula rubra, Bacillus subtilis, Bacillus megaterium, Escherichia coli, Cladosporium fulvum and Staphylococcus aureus. The fermentation broth of Wuyiencin was submitted to AB-8 macroporous adsorptive resin and fractionated

with solvents of different polarity. The fraction eluted with water had remarkably antimicrobial activity against all the microorganisms investigated except for C. fulvum and S. aureus (MIC ≤ 0.0625 mg/mL), probably due to the presence of active components. The fraction eluted with methanol showed potential antimicrobial activity against all the test microorganisms except for R.rubra, with MIC values of0.5 and 2 mg/mL. In conclusion, fractions eluted with water and methanol, respectively, represent the main active-part of Wuyiencin, and could be emphasized for agricultural applications in the future.

【语种】英文
【第一作者】陈章科
【通讯作者】佘盖梅
【期刊名称、卷期、页码】Molecules 2010,15(5), 3179-3185
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【学科分类】有机化学

【题目】咪唑啉酮类簇合物的合成及其除草活性
【中文关键词】多位点结合 簇合效应 合成 双甲基咪草烟
【英文关键词】multivalent interactions cluster effect synthesis bis-imazapic
【中文摘要】在生物体系中,二效价配体比单效价配体对受体有更强的亲和力。根据乙酰乳酸合成酶与咪唑啉酮类复合物的3D结构信息特点,设计并合成了8个对称的双甲基咪草烟类化合物,其结构经红外、核磁及元素分析等确证。初步生物活性测定结果表明:咪唑啉酮二效价簇合物对乙酰乳酸合成酶的亲和力没有增加,在100 μg/mL浓度下,对油菜B rassica campestrisL.根长抑制率与单效价化合物相当。

【英文摘要】In biological system, bivalent ligands often possess increased functional affinity for their receptors compared with monovalent ligands. Based on the information of 3D structure of AHAS- imazaquin (IQ) complex, 8 symmetrical bivalent molecules of imazapic were designed and synthesized. Their structures were confirmed by IR, 1H NMR and elementary analysis. The preliminary bioassay results showed that the inhibition rate to the acetohydroxyacid synthase from dimeric compounds were less potent than that of imazapic. And the inhibition rate to the growth of rape (Brassica campestris L.) root from bivalent compounds were very close to that of imazapic at concentration of 100 μg/mL.

【语种】英文
【第一作者】马洪菊
【通讯作者】宁君
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【学科分类】有机化学

【题目】Molecular Mechanism of Plant Growth Promotion and Induced Systemic Resistance to Tobacco Mosaic Virus by Bacillus spp.
【中文关键词】无
【英文关键词】Bacillus spp.;PGPR; Tobacco Mosaic Virus;growth promotion
【中文摘要】无

【英文摘要】Bacillus spp., as a type of plant growth-promoting rhizobacteria (PGPR), were studied with regards promoting plant growth and inducing plant systemic resistance. The results of greenhouse experiments with tobacco plants demonstrated that treatment with the Bacillus spp. significantly enhanced the plant height and fresh weight, while clearly lowering the disease severity rating of the tobacco mosaic virus (TMV) at 28 days post-inoculation (dpi). The TMV accumulation in the young non-inoculated leaves was remarkably lower for all the plants treated with the Bacillus spp. An RT— PCR analysis of the signaling regulatory genes Coil and NPR1, and defense genes PR-1a and PR-1b, in the tobacco treated with the Bacillus spp. revealed an association with enhancing the systemic resistance of tobacco to TMV. A further analysis of two expansin genes that regulate plant cell growth, NtEXP2 and NtEXP6, also verified a concomitant growth promotion in the roots and leaves of the tobacco responding to the Bacillus spp.

【语种】英文
【第一作者】王帅
【通讯作者】高学文
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【学科分类】微生物学

【题目】农业废弃物生物黑炭转化还田作为低碳农业途径的探讨
【中文关键词】生物黑炭; 农业废弃物; 气候变化; 固碳减排
【英文关键词】biochar; agricultural waste; climate change; sequestration /release of carbon
【中文摘要】生物黑炭是有机废弃物转化的稳定性碳物质。国际农业废弃物生物黑炭转化技术研究日益活跃,并正在进行农田增汇减排的试验示范。文章介绍了生物黑炭技术发展的背景,以及生物黑炭技术转化和应用研究的国际动态,讨论了生物黑炭技术在应对气候变化中对农业生产和固碳减排的潜在作用,并分析将其纳入国际碳贸易市场和国内自主减排碳交易市场的可能性。最后,提出我国开展农作物废弃物生物黑炭转化与农业应用研究的建议。
【英文摘要】Biochar is a relatively stable carboncious material converted from organic waste. Currently more and more attention and efforts are being given worldwide to development of technologies of converting agricultural waste into biochar and field experiments are being carried out on effect of its use on expansion of carbon pool in and mitigation of carbon emission from farm fields. A brief introduction is presented to the background of the development of biochar technologies as well as the progresses worldwide in the study on production and application of biochar. Meanwhile discussions are carried out on potential effects of the application of biochar on crop productivity and sequestration /release of carbon in agriculture and hence on climate change,and analyses are done on the possibility of including the use of biochar into the world C trade and the country's independent C emissions trading market. Eventually suggestions are brought forth for research on production and application of biochar in agriculture of the country.
【语种】中文
【第一作者】潘根兴
【通讯作者】潘根兴
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【学科分类】农学其他学科

【题目】南京地区大棚蔬菜生产的碳足迹调查分析
【中文关键词】设施蔬菜;碳足迹;温室气体减排
【英文关键词】greenhouse vegetables; carbon footprint; carbon sequestration and mitigation
【中文摘要】通过对南京郊区5 种夏季大棚设施蔬菜生态系统的物质和管理投入进行现场问卷调查,分析估算了不同设施蔬菜各个生产环节投入的碳成本以及碳排放强度等。结果表明,不同设施蔬菜单季单位面积碳成本介于(867.1±240.6)~(2 039.4±1 163.3)kgCE · hm-2,物质投入碳成本在整个生产投入中占极其重要的份额,其中肥料投入的碳排放最大,占总碳成本的57.96%~82.37%,而农膜投入占11.97%~29.25%;不同设施蔬菜单位面积碳排放、单位产量碳排放及单位产值碳排放存在差异显著。综上,减少生产过程碳排放尤其是物质投入碳排放、提高施肥效益增加蔬菜产量、因地制宜选择蔬菜种植品种是促进蔬菜生产温室气体减排的重要途径。
【英文摘要】A questionnaire survey of material and management inputs in production of five typical kinds of greenhouse vegetables from Nanjing was conducted. Carbon cost and C emission intensity involved in these vegetable production were evaluated using life cycle analysis methodology. Results showed that the total C inputs in a single growing season of the studied 5 types of greenhouse vegetables ranged from (867.1±240.6)kgCE · hm-2 to(2 039.4±1 163.3)kgCE · hm-2. While the material input possessed a poredominant proportion in the total C cost,fertilizers and agricultural films were found in a proportion of 58%~82% and of 12%~29%, respectively. Furthermore, there were significant differences in the C intensity either per hectare or per ton of production between the vegetable types. Above all, reducing C input in the growing of vegetables and better application techniques to improve

nutrient uptake and choosing suitable greenhouse vegetable varieties would be an effective measure to increasing carbon sequestration and mitigation in soil.
【语种】中文
【第一作者】陈琳
【通讯作者】潘根兴
【期刊名称、卷期、页码】农业环境科学学报2011,30(9):1791-1796
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【学科分类】农学其他学科

【题目】Plant MetGenMAP数据库分析水稻表达谱芯片数据的方法初探
【中文关键词】水稻;基因芯片;数据分析;Plant MetGenMAP
【英文关键词】rice; DNA microarray; analysis of data sets; Plant MetGenMAP
【中文摘要】基因芯片数据分析是利用基因芯片技术进行各项研究的关键。本文以水稻Affymetrix表达谱芯片的数据为例,利用Plant MetGenMAP数据库,对水稻受病原菌侵染后基因表达量及代谢途径的变化情况进行了初步分析,同时,提供了一种利用Plant MetGenMAP数据库分析水稻基因芯片数据的方法。
【英文摘要】The analysis of DNA microarray data sets is a key step in research with DNA microarray. In this paper, Plant MetGenMAP database was used to be an effectively method for the analysis of the data sets of rice Affymetrix expression array, as well as for the analysis of the changed expressed genes and changed pathways in rice, which was infected by bacterial pathogen.Keywords:rice; DNA microarray; analysis of data sets; Plant MetGenMAP
【语种】中文
【第一作者】刘峙
【通讯作者】齐放军
【期刊名称、卷期、页码】植物保护,2011,37(3):104-108
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【引文索引号】
【学科分类】分子生物学

【题目】秸秆生物黑炭农业应用的固碳减排计量方法学探讨
【中文关键词】生物黑炭;固碳减排;计量方法学
【英文关键词】biochar; carbon sequestration and mitigation; approach for measurement
【中文摘要】秸秆或生活垃圾热裂解转化生物黑炭的产业化技术已经成熟,生物黑炭固碳减排方法学是进行自主碳交易的必备技术依据。基于河南三利新能源有限公司生物黑炭的生产工艺,对秸秆燃烧(基线)和转化生物黑炭以及农业应用(项目)整个系统全生命周期的温室气体的排放量和碳汇清除量进行了评价。采用该方法学,对已经进行的秸秆生物质黑炭的生产和稻田施用的总效应初步估计为秸秆产生净碳汇249~398 kg CO2-e·t-1。可以看出秸秆生物黑炭具有显著的固碳减排效果。
【英文摘要】The industrial technology of straw or domestic waste conversion into biochar by pyrolysis has been mature. The approach of straw biochar amendment for measurement of the carbon sequestration and mitigation provides a theoretical basis for carbon trading. The comparativeeffect of straw burned(basis)and biochar amendment(program)on greenhouse gas emission and carbon sink in relation to agricultural application was evaluated on the basis of the manufacturing process of Sanli New Energy Company, Henan Province, China. Using this method, the overall carbon sink was from 249 kg CO2-e to 398 kg CO2-e per ton of straw, indicating that straw biochar has a substantial effect on carbon sequestration and mitigation.
【语种】中文
【第一作者】张阿凤
【通讯作者】潘根兴
【期刊名称、卷期、页码】农业环境科学学报2011,30(9):1811-1815
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【学科分类】农学其他学科

【题目】试论我国农业和农村有机废弃物生物质碳产业化
【中文关键词】农业废弃物; 生物质碳; 碳化工程技术; 废弃物资源化; 农村能源
【英文关键词】agr icultural w aste; b iom ass carbon; carbon eng ineer ing techno logy; bio waste reuse; rura l energy
【中文摘要】我国农田秸秆和生活垃圾等农业和农村有机废弃物面广量大, 其资源化处理一直没有得到根本性解决。开发高效低耗有机废弃物生物质碳工程转化产业化技术, 以新型碳质产品就近回田回村实现农业循环,而服务于农业生产和农村生活, 可能是农业和农村有机废弃物循环利用并促进农业固碳减排的最佳解决方案。新近已经开发出不同规格和型号的中小型生物质转化工程装备, 可供在农村/集镇就地集中处理秸秆、生活垃圾, 并形成可燃气、生物黑炭等原产品和生物有机肥、炭基新型肥料和调理剂等产业链产品。在农村示范建设的生物质碳化厂, 可以提供农村生活能源, 产出商品有机肥和炭基肥料、调理剂等, 实现低投资、低能耗(生产本身不耗能)、多产品和直接服务于当地农业增产增汇增收、新农村能源建设的新型产业化, 为我国低碳农业和循环农业以及国际农业减排技术竞争提供根本的技术支撑。同时, 有望形成转化装备、转化产品和农村经营模式的一体化技术体系, 向发展中国家输出。
【英文摘要】Vast sources and hug e am ount of b io..w astes from agr iculture and an im al husbandry production and munic ipal disposa l urg e optim al treatm ent for b iomass and nutrient recyc ling. Deve lop ing e fficient and low energy..consum ing b iom ass carbon industry would be a fina l so lution of these b io..w astes and for producing carbon ized products to reuse them in agr iculture and to satisfy munic ipal energy demands in agr iculture production and rural life. Recently, m edium and sm a ll sca le b iom ass carbon production system s have been formu lated to carbon ize b io..w astes from straw and m un icipa l w aste in rura l areas and supply m ultiple products o f energy gas and bio..char and soil am elio rato r, io..pestic ides am ended w ith b io..char and b io..fue.l In particu lar, a b iom ass carbon eng ineering plan t in rural area can prov ide farm erw ith syngas, w hile producing b io..char fo r recyc ling in adjacent crop lands w ith relative low capita l input. Ow ing to the utilization o f in..situ crop straw and reuse o f b io..char as so il am endm ent, such aneng ineer ing plant serves greenhouse gas em ission reduction by avo iding biom ass burning in fie ld and offsetting coa l and e lectr ic ity consum ption, im prov ing agro..production by sav ing N fertilizer and increas ing y ie ld and c lean ing rura l environm ent for proper fa te o f b io..w astes. It is proposed tha t b iom ass ca rbon eng ineering techno logym ay act as a key tool for low carbon agr icu lture and recyc led agr iculture and enhance the capac ity for c lim ate change m itiga tion in agricu lture. Bu ild..up of such ente rprise includ ing production system, mu ltiple ca rbon products production and optimal management system would be a bright pro spect for b iom ass w aste treatment bo th for domestic and international competition in the potential C trading fram ew ork in the future.
【语种】中文
【第一作者】潘根兴
【通讯作者】潘根兴
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【题目】中国芦苇湿地生态系统固碳潜力探讨
【中文关键词】芦苇;生物质能;湿地;生态系统固碳;气候变化
【英文关键词】reed; bioenergy; wetland; carbon sequestration; climate change
【中文摘要】文章介绍了芦苇湿地生态系统在固碳减排和构建高碳汇生态系统中的作用和意义,探讨滩涂芦苇作为能源作物的潜力和相关问题。芦苇作为适合河湖湿地和滩涂湿地生长的湿生植物,具有极高的生物量和土壤碳库储存,可视为高碳汇生态系统。且芦苇为非粮作物,含有丰富的纤维素,具有开发生物质能、生产燃料乙醇的潜力。建议保护、恢复和发展芦苇湿地,并把芦苇的生产列入到国家应对气候变化战略中。
【英文摘要】Reed (Phragmites australis), well grown in aquatic environments of river, lake and tidal wetlands,can be considered as high biomass and bioenergy crop for C-sequestartion ecosystems. This paper described the role of the reed wetlands in developing terretrial ecosystems with high C-sink and potential for CO2 mitigation, discussed the problems of bioenergy production using reed in tidal wetlands and the contribution to the state capacity of terrestrial ecosystem C sink. It was recommended that extension of reed

wetlands should be taken into account in the national strategy of ecosystem carbon sequestration and bio-energy development.
【语种】中文
【第一作者】闫明
【通讯作者】潘根兴
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【学科分类】农学其他学科

【题目】水稻白叶枯病菌hrpF启动子序列调控的绿色荧光蛋白基因表达体系的构建
【中文关键词】水稻白叶枯病菌,hrpF基因,启动子序列,绿色荧光蛋白,表达体系
【英文关键词】Xanthomonas oryzae pv. oryzae,hrpF gene,GFP,expression system
【中文摘要】为了阐明启动子序列对水稻白叶枯病菌效应子基因表达的调控作用及特征,本研究通过融合PCR将报告基因GFP基因置于水稻白叶枯病菌hrpF基因启动子序列的下游,经酶切、PCR鉴定及序列测定,成功构建了受hrpF启动子序列调控的GFP基因转录单元pMF-GFP, 并转入JXO I 菌株中。结果发现构建的hrpF::GFP转录单元,在hrp诱导培养基XOM2上可有效诱导表达,而在NA培养基上不能诱导表达。结果还显示,在大肠杆菌中,中间表达载体phrpF::GFP具有GFP表达活性。
【英文摘要】In order to elucidation the expression characters for effector genes of Xanthomonas oryzae pv. oryzae (Xoo) regulated by the promoter sequence. In this study, the GFP gene was put under the control of the promoter sequence of the Xoo hrpF gene by fusion PCR. A transcription unit pMF-GFP was constructed and confirmed through restriction enzyme digestion, PCR and sequencing, in which the reporter gene of GFP was regulated by promoter sequence of Xoo hrpF gene. Then, the transcription unit hrpF::GFP was transformed to the JXO I strain. The results showed that the transcription unit could efficiently expression in hrp-induced culture medium XOM2, but un-expression in the NA medium. The results also showed that the GFP protein of intermediate vector phrpF::GFP was obviously expressed in Escherichia coli.
【语种】中文
【第一作者】张文蔚
【通讯作者】齐放军
【期刊名称、卷期、页码】农业生物科技导报,2008,10(6):56-59
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【学科分类】分子生物学

【题目】LIM转录因子(OsLIM)参与水稻非寄主抗病性的功能分析
【中文关键词】水稻,LIM转录因子,RNA干扰,非寄主抗病性
【英文关键词】Rice, LIM transcription factor, RNAi, non host resistance
【中文摘要】为了明确LIM转录因子在水稻抗病性的作用及其对抗病信号NO和抗性反应产生的影响,本研究用PCR扩增Oslim基因,将该片段正反向连接到载体pTCK303中,构建了lim基因的RNA干扰载体pTCK303-Oslim,经农杆菌转化水稻并再生转基因植株。结果发现水稻lim基因的沉默,导致水稻NO产生量减少,PAL活性降低,对非寄主菌表现出感病性。这些结果表明:LIM转录因子有可能是水稻非寄主抗病性信号转导途径中的关键组分。LIM转录因子可通过两种方式诱导水稻非寄主抗病性产生,NO介导的PAL合成途径及通过与靶基因启动子直接结合诱导抗性基因表达的途径。
【英文摘要】
【语种】中文
【第一作者】姚沁涛
【通讯作者】齐放军
【期刊名称、卷期、页码】植物保护科技创新与发展,2008年10月,中国农业科学技术出版社,p463-447
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【引文索引号】

【学科分类】分子生物学

【题目】RNAi分析水稻细胞中抗病信号中一氧化氮的合成途径
【中文关键词】水稻,一氧化氮,合成途径,硝酸还原酶
【英文关键词】Rice,nitric oxide, synthase,nitriate reductase
【中文摘要】信号分子一氧化氮(Nitric Oxide; 简称NO)可参与调节植物多种生理代谢过程,尤其是在植物抗病反应中具有重要作用。然而,植物中NO的合成途径一直不清楚。为了明确水稻中抗病信号NO的合成途径,本研究用PCR扩增水稻硝酸还原酶(Nitrate reductase; 简称NR)基因Osnr,将该片段正反向连接到载体pTCK303中,构建了nr基因的RNA干扰载体pTCK303-Osnr,经农杆菌转化水稻细胞。结果发现编码硝酸还原酶基因的沉默,导致水稻细胞诱导产生的NO量显著降低,表明NR是水稻诱导性NO合成的关键酶。而nr基因沉默的水稻细胞经非寄主菌诱导处理,PAL活性显著升高,HR反应也显著增强,表明抗病信号NO不是诱导水稻抗性反应产生的唯一途径,可能还存在其它信号通路(如:H2O2等)诱导水稻抗性反应的产生。
【英文摘要】
【语种】中文
【第一作者】齐放军
【通讯作者】齐放军
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【学科分类】分子生物学

【题目】植物病原细菌III型效应子的双向作用
【中文关键词】植物病原细菌,III型效应子,抑制,诱导
【英文关键词】phytopathogenic bacteria,Type III effector,inhibition,induction,double-direction functions
【中文摘要】病原细菌III型效应子对寄主植物防卫反应的抑制和诱导决定了互作中植物抗(感)病性状。本文概述了植物病原菌III型效应子抑制和诱导寄主植物防卫反应的双向作用,所涉及的抑制和诱导作用主要包括植物过敏反应、植物细胞壁介导的防卫反应以及植物抗病信号介导的抗性反应等。本文还对植物病原菌III型效应子双向作用的研究和应用作了展望。
【英文摘要】Plant disease resistance or susceptibility symptoms are determined by the induction and inhibition of plant defense responses, which are caused by phytopathogenic bacterial type III effectors. In this review, the double-direction functions of type III effectors on the inhibition as well as induction of plant defense responses are summarized. Inhibition and induction function of type III effectors for plant hypersensitive response,plant cell wall-mediated defense responses and plant disease resistance signal transduction are included. Finally, the study and application of the double-direction functions of type III effectors are prospected.
【语种】中文
【第一作者】付月灵
【通讯作者】齐放军
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【学科分类】微生物学

【题目】纳米TiO2光半导体溶胶对植物病原微生物的抗菌性能
【中文关键词】纳米;二氧化钛;植物病原菌;溶胶材料;抗菌性能;抗菌剂
【英文关键词】Nanometer; TiO2; plant bacterial disease; semiconductor sol; antibacterial activity
【中文摘要】鉴于纳米二氧化钛半导体材料在医学、环保领域对细菌、病毒等微生物长效、安全、无残留的成功抑制,本试验探讨纳米二氧化钛半导体材料在植物领域对植物病原微生物的杀灭与抑制作用。通过溶胶凝胶法合成纳米TiO2 半导体溶胶材料,无菌瓷板涂布成膜,黑光照射,统计病原菌存活数、相对抗菌率,鉴定TiO2溶胶的抗菌效果。结果表明,该溶胶的平均粒径为30.6 nm,为锐钛矿型,分散度、稳定度良好,成膜与附着力良好。抗菌鉴定表明,3 次均匀涂布成膜的抗菌瓷板效

果最好,涂布高于3 次,膜易脱落;对在3 次成膜瓷板的相对菌落存活数统计表明,与对照相比,TiO2 溶胶对植物细菌性病原菌具有显著的抗灭与抑制效果,延长照射时间,抗菌能力增强;相对抗菌率表明,延长光照为24 h,相对抗菌率为100%,对各菌种的抗菌率无差异。因此,TiO2 半导体溶胶材料是一种强效的、广谱的新型绿色环保抗菌剂。

【英文摘要】Nanometer TiO2 photosemiconductor, as a safe antibacterial chemical with a long-effect, has been widely applied to medicine and environmental protection. The authors studied the effects of TiO2 sol on plant pathogens.Nano-TiO2 semiconductor sol was prepared referring to the method developed by Itinose, by which a successive and transparent antibacterial membrane was formed on aseptic tiles, Wood's lamp radiation, statistics antibacterial ratios, to detect antibacterial effectiveness. The results show that the nano-TiO2 was anatase, and mean diameter was 30.6 nm, dispersity, stability and adhesive power were good. The antibacterial experiments show that the effect of the three antibacterial membranes is the best; when the antibacterial membrane is above three, it is easy exfoliated; compared with the blank, nano-TiO2 semiconductor sol has excellent antibacterial effect on plant pathogens, and as the time lasts, the antibacterial rate increases. The results of relative antibacterial rate show that when the illumination lasts for 24 h, the relative antibacterial rate reaches 100%, and there is no discrepancy for different strains. So nano-TiO2 semiconductors sol is a potent and broad spectrum antibacterial.

【语种】中文

【第一作者】李玲玲

【通讯作者】崔海信

【期刊名称、卷期、页码】农业工程学报 2008,24(8):223-226

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【引文索引号】20084111634007

【学科分类】生物化学工程

【题目】量子点荧光标记物在生物学中的应用研究进展

【中文关键词】量子点; 荧光光谱; 组织成像; 分子标记

【英文关键词】quantum dots; fluorescence spectrum; tissue imaging; biomolecular

【中文摘要】量子点作为一种新型的荧光标记物近年来已在生物学中获得广泛应用。概述了量子点的主要光学特性及作为荧光材料的优点, 详细介绍了量子点在分子生物学、活体细胞标记、组织成像和环境分析检测等几方面的应用及其最新研究进展, 同时指出了量子点在应用中存在的一些问题及应用前景展望。

【英文摘要】As a streamlined fluorescence material, quantum dots are currently being investigated for use in biology. This paper summarizes the major optical characteristic and the advantage as a fluorescence material of quantum dots, and introduces the application and latest research development of quantum dots in biomolecular, in vivo marker, tissue imaging and environmental monitoring. At the same time, the paper points out some problems and prospect for the application of quantum dots.

【语种】中文

【第一作者】宋瑜

【通讯作者】崔海信

【期刊名称、卷期、页码】功能材料 2008,39(11):507-511

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【引文索引号】

【学科分类】生物物理学

【题目】Chitosan Coated Silica Nanoparticles as a Potential Protein Carrier

【中文关键词】壳聚糖;二氧化硅纳米粒;BSA;载体

【英文关键词】chitosan;silica nanoparticles;BSA;carrier

【中文摘要】通过壳聚糖在二氧化硅纳米粒表面的沉积制备了壳聚糖包覆的二氧化硅(CS@SiO2)。采用BSA 作为模型蛋白,研究了CS@SiO2 作为蛋白载体的可能性。结果表明,CS@SiO2 可有效吸附BSA 且可控释放被吸附的BSA。

【英文摘要】Chitosan(CS)coated silica nanoparticles(CS@SiO2)were prepared by deposition of CS ontosurface of SiO2. Using bovine serum albumin(BSA)as a model protein molecule, the potential of CS@SiO2 as a protein carrier was investigated. It was found that the adsorbed BSA on CS@SiO2 carrier exhibited a controlled release profil.

【语种】英文
【第一作者】顾微
【通讯作者】崔海信
【期刊名称、卷期、页码】纳米加工工艺 2008,5(6):32-35
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【引文索引类型】其他
【引文索引号】
【学科分类】化学其他学科

【题目】Over-expression of Sly-miR156a in tomato results in multiple vegetative and reproductive trait alterations and partial phenocopy of the sft mutant
【中文关键词】no
【英文关键词】Tomato; miR156 ; Plant architecture; Inflorescence structure; Fruit development
【中文摘要】no
【英文摘要】Plant microRNAs (miRNAs) are vital components of the translation control system that regulates plant development and reproduction. The biological function of sly-miR156 was investigated by over-expression in tomato plants. Transgenic tomato plants exhibited a drastically altered phenotype, with reduced height, smaller but more numerous leaves, and smaller fruit. The inflorescences structure of sly-miR156 over-expressing plants phenocopied the sft mutant. The putative targets of sly-miR156 were identified by data base search and included six SQUAMOSA PROMOTER BINDING PROTEIN (SBP)-box transcription factor genes. Their expression patterns were then determined in 35S-miR156a and wild type tomato plants. These target genes, as well as the tomato FLOWERING LOCUS T (FT) ortholog SFT, were significantly down-regulated in sly-miR156 over-expressing plants. These studies reveal novel phenotypes regulated by miR156.
【语种】英文
【第一作者】张晓辉
【通讯作者】叶志彪
【期刊名称、卷期、页码】FEBS Letters585: 435-439
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【引文索引类型】SCI
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【学科分类】园艺学

【题目】内源激素对作物高效用水的调控机理研究进展
【中文关键词】作物;水分利用效率;内源激素;研究进展
【英文关键词】crops; water use efficiency; endogenous hormones; research progress
【中文摘要】内源激素对作物高效用水有重要调控作用。此文系统论述了内源激素对作物高效用水的调控作用和机理,从水分利用效率的内涵、内源激素与作物叶片水平水分利用效率(WUEl)、内源激素与生物量水平的水分利用效率(WUEbm)、产量水平水分利用效率(WUEy)的关系等方面综述了国内外内源激素与高效用水的关系研究进展。在此基础上,提出了激素对作物高效用水调控研究中存在的问题,并探讨了今后的研究发展方向。
【英文摘要】Regulation mechanism of endogenous hormone is of great importance for efficient water use of crops.In this paper, firstly, necessity and importance of further study on regulation mechanism of endogenous hormones for water use efficiency was dissertated, and then research progresses at home and abroad were reviewed including relationship between endogenous hormone and water use efficience in leaf level, between endogenous hormone and water use efficiency in biomass level and between endogenous hormone and water use efficiency in yield level of crops. Based on the research progresses, some problems and controversies in the research field were put forward, and future research trends of endogenous hormone in water use efficiency werediscussed.
【语种】中文
【第一作者】张凤莲
【通讯作者】岳增良
【期刊名称、卷期、页码】中国农学通报. 2011,27(7):6-10
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【引文索引类型】null
【引文索引号】
【学科分类】农学其他学科

【题目】甜瓜高效遗传转化体系的研究
【中文关键词】甜瓜;遗传转化;GUS 染色
【英文关键词】甜瓜;遗传转化;GUS 染色
【中文摘要】目前转基因技术手段已经成功运用于模式植物,在甜瓜上虽然也有报道,但转化体系仍不成熟,转化效率低。本研究中主要利用含GUS报告基因的植物表达载体进行甜瓜遗传转化技术体系的探讨,针对基本培养基、子叶切割方式、侵染时间、共培养时间、移栽方法等进行研究,以建立高效、稳定的甜瓜遗传转化体系,为利用转基因技术改良甜瓜品质和抗性提供参考。
【英文摘要】目前转基因技术手段已经成功运用于模式植物,在甜瓜上虽然也有报道,但转化体系仍不成熟,转化效率低。本研究中主要利用含GUS报告基因的植物表达载体进行甜瓜遗传转化技术体系的探讨,针对基本培养基、子叶切割方式、侵染时间、共培养时间、移栽方法等进行研究,以建立高效、稳定的甜瓜遗传转化体系,为利用转基因技术改良甜瓜品质和抗性提供参考。
【语种】中文
【第一作者】刘丽锋
【通讯作者】叶志彪
【期刊名称、卷期、页码】园艺学报38(增刊):2612
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【引文索引类型】null
【引文索引号】
【学科分类】园艺学

【题目】A regulatory gene induces trichome formation and embryo lethality in tomato
【中文关键词】no
【英文关键词】cell cycle; multicellular trichome
【中文摘要】no
【英文摘要】Trichomes are universal biological structures originating from the aerial epidermis, which serve as an excellent model to study plant differentiation at the cell level. Although the pathway regulating trichome formation in the Rosids has been well characterized, only very recently a few genes were identified for trichome initiation in the Asterids. In this study, we cloned Woolly (Wo), essential for trichome formation in tomato. Transgenic experiments revealed that the woolly phenotype is caused by the mutation in Wo which encodes a homeodomain protein containing a bZIP motif and a START domain. We identified three alleles of Wo and found that each allele contains a missense mutation, which respectively results in an amino acid substitution at the C terminus. Microarray and expression analysis showed that the expression of a B-type cyclin gene, SlCycB2, is possibly regulated by Wo, which also participates in trichome formation. Suppression of Wo or SlCycB2 expression by RNAi decreased the number of type I trichomes, and direct protein-protein interaction was detected between them, implying that both proteins may work together in the regulation of this type of trichome formation. Cytological observation and Wo transcript analysis in the developing seeds showed that embryo development was also correlated with Wo.
【语种】英文
【第一作者】Changxian Yang
【通讯作者】叶志彪
【期刊名称、卷期、页码】PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA 卷: 108 期: 29 页: 11836-11841
【论文发表时间】2011-07-19 00:00:00
【引文索引类型】SCI
【引文索引号】000292876900031
【学科分类】园艺学

【题目】Fine-mapping of the woolly gene controlling multicellular trichome formation and embryonic development in tomato
【中文关键词】no
【英文关键词】TRANSCRIPTION FACTOR; CELL-FATE; LYCOPERSICON-ESCULENTUM; ARABIDOPSIS-THALIANA; GLANDULAR TRICHOMES; MYB GENE; DIFFERENTIATION; RESISTANCE; GL1; DENSITY
【中文摘要】no
【英文摘要】Trichomes are small hairs that originate fromthe epidermal cells of nearly all land plants, and they existin unicellular and multicellular forms. The regulatory pathwayof unicellular trichomes in Arabidopsis is well characterized.However, little is known about the multicellulartrichome formation in tomato (Solanum lycopersicum). Thewoolly (Wo) gene controls multicellular trichome initiationand leads to embryonic lethality when homozygous intomato. To clone and characterize Wo, the gene wasWne-mapped to a DNA fragment of » 200 kb using themap-based cloning strategy. A series of sequence-basedmolecular markers, including simple sequence repeat,sequence characterized ampliWed region, and cleaved ampli-Wed polymorphic sequence were utilized in this study.Analysis of the sequence indicated that this region carries19 putative open reading frames. These results will providenot only the important information for the isolation andcharacterization of Wo but also the starting point for studyingthe regulatory pathway responsible for trichome formationand embryonic lethality in tomato.
【语种】英文
【第一作者】Changxian Yang
【通讯作者】叶志彪
【期刊名称、卷期、页码】THEORETICAL AND APPLIED GENETICS 卷: 123 期: 4 页: 625-633
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【引文索引类型】SCI
【引文索引号】000293139700010
【学科分类】园艺学

【题目】Overexpression of SlGMEs leads to ascorbate accumulation with enhanced oxidative stress, cold, and salt tolerance in tomato
【中文关键词】no
【英文关键词】Ascorbic acid; GDP-Mannose; 3 ',5 '-epimerase; Abiotic stress; Solanum lycopersicum
【中文摘要】no
【英文摘要】GDP-Mannose 3',5'-epimerase (GME; EC 5.1.3.18) catalyses the conversion of GDP-d-mannose to GDP-l-galactose, an important step in the ascorbic acid (AsA) biosynthesis pathway in higher plants. In this study, two members of the GME gene family were isolated from tomato (Solanum lycopersicum). Both SlGME genes encode 376 amino acids and share a 92% similarity with each other. Semi-quantitative RT-PCR indicated that SlGME1 was constantly expressed in various tissues, whereas SlGME2 was differentially expressed in different tissues. Transient expression of fused SlGME1-GFP (green fluorescent protein) and SlGME2-GFP in onion cells revealed the cytoplasmic localisation of the two proteins. Transgenic plants over-expressing SlGME1 and SlGME2 exhibited a significant increase in total ascorbic acid in leaves and red fruits compared with wild-type plants. They also showed enhanced stress tolerance based on less chlorophyll content loss and membrane-lipid peroxidation under methyl viologen (paraquat) stress, higher survival rate under cold stress, and significantly higher seed germination rate, fresh weight, and root length under salt stress. The present study demonstrates that the overexpression of two members of the GME gene family resulted in increased ascorbate accumulation in tomato and improved tolerance to abiotic stresses.
【语种】英文
【第一作者】Chanjuan Zhang
【通讯作者】叶志彪
【期刊名称、卷期、页码】PLANT CELL REPORTS 卷: 30 期: 3 特刊: SI 页: 389-398
【论文发表时间】2011-03-21 00:00:00
【引文索引类型】SCI
【引文索引号】000287202300012
【学科分类】园艺学

【题目】Expression of artificial microRNAs in tomato confers efficient and stable virus resistance in a cell-autonomous manner
【中文关键词】no

【英文关键词】Artificial miRNA; Anti-virus; Cucumber mosaic virus; Tomato; Cell-autonomous; Mixed infection
【中文摘要】no
【英文摘要】Expression of artificial microRNAs (amiRNAs) in plants can target and degrade the invading viral RNA, consequently conferring virus resistance. Two amiRNAs, targeting the coding sequence shared by the 2a and 2b genes and the highly conserved 3' untranslated region (UTR) of Cucumber mosaic virus (CMV), respectively, were generated and introduced into the susceptible tomato. The transgenic tomato plants expressing amiRNAs displayed effective resistance to CMV infection and CMV mixed with non-targeted viruses, including tobacco mosaic virus and tomato yellow leaf curl virus. A series of grafting assays indicate scions originated from the transgenic tomato plant maintain stable resistance to CMV infection after grafted onto a CMV-infected rootstock. However, the grafting assay also suggests that the amiRNA-mediated resistance acts in a cell-autonomous manner and the amiRNA signal cannot be transmitted over long distances through the vascular system. Moreover, transgenic plants expressing amiRNA targeting the 2a and 2b viral genes displayed slightly more effective to repress CMV RNA accumulation than transgenic plants expressing amiRNA targeting the 3' UTR of viral genome did. Our work provides new evidence of the use of amiRNAs as an effective approach to engineer viral resistance in the tomato and possibly in other crops.
【语种】英文
【第一作者】Xiaohui Zhang
【通讯作者】叶志彪
【期刊名称、卷期、页码】TRANSGENIC RESEARCH 卷: 20 期: 3 页: 569-581
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【引文索引号】000290446200012
【学科分类】园艺学

【题目】白叶枯病菌hrpX/hrpG双基因敲除突变体的构建及其特性研究
【中文关键词】水稻白叶枯病菌,hrpG和hrpX,双敲除突变体
【英文关键词】Xanthomonas oryzae pv. oryzae; hrpG gene,hrpX gene, mutant
【中文摘要】本研究基于Xoo中hrpG和hrpX基因的结构特征,构建了hrpG和hrpX双基因敲除载体,利用同源重组双交换得到不能正常产生和分泌效应子的Xoo效应子缺陷型突变体(Xoo△hrpG△hrpX)。该突变体的构建为进一步筛选水稻中应答黄单胞菌效应子的靶基因提供了可能。
【英文摘要】
【语种】中文
【第一作者】刘莉
【通讯作者】齐放军
【期刊名称、卷期、页码】植物保护科技创新与发展,2008年10月,中国农业科学技术出版社,283-284
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【引文索引类型】其他
【引文索引号】
【学科分类】微生物学

【题目】Identification and expression pattern of one stress-responsive NAC gene from Solanum lycopersicum
【中文关键词】no
【英文关键词】Expression profile; SlNAC3; Stress; Tomato; Transcriptional activity
【中文摘要】no
【英文摘要】NAC (for NAM, ATAF1, 2, and CUC2) family genes have been found to play an important role in diversified developmental processes and environmental responses. A new NAC-type transcription factor SlNAC3 was primarily identified and isolated from the cDNA libraries of tomato cultivar Ailsa Craig. It contains three exons and two introns within genomic DNA sequence and encodes a polypeptide of 329 amino acids. A plant-specific and conserved NAC domain is located in the N-terminus of SlNAC3. The protein SlNAC3 is subcellularly localized in the nucleus of onion epidemical cells and it has a transcriptional activation domain in the C-terminal region which shows extremely divergent among NACs. Phylogenetic analysis showed that SlNAC3 belonged to the OsNAC3 subgroup of the NAC protein family. Tissue expression profile analysis revealed that SlNAC3 was expressed mainly in flower, fruit and root. The transcription expression of SlNAC3 was inhibited by salt, drought stress and ABA treatment. These data

demonstrate that SlNAC3 might interact with environmental and endogenous stimuli and probably function when plants response to salt and drought stresses through ABA signaling pathways as a transcriptional activator.
【语种】英文
【第一作者】Han, Qinqin
【通讯作者】叶志彪
【期刊名称、卷期、页码】MOLECULAR BIOLOGY REPORTS 卷: 39 期: 2 页: 1713-1720
【论文发表时间】2012-02-21 00:00:00
【引文索引类型】SCI
【引文索引号】000298751300108
【学科分类】园艺学

【题目】利用热稳定蛋白特异条带鉴别籼粳稻的方法研究
【中文关键词】籼稻;粳稻; 热稳定蛋白; SDS 聚丙烯酰胺凝胶电泳; 蛋白免疫印迹
【英文关键词】Indica rice ; Japonica rice ; heat-stable protein ; SDS-PAGE; Western blotting
【中文摘要】以85份栽培稻为材料, 利用SDS聚丙烯酰胺凝胶电泳和蛋白免疫印迹技术分析籼稻和粳稻热稳定蛋白的表达差异, 探讨利用特异蛋白来建立籼粳稻的鉴别方法。结果表明, 在籼粳稻品种之间存在热稳定蛋白的差异表达,尤其在分子量约 42~ 47kD范围。其中 45.2kD条带 (Band I)和 46.5 kD(Band II)条带为典型粳稻特异蛋白(Os03g0168100)的标志带42.0 kD条带 (Band III)为典型籼稻特异蛋白 (OsI_10172)的标志带。以这 3条带作为鉴别方法, 并与程氏指数法进行比较典型籼稻和粳稻的一致度分别为 80.0 %和 86.4%, 表明热稳定蛋白标志带法在一定程度上可用于鉴别典型的籼稻和粳稻。
【英文摘要】Differential expression of heat-stable proteins in eighty-five cultivated rice(Oryza sativa L .) was an-alyzed by using SDS-PAGE and western blotting , to explore the feasibility of using specific proteins to identify Indi-ca-Japonica rice . The results showed that t- he heat-stable proteins expressed differentially between Indica and Japonica rice , especially in the molecular weight of about 42- 47kD range . Among them, 45.2kD band(Band I) and 46.5kD band(Band II) were marker bands for typical Japonica rice . Both bands matched to Os03g0168100 in NCB I protein databank , 42.0kD band(Band III, matched to OsI_10172) was marker band for typical Indica rice . Eighty-five Indica and Japonica rice varieties were identified based on the expression pattern of these three bands , andthen compared the results with Cheng ’ s index . The concordances were 80.0 % and 86.4 % in typical Indica riceand Japonica rice , respectively . Therefore , the method o f hest-stable protein marker bands can be used foridentifying typical Indica rice and Japonica rice .
【语种】中文
【第一作者】付深造
【通讯作者】卢新雄
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【引文索引号】无
【学科分类】农业基础学科

【题目】干种子高质量总RNA的快速提取方法
【中文关键词】种子;总RNA提取; S DS;异硫氰酸胍; RNA反转录; RT2PCR
【英文关键词】Seed; Total RNA isolati on; SDS; Guanidinium thiocyanate; RNA reverse transcription; RT2PCR
【中文摘要】高效快速提取高质量的种子 RNA是种子分子生物学研究的基础。现有的提取方法难以高效快速地从种子中得到高质量的总 RNA。本试验有机地将改进 SDS法和异硫氰酸胍法相结合 ,采用改进的酸性 S DS提取液、不溶性 PVPP(聚乙烯聚吡咯烷酮)阻止酚类氧化、KAc去除多糖、异丙醇沉淀 RNA,可以高效地从 0101~011g水稻、大豆、蚕豆、芸豆、花生等干种子中提取到高质量总 RNA。此法提取的总RNA,能够满足分子生物学研究的要求可以进行反转录和 RT2PCR反应,用于基因表达研究,并为从具相似成分的其他物种干种子提取总 RNA提供参考方法。
【英文摘要】Extraction of high-quality RNA is the base for seeds molecular biology research. Rapid isolation of high-quality total RNA from dry seeds is difficult by the extraction methods reported previously . In this new protocol, SDS and guanidinium thiocyanate methods were combined for RNA extraction and high-quality of total RNA was obtained in about 3.5h . Extraction at low pH, precipitation of polysaccharides with potassium acetate, usage of phenol blocker polyvinyl polypyrrolidone (PVPP) yielded high-quality RNA from rice, soybean, broad bean, kidney bean and peanut with a small number of samples of 01012011g. The extracted

RNA was suitable for RNA reverse transcription and RT2PCR. This method can provide some references for isolating total RNA from dry seeds of others pecies with similar chemical composition.

【语种】中文
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【题目】SSR标记分析种子老化及繁殖世代对大豆种质遗传完整性的影响
【中文关键词】大豆;种子老化;繁殖世代;SSR;遗传完整性;种质保存
【英文关键词】seed aging;regeneration;SSR;genetic integrity;germplasm conservation
【中文摘要】选取大豆品种中黄18为实验材料。利用60对SSR核心引物对经过不同老化时间处理的群体及其繁殖后代群体进行遗传完整性分析。经过老化处理的群体及其繁殖子代群体与未经老化处理的的对照群体相比,等位基因频率,有效等位基因数都没有显著差异,结果表明经过老化处理的种子及其繁殖群体的等位基因频率变化不大,未经老化处理,发芽率为98%的对照群体(G0-1)与其繁殖一代,繁殖二代群体相比,等为变异数,遗传多样性指数,香农指数和西游等位基因数没有显著差异,且遗传一致度相对较高;而经过老化处理,发芽率低于85%的群体(G0-3和G0-4)及其后代繁殖群体与对照群体相比,等位变异数,遗传多样性指数,香农指数,稀有等位基因数显著或极显著降低,且遗传一致度相对较低。因此,种子老化较繁殖世代对大豆种质群体的遗传结构影响更大。
【英文摘要】In this study ,soybean cultivar Zhonghuang 18 was used as materials,and the genetic integrity of population with different germination percentage and their descendant population was investigated by 60 core SSR primers.the results showed that there was no significance in the allelic frequencies and the effective number of alleles of the aged population and their descendant population compared with the control population ,It indicated that the allelic frequencies of the aged population and their descendant population changed slightly.there was no significant difference in the number of alleles,the index of genetic diversity,Shannon's information index and the number of rare alleles between the control population with the germination percentage of 98% and its first and second descendant population,and the value of genetic identity was relatively high .The number of alleles,the index of genetic diversity,Shannon's information index and the number of rare alleles of the aged population(G0-3 and G0-4)with the germination percentage below 85% and their first and second descendant population were significantly reduced compared with the control,and the value of genetic identity was relatively high.Therefore,seed aging maybe had a great impact of on the genetic composition of the soybean population than regeneration times.
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【题目】AFLP标记分析生活力影响大豆中黄18种质遗传完整性
【中文关键词】大豆; 生活力; 繁殖世代; AFLP; 遗传完整性; 种质保存
【英文关键词】Soybean; Viability; Regeneration; AFLP; Genetic integrity; Germplasm conservation
【中文摘要】以中黄18种子为试验材料,采用不同时间(0、112、154 和196d)老化处理, 获得4个群体G0-1、G0-2、G0-3和G0-4, 其发芽率分别为 98.0%、95.0%、81.0%和 79.0%。将这4个群体进行 2 次田间繁殖,得到4个繁殖一代群体G1-1、G1-2、G1-3 和 G1-4及4个繁殖二代群体 G2-1、G2-2、G2-3 和 G2-4。以群体 G0-1 为对照 选用12对AFLP引物组合分析12 个群体的遗传完整性。结果显示, 所有处理群体与对照群体 G0-1 的等位基因频率t检验概率值均为1.00, 即无显著差异。群体 G2-4 与对照群体 G0-1 的遗传相似系数仍高达 0.9333,表明发芽率为 79.0%群体的繁殖二代群体与对照群体的遗传相似性仍然较高。显著性t检验结果显示,与对照群体 G0-1相比,群体 G1-1、G2-1、G1-2和 G2-2 的每位点有效等位基因数(Ae)、遗

传多样性指数(H)和香农指数(I)差异不显著; 群体 G0-3、G0-4、G1-3、G1-4、G2-3 和 G2-4 的上述遗传多样性参数则显著降低。与对照群体 G0-1 相比,群体 G1-1、G2-1、G1-2 和 G2-2 的稀有等位基因数无显著变化;而群体 G0-3、G0-4、G1-3、G1-4、G2-3 和 G2-4 的稀有等位基因数则大幅下降。以上结果表明,与对照群体相比,由发芽率分别为98.0%和 95.0%的群体更新的子代群体,其群体遗传多样性和稀有等位基因数无显著变化,而由发芽率分别为 81.0%和 79.0%的群体更新的子代群体,则显著下降。因此, 生活力下降比繁殖世代对大豆种质群体的遗传结构影响更大, 建议初始发芽率为 98.0%的大豆种质更新发芽率标准不应低于 81.0%。

【英文摘要】Using low temperature genebank is a main way for conserving crop germplasm resources. However, with the extension of storage time, the viability of seeds stored in the genebank will inevitably decline. Therefore, preserved seeds need to be regenerated periodically. In this study, soybean cultivar Zhonghuang 18 was used as a material and aged for different days (0, 112, 154, and 196 d) to obtain four populations G0-1, G0-2, G0-3, and G0-4. The germination percentages of the four populations were 98.0%, 95.0%, 81.0%, and 79.0%, respectively. These populations were regenerated twice in the field. The first descendant populations were marked as G1-1, G1-2, G1-3, and G1-4, and the second were marked as G2-1, G2-2, G2-3, and G2-4, respectively. Population G0-1 was taken as the control. The genetic variation between the control and treated populations was detected using AFLP marker. Sixty individual seedlings derived from each population were detected by 12 AFLP primer combinations. The result showed that t-test probability values for allele frequencies were 1.00 between the control and treated populations, which indicated that there was no significant difference in the allele frequencies of the treated population compared with the control. The genetic similarity coefficient between population G2-4 and G0-1 was 0.9333, which manifested high genetic similarity between these two populations. The results of t-test showed that there was no significant difference in effective number of alleles per loci (Ae), index of genetic diversity (H), Shannon ’s information index (I) between the control G0-1 and G1-1, G2-1, G1-2, and G2-2. The index values of Ae, H, and I for the populations of G0-3, G0-4, G1-3, G1-4, G2-3, and G2-4 declined significantly compared with those of the control G0-1. The number of rare alleles for the populations G1-1, G2-1, G1-2, and G2-2 did not change significantly compared with that for the control G0-1 while that for populations of G0-3, G0-4, G1-3, G1-4, G2-3, and G2-4 declined greatly. Above resultsshowed that the genetic diversity and the number of rare alleles for the descendant population of the populations with 98.0% and 95.0% germination percentages did not change significantly compared with those for the control G0-1, but declined significantly for the populations with 81.0% and 79.0% germination percentages. Therefore, the viability decline had a greater impact on the genetic composition of soybean population than the regeneration times. It was recommended that soybean seeds with initial germination percentage of 98.0% should be regenerated before its germination percentage declined to 81.0%.

【语种】中文

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【题目】马铃薯茎尖小滴玻璃化法超低温保存及其再生植株的遗传稳定性

【中文关键词】马铃薯;离体茎尖;小滴玻璃化法;超低温保存;遗传稳定性

【英文关键词】potato;In vitro shoot tips;droplet vitrification method;cryopreservation;genetic stability

【中文摘要】以马铃薯试管苗为试材,对其茎尖小滴玻璃化法超低温保存的影响因素进行了研究,并对再生植株进行了遗传稳定性检测。结果表明,马铃薯茎尖依次在含有 0.3mol.L-1和 0.5 mol.L-1蔗糖的液体 MS 培养基中预培养各1d 后,在 0°C下 PVS2 处理 30 min,转到铝箔条上 PVS2 小滴上(约 15 μL),将粘有茎尖的铝箔条在液氮里蘸一下,然后直接装入盛满液氮的冷冻管中,投入液氮至少保持1h。室温下用含有 1.2mol.L-1蔗糖的 MS 液体培养基解冻并洗涤30min 后,接种到 MS + 0.5 mg.L-1 Zeatin + 0.1 mg.L-1 NAA+1.0 mg.L-1 GA3 恢复培养基上,存活率和再生率最高达 79.91%和 62.52%。通过 SSR 分子标记检测,再生植株的遗传稳定性没有发生改变。

【英文摘要】Shoot tips from axillary buds of in vitro potato(Solanum tuberosum L.)were successfully cryopreserved by droplet vitrification. The optimum cryopreservation procedures were as follows. Shoot tips excised from 2 – 3 month old plantlets were precultured on liquid MS medium supplemented with 0.3 mol.L-1 and 0.5 mol.L-1 sucrose for 1 day each and then dehydrated with PVS2 for 30 min at 0 °C. Five shoot tips were transferred to approximately 15 μL droplets of PVS2 solution on thin strips of sterile aluminum foil. The aluminum foil strips were folded to enclose the shoot tips. The foil envelope was then carefully immersed into liquid nitrogen(LN)using fine forceps. After immersion the strips were quickly transferred to 2 mL cryotubes and immediately plunged into

LN and maintained for 1 h at least. The shoot tips in the foil strips were then rapidly heated by immersion twice at 15 min intervals into 10 mL 1.2 mol.L-1 sucrose MS medium at room temperature. The shoot tips were then unloaded from the foil,rinsing the PVS2 from the shoot tips. The shoot tips were transferred to solid culture medium(MS + 0.5 mg.L-1 Zeatin + 0.1 mg.L-1 NAA + 1.0 mg.L-1 GA3)for recovery and regeneration. The average survival rate and regeneration rate were 79.91% and 62.52%,respectively. There was no genetic variation in the regenerated plants based on assessment of SSR markers.

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【题目】超低温保存法去除马铃薯X病毒和马铃薯纺锤块茎类病毒
【中文关键词】马铃薯,PSTVd ,PVX,超低温保存法,茎尖分生组织培养
【英文关键词】Potato Solanum tuberosum L .) , PSTVd ,PVX,Cryopreservation ,Tip meristem culture
【中文摘要】病毒病严重危害马铃薯生产,是造成马铃薯减产和品质下降的主要因素。PVX和 PSTVd属于危 害马铃薯最主要的病毒。本文尝试用超低温保存法和常规方法(茎尖分生组织培养、温热疗法以及温热疗法结合茎尖分生组织培养)来去除马铃薯试管苗中的P STVd和PVX。结果显示马铃薯茎尖经过超低温保存后, 存活率和成苗率分别为 83.64%和 72.04%, 高于茎尖分生组织培养(46.67%和31.49%)、温热疗法(72.22%和 44.44%) 以及温热疗法结合茎尖分生组织培养(50.54%和30.38%) 。4种方法都可以去除 PV X,其中超低温保存法的脱毒率最高, 为59.13%, 温热疗法结合茎尖分生组织培养为 56.02%, 温热疗法和茎尖分生组织培养较低,为 42.61%和 35.83%。但是 4种方法都未能有效地去除 PSTVd类病毒, 只能通过严格检疫来控制。
【英文摘要】Virus disease severely impair for potato production ,are the major factor of poato yield decrease and the quality decline . Pota- to virus X (ievx) and potato spindle tuber viroid(PSTVd)are the main viruses damaging potato.In this study,we tried eliminating PVX and PSTVd from test tube plant let of potato by using cryopreservation and conventional method ,such as tip meristem culture,thermotherapy。 and thermotherapy followed by tip meristem culture.The results showed that the surviva1 rate and regeneration rate of potato shoot tips were 83.64% and 72.04 %,respectively by cryopreservation,all higher than tip meristem culture(46.67% and 31.4 9 %),thermotherapy(72.22 % and 44.44%) and thermotherapy followed by meristem culture(50.54 and 30.38 %) .PVX could be removed by four methods .The highest elimination rate of 59.13 % by cryopreservation method .The elimination rates of thermotherapy followed by tip meristem culture was 56.02%,and that of thermotherapy and tip meristem culture were lower ,42.61% and 35.83% respectively.But PSTVd couldn't be effectively eliminated by four methods and could be controlled by strict quarantine .
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【第一作者】白建明
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【题目】香蕉离体茎尖超低温保存研究
【中文关键词】香蕉;离体茎尖.j、滴玻璃化法;超低温保存;遗传稳定性
【英文关键词】Banana;in vitro shoot—tip;Droplet vitrification method;Cryopreservation;Genetic stability
【中文摘要】以香蕉(Muss spp.)试管苗为试材,对其离体茎尖小滴玻璃化法超低温保存的影响因素进行了研究。小滴玻璃化法和玻璃化法超低温保存后再生率的差异表明,香蕉更适合用小滴玻璃化法进行超低温保存。香蕉小滴玻璃化法超低温保存的方案如下:试管苗在609/L蔗糖的MS培养基上培养1—2个月,剥离带有1—2片叶原基的茎尖,室温下装载30min(可延长至4h),0℃下PVS2处理40一50rain。6个基因型的14个品种的再生率平均为46.9%。通过SSR分子标记检测,再生植株的遗传稳定性没有发生改变。该结果为香蕉种质资源的长期保存提供了理论依据和技术支撑。

【英文摘要】In vitro shoot-tips of banana(Musa spp.)were successfully eryopreserved by droplet vitrification method.The factors affecting the post-thaw regeneration of shoot tips were analyzed.The results showed that the droplet vitrification method was more suitable for cryopreservation of banana in vitro shoot-tips than vitrification method.The optimal procedures were as follows:Shoot—tips with 1 or 2 leaf primordia excised from rooted讥vitro plantlets which were cultured on MS medium supplemented with 60s/L sucrose for 1~2 months.30min loading time could be prolonged up to 4h at room temperature,and the optimal treatment time of PVS2 was 40—50min at 0°C.The average post—thaw regeneration rate was 46.9%of 14 accessions belonging to six different genomic groups of Musa spp.after cryopreservation by droplet vitrification method.There was no variation in the regenerated plantlets on SSR molecular level.
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【第一作者】李俊慧
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【题目】库存和圃存对雀麦属种质遗传完整性的影响
【中文关键词】雀麦属种质;遗传完整性;保存
【英文关键词】Bromus ; Genetic integrity ; Conservation
【中文摘要】利用20条ISSR引物, 对7份雀麦属种质进行遗传完整性检测,每一份种质包括库存和圃存两个供试亚群体。提取方法为混合取样。本试验 7份种质的供试亚群体之间遗传相似性系数除无芒雀麦 3为 0.78之外, 其余均大于 0.80。采用聚类分析除无芒雀麦 3和杂色雀麦出现分支外, 其余种质亚群体分支都按照同一种质群分别聚类。本试验表明雀麦属种质资源在圃存条件下, 经多年保存易发生遗传分化, 从而影响其遗传完整性。
【英文摘要】The genetic integrity of 7 accessions of Bromus stored in genebank of Inner Mongolia investigated by 20 ISSR primers.Each accession was represented by two subpopulations regenerated indifferent conservation.The genetic similarity between the two subpopulations of the same accession was above 0.80, except for 0.78 in Wu mangquemai 3 Cluster analysis based on the similarity coefficient showed that Wumangquemai 3 and Zasequema diverged from each other, falling into two branches, and each one clusterw as created by two subpopulations of the same accessions.The results showed that the Bromus stored outside had much more genetic divergence.
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【通讯作者】卢新雄
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【题目】水稻种子在不同气候区室温贮藏的适宜含水量及存活特性
【中文关键词】水稻; 种子; 室温贮藏; 适宜含水量; 种子生活力; 发芽特性
【英文关键词】rice ; seed ; storage under room temperature ; optimal moisture content ; seed viability ; germination character
【中文摘要】将不同含水量水平的两个水稻品种幸实(粳稻)和桂朝2 号(籼稻)分别贮藏在三亚、 南昌、北京、西宁、乌鲁木齐 和哈尔滨等6 个不同气候类型地区。通过11年的逐年生活力测定,研究了水稻种子室温贮藏的适宜含水量及其存活特性。结果表明,水稻种子经适当干燥后其生活力和活力没有显著下降。但当种子含水量在310 %以下时种子的生活力和活力受到影响。获得了水稻种子在三亚、南昌室温贮藏时(贮藏温度不是恒定的)的适宜含水量,且适宜含水量510 %~615 %具有地域的广适性。相对于其他含水量,适宜含水量种子在贮藏过程中,其生活力快速下降阶段推迟,且适宜含水量上限和极差与贮藏地点年均温和≥ 0 ℃积温呈显著或极显著负相关,且适宜含水量下限与之呈显著或极显著正相关。种子在年均温度相同的西宁和乌鲁木齐的贮藏效果不同,≥0 ℃积温和气候温差波动的差值可能是其主要影响因素。

【英文摘要】Rice seeds of two varieties, Guichao 2 (indica) and Sachiminori (japonica) wit h different levels of moisture content were stored under room temperature at six sites with different types of climatic zones including Sanya, Nanchang,Beijing, Xining, Urumchi and Harbin , respectively. The optimal moisture contents and the survival characteristics were studied through a successive 11year monitoring on viability and vigor of rice seeds. The viability and vigor of dried rice seeds with optimal moisture content were not significantly declined. However, it proved ot herwise when the seed moisture content declined to below 310 %. The optimal moisture content of seeds stored in Sanya and Nanchang at room temperature was obtained. The optimal moisture content of 615 % to 510 % was widely adaptable to the six climatic zones. The phase of rapid decline in viability of seeds with optimal moisture content was delayed compared with other moisture content s. The upper limit and the range of optimal moisture content were negatively correlated with mean annual temperature and accumulated temperature (≥0 ℃) at significant or highly significant levels , and the lower limit was positively correlated with them at significant or highly significant levels. Although with the same mean annual temperature in Xining and Urumchi ,the seed storage results were different . This implied that the accumulated temperature (≥0 ℃) and fluctuation in temperature were probably the major reasons for the difference.
【语种】中文
【第一作者】胡群文
【通讯作者】卢新雄
【期刊名称、卷期、页码】Chin J Rice Sci,2009;23(6):621-627
【论文发表时间】2009-12-01 00:00:00
【引文索引类型】其他
【引文索引号】无
【学科分类】农业基础学科

【题目】甘薯种质超低温保存研究进展
【中文关键词】甘薯 ;种质;超低温保存
【英文关键词】Sweet potato;Germplasm ;Cryopreservation
【中文摘要】甘薯是重要的粮食及经济作物,其种质保存一般采用田间种质圃和离体试管苗保存两种方式。因甘薯的生理特性及这两种保存方式本身存在的弊端,有必要开展新的保存方法研究。超低温保存是目前甘薯种质长期安全保存的最有效方式。本文对甘薯超低温保存的定义、方法及存在的问题和展望进行了论述,并对茎尖玻璃化法进行了详细介绍。
【英文摘要】Sweet potato is an important food and cash crop,whose germplasms were mainly conserved in field genebanks and in vitro genebanks .It is required to develop new technology for long-term conservation of sweet potato germplasm because of its physiological characteristics and inherent drawbacks of the two conservation methods. Currently,cryopreservation is the safest and cost efficient method for germplasm long-term conservation.In this paper ,research progresses on the cryopreservation of sweet potato,such as different kinds of material and its cryopreservation methods,especially eryopreservation of shoot tips using vitrification method and some problems needing more research were introduced.
【语种】中文
【第一作者】刘丽芳
【通讯作者】陈晓玲
【期刊名称、卷期、页码】Journal of Plant Genetic Resources,2009;10(2):324-327
【论文发表时间】2009-04-01 00:00:00
【引文索引类型】其他
【引文索引号】无
【学科分类】农业基础学科

【题目】切花百合离体茎尖玻璃化法超低温保存研究
【中文关键词】切花百合;离体茎尖;正交设计;玻璃化法;超低温保存
【英文关键词】Cut flower of lily; Shoot tips ; Orthogonal test ; Vitrificati on method; Cryop reservation
【中文摘要】以切花百合西伯利亚试管苗离体茎尖为试材,通过正交设计试验对预培养培养基中蔗糖浓度、预培养时间和PVS2处理时间等影响超低温保存存活率的主要因素进行了分析,初步建立了切花百合种质玻璃化法超低温保存的技术方案。通过形态观察、可溶性蛋白和同工酶检测,冻存前后材料的遗传稳定性没有发生改变,表明该方法对切花百合的种质保存具有较强的实用意义。

【英文摘要】Shoot tips from in vitro plants of cut flower of lily (Lilium L.) , Lilium ×siberia cultivar, were successfully cryop reserved by vitrificati on method. Orthogonal design was used to analyze effects of dominant parameters on survival rates of shoot tips, including sucrose concentration of p reculture medium, duration of preculture an duration of exposure to PVS2. There were no variations in the regenerated plant on the level of morphology, protein and isoenzymic zymogram after cryop reservation. This vitrificati on method appears p romising for cryop reservation of cut flower of lily germplasm.
【语种】中文
【第一作者】陈 辉
【通讯作者】卢新雄
【期刊名称、卷期、页码】Journal of Plant Genetic Resources,2007;8(2):170-173
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【引文索引类型】其他
【引文索引号】无
【学科分类】农业基础学科

【题目】基于SSR标记的30份玉米种质遗传完整性分析
【中文关键词】玉米(ZeamaysL.);SSR;遗传完整性;保存
【英文关键词】Maize(ZeamaysL.);SSR;Geneticintegrity;Conservation
【中文摘要】利用70对SSR引物,对30份玉米地方品种种质进行遗传完整性测 ,每一份种质包含来自两个不同繁种年份的供试亚群体。取样方法为DN 混合取样。结果表明,30份种质的供试亚群体之间的遗传相似系数除红包谷 (统一编号 00230080) 为 0.77外,其他都大于0.8 0。聚类分析表明, 除二黄 (统一 编号 00210055) 和红包谷两份种质的亚群体出现分支外 ,其他28份种质亚群体分支都按照同一种质群分别聚类。本文同时探讨了个别种质亚群体之间遗传分化的原 因,以及SSR标记作为玉米种质遗传完整性检测方法的可行性。
【英文摘要】The genetic integrity of 30 accessions of maize(Zea mays L)stored in national genebank of China was investigated by 70 SSR primers. Each accession was represented by two subpopulations regenerated in different year .The genetic similarity between the two subpopula- tions of the same accession is all above 0.80,except for 0.77 in Hongbaogu(accession number 00230080) .Cluster analysis based on the similarity coefficient showed that Er-Huang(accession number 00210055)and HongBaogu diverged from each other ,falling ino two branches ,and that each one cluster was created by two sub- populations of the same accessions,which were multiplied in different years .The reasons for the cluster divergence and feasibility of SSR for genetic interity analysis in maize were discussed.
【语种】中文
【第一作者】马延飞
【通讯作者】卢新雄
【期刊名称、卷期、页码】Journal of Plant Genetic Resources,2007,8(4):387-391
【论文发表时间】2007-08-01 00:00:00
【引文索引类型】其他
【引文索引号】无
【学科分类】农业基础学科

【题目】基于醇溶蛋白的20份大麦种质资源遗传完整性分析
【中文关键词】大麦 ; 醇溶蛋 白 ; 遗传 完整性 ; 繁殖更新
【英文关键词】Barley;Hordein;Genetic ntegrity;Propagation
【中文摘要】为了给大麦种质的保存和更新提供依据,采用醇溶蛋白电泳技术对2O份大麦种质(每一份 种质各有两个繁殖年份不同的供试材料) 进行了遗传完整性分析。结果表明,有5份种质是具有一种醇溶蛋白谱带带型的同质性种质,15份是具有2~6种醇溶蛋白谱带带型的异质性种质;同质性品种不同繁殖年份之间的谱带带型没有变化,而在15份异质性种质中有4份的带型数量及频率则发生了变化。说明某些大麦异性种质在繁殖更新过程中发生了遗传完整性变化。进一步分析表明,更新发芽率水平不是影响带型频率发生显著变化的主要因素,其遗传完整性变化可能是更新发芽率水、繁殖群体、授粉和收获方式等综合因素的影响结果 。
【英文摘要】The genetic integrity of 2O barley ccessions from different propagation years was studied by acid—polyacrylamide gel electrophoresis .The results revealed that there were 5 genetically homogeneOUS accessions having only one hordein spectrum biotype and 15 genetica- lly heterogeneous accessions having 2~6 hordeins spectrum biotypes.There was no difference of hordeins spectrum

biotype between genetically homogeneous accessions propagated in different years.But for the genetically heterogeneous accessions,the number and frequency of hordein spectrum biotypes changed.It showed the germination rate is not the main factor.The reasons of the change is a composite factor .
【语种】中文
【第一作者】王 芳
【通讯作者】卢新雄
【期刊名称、卷期、页码】Journal of Triticeae Crops ,2007;27(4):607—612
【论文发表时间】2007-08-01 00:00:00
【引文索引类型】其他
【引文索引号】无
【学科分类】农业基础学科

【题目】Restoring pollen fertility in transgenic male-sterile eggplant by Cre/loxp-mediated site-specific recombination system
【中文关键词】no
【英文关键词】eggplant, male sterility, Barnase gene, Cre gene, Cre/loxP system
【中文摘要】no
【英文摘要】his study was designed to control plant fertility by cell lethal gene Barnase expressing at specific developmentalstage and in specific tissue of male organ under the control of Cre/loxP system, for heterosis breeding, producing hybridseed of eggplant. The Barnase-coding region was flanked by loxP recognition sites for Cre-recombinase. Theeggplant inbred/pure line (‘ E-38 ’) was transformed with Cre gene and the inbred/pure line (‘ E-8 ’) was transformedwith the Barnase gene situated between loxp. The experiments were done separately, by means of Agrobacteriumco-culture. Four T0-plants with the Barnase gene were obtained, all proved to be male-sterile and incapable of producingviable pollen. Flowers stamens were shorter, but the vegetative phenotype was similar to wild-type. FiveT0-plants with the Cre gene developed well, blossomed out and set fruit normally. The crossing of male-sterileBarnase-plants with Cre expression transgenic eggplants resulted in site-specific excision with the male-sterileplants producing normal fruits. With the Barnase was excised, pollen fertility was fully restored in the hybrids. Thephenotype of these restored plants was the same as that of the wild-type. Thus, the Barnase and Cre genes were capableof stable inheritance and expression in progenies of transgenic plants.
【语种】英文
【第一作者】Cao, Bihao
【通讯作者】曹必好
【期刊名称、卷期、页码】Genetics and Molecular Biology33, 2, 298-307 (2010)
【论文发表时间】2010-02-21 00:00:00
【引文索引类型】SCI
【引文索引号】000278958700017
【学科分类】园艺学

【题目】非寄主互作中抗病信号NO及H2O2对水稻细胞过敏反应的诱导机制
【中文关键词】水稻,过敏反应,非寄主,互作
【英文关键词】Rice,hypersensitive response, non-host,interaction
【中文摘要】研究了非寄主互作中抗病信号NO和H2O2对水稻悬浮细胞过敏反应的诱导机制。揭示H2O2信号对水稻细胞HR的诱导表现出“ 时间作用效应 ”。确认单子叶植物水稻细胞HR诱导过程中并不存在“ NO/H2O2平衡作用机制 ”。
【英文摘要】
【语种】中文
【第一作者】姚沁涛
【通讯作者】齐放军
【期刊名称、卷期、页码】植物保护,2007,33(5):97-98
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【引文索引类型】其他
【引文索引号】

【学科分类】植物学

【题目】CaMF2, an anther-specific lipid transfer protein (LTP) gene, affects pollen development in Capsicum annuum L.
【中文关键词】no
【英文关键词】Anther-specific,CaMF2,Capsicum annuum L., Lipid transfer protein,
VIGS,Pollen development
【中文摘要】no
【英文摘要】Based on the gene differential expression analysis performed by cDNA-amplified fragment length polymorphism(cDNA-AFLP) in the genic male sterile – fertile line 114AB of Capsicum annuum L., a variety ofdifferentially expressed cDNA fragments were detected in fertile or sterile lines. A transcript-derived fragment (TDF) specifically accumulated in the flower buds of fertile line was isolated, and the corresponding full-length cDNA and DNA were subsequently amplified. Bioinformatical analyses of this genenamed CaMF2 showed that it encodes a lipid transfer protein with 94 amino acids. Spatial and temporal expression patterns analysis indicated that CaMF2 was an anther-specific gene and the expression of CaMF2 was detected only in flower buds at stage 3 – 7 of male fertile line with a peak expression at stage4, but not detected in the roots, tender stems, fresh leaves, flower buds, open flowers, sepals, petals, anthers or pistils of male sterile line. Further, inhibition of the CaMF2 by virus-induced gene silencing (VIGS) method resulted in the low pollen germination ability and shriveled pollen grains. All these evidence showed that CaMF2 had a vital role in pollen development of C. annuumL.
【语种】英文
【第一作者】陈长明
【通讯作者】雷建军
【期刊名称、卷期、页码】Plant Science181(4)
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【引文索引类型】SCI
【引文索引号】000295311600014
【学科分类】园艺学

【题目】水稻白叶枯病菌hrp基因启动子序列调控的绿色荧光蛋白基因表达体系的建立
【中文关键词】水稻白叶枯病菌; hrp::GFP转录单元;hrp诱导培养基XOM2
【英文关键词】Xanthomonas oryzae pv.oryzae, Hrp::GFP transcript unit, hrp induction medium XOM2
【中文摘要】通过融合PCR分别将GFP基因置于水稻白叶枯病菌hrpX、hrpG、hpa1和hrpF基因启动子序列的下游,经酶切、PCR鉴定及序列测定成功构建了受hrpX、hrpG、hpa1和hrpF启动子序列调控的GFP基因转录单元:pMX-GFP、pMG-GFP、pMA-GFP、pMF-GFP, 并转化到JXO I 菌株中。中间表达载体phpa1::GFP 和phrpF::GFP在大肠杆菌中可见GFP表达。转入JXO I的hrp::GFP转录单元,在NA培养基上不能诱导表达,在hrp诱导培养基XOM2上可有效诱导表达。
【英文摘要】
【语种】中文
【第一作者】张文蔚
【通讯作者】齐放军
【期刊名称、卷期、页码】植物保护科技创新与发展,2008年10月,中国农业科学技术出版社,472-478
【论文发表时间】2008-10-01 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】病毒学

【题目】Characterization of a new male sterility-related gene Camf1 in Capsicum annuum L.
【中文关键词】no
【英文关键词】Anther-specific, Camf1,Capsicum annum L, Male sterility, Glyoxal oxidase
【中文摘要】no
【英文摘要】For the sake of screening novel genes related to the male sterility in chili pepper for studying the molecular mechanism of plant male sterility, the gene differential expression analysis was performed by cDNA-amplified fragment length polymorphism (cDNA-AFLP) in the genic male sterile – fertile line 114AB of Capsicum annum L., and a variety of differentially expressed cDNA

fragments were detected in fertile or sterility material. Camf1, a transcriptderived fragment (TDF) accumulated in fertile line flower buds was further investigated. The Camf1 has 1,854 bp in length with no introns containing a 1,707-bp open reading frame (ORF). The deduced amino acid sequence of Camf1 shares higher similarity to some members from a glyoxaloxidase-related protein family, and has a glyoxal oxidase conserved domain at the N-terminus and a domain of unknown function (DUF1929) at C-terminal end. Expression analysis showed that Camf1 expressed only in stage 3 – 7 flower buds of male fertile of C. annum L. 114AB, and no detection in all organs of male sterility. The peak of expression level of Camf1 appeared at stage 4 flower buds of fertile line. Furthermore, expression analysis of different organs revealed that Camf1 expressed only in anthers of male fertile material and there were no expression in sepals, petals, pistils, roots, stems, leaves and open flowers. These results suggested that Camf1 was an anther-specific gene and might be essential for the fertility of C. annum L.

【语种】英文
【第一作者】陈长明
【通讯作者】雷建军
【期刊名称、卷期、页码】Molecular Biology Reports39
【论文发表时间】2012-04-04 00:00:00
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【引文索引号】000297355700092
【学科分类】园艺学

【题目】水稻与白叶枯病菌互作的基因表达谱分析与差异性表达基因的识别
【中文关键词】水稻,白叶枯病菌,cDNA-AFLP,表达谱,差异性表达基因
【英文关键词】Rice,Xanthomonas oryzae pv. oryzae,cDNA-AFLP,Gene expression profiling,Differentially expressed genes
【中文摘要】【目的】从基因组水平上阐明水稻在与白叶枯病菌(Xanthomonas oryzae pv. oryzae,Xoo)感病互作条件下基因表达反应的特征。【方法】用cDNA-AFLP 方法对Xoo 接种处理不同时间的水稻细胞进行基因表达谱分析。【结果】在测定的大约4 000 个水稻cDNA 片段中,363 个(9.1%)是差异性表达的,其中295 个受Xoo 诱导上调表达,68 个被抑制下调表达。根据在不同互作时间点的表达特征,它们可分为7 种表达类型。对31 个差异片段的序列同源性进行分析,发现它们在已公布的水稻全基因组中完全相同的序列,但只有10 个基因具有已知或推断的生物学功能,其余21 个基因功能未知。用荧光实时定量PCR 分析法证实了cDNA-AFLP 基因表达结果。【结论】构建了水稻-Xoo 感病组合在细胞水平上互作的基因表达谱,从基因组水平上识别了一批受Xoo 诱导或抑制表达、与水稻感病反应相关的基因,这些新基因的发现为开展水稻感病功能基因组学的研究提供了材料。
【英文摘要】【Objective】The study was conducted to elucidate the gene expression response of rice to bacterial inoculation withXanthomonas oryzae pv. oryzae (Xoo) at the genomic levels. 【Method】cDNA-amplified fragment length polymorphism(cDNA-AFLP) was employed to analyze the gene expression patterns of mock- and Xoo-inoculated rice suspension cultured cells.【Result】Three hundred and sixty-three (9.1%) from approximately 4 000 cDNA fragments analyzed were differentially regulated (295 up-regulated and 68 down-regulated) 0.5, 3, 24 h after co-cultivation with Xoo. Seven gene expression patterns of the differential fragments were identified. Ten of 31 sequenced fragments showed homology to genes with known or putative functions involved in metabolism, pathogen response and signaling. 21 others did not show any homology to sequences with known functions. cDNA-AFLP differential patterns for 5 selected genes were confirmed via real-time reverse transcription PCR analysis.【Conclusion】Gene expression profiling in response to Xoo and differentially expressed genes of rice were revealed and identified via cDNA-AFLP analysis. This work begins to reveal potential disease susceptibility-related genes of this staple crop with global importance.
【语种】中文
【第一作者】吴茂森
【通讯作者】吴茂森
【期刊名称、卷期、页码】中国农业科学 2007,40(2):277-282
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【引文索引号】
【学科分类】植物保护学

【题目】Characterization of a Pectin Methylesterase Gene Homolog,CaPME1, Expressed in Anther Tissues of Capsicum annuum L.

【中文关键词】no
【英文关键词】Capsicum annuum L. . CaPME1 . Pectin, methylesterase . Anther-specific
【中文摘要】no
【英文摘要】A pectin methylesterase gene homolog, designated CaPME1, was identified by RNA-sequencing in the genic male sterile – fertile line 114AB of Capsicum annuum L. The full-length transcript of CaPME1 was 1,747 bp, including acomplete coding sequence of 1,662 bp (GenBank accession number: JN246474). The derived protein CaPME1 shares high similarity to members of pectin methylesterase protein family, containing a conserved domain of PMEI at the N terminus and a domain of PME at C-terminal end. The expression of CaPME1 was detected only in flower buds at stage 8 and open flowers of male fertile line, with no detection in any examined organ of male sterility line. Thefine expression analysis revealed that CaPME1 expressed specifically in anthers of male fertile line, and there was no expression detected in any other examined organ such as sepals, petals, pistils, roots, stems, or leaves. The putative function of CaPME1 involved in pollen development was also discussed in the present paper. These results suggested that CaPME1 was an anther-specific gene and might be essential for pollen maturation and germination in C. annuum.
【语种】英文
【第一作者】陈长明
【通讯作者】雷建军
【期刊名称、卷期、页码】Plant Mol Biol Rep 30:403 – 412
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【学科分类】园艺学

【题目】Non-uniform distribution pattern for differentially expressed genes of transgenic rice Huahui 1 at different developmental stages and environments
【中文关键词】水稻,转基因,基因表达,非均匀分布
【英文关键词】genetically modified rice, differentially expressed genes, non-uniform distribution, different developmental stages, different environments
【中文摘要】利用基因芯片,研究证实了转基因水稻在不同生长期,不同环境条件下,差异基因表达符合非均匀分布模式。
【英文摘要】DNA microarray analysis is an effective method to detect unintended effects by detecting differentially expressed genes (DEG) in safety assessment of genetically modified (GM) crops. With the aim to reveal the distribution of DEG of GM crops under different conditions, we performed DNA microarray analysis using transgenic rice Huahui 1 (HH1) and its non-transgenic parent Minghui 63 (MH63) at different developmental stages and environmental conditions. Considerable DEG were selected in each group of HH1 under different conditions. For each group of HH1, the number of DEG was different; however, considerable common DEG were shared between different groups of HH1. These findings suggested that both DEG and common DEG were adequate for investigation of unintended effects. Furthermore, a number of significantly changed pathways were found in all groups of HH1, indicating genetic modification caused everlasting changes to plants. To our knowledge, our study for the first time provided the non-uniformly distributed pattern for DEG of GM crops at different developmental stages and environments. Our result also suggested that DEG selected in GM plants at specific developmental stage and environment could act as useful clues for further evaluation of unintended effects of GM plants.
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【第一作者】刘峙
【通讯作者】齐放军
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【学科分类】植物学

【题目】茄子高效遗传转化体系的研究
【中文关键词】茄子;遗传转化;GUS 染色

【英文关键词】no
【中文摘要】茄子木质化程度比较高,组织培养较为困难。本试验中主要通过调节不同激素及其不同浓度配比来寻找茄子的高效遗传转化体系,用以上方法,茄子子叶外植体在MS + Zt 0.2mg • L-1 的培养基中的再生频率达到80%以上,显著高于采用6-BA 和IAA 的培养基。卡那霉素(Kan)及头孢霉素(Cef)浓度的筛选实验表明,浓度为300 mg • L-1 的Cef 为可有效地抑制农杆菌的生长,而浓度为150 mg • L-1 的Kan 卡那霉素具有很好的筛选效果。由此,确定茄子的筛选培养基为MS + Zt2 mg • L-1 + Kan 150 mg • L-1 + Cef 300 mg • L-1。在生根的过程中,通过对IAA 浓度的调节确定生根培养基为MS + IAA 0.2 mg • L-1 + Kan 150 mg • L-1 + Cef 300 mg • L-1。通过农杆菌介导的方法得到30 株PCR 阳性转基因茄子植株,GUS 染色结果显示DR5 启动子能在转基因茄子植株的幼嫩叶片中表达,表明转入基因已经整合到植物基因组中,并能稳定表达。
【英文摘要】no
【语种】中文
【第一作者】刘芳
【通讯作者】叶志彪
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【学科分类】园艺学

【题目】Testing of disease-resistance of pokeweed antiviral protein gene (PacPAP) in transgenic cucumber (Cucumis sativus)
【中文关键词】no
【英文关键词】Pokeweed antiviral protein gene; genetic transformation; Cucumis sativus
【中文摘要】no
【英文摘要】Transformation of pokeweed antiviral protein gene (PAP) into plants was shown to improve plant resistance to several viruses or fungi pathogens with no much negative effect on plant growth. The non-virulent defective PAP inhibits only the virus but does not interfere with the host. A non-virulent defective PAP gene (PacPAP) from Phytolacca acinosa was introduced into cucumber successfully by agrobacterium mediated method. Southern blotting and northern blotting analyses indicated that, 5 stable transgenic cucumber lines with PacPAP were obtained and PacPAP showed different expression levels in transgenic plants. The identification of resistances to disease was performed by artificial inoculation of cucumber mosaic virus (CMV) and Fusarium oxysporum fsp. cucumerinum on T-0 and T-1 transgenic plants. Compared with the non-transgenic susceptible plants, all transgenic plants with PacPAP showed resistance in different degree to CMV and the CMV-resistance of progeny (T-1) from transgenic lines could inherit stably, but the transgenic plants did not resist to Fusarium wilt of cucumber, the PacPAP was not resistant to Fusarium oxysporum fsp. cucumerinum. This work provides a new virus resistant cucumber breeding resource.
【语种】英文
【第一作者】Cao, Bihao
【通讯作者】雷建军
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【学科分类】园艺学

【题目】菜薹DUS测试指南制定方法初探
【中文关键词】菜薹; DUS 测试; 特异性; 一致性; 稳定性
【英文关键词】flowering Chinese cabbage; DUS testing; distinctness; uniformity; stability
【中文摘要】植物新品种的特异性、一致性和稳定性测试是对植物进行新品种保护的基础,菜薹是我国的重要蔬菜作物,但目前UPOV及其他国家并无菜薹的DUS测试指南可供参考.在参考国际新品种保护联盟(UPOV)相关文献和国家植物新品种特异性、一致性和稳定性测试指南总则的基础上,对菜薹DUS测试指南的制定方法进行了初步探讨.测试指南由23个外观形态性状,4个农业生物学性状,1个分组性状和1个抗病性状组成.
【英文摘要】The testing of distinctness, uniformity and stability are the base of protection of new variety. Brassica campestris L.ssp.chinensis is an important vegetable crops in China,but there is not any testing guide of its DUS in UPOV and other countries in

the world.Based on the reference of UPOV and China, the paper studied the development of DUS in Brassica campestris L.ssp.chinensis. Twentythreemorphlogocal traits, 4 agrobiological traits, 1 grouping traits and 1 resistance to disease were included in this guideline.
【语种】中文
【第一作者】钟海冰
【通讯作者】雷建军
【期刊名称、卷期、页码】广东农业科学,2011, 38(12)
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【学科分类】园艺学

【题目】Analysis of combining ability and heredity parameters of glucosinolates in Chinese kale
【中文关键词】no
【英文关键词】Chinese kale; glucosinolate; combining ability; heritability; heterosis
【中文摘要】no
【英文摘要】The study was carried out with six Chinese kale lines as materials. Complete diallel crossing was designed with 6 x 6 to calculate the combining ability and the main genetic parameters. The results are as follows: The GCA effect of P(1), P(2) and P(5) was excellent. They were used as parants to get hybrids, the heterosis of anti-cancer glucosinolates of their hybrid was very high. By analyzing the SCA effects, 1 x 2 was an outstanding hybrid. The broad sense heritability of the main GSs were relatively higher, and the narrow sense heritability were lower, so the potential of heterosis was bigger.
【语种】英文
【第一作者】Chen, Guo-ju
【通讯作者】雷建军
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【学科分类】园艺学

【题目】不同辣椒基因型辣椒素的积累特性
【中文关键词】辣椒素;二氢辣椒素;HPLC;胎座;果肉
【英文关键词】Capsaicin; Dihydrocapsaicin; HPLC; Placenta; Pulp
【中文摘要】用高效液相色谱法(HPLC)检测4 份辛辣型辣椒材料在花后10 个时期果肉、胎座和种子的辣椒素类物质的含量。结果表明,辣椒素类物质以胎座中最高,果肉次之,种子最少,其中牛角椒类型华椒3 号、华椒4 号和华椒5 号的辣椒素类物质含量在花后40~50 d 达到最高,朝天椒在花后25 d 达到最高。
【英文摘要】Capsaicin contents in pulp, placenta and seed of 4 pepper(Capsicum annuum L.)accessions at 10 periods were tested by HPLC. The result showed that capsaicin content was the highest inplacenta, followed by pulp, and the least seed. The capsaicin content reached the highest at 40-45th dayafter flowering in cayenne pepper varieties ‘ Huajiao No.3 ’, ‘ Huajiao No.4 ’ and ‘ Huajiao No.5 ’. ‘ Chaotianjiao ’ reached the highest content at 25th day after flowering.
【语种】中文
【第一作者】李光光
【通讯作者】雷建军
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【题目】抗病转录因子基因Pti4转化花椰菜的初步研究
【中文关键词】花椰菜;抗病转录因子;基因;Pti4;转化
【英文关键词】cauliflower;disease resistance-related transcription factor;gene;Pti4;transformation
【中文摘要】抗病转录因子Pti4是从番茄中分离的一种能够调控番茄抗病基因Pto转录的蛋白质。通过根癌农杆菌介导法将抗病转录因子基因Pti4导入花椰菜无菌苗下胚轴,同时对转基因植株进行了PCR、PCR-Southern和Southern blot分子检测以及细菌性黑腐病和软腐病病菌接种试验。结果表明,在建立再生系统过程中外植体的最佳苗龄为5～7 d,培养基中激素组合为NAA 0.2 mg · L-1、6-BA 2.0 mg · L-1时不定芽的诱导和分化效果最好。获得的35株阳性植株经分子检测证明抗病转录因子基因Pti4已被整合到花椰菜的基因组中。对其中26株接种病菌发现Pti4转化植株对细菌病害具有一定的抗性。
【英文摘要】The disease resistance-related transcription factor Pti4 is a kind of protein isolated fromtomato which can regulate the transcription of disease-resistance gene Pto. In this paper,Pti4 wastransferred into the hypocotyls of cauliflower (Brassica oleracea var. botrytis L.)mediated byAgrobacterium tumefaciens,and the transgenic plants were detected by PCR,PCR-Southern blot,Southernblot and the inoculation assay of bacterial soft rot and black rot. The results indicated that the optimalconditions for induction and differentiation of adventitious buds were 5 – 7 day-old seedling,coupled withMS medium supplemented with 0.2 mg · L-1 NAA and 2.0 mg · L-1 6-BA. Furthermore,35 positivetransgenic plants were obtained and confirmed by molecular detection,which approved that the diseaseresistance-related transcription factor gene Pti4 was integrated into cauliflower genome. Among them,26transgenic plants were more resistant than non-transgenic ones in disease-resistance assay.
【语种】中文
【第一作者】王亚琴
【通讯作者】雷建军
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【学科分类】园艺学

【题目】不同灌溉条件下不同类型冬小麦产量水分利用效率差异原因分析
【中文关键词】小麦品种;抗旱类型;产量水分利用效率;群体水分利用效率;收获指数
【英文关键词】Wheat cultivar,Drought tolerant type,Yield water USe efficiency,Biomass water USe efficiency,Harvest index
【中文摘要】以旱地品种"西峰20"和"晋麦47"、水旱兼用型品种"石家庄8号"、高水肥地品种"石4185"和"科农9204"5个冬小麦品种为材料,通过田间不同灌溉处理试验研究了不同抗旱类型冬小麦品种收获指数和群体水分利用效率对产量水分利用效率的影响差异。结果表明:不同抗旱类型的小麦在不同灌溉处理下,产量水分利用效率(WUEy)以及变化趋势存在显著差异。旱地冬小麦品种WUEy和收获指数(HI)显著低于水地品种和水旱兼用型品种。不同品种间WUEy最大相差42.01%,HI相差25.91%。HI和群体水分利用效率(WUEbm)与WUEy呈显著正相关关系。株高与HI呈显著负相关关系(R2=0.574)。在不灌溉条件下,品种间WUEy差异源自HI的差异;而在补充灌溉条件下,品种间WUEy的差异源自WUEbm和HI的共同作用。说明不同抗旱类型的小麦对不同灌溉处理的响应方式和适应策略不同。旱地品种在干旱胁迫条件下,主要靠增加WUEbm来提高WUEy;而水地品种和水旱兼用型品种在补充灌溉中凭借较高的WUEbm和HI共同作用提高WUEy。
【英文摘要】Five drought tolerant winter wheat cultivars were used to evaluate the differences in the effects of harvest index (HI) and biomags water USe efficiency (WUEbm) on grain yield water use efficiency (WUEy) under different irrigation schemes.Tne wheat cultivars included dryland cultivars of ‘ 'Xifeng 20 ’ ’ and ‘ 'Jinmai 47 ” ,dry/wetland cultivar of ‘ ‘ Shijiazhuang 8 ” ,and wetland cultivars of “ Shi 41 85"and “ Kenong 9204".The results showed significant differences in WUEy and its changing trends among different drought tolerant wheat cultivars.Dryland cultivars had significantly lower WUEr than wetland and wet/dryland cultivars,with the higllest WUEr difference of 42.0 1%.Average water consumption of the drought tolerant wheat cultivars was 343~350 toni.No significant difference was noted in the amount of water consumption among different cultivars.This suggested that although dryland cultivars were drought tolerant.it did not limit the rate of water consumption.It also suggested that the main factor of WUEy wag WUEbm and HI.Dryland cultivars had significantly lower HI than wetland and wet/dryland cultivars.with the highest HI difference of 25.91%.Significant positive correlations were noted between HI and WUEy.and between WUEbm and WUEy.The correlation between plant height and HI was negative(R2=O.574).Under no irrigation, no obvious difference was noted in WUEbm among different cultivars.Dryland cultivars had lower HI than the other culfivars.The differcnce in WUEy among different cultivars was driven by the differences in HI.Under supplemental irrigation conditions,however,wetland and wet/dryland cultivars had higher WUEbm and HI

than dryland cultivars.The differences in WUEy came mainly from interactive effects ofHI and WUEt..The results suggested that different drought-mlerant wheat cultivars had responded differently to the same condition and therefore had different adaptation strategies to environmental conditions.Dryland cuitivars enhanced WUEbm which in turn led to higher WUEy in extreme drought conditions.Wetland and wet/dryland cultivars,on the other bane enhanced HI and WUEbmto yield higher WUEy under supplemental irrigation conditions.

【语种】中文
【第一作者】董宝娣
【通讯作者】刘孟雨
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【题目】Functional characterization of the translationally controlled tumor protein (TCTP) gene associated with growth and defense response in cabbage
【中文关键词】no
【英文关键词】BoTCTP; Cabbage; Functional characterization; Stress response
【中文摘要】no
【英文摘要】The translationally controlled tumor protein (TCTP) is an important component of the target of rapamycin (TOR) signaling pathway, the major regulator of cell growth in animals and fungi. Despite its relevance, knowledge on plant TCTP homologs is still limited. In the present study, the full-length BoTCTP cDNA was isolated from a cabbage (Brassica oleracea L.) cDNA library. The BoTCTP cDNA encodes a polypeptide of 168 amino acids and shared the highly conserved GTPase binding surface in all of the species analyzed. Northern blotting analysis showed that BoTCTP was specifically expressed in the root and stem. Furthermore, the expression of BoTCTP could be obviously enhanced by stress stimuli, including high temperature and salt stresses, while no significant changes in the BoTCTP expression were observed under ABA stress. Functional analysis of BoTCTP was performed by the silencing of BoTCTP using RNA interference (RNAi) and the BoTCTP RNAi plants exhibited reduced vegetative growth rate and decreased tolerance of the cold, high temperature, and salt stresses. The reported results clearly suggest that the BoTCTP gene is involved in the regulation of both growth and stress response in cabbage.
【语种】英文
【第一作者】Cao, Bihao
【通讯作者】雷建军
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【题目】咸水灌溉下土壤水盐动态和作物生长研究进展
【中文关键词】咸水灌溉;灌溉方式;土壤水盐运移;作物生长和生理机理
【英文关键词】Saline water irrigation, Irrigation method, Soil water/salt movement, Crop growth and physiological metabolism
【中文摘要】我国淡水资源短缺且分布不均, 供求矛盾突出, 合理开发利用咸水资源、增辟灌溉水源将成为解决水资源危机的重要途径之一。本文从以下几个方面对国内外咸水资源灌溉利用的研究进展进行了综述, 以期为咸水安全灌溉提供指导。(1)咸水灌溉对土壤水盐运移的影响, 主要包括咸水灌溉后不同土层土壤水盐分布规律、不同灌溉水矿化度对土壤水盐运移的影响、灌溉方式对土壤盐分积累的作用; (2)咸水灌溉对作物生长的影响, 主要包括咸水灌溉与作物产量、品质的关系; (3)咸水灌溉对作物生理变化的影响及其作用机理, 主要包括咸水灌溉对植株脯氨酸含量、抗氧化酶活性、丙二醛含量、叶绿素含量及光合作用的影响。
【英文摘要】Fresh water resource is scarce and unevenly distributed in China. The use of saline water is therefore an effective way of solving the fresh water shortage. This article summarized the impacts of saline water irrigation on water/salt movement in soil, and on crop growth and changes in crop physiological metabolism. It discussed water/salt distribution in the soil profile, the effect of different

degrees of saline water on water/salt movement, and the role of irrigation methods on salt distribution in soil. The paper also epitomized the effects of saline water irrigation on the growth, yield and quality of crops. It further noted effects of saline water irrigation on physiological metabolism; including the changes in praline content, antioxidant enzyme activities, malondialdehyde content, chlorophyll content and photosynthesis.
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【第一作者】杨静
【通讯作者】杨静
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【学科分类】农业基础学科

【题目】作物基因聚合分子育种
【中文关键词】作物; 基因聚合分子育种; 分子标记; 遗传转化
【英文关键词】C rops; G ene pyram id ing mo lecu lar breeding; M olecularmarkers; Genetic transformat ion
【中文摘要】基因聚合分子育种与常规育种技术相结合已成为今后作物育种的主流方向。基因聚合分子育种主要包括遗传转化基因聚合分子育种和分子标记筛选基因聚合分子育种。本文简要综述了近年来作物基因聚合分子育种的研究进展,分析了遗传转化基因聚合分子育种以及分子标记基因聚合分子育种技术的研究方法及基因聚合分子育种存在的问题。
【英文摘要】Most agronom ic charaterist ics and complex b iosynthetic pathw ays are determ ined by the coord ina t ion of multip le gene expression , and gene pyram iding molecular breed ing comb ined w ith convent iona l breedingtechniques have becom e themainmeans for the crop breed ing. G ene pyram idingmo lecular breeding includes genet ic transfo rmation mo lecu lar breeding and m arker assisted se lection mo lecular breed ing. Genetic transfo rmation mo lecu lar breeding, marker assisted se lection molecular breed ing in crops w ere rev iew ed in recently years. The re search methods, the counterm easures on the ex isting prob lems of gene py ram id ingmo lecular breedingw ere d iscussedand the prospects w ere described as w ell in this paper.
【语种】中文
【第一作者】徐小万
【通讯作者】雷建军
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【题目】茄子抗病导入系的抗青枯病性及GISH鉴定
【中文关键词】导入系抗青枯病GISH
【英文关键词】Introgression line Bacterial wilt-resistance GISH
【中文摘要】利用栽培茄与野生茄(Solanum torvum)的种间杂种为供体,以两个栽培茄的自交系为轮回亲本进行多代回交,得到2 个导入系“ BILR- 1 ”,“ BILR- 2 ”。经过抗青枯病及GISH 鉴定,表明所得两个导入系对青枯病有很强的抗性,且它们含有野生茄(Solanum torvum) 的遗传物质,成功把野生茄(Solanumtorvum)的抗青枯病性状转到栽培茄子中。所得抗病导入系的染色体数量为24 条,它们可以作为一种新的抗源未来在茄子抗病育种中加以应用。
【英文摘要】A inter-specific hybridization between Solanum melongena and Solanum torvum was obtained in 2003 (Cao et al,2009),and a F1 was backcrossed with two eggplant inbred lines (‘ E-35 ’,‘ E-97 ’)serving as recurrent parent,two introgression lines wereobtained,named as ‘ BILr-1 ’,‘ BILr-2 ’.They showed high bacterial wilt resistance by inoculated to race 1 of bacterial wilt and in the fieldand had the the chromosomes of Solanum torvum by GISH analysis.Their NO.of chromosome were about 2n=24.So two introgress lines canbe used as a new resource with resistance to bacterial wilt for eggplant breeding in the future.
【语种】中文
【第一作者】曹必好
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【题目】喷施抗蒸腾剂对冬小麦旗叶蒸腾效率的影响
【中文关键词】冬小麦;成膜型植物抗蒸腾剂;旗叶水势;蒸腾效率;光合速率;丙二醛;抗氧化酶
【英文关键词】Winter wheat, Plant film-forming anti-transpirant, Flag-leaf water potential, Transpiration efficiency, Photosynthetic rate, Malonyldiadehyde, Antioxidase
【中文摘要】成膜型植物抗蒸腾剂(PFA)可以有效地减少植物的水分耗散, 提高水分利用效率。本试验以冬小麦(Triticum aestivum L.) 品种“ 科农9204 ”为试验材料, 在灌溉0 水、1 水、2 水和3 水条件下叶面喷施PFA, 测定灌浆期小麦旗叶水分生理和胁迫程度在处理间的差异以及衰老进程变化, 探讨了PFA 在冬小麦抵御干热风、提高水分利用效率方面的作用。结果表明: 喷施PFA 可以显著降低旗叶的蒸腾速率, 而对光合速率无显著影响,使叶片蒸腾效率显著提高; 喷施PFA 处理旗叶的保水力提高, 离体失水速率降低, 叶片的相对含水量和水势提高; 灌1 水、2 水和3 水条件下, 喷施PFA 处理旗叶的超氧化物歧化酶(SOD)活性、过氧化氢酶(CAT)活性及丙二醛含量均低于不喷施的对照, 而旱作(全生育期不浇水)喷施处理的旗叶SOD 和CAT 活性则高于对照。喷施PFA 可以有效地维持旗叶的水分生理环境, 抑制活性氧的产生, 保证氧自由基清除系统的正常运行, 维持细胞膜的完整性, 从而维持较高光合速率, 同时有效降低蒸腾速率, 这构成叶片蒸腾效率提高的生理基础。
【英文摘要】Restraining crop transpiration is critical for improving water use efficiency under scarce water resource conditions. Plant film-forming anti-transpirant (PFA) significantly limits plant water consumption, which in turn increases water use efficiency. However, PFA is rarely applied in winter wheat cultivation. We studied the effects of PFA on water stress physiology and senescence of flag leaf of winter wheat “ Kn 9204 ” under different irrigations. The wheat was irrigated 0, 1, 2 or 3 times (respectively denoted as I0, I1, I2 and I3) during the entire period of growth. The results suggested that transpiration rates decreased, photosynthetic rates remained unaffected and transpiration efficiency increased under spray PFA treatment. Flag-leaf water retention under spray treatment was higher than that of CK. Excised-leaf water loss rate under spray treatment was lower by 10.3%, 10.3%, 12.8% and 16.9% under I0, I1, I2 and I3 irrigation treatments, respectively, than that of CK with increasing flag-leaf relative water content and water potential. Under 1, 2 or 3 times of irrigation, wheat superoxide dismutaseon (SOD) and catalase (CAT) activities dropped. Under zero irrigation, however, SOD and CAT activities exceeded that of CK. The rate of change (rate of curve) in malonyldiadehyde content under different treatments ranked as follows: I1+CK (10.59) > I1+PFA (6.99) > I2+CK (5.05) > I2+PFA (3.66) > I3+CK (2.36) > I3+PFA (1.56).This suggested that spray PFA slowed down flag-leaf senescence as it maintained a water condition that restrained active oxygen (AO) production, ensured AO normal scavenging and sustained integrated cell membrane. Hence the high photosynthetic rate coupled with low transpiration rate induced high water use efficiency. Physiologically, this increased water use efficiency under spay PFA treatment. On the basis the results, it was concluded that PFA reduced flag-leaf transpiration and eased dry/hot-wind stress in winter wheat. Despite these findings, it was recommended to continue active research into the effects of spay PFA treatment on winter wheat production.
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【第一作者】师长海
【通讯作者】刘孟雨
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【题目】茄子抗病育种研究进展
【中文关键词】茄子　青枯病　黄萎病　枯萎病　育种　综述
【英文关键词】no
【中文摘要】综述了近年来国内外茄子在抗青枯病、黄萎病和枯萎病等主要病害育种方面的研究进展,并分析了目前茄子抗病育种中存在的问题和今后的研究方向

【英文摘要】no
【语种】中文
【第一作者】魏小伞
【通讯作者】雷建军
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【题目】不同水分条件下作物蒸腾效率的比较研究
【中文关键词】小麦; 玉米; 谷子; 高粱; 耗水量; 蒸腾效率; 收获指数
【英文关键词】wheat ; corn; sorghum; millet; transpiration efficiency; water consumption; harvest index
【中文摘要】通过盆栽试验, 研究了三种土壤水分下(高水、中水、低水, 分别占田间持水量的80%~ 85%、7 0%~75%、60%~ 65%) 小麦、高粱、玉米、谷子的生物量、耗水量、蒸腾效率(TE) 及干物质分配的特点。结果表明, 随土壤含水量的降低, 作物的生物量、耗水量降低, 单株蒸腾效率(TE单株) 升高, 其中高粱的TE单株升高幅度最大为53. 6%。随土壤水分的降低, 作物的净光合速率、蒸腾速率降低, 作物通过大幅度降低蒸腾速率来维持较高的叶片蒸腾效率(TE叶片) 。作物全生育期的TE叶片呈单峰趋势, 小麦、玉米的TE叶片在开花期均达到最大值, 谷子和高粱的分别在灌浆期和抽穗期达到最大值。相关分析表明, 作物的TE产量与收获指数显著正相关(小麦: R2= 0. 632, 玉米: R2=0. 994, 高粱: R2= 0. 920, 谷子: R2= 0. 949) 。谷子在低水环境中具有更合理的干物质分配机制, 小麦在中、低水环境中能够保持较高的收获指数和TE产量, 它对水分的变动不敏感, 适宜生长的水分条件较广泛。
【英文摘要】Pot experiment was conducted to study the characteristics of biomass, water consumpt ion, transpiration efficiency(TE) and dry matter distribution of wheat, sorghum, corn, millet under 3 soil moisture condit ions (L: 60% ~65% of f ield capacity; M: 70%~ 75% of f ield capacity; H: 80% ~ 85% of field capacity) . The results showed that: With the decreasing of soil moisture, the crop biomass and water consumption reduced, plant TE increased. The TE in creasing range of sorghum was 53. 6%, which was the largest among 4 crops. With the reduct ion of soil moisture, net photosynthetic rate and transpiration rate (Tr) became lower. Cropmaintained a high leaveTE(TEl) by a signif icant reduction of Tr . TEl of crop showed a single peak trend changewithin growth stages, wheat and corn reached the maximum at the flowering stage, while the TEl peak of millet and sorghum appeared in grain filling stage and heading stage, respectively. Correlation analysis showed that TEy and harvest index (HI) was significantly positively related (wheat: R2= 0.632, corn: R2= 0.994, sorghum: R2= 0.920, millet: R2= 0.949) . There was a more reasonable dry matter distribution mechanism for millet in low soil moisture environment, while wheat could maintain higher HI and TEy in medium and low water environments, and it was not sensitive to soil moisture change and could grow in broader soil moisture conditions.
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【第一作者】李玉欣
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【题目】高温高湿对不同品种(系) 现蕾期辣椒(Capsicum annuum L.) 抗氧化性的影响
【中文关键词】高温高湿;辣椒;现蕾期;抗氧化性
【英文关键词】high temperature / air humidity; hot pepper; buding stage; antioxidant activity
【中文摘要】选用10 个具有代表性辣椒品种(系) ,于人工气候室内分别在正常和高温高湿条件下,研究了现蕾期辣椒抗氧化系统生理生化性状的变化以及不同品种(系) 的抗氧化性差异。结果表明:10 个辣椒品种(系) 抗坏血酸(AsA)、花青素含量下降,而谷胱甘肽(GSH)、花色苷含量增加; 超氧化物歧化酶(SOD)、过氧化物酶(POD)、过氧化氢酶(CAT)、苯丙氨酸解氨酶(PAL) 4 个酶活性一致增强。根据8个生理生化指标的相对值,通过坐标综合评定法对活性氧的抑制和清除进行分析,抗氧化剂类的贡献大于抗氧化酶类;系统聚类法将10 个辣椒品种(系) 的抗氧化性强弱分为3 类:06591、115-5-5-12-9-1-2、B04-99-5-1-1-2、06597、06590 为强抗氧化性品种(系) ;B04-51-4-2-1-2-1 和43-5-1-1-1 为中等抗氧化性品种(系)

;06592、B04-114-1-1-1-1-1、B04-512-4-1(系)为弱抗氧化性品种。

【英文摘要】The experiment was carried out in climate chambers to investigate the effects of high temperature and airhumidity on reduced glutathione content, ascorbic acid content, anthocyanidin content, anthocyanin content andantioxidative enzyme activities in ten hot pepper varieties leaves under both normal and high temperature / air humidityconditions during budding stage. The results indicated that contents of ascorbic acid and anthocyanidin decreased,contents of glutathione and anthocyanin increased, activities of superoxide dismutase, peroxidase, phenylalanineammonia-lyase and catalase increased under high temperature / air humidity stress among the tested 10 varieties.According to the relative value of 8 indexes,the result of the coordinate synthetic assessment method showed that theantioxidant ’s contribution to the inhibition and scavenging of active oxygen was greater than the antioxidant enzymes. Atthe same time,the method of cluster was used to evaluate antioxidant activity differences of hot pepper varieties,and 10tested varieties could be into three classes of the antioxidant activity. The strongest antioxidant activity varieties were06591,115-5-5-12-9-1-2,B04-99-5-1-1-2,06597,06590,followed by B04-51-4-2-1-2-1 and 43-5-1-1-1,and the lowestwere activity varieties 06592,B-04-114-1-1-1-1-1 and B04-512-4-1.

【语种】中文

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【学科分类】园艺学

【题目】中国稻田CH4和N2O排放及减排整合分析

【中文关键词】稻田;CH4;N2O;减排措施

【英文关键词】rice field; CH4; N2O; mitigation measurements

【中文摘要】【目的】对中国有关稻田CH4和N2O 排放试验结果进行整合分析,估算不同管理措施的减排潜力,为稻田CH4 和N2O 减排提供参考依据。【方法】通过建立中国稻田CH4 和N2O 排放的数据库,研究稻田CH4 和N2O 的排放特征,分析作用显著的影响因素,比较不同措施的减排效果。【结果】中国稻田CH4 排放存在明显的地域性分布规律,主要表现为西南地区稻田CH4 排放远高于其它地区。水稻生长季节水分管理方式、非水稻生长季水分状态、化肥氮投入量和有机物料对稻田CH4排放具有重要影响(P<0.05)。与淹水灌溉(CF)相比,前期淹水-中期晒田-淹水(F-D-F)、前期淹水-中期晒田-淹水-湿润灌溉(F-D-F-M)和间歇灌溉或完全湿润(M)降低稻田CH4 排放的幅度分别为45%、59%和83%。与休闲期淹水(F)相比,采取冬闲期排干(SD)、稻旱轮作(LD)或旱-旱-稻轮作模式(TD),能降低稻田CH4排放 42%—56%。不同有机添加物产生CH4的能力的顺序为:作物秸秆+厩肥(S+FM)>绿肥(GM)>厩肥(FM)>作物秸秆(S)>堆肥或沼渣(CM)。化学氮肥的种类对CH4排放有一定的影响,但特征不明显,而随着氮肥用量(N)的增加,CH4排放逐渐降低。当0<N≤150 kg N · hm-2,150<N<250 kg N · hm-2和≥250 kg N · hm-2时,CH4排放较不施任何肥料降低12%、29%和65%。中国稻田N2O 排放的地域性分布特征不明显。水稻生长季节水分管理方式、非水稻生长季水分状态和总氮投入量是影响N2O 排放的最重要的因素(P<0.05)。与CF 相比,F-D-F、F-D-F-M和M 能够提高稻田N2O 排放12%、140%和478%,而且在F-D-F、F-D-F-M 模式下的氮肥N2O 排放因子分别为0.43%和0.68%。不同非水稻生长季水分状态模式下N2O 排放平均值表明,SD、LD 和TD 比F 增加40%—110%的排放。【结论】稻田CH4和N2O 排放的消长关系表现在水分管理、非水稻生长季节的水分状态和氮素的投入量等方面。合理的减排措施应基于二者的综合考虑。通过优化稻田水肥管理措施可降低稻田CH4和N2O 排放的温室效应。

【英文摘要】【Objective】 By integrated analyzing field experimental results about CH4 and N2O emissions from rice field in China, the authors estimated the mitigation potential of various factors controlling CH4 and N2O emissions in order to provide some suggestions for reducing them in paddy field. 【Method】 A database of CH4 and N2O emissions from rice field in China wasconstructed in order to study the characteristics of two greenhouse gas emissions and analyze the factors which have a significant effect on them. 【Result】 There clearly existed a zonal distribution law of CH4 emission in China, which showed that the CH4 emissions from Southwest of China were far more than other rice planting areas. It was considered that the factors controlling CH4 emission were water management regimes in rice growing period, water status of non-rice growing season, types of organic or synthetic nitrogen fertilizer and levels of chemical nitrogen fertilizer input (P<0.05). Compared to continuously flooded (F), flooding-midseason drainage-reflooding (F-D-F), flooding-midseason drainage-reflooding-moist intermittent irrigation, but without water logging(F-D-F-M)and alternative flooding and drainage after transplanting, or moister irrigation but without water logging(M)reduced CH4 emission by 45%, 59% and 83%, respectively. Water status of non-rice growing season determined by croppingsystem also has a significant effect

on CH4 emission. The mode of short drainage (SD), long drainage (LD), and two drainage (TD)could reduce CH4 emission by 42%-56% compared to flooded (F). Simulated effect of organic amendments on CH4 emission fromrice field was decreased in the order of crop straw + farm manure (S+FM)>green manure (GM)>farm manure (FM)>crop straw (S)>composted farm manure and biogas digestion (CM). The effect of different types of chemical nitrogen fertilizer on CH4 emissionwas unclear. The CH4 emission decreased gradually with increasing chemical nitrogen fertilizer rate (N). When N was 0<N≤150 kgN · hm-2,150<N<250 kg N · hm-2 and N≥250 kg N · hm-2,CH4 emission was reduced by 12%, 29% and 65% compared withtreatment of non-fertilizer. There did not exist a zonal distribution law for N2O emission. The factors including water management regimes in rice growing period, the non-rice season water status, and total nitrogen fertilizer input were important for N2O emission (P<0.05). Compared to CF, the N2O emission was increased by 12%, 140% and 478% under F-D-F, F-D-F-M and M. The nitrogen fertilizer-induced N2O emission factors were 0.43% and 0.68% in F-D-F and F-D-F-M, respectively. By analyzing the water status of non-rice growing season, the average N2O emission increased by 40%-110% under SD, LD and TD, compared to F. 【Conclusion】There was a trade-off relationship between emission of CH4 and N2O from rice field, appeared water management regimes in rice growing period, water status of non-rice growing season, and the amount of synthetic nitrogen fertilizer. Mitigation measurements in rice fields should be taken consideration comprehensively both of CH4 and N2O emissions. Global worming potential of CH4 and N2O emission from rice field could be reduced by optimizing water regime and fertilizer management.

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【第一作者】石生伟
【通讯作者】李玉娥
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【题目】利用Cre/ lox 重组系统获得无选择标记的SKTI 抗虫转基因烟草
【中文关键词】Cre/ lo x 重组系统; SK TI 基因; 无选择标记; 抗虫转基因烟草
【英文关键词】Cr e/ lox site-specif ic recombinat ion system; SK T I gene; marker fr ee; t ransgenic to bacco r esist-ant to insect
【中文摘要】将置于两个同向lox 位点之间的Bar 基因表达盒与大豆胰蛋白酶抑制剂SK TI 基因表达盒融合后获得相应植物表达载体, 转化烟草Wisconsin 38 后获得对棉铃虫具有明显抗性的S K TI 转基因植株。S K TI 转基因植株通过叶盘二次转化法导入Cr e 基因, 对再生植株叶盘进行Bast a 的抗性检测, 检测Bar 基因的删除情况。结果表明: 绝大多数再生植株对应叶盘在含8 mg/ L PPT 的筛选培养基上无法再生, Bar 基因被删除的效率在38% ~100%之间。对Bar 基因删除区域进行PCR 及克隆测序后发现Bar 基因表达盒被精确删除。对B ar 基因删除植株开花自交获得的分离后代进行N PT 抗性检测, 5 株 NP T 敏感植株分子检测显示均只含有S K TI 基因而无Cre 基因存在, 为无选择标记基因的SK TI 转基因植株。
【英文摘要】A binary expressio n vector w as const ructed containing the insect icidal gene, soybean kunit z t rypsininhibito r (SK T I) , and a selectable Bar marker gene casset te, f lanked by lox sites. T he expressio n vecto rw as t ransformed into Wisconsin 38 to bacco plant s mediated by Ag robact er ium tumef aciens . The t ransgenicto bacco plant s show ed w ell resistance to cot ton bollw orm. T he Cr e gene w as subsequent ly int roduced intoSK TI t ransgenic tobacco plant s by r e-tr ansformation. T he Bar gene delet ion status was detected by testthe resistance to Basta of leaf discs fr om regener at ion plant s on the medium w ith PPT 8 mg L- 1 in it. Theresult s show ed few discs were able to regenerate normal ly on the medium. T he ex cision eff iciency of B armarker gene casset te w as 38% to 100%, depending on individual re-t ransformat ion events. Far ther PCR analyses and sequencing to the recombinat ion region indicated the ex cisio n of the Bar gene in highly precisedmanner. T he B ar g ene ex cised plants w er e self-fert ilized to make the SK T I gene segr eg ated f rom Cr e-N PT locus, 5 Kan senstiv e plant s w ere performed PCR analysis for both the SK T I gene and Cre gene, the resultsindicated all the 5 Kan senst ive plant s w ere marker fr ee SK T I t ransgenic to bacco plant s, by reason ofSK TI gene presented but Cr e gene absented in them.

【语种】中文
【第一作者】宋洪元
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【题目】Development of adjustable male sterile plant in broccoli by antisense DAD1 fragment transformation
【中文关键词】no
【英文关键词】Brassica oleracea L. var. italica; DAD1; adjustable male sterility; jasmonic acid and antisense RNA
【中文摘要】no
【英文摘要】Male sterile line is very important in hybrid seed production in broccoli (Brassica oleracea L. var. italica). A fragment of BoiDAD1F was amplified from this specie using primers designed against the conserved DAD1F fragment of DAD1 genes in Arabidopsis thaliana and Brassica rapa. The BoiDAD1F sequence was 88 and 99% similar to the homologous genes in Arabidopsis and B. rapa, respectively. The antisense BoiDAD1F was then cloned onto pBI 121 vector to make the transformation construct, pBI-antiBoiDAD1F. Cotyledons with petiole were inoculated with Agrobacterium tumefaciens harboring the pBI-antiBoiDAD1F plasmid. Positive transformation was confirmed using polymerase chain reaction (PCR) and Southern blots. Twenty individual transformants were obtained, of which 15 showed suppressed DAD1 mRNA level. Pollens produced by the male sterile transgenic plants germinated poorly (<= 10%). No seeds were produced on the flowering transgenic plants, and the siliquae were empty, or the few shrinked seeds, which failed to germinate. When pollinated with wild type plant pollen, the siliquas of the transgenic plants enlarged to produce normal seeds. No morphological differences were observed between the transgenic and wild type plants, except a few abnormal flowers on transgenic ones. To restore the fertility, exogenous JA were applied by dipping the floral buds into an aqueous solution containing 500 mu M MeJA and 0.05% Tween 20 after removal of the opened flowers on the inflorescence. The treated flower produced normal pollens which germinated on the medium, and were fertile. T1 population consisted of fertile and sterile plants in the ratio of 3:1. The T2 population comprised of both complete fertile and sterile lines. These results confirmed the Mendel model of separation of the antisense RNA insert in the transgenic plants.
【语种】英文
【第一作者】Chen, Guo-ju
【通讯作者】雷建军
【期刊名称、卷期、页码】AFRICAN JOURNAL OF BIOTECHNOLOGY 卷: 9 期: 29 页: 4534-4541
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【引文索引号】000280349100005
【学科分类】园艺学

【题目】菜心BrcuFCA 基因的克隆与表达分析
【中文关键词】菜心, 总RNA 提取, FCA 基因, 时空表达
【英文关键词】Flowering Chinese cabbage (Brassica campestris L. ssp. Chinensis (L.) Makino var. utilis), Total RNA extraction, FCA gene, Spatial and temporal expression
【中文摘要】本文以菜心(Brassica campestris L. ssp. chinensis (L.) Makino var. utilis)为实验材料,比较了Trizol法、改进Trizol法及改良SDS 法提取菜心总RNA 的效果。结果表明改进Trizol 法集中了操作简单、耗时短、所需试剂种类少,且完整性好,产量和纯度均高等多重优点,成为提取菜心总RNA 首选方案。同时文章以甘蓝型油菜及其它物种的FCA 保守区设计引物,将质量高的菜心总RNA 反转录合成cDNA,通过RT-PCR 从菜心的早、晚熟品种中均克隆得到与开花有关的基因片段,将之命名为BrcuFCA,片段长1 001 bp,GenBank 登录号为EU700363,与甘蓝型油菜及拟南芥FCA 氨基酸同源性分别达到了98%和82%。另一方面,本研究还利用半定量RT-PCR 研究了BrcuFCA 不同时空表达特性,并结合已发表的开花调控遗传途径中两个关键基因BrcuFLC 和BrcuFRI 时空表达特性研究结果,推测菜心主要的抽薹开花途径不是春化和FRI- 依赖途径,而很可能是自主开花途径。本研究为菜心抽薹开花分子机理的研究提供理论依据。
【英文摘要】In this paper, we used the flowering Chinese cabbage (Brassica campestris L. ssp. chinensis (L.) Makinovar. utilis) as the experimental material and compared the total RNA effect which was extracted by Trizol method,modified Trizol method and modified SDS method respectively. the results showed that modified Trizol method hadseveral advantages, such as simply manipulate, consume time shortly, the little types of needed reagents, the RNAintact well, high yield and purity, and so on, which was most fit for extraction total RNA of flowering Chinese cabbage.Meanwhile, we desinged the primers based on the conserved sequence of FCA gene of Brassica napus and otherspecies, and then the high quality total RNA was synthesed into the cDNA by reverse transcriptase. We cloned a1 001 bp fragment from the early varity and the late varity flowering Chinese cabbage respectively, which was relevantto flowering, named

BrcuFCA and its GenBank accession number was EU700363, further comparison to thegene of Brassica napus FCA and Arabidopsis thaliana FCA, the result showed that the homology of amino acid sequencewas 98% and 82% respectively. On the other hand, we still utilized semi-quantitative RT-PCR to investigatethe different spatial and temporal expression of BrcuFCA, according to BrcuFLC and BrcuFRI, two key genes offlowering-related genetic pathway, we presumed that the main pathway of bolting-flowering regulation of floweringChinese cabbage didn't go back to the vernalization pathway and FRI-dependent pathway, but might be the auto-flowering pathway. The results of this research would provide theoretical basis for investigation the molecular mechanismof flowering Chinese cabbage bolting and flowering

【语种】中文
【第一作者】肖旭峰
【通讯作者】雷建军
【期刊名称、卷期、页码】基因组学与应用生物学,2010 年,第29 卷,第1 期,第31-36 页
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【学科分类】园艺学

【题目】利用Cre/lox 重组系统获得烟草TA29-Barnase 基因工程雄性不育恢复系
【中文关键词】TA29-Barnase 雄性不育基因, Cre/lox 重组系统, 雄性不育, 育性恢复, 烟草
【英文关键词】TA29-Barnasemale sterile gene, Cre/lox site-specific recombination system, Male sterility, Fertility restoring, Nicotiana tabacum
【中文摘要】结合F1杂种的生产原理,利用Cre/lox 重组系统,建立了一种完全有别于Barnase/Barstar 恢复途径的基因工程雄性不育恢复系。将TA29-Barnase 雄性不育基因表达盒置于两个同向lox 位点之间并与Bar 基因融合后获得植物表达载体pBinBarloxTABn,通过农杆菌介导的叶盘转化法将其转入Wisconsin 38 烟草获得了雄性不育转基因烟草植株。雄性不育转基因植株表现花药瘦小,不饱满,花粉量明显偏少,花粉畸形、皱缩、塌陷、极少萌发,自交无法正常座果结子。TA29-Barnase 雄性不育转基因植株用来自pBinCre 转基因植株的花粉授粉后则能正常结果结子。分别从pBinCre 转基因植株C1 与转基因雄性不育植株BN1、BN6 杂交后代中筛选到23 株、22 株Kan 和PPT 双抗性植株,分子检测结果显示两个杂交组合后代中凡同时含Cre基因和Bar 基因的F1植株,其TA29-Barnase 雄性不育基因均被删除,删除效率达到100%。F1植株中的TA29-Barnase 基因被删除后,育性被恢复,能正常开花结果。
【英文摘要】According to the principle of F1 hybrid production, a new approach to restore the fertility of engineeredmale sterility induced by Barnase gene was constructed using the Cre/lox site-specific recombination system, whichwas distinct from the Barnase/Barstar restoring approach. In this study, the TA29-Barnase male sterile gene expressioncassette that flanked by two directly oriented lox sites and the Bar gene expression cassette were assembledinto pBinBarloxTABn plant expression vector. The vector was transformed into Wisconsin 38 tobaccogenome to produce male sterile plants by Agrobacterium tumefaciens-mediated leave disc transformation method.The male sterile plants appeared anther thinness, unfull and poor pollen produced. The pollen of male sterile plantswas unnormal, crimpy, and lost the germination ability, and no normally expanded fruits and seeds formation wereobserved after self-pollinated. However, there were the normally fruits and seeds appeared on the TA29-Barnasemalesterile plants after pollinated using pollens from pBinCre transgenic plant. Total 23 F1 progenies from thecross combination between pBinCre transgenic plant C1 and male sterile transgenic plant BN1, 22 F1 progeniesfrom cross combination C1 and BN6 with resistance to kanamycin and PPT were screened out respectively, thePCR analysis results indicated the TA29-Barnase gene expression cassette in the genome of those progenies contained both Cre and Bar genes had been excised efficiently, the deletion rate reached 100% for both the BN1×C1and BN6×C1 cross combinations. Those progenies that TA29-Barnase gene deleted could flower and fruit normally,indicated the male sterility had been restored.
【语种】中文
【第一作者】宋洪元
【通讯作者】雷建军
【期刊名称、卷期、页码】农业生物技术学报,2010 年,第18 卷,第3 期,第468-475 页
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【学科分类】园艺学

【题目】基于AlcR/alcA 和Cre/loxP 系统的标记基因诱导删除体系
【中文关键词】Cre/loxP 重组系统;AlcR/alcA 诱导系统;删除;选择标记基因
【英文关键词】Cre/loxP recombination system; AlcR/alcA induce system; excision; selectable markers
【中文摘要】【目的】通过构建能够在植物生长发育阶段经乙醇诱导将选择标记基因删除的载体,消除选择标记基因带来的潜在安全隐患。【方法】利用AlcR/alcA 诱导系统和Cre/loxP 位点特异性重组系统删除选择标记基因。当外源诱导物乙醇存在时,激活下游Cre 的表达。Cre 重组酶识别2 个同向loxP 位点,剔除位点之间的DNA 片段,包括选择标记基因、AlcR/alcA 系统和Cre/loxP 系统,而目的基因gus 在诱导前后均为组成型表达。【结果】拟南芥转基因植株受乙醇诱导严格控制Cre 表达的“开”和“关”。经诱导的转基因植株不能在选择培养基上继续生长。分子生物学检测显示,2 个同向loxP 位点间序列均已删除,表明标记基因删除效果明显。【结论】基于AlcR/alcA 和Cre/loxP 系统的标记基因诱导删除体系切实可行,有广泛的应用前景。
【英文摘要】【Objective】To eliminate the potential risk in safety raised by selectable markers, an ethanol inducible excisionsystem of selectable markers was constructed, which can be used during plant growth and development. 【Method】 The selectablemarkers can be removed based on AlcR/alcA inducible system and Cre/loxP site-specific recombination system. In the presence ofthe exogenous inducer, the activation of the downstream Cre gene was enabled. Cre recombinase identified and catalyzed excision ofthe intervening sequence between two directly oriented loxP sites, including selectable marker gene, AlcR/alcA and Cre/loxP system.The gene of interest, gus, was constitutively expressed before and after induction. 【Result】 The Arabidopsis thaliana transgenicplants were induced by ethanol. The results revealed that ethanol tightly control the“on”and“off”of the expression of Cre gene.After induction, the transgenic plants could not continuously grow on selective medium, which indicate the selectable marker wasremoved efficiently. The molecule analysis revealed the DNA fragment between two directly oriented loxP sites has been excised.【Conclusion】 The results demonstrate that the excision of selectable markers based on inducible AlcR/alcA and Cre/loxP systemsis reliable, and has a bright future.
【语种】中文
【第一作者】赵青
【通讯作者】姚磊
【期刊名称、卷期、页码】中国农业科学 2011,44(17):3491-3500
【论文发表时间】2011-09-21 00:00:00
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【引文索引号】
【学科分类】园艺学

【题目】三种哺乳动物初乳乳汁氨基酸含量的比较
【中文关键词】哺乳动物;初乳;氨基酸;人;猪;牛
【英文关键词】mammal;colostrum;amino acid;human;cow;sow
【中文摘要】采用高效液相色谱法分析了人、牛、猪3种哺乳动物的初乳乳汁中氨基酸含量,结果表明:谷氨酸的含量在3种哺乳动物的初乳乳汁中是最高的,而蛋氨酸的含量最低;从3种动物比较来看,猪乳与牛乳的氨基酸含量比较接近,而人乳与其他两种动物有较大的差异。
【英文摘要】The amino acid content in the colostrum of humans,cows and pigs were analyzed by hish performance liquid chromatography(HPLC).The results indicated that Glu was the most abundant amino acid and Met Was the least in the colostrum samples;the amino acid content in cow’s milk Was similar to sow’s milk,while they both showed a significant difference from human milk.
【语种】中文
【第一作者】韩立强
【通讯作者】王艳玲
【期刊名称、卷期、页码】四川动物,2009,28(4):575-578.
【论文发表时间】2009-07-01 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】畜牧学

【题目】黑龙江省乳业发展存在的问题及建议
【中文关键词】关键词:黑龙江;乳业;现状,优势,问题,建议
【英文关键词】Heilongjiang; Dairy; Status, advantages, problems, Suggestions
【中文摘要】随着我国人民生活水平的提高和政府对乳业的重视和鼓励,近年来我国乳品消费量每年以15%的速度快速增长.乳制品行业已成为近几年迅猛发展的新兴产业之一,被社会认为是具有良好发展前景的"朝阳"产业.
【英文摘要】
【语种】中文
【第一作者】宿宁宁
【通讯作者】单安山
【期刊名称、卷期、页码】黑龙江畜牧兽医,2007,7:17-19
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【学科分类】畜牧学

【题目】荧光真核表达载体pEOFP—NI—hTERT的构建及鉴定
【中文关键词】hTERT;重组质粒;永生化
【英文关键词】HTERT; Restructuring plasmid; Ever biochemical
【中文摘要】采用限制性内切酶EeoR l和Sal 1双酶切质粒pBABE—hygro—hq、ER—I,获取端粒酶催化亚基(hTERT)。将其定向克隆至载体pEGFP N1,构建重组的荧光真核表达载体pEGFP N1一hTERT。经双酶切、测序及转染成纤维细胞鉴定均证实hTER'I、基因已插入pEGFP~N1载体中,成功构建了荧光真核表达栽体pEGFP—NI—hTERT。构建的pE(~FP NI hq、ERq、,为进一步筛选目的细胞和建立永生化细胞系奠定了基础。
【英文摘要】
【语种】中文
【第一作者】梁榕旺
【通讯作者】赵国琦
【期刊名称、卷期、页码】上海畜牧兽医通讯,2009,6:2-4.
【论文发表时间】2009-12-01 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】畜牧学

【题目】大豆黄酮和染料木素对奶牛瘤胃夜内主要养分相关酶活性的影响
【中文关键词】大豆黄酮;染料木素;瘤胃酶活;奶牛
【英文关键词】Soybean flavonoids; Genistein; Rumen enzyme live; cows
【中文摘要】采用3×3 拉丁方试验设计,每组奶牛分别饲喂不同日粮,(基础日粮)为Ⅰ组、(基础日粮+ 200 mg 大豆黄酮/(d·头- 1))为Ⅱ组、(基础日粮+ 200 mg 染料木素/(d·头- 1))为Ⅲ组,测定大豆黄酮和染料木素对奶牛采食后2 h 瘤胃内与粗纤维、淀粉及蛋白质降解相关酶活性的影响。结果表明:二者在一定程度上均显著提高了瘤胃内微晶纤维素酶、羧甲基纤维素酶、水杨苷酶、木聚糖酶的活性(P < 0.05);淀粉酶和蛋白水解酶活性方面,大豆黄酮和染料木素均没有对各组活性产生显著影响(P > 0.05)。
【英文摘要】
【语种】中文
【第一作者】刘春龙
【通讯作者】单安山
【期刊名称、卷期、页码】中国畜牧杂志,2009,45(5):39-41.
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【引文索引号】

【学科分类】兽医学

【题目】Toll 样受体在牛体内抗原呈递细胞中的研究进展
【中文关键词】toll样受体,牛,抗原递呈,细胞
【英文关键词】Toll sample receptor, cattle, antigen is deferred, cells
【中文摘要】免疫系统起着发现和消除入侵病原的作用,在哺乳动物体内它可以分为天然性免疫和获得性免疫两部分。获得性免疫可以通过B细胞和T细胞表面受体识别自身抗体和病原抗体。另一方面,天然性免疫中Toll样受体是近年来备受关注的一种病原体识别受体,它在固有免疫中通过对病原体相关的分子模式(PAMP)的识别发挥作用,通过刺激信号的级联反应导致细胞因子的产生和协同刺激凶子的表达。
【英文摘要】
【语种】中文
【第一作者】郭熠洁
【通讯作者】赵国琦
【期刊名称、卷期、页码】中国兽医杂志,2009,45(3):47-48.
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【引文索引号】
【学科分类】兽医学

【题目】啤酒糟与统糠混合发酵饲料品质研究
【中文关键词】啤酒糟;统糠;混合青贮
【英文关键词】Beer meal; All chaff; Silage mixed
【中文摘要】将啤酒糟与统糠均匀混合配制成含水量分别为40%(Ⅰ组) 、50%(Ⅱ组) 、60%(Ⅲ组) 、70%(Ⅳ组) 的4 种处理,袋装发酵贮藏,在30、60、90、120 d 开袋取样进行感官评定,测定pH 值、氨态氮、干物质、粗蛋白、中、酸性洗涤纤维及有机酸, 结果表明: 感官评定Ⅰ、Ⅱ、Ⅲ组明显优于第Ⅳ组;pH 值和NH3- N/ tN 的评定Ⅰ组(3.83、3.63%) 、Ⅱ组(3.45、4.84%) 和Ⅲ组(3.51、4.77%) 均低于Ⅳ组(3.91、5.58%) ;乳酸含量Ⅰ组(1274.15 μmol/ g) 、Ⅱ组(1 368.35 μmol/ g) 和Ⅲ组(2 661.82 μmol/ g) 均高于Ⅳ组(853.14 μmol/ g) ;粗蛋白、干物质、中性洗涤纤维、酸性洗涤纤维分解率随发酵时间增加逐渐增大且趋于稳定。
【英文摘要】
【语种】中文
【第一作者】黄俊
【通讯作者】赵国琦
【期刊名称、卷期、页码】中国畜牧杂志,2009,,4(19):37-40.
【论文发表时间】2008-10-10 00:00:00
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【引文索引号】
【学科分类】畜牧学

【题目】不同饲喂模式对奶牛采食和瘤胃发酵的影响
【中文关键词】饲喂模式;瘤胃发酵;奶牛
【英文关键词】feeding pattern;rum en ferm entation;dairy cow
【中文摘要】为采用4 头体重(600±50)kg、装有永久性瘤胃瘘管的中国荷斯坦经产奶牛进行试验,比较传统精粗分开饲喂向全混合日粮(T M R)转换时泌乳奶牛的采食、瘤胃发酵及生产性能的变化。试验动物所用日粮组成在整个试验期完全相同。前17 d 采用精粗饲料分开饲喂的模式,后13 d 则采用T M R 进行饲喂。在由传统的精粗分开饲喂向T M R 饲喂转换过程中,试验牛的日粮干物质采食量(D M I)、中型洗涤纤维进食量(N D FI)差异极显著(P < 0.01),而与之相对应的采食时间差异不显著;全天的瘤胃pH 值试验期前后比较无明显差异,但pH 曲线但有趋于平稳的趋势,瘤胃中氨态氮浓度在试验期结束时差异极显著(P < 0.01)。
【英文摘要】Four cannulated,m ultiparous dairy cows with average body weightof (600±50)kg were assigned to this experim ent.The objective of this experim ent was to com pare the effect of feeding m anagem ent on eating behavior, rum en ferm entation,and m ilk production when the diet offered to cows was changed from separate intake to TM R intake.The triallasted 37 days,and the

dietsoffered to anim alswere identicalon the com ponents.D uring First17 days the concentrates and forage were seperated when offered to dairy cows,then were offered TM R .D uring this trial,D M I and N D FIwere significantly increased (P < 0.01),butthe eating tim e was notdifferent (P > 0.05);rum en pH was not m uch differentsignificantly (P > 0.05),butthe pH wasstable;N H 3-N wassignificantly increased during thisperiod (P < 0.01).

【语种】中文
【第一作者】王亮亮
【通讯作者】李胜利
【期刊名称、卷期、页码】中国畜牧杂志,2007,43(1):28-30.
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【学科分类】畜牧学

【题目】瘤胃尼龙袋法和体外产气法评定反刍动物饲料营养价值的比较
【中文关键词】瘤胃尼龙袋法;体外产气实验;反刍动物
【英文关键词】in situ nylon bag technique;in vitro gas production;ruminant
【中文摘要】试验通过评定菜籽粕、玉米、米糠、苜蓿、玉米青贮和玉米秸秆的营养价值来比较瘤胃尼龙袋法和体外产气实验。结果表明:各种饲料的干物质有效降解率分别为52 90%、54 27%、65.70%、40 76%、37 24%和38 17%,精饲料千物质有效降解率(EDMD)中,a部分占比例较高(其中米糠达到64 51%);每克饲料DM的渐进产气量(A)分别为105 00、180 51、109 30、172 71、147 76和148.66mL,粗饲料的产气量普遍高于精饲料;两种方法中,产气参数A、B与EDMD均呈负相关(,=一0.55和r=一061)。从速率曲线来看,降解速率曲线主要反映了b部分的降解情况,而饲料产气的速率曲线却能明显反映出两相的发酵情况。
【英文摘要】The experiments was designed to compare two methods between in shu nylon bag technique and in vitro gas production by evaluating the value of rapeseed meal,maize,rice bran,alfalfa,tortl silage and corn stalk.From the parameters of two techniques,the effective degradation of DM(EDMD)of difierent feed were 52.90%,54 27%, 65.70%,40.76%.37.24%and 38.17%,respectively.Part awasmostly accountedforthe EDMDin concentratefe.g, 64.51%for rice bran).The asymptotic gas production per grant(A)of individual feeds were for forages were 105.00, 180.51,109 30,172.71,147.76 and 148 66 mL,respectively.A for forages were higher than that of concentrates generally.The parameters of in vitro gas production(A and B1 were both negatively correlative with EDMD(r=一O.55 and-0.61).Frmn the rate curve of two methods,the rate eurve of Fumen degradation anly reflected the fermentation of part b,but that of gas production was evidently indicated more than the fermentation of two phases.
【语种】中文
【第一作者】谢春元
【通讯作者】杨红建
【期刊名称、卷期、页码】中国畜牧杂志,2007,43(17):39-42.
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【学科分类】畜牧学

【题目】棉籽及其脱脂饼粕在奶牛日粮中的应用
【中文关键词】棉籽; 脱脂饼粕; 奶牛
【英文关键词】Cottonseed; Skim bread meal; cows
【中文摘要】就棉籽及其脱脂饼粕对奶牛产奶量、奶成分、经济效益、干物质采食量、体重、瘤胃氮代谢、血液和肝脏指标的影响及在奶牛日粮中使用时应注意的问题等进行简要介绍。
【英文摘要】
【语种】中文
【第一作者】郭翠华
【通讯作者】李胜利
【期刊名称、卷期、页码】中国畜牧杂志,2007,43(13):56-57.

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【引文索引类型】其他
【引文索引号】
【学科分类】畜牧学

【题目】牛乳体细胞数对牛奶品质的影响
【中文关键词】畜牧学;体细胞数;综述;牛奶品质;牛
【英文关键词】animal science;somatic cell count;a review;milk quality;cow
【中文摘要】随着奶牛业和乳品业的迅速发展,牛奶体细胞数在牛奶生产中的重要作用越来越得到人们的重视。本文综述了影响牛奶体细胞数的因素、体细胞数在奶牛生产中的应用及其对乳及乳制品品质的影响。
【英文摘要】Recently,as the dairy industry.developed dramatically,people became to realize the importance of SOEllatic cell count(SCC)in the dairy industry.This paper reviewed factors affecting SCC,the effects of SCC on the dairy quality and the application of SCC in dairy cattle production.
【语种】中文
【第一作者】朱正鹏
【通讯作者】单安山
【期刊名称、卷期、页码】中国畜牧杂志,2006,42(13):47-49.
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【学科分类】畜牧学

【题目】Development of Molecular Markers Linked to Cladosporiumfulvum Resistant Gene Cf-6 in Tomato by RAPD and SSR Methods
【中文关键词】Cladosporium fulvum,Cf-6
【英文关键词】Cladosporium fulvum,Cf-6
【中文摘要】Leaf mold, caused by the fungus Cladosporium fulvum, is a serious disease of tomato. In the current study, the main physiological races of C. fulvum collected from three northeastern provinces of China were identified using a set of identification hosts. The results showed that the prevalent pathogenic physiological races were 1.2.3, 1.3, 3, 1.2.3.4, and 1.2.4. F1, F2, and BC1 tomato plants were obtained by crossing C. fulvum-resistant cultivar 03748 carrying the Cf-6 gene and susceptible cultivar 03036. Three 10-mer oligonucleotide random amplified polymorphic DNA (RAPD) primers and two simple sequence repeat (SSR) primers were selected for the further molecular marking analysis after 210 RAPD primers and 50 SSR primers were screened using the bulked segregate analysis method. The polymorphic DNA bands were amplified among parents, 10 F1 plants, 184 F2 plants including 145 resistant plants and 39 sensitive plants using three RAPD primers and two SSR primers so that three RAPD molecular markers and two SSR molecular markers linked to the Cf-6 loci were identified. Three RAPD markers were linked to the Cf-6 resistant locus separated with 8.7 cM, 20.3 cM, and 33.4 cM. Also, one RAPD codominant marker S374619/559 was found. The locations of the two SSR markers were 12.6 cM and 9.7 cM away from the Cf-6 locus. After cloning and sequencing two specific DNA fragments closely connected to the Cf-6 resistant and susceptible alleles respectively, in the RAPD codominant marker S374619/559 and one codominant sequence characterized amplified region marker S674619/559 was converted from RAPD marker S374619/559. In the RAPD marker S374619/559, the length difference of two specific fragments, 619-bp fragment and 559-bp fragment, is the result of one insertion (60 bp) in the 619-bp fragment. These markers will facilitate the selection of resistant tomato germplasm containing the Cf-6 gene and cloning of Cf-6 to breed new C. fulvum resistant tomato cultivars.
【英文摘要】Leaf mold, caused by the fungus Cladosporium fulvum, is a serious disease of tomato. In the current study, the main physiological races of C. fulvum collected from three northeastern provinces of China were identified using a set of identification hosts. The results showed that the prevalent pathogenic physiological races were 1.2.3, 1.3, 3, 1.2.3.4, and 1.2.4. F1, F2, and BC1 tomato plants were obtained by crossing C. fulvum-resistant cultivar 03748 carrying the Cf-6 gene and susceptible cultivar 03036. Three 10-mer oligonucleotide random amplified polymorphic DNA (RAPD) primers and two simple sequence repeat (SSR) primers were selected for the further molecular marking analysis after 210 RAPD primers and 50 SSR primers were screened using the bulked segregate analysis method. The polymorphic DNA bands were amplified among parents, 10 F1 plants, 184 F2 plants including 145 resistant plants and 39 sensitive plants using three RAPD primers and two SSR primers so that three RAPD molecular markers and two SSR molecular

markers linked to the Cf-6 loci were identified. Three RAPD markers were linked to the Cf-6 resistant locus separated with 8.7 cM, 20.3 cM, and 33.4 cM. Also, one RAPD codominant marker S374619/559 was found. The locations of the two SSR markers were 12.6 cM and 9.7 cM away from the Cf-6 locus. After cloning and sequencing two specific DNA fragments closely connected to the Cf-6 resistant and susceptible alleles respectively, in the RAPD codominant marker S374619/559 and one codominant sequence characterized amplified region marker S674619/559 was converted from RAPD marker S374619/559. In the RAPD marker S374619/559, the length difference of two specific fragments, 619-bp fragment and 559-bp fragment, is the result of one insertion (60 bp) in the 619-bp fragment. These markers will facilitate the selection of resistant tomato germplasm containing the Cf-6 gene and cloning of Cf-6 to breed new C. fulvum resistant tomato cultivars.

【语种】英文
【第一作者】Aoxue Wang
【通讯作者】李景富
【期刊名称、卷期、页码】Hortscience, 2007, 42(1): 11-15
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【学科分类】园艺学

【题目】胁迫下番茄叶片差异表达基因的cDNA-AFLP分析
【中文关键词】番茄;高温胁迫;cDNA-AFLP;差异表达基因
【英文关键词】tomato;Solanum lycopersicum;heat stress;cDNA-AFLP;differentially expressed genes
【中文摘要】为鉴定番茄高温胁迫响应基因,应用cDNA—AFLP技术,以番茄耐热品系Saladette幼苗为研究 对象,对高温胁迫早期叶片基因表达进行了mRNA指纹分析。通过768对引物组合的筛选,共分离得到 187个差异表达的转录衍生片段(TDF),其中增强表达或高温胁迫下特异性表达TDF153条,抑制表达34 条。对其中47个TDF进行了克隆、测序和序列分析。结果表明:34个TDF与NCBI或TIGR已有序列同源 (E-Value<10。),功能涉及信号传导、转录调控以及逆境诱导蛋白等,另有l3个TDF无同源序列或同源 性低,预测是一些未知功能基因。
【英文摘要】In order to identify genes involved in heat shock responses in tomato.cDNA-AFLP approach was employed to identify genes differentially expressed in tomato leaves at high temperature。 Seven hundred and sixty-eight primer combinations were used for selective amplification.One hundred and eighty-seven TDFs were selected for their difierential expression under heat stress.Among the 1 87 TDFs,153 TDFs were up-regulated and 34 TDFs were suppressed.Forty-seven TDFs were cloned and sequenced.Compared with the pub- licly available databases,34 TDFs presented some significant similarity with known plant sequences,whose functions are involved in gene regulation,transcription factor,signal transduction,stress defense,etc.Thir- teen TDFs with low identity and no match to known genes may represent novel tomato genes

【语种】中文
【第一作者】刘志勇
【通讯作者】杜永臣
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【引文索引号】0513-353X(2008)07-1011-06
【学科分类】园艺学

【题目】抗冷转录因子CBF在植物抗冷中角色
【中文关键词】CBF 耐低温 分子机制
【英文关键词】CBF,cold tolerance,molecular mechanism
【中文摘要】综述了转录激活因子CBF基因的发现过程、调控机制及其在植物抗冷性方面的主要功能,并对受CBF基因调控的抗冷机制与受ABA调控抗冷信号传导途径的相关性进行了详细阐述。
【英文摘要】In this paper, the history,the regulation mechanism and key function of the transcription factors CRT/DRE-binding factor (CBF) genes in cold response were reviewed. The relationship between cold tolerant regulated by CBF and ABA was also discussed in this review.

【语种】中文
【第一作者】张丽丽
【通讯作者】王傲雪
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【引文索引类型】其他
【引文索引号】200835-5765771
【学科分类】园艺学

【题目】番茄抗叶霉病基因Cf6的RAPD及SCAR标记
【中文关键词】番茄叶霉病;Cf 6 基因;RAPD;SCAR
【英文关键词】Fulvia fulva; Cf6 ; RAPD; SCAR
【中文摘要】【目的】寻找与番茄抗叶霉病基因Cf6连锁的分子标记。【方法】以番茄抗叶霉病和感叶霉病亲本组合(03036×03748)的 F 2 分离群体为研究材料,采用 BSA 法和 RAPD 技术筛选与抗病基因连锁的分子标记。【结果】经 F 2 单株分析,在后代群体中扩增出了两条长约 500 bp 的特异片段,该特异标记与叶霉病抗性基因Cf6紧密连锁,遗传距离为 8.7 cm。测序结果显示,目标片段的大小分别为 619 bp 和 559 bp,并将该标记转换为 SCAR 标记。【结论】SCAR 标记,可用于番茄叶霉病抗性分子标记辅助育种。
【英文摘要】【Objective】The study identified the molecular marker linked to Fulvia fulva resistant gene Cf6 n tomato. 【Method】 With a F 2 population between a resistant and a susceptible parent (03036×03748), the linked marker was screened by BSA method and RAPD technology. 【Result】Two specific bands were found at the 500 bp region using F 2 -based bulked segregant analysis plants. An RAPD marker was tightly linked to Fulvia fulva resistant gene Cf6 in tomato, with a genetic distance of 8.7 cm, The RAPD marker was converted into SCAR marker. Sequencing of the fragment indicated that the length was 619 bp and 559 bp, respectively.【Conclusion】SCAR markers could be applied to identify the resistance to Fulvia fulva, and can be used in molecular marker-assisted breeding practice.
【语种】中文
【第一作者】孟凡娟
【通讯作者】李景富
【期刊名称、卷期、页码】中国农业科学, 2008, 41(7): 2191-2196
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【学科分类】园艺学

【题目】Molecular identification and the complete nucleotide sequence of TYLCV isolate from Shanghai of China
【中文关键词】Molecular identification - Complete nucleotide sequence - TYLCV - Isolate - Shanghai - DNA-A
【英文关键词】Molecular identification - Complete nucleotide sequence - TYLCV - Isolate - Shanghai - DNA-A
【中文摘要】Tomato yellow leaf curl virus (TYLCV) belongs to the genus Begomovirus, family Geminiviridae. It is transmitted by the whitefly Bemisia tabaci. A pair of primers was designed according to the specific sequence of the TYLCV gene and used in the PCR detection of the virus in the infected tissues of tomato grown in the Shanghai area of China. DNA was extracted from leaves, fruits, seeds, and roots of infected tomato plants separately. The results showed that the target fragment of about 570 bp could be isolated from the leaves, fruits, roots of infected tomato plants, but not from the seeds. Thus, the PCR-based detection technology for the Shanghai TYLCV (TYLCV-Sh10) has been established. Primers were then designed based on the sequence of the 570 bp fragment to obtain the complete DNA-A sequence of TYLCV-Sh10 by genome walking. Sequencing results indicated that the DNA-A sequence of TYLCV-Sh10 contained 2781 nt that included six ORFs. BLAST results showed that DNA-A of TYLCV-Sh10 had low homology with the characterized TYLCV in China (TYLCCNV) except TYLCV-ZJ8 (TYLCV isolated from Zhejiang China). But it was most closely related to TYLCV-USA (99.28% sequence identity). TYLCV-Sh10, TYLCV-ZJ8, TYLCV-USA, TYLCV-Mex, and TYLCV-Eg formed an independent branch by pairwise comparison and phylogenetic analysis. All these results strongly suggested that Sh10 was an isolate of America or Africa TYLCV.

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【语种】英文
【第一作者】Zhang Yongping
【通讯作者】朱为民
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【引文索引号】0920-8569
【学科分类】园艺学

【题目】多重PCR技术鉴定番茄Ty-1和Mi基因
【中文关键词】番茄, Ty-1, Mi, 多重 PCR, 分子标记
【英文关键词】Tomato, Ty-1, Mi, Multi-PCR, Molecular marker
【中文摘要】利用同一 PCR 反应体系,对分别与番茄(Lycopersion esculentum)抗黄化曲叶病毒(Tomato Yellow Leaf Curl virus)病的 Ty-1 基因和番茄抗根结线虫(root-knot nematode)的 Mi 基因紧密连锁的 SCAR 标记进行同时扩增筛选,扩增的特异性片段与单引物扩增片段完全吻合。与 Ty-1 基因紧密连锁的 SCAR1 标记为共显性标记,抗感材料均产生 398bp 的特异片段,纯合和杂合抗病基因型存在 Taq I 酶切位点,酶切后分别产生了 30
【英文摘要】Ty-1 and Mi in tomato (Lycopersicon esculentum) tightly linked with two SCAR markers and respectively resistant to Tomato Yellow Leaf Curl virus and root-knot nematode were amplified and screened by using asingle PCR reaction. The PCR products were com
【语种】中文
【第一作者】于力
【通讯作者】朱为民
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【引文索引号】0861-1651(2008)06-0016-05
【学科分类】园艺学

【题目】番茄晚疫病病原菌生物学特性研究
【中文关键词】晚疫病;生物特性;纯化
【英文关键词】晚疫病;生物特性;纯化
【中文摘要】文章对番茄晚疫病病原菌生长温度及其污染纯化进行了初步研究。结果表明,番茄晚疫病病原菌可耐最 高温度43℃,4 cc情况下菌丝仍可以生长,孢子囊在8 h后所有的孢子释放完毕,同时提出了病原菌旁染后纯化方法。
【英文摘要】文章对番茄晚疫病病原菌生长温度及其污染纯化进行了初步研究。结果表明,番茄晚疫病病原菌可耐最 高温度43℃,4 cc情况下菌丝仍可以生长,孢子囊在8 h后所有的孢子释放完毕,同时提出了病原菌旁染后纯化方法。
【语种】中文
【第一作者】康立功

【通讯作者】李景富
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【学科分类】园艺学

【题目】番茄晚疫病病原菌生物学特性研究(Ⅱ)
【中文关键词】番茄;晚疫病;生物学特性
【英文关键词】番茄;晚疫病;生物学特性
【中文摘要】对番茄晚疫病病原菌生物学特性如培养基、pH、温度、光照对菌丝生长、产孢影响进行了试验研 究。结果表明:菌丝生长及产孢最佳培养基是黑麦培养基;番茄晚疫病菌茵丝生长的最适宜温度为20℃;最适宜 的产孢温度为(20±2)℃;病菌生长的最适pH 6.0~7.0;适宜产孢的pH 7.0;光照不利于病菌的生长及产孢。
【英文摘要】对番茄晚疫病病原菌生物学特性如培养基、pH、温度、光照对菌丝生长、产孢影响进行了试验研 究。结果表明:菌丝生长及产孢最佳培养基是黑麦培养基;番茄晚疫病菌茵丝生长的最适宜温度为20℃;最适宜 的产孢温度为(20±2)℃;病菌生长的最适pH 6.0~7.0;适宜产孢的pH 7.0;光照不利于病菌的生长及产孢。
【语种】中文
【第一作者】康立功
【通讯作者】许向阳
【期刊名称、卷期、页码】东北农业大学学报, 2009, 39(11): 23-27
【论文发表时间】2009-11-25 00:00:00
【引文索引类型】其他
【引文索引号】1005-9369(2008)11-0023-05
【学科分类】园艺学

【题目】RAGA的投影寻踪模型在番茄杂交组合综合评价中的应用
【中文关键词】番茄;杂交组合;综合评价;RAGA;PPc
【英文关键词】番茄;杂交组合;综合评价;RAGA;PPc
【中文摘要】针对番茄育种杂交组合间的优劣排序问题,采用基于实数编码加速遗传算法(RAGA)的投影寻踪分 类模型(PPC)来评价样本的优劣,对番茄21个杂交组合l3个性状进行综合分析。结果表明,78x76组合表现为高产、优质,硬度大、耐贮运,各方面性状能够互相兼顾,是综合性状最优良的组合。
【英文摘要】针对番茄育种杂交组合间的优劣排序问题,采用基于实数编码加速遗传算法(RAGA)的投影寻踪分 类模型(PPC)来评价样本的优劣,对番茄21个杂交组合l3个性状进行综合分析。结果表明,78x76组合表现为高产、优质,硬度大、耐贮运,各方面性状能够互相兼顾,是综合性状最优良的组合。
【语种】中文
【第一作者】关法春
【通讯作者】李景富
【期刊名称、卷期、页码】东北农业大学学报, 2008, 39(001): 29-33
【论文发表时间】2008-01-25 00:00:00
【引文索引类型】其他
【引文索引号】1005-9369(2008)01-0029-05
【学科分类】园艺学

【题目】NaCl胁迫对不同番茄种子萌芽的影响
【中文关键词】番茄;耐盐性;鉴定指标
【英文关键词】番茄;耐盐性;鉴定指标
【中文摘要】用盐水浸种催芽方法,用50、100、150、200、250、300mmol/L 6个浓度的盐水处理5个番茄品 种,并对他们的发芽势、发芽率、发芽指数及萌发活力指数等指标进行测定,发现5个番茄品种在各指标间差异显著,但各指标间存在着联系,表现基本一致。

【英文摘要】用盐水浸种催芽方法,用50、100、150、200、250、300mmol/L 6个浓度的盐水处理5个番茄品 种,并对他们的发芽势、发芽率、发芽指数及萌发活力指数等指标进行测定,发现5个番茄品种在各指标间差异显著,但各指标间存在着联系,表现基本一致。
【语种】中文
【第一作者】刘洪兰
【通讯作者】李景富
【期刊名称、卷期、页码】东北农业大学学报, 2008, 39(005): 28-33
【论文发表时间】2008-05-25 00:00:00
【引文索引类型】其他
【引文索引号】1005-9369(2008)05-0028-06
【学科分类】园艺学

【题目】番茄分子遗传图谱构建和晚疫病抗性基因簇ph-3的QTL分析
【中文关键词】番茄;遗传图谱;SSR;AFLP;抗晚疫病基因簇ph-3 ;QTL
【英文关键词】番茄;遗传图谱;SSR;AFLP;抗晚疫病基因簇ph-3 ;QTL
【中文摘要】【目的】挖掘番茄晚疫病抗性基因紧密连锁的分子标记,为番茄抗晚疫病种质资源的利用及分子标记辅 助选择育种提供理论和实践依据。【方法】利用含番茄晚疫病抗性基因ph-1,2,3的L3708(Lycopersicon.pimpinellifolium)为父本,感病的优良品系 04968(L.esculentum)为母本培育的 260 个 F 2单株为图谱构建群体,通过 AFLP、SSR 2 种分子标记进行遗传分析,构建分子遗传图谱。根据苗期接种番茄晚
【英文摘要】【目的】挖掘番茄晚疫病抗性基因紧密连锁的分子标记,为番茄抗晚疫病种质资源的利用及分子标记辅 助选择育种提供理论和实践依据。【方法】利用含番茄晚疫病抗性基因ph-1,2,3的L3708(Lycopersicon.pimpinellifolium)为父本,感病的优良品系 04968(L.esculentum)为母本培育的 260 个 F 2单株为图谱构建群体,通过 AFLP、SSR 2 种分子标记进行遗传分析,构建分子遗传图谱。根据苗期接种番茄晚
【语种】中文
【第一作者】黄晓梅
【通讯作者】李景富
【期刊名称、卷期、页码】中国农业科学, 2009, 42(10): 3571-3580
【论文发表时间】2009-10-25 00:00:00
【引文索引类型】其他
【引文索引号】1089-0298(2009)10-0157-60
【学科分类】园艺学

【题目】2006~2007年东北三省番茄叶霉病菌生理小种变异的监测
【中文关键词】东北地区; 番茄叶霉病菌; 生理小种; 监测
【英文关键词】东北地区; 番茄叶霉病菌; 生理小种; 监测
【中文摘要】2006~2007年 , 对东北三省番茄叶霉病菌生理小种的变异情况进行了监测。在供试的 66个菌株中,检测到的生理小种有 1.2.3、1.2、2.3、1.2.3.4、1.3、1.4、1.3.4 和 1.2.4, 主要生理小种仍为1.2.3.4, 1.3.4和 1.4为新检测到的生理小种。
【英文摘要】2006~2007年 , 对东北三省番茄叶霉病菌生理小种的变异情况进行了监测。在供试的 66个菌株中,检测到的生理小种有 1.2.3、1.2、2.3、1.2.3.4、1.3、1.4、1.3.4 和 1.2.4, 主要生理小种仍为1.2.3.4, 1.3.4和 1.4为新检测到的生理小种。
【语种】中文
【第一作者】李春霞
【通讯作者】李景富
【期刊名称、卷期、页码】中国蔬菜, 2009, (002): 42-45
【论文发表时间】2009-02-26 00:00:00
【引文索引类型】其他
【引文索引号】1000-6346(2009)02-0042 -04
【学科分类】园艺学

【题目】蔬菜耐盐性鉴定方法研究进展
【中文关键词】蔬菜;耐盐;鉴定
【英文关键词】蔬菜;耐盐;鉴定
【中文摘要】综述了国内外蔬菜耐盐主要鉴定指标以及目前应用的直接鉴定法、间接鉴定法和分子标记辅助选择鉴 定法等主要耐盐性鉴定方法,并指出了蔬菜耐盐鉴定中存在的问题和研究方向。
【英文摘要】综述了国内外蔬菜耐盐主要鉴定指标以及目前应用的直接鉴定法、间接鉴定法和分子标记辅助选择鉴 定法等主要耐盐性鉴定方法,并指出了蔬菜耐盐鉴定中存在的问题和研究方向。
【语种】中文
【第一作者】姜景彬
【通讯作者】李景富
【期刊名称、卷期、页码】中国瓜菜, 2009, 22(003): 39-41
【论文发表时间】2009-03-28 00:00:00
【引文索引类型】其他
【引文索引号】1081-0083(2009)09-0039-07
【学科分类】园艺学

【题目】茄子SSR标记在番茄上的通用性分析.
【中文关键词】茄子,番茄,微卫星标记,通用性
【英文关键词】茄子,番茄,微卫星标记,通用性
【中文摘要】微卫星标记(SSR)是分子育种中常用的遗传标记之一,但目前报道的番茄SSR标记并不能满足番茄分子育种的需要,有必要发展出更多的SSR标记,近缘物种转移法是一种发展SSR标记简便快速的方法。本研究分析了茄子SSR标记在番茄上的通用性情况,结果表明:300对茄子SSR引物中有111对能在番茄基因组DNA上扩增出产物,97对引物扩增出的带型在茄子、番茄问相似程度高,标记通用率为32.3%;EST—SSR比基因组SSR的通用性更好,前者通用率为36.6%,后者为30.O%。将这些标记转移到番茄上,能节省开发番茄S
【英文摘要】微卫星标记(SSR)是分子育种中常用的遗传标记之一,但目前报道的番茄SSR标记并不能满足番茄分子育种的需要,有必要发展出更多的SSR标记,近缘物种转移法是一种发展SSR标记简便快速的方法。本研究分析了茄子SSR标记在番茄上的通用性情况,结果表明:300对茄子SSR引物中有111对能在番茄基因组DNA上扩增出产物,97对引物扩增出的带型在茄子、番茄问相似程度高,标记通用率为32.3%;EST—SSR比基因组SSR的通用性更好,前者通用率为36.6%,后者为30.O%。将这些标记转移到番茄上,能节省开发番茄S
【语种】中文
【第一作者】邵光金
【通讯作者】汪国平
【期刊名称、卷期、页码】分子植物育种, 2010, 8(005): 909-912
【论文发表时间】2010-05-28 00:00:00
【引文索引类型】其他
【引文索引号】0728-0079(2010)05-0019-03
【学科分类】园艺学

【题目】利用多重PCR反应同时筛选番茄Ty-1和cf-5基因
【中文关键词】番茄;分子标记;多重PCR;Ty-1;cf-5
【英文关键词】番茄;分子标记;多重PCR;Ty-1;cf-5
【中文摘要】利用同一PCR反应体系同时扩增、筛选分别与番茄抗黄化曲叶病毒病的 一1基因和番茄抗叶霉病的c厂_5基因紧密连锁的SCAR标记,扩增的特异性片段与单引物扩增片段完全吻合。与 Ty.1基因紧密连锁的SCAR1标记为共显性标记,抗感材料均产生 398 bp的特异片段,纯合和杂合抗病基因型存在 TaqI酶切位点,酶切后分别产生了303 bp和95 bp以及398、303 bp和95 bp的特异性片段,而感病基因型无此酶切位点,酶切后仍呈现398 bp的特异带。与 5基因紧密连锁的SCAR2标记扩增后抗感材料均
【英文摘要】利用同一PCR反应体系同时扩增、筛选分别与番茄抗黄化曲叶病毒病的 一1基因和番茄抗叶霉病的c厂_5基因紧密连锁的SCAR标记,扩增的特异性片段与单引物扩增片段完全吻合。与 Ty.1基因紧密连锁的SCAR1标记为共显性标记,抗感材料均产生 398 bp的特异片段,纯合和杂合抗病基因型存在 TaqI酶切位点,酶切后分别产生了303 bp和95 bp以及

398、303 bp和95 bp的特异性片段,而感病基因型无此酶切位点,酶切后仍呈现398 bp的特异带。与 5基因紧密连锁的SCAR2标记扩增后抗感材料均
【语种】中文
【第一作者】于 力
【通讯作者】朱为民
【期刊名称、卷期、页码】上海农业学报, 2009, 25(002): 6-9
【论文发表时间】2009-02-19 00:00:00
【引文索引类型】其他
【引文索引号】1000-3924(2009)02-06-04
【学科分类】园艺学

【题目】番茄叶霉病菌产毒条件的研究
【中文关键词】番茄叶霉病菌;毒素;培养条件
【英文关键词】番茄叶霉病菌;毒素;培养条件
【中文摘要】为了使番茄叶霉病菌(Cladosporium fulvum Cooke)的产毒条件达到最优化,本试验研究了番茄叶霉病菌产毒能力与培养条件、环境因子等因素的关系。结果表明:不同产毒条件下病菌产毒能力存在明显差异,最佳产毒条件是:采用pH为6的PS液体培养基在26-30℃、黑暗条件下,振荡培养21d,接菌数量5碟。
【英文摘要】为了使番茄叶霉病菌(Cladosporium fulvum Cooke)的产毒条件达到最优化,本试验研究了番茄叶霉病菌产毒能力与培养条件、环境因子等因素的关系。结果表明:不同产毒条件下病菌产毒能力存在明显差异,最佳产毒条件是:采用pH为6的PS液体培养基在26-30℃、黑暗条件下,振荡培养21d,接菌数量5碟。
【语种】中文
【第一作者】李小波
【通讯作者】李景富
【期刊名称、卷期、页码】植物保护, 2010, (001): 83-86
【论文发表时间】2010-01-08 00:00:00
【引文索引类型】其他
【引文索引号】0529-1542(2010)01-018
【学科分类】园艺学

【题目】牛乳汁中葡萄糖转运基因的表达
【中文关键词】葡萄糖转运基因;乳汁体细胞;初乳;末乳
【英文关键词】glucose transporter genes; milk somatic cell; cow colostrums; the ending cow milk
【中文摘要】以牛初乳和末乳为研究对象, 利用乳汁体细胞的分子生物学技术平台, 对牛乳汁中葡萄糖转运基因的表达进行研究。结果表明, 初乳和末乳中均G A T 一(1 ,4);t % S G L T 一1 表达, 且初乳中的表达高于末乳;G L U T 一1 只在末乳中有表达, 初乳中不表达。提示乳腺细胞葡萄糖的摄取方式与泌乳阶段相关, 初乳期乳腺合成乳糖的作用高于末乳期乳腺。
【英文摘要】Using molecular biology platform of the milk somatic cells to study the expression of the glucose transporter genes in colostrum milk and ending cowmilk. The results showed that the GAT-(1,4) and SGLT-1 gene were expressed in colostrum and ending cowmilk, however the degree in the colostrums was more than that in the ending cowmilk, and the GLUT-1 gene was only expressed in the ending cowmilk. The results suggested that the uptaking mode of glucose in mammary gland cell was related to the lactation period. The lactase synthesis of mammary gland during the period of colostrums was higher than that during the period of ending milk.
【语种】中文
【第一作者】李平
【通讯作者】王月影
【期刊名称、卷期、页码】中国乳品工业,2009.39(3):4-7.
【论文发表时间】2009-04-01 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】畜牧学

【题目】三聚氰胺对饲料的污染及检测
【中文关键词】三聚氰胺,生化机理,污染途径,检测方法
【英文关键词】Tripolycyanamide,biochemical mechanism, pollution ways, test methods
【中文摘要】三聚氰胺本身不是一个新生的名词,早在60多年前就有文献记载.Lipschitz等(1945)发现,大鼠和狗服用大量三聚氰胺后会出现多尿现象,但并无肾中毒.
【英文摘要】
【语种】中文
【第一作者】李文博
【通讯作者】单安山
【期刊名称、卷期、页码】饲料研究,2009,7:7-9
【论文发表时间】2009-07-01 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】畜牧学

【题目】大豆黄酮在畜禽生产中应用与研究进展
【中文关键词】大豆黄酮 绿色添加剂 研究进展
【英文关键词】Soybean flavonoids green additives research progress
【中文摘要】大豆黄酮属异黄酮类植物雌激素,广泛分布于植物界,是天然药物的重要成分。近 年来研究发现,饲粮中添加适量的大豆黄酮能促进畜禽生长。在饲料及畜产品安全日益受到重视 的今天,研究、开发和利用这一天然的绿色添加剂已成为热点。
【英文摘要】
【语种】中文
【第一作者】马宁
【通讯作者】单安山
【期刊名称、卷期、页码】饲料研究,2007,4:26-28.
【论文发表时间】2007-04-01 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】畜牧学

【题目】日粮物理有效中性纤维对奶牛营养调控的研究
【中文关键词】日粮;物理有效中性纤维;营养调控;奶牛
【英文关键词】Diet,; Physical effective neutral fiber; Nutrition regulation; cows
【中文摘要】纤维的物理性状影响奶牛的咀嚼、唾液分泌、瘤胃pH 值和乳脂率。物理有效中性洗涤纤维(PeNDF)能有效保持乳脂率和动物健康。奶牛日粮中纤维的化学与物理特性对于刺激其咀嚼活动和维持稳定的乳脂率十分重要。奶牛对日粮中有效中性洗涤纤维(eNDF) 水平的反应是乳脂率变化,而PeNDF 的反应是其咀嚼活动。PeNDF 与纤维的物理性质(主要是指碎片大小、多指长度)有关,有刺激动物咀嚼活动和建立瘤胃内容物两相分层的能力。综述了日粮PeNDF 对奶牛营养调控的研究。
【英文摘要】
【语种】中文
【第一作者】红敏
【通讯作者】高民
【期刊名称、卷期、页码】畜牧与饲料科学,2010,31(6-7):470-472.
【论文发表时间】2010-09-10 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】畜牧学

【题目】日粮中添加棕榈油对奶牛生产性能的影响
【中文关键词】奶牛;棕榈油;采食量;产奶量;乳脂率
【英文关键词】The cow; Palm oil; Feed intake; Milk products; Butterfat rate
【中文摘要】在实际生产中奶牛能量负平衡的问题是不可避免的,其直接影响奶牛的生产性能。通过在日粮中添加油脂来缓解能量负平衡是一种有效的途径。文章对近年来在奶牛日粮中添加棕榈油对奶牛的采食量、产奶量、乳脂率、血液生化指标的影响进行了综述,从而为能量负平衡的缓解提供理论依据。
【英文摘要】
【语种】中文
【第一作者】孙志伟
【通讯作者】单安山
【期刊名称、卷期、页码】饲料博览,2010,2::2-26.
【论文发表时间】2010-02-01 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】畜牧学

【题目】peNDF水平对泌乳中后期奶牛产奶性能的影响
【中文关键词】物理有效中性洗涤纤维;奶牛;产奶性能
【英文关键词】Physical effective neuter washing fiber; The cow; Milk production performance
【中文摘要】试验选择3 头体况良好的泌乳中后期荷斯坦奶牛,采用3×3 拉丁方设计,研究日粮不同物理有效中性洗涤纤维(peNDF)水平对奶牛产奶性能的影响。结果表明,奶牛中性洗涤纤维采食量(NDFI)、酸性洗涤纤维采食量(ADFI)、物理有效中性洗涤纤维采食量(peNDFI)、产奶量和4%FCM 随peNDF 水平增加呈上升趋势,对ADFI 影响显著(P<0.05),采食高水平peNDF 日粮peNDFI1.18 较采食低水平和中等水平peNDF 日粮分别提高17.35%(P<0.05)、8.52%(P<0.01),4%FCM 提高6.82%和6.59%(P<0.05),差异均显著。
【英文摘要】
【语种】中文
【第一作者】张骞
【通讯作者】赵国琦
【期刊名称、卷期、页码】饲料工业,2010,,31(9):33-35.
【论文发表时间】2010-05-10 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】畜牧学

【题目】奶牛专用霉菌毒素吸附剂对泌乳奶牛生产性能的影响
【中文关键词】霉菌毒素吸附剂;奶牛;生产性能
【英文关键词】mycotoxin binder; dairy cattle; production and performance
【中文摘要】奶牛饲料原料中霉菌毒素广泛存在,并严重威胁着奶牛健康,影响奶牛生产性能的发挥。选择年龄、胎次、产奶量、泌乳天数接近的荷斯坦奶牛90 头,随机分成两组,考察奶牛专用霉菌毒素吸附剂对乳牛生产性能的影响。在饲喂等量的基础日粮上,对照组额外添加20 g/d·头精料补充料,试验组添加霉菌毒素吸附剂———普乐菲特20 g/d·头,其他饲养管理方式不变。该试验预饲期7 d,试验期77 d。结果表明,霉菌毒素吸附剂的添加不影响乳脂、乳蛋白,但对提高产奶量及降低原料奶中体细胞数(P<0.05)有明显效果。研究表明,日粮添加霉菌毒素吸附剂可有效提高原料奶质量,提高牧场整体经济效益。
【英文摘要】Mycotoxin in feed can bring negative effect on dairy health and decrease production of lactating dairy cows. The study objective was to evaluate milk production and milk composition when dietary mycotoxin binder was supplemented,and determine change of SCC in milk. Ninety dairy cows were randomly assigned to control group with 20 g concentration for a cow per day and experimental group with 20 g mycotoxin binder for a cow per day. The experimental period keep 97 days. The first 7 d of 97 d for adaptation period, cows were gradually introduced to their assigned diet. It was shown that dietary mycotoxin binder adding had not affect on milk composition,but milk yield increased tendency and SCC markedly decreased (P<0.05). Therefore, the experiment indicated that mycotoxin binder may improve raw milk quality and enhance economic profit for dairy cattle farm.

【语种】中文
【第一作者】袁耀明
【通讯作者】刘仕军
【期刊名称、卷期、页码】乳业科学与技术,2009,3:126-128.
【论文发表时间】2010-02-01 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】畜牧学

【题目】不同碳水化合物对犊牛消化生理功能的研究进展
【中文关键词】碳水化合物; 犊牛; 瘤胃; 开食料
【英文关键词】carbohydrate; calves; rumen; starter
【中文摘要】碳水化合物是多羟基醛、酮及其衍生物的总称, 是反刍动物瘤胃微生物的主要能量来源, 在犊牛 营养中起着重要的作用。介绍了碳水化合物的分类及在瘤胃中的消化代谢情况, 并就近年来不同类型碳 水化合物在犊牛开食料中的应用进行综述。
【英文摘要】Carbohydrates, defined as poolyhydroxy aldehydes and ketones or their ramifications are primary energy source of rumen microorganism, and play a very important role in calves nutrition. The paper introduced classification and metabolism of carbohydrate in rumen, meanwhile summaried effects of supplementing starter differing in carbohydrate composition in calves.
【语种】中文
【第一作者】张蓉
【通讯作者】刁其玉
【期刊名称、卷期、页码】乳业科学与技术,2007,5:216-218.
【论文发表时间】2010-09-01 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】畜牧学

【题目】中草药添加剂对奶牛干物质采食量及瘤胃内环境的影响
【中文关键词】中草药,干物质采食量,pH,NH3-N,MCP
【英文关键词】Chinese herbal medicine, dry matter intake, pH, NH3-N, MCP
【中文摘要】试验选择4头体重相近,体况良好,安装永久性瘤胃瘘管的荷斯坦牛.采用4*4 拉丁方设计,在保持正常饲养管理的情况下,对照组饲喂基础日粮,试验组在基础日粮的基础上添加中草药添加剂1,中草药添加剂2,中草药添加剂3,试验共分为四期,每期试验共21d,其中预试期7d,正试期14d,结果表明院中草药添加剂能改变奶牛干物质的采食量,改善瘤胃内环境,提高瘤胃液pH,降低瘤胃液NH3-N浓度,提高瘤胃液MCP浓度.
【英文摘要】Four Holstein dairy cows with permanent rumen fistulas were selected in the experiment. The four dairy cows are all under good condition and with similar body weight and healthy condition. The experiment was designed by 4*4 Latin square, the control group was treated with the basic ration, and the tested groups were added with Herb Additives, 1, 2and 3. This experiment include four periods, each period has 21 days, which include pretesting days of 7 and testing days of 14. The results show that the Herb Feed Additives can change dry matter intake, improve rumen internal environment, including increasing the pH of rumen liquid, decreasing the density of NH3 -N and improve the density of MCP.
【语种】中文
【第一作者】顾小卫
【通讯作者】赵国琦
【期刊名称、卷期、页码】中国奶牛,2010,4:18-21
【论文发表时间】2010-04-20 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】畜牧学

【题目】葡萄糖处理豆粕对奶牛瘤胃内环境的影响
【中文关键词】奶牛;豆粕;瘤胃内环境
【英文关键词】Cow; Soybean Meal; Ruminal fermentation
【中文摘要】以四头瘘管荷斯坦牛为试验动物,采用4伊4拉丁方试验设计,用不同水平的葡萄糖尧不同的含水量尧不同加热温度处理豆粕,采用尼龙袋法测定各组豆粕的瘤胃降解率,以含不同降解率的豆粕为蛋白质饲料配制成四种TMR日粮,即对照组日粮(豆粕降解率为51.94%)高降解率豆粕日粮-HD组(豆粕降解率为40.85%)中等降解率豆粕日粮-MD组(豆粕降解率为38.98%)低降解率豆粕日粮-LD组(豆粕降解率为28.21%),探讨葡萄糖处理豆粕对奶牛瘤胃内环境的影响遥结果表明院含不同降解率豆粕的TMR日粮对奶牛瘤胃内环境有影响,随日粮中豆粕降解率的降低,瘤胃pH值增加,氨氮浓度降低,总VFA浓度下降,乙酸浓度升高,丙酸浓度降低,丁酸浓度显著降低(P<0.05),乙酸颐丙酸比值有增加趋势曰与对照组相比,处理组VFA组成中乙酸比例显著增加(P<0.05),丙酸比例有降低趋势.
【英文摘要】Four rumen,duodenum and Ileum cannulated cows were used in a 4*4 Latin square experiment design with different protein.digestion soybean meal in four diets(Control, HD, MD, LD). Soybean meal were selected as lower, medium and higher protein degradability.respectively. The result shows that the ruminal fermentation indices are different among 4 diets. Glucose-treated soybean meal has the.tendency of increasing pH, NH3 -N, TVFA, acetate concentration and acetate/propionate ratio; The NH3 -N, propionate and butyrate.concentration of glucose-treated soybean meal diets is significantly lower than that of the Control(P<0.05).
【语种】中文
【第一作者】田树清
【通讯作者】赵国琦
【期刊名称、卷期、页码】中国奶牛,2010,3:3-5.
【论文发表时间】2010-03-20 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】畜牧学

【题目】Nitrous oxide emissions from an intensively managed greenhouse vegetable cropping system in Northern China
【中文关键词】Nitrous oxide; Greenhouse tomato; Nitrogen fertilization management; Emission factor
【英文关键词】Nitrous oxide; Greenhouse tomato; Nitrogen fertilization management; Emission factor
【中文摘要】Nitrousoxide (N2O) emissions from a typical greenhouse vegetable system in Northern China were measured from February 2004 to January 2006 using a close chamber method. Four nitrogen management levels (NN, MN, CN, and SN) were used. N2O emissions occurred intermittently in the growing season, strongly correlating with N fertilization and irrigation. No peak emissions were observed after fertilization in the late Autumn season due to low soil temperature. 57 – 94% of the seasonal N2O emissions came from the initial growth stage, corresponding to the rewetting process in the soil. The annual N2O emissions ranged from 2.6 to 8.8 kg N ha − 1 yr − 1, accounting for 0.27 – 0.30% of the annual nitrogen input. Compared with conventional N management, site-specific N management reduced N fertilization rate by 69% in 2004 and by 76% in 2005, and consequently reduced N2O emissions by 51% in 2004 and 27% in 2005, respectively.
【英文摘要】Nitrousoxide (N2O) emissions from a typical greenhouse vegetable system in Northern China were measured from February 2004 to January 2006 using a close chamber method. Four nitrogen management levels (NN, MN, CN, and SN) were used. N2O emissions occurred intermittently in the growing season, strongly correlating with N fertilization and irrigation. No peak emissions were observed after fertilization in the late Autumn season due to low soil temperature. 57 – 94% of the seasonal N2O emissions came from the initial growth stage, corresponding to the rewetting process in the soil. The annual N2O emissions ranged from 2.6 to 8.8 kg N ha − 1 yr − 1, accounting for 0.27 – 0.30% of the annual nitrogen input. Compared with conventional N management, site-specific N management reduced N fertilization rate by 69% in 2004 and by 76% in 2005, and consequently reduced N2O emissions by 51% in 2004 and 27% in 2005, respectively.
【语种】英文
【第一作者】Feifei He
【通讯作者】Fang Su
【期刊名称、卷期、页码】Environmental Pollution, 2009, 157: 1666 – 1672
【论文发表时间】2009-11-30 00:00:00
【引文索引类型】SCI
【引文索引号】doi:10.1016/j.envpol.2008.12.017

【学科分类】环境科学技术及资源科学技术其他学科

【题目】分子标记辅助聚合番茄抗病基因育种
【中文关键词】番茄;分子标记;抗病性;聚合育种
【英文关键词】tomato;marker-assisted selection;disease resistance;pyramiding breeding
【中文摘要】利用番茄抗病基因Tm-2 a、I-2、Mi-1、Cf-9 的分子标记辅助选择,聚合抗烟草花叶病、抗枯萎病、抗根结线虫和抗叶霉病 4 个基因于番茄育种材料中。室内苗期接种鉴定和田间观察,获得的含4个抗性基因的株系L11、L19、L46和L51 对4 种病害都达到了抗级(R)水平,且具有较好的农艺性状,可作为抗病育种亲本。
【英文摘要】The elite lines of L11,L19,L46 and L51 containing Tm-2a,I-2,Mi-1 and Cf-9 resistant genes were obtained in tomato with the aid of the molecular marker assisted selection. Seedling inoculation of these inbred lines confirmed higher disease resistant levels. The results of field trials also showed that the four selected disease resistance lines have better agricultural characteristics and may be used for tomato disease resistance breeding program in the future.
【语种】中文
【第一作者】朱明涛
【通讯作者】李汉霞
【期刊名称、卷期、页码】园艺学报 2010,37(9):1416 – 1422
【论文发表时间】2010-09-25 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】园艺学

【题目】中国作物及其野生近缘植物-蔬菜作物卷(上)
【中文关键词】番茄,野生近缘植物,远缘杂交,渐渗系
【英文关键词】番茄,野生近缘植物,远缘杂交,渐渗系
【中文摘要】番茄是重要的蔬菜作物,世界各国广泛栽培。与其他作物相比,番茄栽培历史较短,但是番茄的种质资源丰富。中国在番茄的远缘杂交技术和利用等方面进行了较多的研究,获得了一定的进展。
【英文摘要】番茄是重要的蔬菜作物,世界各国广泛栽培。与其他作物相比,番茄栽培历史较短,但是番茄的种质资源丰富。中国在番茄的远缘杂交技术和利用等方面进行了较多的研究,获得了一定的进展。
【语种】中文
【第一作者】朱德蔚
【通讯作者】朱德蔚
【期刊名称、卷期、页码】中国农业出版社,中国作物及其野生近缘植物-蔬菜作物卷(下):624-673
【论文发表时间】2008-07-25 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】园艺学

【题目】晚稻期间秸秆还田对早稻田CH4和N2O排放以及产量的影响
【中文关键词】早稻田; 秸秆还田; CH4; N2O; 产量;
【英文关键词】Early rice field; Rice straw incorporation; CH4; N2O; Yield;
【中文摘要】选取湖南双季稻田为研究对象,采用静态箱-气相色谱法对晚稻期间秸秆还田配施减量化肥(DNPK+RS)和施化肥(NPK)处理下后季早稻田(2009年)的CH4和N2O排放通量进行观测。结果表明,在早稻田等量化肥条件下,DNPK+RS比NPK增加早稻田CH4排放的81%,减少N2O排放的53%。早稻产量表明,DNPK+RS显著低于NPK(P<0.05)。晚稻期间以秸秆还田来代替部分化肥,会降低次年早稻的有效穗数和肥料增产效应。DNPK+RS处理的单位产量的全球增温潜势为NPK的2倍。秸秆还田应该重视与化肥的搭配比例,否则会降低水稻产量,同时增加下季早稻的温室效应。
【英文摘要】By using the method of static chamber- gas chromatograph techniques, CH4 and N2O emission fluxes from early rice fields in 2009 were studied under decreasing chemical fertilizer + straw incorporation(DNPK+RS)and chemical fertilizer (NPK). The results showed that , with the same amount of applied fertilizer in early rice paddies in 2009,the emission of CH4 in DNPK+RS was increased by 81% , in early rice paddies in 2009,meanwhile, N2O emission was decreased by 53% compared with NPK. The grain yield of the DNPK+RS was far less than that of NPK. Substitution of rice straw incorporation for partial chemical fertilizer in later rice season

decreaseds effective panicles and effect of fertilizer on increasing yield in following early rice season. The global warming potential per unit rice grain of DNPK+RS was twice than that of NPK. Therefore, a great attention we should be paidy attention to the mix ratio of chemical fertilizer and straw returning, otherwise, the grain yield couldwill be decreased and the global warming potential of following season couldwill be increased.
【语种】中文
【第一作者】石生伟
【通讯作者】李玉娥
【期刊名称、卷期、页码】土壤通报,2011,42(2):336-341
【论文发表时间】2011-04-01 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】土壤学

【题目】我国机械化秸秆还田联合作业机的现状与发展
【中文关键词】农业工程;秸秆还田;综述;联合作业机
【英文关键词】agricultural engineering; straw returned; summary; combined machines
【中文摘要】阐述了我国机械化秸秆还田联合作业机具的研究现状,针对几种不同类型秸秆还田联合作业机的结构、性能和特点进行了介绍分析,提出了现今已有的秸秆还田联合作业机具所存在的问题,并结合当前秸秆还田新技术,设计了快速腐熟秸秆还田机,指出了我国机械化秸秆还田联合作业机今后的研究发展方向。
【英文摘要】The status of straw returned combined machine was introduced. The structure, performance, and characteristics of a few types of straw returned combined machine widely used in China were analyzed and discussed. On the basis of analyses and discussion, the problems of the straw returned combined machine were put forward. Combined with the new technology of straw returned, designs a fast decomposition straw returning machine and pointed out the straw returned combined machines'future research direction.
【语种】中文
【第一作者】戴飞
【通讯作者】张锋伟
【期刊名称、卷期、页码】中国农机化,2011,6:42-45
【论文发表时间】2011-06-08 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】农业基础学科

【题目】氮肥管理对夏玉米土壤CH4和N2O排放的影响
【中文关键词】CH4;N2O;尿素;缓释肥;玉米
【英文关键词】CH4, N2O,urea, slow release urea, summer maize
【中文摘要】通过设置四个不同的氮肥管理措施, 即氮肥施用量 300 kg N/ha (N300)和 250 kg N/ha(N250)、改进的施肥模式(Optimized)以及施用缓释肥(SRU), 研究华北平原夏玉米生长季土壤与大气之间CH4和N2O的交换通量及相应措施的减排潜力. 结果表明, 在2008年整个夏玉米生长季,土壤都是大气CH4的净吸收库和N2O的排放源. 夏玉米生长季土壤氧化吸收的CH4总量从大到小依次为 Optimized > N250 > SRU > N300, 对应的吸收总量依次为 624.16、590.07、487.89 以及 316.02g CH4-C/ha, 各处理间氧化吸收的CH4总量无显著差异. 与 N300 和 N250 这两个处理相比, 依据夏玉米对氮肥的需肥规律以及玉米根层土壤速效氮的供给能力而确定氮肥施用量, 同时再平衡施用磷肥和钾肥的改进施肥模式能够显著降低夏玉米生长季N2O的排放. 施用聚乙烯包膜的尿素也能够显著降低夏玉米季N2O 的排放. 夏玉米生长季土壤排放的N2O 总量从大到小依次为 N300 > N250> Optimized > SRU, 对应的排放总量依次为 3462.18、2340.07、1680.00 以及 911.91 g N2O-N/ha, 相应的N2O 排放系数分别为 1.15%、0.94%、0.91%以及 0.30%.
【英文摘要】CH4and N2O fluxes from summer maize soil in North China Plain were measured in 2008 using a close chamber method. Four different nitrogen management levels were used: nitrogen application at the rate of 300 kg N/ha (N300), nitrogen application at the rate of 250 kg N/ha (N250), improved nitrogen management methods (Optimized), and the application of slow-release urea (SRU). The summer maize soil was a net sink of CH4 and an emission source of N2O during the whole growing season. The accumulative CH4 oxidation rate of Optimized, N250, SRU, and N300 was 624.16, 590.07, 487.89, and 316.02 g CH4-C/ha,

respectively. The difference of accumulative CH4 oxidation rate between four treatments was not significant (t-test, P<0.05). The Optimized treatment, which applied nitrogen according to maize demand and mineral nitrogen (N min) content in the soil of maize root layer, and balance phosphorus and potassium fertilizer application rate, could reduce N2O emission obviously compared toN300 and N250. The application of SRU could also reduce N2O emission significantly. The accumulative N2O emissions of N300, N250, Optimized and SRU were 3462.18, 2340.07, 1680.00, and 911.91 g N2O-N/ha,respectively, and the fertilizer-induced N2O emission factors were 1.15, 0.94, 0.91, and 0.30%, respectively.

【语种】中文
【第一作者】胡小康
【通讯作者】苏芳
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【引文索引号】
【学科分类】农业基础学科

【题目】鸡粪施入农田土壤的氨挥发研究
【中文关键词】氨挥发;鸡粪;施肥方式;施肥量;添加剂
【英文关键词】ammonia volatilization; chicken manure; application method; application rate; additive
【中文摘要】在北京海淀区东北旺乡利用风洞法氨挥发测定系统,研究了不同施肥方式、施肥量和添加剂对鸡粪在农田施用过程中氨挥发的影响。结果表明,施肥方式显著影响鸡粪氨挥发,试验期间在田间裸地24000kg · hm-2施肥量下,表施的累积氨挥发氮损失为19.8%,而表施后立即深翻5~9cm,氨挥发损失为3.3%;不同施肥量下,24000kg · hm-2比12000kg · hm-2和8000kg · hm-2的氨挥发损失分别减少2.1%和4.9%,但统计差异不显著;锯末对鸡粪氨挥发没有起到抑制作用,未添加锯末处理的氨挥发损失为19.5%,而添加锯末处理的氨挥发损失为21.1%;过磷酸钙对鸡粪氨挥发抑制效果显著,未添加过磷酸钙处理的氨挥发损失为31.8%,而添加过磷酸钙处理的氨挥发损失为21.9%,比未添加降低了31.1%。
【英文摘要】Ammonia volatilization was measured using a wind tunnel system after applying chicken manure to land soil in the suburb of Beijing. Continuous sampling for ammonia volatilizations was done over 16 days after chicken manure application. The influences of application methods, application rates, and additives were evaluated based on N loss through ammonia volatilization over measurement period. It was found that application methods remarkably affected ammonia volatilization. With an application rate of 24 000 kg · hm-2,N loss rate of top application was 19.8%, while it reduced to 3.3% if chicken manure was buried 5~9 cm below the surface. The N loss rate through ammonia volatilization did not change much with different application rates. Compared to the application levels at 12 000 kg · hm-2 and 8000 kg · hm-2, ammonia N loss rate in chicken manure treatment of 24 000 kg · hm-2 was slightly reduced by 2.1% and 4.9%, respectively. Addition of saw-dust had no restrain effect on ammonia volatilization:the N loss rate was 19.5% with sawdust (3% additive rate)and 21.1% without sawdust.Calcium superphosphate can significantly reduce ammonia volatilization. When chicken manure was top-dressed with an application rate of 24 000 kg · hm-2 and calcium superphosphate was added at 3%, N loss rate was 21.9%, which is significantly lower than that without calciumsuperphosphate(N loss rate 31.8%).

【语种】中文
【第一作者】李剑睿
【通讯作者】苏芳
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【学科分类】土壤学

【题目】膜生物反应器用于猪场污水深度处理试验
【中文关键词】膜生物反应器; 中空纤维膜; 猪场污水; 水处理
【英文关键词】membrane bioreactor; hollowfiber membrane; swine wastewater; water treatment
【中文摘要】为满足今后越来越严格的畜禽污水排放标准,提高水处理效果,达到污染物排放的减量化,减轻环境污染负荷,采用中空纤维膜生物反应器作为猪场污水厌氧后的好氧工艺进行深度处理,对该工艺的处理效果、负荷特性及膜过滤性能变化等作了试验研究.结果表明,在低溶解氧(多在1 mg · L-1以下)、MLSS(污泥浓度)维持在8.48~13.1 g · L-1的条件下

,COD和NH+4-N负荷分别平均为1.32和0.6 kg · m-3 · d-1,均远高于普通活性污泥法,且随着负荷的增加仍能保持稳定的去除率.负荷的降低主要是由膜出水量的降低造成的,保证膜通量、降低膜污染是获得高效、高质处理效果的关键所在.在运行近两个月时,由于未排泥发生污泥膨胀现象,SRT过长,池内混合液沉降性能变得很差,探索合适的SRT(污泥停留时间)也是一个实际运行的关键所在.

【英文摘要】Stricter discharge standard of pollutants for livestock and poultry breeding will be put forward in the future. To meet the discharge standard, improve effluent quality, reduce pollutant discharge and relieve environment load, a 10 m3 · d-1 hollowfiber membrane bioreactor for swine wastewater treatment was set up as advanced treatment after anaerobic digestion. The effluent quality, loading rate and the membrane permeability were studied. About 4 months operation of the MBR, the COD loading rate was 0.41~2.74 kgCOD · m-3 · d-1, averaged 1.32 kg-COD · m-3 · d-1 and NH4+- N loading rate was 0.1~1.1 kgNH4+- N · m-3 · d-1, averaged 0.6 kgNH4+- N · m-3 · d-1 when DO was low (under 1 mg · L-1) and MLSS maintained 8.48~13.1 g · L-1. The results were better than those of the conventional activated sludge process and biofilm reactor.The removal of COD and NH4+- Nkept stable when the loadingrate was increased. The reduction ofthe throughputs was the main reason of the reduction of the loading rate. Therefore, keeping high permeate flux or reducing membrane fouling was very important to obtain effective and good qualityresults ofwastewater treatment. Sludge bulking happened when MBR ran two months without discharge of sludge, and the set-tlingcharacter ofmixed liquid in MBR turned verybad, soan appropriate SRTwas important in MBR application.

【语种】中文

【第一作者】孟海玲

【通讯作者】董红敏

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【学科分类】环境科学技术基础学科

【题目】畜禽粪便的热解特性和动力学研究

【中文关键词】畜禽粪便; 生物质; 热解; 热重分析; 反应动力学

【英文关键词】animal manure; biomass; pyrolysis; thermogravimetric analysis; reaction kinetics

【中文摘要】利用热重- 微商热重的分析方法对猪、牛、鸡和羊 4 种畜禽粪便的热解行为进行了研究。热重试验样品粒径为 0.2 mm, 高纯氮气为热解环境, 加热起始温度为 20 ℃, 终止温度为 900 ℃。通过对热重(TG) 曲线和微商热重(DTG) 曲线的分析, 得出畜禽粪便热解过程的脱水、过渡、主要失重和炭化 4 个阶段以及主要热解阶段的几个特征值参数; 考察了加热速率对样品热解过程的影响, 发现加热速率对样品热失重速率影响比较明显; 利用试验所得数据, 通过建立反应动力学方程, 采用一级单组分和一级双组分分阶段反应模型, 求出不同畜禽粪便在相应热解条件下的反应动力学参数, 结果显示, 几种样品的表观活化能值都在100 kJ · mol-1以下, 说明几种热解对象都很容易受热分解。

【英文摘要】Under high pure N2 and heating rates of 10, 30, and 50 ℃ · min-1 respectively, the pyrolytic experiments for swine, cattle, chicken and goat manure were carried out with the aid of thermogravimetric analyzer (TGA) to investigate their pyrolytic characteristics and kinetics.The sample size is 0.2 mm and the temperature is from 20 ℃to 900 ℃. The TG and DTG figure indicates four pyrolytic stages, including water- losing stage(20~127 ℃), transition stage(127~207 ℃), main weight losing stage(207~427 ℃) and carbonization stage(427~800 ℃). TheDTG curve of swine manure has one peak but the others have two peaks. These samples have high weight losing rates and the highest is 41.91% · s-1 for swine manure at the heating rates of 50 ℃ · min-1. The heating rates only affect the weight losing rates and have no significanteffect on other pyrolytic characteristics. On the basis of experiment data, the kinetics parameters were obtained by establishing first- order dynamic reaction model and by integral computation method. All the apparent activation energy are below100 kJ · mol-1, indicating that all the samples are prone tothermal degradation.

【语种】中文

【第一作者】涂德浴

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【学科分类】环境科学技术基础学科

【题目】Detection of the SRY Transcript and Protein in Bovine Ejaculated Spermatozoa
【中文关键词】无
【英文关键词】SRY Gene; Bovine Spermatozoa; In situ Hybridization; Bovine
【中文摘要】无
【英文摘要】The sex-determining region on the Y (SRY) gene is important in mammalian sex determination and differentiation. We report a study of the abundance of SRY gene products in bovine ejaculated. RT-PCR experiments using RNA extracted from bovine spermatozoa with SRY-specific primers yielded a 456 bp product, but the amount of SRY mRNA in sperm was lower than that in the testes ($p<0.01$). A protein of approximately 27 KDa was detected by western blotting. The SRY transcript was detected in the midpiece of approximately half the spermatozoa by in situ hybridization, and the SRY protein was detected in the heads of half the spermatozoa by immunofluorescence, indicating that SRY mRNA and protein may only be present in Y-bearing spermatozoa. These results suggest that the SRY transcript and protein are present in bovine ejaculated Y-sperm. The roles of the SRY gene in spermatogenesis, sperm motility, and the sperm-oocyte interaction merit further investigation.
【语种】英文
【第一作者】Chunjin Li
【通讯作者】Xu Zhou
【期刊名称、卷期、页码】Asian-Aust. J. Anim. Sci.2011,24(10):1358-1364
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【引文索引号】000294879500005
【学科分类】畜牧学

【题目】营养调控牛乳中共轭亚油酸含量的研究进展
【中文关键词】反刍动物;共轭亚油酸;营养调控
【英文关键词】Ruminant animals; Conjugated linoleic acid; Nutrition regulation
【中文摘要】共轭亚油酸(CLA)是一种主要从反刍动物脂肪及其奶产品中发现的天然活性物质。一些多不饱和脂肪酸(主要是亚油酸和亚麻酸)在反刍动物瘤胃内通过异构化和生物脱氢反应形成CLA;另外,反式油酸在动物细胞内经△9-脱氢酶的脱氢作用也能形成CLA。笔者介绍了一些重要的营养调控措施,以提高奶牛乳脂中CLA 含量。
【英文摘要】
【语种】中文
【第一作者】丁国和
【通讯作者】卢德勋
【期刊名称、卷期、页码】畜牧与饲料科学,2008,29(6):146-148.
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【学科分类】畜牧学

【题目】不同农业措施下冬小麦田N2O排放通量的特征
【中文关键词】静态自动箱;连续观测;冬小麦田;N2O通量
【英文关键词】Static automated chamber; Continuous measurement; Winterwheat field; N2O flux
【中文摘要】利用静态自动箱连续观测系统对冬小麦农田翻耕(对照)、秸秆覆盖、免耕、秸秆深施和有机肥5种农业措施条件下N2O排放通量进行了监测。结果表明,各处理中N2O高排放通量均在12: 00-17: 00,低排放通量在0: 00-3: 00;冬小麦孕穗期N2O排放通量与气温和土壤5cm处温度显著相关;拔节期的水肥同期会导致15~20d的N2O排放高峰。不同农业措施N2O排放量大小顺序是有机肥>免耕>秸秆覆盖、秸秆深施和对照,差异极显著,而秸秆覆盖、秸秆深施和对照三种措施之间N2O排放量差异不明显。研究结果对估算不同农业措施下冬小麦田N2O的排放量有一定的参考价值。
【英文摘要】The characteristics of the nitrous oxide flux in thewinterwheat field under different fieldmanagements, such as tillage (CK), straw cover, non-tillage, straw deep fertilization and organic manure application wasmonitored by the static automated chamber and field continuous measurement system. The results showed that the highN2O flux occurred from 12: 00 to 17: 00, while the lowN2O fluxwas from 0: 00 to 3: 00.N2O flux during spike formation stage ofwinterwheatwas significantly correlatedwith the air temperature and

the soil temperature at5 cm depth.The synchronous irrigation and fertilization during jointing stage ofwinterwheatwould lead to a 15-20 daysN2O flux peak. The amountof N2O emission under different fieldmanagements during growing period ofwinterwheat from high to low was arranged in turn organicmanure application, non-tillage, straw cover, straw deep fertilization and tillage, and theirdifferenceswere extremely significant. However, the differences ofN2O emission amount among the treatments of straw cover, straw deep application and tillagewere not significant.

【语种】中文
【第一作者】万运帆
【通讯作者】李玉娥
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【学科分类】环境科学技术基础学科

【题目】乳中共轭亚油酸生成的新型调控剂——菊科植物
【中文关键词】共轭亚油酸;新型调控剂;菊科植物
【英文关键词】conjugated linoleic acid;new regulator;compositae
【中文摘要】共轭亚油酸(CLA)是一组合有共轭双键的亚油酸(1inoleic acid)的几何异构体和位置异构体的总称。目前有研究报道,菊科植物及其提取物能增加乳中CLA的含量。笔者主要综述了CLA的营养调控方法及菊科植物增加CLA含量的研究进展。
【英文摘要】The conjugated linoleic acid(CLA)was a general name of a group of geometric isomer and positional isomer that contained linoleic acid of conjugated double bond.There was resean • h report at present,the compositae and its extract could increase the CLA content in milk.The nutrition regulation method of CLA and increasing CLAcontent by compositae in the research reports were outlined in this paper.
【语种】中文
【第一作者】王丽芳
【通讯作者】卢德勋
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【学科分类】畜牧学

【题目】不同施肥量对设施菜地N2O排放通量的影响
【中文关键词】肥料,排放控制,温室气体,设施菜地,排放系数
【英文关键词】fertilizer, emission control, greenhouse gases, protected vegetable land, emission factor
【中文摘要】为明确北京地区设施菜地的N2O排放特征,寻求既能减少N2O排放又使蔬菜增产或保持原有产量的切实有效措施,该研究采用静态箱/气相色谱法对北京地区设施菜地的黄瓜进行了全生长季N2O排放通量的观测,并分析了不同施肥量对N2O排放量、蔬菜产量和经济效益的影响。结果如下:土壤N2O排放通量的季节变化有明显的时间变异性,试验初期受基肥的影响,N2O排放量较大,随着时间的推移,土壤 N2O排放量有所减少并保持稳定;试验后期由于追肥,出现一次排放高峰,且持续时间较长。各处理土壤N2O排放总量的次序是:T4(常规施肥量+鸡粪)>T3(3/4 常规施肥量+鸡粪)>T1(1/4 常规施肥量+鸡粪)>T2(1/2 常规施肥量+鸡粪)>Tn(鸡粪)>T0(无肥处理),各处理之间N2O 排放量差异达到极显著水平。综合考虑施肥量、N2O排放量和黄瓜产量,研究认为 T3(3/4 常规施肥量+鸡粪)的施肥量比较合理,可以为合理施肥、降低农民生产成本以及估算中国农田温室气体排放量和编制温室气体排放清单提供依据。
【英文摘要】To identify the characteristics of N2O emission from protected vegetable land in Beijing, and to seek a way that decreases N2O emission and increase or keep cucumber yield, with the method of static chamber-gas chromatograph technique, N2O emission was monitored in cucumber field from protected vegetable land in Beijing. The effects of different amounts of fertilization on N2O emission, vegetable yields and economic benefit were analyzed. The results showed that significant temporal variability of N2O flux from all treatments was observed in different growing stages of cucumber. Larger emission happened at the initial stage of the experiment. N2O emission decreased and remained stable with time. At the late stage, a peak emission happened and continued for a

long time because of larger amount of topdressing. The order of total N2O emission was: T4 (conventional fertilization + chicken dug,in short “ CF+CD ”) >T3 (3/4CF+CD) > T1 (1/4CF+CD) > T2 (1/2CF+CD) > Tn (CD) > T0 (Control treatment), and there existed significant difference between treatments. By considering fertilizer rates, N2O emission and cucumber yield, it was concluded that the fertilization rate of T3 (3/4CF+CD) was very reasonable, which could provide basis for applying fertilizer rationally, reducing farm production costs, estimating greenhouse gas emissions from cropland and compiling national greenhouse gases emission inventory.

【语种】中文
【第一作者】张仲新
【通讯作者】李玉娥
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【学科分类】环境科学技术基础学科

【题目】常温纤维素降解菌群的筛选及其特性初探
【中文关键词】纤维素分解;菌群;常温;筛选
【英文关键词】cellulose degradation; microbial flora; constant temperature; screening
【中文摘要】在改良PCS培养基的基础上,通过定期改变传代方法,从污泥、森林土、发酵腐熟牛粪、堆肥处理麦秆中筛选出1组纤维素分解能力强而稳定的纤维素混合菌群(代号为Xc), 100 mL培养物在37℃静置培养5 d,对滤纸纤维素、脱脂棉、麦秆(片)、牛粪纤维降解率分别达到81%、41%、25%、40%。Xc在37、28℃分解滤纸时,分别在第5天、第7天时CMC酶活性最高,分别达到104. 5、95. 3 U · mL-1。在初始pH 5~9的培养基上接种均能表现出较强分解能力。采用变性梯度胶电泳(DGGE)法比较来源于不同时期菌群16S rDNA条带表明,菌群结构稳定。
【英文摘要】A group of cellulose degrading microbial flora (Xc) was screened from sullage, forest soi,l cow manure and composted wheat strawswith the technology of regularly altering the regenerationmethod during incubation on themodified PCS culturemedium. The flora showed astable and strong capability of degrading cellulose.About81%, 41%, 25% and 40% of the cellulose in filterpaper, absorbentcotton,wheatstraw and cowmanure, respectively,was degradedwith 100 mL of Xc at37°Cin 120 hours under static culture. In decomposing filterpaper, itsCMC enzyme activity peaked up to 104.5 and 95.3U · mL-1, onD5 andD7, at37 and 28°C, respectively.Xc could be inoculated into culturemedia ranging in pH from 5 to 9, however, in the en of incubation the finalpH of themedium tended to be neutra.l TheXc cellulose2decompo2 sing activitymay lastmore than 22 days as long as supply of substrates continues.Xc is very stable in structure. Its main DNA bands remained unchanged as is demonstrated by comparison of16S rDNA with theDGGEmethod ofXc from different time periods of the culture.
【语种】中文
【第一作者】费辉盈
【通讯作者】常志州
【期刊名称、卷期、页码】生态与农村环境学报,2007, 23(3): 60-64,69
【论文发表时间】2007-06-01 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】环境科学技术基础学科

【题目】锡林郭勒市草地载畜量及草畜平衡分析
【中文关键词】载畜量; 草畜平衡; GRAZFEED模型;
【英文关键词】carrying capacity; livestock-feeds balance; GRAZFEED;
【中文摘要】以北方典型代表区域 锡林浩特市为例, 利用 GRAZFEED 模型, 模拟了不同月乌珠穆沁羊在没有补饲的情况下的体质量的变化以及气候因子对其体质量的影响; 同时结合统计资料对锡林浩特市各苏木的草地载畜量及草畜平衡状况进行了分析。结果表明, 7- 9 月乌珠穆沁羊体质量日均增质量约 8. 7 g, 其他月体质量及膘情具有不同程度的下降, 若要维持体质量或增质量, 需额外补充饲料。气候因子也是影响乌珠穆沁羊产出的一个重要因子, 4、10 月气温较低, 乌珠穆沁羊需付出额外的能量才能维持正常的生理活动。在没有补饲的情况下, 锡林浩特市除了达布希勒图苏木 5- 9 月的载畜量可做进一步调整外, 其他苏木均已超过其能承受的最大载畜量, 或者说草畜已经严重失衡。锡林浩特市各苏木畜牧业要得到

健康持续的发展,还需进一步的进行调控和管理。草地和牲畜要得到双赢的发展,需出栏一部分牲畜,或加大对牲畜的补饲量。
【英文摘要】
【语种】中文
【第一作者】李刚
【通讯作者】辛晓平
【期刊名称、卷期、页码】草 业 科 学 26 卷 1 期 87- 93
【论文发表时间】2009-06-25 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】畜牧、兽医科学其他学科

【题目】稻秸蚯蚓堆制后的物理、化学及微生物特性变化
【中文关键词】水稻秸秆;蚯蚓堆制;物理化学特性;微生物
【英文关键词】rice straw; vermicomposting; physical-chemical property; microbe
【中文摘要】利用水稻秸秆与畜禽粪便(牛粪、猪粪和鸡粪)等干重混合物(RCD、RPM、RCE)接种蚯蚓(Eisenia foetida)进行堆制,研究堆肥产物的物理、化学及微生物特性变化。结果表明,蚯蚓堆制30 d后,稻秸牛粪、稻秸猪粪堆肥产物MBC含量显著下降; 3种稻秸粪便混合物经蚯蚓堆制后,堆肥产物微生物代谢熵、脱氢酶和碱性磷酸酶活性增加,尤以RCD的变化明显。稻秸牛粪、稻秸猪粪及稻秸鸡粪混合物经蚯蚓堆制后,总固形物平均重量损失分别增加6·45%、4·22%和3·82%; pH值均降低,其中RCD显著降低。蚯蚓堆制有助于提高堆肥产物全氮、全磷和全钾含量,同时使碳氮比降低。水稻秸秆混入部分畜禽粪便经蚯蚓堆制可减少堆肥时间并提高堆肥质量,混入的粪便以牛粪最好,猪粪次之,鸡粪最差。
【英文摘要】Vermicomposting is a popular technique used forwaste treatment (e. g. cow dung, pig manure andchicken excrement). In order to evaluate the feasibility of vermicomposting used for rice straw treatmen,t three kinds of rice straw and dung mixture (straw：dung=1：1, dry weight) were set up: rice straw plus cattle dung (RCD), rice straw plus pigmanure(RPM) and rice straw plus chicken excrement(RCE). The physical-chemical andmicrobial properties of end products obtained through composting and vermicompostingwere analyzed respectively. The results indicated thatvermicomposting decreased themicrobialbiomass carbon (MBC) in the end prod-ucts ofRCD and RPM significantly after thirty days, while increased the microbial respiration quotient (qCO2), dehydrogenase and alkaline phosphatase activities in the end products of RCD, RPM and RCE, especially for RCD. The total solid loss (TS loss) in the RCD, RPM and RCE were increased through vermicomposting by 6·45%, 4·22% and 3·82%, respectively. Vermicomposting decreased the pH in the end products of three straw and dungmixture. The vermicompostobtained from RCD, RPM and RCE increased the contents of total nitrogen (TN), total phosphorus (TP) and total potassium (TK), while reduced C：N ratio compared with compost. The vermicomposting effects used for rice strawwas followed with the order: RCD>RPM>RCE. The best dung suitable for vermicompostingwas cattle dung followed by pigmanure and chicken excrement.
【语种】中文
【第一作者】于建光
【通讯作者】常志州
【期刊名称、卷期、页码】植物营养与肥料学报,2010,16(6):1503-1508
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【引文索引类型】其他
【引文索引号】
【学科分类】环境科学技术基础学科

【题目】羊草草甸草原FPAR时间变化规律 分析
【中文关键词】羊草草甸草原; 时间变化规律; FPAR; PAR; 呼伦贝尔;
【英文关键词】leymus chinensis meadow-steppe; temple variation law; FPAR; PAR; Hulunbeier;
【中文摘要】FPAR 是植被叶子在光合有效辐射(400~ 700nm) 波段有多少太阳光能被吸收的一个度量, 表示了植被冠层能量的吸收能力,是描述植被结构以及与之相关的物质与能量交换过程的基本生理变量。FPAR 模型是否能真实反映植被冠层吸收光合有效辐射状况, 将直接影响遥感估算草地 NPP 的不确定性程度。本文通过对长生季羊草草甸草原冠层 PAR 各分量的观测, 研究了入射 PAR、冠层反射 PAR 及透过冠层到达地面的 PAR 的时间变化规律, 并以观测的 PAR 为基础计算分析了羊草草甸草原 FPAR 的时间变化规律。结果表明, 羊草草甸草原入射 PAR 及透射 PAR 日变化规律明显, 呈较标准的

正弦曲线变化; 晴天 FPAR 的日变化呈较标准的余弦曲线变化, FPAR 在早晚值较高, 最高值约 0 81, 日平均 FPAR 值可以用 9: 30/ 太阳天顶角为 48 时瞬时的 FPAR 值或14: 30/ 太阳天顶角为 30 时瞬时的 FPA R 值表示。
【英文摘要】
【语种】中文
【第一作者】李刚
【通讯作者】辛晓平
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【引文索引类型】其他
【引文索引号】
【学科分类】生物学其他学科

【题目】粪肥施用方式对设施栽培蔬菜生长和土壤肥力的影响
【中文关键词】蔬菜;鸡粪;产量;品质;维生素C;亚硝酸盐;设施栽培;粪肥
【英文关键词】蔬菜;鸡粪;产量;品质;维生素C;亚硝酸盐;设施栽培;粪肥
【中文摘要】在设施栽培条件下,进行了腐熟鸡粪不同施用方式对青菜生长和土壤肥力的影响试验。结果表明:施用鸡粪6t/hm2、18t/hm2、36t/hm2后,土壤总氮、速效养分和有机质含量增加,且施入量愈多增加量也愈大。总氮、有效磷和有机质的增加尤为显著;当施用18t/hm2腐熟鸡粪时,总氮、有效磷已超过常规化肥处理。与不施肥相比,施用鸡粪6~36t/hm2有机质增加7.8%~50%;株高和产量分别增加31.2% ~85.4%和127.0% ~427. 0%。对青菜维生素C含量的影响总体上看有减少趋势,但不显著;在中低量机械深施时,施用鸡粪可以减少青菜中亚硝酸盐的含量。两种施用方法相比,当季人工撒播比机械深施养分供应充足,蔬菜产量有所增加。建议在设施蔬菜栽培上粪肥年施用量以15 t/hm2为宜。
【英文摘要】在设施栽培条件下,进行了腐熟鸡粪不同施用方式对青菜生长和土壤肥力的影响试验。结果表明:施用鸡粪6t/hm2、18t/hm2、36t/hm2后,土壤总氮、速效养分和有机质含量增加,且施入量愈多增加量也愈大。总氮、有效磷和有机质的增加尤为显著;当施用18t/hm2腐熟鸡粪时,总氮、有效磷已超过常规化肥处理。与不施肥相比,施用鸡粪6~36t/hm2有机质增加7.8%~50%;株高和产量分别增加31.2% ~85.4%和127.0% ~427. 0%。对青菜维生素C含量的影响总体上看有减少趋势,但不显著;在中低量机械深施时,施用鸡粪可以减少青菜中亚硝酸盐的含量。两种施用方法相比,当季人工撒播比机械深施养分供应充足,蔬菜产量有所增加。建议在设施蔬菜栽培上粪肥年施用量以15 t/hm2为宜。
【语种】中文
【第一作者】赵永富
【通讯作者】赵永富
【期刊名称、卷期、页码】江苏农业科学, 2010(5): 187-189
【论文发表时间】2010-06-04 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】环境科学技术基础学科

【题目】甘肃省保护性耕作的发展现状及效益分析
【中文关键词】保护性耕作;发展现状;效益
【英文关键词】conservation tillage; development status; benefit
【中文摘要】阐述了甘肃省保护性耕作的发展现状。通过分析实施保护性耕作所带来的经济效益与生态效益的结果表明,发展保护性耕作技术对于推动甘肃省农业的可持续发展具有重要意义。
【英文摘要】This paper elaborated on the development status of conservation tillage in Gansu province. By analyzing the economic and ecological benefits brought by the implementation of conservation tillage. It was found that the development of conservation tillage played a significant role in the sustainable development of agriculture in Gansu province.
【语种】中文
【第一作者】王敏
【通讯作者】张锋伟
【期刊名称、卷期、页码】湖北农业科学,2009,48(1):243-246
【论文发表时间】2009-01-03 00:00:00

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【引文索引号】
【学科分类】农业基础学科

【题目】秸秆腐熟剂对土壤微生物及养分的影响
【中文关键词】秸秆;腐熟剂;微生物;土壤养分
【英文关键词】straw; inoculants; microbe; soil nutrient
【中文摘要】为了解本研究室于常温下筛选研制的秸秆腐熟剂在土壤中的施用效果,通过盆钵模拟培养试验,设置腐熟剂的不同施用方式(单独施用腐熟剂、配施葡萄糖、配施尿素、配施尿素与葡萄糖),研究小麦秸秆还田施用秸秆腐熟剂后土壤微生物群落特征及养分含量变化,为该秸秆腐熟剂的产品化及合理施用提供理论依据。结果表明,秸秆腐熟剂以不同施用方式进入土壤后,土壤的微生物群落组成与活性相应发生显著变化,AWCD、Shannon 多样性指数(H)、物种丰富度(S)均增大,早期土壤中细菌和真菌数量增加,腐熟剂与尿素的配合施用使土壤的基础呼吸和微生物代谢熵显著下降(P<0.05);腐熟剂施用加快了小麦秸秆的腐解速度,腐熟剂施用 90 d后,土壤中全磷、速效磷及速效钾的含量均有不同程度的增加,腐熟剂与尿素的配合施用增幅显著(P<0.05)。在秸秆还田时,施用腐熟剂有助于土壤微生物群落活性与多样性的提高,同时也有利于改善土壤养分状况,腐熟剂与尿素配合施用的效果最佳。
【英文摘要】Crop straw returning to field is an important way in the maintenance of agro-ecosystem since it could enhance soil fertility and improve soil structure. In wheat-rice rotation region, microbial inoculants for straw decomposing, which could accelerate straw decompositionand mitigate short-term disadvantage, usually is adopted as an important agricultural measure after crop harvest. We obtained a microbial agent from natural condition and got the inoculants culture. A pot experiment was conducted with different utilization methods of the inoculants for the purpose of assessing its effects on straw decomposition, microbial community and nutrient in wheat straw-incorporation soils. Four application methods of inoculants were established as follows:inoculants(I), inoculants plus glucose(IC), inoculants plus urine(IN), inoculants plus urine and glucose(INC). In this research, average well color developmen(tAWCD)and soil microbial diversity were determined byBiolog Eco micro -plate technique, microbial populations of soil were estimated by plate count method, and soil basal respiration(BR)by titration. Metabolize quotien(tqCO2), was calculated consequently. Soil chemical and physical properties were determined by conventionalmethods. The results indicated that the soil microbial community structure and activities were obviously influenced by microbial inoculants with all application methods. The values of AWCD, Shannon-Wiener diversity index(H), and species richness(S)increased. Meanwhile, anearly-stage increase of the soil bacterial and fungal populations was observed in soils treated with inoculants. In the co-application of microbial inoculants and urea, soil BR and qCO2 were significantly decreased(P<0.05), and the decomposition rates of wheat straw in soils were increased in the microbial inoculants application. The contents of soil total phosphorous, available phosphorous and available potassium were increased separately with different application methods of microbial inoculants after ninety days, and the increment were significant(P<0.05) under the co-application of microbial inoculants and urea. The inoculants were helpful to increase soil microbial activity and diversity and to amend soil nutrient property in straw-incorporated soils.
【语种】中文
【第一作者】于建光
【通讯作者】常志州
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【学科分类】土壤学

【题目】秸秆还田对土壤脱氢酶和多酚氧化酶活性动态变化的影响
【中文关键词】秸秆还田;脱氢酶;多酚氧化酶;动态变化
【英文关键词】straws; dehydrogenase; polyphenoloxidase; dynamic change
【中文摘要】通过旱田试验研究了冬小麦生长期内,秸秆还田与肥料配施对土壤脱氢酶活性和多酚氧化酶活性动态变化的影响。结果表明,土壤脱氢酶活性在冬小麦生长期内波动较大,出现多个峰值;秸秆还田和厩肥的施入均能显著提高土壤脱氢酶活性。在冬小麦生长后期,尿素能显著提高土壤脱氢酶活性,而过磷酸钙的施入一定程度上降低了土壤脱氢酶活性。土壤多酚氧化酶活性表现为在冬小麦生长前期和中期活性较低,4、5月份活性迅速升高,出现高峰值,随后在收获期迅速降低;秸秆还田和过磷酸钙对土壤多酚氧化酶活性的影响不显著。在冬小麦生长中期,厩肥和尿素对土壤多酚氧化酶活性有

一定的抑制作用,在冬小麦生长旺盛期,厩肥和尿素对多酚氧化酶活性的抑制作用不明显。

【英文摘要】Soil enzyme activities play an important role in the material cycle and energy flow of ecosystem. The objective of this field experimentwas to determine the effect of the use of organic and chemical fertilizers on the dynamic changes of soil dehydrogenase and polyphenol oxidase activities in growth stages ofwinterwheat. The experiment included five fertilizer treatments: control (no fertilizer); returning corn strawto field; returning corn strawto field combining application of manure; returning corn strawto field combining application of nitrogen fertilizer (pure N 210 kg/hm2); and returning corn strawto field combining application of nitrogen (pure N 210 kg/hm2) and phosphate fertilizers (P2O5150 kg/hm2). Each treatment was replicated four times. The results showed that the fluctuation of the trend of dynamic changes of soil dehydrogenase activitywasmuch strongerthan thatof polyphenoloxidase activity. Manure application and returning corn straw to field could increase significantly the dehydrogenase activity. In the late growth stage of winter wheat, nitrogen fertilizer application could increase significantlythe dehydrogenase activity, butthe increasing action was weakened by the input of phosphate fertilizer. The effect of phosphate fertilizer application and returning corn straw to field on the soil polyphenoloxidase activity did not reach the significant level. In the middle growth stage ofwinterwheat,manure and nitrogen fertilizer application could restrain the polyphenoloxidase activity in this experiment. But in late stages, especially in April and May, the restraining action became weaker.

【语种】中文

【第一作者】陈强龙

【通讯作者】高华

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【学科分类】土壤学

【题目】秸秆留茬翻埋快速腐熟技术及配套机具研究

【中文关键词】秸秆还田;留茬翻埋;快速腐熟;联合作业机

【英文关键词】straw returning; stubble burying; fast decomposition; combined machine

【中文摘要】针对我国北方作物机械化收获模式下,机收后滞留在田间大量秸秆留茬处理问题,结合秸秆整株翻埋技术与秸秆快速腐熟还田技术,设计了秸秆留茬翻埋快速腐熟联合作业机。该机由腐熟剂喷施系统及秸秆留茬翻埋系统两部分组成。通过田间试验表明,秸秆留茬翻埋快速腐熟技术可使翻埋的秸秆留茬快速腐解,7个月后秸秆留茬腐熟率为79.8%,较单一秸秆留茬翻埋作业方式腐熟率提高了18.5%;增加了田间土壤微生物数量,提高了土壤有机质含量;相应配套机具在田间作业时,速度应大于1.46 m/s,悬挂深耕犁耕深应控制在22~29 cm之间。

【英文摘要】Under the mechanization mode of crop harvest in northern China, a combined machine is designed combining straw stubble burying and the straw returning with fast decomposition technology to handle the problem of large amount of straw stubble remaining in field after the machine harvest. The machine consists of degradation agent spraying system and straw stubble burying system. Field experiments showthat the technique can make strawstubble fast decomposing in short time, and the straw stubble decomposition rate of farmland using this machine reached 79.8% after 7 months, whichwas 18.5% higher than a single mechanical burying treatment. This technique also increases the soil microorganismquantity and organic matter in soil. When the corresponding ancillary equipment works in the field, the speed should be controlled as more than 1.46 m/s, and the mounted deep plough ’s tilling depth should be limited between 22~29 cm.

【语种】中文

【第一作者】戴飞

【通讯作者】韩正晟

【期刊名称、卷期、页码】干旱地区农业研究,2010,28(6):271-274

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【引文索引号】

【学科分类】农学其他学科

【题目】快速腐熟秸秆还田联合作业机原理方案设计

【中文关键词】快速腐熟秸秆还田联合作业机;原理方案;设计
【英文关键词】fast decomposition straw returning machine; principal scheme; design
【中文摘要】为获得一种适宜于我国现代农业推广、发展的农业机械设计方案,通过运用现代设计理论,对课题组拟研发的快速腐熟秸秆还田联合作业机进行了产品原理方案设计。从联合作业机的功能分析入手,研究了该作业机功能系统,明确其总功能、各子功能以及它们之间的关系;依据设计要求,探寻原理解法,提出了创造性方案;依据定性、定量评价,优化选择了最优设计方案。该方案的确定将为快速腐熟秸秆还田联合作业机的设计、制造提供重要的参考依据。
【英文摘要】In order to obtain a suitable design scheme for the development of Chinese modern agricultural popularization of agricultural machinery, through the application ofmodern design theory, the productprinciple of the fastdecomposition straw returning machine is designed. From the analysis of the fast decomposition straw returningmachine function, its function system is studied, its total function ofeach branch function and their relationship are clarified, according to the design requirements, seeking solutions, the principle of creative solutions is put forward · based on qualitative and quantitative evaluation, the optimal design scheme is optimized. This schemewillprovide the important reference fordesign andmanufacturing of the fast decomposition straw returning machine.
【语种】中文
【第一作者】胡靖明
【通讯作者】韩正晟
【期刊名称、卷期、页码】机械研究与应用,2011,4:38-40
【论文发表时间】2011-04-02 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】农学其他学科

【题目】外来入侵植物加拿大一枝黄花的研究进展
【中文关键词】加拿大一枝黄花;化感作用;机理
【英文关键词】无
【中文摘要】外来生物的入侵给我国的生态平衡造成了严重影响,导致了不可估量的经济损失。本文对外来入侵植物加拿大一枝黄花的分布、生物学及生态学特性、化感作用及机理等方面进行了综述。
【英文摘要】
【语种】中文
【第一作者】黄洪武
【通讯作者】董立尧
【期刊名称、卷期、页码】杂草科学, 2007,(2):6-9
【论文发表时间】2007-01-31 00:00:00
【引文索引类型】null
【引文索引号】
【学科分类】植物保护学

【题目】农艺措施对麦秸腐解初期生化特征的影响
【中文关键词】麦秸;破碎;腐熟剂;尿素
【英文关键词】wheat straw; fragmentation; microbial inoculant; urea
【中文摘要】通过模拟麦秸还田初期的田间状况,设计15 d的3因素麦秸浸泡试验,评估农艺措施(破碎、接种腐熟剂和施用尿素)对稻麦轮作田麦秸腐解初期生化特征的影响,进而为合理采用农艺措施,减轻秸秆还田负面效应提供理论依据。结果表明:增大秸秆破碎程度有利于15 d浸泡麦秸残留率的下降;增大秸秆破碎程度、接种腐熟剂和施用尿素均可显著提高浸提液pH值;施用尿素可显著增强浸提液纤维素酶活性;增大秸秆破碎程度和施用尿素能极显著提高浸提液总酚酸含量,极显著降低水稻发芽指数,浸提液总酚酸含量和水稻发芽指数间呈显著负相关(r=-0 · 766,P<0 · 01);增大秸秆破碎程度、接种腐熟剂和施用尿素均有助于提高浸提液铵态氮与总磷含量,而浸提液硝态氮含量主要受施用尿素的影响。因此,在麦秸淹水还田时,需要对通常采用的麦秸破碎并在早期多施用氮肥的传统农艺措施加以重新评估。
【英文摘要】In order to evaluate the effects of farming pratices (wheatstraw fragmentation, microbial inoculants, and urea) on physica,l chemical and microbial properties ofwheat straw and its extract through short-term decomposition, a 15-d experimentwith three factorswas carried out to simulate the practical field condition afterwheat straw returning. The results indicated that increasing the fragmentation degreewas helpful for the decrease of wheatstraw residual rate. All of the farming practices employed in the experiment

raised the pH value ofwheat straw extracts, the contents of NH4+and total phosphorus significantly. The cellulase activity in wheat straw extracts treated with urea was enhanced significantly. The practices of increasing fragmentation degree and urea application increased the totalphenolic acids content inwheat straw extracts significantly, butdecreased the germination index of rice significantly (P<0.01). The contentof NO3-in wheat straw extract was affected by urea application. The total phenolic acids content and the germination index of rice correlated negatively (r=-0.766,P<0.01). In conclusion, the practice of fragmentation and urea application in the early growth stage of rice afterwheat straw returning to field should be reevaluated.
【语种】中文
【第一作者】于建光
【通讯作者】常志州
【期刊名称、卷期、页码】江苏农业学报, 2010, 26(6): 1252-1257.
【论文发表时间】2010-06-03 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】农业基础学科

【题目】氯氟草醚乙酯在大豆不同叶龄期施用对阔叶杂草防效和对作物安全性评价
【中文关键词】氯氟草醚乙酯;大豆;施药时期;化学除草
【英文关键词】无
【中文摘要】田间试验研究了在大豆不同的三个叶龄期喷施氯氟草醚乙酯对田间阔叶杂草防除效果和对大豆的安全性。试验结果表明,氯氟草醚乙酯对反枝苋、小旋花、苘麻等阔叶杂草有良好的防除效果,防效随施药时大豆叶龄的增大而降低。大豆l一2片复叶期施药,氯氟草醚乙酯在有效成分9—27 g/hm2剂量下对反枝苋防效可达95%以上,13.5—27 g/hm2剂量下对小旋花的防效较好。大豆2—3片复叶期施药,13.5—27 g/hm2剂量下能较好地防除反枝苋和小旋花。大豆3—4片复叶期施药,18—27 g/hm2剂量下对反枝苋有较好的防效。大豆1—4片复叶期施用氯氟草醚乙酯9—27 g/hm2,大豆产量存在显著性差异。
【英文摘要】
【语种】中文
【第一作者】贾博
【通讯作者】倪汉文
【期刊名称、卷期、页码】杂草科学, 2008,(1):26-27
【论文发表时间】2007-12-04 00:00:00
【引文索引类型】null
【引文索引号】
【学科分类】植物保护学

【题目】放牧制度对荒漠草原可萌发土壤种子库的影响
【中文关键词】放牧制度;短花针茅; 荒漠草原;可萌发土壤种子库
【英文关键词】grazing system ; Stip a brevif lor a ; desert steppe ; germinable soil seed bank
【中文摘要】以内蒙古苏尼特右旗短花针茅荒漠草原为研究对象 ,通过划区轮牧与自由放牧的比较试验 ,研究可萌发土壤种子库对不同放牧制度的响应。结果表明: ①可萌发种子库物种组成在划区轮牧草地为 11 种,自由放牧草地为8 种,封育禁牧区为 9 种,划区轮牧较自由放牧和禁牧有利于提高草地群落可萌发土壤种子库的植物种数以及多年生优良牧草;可萌发土壤种子库密度在封育禁牧区为 (19 533. 33 ±10 552. 83) 粒 m- 2,划区轮牧区为 (3 233. 33 ±524. 21) 粒 m- 2,自由放牧区为 (2 553. 60 ±2 152. 48) 粒・m- 2,可萌发土壤种子库密度封育禁牧区显著高于划区轮牧区与自由放牧区 ,两放牧处理间无显著差异。 ②不同处理可萌发土壤种子库垂直分布有共同趋势,有75 1 06 %~83 1 19 %分布在 0~5 cm 土层内,14 1 16 %~21 1 68 %分布在 5~10 cm 土层内,2 1 65 %~4 1 90 %分布在10~15 cm 土层内,且不同土层可萌发土壤种子库密度均为封育禁牧区显著高于划区轮牧区与自由放牧区,两放牧处理间无显著差异。③划区轮牧区可萌发土壤种子库的丰富度指数和多样性指数高于自由放牧区。划区轮牧区和封育禁牧区可萌发土壤种子库组成的相似性系数最大,为 0 1 857。
【英文摘要】
【语种】中文
【第一作者】闫瑞瑞

【通讯作者】卫智军
【期刊名称、卷期、页码】中国沙漠,第31卷,第3期
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【引文索引号】
【学科分类】畜牧、兽医科学其他学科

【题目】施肥与灌溉对春玉米土壤N2O排放通量的影响
【中文关键词】春玉米土壤; 施肥; 灌溉; N2O; 日变化; 通量; 连续观测; 静态自动箱
【英文关键词】springmaize soil; fertilization; irrigation; N2O; diurnal variation; flux; continuous measurement; automatic static chamber system
【中文摘要】2007年在山西省榆次县利用静态箱自动监测系统对传统和优化两种施肥方式下春玉米土壤追肥和灌溉前后N2O排放通量进行了连续测定, 该地区土壤质地为壤土, 气候为温带大陆性半干旱气候。结果表明, 灌溉和施肥对N2O的排放影响较大, 当土壤含水量较低时, 施肥并不会导致N2O通量迅速升高。在不灌溉的条件下施肥前后 N2O 的日排放通量特征为单峰型, 凌晨4: 00左右为最低值, 下午 16: 00 左右达到最高值, 与空气和 5 cm 土壤温度相关性均达到了极显著水平。施肥并灌溉后 N2O排放通量迅速升高, 一天之内能够迅速升高约 50 倍。灌溉后 N2O 日排放通量呈“ N ”字型走势, 在达到最大值后变为单峰型, 一周后日排放出现了直线下降和水平波动两种不同的走势。经检验施肥并灌溉后一周内优化施肥方式下N2O排放通量极显著低于传统施肥方式(P<0.01),优化施肥可以作为减排农田 N2O 排放的措施之一。
【英文摘要】N2O flux variations from spring maize soil under traditional and optimized fertilization were monitored continuously using automatic static chamber system in Yuci County, Shanxi Province in 2007. The results showed that: Nitrous oxide flux was mainly affected by irrigation and fertilization. However, fertilization wouldn ’ t result in high N2O flux immediately if the soil water content is lower. Before and after fertilization without irrigation, the pattern of diurnal N2O flux was in a single peak type. Lowest N2O flux appeared at about 4 amand highest N2O flux occurred at about 4pm. N2O flux had a very significant relative with air temperature and soil temperature at 5 cm. After fertilization and irrigation the N2O flux increased 50 times in one day. Diurnal N2O flux dynamic showed an “ N ” shape, then the diurnal N2O flux dynamic was in a single peak shape after the N2O flux reached the maximumvalue. Diurnal N2O flux dynamic shown two different types one week later: sharply linear fall and horizontal fluctuation. N2O flux with optimized fertilization was very significant lower than that with traditional fertilization (P<0.01). Therefore, the optimized fertilization can be an option for reducing N2O emission from cropland.
【语种】中文
【第一作者】刘运通
【通讯作者】万运帆
【期刊名称、卷期、页码】农业环境科学学报,2008,27(3):997-1002
【论文发表时间】2008-06-03 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】环境科学技术基础学科

【题目】稻田水面漂浮的杂草种子种类及动态
【中文关键词】杂草种子,传播扩散,漂浮动态,稻田
【英文关键词】无
【中文摘要】为了揭示杂草种子的漂浮动态,并为探寻生态控草方法提供理论依据,我们于2005年曲11月,在南京沧波门稻作区调查了水稻种植前及生长后期田间杂草群落以及稻田灌水期间水面漂浮的杂草种子的种类及漂浮时间。结果表明,在水稻种植前及生长后期田间出现有15科24种杂草;可漂浮于水面的杂草种子有17科26种,与田间发生的杂草种类相同的共有18种,占所有32种杂草的56.25%。这些杂草主要隶属于禾本科、蓼科、毛茛科、报春花科、莎草科、菊科和雨久花科。田埂附近漂浮的杂草种类及种子数量均高于田中间;各类杂草种子的漂浮能力不一。其中茼草(Beckmannia syzigachne)、泽珍珠菜(Lysimachia candida)、茴茴蒜(Ranunculus chinensis)、齿果酸模(Rumex dentatus)、蛇床(Cnidium monnierO、鳢肠(Eclipta prostrata)和看麦娘口lopecurusaequal&)等在田间水面漂浮能力较强。漂浮期间杂草种子除多集中于田埂附近,也附着于稻稞周围,并有互相结联的趋势。从整体上看,杂草种子漂浮2天后骤降,8天后基本全部沉降。显然,稻田生境的杂草种子大多可以漂浮于水面传播扩散。因此在灌水早期采取过滤或清除水上漂浮杂草种子可以减少杂草种子的输入和加速杂草种子从田间输出,减少杂草发生基数。

【英文摘要】
【语种】中文
【第一作者】左然玲
【通讯作者】强胜
【期刊名称、卷期、页码】生物多样性, 2008,16(1):8-14
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【引文索引号】
【学科分类】植物保护学

【题目】太湖地区长期施肥条件下水稻-油菜轮作生态系统净碳汇效应及收益评估
【中文关键词】水稻-油菜轮作;农田生态系统;长期试验;肥料处理;碳汇;碳平衡;经济收益
【英文关键词】rice-rape rotation; cropland ecosystem; long-term trial; fertilization treatment; carbon sink; carbon balance; economic benefit
【中文摘要】以太湖地区水稻-油菜轮作系统长期施肥处理试验田为研究对象,利用历年作物产量、凋落物固碳和农田CO2排放等实测资料,以及生态系统的物质投入和管理投入等调查资料,估算了该系统的年碳平衡和经济收益.结果表明:不同施肥处理的年碳汇量在0·9~7·5 tC·hm-2·a-1,有机无机肥配施的净碳汇量是单施化肥的3倍.系统物质投入的碳成本在0·37~1·13 tC·hm-2·a-1,人工管理的碳成本在1·69~1·83 tC·hm-2·a-1,年度经济收益在5·8×103~16·5×103CNY·hm-2·a-1,有机无机肥配施下的经济效益是单施化肥下的1·1倍.与单施化肥相比,有机无机肥配施单位碳汇的边际成本为217·1 CNY·t-1C,与欧盟碳交易市场的碳价格每吨20欧元相近.与单施化肥相比,有机无机肥配施下生态系统不仅生产力较高,而且表现出更高的碳汇效应和经济收益.
【英文摘要】Taking a long-term fertilized rice-rape rotation system inTaihuLake as testobjective, itsannualC balance and economic benefitwere estimated, based on the measurement of past yearsgrain yield, litter C conten,t and field CO2emission as well as the investigation ofmaterial and management inputs. The calculated annual C sink under different fertilizations ranged from0·9 tC·hm-2·a-1to 7·5 tC·hm-2·a-1, and the netC sink effectunder combined inorganic/organic fertilizationwas three folds as thatunder chemical fertilization. The C cost of material input ranged from 0·37 tC·hm-2·a-1to 1·13 tC·hm-2·a-1, and that ofmanagement input ranged from 1·69 tC·hm-2·a-1to 1·83 tC·hm-2·a-1. The annual economic benefit ranged from 5·8×103CNY·hm-2·a-1to 16·5×103CNY·hm-2·a-1, andwas2·1 times higher under combined fertilization than underchemical fertilization. Comparing with that under chemical fertilization, themarginalcost forper tonC sink under combined inorganic/organic fertilization was estimated as 217·1 CNY·t-1C, very close to the C price of20 Euro·t-1C in the EU. In sum,under combined inorganic/organic fertilization, this rice paddy ecosystem could notonly have higher productivity, but also present greater net C sink effect and higher economic benefi,t compared with under chemical fertilizer fertilization.
【语种】中文
【第一作者】李洁静
【通讯作者】潘根兴
【期刊名称、卷期、页码】应用生态学报,2009,20(7):1664-1670
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【引文索引号】
【学科分类】农学其他学科

【题目】猪CETP基因表达变化及对胆固醇合成影响的研究
【中文关键词】RT—PCR　实时荧光定量PCR　CETP　猪
【英文关键词】无
【中文摘要】研究胆固醇酯转运蛋白(CETP)基因在猪各个组织的表达特性以及在不同品种之间表达的差异。结果表明:所检测的15个组织中除下丘脑外,CETP基因在其余14个组织都有不同程度的表达,其中肝脏的表达量最高。统计分析显示,除了输卵管和心脏,胃和肺,肾脏和大脑之间CETP的表达差异不显著外,其余各组织之间差异显著(P〈0.05)。同时利用实时荧光定量PCR对中国地方猪种和国外引进品种之间的表达分析发现,2个品种之间CETP的mRNA表达量存在显著差异(p〈0.05),而其对应血清中HDL胆固醇和LDL胆固醇含量差异不显著(P〉0.05)。

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【语种】中文
【第一作者】刘桂芬
【通讯作者】傅金銮
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【题目】Evaluation of connectedness between herds for three pig breeds in China.
【中文关键词】无
【英文关键词】connectedness, cross-herd genetic evaluation, joint breeding system
【中文摘要】无
【英文摘要】Using data on age at 100 kg of three pig breeds (Large White, Landrace and Duroc) the connectedness between herds inChina was evaluated by the connectedness rating (CR) method. The results show that most herds in China have low average CR(0 – 3.59%) with other herds. In Large White, of the 36 herds analyzed there are 20 herds, which are connected with at least oneother herd. In Landrace and Duroc, of the 27 and 18 herds analyzed, only four and fi ve herds, respectively, were found havingconnectedness with other herds. Generally, the connectedness exists only among two or few herds in the same region. A certaindegree of connectedness between herds is a precondition for cross-herd genetic evaluation. A national or regional cross-herdgenetic evaluation is not practicable at the present time in China. More intense efforts are needed to establish and enhance theconnectedness between herds by means of extensively using arti fi cial insemination (AI) in the swine industry in China
【语种】英文
【第一作者】孙彩云
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【题目】Characterization of porcine MMP-2 and its association with immune traits.
【中文关键词】无
【英文关键词】Pig; MMP-2; Genomic structure; Promotor; Mapping; Association analysis; Immune traits
【中文摘要】无
【英文摘要】Matrix metalloproteinase-2 (MMP-2) plays important roles in inflammation and immunity besides its basic role in degrading and remodelling extracellular matrix (ECM). The expression of MMP-2 is up-regulated in many human as well as animal models of inflammatory and immune diseases. In this study, we cloned the 5'-upstream sequence, 3'-downstream sequence as well as other missed genomic sequences of porcine MMP-2, the genomic Structure and the promotor sequence were analyzed and found to share high similarity with those of human MMP-2. Porcine MMP-2 was assigned to SSC6p14-p15, and closely linked to microsatellite SW1108 (53cR, LOD score 7.59) by IMpRH panel. Real-time PCR analysis revealed that the expression of porcine MMP-2 was remarkably different in diverse tissues, a high level expression was observed in the testis and uterus, relatively low expression in other tissues. Allele frequencies determination in different pig breeds and association study were performed on the selected SNP and indel. The results showed that the SNP Acyl in exon 12 was significantly associated with white blood cell count (WBC) of neonate piglets at 0 day (P=0.0079), and classical swine fever virus antibody level (CSFV-AB) of pigs at 17 days (P=0.0461), the indel MspI in intron 4 had remarkable correlation with mean corpuscular hemoglobin (MCH) of pigs at 17 days (P<0.0001). (C) 2009 Elsevier B.V. All rights reserved.
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【学科分类】生物与医学统计学

【题目】猪HB-EGF 基因多态性与产仔数的关联性分析
【中文关键词】猪;肝素结合性表皮生长因子;多态性;产仔数
【英文关键词】pig; heparin-binding EGF-like growth factor (HB-EGF); polymorphism; litter size
【中文摘要】研究猪 HB-EGF 基因的多态性及其与产仔数的关系,寻找与猪产仔数相关的分子遗传标记,以加快猪育种进程。【方法】利用 PCR-SSCP 技术研究 HB-EGF 基因外显子多态性,利用最小二乘均数法对其与产仔数的关系进行分析,同时对两个多态位点的方差组分进行了分析。【结果】在两对引物(E5 和 E7)中各检测到一个多态位点,均出现 3 种基因型(AA、BB、AB)。E5 位点:对于大白猪,在 3~8 胎中,BB 型个体的 TNB 和 NBA 均显著高于 AA 型个体(P<0.05),在所有胎次中,BB 型个体的 TNB 显著高于 AA 型个体(P<0.05),NBA 极显著高于 AA 型个体(P<0.01),TNB 和 NBA 的遗传主要受基因加性效应的影响;对于长白猪,在 4 个阶段中 3 种基因型个体的 TNB 和 NBA 之间差异不显著(P>0.05)。E7 位点:对于大白猪,在 3~8 胎和所有胎次中,AA 型个体的 TNB均显著高于 BB 型个体(P<0.05),TNB 的遗传主要受基因加性效应的影响;对于长白猪,在 3~8 胎和所有胎次中,AB 型个体的 NBA 均显著高于 BB 型个体。【结论】对于大白猪,E5 位点 BB 基因型可作为在 TNB 和 NBA 性状上的标记基因型,E7 位点 BB 基因型可以作为 TNB 性状的标记基因型
【英文摘要】【Objective】 The pig HB-EGF gene was used to study the polymorphism, and the association between the polymorphism and litter size was analyzed in order to find the molecular marker being used in marker-assisted selection(MAS) toaccelerate the swine breeding progress. 【Method】 The polymorphism of HB-EGF gene was studied by PCR-SSCP, which the association between and litter size was studied by the least square mean, and the variance components at the two polymorphisms were also analyzed. 【Result】 There were two polymorphisms occurring in exon5 (primer E5) and exon6 (primer E7) respectively, each one with three genotypes (AA, BB and AB). At E5, in Large White, BB genotype had significantly higher (P<0.05) TNB and NBA than AA genotype in third to eighth parity, and in all parities, BB genotype had significantly higher (P<0.05) NBA than AA genotype, while had greatly significantly higher TNB than AA (P<0.01), the heredity of TNB and NBA was mostly influenced by the genetic additive effect; In Landrace, there was no significant difference on TNB and NBA in the four phases. At E7, in Large White, AA genotype had significantly higher (P<0.05) TNB than BB genotype in third to eighth parity and all parities, the heredity of TNB was mostly influenced by the genetic additive effect; in Landrace, AB genotype had significantly higher (P<0.05) NBA than BB genotype in third to eighth parity and all parities. 【Conclusion】 In Large White, the BB genotype at E5 was favorable marker genotype for TNB and NBA, and the BB genotype at E7 was favorable marker genotype for TNB.
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【题目】猪PPARs基因在胚胎附植期子宫内膜表达特性研究
【中文关键词】PPARs　免疫组化法　猪
【英文关键词】无
【中文摘要】引言猪的妊娠是一个包括激素和多种调节因子在内、发生复杂而协调变化的过程,而这些激素与调控因子之间的关系目前还不是非常清楚。过氧化物增殖活化受体(peroxisome proliferators-activated receptors,PPARs)属于细胞核激素受体超家族成员之一,是配体激活转录因子,与配体结合后其
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【题目】MYPN基因多态性研究及其对猪肉品质性状的影响
【中文关键词】猪　肉质性状　MYPN　SNP
【英文关键词】无
【中文摘要】近年来,肉质性状愈发受到重视。本研究即参照已有的相关生理学研究结果,对编码肌钯蛋白的MYPN基因的多态性进行了检测,结果发现在试验群体中存在3个SNP,分别位于MYPN基因3'非编码区一段序列(AJ560657)的第231、298、318碱基处。同时,对3个SNP与试验群体的肉质性状进行了关联分析,结果表明,除嫩度外其它性状两两之间均存在显著相关,其中一些相关程度更达到极显著水平(P0.001);肉品质性状在不同品种中存在显著差异;3个SNP位点与肉色和嫩度均存在显著相关(P=0.0037,0.0248,0.008;P=0.0150,0.0196,0.0009),SNP318与pH及肌内脂肪含量存在显著相关(P0.05),在SNP231位点具有不同基因型的猪的pH值存在显著差异(P0.01),SNP298对肌内脂肪含量影响差异显著(P0.01)。本研究结果为相关肉质性状改良工作提供了重要研究基础。
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【语种】中文
【第一作者】翟丽维
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【题目】猪EPOR和MYPN基因SNPs检测及其与肉质、胴体性状关联分析
【中文关键词】:EPOR;MYPN;肉质;胴体性状
【英文关键词】:EPOR;MYPN;meat quality trait;carcass trait
【中文摘要】:对EPOR、MYPN 2个候选基因进行SNPs检测,并与肉质性状的关联分析,以期为分子育种提供依据。采用PCRSSCP及PCR.-RFI。P方法对目的基因片段进行SNPs检测,结果显示,在研究群体内,EPOR基因不存在SNP,而MYPN基因存在2个SNP。用SAS软件对MYPN基因的2个SNP位点与部分肉质、胴体性状进行关联分析,结果表明,在本试验群体中,SNPl对背膘厚、导电性、眼肌面积和肌内脂肪的影响都达到了显著水平(P<0.05);SNP2对其中的背膘厚和肌内脂肪含量影响达到了显著水平(P<0.05);另外性别、品种对部分性状也有较大影响(P<o.05)。结合本研究结果和其它相关研究结果,可以推断MYPN基因可能是影响肉质、胴体性状的主效基因或与控制这些性状的主效基因连锁,可以作为肉质、胴体性状的候选基因。
【英文摘要】The two genes EPOR and MYPN were analyzed by SNPgenotypingand associated with meat quality traits tOfind the candidate genes for meat quality traits.The methods for SNPsgenotypingare PCR-SSCP and PCR—RFLP.No SNPwere found for EPOR genes.Two SNPs were found in MYPN genes and the tWO genes were associated with meat quality traitsby SAS.The results showed that SNPl had significant effects on back fatthickness,conductivity,eyemuscle area,intramus—cular fat(P<0.05)#SNP2 had significanteffects on back fat thickness and intramuscular fat(P<0.05);sex and breed hadsignificant effects on some traits(P<0.05).Combined results of this study and other related research findings,it may be inferred that the MYPN gene may affect the meatquality traits and carcass traits,or the major gene and control of these traits inthe main chain genecan be used as meat quality carcass traits of the candidate genes.
【语种】中文
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【题目】呵护仔猪过好断奶关
【中文关键词】仔猪拉稀 断奶仔猪 猪舍环境 生长缓慢 仔猪增重 养猪技术 猪舍设计 疫病控制
【英文关键词】无
【中文摘要】断奶仔猪拉稀、消瘦、生长缓慢等现象在很多猪场依然比较普遍。特别是阳春3月,乍暖还寒,供暖停止,断奶仔猪转到保育舍要适应低温的新环境,这一过程的把握对日后仔猪增重的影响有多大?营养、猪舍环境等因素如何调控都需要仔细考虑。当然,现在多了发酵床养猪技术,并且特别适合保育猪的饲养,但是在猪舍设计、仔猪疫病控制等方面又有哪些细节需要注意?围绕这个主题,我们将学术观点与企业经验一起展示给大家
【英文摘要】无
【语种】中文
【第一作者】王楚端
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【题目】不同品种组合肉猪肥育性能观测
【中文关键词】肉猪 日增重 耗料指数 胴体瘦肉率
【英文关键词】Finishing pig Average day gain Feed consumption ratio Lean meat percentage
【中文摘要】在项目实施前、后对肉猪适度规模标准化养殖场(户)进行了肉猪肥育性能观察试验,结果表明:外种猪(配套系)的杂种肉猪、内三杂肉猪、内二杂肉猪在项目实施前的平均日增重分别为730.67g、631.60g、566.40g,项目实施后分别为792.42g、697.30g、611.80g;项目实施前的平均耗料指数分别为3.04、3.31、3.49,项目实施后分别为2.91、3.20、3.40;项目实施前的胴体瘦肉率分别为63.18%、56.86%、49.18%,项目实施后分别为64.02%,58.02%、50.73%.对其结果进行分析比较,表明我省肉猪生产的品种组合外种猪(套系)的杂种肉猪肥育性能明显优于内三杂肉猪、内二杂肉猪,且项目实施后各品种肉猪肥育性能均比项目实施前有较大提高。为此,在全省生猪生产中,应进一步加快母猪良繁体系建设和提高育肥猪养殖技术,大力推广以外种猪(配套系)的杂种肉猪为主的肉猪生产品种组合,提高肉猪生产性能和质量。
【英文摘要】Observations were conducted on finishing-pig fattening performance of moderate scale standardize farm before and after the project, results indicated that: before and after the project carried out, the average of day gain for hybrid finishing pig of west breed pig (multiplication strains).three- native line-hybrid finishing pig and two-native line-hybrid finishing pig were: 730.67 g.631.60 g. 566.40g and 792.42g.697.30g.611.80g respectively. Average feed consumption ratio were: 3.04.3.31. 3.49rand 2.91.3.20.3.40 respectively. Lean meat percentage were:63.18% .56.86% .49.18% and 64.02% ,58.02%.50.73% respectively. Compare of the results shown that the fatting performance of hybrid finishing pig of west breed pig [multiplication strains) was obviously better then the three-native line-hybrid finishing pig and the two-native line-hybrid finishing pig in Sichuan province. The fattening performance of finishing pig were highly improved by the project, so we should quicken up to build the system of improved variety propagate, improve the technique of finishing pig and generalize the hybrid finishing pig of west breed pig(multiplication strains).
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【通讯作者】吕学斌
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【学科分类】生物与医学统计学

【题目】四川猪场粪污处理与利用方式效果的示范观测
【中文关键词】粪污处理 利用 效果
【英文关键词】Waste treatment Utilization Effect
【中文摘要】在养殖场(户)和规模养殖场中示范推广了经济实用、具有较强可操作性的"还田模式"和"生态还田"两种猪场粪污处理与利用模式,较好地解决了养猪生产发展带来的环境污染问题,不仅为农业生产提供了优质的有机肥源和清洁能源,而且提高了作物产量,减少了化肥使用量,具有显著的经济效益和良好的生态效益。
【英文摘要】Two patterns for piggery waste treatment and utilization were demonstrated in small and intensive pig farm. The results showed that the patterns can solve the environment pollution from pig farm properly. High quality organic fertilizer and clean energy were produced from the waste,which can increase crop yield and decease the use of chemical fertilizer. Significant profits were achieved in respect of economy and ecology.
【语种】中文
【第一作者】应三成
【通讯作者】吕学斌
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【学科分类】生物与医学统计学

【题目】不同品种组合母猪繁殖性能观测研究
【中文关键词】母猪 情期受胎率 窝平产仔数 仔猪70日龄平均个体重 母猪年提供商品仔猪头数
【英文关键词】Sow NR rate Average litter number Average body weight per piglet Number of commercial piglets per sow annually
【中文摘要】本项目实施前、后对母猪适度规模标准化养殖场(户)进行了母猪混合胎次繁殖性能观察试验,结果表明:外二杂(配套系)母猪、内二杂母猪、本地母猪在项目实施前的情期受胎率分别为89.57%、90.13%、89.93%,项目实施后分别为92.78%、92.67%、91.77%;项目实施前窝平产仔数分别为10.57、10.28、10.23头,项目实施后分别为11.35、10.87、10.53头;项目实施前仔猪70日龄平均个体重分别为24.22、22.99、19.76 kg,项目实施后分别为25.97、24.24、20.87 kg;项目实施前母猪年提供商品仔猪数分别为19.40、19.88、17.74头,项目实施后分别为20.75、20.16、18.48头。对其结果进行分析比较,发现外二杂(配套系)母猪的繁殖性能明显优于内二杂母猪、本地母猪,各品种母猪繁殖性能在项目实施后均比项目实施前有明显提高。因此应大力推广外二杂(配套系)母猪,选留和制种二杂母猪或配套系的父母代母猪,全面迅速提高良种母猪的覆盖面,进一步完善母猪良繁体系建设。
【英文摘要】The trials were conducted on sow reproduction performance of moderate scale standardize farm before and after the project, the results indicated that: before and after the project, the NR rate of two west strain hybrid sow,two native strain hybrid sow and pure native sow were 89.57 % ,90.13 % ,89.93 % , 2.78 % ,92.67 % and 91.77 % ,respectively;average litter number were 10.57,10.28,10.23 , 11.35,10.87 and 10.53 , respectively; average body weight per piglet of 70 days were 24.22,22.99,19.76, 25.97,24.24 and 20.87 kg, respectively; the number of commercial piglets per sow annually were 19.40,19.88,17.74 ,20.75,20.16 and 18.48, respectively. Comparison of the results showed that the reproduction performance of two west strain hybrid sow was better than that of two native strain hybrid sow. The sow reproduction performance were highly improved by the project, so we should generalize two west strain hybrid sow, select and breed the parental sow of the two west strain hybrid to rapidly increase the coverage of improved variety and perfect the system of improved variety propagate.
【语种】中文
【第一作者】陈晓晖
【通讯作者】吕学斌
【期刊名称、卷期、页码】《西南农业学报》2010年第23卷第5期 1754-1756页,共3页
【论文发表时间】2010-01-01 00:00:00
【引文索引类型】其他
【引文索引号】无
【学科分类】生物与医学统计学

【题目】四川规模猪场产排污系数测定
【中文关键词】规模猪场 产污系数 排污系数
【英文关键词】large scale pig farm pollutants producing coefficient pollutants discharge Coefficient
【中文摘要】为探讨四川规模猪场主要污染物排放量、排放规律,本文选择成都附近的一家典型规模养殖场,按照春夏秋冬四个季节,对保育仔猪、育肥猪和繁殖母猪不同饲养阶段生猪的粪、尿量及其COD/TN/TP/铜/锌等污染物进行了周年监测。结果表明,规模猪场不同饲养阶段猪只的粪、尿产生量差异较大,保育仔猪、育肥猪和繁殖母猪每天每头的粪产生量分别为0.45、0.79和1.01 kg,尿产生量分别为1.65、3.47和5.60 kg,不同饲养阶段猪只的固体粪便含水率基本相同,变化范围在62.13%~68.16%,平均含水率65.27%;全氮、全磷、有机质含量基本一致,分别平均为2.68%,2.38%,55.91%;不同饲养阶段猪只的尿液pH值在6.88~7.41之间,偏碱性。育成猪尿液COD值、氨氮、凯氏氮较低,其次为繁殖母猪和保育猪。在此基础上,研究提出规模猪场主要污染物产污系数24个,排污系数18个,为构建四川生猪产排污系数测算方法、摸清全省乃至全国生猪粪污产生量、为国家制定节能减排相关指标等提供科学依据。
【英文摘要】A typical large scale pig farm located near Chengdu was chosen to explore the amounts of pollutant emissions and discharge regularity of the main pollutants on large scale pig farms in Sichuan province.Monitorings were made in different pig stages,namely nursling piglets,fattening pigs and breeding sows.The monitoring items included the amount of feces,urine and the contents of COD,TN,TP,copper,zinc and other pollutants.The results showed that the pig dung output for piglets,fattening pig and sows per head per day were 0.45,0.79 and 1.01 kg respectively,and urine output were 1.65,3.47 and 5.60 kg respectively.The water content of solid dung was basically the same for different pig stages,varying from 62.13% ~ 68.16% with an average water content of 65.27%.The content of total nitrogen,total phosphorus,organic matter for pig dung were consistent with average value of 2.68%,2.38%,55.91% respectively.The pH value of urine for different stage pigs were between 6.88~7.41.The urine COD,ammonia nitrogen,Kjeldahl nitrogen for fattening pigs was relatively lower,followed by sows and piglets.Based on these data,24 producing coefficients and 18 discharging coefficients for main pollutants were proposed,which will help to build the pollutants calculation for pig industry,providing scientific index for energy saving and pollutant reduction.
【语种】中文
【第一作者】何志平
【通讯作者】吕学斌
【期刊名称、卷期、页码】《中国沼气》 2010年第28卷第4期 10-14页,共5页
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【引文索引类型】其他
【引文索引号】无
【学科分类】生物与医学统计学

【题目】不同养殖模式下生猪排污系数测定
【中文关键词】养殖模式 排污系数 猪
【英文关键词】Culture mode Pollutants discharge coefficient Pig
【中文摘要】为探索四川省养猪业不同养殖模式下的主要污染物排放量、排放规律,本文选择成都平原的一家规模化养殖场和三台县丘陵地区的一个养殖小区和农户作为试验监测点,按不同季节对规模化养殖场保育仔猪、育肥猪和繁殖母猪三个饲养阶段生猪和养殖小区、农户育成猪的粪、尿/COD/TN/TP/铜、锌等污染物进行周年检测,分析比较了不同养殖模式下生猪污染物的排放水平,并研究提出主要污染物排污系数25个,为构建四川生猪排污系数测算方法,探明全省乃至全国生猪不同养殖模式下粪污排放量和国家制定节能减排相关指标,实现污染物全程控制,推行养猪业清洁化生产提供科学依据。
【英文摘要】A large-scale pig farm in Chengdu,a breeding region and a pig farmer in Santai county were selected to explore the emissions and law of the main pollutants in different culture modes of swine industry in Sichuan province.The feces,urine,COD,TN,TP,copper,zinc and other pollutants produced by pigs of large-scale pig farm in different feeding stages-nursling piglets,fattening pigs and breeding sows,and growing pigs of breeding region and famer were tested annually according to the different seasons.Emission levels of swine industry in different culture modes were analyzed and compared.And 29 discharge coefficients of the main pollutants were obtained.Those would help to build the method of calculating pollutants discharge coefficients in Sichuan pig industry,ascertain the amount of slurry and pollutants of pig in Sichuan or in the countries,and provide scientific evidence for constituting energy-saving/pollutant reduction guidelines,implementing global control of pollutants and promoting clean production of swine industry.

【语种】中文
【第一作者】何志平
【通讯作者】吕学斌
【期刊名称、卷期、页码】《西南农业学报》2010年第23卷第3期 897-902页,共6页
【论文发表时间】2010-01-01 00:00:00
【引文索引类型】其他
【引文索引号】无
【学科分类】生物与医学统计学

【题目】不同使用时间和类型生猪发酵床垫料成份比较研究
【中文关键词】垫料 成份 研究
【英文关键词】Litter Compound Research
【中文摘要】本研究对不同使用时间和类型的生猪发酵床垫料中的22个有机和无机成份进行了测定分析,对垫料中各种成份含量的使用时间的关系以及不同类型发酵床垫料的成份差异有了初步的认识。通过垫料中各种成份与国家相关标准的比较发现,使用1~3年的垫料中Cu、Zn的平均值接近或超过国家标准的最高允许含量,研究结果表明废弃垫料不能直接用作有机肥还田。
【英文摘要】In the experiment,22 organic inorganic compounds of litter from different farms were measured and analyzed.The preliminary results on litter compounds between different utilization and type were achieved.The results showed that the contents of Cu,Zn in the litter were close to or exceed the allowances of relevant National Standards.The result indicated that waste litter after 3 years could not be used as organic manure directly.
【语种】中文
【第一作者】应三成
【通讯作者】吕学斌
【期刊名称、卷期、页码】《西南农业学报》2010年第23卷第4期 1279-1281页,共3页
【论文发表时间】2010-01-01 00:00:00
【引文索引类型】其他
【引文索引号】无
【学科分类】生物与医学统计学

【题目】四川标准化养猪示范基地疫病防制措施与效果
【中文关键词】标准化 四川省 疫病防治 示范基地 养猪 猪场建设 生猪生产 选种技术
【英文关键词】无
【中文摘要】近年来四川省标准化猪场建设大规模展开,与之相适应的一系列养猪生产规范、标准等“软件建设”亟待跟上,我们根据四川省生猪生产实际状况,结合国家标准和部颁标准,先后制定了《种猪引种和选种技术规范》、《适度规模猪场建设规范》、《种猪繁殖配种技术规范》、《生猪饲养管理技术规范》、《猪场粪污处理和利用技术规范》、《生猪养殖场兽医卫生技术规范》6个技术规范,
【英文摘要】无
【语种】中文
【第一作者】曾凯
【通讯作者】吕学斌
【期刊名称、卷期、页码】《猪业科学》 2010年第6期 54-57页,共4页
【论文发表时间】2010-01-01 00:00:00
【引文索引类型】其他
【引文索引号】无
【学科分类】生物与医学统计学

【题目】四川适度规模猪场标准化设计
【中文关键词】适度规模猪场 标准化设计
【英文关键词】无

【中文摘要】本文概述了四川适度规模猪场的规模确定、猪场品种及场址选择、饲养工艺、功能分区、区内建筑物布局、建筑物要求、废弃物处理、水电供应等方面的内容,为四川适度规模猪场标准设计提供了相关参数及指导建议。
【英文摘要】无
【语种】中文
【第一作者】龚建军
【通讯作者】吕学斌
【期刊名称、卷期、页码】《中国畜牧兽医学会养猪学分会第五次全国会员代表大会暨养猪业创新发展论坛论文集》2010年
【论文发表时间】2010-01-01 00:00:00
【引文索引类型】其他
【引文索引号】无
【学科分类】生物与医学统计学

【题目】Temporal and Spatial Expression of Muc1 During Implantation in Sows
【中文关键词】无
【英文关键词】endometrium, expression, implantation, muc1, sows
【中文摘要】无
【英文摘要】Recent evidence points to an important role for Muc1 in embryo implantation. In this study, Real-time PCR and immunohistochemistry were used to study mRNA and protein levels at, and between, the attachment sites of the endometrium of Day 13, 18 and 24 pregnant sows. The results indicate that Muc1 mRNA expression was higher between attachment sites than at attachment sites during implantation and this effect was significant on Day 13 ($P < 0.01$) and 24 ($P < 0.01$). Intense Muc1 immunostaining was observed in luminal epithelium and stroma and the staining between attachment sites was stronger than at attachment sites on Days 13 and 18. Collectively, these results suggest the crucial role of Muc1 in successful implantation and embryo survival.
【语种】英文
【第一作者】Qian Ren
【通讯作者】王爱国
【期刊名称、卷期、页码】Int J Mol Sci. 2010 May 27;11(6):2322-35.
【论文发表时间】2010-01-01 00:00:00
【引文索引类型】SCI
【引文索引号】WOS:000279194000005
【学科分类】生物与医学统计学

【题目】ApoE基因对大白猪和长白猪产仔数的影响研究
【中文关键词】apoE基因;产仔数;SNP;猪
【英文关键词】:apoE gene;litter size;SNP;pi
【中文摘要】根据载脂蛋白E(apoE)基因在GenBank中的已知序列设计了8对引物,采用PCR—SSCP的方法在1个大白猪和长白猪群体中对apoE基因的全部编码区序列及部分5’一调控区的序列进行SNP检测。结果表明:在外显子3发现了1个T1826C突变,在5’一调控区一512一一544位置处发现33 bp长度的片段缺失。对这2个突变位点与产仔数进行了关联分析,表明该SNP和缺失突变的基因型效应对总产仔数和产活仔数影响均不显著(P>0.05)。
【英文摘要】Eight paimofprimerswere designed based on the knownsequencein GenBank foramplificationofapoEgenein aLargeWhite and a Landraee herd.The SNPdetectingonpartial sequence ofapoE genewas conductedbyPCR—SSCP and the results showed that there was T1826C in exon3.In Addition.a-512一一544 deletion of 57-regulationregionwas found.Linear model was conducted to estimate the leastsquaresmeans of the litter size and the effect ofgenotypes.Theeffect of the alleles was notsignificantin total number born and number born alive(P>0.05).
【语种】中文
【第一作者】房文宁
【通讯作者】王爱国
【期刊名称、卷期、页码】中国畜牧杂志 2010, 46(15)
【论文发表时间】2010-01-01 00:00:00

【引文索引类型】其他
【引文索引号】无
【学科分类】生物与医学统计学

【题目】猪繁殖性状候选基因多态性与产仔数的关联分析
【中文关键词】猪,产仔数,遗传多样性,多态性
【英文关键词】无
【中文摘要】利用本课题组已报道的猪繁殖性状候选基因的8个SSCP-SNPs标记,对995头长白猪和大白猪群体的遗传多样性进行分析,统计了各群体内SNP的多态信息含量(PIC)、有效等位基因数(E)和遗传杂合度(h).通过比较各SNP位点基因型关联的总产仔数(TNB)和产活仔数(NBA),找到了各猪群中的优势和劣势基因型.结果表明:8个SNP位点在2个猪群中的多态信息含量有3个为中度多态,5个为高度多态.IL-8基因C424G位点的AA基因型为2个猪群的最优势基因型,VEGF基因C1489T位点的AB型和IL-8基因Intronl 977A位点的AB型分别为长白猪和大白猪的最劣势基因型,3个多态位点的基因型都可在猪的分子育种中进行标记辅助选择
【英文摘要】无
【语种】中文
【第一作者】付言峰
【通讯作者】王爱国
【期刊名称、卷期、页码】中国农业大学学报 2010, 15(5)
【论文发表时间】2010-01-01 00:00:00
【引文索引类型】其他
【引文索引号】无
【学科分类】生物与医学统计学

【题目】光敏型氯磺隆与普通氯磺隆控草效果的比较
【中文关键词】氯磺隆;Ti02;残留;药害;后茬;安全性
【英文关键词】无
【中文摘要】比较了光敏型氯磺隆与普通氯磺隆不同剂量对各种杂草的控制效果。结果显示在低剂量下,普通氯磺隆的控草效果略高于光敏型氯磺隆。在中量、高量和倍量下,两种制剂控草效果差异不大。
【英文摘要】无
【语种】中文
【第一作者】王一专
【通讯作者】王一专
【期刊名称、卷期、页码】杂草科学, 2009,(3):33-35
【论文发表时间】2009-07-04 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】植物保护学

【题目】部分常规水稻品种抑草性评价
【中文关键词】水稻品种;杂草;抑草;特性;控制
【英文关键词】无
【中文摘要】相同水稻品种,施苄磺隆比不施苄磺隆对杂草的抑制效果好;施用苄磺隆对总草的防效有10~20个百分点的贡献;在不施用苄磺隆的条件下,抑草效果较好的水稻品种依次为两优华6、天协6号、黄华占和扬稻6号;在施用苄磺隆的条件下,抑草效果较好的水稻品种依次为天协6号、两优华6、黄华占、华抗草78和扬稻6号。
【英文摘要】无
【语种】中文
【第一作者】王一专
【通讯作者】王一专
【期刊名称、卷期、页码】杂草科学, 2009,(4):40-41

【论文发表时间】2009-07-04 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】植物保护学

【题目】空心莲子草对水稻生长的影响及其经济阈值
【中文关键词】空心莲子草;水稻;经济危害允许水平;经济阈值
【英文关键词】Alternanthera philoxeroides; paddy rice; economic infestation level; economic threshod
【中文摘要】采用添加系列试验和模型拟合的方法研究不同空心莲子草密度下水稻生长性状的变化规律.结果表明,水稻在空心莲子草的竞争干扰下,穗长、有效穗数、千粒重及产量均随其密度的增加而逐渐降低.指数模型拟合空心莲子草与水稻穗长(y=18.145e-0.003x,P<0.001)的关系较好,二次曲线拟合其与水稻有效穗数(y=0.001x2-0.105x+11.683,P<0.001)的关系较好,而拟合其与水稻千粒重(y=-0.154 lnx+20.261,P<0.001)、产量(y=-582.764 lnx+6282.120,P<0.001)及产量损失(y=9.435 lnx-1.689,P<0.001)间的关系均以对数模型为佳.稻田使用20%氯氟吡氧乙酸乳油进行化学除草时,空心莲子草的经济危害允许水平为1.40%,经济阈值为1.39株/m2.
【英文摘要】
【语种】中文
【第一作者】喻大昭
【通讯作者】朱文达
【期刊名称、卷期、页码】植物保护学报, 2008,35(1):69-73
【论文发表时间】2007-12-17 00:00:00
【引文索引类型】null
【引文索引号】
【学科分类】植物保护学

【题目】Composition of floating weed seeds in lowland rice flelds in China and the effects of irrigation frequency and previous crops
【中文关键词】无
【英文关键词】water, weed spread, floating weed seed,diversity, hydrochory, dispersal.
【中文摘要】无
【英文摘要】The diversity and composition of floating weed seed communities were surveyed in 27 sites across the main rice-growing regions in China with the aim of better understanding weed seed dispersal via irrigation water.Seed of 74 species, belonging to 20 families, were identified from floating matter on the water surface in lowland rice fields. Thirty-five species from three families: Poaceae (15), Asteraceae (11), and Polygonaceae (9), accounted for 47% of all species identified. Species with seed maturing in the summer accounted for 64% ofthe weed seed and their mean relative abundance was 0.74. Species richness, Shannon – Wiener index and Pielou evenness index were significantly different among the floating weed seed communities. The diversity of weed seed communities in the Yangtze river valley was higher than that in other sites, and some sites were dominated by only a few weed species, such asBeckmannia syzigachne, Alopecurus aequalis, A. japonicusand Polypogon fugax. At all sites, the dominant weed seeds reflected the dominant weed species in the previous crop. The 27 sample sites of weed seed communities can be clustered into two groups on thebasis of previous crop, either lowland rice or sites with previous crops of winter fallow, winter wheat or oilseed rape. Canonical correspondence analysis (CCA) revealed that irrigation frequency, previous crop, and latitude, but not soil type or longitude, significantly affected species composition. The numbers of floating weed seed species were high in lowland rice fields; composition was affected by previous crops and irrigationfrequency. Filtering irrigation water and collecting and removing floating weed seeds from the water surfacecould be integrated into weed management practices tocontrol weeds in lowland rice fields.
【语种】英文
【第一作者】R H LI
【通讯作者】QIANG S
【期刊名称、卷期、页码】Weed Research, 2009,49(2):417-427
【论文发表时间】2009-02-01 00:00:00
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【学科分类】植物保护学

【题目】栽插密度和水层对水稻化感品种抑草作用的影响
【中文关键词】水稻;密度;水层;化感;杂草
【英文关键词】rice(Oryzasativ L.);density;water depth;allelopathy;weed
【中文摘要】选用具有化感特性的华抗草78和江苏地区主栽的扬稻6号,通过田间试验明确在不同栽插密度和不同水层深度条件下水稻品种的抑草效应,结果表明:每公顷45—60万苗的水稻栽插密度、水稻移栽后lo cm水层保持15 d的条件下华抗草78对稗草、异型莎草和陌上菜的株防效和干重防效明显,增产效果显著。
【英文摘要】
【语种】中文
【第一作者】李贵
【通讯作者】吴竟仑
【期刊名称、卷期、页码】上海交通大学学报(农业科学版), 2007,25(6):561-565
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【引文索引类型】null
【引文索引号】
【学科分类】植物保护学

【题目】田间管理对华北平原冬小麦产量土壤碳及温室气体排放的影响
【中文关键词】冬小麦;田间管理;土壤有机碳;温室气体排放
【英文关键词】winter wheat; field managements; SOC; greenhouse gases
【中文摘要】选取华北平原冬小麦为研究对象,针对(1)秸秆移除;(2)秸秆表覆;(3)免耕;(4)秸秆深施;(5)施农家肥这 5 种典型的田间管理,使用农田自动温室气体测定系统对冬小麦农田全生育期进行了原位长期观测,并采用13C 自然丰度法对土壤碳的转化进行了监测,同时对冬小麦产量及生物量、土壤有机碳的变化进行了监测。结果表明,冬小麦产量及生物量高低顺序为施农家肥、秸秆深施、秸秆表覆、秸秆移除和免耕,而且土壤有机碳的更新也有同样的趋势;施农家肥能显著增加土壤有机碳而秸秆移除和免耕则会导致土壤有机碳的轻微下降;冬小麦甲烷的排放或吸收只占总增温潜势的不到 1%,在进行统计总排放当量时基本可以忽略,N2O在总排放当量中的比例在 2.55%~11.62%范围内;N2O 的大量排放主要来自于拔节期及开花期,秸秆移除、施农家肥和秸秆深施会导致 N2O 排放在总当量中的份额增加至 10%左右,而秸秆覆盖和免耕 N2O 排放在总排放当量中的份额只有 3 %左右,冬小麦农田总的温室气体排放88%以上来自于 CO2的排放,特别是秸秆表覆和免耕 95%以上来自土壤碳的损失而释放的 CO2。总体来看,秸秆深施能保证较高的产量,减少碳的损失,增加土壤碳并产生相对较少的总温室气体排放量,是较好的固碳减排方式。
【英文摘要】Five dominant field managements in winter wheat field in North China Plain(NCP)are chosen as treatments. That is(1)residue remova(lTRR),(2)residue mulch(TRM),(3)No Tillage(TNT),(4)residue incorporation(TRI)and(5)manure(TM). Using automatic chamber and GC measurement system in the field to monitor the greenhouse gases emitted from the field during whole season, by 13 C nature abundant method to monitor carbon turnover, winter wheat yield and soil organic carbon is also been monitored. The results showed that:The treatment yield in descending order is TM, TRI, TRM, TNT and TRR respectively, same tendency with the soil organic carbon(SOC)renewing percentage. TM can more significantly increase yield and SOC, while TRR and TNT can slightly drop the yield and SOC. The methane from winter wheat field is less than 1% to total GHG emission and maybe neglectable, and N2O account for 2.55%~11.62% to total GHG emission in winter wheat field. The major N2O emission start from jointing stage and TNT, TM, TRI has higher N2O emission around 10% of total GHG emission, while TRR, TRR has lower N2O emission around 3% of total GHG emission. CO2 account for over 88% total GHG emission in winter wheat field and for TRM and TNT the portion is over 95%. In general comparison, TRI has relatively higher grain yield, SOC renewed and SOC increasing, and relatively lower GHG emission. It is a good method for carbon sequestration and GHG abatement.
【语种】中文
【第一作者】万运帆
【通讯作者】李玉娥
【期刊名称、卷期、页码】农业环境科学学报,2009,28(12):2495-2500
【论文发表时间】2009-12-18 00:00:00
【引文索引类型】其他

【引文索引号】
【学科分类】环境科学技术基础学科

【题目】HA对麦田主要除草剂品种控草效果的影响
【中文关键词】麦田;除草剂;助剂;杂草防除;HA;增效作用
【英文关键词】无
【中文摘要】研究了在HA作为除草剂助剂条件下,4种麦田除草剂不同剂量对6种杂草的控制效果。结果显示,HA对骠马、阔世玛、麦极均有显著增效作用;而对光合抑制剂类除草剂异丙隆具有明显的拮抗作用。
【英文摘要】无
【语种】中文
【第一作者】王一专
【通讯作者】王一专
【期刊名称、卷期、页码】江苏农业科学, 2009,(6):184-186
【论文发表时间】2009-07-02 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】植物保护学

【题目】除草剂对作物生理生化指标的影响
【中文关键词】草荆;作物;生理生化
【英文关键词】Herbicide;Crop,Physiology and biochemistry
【中文摘要】从除草刑对作物光合作用、作物酶活性以及作物抗性的影响三个方面综述了近年来国内的研究进展。
【英文摘要】Current reareh advances in China of the effect of herbicide oil crop photosynthesis,enzyme activity and crop resistance were reviewed.
【语种】中文
【第一作者】李贵
【通讯作者】吴竟仑
【期刊名称、卷期、页码】安徽农业科学, 2007,35(29):9157-9159
【论文发表时间】2007-06-01 00:00:00
【引文索引类型】null
【引文索引号】
【学科分类】植物保护学

【题目】农业低空遥感技术及应用前景
【中文关键词】低空遥感技术;平台系统;传感系统现状;信息处理系统;农业
【英文关键词】low-altitude remote sensing technology,plantform system,present situation of sensor systems,information processing system,agriculture
【中文摘要】系统分析了我国农业低空遥感技术的平台系统、传感系统及信息处理系统的组成、工作原理及目前的发展情况,详细分析了目前我国常用的几种低空遥感平台如飞艇、系留气球、动力三角翼飞行器、微型无人机驾驶飞机的工作原理及优缺点;分析了我国目前低空遥感的应用情况,同时对我国农业低空遥感存在的问题及应用前景。
【英文摘要】This paper analyzed systematically the composition, working principle and the current development of platform system,sensor systems and information processing system for China agriculture low-altitude remote sensing technology. It was analyzed in detail for the work principle, the advantages and disadvantages of several platforms such as airships, tethered balloons, dynamic delta -wing aircraft, micro -UAV plane. It was analyzed for the application of China's current low -altitude remote sensing.Additionally, the problems and application prospects of China's current low-altitude remote sensing also were analyzed in this
【语种】中文
【第一作者】白由路
【通讯作者】白由路
【期刊名称、卷期、页码】农业网络信息、2010年第1期、5-7

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【引文索引类型】其他
【引文索引号】
【学科分类】农业基础学科

【题目】不同水稻品种抑制杂草的差异性研究
【中文关键词】水稻品种;抑制作用;化感作用;杂草
【英文关键词】rice variety;inhibitory effect;allelopathy;weed
【中文摘要】选择江苏宅栽水稻品种5个,以及具有化感特性的P1312777和华抗草78为试验材料。通过田间小区试验对比各水稻品种与稗草、莎草科杂草和阔叶杂草的生态竞争关系。结果表明,扬稻6号和P1312777对杂草发生株数的抑制率达70%~80%,扬稻6号、徐稻4号和P1312777对杂草干质量抑制率超过80%,具有良好的抑制杂草萌发、生长和干物质积累的作用。同时。供试水稻品种对稗草地下部的抑制效果显著优于对稗草地上部的抑制效果,对稗草整株干质量的抑制率与对稗草地上部干质萤抑制率旱相同趋势。
【英文摘要】Field experiments were conducted tO study the competition between rice and weed.and the differences in inhibitory effects Of rice on barnyardgrass[Echinochloacrusgalli(L.)Beauv.],sedge weeds and broadleaf weeds by using 7 rice varieties.The inhibitory effects of Yangdao 6 and P1312777 were 79.74%and 70.26 0A on weed germination,and 91.84%and 82.94%on weed dry weight,respectively.Xudao 4 could also significantly inhibit weed germination and growth.which 1ed tO reduced biomass accumulation of weeds.At the same time。 the results showed that the inhibitory effects of the tested rice varieties on the barnyardgrass roots were significantly higher than that on the shoots.The same tendency was found in the inhibitory effect on both total dry weight and shoot dry weight of barnyardgrass.
【语种】中文
【第一作者】李 贵
【通讯作者】吴竞仑
【期刊名称、卷期、页码】中国水稻科学, 2008,22(6):669-672
【论文发表时间】2008-03-18 00:00:00
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【引文索引号】
【学科分类】植物保护学

【题目】土壤水解类酶活性在玉米秸秆与肥料配合施用下的变化
【中文关键词】玉米秸秆;有机肥;化肥;水解类酶活性
【英文关键词】corn straws; manure fertilizer; chemical fertilizer; hydrolase activities
【中文摘要】通过田间试验,进行了玉米秸秆与厩肥、N肥和P肥配合施入农田后土壤中水解类酶活性变化的研究。结果表明:在小麦生长期内,秸秆配合氮磷肥处理的蔗糖酶活性最高60.09±2.74 mg GLU/(g · 24 h),比对照处理高出28.09±1.79%,脲酶也以秸秆配合氮磷肥处理最高2.86±0.10 mg NH3-N/(g · 24 h),是对照处理的1.04±0.03倍,秸秆配合氮肥处理的碱性磷酸酶活性最高4.01±0.05 mg酚/(g · 24 h),比对照高出0.28±0.05 mg酚/(g · 24 h),秸秆还田处理的3种酶活性都高于对照,配合施用的有机肥和氮磷肥则在小麦的不同生长期、不同酶活性间表现出不同的作用。脲酶活性与蔗糖酶活性、土壤温度都呈极显著相关,蔗糖酶活性、碱性磷酸酶和土壤温度之间相关性不显著。
【英文摘要】To investigate the changes of soil hydrolase activities under application of corn straws with manure,N and P fertilizer,a field experiment was conducted.The results showed that in corn growing stage,invertase activity in the SNP treatment was 60.09±2.74 mg GLU/(g · 24 h),which was 28.09±1.79% higher than the control treatment,urease activity in the SNP treatment was 2.86±0.10 mg NH3-N/(g · 24 h),which was 1.04±0.03 times higher compared to the control treatment,alkaline phosphatase activity in the SN treatment was 4.01±0.05 mg phenol /(g · 24 h),which was higher than the control treatment by 0.28±0.05 mg phenol /(g · 24 h),there kinds of soil hydrolase activities in the straws returning treatments were higher than the control treatment,the manure fertilizer and N,P fertilizer combined application play different roles in different growing stages and different soil hydrolases.Significant correlation was found between the uraese activity and the invertase activity,soil temperature,but not among the invertase activity,alkaline phosphatase activity and soil temperature.
【语种】中文
【第一作者】甄丽莎

【通讯作者】高华
【期刊名称、卷期、页码】水土保持研究,2009,16(2):257-261
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【引文索引类型】其他
【引文索引号】
【学科分类】土壤学

【题目】外来杂草刺萼龙葵及其风险评估
【中文关键词】刺萼龙葵; 外来杂草; 生物生态学特性; 风险分析
【英文关键词】Solanum rostratum, Exotic weed, Bioecological characteristics, Risk assessment
【中文摘要】外来入侵生物已对世界各国的自然生态系统、 农业生产及公众健康造成了严重危害。刺萼龙葵(Solanum rostratum)起源于北美洲, 其繁殖和适应能力很强, 是具有潜在危险的外来有害杂草。对刺萼龙葵的分布、 生物生态学特性、 经济和生态影响及其控制和管理措施等进行了系统综述。根据生物生态学特性、 潜在危险及管理控制的难度等特点, 对刺萼龙葵进行了风险评估, 得出其风险值为 86,属高度危险的检疫性有害生物。应当高度重视刺萼龙葵的入侵, 积极采取措施控制其危害蔓延。
【英文摘要】Invasive alien species caused significant damage to natural ecosystem, agricultural productionand human health throughout the world. Buffalobur (Solanum rostratum Dun.) was a noxious exotic weed with potential harm. It originated from North America and had the strong capability of propagation and adaptation. The distribution, bioecological characteristics, economic and ecological impacts and relevant management strategies of buffalobur were reviewed. Based on the bioecological characteristics, potential harm, difficulties to control and other factors, the risk value for buffalobur was 86 and considered as a quarantine pest with high risks. We should pay more attention to the invasion of buffalobur and took ef-fective measures to control its infestation and overspread.
【语种】中文
【第一作者】魏守辉
【通讯作者】张朝贤
【期刊名称、卷期、页码】中国农学通报, 2007,23(3): 347-351
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【引文索引号】
【学科分类】植物保护学

【题目】外来恶性杂草假高粱种子萌发特性研究
【中文关键词】假高粱;外来杂草;种子;休眠;萌发
【英文关键词】Sorghum halepense;Exotic weeds;Seed;Dormancy;Germination
【中文摘要】【目的】明确外来恶性杂草假高粱(Sorghum halepens口)种子的萌发特性。【方法】研究颖片、温度、光照、G九及土层深度对其种子萌发的影响。【结果】颖片对假高粱种子的萌发具有物理阻碍和化学抑制作用,是导致其种子休眠的主要原因.假高粱种子萌发的最适温度为30'C,在25.12/35°C、12 h/12 h的变温方式下也能较好地萌发.假高粱种子的萌发需要一定的光照条件,在连续光照或12 h光照条件下,其种子萌发率较高.GA,能显著促进假高粱种子的萌发,其最适浓度为1.16 mm01.L-1.0~4 cnl的土层适宜假高粱种子的萌发,随着土层深度的增加其萌发率显著降低。【结论】假高粱种子的萌发受环境条件影响较大,通过采取有针对性的管理措施调控假高粱的萌发生长,可以有效遏制其危害蔓延.
【英文摘要】[Objective]To determine the germination characteristics ofJohnsongrass(Sorghum halepense),a worst exotic weed species.[Method]The effects ofglume,temperature,light,GA3 and soil depth on seed germination Wfl"e studied.[Result]The results showed that the glume of Johnsongrass had physical obsO'ucting and chemical inhibiting effects Oil seed germination,and itwas the major cause of seed dormancy.Germination of Johnsongrass$PAxIs was the best at 30"C,and also better under daily temperature changes of 25"C/35"C for 12 h/12 h.Light was preferred for seed germination,the rate Was relatively higher under 12 h light or continuous light condition.GA3 could significantly stimulate the germination of Johasongrass seeds and the optimum concentration Was 1.16 mmol · L-1.Seeds placed in 0-4锄soil layer Was ideal for germination of Johnsongrass。but the germinationrate decreased markedly with the increase of soil depth.[Conclusion]Environmental conditions have significant influence on seed germination of Johnsongrass,and its spreading and infestation could be well controlled by implementation of correspondingmanagement strategies to regulate and prevent the seed germination.

【语种】中文
【第一作者】魏守辉
【通讯作者】zhang
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【学科分类】植物保护学

【题目】温度对粪便与玉米秸秆混合厌氧消化产生特性的影响
【中文关键词】玉米秸秆;厌氧发酵;数学模型;粪便
【英文关键词】corn straw;anaerobic digestion;mathematical model;manure
【中文摘要】【目的】探索牲畜粪便和玉米秸秆混合发酵的产气量与发酵时间和发酵温度之间的关系,确定农村户用沼气原料和最佳发酵温度,为提高农作物秸秆资源化利用效率提供科学依据。【方法】采用自行研究设计的可控性恒温发酵装置,以猪粪、牛粪和玉米秸秆作为发酵原料,以常温厌氧发酵池的底物为接种物,在总固体TS质量分数为8%条件下进行批量试验,在25~40°C,每5°C设一个温度梯度,研究不同发酵温度对猪粪、牛粪与玉米秸秆按不同比例(质量比为1∶1,2∶1,3∶1)配比混合发酵的产气速率、产气量及发酵时间的影响,并用SAS软件对各因素进行多元回归分析,建立回归方程,得出各影响因子的最优值。【结果】在一定温度范围内(25~40°C),厌氧发酵产气速率峰值出现的时间和发酵周期均基本随着温度的升高而缩短,峰值和产气量均基本随着温度的升高而增加。从总累积产气量来看,猪粪与玉米秸秆配比发酵优于牛粪与玉米秸秆配比,猪粪、牛粪与玉米秸秆混合厌氧发酵的最佳温度是34°C左右,发酵时间为58 d左右。【结论】确定了沼气的最佳原料、发酵温度和时间,为农作物秸秆的资源化利用提供了参考。
【英文摘要】To approach the relationships between the biogas yield of mixed anaerobic fermentation of livestock dung and corn straw and fermentation duration and temperature is the key of selecting fermentation materials for rural household biogas,determining optimal fermentation temperature,and improving the reuse efficiency of agricultural residues.【Method】A batch of experiments under the condition of 8% mass fraction of total solid were conducted in a selfmanufactured anaerobic fermentation reactor, with pig dung,cattle manure,and corn straw as fermentation materials,and the substrate of constant temperature fermentation pool as inoculation substance.The biogas production rate,biogas yield,and fermentation duration were determined with temperature increasing in increments of 5°Cfrom 25-40°C.Multiple regression analysis of the data was conducted and regression equations were established using SASsoftware. Based on these results,optimal values for temperature and digestion time were determined to maximize biogas yield per unit dry matter.【Result】The time to maximum biogas production rate and the overall length of the fermentation duration were shortened as temperature increased from 25°Cto 40°C for all the three types of straws.In addition,maximum biogas production rate and biogas yield increased as temperature rose.The cumulative biogas yield of mixed anaerobic fermentation of pig dung and corn straw was higher than that of the fermentation of cattle manure and corn straw.the optimum fermentation temperature and digestion duration from mixture of manure and corn straw respectively were 34°Cand 58d.【Conclusion】Thestudy determined optimal fermentation material,fermentation duration and temperature, and provide a reference for improving the reuse efficiency of agricultural residues.
【语种】中文
【第一作者】李轶冰
【通讯作者】杨改河
【期刊名称、卷期、页码】西北农林科技大学学报(自然科学版),2009,37(1):66-72
【论文发表时间】2009-01-09 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】环境科学技术及资源科学技术其他学科

【题目】外来入侵物种三裂叶豚草及其风险分析
【中文关键词】三裂叶豚草; 生物生态学特性; 风险分析
【英文关键词】Ambrosia trifida L; bioecological characteristics risk assessment
【中文摘要】摘要 外来入侵物种严重威胁着农业生产、生态安全及人类健康,已成为世界各国广泛关注和研究的热点。本文对 外来杂草三裂叶豚草(A s trifida L) 的起源和分布、生物生态学特性、经济和生态影响及其控制管理措施等进行 了系统综述。根据生物生态学特性、潜在风险及管理控制的难度等指标, 初步建立 了外来杂草的风险评估体 系。应

用该体系对三裂叶豚草进行了风险评估,得出其风险值为8 3 ,属高度危险的检疫性有害生物。
【英文摘要】Invasive alien species posed a great threat tO agricultural production,ecological safety and human health, which drew much public attention and became the hotspot of research all over the world.The origin,distribution, bio--ecological characteristics,economic and ecological impacts and relevant management strategies of giant ragweed (Ambrosia trifida L),an exotic weed,were reviewed in this paper.Based on the bioecological characteristics,po— tential risks,difficulties in prevention and other factors,a risk assessment system on exotic weeds was established. According tO this system,the risk value for giant ragweed was 83 and it was considered as a quarantine pest with high risk
【语种】中文
【第一作者】魏守辉
【通讯作者】张朝贤
【期刊名称、卷期、页码】植物保护, 2006,32(4):14-19
【论文发表时间】2006-06-25 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】植物保护学

【题目】温度对奶牛粪便温室气体排放的影响
【中文关键词】奶牛粪便;温度;温室气体;排放速率
【英文关键词】cowmanure; temperature; greenhouse gas; emission rate
【中文摘要】采用封闭罐-气相色谱法对4种不同温度处理下奶牛粪便温室气体排放速率进行测定。结果表明,温度是影响奶牛粪便温室气体排放的主要因子,温度较低时奶牛粪便温室气体排放速率低,而且随着奶牛粪便处理温度升高而增大。在5、15、25和35°C4个处理中,奶牛粪便CO2排放速率两两之间差异显著;CH4排放速率除了5和15°C处理差异不显著之外,其他两两处理之间差异显著; 35°C处理时N2O排放速率与其他温度的排放速率差异均显著,其他两两处理之间差异不显著。
【英文摘要】Fluxes of greenhouse gases emitted from cowmanure in four different temperature treatments (5, 15, 25 and 35°C) weremeasured using closed-air-chamber-gas-chromatography to determine effect of temperature on the emission.Resutls show temperature is themain factor influencing the greenhouse gases emission from themanure. When themanure was low in temperature, greenhouse gases emission was less. The emission increased with the temperature. CO2 emission varied sharplywith the temperature, and so did CH4emission except forTreatments 5 and 15°C. In Treatment 35°C,N2O emission was significantly higher than the others, while itdid not varymuch between the others.
【语种】中文
【第一作者】陆日东
【通讯作者】李玉娥
【期刊名称、卷期、页码】生态与农村环境学报,2008, 24(1): 29-31
【论文发表时间】2008-01-11 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】环境科学技术基础学科

【题目】小麦秸秆静态高温堆腐过程中的理化特征
【中文关键词】小麦秸秆;高温堆腐;E4/E6值;pH值;EC值
【英文关键词】straw; high-temperature composting; temperature; E4/E6; pH; EC
【中文摘要】为了解小麦秸秆堆肥过程中的生物化学特征,进行了高温好氧堆肥试验。结果表明,添加复合微生物腐解菌剂处理较不添加复合微生物腐解菌剂(CK)升温快,温度高,高温持续时间长;堆腐第2d添加菌剂处理堆体温度上升到50°C以上,第3 d达到最高温度67.1°C,50°C以上持续6 d;CK堆腐第3 d达到50°C,第4 d达最高温度59.5°C,50°C以上持续5 d。堆腐第9 d添加菌剂处理E4/E6值达高峰值3.419,CK的达高峰值4.085,堆腐第23 d后添加菌剂处理的胡敏酸E4/E6值为1.512~1.709,而CK处理的E4/E6值为1.649~2.060,堆腐过程添加菌剂处理的E4/E6值一直低于CK,表明添加菌剂能促进腐殖质的缩合和芳构化。堆肥腐熟后pH值较堆制前有所提高,添加菌剂处理的pH值相对较低,变化幅度较小。加入微生物菌剂处理的电导率

(EC)值较高,且在持续高温阶段高于后熟阶段。
【英文摘要】An experimentwas conducted to study the biochemical characteristics ofwheat strawduring its composting at high-temperature and static state. There were two treatments in this experiment, one was with adding microorganism agent, and the other was without adding microorganism agent (CK). The results indicated that the treatment of adding microorganism agent had faster temperature rising, higher temperature and longer high temperature duration than CK; The E4/E6values increased in the initial stage but decreased thereafter, the E4/E6values ofmaterials of addingmicroorganism fungus were 1.512~1.709, and the E4/E6 values ofmaterials of CKwere 1.649~2.060 after 23 d, which indicated thatmicroorganismfungus could promote processing humus; It has been discovered that pHvalues increased after composting while the rate of conductance decreased.
【语种】中文
【第一作者】孙利宁
【通讯作者】高华
【期刊名称、卷期、页码】干旱地区农业研究,2009,27(5):156-160
【论文发表时间】2009-09-15 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】农业基础学科

【题目】烯草酮防除春油菜田旱雀麦的效果
【中文关键词】烯草酮;旱雀麦;春油菜;安全性
【英文关键词】无
【中文摘要】12%烯草酮EC 40 ml/667m2,在春油菜3~4叶1心,兑水20 ks/667m2进行茎叶喷雾,防除旱雀麦效果在90%以上,对油菜安全。
【英文摘要】无
【语种】中文
【第一作者】翁华
【通讯作者】郭青云
【期刊名称、卷期、页码】杂草科学, 2009,(1):60-61
【论文发表时间】2009-06-11 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】植物保护学

【题目】干草调制与贮存技术的研究进展
【中文关键词】干草调制; 干草贮存; 机械处理; 微生物处理; 化学干燥剂;
【英文关键词】hay making; hay storage; mechanical treatment; microbial treatment; chemical desiccant;
【中文摘要】干草是反刍家畜冬季重要的粗饲料之一, 生产优质干草对提高反刍家畜生产性能具有重要意义。近年来国内外都很重视优质干草的调制与贮存技术研究。干草调制技术主要包括机械处理和化学处理 2 种技术手段, 前者是通过机械压裂牧草茎秆, 后者是通过喷洒化学干燥剂破坏植物茎叶表面的角质层, 二者均是为了加快牧草的水分散失, 缩短干燥时间, 减少调制过程中营养物质损失; 而干草贮存主要是利用化学或微生物防腐剂防止高水分干草腐败变质, 提高干草贮藏品质。
【英文摘要】
【语种】中文
【第一作者】余成群
【通讯作者】邵涛
【期刊名称、卷期、页码】草业科学 27 卷 08 期143-150
【论文发表时间】2010-08-25 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】畜牧学

【题目】微贮技术在日喀则地区的应用
【中文关键词】微贮; 紫花苜蓿; 燕麦; 秸秆;
【英文关键词】microbial silage; alfalfa; oat; straw;
【中文摘要】在日喀则试验站, 利用秸秆发酵活干菌对燕麦(A venasativa)、青稞(H ordeumvulgare var. nudum) 秸秆和燕麦+紫花苜蓿(Medicago sativa)混合材料分别进行微贮试验, 测定 3 个原料微贮前后主要营养物质的变化。结果表明: 3 个材料均可制作优质微贮料, 但燕麦+ 紫花苜蓿混贮优于燕麦单贮, 青稞秸秆微贮后粗蛋白含量提高了 41. 74% , 达到 5. 12% ; 燕麦+ 紫花苜蓿混合微贮后粗蛋白含量提高了 39. 73% , 达到10. 68% 。微贮后 3 个材料的饲料总能(G E) 和无氮浸出物 (N F E) 均有不同程度的下降, 其中青稞秸秆的下降幅度最大, 分别为 2. 46% 和 15. 76% 。微贮技术作为提高该地区草地畜牧业的科技含量和生产水平的措施之一, 并可以解决冬春饲草缺乏问题, 所以微贮在该地区推广应用具有广泛的必要性和适用性。
【英文摘要】
【语种】中文
【第一作者】刘树军
【通讯作者】李向林
【期刊名称、卷期、页码】草业科学 27卷06期29-133
【论文发表时间】2010-06-25 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】畜牧学

【题目】外来入侵植物小飞蓬化感物质的释放途径
【中文关键词】小飞蓬;化感效应;释放途径;根系分泌物
【英文关键词】Conyza canadesis L. ; allelopathic effects; release mode; root exudates
【中文摘要】在室内以滤纸为载体用离体生测方法测定了小飞蓬(Conyza canadesi L.)全株水浸提物 茎叶淋溶物 根系分泌物及残体土壤分解物对萝卜(Raphanus sativus L.) 黄瓜(Cucumis sativus L.) 马唐(Digitaria sanguinalis (L.) Scop.) 油菜(Brassicacampestris L.)和小麦(Triticum aestivum L.)的化感效应, 同时在温室内以土壤为载体通过盆栽植物浇灌的方法测定了小飞蓬茎叶淋溶物和根系分泌物对盆栽植物生长的影响 室内生测实验结果表明, 小飞蓬全株水浸提物对 5 种受体种子的萌发和幼苗生长均有较强的抑制作用;根系分泌物 茎叶淋溶物和残体土壤分解物对受体种子的生长抑制作用不同, 根系分泌物的活性高于茎叶淋溶物和残体土壤分解物 温室盆栽实验结果也表明, 小飞蓬根系分泌物对受体生长的影响高于茎叶淋溶物 这些结果说明根系分泌是小飞蓬化感物质释放的主要途径之一。
【英文摘要】The allelopathic effects of aqueous extract,root exudates,shoot leachates and decomposition from C. canadesis on radish (Raphanus sativus L.),cucumber (Cucumis sativus L.),crabgrass (Digitaria sanguinalis (L.) Scop.),rape (Brassica campestris L.) and wheat (Triticum aestivum L.), were tested in petri dishes in laboratory. and the shoot leachates and root exudates were also tested in pot in greenhouse. The aqueous extract strongly inhibited the seedling growth of the tested plants. The root exudates,shoot leachates and decomposition inhibited the seedling growth of the tested plants differently,and the inhibitory effect of the root exudates was highest,The similar results were gotten from the greenhouse test. C. canadesis released the allelochemicals mainly through root exudates.
【语种】中文
【第一作者】高兴祥
【通讯作者】李 美
【期刊名称、卷期、页码】生态学报, 2010,30(8):1966-1971
【论文发表时间】2009-04-14 00:00:00
【引文索引类型】null
【引文索引号】
【学科分类】植物保护学

【题目】Determination of the Volatile Composition in Essential Oil of Descurainia sophia (L.) Webb ex Prantl (Flixweed) by Gas Chromatography/Mass Spectrometry (GC/MS)
【中文关键词】无

【英文关键词】Descurainia sophia (L.) Webb ex Prantl; essential oil; GC/MS; cis- β -ocimene; menthol
【中文摘要】无
【英文摘要】Exhaustive hydro-distillation of Descurainia sophia (L.) Webb ex Prantl(flixweed) collected from two different locations (Cangzhou city-Sample 1 and Beijingcity-Sample 2) gave in both cases yellowish colored oils in 0.31 and 0.26% yield,respectively. Detailed chemical composition of the essential oils was analyzed by GC andGC/MS, and forty and thirty-eight compounds were identified. The results indicated that themost abundant component of Sample 1 were cis- β -ocimene (20.1%), menthol (11.27%),neoisomenthyl acetate (3.5%), alloaromadendrene (2.28%) and longicyclene (2.25%).Compared with the constituents of Sample 1, several chemical compounds such as1,8-cineole, α -eudesmol, cis, trans-farnesol and β -pinene were not detected in Sample 2although it was similarly dominated by cis- β -ocimene (17.12%), menthol (10.7%) andneoisomenthyl acetate (2.96%). Final analysis of the chemical constituents in the essentialoils of the two samples showed similarity in their chemical composition, but the relativecontent of all shared chemical constituents in Sample 2 was lower than that in Sample 1.
【语种】英文
【第一作者】Jing Li
【通讯作者】Yongquan Zheng
【期刊名称、卷期、页码】Molecules, 2010, 15(2): 233-240
【论文发表时间】2010-02-07 00:00:00
【引文索引类型】SCI
【引文索引号】doi:10.3390/molecules15010233
【学科分类】植物保护学

【题目】应用预抽真空采样提高田间自动采气精度
【中文关键词】自动连续测定,温室气体,预抽真空采样,直接采样,精度
【英文关键词】automated continuous measurements, greenhouse gases, pre-vacuum sampling, direct sampling, precision
【中文摘要】为了提高农田温室气体自动采样精度,该文比较了田间自动连续测定系统观测温室气体通量过程中实际管道直接采样与预抽真空采样的差异,结果表明:管道预抽真空采样能显著减少分析时的样品量,缩短采样时间和减小采集气样与源气样的差异,提高了采样的精度。因此,预抽真空采样能显著提高农田温室气体自动观测的精度。
【英文摘要】In order to improve precision of automated greenhouse gas sampling in the field, the differences between direct tube gas sampling and pre-vacuum gas sampling in the field automated continuous greenhouse gases measurement system were compared. The results show that, in comparison with direct sampling, the pre-vacuum sampling can dramatically decrease gas sampling volume, shorten sampling time, and minish the difference of gas sample and the source, and thus improve sampling precision. So the pre-vacuum sampling is much better than direct sampling in field automated greenhouse gases measurement system.
【语种】中文
【第一作者】万运帆
【通讯作者】李玉娥
【期刊名称、卷期、页码】农业工程学报,2008,24(10):166-169
【论文发表时间】2008-10-10 00:00:00
【引文索引类型】EI
【引文索引号】1002-6819(2008)-10-0166-04
【学科分类】环境科学技术基础学科

【题目】山梨酸对多花黑麦草青贮发酵品质变化的影响(简报)
【中文关键词】多花黑麦草; 山梨酸; 发酵品质;
【英文关键词】Italian ryegrass; Sorbic acid; Fermentation quality;
【中文摘要】新鲜青贮原料在青贮容器中压实密封后,由好氧性微生物作用,使乳酸发酵时期发酵底物水溶性碳水化合物(WSC)不足,无法产生足够乳酸,pH值降到4.2以下,引起丁酸发酵[1,2]。因此,早期发酵是青贮成功的关键。山梨酸具有较强的抑制好氧性微生物活性的作用[3,4],据报道0.1%山梨酸能够最有效地抑制青贮饲料中酵母菌和霉菌的活性,提高有氧稳定性,但对牧草青贮发酵品质,尤其是WSC动态变化的影响研究相对较少[5,6]。本试验目的是添加0.1%山梨酸于多花黑麦草(Lolium multiflorumLam)中,分析青贮过程中发酵品质和WSC含量的变化,探讨山梨酸对多花黑麦草青贮发酵品质的影响。

【英文摘要】
【语种】中文
【第一作者】张增欣
【通讯作者】邵 涛
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【学科分类】畜牧学

【题目】土壤质地空间预测方法的比较研究
【中文关键词】土壤,质地,空间变异测量,对数比转换,成分数据,成分克里格
【英文关键词】soil texture, logratio transformation, compositional data, compositional Krigin
【中文摘要】土壤质地作为成分数据(compositional data)的一种,其空间插值需满足非负、定和、误差最小和无偏估计4 个条件。采用成分克里格法(compositional Kriging)和基于对数比转换的普通克里格法对土壤质地各颗粒组成进行空间预测,均方根误差(root mean squared errors,RMSE)和标准化克里格方差(mean squared deviation ratio,MSDR)分别被用来衡量不同方法的预测精度及模型拟合效果。研究结果表明:对数比转换的普通克里格法和成分克里格法能够保证插值结果满足成分数据插值的4 个条件;成分克里格法预测的各土壤颗粒组成的RMSE 最小,预测精度最高,其黏粒RMSE值相对于非对称对数比转换的普通克里格法提高将近17%;成分克里格法的变异函数拟合效果总体上好于其他两种预测方法,预测结果极差更宽,更能反映土壤质地各颗粒组成与高程、母质和水域分布的关系。
【英文摘要】Soil texture is one of compositional data in the geosciences. Spatial interpolation for soil texture must meetfour conditions,which including positive definiteness, a constant sum of interpolated values at a given position, errorminimization and unbiased estimation. The study adopted compositional Kriging and ordinary Kriging based on datatransformed by asymmetry logratio transformation (ALR) and symmetry logratio transformation (SLR) to predict spatialdistribution of each soil particle composition. The precision and fitting effect were assessed by utilizing the root meansquared errors (RMSE) and mean squared deviation ratio (MSDR). The results showed that the interpolation results bycompositional Kriging and ordinary Kriging based on data transformed by ALR and SLR could meet the four conditionsin spatial interpolation. Values of RMSE for different soil particle composition by compositional Kriging were the leastand the precision was the highest. For clay, the relative improvement of accuracy to the reference method ordinaryKriging based on ALR was close to 17%. On the whole, fitting effect by compositional Kriging was better than that byother methods. The ranges were wider for compositional Kriging, and its prediction results could better reflect therelations of different soil articlecomposition with elevation,soil parent material and water area distribution.
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【第一作者】张世文
【通讯作者】黄元仿
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【学科分类】土壤学

【题目】丙酸对多花黑麦草青贮发酵动态变化的影响
【中文关键词】多花黑麦草; 丙酸; 发酵品质;
【英文关键词】Lolium multiflorum; propionic acid; fermentation quality;
【中文摘要】在实验室条件下制备多花黑麦草青贮饲料, 评定不同浓度丙酸(0, 0. 20% , 0. 25% , 0. 30%) 对其青贮发酵动态变化的影响。结果表明, 添加丙酸对多花黑麦草青贮过程中 VFAs 含量无明显的影响, 增加了发酵后期乳酸及WSC 的含量及乳酸/ 乙酸值, 在发酵初期降低了乳酸的含量和青贮初期 pH 值; 降低 A N/ T N 值、乙酸含量及生成速度; 丙酸在整个发酵过程中呈现很高的趋势。综合考虑, 0. 25% 添加水平, 多花黑麦草青贮发酵品质最好。
【英文摘要】
【语种】中文

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【题目】春麦田恶性杂草猪殃殃的发生与防除
【中文关键词】猪殃殃;春麦田;生物学特性;防除
【英文关键词】无
【中文摘要】:在青海春小麦田猪殃殃生育期约150 d,高峰期在4月下旬一5月中旬,占出苗总数的43.11%,26.31%。出苗最适深度为l~3cm。猪殃殃覆盖度与小麦产量回归方程为Y1=6 754.76~25.92 Xl(r=一0.95**),在2003—2008年5种除草荆中,20%氯氟吡氧乙酸750 m|/hm2和20%除莠定水荆900 ml/hm2对猪殃殃的防除效果均在90%以上,对小麦安全.增产显著。
【英文摘要】无
【语种】中文
【第一作者】翁华
【通讯作者】翁华
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【学科分类】植物保护学

【题目】Tribenuron-Methyl Resistant Flixweed (Descurainia sophia)
【中文关键词】无
【英文关键词】ALS inhibitor, tribenuron-methyl, resistance
【中文摘要】无
【英文摘要】Flixweed seeds were collected from suspected winter wheat fields and remote hillside in Shaanxi Province, China, their sensitivities to tribenuron-methyl were evaluated in the greenhouse. Results revealed that biotype S was susceptible to tribenuron, and its GR50 was 0.23 g a.i. ha-1, whereas biotypes R1, R2, R3, and R4 were resistant to the tribenuron, andtheir GR50 were 161.99, 79.70, 439.80, and 312.30, respectively. Biotypes R1 and R2 showed moderate resistance with resistant indices (RI) of 615.23 and 302.7, respectively. Whereas biotypes R3 and R4 showed high resistance to the herbicide with RI values as high as 1 670.34 and 1 186.10, respectively.
【语种】英文
【第一作者】CUI Hai-lan
【通讯作者】张朝贤
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【题目】瘤胃微生物对结构性碳水化合物的降解机制研究进展
【中文关键词】瘤胃微生物; 结构性碳水化合物; 降解; 影响因素;
【英文关键词】rumen microbe; structural carbohydrate; degradation; factor;
【中文摘要】反刍动物瘤胃内含有庞大的微生物种群, 与瘤胃内结构性碳水化合物的降解有密切关系。参与结构性碳水化合物降解的瘤胃微生物主要包括细菌、真菌和原虫, 尤以细菌和真菌的降解作用最大。瘤胃细菌和真菌通过与结构性碳水化合物的附着、粘连或穿透等一系列作用, 使这些紧密连接的结构物质变得松散,再由它们分泌的各种酶类将这些松散的结构性碳水化合物逐步分解, 转化成可以被反刍动物及其寄居的瘤胃微生物吸收利用的单糖。瘤胃微生物对结构性

碳水化合物的降解也受到诸多因素的影响, 主要包括植物的表皮、细胞壁的物理和化学结构特性、细胞壁的组成成分, 以及瘤胃内环境和其他营养素等。
【英文摘要】
【语种】中文
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【题目】植被覆盖度对冬小麦冠层光谱的影响及定量化估产研究
【中文关键词】冬小麦; 植被覆盖度; 高光谱; 估产
【英文关键词】Wheat; Vegetation coverage; Hyperspectral; Yield estimation
【中文摘要】为避免土壤背景对冠层光谱的干扰, 提高冬小麦定量化估产精度, 以河北廊坊中低产田条件下的冬小麦为研究对象, 利用ASD Field Spec 高光谱仪定点获取冬小麦冠层光谱信息, 分析了田间植被覆盖度和冠层NDVI在生育期内的变化, 并利用植被覆盖度对冠层NDVI 进行了校正。结果表明, 通过三基色即RGB、色度和亮度可将数字图像中冬小麦和土壤背景进行分割, 从而获得单位面积上冬小麦的覆盖百分比。而通过覆盖度校正后的植被指数即C-NDVI 能够更具针对性地反映植株冠层氮素信息。在本试验条件下利用灌浆中期的C-NDVI 与产量进行一元回归或利用全生育期的C-NDVI 与产量进行多元回归均取得了较好的效果, 决定系数分别为0. 849 和0. 853。由于多元回归模型考虑了不同时期的C-NDVI 的变化, 因此模型具有更强的可靠性和稳定性, 较适合于冬小麦定量化估产。
【英文摘要】To avoid inter ference of soil on canopy spectrum and improve thest imation accuracy of wheatyield, in this experiment , based on w inter w heat varieties (Triticumaestivum L.) under the condition of middle-low yield fields, canopy reflectance w ere monito red using ASD FieldSpec Prospect rometer (Spect ral range from 350 nm to 2500 nm) and the monitoring was conducted in the fix ed site in the w hole growing stages. The chang e t rend o f vegetation co ver w as analyzed, NDVI and C-NDVI w er e calculated from NDVI and vegetat ion cover w ithin growing stages. The results showed that wheat can be separated from the soil based on their differ ences in RGB, H, and L values, so the percentage of wheat in unit area can beobtained. C-NDVI is the NDVI modif ied by vegetation coverage, w hich increased pertinence to spect ral information of wheat canopy. In this paper, good prediction result s were obtained from single reg ression of yield and C-NDV I in grain-filling stage or multiple reg ressio n of yield and C-NDVI in differ ent stages, and the decision coeff icients were 0.849 and 0. 853, respectively. Comparatively, the multiple r eg ression model is more reliable and stable because the changes of C-NDVI in differentstages w ere considered in the model.This method greatly improv es the w heat yield est imat io n accuracy using ground spectral data.
【语种】中文
【第一作者】卢艳丽
【通讯作者】卢艳丽
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【题目】长期不同施肥方式对稻油轮作田土壤杂草种子库多样性的影响
【中文关键词】土壤杂草种子库, 农业生态系统, 生物多样性, 施肥方式
【英文关键词】soil weed seed bank, agricultural ecosystem, biodiversity, fertilizer management
【中文摘要】施肥等人为管理下农田生态系统生物多样性的变化规律及其保护是生态系统研究的重要内容之一 我们通过镜检法对太湖地区一个长期肥料定点试验稻油轮作田表层(0 – 15 cm)土壤中杂草种子的种类进行了鉴定, 分析了长期不同施肥方式对稻油轮作田土壤杂草种子库群落结构及多样性的影响, 讨论了杂草种子库多样性与农田生态系统生产力和稳定性的关系 4种施肥方式分别为不施肥(NF) 单施化肥(CF) 化肥配施猪粪(CMF)以及化肥配施秸秆(CSF) 结果表明: 无论水稻种植季还是油菜种植季, 与长期不施肥 单施化肥及化肥配施猪粪相比, 化肥配施秸秆条件下的田间土壤杂草种子库密

度均最低, 但其总物种数和多样性较高; 同时, 这种施肥方式下水稻与油菜的年平均产量也较高, 而且年际波动小 可见, 施肥方式的不同会影响杂草种子库的多样性, 而多样性的高低与农作物产量高低及稳定性有着一定的相关关系: 即均衡的施肥方式有利于维持土壤杂草种子库多样性, 提高农作物产量, 并降低产量年际间的波动性 在本文研究的4种施肥方式中, 化肥配施秸秆可以作为提高农田生态系统生产力和稳定性并保持生物多样性的农田施肥管理方式。

【英文摘要】To study the dynamics in crop-field soil biodiversity under long-term fertilization is important for agricultural ecosystem protection. We selected a long-term fertilized paddy field under rice/rape rotation from the Taihu Lake region as a study site, and identified weed seeds in the topsoil (0 – 15 cm) by microscopic examination. Weed seed number and crop yields were recorded. We analyzed the effect of long-term fertilization on soil weed seed bank diversity andthe relationship between weed seed diversity and crop yields. The fertilizer treatments were as follows: non-fertilizer (NF), chemical fertilizer only (CF), chemical fertilizer and pig manure combined (CMF), and chemical fertilizer plus crop stalk (CSF). The results indicated that in the cultivating seasons of both rice and rape, under the treatment of chemical fertilizer plus rice crop stalk, the density of soil weed seed bank was the lowest, whereas the total species number and diversity was the highest. Furthermore, the crop yields were maximal and the steadiest under this treatment. There was definite correlation among fertilizer treatments, soil weed seed bank diversity and crop yields. It was concluded that balanced fertilizer management helps to maintain soil weed seed bank diversity, increase crop yields, and prevent crop yields from fluctuating. Therefore, among the four fertilizer treatments, chemical fertilizer plus rice crop stalk was the best one to increase the productivity of agricultural ecosystems and simultaneously protect biodiversity.

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【学科分类】植物保护学

【题目】微生物复合添加剂对苜蓿青贮效果的影响

【中文关键词】微生物复合添加剂; 苜蓿; 青贮; 发酵品质;

【英文关键词】Microbe compound additives; Alfalfa; Silage; Quality;

【中文摘要】为探讨微生物添加剂对苜蓿青贮效果的影响,以发酵活干菌和乳酸菌两种微生物复合添加剂为材料,分别设置三种不同添加浓度和对照,添加到袋装苜蓿青贮中,分别在青贮第 4,8,16,30,60天后取样分析。结果表明:两种微生物复合添加剂均可以改善苜蓿青贮的发酵品质,青贮 pH显著下降,抑制氨态氮含量的增加,但对干物质含量和可溶性碳水化合物含量的变化影响不显著。通过综合分析,本试验认为在苜蓿青贮中添加发酵活干菌复合添加剂 2g/t或乳酸菌复合添加剂 1g/t效果较好。

【英文摘要】

【语种】中文

【第一作者】王国良

【通讯作者】盛亦兵

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【学科分类】畜牧学

【题目】油菜田日本看麦娘对高效氟吡甲禾灵抗药性的研究

【中文关键词】高效氟吡甲禾灵;日本看麦娘;抗药性

【英文关键词】Haloxyfop—R—methyl;Alopecurusjaponicus Steud.;Resistance

【中文摘要】【目的]明确油菜田日本看麦娘(Alopecurus japonicus Steud.)对高效氟吡甲禾灵(haloxyfop—R—methyl)的抗药性及对其它药剂的交互抗性水平。【方法】利用种子生物测定法和整株测定法测定了江苏、安徽11个点油菜田日本看麦娘对高效氟吡甲禾灵的抗药性,并用同样方法进行了相关药剂的交互抗性测定。【结果]两种方法测定结果基本相符。种子生物测定结果显示,江苏句容点日本看麦娘对此药剂的相对抗性倍数达61.1 3,整株测定结果为1 331.68,说明句容点的日本

看麦娘对此药剂已产生明显抗性。交互抗性测定结果显示,日本看麦娘对芳氧基苯氧基丙酸酯类(aryloxyphenoxypropionates,简称AOPP)其它药剂已产生了不同程度的抗性,抗性水平依次为精吡氟禾草灵>精喹禾灵>精噁唑禾草灵;对具相同作用靶标的环已烯酮类(cyclohexanediones,简称CHD)除草剂烯禾啶的抗性水平相对较低。室内测定结果与田间实际反映情况相吻合。【结论】种子生物测定法可作为杂草抗性水平测定的方法之一。油菜田日本看麦娘对AOPP类高效氟吡甲禾灵已产生不同程度的抗药性,其中句容点抗性最高,对同类产品精吡氟禾草灵的交互抗性水平也最高;对与AOPP类除草剂具有不同结构、相同作用机制的CHD类烯禾啶交互抗性水平较低。

【英文摘要】[Objective]The objective of this study was to investigate the resistance level of Alopecurus japonicus Steud.tohaloxyfop · R—methyl and its cross—resistance level to other herbicides with the same mode of action.Eleven Alopecurus japonicuspopulations were collected from different oilseed rape fields in Jiangsu and Anhui provinces where haloxyfop · -R · · methyl had beencontinuously applied for years.【Method】The resistance level of Alopecurus japonicus to haloxyfop—R—methyl and thecross—resistance level of the most resistant and susceptible populations to other related herbicides were assessed by two methods:seedbioassay and whole plant assay.[Result]Results confirmed a good correlation between the two different bioassays.Therelative resistance factors ofAlopecurusjaponicus population to haloxyfop—R-methyl from Jurong in Jiangsu province were 61.13 byseed bioassay and 1 33 1.68 by whole plant assay.This result demonstrated Jurong population has apparently evolved resistance tohaloxyfop—R-methyl in fields.The CROSS.resistance tests revealed that this resistant population Was also resistant to other AOPPs.inwhich the resistance was in order of:fluazifop—P—butyl>quizalofop—P—ethyl>fenoxaprop-P—ethyl.However,a relative low resistancelevel was observed for sethoxydim,which was a cyclohexanedione(CHD)herbicide sharing the same target as AOPPs.And theresults obtained in laboratory were agreed with that in fields.[Conclusion】Seed bioassay could be used to determine the resistancelevel of weeds.Resistance of Alopecurus japonicus in oilseed rape fields has occurred to haloxyfop—R-methyl。which belongs toAOPPs.TheJurong population was most resistant to haloxyfop—R—methyl,which also had the highest cross—resistance level withfiuazifop—P-butyl,while lowest with sethoxydim,a CHDs herbicide sharing the same mode of action with AOPPs.

【语种】中文
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【题目】牧草不同干燥方式效率比较研究
【中文关键词】晾晒处理; 化学处理; 饲草; 含水量;
【英文关键词】Drying treatment; chemical treatment; forage; water content;
【中文摘要】对不同晾晒处理、不同化学处理的饲草青干草含水量进行比较分析, 结果表明: 高羊茅 Festucaarundinacea Schreb在自然晾晒初、中期失水率最大, 经过 2 5d含水量约在 20% , 4 5d后含水量即达到10% 左右; 青稞 H ordeum vulgareL var nudumH ook f 晾晒 2 5d含水量约 25% ; 紫花苜蓿 M edicago sa tiva晾晒 2 5d含水量仍在 40%左右, 总体表现出失水效率顺序为: 水泥地组合 = 凉棚 > 草架 > 土地晾晒组合。紫花苜蓿经化学制剂处理后, 水分散失在速率和时间上都有了很大程度的提高, 达到安全贮藏的含水量历时比自然处理缩短了 4天; 而高羊茅的效果不是很明显, 不过与自然处理相比, 在晾晒初期有显著差异。
【英文摘要】
【语种】中文
【第一作者】刘树军
【通讯作者】李向林
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【学科分类】畜牧学

【题目】外来物种小飞蓬的化感作用初步研究
【中文关键词】小飞蓬;化感作用;生物入侵;种子萌发;幼苗生长
【英文关键词】无
【中文摘要】在室内用离体生测方法测定了小飞蓬水浸提液对马唐、稗草、反枝苋、黄瓜和油菜种子萌发和幼苗生长的影响。结果表明,小飞蓬水浸提液对5种植物种子的萌发和幼苗生长均有较强的抑制作用。5种受体植物中,以油菜最为敏感,最低浓度0.012 5 g/mL处理下,油菜种子完全受到抑制不能萌发,在0.025 0 g/mL处理下反枝苋、马唐、黄瓜和稗草种子的萌发率分别为6.67%,9.09%,40.00%和50.00%;各种受体植物种子的发芽速率与种子萌发率一致,但较种子萌发率敏感。相同浓度处理时,小飞蓬水提物对5种植物根长的生长抑制作用均明显高于对苗高的抑制作用。
【英文摘要】无
【语种】中文
【第一作者】高兴祥
【通讯作者】高兴祥
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【学科分类】植物保护学

【题目】草铵膦与其他除草剂互作
【中文关键词】草铵膦 喹禾灵 2甲4氯 混用
【英文关键词】glufosinate; quizalofop— methyl;MCPA;interaction
【中文摘要】选用喹禾灵和2甲4氯分别与草铵膦混用,以稗草和反枝苋为试材,探讨这两种除草剂与草铵膦的联合作用。用剂量添加模型分析,草铵膦与喹禾灵在(53.3~3.3):1范围内混用对稗草有显著的增效作用,草铵膦与喹禾灵最佳配比为9.99:1(有效用量比),增效倍数达0.45;草铵膦与喹禾灵在(26.6—3.3):1范围内对反枝苋表现为增效。草铵膦与2甲4氯以2:1和1:1比例混用时,对稗草表现为增效作用,而以1:2和1:4混用时,对稗草表现为拮抗作用;草铵膦和2甲4氯混用对反枝苋作用表现为加成趋势。
【英文摘要】The interaction of glufosinate mixed with quizalofop— methyl and MCPA was determined in greenhouse. According to the Additive Dosage Mode1.glufosinate plus quizalofop— methyl over a range of 53.3—3.3:l ratios was significantly synergic on Echinochloa crus—galli.The best ratio was 9.99:1.The phytotoxicity at this ratio was as 1.45 times as the expected.The mixtures of the two herbicides over a range of(26.6—3.3):1 was synergic on Amaranthus retroflexus.The interaction of glufosinate plus MCPA on E.crus—galli depended on the ratios of the two herbicides.Itgave synergic effectontheweed atthe ratiosof2:1 and 1:1 and antagonisticeffect atthe ratiosof 1:2.1:4 and 1:8.The mixture of glufosinate and MCPA trended to provide additive effect on A.retroflexu
【语种】中文
【第一作者】杨逢玉
【通讯作者】倪汉文
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【学科分类】植物保护学

【题目】杂草抗药性研究进展
【中文关键词】杂草;抗药性;抗药性机制;研究技术
【英文关键词】weeds; herbicide resistance; mechanisms; methodology
【中文摘要】目前全球已有188种杂草(112种双子叶,76种单子叶)的324个生物型对19类化学除草剂产生了抗药性,几乎涵盖各类重要的除草剂。抗药性杂草已成为杂草治理和农业生产的严重威胁,由其引发的严重经济和安全问题倍受全球关注。研究证实,杂草体内除草剂作用位点发生改变、杂草代谢解毒能力增强、杂草的屏蔽作用或与作用位点的隔离作用是杂草对除草剂产生抗性的三大主要机制。杂草的抗药性机制相当复杂,同种杂草不仅对不同除草剂的抗药性机制不同,而

且能以完全不同的抗药性机制对多种作用机制不同的除草剂产生抗药性,即交互抗性和多抗性。本文重点描述杂草对 8 大类重要除草剂的抗药性机制,杂草抗药性研究方法,以期为中国抗药性杂草研究和农田杂草科学治理提供参考和借鉴,并提出在杂草治理中必须汲取他人的经验教训,阐明了中国杂草抗药性研究应关注问题。

【英文摘要】With repeated and wide use of herbicides in agricultural systems, 324 herbicide resistant biotypes of 188 species (112 dicots and 76 monocots) have evolved worldwide. The development of herbicide resistance in weeds, rapid increase and widespread of herbicide resistant weeds have become an increasing threat to weed management and crop production in the world, the consequences leading to economic loss and food safety have become a global concern. In the last decades, a significant progress has been made in the areas of herbicide resistance, many of the findings have proven that at least three very different mechanisms endowed herbicide resistance, an altered target site, enhanced detoxification and sequestration in weeds,weeds can also evolve cross resistance and multiple resistance to herbicides with different modes of action. This review described the currant status of world wide herbicide resistant weeds, resistance mechanisms in 8 major herbicide classes, research methodologies to provide useful information and references for researches in herbicide resistance, and posed the lessons learnt from other countries, clarified and stated the future directions we should forward to.

【语种】中文

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【学科分类】植物保护学

【题目】四川农林外来入侵杂草种类的调查

【中文关键词】外来入侵杂草;恶性杂草;防除

【英文关键词】invasive alien weIX18;destructive Weec]8;control strategy

【中文摘要】四川省农科院植保所等单位于1985—1987年同及2002-2006年问不完全调查,共发现外来入侵杂草63种,隶属2l科.其中水生杂草2科2种(空心莲子草、凤眼莲),陆生杂革20科62种(含水陆两栖杂草1种,即空心莲子草)。外来入侵杂草种数最多的科是菊科23种,种数较多的科有:豆科7种、苋科6种、禾本科4种、茄科3种。在63种外来入侵杂草中,恶性杂草(包括区域性恶性杂革)9种,占外来入侵杂草的14.29%,包括:空心莲子革、紫茎泽兰(区域性)、辣子草、稗、风眼莲、反枝苋、小飞蓬、野燕麦(区域性)、大爪草(区域性);有毒杂革6种,占外来入侵杂草的9.68%,包括:紫茎泽兰、曼陀罗、喀西茄、马缨丹、三裂叶豚革、蓖麻;一般性杂革50种,占外来入侵杂草的79.37%。在外来入侵杂草的防除中,应根据当地的生态条件,采用检疫等法律手段控制其传播和芰延,采用农业、生物、物理、化学等综合措施。控制有害杂草的危害和蔓延。达到生态修复,长久控制害草的目标。

【英文摘要】Invasive alien weeds are the alien weed which threaten ecosystem, habitats,species and human health Invesive alien weeds harm notonly biology diversity。butalsothe society,economy,cultureandso on.Sichuan provinceis one ofthemost seriousdistrictsinfluenced byinvasive elien weeds in China.By investigations of Plant Protection Institute of SAAS(1985—1987 and 2002—2006).63 alien invasive wccds of 21 families were discovered.and among these species there were 2 aquicolous weeds Alternamhera philoxeroides(Mart.) Gfiseb andEichhorn crassipes (Mart.)Sclms,62 terranouus weeds of 20 families(including I amphibious weed A.philoxerodiesides).Most 0f the weeds are Asteraceae(Compositae)weeds.then Leguminosae,Amaranthaeeae,Gnunineae,Sohmmean,corresponding to 23,7,6,4 and 3 species,respectively.There are 9 destructive weeds (including regional destructive weeds),amounting to 14.29%of the total alien invnsive weeds,that is to say,A.philoxemides,Eupatorium coeleainum L,Gallmoga Parviflora Cav.Echinochloa crusgalli(L.) Beauv. E.crassipes,Amaran thus retroflexus L., Comnyza Canadensis (L.) Cronq. And Avena fatua L. Five poisous,9.68%ofthetotal,am Ecoelestinum,Datura stramonium L。Solanum khasianum C.B.Clarke,Lantanacamara L. and Ricinus communis L. Besides, there are 49 normal invasivealienweeds.tmcountingfor79.37%.Inthe processof eoutrollingtheinvasivealienweeds,plant quarantineand other to legalm urcs should be applied to prevent their propagation and infestation.Meanwhile,according to the local ecosygtm,the integrated management of agriouhurel,biological,physical and chemical methods should he adopted to prevent the propagation and infestation of alien invasive weeds in order restore native ecology and control the weed8 permanently.

【语种】中文

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【题目】几种除草剂防除猪殃殃效果评价
【中文关键词】除草剂;猪殃殃;防效
【英文关键词】herbicides;Galium aparina L.contro effect
【中文摘要】在冬季和春季分别施药,对比分析了6种药剂防除小麦田猪殃殃的效果。结果表明,不同药剂对猪殃殃防效差异较大。其中,不同温度下施药,苄嘧磺隆和麦草畏对猪殃殃均表现出很好的防除效果;灭草松和2甲4氯钠受温度影响也较小,但二者对猪殃殃的控制作用稍差;氯氟吡氧乙酸和苯磺隆,尤其是氯氟吡氧乙酸,对猪殃殃的防效明显受环境温度及猪殃殃生长期的影响,冬季低温、猪殃殃处于休眠状态时施药,除草效果较差,而春季气温回升、猪殃殃开始生长时施药,对猪殃殃的防除效果显著提高。
【英文摘要】
【语种】中文
【第一作者】李美
【通讯作者】李美
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【学科分类】植物保护学

【题目】空心莲子草对大蒜生长的影响及其经济阈值
【中文关键词】空心莲子草; 大蒜; 经济危害允许水平; 经济阈值
【英文关键词】无
【中文摘要】为明确空心莲子草对大蒜生长的影响及其经济危害允许水平, 采用添加系列试验和模型拟合的方法观察了不同空心莲子草密度下大蒜各生长性状的变化规律。结果表明, 大蒜在空心莲子草的竞争干扰下, 株高、鳞茎数、 根数、田间透光率、 蒜薹及蒜瓣产量均随空心莲子草密度的增加而逐渐降低。对数函数模型可以较好地拟合空心莲子草与大蒜产量损失间的关系(y= 6. 039lnx+ 0. 977, P< 0. 001) 。大蒜田采用人工拔除方法对空心莲子草进行防除时,空心莲子草的经济危害允许水平为 5. 21%,经济阈值为 4. 02 株/ m2。
【英文摘要】无
【语种】中文
【第一作者】魏守辉
【通讯作者】朱文达
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【学科分类】植物保护学

【题目】水稻化感品种结合使用除草剂及深水层管理对稻田杂草的抑制作用
【中文关键词】水稻;化感;水层;除草剂;杂草防治
【英文关键词】rice(Oryza sativ L.);allelopathy;herbicide;water depth;weed control
【中文摘要】摘要:选用具有化感特性的水稻品系华抗草78和长江流域地区主栽的扬稻6号,通过田间试验研究水稻化感作用结合苄嘧磺隆使用及水层管理对水稻田杂草的抑制作用。旨在降低水稻田化学除草剂使用量,探索水稻生产中杂草治理的新途径。结果表明,水稻化感作用结合深水层可有效抑制稗草的萌发和生长,同时水稻移栽后6 d 使用苄嘧磺隆(30 g/hm2)单剂处理。明显地抑制了异型莎草和陌上菜的萌发数量和生物量积累;水稻移栽后50 d,华抗草78和扬稻6号对稗草的干重防效分别为89.16%和81.86%,对异型莎草的干重防效分别为83.56%和84.93%,对陌上菜十重防效分别为95.22%和

88.04%,对这3种杂草的总干重防效分别为87.68%和82.69%;10cm深水层及施用苄嘧磺隆单剂条件下2个水稻品种(系)的产量比5 cm水层、不施化学除草剂的处理分别增产40.33%和21.36%。水稻化感品种对稗草等的抑制作用、水稻自身的竞争作用、10 cm深水层及苄嘧磺隆单剂这4种因素的综合效应不仅具有良好的控草效果,增产显著,而且明显降低r除草帮l的使用量。

【英文摘要】

【语种】中文

【第一作者】李贵

【通讯作者】吴竟仑

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【学科分类】植物保护学

【题目】高价格下我国钾肥的应变策略

【中文关键词】钾肥; 应变策略; 价格; 合理施钾

【英文关键词】potassium fertilizer; response strategy; p rice; reasonable potassium fertilization

【中文摘要】在国际市场钾肥价格居高不下的情况下, 从我国钾肥的供需形势、钾肥需求的弹性分析入手, 阐述了我国近期钾肥的应变措施为合理养分比例、加强秸秆资源利用和短期内减少钾肥的施用等。从中长期角度, 我国钾肥的战略应是加强资源勘查, 积极扩大国内钾盐供应, 建立国家钾肥战略贮备制度, 调节钾肥市场, 加强钾肥循环利用并加强技术支撑研究, 提高我国钾肥生产的可持续发展能力。

【英文摘要】Under high p rice of potassium fertilizer in the international market, the response app roach of potassium fertilization should be the reasonable nutrient proportion, enhancement on reasonable use of straw stalk resources and reducing application of the potassium fertilizer in the short - term1For the middle and long - terms, the strategy on potassium fertilizer in China should be strength of the resources investigation, and positively expand the supp ly of potassium salt, and establish country potassium fertilizer strategic reserve system, and enhance circulation uses of potassium fertilizer, and strengthen the technical support research, and upgrade sustainable development ability in potassium fertilizer production in China。

【语种】中文

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【通讯作者】白由路

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【学科分类】农业基础学科

【题目】嘧草硫醚对棉花的安全性及除草生物活性测定

【中文关键词】嘧草硫醚; 棉花; 安全性; 杂草; 生物活性

【英文关键词】pyrithiobac-sodium; cotton; safety; weeds; activity

【中文摘要】摘要: 采用温室盆栽生物测定法, 对比测定了10%嘧草硫醚水剂和50%乙草胺乳油、 25%氟磺胺草醚乳油对棉花的安全性及除草活性差异。 试验结果表明10%嘧草硫醚水剂土壤处理对棉花安全, 茎叶处理高浓度对棉花有轻微药害, ED10值为322.69 g a.i./hm2。 10%嘧草硫醚水剂土壤处理对单、 双子叶杂草均有较好的防效,对反枝苋、 马唐、 稗草、 苘麻的ED90值分别为39.85、 272.05、 309.87、 459.01 g a.i./hm2; 与乙草胺相比, 嘧草硫醚的活性略高于乙草胺, 尤其对苘麻的防效明显高于乙草胺。 10%嘧草硫醚水剂茎叶处理对反枝苋防效最好,ED90值小于15 g a.i./hm2; 其次为稗草、 苘麻, ED90值分别为125.27、 486.10 g a.i./hm2; 该药对马唐仅有抑制作用, 防除作用较差, ED90值为2 771.57 g a.i./hm2。 与25%氟磺胺草醚乳油相比, 二者杀草谱相近, 嘧草硫醚作用速度较慢, 氟磺胺草醚作用速度较快, 但氟磺胺草醚不可用于棉田。

【英文摘要】无

【语种】中文

【第一作者】李 美
【通讯作者】李 美
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【引文索引号】
【学科分类】植物保护学

【题目】硝磺草酮对玉米药害的早期诊断和缓解方法
【中文关键词】玉米;硝磺草酮;安全性
【英文关键词】无
【中文摘要】2006~2007年于北京市海淀区试验地开展了硝磺草酮对玉米不同品种的安全性及植物生长调节剂一碧护对药害的缓解作用方面的研究。以华北地区主栽的4个玉米品种为试材,按常规栽培习惯进行种植,小区面积60 m2。玉米4—5叶期,以0、105 g a.i./hm2、210 g a.i./hm2、420 g a.i./hm2、840 g a.i./hm2的剂量喷施硝磺草酮,施药7 d后再按0和30 g/hm2的制剂用量喷施碧护。硝磺草酮的喷液量为600 L/hm2,碧护的喷液量为300 L/hm2。施药后2 d,玉米叶片的PPM值迅速降低,而随着时间的延长而逐步恢复,但不同玉米品种表现出较明显的差异。以白糯6号对药剂最敏感,需要10 d才能恢复到正常水平;甜单8号次之,需要8 d才能恢复;滑丰986和郑单2l相对不是很敏感,需要6 d恢复。处理后3—4 d,玉米在硝磺草酮作用下,叶片白化,随用药量的增加而药害程度加重。硝磺草酮对玉米生长有较明显的抑制作用。随着施药剂量的增加,4个玉米品种的株高和鲜重均明显降低,且显著低于不用药的对照。喷施了碧护之后,玉米恢复程度有所加强,玉米株高明显增高。
【英文摘要】无
【语种】中文
【第一作者】张宏军
【通讯作者】倪汉文
【期刊名称、卷期、页码】杂草科学, 2009,(4):19-22
【论文发表时间】2009-06-26 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】植物保护学

【题目】15种除草剂防除打碗花、葎草效果评价
【中文关键词】除草剂; 打碗花; 葎草; 防效
【英文关键词】herbicides; calystegin hederacea Wall.; humulus scandens (lour.) merr.; control effect
【中文摘要】在春季采用茎叶处理的施药方式, 对比分析了15种防除阔叶杂草的除草剂田间使用防除打碗花、 葎草幼苗的效果。 药后30 d调查结果表明: 不同除草剂对打碗花、 葎草防效差异很大。 15种除草剂中, 防除打碗花效果较好的有20%氯氟吡氧乙酸EC、 10%嘧草硫醚AS、 72% 2,4-滴丁酯EC、 56% 2甲4氯SP、 88% 2,4-滴异辛酯EC, 试验剂量下对打碗花鲜重防效在85%以上。 防除葎草效果较好的有40%唑草酮WP、 75%苯磺隆WG、 88% 2,4-滴异辛酯EC、72% 2,4-滴丁酯EC、 10%嘧草硫醚AS、 10%苄嘧磺隆WP, 试验剂量下对葎草鲜重防效在85%以上。 80%溴苯腈SP、25%辛酰溴苯腈EC、 5%唑草酸甲酯EC、 40%唑酮草酯WG对二者有触杀性防效, 但最终防效较低或无防效。
【英文摘要】
【语种】中文
【第一作者】李美
【通讯作者】李美
【期刊名称、卷期、页码】农药, 2009,48(9):686-688
【论文发表时间】2009-06-01 00:00:00
【引文索引类型】null
【引文索引号】
【学科分类】植物保护学

【题目】四川首次发现三裂叶豚草大面积发生危害
【中文关键词】三裂叶豚草; 恶性杂草; 危害
【英文关键词】无
【中文摘要】三裂叶豚草是一种外来入侵恶性杂草,具有极强的生命力、竞争力和生态适应性,严重影响人类健康、农业生产和生态安全。在我国主要分布于东北、华北地区,2007年9月4日确认四川有分布,近年在四川1自贡、宜宾、内江3市10个县区已有发现,发生面积共约2 666 hmz,已引起农业厅相关部门的重视并进行了有效铲除。但由于地下积存种子以及贸易、旅游、交通和四川气候、地理条件等的影响,仍有蔓延的危险,本文据此提出了相应的防控对策建议。
【英文摘要】无
【语种】中文
【第一作者】周小刚
【通讯作者】周小刚
【期刊名称、卷期、页码】植物保护, 2009,35(2):166-168
【论文发表时间】2009-04-02 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】植物保护学

【题目】黑土全氮含量的高光谱预测分析
【中文关键词】土壤,氮,光谱分析,模型
【英文关键词】soil testing, nitrogen, spectrum analysis, models
【中文摘要】为实现快速、准确估测土壤氮素含量水平,推动土壤信息化管理进程,该研究利用ASD2500 高光谱仪在室内条件下测定了风干土壤样品的可见—近红外光谱。结果表明,通过不同的变换,光谱反射率对数的一阶导数与土壤全氮含量相关性得到增强,以400~600 nm 波段范围内相关性最好。该文确定了以反射率对数的一阶导数光谱预测黑土全氮(TN)含量的最佳回归模型,模型所用的波段为可见光波段的556 nm、近红外的1 642 和2 491 nm。同时,也确定了利用由可见光波段550 和450 nm 组成的归一化光谱指数预测黑土TN 含量的最佳预测模型。模型通过验证达到较好的效果:利用反射率对数的一阶导数、归一化光谱指数对土壤TN 的预测R2 分别为0.863、0.829,均方根误差RMSE 分别为0.122、0.152。
【英文摘要】It provides important information for soil digital management if soil total nitrogen can be rapidly and accurately estimated. In this research, NIR-Visible spectral reflectance of soil samples was measured using ASD2500 hyperspectral meter. The results indicated that Total Nitrogen (TN) content of black soil had better relationship with the first deviation of reflectance logarithm (LOGR-FD) than the original spectrum in 400-600 nm especially. The optimum model predicting TN of black soil using derivative spectra (LOGR-FD) was established by the method of stepwise regression. The selected bands in the model are 556, 1 642 and 2 491 nm respectively. Normal Difference Index (NDI[550, 450]) was constructed by spectral reflectance in the bands of 450 and 550 nm, and the model was also established for TN predicting using the NDI[550, 450]. By validity, the above two models produced better effects: the coefficients of determination (R2) are 0.863 and 0.829 and the Root Mean Square Errors (RMSE) are 0.122 and 0.152 respectively.
【语种】中文
【第一作者】卢艳丽
【通讯作者】卢艳丽
【期刊名称、卷期、页码】农业工程学报、2010年26卷第1期,256-261
【论文发表时间】2010-01-25 00:00:00
【引文索引类型】EI
【引文索引号】1002-6819(2010)-01-0256-06
【学科分类】农业基础学科

【题目】野燕麦对不同小麦品种产量性状的影响及其经济阈值
【中文关键词】野燕麦 ; 小麦 ; 产量性状 ; 竞争 ; 经济 阈值
【英文关键词】Wheat ;Aena fatua;Yield characters;Competition;Economic threshold
【中文摘要】为给防除小麦田间恶性杂草野燕麦提供依据,采用添加系列试验和模型拟合的方法研究了野燕麦与小麦的竞争。结果表明,随着田间野燕麦密度的增加,小麦有效穗数、穗粒数和产量逐渐降低,而小麦千粒重的变化趋势不明显。模型拟合结果显示,野燕麦密度与小麦有效穗数和产量间的关系以指数模型(y=beax)较好,与穗粒数间的关系以直线模型(y=ax+b)较好,而与小麦产量损失间的关系以对数模型(y=alnx+b)最佳。野燕麦对矮秆小麦品种郑麦9023产量性状的影响

大于对高秆品种鄂麦35057的影响。根据小麦的经济危害允许水平,通过拟合的野燕麦密度与小麦产量损失的对数模型估算,当小麦品种为鄂麦35057时,野燕麦人工防除的经济阈值为9.04株.m-2,使用6.9%精噁唑禾草灵水乳剂化学防除的经济阈值为3.77株.m-2;而当小麦品种为郑麦9023时,相应的经济阈值分别为5.85株.m-2和3.32株.m-2。不同小麦品种的生长竞争能力存在较大差异,这可能是导致野燕麦与小麦间的竞争发生变化的原因。

【英文摘要】To provide guidance for control of Avena fatua(Wild oat),a noxious weed in wheat fields,additive series experiment and model fit were adopted to study the competition between A.fatua and two different wheat cultivars.The results showed that the spike number,spike grains number and yield of wheat decreased gradually as A.fatua density increased,but the 1000-grain weight of wheat showed no significant change.The exponential regression model(y=beax) was better for fitting the relationship between A.fatua densi...

【语种】中文

【第一作者】魏守辉

【通讯作者】朱文达

【期刊名称、卷期、页码】麦类作物学报, 2008,28(5):893-899

【论文发表时间】2008-06-11 00:00:00

【引文索引类型】null

【引文索引号】

【学科分类】植物保护学

【题目】集约化蔬菜地土壤磷素累积特征及流失风险

【中文关键词】集约化蔬菜地; 磷吸附饱和度; 最大缓冲容量; 流失风险

【英文关键词】vegetable soil phosphorus adsorption; degree of phosphorus saturation; maximum buffering capacity;leaching risk

【中文摘要】以南京市郊集约化蔬菜长期种植基地为对象, 采集蔬菜种植年限分别为3~ 5、15~ 20、25~ 30 a的土壤, 测定土壤全磷(TP)、速效磷(Olsen-P)、水溶性磷(CaCl2-P)、生物有效磷(NaOH-P) 的含量, 并对0) 20 cm 土层磷素吸附特性进行分析, 通过研究土壤磷吸附饱和度(DPS) 、最大缓冲容量(MBC) 来对土壤磷素流失风险进行评估。结果表明, 在0) 20 cm 土层, 除NaOH-P外, 其余各形态磷(TP、Olsen-P、CaCl2-P)都随种植年限延长呈增加趋势。不同种植年限土壤TP、Olsen-P、CaCl2-P、NaOH-P主要积累在0) 20 cm 土层, 且随着土层深度的增加土壤磷的累积量逐渐降低。DPS随种植年限延长而升高, 种植年限25~ 30 a的菜地0) 5 cm 土层DPS 超过土壤磷素流失环境敏感指标临界值(25%), 其MBC 也最低, 表明随着蔬菜种植年限的延长土壤磷素流失风险加剧, 且流失风险主要体现在0) 5 cm 土层。

【英文摘要】In order to study accumulation and leaching risk of soil phosphorus, soil samples were collected from vegetable fields, different in intensive vegetable cultivation history (3- 5, 15- 20 and 25- 30 years) in the suburbs of Nanjing forassay o f concentrations of total phosphorus (TP), available phosphorus (Olsen-P) , dissolved reactive phosphorus (CaCl2-P) and bio- available phosphorus (NaOH-P), and P adsorption in 0 - 20 cm soil layer, and for assessment of soil phosphate leaching risk through determination o f degree o f phosphorus saturation (DPS) and maximum buffer capacity (M BC) of the soils. Results show that the longer the history o f intensive vegetable cultivation, the higher the accumulation o f phosphorusfor all P fractions, except for NaOH-P, which w as higher in soils o f 3- 5 a than in the other two groups. TP, Olsen-P, CaCl2-P and NaOH-P accumulated mainly in the 0- 20 cm soil layer, and decreased in concentration with the depth in profile. DPS increased with the history. In the 0- 5 cm soil layers of soils o f 25- 30 a, the concentration o f DPS was even higher than 25%, the environmental sensitive index for soil P loss, while MBC was the lowest, suggesting that the leaching risk o f soil phosphorus rises with the cultivation history, particularly in 0- 5 cm soil layer

【语种】中文

【第一作者】高秀美

【通讯作者】刘兆普

【期刊名称、卷期、页码】生态与农村环境学报、2010,26(1)、82-86

【论文发表时间】2010-08-26 00:00:00

【引文索引类型】其他

【引文索引号】

【学科分类】农业基础学科

【题目】稻油轮作田杂草种子库组成及其垂直分布特征

【中文关键词】杂草种子库;稻油轮作f物种多样性f垂直分布l优势度

【英文关键词】无

【中文摘要】摘要:杂草种子库是潜在的杂草群落.对杂草可持续治理具有重要意义。在稻油轮作田杂草种子库中共检测到28种杂草,主要隶属于禾本科,玄参科和菊科.种子库密度达224 550 seed/m2,其中约64%为冬季油菜田杂草种子。从杂草种子库中种子的垂直分布来看,土壤表层的种子密度较高.占整个种子库数量的63.88%,而中层和下层的种子密度较小.其垂直分布主要有3种类型。种子库中优势恶性杂草有蔺草Beckmannia syzigachne、异型莎草Cyperus difformis、看麦娘Alopecurus aequalis、稻槎菜Lapsana apogonoldes和日本看麦娘Alopecurus japonicus等,随着土层深度的增加,各土层的优势种组成也有差异。通过采取措施调控杂草种子库的规模,有望实现稻油轮作田杂草的可持续治理。
【英文摘要】无
【语种】中文
【第一作者】朱文达
【通讯作者】魏守辉
【期刊名称、卷期、页码】中国油料作物学报, 2007, 29(3): 313-317
【论文发表时间】2007-09-13 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】植物保护学

【题目】玉米田化学除草剂的发展及其在我国的应用
【中文关键词】玉米;除草剂; 应用
【英文关键词】无
【中文摘要】最近2 0余年, 除草剂品种的不断发展带动了玉米 田化学除草技术的不断完善, 但传统除草剂品种仍 是玉米田除草剂使用的主体。在以原嘌呤原氧化酶 (P r o t o x) 和对羟苯基丙酮酸二氧化酶(H P P D) 为靶标逐渐成 为新除草剂开发热点的同时 , 转基因耐除草剂玉米的发展将促进灭生性除草剂的使用。目前 , 我国玉米田除草剂 品种仅有莠去津、甲草嗪、 甲草胺、 乙草胺、 异丙甲草胺 、 异丙草胺 、 噻吩磺隆、 烟嘧磺隆、 氟乐灵、 2 , 4一D等 1 0余 种, 其中长残效除草剂莠去津用量过大, 存在着巨大的隐患。我国玉米 田除草剂急需发展短残效品种和茎叶处理 剂, 提高玉米田除草的灵活性和选择性 , 在适当引进新除草剂品种的基础上, 着重开发用于玉米田的除草剂混合 制剂及提高使用技术, 研制和应用与之相适应的环境友好型的除草剂增效剂和安全剂, 改进除草剂剂型。
【英文摘要】无
【语种】中文
【第一作者】陈志石
【通讯作者】陈志石
【期刊名称、卷期、页码】杂草科学, 2008,2:1-4
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【引文索引类型】null
【引文索引号】
【学科分类】植物保护学

【题目】麦田杂草群落主要杂草种群主成分分析
【中文关键词】麦田; 杂草种群; 重要值; 主成分分析
【英文关键词】wheat field;weed population;important value; principal component analysis
【中文摘要】对江苏省南京市和安徽省滁州市麦田杂草群落进行了调查, 测定了隶属 8科 1 9 属的 2 0种杂草的重要值 。并用主成分分析的方法, 研究 了主要杂草种群在群落中的地位。结果表明, 2 地杂草群落均以茼草(B e c k m a n n i a 5 y z i g a e h n e) f 1 1 4 1 ~ 势种. 但主要 杂草种群的组成及其重要值有一定的差异。所调查的南京市的麦田中, 杂草种群主要在茼草、大巢菜(V i c i a s a t i v a) 、 早熟禾(。矾n 、 泽~ e (E u p h o r b i a h e l i o s c o p 和黑麦草(L o l i u m p e r e n n e) 等5个方向上分化, 而滁州市麦田的杂草种群则主要在茼草、 大巢 菜、 野老鹳草(G e r a n i u m c a r o l i n i a n u m) 、 看麦娘_ (A e c u J ' u ~ a e q u a l i s) 和野燕麦(A t ' e M . I l n) 等5个方向上分化。
【英文摘要】I m p o r t m 。 t v a l L l e s o f 2 0 w e e d p o p u l a t i o n s b e l o n g t o 1 9 g e n e r a , 8 f a m i l i e s i n w h e a t f i e l d s o f N a n j i n g C i t y a n d C h u z h o u C i t y w e r e i n v e s t i g a t e d , a n d t h e p r i n c i p a l c o m p o n e n t a n a l y s i s (P C A) o f m a i n w e e d p o p u l a t i o n s w e r e c o n d u c t e d . R e s u l t s s h o w e d t h a t B e c k - m a n n i a s y z i g a c h n e W 8 8 t h e d o m i n a n t p o p u l a t i o n i n t h e w e e d c o m m u n i t i e s o f b o 山 N a n j i n g a n d C h u z h o u . I n t h e w h e a t f i l e d s i n v e s t i g a t — e d i n N a n j i n g 。 w e e d p o p u l a t i o n d i f f e r e n t i a t i o n O C c u l T

ed mainly in five directions of Beckmannia syzigachne,Vicia sativa,Poa annua, Euphorbia helioscopia and Lolium perenne.While in that of Chuzhou,weed population differentiation mainly OCCUlTed in five direc—tions of Beckmannia syzigachne,Vici~sativa,Geranium carolinianum,Alopecurus aequalis and Avenafatua.
【语种】中文
【第一作者】陈志石
【通讯作者】陈志石
【期刊名称、卷期、页码】上海交通大学学报(农业科学版), 2008,26(2):133-136
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【引文索引号】
【学科分类】植物保护学

【题目】野燕麦对油菜生长的影响及经济阈值
【中文关键词】野燕麦; 油菜; 透光率; 经济阈值
【英文关键词】Avenafatua;Oilseedrape;Lightpenetrationrate;Economicthreshold
【中文摘要】摘要: 采用添加系列试验和模型拟合的方法研究了不同野燕麦密度下油菜各生长性状的变化规律。结果表明, 油菜在野燕麦的竞争干扰下, 植株高度、 分枝数、 角果数及千粒重均随其密度的增加而显著降低, 而第一分枝高度则不断增加。野燕麦能显著降低油菜植株间的透光率, 其对田间25cm高处的透光率影响较大, 对75cm和50cm高处的透光率影响相对较小。野燕麦密度为5株·m-2时油菜产量显著降低, 当其密度达到160株·m-2以上时,可使油菜减产达90%以上。对数模型y=15.436lnx+8.475可以较好地拟合野燕麦与油菜产量损失间的关系(P<0.0001)。油菜田野燕麦人工防除的经济阈值为1.15株·m-2, 使用精 唑禾草灵化学防除的经济阈值为0.70株·m-2。
【英文摘要】AdditiveseriesexperimentandregressionfittingmethodswereusedtostudytheinfluenceofAvenafatuaongrowthandyieldofoilseedrape(BrassicanapusL.)underfieldconditions.Theresultsshowedthatin creasingdensityofA.fatuasignificantlyreducedplantheight,branchingnumber,podnumberand1000 grainweightofrape,butincreasedtheheightoffirstbranch.Thelightpenetrationrateinrapefieldswasreducedsignifi cantlywiththepresenceofA.fatua,andthereductionattheheightof25cmwasgreaterthanthatof75cmand50cm.Yieldofoilseedrapecouldbeheavilyreducedwhen A.fatuadensitywasabove5plant·m-2,andtheyieldlosscouldreach90%whenA.fatuadensitywasabove160plant·m-2.Thelogarithmicregressionmodely=15.436lnx+8.475wasthebestindescribingtherelationshipbetweenA.fatuadensityandyieldlossofoilseedrape(P<0.0001).Inrapefields,theeconomicthresholdofA.fatuawas1.15plant·m-2formanualweedingand0.70plant·m-2forfenoxaprop P ethylchemicalcontrol.
【语种】中文
【第一作者】朱文达
【通讯作者】魏守辉
【期刊名称、卷期、页码】中国油料作物学报, 2009, 31(2): 233-238
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【学科分类】植物保护学

【题目】2甲4氯钠AS对春小麦田阔叶杂草的防效
【中文关键词】2甲 4氯钠 AS; 春小麦; 杂草; 防除效果
【英文关键词】无
【中文摘要】13% 2甲 4氯钠 AS对一年生阔叶杂草密花香薷、 遏兰菜、 藜株防效和鲜重防效分别达 75.00%~95.00%和 81.68%~98.27%,对田间总草的株防效和鲜重防效分别达 82.96%和 95.65%。对春小麦安全, 除草后春小麦明显增产。
【英文摘要】无
【语种】中文

【第一作者】程亮
【通讯作者】程亮
【期刊名称、卷期、页码】杂草科学, 2009,(1):68-69
【论文发表时间】2008-10-29 00:00:00
【引文索引类型】null
【引文索引号】
【学科分类】植物保护学

【题目】醚苯磺隆在小麦田的除草效果及其残留对后茬作物的安全性
【中文关键词】醚苯磺隆;除草效果;残留;后茬作物;安全性
【英文关键词】TriasuIfuron; Weed controI efficacy;Residue effect;Affer_reap crops
【中文摘要】小麦返青期,在河北省小麦 -夏播作物一年两熟地区冬小麦田施用醚苯磺隆,对其除草效果及其在土壤中的残留在不同耕作方式下对后茬作物生长和产量的影响进行了研究。结果表明: 10%醚苯磺隆可湿性粉剂对小麦田主要阔叶杂草有较好的防除效果,对小麦产量无影响。10%醚苯磺隆在小麦田的施药剂量为 60 g / hm2,对下茬作物玉米、谷子幼苗的生长及产量无影响,对大豆、花生、油菜的药害轻;随用药剂量增加药害加重, 480 g / hm2处理对下茬参试作物均有较重的药害,不同作物对醚苯磺隆在土壤中残留量的敏感性有差异,其顺序为:油菜 >大豆 >花生 >谷子 >玉米。播种前进行旋耕比免耕对后茬参试作物幼苗生长及大豆和油菜产量影响要轻。
【英文摘要】FieId experiment was conducted to study weeds controI efficacy of triasuIfuron spraying in regreeningstage of winter wheat and its residue effect on the growth and yieId of after_reap crops(corn, soybean, peanut, miIIet and rape)under different mouIds of tiIIage in wheat summer seeding crop two_crop per annuaI region of Hebei. The resuIts showed that 10% triasuIfuron WP had better controI efficacy on broad_Ieaves weeds of wheat fieId and no in-fIuence on wheat yieId. The appIication rate of 60 g / ha in wheat fieId had no infIuence on the growth of seed Iing andyieId of corn and miIIet, and had Iight harm on soybean, peanut and rape. The hazard became heavier aIong with theincrease of appIication rate, 480 g / ha treatment heavier harm on aII testing after_reap crops. Different crops had dif-ferent sensibiIity to triasuIfuron residue in the soiI, the sensitivity order was rape > soybean > peanut > miIIet > corn.Comparing with zero_tiIIage rotary tiIIage before sowing had Iess infIuence on seedIing growth of aII testing affer_reap crops and yieId of soybean and rape.
【语种】中文
【第一作者】樊翠芹
【通讯作者】樊翠芹
【期刊名称、卷期、页码】华北农学报, 2006,21: 196-202
【论文发表时间】2006-07-28 00:00:00
【引文索引类型】null
【引文索引号】
【学科分类】植物保护学

【题目】不同耕作方式对玉米田杂草发生规律及产量的影响
【中文关键词】免耕;旋耕;玉米;杂草;产量
【英文关键词】no tillage,rotary tillage,maize,weed,yield
【中文摘要】研究了小麦一玉米一年两熟制农田,在免耕覆盖麦秸、免耕、旋耕3种耕作方式下,玉米田杂草发生规律、喷施玉农乐对杂草的防除效果及对玉米产量的影响。结果表明:不同耕作方式杂草种类差异不大,免耕覆盖麦秸的杂草数量比免耕不覆盖的降低53%82%,比旋耕的降低了620/旷78%。30 g/h/n玉农乐处理,免耕覆盖麦秸的防效最好,免耕不覆盖和旋耕田差异不大;玉米田免耕覆盖麦秸,能降低玉农乐的用药量。免耕覆盖麦秸玉米出苗率降低,但是穗粒数、百粒重及产量增加;45--60e,/lun2玉农乐处理,不同耕作方式中其产量差异不大;309/hm2.玉农乐处理和对照小区的产量,免耕覆盖麦秸的最高。
【英文摘要】Field experiment was conducted to study effects of different til lage methods on weed dynamics andweeds control efficiency of nicosulfuron spraying in 2-4 leaf stage of weed and yield of Col'n in wheat-maize double cropping system.The results showed that weed communities had little different in different tillage methods.The numbers of weed reduced 53%一82%comparing with the plot of wheat stalk—covering and no tillage,and reduced 62%-78%comparing with the plot of wheat stalk-covering and rotary tillage.At the rate 0f 30 g/hm2 of nicosulfuron weeds control efficiency in wheat stalk-covering was the best in three tillage methods.The emergence percentage of corn were lower in wheat stalk-covering than that in no tillage and rotary tillage,but it ’S seeds per ear,100-

seeds weight and the yield of corn were higher.At the rate of 45-60g,hm2,the yield of corn had little different in different tillage methods.At the rate of 309/hm2 of nicosulfuron and CK,the yield of corn in wheat stalk-covering wa$the hi【ghest in different tillage methods.

【语种】中文
【第一作者】樊翠芹
【通讯作者】樊翠芹
【期刊名称、卷期、页码】中国农学通报, 2009,25(10):207-211
【论文发表时间】2009-03-18 00:00:00
【引文索引类型】null
【引文索引号】
【学科分类】植物保护学

【题目】湖北省油菜田杂草种类组成及群落特征
【中文关键词】油菜;杂草群落;物种组成;优势度;相似性
【英文关键词】Oilseed rape;Weed community;Species composition;Relative abundance;Similarity
【中文摘要】采用倒置“W”取样法对湖北省油菜田的杂草组成及群落结构进行了调查。结果表明,湖北省油菜田杂草有135种(含变种),隶属于26科、74属,其中优势杂草有看麦娘、波斯婆婆纳、棒头草、牛繁缕、蔚草、猪殃殃、早熟禾、日本看麦娘等8种,区域性优势杂草有13种,常见杂草有26种,一般杂草有88种。发生优势度较大的杂草为波斯婆婆纳、看麦娘、棒头草、牛繁缕、茼草、猪殃殃和野燕麦等,是构成各地区田间杂草群落的优势种。水旱轮作油菜田主要形成看麦娘+蔄草+棒头草+牛繁缕为主的杂草群落,旱旱连作田形成波斯婆婆纳+野燕麦+猪殃殃+通泉草为主的杂草群落。江汉平原地区油菜田杂草群落的物种丰富度、多样性较其它地区高,而优势度及均匀度指数较低。从群落相似性来看,武鄂黄地区与水旱轮作田杂草群落结构最为相似。作物种类、耕作制度及土壤环境条件的不同,可能是导致油菜田杂草发生及群落组成产生差异的原因。
【英文摘要】Weed survey was conducted by sampling methods of inverted W——pattern to determine the speciescomposition and structure of weed communities in oilseed rape fields in Hubei Province.135 weed species(inclu—ding varieties)were found and they belong to 26 families and 74 genera.Among them,8 species were consideredas dominant weeds,including Alopecurus aequalis,Veronica persica,Polypogon fugax,Malachium aquaticum,Beckmannia syzigachne,Galium aparine Var.tenerum,,Poa annua,Alopecuras japonicas;13 species were regionaldominant weeds;26 common weed species and 88 normal weed species.The overaH abundance of Veronica persica,Alopecuras aequalis,Polypogonfugax,Malachium aquaticum,Beckmannia syzigachne,Galium aparine Var.tenc—rum,and Avena知fzm were relatively higher.They were the major weeds in all oilseed rape regions in Hubei prov—ince.The most common weeds were Alopecurus aequalis+Beckmannia syzigachne+Polypogon/近g麟+Malachiumaquaticum in rice—wheat rotation fields.and Veronica pe您ica+Avenafatua+Galium aparine Var.tenerum+Mazusjaponicus in continuous dryerop fields.The variety and diversity of weeds in oilseed rape fields in Jianghan Plain re—glon were greater than other regions。but the Simpson’8 index and evenness index were relatively lower.Based onthe Sorensen’S similarity index,the weed variety in Wuehuang region was similar to that of rice—wheat rotationfields.The difference of weed occuiTence and their combination might be resulted from the crop type,adopted cul—fivafion system and original soil condition.
【语种】中文
【第一作者】朱文达
【通讯作者】魏守辉
【期刊名称、卷期、页码】中国油料作物学报, 2008,30(1):100-105
【论文发表时间】2008-03-19 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】植物保护学

【题目】烟嘧磺隆与硝磺草酮、氰草津混用的联合作用
【中文关键词】烟嘧磺隆; 硝磺草酮; 氰草津; 联合作用
【英文关键词】nicosulfuron; mesotrione; cyanazine; joint effect
【中文摘要】通过温室盆栽试验,采用Gowing法评价了烟嘧磺隆分别与硝磺草酮、氰草津混用对反枝苋、马唐的联合作用.结果表明,烟嘧磺隆与硝磺草酮混用对反枝苋的联合作用基本属于相加作用或略有拮抗作用,对马唐有明显的拮抗作用

.烟嘧磺隆与氰草津混用对反枝苋的联合作用基本属于相加作用,对马唐略有增效作用.
【英文摘要】The Joint Effect of Mixing Nicosulfuron with Mesotrione and Cyanazine Respectively GAO Zong-juna, LI Meia, GAO Xing-xianga, GUO Xiaob (Shandong Academy of Agricultural Sciences a.Plant Protection Institute; b.High-tech Research Center, Jinan 250100, China) Abstract: Greenhouse pot experiments were conducted to evaluate the joint effect of nicosulfuron + mesotrione and nicosulfuron + cyanazine against Amaranthus retroflexus L. and Digitaria sanguinalis (L.) Scop. by Gowing method. The results showed that nicosulfuron + mesotrione had additive or slight antagonistic effect against Amaranthus retroflexus L. and observably antagonistic effect against Digitaria sanguinalis (L.) Scop., while nicosulfuron + cyanazine was additive and synergistic in Amaranthus retroflexus L. and Digitaria sanguinalis (L.) Scop. control, respectively. Key words: nicosulfuron; mesotrione
【语种】中文
【第一作者】高宗军
【通讯作者】高宗军
【期刊名称、卷期、页码】农药, 2007,46(10):704-706
【论文发表时间】2007-08-04 00:00:00
【引文索引类型】null
【引文索引号】
【学科分类】植物保护学

【题目】小飞蓬对油菜产量性状的影响及其经济阈值
【中文关键词】飞蓬;油菜;经济阈值
【英文关键词】无
【中文摘要】摘要采用添加系列试验和模型拟合的方法研究了不同小飞蓬密度下油菜产量性状的变化规律。结果表明,油菜在小飞蓬的竞争干扰下,单株角果数、籽粒数及产量均随其密度的增加而逐渐降低,而千粒重没有显著变化。对数模型可以较好地拟合小飞蓬与油菜角果数(y=一72.543l毗+624.954,P<0.001)、籽粒数(y一一o.935l毗+26.682,P<o.001)、产量(y一一311.994l毗+3 167.996,P<o.001)以及产量损失(y一10.838lnz一10.046,P<O.001)间的关系。油菜田进行人工除草时,小飞蓬的经济危害允许水平为7.99%,经济阈值为5.28株/m2。
【英文摘要】无
【语种】中文
【第一作者】朱文达
【通讯作者】魏守辉
【期刊名称、卷期、页码】华中农业大学学报, 2008,27(2):217-222
【论文发表时间】2008-04-23 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】植物保护学

【题目】20%烟嘧磺隆-氰草津油悬浮剂的生物活性评价
【中文关键词】除草剂;烟嘧磺隆;氰草津;生物活性
【英文关键词】Herbicide; Nicosulfuron; Cyanazine; Bioactivity
【中文摘要】在温室盆栽条件下,以马唐、反枝苋为试材,采用Gowing法测定了烟嘧磺隆与氰草津复配的联合作用,并对实验室制得的20%烟嘧磺隆.氰草津油悬浮剂进行了大田生物活性评价试验。结果表明,烟嘧磺隆与氰草津复配后对马唐有增效作用,对反枝苋属于相加作用,两者适宜复配,配比为1~4:12.5。于玉米3~5叶期、杂草2~5叶期喷施20%烟嘧磺隆.氰草津油悬浮剂180~300g/hm2,药后30d的杂草总株防效及鲜重防效分别为83.6%~94.3%、92.7%~99.2%,对玉米安全性较好,玉米株高、产量均大于人工除草处理;在玉米7叶期及杂草5叶期以后施用该药剂,玉米的安全性及杂草株防效均出现下降。
【英文摘要】Greenhouse and field experiments were conducted to evaluate the joint effect and bioactivity of nico-sulfuron plus cyanazine mixtures. The results showed that nicosulfuron plus cyanazine was additive and synergistic in Amaranthus retroflexus L. and Digitaria sanguinalis (L.) Scop. controlled respectively, and it was compatible to mix nicosulfuron and cyanazine together in the ratio of 1 - 4 12.5. Preparation of the mixtures was nicosulfuron plus cyanazine 20% OF (oil miscible flowable concentrate). The mixtures should be applied at 3 - 5 leaf stage of maize and2- 5 leaf stage of weeds, and the reduction rates of amount and fresh weight of weeds were up to 83.6% - 94.3% and 92.7% - 99.2% at 180- 300 g/ha after 30 days treatment. Within the recommended period and dosages, application of the mixtures was safe for maize and could result in yield increasing by 0.6% - 6.4%, on the other side, the maize safe-ty

and weeds control would decrease when the mixtures applied over 7 leaf stage ofmaize and 5 leaf stage of weeds.
【语种】中文
【第一作者】高宗军
【通讯作者】高宗军
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【引文索引类型】null
【引文索引号】
【学科分类】植物保护学

【题目】几种除草剂防除棉田杂草马唐试验
【中文关键词】除草剂;土壤处理;茎叶处理;棉田;马唐;防除效果
【英文关键词】无
【中文摘要】采用二甲戊灵EC和氟乐灵EC两种土壤处理荆.精喹禾灵EC、高效氟吡甲禾灵EC和15%精吡氟禾草灵EC 3种茎叶处理荆对棉田主要杂苹马唐进行了防除试验。结果表明,各处理对棉花没有药害.高荆量的除草荆对马唐的防效基本一致,但是低荆量的精喹禾灵防效显著地优于其它除草剂:用该5种除草剂防除棉田杂草马唐。棉花增产效果显著,同时节省人力。降低成本.从而达到节本增效的目的。
【英文摘要】无
【语种】中文
【第一作者】朱文达
【通讯作者】朱文达
【期刊名称、卷期、页码】湖北农业科学, 2008,47(10):1171-1173
【论文发表时间】2008-10-24 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】植物保护学

【题目】麦田杂草群落的种间联结关系
【中文关键词】麦田;杂草群落;种间联结关系
【英文关键词】无
【中文摘要】采用Pearson点相关系数方法,测定了麦田杂草群落的种间联结关系。结果表明,在供试的江苏省南京市和安徽省滁州市的麦田中,有主要杂草20种,隶属8科19属;两地杂草群落均以茼草为优势种;在各种对间的联结关系中.蔺草与稻搓菜、猪殃殃、日本看麦娘表现为不同程度的正联结关系,与野燕麦、牛繁缕、泽漆、大巢菜、野老鹳草、看麦娘、泥胡菜表现为不同程度的负联结关系。
【英文摘要】无
【语种】中文
【第一作者】诸怡雯
【通讯作者】诸建军
【期刊名称、卷期、页码】杂草科学, 2008,(1):16-18
【论文发表时间】2008-02-21 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】植物保护学

【题目】稻作区灌溉水流传播的杂草种子与稻田土壤杂草种子库的关系
【中文关键词】杂草种子;传播;土壤杂草种子库;灌溉水流;相似性指数
【英文关键词】weed seeds;dispersal;soll weed seedbank;irrigation water;similarity index
【中文摘要】选择典型稻作区,对灌溉水流传播的杂草种子的种类和数量进行取样调查,并与田埂、灌溉水渠周围生境、下茬麦团的杂草群落及稻田土壤杂草种子库进行比较分析,以研究自然条件下灌溉水流传播的杂草种子与土壤杂草种子库及其他生境杂草群落间的相互关系。有14科21种杂草种子随灌溉水流输入稻田,这些杂草种子主要隶属禾本科、报春花科

、藜科、蓼科等。土壤杂草种子库中共检出19科41种杂草种子,含有所有其他生境中杂草的种子。灌溉水流传播的杂草种子与田埂上、灌溉水渠周围生境、下茬麦田杂草群落及稻田土壤种子库的杂草群落间相似性较高,Sorensen指数均在0.5以上。

【英文摘要】In order tostudy the correlation between soil weed seedbank and weed seed dispersed by irrigation water,threeplots of paddy fields with anirrigation system in a typical rice-growing region was chosen to observe weed community andseedbank both in surrounding habitats and paddy field.The species and number of weed seeds that dispersed by irrigation wa—ter were recorded and counted,the weed communities on the ridge of the paddy field and in surrounding habitats of the ditchwere surveyed,and they were compared with those in wheat field of next season.The weed seeds of 21 species belonging to14 families(mainly Gramineae,Primulaceae,Polygonaceae,and Chenopodiaceae)could be dispersed into the paddy field byirrigation water.Seeds of 4 1 weed species belonging to 1 9 families were found in the soil weed seedbank of paddy field.Thesimilarity among weed species dispersed by irrigation water。weed communities on the ridge of the paddy field and in the sur—rounding habitats of the ditch。successive weed communities in wheat field and soil weed seedbank in paddy field was consider—ablely high with Sorensen similarity indexes a11 above 0.5,suggesting that weeds were dispersed among them by irrigationwater.

【语种】中文

【第一作者】左然玲

【通讯作者】强胜

【期刊名称、卷期、页码】中国水稻科学, 2007,21(4):417-424

【论文发表时间】2007-04-10 00:00:00

【引文索引类型】其他

【引文索引号】

【学科分类】植物保护学

【题目】湖北省油菜田灾害性杂草高效防控技术研究进展

【中文关键词】油菜;杂草;化学防除;生态防除

【英文关键词】无

【中文摘要】综述了湖北省油菜田杂草及种子库种类组成和特征、油菜田主要灾害性杂草的发生危害规律以及高效化学防除和生态防除技术。探讨了建立生态调控与化学除草相结合的农田杂草可持续治理技术体系的研究前景。

【英文摘要】无

【语种】中文

【第一作者】朱文达

【通讯作者】朱文达

【期刊名称、卷期、页码】中国油料作物学报, 2010,32(1):156-162

【论文发表时间】2010-03-09 00:00:00

【引文索引类型】其他

【引文索引号】

【学科分类】植物保护学

【题目】三氯吡氧乙酸·草甘膦对免耕麦田杂草的防效及对田间光照和水肥的影响

【中文关键词】三氯吡氧乙酸·草甘膦;免耕麦田;杂草防除;透光率;养分;水分

【英文关键词】无

【中文摘要】为明确70%三氯吡氧乙酸·草甘膦可溶性粉剂在免耕小麦田的应用前景,建立小麦田杂草管理体系,研究了三氯吡氧乙酸·草甘膦对小麦田杂草的防除效果,并测定了田间透光率、杂草对养分和水分的吸收量和小麦产量。结果表明,三氯吡氧乙酸·草甘膦对免耕小麦田主要杂草蔺草、小飞蓬、牛繁缕、野老鹳草等均有较好的防除效果。并显著提高了小麦田间的透光率,降低了杂草对田间养分和水分的吸收,促进了光合作用,小麦增产效果显著。

【英文摘要】无

【语种】中文

【第一作者】喻大昭

【通讯作者】朱文达

【期刊名称、卷期、页码】杂草科学, 2010,(1):33-35

【论文发表时间】2011-02-10 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】植物保护学

【题目】计算机视觉技术在农业生产中应用与展望
【中文关键词】计算机视觉,农业生产,应用与展望
【英文关键词】computer vision, agriculture production, application and expectation
【中文摘要】该文从植物外部生长参数的测量、植物营养胁迫诊断、病虫害监测及杂草识别、果蔬采摘机器人、农产品品质监测与分级等几个方面,对计算机视觉技术在农业生产中的应用进行综述,并展望了未来的发展方向。
【英文摘要】This paper summarizes the application of computer vision technology in agriculture production from the aspects of testing plant external growth parameter, diagnosing plant nutrition stress, supervising and identifying disease and insect damage, fruit and vegetable picking robot quality inspecting and grading of agriculture products. It also prospects the orientation for future development
【语种】中文
【第一作者】马彦平
【通讯作者】马彦平
【期刊名称、卷期、页码】中国农业资源与区划、2009年第30卷第4期、21-27
【论文发表时间】2009-08-11 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】农业基础学科

【题目】牛筋草种子休眠解除方法研究
【中文关键词】牛筋草;果皮;种子;萌发
【英文关键词】无
【中文摘要】研究了光照(12h光周期)和黑暗两种条件下摩擦脱果皮处理及不同药剂(NaOH、HCl、KNO,及GA,)浸泡处理对脱果皮和未脱果皮牛筋草种子萌发的影响。结果表明,牛筋草种子休眠主要是其果皮对种子的束缚引起的机械休眠,种子一经脱果皮,休眠基本解除,萌发率达61%以上。若用蒸馏水浸泡24 h,萌发率显著升高,达80%。种子的萌发不受光照条件的影响。NaOH、HCl、KNO,及GA,浸泡对未脱果皮的牛筋草种子萌发无任何促进作用。与对照相比,脱果皮的牛筋草种子经NaOH、HCl浸泡后萌发率急剧下降,而经KNO,和GA,浸泡24h后,在一定浓度范围内萌发率均有所提高。
【英文摘要】无
【语种】中文
【第一作者】杨彩宏
【通讯作者】冯莉
【期刊名称、卷期、页码】杂草科学, 2010,(1):12-14
【论文发表时间】2010-01-29 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】植物保护学

【题目】牛筋草种子萌发特性的研究
【中文关键词】牛筋草;温度;光照;pH值;水分胁迫;盐胁迫;种子埋深;萌发
【英文关键词】无
【中文摘要】牛筋草种子萌发受温度影响较大,温度低于15℃,种子完全不萌发,高于25℃利于种子萌发,萌发率超过92%。对光照条件不敏感。牛筋草种子的萌发受酸碱度影响很小,在pH值4—1l范围内,萌发率均高于90%。牛筋草种子对水分胁追较敏感,当水势为一0.6 MPa时,种子萌发率仅1.67%。牛筋草种子耐盐性较强,当NaCl浓度为120 mmol/L时,种子萌发率仍高达80%。牛筋草种子适宜在土层深度0~1 1311'1范围内萌发,萌发率超过87%,种子埋深增加会严重抑制其萌发。
【英文摘要】无

【语种】中文
【第一作者】杨彩宏
【通讯作者】冯莉
【期刊名称、卷期、页码】杂草科学, 2009,(3):21-24
【论文发表时间】2009-03-25 00:00:00
【引文索引类型】null
【引文索引号】
【学科分类】植物保护学

【题目】长江下游水稻生产与杂草防控技术
【中文关键词】长江下游;水稻;杂草;防控
【英文关键词】无
【中文摘要】水稻播种面积,上海10.87万hm2、安徽253。33万hm2、浙江95.43万hm2、江苏220万hm2。稻谷单产,上海7 890 kg/hmz,安徽6 150 ke/hm2、浙江6 675 kg/hm2、江苏7 905 kg/hm2。水稻栽培方式主要为直播(手工撒播和机械直播)、移栽(手工插秧和机械插秧)和抛秧,其中直播稻占水稻播种面积的比例,上海84%、安徽13%、浙江37%、江苏33%。稻田主要杂草种群,上海有千金子、稗草、双穗雀稗、假稻、水莧菜等;安徽有千金子、稗草、鸭舌草、雨久花、异型莎草、扁秆藤草、节节菜,少量双穗雀稗、零星发生的有水竹叶、空心莲子草等;浙江海盐有稗草、千金子、水莎草、矮慈姑、节节菜、水蓼、假稻、双穗雀稗、水竹叶等,浙江温州有稗草、鸭舌草、空心莲子草、双穗雀稗和李氏禾等;江苏有稗草、稻稗、千金子、杂草稻、鸭舌草、陌上菜、水莎草、扁秆藤草等。杂草防控技术,秧田主要使用丙草胺(含安全剂)、优克稗·苄嘧磺隆、二氯喹啉酸、禾大壮等防除以稗草为主的一年生杂草。直播稻田采用“一封、二杀、三补”的防除策略,主要使用除草剂复配剂或现混现用。使用千金(氰氟草酯)防除千金子。使用稻杰(五氟磺草胺)防除对二氯喹啉酸已经产生抗性的稗草生物型。目前,存在和必须重视的问题是局部地区杂草稻严重发生、出现除草剂残留对作物的药害、杂草对除草剂的抗药性生物型明显增加。
【英文摘要】无
【语种】中文
【第一作者】余柳青
【通讯作者】余柳青
【期刊名称、卷期、页码】杂草科学, 2010,(1):8-11
【论文发表时间】2010-01-21 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】植物保护学

【题目】野燕麦防除对冬小麦田间光照、养分和水分的影响
【中文关键词】尖;野燕麦;冬小麦;透光率;养分;水分
【英文关键词】无
【中文摘要】摘要选用15%顶尖可湿性粉剂(wettable powder,WP)对冬小麦田间的杂草野燕麦进行防除,测定田间离地不同高度层的透光率和野燕麦对养分、水分的消耗,观察野燕麦防除后对冬小麦田间光照、养分和产量的影响。结果表明:15%顶尖WP能有效控制冬小麦田间野燕麦的发生,对野燕麦的密度防效和鲜重防效分别为97.27%~100.00%和98.86%~100.00%;野燕麦防除后能显著提高冬小麦田间的透光率,改善小麦顶层的光照,同时降低杂草对田间养分和水分的吸收,促进光合作用的进行,从而显著提高冬小麦的产量。
【英文摘要】无
【语种】中文
【第一作者】朱文达
【通讯作者】喻大昭
【期刊名称、卷期、页码】华中农业大学学报, 2010,29(2):160-163
【论文发表时间】2010-04-15 00:00:00
【引文索引类型】其他
【引文索引号】

【学科分类】植物保护学

【题目】外源酚酸类物质对一个长雄蕊野生稻材料S37化感效应的调控作用
【中文关键词】黑龙江;吉林;辽宁;水稻;杂草;防除
【英文关键词】无
【中文摘要】黑龙江省、吉林省和辽宁省2007年水稻播种面积分别为225.32万hm2、67万hm2和66.06万hm2,稻谷产量分别为6 300 kg/hm2、7 470 ke/hm2和7 650 kg/hm2。水稻主要栽培方式为旱育秧机械插秧和手工插秧。黑龙江、吉林和辽宁省2008年机械插秧面积分别为30.7万hm2、6万hm2和6.67万hm2。黑龙江省稻田主要杂草有稻稗、稗草、千金子、李氏禾、水莎草、扁秆蔗草、雨久花、泽泻、野慈姑、葡茎剪股颖、疣草、狼巴草、杂草稻等;吉林省稻田主要杂草有稗草、鸭舌草、眼子菜、雨久花、牛毛毡、野慈姑、扁秆蔗草、萤蔺、异型莎草、狼巴草、泽泻、李氏禾、千金子等;辽宁省稻田主要杂草有稗草、藤草、萤蔺、雨久花、扁秆蔗草、鸭舌草、野慈姑、牛毛毡、匐茎剪股颖、眼子菜、陌上菜、疣草、荇菜、苦草、水绵等。杂草防控技术主要是在旱育秧田使用丁草胺·扑草净、丁草胺·嗯草灵或杀草丹等;移栽田使用杀稗剂[如禾大壮、丁草胺、丙草胺(含安全剂)、苯噻酰草胺、二氯喹啉酸、稻思达、嗯草灵、莎稗灵]与磺酰脲类除草剂或苯达松和2甲4氯等的复配剂,也有现混现用防除一年生和部分多年生杂草,用千金(氰氟草酯)防除千金子,用稻杰(五氟磺草胺)防除抗药性稗草。存在的主要问题是气象灾害如干旱、全球气候变暖等逐年加重、杂草对杀稗剂和磺酰脲类除草剂的抗药性生物型增加、杂草稻在黑龙江和辽宁省的局部地区严重发生。
【英文摘要】无
【语种】中文
【第一作者】余柳青
【通讯作者】余柳青
【期刊名称、卷期、页码】中国水稻科学, 2010, 24(1):62-66
【论文发表时间】2009-06-18 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】植物保护学

【题目】河北省石家庄市麦田禾本科杂草发生情况调查
【中文关键词】石家庄市;麦田;禾本科杂草;调查
【英文关键词】无
【中文摘要】采用随机取点和倒置“w”取样相结合的方法,调查了河北省石家庄市麦田禾本科杂草的发生情况。结果表明:石家庄市麦田主要禾本科杂草为雀麦和节节麦。不同县(市)的禾本科杂草优势种类基本相同,但发生为害程度相差较大。藁城市主要种类为雀麦,相对多度为214.1%;赵县主要种类为雀麦和节节麦,相对多度分别为186.4%和37.O%;新乐县主要种类为雀麦和节节麦,相对多度分别为108.O%和4.6%;栾城县主要种类为雀麦和节节麦,相对多度分别为44.8%和17.9%。
【英文摘要】无
【语种】中文
【第一作者】浑之英
【通讯作者】浑之英
【期刊名称、卷期、页码】河北农业科学, 2009,(12): 16-17,39
【论文发表时间】2009-10-22 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】植物保护学

【题目】杂草防除对油菜田间透光率、养分和水分的影响
【中文关键词】无
【英文关键词】soi- l app li ed her b icides ; w eed contr o l effec; t li ght penet rati on rate ; nutri t i on ; w ater
【中文摘要】无
【英文摘要】Thew eed cont ro l e f fects of S -meto lach lor and acetochlor and subsequent variety o f the l igh tpenet rati on rate at d i fferent heights o f fields , as w e ll as the variety d i sc i p li ne of the absorption o f n i t ro -gen , phosphorus , ka li um and w ater were st udied to eval uate t he i mportance of w eed contr o l for far m ingmanagement in rape fie l ds . The resu l ts sho w ed that S -meto l ach l

or had good cont ro l effects on A lopecurusaequalis Sobo , l B eckmannia s yzigachne (Steud .) Fer nald andMalachiu m aqua t icum (L.) Fries . A ceto -chlor a lso had good control effects on A. aequali s Sobo l andB. s yzigachne (Steud .) Fer nald , w hile i t hadon l y a fe w e f fects onM. aquaticu m (L .) Fr i es w i th the effects f rom 39 . 19 % to 67 . 37 %. The li ght com-petition be t w een rape and w eed w as happened belo w 75 centi meters penetration rate at different he i gh t o ffield . There w as a negative corre lation i n rape fields . The contr o lli ng si gn ificant l y decreased the heigh tand density o fw eed , and i mpr oved the li ght bet w een the w eed contr o l effects and the absorpti on of nu t r- it i on and w ater . W it h the increase ofw eed cont ro l effects , the height of fi rst branch, numbers o f branchesand siliquas w eremarkedly i mproved, resu l t i ng i n a si gnifican t y ield increase o f rapeseed .

【语种】中文
【第一作者】朱文达
【通讯作者】朱文达
【期刊名称、卷期、页码】植物保护学报, 2008,35(6):557-562
【论文发表时间】2008-12-25 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】植物保护学

【题目】比较三种助剂对草甘膦的活性
【中文关键词】助剂 ; 草铵磷 ; 除草活性
【英文关键词】aajuvant;glufosinate;herbicidal activity
【中文摘要】加入硫酸铵 、 氮酮和植物油3 种助剂都不同程度的提高了草铵磷对稗草和反枝苋的活性。加入硫酸 铵的l 5 、 2 0、 3 0 g , L 添加剂量中, 2 0 g , L 的添加量对草铵磷的活性提高最大, 对稗草和反枝苋的毒力分别提高 0 . 7 3 、 1 . 5 7 倍 ; 在0 . 5 %~ 2 . O %添加量的范围内, 氮酮的质量浓度与对草铵磷的增效作用大小呈反比, 在O . 5 %的 添加量下, 对稗草和反枝苋的毒力都提高0 . 9 5 倍; 但在0 . 5 % 2 . 0 %添加量的范围内, 植物油添加量与对草铵 磷的增效作用大小呈正比, 在2 . O %的添加量下, 对稗草和反枝苋的毒力分别提高了0 . 2 8 、 1 . 5 2 倍。助剂提 高草铵磷对稗草活性大小的顺序是氮酮> 硫酸铵> 植物油, 提高草铵磷对反枝苋活性大小的顺序是硫酸铵≥植 物油>氮酮 。
【英文摘要】Added ammonium sulfate,laurocapram and the vegetative oil could enhance the control effect of glufosinate to E.crus galli and A.retroflexus.However.the extent of the increase in the toxicity depended on the kind of adjuvant and the amount added.Glufosinate had the highest control effect when ammonium sulfate was added at the rate of 20 g/Lamong three added rates of 1 5.20 and 30 g/L.The control effect to E erus—galli and A.retroflexus increased by 0.73 and I.57 times,respectively.The amount of added laurocapram was negatively correlated with the control effect of glufosinate over a range of 0.5—2.O%.Added laurocapram of 0.5%increased in the toxicity tO both weed species by 0.95 times.The amount of added the vegetative oil,however,was positively correlated with control effect of glufosinate over a range of 0.5—2.0%.Added the vegetative oil of 2.O%increased in toxicities tO E crus galli and A.retroflexus by 0.28 and 1.52 times.respectively.The order of enhancing control effect of glufosinate tO E crus—galli was laurocapram> ammonium sulfate>the vegetative oil,tO A.retroflexus,ammonium sulfate t>the vegetative oil>laurocapram.
【语种】中文
【第一作者】杨逢玉
【通讯作者】倪汉文
【期刊名称、卷期、页码】农药, 2009,48(3):221-225
【论文发表时间】2009-03-26 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】植物保护学

【题目】长江中下游地区主栽水稻品种对杂草的抑草性
【中文关键词】水稻;杂草;稗草;抑草性

【英文关键词】rice;weed;Echinochloa crugalli;weed resistance
【中文摘要】选择长江中下游地区主栽的水稻品种12个,通过盆钵试验对比各品种水稻对杂草的抑制效果,评价各品种对杂草的抑草能力,分析水稻生物量与水稻抑草能力间的关系。结果显示水稻对杂草的抑制效果总体上与水稻干物质积累量呈正相关,并初步筛选出在生产上具备推广潜力的抑草水稻品种天协6号和两优华6。
【英文摘要】
【语种】中文
【第一作者】王一专
【通讯作者】吴竞仑
【期刊名称、卷期、页码】江苏农业学报, 2008,24(5):645-648
【论文发表时间】2008-03-24 00:00:00
【引文索引类型】null
【引文索引号】
【学科分类】植物保护学

【题目】外来入侵杂草假高粱的化感潜力
【中文关键词】假高粱;化感作用;外来入侵种
【英文关键词】Sorghum halepense (L.) Pers;Allelopathic
【中文摘要】利用种子萌发和幼苗生长的生测方法研究了假高粱(Sorghum halepense (L.) Pers.)对3种农作物小麦、玉米和棉花的化感潜力,并进行化感作用的评价。结果表明:假高粱能够抑制作物种子萌发和幼苗生长,其化感作用强度随浓度升高而增强,随时间而降低;其中对小麦种子萌发率在第3天时0.1 g·ml-1浓度下抑制强度达40.4%,第20天时相同浓度下已经丧失化感活性;第3天和第10天时对作物幼苗生长有抑制作用,第20天时对3种作物幼苗生长均无影响;假高粱的化感潜力可能是其成功入侵的原因之一。
【英文摘要】The allelopathic potential of invasive alien weed Sorghum halepense(L.) Pers. (Johnsongrass) to wheat, maize and cotton was investigated by the laboratory tests of seed germination and seedling growth. The results demonstrated that S. halepense could inhibit the seed germination and seedling growth of the three crops. The allelopathic potential of S. halepense increased with its concentration, but decreased with time. At 0.1 g·ml-1 of S. halepense, the seed germination rate of wheat was decreased from 40 4% on the 3rd day to zero on the 20th day, and the seedling growth of the three crops was inhibited on the 3rd or 10th day but not affected on the 20th day. The allelopathic potential of S. halepense could be one of the reasons of its successful invasion.
【语种】中文
【第一作者】黄红娟
【通讯作者】黄红娟
【期刊名称、卷期、页码】生态学杂志, 2008,27(7):1234-1237
【论文发表时间】2007-10-22 00:00:00
【引文索引类型】null
【引文索引号】
【学科分类】植物保护学

【题目】Flavonolignans and other phenolic compounds from Sorghum halepense (L.) Pers.
【中文关键词】no
【英文关键词】Flavonolignans
Flavonoids
Sorghum halepense (L.) Pers
【中文摘要】no
【英文摘要】Eight compounds (1-7b) were isolated from the aerial parts of S. halepense in presentinvestigation and five of them (2, 5, 6, 7a, 7b) were firstly reported from this species. Thetwo rare diastereomeric flavonolignans tricin-4’-O-(threo-b-guaiacylglyceryl) ether andtricin-4’-O-(erythro-b-guaiacylglyceryl) ether is from Sorghum genus for the first time. Thechemotaxonomic significance of these compounds was summarized.
【语种】中文

【第一作者】Hongjuan Huang
【通讯作者】Chaoxian Zhang
【期刊名称、卷期、页码】Biochemical Systematics and Ecology 38 (2010) 656 – 658
【论文发表时间】2010-03-27 00:00:00
【引文索引类型】SCI
【引文索引号】10.1016/j.bse.2010.03.013
【学科分类】植物保护学

【题目】南京地区稻田土壤杂草种子库的数量特征及演替规律
【中文关键词】稻田;杂草;种了库;数量特征;演替规律
【英文关键词】paddy field;weed;seedhank;quantitative characteristic;succession regularity
【中文摘要】通过对南京地区稻田土壤杂草种于库4年的调查,试图探明该地区稻田土壤杂草种子库中杂草种子的种类、数量、垂直分布情况及这些数量特征逐年演替的动态规律。研究表明:在一个内外环境相对稳定的开放稻田系统中,土壤杂草种子库的种子种类约为10种左右,并有逐年减少的趋势;种子库数量1 m2耕层(20 cln)约为(104~105)粒,并有逐年增加的趋势;杂草种子的分布主要以0~10 ca的浅土层为主,并有逐年向浅土层集中的趋势。着重讨论了稻田5种优势杂草种了数量及比例变化的原因,提出了相应的控草策略和措施。
【英文摘要】
【语种】中文
【第一作者】王一专
【通讯作者】吴竞仑
【期刊名称、卷期、页码】江苏农业学报, 2007,23(5):428-431
【论文发表时间】2006-12-08 00:00:00
【引文索引类型】null
【引文索引号】
【学科分类】植物保护学

【题目】莲子草假隔链格孢菌粗毒素生物活性研究
【中文关键词】莲子草假隔链格孢菌; 粗毒素; 生物活性
【英文关键词】无
【中文摘要】利用种子生测法, 研究了莲子草假隔链格菌 (N im bya alter m antherae)粗毒素对农田 12种杂草的生物活性及6种作物的安全性。结果表明,该粗毒素对 12种田间常见杂草种子萌发及根长、 芽长均有抑制作用,且随粗毒素溶液浓度的提高抑制作用相应增强。在浓度为 50 g /m l时,粗毒素对光头稗 (Echinochloa colonum)、 荠菜(Ca p sella bursa- pastoris)、升马唐 (D i g itar ia cili aris)的萌发表现出一定的抑制作用, 在粗毒素浓度为 400 g /m l时,对荠菜, 千金子 (Lep tochloa c h i nensis)的萌发具有强烈的抑制作用, 萌发率为 0 。在粗毒素浓度为 50 g /m l时,对鳢肠 (Ecliptaprostrata)、 光头稗 Echinochloa colonum)、 升马唐 (Digitaria ciliaris)、 菵草(Beckmannia syzigachne)、看麦娘 (Alopecurus aequalis)等杂草的根长、 芽长也表现出一定的抑制作用。粗毒素对不同作物萌发的影响也有差异,对花生 (Arach is hyp ogaea)、 大豆 (G lycine max)的萌发及根长的生长无抑制作用, 其中对花生的根长还有一定的促进作用。粗毒素浓度小于或等于 400 g /m l时,对油菜 (Brassia campestris)的萌发及根长、 芽长的生长无抑制作用。粗毒素对小麦 (Triticum aesti vum)不安全。
【英文摘要】
【语种】中文
【第一作者】王晓阳
【通讯作者】董立尧
【期刊名称、卷期、页码】杂草科学, 2009,(2):19-22
【论文发表时间】2009-03-03 00:00:00
【引文索引类型】null
【引文索引号】
【学科分类】植物保护学

【题目】加拿大一枝黄花与群落内其他植物的种间联结关系

【中文关键词】加拿大一枝黄花;种间联结关系;植物多
【英文关键词】solidago canadensis L.species association;plant diversity
【中文摘要】采用Pearsn点相关系数(point correlation coefficient)的方法,研究了加拿大一枝黄花(solidago c anadensis L.)与群落内其他植物种群之间的联结关系。结果表明,作为群落的优势种,加拿大一枝黄花与紫菀、狗牙根、律草、一年蓬、田菁等6个种群表现为正联结关系。与狗尾草、稗草、空心莲子草、狼尾草、马唐、千金子、牛筋草、辣蓼等8个种群表现为负关系。r检验表明。这种联结关系比较松散,说明加拿大一枝黄花在群落内具有较强的独立性。可以推断,加拿大一枝黄花生量的上升.将损害当地原有植物群落的物种多样性。
【英文摘要】
【语种】中文
【第一作者】王立成
【通讯作者】王立成
【期刊名称、卷期、页码】上海交通大学学报(农业科学版), 2007,25(2):115-119
【论文发表时间】2006-12-01 00:00:00
【引文索引类型】null
【引文索引号】
【学科分类】植物保护学

【题目】江苏麦田杂草群落的数量分析
【中文关键词】江苏;麦田杂草群落;生态因素;主成分分析
【英文关键词】无
【中文摘要】用七级目测法调查江苏150 个样点麦田草害情况 应用主成分分析对江苏省麦田杂草群落进行了研究 结果表明 决定江苏麦田杂草发生 分布和危害的主要因素是地带性气候+ 土壤性质因素 将150 个样点划分为5 个聚类群 即江南稻茬麦田 宁镇扬丘陵旱茬麦田 沿海旱茬麦田 徐淮旱茬麦田和沿江及苏北稻茬麦田聚类群 根据综合草害指数和发生频率明确了各聚类群相应的优势杂草 并就该地区麦田杂草发生的特点提出了治理的建议
【英文摘要】
【语种】中文
【第一作者】王开金
【通讯作者】强胜
【期刊名称、卷期、页码】草业学报, 2007,16(1):118-126
【论文发表时间】2005-12-02 00:00:00
【引文索引类型】null
【引文索引号】
【学科分类】植物保护学

【题目】利用前茬作物防除直播稻田杂草
【中文关键词】作物残茎根; 化感抑草作用; 生态防除
【英文关键词】crop straws ; a llelopathy ; ecological control
【中文摘要】采用滤纸培养皿法,研究了五种油菜和七种小麦残茎根对直播稻田主要杂草千金子、 稗草和鳢肠的化感抑草作用,并采用模拟大田环境的盆钵法对抑草作用较强的品种进行验证试验和对下茬水稻的安全性进行评估。结果显示:史力丰和汇油 50两个油菜品种的水提取液对三种杂草均表现出较好的抑制作用,尤其对千金子的萌发抑制作用较强,抑制率分别为 65 . 33%和 55 . 33 % ,对杂草的幼根也具有十分明显的抑制作用,化感指数R I值分别达到 - 0 . 82和- 0. 85 ; 不同浓度的史力丰残茎根的水提取液对杂草表现出低浓度促进、 高浓度抑制的现象;模拟大田试验中, 史力丰的残茎根在25kg /m3的混土用量下能很好地抑制千金子、 稗草和鳢肠生长, RI值分别可达 - 0. 91、 - 0 . 64和- 0 . 67 ,且对水稻较安全。研究表明,在田间留一定量的史力丰残茎根进行浅耕混土处理是杂草生态防除的一项有效措施。
【英文摘要】
【语种】中文
【第一作者】王敬亚
【通讯作者】董立尧
【期刊名称、卷期、页码】植物保护学报, 2009,36(1):82-88

【论文发表时间】2008-10-30 00:00:00
【引文索引类型】null
【引文索引号】
【学科分类】植物保护学

【题目】杂草对AHAS抑制剂的抗药性分子机理研究进展
【中文关键词】AHAS抑制剂;杂草;抗药性;机制;快速检测和诊断
【英文关键词】HAS-inhibiting herbicides;weed;resistance;mechanism;rapid diagnosis and detecting
【中文摘要】除草剂在田间的重复及不合理使用,导致了杂草抗药性的发生和发展。其中ALIAS抑制剂由于靶标单一,抗性发展十分迅速。截至2009年,已有103种杂草对AHAS抑制剂产生了抗药性,占19类化学除草剂总抗药性杂草生物型的近1/3。从ALIAS基因突变住点及种类与杂草抗药性水平的关系、AHAS基因突变与AHAS酶活性的关系、ALIAS基因拷贝数与杂草抗药性的关系以及AHAS酶与除草荆结合前后的三维结构等方面,综述了杂草对ALIAS抑制荆产生抗药性的机理,旨在为AHAS抑制剂抗性研究提供参考。并对自然种群目标基因的等位基因检测技术(ECOTILLING)和衍生型酶切扩增多态性序列(dCAPS)两种通过检测等位基因多态性的手段快速诊断抗药性杂草的新技术进行了介绍,讨论了延缓杂草抗药性发生和发展的策略。
【英文摘要】Repeated and unreasonable field application of herbicides have resulted in the evolution of resistant weed species.AHAS is the target site of ALIAS—inhibiting herbicides.By 2009.103 weed biotypes have showed resistance to AHAS.inhibiting herbicides.accounting for nearly 1/3 of total weed biotypes resistant to 19 chemical groups.TIle relationship between AL IAS gene mutation sites/types and the level of herbicide resistance.AHAS gene mutations and AHAS activity,AHAS gene number and herbicide resistance.and血e 3D structure of AHAS before and after binding wittl AHAS-inhibiting herbicides were reviewed.ECOT几L【NG and dCAPS.two new techniques for rapidly diagnosingherbicide resistance by detecting SNP were brought forward.and potential management strategy fo preventing and delaying the herbicide resistance evolution in weeds Was alSO discussed.
【语种】中文
【第一作者】隋标峰
【通讯作者】张朝贤
【期刊名称、卷期、页码】农药学学报, 2009, 11(4): 399-406
【论文发表时间】2009-02-17 00:00:00
【引文索引类型】null
【引文索引号】
【学科分类】植物保护学

【题目】PPM法确定异丙隆对几种冬小麦田主要杂草的最低致死剂量
【中文关键词】最低致死剂量;植物光合作用测定仪;异丙隆;杂草防治;小麦安全性
【英文关键词】MLHD;Plant photosythesis meter;Isoproturon;Weed control;Wheat safety
【中文摘要】于2005—2006年,在河北省农林科学院粮油作物研究所温室内,用植物光合作用测定法研究了光合作用抑制型除草剂异丙隆防除冬小麦田5种主要杂草的最低致死剂量。试验结果表明,在用药6 d后杂草才表现出明显的药害症状,新叶黄化,生长受抑制;而杂草的光合作用在施药后2 d就明显地受到抑制,药剂处理的杂草叶片的PPM值显著下降,随着用药剂量的增加,杂草的PPM值显著下降。通过测定和统计杂草的鲜质量防效,可以发现,供试的5种杂草对异丙隆的敏感性存在显著差异,播娘蒿(Descuraiaia sophia)、藜(Chenopodiam album)对药剂最敏感,ED90值分别为301.51,286.02 ga.i./hm2;看麦娘较敏感,ED90值为654.83 ga.i./h1112;而荠菜、雀麦不敏感。经回归分析发现,施药后2,4 d杂草的PPM值与用药后14 d的杂草鲜质量防效密切相关,其R2分别为0.968 8,0.942 5。这表明用药后早期的PPM值可以较好地预测除草剂对杂草防效和对冬小麦的安全性。当杂草的PPM值低于20时,异丙隆对杂草的鲜质量防效高于90%;而当PPM值高于40时,药剂对杂草的鲜质量防效低于50%;当小麦的PPM值高于60时,异丙隆对小麦的株高、地上部鲜质量基本无影响。当杂草的PPM值低于20,而冬小麦的PPM值高于60时,异丙隆的剂量即为最低致死剂量。
【英文摘要】
【语种】中文
【第一作者】王贵启
【通讯作者】王贵启
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【题目】江苏省麦田杂草的发生、危害及防除研究进展
【中文关键词】麦田杂草;化学防除;群落演替;抗药性;综合治理
【英文关键词】无
【中文摘要】农田草害一直是影响江苏省小麦产量的重要因素,虽然杂草综合治理已经取得了长足进步,但近年来麦田杂草发生数量及草相都发生了一定变化。此外,杂草抗药性、除草剂药害等问题较为严重。本文对此进行了概述,并提出应进一步加强杂草生物学生态学应用基础、杂草抗药性监测、分子生物学应用等方面的研究,实施以化学防除为主,结合农业、生态防除等措施的综合治理策略。
【英文摘要】
【语种】中文
【第一作者】饶娜
【通讯作者】董立尧
【期刊名称、卷期、页码】杂草科学, 2007,(1):11-15
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【引文索引号】
【学科分类】植物保护学

【题目】新型植物生长调节剂全抗1号对部分除草剂药害的恢复作用研究
【中文关键词】全抗l号;生长;恢复;除草剂;药害
【英文关键词】除草剂
【中文摘要】全抗1号是一种新型植物生长调节荆。它能通过诱导植物体内一氧化氮释放以提高作物抵抗不良环境侵扰的能力,并可有效预防多种病害的发生。当植物遭受到药害时,其外部形态特征将由于体内代谢活动发生而在外观上显著异于正常状态。本文以一定时期对作物生长状况的观察和表观数据的测定为依据,判断施用全抗l号后受除草荆药害(包括当茬与后茬药害)作物的恢复情况,并以此探究金抗l号的部分生物活性。
【英文摘要】
【语种】中文
【第一作者】苗婧
【通讯作者】董立尧
【期刊名称、卷期、页码】杂草科学, 2008,(3):22-25
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【引文索引类型】null
【引文索引号】
【学科分类】植物保护学

【题目】杂草对乙酰乳酸合成酶抑制剂的抗药性研究进展
【中文关键词】杂草;乙酰乳酸合成酶;抗药性;抗性基因
【英文关键词】无
【中文摘要】综述了有关杂草对乙酰乳酸合成酶(AI。S)抑制剂抗性产生的历史与现状、抗性机制、抗性杂草的适合度、抗性基因的利用及抗药性的测定技术,提出了我国在该类除草剂研究和应用方面存在的问题及今后的研发方向。
【英文摘要】
【语种】中文
【第一作者】卢宗志
【通讯作者】张朝贤
【期刊名称、卷期、页码】植物保护学报, 2009,36(3):277-282

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【学科分类】植物保护学

【题目】抗苄嘧磺隆雨久花的田间鉴定与替代药剂的筛选
【中文关键词】抗性;雨久花;苄嘧磺隆
【英文关键词】无
【中文摘要】对稻田雨久花进行高剂量苄嘧磺隆茎叶喷雾,以甄别其是否已对该药剂产生抗性,同时用五氟磺草胺、苯达松、2甲4氯钠对雨久花进行防除。结果表明,雨久花喷施苄嘧磺隆后生长良好,与未施药区无差异,说明雨久花对苄嘧磺隆已产生明显抗性。五氟磺草胺、苯达松、2甲4氯钠对抗性雨久花均有较好的防除效果。由于五氟磺草胺的靶标酶与苄嘧磺隆相同,都是乙酰乳酸合成酶,说明雨久花对五氟磺草胺未产生交互抗性。
【英文摘要】
【语种】中文
【第一作者】卢宗志
【通讯作者】卢宗志
【期刊名称、卷期、页码】杂草科学, 2008,(2):31-32
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【引文索引号】
【学科分类】植物保护学

【题目】黄顶菊水提取液对植物种子发芽及胚根伸长的化感作用研究
【中文关键词】黄顶菊;化感作用;种子;发芽;胚根
【英文关键词】无
【中文摘要】采用培养皿滤纸法研究黄顶菊水提取液对30种受体植物种子发芽及胚根伸长的化感作用。结果表明,浓度为0.1 g(干重)/ml的成熟黄顶菊植株水提取液对供试的29种植物种子发芽和28种植物胚根伸长有不同程度抑制作用,对2种植物胚根伸长有促进作用。该浓度下,有24种植物的发芽率或胚根长降低50%以上,占供试植物种数的80%。提取液浓度越高对受体植物发芽和胚根伸长的抑制作用越强。黄顶菊不同生育时期和不同器官提取液对受体植物种子发芽及胚根伸长的抑制程度有差异,表现为成熟期植株>营养生长期植株;叶片>花(果实)>茎>根。揭示黄顶菊可能通过产生化感物质抑制周围生境中植物的萌发和早期生长,从而降低这些植物在群落中的多度。一旦黄顶菊大面积、高密度发生,就有可能导致入侵地植物多样性的降低。
【英文摘要】无
【语种】中文
【第一作者】李香菊
【通讯作者】李香菊
【期刊名称、卷期、页码】杂草科学, 2007,(4):15-19
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【引文索引号】
【学科分类】植物保护学

【题目】草甘膦处理后田旋花、打碗花体内莽草酸含量的变化
【中文关键词】草甘膦;田旋花;打碗花; 莽草酸; 积累
【英文关键词】无
【中文摘要】草甘膦处理后 14d , 对田旋花、 打碗花、 大豆体内莽草酸积累量进行分析, 可明确田旋花和打碗花对草 甘膦的敏感性。草甘膦8 4 0 g a i ./h m 、4 2 0 g a i . / h m 处理后, 不同植物体内莽草酸的积累量依次为大豆 >打碗花 >田旋花。田旋花对草甘膦的耐药能力最强, 并且随着生长时间的延长对草甘膦的抗药能力增强。打碗花只 是在草甘膦剂量比较低时具有一定的耐药能力。

【英文摘要】
【语种】中文
【第一作者】刘 延
【通讯作者】张朝贤
【期刊名称、卷期、页码】杂草科学, 2008,(2):10-12
【论文发表时间】2008-03-12 00:00:00
【引文索引类型】null
【引文索引号】
【学科分类】植物保护学

【题目】不同环境因子对江苏省杂草稻与常规栽培稻发芽势影响的比较
【中文关键词】杂草稻;发芽势;温度;pH值;水势;盐胁迫
【英文关键词】无
【中文摘要】为了搞清楚杂草稻与常规栽培稻萌发特性的差异,采用培养皿水培法,进行了温度、pH值、水势及NaCl胁迫对杂草稻与常规栽培稻发芽势影响的比较研究。结果为:15 qC和20 cc条件下,杂草稻均具有强于常规栽培稻的发芽势。在pH值为6和8条件下,杂草稻的发芽势也强于常规栽培稻。同样在水势为一0.3 MPa和180 mmol/L NaCl浓度条件下,杂草稻的发芽势也强于常规栽培稻。说明杂草稻萌发过程的抗逆性强于常规栽培稻,具有较强的环境适应能力,能更有效地竞争环境资源。
【英文摘要】
【语种】中文
【第一作者】李振博
【通讯作者】董立尧
【期刊名称、卷期、页码】杂草科学, 2009,(4):28-31
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【引文索引号】
【学科分类】植物保护学

【题目】外来植物黄顶菊的分布、特征特性及化学防除
【中文关键词】外来杂草;黄顶菊;分布;化学防除
【英文关键词】无
【中文摘要】2005~2006年,采用生态踏勘的方法,对河北省及其周边地区外来植物黄顶菊的发生范围进行了调查,同时定位观察了黄顶菊的生物学特性及生态学特性。结合以往的资料对黄顶菊发生区域、主要生物学特性及化学防除技术进行了概述。
【英文摘要】
【语种】中文
【第一作者】李香菊
【通讯作者】李香菊
【期刊名称、卷期、页码】杂草科学, 2006,(4): 58-61
【论文发表时间】2006-12-05 00:00:00
【引文索引类型】null
【引文索引号】
【学科分类】植物保护学

【题目】江苏中部轻型栽培稻田杂草群落特征及草害综合评价
【中文关键词】杂草群落;稻田;轻型栽培;主成分分析
【英文关键词】无
【中文摘要】利用七级目测法结合定量分析和综合评价对江苏中部的扬州、泰州和南通3个地区6种不同栽培模式稻田的杂草群落进行了调查研究.以期揭示经多年轻型栽培的稻田杂草群落结构及杂草危害特点。在轻犁栽培稻田中共发现杂草36种。隶属于18个科33个属。其中.杂草种类较多的科依次为禾本科、莎草科、菊科、玄参科、泽泻科、千屈菜科等。在

3个地区皆表现出较高的优势度和发乍频率的杂草有4种:稗、水苋菜、鳢肠和下金子,其发生频率都达到或接近100%。然而地区间草害水平存在差异,扬州地区的杂草危害最重.泰州地区次之,南通地区相对最轻。不同的稻作模式皆对应着不同的优势杂草。机插秧模式中优势度值与发生频率皆较高的杂草为鸭舌草、水苋菜;麦套稻模式中。主要的优势杂草包括水苋菜、马唐、鸭舌草,半边莲等;抛秧稻田中为稗、鸭舌草、水苋菜等;水直播稻作模式下是稗、水苋菜、鸭舌草等;旱直播模式中为稗、水苋菜、干金子等。与传统的手工插秧相比.轻型栽培稻作模式下的杂草群落中.不仅物种丰富度高,而且优势度也高。6种稻作模式杂草危害程度由低到商的顺序为:传统手工插秧<机插秧<抛秧<水直播<旱直播<麦套稻。
【英文摘要】
【语种】中文
【第一作者】李淑顺
【通讯作者】强胜
【期刊名称、卷期、页码】中国水稻科学, 2009,23(2):207-214
【论文发表时间】2008-05-19 00:00:00
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【引文索引号】
【学科分类】植物保护学

【题目】轻型栽培技术对稻田潜杂草群落多样性的影响
【中文关键词】轻型栽培技术 潜杂草群落 稻田 物种多样性 种子库
【英文关键词】labor-saving cultavation;potential weed commumity;paddy field;species diversity;seed bank
【中文摘要】为明确轻型栽培技术对稻田潜杂草群落多样性的影响, 研究了旱直播、 水直播、 抛秧、 机插秧、 麦套稻&种轻型栽培稻作模式及传统手插秧模式下稻田杂草种子库的数量特征。结果表明: 旱直播稻田种子库密度显著高于其他模式, 228416粒m-2, 麦套稻模式其次,另外, 旱直播稻田莎草类杂草与麦套稻稻田阔叶类杂草种子密度显著高于其他模式的各类杂草种子.传统手插秧稻田具有最高的物种丰富度, margalef 指数达1.86,麦套稻与水直播模式中, shannon-wiener指数,gini指数、 pielou指数群落均匀度指数明显高于旱直播和机插秧等模式,与传统手插秧相比, 各轻型栽培稻作模式具有不同的潜杂草群落优势种。 为防治稻田杂草的持续危害, 应轮流实施不同轻型栽培稻作模式。
【英文摘要】
【语种】中文
【第一作者】李淑顺
【通讯作者】强胜
【期刊名称、卷期、页码】应用生态学报, 2009,20(10):2437-2245
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【引文索引号】
【学科分类】植物保护学

【题目】长期不同施肥方式对稻油轮作制水稻田杂草群落的影响
【中文关键词】长期施肥;杂草物种多样性;杂草群落; 水稻-油菜轮作制
【英文关键词】long - term fertilization ; weed species diversity ; weed community ; rice -oilseed rape croppi ng syste m
【中文摘要】为揭示长期不同施肥方式下农田生态系统中杂草群落的变化规律, 于 2006年 10月在太湖地区一个长期肥料试验定位监测田, 运用群落生态学方法研究了 7种长期不同施肥处理持续 20a后对水稻-油菜轮作制水稻田杂草群落的影响。试验区共记录到杂草 11种,隶属于 6个科。其中,节节菜 (Ro t ala indica)、 陌上菜 (L i ndernia p roc umbens)、 鸭舌草 (Monochoria vaginalis)、 异型莎草 (Cyperus d i ffor m is)等 4种杂草在所有施肥处理区发生密度较大。莎草科杂草牛毛毡 (E leochar is y oko s censis)只在不施肥区和纯氮肥区出现, 而球穗扁莎 (Pycreus globosus)和萤蔺 (Scirp us juncoi d es)仅在不施肥区出现。长期不同施肥措施下, 田间杂草群落的物种多样性有明显差异:全年秸秆区的物种丰富度 (7 . 3种)最小,不施肥区 (10 . 7种)最大; 不施肥区、 常规区、 秋季秸秆区 Shannon -W iener指数显著大于其他处理区; 不施肥区和常规区 S i mpson指数显著小于其他处理区; 不施肥区和纯氮肥区Pielou均匀度指数显著小于其他处理区。田间杂草群落的优势种组成也发生了一定变化, W hittaker指数表明, 与不施肥处理相比, 单施化肥、 化肥配施猪粪对杂草群落结构及物种组成的影响最显著,化肥配施油菜秸秆和化肥配施油菜水稻秸秆次之, 而纯施氮肥和化肥配施水稻秸秆的影响较小。S rensen群落相似性指数及聚类分析结果也得到相似的结论。结果表明, 单施化肥 (平衡施用 N、 P、 K肥)、 化肥配施猪粪、 化肥配

施夏季、 秋季和全年秸秆处理均能显著改变田间杂草群落的组成,改变某些杂草在群落中的优势地位,从而抑制其发生危害程度。
【英文摘要】
【语种】中文
【第一作者】李儒海
【通讯作者】强胜
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【引文索引类型】null
【引文索引号】
【学科分类】植物保护学

【题目】杂草种子传播研究进展
【中文关键词】种子传播循环 杂草种子传播 传播因子 传播机制 研究方法
【英文关键词】seed dispersal cycle weed seed dispersal disperser dispersal mechanism technique
【中文摘要】种子传播将母株生殖周期的末端与它们后代种群的建立连结了起来,广泛认为,其对植被结构具有深刻的影响。种子传播的整个过程称为种子传播循环。研究表明,杂草种子传播的因子多种多样,包括仅依赖自身来完成的主动传播,以及依赖风、水、动物、人类等外界媒介的被动传播。其中,人类传播杂草种子是影响最广泛的一种,对现代植物的分布格局产生了深刻的影响。杂草种子的传播,对杂草种子库的数量和空间动态影响很大。研究种子传播的主要方法有荧光染料标记法、放射性同位素标记法、稳定同位素分析、分子遗传标记等。结合近几年国内外的研究进展,作者就杂草种子传播对种子库数量和空间动态影响的精确直接研究、杂草种子传播的过程及传播后的命运、杂草种子适应传播的机理、生态控草措施研究、外来杂草入侵蔓延与其种子传播的关系等方面提出了展望。
【英文摘要】
【语种】中文
【第一作者】李儒海
【通讯作者】强胜
【期刊名称、卷期、页码】生态学报,2007,27(12):5361-5370
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【引文索引号】
【学科分类】植物保护学

【题目】利用有效积温建立夏玉米追肥时期决策模型
【中文关键词】有效积温 夏玉米 追肥时期 模型
【英文关键词】Effective accumulated temperature, Summer maize, Dressing time, Model
【中文摘要】精准决策作物追肥时期是提高肥料利用效率、增加作物产量的重要技术措施。通过田间连续观测作物的发育进程预判追肥时期不仅费时费力,并且确定的追肥时期是否合理与经验存在较大关系。夏玉米生长发育及养分累积进程与积温、光照、降雨等气象因子存在密切的关系,本文以有效积温因子为例,建立区域内基于有效积温的夏玉米养分累积Logistic模型,根据模型特点确立夏玉米养分累积的始盛期、高峰期和盛末期,从而确定最佳追肥时期决策点,旨在为追肥时期的精准确定提供新思路、新方法。根据田间试验及养分测试结果对模型进行检验,显示出利用有效积温的养分累积模型效果优于传统的基于生长天数养分累积模型效果,进一步验证了该模型的创新性及实用性。由于不同区域、不同作物品种差异,试验区域模型并不具有广泛的适应性。为此,对养分累积Logistic模型参数赋予现实意义,结合田间耕作实际,建立追肥时期决策的普适模型,对模型检验表明,普适模型能够较好的预判最佳施肥时期,具有较强的应用价值。
【英文摘要】The sound judgment of dressing time on crops is an important technical measure which can improve utilization rate of fertilizers and increase crop yield. The traditional method of estimating dressing time was continuous taking stock of the crop growth process. But the traditional method was inaccurate and it was bind by the experience of observer. Due to the growth and nutrient accumulated process of summer maize have a close relationship with accumulated temperature, light intensity, rainfall and other meteorological factors, so building a meteorological model could be an effective method to precisely define dressing time of different crop. To study the response of crop growth and development process to temperature, light and others meteorological factors, the monitoring of temperature, light and other meteorological factors and field trials are disposed. In this paper, effective accumulated

temperature affecting crop growth and development process is as an entry point, a meteorological model based on effective accumulated temperature is set up and the model described the relation between the nutrient accumulated of summer maize and effective accumulated temperature. The model is a logistic model. By analyzing the characteristic of the logistic model, three key points of dressing time on summer maize are defined.According to field experiments and determination analysis, the law of nutrient accumulation of summer maize was imitated. By comparing the different models, the model based on effective accumulated temperature is better than the model based on growth days. By further validation of the model, the model is innovative and practical. Because different regions, different crop varieties differ, the model which established by actual test date does not have a wide range of adaptability. Therefore, the model which can fit universal regions and crop varieties was tried to establish and through the testing on the model, the model which can fit universal regions and crop varieties was better able to predict the best dressing time. The study result can provide scientific basis for rational fertilizer application and has the far-reaching significance to improve the utilization rate of fertilizer.

【语种】中文
【第一作者】王贺
【通讯作者】王贺
【期刊名称、卷期、页码】中国生态农业学报、2012,20(4):408-413
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【学科分类】农业基础学科

【题目】氯离子对作物生长和土壤性质影响的研究进展
【中文关键词】氯;土壤性质;作物产量;作物品质;养分吸收
【英文关键词】Chlorine; soil properties; crop yields; crop quality; nutrient uptake
【中文摘要】综述氯在植物中的主要营养和生理生化功能,我国主要土壤含氯状况,施氯对土壤性质、作物生长发育及产量品质的影响,作物的耐氯临界值,氯在作物中的含量及分配和施氯对其它养分吸收的影响等方面的研究成果。
【英文摘要】Review of chlorine in the plant nutrition and physiological biochemical functions, the major soil chlorine situation, Shi chlorine on soil properties, crop development and yield and quality of crops resistant to chlorine threshold, chlorine content and distribution in the cropchlorine and facilities of other nutrients absorbed the impact of research results.
【语种】中文
【第一作者】程明芳
【通讯作者】金继运
【期刊名称、卷期、页码】浙江农业科学,2010,1:12-16
【论文发表时间】2009-01-06 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】农业基础学科

【题目】金定鸭的核型及G带带型研究
【中文关键词】金定鸭; 核型; G带
【英文关键词】Jinding duck; karyotype; G-banded pattern
【中文摘要】采用外周血淋巴细胞培养法制备染色体标本,对金定鸭染色体核型和G带带型进行研究。结果表明:①金定鸭体细胞染色体数目(2n)为78,染色体基本臂数为84(♂)或83(♀),1号染色体为亚中央着丝粒染色体,2号染色体为中央着丝粒染色体,Z染色体具有明显的短臂,属亚端着丝粒染色体,其余常染色体和W性染色体均为端着丝粒染色体;性染色体按由大到小顺序排列:Z为4号,W为7~8号。②金定鸭的G带带型,前10对大染色体可分为131条带。
【英文摘要】Utilizing a technique for the culture of peripheral blood lymphocyte,chromosome preparations were made of Jinding ducks,and the karyotype and G-banded patterns of Jinding ducks were analyzed.The result of karyotype analysis showed that the diploid chromosome number of Jingding duck was 2n=78,the total number of chromosome arms were 84(♂) or 83(♀),and the No.1 chromosome was submetacentric,No.2 chromosome was metacentrics,Z-chromosome was a subtelocentric chromosome,with an obviously short arm,W-chromosome and the other autosomes were telcentrics.According to the measured relative length,Z-chromosome was the No.4,W-chromosome was ranked between No.7 and No.8.Study on Jingding ducks ’ G-bands showed that the first 10 pairs of macrochromosomes could be divided into 131 bands.

【语种】中文
【第一作者】赵捷
【通讯作者】陈国宏
【期刊名称、卷期、页码】扬州大学学报(农业与生命科学版), 2007,28(1) 30-33
【论文发表时间】2007-01-01 00:00:00
【引文索引类型】其他
【引文索引号】无
【学科分类】畜牧学

【题目】应用非伤害性取样提取番鸭毛囊组织总RNA
【中文关键词】非伤害性取样; 番鸭; 毛囊组织; 总RNA提取;
【英文关键词】nondestructive samples; muscovy duck; hair follicle; total RNA extraction;
【中文摘要】目的:寻求一种从番鸭毛囊组织中高效提取总RNA的方法。方法:探讨了伤害性取样(剪切皮肤毛囊)、非伤害性取样(直接拔取毛囊)2种不同毛囊取样法对总RNA提取质量的影响,并对常用RNA提取方法TRIzol法中研磨和组织匀浆步骤细节稍加改进,琼脂糖电泳检测总RNA质量。结果:2种毛囊取样方法均能提取出高质量的总RNA,其28S、18S和5S条带清晰可见,无DNA污染。结论:非伤害性取样法可作为番鸭毛囊组织总RNA提取的适用取样方法。 更多还原
【英文摘要】Objective:To find an efficient method for the extraction of total RNA from hair follicle tissues of muscovy duck.Methods:The effects of nondestructive samples and destructive samples on total RNA extraction were investigated.The total RNA extracted by improving TRIzol method in grinding and homogenate in details was analysed by agarose electrophoresis.Results:The two kinds of hair follicle sampling methods both can extract high-quality total RNA.There were three bands of 28S,18S and 5S obviously,and no DNA stain in total RNA. Conclusion:The nondestructive samples were suitable methods used to extract total RNA from hair follicle of muscovy duck.
【语种】中文
【第一作者】梁正翠
【通讯作者】王志跃
【期刊名称、卷期、页码】生物技术通讯,2010,21(1):86-89
【论文发表时间】2010-05-01 00:00:00
【引文索引类型】其他
【引文索引号】无
【学科分类】畜牧学

【题目】白羽番鸭产肉性能与肌肉品质分析
【中文关键词】白羽番鸭; 产肉性能; 肌肉品质
【英文关键词】white-feather muscovy duck; meat performance; meat quality
【中文摘要】以200只70日龄白羽番鸭为素材,测定其产肉性能和肌肉品质。结果显示,公番鸭的生长速度比母鸭快,母鸭沉积脂肪的能力高于公鸭,同时白羽番鸭的体脂含量较低。综合产肉性能等多项指标,说明白羽番鸭具有较好的肉用性能,值得推广应用。
【英文摘要】Two hundred white-feather muscovy ducks of 70 days age were tested for the meat performance and meat quality. The results showed that male muscovy ducks grew faster than female ones;Female muscovy ducks had higher fat aggradation ability than that of males,and fat content of white-feather muscovy ducks was lower. It is showed that white-feather muscovy ducks had good meat performance according to carcass traits and meat quality,which was worth of being exploitation. 更多还原
【语种】中文
【第一作者】谢献胜
【通讯作者】周新民
【期刊名称、卷期、页码】中国家禽,2006,28(24):119-124
【论文发表时间】2006-12-01 00:00:00
【引文索引类型】其他
【引文索引号】无
【学科分类】畜牧学

【题目】抗草甘膦杂草及其抗性机制研究进展
【中文关键词】草甘膦;杂草;抗性机制;EPSP合成酶
【英文关键词】glyphosate;weeds;glyphosate—resistant mechanisms;EPSPS
【中文摘要】介绍了迄今为止全球发现的13种抗草甘膦杂草的发生、发展,并从草甘膦的吸收、输导和分布,5一烯醇丙酮莽草酸3.磷酸合成酶(EPSPS)的活性以及抗药性遗传等方面对其抗性机制进行了讨论,指出了中国在未来出现抗草甘膦杂草的潜在风险性,并提出了延缓杂草对草甘膦抗性发生的策略。
【英文摘要】
【语种】中文
【第一作者】刘延
【通讯作者】张朝贤
【期刊名称、卷期、页码】农药学学报, 2008,10(1):10-14
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【学科分类】植物保护学

【题目】ISSR 标记对34 份樱桃种质资源的遗传分析
【中文关键词】樱桃; ISSR; 遗传多样性; 聚类分析
【英文关键词】cherry, ISSR, genetic diversity, cluster analysis
【中文摘要】利用ISSR 标记对34 份樱桃种质资源进行遗传多样性检测。结果发现, ISSR 标记能够揭示材料间较高的遗传多样性。每个引物可获得6 ~12 条DNA 片段, 平均为8.76 条; 17 个ISSR 引物共扩增出149 条DNA 片段, 其中143 条具有多态性, 多态性比率(PPB) 为95.97% ; 平均多态信息量(PIC) 为0.90 ;每个位点有效等位基因数(Ne) 为1.914 ; 材料间遗传相似系数GS 变幅为0.44 ~0.91 , 平均达0.73 。通过聚类, 从分子水平对樱桃种质资源的遗传关系进行分析, 并对34 份资源进行分类, ISSR 标记能将34 份樱桃种质完全区分开, 为樱桃种质资源的研究利用提供参考。
【英文摘要】The genetic diversity and genetic relationships among 34 cherry accessions, including 3 interspecificprogenies, 1 Prunus pseudocerasus, and 30 Prunus avium, were evaluated by ISSR markers. In ISSRanalysis, a total of 149 bands were detected, among which 143 bands were polymorphic. The number ofbands from each ISSR marker ranged from 6 to 12, with an average of 8.76. The PPB, PIC and Ne were95.97%, 0.90 and 1.914, respectively. The ISSR- derived genetic similarity (ISSR- GS) ranged from 0.44 to0.91, with a mean of 0.73. The cluster analysis indicated that all the 34 sweet cherry germplasm could bedistinguished by ISSR markers. The genetic relationship cherry accessions were analyzed and 34 germplasmwere classified on molecular level by clustered analysis, which provided reference for research in cherrygermplasm.
【语种】中文
【第一作者】艾呈祥
【通讯作者】刘庆忠
【期刊名称、卷期、页码】中国农学通报第24 卷第4 期
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【引文索引号】无
【学科分类】园艺学

【题目】华北沙质潮土夏玉米 3414 肥效试验
【中文关键词】沙质潮土;夏玉米;“ 3414 ”肥效试验;
【英文关键词】sandy Fluvo-aquic soils, summer maize, 3414 experiment design
【中文摘要】在沙质潮土条件下,采用“ 3414 ”肥效试验设计,通过不同方法对玉米产量结果与肥料的施用量回归拟合,建立不同施肥因子组合的施肥效应模型。单因子效应分析表明,氮、磷、钾肥料增产效果表现为氮>磷>钾,夏玉米对钾肥的忍耐度低于磷和氮,表现为过高施用会引起产量的快速降低。三种肥料因子间都存在正向的交互作用,交互作用的大小、程度在不同的模型上有着不同的特点。通过对模型的寻优分析,确定沙质潮土夏玉米N、P2O5、K2O最高产量施用量分别为164kg/hm2、93kg/hm2、57kg/hm2,投入比例为1:0.6:0.4。N、P2O5、K2O最佳经济施用量分别为96kg/hm2、78kg/hm2、38kg/hm2,投入比例为1:0.8:0.4。

【英文摘要】It was studied the response on yield of summer maize on fertilizers by “ 3414 ” experiment design in sandy Fluvo-aquic.The fertilizer response models were set up on different nutrient factors. Monofactorial variance analysis indicated that the nutrient response of summer maize was N>P>K.The tolerance of summer maize to high K application was lower than those of high N and P application, which showed the yield decreased dramatically with high K application. The three nutrient factors had positive interactions which had different characteristic on different fertilization models. The fertilizer recommendation for the maize was N 164, P2O5 93 and K2O 57 kg/km2 on MY and N 96, P2O5 78 and K2O 38 kg/km2 on MEY.
【语种】中文
【第一作者】王贺
【通讯作者】白由路
【期刊名称、卷期、页码】河北农业科学,2010,14(9):41-45
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【引文索引号】
【学科分类】农业基础学科

【题目】华北北部沙质潮土区冬小麦需肥特征及施肥技术
【中文关键词】华北北部;沙质潮土;冬小麦;需肥特征;施肥技术
【英文关键词】The north of north China; Sandy Fluvo-aquic Soils; Winter wheat; Fertilizer requirement Character; Fertilization technology
【中文摘要】华北北部沙质潮土区冬小麦产量较低,为摸清区域内冬小麦养分吸收规律,提高施肥效率,通过田间试验研究了区域内冬小麦养分吸收动态及不同肥料因子对产量的影响,结果表明:该区域冬小麦养分吸收速率最快时期出现在拔节期至抽穗期,生育后期的养分吸收比例相对较低;氮磷钾配合施用不仅可以提高冬小麦的养分吸收量,还可以促进养分向籽粒中运转;增加冬小麦有效穗数及调节产量构成因素间的平衡关系,是提高产量的有效田间管理措施;控制养分投入数量,调整养分投入比例,保持养分持续供应强度,增强土壤对养分投入的缓冲能力是提高产量的有效施肥技术。
【英文摘要】he yield of winter wheat was lower on sandy Fluvo-aquic in the north of north China. An experiment was set up to study the fertilizer requirement character and fertilization technology of winter wheat in this area. The results indicated the peak of nutrient absorption velocity was showed between jointing stage with heading stage. The nutrient absorption proportion in later development period was lower than others reports. Balanced fertilization was the key factor which influenced the amount of nutrient absorption. Increased effective panicles and regulated mutual relation of yield component factors were effective measures to increase yield. The main fertilization measures in this area included which controlled the amount of nutrient input, which adjusted the proportion among N,P with K, which ensured the standing supply of nutrient, and which improved the capacity of buffering in soil to nutrient input.
【语种】中文
【第一作者】王贺
【通讯作者】王贺
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【论文发表时间】2011-06-26 00:00:00
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【学科分类】农业基础学科

【题目】华北小麦-玉米轮作区缓控释肥应用效果分析
【中文关键词】中低产田;小麦玉米轮作;缓控释肥;硝态氮;产量
【英文关键词】medium-low yield field; wheat-maize rotation; slow/controlled release fertilizer; nitrate nitrogen; yield
【中文摘要】田间试验以常规施肥为对照,分析了华北平原北部小麦-玉米轮作区缓控释肥不同配比和用量土壤硝态氮含量和产量性状的变化。结果表明,常规用量分次施肥(100%UD)处理,土壤中NO-3-N含量在小麦生育后期仍然维持较高的水平,并且穗数、千粒重以及产量相对较高;缓控释肥处理土壤中硝态氮(NO-3-N)含量与100%UD相比处于较低的水平,但产量无显著差异。玉米生长季缓控释肥表现出了明显优势,肥料利用率提高,玉米穗秃尖长度减小;其中减少20%用量的缓控释肥处理(80% SCR)产量显著高于常规施肥处理,增产达到18・3%。缓控释肥缓慢释放的特性有利于被作物及时充分吸收,减少了在土壤中因淋失而造成浪费的机会,从而使得肥料利用率提高。从小麦、玉米两季的变化情况来看,还需要进一步优化肥料在不同生长季之间的配置,使缓控释肥料发挥其最大潜力,实现小麦玉米产量双高产和经济效益、环境效益同

步提高。
【英文摘要】In contrast to traditional fertilizing, nitrate nitrogen content in soil and yield factors ofwheat-maize applied slow/controlled release fertilizerwith differentamounts and rates inNorthChinawas analyzed. The results indicated thatnitrate nitrogen contentstillmaintain high levelduring late growing period, and the yield traits such as panicle number, 1000 grainweightaswell as actualyield keep high level if fertilized according to recommendationat the ratio of6∶4∶2 atpre-sowing, reviving and jointing respectively (the treatmentnamed as100%UD). The for mulated slow/controlled release fertilizer(CSR) showed lowernitrate nitrogen content in soi,l buthad no influence on yields comparedwith 100%UD. CSR showed a positive impact on maize production, e. g. increased fertilizer use efficiency, decreased bare top length. The yield of 80% SCR is 18 · 3% higher than that of 100%UD. Crop could absorb nutrient timely and fullywith the application ofSCR because the nutrient is released slowly and avoided of the loss risk by leaching. On thewhole, furtherstudy on how to optimize SCR fertilization distribution during thewheat andmaize growing seasonwas needed for the purpose of increasing economic and environmentalbenefits simultaneously.
【语种】中文
【第一作者】卢艳丽
【通讯作者】卢艳丽
【期刊名称、卷期、页码】植物营养与肥料学报,2011,17(1):209-215
【论文发表时间】2011-09-26 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】农业基础学科

【题目】假高粱挥发油化学成分及其化感潜力
【中文关键词】假高粱 外来杂草 挥发油 化感作用
【英文关键词】Sorghum halepense (L.) Pers. invasive weeds volatile oil allelopathy
【中文摘要】以水蒸气蒸馏法提取假高粱挥发油,应用GC和GC-MS定量分析其化学成分,并探讨其饱和水溶液对作物、杂草和土壤微生物的活性。结果表明,从挥发油中鉴定出的26种化学成分占总挥发油的76.51%,主要成分为倍半萜类化合物,如反式-α-佛手烯(21.95%)、α-绿叶烯(10.77%)和α-雪松烯(4.66%)等。假高粱挥发油对所有供试杂草种子萌发、作物苗高及其干重具有较强的抑制作用。在假高粱挥发油作用下,土壤中真菌和放线菌数量显著减少,细菌数量明显增加。研究证明,假高粱挥发油对其它植物及土壤微生物有较强的化感效应。
【英文摘要】
【语种】中文
【第一作者】孟庆会
【通讯作者】张朝贤
【期刊名称、卷期、页码】植物保护学报, 2009,36(3):277-282
【论文发表时间】2009-02-20 00:00:00
【引文索引类型】null
【引文索引号】
【学科分类】植物保护学

【题目】我国有机肥料当前的任务与使命
【中文关键词】有机肥料,发展历程,清洁环境,使命
【英文关键词】Organic fertilizers, the development process of cleaning up the environment, mission
【中文摘要】本文通过分析我国有机肥料的发展历程, 指出了我国目前情况下有机肥料特别是商品有机肥料在提供作物养分的功能上已经被化肥所取代, 当前有机肥料所肩负的使命已发生了变化, 目前有机肥料肩负着清洁环境社会使命、培肥地力的历史使命和发展特色产品的经济使命分析了目前我国有机肥料发展中存在的问题, 提出了目前我国商品有机肥料的发展应坚持公益性性与经营性相结合、秸秆直接还田与生物燃料相结合和以清洁环境为主要功能的商品有机肥料生产原则。
【英文摘要】By analyzing the course of development of the organic fertilizer in China, pointing out that the present circumstances, organic fertilizers, especially organic fertilizer products to provide crop nutrients have been fertilizer replaced by the current organic fertilizer with the mission has changed, the current organicfertilizer shoulder the mission of cleaning up the environment and social, the historical mission of fertility and economic mission of the development of specialty products currently exist in the development of

China's organic fertilizer, the development of our organic fertilizer products should adhere to the public welfare with operatingcombination of straw and bio-fuel combination of commercial organic fertilizer production principle in order to clean up the environment as the main function.
【语种】中文
【第一作者】白由路
【通讯作者】白由路
【期刊名称、卷期、页码】中国植物营养与肥料学会2010年学术年会论文集,2010,497-505
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【引文索引类型】其他
【引文索引号】
【学科分类】农业基础学科

【题目】我国棉花的施肥现状、存在问题及对策
【中文关键词】棉花,施肥现状,对策
【英文关键词】Cotton,Fertilize situation,Strategy
【中文摘要】概述了我国棉花施肥的现状。通过分析我国棉花施肥存在的问题,提出改进棉花施肥技术、提高棉花产量和品质的对策。
【英文摘要】The status of cotton fertilization were summarized.the problems of cotton fertilization were analysed and strategies of improving cotton fertilization techniques and cotton yield and quality were put forward.
【语种】中文
【第一作者】王志勇
【通讯作者】白由路
【期刊名称、卷期、页码】安徽农业科学,2010,38(32):18177-18178
【论文发表时间】2010-10-07 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】农业基础学科

【题目】东北平原不同类型土壤有机质含量高光谱反演模型同质性研究
【中文关键词】光谱,土壤类型,有机质,模型
【英文关键词】Spectrum, soil type, organic matter, the model
【中文摘要】土壤有机质含量是反映土壤肥力的重要特征, 利用高光谱技术对耕层有机质含量进行定量化反演为土壤信息化管理和精准施肥提供了重要的依据。本文利用口高光谱仪在室内条件下测定了风干土壤样品的可见一近红外光谱, 分析了东北平原不同土壤类型土壤光谱反射率曲线形状变化及土壤有机质含量的光谱反演模型。结果表明, 根据土壤光谱反射率曲线变化特点可以将东北平原的几种土壤类型划分为三类, 其主要区别在于一波段反射率上升快慢即该波段范围曲线斜率的差异根据土壤有机质敏感波段建立了不同土壤类型的有机质含量回归预测模型, 并且对不同模型的回归系数和截距进行了方差同质性检验。结果表明黑土和黑钙土、黑土和暗棕壤的模型没有显著差异, 即可以分别构建同质性模型来简化有机质的预测, 但是预测精度略有降低。
【英文摘要】Soil organic matter content is an important feature to reflect soil fertility, topsoil organic matter content using hyperspectral technology quantitative inversion provides an important basis for soil management and precision fertilizer. In this paper, the port high spectrometer seen a near-infrared spectrum of air-dried soil samples measured under laboratory conditions, spectral inversion model of the northeast plains of different soil types, soil spectral reflectance curve shape change and soil organic matter content. The results show that the northeast plains of several soil types according to the characteristics of soil spectral reflectance curve can be divided into three categories, the main difference is that a band reflectivity increased speed differences in the band range the slope of the curve established according to the sensitive band of soil organic matter different types of soil organic matter content of regression prediction model, and different models of regression coefficients and intercept variance homogeneity test. The results show that the black soil and chernozem Black and dark brown soil model does not have significant ifferences, that can build the homogeneous model to simplify the prediction of organic matter, but the prediction accuracy is slightly lower.
【语种】中文

【第一作者】卢艳丽
【通讯作者】卢艳丽
【期刊名称、卷期、页码】中国植物营养与肥料学会2010年学术年会论文集,2010,397-405
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【引文索引号】
【学科分类】农业基础学科

【题目】养分平衡法在冬小麦测土推荐施肥中的应用研究
【中文关键词】养分平衡,目标产量,土壤有效养分校正系数,肥料利用率,推荐施肥
【英文关键词】Nutrient balance, the target yield, soil available nutrients correction factor, fertilizer utilization, recommended fertilization
【中文摘要】针对我国冬小麦主产区的主要土壤类型之一潮土,通过对大量小麦肥效试验结果的分析,分别计算出小麦单位产量养分吸收量、土壤有效养分校正系数、肥料当季利用率等施肥参数。并基于养分平衡法的优点,主要研究了土壤环境凶素和产量水平因素等对土壤有效养分校正系数和肥料利用率的影响及变化规律。结果表明,土壤有效养分含量与土壤有效养分校上E系数及肥料当季利用率呈极显著曲线负相关关系。在此基础I二,建它了以养分平衡原理为依据、土壤有效养分的测定为基础的我国潮土冬小麦测土推荐施肥指标体系,以简捷、快速、科学合理地指导我国小麦的施肥与生产。
【英文摘要】The influx of soil for one of the main soil types of the main winter wheat producing areas in China, through the analysis of the efficiency test results in a lot of wheat, respectively, to calculate the output of wheat per unit nutrient uptake, soil available nutrients correction factor, utilization of fertilizer season fertilization parameters. And based on the nutrient balance method has the advantage, the soil environment fierce elements and output level factors, such as the impact of the correction factor on soil available nutrients and fertilizer utilization and changes in the law. The results show that the E coefficient of utilization of fertilizer season was very significant curve a negative correlation between soil available nutrients and soil available nutrient school. On this basis, two to build it based on the principle of nutrient balance, determination of soil available nutrients for the basis of tide soil of winter wheat soil testing and fertilizer recommendation system is simple, fast, scientific and rational way to guide fertilization and production of wheat in China .
【语种】中文
【第一作者】杜君
【通讯作者】杜君
【期刊名称、卷期、页码】中国土壤与肥料,2012(1):7-13
【论文发表时间】2012-01-12 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】农业基础学科

【题目】Factors Affecting Buffalobur (Solanum rostratum) Seed Germination and
【中文关键词】无
【英文关键词】Temperature, light, pH, osmotic potential, salt stress, burial depth.
【中文摘要】无
【英文摘要】Buffalobur is a noxious and invasive weed species native to North America. The influence of environmental factors on seed germination and seedling emergence of buffalobur were evaluated in laboratory and greenhouse experiments. The germination of buffalobur seeds occurred at temperatures ranging from 12.5 to 45 C, with optimum germination attained between 25 and 35 C. Buffalobur seeds germinated equally well under both a 14-h photoperiod and continuous darkness; however, prolonged light exposure ($ 16 h) significantly inhibited the seed germination. Buffalobur seed is rather tolerant to low water potential and high salt stress, as germination was 28 and 52% at osmotic potentials of 21.1 MPa and salinity level of 160 mM, respectively. Medium pH has no significant effect on seed germination; germination was greater than 95% over a broad pH range from 3 to 10. Seedling emergence was higher (85%) for seeds buried at a soil depth of 2 cm than for those placed on the soil surface (32%), but no seedlings emerged when burial depth reached 8 cm. Knowledge of germination biology of buffalobur obtained in this study will be useful in predicting the potential distribution area and developing effective management strategies for this species.
【语种】英文

【第一作者】Shouhui Wei
【通讯作者】chaoxian Zhang
【期刊名称、卷期、页码】Weed Science 2009 57:521 – 525
【论文发表时间】2009-09-15 00:00:00
【引文索引类型】SCI
【引文索引号】DOI: 10.1614/WE-09-054.1
【学科分类】植物保护学

【题目】Confirmation of Flixweed (Descurainia sophia) Resistance to Tribenuron
【中文关键词】无
【英文关键词】ALS inhibitor, ALS gene, tribenuron resistance, herbicide resistance, weed resistance.
【中文摘要】无
【英文摘要】Reports arose from major Chinese wheat production regions that flixweed was not controlled by tribenuron after the herbicide was continuously used for several years. Flixweed seeds were collected from wheat fields that had been treated with tribenuron repeatedly over 3 to 15 yr or from road sides and remote hills that had never received tribenuron in Jiangsu, Hebei, Shanxi, Sichuan, Shandong, Shaanxi, and Henan provinces, and Tianjin and Beijing metropolises in China. The response of various biotypes to tribenuron was determined by whole plant experiments in the greenhouse. The experiments demonstrated that 11 of 32 flixweed biotypes were susceptible to tribenuron. The remaining 21 biotypes expressed moderate to high levels of tribenuron resistance with resistance indices ranging from 4 to . 1,500. DNA sequence analysis of acetolactate synthase (ALS) genes of selected biotypes 6, 7, 27, and 29 revealed a point mutation at position 197 of the ALS gene, as numbered relative to the protein sequence of Arabidopsis, where proline was substituted by leucine in biotype 7 and by threonine in biotype 29. These mutations are known to confer resistance to ALS-inhibitingherbicides and are responsible for the high resistance of these biotypes to tribenuron. The results also indicate that tribenuron resistance in flixweed is widespread in China and management programs to control these resistant populations are warranted.
【语种】英文
【第一作者】Hai Lan Cui
【通讯作者】Chao Xian Zhang
【期刊名称、卷期、页码】Weed Science 2008 56:775 – 779
【论文发表时间】2008-09-15 00:00:00
【引文索引类型】SCI
【引文索引号】DOI: 10.1614/WS-08-058.1
【学科分类】植物保护学

【题目】Isolation and Purification of Psoralen and Bergapten from Ficus carica L.Leaves by High-Speed Countercurrent Chromatography
【中文关键词】Bergapten, Ficus carica L leaves, High-speed countercurrent chromatography, Psoralen
【英文关键词】Bergapten, Ficus carica L leaves, High-speed countercurrent chromatography, Psoralen
【中文摘要】High-speed countercurrent chromatography (HSCCC) was successfully applied for the first time for the isolation and purification of psoralen and bergapten from the plant Ficus carica L leaves. The crude extract was obtained by extraction with light petroleum (b.p.: 60 ° C – 90 ° C) from the dried leaves of Ficus carica L. n-Hexane-ethyl cetate-methanol-water (1:1:1:1, v/v) was used as the two-phase solvent system. Each peak fraction was analyzed by high performance liquid chromatography (HPLC). The method yielded 4.4 mg of psoralen at 99.1% purity and 2.1 mg of bergapten at 98.2% purity from 400 mg of the crude extract in a single run. The structures of the two compounds were identified by 1H-NMR, 13C-NMR, and MS.
【英文摘要】High-speed countercurrent chromatography (HSCCC) was successfully applied for the first time for the isolation and purification of psoralen and bergapten from the plant Ficus carica L leaves. The crude extract was obtained by extraction with light petroleum (b.p.: 60 ° C – 90 ° C) from the dried leaves of Ficus carica L. n-Hexane-ethyl cetate-methanol-water (1:1:1:1, v/v) was used as the two-phase solvent system. Each peak fraction was analyzed by high performance liquid chromatography (HPLC). The method yielded 4.4 mg of psoralen at 99.1% purity and 2.1 mg of bergapten at 98.2% purity from 400 mg of the crude extract in a single run. The structures of the two compounds were identified by 1H-NMR, 13C-NMR, and MS.
【语种】英文

【第一作者】Chi Chunyan
【通讯作者】Yoichiro Ito
【期刊名称、卷期、页码】Journal of Liquid Chromatography & Related Technologies,2009,32:136-143
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【引文索引类型】SCI
【引文索引号】10.1080/10826070802548747
【学科分类】生物化学

【题目】A xylanase with broad pH and temperature adaptability from Streptomyces megasporus DSM 41476, and its potential application in brewing industry
【中文关键词】Xylanase, Streptomyces megasporus, Yeast expression, Mashing
【英文关键词】Xylanase, Streptomyces megasporus, Yeast expression, Mashing
【中文摘要】A xylanase gene, xynAM6, was isolated from the genomic DNA library of Streptomyces megasporus DSM 41476 using colony PCR screening method. The 1440-bp full-length gene encodes a 479-amino acid peptide consisting of a putative signal peptide of 36 residues, a family 10 glycoside hydrolase domain and a family 2 carbohydrate-binding module. The mature peptide of xynAM6 was successfully expressed in Pichia pastoris GS115. The optimal pH and temperature were pH 5.5 and 70 ◦ C, respectively. The enzyme showed broad temperature adaptability (>60% of the maximum activity at 50 – 80 ◦ C), had good thermostability at 60 ◦ C and 70 ◦ C, remained stable at pH 4.0 – 11.0, and was resistant to most proteases. The Km and Vmax values for oat spelt xylan were 1.68mgml − 1 and 436.76 μ mol min − 1 mg − 1, respectively, and 2.33mgml − 1 and 406.93 μ mol min − 1 mg − 1 for birchwood xylan, respectively. The hydrolysis products of XYNAM6 were mainly xylose and xylobiose. Addition of XYNAM6 (80 U) to the brewery mash significantly reduced the filtration rate and viscosity by 36.33% and 35.51%, respectively. These favorable 2.33mgml − 1 and 406.93 μ mol min − 1 mg − 1 for birchwood xylan, respectively. The hydrolysis products of XYNAM6 were mainly xylose and xylobiose. Addition of XYNAM6 (80 U) to the brewery mash significantly reduced the filtration rate and viscosity by 36.33% and 35.51%, respectively. These favorable properties probably make XYNAM6 a good candidate for application in brewing industry.
【英文摘要】A xylanase gene, xynAM6, was isolated from the genomic DNA library of Streptomyces megasporus DSM 41476 using colony PCR screening method. The 1440-bp full-length gene encodes a 479-amino acid peptide consisting of a putative signal peptide of 36 residues, a family 10 glycoside hydrolase domain and a family 2 carbohydrate-binding module. The mature peptide of xynAM6 was successfully expressed in Pichia pastoris GS115. The optimal pH and temperature were pH 5.5 and 70 ◦ C, respectively. The enzyme showed broad temperature adaptability (>60% of the maximum activity at 50 – 80 ◦ C), had good thermostability at 60 ◦ C and 70 ◦ C, remained stable at pH 4.0 – 11.0, and was resistant to most proteases. The Km and Vmax values for oat spelt xylan were 1.68mgml − 1 and 436.76 μ mol min − 1 mg − 1, respectively, and 2.33mgml − 1 and 406.93 μ mol min − 1 mg − 1 for birchwood xylan, respectively. The hydrolysis products of XYNAM6 were mainly xylose and xylobiose. Addition of XYNAM6 (80 U) to the brewery mash significantly reduced the filtration rate and viscosity by 36.33% and 35.51%, respectively. These favorable 2.33mgml − 1 and 406.93 μ mol min − 1 mg − 1 for birchwood xylan, respectively. The hydrolysis products of XYNAM6 were mainly xylose and xylobiose. Addition of XYNAM6 (80 U) to the brewery mash significantly reduced the filtration rate and viscosity by 36.33% and 35.51%, respectively. These favorable properties probably make XYNAM6 a good candidate for application in brewing industry.
【语种】英文
【第一作者】Zhenhua Qiua, Pengjun Shia
【通讯作者】Bin Yao
【期刊名称、卷期、页码】Enzyme and Microbial Technology,46(6):506-512
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【引文索引类型】SCI
【引文索引号】10.1016/j.enzmictec.2010.02.003
【学科分类】生物化学

【题目】A new xylanase from thermoacidophilic Alicyclobacillus sp. A4 with broad-range pH activity and pH stability
【中文关键词】Alicyclobacillus sp., pH adaptability, pH stability, Thermoacidophilic strain,Xylanase
【英文关键词】Alicyclobacillus sp., pH adaptability, pH stability, Thermoacidophilic strain,Xylanase
【中文摘要】We have identified a highly pH-adaptable and stable xylanase (XynA4) from the thermoacidophilic Alicyclobacillus sp. A4, a strain that was isolated from a hot spring in Yunnan Province, China. The gene (xynA4) that encodes this xylanase was cloned,

sequenced, and expressed in Escherichia coli. It encodes a 338-residue polypeptide with a calculated molecular mass of 42.5 kDa. The deduced amino acid sequence is most similar to (53% identity) an endo-1,4- β -xylanase from Geobacillus stearothermophilus that belongs to family 10 of the glycoside hydrolases. Purified recombinant XynA4 exhibited maximum activity at 55 ° C and pH 7.0, had broad pH adaptability (>40% activity at pH 3.8 – 9.4) and stability (retaining>80% activity after incubation at pH 2.6 – 12.0 for 1 h at 37 ° C), and was highly thermostable (retaining >90% activity after incubation at 60 ° C for 1 h at pH 7.0). These properties make XynA4 promising for application in the paper industry. This is the first report that describes cloning and expression of a xylanase gene from the genus Alicyclobacillus.

【英文摘要】We have identified a highly pH-adaptable and stable xylanase (XynA4) from the thermoacidophilic Alicyclobacillus sp. A4, a strain that was isolated from a hot spring in Yunnan Province, China. The gene (xynA4) that encodes this xylanase was cloned, sequenced, and expressed in Escherichia coli. It encodes a 338-residue polypeptide with a calculated molecular mass of 42.5 kDa. The deduced amino acid sequence is most similar to (53% identity) an endo-1,4- β -xylanase from Geobacillus stearothermophilus that belongs to family 10 of the glycoside hydrolases. Purified recombinant XynA4 exhibited maximum activity at 55 ° C and pH 7.0, had broad pH adaptability (>40% activity at pH 3.8 – 9.4) and stability (retaining>80% activity after incubation at pH 2.6 – 12.0 for 1 h at 37 ° C), and was highly thermostable (retaining >90% activity after incubation at 60 ° C for 1 h at pH 7.0). These properties make XynA4 promising for application in the paper industry. This is the first report that describes cloning and expression of a xylanase gene from the genus Alicyclobacillus.

【语种】英文

【第一作者】Yingguo Bai

【通讯作者】Bin Yao

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【引文索引号】10.1007/s10295-009-0662-4

【学科分类】生物化学

【题目】A new aminopeptidase from the keratin-degrading strain Streptomyces fradiae var. k11

【中文关键词】Aminopeptidase, Streptomyces fradiae var. k11, C-terminal propeptide

【英文关键词】Aminopeptidase, Streptomyces fradiae var. k11, C-terminal propeptide

【中文摘要】An aminopeptidase gene fragment was isolated from a keratin-degrading strain, Streptomyces fradiae var. k11, by PCR amplification using a degenerate primer set designed based on the partial amino acid sequence of the native enzyme. The gene, designated sfap, encoded a polypeptide of 461 amino acids comprised of three domains: a signal peptide, a mature region, and a C-terminal propeptide. The aminopeptidase, SFAP, had highest amino acid sequence identity (79%) with a putative aminopeptidase from Streptomyces griseus subsp. griseus NBRC 13350. The gene with and without C-terminal propeptide was successfully overexpressed in Escherichia coli BL21 (DE3), and the gene without C-terminal propeptide encoded a functional enzyme. Purified recombinant SFAP exhibited optimal activity at pH 8.0 and 60 ° C, and retained >60% peak activity over a broad range of temperature. The enzyme was thermal and pH stable, and showed metalloprotease characteristics, which was inhibited by EDTA but activated by Ca2+ and Co2+. This is the first study to report the gene cloning and expression of a leucine aminopeptidase from S. fradiae.

【英文摘要】An aminopeptidase gene fragment was isolated from a keratin-degrading strain, Streptomyces fradiae var. k11, by PCR amplification using a degenerate primer set designed based on the partial amino acid sequence of the native enzyme. The gene, designated sfap, encoded a polypeptide of 461 amino acids comprised of three domains: a signal peptide, a mature region, and a C-terminal propeptide. The aminopeptidase, SFAP, had highest amino acid sequence identity (79%) with a putative aminopeptidase from Streptomyces griseus subsp. griseus NBRC 13350. The gene with and without C-terminal propeptide was successfully overexpressed in Escherichia coli BL21 (DE3), and the gene without C-terminal propeptide encoded a functional enzyme. Purified recombinant SFAP exhibited optimal activity at pH 8.0 and 60 ° C, and retained >60% peak activity over a broad range of temperature. The enzyme was thermal and pH stable, and showed metalloprotease characteristics, which was inhibited by EDTA but activated by Ca2+ and Co2+. This is the first study to report the gene cloning and expression of a leucine aminopeptidase from S. fradiae.

【语种】英文

【第一作者】Bo Wu

【通讯作者】Bin Yao

【期刊名称、卷期、页码】Applied Biochemistry and Biotechnology,160(3):730-739

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【引文索引类型】SCI
【引文索引号】10.1007/s12010-009-8537-8
【学科分类】生物化学

【题目】Cloning of a new xylanase gene from Streptomyces sp. TN119 using a modified thermal asymmetric interlaced-PCR specific for GC-rich genes and biochemical characterization
【中文关键词】Xylanase, Batocera horsfieldi, Gut, Streptomyces sp., TN119, Thermal asymmetric interlaced (TAIL)-PCR, High-GC genes
【英文关键词】Xylanase, Batocera horsfieldi, Gut, Streptomyces sp., TN119, Thermal asymmetric interlaced (TAIL)-PCR, High-GC genes
【中文摘要】A bacterial strain, Streptomyces sp. TN119, was isolated from the gut of Batocera horsfieldi larvae and showed xylanolytic activity. A degenerate primer set was designed based on the base usage of G and C in Actinobacteria xylanase-coding sequences belonging to the glycosyl hydrolases family 10 (GH 10), and used to clone the partial xylanase gene from Streptomyces sp. TN119. A modified thermal asymmetric interlaced (TAIL)-PCR specific for high-GC genes, named GC TAIL-PCR, was developed to obtain the full-length xylanase gene (xynA119; 1089 bp). Rich in GC content (67.8%), xynA119 encodes a new GH 10 xylanase (XynA119), which shares highest identity (48.8%) with an endo-1,4- β -xylanase from Cellulosimicrobium sp. HY-12. Recombinant XynA119 was expressed in Escherichia coli BL21 (DE3) and purified to electrophoretic homogeneity. The enzyme showed maximal activity at pH 6.5 and 60 ° C, was stable at pH 4.0 to 10.0 and 50 ° C, was resistant to most chemicals (except for Cu2+, Mn2+, Ag+, Hg2+ and SDS) and trypsin, and produced simple products. The specific activity, Km, Vmax, and kcat using oat-spelt xylan as substrate were 57.9 U mg − 1, 1.0 mg ml − 1, 74.8 μ mol min − 1 mg − 1, and 49.2 s − 1, respectively
【英文摘要】A bacterial strain, Streptomyces sp. TN119, was isolated from the gut of Batocera horsfieldi larvae and showed xylanolytic activity. A degenerate primer set was designed based on the base usage of G and C in Actinobacteria xylanase-coding sequences belonging to the glycosyl hydrolases family 10 (GH 10), and used to clone the partial xylanase gene from Streptomyces sp. TN119. A modified thermal asymmetric interlaced (TAIL)-PCR specific for high-GC genes, named GC TAIL-PCR, was developed to obtain the full-length xylanase gene (xynA119; 1089 bp). Rich in GC content (67.8%), xynA119 encodes a new GH 10 xylanase (XynA119), which shares highest identity (48.8%) with an endo-1,4- β -xylanase from Cellulosimicrobium sp. HY-12. Recombinant XynA119 was expressed in Escherichia coli BL21 (DE3) and purified to electrophoretic homogeneity. The enzyme showed maximal activity at pH 6.5 and 60 ° C, was stable at pH 4.0 to 10.0 and 50 ° C, was resistant to most chemicals (except for Cu2+, Mn2+, Ag+, Hg2+ and SDS) and trypsin, and produced simple products. The specific activity, Km, Vmax, and kcat using oat-spelt xylan as substrate were 57.9 U mg − 1, 1.0 mg ml − 1, 74.8 μ mol min − 1 mg − 1, and 49.2 s − 1, respectively
【语种】英文
【第一作者】Junpei Zhou
【通讯作者】Bin Yao
【期刊名称、卷期、页码】Applied Biochemistry and Biotechnology,160(5):1277-1292
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【引文索引类型】SCI
【引文索引号】10.1007/s12010-009-8642-8
【学科分类】生物化学

【题目】Characterization of a chromosomal segment showing xylanolytic activity from the symbiotic Sphingobacterium sp. TN19
【中文关键词】Batocera horsfieldi, Sphingobacterium sp. , TN19, Gut, Xylan and xylose metabolism
【英文关键词】Batocera horsfieldi, Sphingobacterium sp. , TN19, Gut, Xylan and xylose metabolism
【中文摘要】A 37.5-kb chromosomal segment with 41.5% G+C contentwas cloned using genome walking method from Sphingobacterium sp. TN19, a symbiotic strain isolated from the gut of Batocera horsfieldi (Coleoptera, Cerambycidae) larvae. Twenty-three complete and two partial open reading frames (ORFs) were found in this region, and shared highest identities of 31.6-80.0% (11 of them <60%) to known sequences from the sources shared the common feature-fluid with low dissolved oxygen levels. These ORFs were organized uniquely in chromosome compared to that from other bacteria, and putatively involved in xylan and xylose metabolism. To confirm their putative functions, one xylanase gene (xynB19) and one arabinosidase gene (gh43A19),were heteroexpressed in Escherichia coli BL21 (DE3), respectively, and both the recombinant enzymes showed significant enzymatic

activities. This result indicates that xylan degradation is a complex process involving various enzymes, and genome walking is an efficient method to obtain multiple genes.

【英文摘要】A 37.5-kb chromosomal segment with 41.5% G+C contentwas cloned using genome walking method from Sphingobacterium sp. TN19, a symbiotic strain isolated from the gut of Batocera horsfieldi (Coleoptera, Cerambycidae) larvae. Twenty-three complete and two partial open reading frames (ORFs) were found in this region, and shared highest identities of 31.6-80.0% (11 of them <60%) to known sequences from the sources shared the common feature-fluid with low dissolved oxygen levels. These ORFs were organized uniquely in chromosome compared to that from other bacteria, and putatively involved in xylan and xylose metabolism. To confirm their putative functions, one xylanase gene (xynB19) and one arabinosidase gene (gh43A19),were heteroexpressed in Escherichia coli BL21 (DE3), respectively, and both the recombinant enzymes showed significant enzymatic activities. This result indicates that xylan degradation is a complex process involving various enzymes, and genome walking is an efficient method to obtain multiple genes.

【语种】英文

【第一作者】Junpei Zhou

【通讯作者】Bin Yao

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【引文索引类型】SCI

【引文索引号】10.1007/s11274-009-0220-2

【学科分类】生物化学

【题目】A new xylanase from thermoalkaline Anoxybacillus sp. E2 with high activity and stability over a broad pH range

【中文关键词】Anoxybacillus sp. E2, Xylanase, pH stability , Thermostability

【英文关键词】Anoxybacillus sp. E2, Xylanase, pH stability , Thermostability

【中文摘要】A xylanase gene, xynE2, was cloned from thermoalkaline Anoxybacillus sp. E2 and was expressed in Escherichia coli BL21 (DE3). The gene consisted of 987 bp and encoded a 328-residue xylanase with a calculated molecular weight of 38.8 kDa. On the basis of amino acid sequence similarities, this enzyme was assigned as a member of glycoside hydrolase family 10. Purified recombinant XynE2 showed maximal activity at pH 7.8 and 65 ° C, and was thermostable at 60 ° C. The enzyme was highly active and stable over a broad pH range, showing more than 90% of maximal activity at pH 6.6 – pH 8.6 and retaining more than 80% of activity at pH 4.6 – pH 12.0, 37 ° C for 1 h, respectively. These favorable properties make XynE2 a good candidate in the pulp and paper industries. This is the first report on gene cloning, expression and characterization of a xylanase from the genus Anoxybacillus.

【英文摘要】A xylanase gene, xynE2, was cloned from thermoalkaline Anoxybacillus sp. E2 and was expressed in Escherichia coli BL21 (DE3). The gene consisted of 987 bp and encoded a 328-residue xylanase with a calculated molecular weight of 38.8 kDa. On the basis of amino acid sequence similarities, this enzyme was assigned as a member of glycoside hydrolase family 10. Purified recombinant XynE2 showed maximal activity at pH 7.8 and 65 ° C, and was thermostable at 60 ° C. The enzyme was highly active and stable over a broad pH range, showing more than 90% of maximal activity at pH 6.6 – pH 8.6 and retaining more than 80% of activity at pH 4.6 – pH 12.0, 37 ° C for 1 h, respectively. These favorable properties make XynE2 a good candidate in the pulp and paper industries. This is the first report on gene cloning, expression and characterization of a xylanase from the genus Anoxybacillus.

【语种】英文

【第一作者】Jianshe Wang

【通讯作者】Bin Yao

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【引文索引类型】SCI

【引文索引号】10.1007/s11274-009-0254-5

【学科分类】生物化学

【题目】A xylanase with high pH stability from Streptomyces sp. S27 and its carbohydrate-binding module with/without linker region truncated versions

【中文关键词】Streptomyces sp. S27,Xylanase,Carbohydrate-binding module,Linker,Stability

【英文关键词】Streptomyces sp. S27,Xylanase,Carbohydrate-binding module,Linker,Stability
【中文摘要】A xylanase gene, xynAS27, was isolated from a genomic library of Streptomyces sp. S27. The full-length gene consists of 1,434 bp and encodes 477 amino acids, including a putative signal peptide of 41 residues at its N-terminus. The mature xylanase comprises two functional domains, a family 10 glycoside hydrolase, and a family 13 carbohydrate-binding module (CBM), which were joined by a short Gly/Pro-rich linker region. The intact, the CBM-truncated and the CBM-linker-truncated versions of the mature proteins were expressed in Escherichia coli BL21 (DE3), purified to electrophoretic homogeneity and subsequently characterized. XynAS27 showed high pH stability over the pH range 2.2 – 12.0. XynAS27 may be a compelling tool for the food industry because it generates xylobiose (85% w/w) as the main product of xylan hydrolysis. The truncated versions showed less pH and thermal stability, and less affinity and hydrolytic activity to insoluble substrate than the intact one. These results indicate that the CBM of XynAS27 plays a key role in the hydrolysis of insoluble substrate, and the CBM and linker region are also important for the enzyme stability, and the linker region contributes more.
【英文摘要】A xylanase gene, xynAS27, was isolated from a genomic library of Streptomyces sp. S27. The full-length gene consists of 1,434 bp and encodes 477 amino acids, including a putative signal peptide of 41 residues at its N-terminus. The mature xylanase comprises two functional domains, a family 10 glycoside hydrolase, and a family 13 carbohydrate-binding module (CBM), which were joined by a short Gly/Pro-rich linker region. The intact, the CBM-truncated and the CBM-linker-truncated versions of the mature proteins were expressed in Escherichia coli BL21 (DE3), purified to electrophoretic homogeneity and subsequently characterized. XynAS27 showed high pH stability over the pH range 2.2 – 12.0. XynAS27 may be a compelling tool for the food industry because it generates xylobiose (85% w/w) as the main product of xylan hydrolysis. The truncated versions showed less pH and thermal stability, and less affinity and hydrolytic activity to insoluble substrate than the intact one. These results indicate that the CBM of XynAS27 plays a key role in the hydrolysis of insoluble substrate, and the CBM and linker region are also important for the enzyme stability, and the linker region contributes more.
【语种】英文
【第一作者】Ning Li
【通讯作者】Bin Yao
【期刊名称、卷期、页码】Applied Microbiology and Biotechnology,83(1):99-107
【论文发表时间】2009-01-18 00:00:00
【引文索引类型】SCI
【引文索引号】10.1007/s00253-008-1810-x
【学科分类】生物化学

【题目】Molecular and biochemical characterization of a novel xylanase from the symbiotic Sphingobacterium sp. TN19
【中文关键词】Batocera horsfieldi, Sphingobacterium sp.TN19, Xylanase, Gut
【英文关键词】Batocera horsfieldi, Sphingobacterium sp.TN19, Xylanase, Gut
【中文摘要】A xylanase-encoding gene, designated xynA19, was cloned from Sphingobacterium sp. TN19-a symbiotic bacterium isolated from the gut of Batocera horsfieldi larvae-and expressed in Escherichia coli BL21 (DE3). The full-length xynA19 (1,155 bp in length) encodes a 384-residue polypeptide (XynA19) containing a predicted signal peptide of 24 residues and a catalytic domain belonging to glycosyl hydrolase family 10 (GH 10). The deduced amino acid sequence of XynA19 is most similar (53.1% identity) to an endo-1,4- β -xylanase from Prevotella bryantii B14. Phylogenetic analysis of GH 10 Bacteroidia xylanases indicated that GH 10 xylanases from Sphingobacteria were separated into two clusters, and XynA19 is more closely related to the xylanases of Bacteroidia from gut or rumen than to those of Flavobacteria and Sphingobacteria from other sources. Recombinant XynA19 (r-XynA19) showed apparent optimal activity at pH 6.5 and 45 ° C. Compared with thermophilic and mesophilic counterparts, r-XynA19 was more active at low temperatures, retaining >65% of its maximum activity at 20 – 28 ° C and ~40% even at 10 ° C, and modeling indicated that XynA19 has fewer hydrogen bonds and salt bridges. These properties suggest that XynA19 has various potential applications, especially in aquaculture and the food industry.
【英文摘要】A xylanase-encoding gene, designated xynA19, was cloned from Sphingobacterium sp. TN19-a symbiotic bacterium isolated from the gut of Batocera horsfieldi larvae-and expressed in Escherichia coli BL21 (DE3). The full-length xynA19 (1,155 bp in length) encodes a 384-residue polypeptide (XynA19) containing a predicted signal peptide of 24 residues and a catalytic domain belonging to glycosyl hydrolase family 10 (GH 10). The deduced amino acid sequence of XynA19 is most similar (53.1% identity) to an endo-1,4- β -xylanase from Prevotella bryantii B14. Phylogenetic analysis of GH 10 Bacteroidia xylanases indicated that GH 10 xylanases from Sphingobacteria were separated into two clusters, and XynA19 is more closely related to the xylanases of Bacteroidia from gut or rumen than to those of Flavobacteria and Sphingobacteria from other sources. Recombinant XynA19 (r-XynA19) showed

apparent optimal activity at pH 6.5 and 45 ° C. Compared with thermophilic and mesophilic counterparts, r-XynA19 was more active at low temperatures, retaining >65% of its maximum activity at 20 – 28 ° C and ~40% even at 10 ° C, and modeling indicated that XynA19 has fewer hydrogen bonds and salt bridges. These properties suggest that XynA19 has various potential applications, especially in aquaculture and the food industry.

【语种】英文

【第一作者】Junpei Zhou

【通讯作者】Bin Yao

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【引文索引号】10.1007/s00253-009-2081-x

【学科分类】生物化学

【题目】Cloning, expression, and characterization of a new Streptomyces sp. S27 xylanase for which xylobiose is the main hydrolysis product

【中文关键词】Streptomyces sp. S27,Xylanase,Overexpression,Pichia pastoris,Xylobiose

【英文关键词】Streptomyces sp. S27,Xylanase,Overexpression,Pichia pastoris,Xylobiose

【中文摘要】A xylanase gene, xynBS27, was cloned from Streptomyces sp. S27 and consisted of 693 bp encoding a 230-residue protein, including a putative 41-residue signal peptide. Belonging to the glycoside hydrolase family 11, XynBS27 exhibits the maximum identity (75.9%) to the xylanase from Streptomyces sp. zxy19. Recombinant XynBS27 was overexpressed in Pichia pastoris, and the xylanase activity was 7624.0 U/ml after high-celldensity fermentation in 3.7-L fermenter. The purified recombinant XynBS27 had a high specific activity of 3272.0 U/mg. The optimum temperature and pH for XynBS27 activity was 65 ° C and pH 6.5, respectively. XynBS27 showed good pH stability and retained more than 80% of the maximum activity after incubation in buffers with pH ranging between 4.0 and 12.0 at 37 ° C for 1 h. The main hydrolysis product of xylan by XynBS27 was xylobiose (>75%), which was good for human health derived from its ability to modulate the intestinal function. The attractive biochemical characteristics of XynBS27 suggest that it may be a good candidate in a variety of industrial applications.

【英文摘要】A xylanase gene, xynBS27, was cloned from Streptomyces sp. S27 and consisted of 693 bp encoding a 230-residue protein, including a putative 41-residue signal peptide. Belonging to the glycoside hydrolase family 11, XynBS27 exhibits the maximum identity (75.9%) to the xylanase from Streptomyces sp. zxy19. Recombinant XynBS27 was overexpressed in Pichia pastoris, and the xylanase activity was 7624.0 U/ml after high-celldensity fermentation in 3.7-L fermenter. The purified recombinant XynBS27 had a high specific activity of 3272.0 U/mg. The optimum temperature and pH for XynBS27 activity was 65 ° C and pH 6.5, respectively. XynBS27 showed good pH stability and retained more than 80% of the maximum activity after incubation in buffers with pH ranging between 4.0 and 12.0 at 37 ° C for 1 h. The main hydrolysis product of xylan by XynBS27 was xylobiose (>75%), which was good for human health derived from its ability to modulate the intestinal function. The attractive biochemical characteristics of XynBS27 suggest that it may be a good candidate in a variety of industrial applications.

【语种】英文

【第一作者】Ning Li

【通讯作者】Bin Yao

【期刊名称、卷期、页码】Applied Biochemistry and Biotechnology,159(2):521-531

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【引文索引类型】SCI

【引文索引号】10.1007/s12010-008-8411-0

【学科分类】生物化学

【题目】Cloning, expression and characterization of a new xylanase with broad temperature adaptability from Streptomyces sp. S9

【中文关键词】Streptomyces sp. S9,Turpan Basin,Xylanase,Xylose

【英文关键词】Streptomyces sp. S9,Turpan Basin,Xylanase,Xylose

【中文摘要】A new xylanase gene, xynAS9, was cloned from Streptomyces sp. S9, which was isolated from Turpan Basin, China. The full-length gene consists of 1,395 bp and encodes 465 amino acids including 38 residues of a putative signal peptide. The overall amino acid sequence shares the highest identity (50.8%) with a putative endo-1, 4- β -xylanase from Streptomyces avermitilis of the glycoside

hydrolase family 10. The gene fragment encoding the mature xylanase was expressed in Escherichia coli BL21 (DE3). The recombinant protein was purified to electrophoretic homogeneity and subsequently characterized. The optimal pH and temperature for the recombinant enzyme were 6.5 and 60 ° C, respectively. The enzyme showed broad temperature adaptability, retaining more than 65% of the maximum activity when assayed at 50 – 80 ° C. The enzyme also had good thermal and pH stability. The Km values for oat spelt xylan and birchwood xylan substrates were 2.85 and 2.43 mg ml − 1, with the Vmax values of 772.20 and 490.87 μ mol min − 1 mg − 1, respectively. The hydrolysis products of xylan were mainly xylose and xylobiose. These favorable properties should make XynAS9 a good candidate in various industrial applications.

【英文摘要】A new xylanase gene, xynAS9, was cloned from Streptomyces sp. S9, which was isolated from Turpan Basin, China. The full-length gene consists of 1,395 bp and encodes 465 amino acids including 38 residues of a putative signal peptide. The overall amino acid sequence shares the highest identity (50.8%) with a putative endo-1, 4- β -xylanase from Streptomyces avermitilis of the glycoside hydrolase family 10. The gene fragment encoding the mature xylanase was expressed in Escherichia coli BL21 (DE3). The recombinant protein was purified to electrophoretic homogeneity and subsequently characterized. The optimal pH and temperature for the recombinant enzyme were 6.5 and 60 ° C, respectively. The enzyme showed broad temperature adaptability, retaining more than 65% of the maximum activity when assayed at 50 – 80 ° C. The enzyme also had good thermal and pH stability. The Km values for oat spelt xylan and birchwood xylan substrates were 2.85 and 2.43 mg ml − 1, with the Vmax values of 772.20 and 490.87 μ mol min − 1 mg − 1, respectively. The hydrolysis products of xylan were mainly xylose and xylobiose. These favorable properties should make XynAS9 a good candidate in various industrial applications.

【语种】英文

【第一作者】Ning Li

【通讯作者】Bin Yao

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【引文索引类型】SCI

【引文索引号】10.1007/s00253-008-1533-z

【学科分类】生物化学

【题目】Optimized microwave-assisted extraction of phenolic acids from citrus mandarin peels and evaluation of antioxidant activity in vitro

【中文关键词】Microwave-assisted extraction,Response surface,methodology,Phenolic acid content,Kinnow,Antioxidant activity

【英文关键词】Microwave-assisted extraction,Response surface,methodology,Phenolic acid content,Kinnow,Antioxidant activity

【中文摘要】An efficient microwave-assisted extraction (MAE) technique was developed to extract phenolic acids from citrus mandarin peels. The operating parameters were optimized using central composite design combined with response surface methodology. The optimum extraction conditions were as follows: microwave power, 152W; extraction time, 49 s; liquid to solid ratio, 16; and methanol concentration, 66%. After method development, the extraction yield of phenolic acids (divided into four fractions: free, ester-bound, glycoside-bound and insoluble-bound) and the antioxidant activity of the extract were compared with those of the extracts obtained from the conventional methods including ultrasonic extraction (USE) and rotary extraction (RE). MAE showed obvious advantages in terms of high extraction efficiency and antioxidant activity of extract within shortest extraction time. The results demonstrated that MAE could be a fast and reliable method for quantitative analysis of phenolic compounds in citrus mandarin peels.

【英文摘要】An efficient microwave-assisted extraction (MAE) technique was developed to extract phenolic acids from citrus mandarin peels. The operating parameters were optimized using central composite design combined with response surface methodology. The optimum extraction conditions were as follows: microwave power, 152W; extraction time, 49 s; liquid to solid ratio, 16; and methanol concentration, 66%. After method development, the extraction yield of phenolic acids (divided into four fractions: free, ester-bound, glycoside-bound and insoluble-bound) and the antioxidant activity of the extract were compared with those of the extracts obtained from the conventional methods including ultrasonic extraction (USE) and rotary extraction (RE). MAE showed obvious advantages in terms of high extraction efficiency and antioxidant activity of extract within shortest extraction time. The results demonstrated that MAE could be a fast and reliable method for quantitative analysis of phenolic compounds in citrus mandarin peels.

【语种】英文

【第一作者】Khizar Hayata

【通讯作者】Xiaoming Zhang

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【引文索引类型】SCI
【引文索引号】10.1016/j.seppur.2009.08.012
【学科分类】生物化学

【题目】Purification of flavonoid from Gingko biloba extract by zinc complexation method and its effect on antioxidant activity
【中文关键词】Gingko extract,Flavonoid,Purification,Zinc complexation
【英文关键词】Gingko extract,Flavonoid,Purification,Zinc complexation
【中文摘要】The present study was focused on investigating the method for purification of the flavonoid from the Gingko biloba extract (EGb). The flavonoid content was increased from 24% to 55% by the method of the flavonoid – zinc complexes, which was based on the chelating activity of the flavonoids. The purification process parameters optimized were 9.50, 0.20 and 1.0% (w/v, of the methanol) for solution pH value, zinc sulfate EGb ratio (w/w), and the EGb concentration, espectively. The flavonoid ingredients changes after the purification were determined by high performance liquid chromatography (HPLC) and the results revealed that this purification method exhibited high selectivity of flavonoids which had the aglycone of quercetin and kaempferol. The antioxidant activity of the extract before and after purification was compared by the 2,2-diphenyl-1-picryl-hydrazyl (DPPH) radical-scavenging activity method. The results showed that the antioxidant activity of the extract was almost not affected through the purification by complexation method.
【英文摘要】The present study was focused on investigating the method for purification of the flavonoid from the Gingko biloba extract (EGb). The flavonoid content was increased from 24% to 55% by the method of the flavonoid – zinc complexes, which was based on the chelating activity of the flavonoids. The purification process parameters optimized were 9.50, 0.20 and 1.0% (w/v, of the methanol) for solution pH value, zinc sulfate EGb ratio (w/w), and the EGb concentration, espectively. The flavonoid ingredients changes after the purification were determined by high performance liquid chromatography (HPLC) and the results revealed that this purification method exhibited high selectivity of flavonoids which had the aglycone of quercetin and kaempferol. The antioxidant activity of the extract before and after purification was compared by the 2,2-diphenyl-1-picryl-hydrazyl (DPPH) radical-scavenging activity method. The results showed that the antioxidant activity of the extract was almost not affected through the purification by complexation method.
【语种】英文
【第一作者】Jing Zhang
【通讯作者】Xiaoming Zhang
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【学科分类】生物化学

【题目】Liberation and separation of phenolic compounds from citrus mandarin peels by microwave heating and its effect on antioxidant activity
【中文关键词】Microwave treatment,Citrus mandarin peels,Phenolic acids,Antioxidant activity,Kinnow
【英文关键词】Microwave treatment,Citrus mandarin peels,Phenolic acids,Antioxidant activity,Kinnow
【中文摘要】The effect of microwave treatment on the phenolic compounds and antioxidant capacity of citrus mandarin peels was evaluated. After microwave treatment, methanol extracts of citrus peels were prepared and the contents of phenolic acids (free and bound) and flavanol, flavanone and flavonol compounds (FCs) were determined by HPLC. Antioxidant capacity of peel extracts was measured using DPPH radical scavenging assay, hydroxyl radical scavenging assay and reducing power. After microwave treatment, the free fraction of phenolic acids increased, whereas the bound fractions decreased and antioxidant activity was increased. The content of total FCs increased with power but at longer irradiation time it was declined which meant that some FCs might be degraded. The results indicated that appropriate microwave treatment could be an efficient process to liberate and activate the bound phenolic compounds and to increase the antioxidant capacity of citrus mandarin peels.
【英文摘要】The effect of microwave treatment on the phenolic compounds and antioxidant capacity of citrus mandarin peels was evaluated. After microwave treatment, methanol extracts of citrus peels were prepared and the contents of phenolic acids (free and bound) and flavanol, flavanone and flavonol compounds (FCs) were determined by HPLC. Antioxidant capacity of peel extracts was

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【语种】英文

【第一作者】Khizar Hayat

【通讯作者】Xiaoming Zhang

【期刊名称、卷期、页码】Separation and Purification Technology,73(3):371-376

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【引文索引类型】SCI

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【学科分类】生物化学

【题目】Effect of microwave treatment on phenolic content and antioxidant activity of citrus mandarin pomace

【中文关键词】Microwave treatment,Citrus mandarin pomace,Phenolic content,Antioxidant activity,Kinnow,Feutrell ’ s Early

【英文关键词】Microwave treatment,Citrus mandarin pomace,Phenolic content,Antioxidant activity,Kinnow,Feutrell ’ s Early

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【英文摘要】The effects of microwave treatment on the phenolic compounds and antioxidant capacity of citrus mandarin pomace were evaluated. After treatment, methanol extracts of citrus pomace were prepared and the contents of phenolic acids (free and bound) and flavanol, flavanone and flavonol compounds (FCs) were determined by HPLC. Antioxidant capacity of pomace extracts was measured using DPPH radicalscavenging assay, hydroxyl radical-scavenging assay and reducing power. After microwave treatment, the free fraction of phenolic acids increased, whereas the bound fractions decreased and antioxidant activity was increased. The content of total FCs increased with power but, at longer irradiation time, it declined which meant that some FCs might be degraded. The results indicated that appropriate microwave treatment could be an efficient process to liberate and activate the bound phenolic compounds and to enhance the antioxidant activity of citrus mandarin pomace.

【语种】英文

【第一作者】Khizar Hayat

【通讯作者】Xiaoming Zhang

【期刊名称、卷期、页码】Food Chemistry,123(2):423-429

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【学科分类】生物化学

【题目】Protective effects of Forsythia suspensa extract against oxidative stress induced by diquat in rats

【中文关键词】Forsythia suspensa extract,Oxidative stress,Rat

【英文关键词】Forsythia suspensa extract,Oxidative stress,Rat

【中文摘要】Forsythia suspensa extract has been proved as a potential antioxidant in the recent years. The present study was undertaken to obtain the optimal antioxidant fraction in vitro and examine its antioxidative potential against diquat-induced oxidative stress in male Sprague Dawley rats in vivo. In vitro, 1, 1-diphenyl-2-picrylhydrazyl (DPPH) free radical scavenging experiment indicated that the CH2Cl2 fraction of F.suspensa (FSC) exerted the strongest scavenging activities; forsythoside A, forythialan A and phillygenin from it might be the major antioxidant constituents. In vivo, pretreatment of rats with different doses of FSC (25, 50 and 100

mg/kg bw) and vitamin C (100 mg/kg bw, positive control) for 15 days significantly lowered the tumor necrosis factor-α (TNF-α), interleukin-1β (IL-1β), and interleukin-6 (IL-6) in plasma compared to the negative control group. Also, FSC significantly increased the activities of superoxide dismutase (SOD), glutathione peroxidase (GSH-Px), and the levels of glutathione (GSH) in plasma, liver and kidney whereas it decreased the levels of malondialdehyde (MDA) in plasma and kidney. Moreover, the protective effect of FSC (100 mg/kg bw) was better than vitamin C. These results revealed that FSC exerted a protective effect against diquat-induced oxidative stress and is worthy of becoming a potential dietary antioxidant.

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【语种】英文
【第一作者】T. Lu
【通讯作者】Xiangshu Piao
【期刊名称、卷期、页码】Food and Chemical Toxicology,48(2):764-770
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【引文索引号】10.1016/j.fct.2009.12.018
【学科分类】畜牧、兽医科学基础学科

【题目】Forsythia suspensa extract alleviates hypersensitivity induced by soybean β-conglycinin in weaned piglets

【中文关键词】Forsythia suspensa,Soybean allergy,Mast cells,Histamine,Cytokines,Swine
【英文关键词】Forsythia suspensa,Soybean allergy,Mast cells,Histamine,Cytokines,Swine

【中文摘要】Aim of the study: Soybeans are known to stimulate food allergies; however, current therapies are lacking in alleviating hypersensitivity. The present study investigated whether Forsythia suspensa extract could attenuate purified soybean β-conglycinin-induced anaphylactic reactions in weaned piglets. Materials and methods: Eighteen 14-day-old piglets were sensitized and boosted by oral administration of purified β-conglycinin. Forsythia suspensa extract was supplemented in the diet after the initial sensitization and continued for the remainder of the experiment. Piglets were challenged on day 28, and anaphylactic symptoms, passive cutaneous anaphylaxis, plasma histamine and intestinal microbial flora were analyzed. T-cell proliferative responses and cytokine production were also determined. Results: Forsythia suspensa extract alleviated β-conglycinin-induced anaphylactic symptoms by markedly reducing anaphylactic antibodies, mast cell degranulation, and histamine release while improving intestinal microbial flora. Furthermore, Forsythia suspensa extract significantly suppressed β-conglycininduced T lymphocyte proliferation and IL-4 synthesis. Conclusion: Forsythia suspensa extract protected β-conglycinin-sensitized piglets from anaphylactic reactions. Forsythia suspensa extract may provide a novel effective therapy for soybean allergy.

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【语种】英文
【第一作者】Yue Hao
【通讯作者】Xiangshu Piao
【期刊名称、卷期、页码】Journal of Ethnopharmacology,128(2):412-418
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【引文索引号】10.1016/j.jep.2010.01.035
【学科分类】畜牧、兽医科学基础学科

【题目】Rapid Identification and Characterization of Antioxidants from Ligularia fischeri
【中文关键词】Ligularia fischeri,Antioxidative activity,Bioassay-linked HPLC,Hyperoside,2''-acetylhyperoside
【英文关键词】Ligularia fischeri,Antioxidative activity,Bioassay-linked HPLC,Hyperoside,2''-acetylhyperoside
【中文摘要】The objectives of this study were to investigate the radical-scavenging activity of Ligularia fischeri on oxidative damage by the radical 1,1-diphenyl-2-picrylhydrazyl (DPPH) and to rapidly identify the active components using the bioassay-linked fractionation method. The MeOH extract and fractions of CH2Cl2, BuOH, and H2O from L. fischeri showed DPPH radical-scavenging effects in a dose-dependent manner ($p < 0.01$). In particular, the BuOH fraction had the most effective ($p < 0.05$) antioxidative capacity. The active constituents from the BuOH fraction of L. fischeri were rapidly isolated by bioassay-linked HPLC method and identified as hyperoside and 2''-acetylhyperoside with potent antioxidant effects against the DPPH radical, with IC50 values of 1.31 and 7.09 μg/mL, respectively. They have not been reported from L. fischeri yet.
【英文摘要】The objectives of this study were to investigate the radical-scavenging activity of Ligularia fischeri on oxidative damage by the radical 1,1-diphenyl-2-picrylhydrazyl (DPPH) and to rapidly identify the active components using the bioassay-linked fractionation method. The MeOH extract and fractions of CH2Cl2, BuOH, and H2O from L. fischeri showed DPPH radical-scavenging effects in a dose-dependent manner ($p < 0.01$). In particular, the BuOH fraction had the most effective ($p < 0.05$) antioxidative capacity. The active constituents from the BuOH fraction of L. fischeri were rapidly isolated by bioassay-linked HPLC method and identified as hyperoside and 2''-acetylhyperoside with potent antioxidant effects against the DPPH radical, with IC50 values of 1.31 and 7.09 μg/mL, respectively. They have not been reported from L. fischeri yet.
【语种】英文
【第一作者】Xiang Lan Piao
【通讯作者】Xiangshu Piao
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【引文索引类型】SCI
【引文索引号】10.1007/s12272-009-2204-z
【学科分类】生物化学

【题目】Dietary Arginine Supplementation Affects Microvascular Development in the Small Intestine of Early-Weaned Pigs
【中文关键词】Arginine, Microvascular Development,Small Intestine,Early-Weaned Pigs
【英文关键词】Arginine, Microvascular Development,Small Intestine,Early-Weaned Pigs
【中文摘要】This study was conducted to evaluate the effects of dietary arginine levels on microvascular development of the small intestine in early-weaned pigs. Twenty-four crossbred pigs (5.0 ± 0.3 kg body weight) were individually housed and randomly allotted to 1 of 3 diets supplemented with 0, 0.7, and 1.2% L-arginine (8 pigs per group). Pigs consumed the diets ad libitum for 10 d. We collected blood samples on d 3, 6, and 10. On d 10, 6 pigs from each group were randomly selected and killed for tissue sample collection. Compared with control pigs, dietary supplementation with 0.7% L-arginine increased($P < 0.05$) jejunal concentrations of nitrite and nitrate (stable oxidation products of nitric oxide), intestinal villus height, as well as plasma proline and arginine concentrations on d 6 and 10. Dietary supplementation with 0.7% L-arginine also increased ($P < 0.05$) immunoreactive expression of CD34 in duodenal submucosa, ileal mucosa and submucosa, and expression of vascular endothelial growth factor (VEGF) in duodenal submucosa, jejunal mucosa and submucosa, and ileal mucosa compared with the control and 1.2% L-arginine supplementation. Dietary supplementation with 1.2% L-arginine increased ($P<0.05$) the concentration of jejunal endothelin-1 compared with the control pigs. Immunoexpression of VEGF in duodenal mucosa and plasma lysine concentrations on d 6 and 10 were lower ($P<0.05$) in pigs supplemented with 1.2% L-arginine than in unsupplemented pigs. Collectively, these findings indicate that the effects of L-arginine on

microvascular development are beneficial at lower levels but have adverse effects at higher intakes. Dietary supplementation with 0.7% L-arginine may be a useful method to improve microvascular development in the small intestine of early-weaned pigs.

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【语种】英文

【第一作者】Zhenfeng Zhan

【通讯作者】Xiangshu Piao;Junjun Wang

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【引文索引号】无

【学科分类】畜牧、兽医科学基础学科

【题目】Effects of Forsythia Suspensa Extract on the Growth Perforance, Nutrient Digestibility, and Antioxidant Activities in Broiler Chickens under High Ambient Temperature

【中文关键词】Forsythia suspense,Performance,nutrient digestibility,antioxidant,broiler

【英文关键词】Forsythia suspense,Performance,nutrient digestibility,antioxidant,broiler

【中文摘要】A 42-d trial was conducted with 252 broiler chickens (d 1 of age, 38.8 ± 1.3 g of BW) to determine the effects of Forsythia suspensa extract on growth performance, nutrient digestibility, and antioxidant activities under high ambient temperature (32± 1 ° C). The feeding program consisted of a starter diet from d 1 to 21 of age and a finisher diet from d 22 to 42 of age. Dietary treatments included a negative control group (NC) fed a cornsoybean meal based diet without vitamin C or Forsythia suspensa extract, a positive control group fed a diet with 200 mg of vitamin C/kg, and a test group (FS) fed with 100 mg of Forsythia suspensa extract/kg. There were 14 cages per treatment and 6 birds per cage during the study. Birds had free access to diets and water during the entire period. Body weight and feed intake were measured at d 21 and 42. Blood and tissue samples were collected at d 21 and 42 for assay of antioxidant indices. Growth performance did not differ among treatment groups during the starter period. In the finisher phase, birds in FS had greater (P <0.05) average daily gain, feed conversion, and apparent digestibility of energy, CP, calcium, and phosphorus than birds in NC. Furthermore, birds in FS had greater (P < 0.05) total antioxidant capacity and superoxide dismutase activity and lower (P< 0.05) malondialdehyde activity in the serum than birds in NC. The FS birds had greater (P <0.05) muscle superoxide dismutase activity and lower (P < 0.05) malondialdehyde than NC birds. During the entire period, hepatic superoxide dismutase activity of FS birds was greater (P < 0.05) than that of NC birds. Dietary supplementation with Forsythia suspensa extract can enhance nutrient digestibility and growth performance possibly by reducing oxidative stress of broiler chickens under high ambient temperatures.

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【语种】英文
【第一作者】L. Wang
【通讯作者】Xiangshu Piao
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【学科分类】畜牧、兽医科学基础学科

【题目】Purification, characterization, and cloning of a phytase with low pH optimum and strong proteolysis resistance from Aspergillus ficuum NTG-23
【中文关键词】Phytase,Aspergillus ficuum,Purification,Cloning
【英文关键词】Phytase,Aspergillus ficuum,Purification,Cloning
【中文摘要】A novel phytase was isolated from Aspergillus ficuum NTG-23 with a procedure involving ion-exchange chromatography on DEAE-cellulose, CM-cellulose and FPLC-gel filtration on Superdex 75. The protein exhibited a molecular mass of 65.5 kDa in gel filtration and SDS – PAGE. It possessed an optimal pH of 1.3 and an optimal temperature of 67 ° C, and manifested a Km of 0.295 mM and a Vmax of 55.9 nmol (phosphate)/min. Phytase activity was not significantly affected by metal ions such as Ca2+, Mg2+, Mn2+, Zn2+, but was slightly stimulated in the presence of EDTA. The phytase was stable at 60 ° C with no obvious loss of activity upon its incubation at 70 ° C for 20 min. The enzyme exhibited a broad substrate selectivity and showed strong resistance toward pepsin and trypsin. The unique properties suggest that the phytase has the potential to be useful as an animal feed supplement.
【英文摘要】A novel phytase was isolated from Aspergillus ficuum NTG-23 with a procedure involving ion-exchange chromatography on DEAE-cellulose, CM-cellulose and FPLC-gel filtration on Superdex 75. The protein exhibited a molecular mass of 65.5 kDa in gel filtration and SDS – PAGE. It possessed an optimal pH of 1.3 and an optimal temperature of 67 ° C, and manifested a Km of 0.295 mM and a Vmax of 55.9 nmol (phosphate)/min. Phytase activity was not significantly affected by metal ions such as Ca2+, Mg2+, Mn2+, Zn2+, but was slightly stimulated in the presence of EDTA. The phytase was stable at 60 ° C with no obvious loss of activity upon its incubation at 70 ° C for 20 min. The enzyme exhibited a broad substrate selectivity and showed strong resistance toward pepsin and trypsin. The unique properties suggest that the phytase has the potential to be useful as an animal feed supplement.
【语种】英文
【第一作者】Guoqing Zhang
【通讯作者】Jianming Tong
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【学科分类】生物化学

【题目】Vinegar production residue as substrates for phytase production by Aspergillus ficuum
【中文关键词】Vinegar production residue,Vinegar processing,Solid-state fermentation,Aspergillus ficuum,Phytase
【英文关键词】Vinegar production residue,Vinegar processing,Solid-state fermentation,Aspergillus ficuum,Phytase
【中文摘要】Two kinds of vinegar production residues, sorghum vinegar residue (SVR) and corn vinegar residue (CVR), were used as a substrate for phytase production in solid-state fermentation (SSF) by Aspergillus ficuum. Various process parameters influencing phytase production were evaluated by single factor design experiments; further study involved VCR and its goodness-of-fit levels. An incubation time of 48 hours, initial moisture of 55% and an inoculum of 1.2×107 spores per millilitre were the optimum cultural conditions for the production of phytase in waste corn vinegar residue, without adding in vitro nutrient elements by orthogonal design

experiment. Results showed that vinegar production residue as substrates for phytase production by Aspergillus ficuum through microbiology fermentation could be applied to treatment of an integrated system for waste from vinegar processing.

【英文摘要】Two kinds of vinegar production residues, sorghum vinegar residue (SVR) and corn vinegar residue (CVR), were used as a substrate for phytase production in solid-state fermentation (SSF) by Aspergillus ficuum. Various process parameters influencing phytase production were evaluated by single factor design experiments; further study involved VCR and its goodness-of-fit levels. An incubation time of 48 hours, initial moisture of 55% and an inoculum of 1.2×107 spores per millilitre were the optimum cultural conditions for the production of phytase in waste corn vinegar residue, without adding in vitro nutrient elements by orthogonal design experiment. Results showed that vinegar production residue as substrates for phytase production by Aspergillus ficuum through microbiology fermentation could be applied to treatment of an integrated system for waste from vinegar processing.

【语种】英文

【第一作者】Zhihong Wang
【通讯作者】Jianming Tong

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【学科分类】生物工程

【题目】Alfalfa polysaccharides improve the growth performance and antioxidant status of heat-stressed rabbits

【中文关键词】Alfalfa polysaccharides,Performance,Antioxidant status,Heat-stressed,Rabbit
【英文关键词】Alfalfa polysaccharides,Performance,Antioxidant status,Heat-stressed,Rabbit

【中文摘要】The study was conducted to evaluate the antioxidant properties of alfalfa polysaccharides (APS) extracted from alfalfa (Medicago sativa L.) through 1,1-Diphenyl-2-picryl-hydrazyl (DPPH) radical-scavenging assay and the effects of the inclusion (0%, 0.1%, and 0.5%) of APS in the diet on the growth performance and antioxidant status in heat-stressed rabbits. 120 New Zealand male rabbits (average body weight 1123 g, 40 d old) were divided into three groups (40 rabbits per group) and were fed with a basal diet or the basal diet with 1 g or 5 g of APS/kg of diet. Rabbits had free access to diets and water in an environmentally controlled room at 30±1 ° C and 55% relative humidity during the entire period (21 d). On days 7, 14 and 21 of the trial, body weight and feed intake were measured and blood samples were collected for assay of antioxidant induces. Liver tissue samples were collected on day 21 for assay of antioxidant induces. Results in vitro showed the scavenging effect of APS on DPPH radicals increased (P<0.05) in a dose-dependent manner. The APS exerted an inhibitory effect on DPPH radical generation, with 66.3% inhibition at 100 μg/mL and 74.5% inhibition at 250 μg/mL. Results in vivo showed that APS 0.1% supplementation increased (P<0.05) average daily gain (ADG) and reduced (P<0.05) feed conversion rate (FCR) in the first week of trial. Compared with the control group, average daily feed intake (ADFI) was significantly (P<0.01) reduced by APS treatment. From days 8 to 14 of the trial, ADG of the APS 0.5% group was greater (P<0.05) than that of the control group. Compared with the control group, FCR was significantly (P<0.05) reduced by APS treatment. From days 15 to 21 of the trial, ADFI of the APS 0.1% group was greater (P<0.05) than that of the control group. For the overall period, APS 0.5% supplementation had a significantly (P<0.05) positive effect on ADG. ADFI and FCR were lower (P<0.05) with APS than without APS. Furthermore, on day 7, the inclusion of APS reduced significantly MDA (P<0.01). The rabbits fed with APS 0.1% had significantly (P<0.01) lower cortisol and greater (P<0.05) T-AOC, SOD, and GSH-Px than the control group. On day 14, addition of APS increased T-AOC (P<0.01) and reduced MDA (P<0.05). The APS 0.5% group showed lower (P<0.05) cortisol and greater (P<0.05) GSH-Px than the control group. On day 21, the rabbits fed with the APS 0.5% diet had greater (Pb0.05) GSH-Px and T-AOC compared with the control rabbits. In contrast, the opposite was true for cortisol (P<0.05) and MDA (P<0.05). On day 21, MDA was lower (P<0.01) with APS than without APS in the liver tissue. Hepatic GSH-Px activity of rabbits fed with the APS 0.5% diet was greater (P<0.05) than those of other groups. APS supplementation seemed to have a positive influence on the growth performance and antioxidant status of heat-stressed rabbits.

【英文摘要】The study was conducted to evaluate the antioxidant properties of alfalfa polysaccharides (APS) extracted from alfalfa (Medicago sativa L.) through 1,1-Diphenyl-2-picryl-hydrazyl (DPPH) radical-scavenging assay and the effects of the inclusion (0%, 0.1%, and 0.5%) of APS in the diet on the growth performance and antioxidant status in heat-stressed rabbits. 120 New Zealand male rabbits (average body weight 1123 g, 40 d old) were divided into three groups (40 rabbits per group) and were fed with a basal diet or the basal diet with 1 g or 5 g of APS/kg of diet. Rabbits had free access to diets and water in an environmentally controlled room at 30±1 ° C and 55% relative humidity during the entire period (21 d). On days 7, 14 and 21 of the trial, body weight and feed intake were measured and blood samples were collected for assay of antioxidant induces. Liver tissue samples were collected on day 21 for

assay of antioxidant induces. Results in vitro showed the scavenging effect of APS on DPPH radicals increased (P<0.05) in a dose-dependent manner. The APS exerted an inhibitory effect on DPPH radical generation, with 66.3% inhibition at 100 μg/mL and 74.5% inhibition at 250 μg/mL. Results in vivo showed that APS 0.1% supplementation increased (P<0.05) average daily gain (ADG) and reduced (P<0.05) feed conversion rate (FCR) in the first week of trial. Compared with the control group, average daily feed intake (ADFI) was significantly (P<0.01) reduced by APS treatment. From days 8 to 14 of the trial, ADG of the APS 0.5% group was greater (P<0.05) than that of the control group. Compared with the control group, FCR was significantly (P<0.05) reduced by APS treatment. From days 15 to 21 of the trial, ADFI of the APS 0.1% group was greater (P<0.05) than that of the control group. For the overall period, APS 0.5% supplementation had a significantly (P<0.05) positive effect on ADG. ADFI and FCR were lower (P<0.05) with APS than without APS. Furthermore, on day 7, the inclusion of APS reduced significantly MDA (P<0.01). The rabbits fed with APS 0.1% had significantly (P<0.01) lower cortisol and greater (P<0.05) T-AOC, SOD, and GSH-Px than the control group. On day 14, addition of APS increased T-AOC (P<0.01) and reduced MDA (P<0.05). The APS 0.5% group showed lower (P<0.05) cortisol and greater (P<0.05) GSH-Px than the control group. On day 21, the rabbits fed with the APS 0.5% diet had greater (Pb0.05) GSH-Px and T-AOC compared with the control rabbits. In contrast, the opposite was true for cortisol (P<0.05) and MDA (P<0.05). On day 21, MDA was lower (P<0.01) with APS than without APS in the liver tissue. Hepatic GSH-Px activity of rabbits fed with the APS 0.5% diet was greater (P<0.05) than those of other groups. APS supplementation seemed to have a positive influence on the growth performance and antioxidant status of heat-stressed rabbits.

【语种】英文

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【学科分类】畜牧、兽医科学基础学科

【题目】Effects of dietary taurine supplementation on growth performance and immune status in growing Japanese quail

【中文关键词】Taurine,quail,performance,immune

【英文关键词】Taurine,quail,performance,immune

【中文摘要】The effect of dietary taurine was investigated on performance and immune responses in growing (1 to 42 d) Japanese quail. One-day-old quails of both sexes (300) were randomly allotted to 12 groups with 25 quails in each group (3 dietary treatments, 4 replicates). They were fed with maize-soybean meal-based diets containing 0, 0.01, or 0.05% taurine for 42 d. Dietary 0.01% taurine decreased food intake (P <0.05) in the starter phase but did not affect BW gain and feed efficiency from d 1 to 42 of age. In the starter phase, dietary 0.05% taurine did not affect food intake but increased weight gain and improved feed efficiency (P < 0.05). In the grower phase, dietary 0.05% taurine did not affect weight gain but improved feed efficiency and decreased food intake (P < 0.05). In the overall period, dietary 0.05% taurine improved feed efficiency and decreased food intake (P < 0.05). The relative weights of thymus were greater in the quails given 0.01% taurine in diet (P < 0.05). The relative weights of the bursa of Fabricius and thymus were greater in dietary 0.05% taurine compared with the control (P< 0.05).The quail serum anti-Newcastle disease virus hemagglutination antibody titer in the taurine-supplemented diet had no significant effects compared with the control (P > 0.05). The response to phytohemagglutinin measured as the foot web index was significantly increased by 0.05% taurine supplementation (P< 0.05). It is concluded that the taurine-supplemented diet has a beneficial effect on immune responses and performance in growing Japanese quail.

【英文摘要】The effect of dietary taurine was investigated on performance and immune responses in growing (1 to 42 d) Japanese quail. One-day-old quails of both sexes (300) were randomly allotted to 12 groups with 25 quails in each group (3 dietary treatments, 4 replicates). They were fed with maize-soybean meal-based diets containing 0, 0.01, or 0.05% taurine for 42 d. Dietary 0.01% taurine decreased food intake (P <0.05) in the starter phase but did not affect BW gain and feed efficiency from d 1 to 42 of age. In the starter phase, dietary 0.05% taurine did not affect food intake but increased weight gain and improved feed efficiency (P < 0.05). In the grower phase, dietary 0.05% taurine did not affect weight gain but improved feed efficiency and decreased food intake (P < 0.05). In the overall period, dietary 0.05% taurine improved feed efficiency and decreased food intake (P < 0.05). The relative weights of thymus were greater in the quails given 0.01% taurine in diet (P < 0.05). The relative weights of the bursa of Fabricius and thymus were greater in dietary 0.05% taurine compared with the control (P< 0.05).The quail serum anti-Newcastle disease virus hemagglutination antibody titer in the taurine-supplemented diet had no significant effects compared with the control (P > 0.05). The response to phytohemagglutinin measured as the foot web index was significantly increased by 0.05% taurine supplementation (P< 0.05). It is

concluded that the taurine-supplemented diet has a beneficial effect on immune responses and performance in growing Japanese quail.
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【第一作者】Furong Wang
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【题目】Chemical Constituents from the Aerial Part of Medicago sativa L
【中文关键词】紫花苜蓿;化学成分;生物碱;蒽醌;皂苷
【英文关键词】Medicago sativa L.; chemical constituent; alkaloid; Anthraquinone; saponin
【中文摘要】为研究紫花苜蓿(Medicago sativa L.)地上部位的化学成分,通过溶剂萃取、硅胶柱色谱、凝胶柱色谱分离纯化,从紫花苜蓿地上部分分离得到9个化合物,根据质谱和核磁共振数据鉴定为小檗碱(1)、大黄素(2) 大黄素8-O-β-D-葡萄糖苷(3)、soyasapogenol B-3-O -glcA(4)、邻羟基苯甲酸(5)、反式对羟基肉桂酸(6)、顺式对羟基肉桂酸(7)、正三十烷醇(8)和β-胡萝卜苷 (9)。其中化合物1-4为首次从苜蓿属植物中分离得到。
【英文摘要】Nine compounds were isolated by solvent extraction, silica gel column and sephadex LH-20 column chromatog-raphy from the aerial part of Medicago sativa L.On the basis of MS and NMR spectral data,they were identified as berbefine(1), emodin(2), emodin 8-O-β-D-glucoside(3), soyasapogenol B-3-O-glcA(4), o-hydroxybenzoic acid(5), (E)-p-hydroxycinnamic(6), (Z)-p-hydroxycinnamic(7), n-triacontanol(8) and β-daucosterol(9).Compounds 1-4 were isolated from Medicago L.for the first time.
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【第一作者】Wenyan Xu
【通讯作者】Weiwei Gao
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【学科分类】生物化学

【题目】喷雾干燥法制备黄酮苷元微胶囊的研究(Microencapsulation of flavone aaglycone by spray drying)
【中文关键词】黄酮苷元; 微胶囊; 喷雾干燥
【英文关键词】Flavone aglycone; Microencapsulation; Spray drying
【中文摘要】以乳清蛋白和麦芽糊精构成复合型壁材,采用喷雾干燥方法制备黄酮苷元微胶囊。壁材组成为乳清蛋白∶麦芽糊精为2 ∶ 7(W ∶ W),单甘酯浓度0. 3%,海藻酸钠浓度0. 3%。芯材黄酮苷元首先溶解于无水乙醇,最适宜的芯材添加量为芯壁比1 ∶ 9(W ∶ W)。微胶囊化工艺参数为乳化均质压力40 MPa,时间20 min,喷雾干燥进风温度200 ℃,出风温度90℃。在最优条件下,微胶囊包埋率为91%。黄酮苷元微胶囊的扫描电镜结果显示,该微胶囊化产品具有较好的包埋效果。
【英文摘要】The microencapsulation of flavone aglycone was prepared by spray drying,with the mixture of whey protein,maltodextrin,glyceryl monostearate and sodium alginate as wall material. The ratio of whey protein to maltodextrin (W ∶ W),the concentration of glyceryl monostearate and sodium alginate were 2 ∶ 7(W ∶ W),0. 3% and 0. 3%,respectively. Flavone aglycone as core material was dissolved with anhydrous ethanol and the amount of core material was the core /wall ratio 1 ∶ 9(W∶ W). The optimal techniques parameter of microencapsulation was as follows: homogenizing at 40 MPa for 20 minutes and tuice,the temperature for inlet and outlet wind being 200 ℃ and 90 ℃,respectively. The microencapsulation rate of flavone aglycone was 91% at optimal conditions. The SEM picture of microencapsulation of flavone aglycone showed that the microencapsulation quality was desirable.
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【第一作者】张晓鸣
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【题目】柑桔皮渣中香精油和橙皮苷的联合提取纯化工艺研究(Consecutive extraction and purification of essential oil and hesperidin from orange peel)
【中文关键词】香精油,橙皮苷,超声,大孔树脂
【英文关键词】essential oil; hesperidin; ultrasonic waves; macroporous resin
【中文摘要】研究了从柑桔皮渣中联合提取香精油和橙皮苷的工艺条件。通过正交实验确定了超声辅助提取橙皮苷的最优条件,并对提取得到的橙皮苷进行大孔树脂精制,用HPLC对其纯度进行了鉴定。
【英文摘要】The technical process and conditions for consecutive extraction of essential oil and hesperidin from orange peel were studied. The suitable conditions by ultrasonic waves of hesperidin were identified by orthogonal tests. Purification of hesperidin by macroporous resin was studied and the product was also determined by HPLC.
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【第一作者】马丽萍
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【题目】连翘提取物对肉仔鸡热应激下生长性能和抗氧化活性的影响(Effects of For sythia suspensa Extract on Antioxidant Activities and Growth Performance in Broiler Chickens under Heat Stress)
【中文关键词】连翘提取物; 生长性能; 抗氧化; 肉仔鸡
【英文关键词】forsythia suspensa; performance; antioxidant; broilers
【中文摘要】选用1日龄健康的爱拔益加肉公雏196 只, 平均体重为(38.8±1.3) g, 研究连翘提取物(FSE) 对热应激(32 ± 1) °C环境下肉鸡生长性能和抗氧化能力的影响。将肉仔鸡随机分为3个处理, 每个处理14 个重复, 每个重复6 只鸡。日粮处理组, 分别为空白对照组(NC) , 维生素C 组(PC) : 基础日粮+ 维生素C 200 mg/ kg; 连翘提取物组(FSE) : 基础日粮+FSE 100 mg/ kg。结果表明: 试验前期各处理间生长性能没有显著性差异。试验后期FSE 组与NC 组相比日增重显著提高(P < 0.05) , 并且饲料转化率提高。FSE 组比NC 组血液总抗氧化能力(TAOC) 、超氧化物歧化酶(SOD) 含量显著提高(P < 0.05) , 而丙二醛(MDA) 水平下降。从试验全期看FSE组比NC 组肝脏SOD 含量显著提高(P < 0.05) 。说明FSE 通过清除自由基途径, 缓解活性氧对肠黏膜的损伤,改善营养物质消化率和生长性能, FSE 有望成为高效天然抗氧化剂。
【英文摘要】A 42- d trial was conducted with 196 broiler chickens (d 1 of age, 38.8±1.3 g BW) to determine the effects of Forsythia suspensa extract (FSE) on growth performance, and antioxidant activities under heat stress (32 ±1) °C. Dietary treatments included were NC: a negative the control group fed a corn- soybean meal based diet without vitamin C and FSE; PC: a positive control group fed a diet with 200 mg vitamin C/kg; and FSE: a test group fed with 100 mg FSE /kg. There were 14 cages per treatment and 6 birds per cage during the study. Growth performance did not differ among treatment groups during the starter period. In the finisher phase, FSE had greater (P < 0.05) ADG, FCR than NC. Further more, FSE had greater TAOC, SOD (P < 0.05) and lower MDA in the serum than NC. During the entire period, hepatic SOD of FSE was greater (P < 0.05) than NC. Correctively dietary supplementation of FSE can enhance growth performance possibly by reducing oxidative stress of broiler chickens under heat stress.
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【学科分类】畜牧、兽医科学基础学科

【题目】连翘提取物对肉仔鸡肌肉抗氧化活性的影响
【中文关键词】连翘提取物; 抗氧化; 肌肉; 肉仔鸡
【英文关键词】Forsythia suspensa; antioxidant; muscle; broiler
【中文摘要】本研究旨在探讨连翘提取物对肉仔鸡胸肌抗氧化和脂质过氧化指标的影响, 为连翘提取物在养鸡生产中的应用提供试验依据。试验选用1 日龄健康的爱拔益加肉公雏252 只, 平均体重为(38.8±1.3) g, 研究连翘提取物(FSE) 对热应激(32±1) ℃肉鸡肌肉抗氧化能力的影响。试验期为42 d。将肉仔鸡随机分为3 个处理, 每个处理14 个重复, 每个重复6 只鸡。日粮处理组分别为: (1) 空白对照组(NC) : 基础日粮; (2) 维生素C 组(PC) : 基础日粮+200mg/ kg 维生素C; (3) 连翘提取物组(FSE) : 基础日粮+100 mg/ kg FSE。试验第21 天和第42 天屠宰取胸肌样品, 检测抗氧化指标。结果表明, 在试验后期, 与NC空白组和维生素C 组相比, FSE 组肉仔鸡的超氧化物歧化酶(SOD) (P< 0.05) 、谷胱甘肽过氧化物酶(GSH- Px) 和总抗氧化能力(T- AOC) 含量增加, 其抗氧化活性好于维生素C 组, 而丙二醛(MDA) 含量显著降低(P < 0.05)。FSE 通过清除自由基途径, 缓解热应激诱导的活性氧对机体细胞膜的损伤, 进而改善肌肉抗氧化活性及提高肉品质。
【英文摘要】Forsythia suspensa extract (FSE) on antioxidant activities of breast muscle were evaluated in broilers chickens. A 42- d trial was conducted with 252 one day age broiler chickens of (38.8±1.3) g body weight to determine the effects of Forsythia suspensa extract (FSE) on growth performance, and antioxidant activities under heat stress (32±1) ℃. Dietary treatments included NC: a negative the control group fed a corn- soybean meal based diet without vitamin C and FSE; PC: a positive control group fed a diet with 200 mg/kg vitamin C; and FSE: a test group fed with 100 mg /kg FSE. There were 14 cages per treatment and 6 birds per cage during the study. Muscle samples were collected at the 21st and 42nd day for assay day of antioxidant indexes. During the finisher period, FSE had greater SOD (P < 0.05) , GSH- Px, TAOC and lower MDA in the muscle than NC and PC. Correctively dietary supplementation of FSE can reduce oxidative stress of broiler chickens under heat stress.
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【题目】分子标记技术用于鉴定丙酸杆菌的研究进展(Overview of molecular biological technique used for identification of Propionibacterium)
【中文关键词】丙酸杆菌; 鉴定; 分子标记技术
【英文关键词】Propionibacterium; identification; molecular marker technique
【中文摘要】本文主要介绍了分子生物学方法用于乳品丙酸杆菌鉴定的研究进展。
【英文摘要】The overview of molecular biological technique that is currently used for identification of Propionibacterium and the merit and shortcoming of all kinds of methods were described.
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【题目】凝结芽孢杆菌工业化发酵培养基初步研究(The Elementary Study of Industrial Culture Medium of Bacillus coagulans Fermentation)
【中文关键词】凝结芽孢杆菌,饲料添加剂,培养基优化,益生素

【英文关键词】Bacillus coagulans,feed additives,medium optimization,probiotics
【中文摘要】针对工业生产的需要,采用正交试验设计,研究筛选了饲料添加剂用凝结芽孢杆菌的发酵培养基 优化后的培养基配方为玉米粉15 g/L,豆粕粉10 g/L,(NH4)2SO 6 g/L,玉米浆6 g/L,MgSO4·7H2O 1 g/L ,K2 HPO4·3H2O 2 g/L,MnSO4 0.05 g/L。在pH7.0-7.2和40°C条件下,培养24 h活菌数量达到7.5×109CFU/mL,36 h活菌数量达到9.3×l09CFU/mL。
【英文摘要】The effect of medium composition of Bacillus coagulans was studied by orthogonal design experiment. It was concluded that the composite of Bacillus coagulans are:corn starch 1 5 g/L,soybean meal 6 g/L,(NH4)2SO4 6 g/L,corn plasm 6mL/L,MgSO4·7H2O 1 g/L,K2HPO4·3H2O 2 g/L,MnSO4 0.05 g/L and pH 7.0-7.2. The results showed that number of living bacteria was 7.5×109CFU/mL, and was 9.3×109CFU/mL after fermentation for 36 h.
【语种】中文
【第一作者】崔东良
【通讯作者】佟建明 王云山
【期刊名称、卷期、页码】食品与发酵工业,33(12):73-75
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【学科分类】微生物学

【题目】益生性丙酸杆菌研究进展(Overview of Propionibacterium probiotics)
【中文关键词】益生菌 丙酸杆菌 饲料
【英文关键词】Probiotics Propionibacterium Feedstuff
【中文摘要】介绍了丙酸杆菌的分类学特征、种类和分布,作为一个很有潜力的微生物饲料添加剂菌种,详细叙述了丙酸杆菌的益生作用及当前在畜牧业的应用及前景。
【英文摘要】无
【语种】中文
【第一作者】崔东良
【通讯作者】佟建明 王云山
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【学科分类】微生物学

【题目】高速逆流色谱法分离制备无花果叶中的补骨脂素及佛手内酯(Separation and purification of psoralen and bergapten from Ficuscarical leaves by preparative high- speed counter-current chromatography)
【中文关键词】高速逆流色谱,无花果叶,补骨脂素,佛手内酯,分离
【英文关键词】preparative high-speed counter-current chromatography (HSCCC) ; Ficuscarical leaves; psoralen; bergapten; separation
【中文摘要】利用高速逆流色谱分离制备无花果叶中的补骨脂素和佛手内酯,经过高效液相色谱、质谱、核磁共振检测,确定其纯度及结构。新鲜的无花果叶经干燥、破碎后用石油醚(60-90°C)室温浸提48h,浸提液经浓缩后得到浸膏。采用正己烷:乙酸乙酯:甲醇:水(1:1:1:1)的两相体系将所得的浸膏进行高速逆流色谱的分离纯化,得到样品A和样品B。利用高效液相色谱检测样品A和B的纯度分别为99.1%和98.2%。将得到的样品A和B进行MS, 1 H- NMR, 13 CNMR检测确定其化学结构,并最终确认A为补骨脂素,B为佛手内酯。制备型高速逆流色谱可以成功的将无花果叶中的补骨脂素和佛手内酯进行分离制备。
【英文摘要】The preparative high- speed counter- currentchromatography (HSCCC) was applied to separating and purifying the psoralen and bergapten from the Ficuscarical leaves. At first, the crude extract was obtained by extracting with light petroleum from the dried leave s of Ficuscarical. Then, n- Hexane - ethylacetate – methanol-water (1:1:1:1, v / v) was used as the HSCCC two – phase solvent system for the separation and purification. The components purified and collected were analyzed by high - performance liquid chromatography (HPLC). The structures of psoralen and bergapten were identified by NMR and MS. This method yielded 414m g of psoralen at 99.1% pu rity and 211mg of bergapten at 98.2% purity from 200mg of the crude extract in a single run. Preparative high- speed counter- current chromatography could separate and purify these two components successfully from

Ficuscarical leaves.
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【第一作者】迟春燕
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【学科分类】生物化学

【题目】制备型高速逆流色谱分离纯化长松萝中的松萝酸(Isolation and Purification of Usnic Acid from Usnea longissima by Preparative High-speed Counter-current Chromatography)
【中文关键词】制备型高速逆流色谱;长松萝;松萝酸;分离;纯化
【英文关键词】high-speed counter-current chromatography;Usnea longissima;usnic acid;isolation;purification
【中文摘要】利用制备型高速逆流色谱分离纯化长松萝中的松萝酸,经过高效液相色谱、核磁共振检测,确定其纯度及结构。将长松萝破碎后用石油醚(60~90℃)回流浸提4h,浸提液经过滤浓缩后得到松萝酸粗提物。采用正己烷:乙腈:乙酸乙酯:水(8:7:5:0.8,V/V)的两相体系将所得的粗提物进行制备型高速逆流色谱的分离纯化,一次进样25mg,可得到11.2mg 样品。利用高效液相色谱检测该样品纯度达到99%。将得到的样品进行1H-NMR、13C-NMR检测确定其化学结构,并确定该样品为松萝酸。实验证明制备型高速逆流色谱可以成功地将长松萝中的松萝酸进行分离纯化。
【英文摘要】Preparative high-speed counter-current chromatography (HSCCC) was used for the isolation and purification of usnic acid from Usnea longissima. Crude extract was firstly obtained by reflux extraction with petroleum ether at 60 to 90 ℃ for 4 h from dried Usnea longissima. Then hexane-acetonitrile-ethyl acetate-water (8:7:5:0.8, V/V) was used as the two-phase solvent system for purification. Finally the collected components were analyzed using high-performance liquid chromatography (HPLC) and the structure of main component was identified using 1H-NMR and 13C-NMR. By this way, the 11.2 mg of usnic acid is obtained from 25 mg of the crude extract of dried Usnea longissima with the purity of 99%.
【语种】中文
【第一作者】迟春燕
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【题目】叶黄素对鹌鹑繁殖性能及母源IgG向后代转移的影响(Effects of Lutein on Reproductive Performance and Maternal IgG Transferring to Offspring of Quails)
【中文关键词】叶黄素;鹌鹑;繁殖性能;母源IgG;转移
【英文关键词】lutein;quail;reproductive performance;maternal IgG;transition
【中文摘要】本试验旨在研究叶黄素对鹌鹑繁殖性能及母源IgG向后代转移的影响。试验选取1日龄朝鲜龙城父母代鹌鹑144羽,按体质量随机分为4个处理组,每组设3个重复,每个重复12羽。采用小麦-豆粕型基础日粮,分别添加0、50、100、150 mg·kg-1 叶黄素。10周龄时,每个重复取2羽,ELISA法检测血清IgG含量。收集种蛋并孵化,计算孵化率、受精率、死胚率。子代鹌鹑在相同条件下饲养,日粮中不添加叶黄素,分别在1、3、7、14、21日龄时,每重复取2羽心脏采血,检测血清中IgG含量。结果表明:叶黄素可以显著提高种蛋的受精率和孵化率(P<0.05),降低死胚率(P<0.05);对雌鹌鹑血清中IgG的含量没有显著影响(P>0.05),但可以显著提高卵黄IgG水平(P<0.05);子代鹌鹑血清IgG的含量与叶黄素的添加量成正比,高剂量叶黄素可显著提高1日龄血清IgG水平(P<0.05)。结论:叶黄素可以显著改善鹌鹑的繁殖性能,并通过促进母源IgG在卵黄内的沉积从而提高后代血清中IgG水平。
【英文摘要】This experiment was conducted to study the effects of lutein on reproductive performance and maternal IgG transferring to offspring of quails. 144 1-d-old parental generation North Korea Longcheng quails were randomly divided into four treatments groups with 3 replicates of 12 quails each. W heat-soybean basal diet was used,and the treatment groups were supplied with 0,50,100 and 150 mg · kg-1 lutein. At 10 weeks old age,2 quails each replicates were randomly selected and serum IgG levels were tested

by ELISA. Then fertilized eggs were collected and hatched.Hatching rate,fertilization rate and death rate were calculated. Newly hatched birds were reared under the same condition,but without lutein in basa1 diet. On d 1,3,7,14 and 21,2 birds per replicate were selected and serum IgG levels were tested. The results showed that lutein could significantly improve fertilization rate and hatching rate of quails(P< 0.05), significantly reduce death rate of embryos(P< 0.05). Lutein had no significant impact on female quails serum IgG contents (P> 0.05), but could significantly increase IgG deposition in egg yolk (P<0.05). Serum IgG levels of new hatched quails were correlated with lutein contents in the diet, and 150 mg · kg-1 lutein could significantly increase serum IgG levels of 1-d-old quails (P<0.05). Conclusion:Lutein could significantly improve reproductive performance of quails, and raise serum IgG level of offspring by promoting maternal IgG deposition in egg yolk.

【语种】中文
【第一作者】阿仑
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【题目】苜草素多糖、黄酮和皂苷对小鼠巨噬细胞RAW264.7 β-防御素基因表达的影响(Effect of Polysaccharide,Flavonoids and Saponins of Polysavone on Expression of M ouse Beta-defensins in RAW 264.7 Cells)

【中文关键词】防御素;苜草素;多糖;黄酮;皂苷
【英文关键词】Beta-defensin;Polysavone;polysaccharide;flavonoids;saponins

【中文摘要】本研究旨在观察苜草素活性成分多糖、黄酮、皂苷对小鼠β-防御素表达的影响。分别采用含有30、60、90、150μg·mL-1苜草素多糖、含有10、20、30、50μg·mL-1苜草素黄酮、含有30、60、90、150 μg·mL-1苜草素皂苷的细胞培养液处理RAW264.7细胞,观察其对小鼠RAW 264.7细胞β防御素(mouse beta-defensin,mBD)mRNA表达水平的影响。结果发现,苜草素多糖对mBD1的表达水平没有影响,对mBD2、mBD3的表达有促进作用,30μg·mL-1效果最明显;苜草素黄酮促进mBD1的表达,10μg·mL-1效果最明显,对mBD2、mBD3的表达有抑制作用;苜草素皂苷对mBD1的表达有促进作用,对mBD2的表达水平没有影响,对mBD3表达有抑制作用。苜草素中的多糖、黄酮、皂苷对RAW264.7细胞mBDs表达的作用效果不同,苜草素多糖可能主要促进动物的特异性免疫功能,苜草素黄酮、皂苷可能促进动物的先天性免疫功能。

【英文摘要】To investigate the effect of polysaccharide,flavonoids and saponins of Polysavone on the expression of mouse beta-defensins in RAW 264.7 cells,RAW 264.7 cells were cultured with Polysavone polysaccharide at 30,60,90,150 μg · m L-1,Polysavone flavonoids at 10,20,30,50 μg · m L-1,Polysavone saponins at 10,20,30,50 μg · m L-1 ,respectively. The mRNA expression of mouse beta-defensin (mBD1-3) was detected. The results showed that the mBD2 and mBD 3 mRNA expression could be improved by Polysavone polysaccharide,especially the treatment with 30 μg · m L-1 ,but there was no effect on the mRNA expression of BD1. The BD1 mRNA expression could be improved by Polysavone flavonoids,especially the treatment with 10 μg · m L-1,the mBD2 and mBD3 mRNA expression could be inhibited. The mBD1 mRNA expression could be improved by Polysavone saponins, the mBD3 mRNA expression could be inhibited, but Polysavone saponins had no effects on the mRNA expression of mBD2. The results showed the different effects of polysaccharide, flavonoids and saponins of Polysavone on the m RNA expression of mBD1,mBD2 and mBD3. The Polysavone polysaccharide may enhance the function of adaptive immunity.The flavonoids and saponins of Polysavone may enhance the func tion of innate imm unity.

【语种】中文
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【题目】小麦日粮添加木聚糖酶对鹌鹑生长性能及免疫性能的影响(Effect of Wheat Adding add Xylanase on Quail Growth Performance and Immune Properties)

【中文关键词】小麦日粮;木聚糖酶;生长性能;免疫性能;鹌鹑
【英文关键词】wheat-basal diet; xylanase; growth performance; immunity; quails
【中文摘要】试验选取1 日龄朝鲜龙城鹌鹑108 只,研究小麦- 豆粕型基础日粮添加木聚糖酶对鹌鹑生长性能及免疫性能的影响。试验鹌鹑按体重随机分为3 个处理组,每个处理设3 个重复,每重复12 只。第1 组设为对照,饲喂玉米- 豆粕型基础日粮;第2 组饲喂小麦- 豆粕型基础日粮;第3 组在小麦- 豆粕型日粮中添加2 000 U/ kg 的木聚糖酶,试验期42 d。结果表明:小麦日粮对育雏期(0~21 日龄)鹌鹑生长性能无显著影响(P > 0.05),但是显著降低育成期(22~42 日龄)鹌鹑的体重和日增重(P < 0.05)。小麦日粮中添加木聚糖酶2 000 U/ kg,对鹌鹑的生长性能无显著影响(P > 0.05)。小麦日粮组的新城疫抗体效价显著低于玉米对照组(P < 0.05),但是小麦日粮可以显著提高细胞免疫水平(P < 0.05)。添加木聚糖酶对鹌鹑的免疫性能无显著影响(P > 0.05)
【英文摘要】This experiment was conducted to study the effects of xylanase added in wheat -basal diet on growth performance and immune properties of quails. A total of 1081-day-old quails were randomly assigned to three groups with 3 replicates of 12 quails each. Birds in the control group were supplied with corn-basal diet, the second group was supplied with wheat-basal diet and the third group was supplied with the same diet added xylanase. The experiment last for 42 days. The result showed that①Wheat -basal diet had no significant effect during 0 ~21 d, but could obviously decrease body weight and average daily intake of quails (P < 0.05); ②Wheat diet added 2000 U/kg xylanase had no significant effect on growth performance of quails (P > 0.05); ③in the NDV HI antibody titers in the were significantly lower than those of control group (P < 0.05), but cell-mediated immunity of quails was increased (P < 0.05); ④Wheatbasal diet added xylanase had no significant effect on immunity of quails(P > 0.05).
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【第一作者】阿仑
【通讯作者】佟建明
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【题目】八种食用菌菌渣中三种饲用酶活性的测定(Three Kinds of Feed Enzymes Activity of Eight Mushroom Residue)
【中文关键词】食用菌菌渣;木聚糖酶;β- 葡聚糖酶;植酸酶;活性
【英文关键词】Mushroom residue; Xylanse; β-glucanase; Phytase; Activity
【中文摘要】对可商业化人工栽培的8 种常见食用菌菌渣中的木聚糖酶、β-葡聚糖酶和植酸酶生物活性进行了测定。结果表明,被测的8 个样品均不同程度具有木聚糖酶和β-葡聚糖酶活性。其中,双孢蘑菇和毛木耳菌渣木聚糖酶活性最高,分别为2.856 U·g-1 和1.109 U·g-1;杏鲍菇和毛木耳菌渣β-葡聚糖酶活性最高,分别为0.389 U·g-1 和0.351 U·g-1;毛木耳在pH 2.5 和pH 5.2 下均具有植酸酶活性,分别为0.139 U·g-1 和0.222 U·g-1;杏鲍菇和糙皮侧耳在pH 5.2 下,植酸酶活性分别为0.126 U·g-1 和0.122 U·g-1;其它菌渣均不具有明显的植酸酶活性。本研究表明,食用菌菌渣中具有一定的饲用酶活性,利用食用菌菌渣作为畜禽饲料,可在一定程度上减少饲用酶的添加,从而降低生产成本。
【英文摘要】The biological activity of xylanse, β-glucanase and phytase in mushroom residue of 8 commercial edible fungi were detected. All of the tested samples had xylanse activity and β-glucanase activity of different degree. The xylanse activity of Agaricus bisporus and Auricularia polytricha were 2.856 U·g-1 and 1.109 U·g-1, respectively. While the β-glucanase activity of Pleurotus eryngii and Auricularia polytricha were 0.389 U·g-1 and 0.351 U·g-1, respectively. Auricularia polytricha showed phytase activity at pH 2.5 and pH 5.2 with the activity of 0.139 U·g-1 and 0.222 U·g-1, respectively. The phytase activity of Pleurotus eryngii and Pleurotus ostreatus at pH 5.2 were 0.126 U·g-1 and 0.122 U·g-1. Other samples had no phytase activity. According to this research, mushroom residue can be used as animal feed and partially replace the feed enzymes added.
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【题目】海带岩藻聚糖及其级分对体外培养肉鸡巨噬细胞免疫功能的影响(Efects of Fucoidan and Its Fraction Isolated from Laminaria japonica on Immunity of Broiler Macrophagesin vitro)
【中文关键词】海带岩藻聚糖:级分; 免疫功能; 巨噬细胞; 肉鸡
【英文关键词】Fucoidan; Fraction; Immunity; Macrophage; Broiler
【中文摘要】【目的】通过研究海带岩藻聚糖及其级分对肉鸡巨噬细胞免疫功能的影响,寻找海带提取物调节肉鸡免疫功能的有效级分,为饲料工业科学使用海带资源提供理论依据。【方法】采用水提醇沉的方法,从海带中提取岩藻聚糖,通过纤维柱和凝胶柱层析,对岩藻聚糖进行分级纯化。体外培养肉鸡腹腔巨噬细胞,在培养液中分别加入岩藻聚糖(200 μg · ml-1)和岩藻聚糖5种级分(100 μg · ml-1),采用MTT方法检测细胞存活率,采用ELISA检测细胞因子IL-1和TNF-α,同时测定巨噬细胞的吞噬活性等其它免疫指标。【结果】海带岩藻聚糖及其级分显著提高肉鸡腹腔巨噬细胞的吞噬活性,促进巨噬细胞呼吸爆发、NO的产生量和iNOS活性,促进巨噬细胞分泌IL-1(P<0.05);海带岩藻聚糖不同级分对肉鸡巨噬细胞免疫功能的调控作用不同,其中级分III和级分IV的促进作用较强,与对照组相比,可显著提高巨噬细胞的吞噬活性、呼吸爆发、NO产生量和iNOS活性。对其它指标无显著影响(P>0.05)。【结论】海带岩藻聚糖及其级分可提高体外培养肉鸡腹腔巨噬细胞的免疫功能,不同级分对肉鸡巨噬细胞免疫功能的调控作用不同,其中级分III和级分IV促进巨噬细胞免疫功能的作用最强,是海带岩藻聚糖中的有效级分。
【英文摘要】[Objective] The immunomodulatory activities of a Fucoidan and its fraction,purified from the Laminaria japonica (Fucoidan from Laminaria japonica,FLJ),were investigated in vitro in relation to broiler peritoneal macrophages. [Method] Fucoidan was extracted from Laminaria japonica and used ion exchange and size exclusion chromatography to separate them into five fractions. Analysis of the efects of Fucoidan and five fractions on broilers peritoneal macrophages immunity function was conducted. The broiler macrophages were cultured with fucoidan (200 μg · ml-1)and fraction from I to V (100 μg · ml-1)for 24 h,the cell vialibility was detected by using the method of MTT and the phagocytic activity was detected.The induced nitric oxide synthase (iNOS),NO,IL-1 and TNF-α in culture supernatants was measured. The respiratory burst capacity in macrophages was measured by luminal dependent chemiluminescence. [Result]Cell vialibility results showed that the proliferation of macrophages was not influenced by FLJ and its fractions.The treatment of FLJ and its fraction increased the phagocytic activity, enhanced the production of IL-1,NO,iNOS and the respiratory burst capacity (P<0.05). The fucoidan and its fraction had no significant efect on TNF-α (P>0.05). The different fractions had different efects on broiler macrophage immunity function.Fraction III and fraction IV had the most effective promoting action. Their promotion effect was higher than fraction V. The fraction V had no effect on broilers macrophages immunity function. [Conclusion] The fucoidan isolated from Laminaria japonica had promoting effect on broiler macrophage immunity at 200 μg · ml-1. The fraction III and fractionIV purified from fucoidan were the effective ftaction among the five fractions.
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【题目】海带岩藻聚糖及其级分在氧化应激条件下对肉鸡巨噬细胞免疫功能的影响(Effect of Fucoidan and Fraction Isolated from Laminaria Japonica on Immunity of Broiler Macrophages Under Oxidation Stress Condition)
【中文关键词】海带岩藻聚糖;级分;氧化应激;巨噬细胞;免疫;肉仔鸡
【英文关键词】Fucoidan; Fraction; Macrophages; Oxidation stress; Immunity; Broiler
【中文摘要】【目的】在氧化应激条件下,研究海带岩藻聚糖及其级分对肉鸡巨噬细胞免疫功能的影响,初步探讨海带岩藻聚糖及其级分的免疫调节功能与抗氧化作用的关系。【方法】以叔丁基过氧化氢(tBOOH)为活性氧诱导剂,加入肉鸡腹腔巨噬细胞培养液中,测定细胞培养液中抗氧化酶的变化,巨噬细胞分泌一氧化氮(NO)、诱导型一氧化氮合成酶(iNOS)、以及细胞因子IL-1 和TFN-α等免疫指标的变化。【结果】用tBOOH 处理后的巨噬细胞,细胞存活率显著下降(P<0.05),乳酸脱氢酶(LDH)和丙二醛(MDA)显著升高(P<0.05),SOD 和GSH-Px 酶活性显著降低(P<0.05)。巨噬细胞的吞噬活性显著降低(P<0.05),NO、iNOS 和呼吸爆发显著降低(P<0.05),细胞因子IL-1 分泌量显著下降(P<0.05),表明细胞出现明显的氧化损伤。在培养液中加入海带岩藻聚糖及其级分,能够缓解细胞的氧化应激,使得细胞存活率上升,LDH 和MDA 降低,SOD 和GSH-Px 升高,免疫指标均有不同程度的恢复。【结论】海带岩藻聚糖及其级分具有抗氧化活性,不同级分的抗氧化活性存在差

异,其中级分III、级分IV的作用较强。海带岩藻聚糖对巨噬细胞的免疫促进作用与其抗氧化活性有关。
【英文摘要】[Objective] The immunomodulatory activities of a fucoidan (FLJ) and its fraction, purified from the Laminaria japonica, were investigated in vitro under oxidation stress in broiler macrophages.[Method] After the broiler macrophages were cultured with FLJ and its fraction for 24 h, the tBOOH was added to the culture as oxygen reagent. The activities of superoxide dismutase (SOD), glutathione peroxidase (GSH-Px) and induced nitric oxide synthase (iNOS) were detected. The content of lactate dehydrogenase (LDH), malonic dialdehyde (MDA), NO, IL-1 and TNF-α were measured. Production of reactive oxygen species (ROS) in macrophages was measured by luminal dependent chemiluminescence. [Result] The elevated MDA and LDH, decreased cell vialibility, increased SOD and GSH-Px levels indicated that adding tBOOH in culture caused the oxidation stress in broiler macrophages. The decrease of phagocytic activity, NO, iNOS, IL-1and respiratory burst capacity indicated that the immune function of broiler macrophages were influenced by tBOOH. When the FLJ and its fraction were present in culture, the oxidation stress were eliminated. The cell vialibility, SOD and GSH-Px were significantly increased (P<0.05), LDH and MDA were significantly decreased (P<0.05). The immune function of macrophages was enhanced. [Conclusion] The different fractions of FLJ have different antioxidant activities. Fraction III and fraction IV have the most effective antioxidant activities. These data suggest that the FLJ and its fractions have antioxidant activities, and the antioxidant activities of FLJ and its fractions are related to their immunomodulatory activities.
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【题目】四株耐制粒益生菌对0-3周龄肉仔鸡死亡率、腹泻率及盲肠菌群的影响(Effects of four strains of probiotics on diarrhea rate,mortality rate and cecum flora during 0-3 weeks broilers)
【中文关键词】地衣芽孢杆菌;枯草芽孢杆菌;乳链球菌;啤酒酵母;肉仔鸡;死亡率;腹泻率;盲肠菌群
【英文关键词】Bacterillus licheniformis; Bacillus subtilis; Streptococcus lactis; Saccharomyces cerevvisiae; diarrhea rate; cecum florabroilers; mortality;
【中文摘要】为了评价4株耐制粒益生菌(地衣芽孢杆菌、枯草芽孢杆菌、乳链球菌及啤酒酵母制剂)经0.1 MPa,65 ° C 制粒后对0-3周龄肉仔鸡死亡率、腹泻率及盲肠菌群的影响,将自制益生菌粉剂按0.3%添加量与1-21日龄肉仔鸡无抗生素日粮混合,制成试验颗粒料(0.1 MPa,65 ° C)。选用1日龄健康的AA肉仔鸡混雏240只。随机分为5组。分别为对照组、地衣芽孢杆菌组、枯草芽孢杆菌组、乳链球菌组和啤酒酵母组,每组4个重复,每重复12只鸡.试验期为3周。研究表明:地衣芽孢杆菌、枯草芽孢杆菌、乳链球菌和啤酒酵母对改善0-3周龄肉仔鸡的腹泻率和死亡率有一定作用,地衣芽孢杆菌、枯草芽孢杆菌、乳链球菌可以优化0-3周龄肉仔鸡盲肠菌群结构。
【英文摘要】An experiment was conducted using a total of 96 one-day-old Arbor Acres broilers to investigate the effects of 4 strains of probiotics (Bacillus licheniformis, Bacillus subtilis, Streptococcus lactis and Saccharomyces cerevisiae) on diarrhea rate,mortality rate and cecum flora during 0-3 weeks of age. Chicks were randomly allotted to 5 treatments by body weight, and each group was 4 repeats with 12 in each repeat. Probiotics were mixed in l-21 days feed at supplement amount 0.3%,and were pelleted under the condition of 0.1 MPa, 65 ° C. The result showed that: 4 strain of probiotics could improve the diarrhea rate and mortality rate, optimize cecum flora.
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【第一作者】郝生宏
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【题目】黄芪多糖对肉仔鸡生产性能和部分免疫指标的影响(Effects of Astragalus polysacchrides on growth performance and partial immune parameters in broilers)

【中文关键词】黄芪多糖;肉仔鸡;生长性能;免疫功能
【英文关键词】Astragalus polysacchrides;broilers;growth performance;immune function
【中文摘要】本文研究了黄芪多糖对不同性别肉仔鸡不同阶段生产性能及部分免疫指标的影响。试验选用1200只1日龄AA肉仔鸡。随机分为5个处理组。每个处理设12个重复,每个重复20只鸡,公母各半,分笼饲养。对照组饲喂基础日粮,其他各处理组分别在对照组日粮的基础上添加黄芪多糖500、1000、2000、3000 mg/kg。试验期为7周,分为试验前期(0-21日龄)和试验后期(22-49日龄)。结果表明:(1)试验前期,各添加黄芪多糖处理组公鸡饲料转化率无显著变化。但平均日增重降低,其中2000 mg/kg 组变化显著(P<0.05);各处理组试验前期母鸡的饲料利用率显著提高(P<0.05),平均日增重提高,其中1000 mg/kg和2000 mg/kg 组变化显著(P<0.05)。试验后期,除母鸡3000 mg/kg组平均日增重较对照组显著降低外(P<0.05),其他各处理组公母鸡平均日增重争饲料转化率均无显著变化。(2)试验前期,各处理组公母鸡胸腺指数均无显著差异,1000mg/kg 组显著提高公母鸡新城疫抗体效价(P<0.05);试验后期,公鸡1000mg/kg组胸腺指数、2000mg/kg 组法氏囊指数和脾脏指数均较对照组显著增加(P<0.05)。而母鸡各处理组免疫器官指数、公母鸡新城疫抗体效价与对照组相比均无显著差异(P>0.05)。
【英文摘要】The experiment was conducted to study the effects of Astragalus polysacchrides (APS) on the growth performance and partial immune parameters in broilers of different gender and different feeding stages. One thousand and two hundred one-day-old Arbor Acres broilers were randomly divided into five treatments, each including twelve replicates of twenty birds, male and female equally divided,sub-cage reared. Control group was fed basal diet, treatment groups were fed basal diet supplemented with 500,1000,2000,3000 mg/kg APS for 7 weeks. The early stage was 0-2l d,the late stage was 22-42d. The results showed that: (1) Dietary APS supplementation reduced the average daily gain (ADG)of the male broilers in the early stage,only 2000 mg/kg group changed significantly (P<0.05). Feed utilization efficiency of APS groups was increased significantly in the male broilers, the ADG in female birds of 1000 mg/kg and 2000 mg/kg group increased significantly (P<0.05). In the late stage, ADG and feed convension ratio (FCR) in all the APS groups had no significant difference except for 3000 mg/kg female group, which was significantly lower than control group (P<0.05). (2)In the early stage, the thymus index in all APS groups had no significant difference,the new castle disease antibody titer of 1000 mg/kg group was significantly increased in male and female broilers(P<0.05). In the late stage, the thymus index of 1000 mg/kg group,the bursa of Fabricius and spleen index of 2000 mg/kg group were significantly increased in male broilers. The immune organs in female broilers and the new castle disease antibody titer in the male and female broilers all had no significant difference compared with the control group(P<0.05).
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【题目】紫花苜蓿不同品种和不同季节黄酮含量的比较研究(Comparative study of flavonoids content in different varieties Medicago sativa L. and harvesting season)
【中文关键词】紫花苜蓿;黄酮;品种;采收季节;紫外分光光度法
【英文关键词】Medicago sativa L.; flavonoids; varieties; harvesting season; UV spectrophotometry
【中文摘要】目的 考察不同品种和采收季节对紫花苜蓿中黄酮量的影响。方法 以苜蓿素为对照品,对紫外分光光度法测定紫花苜蓿总黄酮的量进行方法学考察,对北京地区种植的9个紫花苜蓿品种在春、夏、秋季3个采收期总黄酮的量进行测定分析。结果 9个紫花苜蓿品种中,“费纳尔”和“爱维兰”总黄酮量显著高于其他品种(P<0.05),其他7个品种间无显著差异(P>0.05);在3个采收季节中,各品种在秋季的黄酮量均高于春、夏两季,其中“费纳尔”、“爱维兰”和“爱菲尼”总黄酮的量在3个季节差异不显著(P>0.05),“美标304”、“胜利者”和“改革者”则有显著差异(P<0.05)。结论 品种和采收季节对紫花苜蓿中的总黄酮的量均有明显影响,而不同品种中的总黄酮对季节变化的敏感性不同。
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【第一作者】徐文燕
【通讯作者】高微微 佟建明
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【题目】紫花苜蓿黄酮类化学成分的研究(Studies on chemical constituents of flavonoids in Medicago sativa L.)
【中文关键词】紫花苜蓿;黄酮;尿苷
【英文关键词】Medicago sativa L.; flavonoids; Uridine
【中文摘要】目的 研究紫花苜蓿的化学成分。方法 利用硅胶柱色谱及Sephadex LH-20柱色谱分离紫花苜蓿地上部分的化学成分,通过理化常数和波谱分析鉴定化合物的结构。结果 从该植物氯仿和正丁醇萃取部分分得7个化合物,其结构分别鉴定为:芹菜素-7-O-β-D-葡萄糖苷(apigenin-7-O-β-D-glucoside,I)、木犀草素-7-O-β-D-葡萄糖苷(1uteolin-7-β-D-glueoside,Ⅱ)、脲嘧啶核苷(uridin,Ⅲ)、β-甲基-吡喃葡萄糖苷(methyl-α-L-glucopyranoside,Ⅳ)、芹菜素(apigenin,V)、苜蓿素(tricin,Ⅵ)、7,4-二羟基黄酮(7,4-dmydroxyflavone,Ⅶ)。结论 化合物I~Ⅳ为首次从本属植物中分离得到。
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【第一作者】何春年
【通讯作者】高微微 佟建明
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【题目】圈卷链霉菌7100分化相关基因-sawE的结构与功能
【中文关键词】圈卷产色链霉菌7100 分化相关基因 sawE 结构 功能 形态分化
【英文关键词】无
【中文摘要】以天蓝色链霉菌的whiB基因为探针,从圈卷产色链霉菌7100的总DNA部分文库中克隆了含有whiB同源序列的2.8kbDNA片段,并对其中的1.4kb片段进行了序列测定。序列分析表明,该片段含有一个完整的开放阅读框--sawE。预测的蛋白质结构及同源性分析显示,sawE与天蓝色链霉菌孢子形成早期的关键基因whiB高度同源,编码产物为一个调控蛋白。SawE的破坏使圈产色链霉菌7100的分化终止在气生菌丝阶段,在延长培养时间的情况下仍保持白色的表型,菌丝不能分隔,不能形成成熟的灰色孢子,结果表明sawE基因是一个与圈卷产色链霉菌分化有关的重要基因。
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【学科分类】微生物学

【题目】Disruption of sabR affects nikkomycin biosynthesis and morphogenesis in Streptomyces ansochromogenes
【中文关键词】无
【英文关键词】nikkomycin, regulatory gene, sporulation, Streptomyces ansochromogenes
【中文摘要】无
【英文摘要】The gene, sabR, encoding a receptor for gamma-butyrolactone, was cloned from the genomic DNA of Streptomyces ansochromogenes 7100. Its deduced protein shows strong homology to several gamma-butyrolactone-binding proteins in Streptomyces. Disruption of sabR retarded nikkomycin production in liquid media containing glucose or glycerol as carbon source. Sporulation of sabR disruption mutants was earlier than the parent strain on solid media with glucose or glycerol as carbon source. However, disruption of sabR had no effect on either nikkomycin production or sporulation on media containing mannitol as carbon source, suggesting that sabR is a pleiotropic regulatory gene that controls the onset of nikkomycin production and sporulation in S.

ansochromogenes and is related to the utilization of carbon source.
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【第一作者】Li W
【通讯作者】Tan, H. R.
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【题目】Structure and Function of sanV: A Gene Involved in Nikkomycin Biosynthesis of Streptomyces ansochromogenes
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【英文关键词】nikkomycin biosynthesis,sanV, Streptomyces ansochromogenes
【中文摘要】无
【英文摘要】A 6.3-kb BamHI- BglII DNA fragment was cloned from cos20 by using chromosome walking strategy. It was partially sequenced with the result that there is a possible ORF of 1272 nucleotides. The ORF designated sanV was deposited in GenBank under accession no. AF469955. Database search indicated that the deduced protein of sanV shows 28% identity and 44% similarity over 405 amino acid residues to the large component (E) of glutamate mutases from Clostridium cochlearium. Gene disruption was performed to study the function of sanV. It was found that sanV disruptants exhibited much poorer inhibition to the test strain than the wild-type S. ansochromogenes 7100. Furthermore, HPLC analysis indicated that the sanV disruptants almost did not produce nikkomycins X and Z, whereas they accumulated new nikkomycins O(x) and O(z), which revealed that sanV is an important gene involved in the biosynthesis of the peptidyl moiety of nikkomycins.
【语种】英文
【第一作者】Li W
【通讯作者】Tan, H. R.
【期刊名称、卷期、页码】Current Microbiol.2003,46(6):403 – 407
【论文发表时间】2003-01-01 00:00:00
【引文索引类型】SCI
【引文索引号】DOI: 10.1007/s00284-002-3892-5
【学科分类】微生物学

【题目】Cloning and characterization of sanO, a gene involved in nikkomycin biosynthesis in Streptomyces ansochromogenes
【中文关键词】无
【英文关键词】DNA sequence, gene expression, nikkomycin, sanO, Streptomyces ansochromogenes.
【中文摘要】无
【英文摘要】AIMS: To clone and characterize sanO, a gene involved in the biosynthesis of nikkomycins in Streptomyces ansochromogenes. METHODS AND RESULTS: A 4.5-kb BamHI-KpnI fragment was cloned and sequenced. Sequence analysis revealed that this fragment contains three complete open reading frames. The largest one with 2034 bp was designated sanO, which encodes a protein consisting of 667 amino acids with high similarity to module of peptide synthetase. sanO disruption mutants produced no nikkomycin X, but formed nikkomycin Z at almost the same level of the wild-type strain. The production of nikkomycin X can be recovered by genetic complementation of sanO disruption mutants. Primer extension also revealed that transcription start point(tsp) of sanO was localized 87 bp upstream of the potential start codon (GTG). CONCLUSIONS: sanO was essential for the biosynthesis of nikkomycin X. SIGNIFICANCE AND IMPACT OF THE STUDY: Nikkomycins have received increased interest of study because of their prospective application in agriculture and medicine. Cloning and characterization of genes involved in the nikkomycin biosynthesis will help to elucidate the whole biosynthetic pathway of nikkomycins.
【语种】英文
【第一作者】Wang G
【通讯作者】Tan, H. R.
【期刊名称、卷期、页码】Letters in Applied Microbiology,2003,36(6):452 – 457

【论文发表时间】2003-01-01 00:00:00
【引文索引类型】SCI
【引文索引号】doi:10.1046/j.1472-765X.2003.01426.x
【学科分类】微生物学

【题目】sanC--a novel gene involved in nikkomycin biosynthesis in Streptomyces ansochromogenes
【中文关键词】无
【英文关键词】sanC, Streptomyces ansochromogenes, nikkomycin, secondary metabolism.
【中文摘要】无
【英文摘要】AIMS: To investigate the genes involved in the nikkomycin biosynthesis and their molecular mechanism. METHODS AND RESULTS: A 0.9 kbp SmaI fragment was cloned and sequenced which contains a complete open reading frame designated sanC (GenBank accession no. AF228522). In search of database, the deduced product of sanC was not homologous with any known proteins. The disruption and complementation of sanC showed that sanC is essential for nikkomycin biosynthesis in Streptomyces ansochromogenes. CONCLUSIONS, SIGNIFICANCE AND IMPACT OF THE STUDY: sanC is a novel and essential gene involved in nikkomycin biosynthesis in S. ansochromogenes.
【语种】英文
【第一作者】Xu J
【通讯作者】Tan, H. R.
【期刊名称、卷期、页码】Lett. Appl Microbiol.2003,36(4):234 – 238
【论文发表时间】2003-01-01 00:00:00
【引文索引类型】SCI
【引文索引号】no
【学科分类】微生物学

【题目】Cloning, Function and Expression of sanS:A gene essential for nikkomycin biosynthesis of Streptomyces ansochromogenes
【中文关键词】无
【英文关键词】nikkomycin biosynthesis,sanS, Streptomyces ansochromogenes
【中文摘要】无
【英文摘要】A 2-kb SmaI DNA fragment was cloned from the cosmid library of Streptomyces ansochromogenes. This DNA fragment contains a complete open reading frame which is 1275 bp in length, designated sanS (GenBank accession no. AF322179). The deduced SanS protein consists of 424 amino acids and belongs to a superfamily of enzymes with an unusual ATP-grasp fold. The disruption and complementation of sanS indicated that sanS is essential for nikkomycin biosynthesis in Streptomyces ansochromogenes. The sanS gene was subcloned into expression vector pET23b and overexpressed in E. coli BL21 (DE3). The protein was then purified and showed ATPase activity.
【语种】英文
【第一作者】Li Y
【通讯作者】Tan, H. R.
【期刊名称、卷期、页码】Current Microbiol.2004,49(2):128 – 132
【论文发表时间】2004-01-15 00:00:00
【引文索引类型】SCI
【引文索引号】DOI: 10.1007/s00284-004-4260-4
【学科分类】微生物学

【题目】Enhanced production of nikkomycin X by over-expression of SanO, a non-ribosomal peptide synthetase in S. ansochromogenes
【中文关键词】无
【英文关键词】gene expression, nikkomycin, non-ribosomal peptide synthetase, sanO, Streptomyces ansochromogenes
【中文摘要】无
【英文摘要】A recombinant strain was constructed by introducing pWO6 which contains the sanO gene encoding a non-ribosomal peptide synthetase (NRPS) into Streptomyces ansochromogenes 7100 (wild-type strain). The bioassay of nikkomycin indicated that the

anti-fungal activity was enhanced in the recombinant strain in comparison with the wild-type strain. HPLC analysis revealed that 1200 mg nikkomycin X l(-1) was produced in the recombinant strain after growth for 6 d, which was about twice that of the wild-type strain. RT-PCR also indicated that higher transcription of the sanO gene was observed in the recombinant strain in contrast with wild-type strain.
【语种】英文
【第一作者】Wang G,
【通讯作者】Tan, H. R.
【期刊名称、卷期、页码】Biotechnol. Lett.2004,26:229 – 233
【论文发表时间】2004-01-15 00:00:00
【引文索引类型】SCI
【引文索引号】no
【学科分类】微生物学

【题目】圈卷产色链霉菌分化相关基因-samR调控的初步研究
【中文关键词】链霉菌分化,samR基因,自调控
【英文关键词】无
【中文摘要】在野生型的圈卷产色链霉菌中,增加单个或多个拷贝数的samR,观察该基因对野生株表型和形态的影响。结果表明,samR的拷贝数的增加会使孢子形成提前,但是增加单拷贝的菌株与增加多拷贝的菌株所表现的增效作用相同。在大肠杆菌中对samR进行了GST融合表达和纯化,通过凝胶阻滞实验证明,SamR蛋白可与其上游的调控区特异性结合。由此推测samR是一个自调控基因。
【英文摘要】无
【语种】中文
【第一作者】杨艳玲
【通讯作者】谭华荣
【期刊名称、卷期、页码】微生物学报,2005,45(1):10-14
【论文发表时间】2005-01-05 00:00:00
【引文索引类型】其他
【引文索引号】0001-6209-(2005)01-0010-04
【学科分类】微生物学

【题目】Improvement of nikkomycin production by enhanced copy of sanU and sanV in Streptomyces ansochromogenes and characterization of a novel glutamate mutase encoded by sanU ans sanV
【中文关键词】无
【英文关键词】nikkomycin, regulatory gene, sporulation, Streptomyces ansochromogenes
【中文摘要】无
【英文摘要】Previous studies revealed that two genes-sanU and sanV were associated with nikkomycin biosynthesis in Streptomyces ansochromogenes. A plasmid used to increase an extra copy of sanU and sanV was constructed and introduced into wild-type strain. HPLC results showed that nikkomycin production of recombinant strain was about 1.8 fold than that of wild-type strain. RT-PCR analysis indicated that the transcriptional level of sanU and sanV in this recombinant strain was about two folds than that of wild-type strain. The sanU and sanV were expressed in E. coli BL21 (DE3). SanU and SanV were purified individually. SanU and SanV assembled with coenzyme B12 to form a complete enzyme in vitro, which showed glutamate mutase activity. The glutamate mutase converted L-glutamate toL-threo-beta-Methylaspartic acid, and then l-threo-beta-Methylaspartic acid was probably deaminated to form 2-oxo-3-methylsuccinic acid to join biosynthetic pathway of the peptidyl moiety HPHT in S. ansochromogenes. SanU is the coenzyme B12-binding component and more than two folds of SanU are required for maximal enzyme activity. The optimal pH and temperature for the formed enzyme are 7.5-8.5 and 35-42 degrees C, respectively. Sulfhydryl compounds are important for activity of the reassembled enzyme.
【语种】英文
【第一作者】Li Y.
【通讯作者】Tan, H. R.

【期刊名称、卷期、页码】Metabolic Engineering.2005,7:165 – 173
【论文发表时间】2005-01-05 00:00:00
【引文索引类型】SCI
【引文索引号】doi:10.1016/j.ymben.2005.01.002
【学科分类】微生物学

【题目】A pathway-specific transcriptional regulatory gene for nikkomycin biosynthesis in Streptomyces ansochromogenes that also influnces colony development
【中文关键词】无
【英文关键词】nikkomycin biosynthesis,sanV, Streptomyces ansochromogenes
【中文摘要】无
【英文摘要】DNA sequence analysis of a 7.5 kb XhoI DNA fragment from the region flanking the nikkomycin biosynthesis gene cluster in Streptomyces ansochromogenes revealed one 3.3 kb open reading frame (ORF), designated sanG. The deduced product of sanG (1061 amino acids), which is similar to PimR of Streptomyces natalensis, contains an OmpR-like DNA binding domain in its N-terminal portion and A- and B-type nucleotide binding motifs in the middle of the protein. Disruption of sanG abolished nikkomycin biosynthesis, reduced sporulation and led to brown pigment accumulation. All aspects of this complex phenotype were complemented by a single copy sanG which was integrated into the chromosome. The introduction of multiple copies of sanG resulted in increased nikkomycin production. S1 mapping results indicated that sanG is transcribed from at least three promoters (P1, P2 and P3), P1 being strongly upregulated when production of nikkomycins starts. Two putative transcription units for nikkomycin biosynthesis, starting from sanN and sanO, are dependent on the expression of sanG, whereas a putative transcription unit starting from sanF was not regulated by sanG. These results suggested that sanG encodes a transcriptional activator important for nikkomycin biosynthesis that, unusually, also has pleiotropic effects on secondary metabolism and development.
【语种】英文
【第一作者】Liu G.
【通讯作者】Tan, H. R.
【期刊名称、卷期、页码】Molecular Microbiol.2005,55(6):1855 – 1866
【论文发表时间】2005-01-05 00:00:00
【引文索引类型】SCI
【引文索引号】doi:10.1111/j.1365-2958.2005.04512.x
【学科分类】微生物学

【题目】SanJ, an ATP-dependent picolinate-CoA ligase, catalyzes the conversion of picolinate to picolinate-CoA during nikkomycin biosynthesis in Streptomyces ansochromogenes
【中文关键词】无
【英文关键词】DNA sequence, gene expression, nikkomycin, sanO, Streptomyces ansochromogenes.
【中文摘要】无
【英文摘要】Nikkomycins, a group of peptidyl nucleoside antibiotics, are competitive inhibitors of chitin synthase. The nikkomycin biosynthetic gene cluster has been cloned previously from Streptomyces ansochromogenes. The cluster contains 25 complete ORFs including sanJ. The sanJ gene was inactivated by the insertion of a kanamycin resistance gene and the resulting disruption mutants failed to produce nikkomycins. Moreover, the nikkomycin production was restored by complementation with a single copy of sanJ. The deduced product of sanJ bears striking sequence similarity with enzymes belonging to the adenylate-forming superfamily. sanJ was overexpressed as a His6-tagged fusion protein in Escherichia coli and purified to apparent homogeneity by affinity chromatography. The purified SanJ demonstrated adenylate ligase activity in the presence of picolinate or its analogs (benzoate, nicotinate, 4-methoxybenzoate, 4-hydroxybenzoate), ATP and Mg2+. SanJ was also found to catalyze the conversion of picolinate, benzoate, nicotinate to their corresponding CoA esters and 4-methoxybenzoate, 4-hydroxybenzoate to their respective AMP derivatives in vitro. This was unambiguously shown by using HPLC and electrospray ionization mass spectrometry (ESI-MS) or by comparing the reaction product with an authentic standard of benzoyl-CoA. These results indicated that sanJ encodes an ATP-dependent picolinate-CoA ligase which is essential for nikkomycin biosynthesis.
【语种】英文

【第一作者】Niu, G.
【通讯作者】Tan, H. R.
【期刊名称、卷期、页码】Metabolic engineering,2006,8(3):183 – 195
【论文发表时间】2006-01-05 00:00:00
【引文索引类型】SCI
【引文索引号】doi:10.1016/j.ymben.2005.12.002
【学科分类】微生物学

【题目】SanT, a bidomain protein, is essential for nikkomycin biosynthesis of Streptomyces ansochromogenes
【中文关键词】无
【英文关键词】sanC, Streptomyces ansochromogenes, nikkomycin, secondary metabolism.
【中文摘要】无
【英文摘要】Nikkomycins act as a competitive inhibitor of chitin synthetase and display potent activities against phytopathogenic and human pathogenic fungi. sanT is located in the gene cluster of nikkomycin biosynthesis in Streptomyces ansochromogenes. Sequence analysis revealed that the deduced product of sanT has an unusual domain structure, which consists of an N-terminal acyl carrier protein (ACP) domain and a C-terminal aminotransferase (AMT) domain. Gene disruption and complementation indicated that sanT is essential for nikkomycin biosynthesis. Each domain of SanT was overexpressed in Escherichia coli and then purified. ACP domain is posttranslationally modified with phosphopantetheine (Ppant) prosthetic group at Ser-33. AMT domain catalyzes the transamination of 4-pyridyl-2-oxo-4-hydroxyisovalerate (POHIV), a precursor of peptidyl moiety of nikkomycins, to pyridylhomothreonine (PHT) in vitro. The two domains function independently but both are essential for nikkomycin biosynthesis. The biochemical and genetic evidences suggested that SanT is possibly a bifunctional protein, participating in the biosynthesis of peptidyl moiety and the assembly of nikkomycins.
【语种】英文
【第一作者】Jia, L.
【通讯作者】Tan, H. R.
【期刊名称、卷期、页码】Biochem Biophys Res Commun,2007,362(4):1031-1036
【论文发表时间】2007-01-15 00:00:00
【引文索引类型】SCI
【引文索引号】doi:10.1016/j.bbrc.2007.08.114
【学科分类】微生物学

【题目】SanM catalyzes the formation of 4-pyridyl-2-oxo-4-hydroxyisovalerate in nikkomycin biosynthesis by interacting with SanN
【中文关键词】无
【英文关键词】nikkomycin biosynthesis,sanS, Streptomyces ansochromogenes
【中文摘要】无
【英文摘要】Nikkomycins are peptidyl nucleoside antibiotics with potent activities against phytopathogenic and human pathogenic fungi. The sanM and sanN genes are required for the nikkomycin biosynthesis of Streptomyces ansochromogenes. In the present study, interaction between SanM and SanN was identified by yeast two-hybrid and co-immunoprecipitation assays. Moreover, SanM and SanN were heterologously expressed and purified. Further biochemical assay demonstrated that the SanM-SanN interaction is essential for SanM aldolase activity but not for SanN dehydrogenase activity. SanM converts piconaldehyde and 2-oxobutyrate to 4-pyridyl-2-oxo-4-hydroxyisovalerate in nikkomycin biosynthesis by interacting with SanN. Steady state kinetics analysis revealed that K(m) and k(cat)/K(m) of SanM are 123.2 microM and 11.4 mM(-1)s(-1) for picolinaldehyde, while 335.6 microM and 4.0 mM(-1)s(-1) for 2-oxobutyrate, respectively. However, SanN as a dehydrogenase is independent of SanM.
【语种】英文
【第一作者】Ling, H.
【通讯作者】Tan, H. R.
【期刊名称、卷期、页码】Biochem Biophys Res Commun,2007,361(1):196 – 201
【论文发表时间】2007-01-15 00:00:00
【引文索引类型】SCI

【引文索引号】doi:10.1016/j.bbrc.2007.07.016
【学科分类】微生物学

【题目】Identification and characterization of sawC, a whiA-like gene, essential for sporulation in Streptomyces ansochromogenes
【中文关键词】无
【英文关键词】gene expression, nikkomycin, non-ribosomal peptide synthetase, sanO, Streptomyces ansochromogenes
【中文摘要】无
【英文摘要】sawC, encoding a protein homologous to the WhiA sporulation regulator of Streptomyces coelicolor, was cloned from a fairly distantly related species, Streptomyces ansochromogenes. Disruption of sawC led to formation of aerial mycelium much longer than normal spore chains and with somewhat increased coiling, indicating that sawC plays an important role in the cessation of aerial hyphal growth similar to that of whiA, and that it has an effect on cell wall structure. However, complementation of sawC and whiA mutants with the same DNA fragment gave different results, which suggested that there may be some difference in regulation or function of WhiA/SawC between the two strains. S1 nuclease mapping identified one transcription start point of sawC. Using EGFP as a reporter, the spatial expression of sawC was shown to be confined to aerial hyphae. Computer-aided structural prediction analysis of SawC/WhiA proteins revealed the presence of a fold very similar to the endonuclease domain of PI-PfuI, raising the possibility that these proteins may interact with an intermediate in DNA repair or replication.
【语种】英文
【第一作者】Xie, Z.
【通讯作者】Tan, H. R.
【期刊名称、卷期、页码】Arch Microbiol,2007,188(6):575 – 582
【论文发表时间】2007-01-15 00:00:00
【引文索引类型】SCI
【引文索引号】DOI 10.1007/s00203-007-0278-x
【学科分类】微生物学

【题目】Identification and characterization of sanH and sanI involved in the hydroxylation of pyridyl residue during nikkomycin biosynthesis in Streptomyces ansochromogenes
【中文关键词】无
【英文关键词】nikkomycin, regulatory gene, sporulation, Streptomyces ansochromogenes
【中文摘要】无
【英文摘要】Nikkomycins are highly potent inhibitors of chitin synthase. The nikkomycin biosynthetic gene cluster has been cloned from Streptomyces asochromogenes. Two cytochrome P450 monooxygenase genes (sanQ, sanH) and one ferredoxin gene (sanI) were found in the cluster. It was reported that SanQ is involved in the hydroxylation of L: -His, a key step in 4-formyl-4-imidazolin-2-one base biosynthesis. Here, we have studied the function of sanH and sanI. Disruption of sanH abolished the production of nikkomycin X and Z, but it accumulated one dominant component nikkomycin Lx, which is the nikkomycin X analog lacking the hydroxy group at the pyridyl residue. The sanI disruption mutant accumulated predominantly nikkomycin Lx in addition to nikkomycin X and Z. The nikkomycin production profile of the sanH and sanI double disruption mutant was the same as that of the sanH disruption mutant. These results confirmed that SanH is essential for the hydroxylation of pyridyl residue in nikkomycin biosynthesis of S. ansochromogenes and first demonstrated that SanI is an effective electron donor for SanH, but not for SanQ in vivo.
【语种】英文
【第一作者】Xie, Z.
【通讯作者】Tan, H. R.
【期刊名称、卷期、页码】Curr Microbiol,2007,55(6):537 – 542
【论文发表时间】2007-01-15 00:00:00
【引文索引类型】SCI
【引文索引号】DOI 10.1007/s00284-007-9028-1
【学科分类】微生物学

【题目】The tyrosine degradation gene hppD is transcriptionally activated by HpdA and repressed by HpdR in Streptomyces coelicolor, while hpdA is negatively autoregulated and repressed by HpdR

【中文关键词】无
【英文关键词】nikkomycin biosynthesis,sanV, Streptomyces ansochromogenes
【中文摘要】无
【英文摘要】Streptomyces coelicolor produces a brown pigment on nutrient-limited agar medium (Tyr-PM) using l-tyrosine as the sole nitrogen and carbon source. The pigment production is associated with the second step of l-tyrosine catabolism catalysed by 4-hydroxyphenylpyruvate dioxygenase (HppD), which converts 4-hydroxyphenylpyruvate (4HPP) to 2, 5-dihydroxyphenylacetate (homogentisate) to provide the carbon and energy substrates for the growth of S. coelicolor on Tyr-PM. An hppD mutant did not produce brown pigment, and its normal growth was impaired on Tyr-PM. hpdA and hpdR, located close to hppD, were identified as activator and repressor genes for hppD transcription in the presence of tyrosine. hpdA, divergently transcribed from hppD, is negatively autoregulated in the absence of tyrosine, whereas it is repressed by both its own protein and HpdR in the presence of tyrosine. Electrophoretic mobility shift assays and footprinting experiments showed that HpdA and HpdR each bind to an overlapping region spanning the promoters of both hppD and hpdA, and that 4HPP, instead of tyrosine, is the specific ligand modulating the binding patterns and footprints of HpdA and HpdR on the hppD-hpdA promoter region. These results suggested that the transcription of hppD is subject to coarse and fine control by a complex regulatory system.
【语种】英文
【第一作者】Yang, H.
【通讯作者】Tan, H. R.
【期刊名称、卷期、页码】Molecular Microbiology,2007,65(4):1064 – 1077
【论文发表时间】2007-01-15 00:00:00
【引文索引类型】SCI
【引文索引号】doi:10.1111/j.1365-2958.2007.05848.x
【学科分类】微生物学

【题目】Engineering of avermectin biosynthetic genes to improve production of ivermectin in Streptomyces avermitilis
【中文关键词】无
【英文关键词】Ivermectin Combinatorial biosynthesis Polyketide synthase Avermectin aveC Streptomycesavermitilis
【中文摘要】无
【英文摘要】Two new recombinants of avermectin polyketide synthases were constructed by domain and module swapping in Streptomycesavermitilis 73-12. However, only the strain, S. avermitilis OI-31, formed by domain substitution could produce ivermectin. Analysis of the ivermectin synthesized gene cluster showed that decreased amount of aveC transcripts was one of the factors causing low yield of ivermectin. Overexpression of aveC could improveivermectin yield.
【语种】英文
【第一作者】Li, M..
【通讯作者】Li, J.L.
【期刊名称、卷期、页码】Bioorganic & Medicinal Chemistry Letters,2008,18:5359 – 5363
【论文发表时间】2008-01-01 00:00:00
【引文索引类型】SCI
【引文索引号】doi:10.1016/j.bmcl.2008.09.061
【学科分类】微生物学

【题目】Identification of a Nitroalkane Oxidase Gene: naoA Related to the Growth of Streptomyces ansochromogenes
【中文关键词】无
【英文关键词】DNA sequence, gene expression, nikkomycin, sanO, Streptomyces ansochromogenes.
【中文摘要】无
【英文摘要】naoA, encoding a nitroalkane oxidase that can catalyze toxic nitroalkanes to their corresponding aldehydes or ketones and hydrogen peroxide, was cloned from Streptomyces ansochromogenes, but its function related to the growth of Streptomyces is unknown. naoA was disrupted by the insertion of a kanamycin-resistance gene; the resulting strain can grow earlier than a wild-type strain under the same conditions. It was shown that naoA disruption accelerated growth of the naoA-disruption mutant, which could restore its phenotype and morphology as a wild-type strain by complementation of a single copy number of naoA inserted into the chromosome. The introduction of an extra copy of naoA into the wild-type strain resulted in delayed growth. The result suggested that

naoA is an important gene related to the growth of S. ansochromogenes.
【语种】英文
【第一作者】Li, Y.
【通讯作者】Tan, H. R.
【期刊名称、卷期、页码】Curr Microbiol. 2008, 57:588 – 592
【论文发表时间】2008-01-01 00:00:00
【引文索引类型】SCI
【引文索引号】DOI 10.1007/s00284-008-9247-0
【学科分类】微生物学

【题目】sanN encoding a dehydrogenase is essential for Nikkomycin biosynthesis in Streptomyces ansochromogenes
【中文关键词】无
【英文关键词】sanC, Streptomyces ansochromogenes, nikkomycin, secondary metabolism.
【中文摘要】无
【英文摘要】Nikkomycins are a group of peptidyl nucleoside antibiotics with potent fungicidal, insecticidal, and acaricidal activities. sanN was cloned from the partial genomic library of Streptomyces ansochromogenes 7100. Gene disruption and complementation analysis demonstrated that sanN is essential for nikkomycin biosynthesis in S. ansochromogenes. Primer extension assay indicated that sanN is transcribed from two promoters (sanN-P1 and sanN-P2), and sanN-P2 plays a more important role in nikkomycin biosynthesis. Purified recombinant SanN acts as a dehydrogenase to convert benzoate-CoA to benzaldehyde in a random-order mechanism in vitro, with respective Kcat/Km values of 3.8 mM-1s-1 and 12.0 mM-1s-1 toward benzoate-CoA and NADH, suggesting that SanN catalyzes the formation of picolinaldehyde during biosynthesis of nikkomycin X and Z components in the wild-type stain. These data would facilitate us to understand the biosynthetic pathway of nikkomycins and to consider the combinatorial synthesis of novel antibiotic derivatives.
【语种】英文
【第一作者】Ling, H. B.
【通讯作者】Tan, H. R.
【期刊名称、卷期、页码】J Microbiol Biotechnol,2008,18(3):397 – 403
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【引文索引类型】SCI
【引文索引号】no
【学科分类】微生物学

【题目】Genetically engineered production of 1,1'-bis-valienamine and validienamycin in Streptomyces hygroscopicus and their conversion to valienamine
【中文关键词】无
【英文关键词】Aminocyclitol Antifungal Biosynthesis Validamycin Valienamine
【中文摘要】无
【英文摘要】The antifungal agent validamycin A is an important crop protectant and the source of valienamine, the precursor of the antidiabetic drug voglibose. Inactivation of the valN gene in the validamycin A producer, Streptomyces hygroscopicus subsp. jinggangensis 5008, resulted in a mutant strain that produces new secondary metabolites 1,1′-bis-valienamine and validienamycin. The chemical structures of 1,1′-bis-valienamine and validienamycin were elucidated by 1D and 2D nuclear magnetic resonance (NMR) spectroscopy in conjunction with mass spectrometry and bioconversion employing a glycosyltransferase enzyme, ValG. 1,1′-Bis-valienamine and validienamycin exhibit a moderate antifungal activity against Pellicularia sasakii. Chemical degradation of 1,1′-bis-valienamine using N-bromosuccinimide followed by purification of the products with ion-exchange column chromatography only resulted in valienamine, whereas parallel treatments of validoxylamine A, the aglycon of validamycin A, resulted in an approximately 1:1 mixture of valienamine and validamine, underscoring the advantage of 1,1′-bis-valienamine over validoxylamine A as a commercial source of valienamine.
【语种】英文
【第一作者】Xu, H.

【通讯作者】Deng, Z.
【期刊名称、卷期、页码】Appl Microbiol Biotechnol,(2009) 81:895 – 902
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【引文索引类型】SCI
【引文索引号】DOI: 10.1007/s00253-008-1711-z
【学科分类】微生物学

【题目】hmgA, transcriptionally activated by HpdA, influences the biosynthesis of actinorhodin in Streptomyces coelicolor
【中文关键词】无
【英文关键词】nikkomycin biosynthesis,sanS, Streptomyces ansochromogenes
【中文摘要】无
【英文摘要】Homogentisate 1,2-dioxygenase (HmgA) converts homogentisate to maleylacetoacetate in the pathway of tyrosine catabolism in living organisms. Studies published to date have not elucidated the transcriptional regulation of hmgA and its biological function in Streptomyces spp. Here it is shown that the transcription of hmgA in Streptomyces coelicolor was activated by HpdA, an AsnC-type activator, in the presence of tyrosine. Disruption of hmgA led to enhanced production of diffusible brown pigment, suggesting that hmgA is required for tyrosine catabolism in Streptomyces coelicolor. The production of actinorhodin in the hmgA disruption mutant was several fold higher than that in the wild-type strain (M145), indicating that hmgA of tyrosine catabolism correlates with actinorhodin biosynthesis. Furthermore, S1 mapping showed that the transcription of actII-ORF4, a pathway-specific activator gene of actinorhodin biosynthesis, was increased in the hmgA disruption mutant. These results reveal the transcriptional regulation of hmgA and the positive contribution of hmgA disruption to the actinorhodin biosynthesis in Streptomyces coelicolor.
【语种】英文
【第一作者】Zhang, Y.
【通讯作者】Tan, H. R.
【期刊名称、卷期、页码】FEMS Microbiol Lett,2008,280(2):219 – 225
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【引文索引类型】SCI
【引文索引号】DOI:10.1111/j.1574-6968.2008.01070.x
【学科分类】微生物学

【题目】An unusual response regulator influences sporulation at early and late stages in Streptomyces coelicolor
【中文关键词】无
【英文关键词】gene expression, nikkomycin, non-ribosomal peptide synthetase, sanO, Streptomyces ansochromogenes
【中文摘要】无
【英文摘要】WhiI, a regulator required for efficient sporulation septation in the aerial mycelium of Streptomyces coelicolor, resembles response regulators of bacterial two-component systems, but lacks some conserved features of typical phosphorylation pockets. Four amino acids of the abnormal "phosphorylation pocket" were changed by site-directed mutagenesis. Unlike whiI null mutations, these point mutations did not interfere with sporulation septation, but had varying effects on spore maturation. Transcriptome analysis was used to compare gene expression in the wild-type strain, a D27A mutant (pale grey spores), a D69E mutant (wild-type spores), and a null mutant (white aerial mycelium, no spores) (a new variant of PCR targeting was used to introduce the point mutations into the chromosomal copy of whiI). The results revealed 45 genes that were affected by the deletion of whiI. Many of these showed increased expression in the wild-type at the time when aerial growth and development were taking place. About half of them showed reduced expression in the null mutant, and about half showed increased expression. Some, but not all, of these 45 genes were also affected by the D27A mutation, and a few by the D69E mutation. The results were consistent with a model in which WhiI acts differently at sequential stages of development. Consideration of the functions of whiI-influenced genes provides some insights into the physiology of aerial hyphae. Mutation of seven whiI-influenced genes revealed that three of them play roles in spore maturation.
【语种】英文
【第一作者】Tian, Y.
【通讯作者】Tan, H. R.
【期刊名称、卷期、页码】J Bacteriol.2007, 189(7):2873 – 2885

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【引文索引号】doi:10.1128/JB.01615-06
【学科分类】微生物学

【题目】Rapid and effective methods for breaking seed dormancy in buffalobur (Solanum rostratum)
【中文关键词】无
【英文关键词】Scarification, endosperm cap, gibberellic acid, potassium nitrate, sulfuric acid.
【中文摘要】无
【英文摘要】The spread of buffalobur in China poses a serious threat to existing ecosystems, and control and eradication of this specieshave become increasingly important. Studies were carried out to ascertain the seed production, morphologicalcharacterization, dormancy behavior, and methods for breaking dormancy of buffalobur. The results showed that a singlebuffalobur plant could produce 1,600 to 43,800 seeds with an average weight of 3.0 mg. Average seed length, width, andthickness were 2.5, 2.0, and 1.0 mm, respectively. Newly ripened buffalobur seeds were innately dormant and exhibitedcombinational dormancy, which involves a hard seed coat (physical dormancy, PY), a partial dormant embryo(physiological dormancy, PD), and a dark requirement to germinate. PY of buffalobur seeds could be broken by dehuskingor acid scarification by 14 M H2SO4 for 15 min, with germination rates of 55 or 50%, respectively. PD was effectivelybroken by KNO3 or gibberellic acid (GA3). The optimum concentration for KNO3 was between 20 and 40 mM, whichresulted in over 70% seed germination. When presoaked with GA3 at 30 C in dark for 24 h, maximum germination(. 98%) was obtained at 2.4 mM, the corresponding germination speed (85%) and germination index (16) were alsohighest at this concentration. Synergistic effects were observed in seed germination when H2SO4 and GA3 were combined.The most rapid and effective combination in breaking dormancy was when the seeds were immersed in H2SO4 (14 M) for20 min and presoaked with 2.4 mM GA3 for 24 h. Germination index for this combination was over 35, and 95% of theseeds germinated within 7 d. Knowledge gained in this study will be useful in increasing germination of buffalobur andfacilitating further laboratory studies.
【语种】英文
【第一作者】Shouhui Wei
【通讯作者】Shouhui Wei
【期刊名称、卷期、页码】Weed Science, 2010,58:141-146
【论文发表时间】2009-11-12 00:00:00
【引文索引类型】SCI
【引文索引号】10.1614/WS-D-09-00005.1
【学科分类】植物保护学

【题目】单胃动物饲料消化能评定方法剖析
【中文关键词】单胃动物;饲料;消化能;评定方法
【英文关键词】mono-gastric animal;feedstuffs;digestible energy;evaluation methods
【中文摘要】从单胃动物消化能评定方法的研究进展入手,详细综述了评定饲料消化能的各种非生物学方法,并对这些方法的实际应用效果和应用价值进行了评价。同时,对各种方法所存在的问题进行了剖析,从生物学和营养学的角度探讨了非生物学法评定饲料消化能值的可行性
【英文摘要】This article reviewed the non-.bioassay methods for evaluating digestible energy in feedstuffs。and the effect as well as practical value of these methods were appraised .Meanwhile,this article analysed the problems of methods.Also,the feasibility of using the non—bioassay methods to evaluate the digestible energy in feedstuffs was discussed from biology and nutriology.
【语种】中文
【第一作者】李珂
【通讯作者】张宏福
【期刊名称、卷期、页码】饲料工业2006年 第27卷 第7期 第52-55页
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【引文索引号】
【学科分类】畜牧、兽医科学其他学科

【题目】鸭的空肠食糜连续采集方法及其空肠套管的设计
【中文关键词】代谢能; 离体法; 套管; 空肠; 食糜
【英文关键词】metabo lizable energ y; in vitro ; cannula; jejunum; digesta
【中文摘要】食糜的采集是离体法测定代谢能值的方法中影响其代表性的主要因素。为此, 本研究以鸭为禽类代表动物, 设计了可连续采集空肠食糜的套管及具有保鲜功能的食糜样本瓶, 在可操作性方面取得了满意的结果。
【英文摘要】Collection o f digesta is the main factor influencing the representat ive of metabo lizable energy co ntent of feedstuf fs estimated w ith in vi tr o method1 In this paper, cannula co nt inuously collecting jejunal digesta, and sample bot t le w hich can co ol dig esta immediately w ere designed for duck1 The result show ed that digesta collectio n was more simple and co nvenient by this means。
【语种】中文
【第一作者】赵峰
【通讯作者】张宏福
【期刊名称、卷期、页码】畜牧兽医学报2006年第37期第7卷第672-675页
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【引文索引号】
【学科分类】畜牧、兽医科学其他学科

【题目】沙棘果渣提取物对小麦型日粮鸡蛋品质调控的研究
【中文关键词】畜牧学;小麦日粮;鸡蛋品质;沙棘果渣提取物;蛋鸡
【英文关键词】animal science; wheat-based diet; egg quality; hippophae rhomnoides fruit resides extraction; layer
【中文摘要】选用365 日龄的健康罗曼商品蛋鸡480 只,随机分为5 个组,每组3 个重复,每个重复32 只。5 组蛋鸡饲喂5 种日粮,分别为小麦基础日粮及在此基础上分别添加0.5% 、1% 、2% 和4% 的沙棘果渣提取物形成的试验日粮,研究从沙棘果渣中提取的黄色素对鸡蛋蛋黄的着色效果、营养价值的影响。结果表明:在产蛋鸡日粮中添加沙棘果渣提取物能够极显著(P < 0.01)提高蛋黄罗氏比色扇(R C F)值、蛋黄颜色的红值a* 和黄值b*,并显著(P < 0.05)降低蛋黄亮值L;能显著(P < 0.05)降低蛋黄胆固醇含量,但各添加水平之间无明显差异;能显著(P < 0.05)提高蛋黄中类胡萝卜素含量,且随着添加水平的提高,蛋黄中类胡萝卜素总量上升。沙棘果渣提取物有提高蛋鸡生产性能的趋势,对蛋重、蛋形指数、鸡蛋比重和哈夫单位无显著(P > 0.05)影响。
【英文摘要】This experiment was conducted to test the effect of hippophae rhomnoides fruit resides extraction (HRE) on egg yolk color of layer fed wheat-based diet. 480 Lohman layers at 53 weeks were allotted to five dietary treatment randomly (three replicates of 32 layers per replicate). The dietary treatments were: wheat diet (C),C+0.1%,0.2%,0.4% and 0.8% HRE, respectively. The results showed that: (1) the RCF of yolk in the trial groups increased significantly (P < 0.05), but the values were no more than 6. (2) with the increas of HRE from 0 to 4%, a* increased (P < 0.05) and Ldecreased significantly (P < 0.05), b* increased extremely (P < 0.01). (3) Yolks from the higher levels of HRE showed aproportionally higher content of total carotenoids deposition (P < 0.01), and the content of cholesterin decreased significantly(P < 0.05)
【语种】中文
【第一作者】卢庆萍
【通讯作者】卢庆萍
【期刊名称、卷期、页码】中国畜牧杂志2006 年第42 卷第1期第8-10页
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【引文索引类型】其他
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【学科分类】畜牧、兽医科学其他学科

【题目】热应激对快速生长型肉仔鸡脂肪沉积规律的影响
【中文关键词】热应激; 脂肪沉积; 肉仔鸡
【英文关键词】heat stress; body fat deposition; broilers
【中文摘要】将126 只35 日龄AA 商品肉用仔公鸡随机分成高温自由采食组、适温自由采食组及适温配对试验组3组, 每组6 个重复, 每个重复7 只鸡, 饲养在人工环境控制舱内的层叠式育雏笼中, 研究热应激对肉仔鸡脂肪沉积的影响。56 日龄时,

停食12 h, 从每个重复中随机抽取3 只鸡进行屠宰测定。研究结果表明, 在自由采食条件下, 35 ℃高温热应激显著降低AA 肉仔鸡腹脂重、右腿皮脂重、右腿肌间脂肪重、腹脂率、右腿皮脂率、右腿肌间脂肪率(P <0.05) 。但是与适温配对组相比, 热应激显著升高AA 肉仔鸡腹脂重、右腿肌间脂肪重、腹脂率、右腿肌间脂肪率(P <0.05) , 而对右腿皮脂重、右腿皮脂率两组间差异不显著(P > 0.05)

【英文摘要】One hundred and twenty six 35- day- old male broilers were divided into 3 groups with 6 replicates to study the effects of heat stress on body fat deposition of broilers.One group broilers fed ad libitum in neutral thermal environment (AT 22 ℃ and RH 55 %) .Another group broilers raised in high temperature by ad libitum feeding (AT 35 ℃ and RH 55 %) , and the third group broilers raised in neutral thermal but given feed consumed by heat- stress chickens just before one day.It was found heat stress(AT 35 ℃ and RH 55 % significantly decreased the content of abdominal fat, skin and subcutaneous fat and intermuscular fat under ad libitum feeding conditions.Compared to pair- feeding, heat stress significantly enhanced the lipid contents of abdominal, intermuscular, but lipid contents of skin and subcutaneous had no significant difference.

【语种】中文

【第一作者】王启军

【通讯作者】张宏福

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【学科分类】畜牧、兽医科学其他学科

【题目】应激模式对不同品种肉鸡肉色的影响

【中文关键词】应激模式; 肉鸡; 品种; 肉色

【英文关键词】Stress model; Broiler; Breed;Meat color

【中文摘要】采用2×3 二因素随机区组试验设计, 探讨了在相同日龄屠宰及相同生长周期屠宰条件下适温自由采食、适温限饲和高温自由采食3 种应激模式对AA 肉鸡和北京油鸡肉色造成的差异。结果表明: 按相同日龄屠宰时, 2 个品种肉鸡之间胸肌亮度、红度、黄度均差异极显著; 3种应激模式之间的亮度、红度、黄度差异均不显著。按相同生长周期屠宰时, 2 个品种肉鸡之间的亮度、红度差异极显著, 黄度差异不显著; 3 种应激模式下的亮度差异显著, 红度、黄度差异不显著。

【英文摘要】To study the effects of stress models on broilers. meat colors, the differences of meat colors between AA broiler and Beijing You broiler were discussed among three stress models on the condition that slaughtered at the same age and slaughtered during the same growing period separately. The three stress models were fitting temperature and ad libitum, fitting temperature and restriction, high temperature and ad libitum. The experiment involved 6 reatments with 6 repeats, 2×3 factorial arrangement, consisting of 2 levels of broiler breeds and 3 levels of stress models. Results show that, when slaughtered at the same age, the differences of the lighteness、redness、yellowness of musculus pectoralis were all very significant between the two broiler breeds andwere not significant among the three stress models. When slaughtered during the same period, the differences of the lightenless and the redness were very significant and the differences of the yellowness was not significant between the two broiler breeds, the differences of the lightenless was signif-icant among the three stress models, and the differences of the redness and the yellowness were not significant.

【语种】中文

【第一作者】董亚维

【通讯作者】张宏福

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【引文索引类型】其他

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【学科分类】畜牧、兽医科学其他学科

【题目】热应激对肉仔鸡脂肪沉积及血液生化指标的影响

【中文关键词】热应激;脂肪沉积;生化指标;肉仔鸡

【英文关键词】Heat exposure ; Body fat deposition ; Physiology and biochemistry ; Broiler

【中文摘要】将35 日龄AA 商品肉仔公鸡126 只随机分成高温自由采食组、适温自由采食组及适温日粮配对组,每组6 个重复,每个重复7 只鸡,饲养在人工环境控制舱内的层叠式育雏笼中。56 日龄时,停食12 h ,从每个重复中随机抽取3 只鸡进行屠

宰测定。研究结果表明,在自由采食条件下,35 ℃高温热应激显著降低肉仔鸡腹脂重、右腿皮脂重、右腿肌间脂肪重、腹脂率、右腿皮脂率、右腿肌间脂肪率(P <0. 05) ,显著升高血浆葡萄糖水平(P < 0. 01) ,显著降低血清胰岛素水平(P < 0. 05) ,而对血浆极低密度脂蛋白、游离脂肪酸水平无显著影响。与适温日粮配对组相比,热应激显著升高肉仔鸡腹脂重、右腿肌间脂肪重、腹脂率、右腿肌间脂肪率(P < 0. 05) ,极显著升高血浆极低密度脂蛋白水平(P < 0. 01) ,显著升高血浆游离脂肪酸水平(P < 0. 05) , 而对右腿皮脂重、右腿皮脂率的升高程度影响不显著(P >0. 05) ,对血浆葡萄糖、血清胰岛素水平无显著影响。

【英文摘要】126 heads of 35-day -old male broilers were divided into 3 groups. There were 6 replicates in each group and 7 chickens in each replicate. Fair test design was adopted to test the effect of ambient temperature on broilers. One group was fed with the addition of libitumin neutral thermal environment (at 22 °Cand RH55 %) . Second group was raised in high temperature with the addition of libitumin feed (at 35 °Cand RH55 %) . And third group was raised in neutral thermal but the feed consumed by heat2exposed chickens just before one day. It was found under the condition of the group under heat ex2 posure (at 35 °Cand RH 55 %) the weight of abdominal fat , skin and subcutaneous fat of the right leg and intermuscular fat of the right leg were signifi 2 cantly decreased. The plasma glucose was significantly increased and the seruminsulin was significantly decreased under the condition of the addition of li 2 bitum in feed , but there were no difference in plasma with very low density of lipoproteins (VLDL) and free fatty acid (NEFA) . Compared with the pair2 feeding , the heat exposure can significantly enhance the lipid contents of abdominal , the inter2muscular of the right leg tissues , significantly increase the plasma VLDL and NEFA , but the lipid contents in skin and subcutaneous of the right leg was not significant .

【语种】中文
【第一作者】王启军
【通讯作者】张宏福
【期刊名称、卷期、页码】安徽农业科学2006年第34期第9卷第1886、1887、1890页
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【题目】纤维素酶的酶学性质研究
【中文关键词】纤维素酶;酶学性质;纤维素酶活力
【英文关键词】cellulase;catalyzed property;cellulase activity
【中文摘要】本试验采用DNS法对一种微生物产纤维素酶的酶学性质进行了研究。结果表明:酶作用的最适温度和pH 值分别为37℃和5.5 该酶是一种耐热酶,在有底物保护条件下,酶的热稳定性可大幅度提高。酶的pH 稳定性范围为5.O一7.0。金属离子Ba2+ 、K +对酶都有激活作用,Cu2+、Ca2+ 、Fe 3+、Mn2+ 、Zn2+ 、Fe 2+对酶起抑制作用。该酶对纤维素类底物具有较强的分解作用,对茶叶多糖分解能力较弱。

【英文摘要】Abstract]Some general biochemical properties of cellulases generated from one sort of microorganism were investigated by the method of DNS.The results showed that the optimal temperature and optimal plI of the enzyme Were 37 °C and 5.5.The thermal stability of the enzyme was good and could be improved with CMC existing.The effect of mental ions on the cellulase activity was investigated.It showed that Ba and K could activate eellulase activity,and Cu2+ ,Ca2+ ,Fe3+ ,Mn2+ ,Zn2+ and Fe2+ inhihited the cellulase activity. Fhe celhdase had high ability tO decompose CMC,cotton,and filter paper,but had the low ability to decomose tea polysaccharide.

【语种】中文
【第一作者】王在贵
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【题目】非淀粉多糖酶在玉米- 豆粕型日粮中的应用

【中文关键词】非淀粉多糖酶;玉米- 豆粕型日粮
【英文关键词】non- starch polysaccharide enzymes;corn- soybean meal diets
【中文摘要】本文综述了玉米- 豆粕型日粮的非淀粉多糖(NSP)种类与含量,在玉米- 豆粕型日粮中添加非淀粉多糖酶的理论依据以及非淀粉多糖酶对玉米- 豆粕日粮养分消化率和畜禽生产性能的影响。大多数的研究结果表明,在玉米- 豆粕型日粮中添加酶能不同程度地提高养分消化率和畜禽生产性能。
【英文摘要】This paper reviewed the species and content of non- starch polysaccharide(NSP)in corn- soybean meal diet,the theory of the NSP enzymes added into the corn- soybean meal diets,and the effects on nutrient digestibility and animalperformance.Most of the research showed that the NSP enzymes could improve the nutrient digestibility and animalgrowth performance in some extents.
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【第一作者】蒋小红
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【题目】体外评定酸化剂作用效果的方法探讨
【中文关键词】酸化剂;作用效果;体外评定
【英文关键词】acidifier;effect of action;assessing in vitro
【中文摘要】文章主要论述了体外法评定酸化剂作用效果的指标和评定方法
【英文摘要】The research items and method of assessing the effect of acidifier in vitro were reviewed in the article.
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【第一作者】秦圣涛
【通讯作者】张宏福
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【题目】我国常见典型仔猪日粮系酸力和电解质平衡水平的调查研究
【中文关键词】系酸力;电解质平衡;仔猪日粮
【英文关键词】Acid2binding cap acity (ABC) ;Dieta ry elect rolyte dalance (d EB) ; Piglet diets
【中文摘要】本文旨在对我国常见典型仔猪日粮的系酸力(acid-binding cap acity ,ABC) 和电解质平衡(dietary elect ro2lyte balance , dEB) 进行调研,为合理配制仔猪日粮提供必要参考。选取了6 个省份18 个有代表性的大型饲料企业断奶仔猪饲料的pH、ABC、Na 、K、Cl 百分含量状况进行调研, 并计算了d EB 值。结果表明:断奶仔猪日粮p H、ABC、Na 、K、Cl 百分含量及d EB 值分别为(5191 ±0142) 、(37172 ±8164) mmol/ 100 g 、(0132 ±0134) %、(0183 ±0127) %、(0177 ±0185) %及(132158 ±86193) mEq/ kg DM ,不同饲料企业间的各项指标差异很大。
【英文摘要】Investigation on ABC and d EB of t he piglet diets in China so as t o p rovide an essential ref e rence f or design of t he piglet diet f ormula . A research on p H value , ABC , Na , K, Cl content and dEB value of t he piglet diets in 18 rep resentative, la rge2scale f eed ente rp rises f rom 6 dif f e rent p rovinces in China was conducted in t his article . The result showed t hat t he p Hvalue ,ABC ,Na , K,Cl content and dEB value of t he piglet diets f rom dif f e rent ente rp rises averages (5191 ±0142) , (37172 ±8164) mmol/ 100 g , (0132 ±0134) % , (0183 ±0127) %, (0177 ±0185) % , (132158 ±86193) mEq/ kgDM resp ectively. The re was a large range of each p arameter in t he dif f e rent f eed resource .
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【第一作者】唐湘方
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【题目】应用均匀设计法研究不同酸组合的抗菌效应
【中文关键词】酸化剂; 抑菌效果; 均匀设计; 回归方程
【英文关键词】acidifier; antibacterial effect; uniformity design; regression equation.
【中文摘要】试验旨在研究不同酸配伍的抑菌效果, 探索抑菌效果最佳的酸化剂配方。利用磷酸、甲酸、柠檬酸、乳酸等4 种酸, 用均匀设计的方法组成20 种酸化剂配方, 以体外抑菌试验研究各个酸化剂配方的抑菌效果并建立各酸在配方中的百分比与抑菌率的多元回归方程, 优化求解得最佳抑菌效果酸化剂配方。结果表明, 理论上要取得最佳抑菌效果的酸化剂配方为: 磷酸35.5 %, 甲酸38.8 %, 柠檬酸6.7 %, 乳酸19 %, 此时配方的理论抑菌率为98.9 %。
【英文摘要】The research was conducted to study the antibacterial effect of different acid compounding, phosphoric acid, formic acid, citric acid, lactic acid, by the method of uniformity design to form twenty kinds of acidifiers formulation. And in vivo experiment, the antibacterial effect of each acidifier formulation and multielement regression equation between the antibacterial effect and the percentage of each acids in acidifier formulation were obtained.The results showed that the best antibacterial effect acidifier formulation theoretically was phosphoric acid 35.5 %, formic acid 38.8 %, citric acid 6.7 %, lactic acid 19 %, the formulation theoretically antibacterial ratio was 98.9 %.
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【第一作者】秦圣涛
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【题目】酸化剂主要生理功能和复合酸选配依据
【中文关键词】酸化剂;生理功能;酸解离度;复合酸选配
【英文关键词】Acidif ier ; Phusiology f unction ; Dissociation of acid ; Conf iguration of comp ound acidif ier
【中文摘要】文章主要综述了近年来关于酸化剂发挥作用的方式和各个酸类互作效应等方面的研究进展。酸化剂在畜牧生产中应用日益广泛,其生理功能主要有调节动物消化道内p H ,为消化酶的激活创造适宜的环境和抑制消化道有害微生物增殖,减少病原菌感染。酸化剂应用形式也经历了由单一酸到复合酸的过程,但复合酸的合理配伍缺乏相应的理论基础,目前关于各种酸化剂的互作关系以及酸化剂和其他添加剂间的互作效应的研究正逐步展开,必将为酸化剂的进一步发展提供理论支持。
【英文摘要】Acidif ie r is gradually applied widely in st ockbreeding indust ry. The dominating p hysiology f unction of acidif ier is t o regulate t he p H value in st omach of animal , create an app rop riate circumstance f or zymogen activation and rest raining multiplication of p at hogenic microorganism in enteron , alleviate inf ection of t hese p at hogenic microorganism. The applica2 tion f orm of acidif ie r has develop ed f rom single acid t o comp ound acids . But reasonable comp ound acidif ie r is insuf f iciency in t heoretics t o sustain , t his is t he weakness aspect in acidif ie r resea rch. The evolution about t hese aspects have been summa2 rized in t his a rticle . [Chinese J ournal of Animal Nut rition , 2007 ,19 (Sup pl) :5152520]
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【题目】鸭空肠液中淀粉酶、胰蛋白酶、糜蛋白酶活性变异的研究1
【中文关键词】北京鸭;空肠液;消化酶
【英文关键词】Peking duck ; jejunal fluid ; digestive enzyme
【中文摘要】本试验旨在通过研究鸭空肠套管中食糜流量及空肠液中消化酶活性的变异,探讨获取相对可比的空肠液样品的适宜采样方案,为鸭小肠中消化酶酶谱的研究提供依据。采用3 ×6 (日期×时间) 完全随机设计,每4 h 采集1 次空肠食糜,每采集1 h 后间隔3 h ,隔日重复采样过程,共采集3 d。试验1 ,随机选择15 只荷术鸭,分成5 个重复,每个重复3 只鸭,测定空肠套管中食糜的流量。试验2 ,从鸭群中随机选择24只荷术鸭,分成6 个重复,每个重复4只鸭,测定空肠液中淀粉酶、胰蛋白酶、糜蛋白酶的活性。结果表明:空肠套管内的食糜流量呈现出日间及日内变异,日内食糜流量呈现出先升后降的总体规律。日内采样时间对空肠液中淀粉酶、胰蛋白酶、糜蛋白酶活性有极显著的影响(P < 0101) 。不同日间,淀粉酶、糜蛋白酶的日平均活性有显著差异(P < 0105) ,而胰蛋白酶日间平均活性没有显著差异(P = 0128) 。3 种消化酶活性均呈现出同一日内随采样时间而逐渐降低的总体现象。鉴于上述现象,通过套管获取反映鸭空肠中消化酶活性生理水平的采样方案为:白天采集3 次样品,每次采集1 h 间隔3h ,隔日重复采样,共采集3 d。
【英文摘要】The variation of jejunal digesta flux in cannula and digestive enzymes activities in jejuna fluid of Peking duck were investigated to st udy t he scheme of representive jejunal fluid sample. The 3 6 factorial t reatment was performed in two experiment s and jejunal digesta samples were collected for 1 h out of every 4 h on d 16 , 18 and 20 of the experiment . In experiment 1 , fif teen male Peking ducks of 18 wk of age fit ted a T type jejunal cannula were randomly allotted into 5 replication with 3 birds per replication. The volume per h of jejunal digesta in cannula was deter2 mined. In experiment 2 , twenty2four cannulated ducks were randomly selected and divided into 6 replication with 4 birds per replication. The amylase , t ryp sin and chymot ryp sin activities in jeju2 nal fluid were determined. The result s showed that t here was obvious variation of digesta flux in cannula wit h collection time and collection day. Collection time significantly affected the average activities of amylase , t ryp sin and chymot ryp sin in 24 h cycle (P < 0101) . Significant differences were al so found in the average activities of amylase and chymot ryp sin among days (P < 0. 05) . Three digestive enzymes activities were declining wit h collection time in a 24 h cycle. According to the result s , it is possible to develop a representative sampling scheme t hat sampling for 1 h out of every 4 h in t he daylight at 1 day interval for 5 days for st udying in endogenous digestive en2 zymes.
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【第一作者】赵峰
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【题目】国外种质对中国大豆育成品种遗传贡献的分子证据
【中文关键词】大豆;育成品种;引进种质;遗传贡献
【英文关键词】Soybean; Cultivars; Soybean germplasm introduction; Genetic contribution
【中文摘要】用SSR标记对32份中国大豆品种与40份国外引进大豆育成品种祖先亲本的遗传多样性进行分析,以明确引进国外大豆种质对中国大豆育种的遗传贡献。结果表明,在22个SSR位点共检测到170个等位变异,中国大豆和引进国外大豆平均等位变异数分别为6.0和6.9个,遗传多样性指数都为0.71,国外品种中检测到48个特有等位变异,而中国大豆中仅检测到22个,且共有等位变异在中外大豆中的分布频率差异较大。聚类分析也发现中国育成品种与国外引进大豆存在较大差异。遗传组成分析发现,Amsoy和十胜长叶2个国外种质的引入使5个中国大豆育成品种增加了23个国外种质特有等位变异;其在育成品种中的保留比例为29.13%,但不同遗传背景中保留的等位变异不同,说明国外种质在中国大豆育种中起着重要作用,而且仍有很多特有等位变异没有被利用,可以继续作为亲本在中国大豆改良中发挥作用。
【英文摘要】Molecular marker analysis can be used to quantify diversity of Chinese and introduced soybean germplasm and can provide useful information for the relationship of these materials1 The genetic diversity of 32 Chinese varieties and 40 foreign ancestral cultivars were investigated by 22 SSR markers1 One hundred and seventy alleles were detected , with an average of 610 and 619 in Chinese and foreign materials , respectively1 The polymorphism information content (PIC) was 0171 in both populations , which indicated a relatively high genetic diversity1 There were 48 specific alleles in foreign materials and only 22 in Chinese varieties1 The frequency of the alleles in common was very different in the two populations1 Great differentiation was also observed between the two

populations when UPGMA cluster analysis was used1 We analyzed the pedigree of five Chinese cultivars derived from two introduced soybean cultivars , Amsoy and Tokachi nagaha , and found 23 specific alleles from foreign materials1 The reserved specific alleles were different in each genetic background , and 29113 % specific alleles were reserved in total1 This indicated that the introduction of foreign materials in Chinese soybean breeding increased the soybean genetic diversity1 For foreign materials , more pecific alleles have not been used yet , and should be used as parental materials in elite lines breeding in the future to enlarge the genetic bases of Chinese soybean1

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【题目】大豆粗蛋白、粗脂肪含量近红外检测模型建立及可靠性分析
【中文关键词】大豆;近红外;蛋白质;脂肪
【英文关键词】Soybean; N IS; Protein; Oil
【中文摘要】大豆是重要的植物蛋白和食用油来源,目前常用的蛋白质和脂肪化学分析方法不仅操作步骤繁琐,而且籽粒粉碎而不能延续后代,在大豆品质改良的后代选育过程中的应用受到限制。为明确快速、简便、非破坏籽粒的近红外检测方法利用的可行性。利用4个建模样品集,采用偏最小二乘法建立了3个近红外大豆粗蛋白、粗脂肪籽粒检测模型和1个粉末检测模型。通过重新采集8个不同蛋白质和油份含量的大豆样品检测分析,并送检权威检测部门进行化学分析比较,分析近红外检测的可靠性。通过稳定性、一致性等分析表明,合适的建模样品集是正确建模的前提,在所建3个籽粒模型中,以含415个大豆材料的样品集所建模型(M6)可靠性最好;分析结果还表明,近红外检测结果与化学分析结果一致,在需要保存籽粒完好的大豆杂交分离世代或大量样品检测时,用近红外检测代替化学分析是可行的。
【英文摘要】Soybean p rovides a major source of p rotein and oil. The p resent analysismethod of p rotein and oil is time2consu2 ming and destructive, and its app lication in high oil and high p rotein breeding is restricted, hence, rap id and nondestructive analysismethod is required for quality imp rovement. This research was done in order to validate the reliability of the near in2 frared spectroscopy(N IS) models which was rap id, simp le and nondestructive. Near infrared spectroscopy of 4 samp le pools were emp loyed to develop regression models depending on least squares. They were 3 seed model and 1 powdermodel. De2 pending on re2samp ling, comparison was done among 7 results including 3 chemistry results from different elite testing2cen2 ter and 4 N ISmodels ’ results. The result showed that the suitable samp le poolwas necessary for excellentmodels. M6 which depended on a samp le including 415 samp les was the best one among 3 N IS seed model. Correlation among differentmeth2 ods were obviously consistent. Hence, usingN ISmodels to substitute chemistrymethod was reliable especially for large scale nondestructive testing.
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【题目】排空-强饲法测定鸭饲料氨基酸真消化率的研究1
【中文关键词】北京鸭;氨基酸真消化率;排空-强饲法
【英文关键词】Beijing duck ; True digestibility of amino acids ; Emp tying2f orce2f eeding met hod
【中文摘要】本试验旨在通过研究“ 排空2强饲 ”条件下,鸭饲料氨基酸的排泄规律是否满足Sibbald “ 排空-强饲 ”法的基本条件,为Sibbald 法是否适合于鸭饲料氨基酸真消化率的测定提供参考。试验采用单因素完全随机设计,将84只成年公鸭随机分配到7个处理中,即饥饿组和6 种试验日粮组(豆粕在试验日粮中的比例分别为0 、10 %、20 %、30 %、40 %、50 %) ,每个处理4 个重复,每个重复3 只鸭,以“ 排空-强饲 ”法测定日粮的氨基酸排泄量。结果表明,在以豆粕为唯一氨基酸来源

【中文摘要】的日粮中,成年公鸭17 种氨基酸的排泄量与摄入量间呈极显著的线性关系(P < 0101) 。无氮日粮条件下内源性组氨基酸的排泄量显著地高于饥饿条件下所测值(P < 0105) ,而其他内源性氨基酸的排泄量在饲喂无氮日粮与饥饿条件下无显著差异。鸭氨基酸排泄量与摄入量间回归直线截距中仅精氨酸、组氨酸及甘氨酸的回归截距显著地高于饥饿法所测相应的内源性氨基酸值(P < 0. 05) ,而其他14 种氨基酸的回归截距与饥饿法所测相应的内源性氨基酸无显著差异。因此,Sibbald “ 排空-强饲 ” 法可以用于鸭饲料氨基酸真消化率的测定。然而,客观、准确地估测内源性氨基酸的量对 “ 排空-强饲 ” 法氨基酸真消化率的测定值至关重要。

【英文摘要】The relationship between outp ut and intake of amino acids in ducks was investigated t o study t he f easibility of Sib2 bald ’ s emp tying2f orce2f eeding met hod f or t rue digestibility of amino acids dete rmination. Eighty f our male adult ducks we re randomly divided int o 7 t reatments wit h 4 replicates pe r t reatment and 12 ducks p er replicate . One t reatment was f asted t reatment and ot her 6 t reatments we re f ed wit h soybean meal wit h 6 levels in diets (0 % , 10 % , 20 %, 30 %, 40 % , and 50 % respectively) . Sibbald ’ s emp tying2f orce2f eeding met hod was used t o dete rmine t he volume of amino acid outp ut . The results showed t hat t he signif icant linea r relationship between amino acids outp ut and intake was app ea red in t hese 6 diets using soy2 bean meal as t he only p rotein source (P < 0. 01) . The endogenous losses of 17 amino acids excep t His we re not signif icantly dif f erent between t he ducks f ed wit h nit rogen2f ree diet and t he f asted t reatment (P < 0. 05) . In t he regression inte rcep ts of outp ut and intake of amino acids in ducks , only t he regression inte rcep ts of Arg , His and Gly were signif icantly highe r t han t he cor resp onding endogenous amino acids value of f asting ducks (P < 0. 05) . In conclusion , Sibbald ’ s emp t ying2f orce2f eed2 ing met hod can be used f or measuring t he t rue digestibility of amino acids of duck f eedstuf f , but t he accuracy of t he dete rmi2 nation of endogenous amino acids losses is imp ortant t o t he t rue digestibility of amino acids in ducks . [Chinese J ournal of An2 imal Nut rition , 2008 ,20 (5) :5922598]

【语种】中文

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【学科分类】畜牧、兽医科学其他学科

【题目】用SSR标记鉴定大豆杂交组合F1 的方法研究

【中文关键词】SSR; 大豆; F1; 分子标记辅助鉴定

【英文关键词】SSR; Soybean; Hybrid; Marker assisted identification

【中文摘要】为建立鉴定大豆杂种的方法,采用亲本间有多态性的3对SSR引物,对148个耐盐与盐敏感大豆品种正反交F1 植株进行分子鉴定,结果表明,有81. 8%的F1 为真杂种,且3对多态性SSR引物检测结果一致;在亲本基因型纯合的情况下,采用1对在亲本间有多态性的SSR引物即可对F1 真伪进行准确判断;亲本间分子量差异大的SSR位点可用高浓度琼脂糖电泳进行快速鉴定。利用该方法对2007年参加国家大豆区试的大豆杂交种品系H022286的50粒种子进行纯度鉴定,进一步验证了SSR标记检测杂种真伪的可行性。

【英文摘要】In order to test the verity of hybrids derived from the cross of salt tolerant and salt sensitive cultivars, three polymorphic SSR markers between soybean parentswere selected to evaluate 148 hybrids. The purity ratio of soybean hybrids is 81. 8% , and the results identified by different SSR markerswere identical. This study indicated, if the parents were pure lines, that a single app rop riate SSR marker can be used to test seed purity of the hybrids. The SSR lociwith great fragment length different between the parents should be selected in order to identify the genotypes by agarose gel. In order to estimate the effectiveness of thismethod, fifty seeds of a hybrid line named H022286 were used as materials for further research, and the result showed the feasibility of this method.

【语种】中文

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【学科分类】农业基础学科

【题目】河北省大豆地方品种遗传基础
【中文关键词】大豆; 多样性; 遗传基础
【英文关键词】soybean; genetic diversity; genetic basis
【中文摘要】以50份河北省大豆地方品种为材料, 通过两年对12个农艺性状鉴定和30个SSR 位点的分析, 结果表明, 地方品种农艺性状平均多样性指数为0. 83, 数量性状平均变异系数为20. 15%, 30个SSR位点平均等位变异数5. 03, 平均多样性指数为0. 61, 参试材料遗传距离平均0. 869。利用Bayesian模型将参试材料分为4组。分析结果表明, 河北省地方品种的遗传多样性与地理来源或不同熟期类型间没有显著相关。
【英文摘要】In order to analysis the genetic basis o f landrace soybean in H ebei prov ince, 50 landrace soybean w ere used asmateria ls, the pheno type o f 12 agricultural tra itsw ere invested in two years and the geno type o f30 SSR lociw ere screened. The resu lts show ed that the PIC of agricultural tra its w as 0. 83 and theCV w as 20. 15% in two years. 5. 03 a lle les w ere detected at each SSR locus on average, the average PIC of 30 SSR loc iw ere 0. 61, in add ition, the average genetic distance w as 0. 869. 50 landracew ere separated into 4 g roups on B ayesianmode.l A s a re sul,t there w as no significant d ifference among landrace soybean from different reg ion ofH ebe i prov ince
【语种】中文
【第一作者】杨春燕
【通讯作者】张孟臣
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【学科分类】农业基础学科

【题目】直接法与差量法测定豆粕鸭代谢能值的比较研究1
【中文关键词】北京鸭;代谢能;直接法;差量法
【英文关键词】Beijing duck ; Metabolizable energy ; Di rect met hod ; Dif f e rence met hod
【中文摘要】本试验旨在通过比较研究直接法与差量法测定豆粕鸭代谢能值的差异,为豆粕鸭代谢能值的客观评定提供参考。试验采用单因素完全随机设计,将84 只成年公鸭随机分配到7 个处理中(豆粕在试验日粮中的比例分别为0 %、10 %、20 %、30 %、40 %、50 %、100 %) ,每个处理4个重复,每个重复3只鸭,以排空强饲法测定日粮的代谢能值。结果表明,日粮中豆粕的含量从10 %升高到50 %时,日粮的AME 和TME 的实测值均显著高于其计算值(P < 0. 05) 。然而,在试验日粮中豆粕含量为40 %时, 试验日粮的AMEn 和TMEn 实测值与计算值无显著差异(P > 0. 05) 。在试验日粮中豆粕含量分别为10 %、20 %、30 %时, 由差量法测得的豆粕鸭代谢能值(AME、TME、AMEn 和TMEn) 显著高于直接法测值(P < 0. 05) 。在试验日粮中豆粕含量分别为40 %、50 %时,差量法测得的豆粕AME、TME 值显著高于直接法测值,但在AMEn 、TMEn 上与直接法无显著差异。因此,在鸭的代谢能值测定中,差量法应要求日粮的豆粕含量达到40 %~50 %。豆粕的AMEn 和TMEn 值既可选用直接法,也可选用差量法测定,但在AME、TME 的测值上建议使用差量法。
【英文摘要】This study was conducted t o establish a reasonable met hod f or determining t he metabolizable ene rgy (ME) of soy2 bean meal in ducks by comp aring direct met hod wit h dif f erence met hod in ME determination. Eighty2f our adult ducks we re randomly divided int o seven t reatments wit h f our replicates each and 12 ducks in each replicates . Seven t reatments were f ed wit h 7 diets containing 7 levels of soybean meal (0 %, 10 % , 20 % , 30 %, 40 %, 50 %, and 100 %, respectively) . Sibbald ’ smet hod was used t o dete rmine ME. The results showed t hat t he dete rmined AME and TME values of 5 diets (soybean meal content of 10 %, 20 %, 30 % , 40 %, 50 %) were signif icantly highe r t han t hei r calculated values (P < 0. 05) . Howeve r , t he re was no signif icant dif f e rence between determined value and calculated value of AMEn and TMEn in t he diet wit h 40 % soy2 bean meal . When dieta ry soybean meal contents were 10 %, 20 %, and 30 % , t he ME values (AME , TME , AMEn , TMEn) of soybean meal dete rmined wit h dif f erence met hod we re signif icantly highe r t han t hose dete rmined wit h direct met hod (P < 0. 05) . When dieta ry soybean meal contents we r 40 % and 50 %, t he AME and TME values of soybean meal dete rmined wit h dif f e rence met hod we re highe r t han t hose dete rmined wit h direct met hod (P < 0. 05) , but t he re was no signif icant dif f erence in t he AMEn and TMEn values dete rmined wit h t hese two methods (P > 0. 05) . In conclusion , to determine the ME values of soybean meal with difference method , the optimal dietary soybean meal content should be 40 %~50 %. The AMEn and TMEn value of soybean meal can be determined with both direct method and difference method , but when determining AME and TME determined values ,it was suggested to use difference method. [Chinese J ournal of Animal Nut rition

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【通讯作者】张宏福
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【学科分类】畜牧、兽医科学其他学科

【题目】不同油脂日粮中添加RRR- α-生育酚琥珀酸酯对肉鸡生产性能、抗氧化和免疫功能的影响
【中文关键词】RRR- α - 生育酚琥珀酸酯; 肉鸡; 生产性能; 抗氧化; 免疫
【英文关键词】RRR2A2t oco phe ro l succinate; Br o ilers; Per f ormance; Anto x idation; Immunity
【中文摘要】本试验旨在研究不同油脂日粮中添加RRR - α生育酚琥珀酸酯(α - TOS) 对肉鸡生产性能、抗氧化和免疫功能的影响。选用600 只1 日龄AA 肉鸡, 随机分为10 个处理, 每个处理6 个重复, 每个重复10 只鸡。试验采用2× 5因子设计, 即2 种油脂(新鲜油脂和氧化油脂) 和5 种 α - 生育酚类型, 分别为30 mg / kg all – rac - α - 生育酚,醋酸酯(TOA1) 、3 0 mg/ kg RRR - α - 生育酚醋酸酯(TOA2) 及15、3 0、6 0 mg/ kg α -TOS(TOS1 、TOS2 和TOS3) 。试验期为42 d。结果表明: 1) α - TOS 和氧化油脂显著影响1~ 21 日龄肉鸡的料重比, 对其他生产性能无显著影响(P > 0. 05) ; 2) 随着 α - TOS 添加量的增加, 不同油脂日粮肉鸡血清中三碘甲状腺原氨酸(T3) 和促甲状腺激素(TSH) 水平均升高, 皮质醇显著降低, 血清的抗氧化能力不同程度提高(P < 0. 05 或P < 0. 01) , 丙二醛(MDA) 含量显著降低和新城疫抗体效价升高(P < 0. 05) ; 3) 氧化油脂日粮使肉鸡血清激素水平、抗氧化酶活性和新城疫抗体效价均下降, 低于同水平添加 α - TOS 新鲜油脂组(P> 0. 05) 。结果提示, 氧化油脂日粮能诱导肉鸡产生免疫应激, 并导致生产性能和抗氧化功能下降; 日粮中添加 α - TOS 能一定程度上提高肉鸡生产性能、血清抗氧化功能及机体免疫功能, 且在不同油脂日粮中均以60 mg/ kg α - TOS 添加组的作用效果最佳。
【英文摘要】To study t he eff ects o f RRR toco pher ol succinate on pe rf ormance, a nt io xida nt and immune functio n o f br o ilers fed dif fer ent o il diets, six hundr ed AA br oile rs w ere r andom ly div ided into 10 tr eatme nts with 6 replicate s and 10 br o ilers in each r eplicate. The exper ime nt using a 2 5 facto r ial design: the o il types (fr esh and o xidized o il) to co phe ro l treat ments (30 mg/ kg all r ac tocopher ol acetate (TOA1) , 30 mg/ kg RRR to co pherol acetate (TOA2) , 15, 30, and 60 mg/ kg RRR2A2tocopher ol succinate (TOS1 , TOS2 , TOS3) , respectively) . The exper iment lasted f or 42 days. The results show ed that: 1) A2TOS and oxidized o il had no signif icant effect on the g rowth perf ormance (P > 01 05) except the feed gain ratio o f 1~ 21 day2old bro ilers; 2) by the am ount o f A2TOS incre asing , the T3 and TSH lev els in se rum wer e incr eased and co r tiso l w as signific antly reduce d, antiox idant capacity o f ser um w as increa sed to some extent (P < 01 05 o r P< 0. 01) , ma lo naldehyde (MDA) lev els wer e significantly reduced and the New castle dise ase antibo dy titer we re impr ov ed (P < 01 05) ; 3) compare d with f resh o il diet gr o ups, adding with the sam e leve l A2TOS, o xidized oil made ser um hormo ne lev els, antio x idant e nz yme activity and New castle disease antibo dy tite rs decr eased, but the dif fer ences w ere no t sig nif icant (P> 01 05) . These re sults indica ted tha tox idize d o il diet can pr ov oke immune str ess, lea ding the g row th per fo rm ance of br oiler s re duced, the antio xidant decr ease d A2TOS supplementa tio n in die t can impr ov e the br oiler gr owth per fo rm ance in a certa in ex tent, a ntio xidant indices and im2 m une f unction o f se rum, a nd the best gr o up is the 60 mg/ kg dietar y D2A2TOS supplementa tio n in diff ere nt o il diets. [Chinese Journal of Animal Nutrition
【语种】中文
【第一作者】王改琴
【通讯作者】王恬
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【学科分类】畜牧、兽医科学其他学科

【题目】低磷日粮中添加植酸酶对蛋鸡产蛋性能、内源消化酶及养分消化率的影响
【中文关键词】植酸酶; 蛋鸡; 产蛋性能; 消化酶; 养分消化率
【英文关键词】phytase; laying hen; laying performance; digestive enzyme; nutrient utilization

【中文摘要】为探明在低磷的玉米-豆粕型日粮中添加植酸酶对蛋鸡产蛋性能、内源消化酶及养分消化率的影响,该研究选用18周龄体重、产蛋周龄相近的伊莎褐蛋鸡840 羽, 随机分成7组: 对照1(Ⅰ 组, 基础日粮, 未添加植酸酶) 、对照2(Ⅱ组, 有效磷水平降低0. 12 个百分点)及在对照2 基础上分别添加300 U /kg、1 000 U /kg 和10 000U / kg 的包衣状植酸酶、300 U /kg的粉状植酸酶及300 U /kg 的微丸状植酸酶(试验Ⅲ、Ⅳ、 Ⅴ、Ⅵ和Ⅶ组)。结果表明: 与对照2相比, 除Ⅴ组外, 各试验组的产蛋量和产蛋率显著提高(P < 0.05), 平均蛋重和破蛋率则差异不显著(P > 0. 05); 蛋品质的各项指标无显著差异(P > 0.05); 各试验组的淀粉酶、二糖酶活性无显著差异(P > 0.05) , 组的胰蛋白酶活性得到了显著提高(P < 0.05); 各试验组的干物质、灰分、能量及氨基酸的表观消化率无显著差异,Ⅳ组的钙、磷及蛋白质的利用率得到了显著提高(P < 0.05)。由此可见, 在低磷日粮中添加适量的植酸酶可改善蛋鸡的产蛋性能, 增强蛋鸡肠道消化酶活性并能提高饲料的养分消化率。

【英文摘要】To evaluate the effects of low available phosphorus (AP) diet supplemented with phytase on the laying performance, the activity of digestive enzyme and nutrient utilization in laying hens, 18week old laying hens (n = 840) were randomly allocated into 7 groups. Group Ⅰ, as the positive control, w as fed with the basal diet. Group Ⅱ, as the negative control was fed with low-AP diet groups Ⅲ,Ⅳand Ⅴ were fed with low AP diet adding coaed dosage-form phytase at three levels (300 U /kg, 1 000 U /kg and 10 000 U /kg, respectively). Groups Ⅵ and Ⅶ were supplemented with 300 U / kg phytase of powdery dosage form and granular dosage form, respectively. The results indicated that com pared with the negative control, the addition of phytase to the low AP diet did not significantly affect egg weight, broken eggshell rate, the indexes o f egg quality, the activity o f amylase, the activity of disaccharidase and the apparent digestibility of dry matter, ash and energy (P > 0. 05), but significantly enhanced the egg production, laying rate, the activity of trypsin in group Ⅳ and the apparent digestibility of Ca, P and protein (P < 0. 05). It was concluded that low AP diet supp lemented with phytase could increase laying performance, the activity of digestive enzyme and nutrient utilization in laying hens. The 300 U /kg coated phytase was enough to meet the nutrient requirement o f laying hens for growth and production.

【语种】中文

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【学科分类】畜牧、兽医科学其他学科

【题目】动物食品中铅污染现状及饲料控制技术研究进展

【中文关键词】铅;饲料调控;动物产品;污染;减量控制

【英文关键词】lead;feed regulation;animal product;contamination;decrease lead

【中文摘要】环境中的铅可通过生物链污染饲料和动物性产品,带来食品安全风险。本文总结了铅的污染来源、铅在动物中的代谢及其影响因素,归纳了饲料及动物食品中铅的污染现状,重点叙述近年来铅的减量控制技术研究进展,并分析展望了今后的研究重点,以期为保障动物食品的质量安全提供参考。

【英文摘要】Lead is one of the most toxic substances to animals and human. Lead in environment could be accumulated in animal food through food chains such as feed or water, and result in problems of food safety. The sources of lead pollution, lead metabolism and factors in animals, and lead contamination in feed and animal products were reviewed in this paper. In addition, methods of feed control technologies to decrease lead content in animal products were also discussed. Moreover, future research directions were proposed.

【语种】中文

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【学科分类】畜牧、兽医科学其他学科

【题目】复合酶对蛋鸡生产性能鸡蛋品质血液生化指标的影响

【中文关键词】复合酶; 蛋鸡; 生产性能; 鸡蛋品质; 血液生化指标
【英文关键词】complex enzyme; egg-layer; production performance; egg quality; blood biochemical indexes
【中文摘要】研究复合酶制剂对蛋鸡产蛋后期生产性能、鸡蛋品质及血液生化指标的影响。结果表明: 添加复合酶制剂对产蛋率和料蛋比有一定的改善作用, 但对蛋重和鸡蛋品质无显著影响; 复合酶制剂3 组总蛋白、球蛋白、血磷含量均显著增加(P< 0. 05) , 各试验组白蛋白和甘油三酯含量均有不同程度的提高, 而尿素含量均有不同程度的降低。
【英文摘要】The effect of complex enzyme preparations on production performance, egg quality and blood biochemical indexes of egg- layers in later laying stage was studied. The results showed that adding complex enzyme preparations improved the egg laying rate and feed- egg ratio in a certain extent, but influenced the egg weight and quality not significantly. The content s of total protein, globulin and blood phosphor in three groups of complex enzyme preparations were all increased significantly (P< 0. 05) , the contents of albumen and triglyceride in each test group were all increased in different degrees, while the content s of urea were all decreased in different degrees.
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【题目】酵母蛋白粉替代肉鸡日粮中鱼粉的效果研究1
【中文关键词】酵母蛋白; 肉鸡; 生产性能; 营养物质; 利用率
【英文关键词】yeast prote in mea ;l bro iler; production perfo rmance; nutritive; utiliza tion
【中文摘要】选用1日龄AA肉鸡600羽随机分成5组, 每组设6 个重复, 每个重复20 羽, 分别饲喂鱼粉对照日粮和用酵母蛋白粉等能等蛋白替代对照日粮中25%、50%、75%和100%鱼粉的试验日粮, 研究用活性酵母蛋白粉替代鱼粉作为蛋白源对肉鸡生长性能以及养分利用率的影响。结果表明: 100%替代组的后期增重较对照组提高0.84% (P > 0.05) , 100%替代组的后期及全期料重比较对照组降2.20%和1.56%, 但差异均不显著(P > 0.05)。各组之间营养物质的利用率差异不显著(P > 0.05)。100%替代组可以降低饲料成本和增重成本。酵母蛋白粉替代肉鸡日粮中的鱼粉是可行的。
【英文摘要】In order to study the effects of replacement of dietary fish meal with yeast protein meal as the protein source on performance and the nutritive utilization of broilers, 600 AA commercial broilers of 1 day old were randomly assigned into 5 groups with 6 replicates for each. Five dietary treatments we re fish meal basal diet, replacement of the fish meal with yeast protein meals at the level of 25%, 50%, 75% and 100%, respectively. The results showed that fish meal replacement of 100% by yeast protein meal improved the daily weight gain 0.84% from 1 to 21 day slightly compare with fish mea l group, and the feed /gain was lower than the control group 2.20% from 22 to 41 day and 1.56% from 1 to 41day, but not significantly (P > 0.05). The utilization of nutrients w as no improved (P > 0.05). Replacement of 100% could reduce the cost of feed and the cost of increasing unit weight. It suggests that replacement of fish meals with yeast protein the in the diet of broilers is practicable.
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【题目】牛膝多糖的作用机制及对动物模型的影响
【中文关键词】牛膝多糖;免疫调节;代谢调控
【英文关键词】ABPS;immune regulation;metabolic regulation
【中文摘要】牛膝多糖(ABPS)是一种水溶性的生物活性多糖,在体内发挥着极其重要的生理功能,可参与机体的免疫调节,并具有抗病毒、抗肿瘤和抗氧化等生物学作用。本文主要从ABPS 的理化性质、结构、作用机制及对动物模型的影响等

方面进行了综述。
【英文摘要】Achyranthes bidentata plysaccharide (ABPS) is a water-soluble biological activity polysaccharide,and plays very important physiological functions in the body,such as immune regulation,anti-virus,anti-tumor and anti-oxidation etal . In this article,the physical and chemical properties,chemical structure,mechanism and impact of ABPS on animal models in the latest researches were reviewed.
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【题目】天然沸石对动物福利的改善效应研究进展
【中文关键词】天然沸石; 动物福利; 畜舍环境; 重金属; 霉菌毒素; 疾病
【英文关键词】natural zeolite; animal welfa re; environment of livestock barn; heavy metal mycotox in; disease
【中文摘要】从动物福利的内涵和要求出发,综述了天然沸石对畜舍环境的改善、霉菌毒素的吸附控制、动物疾病的防治和降低动物产品中的重金属含量等的研究进展。。
【英文摘要】The progresses to research improving effect of natural zeolite on environment of livestock barns, adsorption and control of mycotoxin, prevention and cure of animal diseases as w ell as heavy metal contents were summarized from the involution and requirement of animal welfare.
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【第一作者】周岩民
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【题目】植酸酶对樱桃谷肉鸭能量、蛋白质和氨基酸利用率及消化酶活性的影响
【中文关键词】植酸酶; 樱桃谷肉鸭; 营养素利用率; 消化酶活性
【英文关键词】Phytase; Cherry Valley Meat Ducks; Nutrient availability; Digestive enzyme activities
【中文摘要】本试验研究了颗粒饲料中添加植酸酶对樱桃谷肉鸭能量、养分利用率和消化酶活性的影响。试验随机选取600只樱桃谷肉鸭,随机分为5个处理,每个处理6个重复,每个重复20只肉鸭。分为Ⅰ组(正对照组,饲喂基础日粮),Ⅱ组(负对照组,有效磷水平降低,未添加植酸酶),Ⅲ、Ⅳ、Ⅴ组(分别在负对照的基础上添加500、1 000及10 000 U/kg植酸酶)。结果表明:(1)与Ⅱ组相比,Ⅳ组21日龄肉鸭能量表观利用率、脂肪真利用率分别提高了3.18%和13.27%(P<0.05);Ⅳ组42日龄干物质、粗蛋白质、粗脂肪表观利用率及粗脂肪真利用率显著提高(P<0.05),分别提高了10.07%、9.45%、17.49%和16.56%;(2)Ⅳ组21日龄肉鸭丝氨酸、甘氨酸、半胱氨酸和苯丙氨酸,42日龄甘氨酸、丙氨酸、蛋氨酸、异亮氨酸和酪氨酸的表观消化率比Ⅱ组均有显著提高(P<0.05);(3)Ⅳ组21日龄空肠蛋白酶和二糖酶活性分别比Ⅱ组高14.29%和17.87%,差异显著(P<0.05);42日龄Ⅳ组胰蛋白酶活性和Ⅲ、Ⅳ组脂肪酶活性较Ⅱ组显著提高(P<0.05)。试验结果表明,日粮颗粒饲料中添加不同水平的植酸酶可不同程度地提高樱桃谷肉鸭消化酶活性和养分利用率,其中以1 000 U/kg添加水平效果最佳.
【英文摘要】The trial was conducted to study the effect of phytase on energy, nutrient availability and digestive enzyme activities of cherry valley meat ducks. Six hundred one-day-old healthy ducks were randomly divided into 5 groups with 6 replicates and 20 ducks in each replicate. The dietary treatments were as follows: group Ⅰ was basic diet without phytase as the positive control group; group Ⅱ was basic diet with reduced AP as the negative control group; group Ⅲ was diet Ⅱ with plused 500 U/kg phytase; group Ⅳ was diet Ⅱ with plused 1 000 U/kg phytase; group Ⅴ was diet Ⅱ with plused 10 000 U/kg phytase. The results showed that: 1)compared with group Ⅱ, energy apparent utilization and crue lipid true utilization of 21-day-old meat-strain ducks were increased significantly by 3.18% and 13.27% in group Ⅵ(p<0.05). respectively; apparent utilization of dry matter and crude protein, apparent and true utilization

of crude lipid of 42-day-old meat-strain ducks were increased significantly by 10.07%, 9.45% and 17.49% in groupⅣ($p<0.05$), respectively; 2) compared with group Ⅱ, apparent availabilities of Ser, Gly, Cys and Phe were increased significantly at the age of 21 days($p<0.05$),as were as that of Gly, Ala, Met, Ile and Tyr at the age of 42 days($p<0.05$); 3) at the age of 21 days, protease and disaccharidase activities in jejunum in group Ⅳ were increased significantly by 14.29% and 17.87 than that in group Ⅱ ($p<0.05$); at the age of 42 days, trypsin activity in group Ⅳ and lipase activity in group Ⅲ and Ⅳ in jejunum were significantly improved compared with that in group Ⅱ ($p<0.05$). Results indicated that phytase supplementation in the pellet diets of ducks could improve nutrient availability and digestive enzyme activities, and the optimal supplemental level of phytase was 1 000 U/kg.

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【题目】用分离群体中的残余杂合系定位大豆 C1 连锁群的分枝数qBN-c1-1 位点
【中文关键词】大豆;分枝数;残余杂合系;QTL
【英文关键词】soybean; branch number; residual heterozygous line; quantitative trait locus (QTL)
【中文摘要】:【目的】大豆分枝数与大豆株型及产量关系密切,检测世代间可稳定遗传的大豆分枝数QTL,为大豆株型和产量育种的分子标记辅助选择奠定基础。【方法】根据科新3 号×中黄20 杂交组合F2群体构建的分子遗传图谱,对F2:4 群体进行QTL 定位,并利用定位QTL 两侧的标记选择残余杂合个体,构建残余杂合系,对分枝数相关的QTL 进行验证。【结果】在F2:4群体将分枝数QTL(qBN-c1-1)定位在C1 连锁群区间satt294-Satt399,贡献率为12.01%,来自于科新3 号亲本的加性效应为-0.51;用F2:5 选出残余杂合系,将控制大豆分枝数QTL 定位在C1 连锁群Satt399-Satt361 区间,贡献率为11.16%,来自于科新3 号的加性效应为-1.74,研究结果与F2:4 群体一致。【结论】位于C1 连锁群的与分枝数相关的QTL 在该遗传背景下可稳定遗传。
【英文摘要】【Objective】 Branch number is one of the major factors related to both plant type and yield in soybean. The objective of this study was to map the branch number related QTL, and analyze the inheritance stability over generations for the improvement of yield in marker assistant selection (MAS) in soybean. 【Method】 A molecular genetic map was constructed by using the F2 population derived from KeXin3×ZhongHuang20, which was used to map the branch number related QTL with F2:4 population. Residual heterozygous lines were selected from F2:5 population by two markers flanking the QTL, to construct secondary separated population. 【Result】 The QTL related to branch number was located at the interval of Satt294 and Satt399 on linkage group C1, explained 12.01% of the variance and the additive effect is -0.51, and the effect originated from KeXin3. QTL analysis by the residual heterozygous line mapped the QTL of soybean branch number between Satt399 and Satt361, with R2 of 11.16% and additive effect of -1.74, and the inhibited effect also originated from Kexin3, which was the same with result of F2:4 population.【Conclusion】 The branch number related QTL was mapped on soybean linkage group C1 and could be stably inherited in different generations from the same cross.

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【题目】优良大豆品种合丰25 的遗传组成
【中文关键词】大豆; 合丰25; 系谱; SSR; 遗传组成
【英文关键词】Soybean (Glycine max); Hefeng 25; Pedigree; SSR; Genetic composition

【中文摘要】合丰25 由合丰23 和克4430-20 杂交选育而成, 是我国大豆生产上累计种植面积最大的品种。本研究利用463 个SSR 标记对合丰25 及亲本进行检测, 并分析其遗传组成及其与亲本的遗传关系。463 个SSR 位点中有177 个位点在合丰25 的两个亲本间无多态性, 合丰23 和克4430-20 对合丰25 的遗传贡献率分别为39.4%和48.3%。在G和E 两个连锁群发现克4430-20 有大片段传递给合丰25, 特别是G 连锁群没有发现来自合丰23 的片段, 而合丰23在L 连锁群传递给合丰25 的位点是克4430-20 的2.3 倍。不同连锁群亲本染色体片段的组成不同, 可能与产量、抗病性等重要性状相关QTL 的分布有关, 从而使合丰25 通过重组集合了两个亲本的优点。合丰25 在57 个位点出现新等位变异。为分析位点突变对合丰25 纯度的影响, 用包括57 个位点在内的207 个SSR 标记对12 个不同销售点的合丰25 种进行检测, 207 对SSR 引物中有13 对在4 个大豆样本中检测到杂合条带, 而8 个样本的纯度均为100%。说明大部分突变位点已在品种利用过程中纯合, 合丰25 的优异基因型及其在推广20 多年后仍保持的高纯度, 是其在生产上利用经久不衰的主要原因之一。

【英文摘要】Elite soybean cultivar Hefeng 25, derived from a cross of Hefeng 23×Ke 4430-20, has an accumulated planting area of 13 million hectares and the longest planting history of soybean cultivars. The objective of this study is to evaluate the genetic composition of Hefeng 25 and the relationship of Hefeng 25 with the parents. Four hundred and sixty-three SSR markers wereused to screen Hefeng 25 and its parents Hefeng 23 and Ke 4430-20. Of the 463 SSR markers 177 were monomorphic between Hefeng 23 and Ke 4430-20 and 57 loci were detected in Hefeng 25 with new alleles mutated not from the parents. The genetic contribution of Hefeng 23 and Ke 4430-20 to Hefeng 25 was 39.4% and 48.3%, respectively based on molecular information. Analysis of each linkage group revealed that large portions of loci on linkage groups G, E, and L were inherited entirely from one parent. Especially on linkage group G, all loci were inherited from Ke4430-20. The loci on linkage group L inherited from Hefeng 23 were 2.3 fold of that from Ke4430-20. Detailed analysis showed that QTLs for yield and disease resistance may relate to these loci. These analyses suggested that breeders may select recombination events with agronomic favorable alleles of two parents. In order to evaluate the effect of SSR mutation on soybean seed purity, we screened Hefeng 25 seed samples from 12 different seed companies at 207 SSR loci including 57 mutated loci. Hybrid alleles were observed only in 4 seed samples at 13 SSR loci. The result indicated that most of the mutated loci were purified during the breeding process. The elite genotype and high seed purity of Hefeng 25 may be the most important factors for its long-term utilization in soybean production.

【语种】中文

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【题目】Genetic diversity comparison between Chinese and Japanese soybeans (Glycine max (L.) Merr.) revealed by nuclear SSRs

【中文关键词】无

【英文关键词】Genetic diversity; Germplasm pools; Glycine max,Soybean; SSR

【中文摘要】无

【英文摘要】Soybean (Glycine max (L.) Merr.) has a long planting history in both China and Japan. In order to investigate the genetic relationship between Chinese and Japanese soybeans, 205 Chinese soybean accessions, that represent the seven different soybean ecotypes, and 39 Japanese soybean accessions from various regions were analyzed by using 46 SSR loci. In total 745 alleles were detected with an average allele number of 16.2 per locus. The allelic frequencies varied from 0.002 to 0.554 with an average of 0.06. Cluster analysis with UPGMA separated the Chinese accessions from Japanese accessions, suggesting that soybean in these two countries form different gene pools. When comparing the Japanese soybean with that from seven different Chinese soybean ecotypes, 164 – 200 alleles were specific to the Chinese accessions and 64 – 112 specific to the Japanese accessions. The comparison of SSRs diversity revealed that accessions from China exhibited more genetic diversity than those from Japan. Thedata were analyzed to resolve the genetic structure and to interpret the evolutionary relationships between groups. Three distinct groups were identified, corresponding to Japanese soybean, Northern China soybean, Southern China soybean and a mixed group in which most accessions were from central China. The results indicate that accessions from Japan are distinct from Chinese ones, and Japanese accessions had more close relationship with Chinese northeast spring and southern spring ecotypes. We further analyzed five agronomic trait-related SSR loci and found that the preponderant alleles are different in Chinese and Japanese soybean. Our study provides important insights into further utilization of Japanese soybean in Chinese soybean breeding.

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【题目】中品95-5117 抗大豆花叶病毒基因源分析
【中文关键词】大豆; 中品95-5117; 系谱; SMV
【英文关键词】Soybean; ICGR95-5117; Pedigree; SMV
【中文摘要】中品95-5117 和中品95-5383 是以中品661 为亲本选育的抗东北花叶病毒病3 号株系(SMV3)的大豆新品系。中品95-5383 抗病基因的SCAR 标记已被定位于大豆F 连锁群(Chr.13), 与抗病基因Rsv1 紧密连锁。利用大豆F 连锁群的34 个对SSR 标记引物及与抗病基因紧密连锁的SCAR 标记SCN11 及Rsv1 候选基因标记Rsv1-f/r, 对中品95-5117 系谱亲本进行检测, 结合对SMV3 的抗性鉴定结果进行分析, 旨在明确抗SMV3 基因在系谱中的传递规律,为利用分子标记辅助选择培育抗SMV3 新品种提供依据。通过SSR 标记分析发现, 中品95-5117 和中品95-5383 与亲本中品661 的相似性最高, 而与另外一个亲本鲁豆4 号关系较远。SCAR 标记SCN11 检测表明, 只有1 份材料Mangnolid(F-53)B 为感病基因型。系谱的Rsv1-f/r 标记分析表明, Williams 82 是中品95-5117 中Rsv1 基因的供体亲本。抗病性鉴定发现鲁豆4 号高抗SMV3, 但它并不携带Rsv1 基因。据上述结果推测中品95-5117 中不仅含有Rsv1,还具有来自鲁豆4 号的抗病基因, 证明该品系比其亲本中品661 具有对SMV3 更强的抗性。
【英文摘要】Soybean mosaic virus (SMV) is a prevalent viral pathogen of soybean. The soybean mosaic virus N3 (SMV3) is the most toxic strain in northeast China. Soybean lines ICGR95-5117 and ICGR95-5383 with high resistance to SMV3, which were all derived from ICGR661, are recently released from Chinese Academy of Agricultural Sciences. Several genes resistant to soybean mosaic virus have been identified and mapped on different soybean linkage groups by molecular markers. The resistance gene in ICGR95-5383 has been mapped on soybean linkage group F near Rsv1 gene. A dominant marker developed from the candidate gene of Rsv1 has been reported recently. The purpose of this research was to find the origin of the SMV3 resistance gene in ICGR95-5117 and the relationship of this resistance gene with Rsv1 by analyzing the pedigree. Thirty four SSR markers selected from linkage group F and two markers, SCAR marker (SCN11) tightly linked with resistance gene in ICGR95-5383 and Rsv1-f/r makers co-segregated with resistance gene Rsv1, were used to detect the materials in pedigree of ICGR95-5117. The similarity coefficient of the two lines between ICGR95-5117, ICGR95-5383 and ICGR661 was the highest. All the material except for Mangnolid(F-53)B had SMV3 resistance allele at locus SCN11. Williams 82 and ICGR661 had the same allelic variation at Rsv1-f/r locus with ICGR95-5117, revealing that the Rsv1 gene in ICGR95-5117 was inherited from Williams 82 via ICGR661. But ICGR95-5117 had higher resistance than ICGR661, indicating it might inherit different genes from SMV3 resistance parent Ludou4
【语种】中文
【第一作者】关荣霞
【通讯作者】邱丽娟
【期刊名称、卷期、页码】作物学报,2010, 36(4): 549 − 554
【论文发表时间】2010-04-12 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】农艺学

【题目】冀豆12 遗传图谱初步构建
【中文关键词】大豆;冀豆12 ;遗传图谱;SSR
【英文关键词】:Soybean ;Jidou12 ;Genetic map ;SSR
【中文摘要】以优良大豆品种冀豆12 与野生大豆ZYD02738 杂交建立基础群体,利用F2 为作图群体,研究SSR 标记位点在该群体中的多态性、偏分离并构建遗传图谱。结果表明,两亲本间SSR 位点多态性比例79. 9 % ,偏分离位点比例917 % ,构建的遗传图谱包含25 个连锁群,总长度837. 1 cM,标记间平均距离1112 cM,标记间排列顺序与公共连锁图一致性较强。该研究为国内学者研究冀豆12 遗传网络和重要农艺性状的基因、QTL 定位等研究奠定了初步基础。

【英文摘要】:Using a F2 population derived from Jidou 12 ×ZYD02738 and the parents to find the polymorphism loci between parents ,distortion separation loci and construct linkage map. The results showed that the polymorphism ratio was 79. 9 % ,distortion ratio was 9. 7 %. The linkage map total length was 837. 1 cM including 25 linkage group ,average distance between neighbor loci was 11. 2 cM and the marker order was good with those in consensus map. This results are help for study the elite variety Jidou 12 such as important agro - traits QTL and genetic network.
【语种】中文
【第一作者】张玥颖
【通讯作者】闫龙
【期刊名称、卷期、页码】华北农学报,2009 ,24 (2) : 60-63
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【引文索引类型】其他
【引文索引号】
【学科分类】农艺学

【题目】国内外大豆品质育种研究方法与最新进展
【中文关键词】大豆;品质;育种
【英文关键词】:Soybean ;Quality ;breeding
【中文摘要】综述了世界大豆品质育种的研究方法与发展动态,总结了近年来我国大豆品质育种研究的最新进展,并提出了我国大豆品质育种的发展方向。
【英文摘要】A review of the mainly research methods and advances in soybean quality breeding in China and abroad was made.And the stratagem for soybean quality breeding in China were discussed as well .
【语种】中文
【第一作者】杨春燕
【通讯作者】张孟臣
【期刊名称、卷期、页码】华北农学报,2009 ,24 (增刊) : 75278
【论文发表时间】2009-12-31 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】农业基础学科

【题目】大豆新品种绥农29的选育及综合性状评价
【中文关键词】大豆;绥农29;蛋脂双高;高产
【英文关键词】无
【中文摘要】为了创新大豆种质和探讨育种技术的有效性,此研究采用杂交育种方法,以绥农14 为母本,绥农10 号为父本配制组合杂交选育成了绥农29。该品种油分含量21.28%,蛋白质含量41.92%,2006年-2007 年区域试验平均公顷产量2653.7kg,比对照品种合丰25 增产12.4%。2008 年大豆生产试验平均公顷产量2734.7kg,比对照品种合丰45 增产10.3%。中抗灰斑病,2009 年由黑龙江省农作物品种审定委员会审定推广。绥农29 既是蛋脂双高、高产、抗病、广适应性的新品种,也是一个很好的育种材料。
【英文摘要】无
【语种】中文
【第一作者】景玉良
【通讯作者】景玉良
【期刊名称、卷期、页码】农业科技通讯,2010,(2):131-132
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【引文索引类型】其他
【引文索引号】
【学科分类】农艺学

【题目】持续高温对大豆品种萌发及幼苗生长的影响

【中文关键词】大豆; 萌发期; 幼苗期; 耐热性
【英文关键词】Soybean; Germination; Seedling; High temperature tolerance
【中文摘要】通过人工控温, 在大豆萌发期和幼苗生长期, 对10个栽培大豆品种和2个野生大豆材料实施38 °C持续高温处理, 研究了持续高温对大豆品种萌发及幼苗生长的影响。结果表明: 持续高温对大豆种子萌发没有显著影响, 但对幼苗生长的影响达到了显著水平, 且不同品种间存在差异。大豆品种的抗高温特性与籽粒大小、蛋白质含量和脂肪含量显著相关。野生大豆的抗高温能力远远高于栽培大豆。
【英文摘要】10 soybean cultivars and 2 wild soybean were treated under 38 °C during germination and seedling, and the effects of continuous high temperature on germination and seedling growth of soybean were studied1The results showed that continuous high temperature had no significant effects on germination rate, while had a significant influence on the seedling growth, and there were differences among different varieties1The high temperature tolerance had significant correlation with seed size and the contents of p rotein and fat1The high temperature tolerance of wild soybean was higher than that of cultivated soybean1
【语种】中文
【第一作者】宋晓昆
【通讯作者】杨春燕
【期刊名称、卷期、页码】河北农业科学, 2009, 13 (4) : 1 - 3
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【引文索引类型】其他
【引文索引号】
【学科分类】农业基础学科

【题目】DNA导入和系选大豆品种及其亲本遗传关系的 SSR标记分析
【中文关键词】遗传分析, 系选品种, 大豆
【英文关键词】genetic analysis, intra-cultivar selected cultivars, soybean
【中文摘要】利用现有品种的变异进行系选并培育新品种是一种重要的育种方法。利用SSR标记, 对系选大豆(Glycine max)新品种和其亲本的遗传组成进行分析, 明确二者的遗传关系, 为大豆系选育种提供依据。使用48对SSR引物对22个大豆品种及其亲本进行分析, 结果表明, 由外源DNA导入育成的3个品种与其亲本的一致性为35.42% – 95.83%, 虽然供体相同, 但由于导入的外源DNA不同, 故育成的品种间差异很大。另外19个系选品种与其亲本的一致性为27.08% – 89.58%, 其中有6个品种与亲本间的差异小于30%。聚类分析发现, 所有参试品种分为东北春大豆及黄淮和南方大豆2类, 其中有8个品种不能与其亲本聚在一起, 说明系选品种并不完全是由于亲本通过突变获得。此外, 农艺性状与分子标记分析结果差异较大, 说明利用有限的农艺性状评价品种间的遗传关系存在一定的局限性。通过比较系选品种和亲本之间的保守位点发现, 特定等位变异出现次数≥7的位点有14个, 分布在11个连锁群, 其中有7个位点与产量和抗病性等重要农艺性状有关, 说明DNA导入和系选品种在选择变异性状的同时, 使一些与重要农艺性状有关的等位变异得到了保留。
【英文摘要】Intra-cultivar selection, reselection from existing cultivars by using intra-cultivar variation, is an important method in plant breeding. The main objective of this study is to evaluate the relationship of 22 soybean cultivars and 21 parents by use of 48 simple sequence repeat (SSR) loci. The genetic identity of 3 cultivars, developed by introducing foreign genome DNA through the pollen tube, and their parents was 35.42% – 95.83%. Cultivars derived from the same parent showed differences in identity because of the difference in exogenous DNA. The identity of 19 soybean cultivars breeded by intra-cultivar selection and their parents was 27.08% – 89.58%. Six cultivars showed < 30% identity with their parents. The 43 cultivars were clustered into Northeast spring, Huanghuai and South groups; 8 cultivars could not be grouped with their corresponding parents. The variation was from natural mutation but may also come from natural outcrossing. Agronomic and molecular data revealed great differences, which shows that use of only agronomic data is limited in evaluating relationship of cultivars. The preserved loci between parents and selected cultivars showed 14 SSR loci distributed in 11 linkage groups, specific allele was observed more than 7 times at each loci, and 7 alleles preserved in different materials were related to yield and disease-resistance quantitative trait loci. The result suggested that selecting for improved agronomic traits of soybean from elite cultivars preserved some alleles related to important characters such as yield.
【语种】中文
【第一作者】关荣霞
【通讯作者】邱丽娟
【期刊名称、卷期、页码】植物学报,2010, 45 (1): 36 – 43
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【引文索引类型】其他

【引文索引号】
【学科分类】农业基础学科

【题目】中国栽培和野生大豆豆腐与豆乳得率的遗传变异
【中文关键词】大豆种质;豆腐;豆乳;得率;遗传变异;品种生态区
【英文关键词】Soybean germplasm;tofu;Soymilk;Output;Genetic variation;Varietal eco-region
【中文摘要】我国小同生态区大豆种质豆腐与豆乳得率的遗传变异是专用型品种选育的基础。以来自各生态区的564份地方品种、101份育成品种、193份野生大豆加上88份国外品种,合计946份大豆种质为材料,采用小样品定量分析技术,铡定干豆腐与干豆乳得率,研究其遗传变异。结果表明,.争国野生大豆和栽培大豆的干豆腐与干豆乳得率均存在很大变异,干豆腐得率变幅分别为25.32~69.59、25.52—85.89 9100 g~,干豆乳得率变幅分别为40.75一B2跖、39.05—91.86 g 100 g~,栽培大豆喇者的得率在野生豆基础上均有较大幅度改进;各生态区均存在与全国相同的变异情况,区内变异大于区间变异,但南方一些生态区栽培种豆腐(乳)得率变异程度相对较大,高得率材料相对较多,因本底(野生种)得率与地理纬度无关.推测与各地区栽培大豆利用方向的不同有关而形成了栽培种微弱的地理相关性;栽培材料中2.75%干豆腐得率超过75 9100 g一.5.50%干豆乳得率超过85 9100 g~.从中优选出来自II、III、1V、VI生态区的双高种质14份,可供各地区豆腐(乳)育种利用。
【英文摘要】It is the basis for high tofu and soymilk output breeding to characterize the genetic variability of the germplasm of both cultivated soybean[Glycine max(L.)Merr.]and wild soybean[Glycine咄Sieb.at Zuce.J from different v II rieLal eco—re面Drift.In the present StUdy,946 accessions,including 564 l∞dmc∞,101 released edtivars,193 wild materials from various eco.regions in China and 88 released eultivars from abroad were tested for their drled tofu and soymilk OUtl:Iut hv using the mini.specimen technique established in OUr lab recenfly.Data obtaitred were analyzed with software of SAS 9 0 and SPSS 13.0.T1le resulted;ndicated tllere existed large variation in dried tofu and soymilk OHtput h)th in eulfivated and wild soybeansin Cllill,9,.with a range of25 32—69 59 and 25.52—85.89 g 100 g叫for dried tofu output saul 40.75— 82.86 and 39.05—91.86 g 100 g " for dried soymilk output,respectively,and the aveta萨tt of cultivated soybean wel'e much larger than thoat of wild soybean.111e results in various eco-reglons showed a similar trend舶in the whole COUlltry. The variation in dried tofu and soymilk output within all eco-region w碉lUOlt than that among eCO—regions:and there existed a weak geographical variation for cultivated soybeam,especially in SOllflB southem eeo—l'egjon8,which might be due to the accumulation from artificial selection since there W88∞similar trend tmturally for wild soybean.About 2.75%of the cultivated accessions were with more than 75 g 100 g~ofdried tofu output and about 5.50%with more than 85 g 100 g一1 0f dried soymilk output,from which 14 elite accessions from Eeo-region II,III,lV,andVIwith double high outputs wre screened OUt for high output breeding purposes.
【语种】中文
【第一作者】王春娥
【通讯作者】盖均溢
【期刊名称、卷期、页码】作物学报 2007,33(12):1928—1934
【论文发表时间】2007-12-13 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农艺学

【题目】NFC/RDP 水平对围产期奶牛干物质采食量和血液生化指标的影响
【中文关键词】NFC/ RDP;干物质采食量;血液生化指标;围产期奶牛
【英文关键词】NFC/RDP; Dry matter intake; Blood biochemical index; Perinatal cows
【中文摘要】试验旨在研究围产期日粮不同NFC/ RDP 水平对奶牛干物质采食量及血液生化指标的影响。选择2~5胎、产奶量、体重和体况评分值相近的围产期荷斯坦奶牛48 头,随机分为6 组,每组8 头,于产前第28 天开始,各组分别饲喂NFC/ RDP 为5.14(Ⅰ)、3.46(Ⅱ)、4.00(Ⅲ)、5.12(Ⅳ)、3.33(Ⅴ)、2.87(Ⅵ)的日粮。分娩后各组均饲喂相同的产奶日粮,至产后第56 天结束。结果表明:饲喂NFC/ RDP 为4.00(Ⅲ)的日粮,显著提高了奶牛产后的干物质采食量(P < 0.05),且奶牛血液生化指标浓度的变化幅度较小。在本试验条件下,NFC/ RDP 为4.00(Ⅲ)的日粮饲喂效果最佳。
【英文摘要】
【语种】中文
【第一作者】赵永生
【通讯作者】考桂兰

【期刊名称、卷期、页码】中国畜牧杂志,2010,46(9):42-45.
【论文发表时间】2010-05-10 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】畜牧学

【题目】Allelopathic effects of Conyza canadesis the germination and growth of wheat, sorghum, cucumber, rape and radish
【中文关键词】no
【英文关键词】Allelopathic effects, aqueous extracts, Conyza canadesis L., cucumber,
radish, rape, root exudates, seed germination, seedling growth , shoot
leachates, sorghum, wheat
【中文摘要】no
【英文摘要】The allelopathic effects of aqueous extract from Conyza canadesis weretested in Petri dishes in Laboratory and Greenhouse assays. The aqueous extractstrongly inhibited the germination, germination speed and seedling growth of sorghum(Sorghum vulgare Pers.), cucumber (Cucumis sativus L.), wheat (Triticum aestivumL.), rape (Brassica campestris L.) and radish (Raphanus sativus L.). Rape and radishwere more sensitive than other spp. C. canadesis released the allelochemicals mainlyas root exudates. The extract inhibited the hypocotyl and root growth ofendosperm-removed wheat and sorghum cultivated in darkness, but the inhibitoryeffect was drastic in sorghum than in endosperm-removed wheat. The aqueous extractdecreased the photosynthesis activity but increased the MDA contents of cucumberand radish. Thus allelopathic effects of C. canadesis affects non-photosynthesisactivity and MDA, but may also affect the photosynthesis activity.
【语种】英文
【第一作者】高兴祥
【通讯作者】李美
【期刊名称、卷期、页码】allelopathy Journal 23 (2):287-296
【论文发表时间】2008-09-01 00:00:00
【引文索引类型】SCI
【引文索引号】SCI
【学科分类】植物保护学

【题目】Over-expression of an AT-hook gene, AHL22, delays flowering and inhibits the elongation of the hypocotyl in Arabidopsis thaliana.
【中文关键词】无
【英文关键词】Arabidopsis thaliana　AT-hook
Flowering time　Hypocotyl　Photomorphogenesis
【中文摘要】无
【英文摘要】The Arabidopsis genome encodes 29 AHL(AT-hook motif nuclear localized) proteins, but the functionfor most of them remains unknown. We report here astudy of the AHL22 gene, which was originally identifiedas a gain-of-function allele that enhanced the phenotype ofthe cry1 cry2 mutant. AHL22 is a nuclear protein with thebinding activity for an AT-rich DNA sequence. AHL22overexpression delayed flowering and caused a constitutivephotomorphogenic phenotype. The loss-of-function AHL22mutant showed no clear phenotype on flowering, butslightly longer hypocotyls. However, silencing four AHLgenes (AHL22, AHL18, AHL27, and AHL29) resulted inearly flowering and enhanced ahl22-1 mutant phenotype onthe growth of hypocotyls, suggesting genetic redundancyof AHL22 with other AHL genes on these plant developmentalevents. Further analysis showed that AHL22 controlledflowering and hypocotyl elongation might resultfrom primarily the regulation of FT and PIF4 expression,respectively.
【语种】英文
【第一作者】肖朝文
【通讯作者】傅永福
【期刊名称、卷期、页码】Plant Molecular Biology, 71:39 – 50
【论文发表时间】2009-06-11 00:00:00
【引文索引类型】SCI

【引文索引号】0
【学科分类】分子生物学

【题目】Analysis of Clock Gene Homologs Using Unifoliolates as Target Organs in Soybean (Glycine max).
【中文关键词】无
【英文关键词】Flowering;
LHY/CCA1;
Soybean
(Glycine max);
TOC1;
Unifoliolates
【中文摘要】无
【英文摘要】Soybean isatypicalshort-daycrop,anditsphotoperiodicresponseoffloweringiscritical toitsyield.Thisphenomenonwaswellstudiedduringthelastcentury,butthe molecularmechanismgoverningitisunknown.Theclock-genehomologs,GmLCL1 and GmLCL2 (Glycine maxLHY/CCA1Like1 and 2) and GmTOC1 (Glycinemax TOC1) wereclonedfrom Glycine max L. KN18,andtheirexpressionpatternswere analyzedusingasystemdevelopedinthisstudy.Weemployed8hlight/16hdark and18hlight/6hdarkasshort-andlong-dayconditions,respectively,becausein theseconditionssoybeanplantshadsignificantindexesoffloweringtime.Wealsoused unifoliolates,notthewholeplantas Arabidopsis, astargetorgansforgeneexpression analysis. GmLCL1 and GmLCL2 had similarcircadianexpressionpatternsand bothweremorninggenes,while GmTOC1 was aneveninggeneandpeakedintheevening. Theexpressionsof GmLCL1 and GmLCL2 were obviouslyantiphasetothatofGmTOC1.Our studyprovidedasystemthatsimplifiedtheexperimentswithoutcompromising thequalityofdataobtainedandwassuitableforanalyzingthemolecular mechanismoffloweringinsoybean. GmLCL1, GmLCL2 and GmTOC1 maybe thecomponentsofcentralclockinsoybean.
【语种】英文
【第一作者】刘华
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【题目】Evaluation of putative reference genes for gene expression normalization in soybean by quantitative real-time RT-PCR.
【中文关键词】无
【英文关键词】reference genes;quantitative real-time RT-PCR
【中文摘要】无
【英文摘要】Background: Real-time quantitative reverse transcription PCR (RT-qPCR) data needs to benormalized for its proper interpretation. Housekeeping genes are routinely employed for thispurpose, but their expression level cannot be assumed to remain constant under all possibleexperimental conditions. Thus, a systematic validation of reference genes is required to ensureproper normalization. For soybean, only a small number of validated reference genes are availableto date.Results: A systematic comparison of 14 potential reference genes for soybean is presented. Theseincluded seven commonly used (ACT2, ACT11, TUB4, TUA5, CYP, UBQ10, EF1b) and seven newcandidates (SKIP16, MTP, PEPKR1, HDC, TIP41, UKN1, UKN2). Expression stability was examined byRT-qPCR across 116 biological samples, representing tissues at various developmental stages,varied photoperiodic treatments, and a range of soybean cultivars. Expression of all 14 genes wasvariable to some extent, but that of SKIP16, UKN1 and UKN2 was overall the most stable. Acombination of ACT11, UKN1 and UKN2 would be appropriate as a reference panel for normalizinggene expression data among different tissues, whereas the combination SKIP16, UKN1 and MTPwas most suitable for developmental stages. ACT11, TUA5 and TIP41 were the most stablyexpressed when the photoperiod was altered, and TIP41, UKN1 and UKN2 when the light qualitywas changed. For six different cultivars in long day (LD) and short day (SD), their expressionstability did not vary significantly with ACT11, UKN2 and TUB4 being the most stable genes. Therelative gene expression level of GmFTL3, an ortholog of Arabidopsis FT (FLOWERING LOCUS T)was detected to validate the reference genes selected in this study.Conclusion: None of the candidate

reference genes was uniformly expressed across allexperimental conditions, and the most suitable reference genes are conditional-, tissue-specific-,developmental-, and cultivar-dependent. Most of the new reference genes performed better thanthe conventional housekeeping genes. These results should guide the selection of reference genesfor gene expression studies in soybean.
【语种】英文
【第一作者】胡瑞波
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【题目】大豆GmCOL8 基因的克隆及表达分析
【中文关键词】大豆; CONSTANS-like; 生物钟节律; 生物信息学
【英文关键词】Glycine max; CONSTANS-like; circadian clock; bioinformatics
【中文摘要】从大豆品种‘ 垦农18 ’中克隆了一个CONSTANS-like 基因, 命名为GmCOL8。进化树分析表明它属于CONSTANS-like亚家族1 的成员。mRNA 表达分析显示, GmCOL8 在短日下具有明显的生物钟节律性表达特性, 其表达高峰出现在凌晨。GmCOL8 主要在复叶中表达, 表达高峰出现在开花时期。
【英文摘要】A CONSTANS-like gene, named GmCOL8, was cloned from soybean (Glycine max) cultivar ‘ Kennong 18 ’ in the study. The analysis of phylogenetic tree showed that GmCOL8 was a member of soybeanCONSTANS-like subfamily group 1. The mRNA expression pattern revealed that GmCOL8 had rhythmicity ofcircadian clock under the condition of short day, and reached a peak at dawn. It expressed mainly in trifoliolates,and the maximum level appeared at the stage of flowering.
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【题目】大豆GmCOL4 基因的克隆与分析
【中文关键词】CONSTANS; 生物信息学; 生物节律钟; 光周期; 大豆
【英文关键词】CONSTANS; Bioinformatics; Circadian clock; Photoperiod; Glycine max L.
【中文摘要】CONSTANS (CO)是植物光周期开花途径中的关键基因之一。通过RT-PCR 和生物信息学的方法, 克隆了大豆GmCOL4 基因并分析其结构特征, 用实时荧光定量PCR (quantitative real-time RT-PCR, qRT-PCR)研究了其转录特点。结果表明, GmCOL4 的4 个外显子编码一个具有B-box 和CCT 保守结构域的CO-like 蛋白, 在序列上与拟南芥(Arabidopsis thaliana) COL9 相似性最高, 为64.3%。分析其转录特征发现, GmCOL4 表达主要受生物节律的影响, 受光的调节作用较弱。器官特异性表达分析发现, GmCOL4 主要在大豆叶片中表达, 表达模式与COL9 相似。这为大豆中CO 基因家族的功能研究提供了重要的依据。
【英文摘要】The model plant Arabidopsis thaliana has been identified to have four major flowering pathways. Among them, thephotoperiod pathway integrates the light signal including light/dark cycle, light spectrum, light intensity, and light duration, tomediate flower initiation. CONSTANS (CO) is a key gene in photoperiodic flowering pathway and acts between genes of the circadianclock and meristem identity. CO encodes a protein containing two zinc finger regions (B-box I and II) near the amino terminusand a CCT (CO, CO-like, TOC1) domain near the carboxy terminus. The CO from Arabidopsis thaliana is one member ofthe family comprised of 17 members, which can be classed into three subgroups based on their characters of functional domains.To elucidate the function of CO in flowering in soybean, cloned one of CO-like gene, named as GmCOL4, from Glycine max L.Kennong 18. Bioinformatics analysis revealed that GmCOL4 encoded a protein embedded two conserved domains, B-box andCCT, and belonged to subgroup III. Phylogenetic analysis based on the critical amino acid sequences indicated that GmCOL4 wasmuch close to COL9 with similarity of 64.3%. The expression profiles of GmCOL4 by quantitative real-time RT-PCR (qRT-PCR)showed a similar

pattern to that of COL9. GmCOL4 was largely regulated by biological circadian, while the light appeared weakeffect on it. And GmCOL4 expressed mainly in leaves and had its highest amount in anthesis. The results suggested that GmCOL4is one of the important genes in the regulation of flowering and photoperiodic in soybean. It paves a way to study the function ofCO family in soybean and its application in soybean molecular breeding.
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【题目】Chlorothalonil degradation by Ochrobactrum lupini strain TP-D1 and identification of its metabolites
【中文关键词】百菌清(TPN) 代谢途径 Ochrobactrum lupini
【英文关键词】Chlorothalonil (TPN) • Metabolic pathway • Ochrobactrum lupini
【中文摘要】作为中国和其他国家常用的广谱杀真菌剂,百菌清(TPN)成为水和土壤的重要污染物。本研究从河南省重污染土壤中分离到一株新的百菌清降解菌TP-D1,根据其16S rDNA序列分析结果和其形态及生理生化特征将其鉴定为Ochrobactrum lupini。在添加50 μg/ml.g百菌清的无机盐培养液或灭菌土中,接种TP-D1,4天和7天后,该菌株对百菌清的降解率分别为90.4% 和99.7%。其降解产物除文献报道的TPN-OH (代谢物A)以外,还检测到二种新的代谢物,分别是methyl 2, 5, 6-trichloro-3-cyano-4-methoxy-benzoate (代谢物 C) 和methyl 3-cyano-2, 4, 5, 6-tetrachlorobenzoate(代谢物 D),表明TP-D1可将TPN的-CN基团转化为酰胺,该结果为采用其他途径进行TPN污染土壤的生物修复提供了可能。
【英文摘要】Chlorothalonil (2,4,5,6-tetrachloroisophthalonitrile, TPN) has been widely used as a wide-spectrum fungicide in China and other countries, and is considered to be an important soil and water contaminant. Here we reported the isolation and characterization of a novel TPN-degrading bacterial strain TP-D1 from a heavily TPN-polluted soil in Henan Province, China. Cells of strain TP-D1 are gram-negative, rod-shaped and motile with one or two polar flagellum. Full-length 16S rRNA gene sequence analysis and biochemical and physiological characterization confined this strain into Ochrobactrum lupini. When TPN was supplemented in mineral salt medium and autoclaved soil at 50 μg ml (g) − 1, strain TP-D1 can degrade 90.4% and 99.7% of TPN after incubation for 4 and 7 days, respectively. Two new metabolites were determined to be methyl 2,5,6-trichloro-3-cyano-4-methoxy-benzoate (metabolite C), and methyl 3-cyano-2,4,5,6-tetrachlorobenzoate(metabolite D) except previously reported metabolite 4-hydroxy-2,5,6-trichloroisophthalonitrile (TPN-OH, metabolite A). However, TPN-OH is still the major metabolite, it could persist in the phosphate buffer in the sample of day 6, while other metabolites only could be detected in the sample of day 2. Based on the determination of the metabolites, four metabolic pathways involved in the TPN degradation by TP-D1 were proposed. The detection of metabolite C and D indicated that the cyano-group in TPN could be converted into amides by pure culture of TP-D1, and suggested the possibility of the engineering of the bacterium for the bio-remediation of TPN-polluted soil in an alternative pathway.
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【题目】小麦SGT1基因的克隆与表达特性分析
【中文关键词】小麦;SGT1基因;克隆;抗病反应;信号途径
【英文关键词】wheat ; S GT1 ;Cloning ;Response for disease resistance ;Signaling pat hways
【中文摘要】为了研究SGT1基因在不同小麦抗病反应中的表达特性,采用R T-PCR和RACE方法,从小麦cDNA中分离出包含SGT1基因全长cDNA序列。该基因编码具有377个氨基酸的蛋白,具有已知SGT1蛋白典型的5个功能域,即TPR区、VR1区、CS区、V R2区和SGS区。小麦SGT1蛋白与大麦SGT1蛋白的氨基酸序列具有97 %的相似性。Sout hern杂交结果显示,

SGT1基因在小麦基因组中有3个拷贝。分析结果表明,大麦黄矮病毒、白粉病菌、纹枯病菌和赤霉病菌侵染小麦均可诱导小麦SGT1基因转录水平上调,说明SGT1可能参与了小麦不同抗病反应。

【英文摘要】S GT1 is a required component in some signaling pathways mediated by disease resistance(R) genes in many plant species. In this st udy ,t he f ull2length sequence of S GT1 gene in wheat , was isolated by RT2PCR and RACE met hods f rom leaf cDNA of wheat . The predicted T aS GT1 protein consisted of 377 amino acid residues and possesses the typical S GT1 domains of TPR , VR1 , CS , VR2 and SGS. The sequence of wheat S GT1 protein shared 97 % similarity wit h t hat of S GT1 f rom barley(HvS GT1) . Sout hern blot analysis showed t hat t here were 3 copies of S GT1 gene in wheat genome.The t ranscription of S GT1 in wheat was induced respectively by infections wit h barley yellow dwarfvirus (B YDV) , B l umeri a g rami nis f . sp . t ritici , R hi z octoni a cereal is and Fusari um g rami nearum.These data indicated t hat S GT1 in wheat might involve in multiple disease resistance signaling pat hways in wheat .

【语种】中文

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【学科分类】农学其他学科

【题目】中间偃麦草RAR1基因的分离及其在小麦背景中的功能分析

【中文关键词】RAR1;分离;小麦;转基因;PCR 检测;抗病性

【英文关键词】RAR1; Isolate; Wheat; Transgene; PCR assay; Disease resistance

【中文摘要】【目的】RAR1 是大麦抗白粉病基因和多种植物抗病(resistance, R)基因介导的抗病信号途径中的重要信号元件。为明确 RAR1 在小麦抗白粉病反应中的作用,为小麦广谱抗病分子育种提供基因资源,开展了本研究。【方法】采用生物信息学技术、RT-PCR 和 RACE 方法分离克隆中间偃麦草 RAR1 基因,通过酶切和连接构建该基因的单子叶高效表达载体,采用基因枪法转化小麦,对转基因小麦植株进行分子检测、表达分析和抗病鉴定。【结果】分离克隆出中间偃麦草 RAR1 基因,其编码蛋白具有典型的 RAR1 功能结构域;构建了中间偃麦草 RAR1 基因的单子叶高效表达载体 pUBI∷RAR1;用基因枪法轰击小麦推广品种扬麦 12 幼胚愈伤组织 1545 个,获得 152 株再生植株,通过 PCR 检测出阳性植株 18 株,转化率为 1.17%;对 T1、T2代转基因材料进行 PCR 检测、RT-PCR 分析和白粉病抗病鉴定,结果表明转入的 RAR1 基因能够在小麦背景中遗传,RAR1 基因的超量表达可提高小麦对白粉病菌的抗性、拓宽小麦的抗病谱。【结论】分离出中间偃麦草 RAR1 基因,RAR1 基因在小麦中超量表达可提高小麦对白粉病菌的抗性、拓宽其抗病谱,可以作为小麦白粉病广谱抗性分子育种的潜在的重要基因资源。

【英文摘要】【Objective】The study established the foundation to understand the role of RAR1 gene in wheat resistance to diseases,especially powdery mildew, as RAR1 is a required component in some signaling pathways mediated by disease resistance (R) genes in many plant species. 【Method】 RT-PCR and RACE methods were used to isolate the full-length cDNA sequence of the RAR1 gene from Thinopyrum intermedium,a wheat wild-relative with multi-resistance to various pathogens. The gene expression vector pUBI∷RAR1 was constructed and then transformed into a wheat variety ‘ Yangmai 12 ’ by the biolistic particle method. The regenerated transgenic plants were detected through PCR, RT-PCR and test of the resistance to powdery mildew.【Result】The full-length cDNA of the RAR1 gene was isolated from Thinopyrum intermedium, named TiRAR1, which encodes the RAR1 protein possessing 2 CHORD domains and 1 CCCH domain. The sequence of the TiRAR1 protein shows high homology with the sequences of RAR1 proteins in barley and rice. The expression vector of TiRAR1 gene, pUBI::RAR1, was correctly constructed, and transformed into the wheat variety ‘ Yangmai 12 ’. 1545 immature embryos of ‘ Yangmai 12 ’ were bombarded by the particle containing pUBI∷RAR1. From the regenerated 154 plants, 18 positive transgenic individuals were identified by PCR assay in the T0generation with a transformation frequency of 1.17%. The results of PCR and RT-PCR assay showed that the RAR1 gene could beinheritable from T0 generation to T1 one, then from T1 generation to T2 one, and could be transcribed and expressed. The resistance test showed that the RAR1 transgenic individuals in T1 and T2 generations showed high resistance to powdery mildew in their alllifecycle, suggesting that the overexpression of RAR1 enhanced the resistance to powdery mildew. 【Conclusion】The full-length cDNA of the RAR1 gene in Thinopyrum intermedium was isolated and transformed into a wheat variety ‘ Yangmai 12 ’. The RAR1 gene could confer high resistance to powdery mildew when overexpressed, and could be used as a potential gene in wheat breeding with broad spectrum resistance to powdery mildew.

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【题目】南方草食动物生产预测模型—以湖南道县为例
【中文关键词】中国南方;饲草资源;草食动物;动态平衡;预测模型
【英文关键词】South China; Forage resources; Herbivores; Dynamic equilibrium; Forecast model
【中文摘要】为促使中国南方拥有合理的载畜量和保证其生态系统的良性循环,以湖南道县为南方养殖典型区示例,系统分析南方饲草资源的种类,及其总量计算的方法,探讨南方草食动物发展的潜力,并在此基础上建立草畜平衡的预测模型,并以道县为例对模型进行了验证,同时介绍了该模型的组成和使用情况及其不足。养殖户只需输入一些基本信息,该模型就会以图示方式直观地指导用户进行畜牧生产活动。同时,通过该模型的预测,可以了解南方畜牧业的发展潜力,使畜牧区拥有合理的载畜量,从而使草畜之间达到相对动态平衡。该预测模型的建立对南方畜牧业的发展有着重要的指导意义。
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【第一作者】文石林
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【题目】罗顿豆与3种多年生禾本科牧草的混播
【中文关键词】湘南红壤丘陵区;罗顿豆;禾本科牧草;混播;产量
【英文关键词】Red soil hilly refion of southern Hunan; Lotononis bainesii; Forage grass; Mixed sowing; Yield
【中文摘要】在湘南红壤丘陵区以南非马唐(Digitaria smutsii)、索兰德狗 尾草(Sorander bristlegrass)、扁穗牛鞭 草(Hemarthria compressa)分别与罗顿豆(Lotononis)进行混播试验,以探明其最佳混播组合及其混播比率与混播方式。结果表明:本试验中,隔1行罗顿豆种2行南非马唐处理和隔2行罗顿豆种1行南非马唐处理是产草总量潜力较高的栽种模式,散栽50%罗顿豆和撒播50%索兰德狗尾草处理是粗蛋白产量潜力最高的栽种模式;罗顿豆与3种多年生禾本科牧草混播,相同处理下不同禾本科牧草总产量和粗蛋白产量差异明显,当罗顿豆和禾本科牧草用量各为正常用量的50%时,同一禾本科牧草条播与撒播处理对产草总量无显著影响;与禾本科牧草单播相比,次年相应混播处理均能提高牧草总产量和粗蛋白产量。
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【题目】磷肥和石灰对红壤墨西哥玉米生长的影响
【中文关键词】墨西哥玉米;磷肥;石灰;交互作用
【英文关键词】Zea mexicana; P fertilizer; Lime; Interaction

【中文摘要】为推广墨西哥玉米(Zea mexicana)栽培,于2009年采用盆栽试验,研究了南方丘陵区酸性红壤上石灰和磷肥配合施用对墨西哥玉米生长发育的影响。结果表明:施磷(25~200 mg·kg-1)能显著提高墨西哥玉米的株高、分蘖数和生物产量(P<0.05)。且其效应基本是随磷肥用量增加而增加;低量石灰下(0.7~1.4 g·kg-1),石灰能提高墨西哥玉米的株高和分蘖数,石灰与磷肥有显著的正交互作用(P<0.05);高量石灰下(2.1~2.8 g·kg-1),墨西哥玉米的株高和分蘖数有所降低;墨西哥玉米的经济产量对低量石灰(0.7~1.4 g·kg-1)呈现为正效应,对高量石灰(2.1~2.8 g·kg-1)呈现为负效应,以1.4 g·kg-1的石灰和高量磷为最高产组合。因此,施用1.4 g·kg-1石灰和高量磷有利于红壤环境中墨西哥玉米生产。
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【题目】湘南红壤丘陵区牧草栽培潜力及发展模式建议
【中文关键词】湘南红壤丘陵区; 牧草; 生产潜力; 发展模式
【英文关键词】hilly red soil region of southern Hunan; forage ; potential productivity; developing mode
【中文摘要】论述了湘南红壤丘陵区生产生态现状及发展牧草的意义、种植条件及面临的问题,概述了近年来在牧草研究上所取得的进展,并提出了该区草业发展的模式。
【英文摘要】
【语种】中文
【第一作者】文石林
【通讯作者】董春华
【期刊名称、卷期、页码】热带农业科学,31(01):24-27
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【学科分类】农学其他学科

【题目】磷肥和石灰对红壤墨西哥玉米产量和养分含量的影响
【中文关键词】墨西哥玉米;磷肥;石灰;交互作用
【英文关键词】Zea mexicana; P fertilizer; Lime; Interaction
【中文摘要】采用盆栽试验,研究了南方丘陵区酸性红壤上石灰和磷肥配合施用对墨西哥玉米产量和植株养分含量的影响。结果表明,施磷(25~200 mg/kg)能显著提高墨西哥玉米的生物产量,且其效应基本是随磷肥用量的增加而增加;墨西哥玉米的经济产量与低石灰施用量(0~1.4 g/kg)呈现为正相关性,与高石灰施用量(2.1~2.8 g/kg)呈现为负相关性;以1.4 g/kg的石灰和高量磷为最高产组合。植株全氮和全磷含量随磷施用量的增加大致增加,全钾和全钙含量随磷施用量的增加大致降低。
【英文摘要】
【语种】中文
【第一作者】董春华
【通讯作者】文石林
【期刊名称、卷期、页码】草业与畜牧,(10):12-16
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【引文索引号】
【学科分类】农业基础学科

【题目】Plastidial glutathione reductase from Haynaldia villosa is an enhancer of powdery mildew resistance in wheat (Triticum aestivum)

【中文关键词】无
【英文关键词】Chloroplastic glutathione reductase — Diseaseresistance — Haynaldia villosa — Powdery mildew —Triticum aestivum.
【中文摘要】无
【英文摘要】A full-length cDNA (Hv-GR) whose transcript accumulation increased in response to infection by Blumeria graminis DC.f.sp. tritici (Bgt) was isolated from Haynaldia villosa. Southern analysis revealed a single copy of Hv-GR present in H. villosa. This gene encodes a glutathione reductase (GR) with high similarity to chloroplastic GRs from other plantspecies. Chloroplastic localization of Hv-GR was confirmed by targeting of the green fluorescent protein (GFP) – Hv-GR fusion protein to chloroplasts of epidermal guard cells. Following inoculation with Bgt, transcript accumulation of Hv-GR increased in a resistant line of wheat, but no significant change was observed in a susceptible line. In vivo function of Hv-GR in converting oxidized glutathione (GSSG) to the reduced form (GSH) was verified through heterologous expression of Hv-GR in a yeast GR-deficient mutant. As expected, overexpression of this gene resulted in increased resistance of the mutant to H2O2, indicating a critical role for Hv-GR in protecting cells against oxidative stress. Moreover, overexpression of Hv-GR in a susceptible wheat variety, Triticum aestivum cv.Yangmai 158, enhanced resistance to powdery mildew and induced transcript accumulation of other pathogenesis-related genes, PR-1a and PR-5, through increasing the foliar GSH/GSSG ratio. Therefore, we concluded that a high ratio of GSH to GSSG is required for wheat defense against Bgt, and that chloroplastic GR enzymes might serve as a redox mediator for NPR1 activation.
【语种】英文
【第一作者】陈雅平
【通讯作者】陈佩度
【期刊名称、卷期、页码】Plant cell and physiology 2007, 48(12):1702-1712
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【引文索引号】0
【学科分类】分子生物学

【题目】酸性红壤下施磷对墨西哥玉米生长和土壤肥力的影响
【中文关键词】酸性红壤;磷水平;墨西哥玉米;生长;土壤肥力
【英文关键词】Acid red soil; Phosphorus level; Zea mexicana; Growth; Soil fertility
【中文摘要】采用南方长期施尿素20 a的严重酸化的第四纪红土做土培,以石灰作土壤pH调节剂,研究不同施磷水平对不同酸性红壤下墨西哥玉米生长和土壤肥力的影响。结果表明,同一石灰施用量下,施用磷肥能增加墨西哥玉米植株高度、分蘖数和生物产量,能提高土壤速效P、水溶性Mg质量分数,两者升高的幅度与施磷量呈正相关性,且土壤pH愈高升幅愈大,但对土壤Al饱和度和pH无影响。同一磷肥用量下,施石灰能增加土壤pH、土壤速效P质量分数、植株分蘖数,降低土壤Al饱和度,但对土壤水溶性Mg质量分数变化无影响。
【英文摘要】
【语种】中文
【第一作者】文石林
【通讯作者】董春华
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【学科分类】农业基础学科

【题目】道县养牛业现状及肉牛发展产业化探析
【中文关键词】道县;养牛;调查;产业化发展;探析
【英文关键词】Daoxian County; cattle raising; investigation; industrialization development; explore and analysis
【中文摘要】因地制宜发展畜牧养殖,是道县新农村建设的重要组成部分。调查结果表明,道县发展肉牛养殖产业化,必须加大政府投入,扩大养殖规模特别是要支持发展养殖大户;改进养殖方式和管理手段,加强草-畜综合发展。道县养牛业实际调查的结果与探析,为其他地区新农村建设提供一些有益的借鉴作用。

【英文摘要】
【语种】中文
【第一作者】文石林
【通讯作者】董春华
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【题目】从小麦-簇毛麦易位系TAC文库中筛选Hv-S/TPK基因
【中文关键词】小麦-簇毛麦易位系, 可转化人工染色体文库, Hv-S/TPK 基因, 荧光原位杂交
【英文关键词】Triticum aestivum-Haynaldia villosa translocation line, transformation-competent artificial chromosome (TAC),Hv-serine/threonine protein kinases (Hv-S/TPK) gene, fluorescence in situ hybridization (FISH)
【中文摘要】本实验室已经通过基因芯片技术筛选到一个白粉菌诱导后上调表达的抗病相关基因 Hv-S/TPK, 并获得了它的全长 cDNA 序列。利用 Hv-S/TPK 的特异引物筛选小麦-簇毛麦 6VS/6AL 易位系基因组可转化人工染色体(Transformation-competent artificial chromsome, TAC)文库, 获得了阳性 TAC 单克隆, 并进一步获得了含有 Hv-S/TPK cDNA 序列的 5160 bp(GenBank Accession No. EU153366)的亚克隆。对亚克隆的序列分析结果表明, Hv-S/TPK 基因在起始密码子和终止密码子之间有 3 个内含子和 4 个外显子, 4 个外显子序列与簇毛麦上已得到的 Hv-S/TPK 的 cDNA 序列100%同源。对起始密码子上游序列分析结果表明, 该基因的调控序列中, 含有 W-Box、OCS-element 等与抗病相关的元件。以 TAC 克隆为探针与小麦-簇毛麦 6VS/6AL 易位系有丝分裂中期染色体进行荧光原位杂交(Fluorescence in situ hybridization, FISH), 结果表明含有 Hv-S/TPK 基因的 TAC 克隆来自于簇毛麦。
【英文摘要】Hv-S/TPK gene, a resistance related gene to powdery mildew, was cloned by using genechip, and its expression was upregulated after the inoculation of Blumeria graminis to Haynaldia villosa. Using the specific primers of Hv-S/TPK to screen a genomic TAC (Transformation-competent artificial chromosome) library of translocation line 6VS/6AL, a positive TAC wasscreened. A 5-kb fragment containing Hv-S/TPK was subcloned and identified. This 5160-bp fragment (GenBank Accession No.EU153366) was determined by specific primer walking. The analysis of Hv-S/TPK genomic sequence showed three introns and four extrons between start code and stop code. In the promoter region of Hv-S/TPK, there were W-box and OCS-like elements which were the elements related to disease resistance. In this study, the positive TAC clone was used to as probe in situ hybridized to mitotic metaphase chromosomes of translocation line. The result of fluorescence in situ hybridization (FISH) indicated that the TAC clone containing Hv-S/TPK was from Haynaldia villosa chromosome.
【语种】中文
【第一作者】孙玉磊
【通讯作者】陈佩度
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【题目】中国烤烟中部叶矿质营养元素浓度状况
【中文关键词】烟叶; 矿质元素; 概率密度分布函数
【英文关键词】flue-cured tobacco leaf; mineral nutrition element; probability density distribution function;
【中文摘要】于20012~004年,从重点植烟县采集了410个烤烟中部叶样品,运用ICP测定方法和概率密度分布函数对其氮、钾、磷、钙、镁、硫、锰、铜、锌、硼、钠、铁、氯13个矿质元素的浓度特征进行了分析。结果表明:1)大量元素的变异系数较小,中量元素其次,微量元素较大;2)除氮、镁、硫、铜、锌、钠、铁外,其他元素的浓度在品种之间的差异显著,但不同指标在品种之间的高低秩序不同,例如,云烟87的磷浓度显著地高于云烟85、K326的磷浓度,而钾浓度按K326、云烟87、云烟85依次降低;3)所有元素在省份之间的差异极显著,但不同元素在地区之间的高低秩序不同,例如,河南烟叶的钾浓度显著地低于其他省份,贵州烟叶的氯离子浓度显著地高于其他地方;4)钾、磷、钙、硫、硼、钠在烟叶中的浓度符合正态分布,氮、镁、氯、锰、铜、锌、铁在烟叶中的浓度符合对数正态分布;5)氮、磷、钾、钙、镁、硫、锰、铜、锌、硼、钠

、铁、氯的正常浓度范围分别为1.18~2.34、0.11~0.30、0.87~2.83、0.99~3.64、0.1~0.8、0.250~.9、25.186~01.65、2.13~7.271、3.111~05.421、2.65~5.62、1...

【英文摘要】Based on 410 samples collected uniformly from 2001 to 2004,covering main tobacco-planting counties of China,the concentration of N,P,K,Ca,Mg,S, Mn,Cu,Zn,B,Na,Fe,Cl in middle leaves of flue-cured tobacco were investigated.The results showed: 1) Variation coefficients of macronutrients were smaller,followed by Ca,Mg,S and micronutrients;2) Except N,Mg,S,Cu,Na,Zn and Fe,all other elements differentiate significantly among varieties.For examples,the average K concentration in K326 was 1.96%,which was significan...

【语种】中文

【第一作者】龙怀玉

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【学科分类】农学其他学科

【题目】小麦幼胚再生体系优化及优良转化受体基因型的筛选

【中文关键词】小麦幼胚;再生培养;基因型;转化受体

【英文关键词】Wheat immat ure embryos ; Regeneration cult ure ; Genotypes ; Transformation acceptor s.

【中文摘要】为建立适于优良小麦品种遗传转化的高效组织培养体系,以20个优良小麦推广品种为材料,对以幼胚为外植体的愈伤诱导、分化和生根壮苗培养基进行筛选。结果表明,添加500 mg/ L水解酪蛋白、100mg/ L脯氨酸、100 mg/ L谷氨酰胺,并以40 g/ L麦芽糖为碳源的MXD2培养基的出愈率最高,愈伤质量最好。以大量元素减半的1/ 2 MX为基本分化培养基,添加1 mg/ L ZT和0. 5 mg/ L IAA对愈伤组织诱导分化的效果最好,分化率最高达到83. 0 %。以1/ 2 MX培养基中添加0. 5 mg/ L IAA和0. 5 mg/ L M ET的生根效果最好,且移栽成活率高。不同基因型的组织培养特性差异显著,筛选到扬麦158、南农9918、济麦20、宁麦9号等8个基因型可作为优良的转基因受体材料,并初步建立起适合于它们的植株再生体系。

【英文摘要】In t he present st udy , t he wheat tissue culture and regeneration system was optimized. Im2mat ure embrys f rom twenty wheat cultivars were used as explant for tissue cult ure. Different combinations of hormones and t heir concent rations were applied for callus induction , differentiation and regeneration. The result showed t hat MXD2 medium containing 500 mg/ L Casein hydrolysate , 100 mg/L Proline , 100 mg/ L Glutamine and 40 g/ L Maltose was t he best for callus induction. As for callus differentiation , 1/ 2MX medium containing 0. 5 mg/ L IAA and 1mg/ L ZT had t he highest callus differentiation f requency of 83. 0 %. For plant regeneration , 1/ 2MX containing 0. 5 mg/ L IAA and 0. 5mg/ L MET was t he best medium and obtained high f requency of surviving plant . Significant differences were observed in response to tissue cult ure among wheat genotypes. Eight varieties includingYangmai 158 , Nannong 9918 , J imai 20 , and Ningmai 9 etc. are suitable for immat ure embryo cultureand regeneration and could be used for genetic t ransformation.

【语种】中文

【第一作者】邢莉萍

【通讯作者】陈佩度

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【学科分类】农学其他学科

【题目】小麦类甜蛋白基因的转化及转基因植株的抗病性分析

【中文关键词】小麦类甜蛋白基因; 基因枪; 遗传转化; 白粉病; 抗性鉴定

【英文关键词】Wheat thaumatin-like protein gene (Ta-Tlp); Particle bombardment; Genetic transformation; Powdery mildew;Resistance identification

【中文摘要】目前已克隆出许多类甜蛋白基因并成功转化马铃薯、水稻和小麦等植物, 均可引起植株抗病性的提高。在以往的研究中我们从小麦中克隆了一个类甜蛋白基因(Ta-Tlp), 该基因在高抗白粉病的小麦 6VS/6AL 易位系中能够高水平表达, 推测它与白粉病抗性密切相关。为进一步研究该基因的功能, 本研究构建了包含在 ubi 强启动子控制下的 Ta-Tlp 基

因的表达载体 pAHC-TlP, 用基因枪将其导入小麦品种扬麦 158 的幼胚愈伤组织, 在含除草剂的选择培养基上经两轮筛选和分化, 获得再生抗性植株。对 T0、T1和 T2代植株进行 PCR、Southern 杂交与 RT-PCR 分析, 结果表明 Ta-Tlp 基因已整合进受体基因组并且能够表达。对 T0代及其衍生的 T1代(来自 6 个 T0代阳性株系的 183 个单株)和 T2代(来自 6 个 T0代阳性株系的 241 个单株)转化植株进行白粉病抗性鉴定, Ta-Tlp 基因超量表达的转基因植株, 能延缓白粉病发病进程, 其白粉病抗性有一定提高。对 T2代阳性转化植株进行赤霉病抗性鉴定表明, 其抗性与受体对照相比无显著差异。

【英文摘要】The thaumatin-like protein in plants, an important member of pathogenesis-related proteins (PRs), involves in plant resistant reaction to many fungi. A series of thaumatin-like protein genes have been isolated and transformed to potato (Solanum tuberosum L.), rice (Oryza sativa L.), and wheat (Triticum aestivum L.) resulting in resistance improvement to plant diseases. We have cloned a thaumantin-like protein gene, Ta-Tlp, from wheat in our earlier studies. The Ta-Tlp gene expresses in high level in wheat 6VS/6AL translocation line with high resistance to powdery mildew (Erysiphe graminis f. sp. tritici Em. Marchal.),implying its close relation to the resistance of the disease. To further understand the gene ’s function, we constructed Ta-Tlp into a expression vector driven by the strong ubi promoter in the present study. The constructed vector pAHC-TlP was transformed into immature embryo-derived calli of a common wheat cultivar Yangmai 158 through particlebombardment. After two rounds of herbicide bialaphos selection and regeneration, herbicide-resistance plants were obtained. The Ta-Tlp was confirmed having been integrated into the wheat genome and expressed in T1 and T2 generations by PCR, Southern blot, and RT-PCR. The transgenic plants of T0, T1, and T2 generations were inoculated by E. graminis f. sp. tritici and F. graminearum for resistance identification.All plants of T0, T1, (183 individuals derived from 6 positive T0 lines), and T2 (241 individuals derived from 6 positive T0 lines) generations appeared some resistance to wheat powdery mildew by delaying disease development, but no distinct resistance toscab (F. graminearum).

【语种】中文

【第一作者】邢莉萍

【通讯作者】陈佩度

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【学科分类】农学其他学科

【题目】中间偃麦草SGT1基因的克隆及其抗病功能分析

【中文关键词】中间偃麦草;白粉病;SGTl;基因克隆;小麦;抗病性鉴定

【英文关键词】Thinopyrum intermedium;Powdery mildew;SGT1:Gene cloning;Wheat;Disease resistance test

【中文摘要】为了探索中间偃麦草SGTl基因在小麦抗病反应中的应用潜力,采用RT-PCR和RACE方法克隆出中间偃麦草SGTl基因,命名为TiSGTl。该基因编码蛋白具有SGTl蛋白典型的功能域结构,与大麦SGTl序列高度同源。通过基因重组技术构建了TiSGTl的高效组成型表达载体,通过基因枪法将该载体转化到小麦品种扬麦12基因组中。对转基因植株PCR、Southem杂交与RT-PCR分析表明,TiSGTl基因可在T0、T1和T2代转基因小麦中遗传和表达。黄矮病、白粉病抗性鉴定结果表明,SGTl的超量表达可以提高小麦对黄矮病、自粉病的抗性,TiSGTl可以作为小麦广谱抗病性改良的潜在基因资源。

【英文摘要】To understand the role of SGT1 gene in whem(Triticum aestivum L.)diseases resistance.we used RT-PCR and RACE meɪɹods to isolate SGT1 genes from Thinopyrum fntermedium.the SGT1 was named TiSGT1.111c deduced TiSGTl protein Dos.seSseS the typical domains of known SGTl proteins and shows highly homology with barley SGTl protein.A highly efficiencyexpression vector of SGT1 was constructed by genetic recombination.and transformed into the wheat cultivar ‘ Yangmai 12 ’ by biolistic particle method.Transformation plants were analyzed by PCR,Southern hybridization,and RT-PCR methotis.The results showed that the SGTl gene could be inherited from To to T2 generations,and could be expressed.m results of disease resis.tance test indicated that the over-expression of sGTl in the lxansgenic wheat enhanced resistance to barley yellow dwarf vi_rllS and powdery mildew,and 7了SGTI could be used as a potential gene resource forimproving broad spectrum resistance of wheat.

【语种】中文

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【通讯作者】张增艳

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【引文索引类型】其他

【引文索引号】

【学科分类】分子生物学

【题目】A novel activator-type ERF of Thinopyrum intermedium, TiERF1, regulates positively defense responses
【中文关键词】无
【英文关键词】Ethylene response factor, phenotypic change,resistance, Thinopyrum intermedium, transcription activator,transgenic
【中文摘要】无
【英文摘要】Thinopyrum intermedium is resistant to many different pathogens. To understand the roles of ethylene response factors (ERFs) in defence responses, the first member of the ERF family in T. intermedium, TiERF1, was characterized and functionally analysed in this study. The TiERF1 gene encodes a putative protein of 292 amino acids, belonging to the B3 subgroup of the ERF transcription factor family. Biochemical assays demonstrated that the TiERF1 protein is capable of binding to the GCC box, a cis-element present in the promoters of pathogenesis-related (PR) genes, and possessing transactivation activity, as well as localizing to the nucleus. The transcript of TiERF1 in T. intermedium is rapidly induced by infection withRhizoctonia cerealis, Fusarium graminearum, or Blumeria graminis, and ethylene, jasmonic acid, and salicylic acid treatments. More importantly, the ectopic expression of TiERF1 in tobacco activated the transcript of the PR genes of tobacco with a GCC box ciselement, and ACO and ACS genes key to ethylene synthesis, and in turn improved the resistance level to Alternaria alternata and tobacco mosaic virus, as well as causing some phenotypic changes associated with ethylene response in the transgenic tobacco plants. Taken together, TiERF1 protein as an ERF transcription activator positively regulates defence responses via the activation of some defence-related genes.
【语种】英文
【第一作者】HongXia Liang
【通讯作者】ZengYan Zhang
【期刊名称、卷期、页码】Journal of Experimental Botany 2008,59(11): 3111-3120
【论文发表时间】2008-05-14 00:00:00
【引文索引类型】SCI
【引文索引号】0
【学科分类】分子生物学

【题目】Overexpression of TiERF1 confers resistance to Overexpression of TiERF1 confers resistance to sharp eyespot by activating defense-related genes in transgenic wheat
【中文关键词】无
【英文关键词】Defence-related gene, ethylene response factor (ERF), Rhizoctonia cerealis, sharp eyespot, Thinopyrum intermedium, transgenic wheat plants.
【中文摘要】无
【英文摘要】Wheat sharp eyespot, primarily caused by a soil-borne fungus Rhizoctonia cerealis, has become one of the most serious diseases of wheat in China. In this study, an ethylene response factor (ERF) gene from a wheat relative Thinopyrum intermedium, TiERF1, was characterized further, transgenic wheat lines expressing TiERF1 were developed, and the resistance of the transgenic wheat lines against R. cerealis was investigated. Southern blotting analysis indicated that at least two copies of the TiERF1 gene exist in the T. intermedium genome. Yeast one-hybrid assay indicated that the activation domain of TiERF1 is essential for activating the transcript of the reporter gene with the GCC-box cis-element. The TiERF1 gene was introduced into a Chinese wheat cultivar, Yangmai12, by biolistic bombardment. Results of PCR and Southern blotting analyses indicated that TiERF1 was successfully integrated into the genome of the transgenic wheat, where it can be passed down from the T0 to T4 generations. Quantitative reverse transcription-PCR analysis demonstrated that TiERF1 could be overexpressed in the stable transgenic plants, in which the expression levels of wheat pathogenesis-related (PR) genes primarily in the ethylene-dependent signal pathway, such as a chitinase gene and a b-1,3-glucanase gene, were increased dramatically. Disease tests indicated that the overexpression of TiERF1 conferred enhanced resistance to sharp eyespot in the transgenic wheat lines compared with the wild-type and silenced TiERF1 plants. These results suggested that the overexpression of TiERF1 enhances resistance to sharp eyespot in transgenic wheat lines by activating PR genes primarily in the ethylene-dependent pathway.
【语种】英文
【第一作者】Liang Chen
【通讯作者】ZengYan Zhang

【期刊名称、卷期、页码】Journal of Experimental Botany 2008,59(15):4195-4204
【论文发表时间】2008-10-26 00:00:00
【引文索引类型】SCI
【引文索引号】0
【学科分类】分子生物学

【题目】苏云金芽孢杆菌营养期杀虫蛋白基因vip3A的研究
【中文关键词】甜菜夜蛾 苏云金芽孢杆菌 杀虫活性 营养期杀虫蛋白 Bt菌株 棉铃虫 小菜蛾
【英文关键词】无
【中文摘要】根据已知vip3A基因序列设计一对特异性引物VIP3/VIP5,对218株Bt菌株进行PCR鉴定,有51株含有vip3A类基因,其中12株为不同亚种的标准菌株,有4株标准菌株不含有该基因。从Bt C9菌株中分离克隆了vip—C9基因,并插入表达载体pET—21b,转化大肠杆菌BL21,诱导表达出分子量88.6kDa的可溶性蛋白,表达产物对甜菜夜蛾和棉铃虫具有较高的杀虫活性,LC50分别为0.42ng/mg和25.95ng/mg,对小菜蛾活性较低。构建了缺失蛋白Vip—C9—N(N端去除39个氨基酸组成的信号肽序列),杀虫活性测定结果表明其对甜菜夜蛾的活性显著降低,说明N端39个氨基酸对甜菜夜蛾的活性是必需的。
【英文摘要】无
【语种】中文
【第一作者】刘荣梅
【通讯作者】宋福平
【期刊名称、卷期、页码】高技术通讯,2004,14 (165):39-42
【论文发表时间】2004-01-15 00:00:00
【引文索引类型】EI
【引文索引号】no
【学科分类】微生物学

【题目】苏云金芽孢杆菌cry基因芯片检测方法的研究
【中文关键词】寡核苷酸芯片 苏云金芽孢杆菌 cry基因 高浓度K1 enow片段酶标记法 杂交
【英文关键词】Oligonucleotide microarray Bacillus thuringiensis cry genes Labeling method of high concentration Klenow fragment Hybridization
【中文摘要】建立了一种不经PCR扩增而直接应用寡核苷酸芯片从苏云金芽孢杆菌总DNA中检测cry基因的方法。对探针长度、浓度、总DNA含量、标记方法以及灵敏度等条件进行了研究。结果表明,用高浓度K1 enow酶随机标记高浓度的总DNA与寡核苷酸探针(4 0~5 0 mer、4 0 m0I · L)杂交可用于检测Bt菌株中含有的cry基因;不同长度探针之间对杂交信号的影响存在显著性差异(P<0.01),而不同浓度的探针之间没有显著性差异。此方法的其它条件为杂交温度42℃、时间3 h;检测的样品总DNA的灵敏度约为2.5 Pg;标记产物杂交用量(0.6 2 5—2 0 g)的对数值与信号值的对数值之间存在明显的线性关系(,2=0.9 8 5~0.9 8 9)。
【英文摘要】In order to directly detect cry genes from total DNA of Bacillus thuringiensis,a new method,which can identify cry genes based on oligonucleotide microarray hybridization,but without amplification,has been established.The approach involves fluorescent labeling for high concentration of total DNA using high concentration Klenow fragment,and such as length,and concentration of probe,content of total DNA and labeling method were also studied.The resultshybridization to the oligonucleotide probes(40-50 mer,40 pmol · L ‘)specific for each cry gene.Other key param eters showed the sensitivity difference am ong the length of probe(P<0.O1)was notable,but no significant sensitivity difference among the concentration of probe.The condition of hybridization was 42°C and 3 hours.Th e detection limit with randomly labeled total DNA under these conditions was estimated to be approximately 2.5 Pg;A linear quantitative relationship fr2=0.985 to 0.989)was observed between signal intensity and labeling sam ple concentration over a range of 0.625—20 Pg
【语种】中文
【第一作者】刘旭光
【通讯作者】张杰
【期刊名称、卷期、页码】中国农业科学,2004,37(7):987-992
【论文发表时间】2004-01-15 00:00:00
【引文索引类型】其他

【引文索引号】no
【学科分类】微生物学

【题目】Bt cry序列本地数据库的建立及本地BLAST的实现
【中文关键词】生物信息学 cry基因 本地核酸序列数据库 本地BLAST
【英文关键词】Bioinformation,cry genes,Local nucleotide database,Local BLAST
【中文摘要】根据研究的实际需要.运用winSDK设计了一个可视化的BLAST接口程序.利用此程序可以构建本地核酸和蛋白序列数据库与进行本地BLAsT。在此基础上建立了苏云金芽孢杆菌(Bt)cry基因的本地核酸序列数据库。并进行了本地BLAsT。与先前文献中介绍的本地BLAsT实现的方法相比。此方法操作简便、并可根据实际需要随意定制相关数据库:在与NCBI的BLAsT进行比较后发现。本地BLAsT还具有个性化、准确性强、可信度高等特点。
【英文摘要】A visible interface program of BLAST named "localblast"was developed to construct local nucleotide and protein database and achieve local BLAsT for research using winSDK.Then a local nucleotide database of Bacillus thuringiensis cry genes and local BLAST was constructed and achieved.Result demonstrated that this method,with individuation。veracity and reliability,iS convenient in manipulating and customizing database yourself compared with other 1ocal BLAST and NCBI-online BLAST.
【语种】中文
【第一作者】刘旭光
【通讯作者】张杰
【期刊名称、卷期、页码】中国农学通报,2005,21(11):375-378
【论文发表时间】2005-01-05 00:00:00
【引文索引类型】其他
【引文索引号】no
【学科分类】微生物学

【题目】寡聚核苷酸芯片在微生物检测中的应用
【中文关键词】微生物 检测 寡核苷酸芯片
【英文关键词】Microbe Detection Oligonucleotide microarray
【中文摘要】近几年来发展起来的基因组研究技术))) 基因芯片技术为微生物检测提供了一种强有力的手段。目前国内外已广泛地开展了利用寡核苷酸芯片对多种微生物(主要是病毒和细菌, 少量有真菌) 进行相关检测的研究, 并在对微生物病原体检测、种类鉴定、功能基因检测、基因分型、突变检测、基因组监测等方面获得了成功。由于寡核苷酸探针具有可根据研究需要任意设计、特异性高等特点, 寡核苷酸芯片在微生物检测中有着巨大的应用价值, 具有广阔的应用前景。
【英文摘要】Microarray, a recently developed genomic technology has been shown to be a powerful tool for studying of detecting microbe. Now, oligonucleotide microarray has been used and succeeded in many fields of microbe such as pathogen detection, species identification, function genes detection, genotyping, mutational analysis and revealing genome differences. Oligonucleotide microarray may be useful in detecting microbe and have a broad prospect because of the high specificity of oligonucleotide probe, which can be designed freely.
【语种】中文
【第一作者】刘旭光
【通讯作者】张杰
【期刊名称、卷期、页码】生物技术通报,2005,1:29-33
【论文发表时间】2005-01-05 00:00:00
【引文索引类型】其他
【引文索引号】no
【学科分类】微生物学

【题目】产Zwittermicin A 的苏云金芽孢杆菌菌株的筛选及抗性基因zmaR的克隆与表达
【中文关键词】zmaR基因 Bacillus thuringiensis Zwittermicin A 抑菌活性 基因克隆
【英文关键词】无
【中文摘要】通过PCR方法筛选1 60株苏云金芽孢杆菌,其中94株含有gmaR基因。测定了含zmaR基因的菌株培养物上清液对草生欧文氏杆菌(Ezwinia hezblcola)的抑菌活性,结果表明有67株菌有抑菌活性,其中21株抑菌活性较高。经鉴定,抑菌活性较高的G03菌株含有czylAc,crylAa、cry1Ca和czy2Ab等高毒力杀虫基因,并从G03中克隆了zmaR全长基因,完成了序列测定。

该基因编码区为1 I25 bp,由核苷酸序列推导的氨基酸残基组成为375个,分子量为43.5 kO,等电点pI4.945。通过载体pET-21b将zmaR基因导入大肠杆菌BL21,可正常

【英文摘要】One hundred and sixty isolates of Bacillus thuringiensis were screened bv PCR.and 94 of these isolates were zmaR-positive.It was found that 67 zmaR-po sitive isolates showed inhibitory efects on the growth of Erwinia herbicola OS.and the inhibitory activity of 2 1 isolates were higher than those of others.Bacillus thuringiensis isolate G03 , which has crylAc,crylAa,crylCa an d cry2Ab genes,was identified with zmaR gene an d highly active to Erwinia herbicola oS,The zmaR gene was cloned from G03.an d sequence an alysis showed that zmaR consisted of l 1 25 bp DNA fragment an d encoded a protein containing 375 amino acids with 43.5 kD.The isoelectric point was pI4.945.The zmaR gene was inserted into pET-21b to generate pET-2lb::zmaR.and then this recombinan t plasmid was introduced into E col BL2 l(DE3)for high-level expression.The 43.5 kD peptide could be detected bv SDS-PAGE in the tran sform an ts with Zwittermicin A resistance.

【语种】中文

【第一作者】邵铁梅

【通讯作者】黄大昉

【期刊名称、卷期、页码】中国农业科学,2005,38(9):1811-1816

【论文发表时间】2005-01-05 00:00:00

【引文索引类型】其他

【引文索引号】no

【学科分类】微生物学

【题目】苏云金芽孢杆菌杀虫晶体蛋白Cry1Ba3 活性区的研究

【中文关键词】苏云金芽孢杆菌 Cry1Ba3 蛋白 活性区 小菜蛾

【英文关键词】Bacillus thuringiensis Cry1Ba3 protein Active fragment Plutella xylotella

【中文摘要】通过对Cry1Ba3 蛋白序列的分析,以及与已知Cry 蛋白比较,设计了6 对特异性引物,通过PCR 扩增获得6 种不同长度的cry1Ba3 基因片段。将这些基因片段克隆到pET-21b 载体上,导入大肠杆菌BL21 中进行诱导表达,最终得到6 种不同长度的Cry1Ba3 蛋白片段。采用浸叶法检测这些蛋白片段对小菜蛾的杀虫活性,研究结果表明含有第1~685 位和含有第22~655 位氨基酸的蛋白片段对小菜蛾的毒性,与全长Cry1Ba3 蛋白相比,没有改变;含有第54~655 位氨基酸的蛋白片段对小菜蛾的毒力明显降低;而含有第22~627 位和含有第85~655 位氨基酸的蛋白片段完全丧失了对小菜蛾的活性。上述结果表明Cry1Ba3 蛋白对小菜蛾的活性区在第22~655 位氨基酸之间。

【英文摘要】To determine the minimal active fragment of Cry1Ba3 protein, six fragments of cry1Ba3 gene with different lengths were amplified using PCR with different specific primers. These fragments were cloned into pET-21b vector at BamH I and Sal I restriction enzyme sites, and then introduced into E. coli BL21 strain. After induced with IPTG, the proteins expressed by different fragments were analyzed by SDS-PAGE, and the results showed that all these truncated proteins could be expressed in E. coli BL21. Bioassay result against Plutella xylotella showed that the active fragment of Cry1Ba3 protein was located between amino acid No. 22 and No. 655. As the insecticidal activity of the truncated protein containing amino acid No. 54-655 was declined significantly, and No. 22-627 and No. 85-655 were lost completely, so the toxicity of fragment including amino acid No. 22-655 was not changed with original Cry1Ba3.

【语种】中文

【第一作者】王广君

【通讯作者】黄大昉

【期刊名称、卷期、页码】中国农业科学,2005,38(8):1585-1590

【论文发表时间】2005-01-05 00:00:00

【引文索引类型】其他

【引文索引号】no

【学科分类】微生物学

【题目】transfer and expression of the mosquitocidal plasmid pBtoxis in bacillus cereus group strains

【中文关键词】无

【英文关键词】Conjugation pBtoxis Israelensis Lepidopteran Dipteran Mosquitocidal Transconjugant

【中文摘要】无

【英文摘要】The toxicity of Bacillus thuringiensis subsp. israelensis to dipteran larvae (mosquitoes and black flies) depends on the presence of the pBtoxis plasmid. In this paper, two antibiotic resistance tagged pBtoxis were transferred by conjugation to other Bacillus

cereus group strains. Among 15 potential recipients, only a lepidopteran active B. thuringiensis subspecies kurstaki and a B. cereus strain received the plasmid pBtoxis with a low transfer rate of about 10(-8) transconjugants/recipient. The resulting B. thuringiensis subspecies kurstaki transconjugant was active to both lepidopteran and dipteran targets and the B. cereus transconjugant was active against dipteran insects. Phase contrast microscopy showed that the B. cereus transconjugants could produce only round crystalline inclusion bodies while B. thuringiensis subspecies kurstaki transconjugant could produce both round and bipyramidal crystals during sporulation. SDS-PAGE revealed that all the major mosquitocidal proteins from pBtoxis could express in the two transconjugants, including Cry4Aa, Cry4Ba, Cry10Aa, Cry11Aa and Cyt1Aa. However, none of the experiment showed any indications of mobilising abilities of pBtoxis. The limited number of strains, which could receive and maintain pBtoxis using a conjugational helper plasmid, indicates a very narrow host range of the B. thuringiensis subsp. israelensis pBtoxis plasmid.

【语种】英文

【第一作者】HU X

【通讯作者】Yuan Z

【期刊名称、卷期、页码】FEMS Microbiol Lett.2005,245:239-247

【论文发表时间】2005-01-05 00:00:00

【引文索引类型】SCI

【引文索引号】doi:10.1016/j.femsle.2005.03.012

【学科分类】微生物学

【题目】苏云金芽孢杆菌及其delta-内毒素基因的分类鉴定

【中文关键词】苏云金芽孢杆菌 分类 鉴定

【英文关键词】无

【中文摘要】苏云金芽孢杆菌作为重要的杀虫微生物在生物防治中发挥了巨大作用。其分类鉴定对于研究资源的多样性、快速筛选优良菌株、预测其杀虫活性、分离克隆新的Btδ-内毒素基因等方面具有重要意义。本文对Bt菌株的分类、δ-内毒素基因分类、鉴定方法进行了分析讨论。

【英文摘要】无

【语种】中文

【第一作者】苏旭东

【通讯作者】宋福平

【期刊名称、卷期、页码】植物保护,2006,32(2):15-17

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【引文索引类型】其他

【引文索引号】Q 939. 1

【学科分类】微生物学

【题目】Preliminary characterization of a thermostable DNA polymerase I from mesophilic Bacillus sphaericus strain C3-41,

【中文关键词】无

【英文关键词】Thermostable DNA polymerase I Bacillus sphaericus Æ Mesophile Mosquitocidal activity

【中文摘要】无

【英文摘要】A thermostable DNA polymerase I from a mesophilic Bacillus sphaericus strain C3-41 was characterized in this study. The polI was cloned, sequenced and over-expressed in Escherichia coli. The expressed 110 kDa fusion protein of PolI was stable at 70 degrees C for 1 h. Compared with DNA polymerase I of E. coli (TaKaRa), the relative polymerase activity of this PolI was 3.33 +/- 0.1 RFU microl(-1) at 37 degrees C using fluorescent quantitative analysis. It showed higher polymerase activity than E. coli PolI at higher temperature, with a relative activity of 3.75 +/- 0.1 RFU microl(-1) at 70 degrees C. The polI sequence analysis and the protein structure prediction indicated that this protein had a high similarly to other PolI from thermophilic micro-organisms. This information is of importance for future study for evolution of the house-keeping gene polI in entomopathogenic bacterium B. sphaericus.

【语种】英文

【第一作者】Han B

【通讯作者】Yuan Z

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【论文发表时间】2006-01-05 00:00:00
【引文索引类型】SCI
【引文索引号】DOI 10.1007/s00203-006-0135-3
【学科分类】微生物学

【题目】Detection and phylogenic analysis of one anthrax virulence plasmid pXO1 conservative open reading frame ubiquitous presented within Bacillus cereus group strains
【中文关键词】pXO1 ORF101 Bacillus cereus, Bacillus thuringiensis SNP
【英文关键词】pXO1 ORF101 Bacillus cereus, Bacillus thuringiensis SNP
【中文摘要】The presence of one of the anthrax virulence plasmid pXO1 conserved fragments was analyzed in 24 Bacillus cereus and B. thuringiensis strains, including 6 B. thuringiensis subspecies, by polymerase chain reactions. Twelve out of 24 strains showed PCR-positive for an ORF101 homologous sequence. Two pXO1-ORF101-like fragments from a B. cereus B-4ac and a commercial B. thuringiensis kurstaki HD1 were cloned, sequenced and expressed in Escherichia coli. Toxicity assays revealed that the product encoded by the pXO1-ORF101-like fragment had no impact on either Vero cells or Chinese Hamster Ovary cells, suggesting that this fragment probably not contribute to enterotoxic activity. Sequence alignment of the pXO1-ORF101 from three Bacillus anthracis and ORF101-like fragments from other12 B. cereus group isolates indicated high identity (more than 90%) and the presence of subgroup- and strain-specific SNPs among these fragments.
【英文摘要】The presence of one of the anthrax virulence plasmid pXO1 conserved fragments was analyzed in 24 Bacillus cereus and B. thuringiensis strains, including 6 B. thuringiensis subspecies, by polymerase chain reactions. Twelve out of 24 strains showed PCR-positive for an ORF101 homologous sequence. Two pXO1-ORF101-like fragments from a B. cereus B-4ac and a commercial B. thuringiensis kurstaki HD1 were cloned, sequenced and expressed in Escherichia coli. Toxicity assays revealed that the product encoded by the pXO1-ORF101-like fragment had no impact on either Vero cells or Chinese Hamster Ovary cells, suggesting that this fragment probably not contribute to enterotoxic activity. Sequence alignment of the pXO1-ORF101 from three Bacillus anthracis and ORF101-like fragments from other12 B. cereus group isolates indicated high identity (more than 90%) and the presence of subgroup- and strain-specific SNPs among these fragments.
【语种】英文
【第一作者】Hu X
【通讯作者】Yuan Z
【期刊名称、卷期、页码】Biochem Biophys Res Commun,2006,349(4):1214-9
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【引文索引类型】SCI
【引文索引号】doi:10.1016/j.bbrc.2006.08.125
【学科分类】微生物学

【题目】苏云金芽胞杆菌cry1Ia基因的克隆、表达与活性研究
【中文关键词】苏云金芽胞杆菌 cry1Ia基因 克隆 表达 杀虫活性测定
【英文关键词】无
【中文摘要】根据cry1Ia类基因的全长序列设计引物,以苏云金芽胞杆菌(Bacillus thuringiensis)菌株Btc008的总DNA为模板扩增出片段长为2.1kb的cry1Ia的全长基因,插入大肠杆菌(Escherichia coli)表达载体pET-21b,转化大肠杆菌BL21(DE3)菌株,诱导表达出81kD的蛋白。该蛋白由719个氨基酸组成,推导的分子量为81.2kD。该蛋白的氨基酸序列不同于已知的12种Cry1Ia蛋白,是一种新的Cry1Ia蛋白,该基因已被国际基因命名委员会正式命名为cry1Ia8。杀虫活性测定结果表明:Cry1Ia8对亚洲玉米螟(Ostrinia furnacalis)和小菜蛾(Plutella xylostella)有很强的杀虫活性,LC50分别为0.268 μg/g和2.227 μg/mL,其杀虫效果与Cry1Ab和Cry1Ac相当。对大豆食心虫(Leguminivora glycinivorella)也有较好的活性,但对鞘翅目叶甲科害虫榆兰叶甲(Pyrrhalta aenescens)没有活性。该基因的获得将为我国抗虫转基因作物和工程菌的研制提供新的基因来源,为筛选延缓昆虫抗性产生的基因组合提供了重要依据。
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【语种】中文
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【题目】蜡状芽胞杆菌群菌株中部分病原相关因子的检测
【中文关键词】蜡状芽胞杆菌 苏云金芽胞杆菌 病原性 plcR 肠毒素
【英文关键词】B.cereus B.thuringiensis pathogenicity plcR enterotoxin
【中文摘要】对26株蜡状芽胞杆菌群菌株进行了肠毒素基因及其它病原相关因子的检测。PCR结果表明,17株蜡状芽胞杆菌群菌株中含有病原调控因子plcR的同源序列。采用3组溶血肠毒素hbl基因和3组非溶血肠毒素nhe基因特异性引物,分别可从73%的菌株中至少扩增出一个与预期DNA片段大小一致的片段,其中,苏云金芽胞杆菌菌株中溶血素hbl基因和非溶血素nhe基因的阳性检出率为83%。蜡状芽胞杆菌DBt248完全没有溶血活性,而且在溶血素hbl和非溶血素nhe基因的3个亚基以及病原调控因子plcR的PCR检测中均为阴性,有望作为宿主菌用于苏云金芽胞杆菌晶体蛋白的表达和应用。
【英文摘要】Bacillus thuringiensis is a member of the B. cereus group, which also contains B. cereus, B. mycoides, B. pseudomycoides, B. anthracisandB. weihenstephanensis. Amongthem, B. thuringiensisandB. cereusshareahigh. levelchromosomalsimilarityandarephenotypicallysimilarexceptthatB. thuringiensishasinsecticidalplasmidencoding. crystalproteins. Twenty sixB. cereusgroupstrainsweresurveyedinthisstudyforthepresenceofenterotoxingenesand. othertoxingenesrelatedtopathogenicity. PCRresultsshowedthatthepleiotropicvirulenceregulatorplcRwaspresented. in17B. cereusgroupstrains. About73% oftheB. cereusgroupstrainsand83% oftheB. thuringiensisstrains. containedatleastoneofthethreehblgenesandoneofthethreenhegenes,indicatingthatB. thuringiensis,including. strainsusedcommercially,hadenterotoxinencodinggenes. Additionally, B. cereusDBt248wasprovedtobedevoidof. allthreehblgenes,threenhegenesorplcR. Thusthisstrainmightbeapotentialcandidateasahoststrainfor. expressingB. thuringiensiscrystaltoxinstoconstructsafetyinsecticidalengineeringstrainswithoutenterotoxicactivity.
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【题目】转基因作物与植物保护
【中文关键词】转基因作物 产业化 植物保护
【英文关键词】无
【中文摘要】作为农业生物技术最活跃的研究领域之一,抗病虫、抗除草剂转基因作物的应用已成为病虫害综合治理的新的有效手段。本文综述了国内外这一领域产业化开发的最新进展,提出了实行积极的产业化政策、理性认识转基因生物安全和加强基础和创新性研究等项建议。
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【第一作者】黄大昉
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【题目】苏云金芽孢杆菌B-Pr-88菌株中cry2Ab4基因的表达和杀虫活性研究
【中文关键词】苏云金芽孢杆菌 cry2Ab4基因 基因克隆 蛋白表达 杀虫活性
【英文关键词】无
【中文摘要】以我室自行分离的对鳞翅目夜蛾科害虫具有高毒力的Bt菌株B-Pr-88为材料,用PCR-RFLP方法从其质粒DNA文库中筛选到含cry2A6基因的一个阳性克隆pZF858,序列测定发现,该片段含有cry2Ab全长基因,开放读码框为1902bps,编码由633个氨基酸组成的70.7kD蛋白,氨基酸同源性与已公布的cry2Ab基因同源性均为99.8%,经Bt基因国际命名委员会正式命名为cry2Ab4。根据cry2Ab4基因开放阅读框架(ORF)两端序列,设计合成一对特异引物L2ab5和L2ab3,PCR扩增获得cry2Ab4完整ORF,与大肠杆菌表达载体pET-21b连接,构建了重组表达质粒pET-2Ab4,质粒导入大肠杆菌BL21(DE3),IPTG诱导后,SDS-PAGE电泳证实该基因表达了60kD的蛋白,生物测定表明,Cry2Ab4对棉铃虫和大豆食心虫具有高毒力,同时对小菜蛾和二化螟有一定的杀虫活性.而对亚洲玉米螟和甜菜夜蛾没有杀虫活性。
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【第一作者】李长友
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【题目】ARDRA方法在荧光假单胞菌分离鉴定中的应用
【中文关键词】荧光假单胞菌 分离鉴定 ARDRA 分析 拮抗作用
【英文关键词】Pseudomonas fluorescens Isolation and identification ARDRA analysis Antagonism
【中文摘要】利用紫外下产生荧光的特性,采用梯度稀释及鞭毛染色的方法,对采自云南、海南、山东和新疆的488 份植物根际土壤进行分离筛选,分离菌株进行ARDRA 分析,采用室内平板对峙法筛选对植物病原真菌具有较强拮抗作用的菌株,并对其进行生理生化分析和分子鉴定。【结果】分离筛选到102 株紫外下产生荧光的杆状单极生鞭毛菌株。ARDRA 分析产生荧光假单胞菌类型、恶臭假单胞菌类型以及一个未知的谱带类型。以油菜立枯病菌作为靶标菌,筛选到25 株具有拮抗作用的菌株,其中TC222 产生的抑菌圈最大,进一步的生测结果表明该菌株对9 种重要的植物病原真菌如番茄灰霉病菌等具有很强的拮抗活性。TC222 的 16S rDNA 核苷酸序列与荧光假单胞菌PfO-1 同源性达到99%,其最终鉴定为荧光假单胞菌。【结论】ARDRA 方法在分子水平上为荧光假单胞菌的分离鉴定探索了一条新途径;TC222菌株具有拮抗多种植物病原真菌的能力,显示了良好的应用前景。
【英文摘要】Fluorescence under UV and flagella staining were used to isolate fluorescent pseudomonas from 488 soil samples collected from Shandong, Hainan, Yunnan and Xinjiang Provinces. About 1.5 kb 16S rDNA fragments of these strains were amplified with 16S rDNA primer pairs of eubacterium.Amplified ribosomal DNA restriction analysis (ARDRA) was performed. Antagonistic activities to plant pathogens were tested on PDA plates. Nucleic acid BLAST searches were performed using the website http://www.ncbi.nlm.nih.gov/blast. TC222 identification was performed according to 16S rDNA sequenced together with physiological and biochemical analysis.【Result】A total of 163 fluorescent bacterial strains were isolated, of which 102 were rod shaped and had monotrichous or lophotrichous flagella. All strains produced three digestion patterns according to ARDRA analysis.These were similar to the digestion patterns of P. fluorescens, P. putida. The data suggested that all isolated strains belonged to at least three species. 25 strains showed inhibitory to Rhizoctonia solani in dual-culture test on PDA plates, one of which showed the highest antagonistic activity was named TC222. Moreover, TC222 displayed inhibitory to other plant pathogens, e.g. Gaeumannomyces graminis, Magnaporthe grisea, Drechslera sorakiniana, Alternaria brassicae, Botrytis cinerea, Phomopsis asparagi, Fulvia fulva, Colletotrichum lindemuthianum Sacc. et Magn and Phytophthora parasitica var nicotianae. 16S rDNA sequence analysis of TC222 showed 99% homology to P. fluorescens PfO-1. TC222 was further confirmed to belong to P. fluorescens according to physiological and biochemical characteristics. 【Conclusion】ARDRA analysis provides a new way for P. fluorescens isolation and identification. TC222 showed a potential prospect in biocontrol for plant diseases.
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【题目】苏云金芽孢杆菌HD-73菌株芽孢萌发条件的优化及质粒pHT73对芽孢萌发的影响
【中文关键词】苏云金芽孢杆菌 质粒pHT73 芽孢萌发 萌发条件 HD-73菌株
【英文关键词】Bacillus thuringiensis plasmid pHT73 germination HD-73
【中文摘要】芽孢的萌发是芽孢杆菌从芽孢成长为营养体的第一步。在芽孢菌属中,有些菌株对人畜具有致病性。研究芽孢萌发过程对解析其致病性和生理功能至关重要。本文优化了苏云金芽孢杆菌(Bacillus thuringiensis, Bt)芽孢的萌发条件,确定芽孢萌发的适宜条件为:缓冲液为NaH2PO4(10 mmol · L-1)与NaCl(100 mmol · L-1)的混合物、pH值为7.2、萌发温度为37°C,萌发剂为肌苷或L-丙氨酸(1 mmol · L-1)与其它单一氨基酸(100 mmol · L-1,除酪氨酸和色氨酸为1 mmol · L-1)组成的混合物;利用该萌发条件,检测了苏云金芽孢杆菌菌株HD-73及其无晶体突变株HD-73-在利用不同氨基酸途径中的芽孢萌发率差异,发现缺失质粒pHT73的无晶体突变株HD-73-在肌苷与天冬氨酸和肌苷与谷氨酸为营养萌发剂的条件下,萌发率明显高于菌株HD-73,说明在质粒pHT73上可能存在对这两种途径起负调控作用的相关基因。
【英文摘要】The germination of dormant spores of Bacillus species is the first crucial step in the return of spores to vegetative growth. Some members of Bacillus species cause serious diseases in livestock and humans. Elucidation of the germination process is essential to understand their pathogenesis and life cycle. To determine the role of plasmid pHT73 in nutrient-induced germination, the conditions for germination of Bacillus thuringiensis HD-73 was optimized. The optimum germination buffer was NaH2PO4 (10 mmol · L-1) and NaCl (100 mmol · L-1) and pH 7.2. The optimum temperature was 37°C. Comparing the germination rate between HD-73 strain and HD-73- mutant spores, which was based on the optimum germination conditions, germination rate of HD-73- spores was twice of that of HD-73 in the pathways of inosine (1 mmol · L-1) / Asp (100 mmol · L-1) and inosine (1 mmol · L-1) / Glu (100 mmol · L-1). This result supported that the plasmid pHT73 contained the germination genes which partly blocked those two pathways, because HD-73- was cured of plasmid pHT73 which contained cry1AC gene
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【题目】球形芽孢杆菌Mtx1蛋白和苏云金杆菌杆菌Cyt1A晶体蛋白的协同作用
【中文关键词】球形芽孢杆菌 苏云金芽孢杆菌 杀蚊毒素 协同作用 致倦库蚊 Mtxl CytlA
【英文关键词】Bacillus sphaeKcus Bacillus thuringiensis Mosquitocidal toxin synergism Culex quinquefasciatus Mtxl CytlAa
【中文摘要】采用常规的生物测定方法确定了纯化的球形芽孢杆菌(Bacillus sphaericus)的缺失信号肽的97kDa营养期杀蚊毒素(Mosquitocidal toxin l,Mtx1)蛋白和苏云金芽孢杆菌(Bacillus thuringiensis)27.3kDa的CytlAa晶体蛋白对致倦库蚊(Culex g“ i钾 c t)幼虫的杀虫活性。结果表明Mtxl和CytlAa不同比例的混合物对致倦库蚊的毒力比单独毒素蛋白高,经统计分析表明两毒素蛋白对目标蚊幼虫具有明显的协同作用。在L(1删处理浓度下,Mtxl和CytlAa按3:l混合的混合物I 值比单独Mtxl的提前了6.36h。表明C~IAa和Mtxl对致倦库蚊具有协同毒杀作用,提高对目标蚊虫的毒力、缩短半致死时间。该结果为深入研究Mtxl和C~IAa的杀蚊作用方式奠定了基础,同时为其在蚊虫防治中的应用提供了新的思路和方法。
【英文摘要】Mosquitocidal toxin 1(Mtx1)was synthesized during vegetative phase of Bacillus sphaericus and it had been proved to have hi曲er activity to Aedes spp.1arvae and Binary toxin(Bin)resistance Culex larvae.The truncated 97kDa Mtxl with a deletion of the signal peptide an d the Cyt1 Aa crystal protein, a 27.3kDa 6一endotoxin from Bac illus thuringiensis subsp.israelensis(Bti),were purified from Escherichia coli and B.thuringiensis recombinant strains respectively.Both purified toxins had high toxicity against Cu quinquefasciatus larvae.Bioassay result revealed the purified Mtxl toxin had high toxicity against the target mosquito larvae,with LC50 of 45.2ng/mL.However,the mixture of Mtxl and Cyt1Aa exhibited higher toxicity against the mosquito larvae,with a lowest LC50 value of 2O.19ng/mL at theratio of 1:3.(Mtxl:Cyt1Aa).The calculated synergistic factor of diferent mixtures suggested a strong synergistic effect between Cyt1Aa toxin and Mtx1.Furthermore ,the presence of CytlAa in the mixture could induce early larval mortality.enhan cing the

activity of Mtxl to the target mosquito larvae.Th e synergistic efect of Cyt1 Aa on mortality of Mtxl tomosquito larvae might be caused by the damage of the larval midgut—hemocoel barrier induced by the activated Cyt1 Aa toxin,which enhanced the specific pathogenesis of Mtxl on mosquito larvae.It is sug ested that the co—application of Mtxl and Cyt1 Aa in future will be integrated for mosquito man agement

【语种】中文
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【题目】苏云金杆菌以色列亚种杀蚊蛋白Cyt1Aa在离中不粘柄菌中的表达
【中文关键词】离中不粘柄菌 苏云金杆菌以色列亚种 CytlAa Cryl1Aa 多外源基因表达 总RNA
【英文关键词】Asticcacaulis excentricus Bacillus thuringieusis subsp. israelensis, Cyt1Aa Cry1Aa expression of multiple foreign genes total RNA
【中文摘要】在蚊幼虫生活水域里的离中不粘柄菌(Asticcacaulis excentricus,Ae)中已成功表达苏云金芽孢杆菌以色列亚种(Bacillus thuringiensis subsp./srac/ens/s,Bti)杀蚊蛋白基因cryllAa的基础上,将另一成 杀蚊蛋白基因cytlAa转化入 e中表达。构建并转化了分别单独含有cytlAa基因、及同时含有cryllAa基因的表达质粒pSODCy~0和pSODCryCyt20,蛋白免疫杂交检测相应的Ae重组子分别表达产生了CytlAa和Cryl1Aa蛋白。为了探究Ae(pSODCryCyt20)重组子不能表达cytlAa的原因,提取了重组子总RNA、并与同是革兰氏染色阴性的大肠杆菌的总RNA比较,结果显示两者RNA系统显著不同,推测Ae中多个外源基因的表达,可能要求每个基因必需一个启动子。
【英文摘要】Asticcacaulis excentricus,who lives in upper—layer waters providing food resource to the mosquito larvae and has been proven to be a successful host to produce the mosquitocidal binary toxins or Cry Il Aa toxin from Bacilli(Liu et a1..1996,Nat Biotech 14:343;Armengol,et aZ.,2005,Curr Microbiol 51:430),was developed to express cytlAa gene from Bacillus thuringieusis subsp.israeleusis(Bt).Two A.excentricus transformants were constructed with the attempt of producing Cyt1 Aa alone and alongside with Cryl 1 Aa. repectively. Detection of expressed Cryl 1 Aa and Cytl Aa proteins by immunoblot in the recombinant A .excentricus clones showed that either cryl 1Aa or cytlAa was expressed well solely but not simultaneously although both restriction analyses of plasmid DNA and DNA sequencing showed that thetransformed plasmid was identical to scheme.To investigate the reason why the recombinant A.excentricus harboring both genes and their ribosome binding site(RBS)sequences expressed only Cryl 1 Aa,the total RNA of A.excentricus cclB wa6 cxtract,d and r~vcakd three—band pattvrn iii which iIll RNA molecule weights are not~reater than 16S RNA of e ia coli by formamide agarose gel electrophoresis。indicating that different RNA systems within these two Gram—negative strains required distinguishingly organised constructs to express multiple foreign genes.It is hypothesized that an extra promoter upstream of RBS sequence is required to express cytlAa in the cryl1Aa—cytlAa tandom plasmid.
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【题目】苏云金芽孢杆菌γ-氨基丁酸代谢旁路中相关的两个功能基因的克隆、表达及同源性分析
【中文关键词】γ-氨基丁酸代谢旁路 苏云金芽胞杆菌 γ-氨基丁酸转氨酶 琥珀酸半醛脱氢酶 蜡样芽胞杆菌
【英文关键词】无
【中文摘要】γ-氨基丁酸代谢旁路作为三羧酸循环的一个分支,在真核、原核生物中广泛存在。在这条代谢途径中,涉及γ-氨基丁酸分解代谢的主要有两种酶:一种是γ-氨基丁酸转氨酶,能将γ-氨基丁酸转变成琥珀酸半醛;另一种是琥珀酸半醛脱氢酶,该酶能将琥珀酸半醛氧化形成琥珀酸,后者进入三羧酸循环。从国内分离得到的苏云金芽胞杆菌G03菌株中克隆

了gabT和gabD基因。其中gabT基因含有1440bp,编码一个大小为52.6kD的蛋白质,而gabD基因大小为1449bp,编码一个52.2kD的蛋白质。这两个基因都分别在大肠杆菌中进行了表达和纯化。通过酶活测定结果表明,GabT和GabD蛋白分别呈现出γ-氨基丁酸转氨酶和琥珀酸半醛脱氢酶的活性。氨基酸序列同源性比对分析发现,这两个蛋白质在蜡样芽胞杆菌群(B.cereus group)中具有较高的相似性,而与枯草芽胞杆菌的相似性较低则分别为58%、51%。为进一步深入研究γ-氨基丁酸代谢旁路在苏云金芽胞杆菌中的生物学功能及其转录调控机制奠定了基础。
【英文摘要】无
【语种】中文
【第一作者】朱莉
【通讯作者】黄大昉
【期刊名称、卷期、页码】微生物学通报,2007,34(6):1031-1036
【论文发表时间】2007-01-15 00:00:00
【引文索引类型】其他
【引文索引号】0253..2654(2007) 06..1031..06
【学科分类】微生物学

【题目】Characterization of a Cryptic Plasmid from Bacillus sphaericus Strain LP1-G
【中文关键词】无
【英文关键词】Bacillus sphaericus Cryptic plasmid Rolling-circle replication Replication initiator protein ssDNA
【中文摘要】无
【英文摘要】A cryptic plasmid from Bacillus sphaericus strain LP1-G, designated as pLG, was sequenced and characterized. It was an 11,066 bp circular molecule, with G + C content of 37%. The plasmid pLG was predicted to encode 23 putative ORFs,and ORF 21 shared the highest identity with Rep of pGI1 and pBMB9741, members of rolling-circle replication (RCR) pC194-family. Sequence analysis revealed a pC194-type double strand origin (dso) and a single strand origin (sso) like sequence located upstream and downstream of ORF 21, respectively. Moreover, Mung bean nuclease analysis and South-ern hybridization con fi rmed the existence of single stranded DNA (ssDNA) intermediates, indicating that pLG belongs to the RCR pC194-family. Accumulation of multiple ssDNA intermediates in native strain LP1-G and decline of ssDNA and supercoiled DNA in rifampicin-treated strain implied that a special mechanism might be employed by pLG. Furthermore,the copy number of pLG in its original host was determined and about 58 copies of the plasmid exist in each cell. Sub-cloning and transformation experiments proved that the minimal replicon of pLG was within a 1.6-kb fragment, which was composed of rep gene and dso. These data are a good basis for the understanding of replication mechanisms and genetics of this B. sphaericus plasmid.
【语种】英文
【第一作者】Wu E.
【通讯作者】Yuan Z
【期刊名称、卷期、页码】Plasmid,2007,57(3):296-305
【论文发表时间】2007-01-15 00:00:00
【引文索引类型】SCI
【引文索引号】doi:10.1016/j.plasmid.2006.11.003
【学科分类】微生物学

【题目】Microbial Control and Biotechnology Research on Bacillus thuringiensis (Bt) in China
【中文关键词】无
【英文关键词】Microbial control Biopesticide Bacillus thuringiensis Biotechnology Bt crops
【中文摘要】无
【英文摘要】The current status of production and application of biopesticides for pest control in China is briefly reviewed, with a focus on research advances in microbial control with Bacillus thuringiensis (Bt). These have led to improvements in Bt production, exploitation of Bt gene resources, and development of engineered Bt insecticides and transgenic Bt crops that have expanded host ranges and increased efficacy against target pests. Both conventional and biotechnology approaches need to be employed to achieve further progress in discovery, production technology, formulation processing, development of quality standards and recommended use patterns.

【语种】英文
【第一作者】Huang D F
【通讯作者】Huang DaFang
【期刊名称、卷期、页码】Journal of Invertebrate Pathology,2007,95(3):175-180
【论文发表时间】2007-01-15 00:00:00
【引文索引类型】SCI
【引文索引号】doi:10.1016/j.jip.2007.02.016
【学科分类】微生物学

【题目】Isolation of transposon mutants and characterization of genes involved in bioWlm formation by Pseudomonas Xuorescens TC222
【中文关键词】无
【英文关键词】BioWlm formation Complementation
【中文摘要】无
【英文摘要】BioWlm formation mutants are often found to have defective or altered motility. The motility phenotype was exploited to identify Pseudomonas Xuorescens bioWlm formation mutants. Fourteen motility mutants were obtained from P. Xuorescens isolate TC222 and eight stable mutants were studied further. The eight transposon insertion mutants showed altered ability to form bioWlm compared with the parent. Five Tn5-inserted genes from these mutants were cloned and sequenced. Genetic analysis showed that two insertions were located in genes aVecting multiple cell surface characteristics, including lipopolysaccharide (rfbD) and polar Xagella (XiR). Three genes encoding for a putative Mig-14 family protein (epsB), a probable bacteriophage signal peptide protein (bspA) and a soluble pyridine nucleotide transhydrogenase (pyrA) were reported for the Wrst time to be involved in bioWlm formation. Complementation experiments of rfbD and epsB genes proved that bioWlm formation of the corresponding mutants could be restored. Further semi-quantitative reverse transcription-PCR analysis showed that both rfbD and epsB can express their transcripts much higher in the complemented strains than that in wild-type strains. The transcripts of both genes in their mutants could not be detected.
【语种】英文
【第一作者】Nian H
【通讯作者】Huang DaFang
【期刊名称、卷期、页码】Archive Microbiology,2007,188:205-213
【论文发表时间】2007-01-15 00:00:00
【引文索引类型】SCI
【引文索引号】no
【学科分类】微生物学

【题目】Detection of chromosomally located and plasmid-borne genes on 20-kb DNA fragments in parasporal crystals from Bacillus thuringiensis
【中文关键词】无
【英文关键词】Bacillus thuringiensis 20 kb DNAs Crystal Chromosome and plasmid Insecticidal activity
【中文摘要】无
【英文摘要】The association of 20 kb heterologous DNA fragments with the parasporal crystals from native and recombinant Bacillus thuringiensis strains was analyzed, respectively. The cry2Aa10 gene cloned in plasmid pHC39 was transformed into B. thuringiensis subsp. kurstaki strains Cry B and HD73, producing recombinant strains Cry B(pHC39) and HD73(pHC39). SDS-PAGE and scanning electron microscopy analyses demonstrated that the recombinant Cry B(pHC39) produced cuboidal crystals of Cry2Aa10 protoxin, while recombinant HD73(pHC39) produced both bipyramidal crystals of Cry1Ac1 protoxin and cuboidal crystals of Cry2Aa10 protoxin. Bioassay results proved that recombinant HD73(pHC39) showed higher insecticidal activity to Helicoverpa armigera than Cry B(pHC39). It was found that 20 kb DNA fragments were present in bipyramidal and cuboidal crystals from both native and recombinant strains, and the 20 kb heterologous DNAs contained chromosome-specific and resident large plasmid-borne DNA fragments, suggesting the 20 kb heterologous DNA fragment embodied in crystals came randomly from the bacterial chromosomal and plasmid genome. This was the first investigation devoted exclusively on the origin of 20 kb DNA fragments in the parasporal crystals of B. thuringiensis. The data provides a basis for further investigation of the origin of 20 kb DNAs in the crystals and

the interaction of DNA and protoxins.
【语种】英文
【第一作者】Sun Y.
【通讯作者】Yuan Z
【期刊名称、卷期、页码】Arch Microbiol,2007,188:327-332
【论文发表时间】2007-01-15 00:00:00
【引文索引类型】SCI
【引文索引号】DOI: 10.1007/s00203-007-0252-7
【学科分类】微生物学

【题目】Lack of cross-resistance to Mtx1 from Bacillus sphaericus in B. sphaericus-resistant Culex quinquefasciatus (Diptera: Culicidae).
【中文关键词】Culex quinquefasciatus Bacillus sphaericus resistance Mtx1 binary toxin
【英文关键词】Culex quinquefasciatus Bacillus sphaericus resistance Mtx1 binary toxin
【中文摘要】The toxicities of Mtx1 toxin against dipteran and lepidopteran species have been evaluated in this study. It was shown thatMtx1 has little or no toxicity to the tested lepidopteran species, but has moderate-level toxicity to Aedes albopictus Skuse (Diptera: Culicidae) and high-level toxicity to both susceptible and binary toxin-resistant Culex quinquefasciatus Say (Diptera:Culicidae). The LC50 values ofMtx1 against a susceptible C. quinquefasciatus colony SLCq and two resistant colonies RLCq1/C3-41 and RLCq2/IAB59 selected in the laboratory with Bacillus sphaericus (Mayer & Neide) strains C3-41 and IAB59 respectively were 0.508, 0.854 and 0.675mgL-1 respectively. The data indicate thatMtx1 has a differentmode of action fromthe binary toxin, and that it could be an alternative toxin to delay or overcome resistance development to binary toxin in C. quinquefasciatus.
【英文摘要】The toxicities of Mtx1 toxin against dipteran and lepidopteran species have been evaluated in this study. It was shown thatMtx1 has little or no toxicity to the tested lepidopteran species, but has moderate-level toxicity to Aedes albopictus Skuse (Diptera: Culicidae) and high-level toxicity to both susceptible and binary toxin-resistant Culex quinquefasciatus Say (Diptera:Culicidae). The LC50 values ofMtx1 against a susceptible C. quinquefasciatus colony SLCq and two resistant colonies RLCq1/C3-41 and RLCq2/IAB59 selected in the laboratory with Bacillus sphaericus (Mayer & Neide) strains C3-41 and IAB59 respectively were 0.508, 0.854 and 0.675mgL-1 respectively. The data indicate thatMtx1 has a differentmode of action fromthe binary toxin, and that it could be an alternative toxin to delay or overcome resistance development to binary toxin in C. quinquefasciatus.
【语种】英文
【第一作者】Wei S.
【通讯作者】Yuan Z
【期刊名称、卷期、页码】Pest Manag Sci,2007,63:190-193
【论文发表时间】2007-01-15 00:00:00
【引文索引类型】SCI
【引文索引号】DOI: 10.1002/ps.1319
【学科分类】微生物学

【题目】Insecticidal action of Quinomycin A from Streptomyces sp. KN-0647, isolated from a forest soil.
【中文关键词】无
【英文关键词】Insecticidal activity Quinomycin A 16S rRNA gene Streptomyces sp.
【中文摘要】无
【英文摘要】An actinomycete strain KN-0647 was isolated from a forest soil sample collected from Dali Cangshan mountain, Yunnan Province, China. The strain was identified as Streptomyces sp. according to the morphological, physiological characteristics and whole nucleotide sequence analysis of 16S rRNA gene, and could not be identified up to species level, just suggesting a potential new taxon. The ethyl acetate extract from this strain displayed growth inhibition on the test pathogenetic insects, such as Spodoptera exigua, Dendrolimus punctatus, Plutella xylostella, Aphis glycines and Culex pipiens. The active compound was isolated and identified through a combination of spectral and chemical methods (UR, MS, and 1HNMR) as quinomycin A. This is the first report on the insecticidal activity of antibiotic quinomycin A.
【语种】英文

【第一作者】Liu H M
【通讯作者】Zhang J.
【期刊名称、卷期、页码】World J Microbiol Biotechnol (2008) 24:2243 – 2248
【论文发表时间】2008-01-01 00:00:00
【引文索引类型】SCI
【引文索引号】no
【学科分类】微生物学

【题目】Phylogenetic analysis and heterologous expression of surface layer protein SlpC of Bacillus sphaericus C3-41.
【中文关键词】surface layer Bacillus sphaericus pathogenic crystal lattice toxicity
【英文关键词】surface layer Bacillus sphaericus pathogenic crystal lattice toxicity
【中文摘要】The surface layer protein encoding genes from five mosquito-pathogenic Bacillus sphaericus isolates were amplified and sequenced. Negative staining of the S-layer protein extracted from the cell wall of wild-type B. sphaericus C3-41 was prepared. It showed a flat-sheet crystal lattice structure. Two genes encoding the entire and N-terminally truncated S-layer protein (slpC and DeltaslpC respectively), were ligated into plasmid pET28a and expressed in Escherichia coli. SDS-PAGE revealed that about 130 KD and 110 KD proteins could be expressed in the cytoplasm of recombinant E. coli BL21(pET28a/slpC) and E. coli BL21(pET28a/DeltaslpC) respectively. Furthermore, an intracellular sheet-like or fingerprint-shape structure was investigated in two recombinant strains, which expressed SlpC and DeltaSlpC protein respectively, by ultrathin microscopy study, but bioassay results suggested that the S-layer protein of wild B. sphaericus C3-41 and recombinant E. coli BL21 (pET28a/slpC) have no direct toxicity against mosquito larvae. These results should provide information for further understanding of the function of S-layer protein of pathogenic B. sphaericus.
【英文摘要】The surface layer protein encoding genes from five mosquito-pathogenic Bacillus sphaericus isolates were amplified and sequenced. Negative staining of the S-layer protein extracted from the cell wall of wild-type B. sphaericus C3-41 was prepared. It showed a flat-sheet crystal lattice structure. Two genes encoding the entire and N-terminally truncated S-layer protein (slpC and DeltaslpC respectively), were ligated into plasmid pET28a and expressed in Escherichia coli. SDS-PAGE revealed that about 130 KD and 110 KD proteins could be expressed in the cytoplasm of recombinant E. coli BL21(pET28a/slpC) and E. coli BL21(pET28a/DeltaslpC) respectively. Furthermore, an intracellular sheet-like or fingerprint-shape structure was investigated in two recombinant strains, which expressed SlpC and DeltaSlpC protein respectively, by ultrathin microscopy study, but bioassay results suggested that the S-layer protein of wild B. sphaericus C3-41 and recombinant E. coli BL21 (pET28a/slpC) have no direct toxicity against mosquito larvae. These results should provide information for further understanding of the function of S-layer protein of pathogenic B. sphaericus.
【语种】英文
【第一作者】Hu X.
【通讯作者】Yuan Z
【期刊名称、卷期、页码】Biosci Biotech Bioch,2008,72(5):1257-63
【论文发表时间】2008-01-01 00:00:00
【引文索引类型】SCI
【引文索引号】doi:10.1271/bbb.70747
【学科分类】微生物学

【题目】A Nonribosomal Peptide Synthetase Gene tzw1 Is Involved in Zwittermicin A Biosynthesis in Bacillus thuringiensis G03.
【中文关键词】无
【英文关键词】无
【中文摘要】无
【英文摘要】A 4.20-kb SspI fragment from Bacillus thuringiensis G03 was cloned and sequenced. Sequencing analysis revealed two complete open reading frames (ORF; tzw1 and tzw2), and one incomplete ORF (tzw3) (GenBank accession no. EU293887). Tzw1 encodes a putative nonribosomal peptide synthetase with thiolation and condensation domains localized at the C-termini, whereas tzw2 and tzw3 encode acyl carrier protein and Acyl-CoA dehydrogenase, respectively. To investigate the function of tzw1 in zwittermicin A (ZA) biosynthesis, an in-frame deletion of 1,461 bp within tzw1 was constructed. The mutant abolished ZA production. Complementation of the mutant with cloned tzw1 restored ZA productivity. These results revealed that tzw1 is required for ZA

biosynthesis in B. thuringiensis G03.
【语种】英文
【第一作者】Shao T M
【通讯作者】Huang DaFang
【期刊名称、卷期、页码】Curr Microbiol.2008,57:61-65
【论文发表时间】2008-01-01 00:00:00
【引文索引类型】SCI
【引文索引号】no
【学科分类】微生物学

【题目】Recombinant Bacillus thuringiensis strain shows high insecticidal activity against Plutella xylostella and Leptinotarsa decemlineata without affecting nontarget species in the field.
【中文关键词】无
【英文关键词】Bacillus thuringiensis, bioassay, microbialpopulation variation, nontarget organisms,recombinant strain
【中文摘要】无
【英文摘要】The cry-type gene of wild Bt strain UV17 was identified and a novel cry1Ba gene was cloned. The cry3Aa7 gene, which was highly toxic to coleopteran pests, was introduced into UV17, and a recombinant strain designated as UV173A was obtained. Bioassay results showed that UV173A was not only highly toxic against Plutella xylostella (50% lethal concentration [LC50] = 18?03 lg ml-1), but also against coleopteran Leptinotarsa decernlineata (LC50 = 0?19 mg ml-1). The recombinant strain was then tested in field trials to monitor its spatial variation of population and to investigate the impact on nontarget invertebrates. A recombinant Bt stain UV173A with broad insecticidal spectrum was obtained, and it did not cause adverse effects on the population of nontarget organisms.
【语种】英文
【第一作者】Wang G.
【通讯作者】Huang DaFang
【期刊名称、卷期、页码】Journal of Applied Microbiology,2008,105 :1536 – 1543
【论文发表时间】2008-01-01 00:00:00
【引文索引类型】SCI
【引文索引号】ISSN 1364-5072
【学科分类】微生物学

【题目】Ubi1 intron-mediated enhancement of the expression of Bt cry1Ah gene in transgenic maize (Zea mays L.).
【中文关键词】无
【英文关键词】Bacillus thuringiensis - cry1Ah gene - ubi1 intron - intron-mediated enhancement - insect-resistant transgenic maize
【中文摘要】无
【英文摘要】The cry1Ah gene was one of novel insecticidal genes cloned from Bacillus thuringiensis isolate BT8. Two plant expression vectors containing cry1Ah gene were constructed. The first intron of maize ubiqutin1 gene was inserted between the maize Ubiquitin promoter and cry1Ah gene in one of the plant expressing vectors (pUUOAH). The two vectors were introduced into maize immature embryonic calli by microprojectile bombardment, and the reproductively plants were acquired. PCR and Southern blot analysis showed that foreign genes had been integrated into maize genome and inherited to the next generation stably. The ELISA assay to T1 and T2 generation plants showed that the expression of Cry1Ah protein in the construct containing the ubi1 intron (pUUOAH) was 20% higher than that of the intronless construct (pUOAH). Bioassay results showed that the transgenic maize harboring cry1Ah gene had high resistance to the Asian corn borers and the insecticidal activity of the transgenic maize containing the ubi1 intron was higher than that of the intronless construct. These results indicated that the maize ubi1 intron can enhance the expression of the Bt cry1Ah gene in transgenic maize efficiently.
【语种】英文
【第一作者】Wang Y.
【通讯作者】Huang DaFang
【期刊名称、卷期、页码】Chinese Science Bulletin,2008,53(17):2041-2046

【论文发表时间】2008-01-01 00:00:00
【引文索引类型】SCI
【引文索引号】no
【学科分类】微生物学

【题目】Cloning and characterization of a novel Cry1A toxin from Bacillus thuringiensis with high toxicity to the Asian corn borer and other lepidopteran insects.
【中文关键词】无
【英文关键词】Bacillus thuringiensis　novel cry1Ah gene
【中文摘要】无
【英文摘要】A novel cry1A was cloned from Bacillus thuringiensis strain BT8 and expressed in the B. thuringiensis acrystalliferous mutant HD73 . The gene, designated cry1Ah1, encoded a protein with a molecular weight of 134 kDa. Reverse transcriptase-PCR and Western blotting showed that Cry1Ah was expressed in the host strain BT8. The toxin expressed in HD73 exhibited high toxicity against lepidopteran larvae of Ostrinia furnacalis, Helicoverpa armigera, Chilo suppressalis, and Plutella xylostella. The 50% lethal concentrations (LC50s) were 0.05, 1.48, 0.98 mg g 1 and 1.52 mgmL 1, respectively. The LC50s of Cry1Ah were significantly lower than that of Cry1Ac for H. armigera, C. suppressalis, and O. furnacalis, and lower than that of Cry1Ab and Cry1Ie for Ostrinia furnacalis. The high toxicity against a range of pest species makes this novel toxin a potential candidate for insect biocontrol.
【语种】英文
【第一作者】Xue J.
【通讯作者】Zhang J.
【期刊名称、卷期、页码】FEMS Microbiol Lett,2008,280:95-101
【论文发表时间】2008-01-01 00:00:00
【引文索引类型】SCI
【引文索引号】no
【学科分类】微生物学

【题目】The occurrence of Bacillus cereus, B. thuringiensis and B. mycoides in Chinese pasteurized full fat milk.
【中文关键词】Bacillus cereus　B. thuringiensis　B. mycoides　Occurrence　Pasteurized full fat milk
【英文关键词】Bacillus cereus　B. thuringiensis　B. mycoides　Occurrence　Pasteurized full fat milk
【中文摘要】In 2006, a total of 54 samples of pasteurized full fat milk packaged in cartons were collected in spring and in autumn from chain supermarkets in Wuhan, China. The samples were examined and enumerated by MPN methods strictly according to guidelines laid out in US FDA/CFSAN BAM Chapter 14. Among 102 isolated B. cereus-like bacteria, 92 isolates were identified to be B. cereus, 9 B. thuringiensis and 1 B. mycoides. It was found that the occurrences of B. cereus were 71.4% and 33.3% in spring and in autumn samples respectively and the average count among the positive samples was 11.7 MPN/ml. The PCR detection results revealed that the enterotoxin genes hblA, hblC, hblD, nheA, nheB and nheC occurred in B. cereus isolates with frequencies of 37.0%, 66.3%, 71.7%, 71.7%, 62.0% and 71.7% respectively. Nine B. thuringiensis isolates were also identified from six pasteurized milk samples, and most of them harbored six enterotoxic genes and the insecticidal toxin cry1A gene. The single B. mycoides isolate harbored nheA and nheC genes. The data provides information for further evaluating the effect of B. cereus-like bacteria on food safety of Chinese milk products.
【英文摘要】In 2006, a total of 54 samples of pasteurized full fat milk packaged in cartons were collected in spring and in autumn from chain supermarkets in Wuhan, China. The samples were examined and enumerated by MPN methods strictly according to guidelines laid out in US FDA/CFSAN BAM Chapter 14. Among 102 isolated B. cereus-like bacteria, 92 isolates were identified to be B. cereus, 9 B. thuringiensis and 1 B. mycoides. It was found that the occurrences of B. cereus were 71.4% and 33.3% in spring and in autumn samples respectively and the average count among the positive samples was 11.7 MPN/ml. The PCR detection results revealed that the enterotoxin genes hblA, hblC, hblD, nheA, nheB and nheC occurred in B. cereus isolates with frequencies of 37.0%, 66.3%, 71.7%, 71.7%, 62.0% and 71.7% respectively. Nine B. thuringiensis isolates were also identified from six pasteurized milk samples, and most of them harbored six enterotoxic genes and the insecticidal toxin cry1A gene. The single B. mycoides isolate harbored nheA and nheC genes. The data provides information for further evaluating the effect of B. cereus-like bacteria on food safety of Chinese milk products.

【语种】英文
【第一作者】Zhou G.
【通讯作者】Yuan Z
【期刊名称、卷期、页码】Int J Food Microbiol,2008,121:195-200
【论文发表时间】2008-01-01 00:00:00
【引文索引类型】SCI
【引文索引号】doi:10.1016/j.ijfoodmicro.2007.11.028
【学科分类】微生物学

【题目】间作药材与接种内生真菌对连作花生土壤微生物区系及产量的影响
【中文关键词】花生;连作障碍;药用植物;间作;内生真菌
【英文关键词】peanut;medicinal plant;intercrop;continuous monocropping obstacles;endophytic fungi
【中文摘要】利用盆栽试验研究了药用植物间作及接种内生菌拟茎点霉B3的菌丝对连作花生(Arachis hypogasa)红壤微生物区系及花生产量的影响,以探索花生连作障碍的生物防治措施 结果表明,药材间作和接种B3能够显著减少土壤霉菌数量增加土壤细菌数量和土壤蔗糖酶活性,增加花生超氧化物歧化酶(SOD酶)活性和花生产量。与花生单作相比,茅苍术(Atractylodis Lanceae)京大戟(Euphorbia pekinensis)间作花生产量增加9%-22%,接种 处理花生产量增加 茅苍术京大戟和花生间作处理配合接种 后,花生产量分别较未接种B3处理增加30%和4%。其中茅苍术花生间作配合接种 处理的花生产量最高,比对照(P)花生产量高59%,比单独接种B3处理(PEB3)的花生产量高;京大戟花生间作配合接种B3处理(PEB3)的花生产量比对照增加13%,但不及单独接种B3处理(PB3)这表明茅苍术间作和接种B3具有协同提高花生产量的作用,而京大戟或许对B3的功能发挥有一定抑制作用。
【英文摘要】
【语种】中文
【第一作者】戴传超
【通讯作者】王兴祥
【期刊名称、卷期、页码】生态学报,30(8):2105-2111
【论文发表时间】2010-01-20 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】农学其他学科

【题目】连作花生土壤中酚酸类物质的检测及其对花生的化感作用
【中文关键词】酚酸;花生;连作;化感作用
【英文关键词】Phenolic acids; peanuts; continuous cropping; allelopathy
【中文摘要】研究了南方红壤区不同连作年限花生土壤中酚酸物质的种类、含量,及其对花生生长的影响。结果表明:连作花生土壤中对羟基苯甲酸香草酸和香豆酸随着连作年限的增加而增加,连作10a后3种酚酸总量达11.09mg·kg-1干土,显著高于连作3a和6a的土壤;而土壤中香豆素和苯甲酸含量比较低,且变化没有规律。所有酚酸处理组对花生幼苗的株高和根长表现出抑制作用,对花生幼苗地下部的干鲜重均表现出“低促高抑”的特点。香草酸和香豆酸处理组对花生幼苗地上部的干鲜重表现出低促高抑的特点,其他处理组均表现出抑制作用 花生幼苗根系活力随着酚酸处理浓度的增加而降低,花生幼苗的超氧化物歧化酶活力(SOD)、过氧化物酶活力(POD)、丙二醛含量(MDA)则随着酚酸浓度的增加而增加。与只用茄腐镰刀菌孢子悬液浸泡花生种子的对照相比,加入酚酸后,花生种子的病原菌的感染率随着酚酸浓度的增加而增加,发芽率则随着酚酸浓度的增加而下降。以上结果说明,酚酸物质可以抑制花生幼苗的生长和提高花生的发病率,可能是因为酚酸物质破坏花生细胞膜的完整性而使病原菌入侵,影响花生生长,产生连作障碍。
【英文摘要】
【语种】中文
【第一作者】李培栋
【通讯作者】戴传超
【期刊名称、卷期、页码】生态学报,30(8):2128-2134
【论文发表时间】2010-01-20 00:00:00
【引文索引类型】其他

【引文索引号】
【学科分类】农学其他学科

【题目】我国烤烟中部烟叶硼含量特征研究
【中文关键词】中国烤烟; 中部烟叶; 硼含量;
【英文关键词】flue-cured tobacco of China; middle leaves of tobacco; boron concentration;
【中文摘要】根据对2001至2004年4年来自20个省(市)363个烤烟中部烟叶硼含量的测定,研究分析了我国烤烟中部烟叶硼含量变化特征,结果表明:1)烟叶硼含量平均为29.84 mg.kg-1,变异系数为46.9%;2)不同品种烤烟烟叶硼含量差异极显著,其中K326硼含量最高,为34.61 mg.kg-1,云烟87硼含量最低,为26.13 mg.kg-1;3)不同省(市)烟叶硼含量差异显著,江西省最高,为45.23 mg.kg-1,重庆最低,为17.09 mg.kg-1;4)不同年份烟叶硼含量差异极显著,硼含量和变异有减小的趋势;5)同一烤烟品种K326中部烟叶硼含量在参试省(市)差异极显著。除河南外,其它省(市)K326烟叶硼含量差异不显著。
【英文摘要】Based on 363 samples of middle leaves of tobacco collected uniformly from 2001 to 2004,include 20 main tobacco planting provinces(city) of China,the paper studied the boron concentration and characteristic of variation of middle leaves of tobacco.The results showed: 1) The average boron concentration of tobacco leaves was 29.84 mg · kg-1 in China,with the variation coefficients of 46.9%.2) There was higher significantly difference among the boron concentrations of tobacco leaves in varieties.The boron concent...
【语种】中文
【第一作者】巩永凯
【通讯作者】龙怀玉
【期刊名称、卷期、页码】中国土壤与肥料,06:35-38
【论文发表时间】2008-03-10 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】农业基础学科

【题目】关于我国“数字土壤”建设若干问题的思考
【中文关键词】数字土壤; 土壤数据库; 信息技术;
【英文关键词】Digital soil; Soil databank; Information technology;
【中文摘要】对"数字土壤"的渊源、定义、功能以及如何建设我国的"数字土壤"进行了讨论。"数字土壤"渊源于"数字地球",是土壤学科发展的产物、是土壤科学与现代信息技术和计算机技术相融合的必然趋势,是一种进行土壤科学研究的现代技术体系;"数字土壤"具有管理与提供土壤科学数据、进行空间分析、制作土壤专题图、指导土壤调查、查询与传播土壤信息、构建运用模型、土壤质量预警等功能;历史土壤调查资料是研制我国"数字土壤"的骨干材料;中国需要同时研制不同精度的"数字土壤";"联合共建",是建设我国"数字土壤"的好途径。
【英文摘要】The forming,definition,functions of "digital soil" and the ways to establish Chinese"digital soil" were discussed in this paper.The term of "Digital soil" was derived from "Digital earth",the consequence of soil science and modern information techniques including computer techniques.As a modern system for soil science,the functions of "digital soil" widely involved in managing and providing data,spatial analysis,soil mapping,conducting soil survey,querying and spreading soil information,composing utilizatio...
【语种】中文
【第一作者】龙怀玉
【通讯作者】龙怀玉
【期刊名称、卷期、页码】土壤通报 2007,(6):1041-1045
【论文发表时间】2006-03-13 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】农业基础学科

【题目】GIS技术在非点源污染研究中的应用进展
【中文关键词】地理信息系统; 非点源污染; 空间数据库; 空间分析; 模型;
【英文关键词】Geographic Information System; Non-Point source pollution; Spatial Database; Spatial analysis; Model;

【中文摘要】GIS技术在非点源污染研究中日益得到重视和广泛应用,基于GIS技术的非点源污染模型应用研究已成为非点源污染研究的热点。阐述了GIS在非点源污染研究中应用的必要性,对GIS在非点源污染应用的三个层次即建立空间数据库、提取模型参数和与模型的集成应用进行了介绍,并对今后研究方向进行了探讨。
【英文摘要】GIS technique in the study of non-point source pollution has been receiving increasing attention and widely used in many applications.This paper describes the importance of application of GIS technique in the non-point source pollution,and introduces application of GIS in the non-point source pollution at the three layers,including building spatial databases,extracting model parameters and integrating into application models.Finally,future research directions of application of GIS technique in the non-point...
【语种】中文
【第一作者】雷秋良
【通讯作者】雷秋良
【期刊名称、卷期、页码】土壤通报 2008,39(3):687-693
【论文发表时间】2007-03-08 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】环境科学技术及资源科学技术其他学科

【题目】白粉菌(Erysiphe graminis)侵染诱导表达的小麦糖苷水解酶基因TaGlc2 的克隆与鉴定
【中文关键词】1,3- β -葡聚糖酶; 白粉菌; 真菌侵染; 基因表达; 小麦
【英文关键词】1,3- β -glucanase; Powdery mildew; Fungal inoculation; Gene expression; Wheat
【中文摘要】真菌病害是世界小麦生产中的最重要的病害之一。目前, 在小麦中已经鉴定出一批小麦病菌侵染诱导基因,包括病程相关基因和抗真菌水解酶基因(葡聚糖酶基因和几丁质酶基因)。最近的研究表明, 植物 1,3- β -葡聚糖酶参与对真菌侵染的防卫。本研究从小麦 cDNA 文库中克隆出一个编码小麦 1,3- β -葡聚糖酶的新基因, 命名为 TaGlc2。该基因编码的氨基酸序列与糖苷水解酶基因家族 17 高度同源。采用实时定量 PCR 分析方法对 TaGlc2 基因在白粉菌侵染(Erysiphe graminis)后小麦叶片中的表达模式进行研究, 发现 TaGlc2 基因在白粉菌侵染 6 h 后表达明显增强, 至 24h 达到峰值, 说明该基因受白粉菌侵染诱导表达。获得了 TaGlc2 基因 5'上游调控区序列, 发现存在与病菌侵染响应有关的顺式元件。小麦 TaGlc2 基因在小麦白粉病抗性上可能具有重要作用。
【英文摘要】Fungal diseases cause serious yield losses of wheat worldwide. Up to date, numerous genes involved in the wheat-pathogen response have been identified. These include pathogenesis related (PR) genes and antifungal hydrolases such as glucanase and chitinase genes. Recently, there has been increasing number of studies providing evidence of the potential involvement of 1,3- β -glucanase in defense against fungal infection. In this study we identified a cDNA encoding a 1,3- β -glucanase,designated TaGlc2, from wheat cDNA library. The deduced peptide sequence of TaGlc2 is similar to a glycoside hydrolase family 17. Using real time PCR, the expression pattern of TaGlc2 in wheat seedlings inoculated with powdery mildew pathogen (Erysiphe graminis) was determined. The results showed that TaGlc2 is inducible in response to fungal infection. The 5' genomic region of TaGlc2 was isolated and it contains some cis-elements which are reported to be involved in pathogenesis response.
【语种】中文
【第一作者】孙其信
【通讯作者】孙其信
【期刊名称、卷期、页码】作物学报 2009, 35(5): 786 − 794
【论文发表时间】2009-02-17 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】分子生物学

【题目】Genotypic Differences in Photosynthesis and Dynamic Characteristics of NPQ in Maize
【中文关键词】无
【英文关键词】maize(Zea mays),genotypes,photosynthesis,non-photochemical quenching of chlorophyll fluorescence
【中文摘要】无
【英文摘要】In order to identify the genotypic differences in photosynthesis and energy balance in internal energy balance in internal photosystem in maize (Zea mays L.), the photosynthetic rate (Pn) and some main parameters of chlorophyll fluorescence (Fo/Fv, qP, NPQ and Øp) were measured and the dynamic characteristics of Non-Photochemical Quenching (NPQ) were observed and analyzed

during photosynthetic induction. The results showed that there was marked difference in Pn, but no difference existed between different genotypes in maize in some parameters such as Fv/Fm, qP and Øp, while apparent difference existed in the NPQ and its change characteristics, such as TNPQ, TNPQmax, RNPQ and RNPQmax, the maximum value among all tested genotypes was about 2 times the minimum one. Above all TNPQ and NPQmax were found to be significantly correlated to Pn, which meant that not only NPQ but also its dynamic characteristics such as TNPQ and NPQmax, especially TNPQ might be good index for selecting the high photosynthesis genotype in maize.
【语种】英文
【第一作者】Zhao Ming
【通讯作者】Zhao Ming
【期刊名称、卷期、页码】Asian Journal of plant Sciences 2006,5(4)709-712
【论文发表时间】2006-10-13 00:00:00
【引文索引类型】SCI
【引文索引号】ISSN 1682-1974
【学科分类】农业基础学科

【题目】利用高通量测序技术发现植物小分子RNA研究进展
【中文关键词】高通量测序技术;454-FLX;Solexa;小分子 RNA;微 RNA;小干扰 RNA
【英文关键词】high-throughput sequencing; 454-FLX; Solexa; small RNA; microRNA; siRNA
【中文摘要】小分子 RNA 是一类长约 20~30 个核苷酸的非编码 RNA 分子,其介导的转录后基因调控是植物中的一种新型基因调控机制。它在植物的生长发育和适应外界各种环境胁迫的过程中起着非常重要的作用。植物中小分子 RNA 数量巨大、种类繁多,而高通量测序技术的出现大大加快了它们的发现过程。本文在简要介绍目前已知植物小分子 RNA 的类型及特点的基础上,综合阐述近年来利用高通量测序技术克隆和分析植物小分子 RNA 的研究成果,以期反映当前植物小分子 RNA 的基因组分布规律、功能和进化等方面的最新研究进展。
【英文摘要】Small RNAs are 20-30 nucleotides long non-coding RNAs. Small RNA-mediated post-transcriptional regulation represents a new mechanism of gene regulation and plays important roles in plant growth and development as well as responses to different environmental stresses. In plants, there are tremendous amount of small RNAs of various types. The advance of highthroughput sequencing technology has significantly facilitated their discoveries. In this review, in addition to a brief introduction of small RNA features, the authors attempted to summarize recent progresses in small RNA research using next generation sequencingtechnology and aim to highlight the new insights in their genome organization, function and evolution in plants.
【语种】中文
【第一作者】卫波
【通讯作者】毛龙
【期刊名称、卷期、页码】中国农业科学 2009, 42 (11): 3755-3764
【论文发表时间】2009-03-04 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】分子生物学

【题目】基于J2EE的无公害农产品数字认证系统的设计与实现
【中文关键词】无公害农产品; J2EE; MVC;
【英文关键词】Pollution-Free Agricultural Products; J2EE; MVC;
【中文摘要】为实现无公害农产品认证工作的数字化、标准化,利用UML建模,设计实现了基于J2EE平台轻量级框架Spring+Struts+Hibernate的农产品数字认证系统。该系统能够提供快捷方便的农产品申报、环境检测和农产品数字认证,并且能对申报信息、认证信息和环境检测信息进行电子化存储,实现对申报、认证等信息的高效管理。
【英文摘要】For the realization of digitization,standardization on the Nuisance-Free Agriculture Products,the adoption of UML modeling,the system achieved the digital certification of agricultural products based on J2EE platform lightweight framework "Spring+Struts+Hibernate".System will not only be able to provide fast and convenient to declare agricultural products,environmental testing and certification of agricultural figures,but also be able to carry out the relevant electronic information storage.The system reali...
【语种】中文

【第一作者】郭伟
【通讯作者】马新明
【期刊名称、卷期、页码】中国农学通报[J] 2009,25(13):246-249
【论文发表时间】2009-04-02 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】农艺学

【题目】桃(Prunuspersica)种质资源物候期性状遗传多样性的评价指标探讨
【中文关键词】桃、物候期、遗传多样性、评价、指标;
【英文关键词】Peach、Phenophase、Genetic无diversity、Evaluation、Criteria
【中文摘要】本试验对桃(Prunus无persica)的301~480份种质资源的需冷量、始花期、大量落叶开始期、大量落叶终止期、果实生育期、营养生长期6个性状的遗传多样性进行了统计分析,根据性状在不同区间的频率分布,提出我国桃种质资源物候期性状评价系统的数值分级指标和参照品种,为我国桃种质资源描述系统的数量化、规范化奠定基础。
【英文摘要】he无beginning无of无blooming,无the无period无of无fruit无ripening,无beginning无of无leaf无falling,无ending无of无leaf无falling,无fruit无development无period,无nutrition无growth无period无of无301无to无480无peach无cultivars无were无investigated无at无National无Peach无Genetic无Collection无in无Zhengzhou.无A无kind无of无new无descriptors无and无reference无cultivars无were无given无for无peach无by无statistical无data.无These无descriptors无were无recorded无on无1无to无5无Grade.无In无generally,无two无reference无cultivars无were无given,无one无USA无cultivar,无another无cultivar无which无is无planted无widely无in无China
【语种】中文
【第一作者】王力荣
【通讯作者】王力荣
【期刊名称、卷期、页码】植物遗传资源学报,2006;7(2):144-147
【论文发表时间】2006-06-01 00:00:00
【引文索引类型】其他
【引文索引号】无
【学科分类】园艺学

【题目】核果类果树遗传连锁图谱的研究进展
【中文关键词】核果类果树、遗传连锁图谱、分子标记
【英文关键词】Stone无fruit无tree、Genetic无linkage无map、Molecular无markers
【中文摘要】遗传连锁图谱构建是基因组研究中的重要环节,是基因定位与克隆乃至基因组结构与功能研究的基础。近20a来,分子生物学特别是分子标记技术的飞速发展为高饱和核果类遗传连锁图谱的构建和利用奠定了基础。目前国内外已经公布十几张核果类的遗传连锁图谱,但这些图谱均有不同的缺陷。因此,我们就核果类遗传连锁图谱的构建进展、性状的QTL定位及比较图谱应用进行了综述,并探讨了核果类遗传连锁图谱研究的前景和存在的问题
【英文摘要】Genetic无linkage无map无is无a无key无field无in无genome无research.无It无is无also无the无basic无of无gene无localization,无gene无clone,无further无genome无organization无and无function.无In无decade无years,无fast无development无of无molecular无biology,无molecular无marker无technique无especially,无provides无the无probability无for无high-saturated无genetic无linkage无mapping无of无stone无fruit无trees无and无breeding无of无marker-assisted无selection.无At无home无and无abroad无has无been无published无dozens无of无genetic无linkage无maps无of无stone无fruit无trees,无but无they无have无different无defects.无Therefore无the无research无advances无of无linkage无maps无in无stone无fruit无trees,无several无genes/QTLs(quantitative无trait无loci,无QTL)无and无comparing无mapping无positioning无applications无are无reviewed无in无this无paper.无The无urgent无problems无to无be无solved,无and无prospect无were无also无discussed.
【语种】中文
【第一作者】章秋平
【通讯作者】王力荣
【期刊名称、卷期、页码】果树学报,2009;26(4):532-538
【论文发表时间】2009-06-01 00:00:00

【引文索引类型】其他
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【学科分类】园艺学

【题目】桃品种资源结果习性遗传多样性与评价指标探讨
【中文关键词】桃、结果习性、遗传多样性、评价
【英文关键词】Peach、Fruit setting habits、Genetic diversity、Description
【中文摘要】通过对桃品种资源数据库进行统计分析,展示桃种质资源结果习性性状的遗传多样性,并提出其数值分类指标和参照品种,为桃种质资源描述的规范化、标准化提供依据。以386~411份品种资源为试材,研究了与结果习性有关的4个指标的遗传多样性,结果表明单花芽复花芽比率具有最大的遗传多样性,遗传变异系数达到101%,其次变异系数依次为花叶芽比率37.50%、花芽起始节位32.49%、节间长度12.61%;根据遗传多样性分布状况,提出5级数值分级指标和参照品种,其中3级作为中间级;每个性状的每个等级均有2个参照品种,分别为亚洲品种和欧美品种,且尽量选择育种者公知或广泛栽培的品种。
【英文摘要】There are two description models for peach genetic resources.One was made by IPRGI in 1980,the other made in China in 1990.But the first one is only suitable for cultivars without quantity grades;the latter one has some lists about char-acteristics.Neither is easy to be used for breeders to share genetic resource information.In order to describe the main quanti-tative characteristics,a new system is created in this article.4 kinds of characteristics of 386 to 411 peach cultivars were ob-served and studied from 1986 to 2002 in the National Peach Genetic Collection in Zhengzhou, Henan province. The results showed that the ratio between single and double flower buds had the great genetic diversity, the genetic variant coefficient reached 101%, then flower buds/leaf buds, 37.5%;first flower bud node, 32.49%; node length, 12.61%. Based on the frequency distribution of diversity, grade index and reference cultivars were given by statistical data for peach description. These grade indexes were recorded on 1 to 5 scales. In general, two reference cultivars for each grade were given, one is Oriental cultivar, the other is Euramerican cultivar. The authors try to use these as the reference cultivars, which are grown or used by breeders widely in China.
【语种】中文
【第一作者】方伟超
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【学科分类】园艺学

【题目】基于SSR标记和生物学性状进行桃遗传多样性的比较分析
【中文关键词】桃、花粉形态、变异、演化、扫描电镜
【英文关键词】Peach、Biological traits、Simple sequence repeats(SSR)、Genetic diversity
【中文摘要】利用生物学性状和SSR分子标记对50个桃品种进行遗传多样性研究,并将两种标记所得结果进行比较。14个生物学性状揭示出品种间的遗传相似系数范围为0~0.9,均值为0.4;而13对SSR引物揭示出遗传相似系数范围为0.52~0.97,均值为0.75。对两种标记进行共表型相关系数检测,结果显示两种结果无明显差异。经Mental检测,两种标记之间相关性较差,这可能与形成机理差异大有关。进行聚类和主成分分析,生物学性状方面品种主要分为3个组且与果肉性状相关,而分子方面品种主要分为2组,与地域相关。
【英文摘要】The genetic diversity of 50 peach varieties was studied using 14 biological traits and 13 molecular markers. The mean similarity coefficient of the biological traits was 0-0.9 with the average of 0.4,and the coefficient detected by SSR was 0.52-0.97 with the average of 0.75. There is no evident difference between the cophenetic correlation coefficients of biological and SSR data. Cluster and principal component analysis showed that the tested varieties were divided into 3 groups by phenotypic data related with the origin of the varieties.
【语种】中文
【第一作者】陈巍
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【学科分类】园艺学

【题目】利用SSR 研究不同国家桃育成品种的遗传多样性
【中文关键词】桃、简单重复序列(SSR)、遗传多样性
【英文关键词】Peach (Prunus persica L.)、Simple sequence repeats (SSR)、 Genetic diversity
【中文摘要】利用34对SSR分子标记对来自不同国家的56份桃育成品种进行遗传多样性分析。筛选的13对SSR引物共检测出226个等位基因,其中多态性等位基因为222个。桃群体的平均Nei’s基因多样度为0.224,Shannon遗传多样性表型指数为0.367,说明桃总群体遗传变异较低;基因分化系数为0.081,与AMOVA分析结果8.13%相近,说明2者遗传变异以群体内遗传变异为主;基因流值为5.657,则说明不同国家间桃育成品种交流比较频繁。根据Nei’s基因多样度和Shannon遗传多样性表型指数2指标所得,欧美品种群遗传变异最高,其次为中国,最后为日本。UP-GMA聚类分析结果表明,品种间的遗传距离与系谱关系基本吻合。
【英文摘要】A collection of 56 peach cultivars, originated from different countries, have been screened with 34 SSR primer pairs in order to analyze their genetic diversity. 226 bands were amplified by 13 informative and reliable primers, of which 222 were polymorphic loci. A relatively low level of genetic diversity (Nei s gene diversity 0.224 and Shannon index 0.367) was revealed at population level. A lower level of genetic differentiation was detected among populations with GST (0.081) analysis and analysis of mole
【语种】中文
【第一作者】陈巍
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【学科分类】园艺学

【题目】桃不同果实类型的品质和产量性状的差异研究
【中文关键词】桃、果实类型、品质、产量
【英文关键词】peach、fruit type、quality、yield
【中文摘要】通过对普通桃、蟠桃、油桃、油蟠桃4种果实类型496份品种资源(Prunus persica L.)的主要品质、产量性状的比较分析,目的在于揭示不同果实类型群体的农艺性状特性。结果表明:不同果实类型桃的生育期不存在显著差异。②普通桃与蟠桃、油桃与油蟠桃的比较,果形扁平果实的可溶性固形物、可溶性糖、糖酸比增加;可滴定酸、带皮硬度、去皮硬度、平均单果质量、平均果核质量、核质量/单果质量、产量指数减小。③普通桃与油桃、蟠桃与油蟠桃的比较,果皮无毛果实的可溶性固形物含量、可滴定酸、着色面积、去皮硬度增加;可溶性糖、果皮韧性、平均单果质量、产量指数减小。④油桃与蟠桃比较,油桃的可滴定酸含量、着色面积、平均单果质量和产量指数高于蟠桃。⑤普通桃与油蟠桃比较,油蟠桃可溶性固形物、可溶性糖含量均有显著增加,平均单果质量显著减少
【英文摘要】A comparison of the quality and yield between 496 varieties of plants which produce four different types of peach—normal peach,flat peach,nectarine and flat-nectarine peach,was performed to evaluate the differences in the agricultural characteristics between each type of peach.The results were as follows:(1)No significant difference in growth period was found among these 4 peach types.(2)By comparison,the flat fruit types had higher soluble solids content(SSC)and soluble sugar content in fruits,but lower titratable acid content, firmness with skin, firmness without skin, average fruit weight, pitweight, pitweight/fruitweight and yield (3) Higher content of SSC, titratable acid, red flush degree, firmness without skin and pitweight/fruitweight in glabrous fruit types, but lower soluble sugar content, skin firm, fruit average weight and yield index (4) Nectarine peach had higher titratable acid content, fruit pigmentation, average fruit weight, and yield compared with the flat peach (5) Flat-nectarine peach had significantly higher SSC, soluble sugar content, but significantly lower average fruit weight compared with normal peach.
【语种】中文
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【学科分类】园艺学

【题目】油桃、蟠桃的遗传多效性及育种利用价值探讨
【中文关键词】油桃、蟠桃、遗传多效性、育种价值
【英文关键词】Nectarine、Flat peach、Heritable pleiotropy、Breeding value
【中文摘要】油桃、蟠桃是世界桃育种的重要方向。综述了油桃和蟠桃基因对生长发育的影响。桃果实无毛(油桃)和扁平(蟠桃)基因起源于我国的西北,是质量性状,有毛/无毛、扁平/圆为显性。油桃、蟠桃基因具有广泛的遗传多效性,油桃具有使果实的可溶性固形物、可滴定酸、着色面积、去皮硬度和亚表皮细胞的淀粉粒增加的作用;使可溶性糖、果皮韧性、平均单果质量减少趋势;桃杂合体基因型Gg比纯合体基因型gg的茸毛短。蟠桃具有使果实的可溶性固形物、可溶性糖、糖酸比和亚表皮细胞的淀粉粒增加;使带皮硬度、去皮硬度、平均单果质量、平均果核质量、核质量/单果质量、产量指数减少趋势;油桃和蟠桃基因的这种多效性在油蟠桃中有累加作用。探讨了油桃和蟠桃遗传多效性对生态和对育种的利用价值,提出利用油桃和蟠桃改善果实品质,利用隐性无毛基因(g)增加有毛桃的着色程度、降低茸毛长度,培育短毛品种,培育小果形油蟠桃品种,适当提高我国鲜食品种可滴定酸。
【英文摘要】Diversification of fruit types is one of the peach breeding trends.Heritable pleiotropy of glabrous and saucer shape gene loci from peach were summarized in this article.Glabrous and saucer shape of peach cultivars originated in Northwest China and are qualitative characters.Pubescent to glabrous and saucer to non-saucer shape are dominant characters.Glabrous gene makes higher SSC,higher titratable acidity,higher red flush degree,higher firmness and more starch granule at sub-epidermis cell, but lower soluble sugar contents, lower fruit average mass. Gg(heterozygous gene type) makes fuzz short. Saucer shape makes higher SSC, higher soluble sugar content and more starch granule at sub-epidermis cell but lower titratable acidity, lower flesh firmness, lower average fruit mass and lower yield index. Heritable pleiotropy of glabrous and saucer shape gene have additional effects in flat-nectarine, their breeding value is discussed.
【语种】中文
【第一作者】王力荣
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【学科分类】园艺学

【题目】利用AFLP和RAPD标记构建桃的遗传连锁图谱
【中文关键词】桃、RAPD标记、AFLP标记、遗传连锁图
【英文关键词】Peach、RAPD、AFLP、Genetic linkage map
【中文摘要】为了给进一步研究桃的遗传标记的定位打下基础,以毛桃北京2—7[Prunus persica(L.)Batsch.Beijing2-7]、山桃白花山碧桃[Prunus davidiana(Carr.)Franch.Baihuashanbitao]以及2者的F1代为试材,用RAPD、AFLP标记构建了北京2—7和白花山碧桃的遗传连锁图,分别覆盖221.7 cM(7个连锁群)、1238.8 cM(12个连锁群)。其中北京2—7的连锁图包含19个标记,标记间平均距离为11.7 cM;白花山碧桃的连锁图包含103个标记,标记间平均距离为12.0 cM。
【英文摘要】The biological characteristics of 38 F1 seedlings, which were derived from a cross between Primus persica (L.) Batsch. Beijing 2-7 and P. davidiana (Carr.) Franch. Baihuashanbitao, were studied. The aim was to construct a genetic linkage map of peach nuclear genome. The genetic linkage map of 2-7 was elaborated with a total of 19 loci by using Map-maker. Seven linkage groups covering 221.7 cM of the peach genome were found. The genetic linkage map of Baishanbitao was elaborated with a total of 103 loci by using Mapmaker. 12 linkage groups covering 1238.8 cM of the peach genome were found.
【语种】中文
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【学科分类】园艺学

【题目】适宜制汁用桃品种的初步评价
【中文关键词】桃、制汁、品种、评价、筛选
【英文关键词】Peach、Juice、Cultivar、Evaluation、Screaming
【中文摘要】以31个黄肉桃品种、27个白肉桃品种和2个红肉桃品种为试材,通过对这些品种加工的果汁色泽、风味、香气、异味、果汁均匀状态、可溶性固形物、可滴定酸、成熟期、产量和出汁率等性状进行综合评价,筛选出适宜制汁的优良黄肉桃品种7个,包括NJC108、早黄蟠桃、早黄金、露香、红港、丰黄、金童6号;白肉品种4个,包括雨花露、早凤、郑州11号、白凤;吉林8903是较好的红肉制汁种质材料。
【英文摘要】Juice qualities of 31 yellow peaches,27 white peaches and 2 red flesh peaches were evaluated in color,flavor,aroma,peculiar smell,uniformity,soluble solid content,titratable acidity.At the same time,ripening period,yield index and juice ratio also were considered as important factors to reduce costing.All were in order to scream appreciate cultivars for pressing juice.Finally,7 yellow peaches(NJC108,Zaohuang Pantao,Earlygold,Luxiang,Redhaven,Fenghuang,and Babygold 6),4 white peaches(Yuhualu,Zaofeng,Zhengzhou 11 and Hakuho), and 1 red flesh peach (Jilin 8903) were recommended to growers or could be used as wonderful germplasm.
【语种】中文
【第一作者】王力荣
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【学科分类】园艺学

【题目】‘岩溪晚芦’椪柑果皮与果肉差减cDNA文库的构建及初步分析
【中文关键词】柑橘、抑制性差减杂交(SSH)、cDNA文库、表达序列标签、克隆、差异表达基因
【英文关键词】citrus、suppression subtractive hybridization(SSH)、cDNA library、expressed sequence tag、clone、differentially expressed genes
【中文摘要】以‘岩溪晚芦’椪柑(Citrus reticulata Blanco)成熟果实果皮和果肉为材料,采用抑制性差减杂交技术成功构建了果皮(tester)与果肉(driver)的差减cDNA文库。结果显示:cDNA克隆外源插入片段大小介于100~500bp之间。成功对411个克隆进行了测序,测序结果经与NCBI基因库中序列进行比较,377个EST找到了同源序列,它们分属于126个基因,涉及到色素合成、能量代谢、初级代谢、次生代谢、抗逆防御、蛋白代谢、信号转导、香味形成、果皮软化(衰老)、精油合成、抗氧化等代谢途径和生理生化过程。还有一些基因涉及到三价铁螯合物、反转录转座子gag蛋白、查尔酮合成、硼离子转运、儿茶酚氧位甲基转移酶等功能。功能已知且没有重复的EST共有63个,占总数的49.2%。有5个基因共62个克隆虽在Blast搜索时找到了较高的同源性序列,但功能目前尚未明确。另有34个基因未搜索到同源序列,可能为新发现的基因。
【英文摘要】A cDNA library was successfully constructed via suppression subtractive hybridization between fruit epicarp(experimental group,tester)and pulp(control group,the driver)of Ponkan(Citrus reticulata Blanco).Results showed that most of the clones had inserting fragments which length ranged from 100 bp to 500 bp.Four hundred and eleven ESTs were successfully sequenced and searched against NCBI GenBank,the results indicated that 377 ESTs had significant similarities with known genes.All the ESTs were divided into 126 genes according to the gene annotation. These ESTs were mainly involved in pigment synthesis, energy metabolism, primary metabolism, secondary metabolism, defense against stresses, signal transduction, trascription, flavor formation, oil synthesis, peel softening, antioxidant metabolism etc. There were 63 uni-ESTs which accounted for 49.2% of the total ESTs and another 34 ESTs had no matching homologous sequences found.
【语种】中文

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【学科分类】园艺学

【题目】枳属种质遗传多样性及其与近缘属植物亲缘关系的SSR和cpSSR分析
【中文关键词】枳、SSR、cpSSR、遗传多样性、亲缘关系
【英文关键词】Poncirus trifoliata、SSR、cpSSR、genetic diversity、phylogenetic relationship
【中文摘要】应用核基因组SSR和叶绿体基因组SSR,分析了枳属28份枳及枳杂种种质的遗传多样性及其与近缘属植物的亲缘关系。核基因组SSR分析表明普通枳的遗传差异明显,22个SSR位点的平均多态性信息含量(PIC)为0.51,平均期望杂合度为0.52,表明中国枳种质资源具有较丰富的遗传多样性。在遗传距离约0.16时,22份普通枳可以分成4个类型。叶绿体基因组SSR分析则发现普通枳间基本无差异,表明以母系遗传为特征的枳叶绿体基因组相对保守。富民枳与普通枳无论是在核基因组还是在叶绿体基因组上均存在较大差异,支持富民枳种的地位。SSR和cpSSR结合使用可比较准确地鉴定枳杂种。
【英文摘要】Twenty-eight accessions of trifoliate orange(Poncirus trifoliata Raf.),hybrids and seven accessions of its relatives,were analyzed for genetic diversity and phylogenetic relationship using nuclear and chloroplast SSR markers.Average PIC(polymorphism information content)value of 0.51 and average expected heterozygosity of 0.52 were given according to nuclear SSR results.Twenty-two common trifoliate orange accessions could be divided into four groups with a genetic distance of 0.16.It indicates a rich genetic diversity of China trifoliate orange germplasm cpSSR revealed no difference among common trifoliate orange accessions which indicates a relatively conservative chloroplast genome. Four cpSSR loci were found different between Fumin (P. polyandra S Q. Ding et al) and common trifoliate orange Fum in trifoliate orange is genetically distant from common trifoliate orange, from its hybrids as well as relatives. Therefore it could be regarded as a true species. The combined application of nuclear and chloroplast SSR could serve a more accurate way to identify trifoliate orange hybrids.
【语种】中文
【第一作者】龚桂芝
【通讯作者】洪淇斌
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【题目】利用SSR标记鉴定柚和杂柑品种
【中文关键词】柚、 杂柑、SSR、品种鉴定、指纹图谱
【英文关键词】Pummelo (Citrus grandis (L.) Osbeck)、Hybrid citrus、SSR、Cultivar identification、 Fingerprinting
【中文摘要】采用SSR技术,从105对柑桔SSR引物中,筛选出10对在柑桔大类品种间多态性位点丰富、带型清晰、重复性好的SSR引物。利用其中5对SSR引物对5个柚和7个杂柑品种DNA进行PCR分析,共扩增出35条谱带,其中27条谱带呈现多态性,引物多态性带纹比例均在60%以上。扩增片断的大小集中在100bp~500bp之间。分别针对柚和杂柑品种筛选出两个高效的引物组合(SSR17、SSR15、SSR16、SSR12与SSR17、SSR18、SSR16),利用这两组引物成功构建出了我国主推的5个柚和7个杂柑品种的特征指纹图谱。并应用指纹图谱自动识别软件Gel2.0对各品种指纹图谱进行识别,建立了相应品种的指纹模式图谱库。
【英文摘要】Simple sequence repeat(SSR)was used to construct the fingerprinting of mainly cultivars of pummelo(Citrus grandis(L.)Osbeck)and hybrid citrus in China.A total of ten primer pairs with stable and repeatable polymorphism that can identify closely related citrus cultivars were screened out from 105 SSR primer pairs.In this paper,five pummelo and seven hybrid citrus cultivars were analyzed by using five of these SSR markers.As a result,a total of 35 bands were detected,27 of which were polymorphic.The polymorphic rate of each primer pair was beyond 60%. The bands range in size was from 100bp to 500bp. The fingerprinting of five pummelo and seven hybrid citrus cultivars was constructed by using two particularly high efficiency primer groups (SSR17、SSR15、SSR16、SSR12 and SSR17、SSR18、SSR16) respectively. Furthermore, the mode fingerprinting datebase of citrus cultivars was

established by fingerprint analysis system-Gel 2.0.
【语种】中文
【第一作者】雷天刚
【通讯作者】陈善春
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【题目】早金香梨抗黑星病鉴定及组织结构与抗病关系研究
【中文关键词】梨、早金香、梨黑星病、叶片组织结构
【英文关键词】pear、Zaojinxiang、pear scab、leaf tissue structure
【中文摘要】对早金香梨新品系进行了人工接种梨黑星病病菌试验,鉴定结果为早金香梨高抗梨黑星病,为以后梨抗病育种和资源利用提供了依据。同时对其叶片组织结构进行了研究,发现早金香梨叶片的栅栏组织为2层、较厚,海绵组织致密,表皮蜡质也较厚,推断这些特性决定了黑星病菌分生孢子不易侵入叶片内部,起到了抵抗黑星病菌的作用,因而早金香梨不易感病,为梨抗黑星病育种提供了理论依据。
【英文摘要】By artificial inoculated Pear Scab,Zaojinxiang pear showed high resistance to Pear Scab,whichp rovide the basis for pear resistance breeding and resource utilization in the future.Also,its leaf tissues tructure was studied,the result was that the palisade tissue was consisted of two layers and was very thick,thes pongy parenchyma was tight,and the epidermis wax was thick,too.Therefore,it was inferred that theseC haracteristics determine the pear scab can t invade into the leaves of Zaojinxiang easily,and they play a role in resisting pear scab.That provide theoretical basis for pear breeding in resistance of pear scab.
【语种】中文
【第一作者】姜淑苓
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【题目】“寒富”和“新嘎拉”苹果多倍体纯系的创制
【中文关键词】苹果、多倍体
【英文关键词】无
【中文摘要】正‘寒富'是我国拥有自主知识产权的抗寒、优质、高产的大苹果品种,且具有自花结实的特性;‘寒富'的育成使得我国优质大苹果的适宜栽植范围向北推移了200多公里。‘新嘎拉'原产新西兰,为‘嘎拉'的浓红型芽变,肉质细脆,汁液多,香气深,品质上等,是世界苹果杂交育种中广泛采用的核心亲本之一。通过花药培养的方法创造这两个品种的纯系新种质,对于提高育种效率和遗传理论研究均具有重要意义。
【英文摘要】无
【语种】中文
【第一作者】田义
【通讯作者】丛佩华
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【题目】日光温室内凯特和9803杏光合特性及去果对源叶光合作用影响

【中文关键词】日光温室;　杏;　光合特性;　源库关系;
【英文关键词】greenhouse;　apricot;　photosynthetic characteristics;　sink-source relationship;
【中文摘要】以辽宁省主栽的凯特杏和9803杏为试材,利用LI-6400光合测定仪,对其光合特性和去果对源叶光合作用的影响进行比较研究。结果表明:温室内凯特杏叶片的净光合速率(Pn)日变化呈单峰曲线,9803杏叶片的净光合速率日变化呈双峰曲线,气孔限制是9803杏光合"午休"的主要调节因素;2个杏品种光合作用对光照强度和CO2浓度等单一生态水平变化的响应均可以用二次方程来描述;9803杏的光补偿点和光饱和点均比凯特杏低,且光量子效率比凯特杏高,而凯特杏的CO2补偿点和CO2饱和点均比9803杏低,且羧化效率和CO2饱和时光合能力比9803杏高,由此可见,凯特杏和9803杏在温室中栽培各有优势;去果处理对上位新梢源叶的影响比下位新梢大,对上位新梢第7、8位源叶影响最大。
【英文摘要】Photosynthetic characteristics of two apricot cultivars katy and 9803 were studied comparatively with the LI-6400 photosynthetic instrument in greenhouse.The results were as follows: In greenhouse,the curve of diurnal change of net photosynthetic rate in leaves of katy showed single peak.The diurnal change of net photosynthetic rate in leaves of 9803 was a bimodal curve regulated by stomatal conductance.The responsive curve of photosynthesis in two apricot cultivars leaves to the change of photosynthetic active radiation, concentration of CO2 could be described with quadratic equation. The light compensation point and light saturation point of 9803 were lower than those of katy, and its apparent quantum yield was higher. The CO2 compensation point and CO2 saturation point of katy were lower than those of 9803, and its carboxylation efficiency and maximal net photosynthetic rate were higher.This showed that there was diffent predominance in two apricot cultivars in greenhouse. The effect of defruiting on net photosynthetic rate of source leaf at upper new shoot was greater than that of source leaf at lower new shoot. The effect of defruiting on net photosynthetic rate of source leaf at seventh and eighth node of upper new shoot was greatest.
【语种】中文
【第一作者】孙猛
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【题目】植物关联分析的研究进展及其在茶树分子标记辅助育种上的应用前景
【中文关键词】茶树、数量性状、连锁不平衡、关联分析
【英文关键词】tea plant(Camellia sinensis)、quantitative traits、linkage disequilibrium(LD)、association analysis
【中文摘要】茶树是中国重要的经济和饮料作物,由于自交不亲和和长期的异花授粉使其高度异质杂合,选育一个良种耗时长,提高早期选育效率和准确鉴定目标性状成为茶树育种家关心的重大问题之一。关联分析是研究分子标记或候选基因与目标性状关系的一种新方法,现已广泛应用于植物等位基因发掘、功能基因验证以及功能性标记的开发和应用等各方面的研究中,为茶树遗传育种研究提供了新思路。此文主要介绍了关联分析的基本原理、策略和及其在植物中的应用现状,并且探讨了其在茶树分子标记辅助育种研究上的应用前景。
【英文摘要】Tea is an important economic and beverage crop in China.The tea plant(Camellia sinensis(L.)O. Kuntze)is self-incompatible,long-term allogamy contributes to high heterogeneity.It takes a long time for the successful breeding of a new tea cultivar.It is very important to improve the efficiency of early appraisal of individual selection and the evaluation accuracy of target traits in the breeding procedure.Association analysis was a new approach of studying the relationship of molecular markers and/or candidate genes with target phenotypic traits. It was widely used to in allelic gene mining, functional gene appraisal, generation and application of functional markers in plant breeding, which also might be a new promising approach for the breeding of tea plant. In this paper, the basic statistic principles, strategies, characteristics and current successful applications of association analysis in plants were reviewed. Finally, we also discussed the potential application of association analysis in the marker assisted selection of tea breeding.
【语种】中文
【第一作者】乔婷婷
【通讯作者】陈亮
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【学科分类】园艺学

【题目】茶树简化EcoTILLING技术的建立
【中文关键词】茶树、CEL Ⅰ、 EcoTILLING、SNP
【英文关键词】tea plant、CEL Ⅰ、EcoTILLING、SNP
【中文摘要】EcoTILLING(Ecotype Targeting Induced Local Lesions IN Genomes)可快速检测自然群体中的SNP(Single Nucleotide Polymorphism)等DNA变异。第一次建立了简化的茶树EcoTILLING技术体系:首先筛选扩增目的基因的特异PCR引物;然后通过CEL Ⅰ酶切PCR产物优化实验,确定酶切时间20 min、10×buffer组成为250 mmol/L Tris-HCl(pH7.4)、150 mmol/L KCl、15 mmol/L MgSO4、4 μg/mL BSA和0.04%Triton x-100,反应温度为47.5℃,酶量为1.8 μL CJE(Celery Juice Extract)/10 μL反应体系时,酶切的谱带信号较强、特异性高;初步确定合适的非变性聚丙烯酰胺凝胶电泳检测条件为凝胶浓度5%、上样量4~5 μL、有效分离长度要达到15 cm。利用上述简化的EcoTILLING对6份茶树种质870 bp的PPO基因片段实现了分型,经测序验证酶切产生的谱带与6份种质内部或不同种质间的SNP位置吻合。
【英文摘要】EcoTILLING(Ecotype Targeting Induced Local Lesions In Genomes) had been used as a SNP(Single Nucleotide Polymorphism) discovery tool to examine DNA variation in natural populations.A simple EcoTILLING technique for tea plant was established.Firstly,specific PCR primers for the amplification of the target gene were screened out.Then through comparison,a fine CEL Ⅰ enzyme digestion could be resulted using 20 min with 10× buffer containing 250 mmol/L Tris-HCl(pH7.4),150 mmol/L KCl,15 mmol/L MgSO4,4 μg/mL BSA and 0.04%Triton x-100, and 1.8 μL CJE(Celery Juice Extract)/10 μL reacting solution at 47.5℃. Moreover, a good picture could be obtained when using 5% polyacrylamide gels(PAGE), adding 4-5 μL digesting products in PAGE electrophoresis. The 870bp fragment within the PPO (Polyphenol Oxidase) gene of 6 tea germplasms was distinguished from each other using the simplified EcoTILLING. The CEL Ⅰ digested bands were ascertained that according to the position of SNP in or between the 6 accessions through sequencing verification.
【语种】中文
【第一作者】金基强
【通讯作者】陈亮
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【学科分类】园艺学

【题目】我国茶树无性系品种遗传多样性和亲缘关系的ISSR分析
【中文关键词】茶树、品种、ISSR、遗传多样性、亲缘关系
【英文关键词】Tea、Cultivar、ISSR、Genetic diversity、Genetic relationship
【中文摘要】利用ISSR分子标记分析了我国36个主要茶树无性系品种的遗传多样性和亲缘关系。结果表明20个ISSR引物在供试品种中共扩增出368条谱带,其中多态性条带占总条带的99.7%,引物的多态性信息指数(PIC)平均达0.90。供试品种的基因多样性(H)和Shannon信息指数(I)分别为0.23和0.38。茶区内茶树品种的遗传多样性低于总体水平,江南和华南茶区主栽无性系品种的多样性高于西南茶区。AMOVA分析表明区域因素引起的变异(占5.6%)远小于品种因素(占94.4%)。供试品种间的相似系数介于0.58~0.84,平均为0.69,显示出我国茶树主栽品种的遗传基础已相对比较狭窄。ISSR聚类分析表明,中国台湾品种金萱与大陆品种的遗传距离较远,形成单独的个类。35个大陆品种聚成一个大类群,其中除宜红早形成独立的个类外,其他品种又聚为3个亚类群。亲缘关系树状图在分子水平上显示了我国主要茶树无性系品种间的亲缘关系,为今后茶树育种亲本的选配提供了理论依据。
【英文摘要】Tea is an important beverage crop in China.In recent years many clonal tea cultivars have been developed and widely replaced the diverse traditional tea population.Our knowledge on genetic diversity and relationship of these clonal tea cultivars is critical to guide tea breeding,but still limited.In this study,the genetic diversity and relationship of 36 clonal tea cultivars which mainly cultivated in China were analyzed with ISSR markers.Total 368 bands were generated with 20 ISSR primers,of which 367(99.7%)were polymorphic. The average polymorphism information content(PIC) was 0.90, Nei's gene diversity(H) and Shannon's information index(I) were 0.23 and 0.38, respectively. Diversity of clonal cultivars within tea area was lower than that of in whole nation. The levels of diversity in Tea Area of Jiangnan and South China were higher than those of Southwest China. Analysis of molecular variance(AMOVA) showed that variance component among cultivars(94.4%)was far higher than that among regions(5.6%). The genetic similarity among all the tested clonal cultivars ranged from 0.58 to 0.84, averaging 0.69, which indicated that the genetic basis

was relatively narrow. The cluster analysis based on ISSR markers revealed that cultivar “ Jinxuan ” from Chinese Taiwan was of the farthest distance with others from Chinese mainland in the dendrogram. Thirty-five clonal cultivars from Chinese mainland were clustered into a major group, and they could be further classified into three sub-groups except cultivar “ Yihongzao ” .The genetic relationship of all 36 tea cultivars revealed by the ISSR dendrogram would be of great help to accurately select the parents in tea breeding programs.

【语种】中文
【第一作者】姚明哲
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【题目】基于EST-SSR 的西南茶区茶树资源遗传多样性和亲缘关系分析
【中文关键词】茶树、EST-SSR、遗传多样性、亲缘关系
【英文关键词】Tea、EST-SSR、Genetic polymorphism、Genetic relationship
【中文摘要】利用本实验室cDNA文库测序所获得的茶树EST序列为主自行开发的24对和他人7对共31对EST-SSR引物,对60份西南茶区茶树资源进行了遗传多样性和亲缘关系分析。结果表明,西南茶区茶树资源的遗传多样性非常丰富。31对引物共检测到等位位点137个,每个引物为2　8个之间,平均4.42个。遗传多态性信息含量(PIC)在0.09　0.85之间,平均达0.63。观测杂合度(Ho)在0.07　0.94之间,平均值为0.53。UPGMA聚类表明,按相似系数为0.39可将参试的60份种质资源分为五大类。聚类结果在分子水平上显示了我国西南茶区种质资源间的亲缘关系,为以后种质资源保存和新品种选育提供一定的启示。
【英文摘要】In total, 31 pairs of EST-SSR primers, among them 24 were newly developed from the ESTs of tea plant and 7 were designed from references, were used to analyze the genetic polymorphism and genetic relationship of 60 tea germplasms from Tea Area in Southwest China. The results showed that the genetic polymorphism of tea germplasms in the Tea Area in Southwest China were very abundant. Totally 137 alleles were amplified using 31 EST-SSR primers, the number of alleles per primer ranged from 2 to 8, on average of 4.42. The polymorphism information content(PIC) varied from 0.09 to 0.85 and the observed heterozygosity(Ho) ranged from 0.07 to 0.94, on average of 0.63 and 0.53, respectively. The 60 accessions were classfied into 5 groups based on the UPGMA method with the coefficient at 0.39. The genetic relationship of all 60 accessions revealed by the EST-SSR analysis would not only be of great help to conserve the tea germplasms but also give some useful implications for tea breeding.
【语种】中文
【第一作者】刘振
【通讯作者】陈亮
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【题目】杏属植物光合作用研究进展
【中文关键词】杏属植物、光合作用、进展
【英文关键词】Armeniaca Mill.、Photosynthesis、Advances
【中文摘要】综合有关文献从杏属植物材料的选择,光合作用的日变化,季节变化、品种、叶龄、叶位、源库关系、叶绿素及叶绿素荧光等内部因素和光照、温度、二氧化碳、水分、矿质营养等外部因素几个方面对杏属植物光合作用的特点进行了分析总结,并提出扩大杏属植物材料的选择范围、开展光合作用的机理、水分胁迫下光合作用的机理、光合生理生态等方面是今后杏属植物光合作用研究的重点与方向。
【英文摘要】The basic photosynthetic characteristics of apricot,interior and exterior factors affecting the photosynthesis,including the choice of cultivars,the diurnal and seasonal variation of net photosynthetic rate,the characteristics of cultivar,leaf age,the leaves at different positions,source-sink relationship,the chlorophyll content and chlorophyll fluorescence parameters,the light

intensity,temperature,CO2 concentration,water status and mineral nutrition affecting the apricot photosynthesis are summarized in this paper. The emphasis and the directions for photosynthesis research on apricot in the future are suggested.
【语种】中文
【第一作者】孙猛
【通讯作者】刘威生
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【题目】普通杏(Prunus aemeniaca L.)初级核心种质资源的构建及评价
【中文关键词】普通杏(Prunus; armeniaca; L.)、初级核心种质、聚类、遗传多样性
【英文关键词】Apricot(Armeniaca vulgaris L.)、Primary core collection、Clustering、Genetic diversity
【中文摘要】核心种质的构建不仅能够提高种质圃资源的保存效率、方便资源的管理,而且有利于种质资源的深入研究和种质创新。以国家果树种质熊岳李杏圃中保存的447份普通杏为材料,利用40个农艺性状的鉴定数据,对核心种质构建的几种聚类取样方案进行比较,明确了杏初级核心种质构建的最佳取样方案。在按品种类群分组的基础上,采用S策略经过多次聚类抽样,获得由111份种质材料组成的初级核心样本集,占总体样本比例25%。对该初级核心种质遗传多样性进行检测和评价,结果表明本研究所构建的初级核心种质能够很好地保留普通杏种质资源的遗传多样性。
【英文摘要】The core collection has been well accepted as a useful way to improve the efficiency of crop germplasm evaluation,conservation and utilization.In order to characterize and utilize the germplasm more efficiently for further apricot improvement,the available morphological and agronomic data of apricot were analyzed for developing a core collection.Total of 447 accessions of apricot(Armeniaca vulgaris L.) germplasm collected by the Xiongyue National Germplasm Repository for Plums and Apricots and 40 agronomic traits of them were used for studying the optimal clustering method for primary core collection of apricot. The whole collection was grouped by origin locations, then based on the data of the agronomic traits, the accessions in each origin location were clustered by SPSS program. The primary core collection consisting of 111 accessions, which was 25% of the whole collection, were randomly selected by Improved Least Distance Stepwise Sampling strategy (ILDSS) from this group whole collection accessions. The genetic diversity of primary core collection were compared with the whole collection, which showed that the genetic variation in the primary core collection was well presented in the whole collection based on comparison of diversity index of the involved traits.
【语种】中文
【第一作者】章秋平
【通讯作者】刘威生
【期刊名称、卷期、页码】果树学报,2009;26(6):819-825
【论文发表时间】2009-06-01 00:00:00
【引文索引类型】其他
【引文索引号】1009-9980(2009)06-819-07
【学科分类】园艺学

【题目】李、杏优良新品种的落花落果规律及保花保果措施研究
【中文关键词】李; 杏; 落花落果; 保花保果;
【英文关键词】Plum;Apricot;Flower and fruits dropping;Flowers and fruits protecting
【中文摘要】研究李、杏优良新品种的落花落果规律和保花保果措施。[方法]大蕾期调查花朵数,每隔4~5d观测1次花果数量的变化情况,直到果实采收期。于盛花期喷施营养元素、激素。[结果]李树在盛花后第5天开始落花,第8天达落花高峰;杏树在盛花后第4天开始落花,第8天达落花高峰,不同品种存在差异,极早熟品种骆驼黄杏盛花后第4天即达落花高峰,并持续5d。李树在盛花后第24天达落果高峰;杏树晚熟品种在盛花后第24~25天达落果高峰,早熟品种在盛花后第22天达落果高峰。大石早生李以花期喷硼砂或赤霉素骆驼黄杏以花期喷赤霉素或1200倍稀土串枝红杏以花期喷赤霉素或1200倍稀土、磷酸二氢钾、硼砂,丰仁杏、国仁杏均以花期喷磷酸二氢钾或硼砂提高坐果率效果显著。[结论]李、杏树在果实采收前均会出现2次落花落果高峰,为花后4~8d和花后22~25d。于盛花期喷施营养元素或激素可显著提高坐果率。

【英文摘要】The objective of this study were to observe the regularity of flower and fruit drop in plums and apricots and to protect flower and fruit setting. [Methods] Flower and fruit drop of plums and apricots were investigated from large flower bud stage to fruit harvest period,in every 4-5 d,and flowers of plums and apricots were sprayed with nutrients and hormones. [Results] Flower of plums started to drop after full flowering 5d and reached the peak after full flowering 8d; flower of apricots started
【语种】中文
【第一作者】刘宁
【通讯作者】刘威生
【期刊名称、卷期、页码】安徽农业科学, 2010;38(9):4477-4478
【论文发表时间】2010-06-01 00:00:00
【引文索引类型】其他
【引文索引号】517—6611(2010)09—04477—02
【学科分类】园艺学

【题目】杏新品种——国强的选育
【中文关键词】杏;新品种;国强;中熟;优质
【英文关键词】Apricot;New cultivar;Guoqiang;Mid-maturity;High quality
【中文摘要】国强是以串枝红(原产河北巨鹿)为母本,金太阳为父本,通过有性杂交育成的中熟、优质杏新品种。 该品种果实卵圆形,平均单果质量 46.3 g,最大果质量可达 76.8 g,完熟时果皮橙色,有红晕,果肉橙色,肉质硬脆,硬度 5.3kg · cm-2,可溶性固形物 14.8%,可溶性糖10.869%,可溶性酸1.673%,维生素 C 56.68 mg · kg-1,果汁中多,风味酸甜,离核,苦仁。 果实发育期 80 d,熊岳地区 7 月 10 日前后成熟。
【英文摘要】Guoqiang, a new high quality, middle ripening apricot cultivar, was derived from the cross of Chuanzhihong ×Sungold. Its fruits are ovate in shape,weighing 46.3 g on average, but reaching up to 76 g. The skin is orange yellow and covered with red on 30% surface. The orange flesh is firm-crisp, juicy with firmness of 5.3 kg · cm-2,containing soluble solids of 14.8% , soluble sugar of 10.869% , titratable acidity of 1.673% , Vc content of 56.68 mg · kg-1 and a pleasant aromatic sour- sweet flavor, freestone bitter almond. The fruit development period is about 80 d.
【语种】中文
【第一作者】张玉萍
【通讯作者】刘威生
【期刊名称、卷期、页码】果树学报,2010;27(3):473-474
【论文发表时间】2010-06-01 00:00:00
【引文索引类型】其他
【引文索引号】1009-9980(2010)03-473-02
【学科分类】园艺学

【题目】葡萄种质抗葡萄根瘤蚜田间鉴定
【中文关键词】葡萄根瘤蚜 葡萄产业 葡萄种质 抗性鉴定
【英文关键词】无
【中文摘要】采用田间自然鉴定法对我国常见的13份葡萄种质材料的葡萄根瘤蚜抗性进行了鉴定。结果表明,2个葡萄砧木品种SO4、5BB对葡萄根瘤蚜表现为抗;5个中国野生种山葡萄、刺葡萄、毛葡萄、葵茵、华东葡萄,4个鲜食品种巨峰、京亚、红地球、克瑞森无核和2个砧木品种华佳8号、贝达对葡萄根瘤蚜表现敏感。说明葡萄根瘤蚜的再度发生对我国野生葡萄种质的生存和葡萄产业的健康发展构成巨大威胁。
【英文摘要】无
【语种】中文
【第一作者】孙海生
【通讯作者】刘崇怀
【期刊名称、卷期、页码】中国果树,2008;(3):44-46
【论文发表时间】2008-06-01 00:00:00
【引文索引类型】其他
【引文索引号】无

【学科分类】园艺学

【题目】抗病无籽西瓜新品种郑抗5503 的选育
【中文关键词】无籽西瓜;抗病;新品种;郑抗5503
【英文关键词】Seedless watermelon;Resistant ; New variety;ZhengKang 5503
【中文摘要】郑抗5503是一个抗病的无籽西瓜新品种,母本是新诱变的抗病四倍体自选单系2002S1和2002S2的杂交种,父本是自选单系2002S58。 2004~2006年参加了河南省西瓜区域和生产试验, 2007年4月通过河南省农作物品种审定委员会审定。全生育期105 d,果实发育期32 d,单瓜质量5~6kg,最大可达8 kg。果实圆形,底色浅绿上覆墨绿齿条,果肉红色,中心可溶性固形物含量为11.0%左右。果皮较硬,较耐贮运,高抗枯萎病。
【英文摘要】ZhengKang 5503 is a new resistant seedless watermelon variety, The female parent is a F1 hybrid cross between new resistant tetraploid inbred line 2002S1 and 2002S2 , the male parent is a inbred line 2002S58 . the check in Henan seedless watermelon variety regional and production test during the period of 2004-2006, and approved by Henan Crop Variety Approval Committee in April 2007. The plant growth period is about 105 days, the fruit growth period is about 32 days. The mass per fruit is 5-6 kg and 8 kg to the max.. The fruit is spherical, the ground colour is light green , and the over colour is dark green narrow stripes, red flesh with about 11.0% central soluble solids content. It's high resist to fusarium wilt, and the fruit can be stored a longer time because of its slightly tough rind.
【语种】中文
【第一作者】马双武
【通讯作者】马双武
【期刊名称、卷期、页码】中国瓜菜,2009;(2):13-15
【论文发表时间】2009-06-01 00:00:00
【引文索引类型】其他
【引文索引号】无
【学科分类】园艺学

【题目】高温胁迫下番茄叶片差异表达基因的cDNA—AFLP分析
【中文关键词】番茄;高温胁迫; cDNA AFLP;差异表达基因
【英文关键词】tomato; S olanum lycopersicum ; heat stress; cDNA AFLP; differentially expressed genes
【中文摘要】为鉴定番茄高温胁迫响应基因,应用cDNA AFLP技术,以番茄耐热品系Saladette幼苗为研究
【英文摘要】In order to identify genes involved in heat shock responses in tomato, cDNA AFLP app roach
【语种】中文
【第一作者】刘志勇
【通讯作者】杜永臣
【期刊名称、卷期、页码】园艺学报,2008;35(7):1011-1016
【论文发表时间】2008-06-01 00:00:00
【引文索引类型】其他
【引文索引号】0513-353X (2008) 07-1011-06
【学科分类】园艺学

【题目】利用分子标记筛选源于野生多毛番茄的高可溶性固形物的基因
【中文关键词】番茄;可溶性固形物; CAPS; 分子标记辅助选择
【英文关键词】tomato; soluble solid content; CAPS marker; marker-assisted selection(MAS)
【中文摘要】TA1218是野生多毛番茄(Lycopersicoum hirsutum) LA1777 的一个近等基因系,带有 LA1777 第1染色体的含高可溶性固形物基因(QTL)的长 1.2cM 的染色体片段。研究以 TA1218 与栽培番茄(L.esculentum)骨干系 9706、F1代及回交一代(BC1)为材料,对该染色体片段进行了 AFLP 分析,并对 QTL 附近的 4 个 RFLP 标记进行了 CAPS 标记的转化研究,共获得了 2 个CAPS 标记 TG161 和 TG237。对 BC1群体进行遗传鉴定、可溶性固形物含量和其它农艺性状的综合分析,获得了8个比TA1218 中的外源染色体片段更短的番茄材料,其中 3 个含 TG161 的阳性标记的单株和1 个含 TG237 阳性标记的单株的可溶性固形物含量高,而且综合农艺性状优良,可作为新的高可溶性固形物种质用于番茄遗传育种。
【英文摘要】TA1218 is a near isogenic line in the Lycopersicon esculentum cv. E6203 background and carries a 1.2 cM introgression at the bottom of chromosome 1 from L. hirsutum LA1777. It has been demonstrated that this segment contains QTL increasing soluble

solid content (SSC). Molecular markers were developed spanning the 1.2 cM introgression by AFLP and CAPS. Two RFLP markers, TG161 and TG237, were converted to CAPS. A total of 80 BC1 plants were derived from a backcross between TA1218F1×9706 and screened with the markers TG161 and TG237. Eight independent recombinant plants, which contained a segment shorter than 1.2 cM respectively, were identified. Four recombinant plants showed a significant increase in soluble solids and also had good agronomic characters, indicating that these materials can be used for improving tomato qualities.
【语种】中文
【第一作者】徐明磊
【通讯作者】杜永臣
【期刊名称、卷期、页码】农业生物技术学报;2007,15 (1): 81-84
【论文发表时间】2007-06-01 00:00:00
【引文索引类型】其他
【引文索引号】1006-1304(2007)01-0081-04
【学科分类】园艺学

【题目】北京部分地区茄子黄化萎蔫植株的病原菌及其生物学特性
【中文关键词】茄子;植株黄化萎蔫;萎病菌;黄萎病菌
【英文关键词】0
【中文摘要】从北京部分地区萎蔫的茄子植株上分离到两种类型病原菌:茄子枯萎病菌 (Fusa rium oxysporum f. sp.m elongenae)和黄萎病菌 (V erticillium dah liae) ,并对其生物学特性进行了初步研究。结果表明,茄子枯萎病菌、黄萎病菌在PSA培养基上菌丝最适生长温度为20~25°C, pH 6~7;枯萎病菌在PDA培养基上菌丝层厚且致密,黄萎病菌在VBC培养基上菌丝生长迅速但菌落稀薄;枯萎病菌氮源以蛋白胨为最佳,黄萎病菌碳源以蔗糖为最好,氮源以蛋白胨为最好。
【英文摘要】无
【语种】中文
【第一作者】陈钰辉
【通讯作者】连勇
【期刊名称、卷期、页码】中国蔬菜,2007;11:16-19
【论文发表时间】2007-06-01 00:00:00
【引文索引类型】其他
【引文索引号】无
【学科分类】园艺学

【题目】低温下茄子单性结实特性的研究
【中文关键词】茄子;单性结实;授粉方式;果实发育;花粉活力
【英文关键词】Eggp lant; Parthenocarpy; Pollination m ethods; D evelopm ent of fruit; Pollen vitality
【中文摘要】以茄子单性结实品系D - 55、D - 56和D - 62,非单性结实品系52 (CK1) 和60 (CK2) 及其杂
【英文摘要】The exp ression of eggp lant parthenocarp ic gene and the form ation and developm ent of parthenocarp ic fruits at natural low temperatu re were investigated by d ifferent po llination m ethods and po llen vitalities w ith p arthenocarpy lines D - 55 , D - 56 , D - 62 , non-parthenocarpy lines 52 (CK1) and 60(CK2) , and F1,hybrids (lines 53 , lines54 , lines 59 and lines 61) . The resu lts showed that the pathenocarp y character was contro lled by a pair of dom inant nuclear genes comp letely exp ressed at the average lowest temperature of 12.8°C, and that the fruits developed no rm ally w ith p arthenocarp ic rate of 100 % and fru it setting rate of 76.9 % - 100 %. The developm en t of parthenocarp ic fruit was unaffected by pollination m ethods and removing stigm as. A t low temperature the po llen germ ination rates of parthenocarpy and unparthenocarpy lines were low w ith 1.88 % to 7.29 % and unrelated w ith the fo rm ation of parthenocarpy.
【语种】中文
【第一作者】张映
【通讯作者】刘富中
【期刊名称、卷期、页码】中国蔬菜,2009 ;(2) : 16 - 20
【论文发表时间】2008-06-01 00:00:00
【引文索引类型】其他

【引文索引号】000-6346 (2009) 02-0016-05
【学科分类】园艺学

【题目】西双版纳黄瓜群体遗传多样性的SSR分析
【中文关键词】黄瓜;西双版纳黄瓜; SSR;遗传多样性;群体
【英文关键词】cucumber; Cucum is sa tivus L.var.xishuangbannanesis; genetic diversity; SSR; population
【中文摘要】西双版纳黄瓜 (Cucum is sa tivus L.var.x ishuangbannanesis Q i et Yuan)是我国特有的黄瓜变
【英文摘要】Xishuangbanna cucumber (Cucum is sativus L.var.x ishuangbannanesis Q i et Yuan) is a special variation in our country. Simp le sequence repeat (SSR) analyses were conducted to assess the genetic,diversity of 30 germplasm resources collected in Xishuangbanna prefecture in 1979 and 1980, which showed that relatively abundant genetic diversity existed in Xishuangbanna cucum ber polymorphic loci, Nei ,s gene diversity (H) and Shannon inform ation index (I) of 273 samp les were 92.86% , 0.1818 and 0.2972, respectively. The indexes of genetic diversity of 30 germplasm showed that the genetic variation among germplasm was 54.06% and that within germplasm was 45.94%. The genetic diversity of No.17 germplasm was the highest among 30 germplasm (H = 0.1376, I = 0.2032, percentage of polymorphic loci = 37.21%). C luster analysis showed that the result of classification of most germp lasm was consistent w ith fruit skin color and flesh color. Among 5 populations according to accession source, the genetic diversity of J inghong population was the highest, who se polymorphic loci, H value and I value were 76.19% ,0.1562 and 0.2516 respectively. Genetic identity of 5 populations was between 0.9071 and 0.9889. C luster analyses suggest that the difference of genetic background existed in 5 populations with different collecting source. The coefficient of genetic differentiation (Gst) and gene flow (Nm) were 0.2201 and 1.7718, which indicated that the genetic differentiation was relatively low, with relatively larger gene flow in C1 sativus L.var.x ishuangbannanesis.
【语种】中文
【第一作者】沈镝
【通讯作者】李锡香
【期刊名称、卷期、页码】园艺学报,2009;36(10):1457-1464
【论文发表时间】2009-06-01 00:00:00
【引文索引类型】其他
【引文索引号】0513-353X (2009) 10-1457-08
【学科分类】园艺学

【题目】不同类型西双版纳黄瓜果实成熟期营养成分分析
【中文关键词】西双版纳黄瓜; 胡萝卜素; 叶黄素; 维生素 C; 可溶性糖
【英文关键词】Cucum is sativus L var x ishuangbannanesis Q i etYuan; carotene; Lutein; Vitam in C; Soluble sugar
【中文摘要】西双版纳黄瓜 (Cucum is sativus L var xishuangbannanesis Q ietYuan)是我国特有的黄瓜变种, 老瓜果肉橙黄是区别于普通黄瓜的主要特征之一。本文以不同类型西双版纳黄瓜为研究对象, 分析果实成熟期主要营养成分及其变化规律。结果显示, 18份西双版纳黄瓜老瓜的平均 胡萝卜素含量为 106 58mg /kgDW, 叶黄素 0 48mg/kgDW, Vc 4 96mg /100g, 可溶性糖1.97% , Ca 173.21m g /kg, F e 1.28mg /kg, M g 121.89m g /kg, P 339.67m g /kg, Zn 1.47m g / kg。不同种质的 胡萝卜素含量差异较大, 变异范围 1 34~ 261 55mg /kgDW, 变异系数 67 68% 。随着果实成熟期的延长, 胡萝卜素和 胡萝卜素含量呈显著增高的趋势, 而叶黄素含量明显下降。在果实成熟期未检测到番茄红素。 胡萝卜素积累是西双版纳黄瓜果肉颜色形成的主要原因。
【英文摘要】X ishuangbanna cucum ber(Cucum is sa tivus L var x isbhuangbannanesis Q i et Yuan) is one variation found only in China Orange flesh o f m ature fru it w as one o f the most important characteristics obviously different from common cucumbers. In this study, the nutrit ion com ponents of X ishuangbanna cucum ber germplasm resources were analyzed during m aturat ion. The results show ed that the average content o f 18 X ishuangbanna cucumbers were as follow ed: caro tene 106 58mg /kgDW, lutein 0 48m g /kgDW, Vc 4 96 m g /100g, so luble sugar 1 97% , C a
【语种】中文
【第一作者】沈镝
【通讯作者】李锡香
【期刊名称、卷期、页码】植物遗传资源学报,2009;10(4):594-598
【论文发表时间】2009-06-01 00:00:00
【引文索引类型】其他

【引文索引号】无
【学科分类】园艺学

【题目】西双版纳黄瓜种质资源的形态鉴定和亲缘关系研究
【中文关键词】西双版纳黄瓜;形态性状;鉴定;亲缘关系
【英文关键词】Cucum is sativus L.var.x ishuangbannanesis; Morphological character; Identification;
【中文摘要】通过对30份西双版纳黄瓜种质资源5个质量性状和13个数量性状的形态鉴定。结果显示通过对30份西双版纳黄瓜种质资源5个质量性状和13个数量性状的形态鉴定。结果显示: 30份西双版纳黄瓜种质在形态水平上具有一定的遗传多样性。与性型分化和侧枝发生相关的5个数量性状的差异较大,变异系数较高。子叶长等8个性状差异不明显。基于形态性状的聚类分析结果, 29份种质可分为5组,分组结果与其重要农艺性状基本吻合.
【英文摘要】Morphological characterization and evaluation were conducted to assess the genetic diversityin 30 Cucum is sativus L.var.x ishuangbannanesis germplasm. Identification of 5 qualitative and 13 quantitative characters suggest that there was relatively abundant genetic diversity in X ishuangbanna cucumber at morphological level. 5 quantitative characters related w ith sex differentiation and lateral branch development showed great difference. Based on above data, the result of cluster analysis expressed that 29 germplasm could be divided into 5 group s, which as basically consistent with important morphological characters.
【语种】中文
【第一作者】沈镝
【通讯作者】李锡香
【期刊名称、卷期、页码】中国蔬菜,2010;(2):21-27
【论文发表时间】2010-06-01 00:00:00
【引文索引类型】其他
【引文索引号】1000-6346 (2010) 02-0021-07
【学科分类】园艺学

【题目】葫芦科蔬菜种质资源对南方根结线虫的抗性评价
【中文关键词】葫芦科;种质资源;南方根结线虫;抗性;评价
【英文关键词】Cucurbitaceae; Germplasm resources; Meloidogyne incognita; Resistance; Identification
【中文摘要】根据不同种质的来源地、农艺性状等背景信息,从国家蔬菜种质资源中期库中选取具代表性的444份主要瓜类作物地方品种,分属葫芦科7个属的13个种或变种,采用病土接种法进行苗期根结线虫抗性鉴定,得出了不同葫芦科作物对南方根结线虫的抗性分布范围。忽略基因型差异,不同作物的平均病级指数从小到大的顺序为:冬瓜、西瓜、丝瓜、节瓜、苦瓜、越瓜、甜瓜、菜瓜、瓠瓜、黄瓜、中国南瓜、印度南瓜、美洲南瓜。通过抗性鉴定,共获得27份抗根结线虫种质(病级指数1~2) 包括12份冬瓜、3份苦瓜、7份丝瓜和5份西瓜。
【英文摘要】According to the basic information such as origin, agricultural characters of different germplasm ,444 representative domestic cultivars, belonging to 13 species o r varieties, 7 genus of cucurbitaceae respectively, were selected as experimental materials to identify their resistance to knot nematode using the inoculation method of infected soil. Results showed the resistance distribution of different cucurbit crop s. Omitting the discrepancy of different genotype, the average disease indexes in the same crop were in turn of wax gourd, watermelon, towel gourd, chiehqua, balsam pear, oriental pickling melon, melon, bottle gourd, cucumber, pumpkin, w intersquash, summ er squash. Through identification, 27 accessions of germplasm with resistance to root knot nematode were obtained, including 12 accessions of wax gourd, 3 accessions of balsam pear, 7 accessions of towel gourd and 5 accessions of watermelon.
【语种】中文
【第一作者】沈镝
【通讯作者】李锡香
【期刊名称、卷期、页码】植物遗传资源学报,2007;8(3):340-342
【论文发表时间】2007-06-01 00:00:00
【引文索引类型】其他
【引文索引号】无
【学科分类】园艺学

【题目】黄瓜核心样本构建方法初探

【中文关键词】黄瓜;种质;取样比例;取样策略;核心样本; RAPD
【英文关键词】Cucumber; Germp lasm; Samp ling rate; Samp ling strategy; Core collection; RAPD marker
【中文摘要】对来自不同国家或地区的90份代表性黄瓜种质进行了RAPD分析,并利用其数据对构建黄瓜核心样本的方法进行了探讨。在聚类分析的基础上,分别按初选核心样本的10%、15%、20%、25%、35%和45%抽取核心样本,通过对它们的多态位点数、丢失位点数和遗传多样性指数的比较,认为25%左右是构建黄瓜种质核心样本较为理想的比例;另外经过对组内随机取样法、最大离差度法和最大遗传距离法3种不同抽样方法的比较,认为最大遗传距离法较为适合用RAPD数据构建黄瓜核心样本。进一步的验证表明,按上述方法构建的核心样本能比较好地代表初选核心样本,同时也不能忽视保留样本的作用.
【英文摘要】The genetic diversity of 90 cucumber (Cucum is sativus L.) accessions from different countriesor regions was detected by RAPD analysis. The methods of establishing the cucumber core collection based on RAPD data were studied. Firstly, six co re collections were individually established at different sampling rate of 10% , 15% , 20% , 25% , 35% and 45% from the original collection. The various core collections were compared w ith the original collection in the number of polymorphic loci, number of lost loci and genetic diversity index. The results showed that 25% was more ideal for developing cucumber core collection in this study. Secondly, three sampling strategies (random sampling method, maxim al deviation method, and maximal genetic distance method) were compared. The result demonstrated that the strategy of maximal genetic distancewas better than others in establishing cucumber core collection with RAPD data. Further, it was verified that the core collection developed according to the sampling rate and strategy determined above could well re resent the original collection, but at the same time, the reserve collection could not be neglected in germplasm conservation and utilization
【语种】中文
【第一作者】张广平
【通讯作者】李锡香
【期刊名称、卷期、页码】园艺学报,2006;33(2):260-265
【论文发表时间】2006-06-01 00:00:00
【引文索引类型】其他
【引文索引号】0513-353X (2006) 02-0260-06
【学科分类】园艺学

【题目】黄瓜渐渗系对霜霉病抗性的筛选鉴定
【中文关键词】黄瓜; 渐渗系; 霜霉病
【英文关键词】无
【中文摘要】分别采用温室苗期人工接种和田间成株期鉴定分析评价来源于栽培黄瓜和野生酸黄瓜种间杂交后代的 20份渐渗系对霜霉病的抗性, 筛选到具有霜霉病抗性的 6份黄瓜渐渗系材料, 对黄瓜抗霜霉病育种具有重要意义。比较两次接种结果, 发现苗期抗性和成株期抗性显著相关, 说明通过苗期接种能够鉴定黄瓜对霜霉病的抗性。
【英文摘要】无
【语种】中文
【第一作者】欧阳柳
【通讯作者】陈劲枫
【期刊名称、卷期、页码】江苏农业科学,2008;4:130-132
【论文发表时间】2008-06-01 00:00:00
【引文索引类型】其他
【引文索引号】1002- 1302(2008) 04- 0130- 03
【学科分类】园艺学

【题目】黄瓜及其近缘种对南方根结线虫的抗性及酶响应变化的研究
【中文关键词】黄瓜; 甜瓜属; 近缘种; 南方根结线虫; 抗性; 酶
【英文关键词】cucumbe;r Cucum is; related species; M eloidogyne incognita; resistance; enzyme
【中文摘要】选取 6份黄瓜品种和 2份近缘种 (非洲角和酸黄瓜) 进行了南方根结线虫病抗性鉴定, 2份近缘野生种高抗南方根结线虫病, 6份黄瓜品种为感病类型。接种前后根系酶活性与病情指数相关性分析表明, 超氧化物歧化酶 (SOD)、过氧化物酶 (POD)、苯丙氨酸解氨酶 (PAL) 活性变化与其病情指数分别呈显著正相关 (r= 0 8278*)、极显著负相关 (r = - 0 9679* *) 和显著负相关 (r = - 0 8499*) 。 POD同工酶电泳分析表明, 抗病材料酸黄瓜较未接种对照增加了 3条酶带 (相对迁

移率 R f= 0 126, 0 188,0 944), 而感病材料北京截头只增加了 1条弱带 (R f= 0 396)。 SOD、 POD 及 PAL 活性水平可作为甜瓜属作物抗根结线虫病鉴定的生化指标及常规抗性鉴定方法的补充。

【英文摘要】The eight Cucum is germplasm s w ere selected for evaluation of their resistance to the root knotnematodesM eloidogyne incognita. T he results show ed that the wt o Cucum is wild relatives were highly resistant to M eloidogyne incognita, and the six varieties of cucumber w ere all susceptib le. T he correlation analysis between the rates of changes o f superoxide dismutase (SOD), peroxidase (POD) , phenylalan ineamm onialyase (PAL) in roots before and after inoculation and disease index for Cucum is species tested was perfored.The results show ed that there w as a sign if icant positive correlation of SOD (r = 0 8278*) , highly significant negative correlation o f POD (r = - 0 9679* *) and significant negative correlation of PAL (r = - 0 8499*)associated with the disease index, respectively. POD isoenzym e electrophoresis analysis showed that there were three m ore enzyme bands (R f= 0 126, 0 188, 0 944) in the resistant genotype C. hystrix , but only one weak band (R f= 0 396) in the susceptible genotype Beijing Jietou when compared to noninoculated control. The level of SOD, POD and PAL activities can be used as the biochemical markers and the supplement for the conventional method of evaluation for resistance to the root knot nematodes in Cucum is species.

【语种】中文

【第一作者】叶德友

【通讯作者】陈劲枫

【期刊名称、卷期、页码】园艺学报,2009;36(12):1755-1760

【论文发表时间】2009-06-01 00:00:00

【引文索引类型】其他

【引文索引号】0513-353X (2009) 12-1755-06

【学科分类】园艺学

【题目】黄瓜游离小孢子培养诱导成胚和植株再生

【中文关键词】黄瓜;小孢子培养;胚状体;植株再生

【英文关键词】cucumber; microspore culture; embryoid; plant regeneration

【中文摘要】以10个不同基因型黄瓜为试材进行游离小孢子培养,通过对成胚条件的系统研究,从‘ 7447 ’和‘ Poinsett97 ’中获得了子叶形胚和再生植株。研究结果表明:基因型和小孢子发育时期是限制黄瓜游离小孢子成胚的关键因子。不同品种间胚状体产量差异显著,每皿产胚1.5~33.4个。单核靠边期是进行黄瓜游离小孢子培养的最佳时期。低温预处理有利于胚状体的诱导, 4°C预处理2~4 d为宜,以处理2 d的胚状体产量最高。外源激素在诱导胚状体时并非必需,但低浓度外源激素 (0.5 mg • L- 1 2, 4-D、 0.2 mg • L- 1 6-BA)能促进小孢子成胚。NLN和B5两种基础培养基在诱导胚状体上无显著差异。子叶形胚易分化成苗,而其它类型的胚状体未能获得再生植株.

【英文摘要】Isolated microspore culture in cucumber was studied by using 10 different varieties of cucumber. Cotyledonary embryoids and plantlets were obtained from ‘ 7447 ’ and ‘ Poinsett97 ’ genotypes for the first time. The results showed that genotype and the developmental stage of m icro spore were the key factors in embryo id induction. The embryoid yield was different significantly among different genotypes. Embryo id yield per culture dish varied from 1.5 – 33.4. The late uninucleate stage of micro spore was found optimum for isolated microspore culture in cucumber. Cold pretreatment (4°C)for 2 - 4 days also promoted embryoid induction, while the highest embryoid yield was obtained form micro sporepretreated at 4°Cfor 2 days. The results also indicated that low concentration of exogenous hormones (0.5 mg • L- 1 2, 4-D and 0.2 mg • L- 1 6-BA) were conductive to embryogenesis, whereas NLN and B5 medium had no significant difference on embryoid induction. The regenerated plantlets were obtained only from cotyledonary embryoids and no plantlet was produced from the embryoids at other developmental stages.

【语种】中文

【第一作者】詹 艳

【通讯作者】陈劲枫

【期刊名称、卷期、页码】园艺学报,2009;36 (2) : 221-226

【论文发表时间】2009-06-01 00:00:00

【引文索引类型】其他

【引文索引号】无

【学科分类】园艺学

【题目】黄瓜种质资源单性结实性评价

【中文关键词】黄瓜;种质资源;单性结实;评价
【英文关键词】cucumber; germplasm; parthenocarpy; evaluation
【中文摘要】在春季日光温室条件下,对75份黄瓜种质资源的单性结实性进行了评价。结果表明: 75份材料的单性结实率在0~100%呈连续分布,其中强单性结实材料40份,占53.3% ,中等单性结实材料24份,占32% ,弱单性结实材料11份,占14.7%。其中的24份品种资源中,强单性结实品种20个,占83.3% ,其余为中等单性结实。单性结实性强弱表现为坐果率的差异,不同种质资源无籽果实与有籽果实的单瓜质量和瓜形指数基本相似。单性结实性一般随着节位升高而增强,其评价工作可侧重于20节内的低节位。
【英文摘要】Parthenocarpy of 75 cucumber germplasm and cultivars was evaluated under greenhouse condition in sp ring season. The results showed that the parthenocarpy percentage of 75 accessions was continuously distributed from 0 to 100%. W hile 40 accessions were found strongly parthenocarpy (53.3%) , 24 were medium (32%) and 11 were weakly parthenocarp ic (14.7%). Twenty out of the 24 cultivars were found as strong parthenocarpy (83.3%) , and the rest was midparthenocarpy. The degree of parthenocarpy was expressed by the fruit set capability, and the fruit weight and fruit shape index of the seedless fruit p resent a good similarity w ith that of the seeded. The cucumber plants get stronger parthenocarpic with the nodes increase and the best evaluation should be done under 20 th nodes.
【语种】中文
【第一作者】闫立英
【通讯作者】陈劲枫
【期刊名称、卷期、页码】园艺学报,2009; 36 (7) : 975 - 982
【论文发表时间】2009-06-01 00:00:00
【引文索引类型】其他
【引文索引号】0513-353X (2009) 07-0975-08
【学科分类】园艺学

【题目】雄性不育系配制的甘蓝新品种及其繁育技术
【中文关键词】雄性不育系 繁育技术 新品种 中国农业科学院蔬菜花卉研究所 甘蓝 配制 自交不亲和系 胞质不育系
【英文关键词】无
【中文摘要】直到20世纪90年代,世界各国育成的甘蓝一代杂种,几乎都是采用自交不亲和系途径育成的。21世纪初,一些国家利用雄性不育系配制的甘蓝新品种开始面市。我国于20世纪70年代开始进行甘蓝雄性不育系的研究,90年代末至今,已分别采用显性核基因雄性不育系和胞质不育系途径配制出一批甘蓝新品种,并通过国家或省(区、市)级审定,在各地区推广,这些新品种的特点是杂交率达100%,整齐度好,深受生产者和市场的欢迎。本文主要介绍中国农业科学院蔬菜花卉研究所近年用雄性不育系配制出的7个已通过审定的新品种的主要特征特性及其繁育技术要点
【英文摘要】无
【语种】中文
【第一作者】方智远
【通讯作者】方智远
【期刊名称、卷期、页码】长江蔬菜,2007;11:32-34
【论文发表时间】2007-06-01 00:00:00
【引文索引类型】其他
【引文索引号】无
【学科分类】园艺学

【题目】一个结球甘蓝DH群体主要农艺性状的遗传效应分析
【中文关键词】结球甘蓝;DH群体;农艺性状;主基因+多基因;遗传分析
【英文关键词】Brassica oleracea var. capitata;DH population;agronomy trait ;mixed major gene and polygene and genetic model; and inheritance analysis
【中文摘要】采用游离小饱子培养方法,构建了一个甘蓝F1(642X42-5) 的D H群体,利用该D H群体重复试验数据建立 了结球甘蓝主要农艺性状的数量性状 主基因+多基 因混合遗传模型,分析了结球甘蓝8个主要农艺性状的遗传效应。结果表明,除开展度没有主基 因只有多基因存外,其余7个性状均符合2对主基因+多基因遗传模型。其中,数量性状 主基因的遗传率中最 高的是最大外叶柄 长,为90.44%,最大外叶宽次之,为67.22%;外短缩茎长和中心 柱长的主基因遗传率较高,分别为 58.6 2 % 和56.0 0 %;叶球高主基因遗传率最低,为20.30%,其次为最大外叶长和株高,分别为23.32%和31.74%;多基因遗传率中最高的

是叶球高度,为49.80%;开展度环境效应方差 占总表现型方差的81.35%,受环境影响最大,而外叶柄长的环境效应方差只占总表现型方差的9.56%,受环境影响最小

【英文摘要】The segregation analysis method of identifying mixed major genes and polygenes by using a doubled haploid (DH) derived from F1 microspore culture of cross between 624 and 24-5 was conducted to study the inheritance of 8 agronomic traits in cabbage .Except the plant sprending showed a model polygenes , the other inherentices of the 7 traits showed the models two major genes plus polygenes. The largest petole length had the highest heritablility of major genes of 90.44%,the heribility of the largest leave width was 67.22%,basic stem length and core length had a lower heritability of major genes of major genes of 58.62% and 56.00%,head height had the lowest heritability of major genes of 20.30%,the next are the largest leave length and plant height of 23.32% and 31.74%,respectively . Head height had the highestheritability of polygenes of the 49.80%. The influence of enviorenment on trait of the plant spreading was the best ,the envionmental variance was 81.35% was phenotypic variance .The influnence of enviroment on trait of the petiole length of was the least ,the enviromental variance was 9.56% of phenotypic variance.

【语种】中文

【第一作者】缪体云

【通讯作者】刘玉梅

【期刊名称、卷期、页码】园艺学报,2008;35 (1): 59-64

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【引文索引类型】其他

【引文索引号】0513-353X(2008)01-0059-06

【学科分类】园艺学

【题目】结球甘蓝耐裂球性状的配合力及遗传力研究

【中文关键词】结球甘蓝;耐裂球性状;配合力;遗传力

【英文关键词】Cabbage; Splitting resistance characteristic; Com bining ability; Heritability

【中文摘要】按照Griffing双列杂交方法Ⅳ,选用6个结球甘蓝骨干自交系配制15个杂交组合,进行耐裂球性状的配合力及其遗传力分析。结果表明:基因加性效应和非加性效应对耐裂球性状均起重要作用,且以加性效应为主,随着田间持续生长时间的延长其加性效应所占比例增加, GCA方差在总遗传方差中所占比例大,GCA / SCA值大于1,且差异达显著水平。选择耐裂球材料时,应着重一般配合力的选择,且应重视在早期世代进行选择。

【英文摘要】According to Griffing Ⅳ method, 15 cross combinations involving 6 backbone parents were made to analyze the combining ability and heritability of splitting resistance characteristic in cabbage (Brassica oleracea var.capitataL.) . The results showed splitting resistance characteristic was controlled by additive effect and non additive effect, but mainly by additive effect. The percentage of additive effect increased with the prolongation of field duration. GCA (general combining ability) variance accounted for a large proportion in the total genetic variance, and the mean square ratio of GCA and SCA was greater than 1 , which also had significant difference. For splitting resistant breeding, the GCA should be focused on, and early generation selection also should be emphasized.

【语种】中文

【第一作者】庄 木

【通讯作者】张扬勇

【期刊名称、卷期、页码】中国蔬菜,2009;(2):12-15

【论文发表时间】2009-06-01 00:00:00

【引文索引类型】其他

【引文索引号】1000-6346 (2009) 02-0012-04

【学科分类】园艺学

【题目】甘蓝类蔬菜小孢子再生植株染色体倍性与气孔保卫细胞叶绿体数相关性研究

【中文关键词】甘蓝;青花菜;芥蓝;气孔保卫细胞;叶绿体数;倍性鉴定

【英文关键词】Brassica oleracea var. capitata; Brassica oleracea var. italica; Brassica alboglabra Bailey; stomatal guard cells;chloroplast number; identification of ploidy

【中文摘要】【目的】研究甘蓝类蔬菜游离小孢子再生植株的染色体倍性与气孔保卫细胞叶绿体数的相关性,为甘蓝类蔬菜提供一种快速、简易、经济、实用而又可靠的倍性鉴定方法。【方法】采用分布型分析和 t 测验,对结球甘蓝、青花菜和芥蓝不同倍性的小孢子再生植株的气孔保卫细胞叶绿体数进行统计分析。以根尖染色体计数法和田间形态学观察法的倍性鉴定结果,对叶绿体数分界法的可靠性进行验证。【结果】同一倍性植株上的不同叶片间及同一叶片的不同部位间

,气孔保卫细胞叶绿体数平均值及变异幅度非常接近。同一小孢子再生植株群体内的不同倍性植株的叶绿体数平均值差异极显著。不同倍性植株间的气孔保卫细胞叶绿体数均呈正态分布。本研究提出了一种根据甘蓝类蔬菜气孔保卫细胞叶绿体数进行染色体倍性鉴定的方法,即气孔保卫细胞叶绿体数≤10 的为单倍体,10<叶绿体数≤15 的为二倍体,>15 的为多倍体。该方法经花期形态学观察和根尖染色体计数法验证,其吻合率达 93.93%,且此倍性鉴定方法稳定,不受植株生长环境等外界因素影响。【结论】甘蓝类蔬菜游离小孢子再生植株的染色体倍性,可于幼苗期根据气孔叶绿体数目的多少进行鉴定,而且此倍性鉴定方法简单、快捷、经济而又可靠。

【英文摘要】【Objective】 The relationship between the ploidy level of microspore-derived plants and chloroplast number in stomatal guard cells was studied in cabbage, broccoli and Chinese kale.【Method】 Distribution statistics analysis and t-test were used to perform statistical analysis on chloroplast number of different ploidy levels in those stomatal guard cells mentioned above, and morphology identifying and chromosome counting were used to test accuracy of counting chloroplast number in stomatal guard cells. 【Result】 The chloroplast average number in stomatal guard cells was very similar among the different leaf positions on the same plant and among the different locations in the same leaf, while the chloroplast number varied significantly among the different ploidy stoma in the same variety. All the distributions of the chloroplast number in different ploidy stoma were normal distribution fitted. A correlation has been established between ploidy and chloroplast number in the stomatal guard cells. In every single stoma of microspore-derived plants, the chloroplast number for a haploid should not be more than 10, that for diploids should be 11 to 15, and polyploids should be more than 15. The accuracy of this method for identification of different ploidy plants was 93.93%. Further more, the accuracy of this method was reliable and did not vary with the plants growth conditions. 【Conclusion】 Therefore, the chromosome ploidy of plants derived from microspore culture in cabbage, broccoli and Chinese kale can be identified by simply counting the chloroplast number in stomatal guard cells.

【语种】中文

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【学科分类】园艺学

【题目】甘蓝耐裂球性与叶表面微形态及细胞组织结构的关系研究

【中文关键词】结球甘蓝;裂球;叶表面微形态;细胞组织结构;扫描电镜

【英文关键词】Cabbage; Head splitting; Leaf epiderm is; Cell structure; Scanning electron microscopy

【中文摘要】从细胞学水平上探讨影响甘蓝裂球的原因,为甘蓝耐裂性材料的选育和新品种的育成提供理论依据,并为甘蓝耐裂性鉴定指标的制定提供依据。运用扫描电子显微镜对4份耐裂性不同的甘蓝叶表面微形态及细胞组织结构进行比较观察。结果表明:甘蓝球叶表皮细胞为无规则型,气孔为卵圆形或长椭圆形。材料间下表皮微形态存在较显著的差别:耐裂材料的垂周壁上有明显的波状嵴,平周壁上有加厚的条纹状角质层纹饰,保卫细胞四周角质层褶皱较多、起伏较大,表皮细胞上覆盖有大量的粉状或颗粒状蜡质。易裂材料的垂周壁呈沟槽状下陷,平周壁上角质层光滑,保卫细胞四周角质层较平坦。耐裂材料的叶肉细胞层数多,排列紧密,间隙小。易裂材料叶肉细胞层数少,排列松散,间隙大。耐裂材料与易裂材料在球叶表面微形态及细胞组织结构上表现显著差异。

【英文摘要】The research explored the reason for cabbage head splitting based on cytology to provide the theoretic basis for selection of splitting tolerant materials and development of new varieties, and also laid the foundation for splitting assessment index. The electron microscope scanning was used to observe leaf epidermal structures and tissue characters of 4 cabbage cultivars which differ in splitting resistance. The epidermal cells were anomo shaped,the stomata were mostly focused in the low epiderm is and stomatal apparatus were ovate or elliptical. The significant differences existed in lower epiderm is among materials: in 2 splitting resistant cultivars, their anticlinal walls had clearly sinuous ridges and the periclinal walls had equal thick ornamentations of cuticles; the defensive cells were rounded cuticles of projected ridges, and epidermal cells were covered w ith dense powder. In splitting susceptibility cultivars, the anticlinal walls sink in and form groove, and the cuticles in periclinal walls were more smooth; the stoma were rounded smooth cuticle. In splitting tolerant cultivars, mesophyll cells arranged tightly and small gap between cell, and mesophyll cells had loose structure and big space between cell in splitting susceptible ones. All thedata indicated that there were distinctive differences in surface micro configuration and tissue characters of leaf between splitting resistant varieties and splitting susceptible varieties.

【语种】中文

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【学科分类】园艺学

【题目】黄瓜种质核心样本构建方法初探
【中文关键词】黄瓜;种质;取样比例;取样策略;核心样本; RAPD
【英文关键词】Cucumber; Germplasm; Sampling rate; Sampling strategy; Core collection; RAPD marker
【中文摘要】对来自不同国家或地区的90份代表性黄瓜种质进行了RAPD分析,并利用其数据对构建黄瓜核心样本的方法进行了探讨.在聚类分析的基础上,分别按初选核心样本的10%、15%、20%、25%、35%和45%抽取核心样本,通过对它们的多态位点数、丢失位点数和遗传多样性指数的比较,认为25%左右是构建黄瓜种质核心样本较为理想的比例;另外经过对组内随机取样法、最大离差度法和最大遗传距离法3种不同抽样方法的比较,认为最大遗传距离法较为适合用RAPD数据构建黄瓜核心样本.进一步的验证表明,按上述方法构建的核心样本能比较好地代表初选核心样本,同时也不能忽视保留样本的作用.
【英文摘要】The genetic diversity of 90 cucumber (Cucum is sativus L.) accessions from different countriesor regions was detected by RAPD analysis. The methods of establishing the cucumber core collection based on RAPD data were studied. Firstly, six co re collections were individually established at different sampling rate of 10% , 15% , 20% , 25% , 35% and 45% from the original collection. The various core collections were compared with the original collection in the number of polymorphic loci, number of lost loci and genetic diversity index. The results showed that 25% was more ideal for developing cucumber core collection in this study. Secondly, three sampling strategies (random sampling method, maxim al deviation method, and maximal genetic distance method) were compared. The result demonstrated that the strategy of maximal genetic distance was better than others in establishing cucumber core collection with RAPD data. Further, it was verified that the core collection developed according to the sampling rate and strategy determined above could well rep resent the original collection, but at the same time, the reserve collection could not be neglected in germplasm conservation and utilization.
【语种】中文
【第一作者】张广平
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【学科分类】园艺学

【题目】萝卜SRAP-PCR反应体系的建立与优化.
【中文关键词】萝卜;SRAP-PcR;反应体系
【英文关键词】Radish(Raphanus sativus L.);SRAP · PCR;Reaction system
【中文摘要】以萝卜基因组DNA为模板,对其SRAP-PCR反应体系的各个主要影响因子进行了系统的优化,建立了重复性好、多态性丰富的萝卜SRAP-PCR反应体系:20 ul反应体系中,DNA 50 ng、Mg+2 2.25 mmol/L、dNTP 0.2mmol/L、Taq l U、Primer 0.7umol/L。扩增程序为:94°C预变性5min;94°C变性1 min、35°C复性1 min、72°C延伸lmin,5个循环;94°C变性l min、50°C复性l min、72°C延伸1 min,35个循环,72°C延伸10 min,4°C保温。该反应体系在不同萝卜种质资源遗传多样性分析、遗传图谱构建、分子标记辅助选择育种等方面都有重要作用。
【英文摘要】In this study,radish genomic DNA Was used for the PCR template to optimize radish SRAP-PCR reaction system.ASRAP—PCR system with good stability was stablished.In tlle 20 uL reaction system,DNA 50 ng,Mg+2.25mmoL/L,dNTP 0.2mmol/L,Taq1U,Primer 0.7 umoL/L.PCR procedure:initially denaturing at 94°C for 5 main;then 94°C,1 min,35°C,1 min and 72°C 1 min for the first five cycles,then the annealing temperature was raised to 50°C for another 35cycles;At last,72°C 10 min and 4°C for ever.The optimum SRAP—PCR reaction system isadaptive to different radish variety.It laid a good foundation for genetic diversity analysis genetics map construction and molecular marker assisted breeding in radish.

【语种】中文
【第一作者】李红双
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【题目】萝卜自交不亲和基因SLG6的CAPS标记的开发
【中文关键词】萝卜;自交不亲和性;SLG。基因;CAPS标记
【英文关键词】Radish(Raphanus sativus);Self_incompatibility;SLG6 gene;CAPS marker
【中文摘要】萝卜是我国的主要蔬菜之一。其杂种优势十分明显,培育自交不亲和系是萝卜杂种优势育种的主要途径之一。本研究根据萝卜自交不亲和基因SLG。序列设计特异引物,以8个自交系为材料,其中自交不亲和系和自交亲和系各4个,扩增SLG。基因第232—7llbp之间的单拷贝片段,8个材料均获得了一条480bp的特异片段。用限制性内切酶Taq I对该片段进行酶切,自交不亲和系均产生约125bp和244bp的片段,其中,244bp的片段为自交不亲和系所特有,可作为SLG。基因的CAPS标记用于萝卜自交不亲和基因SLG。的检测;而自交亲和系则具有与自交不亲和系相同的125bp的片段和不同的多态性片段。
【英文摘要】Radish,which has obvious heterosis,is one of the main vegetables in China.Developing serf-in • Compatible lines is one of the major approaches of radish heterosis breeding.In this study,the specific primers were designed based on the sequence of serf-incompatible gene SLG6.A single copy and specific 480bp fragment from 232 bp to 71 bp of SLG6 gene was amplified by using designed specific primers in all 8 serf-crossing lines,of which there were 4 serf-incompatible lines and 4 serf-compatible lines respectively.The fragments of 480bp from different line samplified was cleaved by the restriction endonucleage Taq I.Consequently a 125bp and a 244bp fragmentswere produced in all the self-incompatible lines,while there were a 125bp and other diverse fragments in serf-compatible lines and the 244bp fragment was absent,which indicated that the 244bp fragment was specific or serf-in-compatible.Accordingly,the result suggested the possible application of the CAPS markers of SLG6 genein molecular marker-assisted breeding of SLG genes in radish.
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【学科分类】园艺学

【题目】基于形态数据的大白菜核心种质构建方法的研究
【中文关键词】大白菜;形态数据;核心种质;取样规模;取样方法
【英文关键词】Chinese cabbage; morphological data; core germplasm; sampling scale; sampling method
【中文摘要】以国家蔬菜种质资源中期库收集保存的1 651份大白菜种质为试材,按照大白菜分类系统生态型,采用分层分组法,将所有种质分为6组。基于43个形态性状的数据,比较了4种组内取样比例法、6种总体取样规模和2种取样方法在构建大白菜核心种质中的作用和效果。结果表明:组内以多样性比例法更能使各组的取样份数或比例趋于平衡,并较好地保持原始收集品的变异度。当总体取样规模为15%时,多样性比例法所构建的核心种质的遗传多样性指数达到最大,表型保留比例亦能达到98%左右;而当总体取样规模增加到20%以上时,虽然表型保留比例接近100% ,但核心种质遗传多样性指数迅速降低。因此,认为15%总体取样规模较为合适。在一定的组内取样比例法和总体取样规模下,聚类取样构建的核心种质的遗传多样性指数 (I)、表型保留比例 (R PR)和变异系数 (CV)均比随机取样的高。根据获得的优化方案最终在表型水平建立了包含248份种质的中国大白菜核心种质。
【英文摘要】The method to construct Chinese cabbage core germplasm based on four types of samp ling proportion methods in group , six overall sampling scales and two sampling methods were studied in light of 1 651 accessions of Chinese cabbage germplasm and their data of 43 morphological characters in the National Medium-term Genebank of Vegetable Germplasm Resources. The main results were as follow s: The best proper sampling proportion within group was based on index of genetic diversity which enabled the

sampled number or proportion from different groups tend to balance, and better maintained the variability of original collection. The index of genetic diversity of the core germplasm established according to the method of genetic diversity index proportion reached maxim um and the ratio of phenotypic retained reached 98% when the overall sampling scale increased to 15%. Although the proportion of phenotypes retained nearly 100% and phenotypic variability changed little, the genetic diversity index of the core germplasm decreased accordingly when the overall sampling scale increased to over 20%. So 15% of the overall sampling sizes were more appropriate. In certain sampling proportion method and sampling scale, index of genetic diversity, ratio of phenotype retained and coefficient of variation of the co re germplasm constructed by cluster sampling was much higher than that by random sampling. Based on the optimized sampling scheme, the Chinese cabbage core germplasmof 248 accessions of Chinese cabbage germplasm were established.

【语种】中文
【第一作者】李国强
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【题目】白菜抗小菜蛾网室鉴定和离体鉴定方法比较
【中文关键词】白菜 小菜蛾 网室鉴定 离体鉴定
【英文关键词】无
【中文摘要】以8份白菜自交系材料为试材,分别利用网室鉴定和离体鉴定两种方法进行抗虫性鉴定。结果表明,两种鉴定方法的结果基本一致,材料间对小菜蛾抗性均表现极显著差异;在网室鉴定和离体鉴定中,599—3—7均表现高抗,519—3—3均表现中抗,而114—4—4和116—4—4都表现高感,部分材料的表现稍有差异;两种鉴定方法的相关系数为0.96,达到极显著水平;离体鉴定和网室鉴定相结合,能准确、全面地研究植物对小菜蛾的抗性及抗虫机理。
【英文摘要】0
【语种】中文
【第一作者】王欣
【通讯作者】李锡香
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【题目】萝卜小孢子不同发育时期的细胞学和花器官形态特征观察
【中文关键词】萝卜 小孢子发育时期 细胞学观察 形态特征
【英文关键词】Radish; Development stage of microspore; Cytological observation; Morphological characteristics
【中文摘要】通过醋酸洋红染色和 DAPI荧光染色对萝卜小孢子的发育过程进行了细胞学观察, 两种染色方法中, 后者较前者能更清楚和全面地显示细胞的结构。通过对 4份萝卜材料不同发育时期花蕾的细胞学和形态学的观察发现, 小孢子的发育时期与花器官形态特征之间存在密切的关系。各材料小孢子不同发育时期的花蕾纵径、花蕾横径、花蕾纵横比、花药长、花药宽、花瓣长和瓣药比均存在明显差异。不同萝卜材料处于单核靠边期的花器官各形态指标也存在明显差异, 其中花蕾纵径、花蕾纵横比、花瓣长和瓣药比适合于作为不同材料花蕾取样适期的鉴定指标, 各指标的适宜尺度: 花蕾纵径在 2. 991~ 3. 510mm之间, 花蕾纵横比在 1. 412~ 1. 480之间, 花瓣长在 1. 889~ 2. 561mm之间, 瓣药比在 0. 923~ 1. 057之间。此外, 适合小孢子培养的花蕾的外观特征为花药被萼片包裹紧密, 花瓣和花药等长或接近等长, 花蕾饱满, 花药浅黄色至黄色。
【英文摘要】The developmental stage of microspores was observed by two different methods:acetic magenta staining and DAPI staining.It was found that the nucleolus in microspore display more clearly by DAPI staining than acetic magenta staining.The relationship between microspore developmental stage and morphological characteristics of flower buds and anthers was studied by both of cytological and morphological methods on four different radish genotypes.There were significant differences in longitudinal diameter

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【题目】萝卜优异种质对芜菁花叶病毒抗性的遗传分析
【中文关键词】萝卜 TuMV 抗病性 遗传分析
【英文关键词】Radish TuMV Resistance Genetic analysis
【中文摘要】为了深入认识萝卜优异种质对芜菁花叶病毒(TuMV)的抗性遗传机制,本研究以高抗TuMV的自交系Q07-12(P_1)和高感自交系KB07-10(P_2)为亲本,构建了包括P_1、P_2、F_1、B_1、B_2及F_2的6个群体,采用数量性状主基因+多基因混合遗传的六世代联合分析法,对其抗性遗传规律进行研究。结果表明,萝卜对TuMV的抗性受两对基因控制,并符合“加性-显性-上位性多基因”模型,其中主基因遗传率在B1、B2及F2群体中分别为89%、55%和95%,多基因遗传率分别为0、40.9%和0.环境因素对抗性强弱的影响较小。因此结果表明了该优异种质在萝卜抗病毒遗传改良种的利用价值,在萝卜抗病育种与抗病基因挖掘提供了理论依据。
【英文摘要】In order to further understand the genetic mechanism on the resistance to turnip virus (TuMV) in elite radish germplasm ,the inheritance was analyzed by applying the jiont segeration analysis of a mixed genetic model major gene plus polygene in six generations (P1、P2、F1、F2、B1and B2) from cross between highly resistant inbred line QO7-12(P1) and highly susceptible line KB07-10(P2). The inheritance of resistance to TuMV was fitted by the two major genes plus polygene mixed model(E model). In B1、B2、and F2 populations ,the estimated inheribility of major genes wwere 89%、55% and 95%,respectively.The inheribility of polygenes were 0、40.9% and 0 respectively.The enviromental factors had small effect on the resistance to TuMV in radish .The result indicate that the elite resistant radish germplasm is of value in radish genetic improvement ,and provide the genetic basis for improving the efficiency of breeding for TuMV-resistance.
【语种】中文
【第一作者】李红双
【通讯作者】李锡香
【期刊名称、卷期、页码】植物遗传资源学报,2010;11(2):152-156
【论文发表时间】2010-06-01 00:00:00
【引文索引类型】其他
【引文索引号】无
【学科分类】园艺学

【题目】萝卜高频再生体系的建立
【中文关键词】萝卜;再生;AgNO3;ABA ; TDZ ;抗生素
【英文关键词】Radish ; Regeneration ;AgNO3;ABA ; TDZ ;Antibiotic
【中文摘要】通过基因型筛选,选出具有较高再生潜力的萝卜品种,并对其进行了外植体类型、琼脂浓度、激素配比等试验,比较了不同浓度的AgNO3、ABA、TDZ和抗生素对萝卜再生的影响,在改良MS + 6-BA 5 mg/ L+ NAA 0.1 mg/ L +蔗糖20 g/ L +琼脂9 % + AgNO35 mg/ L + ABA 0.3 mg/ L + TDZ 0.2 mg/ L培养基上,建立了再生率达80.2 %的萝卜再生体系.
【英文摘要】This study evaluated shoot organogenesis potential of 4 genotypes of Radish. The results showed that the irregeneration rates varied significantly The genotype which had t he maximum shoot regeneration rate was chosen for studying the effects of different explants , the concent ration of agar , AgNO3, ABA , TDZ , antibiotic and hormone combination on shoot regeneration.The maximum Rate of shoot regeneration 80.2 % was obtained in the medium Modified MS + 6-BA 5 mg/ L + NAA,0.1 mg/ L + Sucrose 20 g/ L + Agar9 % + AgNO3 ,5 mg/ L + ABA0.1 mg/ L + TDZ 0.2 mg/ L.
【语种】中文
【第一作者】徐文玲

【通讯作者】王淑芬
【期刊名称、卷期、页码】山东农业科学,2006;(6):7-10
【论文发表时间】2006-06-01 00:00:00
【引文索引类型】其他
【引文索引号】1001 - 4942 (2006) 06 - 0007 - 04
【学科分类】园艺学

【题目】心里美萝卜种质创新研究
【中文关键词】心里美萝卜; 种质; 创新
【英文关键词】Xinlimei radish; Germplasm; Innovation
【中文摘要】通过对萝卜皮色、肉色的遗传规律研究,初步认为心里美萝卜为杂交起源。利用绿皮绿肉和白皮白肉萝卜分别与红皮白肉萝卜杂交,后代连续自交分离出绿皮心里美萝卜和白皮心里美萝卜新种质;利用优质绿皮绿肉水果萝卜与心里美萝卜杂交后回交转育,创新出优质生食型心里美萝卜;通过杂交创新出紫皮红肉心里美萝卜,其根皮中红色素含量高于根肉。
【英文摘要】It was preliminary verified that Xinlimei radish(Raphanus satlvus L. var. Longipinnatus L. H. Bailey) with red pulp was origin from hybridization. Cross the green peel with green pulp ecotype Chinese
【语种】中文
【第一作者】王淑芬
【通讯作者】何启伟
【期刊名称、卷期、页码】中国蔬菜,2006,增刊
【论文发表时间】2006-04-01 00:00:00
【引文索引类型】其他
【引文索引号】无
【学科分类】园艺学

【题目】萝卜肉质根膨大过程中主要营养物质含量的变化
【中文关键词】萝卜;可溶性蛋白质;游离氨基酸;Vc;可溶性糖;淀粉;粗纤维
【英文关键词】Chinese radish;SolubIe protein;Free amino acid;Vc;soluble sugar;Starch;Crude fibre
【中文摘要】不同皮色、肉质色萝卜为试材,采用常规方法对肉质根膨大过程中主要营养成分的含量进行了系统测定,结果表明:可溶性蛋白、Vc、粗纤维的含量呈逐渐降低趋势,可溶性糖含量逐渐升高,淀粉的含量在整个肉质根膨大过程中呈“S”型变化,进入迅速生长期后,淀粉含量迅速下降,其后开始逐渐回升,进入成熟期又开始回落。“破肚”后氨基酸含量迅速下降,之后又开始迅速回升,在膨大期的后期下降,成熟期逐渐升高。
【英文摘要】The content changes of the major nutrient components during root expansion of Chinese radishwere studied using the routine methods.The results showed that the contents of soluble protein,Vitamin C (Vc) and crude fiber decreased while the soluble sugar content increased.The change of starch content showed the “ S" trend:it decreased in the rapid development stage but increased later,and it decreased again when the root expansion.The content of amino acid decreased rapidly at the stage of primary cortex split,and increased later;at the end of the root expansion,the content of amino acid decreased and then it increased gradualy during the ripening.
【语种】中文
【第一作者】刘贤娴
【通讯作者】王淑芬
【期刊名称、卷期、页码】山东农业科学,2008;(8):22-23
【论文发表时间】2008-06-01 00:00:00
【引文索引类型】其他
【引文索引号】100l-4942(2008)09—0022—03
【学科分类】园艺学

【题目】萝卜抽薹基因连锁的AFLP 和SCAR 分子标记鉴定
【中文关键词】萝卜(Raphanus sativus L.) 抽薹基因 AFLP SCAR

【英文关键词】Radish(Raphanussativus L.),Later bolting gene,AFLP,SCAR
【中文摘要】本文运用AFLP分子标记技术,结合BSA法,对萝卜抽薹基因相连锁的AFLP分子标记进行研究,获得两个与萝卜耐抽薹基因相连锁的AFLP标记,遗传距离分别为14.6 cM和9.1 cM.序列测定和Blast分析表明,标记ACG-CAG(123 bp)与拟南芥中锌指蛋白3(zinc finger protein 3,ZFP3)的cDNA同源性为89%,期望值为6e-23;标记ACT-CTG(175 bp)与拟南芥中的Copia类反转录转座子AtRE1基因的同源性为83%,期望值为4e-42.并将其中一个标记转化为简单易行的SCAR标记,遗传距离为7.5 cM.
【英文摘要】AFLP biotechnology was applied to identify the markers linked to bolting trait in radish based on BSA method.Two markers(ACG-CAG(123 bp)and ACT—CTG(175 bp))were found to be tightly linked to the gene with genetic distance of 1 4.6 cM and 9.1 cM.respectively.Sequence and Blast analysis indicated that ACG—CAG (123 bp)marker has 89%homology with the cDNA of Arabidopsis thaliana ZFP3(zinc finger protein3)and the expect ratio is 6e-23;ACT-CTG(175bp)marker has 83%homology with copia-like retrotransposon AtRE1gene of Arabidopsis thaliana and the expect ratio is 4e-42.One of the AFLP markers(ACT—CTG)linked tobolting gene has been convened into a SCAR marker successfully.
【语种】中文
【第一作者】徐文玲
【通讯作者】王翠花
【期刊名称、卷期、页码】分子植物育种,2009;7(4):1-7
【论文发表时间】2009-06-01 00:00:00
【引文索引类型】其他
【引文索引号】无
【学科分类】园艺学

【题目】钼锰对不结球白菜硝酸还原酶活性及营养品质的影响
【中文关键词】不结球白菜; 钼; 锰; 硝酸还原酶; 营养品质
【英文关键词】Brassica campestris ssp chinensis; Mo; Mn; Nitrate reductase activity; Nutrient quality
【中文摘要】采用叶面喷施、根部施用、叶面喷施与根部施用相结合的3种处理方式, 研究了钼、锰对不结球白菜硝酸还原酶活性、硝酸盐含量及营养品质的影响。结果表明, 钼能够显著提高不结球白菜的硝酸还原酶活性, 使其硝酸盐含量显著降低; 锰对不结球白菜硝酸还原酶活性的影响不明显, 但可以显著降低其硝酸盐含量。钼和锰均可提高不结球白菜可溶性糖和VC含量。与单施钼、锰相比, 钼锰配施对降低不结球白菜硝酸盐含量、提高其可溶性糖和VC 含量效果更明显。
【英文摘要】Effect of molybdenum and manganese on nitrate reductase activity, nitrate content and nutrient quality in Brassica campestris ssp.chinensis were studied using so lu tion culture by spraying Mo and Mn elem ents on leaf, root and leaf combined with root treatment. The results indicated that nitrate reductaseactivity was significantly improved by Mo treatment, which caused significant reduction of nitrate content. Although, no remarkable effect on improving nitrate reductase activity was found by Mn treatment nitrate content was also reduced. Both Mo and Mn could improve the contents of soluble sugar and VC. Compared with single treatment of Mo or Mn, the reduction of nitrate content, improvement of soluble sugar and VC contents were more distinct by treatment with Mo plus Mn.
【语种】中文
【第一作者】陈龙正
【通讯作者】袁希汉
【期刊名称、卷期、页码】中国蔬菜,2009;12:15-18.
【论文发表时间】2009-06-01 00:00:00
【引文索引类型】其他
【引文索引号】1000-6346(2009)12-0015-04
【学科分类】园艺学

【题目】小白菜光合性能与硝酸还原酶活性关系的研究
【中文关键词】小白菜; 光合特性; 硝酸还原酶活性
【英文关键词】pakchoi; photosynthetic; NRA
【中文摘要】对营养液培养条件下的6 个不同基因型小白菜幼苗在不同光照度和硝酸还原酶抑制剂Na2WO4 处理下的光合参数、硝酸盐含量和硝酸还原酶活性(NRA) 进行分析, 以明确小白菜光合性能与NRA 的关系。结果发现: 随着光照强度的增强, 小白菜NRA 极显著增强, 其硝酸盐含量则显著降低, 并且基因型间有显著差异; Na2WO4 处理能使小白菜的NRA

和净光合速率显著降低,而对其叶绿素含量、气孔导度、胞间CO2 浓度和蒸腾速率无显著影响。研究表明,光照度是制约小白菜幼苗硝酸还原酶活性和硝酸盐含量的重要因素之一,小白菜幼苗的硝酸还原酶活性与其净光合速率有密切关系,但对其他光合参数无直接影响。

【英文摘要】The relationships between nitrate reductase activity(NRA) and photosynthetic characters of six different genotypes of pakchoi were studied by using solution culture. The studies included the effect of different light intensity on the contents of nitrate and NRA, and the effect of NRA on photosynthetic characters. The results indicated that the NRA improved and the nitrate content reduced following strengthen of light intensity, especially on NRA, suggesting that the main factor af fecting the NRA and nitrate contentwas light intensity. By using the treatment of Na2WO4, it was found that the photosynthetic decreased with the reduction of NRA, indicating that NRA could feed back the photosy nthetic. In addition, the chlorophyll content , Gs and Ci did not change obviously after NRA reduced, suggesting that these indexes were not affected directly by NRA.

【语种】中文

【第一作者】陈龙正

【通讯作者】袁希汉

【期刊名称、卷期、页码】西北植物学报,2009;11:2256-2260

【论文发表时间】2009-06-01 00:00:00

【引文索引类型】其他

【引文索引号】1000- 4025(2009) 11- 2256- 05

【学科分类】园艺学

【题目】光照度、施肥量及品种互作对不结球白菜硝酸盐含量和产量的影响

【中文关键词】不结球白菜; 光照度; 施肥量; 品种; 硝酸盐含量; 产量

【英文关键词】non-heading Chinese cabbage; light intensity; fertilization amount; variety; nitrate content; yield

【中文摘要】采用方差分析和多元相关分析法,选用3个不结球白菜品种研究了光照度、施肥量和品种3因素互作对叶片和叶柄硝酸盐含量和产量的影响。结果表明: 光照度、施肥量及品种对不结球白菜硝酸盐含量和产量都存在显著影响。随着光照度的增加,叶片和叶柄的硝酸盐含量显著下降,而产量明显增加,相关系数分别达-0.574、-0.314和0.508; 同时,还发现若适当增加施肥量,能明显提高产量,但叶片和叶柄中硝酸盐积累也增多。施肥量与产量的相关系数达0.433。硝酸盐积累和产量增加的多少因品种不同而异。

【英文摘要】Three non-heading Chinese cabbage varieties were selected to study the effect of light intensity, fertilization amount and variety on the nitrate content and yield bymultip le analys is of variance and correlation analysis. The results showed that all of the light intensity, fertilization amount and variety had significant impact on nitrate content and production of non-heading Chinese cabbage. The leaf and petiole nitrate content of non-heading Chinese cabbage decreased with the enhancement of lightintensity, and the yield improved with increase of light intensity, the correlation coefficient being -0.574, -0.314, 0.508, respectively. Moreover, the proper increase of fertilization amount could significantly improve the yield (r=0.433), but lead to a lot of nitrate accumulation. Meanwhile, the variety also had effect on nitrate content and production of non-heading Chinese cabbage.

【语种】中文

【第一作者】陈洁

【通讯作者】袁希汉

【期刊名称、卷期、页码】江苏农业学报,2009;4(5):861-864

【论文发表时间】2009-06-01 00:00:00

【引文索引类型】其他

【引文索引号】1000-4440(2009) 04-0861-04

【学科分类】园艺学

【题目】低温胁迫对三个小白菜OguraCMS与保持系生化指标的影响

【中文关键词】小白菜; OguCM S; 低温胁迫; 生化指标

【英文关键词】Non-heading Chinese cabbage; OguCMS; Cold stress; Biochemical index

【中文摘要】以3个小白菜OguCM S与保持系为试材,苗期进行低温处理,对其叶绿素、可溶性糖、可溶性蛋白质和脯氨酸含量及超氧化物歧化酶(SOD)、过氧化物酶(POD) 和过氧化氢酶(CAT) 活性的变化进行研究。结果表明: 不育系的叶绿素、可溶性糖、可溶性蛋白质和脯氨酸含量在处理的各阶段均低于其保持系,SOD、POD 和CAT活性则是不育系高于其保持系。随着低温处理时间的延长,不育系和保持系叶绿素和可溶性蛋白质含量一直下降,可溶性糖和脯氨酸含量呈现

先上升后下降的趋势; SOD、POD和CAT活性呈现先上升后下降的趋势。不育系和保持系在处理的各个阶段变化的一致性和处理后各生化指标数值差异缩小, 表明小白菜OguCMS在苗期遇低温的抗逆能力与保持系很接近。
【英文摘要】Three cytoplasmic malesterile lines (CMS) and their maintainer lines of the non-heading Chinese cabbage (Brassica campestris L. ssp. chinensis(L.) Makino var. communis Tsen et Lee.) were taken as experimental materials, and the contents of chlorophyII, soluble sugar, soluble protein, proline and changes of the activities of SOD, POD, CAT in leaf were tested during seedling. The results show ed that the contents of chlorophyII, soluble sugar, soluble protein, proline in CMS were sign ificant lower than the irmaintainer, while the activities of three protective enzymes (SOD, POD and CAT) were higher in CMS with the treatment of low temperature stress. The contents of chlorophyII and soluble protein decreased continuously in both CMS and their maintainer; while the contents of soluble sugar, praline and the activities of three protective enzymes (SOD, POD and CAT) at first increased, then decreased under co ldstress. There was consistency in all stages of change between CMS and its maintainerline. And after processing, the differences in physiological and biochemical characteristics reduced. All these facts suggested the resistance of cold stress of non-heading Chinese cabbage OguCMS was greatly improved.
【语种】中文
【第一作者】安林海
【通讯作者】袁希汉
【期刊名称、卷期、页码】中国蔬菜,2009(待刊)
【论文发表时间】2010-06-01 00:00:00
【引文索引类型】其他
【引文索引号】1000-6346 (2010) 04-0019-05
【学科分类】园艺学

【题目】紫红色大白菜种质的创新研究
【中文关键词】大白菜;紫红色;种质资源
【英文关键词】Chinese cabbage;Purple;Germ plasm resource
【中文摘要】蔬菜色泽是产品的重要特征,为了风孬大白菜的叶色类型,本研究开展了紫红色大白菜种质的创新研究。
【英文摘要】无
【语种】中文
【第一作者】孙日飞
【通讯作者】李菲
【期刊名称、卷期、页码】园艺学报,2006,33(5):1032-1032
【论文发表时间】2006-06-01 00:00:00
【引文索引类型】其他
【引文索引号】05132353X (2006) 0521032201
【学科分类】园艺学

【题目】马铃薯色素的遗传及调控研究进展
【中文关键词】马铃薯、色素、遗传、调控、研究进展
【英文关键词】无
【中文摘要】综述了马铃薯色素 (花色素苷和类胡萝卜素)的遗传特点、 环境因素对色素形成的影响以及分子水平上对色素进行调控的研究进展, 为培育新型马铃薯品种, 确定适宜于色素形成的环境条件提供参考。
【英文摘要】无
【语种】中文
【第一作者】张春秋
【通讯作者】金黎平
【期刊名称、卷期、页码】中国蔬菜,2007;(4):35-38
【论文发表时间】2007-06-01 00:00:00
【引文索引类型】其他
【引文索引号】无
【学科分类】园艺学

【题目】野生马铃薯材料耐霜冻性评价
【中文关键词】马铃薯、霜冻害、耐霜冻性
【英文关键词】wild potato、frost injury、frost tolerance
【中文摘要】在自然霜冻条件下,对4个种 (Solanum acaule, S. demissum, S. infundibuliforme, S. tuberosum) 的25份马铃薯材料进行耐霜冻性评价。应用系统聚类分析的方法对这些材料进行分级聚类,使其归属于3 个等级,分别是:强耐、中耐霜冻和霜冻敏感。其中强耐霜冻的材料有4份,中耐霜冻的有16份,霜冻敏感的有5份。筛选出的强耐霜冻材料有利于对马铃薯栽培种的耐冻性改良。
【英文摘要】Frost tolerance of 25 accessions of four species, including 3 wild species,Solanum acaule,S. demissum,and S.infundibuliforme,was assessed under natural conditions. By cluster - analysis system, these potato materials were classified into 3 groups based on different levels of frost tolerance: strong frost tolerance, medium frost tolerance, and frost sensitivity. There were 4 accessions with strong frost tolerance, 16 with medium frost tolerance and 5 with frost sensitivity. The accessions with strong frost tolerance may be helpful in improvement for frost tolerance in potato breeding.
【语种】中文
【第一作者】李飞
【通讯作者】金黎平
【期刊名称、卷期、页码】中国马铃薯,2007;21(3):139-141
【论文发表时间】2007-06-01 00:00:00
【引文索引类型】其他
【引文索引号】1672-3635(2007)03-0139-03
【学科分类】园艺学

【题目】二倍体马铃薯分子连锁图谱的构建
【中文关键词】马铃薯、分子连锁图谱、限制片段长度多态性
【英文关键词】Potato Solanumtube rosum L、Molecular linkagemap、AFLP
【中文摘要】利用二倍体马铃薯亲本08675-21与 09901-01及其 125份杂交一代无性系进行 AFLP分析, 按亲本来源构建与24条染色体对应的 AFLP分子连锁图谱, 母本图谱含有 75个标记, 覆盖基因组全长512c M, 平均图距为683 c M; 父本图谱含有95个标记, 覆盖基组全长 578 cM, 平均图距为608 c M。
【英文摘要】Based on amplified fragment length polymorphism (AFLP) markers , amolecular linkage map of potatow as initially developed by using F1 segregating population from the cross bet ween the diploid potato parents of 08675 -21 and 09901 - 01 . The genetic map included 24 mai n linkage groups , and the female maps covered 512 c M with an average distance of 683 cM between adjacent markers while them alemaps covered 578 c M with an average distance of 608 c M between adjacent markers .
【语种】中文
【第一作者】金黎平
【通讯作者】金黎平
【期刊名称、卷期、页码】园艺学报,2007;34(2):397-402
【论文发表时间】2007-06-01 00:00:00
【引文索引类型】其他
【引文索引号】0513-353X(2007)02-0397-06
【学科分类】园艺学

【题目】甘薯茎线虫病田间抗性评价体系探讨
【中文关键词】甘薯、茎线虫病、抗性、评价
【英文关键词】无
【中文摘要】2004—2009年应用病地(圃)自然诱发鉴定法鉴定了525份(次)甘薯材料的茎线虫病抗性,获得一批对茎线虫表现抗侵入性的资源材料。甘薯茎线虫病田间评价体系受较多因素影响,田间发病不均匀,使得某些材料的鉴定结果不稳定,针对试验存在的问题,对现有评价体系的某些参数进行矫正,从而减少试验误差。
【英文摘要】无
【语种】中文

【第一作者】郭小丁
【通讯作者】郭小丁
【期刊名称、卷期、页码】江苏农业科学, 2011;(1) : 123- 125.
【论文发表时间】2011-06-01 00:00:00
【引文索引类型】其他
【引文索引号】1002- 1302(2011) 01- 0123- 03
【学科分类】园艺学

【题目】COr辐照对莱芜姜当代生长的影响
【中文关键词】姜、根茎、辐照效应、RAPD、同工酶
【英文关键词】Ginger、rhizome、irradiation effect、RAPD、isozyme
【中文摘要】本试验以莱芜姜根茎为材料,用60C o γ射线进行了0、 20、 40和60G y 4个不同剂量的辐照处理,研究结果表明:辐照使莱芜姜当代(VM1)成苗率降低,出苗、 展叶时间延迟,生长受到明显抑制,且随剂量的增加,其抑制作用增强;对辐照当代植株进行POD、 EST同工酶和RAPD检测分析,均得到了与对照不同的差异性谱带,说明辐照生姜根状茎可以使植株在分子水平上发生变异;莱芜姜根茎使用LD30~40的中等剂量比较合适,适宜辐照剂量为20~30 G y。
【英文摘要】Rhizome of Laiwu ginger were treated with γ 2irradiation at the doses of 0 , 20 , 40 and 60 G y. The results showed that 60 Co γ 2irradiation inhibited the rhizome burgeoning , and decreased the survival rate of the seedlings , rate of leaf2 expansion and the growth of plants (VM1) . The inhibition effects became stronger with the increase of the irradiation dose.Different bands were found through the analysis of POD、 EST is ozymes and RAPD of VM1 plants ,which showed that variation on molecular level occurred in VM1 plants. LD30~40 was appropriate for the irradiation of rhizomes of Laiwu ginger and the optimal irradiation dose was about 20~30 Gy.
【语种】中文
【第一作者】周明
【通讯作者】张振贤
【期刊名称、卷期、页码】核农学报,2008 ;22 (1) :18-22
【论文发表时间】2008-06-01 00:00:00
【引文索引类型】其他
【引文索引号】无
【学科分类】园艺学

【题目】蔗糖浓度和光强对姜试管苗生长和光合的影响
【中文关键词】姜试管苗、蔗糖浓度、光强、生长、光合作用
【英文关键词】ginger plantlet in vitro、sucrose concentration、light intensity、growth、photosynthesis
【中文摘要】研究了0%、1%、3%三个蔗糖浓度和60、120、180μmolm-2s-1三个光强梯度对河南张良姜和四川竹根姜试管苗生长和光合作用的影响.结果表明,随着蔗糖浓度的降低,两个品种试管苗的生长受到明显抑制,叶绿素和类胡萝卜素含量也随之下降,但总光合速率(Pg)、净光合速率(Pn)和暗呼吸速率(Rd)却随之升高,Fv/Fm均以3%蔗糖处理最低.将光强从60μmolm-2s-1提高到120μmolm-2s-1,对试管苗生长有一定促进作用,但180μmolm-2s-1光强下其生长受到抑制.两个品种的叶绿素含量随光强增加均呈下降趋势.张良姜Pn以120μmolm-2s-1光强处理最高,竹根姜Pn随培养光强升高而升高,180μmolm-2s-1光强下达到最大值,为0.88μmolm-2s-1.180μmolm-2s-1光强下培养的张良姜试管苗Fv/Fm明显降低,发生了光抑制.竹根姜各光强处理间Fv/Fm无显著差异.张良姜试管苗的Rd随培养光强升高而增大,而竹根姜各光强处理间R差异不显著.表6参22
【英文摘要】The growth and photosynthesis of ginger plantlets in vitro in response to the three different sucrose concentrations (0%, 1%, 3%) and three different photosynthetic photon fluxes (60, 120, 180 μmol m-2 s-1) were investigated. The results showed that as the sucrose concentration decreased, the growth of the plantlets of two cultivars (Henan Zhangliang and Sichuan Zhugen) was restrained, the chlorophyll and carotenoid content reduced, and the gross photosynthesis (Pg), net photosynthesis (Pn) and dark respiration rate(Rd) increased. FV/Fm was the lowest at 3% sucrose concentration. When the light intensity was elevated from 60 umol-2s-1to 120 umol-2s-1,the growth of the plantlets of the two cultivares was promoted. However,the growth was restained when the light reached 180 umol-2s-1.The chlorophyll content decreased as the light intensity increased. The Pn of Zhangliang ginger was greatest when cultured under the light intensity of 120 umol-2s-1. The Pn of Zhangliang ginger increased as the culture light intensity increased and reached 0.88 umol-2s-1,the hightest value when measured under 180 umol-2s-1 light intensity.The Zhangliang ginger

cultured under 180 umol-2s-1 and a significantly lower FV/Fm,showing that it had suffered photoinhibition. However,no differences were observed in the three treatments of Zhugen ginger.As the light intensity increased,the Rd increased in Zhangliang ginger,but no differences was found in Zhangliang ginger.Tab6,Ref22.
【语种】中文
【第一作者】周明
【通讯作者】张振贤
【期刊名称、卷期、页码】应用生物与环境学报,2008;14(3):356-361
【论文发表时间】2008-06-01 00:00:00
【引文索引类型】其他
【引文索引号】无
【学科分类】园艺学

【题目】Apricot germplasm resources and their utilization in China
【中文关键词】无
【英文关键词】apricot、resources、species、variety、cultivar
【中文摘要】无
【英文摘要】There are about ten species of apricot (Armeniaca Mill.) worldwide among which nine species are native to China. Above 2000 local apricot cultivars or types are investigated and recorded in the Chinese literature. Six hundred and forty-three accessions of apricot have been collected, conserved, identified, evaluated and documented up to now in the National Germplasm Repository for Plums and Apricots located in Xiongyue Town, Yingkou City, Liaoning Province of Northeastern China. In this paper, the history, distribution and production of apricot are reviewed; the botanical features and biological characteristics of ten species, as well as the important economic traits of the main local cultivars are briefly described. The research area and utilization of apricot germplasm resources in China are suggested.
【语种】英文
【第一作者】W. Liu
【通讯作者】W. Liu
【期刊名称、卷期、页码】Acta Horticulturae,2010; 862:45-49
【论文发表时间】2010-06-01 00:00:00
【引文索引类型】其他
【引文索引号】无
【学科分类】园艺学

【题目】Resources and breeding of ornamental apricot in China
【中文关键词】无
【英文关键词】ornamental、apricot、resources、breeding、Prunus mume、Prunus armeniaca、Prunus sibirica
【中文摘要】无
【英文摘要】‘Mei Flower’(Prunus mume Sieb. et Zucc.), which is also known as‘Mei Hua’,‘Plum blossom’or ‘Japanese apricot’, has played an important role in Chinese culture for many centuries and bestowed both aesthetics value and spiritual sustenance on the Chinese. It is not cold hardy and cannot be grown in northern China. Found when exploring the national apricot germplasm resources during 1979-1986, wild Liaomeixing [P. sibirica (L.) Lam. var. pleniflora J.Y. Zhang et al.] and Shaanmeixing (P. armeniaca L. var. meixinesis J.Y. Zhang et al.) not only can favourably compare with‘Mei Flower’in ornamental value but also are much hardier than it, therefore they may be cultivated in North China as an analogous‘Mei Flower’. In this paper, we introduced the botanical features, biological characteristics, ornamental value, culti ¬ vated technology of two new botanical varieties of apricot species, and the breeding of diverse ornamental apricot cultivars in China.
【语种】英文
【第一作者】W. Liu
【通讯作者】W. Liu
【期刊名称、卷期、页码】Acta Horticulturae,2010; 862:51-54
【论文发表时间】2010-06-01 00:00:00

【引文索引类型】其他
【引文索引号】无
【学科分类】园艺学

【题目】Genetic diversity and relationship among tea cultivars (Camellia sinensis) from China, Japan and Kenya revealed by ISSR markers and its implication for parental selection in tea breeding programs
【中文关键词】无
【英文关键词】Camellia sinensis、 genetic diversity、 genetic Relationship、inter-simple sequence repeat
【中文摘要】无
【英文摘要】Tea plant [Camellia sinensis (L.) O. Kuntze] is an important beverage crop in the world. In recent years many clonal tea cultivars have been released, and they play major roles in improving the production and quality of tea. It is important to understand the genetic diversity and relatedness of these cultivars to avoid inbreeding and narrow genetic basis in future tea breeding. In the present study, genetic diversity and relationship of 48 tea cultivars from China, Japan and Kenya were evaluated by inter-simple sequence repeat (ISSR) markers. A total of 382 ISSR bands were scored, of which 381 (99.7%) were polymorphic. The ISSR primers showed high ability to distinguish between tea cultivars according to their high Resolving Power (RP) with an average of 7.4. The mean of Nei ’s gene diversity (H) and Shannon ’s information index (I) were 0.22 and 0.35, respectively. More abundant diversity was revealed among cultivars in China than those in Japan and Kenya. Within Chinese populations, the level of diversity in east China was higher than that in other regions. The coefficient of genetic differentiation (GST) was 0.202, which indicates a high degree of genetic variation within populations. This result was further confirmed by analysis of molecular variance, which revealed the variance component within the populations (92.07%) was obviously larger than that among populations (7.93%). The level of gene flow (Nm) was estimated to be 2.0. This could be explained by frequent natural cross-pollination and seed dispersal among tea populations. The pairwise similarity coefficient between the cultivars varied from 0.162 to 0.538. A dendrogram of 48 tea cultivars was constructed where all the tested cultivars were divided into two groups. Our data show that the genetic relationship among tea cultivars can be determined by the ISSR markers. This will provide valuable information to assist parental selection in current and future tea breeding programmes.
【语种】英文
【第一作者】M. Z. Yao
【通讯作者】L. Chen
【期刊名称、卷期、页码】Plant Breeding, 2008;127 (2), 166-172
【论文发表时间】2008-06-01 00:00:00
【引文索引类型】SCI
【引文索引号】无
【学科分类】园艺学

【题目】Generation and characterization of 24 novel EST derived microsatellites from tea plant (Camellia sinensis) and cross-species amplification in its closely related species and varieties
【中文关键词】无
【英文关键词】Expressed sequence tag、Germplasm 、Microsatellite、 SSRs、Tea plant
【中文摘要】无
【英文摘要】A total of 31 expressed sequence tag (EST)-derived polymorphic microsatellites from tea plant, Camellia sinensis (L.) O. Kuntze, were generated and characterized using the ESTs of the author ’s EST sequencing project and other sources. A set of 40 accessions tea germplasms had been used to examine the diversity. Among the 31 microsatellite loci, 24 had two to eight polymorphic alleles. Observed heterozygosity (H o) were relatively higher (on an average of 0.533), varying from 0.175 (primer 21) to 0.950 (primer 228). Cross-species polymorphic amplification in other four species and two varieties of section Thea (L.) Dyer genus Camellia L. was successful for the 24 loci. Contribution of the 24 novel EST-SSR primers presented here will provide necessary and powerful molecular tools for management and conservation studies on the tea germplasms in the future.
【语种】英文
【第一作者】Li-Ping Zhao
【通讯作者】L. Chen
【期刊名称、卷期、页码】Conserv Genet, 2008;9:1327-1331

【论文发表时间】2008-06-01 00:00:00
【引文索引类型】SCI
【引文索引号】无
【学科分类】园艺学

【题目】结球甘蓝自交系遗传差异的AFLP分析
【中文关键词】结球甘蓝、AFLP分析、亲缘关系、遗传差异
【英文关键词】Brassiea oleraeea L.、genetie diversity、relationship、AFLP
【中文摘要】应用AFLP技术对52个结球甘蓝自交系的亲缘关系进行了研究。9对AFLP选择性扩增引物组合共产生689条带,并对其进行聚类分析。结果表明:AFLP技术清楚地将所研究的结球甘蓝自交系分为四个类群,春甘蓝自交系、紫甘蓝自交系、秋甘蓝自交系和来自我国台湾的自交系。其中春甘蓝自交系与紫甘蓝自交系之间的亲缘关系最近,紫甘蓝自交系与春、秋甘蓝自交系在亲缘关系的远近上几乎相同,而与来自我国台湾的自交系的亲缘关系最远。研究并明确了类群内自交系之间的亲缘关系。
【英文摘要】The Brassica genus comprises a large and diverse group of Plant species and Brassiea oleracea L.is one of the most important crops in China . AmPlified fragment length Polymorphism(AFLP) analysis was used to evaluate the genetic diversity in 52 inbred lines of Brassica oleracea L in this study. Using 9 primer pairs,689 informative AFLP markers were generated and scored as binary data. The finger printing data were further analyzed using Hierarchieal Cluste methods in the sofiware Paekage SPSS, Four subgroups Presenting spring eabbage, red eabbage, autumn cabbage and the eabbage comefrom Taiwan can be obviously distinguished by AFLP teehnique. Spring cabbage and red cabbage have the most closely relationship in our study. Red cabbage has almost the same genetic distance to spring cabbage and autumn cabbage, but far from the cabbage come from Taiwan Provinee.
【语种】中文
【第一作者】李志琪
【通讯作者】刘玉梅
【期刊名称、卷期、页码】全国蔬菜和薯类种质资源研究与利用研讨会,2006年4月,北京
【论文发表时间】2009-06-01 00:00:00
【引文索引类型】其他
【引文索引号】无
【学科分类】园艺学

【题目】甘蓝细胞质雄性不育向大白菜转育研究
【中文关键词】大白菜、甘蓝、雄性不育、种间杂交、回交后代
【英文关键词】无
【中文摘要】研究了大白菜与甘蓝种间杂交,转育甘蓝细胞质雄性不育源获得不同类型的大白菜细胞质雄性不育系。甘蓝与白菜种间杂交,受粉后通过子房培养与胚培养相结合,有效克服了种间杂交不亲和的障碍。观察比较了杂种植株与回交后代的植物学性状;获得的细胞质雄性不育转育材料,植株苗期不黄化,花期不育性稳定,不育度100%,蜜腺正常。通过流式细胞仪对甘蓝、白菜亲本以及杂种植株和回交一代、回交二代植株的DNA检测,试验初步判断获得的F1杂种植株染色体组为ac和少量加倍的aacc,回交一代染色体组为aac,回交二代植株发生明显分化,DAN检测初步判断已存在与白菜染色体组aa基本一致单株,对其回交后代进行染色体观察n=10,染色体为20条。
【英文摘要】无
【语种】中文
【第一作者】李菲
【通讯作者】孙日飞
【期刊名称、卷期、页码】中国园艺学会十字花科蔬菜分会第六届学术研讨会暨新品种展示会论文集,2008
【论文发表时间】2008-06-01 00:00:00
【引文索引类型】其他
【引文索引号】无
【学科分类】园艺学

【题目】Efficient Agrobacterium-mediated transformation of rice by Phosphomannose Isomerase/Mannose selection

【中文关键词】无
【英文关键词】Agrobacterium-mediated transformation, Mannose selection, Transgenic rice
【中文摘要】无
【英文摘要】A positive selection system was developed for Agrobacterium-mediated trans-formation of rice that does not use toxic compounds such as antibiotics or herbicides. The selection system is based on the Escherichia coli phosphomannose isomerase (pmi) gene as selectable marker and mannose as selective agent. Only transgenic plants were able to metabolize mannose into a usable source of carbon, fructose. Selection was achieved using a combination of mannose and sucrose at 10 g/l and 5 g/l, respectively. Transgenic rice plants were produced efficiently in japanica rice variety Zhonghua 8, with transformation frequency of 16.5%, which was a slightly lower than that achieved by hygromycin selection.
【语种】英文
【第一作者】Ding Zaisong
【通讯作者】Kuang Ting-Yun
【期刊名称、卷期、页码】Plant Molecular Biology Reporter, 2006,24(3):295-303
【论文发表时间】2006-10-19 00:00:00
【引文索引类型】SCI
【引文索引号】SCI
【学科分类】分子生物学

【题目】无公害农产品产地土壤质量描述性指标体系刍议
【中文关键词】无公害农产品; 土壤质量; 描述性指标;
【英文关键词】Nuisanceless Agro-food; Soil Quality; Descriptive Index;
【中文摘要】土壤质量是影响农产品质量安全的源头因素。基于国内外土壤质量评价指标及评价方法的研究文献,将产地土壤质量评价与无公害农产品产地认定相结合,从保障农产品质量安全的角度出发,筛选出27个便于进行土壤质量现场评价的描述性指标,并提出了各项指标的量化方法,以便能够快速地、相对量化地了解产地土壤质量状况,为保障农产品质量安全提供一种源头技术手段。
【英文摘要】Soil quality is a source factor for agricultural products qualitative safety.Based on many research literatures about soil quality index and evaluation method,and combined soil quality evaluation with cognizance of nuisanceless agro-food producing area,27 soil quality descriptive indices were screened out,those indices were facilitate to evaluate soil quality from the perspective of agric-product security.Then a quantitative method was proposed in order to quickly and relatively quantitative realize the sta...
【语种】中文
【第一作者】张燕
【通讯作者】龙怀玉
【期刊名称、卷期、页码】土壤通报 2010,41(1):222-229
【论文发表时间】2008-09-04 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】环境科学技术及资源科学技术其他学科

【题目】Greenhouse gas emissions from swine barns of various production stages in suburban Beijing, China
【中文关键词】Methane; Nitrous oxide; Carbon dioxide; CO2 balance; Natural ventilation
【英文关键词】Methane; Nitrous oxide; Carbon dioxide; CO2 balance; Natural ventilation
【中文摘要】Gaseous emissions from animal feeding operations may be influenced by production stage, genetics, dietary type and nutritional plan, housing type, manure handling schemes, and climatic conditions. This study was conducted to quantify annual emission rates (ERs) of greenhouse gases (GHGs)—methane (CH4), carbon dioxide (CO2) and nitrous oxide (N2O) from naturally ventilated swine gestation (GE), farrowing (FA), nursery (NU) and growing-finishing (GF) barns under typical operational conditions in suburban Beijing, China. Variables relative to the GHG ERs were measured every two months for a one-year period, with each measurement episode lasting 72 h. Air exchange rate of the naturally ventilated barns was estimated using CO2 balance method. The annual mean daily GHG ERs (mean ±SD), expressed in g/d/AU(AU= animal unit=500 live body weight), for the GE, FA, NU, and GF barns were, respectively, 5920 ±440; 7490±110; 29 670±1090 and 16 730 ±1060 for CO2; 9.6 ±1.9; 9.6±3.6; 58.4 ±21.8 and 32.1 ±11.7 for CH4; and 0.75±0.56; 0.54±0.15; 1.29±0.37 and 0.86± 0.75 for N2O. The GHG ER values from the current study

paralleled those reported in the literature in some cases but differed considerably in other cases. This outcome of similarity and disparity confirms the need to exercise caution when applying literature data to estimation of GHG emissions under various production systems. Results of this study are expected to contribute to the global GHG inventory.

【英文摘要】Gaseous emissions from animal feeding operations may be influenced by production stage, genetics, dietary type and nutritional plan, housing type, manure handling schemes, and climatic conditions. This study was conducted to quantify annual emission rates (ERs) of greenhouse gases (GHGs)—methane (CH4), carbon dioxide (CO2) and nitrous oxide (N2O) from naturally ventilated swine gestation (GE), farrowing (FA), nursery (NU) and growing-finishing (GF) barns under typical operational conditions in suburban Beijing, China. Variables relative to the GHG ERs were measured every two months for a one-year period, with each measurement episode lasting 72 h. Air exchange rate of the naturally ventilated barns was estimated using CO2 balance method. The annual mean daily GHG ERs (mean ±SD), expressed in g/d/AU(AU= animal unit=500 live body weight), for the GE, FA, NU, and GF barns were, respectively, 5920 ±440; 7490±110; 29 670±1090 and 16 730 ±1060 for CO2; 9.6 ±1.9; 9.6±3.6; 58.4 ±21.8 and 32.1 ±11.7 for CH4; and 0.75±0.56; 0.54±0.15; 1.29±0.37 and 0.86± 0.75 for N2O. The GHG ER values from the current study paralleled those reported in the literature in some cases but differed considerably in other cases. This outcome of similarity and disparity confirms the need to exercise caution when applying literature data to estimation of GHG emissions under various production systems. Results of this study are expected to contribute to the global GHG inventory.

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【题目】Emissions of greenhouse gases from a typical Chinese swine farrowing barn

【中文关键词】Carbon dioxide, CO2 balance, Methane, Natural ventilation, Nitrous oxide
【英文关键词】Carbon dioxide, CO2 balance, Methane, Natural ventilation, Nitrous oxide

【中文摘要】Emissions of greenhouse gases (GHGs) from animal feeding operations to the atmosphere are of environmental importance and concerns because of their impact on global warming. Gaseous concentrations and emission rates (ERs) of animal facilities can be affected by the animal production stages, animal species, dietary nutrition, housing types, manure handling schemes, and environmental conditions. This article reports ERs of methane (CH4), nitrous oxide (N2O), and carbon dioxide (CO2) for a typical, naturally ventilated 24-crate swine farrowing barn located in suburban Beijing, China, that was monitored over one-year period. The measurements were made at bi-monthly intervals (i.e., six measurement episodes total), with each measurement episode covering three consecutive days. Gaseous concentrations were monitored at bi-hourly intervals throughout each 3-day measurement episode. The ventilation rate of the barn was estimated using the CO2 mass balance method. The GHG concentrations and ERs of the farrowing barn showed diurnal and seasonal variations. Specifically, the concentrations (monthly mean ±SD, mg/m3) ranged from 2.3 (±0.3) to 9.3 (±2) for CH4, from 0.6 (±0.02) to 1.2 (±0.16) for N2O, and from 1,370 (±163) to 11,100 (±950) for CO2, with the higher levels occurring in January and the lower levels in July. The specific ER ranged from 95.2 to 261.8 mg h?1 pig?1 for CH4, from 6.4 to 12.9 mg/h/head for N2O, and from 122.9 to 127.3 g/h/head for CO2. On the basis of per animal unit (1 AU = 500 kg live body mass), the average daily ERs of the farrowing barn were 9.6 ±3.6 g/AU/d for CH4, 0.54 ±0.15 g/AU/d for N2O, and 7.5±0.1 kg/AU/d for CO2. Results of the GHG ERs from this study differ markedly from the limited literature data collected primarily under European production systems and conditions. Results of the current study provide some baseline data on GHG ERs for swine farrowing operations, thus contributing to development or improvement of GHG emission inventory under the Chinese livestock production conditions.

【英文摘要】Emissions of greenhouse gases (GHGs) from animal feeding operations to the atmosphere are of environmental importance and concerns because of their impact on global warming. Gaseous concentrations and emission rates (ERs) of animal facilities can be affected by the animal production stages, animal species, dietary nutrition, housing types, manure handling schemes, and environmental conditions. This article reports ERs of methane (CH4), nitrous oxide (N2O), and carbon dioxide (CO2) for a typical, naturally ventilated 24-crate swine farrowing barn located in suburban Beijing, China, that was monitored over one-year period. The measurements were made at bi-monthly intervals (i.e., six measurement episodes total), with each measurement episode covering three consecutive days. Gaseous concentrations were monitored at bi-hourly intervals throughout each 3-day measurement episode.

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【题目】Assessment of in-line dust filter type and Condition on Ammonia adsorption
【中文关键词】Air emissions, Air quality, Air sampling integrity, Ammonia adsorption, Dust filter
【英文关键词】Air emissions, Air quality, Air sampling integrity, Ammonia adsorption, Dust filter
【中文摘要】Gas analyzers are commonly protected from impurities in air sampling via use of in‐line dust filters to ensure operational performance and longevity of the instruments. This is especially true with extended periods of air quality monitoring in dusty environments. Prices for commercially available filters and monitoring needs vary considerably. A question that has often come up but has not received much investigation is how the filter media types (e.g., paper vs. Teflon) and operational conditions (clean vs. dirty) impact the integrity of gaseous concentration measurement. The study reported here was conducted toward addressing this issue. Specifically, the study assessed the magnitude of ammonia (NH3) adsorption for several types of in-line filters and conditions often used or encountered in animal feeding operation air emission studies, namely, Teflon (most expensive), paper (least expensive), and stand‐alone automobile fuel filters, being either clean (new) or dust‐laden. Three nominal NH3 levels (20, 45, or 90 ppm, generated with poultry manure) coupled with two nominal airflow rates (4 vs. 8 L/min or 8 vs. 16 L/min) through the filters were used in the evaluation. The types of dust used in the study included corn starch and broiler-house dust. Simultaneous measurements of NH3 concentrations before and after the tested filter were made with two photoacoustic gas spectrometers. The results revealed that NH3 adsorption was highest for the fuel filter initially but negligible for the Teflon filters. However, after 30 min exposure, relative NH3 adsorption by the filters mostly fell below 1%. The higher flow rate led to significantly lower relative NH3 adsorption for both the fuel and paper filters ($P < 0.001$) but made no difference for the Teflon filters ($P = 0.31$ to 0.49). During fresh‐air purging of the fuel filters laden with broiler-house dust, NH3 was initially released but diminished after 15 min. The results suggest that when used properly (e.g., proper flow rate), the in-line dust filters tested in this study (fuel, paper, and Teflon) offer viable, performance‐based options for air emissions (especially NH3) measurement applications.
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【题目】育肥猪舍氨气浓度测定与排放通量的估算
【中文关键词】氨气; 猪舍; 浓度; 排放通量
【英文关键词】ammonia; pig house; concentration; emission flux
【中文摘要】在北京选择典型猪场, 对不同季节育肥舍的氨气浓度进行了为期1年的试验测定, 2004—2005年试验期间每2个月测定1次, 每次测定3-4d, 每2h采样一次, 并根据二氧化碳平衡原理, 对猪场不同生长阶段的育肥猪氨气排放通量进行了估算。结果表明, 2005年1月舍内氨气的平均浓度为(10.09±4.60)mg/m3。2004年7月舍内氨气平均浓度为(3.44±2.34)mg/m3, 5月舍内氨气浓度为(6.29±4.07)mg/m3, 11月舍内氨气浓度为(6.98±2.63)mg/m3, 夏季舍内氨气浓度日夜变化不显著, 冬季每日最低氨气浓度出现在9:00-17:00 时段; 育肥猪饲养期间的氨气排放通量为每头107.18-424.42mg/h。
【英文摘要】Ammonia concentration in animal housing facilities has been one of the high concerns because of its significant effects on human health, animal behavior and the environment. To investigate NH3 emissions flux from finishing pigs, ammonia concentration measurements were taken from pig farmhouses for one year. Every two months, each collection data of 72-80 h were scheduled in 2004-2005. The results indicated that NH3 emission was strongly related to temperature and seasonal variation. The NH3 emission flux per pig was estimated based on ventilation rates calculated by application of carbon dioxide mass balance method. The NH3 concentration and emission flux varied diurnally and seasonally. The concentrations of NH3 averaged (10.09±4.60)mg/m3 in January, (3.44±2.34)mg/m3 in July, (6.29±4.07)mg/m3 in May and (6.98±2.63)mg/m3 in November, respectively. The concentrations of NH3 were lower between 9:00 am-17:00 pm during winter season, which greatly related to temperature and ventilation rate. NH3 emission flux from pig house varied between 107.18-424.42 mg/h per pig.
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【题目】猪舍氨气排放预测模型的研究现状
【中文关键词】猪舍;氨气;排放;模型
【英文关键词】Swine houses; ammonia emission; Prediction models
【中文摘要】该文就氨气对环境的影响和猪舍氨气排放机制进行了简要的叙述,详细综述了氨气排放的机理模型和基于不同因素建立的经验模型。从中可以看出,国外对氨气排放的模型做了大量的研究,也取得了一定的研究成果,但是不同的研究结果有一定的差异。最后针对中国的实际情况,对中国氨气排放需进一步研究的问题进行了探讨。
【英文摘要】The effects on environment of ammonia are getting more and more serious. According to the information of literature,the authors summarized the studies on the mechanism and predietable models for ammonia emissions. From the literature,it is obvious that there are a lot of predicting models for ammonia emission developed abroad. And the model predicting results have some differences. Finally,based on the condition in China,some issues for further study on ammonia emission were discussed.

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【题目】猪场厌氧出水后续处理效果的测定
【中文关键词】石灰; 沉淀; 氧化塘; 猪场污水; 后续处理
【英文关键词】lime; precipitation; anaerobic lagoon; swine waste water; post treatment
【中文摘要】针对猪场污水厌氧处理出水的有机物浓度高,后续处理困难的问题,该试验对石灰混凝法处理猪场高浓度厌氧出水的效果进行了测试,并与氧化塘的处理效果进行比较分析。试验中选择了1g/L和5g/L两种石灰投加剂量,对沉淀1、2、3、4、5和6h的净化效果进行取样分析;并对氧化塘猪场污水处理工艺连续取样三天,分析处理效果。结果表明:石灰混凝法投加剂量为5g/L、沉淀时间为5h时,对COD的去除率高达57.8%,明显好于氧化塘的去除效果;但对氨氮的去除率低于氧化塘。石灰混凝法沉淀时间短,基建投资小,可作为猪场污水进入二级处理或深度处理工艺前的可选择性过渡工艺。
【英文摘要】here are some difficulties to treat high concentration anaerobic digestion effluent from swine waste water treatment plant. In this study,the treatment efficiencies of lime coagulation and anaerobic lagoon were measured. In lime treatment experiment,two dosages of lime coagulation were 1 and 5g/L respectively,the sedimentation time was l,2,3,4,5 and 6h. In the same term,the measurements of removal efficiency of anaerobic lagoon were made at twice per day and (i.e.,six measurement episodes) 72h measurement episode,The result showed that average COD removal of lime coagulation treatment was 57.8% when the dosage of lime was 5g/L with 5h sedimentation time. The removal efficiency was better than 1g/L dosage and anaerobic lagoon. The NH3 removal of lime coagulation treatment was lower than the removal efficiency of anaerobic lagoon. The capital construction investment of the lime coagulation may be low because of short retention time and required volume,so it is possible process for high concentration anaerobic digestion effluent before second grade or advanced treatment.
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【题目】畜禽养殖废弃物贮存设施的设计
【中文关键词】畜禽;废弃物;贮存;设计
【英文关键词】animal; waste; storage; design
【中文摘要】粪便贮存是废弃物农田利用和无害化处理的关键环节之一,该文对畜禽养殖粪便污水贮存设施设计过程中的选址、基本参数确定、如何防渗等进行了论述,提出优化设计方法,为资源化处理粪便的肥料利用成为可能,该设计运行费用低,使用方便,且能取得良好的经济效益,环境效益。设计可供畜牧环境工程设计和管理人员参考。
【英文摘要】Manure storages play an important role in the manure treatment and land application. This paper summarizes the general principles in manure storages design and management, including site selection, volume determination and leakage prevention measures of manure storages. An optimum design idea is proposed. The design can wake the manure as fertilizer resources. The design of the storage facility for animal manure runs economically, is easy to operate and has great benefits of both economy and environment. It can provide a reference of design for livestock environment facilities design and management.
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【题目】Livestock manure management and Utilization in China
【中文关键词】Manure; treatment; utilization; biogas digesters
【英文关键词】Manure; treatment; utilization; biogas digesters
【中文摘要】Animal manure management is considered one of environmental priority issues for China. The objective of this paper is to describe the current state of control of pollution and emissions. The scope of the paper includes: (1)Policy and standards on animal manure management; (2)Current state of intensive animal production and its environmental impacts; (3)Technology development and treatment methods of liquid manure, solid manure; (4)National program and biogas digesters; (5) Recommendations for future research on manure management.
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【题目】畜禽粪便热解特性和动力学研究
【中文关键词】畜禽粪便; 生物质; 热解; 热重分析; 反应动力学
【英文关键词】animal manure; biomass; pyrolysis; thermogravimetric analysis; reaction kinetics
【中文摘要】利用热重- 微商热重的分析方法对猪、牛、鸡和羊4种畜禽粪便的热解行为进行了研究。热重试验样品粒径为0.2mm, 高纯氮气为热解环境, 加热起始温度为20℃, 终止温度为 900℃。通过对热重(TG) 曲线和微商热重(DTG) 曲线的分析, 得出畜禽粪便热解过程的脱水、过渡、主要失重和炭化 4 个阶段以及主要热解阶段的几个特征值参数; 考察了加热速率对样品热解过程的影响, 发现加热速率对样品热失重速率影响比较明显; 利用试验所得数据, 通过建立反应动力学方程, 采用一级单组分和一级双组分分阶段反应模型, 求出不同畜禽粪便在相应热解条件下的反应动力学参数, 结果显示, 几种样品的表观活化能值都在100 Kj/mol以下, 说明几种热解对象都很容易受热分解。
【英文摘要】Under high pure N2 and heating rates of 10, 30, and 50°C/min respectively, the pyrolytic experiments for swine, cattle, chicken and goat manure were carried out with the aid of thermogravimetric analyzer (TGA) to investigate their pyrolytic characteristics and kinetics. The sample size is 0.2mm and the temperature is from 20°Cto 900°C. The TG and DTG figure indicates four pyrolytic stages, including water- losing stage(20~127°C), transition stage(127~207°C), main weight losing stage(207~427 °C) and carbonization stage(427~800°C). The DTG curve of swine manure has one peak but the others have two peaks. These samples have high weight losing rates and the highest is 41.91%/s for swine manure at the heating rates of 50°C/min. The heating rates only affect the weight losing rates and have no significant effect on other pyrolytic characteristics. On the basis ofexperiment data, the kinetics parameters were obtained by establishing first- order dynamic reaction model and by integral computation method. All the apparent activation energy are below100 kJ?mol-1, indicating that all the samples are prone tothermal degradation.
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【题目】施用沼液对杂交狼尾草产量和土壤养分含量的影响
【中文关键词】沼液; 杂交狼尾草; 生物量; 土壤养分
【英文关键词】slurry; crossbred pennisetum; biomass; soil nutrient
【中文摘要】探讨了"猪- 沼液- 牧草"模式中兼顾生物量生产与防止土壤和地下水污染的沼液适用量。田间试验在15个、面积分别为9m2的小区上进行, 试验设1个对照, 1个无机肥处理和3个沼液处理; 每个季节杂交狼尾草施肥生长28d后收获测定生物量与土壤养分变化。结果表明, 在厦门除冬季不适合种植杂交狼尾草外, 春、夏、秋季节施用沼液种植杂交狼尾草均能获得较好生长; 在沼液施用量0~400L/9m2/2周范围内, 杂交狼尾草生物量随沼液施用量增加呈上升趋势, 最大沼液施用量组(400L/9m2/2周)杂交狼尾草生物量春夏秋冬依次为26.03、19.97、11.70、3.41 kg/区; 至全年试验结束, 在上述沼液施用强度内(最大400L/9m2/2周) , 土壤 TN、TP、NH+4- N 呈略有下降的趋势, 土壤硝态氮略有上升, 一年之内未见对土壤养分含量构成显著影响。与使用化肥比较, 使用沼液因N引起的环境和地下水硝酸盐污染风险小。针对单施沼液出现土壤养分含量下降问题, 建议加大沼液施用量或者配施一定的无机肥。
【英文摘要】A feasible slurry application was determined for both the maximum harvested biomass and friendly environment in ' swine- biogas-grass' system. 15 plots, 9m2 for each, were randomly arranged for field test, five treatments including one group of inorganic fertilizer, 3 levels of slurry and 1 ck were designed. The grass biomass and soil nutrients were determined after planting 28 d within each season. The results showed that the grass could grow well with application of pig slurry except in winter. Crossbred pennisetum growth was enhanced with increasing of slurry application within 0-400L/9m2/2周. Under the maximum application of slurry (400L/9m2/2周), harvested biomass of crossbred pennisetumin spring, summer, autumn and winter was 26.03, 19.97, 11.70 and 3.41 kg?9 m-2 respectively. In the end of the experiment, no significant difference of soil nutrients was found even in the treatment of400 Lslurry?9 m-?22weeks-1, although soil TN, TP and NH4+-N decreased and the nitrate increased slightly. Compared with inorganic fertilizer, application of pig slurry resulted in less environmental risk, indicated by lower nitrate residue in soil. Increasing slurry application or applying mixed fertilizer was suggested to meet the loss of soil nutrient.
【语种】中文
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【学科分类】环境科学技术及资源科学技术其他学科

【题目】妊娠猪舍氨气及氧化亚氮浓度测定与排放通量的估算
【中文关键词】氨气;氧化亚氮;猪舍;浓度;排放通量
【英文关键词】ammonia; nitrous oxide; pig house; concentration; emission flux
【中文摘要】在北京选择一典型猪场,对不同季节妊娠舍的氨气及氧化亚氮浓度进行了为期1年的试验测定,并根据二氧化碳平衡原理,对猪场不同生长阶段的妊娠猪含氮气体的排放通量进行了估算。结果表明:冬季2004年n月氨气和氧化亚氮的平均浓度分别为(11.64±4.36),(1.17±0.2)mg/m3,夏季7月舍内氨气和氧化亚氮的平均浓度分别为(3.31±2.67),(0.6±0.02)mg/m3;妊娠猪饲养期间的氨气排放通量为每头(185.2-500.8)mg/h,氧化亚氮为(3.85-35.93)mg/h。
【英文摘要】Measurements of ammonia and nitrous oxide concentrations were conducted from gestation pig buildings in Beijing for one year from 2004 to 2005.The NH3 and N2O emission flux per pig was estimated based on ventilation rates which were calculated by application of carbon dioxide mass balance method. The NH3 and N2O concentration and emission flux varied seasonally. Mean NH3 and N2O concentration values were (11.64±4.36) and (1.17±0.2) mg/m~3 in November, (3.31±2.67) and (0.6±0.02)mg/m~3 in July, and NH3 and N2O emission rate from pig building varied from 107.18 to4 24.42 mg/h,and 3.85 to 35.93 mg/h per animal,respectively.

【语种】中文
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【学科分类】畜牧学

【题目】膜生物反应器在猪场污水处理中的应用及技术现状
【中文关键词】膜生物反应器;猪场污水;污水处理
【英文关键词】Membrane bioreaetor; swine waste water; waste water treatment
【中文摘要】叙述了猪场污水的特点及膜生物反应器(MBR)处理猪场污水工艺的国内外应用及技术现状,对MBR用于猪场污水处理的几种典型工艺及应用实例、处理效果、操作条件的研究及膜污染和清洗方法等进行了讨论,并展望了MBR用于猪场污水处理的发展前景和今后的研究方向。
【英文摘要】The treatment technology of membrane bioreactor (MBR) for swine wastewater was briefly reviewed in this paper. More emphases were put on MBR processes, application examples, performances, conditions, membrane fouling and cleaning etc. The MBR technology has great potential in swine wastewater. The possible study orientation in the future of MBR for swine wastewater treatment in China was also given in this paper.
【语种】中文
【第一作者】孟海玲
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【学科分类】农业工程

【题目】美国零污水排放育肥猪舍生产状况
【中文关键词】猪舍;零污水排放;育肥
【英文关键词】Swine house; hoop structure; fattening
【中文摘要】该文简述了零污水排放育肥猪舍建筑结构,零污水排放育肥猪舍与规模化猪舍饲养育肥猪的生产性能、舍内卫生和环境状况比较,以及零污水排放育肥猪舍的垫料管理。分析表明:与规范化猪舍饲养育肥猪的生产相比,除了一些指标稍差外,基本能满足生产要求。该种猪舍对节省水资源并减少养猪生产中的环境污染,实现养猪业的可持续发展,具有重要意义。
【英文摘要】This paper briefly introduced the characteristics of hoop structure.T he performance of pigs raised, animal hygiene, and environment quality inside hoop structures were compared with their counterparts in the con- fined animal houses. Bedding management was also included. The analysis obtained the results as follows.Com- paired with the pigs in confined animal house, the pigs in hoop structure are little worse in some producing index. They can basically meet the demand of production. The hoop structure can both water resources and reduce environmental pollution. It is benefit for sustainable development of pig (industrialization) husbandry.
【语种】中文
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【学科分类】农业工程

【题目】农产品质量安全的概念辨析
【中文关键词】农产品; 质量安全; 概念;
【英文关键词】agricultural product quality and safety; conception;
【中文摘要】通过对农产品与食品概念的分析,以及从食物生产环节的角度探讨农产品与食品范围的界定,以满足我国当前食品安全“分段管理”的需要。同时分析了农产品质量和农产品安全的内涵,指出在我国现阶段政府干预农产品质量安全管理、选择公共政策时应侧重于农产品安全管理。
【英文摘要】The conceptions of agricultural product and food were analyzed,and the definitions of the scope of them were discussed from the process of food production.The definition would meet the requirement of the current situation of the agricultural product and the food administration in China.At the same time,the conception of agricultural food quality and safety were analyzed,and indicated that the government should focus on the agricultural food safety in the current stage.
【语种】中文
【第一作者】樊红平
【通讯作者】樊红平
【期刊名称、卷期、页码】广东农业科学 2007,7:88-90
【论文发表时间】2007-05-11 00:00:00
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【学科分类】食品科学技术基础学科

【题目】Development of SNP markers and haplotype analysis of the candidate gene for rhg1, which confers resistance to soybean cyst nematode in soybean.
【中文关键词】单倍型,SCN,SNP标记,大豆
【英文关键词】Haplotype, SCN, SNP marker, Soybean
【中文摘要】Soybean cyst nematode (SCN; Heterodera glycines Ichinohe) is one of the most destructive pests in the cultivation of soybean (Glycine max (L.) Merr.) worldwide. Markers based on the SCN resistance gene will enable efficient marker-assisted selection (MAS). We sequenced the candidate gene rhg1 in six resistant and two susceptible soybean genotypes and identified 37 SNPs (single nucleotide polymorphisms) among the sequences, of which 11 were in the coding region. Seven of these 11 SNPs led to changes in the amino acid sequence of the gene. The amino acid sequence we obtained differs from the previously published one by a stretch of 26 – 27 amino acids. Six codominant allele-specific SNP markers based on agarose gel detection were developed and tested in 70 genotypes, among which occurred only nine different haplotypes. Two neutrality tests (Tajima ’ s D and Fu and Li ’ s F) were significant for the six SNP loci in the 70 genotypes, which is consistent with intensive directional selection. A strong LD pattern was detected among five SNPs except 2868T>C. Two SNPs (689C>A and 757C>T) formed one haplotype (689C-757C) that was perfectly associated with SCN resistance. The new allele-specific PCR markers located in the alleged sequence of the rhg1 candidate gene, combined with the microsatellite marker BACR-Satt309, will significantly improve the efficiency of MAS during the development of SCN-resistant cultivars.
【英文摘要】Soybean cyst nematode (SCN; Heterodera glycines Ichinohe) is one of the most destructive pests in the cultivation of soybean (Glycine max (L.) Merr.) worldwide. Markers based on the SCN resistance gene will enable efficient marker-assisted selection (MAS). We sequenced the candidate gene rhg1 in six resistant and two susceptible soybean genotypes and identified 37 SNPs (single nucleotide polymorphisms) among the sequences, of which 11 were in the coding region. Seven of these 11 SNPs led to changes in the amino acid sequence of the gene. The amino acid sequence we obtained differs from the previously published one by a stretch of 26 – 27 amino acids. Six codominant allele-specific SNP markers based on agarose gel detection were developed and tested in 70 genotypes, among which occurred only nine different haplotypes. Two neutrality tests (Tajima ’ s D and Fu and Li ’ s F) were significant for the six SNP loci in the 70 genotypes, which is consistent with intensive directional selection. A strong LD pattern was detected among five SNPs except 2868T>C. Two SNPs (689C>A and 757C>T) formed one haplotype (689C-757C) that was perfectly associated with SCN resistance. The new allele-specific PCR markers located in the alleged sequence of the rhg1 candidate gene, combined with the microsatellite marker BACR-Satt309, will significantly improve the efficiency of MAS during the development of SCN-resistant cultivars.
【语种】英文

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【期刊名称、卷期、页码】Molecular Breeding 2009, 24: 63-76
【论文发表时间】2009-05-11 00:00:00
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【学科分类】农业基础学科

【题目】Cloning and sequence diversity analysis of GmHs1pro-1 in Chinese domesticated and wild soybeans.
【中文关键词】Glycine max, Glycine soja, DNA, 序列多样性, GmHs1pro-1, 大豆胞囊线虫, 抗性, 选择, 瓶颈
【英文关键词】Glycine max, Glycine soja, DNA, sequence diversity, GmHs1pro-1, Soybean cyst nematode, Resistance, Selection, Bottleneck
【中文摘要】Soybean cyst nematode (SCN) (Heterodera glycines Ichinohe) is the most important pathogen in soybean production worldwide and causes substantial yield losses. An apparent narrow genetic base of SCN resistance was observed in current elite soybean cultivars, and searching for novel SCN resistance genes as well as novel resistance sources rather than focusing on the two important genes rhg1 and Rhg4 has become another major objective in soybean research. In the present paper we report a 1,477 bp Hs1pro-1 homolog, named GmHs1pro-1. This gene was cloned from soybean variety Wenfeng 7 based on information for Hs1pro-1, a beet cyst nematode resistance gene in sugar beet. It has two domains, Hs1pro-1_N and Hs1pro-1_C, both of which are believed to confer resistance to nematodes. Of the 1,477 bp sequence in GmHs1pro-1, anopen readingframe of 1,314 bp, encoding a protein with 437 amino acids, was flankedby a 50-untranslated region of 27 bp and a 30- untranslated region of 135 bp. Fourteen single-nucleotide polymorphisms (SNPs) were observed in 44 soybean accessions including 23 wild soybeans, 8 landraces, and 13 soybean varieties (or lines), among which 5 in wild soybeans and 3 in landrace accessions were unique. Sequence diversity analysis on the 44 soybean accessions showed p = 0.00168 and h = 0.00218 for GmHs1pro-1; landraces had the highest diversity, followed by wild soybeans, with varieties (or lines) having the lowest. Although we did not detect a significant effect of selection on GmHs1pro-1 in the three populations, sequence diversity, unique SNPs, and phylogenetic analysis indicated a slight domestication bottleneck and an intensive selection bottleneck. High sequence diversity, more unique SNPs, and broader representation across the phylogenetic tree in wild soybeans and landraces indicated that wild collections and landrace accessions are invaluable germplasm for broadening the genetic base of elite soybean varieties resistant to SCN.
【英文摘要】Soybean cyst nematode (SCN) (Heterodera glycines Ichinohe) is the most important pathogen in soybean production worldwide and causes substantial yield losses. An apparent narrow genetic base of SCN resistance was observed in current elite soybean cultivars, and searching for novel SCN resistance genes as well as novel resistance sources rather than focusing on the two important genes rhg1 and Rhg4 has become another major objective in soybean research. In the present paper we report a 1,477 bp Hs1pro-1 homolog, named GmHs1pro-1. This gene was cloned from soybean variety Wenfeng 7 based on information for Hs1pro-1, a beet cyst nematode resistance gene in sugar beet. It has two domains, Hs1pro-1_N and Hs1pro-1_C, both of which are believed to confer resistance to nematodes. Of the 1,477 bp sequence in GmHs1pro-1, anopen readingframe of 1,314 bp, encoding a protein with 437 amino acids, was flankedby a 50-untranslated region of 27 bp and a 30- untranslated region of 135 bp. Fourteen single-nucleotide polymorphisms (SNPs) were observed in 44 soybean accessions including 23 wild soybeans, 8 landraces, and 13 soybean varieties (or lines), among which 5 in wild soybeans and 3 in landrace accessions were unique. Sequence diversity analysis on the 44 soybean accessions showed p = 0.00168 and h = 0.00218 for GmHs1pro-1; landraces had the highest diversity, followed by wild soybeans, with varieties (or lines) having the lowest. Although we did not detect a significant effect of selection on GmHs1pro-1 in the three populations, sequence diversity, unique SNPs, and phylogenetic analysis indicated a slight domestication bottleneck and an intensive selection bottleneck. High sequence diversity, more unique SNPs, and broader representation across the phylogenetic tree in wild soybeans and landraces indicated that wild collections and landrace accessions are invaluable germplasm for broadening the genetic base of elite soybean varieties resistant to SCN.
【语种】英文
【第一作者】袁翠平
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【期刊名称、卷期、页码】Molecular Breeding 2008, 22:593-602
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【学科分类】农业基础学科

【题目】Novel microRNAs uncovered by deep sequencing of small RNA transcriptomes in bread wheat (Triticum aestivum L.) and Brachypodium distachyon (L.) Beauv.
【中文关键词】无
【英文关键词】Brachypodium.
Wheat.
Small RNA.
MicroRNA.
SiRNA
【中文摘要】无
【英文摘要】The small RNA transcriptomes of bread wheat and its emerging model Brachypodium distachyon were obtained by using deep sequencing technology. Small RNA compositions were analyzed in these two species. In addition to 70 conserved microRNAs (miRNAs) from 25 families, 23 novel wheat miRNAs were identified. For Brachypodium, 12 putative miRNAs were predicted from a limited number of expressed sequence tags, of which one was a potential novel miRNA. Also, 94 conserved miRNAs from 28 families were identified in this species. Expression validation was performed for several novel wheat miRNAs. RNA ligase-mediated 5 ′ rapid amplification of complementary DNA ends experiments demonstrated their capability to cleave predicted target genes including three diseaseresistant gene analogs. Differential expression of miRNAs was observed between Brachypodium vegetative and reproductive tissues, suggesting their different roles at the two growth stages. Our work significantly increases the novel miRNA numbers in wheat and provides the first set of small RNAs in B. distachyon.
【语种】英文
【第一作者】Bo Wei
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【期刊名称、卷期、页码】Funct Integr Genomics 2009, 9(4): 499-511.
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【学科分类】分子生物学

【题目】农户实施农业标准化生产行为的理论和实证分析
【中文关键词】小农户; 农业标准化; 生产行为;
【英文关键词】Small-scale farmers; agricultural standardization; act of production
【中文摘要】本文在小农户实施农业标准化生产行为理论分析的基础上,进一步通过实证模型的方法分析了小农户实施农业标准化生产行为的主要影响因素和影响程度,得出相关结论,并提出建议。
【英文摘要】In this paper, the theoretical analysis of the standardization of agricultural production behavior of small farmers on the basis of further analysis by the method of the empirical model small-scale farmers the main factors affecting the implementation of the standardization of agricultural production behavior and impact, draw relevant conclusions and recommendations.
【语种】中文
【第一作者】王芳
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【期刊名称、卷期、页码】农业经济问题 2007,12:75-79
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【引文索引类型】其他
【引文索引号】
【学科分类】农业经济学

【题目】MOS1 osmosensor of Metarhizium anisopliae is required for adaptation to insect host hemolymph
【中文关键词】无

【英文关键词】Metarhizium anisopliae
【中文摘要】无
【英文摘要】Entomopathogenic fungi such as Metarhizium anisopliae infect insects by direct penetration of the cuticle, after which the fungus adapts to the high osmotic pressure of the hemolymph and multiplies. Here we characterize the M. anisopliae Mos1 gene and demonstrate that it encodes the osmosensor required for this process. MOS1 contains transmembrane regions and a C-terminal Src homology 3 domain similar to those of yeast osmotic adaptor proteins, and homologs of MOS1 are widely distributed in the fungal kingdom. Reverse transcription-PCR demonstrated that Mos1 is up-regulated in insect hemolymph as well as artificial media with high osmotic pressure. Transformants containing an antisense vector directed to the Mos1 mRNA depleted transcript levels by 80%. This produced selective alterations in regulation of genes involved in hyphal body formation, cell membrane stiffness, and generation of intracellular turgor pressure, suggesting that these processes are mediated by MOS1. Consistent with a role in stress responses, transcript depletion of Mos1 increased sensitivity to osmotic and oxidative stresses and to compounds that interfere with cell wall biosynthesis. It also disrupted developmental processes, including formation of appressoria and hyphal bodies. Insect bioassays confirmed that Mos1 knockdown significantly reduces virulence. Overall, our data show that M. anisopliae MOS1 mediates cellular responses to high osmotic pressure and subsequent adaptations to colonize host hemolymph
【语种】英文
【第一作者】Chengshu Wang
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【引文索引号】18055914
【学科分类】微生物学

【题目】我国无公害农产品认证特征及发展策略
【中文关键词】无公害农产品; 认证;
【英文关键词】safe agro-food; certification;
【中文摘要】无公害农产品认证是我国农产品质量安全工作的重要抓手。经过4年的发展,认证在经济、社会、生态等方面取得了显著效益。本文在分析无公害认证产品的规模、结构、区域分布和申请主体构成等方面特征和变化趋势基础上,提出了"培育市场主体,发展重点产品,分类指导区域,加快扩大规模"的发展思路。
【英文摘要】The certification of safe agro-food is an important grasp on China agro-food quality and safety sector.Through the four years development,certification work has obtained significant benefits on economy,society and entironment etc.aspects.Under the discussion of feature and changing trend on scale,structure,regional distribution and the composing of applicants about the safe agro-food,and then puts forward the development idea of "cultivate market entities,develop important products,regional classified dire...
【语种】中文
【第一作者】万靓军
【通讯作者】万靓军
【期刊名称、卷期、页码】农业现代化研究 2008,2(29):168-171
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【引文索引类型】null
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【学科分类】环境科学技术及资源科学技术其他学科

【题目】小麦抗黄矮病相关基因cDNA-AFLP差异表达片段的验证
【中文关键词】小麦;黄矮病抗性;cDNA.AFLP;差异表达片段;反向Northern方法;RT—PCR
【英文关键词】Wheat;Resistance to BYDV;eDNA-AFLP;Differential expressed fragments;Reversed Northern blot:RT.PCR
【中文摘要】cDNA-AFLP技术是研究基因差异表达的有利壬具,广泛用于植物抗病、抗逆和生长发育等研究领域。本研究以cDNA.AFLP技术分离的抗黄矮病小麦与感黄矮病小麦间差异表达片段为对象,利用反向Northern方法,从cDNA-AFLP技术筛选的46个候选抗黄矮病防御基因差异表达片段中,筛选出抗黄矮病相关防御基因片段6个;采用对回收的差异片段进行再扩增(延伸引物再扩增),再与原选扩产物一起进行PAGE电泳分析法,并结合半定量RT.PCR分析法,又验证了候选

抗黄矮病相关基因表达片段3个。反向Northern方法以及对回收的差异片段进行再扩增(PAGE再分析法),结合(半)定量RT—PER分析方法,可以比较准确地验证cDNA-AFLP所筛选出的基因差异表达片段。

【英文摘要】Abstract:eDNA—AFLP was a powerful tool for isolating differential expressed genes in plants,and has been widely applied to the research fields of plant resistance,growth and development.In this paper,Some differential expressed fragments were selected between the BYDV resistant wheat line HW642 and its susceptible wheat parent Zhon98601 selected through cDNA—AFLP technique in order to identify some related defense genes against BYDV inthe resistant wheat lines.Results showed that 6 differential expressed fragments via eDNA-AFLP were confirmed by reversed Northern blot,and could be involved in defense response to BYDV in the resistant wheat line HW642;3 differential expressed fragments via eDNA—AFLP were confirmed by the extension re-amplified/PAGE electrophore-8is method and RT-PCR analysis.These confirming methods should be suitable to identify the ture differential expressed fragments selected via eDNA—AFLP method.

【语种】中文

【第一作者】赵继荣

【通讯作者】张增艳

【期刊名称、卷期、页码】植物遗传资源学报 2009,10(1): 16-20

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【学科分类】分子生物学

【题目】Genetic diversity in domesticated soybean (Glycine max) and its wild progenitor (Glycine soja) for simple sequence repeat and single‐nucleotide polymorphism loci

【中文关键词】多样性格局特征,驯化,地理变异,基因渗入,群体结构。

【英文关键词】diversity pattern, domestication,geographic variation, introgression,population structure.

【中文摘要】The study of genetic diversity between a crop and its wild relatives may yield fundamental insights into evolutionary history and the process of domestication. • In this study, we genotyped a sample of 303 accessions of domesticated soybean (Glycine max) and its wild progenitor Glycine soja with 99 microsatellite markers and 554 single-nucleotide polymorphism (SNP) markers. • The simple sequence repeat (SSR) loci averaged 21.5 alleles per locus and overall Nei ’ s gene diversity of 0.77. The SNPs had substantially lower genetic diversity (0.35) than SSRs. A SSR analyses indicated that G. soja exhibited higher diversity than G. max, but SNPs provided a slightly different snapshot of diversity between the two taxa. For both marker types, the primary division of genetic diversity was between the wild and domesticated accessions. Within taxa, G. max consisted of four geographic regions in China. G. soja formed six subgroups. Genealogical analyses indicated that cultivated soybean tended to form a monophyletic clade with respect to G. soja. • G. soja and G. max represent distinct germplasm pools. Limited evidence of admixture was discovered between these two species. Overall, our analyses are consistent with the origin of G. max from regions along the Yellow River of China.

【英文摘要】The study of genetic diversity between a crop and its wild relatives may yield fundamental insights into evolutionary history and the process of domestication. • In this study, we genotyped a sample of 303 accessions of domesticated soybean (Glycine max) and its wild progenitor Glycine soja with 99 microsatellite markers and 554 single-nucleotide polymorphism (SNP) markers. • The simple sequence repeat (SSR) loci averaged 21.5 alleles per locus and overall Nei ’ s gene diversity of 0.77. The SNPs had substantially lower genetic diversity (0.35) than SSRs. A SSR analyses indicated that G. soja exhibited higher diversity than G. max, but SNPs provided a slightly different snapshot of diversity between the two taxa. For both marker types, the primary division of genetic diversity was between the wild and domesticated accessions. Within taxa, G. max consisted of four geographic regions in China. G. soja formed six subgroups. Genealogical analyses indicated that cultivated soybean tended to form a monophyletic clade with respect to G. soja. • G. soja and G. max represent distinct germplasm pools. Limited evidence of admixture was discovered between these two species. Overall, our analyses are consistent with the origin of G. max from regions along the Yellow River of China.

【语种】英文

【第一作者】李英慧

【通讯作者】邱丽娟

【期刊名称、卷期、页码】New Phytologist (2010) 188: 242 – 253

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【引文索引号】doi: 10.1111/j.1469-8137.2010.03344.x

【学科分类】农业基础学科

【题目】基于大豆胞囊线虫病抗性候选基因rhg1的InDel 标记开发与鉴定
【中文关键词】大豆; 胞囊线虫病; InDel 标记
【英文关键词】Soybean; SCN; InDel marker
【中文摘要】大豆胞囊线虫病是严重危害大豆生产的重要病害之一, 根据抗病候选基因开发标记可为分子标记辅助选择抗病材料提供标记资源。本研究通过对大豆胞囊线虫抗性候选基因rhg1 的序列比对分析, 发现4 个插入/删除位点, 针对其中3 个多碱基插入/缺失位点开发了InDel 标记。应用开发的3 个InDel 标记对33 份栽培大豆进行基因型鉴定, 共检测到等位变异11 个, 平均每个位点3.67 个。其中rhg1-I1 位点有等位变异5 个, rhg1-I2 位点有等位变异2 个; rhg1-I4 位点有等位变异4 个。各等位变异发生频率范围为0.8%~77.3%。InDel 标记与大豆胞囊线虫抗性间的关联分 析表明, rhg1-I4 为抗性相关标记, 对抗病资源的检出效率为88.2%, 对感病资源的检出效率为100%。该标记的288 bp 等位变异和294 bp 等位变异为抗病相关等位变异, 269 bp 等位变异和272 bp 等位变异为感病相关等位变异。此标记 与常用于标记辅助选择的Satt309 配合鉴定可以提高SCN 抗病资源的检测效率。
【英文摘要】Soybean cyst nematode (Heterodera glycaines, SCN) is one of the most important pests of soybean in the world. New molecular markers developed from resistance genes can provide marker resources for marker-assisted selection (MAS) breeding. Among four InDel loci detected by comparing the sequences of candidate rhg1 conferring SCN resistance, three multiple-bases InDel loci were used to develop markers. A total of 11 alleles were detected in 33 cultivated soybean genotypes using the three InDel markers with 5, 2, and 4 alleles at rhg1-I1, rhg1-I2, and rhg1-I4 locus, respectively. In combination with phenotypic identification in earlier investigations, rhg1-I4 was highly associated with SCN resistance, and screened out 88.2% of the resistant genotypes and 100% of the susceptible genotypes. Alleles of 288 and 294 bp presented in the SCN-resistant germplasm, and alleles of 269 and 272 bp presented in the SCN-susceptible germplasm. In addition, rhg1-I4 is also effective to distinguish the susceptible cultivar Lee and the resistant line PI88788 that have same amplification pattern with the SSR marker Satt309. It is suggested to use the both markers (rhg1-I4 and Satt309) for SCN-resistance selection in MAS breeding program in soybean.
【语种】中文
【第一作者】南海洋
【通讯作者】邱丽娟
【期刊名称、卷期、页码】作物学报, 2009, 35(7): 1236-1243
【论文发表时间】2009-03-16 00:00:00
【引文索引类型】其他
【引文索引号】DOI: 10.3724/SP.J.1006.2009.01236
【学科分类】农业基础学科

【题目】中美农产品质量安全检验检测体系比较研究
【中文关键词】美国; 农产品检验检测体系; 比较;
【英文关键词】USA; the system for agri-food inspection; Comparison.;
【中文摘要】通过对中美农产品质量安全管理体制、检测机构组成和布局、检测机构管理机制以及运行情况等方面的比较研究,分析了我国农产品检验检测体系存在的差距,并在此基础上提出完善我国农产品质量安全检验检测体系的建议。
【英文摘要】USA has much experience and many successful facts.On the establishment of the system for agri-food inspection,This paper tried to point out some disadvantages of the system for agri-food inspection of our country by comparing the management system of agri-food quality and safety,the component,the layout,the management system of inspection laboratory between USA and China.And on the situation our country,the paper provided some suggestions to the establishment of the system for agri-food inspection of our co...
【语种】中文
【第一作者】樊红平
【通讯作者】王敏
【期刊名称、卷期、页码】家畜环境学报 2008,6:1-5
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【引文索引类型】其他
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【学科分类】农学其他学科

【题目】基于大豆胞囊线虫病抗性候选基因的SNP位点遗传变异分析
【中文关键词】栽培大豆; 野生大豆; SNP标记; 遗传变异
【英文关键词】Glycine max; Glycine soja; SNP marker; genetic variation
【中文摘要】以我国363份栽培和野生大豆资源为材料, 对大豆胞囊线虫抗性候选基因(rhg1和Rhg4)的SNP位点(8个)进行遗传变异分析, 以期阐明野生和栽培大豆间遗传多样性及连锁不平衡水平差异。结果表明, 与野生大豆相比, 代表我国栽培大豆总体资源多样性的微核心种质及其补充材料的连锁不平衡水平较高(R2值为0.216)。在栽培大豆群体内, 基因内和基因间分别有100%和16.6%的SNP位点对连锁不平衡显著, 形成两个基因特异的连锁不平衡区间(Block)。在所有供试材料中共检测到单倍型46个, 野生大豆的单倍型数目(27)少于栽培大豆(31), 但单倍型多样性(0.916)稍高于栽培大豆(0.816)。单倍型大多数(67.4%)为群体所特有(31个), 其中15个为野生大豆特有单倍型。野生大豆的两个主要优势单倍型(Hap_10和Hap_11)在栽培大豆中的发生频率也明显下降, 推测野生大豆向栽培大豆进化过程中, 一方面形成了新的单倍型, 另一方面因为瓶颈效应部分单倍型的频率降低甚至消失。
【英文摘要】For clarifying the difference of genetic diversity and linkage disequilibrium (LD) level between cultivated (Glycine max (L.) Merr.) and annual wild soybean (Glycine soja Sieb. & Zucc.), genetic variation pattern of 8 SNP loci developed from soybean cyst nematode resistance candidate genes rhg1 and Rhg4 in soybean germplasm were analyzed. The results indicated that G. max population, consisted of cultivated soybean mini-core collection and modern cultivars, had a higher LD levels (R2 value is 0.216) than G. soja population. Since 100% of pairwise loci within a gene and 16.6% of pairwise loci between genes were significant in G. max population, two specific LD regions were formed for each gene. A total of 46 haplotypes were detected in 363 soybean germplasm. The population of G. soja had less number of haplotypes and higher haplotype diversity than the population of G. max. Among the 31 population-specific haplotypes, 15 haplotypes were specific for G. soja population. In addition, the frequency of two major predominant haplotypes (Hap_10 and Hap_11) in G. soja population was obviously decreased in G. max population, which might indicate that some new haplotypes were formed and some old haplotypes were lost during the G. max domesticated from G. soja.
【语种】中文
【第一作者】李英慧
【通讯作者】邱丽娟
【期刊名称、卷期、页码】遗传, 2009, 31(12): 1-6
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【引文索引类型】其他
【引文索引号】DOI: 10.3724/SP.J.1005.2009.01259
【学科分类】农业基础学科

【题目】农业经济组织在无公害农产品认证中的发展趋势和作用
【中文关键词】无公害农产品; 认证; 农业经济组织;
【英文关键词】safe agro-food; certification; agriculture economic organizer;
【中文摘要】随着《中华人民共和国农民专业合作社法》的正式实施,农业经济组织在中国农业生产上起着越来越重要的作用。从无公害农产品认证的角度,介绍了几种申报认证农业经济组织的特点,以及2003—2007年农业经济组织在申报所占比例、带动的生产规模以及农产品质量安全水平变化等情况。分析了中国农业经济组织的作用和下一步发展需要加强的工作。
【英文摘要】Along with the implementation of the《Law of Farmer Special Cooperation》, the agriculture economic organizer plays an important role in agriculture of our country. The text introduce the characteristic of the agriculture economic organizer on Certification of Safe Agro-food, including the agriculture economic organizer’s inverse proportion, scope and agro-food quality & safety’s change in 2003-2007. Analyzed the effect and next job of the agriculture economic organizer.
【语种】中文
【第一作者】刘建华
【通讯作者】刘建华
【期刊名称、卷期、页码】中国农学通报 2008,1(28):535-538
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【学科分类】农学其他学科

【题目】Photosynthetic rate and yield formation in different maize hybrids
【中文关键词】无
【英文关键词】chlorophyll content, dry mass, photosynthetic rate, Zea mays L.
【中文摘要】无
【英文摘要】The relationship between photosynthetic rate and yield formation processes of the newer and older maize hybrids were investigated. Leaf area at flowering (source) and kernel number (sink) of the newer hybrids were greater than the older ones although their light-saturated photosynthetic rate (Psat) were not greater than the older ones before flowering. After flowering, Psat and chlorophyll content of the newer hybrids declined more slowly than the older ones. They not only distributed almost all photosynthates produced after flowering to grain but also reallocated some reserved photosynthates produced before flowering to grain. The newer hybrids exhibited greater grain mass than the older ones mostly because they could optimally regulate the photosynthetic rate and yield formation processes to maximize grain mass.
【语种】英文
【第一作者】Ding L
【通讯作者】Wang K.J
【期刊名称、卷期、页码】BIOLOGIA PLANTARUM 51 (1): 165-168, 2007
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【引文索引类型】SCI
【引文索引号】10.1007/s10535-007-0032-x
【学科分类】植物学

【题目】一种大豆 SNP 分型新方法.
【中文关键词】大豆;SNP ;分型;片段长度差异等位基因特异性PCR
【英文关键词】Soybean ;SNP ; Genotyping ; Fragment Lengt h Discrepant Allele Specific PCR
【中文摘要】单核苷酸多态性(SNP) 在大豆基因组中分布广泛,SNP 分型是大豆SNP 遗传作图,关联分 析、分子标记辅助选择等研究的重要技术。本文以Rh g4 基因开发的5 个SNP 为例,介绍了一种 大豆SNP 分型的新方法- 片段长度差异等位基因特异性PCR (FLDAS - PCR) 。采用AS - PCR 原理,针对某个SNP 位点设计2 条相差4 - 5bp 的特异引物和1 个公用引物 ,PCR 产物约100bp 或 150bp ,2 种等位基因型PCR 产物相差4 - 5bp ,在2 个特异引物3 ′ 端第3 和4 碱基位置分别人为引 入错配碱基来提高PCR 特异性,通过6 %变性聚丙烯酰胺凝胶电泳可将纯合和杂合基因型检测出 来。探讨了特异引物浓度和退火温度对Rhg4 - 1592 扩增效果的影响,研究表明,可通过调整特异 引物浓度和退火温度优化扩增效果。FLDAS - PCR 对18 份种质分型结果与PCR 产物克隆测序 法一致,表明本研究建立的FLDAS - PCR 法是一种简便、快捷、新型的大豆SNP 分型方法。
【英文摘要】Single nucleotide polymorphism (SNP) is a genome wide mutation type for organisms-SNP genotyping is an important technique for SNP genetic mapping ,association analysis , and molecular assistant selection and so on-We introduced a fragment length discrepant allele specific PCR (FLDAS - PCR) method for SNP genotyping in soybean ,using 5 SNPs in Rhg4 as examples- For a SNP loci ,we designed 2 allele specific primers which had 4 - 5bp length difference and 3 ’ - end complementary to each of bi - allelic SNPs ,and common primer ,as a result PCR product s of different alleles had 4 - 5bp difference in length ,which could be separated by 6 % denature polyacrylamide gel. In order to improve PCR specificity and data accuracy , an additional base mismatch was introduced at t he 3rd or 4th nucleotide closest to the 3 ’ - end of each of t he specific primer s-We al so investigated t he influence of annealing temperature and primer concentration on PCR amplification ,Rhg4 - -592 as an example ,and found t hat lower concentration of t he specific primer would reduce it s annealing competition in PCR reaction ,and behaved more sensitive to annealing temperature ,so we could optimize PCR by increasing or reducing specific primer concentration. The genotypes of SNPs by the FLDAS - PCR agreed with the results by PCR cloning and sequencing for -8 soybean genotypes ,which approved that the method was effective in SNP genotyping in soybean
【语种】中文
【第一作者】袁翠平
【通讯作者】邱丽娟

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【学科分类】农业基础学科

【题目】Development of soybean EST-SSR markers and their use to assess genetic diversity in the subgenus Soja.
【中文关键词】EST-SSR, 多样性, Soja亚属
【英文关键词】EST-SSR, diversity, Soja subgenus
【中文摘要】Developing expressed sequence tag-derived SSR (EST-SSR) markers is imperative in genetic research. In this paper, we reported 37 EST-SSR markers which were developed from 286 unigenes obtained from soybean cDNA library. Among the 286 markers designed for the 4 accessions of Glycine max and 6 of its wild progenitor (G. soja) within the subgenus Soja, 209 markers amplified DNA fragments, taking 73.1% and 37 markers appeared to be polymorphic, which was 12.9% of the total. The 37 loci detected a total of 142 alleles, while the PIC values varied from 0.194 to 0.794. Both the number of alleles per locus and PIC value were significantly related to the SSR motif. Six EST-SSR loci may be fixed for different alleles between G. max and G. soja since they were particularly polymorphic among the 6 G. soja accessions. A neighbor-joining tree placed the G. max accessions together as a group within the G. soja, though the average genetic distance among G. soja accessions was much higher. These new EST-SSRs markers will be useful for genetic diversity analysis, genetic mapping construction and gene discovery in Soja subgenus.
【英文摘要】Developing expressed sequence tag-derived SSR (EST-SSR) markers is imperative in genetic research. In this paper, we reported 37 EST-SSR markers which were developed from 286 unigenes obtained from soybean cDNA library. Among the 286 markers designed for the 4 accessions of Glycine max and 6 of its wild progenitor (G. soja) within the subgenus Soja, 209 markers amplified DNA fragments, taking 73.1% and 37 markers appeared to be polymorphic, which was 12.9% of the total. The 37 loci detected a total of 142 alleles, while the PIC values varied from 0.194 to 0.794. Both the number of alleles per locus and PIC value were significantly related to the SSR motif. Six EST-SSR loci may be fixed for different alleles between G. max and G. soja since they were particularly polymorphic among the 6 G. soja accessions. A neighbor-joining tree placed the G. max accessions together as a group within the G. soja, though the average genetic distance among G. soja accessions was much higher. These new EST-SSRs markers will be useful for genetic diversity analysis, genetic mapping construction and gene discovery in Soja subgenus.
【语种】英文
【第一作者】刘玉林
【通讯作者】邱丽娟
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【学科分类】农业基础学科

【题目】小麦白粉病菌诱导的TaWRKY34 基因的鉴定与分析
【中文关键词】小麦; 白粉病菌; WRKY 转录因子; 染色体定位; 表达模式
【英文关键词】Wheat; Blumeria graminis f. sp. tritici; WRKY transcription factor; Chromosome location; Expression pattern
【中文摘要】WRKY 转录因子在植物抗病防卫反应中发挥重要作用。利用 cDNA 宏阵列(macroarray)和 RT-PCR 相结合的方法, 从小麦全长 cDNA 文库的 WRKY 转录因子中筛选出一个应答小麦白粉病菌胁迫的 TaWRKY34 转录因子, 该基因编码 464 个氨基酸。染色体定位分析表明, 该转录因子位于小麦第一同源群染色体的短臂上, 并且只在细胞核中表达。其蛋白序列与拟南芥、大麦和葡萄抗病相关 WRKY 转录因子的亲缘关系较近, 与其中的 3 个 WRKY 基因具有相似的表达模式。TaWRKY34 在 Pm16/北京 8377抗白粉病近等基因系中, 对小麦白粉病菌、水杨酸和茉莉酸诱导的表达模式存在差异。TaWRKY34 可能与小麦对白粉菌的抗性有关。
【英文摘要】WRKY transcription factors play important roles in plant defense signaling network. However, little is known about the biological roles of WRKY proteins in wheat (Triticum aestivum L.). The objectives of this study were to screen WRKY transcription factor genes conferring resistance to powdery mildew (Blumeria graminis f. sp. tritici, Bgt) and disclose their function in wheat defense reaction. A WRKY transcription factor gene, TaWRKY34, was identified in response to Bgt by cDNA macroarray and semiquantitative RT-PCR from the wheat full-length cDNA libraries that were constructed in the authors ’ earlier studies. This gene encodes 464 amino

acid residues. TaWRKY34 was mapped onto short arms of chromosome 1B and 1D through blast search GrainGenes database and homemade full length cDNA library database of Aegilops tauschii. A further experiment indicated that TaWRKY34 also exists on chromosome 1AS through amplifying in Langdon D-genome disomic substitution lines and Chinese Spring nulli-tetrasomic lines with gene specific primers. Examining the subcellular localization of TaWARKY34, its coding region was fused to the 3′ end of green fluorescent protein (GFP). The GFP signal was detected only in the nucleus of onion epidermal cells to transiently express TaWRKY34-GFP, and the control-GFP protein distributed ubiquitously in both nuclei and cytoplasm. This suggests that TaWRKY34 is a nucleus-localized protein. Multiple sequence alignments of 57 WRKY domains from various species indicated that TaWRKY34 is closely related to WRKY transcription factors in response to pathogens in Arabidopsis thaliana (AtWRKY3, AtWRKY4, and AtWRKY33), Hordeum vulgare (HvWRKY42 and HvWRKY46), and Vitis vinifera (VvWRKY2) with identities ranging from 81.8% to 94.5%. Furthermore, TaWRKY34 has similar expression pattern with three sequences from A. thaliana, which was up-regulated at first and then down-regulated when inoculated with pathogens. The expression profiles of TaWRKY34 induced by powdery mildew fungus, salicylic acid, and jasmonic acid were different between Pm16/Beijing 8377 near-isogenic lines (resistant to Bgt) and Beijing 837 (susceptible to Bgt). The results imply that TaWRKY34 is probably related to the resistance to powdery mildew in wheat.

【语种】中文
【第一作者】秦 伟
【通讯作者】孔秀英
【期刊名称、卷期、页码】作物学报 2010, 36(2): 249－255
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【引文索引类型】其他
【引文索引号】
【学科分类】分子生物学

【题目】The size and ratio of homologous sequence to non-homologous sequence in gene disruption cassette influences the gene targeting efficiency in Beauveria bassiana
【中文关键词】无
【英文关键词】Beauveria bassiana
【中文摘要】无
【英文摘要】Targeted gene replacement via homologous recombination (HR) is a conventional approach for the analysis of gene function. However, this event is rare in Beauveria bassiana, which hampers efficient functional analysis in this widely used entomopathogenic fungus. To improve homologous recombination frequency in B. bassiana, we investigated the effect of the ratio of homologous sequence to non-homologous sequence (HS/NHS) in gene disruption cassette upon the HR frequency by two gene loci BbNtl and BbThi, using the herpes simplex virus thymidine kinase as a negative selectable marker against ectopic transformants. Our data revealed that an increase of the ratio of HS/NHS achieved by either extending homologous sequence or decreasing non-homologous sequence could improve HR frequency in B. bassiana. We determined empirically that (1) at least 700 bp of homology to both sides of a target gene was needed to get a reasonable number of disruptants, e.g., 6.7 per thousand to 13.3 per thousand in B. bassiana. (2) When the ratio of HS/NHS was above 0.8, an acceptable HR frequency could be achieved for gene replacement in B. bassiana, while when the ratio was below 0.3, few gene disrupted mutants were obtained
【语种】英文
【第一作者】Jin-Cheng Ma
【通讯作者】Yan Pei
【期刊名称、卷期、页码】Applied Microbiology and Biotechnology, 82(5): 891-898
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【引文索引类型】SCI
【引文索引号】19148636
【学科分类】微生物学

【题目】无公害农产品一体化推进与农产品认证制度的完善
【中文关键词】无公害农产品; 一体化; 认证模式;
【英文关键词】Pollution-free agricultural products; integration; authentication mode;

【中文摘要】本文较详细介绍了无公害农产品产地认定和产品认证一体化推进提出的背景,分析了一体化推进的主要内容和特点以及取得成效,并从一般产品认证模式、农产品安全认证的主体、认证的时效性和现场检查必要性等方面探讨了一体化推进对农产品认证制度的完善。

【英文摘要】This paper has detailed the pollution-free agricultural produce identification and product certification integration advancing to the background, main contents and characteristics of the integration of propulsion and success, and general product certification model, the main body of the safety certification of agricultural products, certification of agingand on-site inspection and the need to explore the integration to promote the improvement of agricultural product certification system

【语种】中文

【第一作者】樊红平

【通讯作者】樊红平

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【引文索引类型】null

【引文索引号】

【学科分类】农业经济学

【题目】Bt 杀虫晶体蛋白—肠溶性微囊制备

【中文关键词】关键词:苏云金芽孢杆菌(Bacillus thuringensis);肠溶性微胶囊;Bt 伴孢晶体蛋白

【英文关键词】Key words: Bacillus thuringensis, enteric microcapsule, Bt crystal proteins

【中文摘要】摘 要:【目的】研究 Bt(Bacillus thuringensis)晶体蛋白肠溶性微囊的制备方法,为进一步研究它对防止紫外线损伤晶体蛋白及促进晶体蛋白在害虫中肠快速释放等方面的作用奠定基础;【方法】 用复相乳液法制备肠溶性微囊,并应用 L16(45)正交试验设计研究相关因子对微胶囊包封率的影响;【结论】采用复相乳液法可以制备 Bt 晶体蛋白的肠溶性微囊。 5 个因子对包封率有显著影响, 影响大小依次为乳化转速 >HPMCP 浓度(壁材)>Bt 晶体蛋白含量(芯材)> 蓖麻油含量(助剂)> 甲基纤维素浓度(亲水胶体)。 以 500ml分散系为条件, 筛选出的肠溶性微胶囊较佳工艺为:8.6mg/mL Bt 晶体蛋白溶液 1ml,20mg/mL HPMCP溶液 50ml 及蓖麻油 2ml,三者混合并在匀化器转速 6000r/min 下乳化,而后分散于 2.1%或 3.3%甲基纤维素钠溶液中成囊。

【英文摘要】Abstract:【 OBJECTIVE】 The paper aimed to research the preparation technology of enteric microcapsules of insecticidal crystal proteins (ICP) of Bacillus thuringensis (Bt)【.Method】 Double emulsion method was used for the effort to prepare enteric microcapsules with ICP as core material and hydroxypropyl methylcellulose phthalate (HPMCP) as shell material.Experiment in orthogonal matrix design [L1645)] was used to value theinfluence of the relevant elements【. Results】 Enteric microcapsules wrapping ICP could be prepared by double emulsion method. The encapsulation of ICP was influenced by factors such as emulsification rotation speed, concentration of shell and core materials, emulsification agent and hydrocolloids, which were listed in a pattern of decreasing importance. In 500 ml aqueous medium for formation of the microcapsules, the optimal technology was to emulsify 1 ml 8.6mg/mL IPC, 50ml 20mg/mL HPMCP and 2 ml castor oil at emulsification rotation speed of 6000 r/min, then disperse the emulsion in 2.1% or 3.3% carboxymethyl cellulose(CMC-Na).

【语种】中文

【第一作者】阮传清

【通讯作者】刘波

【期刊名称、卷期、页码】中国农学通报　2008, 24(11): 374-378.　2006AA10A212

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【引文索引类型】其他

【引文索引号】

【学科分类】微生物学

【题目】蛋氨酸羟基类似物(HMTBA)和酸化剂、抗生素对肠道病原菌的体外抑制对比试验

【中文关键词】蛋氨酸羟基类似物; 酸化剂; 抗生素

【英文关键词】HMTBA; organic acid; antibiotics

【中文摘要】该研究采用平板法和试管法测定蛋氨酸羟基类似物(HMTBA) 体外抑菌效果, 并与常见有机酸, 如乳酸(LA) 、甲酸(FA) 、柠檬酸(CA) , 以及二甲酸钾(KDF) , 广谱抗生素氯霉素(Chl) 、诺氟沙星(Nor) 进行比较。结果表明, HMTBA 对6 株供试菌的最低抑菌浓度(MIC) 为0.1 % ~0.2 %, 与LA、CA、C.KDF、B.KDF 相当, 高于FA 的0.05 %~0.1 %;

Chl 对6 株供试菌的最低抑菌浓度(MIC) 为1.95 ~7.81 mg/ kg, Nor 对5 株供试菌的最低抑菌浓度在0.391~0.781 mg/ kg, 而对鸡源沙门氏菌S1 的MIC 却是12.5 mg/ kg, 说明该菌已对Nor 产生了耐药性。

【英文摘要】In this research, inhibition efficacy of 2- hydroxy- 4- (methythio) butanoic acid (HMTBA) against majorenteric pathogens was studied comparing with other antibacterial substances, such as lactic acid, formic acid, potassium diformate,norfloxacin and chloromycetin in vitro.The result showed that the MIC of HMTBA to the six tested strains was0.1 % ~0.2 %.The antibacterial activity of HMTBA was almost the same as lactic acid, citric acid, formic acid and potassiumdiformate, but no better than formic acid and the two antibiotics.The MIC of chloromycetin to six tested strains was 1.95 ~7.81 mg/kg, and the MIC of norfloxacin to five of the six tested strains was 0.391 ~0.781 mg/kg, but it was 12.5 mg/kg to the chicken- source salmonella S1, which showed that this strain acquired resistance to norfloxacin.

【语种】中文

【第一作者】马鑫

【通讯作者】计成

【期刊名称、卷期、页码】中国饲料,2008年第2期: 11-14

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【引文索引类型】其他

【引文索引号】

【学科分类】畜牧学

【题目】Perennial O.Sativa ryza sativax O.Rufipogon interspecific hybrids:I.Photosynthetic charaoteristics and their inheritance

【中文关键词】无

【英文关键词】Rice; Photosynthesis; Oryza; O. sativa; O. rufipogon

【中文摘要】无

【英文摘要】A survey of 24 wild Oryza accessions identified Oryza australiensis and Oryza rufipogon as potential sources of enhanced photosynthetic ratefor introgression into cultivated rice. Photosynthetic capacity per unit leaf area (CER) was associated with leaf N content but not with leafchlorophyll concentration, flag leaf area, or specific leaf area. Eight fertile, perennial F1 hybrids between O. sativa and O. rufipogon were grown innon-flooded soil, and CER was measured at flowering under saturating light. Two F1 hybrids had greater CER than the average of26.1 mmol m2 s 1. The F2 progeny from these hybrids were screened for CER in the field, and segregants with even greater rates of photosynthesiswere selected. The basis of high photosynthetic rate in the F2 populations was not leaf thickness or leaf chlorophyll content. One F2 line hadexceptionally high CER and stomatal conductance. Broad-sense heritability on an individual plant basis for CER in two F2 populations was 0.44and 0.37. A highly significant offspring-parent regression of 0.89 for CER was observed in a replicated field evaluation (four blocks, five plants perplot) of 20 vegetatively propagated F2 selections and their F3 seedling progeny. Broad-sense heritability for CER on a plot-mean basis wasestimated as 0.74 for both selected F2:3 families and for the selected F2 clones. Genetic resources in the genus Oryza may represent a source ofalleles to increase leaf photosynthetic rate in the cultivated species, which we have demonstrated to be a heritable, though environmentally variable,trait in an O. sativa/O. rufipogon population.

【语种】英文

【第一作者】Zhao Ming

【通讯作者】Tina L. Botwright Acun ˜ a

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【学科分类】农业基础学科

【题目】Characterization of a wheat HSP70 gene and its expression in response to stripe rust infection and abiotic stresses

【中文关键词】无

【英文关键词】Wheat, HSP70, Stripe rust,
Expression profile, Abiotic stress

【中文摘要】无

【英文摘要】Members of the family of 70-kD heat shock proteins (HSP70 s) play various stress-protective roles in plants. In this study, a wheat HSP70 gene was isolated from a suppression subtractive hybridization (SSH) Cdna library of wheat leaves infected by Puccinia striiformis f. sp. tritici. The gene, that was designated as TaHSC70, was predicted to encode a protein of 690 amino acids, with a molecular mass of 73.54 KDa and a pI of 5.01. Further analysis revealed the presence of a conserved signature that is characteristic for HSP70s and phylogenetic analysis demonstrated that TaHSC70 is a homolog of chloroplast HSP70s. TaHSC70 mRNA was present in leaves of both green and etiolated wheat seedlings and in stems and roots. The transcript level in roots was approximately threefold less than in leaves but light – dark treatment did not charge TaHSC70 expression. Following heat shock of wheat seedlings at 40 ° C, TaHSC70 expression increased in leaves of etiolated seedlings but remained stable at the same level in green seedlings. In addition, TaHSC70 was differentially expressed during an incompatible and compatible interaction with wheat-stripe rust, and there was a transient increase in expression upon treatment with methyl jasmonate (MeJA) treatment. Salicylic acid (SA), ethylene (ET) and abscisic acid (ABA) treatments had no influence on TaHSC70 expression. These results suggest that TaHSC70 plays a role in stress-related responses, and in defense responses elicited by infection with stripe rust fungus and does so via a JA-dependent signal transduction pathway.
【语种】英文
【第一作者】Ying-Hui Duan
【通讯作者】Zhen-Sheng Kang
【期刊名称、卷期、页码】Mol. Biol. Rep.
【论文发表时间】2010-03-16 00:00:00
【引文索引类型】SCI
【引文索引号】11033-010-0108-0
【学科分类】分子生物学

【题目】全收粪法与Cr2O3指示剂法测定家禽表观代谢能方法比较
【中文关键词】表观代谢能;全收粪法;指示剂法;肉鸡
【英文关键词】apparent metabolizable energy(AME);total collection method;indicator method;broiler chicken
【中文摘要】通过全收粪法和Cr2O3指示剂法,对20种不同来源玉米-豆粕型日粮的肉鸡的表观代谢能(AME)进行测定。结果表明:全收粪法测定玉米AME在绝干基础上是14.92~16.10MJ/kg,平均15.60MJ/kg,RSD为2.15%;指示剂法所测玉米AME在绝干基础上是15.05~16.16MJ/kg,平均15.65MJ/kg,RSD为2.11%;两种方法所测代谢能值相关分析,相关方程式AME(全)=1.00142×AME(指)-0.06918(R2=0.9708),二者高度相关;配对T检验,指示剂法比全收粪法值高,但差异不显著(P>0.05)。可见,Cr2O3指示剂法与全收粪法在测定肉禽AME时具有高度相关性,指示剂法可作为一种快速准确的评定家禽表观代谢能的方法在试验研究和生产实践中推广。
【英文摘要】This study was conducted to compare the methodologies of total collection method and the Cr2O3 indicator method on determining the AME content of 20 kinds of corn used in corn- soybean meal diets.The results indicated that,the determined AME values for corns ranged from 14.92 MJ/kg to 16.10 MJ/kg by using total collection method,with average of 15.60 MJ/kg,RSD=2.15%; indicator method determined AME values for corns varied from 15.05 MJ/kg to 16.16MJ/kg,with average of 15.65 MJ/kg,RSD=2.11 %;correlate equation between two methods was: AME(total)= 1.00142×AME(indicator)- 0.06918 (R2=0.9708).There were no significant difference between the total collection method and Cr2O3indicator method in the determined AME values for corns (P > 0.05)by using paired T test,although the values from indicator method were higher than those from total collection method.Therefore,indicator method can be used to replace the total collection method to determine AME content in metabolism research.
【语种】中文
【第一作者】赵养涛
【通讯作者】龚月生
【期刊名称、卷期、页码】中国饲料.2008,8:18-20.
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【引文索引类型】其他
【引文索引号】
【学科分类】畜牧学

【题目】Recovery of Residual Fertilizer-Nitrogen by Wheat in a Winter Wheat – Summer Maize Rotation in the North China Plain: A Soil Column Study
【中文关键词】无
【英文关键词】Soil,nitrogen use efficiency
【中文摘要】无
【英文摘要】Cropping systems is potentially useful practice for mitigating nitrate leaching and increasing nitrogen use efficiency (NUE) because deeper rooted crops could capture the leached N from previous shallower rooted crops. The recovery of fertilizer nitrogen (FN) applied to maize (Zea mays L.) by the succeeding wheat (Triticum aestivum L.) in a winter wheat – summer maize rotation in North China Plain (NCP) was studied in 2003 – 2004 and 2005 – 2006 by creating 15N-labeled soil columns. We found that the in-season maize plant use efficiency of FN was about 46 to 48% and the total residual fertilizer nitrogen (RFN) in a 2-m soil profile at maize harvest was 34% in 2003 – 2004 and 41% in 2005 – 2006, the ratios of FN unaccounted for were about 19 and 12%, respectively. The RFN declined significantly down the soil profile. About 13 and 10% of total RFN, or 4.4 and 4.0% of total applied FN were observed below the 1.2 m soil depth. Wheat was able to recover the RFN up to the 2.0-m soil depth, the recovery ratio from upper soil layers was higher than that from lower layers and ranged from 4.4 to 23% in 2003 – 2004 and 4.6 to 34% in 2005 – 2006. Corresponding total recovery ratios were 13.7 and 21.4% of total RFN, or 4.9 and 8.7% of total applied FN, respectively. The annual recovery ratios were 51.6% in 2003 – 2004 and 56.2% in 2005 – 2006. The deep-rooting characteristics of winter wheat for deep N uptake should be taken as an important index in N fertilizer management in the rotation system.
【语种】英文
【第一作者】Wu Yongchen
【通讯作者】Zhou Shunli
【期刊名称、卷期、页码】Agronomy J, 2009,101:925-932
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【引文索引号】10.2134/agronj2008.0171
【学科分类】土壤学

【题目】日粮三聚氰胺对产蛋鸭组织氧化损伤的影响
【中文关键词】三聚氰胺,组织,氧化损伤,产蛋鸭
【英文关键词】melamine, tissue, oxidative damage, laying duck
【中文摘要】采用单因子试验设计,研究了日粮三聚氰胺(MEL)对产蛋鸭组织氧化损伤的影响。选用体重和产蛋率相近的19周龄金定鸭648只,随机分成6个处理,每个处理6个重复,每重复18只。6种日粮的MEL添加水平分别为0、1、5、25、50 mg/kg和100 mg/kg。试验期21 d。结果表明:与对照组相比,100 mg/kg处理组血清中谷胱甘肽过氧化物酶(GSH-Px)活性显著降低(P < 0.05),丙二醛(MDA)含量显著升高(P < 0.05);50 mg/kg和100 mg/kg处理组肾脏中GSH-Px活性显著降低(P < 0.05);100 mg/kg处理组肝脏中过氧化氢酶(CAT)和超氧化物歧化酶(SOD)活性显著降低(P < 0.05),MDA含量显著升高(P < 0.05);50 mg/kg处理组肝脏中SOD活性显著降低(P < 0.05);胸肌中各抗氧化指标均未见显著差异(P > 0.05),表明MEL可引起产蛋鸭血清、肾脏和肝脏组织的氧化损伤。
【英文摘要】Effect of dietary supplemental melamine on the oxidative damage of laying duck tissues were studied by toxic experimental methods. Six hundred and fourty-eight 19 weeks old Jinding laying ducks were randomly divided into 6 groups with 6 replications, 18 ducks per replication. The melamine levels added to the dietary were 0, 1, 5, 25, 50, 100 mg/kg in each group respectively. The trial lasted for 7 days for adaptation, and 21 days for sampling. The results showed that compared with control group, in 100 mg/kg group, the activities of glutathione peroxidase (GSH-Px) in serum was significantly decreased (P < 0.05), the content of malonaldehyde (MDA) was significantly increased; In 50 and 100 mg/kg group, the activities of GSH-Px in kidney was significantly decreased (P < 0.05), the content of MDA was increased with 11.08%, 15.57% (P > 0.05), respectively; In 100 mg/kg group, the activities of catalase(CAT) and superoxide dismutase (SOD) in liver was significantly decreased (P < 0.05), the content of MDA was significantly increased, and the CAT activities in liver was increased also; However, the parameters had no notable differences in the breast. Dietary supplementation high level of melamine can resulted in oxidative damage in serum, liver and kidney of laying ducks, but it didn't cause oxidative damage in the breast.
【语种】中文
【第一作者】高春起
【通讯作者】高春起

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【学科分类】畜牧学

【题目】Construction of an Escherichia coli to Bacillus thuringiensis shuttle vector for large DNA fragments.
【中文关键词】无
【英文关键词】Bacillus thuringiensis
【中文摘要】无
【英文摘要】Shuttle vectors for Bacillus thuringiensis or Bacillus cereus usually cannot hold fragments larger than 20 kb. With the development of genome research, shuttle vectors with higher loading capacity are necessary. We constructed an Escherichia coli to B. thuringiensis shuttle vector, pEMB0557, with a large loading capacity. This vector incorporated the ori60 replicon from B. thuringiensis subsp. kurstaki YBT-1520, erythromycin resistance (B. thuringiensis), and chloromycetin resistance (E. coli) genes. A bacterial artificial chromosome library of B. thuringiensis strain CT-43 was constructed and pEMB0557 was able to accommodate at least a 70-kb DNA fragment. Simultaneously, the cry1B gene on a 40-kb fragment could express a 140-kDa protein in plasmid-cured B. thuringiensis BMB171. Due to its high capacity and utility in expressing exogenous genes, pEMB0557 will be useful in cloning (especially silencing genes) and expressing large DNA fragments (e.g., gene clusters) in B. thuringiensis. Plasmid pEMB0557 provides a new tool for B. thuringiensis genome or B. cereus group research.
【语种】英文
【第一作者】Xiaoyan Liu
【通讯作者】Ming Sun
【期刊名称、卷期、页码】Appl Microbiol Biotechnol.82(4):765-772.
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【学科分类】微生物学

【题目】甲基对硫磷降解菌L1的分离、鉴定及降解酶基因的克隆
【中文关键词】甲基对硫磷 节杆菌属 甲基对硫磷降解酶基因
【英文关键词】Methyl parathion Arthrobacter sp. Methyl parathion degrading gene
【中文摘要】从农药厂的污水处理池中分离到一株能高效降解甲基对硫磷的菌株 L1,L1能以甲基对硫磷为惟一碳源氮源和能源生长;经生理生化实验和16s rRNA同源性分析,初步将 L1归为节杆菌属(Arthrobacter sp.) 紫外分光光度法对L1的降解性能研究表明,L1能在 12h内将 50mg/L的甲基对硫磷完全降解;用PCR方法克隆其甲基对硫磷降解酶基因mpd,这是迄今首次从革兰氏阳性菌中克隆到的mpd基因。
【英文摘要】Strain L1,capable of utilizing methyl parathion as sole carbon,nitrogen and energy source,was isolatedfrom the activated sludge by enrichment technique. As the result,the strain L1 was identified as Arthrobacter sp. bybiochemical tests and analysis of the partial 16S rDNA sequence. Degradation tests of MP with spectrophotometry revealed that L1 could degrade 50mg/L MP completely in 12h. The methylparathion degrading mpd gene was cloned.This is the first report of isolating the mpd gene from the positive strain.
【语种】中文
【第一作者】李莹莹
【通讯作者】闫艳春
【期刊名称、卷期、页码】2008,6,128~131
【论文发表时间】2008-06-28 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】微生物学

【题目】Cloning and characterization of a wheat β-1,3-glucanase gene induced by the stripe rust pathogen Puccinia striiformis f. sp. tritici.

【中文关键词】无
【英文关键词】β-1,3-Glucanase, Wheat, Stripe rust fungus, Immunocytochemistry, Expression profiles
【中文摘要】无
【英文摘要】β-1,3-Glucanases are a group of pathogenesisrelated proteins that have been reported to be involved in plant defense against pathogens in many other plantpathogen systems. However, it was not clear if these genes play similar role in wheat (Triticum aestivum L.) against Puccinia striiformis f. sp. tritici (Pst), the stripe rust pathogen. To investigate the role of β-1,3-glucanase (EC 3.2.1.39) in the resistance response of wheat (cv. Suwon 11) to stripe rust, a wheat β-1,3-glucanase gene induced by Pst, designated as TaGlu, was cloned and characterized. TaGlu was predicted to encode a basic protein of 334 amino acids. Quantitative real-time PCR analyses revealed that the transcription of TaGlu was induced during both compatible and incompatible interactions with Pst, but the transcription level was much higher in the incompatible interaction than that in the compatible interaction. TaGlu also showed noticeable induction of gene expression in young green leaf tissues treated with salicylic acid, methyl jasmonate or ethylene. Immunogold labeling assays showed that the enzyme were localized mainly in the host cell wall and over the extrahaustorial matrix, and the labeling densities were found significantly higher in the incompatible interaction than those in the compatible interaction.
【语种】英文
【第一作者】Bo Liu
【通讯作者】Zhensheng Kang
【期刊名称、卷期、页码】Mol. Biol. Rep. 2010,37:1045-1052.
【论文发表时间】2009-09-15 00:00:00
【引文索引类型】SCI
【引文索引号】11033-009-9823-9
【学科分类】分子生物学

【题目】A novel negative regulatory factor for nematicidal Cry protein gene expression in Bacillus thuringiensis
【中文关键词】无
【英文关键词】Nematicidal Cry Protein Gene Expression;Bacillus thuringiensis
【中文摘要】无
【英文摘要】A 3-kb HindIII fragment bearing the cry6Aa2 gene and the adjacent and intergenic regions was cloned from Bacillus thuringiensis strain YBT-1518. Two open reading frames (ORFs), namely, orf1 (termed cry6Aa2) and orf2 that were separated by an inverted-repeat sequence were identified. orf1 encoded a 54-kDa protein that exhibited high toxicity to the plant-parasitic nematode Meloidogyne hapla. The orf2 expression product was not detected by SDS-PAGE, but its mRNA was detected by RT-PCR. The orf2 coexpressed with orf1 at a high level in the absence of the inverted-repeat sequence, whereas, the expression level of otfl was decreased. When orf2 was mutated, the level of orf1 expression was enhanced obviously. In conclusion, the inverted-repeat sequence disturbs orf2 expression, and the orf2 downregulates orf1 expression. This is an example of novel negative regulation in B. thuringiensis and a potential method for enhancing the expression level of cry genes.
【语种】英文
【第一作者】Yu
【通讯作者】Ming Sun
【期刊名称、卷期、页码】J. Microbiol. Biotechnol 18(6):1033-1039
【论文发表时间】2008-06-10 00:00:00
【引文索引类型】SCI
【引文索引号】18600043
【学科分类】微生物学

【题目】套算法测定玉米代谢能适宜的玉米替代比例研究
【中文关键词】表观代谢能;玉米;套算法;替代比例;肉仔鸡
【英文关键词】Apparent metabolizable energy (AME) ; Corn; Substitution; Ratio; Broiler
【中文摘要】本试验应用插值法探讨了套算法测定单个饲料(玉米) 代谢能值中被测饲料的适宜替代比例问题。选用396只28日龄AA 肉仔鸡, 按体重相近、公母各占1/ 2 的原则分配到9 个处理组中, 每处理11 个重复, 饲喂以被测玉米按不同比例(0、20%、3 0%、40%、5 0%、60%、70%、8 0% 和100%) 替代基础日粮组成的试验日粮, 进行代谢试验, 同时测定各处

理的生产性能(平均日增重、采食量、饲料/ 增重) 。数据显示玉米替代基础日粮测定肉仔鸡代谢能时, 随玉米替代基础日粮的比例增加, 试验日粮的AME 值除60%和80%两个处理组外呈明显的上升趋势(P <0.01),但是被测玉米的AME值除80%处理组外无显著差异(P> 0.05)用插值法计算出被测玉米AME “ 真值 ”,代入其与替代比例建立的回归公式中, 计算得到套算法中玉米替代基础日粮适宜比例为63.45%。生产性能数据显示, 低于70%的处理组试鸡的采食量大, 日增重高, 饲料/ 增重处于正常水平且无显著差异(P > 0.05),高于40%的处理组测得的玉米AME 值组内数据变异小(低于3%),可认为该比例是试鸡处于正常生产状态下测得的稳定数值, 具有实际意义。

【英文摘要】The study was conducted to determine the exact substitution ratio of tested feedstuff by using the method of extrapolation to evaluate feedstuff AME in chicken. A total of 396 28-day AA broiler chickens were raised and randomly allotted into 9 different treatments consisted of 11 replicates with 2 male and 2 female each. Broiler chickens in different treatment were fed tested feedstuff substituted by different ratio of tested corn (0, 20%, 30%, 40%, 50%, 60%, 70%, 80% and 100%) in metabolizable experiment with performance testing . The results showed that the AME of tested feedstuff raised significantly except for the groups which the corn ratio was 60% and 80%, while no significant difference was observed on the AME of tested corn except for group with 80% corn ratio (P > 0.05). Substituting the ME value of tested corn calculated by the methods of extrapolation into the regression models established with the AME value of tested corn (Y) and its substitution ratio in basal diets (X), the corr esponding X was 63.45%. It was concluded that performance in the treatments which tested corn ratio less than 70% showed high FI and ADG, but the FCR in different treatments showed no significantdifference (P>0.05). There was little variation (lower than 3%) of tested corn AME value in treatments with corn ratio higher than 40%. All showed that 63.45% was practical while it was tested stably during the natural states of the broiler chickens.

【语种】中文
【第一作者】聂大娃
【通讯作者】齐广海
【期刊名称、卷期、页码】动物营养学报2008,20(5):606-610
【论文发表时间】2008-03-16 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】畜牧学

【题目】摩尔法测定烟叶氯含量的前处理方法改进初探
【中文关键词】氯 烟叶 测定
【英文关键词】Chlorine; Tobacco leaves; Testing;
【中文摘要】根据氯元素在烤烟烟叶中的存在形态,对常规测定方法的前处理方法进行了改进,通过试验发现:当烟叶样品质量不超过0.500 0 g时,以25 mL 0.2 mol · L^-1 H2SO4溶液在25℃对烟叶浸提20 min,同时添加与样品质量相当的活性炭对其脱色,可以得到透明清澈的待测液。该方法的氯元素回收率为101.4%~102.6%,准确度符合测定要求,与常规方法相比,不仅测定用时短、操作简便,还可明显节约费用,便于普及应用。

【英文摘要】In accordance with the existing state of chlorine in tobacco leaves,the pre-treatment for testing was improved.By series tests,the transparent chlorine solution was obtained if 0.5000g tobacco leaves sample was extracted with 25 ml 0.2 mol/L H2SO4 for 20 min at 25°C,simultaneously,equiponderant activated carbon was added in order to decolorize the solution.The recovery of chlorine in the method was 101.4%~102.6%,the precision and accuracy were corresponded with the requirement.Both the time and the cost were...

【语种】中文
【第一作者】张燕
【通讯作者】张燕
【期刊名称、卷期、页码】吉林农业科学 2009,34(3):6-64
【论文发表时间】2009-03-29 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】农学其他学科

【题目】基于PDA的无公害农产品产地土壤质量现场评价系统的研究
【中文关键词】土壤质量 描述性指标 无公害农产品 信息采集 PDA
【英文关键词】无

【中文摘要】农产品是人类赖以生存的物质基础和保障。国内外此起彼伏的农产品污染和农产品污染引起的中毒事件,使消费者更加关注农产品的安全问题。无公害农产品是为从根本上解决农产品质量安全和餐桌污染问题提出的概念。在影响农产品安全的诸多因素中,产地是农产品质量安全的源头,产地的安全管理显得尤为重要。然而,随着我国农业生产的迅速发展,化肥、农药大量使用,农业土壤环境污染日益明显,而土壤污染具有隐蔽性、潜伏性和长期性,最易被人们忽略,因此,获取足够的产地信息、尤其是产地土壤信息保障产地安全具有重要意义。本文从保障农产品安全的角度出发,提出了无公害农产品产地土壤质量评价描述性指标体系,并提出了标准化、数值化的方法,在此基础上,建立了以土壤质量现场评价信息为主体的无公害农产品产地信息采集与产地现场评价系统,旨在将先进的农业数字化技术引入无公害农产品认证中来,为保障产地安全提供一种高效的技术手段。该系统在重庆市、云南通海县进行了试用,主要研究结果如下: (1)从土壤耕性、土壤肥力、作物健康状况、土壤生物、污染源等六个方面筛选出土壤结构、土壤质地、耕层厚度、田间持水量、土壤水分入渗能力、有机质、盐碱化程度、土壤pH值、农田排水状况、地下水埋深、作物长势、作物颜色及缺素现象、根系形态、土壤动物、作物残茬、坡度、地形部位、植被覆盖度、土壤侵蚀、排水沟水颜色、土壤气味、土壤颜色、土壤触觉、土壤侵入体、产地与潜在污染源相对风向、受控污染源与产地间距离等27个便于进行土壤质量评价的描述性指标。 (2)为了提高描述性指标数据的相对可比性,细化不同土壤质量间的差异,对描述性指标进行了标准化与数值化:根据对评价指标的不同描述,将其分为“好”、“中”、“差”三等,将三个等级设为满分10分,10~8分为“好”,7~4分为“中”,3~1分为“差”。现场评价时,先判断土壤各指标的等级,再根据等级内的差异判断指标得分。 (3)根据无公害农产品产地现场检查的内容与重点,对产地信息的特征进行了分析,共建立字段469个,表28个;以特征分析为基础,采用实体关系(E-R)模型构建了无公害农产品产地信息数据模型,构建了无公害农产品产地信息数据库,目前库中共收录产地信息869条;以PDA为移动终端,建立无公害农产品产地土壤质量评价信息采集系统,系统功能包括GPS定位、数据操作、数据处理、查询、多用户登陆、数据传输,实现了数据的本地与远程查询、检查结果自动判定、产地信息实时传输等。 (4)通过对通海县农户调查数据与PDA现场采集数据的对比分析,发现大部分描述性指标得分随着土壤肥力和土壤质量等级的升高而增大,其变化趋势与肥力高低变化、土壤质量等级高低变化基本一致,即本文所选取的土壤质量评价描述性指标具有较强的代表性,现场评价得分能够比较灵敏地、相对量化地反映土壤质量的状况。 (5)云南通海县无公害农产品产地土壤质量现场评价的指标体系可以优化为:土壤结构、土壤质地、耕层厚度、田间持水量、土壤水分入渗能力、有机质、盐碱化程度、土壤pH值、农田排水状况、地下水埋深、作物长势、作物颜色及缺素现象、根系形态、土壤动物、作物残茬、坡度、地形部位、植被覆盖度、土壤气味、土壤触觉、土壤颜色、土壤侵入体、产地与潜在污染源相对风向、受控污染源与产地间距,共24个指标。
【英文摘要】无
【语种】中文
【第一作者】张燕
【通讯作者】张燕
【期刊名称、卷期、页码】中国农业科技导报 投稿
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【引文索引号】
【学科分类】农业基础学科

【题目】复合酸化剂对断奶仔猪生长性能、胃肠道酸度及消化酶活性的影响
【中文关键词】酸化剂;断奶仔猪;生长性能;pH;消化酶活性
【英文关键词】English keywords are not available.
【中文摘要】选择28日龄断奶、体重(6±1.04)kg的杜长大杂种健康仔猪200头,按遗传和体重相近的原则随机分为5个处理组,每组4 个重复,每个重复10头猪。对照组在每千克基础饲粮中添加15mg黄霉素(1组)不添加酸剂;4个试验组分别在基础饲粮中添加0.1%磷酸型酸化剂(2组)、0.3%磷酸型酸化剂(3组)、0.1%乳酸型酸化剂(4组)和0.3%乳酸型酸化剂(5组)代替等量玉米,均不添加抗生素。研究并比较了两种酸化剂以不同水平添加时对断奶仔猪生长性能、胃肠道酸度及消化酶活性的影响。结果表明,添加磷酸型酸化剂和乳酸型酸化剂均可显著增加仔猪日采食量、提高日增重、改善饲料转化率、降低腹泻率,其中以添加0.3%乳酸型酸化剂效果最佳;添加磷酸型酸化剂和乳酸型酸化剂都可显著降低仔猪胃和十二指肠食糜pH,显著提高仔猪胃蛋白酶和胰蛋白酶活性。
【英文摘要】English abstract is not available.
【语种】中文
【第一作者】李鹏
【通讯作者】齐广海

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【引文索引号】
【学科分类】畜牧学

【题目】汾河流域50年降水量时空变化特征
【中文关键词】汾河流域 年季降水量 时空变化特征 变化趋势 年降水量 年际变化 倾向率 变化率 空间分布 南北梯度
【英文关键词】Fenhe valley; precipitation; space-time characteristics; change trend;
【中文摘要】运用线性倾向估计的方法,利用汾河流域1957~2006年逐月观测的降水资料,分析了汾河流域降水量的时空分布规律和长期变化趋势。结果表明:近50年来,汾河流域降水量年内分配不均、年际变化小,总趋势以21.49mm/10a的变化率减少,特别是20世纪90年代以来降水明显减少,这种减少主要是由夏季降水量减少所引起的,变化率为-9.04mm/10a,而在春、秋两季降水量则呈现出增加的趋势,变化率分别为8.36mm/10a和2.28mm/10a;空间分布表明该区域降水量的地理分布不均,南北梯度大,东西差异小,有阶段性和周期性比较明显等特点。
【英文摘要】On the basis of precipitation database collected by 17 meteorological stations in the Fenhe valley during the period of 1957~2005,spatial and temporal variation of precipitation and changing long-term trend of Fenhe valley were analyzed by using the linear regression.The results showed that the trends of annual precipitations were generally decreased and its gradient was 21.49mm/10a.The precipitation assigned uneven in the year and changed small among years.The decrease in the 1990s was the most remarkable ..
【语种】中文
【第一作者】杨萍果
【通讯作者】杨萍果
【期刊名称、卷期、页码】干旱区资源与环境 2008,22(12):108-111
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【引文索引号】
【学科分类】大气科学

【题目】基于资源丰度指数模型的石家庄市农业资源研究
【中文关键词】资源丰度指数 农业资源 石家庄 AreGIS
【英文关键词】resources enrichment index; agricultural resources; Shijiazhuang; Arc GIS;
【中文摘要】选用资源丰度指数模型对石家庄市19个县市区农业资源进行横向比较,综合自然-生态-社会-经济等各方面因素选用10项代表性指标,分析研究各地农业资源的相对数量、匹配程度及高效利用状况。结果表明:石家庄市68.4%的县市水资源量低于平均水平;73.68%的县市我均耕地面积不足,低于全国平均水平;人均GPD和人均纯收指数,市区远高于西部山区,地区之间贫富差距明显。利用AreGIS做出各地资源空间分布图,直观的看出农业资源配制最优的是石家庄市区和平山县,靠近市区周围的县市农业资源处于中等水平。说明社会经济因素对农业生产的影响较大,交通便利地理位置优越的大都市高于其他县市区,为农业可持续发展提供一定的信息基础。
【英文摘要】The paper analysis and study agriculture resources of nineteen town and country in Shijiazhuang through the model of resource enrichment index,selected ten representative items from nature,ecology,society and economy resources.Furthermore, it analysis the number,matching level and the availability of utilizes of regional agriculture resources.The result shows water resources is very low level of 68.4% county,the area of farm land in 73.7% county is lower than the average of china.The gross domestic product .
【语种】中文
【第一作者】杨萍果
【通讯作者】杨萍果
【期刊名称、卷期、页码】中国人口环境与资源 2008,18(4):104-107
【论文发表时间】2008-04-29 00:00:00
【引文索引类型】null
【引文索引号】
【学科分类】农业经济学

【题目】Application of oligonucleotide microarray for the detection and genotyping of cry genes in Bacillus thuringiensis
【中文关键词】无
【英文关键词】oligonucleotide microarray, cry genes, genotyping, random primer labeling, bioinformatics.
【中文摘要】无
【英文摘要】We have developed a parallel, rapid, high-throughput oligonucleotide microarray-based assay for the reliable detection and genotyping of three cry genes (cry1, cry2 and cry9) in Bacillus thuringiensis (Bt). After the nonpolymerase chain reaction (PCR), amplified Bt genomic DNA were fluorescent-labeled using a random primer. The corresponding oligonucleotide probes were designed for the different cry genes that can hybridize Bt genomic DNA after cluster analysis and were printed on glass slides. This microarray has unambiguously detected and identified the cry genes in 10 isolates and reference Bt. Our data demonstrates that the microarray assay is simple and rapid for the detection and genotyping of genes. This type of assay is also a potentially valuable tool for identification and characterization of bacterial functional genes in general.
【语种】英文
【第一作者】张杰
【通讯作者】张杰
【期刊名称、卷期、页码】CHILEAN Journal of Agricultural Research, 70(2): 213-2
【论文发表时间】2009-10-23 00:00:00
【引文索引类型】SSCI
【引文索引号】
【学科分类】分子生物学

【题目】复合酸化剂对断奶仔猪肠黏膜形态和肠道微生物区系及免疫功能的影响
【中文关键词】酸化剂;黏膜形态;微生物区系;免疫功能;断奶仔猪
【英文关键词】English keywords are not available.
【中文摘要】试验选取200头仔猪分为5组,每组4个重复。分别为饲喂常规日粮(对照组)、添加0.1%磷酸型酸化剂A、0.3%磷酸型酸化剂A、0.1%乳酸型酸化剂B和0.3%乳酸型酸化剂B日粮。于试验第28天早上每个处理选择3头健康仔猪进行屠宰,测定仔猪小肠黏膜形态、大肠微生物菌群及免疫指标。结果表明:添加所研制的磷酸型和乳酸型酸化剂可以显著增加小肠绒毛高度(P<0.05);添加磷酸型酸化剂A和乳酸型酸化剂B都可以显著降低仔猪盲肠大肠杆菌和沙门氏菌的数量(P<0.05),增加乳酸茵和双歧杆菌的数量(P<o,05),其中添加乳酸型酸化剂B的效果显著优于磷酸型酸化剂A(P<0.05);添加0.3%乳酸型酸化剂B可以显著降低仔猪血清中尿素氮的含量(P<0.05);添加2种酸化剂都可以显著提高仔猪血清中IgA、IgG的浓度(P<0.05)。
【英文摘要】English abostract is not available.
【语种】中文
【第一作者】李鹏
【通讯作者】齐广海
【期刊名称、卷期、页码】中国畜牧杂志,2009.45(9):28-32
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【引文索引类型】其他
【引文索引号】
【学科分类】畜牧学

【题目】Effects of Yeast Culture in Broiler Diets on Performance and Immunomodulatory Functions
【中文关键词】酵母培养物,肉仔鸡,免疫功能,黏膜形态,消化率
【英文关键词】yeast culture, broiler, immune function, mucosal morphology, digestibility
【中文摘要】本论文旨在研究日粮中不同剂量酵母培养物对肉仔鸡生长性能和免疫机能的影响。
【英文摘要】A study was conducted to evaluate the effect of supplemental yeast culture (Diamond V XP YeastCulture; YC) in broiler diets on performance, digestibility,mucosal development, and immunomodulatory functions.One-day-old Arbor Acres chicks (n = 960) were randomly assigned to 1 of 4 dietary treatments based on corn and soybean meal and containing 0, 2.5, 5.0, and 7.5 g/kg of YC in the diet for 42 d. Each treatment consisted of 12 replicates of 20 broilers each. Nutrient digestibility was determined on d 15 and 35 by total fecal collection.On d 21 and 42, 12 birds per treatment were sacrificed to evaluate gut morphology and secretory IgA. Broilers were

vaccinated with Newcastle disease vaccine by eye drop on d 7 and 28 and antibody titer was determined on d 14, 21, 35, and 42. Dietary supplemental YC at 2.5 g/kg improved average daily gain and feed conversion during grower and overall periods ($P \leq 0.05$). Yeast culture supplementation increased digestibility of Ca (linear and quadratic, P = 0.01) and P (linear, P = 0.01) on d 35,but did not affect ($P > 0.05$) protein retention and energy digestibility. Villus height to crypt depth ratios in the duodenum and jejunum (d 42) and ileum (d 21) were increased ($P \leq 0.05$) in broilers fed 2.5 g/kg of YC. Yeast culture increased antibody titers to Newcastle disease virus (linear, $P \leq 0.05$), serum lysozyme activity (linear and cubic, $P \leq 0.05$), and IgM (linear, $P \leq 0.05$) and secretaryIgA concentrations in the duodenum (linear, P = 0.01). Results of this study indicate that dietary supplemental YC at 2.5 g/kg improved growth performance. Dietary YC affected immune functions, digestibility of Ca and P, and intestinal mucosal morphology of broilers. Growth performance was optimized at 2.5 g/kg of YC in the present study. Immune function could be modified with dietary YC supplementation.
【语种】英文
【第一作者】高俊
【通讯作者】齐广海
【期刊名称、卷期、页码】2008 Poultry Science 87:1377 – 1384
【论文发表时间】2008-05-29 00:00:00
【引文索引类型】SCI
【引文索引号】doi:10.3382/ps.2007-00418
【学科分类】畜牧学

【题目】β-羟基-β-甲基丁酸对肉仔鸡生长性能和屠宰性能的影响
【中文关键词】肉仔鸡;β-羟基-β-甲基丁酸;生长性能;屠宰性能
【英文关键词】broiler chicks;beta-hydroxy-beta-methyl butyrate;growth performance;slaughter performance
【中文摘要】选择240 只7 日龄肉仔鸡按照体重相近原则随机分为5 组,每组6 个重复,每个重复8 只,分别饲喂添加0 %、0.01 %、0.055 %、0.1 %、0.145 % β-羟基-β-甲基丁酸(HMB)的试验日粮。采用三层笼养,试验期35 d。试验结果表明:(1)不同水平HMB 对肉仔鸡生产性能的总体影响不显著。7 ~ 21 日龄时,与对照组相比,0.145 % HMB 组肉仔鸡料重比降低6.06 %(P > 0.05);0.1 %和0.145 % HMB 组肉仔鸡死亡率低于对照组水平。22 ~ 42 日龄时,0.145 %HMB 组肉仔鸡采食量与对照组相比降低9.94 %,各处理组体增重和料重比差异不显著(P > 0.05);7 ~ 42 日龄时,0.145 % HMB 组肉仔鸡采食量与对照组相比降低9.03 %(P < 0.05), 各处理间体增重和料重比无显著差异,但0.145 % HMB 组肉鸡料重比最小,0.1 %和0.145 % HMB 组肉仔鸡死亡率低于对照组和其他处理组。(2)肉仔鸡的屠宰性能包括屠宰率、半净膛、全净膛率、胸肌率、腿肌率和腹脂率在各处理间无显著差异(P > 0.05),0.145 % HMB 组肉仔鸡腿肌率较对照组提高3.74 %(P = 0.075)。可见,在7 ~ 42 日龄肉仔鸡日粮中添加适量的HMB 可显著降低肉仔鸡采食量,而体增重和饲料效率无显著变化,并有促进肉仔鸡腿部肌肉生长发育的趋势。
【英文摘要】Two hundred and forty 7-day-old broiler chicks were randomly allotted into 5 groups with different inclusion of beta-hydroxy-beta-methyl butyrate (HMB)(0 %,0.01 %,0.055 %,0.1 % or 0.145 %)for 5 weeks.Each group consisted of 6 replicates with 8 birds each.The results showed as follows:(1)The addition of HMB did not affect the general performance of chicks.During 7 to 21 d of ages,ratio of feed to gain in chicks fed 0.145 % HMB was decreased by 6.06 % compared to chicks fed control diet.Mortality rate in chicks fed 0.1 % and 0.145 % HMB diet were lower than those fed control diet.From 22 to 42 d of ages,feed intake in chicks fed 0.145 % HMB diet was decreased by 9.94 % compared to those fed control diets and no difference was found on ratio of feed to gain among groups.During 7 to 42 d ofages,feed intake in 0.145 % HMB group was decreased by 9.03 % compared to control group ($P < 0.05$),and the ratio of feed to gain was lowest in chicks fed 0.145 % HMB diet.Chicks fed 0.1 % and 0.145 % HMB diet had lower mortality rate than those in other groups.(2)The slaughter performance including dressed carcass percentage,percentages of half-eviscerated yield,clean chamber ratio,breast muscle,leg muscle and abdominal fat had no significant differences among groups.Chicks fed the 0.145 % HMB diet had 3.74 % elevation in leg muscle ratio than control($P > 0.05$).The overall results demonstrated that supplementation of appropriate HMB in diet of chicks from 7 to 42 d of ages could decrease the feedintake without adversely affecting body weight gain and feed efficiency,and had the tendency to improve the growth of leg muscle.
【语种】中文
【第一作者】张海军
【通讯作者】齐广海
【期刊名称、卷期、页码】中国饲料 2009年第二期 19-21.
【论文发表时间】2009-02-02 00:00:00
【引文索引类型】其他

【引文索引号】
【学科分类】畜牧学

【题目】免疫调节剂对肉仔鸡生产性能和免疫机能的影响
【中文关键词】免疫调节剂; 肉仔鸡; 生产性能; 免疫机能
【英文关键词】immunomodulators; broiler chickens; growth performance; immune function
【中文摘要】选用288 只21 日龄肉仔鸡随机分为6 组, 分别饲喂基础日粮(无添加剂) , 基础日粮中添加4.4 mg/ kg 林可霉素、20 mg/ kg 维吉尼亚霉素、0.3 mg/ kg 蛋氨酸硒、100 mg/ kg 灵芝孢子粉、0.3 mg/ kg 蛋氨酸硒+100 mg/ kg 灵芝孢子粉的日粮, 试验期21 d。试验结果表明: 各处理对肉仔鸡21 ~42 周龄的生产性能和免疫器官发育无显著影响;蛋氨酸硒与灵芝孢子粉合用提高了肉仔鸡的屠宰率, 降低了腹脂率, 但二者不具协同作用; 灵芝孢子粉可增加肉仔鸡血清溶菌酶含量, 提高血清抗新城疫抗体水平。
【英文摘要】The effects of immunomodulators on growth performance and immune function in broilers were conducted in the trial.Two hundred and eighty- eight 21- day old broilers were allotted into 6 treatments fed basal diet, basal diet supplemented with 4.4 mg/kg Lincomycin, 20 mg/kg Virginiamycin, 0.3 mg/kg selenomethionine, 100 mg/kg G.lucidum spores powder, and 0.3 mg/kg selenomethionine+100 mg/kg G.lucidum spores powder for 21 days.The results showed that:there were no significant differences on growth performance and immune organ development of 21 ~42 week broilers among treatments.Selenomethionine +G.lucidum spores powder supplementation had increased slaughter performance and decreased abdominal fat ratio.There were no interaction between selenomethionine and G.lucidum spores powder.serum lysozyme contents and Newcastle Disease (ND) antibody titers were enchanced by supplementation of G.lucidum spores powder.
【语种】中文
【第一作者】张海军
【通讯作者】齐广海
【期刊名称、卷期、页码】中国饲料 2007年第12期 12-14.
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【引文索引类型】其他
【引文索引号】
【学科分类】畜牧学

【题目】中国烤烟气候适宜性和需水量的空间分布特征
【中文关键词】烤烟 移栽 研究 中国 烤烟 移栽
【英文关键词】无
【中文摘要】本书详细揭示了我国目前移栽条件和能使气候适宜性最大化的移栽条件下的考验大田期不同发育阶段平均气温、降雨量、平均相对湿度、需水量等,以地图的形式表达了空间分布特征
【英文摘要】无
【语种】中文
【第一作者】龙怀玉
【通讯作者】龙怀玉
【期刊名称、卷期、页码】中国大地出版社
【论文发表时间】2007-06-12 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】农学其他学科

【题目】Effect of Saccharomyces cerevisiae fermentation product on immune functions of broilers challenged with Eimeria tenella
【中文关键词】酵母培养物,肉鸡,免疫机能,球虫感染
【英文关键词】yeast culture , broiler , immune function , coccidian infection
【中文摘要】中文摘要无。
【英文摘要】Three hundred sixty 1-d-old male ArborAcres broilers were randomly allotted to 6 groups witha 2 × 3 factorial arrangement of treatments. Threesupplemental levels (0, 0.25, and 0.50%) of Saccharomycescerevisiae fermentation product (XP) were fedto control and Eimeria tenella-infected broilers. Growthperformance and immune response criteria were measuredafter coccidian

infection. Broiler ADG was lowered(P < 0.01) by coccidian infection and improved byXP supplementation (P = 0.04). Supplementation oXP increased CD3+, CD4+, and CD8+ T-lymphocytecounts (P < 0.05) and the ratio CD4+:CD8+ in blood(P = 0.06) and spleen (P = 0.04) as well as ileum intraepitheliallymphocyte count, cecal tonsil secretoryIgA counts, serum lysozyme content (P < 0.01), andalbumin:globulin ratio (P = 0.02). These results suggestthat dietary XP supplementation could improveimmune function and growth performance in coccidiainfectedbroilers.

【语种】英文

【第一作者】高俊

【通讯作者】齐广海

【期刊名称、卷期、页码】2009 Poultry Science 88 :2141 – 2151

【论文发表时间】2009-08-20 00:00:00

【引文索引类型】SCI

【引文索引号】doi: 10.3382/ps.2009-00151

【学科分类】畜牧学

【题目】肉仔鸡胸肌卫星细胞氧化应激模型的优化

【中文关键词】塞米松;肉仔鸡;胸肌卫星细胞;氧化应激模型

【英文关键词】dexamethasone phosphate solution;boiler;breast satellite cell;oxidative stress model

【中文摘要】将体外培养的肉仔鸡胸肌卫星细胞(SC)按地塞米松(DEX)处理浓度(0、0.03、0.06、0.12、0.24、0.48和0.96 mg/mL)分为7组,分别测定SC的存活率(MTT法)、丙二醛(MDA)、氧自由基(ROS)、超氧化物歧化酶(SOD)和谷胱甘肽硫转酶(GST)含量或活性。筛选DEX处理的最佳时间和浓度以便优化肉仔鸡胸肌SC的氧化应激模型。结果表明,随DEX浓度升高,MDA和ROS产生量升高(P<0.01),SOD与GST活性显著降低(P<0.01)。随着DEX处理时间的延长,SC的存活率及GST和SOD活性均有所下降,MDA和ROS产生量上升。使用0.12 mg/mL的DEX处理SC 24 h后,SC存活率显著降低(P<0.01)。说明DEX浓度为12 mg/mL处理24 h能使肉仔鸡骨骼肌SC产生适度的氧化应激,可以作为肉仔鸡胸肌卫星细胞的氧化应激模型。

【英文摘要】Abstract:Time and concentration of dexamethasone phosphate solution (DEX) were optimized to establish oxidative stress model of boiler breast muscle satellite cells(SC).Seven concentrations of DEX(0, 0.03,0.06,0.12,0.24,0.48 and 0.96 mg/mL)were used to treat boiler breast muscle SC,Methyl thiazolyl tetrazolium (MTT) assay was used to assess cell livability.The relative production of malonaldehyde (MDA),reactive oxidative species (ROS),the activities of superoxide dismutase(SOD)and glutathione S-transferase(GST)were measured respectively.The results show with the increasing of DEX level, the concentrations of MDA and ROS increased (P<0.01),while activities of SOD and GST decreased (P<0.01).Celllivability and the activities of SOD and GST decreased with the prolonging of treat time,while the production of MDA and ROS increased.Treatment of boiler breast muscle SC with DEX at 12 mg/mL for 24 h, the cell livability was significantly lower than that of the control group(P<0.01).In conclusion, treatment of boiler breast muscle SC with DEX at 1 2 mg/mL for 24 h could be used to set up the oxidative stress model of boiler breast muscle satellite cells (SC).

【语种】中文

【第一作者】王成

【通讯作者】齐广海

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【引文索引类型】其他

【引文索引号】

【学科分类】畜牧学

【题目】富含共轭亚油酸羔羊肉营养调控的研究进展

【中文关键词】共轭亚油酸;羔羊肉;营养特性

【英文关键词】conjugated linoleic acid;lamb meat;nutritional characteristics

【中文摘要】本文对羔羊肉营养特性及富含CLA 的羔羊肉营养调控进行综述

【英文摘要】The nutritional characteristics of lamb meat and regulation of CLA in lamb meat were reviewed in the article.

【语种】中文

【第一作者】蒋显仁

【通讯作者】武书庚
【期刊名称、卷期、页码】中国饲料 2009年第5期 27-28.
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【引文索引类型】其他
【引文索引号】
【学科分类】畜牧学

【题目】Identification of genes that are preferentially expressed in conidiogenous cell development of Metarhizium anisopliae by suppression subtractive hybridization
【中文关键词】无
【英文关键词】Metarhizium anisopliae
【中文摘要】无
【英文摘要】The insect pathogenic fungus Metarhizium anisopliae is widely used as an insect biocontrol agent. The M. anisopliae conidium plays an important role in pathogenesis and disease transmission. The aim of this study was to identify genes whose expression is up-regulated during conidiogenous cell development. This is a powerful strategy for obtaining insight into the molecular events that regulate conidiation. We isolated genes that are preferentially expressed in the developing conidiophores of the common fungal locust pathogen M. anisopliae CQMa102 using suppression subtractive hybridization. Based on the results of cDNA array dot blotting, we identified 109 unique expressed sequence tags (ESTs) that were up-regulated more than fivefold during conidiophore formation. Among these 109 ESTs were 45 (41.3%) with significant similarity to NCBI annotated hypothetical proteins, 35 (32.1%) with low similarity to known or predicted genes that might represent novel genes, and 29 (26.6%) with significant similarity to known proteins involved in various cell and molecular processes, such as ell structure and function, cell metabolism, protein metabolism, stress response, nucleic acid metabolism, and cell cycle and growth. We confirmed the up-regulation of 11 randomly selected genes with real-time reverse transcriptase-PCR analysis. The results of this study provide a preliminary description of genes that may be involved in the molecular regulation of fungal conidiogenesis
【语种】英文
【第一作者】Guoxiong Peng
【通讯作者】Yuxian Xia
【期刊名称、卷期、页码】Curr Genet, 1(3):263 – 27
【论文发表时间】2009-04-08 00:00:00
【引文索引类型】SCI
【引文索引号】19352680
【学科分类】微生物学

【题目】功能型禽肉及禽肉来源活性肽研究概况
【中文关键词】功能禽肉;活性肽
【英文关键词】Functional poultry meat; Bioactive peptides
【中文摘要】肉类在居民膳食蛋白质摄入量中占有重要比例。在我国肉类总产量中,禽肉占20%,且因其高蛋白、低脂肪和低胆固醇的特性逐渐受到消费者的喜爱。近年来,随着人们营养保健意识的增强,食物的功能特性不断得到重视。通过对产品营养和功能性成分进行改善与调控,生产功能型禽肉是肉禽业的新出路之一。禽肉中也含有较多的生物活性肽类,开发生产禽肉相关功能性肽类,作为活性成分应用于食品和医药行业,是禽肉加工的发展方向之一。本文对功能禽肉的概念、设计思路、目前功能禽肉的生产以及禽肉水解物中功能性肽的提取及生理作用进行综述,并讨论了功能禽肉的研究方向和发展前景。
【英文摘要】Meat and meat product play an important role in the protein intake of consumers. Poultry meat, accounting for twenty percent of the overall meat product in China, gains its popularity in consumers due to characteristics of high protein, low fat and low cholesterol content. With the increasing consciousness of nutrition and health, the functional properties of food are paid much attention. Introduction of additional physiologically functional properties into meat is the leading tread in meat-type poultry industry. There are several attractive chicken meat-based bioactive substances. Development of bioactive peptides derived from chicken meat is the promising direction of poultry meat processing. This paper includes a brief introduction of functional meat definition and designing strategies, and a review of the current functional poultry meat production and the potential benefits of chicken meat protein-derived peptides. The future research direction and perspective of functional chicken meat are also discussed in the paper.

【语种】中文
【第一作者】张海军
【通讯作者】齐广海
【期刊名称、卷期、页码】第二届全国家禽营养与饲料科技研讨会 422-428.
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【引文索引号】
【学科分类】畜牧学

【题目】Identification of genes preferentially expressed during microcycle conidiation of Metarhizium anisopliae using suppression
【中文关键词】无
【英文关键词】Metarhizium anisopliae
【中文摘要】无
【英文摘要】Microcycle conidiation has been defined as the production of conidia directly by a spore without the intervention of hyphal growth. The molecular mechanisms underlying this process are still poorly understood. Suppression subtractive hybridization was used here to isolate the genes preferentially expressed during microcycle conidiation vs. in normal conidiation hypha of Metarhizium anisopliae CQMa102, a common fungal pathogen of locusts. A total of 1600 clones from the subtracted cDNA library were screened by cDNA array dot blotting and 221 unique expressed sequence tags were identified as being differentially expressed. These genes were found to be homologous genes involved in various cellular processes, including general metabolism, protein synthesis, energy, cell-cycle and DNA processing, cellular transport, transcription, signal transduction and stress response. Real-time reverse transcriptase PCR assay of six randomly selected genes revealed that they are all highly expressed during microcycle conidiation.
【语种】英文
【第一作者】Guoxiong Peng
【通讯作者】Yuxian Xia
【期刊名称、卷期、页码】Curr Genet, 55:309-407
【论文发表时间】2009-09-16 00:00:00
【引文索引类型】SCI
【引文索引号】18625022
【学科分类】微生物学

【题目】不同强度的运输应激对肉仔鸡血液应激指标和肌肉品质的影响
【中文关键词】运输应激;肉仔鸡;应激强度;肌肉品质
【英文关键词】Transport stress; Broiler; Stress intensities; Meat quality
【中文摘要】本试验研究了不同强度的运输应激对肉仔鸡血液应激敏感指标和肌肉品质的影响。360只1日龄健康AA肉仔鸡公雏随机分配到5个处理中,分别为不运输且无休息的对照组,另4个处理采用2×2因子设计,处理因素分别为运输时间(45和180 min)、运输结束至屠宰的间隔时间(45和180 min)。每个处理6个重复,每个重复12只鸡。46日龄时对肉仔鸡进行运输处理并采集样品。结果表明,与对照组相比,肉仔鸡血浆皮质酮水平在45 min/45 min显著升高(P<0.05),但随运输时间和休息时间的增加又降至运输前水平;180 min/45 min组胸肌率后24 h黄度(b*)值显著升高(P<0.05),45 min/45 min组胸肌率后24 h亮度(L*)值较高(P>0.05),红度(a*)值下降幅度较大(P>0.05)。因子分析结果表明,运输时间对所测指标均无显著影响(P>0.05)。休息时间在一定程度上影响血浆皮质酮水平,运输后45 min休息组皮质酮高于180 min休息组(P=0.05)。休息时间对胸肌率后24 h的L*值(P=0.07)和a*值(P=0.02)有一定影响,180 min休息组L*值较低、a*值较高(P>0.05)。运输时间与休息时间的互作效应对所测指标的影响均不显著(P>0.05)。试验表明,运输应激会引起肉仔鸡血浆皮质酮升高,使机体处于较强的应激状态,但运输后较长时间的休息则有助于降低肉仔鸡的应激水平,缓解肌肉品质的下降。
【英文摘要】This study was to investigate the effect of different intensities of transport on blood stress parameters and meat quality in broiler chicks. Three hundreds and sixty 1-day-old Arbor Acres broiler chicks (males) were randomly allotted into five treatments with one unstressed control group and four stressed groups using a 2×2 factorial arrangement with transport time (45 and 180 min) and rest time (45 and 180 min) as main effects. There were six replicates in each treatment and twelve birds in each replicate. At 46 days of age, all birds (except those in unstressed group) were transported according to a designed protocol. One bird of each replicate was selected for blood and skeletal muscle samplings after electrically stunned. Compared with unstressed group, plasma corticosterone (CORT) concentration significantly increased in 45 min/45 min group (P<0.05), and then decreased to the level in unstressed group with

transport time and rest time prolonged. For breast muscles at 24 h postmortem, the b* value was significantly increased in 180 min/45 min (P<0.05), and both a higher L* value (P>0.05) and a lower a* value (P>0.05) were found in 45 min/45 min group. Factor analysis results showed that transport time did not affect all parameters in the present study (P>0.05). Rest time affected plasma CORT concentration (P=0.05), L* value (P=0.07) and a* value (P=0.02) in breast muscle at 24 h postmortem to some extent. Plasma CORT concentration in 45 min rest groups was higher than that in 180 min rest groups. In 180 min rest groups, lower L* value and higher a* value were observed in breast muscle 24 h postmortem. No interaction between transport time and rest time was found in the present study. This study indicated that transport stress induced the release of plasma CORT in broilers, but a long-term rest after transport was beneficial to decrease plasma CORT, which may help maintain meat quality.

【语种】中文
【第一作者】张林
【通讯作者】齐广海
【期刊名称、卷期、页码】动物营养学报.2009,21(3):288-293
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【学科分类】畜牧学

【题目】Effects of transport stress on blood metabolism, glycolytic potential, and meat quality in meat-type yellow-feathered chickens
【中文关键词】无中文关键词。
【英文关键词】transport stress, chicken, glycolytic potential, muscle type, meat quality
【中文摘要】无中文摘要。
【英文摘要】To investigate the effects of transport stress on blood metabolism, glycolytic potential, and meat quality in male Chinese Lingnan meat-type yellow-feathered chickens, three hundred sixty 72-d-old birds were randomly assigned to 1 of 5 treatments: unstressed control, 45-min (short-term) transport with 45-min (short-term) recovery, 45-min transport with 3-h (long-term) recovery, 3-h (long-term) transport with 45-min recovery, and 3-h transport with 3-h recovery. Each treatment consisted of 6 replicates with 12 birds each. All birds (except control group) were transported according to a designed protocol. Long-term transport decreased the plasma glucose level (P < 0.001), glycogen concentration in both breast (P = 0.023) and thigh (P = 0.012) muscles, and affected the size of IIb fibers in the tibialis anterior by decreasing the area (P = 0.031) and increasing the density (P = 0.046), drip loss (P = 0.045), and the a* (redness; P = 0.040) valuein breast muscle. Long-term recovery after transport also decreased the plasma glucose level (P = 0.018) and showed a trend toward decreased breast glycogen concentration (P = 0.064). These results suggested that transport did not cause any noticeable changes in overall meat quality characteristics, although breast meat drip loss and meat color were affected. A long-term recovery from a period of feed and water deprivation also caused hypoglycemia and did not improve meat quality in Lingnan meat-type yellow-feathered chickens.

【语种】英文
【第一作者】岳洪源
【通讯作者】齐广海
【期刊名称、卷期、页码】Poult. Sci. 2010. 89:413-419
【论文发表时间】2010-02-18 00:00:00
【引文索引类型】SCI
【引文索引号】doi: 10.3382/ps.2009-00550
【学科分类】畜牧学

【题目】利用均匀设计方法研制复合酸化剂的配方
【中文关键词】均匀设计;酸化剂;pH;系酸力;抑菌能力
【英文关键词】Uniform design:Acidifiers;pH;Acid一binding capacity;Bacteriostatic ability
【中文摘要】本研究旨在探讨复合酸化剂配方的研制方法。试验采用均匀设计方法, 设计了2 个类型的酸化剂: 磷酸型(酸化剂A) 和乳酸型(酸化剂B), 每种酸化剂设置6 种不同的配方, 通过研究不同配方的2 种酸化剂的饲料p H、系酸力以及抑菌能力, 建立回归方程, 并用逐步回归分析法确定2 种酸化剂的最佳配方。结果表明, 当酸化剂A 中磷酸占30 %、柠檬酸占20 %、延胡索酸占20 %、甲酸钙占5 % 时, 酸化剂A 对饲料p H、饲料系酸力以及有关细菌的抑制作用方面效果最佳; 当酸化剂B 中乳酸占4 0 %、柠檬酸占20 %、延胡索酸占20 % 时, 综合效果最佳。结果提示,用均匀设计方法研制复合酸化剂的

配方完全可行, 而且可减少试验次数, 提高试验效率。

【英文摘要】The uniform design method was used to study the formula of compound acidifiers. Two types of acidifiers, i.e. phosphoric acid type (acidifier A) and lactic acid type (acidifier B), with 6 different formulas for each type were selected. Based on the pH of feed, acid-binding capacity and the bacteriostatic ability of the two types of acidifiers with different for- mulas, a regression equation was set and the optimum formula was determined with stepwise regression analysis method. Results The result indicated it had optimum effects when phosphoric acid, citric acid, fumaric acid, and calcium formiate accounted respectively for 30%, 20%, 20%, and 5% in acidifier A. However, it had best effects when lactic acid, citric acid, and fumaric acid accounted respectively for 40%, 20% and 20% in acidifier B.It was concluded that the study of acidifier formulation with uniform design was feasible and the efficiency of formulat of acidifier study was improved with the uniform design method.

【语种】中文

【第一作者】李鹏

【通讯作者】齐广海

【期刊名称、卷期、页码】动物营养学报2009,21(4):513 · 518

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【引文索引号】

【学科分类】畜牧学

【题目】Association of the circadian rhythmic expression of GmCRY1a with a latitudinal cline in photoperiodic flowering of soybean.

【中文关键词】无

【英文关键词】blue light cryptochrome photoperiodism photoreceptor

【中文摘要】无

【英文摘要】Photoperiodic control of flowering time is believed to affect latitudinaldistribution of plants. The blue light receptor CRY2 regulatesphotoperiodic flowering in the experimental model plant Arabidopsisthaliana. However, it is unclear whether genetic variations affectingcryptochrome activity or expression is broadly associated with latitudinaldistribution of plants. We report here an investigation of thefunction and expression of two cryptochromes in soybean, GmCRY1aand GmCRY2a. Soybean is a short-day (SD) crop commonly cultivatedaccording to the photoperiodic sensitivity of cultivars. Both cultivatedsoybean (Glycine max) and its wild relative (G. soja) exhibit a stronglatitudinal cline in photoperiodic flowering. Similar to their Arabidopsiscounterparts, both GmCRY1a and GmCRY2a affected bluelight inhibition of cell elongation, but only GmCRY2a underwentblue light- and 26S proteasome-dependent degradation. However,in contrast to Arabidopsis cryptochromes, soybean GmCRY1a, butnot GmCRY2a, exhibited a strong activity promoting floral initiation,and the level of protein expression of GmCRY1a, but notGmCRY2a, oscillated with a circadian rhythm that has differentphase characteristics in different photoperiods. Consistent withthe hypothesis that GmCRY1a is a major regulator of photoperiodicflowering in soybean, the photoperiod-dependent circadian rhythmicexpression of the GmCRY1a protein correlates with photoperiodicflowering and latitudinal distribution of soybean cultivars.We propose that genes affecting protein expression of theGmCRY1a protein play an important role in determining latitudinaldistribution of soybeans.

【语种】英文

【第一作者】张庆祝

【通讯作者】傅永福

【期刊名称、卷期、页码】PNAS, 105(52): 21028 – 21033

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【引文索引类型】SCI

【引文索引号】0

【学科分类】分子生物学

【题目】The isolation and analysis of a soybean CO homologue GmCOL10.

【中文关键词】无

【英文关键词】Glycine max, CONSTANS, GmCOL10, flowering, zinc finger protein

【中文摘要】无

【英文摘要】The CONSTANS (CO) gene is a key regulator of the response to photoperiod in the model plantArabidopsis thaliana, and its homologues are present in many plant species. We describe here the isolation ofthe CO homologue for zinc finger protein gene

GmCOL10 (Glycine max CONSTANS Like 10) from the soy bean cultivar Kennong18. Sequence comparisons showed that the closest A. thaliana gene to GmCOL10 isCOL5. The expression of GmCOL10 was regulated in a circadian manner, especially under short day condi tions. The expression of GmCOL10 was concentrated in vegetative organs, and in particular in the unifoli olates and cotyledons. An analysis of subcellular localization found GmCOL10 in the nucleus. Our data sug gested that GmCOL10 was not related to the photoperiodic pathway of floral transition as Arabidopsis CO does.

【语种】英文
【第一作者】柳霖坡
【通讯作者】傅永福
【期刊名称、卷期、页码】Russ J plant physiol,58 (2): 330-336.
【论文发表时间】2011-06-24 00:00:00
【引文索引类型】SCI
【引文索引号】0
【学科分类】分子生物学

【题目】Cloning and expression analysis of the soybean CO-like gene GmCOL9.
【中文关键词】无
【英文关键词】CONSTANS-Like . Soybean . Gene expression
【中文摘要】无
【英文摘要】Photoperiod is one of the important environmentaltriggers of flowering, and the CONSTANS (CO) gene is akey regulator of this pathway in the model plant Arabidopsisthaliana. CO-like genes are present in many plant species.We describe here the isolation of the CO homolog Glycinemax CONSTANS-like 9 (GmCOL9) from the soybeancultivar Kennong18. Sequence comparisons showed thatthe closest A. thaliana gene to GmCOL9 is COL13. Theexpression of GmCOL9 was investigated using quantitativereal-time reverse transcriptase polymerase chainreaction, which showed that GmCOL9 was not regulatedby a circadian mechanism, since its expression oscillatedat a cycle of 12 h instead of 24 h. GmCOL9 expressionwas influenced by the developmental stage of the plantand varied between tissue/organs. The expression ofGmCOL9 was concentrated in the unifoliolate leavesduring the vegetative phase of growth and in the stemduring the reproductive phase. However, traces of expressionwere also present throughout the plant, indicating that GmCOL9 may be a multifunctional gene in the context ofthe development of the soybean plant.
【语种】英文
【第一作者】黄国文
【通讯作者】傅永福
【期刊名称、卷期、页码】Plant Mol Biol Rep. DOI 15 10.1007/s11105-010-0240-y
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【引文索引类型】SCI
【引文索引号】0
【学科分类】分子生物学

【题目】Expression profiles of a CONSTANS homologue GmCOL11 in Glycine max.
【中文关键词】无
【英文关键词】Glycine max GmCOL11 CO flowering zinc finger protein
【中文摘要】无
【英文摘要】Soybean (Glycine max L.) is a typical short day crop, and its flowering is strictly restricted by specific photo period conditions. CONSTANS (CO) plays a pivotal role in the photoperiod pathway of flowering regulation.CO like genes are present in many plant species. Here we describe the isolation of the CO homologueGmCOL11 (Glycine max CO like 11) from the soybean cv. Kennong 18. Sequence comparisons show thatGmCOL11 is a group II CO like gene with some similarity to AtCOL6 and AtCOL16. Its sequence includes aconserved B box and a CCT domain. The study of GmCOL11 expression using quantitative real time RT PCRdemonstrated that this gene was regulated in a diurnal rather than in a circadian manner. The gene was ex pressed throughout the plant, but mainly in adult leaves and maturing seeds; its expression was enhanced fol lowing flowering. Apparently GmCOL11 is involved in several aspects of soybean development.
【语种】英文

【第一作者】江颖
【通讯作者】张晓玫
【期刊名称、卷期、页码】Russ J plant physiol,58 (5): 774-780.
【论文发表时间】2010-10-13 00:00:00
【引文索引类型】SCI
【引文索引号】0
【学科分类】分子生物学

【题目】Cloning of an acetylcholinesterase gene in Locusta migratoria manilensis related to organophosphate insecticide resistance
【中文关键词】无
【英文关键词】Locusta migratoria
【中文摘要】无
【英文摘要】An acetylcholinesterase (AChE, EC 3.1.1.7) cDNA was cloned and characterized from oriental migratory locust (Locusta migratoria manilensis). The complete cDNA contains a 1638-bp GC-rich (GC% = 66%) open reading frame encoding 546 amino acid residues. The key amino acid residues, including the three residues Ser151 (200 in Torpedo), Glu277 (327) and His391 (440) forming a catalytic triad, five out of six cysteines putatively forming intra-chain disulfide bonds, and 10 out of the 14 aromatic residues lining the active site of the Torpedo AChE, are conserved. Bioinformatics analysis shows that the cloned gene belongs to a member of ace 1. RNA interfering (RNAi) with a specific double strand RNA (dsRNA) led to a significant decrease in AChE1 mRNA, enzyme synthesis and activity. Bioassay showed that the RNA interfered locust was more susceptible to malathion than the control. The results are discussed in the light of the hypothesis that the cloned AChE1 gene is related to the organophosphate insecticide resistance of L. migratoria manilensis
【语种】英文
【第一作者】Xiaoxia Zhou
【通讯作者】Yuxian Xia
【期刊名称、卷期、页码】Pesticide Biochemistry and Physiology, 93:77-84
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【引文索引类型】SCI
【引文索引号】4770769
【学科分类】微生物学

【题目】Cloning and Analysis of GmCOL4 Gene in Glycine max.
【中文关键词】无
【英文关键词】CONSTANS; bioinformatics; circadian clock; photoperiod; Glycine max
【中文摘要】无
【英文摘要】CONSTANS (CO) is a key gene in photoperiodic flowering pathway and locates between the circadian clock gene and themeristem identity gene. For elucidating the function of CO in flowering behavior of soybean, a CO-like gene, designated GmCOL4, wascloned from Glycine max cv. Kennong 18 using reverse transcription-polymerase chain reaction (RT-PCR) and bioinformatics methods.This gene encodes a protein embedded 2 conserved domains, B-box and CCT, which belong to subgroup III. Phylogenetic analysis basedon critical amino acid sequences indicated that GmCOL4 is close to COL9 with similarity of 64.3%. The expression profiles of GmCOL4revealed by quantitative real-time RT-PCR (qRT-PCR) showed a similar pattern to that of COL9. GmCOL4 was largely regulated bybiological circadian, while light had weak effect on it. GmCOL4 expressed mainly in leaves with the highest expression at anthesis stage.Therefore, GmCOL4 is one of the important genes for regulation of flowering in soybean.
【语种】英文
【第一作者】张清哲
【通讯作者】傅永福
【期刊名称、卷期、页码】Acta Agron Sin, 2010, 36(4): 539 – 548
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【引文索引类型】其他
【引文索引号】0

【学科分类】分子生物学

【题目】植物实时荧光定量PCR 内参基因的选择
【中文关键词】qRT-PCR 内参基因
【英文关键词】无
【中文摘要】综述了qRT-PCR内参基因的研究进展,并就内参基因的选择问题进行了探讨。
【英文摘要】无
【语种】中文
【第一作者】胡瑞波
【通讯作者】傅永福
【期刊名称、卷期、页码】。中国农业科技 导报,11 (6): 30-36
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【引文索引类型】其他
【引文索引号】0
【学科分类】分子生物学

【题目】CO/FT 调节元件与植物开花时间调节的研究进展
【中文关键词】CO/FT调节元件 开花时间 光周期
【英文关键词】无
【中文摘要】综述了CO/FT调节元件与植物开花时间调节的最新研究进展
【英文摘要】无
【语种】中文
【第一作者】陈福禄
【通讯作者】傅永福
【期刊名称、卷期、页码】中国农业科技导报,11(2):17-22
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【引文索引类型】其他
【引文索引号】0
【学科分类】分子生物学

【题目】拟南芥TOC1 蛋白特异片段原核表达培养基的优化
【中文关键词】拟南芥TOCI 原核表达 培养基优化 正交实验
【英文关键词】无
【中文摘要】通过正交设计实验,优化蛋白诱导培养基中的有机成分和无机成分及各因素之间的相互组合,将各因素对拟南芥生物钟重要组成成分TOC1诱导的影响进行方差分析,发现氧气~LY.-和氧气较缺乏时,培养基最佳组合不同。对各因素进行回归分析得到目的蛋白的培养基最佳配方为:氧气充足时为酵母提取物19g‘ L~,NaC1 5g‘ L ,DifcoPepc0ne 25g・L~,cacl20.092g・L~,KC1 0.372g・L ;氧气较缺乏时为酵母提取物19g・L~,NaC1 5g‘ L ,葡萄糖 ‘ L ,胰蛋白胨21.7g・L ,NaH2POz2H20 0.184g・L-I,mgC1 0.847g・L~,KC1 0.372g‘ L一。通过进一步的试验发现氧气充足时的最佳配方优于氧气较缺乏时的最佳配方。
【英文摘要】无
【语种】中文
【第一作者】赵峰
【通讯作者】傅永福
【期刊名称、卷期、页码】生物技术通报,2:116-122
【论文发表时间】2007-12-18 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】分子生物学

【题目】Inactivation kinetics of polyphenol oxidase from pupae of blowfly (Sarcophaga bullata) in the dimethyl sulfoxide solution
【中文关键词】无
【英文关键词】Polyphenol oxidase - Blowfly pupae - Inactivation - Kinetics - Dimethyl sulfoxide
【中文摘要】无
【英文摘要】The effects of dimethyl sulfoxide (DMSO) on the activity of polyphenol oxidase (PPO, EC 1.14.18.1) from blowfly pupae for the oxidation of L-3,4-dihydroxyphenylalanine were studied. The results showed that low concentrations of DMSO could lead to reversible inactivation to the enzyme. The IC(50) value, the inactivator concentration leading to 50% activity lost, was estimated to be 2.35 M. Inactivation of the enzyme by DMSO was classified as mixed type. The kinetics of inactivation of PPO from blowfly pupae in the low concentrations of DMSO solution was studied using the kinetic method of the substrate reaction. The rate constants of inactivation were determined. The results show that k(+0) was much larger than k'(+0), indicating that the free enzyme molecule was more fragile than the enzyme-substrate complex in the DMSO solution. It was suggested that the presence of the substrate offers marked protection of this enzyme against inactivation by DMSO.
【语种】英文
【第一作者】Chao-Qi Chen
【通讯作者】Qing-Xi Chen
【期刊名称、卷期、页码】Appl Biochem Biotechnol. 160(7):2166-74.
【论文发表时间】2010-04-14 00:00:00
【引文索引类型】SCI
【引文索引号】19669602
【学科分类】微生物学

【题目】Expression and characterization of aiiA gene from Bacillus subtilis BS-1
【中文关键词】无
【英文关键词】Bacillus subtilis
【中文摘要】无
【英文摘要】AHL-lactonase (AiiA), a metallo-beta-lactamase produced by Bacillus thuringiensis, Bacillus cereus and Bacillus anthracis, specifically hydrolyzes N-acyl-homoserine lactones (AHLs) secreted by Gram-negative bacteria and thereby attenuates the symptoms caused by plant pathogens. In this study, an aiiA gene was cloned from Bacillus subtilis BS-1 by PCR with a pair of degenerate primers. The deduced 250 amino acid sequence contained two small conserved regions, 103SHLHFDH109 and 166TPGHTPGH173, which are characteristic of the metallo-beta-lactamase family. Homology comparison revealed that the deduced amino acid sequence had a high degree of similarity with those of the known AiiA proteins in the B. cereus group. Additionally, the aiiA gene was expressed in Escherichia coli BL21 (DE3) pLysS and the expressed AiiA protein could attenuate the soft rot symptoms caused by Erwinia carotovora var. carotovora.
【语种】英文
【第一作者】J Pan
【通讯作者】Xiong Guan
【期刊名称、卷期、页码】Microbiological Research,163: 711-716
【论文发表时间】2008-07-25 00:00:00
【引文索引类型】SCI
【引文索引号】18261893
【学科分类】微生物学

【题目】In vitro and in vivo responses of fungal biocontrol agents to gradient doses of UV-B and UV A irradiation
【中文关键词】无
【英文关键词】Beauveria bassiana
【中文摘要】无
【英文摘要】Conidia of Beauveria bassiana and Metarhizium spp. smeared on glass slides were assayed for their responses to irradiation with weighted 312-nm UV-B and 365-nm UV-A at gradient doses of 0.005 – 1.1 and 1.0 – 18.0 J cm − 2, respectively. All inverted, sigmoid dose – survival trends showed good fit to a survival model (r2 ≥ 0.97), yielding respective UV-B LD50s of 0.23 – 0.59 and 0.05 – 0.65 J cm − 2 for 24 B. bassiana and 36 Metarhizium isolates, and UV-A LD50s of 2.78 – 10.46 J cm − 2 for 24

Metarhizium isolates. Myzus persicae apterae on detached leaves were sprayed with a concentrated spore suspension of B. bassiana or M. anisopliae, followed by exposure to the UV-B doses to cause 10 – 90% viability losses. These doses caused aphid mortality reductions as expected but affected neither spray-to-death period nor fungal growth on cadavers. The results highlight the merits of using UV-tolerant candidates and photoprotection measures in fungal formulations for pest control.

【语种】英文

【第一作者】Shi-Li Yao

【通讯作者】Ming-Guang Feng

【期刊名称、卷期、页码】BIOCONTROL,55: 413-422

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【引文索引类型】SCI

【引文索引号】2010008

【学科分类】微生物学

【题目】Characterization of a highly active promoter,PBbgpd , in Beauveria bassiana.

【中文关键词】无

【英文关键词】PBbgpd;Beauveria bassiana

【中文摘要】无

【英文摘要】The promoter of glyceraldehyde-3-phosphate dehydrogenase (gpd) gene from Aspergillus nidulans (PgpdA) is widely used to direct expression of target genes constitutively in fungi. However, in some species, a heterogeneous promoter is found to be of low efficiency. To obtain a high-efficiency promoter for transformation of Beauveria bassiana, an entomopathogenic fungus widely used as an mycoinsecticide, a glyceraldehyde-3-phosphate dehydrogenase gene (Bbgpd) promoter, was cloned and characterized. Four deletion constructs (-2118, -1153, -726, and -354) of the 5'-upstream sequence of Bbgpd linked to a bar::gus fusion gene (phosphinothricin-resistance::beta-glucuronidase fused gene), which were used as selected marker gene and report gene, respectively, were generated. GUS activities of transgenic strains harboring -726, -1153, and -2118 deletion constructs were much stronger than that of the promoter of Aspergillus nidulans gpdA (PgpdA), with a twofold to threefold increase over that in the PgpdA construct. The -726 fragment was necessary to direct GUS expression in B. bassiana. No -354 transgenic progenies were obtained, possibly because it failed to initiate the transcription of bar::gus fusion gene. A remarkable increase of GUS activity was found between the -1153 and -726 constructs, indicating that some active transcriptional elements were located in this region. With a high expression level and relatively short sequence, PBbgpd can be used to drive target genes in B. bassiana transgenic research.

【语种】英文

【第一作者】Xing-gang Liao

【通讯作者】Yan Pei

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【引文索引类型】SCI

【引文索引号】18443858

【学科分类】微生物学

【题目】一株对美国白蛾高毒力苏云金芽孢杆菌的杀虫基因鉴定

【中文关键词】苏云金芽孢杆菌; 美国白蛾; PCR-RFLP;

【英文关键词】Bacillus thuringiensis; Hyphantria cunea; PCR-RFLP;

【中文摘要】美国白蛾是一种重要的检疫害虫,为进行有效地控制,筛选出了一株对其具有高毒力的苏云金芽孢杆菌。HYW-8是从黑龙江伊春市土壤中通过抗生素筛选法分离到的一株形成小菱形晶体的苏云金芽孢杆菌,利用PCR-RFLP对其基因型进行鉴定,并采用浸液法对美国白蛾进行生物活性测定。结果发现,菌株HYW-8含有cry1Ab、cry1E基因和一种未知cry2基因。生物测定结果表明,其对美国白蛾具有很高的杀虫毒力,LC_(50)为7.4×10~5芽孢/mL,低于标准菌株HD-1。因此,HYW-8对防治美国白蛾具有较强的应用潜力。

【英文摘要】Hyphantria cunea was an important quarantine pest.In this study,we selected a Bacillus thuringiensis strain with high virulence for the biocontrol of Hyphantria cunea.The strain HYW-8 was isolated from the soil in the city of Yichun by antibiotic method.It produced small diamond-shaped crystals.It was identified that contained cry1A,cry1E gene and an unknown cry2 gene by PCR-RFLP.Bioassay showed that the strain HYW-8 had high insecticidal activity to Hyphantria cunea.The LC_(50) was 7.4×10~5

spore/mL,which ...
【语种】中文
【第一作者】董明
【通讯作者】冯书亮
【期刊名称、卷期、页码】中国农学通报 , 2010年 03期
【论文发表时间】2009-11-23 00:00:00
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【引文索引号】
【学科分类】微生物学

【题目】滇池流域蔬菜地NO与NO2排放的研究
【中文关键词】滇池流域; 集约化菜田; NO 与NO2 排放速率; NOx-N 损失率
【英文关键词】Dianchi watershed ; intensive vegetable field ; NO and NO2 flux ; NOx-N loss rate
【中文摘要】采用密闭通气气室法,在滇池流域旱季和雨季开展了2 个生长周期内集约化西芹地NO/ NO2 排放研究。结果表明, NO/ NO2 排放速率的日变化规律受温度的影响较为明显,中午时段最高,凌晨时段最低。西芹生育期间,CK处理(裸地) 的NO/ NO2 排放速率维持在一定水平,中后期NF 处理(不施氮) NO/ NO2 排放速率有所升高; LF(N450 kg/ hm2) 和HF(N 1200 kg/ hm2) 处理受西芹的生长和频繁氮肥追施的影响,生育期NO/ NO2 排放速率逐渐升高。旱季与雨季CK处理NO/ NO2 排放量分别为1130 和NOx2N 1151 kg/ hm2 ,NF 处理分别较CK高出NOx2N 110 和1144kg/ hm2 。LF 处理旱季与雨季NO/ NO2 排放量分别为NOx2N 4188 和5167 kg/ hm2 ,其损失率分别为0179 %和0192 %;HF 处理旱季和雨季NO/ NO2 排放量分别为NOx2N 7158 和10119 kg/ hm2 ,其损失率分别为0163 %和0185 % ,说明氮肥用量较高时,土壤- 作物系统的NOx2N 损失量也较高,但其损失率并不随施氮量的升高而升高。
【英文摘要】Enclosure growth chamber method , which removes the air inlet NO/ NO2 first and then monitors NO/ NO2 flux of enclosed growth chamber , was used to collect and determine in situ NO/ NO2 emission from intensive vegetable field in Dianchi watershed in both dry and rainy seasons. The following results were obtained : 1) The NO/ NO2 flux varied diur2 nally along with the soil temperature , its maximum appeared at noon , and its minimum appeared before dawn ; 2) In the celery growth stage , the NO/ NO2 flux of CKtreatment (bare land) maintained at a certain level ; the NO/ NO2 flux of NF treatment (N 0 kg/ ha) was higher than CKtreatment in the mid and late period of celery growth ; the NO/ NO2 fluxes of LF (N 450 kg/ ha) and HF (N 1200 kg/ ha) treatments increased gradually because of the celery ’s growth and frequent N fertilizer application ; 3) In dry and rainy seasons , the NO/ NO2 emission of CKtreatment in the growth stage was NOx2 N 1130 and 1151 kg/ ha , respectively , and the NO/ NO2 emission of NF treatment in the growth stage was NOx2N 1107 and 1144 kg/ ha higher than that of CK, respectively ; 4) In dry and rainy seasons , the NO/ NO2 emission of LF treatment in the growth stage were NOx2N 4188 and 5167 kg/ ha , which accounted for about 0179 % and 0192 %of applied fertiliz2 er N , respectively ; the NO/ NO2 emission of HF treatment in the growth stage was NOx2N 7158 and 10119 kg/ ha , which accounted for about 0163 % and 0185 % of applied fertilizer N , respectively. The NO/ NO2 2N emission in the growth stage increased with nitrogen fertilizer application rate , but its loss rate does not increase accordingly.
【语种】中文
【第一作者】卢昌艾
【通讯作者】胡万里
【期刊名称、卷期、页码】植物营养与肥料学报
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【引文索引类型】其他
【引文索引号】1008- 505X(2008) 05- 0900- 07
【学科分类】土壤学

【题目】滇池流域集约化西芹地的N2O排放
【中文关键词】滇池流域; 集约化菜田; N2O 排放速率; N2O- N 损失率
【英文关键词】Dianchi watershed; intensive vegetable field; N2O flux; N2O- N loss rate
【中文摘要】集约化菜田的土壤养分和水热条件适合土壤的硝化反硝化作用, 而我国集约化菜田N2O排放的研究少见报道。本文采用密闭式箱法, 在滇池流域旱季(95 d) 和雨季(99 d) 开展了2 个生长周期内西芹地N2O 排放的监测研究, 结果表明, 在集约化菜田土壤氮素养分含量较高的情况下,(1) N2O 排放的日变化规律受温度的影响较为明显, 中午时段N2O 排放速率最高, 凌晨时段最低;(2) N2O 排放的季节性变化规律是在种植后不久, 出现1 个小的N2O 排放高峰外, 随后CK 处理(

裸地) 的N2O 排放速率维持在一定的水平, 而种植作物的不施肥(NF) 、推荐施肥(LF) 和习惯施肥(HF) 处理受西芹的生长及频繁氮肥追施的影响, 中后期N2O排放速率有所升高;(3) 在中后期, 不施用氮肥的NF 处理较CK 的N2O 排放速率高; 旱季与雨季, CK 处理N2O 排放量分别为2.79 和2.66kg N2O - N · hm- 2; NF 处理分别为3.07 和3.67 kg N2O - N · hm- 2, 远高于粮田1.0 kgN2O- N · hm- 2 · a- 1 的N2O背景排放量;(4) LF 处理旱季与雨季为5.25 和6.66 kg N2O - N · hm- 2, 其损失率分别为1.17%和1.48%; HF 处理旱季和雨季N2O 排放量分别为9.35 和12.12 kg N2O -N,其损失率分别为0.78%和1.01%, 说明氮肥施用量较高时, 土壤- 作物系统的N2O - N 损失量也较高, 但是N2O - N 损失率并不随施氮量的升高而升高。

【英文摘要】Soil nitrification and de- nitrification easily occur under the soil conditions of intensive vegetable field. However, the research of soil N2O emissions from intensive vegetable field in China was rare reported. Using an enclosed chamber method, the N2O flux from celery field was in situ measured in Dianchi watershed during a dry season(95 days) and a rainy season(99 days) . The result indicated:(1) The maximum N2O flux appeared at noon and the minimum appeared before dawn, suggesting that the diurnal variation of N2O flux might be related to soil temperature.(2) In the celery growth stage, there was a small N2O flux peak just after celery planting. Afterwards, N2O flux of CK treatment(bare land) maintained a certain level, but the N2O fluxes of NF(0 kgN · hm- 2) , LF(450 kgN · hm- 2) and HF(1 200 kgN · hm- 2) treatments planted celery increased gradually with the growth of celery or with the frequent N fertilizer application.(3) The N2O flux of NF treatment was higher than CK treatment in the mid and late period of celery growth stage. In dry and rainy seasons, the N2O emission of NF treatment was up to 3.07 and 3.67 kgN2O- N · hm- 2, respectively, which were greatly higher than 1.0 kg N2O - N · hm- 2 · a- 1 of N2O - N background emission level of grain field. (4) In the dry and rainy seasons, the N2Oemission of LF treatment were 5.25 and 6.66 kg N2O - N · hm- 2, which accounted for about 1.17% and 1.48% of applied fertilizer- N, respectively. The N2O emission of HF treatment were 9.35 and 12.12 kg N2O - N · hm- 2, which was about 0.78% and 1.01% of applied fertilizer- N, respectively. The N2O - N emission in the celery growth stage increased with the increasing N fertilizer application rate, but the loss rate of N2O - N emission in the total N fertilizer rate did not increase.

【语种】中文

【第一作者】卢昌艾

【通讯作者】孔令明

【期刊名称、卷期、页码】农业环境科学学报

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【引文索引类型】其他

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【学科分类】土壤学

【题目】红壤双季稻田不同施肥下的氨挥发损失及其影响因素

【中文关键词】氨挥发;化肥;有机肥;双季稻田

【英文关键词】ammonia volatilization; chemical fertilizer; organic manure; double rice paddy field

【中文摘要】在红壤双季稻田上采用密闭气室法测定了施用等氮量化肥(尿素)、有机肥(猪粪)及化肥有机肥(有机氮无机氮各占一半)配施下氨挥发及其田间表面水NH4+-N 含量、温度和pH 动态变化,研究氨挥发损失及影响因素。结果表明,与施用尿素相比,单施有机肥及化肥有机肥配施显著降低了稻田氨挥发,施用尿素的早稻和晚稻氨挥发损失率分别达41.4%和39.9%,单施有机肥的分别为0.3%和0.9%,化肥有机肥配施的分别为19.6%和8.9%。施肥后, 短期内田面水NH4+-N 含量和pH 均显著上升,其与氨挥发速率均呈显著正相关。

【英文摘要】Ammonia volatilization using a closed chamber method from paddy field soil and the dynamic of NH4+-N concentration, temperature, and pH in surface water were conducted in double rice cropping system. The effects of different types of nitrogen fertilizers applied as urea, swine manure and half of urea with swine manure in the basis of equal nitrogen on ammonia volatilization were studied. The results showed that applied swine manure and urea combing with swine manure reduced ammonia volatilization from paddy field soil significant comparing with applied chemical fertilizer urea. The N losses via ammonia volatilization account for 41.4% of total N input during early rice growth period and for 39.9% during late rice growth period by urea applied only, while the N losses via ammonia volatilization account for 0.3% during early rice growth period and 0.9% during late rice growth period for the treatment of swine manure. For the treatment of urea with swine manure, it was found that the N losses via ammonia volatilization were 19.6% during early rice growth period and 8.9% during late rice growth period, respectively. The concentration of NH4+-N and pH in surface water increased shortly after fertilization. Also, the positive correlation between ammonia volatilization rate with NH4+-N concentration and pH in surface water were obtained.

【语种】中文

【第一作者】李菊梅

【通讯作者】徐明岗
【期刊名称、卷期、页码】生态环境
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【学科分类】土壤学

【题目】多功能固沙保水剂性能及其效果的研究
【中文关键词】风化煤;非均相混聚;固沙保水;抗风蚀
【英文关键词】Air-slake coal;mixing in non-hom0geneous solution;sand-fixing and water-preserving;Anti-wind erosion
【中文摘要】采用液相化学方法,微乳化、高剪切和非均相混聚技术,以风化煤和废弃塑料为主要原料,研制了集提供养分、固沙保水、改良土壤、修复荒漠化土壤作用于一体的3种多功能固沙保水剂,通过试验研究,优化出一组固沙保水剂。结果表明,该固沙保水剂的胶团粒径为20-60 nm,固结层抗压强度为5.30-16.0 MPa,抗冻融性能和耐老化性能良好,在风速15 m·min-1和25 m·min-1连续吹30 min、在风速30 m·min-1吹5 min均未见起尘及风蚀现象,抗风蚀性能显著。
【英文摘要】Desertification of lands is one of the most serious ecological problems in China.Three mature methods,namely engineering sand-fixing, biological sand-fixing and chemical sand-fixing,can be applied to control and recover the desert.Former two not only take time and effort but also capital intensive.Therefore,chemical approaches aim at sand-fixing,water maintaining and nutriments-offering have been an alternate option.In this paper,three types of multifunctional sand-fixing and water maintaining polymer(humus-plastic polymer,plastic starch polymer and air-slake coal polymer),which could provide nutriments,fix sand,preserve water,remediate soil and recover desert,were made from the air-slake coal and the abandoned plastics by liquid chemical method,emulsification,high velocity cutting method and mixing in no homogeneous solution.The characteristics of the polymers such as particle size distribution,viscosity,ant press intension,freeze thaw capacity,aging capacity and anti-windy capacity was analyzed to select one polymer with excellent sand-fixing and water maintaining characters.The results indicated that all three types of polymer not only decreased water evaporation under no vegetation,for example,in 15 days the control evaporated 99.8% ,while three types polymer evaporated 98.2% ,98.1% and 97.4% in 50 days respectively,but also increased moisture content with vegetation,for example,after 60 days of seeding,water content in soil was 8.33% ,14.33% ,15.45% and 16.35% respectively.And air-slake coal polymer was the best one with integrated analysis as follow:the diameter of the particles was in the scope of 20 nm to 60 nm.the anti-press intension of concretion was 5.30 MPa to 1 6.1 0 MPa.and the effect of anti-gelation and anti-weathering were significant.Additionally,the function of anti—wind erosion was strong,for that no dust and erosion occurred when the wind blown continuously at 25 m · min or 30 rain and 30 m · min-1for 5 min,respectively.Therefore,air-slake coal polymer was the optimum one to provide nutriments,fix sand,preserve water.
【语种】中文
【第一作者】张建峰
【通讯作者】杨俊诚;张夫道
【期刊名称、卷期、页码】农业环境科学学报
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【学科分类】土壤学

【题目】Effect of Organic Manure Application With Chemical Fertilizers on Nutrient Absorption and Yield of Rice in Hunan of Southern China
【中文关键词】土壤中有机质;水稻,磷肥,钾肥
【英文关键词】organic matter in soil; paddy; phosphate fertilizers; potash fertilizers
【中文摘要】化肥施用有机肥提高水稻产量和氮肥利用效率,减少对环境的污染和提高土壤肥力大大的风险。这可能是一个很好的实用技术,保护环境,并提出了在这一地区的水稻产量。
【英文摘要】To evaluate the effect of organic manure application with chemical fertilizers on rice yield and soil fertility under long-term double-rice cropping system, a six year field experiment was conducted continually in the paddy soil derived from Quaternary red clay in Hunan Province, southern China. Four different treatments, i.e., no nitrogen with chemical P and K (PK), swine manure only (M), N, P and K chemical fertilizers only (NPK), and half chemical fertilizers combined with half swine manure (NPKM) were

included. Each N, P and K application rate was the same at all the treatments (except the N application rate at PK) and N application rate was 150 kg N ha -1. All fertilizers were applied to soil tillage layer with once application as basal fertilizers. The nutrients uptake rate, grain yield, nitrogen use efficiency, and soil organic matter content at each treatment were investigated. The NPKM treatment achieved the highest mean annual yield of 12.2 t ha -1 (68% higher than that of PK). Higher dry matter accumulation and nutrients absorption were observed during the middle-late growth period in the NPKM treatment, with higher panicle number per unit and filled-grain number per panicle. Its average nitrogen use efficiency was 36.3% and soil organic matter increased by 18.5% during the experimental period in the NPKM treatment, which were significantly higher than those in the NPK treatment. Organic manure application with chemical fertilizers increased the yield and nitrogen use efficiency of rice, reduced the risk of environmental pollution and improved soil fertility greatly. It could be a good practical technique that protects the environment and raises the rice yield in this region.

【语种】英文

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【学科分类】土壤学

【题目】施氮模式对番茄氮素吸收利用及土壤硝态氮累积的影响

【中文关键词】施氮模式;滴灌;土壤硝态氮累积

【英文关键词】models of applying N fertilizer; drip irrigation; accumulation of NO3--N in the soil

【中文摘要】采用田间小区试验,以番茄为指示植物,研究不同施氮模式:农民习惯施肥(N-farmer)、减施化肥氮26%(74%N-farmer)、减施化肥氮26%结合调节土壤 C/N(74%N-farmer+S)、减施化肥氮 26%结合调节土壤 C/N 和采用滴灌(74%N-farmer+S+D)、减施化肥氮45%结合调节土壤 C/N 和采用滴灌(55%N-farmer+S+D)的集成模式对设施番茄氮素吸收利用及土壤硝态氮累积的影响。结果表明,55%N-farmer+S+D 模式下番茄产量最高为 108 349 kg · hm-2,产投比最高为 26.1;与 N-farmer 模式相比,74%N-farmer、74%N-farmer+S、74%N-farmer+S+D 和 55%N-farmer+S+D 模式的氮素利用率和氮素农学利用效率均有增加,其中 55%N-farmer+S+D 模式的氮素当季利用率为9.56%,氮素农学效率为 43.67 kg · kg-1,均显著高于N-farmer 模式(P<0.05);氮肥生理利用效率在各施氮模式间没有显著差异,55%N-farmer+S+D 模式的效率最高为 598.06 kg · kg-1;55%N-farmer+S+D 模式的氮素果实生产效率和收获指数分别为 493.81 kg · kg-1和 53.84%,均高于 N-farmer 模式。氮平衡结果表明,N-farmer 模式的表观损失最高,55%N-farmer+S+D 模式显著低于N-farmer 模式;相同土壤剖面中不同模式硝态氮含量随番茄生育进程均呈先增高后降低的趋势;番茄盛果期和拉秧期,74%N-farmer+S、74% N-farmer+S+D 和 55%N-farmer+S+D 模式在 0~100 cm 剖面累积的硝态氮含量均低于 N-farmer 模式,拉秧期 N-farmer 模式累积的硝态氮含量最高达 705.24 kg · hm-2,74%N-farmer+S+D 模式累积的硝态氮含量最低为 453.75 kg · hm-2;番茄在 3个不同生育期,土壤硝态氮多累积在 0~40 cm 土层,硝态氮的相对累积量约为 50%。综合以上分析结果,集成模式 55% N-farmer+S+D具有明显优势,能够提高氮肥的吸收和利用效率,减少土壤硝态氮的残留。

【英文摘要】Continuously excessive nitrogen(N)input in vegetable-greenhouse is one of the major problems in China, especially in Shouguang , Shandong Province, the famous vegetable production base, which has cause the imbalance of C/N, the decrease of utilization rate of N and fall of fruit quality. Besides, over accumulation of soil nitrate-nitrogen(NO3--N)in protected vegetable fields will give a serious menace to the quality of groundwater. Aiming at these problems, a field experiment was conducted to study the effects of different N levels(1 000, 740, 550kg · hm-2)and models of applying N fertilize(reducing chemical N fertilizer, reducing chemical N fertilizer combined to adjust soil C/N ratio, reducing chemical N fertilizer combined to adjust soil C/N ratio and adopting drip irrigation)on tomato N uptake, N utilization and NO3--N residual in soil. The main results were as follows:Tomato yield were increased after applying N fertilizer and yield growth rate reached over20%. The maximum production(108 349 kg · hm-2)and value cost ratio(26.1)appeared in the model of 55%N-farmer+S+D. Compared with the local farmer ' s conventional model of applying N fertilize(N-farmer), N use efficiency and N agronomic efficiency of reducing chemical N fertilizer combined to adjust soil C/N ratio and adopting drip irrigation measure(74% N-farmer、74%N-farmer+S、74 %N-farmer+S+D and55%N-farmer+S+D)were all increased, N use efficiency of 55%N-farmer+S+D was 9.56% and N agronomic efficiency was 43.67 kg · kg-1,respectively, which were both significantly higher than N-farmer (P<0.05). There was no significant difference of N physiologic efficiency among the models, the maximum value was 598.06 kg · kg-1in the model of 55%N-farmer+S+D. N fruit production efficiency and N harvest index of 55%N-farmer+S+D was 493.81 kg · kg-1and 53.84%, respectively, higher than N-farmer. The research on N balance indicated that N surplus(apparent N losses)was more higher in N-farmer than others models, the apparent N of 55%N-farmer+S+D was 186.24

kg · hm-2which was significantly lower than N-farmer(P<0.05). In the same soil depth, the amount of NO3--N of different models of applying N fertilizer increased from the flowering stage to the full fruit stage, but decreased from the full fruit stage to last harvest. The NO3--N accumulation in the soil layer of 0~100 cm of the models of 74 %N-farmers, 74%N-farmer+S+D and 55%N-farmer+S+D was lower than that of N-farmer. The NO3--N accumulation of the model of N-farmer model was 705.24 kg · hm-2, which was higher than others models at last harvest. 74%N-farmer+S+D model accumulated less NO3--N in the soil, which was 453.75 kg · hm-2 . Nitrate accumulates mostly in the soil layer of 0~40 cm and less in deep soil layers, relative nitrate-N accumulation account for more than 50%. The results of all the above-mentioned indicated that the model of 55%N-farmer+S+D is the feasible N management practice.

【语种】中文
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【学科分类】土壤学

【题目】秸秆和猪粪的施用对土壤镉有效性的影响和机理研究
【中文关键词】秸秆;猪粪;镉;有效性;富里酸;胡敏酸
【英文关键词】straw; pig manure ; cadmium; availability ; humic acid ; fulvic acid
【中文摘要】用盆栽试验研究作物秸秆和腐熟猪粪对土壤镉(Cd) 有效性的影响及机理。结果表明,施用秸秆促进油麦菜对Cd 的吸收,而施用猪粪降低油麦菜对Cd 的吸收,这主要是由于秸秆显著地增加了交换态Cd 含量,而猪粪则显著降低交换态Cd 含量。秸秆或猪粪对交换态Cd 含量的影响则主要与土壤胡敏酸(HA) 和富里酸(FA) 的变化有关。施用秸秆对土壤中FA 增加幅度大于对HA 的增加幅度,即HA/FA 比值降低。而施用猪粪则增加了HA/FA 比值。相关分析表明,施用秸秆和猪粪情况下土壤HA/FA 与交换态Cd 含量之间呈显著负相关关系(P < 0.05) 。结果还表明,秸秆和猪粪对土壤交换态Cd 含量的影响还与其对腐殖酸芳构化程度的影响有关,添加猪粪比添加秸秆的土壤腐殖酸芳构化程度大。因此,有机物质对土壤Cd 有效性的影响与土壤有机质组成的变化密切相关。
【英文摘要】A pot experiment was conducted to study the effects of straw or composted pig manure application on availability of cadmium (Cd) in soil and the related mechanisms. Results showed that application of straw increased Cd uptake and pig manure decreased Cd uptake of leafused lettuce. It was mainly because that straw increased exchangeable Cd and pig manure decreased exchangeable Cd. The effect of straw or pig manure on exchangeable Cd was related to the changes of humic acid (HA) and fulvic acid (FA) . When straw was applied the increase of FA in the soil was more than HA and HA/FA ratio decreased, while application of pig manure increased HA/FA. Statistical analysis showed that soil HA/FA ratio was negatively correlated with soil exchangeable Cd (P < 0.05) . Results also showed that the aromatization of humic substance was higher in soil applied with pig manure than the soil amended with straw. It was concluded that the availability of Cd in soil could be influenced by the changes of organic fractions after application of organic materials.
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【学科分类】土壤学

【题目】微生物对几种水溶性聚合物的降解作用
【中文关键词】水溶性聚合物;微生物;生物降解
【英文关键词】water-soluble polymer; microorganisms; biodegradation
【中文摘要】针对缓/控释肥料包裹材料的广泛应用,通过实验室微生物培养,对几种水溶性聚合材料生物降解作用进行了测定。结果表明,纳米-亚微米级聚乙醇混聚物、甲基丙烯酸羟乙酯混聚物在第4 周最先开始降解,废弃聚苯乙烯泡沫塑料

混聚物第8 周才开始降解;聚乙烯醇混聚物、聚苯乙烯泡沫塑料混聚物、丙烯酸酯类混聚物在11~20 周完全降解,苯乙烯-丙烯酸酯混聚物第20 周后降解达98%,试验所用纳米-亚微米级聚乙醇混聚物等7 种水溶性聚合物均可作为环境友好型缓释肥料包裹材料。

【英文摘要】Slow release fertilisers (SRFs) could improve fertilizer use efficiency and simultaneously reduce environmental pollution and coated fertilizer accounted for 85% of SRFs. Here seven coating materials of water soluble polymer were examined to investigate their biodegradation in soil. Results showed nano-subnano sized polyethylene alcohol mixture (CF2) and 2-Hydroxyethyl methacrylate mixture (JBQ) commenced the degradation from the 4th week, while polystyrene foam mixture(N-PS) from the 8th week. CF2, N-PS and acrylic ester mixture(N-BX)were degraded completely within 11~20 weeks. Polystyrene-Acryl ate mixture (Sty-MM) needed 20 weeks to be degraded about 98% of it.

【语种】中文

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【学科分类】土壤学

【题目】Accumulations of Cadmium, Zinc, and Copper by Rice Plants Grown on Soils Amended with Composted Pig Manure

【中文关键词】积累,浓度,重金属,猪粪,大米

【英文关键词】Accumulation, concentration, heavy metal, pig manure, rice

【中文摘要】无

【英文摘要】A pot experiment, in which composted pig manure was applied to soils at rates of 0%, 0.5%, 1.5%, 3.0%, and 5.0% (W/W) to simulate additions of different amounts of cadmium (Cd), copper (Cu), and zinc (Zn) to soil, was conducted to assess accumulation of metals by rice (Oryza sativa L.) plants from soils treated with manure. Results indicated that Cd concentrations in rice grains were more than the limit of 0.2mg kg-1 when 0.14 mg kg-1 or more Cd was loaded to Ferralsols by manure application, but it was not more than the limit in Calcaric Cambisols. Zinc contents in polished rice grains did not exceed the permissible limit of 50 mg kg-1 in two soils. Copper concentrations in rice grain were slightly more than the limit of 10 mg kg-1 in Ferralsols but not in Calcaric Cambisols. Results suggested greater risk of heavy-metal contamination from manure to paddy rice in Ferralsols than in Calcaric Cambisols.

【语种】英文

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【学科分类】土壤学

【题目】长期稻-稻-绿肥轮作对水稻产量的影响

【中文关键词】水稻;长期试验;稻-稻-绿肥轮作;产量

【英文关键词】Rice; long-term test; rice - rice - green manure crop rotation; production

【中文摘要】为探讨湘南红壤稻田多熟制的增产潜力,不断提高经济效益和土壤肥力,促进农业可持续发展,从1982年开始,对红壤稻田布置了紫云英(T1)、油菜(T2)、黑麦草(T3)绿肥翻压还田对水稻产量及生长发育影响的长期轮作制度定位试验。27年的研究结果表明:1)与冬闲(CK)处理相比,种植绿肥处理能促进水稻增产,增产幅度依次为T1T2T3;2)与CK相比,绿肥处理下水稻年产量与CK处理间差异随年份增加而增大;T1处理与T2、T3处理间及T2处理与T3处理间差异也是如此。

【英文摘要】To explore the potential of Shonan red paddy yield of multiple cropping, and constantly enhance economic efficiency and soil fertility, and promote the sustainable development of agriculture since 1982, the red paddy layout of the milk vetch (T1), rape (T2), ryegrass(T3) Green Manure field on rice yield and growth and development of long-term crop rotation system experiment. 27-year study show that: 1) compared with the fallow (CK) treatment, planting green manure handling can promote rice production, the

yield increase followed T1T2T3; 2) compared with CK, green manure handling under rice annual output of CK difference with the year to increase with increasing; difference is T1 dealing with T2 and T3 treatments in T2 and T3 treatments.
【语种】中文
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【学科分类】土壤学

【题目】不同施氮模式对日光温室番茄产量、品质及土壤肥力的影响
【中文关键词】番茄; 日光温室; 施氮模式; 土壤肥力
【英文关键词】tomato ; greenhouse ; models of applying nitrogen fertilizer ; soil fertility
【中文摘要】在日光温室栽培条件下,研究了不同施氮模式对番茄产量、品质及土壤肥力的影响。结果表明,与当地习惯施肥模式(N1) 相比,分别减施化肥氮26 %(N2) 、减施化肥氮26 % 结合调节土壤C/N(N3) 、减施化肥氮26 % 结合调节土壤C/N 和采用滴灌(N4) 、减施化肥氮45 % 结合调节土壤C/N 和采用滴灌(N5) 的集成模式对产量和品质无显著影响; 减氮模式下植物吸收的总氮量、氮素利用率和氮肥农学效率均高于习惯施肥模式,其中N5 模式的氮素利用率和氮肥农学效率显著高于N1 模式(P < 0.05) ,说明减少化肥氮的施用量结合调节土壤C/N 和/ 或滴灌措施能够保证番茄的产量和品质,达到减肥增效的目的。结果还看出,番茄拉秧后0-100 cm土层累积的硝态氮含量低于习惯施肥模式,对0-20 cm表层土壤碱解氮、速效磷、速效钾含量和土壤脲酶和蔗糖酶活性的影响不显著; 减氮条件下,N3 和N5 模式土壤细菌/ 真菌比值高于N1 模式。综上研究结果表明,N3 和N5 两个集成模式具有明显优势。
【英文摘要】Continuously excessive nitrogen (N) input in greenhouse is one of the major problems in China, especially in Shouguang , Shandong province ,a famous vegetable production base , and this led to deteriorate fertilization profit , product quality and soil quality , etc. Aiming at those problems, a field experiment was conducted to study the effects of different models of applying N fertilizer on yield and quality of tomato and soil fertility in greenhouse in Shouguang to provide better approaches and models to develop the sustainable utilization of soil. Compared with the local farmer ’s conventional model of applying N fertilizer (N1) , the treatments of reducing 26 % chemical N fertilizer (N2) , reducing 26 % chemical N fertilizer combined to adjust soil C/ N ratio (N3) , reducing 26 % chemical N fertilizer combined to adjust soil C/ N ratio and adopting drip irrigation measure (N4) and reducing 45 % chemical N fertilizer combined to adjust soil C/ N ratio and adopting drip irrigation measure (N5) respectively , could ensure the yield and quality of tomato. Total N uptake by plant , N use efficiency and N agronomic efficiency of the models to reduce N fertilizer application were higher than those of local farmer ’s , N5 treatment was significant higher in N use efficiency and N agronomic efficiency than N1 (P < 0.05) . The results showed that reducing N fertilizer combined with soil C/ N ratio adjustment and/ or drip irrigation can reduce chemical N application, increase the yield and quality of tomato. The nitrate accumulation of the treatment of N3 , N4 and N5 were lower than that of N1. During winter spring season , there were no significant difference in the contents of soil alkali hydrolysable N , available phosphorus (P) and available potassium (K) and in soil crease activity and invertase activity , however , soil bacterium/ fungi (B/ F) ratio was higher under the integration models of N3 and N5.The results of all the above mentioned indicated that reducing N fertilizer combined with agronomic measures can reduce the waste of fertilizer resource and remit degeneration of the soil quality , without loss of yield and quality compared to farmer ’s conventional fertilization approach. Above all the results showed that the integration models of N3 and N5 have a promising future and can provide the basis of the theory for studying the reduction of N fertilizer application, ensuring high grade and yield of the vegetable and soil sustainable utilization.
【语种】中文
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【学科分类】土壤学

【题目】不同氮肥用量对设施番茄产量、品质和土壤硝态氮累积的影响
【中文关键词】设施蔬菜;减施氮肥;硝态氮累积
【英文关键词】vegetable greenhouse; reducing N fertilizer rate; NO3--N accumulation
【中文摘要】在设施栽培条件下,采用田间小区试验,以番茄为指示植物,研究了不同氮肥用量:农民习惯施氮量(N1,尿素,纯氮1 000kg · hm-2)、70%农民习惯施氮量(N2,尿素,纯氮 700 kg · hm-2)、70%农民习惯施氮量结合调节土壤 C/N(N3,尿素,纯氮 700 kg · hm-2)、50%农民习惯施氮量结合调节土壤 C/N 和采用滴灌(N4,尿素,纯氮 500 kg · hm-2)对设施番茄产量、品质和土壤硝态氮累积的影响。结果表明,与农民习惯施用氮肥相比,减施氮肥处理(N2、N3 和 N4)的番茄产量没有降低,N4 处理产量最高,比 N1 增产 9.7%。N2和N4 处理氮肥的农学效率和肥料的产投比均显著高于 N1 处理(P<0.05),其中 N4 处理最高,为 28.9 kg · kg-1和12.6,施肥效益最高。不同施氮肥处理间果实 Vc 含量虽没有显著差异,但 N4 处理是 N1 处理的 1.2 倍。番茄果实的硝酸盐含量随氮施用量的增加而增加,两者呈显著的正相关关系(R2=0.8307,P<0.05),N3 和 N4 处理果实硝酸盐含量均显著低于 N1 处理(P<0.05)。0~100 cm 土层累积的硝态氮随氮肥施用量的增加而增加,N1 处理土层累积的硝态氮含量最高,减施氮肥处理均降低了土壤对硝态氮的累积。土壤硝态氮多累积在 0~40 cm 土层,硝态氮的相对累积量约为 50 %,这部分残留的氮素可被下季作物吸收利用。果实硝酸盐含量与土壤累积的硝态氮存在显著的相关关系(R2=0.800 3,P<0.05),说明土壤硝态氮含量过高能够增加果实对氮素的吸收和积累。在寿光设施蔬菜生产条件下,在农民习惯施氮量基础上减氮 30% ~ 50%既可以保证较高产量和较好的果实品质,同时降低土壤中硝态氮累积,从产量、肥料效益和土壤可持续利用角度来看,N4 处理更具优势,具有较好应用价值。
【英文摘要】Field experiment was carried out to study the effects of different treatments of nitrogen(N)fertilizer on the yield, quality of tomato and soil NO3--N accumulation in vegetable-greenhouse in Shouguang, Shandong Province, an important greenhouse vegetable production area in North China. There were five treatments: a control receiving no chemical N fertilizer(N0), habitual N management of the local farmers(100% chemical N, named as N1, 1 000 kg N · hm-2), 70% chemical N fertilizer of N1(named as N2, 700 kg N · hm-2), 70% chemical N fertilizer of N1 combined with maize straw (named as N3, 700 kg N · hm-2), and 50% chemical N fertilizer of N1 combined with maize straw and drip irrigation(named as N4, 500 kg N · hm-2). Results showed that under current cultivation conditions, tomato yields could still be ensured even at 30%~50% deduction in N fertilizer input comparing with the local farmer habitual usage. Maximum yield was found in N4 treatment, 9.7% higher against the N1 treatment. N2 and N4 treatments were significant higher in N agronomic efficiency and the value of cost ratio than N1 treatment(P<0.05). The maximum N agronomic efficiency(28.9 kg · kg-1)and the value of cost ratio(12.6)appeared in the treatment of N4. There was no significant difference in Vitamin C(Vc)content of tomato among different N fertilizer treatments and N4 treatment got higher Vc content. A close relationship was found between fruit nitrate content and N application(R2=0.830 7,P<0.05). Tomato nitrate content of N3 and N4 treatment were significantly lower than the habitual N usage(P<0.05). High application of N fertilizer(N1)caused high accumulation of NO3--N within the 0~100 cm soil profile. Deduction of 30%~50% in N input decreased the soil NO3--N accumulation. Nitrate accumulates mostly in the soil profile of 0~40 cm, relative NO3--N accumulation account for more than 50%, and which could be utilized in next season. Correlation analysis showed that there were positive relationships between tomato nitrate content and soil NO3--N accumulation (R2=0.800 3,P<0.05). In conclusion, under current cultivation conditions in Shouguang, high tomato yields, quality and less NO3--N accumulation could be obtained at 30%~50% reduction in habitual N input, which presents a possible scale to a safety and efficient N fertilizer utilization in greenhouse farming system. N4 treatment is the feasible N management practice.
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【学科分类】土壤学

【题目】RothC模型模拟华北潮土区的土壤有机碳动态
【中文关键词】RothC模型; 潮土; 土壤有机碳; 模型模拟
【英文关键词】RothC model; fluvo-aquic soil; soil organic carbon; model simulation
【中文摘要】运用RothC (Version 26.3) 模型, 模拟研究华北地区典型潮土长期定位施肥试验小麦- 玉米轮作下土壤有机碳(SOC) 含量的变化。本研究选取潮土区较为常见的6个典型施肥处理: 不施肥(CK) 、单施氮肥(N) 、氮磷配施(NP) 、氮磷

钾配施(NPK) 、氮磷钾配施有机肥(NPKM) 和氮磷钾配施秸秆(NPKS) , 对耕层土壤SOC的模拟值与实际测定值进行了比较。除NPKS处理外, 其余各处理模型模拟值与实测值之间吻合较好。将NPKS处理植物碳DPM /RPM由1.44调至3.35后, 模拟效果明显改善。RothC模型可用来模拟和预测不同施肥措施下潮土SOC变化趋势, 但在大量秸秆还田时需调整部分模型参数。

【英文摘要】The RothC model (Version 26.3) was used to simulate the dynamics of soil organic carbon (SOC) under the wheat maize cropping system in a long term fertilization experiment in the Northern China Plain. Six typical fertilizer treatments (CK、N、NP、NPK、NPKM - NPK + manure、NPKS - NPK + maize straw) were chosen to simulate the SOC dynamics of the top soil (0~20 cm). Model simulation agreed well with the measurements except t the NPKS treatment. The simulation efficiency of the NPKS treatment imp roved when we modified the DPM /RPM ratio of plant carbon from 1.44 to3.35. So we concluded that the RothC model was feasible to predict the SOC dynamics of fluvo-aquic soil under different fertilizer management practices in the Northern China Plain, but some model parameters should be modified when a great amount of straw carbon input into the soil.

【语种】中文

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【学科分类】土壤学

【题目】潮土区农田土壤肥力的变化趋势

【中文关键词】潮土; 耕地地力; 国家土壤肥力监测点

【英文关键词】fuvo-aquic soil; farmland soil fertility; national soil fertility long term monitoring sites

【中文摘要】自1986年起, 农业部全国农业技术推广服务中心在全国典型潮土区开展了耕地土壤的肥力动态监测, 以了解潮土区耕地地力的动态变化趋势。1987~2006年的土壤肥力动态监测结果表明, 潮土区土壤有机质和全氮含量均有所增加, 1987~1997年全国潮土区土壤有机质和全氮含量年均分别增加2.04%和2.59%; 1998~2006年全国潮土区土壤有机质含量年均分别增加0.62% , 全氮含量年均降低0.39%; 土壤有效磷和速效钾含量年均增加0.77%~1.47%和1.61%~2.73%; 土壤pH值降低0128个单位, 有酸化的趋势。随着潮土区土壤有效磷和速效钾含量的快速上升, 说明可以适当降低磷、钾肥的施用量。

【英文摘要】Since 1986, National Agro Tech Extension and Service Center of China, Ministry of Agriculture has carried out a dynamic monitoring on the farmland soil fertility in fluvo-aquic soil district. The soil fertility survey indicated from 1987 to 2006: The soil organic matter and total nitrogen content increased on the whole. The soil organic matter increased 2.04% and 0.62% annually from 1987 to 1997 and from 1998 to 2006, respectively; Total nitrogen content increased 2.59% and decreased 0.39% annually from 1987 to 1997 and from 1998 to 2006, respectively; Soil Olsen P and available K content increased by 0.77% ~1.47% and 1.61%~2.73% annually; Soil pH value decreased 0.28 indicating the tread of soil acidification. With the rap idly increasing rate of soil Olsen P and available K content in the past 20 years, the phosphorus and potassium fertilizers could be reduced properly.

【语种】中文

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【学科分类】土壤学

【题目】The Effects of slow-release nitrogen fertilization models on soil biological properties in rice-wheat cropping system

【中文关键词】稻麦轮作,缓释肥料,酶,土壤中的微生物

【英文关键词】Rice-wheat rotation, slow-release fertilizers, enzyme, soil microbes.

【中文摘要】无

【英文摘要】Slow-release fertilizers (SRFs) are of great significance in enhancing fertilizer efficiency and improving soil fertility. The effects of different SRF application models on soil enzyme (sucrase, protease and urease) activity and soil microbes (actinomycetes,

bacteria, fungi) as well as the microbial diversity were investigated in rice-wheat cropping system. The results showed that, in comparison with no N control group, four N fertilizer application models (Urea, Slow-release-Urea (SR-Urea), SR-Urea/Urea, SR-Urea/Urea/Org.N) increased the soil enzyme activity and the number of soil microbes significantly in both wheat and rice soils. Compared to pure Urea application model, the soil enzyme activity was higher and the number of soil microbes was greater in other three SRF models (SR-Urea, SR-Urea/Urea, SR-Urea/Urea/Org.N); particularly in SR-Urea/Urea/Org.N model, the activity of sucrase, protease, and urease were increased by 5%-38%, 4%-15%, and 2%-5% respectively, and the number of soil bacteria, actinomycetes, fungi were increased by 9%-27%, 3%-14%, 13%-28% respectively. In addition, microbial diversity index (Shannon ' s diversity index) of SR-Urea/Urea/Org. N model was increased by 15%-103% compared to other fertilization models. The results indicated that combined application of SRF and organic manures was a good precaution to improve the soil biological properties and soil fertility in rice-wheat cropping system.

【语种】英文
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【学科分类】土壤学

【题目】不同氮肥管理对吉林春玉米生长发育和养分吸收的影响
【中文关键词】春玉米 氮肥管理 产量 氮肥利用效率
【英文关键词】Spring corn; nitrogen management; production; nitrogen use efficiency
【中文摘要】针对吉林春玉米氮肥施用中存在氮肥用量偏大,且具盲目性的现状,采用田间试验研究农民习惯施氮量和推荐施氮量下氮肥不同施用方式对春玉米干物质积累、子粒产量、氮素吸收和利用效率的影响。结果表明,推荐施氮量下,苗期和灌浆期春玉米干物质积累量显著高于习惯施肥,有机无机配合提高了春玉米干物质积累速率。施氮处理与不施氮相比均显著增加玉米子粒产量,增产11.2%~16.8%;推荐施氮量下玉米子粒产量与习惯施氮量相当,但显著提高氮素的偏因子生产力和农学效率。在氮磷钾用量一致的基础上,用30%有机肥氮替代化肥氮与100%化肥氮处理的产量相当,对氮素利用效率也没有影响,并降低收获期土壤无机氮含量。说明合理施用氮肥不但能够维持玉米产量,还可减少氮肥投入,提高氮肥利用效率;有机肥部分替代化肥氮是吉林春玉米氮素管理的有效途径之一。
【英文摘要】For Jilin Chun corn nitrogen fertilizer, nitrogen fertilizer is too large, the possessed blindness of the status quo, a field trial study farmers used nitrogen application rate and the recommended nitrogen rate, nitrogen application method on spring maize dry matter accumulation, grain yield, nitrogenUptake and utilization efficiency. The results show that the recommended nitrogen application, the seedling stage and grain filling of spring maize dry matter accumulation was significantly higher than the conventional fertilization, organic and inorganic with spring corn dry matter accumulation rate. Nitrogen fertilization than without N application significantly increased grain yield, yield 11.2% to 16.8%; recommended nitrogen rate of corn grain yield and habits nitrogen application fairly, but significantly enhance nitrogen partial factor productivity and agronomic efficiency . NPK dosage on the basis of 30% of organic fertilizer nitrogen substitution of fertilizer nitrogen and 100% fertilizer nitrogen processing yield quite no effect on the nitrogen use efficiency, and reduce the harvest soil inorganic nitrogen. Description of the reasonable application of nitrogen fertilizer to corn production can not only maintain, but also to reduce nitrogen inputs, nitrogen use efficiency; organic fertilizer a partial substitute for nitrogen fertilizer is one of effective ways of of Jilin Chun corn nitrogen management

【语种】中文
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【学科分类】土壤学

【题目】有机肥磷替代化肥磷对春玉米干物质积累和磷素吸收的影响
【中文关键词】春玉米;磷肥;有机肥;磷素吸收
【英文关键词】Spring maize; Phosphate fertilizer; Organic manure; Phosphorus uptake
【中文摘要】2008~2009年在吉林省公主岭黑土上研究有机肥磷部分替代化肥磷对春玉米干物质积累、产量、养分吸收和利用的影响。结果表明,有机肥磷替代化肥磷增加苗期或拔节期土壤速效磷含量;与100%化肥磷处理相比,用30%有机肥磷替代化肥磷对玉米干物质积累、子粒产量和磷素吸收没有显著影响,但显著增加营养体磷素的再分配率和对子粒的贡献率,提高了磷素的农学效率。
【英文摘要】In 2008 and 2009, field trials were conducted in spring maize in black soil of Jinlin to evaluate the effects of phosphorus (P) substitution by manure P on biomass, grain yield and P use efficiency. The results indicated that soil Olsen- P increased in seedling or jointing stage by manure substitutions. Compared with full chemical P, manure substitutions for P did not significant influence on biomass accumulation, grain yield and P uptake. Manure substitutions for P significantly increased P redistribution and contribution efficiency from vegetative parts to grain. Agronomic efficiency was also increased by manure substitution.
【语种】中文
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【学科分类】土壤学

【题目】A Field Study on Effects of Nitrogen Fertilization Modes on Nutrient Uptake, Crop Yield and Soil Biological Properties in Rice-Wheat Rotation System
【中文关键词】稻麦轮作,氮施肥模式,更换有机肥,土壤酶活性,微生物多样性
【英文关键词】rice-wheat rotation, N fertilization mode, organic manure replacement, soil enzyme activity, microbial diversity
【中文摘要】无
【英文摘要】Rational application of nitrogen (N) fertilizers is an important measure to raise N fertilizer recovery rate and reduce N loss. A two-year field experiment of rice-wheat rotation was employed to study the effects of N fertilization modes including a N fertilizer reduction and an organic manure replacement on crop yield, nutrient uptake, soil enzyme activity, and number of microbes as well as diversity of microbes. The result showed that 20% reduction of traditional N fertilizer dose of local farmers did not significantly change crop yield, N uptake, soil enzyme activity, and the number of microbes (bacteria, actinomycetes, and fungi). On the basis of 20% reduction of N fertilizer, 50% replacement of N fertilizer by organic manure increased the activity of sucrose, protease, urease, and phosphatase by 46-62, 27-89, 33-46, and 35-74%, respectively, and the number of microbes, i.e., bacteria, actinomycetes, and fungi by 36-150, 11-153, and 43-56%, respectively. Further, organic fertilizer replacement had a Shannon ’ s diversity index (H) of 2.18, which was higher than that of other modes of single N fertilizer application. The results suggested that reducing N fertilizer by 20% and applying organic manure in the experimental areas could effectively lower the production costs and significantly improve soil fertility and biological properties.
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【题目】Role of Added Carbon in the Transformation of Surplus Soil Nitrate to Organic Forms of Nitrogen in an Calcareous Soil
【中文关键词】养分管理和农业的可持续发展,在发展中世界; C的利用率;温室气体;土壤有机氮土壤盈余硝酸盐
【英文关键词】Nutrient Management and the Sustainability of Agriculture in the Developing World; C source availability; greenhouse gases; soil organic N; soil surplus nitrate

【中文摘要】无
【英文摘要】Excessive amounts of nitrate have accumulated in many soils on the North China Plain due to the large amounts of chemical N fertilizer used combined with low carbon inputs. The present study investigated the promotion of soil nitrate transformation to soil organic N by different carbon amendments. A laboratory incubation experiment using 15N tracer (K15NO3) was employed to elucidate the proportion of soil organic N derived from accumulated soil nitrate following amendment with glucose (G) or maize straw (S) at controlled soil temperature and moisture content. During the 56-d incubation period we determined the dynamics and isotopic abundance of mineral N (NO3- and NH4+) and soil organic N and greenhouse gas (N2O and CO2) emissions.Carbon amendment markedly stimulated transformation of nitrate to soil organic N. Mineralization of native soil organic N was also enhanced because soil organic N at the end of the incubation period was not significantly different from that in the control without added C. Glucose had a greater effect on nitrate-N immobilization (25.0 mg kg-1) than maize straw (9.4 mg kg-1) and glucose addition also led to highest greenhouse gas emissions. With glucose and straw amendment total N2O-N emissions were 1.01 and 0.03 mg kg-1, respectively. Similarly, glucose amendment lowered the concentration and abundance of NO3--N and increased that of NH4+-N more than maize straw. In agricultural practice straw amendment may be an effective strategy to deplete the excess NO3--N pool and restrict leaching, to promote nitrate-N immobilization and to decrease greenhouse gas emissions.
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【学科分类】土壤学

【题目】Synergistic interactions between Glomus mosseae and Bradyrhizobium japonicum in enhancing proton release from nodules and hyphae. Mycorrhiza.
【中文关键词】Bradyrhizobium japonicum . Glomus mosseae .Soybean . Proton release . Nodulesphere . Hyphosphere
【英文关键词】Bradyrhizobium japonicum . Glomus mosseae .Soybean . Proton release . Nodulesphere . Hyphosphere
【中文摘要】无
【英文摘要】Soybean (Glycine max L. Merr.) seedlings were inoculated with Glomus mosseae (GM) and Bradyrhizobium japonicum (BJ) together or separately to study the effect of interactions on net H+ effluxes of nodules or extraradical hyphae by in vivo vibrating electrode techniques. GM promoted three-fold the H+ effluxes of nodules on mycorrhizal lateral roots and BJ increased eight-fold the net H+ effluxes of hyphae developing in the vicinity of nodules on lateral roots. Increments in plant P content were positively and linearly correlated with the net H+ efflux of nodules and hyphae. It is concluded that increased H+ effluxes of nodules resulted from enhanced nitrogenase activities induced by the presence of the AM fungus in lateral roots. The results point to additive effects of interactions between mycorrhizal fungi and rhizobia in increasing the extent of acidification of the “ nodulesphere ” and the hyposphere.
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【学科分类】土壤学

【题目】Long-Term Evaluation of Manure Application on Maize Yield and Nitrogen Use Efficiency in China.
【中文关键词】CK,控制; NPKS,无机氮,磷,钾肥与秸秆返回;,无机氮,磷,钾复合肥加肥NPKM氮肥利用率,氮肥利用效率。
【英文关键词】CK, control; NPKM, inorganic nitrogen, phosphorus, and potassium fertilizer plus manure; NPKS, inorganic nitrogen, phosphorus, and potassium fertilizer with Stover returned; NUE, nitrogen use efficiency.

【中文摘要】无
【英文摘要】Improving N use efficiency (NUE) and reducing the negative impact of N fertilization on the environment are essential for sustaining agricultural production in many intensive farming regions around the world. The objective of this research was to investigate the effect of various fertilization regimes on yield, N uptake, and NUE by maize (Zea mays L.) in long-term (15-yr) experiments performed at four sites (Changping, Zhengzhou, Yangling, and Qiyang) in China. Eight treatments were examined: unfertilized control (CK); inorganic fertilizer (manufactured source) N, N and P, N and K, and N, P, and K; inorganic N, P, and K with manure (NPKM); 1.5 ′ the rate of NPKM (1.5NPKM); and N, P, and K with maize Stover returned (NPKS). Compared with inorganic fertilization, mixed inorganic and manure fertilization (NPKM and 1.5NPKM) resulted in more stable and significantly higher yield and NUE as well as increases in soil nutrient storage at all sites, with the most significant improvement in the acid soil (pH = 5.7) at Qiyang. Phosphorous was identified as one of the most important limiting factors in maize NUE because the NUE at all four sites increased from about 20 to 45% by increasing the available P in the soil. Higher NUEs (up to 70%) were observed mostly from the continuous manure applications. We conclude that manure and P applications are the most important and effective
【语种】英文
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【学科分类】土壤学

【题目】Effect of Long-Term Potassium Fertilization on Crop Yield and Potassium Efficiency and Balance Under Wheat-Maize Rotation in China
【中文关键词】交换性钾,内部钾利用效率,钾收获指数,钾的吸收,非交换性钾
【英文关键词】exchangeable K, internal K use efficiency, K harvest index, K uptake, non-exchangeable K
【中文摘要】无
【英文摘要】Sustainable potassium (K) management at different soil sites requires understanding the relationships between crop productivity and long-term K fertilizations on a regional or national scale. We analyzed responses of grain yield of wheat (Triticum aestivum L.) and maize (Zea mays L.), K efficiency, and partial balance (difference between K input through fertilizer and K output in the aboveground biomass) during 15- (1990 – 2005) or 18-year (1990 – 2008) K fertilizations at five distinctive agro ecological zones across China. Compared to the inorganic nitrogen (N) and phosphorus (P) fertilization, the inorganic NPK fertilization significantly increased grain yields of wheat (21%) and maize (16% – 72%) at Qiyang and Changping, where soils have low exchangeable and non-exchangeable K contents, but not at ¨ Ur ¨ umqi, Yangling and Zhengzhou, where soils have a high exchangeable and non-exchangeable K and/or low N/K ratio in crop plants. Compared to the inorganic NPK fertilization, the inorganic NPK (30% N) and organic manure (70% N) fertilization (NPKM) increased grain yields of wheat (14% – 40%) and maize (9% – 61%) at four sites, but not at Zhengzhou. For a productivity of wheat at 2 – 5 t ha − 1 or maize at 3 – 6 t ha − 1, 13 – 26 or 9 – 17 kg K ha − 1 were required to produce 1.0 t wheat or maize. The NP fertilization resulted in the lowest negative partial K balance and accumulated 52 kg K ha − 1 year − 1 less than the NPK fertilization, which accumulated 28 kg ha − 1 year − 1 less K than the NPKM fertilization. A re-evaluation of the site-specific fertilization effects on N/K ratio in crop plants and soil K accumulation under current NPK and NPKM fertilization is urgently needed to increase both crop yield and K use efficiency at different agro ecological zones across China.
【语种】英文
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【题目】家畜肠道和粪便甲烷排放研究进展
【中文关键词】动物;肠道;粪便;甲烷;测定方法
【英文关键词】animal; enteric; manure; methane; measurement methods
【中文摘要】家畜采食饲料在胃肠道发酵及其排泄粪便在处理贮存过程中会产生甲烷,目前每年的排放量超过全球甲烷排放总量的1/4。甲烷是主要的温室气体,会破坏大气臭氧层。减少家畜肠道和粪便的甲烷产量对提高饲料能量利用率和改善环境具有重要意义。该文在对目前反当动物甲烷排放影响因素、肠道甲烷排放量和粪便甲烷排放量测定方法等方面的研究现状进行分析的基础上,就如何减少家畜肠道和粪便的甲烷产量提出了自己的看法。
【英文摘要】Enteric and manure derived methane emissions from domestic animals around the world per year now are above one-fourth of the total methane emissions. Methane, a principal greenhouse gas, can damage the ozonosphere. Methane emissions mitigation can not only improve utilization of feed energy, but also meliorate environment. This article reviews the influencing factors of methane emissions, methods used to measure enteric and manure-derived methane emissions from domestic animals. On the basis of these advices on how to reduce the methane emission from enteric and manure are given.
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【题目】规模化猪场固体粪便收集系数与成分测定
【中文关键词】猪场;固体类便;收集系数;成分测定
【英文关键词】Pig farm; solid manure; collection coefficient; nutrient value measurement
【中文摘要】为初步探讨规模化猪场不同饲养阶段固体粪便的实际收集量,该文选择北京一典型规模化猪场,定期对采用干清粪工艺的保育猪、育肥猪、妊娠母猪和分娩母猪的固体粪便日收集系数进行测量和相关成分测定,为估算规模化猪场固体粪便收集量和相关污染负荷提供依据。结果表明:妊娠后期母猪,妊娠前期母猪,分娩母猪、育肥猪和保育猪的固体粪便平均收集系数分别为(2.29±1.10),(1.22±0.3),(1.27±0.32),(0.75±0.26)和(0.47±0.14)kg/d/头;各饲养阶段的新鲜固体粪便的含水率基本一致,平均含水率为66%;保育猪和育肥猪的粪便挥发性固体平均含量(干基)为81.8%,分娩母猪与妊娠前期和妊娠后期母猪固体粪便挥发性固体平均含量为(干基)74.4%;保育猪与育肥猪的固体粪便有机物和大部分重金属含量比妊娠母猪和分娩母猪高。
【英文摘要】To investigate amount of solid manure collection from pigs at different feeding stages in typical concentrated pig farm, the amount of collection excretion and related nutrient value were measured and analyzed on Beilangzhong Pig Farm during 2004~2005.The amount of collection solid manure per day for later period gestation, first period gestation, farrowing, finishing and nursery pigs are(2.19±1.10), (1.22±0.31), (1.27±0.32), (0.75±0.26) and(0.47±0.14) kg/d/head. Average water content is 66% which is almost the same for different feeding stages,average volatility solid content is 81.8% for nursery and finishing pigs but 74.4% for far rowing and gestation pigs nutrient value and heavy metal from nursery and finishing pig are a little more higher than those from farrowing and gestation pigs.
【语种】中文
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【题目】冬季猪场污水处理设施温室气体排放测试
【中文关键词】猪场;污水处理;温室气体

【英文关键词】Swine farm; waste water treatment; greenhouse gas
【中文摘要】为研究畜禽废弃物处理过程中温室气体泄漏与排放状况,该文利用静态箱对北京市北郎中猪场的污水处理单元进行了温室气体泄漏与排放测试。测试结果表明:厌氧消化罐泄漏造成的温室气体通量为5823.19mg/m2/Hco2当量,一、二级氧化塘其CO2当量的温室气体通量分别为607.75、8.61mg/m2/h;由于污水以厌氧处理为主,各处理单元冬季的氧化亚氮排放很低,几乎可以忽略不计。
【英文摘要】Static chambers were used to investigate greenhouse gas(GHG)leakage and emissions from different treatment units of the wastewater treatment facilities on swine farms in winter. Results showed that leakage flux of GHG from anaerobic tank was 5823.19 mg/m2/h CO2 equivalent, and the GHG emission fluxes from the primary and secondary aerobic ponds were 607.75 and 8.61mg/m2/h CO2 equivalent, respectively. Wastewater was mainly treated via anaerobic processing,therefore,N_2O emission was extremely low and could be neglected
【语种】中文
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【题目】不同pH值淋溶液对猪粪中不同指标溶出的影响
【中文关键词】猪粪;淋溶;释放;pH值
【英文关键词】Swine manure; leaching; release; PH value
【中文摘要】本文研究猪粪在酸雨条件下释放污染物的规律,分析释放物的环境危害性。试验配置pH值为3.60、4.80和5.60的淋溶液,模拟广东省内的酸雨降水环境,对新鲜猪粪进行24d的淋浴,然后对各组淋出液和猪粪残留化学成分进行分析,得出不同pH值淋溶下污染物重金属铜、锌、砷和氨氮、总磷、CODcr等时间一浓度曲线。结果表明,新鲜猪粪在酸性淋溶下,其渗滤液的pH值有所降低,在24d淋溶过程中渗滤液重金属(Zn、Cu、As)的浓度总体上呈下降趋势,以pH4.8时滤出重金属的速度较pH3.6、5.6快;COD、氨氮早期溶出较快,以后逐步减缓。新鲜猪粪经酸性淋溶后,渗滤液中铜、砷以及COD、总磷、氨氮含量均显著增加。因此对即使临时堆放亦需采取措施,以防止因雨水等导致的渗滤液污染。
【英文摘要】This paper studied the pollutants released from swine manure on open ground under leaching of acid rain,analysed environmental harm of the release. Simulation tests were carried out under Guangdong acid rain condition,using PH3.60,4.80 and 5.60 of the leaching solution,showering for 24 days for fresh pig manure. Experiment results showed that heavy metal of Cu,Zn,As,ammonia,total Phosphorus,and COD were formed in pollutants,and their time concentration curves were plotted. The results show that after acid rain leaching the pH value of swine feces lower than that of fresh swine manure,and during the 24days the concentration of Cu,Zn and As in leached swine feces showed decline trend,the leaching rate of heavy metal in the treatment of pH4.8 was faster than that in treatment of pH3.6 and 5.6; COD and ammonia leaching rates were fast at start,then its lowed down. After acid rain leaching all concentrations of copper,arsenic,COD,total phosphorus,and ammonia in swine feces were over the relevant environmental standards. So it is necessary to take measures to prevent fresh swine manure from leaching.
【语种】中文
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【期刊名称、卷期、页码】农业工程学报
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【学科分类】畜牧学

【题目】Adsorption and release of phosphorus in the surface sediment of wastewater stabilization pond
【中文关键词】Wastewater stabilization pond Sedimentary phosphorus Adsorption and release Redox potential pH
【英文关键词】Wastewater stabilization pond Sedimentary phosphorus Adsorption and release Redox potential pH

【中文摘要】In wastewater stabilization ponds, sedimentary phosphorus usually presents significant release and adsorption differences from that in lakes. However, their mobile potentials in stabilization pond have seldom been studied. In this study, the transformation characteristics of sedimentary phosphate in a wastewater stabilization pond are studied. The adsorption and release potential under different pH and Eh conditions is investigated and possible mechanisms involved are also proposed. Additionally, the forming process of ironbound-phosphorus with Eh steadily increasing is also discussed. Results of this study show that the binding capability of each phosphorus fraction differed greatly under different pH conditions as follows: iron – phosphorus (Fe – P) and aluminum – phosphorus (Al – P) possessed the greatest binding capability at pH 7 – 8; and organic phosphorus extracted at alkaline conditions (OPalk) and calcium – phosphorus (Ca – P) showed the greatest binding capability at pH 5 and pH 9, respectively. Mainly through changing the proportion of Fe(III) in Total-Fe and the subsequent binding of its possible forms with phosphate, Eh can effectively affect the adsorptive and releasing behaviors of sedimentary phosphorus. With Eh increasing from − 650mVto − 50mV, Fe(II)was gradually oxidized to Fe(III), and Fe(III) – P significantly formed at the same time. Furthermore, the results show that there was no Eh threshold for phosphorus adsorption with increasing Eh.

【英文摘要】In wastewater stabilization ponds, sedimentary phosphorus usually presents significant release and adsorption differences from that in lakes. However, their mobile potentials in stabilization pond have seldom been studied. In this study, the transformation characteristics of sedimentary phosphate in a wastewater stabilization pond are studied. The adsorption and release potential under different pH and Eh conditions is investigated and possible mechanisms involved are also proposed. Additionally, the forming process of ironbound-phosphorus with Eh steadily increasing is also discussed. Results of this study show that the binding capability of each phosphorus fraction differed greatly under different pH conditions as follows: iron – phosphorus (Fe – P) and aluminum – phosphorus (Al – P) possessed the greatest binding capability at pH 7 – 8; and organic phosphorus extracted at alkaline conditions (OPalk) and calcium – phosphorus (Ca – P) showed the greatest binding capability at pH 5 and pH 9, respectively. Mainly through changing the proportion of Fe(III) in Total-Fe and the subsequent binding of its possible forms with phosphate, Eh can effectively affect the adsorptive and releasing behaviors of sedimentary phosphorus. With Eh increasing from − 650mVto − 50mV, Fe(II)was gradually oxidized to Fe(III), and Fe(III) – P significantly formed at the same time. Furthermore, the results show that there was no Eh threshold for phosphorus adsorption with increasing Eh.

【语种】英文
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【学科分类】环境学

【题目】Research on nutrient removal and recovery from swine wastewater in China
【中文关键词】Nutrient removal; recovery; swine; wastewater
【英文关键词】Nutrient removal; recovery; swine; wastewater
【中文摘要】Heavy pollution of livestock and poultry wastewater has been a problem in China. It is already noticed that nutrient removal is necessary for water environment protection, but nutrient recovery is still a rather fresh topic. In the present study, research on nutrient removal and recovery by magnesium ammonium phosphate (MAP) from swine wastewater was carried out at bench and pilot scale. It showed that for MAP crystallization the optimum pH value was at 9.0 – 10.0, the coexistence of Ca in solution would increase the P removal efficiency, but would affect the morphology of MAP; the coexistence of carbonate would slightly decrease the crystallization efficiency of MAP. The pilot scale experiments of 10 m3/d in the piggery showed that both discontinuous and continuous flow MAP crystallization reactors were efficient for phosphorus (P) removal and recovery from anaerobically treated swine wastewater, while the discontinuous reactor was more efficient; the reactors were resistant to temperature variation in the range of 12 to 30 °C, and to influent phosphorus concentration variation in the range of 30 to 80 mg/L; the effluent P concentration could meet the national discharge standard of livestock and poultry wastewater. Ammonia could be also removed with MAP crystallization, but more ammonia was removed by carbonate stripping for pH increase purpose instead of the MAP crystallization reaction.

【英文摘要】Heavy pollution of livestock and poultry wastewater has been a problem in China. It is already noticed that nutrient removal is necessary for water environment protection, but nutrient recovery is still a rather fresh topic. In the present study, research on nutrient removal and recovery by magnesium ammonium phosphate (MAP) from swine wastewater was carried out at bench and pilot scale. It showed that for MAP crystallization the optimum pH value was at 9.0 – 10.0, the coexistence of Ca in solution would increase

the P removal efficiency, but would affect the morphology of MAP; the coexistence of carbonate would slightly decrease the crystallization efficiency of MAP. The pilot scale experiments of 10 m3/d in the piggery showed that both discontinuous and continuous flow MAP crystallization reactors were efficient for phosphorus (P) removal and recovery from anaerobically treated swine wastewater, while the discontinuous reactor was more efficient; the reactors were resistant to temperature variation in the range of 12 to 30 °C, and to influent phosphorus concentration variation in the range of 30 to 80 mg/L; the effluent P concentration could meet the national discharge standard of livestock and poultry wastewater. Ammonia could be also removed with MAP crystallization, but more ammonia was removed by carbonate stripping for pH increase purpose instead of the MAP crystallization reaction.

【语种】英文

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【学科分类】环境学

【题目】Nutrients removal and recovery by crystallization of magnesium ammonium phosphate from synthetic swine wastewater

【中文关键词】Magnesium ammonium phosphate; Crystallization; Phosphorus recovery; Effect of calcium; Effect of carbonate; Crystal morphology

【英文关键词】Magnesium ammonium phosphate; Crystallization; Phosphorus recovery; Effect of calcium; Effect of carbonate; Crystal morphology

【中文摘要】With synthetic swine wastewater, lab-scale batch experiments were carried out to investigate the effects of pH value, magnesium dosage, calcium and carbonate concentrations on magnesium ammonium phosphate (MAP) crystallization. The morphology of the precipitates obtained was observed by using scanning electron microscopy with energy dispersive X-ray analysis, and the composition of the precipitates was analyzed with X-ray diffraction. The results show that the optimum pH value for MAP crystallization is in the range of 9.5-10.5; the phosphorus removal efficiency increases with the increase of Mg/P molar ratio; the optimum Mg/P molar ratio is 1.4, and excessive Mg dosage does not show significant effect on the efficiency improvement of MAP crystallization; the co-existing of Ca in solution disturbs the morphology and purity of the MAP product, and amorphous calcium phosphate will form when Ca increases to a certain concentration; CO32- can affect the P removal efficiency, but does not obviously affect the morphology and purity of MAP.

【英文摘要】With synthetic swine wastewater, lab-scale batch experiments were carried out to investigate the effects of pH value, magnesium dosage, calcium and carbonate concentrations on magnesium ammonium phosphate (MAP) crystallization. The morphology of the precipitates obtained was observed by using scanning electron microscopy with energy dispersive X-ray analysis, and the composition of the precipitates was analyzed with X-ray diffraction. The results show that the optimum pH value for MAP crystallization is in the range of 9.5-10.5; the phosphorus removal efficiency increases with the increase of Mg/P molar ratio; the optimum Mg/P molar ratio is 1.4, and excessive Mg dosage does not show significant effect on the efficiency improvement of MAP crystallization; the co-existing of Ca in solution disturbs the morphology and purity of the MAP product, and amorphous calcium phosphate will form when Ca increases to a certain concentration; CO32- can affect the P removal efficiency, but does not obviously affect the morphology and purity of MAP.

【语种】英文

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【学科分类】环境学

【题目】SPRR工艺回收养猪废水营养元素研究
【中文关键词】序批式磷回收反应器;养猪废水厌氧消化液;磷酸铵镁;营养元素
【英文关键词】sequencing-batch phosphorus recovery reactor;,piggery wastewater anaerobic digestion effluent;MAP;nutrient
【中文摘要】采用磷酸铵镁(MAP)结晶法,研究序批式磷回收反应器(SPRR)从养猪废水厌氧消化液中回收营养元素的能力,初步确定了SPRR反应器的运行参数,考察了废水组成对反应器运行效果的影响。结果表明,在废水pH=8.5时,SPRR工艺能够有效富集MAP晶体,单个运行周期仅3.6h;养猪废水中适量投加Mg盐能使MAP产量提高约10.5%~11.6%;考虑经济成本,当养猪废水仅用于营养元素回收时,可不投加Mg盐。SPRR工艺可直接从养猪废水厌氧消化液中高效回收营养元素。具有广阔的应用前景。
【英文摘要】When adopting the crystallization technology of magnesium ammonium phosphate(MAP)for P recovery from high strength wastewater, fluid bed reactor is usually viewed 88 the most common choice.However, due to its poor hydrodynamics conditions,masses of MAP particles cannot remain in the reactor but flow out the system with the effluent.which result in lower recovery efficiencies of phosphorus.For improving these recovery efficiencies,a new kind of sequencing batch phosphorus recovery reactor(SPRR),which can accelerate the separation efficiencies of MAP particles from water, Was designed. The nutrients recovery potential of SPRR from anaerobic digestion effluent of piggery wastewater Was studied.Primary operational parameters of the SPRR were determined,and the influences of pollution components on the MAP crystallization were investigated.The results show that only through 3.0 h aeration stage,the anaerobic digestion wastewater Can offer appropriate conditions for MAP crystallization.A running cycle of this SPRR including five stages,namely influent stage,pH increase stage,MAP crystal stage,MAP precipitation stage,effluent stage,it can be finished only in 3.6 h.The addition of M could improve MAP production by 10.5%~l1.6%;however, considering the cost of nutrients recovery,it is not necessary to add Mg salt.Except some ions,such as NH4+,PO43- and Mg2+,the rest pollution components in anaerobic digestion effluent of piggery wastewater did not significantly restrain MAP formation.In conclusion,this kind of SPRR has a broad application future as a high-efficiency installation for direct nutrients recovery from anaerobic digestion effluent of the piggery wastewater.
【语种】中文
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【题目】特定有益菌对奶牛粪便中温厌氧消化体系稳定性和指示菌存活的影响
【中文关键词】牛粪;中温厌氧消化:有益微生物:指示菌
【英文关键词】mesophilic anaerobic digestion;effective microorganism;indicator bacterium
【中文摘要】本文研究了添加假单胞菌、芽孢杆菌、乳酸菌、酵母菌和放线菌对奶牛粪便中温(35°C)厌氧消化过程中消化体系稳定性和指示菌(粪大肠菌群、产气荚膜梭菌、厌氧菌和需氧菌)存活情况的影响。通过采用1 L抽滤瓶作为消化罐,置于恒温箱内35°C模拟中温厌氧消化。检测厌氧消化过程中粪大肠菌群、产气荚膜梭菌、厌氧菌和需氧菌数量的变化,同时对挥发性脂肪酸(VFA)含量、NH4+-N含量和pH值等指标进行测定。结果发现,在厌氧消化体系中添加假单胞菌、芽孢杆菌、乳酸菌、酵母菌和放线菌对整个消化过程中VFA含量、NH4+-N含量和pH值没有显著影响(P>0.05),但可提高酸化阶段丁酸和乙酸的产量,降低丙酸的产量,有利于形成一个良好、稳定的厌氧消化体系。添加的微生物可以显著促进粪大肠菌群数量的减少(P<0.05),但对产气荚膜梭菌、厌氧菌和需氧菌的数量并没有显著的影响(p>0.05)。试验结果表明,假单胞菌、芽孢杆菌、乳酸菌、酵母菌和放线菌在厌氧消化处理畜禽排泄物过程中的应用有一定的理论推广价值,其实际应用的研究有待进一步开展。
【英文摘要】The study was to evaluate inactivation of indicative bacteria or bacterial flora:fecal Coliform,C.perfringens (Clostridium perfringens), the total number of anaerobic and aerobic bacteria,by bioaugmenting anaerobic digestion of cow dung slurry with a commercial product containing selected strains of bacteria from genera Lactobacillus, Pseudomonas, Microzymes and Actinomycetes, along with ancillary organic compounds containing various micronutrients. Specifically, the effects of the bioaugment on the concentration of volatile fatty acids, NH4+-N, the value of pH. The number of Coliform and C. perfringens during anaerobic digestion of dairy cattle dung slurry were studied. The results indicated that the bioaugmenting anaerobic digestion could reduce the number of Fecal Coliform significantly (P<0.05), as well as could be of advantage to form a better and more stable digestive system, however, no obvious effect on reduction of the number of C. Perfringens, the total number of anaerobic and aerobic bacteria were observed.The

bioaugmenting anaerobic digestion could not significantly affect the output of volatile fatty acids(VFA),NH4+-N and the value of pH (P>0.05).In brief, the bioaugmenting anaerobic digestion could improve anaerobic digestive microecology and could be used for treatment of dairy cattle dung slurry before their land application.

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【题目】不同通风量对猪粪好氧堆肥的影响
【中文关键词】堆肥; 通风; 调理剂; 猪粪;
【英文关键词】composting; ventilation; bulking agents; swine feces;
【中文摘要】该文以玉米秸和稻壳混合作为调理剂进行猪粪好氧堆肥,研究不同通风量对堆肥效果的影响。试验设3个处理,通风量分别为0.5、0.3和0m3/min,通风时间根据堆体温度调整,测定了堆体温度和堆料水分、pH值、有机质含量、总氮含量和C/N。结果表明,通风能有效保证堆料升温和高温期的维持,而且能够抑制堆肥过程中堆料pH值的上升,有利于有机质的降解和C/N的降低,通风量为0.3m3/min时,综合效果较理想。结果提示,以玉米秸和稻壳混合作为调理剂,初始C/N为30∶1,含水率为62%左右时,适当通风能够满足猪粪腐熟的需要。
【英文摘要】With the use of corn straw and rice hull as bulking agents,an experiment was conducted to investigate the effects of ventilation on the aerobic composting of swine feces.Three kinds of ventilation(0.5,0.3 and 0 m3/min)were designed for three treatments,and the time for aeration and alternation was regulated by different temperatures in central piles.The changes of temperature in piles,pH value,water content,content of organic substance,content of total nitrogen and ratio of carbon to nitrogen in composting
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【题目】钙型天然斜发沸石同步脱氮除磷特性
【中文关键词】钙型天然斜发沸石; 氨氮; 磷; 吸附; 沉淀; 特性;
【英文关键词】Ca-type clinoptilolite; ammonium nitrogen; phosphorus; adsorption; precipitation; characteristics;
【中文摘要】以钙型天然斜发沸石为试验材料进行废水同步脱氮除磷特性研究,考察反应时间,沸石投加量,pH,温度及废水中的有机物含量对斜发沸石同步去除氨氮和磷的影响.结果表明:在沸石投加量为250 g/L,pH为7.0~9.0,温度为25°C,吸附时间为24 h的条件下,钙型天然斜发沸石对氨氮的去除率达到96%,对磷的去除率接近100%.pH对钙型天然斜发沸石除磷效果影响显著,但对氨氮去除效果影响不大.当pH由3.0升至5.0时,磷的去除率由54%降低至43%,吸附作用是磷的主导去除机制;当pH由5.0升至8.0时,磷的去除率迅速升高,化学沉淀逐渐成为磷的主导去除机制;pH为8.0以上时,磷的去除率接近100%.废水有机物对钙型天然斜发沸石去除磷的效果存在差异,其中柠檬酸的加入使磷的去除率降低16%,显著抑制了磷的去除;腐殖酸的加入仅使磷的去除率降低3%,影响甚小.柠檬酸和腐殖酸的加入对氨氮的去除效果影响均较小(低于3%).
【英文摘要】Taking Ca-type clinoptilolite as the experimental material,batch experiments were carried out to investigate the influence of reaction time,dosage of Ca-type clinoptilolite,pH,temperature and organic compounds on simultaneous removal of nitrogen and phosphorus from wastewater.The experiments showed that under the conditions of clinoptilolite dosage 250(mg/L),pH 7.0-9.0,temperature(25 °C) and adsorption duration 24 h, the removal efficiency of high-concentration ammonium nitrogen by clinoptilolite could reach..
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【题目】猪粪厌氧发酵产气的优化条件研究
【中文关键词】猪粪; 厌氧发酵; 产气; 优化条件;
【英文关键词】pig slurry; anaerobic fermentation; biogas generation; optimization;
【中文摘要】研究猪粪发酵液厌氧消化过程的温度、接种率和原料添加量的优化条件,为猪粪废水的资源化利用提供参考。猪粪发酵液厌氧消化试验选择环境温度、接种率和原料添加量作为三因子,每因子设三水平进行正交试验。研究表明,温度对猪粪发酵液厌氧产气有显著影响,温度能影响物料水解过程,从而影响发酵液的pH值和氨氮值,二者关系到产气过程。猪粪发酵液厌氧产气优选组合是温度55℃、接种率30%、原料添加量100g,20d累积产气量达8899mL;TS降解率最好的组合为温度55℃、接种率30%、原料添加量80g,降解率达85.54%。
【英文摘要】In order to support recycling of livestock manure as resource,temperature,inoculation and concentration of fermented materials were investigated to optimize methane production from pig slurry.Based on temperature,inoculation and concentration of pig manure liquid,an orthogonal experiment was designed to optimize pig manure fermentation.Every factor contented three levels for the test.The results showed that anaerobic process of pig slurry was significantly influenced by temperature.Maximum methane volume(88
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【题目】不同沼液灌溉强度对土壤和渗滤液的影响
【中文关键词】沼液; 灌溉强度; 土壤; 渗滤液;
【英文关键词】fermented slurry; irrigation intensity; soil; leaching liquid;
【中文摘要】采用盆栽试验研究不同强度施用沼液种植杂交狼尾草对环境的影响。试验按所施用沼液比例不同设7个处理,每个处理5个重复。盆栽试验采用20 L的塑料桶,桶底钻孔以收集渗滤液;灌溉间隔5 d,每次灌溉后3 h收集渗滤液。盆栽采用水稻土和株高、根系相近的杂交狼尾草苗。结果表明:随着沼液灌溉强度的提高,渗滤液和盆栽土中三氮(总氮、氨氮、硝氮)含量升高,但再高灌溉强度可导致硝氮下降;按本试验条件,合适的沼液灌溉强度是控制沼液不超过50%,渗滤液总氮、氨氮、硝氮分别稳定在52.99~57.87 mg/L、52.66~52.78 mg/L和3.33 mg/L以内。以上说明,沼液灌溉杂交狼尾草存在一个合适灌溉强度,这与一定时间内的沼液灌溉量及其养分含量有关,并受施用气候、土壤条件、植被发展影响。
【英文摘要】The effects of fermented slurry applied in planting crossbred pennisetum on environment were investigated by pot incubation test.7 treatments,5 replications for each,were employed varied by volume of applied liquid.Plastic bucket,volume 20 L with holes at bottom,was used for pot incubation.Another plastic basin was located under the pot for collecting leaching liquid.Plants were sprayed with slurry each five days and leaching liquid was collected after spraying 3 hours.Rice soil was applied for pot incubati...
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【题目】铝盐对鸡粪中氨气释放的影响及其机理研究
【中文关键词】铝盐; 鸡粪; 氨;
【英文关键词】aluminum salt; poultry litter; ammonia;
【中文摘要】通过在鸡粪中添加明矾研究铝盐对鸡粪中氨气产生和释放的影响。试验设0、2%和4%3个铝盐添加水平,测定了不同时间鸡粪中氨气释放量及pH、脲酶活性、氨氮和氮含量。结果:(1)鸡粪中氨的释放随时间的延长逐渐减少(P<0.000 1),添加铝盐处理能降低其氨气的释放(P<0.000 1),尤其是4%铝盐处理组在试验的前5 d显著低于对照组(P<0.05);(2)铝盐处理极显著降低鸡粪的pH值(P<0.000 1),而且时间效应对其的影响也极显著(P<0.000 1),4%铝盐处理组pH在3、7 d时显著低于对照组(P<0.05);(3)铝盐处理显著抑制鸡粪的脲酶活性(P=0.023 1),时间效应对其有极显著的影响(P<0.000 1);(4)铝盐处理对于鸡粪中的总氮含量有极显著的影响(P<0.01),但对于氨氮的影响不显著(P>0.05),而时间效应对二者的影响均极显著(P<0.01)。研究表明,铝盐引起鸡粪中pH的下降和脲酶活性、氮损失的改变,从而控制鸡粪中氨的释放,一定程度上减轻氨对养殖生产及环境的影响。
【英文摘要】To investigate the effect of aluminum salt on ammonia production from poultry litter in commercial broiler houses,aluminum was added into hen dung at three different levels: 0,2% and 4%(aluminum(g)/dung(g)).After aluminum salt treatment,the pH value,ammonia production,urease activity of treated dung and the content of ammonia nitrogen or total nitrogen in treated dung were measured respectively at indicated days.We found that ammonia released from dung and the pH value of dung decreased significantly after ...
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【题目】猪粪对淡水养殖水质及罗非鱼安全的影响
【中文关键词】粪便; 水环境; 罗非鱼; 安全;
【英文关键词】manure; aquatic environment; Tilapia; safety;
【中文摘要】探讨施用畜粪对淡水养殖水体及水产品安全的影响。试验设不施用猪粪、施用新鲜猪粪、施用发酵猪粪共3组,分别养殖罗非鱼,定期测定水质及鱼体病原体指标。结果表明:投放发酵猪粪与新鲜猪粪均引起水体氨氮、COD升高,以及水体溶解氧、透明度下降,上述水质指标在新鲜猪粪组和发酵猪粪组之间没有显著差异。此外,施用发酵猪粪导致水体pH值下降。向水体施用发酵或新鲜猪粪,均可显著增加水体沙门氏菌数、大肠菌群数、罗非鱼肠道沙门氏菌数,并引起鱼SOD活力升高,施用新鲜猪粪对上述指标影响比发酵猪粪大。研究指出,向养殖水体投放新鲜或发酵猪粪对水体产生的不同效应主要体现在病原体指标变化(生物学效应),而水质理化效应差异不明显。
【英文摘要】The experiments were conducted to investigate the effects of livestock manure on the safeties of aquatic environment and products.Tilapias were fed in the aquatic systems added with fresh or fermented pig manure.The water and fish sample were collected for measurement.The results showed that applications of fermented and fresh pig manure resulted in significant increases of ammonia nitrogen and COD content,while decreases of DO and transparency of water.No significant differences of the above items were fou
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【题目】养猪废水磷回收工艺技术研究
【中文关键词】养猪废水;磷回收;磷酸铵镁;溶液效应
【英文关键词】养猪废水;磷回收;磷酸铵镁;溶液效应
【中文摘要】本文介绍了磷酸铵镁结晶工艺回收养猪废水氮磷营养元素的基本原理,以模拟和实际养猪废水为处理对象,研究了溶液条件对磷酸铵镁结晶工艺的影响,并对不同条件下得到的结晶沉淀产物进行对比分析,确定了磷酸铵镁结晶反应的最佳工艺条件和操作参数,为工艺放大和实际应用提供可靠技术参数,对该工艺技术的研究与应用发展趋势进行了展望。
【英文摘要】本文介绍了磷酸铵镁结晶工艺回收养猪废水氮磷营养元素的基本原理,以模拟和实际养猪废水为处理对象,研究了溶液条件对磷酸铵镁结晶工艺的影响,并对不同条件下得到的结晶沉淀产物进行对比分析,确定了磷酸铵镁结晶反应的最佳工艺条件和操作参数,为工艺放大和实际应用提供可靠技术参数,对该工艺技术的研究与应用发展趋势进行了展望。
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【题目】猪粪和土壤样品中微生物DNA提取方法的比较
【中文关键词】猪粪; 土壤; DNA提取; 微生物多样性;
【英文关键词】swine feces; soil; DNA extraction; microbial diversity;
【中文摘要】猪粪施于土壤可能会对土壤微生物多样性造成影响,为选用同一种DNA提取方法用于土壤和猪粪微生物DNA的提取,该文采用了化学裂解法和试剂盒法同时从土壤和猪粪样品中提取微生物DNA,并对这两种方法的提取DNA的效果进行了比较。结果表明,试剂盒法不能用于提取土壤中的微生物DNA;可以从猪粪中提取到DNA,PCR扩增能得到目的产物,但重复性不高。化学裂解法提取的土壤微生物DNA浓度高但纯度低,纯化后纯度增加,但DNA有所损失,用于PCR扩增时结果不理想;处理猪粪样品,提取的DNA浓度较低但纯度较高,PCR扩增结果比较理想。由此可见,化学裂解法用来提取猪粪样品中的微生物DNA是可行的,但需寻求更好的土壤样品微生物DNA的提取方法。
【英文摘要】The growth of the livestock industry resulted in the increase of feces and sullage,which caused consider- able environment pollution.Swine feces would affect the soil microorganism when it entered the soil.To study the influence of swine feces on soil microorganisms,the same method for microbial DNA extraction from soil and swine feces was the basis.The efficiency of two methods as chemical lysis method and DNA Isolation Kit method for microbial DNA extraction was compared in this experiment.The results sho
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【题目】饲粮纤维对猪体内粪臭素的影响
【中文关键词】饲粮纤维; 猪; 粪臭素;
【英文关键词】饲粮纤维; 猪; 粪臭素;
【中文摘要】粪臭素是猪肉产生异臭味的主要物质,严重危害养猪生产。为了降低粪臭素的危害,添加饲粮纤维是一项积极可行的措施。本文综述了粪臭素的来源、在体内的代谢过程、改善粪臭素对养猪生产不利影响的措施以及饲粮纤维对猪体内粪臭素影响的研究进展,并对饲粮纤维降低粪臭素水平的问题及发展趋势提出了一些看法。

【英文摘要】粪臭素是猪肉产生异臭味的主要物质,严重危害养猪生产。为了降低粪臭素的危害,添加饲粮纤维是一项积极可行的措施。本文综述了粪臭素的来源、在体内的代谢过程、改善粪臭素对养猪生产不利影响的措施以及饲粮纤维对猪体内粪臭素影响的研究进展,并对饲粮纤维降低粪臭素水平的问题及发展趋势提出了一些看法。
【语种】中文
【第一作者】程鹏辉
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【题目】饲喂杂交狼尾草对肥育猪生产性能和大肠微生物区系的影响
【中文关键词】杂交狼尾草; 生产性能; 微生物区系; 肥育猪;
【英文关键词】杂交狼尾草; 生产性能; 微生物区系; 肥育猪;
【中文摘要】研究添加杂交狼尾草对肥育猪生产性能和大肠微生物区系的影响。选取体重60kg的杜长大三元杂交猪72头,分为4组,每组3个重复,在饲粮中添加不同比例的杂交狼尾草;采用PCR-DGGE测定猪粪便微生物菌群的多样性。结果表明:全价料与杂交狼尾草的添加比例为1∶0、1∶0.8、1∶1、1∶1.2时,组间肥育猪日增重没有显著差异;当比例为1:1时,饲料转化率为3.06。研究还表明,日粮中添加杂交狼尾草增加大肠中的细菌种类和细菌总数;随着杂交狼尾草添加量和持续时间的不同,粪便细菌的种类和数量增加的幅度不同;在第14天后肥育猪粪便菌群的多样性参数保持稳定;全价料与杂交狼尾草的比例为1∶1时,第28天菌群的多样性参数最高,说明此替代比例比较合适。以上结果说明适量投喂杂交狼尾草对肥育猪是可行的。
【英文摘要】研究添加杂交狼尾草对肥育猪生产性能和大肠微生物区系的影响。选取体重60kg的杜长大三元杂交猪72头,分为4组,每组3个重复,在饲粮中添加不同比例的杂交狼尾草;采用PCR-DGGE测定猪粪便微生物菌群的多样性。结果表明:全价料与杂交狼尾草的添加比例为1∶0、1∶0.8、1∶1、1∶1.2时,组间肥育猪日增重没有显著差异;当比例为1:1时,饲料转化率为3.06。研究还表明,日粮中添加杂交狼尾草增加大肠中的细菌种类和细菌总数;随着杂交狼尾草添加量和持续时间的不同,粪便细菌的种类和数量增加的幅度不同;在第14天后肥育猪粪便菌群的多样性参数保持稳定;全价料与杂交狼尾草的比例为1∶1时,第28天菌群的多样性参数最高,说明此替代比例比较合适。以上结果说明适量投喂杂交狼尾草对肥育猪是可行的。
【语种】中文
【第一作者】程鹏辉
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【学科分类】畜牧学

【题目】环境友好型规模化养猪场的建设研究
【中文关键词】环境友好; 规模化猪场; 猪场建设;
【英文关键词】environment friendly; intensive pig farm; pig farm construction;
【中文摘要】以深圳坪山农业园种猪场为研究对象,通过现场调查,查阅资料,监测农业园的水、土壤、大气环境质量,综合分析十多年来该养猪场对周边环境的动态影响,结果表明,至2004年该农业园用水质量属于清洁水平,土壤综合污染指数属安全级,从空气中氨气浓度和细菌数指标来看,场区空气质量比场外差,距离场区越远,空气质量越好,按相关标准评判,均处在卫生标准的允许范围。过去12年间,该农业园的土壤肥力逐年上升,土壤和农业园用水所含的5种金属元素有较小幅度升降。研究表明,规模化猪场通过合理选点、环保、种养结合、绿化、加强舍内废弃物管理等措施可以确保长期环境友好。
【英文摘要】Pingshan Agriculture Garden(PAG) in Shenzhen was employed for this research to find the approaches leading to environment afriendly intensive pig farm.Combined with the early data completed within last 12 years,PAG profile,manure management,water,soil and air were investigated through 2004.The results showed that so far water,soil and air in PAG were safe compared with the related standards.The fertility of the soil in PAG was improved step by step during last 12 years.The contents of five

kinds heavy metal..
【语种】中文
【第一作者】朱燕午
【通讯作者】廖新俤
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【题目】利用猪粪液为菌源体外发酵产气法评价牧草纤维品质
【中文关键词】体外产气法; 牧草; 纤维品质;
【英文关键词】gas production in vitro; fodder grass; quality of fiber;
【中文摘要】利用体外产气法比较杂交狼尾草、优质矮化象草、柱花草的纤维品质,为牧草在猪饲养中的应用提供依据。提取牧草中的中性洗涤纤维作底物,以新鲜猪粪作为发酵菌源,39°C恒温摇床中培养24 h,测定24 h内不同时段的产气量、发酵液pH值和VFA。研究结果表明,中性洗涤纤维的含量为柱花草>杂交狼尾草>优质矮化象草,分别是69.02,61.27和54.38 g/100 g。发酵24 h,3种牧草的累积产气量杂交狼尾草最高,优质矮化象草次之,柱花草最低,分别为137.62,112.66和79.62 mL/g DM;发酵6 h以前,3种牧草的累积产气量仅占24 h平均累积产气量的7.58%。理论最大产气量杂交狼尾草与优质矮化象草均高于柱花草,分别为172.13,166.57和78.27 mL。3种牧草每克有机物发酵产生1 mL气体的持续时间表现为,柱花草<杂交狼尾草<优质矮化象草,分别为2.89,4.26和5.02 h。3种牧草达到最大产气速率的时间以优质矮化象草最高、杂交狼尾草次之、柱花草最低,分别为20.34,18.09和13.20 h。3种牧草的产气速度表现为,杂交狼尾草>优质矮化象草>...
【英文摘要】Fiber quality of 3 fodder grasses was evaluated in vitro for gas production to enhance the application of fodder in swine production.Fodder NDF and pig manure bacterial substrates were incubated at 39 ° C for 24 h.Gas production,pH and VFA of the fermented solutions were measured.NDF content of Stylosanthes guianensis,was highest,followed by Pennisetum alopecuroides and P.purpureum(69.02,61.27 and 54.38 g/100 g,respectively).Cumulative gas volume of P.alopecuroides was highest,followed by P.purpureum and S.gu
【语种】中文
【第一作者】程鹏辉
【通讯作者】廖新俤
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【题目】生长肥育猪氮排泄量影响因素的研究
【中文关键词】粗蛋白;生长育肥猪;氮排泄
【英文关键词】粗蛋白;生长育肥猪;氮排泄
【中文摘要】试验在不同温度条件下,使用含不同粗蛋白质水平的日粮饲喂不同体重的生长育肥猪,研究温度和日粮粗蛋白水平对不同体重猪氮排泄量的影响。
【英文摘要】试验在不同温度条件下,使用含不同粗蛋白质水平的日粮饲喂不同体重的生长育肥猪,研究温度和日粮粗蛋白水平对不同体重猪氮排泄量的影响。
【语种】中文
【第一作者】朱海生
【通讯作者】董红敏
【期刊名称、卷期、页码】黑龙江畜牧兽医
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【学科分类】畜牧学

【题目】畜禽粪便热化学转换特性和可行性分析研究
【中文关键词】畜禽粪便; 化学组成; 热化学转换; 气化;
【英文关键词】animal manure; chemical constitution; thermo-chemical conversion; gasification;
【中文摘要】为了探讨不同畜禽粪便的热化学转换利用的一般特性,对猪、牛、鸡和羊的畜禽粪便进行了系统的工业分析和化学组成分析,并和玉米秸秆和稻秆相对应数据进行比较,得出畜禽粪便是一种高挥发性生物质,其发热量和挥发分含量和一般秸秆相当,非常适合于热化学转化利用;以空气气化过程作为分析对象,通过对能量输入与产出的理论分析,得出用气化技术处理畜禽粪便的能量转化效率在50%左右;通过能量输出分析得出当畜禽粪便可以采取自然或堆肥方式干燥时,热化学处理技术在能量产出方面很有效;畜禽粪便热化学转化能源利用是一条具有环境和经济双重效益的有效途径。
【英文摘要】The proximate,chemical components and ultimate analyses on swine,cattle,chicken and goat manure were conducted to demonstrate the feasibility of energy utilization by thermo-chemical technologies.The experimental results state that animal wastes is a type of biomass with comparable content of volatile matter and heat value with some agricultural residues such as corn stalks and rice straws and is adaptable to thermo-chemical managements.The energy balance analyses of air gasification of four kinds of manure...
【语种】中文
【第一作者】涂德浴
【通讯作者】丁为民
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【学科分类】环境学

【题目】厌氧技术在生活垃圾处理中应用现状及发展趋势
【中文关键词】农村能源; 沼气; 厌氧消化; 原料;
【英文关键词】rural energy; biogas; anaerobic treatment; raw material;
【中文摘要】针对目前我国能源短缺的现状,通过厌氧消化技术制取沼气补充化石能源是解决农村用能紧缺的重要措施。本文概述了使用生活垃圾制取沼气的意义,分析了厌氧生物处理技术在生活垃圾资源化利用中的进展,并对发酵原料进行了系统分析,提出了厌氧消化技术在生活垃圾领域应用中存在的问题。
【英文摘要】As improvement of people ’s standard of living, per capita energy consumption and garbage let is growing. At the same time, due to the price of the energy in international market is sharply running up, energy costs is increasing in residents ’ living. In light of China ’s energy shortage, in rural areas the use of biogas makeup fossil energy is the important measure to solve current energy shortage. This paper outlines the significance of biogas brought by domestic waste and analyses the evolve of the anaerobi.
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【第一作者】齐岳
【通讯作者】董保成
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【题目】肉牛甲烷排放影响因素的试验研究
【中文关键词】肉牛; 甲烷排放; SF6示踪法; 粗饲料; 日粮能量摄入水平;
【英文关键词】beef cattle; methane emission; SF_6 tracer methods; roughage; energy intake level;
【中文摘要】为考察不同粗饲料类型、日粮精粗饲料比、能量摄入水平等因素对肉牛甲烷排放量的影响,从而为控制甲烷排放提供理论依据,本研究选用4头18月龄的健康肉用公牛(鲁西黄牛),针对不同粗饲料类型、饲料精粗比和日粮能量摄入水平进行了试验,采用SF6示踪法对甲烷排放量进行了测定。试验结果表明:SF6示踪法可用来快速测定反刍动物的甲烷排放量;影响肉牛甲烷排放量因素的主次顺序依次为:饲料粗料类型>饲料精粗比>能量摄入水平;对肉牛饲喂紫花苜蓿和青贮玉米秸比饲喂稻草和干玉米秸时甲烷排放量要小;日粮中粗饲料越多,则肉牛的甲烷排放量越大;随着能量摄入水平的加大

,肉牛的甲烷排放量也呈增加的趋势。
【英文摘要】To investigate the effects of roughage type,the ratio of concentrate to roughage and energy intake level on amount of methane emission,four beef cattle were subjected to different roughages,ratios of concentrate to roughage in diet and energy intake level,SF_6 tracer method was used to determine methane emission from cattle.Research results show that methane emission from beef cattle could be determined quickly by SF_6 tracer method,methane emission effect factors were as follows: roughage type>ratio of ...
【语种】中文
【第一作者】樊霞
【通讯作者】董红敏
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【题目】育肥猪舍甲烷排放浓度和排放通量的测试与分析
【中文关键词】甲烷; 猪舍; 温室气体; 排放;
【英文关键词】methane; pig house; greenhouse gas; emission;
【中文摘要】畜禽养殖是重要的温室气体排放源,畜禽养殖的甲烷排放量受动物生长特性、粪便收集方式和气候条件的影响。为了探讨中国特有的饲养管理方式下育肥猪舍温室气体排放规律,为减少甲烷排放提供依据,该研究在北京选择一典型猪场,对不同季节育肥舍的甲烷排放浓度进行了试验测定,从2004年5月至2005年3月,每2个月一次连续采集72~80 h甲烷浓度和相关数据,并根据二氧化碳平衡原理,对猪场的甲烷排放量进行了估算。结果表明:育肥猪舍内甲烷浓度有明显的季节性和日变化特性,2005年1月舍内甲烷的平均浓度为(22.98±10.52)m g/m3,7月舍内甲烷浓度为(2.68±0.68)m g/m3;每日最低甲烷浓度出现在9:00 am~17:00 pm时段;冬季舍内二氧化碳浓度明显偏高,夜间比允许浓度高1倍;每头育肥猪饲养期间的甲烷排放量为68.10~207.01 m g/h,折合每标准动物单位排放量:436~1185 m g/h.(500 kg),在IPCC推荐的发展中国家猪呼吸代谢甲烷排放1.0 kg/(a.头)范围内。
【英文摘要】Methane(CH_4) emissions from animal breeding has become a concern.The concentration and emissions per animal species are affected by animal characteristics,housing type and manure collection management as well as the climate.To investigate CH_4 emissions from finishing pigs appropriate for China management method and climate situation,the CH_4 concentration and related information were measured in Beijing during 2004~2005,six data collection periods,72~80 hours each were scheduled through one year and four
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【第一作者】董红敏
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【题目】浅谈畜禽场的空气污染及其净化方法
【中文关键词】畜禽场; 空气污染; 空气净化;
【英文关键词】畜禽场; 空气污染; 空气净化;
【中文摘要】畜牧业引起的环境污染越来越受到政府与社会的关注,本文针对畜禽场空气污染状况,分析了其危害的主要表现,并深入阐述了当前的净化技术。
【英文摘要】畜牧业引起的环境污染越来越受到政府与社会的关注,本文针对畜禽场空气污染状况,分析了其危害的主要表现,并深入阐述了当前的净化技术。
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【题目】Genetic Improvement in Yield and Its Associated Traits of Winter Wheat in South China from 1949 to 2000
【中文关键词】无
【英文关键词】Bread wheat,Genetic improvement,Yield potential,Yield components,Dwarfing gene
【中文摘要】无
【英文摘要】To understand the genetic gains of grain yield in the Southern China Winter Wheat Region (SCWWR), two yield potential trials, i.e., YPT 1 including 11 leading cultivars from the Middle and Low Yangtze Valley (Zone III) and YPT 2 including 15 leading cultivars from theSouthwestern China Region (Zone IV) from 1949 to 2000, were conduced during the 2001 – 2003 cropping seasons. A completely randomized block design of three replicates was employed with controlled field environments. Molecular markers were used to detect the presence ofdwarfing genes and the 1B/1R translocation. Results showed that average annual genetic gain was 0.31% ($P < 0.05$) or 13.96 kg/ha/year and 0.74% ($P < 0.01$) or 40.80 kg/ha/year in Zones III and IV, respectively. In YPT 1, changes of all other traits were not significant, but plant height was significantly reduced. In YPT 2, the genetic improvement of grain yield was primarily attributed to the increased thousand kernel weight (TKW) (0.65%, $P < 0.01$) and kernel weight/ spike (0.87%, $P < 0.01$), reduced plant height and increased harvest index (HI). The dwarfing gene Rht 8 was most frequently present (46.1%), Rht-B1b was observed in three genotypes in Zone III, and Rht-D1b was present in only one genotype in Zone IV. The 1B/1R translocation was present in four genotypes. Utilization of Italian germplasm and development of landmark cultivar Fan 7 were the key factors for grain yield improvement in SCWWR. The future challenge of wheat breeding in this region is to continue improving grain yield and disease resistance, and to develop cultivars suitable for the reduced tillage of wheat/rice double cropping. Utilization of Mexican germplasm could provide opportunities for future yield improvement.
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【题目】Genetic Improvement of Grain Yield and Associated Traits in the Northern China Winter Wheat Region from 1960 to 2000
【中文关键词】无
【英文关键词】Genetic improvement,Yield potential,Yield components,Dwarfing gene
【中文摘要】无
【英文摘要】Knowledge of changes of grain yield and associated traits of historical cultivars is essential for understanding yield limiting factors and developing strategies for future cultivar improvement. Four trials, including 47 leading common wheat (Triticum aestivum L.) cultivars from the Northern China Winter Wheat Region (NCWWR) from 1960 to 2000, were conducted during 2001-2003 using a completely randomised block design of three replicates under controlled field environments. Molecular markers were used to detect the presence of dwarfing genes and 1B/1R translocation. Results showed that average annual genetic gain in grain yield ranged from 32.07 kg ha-1year-1 to 72.11 kg ha-1year-1 or from 0.48% to 1.23% annually in different Provinces. The most significant increase in grain yield occurred in the early 1980s, largely due to the successful utilization of dwarfing genes and 1B/1R translocation. There was no common trend across trials in terms of changes in spikes m-2, kernels per spike, thousand kernel weight (TKW), or biomass. The genetic improvement of grain yield was primarily attributed to increased kernel weight per spike, reduced plant height, and increased harvest index (HI). The dwarfing allele Rht-D1b was the most frequent (68.0%), followed by Rht 8 (42.0%) and Rht -B1b (16.0%). The frequency of 1B/1R translocation cultivars was 42.6%. The future challenge of wheat breeding in this region is to maintain the genetic gain in grain yield and to improve grain quality, without increasing inputs for the wheat-maize double cropping system

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【题目】Chromosome sorting and its applications in common wheat (Triticum aestivum) genome sequencing
【中文关键词】无
【英文关键词】Triticum aestivum, flow cytogenetics, chromosome sorting, physical map, wheat genome sequencing
【中文摘要】无
【英文摘要】The large genome size (~17000 Mb) and complicated DNA structures of common wheat (Triticum aestivum) hamper its genome sequencing. By means of flow cytometry, systematic investigations on individual chromosome sorting have been carried out to construct chromosome-specific bacterial artificial chromosome (BAC) libraries since the 1980s. Several wheat chromosome-specific BAC libraries, such as chromosome 3B, three D genome chromosomes (1D, 4D and 6D), and the short arm of chromosome 1B, have been developed, and the physical map of chromosome 3B was established in 2008. The same chromosome-based strategy is being employed by the International Wheat Genome Sequencing Consortium (IWGSC) to establish the physical maps of the other 20 common wheat chromosomes (cv. Chinese Spring). Several projects on wheat genome sequencing are currently underway. The availability of new sequencing technologies provides new choices for sequencing of gene space of the wheat genome. The applications of flow-sorted chromosomes in wheat genome studies present some examples to analyze the complex genomes of cereals.
【语种】英文
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【题目】矮败小麦与矮败小麦育种技术
【中文关键词】矮杆;雄性不育;矮败小麦;育种技术
【英文关键词】Dwarf; Male-Sterile; Dwarf Male-Sterile Wheat; Breeding Technolongy
【中文摘要】矮败小麦是具有矮杆基因的太谷核不育小麦。在矮败小麦中,太谷核不育基因MS2与显性矮杆基因Rht10在4D染色体短壁上连锁十分紧密,交换率仅有0.18%。矮败小麦后代群体中有一半是靠异交结实的矮杆不育株,一半是靠自交结实的非矮杆可育株,是理想的遗传改良工具。经过多年的研究实践,笔者建立了简单有效的矮败小麦育种技术体系,包括基础群体的组建,花粉源的选择与控制,矮杆不育株分期多次选择和互交重组等技术环节。利用该技术使矮败小麦轮选群体得到显著改良,从中选育出轮选987、轮选518等国审小麦新品种。
【英文摘要】Dwarf Male-Sterile Wheat (DS wheat) is a genetic material called AiBai which linked Ms2, the Taigu genic male-sterile gene, with Rht10 dwarfing gene tightly on the same chromosome 4DS with 0.18 crossing-over unit. This provides a genetic marker for male sterility. The progeny of DS wheat alwalys segregates into 1:1 for male-sterile plants with dwarfing gene Rht10 and male-fertile plants without dwarfing gene Rht10. So the male-sterile plants are shorter than the male-fertile plants, it is easy to identify male sterilety plants based on the plants height. Dwarf male-sterile wheat is a favorable tool for wheat breeding in recurrent seletion. Using dwarf male-sterile wheat, we hace created a simple, effective and practical merhod and technology in recurrent seletion called DS wheat breeding system. The new DS technical system construction of basic population,choice of male parent, selection of male-sterile plant and intercrossing. For more than a decade, now the characteristics of improved population, such as yield, quality, resistance and plant-type have been increased more rapidly. New cultivar RS987 and a series of new lines have been released in recent year. Dwarf male-sterile wheat and its breeding technical system is an effective technology platform for wheat breeding in different ecology areas.

【语种】中文
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【题目】30 余年来北部冬麦区小麦品种产量改良遗传进展
【中文关键词】普通小麦; 产量潜力; 农艺性状; 矮秆基因; 1BP1R 易位系
【英文关键词】Bread wheat; Yield potent ial; Agronomic trait; Dwarfing gene; 1BP1R translocation
【中文摘要】采用1965 年以来北部冬麦区育成的10 个主栽品种, 在水、肥供应充足、病、虫、倒伏得到有效控制条件下, 连续两年共进行4 个点次试验; 同时对1BP1R 易位系和矮秆基因进行分子鉴定。结果表明, 品种产量年遗传进展为64163 kghm- 2 或1120%, 其较大幅度的提高出现在1980 年丰抗号品种育成时期。丰抗2 号和丰抗8 号是该地区最早育成的含有1BP1R 染色体和Rht-D1b 矮秆基因的品种。主要农艺性状演变的总趋势是抽穗期提前、株高显著降低、生物学产量基本保持稳定、单位面积穗数减少、每穗粒数有所增加、千粒重和收获指数大幅度提高, 其年遗传进展分别为- 0110%、- 0170%、0135%、- 01 50%、0163%、1112%和0179%。通过减少不孕小穗和小花数来增加每穗粒数, 通过提高灌浆速率来提高千粒重, 再把高穗粒重与较多的单位面积穗数结合在一起, 是北部冬麦区进一步提高产量的重要途径。
【英文摘要】Knowledge on genetic gain of yield potent ial and its associated traits is essent ial for understanding yield-limiting factors and developing strategies for future variety improvement1 Yield potential trials, comprised of 10 landmark and newly released wheat cultivars (Triticum aestivum L1) from Beijing, were conducted, using a complete randomised block designwith three replicates, under controlled environment during 2001- 2002 and 2002- 2003 seasons1 Molecular markers were used to detect the presence of dwarfing genes and the 1BP1R translocation1 The result showed that genetic gain in yield was 64163 kg ha- 1 year- 1 or 1120% per year1 The breakthrough on yield plateau occurred at the period of release of Fengkang cultivars in 19801 Fengkang 2 and Fengkang 8 were the first cultivars carrying 1BP1R and Rht-D1b released in Beijing1 Yield genetic gain was slowed down after 19801 Newly released cultivars were characterized by early heading, reduced plantheight, decrease of spikes per square meter, slight increase of kernels per spike, remarkable increase of thousand kernel weight and harvest index, with annual genetic gains of - 0110%, - 0170%, 0135%, - 0150%, 0163%, 1112%, and 0179%, respectively1 Increasing the number of kernels per spike by reducing the number of sterile spikelets per spike and reducing the number of sterile florets per spikelet, increasing thousand kernel weight by increasing the rate of grain filling, then combining greater weight of grains per spike with higher number of spikes per squire meter, is one of the best approaches in breeding for further yield increase1.
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【题目】黄淮冬麦区小麦冬、春性改良及分子标记辅助选择技术初探
【中文关键词】小麦育种; 春化基因; 分子标记
【英文关键词】Wheat breeding; Vernalization gene; Molecular marker
【中文摘要】通过对小麦品种石麦12 春化特性的遗传和分子标记研究, 探索黄淮冬麦区小麦冬、春性改良途径和分子标记辅助选择技术。石麦12 与冬性品种石家庄8 号杂交后代F2:3 株系中的春性株系、冬春性分离株系、冬性株系的分离比例符合1∶2∶1, 表明石麦12 具有一个显性春化基因, 经已知春化基因的基因特异性标记鉴定为Vrn-D1。利用Vrn-D1 的基因特异性标记对上述F2:3 株系进行冬、春性鉴定的结果与表型鉴定结果一致, 说明该分子标记可用于小麦冬、春性改良中对Vrn-D1 的辅助选择。在高海拔、长日照地区夏播是小麦冬、春性表型鉴定的一个快速、简便途径。

【英文摘要】The vernalizatioin gene in wheat cultivar Shimai 12 (Triticum aestivum L.) was investigated to find a more efficient way for the improvement of growth habit of wheat cultivars grown in Yellow and Huai River Reaches. In the F2:3 lines derived from the cross between Shimai 12 and Shijiazhuang 8 (a winter wheat cultivar), the ratio of the spring, segregating, and winter lines was in accordance to 1:2:1 based on chi-square test, showing that the spring growth habit of Shimai 12 was determined by single dominant gene, which was identified as Vrn-D1 by gene-specific markers. The Vrn-D1 gene-specific marker was further used to genotype the F2:3 lines, and the results were consistent with phenotyping, verifying the available utilization of the marker assisted selection for Vrn-D1 in breeding programs. Besides, summer sowing in high altitude and cool area proved to be a cost-saving and efficient method for wheat growth habit identification.
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【题目】农业废弃物资源化利用新方向—沼气干发酵技术
【中文关键词】农业废弃物; 秸秆; 畜禽粪便; 沼气; 干发酵;
【英文关键词】agricultural residues; crop straw; animal manure; biogas technology; dry fermentation;
【中文摘要】本文简述了我国现存的农业废弃物资源化利用技术及存在的问题,介绍了沼气干发酵的技术概况、工艺条件、产气和造肥效果,最后得出了沼气干发酵技术是我国农业废弃物资源化利用的新方向的结论。
【英文摘要】This paper summarizes agricultural residue utilization technologies in China and their problems,mainly introduced biogas dry fermentation on its general situation,technologic requirements,biogas production,and compost quality. Finally it is concluded that biogas dry fermentation technology is the new direction of agricultural residue utilization in China.
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【题目】一批马铃薯引进资源的晚疫病抗性评价
【中文关键词】马铃薯资源晚疫病抗性评价
【英文关键词】无
【中文摘要】以从美国引进的338份马铃薯材料为试材, 利用10个毒力不同的晚疫病菌株对其进行室内离体叶片接种鉴定。结果表明, 当接种包括强毒性菌株J(含1,2,3,4,5,6,7,8,9,10,11小种)在内的10个不同菌株时,54份材料表现免疫反应,4份材料表现抗病反应。总体上,随着菌株小种组成的增加, 马铃薯材料感病程度逐渐加大。根据接种结果推测,54份表现免疫的材料含有不同于已发现的11个主效晚疫病杭性基因(R1-11)的新抗源。
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【语种】中文
【第一作者】徐建飞
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【学科分类】园艺学

【题目】高效液相色谱法测定马铃薯块茎的绿原酸含量.
【中文关键词】高效液相色谱法; 马铃薯;块茎;绿原酸
【英文关键词】HPLC:potato:tuber;chlorogenic acid
【中文摘要】目的:建立测定马铃薯块茎中绿原酸含量的高效液相色谱方法,并测定不同品质特点的马铃薯的绿原酸含量。方法:对甲醇浓度、固液比和超声提取时间三个试验因素进行正交试验设计;ZOBAX C-s色谱柱,250mm×4.6mm 5 1-tm;流动相:水一甲醇一冰醋酸(20:80:2;30:70:2;40:60:2);甲醇.0.4%磷酸溶液(10:90);流速:1.0ml/min;柱温:室温;进样体积:5 l;检测波长为327nm。结果:精密度:RSD为3.2%,n=6,加样回收率为97.5%,提取条件为: 甲醇浓度70%,固液比1:100,超声提取时间40min。确定水:甲醇:冰醋酸=30:70:2为流动相。
【英文摘要】Object:To establish a new HPLC method for determination of chlorogenic acid(CGA)in potato,and determine its content of CGA in five cultivars.Method:Orthogonal experiment for three factors:CI-5OH concentration,ratio of solid andliquidandtimeofultrasounic extraction.CGAwasanalyzedwithCi8 column(250姗×4.6mr~.p 5mn)andwithdetector at 327 nm. e mobile phase consisting 1-120一CI-5OH—CI-hCOOH(20:80:2;30:70:2;40:60:2 mspective~).CH3OH一0.4%H3PO4 (10:90).Results:rI11e recovery ofCGA is 97.5%,precision(RSD)3-2%(n-6);CGA extraction conditions ale:70%CI-5OH,ratio of solid an d liquid=1:100.an d ultrasounic extraction time 40 min with determined mobile phase H20-CH3OH—CI-hCOOH=30:70:2.
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【题目】中国88个马铃薯审定品种SSR 指纹图谱构建与遗传多样性分析.
【中文关键词】马铃薯; 审定品种; SSR 标记; DNA 指纹图谱; 遗传多样性
【英文关键词】Potato; Approved cultivars; SSR markers; DNA fingerprinting; Genetic diversity
【中文摘要】为对马铃薯品种鉴别、优良杂交组合选配提供分子水平上的依据, 利用SSR 标记构建了中国2000—2007 年审定的88 个马铃薯品种的指纹图谱并进行了遗传多样性分析。以138 对SSR 引物对16 份遗传差异较大的马铃薯材料的基因组DNA 进行了扩增, 筛选出10 对多态性高、谱带清晰的引物。利用10 对SSR 引物对全部供试材料进行扩增及电泳检测, 共检测到135 个等位位点, 其中133 个为多态性位点, 多态性比率达98.52%。每对SSR 引物扩增出的等位位点数7~22 个, 平均13.5 个, 多态性信息量变化范围为0.7604~0.9375, 平均0.8501。通过对电泳检测结果的统计分析, 利用S180、S25、S7、S151、S184 及S192 共6 对引物构建了88 份供试材料的SSR 指纹图谱。聚类分析表明, 在相似系数0.620 处, 所有供试材料被被聚为一类, 在相似系数0.652 处, 81.8%的材料仍然聚在一起, 从分子水平上表明供试材料遗传基础非常狭窄。聚类分析结果与供试材料系谱来源有较好一致性, 同一栽培区域育成的品种在不同程度上聚在一类。
【英文摘要】Potato (Solanum tuberosum L.) is one of the most important food crops in the world. Approved potato cultivars have contributed a lot not only to potato production but also to varietal improvement as germplasm resource, and about 110 potato cultivars were approved during 2000 – 2007 in China. It is necessary to make potato cultivar identification and genetic relationship analysis for seed production, germplasm management, plant variety protection, and breeding practice. Currently, the simple sequence repeats (SSRs) are preferred as molecular markers due to their highly desirable properties. In this study, for the purpose of cultivar identification and parents combination at the molecular level, SSR markers were employed to analysis on fingerprinting and genetic diversity of 88 potato cultivars approved in China during 2000 – 2007. Ten of 138 pairs of SSR primers were screened out based on 16 accessions distinct in genetics. The 10 primer pairs amplified a total of 135 alleles (including 133 polymorphic alleles) among the 88 cultivars, and the ratio of polymorphism was as high as 98.52%. Alleles amplified by each pair of primers ranged from 7 (primer S7) to 22 (primer S189), with a mean of 13.5. The polymorphic information content values (PIC) ranged from 0.7604 (primer S192) to 0.9375 (primer S189), with a mean of 0.8501. The fragment size varied from 80 to 380 bp. The fingerprinting of 88 cultivars was constructed by 6 pairs of primers of S180, S25, S7, S151, S184, and S192. Eighty-seven out of 88 cultivars were univocally identified using only five SSR primers (S180, S25, S7, S151, and S184). UPGMA cluster analysis of genetic similarity showed that all the materials were clustered in to one group at the genetic similarity of 0.620, and 81.8% of the cultivars were still clustered together at the genetic similarity of 0.652. The

genetic relationships of cultivars were identical to the family tree basically. It is indicated that the genetic basis of potato cultivars in China is narrow, and the genetic relationship of the potato cultivars derived from the same district is similar. The fingerprinting and analysis of genetic diversity in this study give a basis for exploration and utilization of approved potato cultivars as germplasm resources.
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【题目】一个结球甘蓝D H群体主要农艺性状的遗传效应分析
【中文关键词】结球甘蓝;DH群体;农艺性状;主基因+多基因;遗传分析
【英文关键词】Brassica oleracea var. capitata; DH population; agronomy trait; mixed major gene and polygene genetic model; inheritance analysis
【中文摘要】摘 要:采用游离小饱子培养方法,构建了一个甘蓝F1(624×24-5) 的DH群体,利用该D H群体重复试验数据建立了结球甘蓝主要农艺性状的数量性状主基因+多基因混合遗传模型,分析了结球甘蓝8个主要农艺性状的遗传效应。结果表明,除开展度没有主基因只有多基因存在外,其余7个性状均符合2对主基因+多基因遗传模型。其中,数量性状主基因的遗传率中最 高的是最大外叶柄长,为90.4%,最大外叶宽次之,为67.2%;外短缩茎长和中心柱长的主基因遗传率较高,分别为58.62 % 和56.0 0 %;叶球高主基因遗传率最 低,为20.30%,其次为最大外叶长和株高,分别为23.犯%和31.74%;多基因遗传率中最高的是叶球高度,为49.80%;开展度环境效应方差 占总表现型方差的81.35 %,受环境影响最大,而外叶柄长的环境效应方差只占总表现型方差的9.56%,受环境影响最小。
【英文摘要】Abstract: The segregation analysis method of identifying mixed major genes and polygenes by using a doubled haploid (DH) population derived from F1 microspore culture of a cross between 624 and 24-5 was conducted to study the inheritances of the 8 agronomic traits in cabbage. Except the plant spreading showed a modle of polygenes, the other inheritances of the 7 traits showed the models of two major genes plus polygenes. The largest petiole length had the highest heritability of major genes of 90.44%, the heritability of the largest leaves width was 67.22%, basic stem length and core length had a lower heritability of major genes of 58.62% and 56.00%, head height had the lowest heritability of major gene of 20.30%, the next are the largest leave length and plant height of 23.32% and 31.74%, respectively. Head height had the highest heritability of polygenes of 49.80%. The influence of environment on trait of the plant spreading was the best, the environmental variance was 81.35% of phenotype variance. The influence of environment on trait of the petiole length was the least, the environmental variance was 9.56% of phenotypic variance.
【语种】中文
【第一作者】缪体云
【通讯作者】刘玉梅
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【题目】甘蓝 EST-SSR 标记的开发与应用
【中文关键词】甘蓝;EST-SSR;标记开发;指纹图谱
【英文关键词】cabbage;EST-SSR;marker development;fingerprinting
【中文摘要】摘 要:从 NCBI 数据库下载 62 567 条甘蓝相关 EST,处理后得到19 611 条无冗余的EST,对其进行SSR搜索,共得到 1 219 条 SSR,分布在 1 176 条 EST 上,分布密度为 1/11.48 kb,包括 273 种重复基元。在甘蓝EST-SSR中,二核苷酸(353个SSR)和三核苷酸(423个SSR)占主导地位,所占比例分别为28.96%和34.70%;出现最多的重复基元是 AG/CT,占总数的25.59%,其次为 AAG/CTT(94 个,占 7.71%)。针对 1176 条含有 SSR 的 EST 设计合成了 978 对引物。用两份甘蓝自交系对 978 对引物进行初筛,897 对引物有扩增产物,共扩增出 1 026 条扩增带;128 对引物表现出多态性,共有 258 条多态性带(占总带数的 25.15%)。利用 4对多态性引物,初步构建了中甘 11、8398、中甘 15、中甘 21 杂交新品种及其亲本的指纹图谱。以上结

果说明从甘蓝相关 EST 数据库中开发的 SSR 引物有较好的可用性。
【英文摘要】Abstract:A total of 62567 ESTs in Brassica oleracea were downloaded from NCBI for the identification and development of SSR marker. In total, 1219 SSRs distributed in 1 176 ESTs were identified from 19611 non-redundant ESTs, with an average of one SSR per 11.48 kb, and included 273 SSR motifs.Analysis of SSR motifs revealed that the dinucleotides (353 SSR) and tricleotides (423 SSR) were major motifs, accounted for 28.96% and 34.70% respectively. The AG/CT was the most frequent motifs and accounted for 25.59%,followed by AAG/CTT (94 SSR,7.71%). Based on the 1176 SSR-containing ESTs, a total of 978 primer pairs were successfully designed and assessed validation of the amplification using two cabbage inbreed lines (397 and 20-2-5). The results showed that 897 primer pairs yielded 1026 amplification bands, of which 128 primer pairs exhibited polymorphism with 258 polymorphic bands accounted for 25.15%. SSR fingerprint was obtained for 4 cabbage F1, Zhonggan 11, 8398, Zhonggan 15 and Zhonggan 21, and their parents,and all the above materials could be discriminated by four specific EST-SSR primer pairs. The results indicated that the developed SSRs from ESTs of Brassica oleracea were validate and practicable.
【语种】中文
【第一作者】陈琛
【通讯作者】庄木
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【学科分类】园艺学

【题目】结球甘蓝自交系抽薹与开花性状配合力及遗传力分析
【中文关键词】结球甘蓝; 抽薹期; 开花期; 配合力; 遗传力
【英文关键词】Cabbage; Bolting;Flowering; Combining ability;Heritability
【中文摘要】摘 要: 对 6 个甘蓝自交系的抽薹期与开花期性状配合力进行分析, 并估算其遗传参数, 为筛选时耐期抽薹品种提供理论依据。采用 Griffing 完全双列杂交方法四对 6 个结球甘蓝优良自交系的抽薹期和开花期性状进行配合力和遗传力分析。结果表明: 自交系 05521-2 和 04M9-2的一般配合力均较好, 具有作为耐抽薹亲本材料的潜力; 抽薹期性状的广义遗传力和狭义遗传力分别为 92.6% 和 50.04%; 开花期性状的广义遗传力和狭义遗传力分别为 92.09%和67.28%, 抽薹期和开花期性状主要受加性效应基因控制, 在早世代着手对结球甘蓝的抽薹期和开花期性状的选择是有效的。
【英文摘要】Abstract: Combining ability and heritability of bolting and flowering characters of six fine cabbage inbred lines were analyzed using Griffing diallel cross.The results showed that: the general combining ability of inbred lines 05521-2 and 04M9-2 were better,with as bolting?resistant potential parental materials; the broad sense heritability and narrow sense heritability of bolting and flowering characters were 92.6%, 50.04% and 92.09%, 67.28% respectively, and mainly affected by additive genes. So,the selection of bolting and flowering characters in cabbage were effective in early generations.
【语种】中文
【第一作者】李梅
【通讯作者】刘玉梅
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【学科分类】园艺学

【题目】结球甘蓝和青花菜小孢子胚植株再生
【中文关键词】结球甘蓝, 青花菜, 子叶胚, 游离小孢子培养, 植株再生
【英文关键词】Brassica oleracea var. capitata, Brassica oleracea var. italica, cotyledonary embryos, isolated-microspore culture, plant regeneration
【中文摘要】摘 要: 结球甘蓝(Brassica oleracea var. capitata)和青花菜(Brassica oleracea var. italica)小孢子胚再生植株频率低是目前影响游离小孢子培养技术有效应用的关键问题之一, 研究其小孢子胚植株再生频率的影响因素, 提高胚再生植株频率, 对促进游离小孢子培养技术在甘蓝类蔬菜育种中更好地应用具有重要意义。该文以结球甘蓝中甘11和青花菜TI-111等基因型为试材, 对影响游离小孢子胚再生成植株的固体培养基类型、琼脂浓度、胚的类型及胚在液体培养基中的滞留时间

等因素进行了研究。结果表明: 游离小孢子培养25天的子叶胚在琼脂浓度为1% – 1.25%的B5培养基上植株再生频率最高。进一步通过8个不同基因型对上述实验结果进行了验证, 结果显示, 游离小孢子培养25天的子叶胚在1%琼脂浓度的B5培养基上植株再生频率达77.8% – 97.2%。

【英文摘要】Abstract : The application of microspore culture still produces low frequency of plant regeneration from microspore-derived embryos in many cabbage and broccoli genotypes. To improve the frequency of plant regeneration, we studied the effect of medium, agar concentration, embryoid type and days of culture of microspores on plant regeneration in hybrid F1 generations of a cabbage, ‘ Zhonggan 11 ’, and a broccoli, ‘ TI-111 ’. B5 medium with 1% – 1.25% agar was optimal for germination and regeneration of embryos, and the frequency of plant regeneration from cotyledonary embryos was significantly higher than that from other embryos, especially cotyledonary embryos from the 25-day-cultured microspores. The frequency of plant regeneration for cotyledonary embryos from 25-day-cultured microspores in 8 cultivars of cabbage and broccoli transferred to B5 medium with 1% agar ranged from 77.8% to 97.2%.

【语种】中文

【第一作者】袁素霞

【通讯作者】刘玉梅

【期刊名称、卷期、页码】植物学报, 2010,45(2):226-232

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【学科分类】园艺学

【题目】甘蓝显性雄性不育材料 DGMS79-399-3不育性的遗传效应分析

【中文关键词】甘蓝; 显性雄性不育性; 遗传效应

【英文关键词】Cabbage; The dom inant geneticmale sterility; Genetic effect

【中文摘要】摘 要: 采用两种不同的遗传分析模型, 研究了甘蓝显性雄性不育材料 DGM S79-399-3不育性的遗传效应。结果表明, 运用 Griffing II的方法进行遗传效应的分析, 就不育度而言, 加性作用的方差占总的遗传方差为21.89%, 而显性作用的方差为 78.11%; 广义遗传力为 97.22%, 狭义遗传力为 21.23%。配合力的比较结果表明,5个不育亲本中,523-16的一般配合力最高, 达 3.17; 特殊配合力最高的组合是606-7×102, 达 10.42。用 6个世代联合分析的方法进行遗传规律的研究, 结果表明, 影响甘蓝显性雄性不育材料育性的最适遗传模型为一对加性 - 显性主基因 + 加性 - 显性 - 上位性多基因模型 (D 模型),主基因的遗传率为 82.03% ~ 94.12%, 微效基因的遗传率为 0.14% ~ 10.94%, 两种遗传分析模型研究结果均表明: 主基因的显性作用在不育性表达中占主导地位, 但主基因的加性作用以及微效基因的影响也不可忽视。

【英文摘要】Abstract: Genetic effect of the dom inant genicmale sterilematerialDGMS79-399-3 in cabbage (Brassica oleracea var. capitata L.) was studiedw ith two different genetic analysismodels. The principle of genetics was studiedw ith themethod of Griffing II, and the result showed that the variance of additive effect in the total genetic variance was only 21.89% , but the dom inant variance was 78.11%. The value of the broad heritability was 97.22% , but the value of narrow heritability was only 21.23%. The result of comparison of combining ability, in the fivemale sterile parents, the highest general combining ability of P1 from 523-16 was 3.17, but the highest special combining ability from the combination of 606-7×102was10.42. The principle of geneticswas studiedw ith joint analysis of six generations and the result indicated that the best fitted genetic model affecting fertile characteristics of the dom inant geneticm ale sterility in cabbage was one major additive-dominant gene plus additive-dom inan-t epistatic polygenes (D model), the heritability of major gene was 80.03% - 94.12%, and the heritability of polygeneswas 0.14% - 10.94% . Them ajor dom inant gene had an important effec,t however, the additive effect ofmajor gene and the polygenes effect should be also valued.

【语种】中文

【第一作者】严慧玲

【通讯作者】方智远

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【学科分类】园艺学

【题目】甘蓝类蔬菜小孢子再生植株染色体倍性与气孔保卫细胞叶绿体数的相关性
【中文关键词】甘蓝;青花菜;芥蓝;气孔保卫细胞;叶绿体数;倍性鉴定
【英文关键词】Brassica oleracea var. capitata; Brassica oleracea var. italica; Brassica alboglabra Bailey; stomatal guard cells; chloroplast number; identification of ploidy
【中文摘要】摘 要:【目的】研究甘蓝类蔬菜游离小孢子再生植株的染色体倍性与气孔保卫细胞叶绿体数的相关性,为甘蓝类蔬菜提供一种快速、简易、经济、实用而又可靠的倍性鉴定方法。【方法】采用分布型分析和 t测验,对结球甘蓝、青花菜和芥蓝不同倍性的小孢子再生植株的气孔保卫细胞叶绿体数进行统计分析。以根尖染色体计数法和田间形态学观察法的倍性鉴定结果,对叶绿体数分界法的可靠性进行验证。【结果】同一倍性植株上的不同叶片间及同一叶片的不同部位间,气孔保卫细胞叶绿体数平均值及变异幅度非常接近。同一小孢子再生植株群体内的不同倍性植株的叶绿体数平均值差异极显著。不同倍性植株间的气孔保卫细胞叶绿体数均呈正态分布。本研究提出了一种根据甘蓝类蔬菜气孔保卫细胞叶绿体数进行染色体倍性鉴定的方法,即气孔保卫细胞叶绿体数≤10 的为单倍体,10<叶绿体数≤15 的为二倍体,>15 的为多倍体。该方法经花期形态学观察和根尖染色体计数法验证,其吻合率达93.93%,且此倍性鉴定方法稳定,不受植株生长环境等外界因素影响。【结论】甘蓝类蔬菜游离小孢子再生植株的染色体倍性,可于幼苗期根据气孔叶绿体数目的多少进行鉴定,而且此倍性鉴定方法简单、快捷、经济而又可靠。
【英文摘要】Abstract: 【Objective】 The relationship between the ploidy level of microspore-derived plants and chloroplast number in stomatal guard cells was studied in cabbage, broccoli and Chinese kale. 【Method】 Distribution statistics analysis and t-test were used to perform statistical analysis on chloroplast number of different ploidy levels in those stomatal guard cells mentioned above, and morphology identifying and chromosome counting were used to test accuracy of counting chloroplast number in stomatal guard cells. 【Result】 The chloroplast average number in stomatal guard cells was very similar among the different leaf positions on the same plant and among the different locations in the same leaf, while the chloroplast number varied significantly among the different ploidy stoma in the same variety. All the distributions of the chloroplast number in different ploidy stoma were normal distribution fitted. A correlation has been established between ploidy and chloroplast number in the stomatal guard cells. In every single stoma of microspore-derived plants, the chloroplast number for a haploid should not be more than 10, that for diploids should be 11 to 15, and polyploids should be more than 15. The accuracy of this method for identification of different ploidy plants was 93.93%. Further more, the accuracy of this method was reliable and did not vary with the plants growth conditions. 【Conclusion】 Therefore, the chromosome ploidy of plants derived from microspore culture in cabbage, broccoli and Chinese kale can be identified by simply counting the chloroplast number in stomatal guard cells.
【语种】中文
【第一作者】袁素霞
【通讯作者】刘玉梅
【期刊名称、卷期、页码】中国农业科学, 2009, 42(1):189-197
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【学科分类】园艺学

【题目】甘蓝结球过程中内源激素含量与裂球性的关系
【中文关键词】结球甘蓝 ; 裂球性 ; 内源激素
【英文关键词】B rassica oleraca L. var. capitata L.; Head-splitting character; Endogenous hormone
【中文摘要】摘 要: 以 4份耐裂球性不同的甘蓝高代自交系为试验材料 , 采用间接酶联免疫(EL ISA) 检测技术,对甘蓝结球过程中球叶中的生长素(IAA)、赤霉素(GA3) 、玉米素核苷(ZR) 和脱落酸(ABA) 4大类内源激素的含量和比值变化进行了分析 , 以探讨甘蓝裂球性与内源激素含量的关系。结果表明 : 在整个结球期 , 耐裂球材料各个时期的 IAA、GA3含量均高于易裂球材料。ZR含量对甘蓝的裂球性影响不大。ABA含量在 4种内源激素中含量值最大 , 而且耐裂球材料与易裂球材料间的动态差异较大。叶球生长后期(IAA + GA3+ ZR)/ABA比值高可使叶球保持较高的生长势头 , 从而承受内部生长应力的能力较大 , 减少叶球开裂。

【英文摘要】Abstract: This study was designed to elucidate the relationship between endogenous hormone contents and head-splitting character of Brassica oleraca L var. capitata L. Enzyme-linked immunosorbent assays (ELISA) was used to determine the contents of indoleacetic acid (IAA) , gibberellin (GA3) , cytokinin (ZR) and abscisic acid (ABA) and to analyze their ratio changes, so as to probe into the relation between head-splitting and endogenous hormone. These endogenous hormones were taken from head leaves of 4 Brassica oleraca L. var. capitata L. Cultivarswhich differ in splitting susceptibility during vegetative period. The results showed that during the whole vegetative period, the contents of IAA and GA3 in splitting-resistant cultivars were higher than those of splitting-susceptible cultivars. ZR content had less effect on head-splitting of Brassica oleraca L. var. capitata L. ABA contentwas the highest among the 4 endogenous hormones, and there were great dynam ic differences between splitting-resistant and splitting-susceptible cultivars. The high ratio of (IAA + GA3 + ZR) to ABA at the late stage could keep the B rassica oleraca L. var. capitata L. Head in a strong growing vigor, thus reduce the head-splitting probability.
【语种】中文
【第一作者】曾爱松
【通讯作者】刘玉梅
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【题目】甘蓝抽薹性状基因的分子标记定位
【中文关键词】甘蓝,抽薹性状,分子标记
【英文关键词】Cabbage, Bolting trait, Mapping
【中文摘要】摘 要: 选用耐未熟抽薹性状差异较大的甘蓝亲本材料 2002-45 和 2002-49 配制杂交组合,并构建 F2分离群体。用 60 个 SRAP 引物组合对 F2代分离群体进行 PCR 分析,共筛选到 19 个有多态性的引物组合,得到91 条多态性条带。其中 ME7EM2c 和 ME8EM2d 两个标记与抽薹性状较紧密连锁,遗传距离分别为 27.5 cM和 31.7 cM。这两个标记可用于甘蓝耐未熟抽薹的分子标记辅助选择育种。
【英文摘要】Abstract: The F2 population derived from a cross between the cabbage cultivars 2002-45 and 2002-49 was used to identify bolting trait using SRAP markers. Screening with 60 primer combinations, nineteen pairs were poly-morphic and could amplify 91 polymorphic fragments in SRAP analysis. Bolting trait was linked with ME7EM2c and ME8EM2d, the distance was 27.5 cM and 31.7 cM respectively. The two markers in the study could be used to marker assistant breeding.
【语种】中文
【第一作者】杜辉
【通讯作者】薄天岳
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【题目】Identification of specific molecular markers linked to the rustresistance gene M4 in flax
【中文关键词】亚麻; M4;标记
【英文关键词】Flax, M4 gene, marker
【中文摘要】摘 要:为了确定与亚麻锈病抗性基因M4紧密连锁的标记,本研究采用540对对NM4的近等基因系和Bison的回交亲本进行RAPD扩增。结果表明,引物OPA18在NM4近等基因系中扩增出特异条带(OPA18432),通过来源于Bison×NM4双亲获得的F2分离群体进行验证,发现标记OPA18432和M4基因紧密连锁,遗传连锁距离为2.1cM。对OPA18432进行测序设计了特异引物和M4的SCAR标记。不同的抗性材料扩增结果显示该标记与M4紧密连锁,该标记已经成功的应用于亚麻分子辅助选择育种。
【英文摘要】Abstract. To identify molecular markers linked to the flax rust-resistance gene M4, RAPD analysis of NM4 (a near-isogenic line containing the M4 gene) and the recurrent parent Bison was performed using 540 decamer primers. The primer OPA18 amplified a specific fragment, OPA18432, in the NM4 line. The OPA18432 marker was found to be closely linked to the M4 gene, with

a genetic distance of 2.1cM, through the analysis of the F2 segregating population derived from a cross of Bison×NM4. Based on the sequence of OPA18432, the specific PCR primers were designed and a SCAR marker for the M4 gene was developed.The amplification of different resistant germplasm proved that the marker is specific for the M4 gene.This marker has been used successfully in marker ssisted selection in the flax breeding program.

【语种】英文
【第一作者】薄天岳
【通讯作者】薄天岳
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【题目】甘蓝细胞质雄性不育类型的分子鉴定
【中文关键词】甘蓝;细胞质雄性不育; orf 138 ; orf 224
【英文关键词】Cabbage (Brassica oleracea var. capitata L.) ; Cytoplasmic male sterility (CMS) ; orf 138 ; orf 224
【中文摘要】摘 要:为鉴定几种来源不同的甘蓝细胞质雄性不育材料的类型,获得与其不育性状相关的特异序列,基于同源序列的候选基因法,通过检索NCBI 核苷酸及蛋白质数据库获得orf138 和orf 224 开放阅读框序列,依据其保守序列设计2 对引物,对甘蓝的5 个不育系及其保持系进行PCR 扩增。orf138 引物在5 个甘蓝雄性不育系中均扩增出749 bp 的片段,同源性比对发现这5 个不育材料的特异片段与萝卜Ogu CMS 所具有的Oguorf 138 基因同源度达100% ,表明这几个来源不同的甘蓝细胞质不育材料同属萝卜细胞质不育类型。
【英文摘要】Abstract: In order to identify the cytoplasmic male sterile (CMS) types in cabbage and gain the sterility-related specific sequence ,the homology-based candidate gene method was used and the sequences of orf 138 and orf 224 genes were got by searching the nucleotide and protein databases of NCBI. Based on their conserved sequences ,two pair of primers were designed and the DNA amplification of 5 CMS lines of cabbage and their maintainer lines were carried out by PCR. The result indicated that a 749 bp specific fragment was produced in all the 5 CMS lines by amplification with the orf 138 primer . The sequencing and comparison showed that the specific fragment from the 5 CMS lines and the Ogu orf 138 of Ogu CMS in radish reached 100% in homology ,meaning the 5 cabbage CMS lines belong to CMS type of radish.

【语种】中文
【第一作者】陈烨丽
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【题目】结球甘蓝主要商品性状与农艺性状的遗传相关分析
【中文关键词】结球甘蓝;商品性状;农艺性状;遗传力;遗传相关
【英文关键词】Commercial character; agronomic character; Heritability; Genetic correlatiom
【中文摘要】摘 要: 以个甘蓝亲本进行完全双列杂交, 采用加性-显性遗传模型对结球甘蓝的主要商品、农艺性状进行遗传分析。结果表明各性状的遗传同时受加性效应和显性效应的作用, 株高、外叶数主要受加性效应控制开展度、单球重、帮叶比、中心柱球高主要受显性效应控制。相关分析表明, 开展度-株高、开展度-单球重、外叶数-帮叶比等成对性状成显著正相关, 利用株高可对帮叶比、中心柱球高进行间接选择。
【英文摘要】Abstract: The complete diallel cross of 6 head cabbage parents was carried out and genetic analyses of main commercial and agronomic characters of them were made by means of an additive-dominance genetic mod- el.The results showed that the inheritance of various characters was controlled by both additive and dominant effects,but the plant height and the number of outer leaves were controlled mainly by an additive effect,and the angular divergence,head weight,petiole/leaf weight ratio and central column/head height ratio could be improved by indirect selection based on plant height.

【语种】中文
【第一作者】陈锦秀
【通讯作者】薄天岳
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【题目】甘蓝种质资源遗传多样性的SRAP分析
【中文关键词】甘蓝, SRAP, 遗传多样性, 聚类分析
【英文关键词】Cabbage (Brassica oleracea var. capitata L.), SRAP, Genetic diversity, Cluster analysis
【中文摘要】摘 要:本研究利用26 对SRAP 引物组合对46 份甘蓝材料的遗传多样性和亲缘关系进行了分析,以期为甘蓝亲本选配提供参考。结果表明这26 对引物共扩增出稳定清晰的条带439 条,其中多态性条带为227 条,多态性位点比率为51.7%。根据SRAP 扩增结果,应用NTSYSpc2.1 数据分析软件计算各品种间的遗传相似系数,结果表明这些材料间的遗传相似系数的变化范围是0.41~0.99。在相似性系数为0.568 的水平上,可将46 份甘蓝品种分为4 大类,除第4 类是形态特征明显有别于其它材料的抱子甘蓝外,其余3 类结球甘蓝的主要聚类依据是其开花时间依次间隔一个星期左右。
【英文摘要】Abstract: In this paper, we analyzed the genetic diversity and relationship among 46 cabbage germplasms by employing 26 SRAP primer combinations in order to provide reference for choice of parents for crossing in cabbage. The results showed that 439 amplified bands were obtained, among which 227 were polymorphic bands accounted for 51.7% polymorphism. The genetic similarity coefficients among these germplasm ranged from 0.41 to 0.99 by software NTSYSpc2.1 based on SRAP results. The 46 cabbage germplasm were divided into four groups on coefficient threshold of 0.568, among which three groups were clustered mainly according to flowering interval of about one week, while the fourth group consisted of brussel sprout and showed obvious differences from other germplasm in morphological characters.
【语种】中文
【第一作者】缪体云
【通讯作者】薄天岳
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【题目】甘蓝杂种优势育种技术及中甘系列新品种选育回顾与展望
【中文关键词】甘蓝;杂种优势;育种技术;品种选育
【英文关键词】Cabbage; Heterosis; Breeding technology; New variety development
【中文摘要】摘 要:回顾课题组成立近40年来,先后突破甘蓝自交不亲和系和雄性不育系两项共性关键技术,育成甘蓝新品种21个,累计推广约1亿亩。研究工作分为4个阶段:1970年至80年代初,以突破甘蓝杂种优势利用和自交不亲和系选育技术,培育丰产型甘蓝杂交种为主要目标;1983年至90年代初,以抗病抗逆育种为主要目标;90年代初至90年代末,以培育优质品种、突破雄性不育系选育技术为主要目标;90年代后期以来,以生物技术与常规技术相结合,实现甘蓝雄性不育系规模化制种,培育商品性好、品质优、耐裂球、耐贮运的品种为主要目标。总结了课题组的成功经验与存在的主要问题,提出课题组近期的主要方向任务。
【英文摘要】Abstract: Since the set up of cabbage research group nearly 40 years ago, two key technology breakthroughs of self-incompatible lines and male sterile line have been achieved, and 21 new cabbage varieties have been developed, which have been popularized in an area of about 6.7 million hectares totally. Research work was divided into four stages: from 1970 to the early 1980s, the breakthrough of Cabbage heterosis utilization and self-incompatible lines breeding technology, and the development of high-yield cabbage varieties were major objectives; from 1983 to the early 1990s, breeding varieties with disease resistance and stress resistance ware major objectives; from early 1990s to the late 1990s, the breeding of high-quality varieties, and the breakthrough of male sterile line breeding technology were major objectives; since the late 1990s, the combination of biotechnology and conventional technology, the accomplishment of large-scale seed production with cabbage male sterile lines, the development of varieties with good market

characters and quality, resistance to head splitting and storage & transportation were major objectives. The success experience and the main existing problems for the group were summarized. The major direction and task for the group recently also were discussed.
【语种】中文
【第一作者】方智远
【通讯作者】方智远
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【题目】Molecular variation among Chinese and global germplasm in spring faba bean areas
【中文关键词】春蚕豆,遗传资源,AFLP技术,多样性,种群结构
【英文关键词】spring faba bean, genetic resources, AFLP, diversity, population structure
【中文摘要】A sample of 39 spring type faba bean landraces from four provinces in China, were compared in diversity with 136 spring accessions from the rest of the world, including Africa, Canada, Asia, Europe, and 41 breeding lines from ICARDA. These germplasm were characterized with 12 amplified fragment length polymorphism (AFLP) primer pairs. 244 unambiguous bands were detected, of which 236 were polymorphic, and four gene pool populations were identified. The spring faba bean accessions were broadly geographically associated in their genetic diversity, and ICARDA breeding lines were relatively narrow in genetic diversity. Chinese spring faba bean landraces differed to some extent from the rest of the world, with distribution in three of the four gene pool populations. The diversity levels of accession gene pool populations were measured and compared for relationship to geographic origin.
【英文摘要】A sample of 39 spring type faba bean landraces from four provinces in China, were compared in diversity with 136 spring accessions from the rest of the world, including Africa, Canada, Asia, Europe, and 41 breeding lines from ICARDA. These germplasm were characterized with 12 amplified fragment length polymorphism (AFLP) primer pairs. 244 unambiguous bands were detected, of which 236 were polymorphic, and four gene pool populations were identified. The spring faba bean accessions were broadly geographically associated in their genetic diversity, and ICARDA breeding lines were relatively narrow in genetic diversity. Chinese spring faba bean landraces differed to some extent from the rest of the world, with distribution in three of the four gene pool populations. The diversity levels of accession gene pool populations were measured and compared for relationship to geographic origin.
【语种】英文
【第一作者】X. ZONG
【通讯作者】R. REDDEN
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【学科分类】农业基础学科

【题目】Molecular characterization of GmNHX2, a Na+/H+ antiporter gene homolog from soybean, and its heterologous expression to improve salt tolerance in Arabidopsis
【中文关键词】GmNHX2,Na+ / H +逆向转运蛋白,耐盐,大豆,离子平衡。
【英文关键词】GmNHX2, Na+/H+ antiporter, salt tolerance, soybean, ion homeostasis.
【中文摘要】Na+/H+ antiporters have been well documented to enhance plant salt tolerance by regulating cellular ion homeostasis. Here, a putative Na+/H+ antiporter gene homolog GmNHX2 from soybean was cloned and predicted to encode a protein of 534 amino acids with 10 putative transmembrane domains. GmNHX2 was expressed in all soybean plant tissues but enriched in roots and its expression was induced by NaCl and polyethylene glycol (PEG) treatments. GmNHX2 exhibits greater sequence similarity with LeNHX2 and AtNHX6 than that of AtNHX1 and AtSOS1. Although phylogenetic analysis clustered GmNHX2 with organellar (tonoplast and vesicles) antiporters, the GmNHX2-EGFP (enhanced green fluorescent protein) fusion protein was possibly localized in the plasma membrane or organelle membrane of transgenic plant cells. Furthermore, transgenic Arabidopsis plants expressing

GmNHX2 were more tolerant to high NaCl concentrations during germination and seedling stages when compared with wild-type plants. These results suggest that GmNHX2 is a membrane Na+/H+ antiporter and may function to regulate ion homeostasis under salt stress.

【英文摘要】Na+/H+ antiporters have been well documented to enhance plant salt tolerance by regulating cellular ion homeostasis. Here, a putative Na+/H+ antiporter gene homolog GmNHX2 from soybean was cloned and predicted to encode a protein of 534 amino acids with 10 putative transmembrane domains. GmNHX2 was expressed in all soybean plant tissues but enriched in roots and its expression was induced by NaCl and polyethylene glycol (PEG) treatments. GmNHX2 exhibits greater sequence similarity with LeNHX2 and AtNHX6 than that of AtNHX1 and AtSOS1. Although phylogenetic analysis clustered GmNHX2 with organellar (tonoplast and vesicles) antiporters, the GmNHX2-EGFP (enhanced green fluorescent protein) fusion protein was possibly localized in the plasma membrane or organelle membrane of transgenic plant cells. Furthermore, transgenic Arabidopsis plants expressing GmNHX2 were more tolerant to high NaCl concentrations during germination and seedling stages when compared with wild-type plants. These results suggest that GmNHX2 is a membrane Na+/H+ antiporter and may function to regulate ion homeostasis under salt stress.

【语种】英文
【第一作者】周国安
【通讯作者】邱丽娟
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【学科分类】农业基础学科

【题目】Overexpression of soybean Ubiquitin -conjugating enzyme gene GmUBC2 confers enhanced drought and salt tolerance through Modulating abiotic stress-responsive gene expression in Arabidopsis

【中文关键词】GmUBC2,泛素化,泛素化酶,耐盐及耐旱,大豆,胁迫应答基因
【英文关键词】GmUBC2, Ubiquitination, Ubiquitincongugating enzyme, Salt and drought tolerance, Soybean, Stress-responsive genes

【中文摘要】Previous studies have shown that ubiquitination plays important roles in plant abiotic stress responses. In the present study, the ubiquitin-conjugating enzyme gene GmUBC2, a homologue of yeast RAD6, was cloned from soybean and functionally characterized. GmUBC2 was expressed in all tissues in soybean and was up-regulated by drought and salt stress. Arabidopsis plants overexpressing GmUBC2 were more tolerant to salinity and drought stresses compared with the control plants. Through expression analyses of putative downstream genes in the transgenic plants, we found that the expression levels of two ion antiporter genes AtNHX1 and AtCLCa, a key gene involved in the biosynthesis of proline, AtP5CS, and the copper chaperone for superoxide dismutase gene AtCCS, were all increased significantly in the transgenic plants. These results suggest that GmUBC2 is involved in the regulation of ion homeostasis, osmolyte synthesis, and oxidative stress responses. Our results also suggest that modulation of the ubiquitination pathway could be an effective means of improving salt and drought tolerance in plants through genetic engineering.

【英文摘要】Previous studies have shown that ubiquitination plays important roles in plant abiotic stress responses. In the present study, the ubiquitin-conjugating enzyme gene GmUBC2, a homologue of yeast RAD6, was cloned from soybean and functionally characterized. GmUBC2 was expressed in all tissues in soybean and was up-regulated by drought and salt stress. Arabidopsis plants overexpressing GmUBC2 were more tolerant to salinity and drought stresses compared with the control plants. Through expression analyses of putative downstream genes in the transgenic plants, we found that the expression levels of two ion antiporter genes AtNHX1 and AtCLCa, a key gene involved in the biosynthesis of proline, AtP5CS, and the copper chaperone for superoxide dismutase gene AtCCS, were all increased significantly in the transgenic plants. These results suggest that GmUBC2 is involved in the regulation of ion homeostasis, osmolyte synthesis, and oxidative stress responses. Our results also suggest that modulation of the ubiquitination pathway could be an effective means of improving salt and drought tolerance in plants through genetic engineering.

【语种】英文
【第一作者】周国安
【通讯作者】邱丽娟
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【题目】Cloning and sequence diversity analysis of GmHs1Pro-1 in Chinese
【中文关键词】大豆,野生大豆,DNA序列多样性,GmHs1pro-1,大豆胞囊线虫病抗性,选择,瓶颈
【英文关键词】Glycine max, Glycine soja, DNA sequence diversity, GmHs1pro-1, Soybean cyst nematode, Resistance, Selection, Bottleneck
【中文摘要】Soybean cyst nematode (SCN) (Heterodera glycines Ichinohe) is the most important pathogen in soybean production worldwide and causes substantial yield losses. An apparent narrow genetic base of SCN resistance was observed in current elite soybean cultivars, and searching for novel SCN resistance genes as well as novel resistance sources rather than focusing on the two important genes rhg1 and Rhg4 has become another major objective in soybean research. In the present paper we report a 1,477 bp Hs1pro-1 homolog, named GmHs1pro-1. This gene was cloned from soybean variety Wenfeng 7 based on information for Hs1pro-1, a beet cyst nematode resistance gene in sugar beet. It has two domains, Hs1pro-1_N and Hs1pro-1_C, both of which are believed to confer resistance to nematodes. Of the 1,477 bp sequence in GmHs1pro-1, anopen readingframe of 1,314 bp, encoding a protein with 437 amino acids, was flankedby a 50-untranslated region of 27 bp and a 30- untranslated region of 135 bp. Fourteen single-nucleotide polymorphisms (SNPs) were observed in 44 soybean accessions including 23 wild soybeans, 8 landraces, and 13 soybean varieties (or lines), among which 5 in wild soybeans and 3 in landrace accessions were unique. Sequence diversity analysis on the 44 soybean accessions showed p = 0.00168 and h = 0.00218 for GmHs1pro-1; landraces had the highest diversity, followed by wild soybeans, with varieties (or lines) having the lowest. Although we did not detect a significant effect of selection on GmHs1pro-1 in the three populations, sequence diversity, unique SNPs, and phylogenetic analysis indicated a slight domestication bottleneck and an intensive selection bottleneck. High sequence diversity, more unique SNPs, and broader representation across the phylogenetic tree in wild soybeans and landraces indicated that wild collections and landrace accessions are invaluable germplasm for broadening the genetic base of elite soybean varieties resistant to SCN.
【英文摘要】Soybean cyst nematode (SCN) (Heterodera glycines Ichinohe) is the most important pathogen in soybean production worldwide and causes substantial yield losses. An apparent narrow genetic base of SCN resistance was observed in current elite soybean cultivars, and searching for novel SCN resistance genes as well as novel resistance sources rather than focusing on the two important genes rhg1 and Rhg4 has become another major objective in soybean research. In the present paper we report a 1,477 bp Hs1pro-1 homolog, named GmHs1pro-1. This gene was cloned from soybean variety Wenfeng 7 based on information for Hs1pro-1, a beet cyst nematode resistance gene in sugar beet. It has two domains, Hs1pro-1_N and Hs1pro-1_C, both of which are believed to confer resistance to nematodes. Of the 1,477 bp sequence in GmHs1pro-1, anopen readingframe of 1,314 bp, encoding a protein with 437 amino acids, was flankedby a 50-untranslated region of 27 bp and a 30- untranslated region of 135 bp. Fourteen single-nucleotide polymorphisms (SNPs) were observed in 44 soybean accessions including 23 wild soybeans, 8 landraces, and 13 soybean varieties (or lines), among which 5 in wild soybeans and 3 in landrace accessions were unique. Sequence diversity analysis on the 44 soybean accessions showed p = 0.00168 and h = 0.00218 for GmHs1pro-1; landraces had the highest diversity, followed by wild soybeans, with varieties (or lines) having the lowest. Although we did not detect a significant effect of selection on GmHs1pro-1 in the three populations, sequence diversity, unique SNPs, and phylogenetic analysis indicated a slight domestication bottleneck and an intensive selection bottleneck. High sequence diversity, more unique SNPs, and broader representation across the phylogenetic tree in wild soybeans and landraces indicated that wild collections and landrace accessions are invaluable germplasm for broadening the genetic base of elite soybean varieties resistant to SCN.
【语种】英文
【第一作者】袁翠平
【通讯作者】邱丽娟
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【学科分类】农业基础学科

【题目】十五”大豆创新种质和1963-1995年间育成品种的SSR遗传结构及遗传多样性分析
【中文关键词】创新种质;育成品种;SSR标记;遗传结构;遗传多样性
【英文关键词】New enhanced germplasms;Released cultivar;SSR marker;Genetic structure;Genetic diversity
【中文摘要】对22份“十五”攻关培育的创新种质和22份大豆育成品种进行了24个SSR标记的分析比较,目的是在分子水平上阐明创新种质的遗传结构特点,为拓宽我国大豆育成品种遗传基础及亲本选择提供理论依据。本研究在24个SSR位点共检测出231个等位变异,其中15.8%(36个等位变异)为创新种质所特有,特别是在与大豆胞囊线虫紧密连锁的Satt309位点上验证了一个我国独有的等位变异。结合UPGMA和Model-based聚类结果,将创新种质和育成品种分为4组,第1组由13份来自东北和山西的创新种质组成;第Ⅱ组由8份来自东北的育成品种组成;第Ⅲ组由8份来自黄淮海 和南方的大豆种质组成,其中创新种质和育成品种各为4份;第Ⅳ组由4份育成品种组成,分别来自吉林、黑龙江、河南和山西。遗传多样性分析结果表明,利用国外种质和野生大豆创造的创新种质丰富了东北地区育成品种的遗传多样性。因此,应加强利用国外种质、我国栽培大豆地方品种和野生大豆等优异资源,在创造优异大豆新种质的同时,拓宽我国大豆的遗传基础。
【英文摘要】To clarify the patterns of genetic structure,22 relased modern cultivars and 22 new enhanced germplasms were analyzed with 24 SSR markers.Among the total of 23 1 alleles,36 unique alleles were found only in new enhanced germplasms.At Satt309 locus,which closely linked with soybean cyst nematode resistance,an allele,which only was found in Chinese soybean landrace was confirmed.Combining the results obtained by using UPGMA method and model— based method.four distinct clusters were discovered.Cluster 1 was comprised of 13 new enhanced germplasms from Northeast region and Shanxi province.Cluster Ⅱ included 8 released cultivars from Northern east region.ClusterⅢ consisted of 4 neW enhanced germplasms and 4 released cultivars from Huanghuaihai and Southern region.Cluster IV contained 4 relased cultivars from Jilin,Heilongjiang,Shanxi and Henan provinces.The results of genetic diversity analysis showed that the new enhanced germplasms,which utilized foreign germplasms and wild species as parent,broadened the genetic base of released cultivars in northeast region.
【语种】中文
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【题目】基于大豆胞囊线虫抗病性候选基因的SNP位点遗传变异分析
【中文关键词】栽培大豆; 野生大豆; SNP 标记; 遗传变异
【英文关键词】Glycine max; Glycine soja; SNP marker; genetic variation
【中文摘要】以我国363 份栽培和野生大豆资源为材料, 对大豆胞囊线虫抗性候选基因(rhg1 和Rhg4)的SNP 位点(8个)进行遗传变异分析, 以期阐明野生和栽培大豆间遗传多样性及连锁不平衡水平差异。结果表明, 与野生大豆相比, 代表我国栽培大豆总体资源多样性的微核心种质及其补充材料的连锁不平衡水平较高(R2 值为0.216)。在栽培大豆群体内, 基因内和基因间分别有100%和16.6%的SNP 位点对连锁不平衡显著, 形成两个基因特异的连锁不平衡区间(Block)。在所有供试材料中共检测到单倍型46 个, 野生大豆的单倍型数目(27)少于栽培大豆(31), 但单倍型多样性(0.916)稍高于栽培大豆(0.816)。单倍型大多数(67.4%)为群体所特有(31 个), 其中15 个为野生大豆特有单倍型。野生大豆的两个主要优势单倍型(Hap_10 和Hap_11)在栽培大豆中的发生频率也明显下降, 推测野生大豆向栽培大豆进化过程中, 一方面形成了新的单倍型, 另一方面因为瓶颈效应部分单倍型的频率降低甚至消失。
【英文摘要】For clarifying the difference of genetic diversity and linkage disequilibrium (LD) level between cultivated (Glycine max (L.) Merr.) and annual wild soybean (Glycine soja Sieb. & Zucc.), genetic variation pattern of 8 SNP loci developed from soybean cyst nematode resistance candidate genes rhg1 and Rhg4 in soybean germplasm were analyzed. The results indicated that G. max population, consisted of cultivated soybean mini-core collection and modern cultivars, had a higher LD levels (R2 value is 0.216) than G. soja population. Since 100% of pairwise loci within a gene and 16.6% of pairwise loci between genes were significant in G. max population, two specific LD regions were formed for each gene. A total of 46 haplotypes were detected in 363 soybean germplasm. The population of G. soja had less number of haplotypes and higher haplotype diversity than the population of G. max. Among the 31 population-specific haplotypes, 15 haplotypes were specific for G. soja population. In addition, the frequency of two major predominant haplotypes (Hap_10 and Hap_11) in G. soja population was obviously decreased in G. max population, which might indicate that some new haplotypes were formed and some old haplotypes were lost during the G. max domesticated from G. soja.

【语种】中文
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【题目】中品95-5117抗大豆花叶病毒基因源分析
【中文关键词】大豆; 中品95-5117; 系谱; SMV
【英文关键词】Soybean; ICGR95-5117; Pedigree; SMV
【中文摘要】中品95-5117 和中品95-5383 是以中品661 为亲本选育的抗东北花叶病毒病3 号株系(SMV3)的大豆新品系。中品95-5383 抗病基因的SCAR 标记已被定位于大豆F 连锁群(Chr.13), 与抗病基因Rsv1 紧密连锁。利用大豆F 连锁群的34 个对SSR 标记引物及与抗病基因紧密连锁的SCAR 标记SCN11 及Rsv1 候选基因标记Rsv1-f/r, 对中品95-5117 系谱亲本进行检测, 结合对SMV3 的抗性鉴定结果进行分析, 旨在明确抗SMV3 基因在系谱中的传递规律,为利用分子标记辅助选择培育抗SMV3 新品种提供依据。通过SSR 标记分析发现, 中品95-5117 和中品95-5383 与亲本中品661 的相似性最高, 而与另外一个亲本鲁豆4 号关系较远。SCAR 标记SCN11 检测表明, 只有1 份材料Mangnolid(F-53)B 为感病基因型。系谱的Rsv1-f/r 标记分析表明, Williams 82 是中品95-5117 中Rsv1 基因的供体亲本。抗病性鉴定发现鲁豆4 号高抗SMV3, 但它并不携带Rsv1 基因。据上述结果推测中品95-5117 中不仅含有Rsv1,还具有来自鲁豆4 号的抗病基因, 证明该品系比其亲本中品661 具有对SMV3 更强的抗性。
【英文摘要】Soybean mosaic virus (SMV) is a prevalent viral pathogen of soybean. The soybean mosaic virus N3 (SMV3) is the most toxic strain in northeast China. Soybean lines ICGR95-5117 and ICGR95-5383 with high resistance to SMV3, which were all derived from ICGR661, are recently released from Chinese Academy of Agricultural Sciences. Several genes resistant to soybean mosaic virus have been identified and mapped on different soybean linkage groups by molecular markers. The resistance gene in ICGR95-5383 has been mapped on soybean linkage group F near Rsv1 gene. A dominant marker developed from the candidate gene of Rsv1 has been reported recently. The purpose of this research was to find the origin of the SMV3 resistance gene in ICGR95-5117 and the relationship of this resistance gene with Rsv1 by analyzing the pedigree. Thirty four SSR markers selected from linkage group F and two markers, SCAR marker (SCN11) tightly linked with resistance gene in ICGR95-5383 and Rsv1-f/r makers co-segregated with resistance gene Rsv1, were used to detect the materials in pedigree of ICGR95-5117. The similarity coefficient of the two lines between ICGR95-5117, ICGR95-5383 and ICGR661 was the highest. All the material except for Mangnolid(F-53)B had SMV3 resistance allele at locus SCN11. Williams 82 and ICGR661 had the same allelic variation at Rsv1-f/r locus with ICGR95-5117, revealing that the Rsv1 gene in ICGR95-5117 was inherited from Williams 82 via ICGR661. But ICGR95-5117 had higher resistance than ICGR661, indicating it might inherit different genes from SMV3 resistance parent Ludou4.
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【题目】Reduction of Bacillus thuringiensis Cry1Ac toxicity against Helicoverpa armigera by a soluble toxin-binding cadherin fragment
【中文关键词】Bacillus thuringiensis; Cadherin; Cry0Ac toxin, Toxicity; Reduction
【英文关键词】Bacillus thuringiensis; Cadherin; Cry1Ac toxin, Toxicity; Reduction
【中文摘要】A cadherin-like protein has been identified as a putative receptor for Bacillus thuringiensis (Bt) Cry1Ac toxin in Helicoverpa armigera and plays a key role in Bt insecticidal action. In this study, we produced a fragment from this H. armigera Cry1Ac toxin-binding cadherin that included the predicted toxin-binding region. Binding of Cry1Ac toxin to this cadherin fragment facilitated

the formation of a 250-kDa toxin oligomer. The cadherin fragment was evaluated for its effect on Cry1Ac toxin-binding and toxicity by ligand blotting, binding assays, and bioassays. The results of ligand blotting and binding assays revealed that the binding of Cry1Ac to H. armigera midgut epithelial cells was reduced under denaturing or native conditions in vitro. Bioassay results indicated that toxicities from Cry1Ac protoxin or activated toxin were reduced in vivo by the H. armigera cadherin fragment. The addition of the cadherin fragment had no effect on Cry2Ab toxicity.

【英文摘要】A cadherin-like protein has been identified as a putative receptor for Bacillus thuringiensis (Bt) Cry1Ac toxin in Helicoverpa armigera and plays a key role in Bt insecticidal action. In this study, we produced a fragment from this H. armigera Cry1Ac toxin-binding cadherin that included the predicted toxin-binding region. Binding of Cry1Ac toxin to this cadherin fragment facilitated the formation of a 250-kDa toxin oligomer. The cadherin fragment was evaluated for its effect on Cry1Ac toxin-binding and toxicity by ligand blotting, binding assays, and bioassays. The results of ligand blotting and binding assays revealed that the binding of Cry1Ac to H. armigera midgut epithelial cells was reduced under denaturing or native conditions in vitro. Bioassay results indicated that toxicities from Cry1Ac protoxin or activated toxin were reduced in vivo by the H. armigera cadherin fragment. The addition of the cadherin fragment had no effect on Cry2Ab toxicity.

【语种】英文
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【题目】Regulation of the seasonal population patterns of Helicoverpa armigera moths by Bt cotton planting

【中文关键词】Helicoverpa armigera - Population dynamics - Light trapping - Bt cotton
【英文关键词】Helicoverpa armigera - Population dynamics - Light trapping - Bt cotton

【中文摘要】Transgenic cotton expressing the Bacillus thuringiensis (Bt) Cry1Ac toxin has been commercially cultivated in China since 1997, and by 2000 Bt cotton had almost completely replaced non-transgenic cotton cultivars. To evaluate the impact of Bt cotton planting on the seasonal population patterns of cotton bollworm, Helicoverpa armigera, the dynamics of H. armigera moths were monitored with light traps from four locations (Xiajin, Linqing and Dingtao of Shandong Province; Guantao of Hebei Province) in high Bt density region and five locations (Anci and Xinji of Hebei Province; Dancheng and Fengqiu of Henan Province; Gaomi of Shandong Province) in low Bt density region from 1996 to 2008. A negative correlation was found between moth densities of H. armigera and the planting years of Bt cotton in both high and low Bt density areas. These data indicate that the moth population density of H. armigera was reduced with the introduction of Bt cotton in northern China. Three generations of moths occurred between early June and late September in the cotton regions. Interestingly, second-generation moths decreased and seemed to vanish in recent years in high Bt density region, but this tendency was not found in low Bt density region. The data suggest that the planting of Bt cotton in high Bt density region was effective in controlling the population density of second-generation moths. Furthermore, the seasonal change of moth patterns associated with Bt cotton planting may regulate the regional occurrence and population development of this migratory insect.

【英文摘要】Transgenic cotton expressing the Bacillus thuringiensis (Bt) Cry1Ac toxin has been commercially cultivated in China since 1997, and by 2000 Bt cotton had almost completely replaced non-transgenic cotton cultivars. To evaluate the impact of Bt cotton planting on the seasonal population patterns of cotton bollworm, Helicoverpa armigera, the dynamics of H. armigera moths were monitored with light traps from four locations (Xiajin, Linqing and Dingtao of Shandong Province; Guantao of Hebei Province) in high Bt density region and five locations (Anci and Xinji of Hebei Province; Dancheng and Fengqiu of Henan Province; Gaomi of Shandong Province) in low Bt density region from 1996 to 2008. A negative correlation was found between moth densities of H. armigera and the planting years of Bt cotton in both high and low Bt density areas. These data indicate that the moth population density of H. armigera was reduced with the introduction of Bt cotton in northern China. Three generations of moths occurred between early June and late September in the cotton regions. Interestingly, second-generation moths decreased and seemed to vanish in recent years in high Bt density region, but this tendency was not found in low Bt density region. The data suggest that the planting of Bt cotton in high Bt density region was effective in controlling the population density of second-generation moths. Furthermore, the seasonal change of moth patterns associated with Bt cotton planting may regulate the regional occurrence and population development of this migratory insect.

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【题目】Oil-soluble dyes in larval diet used for marking Helicoverpa armigera
【中文关键词】cotton bollworm, marking dye, release-recapture, insect dispersal, Lepidoptera, Noctuidae
【英文关键词】cotton bollworm, marking dye, release-recapture, insect dispersal, Lepidoptera, Noctuidae
【中文摘要】The cotton bollworm,Helicoverpa armigera(H ü bner)(Lepidoptera: Noctuidae), is an important pest with a worldwide distribution (Fitt, 1989). Its dispersal ability and long-distance migratory flights play important roles in its widespread occurrence. In China, transgenic cotton producing an insecticidal protein of Bacillus thuringiensis(Bt) is a key means for control of this pest (Wu & Guo, 2005). Concern has arisen for the capability of H. armigera to develop resistance against transgenic cotton (Wu & Guo, 2005). To counter such resistance, a refuge strategy has been proposed and widely adopted (Bates et al., 2005). The dispersal and random mating of insects play a key role in the success of this strategy (Bates et al., 2005).Marking techniques are very helpful in studying insect dispersal and mating competition (Wu et al., 1995; Hagler & Jackson, 2001; Qureshi et al., 2004). Dye is an ideal marking material, because it is inexpensive, non-toxic,easily applied (Hagler & Jackson, 2001; Qureshi et al., 2004),and identifiable (Qureshi et al., 2004). Dyes dissolved in a vegetable oil, such as cottonseed or corn oil, and incorporated into the larval diet have been used to mark insects,especially Lepidoptera and Diptera, in sterile insect release programs, area-wide pest-management programs, and resistance-management programs (Steiner, 1965; Qureshi et al., 2004; Vilarinho et al., 2006). However, different dyes in different amounts show varying marking efficiencies and effects on the development of the same insect species,and the same dye can exhibit varying marking efficiencies and effects on the development of different insect species(Hendricks, 1971; Qureshi et al., 2004; Vilarinho et al.,2006). Therefore, to mark H. armigera using dye, the marking efficiency of dyes and their effects on this species should be investigated. The goals of this research were to investigate whether an internal marking technique could be used for H. armigera, by using two oil-soluble dyes,Sudan Red 7B (C.I. 26050) and Solvent Blue 35 (C.I. 61554),incorporated into its artificial diet.
【英文摘要】The cotton bollworm,Helicoverpa armigera(H ü bner)(Lepidoptera: Noctuidae), is an important pest with a worldwide distribution (Fitt, 1989). Its dispersal ability and long-distance migratory flights play important roles in its widespread occurrence. In China, transgenic cotton producing an insecticidal protein of Bacillus thuringiensis(Bt) is a key means for control of this pest (Wu & Guo, 2005). Concern has arisen for the capability of H. armigera to develop resistance against transgenic cotton (Wu & Guo, 2005). To counter such resistance, a refuge strategy has been proposed and widely adopted (Bates et al., 2005). The dispersal and random mating of insects play a key role in the success of this strategy (Bates et al., 2005).Marking techniques are very helpful in studying insect dispersal and mating competition (Wu et al., 1995; Hagler & Jackson, 2001; Qureshi et al., 2004). Dye is an ideal marking material, because it is inexpensive, non-toxic,easily applied (Hagler & Jackson, 2001; Qureshi et al., 2004),and identifiable (Qureshi et al., 2004). Dyes dissolved in a vegetable oil, such as cottonseed or corn oil, and incorporated into the larval diet have been used to mark insects,especially Lepidoptera and Diptera, in sterile insect release programs, area-wide pest-management programs, and resistance-management programs (Steiner, 1965; Qureshi et al., 2004; Vilarinho et al., 2006). However, different dyes in different amounts show varying marking efficiencies and effects on the development of the same insect species,and the same dye can exhibit varying marking efficiencies and effects on the development of different insect species(Hendricks, 1971; Qureshi et al., 2004; Vilarinho et al.,2006). Therefore, to mark H. armigera using dye, the marking efficiency of dyes and their effects on this species should be investigated. The goals of this research were to investigate whether an internal marking technique could be used for H. armigera, by using two oil-soluble dyes,Sudan Red 7B (C.I. 26050) and Solvent Blue 35 (C.I. 61554),incorporated into its artificial diet.
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【第一作者】Zhao Xincheng
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【题目】Activities of digestive and detoxification enzymes in multiple generations of beet armyworm, Spodoptera exigua (H ü bner), in response to transgenic Bt cotton
【中文关键词】Spodoptera exigua - Transgenic Bt cotton - Ecological risk assessment - Multi-generation - Detoxification enzyme - Digestive enzyme
【英文关键词】Spodoptera exigua - Transgenic Bt cotton - Ecological risk assessment - Multi-generation - Detoxification enzyme - Digestive enzyme
【中文摘要】To reveal the multi-generation effects of transgenic Bt cotton on the metabolism of secondary target herbivores, the activities of digestive and detoxification enzymes in beet armyworm, Spodoptera exigua (H ü bner), fed with transgenic Bt (cv. GK-12) vs. non-Bt cotton (cv. Simian-3) for three successive generations were examined. Significantly lower activities of lipase, carboxylesterase (CarE) and acetylcholinesterase (AChE), and higher activities of trypsin and total superoxide dismutase (T-SOD) were observed in Bt-fed S. exigua than in non-Bt fed individuals during the three generations. But the activity of amylase did not differ between the Bt-fed and non-Bt fed S. exigua. Among the three generations of Bt-fed S. exigua, the activities of lipase and trypsin decreased significantly in the second or third generation than in the first generation. But those of CarE and AChE were increased significantly. Among the three generations of non-Bt fed S. exigua, the activity of lipase was significantly higher in the second and third generations than in the first generation. The increasing adaptation and fitness of S. exigua after continuous exposure to Bt cotton was supposed to be associated with the enhanced activities of detoxification enzymes. Measuring multi-generational enzymes activities of S. exigua in response to Bt cotton can provide proofs of its adaptation development, which is suggested to be a mandatory part of risk assessment of transgenic Bt plants on secondary target herbivores.
【英文摘要】To reveal the multi-generation effects of transgenic Bt cotton on the metabolism of secondary target herbivores, the activities of digestive and detoxification enzymes in beet armyworm, Spodoptera exigua (H ü bner), fed with transgenic Bt (cv. GK-12) vs. non-Bt cotton (cv. Simian-3) for three successive generations were examined. Significantly lower activities of lipase, carboxylesterase (CarE) and acetylcholinesterase (AChE), and higher activities of trypsin and total superoxide dismutase (T-SOD) were observed in Bt-fed S. exigua than in non-Bt fed individuals during the three generations. But the activity of amylase did not differ between the Bt-fed and non-Bt fed S. exigua. Among the three generations of Bt-fed S. exigua, the activities of lipase and trypsin decreased significantly in the second or third generation than in the first generation. But those of CarE and AChE were increased significantly. Among the three generations of non-Bt fed S. exigua, the activity of lipase was significantly higher in the second and third generations than in the first generation. The increasing adaptation and fitness of S. exigua after continuous exposure to Bt cotton was supposed to be associated with the enhanced activities of detoxification enzymes. Measuring multi-generational enzymes activities of S. exigua in response to Bt cotton can provide proofs of its adaptation development, which is suggested to be a mandatory part of risk assessment of transgenic Bt plants on secondary target herbivores.
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【题目】Altered mating behaviour in a Cry1Ac-resistant strain of Helicoverpa armigera (Lepidoptera: Noctuidae)
【中文关键词】Bacillus thuringiensis;Helicoverpa armigera;fitness cost;random mating;resistant
【英文关键词】Bacillus thuringiensis;Helicoverpa armigera;fitness cost;random mating;resistant
【中文摘要】Randomness of mating between susceptible and resistant individuals is a major factor that closely relates to the refuge strategy of resistance management for Helicoverpa armigera (H ü bner) to Bacillus thuringiensis cotton. The mating behaviour of Cry1Ac-susceptible and Cry1Ac-resistant strains of H. armigera was compared to investigate the randomness of their mating. The percentage of mating was lower for Cry1Ac-resistant H. armigera compared with that of the susceptible strain under both no-choice and multiple-choice conditions. The low percentage of mating in the resistant strain indicates a reduced incidence of successful mating.

The percentage of spermatophore-containing mated female H. armigera in the crossing of susceptible females × resistant males was significantly lower than in the crossing of resistant females × susceptible males, but the observed mating frequencies of these two types of cross were similar to each other. This indicates that resistant males reduce the incidence of mating paternity more than they do their mating frequency. The percentages of heterogametic matings (susceptible females × resistant males, resistant females × susceptible males) in the multiple-choice experiment were lower than those of homogametic matings (susceptible × susceptible, resistant × resistant) on peak mating nights. However, the difference between heterogametic and homogametic mating was not significant, indicating that there was a random mating between susceptible and resistant strains. The results presented here do not reflect reality in mating associated with Cry1Ac resistance but can provide insight into variable expression.

【英文摘要】Randomness of mating between susceptible and resistant individuals is a major factor that closely relates to the refuge strategy of resistance management for Helicoverpa armigera (H ü bner) to Bacillus thuringiensis cotton. The mating behaviour of Cry1Ac-susceptible and Cry1Ac-resistant strains of H. armigera was compared to investigate the randomness of their mating. The percentage of mating was lower for Cry1Ac-resistant H. armigera compared with that of the susceptible strain under both no-choice and multiple-choice conditions. The low percentage of mating in the resistant strain indicates a reduced incidence of successful mating. The percentage of spermatophore-containing mated female H. armigera in the crossing of susceptible females × resistant males was significantly lower than in the crossing of resistant females × susceptible males, but the observed mating frequencies of these two types of cross were similar to each other. This indicates that resistant males reduce the incidence of mating paternity more than they do their mating frequency. The percentages of heterogametic matings (susceptible females × resistant males, resistant females × susceptible males) in the multiple-choice experiment were lower than those of homogametic matings (susceptible × susceptible, resistant × resistant) on peak mating nights. However, the difference between heterogametic and homogametic mating was not significant, indicating that there was a random mating between susceptible and resistant strains. The results presented here do not reflect reality in mating associated with Cry1Ac resistance but can provide insight into variable expression.

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【题目】Biochemical and molecular characterizations of Sitobion avenae-induced wheat defense responses

【中文关键词】Sitobionavenae; Real-time quantitative PCR; Volatiles; Induceddefense pathway in wheat plant; Jasmonic acid; Salicylic acid

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【英文关键词】Sitobionavenae; Real-time quantitative PCR; Volatiles; Induceddefense pathway in wheat plant; Jasmonic acid; Salicylic acid

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【中文摘要】In this experiment, the aphid – wheat interaction system was chosen to study the changes in activity levels of key enzymes [lipoxygenase (LOX), polyphenoloxidase (PPO), phenylalanine ammonialyse (PAL) and β-1,3-glucanase] and in transcript level of key defense genes [encoding farnesyl pyrophosphate synthetase (fps), encoding allene oxide synthase (aos), and encoding phenylalanine ammonialyse (pal)] under pressure of aphid-feeding, aphid-induced volatiles, as well as specific volatiles using enzymes assay, RT-PCR and real-time quantitative PCR techniques. At the same time, the induction of enzymatic and transcript levels of defense genes with artificial wounding, wounding-induced volatiles and inductive chemical agents (jasmonic acid and methyl salicylate) were also studied. Our results showed that the activities of key enzymes which belong to both jasmonic acid (JA) and salicylic acid (SA)-signaling pathways increased significantly with aphid-feeding. The relative transcript levels of key defense genes in the signaling pathways were also enhanced. So we propose that aphid-feeding could activate both jasmonic acid (JA) and salicylic acid (SA)-signaling transduction pathways. Mechanical wounding and aphid-feeding are not equivalent. Sitobionavenae-induced volatiles elicit the transcript of all three defense genes in neighboring plants, suggesting that the volatiles emitted from aphid-infested plants might induce the activity of LOX followed by activating the JA-signaling pathway and the transcript level of multiple defense genes that JA

mediates. 6-Methyl-5-hepten-2-one, 2-tridecanone and (E)-2-hexen-1-ol in S. avenae-induced volatiles not only activated the transcript level of defense genes, but also inhibited aphid-feeding behavior and population growth.

【英文摘要】In this experiment, the aphid – wheat interaction system was chosen to study the changes in activity levels of key enzymes [lipoxygenase (LOX), polyphenoloxidase (PPO), phenylalanine ammonialyse (PAL) and β-1,3-glucanase] and in transcript level of key defense genes [encoding farnesyl pyrophosphate synthetase (fps), encoding allene oxide synthase (aos), and encoding phenylalanine ammonialyse (pal)] under pressure of aphid-feeding, aphid-induced volatiles, as well as specific volatiles using enzymes assay, RT-PCR and real-time quantitative PCR techniques. At the same time, the induction of enzymatic and transcript levels of defense genes with artificial wounding, wounding-induced volatiles and inductive chemical agents (jasmonic acid and methyl salicylate) were also studied. Our results showed that the activities of key enzymes which belong to both jasmonic acid (JA) and salicylic acid (SA)-signaling pathways increased significantly with aphid-feeding. The relative transcript levels of key defense genes in the signaling pathways were also enhanced. So we propose that aphid-feeding could activate both jasmonic acid (JA) and salicylic acid (SA)-signaling transduction pathways. Mechanical wounding and aphid-feeding are not equivalent. Sitobionavenae-induced volatiles elicit the transcript of all three defense genes in neighboring plants, suggesting that the volatiles emitted from aphid-infested plants might induce the activity of LOX followed by activating the JA-signaling pathway and the transcript level of multiple defense genes that JA mediates. 6-Methyl-5-hepten-2-one, 2-tridecanone and (E)-2-hexen-1-ol in S. avenae-induced volatiles not only activated the transcript level of defense genes, but also inhibited aphid-feeding behavior and population growth.

【语种】英文
【第一作者】Zhao LY
【通讯作者】Chen Julian
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【学科分类】昆虫学

【题目】Changes of inheritance mode and fitness in Helicoverpa armigera (Hubner) (Lepidoptera: Noctuidae) along with its resistance evolution to Cry1Ac toxin

【中文关键词】Helicoverpaarmigera; Bt resistance; Inheritance; Fitness

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【英文关键词】Helicoverpaarmigera; Bt resistance; Inheritance; Fitness

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【中文摘要】The changes of inheritancemode and fitness of resistance in Helicoverpaarmigera (Hübner) along with its resistance evolution to Cry1Ac toxin were evaluated in the laboratory. The resistance levels reached 170.0-, 209.6- and 2893.3-fold, on selection of the field population in the 16th (BtR-F16), 34th (BtR-F34) and 87th (BtR-F87) generation with artificial diet containing Cry1Ac toxin, respectively. As the resistance levels increased, more larvae feeding on the Bt cotton expressing Cry1Ac toxin survived. Most larvae of BtR-F87 could develop to the 5th instar and about 3% individuals reached the adult stage. The inheritance of Cry1Ac resistance trait at three resistant levels was autosomal and incompletely recessive, but the degree of dominance decreased as the resistance increased. The resistance was primarily monogenic in BtR-F16 strain, but polygenic as resistance increased. The relative fitness of H. armigera, measured as a ratio of R0 (the net replacement rate) of resistant strain divided by R0 of the susceptible strain, decreased with an increase of the resistance levels, with ratios of 0.79, 0.64 and 0.59 in their respective BtR-F16, BtR-F34 and BtR-F87 strains.

【英文摘要】The changes of inheritancemode and fitness of resistance in Helicoverpaarmigera (Hübner) along with its resistance evolution to Cry1Ac toxin were evaluated in the laboratory. The resistance levels reached 170.0-, 209.6- and 2893.3-fold, on selection of the field population in the 16th (BtR-F16), 34th (BtR-F34) and 87th (BtR-F87) generation with artificial diet containing Cry1Ac toxin, respectively. As the resistance levels increased, more larvae feeding on the Bt cotton expressing Cry1Ac toxin survived. Most larvae of BtR-F87 could develop to the 5th instar and about 3% individuals reached the adult stage. The inheritance of Cry1Ac resistance trait at three resistant levels was autosomal and incompletely recessive, but the degree of dominance decreased as the resistance increased. The resistance was primarily monogenic in BtR-F16 strain, but polygenic as resistance increased. The relative fitness of H. armigera, measured as a ratio of R0 (the net replacement rate) of resistant strain divided by R0 of the susceptible strain, decreased with an increase of the resistance levels, with ratios of 0.79, 0.64 and 0.59 in their respective BtR-F16, BtR-F34 and BtR-F87 strains.

【语种】英文
【第一作者】Liang Gemei
【通讯作者】Wu Kongming
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【学科分类】昆虫学

【题目】Comparative study of temperature-dependent life histories of three economically important Adelphocoris spp.
【中文关键词】Adelphocoris fasciaticollis;Adelphocoris lineolatus;Adelphocoris suturalis;development;fecundity;longevity;life history;temperature
【英文关键词】Adelphocoris fasciaticollis;Adelphocoris lineolatus;Adelphocoris suturalis;development;fecundity;longevity;life history;temperature
【中文摘要】Subsequent to the widespread adoption of Bt transgenic cotton in China and an associated reduction in pesticide use, Adelphocoris spp. (Hemiptera: Miridae) are the key pests of this crop. Three species (Adelphocoris suturalis, Adelphocoris fasciaticollis and Adelphocoris lineolatus) are found in Chinese Bt cotton fields, each with a distinct geographic distribution and phenology. In the present study, the development and fecundity of the three species are compared in the laboratory at various temperatures in the range 10 – 35 ° C. Although nymphal development and adult moulting occurs under all temperature regimes, egg eclosion is not observed at 10 ° C. In general, egg and nymphal development periods decrease with increasing temperature up to 30 ° C. The lower and upper development thresholds are, respectively, 5.6 and 40.1 ° C for A. suturalis eggs; 5.0 and 38.4 ° C for nymphs; 6.3 and 39.0 ° C for A. fasciaticollis eggs, 3.0 and 41.9 ° C for nymphs; 5.6 and 41.3 ° C for A. lineolatus eggs; and 6.2 and 38.8 ° C for nymphs. Thermal constants are 189.9 degree days (DD) (egg) and 308.8 DD (nymph) for A. suturalis, 188.8 DD (egg) and 366.7 DD (nymph) for A. fasciaticollis, and 231.7 DD (egg) and 291.6 DD (nymph) for A. lineolatus. Temperatures above 30 ° C affect egg development of A. fasciaticollis and A. lineolatus adversely, but not that of A. suturalis. At the same time, nymphal survival of A. suturalis is reduced at 10 ° C. Longevity of all species declines with increasing temperature, whereas extremes of temperature (i.e. 10 and 35 ° C) interfere with oviposition. The estimated optimum range for oviposition is 23 – 25 ° C, irrespective of species. In general, development and fecundity of the three Adelphocoris spp. is consistent with their respective distribution and seasonal dynamics. The present study provides insight into the distribution and phenology of Adelphocoris spp., and contributes to the modelling of their population dynamics.
【英文摘要】Subsequent to the widespread adoption of Bt transgenic cotton in China and an associated reduction in pesticide use, Adelphocoris spp. (Hemiptera: Miridae) are the key pests of this crop. Three species (Adelphocoris suturalis, Adelphocoris fasciaticollis and Adelphocoris lineolatus) are found in Chinese Bt cotton fields, each with a distinct geographic distribution and phenology. In the present study, the development and fecundity of the three species are compared in the laboratory at various temperatures in the range 10 – 35 ° C. Although nymphal development and adult moulting occurs under all temperature regimes, egg eclosion is not observed at 10 ° C. In general, egg and nymphal development periods decrease with increasing temperature up to 30 ° C. The lower and upper development thresholds are, respectively, 5.6 and 40.1 ° C for A. suturalis eggs; 5.0 and 38.4 ° C for nymphs; 6.3 and 39.0 ° C for A. fasciaticollis eggs, 3.0 and 41.9 ° C for nymphs; 5.6 and 41.3 ° C for A. lineolatus eggs; and 6.2 and 38.8 ° C for nymphs. Thermal constants are 189.9 degree days (DD) (egg) and 308.8 DD (nymph) for A. suturalis, 188.8 DD (egg) and 366.7 DD (nymph) for A. fasciaticollis, and 231.7 DD (egg) and 291.6 DD (nymph) for A. lineolatus. Temperatures above 30 ° C affect egg development of A. fasciaticollis and A. lineolatus adversely, but not that of A. suturalis. At the same time, nymphal survival of A. suturalis is reduced at 10 ° C. Longevity of all species declines with increasing temperature, whereas extremes of temperature (i.e. 10 and 35 ° C) interfere with oviposition. The estimated optimum range for oviposition is 23 – 25 ° C, irrespective of species. In general, development and fecundity of the three Adelphocoris spp. is consistent with their respective distribution and seasonal dynamics. The present study provides insight into the distribution and phenology of Adelphocoris spp., and contributes to the modelling of their population dynamics.
【语种】英文
【第一作者】Lu Yanhui
【通讯作者】Wu Kongming
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【学科分类】昆虫学

【题目】Frequency of Bt Resistance alleles in H. armigera during 2006 – 2008 in northern China
【中文关键词】Cry0Ac, Helicoverpa armigera, Bt cotton, resistance frequency
【英文关键词】Cry1Ac, Helicoverpa armigera, Bt cotton, resistance frequency
【中文摘要】Helicoverpa armigera is an important lepidopteran pest of cotton in China. From 2002, the frequency of Bt resistance alleles and quantitative shifts in larval Cry1Ac tolerance of field H. armigera population were monitored using bioassays of F1 and F2 offspring of isofemale lines from Xiajin County of Shandong Province (an intensive Bt cotton planting area) and Anci County of Hebei Province (a multiple-crop system including corn, soybean, peanut, and Btcotton) in northern China. During 2006 – 2008, a total of 2,306 isofemale lines from the Xiajin population and a total of 1,270 isofemale lines from the Anci population were successfully screened on Cry1Ac diets. For each year, it was estimated that the major resistance gene frequency in Xiajin population in 2006, 2007, and 2008 was 0, 0.00022, and 0.00033, respectively. No major alleles conferring resistance to Cry1Ac were found in the Anci population; the frequency of resistance alleles for Cry1Ac was 0. Based on the relative average development rates (RADRs) of H. armigera larvae in F1 tests, no substantial increase in Cry1Ac tolerance was found in either location over the 3-yr period. There were also significantly positive correlations between RADR of lines in the F1 generation and the RADR of their F2 offspring, indicating genetic variation in response to toxin. The low frequency of resistance alleles found in this study and in our previous results from 2002 to 2005 suggest the frequency of resistance alleles has remained low and that natural refugia resistance management strategy maybe effective for delaying resistance evolution in H. armigera to Bt cotton in northern China.
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【语种】英文
【第一作者】Yulin Gao
【通讯作者】Wu Kongming
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【学科分类】昆虫学

【题目】Cross-Resistance Studies of Cry1Ac-Resistant Strains of Helicoverpa armigera (Lepidoptera: Noctuidae) to Cry2Ab
【中文关键词】 Helicoverpa armigera, Cry1Ac, Cry1Ab, cross-resistance, binding
【英文关键词】 Helicoverpa armigera, Cry1Ac, Cry2Ab, cross-resistance, binding
【中文摘要】Bioassays and binding tests between Cry toxins (Cry1Aa, Cry1Ab, Cry1Ac, and Cry2Ab) and brush-border membrane vesicles (BBMVs) from larvae of aBacillus thurningiensis(Bt)-susceptible (96S) and two Cry1Ac-resistant strains (BtR and LFR10) were conducted for investigating cross-resistance of Cry1Ac-resistant strains to Cry2Ab inHelicoverpa armigera (H ü bner) (Lepidoptera: Noctuidae). The resistance ratio (RR) values of the BtR and LFR10 strains to Cry1Ac and Cry2Ab were 2,971- and 1.1-fold and 253-

and 1.0-fold, respectively, indicating that there was no cross-resistance to Cry2Ab. The binding experiments between Cry toxins and BBMVs from BtR, LFR10, and 96S larvae showed that all of the toxins could bind with these BBMVs, but the Cry2Ab could not displace125I labeled Cry1Ac and Cry1Ab. The same results were observed in reciprocal binding tests, demonstrating that Cry1A and Cry2Ab had different binding sites inH.armigera and providing a potential mechanism for the lack of cross-resistance between Cry1A and Cry2Ab toxins. These results suggest that the transgenic cotton,Gossypium hirsutum L., expressingCry1AcandCry2Ab genes may be deployed for management of Cry1Ac resistantH.armigera.

【英文摘要】Bioassays and binding tests between Cry toxins (Cry1Aa, Cry1Ab, Cry1Ac, and Cry2Ab) and brush-border membrane vesicles (BBMVs) from larvae of aBacillus thurningiensis(Bt)-susceptible (96S) and two Cry1Ac-resistant strains (BtR and LFR10) were conducted for investigating cross-resistance of Cry1Ac-resistant strains to Cry2Ab inHelicoverpa armigera (H ü bner) (Lepidoptera: Noctuidae). The resistance ratio (RR) values of the BtR and LFR10 strains to Cry1Ac and Cry2Ab were 2,971- and 1.1-fold and 253- and 1.0-fold, respectively, indicating that there was no cross-resistance to Cry2Ab. The binding experiments between Cry toxins and BBMVs from BtR, LFR10, and 96S larvae showed that all of the toxins could bind with these BBMVs, but the Cry2Ab could not displace125I labeled Cry1Ac and Cry1Ab. The same results were observed in reciprocal binding tests, demonstrating that Cry1A and Cry2Ab had different binding sites inH.armigera and providing a potential mechanism for the lack of cross-resistance between Cry1A and Cry2Ab toxins. These results suggest that the transgenic cotton,Gossypium hirsutum L., expressingCry1AcandCry2Ab genes may be deployed for management of Cry1Ac resistantH.armigera.

【语种】英文
【第一作者】Shudong Luo
【通讯作者】Wu Kongming
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【学科分类】昆虫学

【题目】Cry2Ab Tolerance Response of Helicoverpa armigera (Lepidoptera: Noctuidae) Populations From Cry1Ac Cotton Planting Region

【中文关键词】Cry1Ac, Cry1Ab, Helicoverpa armigera, cross-tolerance
【英文关键词】Cry1Ac, Cry2Ab, Helicoverpa armigera, cross-tolerance

【中文摘要】Helicoverpa armigera (H ü bner) (Lepidoptera: Noctuidae) is an important lepidopteran pest of cotton, Gossypium hirsutum L., in Asia. Transgenic cotton expressing the cry1Ac gene from Bacillus thuringiensis (Bt) has been widely planted for control of this pest. For managing the potential risk from resistance evolution in this pest, a new transgenic Bt cotton containing cry1Ac and cry2Ab genes (gene pyramided strategy) was designed as a successor of cry1Ac cotton. This article reports on levels of Cry2Ab tolerance in H. armigerapopulations from Cry1Ac cotton planting region in China based on bioassays of F1 and F2offspring of isofemale lines. In total, 572 isofemale families of H. armigera from Xiajin County of Shandong Province (an intensive Bt cotton-planting area) and 124 families from Anci County of Hebei Province [a multiple-crop system, including corn (Zea mays L.), soybean (Gycine max (L.) Merr., peanut (Arachis spp.), and Bt cotton] were screened with both Cry1Ac- and Cry2Ab-containing diets in 2008. The bioassays results indicated that relative average development rates (RADR) of F1 full-sib families from field-collected female moths on Cry1Ac- and Cry2Ab-containing diet were positively correlated. The same correlation was found in the F2 generation, indicating cross-tolerance between Cry1Ac and Cry2Ab in field populations of H. armigera in Yellow River cotton-farming region of China. This cross-tolerance must be considered in evaluating the utility of pyramiding Bt genes in cotton for delaying evolution of resistance.

【英文摘要】Helicoverpa armigera (H ü bner) (Lepidoptera: Noctuidae) is an important lepidopteran pest of cotton, Gossypium hirsutum L., in Asia. Transgenic cotton expressing the cry1Ac gene from Bacillus thuringiensis (Bt) has been widely planted for control of this pest. For managing the potential risk from resistance evolution in this pest, a new transgenic Bt cotton containing cry1Ac and cry2Ab genes (gene pyramided strategy) was designed as a successor of cry1Ac cotton. This article reports on levels of Cry2Ab tolerance in H. armigerapopulations from Cry1Ac cotton planting region in China based on bioassays of F1 and F2offspring of isofemale lines. In total, 572 isofemale families of H. armigera from Xiajin County of Shandong Province (an intensive Bt cotton-planting area) and 124 families from Anci County of Hebei Province [a multiple-crop system, including corn (Zea mays L.), soybean (Gycine max (L.) Merr., peanut (Arachis spp.), and Bt cotton] were screened with both Cry1Ac- and Cry2Ab-containing diets in 2008. The bioassays results indicated that relative average development rates (RADR) of

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【题目】Degradation of Cry1Ac protein within transgenic Bacillus thuringiensis rice tissues under field and laboratory conditions

【中文关键词】Bacillus thuringiensis, rice plant, Cry0Ac protein, soil, degradation

【英文关键词】Bacillus thuringiensis, rice plant, Cry1Ac protein, soil, degradation

【中文摘要】To clarify the environmental fate of the Cry1Ac protein from Bacillus thuringiensis subsp.kurstaki (Bt) contained in transgenic rice plant stubble after harvest, degradation was monitored under field conditions using an enzyme-linked immunosorbent assay. In stalks, Cry1Ac protein concentration decreased rapidly to 50% of the initial amount during the first month after harvest; subsequently, the degradation decreased gradually reaching 21.3% when the experiment was terminated after 7 mo. A similar degradation pattern of the Cry1Ac protein was observed in rice roots. However, when the temperature increased in April of the following spring, protein degradation resumed, and no protein could be detected by the end of the experiment. In addition, a laboratory experiment was conducted to study the persistence of Cry1Ac protein released from rice tissue in water and paddy soil. The protein released from leaves degraded rapidly in paddy soil under flooded conditions during the first 20 d and plateaued until the termination of this trial at 135 d, when 15.3% of the initial amount was still detectable. In water, the Cry1Ac protein degraded more slowly than in soil but never entered a relatively stable phase as in soil. The degradation rate of Cry1Ac protein was significantly faster in nonsterile water than in sterile water. These results indicate that the soil environment can increase the degradation of Bt protein contained in plant residues. Therefore, plowing a field immediately after harvest could be an effective method for decreasing the persistence ofBt protein in transgenic rice fields.

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【第一作者】Yunhe Li

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【学科分类】昆虫学

【题目】Diapause, cold hardiness and flight ability of Cry1Ac-resistant and susceptible strains of Helicoverpa armigera (Lepidoptera: Noctuidae)
【中文关键词】Noctuidae, Helicoverpa armigera, Bt resistance, resistance management, fitness costs, transgenic crops
【英文关键词】Noctuidae, Helicoverpa armigera, Bt resistance, resistance management, fitness costs, transgenic crops
【中文摘要】The diapause inducement condition, cold hardiness, and flight ability in Cry1Ac-resistant (BtR) and Cry1Ac-susceptible(96S) strains of Helicoverpa armigera (H ü bner) were compared in the laboratory. The BtR strain was derived from the 96S strainand shows 1375-fold resistance to the Cry1Ac toxin after having been selected for 52 generations. Compared with the 96S strain, theBt-resistant strain was more likely to go into diapause under a short-photoperiod environment. At 11L : 13D, 12L : 12D and 13L :11D photoperiods, the percentages of BtR insects entering diapause were 72.7%, 82.9% and 68.7%, respectively, which were significantly higher than those in the 96S strain (58.6%, 67.4% and 46.3%, respectively) under the same conditions. The supercoolingpoints (SCP) and freezing points (FP) were not significantly different between the BtR and 96S strains. The LT50 (50% lethal time)and LT90 (90% lethal time) of BtR pupae were also not significantly different from those of the 96S strain at – 15 ° C. The moths fromboth strains had similar flight ability when their larvae were fed with nontoxic control diet. However, the total flight distance ofthese BtR moths was 56.2 km whose larvae fed on normal diet, which was more than twice as much as for those feeding on Bt diet(26.2 km). Flight duration for these BtR moths was longer after feeding on normal diet (11.6 h) than after feeding on Bt diet (7 .3 h).
【英文摘要】The diapause inducement condition, cold hardiness, and flight ability in Cry1Ac-resistant (BtR) and Cry1Ac-susceptible(96S) strains of Helicoverpa armigera (H ü bner) were compared in the laboratory. The BtR strain was derived from the 96S strainand shows 1375-fold resistance to the Cry1Ac toxin after having been selected for 52 generations. Compared with the 96S strain, theBt-resistant strain was more likely to go into diapause under a short-photoperiod environment. At 11L : 13D, 12L : 12D and 13L :11D photoperiods, the percentages of BtR insects entering diapause were 72.7%, 82.9% and 68.7%, respectively, which were significantly higher than those in the 96S strain (58.6%, 67.4% and 46.3%, respectively) under the same conditions. The supercoolingpoints (SCP) and freezing points (FP) were not significantly different between the BtR and 96S strains. The LT50 (50% lethal time)and LT90 (90% lethal time) of BtR pupae were also not significantly different from those of the 96S strain at – 15 ° C. The moths fromboth strains had similar flight ability when their larvae were fed with nontoxic control diet. However, the total flight distance ofthese BtR moths was 56.2 km whose larvae fed on normal diet, which was more than twice as much as for those feeding on Bt diet(26.2 km). Flight duration for these BtR moths was longer after feeding on normal diet (11.6 h) than after feeding on Bt diet (7 .3 h).
【语种】英文
【第一作者】GE-MEI LIANG
【通讯作者】Wu Kongming
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【学科分类】昆虫学

【题目】Efficacy of transgenic rice expressing Cry1Ac and CpTI against the rice leaffolder, Cnaphalocrocis medinalis (Guenee)
【中文关键词】Transgenicrice; Cnaphalocrocismedinalis; Population dynamics; Control efficacy
【英文关键词】Transgenicrice; Cnaphalocrocismedinalis; Population dynamics; Control efficacy
【中文摘要】Detached leaf bioassays, open field tests and cage tests were conducted to evaluate the control efficacy of two transgenicrice lines, expressingCry1Ac and CpTI, againstCnaphalocrocismedinalis (Guen é e) during 2005 – 2006 in Fuzhou, China. Bioassay results showed that cumulative feeding areas of C. medinalison transgenic lines were significantly lower than that on control rice lines at different developmental stages. The corrected mortalities at 96 h after infestation on transgenic lines during six rice growth stages were >90% and 100% during experiments conducted in 2005 and 2006, respectively. In the open field test, there was no significant difference in egg density between transgenic and control lines during early days of infestation, but significant differences were detected in late season, due to serious damage on control lines. Larval densities on control lines were significantly higher than the low larval populations observed ontransgenic lines during both seasons. The percentages of plants with folded leaves and percentages of folded leaves on transgenic lines were significantly lower than that on control lines with and without insecticide applications, during the entire season. In cage tests the cumulative numbers of C. medinalis adults derived from transgenic lines were significantly lower than that from control lines with and without

insecticide treatments. The high level of efficacy of the two transgenicrice lines againstC. medinalis may provide an important basis for reduced insecticide applications, an expansion of alternative pest-control strategies and insect resistance management of Btrice in the future.

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【语种】英文

【第一作者】Lanzhi Han

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【学科分类】昆虫学

【题目】Increasing tolerance to Cry1Ac cotton from cotton bollworm, Helicoverpa armigera, was confirmed in Bt cotton farming area of China

【中文关键词】Cry0Ac;Helicoverpa armigera;Bt cotton;resistance frequency

【英文关键词】Cry1Ac;Helicoverpa armigera;Bt cotton;resistance frequency

【中文摘要】Changes in the frequency of Cry1Ac resistance genes and shifts in tolerance of cotton bollworm, 1. Helicoverpa armigera, to the Cry1Ac toxin were assessed using bioassays of F1 and F2 offspring of isofemale lines from Anci County of Hebei Province (a multiple-crop system including corn, soybean, peanut, and Bt cotton) and Xiajin County of Shandong Province (an intensive Bt cotton planting area) in Northern China during 2002 – 2005.A conservative analysis of the overall results indicated that there was a small increase in the frequency of major, non-recessive resistance genes over time. 2.The relative average development ratings [RADR – growth rate of a line on a Bt diet in proportion to the growth rate on a non-Bt (NBT) diet] of the bollworm larvae in F 3.1 tests increased significantly from year to year, indicating a gradual trend towards higher tolerance to Cry1Ac in the field populations.There were also significant positive correlations between RADR of the lines in the F 4.1 generation and the RADR of their F2 offspring, indicating that the tolerance was genetically based.

【英文摘要】Changes in the frequency of Cry1Ac resistance genes and shifts in tolerance of cotton bollworm, 1. Helicoverpa armigera, to the Cry1Ac toxin were assessed using bioassays of F1 and F2 offspring of isofemale lines from Anci County of Hebei Province (a multiple-crop system including corn, soybean, peanut, and Bt cotton) and Xiajin County of Shandong Province (an intensive Bt cotton planting area) in Northern China during 2002 – 2005.A conservative analysis of the overall results indicated that there was a small increase in the frequency of major, non-recessive resistance genes over time. 2.The relative average development ratings [RADR – growth rate of a line on a Bt diet in proportion to the growth rate on a non-Bt (NBT) diet] of the bollworm larvae in F 3.1 tests increased significantly from year to year, indicating a gradual trend towards higher tolerance to Cry1Ac in the field populations.There were also significant positive correlations between RADR of the lines in the F 4.1 generation and the RADR of their F2 offspring, indicating that the tolerance was genetically based.

【语种】英文

【第一作者】GUO-PING LI

【通讯作者】Wu Kongming
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【学科分类】昆虫学

【题目】Influence of soil moisture on supercooling capacity and associated physiological parameters of overwintering larvae of the rice stem borer
【中文关键词】body water content;Chilo suppressalis;glycerol;substrate moisture;supercooling point
【英文关键词】body water content;Chilo suppressalis;glycerol;substrate moisture;supercooling point
【中文摘要】Influence of soil moisture on the supercooling capacity and associated physiological parameters of overwintering larvae of the rice stem borer Chilo suppressalis was examined by exposing larvae to soil moistures of 25, 50, 75 and 100% of saturated soil water content (SSWC) at ambient temperature for 30 d from December 2007 to January 2008 in Beijing, China. At the end of the exposure, supercooling points (SCPs) varied significantly among the treatments, the lowest being in the larvae exposed to soil moisture of 25% SSWC. Fresh weight was significantly higher in the larvae exposed to soil moisture of 100% SSWC than in those kept at 25 and 50% SSWC. Dry weight and body water content (% fresh weight) were not different among the treatments. Glucose and trehalose contents were markedly lower, and glycerol content was significantly higher in the larvae confined to soil moisture of 25% SSWC than in those exposed to the other soil moisture treatments. It is suggested that variation in body water content (% fresh weight) contributes to the differences in SCPs of the overwintering C. suppressalis larvae in all treatments, but the influence of soil moisture treatments on supercooling capacity are caused through changes in glycerol content.
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【语种】英文
【第一作者】Maolin HOU
【通讯作者】Maolin Hou
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【学科分类】昆虫学

【题目】Monitoring and management strategy for Helicoverpa armigera resistance to Bt cotton in China
【中文关键词】Btcotton; Helicoverpaarmigera; Resistancemanagement; Natural refugia
【英文关键词】Btcotton; Helicoverpaarmigera; Resistancemanagement; Natural refugia
【中文摘要】The cotton bollworm, Helicoverpaarmigera, is one of the most important insect pests in cotton growing regions of China. Transgenic cotton that expresses a gene derived from the bacterium Bacillus thuringiensis(Bt) has been deployed for combating cotton bollworm since 1997. Natural refuges derived from the mixed planting system consisting of cotton, corn, soybean, vegetables, peanut and others on single-family farms of a small scale were used for delaying the evolution of resistance to Btcotton. Susceptibility of H. armigerafield populations to the Bt insecticidal protein Cry1Ac was monitored from 1997 to 2006. The results indicate that the field populations are still susceptible to Cry1Ac, and monitoring indication no apparent shifts in susceptibility in field populations of this important pest.

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【第一作者】Wu Kongming
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【学科分类】昆虫学

【题目】Potential of mungbean, Vigna radiatus as a trap crop for managing Apolygus lucorum (Hemiptera: Miridae) on Bt cotton
【中文关键词】Mungbean; Apolyguslucorum; Cotton; Host preference; Trapcrop
【英文关键词】Mungbean; Apolyguslucorum; Cotton; Host preference; Trapcrop
【中文摘要】In recent years, the mirid Apolyguslucorum has become the key insect pest of Btcotton in China. Currently, insecticide use is the sole pest management option available for most Chinese cotton farmers. As irrational pesticide use may have several undesirable effects, environmentally sound and sustainable management alternatives are urgently needed. In this paper, we evaluate the potential of mungbean,Vignaradiatus as atrapcrop for A. lucorum in Btcotton. Plant suitability trials showed that A. lucorumpopulation densities on mungbean were significantly higher than those on cotton. Large-scale field experiments were conducted during 2006 and 2007 to determine the effectiveness of mungbean strips formanagingA. lucorum in Btcotton fields. In this experiment, 0.1 ha Btcotton fields were established, andmungbean strips covered approximately 10% of the total area. With periodical insecticide applications inmungbean strips, average mirid population densities in cotton fields were 18.1 ± 2.1 individuals per 100 plants, versus 36.0 ± 3.4 in the fields without mungbean strips in 2006. However, A. lucorum population still surpassed economic threshold (i.e., 5, 10, and 20 individuals per 100 cotton plants at the seeding stage, the squaring and flowering stages, and the belling stage, respectively). In 2007, aside from the insecticide sprays within the mungbean strips, 2 – 3 insecticide applications were done in the cotton field. As a result, A.lucorum populations were kept below economic threshold, and the total amount of insecticides reduced about 70% of those used in the common chemical-controlled fields. Our work shows that mungbean has considerable potential as atrapcrop in Btcotton fields, and its adoption by Chinese farmers very likely will reduce current levels of pesticide use in this crop.
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【语种】英文
【第一作者】Y.H. Lu
【通讯作者】Wu Kongming
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【学科分类】昆虫学

【题目】Response of multiple generations of beet armyworm, Spodoptera exigua (H ü bner), feeding on transgenic Bt cotton
【中文关键词】Spodoptera exigua;development;food utilization;resistance management;successive generations;transgenic Bt cotton
【英文关键词】Spodoptera exigua;development;food utilization;resistance management;successive generations;transgenic Bt cotton
【中文摘要】Development, reproduction and food utilization of three successive generations of beet armyworm, Spodoptera exigua (H ü bner), fed on transgenic and non-transgenic Bt cotton were examined. Significantly longer larval life-span and lower pupal weight were observed in three successive generations of S. exigua fed on transgenic Bt cotton compared with non-transgenic Bt cotton. Significantly higher survival rate and adult fecundity of S. exigua were found in three successive generations of S. exigua fed on transgenic Bt cotton compared with non-transgenic Bt cotton. The survival rate and adult fecundity of S. exigua were occurred significant increase in the third generation compared with the first generation after feeding on transgenic Bt cotton. Significantly lower consumption, frass and relative growth rate (RGR) were observed in three successive generations of S. exigua fed on transgenic Bt cotton compared with non-transgenic Bt cotton. Cotton variety significantly affected all indices of larval consumption and utilization in three successive generations of S. exigua, except for efficiency of conversion of ingested food. However, beet armyworm generation only significantly affected RGR of S. exigua. The results of this study indicated food quality on the diet-utilization efficiency of S. exigua was different along with beet armyworm generation. Measuring multigenerational development and food utilization of S. exigua at individual and population level in response to Bacillus thuringiensis (Bt) can provide a more meaningful evaluation of long-term population dynamics than experiments on a single generation. It is imperative to develop an appropriate multigenerational pest management tactic to monitor the field population dynamics of non-target pests (e.g., beet armyworm) in agricultural Bt cotton ecosystem.
【英文摘要】Development, reproduction and food utilization of three successive generations of beet armyworm, Spodoptera exigua (H ü bner), fed on transgenic and non-transgenic Bt cotton were examined. Significantly longer larval life-span and lower pupal weight were observed in three successive generations of S. exigua fed on transgenic Bt cotton compared with non-transgenic Bt cotton. Significantly higher survival rate and adult fecundity of S. exigua were found in three successive generations of S. exigua fed on transgenic Bt cotton compared with non-transgenic Bt cotton. The survival rate and adult fecundity of S. exigua were occurred significant increase in the third generation compared with the first generation after feeding on transgenic Bt cotton. Significantly lower consumption, frass and relative growth rate (RGR) were observed in three successive generations of S. exigua fed on transgenic Bt cotton compared with non-transgenic Bt cotton. Cotton variety significantly affected all indices of larval consumption and utilization in three successive generations of S. exigua, except for efficiency of conversion of ingested food. However, beet armyworm generation only significantly affected RGR of S. exigua. The results of this study indicated food quality on the diet-utilization efficiency of S. exigua was different along with beet armyworm generation. Measuring multigenerational development and food utilization of S. exigua at individual and population level in response to Bacillus thuringiensis (Bt) can provide a more meaningful evaluation of long-term population dynamics than experiments on a single generation. It is imperative to develop an appropriate multigenerational pest management tactic to monitor the field population dynamics of non-target pests (e.g., beet armyworm) in agricultural Bt cotton ecosystem.
【语种】英文
【第一作者】G. Wu
【通讯作者】Dr Jian-Ying Guo and Prof. Fang-Hao Wan
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【学科分类】昆虫学

【题目】Species composition and seasonal abundance of pestiferous plant bugs (Hemiptera: Miridae) on Bt Cotton in China
【中文关键词】转基因棉,盲蝽,种类组成,季节消长动态,中国
【英文关键词】Transgenic Btcotton; Mirid; Speciescomposition; Seasonalabundance; China
【中文摘要】无
【英文摘要】Only recently, due to a major reduction of broad-spectrum insecticide use in transgenic (Bt) cotton inChina, plantbugs (Heteroptera: Miridae) have emerged as key pests of this crop. To determine theirspeciescomposition and seasonal activity at various locations nationwide, field surveys were carried out between 2002 and 2006, using sweep-net samples and visual observation. Surveys were conducted in three major cotton-growing regions: Changjiang River, Yellow River, and Northwestern Region. The mirid complex on Btcotton basically consisted of five different species, with Lygus lucorum, Lygus pratensis, andAdelphocoris suturalis most commonly encountered. L. lucorum and A. suturalis were the dominant speciesin the Changjiang River and Yellow River Region, while L. pratensis was the most common species in the Northwestern Region. The various mirid species were found in cotton fields throughout the cotton-growing season, usually with great population densities during the squaring and flowering stages. Peak miridabundance ranged from 50 to 200 per hundred plants. Given the comparatively low economic thresholds for mirids (approx. 10 individuals/100 plants), these insects constitute serious pests in all cotton-growing regions of China. This paper suggests that L. lucorum, L. pratensis, and A. suturalis should be treated as the main targets for developing pestiferous mirid forecasting and management strategies, which would be defined at or prior to the flowering and squaring stages of cotton in China
【语种】英文
【第一作者】陆宴辉
【通讯作者】吴孔明
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【学科分类】昆虫学

【题目】Silicon-mediated rice plant resistance to the Asiatic rice borer: effects of silicon amendment and rice varietal resistance
【中文关键词】silicon, Chilo suppressalis, rice, plant resistance, boring behavior
【英文关键词】silicon, Chilo suppressalis, rice, plant resistance, boring behavior
【中文摘要】The Asiatic rice borer, Chilo suppressalis (Walker) (Lepidoptera: Crambidae), is one of the most destructive pests in rice, Oryza sativa L., throughout Asian countries. The aim of this study was to investigate the potential of applied silicon in mediating rice plant resistance to C. suppressalis in a susceptible (Shanyou63) and a moderately resistant (Yanfeng47) rice cultivar. Silicon-treated plants showed significant increases in silicon content compared with the control. Silicon addition significantly decreased borer penetration, weight gain, and stem damage, and it prolonged penetration duration and larval development; some of the effects were manifested more strongly in the susceptible rice cultivar compared with the moderately resistant cultivar. Therefore, silicon amendment may contribute to the suppression of C. suppressalis directly through reduced feeding damage and performance and indirectly through increased exposure time of young larvae to natural enemies and control measures.
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【语种】英文
【第一作者】Maolin Hou

【通讯作者】Maolin Hou
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【学科分类】昆虫学

【题目】Seasonal changes in supercooling points and glycerol content in overwintering larvae of the Asiatic rice borer from rice and water-oat plants
【中文关键词】supercooling capacity, overwintering, Chilo suppressalis, paddy rice, water-oat
【英文关键词】supercooling capacity, overwintering, Chilo suppressalis, paddy rice, water-oat
【中文摘要】The Asiatic rice borer Chilo suppressalis (Walker) occurs mainly on rice Oryza sativa L. and water-oat Zizania latifolia (Turcz). Certain ecological and physiological differentiations between rice and water-oat populations have been shown. To determine whether there is host-associated differentiation in supercooling capacity, seasonal changes in supercooling points, glycerol content, and other physiological parameters of naturally occurring C. suppressalis larvae overwintering in rice and water-oat plants were compared over the winter. Supercooling points were low in the winter (November and December), significantly higher in March, and significantly lower in the water-oat population than in the rice population in the winter. Larvae from the water-oat population experienced a significant weight loss from December to March and were heavier than those from the rice population in the winter. Body water content (percentage of fresh weight) was low in the winter and increased significantly in March; no population differences were detected. Hemolymph glycerol content was high in the winter and dropped significantly in March; interpopulation differences were significant in December. Hemolymph trehalose content increased in the winter, and no population differences were detected. Whole body glucose and lipid content varied differently between the rice and the water-oat populations over the winter. It was found that variations in hemolymph glycerol content were responsible for the host-associated seasonal changes in supercooling capacity of overwintering larvae of the Asiatic rice borer.
【英文摘要】The Asiatic rice borer Chilo suppressalis (Walker) occurs mainly on rice Oryza sativa L. and water-oat Zizania latifolia (Turcz). Certain ecological and physiological differentiations between rice and water-oat populations have been shown. To determine whether there is host-associated differentiation in supercooling capacity, seasonal changes in supercooling points, glycerol content, and other physiological parameters of naturally occurring C. suppressalis larvae overwintering in rice and water-oat plants were compared over the winter. Supercooling points were low in the winter (November and December), significantly higher in March, and significantly lower in the water-oat population than in the rice population in the winter. Larvae from the water-oat population experienced a significant weight loss from December to March and were heavier than those from the rice population in the winter. Body water content (percentage of fresh weight) was low in the winter and increased significantly in March; no population differences were detected. Hemolymph glycerol content was high in the winter and dropped significantly in March; interpopulation differences were significant in December. Hemolymph trehalose content increased in the winter, and no population differences were detected. Whole body glucose and lipid content varied differently between the rice and the water-oat populations over the winter. It was found that variations in hemolymph glycerol content were responsible for the host-associated seasonal changes in supercooling capacity of overwintering larvae of the Asiatic rice borer.
【语种】英文
【第一作者】Maolin Hou
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【学科分类】昆虫学

【题目】Temporal allocation of metabolic tolerance in the body of beet armyworm in response to three cotton cultivars
【中文关键词】Spodoptera exigua - gossypol - free fatty acid - detoxification enzyme - acetylcholinesterase - total superoxide dismutase

【英文关键词】Spodoptera exigua - gossypol - free fatty acid - detoxification enzyme - acetylcholinesterase - total superoxide dismutase

【中文摘要】The nutrient composition and enzyme activities in larvae of the beet armyworm, Spodoptera exigua(Hübner), fed on high, medium or low gossypol cotton cultivars were examined at different time intervals. Significantly lower free fatty acid was observed in larvae fed for 6 h on high gossypol ‘M9101’ compared to larvae fed on the low (ZMS13) and intermediate (HZ401) gossypol cultivars. Significantly higher trypsin activity was observed in larvae fed on high gossypol ‘M9101’ for 24 h compared to those fed for 1, 4 and 6 h. Significantly higher catalase and total superoxide dismutase enzyme activities were observed in larvae of S. exigua fed on high gossypol ‘M9101’ compared with low gossypol cultivars ‘ZMS13’ and ‘HZ401’ for 1, 4, 6 and 24 h. However, significantly lower carboxylesterase and acetylcholinesterase enzyme activities were found in larvae fed on high gossypol ‘M9101’ compared with the other cultivars for 1, 4, 6 and 24 h. The interaction between cotton variety and beet armyworm infestation time significantly affected the carboxylesterase enzyme activity in S. exigua. The characterization of the effects of plant allelochemicals on herbivorous larvae is important for aiding understanding of plant-insect interaction as well as in devising solutions to pest problems by breeding plant resistance, identifying metabolic targets for insecticide development, etc.

【英文摘要】The nutrient composition and enzyme activities in larvae of the beet armyworm, Spodoptera exigua(Hübner), fed on high, medium or low gossypol cotton cultivars were examined at different time intervals. Significantly lower free fatty acid was observed in larvae fed for 6 h on high gossypol ‘M9101’ compared to larvae fed on the low (ZMS13) and intermediate (HZ401) gossypol cultivars. Significantly higher trypsin activity was observed in larvae fed on high gossypol ‘M9101’ for 24 h compared to those fed for 1, 4 and 6 h. Significantly higher catalase and total superoxide dismutase enzyme activities were observed in larvae of S. exigua fed on high gossypol ‘M9101’ compared with low gossypol cultivars ‘ZMS13’ and ‘HZ401’ for 1, 4, 6 and 24 h. However, significantly lower carboxylesterase and acetylcholinesterase enzyme activities were found in larvae fed on high gossypol ‘M9101’ compared with the other cultivars for 1, 4, 6 and 24 h. The interaction between cotton variety and beet armyworm infestation time significantly affected the carboxylesterase enzyme activity in S. exigua. The characterization of the effects of plant allelochemicals on herbivorous larvae is important for aiding understanding of plant-insect interaction as well as in devising solutions to pest problems by breeding plant resistance, identifying metabolic targets for insecticide development, etc.

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【题目】Tri-trophic interactions between Bt-cotton, the herbivore Aphis gossypii Glover (Homoptera: Aphididae) and the predator Chrysopa pallens (Rambur) (Neuroptera: Chrysopidae)

【中文关键词】transgenic Bt cotton, Aphis gossypii, Chrysopa pallens, tri-tropic interaction

【英文关键词】transgenic Bt cotton, Aphis gossypii, Chrysopa pallens, tri-tropic interaction

【中文摘要】Tri-trophic impacts of transgenic Bacillus thuringiensis (Bt) cotton GK12 and NuCOTN 99B were studied using a predator, the great lacewing Chrysopa pallens (Rambur), and its prey, the cotton aphid Aphis gossypii Glover, in laboratory feeding experiments. The parental nontransgenic cotton cultivar of GK12 was used as control. The predator was fed with uniform (aphids from a single cultivar) or mixed prey (aphids from the three cotton cultivars provided on alternate days). Mortality and development of the immature stages, pupal body mass, adult sex ratio, fecundity, and egg viability of C. pallens were measured. When fed GK12-originated aphid prey, pupal body mass of C. pallens was significantly higher than that of the control, more females emerged, and these females laid significantly more eggs. Other parameters were not impacted. Females emerging from larvae maintained on NuCOTN 99B-originated prey laid fewer eggs than those maintained on GK12. Other measurements did not differ significantly between the two Bt cotton cultivars. Compared with the control, mixed feeding significantly prolonged pupal development time and increased pupal body mass and percentage of females but did not affect other parameters. These results indicate that C. pallens is sensitive to aphid prey from different cotton cultivars. Transgenic Bt cotton GK12-originated aphid prey has no adverse impact on survival, development, and fecundity of C. pallens. Between the two Bt cotton cultivars, NuCOTN 99B-originated aphid prey provided to C. pallens in the larval stage may lower female fecundity. Mixed feeding of C. pallenswith the two Bt cotton – originated prey and non-Bt prey may have some adverse impacts on pupal development.

【英文摘要】Tri-trophic impacts of transgenic Bacillus thuringiensis (Bt) cotton GK12 and NuCOTN 99B were studied using a predator, the great lacewing Chrysopa pallens (Rambur), and its prey, the cotton aphid Aphis gossypii Glover, in laboratory feeding experiments. The parental nontransgenic cotton cultivar of GK12 was used as control. The predator was fed with uniform (aphids from a single cultivar) or mixed prey (aphids from the three cotton cultivars provided on alternate days). Mortality and development of the immature stages, pupal body mass, adult sex ratio, fecundity, and egg viability of C. pallens were measured. When fed GK12-originated aphid prey, pupal body mass of C. pallens was significantly higher than that of the control, more females emerged, and these females laid significantly more eggs. Other parameters were not impacted. Females emerging from larvae maintained on NuCOTN 99B-originated prey laid fewer eggs than those maintained on GK12. Other measurements did not differ significantly between the two Bt cotton cultivars. Compared with the control, mixed feeding significantly prolonged pupal development time and increased pupal body mass and percentage of females but did not affect other parameters. These results indicate that C. pallens is sensitive to aphid prey from different cotton cultivars. Transgenic Bt cotton GK12-originated aphid prey has no adverse impact on survival, development, and fecundity of C. pallens. Between the two Bt cotton cultivars, NuCOTN 99B-originated aphid prey provided to C. pallens in the larval stage may lower female fecundity. Mixed feeding of C. pallenswith the two Bt cotton – originated prey and non-Bt prey may have some adverse impacts on pupal development.
【语种】英文
【第一作者】Jian-Ying Guo
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【题目】Twelve nuclear microsatellite loci for the rice stem borer Chilo suppressalis (Walker) (Lepidoptera; Pyralididae)
【中文关键词】Chilo suppressalis (Walker);Lepidoptera;microsatellite;PCR primers;Pyralididae;the rice stem borer
【英文关键词】Chilo suppressalis (Walker);Lepidoptera;microsatellite;PCR primers;Pyralididae;the rice stem borer
【中文摘要】We developed 12 polymorphic microsatellite markers for the rice stem borer Chilo suppressalis (Walker). These loci were screened for 96 individuals from eight populations across China. The total number of alleles ranged from 3 to 33 and the expected heterozygosity at these loci ranged from 0.131 to 0.671. These molecular markers will be useful for fully investigating the population structure and host preference of C. suppressalis at fine spatial scales.
【英文摘要】We developed 12 polymorphic microsatellite markers for the rice stem borer Chilo suppressalis (Walker). These loci were screened for 96 individuals from eight populations across China. The total number of alleles ranged from 3 to 33 and the expected heterozygosity at these loci ranged from 0.131 to 0.671. These molecular markers will be useful for fully investigating the population structure and host preference of C. suppressalis at fine spatial scales.
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【题目】Impact of intercropping aphid-resistant wheat cultivars with oilseed rape on wheat aphid (Sitobion avenae) and its natural enemies.
【中文关键词】Agrobiodiversity; Intercropping; Naturalenemies; Oilseedrape; Sitobionavenae; Wheat resistance
【英文关键词】Agrobiodiversity; Intercropping; Naturalenemies; Oilseedrape; Sitobionavenae; Wheat resistance
【中文摘要】The effects of intercropping of wheatcultivars and oilseedrape on the densities of wheataphid,Sitobionavenae, and their arthropod naturalenemies were evaluated. Three winter wheatcultivars with different resistant levels to S. avenae were used: ‘ KOK ’ (high resistance), ‘ Xiaobaidongmai ’ (low resistance) and

‘Hongmanghong’(susceptible). The results showed that the densities of S. avenae were significantly higher on the monoculture pattern than on either the 8-2 intercropping pattern (eight rows of wheat with two rows of oilseedrape) or the 8-4 intercropping pattern (eight rows of wheat with four rows of oilseedrape). The mean number of predators and the mummy rates of S. avenae were significantly higher in twointercropping patterns than those in the monoculture pattern. The densities of S. avenae, ladybeetles, and mummy rate of S. avenae were significantly different among different wheatcultivars. The highest densities of S. avenae and ladybeetles were found on wheatcultivar Hongmanghong. The lowest densities of S.avenae associated with high mummy rate of S. avenae were found on wheatcultivar Xiaobaidongmai. The results showed that wheat-oilseedrapeintercropping conserved more predators and parasitoids than inwheat monoculture fields, and partial resistance of wheatcultivar Xiaobaidongmai had complementary or even synergistic effects on parasitoid of S. avenae.

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【题目】Cloning and eucaryotic expression of olfaction related Gq-protein gene in England grain aphid

【中文关键词】无
【英文关键词】grain aphid,protein related with olfactory, Gqα protein, Gqα gene cloning, Baculovirus expression vactor system(BEVS)

【中文摘要】无

【英文摘要】Based on conserved homologous amino acid sequences of Gq protein α subunit in arthropods, a pair of degenerate primers were designed to amplify the gene from the England grain aphid(Sitobion avenae) by RT-PCR and (3′/5′)-RACE techiques. A Gqα was obtained from the alate adult aphids. The open reading-frame was 1 062 bp, encoding 352 amino acid residues with calculated molecular weight of 40.8 kD. The cDNA sequence was deposited in GenBank with the accession number EF638906. The deduced amino acid sequence of Gqα shared high identity (≥82.17%) with reported Gqα from other insects and even vertebrates, and with the typical characteristics of Gqα protein. In order to explore the function of Gqα gene, a eukaryotic expressional system(Baculovirus expression vector system, BEVS) was constructed by TOPO and Gateway technique. After the recombinant reaction between pUC-Gqα and Gateway-adapted Baculovirus DNA from Autographa californica nuclear polyhedrosis virus (AcMNPV), the constructed recombinant viruses containing V5-His6Gqα were transfected singly into an insect (Trichoplusia ni) cell line of Tn-5B1-4. After collecting the infected cell, an expected protein (about 42 kD) was detected by SDS-PAGE and Western blot. The results showed that the system of recombinant Baculovirus and Tn could express Gqα protein successfully.

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【题目】Bt棉种植时期和作物布局方式对龟纹瓢虫发育和繁殖特性的影响
【中文关键词】转Bt基因棉;龟纹瓢虫;生态风险;作物布局
【英文关键词】transgenic Bt cotton;Propylaea japonica;ecological risk;cropping pattern
【中文摘要】采集多年连作Bt棉区、Bt棉与春玉米等作物混栽区(过渡区)、多年连作果园(非Bt区)的龟纹瓢虫幼虫,分别用Bt棉上的棉蚜、Bt棉和非Bt植物上的蚜虫、非Bt植物上的蚜虫饲养,模拟研究Bt棉不同推广种植时期和作物布局方式对龟纹瓢虫发育、繁殖生物学特性的影响。结果显示,采自不同种植区域的龟纹瓢虫,雌雄成虫的体型由小到大依次为:Bt棉区〈过渡区、非Bt区;体重依次为:Bt棉区、过渡区〈非Bt区;幼虫历期依次为:Bt棉区〉过渡区〉非Bt区;新羽化的雌雄成虫体重均依次为:Bt棉区〈过渡区〈非Bt区;雌成虫比例依次为:Bt棉区〈过渡区、非Bt区;羽化成虫的单雌产卵量依次为:Bt棉区、非Bt区〈过渡区。表明采自不同种植区域的龟纹瓢虫,体型、体重、发育和繁殖特性均有较大差异,与多年连作果园和过渡区相比,多年连作的Bt棉区中,龟纹瓢虫成虫的体型和体重降低、幼虫发育历期延长、新羽化成虫的体重减轻、雌虫比例降低、单雌产卵量下降。
【英文摘要】Propylaea japonica adults and newly—hatched larvae were collected from different planting are—as,including monocuhured transgenic Bacillus thuringiensis(Bt)cotton area over five years,transitionarea with Bt cotton intercropped with maize and other crops,and non—Bt area of monocuhured orchardover 30 years.P.japonica larvae were fed with GK12一originated aphid,Bt cotton—originated aphid andnon—Bt aphid alternatively,and non—Bt aphid,according to the sources of the larvae.Adult body size andbody mass,larval development and fecundity of the second generation were compared. The resultsshowed that body size of field collected P.japonica adults were ranked as Bt cotton area<transition area and non—Bt area.Adult body mass were ranked as Bt cotton area close to transition area,and both lessthan non—Bt area.Larval development period were ranked as Bt cotton area>transition area>non—Bt area.Body mass of newly emerged adults were ranked as Bt cotton area<transition area<non—Bt area.Percentageof females ranked as Bt cotton area<transition area and non—Bt area. Number of offsprings perfemale ranked as Bt cotton area close to transition area,and both less than non—Bt area.These results in—dicated that body size,body mass,larval development and adult fecundity of P.japonica from diferentplanting areas difered significantly.Compared with individuals from transition area and non—Bt area,P.japonica adults collected from Bt cotton area were smaller,larval development periods were longer,newlyemerged adults were smaller,fewer females emerged,and females laid less eggs.
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【题目】北方稻田和茭白田二化螟越冬幼虫生物学特性的比较
【中文关键词】水稻田 茭白田 二化螟 越冬 生物学特性
【英文关键词】Paddy-rice filed, Water-oat field, Rice-stem borer, Overwintering, Bionomics
【中文摘要】在冬初(11月中旬)和冬后(3月上旬)调查了北方稻田和茭白田二化螟越冬幼虫的生物学特性。二化螟越冬幼虫龄期均在4龄以上, 茭白田冬初6龄幼虫的比例比稻田高17.5%;冬后稻田和茭白田高龄幼虫比例均高于冬初。冬初和冬后稻田二化螟雌雄比分别为1∶ 2.0 和1∶ 1.7, 茭白田分别为1∶ 1.4 和1∶ 1.2。冬初幼虫历期高于冬后, 同一时期不同寄主田之间无显著差异, 但冬初茭白田幼虫历期比稻田长14.0%;稻田幼虫体重和蛹重均显著低于茭白田。冬初采集越冬幼虫的死亡率在65%以上, 茭白田幼虫的主要致死因子为真菌, 其致死率在90%以上;稻田幼虫的主要致死因子是寄生蜂和细菌, 其致死率分别在50%和25%以上, 其中二化螟绒茧蜂和中华钝唇姬蜂是优势寄生蜂。
【英文摘要】Bionomics of Chilo suppressalis larvae overwintering in paddy-rice and water-oat fields were investigated in Beijing inearly-winter (middle November) and after-winter (early March). The results show that overwintering larvae are 4th instar or older, andthe 6th instar ratio in water-oat fields is 17.5% higher than that in paddy-rice fields in early-winter. Old larvae account for a

higherpercent in after-winter period than in early-winter. Female to male larvae ratios are respectively 1∶2.0 and 1∶1.7 in early-winterand after-winter periods in paddy-rice fields, and 1∶1.4 and 1∶1.2 in water-oat fields. Larvae duration is longer in early-winter thanafter-winter, and not significantly different between in paddy-rice and water-oat fields in one period. However, larvae from water-oatfields take 14.0% more time before pupation than that from paddy-rice fields in early-winter, while larvae and pupa from water-oatfields are significantly heavier than those from paddy-rice fields. Mortality rate of larvae collected in early-winter is greater than 65%.Fungi infection is the primary mortality factor in water-oat fields (i.e. over 90% total mortality), while parasitic wasp and bacteriainfection constitute the primary mortality factors in paddy-rice fields (i.e. respectively over 50% and 25% total mortality). Apanteleschilonis and Eriborus terebrans are the two dominant parasitic wasps.

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【题目】不同棉花品种及种植区域对土壤无脊椎动物群落结构的影响

【中文关键词】转Btt基因棉;土壤无脊椎动物;群落结构;多样性

【英文关键词】transgenic Bt cotton; soil invertebrate; community structure; diversity

【中文摘要】采用干、湿漏斗分离法,在山东省陵县采集了试验田的Btt棉(新棉33B)和常规棉(中棉12)及大田条件下Btt棉的0~15 cmcm土层中的土壤无脊椎动物,并对其群落结构进行了分析. 结果表明,线虫和螨类是3种类型棉田的优势土壤动物类群,其频度分别为60%~85%和9%~27%. 试验田的常规棉和Btt棉相比,33B棉田土壤动物的类群较多,线虫、鞘翅目、双翅目数量和土壤动物总数均较高,但各土层土壤动物的多样性指数H ’和均匀度指数J值均较低. 试验田和大田的33B相比,其土壤动物的类群数相近,但大田33B的轮虫和线蚓数量较高,线虫、蠋、鞘翅目数量和土壤动物总数均较低,各土层土壤动物的多样性和均匀度均较高. R nyiR é nyi多样性指数曲线也表明,试验田33B棉田的土壤动物多样性高于中棉12,大田33B的土壤动物多样性高于33B试验田. 6~11月期间,各土层土壤动物的数量动态在不同类型棉田趋势基本相同. 7月是中棉12棉田土壤动物数量的高峰期,9月是试验田和大田33B的高峰期. 试验田的中棉12和33B棉田,6~8月土壤动物的多样性指数和均匀度指数变化趋势较为一致;9~10月,33B棉田土壤动物的多样性和均匀度较高. 6~11月,大田33B土壤动物的多样性和均匀度均显著高于试验田33B. 可见,棉花品种和实验地点等因素均可显著影响土壤动物的群落结构. Btt棉33B棉田的土壤动物多样性高于常规棉中棉12;大田33B的土壤动物多样性高于33B试验田. 图2 表4 参29

【英文摘要】Soil invertebrates were collected by Tullgren an Baermann funnels from soil at 0~15 cm depth grown with Bt cotton (cv. NuCOTN 33B) an non-Bt (ZM12) in Lingxian, Shandong, China, an their community structures analyzed. The structures in the experimental plots and fields planted with 33B were also compared. Nematodes and acarids dominant groups and frequencies 60%~85% an 9%~27% in all treatments under survey. Soil invertebrate groups and individuals, as well as nematodes, Coleoptera and Diptera were founs more in the plots with 33B than those non-Bt cv. ZM12. But the Shannon ’s diversity and Pielou ’s evenness values were significantly lower in the plots with 33B. The numbers of soil invertebrate groups in 33B fields were similar to those in the plots with 33B. There were more Rotatoria and Enchytraelidae, but fewer nematodes, Pauropoda, Coleoptera, and also total invertebrate individuals in 33B fields. The Shannon ’s diversity and Pielou ’s evenness were significantly higher in 33B fields. From the scalable one-parametric Renyi- R é diversity profiles, it also showed higher diversity in the plots with 33B than in those with ZM12,and higher diversity in the 33B than in those with ZM12, and higher diversity in the fields than in the plots both with 33B. From June to November, the abundance of soil invertebrates fluctuated in similar trends in all the treatments. It peaked in July in the plots with ZM12, and in September in the experimental plots and fields with 33B. The diversity and evenness of invertebrates exhibited a similar trend from June to August in 33B and ZM12 plots, but they were higher in September and October in 33B than in ZM12 plots. The diversity and evenness in 33B fields were higher than in 33B ots in the perio June November. These results indicated that cotton varieties and danting areas coudl change the soil invertebrate structures significantly.Thesoilinvertebratediversitywashigherin33BthaninZM12plots,andhigher The soil invertebrate diversity was higher in 33B than in ZM12 plots,and higher soil invertebrate higher iversity was higher in 33B thigher 33B than in ZM12 pots, and higher in 33B fields than in 33B plots. Fig 2, Tab 4, Ref 29

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【学科分类】昆虫学

【题目】不同作物布局对转基因抗虫棉田节肢动物群落结构的影响
【中文关键词】转基因抗虫棉　作物布局　节肢动物　群落结构　多样性
【英文关键词】transgenic bollworm-resistant cotton　crop arrangement　arthropod　community structure　diversity
【中文摘要】比较了不同作物布局下转基因抗虫棉田节肢动物的群落结构.结果表明,与单作棉田相比,蔬菜-棉花、果树-棉花及花生-棉花布局的棉田节肢动物群落、植食性害虫亚群落和天敌亚群落的物种数均增加,中性节肢动物的数量均有增加;蔬菜-棉花和花生-棉花布局的棉田植食性害虫个体数量增加;蔬菜-棉花和果树-棉花布局的棉田天敌个体数量增加.花生-棉花和果树-棉花布局棉田的节肢动物群落相似性最大;而单作棉田与蔬菜-棉花布局棉田的节肢动物群落相似性最小.R晴nyi多样性指数表明,与单作棉田相比,蔬菜-棉花布局棉田节肢动物群落多样性较低,害虫亚群落多样性较低;果树-棉花布局棉田节肢动物群落多样性较高,天敌亚群落多样性较高;花生-棉花布局棉田节肢动物群落多样性较高,害虫亚群落多样性较高.果树-棉花布局是值得推广的转基因抗虫棉田布局方式.
【英文摘要】The study on the arthropod community structures in transgenic bollworm-resistant cotton (cv. Lumianyan 15) fields with different crop arrangement patterns showed that compared with those in mono-cultured cotton plot, there were more species of arthropod community and of phytophagous pest and natural enemy sub-communities as well as more individuals of neutral arthropods in vegetable-, fruit tree-, and peanut-cotton plots. More individuals of phytophagous pests in vegetable- and peanut-cotton plots, and natural enemies in vegetable- and fruit tree-cotton plots were observed. The arthropod community in peanut- and fruit tree-cotton plots had the highest similarity, while that in mono-cultured cotton and vegetable-cotton plots had the lowest one. The Renyi diversity index indicated that compared with mono-cultured cotton plot, vegetable-cotton plot had lower diversities of arthropod community and pest sub-community, while fruit tree- and peanut-cotton plots had higher diversities of arthropod community and natural enemy sub-community, and of arthropod community and pest sub-community diversity, respectively. It was concluded that fruit tree-cotton was a recommendable crop arrangement pattern for transgenic bollworm-resistant cotton.
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【学科分类】昆虫学

【题目】二化螟与寄主作物之间的相互关系
【中文关键词】化螟　寄主植物　互作关系
【英文关键词】Chilo suppressalis　host plant　interaction
【中文摘要】二化螟Chilo suppressalis(Walker)是水稻等多种作物的主要害虫,深入了解二化螟与寄主植物之间的相互关系及其作用机制是防治二化螟的重要前提。综述报道了二化螟与不同寄主植物、水稻品种、栽培制度和其它因素之间的关系,着重从二化螟的行为、发育、存活和种群增殖等方面论述二化螟与寄主植物及相关因素间的关系。
【英文摘要】
Understanding the interactions between the rice stem borer,Chilo suppressalis (Walker) , one of the most destructive rice insect pests, and its host plants is an important step to develop effective and sustainable control strategy. Interactions between the rice stem borer and different host plant species, rice varieties, rice planting patterns, and other factors were reviewed, with focus on behavior, development, survival and population increase of the rice stem borer.

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【题目】硅介导的水稻对二化螟幼虫钻蛀行为的影响
【中文关键词】二化螟　水稻　硅　钻蛀行为　抗虫性
【英文关键词】Chilo suppressalis　rice　silicon　boring behavior　plant resistance
【中文摘要】　采用对二化螟敏感(汕优63)和中抗(盐丰47)的水稻品种,设置硅酸钙处理,观察二化螟蚁螟和三龄幼虫在不同处理稻茎上的钻蛀率、蛀入率和蛀入耗时,同时测定不同处理植株的硅细胞数量及植株与土壤的二氧化硅含量,旨在明确水稻施用硅肥对二化螟幼虫钻蛀行为的影响以及这种影响在不同龄期幼虫和不同抗虫性水稻品种间是否存在差异。蚁螟和三龄幼虫钻蛀率随硅肥施用量增加而降低(幅度为5%—28%)。蚁螟蛀入率在硅肥处理之间和水稻品种之间均没有差异;三龄幼虫蛀入率随硅肥施用量增加而显著下降10%—40%,盐丰47上的蛀入率显著低于汕优63(差异10%—30%)。蚁螟蛀入耗时随硅肥施用量增加而显著延长,三龄幼虫蛀入耗时与品种抗性有显著关系。稻茎硅含量随硅肥施用量增加而增大,并且与三龄幼虫蛀入率呈负相关、与三龄幼虫蛀入耗时呈正相关关系。因此,施用硅肥可直接抑制二化螟幼虫钻蛀,蛀入耗时的延长可间接地延长幼虫暴力于其它防治措施的时间;施用硅肥对三龄幼虫成功蛀入的影响大于对蚁螟的影响;相对于抗虫品种,施用硅肥能在更大程度上增强感虫品种对二化螟幼虫钻蛀行为的抑制作用。
【英文摘要】　Boring behavior of first and third instar larvae of the rice stem borer (RSB), Chilo suppressalis, on calcium silicate (Si)-treated susceptible (Shanyou63) and moderately resistant (Yanfeng47) rice cultivars was compared in terms of percentage of larvae bored (PLB), percentage of larvae penetrated (PLP) and penetration duration (PD), and number of silica cells in leaf sheaths and SiO2 content in soil and rice culms were determined, with the aims to clarify the influence of Si amendment on RSB boring behavior and whether there are differences in the Si-mediated influence regarding larval instars and rice cultivars. PLB decreased 5%-28% with increase in Si addition. PLP did not differ among Si treatments or between rice cultivars for the first instars; for the third instars, PLP significantly decreased 10%-40% with increase in Si supply and was 10% to 30% lower on Yanfeng47 than on Shanyou63. Si addition significantly prolonged PD in the first instars and, Yanfeng47 compared to Shanyou63 extended PD in the third instars. Increased SiO2 content in rice culms due to Si addition contributed to the reduction in PLP and prolong in PD of the third instar larvae. The current results indicate that Si amendment may contribute to the suppression of C. suppressalis directly through impeding larval penetration, and indirectly by delaying penetration, resulting in prolonged exposure of larvae to other control measures; Si supply impairs penetration more strongly in the third instars than in the first instars; and, susceptible rice cultivar benefits more from Si addition than resistant one in deterring boring by RSB larvae.
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【题目】寄主植物对甜菜夜蛾生长发育和消化酶活性的影响
【中文关键词】甜菜夜蛾　寄主植物　营养物质　生长发育　消化酶活力
【英文关键词】Spodoptera exigua　host plant　nutrition substances　larval development　digestive enzyme activity
【中文摘要】通过室内饲养和生化测定,研究了甜菜、玉米和黄瓜3种寄主植物的营养物质及其对甜菜夜蛾幼虫发育、成虫产卵及5龄幼虫体内蛋白质和总氨基酸含量、淀粉酶和脂肪酶活力的影响。结果表明:与取食玉米和黄瓜的个体相比,取食甜菜的甜菜夜蛾,其幼虫期和蛹期较短,分别为11.4天和5.6天;蛹期存活率最高,达100%;成虫寿命较长,为26.3天;单雌产卵量最高,为301.8粒。取食3种寄主植物,甜菜夜蛾5龄幼虫体内的蛋白质含量无差异,但总氨基酸含量差异显著,此外,幼虫体内淀

粉酶和脂肪酶活力也存在显著差异,取食甜菜的个体〉取食玉米的个体〉取食黄瓜的个体。取食不同寄主植物,甜菜夜蛾幼虫的消化酶和脂肪酶活力与其发育适合度呈正相关

【英文摘要】

By laboratory stances of three kinds of feeding experiments and biochemistry detection methods, the nutrition subhost plant (sugar beet, maize and cucumber) were detected, and the effects of these host plants on development and oviposition of beet armyworm Spodoptera exigua (Hiibner), total amino acid contents and the digestive enzyme activities in the 5th instar larvae were compared. It showed that comparing with those fed on maize and cucumber, S. exigua individuals fed on sugar beet had shorter larval and pupal periods, higher pupal survival rate, longer adult lifespan and laid significantly more eggs per female, which was 11.4d, 5.6d, 100%, 26.3d, 301.8 eggs respectively. Among the three feeding treatments, the protein contents in the 5th instar S. exigua larvae showed no significant difference, whereas total amino acid contents, amylase and lipase activities differed significantly. According to the host plants, the amylase and lipase activities in S. exigua ranked as maize 〉 sugar beet 〉 cucumber. It also showed positive correlation between larval development and amylase and lipase activities in S. exigua feeding on different host plants.

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【学科分类】昆虫学

【题目】棉铃虫中肠Cry1A 受体蛋白氨肽酶N1 在Tn 细胞系的表达

【中文关键词】APN;杆状病毒表达载体;Tn;表达

【英文关键词】APN; Baculovirus expression vector; Tn; Expression

【中文摘要】【目的】将棉铃虫中肠Bt 受体蛋白在真核表达系统中成功表达。【方法】用PCR 方法分别扩增出对Cry1Ac毒素敏感和抗性棉铃虫的中肠氨肽酶N1(APN1)基因的去信号肽片段,将其克隆至pUC 19 载体,测定核酸序列后,克隆入Bac-to-Bac 表达系统中杆状病毒转移载体pFastBacHTB 中多角体基因启动子的下游,筛选出重组质粒pFastBacHTB/APN1 并转化大肠杆菌DH10Bac,在体内进行重组,经抗性和蓝白斑筛选,获得杆状病毒重组载体Bacmid/APN1。转染粉纹夜蛾(Trichoplusia ni)细胞(Tn-5B1-4),获得含APN1 基因的重组杆状病毒,重组病毒感染Tn 细胞后,得到表达的蛋白。【结果】SDS-PAGE 分析和点杂交显示,目的基因得到了成功表达。【结论】APN1 基因在Tn 细胞中成功表达,为今后继续研究其功能和与抗性的关系奠定了基础。

【英文摘要】Abstract: 【Objective】 The present study was conducted to successfully express the Bt (Bacillus thuringiensis) toxin receptorprotein located on internal membrane of larval midgut of cotton bollworm (Helicoverpa armigera H ü bner), within eukaryoticexpression system. 【Method】 PCR method was used to separately amplify the fragments without signal peptide of AminopeptidaseN1 gene from midguts of susceptible and resistant H. armigera, and separately cloned into pUC 19 vector. After sequencing the gene,the fragments encoding for APN1 without signal peptide were cloned into the Bac-to-Bac baculovirus expression system transfervector pFastBacHTB under the polyhedron gene promoter. The recombinant transposing plasmid pFastBacHTB/APN1 was screenedand then transformed into E scherichia coli DH10Bac. It was cultured in LB plate which contained Te, Kan, Ge, X-gal and IPTG. Theresulting recombinant bacmid was transfected into cells of the insect Trichoplusia ni (Tn) and recombinant baculovirus was obtained.The lysate of cells infected with recombinant baculovirus was analyzed by SDS-PAGE and blot analysis. 【Result】 The resultsshowed that the recombinant baculovirus was fully capable of expressing APN1. 【Conclusion】 The APN1 gene was successfullyexpressed in Tn cell has established a foundation for its function research and its relationship of resistance to Bt.

【语种】中文

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【题目】昆虫Bt作物抗性与中肠类钙粘蛋白的关系
【中文关键词】类钙粘蛋白;Bt作物;受体;抗性治理;分子检测
【英文关键词】cadherin—like protein;Bt crop;acceptor;resistance management;molecular detection
【中文摘要】:Bt作物已在世界范围内广泛种植,为有效控制害虫的危害发挥了重要作用。靶标害虫的抗性问题是影响Bt作物长期利用的关键因素。通过分析Bt CrylA毒素的主要受体类钙粘蛋白(caclherin.1ike)的生物学特性及其与Bt毒素的结合作用,讨论类钙粘蛋白基因突变与Bt抗性的关系,综述了基于基因突变的抗性分子检测技术的研究进展。
【英文摘要】Bt crops。one kinds of GM crops that express Cryl Ac or Cryl Ab protein have been commercialized world.wide.They are playing an important role in controlling insect pests. The issue of resistance evolution of the targetpests is a key factor influencing the sustainable utilization of Bt crops.Through analyzing the biological characteristics ofcadherin.1ike protein that iS the main receptor of Bt Cryl A toxin.and its binding action with Bt toxin.this paperdiscusses the relation between gene mutation and Bt resistance,and summarizes the research progress achieved inDNA.based approaches tbr molecular detection of insect resistance.
【语种】中文
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【学科分类】昆虫学

【题目】辽河流域栽培稻对二化螟的抗性及机制
【中文关键词】 水稻品种 二化螟 抗虫性 形态特性 生化特性 组织特性
【英文关键词】Resistance of japonica rice varieties in Liaohe Valley to Chilo suppressalis and its underlying mechnisms
【中文摘要】采用活体成株鉴定法测定了辽河流域主栽水稻品种对二化螟发育和为害的影响,同时测定了不同品种的主要形态特性、硅细胞数量和主要生化特性,评价这些品种对二化螟的抗性、分析其发生的可能机制。盐丰47对二化螟幼虫表现出较好的抗性,在沈农265上二化螟幼虫体重最小。在所测定的特性中,螟害株率与不同品种倒二叶叶角的自然对数之间具有显著的正相关关系,与稻茎Si含量之间具有显著的负线性相关关系;二化螟幼虫体重只与不同品种稻茎直径之间具有显著的正线性相关关系。研究结果对水稻品种抗性利用和未来水稻抗性育种的意义。
【英文摘要】 To screen resistant rice varieties in Liaohe Valley to the rice stem borer Chilo suppressalis Walker, development of and damage by the borer larvae on the varieties were examined using intact-plant resistance evaluation method, and morphological and biochemical characteristics and number of silica cells of the rice varieties were determined to explore the potential resistance mechanisms. Percent of damaged plant was the smallest on the variety Yanfeng 47, and larval weight on Shennong 265 was the lowest. Percent of damaged plant was found to be strongly correlated with angle of the reciprocal 2nd leaf and Si content in stem, where the former is a positive logarithmic correlation and the latter is a negative linear one. And, a strong positive linear correlation was revealed between larval weight and stem diameter. Implications of the current results were discussed in the context of utilization of and future rice breeding for insect resistance.
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【学科分类】昆虫学

【题目】绿盲蝽触角感器的扫描电镜观察
【中文关键词】绿盲蝽　触角　感器　超微结构
【英文关键词】Lygus lucorum　antenna　sensilla　ultrastructure
【中文摘要】利用扫描电镜对绿盲蝽雌雄成虫的触角形态和感器进行了观察。结果表明: 绿盲蝽触角为线形, 共4节, 即柄节、梗节和2个鞭节。触角感器共有4种, 分别为毛形感器、刺形感器、锥形感器、Böhm氏鬃毛。其中, 毛形、刺形、锥形感器各有两种类型。雌雄个体之间触角感器的类型、分布均没有明显差异。不同感器在触角各节上的数量与分布各不同。
【英文摘要】Antennal morphology and sensilla of the green plant bug, Lygus lucorum Meyer Dür (Heteroptera: Miridae), were studied using scanning electron microscopy. The results showed that the linear antenna consists of the scape, pedicel and two flagellomeres. Two types of sensilla trichodea, two types of sensilla chaetica, two types of sensilla basiconic and one type of Böhm bristles were distinguished with the shapes and distribution of sensilla. No difference was found in the type and distribution of the sensilla between the male and female adults. The quantity and distribution of each sensillum, however, were different in different segment of antenna.
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【题目】麦长管蚜嗅觉相关蛋白Gqα基因的克隆及真核表达
【中文关键词】麦长管蚜,嗅觉,G蛋白α亚基q类蛋白(Gqα),克隆,昆虫杆状病毒表达系统
【英文关键词】England grain aphid, olfaction, Gqα protein, gene clone, baculovirus expression vector system (BEVS)
【中文摘要】蚜虫通过直接取食及传播病毒病造成危害,是温带农作物的主要害虫,是农业重大害虫之一。研究表明,昆虫的嗅觉在处理来自环境的化学信号过程中起着非常重要的作用,从而使昆虫能够成功地进行寄主定位,寻找配偶、产卵场所等。深入了解蚜虫嗅觉行为,可为研制高效的引诱剂或杀虫剂提供理论依据,具有重要的理论和实际意义。本研究结合RT-PCR及RACE技术扩增编码麦长管蚜嗅觉相关Gqα蛋白的cDNA序列,分析该基因的结构特征;并通过构建昆虫杆状病毒表达载体对该基因进行真核表达。取得如下研究结果:首次克隆麦长管蚜Gqα全长cDNA序列。根据已报道的动物嗅觉相关蛋白Gqα的氨基酸序列保守区设计简并引物,以麦长管蚜(Sitobion avenae)有翅成蚜cDNA为模板,结合RT-PCR及RACE技术扩增编码麦长管蚜Gqα蛋白的cDNA序列,其cDNA序列开放阅读框长为1062bp,编码352个氨基酸,预测蛋白分子量为40.8kDa,与GenBank多个物种Gqα的cDNA序列及氨基酸序列均有很高相似性(≥82.17%),并具有Gα亚基q类蛋白的典型特征(GenBank核酸序列登录号:EF638906,氨基酸序列登陆号:ABR37295)。利用TOPO及Gateway技术,通过重组反应,构建苜蓿丫纹夜蛾核型多角体杆状病毒(Autographa californica nuclear polyhedrosis virus, AcMNPV)重组病毒。将N端插入了V5-His6标记的V5-His6Gqα序列整合到AcMNPV病毒基因组DNA中,得到具有独立转染活性的重组杆状病毒。转染粉纹夜蛾离体细胞系Tn(Trichoplusia ni)进行Gqα蛋白的真核表达。SDS-PAGE检测到预期分子量约42kDa的蛋白带,Western-blotting检测到表达产物。表明含有6个组氨酸标签及V5抗原位点的Gqα融合蛋白V5-His6Gqα在昆虫离体细胞系中成功表达。本研究为进一步研究蚜虫G蛋白的功能及其信号传导途径奠定了基础,对今后深入开展昆虫与寄主植物互作机理及植物抗虫机制的研究,开辟防治新途径具有重要的理论和实践意义。
【英文摘要】The aphid is not only the primary pest of crops in variable zone but one of the most important pest to global agriculture also. For insects, olfaction plays an essential role in processing chemical signals from the environment, leading to the detection of food, reproductive partners, oviposition sites, host, prey or predators. Elucidation of the olfaction signalling will provide the theoretical foundation for the development of the effective attractant and deterrent, and the fresh ideas and approaches for potent control of Aphid.In this paper, a Gqα gene was cloned by RACE techniques and PCR from the England grain aphid, Sitobion avenae. further, the recombinant protein V5-His6Gqα were obtained by eukaryotic expression after an exhaustive analysis on both the cDNA sequence and amino sequence. The main results are as follows:Gqα was cloned for the first time from the England grain aphid(Sitobion avenae). Based on conserved homologous amino acid sequences of Gq protein α subunit in several animals, a pair of degenerate primers were designed to amplify the gene from the England grain aphid, Sitobion avenae. by RT-PCR and (3′/5′)-RACE techniques, A Gqα was obtained from the alate adult aphids. The open reading-frame is 1062bp, encoding 352 amino acid residues with calculated molecular weight of 40.8kDa. Both the nucleic acidsequence and amino acid sequence were deposited in GenBank with the accession

number, EF638906 and ABR37295. The deduced amino acid sequence of Gq α shared high identity (≥82.17%) with reported Gq α from other insects and even vertebrates, and with the typical characteristics of Gq α protein.In order to explore the function of Gq α gene, a eukaryotic expressional system (Baculovirus Expression Vector System, BEVS) had been constructed by TOPO and Gateway techniques. After the Recombinant reaction between the entry clone vector and Gateway-adapted Baculovirus DNA from AcMNPV, the construct recombinant viruses containing V5-His6Gq α were transfected into the insect cell line of Tn. After collecting the infected cell , the recombinent expression products were detected by SDS-PAGE and confirmed by Western blotting analysis, which showed that the molecule weight of V5-His6Gq α protein was about 42 kDa. The result showed that the system of recombinant baculovirus and Tn could expressed Gq α protein successfully.These achievements provide substaintial foundation for further research of G proteins and G-protein signaling pathways in England grain aphid (Sitobion avenae). It also has important theoretic and practical significance on going deep into interaction between insect and host plant, into pest-resistant mechanism of plant and exploring new control method.

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【题目】麦蚜嗅觉行为及嗅觉信号转导途径研究进展
【中文关键词】蚜虫　嗅觉行为　报警信息素　植物挥发物　G蛋白　信号转导途径　昆虫嗅觉　研究进展　嗅觉反应　无脊椎动物
【英文关键词】aphid; olfaction behavior; alarm pheromone; plant volatile compounds; G protein; signal trans—dUCtion
【中文摘要】综述了蚜虫较典型的3种嗅觉行为即报警信息素反应、植物挥发物对蚜虫的引诱行为和驱避行为以及嗅觉在寄主定位中的作用,结合由G蛋白介导的昆虫嗅觉信号转导途径的研究现状,从一个全新的角度总结了近年来针对蚜虫嗅觉反应及其机制的研究进展。文章还就麦蚜嗅觉信号转导途径研究的可行性及意义进行了讨论。
【英文摘要】The research progress of aphid olfactory response in recent years from a novel perspective was summa—rized,including three different and typical olfactory responses,i.e.response to alarm pheromone,attraction and re—pellent behaviors tO plant volatile compounds,and aphids"host location,as well as the advances in G protein coupledsignal transduction related with insect olfaction.In the paper,the feasibility and importance of further studies on theolfaction signal transduction of wheat aphids were discussed.
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【题目】棉铃虫齿唇姬蜂触角感器的扫描电镜观察
【中文关键词】棉铃虫齿唇姬蜂;扫描电镜;触角感器
【英文关键词】Campoletis chlorideae;scanning electron microscopy;antennal sensilla
【中文摘要】棉铃虫齿唇姬蜂雌雄蜂触角上感器的扫描电镜观察结果显示,共发现毛形感器、板形感器、钟形感器、锥形感器、*;@0 氏鬃毛和刺形感器 # 类感器,分别对这 # 类感器的类型与形态进行了详细描述,并对各种感器的功能进行了深入的分析和讨论
【英文摘要】The antennal sensilla of the parasitoid, Campoletis chlorideae,were observed with scanningelectron microscopy.Six distinct types of sense receptor were found,including sensilla trichodae,sensillaplacodea,sensilla campaniformia, sensilla basiconica,Bohm ’S bristles, and sensilla chaetica.Th erewere two forms of sensilla trichodea and four form s of sensilla basiconica on

the flagellum of antennae.Sensilla trichodae ranked the highest in quan tity,followed by sensilla placodea and sensilla basiconica.Number of sensilla basiconica on the ventral of flagellum was much more than that on the dorsa1 .Numb erof sensilla basiconica工on flagellum of male antenna was much more than that of female antenna.SensillabasiconicaIII was found only on female flagellum,while sensilla basiconicaIV distributed only on maleflagellum .Sensilla placodea was found on flagellum of both female and male antennae.Bohm ’S bristlesappeared only on intersegmental memb rane between head and scape.Th ere was one sensilla campani—formia on lateral side of each flagellum from the second to twenty—sixth.Functions of those antennal sen—sory sensilla were analyzed and discussed.

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【题目】棉铃虫齿唇姬蜂寄主识别行为的研究
【中文关键词】棉铃虫齿唇姬蜂; 寄主识别; 寄生偏好; 经历
【英文关键词】Campoletis chlorideae Uchida ; host discrimination ; host preference ; experience
【中文摘要】棉铃虫齿唇姬蜂室内寄生行为观察发现,无选择条件下,处女蜂对棉铃虫和斜纹夜蛾幼虫的寄生偏爱强于甜菜夜蛾,第 3 次遭遇,雌蜂对棉铃虫、斜纹夜蛾和甜菜夜蛾幼虫的累计产卵刺探率分别为 7313 %、70 %和 30 %; 产卵经历能显著增强雌蜂对最优寄主和次优寄主的寄生能力; 雌蜂不具同种识别过寄生能力,具一定自身识别过寄生能力,但时效期短于 8h。雌蜂对混合种群的寄生选择研究发现,寄生蜂对斜纹夜蛾幼虫的寄生率显著高于甜菜夜蛾幼虫,分别为 9110 %和 7613 %; 雌蜂对 3 日龄、4 日龄和 5 日龄斜纹夜蛾幼虫的寄生率分别为 7117 %、6718 %和 6314 %,三者之间差异不显著,均显著高于对 6 日龄幼虫的寄生率(3014 %) 。
【英文摘要】Observations indicated that naive female Campoletis chlorideae preferred larvae of Helicoverpaarmigera and Spodoptera litura to S . exigua under no2choice condition in a petri dish arena in the labo2ratory. The wasps parasitized 73. 3 % , 70 % and 30 % of larvae of H. armigera , S . litura and S . ex2igua , respectively , after encountering with host larvae for three times. Previous oviposition experiencesignificantly increased parasitism against both the most suitable and the hypo2suitable host larvae. Fe2males can not discriminate hosts parasitized by other conspecific females , and can only discriminatedhosts self2parasitized within 8 h. Under choice condition , female wasps parasitized more of larvae of S .litura (9110 % ±818 %) than S . exigua (7613 % ±1610 %) . Compared with 62d2old host larvae ,higher parasitism rates were found in 32d2old , 42d2old and 52d2old larvae ; while parasitism rates of thelatter three were not different.
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【题目】棉铃虫齿唇姬蜂室内交配行为及影响因素的研究
【中文关键词】棉铃虫齿唇姬蜂　交配行为　影响因子
【英文关键词】Campoletis chlorideae　mating behavior　affecting factors
【中文摘要】对棉铃虫齿唇姬蜂室内交配行为研究表明,雄蜂是交配主导因素,一生中有多次交配表现,而雌蜂一般仅交配一次;雌雄个体交配持续时间为162.45±9.40s。24~36h蜂龄的雌蜂和36h蜂龄的雄蜂交配成功率最高;温度26℃和光照1500lx是雌雄个体成功交配的最佳条件。讨论认为,室内环境条件也可能是导致寄生蜂室内饲养性比失调的重要原因。
【英文摘要】
Mating behaviors of Campoletis chlorideae and affecting factors were investigated in laboratory. Results indic

ated that male adults played dominant role in mating. Male adult copulated more than one time while female usually copulated just one time in their lifetime. Successful copulation was the highest in 24 h and 36 h old female and, 36 h old male among all the adults tested, and suitable temperature and light intensity for successful copulation were 25-

35°C and 1500 lx, respectively. It was suggested that indoor environmental condition were important factors responsible for offspring male bias.

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【题目】甜菜夜蛾对不同寄主植物的产卵和取食选择
【中文关键词】甜菜夜蛾 寄主植物 产卵选择 取食选择 植物挥发物抽提物 行为反应
【英文关键词】Spodoptera exigua host plant oviposition preference feeding preference plant volatile extract behavioural response
【中文摘要】为了探讨甜菜夜蛾Spodoptera exigua对不同寄主植物的产卵选择及成虫产卵选择与幼虫取食选择间的关联度,本研究选取玉米、豇豆、甘蓝、黄瓜、棉花、辣椒和番茄7种植物进行了选择性和非选择性实验研究,并采用Y型嗅觉仪测定了成虫对其中3种寄主植物及其挥发物抽提物的趋性。结果表明:在田间非选择性实验中,甜菜夜蛾在不同寄主植物上的落卵量依次为:玉米>辣椒>棉花>黄瓜、豇豆、番茄>甘蓝。Y型嗅觉仪的行为测定表明,雌成虫对玉米及其挥发物抽提物的趋性最强,黄瓜次之,对甘蓝的趋性最弱,这与雌虫的产卵选择性一致。不同龄期甜菜夜蛾幼虫对寄主植物的取食选择性有所不同,且随观测时间的延长有所改变;低龄幼虫对豇豆、玉米和黄瓜的选择性较强,对甘蓝、番茄、辣椒和棉花的取食选择性则较弱,高龄幼虫对辣椒也具有较强的选择性;5龄幼虫对寄主植物的选择性不如低龄幼虫明显。结果显示,甜菜夜蛾对不同寄主植物的产卵选择性显著不同,植物抽提物在雌成虫的产卵选择中具有重要作用,甜菜夜蛾对寄主植物的产卵选择性和幼虫取食选择性并不一致。
【英文摘要】 To explore the adult oviposition and larval feeding preferences of Spodoptera exigua (H ü bner) to different host plants and their relationship, adult oviposition and larval feeding preferences of the moth on seven host plants, i.e., maize Zea mays L., cowpea Vigna unguiculata (L.) Walp., cabbage Brassica oleracea L. var.capitata L., cucumber Cucumis sativus L., cotton Gossypium hirsutum L., pepper Capsicum frutescens L. and tomato Lycopersicon esculentum Miller, were assessed by selection and non-selection tests. Behavior response of S. exigua females to three plants (maize, cabbage and cucumber) and their volatile extracts were also tested by Y-type olfactometer. The results of the field non-selection oviposition preference test indicated that the amount of S. exigua eggs on different plants ranked as maize > pepper > cotton > cucumber, cowpea, and tomato > cabbage. In the Y-type olfactometer tests, females showed the strongest behavioural response to maize and its volatile extract, less response to cucumber, and the weakest response to cabbage. The results of behavioural response tests were in accordance with the results of the oviposition preference tests. Host plant feeding preference of S. exigua larvae at different instars differed to some extent with the prolonged observation period. Young larvae of the 1st and 2nd instars preferred to feed on cowpea, maize and cucumber, but not on cabbage, tomato, pepper and cotton. Larvae of the 4th and 5th instars also showed feeding preference to pepper. Feeding preference of the 5th instar larvae was not as obvious as the earlier larvae. These results suggest that the oviposition preference of S. exigua to different host plants differs significantly, the plant volatiles play important roles in its oviposition host selection, and adult oviposition and larval feeding preferences of S. exigua are not consistent.
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【题目】甜菜夜蛾体内代谢耐受性对转Bt基因棉响应的时间动态
【中文关键词】　苏云金杆菌　甜菜夜蛾幼虫　解毒酶　羧酸酯酶活力　乙酰胆碱酯酶　超氧化物歧化酶　棉花品种　保护酶　常规棉　时间动态
【英文关键词】无
【中文摘要】在室内用转Bt基因棉和亲本常规棉饲养甜菜夜蛾(Spodoptera exigua Hübner)幼虫,测定了不同取食时间后甜菜夜蛾4龄幼虫体内营养物质含量和消化酶、保护酶、解毒酶活力的变化.结果表明,分别取食Bt棉和常规棉,甜菜夜蛾幼虫体内的营养物质含量和消化酶、保护酶、解毒酶活力差异显著.与取食常规棉相应时间的个体相比,取食Bt棉1,6,24h后,幼虫体内的游离脂肪酸和葡萄糖含量显著提高;取食Bt棉1,4,6,24h后,幼虫体内胰蛋白酶和总超氧化物歧化酶的活力显著增高,脂肪酶、羧酸酯酶和乙酰胆碱酯酶活力则显著降低.取食相同品种棉花,幼虫体内营养物质含量和消化酶、保护酶、解毒酶活力受甜菜夜蛾危害时间的显著影响.取食Bt棉24h的幼虫,其体内游离脂肪酸和总氨基酸含量显著低于取食1h的个体;脂肪酶和胰蛋白酶活力显著低于取食1和4h的个体,但羧酸酯酶和乙酰胆碱酯酶酶活力显著高于取食1,4,6h的个体.棉花品种和甜菜夜蛾为害时间的交互作用可显著影响甜菜夜蛾体内脂肪酶、胰蛋白酶、乙酰胆碱酯酶和总超氧化物歧化酶的活力.通过测定甜菜夜蛾体内保护酶和解毒酶活力对Bt棉响应的时间动态,对于评价植食性昆虫在毒素蛋白持续选择压力下的生理反应和抗性变化具有重要参考意义.
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【题目】甜菜夜蛾体内酶活性对三种棉酚含量棉花的响应
【中文关键词】　甜菜夜蛾幼虫　棉酚含量　游离脂肪酸　解毒酶　乙酰胆碱酯酶　总过氧化物歧化酶　超氧化物歧化酶　棉花品种　过氧化氢酶活性　羧酸酯酶
【英文关键词】无
【中文摘要】在室内用3种不同棉酚含量的棉花饲养甜菜夜蛾幼虫,并在不同取食时间测定了甜菜夜蛾幼虫的营养物质、消化酶、保护酶和解毒酶活性的变化.实验结果表明,甜菜夜蛾幼虫取食高棉酚含量的棉花M9101品种6h后,体内的游离脂肪酸较取食其他两种低酚含量棉花出现了显著性的降低.甜菜夜蛾幼虫取食高棉酚含量的棉花M9101品种24h后,体内的胰蛋白酶较取食1,4,6h后出现了显著性的增加.甜菜夜蛾幼虫取食高棉酚含量的棉花M9101品种1,4,6,24h后,体内的过氧化氢酶和总超氧化物歧化酶显著高于取食低酚棉花品种ZMS13和HZ401,但体内显著较低的羧酸酯酶和乙酰胆碱酯酶酶活性显著低于取食低酚棉花品种ZMS13和HZ401.多因素方差分析表明,不同棉酚含量棉花品种除对甜菜夜蛾幼虫体内淀粉酶活性无影响外,对其他消化酶、保护酶和解毒酶活性均有显著性的影响.棉花品种和甜菜夜蛾不同为害时间的交互作用可显著影响甜菜夜蛾幼虫体内的羧酸酯酶和过氧化氢酶活性.测定对甜菜夜蛾不同为害时间体内酶活性对不同棉酚含量的棉花的响应,可有效评估植食性昆虫在植物次生代谢物质压力下的生理反应和抗性变化.
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【题目】小麦叶片表面蜡质及其与品种抗蚜性关系
【中文关键词】小麦　叶表蜡质　麦蚜　抗虫性　BSTFA　气相色谱-质谱联用仪
【英文关键词】wheat;epicuticular wax on leaves;wheat aphid;resistance to pest insect;BATFA;GC-MS
【中文摘要】建立了一套适宜小麦表面蜡质的提取和气相色谱-质谱联用(GC—MS)分离和鉴定的方法,测定了16种不同小麦品种的叶表蜡质成分,初步分析了不同抗虫品种及不同生育期各组分的变化动态与趋势.从小麦表面蜡质的提取物中分离和鉴定出30余种化合物,为9种烷烃、7种脂肪醇、10种脂肪酸、2种醛和2种酮;并以GC—MS进行组分鉴定,以峰面积值为指标,定量计算和比较表面蜡质各组分的含量,其中主要成分是脂肪醇,占68.1%,仅C28醇就占分离物质总量的50.14%,其次为烷烃,再次为脂肪酸和醛,酮含量最低.抗蚜与感蚜小麦品种表面蜡质的组成变化不大,但大多数组分的含量差异明显,其中醇、酸和醛的含量均有随小麦品种抗蚜性增强而升高的趋势;不同生育期,小麦表面蜡质各组分的含量也存在明显差异,在小麦孕穗-抽穗期,抗蚜小麦品种中C28醇、C30醇及总醇的含量高于感蚜小麦品种.室内、田间小麦苗期及孕穗-抽穗期表面蜡质中的C28醇,C28酸、C18酸、C18烯酸,C26醛、C28醛的含量则随抗性增加而升高.研究结果可为进一步开展小麦表面蜡质单一组分对麦蚜寄主选择和抗蚜作用影响研究奠定基础.
【英文摘要】Based Oll GC.MS.a method for extraction.isolation and identification of epicuticular wax on wheat leaves was es—tablished.The epicuticular wax components from 16 varieties at different resistant levels to aphids were measured.thus the dy—namic changes and trends among the different cuhivars and at different growth stages were preliminarily analyzed.The major re—suits were obtained as:30 compounds of epicuticular wax were isolated and identified from wheat leaf extraction,including 9alkanes.7 fatty alcohols,10 fatty acids.2 aldehydes and 2 diketones. By using the value of peak area,the contents of thecomponents were ca]lculated and analyzed.The result showed that the cascade ranks of the contents were fatty alcohol > al—kanes>fatty acids and aldehyde> diketone.The fatty alcohol was the major component of the epicuticular wax.and it ae—counted for 68.1% and octacosanol accounted for 50.14% of the fatty alcoho1.W ith analysis and comparison of the compo—nents of epicuticular wax in the aphid—resistant and aphid—susceptible wheat varieties.it was found there were no obvious differ—ences among wheat varieties,but there were significant differences in the contents of epicuticular wax components among wheatvarieties.There was a trend that the content of fatty alcohols.fatty acids and aldehydes increased with the rising of wheat a—Dhids-resistanee leve1.In the meantime.the contents of some components of the epicuticular wax on wheat leaves varied signifi—cantly at different growth stages.At ear sprouting stage there was a trend that the contents of octacosanol,triacontanol and totalalcohol were higher in resistant wheat varieties than those in susceptible ones.At seedling and ear sprouting stages,no matterwhat samples from wheat grew indoors or in field,the contents of octacosanol,octacosanoic acid,octadecanoic acid,oleicacid.hexaeosanal and octacosanal increased with the rising of aphid—resistant level of the wheat cuhivars.The results lay afoundation for funher research of the function of single component of wheat expicuticular wax on aphid host plant selection andresistance to aphid.Fig 4.Tab 1.Ref 33
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【题目】蚜虫唾液主要成分及其在寄主和害虫互作中作用
【中文关键词】蚜虫唾液、寄主和蚜虫互作、诱导防御信号途径、唾液成分、酶
【英文关键词】aphid saliva　interaction between host plant and aphid　induced plant defense signaling pathway　saliva component　enzyme
【中文摘要】刺吸式害虫唾液里的某些成分通常是植物诱导反应中一些共有的或特异性诱导信号物质.本文综述了蚜虫取食、唾液的主要成分和取食诱发的植物防御信号传导途径,例如水杨酸途径、茉莉酸/乙烯途径,以及唾液诱导使植物防御因子上调效应的分子检测方法;同时还展望了蚜虫唾液研究的应用前景.
【英文摘要】The saliva of piercing-sucking pest insects contains some common or specific signal molecules eliciting plant induced defense responses.The paper summarized aphid feeding and main components in aphid saliva,and found aphid feeding-induced defense responses triggering multiple signaling pathways in plants,for example SA and JA/ethylene pathways,and the cross talk between these pathways,and the elicitors from aphid saliva detected by molecular method for the upregulated genes involve induced defense response in host plants.The application prospects of aphid saliva was also discussed.

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【题目】植食性昆虫的寄主选择机理及行为调控策略
【中文关键词】 植食性昆虫 寄主选择 行为 机理 害虫行为调控
【英文关键词】phytophagous insects host-plant selection mechanism pest behavioural manipulation
【中文摘要】害虫是影响农作物生产的重要因素,过度使用化学农药已带来严重的“3R”问题。为了长期有效地控制害虫的危害,基于植食性昆虫寄主选择机制的行为调控策略已成为害虫治理研究的重要方向。天然植物资源(如驱避植物、诱集植物与诱集枝把)、物理模拟材料(如诱集色、驱避色与诱集模型)和人工合成物质(如引诱剂、驱避剂、刺激剂与抑制剂)等研发工作皆取得了突破性的进展。除单一措施的使用外,多种诱集措施协同利用的“诱集+诱集”策略、诱集措施与趋避措施结合使用的“排斥-诱集”策略也已被广泛应用。
【英文摘要】Insect pest is one of the most important factors adversely affecting the development of crop production,and the control method intensively depending on insecticide application has brought serious 3R (residue, resistance and resurgence) problems. The novel control strategy based on the behavioral manipulation of phytophagous insects has become a main research field in recent decades for sustainable management of crop pests. Many trap and repellent techniques derived from the natural plant resources (e.g. trap crop, repellent crop and trap twig bundle), physical stimulant materials (e.g. trap color, repellent color and trap model) and synthetic compositions (e.g. attractant, repellent, stimulant, deterrent) have been developed successfully. Beside the single trap strategy, the pull-pull strategy combining different trap measures and the push-pull strategy integrating the utilization of trap and repellent measures, have been widely exploited for pest management in agricultural production.
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【题目】植物表面蜡质对植食性昆虫的影响研究进展
【中文关键词】表面蜡质;植食性昆虫;植物保护
【英文关键词】无
【中文摘要】植物表面蜡质的最初角色是防止植株体内水分的散失和外界水分的进入,其分布的部位、化学成分和结构的复杂性与复杂的生态角色相对应。植物表面蜡质的物理化学特性能够抵抗各种各样生物与非生物侵害,这些侵害包括真菌病害、植食性昆虫、太阳射线、冻结温度等。植物表面蜡质还是植物、植食性昆虫及其捕食者和寄生者相互作用的竞技场,其特有的化学成分和形态学特征赋予它特有的生态机能,这些机能之一便是植物与植食性昆虫之间相互作用的媒介。植物表面蜡质的物理结构和数量能够影响植食性昆虫的附着和移动。表面蜡质可通过影响天敌对植食性害虫的捕食,从而间接影响植食性害虫的行为。表面蜡质提取物和单一的蜡质成分能够刺激或者抑制植食性昆虫产卵、活动和取食。烷烃、蜡酯、游离脂肪醇和酸等脂肪族化合物是表面蜡质的主要成分,在植食性昆虫选择寄主植物中,长链脂肪族化合物起着尤为重要的作用;芳香族化合物也影响昆虫对寄主植物的选择。植食性昆虫较少在光滑蜡质少表现型的作物上取食,在光滑蜡质少表现型的作物上,表面蜡质的数量少,化学组分和形态学特征也不同。研究光滑蜡质少作物抗虫的分子生物学机制,有助于阐明植物表面蜡质在植物与昆虫之间所起的作用。表面蜡质的理化特性能够改变害虫与寄主植物间的相互作用,具有重要的农业影响,已成为一个活跃的研究领域。
【英文摘要】无

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【题目】中黑盲蝽在几种寄主植物上取食行为的比较研究
【中文关键词】中黑盲蝽;取食行为;刺探电位参数;寄主;组织
【英文关键词】Adelphocoris suturalis; Probing behavior; EPG; Host crop; Structures
【中文摘要】【目的】明确中黑盲蝽在主要寄主植物上的取食刺探行为,为评价寄主抗虫性和寄主选择习性提供方法和依据。【方法】通过EPG技术研究中黑盲蝽在菜豆、苜蓿、甘蓝和小麦以及棉花的生长点、子叶、真叶等器官上的取食特征。【结果】中黑盲蝽在各寄主上的刺探电位波形由Ⅰ波、Ⅱ波、Ⅲ波和Ⅳ波4部分组成。Ⅰ波表示口针的刺入;Ⅱ波表示口针在撕裂植物组织和细胞,并向外分泌唾液;Ⅲ波表示取食;Ⅳ波表示口针的拔出。中黑盲蝽取食苜蓿和棉花生长点的每次刺探时间、每次刺探中的Ⅲ波时间均显著长于其它测试植物或器官。【结论】发现并定义了中黑盲蝽的四类刺探波(Ⅰ波、Ⅱ波、Ⅲ波、Ⅳ波)。通过比较EPG参数,发现在几种测试植物中,中黑盲蝽喜欢取食苜蓿,而在棉花植株上喜欢取食生长点。
【英文摘要】【Objective】 The feeding behavior of Adelphocoris suturalis was investigated in the laboratory in order to provide basis for evaluation of host plant resistance and host choice of this insect. 【Method】 The probing waveforms of A. suturalis on green bean, alfalfa, cauliflower, wheat and cotton were recorded and analyzed with direct current electrical penetration graph (DC-EPG) technique. 【Result】 Observations on five host plants revealed that four waveforms correlated with feeding behavior: Ⅰ represents stylet thrusting into plant tissue, Ⅱ represents multiple-cell laceration and salivation, Ⅲ represents ingestion, and Ⅳ represents withdrawal of the stylet from the plant tissue. The probe duration and the duration of Ⅲ per probe by A. suturalis on alfalfa were significantly longer than on other hosts, while the insect much preferred the growing point of cotton to other structures (cotyledon and leaf). 【Conclusion】 The probing waveforms of A. suturalis were defined in this experiment. The results by comparing the EPG parameters in the test showed that alfalfa and growing point of cotton in this test were the best feeding plant or structure for the insect.
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【题目】转Bt基因抗虫棉对棉蚜的风险评价进展
【中文关键词】转Bt基因抗虫植物;蚜虫;生态风险评价
【英文关键词】无
【中文摘要】本文从转Bt基因抗虫棉和Bt杀虫剂抗虫机理分析了转Bt基因棉对棉蚜的潜在风险,综述了转Bt基因棉对棉蚜生态风险评价的研究进展,分析了不同研究结果产生的原因。
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【题目】转Bt基因抗虫棉对棉蚜消化酶的风险评价
【中文关键词】转Bt 基因抗虫棉; 棉蚜; 消化酶
【英文关键词】Transgenic Bt insect resistant cotton; Cotton aphid; Digestive enzyme
【中文摘要】棉蚜是转Bt 基因抗虫棉(简称Bt 棉) 上的非目标害虫, 也是Bt 棉上危害较严重的害虫之一。用酶标仪在室内测定了取食Bt 棉GK12 不同世代棉蚜中肠消化酶系的活力和比活力, 包括蛋白酶、蔗糖酶、海藻糖酶和淀粉酶,并与取食亲本常规棉泗棉3 号的棉蚜比较, 以研究Bt 棉对棉蚜中肠消化酶的短期影响和长期效应。结果发现, 取食Bt 棉1 代、2 代、3 代和60 代以上的棉蚜, 与取食常规棉棉蚜的这4 种消化酶的活力和比活力之间均无显著差异, 在Bt 棉上取食不同世代棉蚜的消化酶活力也无显著差异。表明无论从短期影响还是长期效应来看, Bt 棉对棉蚜的中肠消化酶系均无显著影响。
【英文摘要】Cotton aphid Aphis gossypii (Homoptera: Aphidae) is one of the seriously occurred non target pests intransgenic Bt cotton fields. The activit ies and specific activit ies of midgut digestive enzymes, including proteinase, amy lase, trehalase and sucrase, of cotton aphids fed on Bt cotton cv. GK12 for different generat ions were detected with mi crotiter plate reader, and were compared with those of cotton aphids fed on the non Bt parental cotton cv. simian 3.Thus the short term and long term effects of Bt cotton on the digest ive enzymes of cotton aphids were determined. The re sults showed that there were no significant differences in the activities and specific activities of the four digest ive enzymesbetween the cotton aphids fed on Bt cotton and non Bt parental cotton, no matter for one to three generations, or for oversixty generations. And there were no significant difference among the cotton aphids fed on Bt cotton for different genera tions. It indicated that Bt cotton had no significant impacts on the activities of cotton aphid s midgut digestive enzymesboth in the short run and long term.
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【题目】转Bt基因棉对土壤无脊椎动物群落结构的影响
【中文关键词】转Bt基因棉 土壤无脊椎动物 群落结构 多样性
【英文关键词】Transgenic Bt cotton Soil invertebrate Community structure Diversity
【中文摘要】采用干、湿漏斗分离法, 运用群落生态学方法, 研究了转Bt基因棉“ GK12 ”和“ 新棉33B ”对棉田0~15 cm土层土壤无脊椎动物群落结构的影响。结果表明, 线虫和螨类为棉田土壤无脊椎动物优势类群, 其频度分别为54%以上和18%以上。与亲本常规棉“ 泗棉3号 ”相比,“ GK12 ”提高了土壤线蚓数量, 但降低了某些土壤无脊椎动物类群(如同翅目、虫齿目和双翅目)的数量; 两种Bt棉田中,“ 新棉33B ”棉田的同翅目昆虫数量显著高于“ GK12 ”, 蜘蛛目数量显著低于“ GK12 ”棉田, 其他土壤无脊椎动物类群的数量则基本上无显著差异。“ GK12 ”显著降低了土壤无脊椎动物类群的丰富度、多样性和均匀度; 两种Bt棉中,“ 新棉33B ”棉田土壤无脊椎动物类群的丰富度、多样性和均匀度较高。R é nyi多样性指数曲线也表明,“ GK12 ”棉田各土层土壤无脊椎动物群落的多样性均显著低于“ 泗棉3号 ”棉田;“ 新棉33B ”棉田各土层土壤无脊椎动物群落的多样性高于“ GK12 ”, 但10~15 cm土层常见类群和优势类群的多样性较低。在各土层中, 土壤无脊椎动物数量、多样性指数和均匀度指数动态在不同类型棉田趋势基本相同。7~11月期间, 10月是土壤无脊椎动物数量的高峰期, 此时在“ 泗棉3号 ”棉田土壤无脊椎动物在0~5 cm的表层和10~15 cm的深层土壤均较多, 在“ GK12 ”和“ 新棉33B ”棉田则集中于10~15 cm的深层土壤。11月,“ 泗棉3号 ”土壤无脊椎动物类群的多样性和均匀度呈下降趋势,“ GK12 ”则呈上升趋势。可见, 种植Bt棉“ GK12 ”可改变某些土壤无脊椎动物类群的数量, 降低类群的丰富度、多样性和均匀度; 两种Bt棉田的土壤无脊椎动物群落结构也有一定的差异,“ 新棉33B ”棉田土壤无脊椎动物群落的多样性高于“ GK12 ”。
【英文摘要】Soil invertebrates were collected by Tullgren and Baermann funnels and analyzed using community ecology method. Then soil invertebrate community structures in the 0~15 cm soil layer in transgenic Bt cotton (cvs.“ GK12 ” and “ NuCOTN 33B ”) fields were compared with those in non-Bt cotton (cv.“ SM3 ”) fields. Nematodes and acarids are dominant soil invertebrate groups with frequencies above 54% and over 18% respectively in each cotton cultivar field. Compared with parental non-Bt cv.

“ SM3 ” field, “ GK12 ” field has more enchytraelidae and less homopetera, psocoptera and diptera. Cumulative numbers of most soil invertebrate groups do not significantly differ in “ GK12 ” and “ NuCOTN33B ” fields, except that there are less homoptera and more araneae in “ GK12 ” field. Soil invertebrate group richness, Shannon diversity and Pielou evenness are significantly lower in “ GK12 ” field than in “ SM3 ” field. Those in “ NuCOTN 33B ” field are also higher than in “ GK12 ” field. Scalable one-parametric R é nyi-diversity profiles also indicate significantly lower diversity in “ GK12 ” than in “ SM3 ” field, and generally lower diversity in “ GK12 ” than in “ NuCOTN 33B ” field, except for dominant and common invertebrate groups in the 10~15 cm soil layer. The dynamics of soil invertebrate abundance, diversity and evenness have a similar fluctuation trend for the three cotton cultivar fields. Abundance of soil invertebrate reaches its peak in October during the period from July to November. At the peak, soil invertebrates are concentrated in the 0~5 cm and 10~15 cm soil layers in “ SM3 ” field, but in the 10~15 cm soil layer in “ GK12 ” and “ NuCOTN 33B ” fields. While invertebrate diversity and evenness decrease in November in “ SM3 ” field, they increase in “ GK12 ” field. The above findings imply that planting “ GK12 ” changes the abundance, and decreases the richness, diversity and evenness of soil invertebrate groups. Soil invertebrate community structures also differ between the two Bt cotton cultivars, with higher diversity in “ NuCOTN 33B ” than in “ GK12 ” field.

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【题目】转基因抗虫棉对棉蚜生长发育和繁殖的影响
【中文关键词】转基因抗虫棉　非目标害虫　棉蚜　生长发育　繁殖
【英文关键词】Transgenic insect-resistant cotton　Non-target pests　Cotton aphid Aphids gossypii Glover　Development　Reproduction

【中文摘要】以常规棉泗棉3号上饲养10代的棉蚜作为虫源,以其亲本为对照,在室内分别研究了转单、双价基因抗虫棉对棉蚜的短期影响,及单价抗虫棉对棉蚜的长期效应。结果发现,单价抗虫棉GK12和双价抗虫棉SGK321在短期内对棉蚜生长发育、繁殖和生命表参数无显著影响。在抗虫棉上取食1代的棉蚜,各龄发育历期、成虫寿命、产仔数和产仔历期、内禀增长率、净增长率、平均发育历期等和取食亲本的棉蚜之间均无显著差异。在GK12上取食37代的棉蚜与取食亲本常规棉泗棉3号和在GK12上取食1代的棉蚜之间以上各指标也无显著差异。可见,单价抗虫棉GK12和双价抗虫棉SGK321在短期内对棉蚜的生长发育和繁殖均无显著影响,GK12在长期内对棉蚜也未产生显著影响。

【英文摘要】The short-run impacts of transgenic insect-resistant cotton cvs. GK12 and SGK321 and long-term impacts of GK12 on cotton aphids Aphis gossypii Glover were evaluated by laboratory experiments. Laboratory cotton aphid population kept on non-transgenic cotton cv. Simian 3 for ten generations was used for the experiments, and the isogenic nontransformed varieties of GK12 and SGK321 were used as their relative controls. The results indicated that GK12 and SGK321 had no impacts on the development, reproduction and parameters of life tables of cotton aphids in the short run. When fed on transgenic cotton cv GK12 or SGK321 for one generation, the development period of each instars larvae, adult longevity, number of offsprings, reproduction period, intrinsic rate of increase, net reproductive rate, average development period of cotton aphids did not differ significantly to those of cotton aphids fed on their relative isogenic cotton. GK12 showed no impacts on the development and fecundity of cotton aphids, even the cotton aphids were fed with GK12 for 37 generations. So it was concluded that there were no impacts of transgenic insect-resistant cotton GK12 and SGK321 on the development and reproduction of cotton aphid both in the short run, and GK12 had no impacts on cotton aphid in the long term.

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【题目】转基因抗虫棉田二代棉铃虫的不完全生命表
【中文关键词】转基因抗虫棉　　棉铃虫　　生命表
【英文关键词】transgenic insect-resistant cotton　　Helicoverpa armigera　　life table
【中文摘要】通过罩网和开放式观测相结合的方法,组建了单、双价抗虫棉田二代棉铃虫自然种群的不完全生命表,分析了消长的关键因素。与亲本常规棉相比,单、双价抗虫棉对棉铃虫一龄幼虫均有较好控制作用,Bt蛋白致死效应是抗虫棉田棉铃虫种群消长的关键因素。天敌捕食也是棉铃虫卵和一龄幼虫消亡的重要因素,捕食作用在抗虫棉及其亲本棉田相近。
【英文摘要】　By cage experiments, partial life tables of the second generation of　Helicoverpa armigera　(CBW) in transgenic cotton fields (cvs. SGK 321 and GK 12) were established to evaluate key factors affecting their populations. It showed Bt protein expression in cotton plant was the key factor affecting population dynamics of CBW in GK 12 and SGK 321. Predation ranked the second, and predation efficacy in both transgenic cotton fields had no significant difference to that in their correspongding parental cotton fields.
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【题目】转基因抗虫棉田棉蚜种群消长关键因素分析
【中文关键词】　转CryAc+CpTI基因棉　转Bt基因棉　棉蚜种群　生命表　控害作用　转基因抗虫棉　双价抗虫棉　自然死亡显著差异　常规棉
【英文关键词】TransgenicCrylAc+CpⅢ cotton;transgenicBtcotton;Aphisgossypii;lifetables;controleicacy
【中文摘要】为研究转基因抗虫棉田棉蚜种群动态的主要影响因素,在河北省南皮县采用罩网和开放式观测相结合的方法,以亲本常规棉为对照,对转Bt基因棉田和转Bt+CpTI双价基因棉田棉蚜自然种群消长的关键因素进行了分析。与常规棉相比,单、双价抗虫棉对天敌捕食和寄生、病原物、风雨等生物和非生物因素对棉蚜种群的自然控制作用均未产生显著影响;各因素中,除自然死亡及未知因素死亡外,天敌捕食对棉蚜自然种群的控制作用最强,风雨的作用次之,天敌寄生和病原物的作用则较弱。单价抗虫棉田棉蚜的发育历期和产仔量均与亲本常规棉田无显著差异,但双价抗虫棉田棉蚜的发育历期较对照显著延长,产仔量则无显著差异。由此表明,捕食性天敌对单、双价抗虫棉田非靶标害虫棉蚜具有较好的自然控制作用,是影响棉蚜自然种群数量动态的关键因素;单、双价抗虫棉的抗蚜性存在一定差异。
【英文摘要】Bycageexperiments,lifetablesofcottonaphid,Aphisgossypii,intransgeniccottonifelds(CVS.GK12andSGK321)wereestablishedtoevaluatekeyfactorsaffectingaphidpopulations.Thesestudieswerecarriedoutin NanpiCounty,HebeiProvinceinJuly,20o4withthenon—transgenicparentlacottonvarieties(CVS.Simian3andShiyuan321)ascontro1.ItshowedthatbothGK12andSGK321hadno signiifcantimpactson naturalcontroleicacyofthebiologicaland non・-biologicaldeath factorsofcot・-ton aphids.Exceptforthefactorofnaturaldeathand others,predationwasthekeyfactorfafecting popu—lation dynamicsofcotton aphid.Rain ranked the second,praasitism by insectsand pathogenshadweakcontrolefficacy.Exceptthatcotton aphidhadlongerdevelopmentalpeirod in SGK321ifeld,transgeniccotton GK12 andSGK321had noadvesreimpactson developmentandfecundityofcottonaphids.Itindi—cated thatpredation was the key factor fafecting population dynamics ofcotton aphids in GK12 andSGK321 and theirrespectiveparentalcotton ifelds. And impactsofGK12 and SGK321 on developmentandfecundityofcotton aphidswerediffernt.
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【题目】转基因棉田节肢动物群落结构与动态
【中文关键词】转 CrylAc+cp ”基因棉 ;害虫 ;天敌 ;节 肢动物群落 ;多样性
【英文关键词】Transgenic CrylAc 4- T/cotton;Pest;Natural enemy;Arthorpod community;Diversity
【中文摘要】2002年在河北省南 皮县 ,以 亲本 常规棉 (石 远 321)棉 田为对 照 ,对 转 CryC1Ac+cp刀 基 因 的双价抗 虫棉 (SGK321)棉 田的节肢动物群落 、害虫及其天敌 的种群动态进行 了系统研究 ,结果发现 :SGK321棉田的功 能团种类 与常规 棉田基本相 同,两者节肢动物多样性差异并不显著 ,物种多样性指数分别为 0.975和 0.967。但 SGK321棉 田节肢 动物 总数量 比常规棉 田降低了 53.9%,其 主要原 因是基位物种数 量显 著减少 ;SGK321棉 田与 其亲本对照棉 田的害虫 和捕食性天敌 的种类基本相同 ,但数量差异较大 。SGK321对靶标害虫具有很好的抗性 ,与对照棉 田相 比,棉铃虫种群 数量减少 了 89.5%。SGK321对棉蚜 、棉粉虱 、绿盲蝽 、小绿 叶蝉 等非标 靶害虫 的发 生也 具有一定抑 制作用 ,其种群数量比对照棉田分别降低了 64.5%,15.6% ,21.8%和 33.7%。SGK321棉 田龟纹瓢 虫和中华草蛉 的种群 数量分别 比对 照增加 34.0%和 9.1%,但异色瓢虫 、小 花蝽 、异须 盲蝽 、蚜 茧蜂 和蜘蛛 类等 其他 主要天 敌 的数量则 分别 降低 28.6%,6.5% ,43.1%,44.7%和 14.0%。由此 表明 :双价抗虫棉 SGK321在对棉铃虫具有较好抗 性的同时 ,对棉 田主要非标靶害虫也都有一定抑制作用 ,对某些天敌种类的种群存 在不 利影 响,但对棉 田节肢动物 多样性动态没有显著影响。
【英文摘要】Structure and seasonal dynamics of arthropods in transgenic cotton(cv.SGK321,with inserted genes ofCrylAc and TI)and population dynamics of pests and natural enemies were studied in Nanpi County,Hebei Province in2002,with the non—transgenic parental cotton(Shiyuan321)as contro1.It showed that the composition of pest and predato—ry species was simi lar between the plots of SGK321 an d the control,but the accumulated numbers of each species werediferent.SGK321 had good control not only to cotton bollworm (89.5%),but also to some non—target pests,such as cot—ton aphid Aphis gossypii,grean leaf bug Lygus lucorum ,tobacco whitefly Bemisia tabaci an d green leafhopper Empoascaflavesce,~,and their accumulated numb ers decreased by 64.5% ,21.8% ,15.6% and 33.7% ,respectively.For the domi—nant natural enemy species.the accumulated numbers of Propylaea japonica and Chrysopa sinica increased by 34.0%and 9.1% ,respectively;but those of Harmonia axyridis,Orius minutus,Campylomma diversicomis,Lysiphlebia japonicusand spiders decreased by 28.6% ,6.5% ,43.1% ,44.7% and 14.0% ,respectively.Arthropod diversity in SGK321 wassimi lar to that in Shiyuan321,an d the Shannon—W einer diversity index was 0.975 and 0.967,respectively.Whereas thetotal numb er of arthropods in SGK321 decreased by 53.9% .which was mainly caused by the reduction of basal species.It indicated that SGK321 had good control not only to cotton bollworm ,but also to some non—target pests.SGK321 hadsome negative effects on certain natural enemy populations.But it had no significant impacts on the arthropod diversity inthe fields.
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【题目】转基因棉田释放赤眼蜂增强生物控害功能的研究
【中文关键词】转基因抗虫棉; 棉铃虫; 螟黄赤眼蜂; 控害作用
【英文关键词】Transgenic insect-resistant cotton; Helicoverpa armigera; Trichogramma chilonis; Pest control efficary
【中文摘要】为了增强转基因抗虫棉与自然天敌的联合控害功能,为转基因棉田害虫控制策略的调整和制定提供依据,于2002年在山东省惠民县转基因抗虫棉田设置化防田和以释放赤眼蜂为主的综防田,研究了棉铃虫卵的分布格局、释放赤眼蜂对棉铃虫的控制效果及生态效应。结果发现:棉铃虫卵在棉株不同部位的分布差异较大,2代棉铃虫卵主要分布在叶正面、叶背面和茎尖,3代棉铃虫卵主要分布于蕾铃;在放蜂田,赤眼蜂对棉株不同部位棉铃虫卵的寄生率差异较大,2,3代棉铃虫时期对叶正面、叶背面、茎尖、蕾铃的棉铃虫卵寄生率均较高,对叶柄和茎杆处卵的寄生率较低;并以3代棉铃虫时期的寄

生率较高;在2,3代棉铃虫时期分别连续释放3次赤眼蜂,对棉铃虫具有很强控制作用,2,3代棉铃虫卵的被寄生率分别为66.0% ~70.7%和76.0% ~81.2% ,均显著高于化防田的自然寄生率(2代:7.0%~ 12.3% ,3代:5.2% ~7.4%);蕾铃被害率分别为2.2% 和3.1% ,均显著低于化防田(2代:8.5% ,3代:20.9%);2代棉铃虫时期,放蜂田和化防田的棉铃虫卵量和幼虫数量差异均不显著,但3代棉铃虫以后,放蜂田棉铃虫卵量和幼虫数量均显著低于化防田,且放蜂田的捕食性天敌数量显著高于化防田。可见,转基因抗虫棉田棉花生长中后期通过释放赤眼蜂可有效防治棉铃虫,降低其为害,并有利于棉田捕食性天敌的保护。

【英文摘要】Abstract:To improve the integrated pest control efi cacy of transgenic insect—resistant cotton an d natural enemies,biological control eficacy and ecological effects of mass-releasing Trichogramma chilonis in transgenic insect—resistant cotton(CV.Lumianyanl5)field were surveyed in Huimin county,Shandong province in 2002,with the chemically con—trolled cotton field as contro1.Trichogramma showed high control eficacy on cotton bollworm eggs after three times of re—lease both in the second and in the third generation bollworm periods.The parasitism on the second and third generationbollworm eggs were 66.0% 一70.7% and 76.0% 一81.2% ,respectively,which were significantly higher than that in thecontrol(second generation:7.0% 一12.3% ,third generation:5.2% 一7.4%).And the injury rate of cotton buds andbolls in the second and third generation bollworm were 2.2% and 3.1% ,respectively,which were sign ificantly lower thanthat in the control(second generation:8.5% ,third generation:20.9%).In the second generation bollworm period,nunberof bollworm eggs or larvae in the Tnchogramma released cotton field did not difer to that in the chemi cally controlledfield.But in the third generation,there were sign ificantly less bollworm eggs an d larvae in the Trichogramma released cottonfield.Th ere were more predators in the Trichogramma released cotton field.Th ese results indicated that cotton bollworm in the transgenic insect—resistant cotton field can be effectively controlled by mass—releasing of T.chilonis.And thebiocontrol method is also beneficial to predator protection in the cotton fields.

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【中文关键词】转基因植物, 生态风险, 害虫抗性, 非目标生物, 基因漂移

【英文关键词】Genetically modified plant, Ecological risk, Insect resistance, Non—target organism, Gene flow

【中文摘要】转基因植物的应用在对农业生产带来重大变革的同时,其安全性风险备受关注。本文重点论述了转基因植物的生态安全性风险,即转基因植物的使用带来的直接或间接的生态影响,包括:目标害虫对转基因植物的抗性,转基因植物对非目标害虫的毒性及其对寄主嗜好性、有益生物及天敌的安全性、生物多样性及生态系统结构的影响;基因漂移及杂草化问题及应用转基因作物后植保费用的变更等。针对这些关键问题,定量风险评估和制定风险预防与治理策略具有重要意义

【英文摘要】Application of genetically modified plants(GMP)results in great agricultural renovation,though their potential environmental impacts also cause world—wide concern. The ecological risks of GMP,including resistance development among target pests;non-target pest toxicity and host preference shifts of pests;impact on beneficial insects,biodiversity and ecosystem structure;transgene dissemination and development of fitter or more competitive hybrids;changes in plant protection costs;etc require special emphasis in GMP application.For these key aspects,quantitative risk assessment and establishment of risk prevention andmanagement strategy are of great importance

【语种】中文

【第一作者】郭建英

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【引文索引号】3239906

【学科分类】昆虫学

【题目】Lethal effect of imidacloprid on the coccinellid predator Serangium japonicum and sublethal effects on predator voracity and on functional response to the whitefly Bemisia tabaci
【中文关键词】Toxicity, Hazard quotient, Neonicotinoid, Risk assessment, Integrated pest management
【英文关键词】Toxicity, Hazard quotient, Neonicotinoid, Risk assessment, Integrated pest management
【中文摘要】Neonicotinoid insecticides are widely used for controlling sucking pests, and sublethal effects can be expected in beneficial arthropods like natural enemies. Serangium japonicum is an important predator in many agricultural systems in China, and a potential biological control agent against Bemisia tabaci. We evaluated the toxicity of imidacloprid to S. japonicum and its impact on the functional response to B. tabaci eggs. S. japonicum adults exposed through contact to dried residues of imidacloprid at the recommended field rate on cotton against B. tabaci (4 g active ingredient per 100 l, i.e. 40 ppm [part per million]), and reduced rates (25, 20, 15 and 10 ppm) for 24 h showed high mortality rates. The mortality induced by a lowest rate, 5 ppm, was not significantly different than the control group and thus it was considered as a sublethal rate. The lethal rate 50 and hazard quotient (HQ) were estimated to be 11.54 ppm and 3.47 respectively, indicating a risk for S. japonicum in treated fields (HQ[2). When exposed to dried residues of imidacloprid at the sublethal rate (5 ppm) on cotton leaves, functional response of S. japonicum to B. tabaci eggs was affected with an increase in handling time and a reduction in peak consumption of eggs. Imidacloprid residues also disturbed predator voracity, the number of B. tabaci eggs consumed on treated leaves being significantly lower than on untreated leaves. All effects disappeared within a few hours after transfer to untreated cotton leaves. Imidacloprid systemically applied at the recommended field rate (for cotton) showed no toxicity to S. japonicum, nor affected the functional response of the predator. Sublethal effects of imidacloprid on S. japonicum observed in our study likely negatively affect S. japonicum development and reproductive capacity and may ultimately reduce predator population growth. These results hint at the importance of assessing potential effects of imidacloprid on S. japonicum for developing effective integrated pest management programs of B. tabaci in China.
【英文摘要】Neonicotinoid insecticides are widely used for controlling sucking pests, and sublethal effects can be expected in beneficial arthropods like natural enemies. Serangium japonicum is an important predator in many agricultural systems in China, and a potential biological control agent against Bemisia tabaci. We evaluated the toxicity of imidacloprid to S. japonicum and its impact on the functional response to B. tabaci eggs. S. japonicum adults exposed through contact to dried residues of imidacloprid at the recommended field rate on cotton against B. tabaci (4 g active ingredient per 100 l, i.e. 40 ppm [part per million]), and reduced rates (25, 20, 15 and 10 ppm) for 24 h showed high mortality rates. The mortality induced by a lowest rate, 5 ppm, was not significantly different than the control group and thus it was considered as a sublethal rate. The lethal rate 50 and hazard quotient (HQ) were estimated to be 11.54 ppm and 3.47 respectively, indicating a risk for S. japonicum in treated fields (HQ[2). When exposed to dried residues of imidacloprid at the sublethal rate (5 ppm) on cotton leaves, functional response of S. japonicum to B. tabaci eggs was affected with an increase in handling time and a reduction in peak consumption of eggs. Imidacloprid residues also disturbed predator voracity, the number of B. tabaci eggs consumed on treated leaves being significantly lower than on untreated leaves. All effects disappeared within a few hours after transfer to untreated cotton leaves. Imidacloprid systemically applied at the recommended field rate (for cotton) showed no toxicity to S. japonicum, nor affected the functional response of the predator. Sublethal effects of imidacloprid on S. japonicum observed in our study likely negatively affect S. japonicum development and reproductive capacity and may ultimately reduce predator population growth. These results hint at the importance of assessing potential effects of imidacloprid on S. japonicum for developing effective integrated pest management programs of B. tabaci in China.
【语种】英文
【第一作者】Yuxian He
【通讯作者】Wu Kongming
【期刊名称、卷期、页码】Ecotoxicology
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【引文索引类型】SCI
【引文索引号】111
【学科分类】昆虫学

【题目】Genetic Variation Among the Geographic Population of the Grain Aphid, Sitobion avenae (Hemiptera: Aphididae) in China Inferred from Mitochondrial COI Gene Sequence
【中文关键词】Sitobion avenae, insect pest, mitochondrial DNA, mtDNA-COI gene, geographic variation
【英文关键词】Sitobion avenae, insect pest, mitochondrial DNA, mtDNA-COI gene, geographic variation
【中文摘要】In order to characterize the genetic relationship of the geographic populations of Sitobion avenae (Hemiptera: Aphididae) in China, a 588 bp region of the mitochondrial cytochrome oxidase subunit I (mtDNA-COI) gene was sequenced and

analyzed among the different geographic populations. 269 individuals were collected from 17 localities in different wheatgrowing areas in China that covered most of the range reported for this species. Within the sequence among these geographic populations, 15 polymorphic sites defined 16 distinct haplotypes, ranging in sequence divergence from 0.2% (one nucleotide) to 1.7% (10 nucleotides). Of the 15 variable sites, 12 were transitional substitutions, 2 were transversional substitutions and 1 was transitional and transversional substitution. Phylogenetic analysis showed that all haplotypes were highly interconnected with each other, in absence of phylogeographic structing. Each of 8 haplotypes was found only at one locality, and the other haplotypes were the widespread distributed in the different localities. The higher genetic diversity was found in the northern China populations than that in the southern China populations. The low genetic differentiation (FST=-0.06945-0.69857) and high migration rate (Nm=0.21575-infinite) of Chinese populations suggest that dispersal over long distance is a major factor in the demography of S. avenae.

【英文摘要】In order to characterize the genetic relationship of the geographic populations of Sitobion avenae (Hemiptera: Aphididae) in China, a 588 bp region of the mitochondrial cytochrome oxidase subunit I (mtDNA-COI) gene was sequenced and analyzed among the different geographic populations. 269 individuals were collected from 17 localities in different wheatgrowing areas in China that covered most of the range reported for this species. Within the sequence among these geographic populations, 15 polymorphic sites defined 16 distinct haplotypes, ranging in sequence divergence from 0.2% (one nucleotide) to 1.7% (10 nucleotides). Of the 15 variable sites, 12 were transitional substitutions, 2 were transversional substitutions and 1 was transitional and transversional substitution. Phylogenetic analysis showed that all haplotypes were highly interconnected with each other, in absence of phylogeographic structing. Each of 8 haplotypes was found only at one locality, and the other haplotypes were the widespread distributed in the different localities. The higher genetic diversity was found in the northern China populations than that in the southern China populations. The low genetic differentiation (FST=-0.06945-0.69857) and high migration rate (Nm=0.21575-infinite) of Chinese populations suggest that dispersal over long distance is a major factor in the demography of S. avenae.

【语种】英文

【第一作者】XU Zhao-huan

【通讯作者】Chen Julian

【期刊名称、卷期、页码】Agricultural Sciences in China

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【引文索引号】111

【学科分类】昆虫学

【题目】Temporal allocation of metabolic tolerance to transgenic Bt cotton in beet armyworm, Spodoptera exigua (H ü bner)

【中文关键词】Bacillus thuringiensis, Spodoptera exigua, detoxification enzyme, carboxylesterase, acetylcholinesterase

【英文关键词】Bacillus thuringiensis, Spodoptera exigua, detoxification enzyme, carboxylesterase, acetylcholinesterase

【中文摘要】Digestive and detoxification enzyme activity and nutrient composition were examined in the body of fourth instar beet armyworms, Spodoptera exigua (H ü bner), fed on transgenic Bacillus thuringiensis (Bt) and non-Bt cotton for different time periods.Nutrient composition and specific enzyme activities differed significantly between the S. exigua fed Bt vs. non-Bt cotton. At 1,6 and 24 h, free fatty acid and glucose levels were significantly lower in S. exigua fed on Bt cotton than those fed on non-Btcotton. S. exigua fed on Bt cotton had significantly higher trypsin and total superoxide dismutase (T-SOD) activities and significantlylower lipase, carboxylesterase and acetylcholinesterase activities than non-Bt fed worms for all feeding time periods.Differences were also observed among feeding times within each cotton variety group. Significantly lower free fatty acid andtotal amino acid were observed in S. exigua fed on Bt cotton for 24 h than in those fed for 1 h. Significantly lower activities of lipaseand trypsin were detected in S. exigua fed on Bt cotton for 24 h than those for 1 and 4 h. However, carboxylesterase andacetylcholinesterase activities in S. exigua fed on Bt cotton for 24 h were significantly higher than those for 1, 4 and 6 h. Theinteraction between cotton variety and feeding time significantly affected the activities of lipase, trypsin, acetylcholinesteraseand T-SOD enzymes in S. exigua. Measuring the temporal allocation of protection and detoxification enzyme activities in thebody of S. exigua in response to B. thuringiensis can provide a meaningful evaluation on the metabolic tolerance of herbivorousinsects under the continuous selection pressure of a toxic protein.

【英文摘要】Digestive and detoxification enzyme activity and nutrient composition were examined in the body of fourth instar beet armyworms, Spodoptera exigua (H ü bner), fed on transgenic Bacillus thuringiensis (Bt) and non-Bt cotton for different time periods.Nutrient composition and specific enzyme activities differed significantly between the S. exigua fed Bt vs. non-Bt cotton. At 1,6 and 24 h, free fatty acid and glucose levels were significantly lower in S. exigua fed on Bt cotton than those fed on non-Btcotton. S. exigua fed on Bt cotton had significantly higher trypsin and total superoxide dismutase (T-SOD) activities and significantlylower lipase, carboxylesterase and acetylcholinesterase activities than non-Bt fed worms for all feeding time periods.Differences were also observed

among feeding times within each cotton variety group. Significantly lower free fatty acid andtotal amino acid were observed in S. exigua fed on Bt cotton for 24 h than in those fed for 1 h. Significantly lower activities of lipaseand trypsin were detected in S. exigua fed on Bt cotton for 24 h than those for 1 and 4 h. However, carboxylesterase andacetylcholinesterase activities in S. exigua fed on Bt cotton for 24 h were significantly higher than those for 1, 4 and 6 h. Theinteraction between cotton variety and feeding time significantly affected the activities of lipase, trypsin, acetylcholinesteraseand T-SOD enzymes in S. exigua. Measuring the temporal allocation of protection and detoxification enzyme activities in thebody of S. exigua in response to B. thuringiensis can provide a meaningful evaluation on the metabolic tolerance of herbivorousinsects under the continuous selection pressure of a toxic protein.

【语种】英文

【第一作者】GUO JianYing

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【期刊名称、卷期、页码】SCIENCE CHINA Life Sciences

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【引文索引类型】SCI

【引文索引号】111

【学科分类】昆虫学

【题目】Sublethal Effects of Imidacloprid on Bemisia tabaci (Hemiptera: Aleyrodidae) Under Laboratory Conditions

【中文关键词】Bemisia tabaci, imidacloprid, toxicity, sublethal effect

【英文关键词】Bemisia tabaci, imidacloprid, toxicity, sublethal effect

【中文摘要】The sweetpotato white, Bemisia tabaci (Gennadius) (Hemiptera: Aleyrodidae), isone of the most important pests in tropical and subtropical agriculture and is a key pest in greenhouseproduction worldwide. Current management of B. tabaci relies upon frequent applications of insecticides.Insecticide use not only directly affects pest populations through acute toxicity but also hasindirect (sublethal) effects on pest physiology or behavior. In this study,wedescribed sublethal effectsof imidacloprid on adult feeding, immature development, adult fecundity, and F1 development of B.tabaci. Honeydew excretion of adults feeding on leaves treated with LC20 and LC40 concentration wassigniTcantly lower than that on untreated leaf discs. Egg production of B. tabaci adults subject to LC20and LC40 concentrations also was less than untreated individuals. Upon transfer to untreated leaves,honeydew excretion and egg production recovered well within 24 and 48 h, respectively. Exposureto LC20 and LC40 concentrations signiTcantly affected developmental time of B. tabaci eggs andnymphs, whereas it did not affect adult molting rate. We did not Tnd sublethal effects on longevityand fecundity of B. tabaci adults when exposed to LC20 and LC40 concentrations for 24 h, and on egghatching rate, nymphal mortality, and molting rate of the subsequent F1 generation. Exposure toimidacloprid atLC40 concentration signiTcantly decreased the number of females in theF1 generation.Imidacloprid negatively affects development and reproduction of exposed individuals, and sex ratioof subsequent (F1) generation of B. tabaci, which probably disrupts B. tabaci population dynamics,slows population increase, and reduces infestation levels. Therefore, it is necessary to considerpotential impact from imidacloprid for integrated management of the pest.

【英文摘要】The sweetpotato white, Bemisia tabaci (Gennadius) (Hemiptera: Aleyrodidae), isone of the most important pests in tropical and subtropical agriculture and is a key pest in greenhouseproduction worldwide. Current management of B. tabaci relies upon frequent applications of insecticides.Insecticide use not only directly affects pest populations through acute toxicity but also hasindirect (sublethal) effects on pest physiology or behavior. In this study,wedescribed sublethal effectsof imidacloprid on adult feeding, immature development, adult fecundity, and F1 development of B.tabaci. Honeydew excretion of adults feeding on leaves treated with LC20 and LC40 concentration wassigniTcantly lower than that on untreated leaf discs. Egg production of B. tabaci adults subject to LC20and LC40 concentrations also was less than untreated individuals. Upon transfer to untreated leaves,honeydew excretion and egg production recovered well within 24 and 48 h, respectively. Exposureto LC20 and LC40 concentrations signiTcantly affected developmental time of B. tabaci eggs andnymphs, whereas it did not affect adult molting rate. We did not Tnd sublethal effects on longevityand fecundity of B. tabaci adults when exposed to LC20 and LC40 concentrations for 24 h, and on egghatching rate, nymphal mortality, and molting rate of the subsequent F1 generation. Exposure toimidacloprid atLC40 concentration signiTcantly decreased the number of females in theF1 generation.Imidacloprid negatively affects development and reproduction of exposed individuals, and sex ratioof subsequent (F1) generation of B. tabaci, which probably disrupts B. tabaci population dynamics,slows population increase, and reduces infestation levels. Therefore, it is necessary to considerpotential impact from imidacloprid for integrated management of the pest.

【语种】英文

【第一作者】YUXIAN HE
【通讯作者】Wu Kongming
【期刊名称、卷期、页码】J. Econ. Entomol.
【论文发表时间】2011-06-01 00:00:00
【引文索引类型】SCI
【引文索引号】111
【学科分类】昆虫学

【题目】Long-term effects of transgenic Bacillus thuringiensis cotton on the non-target Aphis gossypii (Homoptera: Aphididae) maintained for multiple generations
【中文关键词】Transgenic Bacillus thuringiensis cotton, Aphis gossypii, Bacillus thuringiensis detection, life-table parameters, multiple-generation, non-target effects.
【英文关键词】Transgenic Bacillus thuringiensis cotton, Aphis gossypii, Bacillus thuringiensis detection, life-table parameters, multiple-generation, non-target effects.
【中文摘要】The effects of transgenic Bacillus thuringiensis (Bt) cotton on non-target Aphis gossypii were assessed by comparing the life-table parameters of aphids that fed on Bt vs. non-Bt cotton cultivars for the first and 37th generations. The enzyme-linked immunosorbent assay (ELISA) method was used to detect the transmission of the Bt protein from Bt cotton to A. gossypii and their honeydew. We found that the life-table parameters of A. gossypii that fed on Bt cotton for the first and 37th generations did not differ significantly from those of the non-Bt-fed individuals. However, the Bt protein was detected by ELISA in the Bt cotton leaves, and the content varied significantly at different growth stages. Furthermore, trace amounts of the Bt protein were detected in some of the Bt-fed aphids, and the honeydew of the Bt-fed aphids contained over 10 ng/g Bt protein. These results indicate that although trace amounts of the Bt protein were ingested, the Bt cotton had no significant negative impacts on A. gossypii in either the short or long term.
【英文摘要】The effects of transgenic Bacillus thuringiensis (Bt) cotton on non-target Aphis gossypii were assessed by comparing the life-table parameters of aphids that fed on Bt vs. non-Bt cotton cultivars for the first and 37th generations. The enzyme-linked immunosorbent assay (ELISA) method was used to detect the transmission of the Bt protein from Bt cotton to A. gossypii and their honeydew. We found that the life-table parameters of A. gossypii that fed on Bt cotton for the first and 37th generations did not differ significantly from those of the non-Bt-fed individuals. However, the Bt protein was detected by ELISA in the Bt cotton leaves, and the content varied significantly at different growth stages. Furthermore, trace amounts of the Bt protein were detected in some of the Bt-fed aphids, and the honeydew of the Bt-fed aphids contained over 10 ng/g Bt protein. These results indicate that although trace amounts of the Bt protein were ingested, the Bt cotton had no significant negative impacts on A. gossypii in either the short or long term.
【语种】英文
【第一作者】Ju-Hong ZHANG
【通讯作者】Guo Jianying
【期刊名称、卷期、页码】African Journal of Biotechnology
【论文发表时间】2012-05-22 00:00:00
【引文索引类型】SCI
【引文索引号】111
【学科分类】昆虫学

【题目】硅对植物抗虫性的影响及其机制
【中文关键词】硅; 植食性昆虫; 抗虫性; 组成性防御; 诱导性防御
【英文关键词】silicon; herbivorous insect; insect resistance; constitutive defense; induced defense
【中文摘要】硅对植物抗虫性的影响及其机制
【英文摘要】Although silicon (Si) is not an essential element for the majority of plant species,it plays an important role inplant resistance to a range of abiotic and biotic stresses. In this paper,we review the role of Si in regulating host plantresistance to herbivorous insects. Si can enhance resistance to insect herbivores in the majority of plant species,whichdepends on the sources and the application modes of Si fertilizer. Si can enhance constitutive resistance of plants toherbivorous insects by increasing hardness and abrasiveness of plant tissues and /or reducing digestibility. This leads to areduction in insect growth and reproduction with a concomitant reduction in crop damage. Si content,sediment position andalignment in plants affects the subsequent strength of constitutive resistance. In addition,Si can regulate nduced directplant defenses as well as indirect defenses. Induced direct defense comprises producing toxic

substances,producinglocalized hypersensitive response and systemic acquired resistance,and releasing toxic compounds and defensive proteins,which slow herbivore growth and development. Induced indirect defense is realized through the emission of volatilecompounds that attract parasitic and /or predatory natural enemies of the herbivorous insects.
【语种】中文
【第一作者】侯茂林
【通讯作者】侯茂林
【期刊名称、卷期、页码】生态学报
【论文发表时间】2012-03-01 00:00:00
【引文索引类型】其他
【引文索引号】3239907
【学科分类】昆虫学

【题目】CIP马铃薯资源的引进与初步评价
【中文关键词】CIP;马铃薯资源;引进;初步评价
【英文关键词】无
【中文摘要】我国马铃薯种质资源相对贫乏,遗传背景狭窄,制约了突破性品种的选育。为了扩大遗传基础,丰富种质资源,从CIP引进了一批资源材料,并对其农艺性状、产量及品质性状进行了初步鉴定评价,以期筛选出综合性状好的材料作为育种亲本或直接利用。经过试验综合比较,筛选出6份材料综合性状比较好。
【英文摘要】无
【语种】中文
【第一作者】吴承金
【通讯作者】吴承金
【期刊名称、卷期、页码】马铃薯产业与粮食安全,哈尔滨工程大学出版社,2009,247-252
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【引文索引类型】其他
【引文索引号】0
【学科分类】农艺学

【题目】Development and evaluation of a storage root-bearing sweetpotato somatic hybrid between Ipomoea batatas (L.) Lam. and I. triloba L.
【中文关键词】甘薯,I.triloba, 体细胞杂种
【英文关键词】Sweetpotato, I. triloba, Somatic hybrid
【中文摘要】本文首次报道了由甘薯品种及其近缘野生种I.triloba的具有膨大块根的种间体细胞杂种的获得,并表明其抗旱性显著提高.
【英文摘要】A storage root-bearing somatic hybrid was produced for the first time by protoplast fusion between sweetpotato (Ipomoea batatas (L.) Lam.) cv. Kokei No. 14 and its wild relative I. triloba L. Protoplasts isolated from embryogenic suspension cultures of Kokei No. 14 were fused with petiole protoplasts of I. triloba L. using polyethylene glycol-mediated protocol. Fusion products were cultured in a modified Murashige and Skoog medium containing0.05 mg l-1 2,4-dichlorophenoxyacetic acid (2,4-D) and 0.5 mg l-1 kinetin. A total of 176 plants were obtained from 42 out of 134 calluses derived from fused protoplasts, and 91 of these plants were confirmed to be somatic hybrids through peroxidase isozyme, random amplified polymorphic DNA, amplified fragment length polymorphism, and cytological analyses. Upon transfer into soil and grown in the greenhouse and then to the field, 100% survival wasobserved. A single plant, designated KT1, was found to produce storage roots. Genomic in situ hybridization analysis confirmed presence of chromosomes from both parents and recombinant chromosomes in KT1. Drought tolerance, dry matter content, soluble sugar content, and fertility of this somatic hybrid were evaluated for potential use in sweetpotato breeding.
【语种】英文
【第一作者】杨育峰
【通讯作者】刘庆昌
【期刊名称、卷期、页码】Plant Cell, Tissue & Organ Culture,2009,99:83-89
【论文发表时间】2009-01-01 00:00:00

【引文索引类型】SCI
【引文索引号】0
【学科分类】农艺学

【题目】Efficient production of transgenic plants using the bar gene for herbicide resistance in sweetpotato
【中文关键词】甘薯,农杆菌介导, bar基因, 抗除草剂
【英文关键词】Ipomoea batatas (L.) Lam, Agrobacterium tumefaciens
bar gene
Herbicide resistance
【中文摘要】本文报道了用农杆菌介导法将bar基因导入甘薯品种栗子香的胚性悬浮细胞,获得了具有除草剂功能抗性的转基因植株.
【英文摘要】Efficient production of transgenic sweetpotato (Ipomoea batatas (L.) Lam.) plants using the bar gene forherbicide resistance was achieved through the use of embryogenic suspension cultures andAgrobacterium tumefaciens-mediated transformation. Cell aggre
【语种】英文
【第一作者】臧宁
【通讯作者】刘庆昌
【期刊名称、卷期、页码】Scientia Horticulturae,2009, 122:649-653
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【引文索引类型】SCI
【引文索引号】0
【学科分类】农艺学

【题目】sAGP基因增强表达对马铃薯淀粉和还原糖的影响及安全性评价
【中文关键词】马铃薯;转基因; AG P ;安全性 ;评价
【英文关键词】无
【中文摘要】摘本文主要介绍了转s AG P马铃薯株 系中淀粉和还原糖含量的变化 ,以取 s A G P基因超量表达对淀粉理化性质的影响,同时介绍了马铃薯转基因安全性评价的相关研究及转 s AG P基因马铃薯安全性评价中间试验的进展。
【英文摘要】potato breeding programs. With the aim of investigating Solanum tuberosum L.
【语种】中文
【第一作者】宋波涛
【通讯作者】宋波涛
【期刊名称、卷期、页码】中国马铃薯,2006,20(1):39-41
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【学科分类】农艺学

【题目】Screening and expression analysis of Phytophthora infestans induced genes in potato leaves with horizontal resistance
【中文关键词】水平抗性 晚疫病 病原诱导基因 马铃薯
【英文关键词】Horizontal resistance . Late blight Pathogen-induced gene ..Solanum tuberosum L.
【中文摘要】由晚疫病菌[Phytophthora infestans (Mont.) de Bary] 引起的晚疫病是危害全球马铃薯生产的毁灭性病害。实践证明,防治晚疫病最经济有效的方法是培育抗病品种。目前生产上使用的多为主效R基因控制的垂直抗性品种,由于晚疫病原菌小种多且变异迅速,极易形成致病力更强的小种,很容易克服由一个或少数几个主效基因控制的垂直抗性。世界范围的马铃薯抗晚疫病育种目标已转向了利用多基因控制的非特异性、抗性持久的水平抗性上。但对于多基因控制的水平抗性机理的研究还很薄弱,现在还不清楚与水平抗性相关基
【英文摘要】Horizontal resistance to late blight with quantitative and durable characteristics is a major objective for potato breeding programs. With the aim of investigating the molecular aspects of horizontal resistance, a cDNA microarray was used to identify Phyt
【语种】英文

【第一作者】田振东
【通讯作者】谢从华
【期刊名称、卷期、页码】Plant Cell Rep 2006,25:1094-1103
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【引文索引类型】SCI
【引文索引号】DOI 10.1007/s00299-006-0169-7
【学科分类】农艺学

【题目】斑茅蔗后代主要生理生化性状的差异研究
【中文关键词】甘蔗; 斑茅; BC1 品系; 生理生化性状; 聚类分析
【英文关键词】Saccharum of ficinarum; Erianthus arundinaceus; BC1 lines; physiological and biochemical characters; cluster analysis
【中文摘要】对10 个斑茅BC1 品系及其亲本在相关生理生化性状方面的差异作了研究, 结果表明, 以正常供水条件下的叶片束缚水含量/ 自由水含量作为鉴定甘蔗抗旱性能的指标, BC1 品系的比值均小于母本YC96- 40。母本YC96- 40 叶片酸性转化酶活性较高, 到BC1代则其活性大大降低, 这可认为是斑茅BC1 品系糖分和锤度等改良速度较快的内在生化原因之一。另外, 聚类分析结果表明, 双亲在叶片束缚水含量/ 自由水含量和脯氨酸含量上的遗传距离均较大, 而其后代在这2 个性状上表现为前者大多数与母本YC96-
【英文摘要】Ten BC1 lines o f Erianthus arundinaceus and their parents were selected to study the difference of physiological and bio chemical characters. T he proportion of bound water to free water contentin leaves, regarded as a reasonable physiological index to i
【语种】中文
【第一作者】陈勇生
【通讯作者】谭中文
【期刊名称、卷期、页码】华中农业大学学报
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【引文索引类型】其他
【引文索引号】0
【学科分类】农艺学

【题目】表达bar基因的抗除草剂转基因甘薯的获得
【中文关键词】甘薯, 除草剂抗性,转基因植株
【英文关键词】Sweetpotato, herbicide resistance, transgenic plant
【中文摘要】用农杆菌介导法将bar基因导入甘薯品种徐薯18的胚性悬浮细胞中,获得了抗除草剂的转基因植株。除草剂喷洒试验结果表明,转基因植株具有高度除草剂抗性。
【英文摘要】Transgenic sweetpotato plants expressing the bar gene for herbicide resistance was achieved by using Agrobacterium tumefaciens-mediated transformation and cv. Xushu 18 embryogenic suspension cultures. Transgenic plants exhibited funtional expression of th
【语种】中文
【第一作者】臧宁
【通讯作者】刘庆昌
【期刊名称、卷期、页码】分子植物育种,2007,5(4):475-479
【论文发表时间】2007-01-01 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】农艺学

【题目】不同甘蔗基因型对低氮胁迫的响应
【中文关键词】甘薯, 除草剂抗性,转基因植株
【英文关键词】Sweetpotato, herbicide resistance, transgenic plant
【中文摘要】为了解甘蔗不同品种的耐低氮胁迫栽培的能力, 以每公顷施尿素300、150 和0 kg的3 种施氮水平处理作主区, 选择5个引进的固氮甘蔗品种和广西主栽品种之一新台糖16号(CK)作副区, 进行1年新植1 年宿根裂区试验。结果表明: 各

品种新植蔗产量极显著高于宿根蔗, 施氮比不施氮增产达极显著水平, 每公顷施尿素300 与150 kg之间产蔗量差异不显著。3种施氮水平下5个引进品种新植宿根平均产蔗量极显著高于CK。不施氮对各参试品种的分蘖、宿根发株、伸长、成茎均有不利影响, 特别是对分蘖和有效茎数的不利

【英文摘要】The aim was to know the ability of different sugarcan evarieties in low nitrogen stress. The experim ental design was split plot. Thetreatment of main plot was 300, 150 and 0 kg of urea fertilizer applied per acre. The treatment of subp lot was composed

【语种】中文

【第一作者】王伦旺

【通讯作者】王伦旺

【期刊名称、卷期、页码】西南农业学报,2010(23)2:508-514

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【引文索引号】0

【学科分类】农艺学

【题目】丰产高糖甘蔗新品种闽糖96-1409的选育研究

【中文关键词】甘蔗;新品种;选育;特性;闽糖96—1409

【英文关键词】Sugarcane;New variety;Selecting and breeding;Character;Mintang 96-1409

【中文摘要】闽糖96-1409系福建省农科院甘蔗研究所从闽选703(ColO01)×崖城73-226组合中选育出的1个甘蔗新品种。2001~2006年多点试验结果表明,闽糖96-1409平均蔗茎产量113.492 t/hm2,比新台糖1O号增产8.27% ,比新台糖16号增产29.6% ;11月~次年1月份其平均蔗糖分16.16% ,比对照新台糖1O号、新台糖16号分别高1.40、0.70个百分点;每公顷含糖量17.112t,比对照新台糖1O号、新台糖l6号分别增糖19.1% 、32.7%,是一个早熟、丰产、高糖、适

【英文摘要】Mintang 96-1409,selected from the cross combination Minxuan 703(Co10o1)×Yacheng 73-226 is a new sugarcane variety witll early maturity,high yield,high$11crose content and wide adaptability. The test results at diferent sites for several years showedthat t

【语种】中文

【第一作者】李瑞美

【通讯作者】李瑞美

【期刊名称、卷期、页码】江西农业学报,2007,19(9):6-9

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【引文索引类型】其他

【引文索引号】0

【学科分类】农艺学

【题目】福建省甘蔗品种(2005-2006)区域试验研究

【中文关键词】:甘蔗;品种;蔗茎产量;含糖量

【英文关键词】sugarcan e,variety,can e yield,sugar content

【中文摘要】甘蔗新品种区域试验是对甘蔗品种丰产性、稳产性和适应性的一种测试,有利于全面了解甘蔗品种的各方面表现,为甘蔗新品种的示范推广和鉴定(认定)提供科学依据。通过2年(二新一宿)5个地点的区域试验,对5个甘蔗新品种种性进行研究。结果表明:参试的甘蔗新品种中闽糖96-1409,LCP85-384.闽糖93.730,福农93-1103等品种表现出高产、稳产、蔗糖分较高、适应性较广的特点,蔗茎产量均比ROC16增产,与ROC10增产或基本平产,适宜于福建蔗区示范推广。LCP88-1762蔗茎产量比ROC16,ROCI

【英文摘要】The purpose of a regional trial of sugarcane varieties are to test productivity,stability and adaptabil-iIy of the variety,SO as to assess their field performance and provide a scientific basis to accept and to release anew sugarcane variety for commerc

【语种】中文

【第一作者】潘世明

【通讯作者】潘世明

【期刊名称、卷期、页码】中国农学通报,2009(15):245-251

【论文发表时间】2009-01-01 00:00:00

【引文索引类型】其他

【引文索引号】0
【学科分类】农艺学

【题目】甘薯高类胡萝卜素突变体农大辐14块根cDNA文库的构建及鉴定
【中文关键词】甘薯,cDNA文库,突变体
【英文关键词】Sweetpotato, cDNA library, mutant
【中文摘要】以甘薯突变体农大辐14的块根mRNA为材料,利用Clontech SMART cDNA Library Construction Kit 构建了其cDNA文库,该文库可用于相关基因的克隆。
【英文摘要】A cDNA library was constructed by using Clontech SMART cDNA Library Construction Kit and the mRNA of storage roots of Nongdafu 14. This cDNA library was suitable for analysis and cloning of the related genes.
【语种】中文
【第一作者】杨元军
【通讯作者】刘庆昌
【期刊名称、卷期、页码】分子植物育种,2007,5(6):879-882
【论文发表时间】2007-01-01 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】农艺学

【题目】甘薯肌醇-1-磷酸合酶基因的表达分析
【中文关键词】甘薯, IbMIPS-1 基因, 茎线虫, 原核表达载体, RT-PCR
【英文关键词】Sweetpotato, IbMIPS-1 gene, Stem nematode, Prokaryotic expression vector,
RT-PCR
【中文摘要】采用RT-PCR 技术克隆了甘薯肌醇-1- 磷酸合酶基因的cDNA 编码区,命名为IbMIPS-1。该基因由1 530 个碱基组成,编码510 个氨基酸,与蓖麻、烟草、芝麻、大豆肌醇-1- 磷酸合酶的氨基酸序列比对表明,其同源性很高。将克隆的IbMIPS-1 基因连接到pQE30 载体,构建原核表达载体。RT-PCR 分析结果表明,在茎线虫侵染甘薯块根后,IbMIPS-1 基因被诱导表达,并且在侵染后的第4 天表达量最高。推测该基因可能参与甘薯抗茎线虫病信号传导,以诱发甘薯茎线虫病抗性反应。
【英文摘要】The cDNAofMyo inositol-1-phosphate synthase (MIPS) genewas successfully cloned by using RT-PCRin sweetpotato. This gene contained 1 530 bp and encoded 510 amino acids, named IbMIPS-1. Sequence analysisindicated that IbMIPS-1 had high homology with Ricin
【语种】中文
【第一作者】翟红
【通讯作者】刘庆昌
【期刊名称、卷期、页码】分子植物育种,2009,7(3):537-544
【论文发表时间】2009-01-01 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】农艺学

【题目】甘薯基因组DNA高效快速提取方法
【中文关键词】甘薯,基因组DNA,改良CTAB法
【英文关键词】Sweetpotato, genomic DNA, modified CTAB method
【中文摘要】本研究通过对传统的CTAB法进行改造,建立了一种高效快速廉价的甘薯及其近缘野生种基因组DNA提取方法。
【英文摘要】An efficient, rapid and cheap method was developed for genomic DNA extraction of sweetpotato and its wild relatives by modifying CTAB method, which the DNA quality could fulfill the need of research.
【语种】中文
【第一作者】李强

【通讯作者】刘庆昌
【期刊名称、卷期、页码】分子植物育种,2007,5(5):743-746
【论文发表时间】2007-01-01 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】农艺学

【题目】甘薯块根总RNA的高效快速提取方法
【中文关键词】甘薯,RNA提取,块根
【英文关键词】Sweetpotato, RNA extraction, storage root
【中文摘要】本研究利用农大辐14的块根为材料,建立了甘薯块根高效RNA提取方法,该方法仅需1.5h。
【英文摘要】We employed the storage roots of sweetpotato line Nongdafu 14 as material to establish an efficient RNA isolation protocol that only needs an hour and a half consumed.
【语种】中文
【第一作者】杨元军
【通讯作者】刘庆昌
【期刊名称、卷期、页码】分子植物育种,2008,6(1):193-196
【论文发表时间】2008-01-01 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】农艺学

【题目】甘蔗“吨糖田”高产栽培群体结构及其生理生化特性分析
【中文关键词】甘蔗;吨糖田;群体结构;生理生化特性;关键技术
【英文关键词】Sugarcane;“15t sugar per hectare”; Group structures; Characters of physiology and biochemistry;
【中文摘要】分析了甘蔗“吨糖田”的高产栽培群体结构及其生理生化特性,并提出构建“吨糖田”合理种植群体结构的关键技术措施。
【英文摘要】The group physiological and biochemical structures and characters for yielding"15t sugar per hectare" were analyzed, and the key echnological measures of planting group structure of"15t sugar per hectare" were suggested.
【语种】中文
【第一作者】王伦旺
【通讯作者】王伦旺
【期刊名称、卷期、页码】中国糖料,2009.01:37-40
【论文发表时间】2006-01-01 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】农艺学

【题目】甘蔗家系配合力研究与应用
【中文关键词】甘蔗;亲本:组合;配合力
【英文关键词】sugarcane,parents; combination; combining ability
【中文摘要】采用100个甘蔗亲本配制了144个杂交组合,分析其有性世代主要农艺性状、田间锤度、蔗糖分配合力,次年参照常规选育方法选择宿根杂种优良株系。结果表明:早熟组合前7名均为以桂糖与CP为亲本的组合,以ROC22作为父本易得到植株较高和较高糖分的F1;在小区含糖量组合配合力前30名的组合中,小区含糖量组合配合力与小区含糖量的特殊配合力和父本的一般配合力呈正相关,相关系数分别为0.67和0.44。
【英文摘要】The 144 combinations used recently in Guangxi were selected from 100 sugarcane varieties. Agronomic characters in sexual generation, brix, sucrose combining ability and specific combining ability were analyzed. The excellent ratoon cane were choiced refer
【语种】中文

【第一作者】贤武
【通讯作者】贤武
【期刊名称、卷期、页码】亚热带农业科学,2010(6)1:4-9
【论文发表时间】2010-01-01 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】农艺学

【题目】甘蔗健康种苗田间评价试验结果分析
【中文关键词】甘蔗; 宿根矮化病; 健康种苗; DB E IA
【英文关键词】Sugarcane; Ratoon Stunt ing D isease; H ea lthy seedcan e; Dot B lot En zym e link ed Imm uno Assay (DB E IA)
【中文摘要】甘蔗宿根矮化病(Ratoon S tunting Disease, RSD)是一种世界性的危害性较严重的甘蔗病害, 其较有效的防治方法是种植健康种苗。为了评价甘蔗健康种苗的田间效果, 本文进行了粤糖00-236健康种苗与其普通种茎苗新植田间比较试验, 并应用斑点酶链免疫试验(Dot B lot Enzym e linked Immuno Assay, DB-E IA)对种苗RSD病菌进行检测, 结果表明: 粤糖00-236健康种苗较其普通种茎苗蔗茎产量增产10. 6% (达显著水平, 小区试验)和
【英文摘要】In order to evalu ate the effect of healthy seedcane in the field, a comparative trial of healthy seedcane and infected seedcane of variety YT 00-236 w as conducted in plan t crop by Dot B lot E nzyme l inked Immuno Assay (DB-EIA) to detect RSD in 2007.
【语种】中文
【第一作者】沈万宽
【通讯作者】沈万宽
【期刊名称、卷期、页码】西南农业学报
【论文发表时间】2009-01-01 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】农艺学

【题目】甘蔗新品种闽糖92—142、闽糖92—505中试试验表现
【中文关键词】甘蔗新品种;闽糖92—649;闽糖92-505;产质量
【英文关键词】New sugarcane varieties;Mintang92-142;Mintang92-505;Yield and quality
【中文摘要】闰糖92-142与闽糖92—505系福建省农科院甘蔗研究所分别从杂交组合桂糖57—624 X湛蔗74-141,、选15 X CP73—1574 中选育而成的甘蔗新品种。2005年中试结果表明,闽糖92—142每公顷蔗茎产量132.228t、l l~1月蔗糖分为14.92%,公顷含糖量为19.725 t,比福建省主栽品种闽糖7()-61 1增产22.47%、蔗糖分提高0.29个百分点、含糖量提高25.41%,比新台糖l0号增产32.60%、含糖量提高31.66%。该品种具丰产高糖、抗逆性强等特点。闽糖92
【英文摘要】The new sugarcane varieties,Mintang92-142 and Mintang 92-505,were selected from the crosscombination (Guitang57-624×Zhanzhe74-141,Col001×CP73-1574,respectively.The results showed that themean cane yield of Mintang92-142 was l32.228 t/ha。the sucrose cont
【语种】中文
【第一作者】李瑞美
【通讯作者】李瑞美
【期刊名称、卷期、页码】中国糖料,2007,(2):12-14
【论文发表时间】2007-01-01 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】农艺学

【题目】甘蔗新品种闽糖92-505的选育研究
【中文关键词】甘蔗; 品种; 选育; 特性

【英文关键词】Sug arcane; v ariety ; breeding; char acteristics;
【中文摘要】闽糖92—505是福建省农科院甘蔗研究所以选15为母本、CP73-1547为父本的杂交组合中选育出的一个优良甘蔗新品种,该品种具有高产高糖、早熟、宿根性强、抗逆性好、适应性广的优良特性。在福建多年多点试验结果表明,闽糖92—505每公顷蔗茎产量118.424 t,11月至翌年2月份平均蔗糖分(绝对值)15.06% ,每公顷含糖量17.887 t,比福建目前主栽品种闽糖70—611增产24.3O%、蔗糖分提高0.87个百分点、增糖32.20%。
【英文摘要】Mintang92-505 selected from the cross combination of Xuan 15 and CP73-1547,was a new sugarcanecultivar with early mature,high yield and sucrose content,stronger ratooning ability,high adverse resistance andwide adaptability.The results from different si
【语种】中文
【第一作者】潘世明
【通讯作者】潘世明
【期刊名称、卷期、页码】福建农业学报,2006,21(2):101-104
【论文发表时间】2006-01-01 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】农艺学

【题目】根癌农杆菌介导的抗除草剂转基因甘薯植株的获得
【中文关键词】甘薯, 除草剂抗性,转基因植株
【英文关键词】Sweetpotato, herbicide resistance, transgenic plant
【中文摘要】用农杆菌介导法将bar基因导入甘薯品种栗子香的胚性悬浮细胞中,获得了抗除草剂的转基因植株。除草剂喷洒试验结果表明,转基因植株具有高度除草剂抗性。
【英文摘要】Generation of transgenic sweetpotato plants expressing bar gene for herbicide resistance was achieved using Agrobacterium tumefaciens-mediated transformation and sweetpotato (Ipomoea batatas (L.) Lam.) cv. Lizixiang embryogenic suspension cultures. Total 450 embryogenic cell aggregates were cocultivated with A. tumefaciens strain LBA4404 harboring a binary vector pCAMBIA3300 with the bar gene. Eight weeks after selection on MS medium supplemented with 2.0 mg/L 2,4-D, 100 mg/L Carb and 0.5 mg/L PPT (phosphinothricin), 19 PPT-resistant embryogenic calluses were produced. After transferred to MS medium supplemented with 1.0 mg/L ABA, 100 mg/L Carb and 0.5 mg/L PPT, 10 of them formed 103 putative transgenic plants. PCR analysis indicated that 69 plants were transgenic. Stable integration of the bar gene into the genome of transgenic plants was confirmed by Southern blot analysis. Experiment result showed that transgenic plants exhibited functional expression of the bar gene by in vivo assay for herbicide resistance.
【语种】中文
【第一作者】臧宁
【通讯作者】刘庆昌
【期刊名称、卷期、页码】农业生物技术学报,2008,16(1):103-107
【论文发表时间】2008-01-01 00:00:00
【引文索引类型】SCI
【引文索引号】0
【学科分类】农艺学

【题目】广西自育甘蔗品种主要性状的遗传改进
【中文关键词】广西;甘蔗;主要性状;遗传改进
【英文关键词】sugarcane;main traits ;genetic improvement; Guangxi
【中文摘要】以台糖134为对照,以广西1957-2006年期间杂交选育并通过国家审定(鉴定)或广西审定的22个桂糖甘蔗品种为材料,对不同品种主要农艺性状的遗传改进进行分析。结果表明,近50年来甘蔗的株高、节数、节间长度变化不大;丛有效茎数、茎径、单茎重明显增加;产量大幅度提高,产量性状遗传改进明显;甘蔗早期(11月)锤度、成熟期(12月一3月)平均锤度前30年平稳上升,后20年上升幅度变小。株高、丛有效茎数、茎径对提高产量贡献最大,是广西甘蔗品种性状选择的主要内容;蔗糖分含量和早熟性取得明显改进,但要选育更早熟、更高
【英文摘要】Sugarcane variety F134 was used as the control,the genetic improvement for main agronomic traits of 22Guitang sugarcane varieties which were bred in Guangxi and passed the registration by National or Guangxi Committer forCrop Variety

Registration
【语种】中文
【第一作者】黄家雍
【通讯作者】黄家雍
【期刊名称、卷期、页码】广西农业科学,2009(40)1:8-10
【论文发表时间】2006-01-01 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】农艺学

【题目】国家第四轮甘蔗品种蔗糖产量及稳定性评价
【中文关键词】甘蔗 品种 高稳系数法 评价
【英文关键词】Sugarcane Variety High stable coefficient Estimation
【中文摘要】采用高稳系数法对全国第三套甘蔗联合区试种在我所的试验数据进行综合分析。结果表明:高稳系数与甘蔗表现一致,高稳系数大的品种,变异系数小,公顷蔗、糖产量高;试验中云蔗92/19,粤糖93/159和云蔗89/351表现优良,川糖89/103和桂糖92/262表现较好,川宁85/78高稳定系数较低,但水肥条件好时有不错的表现;闽糖86/2121、粤农91/854、福农91/4710、闽糖93/246、C25、粤糖92/126、桂糖93/103、福农93/3608和粤糖92/373等品种在性状表现上有缺陷。
【英文摘要】The trial data of the third district of national new sugarcane varieties in Yunnan were analyzed with high stable coefficient method. The results showed that the high stable coefficient was accordant with trial practice of sugarcane varieties that if the
【语种】中文
【第一作者】吴才文
【通讯作者】吴才文
【期刊名称、卷期、页码】中国糖料,2007,(1):28-30
【论文发表时间】2007-01-01 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】农艺学

【题目】国家甘蔗品种第六轮区试云南开远新植试验初报
【中文关键词】甘蔗品种 区域试验 蔗茎产量 含糖量
【英文关键词】Sugarcane lines Regional test Cane yield Sugar yield
【中文摘要】2008年第六轮国家甘蔗区域性试验开远新植结果表明,综合性状表现较好的品种有:福农02-3924、云蔗99-91和RB76-5418;表现一般的品种有:闽糖95-261、闽糖96-6016;表现有缺陷的品种有福农99-20169、赣南99-591、桂辐98-296、桂引6号(B8)、粤甘16号、粤甘18号,因出现重蒲,可能难于在生产上推广应用。
【英文摘要】In 2008,the results of the sixth national regional plant crop test of 11 sugarcane varieties,in Kaiyuan,Yunnan showed that Funong02-3924,Yunzhe99-91,RB76-5418 were outstanding in the comprehensive characters. Mintang95-261 and Mintang96-60169 were common.
【语种】中文
【第一作者】杨昆
【通讯作者】杨昆
【期刊名称、卷期、页码】中国糖料,2010,(1):19-21
【论文发表时间】2010-01-01 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】农艺学

【题目】国家甘蔗品种第五轮区试漳州蔗区试验结果评价
【中文关键词】:甘蔗品种;区域化试验;评价
【英文关键词】Sugarcane varieties;Regional trial;Evaluation

【中文摘要】在2005~2006年漳州蔗区进行的2新1宿国家甘蔗品种区域试验中,参试的14个国家甘蔗品种在农艺性状方面表现为出苗率较好,分蘖力强,植株高大。对蔗茎产量和蔗糖分进行综合分析,表现最好的品种是MEX105、LCP85-384、闽糖96-1409,这3个品种蔗茎产量高、蔗糖分好;表现较好的品种是闽糖93-730、桂糖96—154、HoCP92-648、HoCP91-556、福农98-1103和云蔗99—596,这6个品种蔗茎产量、蔗糖分和含糖量都比较好;其余品种在各个方面表现一般。
【英文摘要】The 14 new sugarcane varieties had common germination and tilling rate with tall plant height and middle stalk in 2005-2006 national sugarcane varieties regional trial in Zhangzhou,Fujian province.In comparison with control varieties,ROC10 and ROC16,MEX 1
【语种】中文
【第一作者】潘世明
【通讯作者】潘世明
【期刊名称、卷期、页码】中国糖料,2008,(1):25-27
【论文发表时间】2008-01-01 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】农艺学

【题目】冀北地区“冀张薯8号”马铃薯机械化高产栽培技术
【中文关键词】冀北地区;冀张薯8号;机械化栽培技术
【英文关键词】无
【中文摘要】以适合北方一季作区种植的马铃薯新品种“冀张薯8号”为试验材料,研究适合“冀张薯8号”的机械化栽培技术,从而指导生产。
【英文摘要】无
【语种】中文
【第一作者】任德志
【通讯作者】任德志
【期刊名称、卷期、页码】杂粮作物,2009,29(3):211
【论文发表时间】2009-01-01 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】农艺学

【题目】均匀化设计优化橡胶树悬浮细培养基
【中文关键词】橡胶树; 细胞悬浮系; 均匀设计; 目测法
【英文关键词】无
【中文摘要】以橡胶树(Hevea brasiliensis)‘热研7-33-97’和杂交种杂交种B1 (H. brasiliensis × H. nitida)的细胞悬浮系为材料, 用目测打分和生物量鲜重作为评判指标, 进行KT (X1)、2,4-D (X2)、NAA (X3) 3 因素各12 个水平以及肌醇(X4)、L- 天冬酰胺(Asn) (X5)、水解酪蛋白(CH) (X6) 3 因素各6 个水平的混合水平均匀设计的结果表明, 目测法作为评判细胞生长状况的指标含量优于生物量法, KT、2,4-D和NAA浓
【英文摘要】无
【语种】中文
【第一作者】吴紫云
【通讯作者】黄华孙
【期刊名称、卷期、页码】植物生理学通讯,2009,45:163-168
【论文发表时间】2009-01-01 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】农艺学

【题目】两个优良甘蔗品系堆放过程中的品质变化

【中文关键词】甘蔗品系 蔗糖分 重力纯度 单茎重 还原糖
【英文关键词】Sugarcane clone Sucrose content Gravitation pure Stalk weight Reducing sugar
【中文摘要】取样分析云蔗02-588和02-1826两个甘蔗优良品系堆放过程中(6d内、自然条件下)蔗糖分、重力纯度、还原糖及单茎重等指标的变化情况。结果表明蔗糖分、重力纯度、单茎重等指标均出现不同程度的下降,还原糖逐渐升高。云蔗02-588品质变化较慢,耐贮性明显优于云蔗02-1826。
【英文摘要】Two fine sugarcane varieties,Yunzhe02-588 and Yunzhe02-1826 were deposited under natural condition for 6 days.Some indexes such as sucrose content,gravitation pure,reducing sugar and stalk weight of the two varieties were daily determined.The result indic
【语种】中文
【第一作者】刘家勇
【通讯作者】刘家勇
【期刊名称、卷期、页码】中国糖料,2008(3):13-14
【论文发表时间】2008-01-01 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】农艺学

【题目】马铃薯晚疫病水平抗性的QTL标记评价
【中文关键词】马铃薯; 晚疫病; 水平抗性; QT L标记
【英文关键词】Potat o; Phytophthora infestans; Horizontal resistance; QT L marker
【中文摘要】以 11个马铃薯晚疫病水平抗性杂交组合后代的 636个基因型为材料 , 对 4个与晚疫病 (Phytophthora infestans) 水平抗性相关位于不同染色体的 QT L位点标记 GP179、GP76、p r p1和 GP125进行了评价。结果显示: 4个 QT L位点标记共有 6个特征带 , 在不同遗传背景的组合中带型分布存在差异; 田间抗病性与 4个标记的总带数呈极显著直线相关; 主要成分分析表明 , p rp1570位点标记解释了供试材料 35%的抗性表型变异 , 为主效 QT L。结合抗
【英文摘要】To improve the selecti on efficiency of potat o horizontal resistance t o late blight caused by Phytophthora infestans, molecularmarkers (GP179, GP76, p r p1 and GP125) of 4 quantitative trait l oci (QT L) linked t o potat o late blight resistance and l o
【语种】中文
【第一作者】柳俊
【通讯作者】谢从华
【期刊名称、卷期、页码】园艺学报,2007,34(2):391-396
【论文发表时间】2007-01-01 00:00:00
【引文索引类型】其他
【引文索引号】05132 353X
【学科分类】农艺学

【题目】马铃薯新品种冀张薯10号的选育
【中文关键词】马铃薯;冀张薯10号;选育
【英文关键词】无
【中文摘要】介绍“ 冀张薯10号 ”马铃薯新品种的选育过程、栽培技术要点及适宜种植区域,指导农民生产。
【英文摘要】无
【语种】中文
【第一作者】马恢
【通讯作者】马恢
【期刊名称、卷期、页码】中国马铃薯,2009,23(3):192
【论文发表时间】2009-01-01 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】农艺学

【题目】马铃薯新品种冀张薯8号
【中文关键词】马铃薯;冀张薯8号
【英文关键词】无
【中文摘要】介绍“冀张薯8号”马铃薯新品种的选育过程、栽培技术要点及适宜种植区域,指导农民生产。
【英文摘要】无
【语种】中文
【第一作者】马恢
【通讯作者】马恢
【期刊名称、卷期、页码】中国马铃薯,2007,(3)
【论文发表时间】2007-01-01 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】农艺学

【题目】马铃薯新品种张薯7号的选育及配套栽培技术
【中文关键词】马铃薯;张薯7号;选育;栽培技术
【英文关键词】无
【中文摘要】介绍“张薯7号”马铃薯新品种的选育过程、栽培技术要点及适宜种植区域,指导农民生产。
【英文摘要】无
【语种】中文
【第一作者】张希近
【通讯作者】张希近
【期刊名称、卷期、页码】杂粮作物,2007,27(3):184-185
【论文发表时间】2007-01-01 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】农艺学

【题目】闽糖86-2121的种性研究
【中文关键词】甘蔗;闽糖86 2121;蔗茎产量;蔗糖分;抗逆性;遗传组成
【英文关键词】Sugarcane;minting 86-2121,Cane yield,Sucrose content,Adverse resistance,Hereditary compose
【中文摘要】为了更好地了解闽糖86-2121的特性,为闽糖86-2121大面积示范推广提供技术指导,对闽糖86-2121从品种比较试验、福建省预备区域试验到福建省区域试验的结果进行分析研究,结果表明:闽糖86-2121萌芽率为61.32%,比对照种闽糖70-611低5.90% 分蘖率为134.97% ,比闽糖7-611高44.21% 株高为305cm,比闽糖70-611高6cm 茎2.62lcm.比闽糖70-611粗0.078cm。有效茎数为73374条/hm2,比闽糖70-611多11479条/hm2.平均蔗茎产量
【英文摘要】For providing technical director for large area demonstration and popularization of Mingtang86-2121,we studied on character of Mingtang 86-2 1 2 1 during the contrasting test to prepare regional trial and regional trial of new sugarcane variety in Fujian
【语种】中文
【第一作者】潘世明
【通讯作者】潘世明
【期刊名称、卷期、页码】中国农学通报,2006,22(9):452-456
【论文发表时间】2006-01-01 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】农艺学

【题目】南方马铃薯研究中心新型栽培种的研究与应用
【中文关键词】马铃薯;新型栽培种;研究;应用

【英文关键词】无
【中文摘要】马铃薯新型栽培种(Neo-tuberosum)是20世纪60年代初仿效历史上的安第斯亚种在欧洲经人工选择成为马铃薯亚种的选择过程,从秘鲁、玻利维
【英文摘要】无
【语种】中文
【第一作者】吴承金
【通讯作者】吴承金
【期刊名称、卷期、页码】中国马铃薯,2007,21(5):303-305
【论文发表时间】2007-01-01 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】农艺学

【题目】全国第5轮甘蔗新品种区域试验湛江区试点结果分析
【中文关键词】甘蔗;品种;区域试验
【英文关键词】Sugarcane; Variety; Regional Trial
【中文摘要】2005~2006 2 年新植和2 年宿根的结果表明,14 个参试品种中,粤糖94-128 增产增糖显著,农艺性状及宿根性能好,居于首位;Mex105、福农98-1103、CP8 号和闽糖96-1409 增糖幅度明显,增产不明显,农艺性状较好,宿根性能方面,Mex105、CP8 号和闽糖96-1409 强,福农98-1103 较差;桂糖94-116和Q170 增产幅度大,但增糖不明显,云蔗99-596 产量、糖分均介于2 对照种之间;其余品种比2 对照种均有不同程度的减产、减糖,表现较差。
【英文摘要】Results from the trials on two crops of plant cane and one crop of ratoon cane during 2005 and 2006 showed that both cane and sugar yields of YT94-128 was significantly higher than those of ROC10(CK1) and ROC16(CK2), ranking first among the fourteen varie
【语种】中文
【第一作者】陈勇生
【通讯作者】陈勇生
【期刊名称、卷期、页码】甘蔗糖业
【论文发表时间】2007-01-01 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】农艺学

【题目】糖能兼用甘蔗新品种闽糖92-142的选育研究
【中文关键词】糖能兼用; 甘蔗; 品种; 选育; 特性
【英文关键词】sugar and energy;sugarcane; variety; selecting and breeding;character
【中文摘要】闽糖92-142系从桂糖57-624 ×湛蔗74-141 组合中选育出的一个具有高产高糖、中晚熟、宿根性好、抗逆性强、适应性广等特性的甘蔗新品种。在福建多年多点试验结果表明, 闽糖92-142公顷蔗茎产量140.446 t、含糖量19.529 t , 分别比福建目前主栽品种闽糖70-611 增产30.4 %、增搪23.4 % , 生物产量高达20.637 t · hm-2 ,是个糖能兼用的甘蔗新品种。
【英文摘要】Mintang 92-142,selected from the cross combination of Guitang 57-624 and Zhanzhe 74-147, is a new sugarcane variety with medium-late ,high yield,high sucrose content,high adverse resistance and wide adaptability.The results from different sites for severa
【语种】中文
【第一作者】李瑞美
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【引文索引号】0

【学科分类】农艺学

【题目】糖能两用型甘蔗新品种粤糖96-835的选育
【中文关键词】甘蔗; 品种; 能源; 粤糖96-835; 选育
【英文关键词】无
【中文摘要】粤糖96-835 系广州甘蔗糖业研究所从Co 419 @ 新台糖10号杂交组合后代中选育成的糖能两用型甘蔗新品种。该品种中早熟, 高糖高产, 萌芽快、齐, 分蘖性好, 宿根性较强; 中至中大茎, 实心, 不易倒伏, 老叶较容易脱壳; 6年38点次试验, 结果表明, 粤糖96-835 平均蔗茎产量105 531 kg /hm2、含糖量15 333 kg /hm2、平均蔗糖分14. 55%, 分别较对照ROC 10增产蔗25. 2%、增产糖26. 3% , 蔗糖分高0. 07%; 人工接种, 高抗黑穗病和嵌纹
【英文摘要】无
【语种】中文
【第一作者】沈万宽
【通讯作者】沈万宽
【期刊名称、卷期、页码】种子
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【引文索引类型】其他
【引文索引号】1001-4705(2007) 07-0089-03
【学科分类】农艺学

【题目】同异分析法及其联系势测验在甘蔗品种区域化试验中的应用
【中文关键词】甘蔗品种 区域化试验 同异分析法 联系势
【英文关键词】sugarcane variety regional trial similarity-difference analysis connection trend
【中文摘要】对云南省甘蔗品种区域化试验(2005~2006年)的14个品种进行同异法分析及其联系势测验,结果表明,Q170、云蔗99-596、Q141、Cp85-1308、云蔗98-236、云瑞99-113等6个品种与理想品种的联系度在0.7254~0.8712,综合表现优良,可考虑给予示范、繁殖推广。其余品种表现一般或较差,需进一步试验观察。
【英文摘要】14 varieties in the sugarcane variety regional trial in yunnan from 2005 to 2006 were analyzed by similarity-difference analysis and connection trend test.The result showed that the connection degree between 6varieties(Q170,Yunzhe99-596,Q141,CP85-1308,Yun
【语种】中文
【第一作者】刘家勇
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【引文索引类型】其他
【引文索引号】0
【学科分类】农艺学

【题目】我国大陆近年育成甘蔗品种的亲本分析
【中文关键词】甘蔗; 品种; 亲本; 割手密; 遗传基础
【英文关键词】sugarcane; var iety ; parent; Saccharum sp ontaneum ; genet ic base
【中文摘要】对我国大陆1999 年以来通过省级以上审(鉴、认) 定的47 个自育甘蔗杂交品种的亲本进行分析, 结果表明,在被使用的50 个亲本中, 可追溯到22 个原始亲本, 其中CP72- 1210 和崖城71- 374 的使用频率最高, 成为近年来最重要的亲本, 作亲本的次数分别达11 次和8 次, 育成后代品种分别达12 个和10 个(含孙代品种) ; 指出在甘蔗野生种本土割手密的开发利用和扩大遗传基础方面取得显著的成效, 育成品种使用了7 个含本土割手密血缘的崖城系列亲本, 育成含本土割手密血缘的品种17
【英文摘要】Fifty parental clones, which could be genetically traced back to 22 original ancestors, were used for breeding 47commercial varieties released in Mainland China since 1999. CP72- 1210 and YC71- 374 became the most active parents, being used as parents for
【语种】中文

【第一作者】邓海华
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【期刊名称、卷期、页码】广东农业科学
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【学科分类】农艺学

【题目】用EST-SSR标记分析巴西橡胶树遗传多样性
【中文关键词】巴西橡胶树; EST-SSRs; 遗传多样性; 遗传距离
【英文关键词】无
【中文摘要】利用19 对EST-SSRs 引物对41 份巴西橡胶树材料(6个野生材料和35个栽培种)进行遗传多样性分析。结果表明: 19 对引物均获得了预期的扩增结果, 得到92 个多态性位点, 每对引物检测到的等位基因数为2~7 个,平均为4.84 个。在相似系数为0.64 的水平上, 野生材料和栽培种区分开来, 在相似系数0.75 的水平上, 又可将栽培种材料分为四个类群; 栽培种和野生材料间的遗传距离在0.11~1.16 之间, 栽培种间遗传距离较小, 野生材料间遗传距离相对较大。在栽培种和野生材料之间
【英文摘要】Nineteen pairs of EST-SSRs primers were employed to detect the genetic diversity of 41 accessions of Hevea brasiliensis germplasm(6 wild accessions and 35 cultivars).These 19 pairs of EST-SSRs primers resulted in expected amplified products by amplifying
【语种】中文
【第一作者】李维国
【通讯作者】李维国
【期刊名称、卷期、页码】热带作物学报,2009
【论文发表时间】2009-01-01 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】农艺学

【题目】粤糖00-236和ROC10适宜植期、下种量与施肥量研究
【中文关键词】甘蔗;品种;植期;下种量;施肥量
【英文关键词】Sugarcane; Variety; Planting time; Planting density; Rate of fertilization
【中文摘要】在湛江蔗区,对甘蔗新品种粤糖00-236 和当地主栽培品种ROC10 进行不同植期、不同下种量及不同施肥水平的试验。结果表明,提早植期和增施磷肥有显著的增产增糖效果。粤糖00-236 的平均蔗茎产量与ROC10 相近,但其公顷含糖量极显著高于后者。粤糖00-236 特早熟高糖,适合糖厂早期开榨。在本试验条件下,公顷下种量45000 段与37500 段双芽苗之间、公顷尿素施用量1050 kg 与750 kg 之间,以及公顷氯化钾施用量600 kg 与450 kg,蔗茎产量和含糖量均无显著差异。
【英文摘要】Field experiment on different planting times, planting densities and the application rates of N, P, and K fertilizers for the sugarcane variety YT00-236 and ROC10 was conducted in Zhanjiang cane area, Guangdong province. The results indicated that for bot
【语种】中文
【第一作者】陈勇生
【通讯作者】邓海华
【期刊名称、卷期、页码】甘蔗糖业
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【引文索引类型】其他
【引文索引号】0
【学科分类】农艺学

【题目】云南超高产橡胶树的SSR、AFLP和TRAP分析
【中文关键词】橡胶树;SSR; AFLP; TRAP; 高产

【英文关键词】无
【中文摘要】利用SSR、AFLP 和TRAP 3 种分子标记对云南勐腊农场发现的2 株超高产橡胶树云PR107、云RRIM501与正常产量单株(PR107、RRIM501)进行遗传分析, 共筛选到具有多态性的SSR 引物7 对、AFLP 引物28 对和TRAP 引物12 对, 3 种标记分别检测到多态性条带9、94 和21 条, 平均每对引物可分别检测到1.16、3.36 和1.4条多态性条带, 结果表明, 2 株超高产橡胶树的遗传组成均发生了改变。
【英文摘要】Yield is one of the most important traits and breeding objectives of rubber tree.Two superhigh-yielding rubber trees,Yun PR107 and Yun RRIM501,were collected from Meng La Farm in YunnanProvince.The super high-yielding rubber tree and normal-yielding rubbe
【语种】中文
【第一作者】张燕燕
【通讯作者】安泽伟
【期刊名称、卷期、页码】热带作物学报, 2010
【论文发表时间】2010-01-01 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】农艺学

【题目】云南甘蔗创新亲本的遗传力和配合力研究
【中文关键词】甘蔗 创新亲本 遗传力 配合力
【英文关键词】Sugarcane Creation parent Heritability Combining ability
【中文摘要】本文选用11个云南甘蔗创新亲本与国内外常用亲本杂交,配制组合26个,研究了云南甘蔗创新亲本有性杂交世代主要性状的遗传效应。结果表明,云南甘蔗创新亲本及组合选配方式对后代的影响存在显著差异;对主要性状遗传力贡献的大小为组合(86.7%)>父本(79.3%)>母本(58.4%);后代主要性状的遗传力大小顺序为锤度>有效茎>蔗产量>茎径>糖产量>株高;在11个云南甘蔗创新亲本中,云瑞03-417、云瑞99-113、云蔗97-84和云蔗03-97等作为母本,云蔗71-790、云蔗89-351、云蔗94-343和云
【英文摘要】Twenty six combinations were selected between eleven Yunnan creation sugarcane parents and commonly used parents. Heredity effects of main traits of sexual generation of the creation parents were studied in this paper. The result indicated that effects on
【语种】中文
【第一作者】吴才文
【通讯作者】吴才文
【期刊名称、卷期、页码】西南农业学报,2009,22(5):1274-1278
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【引文索引类型】其他
【引文索引号】0
【学科分类】农艺学

【题目】植物激素(或生长调节物质)在橡胶树组织培养中的应用
【中文关键词】植物激素;橡胶树;组织培养;愈伤组织;体细胞胚
【英文关键词】无
【中文摘要】介绍了植物激素在橡胶树组织培养中的应用和研究进展
【英文摘要】无
【语种】中文
【第一作者】孙爱花
【通讯作者】孙爱花
【期刊名称、卷期、页码】植物生理学通讯,2008,44(3):593-596
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【引文索引类型】其他
【引文索引号】0

【学科分类】农艺学

【题目】中大茎高产甘蔗新品种闽糖96-6016的选育
【中文关键词】甘蔗新品种;选育;特性
【英文关键词】New sugarcane varieties; Selecting and breeding; Character
【中文摘要】闽糖96-6016系福建省农业科学院甘蔗研究所从闽糖70-611×闽选703(Co1001)组合中选育出的一个甘蔗新品种。多年多点试验结果表明,闽糖96-6016平均蔗茎产量133.19t/hm2,分别比对照种闽糖70-611(CK1)、新台糖10号(CK2)、新台糖16号(CK3)增产12.5%、42.1%和22.6%;11~1月份平均蔗糖分(绝对值)14.10%;公顷含糖量18.768 t,分别比对照种闽糖70-611、新台糖10号、新台糖16号增糖15.7%、42.1%、14.4
【英文摘要】In 2008, the results of the sixth national regional plant crop test of 11 sugarcane varieties, in Kaiyuan,Yunnan showed that Funong02 -3924, Yunzhe99 -91, RB76 -5418 were outstanding in the comprehensivecharacters. Mintang95 -261 and Mintang96 -60169 we
【语种】中文
【第一作者】李瑞美
【通讯作者】李瑞美
【期刊名称、卷期、页码】中国糖料,2010(1):16-18
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【引文索引号】0
【学科分类】农艺学

【题目】中国甘薯主要亲本遗传多样性的ISSR分析
【中文关键词】甘薯,亲本,遗传多样性
【英文关键词】sweetpotato,parents,genetic diversity
【中文摘要】本文用ISSR标记分析了中国甘薯主要亲本的遗传多样性,结果表明,中国甘薯主要亲本存在广泛的遗传变异.
【英文摘要】Sixty-two main parents of sweetpotato (Ipomoea batatas (L.) Lam.) in China were assessed using inter-simple sequencerepeat (ISSR) markers to understand their genetic differences. Seventeen ISSR primers generated 490 polymorphic bands with an averageof 2
【语种】中文
【第一作者】李强
【通讯作者】刘庆昌
【期刊名称、卷期、页码】作物学报,2008,34(6):972-977
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【引文索引号】0
【学科分类】农艺学

【题目】中早熟高糖甘蔗新品种闽糖93—119的选育
【中文关键词】甘蔗;品种;选育;特性
【英文关键词】Sugarcane;variety;breeding;screening;characte ristics
【中文摘要】闽糖93—119系福建省农科院甘蔗研究所从赣蔗65—542×新台糖1号杂交组合后代中选育成的中早熟丰产高糖甘蔗新品种。该品种高糖高产中熟,萌芽快,分蘖力强;13年20点次试验结果,闽糖93-119平均蔗茎产量112.94 t·hm-2,蔗糖产量17.19 t·hm-2 ,平均蔗糖分15.30% ,分别比对照品种闽糖70-6l1、新台糖1O号、新台糖16号增产蔗茎35.8% 、52.2% 、11.8 %;增产糖47.7% 、55.3% 、15.1% ;提高蔗糖分含量1.28个、0.38个、0.52个百分点。
【英文摘要】A new sugarcane variety,Mintang 93- 119,was bred and selected from the crosses of Ganzhe 65-542xROC1 by the Sugarcane Research Institute at Fujian Academy of Agricultural Sciences.Mintang 93-119 had the desirable characteristics of high yield,mid-to-earl
【语种】中文
【第一作者】李瑞美

【通讯作者】李瑞美
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【引文索引号】0
【学科分类】农艺学

【题目】Differential responses of two types of winter wheat (Triticum aestivum L.) to autumn and spring applied mesosulfuron-methyl
【中文关键词】无
【英文关键词】Application timing; Hard winterwheat; Mesosulfuron-methyl; NDVI; Soft winterwheat; Visible injury
【中文摘要】Field experiments were conducted in the 2005/2006 and 2006/2007 crop seasons to evaluate the tolerance of hard winterwheat (HWW) and soft winterwheat (SWW) varieties to post-emergence mesosulfuron-methyl treatment. The application of mesosulfuron-methyl at 11.25 g a.i. ha − 1 plus a noninonic surfactant at 252 g a.i. ha − 1 to three HWW and three SWW varieties in either autumn (Zadoks stage 14 – 15) or spring (Zadoks stage 24 – 25) resulted in visible injury, including chlorisis, stunting and leaf deformities. The greatest injury occurred at fourteen days after treatment (DAT) for all wheat varieties. All varieties showed the same initial sensitivity to herbicide treatment, but differed significantly in their recovery from plant damages. The HWW varieties recovered more successfully from spring-applied herbicide than the SWW varieties; conversely, the SWW varieties recovered more rapidly from damage caused by autumn-applied herbicide than the HWW varieties. Normalized Difference Vegetative Index (NDVI) values were severely affected by autumn herbicide application for HWW varieties and spring application for SWW varieties. Autumn herbicide application for SWW varieties and spring herbicide application for HWW varieties produced higher grain yields. Based on these data, we conclude that applying mesosulfuron-methyl plus a noninonic surfactant in autumn for SWW varieties and in spring for HWW varieties is optimal, and that application timing has profound implications for herbicide tolerance and production of wheat.
【英文摘要】Field experiments were conducted in the 2005/2006 and 2006/2007 crop seasons to evaluate the tolerance of hard winterwheat (HWW) and soft winterwheat (SWW) varieties to post-emergence mesosulfuron-methyl treatment. The application of mesosulfuron-methyl at 11.25 g a.i. ha − 1 plus a noninonic surfactant at 252 g a.i. ha − 1 to three HWW and three SWW varieties in either autumn (Zadoks stage 14 – 15) or spring (Zadoks stage 24 – 25) resulted in visible injury, including chlorisis, stunting and leaf deformities. The greatest injury occurred at fourteen days after treatment (DAT) for all wheat varieties. All varieties showed the same initial sensitivity to herbicide treatment, but differed significantly in their recovery from plant damages. The HWW varieties recovered more successfully from spring-applied herbicide than the SWW varieties; conversely, the SWW varieties recovered more rapidly from damage caused by autumn-applied herbicide than the HWW varieties. Normalized Difference Vegetative Index (NDVI) values were severely affected by autumn herbicide application for HWW varieties and spring application for SWW varieties. Autumn herbicide application for SWW varieties and spring herbicide application for HWW varieties produced higher grain yields. Based on these data, we conclude that applying mesosulfuron-methyl plus a noninonic surfactant in autumn for SWW varieties and in spring for HWW varieties is optimal, and that application timing has profound implications for herbicide tolerance and production of wheat.
【语种】英文
【第一作者】Lingan Kong
【通讯作者】Fahong Wang
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【论文发表时间】2009-05-10 00:00:00
【引文索引类型】SCI
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【学科分类】土壤学

【题目】Wheatcroppingsystems and technologies in China
【中文关键词】无
【英文关键词】Conservation agriculture; Croppingsystems and technology; Raised bed-planting; Wheat
【中文摘要】无
【英文摘要】Chinese wheat (Triticum aestivum) production has developed rapidly during the last 57 years, largely due to improved crop management technologies and new varieties. The history of wheat planting technologies in China was reviewed, and the

physiological mechanisms that allow wheat to attain high yield under these planting systems were analyzed. The use of leaf number and stage of development to indicate the optimum timing for applications of fertilizers and irrigation water, and uniform seeding at reduced seeding rates to control lodging contributed significantly to the substantial progress in wheat productivity. However, flood irrigation and tillage-based practices also resulted in serious problems, including a decline in soil fertility and quality, environmental pollution, and inefficient use of water resources. The major future challenges facing wheat production are to improve water and nutrient use efficiency. Conservation agriculture-based resource conservation technologies such as zero or reduced tillage, flat or raised bed-planting systems, and rational management of crop residues to eliminate burning in the field are among the strategies we strongly recommend for improving agricultural environments and stabilizing/increasing wheat production in China.

【语种】英文

【第一作者】Fahong Wang

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【学科分类】农业基础学科

【题目】comparison of yield components and plant type characteristics of high-yield rice between Taoyuan, a ‘special eco-site’ and Nanjing, China.

【中文关键词】无

【英文关键词】Grain yield; Hybrid rice; Yieldcomponents; LAI; Planttype

【中文摘要】无

【英文摘要】A number of field studies have reported very highriceyields in Taoyuan, Yunnan province, China, and the physiological and ecological factors associated with highyield have been explored. However, little attention has been paid to differences in planttype. The main objective of this study was to reveal the planttypecharacteristics associated with the highriceyield through the comparison of two sites: Taoyuan, Yunnan province and Nanjing, Jiangsu province, China. The physiological and environmental factors were also discussed. Field experiments were conducted at two sites in 2006 and 2007. Three Indica F1 hybrid varieties, Eryou 107, Xieyou 107 and Eryouhang 1 in 2006, Eryou 107 and Xieyou 107 in 2007 were grown at two sites under optimum crop management to achieve maximum attainable yields. Leaf area, leaf length, leaf width, leaf angles, specific leaf weight (SLW) and specific leaf nitrogen (SLN) at heading, yield and yieldcomponents at maturity were determined. Daily radiation, air temperature and relative humidity (RH) were monitored. The highestyield of 18.5 t ha − 1 was achieved by Eryou 107 at Taoyuan in 2006, and average yield of all varieties at Taoyuan was 96% and 85% higher than Nanjing in 2006 and 2007, respectively. The higheryield at Taoyuan was attributed primarily to the larger sink size, which was mainly caused by the greater number of panicles per m2. Biomass production was greater at Taoyuan than at Nanjing in 2006 and 2007, while differences in harvest index were very small. Compared with Nanjing, the rice planted in Taoyuan has greater leaf area index about 10 with smaller area per stem, shorter, wider and thicker leaves and smaller leaf angles. These results indicate that in addition to the higher biomass accumulation (main physiological factor) and the intense solar radiation with the large diurnal temperature range (main environmental factor), the greater leaf area index (LAI) with smaller area per stem, may be an important morphological factor contributing to the highyield in Taoyuan.

【语种】英文

【第一作者】Ganghua Li

【通讯作者】Yanfeng Ding

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【学科分类】农业基础学科

【题目】Genetic Diversity of Chinese Summer Soybean Germplasm Revealed by SSR Markers

【中文关键词】Chinese summer soybean (Glycine max (L.) Merr), SSR markers, Genetic diversity

【英文关键词】Chinese summer soybean (Glycine max (L.) Merr), SSR markers, Genetic diversity

【中文摘要】There are abundant soybean germplasm in China. In order to assess genetic diversity of Chinese summer soybean germplasm, 158 Chinese summer soybean accessions from the primary core collection ofG. max were used to analyze genetic variation at 67 SSR loci. A total of 460 alleles were detected, in which 414 and 419 alleles occurred in the 80 Huanghuai and the 78 Southern summer accessions, respectively. The average number of alleles per locus was 6.9 for all the summer accessions, and 6.2 for both Huanghuai and Southern summer accessions. Marker diversity (D) per locus ranged from 0.414 to 0.905 with an average of 0.735 for all the summer accessions, from 0.387 to 0.886 with an average of 0.708 for the Huanghuai summer accessions, and from 0.189 to 0.884 with an average of 0.687 for the Southern summer accessions. The Huanghuai and Southern summer germplasm were different in the specific alleles, allelic-frequencies and pairwise genetic similarities. UPGMA cluster analysis based on the similarity data clearly separated the Huanghuai from Southern summer soybean accessions, suggesting that they were different gene pools. The results indicate that Chinese Huanghuai and Southern summer soybean germplasm can be used to enlarge genetic basis for developing elite summer soybean cultivars by exchanging their germplasm.

【英文摘要】There are abundant soybean germplasm in China. In order to assess genetic diversity of Chinese summer soybean germplasm, 158 Chinese summer soybean accessions from the primary core collection ofG. max were used to analyze genetic variation at 67 SSR loci. A total of 460 alleles were detected, in which 414 and 419 alleles occurred in the 80 Huanghuai and the 78 Southern summer accessions, respectively. The average number of alleles per locus was 6.9 for all the summer accessions, and 6.2 for both Huanghuai and Southern summer accessions. Marker diversity (D) per locus ranged from 0.414 to 0.905 with an average of 0.735 for all the summer accessions, from 0.387 to 0.886 with an average of 0.708 for the Huanghuai summer accessions, and from 0.189 to 0.884 with an average of 0.687 for the Southern summer accessions. The Huanghuai and Southern summer germplasm were different in the specific alleles, allelic-frequencies and pairwise genetic similarities. UPGMA cluster analysis based on the similarity data clearly separated the Huanghuai from Southern summer soybean accessions, suggesting that they were different gene pools. The results indicate that Chinese Huanghuai and Southern summer soybean germplasm can be used to enlarge genetic basis for developing elite summer soybean cultivars by exchanging their germplasm.

【语种】英文

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【学科分类】农业基础学科

【题目】Characteristics of genetic diversity and establishment of applied core collection for Chinese cyst nematode resistant soybean

【中文关键词】applied core collection;resistance;simple sequence repeat marker;soybean;soybean cyst nematode

【英文关键词】applied core collection;resistance;simple sequence repeat marker;soybean;soybean cyst nematode

【中文摘要】Soybean cyst nematode (SCN; Heterodera glycines) is one of the most important pests affecting soybean production. The best method of control of SCN is through the development of resistant cultivars. However, limited progress has been made in soybean breeding in China because most modern cultivars have no resistance to SCN. The distribution and phenotype of 432 immune or highly resistant Chinese accessions were surveyed and a primary core collection was selected as a representative sample for further analyses. Using evenly distributed simple sequence repeat markers, five selection methods were applied to the primary core collection and the optimal method was chosen to establish a core collection, which consisted of 28 accessions. These encompassed 70.8% of the allelic variation present in the overall resistant collection. The 28 accessions differed from the reference resistant accessions at the genomic level, indicating that Chinese resistant accessions are distinct from known resistant accessions. This applied core collection provides a rational framework for undertaking diversity surveys, using genetic variation for the investigation of complex traits and for the discovery of novel traits.

【英文摘要】Soybean cyst nematode (SCN; Heterodera glycines) is one of the most important pests affecting soybean production. The best method of control of SCN is through the development of resistant cultivars. However, limited progress has been made in soybean breeding in China because most modern cultivars have no resistance to SCN. The distribution and phenotype of 432 immune or highly resistant Chinese accessions were surveyed and a primary core collection was selected as a representative sample for further analyses. Using evenly distributed simple sequence repeat markers, five selection methods were applied to the primary core collection and the optimal method was chosen to establish a core collection, which consisted of 28 accessions. These encompassed 70.8% of the

allelic variation present in the overall resistant collection. The 28 accessions differed from the reference resistant accessions at the genomic level, indicating that Chinese resistant accessions are distinct from known resistant accessions. This applied core collection provides a rational framework for undertaking diversity surveys, using genetic variation for the investigation of complex traits and for the discovery of novel traits.

【语种】英文
【第一作者】Yan-Song Ma
【通讯作者】邱丽娟
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【学科分类】农业基础学科

【题目】Establishment of Chinese soybean (Glycine max) core
【中文关键词】Glycine max, Germplasm, Breeding, Landrace
【英文关键词】Glycine max, Germplasm, Breeding, Landrace
【中文摘要】It is very important to efficiently study and use genetic diversity resources in crop breeding and sustainable agriculture. In this study, different sampling methods and sample sizes were compared in order to optimize the strategies for building a rationally sized core collection of Chinese soybean (Glycine max). The diversity in the core collection captured more than 70% of that in the pre-core collection, no matter what sampling methods were used, at a sampling proportion of 1%. Core collections established with both simple sequence repeat (SSR) marker data and agronomic traits were more representative than those chosen on an independent basis. An optimal sampling method for a soybean core collection was determined, in which strategy 'S' (allocating accessions to clusters according to the proportion of square root of the original sample size within each ecotype) was used based on SSR and agronomic data. Curve estimation was used to estimate the allelic richness of the entire Chinese soybean germplasm and a minimum sample size for a core collection, on which a sampling proportion of about 2% was determined to be optimal for a core collection. Further analysis on the core collection with fourteen agronomic traits and allelic constitution at 60 SSR loci suggested that it highly represented the entire collections both on genetic structure and diversity distribution. This core collection would provide an effective platform in proper exploitation of soybean germplasm resources for the study of complex traits and discovering important novel traits for crop genetic development.
【英文摘要】It is very important to efficiently study and use genetic diversity resources in crop breeding and sustainable agriculture. In this study, different sampling methods and sample sizes were compared in order to optimize the strategies for building a rationally sized core collection of Chinese soybean (Glycine max). The diversity in the core collection captured more than 70% of that in the pre-core collection, no matter what sampling methods were used, at a sampling proportion of 1%. Core collections established with both simple sequence repeat (SSR) marker data and agronomic traits were more representative than those chosen on an independent basis. An optimal sampling method for a soybean core collection was determined, in which strategy 'S' (allocating accessions to clusters according to the proportion of square root of the original sample size within each ecotype) was used based on SSR and agronomic data. Curve estimation was used to estimate the allelic richness of the entire Chinese soybean germplasm and a minimum sample size for a core collection, on which a sampling proportion of about 2% was determined to be optimal for a core collection. Further analysis on the core collection with fourteen agronomic traits and allelic constitution at 60 SSR loci suggested that it highly represented the entire collections both on genetic structure and diversity distribution. This core collection would provide an effective platform in proper exploitation of soybean germplasm resources for the study of complex traits and discovering important novel traits for crop genetic development.
【语种】英文
【第一作者】Lixia Wang
【通讯作者】邱丽娟
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【学科分类】农业基础学科

【题目】Genetic contribution of foreign germplasm to elite Chinese soybean (Glycine max) cultivars revealed by SSR markers
【中文关键词】soybean, pedigree analysis, simple sequence repeats (SSR), genetic relationship
【英文关键词】soybean, pedigree analysis, simple sequence repeats (SSR), genetic relationship
【中文摘要】Simple sequence repeats (SSR) marker analysis, combined with pedigree analysis, was carried out to trace the genetic constitutes of Suinong 14 and Hefeng 25 in assessing the contribution of foreign germplasm to those elite cultivars. The overall goal is to accumulate information for further effective utilization of foreign germplasm in Chinese soybean breeding programs. SSR clustering results indicated that the genetic base of elite Chinese soybean cultivars, including Suinong 14 and Hefeng 25, were broadened and enhanced via introduction of Amsoy from the U.S. and Shishengchangye from Japan. The pedigree analysis showed a very high coefficient of parentage between Shishengchangye and Hefeng 25, between Shishengchangye and Suinong 14, and between Amsoy and Suinong 14. The genetic similarity between Suinong 14 and Hefeng 25 was 60.58%. Among 20 linkage groups, more genomic regions were transferred from Hefeng 25 to Suinong 14 in linkage group (LG) I, L and C2 than other LGs. Among the unique alleles of foreign parents, five specific loci in Amsoy were transferred to Suinong 14, and three loci from Shishengchangye to Suinong 14. Some SSR loci were proved to be correlated with phenotypes: two loci for seed size introgressed from Shishengchangye to Suinong 14, and one locus for protein content from Amsoy to Suinong 14. These results indicate that the two foreign parents might have important contributions in the development of Suinong 14 and Hefeng 25.
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【语种】英文
【第一作者】QIN Jun
【通讯作者】邱丽娟
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【学科分类】农业基础学科

【题目】Cloning and sequence diversity analysis of GmHs1 pro-1 in Chinese domesticated and wild soybeans
【中文关键词】Glycine max, Glycine soja, DNA sequence diversity, GmHs1 pro-1, Soybean cyst nematode, Resistance, Selection, Bottleneck
【英文关键词】Glycine max, Glycine soja, DNA sequence diversity, GmHs1 pro-2, Soybean cyst nematode, Resistance, Selection, Bottleneck
【中文摘要】Soybean cyst nematode (SCN) (Heterodera glycines Ichinohe) is the most important pathogen in soybean production worldwide and causes substantial yield losses. An apparent narrow genetic base of SCN resistance was observed in current elite soybean cultivars, and searching for novel SCN resistance genes as well as novel resistance sources rather than focusing on the two important genes rhg1 and Rhg4 has become another major objective in soybean research. In the present paper we report a 1,477 bp Hs1pro-1 homolog, named GmHs1pro-1. This gene was cloned from soybean variety Wenfeng 7 based on information for Hs1pro-1, a beet cyst nematode resistance gene in sugar beet. It has two domains, Hs1pro-1_N and Hs1pro-1_C, both of which are believed to confer resistance to nematodes. Of the 1,477 bp sequence in GmHs1pro-1, an open reading frame of 1,314 bp, encoding a protein with 437 amino acids, was flanked by a 5′-untranslated region of 27 bp and a 3′-untranslated region of 135 bp. Fourteen single-nucleotide

polymorphisms (SNPs) were observed in 44 soybean accessions including 23 wild soybeans, 8 landraces, and 13 soybean varieties (or lines), among which 5 in wild soybeans and 3 in landrace accessions were unique. Sequence diversity analysis on the 44 soybean accessions showed $\pi = 0.00168$ and $\theta = 0.00218$ for GmHs1pro-1; landraces had the highest diversity, followed by wild soybeans, with varieties (or lines) having the lowest. Although we did not detect a significant effect of selection on GmHs1pro-1 in the three populations, sequence diversity, unique SNPs, and phylogenetic analysis indicated a slight domestication bottleneck and an intensive selection bottleneck. High sequence diversity, more unique SNPs, and broader representation across the phylogenetic tree in wild soybeans and landraces indicated that wild collections and landrace accessions are invaluable germplasm for broadening the genetic base of elite soybean varieties resistant to SCN.

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【语种】英文
【第一作者】Cuiping Yuan
【通讯作者】邱丽娟
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【学科分类】农业基础学科

【题目】Genetic diversity of Chinese Spring Soybean Germplasm Revealed by SSR Markers

【中文关键词】Glycine max;genetic distances;microsatellites
【英文关键词】Glycine max;genetic distances;microsatellites

【中文摘要】To use, maintain and increase crop germplasm collections efficiently, it is important to assess the diversity of these collections. In this study, 1383 accessions of Chinese spring sowing soybean (Glycine max) were used for SSR analysis. In total, 1111 alleles were detected among these collections with an average number of alleles (NA) of 18.52 per locus. The genetic diversity index (PIC value) varied from 0.456 to 0.928 with an average of 0.815. Intensive breeding of cultivars have led to a decrease of genetic diversity. Random-repeated sampling within landraces of different geographical regions suggested that the ranking of both average NA and PIC values among different geographical regions were North spring soybean (Nsp) > South spring soybean (Ssp) > Northeast spring soybean (NEsp), but because of the uneven distribution of SSR variation patterns, the differences between them did not reach a significant level. There was a relationship between genetic distances and geographical distances among soybean populations from different regions, indicating a certain degree of geographical differentiation among Chinese soybean germplasm collections.

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【语种】英文
【第一作者】Lixia Wang
【通讯作者】邱丽娟
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【引文索引号】DOI: 10.1111/j.1439-0523.2007.01429.x
【学科分类】农业基础学科

【题目】Discovery and transmission of functional QTL in the pedigree of an elite soybean cultivar Suinong14
【中文关键词】in silico mapping;soybean cultivar;ancestral line;QTL;transmission
【英文关键词】in silico mapping;soybean cultivar;ancestral line;QTL;transmission
【中文摘要】In this study, we extended in silico mapping for single trait to analyse data from multiple environments by calculating intraclass correlations and to mapping pleiotropic QTL for multiple traits by defining new statistic to measure the correlation between multiple traits and the marker. Data sets include phenotypes of eight agronomic traits obtained from six different ecologic environments and years, and genotypic information from 477 polymorphic markers on 14 ancestral lines in the pedigree of ‘ Suinong14 ’. With in silico mapping, a total of 39 markers distributed on 14 linkage groups are detected as QTL responsible for eight agronomic traits and 10 QTL are identified as having pleiotropic effects. Tracing transmission of functional QTL in the pedigree indicated that certain QTL, such as Sat_036 on linkage group D1a, Satt182 on linkage group L, and Satt726 on linkage group B2 may be responsible for the contribution of exotic germplasm to the improved cultivars.
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【语种】英文
【第一作者】QIN Jun
【通讯作者】邱丽娟
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【学科分类】农业基础学科

【题目】Development of SNP markers and haplotype analysis of the candidate gene for rhg1, which confers resistance to soybean cyst nematode in soybean
【中文关键词】Haplotype, SCN, SNP marker, Soybean
【英文关键词】Haplotype, SCN, SNP marker, Soybean
【中文摘要】Soybean cyst nematode (SCN; Heterodera glycines Ichinohe) is one of the most destructive pests in the cultivation of soybean (Glycine max (L.) Merr.) worldwide. Markers based on the SCN resistance gene will enable efficient marker-assisted selection (MAS). We sequenced the candidate gene rhg1 in six resistant and two susceptible soybean genotypes and identified 37 SNPs (single nucleotide polymorphisms) among the sequences, of which 11 were in the coding region. Seven of these 11 SNPs led to changes in the amino acid sequence of the gene. The amino acid sequence we obtained differs from the previously published one by a stretch of 26 – 27 amino acids. Six codominant allele-specific SNP markers based on agarose gel detection were developed and tested in 70

genotypes, among which occurred only nine different haplotypes. Two neutrality tests (Tajima ' s D and Fu and Li ' s F) were significant for the six SNP loci in the 70 genotypes, which is consistent with intensive directional selection. A strong LD pattern was detected among five SNPs except 2868T > C. Two SNPs (689C > A and 757C > T) formed one haplotype (689C-757C) that was perfectly associated with SCN resistance. The new allele-specific PCR markers located in the alleged sequence of the rhg1 candidate gene, combined with the microsatellite marker BACR-Satt309, will significantly improve the efficiency of MAS during the development of SCN-resistant cultivars.

【英文摘要】Soybean cyst nematode (SCN; Heterodera glycines Ichinohe) is one of the most destructive pests in the cultivation of soybean (Glycine max (L.) Merr.) worldwide. Markers based on the SCN resistance gene will enable efficient marker-assisted selection (MAS). We sequenced the candidate gene rhg1 in six resistant and two susceptible soybean genotypes and identified 37 SNPs (single nucleotide polymorphisms) among the sequences, of which 11 were in the coding region. Seven of these 11 SNPs led to changes in the amino acid sequence of the gene. The amino acid sequence we obtained differs from the previously published one by a stretch of 26 – 27 amino acids. Six codominant allele-specific SNP markers based on agarose gel detection were developed and tested in 70 genotypes, among which occurred only nine different haplotypes. Two neutrality tests (Tajima ' s D and Fu and Li ' s F) were significant for the six SNP loci in the 70 genotypes, which is consistent with intensive directional selection. A strong LD pattern was detected among five SNPs except 2868T > C. Two SNPs (689C > A and 757C > T) formed one haplotype (689C-757C) that was perfectly associated with SCN resistance. The new allele-specific PCR markers located in the alleged sequence of the rhg1 candidate gene, combined with the microsatellite marker BACR-Satt309, will significantly improve the efficiency of MAS during the development of SCN-resistant cultivars.

【语种】英文

【第一作者】李英慧
【通讯作者】邱丽娟

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【学科分类】农业基础学科

【题目】Genetic diversity comparison between Chinese and Japanese soybean (Glycine max (L.) Merr.) revealed by nuclear SSRs

【中文关键词】Genetic diversity, Germplasm pools, Glycine max, Soybean, SSR
【英文关键词】Genetic diversity, Germplasm pools, Glycine max, Soybean, SSR

【中文摘要】Soybean (Glycine max (L.) Merr.) has a long planting history in both China and Japan. In order to investigate the genetic relationship between Chinese and Japanese soybeans, 205 Chinese soybean accessions, that represent the seven different soybean ecotypes, and 39 Japanese soybean accessions from various regions were analyzed by using 46 SSR loci. In total 745 alleles were detected with an average allele number of 16.2 per locus. The allelic frequencies varied from 0.002 to 0.554 with an average of 0.06. Cluster analysis with UPGMA separated the Chinese accessions from Japanese accessions, suggesting that soybean in these two countries form different gene pools. When comparing the Japanese soybean with that from seven different Chinese soybean ecotypes, 164 – 200 alleles were specific to the Chinese accessions and 64 – 112 specific to the Japanese accessions. The comparison of SSRs diversity revealed that accessions from China exhibited more genetic diversity than those from Japan. The data were analyzed to resolve the genetic structure and to interpret the evolutionary relationships between groups. Three distinct groups were identified, corresponding to Japanese soybean, Northern China soybean, Southern China soybean and a mixed group in which most accessions were from central China. The results indicate that accessions from Japan are distinct from Chinese ones, and Japanese accessions had more close relationship with Chinese northeast spring and southern spring ecotypes. We further analyzed five agronomic trait-related SSR loci and found that the preponderant alleles are different in Chinese and Japanese soybean. Our study provides important insights into further utilization of Japanese soybean in Chinese soybean breeding.

【英文摘要】Soybean (Glycine max (L.) Merr.) has a long planting history in both China and Japan. In order to investigate the genetic relationship between Chinese and Japanese soybeans, 205 Chinese soybean accessions, that represent the seven different soybean ecotypes, and 39 Japanese soybean accessions from various regions were analyzed by using 46 SSR loci. In total 745 alleles were detected with an average allele number of 16.2 per locus. The allelic frequencies varied from 0.002 to 0.554 with an average of 0.06. Cluster analysis with UPGMA separated the Chinese accessions from Japanese accessions, suggesting that soybean in these two countries form different gene pools. When comparing the Japanese soybean with that from seven different Chinese soybean ecotypes, 164 – 200 alleles were specific to the Chinese accessions and 64 – 112 specific to the Japanese accessions. The comparison of SSRs

diversity revealed that accessions from China exhibited more genetic diversity than those from Japan. The data were analyzed to resolve the genetic structure and to interpret the evolutionary relationships between groups. Three distinct groups were identified, corresponding to Japanese soybean, Northern China soybean, Southern China soybean and a mixed group in which most accessions were from central China. The results indicate that accessions from Japan are distinct from Chinese ones, and Japanese accessions had more close relationship with Chinese northeast spring and southern spring ecotypes. We further analyzed five agronomic trait-related SSR loci and found that the preponderant alleles are different in Chinese and Japanese soybean. Our study provides important insights into further utilization of Japanese soybean in Chinese soybean breeding.

【语种】英文
【第一作者】关荣霞
【通讯作者】邱丽娟
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【题目】长江春大豆核心种质构建及分析
【中文关键词】SSR分子标记; 农艺性状; 聚类分析; 等位变异保留比例; 取样策略
【英文关键词】SSR markers; agronomic traits; cluster analysis; reserving ratio of SSR alleles; sampling strategy;
【中文摘要】利用长江春大豆初选核心种质SSR(simplesequencerepeat)标记和农艺性状表型等基础数据,对用不同个体取样方法以及不同数据类型建立的核心种质进行评价,目的是为确定中国大豆(Glycinemax)核心种质的最佳取样策略提供依据。结果表明,根据SSR分子数据聚类,采用类内随机取样、类内以遗传相似性系数取样以及仅依据遗传相似性系数取样都可用于大豆核心种质构建。但是综合不同评价参数发现,以类内随机取样最佳,类内按遗传相似性系数取样次之,单独以遗传相似性系数取样较差。分析不同SSR等位变异保留比例的遗传多样性指数发现,当保留90%和80%的SSR等位变异时,核心种质具有更高的遗传多样性。由于与SSR分子数据对种质遗传关系评价的不一致性,农艺性状等基础数据虽然可用来构建核心种质,但其SSR分子水平代表性相对较低。本研究结果还表明,用不同方法或同一方法不同重复次数取样建立的核心种质具有异质性,且这种异质性随核心种质取样比例的降低而增大。因此,虽然可依据不同数据类型确定相应的方法建立核心种质,但综合表型和分子数据建立的核心种质更具有代表性。
【英文摘要】Sampling strategy is very important for core collection establishment. In this study, different methods to construct a core collection of Changjiang spring sowing soybean were performed based on data of SSR(simple sequence repeat) markers and agronomic traits in order to optimize the sampling strategy for core collection. The results showed that, based on cluster analysis of SSR data, each of the three methods, i.e., random sampling within each group, sampling by genetic similarity coefficient within each group and sampling by genetic similarity coefficient, could be used to construct a soybean core collection. When SSR allelic reserving ratios were maintained at 90% and 80%, the core collections had higher genetic diversity indices of SSR alleles than if maintained at 70%. Core collections could also be constructed by agronomic and other basic data if there was no molecular data; however, SSR allelic reserving ratio might be decreased, which suggested that assessment of genetic diversity by SSR data was not always consistent with assessment by agronomic data. We found that core collections were heterogeneous, either when created with different sampling methods or with the same sampling method in different repeats, because randomicity always existed in selecting individuals. This indicated that the germplasm to form a core collection was variable, so optimal sampling strategies should be chosen to establish core collections based on different data according to practical or scientific objectives. Integrating phenotypic and genotypic data together would be better for improving the representativeness of core collections. 更多
【语种】中文
【第一作者】王丽侠
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【题目】黄淮夏大豆(G. max) 初选核心种质代表性检测
【中文关键词】初选核心种质; 黄淮夏大豆; 遗传多样性;
【英文关键词】Primary core collection; Huanghuai summer sowing soybean; Genetic diversity;
【中文摘要】代表性是衡量核心种质的主要指标。本研究用 4 92 3份黄淮夏大豆种质以及从中选出的 4 2 8份黄淮夏大豆初选核心种质为实验材料 ,比较两者的农艺性状差异 ,目的是检测黄淮夏大豆初选核心种质对其总体的代表性 ,为大豆核心种质构建提供依据。结果表明 ,初选核心种质的种皮色、花色、茸毛色等 9个质量性状的不同表现型频率和 5个数量性状的平均数、标准差、方差、变异系数等参数 ,与黄淮夏大豆总体资源基本一致。 14个农艺性状Shannon weaver遗传多样性指数和Simpson遗传多样性指数的t测验 ,结果表明初选核心种质与总体差异不显著 ;对 9个质量性状频率分布进行 χ2 测验 ,二者差异不显著 ,初步表明初选核心种质能够代表全部资源的遗传多样性。
【英文摘要】The representative of core collection is an important criteria for establishment of core collection. In this study, the entire collection and primary core collection of summer sowing soybeans in Huanghuai region of China were used as the materials, and 14 agronomic traits were compared. The aim was to test the representative of primary core collection to the entire collection. In quantitative distribution and frequency of the trait variation, the primary core collection and the entire collection were similar. The $\chi 2$ test for 9 discontinuous characters and the t test of both indexes for 14 morphological cha- racters did not reach significant level between the primary core collection and the entire collection, indicating the primary core collection may represent the entire collection.
【语种】中文
【第一作者】崔艳华
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【题目】黄淮夏大豆遗传多样性分析
【中文关键词】黄淮夏大豆; 遗传多样性; SSR;
【英文关键词】Huanghuai summer sowing soybean; Genetic diversity; SSR;
【中文摘要】利用49对SSR引物和14个农艺性状对96份黄淮夏大豆进行遗传多样性分析 ,以了解黄淮夏大豆产区的资源多样性状况 ,为种质资源的利用和开发提供帮助。结果表明 ,SSR的遗传多样性指数的分布范围为 1.0 70 0~2 .7310 ,Simpson指数分布范围为 0 .5 313~ 0 .92 0 3;14个农艺性状的遗传多样性指数平均值为 1.1912 ,Simpson指数的平均值为 0 .6 0 79,可见黄淮夏大豆具有丰富的遗传变异。 96份材料的农艺性状和分子数据聚类结果均呈现一定的地理分布规律。根据农艺性状聚类时 ,可根据种皮色将材料划分为 2大类群。种皮色、生育期、粒大小相同的材料聚在一起 ,说明在对不同生态类型的大豆进行分类时 ,将种皮色、生育期、粒大小等作为进一步分组的依据是有效的 ,能够反映大豆的遗传特点以及区域特性
【英文摘要】This study evaluated genetic diversity of Huanghuai summer sowing soybean by means of 49 SSR loci and 14 traits. The aim of the study is to reveal genetic diversity of Huanghuai summer sowing soybean. 49 pairs SSR loci of the distribution of Shannon-weaver index is 1.0700-2.7310 and the distribution of Simpson index is 0.5313-0.9203.14 traits of mean of Shannon-weaver index is 1.1912 and mean Simpson index is 0.6079. This indicated that the Huanghuai summer sowing soybean has abundant genetic diversity. The results of clustering showed some rules in the geographical distribution by means of morphological traits and molecular data. The seed coat color plays an important role in morphological traits clustering. The materials has divided into two sections by means of the seed coat color in the clustering which make use of the 14 traits. The result indicated that the sampling method of soybean core collection in China based on geography and taxonomic system and grouped by seed coat color, growth period, 100-seed-weight is rational and effective.
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【第一作者】崔艳华
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【题目】利用SSR指纹图谱分析大豆花叶病毒(SMV)病抗源的遗传多样性
【中文关键词】大豆(G.max); 大豆花叶病毒(SMV); SSR; 遗传多样性;
【英文关键词】soybean (G. max); Soybean mosaic virus; SSR; genetic diversity
【中文摘要】利用61个SSR(simple sequence repeats)引物对筛选出的113份高抗大豆花叶病毒(SMV)病抗源进行了遗传多样性分析。113个抗源产生了387个等位变异,平均每个引物可以扩增6.34个等位变异。采用Nei-Li公式计算相似系数,使用NTSYS-pc2.10t数据分析软件,非加权组平均法进行聚类。分析结果表明抗源间平均相似系数为0.295,说明鉴定的这些抗源遗传差异较大。113个抗源被明显地聚为7类,地理来源相同和亲缘关系较近的品种大多聚在一起。相似系数较小、聚在不同类群中的抗源可能携带不同的抗病基因。
【英文摘要】The genetic diversity of 113 soybean varieties with high resistance to SMV was evaluated using 61 SSR primers. A total of 387 allelic variants were obtained in the varieties with average 6.34 alleles per SSR locus. Nei-Li genetic similarity coefficients were calculated using the software of NTSYS-pc2.10t and a dendrogram was constructed by the unweighted pair group method of arithmetic average (UPGMA). Mean similarity coefficient among the varieties was up to 0.295, which indicated that genetic difference among them was significant. Based on the genetic similarity coefficient matrix, the varieties were divided into seven groups. The varieties with the same geographical origin and the approximate pedigree were clustered together. The varieties whose genetic similarity coefficients were small and that were clustered in the different group probably carried the different resistant genes.
【语种】中文
【第一作者】密士军
【通讯作者】邱丽娟
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【题目】东北春大豆样本的代表性及其SSR位点的遗传多样性分析
【中文关键词】东北春大豆; SSR标记; 遗传多样性; 等位变异; 核心种质;
【英文关键词】Northeast China spring soybean; SSR marks; Genetic diversity; Core collection;
【中文摘要】从3226份东北春大豆总体中选择283份春大豆种质,用质量性状和数量性状进行检测,对总体的代表性为80%.利用筛选出61对SSR核心引物对具代表性的东北春大豆样本进行分析,共检测到534个等位变异,平均每个位点的等位变异为8.75个,变幅为2~16个;遗传多样性指数变化范围在0.406~0.886,平均为0.704;东北春大豆样本在大多数位点上有优势等位变异,从而降低了其遗传多样性.其中35份种质具有特异等位变异,分布在29个位点上;各个位点上分化系数均较小,遗传多样性分化程度较低.东北春大豆中3个省种质的共有等位变异较多,以吉林省和辽宁省种质的遗传多样性表现较为一致,均高于黑龙江省种质的遗传多样性.地方品种的遗传多样性高于育成品种.东北春大豆种质资源的遗传多样性分布特点为有目的选择杂交亲本拓宽遗传基础以培育新品种提供了理论依据.
【英文摘要】A total of 283 accessions were selected from the total 3 226 Northeast China spring soybeans,which represented >80% of the whole based on their qualitative and quantitative traits.The representative samples were analyzed by 61 SSR loci,and a total of 534 alleles were detected,ranging 216 alleles per locus,with an average of 8.75 alleles per locus.Among the accessions,the Simpson diversity index (SDI) for each locus ranged from 0.406 to 0.886,with a mean of 0.704,which was relatively lower since there were dominant alleles at most of loci in the representative samples.35 accessions had specific alleles,which distributed among 29 loci.The differentiation coefficient was lower than 9.27% in 61 loci among the three provinces of Northeast China,which might be caused by lots of common alleles shared among these provinces.The genetic diversity in Jilin and Liaoning provinces was nearly equal,but was higher than that in Heilongjiang Province.The landraces of the representative samples at 61 loci had a higher genetic diversity than that of the released cultivars.The genetic diversity appeared within and between the provinces could be used to broaden the genetic base of modern cultivars,and also,the landraces were the major source for soybean breeding because of their high genetic diversity.
【语种】中文
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【题目】华南沿海地区南方夏大豆遗传多样性的SSR分析
【中文关键词】南方夏大豆; SSR; 遗传多样性;
【英文关键词】southern summer soybean; SSR; genetic diversity;
【中文摘要】利用60个SSR位点对来自华南地区9个省份的191份南方夏大豆(Glycinemax)进行分析,结果显示:在191份材料中共检测到663个等位变异,平均每个位点的等位变异数为11.05个;Shannon-Weaver指数平均值为1.67,材料的成对相似系数范围为0.19　0.95,平均相似系数为0.29,说明华南地区南方夏大豆材料间的相似程度高,与表型性状表现相一致;在聚类分析中,以相似系数0.26为划分标准,可将夏大豆分为4个类别,但9个省(市)之间并没有明显的界限,相近纬度和同一流域夏大豆趋向于聚在一起;通过等位变异数及遗传多样性指数分析发现,华南地区南方夏大豆分子遗传多样性中心可分成2个:一个以安徽省为中心的长江流域,另一个以广西壮族自治区为中心的珠江流域。由于多数相同来源的夏大豆分别聚在不同的类别中,为充分利用本地资源拓宽育种遗传基础提供了理论依据。
【英文摘要】A total of 191 southern summer soybeans(Glycine max) in 9 provinces from Huanan region of south China were analyzed by 60 SSR loci. The results indicated that 663 alleles were detected with averaged 11.05 alleles per locus. The mean Shannon-Weaver index was 1.664 per locus . The range of Nei-Li similarity coefficient was from 0.19 to 0.95 with averaged 0.29. It indicated that there were relatively high similarity between southern summer soybeans, which showed the same trends as agronomic traits. Based on Nei-Li similarity coefficient matrix, the southern summer soybeans were clustered into four groups by setting similarity coefficients at 0.26. No borderline was defined among 9 provinces, but some soybeans from the same valley or adjourn latitude were clustered together. Based on genetic diversities of SSR markers, there were two genetic diversity centers around the regions, which one was located at the Anhui Province in Changjiang river and the other was located at Guanxi in Zhujiang river. Since some soybeans originated in same place were clustered into different groups, it provides evidence to broaden genetic base of modern cultivars by using local germplasms.
【语种】中文
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【通讯作者】邱丽娟
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【题目】中国黄淮和南方夏大豆(Glycine max L.)SSR标记的遗传多样性及分化研究
【中文关键词】夏大豆; 遗传多样性; 分化; SSR标记;
【英文关键词】Summer sowing soybean; Genetic diversity; Differentiation; SSR marker;
【中文摘要】以黄淮和南方两种类型共288份夏大豆为实验材料,用60个SSR位点进行多个遗传多样性指标的分析,旨在明确黄淮夏大豆(HHS)和南方夏大豆(SS)品种资源的遗传分化,为夏大豆品种资源的利用提供依据。结果表明,在夏大豆中共检测到808个等位变异,每个SSR位点等位变异范围为2~38个,平均13.47个,其中HHS的等位变异数(725个)和特异等位变异数(141个)低于SS(729个和145个),且特异等位变异的位点不同,但差异不显著;HHS的平均数遗传多样性指数显著高于SS,而相似系数显著低于SS,但两种夏大豆之间的相似系数(0.103~0.209)显著低于类型内的相似系数(0.161~0.307)。两种夏大豆类型之间的分化系数为8.72%,相比之下,各夏大豆类型内的分化更明显。这些结果表明,HHS和SS内部的遗传变异丰富,但两者之间存在明显差异,这为大豆的育种亲本选配及起源研究提供了依据。
【英文摘要】China owns the most soybean germplasm resources in the world, and is the origin of the soybean too. There are 11 207 accessions of summer sowing soybean, accounting for 49% in Chinese soybean germplasm resources. Chinese Summer sowing soybean is divided into 2 different ecotypes: Huanghuai summer sowing soybean (HHS) and Southern summer sowing soybean (SS). It will provide valuable information for broadening genetic base of modern cultivars and deducing the evolution of cultivated soybean by

using the genetic diversity existed in it.In this experiment, 142 HHS and 146 SS accessions sampled from the primary core collection, which was established by Qiu et al. (2003)[1] based on the total of HHS (4711) and SS (6496) (Table 1), were analyzed at 60 SSR loci for their genetic diversities. The aim was to illustrate the genetic similarities and diversities in order to provide the evidence for study and utilization of summer sowing soybean germplasm resources. The results indicated that there were total of 808 alleles at 60 loci with average 13.47 alleles per locus.The HHS had 725 alleles and 141 unique alleles, which were lower than those of SS (729 and 145), and the loci for unique alleles were different between two types of summer sowing soybeans, though there was no significant difference.(Com-)(paring) genetic diversities being represented Simpson index (SI), the HHS was higher than SS, and SI (0.76) of HHS was significantly different from that of SS (0.73). Though there was obvious differentiation (8.72%) between the two type of summer sowing soybean, the differentiation within each of them was even higher (Table 3). By comparison of pairwise (simi-)(larities) between or within each type of summer sowing soybeans, similarity coefficients within HHS ranged 0.161-0.285, which was lower than that within SS (0.191-0.307),but they were relatively higher than those(0.103-0.209)between the two types of summer sowing soybeans (Fig.3, Table 6). These parameters indicated that both HHS and SS had abundant genetic diversities and differentiation as compared with those between them. It provides molecular evidence for origins of soybean and parents selection in soybean improvement. 更多

【语种】中文

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【学科分类】农业基础学科

【题目】利用大豆核心种质部分样本鉴定28K和30K过敏蛋白缺失材料

【中文关键词】核心种质; 栽培大豆; 野生大豆; 28K过敏蛋白; 30K过敏蛋白;

【英文关键词】Core collection; Cultivar; Wild Soybean; Gly m Bd 28K; Gly m Bd 30K;

【中文摘要】以栽培大豆(G.max)核心种质经聚类随机选择样本为主,以栽培大豆保留种质和野生大豆(G.soja)为对照,利用小鼠单克隆抗体Gly m Bd 30K(F5)和Gly m Bd 28K(C5)分别检测大豆的30K和28K过敏蛋白抗原,目的是发掘过敏蛋白缺失的品种资源,明确其分布规律和特点,检测大豆核心种质的代表性,为资源和育种研究提供参考。鉴定结果表明,在参试的60份野生大豆和421份栽培大豆中没有发现30K过敏蛋白缺失的种质,但28K过敏蛋白缺失率分别为13.3%和37.8%。栽培大豆核心种质28K过敏蛋白缺失比率的变化趋势与栽培大豆保留种质总体规律基本相同,在3个生态区的缺失比率差异均不显著,说明核心种质在28K过敏蛋白缺失这个性状上具有代表性。SSR标记分析发现,在缺失过敏蛋白的种质中,80%相似系数在0.44以下,表明这些种质遗传基础较为广泛,可充分利用类群内或类群间差异较大的材料作为亲本配制杂交组合,培育缺失28K过敏蛋白优质品种。

【英文摘要】Soybean core collection is very important foundation for novel gene mining.Part of soybean(G.max) core collection was used to compare with reserved germplasm and wild soybean by using immunoblotting,in order to select Gly m Bd 30K and Gly m Bd 28K allergen-null germplasm,and evaluate the representation of core collection.The result showed that all the materials,including 60 wild soybean and 421 cultivars,contained Gly m Bd 30K,and the absence ratio of Gly m Bd 28K in cultivars(37.8%)was higher than that in wild soybean(13.3%).The distribution tends of Gly m Bd 28K null materials in core collection was similar to that in reserved collection.The absence ratios of Gly m Bd 28K were not significantly different in three ecotype regions of both core collection and reserved collection,which indicated that the core collection has perfect representative.SSR marker analysis showed that similarity index among 80% cultivars lacking Gly m Bd 28K was less than 0.44,which indicated these germplasms had abundant genetic diversity and could be used in the breeding of Gly m Bd 28K lacking cultivars.

【语种】中文

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【学科分类】农业基础学科

【题目】拟南芥γ-生育酚甲基转移酶(γ-TMT)启动子的分离及表达特性分析
【中文关键词】拟南芥, 维生素E, 生育酚, -生育酚甲基转移酶(-TMT) , 启动子
【英文关键词】Arabidopsis thaliana, Vitamin E, tocopherols, gamma-tocopherol methyltransferase (-TMT) , promoter
【中文摘要】维生素E是一类人体所必需的脂溶性的维生素, 具有重要的生理功能。 -生育酚甲基转移酶(-TMT)是维生素E生物合成途径中的关键酶之一, 催化 、 -生育酚甲基化, 生成 、 -生育酚。从拟南芥中分离了 -生育酚甲基转移酶基因1552bp的启动子序列, 构建了含有该启动子和GUS报告基因的植物表达载体, 通过农杆菌介导转化拟南芥, 获得了转基因植株。GUS组织化学染色结果表明, 在 -TMT启动子的驱动下, 报告基因GUS在拟南芥的叶、茎以及花均有表达, 且在茎尖、雄蕊和幼叶中表达最强, 而在根、种子和种荚中则没有检测到GUS基因的表达, 表明 -TMT基因可能仅在拟南芥某些组织中特异性高表达。
【英文摘要】Vitamin E (Tocopherols) is lipid-soluble ant ioxidants and essent ial for human health. Gamma-tocopherolmethyltransferase(-TMT) , one of the key enzymes in tocopherol biosynthetic pathway in plants, converts 、 -tocopherols into 、 -tocopherols. In this study, we isolated the 1552 bp promoter of Arabidopsis TMT gene. The promoter was fused with GUSreporter gene and this expression cassette was introduced into wild Arabidopsis thaliana by Agrobacterium-mediatedtransformation. GUS staining shows that GUS gene is expressed in leaves, stems and flowers, with the highest expression inyoung leaves, stamens and stem apices, while not observable in roots、seeds and siliques. The data indicate that -TMT genepromoter is likely to be expressed preferentially in some of the tissues of Arabidopsis.
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【第一作者】周建
【通讯作者】王磊
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【题目】拟南芥γ-生育酚甲基转移酶启动子在转基因烟草中的表达特性分析
【中文关键词】烟草;维生素E; .生育酚甲基转移酶;启动子;GUS染色
【英文关键词】Tobacco Vitamin E Gamma-Tocopherol methyltransferase Promoter GUS-staining
【中文摘要】γ-生育酚甲基转移酶(γ-TMT)是维生素E生物合成途径中的关键酶之一,催化γ、δ-生育酚甲基化,生成活性较高的α、β-生育酚.研究构建了含有γ-TMT启动子和GUS报告基因的植物表达载体,通过农杆菌介导转化烟草,筛选出PCR阳性植株,进行GUS组织化学染色,结果表明,在γ-TMT启动子的驱动下,报告基因GUS在烟草的根、茎、叶中均有表达.
【英文摘要】Gamma-tocopherol methyltransferase(γ-TMT) played a significant role in vitamin E pathway, which catalyze γ、δ-tocopherol into α、β-tocopherol. To analyze the function of γ-TMT promoter, it was inserted into a plant expression vector containing GUS report genes. The expression vector was transferred to wild Tobacoo by Agrobacterium-mediated transformation. GUS histochemical assay showed that transgenic tobacco expressed GUS in root, stem and leaf under γ-TMT promoter.
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【第一作者】朱永兴
【通讯作者】王磊
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【题目】以湖南和湖北大豆[Glycine max(L.)Merr.]为例分析影响遗传多样性评价的因素
【中文关键词】大豆; 遗传多样性; SSR标记; Shannon指数; 期望杂合度; 等位变异数; 取样量;
【英文关键词】Soybean; Genetic diversity; SSR Markers; Shannon index; He; Number of alleles; Sample size;

【中文摘要】以不同来源大豆种质为材料进行基因组SSR分析,探讨大豆遗传多样性研究方法,旨在为科学评价大豆种质资源提供参考。当取样比例相同时,湖北大豆的遗传丰富度显著高于湖南大豆,但两省大豆遗传多样性指数之间没有显著差异。当取样量相同时,利用随机取样法比较,湖南大豆的遗传多样性显著高于湖北,而利用聚类取样比较,两省大豆的遗传多样性没有显著差异。在遗传多样性指数相同情况下,湖北大豆的遗传丰富度显著高于湖南大豆。取样数与三个遗传多样性评价参数(等位变异数、Shannon指数、He)之间均达到显著和极显著相关。以湖南大豆为例,估算出在大豆SSR遗传多样性分析中,至少需要50-60个样本,即占总体9.0%-10.8%的取样比例,才能代表总体的遗传变异。提出在评价大豆遗传多样性时,应用大豆样本数对其遗传多样性指数计算公式进行修正,建议将Shannon指数计算公式改为H=-lnN∑PilnPi(N为样本数)。根据修正公式分析,结果表明,湖北大豆的遗传多样性高于湖南大豆。

【英文摘要】Accessions from Hunan and Hubei provinces in the Chinese soybean pre-core collection were analyzed with SSR markers to determine an optimal strategy in genetic diversity evaluation.The results showed that when analyzed with the same sampling ratio,the number of alleles in accessions from Hubei province was higher than those from Hunan province,however the difference did not reach the significant level in genetic diversity index.When analyzed with same sample size by random sampling,accessions from Hunan province were higher both in number of alleles and diversity index than those from Hubei,while there was no significant difference between them as sampled based on cluster.Accessions from Hubei were larger in number of alleles than those from Hunan when sampled by the same genetic diversity index.Genetic diversity index was influenced by sample size as we concluded,and we deduced that in genetic diversity analysis,a minimum of 5060 accessions(9.0%10.8% percent of total accessions) was required to represent most of genetic variation,so that it could explain the total genetic variation.An adjustment of the formula for Shannon index was also proposed after a set of analyses based on accessions from Hunan and Hubei.And with it,accessions from Hubei showed higher genetic diversity than those from Hunan province.

【语种】中文

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【学科分类】农业基础学科

【题目】“十五”大豆创新种质和1963-1995年间育成品种的SSR遗传结构及遗传多样性分析

【中文关键词】创新种质; 育成品种; SSR标记; 遗传结构; 遗传多样性;

【英文关键词】New enhanced germplasms; Released cultivar; SSR marker; Genetic structure; Genetic diversity;

【中文摘要】对22份"十五"攻关培育的创新种质和22份大豆育成品种进行了24个SSR标记的分析比较,目的是在分子水平上阐明创新种质的遗传结构特点,为拓宽我国大豆育成品种遗传基础及亲本选择提供理论依据。本研究在24个SSR位点共检测出231个等位变异,其中15.8%(36个等位变异)为创新种质所特有,特别是在与大豆胞囊线虫紧密连锁的Satt309位点上验证了一个我国独有的等位变异。结合UPGMA和Model-based聚类结果,将创新种质和育成品种分为4组,第Ⅰ组由13份来自东北和山西的创新种质组成;第Ⅱ组由8份来自东北的育成品种组成;第Ⅲ组由8份来自黄淮海和南方的大豆种质组成,其中创新种质和育成品种各为4份;第Ⅳ组由4份育成品种组成,分别来自吉林、黑龙江、河南和山西。遗传多样性分析结果表明,利用国外种质和野生大豆创造的创新种质丰富了东北地区育成品种的遗传多样性。因此,应加强利用国外种质、我国栽培大豆地方品种和野生大豆等优异资源,在创造优异大豆新种质的同时,拓宽我国大豆的遗传基础。

【英文摘要】To clarify the patterns of genetic structure,22 relased modern cultivars and 22 new enhanced germplasms were analyzed with 24 SSR markers.Among the total of 231 alleles,36 unique alleles were found only in new enhanced germplasms.At Satt309 locus,which closely linked with soybean cyst nematode resistance,an allele,which only was found in Chinese soybean landrace,was confirmed.Combining the results obtained by using UPGMA method and model-based method,four distinct clusters were discovered.Cluster Ⅰ was comprised of 13 new enhanced germplasms from Northeast region and Shanxi province.Cluster Ⅱ included 8 released cultivars from Northerneast region.Cluster Ⅲ consisted of 4 new enhanced germplasms and 4 released cultivars from Huanghuaihai and Southern region.Cluster Ⅳ contained 4 relased cultivars from Jilin,Heilongjiang,Shanxi and Henan provinces.The results of genetic diversity analysis showed that the new enhanced germplasms,which utilized foreign germplasms and wild species as parent,broadened the genetic base of released cultivars in northeast region.

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【题目】拟南芥2-甲基-6-叶绿基-1,4-苯醌甲基转移酶(MPBQ MT)启动子的分离及表达特性分析。
【中文关键词】拟南芥, 维生素E, 生育酚, 2-甲基-6-叶绿基-1 4-苯醌甲基转移酶(MPBQ MT), 启动子
【英文关键词】Arabidopsis thaliana, Vitamin E, Tocopherol 2-methyl-6-phytyl-1 4-benzoquinol methyltransferase (MPBQ MT), Promoter
【中文摘要】维生素E是一类人体必需的脂溶性抗氧化剂, 具有重要的生理功能。2-甲基-6-叶绿基-1,4-苯醌甲基转移酶(MPBQ MT)是天然维生素E合成途径中的关键酶之一, 催化MPBQ甲基化, 生成DMPBQ。从拟南芥分离了MPBQ MT基因1018bp的启动子序列, 构建了含该启动子和GUS报告基因的植物表达载体, 通过农杆菌介导转化拟南芥, 获得了转基因植株。GUS组织化学染色结果表明, 在MPBQ MT启动子驱动下, 报告基因GUS在拟南芥的茎、叶、花萼、雄蕊、种荚均有表达, 且在茎、叶、种荚中表达量较高, 而在根、花瓣和种子中则没有观察到GUS基因的表达, 表明MPBQ MT基因可能仅在拟南芥幼嫩茎、叶、种荚等绿色组织中特异性高表达。
【英文摘要】Vitamin E, or tocopherol, is a lipid-soluble antioxidant and essential for human health. 2-methyl-6-phytyl-1, 4-benzoquinol methyltransferase (MPBQ MT), one of the key enzymes in vitamin biosynthetic pathway in plants, converts 2-methyl- 6-phytyl-1,4-benzoquinol(MPBQ) to 2,3-dimethyl-6-phytyl-1,4-benzoquinol (DMPBQ).In this study, we isolated the 1018bp promoter of Arabidopsis MPBQ MT gene. The promoter was fused with GUS reporter gene and this expression cassette was introduced into wild Arabidopsis by Agrobacterium-mediated transformation. GUS staining shows that GUS gene was expressed in stems, leaves, calyxes, stamens and siliques in transgenic Arabidopsis plants, with higher expression in green tissue such as stems, leaves, siliques, while invisible in roots, petals, and seeds. The data indicate that MPBQ MT gene promoter was likely to be expressed preferentially in green tissues such as stems, leaves, and young siliques.
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【第一作者】刘宾
【通讯作者】张伟
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【题目】拟南芥2-甲基-6-叶绿基-1,4-苯醌甲基转移酶启动子在转基因烟草中的表达特性分析
【中文关键词】烟草; 维生素E; 2- 甲基-6- 叶绿基-1,4- 苯醌甲基转移酶(MPBQ MT) ; 启动子; GUS 组织化学染色
【英文关键词】Tobacco, Vitamin E, 2 - methyl - 6 - phytyl - 1,4 - benzoquinol methyltransferase (MPBQ MT), Promoter, GUS- staining
【中文摘要】通过对报告基因GUS 产物的分析进行了拟南芥2- 甲基-6- 叶绿基-1,4- 苯醌甲基转移酶(MPBQMT) 启动子在转基因烟草中的表达特性的初步研究。构建含该启动子和GUS 报告基因的植物表达载体, 通过农杆菌介导转化烟草, 对转基因烟草进行GUS 组织化学染色和GUS 荧光定量分析该启动子表达特性。GUS 在转基因烟草的根和种子中基本不表达, 茎上有一定表达, 叶上表达量最高, 约是茎的4.7~10.9 倍。结果表明MPBQ MT 基因启动子主要在烟草绿色组织中特异性高表达。
【英文摘要】The expression pattern of the promoter of Arabidopsis gene 2- methyl- 6- phytyl- 1,4- benzoquinolmethyltransferase (MPBQ MT) in transgenic tobacco was studied according to the analysis of GUS reportergene. The promoter was fused with GUS reporter gene and this expression cassette was introduced into wildtobacco by Agrobacterium- mediated transformation. The expression pattern of the promoter was analyzed byGUS staining and quantitative fluorometric GUS assay. The GUS staining wasn' t observed in roots andseeds of transgenic tobacco, which was visualized in stems and leaves. The GUS expression was the highestin leaves, which was about 4.7~10.9 times of stems. MPBQ MT promoter was expressed preferentially inthe green tissues of tobacco.

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【题目】拟南芥尿黑酸叶绿醇转移酶(HPT)基因启动子的分离及表达特性分析
【中文关键词】拟南芥; 维生素E; 生育酚; 尿黑酸叶绿醇转移酶(HPT) ; 启动子
【英文关键词】Arabidopsis thaliana; Vitamin E; Tocopherol; Homogent isate Phytyltransferase (HPT) ; Promoter
【中文摘要】尿黑酸叶绿醇转移酶(HPT) 是催化生育酚生物合成分支途径中的关键酶, 催化叶绿醇焦磷酸(phyty-l PP) 与尿黑酸(HGA) 缩合生成生育酚的前体。本研究从拟南芥中分离HPT 基因的启动子序列946 bp, 构建了该启动子与GUS 嵌合的重组载体, 通过农杆菌介导转化拟南芥, 取正常生长条件下的拟南芥转基因植株进行GUS 组织化学染色, 结果表明, 在HPT 启动子的驱动下, GUS 基因主要在转基因拟南芥的根中高表达, 在成熟叶片、花丝、雌蕊中也有一些表达, 而在茎、根尖、花药、种荚及发育的种子中则未表达, 可见该启动子为根优势表达启动子。
【英文摘要】Homogentisate Phytyltransferase (HPT) is a key enzyme catalyzing condensation of HGA and PDP in the firststep of tocopherol biosynthesis The HPT gene has been cloned from several photosynthetic organisms Overexpression ofHPT in transgenic plants increases tocopherols significantly in leaves and seeds A mutation of the Arabidopsis HPT generesults in tocopherol deficiency in the plants In order to understand the expression pattern of HPT , a 946 bp DNAupstream fragment of the Arabidopsis HPT gene was isolated and transcriptionally fused with the -glucuronidase (GUS)reporter gene, and the promoter-GUS cassette was introduced into Arabidopsis thaliana by Agrobacterium-mediatedtransformation Analysis of transgenic plants by histochemical staining showed that the GUS gene was expressedpredominantly in the roots, and also to a lesser degree, in adult leaves, filament, and pistil, but not in stems, root tips,anthers, seeds, and siliqua The results suggest that the HPT gene is predominantly expressed in Arabidopsis roots
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【题目】大豆核心种质和微核心种质的构建、验证与研究进展
【中文关键词】大豆; 核心种质; 检验; 遗传多样性; SSR; 等位变异; 利用;
【英文关键词】Soybean; Core collection; Test; Genetic diversity; SSR; Allele variation; Utilization;
【中文摘要】我国作物种质资源长期库中保存大豆资源2.3万余份,数量居世界之首。然而,大豆资源在新品种培育中的利用率仅为1%左右,导致大豆育成品种的遗传基础趋于狭窄。主要原因是缺少对其重要经济性状的鉴定,尤其是缺少多年多点的评价,难以定向选择有重要价值的育种亲本。为了加速大豆资源的评价并促进其利用,在国家基础研究项目(973)的连续资助下,开展了"大豆核心种质构建(1998—2003)"和"大豆微核心种质基因多样性(2004—2009)"研究,目的是浓缩大豆资源的遗传多样性,强化其表型和基因型鉴定,为发掘和利用大豆资源中的优异基因提供指导。本文在研究构建不同比例(占总体2%~5%)大豆核心种质和大豆微核心种质(占总体1%)的同时,介绍了核心种质补充和完善的研究进展。为了验证核心种质的代表性,从SSR位点、样本组成、取样比例、低频率等位变异4个方面对代表性进行了分析,并用随机抽样方法对核心种质代表性进行了检测和验证。文中还介绍了利用核心种质和微核心种质在新基因发掘、种质创新和育种利用方面的研究进展,尤其介绍了与育种单位密切合作,建立基于核心种质的种质创新与利用体系的研究成效。围绕遗传多样性、核心种质利用方式进行了讨论,指出大豆核心种质为性状鉴定、新基因发掘、新种质创造和新品种培育等理论研究和实际应用提供材料基础,具有潜在的应用前景。实践证明,大豆种质资源的系统研究与利用,将促进我国大豆种质资源由数量保存型向研究应用型转变。

【英文摘要】China has the most soybean germplasm in the world, but only about 1% of them have been used in soybean breeding program, which results in narrow genetic base for developing varieties. This exiguous use of germplasm is due to lack of reliable information on traits with economic importance, which requires replicated multilocational evaluations to identify useful parents. In order to accelerate evaluation and utilization of germplasm, the projects of "Establishment of soybean core collection" (1998 – 2003) and "Gene diversity of mini core collection in soybean" (2004 – 2008) were carried out by the continuous supporting from National Basic Research Program (973 project) so that large germplasm collections has been evaluated properly on the basis of the guideline from core collections. In this paper, the development of core (2 – 5% of entire collection) and mini-core (10% of core or 1% of entire collection) is introduced. Meanwhile, the complement of the core or mini-core collections is carried out in order to broaden their representative from national wide into international soybean accessions. For testing the representatives of the core collection, four parameters including SSR loci, sample components, sampling ratio and low frequency allele are analyzed, and then confirmed by the random sampling test. The core and mini-core collections have been used in identifying elite traits and developing new lines, in which the approaches have been introduced that based on core and mini-core collections. The further utilization of core and mini-core collections related to genetic diversity and utilization method of collections is discussed, it is pointed that core collections are basic materials for new trait identification, novel gene mining, germplasm enhancement and new variety development. It has been proved that systematic study and use of soybean germplasm will improve the research of thesoybean germplam from conservation into wider use.

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【题目】绵羊微卫星OarJL36 和FecB 基因的多态及连锁分析
【中文关键词】绵羊;繁殖力;FecB 基因;OarJL36;连锁不平衡
【英文关键词】sheep; prolificacy; FecB gene; OarJL36; linkage disequilibrium
【中文摘要】:【目的】阐明微卫星座位OarJL36 与小尾寒羊高繁殖力主效基因FecB 之间的连锁关系,为绵羊高繁殖力的标记辅助选择提供依据。【方法】分析与FecB 基因最紧密连锁的微卫星座位OarJL36 在高繁殖力绵羊品种(小尾寒羊和湖羊)与低繁殖力绵羊品种(特克塞尔和多赛特)中的遗传多态性,探讨该微卫星与小尾寒羊FecB 基因的连锁不平衡关系。【结果】高繁殖力小尾寒羊和湖羊在骨形态发生蛋白受体IB(bone morphogenetic proteinreceptor IB,BMPR-IB)基因编码序列第746 位碱基处发生了与Booroola Merino 绵羊相同的FecB 突变(A746G),低繁殖力特克塞尔和多赛特绵羊则未发生这种突变;小尾寒羊BB、B+、++型频率分别为0.500、0.386 和0.114,湖羊BB、B+、++型频率分别为0.800、0.200 和0.000;微卫星座位OarJL36 在4 个绵羊品种463 个个体中共检测到10 个等位基因和31 种基因型,最小等位基因为160 bp,最大等位基因为200 bp;182 bp 等位基因在小尾寒羊(n = 308)和湖羊(n = 60)中处于优势等位基因,频率分别为0.696 和0.925,在特克塞尔(n = 47)和多赛特绵羊(n = 48)中的频率分别为0.085 和0.125,在BB 型小尾寒羊(n = 154)和BB 型湖羊(n = 48)中该等位基因频率更高,分别为0.916 和0.938,而在++型小尾寒羊(n = 35)中的频率为0.129;OarJL36 在小尾寒羊、湖羊、特克塞尔、多赛特以及BB、B+、++型小尾寒羊和BB、B+型湖羊中的多态信息含量分别为0.475、0.139、0.661、0.768、0.152、0.588、0.843、0.115 和0.212;连锁不平衡分析显示小尾寒羊FecB 基因B 等位基因与OarJL36 微卫星座位182 bp 等位基因之间存在较强的连锁关系,但仍有一定的重组(D′=0.614),而+等位基因与OarJL36 微卫星座位上的160、192、196、200 bp 等位基因完全连锁(D′=1.000)。【结论】OarJL36 微卫星座位182bp 等位基因与小尾寒羊FecB 基因B 等位基因之间存在较强的连锁关系,是与小尾寒羊多羔主效基因紧密连锁的一个遗传标记。

【英文摘要】【Objective】 The objectives of the present study were to elucidate the linkage relationship between microsatellitelocus OarJL36 and FecB gene of Small Tail Han sheep and to provide a scientific basis for marker-assisted selection for highprolificacy in sheep. 【Method】 Genetic polymorphisms of microsatellite locus OarJL36 which was the closest linked marker to theovine prolificacy major gene FecB were detected in high fecundity sheep breeds (Small Tail Han and Hu sheep) and low fecunditysheep breeds (Texel and Dorset). The linkage disequilibrium between microsatellite locus OarJL36 and FecB gene of Small Tail Hansheep was also analyzed. 【Result】 There was a same FecB mutation (A746G) of BMPR-IB gene in both Small Tail Han and Husheep as that in Booroola Merino ewes. The same mutation did not exist in both Texel and Dorset sheep. The frequency of BB, B+and ++ genotype was 0.500, 0.386 and 0.114 in Small Tail Han sheep, and was 0.800, 0.200 and 0.000 in Hu sheep, respectively. Tenalleles and 31 genotypes

were detected at OarJL36 in 463 individuals from four sheep breeds, in which 160 bp was the shortest alleleand 200 bp was the longest allele. The 182 bp was the predominant allele in Small Tail Han (n=308) and Hu sheep (n=60), of whichfrequency was 0.696 and 0.925, but 0.085 and 0.125 in Texel (n=47) and Dorset (n=48). Especially, the 182 bp allele frequency was0.915 and 0.938 in BB genotype group from Small Tail Han and Hu sheep, but 0.129 in ++ genotype group from Small Tail Hansheep. The polymorphism information content (PIC) was 0.475, 0.139, 0.661, 0.768, 0.153, 0.588, 0.843, 0.116 and 0.212 in SmallTail Han, Hu, Texel, Dorset, BB group from Small Tail Han, B+ group from Small Tail Han, ++ group from Small Tail Han, BBgroup from Hu sheep, B+ group from Hu sheep, respectively. In Small Tail Han sheep, linkage analysis indicated that there werefervent linkage disequilibrium as well as certain recombination between 182 bp allele of microsatellite locus OarJL36 and B allele ofFecB gene (D′=0.614) , and complete linkage between 160 bp,192 bp, 196 bp, 200 bp alleles of microsatellite OarJL36 and + alleleof FecB gene (D′=1.000). 【Conclusion】 These results preliminarily showed that 182 bp allele of microsatellite locus OarJL36 is agenetic marker closely linked to B allele of the prolificacy major gene FecB in Small Tail Han sheep.

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【学科分类】畜牧学

【题目】绵羊微卫星300U和FecB基因的多态及连锁分析

【中文关键词】绵羊;多羔性;犊豺友犅基因;300犦;连锁不平衡

【英文关键词】she ep; prolificac y; FecB g ene ; 300 U; linkag e disequilibr ium

【中文摘要】旨在阐明微卫星座位300犦与小尾寒羊高繁殖力主效基因犊豺友犅之间的连锁关系,为绵羊高繁殖力的标记辅助选择提供科学依据。分析与绵羊高繁殖力主效基因犊豺友犅紧密连锁的微卫星座位300犦在高繁殖力绵羊品种(小尾寒羊和湖羊)和低繁殖力绵羊品种(特克塞尔和多赛特)中的遗传多态性,同时探讨该微卫星座位与小尾寒羊犊豺友犅基因的连锁不平衡关系。微卫星座位300犦在4个绵羊品种的472个个体中共检测到14个等位基因和52种基因型,最小等位基因为124bp,最大等位基因为162bp;小尾寒羊(狀=316)、湖羊(狀=60)、特克塞尔(狀=48)、多赛特(狀=48)和小尾寒羊的犅犅型(狀=156)、犅+ 型(狀=124)、++ 型(狀=36)以及湖羊的犅犅型(狀=48)、犅+ 型(狀=12)群体中优势等位基因分别是160、148、160 、150、160、160、138以及148和148bp,其频率分别为0.294、0.958、0.750、0.271、0.327、0.282、0.236以及0.959和0.958。连锁不平衡分析显示小尾寒羊犊豺友犅基因犅等位基因与300犦座位160bp等位基因之间存在一定的连锁不平衡(犱′=0.341),而+ 等位基因与300犦座位138bp等位基因之间存在一定的连锁不平衡(犱′=0.275)。本研究结果表明微卫星座位300犦只能在一定程度上反映犊豺友犅座位信息。

【英文摘要】The obje ctives o f the prese nt s tudy w ere to inv estig ate the re lationship betwe en the mic ro satellite locus300U and the FecB g ene of Small Ta il Ha n shee p, and pro vide a scie ntific basis for ma rker assis te d se lec tio n fo r hig hprolifica cy in shee p. Gene tic polymorphisms o f microsa tellite loc us 300U, w hich was c losely linked to the o vinefec undity ge ne FecB , w ere detec te d in prolific (Small Tail Han a nd Hu she ep) a nd no n prolific breeds of shee p (Texe land Do rse t) . The linka ge disequilibrium be tw ee n 300U loc us and Fe cB g ene of the Small Ta il Ha n shee p wa s alsoana lyzed. The re we re 14 alle les v aried from 124 bp to 162 bp, and 52 g eno ty pe s detec te d a t 300U lo cus in 472indiv iduals, including fo ur diffe re nt bree ds. The preponderant allele s w ere 160, 148, 160, 150, 160, 160, 138, 148,148 bp, and the fre quencie s we re 0. 294, 0. 958, 0. 750, 0. 271, 0. 327, 0. 282, 0. 236, 0. 959, 0. 958 in Small Ta ilHan (n = 316) , Hu (n = 60) , Te xel (n= 48) , Dorse t (n= 48) , BB group (n = 156) of the Small Ta il Han, B + g ro up(n = 124) of the Small Ta il Ha n, + + g roup (n= 36) o f the Small Ta il Ha n, BB group (n= 48) of the Hu, B + g ro up(n = 12) o f the Hu shee p, res pe ctive ly. In Sma ll Ta il Han shee p, the a nalysis indica te d that the re w as a certain linka gedise quilibrium betwe en 160 bp alle le of 300U loc us and B alle le of FecB ge ne (D = 0. 341) , and a c ertain linka gedise quilibrium betwe en 138 bp alle le o f 300U lo cus a nd + alle le o f Fe cB ge ne (D = 0. 275) . The se re sultsprelimina rily showe d tha t 300U could re flec t the information o f Fe cB ge ne in she ep to a certain e xtent.

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【题目】绵羊和山羊BMP15基因FECXRG 突变的检测
【中文关键词】绵羊; 山羊; 繁殖力; 骨形态发生蛋白15 基因; FecXR 突变; PCR　SSCP
【英文关键词】sheep; go at ; pr olificacy; BMP15 gene; FecXR mutat ion; PCR　SSCP
【中文摘要】为了检测骨形态发生蛋白15(BM P15) 基因在绵羊和山羊中的突变, 本研究采用PCR　SSCP 方法在高繁殖力绵羊品种(小尾寒羊和湖羊) 、山羊品种(济宁青山羊和波尔山羊) 和低繁殖力绵羊品种(多赛特和特克塞尔) 、山羊品种(内蒙古绒山羊和安哥拉山羊) 中检测BMP15 基因FecXR 突变, 并对小尾寒羊和济宁青山羊扩增片段进行核苷酸和氨基酸序列分析。结果表明, 这8 个羊品种均没有发生与Rasa Ar ago nesa 绵羊相同的FecXR 突变; 小尾寒羊核苷酸序列与GenBank 中绵羊BMP 15 序列(AF236079, NM_001114767) 完全一致, 济宁青山羊与小尾寒羊相比存在3 处碱基不同(T529G、C530G 和T576C) 和2 个氨基酸差异(V155G 和S171P) 。可见BMP15 基因影响Ra　sa Arag onesa 绵羊高繁殖力的突变FecXR 对小尾寒羊、湖羊、济宁青山羊和波尔山羊的繁殖力均没有显著影响。
【英文摘要】畜牧兽医学报
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【题目】神经肽Y基因多态性及其与小尾寒羊产羔数的关系
【中文关键词】:绵羊;多羔性;神经肽Y基因;PCR—SSCP
【英文关键词】sheep;prolificacy;neuropeptide Y gene;PCR—SSCp
【中文摘要】:本研究旨在阐明神经肽Y(neuropeptide Y,NPY)基因的多态性及其与小尾寒羊产羔数的关系,为绵羊多羔性的标记辅助选择提供科学依据。采用PCR-SSCP技术检测NPY基因全部3个外显子在小尾寒羊、湖羊、特克塞尔和多赛特羊中的单核苷酸多态性,分析该基因对小尾寒羊多羔性的影响。仅引物P1扩增片段存在多态性,在小尾寒羊中检测到5种基因型,在湖羊和多赛特羊中检测到3种基因型,而在特克塞尔羊中仅检测到1种基因型;测序分析显示,在小尾寒羊中存在CR、TR和Tw 3种等位基因,在湖羊和多赛特羊中存在CR和TR 2种等位基因,而在特克塞尔中仅存在CR 1种等位基因。TR与CR相比在绵羊NPY基因编码区第93 bp处发生了1个c—T的单碱基突变;Tw 与CR相比除发生C93T的单碱基突变外,还在130和131 bp发生了GA—AT的双碱基突变,该突变引起绵羊NPY成熟肽第16位氨基酸由天冬氨酸变为异亮氨酸。对于多态位点C/T,小尾寒羊3种基因型之间产羔数差异均不显著(P>O.05) 对于多态位点GA/AT,RW 型小尾寒羊产羔数平均比RR型的多0.56只(P<O.05)。在小尾寒羊5种复合基因型中,TTRw 和CTRW 型小尾寒羊产羔数差异不显著(P>0.05);TTRR、CTRR和CCRR型小尾寒羊产羔数差异也不显著(P>O.05);TTRw 和CTRW 型小尾寒羊产羔数均显著高于其余3种基因型(P<o.05)。本研究结果初步表明NPY基因GA/AT突变位点的w 等位基因是提高绵羊产羔数的1个潜在有效的DNA标记。
【英文摘要】Abstract:The objectives of the present study were to elucidate the polymorphism of ovine neu—ropeptide Y (NPY)gene and its relationship with litter size of Small Tail Han sheep,and to pro—vide a scientific basis for marker—assisted selection for prolificacy in sheep.The N PY gene wasstudied as a candidate gene for prolificacy in some sheep breeds.Single nucleotide polymorphisms(SNPs)of all three exons(exon 1,2 and 3)of NPy gene were detected in Small Tail Han,Hu,Texel and Dorset sheep by polymerase chain reaction—single strand conformation polymorphism.Only the product amplified by primer P1 displayed polymorphism. Five genotypes were detectedin Small Tail Han sheep,three genotypes in H u and Dorset sheep,but only one genotype in Texel sheep.Sequencing results revealed that there were three alleles(CR,TR and TW)in SmallTail Han sheep,two alleles(CR and TR)in Hu and Dorset sheep,only one alle1e(CR)in Texelsheep. Compared with CR allele,there was one single nucleotide mutation (C— ’ T)at 93 bp posi—tion of coding region of NPy gene in the TR allele.Compared with CR allele,besides C93T mu—tation,there was one double nucleotide mutation (GA÷ AT)at 130 and 131 bp position of codingregion of NPY gene in the TW allele.This mutation caused an Asp Ile replacement at position1 6 of amino acid sequence of sheep NPY mature peptide.For C/T polymorphic

site,the differ—ences of the litter size between three genotypes were non—significant in Small Tail H an sheep(P>0.05).For GA/AT polymorphic site,the ewes with genotype RW had 0.56(P< 0.05)lambs more than those with genotype RR in Small Tail H an sheep.In the five combined geno—types of Small Tail H an sheep,the difference of the litter size between TTRW and CTRW geno—types was non—significant(P> 0.05),the differences of the litter size between TTRR。CTRR andCCRR genotypes were non—significant(P> 0.05),least squares means of 1itter size for TTRWand CTRW genotypes were significantly higher than those for the other genotypes(P< 0.05).These results preliminarily indicated that allele W of GA/AT polymorphic site of N PY gene is apotential DNA marker for improving litter size in sheep.

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【题目】ADLS和GARS-AIRS-GART基因多态位点和聚合基因型对白耳鸡胸肌肌苷酸含量的效应分析
【中文关键词】:腺 苷琥珀酸裂解酶( )基 因;甘 氨酰胺核苷酸合成酶 5氨基咪唑核苷酸合成酶 甘氨酰胺核苷酸转甲基酶( )基 因;白 耳鸡;基 因聚合;肌 苷酸
【英文关键词】gene ； glycinamide ribonucleotide synthetaseaminoimidazole ribonucleotide synthetaseglycinamide ribonucleotide transformylase ( ) gene ； Baier chicken ； gene pyramiding ； inosine monophosphate acid (IMP)
【中文摘要】:采 用 PCRSSCP方法检测白耳鸡( )腺 苷琥珀酸裂解酶( )基 因外显子 2 和甘氨酰胺核苷酸合成酶 5氨基咪唑核苷酸合成酶 甘氨酰胺核苷酸转甲基酶( )基 因5' 侧翼区多态性,分 析多态位点不同基因型及聚合基因型与 90 日龄胸肌肌苷酸(IMP)含 量的关联,并 比较分析了不同聚合基因型个体的生产性能。结果表明, 基因外显2和 基因 5' 侧翼区的多态位点 C3484T、C 179T与 IMP 含量显著相关(< 0.05),T T 为两种有利单基因型,其对 IMP 含量的加性效应分别为 0.1710 和 0.128 mg/g,显性效应分别为-0.025 和 0.031 mg/g 。两种有利单基因型聚合个体TTTT 的IMP 含量显著高于其它基因型聚合个体(除 TTCC 型),且 在聚合基因型中两种有利单基因型 TT 对 IMP 含量的影响均达到显著水平(< 0.05),但 两者间的互作效应并不显著(> 0.05)。T TTT 聚合基因型个体的 90 日龄平均体重、7 2 周龄产蛋性能仍保持相对稳定。
【英文摘要】The polymorphism sites in exon 2 domain of adenylosuccinatelyase ( ) and 5'flankingdomain of( )genes on Baier chicken ( ) were identified by PCRSSCP.Association between the founded polymorphism sites as well as pyramidinggenotyp es and inosine monophosphate acid (IMP) contents in muscles were tested by least square analysis. The reproductionperformance of individuals with different pyramiding genotypes were also analyzed. The results showed the founded polymorphismsites C3484T and C179Thad significant correlation with IMP contents in muscles. The TTs were two advantageous genotypes. Theiradditive effects for and genes were 0.1710 and 0.128 mg/g, and the dominant effects were -0.0250 and0.031 mg/g respectively. The pyramiding genotype TTTT had higher IMP contents than that of other pyramiding genotypes. The effectsof two advantageous TTs in pyramiding genotype TTTT were still significant on IMP contents, however,their interaction effectwas not significant (>0.05). The average weights of 90 days and egg reproduction in pyramiding TTTT populations had no variation.
【语种】中文
【第一作者】韩 威
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【题目】5个地方鸡种肌肉脂肪酸相对含量比较及因子分析
【中文关键词】鸡种;脂肪酸;因子分析;聚类分析
【英文关键词】Chinese indigenous chicken breeds:fatty acids;factor analysis;clustering analysis
【中文摘要】以5个地方鸡品种白耳鸡(BAD、狼山鸡(LAN)、萧山鸡(XIS)、北京油鸡(YOU)、泰和乌骨鸡(TAI)为研究对象。比较品种间13项肌肉脂肪酸组成指标的相对含量的差异,并对13项脂肪酸组成指标进行因子分析和系统聚类分析.结果表明,泰和乌骨鸡的饱和脂肪酸相对含量最高(44.96%),其次为狼山鸡(43.26%)、北京油鸡(38.98%)、萧山鸡(38.56%)、白耳鸡(34.40010),其中泰和乌骨鸡、狼山鸡与自耳鸡相对含量之间存在显著差异(P<O.05).白耳鸡的不饱和脂肪酸相对含量最高(63.99%),其次为北京油鸡(59.76%)、萧山鸡(59.45%%)、狼山鸡(55.34%)、泰和乌骨鸡(54.43%),其中自耳鸡与泰和乌骨鸡、狼山鸡相对含量之间存在显著差异(JP<O.05).白耳鸡的必需脂肪酸相对含量最高(6.76%),且与狼山鸡(3.84%)、泰和乌骨鸡(4.1 7%)间存在显著差异(尸<O.05)。但与萧山鸡(5.98%)、北京油鸡(6.72%)之间差异不显著(P>0.05).主成分分析获得的前3个主成分町以解释全部变异的94.865%,其中第l、2、3主成分分别解释总变异的58.632%、22.479%和13.754%.将5个地方鸡种归人三大类。萧山鸡、狼山鸡和北京油鸡聚为一类,白耳鸡、泰和乌骨鸡分别形成独立分支.
【英文摘要】Five Chinese indigenous chicken breeds including BAl,LAN,XIS,YOU and TAl were treated as materials,then comparison of relative contents as weil as factor analysis and clustering analysis of thirteen fatty acid index amongthe five chicken breeds were carried out.The results showed,TAJ chicken breeds had the highest relative contents ofSaturated Fatty Acids(44.96%),the following were LAN(43.26%),YoU(38.98%),XIS(38.56%),BAI(34.40%).There were significant difference(P<0.05)between relative contents of BAI and TAI,LAN.BAI chicken breeds hadthe highest relative contents of Unsaturated Fatty Acids(63.99%),the following were YOU(59.76%),XIS(59.45%),LAN(55.34%),TAI(54.43%).There were also significant differences(P<0.05)between relative contents of BAI and1 ’ Al,LAN.BAI chicken breeds had the highest relative contents of Essential Fatty Acids(6.76%),and it had significantdifference(P<0.05)with relative contents ofLAN(3.84%)and TAI(4.17%),but had no difference from that ofXISand YOU.The first three principal components obtained by factor analysis could account for 94.865%of all variations.and the percents were respectively 58.632%.22.479%and 13.754%.The UPGMA dendrograms based on principalcomponent values divided the five chicken breeds into three clusters,XIS,LAN and YOU weTe in one branch,BAJ and TAlwere in independent branches.The results of3.D dendrogranas were basically consistent with that ofUPGMA dendrograms.These reflected the difference and advantage ofmuscle fatty acids property in five indigenous chicken breeds.
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【学科分类】畜牧学

【题目】藏猪不同生长发育阶段胴体性能与肉质特性研究
【中文关键词】藏猪 胴体性能 肉质特性 瘦肉率 生长发育阶段 上升趋势 不同月龄 眼肌面积 水损失 不同阶段
【英文关键词】Tibetan pigs; traits; Meat quality character
【中文摘要】选择出生1月龄左右藏猪54头,分别在1、2、3、4、5、6、12月龄时进行胴体性能和肉质特性测定,结果表明:随着月龄的增加腹油、背膘厚、皮厚、眼肌面积呈上升趋势;屠宰率在1~6月龄之间变化不大,而在12月龄时增加较多;瘦肉率、前后腿比例、前腿、背腰、后腿中瘦肉率均随月龄增加呈下降趋势。在肉质特性方面,从pH值、Opto值、LF值、肌肉含水量、脂肪IMF、滴水损失等数据来看,藏猪不同阶段肉质指标均属肉质优。
【英文摘要】The caroastI traits and meat quality traits of 54 Tibetan pigs at I ,2 3 ,4 ,5 ,6 ,12 month old ,respectively were measured to study theeffect of the age on meat quality traits • The mlU1ts showed that the kidney fat, back-fat thickness, skin thickness and loin eye area increasedwith age, but the slaughter nIte change changed little during 1 to 6 months old and increased a lot at 12 month old, the lean meat percentage,anterior-ham-Ieg ratio, lean meat percentage of the anterior leg ,back-waist part and ham decreased with age. For meat quality traits,the detenDination mlU1ts rR pH, Opto. LF value ,intramu8C1l1ar water. fat and drop lose showed that the meat rR Tibetan pip in differentgrowth and development phase reached the el<ceUent level.
【语种】中文

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【学科分类】畜牧学

【题目】藏猪生殖器官生长发育研究
【中文关键词】藏猪;生长发育;生殖器官
【英文关键词】Tibetan pigs; character
【中文摘要】选择舍饲条件下日龄、体重相近的藏公猪、母猪进行生殖器官生长发育测定,结果表明:藏公猪尿道球腺、精囊腺的发育早于其它生殖器官,而成熟要晚于其它生殖器官;藏公猪适宜配种时间为5。6月龄.藏母猪适宜配种时间为6月龄。
【英文摘要】Tibetan pigs; character
【语种】中文
【第一作者】曾凯
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【题目】藏猪肌肉纤维生长发育规律研究
【中文关键词】猪;肉纤维;生长发育
【英文关键词】Tibetan pig;Muacle fiber;Growth
【中文摘要】目的]探讨藏猪肌肉纤维性状的生长发育规律。[方法]砷藏猪公猪23头、母猪加头进行肌纤维性状测定。[结果]试验结果表明:2。6月龄藏公猪、藏母猪均出现肌纤维面积逐渐增大,其中藏公猪肌纤维增长幅度小于藏母猪。通过相关分析可知藏猪肌纤维面积与单位面积根数呈极显著负相关(P<o.01)。[结论]该试验可为藏猪种质特性的深入研究提供参考。
【英文摘要】Tibetan pig;Muacle fiber;Growth
【语种】中文
【第一作者】吕学斌
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【学科分类】畜牧学

【题目】藏猪内脏器官和消化系统生长发育研究
【中文关键词】藏猪 生长发育性能 内脏器官 消化系统
【英文关键词】Tibetan pigs; traits; quality character
【中文摘要】为探明藏猪内脏器官和消化系统生长发育规律,选择日龄、体重相近的藏猪在1~6月龄时屠宰,分析内脏器官和消化系统的生长发育规律。结果表明,藏猪的心脏在1~6月龄生长迅速,各月龄间差异极显著;肝脏的重量在1、2月龄与3、4月龄,3、4月龄与5、6月龄差异极显著;脾脏的生长速度较快,但在1、2月龄和5、6月龄时差异不显著;肺和肾脏在1、2、3月龄时差异均不显著;胃从3月龄开始快速生长,3、4、5、6月龄时差异极显著,而其它消化器官的发育相对较晚。通过相对生长系数分析,5个内脏器官中,心脏、肝脏、肺的相对生长系数在2月龄时最大,分别为93.08%、95.29%和113.17%;在8个消化器官指数中,舌头和胃的相对生长系数在2月龄最大,分别为53.59%和123.96%,藏猪的胃、心、肝、肺属相对早熟器

官。
【英文摘要】Tibetan pigs; traits; quality character
【语种】中文
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【学科分类】畜牧学

【题目】生物大分子纳米孔分析技术研究进展
【中文关键词】纳米孔 溶血素蛋白 生物大分子识别 综述 分析技术 技术研究 空间结构 相互作用 测序 动力学研究
【英文关键词】Nanopore; Hymolysin protein; Macromolecule identification; Review;
【中文摘要】脱氧核糖核酸穿越纳米孔动力学研究以及利用纳米孔开展新型DNA测序技术研究是后人类基因组计划的热点之一。本文对生物纳米孔、固态纳米孔以及纳米孔生物大分子识别技术的研究现状进行了归纳和总结,并对该领域的发展趋势进行展望。
【英文摘要】After Human Gene Project,studying the kinetics of DNA translocation through a nanopore,and developing a novel fast DNA sequencing technology by using nanopore have become one of the hot in gene-research.This contribution provides an overview of nanopore macromolecular identification,including bionanopore and solid-state nanopore,while the perspective of these research are also summarized.
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【学科分类】畜牧学

【题目】基于cytb 基因探讨家绵羊和多角绵羊的系统发育
【中文关键词】绵羊;细胞色素b;起源
【英文关键词】sheep; cytochrome b; origin
【中文摘要】【目的】研究中国家绵羊起源进化以及多角绵羊和普通家绵羊的亲缘关系。【方法】测定8 个省区42个绵羊个体的细胞色素b 基因全序列。【结果】本试验的绵羊个体可定义为40 个单倍型,单倍型多样度为0.997±0.006,核苷酸多样度为0.793%。中国绵羊群体可分为4 个支系(A、B、C 和D),其中支系D 首次在中国绵羊群体中被检测到;支系B 与支系C 的差异最大,分化时间大约为595±150 万年。多角绵羊与家绵羊聚在一起,而与野绵羊亲缘关系较远,分属于支系A、B 和D。【结论】系统发育分析表明,中国绵羊有多个母系起源或经过多次驯化,未发现盘羊、东方盘羊和亚洲摩佛伦羊与绵羊母系祖先形成相关的分子证据。
【英文摘要】【objective】 The aim of the study is to investigate the origin and evolution of Chinese domestic sheep (ovis aries)and the relationship between domestic sheep and multi-horned sheep, 【Method】 The complete cytb sequences of 42 individualsfrom 8 provinces were sequenced. 【Result】 The result showed that totally 40 haplotypes were detected, and Haplotype diversity(Hd) and nucleotide diversity (π) were 0.997±0.006 and 0.793%, respectively. The neighbour-joining tree indicated that there are fourdistinct lineages (A, B, C and D) in Chinese domestic sheep. It is firstly reported that lineage D were detected in Chinese sheep. Andlineages B and C had the highest variance value, which diverged from each other about 595±150 million years. The multi-hornedsheep belonged to lineages A, B and D, which had closer relationship with domestic sheep than wild sheep. 【Conclusion】 Analysisof phylogenesis shows that Chinese sheep have multiple maternal origins or ever experienced several times domestication possibly.There is no evidence that urial, argali and asian mouflon had molecular contribution to the maternal ancestor of Chinese sheep.
【语种】中文

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【学科分类】畜牧学

【题目】丫权猪种质特性研究
【中文关键词】r权猪;繁殖性能;生长发育性能;肥育性能
【英文关键词】Tibetan pigs; traits; quality character
【中文摘要】为了探明、r权猪的种质特性,对四川省地方优良品种盆周山地猪一、r权猪进行了种质性能测定,包括繁殖性能、生长发育性能、肥育性能和杂交肥育性能。结果表明,、r权猪瘦肉率高,达43.22%;料重比低,后备猪为3.22,肥育猪为3.49;生长速度快,肥育猪的日增重为499.60 g;四肢结实粗壮,性成熟早,6月龄即可配种利用;母性好,产仔数为10.13头,属中等繁殖力。与大白猪、杜洛克杂交后,日增重显著增加,分别为579.37 597.27 g;瘦肉率显著提高,分别为52.63%、53.48%。
【英文摘要】Tibetan pigs; traits; quality character
【语种】中文
【第一作者】杨雪梅
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【学科分类】畜牧学

【题目】藏猪新品系的选育初报
【中文关键词】藏猪;品系;性能;世代
【英文关键词】Tibetan pigs; traits; quality character
【中文摘要】在藏猪中心产区建立藏猪选育基础群,对其外貌特征、繁殖性能和生长发育进行个体测定。采用综合育种值对基础群藏猪按照高繁殖力和快生长高瘦肉率2 个方向进行选种。经过3 个世代的选育,2 个品系藏猪外貌体型更典型;高繁殖力品系总产仔数、产活仔数、初生窝重、断奶仔数和断奶窝重分别达到了7. 65 头、7. 16 头、5. 42 kg、6. 46 头和31. 05 kg ;快生长高瘦肉率品系初生重、断奶重、25 kg 日龄、屠宰率、腿臀率、瘦肉率和眼肌面积分别达到了0. 78kg、7. 87 kg、260. 5 d、61. 65 %、31. 44 %、63. 49 %和9. 13 cm2 ,背膘厚减小至8. 19 mm ,肉质性状变化不大,保持了藏猪良好的特性。
【英文摘要】Tibetan pigs; traits; quality character
【语种】中文
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【学科分类】畜牧学

【题目】藏猪生长发育性状遗传力的初步估计
【中文关键词】藏猪;L X R α 基因;L X R β 基因;PCR3RFL P ;多态性
【英文关键词】Tibetan pigs; traits; quality character
【中文摘要】猪的生长发育是重要的经济性状。估测其遗传参数对制定选种方法、设计选择指数、预测选育进展、提高选种效果都有一定的现实意义。生产性状的遗传参数是畜禽品种重要的特性指标,虽然具有通用性的一面,但也随着品种、畜群、饲养条件的不同而有所差异.具有。不稳定 ” 现象。目前.有许多对各品种(系)猪群体遗传参数的研究报道(金海

国等,2002;施启顺等,2006;陈斌等。2007),对猪的育种工作起到了很大的作用。藏猪是比较特殊的高原鿓!原始猪种.很有必要对其主要经济性状的遗传参数进行测定。为藏猪选育工作者提供参考。
【英文摘要】Tibetan pigs; traits; quality character
【语种】中文
【第一作者】强巴央宗
【通讯作者】张浩
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【学科分类】畜牧学

【题目】藏猪IGF I基因外显子4和IGF I I基因内含子7 PCR2RFLP分析
【中文关键词】藏猪; IGFs基因; PCR2RFLP;多态性
【英文关键词】Tibet p ig; IGFs gene; PCR2RFLP; Polymorphism
【中文摘要】藏猪为我国高原特色的原始小型猪种,其生长发育速度缓慢。本研究采用PCR2RFLP技术检测藏猪IGF I基因外显子4和IGF II基因内含子7酶切多态性。结果发现藏猪IGF I基因exon42PCR2Hha I2RFLP出现AA、AB和BB 3种基因型,AA基因型频率较高,为66. 07%;等位基因A和B频率分别为80. 36%和19. 34%。藏猪IGF II基因intron72G162C位点全部为GG基因型,intron72C179G位点全部为CC基因型。藏猪这2个基因的基因型分布与国内外其他猪种表现差异,这可能与其生长速度慢有关。
【英文摘要】Tibet Pig was a special Chinese indigenous p ig breed native to high2altitude areas of Tibet. In the p resent study, the polymor2phisms of exon4 of insulin2like growth factor2I (IGF I) and intron7 of insulin2like growth factor2II (IGF II) were measured with the methodof PCR2RFLP in Tibet p ig. The results showed that there were three genotypes, AA, AB and BB, for IGF I2exon42PCR2Hha I2RFLP in Ti2bet p ig population, and the p redominant genotypeswasAA (60. 07%) . The frequencies of allele A and allele B were 80. 36% and 19.34%, respectively. The genotype of IGF II2intron72G162C was GG and the genotype of IGF II2intron72C179Gwas CC in all Tibet p ig indi2vidual. The distribution of genotype of the two genes in Tibet p ig population was differentwith other p ig breeds, and might be relative to thelow growth rate of the Tibet p ig.
【语种】中文
【第一作者】强巴央宗
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【期刊名称、卷期、页码】西 南 农 业 学 报
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【学科分类】畜牧学

【题目】藏鸡血管内皮生长因子基因表达与低氧适应
【中文关键词】藏鸡;VEGF ;低氧适应;基因表达
【英文关键词】Tibetan chicken ; VEGF ; hypoxic adaptation ; gene expression
【中文摘要】比较藏鸡在常氧和低氧"浓度孵化环境中!胚胎尿囊绒毛膜"组织0123基因456.表达变化及其与低地矮小隐性白鸡的差别!分析0123表达与低氧适应的关系&结果发现低氧刺激使藏鸡和矮小隐性白鸡-./ 组织0123表达均上调!矮小隐性白鸡上调程度明显大于藏鸡&结果说明在低氧环境中藏鸡-组织0123表达表现一定程度的增加!有利于血管形成!表现对低氧环境的适应而低地鸡胚胎0123可能表现异常表达!不利于胚胎发育和存活&
【英文摘要】In this st udy , t he expression of VEGF gene was measured in chorioallantoic membrane(CAM) tissue of Tibetan chickens and Dwarf Recessive White chickens which were incubated atnormoxia (O2 ,21 %) and hypoxia (O2 ,13 %) , respectively. The result s showed t hat hypoxia2in2duced VEGF up2regulation occurred in CAM tissue for bot h breeds. However , t he extent of up2regulation was significantly higher in Dwarf Recessive White chickens t han t hat in Tibetan chick2ens. It concluded t hat hypoxia induced VEGF mRNA expression to a certain degree in Tibetan ,which made for angiogenesis and adaptation to hypoxic environment for Tibetan chickens. How2ever , t he VEGF expression was excess in CAM tissue in Dwarf Recessive White chickens at hy2poxic condition , which made the embryo of Dwarf Recessive White chickens against to develop2ment and survival .

【语种】中文
【第一作者】强巴央宗
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【引文索引号】0366　　6964(2009) 07　　1101　　05
【学科分类】畜牧学

【题目】藏猪脂蛋白脂酶基因内含子6遗传变异分析
【中文关键词】藏猪;II电基因;PCR一艘;多态性
【英文关键词】Tibet p ig; IGFs gene; Polymorphism
【中文摘要】藏猪是我国特有螅能适应高海拔地区的地方小型瘦凑型猪种。本研究采用PCR—RFLP技术捡测藏猪爨体中熊蛋白脂酶(堙L)基因蠹含子6载Sma l酶切多态性。结栗发现,藏猪群体中AB为优势基因型,等位基因A和B螅频率分别力65。18%和34。82%,与国态许多地方猪种不溺。本研究在藏猪群体艘L基鲤皮含子6内还发现另外5令突变位点。
【英文摘要】Tibet p ig; IGFs gene; Polymorphism
【语种】中文
【第一作者】强巴央宗
【通讯作者】吴常信
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【引文索引号】100
【学科分类】畜牧学

【题目】鸡Mx基因的表达及其抗血清的制备
【中文关键词】鸡;Mx基因;原核表达;抗血清
【英文关键词】Mx gene;prokaryotic expression;antiserum
【中文摘要】:Mx蛋白已被证明具有抗A型流感病毒、Thogoto病毒和水泡性口膜炎病毒等的生物活性。本研究通过PCR扩增,将Mx基因克隆至pMD18-T载体;经测序验证后将Mx基因克隆到原核表达载体pProExHTa和pcDNA3.1中。以构建的重组质粒pProExHTa.Mx转化大肠杆菌BL21,进行诱导表达,以切胶纯化方式回收了Mx融合蛋白,加佐剂乳化,免疫新西兰白兔制备抗血清;SDS—PAGE和western blot分析表明:Mx基因在大肠杆菌中以融合蛋白形式稳定表达,表达产物的相对分子量约80 ku,与预期值相符;抗血清能与Mx蛋白发生特异性反应。以真核表达重组质粒pcDNA3.1-Mx转染293T细胞,间接免疫荧光试验结果表明:原核表达蛋白免疫动物制备的抗血清与真核表达的Mx蛋白发生良好的免疫反应,表明用原核表达的Mx蛋白具有真核表达Mx蛋白相似的免疫学活性。抗血清的制备为鸡Mx蛋白的功能研究、Mx蛋白在转基因动物机体中表达的检测奠定了基础。
【英文摘要】Abstract:To prepare antiserum against chicken Mx protein,chicken M x gene was cloned into prokaryotic expression vectorpProExHTa and transformed into E.coli BL21 for expression.The expression product had a molecular mass about 80 ku as expected.The protein was purified and used to immunize the New Zealand white rabbits:Antiserum was prepared and specificity analyzedby western blot.High titer of antiserum against chicken Mx was obtained.The successful expression of Mx protein in E.coli BL21and the preparation of M x specific rabbit antiserum laid foundation for the further study on the antiviral mechanism M x protein.
【语种】中文
【第一作者】谭复善
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【学科分类】畜牧学

【题目】鸡Lmbrl基因一种异常可变剪接的克隆和表达分析
【中文关键词】鸡;Lmbrl;异常可变剪接;克隆;表达
【英文关键词】chicken;Lmbrl;abnormal alternative splicing;cloning;expression
【中文摘要】根据人Lmbrl/C70rf2基因的一种缺失外显子4的可变剪接与Acheiropodia(ACHP)疾病的关联,本研究拟根据可变剪接在物种间的保守性,进行鸡Lmbrl这种相似可变剪接的鉴定和表达分析。设计跨越Lmbrl外显子4的引物可同时检测这2种转录产物的表达,本研究成功地从鸡的心脏组织获得了缺失外显子4的Lmbrl异常剪接(Lmbrl一8)。在自来航初生雏鸡及5~6胚龄胚的组织表达分析显示,2种转录产物均可在所检测的组织中表达,与包含外显子4的转录产物(Lmbrl—a)相比,可变剪接Lmbrl—B为一种次要表达产物,表达量较弱。对多趾的丝羽乌骨鸡和四趾的自来航鸡胚组织间2种转录产物表达进行进一步分析,在2个品种3~11胚龄(E3~E11)的胚胎发育期间均可同时检测到Lmbrl-a和Lmbrl—B的表达,Lmbrl-a为主要表达产物,Lmbrl-f]为次要表达产物,Lmbrl—B表达量微弱。在2个品种的胚胎发育期间未见2种转录产物明显的表达差异。结果显示,包含外显子4的Lmbrl—a为鸡Lmbrl基因的主要转录产物,广泛而稳定地在锥鸡和发育鸡胚各组织中表达,丝羽乌骨鸡多趾表型的发育与常见转录产物Lmbrl-a和异常可变剪接Lmbrl—B的表达无直接的相关。
【英文摘要】Abstract:Based on the report that the abnormal splice form deleted exon 4 of Lmbrl/C70rf2 asso—pression difference was identified between the two breeds.It showed that Lmbrl—a containing ex—on 4 was the main transcript of Lmbrl,which expressed in all detected tissues of the chicken anddeveloping embryos,the development of polydaetyly in Silky was not related with the expressionof chicken Lmbrl—a and Lmbrl—B.ciated with human Acheiropodia and the conservation of the alternative splices among species tosome degree,the identification and expression analysis of chicken Lmbrl similar transcript variantwere conducted.Primers spanning chicken Lmbrl exon 4 were designed to clone the alternativesplice deleted exon 4(Lmbrl—p)of chicken Lmbrl—m The primers spanning exon 4 could detect theexpression of two different transcripts of chicken Lmbrl at the same time.The tissue expressionanalysis in one day-old chicks and 5-6 day-old embryos of White Leghorn showed that two tran—scripts could be detected in all tissues,and comparing with chicken Lmbrl—a,Lmbrl—p was a mi—nor transcript and its expression level was weak.Comparison between the Lmbrl expression ofE3・_El l in polydactyly Silkies and four tetradactyly White Leghorn showed that both Lmbrl。’a andLmbrl一8 expressed in all detected chicken embryo tissues,Lmbrl—a was the main transcript prod—uct and Lmbrl—B was a minor transcript product in very weak expression.No significant tissue ex-
【语种】中文
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【学科分类】畜牧学

【题目】限饲对肉仔鸡生产性能及部分血清生化指标的影响
【中文关键词】肉鸡;能量限制;生产性能;生化指标
【英文关键词】broilers;energy restriction;performance;serum biochemical parameter
【中文摘要】随机选取4~8周龄期间经30%能量限制的健康哈博德父母代母雏,研究能量限制对其生产性能及血清生化指标的影响。结果表明:30%能量限制后,肉鸡的体重、平均日增重和腹脂率显著降低I血清超氧化物歧化酶活性显著升高,丙二醛含量极显著降低,尿酸水平极显著升高;血清甘油三酯和总胆固醇水平极显著降低,较对照分别下降32.2%和13.7%;血清尿素氮水平显著升高;血清碱性磷酸酶水平极显著降低。可见30%能量限制可提高肉鸡的抗氧化水平和降低血脂。
【英文摘要】The effect of feed restriction on performance and serum biochemistry,anti—oxidant levels(superoxide dis—mutase,SOD;malondialdehyde,MDA;uric acid,UA),lipometabolism levels(triglyeride,TG;cholesterol,CHO),blood urea nitrogen(BUN),and alkaline phosphatase(AKP)were studied in meat type female chickens(Habord).Adlibitum fed birds were compared with those subjected to 30 percent energy feed restriction from 22 to 58 days of age.Feedrestriction decreased body weight,average daily weight gain and abdomen fat ratio;Feed restriction elevated serum SOD(P<O.05)and UA(P<0.01)1evels,but not for MDA.A feed restriction-induced decrease was observed for triglyeride(32.21%)and cholesterol(13.69%).Alkaline phosphatase was lower for the feed restricted chickens,but BUN wassignificantly increased.Significant changes Of serum biochemical parameters induced by 30 percent energy feed restrictionillustrated that limiting feed intake had an intensive stress on meat type chickens during the rapid growth period.Thiscontrast between feed restriction and ad libitum feed indicated that 30 percent feed restriction could elevate

anti—oxidantlevels and reduce lipometabolism levels in growing broilers chickens.
【语种】中文
【第一作者】王佳伟
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【学科分类】畜牧学

【题目】LPIN1基因的研究进展
【中文关键词】LP IN1基因,关键基因
【英文关键词】LP IN1　gene; L ip in1
【中文摘要】LP IN1基因是LP IN家族的一员,是调控脂肪细胞分化与脂类代谢的关键基因。该基因突变将改变血浆中胰岛素抵抗性及葡萄糖含量,导致体内脂肪组织功能性紊乱,造成多种代谢疾病。随着对LP IN1基因的研究不断深入,将该基因多态与相关疾病或药物反应进行关联分析,可以揭示复杂性疾病的致病机制与疾病的不同临床表型,也可作为实行个体化治疗的依据。本文就LP IN1基因的研究现状、生物学功能、突变和表达差异对脂肪的影响及其多态性与2型糖尿病的相关研究进展作一综述。
【英文摘要】LP IN1　gene; L ip in1
【语种】中文
【第一作者】王润之
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【学科分类】畜牧学

【题目】Lpinl基因的主要功能及调控路径
【中文关键词】LP IN1基因,关键基因
【英文关键词】LP IN1　gene; L ip in1
【中文摘要】体内脂肪的过量堆积会带来一系列生理功能的改变,包括高胆固醇血症、高甘油三酯、胰岛素抵抗、外周血管阻力增高等。许多研究表明,遗传在肥胖发生中起重要作用。随着研究的深入,对肥胖产生机理的认识越来越详尽。已有430个基因、标记、染色体区域显示了与肥胖表型的关联,推测的位点遍布除Y染色体外的其他所有染色体…。目前在人和鼠的研究表明Lpinl基因是影响脂肪沉积的重要候选基因,本文就Lpinl基因的功能、表达特性及基因调控进行了综述,为进一步进行其他物种Lpinl基因的研究打下基础。
【英文摘要】LP IN1　gene; L ip in1
【语种】中文
【第一作者】李素雅
【通讯作者】黄艳群
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【学科分类】畜牧学

【题目】重组白细胞介素2对固始鸡空肠黏膜免疫增强作用的研究
【中文关键词】重组白细胞介素一2;空肠;分泌型免疫球蛋白;同始鸡
【英文关键词】recombinant interleukin 2;j ej unum;immunohistochemistry;Gushi chickens

【中文摘要】本试验旨在研究重组白细胞介素2(interleukin 2,II 2)对同始鸡空肠黏膜免疫的作用。以父母代固始鸡为试验动物,用添加不同剂量的重组II ~2佐剂的鸡新城疫疫苗对试验鸡进行分组免疫,应用免疫组织化学技术,通过Qwin图像处理系统对鸡空肠内分泌型免疫球蛋白A(slgA)阳性细胞及其分泌物分布和阳性面积量进行系统分析。结果表明,sIgA 阳性细胞及其分泌物主要分布于肠绒毛的周有层和肠腺腔中。在新城疫疫苗组中添加重组ll 2能够提高slgA细胞的分泌,从而提高动物体的免疫能力。重组II 一2对增强免疫性有一定的作用,且II 2的添加剂量在5O g时对增加新城疫疫苗的免疫性效果最佳。

【英文摘要】To investigate the immunological enhancement effects of recombinant interleukin 2 in Gushi chicken.Parentalline Gushi chicken were grouped and inoculated with Newcastle disease vaccines including different dose of recombinant inter—leukin-2.And then the distribution and change of slgA positive cells and its secretion in the jejunum of the chicken were ob—served with the immunohistochemistry technology by using the Qwin image analysis system.sIgA postive cells and secretionwere distributed and located primarily in the lamina propria and enteraden cavity of the jejunum mucosa.Recombinant interleu—kin一2 addition in the Newcastle disease vaccine group could increase secretion of slgA positive cells and the immunity of thebirds was strengthened.Recombinant interleukin 2 could increase the immunity in some degree and the 50 p-g dosage of recom—binant interleukin一2 in the vaccine could display the best immunological enhancement effect.

【语种】中文

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【学科分类】畜牧学

【题目】野猪、家猪及其杂种猪CAPN1基因PCR - RFLP分析

【中文关键词】猪;CAPNl基因;PCR—RFLP

【英文关键词】CAPN1,PCR - RFLP

【中文摘要】为了进一步揭示猪CAPNl基因变异与肌肉生长的关系,试验采用直接测序的方法寻找SNPs及利用PCR—RFLP检测技术分析不同基因型在野猪、民猪、大白、长白、杜洛克及野家杂种猪中的分布规律。结果表明:在2个分别引起NalU、EcoR 11酶切位点改变的SNPs位点,各基因型在6个品种(品系)间的分布存在着极显著差异(P<0.01),并且NaIII位点等位基因的分布在瘦肉型猪中以B为优势基因,在脂肪型猪中以A为优势基因,NaIII位点的突变可能与瘦肉率有关。

【英文摘要】CAPN1,PCR - RFLP

【语种】中文

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【学科分类】畜牧学

【题目】野家杂交猪F1代群体8个繁殖功能基因的多态性分析

【中文关键词】野家杂交猪;繁殖性状;候选基因;PCR-RFLP

【英文关键词】wild boar and domestic hybrid pig, reproduction trait, candidate gene, PCR-RFLP

【中文摘要】测定和分析了野猪与大白猪杂交后F1代群体内8 个与繁殖性状相关基因的群体遗传情况,以期为猪的杂交育种以及标记辅助选择提供一定的理论依据。采用PCR-RFLP法对248 头杂交猪(大白♀×野猪♂)的ESR、FSH β、GPX5、FUT1、PRLR、NCOA1、OPN和RBP4基因的多态位点进行了检测,并计算了每个位点的基因型频率和基因频率。大白猪群体内引入野猪血统后,F1代的ESR、FSH β 和PRLR的优势等位基因频率都有不同程度的下降,FUT1 和GPX5 的优势等位基因频率与现有研究结果基本一致,而NCOA1 和OPN 的优势基因频率都高于已检测的杂交品种,只有RBP4 基因处于哈代-温伯格平衡状态。野猪与家猪杂交育种工作中,要选择ESR、FSH β 和PRLR的优势等位基因频率较高的母本群体。

【英文摘要】To detect and analyze the group heredity of eight reproduction genes in F1 generation of wild boarand Large White pig, hope the result could be useful for crossbreed and marker assisted selection (MAS). Thegenotypic frequencies and allele frequencies of eight genes related to reproduction, i.e. ESR, FSH β , GPX5,FUT1, PRLR, NCOA1, OPN and RBP4 were tested in the 248 F1 generation hybrid pig (Large White ♀×wildboar♂) by PCR-RFLP. In F1 crossbred, ESR, FSH β and PRLR predominance allele frequency had decreasetrend, except FUT1 and GPX5, but NCOA1 and OPN ’s were all higher than had been detected in crossbreds,only RBP4 was existed in Hardy-Weinberg equilibrium state. In breeding work of wild boar and domestic pig,it should select female parent group which contained highly predominance allele frequency of ESR、FSH β andPRLR genes.
【语种】中文
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【学科分类】畜牧学

【题目】猪LPL基因部分序列的克隆及多态性分析
【中文关键词】猪;LPL基因;脂肪;PCR.SSCP
【英文关键词】LPL,fat,PCR—SSCP
【中文摘要】脂蛋白脂酶是一种多功能蛋白,其主要作用是催化乳糜微粒和极低密度脂肪酸的甘油三酯水解,是影响脂肪沉积的关键酶之一。对猪LPL基因部分序列进行克隆测序,并利用PCR.SSCP方法对其进行分子扫描,寻找多态位点,分析不同基因型在不同猪种间的分布规律。Z独立性检验表明,野猪、民猪、大白猪、长白猪、杜洛克之间不同基因型的分布差异极其显著(P<0.01)。
【英文摘要】Lipoprotein lipase(LPL)gene is a muhifunctional protein,which catalyses the hydrolysis of thetriglycerides component of Chylomicrons and very low density lipoproteins(VLDL).It is one of the keyenzymes for implicating the control of fat storage and fat mobilization.This study was designed to clone thepart of the swine LPL gene and detected the polymorphisms by PCR-SSCP.疋2 analysis showed that in thepolymorphic locus,there were extremely significant difference in the distribution of genotypes among Wildboar,Min pig,Yorkshire,Duroc and Landrace(P<0.01).
【语种】中文
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【学科分类】畜牧学

【题目】血清视黄醇结合蛋白和维生素A浓度与1月龄仔猪体重关系的研究
【中文关键词】视黄醇结合蛋白;维生素A;统计分析;1月龄仔猪
【英文关键词】swine,vitaminA
【中文摘要】采用ELISA法和HPLC法检测了56头1月龄仔猪血清中视黄醇结合蛋白(RaP)和维生素的含量,并用SAS V6.12软件对所获得数据进行了统计分析。结果表明:RBP和维生素的含量在不同体重组间无差异(P>o.05),而在不同窝间存在差异(P<o.05);血清中RBP和维生素的含量存在显著正相关(P<o.01);维生素的含量与1月龄仔猪体重存在显著正相关(P<o.01)。可以考虑将R.BP的检测结果作为一个评价仔猪营养状况的指标。
【英文摘要】swine,vitaminA
【语种】中文
【第一作者】张冬杰
【通讯作者】刘娣
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【学科分类】畜牧学

【题目】猪MEF2a基因的克隆与表达
【中文关键词】猪;MEF2a;克隆;Real—time PCR
【英文关键词】porcine;M EF2a;clone;Real—tim e PCR
【中文摘要】为了进一步了解猪MEF2a基因的结构与功能,本研究采用生物信息学结合RT—PCR的方法,克隆了猪的MEF2a基因,获得了它的2个变异体序列。结果表明,猪MEF2a variant 1基因cDNA长1 524 bp(EF576923),编码508个氨基酸,分子量为54.481 ku;variant 2基因cDNA长1 416 bp(EF576922),编码471个氨基酸,分子量为50.846 ku。MEF2a两个变异体的氨基酸序列同源性为86.79 ,第laa~77aa和第132aa~470aa完全一致,第78aa~131aa是高变区,variant2与variantl相比,在第224aa~258aa处存在34个氨基酸(102 bp)的缺失。利用Real-time PCR方法检测了MEF2a的表达。结果表明,MEF2a mRNA是一个广谱表达基因,在心、肝、胃、脾、肾、肺、大肠、小肠、背肌和腿肌中都能检测到,在腿肌中优势表达。MEF2a variantl与马和家鼠构成一个小类群,而variant 2与牛和人构成了另外一个小类群,推测MEF2a基因在进化过程中发生了较为明显的变异。
【英文摘要】Abstract:In order to understand the structure and function of porcine M EF2 a gene,porcineM EF2a gene was cloned by bioinformatics and RT—PCR,and two variant sequences were ob—tained.Variant 1(1 524 bp,EF576923)encodes 505 amino acids which iS 54.481 ku.Variant 2(1 416 bp,EF576922)encodes 471 amino acids which iS 50.846 ku.Amino acid sequence homologybetween MEF2a variants is 86.79 .It is completely identical in 1st 一77th and 132th 一470th amino acids。 and is hypervariable in 78th一131th region.Variant 2 has 34 amino acids(102bp)deletion in 224th一258th compared with variant 1.M EF2a mRNA iS a broad—spectrum expressiongene.It was detected in heart,liver,stomach,spleen,kidney,lung,large intestine,small intestine,dorsal muscle and leg muscle,especially superior expression in leg muscle by Re—al—time PCR.It was showed that in phylogentic tree,for variant 1,horse and house mouse wasclustered one group and for variant 2,cattle and human was clustered another group. So it waspresumed that M EF2a gene undergoes apparent variation during evolutionary process.
【语种】中文
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【学科分类】畜牧学

【题目】野猪CAPN7 基因的克隆、表达和变异分析
【中文关键词】野猪;CAPN7;克隆;序列分析;组织表达;钙蛋白酶
【英文关键词】Wild boar; CAPN7; Cloning; Sequence analysis; Tissue expression; Calpains
【中文摘要】钙蛋白酶是细胞质中主要的蛋白水解酶,在肌肉生长、蛋白转化及嫩化过程中发挥复杂的作用。该研究利用RT-PCR、生物信息学方法克隆野猪(Sus scrofa ussuricus)CAPN7 cDNA 并进行序列分析,利用相对定量RT-PCR 方法研究其组织表达情况和利用PCR-SSCP 方法对其进行变异分析。结果表明,野猪CAPN7 基因编码区全长2 442 bp,预期编码813 个氨基酸残基,多肽链中存在着calpain 家族的催化结构域和催化活性中心;野猪CAPN7不同程度地表达于所检测的12 种组织中,在6、9 月龄野家杂交猪肌肉组织中的相对表达量高于同一时期的大白猪肌肉组织;所检测到的3 种基因型在野猪、民猪和杜洛克中的分布存在着极显著差异。该研究为进一步揭示calpain7 的功能提供了分子生物学基础。
【英文摘要】Calpains are the key proteases involved in muscle growth, protein transformation and meat tenderization.In this study, CAPN7 cDNA of Wild boar was cloned by RT-PCR, its sequence analysis, expression characterization andpolymorphism analysis were performed. The results showed that the full-length coding sequence of Wild boar CAPN7 is2442 bp long, and encodes a protein of 813 amino acids with the catalytic site of calpain family, whose catalytic triadresidues is located at amino acids 290, 458 and 478, respectively. RT-PCR expression analysis indicated that CAPN7mRNA was ubiquitously expressed in the 12 tissues examined, but the relative abundance was unevenly distributed intissues. The CAPN7 mRNA levels in muscle of 6 and 9-month-old crossbred pigs were higher than those of Yorkshirepigs at the same ages. In addition, a missense mutation was identified by PCR-SSCP and its distribution

in wild boar, Minpig and Duroc was significantly different. The results lay the foundation for further studying the function of CAPN7 gene.
【语种】中文
【第一作者】杨秀芹
【通讯作者】刘娣
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【学科分类】畜牧学

【题目】不同日龄大白猪甲状腺素运载蛋白基因的表达研究
【中文关键词】:大白猪;TTR;RT PCR;表达
【英文关键词】swine,RT -PCR
【中文摘要】本研究采用RT PCR方法对大白猪的甲状腺素运载蛋白基因在1、9O、180、270和360 d的心、肝、胃、脾、肾、肺、大肠、小肠、肌肉、子宫、卵巢共11个组织的表达情况进行了研究。结果表明.甲状腺素运载蛋白(transthyretin,TTR)mRNA在大白猪的肝脏、子宫和卵巢持续表达,且在肝脏中持续高表达,这与RBP mRNA 的表达情况一致;1 d时所检的11个组织均表达,且表达量较高,而90 d时除了心脏、肝脏和胃外,其余组织的表达水平均较低。
【英文摘要】swine,RT -PCR
【语种】中文
【第一作者】杨国伟
【通讯作者】刘娣
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【引文索引类型】其他
【引文索引号】l671 7236(2009)1i 0074-03
【学科分类】畜牧学

【题目】维生素C对视黄酸受体I3;基因的调控
【中文关键词】猪;成纤维细胞;维生素C;视黄酸受体p基因;RT—PCR
【英文关键词】pig;fibr0blast ce Ⅱ;vitamin C;RARB;RT—PCR
【中文摘要】采用半定量RT—PCR方法,研究了在体外培养的猪成纤维细胞内添加不同浓度的维生素C后,视黄酸受体p基因(RARp)的表达变化情况。结果表明,维生素C能够促进RARB基因的表达,而且不同浓度和不同作用时间对RARB基因的表达影响效果不同。
【英文摘要】The expression level 0f RARp gene was detected by RT—PCR in 6br0blast cell thmugh adding dif_ferent concentration0f vit砌in C.The result sh0wed that vitamin C cou1d pr0mote the expressi0n of RA邓, moreover different concentrationand action time had diflferent results.
【语种】中文
【第一作者】张冬杰
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【期刊名称、卷期、页码】湖北农业科学
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【学科分类】畜牧学

【题目】维生素A诱导猪成纤维细胞内视黄酸受体α基因的表达变化研究
【中文关键词】猪;视黄酸受体α基因;成纤维细胞
【英文关键词】swine,vitaminA

【中文摘要】采用半定量RT-PCR技术检测分析了在体外培养的猪成纤维细胞内分别添加终浓度为0.5、5、10、30 μg/μL的维生素A后,分别作用12 h、24 h和48 h后,视黄酸受体α基因(RARα)的表达变化情况。结果表明,RARα基因的表达在12 h时最高(P <0.05),而后开始下降,到48 h时与阴性对照组的表达水平一致。
【英文摘要】swine,vitaminA
【语种】中文
【第一作者】张冬杰
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【题目】维生素C对视黄酸受体OL基因的作用初探
【中文关键词】猪;成纤维细胞;维生素C;视黄酸受体Ot基因;RT—PCR
【英文关键词】Pig;Fibroblast cell;Vitamin C:RARa;RT—PCR
【中文摘要】采用半定量RT—PCR方法研究了在体外培养的猪成纤维细胞内,添加了终浓度为0.5、5、10、30肛g/灿的维生素C分别作用12、24、48和72 h后,视黄酸受体d基因(RARa)的表达变化情况。结果表明:维生素C对RARa基因的表达无显著影响。
【英文摘要】The express level of RARa gene w88 detected by RT—PCR in pig fibmblast cell and the final concentration of VitaminC WR$0.5,5,10 and 30 " s/山and harvest the cell on 12,24,48 and 72 hours respectively.The results showed that Vitamin C couldnot effect the expression of RARd.
【语种】中文
【第一作者】张冬杰
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【题目】猪SRPKl基因的电子克隆
【中文关键词】SRPKI;生物信息学;电子克隆;开放读码框查找
【英文关键词】SRPKl:bioinformatic;silicon cloning;ORF finder
【中文摘要】用小鼠和人的SRPKl基因的编码区序列通过NCBI数据库进行比较和检索,得到一个高同源性的猪eDNA序列和4个猪SRPKl基因的ESTs。利用DNAMAN软件将以上片段进行拼接。得到了一条较长的拼接片段x一1。ORF finder和Blast 2 sequence程序分析。结果表明,x—l中包含一个完整的长为l 968 bp的编码区,编码656个氨基酸,且此编码区DNA序列与人的SRPKl基因有91.73%的一致性,氨基酸序列的一致性为92.93%。
【英文摘要】Use the SRPKl sequence of human and mouse to compare and search in NCBl date.where a high similar eDNA sequence and four pigs ' SRPKl ESTs were found,which were spliced into alonger one(X-1)by DNAMAN software.A complete opening frame of 1 968 bp length,was found by ORFfinder and Blast 2 sequence in the X · 1 sequence,which encoded a protein of 656 amino acids.This codingsequence of 1 pin—old showed 91.73%indentity in 1 968 bp segments with the human SRPKl gene andhad 92.93%identity in 656 amino acids.
【语种】中文
【第一作者】俄广鑫
【通讯作者】刘娣
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【学科分类】畜牧学

【题目】猪CAPN 1基因mRNA表达特性分析
【中文关键词】猪;CAPN1基因;表达特性
【英文关键词】Swine;CAPN1 gene;expression characteristi
【中文摘要】为了进一步揭示CAPN1的功能,研究以野猪、大白猪及野家杂交猪为研究对象,利用相对定量RT—PCR方法研究其编码基因的表达特性。结果表明:CAPNt基因在组织中普遍表达,但表达量存在差异,并且野猪和大白猪具有不同的表达模式;在大白猪肌肉组织中表达的发育性变化为波浪型;在360日龄大白猪和野家杂交猪肌肉组织中的表达量存在显著差异。
【英文摘要】In the present study,its expression characteristic Was analyzed by semi—quantitative RT—PCR in Wild boar,Yorkshire and Crossbredpigs.The results showed that CAPN1 gene WaS unevenly distributed in all tissues examined,and the expression patterns in Yorkshire andWild boar were diferent.Th e development ch~ge of CAPN1 gene expression in skeletal muscle and Yorkshire pigs Was gradually increased withthe highest level in 180一d—old pigs.and then significantly decreased in 270一d—old and 360一d—old pigs.The mRNA level in mu~le of360一d—old cressbred Was much higher than that in Yorkshire pigs.
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【学科分类】畜牧学

【题目】猪PRL基因多态性与繁殖性能的关系
【中文关键词】猪;催乳素基因;初生重;30日龄体重;有效乳头数
【英文关键词】swine,PRLgene ,
【中文摘要】试验选择野家杂交猪(大白猪和野猪杂交)F1代猪群261头,采用PCR—RFLP法进行了PRL基因的基因型和等位基因频率检测及不同基因型的仔猪初生重、30日龄体重和有效乳头数效应分析。结果表明,BB型个体仔猪的初生重、30日龄体重略高于其他基因型个体,而CC型个体的有效乳头数略高于其他基因型个体,但差异均不显著。
【英文摘要】swine,PRLgene ,
【语种】中文
【第一作者】张冬杰
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【学科分类】畜牧学

【题目】Polymorph ism of FSHB Subunit Gene in Six Pig Breeds
【中文关键词】pig,FSHfl,polymorphism,PCR—SSCP
【英文关键词】pig,FSHfl,polymorphism,PCR—SSCP
【中文摘要】The follicle stimulating hormone beta—subunit(FSHf1)gene plays an important role in piglets.Marker-assisted selection(MAS)in conjunction with traditional selection methods is most effective for improving the piglets breeding traits.To find the ncwSNPs.the polymorphism of it in six pig breeds(Min,Landrace,Yorkshine,Duroc,wild boa ‘ and wild boar Landrace)was analyzedby using PeR—SSCP and was further compared with each other.Polymorphism was found and the sequencing results showed thatthere was one silent mutation on exon2(C48T)and two mutations on exon3(T422C and A5 1 4G).Genotype distribution of FSHfl inMin and wild boar on exon3 was in accordance with Hardy—Weinberg Law.

【英文摘要】The follicle stimulating hormone beta—subunit(FSHf1)gene plays an important role in piglets.Marker-assisted selection(MAS)in conjunction with traditional selection methods is most effective for improving the piglets breeding traits.To find the ncwSNPs.the polymorphism of it in six pig breeds(Min,Landrace,Yorkshine,Duroc,wild boa ‘ and wild boar Landrace)was analyzedby using PeR—SSCP and was further compared with each other.Polymorphism was found and the sequencing results showed thatthere was one silent mutation on exon2(C48T)and two mutations on exon3(T422C and A5 1 4G).Genotype distribution of FSHfl inMin and wild boar on exon3 was in accordance with Hardy—Weinberg Law.

【语种】英文

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【学科分类】畜牧学

【题目】草原红牛m—calpain基因的多态性及其与肉质性状的关系

【中文关键词】草原红毕;遗传多态性;calpain基域;趣质性状

【英文关键词】China red cattler,genetic polymo零hisras;c8lpain gene;meat quality trait

【中文摘要】对草原红辛1/1一calpain嬷30 k硅璃节照基转DNA岸鳎遴过瓮R扩增得蕺l 830 bp太小翡产物,这个产浆序秘包格及外照子4戴夕}显子7酌全部唐朝(包括它们之藏的内合子序列)。剃惩隈铜性内切酶Hha I对PCR产物避行酶切,并利用最小二乘线性擞型初步探索了不同基因型与肉质性状间的关系。结果表明:在3l头草原红牛群体巾检测到2个等位基因A和B,2个等位基因的频率分嬲势0。355静0。645;裣溅载3神基霞型AA、BB和AB,3种基霹型的频率分嬲先0。161,0.452争0.387。草原红孝nl—oR[pain基璃孛Bs基菠繁靖字褒嫩度剪切彦蓬有较欠的移镌(尹<0.05≥;蠢轰基因型对大理篇花纹评分值有较大的影响(P《0.05)。

【英文摘要】:Ihe t 830 bpfragmentencodingforthe reguhtory subunit(30 ku)ofChina red cattle nl-ealpaln gene,putativelyincludingthe静quences of踟n 4 ttux,ugh exmt*l 7,WaS amplified by PGR.Two alleles(A and B)of the China red cattle cattle m—calpain regulatory subtmitgene were identified with PCR—RFLP analysis using endonuelease Hha I.which the frequency of alleles found was 0.355 for A and 0.645 forB.Three genotype8 AA.BB and AB were identified among the 31 China red cattle breeds.The frequency of genotypes found WaS 0.161 for从.0.452 for BB and 0。387 for AB.The aSsociation between genotype mRrkel,8 and meat traits Were analyzed by general linear model al thehvd of DNA。The result獬the BB genotype of China red cattle撤-ealpain gene showed ahighty葫爵fieant negative effect 011 shear force《bed tendeme赫traits(P《蠢。05),The result w罄the触genotype《China碗鼬璇一ca硒gene showed a highly significant positiveeffect on marbling sc洲e of beef tenderness traits(P<O.05)。

【语种】中文

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【学科分类】畜牧学

【题目】延边黄牛DECRl基因的多态性及与肉质性状的相关分析

【中文关键词】边黄牛;DECRl;SNP;肉质性状

【英文关键词】Yanbian cattle:DE傩1:SNP:Beef quality trait

【中文摘要】目的]研究牛DECRl基因对牛肉质性状的影响。[方法]以延边黄牛为研究对象对DECRl基因第5内含子进行SNP分析,并与部分肉质性状、脂肪酸、氨基酸进行相关分析。[结果]发现了g.23473A>G、g.23263A>G两个突变;基因型AA与蒸煮损失、pH。负相关,基因型BB与pH.、肉豆蔻酸、组氨酸、赖氨酸负相关,基因型BB与硬脂酸、亚麻酸正相关。[结论]试验对DECRl的基因特性以及与肉质性状的相关研究有着重要意义。

【英文摘要】0bjective].nle effect of cattle gene—DECRI on the beef quality trait was studied.『Method]The SNP analysis of the fifth intron ofYanbian cattle gene.DECRl was conducted and its relationship with beef quality,fatty acid and amino acid was analyzed.1

Result Two SNPs(g.23263A>G and g.23473A>G)mutations were founded,the genotype AA was negatively related to the cooking loss and pH24;the geno—type BB WflS negatively correlated with pH,,myristic acid,histidine and lysine and genotype BB was positively related to stearic acid and 1ino.1enic acid.『Conclusion It has great significance to research the characteristics of the gene.DECRl and its relation with beef quality.

【语种】中文
【第一作者】李静
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【期刊名称、卷期、页码】安徽农业科学
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【引文索引号】6611(2009)34—16783一03
【学科分类】畜牧学

【题目】延边黄牛PRKAG3基因第1 0外显子单核苷酸多态性及其与肉质性状的相关分析
【中文关键词】PRKAG3基因;肉质性状;PCR SSCP;延边黄牛
【英文关键词】PRKAG3 gene;meat quality traits;PCR—SSCP;Yanbian Yellow Cattle
【中文摘要】采用PCR SSCP方法对120头延边黄牛PRKAG3基因的多态性进行检测,结果发现第1o外显子存在C4738T突变,产生3种基因型。不同基因型与肉质性状均值差异显著性检验结果发现,基因型CT与a玉、b 、油酸存在一定的负相关(P<O.05);与嫩度、谷氨酸、精氨酸、丙氨酸、缬氨酸和脯氨酸有一定的正相关(P<O.05);基因型cC与天冬氨酸存在一定的正相关(|P<O.05)。
【英文摘要】The polymorphisms of PRKAG3 gene were detected by PCR—SSCP method in 120 Yanbian Yellow Cattles.C4738T mutation was founded at exon 10.significance test of meat tra{t means for different genetypes showed:genotype CT wasnegatived correlation with aZ,bZ and oleie acid(P< O.05);and was positived correlation with tenderness,Glu,Arg,Ala,Valand Pro(P<O.05);genotype CC was positived correlation with Asp(P< 0.05).

【语种】中文
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【学科分类】畜牧学

【题目】延边黄牛PRKAG3基因多态性及其与肉质性状的相关分析
【中文关键词】PRKAG3;肉质性状;PCR- SSCP;延边黄牛
【英文关键词】PRKAG4 gene;meat quality traits;PCR—SSCP;Yanbian Yellow Cattle
【中文摘要】采用PCR- SSCP 方法对120 头延边黄牛PRKAG3 基因的多态性进行检测,共发现C6529T、T6605C、A6608G和G6685A 4 个SNPs;单倍型分析产生4 种单倍型H1(CCGA)、H2(CCGG)、H3(TCGA)、H4(TCGG),其中H1 为优势单倍型,其频率为0.590。结果表明:单倍型H3 与蒸煮损失存在负相关(P<0.05);单倍型H1 与pH1、pH24 呈正相关(P<0.05),与L*24 值负相关(P<0.05);单倍型H4 与油酸存在负相关(P<0.05),与谷氨酸、丝氨酸、苏氨酸、精氨酸、丙氨酸和脯氨酸存在正相关(P<0.05)。
【英文摘要】The polymorphisms of PRKAG3 gene were detected by PCR—SSCP method in 120 Yanbian Yellow Cattles.C4738T mutation was founded at exon 11.significance test of meat tra{t means for different genetypes showed:genotype CT wasnegatived correlation with aZ,bZ a

【语种】中文
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【通讯作者】金海国
【期刊名称、卷期、页码】中国畜牧兽医

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【学科分类】畜牧学

【题目】三个肉质相关候选基因的研究进展
【中文关键词】苹果酸酶基因; 尿黑酸1, 2加双氧酶基因; 微小异源二聚体伙伴基因; 肉质性状
【英文关键词】gene ;meat quality traits
【中文摘要】随着人们生活水平的提高, 消费者对肉制品的特性要求也越来越高, 畜禽的肉制品研究已经成为当今育种的一个热点, 分子育种手段的快速发展, 加快了育种速度, 与畜禽相关的候选基因是现代育种学关注的焦点。笔者对三个与畜禽肉品质性状相关的候选基因在分子及其肉品质育种中的研究进展进行综述, 为今后的育种方向提供参考。
【英文摘要】gene ;meat quality traits
【语种】中文
【第一作者】周国利
【通讯作者】金海国
【期刊名称、卷期、页码】黑龙江畜牧兽医
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【学科分类】畜牧学

【题目】延边黄牛骨骼肌特异性钙蛋白酶基因多态性与肉质性状关系研究
【中文关键词】延边黄牛; CAPN3; 肉质性状; 黄色度; PCR SSCP
【英文关键词】Yanbian Yellow cattle; calpain3; meat trait s; yellowness; PCR SSCP
【中文摘要】Calpain3(CAPN3) 在肌肉组织中特异表达, 其多态位点与畜禽诸多生产性状相关。本研究采用PCR SSCP方法, 设计2 对基因特异性引物CAPN3 1、CAPN3 3, 对96 头延边黄牛CAP N3 基因进行了SNPs 检测, 并将其与部分肉质性状进行了方差分析。试验结果显示, 分别在CA PN 3 基因54982 bp 处发现A G 突变, 56094 bp 处发现G A 突变。方差分析结果表明, 2 个位点中各个基因型与肉质嫩度、蒸煮损失均无显著相关性, CAPN3 3 片段BB 基因型仅在第3 天时的pH 显著高于AA 纯合型个体(P< 0. 05) 。2 个位点与肉质色度方差分析结果显示, 2 个位点中各个基因型黄色度呈显著相关(P < 0. 05) ,与肉色中其他色度无相关性。CAPN3 1 位点处, BB 基因型较AA、AB 基因型具有更高的黄色度值, 此规律并不随时间的延续而改变, 而在CAPN3 3 位点处则无此规律。
【英文摘要】Calpain3(CAPN3) , as the skeletal muscle specif ic calp ain gene, has association w ith many pro duction t raits indomestic anima ls. In this study, we screened CAPN 3 g ene single nucleot ide polymo rphisms (SNPs) in 96 Yanbian Yellow cat t le by PCR SSCP, and associat ion analysis with some meat tr aits wer e perfo rmed by SPSS pr og rames. Tw o SNPs (54982 A Gand 56094 G A) wer e detected by DNA sequencing . Associatio n analysis showed that genoty pes in two lo cis w ere no sig nifi cantly asso ciated w ith meat tenderness and co cking lost, except for BB g eno type has hig her pH value than AA g eno type at 3 d(P< 0. 05) . Association analysis w ith meat co lo r showed that g eno types in tw o locis wer e significantly asso ciated w ith yellow ness(P < 0. 05) , but wer e no associated w ith other colo r traits. At CAPN3 1 loci, BB g eno type had hig her y ellow ness v alue thanAA and AB genoty pes, t his w as constant at differ ent time, but t her e was no same situat ion at CAPN3 3 lo ci.
【语种】中文
【第一作者】金鑫
【通讯作者】金海国
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【学科分类】畜牧学

【题目】延边黄牛CAPN3基因多态性与氨基酸含量关系研究

【中文关键词】延边黄牛;CA尸^『3;氨基酸;PCR—SSCP
【英文关键词】Yanbian Yel low Cattic;(P,v3:Anlino acid:PCR—SSCP
【中文摘要】『目的]对延边黄牛CAPN3基因多态性与氨基酸含量关系进行研究。[方法j应用PCR—SSCP检测了96头延边黄牛c4PIV3基因多态性,并采用SPSS软件对各基因型的氨基酸含量进行差异显著性分析。[结果]CAPN3基因发生G55556A突变,差异显著性分析结果显示,该位点不同基因型之间的脂肪酸和氨基酸含量存在差异,其中AA基因型油酸含量显著低于GG基因型(P<0.05)。不同基因型个体天冬氨酸、谷氨酸、丝氨酸、组氨酸、苏氨酸、精氨酸、丙氨酸、络氨酸、缬氨酸、苯丙氨酸、异亮氨酸、亮氨酸和脯氨酸含量上存在显著性差异,且均表现为AA基因型氨基酸含量显著高于GG基因型。[结论]CAPN3基因与延边黄牛氨基酸舍量显著相关。
【英文摘要】[Objective]To study the relationship between the polymorphisms of calpain 3(cHJPIV3)gene and the anlino acid content.[Meth一()d 1 The CAPN3 polymorphisms of 96 Yanbian Yellow Cattle were detected by PCR—SSCP.The significantly different analysis of the amino acidcontent in each genotype was carried out using SPSS software.I Result l A hovel SNP(G A)was identified at 55556 1oci in 尸IV3 gene.The variance analysis showed that the fatty acids and amino acids contents were different among the different genotypes at this locus.Moreo—ver,the oleic acid content in AA genotype cattle has significant low than GG genotype cattle P<0.05).The contents of aspa~ic acid,glutam—ic Acid,serine,histidine,threonine,arginine,alanine,tyrosine,valine,phenylalanine,isoleucine,leucine and praline in AA genotype eat—tle were higher than those in GG genotype cattle.I Conclusion【There is significant relationship between CAP^『3 gene and amino acid content.
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【通讯作者】金海国
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【题目】A-FABP 基因多态性与肉鸡生长和体组成性状的关联研究
【中文关键词】A-FABP 基因;鸡;单倍型;生长;体组成性状
【英文关键词】A-FABP gene; chicken; haplotype; growth; body composition traits
【中文摘要】为探讨A-FABP基因多态性对肉鸡生长和体组成性状的影响,文章选用肉鸡高、低脂双向选择品系第十世代肉仔鸡为实验材料,采用测序、PCR-RFLP、PCR-LP、DHPLC的方法进行基因多态性检测和个体基因型分析,通过对8个SNPs进行连锁不平衡分析并选择5个标签SNPs构建单倍型,进而利用单位点和单倍型分别与鸡生长和体组成性状进行关联分析。结果表明,7个SNPs(除SNP 5以外)及单倍型同时对鸡肌胃重、肌胃率有显著影响(P<0.05),而对生长和其他体组成性状无显著影响(P>0.05)。鉴于不同物种A-FABP基因现有的功能研究均没有发现其对消化系统有重要作用,因此该基因是否为影响肉鸡肌胃重和肌胃率的主效基因还有待于进一步研究。
【英文摘要】This experiment was designed to study the effects of polymorphisms of A-FABP gene on growthand body composition traits in chickens. The 10th generation broiler population, derived from the NortheastAgricultural University broiler lines divergently selected for abdominal fat content (NEAUHLF) was used.Polymorphisms among individuals were detected by DNA sequencing, PCR-RFLP, PCR-LP and DHPLC.Linkage disequilibrium analysis for eight SNPs was performed, and five htSNPs were selected to constructhaplotypes. The association analyses between the individual SNPs and haplotypes and growth and bodycomposition traits were investigated, respectively. The results showed that there were consistently significanteffects on muscle stomach weight (MSW) and percentage of muscle stomach (MSW/BW) (P<0.05) in theseven SNPs (except SNP 5) and haplotypes, and no significant effect on any other trait (P>0.05). Due to noevidence on effects of A-FABP for digestion system in other species, future experiments need to be developedto confirm whether A-FABP could be a major gene of MSW and MSW/BW traits in broiler chicken.
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【题目】呼伦贝尔草甸草原植被的数量分类和排序研究
【中文关键词】呼伦贝尔　环境因素　草甸草原　群落特征　群系
【英文关键词】hulunber
【中文摘要】在群落样方调查的基础上,研究了物种组成,采用TWINSPAN、DCA、DCCA对呼伦贝尔草甸草原植被进行了数量分类和排序.96个物种分属25科66属,物种丰富度在20.1种/m2.菊科(13种)、禾本科(11种)、豆科(10种)、百合科(8种)、蔷薇科(8种)等科所含物种数最多,分别占到13.4%、11.3%、10.3%、8.2%、8.2%.生活型以多年生草本占绝大多数.TWINSPAN将96个样方划分为13组,根据植被分类原则确定为13个群丛,并对群落学特征给予说明.96个样方的DCA排序结果反映了植物群落类型与环境梯度之间的关系,影响群丛分布格局的主导生态因子为坡位、土壤养分、土壤水分和pH值.优势种的DCA排序图与样方的DCA排序图有很大的相似性.排序结果与分类结果相吻合,反映出植物群落类型和物种分布随环境因子梯度变化的趋势.
【英文摘要】
【语种】中文
【第一作者】陈宝瑞
【通讯作者】辛晓平
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【题目】Crop discrimination in North China with double cropping systems using Fourier analysis of time-series MODIS data
【中文关键词】english
【英文关键词】MODIS; NDVI; Crop discrimination; Fourier transform
【中文摘要】english
【英文摘要】Crop identification is the basis of crop monitoring using remote sensing. Remote sensing the extent and distribution of individual crop types has proven useful to a wide range of users, including policy-makers, farmers, and scientists. Northern China is not merely the political, economic, and cultural centre of China, but also an important base for grain production. Its main grains are wheat, maize, and cotton. By employing the Fourier analysis method, we studied crop planting patterns in the Northern China plain. Then, using time-series EOS-MODIS NDVI data, we extracted the key parameters to discriminate crop types. The results showed that theestimated area and the statistics were correlated well at the county-level. Furthermore, there was little difference between the crop area estimated by the MODIS data and the statistics at province-level. Our study shows that the method we designed is promising for use in regional spatial scale crop mapping in Northern China using the MODIS NDVI time-series.
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【第一作者】Zhang Mingwei
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【学科分类】植物保护学

【题目】Application of Agent in Agricultural & Forestry Economy decision support system
【中文关键词】智能体 农业 林业 经济 决策支持系统
【英文关键词】Agent, agriculture, forestry, economy, decision support system
【中文摘要】该文论述了农业决策支持系统的研究现状, 简述了多智能体理论与技术的应用情况. 分析了农林经济信息服务与辅助决策的问题, 利用多智能体技术具有的能动性、自治性、相互作用、适应性、可移动性、智能性等特点, 提出了基于多智能体的农林经济决策支持系统的设计思想、设计框架和实现方法, 用于解决农林经济信息分析、预测与辅助决

策的问题.讨论了应用多智能体技术开发基于多智能体的农林宏观决策支持系统的优势和基于智能体的决策支持系统的应用前景.

【英文摘要】This paper discusses the research status of agricultural decision support system, and outlines the application of Mult-i Agent theory and technology, analyses the problems of agricultural and forestry economy decision support system. Applying the properties of Mult-i Agent including act ivity, autonomy, interaction, adaptability, mobility, intellect etc. , the paper puts forward the research idea and frame of Mult-i Agen-t based agricultural and forestry economy decision support system. It can be used in analysis, forecast and decision of agricultural and forestry economy. This paper also introduces the design, development and function of Mult-i Agen-t based agricultural and forestry economy decision support system, and further discusses the advantages of developing this system by utilizing Mult-i Agent technology.

【语种】中文

【第一作者】诸叶平

【通讯作者】冯仲科

【期刊名称、卷期、页码】北京林业大学学报,第27卷,增刊2,VOL.27

【论文发表时间】2005-12-21 00:00:00

【引文索引类型】其他

【引文索引号】

【学科分类】区域经济管理

【题目】Cold-induced modulation and functional analyses of the DRE-binding transcription factor gene, GmDREB3, in soybean (Glycine max L.)

【中文关键词】无

【英文关键词】Abiotic stress, DREB transcription factor, drought tolerance, gene function, soybean

【中文摘要】无

【英文摘要】DREB (dehydration-responsive element-binding protein) transcription factors have important roles in the stress-related regulation network in plants. A DREB orthologue, GmDREB3, belonging to the A-5 subgroup of the DREB subfamily, was isolated from soybean using the RACE (rapid amplification of cDNA ends) method. Northern blot analysis showed that expression of GmDREB3 in soybean seedlings was induced following cold stress treatment for 0.5 h and was not detected after 3 h. However, it was not induced by drought and high salt stresses or by abscisic acid (ABA) treatment. This response was similar to those of members in the A-1 subgroup and different from those of other members in the A-5 subgroup, suggesting that the GmDREB3 gene was involved in an ABA-independent cold stress-responsive signal pathway. Furthermore, analysis of the GmDREB3 promoter elucidated its cold-induced modulation. A promoter fragment containing bases −1058 to −664 was involved in response to cold stress, and its effect was detected for 1 h after treatment, but a transcriptional repressor appeared to impair this response by binding to a cis-element in the region −1403 to −1058 at 24 h after the beginning of cold stress. Moreover, the GmDREB3 protein could specifically bind to the DRE element in vitro, and activated expression of downstream reporter genes in yeast cells. In addition, overexpression of GmDREB3 enhanced tolerance to cold, drought, and high salt stresses in transgenic Arabidopsis. Physiological analyses indicated that the fresh weight and osmolality of GmDREB3 transgenic Arabidopsis under cold stress were higher than those of wild-type controls. GmDREB3 transgenic tobacco accumulated higher levels of free proline under drought stress and retained higher leaf chlorophyll levels under high salt stress than wild-type tobacco. In addition, constitutive expression of GmDREB3 in transgenic Arabidopsis caused growth retardation, whereas its expression under control of the stress-inducible Rd29A promoter minimized negative effects on plant growth under normal growth conditions, indicating that a combination of the Rd29A promoter and GmDREB3 might be useful for improving tolerance to environmental stresses in crop plants.

【语种】英文

【第一作者】Ming Chen

【通讯作者】Youzhi Ma

【期刊名称、卷期、页码】Journal of Experimental Botany,Vol. 60, No. 1, pp. 121 – 135, 2009

【论文发表时间】2008-10-09 00:00:00

【引文索引类型】SCI

【引文索引号】10.1093/jxb/ern269

【学科分类】遗传学

【题目】A cotton (Gossypium hirsutum) DRE-binding transcription factor gene, GhDREB, confers enhanced tolerance to drought, high salt, and freezing stresses in transgenic wheat
【中文关键词】无
【英文关键词】Wheat DREB gene Abiotic stress tolerance
【中文摘要】无
【英文摘要】"A cotton (G. hirsutum L.) dehydration responsive element binding protein gene, GhDREB, which encodes a 153 amino acid protein containing a conserved AP2/EREBP domain, was isolated from the cDNA library of cotton cv. Simian 3 by a yeast one-hybrid system. RNA blot analysis showed that the GhDREB gene was induced in cotton seedlings by drought, high salt and cold stresses. An electrophoretic mobility shift assay (EMSA) indicated that the GhDREB protein bound specifically to the DRE core element (A/GCCGAC) in vitro. Two expression vectors containing the GhDREB gene with either of the Ubiqutin or rd29A promoters were constructed and transferred into wheat (Triticum aestivum L.) by bombardment. Fifty-eight Ubi::GhDREB and 17 rd29A::GhDREB T(0) plants of Yangmai (36 plants) and Lumai (39 plants) were identified by PCR analysis, respectively. Southern blot and RT-PCR analyses showed that two or three copies of the GhDREB were integrated into the Yangmai 10 genome and were expressed at the transcriptional level, and three or four copies were integrated into the Lumai 23 genome. Functional analysis indicated that the transgenic plants had improved tolerance to drought, high salt, and freezing stresses through accumulating higher levels of soluble sugar and chlorophyll in leaves after stress treatments. No phenotype differences were observed between transgenic plants and their non-transgenic controls. These results indicated that GhDREB might be useful in improving wheat stress tolerance through genetic engineering.
【语种】英文
【第一作者】Ming Chen
【通讯作者】You-Zhi Ma
【期刊名称、卷期、页码】Plant Cell Reports,(2009) 28:301 – 311
【论文发表时间】2008-11-13 00:00:00
【引文索引类型】SCI
【引文索引号】10.1007/s00299-008-0623-9
【学科分类】遗传学

【题目】Overexpression of the soybean GmERF3 gene, an AP2/ERF type transcription factor for increased tolerances to salt, drought, and diseases in transgenic tobacco
【中文关键词】无
【英文关键词】Abiotic stress, biotic stress, ethylene response factor, pathogen
【中文摘要】无
【英文摘要】"A new member of the AP2/ERF transcription factor family, GmERF3, was isolated from soybean. Sequence analysisshowed that GmERF3 contained an AP2/ERF domain of 58 amino acids and two putative nuclear localization signal(NLS) domains. It belonged to a group IV protein in the ERF (ethylene response factor) subfamily as typified bya conserved N-terminal motif [MCGGAI(I/L)]. Expression of GmERF3 was induced by treatments with high salinity,drought, abscisic acid (ABA), salicylic acid (SA), jasmonic acid (JA), ethylene (ET), and soybean mosaic virus (SMV),whereas there was no significant GmERF3 mRNA accumulation under cold stress treatment. GmERF3 could bind tothe GCC box and DRE/CRT element, and was targeted to the nucleus when transiently expressed in onion epidermalcells. The GmERF3 protein fused to the GAL4 DNA-binding domain to activate transcription of reporter genes inyeast. Ectopic expression of the GmERF3 gene in transgenic tobacco plants induced the expression of some PRgenes and enhanced resistance against infection by Ralstonia solanacearum, Alternaria alternata, and tobaccomosaic virus (TMV), and gave tolerance to high salinity and dehydration stresses. Furthermore, overexpression ofGmERF3 in transgenic tobacco led to higher levels of free proline and soluble carbohydrates compared to wild-typeplants under drought conditions. The overall results suggested that GmERF3 as an AP2/ERF transcription factor mayplay dual roles in response to biotic and abiotic stresses in plants.
【语种】英文
【第一作者】Gaiyun Zhang
【通讯作者】You-Zhi Ma
【期刊名称、卷期、页码】Journal of Experimental Botany,Vol. 60, No. 13, pp. 3781 – 3796, 2009

【论文发表时间】2009-07-14 00:00:00
【引文索引类型】SCI
【引文索引号】10.1093/jxb/erp214
【学科分类】遗传学

【题目】大豆抗逆基因GmDREB3启动子的克隆及调控区段分析
【中文关键词】干旱应答元件结合蛋白质;启动子;顺式作用元件;瞬时表达
【英文关键词】Dehydration responsive element binding protein;Promoter;Cis—element;Transient expression
【中文摘要】"GmDREB3基因能提高转基因烟草和拟南芥的抗逆性。利用SiteFinding—PCR技术,从大豆品种铁丰8号基因组中分离到大豆抗逆基因GmDREB3启动子片段,长度1 648 bp。该片段富含A/T碱基,还含有TATA—box、低温响应元件MYC及其他顺式元件MYB、CAAT-box等。将该启动子分区段与GUS报告基因连接构建表达载体,利用基因枪法转化小麦愈伤组织,并进行干旱、高盐、低温等处理,通过组织化学染色和GUS荧光定量测定分析各区段调控元件的活性。结果表明,在干旱和低温的诱导下,该启动子能激活下游GUS基因的表达,在一285—一1 117区域存在与低温和干旱应答有关的重要调控元件,在一1 464—~1 648区域内存在抑制启动子活性的调控元件。由此推断,在逆境条件下通过启动子区域正、负调控元件的共同作用,使GmDREB3基因的表达维持在一个恰当的水平。
【英文摘要】"In order to analyze transcriptional regulative mechanism of G zDREB3 gene.the GmdREB3 promoter f1 648 bp)wasisolated from soybean genome using SiteFinding—PCR m ethod.The sequences is abundan t in A/T base an d predicted to contain alot of putative cis—element,such as low—temperature responsive element(MYC),dehydration responsive element(MYB),ABAresponsive element(ABRE),and so on,as well as TATA—box in biological database.To identify the key promoter regulative re—glen controlling gene expression,GmDREB3 promoter was truncated according to the prediction of putative cis—element an d in—serted into the site upstream of GUS reporter gene.Then.vectors containing different 1ength GmDREB3 promoters were trails—ferred into wheat callus by particle bombardm ent,an d after different stress treatments,function of these putative cis—elem ents wasanalyzed by identifying activation of GUS using histochemistry staining and GUS fluorescence intensity an alysis.The resultsindicated that the promoters between-285 and-1 648 bp frelative to the translational start site)activated expression of GUS re—port gene under drought an d low temperature stresses.But only the promoter region between一285 and一1 117 bp could activateexpression of maximal GUS gene in wheat callus.Another promoter region between一1 117 and-1 464 bp weakened the abilityfor activating expression of G gene under drought and low—temperature stress conditions. Thus.it was suggested that there aresome positive regulating motif between一285 an d-1 117 bp and negative regulating motif between一1 117 and一1 464 bp 0fGmDREB3 promoter.As a result.the expression of GmDREB3 gene can be kept in an appropriate level response to variousstresses through the regulation of beth positive an d negative regulating motifs.
【语种】中文
【第一作者】孙 啸
【通讯作者】陈明
【期刊名称、卷期、页码】作物学报,2009,29(4):0662—0668
【论文发表时间】2008-03-27 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】遗传学

【题目】化肥和有机肥配合施用下双季稻田氮素形态变化
【中文关键词】稻田; 氮素动态; 有机无机肥配合
【英文关键词】paddy field ; nitrogen dynamic ; chemical fertilizer combining with organic manure
【中文摘要】为揭示有机无机肥配合施用下稻田氮素的动态及迁移特征,在湘南双季水稻农作区第四纪红土发育的红黄泥稻田上进行了连续6 年田间试验。通过比较不施氮肥(PK) 、施用有机肥猪粪(M) 、化肥(NPK) 及有机肥化肥配合(NPKM) ,研究稻田表层全氮、无机氮动态变化,不同层次(25 —30、55 —60、85 —90 cm) 土壤溶液无机氮动态,耕层土壤无机氮动态等。结果表明,NH+4-N 是红壤双季稻田无机氮素存在的主要形态,施用化学肥料处理(NPK) 施肥后1~3 d 表面水NH+4-N 浓度占全氮比例可达0.5~0.9 ,有机肥处理(M) 为0.3 左右。不同层次土壤溶液及其土壤氮素浓度呈现一致的特征,即施肥后短期内出现浓度峰值随后迅速下降,且随着往下推移,氮素峰值出现时间延长,表层水全氮及无机氮在施肥后1~2 d 出现浓度高峰,耕层土壤及25 —30 cm土壤溶液无机氮浓度高峰约在施肥后3~5 d。化肥有机肥配施有利于水稻稳产高产,年产量达12.2 t/ hm2 ,比不施氮肥的对照产量(7.3 t/ hm2) 增加68 %; 土壤有机质6 年提升18.5 % ,显著高于化肥。施用有机肥(M) 及有

机无机肥配合(NPKM) 显著降低了稻田表层水全氮及不同层次土壤溶液和耕层土壤NH+4-N 峰值浓度,提高水稻产量和培肥土壤,有利于减少当前氮肥过量施用带来的环境负荷。

【英文摘要】A six year field experiment was conducted in Quaternary Period red clay soil in double rice region of south Hunan province. Its purpose was to disclose dynamics and transferred characteristics of nitrogen under the application of chemical fertilizer combined with manure. Four treatments , namely , no nitrogen (PK) , swine manure (M) , chemical fertilizer (NPK) and swine manure applied combined with chemical fertilizer (NPKM) were selected to study the dynamics of total nitrogen and inorganic nitrogen in surface water , and as well as the dynamics of inorganic nitrogen in soil solution in different layers (25 - 30 ,55 - 60 and 85 - 90cm) and tillage soil . The results show that NH+4-N is the predominant inorganic nitrogen in red double rice paddy soil , and the ratio of NH+ 4 -N/ total N reaches to 0.5 – 0.9 in surface water within 1 - 3 days after chemical fertilizer (NPK treatment) applied , while that of organic manure treatment is about 0.3. The peak values of nitrogen concentration are detected within 1 - 2 days in surface water and 3 - 5 days in soil solution in different layers after fertilizer application. The peak values of nitrogen concentration in surface water , in soil solution and in tillage soil are lower in organic manure (M) , and chemical fertilizer applied combined with organic manure (NPKM) treatments than those of the other two treatments. The NPKM treatment achieves a 12.2 t/ ha mean annual yield (68 % higher than that of PK) . The soil organic matter in tillage soil is increased by 1815 % during the six-year plantation at the NPKM which is significantly higher than that of the NPK treatment . Application of chemical fertilizer combined with organic manure is propitious to reduce environment load due to excessive chemical nitrogen applied.

【语种】中文

【第一作者】李冬初

【通讯作者】徐明岗

【期刊名称、卷期、页码】植物营养与肥料学报

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【引文索引类型】其他

【引文索引号】

【学科分类】土壤学

【题目】Research on file transfer task scheduling method in grid environment

【中文关键词】english

【英文关键词】File transfer, grid environment, P2SP

【中文摘要】english

【英文摘要】Base on the research of GridFTP and P2P technology, this article seeks to put forward a high-performance, reliable file transfer task scheduling model and method in Grid environment, which characterized by support for basic security mechanisms, P2SP transmission, third-party control of transmission and ability to adapt to the dynamic, heterogeneous, distributed resources. Firstly, we set forth the current status and key technologies of grid-based task scheduling; then, with the description, we provide a task scheduling model and algorithm, which is achieved by P2SP technology and targeted file transfer

【语种】英文

【第一作者】王文生

【通讯作者】王文生

【期刊名称、卷期、页码】Computer and Computing Technologies in Agriculture(CCTA2009),springer

【论文发表时间】2009-01-01 00:00:00

【引文索引类型】其他

【引文索引号】

【学科分类】信息科学与系统科学基础学科

【题目】Isolation and molecular characterization of the Triticum aestivum L. ethylene-responsive factor 1 (TaERF1) that increases multiple stress tolerance.

【中文关键词】无

【英文关键词】chromosomal localization ERF multiple stress tolerance NLS protein interaction Triticum aestivum

【中文摘要】无

【英文摘要】ERF transcription factions play important roles in regulating gene expression under abotic stresses.The first member of the ERFgene family in wheat (Triticum aestivum L)was isolated by screening as T.aestivum ethylene-responsive factor

1(TaERF1),which encoded a putative protein of 355 amino acids with a conserved DNA-binding domain and a conserved N-terminal motif(MCGGAIL).The TaERF1gene was located on chromosome 7A.Protein interaction assays indicated that TaERF1,with a putative phtative phosphorylation site(TPDTTS)in the C-terminal motif enhanced the interaction of TaERF1with TaMAPK1.The predicated TaERF1protein contained three putative nuclear localization signals(NLSs),and three NLSs modulated synergistically the activity od subcellular localization.As a trans-acting factor,TaERF1 was capable of bingding to the GCC-box and CRT/DRE elements in vitro,and trans-activating reporter gene expression in tobacco leave. Transcription of the TaERF1 gene was induced not by drought,salinity and low-temperature stresses and exogenous ABA,ethylene and salicy acid,but also by infection with Blumeria graminisf.sp.tritici. Furthermore,overexpression of TaERF1 activated stress-related genes,including PR and COR/RD genes,under nomal growth conditions,and improved pathogen and abiotic stress tolance in transgenic plants.These results suggested that the TaERF1gene encodes a GCC-box and CRT/DRE element bingding factor that might be involved in multiple stress signal transduction pathways

【语种】英文

【第一作者】ZHAO-Shi Xu

【通讯作者】You-Zhi Ma

【期刊名称、卷期、页码】Plant Mol Biol (2007) 65:719 – 732

【论文发表时间】2007-09-15 00:00:00

【引文索引类型】SCI

【引文索引号】10.1007/s11103-007-9237-9

【学科分类】遗传学

【题目】Establishment and characterization of a Chinese Game chicken embryo fi broblast bank.

【中文关键词】no

【英文关键词】Chinese Game chicken fi broblasts ; biological characteristics ; genetic conservation

【中文摘要】no

【英文摘要】For preserving the genetic resources of the Chinese Game chicken and exploring a new method to preserveendangered animals, a Chinese Game chicken embryo fi broblast cell bank was established by the attachmentculture method and the cryopreservation biotechniques. Th is bank includes 43 embryo samples andhas stocks of 178 cryovials, with each containing 4.0×10 6 cells respectively. Quality assays and biologicalcharacteristics of the bank established showed that the cells cultured in vitro were all typical fi broblast andthe cell population doubling time (PDT) was about 2 days. Th e cell viability before freezing was 97.37% ±2.25% and 91.43% ± 3.22% after thawing. Tests for microbial contamination by bacteria, fungus, virusesand mycoplasmas were all negative. Th e frequency of cells having the diploid number of chromosomes(78) was 94.65% ± 3.29%. Isoenzyme analysis confi rmed that there was no cross-contamitation in theculture. Th e fl uorescence could be observed well-distributed in cytoplasm and nucleus except for somecryptomere vesicles at 24 h after transfection, and the expression effi ciency of pEGFP-C1, pEGFP-N3,pEYFP-N1, pECFP-N1, pECFP-mito and pDsRed1-N1 were all between 9.5%~34.6% at 24 h, 48 h and72 h after transfection. Th is research provided both technical and theoretical support for preserving thegenetic resources of other animals and poultry at the cell level.

【语种】英文

【第一作者】李向臣

【通讯作者】关伟军

【期刊名称、卷期、页码】Animal Biology,2010, 60:283-297.

【论文发表时间】2010-10-21 00:00:00

【引文索引类型】SCI

【引文索引号】10.1016/S1673-8527(08)60100-9

【学科分类】畜牧、兽医科学基础学科

【题目】Establishment and Characterization of the Fibroblast Line from Silkie Bantam.

【中文关键词】no

【英文关键词】Silkie Bantam,Embryo Fibroblast Line,Establishiment,Identification

【中文摘要】no

【英文摘要】A silkie Bantam embryo fibroblast line(named SBF59 line)was successfully established by using direct explant culture and cryopreservation techniques.Cell morphology, viability ,dynamic growth and contamination were tested and the karyotype and levels of isoenzymes of lactic dehydrogenase and malic dehydrogenase were analyzed.Fore kinds of fourescent protein extrogenes,

including pEGFP-N3,pECFP-N1,pEYFP-N1 and pDSRED1-N1 were transfected into the cells. The results showed that the cells were healthy and possessed a fibrous structure without a change in morphology. the average viability of the cells was 96% before freezing and 90.5% after thawing. th growth curve appeared as typical "s" shape and the cell growth passed through a detention phase,a logarithmic phase and a platfoum phase; the estimated populaiton doubling time(PDT) was 38.5h; assays for the presence of bacteria,fungi, viruse and mycoplasmas were negative; the cell line showed no cross contamination when assessed by isoenzyme analysis;the chromosome number was2n=78 on more than 88% of occasions;four kinds of fluorescent protein extro-genes appeared to be expressed effectively with a high transfection efficiency between 18.3% and 42.3%.The line met the required quality control standard.It not onyl preserves the genetic resources of the important Silkie Bantam at the cellular level but also provides valuable materials four genomic, post-genomic, somatic cell cloning research and other applications.

【语种】英文

【第一作者】李林凤

【通讯作者】关伟军

【期刊名称、卷期、页码】Asian-australasian journal of animal sciences.2009, 22(4): 492-499.

【论文发表时间】2009-04-25 00:00:00

【引文索引类型】其他

【引文索引号】NO

【学科分类】畜牧、兽医科学基础学科

【题目】Differentiation potential of bone marrow mesenchymal stem cells in duck.

【中文关键词】no

【英文关键词】duck; mesenchymal stem cells; induction; differentiation

【中文摘要】no

【英文摘要】The bone marrow mesenchymal stem cells (MSCs) are multipotent stem cells which can differentiate into mesenchymal cells in vitro.In this study, MSCs in duck were isolated from bone marrow by density gradient centrifuge separation, purified and expanded in the medium.The primary MSCs were expanded for 11 passages. The different-passage MSCs were induced to differentiate into osteoblasts andneuron-like cells. Karyotype analysis indicated that MSCs kept diploid condition and the hereditary feature was stable. The differentpassageMSCs expressed CD44, ICAM-1 and SSEA-4, but not CD34, CD45 and SSEA-1 when detected by immunofluorescence staining.There was no significant difference among the positive rates of passages 2, 6 and 8 ($P > 0.05$), but a significant difference existed amongthose of passages 2, 6, 8 and 11 ($P < 0.05$). After the osteogenic inducement was added, the induced different-passage MSCs expressedhigh-level alkaline phosphatase (ALP), and are positive for tetracycline staining, Alizarin Red staining and Von Kossa staining. After theneural inducement was added, about 70% cells exhibited typical neuron-like phenotype, the induced different-passage MSCs expressedNestin, neuron-specific enolase (NSE) and glial fibrillary acidic protein (GFAP) when detected by immunofluorescence staining. Therewas no significant difference among the positive rates of passages 3, 4 and 6 ($P>0.05$), but a significant difference existed among those ofpassages 3, 4, 6 and 8 ($P<0.05$). These results suggest that MSCs in duck were capable of differentiating into osteoblasts and neuron-likecells in vitro.

【语种】英文

【第一作者】李林凤

【通讯作者】关伟军

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【论文发表时间】2009-05-14 00:00:00

【引文索引类型】SCI

【引文索引号】10.1016/S1673-8527(08)60100-9

【学科分类】畜牧、兽医科学基础学科

【题目】Establishment and Characterization of a Fibroblast Line from Landrace.

【中文关键词】no

【英文关键词】Landrace, fi broblast, cell bank, biological characteristics

【中文摘要】no

【英文摘要】Up to 32 Landrace ear marginal tissue samples were used for establishing a fi broblast cell bank by the means of primaryexplantation and cryopreservation. Biological analysis suggested that the Population Doubling Time (PDT) of the cell line

wasapproximately 24h. The diploid accounted for 97.2% of the whole population; isozyme analysis of Lactic Dehydrogenase (LDH)and Malic Dehydrogenase(MDH) disproved cross-contamination from other cell lines. The results of bacterium, fungus, virus andmycoplasma tests were all negative. The transfection rates of three fl uorescent proteins were high, indicating that the exogenous genescould be effectively expressed in the cells. It had not only preserved the precious germplasm resource of the Landrace on the cell levelbut also provided valuable material for the researches of genomics, postgenomics, somatic cloning and so on.
【语种】英文
【第一作者】白春雨
【通讯作者】关伟军
【期刊名称、卷期、页码】Artificial Cells,Blood SubstitutesandBiotechnology 2010,38: 129-135
【论文发表时间】2010-10-26 00:00:00
【引文索引类型】SCI
【引文索引号】10.3109/10731191003670525
【学科分类】畜牧、兽医科学基础学科

【题目】Isolation and functional characterization of HvDREB1 that encodes a dehydration- responsive element binding protein in Hordeum vulgare
【中文关键词】无
【英文关键词】Abiotic stress Barley DREB
Induction kinetics Salt tolerance Transgenic plants
【中文摘要】无
【英文摘要】A gene encoding Hordeum vulgare dehydration-responsive element binding protein 1 (HvDREB1), a member of the A-2 subgroup of the DREB subfamily, was isolated from barley seedlings. A subcellular localization assay revealed accumulation of HvDREB1 protein in the nucleus. As a trans-acting factor, HvDREB1 was able to bind to RE/CRT elements and transactivate reporter gene expression in yeast cells. A study of various deletion mutants of HvDREB1 proteins indicated that the transactivation activity was localized to the N-terminal region. Expression of the HvDREB1 gene in barley leaves was significantly induced by salt, drought, and low-temperature. In contrast to most A-2 subgroup members in Arabidopsis thaliana, HvDREB1 also responded to exogenous ABA. Overexpression of HvDREB1 activated a downstream gene, RD29A, under normal growth conditions and led to increased tolerance to salt stress in Arabidopsis plants. These results suggest that HvDREB1 produces a DRE-/CRT-binding transcription factor that may have an important role in improving salt tolerance in plants.
【语种】英文
【第一作者】ZHAO-Shi Xu
【通讯作者】You-Zhi Ma
【期刊名称、卷期、页码】J Plant Res (2009) 122:121 – 130
【论文发表时间】2008-12-10 00:00:00
【引文索引类型】SCI
【引文索引号】10.1007/s10265-008-0195-3
【学科分类】遗传学

【题目】Analysis of Specific Binding and Subcellular Localization of Wheat ERF Transcription Factor W17.
【中文关键词】无
【英文关键词】ERF/AP2 domain, ERF, DRE element, GCC-box, subcellular localization
【中文摘要】无
【英文摘要】The study aims to detect the subcellular localization of ERF (ethylene-responsive element binding factor) transcriptionfactor W17 protein, the interaction between W17 and cis-acting regulatory elements GCC-box and DRE in vitro, thebinding and transactivating ability in vivo, and the role of W17 in higher plant stress-signal pathway. Recombinantplasmid W17/163hGFP was introduced into onion epidermal cells by the particle bombardment method with a PDS1000/He.Transformed cells were incubated for 24 h at 22 ° C in the dark and green fluorescence was monitored under a confocalmicroscope. The gene W17 was fused N-terminus of GST (glutathione-S-transferase) in prokaryotic expression vectorpGEX-4T-1 and then transformed into E. coli strain BL21 (DE3). IPTG (0.5 mmol L-1) was added to induce the expressionof recombinant GST/W17 for 3 h. The fused proteins were purified by GST purification columns, and then subjected to gelretardation assay with a 32P-labeled GCC or DRE sequence. The

different reporter and effector plasmids were introducedinto tobacco leaves through agroinfiltration, then transformed leaves stained by X-Gluc, faded with 75% alcohol andmonitored under a Stereozooming microscope. The GFP fused with W17 protein was localized in the nuclei; SDS-PAGEassay demonstrated that the fused protein GST/W17 could be induced and purified with molecular weight at around 42.2kD under the induction of IPTG. Purified fused protein was able to specifically bind to both the wild-type GCC-box andDRE element, but had no interaction with either the mutant DRE or GCC-box; W17 protein can bind to GCC-box andtransactive downstream GUS gene in vivo. W17 can localize into the nuclei, and it may be involved not only in bioticstresses controlled by GCC-box, but also in abiotic stresses (e.g., salt-) induced signaling pathway.

【语种】英文

【第一作者】ZHAO Yun-xiang

【通讯作者】XU Zhao-shi

【期刊名称、卷期、页码】gricultural Sciences in China 2008, 7(6): 647-655

【论文发表时间】2008-06-01 00:00:00

【引文索引类型】SCI

【引文索引号】10.1016/S1671-2927(08)60098-X

【学科分类】遗传学

【题目】Isolation and Identification of two genes encoding leucine-rich repeat (LRR) proteins differentially responsive to pathogen attack and salt stress in tobacco.

【中文关键词】无

【英文关键词】Promoter · Osmotic stress tolerance · Wheat

【中文摘要】无

【英文摘要】Leucine-rich repeat proteins (LRRs) play important roles in signal perception and activation of defense responses. We isolated two new LRR genes, NtLRR1 and NtLRR2, in tobacco (Nicotiana tabacum). NtLRR1 and NtLRR2 are characterized by 9 and 3 LRR domains, respectively. The phylogenetic relationships show that NtLRR1 and NtLRR2 belong to different subfamilies of the polygalacturonase inhibitor proteins (PGIPs) and LRP-related proteins (LRPs), respectively. NtLRR1 and NtLRR2 are responsive to pathogen attack and salt stress, but display differential expression patterns in tobacco. NtLRR1 is activated rapidly by infection with the tobacco wildfire pathogen (Pseudomonas syringae pv. tabaci), but slowly by tobacco mosaic virus (TMV). In contrast, NtLRR2 transcripts rapidly accumulate after infection with TMV, and only sluggishly with infection by the wildfire pathogen. In addition, NtLRR1 transcripts abundantly accumulate in stems, whereas NtLRR2 appears mainly in the roots. Isolation of the NtLRR2 promoter revealed some cis-acting elements responding to stresses and defense signal molecules. Subcellular localization indicated that NtLRR1 and NtLRR2 proteins localize in the cell walls and plasma membranes, respectively. It was concluded that NtLRR1 and NtLRR2 are important proteins having different functions in response to different stresses and mediating in binding interactions in a wide variety of biological processes.

【语种】英文

【第一作者】ZHAO-Shi Xu

【通讯作者】You-Zhi Ma

【期刊名称、卷期、页码】Plant Science 176 (2009) 38 – 45

【论文发表时间】2008-09-18 00:00:00

【引文索引类型】SCI

【引文索引号】10.1016/j.bmcl.2003.08.024

【学科分类】遗传学

【题目】Characterization of the TaAIDFa gene encoding a CRT/DRE -binding factor responsive to drought, high-salt, and cold stress in wheat.

【中文关键词】无

【英文关键词】Abiotic stress , DBF ,Gene expression Promoter ,Osmotic stress tolerance ,Wheat

【中文摘要】无

【英文摘要】"Dehydration responsive element-binding factors(DBFs) belong to the AP2/ERF superfamily and play vital regulatory roles in abiotic stress responses in plants. Inthis study, we isolated three novel homologs of the DBFgene family in wheat (Triticum aestivum L.) by screening a drought-induced cDNA library and designated them asTaAIDFs (T. aestivum abiotic stress-induced

DBFs). Compared to TaAIDFb and TaAIDFc, TaAIDFa lacks a short Ser/Thr-rich region, a putative phosphorylation site, following the AP2/ERF domain. The TaAIDFa gene, located on chromosome 3BS, is interrupted by a single intron at the 17th Arg (R) in the N-terminal domain. The N-terminalregion of the TaAIDFa protein modulates nuclear localization.The TaAIDFa protein is capable of binding to CRT/DRE elements in vitro and in vivo, and of trans-activating reporter gene expression in yeast cells. The TaAIDFa promoter,with various stress-related cis-acting elements,drives expression of the GUS reporter gene in wheat calliunder stress conditions. This was further conWrmed by responses of TaAIDFa transcripts to drought, salinity, lowtemperature,and exogenous ABA. Furthermore, overexpressionof TaAIDFa activated CRT/DRE-containing genes under normal growth conditions, and improved drought and osmotic stress tolerances in transgenic Arabidopsis plants.These results suggested that TaAIDFa encodes a CRT/DREelement-binding factor that might be involved in multiple abiotic stress signal transduction pathways."

【语种】英文

【第一作者】ZHAO-Shi Xu

【通讯作者】You-Zhi Ma

【期刊名称、卷期、页码】Mol Genet Genomics (2008)280:497 – 508

【论文发表时间】2008-09-18 00:00:00

【引文索引类型】SCI

【引文索引号】10.1007/s00438-008-0382-x

【学科分类】遗传学

【题目】Functions of the ERF transcription factor family in plants.

【中文关键词】无

【英文关键词】ERF transcripption factors,phylogenetic relationship,signal pathways, stress responses,transgenic plants.

【中文摘要】无

【英文摘要】Ethylene responsive factors (ERFs) play vital regulatory roles in a variety of developmental processes and stress responses in plants.in this study,ERF family genes in a wide range of plant species were classified into 8 clusters and 14 genes,especially those in ClustersII and VII,can be used as candidates to improve crop-plant resistance because their plants.The comprehensive analysis of phylogenrtic relationships,conserved motifs,and physiological functions is useful in elucidating the biological roles of ERF family gnes in signal transduction,gene regulation,znd defense response under stress environments.

【语种】英文

【第一作者】ZHAO-Shi Xu

【通讯作者】You-Zhi Ma

【期刊名称、卷期、页码】Botany 86:969-977(2008)

【论文发表时间】2008-10-21 00:00:00

【引文索引类型】SCI

【引文索引号】10.1139/B08-041

【学科分类】遗传学

【题目】Overwintering and population dynamics of Bemisia tabaci biotype B in greenhouse during the spring in northern China

【中文关键词】烟粉虱 种群动态 越冬寄主 抗寒

【英文关键词】Bemisia tabaci Population dynamics Overwintering hosts Cold hardiness

【中文摘要】自20世纪90年代中期B型烟粉虱入侵中国南部,它已经蔓延到其他地区和国家,并成为农业和园艺生产中的重要害虫。越冬调查B型烟粉虱,可能有助于了解其在中国北方的春天繁殖的主要因素,这为更好的分析虫害控制策略的害虫种群动态提供依据。

【英文摘要】Since the sweetpotato whitefly, Bemisia tabaci (Gennadius) biotype B invaded southern China in the mid-1990s, it had spread to mostother regions of the country, and become an important pest in agricultural and horticultural production. Investigations on overwinteringof B. tabaci biotype B and its spring reproduction in northern China were conducted to determine the main factors that might contributeto an understanding of the population dynamics of this pest for developing improved pest control strategies. A cold hardiness testshowed that when exposed for 10 h at 10 1C, mortalities of eggs, nymphs, and adults reached to 86.6%, 88.4%, and 100%, respectively,suggesting that it is probably impossible for feral populations of B. tabaci to survive in the winter under natural environmentalconditions in northern China. A survey on vegetables, ornamental plants and weeds in greenhouses at Hebei Province and Beijing innorthern China revealed at least 14 species of plants on which B. tabaci fed during the winter and spring. Lycopersicon

esculentum Mill,Brassica alboglabra Bailey, Ficus carica L., Euphorbia pulcerrima Wild, and Hemelia patens Haence were the main host plants. Furtherresearch on the population dynamics of B. tabaci on three major greenhouse hosts; tomato, cucumber, and melon, indicated thatdensities remained at a low level during the winter, but increased steadily from February to March until migration into field crops inApril. It is concluded that the control of the insect in greenhouse in winter and spring can play an important role for seasonalmanagement of this pest in northern China.

【语种】英文
【第一作者】林克剑
【通讯作者】吴孔明
【期刊名称、卷期、页码】Crop protection 26: 1831-1838
【论文发表时间】2007-05-21 00:00:00
【引文索引类型】SCI
【引文索引号】000251856600016
【学科分类】植物保护学

【题目】Energy budgets of the Chinese green lacewing(Neuroptera: Chrysopidae) and its potential for biologicalcontrol of the cotton aphid (Homoptera: Aphididae)
【中文关键词】“ 棉蚜 生物防治 草蛉 生态效益
【英文关键词】Aphis gossypii biological control Chrysopa sinica ecological efficiency
energy budget predation
【中文摘要】中国草蛉的幼虫阶段的能量代谢,一定实验条件下,在14:10光照期间:27±1 ° C和75%±2%RH。取食,消化,呼吸,生产力和粪便用于监测能量代谢。此外,这些实验条件下,作为生物控制剂对中华草蛉的潜力进行了评估根据摄食这种捕食和棉蚜。本研究结果表明,中华草蛉是一个重要的棉蚜的天敌,此方法是非常有用的量化天敌生物防治途径。
【英文摘要】Energy budgets of larval stages of the Chinese green lacewing, Chrysopa sinica(Tjeder) (Neuroptera: Chrysopidae) were determined under laboratory conditions at photoperiodof 14:10 L:D, 27 ± 1oC and 75% ± 2% RH. The energy used as ingestion,assimilation, respiration, productivity and feces was constructed for each developmentalstage. In addition, under these experimental conditions, the potential of C. sinica as abiological control agent was evaluated according to the ingestion by this predator and theenergy content of cotton aphid, Aphis gossypii (Glover) (Homoptera: Aphididae). The larvalstage of C. sinica was able to consume 1281.4 1-day-old aphids, 1018.7 2-day-old aphids,626.9 3-day-old aphids, 393.5 4-day-old aphids, 312.1 5-day-old aphids or 203.5 9-day-oldaphids, respectively. No significant difference was detected between the estimated numberof aphids consumed by the lacewings using energetic methods and the actual number ofaphids consumed by the lacewings in this experiment. Our results showed that C. sinica isan important natural enemy of the cotton aphid, and energetic methods are very useful toquantify biological control efficacy of natural enemies.

【语种】英文
【第一作者】高峰
【通讯作者】戈峰
【期刊名称、卷期、页码】Insect Science , 14: 497-502
【论文发表时间】2007-12-15 00:00:00
【引文索引类型】SCI
【引文索引号】000251546600007
【学科分类】植物保护学

【题目】Impact of insecticides on the structure and productivity of insect pest and natural enemycommunities associated with intercropping in cotton agroecosystems
【中文关键词】棉田 杀虫剂 群落
【英文关键词】community structure productivity cotton agroecosystem insecticides insect communities
【中文摘要】应用杀虫剂的化学防治对害虫种群动态和天敌种群动态具有一定的影响。
【英文摘要】Effects of insecticides on the structure and productivity of insect pest and natural enemy communities wereanalyzed in the four types of cotton agroecosystem associated with intercropping in Raoyang County, HeBeiProvince, China. The interaction of chemical control 6 intercropping had a significant effect on the mostcommunity structure parameters of insect pest and natural enemy communities, except for the diversity index ofthe predator community. The damage index for the insect pest community and control

index of the natural enemycommunity were also affected significantly by the chemical control 6 intercropping interaction. Pearsoncorrelation analyzes showed that community structure and productivity of insect pest and predator communitieshad a complex relationship with lower trophic productivity in these cotton agroecosystems. Few effects ofchemical control on these correlations were found. Chemical methods influenced the correlations between insectpest community productivity and parasitoid community structure in most cotton agroecosystems. Our resultssuggest that the interaction of chemical control 6 intercropping significantly influenced the damage index, thecontrol index, and the correlation between community structure and productivity of insect pest and naturalenemy communities in cotton agroecosystems.

【语种】英文
【第一作者】高峰
【通讯作者】戈峰
【期刊名称、卷期、页码】International Journal of Pest Management, 54(2):103-114
【论文发表时间】2008-04-15 00:00:00
【引文索引类型】SCI
【引文索引号】000254215600002
【学科分类】植物保护学

【题目】Population Dynamics of Spodoptera litura (Lepidoptera: Noctuidae) on Bt Cotton in the Yangtze River Valley of China
【中文关键词】Bt棉花 小地老虎
【英文关键词】Bt cotton common cutworm survival population dynamics
【中文摘要】Bt是苏云金芽孢杆菌产生的一种晶体蛋白,已被广泛应用到防治鳞翅目害虫。然而,不同昆虫对Bt蛋白的敏感性不同,需要建立一个有效防治害虫的战略体系。
【英文摘要】Genetically modified cotton that produces a crystalline protein from Bacillus thuringiensis subsp. kurstaki (Berliner) (Bt) has been widely deployed to manage lepidopteran insect pests in cotton growing areas worldwide. However, susceptibility of different insect species to Bt protein varies, which may affect lepidopteran pest populations in the field. Studies on effects of two transgenic cotton lines (BG1560 and GK19) carrying a Cry1A gene on common cutworm Spodoptera litura F. (Lepidoptera: Noctuidae), were conducted during 2002 – 2005 in the cotton planting region of the Yangtze River valley of China. Results showed that common cutworm larvae had low susceptibility to Bt cotton. There was no significant difference in larval population densities in conventional and Bt cotton fields. However, the larval populations of the insect on conventional plants treated with chemical insecticides for control of target pest of Bt cotton were significantly lower than that in Bt cotton fields. These results indicated that the common cutworm was the potential to become a major and alarming pest in Bt cotton fields, and therefore efforts to develop an effective alternative management strategy are needed.

【语种】英文
【第一作者】万鹏
【通讯作者】吴孔明
【期刊名称、卷期、页码】Environmental Entomology, 37(4):1043-1048
【论文发表时间】2008-08-01 00:00:00
【引文索引类型】SCI
【引文索引号】000258727800025
【学科分类】植物保护学

【题目】Interactive effect of elevated CO2 and cotton cultivar on tri-trophic interaction of Gossypium hirsutum, Aphis gossypii, and Propylaea japonica.
【中文关键词】棉蚜 棉花品种 CO2浓度 龟纹瓢虫 三级营养关系
【英文关键词】Aphis gossypii cotton cultivar elevated CO2 Propylaea japonica tri-trophic interaction
【中文摘要】CO2浓度升高对植物的化学成分和植食性动物具有一定的影响,其捕食这种变化的影响信息是一个重要的植物和昆虫的反应,是了解全球环境变化的第一步。通过研究CO2对三个营养水平的影响推测,CO2浓度升高可能影响着害虫种群的暴发。
【英文摘要】Information on the effects of enriched CO2 on both the chemical composition of plants and the consequences of such changes for performance of a herbivore and its predator is an important first step in understanding the responses of plants and insects to global environmental change. We examined interactions across three trophic levels, cotton, Gossypium hirsutum, an aphid herbivore,

Aphis gossypii Glover, and a coccinellid predator, Propylaea japonica (Thunberg), as affected by elevated CO2 concentrations and crop cultivars. Plant carbon:nitrogen (C:N) ratios, condensed tannin, and gossypol content were significantly higher, and nitrogen content was significantly lower in plants exposed to elevated CO2 levels compared with that in plants exposed to ambient CO2. Cotton aphid survivorship significantly increased and free fatty acid content decreased with increased CO2 concentrations. No significant differences in survival and lifetime fecundity of P. japonica were observed between cultivars and CO2 concentration treatments. However, stage-specific larval durations of the lady beetle were significantly longer when fed aphids from elevated CO2 concentrations. Our results indicate that high gossypol in the cotton host plant had an antibiotic effect on A. gossypii and produced a positive effect on growth and development of P. japonica at the third trophic level. However, elevated CO2 concentrations showed a negative effect on P. japonica. We speculate that A. gossypii may become a more serious pest under an environment with elevated CO2 concentrations because of increased survivorship of aphid and longer development time of lady beetle.

【语种】英文

【第一作者】高峰

【通讯作者】戈峰

【期刊名称、卷期、页码】Enviromental Entomology, 37(1): 29-37

【论文发表时间】2008-08-01 00:00:00

【引文索引类型】SCI

【引文索引号】000253183300004

【学科分类】植物保护学

【题目】Lethal and sublethal effects of Endosulfan on Lygus lucorum Meyer-D ü r (Hemiptera: Miridae).

【中文关键词】亚致死效应

【英文关键词】Apolygus lucorum endosulfan toxicity sublethal effects

【中文摘要】通过研究棉田亚致死剂量下盲蝽的种群动态,对棉田合理用药,有效防治害虫的危害提供依据。

【英文摘要】Various pesticides directly impact insect pest populations through acute toxicity (lethal)effects, but they also cause a range of indirect (sublethal) effects on pest physiology or behavior.In this study, we describe both lethal and sublethal effects of endosulfan on the survival, development,and fecundity of Apolygus lucorum Meyer-Du ¨ r (Hemiptera: Miridae), an important pest of Bacillusthuringiensis (Bt) cotton, Gossypium hirsutum L., in China. We quantify pesticide effects on adultmirids as well as on subsequent (F1, F2) generations. Toxicity bioassays determined the median lethalconcentration (LC50) for adult A. lucorum as 0.58 ppm. To evaluate the sublethal effect of endosulfan,we used LC20 and LC40 concentrations at 0.30 ppm and 0.48 ppm, respectively. Sublethal concentrationsof endosulfan signi Þ cantly reduced longevity and fecundity of female adults, but slightlyaffected male longevity. We also found sublethal effects on the F1 generation, through a reductionof egg hatching rate, nymphal mortality, adult molting rate, and adult fecundity, and on the F2generation, through a decrease of egg hatching rate. These results show that endosulfan has far greatereffects onA. lucorum than estimated by acute toxicity tests, and the effects of this pesticide on survivingmirids can be comparatively long-lived. This pesticide likely causes severe disruptions of A. lucorumpopulation dynamics, with single endosulfan application, invoking a great reduction of populationgrowth of resident mirid populations. We discuss implications of this work for control programs forA. lucorum on Bt cotton.

【语种】英文

【第一作者】刘仰青

【通讯作者】吴孔明

【期刊名称、卷期、页码】Journal of Economic Entomology, 101: 1805-1810

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【引文索引类型】SCI

【引文索引号】000261430700013

【学科分类】植物保护学

【题目】Effect of Bacillus thuringiensis Cry1Ac and cytoplasmic polyhedrosis virus of Helicoverpa armigera (H ü bner)(HaCPV) on cotton bollworm (Lepidoptera:Noctuidae)

【中文关键词】苏云金芽孢杆菌 转基因棉花 棉铃虫 HaCPV增效剂

【英文关键词】Bacillusthuringiensis Cry1Ac Helicoverpaarmigera Transgenic cotton HaCPV Combination Synergism Additive

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【中文摘要】Cry1Ac与昆虫体内内共生菌的增效研究

【英文摘要】In this study, interactions on the mortality and debilitating effects between Cry1Ac, a toxic protein produced by Bacillusthuringiensis (Berliner) and HaCPV (Chinese strain) on first and third instars larvae of Helicoverpaarmigera were evaluated in laboratory. When first instar was exposed to combination of Bt cotton leaf discs containing HaCPV (6 × 106, 1 × 107, and 3 × 107 PIB ml − 1) the effect on mortality was additive, when such instar larvae exposed to combination of Cry1Ac (0.9, 2.7, or 8.1 μg g − 1) and the same concentrations of HaCPV the effect on mortality was additive except for the combination of Cry1Ac (0.3 μg g − 1) and HaCPV concentrations that showed synergism. When third instars of H. armigera were infected using a suspension containing both HaCPV and Cry1Ac, most combinations of them showed additive effect except for the combination of Cry1Ac (0.3 μg g − 1) and HaCPV (3 × 107 PIB ml − 1) that showed synergism. However, when they exposed to Bt cotton leaf discs and HaCPV the effect on mortality was synergism except combination of Bt cotton leaf discs and HaCPV (6 × 106 PIB ml − 1) that showed additive. Most of the combinations are showed additive effect in the toxicity and in combinations of Cry1Ac at lowest and HaCPV at highest concentrations synergism is observed. Not only were larval growth and development delayed, but pupation and pupal weight also decreased when larvae were fed on artificial diet containing Cry1Ac and HaCPV or transgenic Bt cotton leaf discs specially in first instar.

【语种】英文

【第一作者】Rasoul Marzban

【通讯作者】张青文

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【学科分类】植物保护学

【题目】Influence of tannic acid and Cry1Ac toxin of Bacillus thuringiensis, on larval survival, growth and development of Helicoverpa armigera.

【中文关键词】Bt毒蛋白 鞣质 相互作用 鳞翅目 夜蛾科

【英文关键词】Bt toxin, tannins interaction additive effect Lepidoptera Noctuidae cotton

【中文摘要】在苏云金芽孢杆菌与增效剂的应用可以降低杀虫剂的使用,从而延迟杀虫剂抗性的发展。

【英文摘要】Helicoverpa armigera (Hu ¨ bner) (Lepidoptera: Noctuidae) causes huge economic losses in cotton productionaround the world. Tannin, one of the important secondary substances in cotton plants, canincrease the d-endotoxin activity of Bacillus thuringiensis ssp. kurstaki. The mechanism of interactionbetween tannin and Bt toxin on H. armigera is unclear.We investigated the interaction between tannicacid and Cry1Ac toxin in H. armigera, and monitored survival, growth, and development duringthe larval period after treating the larvae with four concentrations of Cry1Ac toxin (0, 2, 8, and14 lg)1) alone or in combination with four concentrations of tannic acid (0, 0.5, 1, and 2 mg g)1).Mortality of larvae treated with both tannic acid and Cry1Ac was higher than the mortality of larvaetreated with tannic acid or Cry1Ac alone. Mortality was 47.5 and 51.5% in larvae treated with14 lg g)1 Cry1Ac alone or 2 mg g)1 tannic acid alone, respectively. In contrast, larval mortality was75% when treated with the mixture of 14 lg g)1 Cry1Ac and 2 mg g)1 tannic acid, suggesting that amixture of the two enhanced the effectiveness of each one alone. The developmental time of larvaetreated with the combination of tannic acid and Cry1Ac was significantly longer than when they weretreated with Cry1Ac or tannic acid alone. Larval weight, pupal weight, and pupation rate were alsosignificantly reduced in larvae treated with both toxins, compared with the larvae treated with eithertoxin alone. These results showed that the interactive effect of tannic acid and Cry1Ac on larvalgrowth inhibition is additive, and that tannic acid improves Cry1Ac toxicity to insects. Tannicacid used in combination with B. thuringiensis might potentially reduce overall insecticide use, thusdelaying development of insecticide resistance.

【语种】英文

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【学科分类】植物保护学

【题目】Laboratory evaluation of flight activity of the common cutworm, Spodoptera litura (Lepidoptera: Noctuidae)
【中文关键词】斜纹夜蛾 飞行活动
【英文关键词】Spodoptera litura flight activity tethered-flight
【中文摘要】对斜纹夜蛾的飞行活动进行评估在实验室中使用计算机介导的飞行磨。 3-4日龄蛾再飞远高于其他年龄段的。男性和女性的飞蛾表现出类似的飞行活动。交配状态不会影响飞行时间和距离为2天岁的女性。然而,这两个6日龄的雌性交配飞行参数显著降低比未交配的。飞行的最佳温度为16-24。,而最佳的相对湿度介于60%-100%。在72小时内,总飞行天1岁的男性和女性飞蛾的时间和距离分别为19.6小时(±5.8)和83.3公里(±28.4),以及24.0小时(±7.0)和105.4公里(±37.4),分别。这些结果表明:斜纹夜蛾具有很大的潜力,进行长途迁徙飞行。
【英文摘要】The flight activity of Spodoptera litura in tethered conditions is evaluatedusing a computer-mediated flight-mill in the laboratory. The 3 – 4-day-old moths fly longerand farther than those of other ages. Male and female moths exhibit similar flight activity.Mating status does not influence the flight duration and distance of 2-day-old females.However, these two flight parameters with a 6-day-old mated female is significantly lowerthan that of unmated ones. The optimum temperature for flight ranged from 16 – 24 ◦ C,whereas the optimum RH ranged from 60% – 100%. During 72-h period, the total flightduration and distance of 1-day-old male and female moths were 19.6 h (± 5.8) and 83.3 km(± 28.4), and 24.0 h (± 7.0) and 105.4 km (± 37.4), respectively. These results indicatethat S. litura has a great potential to undertake long-distance migratory flights.
【语种】英文
【第一作者】涂业苟
【通讯作者】吴孔明
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【学科分类】植物保护学

【题目】Isolation and characterization of endophytic Bacillius subtilis Jaas ed1 antagonist of eggplant Verticillium wilt
【中文关键词】内生菌Bacullius 枯草 茄子黄萎病
【英文关键词】Endophytes Bacullius subtilis Solanum melongena Verticillium dahliae
【中文摘要】An endophytic bacterial strain,Jaas ed1,was isolated from the interior of eggplant(Solanum melongena L.)stems in Jiangsu proviince, China.According to the morphological and physiological characteristics and phylogenetic analysis of the 16s rDNA sequence,it was identified as Bacillius subtilis.Strain Jaas ed1 and its cell-free flitrate had strong antifungal activity against Verticilliium dahliae.The strain was an internal colonizer within the eggplant without any harmful side effects to the plant.In greenhouse experiments,the strain cell suspension effectively controlled Verticillium wilt of eggplant,and its .ontrol efficiency was far more significant than that of the cell-free filtrate after inoculation of V.dahliae.
【英文摘要】An endophytic bacterial strain,Jaas ed1,was isolated from the interior of eggplant(Solanum melongena L.)stems in Jiangsu proviince, China.According to the morphological and physiological characteristics and phylogenetic analysis of the 16s rDNA sequence,it was identified as Bacillius subtilis.Strain Jaas ed1 and its cell-free flitrate had strong antifungal activity against Verticilliium dahliae.The strain was an internal colonizer within the eggplant without any harmful side effects to the plant.In greenhouse experiments,the strain cell suspension effectively controlled Verticillium wilt of eggplant,and its .ontrol efficiency was far more significant than that of the cell-free filtrate after inoculation of V.dahliae.
【语种】英文
【第一作者】林玲
【通讯作者】董汉松
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【学科分类】植物保护学

【题目】Response of amino acid changes in Aphis gossypii (Glover) to elevated CO2 levels.
【中文关键词】CO2 浓度升高 氨基酸 棉蚜
【英文关键词】amino acids cotton aphid elevated CO2 honeydew phloem sap
【中文摘要】对棉蚜营养物质的研究,更多的韧皮部汁液的摄入,寻找满足其营养要求和平衡盈亏平衡点。
【英文摘要】Effects of elevated CO2 levels on the amino acid constituents of cottonaphid, Aphis gossypii (Glover), fed on transgenic Bacillus thuringiensis(Berliner) (Bt) cotton [Cryl A(c)], grown in ambient and double-ambientCO2 levels in closed-dynamics CO2 chambers, were investigated. Loweramounts of amino acids were found in cotton phloem under elevatedCO2 than under ambient CO2 levels. However, higher amounts of freeamino acids were found in A. gossypii fed on elevated CO2-grown cottonthan those fed ambient CO2-grown cotton, and the contents of aminoacids in honeydew were not significantly affected by elevated CO2levels. A larger amount of honeydew was produced by cotton aphidsfeeding on leaves under elevated CO2 treatment than those feeding onleaves under ambient CO2 treatment, which indicates that A. gossypiiingests more cotton phloem because of the higher C:N ratio of cottonphloem under elevated CO2 levels. Moreover, the amino acid compositionwas similar in bodies of aphids ingesting leaves under both CO2treatments, except for two alkaline amino acids, lysine and arginine.This suggests that the nutritional constitution of the phloem sap wasimportant for A. gossypii. Our data suggest that more phloem sap will beingested by A. gossypii to satisfy its nutritional requirement and balancethe break-even point of amino acid in elevated CO2. Larger amounts ofhoneydew produced by A. gossypii under elevated CO2 will reduce thephotosynthesis and result in the occurrence of some Entomophthora spp.
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【第一作者】孙玉诚
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【题目】Flight potential of Microplitis mediator, a parasitoid of various lepidopteran pests
【中文关键词】侧沟茧蜂 飞行能力 飞行磨 扩散
【英文关键词】Microplitis mediator Flight ability Flight mill Dispersal
【中文摘要】天敌定位害虫,有效的防控昆虫种群的发生。
【英文摘要】The efficacy of using natural enemies tocontrol pests under field conditions largely depends ontheirmobility and,more specifically, on their capacity toquickly locate pest infestation. For many naturalenemies, for example parasitoids, mobility is directlyrelated to flight aptitude, which is determined by thecapacity and inclination of a species to engage in flight.In this study, we determined the various factors thataffected flight performance of Microplitis mediator(Haliday) (Hymenoptera: Braconidae), using a computer-monitored flight mill. No differences were foundin flight performance (i.e., flight distance, duration,speed) between both sexes of M. mediator, and flightcapacity increased up to an age of 5 – 7 days followed bya gradual decline afterwards. For one-day-old female parasitoids, mean (±SE) flight distance and durationwere 6.23 ± 0.88 km and 85.15 ± 14.44 min, respectively,with a maximum flight distance of 18.0 km. Formale parasitoids, mean flight distance and duration were5.27 ± 0.51 km and 85.74 ± 7.63 min, respectively.Mating status did not affect flight performance of males,while flight distance of four-day-old ovipositingM. mediator females was much lower than that ofun-mated females of the sameage.Un-mated adultsflewmost actively at 22 – 24 Cand inclination to fly graduallydeclined with decreasing temperature. Temperaturesabove 26 C considerably reduced flight activity ofM. mediator. Wasps engaged in normal flight under abroad range of relative humidity (RH) conditions, withan optimum RH range identified as 75 – 90%. Ourresearch shows that M. mediator is a highly activeparasitoid, because both sexes show great inclination tofly under a range of environmental conditions and flightcapacity at different ages. Our results can help explainparasitoid performance in the field and provide baselineinformation to help guide augmentative releases.
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【题目】Effects of elevated CO2 and plant genotype on interactions among cotton, aphids and parasitoids
【中文关键词】棉蚜 基因型 二氧化碳 棉酚 营养关系
【英文关键词】Aphis gossypii cotton genotype elevated CO2 gossypol Lysiphlebia japonica tritrophic interaction
【中文摘要】二氧化碳水平影响棉(陆地棉)基因型和棉蚜虫(棉蚜)的相互作用,其膜翅目寄生(Lysiphlebia的粳稻Ashrnead)进行量化。据推测作物systemsmay蚜虫寄生相互作用,改变CO2浓度升高,植物基因型的变化程度的影响。棉花品种有高(M9101),中期(HZ401)和低(ZMS13)棉酚含量,升高的响应二氧化碳是基因型特异性。 CO2浓度升高的比例增加了总的非结构性在高棉酚的基因型和mediumgossypol:碳水化合物氮(列印跨国公司)基因型。对于所有三种基因型,CO2浓度升高有没有浓度的影响棉酚和缩合单宁。棉蚜健身下降,饲养蚜虫时上与下CO2浓度升高的低棉酚基因型的高棉酚的基因型。此外,CO2浓度升高降低了金银花相关的发育时间高棉酚基因型和低棉酚的基因型,但不影响寄生或出现率。我们的研究表明,棉蚜对棉花的丰不能直接影响大气中二氧化碳的增加。我们推测,棉蚜在CO2浓度升高和高棉酚基因型环境可能会减少有害生物状况由于减少了健身高棉酚基因型和发育时间短,金银花。
【英文摘要】Effects of CO2 level (ambient vs. elevated) on the interactions among threecotton (Gossypium hirsutum) genotypes, the cotton aphid (Aphis gossypii Glover), and itshymenoptera parasitoid (Lysiphlebia japonica Ashrnead) were quantified. It was hypothesizedthat aphid-parasitoid interactions in crop systemsmay be altered by elevated CO2, andthat the degree of change is influenced by plant genotype. The cotton genotypes had high(M9101), medium (HZ401) and low (ZMS13) gossypol contents, and the response to elevatedCO2 was genotype-specific. Elevated CO2 increased the ratio of total non-structuralcarbohydrates to nitrogen (TNC : N) in the high-gossypol genotype and the mediumgossypolgenotype. For all three genotypes, elevated CO2 had no effect on concentrationsof gossypol and condensed tannins. A. gossypii fitness declined when aphids were rearedon the high-gossypol genotype versus the low-gossypol genotype under elevated CO2. Furthermore,elevated CO2 decreased the developmental time of L. japonica associated withthe high-gossypol genotype and the low-gossypol genotype, but did not affect parasitismor emergence rates. Our study suggests that the abundance of A. gossypii on cotton willnot be directly affected by increases in atmospheric CO2. We speculate that A. gossypiimay diminish in pest status in elevated CO2 and high-gossypol genotype environmentsbecause of reduced fitness to the high-gossypol genotype and shorter developmental timeof L. japonica.
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【题目】Elevated CO2 lessens predation of Chrysopa sinica on Aphis gossypii
【中文关键词】棉蚜 成活率 半翅目 蚜虫
【英文关键词】cotton aphid development, survival rate predatory ability successive generation Neuroptera Chrysopidae Hemiptera Aphididae
【中文摘要】大气二氧化碳浓度升高对生物体的影响,大部分研究都集中在性能植物或食草动物。一些报告审查敌害的能力的影响营养级。在这个实验中,我们利用开顶式气室,以量化的影响CO2浓度升高的增长,发展和捕食能力两个中国历代草蛉,中华草蛉(Tjeder)(Neuroptera:Chrysopidae)的棉蚜,棉蚜虫为食,棉蚜(哥拉巴)的(半翅目:蚜),其中,陆地棉棉花饲养(锦葵科),生长在CO2浓度升高(双环境与环境)。高等大气中的二氧化碳浓度降低了持续发展幼虫和蛹的成活率,造成中华草蛉雌成虫体重下降,但对每个幼虫的存活率没有显着影响阶段,雌成虫生殖力,卵孵化率,成虫寿命。在幼虫捕食能力第三龄和中华草蛉幼虫期的总对棉蚜美联储均显着升高二氧化碳环境。
【英文摘要】Most studies on the effects of elevated atmospheric CO2 on organisms have focused on the performanceof plants or herbivores. Few reports have examined the impact on the ability of predators atthe third trophic level. In this experiment, we made use of open-top chambers to quantify the effectsof elevated CO2 on growth, development, and predatory ability of two successive generations of Chineselacewing, Chrysopa sinica (Tjeder) (Neuroptera: Chrysopidae), feeding on cotton aphids, Aphisgossypii

(Glover) (Hemiptera: Aphididae), which were reared on cotton, Gossypium hirsutum L.(Malvaceae), grown under elevated CO2 (double ambient vs. ambient). Higher atmospheric CO2concentrations reduced the duration of larval development and the survival rate of pupae, and causeddecreased weight in adult female C. sinica, but had no significant effects on survival rate of each larvalstage, female adult fecundity, egg hatch rate, or adult life span. The predatory ability of larvae in thethird instar and the total larval stage of C. sinica that fed on A. gossypii were significantly lower in elevatedCO2 environments. The number of aphids consumed by first-generation lacewing populationdid not change significantly with different CO2 treatments; however, significantly fewer aphids wereconsumed by the second generation of the lacewing population with elevated CO2.We speculate thatA. gossypii may become a more serious pest under an environment with elevated CO2 concentrationsbecause of the reduced predatory ability of C. sinica on A. gossypii.

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【题目】棉盲蝽综合治理研究进展
【中文关键词】转Bt基因抗虫棉 综合治理
【英文关键词】transgenic Bt cotton mirid integrated management
【中文摘要】随着Bt棉花的大面积种植,盲蝽已上升成为我国棉花的主要害虫。本文从防治策略、经济阈值与预测预报、防治措施等方面综述了盲蝽防治的经验,并结合我国棉盲蝽的防治现状提出了对策与建议。
【英文摘要】The mirids(Heteroptera:Miridae)have become one of the most important insect pests in Chinese cottonproduction due to the commercialization of Bt cotton.For promoting the management of this kind of pests in China,the progresses in its control strategy,economic threshold and forecasting methods of population dynamics,and controlmeasures in the world were reviewed in this paper.

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【题目】不同生态区域转基因抗虫棉抗棉铃虫水平波动度研究
【中文关键词】转基因棉花 棉铃虫抗性水平 波动率
【英文关键词】transgenie cotton cotton bollworm resistance level fluctuation rate
【中文摘要】以在南京、盐城、南通3地参加长江流域棉花品种区试的抗虫棉品种为材料,采用室内棉叶接虫方法,检测不同生态区域间品种抗棉铃虫水平的波动程度。结果表明:17个品种在不同试点间的抗级吻合度为82 35% 有10个转基因棉花品种在不同试点的棉铃虫幼虫校l1三死亡率(CLM)、叶片受害指数(LII)、活虫发育指数(SLI)与活虫发育指数减退率(DR)等抗虫性检测指标出现达到差异显著或极显著的波动反应,波动度介于16.67%~100.00% 其波动度的大小与该品种的抗虫承平值呈极显著相关,特抗或特感的品种,即平均抗虫性水平值高于3.6或低于1.5,其试点间抗虫性指标波动度为0,而介于二者之间的品种,其生态区域间抗虫性水平就会出现不同程度的波动。据此建立了抗虫性指标波动度(y)与品种平均抗虫性水平值(x)之间的二次曲线函数关系,并探讨了不同生态区域转基因棉花的品种引进与抗性利用技术。
【英文摘要】Cotton bollworm larva were fed witll cotton leaves which were sampled from different Bt transgenic cottonvarieties planted in three ecological regions in Yangtze River Bank to investigate the fluctuation of resistance levels.The resistance grades of l7 cotton varieties in three different ecological regions coincided 82.35%.The corrected larva mortality,leaf injury index,survival larva index and decreased rate of survival larva index of 10 varieties fluctuated significandy inthree regions,with fluctuation rates between

16.67%and 100.00%.Highly resistant cotton varieties with avorage resistance values more than 3.6 and highly sensitive varieties wifll average resistance values lower than 1.5 did not show any fluctuation of resistance to cotton bollworm in different regions.However.fluctuation was observed on moderately resistant cotton varieties in different regions Based on the date obtained in the experiment,an equation between fluctuation of resistance(Y)and average resistance value(x)was established,

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【题目】性信息素诱杀防治甜菜夜蛾的技术效应
【中文关键词】甜菜夜蛾 性信息素 诱捕技术 影响
【英文关键词】beet armyworm sex pheromone trapping technique effect
【中文摘要】采用不同密度性诱盆处理与常规化学防治处理的对比试验方法,综合评估性信息素防治甜菜瘦蛾的作用和效应。结果显示:性诱盆放置密度直接影响诱获雄蛾的频次与平均日单盆诱蛾量,低密度处理(1 hm2放置3个性诱盆)与高密度处理(1 hm2放置15个性诱盆)诱获雄蛾频次分别为71 22%与48.50% 平均13单盆诱蛾量在3头以上和3头以下的天数,低密度处理分别为29 d和38 d,分别占总诱蛾日的43.30%和56.70%,而高密度处理平均分别为7 d和60 d,分别占总诱蛾日的10 50%与89.50% 按单位面积诱捕雄蛾最计算,高密度处理雄蛾诱杀效果较低衍度处理提高93 90% 在甜菜夜蛾主害代以1 hm2放置15个性诱盆的密度进行性诱防治,性诱防治区累计诱捕雄蛾874头,对幼虫的控制效果与常规化学防治相当。表明,应用昆虫性信息素诱杀防治主害代甜菜夜蛾可作为减少化学农药的无公害防治手段列入甜菜夜蛾综合防治体系中。
【英文摘要】The effect of sex pheromone trap on beet armywcorm(Spodptera exigua)was evaluated by setting differentdensities of traps and comparing with the efficacy of chemical control.Low density was set as three traps in 1 hm2 and highwas 15 traps.The frequencies of male moth captured were 71.22%and 48 50%under low density treatment and high density treatment,respectively. The days that moths captured daily per trap more than three or less than three were 29 d and38 d underlow densitytreatment.accountingfor43.30%and 56.70% of the total test period,whereas which were 7 d and60 d under high density treatment.accounting for 10.50%and 89.50%.The control efficacy of sex pheromone on malemoth per unit area under high density treatment was 93.90% higher than that under low density treatment.874 male mothsat main injurious generation was captured under high trap density,which were more than those controlled with chemicalsIt was indicated that the control of beet armyworm with sex pheromone could be used as a safe way to reduce the harm ofchemical pesticide in integrated control of beet armyworm.
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【题目】棉花害虫综合防治研究历程与展望
【中文关键词】棉花害虫 IPM 研究进展
【英文关键词】cotton pests IPM research progress
【中文摘要】汇总了我国棉花害虫研究领域不同年代代表性学者的研究重点、主要论点,并进行了点评。尽管我国棉花害虫综合防治技术日前处于国际领先的地位,但存在过分依赖化学农药和没有充分发挥自然控害作用的问题。指出我国在棉花害虫中长期预警、群落演替、抗性治理、重大害虫迁飞规律、增强自然控害能力等方面的研究还很薄弱,建议加强基础工作和基础理论研究,开发新型化学农药,提高防治病虫害的机械化水平,加强生物防治研究,充分发挥高新技术在防治病虫害中的作用。

【英文摘要】Focal research points,the main points of representative in different decades of cotton pests researchfields were reviewed and evaluated.Although the IPM technologies of cotton insects in China is in an interna—tional lead,problems of over-depending on the chemical pesticide and weakness of natural control still exit.The study on long-term warning,community succession,resistance management,serious insect pest migra—tions and natural control of cotton pests are still weak.Therefore,the study on basic work and basic theoryshould he strengthened,new type chemical pesticide should be developed,the mechanization level of diseasesand pests control should he improved,studies on bio-control should be strengthened,and the high-new teeh—nology for pest control should be brought into full play.
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【题目】B型烟粉虱触角感受器的超微结构及对寄主植物气味的嗅觉行为反应
【中文关键词】B型烟粉虱 触角
【英文关键词】B biotype of Bemisia tabaci antennal sensillum ultrastmctures host plant odor
【中文摘要】利用扫描电镜和透射电镜分别观测了烟粉虱触角感受器的分布、形态和结构。扫描电镜观察结果表明,烟粉虱触角由柄节、梗节和1—5节鞭节组成,绝大部分触角感受器分布在触角的背面、腹面和外侧面。雌、雄蛾触角上均存在5种感器,即微毛感器、锥形感器、刚毛感器、钟形感器和腔锥感器,各种感器在雌、雄蛾触角上的分布和数量没有明显的区别。除了微毛感器和刚毛感器的数量较多外,腔锥感器、锥形感器和钟形感器的数量均较少,分别为6、4和1个。透射电镜观察结果表明,烟粉虱触角上起嗅觉作用的锥形感器和腔锥感器均由表皮壁、鞘细胞和感觉神经元等结构组成。利用“Y型”嗅觉仪测定了烟粉虱雌虫对苘麻、棉花、烟草、黄瓜和甘蓝5种寄主植物气味的行为反应,结果显示,约30%的烟粉虱个体对气味源无反应,50%以上的个体对寄主植物具有显著的行为反应,对寄主植物的选择率差异显著,从大到小顺序为:黄瓜>苘麻>棉花>烟草>甘蓝。
【英文摘要】The morphology,especially the ultrastmctures of antennal sensilla of B.tabaci was observedunder scanning and transmission electron microscope.Antennae of B.tabaci are made up of scapus,pedicleand flagella that the latter consist of l一5 segments and most of the antennal sensilla lie on its outer,upper and lower surfaces.Both the antennae of male and female contain five kinds of antennal sensilla,namely,microtrichia,chaetae sensilla,coeloconic sensilla,campaniform sensilla,basieonic sensilla,and the kinds,number and distribution of antennal sensilla of both sexes are similar.There have a largenumber of microtrichia and chaetae sensilla on the antenna of B.tabaci,and the number significantlyhigher than that of coeloconic,basiconic and campaniform sensilla,which was just 6,4 and 1,respec—tively.Coeloconic sensilla and basiconic sensilla,the main chemical odor receptors on antennae of B.tabaci,consist of cuticular wall,sheath cells,sensillum lymph and dendrites.The role of olfactory func—tion in the host-selection behavior of B.tabaci was investigated by Y—tube olfactometer.The result indicated30%of B.tabaci adults have no response to the odor of host plants,but more than 50%of adults show the strongest host preference to piemarker,cotton,tobacco,cucumber and cabbage.There wassignificant difference on the orientation rate among the five host plants,followed by the order:cucumber>piemarker>cotton>tobacco>cabbage.
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【第一作者】林克剑
【通讯作者】吴孔明
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【题目】用四季豆饲养盲蝽螨的方法
【中文关键词】盲蝽 饲养技术

【英文关键词】Miridae feeding techniques
【中文摘要】四季豆是多种盲蝽的寄主植物,该研究旨在发展一个利用四季豆豆荚规模化饲养多种盲蝽的技术。研究结果表明:绿盲蝽与中黑盲蝽的若虫最佳饲养密度约为100头/盒(2L),成虫为60~80头/盒。绿盲蝽成虫喜好在切头豆荚的两端伤口处产卵,而中黑盲蝽喜欢在完整豆荚的两端产卵。养虫盒内添加一些弯曲的纸条有助于提高若虫存活率和成虫产卵量。产卵后的豆荚需晾干后放置在25~28℃、相对湿度60%~70%、光照16∶8(L∶D)的环境下,以减少豆荚腐烂和提高卵的孵化率。利用这一方法饲养盲蝽的若虫存活率、成虫产卵量和卵孵化率分别达60%、40粒和80%。
【英文摘要】The green bean, Phaseolus vulgaris is a main host plant of several important mirids, and astudy was conducted for developing a rearing method to culture of mirids with fresh beanpods in the labo- ratory. The optional rearing density for Apolygus lucorum and Adelphocoris suturalis was approximately 100nymphs or 60- 80adults pe 2L box A. lucorum prefers to oviposit in the wound of end-cutting bean-pods, and A. suturalis likes to lay eggs in the ends of intact beanpods. Adding some curving scrips in theculture boxes can greatly benefit the nymphal survival and adult oviposition. After adult oviposition,beans with eggs need to decrease water content firstly, then place under the environment of 25- 28°Cand16∶8(L∶D)with60%- 70% RH for avoiding the rot of beansand increasing egg hatching rate. Usingthis method, four species of mirids were successfully reared with a nymphal survival rate of 60%, egg in-cubation rate 80% and fecundity of 40 eggs per female.
【语种】中文
【第一作者】陆宴辉
【通讯作者】吴孔明
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【题目】转基因棉花品种对棉大卷叶螟抗性水平的鉴定评估
【中文关键词】转基因棉花 棉大卷叶螟
【英文关键词】transgenic cotton Cotton leaf roller
【中文摘要】在棉大卷叶螟主害代危害高峰期,采用不同抗性指标调查统计法,综合量化鉴定不同转基因棉花品种对棉大卷叶螟的抗性水平。结果表明:以活虫减退率、株害减少率、卷叶减少率作为品种抗性检测指标,可很好区分不同转基因棉品种对棉大卷叶螟的综合抗性水平。在供试的30个品种中,达到高抗的有24个,中抗的有3个。不抗的有3个,可将高抗品种充实到棉大卷叶螟综合防控的技术体系中。
【英文摘要】The main victims on behalf of endangering the peak of the cotton leaf roller, the survey method with different resistance index, the comprehensive quantitative identification of genetically modified cotton varietiesLevel of resistance to cotton leaf roller. The results showed that: the decline rate of live insects, plants and harm reduction rate, the leafroll reduce the rate as the varieties of resistance detection indicators can be a very good areaPoints the resistance level of transgenic cotton varieties of cotton leaf roller. In the 30 varieties tested, to achieve high anti-24, there are three anti-A. 3 resistance, high resistance varieties to enrich the integrated prevention and control of cotton leaf roller system.
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【第一作者】柏立新
【通讯作者】柏立新
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【题目】江苏省棉花区试品种抗黄萎病性鉴定
【中文关键词】棉花 黄矮病
【英文关键词】Cotton yellow dwarf disease
【中文摘要】2003~2005年对来自江苏省棉花区域试验品种(系)174份次材料在江苏省农业科学院植物保护研究所人工黄萎病圃进行抗黄萎病性鉴定,病情考查分花铃期发病高峰时和拔棉秆时两次进行。花铃期病叶发病程度轻于拔秆时的剖秆

调查结果。3年来共鉴定出高抗品种(系) 8份次,占4. 60%;抗病48份次,占27. 59%;耐病57份次,占32.76%;感病61份次,占35.06%。鉴定结果表明,棉花区域试验品种(系)抗黄萎病性有逐年提高的趋势。

【英文摘要】The artificial Verticillium wilt nursery for resistance to Verticillium wilt identification, disease examine the sub-peak of incidence during the blooming period twice and pull the cotton stalk. The process of flower and boll stage diseased leaves incidenceThe degree of light in the sectional pull stalk stalk findings. High resistance varieties (lines) were identified three years out of eight times, accounting for 4.60%; disease resistance of 48, accounting for 27.59%; disease-resistant57, accounting for 32.76%; susceptible to 61, accounting for 35.06%. The identification results show that cotton regional test varieties (lines) resistant to Verticillium wilt resistance have increased every year Trend.

【语种】中文

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【学科分类】植物保护学

【题目】间接ELISA法检测棉子携带黄萎病菌新方法

【中文关键词】ELISA 棉子 黄矮病

【英文关键词】ELISA cotton seed yellow dwarf virus

【中文摘要】以棉花黄萎病菌Bp2 培养液中毒素蛋白免疫BALB/C小白鼠制备抗血清,建立了可特 异性检测棉花黄萎病菌的间接ELISA方法。所制备的毒蛋白抗血清效价为1:204800,对毒 蛋白的最低检测量达7.81 μg · L-1。可以与江苏省各地采集到的棉花黄萎病菌的培养液发生 特异性反应,而与其它致病菌培养液反应呈阴性。用该方法对81份江苏省抽样的棉子进行检 测,12份呈阳性反应。取检测为阳性反应的这些棉子培养液针刺接种棉苗也全都发病。这些 结果表明所建立的间接ELISA方法可用于棉子携带黄萎病菌的快速检测。

【英文摘要】Verticillium wilt of cotton is a widespread and destructive disease that is caused by the fun— gus pathogen Verticillium dahliae.Except condign climate and lack of resistant varieties,one of the important reasons made the disease more and more serious is seed—borne pathogen.To establish an ef— fective method to detect Verticillium dahliae in cottonseed,an indirect ELISA method was devel— oped.The toxin of Verticillium dahliae strain Bp2 was used asantigen to prepare polyclonal antlse— rum.An indirect ELISA method was developed using alkaline phosphatase—conjugated goat anti—mouse antibody as secondary antibody according to standard ELISA procedures.If the value of P/N≥2,the sample was positive.P/N means the rate of OD405 of sample and OD405 of negative contro1.The titre of the antiserum was 1:204800 and the toxin could be detected as 1ow as 7.81 ng · mL-1.A11 of Vertici— lillium dahliae strains collected from different cities in Jiangsu Province performed positive reaction, and no cross—reactivity was observed among the isolates representing other species of fungi such as Rhizoctonia solani,Fusarium moniliforme,Fusarium graminearum,Sclerotinia sclerotiorum, Magnaporthe grisea.The Verticilillium dahliae strain Bp2 or T9 was cultured after 1 day,the toxin conld be detected in the culture solution.Any of these two strains was cultured after 3 days,the value of P/N was 9.05,8.82,respectively,and this high value could remain 1 1 days.So Verticilillium dnhline in cottonseed could be deduced by detecting the toxin with this developed indirect ELISA. 81 cottonseed samples were randomly chosen from different seed companies and were detected if there was Verticillium dahliae in them.100 g cottonseeds from each sample were washed by glide.Coated cotton— seeds were washed till the coating chemical was moved clearly.Then the cottonseeds were dried in room tem— derature and separated by five shares each. Each share was put in 150 mL Czapek medium and then cultured for three days.The culture medium was centrifuged for 30 min at 5000 r · min-1 .and the supernatant was tested using indirect ELISA.1 2 out of 8 1 cottonseed samples performed positive reaction.Cotton seedlings were infected Verticillium wilt by inoculated with the culture solution of the cottonseed samples that per— formed positive reaction.These results demonstrated that method of indirect ELISA could be used for quickly detection of Verticillium dahliae in cottonseeds.

【语种】中文

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【题目】喀什棉区第一、二代棉铃虫对棉花的复合危害和防治指标研究
【中文关键词】平方回归 正交旋转 棉铃虫 经济阈值
【英文关键词】square regressive and orthogonal rotation designs Helicoverpa armigera Hubner complex damage economic threshold
【中文摘要】2007年在新疆喀什地区莎车县利用二次正交旋转组合设计得出新疆喀什地区第一、二代棉铃虫复合为害与产量损失的回归模型,Y=13.402 32+4.650 75X1+4.999 563X2+0.624 735X12+3.876 875X22-1.93X1X2。结果显示:一、二代棉铃虫交互作用不明显,得出每代棉铃虫的为害效应模型,一代Y′1=13.402 32+4.650 75X1,二代Y′2=13.402 32+4.999 563X2+3.876 875X22。根据模型,制定了喀什地区第一、二代棉铃虫的防治指标。
【英文摘要】In 2007,the rotation model of the cotton complex damage and the output less of the first and second-generations of Helicoverpa armigera Hubner in Shache county, Kashi district,Xinjiang was obtained by applyingsquare regressive and orthogonal rotation designs:Y=13.40232+4.65075X1+4.999 563X2+0.624 735X12+3.876 875X22-1.93X1X2.The results showed that the interaction between first and second generations ofHelicoverpa armigera Hubner was indistinctive:Y′1=13.402 32+4.650 75X1, Y′2=13.402 32+4.999 563X2+3.876 875X22.According to the model,the control index of the first and second-generation of Helicoverpaarmigera Hubner was formulated.
【语种】中文
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【题目】不同温度下绿盲蝽实验种群生命表研究
【中文关键词】绿盲蝽 温度 生命表 有效积温 种群动态
【英文关键词】Lygus lucorum temperature life table effective accumulated temperature population trend index
【中文摘要】组建了5个不同温度(17,20.23,26和29℃)下绿盲蝽Lygus lucorum实验种群的生命表。结果表明:在17—29℃温度范围内,随温度升高绿盲蝽的发育速率加快,并符合Logistic模型; 在实验温度范围内,若虫期、产卵前期、卵期和世代历期分别为10.04~27.63,8.33~19.33,6.74~15.00,25.11~61.96 d。绿盲蝽的若虫、产卵前期和卵的发育起点温度分别为9.45,7.28和6.28℃,有效积温分别为210.25、191.83和160.12日度,完成整个世代需要的有效积温为555.04日度。在实验温度范围内,23℃时绿盲蝽的世代存活率最高(82.3%),雌成虫的产卵历期最长(41.67 d),单雌繁殖若虫数最多(35.42头/雌),种群趋势指数也最高(14.58) 在较低的温度(17℃)和较高的温度(29℃)下,绿盲蝽的的种群趋势指数分别仅为8.44和9.06,均不利于其种群数量增加。
【英文摘要】Life tables of the laboratory population of Lygus lucorum Meyer-D ü r at five different temperatures(17,20,23,26 and 29°C)were constructed.The results showed that the developmental rate of L.1ucorumincreased with the increment of temperature at 17—32°C.and the relationship between them could besimulated by the Logistic model.The developmental durations of nymph,preoviposition,egg and generationwere 10.04—27.63,8.33—19.33,6.74—15.00 and 25.11—61.96 days at the experimental temperatures,respectively.The threshold temperatures of nymph,preoviposition and egg were 9.45,7.28 and 6.28°C witheffective accumulated temperatures of 210.25,191.83 and 160.12 day-degree,respectively.The effectiveaccumulated temperature of the whole generation Was 555.04 day—degree.The generation survival rate,preoviposition time,number of nymph produced by one female and population trend index all reached thehighest at 23°C,being 82.30%,41.67 days,35.42 and 14.58,respectively.Population trend index at17°Cand 29°C were 8.44 and 9.06 respectively,which were not suitable for the increment of L.lucorumpopulation.
【语种】中文
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【学科分类】植物保护学

【题目】植物内生细菌及其生物防治植物病害的研究进展
【中文关键词】植物内生菌 生物防治
【英文关键词】plant endophytic bacteria plantdisease biological control
【中文摘要】综述了植物内生细菌及其生物防治植物病害的研究进展。植物内生细菌分布广,种类多,存在于大多数高等植物中,已在生物防治细菌性病害、真菌性病害和线虫病害方面发挥了巨大的作用。植物内生细菌的防病机理主要通过与病原菌竞争生态位和营养物质、产生抗菌活性物质以及诱导植物产生系统抗性等多种作用方式。同时,对植物内生细菌防治植物病害存在的问题及未来发展前景进行了讨论。
【英文摘要】Recent advances in the study of endophytic bacteria in plants and their effects on biological control ofplant diseases were reviewed. Endophytic bacteria including awide variety of species and genera are widely distributed andexist in most higher plants. Plant endophytic bacteria have played tremendous roles on biological control of bacterial disea-ses, fungal diseases and nematode diseases in plants. Themechanism of biological control is by many effect manners such ascompeting with pathogen for ecological niche and nutrition, producing antibiotic active substances and inducing systemic re-sistance and so on. In addition, the problems and prospects about endophytic bacteria on biological control of plant diseases were discussed.
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【通讯作者】林玲
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【题目】去早蕾对转基因抗虫棉黄萎病发生及早衰的影响
【中文关键词】早衰
【英文关键词】removal early squares Verticilliumwilt early senescence
【中文摘要】以我国黄河流域和长江流域种植面积较大的8个品种为试验材料,研究了去早蕾对棉花黄萎病、生理性早衰及产量的影响。结果表明,去早蕾可显著减轻棉花黄萎病和早衰危害。2005年7月18日、8月19日和2006年8月22日,去早蕾处理黄萎病病情指数显著低于对照; 除欣抗4号外,其它7个品种病情指数降低1.6%~15.0%,99B、冀668、豫杂35、中棉所41与对照之间差异达显著水平。2005年8月19、8月24日和2006年8月27日,去早蕾处理早衰指数显著低于对照; 除邯109外,其它7个品种早衰指数降低1.3%~19.0%,99B、冀668、豫杂35、中棉所29之间差异达显著水平。去早蕾能显著提高棉花产量,但在不同品种之间存在差异,其中杂交棉品种表现较为明显。
【英文摘要】Eight cotton varieties with larger planting area in Huanghe River valley and Changjiang Riv-er valley are tested to research that the effect of removal of early squares on cotton Verticillium wilt ,early senescence of cotton plant and yield. The result showed that the disease indexes and the early se-nescence indexes of removal of early squares treat ments are evidently lower than the comparison, Dis-ease index of removal of early squares is evidently lower than the comparison in 18 July, 19 August in2005 and 22 August in 2006.Except Xinkang 4, disease indexes of the other 7 varieties is lower 1.6%~15.0% than the comparison. Early senescence ID of removal of early squares is also evidently lowerthan the comparison in 19 August, 24 August in 2005 and 27 August in 2006.Except Han 109, diseaseindex of the other 7 varieties is 1.3%~19.0% lower than those of the comparison. The yield of re-moval of early squares is evidently higher than the comparison. But different varieties show differenteffect, the hybridizing varieties are more evident.
【语种】中文
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【题目】棉花黄萎病抗性的定向选育效果
【中文关键词】黄矮病 选育
【英文关键词】Yellow dwarf virus breeding
【中文摘要】抗病育种是棉花病害防治最经济有效的途径。通过病圃或重病地连续定向选育抗病单株是抗病育种常用的方法,高抗枯萎病的抗原材料522128、8621以及抗枯萎病品种中棉所12等即是最成功的例子。然而对棉花抗黄萎病育种采取该方法是否有效的研究和报道不多。2003- 2007年,选择对黄萎病表现抗或耐病的品种(材料)21个,在病圃连续2~3年选择抗病单株,再到重病田种植,以期获得高抗黄萎病的材料。
【英文摘要】抗病育种是棉花病害防治最经济有效的途径。通过病圃或重病地连续定向选育抗病单株是抗病育种常用的方法,高抗枯萎病的抗原材料522128、8621以及抗枯萎病品种中棉所12等即是最成功的例子。然而对棉花抗黄萎病育种采取该方法是否有效的研究和报道不多。2003- 2007年,选择对黄萎病表现抗或耐病的品种(材料)21个,在病圃连续2~3年选择抗病单株,再到重病田种植,以期获得高抗黄萎病的材料。
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【题目】我国农业害虫综合防治研究现状与展望
【中文关键词】农业害虫 病虫害综合防治 研究进展;
【英文关键词】agricultural insect pests, IPM, research progress
【中文摘要】害虫综合防治作为农业生产的一项重要策略,在农业可持续发展中具有举足轻重的作用。近年来,针对我国害虫防治所存在的技术需求,科技部等部门先后通过973计划、863计划、科技支撑计划和农业行业专项等对重要害虫防治研究立项支持。通过这些项目的实施,我国建成了一支由国家和省级科研单位和大学组成的专业科研队伍和研究平台,对害虫监测预警技术、基于生物多样性保护利用的生态调控技术、害虫生物防治技术、化学防治技术、抗虫转基因作物利用技术等方面的研究取得了一系列的重要进展,研究建立了棉花、水稻、玉米、小麦和蔬菜等作物重要害虫的综合防治技术体系,并在农业生产中发挥了重要作用。以基因工程和信息技术为代表的第二次农业技术革命的到来,推动了害虫综合防治的理论发展,为害虫综合防治技术的广泛应用提供了新的机遇。地理信息系统、全球定位系统等信息技术和计算机网络技术的应用,提高了对害虫种群监测和预警的能力和水平,转基因抗虫作物的商业化种植等技术的应用显著增强了对害虫种群的区域性调控效率。针对产业结构调整和全球气候变化所带来的害虫新问题,进一步发展IPM新理论与新技术将成为我国农业昆虫学研究的重要方向之一。
【英文摘要】Integrated pestmanagement (IPM) in crops is an important strategy for insect pest control, which plays animportant role for sustainable agriculture. In order to meet the demand of crop production in China, Chinesegovernment launches a series of scientific programs for insect pest researches during 2006-2010, including 973Project, 863 Project, the State Key Project and others. Based on these projects, China has established a national andprovince network which consists of scientist teams and special facilities for insect pest researches in universities andinstitutes. And many achievements on pest control such as methods and technologies on monitoring and forecasting foroutbreaks of major pest insects, ecological management for insect population, biological control, chemical control,and the commercial use of transgenic insect-resistant crops, as well as IPM systems in cotton, rice, corn, wheat,vegetables and other crops, have been established in recent years.The current progress in modern sciences such as biological engineering and information technology is bring a newrevolution for agriculture science, which is pushing IPM theory forward and giving a new opportunity for IPM applicationworldwide. Deployment of GPS, GIS and computer science in pest management is taking

pest forecasting work to a highlevel. Commercialization of insect-resistant genetically modified crops is presenting a great potential for regional controlof insect pests. The studies on newtheory and technology of crop IPMfor resolving the pest problems derived from thechanges of crop planting structures and globe climate will become an important area in the coming years.
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【题目】荒漠过渡带与相邻棉田寄生性天敌的昆虫群落特征研究初报
【中文关键词】荒漠 种群动态
【英文关键词】Desert population dynamics
【中文摘要】对新疆南部喀什地区莎车县恰热克镇棉田及相邻荒漠过渡带寄生性天敌昆虫群落结构及动态进行了初步的研究和分析,寄生性天敌在棉田中共有14科,荒漠过渡带共有21科。在棉田中蚜茧蜂数量最多,占总数的19.86%;荒漠过渡带中无后缘姬小蜂数量最多,占总数的34.93%。荒漠过渡带的寄生性天敌群落的丰富度、多样性指数均比棉田高,均匀性指数总体来说比棉田低。棉田中寄生性天敌昆虫和相邻荒漠过渡带中寄生性天敌昆虫关系密切。荒漠过渡带为棉田提供了丰富的寄生性天敌资源。
【英文摘要】This article carries out a preliminary research and analysis on community character of the parasite natural enemy insects in desert transition zone and its adjoining cotton field in the south of Xinjiang,14 families of parasite natural enemy were collected and indentified in the cotton field, and 21 families in the desert transition zone.Aphidiidae is maximum species in the cotton field, 19.86% of the total species number of parasite natural enemy insects in the cotton field,and Tetrastichidae is maximum in the deserts transition zone. Aphidiidae is maximum species in the cotton field, 19.86% of the total species number of parasite natural enemy insects in the cotton field, and Tetrastichidae is maximum in the deserts transition zone,34.93% of the total species number of parasite natural enemy insect in the deserts transition zone. The results showed that the numerical values of richness and diversity of the parasite nature enemies in the desert transition zone were higher than those in the cotton field,and the value of E was lower than that in the desert transition zone.There is a close relationships between the parasity natural enemy insects in desert transition zone. There is a close relationships between the parasity natural enemy insects in desert transiction zone and its adjoining cotton field. This clearly indicated that the desert transition zone provided resource of the parasite natural enemy insect for the cotton field.
【语种】中文
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【题目】不同品种棉田烟粉虱成虫种群动态及在棉株上的垂直分布
【中文关键词】烟粉虱 棉田 种群动态
【英文关键词】Tabaci population dynamics of Cotton Field
【中文摘要】在长江下游的江苏沿江棉区,采用5点随机取样法对鲁棉研15号(Bt棉)、中棉所29号(Bt棉)和苏棉9号(常规棉)棉田烟粉虱成虫种群动态与在棉株上的垂直分布动态进行了系统调查。结果表明,Bt棉田烟粉虱成虫种群数量显著高于常规棉田,鲁棉研15号最高(58.4头/百叶),中棉所29号次之(39.3头/百叶),苏棉9号最低(29.4头/百叶); 3种棉花植株上烟粉虱成虫种群消长的时序动态一致, 7月中旬始见成虫, 8月中下旬出现全年最高峰, 10月下旬逐渐消失;烟粉虱成虫数量在3个品种棉花不同叶层均表现为上部叶>中部叶>下部叶。据此,提出了棉田烟粉虱施药防治技术。
【英文摘要】英语中文(简体)日语AlphaRandom sampling method Lumianyan 15 (Bt cotton), cotton (Bt cotton) on the 29th and Su cotton 9 in the lower reaches of the Yangtze River in Jiangsu along the Yangtze River cotton-growing areas,(Conventional cotton),

cotton fields of B. tabaci adult population dynamics on cotton on the vertical distribution of dynamic system investigation. The results show that the Bt cotton fields of B. tabaci adults kindsGroup number was significantly higher than conventional cotton, the 15th highest (58.4 Lumianyan / louvers), CCRI on the 29th, followed by (39.3 / louvers), Sumian on the 9th lowest (29.4Head / louvers); three cotton plants tabaci adult population on the rise and fall of the temporal dynamics consistent, visible until mid-July, adult, mid-August to late full-year peak of 10Gradually disappeared in late May; B. tabaci adults the number of three varieties of cotton leaf layer performance of the upper leaves> middle leaves> lower leaves. Accordingly, the cotton fields smokeWhitefly pesticide control techniques.

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【题目】棉田烟粉虱成虫空间分布型与序贯抽样技术
【中文关键词】烟粉虱 空间分布型
【英文关键词】B. tabaci Spatial distribution pattern
【中文摘要】为探讨烟粉虱成虫在长江下游的江苏沿江棉区不同棉田(Bt棉和常规棉)的种群空间分布型,指导田间取样,本研究应用5种空间分布型聚集度指标和2种回归方法(lwao回归法及Taylor幂法则),于2008年测定和分析了烟粉虱成虫的空间分布格局。结果表明:烟粉虱成虫种群不论在Bt棉田还是在常规棉田,种群空间分布格局均一致,8月1日之前和10月3日以后,烟粉虱成虫在3个不同品种棉田中都呈均匀分布;8月1日至10月3日期间,符合聚集分布的检验标准。本文还探讨了影响其聚集的原因,并利用分布型参数确定了棉田烟粉虱成虫的理论序贯抽样数。
【英文摘要】In order to investigate the spatial distribution patterns of Bemisia tabaci(Gennadius) adult,its population aggregation indexes in two types of cotton fields(Bt cotton and non-Bt cotton)were calculated based on the five different kinds of related index formulae and two regression methods(Taylor's and lwao's regression formulations).The results indicated that the spatial distribution before August 1 and after October3. The spatial distribution of adult exhibited aggregated from August 1 and October 3.In addition,the theoretical sequence sampling mumber was obtained from the parameters of the distributioon pattern.
【语种】中文
【第一作者】谭永安
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【题目】2008年河南安阳转Bt基因棉叶抗棉铃虫性时空动态
【中文关键词】安阳 棉铃虫 时空
【英文关键词】bollworm time and space
【中文摘要】近几年来,国内外学者对转Bt 基因棉花的抗虫性进行了一系列的室内和田间鉴定,并研究了转Bt 基因棉对目标害虫取食、生长发育、行为变化及对非目标害虫种群动态的影响。但外源基因的表达受多种因素的影响,如降雨、光强、温度等,因此,不同年份转基因抗虫棉对棉铃虫的抗性有所不同。本文初步分析了转Bt 基因棉花对棉铃虫的抗性时空动态,为转基因棉花的正确安全评价提供了一定的依据。
【英文摘要】In recent years, scholars turn of Bt cotton resistance toThe insects were a series of laboratory and field identification, and to study the transferBt cotton on the target pests, feeding, growth and development, behavioral changes andThe impact on non-target pest population dynamics. But the table of the exogenous geneReached by many factors such as rainfall, light intensity, temperature, etc. Therefore,Different years of transgenic Bt cotton on bollworm resistance to different.A preliminary analysis of transgenic Bt cotton to bollworm resistance toTemporal and spatial dynamics, provide a proper safety assessment of genetically modified cottonA certain basis.

【语种】中文
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【题目】绿盲蝽对13种不同寄主植物适合度的初步研究
【中文关键词】绿盲蝽 适合度
【英文关键词】miridae
【中文摘要】室内条件下研究了绿盲蝽在13 种寄主植物上不同龄期若虫的发育历期和成虫的寿命。结果表明,绿盲蝽在不同寄主植物上不同龄期若虫的发育历期及若虫期均有显著差异, 其中四季豆上若虫的发育历期明显缩短, 其它寄主植物之间无明显差异;在常规棉花上若虫的发育历期延长, 但和豆类及转基因抗虫棉相比无明显差异。在两种抗虫棉上成虫的寿命明显缩短, 其它寄主植物之间无明显差异。说明转基因抗虫棉和豆类植物更适合绿盲蝽的生长发育。
【英文摘要】Under laboratory conditions, the of lucorum instar nymphs in 13 kinds of host plants, the developmental duration and adult life. The results show thatThe lucorum instar nymphs of the developmental duration of nymphs of different host plants have significant differences, including the development of nymphs on the green beans calendarWas shortened, no significant difference between the other host plants; duration of extended development of nymphs on the conventional cotton, and beans and transgenic insectCotton was no significant difference. In both cotton on the adult life was shortened, no significant difference between the other host plants. Description of transferred genesCotton and legumes are more suitable for the growth and development of the lucorum.
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【题目】棉花苗病防治技术
【中文关键词】棉花 苗病 防治技术
【英文关键词】Cotton seedling disease control technology
【中文摘要】我国长江、黄河流域和西北棉花主产区,春季低温、多雨、高湿,春寒发生频率高,强度大,有时气温下降到15℃以下,导致冻害。持续低温高湿容易诱发苗病(立枯病、炭疽病、红腐病和猝倒病)的大发生和大流行,导致烂子、烂芽和死苗,缺苗断垄严重,长势参差不齐,对一播全苗和壮苗早发很不利。根据试验研究和生产实践,总结提出了防控苗病、保全苗、培育壮苗和促进早发的主要技术措施。
【英文摘要】The Yangtze River, Yellow River and the Northwest cotton producing areas, the springCold, rainy, high humidity, a cold spell high frequency of occurrence, intensity, and sometimes gasTemperature dropped to below 15 ℃, resulting in frost damage. Sustained low temperature and humidity easilyThe induced seedling disease (blight, anthracnose, red rot and damping-off)Occurrence and pandemic, resulting in a bad child, bad buds and Simiao, the Deficiency broken ridge YanWeight, growth is uneven, very unfavorable to the early onset of a broadcast full of seedlings and strong seedling.Based on experimental research and production practice, summed up the prevention and control of seedling diseasePreservation of the seedlings, nurturing seedlings and promote the early onset of the main technical measures.
【语种】中文
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【题目】转基因棉田棉花黄萎病发生规律及控制技术
【中文关键词】棉花 黄萎 规律
【英文关键词】Cotton yellow wilt
【中文摘要】2008年黄河流域中早熟区试分为A、B两组,A组为常规组,B组为杂交组。A组参试品种共10个,第二年参试的品种为冀4025,第一年参试的品种分别为鲁创棉107、鑫秋8号、冀丰103、鲁849、冀1516、sGK棉乡69、Shx01、陕204、银兴029,对照品种为鲁棉研28。B组参试品种共7个,第二年参试的品种为德棉998,第一年参试的品种分别为苏新棉2126、创082、银兴030、奥试棉4406、鲁抗2号、中种棉8号,对照品种为鲁棉研28。
【英文摘要】Yellow River Basin the precocious District trial is divided into two groups (A, B)in 2008.Group A for the conventional group, group B for the hybrid group. A group of participants a total of 10 varieties, The second year of the tested varieties of Hebei 4025, the first year of the tested productRecord cotton for Lu 107, Xin autumn on the 8th, Jifeng 103, Lu 849,Hebei 1 516 sGK Cotton Township 69 Shx01, Shaanxi 204, Yinxing 029,According varieties Lumianyan 28. Group B varieties tested a total of seven in the second yearVarieties tested Demian 998, the first year of the tested varieties wereSu new cotton 2126 record of 082, Yinxing 030 Austrian trial cotton 4406, Lukang 2, Cotton on the 8th, the control variety Lumianyan 28.
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【题目】棉花生长后期剖杆调查棉花黄萎病方法商榷
【中文关键词】棉花 黄萎
【英文关键词】Cotton yellow dwarf
【中文摘要】黄萎病菌侵染棉花后会造成植株维管束颜色加深、变黑。因此,除在棉花黄萎病发生期,通过对罹病棉株叶部出现的病害症状进行调查外,剖杆调查维管束是否变黑以及变黑的程度,也是鉴别棉花黄萎病及病害调查的一种有效手段,这种调查方法在以往的抗病鉴定、抗病育种、病害综合防治等研究中被广泛应用。我们在工作中发现,后期剖杆调查结果与黄萎病发生期外部症状调查的结果有很大差异,本研究通过对两种调查结果的比较及棉株的室内分离鉴定,以期找到其差异的原因,为相关研究工作提供依据。
【英文摘要】Verticillium dahliae infection of cotton will cause plant vascular colorDeepened, black. Therefore, in addition to Verticillium dahliae and the occurrence of, throughDiseased cotton plant leaf disease symptoms to investigate, profile rod tuneInvestigation of vascular black and black level, but also the identification of cottonAn effective means of Verticillium wilt disease survey, this survey methodologyIn the past, identification of disease resistance, breeding for disease resistance, comprehensive disease prevention and control researchThe study has been widely used. We found in the work, the late profile stalk tuneFindings and verticillium wilt of external symptoms of the survey resultsBig difference, the two findings, and the cotton plantIndoor isolation, identification, in order to find the reasons for the difference, for the relevantStudy to provide evidence.
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【题目】转CpTI基因对棉花主要病害及早衰的影响
【中文关键词】棉花病害 风险评估
【英文关键词】CpT I cot ton co tton disease r isk assessment
【中文摘要】2006- 2007 年, 采用4 个转CpTI 基因棉花材料及其受体研究了转CpTI基因对棉花苗病、黄萎病、后期叶斑病及早衰的影响。结果表明: 3 个转CpT I 基因材料苗病死苗率均低于其对应的受体材料。在6 月底和7 月初黄萎病的发生初期, 转基因材料黄萎病发生较受体材料轻, 7 月中旬到8 月底9 月初, 不同品种以及同一品种的不同生育期之间差异较大, 转基因材料C 连续两年病指极显著低于对照受体材料。与非转基因材料相比, 转CpT I 基因材料叶斑病的发生显著加重, 早衰发生也加重。
【英文摘要】The cow pea trypsin inhibito r gene(CpTI) has been widely used in genetic engineering formore than ten years and has been successfully transferred into cotton (Gossypium hirsutum L.) .Widely growing of transgenic plant may be accompanied by ecological effects including changes in dis eases those coursed by fungus, bacterial or virus. People have paid more attention on environment riskassessment of transgenic plant recently. Most research on Bt cotton has focused on invasiveness, geneflow to indigenous organisms, development of resistant in target pests, and direct or indirect effectson non-target organisms and ecosystem. But a few studies have been published to evaluate the effectsof CpTI on cotton diseases. Four CpTI cotton lines and their contrasts(non-CpTI cotton) were moni tored for changes in diseases including seedling disease, Verticillium wilt, latter leaf spot and earlysenescence in 2006 and 2007. The results showed that the percentage of died seedling coursed by seed ling disease of three CpTI cotton lines were lower than that of their contrasts (non Cp-TI cotton) .Verticillium wilt disease index (ID) of four CpTI cotton lines were lower than that of non-CpTI cot ton lines in the end of June and the beginning of July (the beginning stage of Verticillium wilt) , afterthat changes of Verticillium wilt ID were different among lines and stages. Verticillium wilt ID ofCpTI A was remarkably higher than that of its contrast . ID of latter leaf spot and early senescence offour CpTI cotton lines were distinctly higher than that of four non-CpTI cotton lines.
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【题目】转CpTI基因对棉花根际土壤中微生物的影响
【中文关键词】风险评估
【英文关键词】CpT I cot ton rhizo sphere microbes risk assessment
【中文摘要】2006- 2007 年, 采用4 个转Cp TI 基因棉花材料及其受体, 于棉花不同生育期取根际土壤, 研究了转CpT I 基因对棉花根际细菌、放线菌及真菌数量的影响。结果表明: 转Cp TI 基因及其受体材料根际土壤中细菌、放线菌和真菌的数量均随着棉花的生长发育变化, 细菌在棉花的花铃期达到高峰, 放线菌和真菌在蕾期至花铃期达到高峰, 之后随着棉花的衰老均减少。转CpTI 基因对棉花根际土壤中细菌、放线菌和真菌的数量有显著影响, 细菌和放线菌的数量均比对应受体材料显著增加, 而真菌的数量显著减少;从棉花的不同生育时期看, 细菌的数量在苗期和花铃期显著高于受体材料, 放线菌在不同时期均显著高于受体材料, 尤以苗期和花铃期更明显, 而真菌的数量在吐絮期显著低于受体材料。
【英文摘要】Widely growing of transgenic plant may be accompanied by ecological effects including chan ges in plant-associated with micro-flora. People pay more attention to environment risk assessment oftransgenic plant . Most researches on Bt cotton have focused on invasiveness, gene flow to indigenousorganisms, development of resistance in target pests, and direct or indirect effects on non-target or ganisms and ecosystem. Some research have focused on the evaluation of ecological effects of Bt cottonon microbial flora. But a few studies have been published to evaluate the ecological effects of CpTIcotton on microbial flora. Four CpTI cotton lines and their contrasts(non-CpTI cotton) were moni tored for changes in total bacterial, actinomycetic and fungal population in 2006 and 2007. The resultsshowed that the total bacterial, actinomycetic and fungal population of CpTI cotton and non-CpTIcotton changed in different growing period. The total bacterial population reached the maximum inflowering-bolling stage. So did the total actinomycetic and fungal population between budding stageand flowering-bolling stage. After that they declined gradually

along with the decrepitude of cotton.The total bacterial population of CpTI cotton was significantly higher than that of non-CpTI cotton,especially in seedling stage and flowering-bolling stage. So did the total actinomycetic population ofCpTI cotton from seedling stage to boll-opening stage. But the total fungal population was remarkablylower than that of non-CpTI cotton, especially in boll-opening stage.

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【题目】不同光源对棉铃虫蛾趋光率的影响
【中文关键词】棉铃虫
【英文关键词】Helicover pa armigera phototax is rate light source emergence day
【中文摘要】为进一步探讨棉铃虫蛾的趋光行为和在害虫综合治理中更好地利用诱虫灯, 本试验采用室内行为试验的方法研究了不同光源对棉铃虫蛾趋光率的影响。结果显示: 光源、光期和暗期、羽化日龄对棉铃虫蛾的趋光率有一定影响。其中, 双波灯和黑光灯照射下的趋光率比蓝光灯、绿光灯、黄光灯、红光灯、日光灯照射下的高, 并且差异显著(P < 0.05) 暗期趋光率显著高于光期趋光率; 1、3、5、7日龄蛾中, 以3 日龄蛾的趋光率高。
【英文摘要】In order to make further discussion about the phototax is of cotton bollworm mothand make better use of trapping light in IPM, effect of phototax is rate of cotton bollworm mothin the different light source was investigated by phototaxis behaviour method. The resultsshowed that : light source, light and dark period, emergence age could influence the phototaticbehavior of cotton bollworm moth. Their phototaxis under double wave light and black lightwas significantly different from under blue, green, yellow, red and white light. The phototac tic rate in dark period was significantly higher than in light period, with 3-day-old moths beingthe hightest .
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【题目】几种脱叶催熟剂在棉花上的应用效果研究
【中文关键词】棉花 催熟素
【英文关键词】Cotton ripening hormone
【中文摘要】在棉铃吐絮率达到25%~30%时, 喷施脱吐隆、噻苯隆、乙烯利3 种脱叶催熟剂, 结果表明, 脱吐隆与乙烯利(36. 5 g.hm-2 + 600 g.hm-2) 混合使用, 具有较高的脱叶效果和较好的催熟作用, 药后10~ 20 d 药效达到86. 95% ~ 95. 03% , 吐絮药效达7. 08% ~ 11. 24%, 霜前皮棉产量比空白对照增加8. 99%, 该处理的脱叶、吐絮效果及霜前花率均优于脱吐隆单用;使用噻苯隆225 g. hm-2的脱叶效果较明显, 药后10~ 20 d药效达88. 09% ~ 97. 73%, 显著高于乙烯利600 g.hm-2 与720 g. hm-2 处理, 但其催熟效果低于乙烯利。乙烯利对棉花种子发芽率影响较大, 脱吐隆和噻苯隆的影响较小。
【英文摘要】Boll boll opening rate of 25% to 30%, three kinds of spraying off the spit Long, TDZ, ethylene defoliant ripening agent, results show that the de-spit LongEthephon (36 g.hm-2 + 600 g.hm-2) mixed use, with higher defoliation effects and better ripening and the role of drug 10 to 20 d drugEfficiency reached 86 95% ~ 95 03%, boll opening efficacy of 7 08% 11 24% cream before lint yield increased by 8.99 percent than the blank control, the processingDefoliation, boll opening rate effect and before frost better than off the spit lung alone; Thidiazuron 225 g. Hm-2 defoliation effect is more pronounced after the drug 10 to 20 daysEfficacy up to 88 09% 97 73%, significantly higher than ethephon 600 g.hm-2 And 720 g. Hm-2 treatment, but the ripening effect is less than ethephon. Effects of ethephon on cotton seed germination rate, off the spit Takashi Thidiazuron less affected.

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【题目】几种因素对斜纹夜蛾性信息素诱捕效果的影响
【中文关键词】斜纹夜蛾 性信息素
【英文关键词】Sp odop tera litura sex pheromone he igh t trap w ith sex pheromone storage t ime
【中文摘要】采用田间诱集效果测定,就不同来源诱芯、诱捕器不同置放高度、不同类型诱捕器、诱芯不同储藏期等因素对信息素诱集斜纹夜蛾数量以及时序动态的影响进行了研究,以探讨蔬菜害虫斜纹夜蛾性信息素应用的关键技术。结果表明:3种不同来源的斜纹夜蛾性诱剂诱捕效果无显著差异;斜纹夜蛾性信息素置放高度依据不同寄主田间生长高度,以1~1.5m效果较好 3种诱捕器诱集效果相当,诱集代次清晰、峰谷明显,均可作为斜纹夜蛾性信息素配套的诱捕器 斜纹夜蛾橡皮塞诱芯置放冰箱贮藏1年或2年,诱蛾活性显著下降,诱蛾量下降60%以上。
【英文摘要】For understanding of the key application technology of sex pheromone trap for Spodoptera litura(Fabricius) , the effects of different factors, such as different sources induced core, different types oftraps, attract wick AW different storage periods, traps in different places and so on were studied in thefields. The results showed that the quantitative dynamics of the males trapped by different sources of sexpheromone was similar. The optimum height of the trap from the ground was 1- 1.5m. The differencesof the quantity of the males by three types of trap were not significant. The sex pheromone stored in 1-2 years significantly reduced the quantity of trappedmales, the number of males trapped by the sex pher omone was reduced by more than 60%.
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【题目】80%单甲脒WG对棉叶螨的防治效果
【中文关键词】单甲醚 棉叶螨
【英文关键词】Monomethyl ether of cotton spider mites
【中文摘要】研究试验了80%单甲脒WG对棉花叶螨的控制效果。与目前常用的哒螨灵、炔螨特、阿维菌素、甲氨基阿维菌素、三氯杀螨醇等五种杀螨剂的田间效果相比,该药剂具有高效、安全、环保等特点,对抗性叶螨的防效较高,在生产上具有较好应用前景,可作为高毒农药替代品种在棉田推广使用。
【英文摘要】The study tested the effect of 80% formamidine WG control of cotton spider mites. Common pyridaben, propargite, abamectin, emamectin bacteriaField effect of the hormone, dicofol, and five acaricides compared to the pharmaceutical characteristics of efficiency, safety, environmental protection, confrontational Mites anti efficient in the productionHas good prospects, can be used as alternative variety of highly toxic pesticides in cotton fields to promote.
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【题目】马铃薯SoFtsH 基因全长cDNA克隆与在干旱条件下表达研究
【中文关键词】马铃薯(Solanum tuberosum) ; 抗旱性; 全长cDNA; FtsH
【英文关键词】Potato; Solanum tuberosum L ; Drought tolerance; Ful-l length cDNA; FtsH
【中文摘要】FtsH (Filamentation Temperature- Sensitive H) 是一种ATP 和Zn2+ 依赖型金属蛋白酶, 广泛存在于原核生物和真核生物中, 在真核生物中是多基因家族。FtsH 具有ATP 酶活性、蛋白水解活性和分子伴侣活性, 参与多种胁迫反应。从抗旱马铃薯(Solanum tuberosum) 二倍体品系H145 中分离得到cDNA-AFLP 差异片段, 利用RACE 技术克隆了SoFtsH cDNA 全长序列, 并对其进行分析。结果表明, 该序列包含完整的开放阅读框, 长为723 bp, 编码129 个氨基酸。SoFtsH 具有2 个铁氧化还原蛋白结合位点, 并存在信号肽序列、跨膜区域和Zn2+ 结合域。FtsH 基因序列与GenBank 数据库中的其他FtsH 基因进行同源序列比对, 并构建系统进化树, 发现该基因与番茄、烟草、拟南芥等高等植物FtsH 基因同源性达90%以上。半定量RT-PCR 和Northern Blot 杂交结果表明SoFtsH 基因在干旱胁迫下叶片和根系里的表达量明显增加, 且在抗旱品系H145 与干旱敏感品系H214 中表达模式不同。说明SoFtsH 基因在马铃薯抗旱中起作用。
【英文摘要】Filamentation temperature- sensitive H (FtsH) is an ATP dependent metalloprotease and chaperone ident ified inmany prokaryotes and eukaryotes; its homologs have been identified in many plants FtsH belongs to a larger family ofproteins collectively known as theAAA proteins (ATPases associated with diverse cellular activities) Function studies haverevealed an important role for FtsH in stress responses On the basis of one cDNA-AFLP differential fragment isolated frominduced mRNA under drought in the potato (Solanum tuberosum L) genotypeH145 that is diploid with drought tolerance,the full length cDNA of a putative FtsH gene, SoFtsH gene was cloned by rapid amplificat ion of cDNA ends (RACE) Thegene consists of 723 bp encoding a predicted protein of 129 amino acids Sequence analysis revealed that it has two 2Fe- 2Sferredoxins , iron-sulfur binding regions The putative signa-l peptide, transmembane regions and the Zn2+ binding domain,characteristic of FtsH metalloproteases family, were found in the SoFtsH protein Alignment and phylogenetic analysis ofthe amino acid sequence deduced from the fragment and the FtsH sequences of other plants retrieved from GenBank wereperformed with ClustalX program, which showed that SoFtsH shares high identity (> 90%) with FtsH reported in tomato,tobacco and Arabidopsis etc Transcription level of of SoFtsH was investigated by sem-i quantitat ive RT- PCR and Northernblot, using actin gene as a control The result showed that the transcript of SoFtsH was significantly enhanced underdrought The different profiles of transcript of SoFtsH gene were detected under continuous drought between drought tolerantH145 and drought sensitiveH214 that is susceptive to drought The results suggest that SoFtsH gene is closely related withthe drought tolerance in potato
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【题目】高压液相色谱法测定马铃薯薯肉中类胡萝卜素
【中文关键词】铃薯薯肉;类胡萝卜素;高效液相色谱法
【英文关键词】Key words:potato tuber flesh;carotenoids;high performance liquid chromatography
【中文摘要】本实验研究了用高效液相色谱法测定马铃薯薯肉中叶黄素和玉米黄素。采用丙酮:石油醚(1:1,含0.1%BHT)混合液直接提取,用ZOBAX C18(4.6 × 250mm,5μm)色谱柱,乙腈:甲醇:二氯甲烷(75:20:5,含0.1% BHT)为流动相,进样量为5μl, 流速为1ml/min ,柱温为25℃,在450nm 下检测类胡萝卜素。研究结果表明,该法可以快速、准确地分离测定马铃薯薯肉中叶黄素和玉米黄素的含量,具有良好的线性(相关系数分别为0.9997 和0.9987)和重复性,叶黄素和玉米黄素回收率分别达到92.87% 和95.68%。而且本方法可有效防止类胡萝卜素氧化,因而非常适用于大批量样品的分析检测。
【英文摘要】:A high performance liquid chromatographic method was used to determine carotenoids in potato tuber flesh.Carotenoids were extracted from tuber flesh with acetone and petroleum ether(1:1, contain 0.1 % BHT). Using ZOBAX C18column (4.6×250 mm, 5 μm), ile:methanol:methylene chloride (75:20:5, contain 0.1 % BHT) as mobile phase,carotenoids were eluted and monitored at 450 nm.The method showed good linearity (the correlation coefficient were 0.9997 and0.9987) and repeatability.The recoveries of lutein and zeaxanthin were 92.87 % and 95.68 %, and oxidation of carotenoids waseffectively

prevented.It proved to be a very useful method for testing large quantities of samples.
【语种】中文
【第一作者】张春秋
【通讯作者】金黎平
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【题目】硫代硫酸银对二倍体马铃薯试管苗生长和生理特性的影响
【中文关键词】马铃薯; 硫代硫酸银; 试管苗生长; 生理特性
【英文关键词】Potato; Silver thiosulfate (STS); Plantlet growth; Physiological characteristics
【中文摘要】植物组织培养中由于气体交换的限制, 培养器皿中常伴有乙烯积累, 影响植株形态建成和器官生长发育。以马铃薯二倍体品系HS66、ED13 和DH401 为试材, 研究不同浓度(0、1、2、4、8 mg L－1)硫代硫酸银(STS)对试管苗生长和相关生理指标的影响。结果发现, 与培养基中不加STS 相比, 附加1 mg L－1 STS 可增加试管苗叶面积和叶绿素含量, 抑制气生根的产生; 附加4 mg L－1 以上STS 试管苗出现紫色色素沉积、叶片背面生成愈伤组织等畸形现象。试管苗可溶性蛋白、脯氨酸和丙二醛含量随STS 浓度的增加呈先降后升的趋势, 在培养基中附加1 mg L－1 STS 时, 3个品系试管苗的可溶性蛋白、脯氨酸和丙二醛含量均下降; 附加2 mg L－1 STS 时, DH401 可溶性蛋白和脯氨酸含量及HS66 丙二醛含量反弹升高; 附加4 mg L－1 以上STS 时, 3 个品系试管苗的可溶性蛋白、脯氨酸和丙二醛含量均随STS浓度的增加而增加。上述结果说明, 低浓度STS 可以缓解乙烯胁迫, 促进试管苗正常生长, 高浓度STS 则造成试管苗生理及形态上的明显毒害。
【英文摘要】potato (Solanum tuberosum L.) genotypes (HS66, ED13, and DH401) with different concentrations (0, 1, 2, 4, and 8 mg L－1) ofSTS in culture medium. The results showed that the leaf areas and total chlorophyll contents in three genotypes increased andaerial root could be eliminated by addition of 1 mg L－1 STS into ulture medium as compared with control (0 mg L－1). Toxicsymptoms like black purple pigment accumulation and callus occurring on leaf abaxial urface were observed on plantlets whenthe STS concentration was over 4 mg L－1. The soluble protein, proline, and malondialdehyde (MDA) contents in three genotypesdecreased first and increased then with the STS concentration increase. They declined in the medium containing 1 mg L－1 STScompared with control. Addition of 2 mg L－1 STS resulted in the ascending of soluble protein and proline contents in DH401 andMDA content in HS66. The soluble protein, proline, and MDA contents of three genotypes increased with STS concentration increasingin the medium containing 4－8 mg L－1 STS. These results indicated that supplement of 1 mg L－1 STS in medium couldalleviate ethylene stress and improve plantlet growth. No morphological abnormality was observed in plantlets, but some physiologicalparameters showed STS toxicity to plantlets of HS66 and DH401 in the medium containing 2 mg L－1 STS. Both morphologicaland physiological parameters indicated that higher concentration (4－8 mg L－1) of STS in the medium was toxic to threegenotypes in vitro.
【语种】中文
【第一作者】袁华玲
【通讯作者】屈冬玉
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【题目】干旱胁迫对马铃薯类黄酮和类胡萝卜素合成关键酶基因表达的影响
【中文关键词】马铃薯; 干旱胁迫; 类黄酮; 类胡萝卜素; 酶; 基因表达
【英文关键词】potato; Solanum tuberosum L. ; drought stress; flavono id; caroteno id; enzyme; gene expression
【中文摘要】利用马铃薯抗旱二倍体材料H 145和对干旱敏感二倍体材料H 214, 通过半定量RT-PCR方法研究了干旱胁迫0、7、10、12、14 d 时叶片和根系中3 - 二氢黄酮羟化酶(F3H) 基因、黄酮合成酶(FLS) 基因和 - 胡萝卜素羟化酶1 (HYD-1) 基因的表达状况。结果表明: 干旱胁迫过程中马铃薯品系H145和H 214叶片和根系中F3H 基因、FLS 基因、H YD-1基因的表达量在轻度或中度干旱胁迫下有不同程度的增加, 但品系H 145在干旱的早期叶片中F 3H 基因表达量比根系

中增加快, 并且叶片中FLS 基因和HYD-1基因受干旱诱导的表达持续时间比根系中长; 品系H 214叶片中F 3H 基因受干旱诱导表达持续的时间比根系中长, 在干旱的早期叶片里FLS 基因和HYD-1基因表达量没有根系中增加快。说明F 3H、FLS 和HYD-1基因参与了马铃薯抗旱反应, 但不同的品系这些基因起作用的方式可能不同。

【英文摘要】The -carotene hydroxy lase-1 (HYD-1), flavonone-3-hydroxy lase (F3H) and flavono l synthase (FLS) are key enzym es in b iosyn thesis o f flavonoid and caro tenoid. The transcr ipt levels o f genes o f these three key enzymes w ere investiga ted by sem -i quant itat ive RT-PCR under drough t (w ithho lding w atering for 0, 7, 10, 12, 14 days respect ively) in drought tolerance geno type o f d iplo idH145 and drought susceptive genotype o f diplo id H 214. The resu lts show ed tha t the gene transcript of these three key enzymes w as increasedin leaves and roots o f two genotypes underm ild andmoderate drough.t In the geno type ofH145, the transcript leve l ofF 3H gene in leaves increased faster than that in roots, and the duration of transcript ofFLS & H YD-1 gene in leaves w as longer than that in roots under drought stress. In genotype ofH214, the durationof transcript o fF 3H gene in leaves w as longer than that in the roots, the transcript level o fFLS andH YD-1gene in leaves increased slow er than that in roots under drought stress. The resu lts suggested that the genes o f -caro tene hydroxy lase-1, flavonone-3-hydroxylase and flavono l synthase w ere concerned w ith the drought to-lerance in potato, and there m ight be d ifferent acting models o f these genes under drought in different genotypes.

【语种】中文

【第一作者】范 敏

【通讯作者】屈冬玉

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【学科分类】农艺学

【题目】马铃薯块茎性状对块茎损伤的影响

【中文关键词】马铃薯; 块茎; 损伤; 偏最小二乘回归;

【英文关键词】potato; tuber; bruises; partial least-squares regression;

【中文摘要】研究分析了马铃薯块茎本身对块茎损伤影响显著的关键因素,从而为通过改善栽培条件、品种选育和种质创新等减轻马铃薯块茎损伤提供依据。选用损伤性状差异显著的5个品种(系):Desiree、Russet Burbank、春薯4号、9637-83和TD38-2为试验材料,测定其表皮擦伤(SK)、内部损伤(IB)和损伤变色(BR)性状,同时测定块茎硬度等17个块茎指标,并对数据进行偏最小二乘回归分析并建立模型。分析可知:不同块茎指标对表皮擦伤和内部损伤的影响作用相似,与对损伤变色的影响作用差别较大。Ca2+、酪氨酸和绿原酸共同对3种损伤起着较大的正向或负向作用。偏最小二乘回归模型对本研究中多重相关数据的分析结果整体性较强,结论客观合理,回归系数易于解释,从而可为生产和科研提供可靠的理论依据。

【英文摘要】The potato tuber bruises can be alleviated by breeding new cultivar, imp roved agronomy andenhanced germp lasm based on understanding the key factors affecting bruises. In this research, the cultivars(clones) with p rominent difference in bruises, Desiree, Russet Burbank, Chunshu 4, 9637283 and TD3822were chosen as experimental materials. Data were taken for skinning (SK) , internal bruise (IB) , andbrowning (BR) , as well as for 17 tuber indexes. Correlation analysis was made, and then partial least2squares regression (PLSR) model was established after PLSR analysis. Based on the model, tuber indexesmeasured had similar impact on both skin bruise and internal damage, but not for discoloration. However,Ca2 + , tyrosine and chloregenic acid had remarkable effects on all bruises variables, positively or negatively. Itwas shown that thismodel in the research had more advantages, such as stronger integrity, reasonable conclu2sion, easily exp lainable regressive parameter, thus it can p rovide theoretical basis for scientific research andp roduction

【语种】中文

【第一作者】张建华

【通讯作者】屈冬玉

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【学科分类】农艺学

【题目】几种非淀粉多糖酶对肉仔鸡日粮能量的当量调控
【中文关键词】非淀粉多糖酶 肉仔鸡 能量 当量调控 离体法
【英文关键词】non starch polysaccharides enzyme; in vitro; energy
【中文摘要】选用木聚糖酶(x1) 、B-葡聚糖酶(x2) 、纤维素酶(x3) 和果胶酶(x4) 4 种非淀粉多糖(NSP) 酶, 利用离体消化技术, 分别研究它们对肉仔鸡日粮能量的当量调控效应。结果表明, 4 种NSP酶的添加水平与离体消化能(y) 进行S 曲线拟合的回归方程分别为: y = 10. 954 2 -336. 9) / 114. 8] } (R2= 0. 985 1) , y= 10. 884 9- 0. 273 3/ { 1+ exp[(x3- 308. 0) / 88. 2] } (R2= 0. 980 5) ,y= 10. 845 0- 0. 223 6/ { 1+ exp[(x4- 543. 5) / 104. 4] } (R2= 0. 987 5) ; 对日粮能量调控效应的主次顺序为木聚糖酶> B- 葡聚糖酶> 纤维素酶> 果胶酶
【英文摘要】Four non starch polysaccharides enzymes, xylanase, β-glucanase, cellulose and pectase, were used to study their impacts on broiler dietary energy by in vitro method. The relationships between in vitro digested energy (IVDE) (y) and enzyme supplementation (x) were: y = 10. 954 2 -0. 339 1/ { 1+ exp[(x1 - 470. 8) / 115. 5] } (R2 = 0. 981 2) , y = 10. 945 3- 0. 349 9/ { 1+ exp[(x2 -336. 9) / 114. 8] } (R2= 0. 985 1) , y= 10. 884 9- 0. 273 3/ { 1+ exp[(x3- 308. 0) / 88. 2] } (R2= 0. 980 5) ,y= 10. 845 0- 0. 223 6/ { 1+ exp[(x4- 543. 5) / 104. 4] } (R2= 0. 987 5) . The effect of NSP enzyme on manipulation of energy in diet: xylanase> β-glucanase>cellulose>pectase.
【语种】中文
【第一作者】傅生慧
【通讯作者】张宏福
【期刊名称、卷期、页码】饲料研究 FEED RESEARCH NO. 1, 2006 53-55页
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【学科分类】畜牧、兽医科学其他学科

【题目】非淀粉多糖酶对蛋鸡玉米— 杂粕型日粮离体消化能的影响
【中文关键词】非淀粉多糖酶;蛋鸡;玉米—杂粕型日粮;离体消化能
【英文关键词】Non-Starch Polysaccharide enzyme; in vitro Digestive Energy; layer ,
【中文摘要】选用木聚糖酶(x1)、β- 葡聚糖酶(x2)、纤维素酶(x3)和果胶酶(x4)4 种非淀粉多糖(NSP) 酶制剂, 利用胃蛋白酶- 胰液素法分别研究其对蛋鸡玉米—杂粕型日粮能量的当量调控。结果表明,4 种NSP 酶对蛋鸡玉米—杂粕型日粮的离体消化能改进值分别为:木聚糖酶0.544 2 MJ/kg、β- 葡聚糖酶0.479 1 MJ/kg、纤维素酶0.334 5 MJ/kg、果胶酶0.445 7 MJ/kg。4 种NSP 酶的添加水平与离体消化能(y)进行S 曲线拟合,其回归方程分别为:y1=10.621 9- 0.635 4/{1+exp [(x1- 446.612 3)/146.00 0]}(R2=0.996 1);y2=10.506 5- 0.568 7/{1+exp[(x2- 282.9857)/146.599]}(R2=0.996 4);y3=10.361 2- 0.346 4/{1+exp[(x3- 468.488 0)/93.931]}(R2=0.993 9);y4=10.468 4- 0.466 9/{1+exp[(x4- 367.432 1)/100.142]}(R2=0.998 9)。
【英文摘要】The effects of four Non Starch Polysaccharide (NSP) enzymes including xylanase, β-glucanase, cellulase and pectase on in vitro Digestive Energy (IVDE) in layer corn-mix meal diets were studied. The relationships between in vitro digested energy (IVDE) (y) and enzyme supplementation (x) were: :y1=10.621 9- 0.635 4/{1+exp [(x1- 446.612 3)/146.00 0]}(R2=0.996 1);y2=10.506 5- 0.568 7/{1+exp[(x2- 282.985 7)/146.599]}(R2=0.996 4);y3=10.361 2- 0.346 4/{1+exp[(x3- 468.488 0)/93.931]}(R2=0.993 9);y4=10.468 4- 0.466 9/{1+exp[(x4- 367.432 1)/100.142]}(R2=0.998 9)
【语种】中文
【第一作者】赵敏
【通讯作者】张宏福
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【学科分类】畜牧、兽医科学其他学科

【题目】RRR-α-生育酚琥珀酸酯对肉鸡生产性能和营养物质代谢的影响
【中文关键词】RRR-α-生育酚琥珀酸酯;肉鸡;生产性能;代谢率;消化酶
【英文关键词】α-TOS, broiler, performance, metabolism; digestive enzyme

【中文摘要】试验旨在研究日粮中添加RRR-α-生育酚琥珀酸酯(α-TOS)对肉鸡生产性能和营养物质代谢的影响。选用600只1日龄肉鸡,随机分为10个处理,每处理6个重复。试验采用2×5因子设计,即两种油脂类型(新鲜油脂和氧化酸败油脂),以及5种α-生育酚的不同处理,分别为30 mg/kg allrac-α-生育酚醋酸酯(TOA1)、30 mg/kg RRR-α-生育酚醋酸酯(TOA2)及15、30、60 mg/kg RRR-α-生育酚琥珀酸酯(TOS1、TOS2和TOS3)。试验期为21 d。结果表明,氧化酸败油脂造成肉鸡料重比显著升高(P<0.05);日粮中添加α-TOS可降低新鲜油脂组肉鸡的料重比,提高营养物质的代谢利用率(P>0.05),也可以改善因日粮中油脂氧化酸败造成的肠道食糜消化酶活性下降,导致营养物质代谢率下降,引起肉鸡生产性能降低的趋势。

【英文摘要】The effects of α-TOS on the performance and metabolism in broilers were studied. 600 1-day chickens were delivered into 10 treatments, 6 replicates per treatments. The experiment was conducted as the design of 2×5 factors, two lipid (one was fresh and another was spoiled), and different α-TOS: TOA1 and TOA2 with supplement of 30 mg/kg, α-TOS at the dose of 15, 30 and 60 mg/kg. The experiment lasted 21 days. The results showed that, the spoiled lipid could increas the feed weight ratio obviously, while α-TOS could decrease the value in broils fed fresh lipid. At the same time, α-TOS could also relieve the damage induced by the spoiled lipid on the activity of digestive enzymes, the nutritive metabolism (P>0.05), and the performance in broilers.

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【学科分类】畜牧、兽医科学其他学科

【题目】不同剂型植酸酶对育肥猪饲料养分利用率的影响

【中文关键词】植酸酶 生长育肥猪 生产性能 养分利用率 氨基酸消化率

【英文关键词】phytase enzyme, growing pig, growth performance, nutrient availability

【中文摘要】研究日粮中添加不同剂型植酸酶对生长育肥猪生产性能和饲料养分利用率的影响,选用240头健康的三元杂交(杜×长×大)断奶仔猪,随机分为5组,即正对照组PC(基础日粮,未添加植酸酶)、负对照组NC(降低有效磷水平,未添加植酸酶)及在负对照组日粮中分别添加500 U/kg的包衣、粉状和微丸植酸酶(试验T1、T2和T3组),试验期为100 d。结果表明:(1)日粮中添加不同剂型植酸酶均可提高猪的平均日增质量和饲料利用率,包衣植酸酶添加效果最好。(2)添加包衣植酸酶能显著提高干物质、能量、粗灰分和磷的消化率,而粗蛋白和钙的利用率差异不显著。(3)添加植酸酶的各处理组中,包衣植酸酶有提高赖氨酸、蛋氨酸和异亮氨酸消化率的趋势,但效果不显著,而其他氨基酸的消化率也无显著变化。结果表明:包衣植酸酶对猪生产性能及饲料养分利用率的效果最好,其次是微丸植酸酶,粉状植酸酶的效果最差

【英文摘要】The effect of different type of phytase enzyme on growth performance and feed conversion ratio in growing pigs was studied. 240 weaned piglets were divided randomly into 5 groups, base diet without adding phytase enzyme (PC), low available phosphor diet without adding phytase enzyme (NC), and adding covered, powdered and pellet enzyme in NC with the dose at 500 U/kg. The experimental period was 100 days. The results showed that: all the adding enzymes could improve the daily weight gain and feed conversion ratio, and the impacts of coverd enzyme were the best. Otherwise, the covered enzyme could also improve the digestibilities of DM, energy, CF and phosphor. The conclusion was, the effect of covered phytase enzyme on growth performance and feed conversion ratio were better than the other two kind of enzymes.

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【学科分类】畜牧、兽医科学其他学科

【题目】中草药饲料添加剂的功能及其在蛋鸡生产中的应用

【中文关键词】植酸酶 生长育肥猪 生产性能 养分利用率 氨基酸消化率
【英文关键词】Chinese herbal feed additive, nutritional function, layer, utilization
【中文摘要】中草药作为饲料添加剂具有绿色、高效和无残留等优点,其在蛋鸡饲料生产中受到广泛的应用。文章就中草药添加剂的营养和免疫等生物学功能及其在提高蛋鸡的生产性能、改善蛋品质和抗热应激方面的作用予以综述,并介绍其在应用中存在的问题和发展前景。
【英文摘要】Chinese herbal medicion was utilized widely in layer feeds as a kind of green, no residual feed additive with high efficiency. The nutritional and immune functions of this feed additive and its impacts on improving growth, egg quality and heat resistant in layers were reviewed as well as the problems and future development in this paper.
【语种】中文
【第一作者】王改琴
【通讯作者】王恬
【期刊名称、卷期、页码】饲料博览2010年第10期第37-39页
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【引文索引类型】其他
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【学科分类】畜牧、兽医科学其他学科

【题目】猪生产中GRF基因质粒的应用研究进展
【中文关键词】pGRF基因质粒; 猪; 生产性能; 猪肉安全
【英文关键词】growth hormone releasing factor, pig, growth performance
【中文摘要】随着分子生物学的发展,将生长激素释放因子(GRF)基因质粒注入到动物体内,并改变动物机体的生长机能和营养调控已成为现代营养学研究的热点。本文主要从pGRF的来源、作用特点、作用机理及在猪生产中的应用等方面进行了概述。
【英文摘要】With advances in molecular biology, injecting growth hormone releasing factor (GRF) gene plasmids into animals to change the growth function and nutritive regulation has been the research focus in the field of modern nutrition. The source and utilization of pGRF
【语种】中文
【第一作者】吴秋珏
【通讯作者】王恬
【期刊名称、卷期、页码】畜牧与兽医2011年第43卷第4期第98-101页
【论文发表时间】2011-04-10 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】畜牧、兽医科学其他学科

【题目】中国保护性耕作试验研究的产量效应分析
【中文关键词】保护性耕作; 中国; 产量; 分析;
【英文关键词】Conservation tillage; China; Crop yield; Analysis;
【中文摘要】明确中国目前开展的保护性耕作研究的产量效应以及具体分布情况。【方法】收集公开发表的涉及保护性耕作的研究论文,对有关数据进行整理和分析。【结果】研究发现,中国保护性耕作研究具有明显的地域特色:少耕研究集中在东北地区,免耕研究集中在长江下游及东南地区,秸秆处理和综合型措施的研究以西北地区最多。中国保护性耕作的产量研究结果多为增产,但也有10.92%的减产数据见诸于各地的报道,其中黄淮海、华北平原、西北内陆、青藏高原、黄土高原区的减产概率比较高;少耕和免耕处理的减产概率较高;小麦减产概率最高,玉米减产概率最小。不同区域、不同作物对保护性耕作措施的反应不同:小麦在黄淮海、华北平原及西北地区的减产发生频率较高,少耕处理的减产概率最大,但在西南地区的稳产性能较好;水稻在西南地区减产概率高,在长江中下游和东南地区的稳产性能较好,秸秆处理减产概率高,而免耕稳..
【英文摘要】Conservation tillage (CT) also can be referred to as resource-efficient/resource effective agriculture. It hase become one of the most important measures of sustainable agriculture development, and it is a relatively new concept but widely adopted in China and has considerable benefits. This paper reviewed the historical development and the current situation of conservation tillage research in China, with special reference to their effects on crop yield, especially reduction of output. Many cruci...

【语种】中文
【第一作者】谢瑞芝
【通讯作者】李少昆
【期刊名称、卷期、页码】中国农业科学, 2008年,41(2) P397-404
【论文发表时间】2008-02-01 00:00:00
【引文索引类型】其他
【引文索引号】0578-1752
【学科分类】植物保护学

【题目】中国保护性耕作研究分析_保护性耕作与作物生产
【中文关键词】保护性耕作; 可持续农业; 作物生产; 产量; 综述;
【英文关键词】Conservation tillage; Sustainable agriculture; Crop production; Yield; Review
【中文摘要】保护性耕作(conservation tillage,CT)是实现农业可持续发展的重要手段,本研究通过收集中国公开发表的与保护性耕作相关的研究论文,整理前人研究提供的试验数据,分析保护性耕作措施对作物生产的影响,为保护性耕作条件下的作物稳产丰产研究提供支持。研究发现,保护性耕作对作物的生长发育、病虫害发生、水分利用等都有不同程度的影响,以当地传统耕作模式为对照,实施保护性耕作技术的作物产量平均增加12.51%。但有10.92%数据显示减产,表明保护性耕作减产是客观存在的,文章归纳了影响保护性耕作条件下作物产量的主要原因。中国自"六五"期间开始进行保护性耕作的研究工作,在理论研究和生产实践中取得了一定的成绩。随...
【英文摘要】Conservation tillage(CT),which can also be referred to as resource-efficient /resource effective agriculture,is primarily used as a means to protect soils from erosion and compaction.The study looked at moisture conservation and production cost reduction,have become the most important measures of sustainable agriculture development.Research advances in the conservation tillage of China were reviewed in this paper.Based on papers published,the current researches progress on conservation tillage(CT)of crop pr...
【语种】中文
【第一作者】谢瑞芝
【通讯作者】李少昆
【期刊名称、卷期、页码】中国农业科学, 2007年40(9) P1914-1924
【论文发表时间】2007-09-01 00:00:00
【引文索引类型】其他
【引文索引号】0578-1752
【学科分类】植物保护学

【题目】中国玉米保护性耕作研究进展
【中文关键词】玉米; 保护性耕作; 产量; 效应;
【英文关键词】Corn; protection of tillage; production; effect;
【中文摘要】玉米植株高大、适应性强、分布广,是保护性耕作研究的主要作物之一.根据前人对中国玉米保护性耕作的研究,总结和分析了中国玉米保护性耕作的技术模式、分布特点、不同保护性耕作对玉米生长环境和生长发育的影响以及保护性耕作条件下玉米的产量效应和经济效应,对中国玉米保护性耕作的研究现状作了归纳和分析,为中国玉米保护性耕作研究提供参考.
【英文摘要】Tall corn plant, adaptable, widely distributed, is one of the major crops for conservation tillage. According to previous research on conservation tillage in corn China, summarize and analyze the mode of maize conservation tillage technology, distribution characteristics,different conservation tillage on corn growth environment and growth and development as well as conservation tillage corn yield and its economic effects, summarized and analysis Research on conservation tillage in the Chinese corn, maize conservation tillage research in Chinareference.
【语种】中文
【第一作者】金亚征
【通讯作者】李少昆
【期刊名称、卷期、页码】河北北方学院学报(自然科学版) , 2009年,25(3) P36-42
【论文发表时间】2009-03-01 00:00:00

【引文索引类型】其他
【引文索引号】1673-1492
【学科分类】植物保护学

【题目】中国玉米生产技术的演变与发展
【中文关键词】玉米; 产量; 增产因素; 发展趋势;
【英文关键词】maize; yield; yield increase factor; development trend;
【中文摘要】为探索今后玉米增产的途径,本文从单产提高的主要措施、技术特征和增产机理角度,分析了50多年来中国玉米生产技术的演变与发展。从1949至2007年中国玉米单产每公顷提高了4205.1kg,增幅为437.3%,年均增加85.84kg·hm-2;总产由1241.8万吨提高到15230.0万吨,增加了12.3倍,其中单产增加的贡献占68.4%、种植面积扩大的贡献为31.6%,总产量的提高主要依赖于单产的增加。玉米生产技术的发展经历了如下阶段:(1)玉米品种选育由筛选推广优良农家品种——品种间杂交种——双交种、三交种——单交种4个阶段,在杂种优势得到广泛利用后,抗病基因选择、株型改良、保绿与晚熟成为玉米品种产量潜力提高的主要育种技术方向,今后将向着耐密、抗逆、广适、高产和适应机械化作业的新品种选育方向发展;(2)栽培技术表现出由单项适用技术推广、农田条件改善到技术集成与模式化栽培,今后将向以耐密、抗逆、高产品种与机械化为载体的简化高产优质高效栽培方向发展;3)随着种植密度的不断提高,玉米增产的生理机制由提高单株生产力,到改善株型增大群体和保绿、晚熟延长光合与灌浆时间来增大群体生产量,向提高群体整齐度、花后物质高效生产与...
【英文摘要】To study the approaches for maize yield increase, this paper has analyzed the change and development of maize production techniques in the past 5 decades and more in China from the perspectives of main measures, technical characteristics and mechanisms for per unit area yield increase. The results showed that maize yield per unit area in China increased by 4 205.1 kg or 437.3% from 1949 to 2007, with annual growth rate of 85.84 kg·hm-2, and the total yield increased from 12.418 million tons to 152.30 millio...
【语种】中文
【第一作者】李少昆
【通讯作者】李少昆
【期刊名称、卷期、页码】中国农业科学 , 2009年 ,42(6) P1941-1951
【论文发表时间】2009-06-01 00:00:00
【引文索引类型】其他
【引文索引号】0578-1752
【学科分类】植物保护学

【题目】保护性耕作方式下华北平原夏玉米产量效应的研究
【中文关键词】夏玉米; 保护性耕作; 产量;
【英文关键词】Summer maize; Conservation tillage; Yield;
【中文摘要】在长期定位条件下,研究不同耕作方式下夏玉米产量性状的变化。经过连续5年的定位试验后,小麦、玉米秸秆全量还田双季免耕的处理(DNT)较玉米秸秆不还田、翻耕种植冬小麦、小麦全量还田免耕种植夏玉米的处理(PNT)以及玉米秸秆粉碎还田旋耕种植冬小麦、小麦全量还田免耕种植夏玉米的处理(RNT)连续两年平均增产19.43%和7.35%。DNT处理增加了穗长、穗行数、行粒数和百粒重,减小了秃尖度;DNT方式种植的玉米吐丝前、吐丝后干物质生产均高于其他两种耕作;DNT种植的玉米群体叶面积指数大喇叭口期开始明显优于PNT和RNT处理,且没有出现下部叶片早衰现象,吐丝后光合势、净同化率值均高于其他两种耕作。
【英文摘要】To research yield characteristics of summer maize which planted in long-term site-specific experiment field under different tillage patterns. There were three tillage patterns which were whole wheat-maize straw mulch with double-no-tillage(DNT), planting wheat under plough tillage without maize-straw return and planting maize under no tillage with wheat-straw mulch(PNT), and planting wheat under revolve tillage with maize-straw return and planting maize under no tillage with wheat-straw mulch(RNT). Average ...
【语种】中文
【第一作者】金亚征
【通讯作者】李少昆
【期刊名称、卷期、页码】玉米科学, 2008年, 16(4) P 143-146

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【引文索引类型】其他
【引文索引号】1005-0906
【学科分类】植物保护学

【题目】保护性耕作农户认知情况调查分析
【中文关键词】保护性耕作; 农户调查; 产量效应;
【英文关键词】Conservation tillage; Household Survey; yield effect;
【中文摘要】通过面对面的访谈,对我国东北平原、华北平原、成都平原和西北绿洲区4个典型生态类型区的666户农户进行了保护性耕作技术认知情况调查。表明我国保护性耕作模式比较多,产量效应及推广应用情况存在明显区域差异。其中,华北平原农户保护性耕作技术采用率较高,而西北绿洲区相对较低,与之相对应,各区域农户对保护性耕作技术的认识程度也存在明显差别。
【英文摘要】Four typical ecological zones of the Northeast China Plain, the North China Plain, Chengdu Plain and the northwest oasis region 666 farmers, conducted a survey of conservation tillage technology awareness. Conservation tillage model for our country that the yield effect and promote the application of significant regional differences. Among them, the higher the rate of adoption of conservation tillage farmers of the North China Plain, Northwest oasis region is relatively low, corresponding to regional farmers there are also significant differences in the level of awareness of conservation tillage technology.
【语种】中文
【第一作者】汤秋香
【通讯作者】李少昆
【期刊名称、卷期、页码】作物杂志, 2008年04期 P88-89
【论文发表时间】2008-04-01 00:00:00
【引文索引类型】其他
【引文索引号】1001-7283
【学科分类】植物保护学

【题目】不同耕作方式对成都平原麦稻轮作模式下小麦生长及产量的影响
【中文关键词】不同耕作方式; 成都平原; 小麦; 产量;
【英文关键词】Different Cultivation way; West Sichuan Plain; Wheat; Quality;
【中文摘要】了明确不同耕作方式对成都平原小麦生长及产量的影响,进行了麦—稻轮作、麦免稻旋、麦免+稻旋+秋作、麦稻双免、麦稻垄作5种耕作方式定位试验,研究不同处理下小麦生长发育和产量的变化。结果表明:不同耕作方式对小麦生长及产量的影响达到显著差异,其中麦免稻旋模式产量最高。免耕不仅对小麦苗期生长、成穗、干物质积累均影响较大,而且可显著提高小麦产量,并且省工、培肥、效益好,可作为成都平原的主要耕作模式。
【英文摘要】Experiments were conducted to investigate differences of wheat quality under different conservation tillage ways with the wheat and rice rotation mode in West Sichuan Plain.Five cultivation ways were designed,including wheat-rice rotation,wheat free-rice rotation,wheatfree-rice rotation-autumn planting,double-free of wheat and rice,and wheat ridge-rice free.The results showed that wheat free-rice rotation had the maximum actual output,leaf area index and biological yield.
【语种】中文
【第一作者】闫宇翡
【通讯作者】李少昆
【期刊名称、卷期、页码】作物杂志 , 2010年 03期,P94-96
【论文发表时间】2010-03-01 00:00:00
【引文索引类型】其他
【引文索引号】1001-7283
【学科分类】植物保护学

【题目】挡板导流式喷雾机的防飘性能试验
【中文关键词】防飘; 仿真试验; 田间试验;
【英文关键词】anti-drift; simulation experiment; field experiment;

【中文摘要】为了测试新研制的挡板导流式喷雾机的防飘性能,本文对其与常规喷雾进行了仿真模拟试验与田间试验的对比研究。结果表明挡板导流式喷雾机改变了喷头周围的流场,使气流的水平速度减小,并产生了垂直向下的气流,减少了雾滴飘失的潜能并胁迫雾滴向靶标沉积。药液在小麦中、下冠层的沉积量分别增加了119.2%和112.3%,在冠层上总的沉积量增加了20.3%。上、中、下冠层叶面药液沉积量的变异系数分别为7.85%、6.37%和8.71%,都小于常规喷雾。
【英文摘要】In order to test the anti-drift performance of the guided baffle plate type sprayer,the simulation experiment and field experiment were done to compare the anti-drift performance of new sprayer and conventional sprayer.The results showed that the guided baffle plate type sprayer changed the flow field around the nozzle,which could reduce the horizontal velocity and product the down vertical airflow.So the drift potential of droplets was reduced and the droplets were intimidated to deposit on target.The depo..
【语种】中文
【第一作者】张京
【通讯作者】李少昆
【期刊名称、卷期、页码】农业工程学报, 2008年,24(5) P140-142
【论文发表时间】2008-05-01 00:00:00
【引文索引类型】EI
【引文索引号】5.209109228E9
【学科分类】农学其他学科

【题目】稻麦轮作区保护性耕作条件下氮肥对水稻生长发育和产量的调控效应
【中文关键词】稻麦轮作区; 保护性耕作; 氮肥调控; 水稻; 生长发育;
【英文关键词】rice-wheat cropping system; conservation tillage; nitrogen management; rice; growth and development; grain yield;
【中文摘要】20062~008年在四川省广汉市开展了保护性耕作措施下水稻氮肥调控试验,设置不同秸秆还田量(0、6000、12000 kg/hm2)、施氮量水平(0、1502、10 kg/hm2)以及氮素分配比例(6∶2∶2、6∶3∶1、8∶2)。结果表明,和施N 150 kg/hm2相比,N 210 kg/hm2处理水稻分蘖力、干物质积累量、开花期的植株个体和群体质量均有升高,花后茎鞘贮藏物质的输出及光合物质积累量增加,子粒产量提高7.3%。在施N 150 kg/hm2水平和基肥∶蘖肥∶穗肥=6∶2∶2分配比例下,与旋耕无麦秸还田处理相比,免耕秸秆还田与否对水稻茎蘖消长、干物质积累及子粒产量影响较小,但花后绿叶功能期延长,光合产物积累在产量形成中所占比例增加。在施N 210 kg/hm2水平和基肥∶蘖肥∶穗肥=6∶3∶1分配比例下,免耕还田麦秸量从6000 kg/hm2增加至12000 kg/hm2,水稻分蘖力明显增强,干物质积累量增大,开花期个体和群体质量提高,单位面积穗数和穗实粒数增多,产量增加4.1%;将氮肥分配比例由6∶3∶1变为8∶2,即增加基肥用量,减少中后期的氮素供应会导致分蘖高峰后分蘖大量死亡,有效穗数降
【英文摘要】In rice-wheat cropping system,conservation tillage technology is widely used in wheat cultivation.Because seedling standing and high yield cultivation technology under the conservation tillage condition is not perfect,rotary tillage with no straw returning is also playing a dominant role in rice cultivation.From 2006 to 2008,the effects of nitrogen management on rice growth and grain yield under the conservation tillages were studied in Guanghan,Sichuan province.The results may be helpful to promote conserv...
【语种】中文
【第一作者】李朝苏
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【学科分类】植物保护学

【题目】稻麦轮作区麦秸还田对水稻产量及主要品质性状的影响
【中文关键词】稻麦轮作区; 麦秸还田; 水稻; 产量; 品质性状;
【英文关键词】Rice-wheat cropping system; Wheat residue retention; Rice; Grain yield; Quality characters
【中文摘要】2005~2007年,研究了稻麦轮作区麦秸还田方式、还田量及免耕麦秸覆盖还田条件下移栽方式对水稻产量和主要品质性状的影响。结果表明:①与传统栽培方式(翻耕、无麦秸还田)相比,免耕麦秸覆盖还田对水稻产量没有影响,但对出糙率、整精米率等品质性状不利;翻埋还田有一定增产效果(增产5.5%),对主要品质性状影响不明显;免耕垄作麦秸沟填处理则显著减产。②免耕条件下,适当增加麦秸还田量,能减少无效分蘖,提高个体和群体质量,增产效果明显。以9.0×103kg·hm-2麦秸还田量的水稻产量最高,与对照差异显著。③免耕麦秸覆盖条件下,撬窝移栽水稻根系分布层次较深

,抗倒力强,产量高于其他处理;不同移栽方式对稻米外观品质无显著影响,但撬窝移栽的整精米率显著高于抛秧和摆栽处理。试验结果说明,以适当方式实施麦秸还田,对水稻生长发育及产量和品质的提高具有良好的促进作用。

【英文摘要】In rice-wheat cropping system,with wheat residue retention the effect of returned methods,quantities and transplanting patterns on grain yield and main quality characters of rice were studied.The results showed that,compared with tradition cultivation,residue mulching had no obvious effect on rice yield,but reduced its milling grain quality.Residue incorporation could increase rice yield by 5.5 % and had no obvious effect on quality.Residue filled ditch in zero-tillage and ridge culture reduced the yield by..

【语种】中文

【第一作者】李朝苏

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【学科分类】植物保护学

【题目】稻田冬季保护性耕作条件下的土壤酶活性与水稻成熟期叶片衰老和籽粒产量之间的关系

【中文关键词】水稻; 保护性耕作; 土壤酶活性; 叶片衰老; 相关性;

【英文关键词】rice; conservation tillage; soil enzyme activity; leaf senescence; relationship;

【中文摘要】为研究稻田冬季保护性耕作不同种植模式对土壤酶活性以及水稻成熟期叶片衰老的影响,设计了5种种植模式:免耕直播稻草全程覆盖马铃薯(T1)、免耕直播黑麦草(T2)、免耕直播油菜(T3)、免耕直播燕麦草(T4)和空闲(CK),供试品种为杂交组合国稻6号。与对照(CK)相比,T1、T2和T3处理均可显著提高土壤蛋白酶、中性磷酸酶、过氧化氢酶以及转化酶活性,尤其是T1处理,其土壤酶活性明显高于其他处理,而T4处理与对照相比,差异不明显。T1、T2和T3处理均可有效延缓水稻成熟期剑叶的衰老,主要表现为成熟期剑叶中的超氧化物歧化酶、过氧化物酶活性、可溶性蛋白质和叶绿素含量下降缓慢,丙二醛含量上升的幅度较小,相对于对照(CK),差异均达显著水平。在本试验条件下,土壤酶对水稻叶片衰老的影响程度依次为蛋白酶>过氧化氢酶>中性磷酸酶>转化酶。叶片衰老对水稻产量的影响主要表现在灌浆中后期。

【英文摘要】Five planting modes of winter conservation tillage in paddy field,including potato with straw mulching under zero-tillage(T1),ryegrass direct seeding under zero-tillage(T2),rape direct seeding under zero-tillage(T3),oat grass direct seeding under zero-tillage(T4) and the control(CK),were designed to study the changes in the soil enzyme activities and their effects on leaf senescence of hybrid rice Guodao 6 during grain filling.Compared to the control(CK),T1,T2 and T3 treatments could significantly increase ...

【语种】中文

【第一作者】符冠富

【通讯作者】章秀福

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【学科分类】植物保护学

【题目】典型生态区保护性耕作主体模式及影响农户采用的因子分析

【中文关键词】保护性耕作; 农户调查; 技术扩散; 影响因子;

【英文关键词】conservation tillage; farmer survey; techno-diffuse; influential factors;

【中文摘要】明确中国典型生态区保护性耕作主体模式及农户采用情况,并揭示影响农户采用的因子。【方法】在典型生态类型区-东北平原、华北平原、成都平原、西北绿洲区的保护性耕作技术示范区,通过农户一对一的问卷调查,获取原始数据,统计分析影响农户采用保护性耕作技术的因子。【结果】研究发现,华北平原和成都平原农户保护性耕作采用率较高,东北平原和西北绿洲区相对较低;不同区域均有适应当地生态条件的保护性耕作模式,其中东北平原宽窄行留高茬交替休闲种植及破茬合垄耕作模式、华北平原玉米秸秆还田旋耕播种小麦和小麦秸秆还田免耕直播玉米、成都平原稻草覆盖地免耕种植小麦或油菜或马铃薯等作物的保护性耕作模式具有明显的增产效果。数据分析表明,作物产量增加、政府示范与宣传引导、邻里效应等是吸引农户采用保护性耕作技术的主要原因,而机具不配套则在一定程度上阻碍了保护性耕作技术的应用。【结论】由于不同区域的生态因子和生产条件的差异,保护性耕作技术的推广应用要因地制宜,针对主要限制

因子,选择合适的技术模式,采用有效的宣传推广手段,促进保护性耕作技术的发展。
【英文摘要】he objective of this study is to understand the conservation tillage modes and farmers ’ adoption, and to reveal the factors influencing farmer adoption. 【Method】 A face-to-face investigations on peasant household were carried out in main demonstration area of conservation tillage of typical ecological region: the Northeast China plain, the North China plain, the Chengdu plain, and the Northwest China oasis. The original data were obtained and the cognition of peasant households on conservation ...
【语种】中文
【第一作者】汤秋香
【通讯作者】李少昆
【期刊名称、卷期、页码】中国农业科学, 2009年,42(2) P469-477
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【学科分类】植物保护学

【题目】东北春玉米耐老化膜覆盖及留高茬交替休闲保护性耕作效应研究
【中文关键词】春玉米; 耐老化膜; 留高茬; 保护性耕作;
【英文关键词】Spring maize; Ageing-resistant film; Remaining high stubble; Conservation tillage;
【中文摘要】对东北地区春玉米耐老化膜常年覆盖种植及宽窄行留高茬交替休闲种植方式的研究结果表明,与传统种植方式相比,耐老化膜常年覆盖种植和宽窄行留高茬交替休闲种植在产量、经济效益和生态效应上均表现出较好的态势。耐老化膜常年覆盖种植的增产优势明显,与均匀垄传统种植相比,产量增加15.56%,并且降低了农业生产成本,经济效益显著增加,播种出苗阶段及苗期风蚀量降低562%和303%,田间养分损耗量明显下降。耐老化膜常年覆盖种植方式在东北地区是具有推广前景的保护性耕作技术模式。
【英文摘要】Through the research on ageing-resistant film perennial mulch crop and alternative fallow high stubble about wide alternative narrowrow,the result proves that this measure shows better trend in output,economic profit and ecological effect,compared with the traditional one.The former is prominent in the yield-increasing advantage and the output increases by 15.56%,compared with the traditional measure by means of the uniform ridge.Moreover,it reduces the cost of the agricultural production,and increases the ...
【语种】中文
【第一作者】初振东
【通讯作者】李少昆
【期刊名称、卷期、页码】玉米科学, 2010年,18(2) P70-76
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【引文索引号】1005-0906
【学科分类】植物保护学

【题目】华北平原保护性耕作方式下冬小麦稳产技术研究
【中文关键词】华北平原; 冬小麦; 产量; 保护性耕作;
【英文关键词】North China Plain; Winter wheat; Yield; Conservation tillage;
【中文摘要】在华北地区研究了小麦、玉米一年两熟条件下不同耕作方式、不同品种、不同播量、不同播期对冬小麦产量的影响。结果表明,试验中玉米秸秆粉碎覆盖还田免耕播种小麦较玉米秸秆不还田翻耕、玉米秸秆粉碎还田旋耕播种小麦3年均表现为减产,减产幅度8.3%~25.0%;而通过选择适宜的品种、播期,增加播量,能够在一定程度上减小保护性耕作方式下冬小麦的减产幅度。
【英文摘要】The winter wheat yield,which is affected by tillage pattern,variety,seed amount and seeding time,was investigated under wheat-maize double cropping system in the North China Plain.The results indicated that no-tillage with broken maize straw-mulch reduced winter wheat yield from 8.3% to 25.0% in three years.The reduction of yield would be alleviated through selecting suitable varieties,fitting seeding time and increasing seed amount.
【语种】中文
【第一作者】金亚征
【通讯作者】李少昆

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【引文索引类型】其他
【引文索引号】0496-3490
【学科分类】植物保护学

【题目】基于农户认知的保护性耕作模式产量效应模糊数学分析
【中文关键词】保护性耕作模式; 农户认知; 产量效应; 模糊数学;
【英文关键词】conservation tillage mode; farmer cognition; yield effect; fuzzy mathematics;
【中文摘要】为了从产量角度评价不同生态区主体保护性耕作模式,以东北平原、华北平原、成都平原、西北绿洲区不同耕作模式为研究对象。经过专家咨询和相关文献分析,筛选确定7个因素作为保护性耕作影响产量的指标集,通过农户一对一调查,将农户对影响产量因素的认知作为基础数据,运用模糊综合评价方法对不同生态区主体保护性耕作模式进行评价。结果显示:不同生态区得分最高的模式分别为东北平原宽窄行留高茬交替休闲种植模式;华北平原上茬玉米秸秆还田+旋耕播种小麦,下茬小麦秸秆还田+免耕直播玉米模式;西北绿洲留高茬免耕直播模式;成都平原小麦或油菜或马铃薯等免耕+稻草覆盖模式。为选择各地具有产量优势的保护性耕作模式提供参考。
【英文摘要】To evaluate effects of main conservation tillage methods on yield in various ecological regions.We analysed farmer cognitions of factors influencing yield under the main conservation tillage methods by interviewing peasant households in the Northeast China plain,North China plain,Chengdu plain and Northwest China oasis.The indexing set was determined from 7 yield parameters based on expert consultation and relevant literature.A comprehensive evaluation of conservation tillage methods in the various ecologic...
【语种】中文
【第一作者】汤秋香
【通讯作者】李少昆
【期刊名称、卷期、页码】生态学报, 2009年 ,29(8)P4260-4266
【论文发表时间】2009-08-01 00:00:00
【引文索引类型】其他
【引文索引号】1000-0933
【学科分类】植物保护学

【题目】南疆主要地表类型土壤风蚀对形成沙尘暴天气的影响
【中文关键词】沙尘暴; 塔里木盆地; 主要地表类型; 土壤风蚀; 垂直分布;
【英文关键词】Sandstorm; Tarim Basin; The main type of the earth s surface; Soil wind erosion; Vertial distribution;
【中文摘要】弄清南疆主要地表类型土壤风蚀对形成沙尘暴天气的影响,为明确该区域沙尘暴主要尘源和科学治理提供依据。【方法】采用美国BSNE集沙仪,在沙尘暴天气条件下对塔里木盆地主要地表类型土壤风蚀状况、输沙率随高度的变化进行观测与采样分析。【结果】不同地表类型的输沙量变化趋势为:裸露、弃耕农田最多,其次为活化灌丛沙堆、沙漠边缘的活动沙丘、乡村道路;而封育砂质农田、覆膜棉田、苜蓿地、冬小麦、棉秆与地膜相间覆盖棉田、林地、棉秆留茬地输沙量较少。种植行向与风向一致时棉田输沙量大,垂直时明显减少。输沙量在0~160cm高度的分布特征明显与地表类型有关,其中裸露、弃耕农田、活化灌丛沙堆、活动沙丘等植被、残茬覆盖地表类型,输沙量(M,g·cm-2)随高度(Z,cm)变化遵循幂函数M=aZb规律,在有植被及覆盖条件下的农田、林地等地表,输沙量用多项式M=a+bZ+cZ2+dZ3拟合效果最好。输沙量随植被覆盖度和土壤表层含水量的增加呈指数形式减少,当植被盖度达到20%以上或土壤表层含水量达到5%以上时可以明显降低输沙量。【结论】裸露农田、弃耕沙质农田、活化灌丛沙堆、活动沙丘以及乡村道路的风蚀程度严重,是南疆沙尘暴天气沙尘的主要来源。...
【英文摘要】The objective of this paper is to study the effect of soil wind erosion of the mainground surface types on formation of dust storm in South Xinjiang as Tarim Basin is one of the areas of high-incidience sand strom and the main sand-sources place in China. Using U.S.A. BSNE sandy samplers, the main surface types and the amount of sand transport with changing height under the sandstorm weather condition in South Xinjiang were observed and analyzed.【Result】The results indicate that the ord...
【语种】中文
【第一作者】李少昆
【通讯作者】李少昆

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【学科分类】植物保护学

【题目】我国玉米产量变化及增产因素分析
【中文关键词】玉米; 产量; 增产因素; 对策;
【英文关键词】Corn; Yield; Factors promoting yield increase; Countermeasure;
【中文摘要】对1949~2006年玉米产量变化数据进行分析。结果表明,50多年来,我国玉米单产提高了4270.5kg/hm2,增幅为380.1%,年均增加101.85kg/hm2;总产由1175万t提高到14548.5万t,增加了12.4倍,其中单产增加的贡献占82.1%,种植面积扩大的贡献为17.9%,总产量的提高主要依赖于单产的增加。在总结分析不同年代玉米单产提高的主要因素、技术特征和增产机理的基础上,提出了今后玉米生产发展需要解决的问题与对策。
【英文摘要】Data analysis of corn yield from 1949 to 2006 showed that over the past 50 years, corn yield in China had increased 4 270.5 kg/ha, increasing by 380.1% and average annual growth of 101.85 kg/ha per unit area. Total yield had grown 12.4 times from 11.75 million tons to 145.49 million tons, of which 82.1% was contributed by yield per-unit increase and 17.9% by area expansion. Total yield increase was mainly attributed to the increase of yield per-unit. The important factors affecting corn yield and technical ...
【语种】中文
【第一作者】李少昆
【通讯作者】李少昆
【期刊名称、卷期、页码】玉米科学, 2008年,16(4) P26-30
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【引文索引号】1005-0906
【学科分类】农学其他学科

【题目】玉米宽窄行交替休闲保护性耕作的根系和光分布特征研究
【中文关键词】玉米; 产量; 保护性耕作; 宽窄行种植; 根系分布; 透光率;
【英文关键词】Maize; Yield; Conservational tillage; Wide/narrow row planting; Root distribution; Transmittance
【中文摘要】为探明宽窄行交替休闲种植玉米产量变化的原因,在2007—2008年设置大田试验,比较研究了宽窄行和均匀垄两种耕作方式下玉米光合有效辐射和根系分布等指标的变化动态。结果表明:深松后(6月25日—9月20日),宽窄行处理的土壤紧实度低于均匀垄处理,降低25.17%~52.04%,在0~45 cm不同土层间平均降低14.08%~53.16%,差异最大值出现在11~20 cm土层。在0~45 cm土层,均匀垄处理的根系干重在乳熟期和成熟期显著高于宽窄行处理,分别高13.47%和29.62%;但在根系垂直分布中,宽窄行比均匀垄处理显著增加了根系在深层土壤所占的比例,在15~30 cm土层,宽窄行和均匀垄处理在吐丝期、乳熟期和成熟期根系分布比例分别为6.59%、8.21%、9.00%和5.21%、7.48%、5.42%,在30~45 cm土层分别为2.30%、2.61%、3.24%和1.62%、2...
【英文摘要】A field experiment was conducted to explore maize yield variability in relation to canopy structure,root distribution and other factors under conventional tillage planting and wide/narrow row planting in 2007—2008.The results showed lower soil compaction under wide/narrow row planting than conventional tillage planting by 25.17%~52.04% after sub-soiling during the period from June 25 to September 20.In the upper 45 cm soil layer,soil compaction decreased by 14.08%~53.16%.The least soil compac-tion was in t..
【语种】中文
【第一作者】刘朝巍
【通讯作者】李少昆
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【引文索引号】1671-3990
【学科分类】植物保护学

【题目】基于图像识别的玉米叶部病害诊断研究
【中文关键词】玉米叶部病害; 颜色特征; 形状特征; 图像分割; 区域标记;
【英文关键词】Maize leaf disease; Color feature; Form feature; Image segmentation; Area marking;
【中文摘要】探讨利用图像技术实现玉米叶部病害自动识别的方法。【方法】根据玉米叶部病害特点,综合应用阈值法、区域标记方法与Freeman链码法,对玉米叶部病害图片进行图像分割、统计病斑个数、去除冗余斑点、计算病斑形状特征,最后根据二叉检索法推断病害。【结果】研究提取了五种玉米叶部主要病斑的识别特征,确定了诊断流程,并开发了识别系统。经检验,该系统对玉米叶部的锈病斑、弯孢菌病斑、灰斑、褐斑、小斑等五种主要病害的诊断准确率达80%以上。【结论】研究结果表明,用图像技术进行玉米叶部病害诊断是可行的,本研究开发的诊断系统为玉米病害自动识别与诊断奠定了基础。
【英文摘要】The recognition and diagnosis methods of main maize leaf diseases using machine vision were studied in the paper.【Method】A threshold method was adopted for image segmentation. An area-marking method was used calculating the num of disease as well as wiping off redundancy dots. The Freeman link code was used to calculate form feature. Finally,diseases were deduced according to the bintree search method.【Result】In the research,the exclusive feature of main maize leaf diseases was presented,and the ...
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【第一作者】赵玉霞
【通讯作者】李少昆
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【引文索引号】0578-1752
【学科分类】植物保护学

【题目】基于种植制度利用MODIS数据提取冬小麦种植面积
【中文关键词】遥感; 农作物; 分类; 山东省; 冬小麦; 稻茬麦; 面积;
【英文关键词】remote sensing; crops; classification; Shandong Province; winter wheat; rice wheat; area;
【中文摘要】为了及早获取冬小麦种植面积,为国家制定相关政策提供科学依据,该文基于山东省种植制度,将山东省冬小麦划分为"机播冬小麦—玉米"和"人工撒播冬小麦—水稻"两种类型,利用MODIS影像数据,分析冬小麦播种后、越冬期前冬小麦、大蒜、温室蔬菜的归一化差值植被指数(NDVI)值特征,结合9月中旬前茬作物NDVI特征建立当年机播冬小麦提取条件;鉴于稻茬麦播种后、越冬前的光谱特征与温室蔬菜光谱特征极为相似,则在水稻种植区利用拔节期冬小麦生物量迅速增长的特点提取上一年稻茬麦种植面积,由于"人工撒播冬小麦—水稻"这种耕作模式在山东特定地区较为固定,因此将上一年稻茬麦面积作为当年稻茬麦种植面积;合并两种类型冬小麦面积,用284组定位点数据对提取结果进行检验,精度达到了94.01%,结果表明:于越冬期前提取冬小麦种植面积是可行的,提取时间较利用拔节期NDVI值方法提前4个月。
【英文摘要】Winter wheat is one kind of important crop in China. Its planting area is one key element to explain yield change. To obtain winter wheat planting area as soon as possible can provide scientific reference for our country to make related policy. Based on the cropping system in Shandong Province, winter wheat is divided into two kinds "winter wheat sowed by machine-maize" and "labour broadcast winter wheat-rice". Using MODIS data, NDVI characters of winter wheat, garlic, greenhouse vegetable, from sowing till...
【语种】中文
【第一作者】隋学艳
【通讯作者】李少昆
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【学科分类】植物保护学

【题目】利用神经网络提取棉花叶片数字图像氮素含量的初步研究
【中文关键词】数字图像; 线性网络; BP神经网络; 径向基网络; 氮素含量;

【英文关键词】Digital image; Line network; BP network; RBF(radical basis function) network; Nitrogen quantity;
【中文摘要】选取6种输入向量组合,利用线性网络、BP网络以及径向基网络等3种神经网络模型进行比较研究,筛选最适宜网络模型和最佳输入组合,建立叶片数字图像彩色信息和叶片氮含量的关系模型,探索利用神经网络技术获取叶片数字图像信息的方法。结果表明,径向基网络在利用数字图像(B,H,G-R,G/R)指标作为网络输入向量时,能够实现获取棉花叶片数字图像氮含量的目标。径向基网络训练的180组样本的训练精度均达到极显著水平(r=0.9022**),30组测试样本的预测值与实测值也达到极显著相关(r=0.8674**),径向基网络和(B,H,G-R,G/R)向量是一种适合本研究的数学模型。对利用神经网络提取棉花叶片数字图像氮含量技术的初步探索,拓展了神经网络和数字图像技术在农业生产中的应用。
【英文摘要】Artificial Neutral Network(ANN) has some important features,such as self-study,acceptance-error,building math model rapidly.ANN has been widely used in many fields,some people have made a lot of findings in agriculture by ANN.The technology of digital image processing is also very important for agriculture,and people have found there are some relation between color information and the nitrogen quantity for maize,tomato.But nobody use ANN to found the relation.The objective of this research is to process the...
【语种】中文
【第一作者】李小正
【通讯作者】李少昆
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【学科分类】植物保护学

【题目】棉花叶片厚度的高光谱测试方法
【中文关键词】光谱分析; 参数提取; 测量; 叶片厚度;
【英文关键词】spectrum analysis; parameter extraction; measurements; leaf thickness;
【中文摘要】植物叶片厚度的变化能够指示植物生长状态的改变,为了实时、活体、无损地获取叶片厚度,该研究以棉花叶片为研究对象,利用DPS、Origin统计分析软件分析84组光谱数据与叶片厚度的相关性。研究表明,光谱反射率与叶片厚度在可见光350~369nm及664~689nm2个较窄区域达到了极显著正相关关系,在红外917~1884、2048~2380nm2个区域呈极显著负相关关系,总体相关程度红外波段高于可见光波段。红边参数与叶片厚度的相关性不高,24个形状参数与厚度达到了极显著相关水平,其中,中心为980nm的吸收谷面积与叶片厚度相关度最高,相关系数为0.848。分别用反射率、植被指数、光谱形状参数建立并测试3个估算模型,相对误差最高为7.4%,均方根差最高为0.051mm。结果表明利用高光谱分析技术,可以实现叶片厚度的快速、活体测量。
【英文摘要】Changes of leaf thickness can indicate the variations of plant growth state,in order to carry out real-time,live, non-destructive testing of leaf thickness,the study took cotton leaves as the research object.The correlation between plant leaf spectrum and thickness was studied on 84 couples of data of cotton,with DPS and Origin statistical softwares.Studies showed that the correlation between reflectance and leaf thickness showed significantly positive relationship in two visible light regions of 350-369 nm...
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【第一作者】隋学艳
【通讯作者】李少昆
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【学科分类】植物保护学

【题目】小麦籽粒蛋白质含量遥感监测研究进展
【中文关键词】小麦; 遥感; 监测; 籽粒蛋白质;
【英文关键词】wheat; remote sensing; monitoring; grain protein content;
【中文摘要】遥感是实现农田作物快速、无损监测的重要手段,利用遥感技术在小麦生长的中后期对籽粒蛋白质含量进行预测对于指导小麦后期氮素调控、实现分类收获和按质收购具有重要意义。该文概述了小麦籽粒蛋白质含量检测方法的发展过程,对国内外运用遥感技术监测小麦籽粒蛋白质含量提出的敏感波段、光谱特征参量、反演模型及分析方法进行了

综述,通过分析研究中存在的问题,明确了今后在利用遥感技术监测小麦籽粒蛋白质含量方面应重点解决的问题,并展望了该技术的发展前景。

【英文摘要】Remote sensing technology is an important method that is able to monitor farmland crop quickly and non-destructively.Wheat grain protein content can be predicted at the later growth stages using remote sensing technology and it is a valid path for accurately predicting yield and quality of wheat.In this paper,the evolution method for predicting protein content of wheat is presented first followed by a brief introduction to the wavelengths,spectral parameters,analytical approaches and monitoring directions o..

【语种】中文

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【学科分类】植物保护学

【题目】The Inhibiting Effect of 1・4 Recombinant P Chromosome of Wheat- Agropyron cristatum Addition Line on the Ph Gene

【中文关键词】小麦-冰草附加系 P染色体 Ph基因 部分同源染色体联会

【英文关键词】wheat-Agropyron cristatum addition line, P chromosome, Ph gene, homoeologous chromosome synapsis

【中文摘要】冰草属(Agropyron Gaertn)的P组染色体被推测可能携带有抑制小麦Ph基因的遗传系统, 但是相关的研究很少. 本文研究发现在小麦-冰草附加系Ⅱ-21-2(附加1・4重组P染色体)的减数分裂中存在染色体联会异常的现象. 对该附加系进行细胞遗传学和Ph1基因扩增等分析与检测, 结果表明附加系Ⅱ-21-2的Ph1基因扩增正常, 未见缺失;小麦-冰草附加系Ⅱ-21-2减数分裂中期每个花粉母细胞出现六价体或四价体的数目分别为0.41和0.13,而附加系受体小麦Fukuho减数分裂无染色体异常联会. 双色GISH/FISH检测表明, 附加系Ⅱ-21-2的P染色体不直接参与多价体的组成, 多价体为小麦自身染色体构成. 附加系Ⅱ-21-2的1・4重组P染色体能够抑制小麦Ph基因的作用, 从而引起小麦部分同源染色体之间的联会, 并造成包括小麦3B-3D等部分同源染色体之间的易位. 小麦-冰草附加系的P染色体促进小麦部分同源染色体联会的作用或特性在未来小麦的遗传改良中具有潜在应用价值.

【英文摘要】P chromosomes may carry a genetic system that inhibits the Ph gene in wheat. Abnormal chromosome synapsis in wheat-Agro-pyron cristatum addition line II-21-2 (additional 1・4 recombinant P chromosome) was observed in this study. The results of cyto-genetics and Ph1 gene amplification showed that the Ph1 gene was normal and the average number ofquadrivalents or hexava-lents was determined to be 0.41 and 0.13, respectively, in pollen-mother cells of wheat-Agropyron cristatum addition line II-21-2. The analysis of dual-color GISH/FISH showed that the P chromosomes were not directly involved in the composition of multiva-lents but could inhibit the effect of the Ph gene, leading to synapsis of wheat homoeologouschromosomes and translocation be-tween wheat homoeologous chromosomes such as 3B-3D chromosomes. The characteristic of P chromosomes ’ promoting synap-sis of wheat homoeologous chromosomes may have potential application in the genetic improvement of wheat.

【语种】英文

【第一作者】杨国辉

【通讯作者】刘伟华

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【学科分类】农业基础学科

【题目】小麦-冰草多粒新种质及其多粒性遗传分析

【中文关键词】小麦-冰草多粒新种质3228;穗粒数;遗传分析;有效利用

【英文关键词】common wheat-Agropyron germplasm 3228; kernels per spike; inheritance analysis; effective utility

【中文摘要】【目的】探讨小麦-冰草多粒新种质 3228 多粒特性(>90 粒/穗)的遗传及其利用价值。【方法】将该材料在5个不同小麦种植区进行种植,以评价该材料多粒特性的稳定性;采用主基因+多基因混合遗传模型分析方法对小麦-冰草多粒新种质3228(♀)×京4839(♂)的F2单株表型进行遗传分析。【结果】小麦-冰草多粒新种质3228多粒特性在不同环境下

表现稳定,其穗粒数均大于90;小麦-冰草异源新种质3228与京4839(41粒左右/穗)F2 群体遗传分析表明,多粒特性主要受1对主效基因控制,主基因的遗传率为27.81%,其加性效应是9.33;此外,在F2 群体中,78.11%的单株穗粒数都高于京4839,表明3228中的多粒基因具有一定的显性效应。【结论】小麦-冰草多粒新种质 3228 多粒特性具有较好的环境稳定性,其在遗传上主要受 1 对主基因控制,有望利用该多粒基因通过提高穗粒数实现小麦高产育种。

【英文摘要】【Objective】 This research was conducted to study the utility value and the inheritance of the kernels per spike in the novel wheat-Agropyron germplasm 3228. 【Method】 A field experiment in five wheat regions was designed to explore the stability of kernels per spike of wheat-Agropyron germplasm 3228. Inheritance analysis of the F2 population derived from the cross between 3228 and Jing4839 was carried out using mixed major gene plus polygenes inheritance model of quantitative traits. 【Result】 Results of field experiment showed that the kernels per spike of 3228 were more 90 and has the desirable stability in different planting regions. The analysis result of the F2 population in which the 78.11% individual plants have more kernels per spike than Jing4839 indicated that the kernels per spike of the 3228 was mainly controlled by one major gene, the heritability value and the additive effect of the major gene were estimated as 27.81% and 9.33, respectively【Conclusion】 The large kernels number per spike of 3228, which mainly controlled by one major gene, has the better environmental stability, which suggested that the kernel gene would play an important role in improving wheat yield through increasing the kernels per spike.

【语种】中文

【第一作者】王健胜

【通讯作者】李立会

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【学科分类】农业基础学科

【题目】小麦-冰草衍生系3228主要产量性状的遗传分析

【中文关键词】小麦-冰草衍生系3228,多粒,产量性状,遗传分析,可利用性

【英文关键词】Wheat- Agropyon cristatum derivative 3228,Much grains,Yield traits,Inheritance,Utility value

【中文摘要】为了探讨小麦-冰草(Agropyron cristatum)衍生系3228的多粒(66~82粒/穗)特性在育种中的可利用性,本研究以3228与黄淮冬麦区5个主栽品种进行杂交,并将其杂种F1分别种植于北京、陕西和四川,采用MINQUE(1)统计方法及AD模型对主要产量性状进行了遗传分析。在研究的6个产量性状中,均存在极显著的加性方差比率,普通广义遗传率在产量性状的遗传中所占比例较大,所有性状的遗传均存在加性和环境的互作。特别值得指出的是,3228在穗粒数方面具有极显著的加性和显性效应,在穗长、小穗数方面也具有极显著的加性效应,说明利用该种质对于提高小麦的穗粒数具有重要作用。

【英文摘要】In order to explore the utility value of the much grain per spike of the wheat-Agropyon cristatum derivatives 3228 in wheat breeding,3228 and its hybrids F1 derived from the crossing between 3228 and one of the five main cultivars from Huanghuai winter wheat area were planted in Beijing Shaanxi and Sichuan, respectively.The main yield traits of the parents and their F1 were analyzed for ther dominant and additive effects by MINQUE(1) approaches and AD models.The results indicated that the main yield traits had high significance in the additive variance ratio,and ordinary broad sense heritability accounted for the large proportion of the yield traits inheritance.Meanwhile,the effects of all the yield traits were interacted by environment.On the emphasis,Grains per spike length and spikelets number in additive effect,which suggested 3228 would play an important role in increasing grains number per spike in the wheat yield traits improvement.

【语种】中文

【第一作者】王健胜

【通讯作者】李立会

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【学科分类】农业基础学科

【题目】Cloning and characterization of repetitive sequences and development of SCAR markers specific for the P genome of Agropyron cristatum

【中文关键词】重复序列,RAPD,SCAR,冰草属,小麦
【英文关键词】Repetitive sequences , RAPD , SCAR ,Agropyron Gaertn , Wheat
【中文摘要】在之前的研究中,我们利用远缘杂交的方法将冰草P基因组成功转移到小麦中。在本研究中,我们克隆了重复序列并用来开发冰草P基因组特异的分子标记。利用随机扩增多态性鉴定并获得了3个P基因组特异标记,分别命名为OPX07-1036, OPX11-817和OPC05-1539。这三个标记能够在所有含有冰草染色质的测试材料中成功扩增,例如冰草和小麦-冰草附加系。这些RAPD标记被转换成SCAR标记,用来检测小麦背景中的冰草染色质。用标记DNA做探针进行原位杂交结果发现他们分布在冰草染色体的所有臂上,因此它们可用于小麦背景中P基因组渗入的研究中。
【英文摘要】In previous studies, we successfully transferred the P genome of Agropyron cristatum intowheat using wide hybridization methods. In the current investigation, repetitive sequences were clonedand DNA markers speciWc for the P genome of A.cristatum were developed. Three P genome-speciWc markers, designated OPX07-1036, OPX11-817 and OPC05-1539, were identiWed and isolated using ran- dom ampliWed polymorphic DNAs. The three markers were successfully ampliWed in all tested materials that contained Agropyron chromatin, such as Agropyron itself and wheat-Agropyron addition lines. These RAPD markers were converted into SCAR markers tobe used in detection of P genome chromatin in wheat.In situ probing with Xuorescent-labeled marker DNA has shown that they are distributed in all arms of Agropyron hence they will be useful in a variety of studies on introgressions of the P-genome chromatin into wheat.
【语种】英文
【第一作者】吴嫚
【通讯作者】李立会
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【学科分类】农业基础学科

【题目】法国小麦种植资源的特点与诱变利用
【中文关键词】法国小麦;种质资源;诱变利用
【英文关键词】无
【中文摘要】自法国引进数百份小麦种质资源,并对其进行了观察和研究,同时对特殊材料进行诱变处理,由此得到一大批优异突变体。本文阐述了法国小麦种质资源的特点、诱变利用的方法和育种经验,以期对山东小麦育种做出贡献。
【英文摘要】无
【语种】中文
【第一作者】李新华
【通讯作者】李新华
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【学科分类】农业基础学科

【题目】不同仪器品质指标与面包烘焙品质关系研究
【中文关键词】小麦; 面团流变学特性; 分析方法; 烘焙品质;
【英文关键词】wheat; dough rheological character; analysis method; baking quality;
【中文摘要】利用面筋仪、粉质仪、吹泡仪及揉面仪测定了30个不同筋力小麦品种的面团流变学特性,并分析了各仪器品质指标间及其与面包烘焙品质的相关性。结果表明,大多数品质指标之间存在显著的相关性,并与面包烘焙品质存在极显著的相关性。进一步的因子分析和逐步回归分析表明,揉面仪的和面时间、面筋仪的湿面筋指数、粉质仪的弱化度、吹泡仪的韧性等是单一仪器反映面包烘焙品质的重要指标;而和面时间、峰积分(或8分钟积分)、湿面筋含量、弱化度、曲线形状等则可作为多种仪器反映面包烘焙品质的综合评判指标。各种仪器通过检测面团流变学特性反映面包烘焙品质的适合程度依次为揉面仪、面筋仪、粉质仪、吹泡仪。
【英文摘要】The dough rheological parameters of 30 common wheat varieties or lines with different gluten strength were determined by Glutomatic,Farinograph,Mixograph and Alveograph,and the relations between the obtained parameters and bread baking quality

were analyzed.Results: There exist significant correlations among majorities of the quality characters,while these characters have extremely significant correlation with bread quality.Factor analysis and gradual regression analysis indicate that four instrument parame...
【语种】中文
【第一作者】王美芳
【通讯作者】雷振生
【期刊名称、卷期、页码】中国粮油学报,2009,24(10):6-11
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【题目】植物诱发突变技术育种研究现状与展望
【中文关键词】作物改良;诱变技术;突变品种;突变基因资源;DNA 技术;粮食安全
【英文关键词】crop improvement ;induced mutation ;mutant variety ;mutant gremplasm;DNA technology ; food security
【中文摘要】自1928 年以来,诱发突变技术应用于农作物新材料创制和优良新品种培育,在解决世界粮食安全与营养供给中发挥了显著作用。据不完全统计,截至2009 年9 月,世界上60 多个国家在170 多种植物上利用诱发突变技术育成和推广了3088 个突变品种,其中中国在45 种植物上育成了802 个突变品种,超过目前国际诱变育成品种数据库中总数的四分之一而位居世界第一。中国育成的突变品种年最大种植面积900 万hm2 ,每年为国家增产粮、棉、油10~15 亿kg ,社会经济效益超过20 亿元。近年来,加速器离子束辐照、空间环境诱变等新型诱变手段,以及传统核辐射诱变技术的有效利用,在我国农作物诱变改良与新基因挖掘中的应用日趋活跃。植物基因组学和高通量DNA 技术(如TILLING等) 的发展将把传统诱变育种推向分子突变育种新时代,并将在支撑我国及世界粮食安全领域发挥更大作用。
【英文摘要】Since 1928 , induced mutations have played a significant role in solving world food and nutritional security problems through mutant germplasm enhancement and new mutant variety development . According to incomplete statistics , up to September 2009 , induced mutations have officially released 3088 mutant cultivars in more than 170 crop species by more than60 countries in the world. China tanks the first in the world , which has have released 802 mutant cultivars in 45 crop species ,and takes more than a quarter of the total number of mutant varieties in the FAOPIAEA database. The maximum annually accumulated planting area of the mutant varieties was 9 million hectares , with an additional increase of 115 billion kilograms to national output of grain , cotton , oil , being converted to social and economic benefits of more than 2 billion RMB. The recent development and application of accelerator ion beam irradiation , the spaceflight environment and the other new mutation means , as well as the effective use of traditional radiation mutagenesis are becoming more active in crop improvement and new gene discovery. The adven of plant genomics and high throughput DNA techniques , such as TILLING, have opened a new era of molecular mutation breeding , which will overcome the limitations of conventional mutation breeding and play a significantrole in solving China and world food security.
【语种】中文
【第一作者】刘录祥
【通讯作者】刘录祥
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【题目】小麦TaKu70 和TaKu80 基因的克隆和分析
【中文关键词】小麦(Triticum aestivum L.) ;Ku 蛋白;基因克隆; TaKu70 ; TaKu80
【英文关键词】wheat (Triticum aestivum L.) ; Ku protein ; gene cloning ; TaKu70 ; TaKu80
【中文摘要】Ku 蛋白与动植物细胞DNA 损伤修复和辐射敏感性有着密切联系,其功能及表达正常与否,关系到细胞DNA 双链断裂(DSBs) 的修复能力。为研究Ku 蛋白在小麦DNA 损伤修复和对辐射敏感性中的作用,本实验室克隆了完整的小麦Ku70 和Ku80 cDNA 序列,分别命名为TaKu70 和TaKu80。小麦TaKu70 和TaKu80 分别编码626 个和706 个氨基酸残基的Ku70PKu80 蛋白序列。多重序列分析表明小麦Ku70 蛋白与水稻Ku70 和拟南芥Ku70 蛋白的同源性分别为94 %和78 %;小麦Ku80 蛋白与水稻Ku80和拟南芥Ku80 蛋白的同源性分别为85 %和69 %。结构域和功能分析表明小麦Ku70PKu80 蛋白含有

Ku蛋白的核心组分———Ku70PKu80 - core 结构域,以及只有真核生物Ku 蛋白才有的vWA 结构域。
【英文摘要】Ku protein participates in DNA damage repair and responses to irradiation in both animal and plant cells. Its function and expression closely related to the ability of DSBs repair of cells. To study the Ku protein in wheat , we cloned the complete cDNA sequence of wheat Ku70 and Ku80 , named TaKu70 and TaKu80 , respectively. TaKu70PTaKu80 codes wheat Ku70PKu80 protein , with 626 and 706 amino acid residues , respectively. Multiple sequence analysis showed that the protein amino acid sequences that were coded by wheat TaKu70 had 94 % and 78 % homology with Ku70 protein in rice and Arabidopsis respectively ; The protein amino acid sequences that were coded by wheat TaKu80 had 85 % and 69 % homology with Ku80 protein in rice and Arabidopsis respectively. Domain and functional analysis showed that the wheat Ku protein contained the core component2Ku70PKu802core domain , and the vWA domain , which was only exist in the eukaryotic cell .
【语种】中文
【第一作者】朱彩霞
【通讯作者】刘录祥
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【题目】陕农138小孢子不同发育时期蛋白质差异的比较分析
【中文关键词】小麦;蛋白质;小孢子发育时期;SDS-PAGE电泳;代谢机理
【英文关键词】Wheat; Protein; Microspore development; SDS-PAGE electrophoresis; Metabolic pathway
【中文摘要】为了探索小麦花药发育过程中的蛋白质代谢机理,利用SDS-PAGE电泳对陕农138花药单核早期、单核中晚期和双核期小孢子的全蛋白电泳谱带进行了分析。结果表明,双核期同时出现2条明显的条带或表达丰度大的条带,其分子量分别为50.7、48.2 kD,而这两个条带分别在单核早期和单核中晚期单独出现,认为通过电泳所获得的这些差异蛋白很可能直接或间接参与小孢子发育过程中某些关键的代谢途径;单核中晚期是小麦花药培养中出愈率最高的时期,这些差异蛋白又很可能与小麦花药培养力的表达调控和代谢机理有关。
【英文摘要】Most research demonstrated that the mid and late uninucleate pollen period was the best time to conduct wheat anther culture. To explore the cause of high induced rate and the mechanism of protein metabolism during anther development, this study analyzed the total protein bands at the early uninucleate pollen period, mid and late unimucleate pollen period and binucleate pollen period of microspore development by SDS-PAGE electrophoresis with Shannong 138 as the material. The result indicated that two protein bands appeared at the binucleate pollen period of the microspore development, with molecular weight of 50.7 kD, 48.2 kD, but these two bands appeared alone at the early and mid-late uninucleate pollen period, respectively. The specific composition of protein bands could be used as biochemical marker not only to identify the different stages of microspore development, but also to select the attribute of high induced rate of anther culture. The discriminative proteins obtained through one-dimensional electrophoresis were likely to involve in some key metabolic pathway in the process of microspore development directly or indirectly. Furthermore, given that the mid and late uninucleate pollen period was the best stage to study anther culture in wheat, these distinct protein may relate to regulate the expression and metabolism of anther culture.
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【第一作者】杨华瑞
【通讯作者】王成社
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【题目】小麦高分子量麦谷蛋白亚基突变体的筛选与鉴定
【中文关键词】小麦; 航天诱变; 谷蛋白; 突变体
【英文关键词】wheat; space mutation; glutenin; mutant

【中文摘要】本研究对小麦品种白硬冬2 号航天搭载SP2 代单株籽粒的高分子量麦谷蛋白亚基(HMW GS) 组成进行了SDS PAGE 电泳分析, 在92 株材料中发现了2 个突变体mut1 和mut2, 突变频率为2. 17%, 并利用醇溶蛋白电泳验证了航天诱变引发HMW GS 变异的真实性。在突变体mut1 中发现了4 种HMW GS组成突变类型, 突变发生在Glu 1B 和Glu 1D 位点。突变亚基是由航天诱变引发相关编码基因突变形成的, 它们的电泳迁移率发生了明显变化, 为新的亚基类型。本研究表明, 航天诱变能够诱导产生新的HMW GS, 是丰富HMW GS 基因资源的有效途径。

【英文摘要】The variation and compositions of high molecular weight glutenin subunits (HMW GS) in the SP2 of space loaded Baiyingdong 2 were analyzed by SDS PAGE techniques. 2 mutants (mut1 and mut2) of HMW GS were screened out, the variation frequency was 2 17% . Using gliadin protein electrophoresis proved the HMW GS mutants were induced by space flight mutation. 4 kinds of HMW GS compositions were found in mut1 seeds, and the mutations occurred in Glu 1B and Glu 1D sites. The mutated subunits resulted from the coding genes mutations which were induced by space flight , their electrophoret ic mobility changed significantly, these mutated subunits were new glutenin subunits. The results of this study showed that space flight mutation could create new HMW GS, and space flight mutation was an effective method for enriching the HMW GS gene resource.

【语种】中文

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【题目】不同节水施肥处理对国审富麦2008产量及品质的影响

【中文关键词】富麦2008;灌水;施肥; 产量;品质

【英文关键词】Fumai 2008; Irrigation; Fertilization; Yield; Quality

【中文摘要】以国审富麦2008为试材,研究了不同灌水和施肥处理对该小麦品种产量和主要品质性状的影响。结果表明,灌水5次的产量显著高于灌水2次,但与灌水3次差异不显著,湿面筋、沉降值含量以灌水2次最高,比较灌水5次(CK) ,灌水2次增收681. 45元/hm2 ;底施和追施比例3∶7为宜,全生育期施氮量300和225 kg/hm2 的籽粒产量显著高于150 kg/hm2 处理;全生育期施磷量135、160 kg/hm2 的籽粒产量差异不显著,显著高于100 kg/hm2 处理;随钾肥用量增加,该品种产量呈先上升后下降趋势;增施磷、钾肥有改良品质性状趋势,但效果不显著。在该试验条件下,综合考虑产量、品质和经济效益,以灌水2次,施氮量225 kg/hm2 ,底施和追施比例为3∶7,磷肥135kg/hm2 ,钾肥75 kg/hm2 的处理为宜。

【英文摘要】With Fumai 2008 as testmaterials, the effects of different treatments ofwater2saving and fertilizer on yield and main quality characters of Fumai 2008 were studied. The results showed that the yield of the treatment of irrigation 5 timeswas significantly higher than that of irrigation 2 times, and had no obvious difference with treatment of irrigation 3 times, there had the highest contents ofWet gluten and Sedimentation value with irrigation 2 times, the purely income of treatment of irrigation 2 times increased 681. 45 yuan /hm2 than that of CK; the grain yield was the highest in the treatment of p roportion of base fertilizer to top dressing was 7∶3, the yield of treatments of app lied Nitrogen 300,225 kg/hm2 was significantly higher than that of 150 kg/hm2 ; there had no obvious difference of yield in the treatments of 135, 160 kg/hm2 ,but significantly higher than that of 100 kg/hm2 ; the yield showed increasing trend by increased use of Potassium app lication; It can imp roved the quality characters of Fumai 2008 by increasing Phosphorus and Potassium, but had no obvious effect. In the test condition, irrigation 2 times, Nitrogen app lication 3∶7, 225 kg/hm2 Nitrogen, 135 kg/hm2 Phosphorus and 75 kg/hm2 Potassium app lication was the best for grain yield.

【语种】中文

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【题目】春小麦空间诱变SP2代SSR标记变异分析
【中文关键词】空间诱变;春小麦;SSR 分子标记
【英文关键词】rice ;new mat rix disk seedling ;yield ;quality
【中文摘要】为了考察空间搭载对小麦的诱变效果,以实践八号育种卫星搭载的小麦品系为试材,对SP2 的DNA 分子标记突变频率进行分析。结果表明:12 对SSR 引物共扩增出3 种突变类型:扩增片段增多、扩增片段减少和扩增片段长度有差异。出现的单一突变类型居多,在同一品系的个体上同时出现多类型突变的情况很少。突变频率在供试的品系之间以及SSR 染色体位点都存在差异。该研究又以7 个EST2SSR 标记对上述SP2个体的扩增结果显示,与一般的SSR 位点相比,EST2SSR 标记检测到的突变类型单一,仅有“扩增片段增多”一种类型,且突变频率普遍较低,大部分基因位点无突变发生。表明空间搭载对小麦基因组产生的诱变主要发生在重复序列区,基因表达区相对较少。
【英文摘要】Comparison of new mat rix (rice husk) disk seedling (NMDS) and conventional soil seedling (cont rol)was investigated by using of Longjing 18 in Xinhe village in Qiqihar city. The result s showed that the seedlingquality was better in NMDS than that of the cont rol ,especially rooting capacity ,which could promote seedlinggrowth af ter t ransplanting1Otherwise ,yield in NMDS was slightly higher than that of the cont rol ;quality t rait sin NMDS were slightly bet ter than that of the cont rol1 Therefore ,NMDS was better than soil seedling , andcould replace soil seedling for rice cultivation as a new seedling technology1
【语种】中文
【第一作者】郭怡
【通讯作者】郭怡
【期刊名称、卷期、页码】黑龙江农业科学,2010(7):9-12
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【题目】河南省航天诱变育种现状与展望
【中文关键词】作物; 空间诱变; 航天育种
【英文关键词】无
【中文摘要】在简要概述国内外植物空间诱变研究的基础上,综述了航天诱变育种在河南省作物新品种、特异优良种质材料的创新中取得的成就,并分析了河南省航天诱变育种技术在植物育种中的应用现状及存在问题,对未来植物航天诱变育种的应用前景进行了展望。
【英文摘要】无
【语种】中文
【第一作者】张建伟
【通讯作者】张建伟
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【题目】小麦航天诱变矮秆突变系SP3株穗数性状观察及分析
【中文关键词】航天诱变; 邯6172; SP3; 株穗数; 选育
【英文关键词】spacemutagenesis; han 6172; SP3; heads per p lan;t se lect ion
【中文摘要】以我国首颗航天育种专用卫星/ 实践八号(2006) 0搭载的冬小麦邯6172为材料并以原始亲本为对照, 对SP3 选育出6个矮秆突变系株穗数进行观察发现: (1)株高与株穗数两性状独立遗传, 通过航天诱变可对株高、株穗数二性状同时进行改良。(2)株穗数变异是双向的, 其幅度为- 36. 95% ~ 12. 06%, 方差分析达0. 01极显著水平。(3)株穗数显著高于对照的变异系比例较低, 占观察群体的16. 67%, 其余变异系株穗数等于或低于对照, 分别占33. 33%的比例。(4)SP3 株穗数性状稳定株系比例为16. 67%, 并被统计分析证实, 其余株系仍在分离。(5) 在以株穗数为目的航天诱变后代选育中, SP3 代要注重田间性状观察, 依不同变异群体性状表现, 可分别采取以株系为单位混合收获和以单株收获的选育方法。

【英文摘要】W ith from H an 6172 space rad iat ion (Sate llite S'h-i Jian No. 8, 2006) as materia,l and used it. s origina l parent as ck to study the head perplant o f 6 dw arrf mutant lines. The resu lt showed: (1) Plant height (PH) and HPP w ere two independent inherited tra its and there w as no relationsh ip betw een tw o tra its. Both cou ld be improved simultaneously. (2)Mutation effect w as two-w ay variance and it w as ranged from - 36.95% to 12. 06% compared w ith ck. V ariance ana lysis (VA) w as all extrem significan.t (3) It w as recorded that ratio o f posit ive variance line w as on ly 16. 67%, others w ere either equal o r low er than ck accounted 33.33%, respectively. (4) 16. 67% stab led one w as perfo rmed un iform in f iled and con firmed by VA in SP3, the others rema ined segregating fo r th is tra i.t (5) Based on the aim o fHPP se lect ion in SP breed ing program much attention shou ld be pa id on its performance in field, methods of popu lation harvesting and sing le plan t harvesting cou ld be adopted ind iv idua lly according to it. s pheno typ ic expression in SP3 generation.
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【通讯作者】李慧敏
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【题目】小麦航天诱变矮秆突变系SP3株高性状观察及分析
【中文关键词】小麦; 航天诱变; 邯6172; 矮秆突变; 性状表现
【英文关键词】Wheat; Space mutat ion; H an 6172; Dwarfmutation; Character expression
【中文摘要】从航天育种专用卫星　实践八号　搭载的冬小麦邯6172诱变SP2 代群体中筛选出6个矮秆突变株, 对各SP3 株系株高进行观察。结果表明: 矮秆突变性状在SP3 能充分表达, 6 个突变株系株高范围在51　25 ~61　54 cm, 较原始亲本降低了5　43~ 15　72 cm, 降低幅度为8　11% ~ 23　47%。方差分析各矮秆突变系与原始亲本的株高差异, 结果显示均达极显著水平。SP3 株高性状稳定株系比例较低, 只有6172SP矮3株系内株高差异不显著, 占观察突变系总数的16　67%, 其余突变株系株高仍在分离。在以改良株高为目标的小麦航天诱变后代选育中, SP3 代要注重田间性状观察, 依不同变异群体性状表现, 可分别采取以株系为单位混合收获和以单株收获的选育方法。
【英文摘要】S ix dwarfwheatmutant lineswere derived from SP2 ofwheat varietyH an 6172 which was boarded on the space breeding sate llite Shijian No　8, and the plant height of SP3 was observed　The results showed that them utated dw arfing trait perform ed well in SP3　The plant height of six mutant lines was ranged from 51　25 cm to 61　54 cm, which reduced 5　43- 15　72 cm, and reduced by 8　11% - 23　47% than orig inal parents　There was a very significant d ifference in plant height betw een mutant lines and orig inal parents　T he proportion of stablemutated dwarf line was low (16　67%),only 6172 SP A i3 perform ed uniform, while the plant height of otherm utant linesw as segregat ing　The observat ion of field characters should be paid attention to　According to the character expression of d ifferent mutation groups, the reedingm ethods of population harvesting and single plant harvesting should be used.
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【第一作者】李慧敏
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【题目】小麦空间环境与60Co-γ辐射诱变效应的比较研究
【中文关键词】小麦;诱变育种;空间环境诱变; 60Co2γ辐射诱变;诱变效应
【英文关键词】Wheat;Mutation breeding; Space environment; 60Co2γ irradiation;Mutagenic effects
【中文摘要】以12份小麦品种(系)为材料,分别经“实践八号”返回式卫星空间环境诱变和200 Gy 60Co2γ辐射诱变处理,以未经任何处理的相同材料为对照,研究了以上两种诱变方式对小麦的诱变效应。结果表明: ①空间环境诱变对所有参试材料在诱变方向和突变体类型上表现出多样性; 60Co2γ辐射诱变则对某些基因型的小麦材料表现出诱变方向上的倾斜。

②空间环境诱变对诱变当代植株的生理抑制小于常规剂量的60Co2γ辐射诱变,获得稳定株系所需的世代数低于60Co2γ辐射诱变;就小麦而言,空间环境诱变获得的诱变率低于60Co2γ辐射诱变,但有益突变所占比例相对较高,有利于小麦突变体材料及品种的选育。③能够通过不同材料对60Co2γ辐射诱变的相对敏感性和突变频率来预测空间环境诱变的相对敏感性和突变频率,可选择地面上表现为高敏感的材料做空间环境诱变之用,可能获得较好的诱变效果。本研究结果对于开展小麦航天育种实践工作具有一定的指导意义。

【英文摘要】In order to compare the mutagenic difference between space environment and 60Co-γ irradiation, 12 accessions of wheat varieties (lines) were treated with space environment by space flight ‘ ShiJ ian No. 8 ’ and 60Co-γ ray irradiation. Then the first and second genera-tions of treatmentswere p lanted and observed on agronomic characters. The results showed: (i)Mutational direction and types in all ofmate- rials in space environment treatment were diversified; 60Co-γ irradiation could induce a partial mutational direction in some special genotypes. (ii) The physiological damage of space environmentwas less than that of 60Co-γ irradiation, so itwould take less generations to make the p rogenies stable. Although the mutational frequency of space environmentwas lower than that of 60Co-γ irradiation, the usefulmutation obtained from space environmentwas relativelymore than that from 60Co-γ irradiation, making it easier to obtain idealwheatmutants or cultivars. (iii) Some materials sensitive to 60Co-γ irradiation could be selected and used for space breeding. The results in the p resent study could p rovide useful information forwheat space breeding in the future.

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【题目】实践八号卫星飞行环境中不同因素对小麦的诱变效应
【中文关键词】小麦; 空间飞行; 宇宙射线; 微重力; 生物损伤; 诱变效应
【英文关键词】Wheat; Spaceflight; Cosmic rays; Microgravity; Biological damage; Mutagenic effect
【中文摘要】以实践八号育种卫星1×g 离心机、铅屏蔽室和卫星舱内同时搭载处理的3个小麦品种为材料, 分别分析同一飞行环境下空间辐射、空间微重力和空间综合环境作用对小麦的损伤特点, 比较研究其对小麦品种的诱变效应。结果表明, 空间综合因素处理抑制了小麦轮选987 和新麦18 当代(SP1 代)的苗期生长, 而对周麦18 没有显著影响, 空间辐射单因素处理只对轮选987 有显著的抑制作用, 而空间微重力对3 个品种的抑制作用都不显著; 成熟后3 种处理对各农艺性状的影响都不存在显著差异。3个小麦品种SP2 代均出现株高、穗长、千粒重等多种表型性状突变; 轮选987 和新麦18 都表现空间综合环境因素诱发的突变频率高于其他2 个单一因素, 而空间微重力的突变效应最小。在新麦18 空间综合因素处理的群体中, 还发现了叶片条纹状白化突变体(0.48%)并可以遗传到后代。上述结果证实, 在空间条件下宇宙射线和微重力的共同作用具有累加的效应, 宇宙射线是产生变异的主要因素, 空间微重力的单独作用也可以导致变异的产生。

【英文摘要】Space environment mainly consisted of cosmic rays and microgravity is a kind of complicated mutagen, and has been used for plant mutation induction and breeding. In the recoverable satellite Shijian-8 that was launched for breeding purpose on September 9, 2006, seeds of three wheat (Triticum aestivum L.) cultivars, Lunxuan 987, Xinmai 18, and Zhoumai 18, were loaded.In the 1×g centrifuge, 300 seeds of each variety were treated with space cosmic rays (CR-E), and in the lead screen container and the satellite capsule, 500 seeds of each cultivar were treated with microgravity (Mg-E) and comprehensive factors of space environment(SPc-E), respectively. The treated seeds were germinated at room temperature and transplanted in the field after vernalization,the inhibition effects of the three treatments were evaluated and the mutagenic effects on wheat were compared. In the SPc-E treatment, growth of seedlings was significantly inhabited in the first generation (SP1) of Lunxuan 987 and Xinmai 18,whereas no significant effect was observed in the seedling growth of Zhoumai 18. In the CR-E treatment, only the growth of Lunxuan 987 seedlings was significantly inhibited. The Mg-E treatment had no significant effect on seedling growth in all the three cultivars. No significant variations were detected in main agronomic traits in the SP1 generation. In the SP2 generation, there were obvious mutations in phenotypes of the three cultivars, such as plant height, spike length, and thousand-grain weight. In Lunxuan 987 and Xinmai 18, the highest mutation frequency was observed in the SPc-E treatment, followed by the CR-E reatment,and the lowest mutation frequency in the Mg-E treatment. A novel inheritable mutant of striated-albino leaf, with the frequency of 0.48%, appeared in the SP2 population of Xinmai 18 under the SPc-E condition. Among the three treatments, comprehensive factors of space environment induced the most frequent mutations of wheat, indicating the synergistic effect between cosmic rays and microgravity, while the single effect of microgravity was much lower

than that of cosmic rays.
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【题目】高能混合粒子场辐照小麦的突变效应分析
【中文关键词】小麦;高能混合粒子场;60Co—Y射线; 突变体;突变频率
【英文关键词】Winter wheat(Triticum aestivum L.);Mixed particle field;Gamma rays;Mutants;Mutation frequency
【中文摘要】【目的】分析高能混合粒子场(CR)辐照冬小麦所产生的突变效应,并与 Co—Y射线处理相比较,研究其诱变效率。【方法】以0、14 5、195、284和56 0 Gy剂量的cR和y射线分别处理两个冬小麦品种ZY9和ZH7,室内发芽鉴定处理当代的损伤效应,田间筛选表型变异突变体并做考种分析。【结果】高能混合粒子场与y射线处理对这两个小麦品种的生长抑制均存在明显的剂量效应,并且高能混合粒子场处理的损伤效应明显高于y射线,ZH7的辐射敏感性大干ZY9,处理小麦的适宜剂量在2OO~300 Gy之问。M 代群体中出现了包括株高、穗型、生育期等多种性状变异,在适宜或稍高剂量时可以J起明显高于y射线处理的有益突变。cR诱变ZY9的总突变频率和有益突变频率分别为5.42%~11.68%和2.75%~7.29%,ZH7则分别达到1 0.35%~22.1 2%和6.62%~1 0.49%,均高于y射线处理频率。【结论l高能混合粒子场处理小麦能够产生比y射线更高的相对生物学效应,而且辐射敏感性较高的品种,经处理后其后代诱发有益突变的频率较高,获得优良变异的几率也相对较高。
【英文摘要】【Objective】Analyze the mutagenic efects and frequency of mixed particle field with high energy(CR)irradiation on winter wheat and compare with that of Co v ray iradiation. 【Method]Air-dried seeds of winter wheat cultivars ZY9 and ZH7 were used and iradiated using CR and 7-rays at the dosages of 0,145,195,284 and 560 Gy,respectively.The iradiated seeds weregerminated in the laboratory,and mutants from M,generation were screened and analyzed. 【Resultl There was an obvious linear dose—effect relationship on inhibiting plant growth of these two genotypes,the damage effect of CR was higher than that of gamma rays,and the cultivar ZH7 was more sensitive than ZY9.The optimal range of iradiation doses of CR for wheat was from 200 to 300 Gy.CR—induced phenotypic mutations in M2 populations included plant height,spike type and heading date,etc.The useful mutation frequency at the optimum or higher dosage was higher than that of gamma rays iradiation.The total mutation frequency and useful mutation frequency of CR treatment for ZY9 was 5.42%一l 1.68% an d 2.75%一7.29%.for ZH7 was 1 0.35%一22.1 2% and 6.62%一l 0.49%,respectively,which were higher than that of gamma rays. [Conclusion l These results revealed that the higher relative biological efect of CR treatment could be induced as compared with that of gamma rays.The more sensitive the variety was,the higher useful mutation frequency and the more probability of screening improved genotypes would be.
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【题目】高能混合粒子场诱发的小麦矮杆突变体的SSR分析
【中文关键词】小麦;混合粒子场;7射线辐照;矮杆突变体;SSR
【英文关键词】wheat;mixed particle field(CR);7一rays iradiation;dwarf mutant;SSR
【中文摘要】为了研究高能混合粒子场(cR)和7射线两种不同处理方法诱变小麦产生的具有相同表型的突变体之间的分子差异,选用随机分布于小麦21对染色体上的114对微卫星(SSR)引物,对CR和7射线处理冬小麦品种ZY9和ZH7获得的矮杆突变体M 代进行SSR分析。结果表明,CR处理产生的蟹杆突变体的多态性位点主要分布在染色体2A、2B、2D、3D和5A上,而7射线处理产生的矮杆突变体的多态性位点主要分布在染色体2A、2B、2D、4A和5A上;与7射线处理相比,CR处理较容易

产生扩增条带的增加和扩增条带长度的差异,不易产生扩增条带的缺失。序列分析表明,CR处理产生的变异主要是碱基的置换和插入,其中碱基T为易发生突变的碱基。CR诱变能够在DNA水平上导致小麦遗传物质变异,其诱变机制不同于7射线,是一种有效的诱发突变新途径。

【英文摘要】M3 dwarf mutants derived from both mixed particle field(CR)and 7一rays irradiation in winter wheat varieties ZY9 and ZH7 were used to compare the DNA molecular diferences of two induced mutagenesis by SSR polymorphism analysis.1 14 sets of SSR markers randomly distributed over the 21 chromosomes of wheat were included.The results showed that the SSR polymorphic loci mostly distributed in chromosomes 2A,2B,2D,3D and 5A of the M3 dwarf mutants induced by CR;but in chromosomes 2A ,2B,2D,4A and 5A by 7一rays in wheat varieties ZY9 and ZH7.Compared to the 7一rays iradiation,more DNA fragments and change of molecular weight could be induced in the mutants derived from CR iradiation in ZY9 and ZH7,but less band lack was found in M3 dwarf mutants derived from CR iradiation.Sequence analysis showed that base substitution and insertion were the main mutation types induced by CR iradiation,and base T might be the hotspot base to mutation.It was concluded that CR iradiation could result in DNA variation of wheat and could be a new efective approach for crop mutatiOn breeding.

【语种】中文

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【题目】实践八号育种卫星搭载植物种子的空间辐射剂量分析

【中文关键词】实践八号卫星;空间辐射;植物种子;CR239 ;核径迹;LiF 热释光片

【英文关键词】Shijian28 satellite ; space radiation ; plant seed ; CR39 ; nuclear track ; thermoluminescence dosemeter (TLD)

【中文摘要】为了探明植物种子在空间搭载后发生一系列改变的原因,尤其是探寻空间辐射与突变发生的内在关联,设计了“ 照相定位 ”实验法,采用CR239 固体核径迹探测器来探测空间重离子,并利用空间重离子径迹与植物种子的相对位置,来确定被重离子击中的种子及其击中部位;同时用LiF 热释光片测量种子所受的较低LET 空间辐射的剂量。结果表明“ ,照相定位 ”法简便易行,经济实用,并极大地缩短镜下分析时间;最终测得空间重离子注量率为4144 个Pcm2 · d ,种子所受较低LET 空间辐射的平均剂量为4179mGy。

【英文摘要】In order to identify cause of mutagenesis of plant seeds induced by space flight , especially to ascertain the interrelation between space radiation and mutagenesis , a “ photograph location ” experimental setup was designed in this study.CR239 solid2state nuclear track detectors were used to detect space heavy particles. The plant seeds and their position hit byspace heavy ions were checked based on relative position between track and seeds in the setup. The low LET part of the spectrum was also measured by thermoluminescence dosemeter (TLD ,LiF) . The results showed that the “ photograph location ” experimental method was convenient , practicable and economical . This new method also greatly saved time for microscopical analysis. On Shijian28 satellite , the average ion flux of space heavy ions was 4144 ionsPcm2 · d and the average dosage of low LET space radiation to the plant seeds was 4. 79 mGy.

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【学科分类】农业基础学科

【题目】我国作物航天育种2O年的基本成就与展望

【中文关键词】作物;航天育种;新品种;突变种质;发展战略

【英文关键词】crop;space breeding;new variety;mutan t germplan sm;development strategy

【中文摘要】航天育种是我国科学工作者开创的农作物诱变遗传改良的一种有效新途径。经过20年的探索发展,已建立了全国航天育种研究协作网,航天育种研究工作取得了可喜的成果:在水稻、小麦、棉花、青椒、番茄、芝麻、牧草等作物上育成和审定了40多个高产、优质、多抗的农作物新品种,并开始在农业生产中发挥作用;获得了一批有可能对产量和品质等重要经济性状有突破性影响的罕见突变;航天诱变与地面模拟诱变育种技术创新取得显著进展;航天育种技术及其产品的知识产权保护与产业化、航天诱变机理探索等方面研究得到稳步推进。本文系统评述了我国航天育种20年来的基本成就,并根据当前研究和应用形势提出了发展战略。

【英文摘要】Space breeding is a novel efective approach to crop mutational improvement, which was firstly founded by the chinese scientists in 1987.A national collaborative research network has been estab lished and significant achievements have been made during the past twenty years.More than forty new mutant varieties derived from space mutagenesis in rice,wheat,cotton,sweet pepper,tomato,sesame an d alfalfa have been developed,officially released and put into production.A series of useful rare mutan t germplasms which might make a great breakthrough in crop grain yield an d/or quality improvement have been obtained.Technique innovations in space breeding and ground simulation of space environmental factors have been made good progresses.Intelleetive property right protection and industrialization of space mutation techniques an d mutan t varieties,exploration of the mechan ism of space mutation induction have also been stably advan ced. In this paper, the main achievements of crop space breeding in the past twenty years had been reviewed.The perspective development strategies of space breeding were also discussed.

【语种】中文

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【学科分类】农业基础学科

【题目】航天诱变新品种龙辐麦18 的选育

【中文关键词】航天诱变;小麦;蛋白组分;品质特性

【英文关键词】space mutation ;wheat ; protein fraction ; quality property

【中文摘要】比较了航天诱变选育的高产优质抗病新品种龙辐麦18 与亲本龙9424083 在植物学特征和主要农艺性状上的差异。结果表明,龙辐麦18 生育期较其亲本长2d ,株高高511~514cm ,产量构成因子也有不同程度的改善,较亲本增产513 %~614 % ,且差异达到显著水平。龙辐麦18 不仅保留了亲本龙9424083 的主要优良品质,而且增大了抗延阻力和面团面积。在龙辐麦18 DNA 的RAPD 分子标记检测中,60 个引物的多态率为617 % ,与其亲本在OPAQ26、OPP24、OPP22 和OPK215 4 对引物扩增产物上存在多个位点的变异;在低分子量麦谷蛋白亚基基因标记中,发现龙辐麦18 具有1 条1151bp 的特异谱带,该谱带对应的低分子量麦谷蛋白亚基为GluA3e ,这可能是龙辐麦18 较其亲本具有更大抗延阻力和面团面积的原因之一。龙辐麦18 与亲本主要特征特性的对比研究充分证明了航天诱变育种的有效性和可靠性。

【英文摘要】High yield and high quality wheat variety , Longfumai 18 was developed from wheat line Long9424083 by space mutation. There are some differences of morphological and agronomic traits between Longfumai 18 and its parent line2Long 942 4083. Longfumai 18 is two days later in maturity and 511~516cm higher in plant height , the yield of Longfumai 18 is ignificantly increased by 513 %~614 % compared with Long 9424083. On the basis of high quality level of Long 9424083 ,Longfumai 18 is much improved in the maximum resistance and area of extensogram of its dough. To study the DNA polymorphism , 60 pairs of RAPD primers were used to amplify the DNA of Longfumai 18 and Long 9424083 , 617 %of primers showed polymorphism and Longfumai 18 is different fromLong 9424083 in primer OPAQ26 ,OPP24 ,OPP22 and OPK2151 In the detection of a DNA marker for LMW2GS , Longfumai 18 has a specific band of 1151bp while Long 9424083 doesn ’ t have , the band is correspond to GluA3e ,which may be one of the reason why ongfumai 18 has higher maximum resistance and area in extensogram than Long 9424083. Comparative study of Longfumai 18 and Long 9424083 certified that space mutation breeding is effective and relable.

【语种】中文

【第一作者】张宏纪

【通讯作者】张宏纪

【期刊名称、卷期、页码】核农学报 2008 ,22 (3) :243~247

【论文发表时间】2008-03-09 00:00:00

【引文索引类型】其他

【引文索引号】
【学科分类】农业基础学科

【题目】Biological effects of high energy 7li ion beams implantation on wheat
【中文关键词】无
【英文关键词】7Li ion beam,wheat,biological,mutation
【中文摘要】无
【英文摘要】Dry seeds of four wheat cvs.LX987,XM18,ZH7 and ZY9 were implanted with 7Li ion beam at the doses of 0,10,30,50,100 and 150 Gy with an initial energy level of 43MeV.The effects of damage in M1 generation indicated that 7Li ion beam irradiation could inhibit wheat seedling growth effectively.The inhibition effects exhibited dose dependent tendency with a peak of 50Gy,and then decreased with further dose increase.Phenotypic variations such as chlorophyII deficiency of midrib,split leaf,curly leaf and tufted seedling etc.were observed in M1 generation.In the M2,mutation frequencies observed in two cvs.ZH7 and ZY9 ranged from 0.49% to 2.23%.Mutants with altered plant height,spike type etc. were selected in M2 generation.The relationship between mutation frequency and dose in the M2 was identical with that of inhibition and dose in M1 generation.The optimum dose of wheat irradiation by 7Li ion beams appears to be about 50Gy,which is obviously lower than that of gamma ray irradiation.
【语种】英文
【第一作者】郭会君
【通讯作者】刘录祥
【期刊名称、卷期、页码】Plant Mutation Reports, 2007,1(3):31-35
【论文发表时间】2007-03-10 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】农业基础学科

【题目】春小麦航天诱变入选后代的变异研究
【中文关键词】航天诱变;小麦;性状变异;高分子量麦谷蛋白亚基;醇溶蛋白电泳图谱
【英文关键词】space mutation ; wheat ; character variance ; HMW2GS; gliadin profiles
【中文摘要】本文介绍了小麦纯系克498 和龙0657 航天诱变第2 代(SP2) 和第3 代(SP3) 的入选与决选情况,SP2 和SP3 代主要农艺性状的变异,SP3 代决选株籽粒高分子量麦谷蛋白亚基(HM2GS) 和醇溶蛋白电泳谱带的变异。研究表明: (1) 克498 SP2 和SP3 代的有益变异入选株率和决选株率分别为1102 %、0181 %和2147 %、1139 %; 龙0657 SP2 和SP3 代的有益变异入选株率和决选株率分别为0197 %、0150 %和3177 %、1168 %。(2) 克498 SP2 和SP3 代的入选株主要农艺性状的变异幅度、极值和变异系数与其亲本相比都有很大差异;SP2 代的差异大于SP3 代;克498 SP2 和SP3 代的差异大于龙0657 SP2 和SP3 代的差异。(3) 克498 和龙0657 SP3 代决选株间主要品质性状存在较大差异;0657 SP3 决选株间主要品质性状的差异大于克498 SP3 代决选株。(4) 克498 和龙0657 SP3 代HMW2GS 组成的变异频率分别为813 %和2811 %。(5) 克498 和龙0657 SP3 代醇溶蛋白电泳谱带变异频率分别为4518 %和5010 %。
【英文摘要】This paper described selection and main agronomic traits variation of space induced mutants of wheat lines Ke 498 and Long 0657 in SP2 and SP3 , as well as variation of HMW2GS and gliadin profiles of selected lines in SP3 . Results showed :(1) percentage of field selected plants and final selected plants on Ke 498 in SP2 and SP3 generation are 1102 % , 0181 % and2147 % , 1139 % ,respectively , while that on Long 0657 are 0197 % , 0150 % and 3177 % , 1168 % ,respectively. (2) There are great differences between SP3 selection lines and its induced donor Ke 498 on variance range , extremum and CV %of main agronomic traits , the traits diversity in SP2 is bigger than that in SP3 . The trait differences between SP2 and SP3 for Ke 498 are larger than that for Long 0657. (3) There are bigger diversity of main quality characters in final selected plant for Ke 498 and Long 0657. The quality diversity among final selected lines in SP3 for Long 0657 is greater than that for Ke 498. (4) Variancefrequency of HMW2GS on Ke 498 and Long 0657 in SP3 are 813 % and 2811 % , respectively. (5) Variance frequency of gliadin bands on Ke 498 and Long 0657 in SP3 are 45. 8 %and 50. 0 % , respectively.
【语种】中文
【第一作者】张宏纪
【通讯作者】孙光祖
【期刊名称、卷期、页码】核农学报 2007 ,21 (2) :111~115

【论文发表时间】2007-02-10 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】农业基础学科

【题目】7Li离子束注入小麦干种子诱发M1代变异的SSR分析
【中文关键词】小麦; 7Li 离子束; 变异; SSR 分析
【英文关键词】Wheat ; 7Li ion beam ; Variation ; SSR analysis
【中文摘要】为了探讨7Li 离子束处理对植物种子的诱变效应,以冬小麦品种新麦18 和轮选987 的干种子为试验材料,研究了7Li 离子束处理对小麦幼苗生长和M1 代基因组DNA 变异的影响。结果表明,7Li 离子束处理虽然对小麦干种子的发芽率和幼苗根的生长无显著影响,但对幼苗高度影响极显著,而且20 Gy 剂量的7Li 离子束就可使幼苗高降低到对照的一半左右。SSR 分析表明,7Li 离子束可明显诱发小麦M1 代基因组DNA SSR 带型的变化。两个品种各处理间的平均多态性频率都达到了13.1%,且多态性片断的类型以扩增片断的增加和缺失为主。以上结果表明,7Li 离子束处理小麦种子具有较高的生物损伤效应,可以造成DNA的变异,从而有可能产生可遗传的变异。
【英文摘要】Dry seeds of two wheat cultivar s Xinmai18 and Lunxuan987 were implanted by different doses of 7Li ion beam to st udy t he effect s on seedling growt h and DNA variation in M1 neration. The result s showed t hat 7Li ion beam implantation into wheat seeds can significantly affect seedling height , while no significant effect on germination rate and root growt h. The 20 Gy dose of 7Li ion beam implantation could make the seedling height about 50 % shorter t han t he cont rol . The bands of SSR were greatly changed and t he average polymorp hic f requency was bot h 13. 1 % in two wheat cultivars implanted by different doses of 7Li ion beam. The polymorp hic pat terns were mainly t he increase or deletion of amplified f ragment s. It was concluded t hat high biological damage effect s and DNA variations could be induced by 7Li ion beam implantation , which could result in the hereditable variation in t he later eration.
【语种】中文
【第一作者】辛庆国
【通讯作者】刘录祥
【期刊名称、卷期、页码】麦类作物学报,2007,27(4):560-564
【论文发表时间】2007-04-10 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】农业基础学科

【题目】Analysis of classification margin for classification accuracy with applications
【中文关键词】分类器集成
【英文关键词】Classi fi er ensemble
Classi fi cation margin
Bagging
Optimal bound
【中文摘要】分类器集成分析及应用
【英文摘要】Classi fi cation margin is commonly used for describing the classi fi cation capability of a committee of classi fi ers. In this paper, we study the relation between classi fi cation margin and misclassi fi cation error, focusing on exploring useful information about misclassi fi cation error from the known classi fi cation margin. We propose a max – min type bound concerning the minimal misclassi fi cation rate, and presentsome useful properties. Finally, we seek the way to improve classi fi cation performance by incorporating the classi fi cation margins, and devise an algorithm for improving average classi fi cation accuracy based on the proposed bound. Experimental results show the effectiveness of the proposed algorithm and also validate our analytic results.
【语种】英文
【第一作者】Qutang Cai
【通讯作者】Qutang Cai
【期刊名称、卷期、页码】Neurocomputing 2009,72:1960-1968
【论文发表时间】2008-05-24 00:00:00

【引文索引类型】SCI
【引文索引号】430MM
【学科分类】计算机应用

【题目】A weighted subspace approach for improving bagging performance
【中文关键词】分类器整体;概率方法;分类;优化
【英文关键词】bagging; classifier ensemble; probabilistic methods; classification; optimization
【中文摘要】加权空间方法提高分类性能
【英文摘要】Baggingis an ensemble method that uses random resampling of a dataset to construct models. In classification scenarios, the random resampling procedure in bagging induces some classification margin over the dataset. In addition, when perform bagging in different feature subspaces, the resulting classification margins are likely to be diverse. We take into account the diversity of classification margins in feature subspaces for improving the performance of bagging. We first study the average error rate of bagging, convert our task into an optimization problem for determining some weights for feature subspaces, and then assign the weights to the subspaces via a randomized technique in classifier construction. Experimental results demonstrate that our method is able to further improve the classification accuracy of bagging, and also outperforms several other ensemble methods including AdaBoost, random forests and random subspace method.
【语种】英文
【第一作者】Qutang Cai
【通讯作者】Qutang Cai
【期刊名称、卷期、页码】Proceedings of the 33rd International Conference on Acoustics, Speech, and Signal Processing 3341-3344
【论文发表时间】2008-05-24 00:00:00
【引文索引类型】SCI
【引文索引号】BHY47
【学科分类】计算机应用

【题目】Augmented tree partitioning for interactive image segmentation
【中文关键词】图像分割、扩充树、动态规划
【英文关键词】Image segmentation; augmented tree; dynamic programming
【中文摘要】扩充树分区实现交互式图像分割
【英文摘要】In this paper, we propose a new fast semi-supervised image segmentation method based on augmented tree partitioning. Unlike many existing methods that use a graph structure to model the image, we use a tree-based structure called the augmented tree, which is built up by augmenting several abstract label nodes to the minimum spanning tree of the original graph. We then model image segmentation as the partitioning problem on the augmented tree. Dynamic programming is used to efficiently solve the optimization problem. Experimental results show that our method gives competitive segmentation results, and the speed is much faster than graph-based methods.
【语种】英文
【第一作者】Jia, Yangqing
【通讯作者】Jia, Yangqing
【期刊名称、卷期、页码】Proceedings of the 15th IEEE International Conference on Image Processing 2292-2295
【论文发表时间】2008-07-11 00:00:00
【引文索引类型】EI
【引文索引号】BJH64
【学科分类】应用数学

【题目】Collaborative Learning by Boosting in Distributed Environments
【中文关键词】算法 分类
【英文关键词】ALGORITHMS; CLASSIFICATION; PARALLEL
【中文摘要】分布式环境协作学习分类算法

【英文摘要】In this paper we propose a new distributed learning method called distributed network boosting (DNB) algorithm for distributed applications. The learned hypotheses are exchanged between neighboring sites during learning process. Theoretical analysis shows that the DNB algorithm minimizes the cost function through the collaborative Junctional gradient descent in hypotheses space. Comparison results of the DNB algorithm with other distributed learning methods on real data sets with different sizes show its effectiveness.
【语种】英文
【第一作者】Wang, Shijun
【通讯作者】Wang, Shijun
【期刊名称、卷期、页码】19th International Conference on Pattern Recognition
【论文发表时间】2008-05-11 00:00:00
【引文索引类型】EI
【引文索引号】BJC36
【学科分类】应用数学

【题目】Common hyperspectral image database design
【中文关键词】高光谱数据库 需求导向 平行处理
【英文关键词】Hyperspectral database, Demand-oriented, MVC, Open Source, Parallel processing
【中文摘要】高光谱图像数据库的建立
【英文摘要】This paper is to introduce Common hyperspectral image database with a demand-oriented Database design method (CHIDB), which comprehensively set ground-based spectra, standardized hyperspectral cube, spectral analysis together to meet some applications. The paper presents an integrated approach to retrieving spectral and spatial patterns from remotely sensed imagery using state-of-the-art data mining and advanced database technologies, some data mining ideas and functions were associated into CHIDB to make it more suitable to serve in agriculture, geological and environmental areas. A broad range of data from multiple regions of the electromagnetic spectrum is supported, including ultraviolet, visible, near-infrared, thermal infrared, and fluorescence. CHIDB is based on dotnet framework and designed by MVC architecture including five main functional modules: Data importer/exporter, Image/spectrum Viewer, Data Processor, Parameter Extractor, and On-line Analyzer. The original data were all stored in SQL server2008 for efficient search, query and update, and some advance Spectral image data Processing technology are used such as Parallel processing in C# ; Finally an application case is presented in agricultural disease detecting area.
【语种】英文
【第一作者】Tian lixun
【通讯作者】Tian lixun
【期刊名称、卷期、页码】SPIE Vol.75132Y-(2009)
【论文发表时间】2008-05-11 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】光学

【题目】Cost-sensitive boosting algorithms as gradient descent
【中文关键词】boosting; cost-sensitive classification; gradient descent; optimization
【英文关键词】boosting; cost-sensitive classification; gradient descent; optimization
【中文摘要】A daBoost is a well known boosting method for generating strong ensemble of weak base learners. The procedure of AdaBoost can be fitted in a gradient descent optimization framework, which is important for analyzing and devising its procedure. Cost sensitive boosting (CSB) is an emerging subject extending the boosting methods for cost sensitive classification applications. Most CSB methods are performed by directly modifying the original AdaBoost procedure. Unfortunately, the effectiveness of most cost sensitive boosting methods are checked only by experiments. It remains unclear whether these methods can be viewed as gradient descent procedures like AdaBoost. In this paper, we show that several typical CSB methods can also be view as gradient descent for minimizing a unified objective function. We then deduce a general greedy boosting procedure. Experimental results also validate the effectiveness of the proposed procedure
【英文摘要】A daBoost is a well known boosting method for generating strong ensemble of weak base learners. The procedure of AdaBoost can be fitted in a gradient descent optimization framework, which is important for analyzing and devising its procedure. Cost

sensitive boosting (CSB) is an emerging subject extending the boosting methods for cost sensitive classification applications. Most CSB methods are performed by directly modifying the original AdaBoost procedure. Unfortunately, the effectiveness of most cost sensitive boosting methods are checked only by experiments. It remains unclear whether these methods can be viewed as gradient descent procedures like AdaBoost. In this paper, we show that several typical CSB methods can also be view as gradient descent for minimizing a unified objective function. We then deduce a general greedy boosting procedure. Experimental results also validate the effectiveness of the proposed procedure

【语种】英文

【第一作者】Cai Qu-Tang

【通讯作者】Cai, Qu-Tang

【期刊名称、卷期、页码】2008 IEEE INTERNATIONAL CONFERENCE ON ACOUSTICS, SPEECH AND SIGNAL PROCESSING, VOLS 1-12

【论文发表时间】2008-03-30 00:00:00

【引文索引类型】EI

【引文索引号】BHY47

【学科分类】应用数学

【题目】Learning distance metric for semi-supervised image segmentation

【中文关键词】Semi-supervised; image segmentation; distance metric learning

【英文关键词】Semi-supervised; image segmentation; distance metric learning

【中文摘要】Semi-supervised image segmentation is an important issue in many image processing applications, and has been a popular research area recently, the most popular are graph-based methods. However, parameter selection in these methods is still largely heuristic. In this paper, we introduce distance metric learning into graph-based semi-supervised segmentation to automatically obtain good results for images with different appearances. We first derive the optimization problem with respect to the distance metric as well as the segmentation labels, and use gradient descent method to find a local optimum solution. Experiments on general images and the fungal disease analysis application have shown that our method provides a steady performance under casual user annotations and different image appearances.

【英文摘要】Semi-supervised image segmentation is an important issue in many image processing applications, and has been a popular research area recently, the most popular are graph-based methods. However, parameter selection in these methods is still largely heuristic. In this paper, we introduce distance metric learning into graph-based semi-supervised segmentation to automatically obtain good results for images with different appearances. We first derive the optimization problem with respect to the distance metric as well as the segmentation labels, and use gradient descent method to find a local optimum solution. Experiments on general images and the fungal disease analysis application have shown that our method provides a steady performance under casual user annotations and different image appearances.

【语种】英文

【第一作者】Jia Yangqing

【通讯作者】Jia Yangqing

【期刊名称、卷期、页码】2008 15TH IEEE INTERNATIONAL CONFERENCE ON IMAGE PROCESSING

【论文发表时间】2008-12-15 00:00:00

【引文索引类型】EI

【引文索引号】BJH64

【学科分类】计算数学

【题目】Localized content-based image retrieval using multiple instance active learning

【中文关键词】无

【英文关键词】Image processing

【中文摘要】无

【英文摘要】In this paper, we propose two general multiple instance active learning (MIAL) algorithms, multiple-instance active learning with a simple margin strategy (S-MIAL) and multiple- instance active learning with fisher information (F-MIAL), and apply them to the relevance feedback in localized content based image retrieval (LCBIR). S-MIAL considers the most ambiguwww.lw20.comous picture as the most valuable one, while F-MIAL can utilize the fisher information and analyze the value of

the unlabeled pictures by assigning different labels to them. We show that F-MIAL can be integrated more naturally into the multiple instance learning scenario. In experiments, we will show their superior performances on some real-world image datasets.
【语种】英文
【第一作者】zhang dan
【通讯作者】zhang dan
【期刊名称、卷期、页码】Proceedings of the 15th IEEE International Conference on Image Processing
【论文发表时间】2008-10-12 00:00:00
【引文索引类型】其他
【引文索引号】无
【学科分类】计算机数学

【题目】Natural Colour Reproduction in the Diagnosis of Plant Diseases and Insect Pests
【中文关键词】无
【英文关键词】COLOUR REPRODUCTION DIAGNOSIS PLANT DISEASES
【中文摘要】无
【英文摘要】For a reliable diagnosis of plant diseases and insect pests,it is very important to reproduce the original colour of the object.But it is not certain by conventional colour imaging systems.Natural colour system is capable of reproducing the original colour of objects using multispectral images. In this paper a natural colour reproduction system for the diagnosis is presented.The images of the cucumbers' leaves are captured under the illumination of incandescent lamp by the narrow- band multispectral system and reproduction on a display device.For accurate colour reproduction the spectral reflectance of plant diseases and insect pests is calculated using Spline Interpolation in the process.In the experiment,it is confirmed that the system realizes good accuracy in the colour reproduction of plant diseases and insect pests from 14 narrow bands multispectral image.
【语种】英文
【第一作者】冯洁
【通讯作者】廖宁放
【期刊名称、卷期、页码】Proceedings of 26th Session of the CIE
【论文发表时间】2007-10-01 00:00:00
【引文索引类型】其他
【引文索引号】无
【学科分类】计算机数学

【题目】基于高光谱成像和判别分析的黄瓜病害识别
【中文关键词】高光谱成像技术 黄瓜病害 逐步判别 典型判别
【英文关键词】Hyperspectral imaging technique; Cucumber diseases; Stepwise discriminate; Canonical discriminate
【中文摘要】利用光谱成像技术(400~720 nm)识别黄瓜白粉病、 角斑病、 霜霉病、 褐斑病和无病区域。 构建高光谱图像采集系统进行样本图像的采集, 预处理和光谱信息的提取。 由于获得的原始光谱数据量很大, 为了减少后续运算量, 提高准确率, 采用逐步判别分析和典型判别分析两种方法进行降维。 逐步判别从55个波段中选择12个波段, 典型判别从55个波段中提取2个典型变量。 利用选择的光谱特征参数建立病害识别模型。 逐步判别构建的模型对训练样本和测试样本的判别准确率分别为100%和94%, 典型判别构建的模型对训练样本和测试样本的判别准确率均为100%。 说明利用高光谱成像技术可以进行黄瓜病害的快速、 准确识别, 并为实现可见光谱范围内黄瓜病害的田间实时在线检测提供了可能。
【英文摘要】Hyperspectral imaging(400-720 am) and discriminate analysis were investigated for the detection of normal and dis eased cucumber leaf samples with powdery mildew (Sphaerotheca fuliginea). angular leaf spot (Pseudomopnas syringae). downy mildew(Pseudoperonospora cubensis), and brown spot(Corynespora cassiicola). A hyperspectral imaging system was established to acquire and pre-process leaf images. as well as to extract leaf spectral properties. Owing to the complexity of the original spectral data. stepwise discriminate and canonical discriminate were executed to reduce the numerous spectral information. in order to decrease the amount of calculation and improve the accuracy. By the stepwise discriminate we selected 12 optimal wavelengths from the original 55 wavelengths. and after the canonical discriminate. the 55 wavelengths were reduced to 2 canonical variables. Then the discriminate models were developed to classify the leaf samples. The result shows that the stepwise discriminate model achieved classification accuracies of 100% and 94% for the training and testing sets. respectively. For the canonical model, the classification accuracies for the training and testing sets were both 100%. These results indicated that it is feasible to identify and classify cucumber diseases using

hyperspectral imaging technology and discriminate analysis. The preliminary study, which was clone in a closed room with restrictions to avoid interference of the field environment. showed that there is a potential to establish an online field application in cucumber disease detection based on visible spectroscopy.
【语种】中文
【第一作者】柴阿丽
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【题目】基于彩色数字相机的光谱反射率重建方法研究
【中文关键词】光谱反射率重建 神经网络 基向量 非线性
【英文关键词】Spectral reflectance reconstruction; Neural network; Basis vectors; Nonlinearity
【中文摘要】如何在给定照明条件和观测条件的情况下,由彩色数字相机的响应值重建物体表面光谱反射率,仍是颜色科学与工程领域一个尚待解决的重要课题。文章使用奇异值分解的方法将光谱反射率近似为若干基向量的线性组合,求得组合系数,然后使用相机输出数据与组合系数训练人工神经网络,使之能够准确的模拟相机输出与组合系数之间的非线性关系,最后采用经训练的神经网络,与基向量结合,由相机输出准确的重建物体表面的光谱反射率。实验结果显示,与线性近似的方法相比,使用该方法对标准Munsell色块进行反射率重建,重建误差减小了约67%,具有高精度、易实现、易操作的特点,可用于对重建精度要求较高的诸多领域。
【英文摘要】It is still challenging to reconstruct the spectral reflectance of a surface using digital cameras under given luminance and observation conditions. A new approach to solving the problem which is based on neural network and basis vectors is proposed. At first, the spectral reflectance of the sample surface is measured by spectrometer and the response of an digital camera is recorded. Then the reflectance is represented as a linear combination of several basis vectors by singular value decomposition (SVD). After that, a neural network is trained so that it is able to approximate the relationship between the camera responses and the coefficients of basis vectors accurately. In the end, the spectral reflectance can be reconstructed based on the neural network and basis vectors. In the present paper, the authors reconstructed the spectrum reflectance based on neural network and basis vectors. Compared with other traditional methods, neural network expands the space of unknown function F(S) from linear functions to more general nonlinear functions, which gives more accurate estimation of the coefficients a(k) and better reflectance reconstruction. Results show that the reflectance of standard Munsell color patch (Matte)can be reconstructed successfully with mean of RMS which is 0.023 4. Compared with linear approximation method, reconstruction of standard Munsell color patch (Matte)using this approach reduces the reconstruction error by 67%. Since the neural network can be implemented by Matlab neural network toolbox, this method can be easily adopted in many other cases. Therefore we conclude that this approach has advantages of higher accuracy, easy implementation and adaptation, thus can be used in many applications.
【语种】中文
【第一作者】杨萍
【通讯作者】杨萍
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【题目】常见黄瓜病害的多光谱诊断
【中文关键词】多光谱成像技术 光谱分析技术 黄瓜病害
【英文关键词】Multispectral imaging technique; Spectroscopy analysis technique; Cucumber diseases
【中文摘要】为了实现可靠的植物病虫害诊断,文章提出把光谱分析技术和多光谱成像技术相结合的方法用于常见的红粉、黑星、白粉、褐斑和霜霉五种黄瓜病害的识别研究。实验采用窄带多光谱成像技术在标准观测环境下获取患病黄瓜叶面的14个可见光通道和近红外通道、全色通道的多光谱图像。利用距离法、光谱角度匹配法和相关系数法对病斑样本的

光谱信息进行学习分类。对于实验提出的七种分类情况,通过距离法和相关系数法组合筛选,对红粉、白粉、黑星和白板的分类正确率达100%,对霜霉及无病的分类正确率达80.00%和93.33%,平均分类正确率为81.90%。实验结果表明,光谱分析方法和多光谱成像技术结合能全面、快速、精确提取植物病害的信息,实现分类,为对植物病害进行快速、准确和非破坏性诊断提供技术支持。

【英文摘要】For a reliable diagnosis of plant diseases and insect pests, spectroscopy analysis technique and mutispectral imaging technique are proposed to diagnose five cucumber diseases, namely Trichothecium roseum, Sphaerotheca fuliginea, Cladosporium cucumerinum, Corynespora cassiicola and Pseudoperonospora cubensis. In the experiment, the cucumbers' multispectral images of 14 visible lights channels, near infrared channel and panchromatic channel were captured using narrow-band multispectral imaging system under standard observation environment. And the 5 cucumber diseases, healthy leaves and reference white were classified using their multispectral information, the distance, angle and relativity. The discrimination of Trichothecium roseum, Sphaerotheca fuliginea, Cladosporium cucumerinum, and reference white was 100%, and that of Pseudoperonospora cubensis and healthy leaves was 80% and 93. 33% respectively. The mean correct discrimination of diseases was 81. 90% when the distance and relativity were used together. The result shows that the method realized good accuracy in the cucumber diseases diagnosis.

【语种】中文

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【学科分类】农业基础学科

【题目】一种离散点插值算法用于重建光谱反射率

【中文关键词】光谱学; 光谱反射率重建; 查找表; Delaunay剖分

【英文关键词】spectroscopy; spectral reflectance reconstruction; LUT; Delaunay tessellation

【中文摘要】提出了一种用离散点插值算法来重建光谱反射率的方法。首先建立数字相机响应值与典型反射样品表面光谱反射率之间的查找表,然后进行Delaunay分区、提取和插值,最后通过数字相机的输出数据来准确地重建物体表面的光谱反射率。实验结果表明,该方法能够重建典型反射样品的光谱反射率,能够实时获取被摄场景的多光谱图像,易于硬件的实现。

【英文摘要】A new technique for spectral reflectance reconstruction based on LUT (look-up-table) interpolation method is proposed. The spectral reflectance of the sample surface is measured by spectrometer, and the response of an RGBY digital camera is recorded. Then a LUT is created connecting the camera responses and spectral reflectance of each color chip. After that, the source space is tessellated by Delaunay method, and the neighboring points are extracted so as to calculate the spectral reflectance of the targeted point. In the end, the spectral reflectance can be reconstructed based on the interpolation method. Experimental results show that this approach can obtain the multi-spectral images in real-time so that it can be used in many applications.

【语种】中文

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【学科分类】光学

【题目】用于植物病虫害诊断的多光谱成像系统

【中文关键词】多光谱成像 光谱反射率 颜色重建 植物病虫害

【英文关键词】Multispectral imaging; Spectral reflectance; Color reproduction; Plant diseases and insect pests

【中文摘要】准确重建被测目标的颜色信息对实现可靠的植物病虫害诊断具有十分重要的意义。文章提出把多光谱成像技术应用于植物病虫害诊断,所采集的多光谱图像可以从光谱维和图像维反映被测目标的特征信息。在此基础上,实验采用16个窄带滤色片、单色面阵CCD、积分球混合光源照明和标准观测环境建立了能进行适时、无损检测的多光谱成像系

统。并利用该设备对Macbeth色卡中8个色卡进行光谱和颜色重建,重建的结果与光谱辐射度计的测量结果进行了比较。通过对光谱匹配角度和CIE标准色差分析,证明这种多光谱成像系统能够准确、稳定地重建出目标的光谱信息和颜色信息。
【英文摘要】For a reliable diagnosis of plant diseases and insect pests, it is very important to reproduce the original color of the object. But it is not certain by conventional color imaging systems. Multispectral imaging techniques are capable of providing additional useful spectral information of common pathological samples using image acquisition. The authors present a multispectral imaging system for the diagnosis. This system uses 16 narrow-band filters, a monochrome CCD camera, and standard illumination environment. Spectral match angle and color difference can be obtained through measurements and analysis of 8 Macbeth color patch using PR-715 spectraScan and multispectral imaging system. In addition, the color image and spectral reflectance of cucumber diseased leaves were reproduced using the multispectral imaging system. In the experiment, it was confirmed that the system realized good accuracy in the color reproduction and spectral reflectance reproduction from a limited number of color bands.
【语种】中文
【第一作者】冯洁
【通讯作者】冯洁
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【题目】多光谱成像技术诊断植物病虫害的人工神经网络模型
【中文关键词】多光谱成像; BP人工神经网络; 植物病虫害诊断
【英文关键词】multispectral imaging; BP neural networks; plant diseases and insect pests diagnosis
【中文摘要】为了实现可靠的植物病虫害诊断,提出把人工神经网络和多光谱成像技术结合的方法,并将该方法用于常见的三种黄瓜病害的识别研究。在此基础上,实验采用窄带多光谱成像技术获取患病黄瓜叶面的14个可见光通道和近红外通道、全色通道的多光谱图像。利用BP网络对病斑样本的光谱信息进行学习分类。和14通道训练结果比较,增加850nm的近红外通道和全色通道,使网络的训练时间缩短、预测能力提高。实验结果表明,这种方法对植物进行快速、准确和非破坏性诊断提供可靠的技术支持。
【英文摘要】For a reliable diagnosis of plant diseases and insect pests, artificial neural networks and mutispectral imaging technique are proposed to diagnosise three cucumbers diseases. In the experiment, the cucumbers multispectral images of 14 visible lights channels, near infrared charmel and panchromatic channel are captured using narrow-band multispectral imaging system, and classified by the BP neural network. The coefficients of output and prediction are obtained. The result shows that the method realizes good accuracy in the cucumber diseases diagnosis.
【语种】中文
【第一作者】冯洁
【通讯作者】冯洁
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【题目】多光谱颜色重建在植物病虫害检测中的应用
【中文关键词】颜色重建; 多光谱图像; 植物病虫害; 植物的光谱反射率
【英文关键词】color reproduction; multispectral images; plant diseases and insect pests; spectral reflectance of plant;
【中文摘要】为了克服传统RGB三基色相机图像颜色重建的缺点,论文提出用多光谱相机捕获植物光谱图像的方法,根据图像捕获位置和观测位置照明光源的情况重建出植物病虫害的真实色彩。实验利用16个窄带滤光片和黑白面阵CCD摄像机获得植物病虫害的多光谱信息,通过多项式插值拟合出观测目标的光谱曲线。并和PR-715光谱辐射度计进行比较,对重建结果做出分析。试验结果表明16个通道的多光谱图像能够重建出植物病虫害的颜色。
【英文摘要】For a reliable diagnosis of plant deseases and insect pests,it is very important to reproduce the original color of the object.But when the illumination environment for observing images is different from the illumination used for recording,the standard

images are a lack of fidelity.In this paper,for getting over the disadvantages of the RGB camera,we present a natural color reproduction system for plant deseases and insect pests.In this system,the illumination difference between the image site and observing.
【语种】中文
【第一作者】冯洁
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【题目】番茄晚疫病症状诊断、流行规律及防治
【中文关键词】番茄晚疫病,症状诊断,流行规律,防治,疫病病原菌,毁灭性病害,保护地栽培,生理小种
【英文关键词】无
【中文摘要】番茄晚疫病是一种世界性分布的毁灭性病害。随着保护地的发展,北京、山西、云南、贵州、青岛、陕西、河南、河北等许多省、市番茄晚疫病已成为周年发生的病害。番茄晚疫病病原菌生理小种变异频繁,病原菌新种群不断出现,病原菌群体的有性重组机会增加,导致番茄品种抗性丧失,严重威胁着番茄生产的发展。番茄晚疫病病菌喜低温高湿环境,冬春季保护地栽培中发生相对严重。目前缺乏有效的抗病品种,主要依靠化学药剂进行防治
【英文摘要】无
【语种】中文
【第一作者】石延霞
【通讯作者】李宝聚
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【题目】基于彩色图像颜色统计特征的黄瓜炭疽病和褐斑病的识别研究
【中文关键词】黄瓜 植物病害 彩色图像 颜色 统计特征 定量识别
【英文关键词】Cucumber; Plant disease ; Color image ; Color; Statistical characteristics ; Quantitative discrimination
【中文摘要】为了进行数字化、标准化、无损伤定量识别植物病害,运用数字图像分析技术,对生产中两种常见的黄瓜病害(黄瓜炭疽病和黄瓜褐斑病)进行研究。利用图像的颜色统计特征对来自不同时期的病害样本图像进行分类和识别。采用逐步判别分析,选取显著性较大的特征参量,建立起黄瓜炭疽病、黄瓜褐斑病和无病区域的分类器模型。结果表明,对黄瓜炭疽病、黄瓜褐斑病和无病区域的正确回判率分别达到96.67%,93.33%和100%。测试集中,黄瓜炭疽病、黄瓜褐斑病和无病区域的正确识别率分别达到83.33%,80.00%和100%,说明利用彩色图像颜色统计特征对植物病害进行识别有可行性。[
【英文摘要】Colour image statistical analysis was used to distinguish between cucumber anthracnose (caused by Colletotrichum orbiculare) and cucumber brown speck (Corynespora cassiicola). Colour characteristic parameters obtained for different stages of disease development were used for disease classification and identification. Stepwise discriminant analysis was used to select significant parameters, and the Bayesian classifier method was used to classify regions infected by cucumber anthracnose, regions infected by cucumber brown spot, and healthy regions. The results showed that the accuracy of discrimination of regions infected by cucumber anthracnose, regions infected by cucumber brown spot, and healthy region reached 96. 67, 93.33 and 100.%, respectively. For the test set, the accuracy of discrimination of areas infected by cucumber anthracnose, areas infected by cucumber brown spot, and healthy region reached 83. 33, 80.00 and 100%, respectively. The results showed that it is feasible to identify and classify plant diseases using colour image statistical characteristics.
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【通讯作者】李宝聚
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【题目】瓜类蔓枯病的发生与防治
【中文关键词】瓜类作物 蔓枯病 发生与防治 黑色斑点 寄主范围 冬季大棚 顺义地区 果实腐烂
【英文关键词】无
【中文摘要】蔓枯病又称黑色茎蔓腐烂病、黑色斑点腐烂病等,主要为害瓜类作物,近年来在素有“蔬菜之乡”的山东省寿光市以及北京市顺义地区等冬季大棚中为害尤为严重,造成死藤、烂叶、果实腐烂等,导致果实品质和产量下降,可食用性降低,给菜农带来严重损失。蔓枯病最初于1891年在法国、意大利、美国被报道,寄主分别为黄瓜、甜瓜、西瓜,而后该病频繁发生于温室中。
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【题目】湖北长阳火烧坪高山蔬菜病害调查
【中文关键词】高山蔬菜 湖北 病害
【英文关键词】无
【中文摘要】湖北省高山蔬菜种植已有很多年的历史,当地农民靠种菜获取收入,生活水平逐年提高。然而,随着蔬菜种植面积的扩大,蔬菜病害已成为不容忽视的问题,严重制约着蔬菜产业的发展,尤其是高温、低湿的环境有利于病害的发生,严重地影响了蔬菜的品质,进而直接影响了农民的经济收入。
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【语种】中文
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【通讯作者】李宝聚
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【引文索引号】无
【学科分类】植物保护学

【题目】基于计算机视觉技术的番茄叶片叶绿素含量的检测
【中文关键词】番茄; 计算机视觉; 叶绿素含量; 颜色特征
【英文关键词】tomato; machine vision; chlorophyll content; color characteristic
【中文摘要】利用计算机视觉技术快速测定叶绿素含量的方法,建立了根据番茄叶片颜色特征确定其叶绿素含量的一元二次拟合模型。在计算机视觉图像采集系统中采集番茄叶片图像,利用MATLAB图像处理工具提取图像的颜色特征参数,对颜色特征参数和番茄功能叶叶绿素含量做相关分析,建立回归模型。结果表明:RGB颜色系统的R/G、(G-R)/(G+R)、G-R、色度坐标r、r-g及HIS颜色系统的H值均与叶绿素含量呈极显著非线性相关,可用于测定番茄叶片叶绿素含量。从建立的6组模型中筛选出拟合度较高的3组模型进行检验,预测误差在0~22.22%之间。用预测精度最高的G-R颜色特征预测叶绿素含量的模型为Chl.a=0.0926+0.1208(G-R)-0.0009(G-R)2,Chl.b=-0.0252+0.0397(G-R)-0.0003(G-R)2和Chl.(a+b)=0.1271+0.1600(G-R)-0.0011(G-R)2。
【英文摘要】The rapid methods detecting chlorophyll concentration by the computer vision technology, and a unary quadratic model to predict chlorophyll content based on color parameters of tomato leaf images have been established in this study. The images

of tomato leaves were taken in the image acquisition system, then the color characteristics were extracted with the MATLAB image processing software. The correlation between color parameters of tomato digital image and chlorophyll content of tomato functional leaf were analyzed by nonlinear regress models. The results showed that the color characteristics such as R/G, (G- R)/(G+ R), G- R, r, r- g in the RGB color system, and H-value in the HIS color system were significantly correlation with chlorophyll content of tomato leaf at P<0.01. Six sets of prediction model were established and among them 3 models with high fitting degree were selected to use. The prediction accuracy of the selected model were tested, and error ranged 0 to 22.22%. According to the determination coefficients and RMSE (root mean square error), G- Rwas the best color characteristic to predict chlorophyll content of tomato leaf. The corresponding models are Chl. a=0.0926+0.1208 (G-A)-0.0009 (G- R) 2, Chl. b=-0.0252+0.0397 (G- R)-0.0003 (G- R) 2 and Chl. (a+b)=0.1271+0.1600 (G- R)-0.0011 (G- R) 2.

【语种】中文
【第一作者】柴阿丽
【通讯作者】李宝聚
【期刊名称、卷期、页码】园艺学报
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【引文索引号】无
【学科分类】农学其他学科

【题目】辣椒白粉病的诊断与防治
【中文关键词】辣椒白粉病 病害诊断 防治 博士 设施环境 栽培地区 叶部病害 设施栽培
【英文关键词】无
【中文摘要】辣椒白粉病在我国大陆,60年前便有记载,但一般均发生较轻,不需要防治,经常有一些地区诊断错误,误称为“辣椒霜霉病”。近十年来,该病在我国许多设施和露地栽培地区经常严重发生,在设施环境较好的寿光等地区,白粉病已成为设施栽培辣椒最重要的叶部病害之一。
【英文摘要】无
【语种】中文
【第一作者】李宝聚
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【引文索引号】无
【学科分类】植物保护学

【题目】辣椒灰霉病的新症状
【中文关键词】辣椒灰霉 症状 灰葡萄孢
【英文关键词】无
【中文摘要】由灰葡萄孢(Botrytis cinema Pers)引起的灰霉病是茄科温室大棚蔬菜一种常见病害,20世纪八九十年代,以番茄、茄子受害严重,近些年来辣椒灰霉病在山东、河北、辽宁、北京等地有日益加重的趋势。辣椒苗期和成株期均可感染灰霉病,植株的地上部分包括叶、花、果实、茎均可受害,不同部位症状表现不尽相同。
【英文摘要】无
【语种】中文
【第一作者】李宝聚
【通讯作者】李宝聚
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【引文索引号】无
【学科分类】植物保护学

【题目】芹菜斑枯病和叶斑病的识别与防治
【中文关键词】芹菜斑枯病 防治方法 叶斑病 识别 露地栽培 经济损失 昼夜温差 发生规律
【英文关键词】无
【中文摘要】斑枯病和叶斑病是芹菜种植区的主要病害,保护地及露地栽培均有发生,对芹菜的产量和品质产生较为严重的影响,往往造成巨大的经济损失。春秋两季低温高湿、昼夜温差大,有利于芹菜斑枯病和叶斑病发生。为了更好地控制芹菜斑枯病和叶斑病,本文对这两种病害的症状、病原菌、发生规律及防治方法进行介绍。
【英文摘要】无
【语种】中文
【第一作者】陈雪
【通讯作者】李宝聚
【期刊名称、卷期、页码】中国蔬菜
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【引文索引类型】其他
【引文索引号】无
【学科分类】植物保护学

【题目】如何利用显微镜简易诊断蔬菜细菌病害
【中文关键词】细菌病害 简易诊断 显微镜 彩色图 蔬菜 致病菌 显微观察 植物病害 田间识别 生产实践
【英文关键词】无
【中文摘要】在生产实践中,基层农民和相关从业人员,对蔬菜细菌病害的田间识别主要是通过发病症状进行诊断,但植物病害的发生是致病菌、寄主和环境的共同作用产物,土壤、温湿度、轮作物等环境条件的差别可能导致病原物积累,发病症状甚至致病菌自身发生变化,这样,一种病害表现的症状就不一而足。单是凭借症状识别细菌病害不准确,容易误诊。在很多时候,人们的传统认识还拘泥在病斑水浸状,流脓,腐烂等就是细菌病害的固定模式中,实际上,这种认识是不科学的。在我们广泛采集标本镜检、鉴定的基础上,我们发现,很多生理性病害也会有细菌病害的常见症状,所以仅仅依靠经验和肉眼观察是不够的,比较可靠的方法是利用显微镜对病部进行显微诊断,根据有无病原细菌菌体溢出(简称“菌溢”,切开感病组织后,组织液中大量繁殖的细菌吸水溢出)来判别细菌病害,这是比较科学的方法,也很简单易行。
【英文摘要】无
【语种】中文
【第一作者】张珊珊
【通讯作者】李宝聚
【期刊名称、卷期、页码】中国蔬菜
【论文发表时间】2010-01-01 00:00:00
【引文索引类型】其他
【引文索引号】无
【学科分类】植物保护学

【题目】食用菌脉孢霉的发生与防治
【中文关键词】脉孢霉 食用菌栽培 培养料 培养基质 分生孢子 环境污染 菌丝 山东淄博 病害 菌种
【英文关键词】无
【中文摘要】正脉孢霉(Neurospora spp)又称链孢霉、红色面包霉或串珠霉,是食用菌栽培中的重要竞争性杂菌和病害。由于其生活周期短,扩散蔓延快,食用菌栽培中一旦被污染将造成重大损失。自2008年以来,我们走访了北京房山、山东淄博、河北平泉、黑龙江尚志、苇河等地的食用菌产区,发现此病害侵染食用菌培养料和菌丝,造成培养基质大量报废、菌袋成品率下降、栽培场所环境污染的事情时有发生。
【英文摘要】无
【语种】中文
【第一作者】王晶
【通讯作者】李宝聚
【期刊名称、卷期、页码】中国蔬菜

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【引文索引号】无
【学科分类】植物保护学

【题目】西葫芦茎基软腐病的发生和防治
【中文关键词】西葫芦 软腐病 胡萝卜软腐欧文氏菌
【英文关键词】无
【中文摘要】软腐病是为害露地大白菜的重要病害,秋季和春季均有发生。我们在调查中发现,近几年冬春季节,为害西葫芦茎基部的细菌病害在山东、山西、河北、北京、辽宁等北方温室大棚等保护地悄然发生,规模之大,影响范围之广,在冬季根部细菌性病害中较为少见。山东、江苏、甘肃等地的《中国蔬菜》读者也寄样咨询该病
【英文摘要】无
【语种】中文
【第一作者】李宝聚
【通讯作者】李宝聚
【期刊名称、卷期、页码】中国蔬菜
【论文发表时间】2009-03-01 00:00:00
【引文索引类型】其他
【引文索引号】无
【学科分类】植物保护学

【题目】浙江温州蔬菜病害调查
【中文关键词】温州 蔬菜 病害
【英文关键词】无
【中文摘要】浙江温州市近郊蔬菜生产基地面积约1 200 hm2,其中大棚栽培面积约666.7 hm2,露地蔬菜主要栽培有十字花科、葱蒜类、豆类和绿叶蔬菜类(芹菜、菠菜、生菜为主),大棚蔬菜主要栽培有茄果类(番茄、茄子为主)、瓜类(黄瓜和瓠瓜为主)、十字花科和绿叶蔬菜类。近郊年蔬菜产量达200万t,占温州市区蔬菜消费总量的25 %左右,是保障温州市区菜篮子正常供应的重要组成部分。但是温州近郊蔬菜种植户植保知识欠缺,导致很多蔬菜病害没有得到重视。
【英文摘要】无
【语种】中文
【第一作者】李宝聚
【通讯作者】李宝聚
【期刊名称、卷期、页码】中国蔬菜
【论文发表时间】2010-09-01 00:00:00
【引文索引类型】其他
【引文索引号】无
【学科分类】植物保护学

【题目】Local Regularized Least-Square Dimensionality Reduction
【中文关键词】EIGENMAPS; MANIFOLDS
【英文关键词】EIGENMAPS; MANIFOLDS
【中文摘要】In this paper, we propose a new nonlinear dimensionality reduction algorithm by adopting regularized least-square criterion on local areas of the data distribution. We first propose a local linear model to describe the characteristic of the low-dimensional coordinates of the neighborhood centered in each data point, and use regularized least-square criterion to evaluate the fitness of the low-dimensional embedding. Next, we form an optimization task similar to the graph Laplacian and efficiently retrieve the solution via eigenvalue decomposition. The relationship between our method and the Laplacian Eigenmaps are discussed, and experimental results are presented.
【英文摘要】In this paper, we propose a new nonlinear dimensionality reduction algorithm by adopting regularized least-square criterion on local areas of the data distribution. We first propose a local linear model to describe the characteristic of the low-dimensional coordinates of the neighborhood centered in each data point, and use regularized least-square criterion to evaluate the

fitness of the low-dimensional embedding. Next, we form an optimization task similar to the graph Laplacian and efficiently retrieve the solution via eigenvalue decomposition. The relationship between our method and the Laplacian Eigenmaps are discussed, and experimental results are presented.
【语种】英文
【第一作者】Jia Yangqing
【通讯作者】Jia Yangqing
【期刊名称、卷期、页码】19TH INTERNATIONAL CONFERENCE ON PATTERN RECOGNITION
【论文发表时间】2008-11-08 00:00:00
【引文索引类型】EI
【引文索引号】BJC36
【学科分类】应用数学

【题目】北京地区非洲菊叶斑病病原菌鉴定
【中文关键词】链格孢; 细极链格孢; ITS
【英文关键词】Alternaria alternata; A. tenuissima; ITS
【中文摘要】采用离体叶片接种致病性测定、形态学观察和分子鉴定方法对非洲菊叶斑病病原进行鉴定。从北京某花卉基地采集非洲菊叶斑病样,分离获得22个真菌分离物,分别记作GL1-GL22。经过致病性试验证实,分离物GL14和GL22为非洲菊叶斑病病原菌。经形态学鉴定,GL14为细极链格孢Alternaria tenuissima,GL22为链格孢Alternaria alternata。采用真菌通用引物对GL14和GL22 rDNA的ITS区进行PCR扩增,并将测序结果在GenBank中进行同源性比对分析,分子鉴定与形态学鉴定结果一致。
【英文摘要】The pathogens of gerbera spot disease were identified on the basis of pathogenic test,as well as morphological characters and molecular identification.Diseased gerbera samples were collected from a gerbera plantation in Beijing.Twenty-two isolations of possible pathogenic fungi were isolated from leaves of gerbera plants.The results showed that GL14 and GL22 were the pathogens of gerbera spot disease.Morphological identification showed that GL14 was Alternaria tenuissima and GL22 Alternaria alternata.ITS se...
【语种】中文
【第一作者】刘芳
【通讯作者】刘红霞
【期刊名称、卷期、页码】菌物学报
【论文发表时间】2010-01-01 00:00:00
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【引文索引号】无
【学科分类】植物保护学

【题目】中国大陆新纪录种;石蒜绵粉蚧(Phenacoccus solani Ferris)
【中文关键词】石蒜绵粉蚧 大陆新纪录 北京 新疆
【英文关键词】无
【中文摘要】石蒜绵粉蚧(Phenacoccus solani)Ferris为中国大陆新纪录种,本文介绍了其形态特征、地理分布、寄主和为害等。
【英文摘要】无
【语种】中文
【第一作者】王珊珊
【通讯作者】武三安
【期刊名称、卷期、页码】植物检疫
【论文发表时间】2009-12-01 00:00:00
【引文索引类型】其他
【引文索引号】无
【学科分类】植物保护学

【题目】中国大陆有害蚧虫名录及组成成分分析(半翅目:蚧总科)

【中文关键词】有害蚧虫名录 区系分析 中国大陆
【英文关键词】无
【中文摘要】以生物学或防治措施是否被研究作为有害蚧虫的判断标准,对我国大陆的有害蚧虫做了全面汇总。在我国大陆16科249属830种蚧虫中,有害蚧虫有13科84属211种,其中旌蚧科1属1种,珠蚧科4属13种,绵蚧科3属6种,粉蚧科19属40种,毡蚧科3属11种,胶蚧科2属3种,红蚧科2属6种,链蚧科4属7种,壶蚧科2属4种,球链蚧科2属2种,蚧科16属36种,仁蚧科1属1种,盾蚧科25属81种。通过对207种进行区系分析后表明:89种为东亚成分,52种广布于5或6个世界动物地理分布区,22种分布于3或4个世界动物地理分布区,全北成分17种,古北成分13种,东洋成分7种。
【英文摘要】无
【语种】中文
【第一作者】武三安
【通讯作者】武三安
【期刊名称、卷期、页码】北京林业大学学报
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【引文索引号】无
【学科分类】植物保护学

【题目】中国粉蚧属-新纪录种(半翅目,蚧总科,粉蚧科)
【中文关键词】菲律宾粉蚧 新纪录种 幼期形态 中国
【英文关键词】无
【中文摘要】菲律宾粉蚧Pseudococcus philippinicus Williams,2004为中国新纪录种。重描了雌成虫的形态特征,首次记述了各龄若虫的形态特征,绘制了各龄的形态特征图,拍摄了各虫龄的外形照片。最后,还编制了粉蚧属中国已知种类检索表。
【英文摘要】无
【语种】中文
【第一作者】王珊珊
【通讯作者】武三安
【期刊名称、卷期、页码】动物分类学报
【论文发表时间】2010-01-01 00:00:00
【引文索引类型】其他
【引文索引号】无
【学科分类】植物保护学

【题目】原料乳热处理条件对Mozzarella干酪品质的影响
【中文关键词】乳源阿片肽 理化特性 制备和检测 生理功能
【英文关键词】Opioid peptide derived from milk;physical and chemical characters;preparation and determination methods;biological functions
【中文摘要】采用3×3拉丁方试验设计,3个奶酪槽中原料乳热处理条件分别设为未杀菌,63℃(30 min)杀菌,72℃(15 s)杀菌.研究干酪加工中原料乳热处理条件对Mozzarella干酪的品质的影响.结果表明,未杀菌乳制干酪的蛋白水解、硬度及弹性与杀菌乳制干酪的蛋白水解、硬度及弹性值具显著差异(p<0.05),未杀菌乳制干酪的蛋白水解显著增加,弹性及硬度显著降低;63℃(30 min)及72℃(15 s)不同杀菌温度处理的乳制得的干酪之间蛋白水解、硬度及弹性无显著差异;不同热处理乳制干酪之间的融化性和油脂析出性在统计学上无显著差异.
【英文摘要】This study compared the efect of heat treated of row milk on quality of M ozzarela cheese.The cheese making was replicated on 3 diferent d using a 3~3 Latin square design.The condition ofheat treated was set without sterilization,63~(2 30min,72~(2 15s in three vat,The result is the flee oil formation and meltability of the cheese was not afected by heat treated.hardness and springiness of M ozzarela cheese made by milk that without sterilization,significandy decreased.,Proteolysis significandy increased.
【语种】中文
【第一作者】任星环
【通讯作者】吕加平
【期刊名称、卷期、页码】中国乳品工业,2006,34(5):11-14

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【学科分类】食品科学技术其他学科

【题目】乳源阿片活性肽的研究概况
【中文关键词】乳源阿片肽 理化特性 制备和检测 生理功能
【英文关键词】Opioid peptide derived from milk;physical and chemical characters;preparation and determination methods;biological functions
【中文摘要】乳不仅营养丰富,而且含有许多具有特定生理功能的肽段。其中具有阿片活性的一类肽正日益成为研究的热点。本文就乳源阿片肽的理化特性、制备和检测方法以及生理功能进行了综述。
【英文摘要】Milk has not only abundant nutrition but also specifically functional peptides. Opioid peptides derived from milk have been becoming one of the key researches. In this paper, the physical and chemical characters ,preparation and determination methods and biological functions are summarized
【语种】中文
【第一作者】周俊清
【通讯作者】吕加平
【期刊名称、卷期、页码】中国乳品工业,2006,34(10): 45-48
【论文发表时间】2006-06-01 00:00:00
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【学科分类】食品科学技术其他学科

【题目】干酪的成熟及其风味物质
【中文关键词】干酪 成熟 风味物质
【英文关键词】cheese;ripenness;flavour
【中文摘要】对干酪的成熟机理和风味物质的形成进行了综述,并介绍了一些干酪的主要风味物质和测定方法以及存在的问题和发展趋势。
【英文摘要】This paper fouses on ripenness,and production of flavour,and review flavour of some cheeses and assay methods,the existent problem and the direction of development.
【语种】中文
【第一作者】褚中秋
【通讯作者】吕加平
【期刊名称、卷期、页码】中国乳品工业,2006,34(12):42-45
【论文发表时间】2006-06-01 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】食品科学技术其他学科

【题目】变性对转谷氨酰胺酶在乳蛋白间交联影响初探
【中文关键词】变性 转谷氨酰胺酶 乳蛋白 交联
【英文关键词】Denaturation;Transglutaminase;Milk protein;Cross—linking
【中文摘要】利用SDS-PAGE电泳结合凝胶成像分析技术,比较了在非变性、加入还原剂变性和加热后再加入还原剂变性三种条件下转谷氨酰胺酶对酪蛋白和乳清蛋白之间的交联情况。结果表明:在非变性条件下,酪蛋白质量分数下降96%,乳清蛋白下降15%,酪蛋白和乳清蛋白几乎不能交联。超分子量聚合物是酪蛋白单一聚合物,α-乳白蛋白形成部分低聚体;在加入还原剂时,酪蛋白质量分数下降86%,乳清蛋白下降30%,反应4h后有少量乳清蛋白和酪蛋白中某一组分交联;预热更有助于酪蛋白和乳清蛋白聚合,在第三种条件下,反应24h后乳清蛋白下降60%。
【英文摘要】"The ClOSS-linking of sodium caseinate and whey protein isolate(WPI)at three different conditions using transglutaminase(Tgase)wasstudied.The extent of polymerization was detemined SDS-PAGE associated with gel image analysis.It showed:(a)it is impossble for the CROSS—linking between sodium caseinate and whey protein isolate at the nativecondition by Tgase

because of different spatial structures.dLA producesome monopolymem.(b)30%whey protein isolate and 86%easeinatewere polymerized by Tgase with addition of 20 mmol/L DTT,.B—LG pro—duce monopolymem after 8 h.(C)Preheating facilitated the CroSS—linkingbetween caseinate and whey protein isolate,for we found that 24 h later60%WPI and 74%CN were reduced simultaneously with addition of20 mmoL/L DTT after preheated.80 oC 20 min."
【语种】中文
【第一作者】刘心伟
【通讯作者】吕加平
【期刊名称、卷期、页码】食品与机械,2006,22(1):11-14
【论文发表时间】2006-07-01 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】食品科学技术其他学科

【题目】体细胞数对乳制品加工品质的影响及其快速检测方法
【中文关键词】体细胞数 检测 染色 近红外光谱
【英文关键词】somatic cell count,detection,staining,NIR
【中文摘要】阐述了体细胞数对乳的组成和乳制品加工的影响,对各种常用检测原料乳中体细胞数的方法、原理、操作、优缺点及其应用作了简要介绍,并对体细胞数快速检测做了探讨.
【英文摘要】This review summarizes the effect of a high somatic cell count on milk composition and dairy products procedure.A complete introduction for the theory of common methods about detecting somatic cell count,the operation,advantage and disadvantage and it's application were summarized.Moreover the immportance to rapidly detect SCC were also discussed.
【语种】中文
【第一作者】王益
【通讯作者】吕加平
【期刊名称、卷期、页码】食品与发酵工业,2006,32(12):114-118
【论文发表时间】2006-07-01 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】食品科学技术其他学科

【题目】费氏丙酸杆菌在不同基质中转化生成共轭亚油酸的研究
【中文关键词】共轭亚油酸 费氏丙酸杆菌费氏亚种 MRS乳酸钠培养基 脱脂乳培养基
【英文关键词】conjugated linoleic acids; P.freudenreichii ssp.freudenreichii; MRS; SLM; skim-milk;
【中文摘要】研究了在MRS、乳酸钠和脱脂乳三种培养基质下温度、时间、底物浓等因素对P.freudenreichii
【英文摘要】The effects of temperature,time and sunflower oil level on the formation of conjugated linoleic acids(CLA)by P.freudenreichii ssp.freudenreichii in MRS/SLM and skim-milk were investigated.The formation of CLA in three media was observed and the growth of P.freudenreichii ssp.freudenreichii was inhibited by sunflower oil in the media.Inoculation of P.freudenreichii ssp.freudenreichii into MRS medium under anaerobic conditions for 24h incubation is most effective in promoting CLA formation
【语种】中文
【第一作者】王丽敏
【通讯作者】吕加平
【期刊名称、卷期、页码】食品科学,2006,27(8):79-82
【论文发表时间】2006-08-01 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】食品科学技术其他学科

【题目】Production of conjugated linoleic acid by propionibacterium freudenreichii
【中文关键词】共轭亚油酸

【英文关键词】"Conjugatedlinoleicacid;
P. freudenreichii;
SLM;
MRS;
Skim-milk
"
【中文摘要】共轭亚油酸
【英文摘要】Two strains each of Propionibacteriumfreudenreichii ssp. shermanii and P. freudenreichii ssp. freudenreichii were tested for their ability to produce conjugatedlinoleicacid (CLA) in sodium lactate medium (SLM), De Man-Rogosa-Sharpe (MRS) medium and skim-milk. Data showed that both strains were able to produce CLA in three media supplemented with different concentrations of sunflower oil. Maximum production of CLA (78.8 μg/ml) was observed after 36 h of incubation in MRS containing 12 mg/ml of sunflower oil by P. freudenreichii ssp. shermanii. Moreover, the growths of both strains were inhibited by sunflower oil and a positive relationship between CLA production and ability to tolerate sunflower oil was observed. At the same time, it was also observed that the inhibitory effects on P. freudenreichii ssp. shermanii and P. freudenreichii ssp. freudenreichii in three media follow the order SLM > skim-milk > MRS and SLM > MRS > skim-milk, respectively. Micro aerobic conditions were in favour of increasing the amounts of CLA. The amounts of CLA increased from 0 to 36 h under micro aerobic conditions and no significant ($p > 0.05$) increases in total CLA levels were observed after 80 h of incubation. Results showed that P. freudenreichii may have potential for producing CLA
【语种】英文
【第一作者】王丽敏
【通讯作者】吕加平
【期刊名称、卷期、页码】Food Chemistry,2007,103(2):313-318
【论文发表时间】2007-02-01 00:00:00
【引文索引类型】SCI
【引文索引号】10.1051
【学科分类】食品科学技术其他学科

【题目】现代奶业发展中的科技创新
【中文关键词】奶业发展 科技创新 农业产业结构 “十五”期间 奶牛饲养业 乳品加工业 膳食结构 城乡居民
【英文关键词】heat resistant proteinase;UHT milk;control;
【中文摘要】“十五”期间,我国奶业实现了高速增长,奶牛饲养业成为畜牧业中发展最快的产业,乳品加工业成为食品工业中发展最快的行业.中国的乳业对改善城乡居民膳食结构、提高国民身体素质,调整农业产业结构和增加农民收入,缓解三农问题等正发挥着不可替代的作用.
【英文摘要】heat resistant proteinase;UHT milk;control;
【语种】中文
【第一作者】吕加平
【通讯作者】吕加平
【期刊名称、卷期、页码】中国乳业,2007,(2):19-20
【论文发表时间】2007-02-01 00:00:00
【引文索引类型】其他
【引文索引号】10.1051
【学科分类】农业经济学

【题目】关于乳品企业新产品开发的几点看法
【中文关键词】乳品企业 新产品开发 几点看法 乳品消费 科技投入 技术水平 乳业 市场定位 竞争 矛盾
【英文关键词】milk protein;pH value;bienzymafic hydrolysis;degree of hydrolysis
【中文摘要】"2007年新年伊始,各大乳品企业就纷纷推出了新产品,如伊利的有机奶、蒙牛的真颗粒常温牛奶、三鹿的益生元奶粉,上海光明的健能AB100益生菌优酪乳酸牛奶等,雀巢、黑龙江完达山、北京三元、湖南亚华乳业等的新产品也不断上市。这是否预示着我国乳品企业的竞争开始进入一个新的阶段,即产品开发的竞争?乳品企业又应该如何应对这种竞争?本刊编辑部特别约请了来自科研院校、乳品企业和营销公司的乳品专家为广大读者出谋划策,以共同推动中国乳品加工业的发展。"

【英文摘要】milk protein;pH value;bienzymafic hydrolysis;degree of hydrolysis
【语种】中文
【第一作者】吕加平
【通讯作者】吕加平
【期刊名称、卷期、页码】中国乳业,2007.3
【论文发表时间】2007-03-01 00:00:00
【引文索引类型】其他
【引文索引号】10.1051
【学科分类】食品科学技术其他学科

【题目】双酶法在pH自然条件下水解乳蛋白的研究
【中文关键词】"乳蛋白 pH值 双酶水解 水解度 自然变化 木瓜蛋白酶 复合蛋白酶 添加量 物质量浓度 蛋白酶酶活
"
【英文关键词】milk protein;pH value;bienzymafic hydrolysis;degree of hydrolysis
【中文摘要】研究了6种商品化蛋白酶在反应体系pH值自然变化下水解乳蛋白的情况,继而对两种酶复配水解乳蛋白进行了研究。结果表明,双酶水解乳蛋白的最佳条件为底物质量浓度为70 g/L,木瓜蛋白酶酶活添加量为3000 U/g,水解50 min后,加入酶活添加量为2000 U/g的Protamex,继续水解150 min,水解度可达25.12%。
【英文摘要】"Abstract:The high level salt content in the milk protein pepfide produced by the traditional process is one of the major limitations for itsmore extensive use.M ilk protein WaS enzymatically hydrolyzed by six com mercial proteases in the pH naturally changed condition in this pa——per.Then bienzym e method hydrolysis Ilmk protein was studied.The optimum parameters of the bienzyme hydrolysis were:Content of sub—strate 7%;enzyme amount Papain 3000 U/g,Protam ex 2000 U /g;Firstly,Papain hydrolyzed 50rain and then added Protam ex till 200min.The hydrolysis degree reached 25,12% ,"
【语种】中文
【第一作者】周俊清
【通讯作者】吕加平
【期刊名称、卷期、页码】中国乳品工业,2007.35(12):4-7
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【引文索引号】
【学科分类】食品科学技术其他学科

【题目】牛乳中嗜冷菌数与胞外蛋白酶活性相关性的研究
【中文关键词】牛乳,嗜冷菌,蛋白酶
【英文关键词】milk;psychrotrophic bacteria;proteinase
【中文摘要】"主要研究了牛乳中嗜冷菌数与其产生的耐热性胞外蛋白酶活性的相关性。从原料乳中分离出一株优势嗜冷菌,实验室初步鉴定后用API20NE系统进行鉴定,鉴定该菌为荧光假单胞菌(Pseudomonas Fluorescens),产酶实验结果表明,该菌产耐热性胞外蛋白酶。利用该菌株研究牛乳中单一嗜冷菌菌数与蛋白酶活性的关系,结果表明菌数与蛋白酶活性呈一定正相关,回归方程为Y=0.4548ln(X)+0.4178,决定系数R2=0.8172,相关系数R=0.9039,差异极显著(P<0.01);自然状态下,原料乳中嗜冷菌数与蛋白酶活性关系实验结果表明,原料乳在不同条件下贮存,嗜冷菌数有明显的增加趋势,但原料奶中嗜冷菌数和蛋白酶活性之间没有多少相关性。"
【英文摘要】Pseudomonas Fluorescens,a raw milk isolate and producingheat resistant extracellular proteinase,was identified by API20NE It was used to study relativity of psychrotrophic bacteria count and extracellular proteinase activity in raw milk Least squares analyses showed that the count of single psychrotrophic bacteria were positively related (R=0 9039) to proteinase activity(p<0 01),regression equation was Y=0 4548ln(X)+0 4178 The other result showed: in nature,however,psychrotrophic bacteria count in raw milk increased significantly with temperature and time,there had no better relative coefficient between psychrotrophic bacteria count and proteinase activity
【语种】中文
【第一作者】周俊清
【通讯作者】吕加平

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【引文索引类型】其他
【引文索引号】
【学科分类】食品科学技术其他学科

【题目】乳蛋白肽微生物脱苦的研究概述
【中文关键词】乳蛋白肽 微生物 脱苦
【英文关键词】milk protein peptides;mi crobiology;debitering
【中文摘要】乳蛋白是人类膳食的重要来源之一,其水解物不仅能够提供丰富营养还具有许多生理功能,因此已经成为众多学者研究的重点,具有广阔的发展空间。但水解物的苦味长期困扰着其应用,成为了一个亟待解决的问题。论述了乳蛋白肽的苦味形成及苦味降低、控制的方法,重点概述了微生物法(如细菌、霉菌、酵母等)脱苦。
【英文摘要】"milk protein is one of the most impo~ant sources of the peoples food.Its hydrolysates provide not only nutrition but also physicalfunctions.It has become the focus of a lot of studies and its future is bright.The bitterness of hydrolysates is a serious problem which limits itsapplication and needs resolve urgently.This paper summarized the causes of production of bitter peptides in milk protein hydrolysates.In thesame time the development of methods of reduction and elimi nation of biterness,especially microbial de—bittering method(bacteria、molds、yeast),in enzymatic milk protein hydroly—sates is also introduced"
【语种】中文
【第一作者】孟雅潇
【通讯作者】吕加平
【期刊名称、卷期、页码】中国乳品工业,2008, 36(3):38-41
【论文发表时间】2008-03-01 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】生物学其他学科

【题目】自然酸度下乳蛋白酶解动态分析及其物化特性研究
【中文关键词】" 水解度 三氯乙酸可溶性氮含量 乳蛋白肽 pH值 理化特性
"
【英文关键词】degree of hydrolysis trichloroacetic acid-soluble nitrogen milk-protein peptide pH physico-chemical
【中文摘要】"通过在自然变化pH值和人工调控恒定pH值两种酸度下,四种蛋白酶水解乳蛋白的动态分析及测定前种方法的酶解产物的主要理化特性,特别是苦味特性,以期筛选出低苦味水解酶及水解工艺。以蛋白水解度(DH)和10%三氯乙酸可溶性氮含量(TCA-SN)为指标,比较四种蛋白酶在两种工艺下水解的情况。以溶解度、黏度、苦味和蛋白水解电泳图谱指标研究了自然pH值条件下四种酶解物的理化特性。结果表明:四种蛋白酶分别在两种处理条件下的水解度和可溶性氮含量差异不大;pH未恒定条件下得到的酶解物与乳蛋白相比,在酸性范围内有较大的溶解度;蛋白浓度升高时,黏度变化不大;四种酶解物中Neutrase和木瓜蛋白酶的苦味最强,Protamex的苦味最小;SDS-PAGE电泳表明,两种中性蛋白酶主要水解乳中的酪蛋白。因此可用本研究选用的四种蛋白酶在pH值自然变化条件下酶解乳蛋白,从而简化酶解工艺,并且该酶解物都有较好的理化特性。"
【英文摘要】The dynamic analysis of protease hydrolysis of milk protein in pH naturally changed and controlled conditions was studied and the physico-chemical properties, especially the bitter taste, of hydrolysates with the former method was further investigated to select the right protease for less bitter hydrolysates and the proper hydrolysis technique. The two indexes, degree of hydrolysis and 10% trichloroacetic acid-soluble nitrogen(TCA-SN) content, were used to compare the four kinds of proteolysis in naturally changed pH and controlled conditions. The solubility, viscosity, bitter taste and protein hydrolyzed conditions of the four hydrolysates produced by the pH naturally changed technique were further studied to find their physicochemical properties. The results showed: There is little difference on hydrolysis degree and TCA-SN content between the two techniques; Compared with the milk protein, the hydrolysates show good solubility in acidic condition. Viscosity does not change much with the improvement of concentration. Hydrolysates produced by Novo Neutrase and Papain are the most bitter while by Novo Protamex less bitter. SDS-PAGE showed that the two neutrases mainly hydrolyze milk protein casein. In a word, these four enzymes can be used to hydrolyze milk protein in the naturally changed pH conditions in order to simplify the hydrolyzed process, to give the hydrolysates good properties.

【语种】中文
【第一作者】周俊清
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【学科分类】生物学其他学科

【题目】工艺条件对Camembert干酪品质及得率影响的研究
【中文关键词】Camembert干酪 加工工艺 品质 得率
"
【英文关键词】Camembert cheese; processing; quality; yield
【中文摘要】通过单因素和正交实验,针对干酪加工关键工艺条件对Camembert品质的影响进行了研究。结果表明,生产Camembert干酪的最佳工艺参数为凝乳温度28℃,发酵剂添加量0.3g/L,凝乳酶(活力1150U/mL)添加量0.008%。在这一条件下,可得到较高的干酪得率及较好的产品品质。"
【英文摘要】"Effect of technology on Camembert cheese quality and product yield WANG Zhi-fei1,LV Ja-ping1,ZHANG Li-yu2,SONG Jin-hui1, ZHANG Shu-wen3 (1. Institute of Agro-food science and Technology, Chinese Academy of Agriculture Science,Beijing 100193 ,China;2. Life Science and Technology College, Inner Mongolia Nomal University, Huhhot 010018,China;3.Key Laboratory of Dairy Biotechnology and Engineering,Ministry of Education, Inner Mongolia Agricultural University, Huhhot 010018, China) Abstract: Processing of Camembert cheese was investigated in this paper by single factor and orthogonal experiments. The results showed that the optimized processing parameters of Camembert cheese were coagulating temperature (28 ℃) addition of 0.3 g/L starter, addition of 0.008% rennet(activity 1150 U/mL). In this condition, the cheese can be a higher yield and better product quality."
【语种】中文
【第一作者】王知非
【通讯作者】吕加平
【期刊名称、卷期、页码】中国乳品工业,2009,37(6):20-24
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【引文索引号】
【学科分类】生物学其他学科

【题目】不同体细胞数牛乳中纤溶酶热变性动力学研究
【中文关键词】HSCC牛乳 LSCC牛乳 纤溶酶 热变性 动力学 表观活化能
【英文关键词】HSCC milk LSCC milk plasmin thermo-inactivation kinetic apparent activation energy
【中文摘要】通过对高体细胞数(HSCC,100万个/ml)和低体细胞数(LSCC,30万个/ml)原料乳中纤溶酶进行65-130℃范围内热处理,探究牛乳体系中纤溶酶热变性动力学规律。结果表明:纤溶酶在热变性过程中显示了典型的一级动力学方程(n=1);经不同热处理后,牛乳中纤溶酶活性均下降;65-85℃范围的巴氏杀菌对纤溶酶活性影响不显著(P〉0.05),超高温灭菌处理对纤溶酶活性影响显著(P〈0.05);HSCC样品在≤110℃范围内的D值都大于LSCC样品,在T=130℃时,HSCC样品的D值为53.76s,LSCC样品D值为58.94s;HSCC和LSCC乳中纤溶酶热失活表观活化能Ea在65-95℃范围内分别为65.76kJ/mol和57.26kJ/mol,在95~130℃范围内分别为22.12kJ/mol和21.48kJ/mol。结论:巴氏杀菌范围内,热处理对牛乳中纤溶酶活性影响不显著,HSCC乳中纤溶酶活性比LSCC乳中的更稳定些;超高温灭菌处理后,两样品中纤溶酶活性明显下降,稳定性无差异。
【英文摘要】The thermo-inactivation kinetic law of plasmin in milk was studied by heating high somatic cell count (HSCC) and low somatic cell count (LSCC) milk at 65 130 , respectively. Results revealed that plasmin inactivation kinetics in milk was in agreement with classic first-order equation. Plasmin activity decreased through heating at different temperatures. No significant difference of plasmin activity was observed after pasteurization at 65 85 (P 0.05), but plasmin activity of either HSCC or LSCC milk exhibited a significant difference through thermal treatments at ultra-high temperatures (P 0.05). The D value (the time for 90% plasmin inactivation) of HSCC milk was larger than that of LSCC milk below 110 ; however, the D-value was determined to be 53.75 s for HSCC milk and 58.94 s for LSCC milk at 130 , respectively. The apparent activation energy (Ea) for HSCC and LSCC milk was 65.76 and 57.26 kJ/mol at 65

95 , 22.12 and 21.48 kJ/mol at 95 130 , respectively. Therefore, no significant difference for plasmin activity is observed in high and low SCC milk with low temperature treatments (65 85) through pasteurization. Moreover, HSCC milk shows a higher stability than LSCC milk. In contrast, both HSCC and LSCC milk exhibit an obvious decrease in plasmin activity and no difference in thermostability through ultra-high temperature treatments.
【语种】中文
【第一作者】王辉
【通讯作者】吕加平
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【学科分类】食品科学技术其他学科

【题目】离心条件对冻干菌株存活率影响的研究
【中文关键词】嗜酸乳杆菌 离心 冻干 存活率
【英文关键词】Lactobacillus acidophilus centrifugation freez drying survival rate
【中文摘要】选择酶解乳清培养基为离心基质,研究了不同的离心条件对于冻干后活菌存活率的影响,确定了冻干后活菌存活率最高的适宜离心条件。结果表明:在8000r/min、10min条件下离心的活菌存活率最高;在4000r/min,10min条件下离心的活菌冻干存活率最高,贮藏期内的损失最小,益生菌冻干制剂的活菌数高;离心温度对于活菌离心存活率的影响不显著。
【英文摘要】The effect of centrifugation conditions (speed, duration, temperature) on the survival rates of Lactobacillus acidophilus was studied. Whey hydrolysate was chosen to be the centrifugation medium. Results indicated that Lactobacillus acidophilus concentrated at 8000r/min for 10min displayed the best survival rate in the period of centrifugation but a better survival rate at 4000r/min for 10min in both freezing and frozen storage.The freeze-dried powder of Lactobacillus acidophilus showed the highest cell viability when concentrated at 4000r/min for 10min.Temperature didn't significantly influence the survival rate in the period of centrifugation.
【语种】中文
【第一作者】宋金慧
【通讯作者】吕加平
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【学科分类】食品科学技术其他学科

【题目】再制干酪加工技术的研究进展
【中文关键词】再制干酪 加工技术 加工设备 研究进展
【英文关键词】processed cheese process technology process equipment research progress
【中文摘要】介绍了再制干酪加工技术的研究进展,包括原料干酪的选择、乳化盐的种类及其添加量、加水量、pH等对再制干酪功能性质的影响和再制干酪加工设备及包装的最新进展情况。
【英文摘要】The review of technology of processed cheese, including the effection on the functional properties of processed cheese :the selection of raw material ,the variety of emulsifier,the addition ratio, additive water amount and the pH is introduced in this paper.And also,the newest research progress of equipments and packaging.
【语种】中文
【第一作者】谢跃杰
【通讯作者】吕加平
【期刊名称、卷期、页码】食品工业科技,2009,(12):432-439
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【学科分类】食品科学技术其他学科

【题目】再制干酪物化特性及加工工艺的研究
【中文关键词】"再制干酪,物化特性,加工工艺,正交实验
"
【英文关键词】"processed cheese;physicochemical properties;processing technology;orthogonal experiment
"
【中文摘要】经过L16(45)正交实验设计,对制作出的再制干酪进行水分、pH、熔化性、油脂分离度的测定,并且对其进行感官评价。利用流变仪,测定再制干酪在降温过程中黏度值变化,初步确定了再制干酪适宜的灌装温度。结果表明,加水量对再制干酪水分和油脂分离度的影响极显著(P<0.01),乳化盐添加量对产品最终pH的影响极显著(P<0.01),乳化温度对熔化性的影响极显著(P<0.01)。对黏度的影响大小顺序为乳化盐>原料>乳化速度>乳化温度>加水量。再制干酪适宜的灌装温度为45℃左右。
【英文摘要】According to orthogonal experimental design L16(45),the moisture,pH,meltability and oil separation index of processed cheese were tested,also including sensory evaluation. Canning temperature of processed cheese when mensurating viscosity changes with the cooling of cheese were confirmed preliminarily using a rheometer. The results indicated:Adding water significantly affected the moisture and oil separation index(P<0.01) Emulsify salts affected the pH of final products significantly(P<0.01). Cooking temperature significantly affected meltability(P<0.01). As for the influence on viscosity,emulsify salts>raw material>auger speed>cook temperature>adding water. 45℃ was the most suitable canning temperature for processed cheese
【语种】中文
【第一作者】谢跃杰
【通讯作者】吕加平
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【学科分类】食品科学技术其他学科

【题目】乳清微滤工艺及处理效果研究
【中文关键词】乳清微滤;中试;组分变化;冷杀菌
【英文关键词】post—sterilization technology,stirred yoghurt,long shelf—life
【中文摘要】选用平均孔径为0.2μm的中空陶瓷膜,通过截留液全循环的间歇错流方式构建了中试规模的微滤系统,研究了其对乳清预处理的效果。结果表明,细菌截留率可到达99.95%。试验还分析了不同的操作方式对微滤后乳清透过液组分的影响,通过聚丙烯酰胺凝胶电泳分析了乳清蛋白各组分含量变化:将微滤与传统离心处理效果进行了比较,发现其预处理效果优离心处理。
【英文摘要】"Utilizingthehollowceramicmembraneof0.2Ixmgradeporesize,wheyretentionwasrecirculatedbythestyleofintermittentcross—flowinmicrofiltration(ME)systemofpilot—scale,andtheefectsonsterilizingofitwasstudied.Theresultshows,theretentionrateofbacteriareaches99.95%.Inthisexperiment,theinfluenceOnthecomponentsofMF—permeateindiferentoperationmodeofmicrofiltrationwasresearched,andthevarianceofcomponentsinwheyproteinwasanalyzedbypolyacrylamidegelelectrophoresismethod.Comparedwiththetraditionaltreatmentofcentrifuge,theefectofmicrofiltrafionisbetter."
【语种】中文
【第一作者】张立宇
【通讯作者】吕加平
【期刊名称、卷期、页码】中国乳品工业,2009,37(9):4-7
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【引文索引类型】其他
【引文索引号】
【学科分类】食品科学技术其他学科

【题目】后杀菌技术对延长搅拌型酸奶保质期的研究
【中文关键词】" 后杀菌技术 搅拌型酸奶 长保质期
"
【英文关键词】post—sterilization technology,stirred yoghurt,long shelf—life
【中文摘要】研究了用后杀菌技术和复配稳定剂延长搅拌型酸奶保质期的工艺。结果表明,将复配稳定剂应用于后杀菌技术中,由L_9(3~4)正交试验确定酸奶后杀菌的优化工艺条件是:温度64℃,时间20s。贮藏试验表明,后杀菌酸奶在常温下保质期为20d,其乳酸菌活菌数、黏度、色泽和风味都与普通酸奶相近。
【英文摘要】"The technology of post— sterilization and stabilizer blends to extend shelf life of stirred yoghurtwas studied.The optimum condition for post— sterilization was the temperature at 64°C and the time of 20s.The storage experiment showed:the shelf life of yoghurts by post— sterilization technology was prolonged to20d at 25°C and the number of living lactic acid bacteria,viscosity,chromaticity,and flavor were close tothat of ordinary yoghurt S."
【语种】中文
【第一作者】李向东
【通讯作者】吕加平
【期刊名称、卷期、页码】食品与发酵工业,2008,34(6):146-151
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【学科分类】食品科学技术其他学科

【题目】酪蛋白肽及其水相肽、醇相肽功能特性的研究
【中文关键词】酪蛋白肽 苦味肽 理化特性 生理活性
【英文关键词】"casein peptide bitter peptide physicochemical property biological activity
"
【中文摘要】用Alcalase碱性蛋白酶水解酪朊酸钠制备酪蛋白肽,并用异丁醇萃取获得有强烈苦味的醇相肽和无苦味的水相肽。分别对酪蛋白肽及其水相肽、醇相肽进行了功能特性的研究。结果表明:在2。11的广泛pH值范围内,三样品的溶解性都较好。乳化性、乳化稳定性及起泡性、泡沫稳定性都极显著低于酪朊酸钠(p〈0.01)。水相肽与醇相肽相比:前者对超氧阴离子自由基和羟自由基的清除率较高,对假单胞菌、金黄色葡萄球菌、大肠杆菌、藤黄微球菌的抑制作用较强;而后者对DPPH自由基的清除和在亚油酸体系中抗氧化能力较大,对枯草芽孢杆菌的抑制作用较强。酪蛋白肽及其水相肽、醇相肽都能抑制血管紧张转换素酶(ACE)活性,其中水相肽的抑制率最高。由于具有阿片活性的酪啡肽β-Casomorphin-5、β—Casomorphin-7均为平均疏水度较高的小肽,因此两种肽大部分存在于醇相萃取的肽组分中,而水相中含量较少。
【英文摘要】Lactobacillus casei Zhang is a novel strain that was screened out of koumiss collected in Inner Mongolia, and our previous research showed that L. casei Zhang has health benefits such as cholesterol-reducing and immunomodulating effects. The fermentation characteristics of L. casei Zhang in soymilk and bovine milk and the transit tolerance of L. casei Zhang in fermented milk products during refrigerated storage for 28 d were assessed. A faster decrease in pH and faster growth of L. casei Zhang during fermentation were observed in soymilk compared with bovine milk at various inoculation rates, probably because of the low pH buffering capacity of soymilk. The fermented bovine milk samples had much higher final titratable acidity (TA) values (between 0.80 and 0.93%) than the soymilk samples (between 0.40 and 0.46%). Dramatic increases in TA values in the fermented soymilk samples during storage were observed, and the TA values of the fermented soymilk samples changed from <0.56% to values between 0.86 and 0.98%. On the other hand, only slight increases in TA were observed in the bovine milk samples during the 28 d of storage. The survival rates of freshly prepared cultures of L. casei Zhang in simulated gastric juice at pH 2.0 and 2.5 were 31 and 69%, respectively, and the delivery of L. casei Zhang through fermented soymilk and bovine milk significantly improved the viability of L. casei Zhang in simulated gastric transit. Lactobacillus casei Zhang showed good tolerance to simulated gastric juice and intestinal juice in the fermented soymilk and bovine milk samples, and maintained high viability (>10(8) cfu/g) during storage at 4 degrees C for 28 d. Our results indicated that both soymilk and bovine milk could serve as vehicles for delivery of probiotic L. casei Zhang, and further research is needed to elucidate the mechanism of the change in pH and TA of L. casei Zhang in fermented milk samples during fermentation and storage and to understand the difference between soy- and milk-based systems.
【语种】中文

【第一作者】周俊清
【通讯作者】吕加平
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【学科分类】食品科学技术其他学科

【题目】植物果聚糖合成酶基因克隆及功能分析
【中文关键词】果聚糖;非生物胁迫;基因工程
【英文关键词】Fructan ; Abiotic stress; Gene cloning
【中文摘要】果聚糖是蔗糖来源的果糖多聚体,其类型常因聚合度的多寡、分支结构有无、相邻果糖基成键差异及葡萄糖位置不同而多种多样。果聚糖不仅是植物储存非结构性碳水化合物的形式之一,而且在干旱、低温等非生物胁迫中具有保护植物细胞免受伤害的作用。果聚糖作为一种益生素,对人体健康具有保健作用,有效减少或避免结肠癌、心血管疾病及骨质疏松等发病机率。就果聚糖的存在形式、生物合成代谢途径、果聚糖合成酶基因克隆和转化等研究做一介绍,并对植物中FBEs结构特点进行了讨论,同时对小麦中FBEs基因的拷贝数、染色体定位及亚细胞定位等研究进行了讨论,为从更多植物中分离FBEs基因,研究FBEs基因的作用方式和表达特性,以及利用转基因技术提高重要作物抗逆性奠定基础。
【英文摘要】Fructans play important roles not only as a carbon source but also as agents protecting high plants against abiotic stresses such as water deficit and low temperature. Moreover, they are also utilized as a probiotics in human diets, as low-calory sweeteners and are digested in the lower gut. Some related studies on fructan including its presence, biosynthesis or degradation pathway, encoding genes cloning and transformation were reviewed in this article, and the sequence features of fructan biosynthesis enzyme genes (FBEs) are also analyzed to clone the genes from more plants, study their function and expression one by one, and improve fructan accumulation in some important crops by gene engineering.
【语种】中文
【第一作者】殷桂香
【通讯作者】叶兴国
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【引文索引号】
【学科分类】农业基础学科

【题目】N+离子注入法选育高产葡萄糖耐量因子(GTF)酵母菌株
【中文关键词】N+离子注入 GTF 富铬酵母菌 筛选
【英文关键词】N+-Implantation GTF yeast Screening
【中文摘要】本研究通过铬耐量筛选的方式,从12株供试啤酒酵母中获得1株高耐铬性啤酒酵母菌株,并对该菌株进行N^+注入诱变,注入能量为50keV,注入剂量1×2.6×10^13、2×2.6×10^13、3×2.6×10^13、4×2.6×10^13、5×2.6×10^13和6×2.6×10^13ion/cm^2。结果表明,最适诱变的注入剂量为4×2.6×10^13ion/cm^2,得到1株高产GTF的啤酒酵母菌株M11-1A11,其富铬能力较诱变前提高了22.4%。经5次传代发酵培养,突变株的富铬性能稳定。
【英文摘要】"In this study, one of the highest chromium-resistant strain was screened from 12 the tested brewer's yeast, N+ ion Implantation was used to mutate this yeast and screened high-yield GTF yeast strains with Cromium tolerance method. The mutagenesis was conducted by 50 KeV N+ ion implantation with the dose of 1×2.6×1013、2×2.6×1013、3×2.6×1013、4×2.6×1013、5×2.6×1013、6×2.6×1013 icon/cm2。Results showed that the optimum N+ ion dose was 4×2.6×1013 icon/cm2,and a strain M11-1A11 of high-producted GTF was obtained. Its organic Cr content was increased by 22.4% than the original strain. Its fermentation property was stable after 5 generation transfer inoculation."
【语种】中文
【第一作者】高艳红
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【题目】高产葡萄糖耐量因子酵母的筛选及其发酵特性的研究
【中文关键词】葡萄糖耐量因子(GTF) 有机铬 航天诱变
【英文关键词】glucose tolerance factor(GTF);organic chromium;spaceflight—induced mutagenesis
【中文摘要】通过将供试菌株接种于梯度浓度含铬YEPD平板和液体YPD培养基中进行固体培养及液体发酵试验,利用氨水提取GTF和火焰原子吸收光谱法检测其有机铬含量,从本试验室收藏7株酵母菌种和7株经航天诱变育种的酵母菌种中筛选得到一株葡萄糖耐量因子的高产酵母,有机铬含量达1287μg/g,总铬含量达1917μg/g。同时研究了菌体发酵过程中,菌体有机铬富集量和其发酵参数的动态关系。
【英文摘要】"Through gradient concentration of chromium plates cultivation and liquid fermentation cultivation,a high-biarkass,producing glucose tolerance factor yeast strain v/as screened from seven yeast St~dJI'lS which were mutated by spaceflight-inducedmutagenesis.Extracting GTF with ammonia and determining the content of Cr with flame atomic absorption spectrometry,thecontent of organic Cr WaS 1287 g/g and that of total Cr WaS 1917 g/g.At the same time,dynamic relationship between otherparam eters and the amount of organic chaxanium WBS investigated during fermentation.""
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【第一作者】刘鹭
【通讯作者】吕加平
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【题目】空间搭载高产葡萄糖耐量因子(GTF)酵母的选育
【中文关键词】空间搭载 葡萄糖耐量因子 GTF 有机铬
【英文关键词】Space piggyback experiment Glucose tolerance factor GTF Organic chromium
【中文摘要】"葡萄糖耐量因子(GTF)是一种小分子的铬结合蛋白(肽),三价有机铬是其重要活性成分,含有半胱氨酸、天门冬氨酸、甘氨酸和谷氨酸。本项研究从本试验室收藏的7株啤酒酵母入手,探索一条通过航天诱变、高产菌株的选育、GTF的分离纯化以及功能特性研究为主要线索的微生物发酵高产GTF的途径。本论文的主要试验结果如下: 利用GTF可溶于氨水的性质,完善其提取参数,优化消解工艺,确定GTF有效提取方法和测定方法。结果表明:0.1g的菌体悬浮于10mL的0.1moL/L氨水溶液于37°C、200r/min提取3h,5000r/min离心10min,收集上清液,上火焰原子吸收光谱法测定其铬含量。验证试验结果显示该方法可有效的测定和评价菌体中GTF的含量。该方法可靠,处理时间短、耗酸量少,其回收率在95%~102.5%之间,相对偏差小于4%。 利用航天诱变技术对本实验是收藏的7株啤酒酵母进行诱变处理。通过梯度含铬平板、液体培养和筛选得到一株遗传性能稳定、GTF高产菌株YS-3。其有机铬产量为1258μg/g.dcw,总铬含量为1926μg/g.dcw,有机铬率达65.31%,生物量40 g/L。相比于出发菌株Y-3,YS-3有机铬产量提高了53%。 铬离子为800μg/mL时,严重抑制菌体的生长;400μg/mL时,对菌体有刺激生长作用。与无铬离子培养相比,400μg/mL的铬离子延长了菌体延迟期,发酵6 h后进入对数生长期,生物量增长超过无铬离子培养。有机铬富集主要发生在对数生长期(6 h~44 h);菌体最快的有机铬富集速度主要出现在延迟期(0 h~6 h),此时单位菌体的富铬量最大。通过二次加铬培养,摇瓶培养YS-3富集有机铬量可提高一倍,有机铬为2644μg/g.dcw左右,菌体生物量无显著性降低。发酵罐扩大规模培养,有机铬量为1930μg/g.dcw,生物量为33 g/L。 采用中红外分析了其蛋白结合铬前后的二级结构的变化。大分子蛋白结合铬后,部分α-螺旋结构和无规则卷曲向β-转角结构转变,β-折叠结构几乎无变化;小分子蛋白结合铬后,部分β-折叠结构转向无规则卷曲和α-螺旋,β-转角结构几乎无变化。 通过HPLC-ICP-MS/AES对Sephadex G-75凝胶层析Peak1、Peak2中金属铬和蛋白的分布进行微量分析和评估,对大、小含铬蛋白组分采用不同的分离纯化路线:小分子含铬蛋白:采用三次超滤(100kD、50kD、10KD)、Sephadex G25、Sephadex G15凝胶过滤层析脱盐处理获得峰形对称的含铬峰PP1。大分子含铬蛋白采用Sephadex G75、高效液相层析处理。 对峰PP1的结构分析表明其为一个含铬的小肽类物质,由天门冬氨酸、谷氨酸、甘氨酸、半胱氨酸组成;其中的氨基酸有可能并非以肽键相连,或以配位键与金属结合。峰PP1中含有两个m/z比值为712.2535、769.2747离子峰,并根据其一、二级质谱图推测其氨基酸组成比例。通过LC-ESI-MS对peak1中第8管进行测定,分析该含铬大分子蛋白有可能为HBT1蛋白或3-

磷酸甘油醛脱氢酶或核蛋白体蛋白。 糖尿病动物试验结果显示富铬酵母菌体对糖尿病有一定的改善作用,具有一定的降脂、降糖作用(糖基化血红蛋白),对胰腺组织和β细胞具有一定的保护和恢复作用。 从本文结果可以看出,通过航天诱变、筛选得到的YS-3,在优化其发酵条件基础上,通过二次补铬工艺,有机铬产量达至1930μg/g.dcw,生物量为33 g/L。发酵所产的GTF的氨基酸组成与文献报道一致,通过动物饲喂试验证明其对糖尿病有一定改善作用,具有降脂、降血糖、保护胰腺组织的功能。因此通过微生物高产GTF、使生物铬补充剂工业化具有广阔的研究价值和发展前景。"

【英文摘要】A strain of high-biomass, producing glucose tolerance factor yeast strain was screened from seven yeast strains and seven strains mutated by spaceflight-induced mutagenesis through gradient concentration of chromium plates cultivation and liquid fermentation cultivation. The biomass of it was 40 g/L. Extracting GTF with ammonia and determining the content of Cr with flame atomic absorption spectrometry, the content of organic Cr was 1287 mg/g and that of total Cr was 1917 mg/g. At the same time, dynamic relationship between other parameters and the amount of organic chromium was analyzed during fermentation.

【语种】中文

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【题目】酵母源性葡萄糖耐量因子(GTF)含量测定方法的研究

【中文关键词】"葡萄糖耐量因子(GTF) 有机铬 提取 火焰原子吸收光谱法
"

【英文关键词】glucose tolerance factor(GTF),organic chromium, extraction,flame atomic absorption spectrometry

【中文摘要】"酵母源性葡萄糖耐量因子为铬和小分子蛋白的复合物。测定其含量应包括2个步骤:第一有效地从菌体中提取出GTF;第二检测GTF中有机铬的含量。文中以葡萄糖耐量因子(GTF)高产酵母菌株为研究对象,研究不同提取方法提取GTF的条件及效果,比较了2种消化方法对测定结果的影响,对GTF提取液的消化方式进行了改良,确定了GTF测定的最佳方法和参数。试验结果表明:0.1g左右的菌体悬浮于10mL0.1mol/L的氨水,在37℃、200r/min振荡提取3h,离心收集上清液进行微波消解。用火焰原子吸收光谱法分别测定上清液中铬的含量、提取后菌体中残余铬的含量以及菌体中总铬含量。测定结果显示残余铬的理论数据与测定实际结果比较吻合,表明该测定方法可有效的测定和评价酵母中GTF含量。""

【英文摘要】Glucose tolerance factor is a complex of chromium and protein. Determining Glucose Tolerance Factor of yeast strains should include two steps: one is extracting GTF from yeast efficiently; the other is determining the organic chromium of GTF. This paper studied different extraction methods and digestion methods on the influence of determination of GTF,modified the digestion method of GTF extraction. The optimum method and parameters were confirmed as follows: 0.1g yeast suspended in 10mL 0.1mol/L NH_4OH, shook with 200r/min for 3h at 37°C, collected the supernatant with centrifugation, microwave digested and oxidized the supernatant. Determining the organic chromium of GTF, residual chromium in the yeast after extraction and the total chromium in the yeast with flame atomic absorption spectrometry. The experiment result showed that the theoretical residual chromium content meet with determination result closely. This method is suitable for determining GTF in the yeast.

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【学科分类】食品科学技术其他学科

【题目】小麦果聚糖合成酶基因6-SFT结构分析及功能验证

【中文关键词】小麦;6-SFT基因; 亚细胞定位;转基因烟草

【英文关键词】Wheat (Triticum aestivum L.); 6-SFT; Subcellular localization; Transgenic tobacco

【中文摘要】果聚糖广泛存在于温带、亚温带草本及禾本科植物中,能提高植物对干旱、盐碱和低温等非生物胁迫的抗性,蔗糖：果聚糖-6-果糖基转移酶(6-SFT)在果聚糖合成途径中起重要作用。研究小麦中6-SFT基因的结构特性、遗传特性、表达特性,并在模式植物中鉴定小麦6-SFT基因的功能,对于利用基因工程技术改良植物抗逆性具有重要意义。本文利用同源序列克隆方法从抗旱性较强的普通小麦品种扬麦6号中扩增到6-SFT基因,基因组DNA和cDNA长度分别为3134 bp和1851 bp,序列结构分析表明该基因含有4个外显子、3个内含子;将小麦6-SFT基因与绿色荧光蛋白GFP基因构建融合表达载体,利用基因枪轰击洋葱表皮细胞进行亚细胞定位,结果显示该基因表达酶蛋白位于质膜上;利用6-SFT基因片段做探针对小麦基因组DNA进行Southern blot杂交分析,表明该基因在二倍体小麦中至少含有2-3个拷贝,在四倍体小麦中含有4-6个拷贝,在普通小麦中至少含有7-8个拷贝;利用农杆菌介导法将小麦6-SFT基因转入烟草,转基因烟草植株表现抗旱、抗盐和抗低温能力。本研究结果为后续通过转基因途径提高小麦抗逆性提供了理论依据。

【英文摘要】Fructans have been found to accumulate mainly in temperate and cool zone grasses plants. In addition to be a carbohydrate reserve, fructans are thought to play roles in protection of plants against environmental stresses such as low temperature, salinity and drought. Sucrose: fructan 6-fructosyltransferase (6-SFT) is a key enzyme for fructan biosynthesis. It is necessary to study the structure features, existing copies, expression location and function level of the gene in Triticeae family. In our previous results, commercial wheat line Yangmai 6 was proved to accumulate higher content of fructans and represent superior tolerance to drought stress. In this paper, we isolated 6-SFT gene by PCR approach from Yangmai 6. Structural analysis showed gDNA and cDNA length of 6-SFT were 3134 bp and 1851 bp, respectively, which is interrupted by three introns. Subcellular localization of 16318-hGFP::6-SFT transient expression in onion epidermal cells using particle bombardment indicated 6-SFT is mainly localized in cytoplasm membrane. Southern blot analysis employing a partial fragment of 6-SFT sequence as probe revealed that 6-SFT gene presents multiple copies in wheat genome, 2 to 3 copies, 4 to 6 copies and 7 to 8 copies in diploid, tetraploid and hexaploid wheat,respectively. By constructing recombination plasmid with the 6-SFT gene and using Agrobacterium-mediated method, the gene of interest was transferred into tobacco, which was confirmed through traditional PCR detection and ELISA assay for positive transgenic tobacco lines. Identified under stress conditions, transgenic tobacco plants showed some tolerance to drought, salinity and low temperature. The study presents a theoretical platform for the improvement of tolerance to adverse environmental stresses through subsequent transgenic pathway in wheat

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【题目】具有肠道吸附能力的益生菌株筛选研究
【中文关键词】益生菌 吸附 筛选
【英文关键词】probiotic;adh esive ability;selection
【中文摘要】通过将经耐酸、耐胆汁盐筛选的15株乳酸菌利用HT-29细胞系进行肠道吸附能力的体外筛选试验,结果得到具有较强吸附能力的菌株7株;同时对益生菌的吸附特性进行了初步的探讨。

【英文摘要】"Abstract:15 strains lactic bacteria,which have been passed through the tests of acid—resistent and bile salt—resistent,were selected by adhesiveability to HT一29 cell system in vitro;As a results.7 strains lactic bacteria were found to have a be~er adh esive ability.M eanwhile,the adh e—sive characteristics were discussed initially."

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【第一作者】于景华
【通讯作者】吕加平
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【题目】潜在益生菌菌株脱除胆固醇特性研究
【中文关键词】益生菌 筛选 胆固醇
【英文关键词】probiotic;selection;Chelesterol
【中文摘要】采用气相色谱测定胆固醇的方法,对分离出来的7个潜在益生菌菌株进行了体外纯培养模式降低胆固醇的实验,结果表明,双歧杆菌普遍具有较强的降低胆固醇能力,其次是干酪乳杆菌。总之,进行功能性实验的7株益生菌在纯培养模型和发酵模型中均表现出了不同的脱除胆固醇能力,这主要是由菌株本身的特性决定的.
【英文摘要】"The study was conducted using M RS broth supplemented with chelesterol solution,and using gas chromatography to determin e theconcentrations of chelesterol in medium;Four strains of bifidobactefia showed the highest reduction after 1 0 h incubition,the strains of B.1ongum 、 Lcasei and L.rhamnosus also showed higher reduction of chelesterol,Overall there was wide variation in the chelesterol reducing a—bility of strains,indicating it to be a strain specific character"
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【题目】Cloning and Characterization of Genes Coding for Fructan Biosynthesis Enzymes (FBEs) in Triticeae Plants
【中文关键词】果聚糖;果聚糖合成酶基因;基因结构;小麦进化
【英文关键词】fructans, fructan biosynthesis enzymes, gene structure, wheat evolution
【中文摘要】小麦族植物中1-SST基因序列比较保守。gDNA长度为3326 bp,cDNA大小为1989 bp,由4个外显子和3个内含子构成,4个外显子大小依次为406 bp、9 bp、872 bp、702 bp,3个内含子大小分别为161 bp、146 bp、1030 bp。小麦族植物中的1-SST基因都含有一个只有9个核酸序列(ATCCCAACG)组成的小外显子,是目前植物中发现的最小的外显子。在氨基酸水平上,AABB同AA和SS的序列相似性分别为95.62%和96.83%。AABBDD同AA、SS和DD的相似性分别为97.89%、99.09%和99.24%;小麦族植物中的1-FFT基因大小在AA、SS、AABB、AABBDD基因组上都为2652 bp, cDNA大小均为1947 bp,由4个外显子和3个内含子构成,4个外显子大小分别为367 bp、9 bp、869 bp和702 bp,3个内含子大小分别为156 bp、377 bp和172 bp。在DD基因组上gDNA序列长度是2603 bp,cDNA大小为1935 bp,4个外显子大小分别为355 bp、9 bp、869 bp和699 bp,3个内含子大小分别为160 bp、393 bp和118 bp。1-FFT基因也有一个只含有9个碱基(ATCCCAACG)的外显子序列。在氨基酸水平上,AABB同AA和SS的序列相似性分别为97.84%和99.38%。AABBDD同AA、SS和DD的相似性分别为99.07%、99.07%和88.63%。小麦族植物6-SFT基因在进化上比较活跃。其gDNA在AA、SS、DD、AABB和AABBDD基因组中分别为3122 bp、3302 bp、3100 bp、3138 bp和3146 bp,cDNA大小同为1851 bp。与1-SST和1-FFT基因相同,6-SFT也含有4个外显子和3个内含子。在第一个外显子上出现了插入/缺失突变,它们的gDNA长度主要差异在第三个内含子上。在氨基酸水平上,AABB同AA和SS的序列相似性分别为97.08%和98.54%。AABBDD同AA、SS和DD在DNA序列上的相似性分别为97.24%、98.70%和96.92%。
【英文摘要】Fructan is not only a carbon source for storage but also plays an important role as anti-stress agents in many plant species. Complex fructans having both β-(2,1)- and β-(2,6)-linked fructosyl units accumulate in Triticeae plants commonly. Three enzymes (sucrose: sucrose 1-fructosyltransferase, 1-SST, EC: 2.4.1.99; sucrose: fructan 6-fructosyltransferase, 6-SFT, EC: 2.4.1.10; and fructan: fructan 1-fructosyltransferase, 1-FFT, EC: 2.4.1.100) were involved in fructan biosynthesis in Triticeae plant species. We successfully isolated these genes from tetraploid wheat (Triticum turgidum, genotype: AABB), common wheat (Triticum aestivum L., genotype: AABBDD) and three wild relatives of common wheat, Triticumurartu Thum. (the origin of the AA genome), Aegilops speltoides (Tausch) Gren. (the putative source of the SS genome) and Aegilops tauschii Coss. (the source of the DD genome). Sequence analysis revealed that all the FBEs (fructan biosynthetic enzymes) had three highly conserved functional motifs except 1-SST (EU981912) from tetraploid wheat species only with conserved DPNG. Low pI (isoelectric point) and potential N-glycosylation sites were predicted, whichwere crucial for protein compartmentation and post-translational process. Analysis on subcelluar localization signals showed that only 6-SFT had vacuolar-directed signal. Sequences alignment result showed that 1-SST and 1-FFT were more conservative and had closer relationship each other, while 6-SFT was more active during the evolution processing.According to the syntenic relationship between wheat and rice genome, FBEs were predicated to be located on the homeologous group 6 and group 2

chromosomes. Expression profile confirmed that expression of all the three FBEs were drought-stress induced. This study can assist to establish a useful theoretical platform for cold- or drought-tolerant improvement of wheat by modulating FBEs expression.
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【题目】费氏丙酸杆菌谢氏亚种和植物乳杆菌亚油酸异构酶结构及酶学性质研究
【中文关键词】共轭亚油酸(CLA) 植物乳杆菌(L.plantarum) 费氏丙酸杆菌谢氏亚种(P.freudenreichii ssp.shermanii) 亚油酸异构酶
【英文关键词】conjugated linoleic acid (CLA) L. plantarum P. freudenreichii ssp. shermanii linoleate isomerase
【中文摘要】"【目的】对来源于植物乳杆菌(Lactobacillu plantarum)和费氏丙酸杆菌谢氏亚种(Propionibacteriu freudenreichii ssp.shermanii)亚油酸异构酶酶学特性开展研究,探讨不同来源的亚油酸异构酶酶学性质存在的差异。【方法】通过酶反应动力学方法及电泳技术测定了酶的最适反应条件、米氏常数、酶的分子量,并在此基础上,采用高效液相色谱(HPLC)与电喷雾离子化/质谱(ESI-MS)相结合的方法测定了L.plantarum和P.freudenreichii ssp.shermanii亚油酸异构酶的氨基酸序列。【结果】P.freudenreichii ssp.shermanii亚油酸异构酶的最适pH为8.0,最适反应温度是30°C,Km=20.53 μ mol · L^-1,Vmax=0.44 μ g · mL^-1 · min^-1;L.plantarum亚油酸异构酶的最适pH为7.5,最适反应温度是为50°C,Km=17.85 μ mol · L^-1,Vmax=0.73 μ g.mL^-1 · min^-1。【结论】来源于L.plantarum和P.freudenreichii ssp.shermanii亚油酸异构酶的全氨基酸序列不同,但两者具有一定的同源性,且两者酶学特性也有差异。"
【英文摘要】【Objective】 The attributes of linoleate isomerases from both Propionibacteriu freudenreichii ssp. shermanii and Lactobacillu plantarum were studied to understand the different characters of linoleate isomerase originated from different strains. 【Method】 Dynamic and characteristic parameter such as Michaelis constant, molecular weight of linoleate isomerase with different origins were determined using the method of enzyme activity analysis and electrophoresis. The peptide mass fingerprints produced by P. freudenreichii ssp. shermanii and L. plantarum linoleate isomerase were studied by HPLC – ESI – MS system. 【Result】 The optimum pH for P. freudenreichii ssp. shermanii linoleate isomerase was 8.0 and the optimum temperature was about 30°C. The Km and Vmax of linoleic acid was 20.53 μ mol•L-1 and 0.44 μ g•ml-1•min-1. The optimum pH for L. plantarum linoleate isomerase was 7.5 and the optimum temperature was about 50°C. The Km and Vmax of linoleic acid was 17.85 μ mol•L-1 and 0.73 μ •ml-1•min-1, respectively. Molecular structure of linoleate isomerase produced by P. freudenreichii ssp. shermanii and L. plantarum showed some extent homogeny on sequences. 【Conclusion】 The linoleate isomerase originated from the two strains has different attributes. The sequences of both linoleate isomerases have some extent homogeny and the characteristic parameters of experimental linoleate isomerase are different from those of reported
【语种】中文
【第一作者】王丽敏
【通讯作者】吕加平
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【学科分类】生物学其他学科

【题目】农产品加工装备的竞争力结构与发展策略
【中文关键词】农产品加工 加工装备 竞争结构 国家宏观调控 销售收入 装备制造业 加工工业 同比增长 市场竞争 竞争优势
【英文关键词】农产品加工 加工装备 竞争结构
【中文摘要】近年来,在国家宏观调控和大力发展农产品加工工业的环境下,我国农产品加工装备制造业保持了良好的发展态势。2004年,产品销售收入同比增长21%左右,是近10年来增长最快的一年,产品销售收入利润率为6.5%,同比降低1%。

目前,我国农产品加工装备的市场竞争十分激烈,需要创造条件以获取竞争优势。
【英文摘要】"Through gradient concentration of chromium plates cultivation and liquid fermentation cultivation,a high-biarkass,producing glucose tolerance factor yeast strain v/as screened from seven yeast St~dJI'lS which were mutated by spaceflight-inducedmutagenesis.Extracting GTF with ammonia and determining the content of Cr with flame atomic absorption spectrometry,thecontent of organic Cr WaS 1287 g/g and that of total Cr WaS 1917 g/g.At the same time,dynamic relationship between otherparam eters and the amount of organic chaxanium WBS investigated during fermentation."
【语种】中文
【第一作者】王国扣
【通讯作者】吕加平
【期刊名称、卷期、页码】农产品加工 2006(1):41-43
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【学科分类】农业经济学

【题目】新模式植物短柄草模式特性研究进展
【中文关键词】短柄草; 模式植物; 基因组; 分子标记; 组织培养; 遗传转化
【英文关键词】Brachypodium distachyon; Model plant; Genomics; Molecular markers; Tissue culture; Transformation
【中文摘要】短柄草(Brachypodium distachyon)是一种广泛分布于温带地区的禾本科植物, 基因组小、染色体少、DNA 重复序列少、植株较矮、生育期短、种子数量多, 与小麦族植物一样具有二倍体、四倍体和六倍体, 且不需要严格的生长条件和栽培措施, 是小麦等早熟禾谷类理想的模式植物。近几年来, 国际上对短柄草开展了较多研究, 而国内对短柄草的研究尚属空白。本文综述了短柄草细胞遗传学、分子生物学、基因组学、组织培养和遗传转化等方面的研究进展, 对今后的研究和应用趋势进行了简要展望, 以促进国内对短柄草模式特性, 以及小麦等植物结构基因组学和功能基因组学的研究。
【英文摘要】Brachypodium distachyon, a monocot grass plant and widely distributed in temperate areas, has been regarded as an new potential model plant species and studied extensively in recent years because of its smaller genome, less chromosomes, shorter plant height, rapid life cycle, higher seed yield, undemanding growth requirements, and different ploidies similar to Triticumincluding diploid, tetraploid, and hexaploid. But, related research on this plant in domestic is just in initial stage. Cytogenetics,molecular genetics, genomics, mapping, tissue culture, and transformation of Brachypodium distachyon were reviewed in this paper, and its further investigation and application were briefly prospected at the same time in order to promote its study on the characteristics as model plant and benefit the structural and functional genomics research of some Pooideae species such as wheat and barley.
【语种】中文
【第一作者】叶兴国
【通讯作者】叶兴国
【期刊名称、卷期、页码】作物学报,2008,34(6):919-925。
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【学科分类】农业基础学科

【题目】我国农产品加工装备的发展现状与对策
【中文关键词】农产品加工装备 现状 对策
【英文关键词】agro products; processing equ ipments; present situat ion; deve lopm ental strategy
【中文摘要】介绍了我国农产品加工装备的发展现状,分析了其目前存在的主要问题,提出了如何加快发展的对策.
【英文摘要】"The paper introduced the present situa tion of ag ro products processing equipm ents in Ch inaand ana lyzed thema in prob lems in the fie ld. F inally it aslo put forw ard the strategy for the deve lopmentof ag ro products processing equ ipments in China"
【语种】中文
【第一作者】王国扣

【通讯作者】吕加平
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【学科分类】机械制造工艺与设备

【题目】食品机械技术创新的定位选择
【中文关键词】技术创新 食品机械 点定位 机械制造业 技术装备 食品工业 市场开拓 创新目标
【英文关键词】Key words:probiotic;selection;Chelesterol
【中文摘要】食品机械制造业是为食品工业提供技术装备的行业,承担着食品机械的研究、开发、设计、制造、销售和市场开拓等任务。在食品机械的技术创新中,其创新定位是整个创新活动优先考虑和首要解决的问题。研究表明,食品机械技术创新的成功,与创新目标定位、创新战略定位、创新着力点定位及创新对象定位的选择有着密切关系。
【英文摘要】"objective To investigate the anti-oxidative effect of 2 strains of L.casei on rats.Method Wistar male rats(5 w old)were fed with viable cells of L.casei Zhang and MG1-4 which wereisolated from Koumiss for 28 d. Activity of SOD, GSH-Px and content of MDA were examined in livertissue homogenate and serum of rats. Results L.casei Zhang significantly increased the SOD activity in livertissue homogenate and the GSH-Px activity in serum. The content of MDA in liver tissue homogenate wassignificantly decreased. The anti-oxidative effect of L.casei Zhang was higher than L.casei MG1-4.Conclusion L.casei Zhang might have stronger anti-oxidative effect."
【语种】中文
【第一作者】王国扣
【通讯作者】吕加平
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【学科分类】机械制造工艺与设备

【题目】基于PLC和组态软件的液位和温度监控
【中文关键词】液位 温度 监控系统 组态软件 PLC
【英文关键词】Key word:liqu id level;temperature;monitoring and controlling system;configuration software;PLC
【中文摘要】介绍了基于PLC和组态软件的液位和温度监控系统的总体方案、硬件系统和软件系统。该监控系统采用PLC为控制中心,触摸屏和工控机为人机界面,通过组态软件的二次开发,对液位和温度进行实时监控和集中管理。运行试验表明,该系统实现了液位和温度的参数设置、实时动画显示、趋势曲线、数据库查询和报表输出打印等功能。
【英文摘要】"Abstract:The design scheme, hardware and software system of liquid level and temperature were design edbased on programmable logic controller(PLC)and configuration software. The monitoring and controlling systemdeveloped on configuration software could real-time monitor and concentrate manage liquid level and temperaturethrough the communication between industrial personal computer(IPC), PLC and touch screen. The experimentsshowed that the software functions include parameters inputting。real-time data recording& displaying, dynamic&historical data curve,database query and report forms printout."
【语种】中文
【第一作者】韩清华
【通讯作者】吕加平
【期刊名称、卷期、页码】包装与食品机械 2009,27(5):64-67
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【学科分类】机械制造工艺与设备

【题目】食品加工企业安全生产基本要求

【中文关键词】食品加工;安全
【英文关键词】probiotic;adh esive ability;selection
【中文摘要】通过将经耐酸、耐胆汁盐筛选的15株乳酸菌利用HT-29细胞系进行肠道吸附能力的体外筛选试验,结果得到具有较强吸附能力的菌株7株;同时对益生菌的吸附特性进行了初步的探讨。
【英文摘要】"The paper introduced the present situa tion of ag ro products processing equipm ents in Ch inaand ana lyzed thema in prob lems in the fie ld. F inally it aslo put forw ard the strategy for the deve lopmentof ag ro products processing equ ipments in China"
【语种】中文
【第一作者】王国扣
【通讯作者】吕加平
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【学科分类】食品工业企业管理学

【题目】超声波技术在乳品加工中的应用
【中文关键词】超声波频率 牛奶 杀菌技术 均质 超声波技术 乳品加工 李斯特菌 高强度超声 超声波处理 细胞破壁
【英文关键词】ultrasound;milk;sterilization;homogeneous
【中文摘要】牛乳及乳制品容易变质,并且易出现分层等不良现象。所以应该对其进行有效的杀菌和均质,从而延长其保质期,提高产品品质。超声波是一种有效的非热力杀菌方法,具有均质和细胞破壁等作用,而且超声波灭菌不仅不会改变食品的色、香、味,而且不会破坏食品的组成成分。本文就超声波在乳品加工中的应用展开论述。
【英文摘要】"Abstract:Milk and dairy products can easily get degenerated,and easy to a hierarchical and other negative phenomena.It should be took homogeneousand efective sterilization to extend their shelf life and improve product quality.Ultrasound is an efective non—heat sterilizationmethod,which has the usage of homogeneity and cells—broking.M eanwhile,ultrasonic sterilization will not change an y color,smell an d taste,however it call also keep the whole components of the food.This article is to discuss the usage of ultrasound in dairy processing"
【语种】中文
【第一作者】闫坤
【通讯作者】吕加平
【期刊名称、卷期、页码】中国乳品工业,2009,37(11):29-32
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【引文索引号】
【学科分类】食品科学技术其他学科

【题目】北方农牧交错带草原产草量遥感监测模型
【中文关键词】北方农牧交错带; 产草量; MODIS ; 遥感; 监测
【英文关键词】northern agro-grazing ecotone,grass production, MODIS, remote sensing,monitoring
【中文摘要】及时准确地了解草原产草量的时空配置状况, 对于科学合理地利用、管理草地, 保证畜牧业生产持续稳定发展、改善生态环境等具有重要的意义。本文利用2005 年的MODIS 数据和同期野外实测的668 个样方产草量数据, 分析了5 种植被指数和草地生物量之间的相关关系。研究表明: (1) 分区模型优于不分区模型, 在分区基础上建模更能反映产草量的实际情况; (2) 通过线性、非线性模型和BP 神经网络模型的对比, 得出BP 神经网络模型在拟合精度上优于线性和非线性模型, 是最适宜监测北方农牧交错带草原产草量的模型; (3) 5 种植被指数中, NDVI 和SAVI 与草地生物量之间的拟合精度最高, 是研究区最适宜使用的植被指数。
【英文摘要】There is an ecotone connecting farming region and past uring region for nort hernagro2grazing ecotone1 It s ecological f unction consist s of conserving water sources , chec2king t he wind and fixing the shif ting sand , p urifying air and maintaining biodiversi2ty1 Grassland is not only one of t he important eco systems , but al so a background vegeta2tion1 Over t he past decades , human activities have caused great land cover changes , suchas desertification , grassland degradation , and sandy1 Therefore , accurate and timely mo2nitoring grassland is of critical importance for utilizing and administering grassland , devel2oping past urage and

improving ecological environment1 Using MODIS remote sensing datafor t he year 2005 and t he ground measured grass yield of the corresponding period , linearregression model ,non2linear regression model s and BP neural network model were respec2tively established , to exp ress t he regression relationship s between ground t rut h data andvegetation indices in t his paper1 Some conclusions are drawn as follows : (1) Regionalmodel s are bet ter t han whole2area general model s1 It is reasonable for t he four grasslandareas , and t he regional model s can bet ter describe grass production1 (2) Model s based onBP neural network are bet ter than linear regression model s and non2linear regression mod2els in fit ness accuracy1 It s decision coefficient increases by more t han 3 % , and t he highestis 6192 %1 Moreover , by precision validating , we find it s root mean square error and rela2tive error s are smaller , the model s precision increases by more t han 215 % , and t he maxi2mum increases 23122 %1 It is obvious t hat model s based on BP neural network are mostsuitable for monitoring grass production of nort hern agro2grazing ecotone , and it can meett he need of estimating of grass production in nort hern agro2grazing ecotone1 (3) The suit2able vegetation indices for monitoring grass production of nort hern agro2grazing ecotoneare NDVI and SAVI1 (4) Wit h t he accumulation of t he temporal scales data , f urther stud2ies may focus on inp ut data for BP neural network model1 For example , inp ut data may a2dopt soil moisture index and temperature and precipitation , and so on , which may f urtherincrease precision of model s , and approach act ual grass production for monitoring result s1

【语种】中文
【第一作者】杨秀春
【通讯作者】杨秀春
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【引文索引号】
【学科分类】地球科学其他学科

【题目】不同利用状况下草原遥感估产模型
【中文关键词】草原估产; 利用状况; 植被指数; MODIS; 虚拟变量
【英文关键词】grassland yield estimation; utilization status; vegetation index; MODIS; dummy variables.
【中文摘要】在内蒙古自治区的温性草甸草原、温性草原、温性荒漠草原、温性草原化荒漠和温性荒漠5种具有代表性的草地类型区地面观测数据的基础上,考虑草地的利用状况信息,分类建立了产草量与4种植被指数(由MOD IS数据计算得到)的回归估产模型,将利用状况这一定性变量作为虚拟变量与遥感估算模型相结合,找出了3种利用状况下的鲜草产量最优混合估算模型和估算指数。结果表明: (1) EV I是反映产草量变化的最好指标,分类构建的模型平均测产精度达到了80%; (2)将利用状况作为虚拟变量考虑之后建立的混合测算模型精度达到了79% ,明显高于利用状况未知时构建的混合模型的精度,比分类建模应用更简洁方便。

【英文摘要】Based on the observation data obtained from five rep resentative steppes, i. e. , temper2ate meadow steppe, temperate steppe, temperate desert steppe, temperate steppe2desert and tem2perate desert in InnerMongolia, regression models were established to exp ress the relations be2tween each grassland biomass and four vegetation indices, with the information about grassland u2tilization status considered. The qualitative variable utilization status was introduced into remotesensing estimation models as a dummy variable, and the op timal mixed estimation models andvegetation indices for three types of utilization statuswere selected. The results showed that EV Iwas the best index reflecting grassland yield variation, and the average estimation p recision of themodels was 80%. The p recision of the mixed models introduced with utilization status (mixedmodel Ⅱ) arrived to 79% , being higher than that of the modelswithout the information of utili2zation status. Comparing with the models established for different utilization status, mixed model Ⅱ had the advantages of concision and convenience.

【语种】中文
【第一作者】陶伟国
【通讯作者】徐斌
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【学科分类】地球科学其他学科

【题目】大白菜缘枯病抗性基因的SRAP标记筛选
【中文关键词】大白菜; 缘枯病; SRAP标记;
【英文关键词】Chinese cabbage; Marginal scorch; SRAP marker;
【中文摘要】以大白菜缘枯病抗病材料山西信中籽-339和感病材料山西信中籽-332为亲本构建包含111个单株的F2分离群体,利用SRAP分子标记技术并结合分离群体混合分析法(BSA)筛选与抗病基因连锁的标记。结果表明:在672对SRAP引物中有19对引物在抗感病池间存在多态性,经过单株筛选,BMe10CO11标记与大白菜缘枯病抗病基因连锁,其遗传距离为11.4cM。
【英文摘要】The segregating population was developed from a cross between a resistance Chinese cabbage(Brassica rapa L. ssp. pekinensis)339 and the susceptible 332. The molecular marker techniques SRAP and bulked segregation analysis(BSA)were used to screen markers linked to the disease resistance genes. Among the 672 primer combinations, BMe10CO11 showed polymorphism between bulks of resistance and susceptible. The distance of BMe10CO11 was 11.4 cM.
【语种】中文
【第一作者】邸青
【通讯作者】孙日飞
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【学科分类】园艺学

【题目】白菜类作物ITS序列分析
【中文关键词】芸薹属; nrDNA; 内转录间隔区; 遗传距离;
【英文关键词】Brassica; nrDNA; Internal transcribed spacer (ITS); Genetic distance;
【中文摘要】以不同地理来源的18份不同类型的白菜类作物(Brassica campestris L.)为试材,对其ITS区进行扩增、测序和序列比对,构建NJ系统树,研究白菜类作物ITS序列的变异情况。结果表明:白菜类作物中不同类型材料的ITS序列没有明显变异,序列非常保守;白菜类作物与芸薹属其他种间存在明显变异。芸薹属中的基本种内的变种间没有明显变异;复合种内的变种间有明显变异,分别倾向于禹氏三角(U-triangle)假说推测的父母本。
【英文摘要】The ITS sequences of 18 different types of Brassica rapa were amplified by PCR and sequenced,and then the NJ tree was constructed by ITS sequences to analyze the variations of ITS sequence. The results show that the sequences of the ITS of Brassica rapa are very conservative,and no variations exist between different types. Brassica rapa has variations with other species of Brassica respectively.The ITS sequences have variations among the species of Brassica,and the different type materials of the basic species of Brassica have no variations. However,those of the complicate species have variations and the ITS sequences tend to the putative parents of the U-triangle respectively.
【语种】中文
【第一作者】高玉梅
【通讯作者】孙日飞
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【引文索引号】0
【学科分类】园艺学

【题目】白菜类作物资源群体结构分析
【中文关键词】白菜类作物; 遗传多样性; 结构分析;
【英文关键词】Brassica rapa; genetic diversity; structure analysis;
【中文摘要】白菜类作物是中国重要的蔬菜和油料作物,关于白菜类作物资源群体结构尚不清楚,采用SSR标记和SRAP标记方法对64份白菜类作物进行研究分析,运用structure软件统计分析标记数据,结果表明白菜类作物资源真实存在3个组群,组群1和组群2间距离较近,其中组群3的遗传多样性更丰富。

【英文摘要】Brassica rapa crops are the important vegatables and oil-crops, but the population structure analysis has not been studied clearly, in this experiment SSR and SRAP were used to the genetic diversity of 18 accessions of Brassica rapa from China, then the data matrice was analyzed by the software of Structure 2.1. The result showed: three distinct gene pools exist among 18 accessions of Brassica rapa, the first is closer to the second, the third is the highest level of genetic diversity.
【语种】中文
【第一作者】高玉梅
【通讯作者】孙日飞
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【学科分类】园艺学

【题目】早熟大白菜新品种中白62号的选育
【中文关键词】大白菜;中白62号;一代杂种
【英文关键词】无
【中文摘要】中白62号是以矬菜类型早熟材料自交系B60533和青麻叶类型材料自交系B60532为亲本配制而成的早熟大白菜一代杂种.成熟期60 d(天)左右.株型紧凑,株高39 cm,开展度57 cm,外叶深绿色,少皱、有光泽,叶缘波褶小而浅,叶柄浅绿色.叶球直筒形,顶部舒心,球高35 cm,横径13 cm,球形指数2.8,叶球净质量1.6 kg左右.每667 m2净菜产量4 600 kg左右,高抗病毒病、霜霉病、黑腐病,球叶不易发生干烧心.质地脆嫩,品质优良,适宜在辽宁、河北、天津、北京、陕西、贵州等省市及山东、黑龙江、河南、山西等省的部分地区秋季种植.
【英文摘要】无
【语种】中文
【第一作者】张淑江
【通讯作者】孙日飞
【期刊名称、卷期、页码】中国蔬菜,2009(8):69-71
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【引文索引号】0
【学科分类】园艺学

【题目】提取液中的蔗糖和甘露醇对大白菜小孢子胚胎发生的影响
【中文关键词】大白菜; 小孢子培养; 胚胎发生; 预处理; 蔗糖; 甘露醇; 培养基
【英文关键词】Ch inese cabbage; microspore culture; embryogenesis; pretreamen;tsucrose; mannito;lmedium
【中文摘要】研究了大白菜游离小孢子提取过程中, 培养基中的蔗糖和甘露醇对后期小孢子胚胎发生的影响。结果表明, 在小孢子短期的提取过程中提高B5提取培养基的蔗糖浓度或添加甘露醇对小孢子的活力无影响, 但会大幅度提高小孢子的胚胎诱导效果, 其中17%蔗糖处理和8%甘露醇处理效果最佳, 与对照相比平均出胚量都达到极显著水平, 同时也促进了难诱导材料的胚胎发生。
【英文摘要】The effects of short-term pretreament were studied on embryogenesis of isolated microspores in Chinese cabbage.The results showed that mannitol and sucrose with higher concentration of sucrose in B5 washing medium addition during isolation of microspores had no influence on microspores viability but can increase the frequency of embryogenesis significantly.In our experiments,all nine cultivars responded to the treatment.B5 washing medium with 17% sucrose treatment and B5-13 washing medium with 8% mannitol mannito ltreatm entwere optimal treatments of two group tests.
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【第一作者】李菲
【通讯作者】孙日飞
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【引文索引类型】其他

【引文索引号】0
【学科分类】园艺学

【题目】大白菜游离小孢子培养胚胎发生中的加倍机制
【中文关键词】大白菜; 小孢子培养; DAPI荧光染色; 胚胎发生; 染色体自然加倍;
【英文关键词】Chinese cabbage; Microspore culture; DAPI fluorescence stain; Embryogenesis; Spontaneously doubled haploid;
【中文摘要】利用Leica体视显微镜,DAPI荧光染色观察比较大白菜小孢子正常发育为成熟花粉粒与游离小孢子培养胚胎发生细胞核的分裂方式,探讨大白菜游离小孢子培养胚胎发生及其自然加倍的机理。观察结果显示以B途径为主要发育途径的大白菜小孢子,胚胎发生的启动机制是热激诱导下单倍体小孢子体积膨大,染色体发生自然加倍,从而激发小孢子进入孢子体发育途径;大白菜小孢子胚再生植株具有较高的自然加倍率,这与小孢子培养热激诱导激发小孢子单核自然加倍为二倍体密切相关。
【英文摘要】The pathway of nuclear divisions of isolated microspore at different development stages and their embryogenesis process in Chinese cabbage were investigated under a fluorescence microscopy by using DAPI staining to understand embryogenesis and doubling mechanism of isolated microspore culture in Chinese cabbage. The results showed that after heat shock pretreatment the isolated microspores expanded. Most of microspores exhibited B pathway, and nuclear chromosomes doubled at very early stage,then doubled haploid embryoids formed.That is why isolated microspore culture of Chinese cabbage usually produce high frequency of spontaneously doubled haploid plants.
【语种】中文
【第一作者】李菲
【通讯作者】孙日飞
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【引文索引号】0
【学科分类】园艺学

【题目】与大白菜细胞质不育相关RAPD特征片段的克隆和序列分析
【中文关键词】大白菜; 细胞质不育; 线粒体DNA; RAPD; 克隆; 测序;
【英文关键词】Chinese cabbage; Cytoplasmic male-sterility; mtDNA; RAPD; Clone; Sequence;
【中文摘要】为了研究和获得大白菜细胞质不育系和保持系线粒体DNA的多态性,选用153个RAPD随机引物,对3套材料,每套中包含不同来源、同核异质的大白菜细胞质不育系(Pol-CMS、Ogu-CMS和CMS96)和保持系线粒体DNA进行RAPD分析。结果表明,有4个RAPD随机引物可以在全部Ogu-CMS和CMS96不育系中扩增出特异带,有1个随机引物仅在所有Ogu-CMS不育系中扩增出特异带;同时将OPAH16随机引物扩增的与不育相关的特异带进行了克隆和测序。结果表明,所获得的特异片段均与拟南芥和甘蓝型油菜的线粒体基因组序列部分同源,但与已发表的不育基因序列没有同源性。由这5个序列推导出的蛋白质与拟南芥中的一种未知功能蛋白AtMg00760(ORF109b)具有部分同源性。这5个序列的可能功能正在验证中。
【英文摘要】To abtain the differences between maintainer and cytoplasmic male sterile line in Chinese cabbage(Brassica campestris L.ssp. pekinensis), 153 random primers were used for RAPD analysis in maintainer and cytoplasmic male sterile mtDNA which had the same nucleus and different cytoplasm. Specific fragments could be amplified by 4 RAPD primers in all Ogu-CMS and CMS96. And specific fragments related to all Ogu-CMS could be amplified by one RAPD primer. 5 specific fragments amplified by OPAH16 primers in all Ogu-CMS and CMS96 were cloned.Then sequences were compared by Blastn method.Results show that these sequences are homological to Brassica napus and A rabidopsis mtDNA genome partially.But they ale not homological to CMS gene reported before.The 5 sequences can be induced a protein that is homological to ORF109b in A rabidopsis mtDNA genome.The functions of the 5 sequences are testing
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【学科分类】园艺学

【题目】大白菜CMS96细胞质雄性不育分子特性研究.
【中文关键词】大白菜; 细胞质不育; CMS96; 线粒体DNA; orf138; orf224; RT-PCR; 同源性比较;
【英文关键词】Chinese cabbage (Brassica campestris L. ssp. pekinensis); Cytoplasmic male sterility; CMS96; mtDNA; orf138; orf224; RT-PCR; Alignment;
【中文摘要】大白菜CMS96细胞质不育系是由大白菜株系与甘蓝型油菜细胞质不育源杂交、多代回交后获得的。该不育系生长势旺、不育性稳定,不育度和不育株率均为100%,蜜腺正常,在大白菜杂种一代生产中具有广阔的应用前景。为了定位大白菜CMS96细胞质不育所属的类型和获得其不育有关的特异序列,依据atp9、coxI、orf138和orf224保守序列设计4对引物,对3组11份大白菜材料线粒体DNA进行PCR扩增,每组材料内包含同核异质PolCMS、OguCMS、CMS96三种大白菜不育系和一种共用保持系。结果表明,atp9和coxI引物在所有材料中均有扩增产物,供试材料间没有差异;而orf138和orf224引物扩增产物存在差异。orf138引物仅在全部OguCMS和CMS96不育系中扩增出309bp特异带,而保持系和PolCMS不育系没有扩增产物;orf224引物仅在所有PolCMS中扩增出689bp特异带,而保持系、OguCMS和CMS96不育系没有扩增产物。同时,对保持系和不育系花组织mRNA进行RT-PCR分析,进一步验证了orf138和orf224引物扩增产物的特异性和一致性。同源性分析结果表明,,利用orf138引物所获得的309bp大白菜mtDNA特异片段均与萝卜Ogu CMS、甘蓝型油菜Ogu CMS萝卜体细胞杂种所具有的Ogu orf138高度同源,二者有172个核苷酸完全相同,有58个氨基酸完全相同;orf224引物所获得的689bp大白菜mtDNA特异片段与甘蓝型油菜的Pol 00'224高度同源,二者有677个核苷酸完全相同,有225个氨基酸完全相同,同源性均达到100%。初步认为大白菜Ogu CMS和CMS96不育系具有相似性,Ogu CMS萝卜所具有的orf138是导致二者不育的原因;Pol甘蓝型油菜所具有的Pol 00'224是导致大白菜Pol CMS不育的原因。
【英文摘要】The cytoplasmic male sterile line CMS96 was transferred into Chinese cabbage by hybridization and subsequent backcrosses using CMS donor of B.napus. CMS96 are strong in vigor, stable in sterility and normal in nectar. The degree and percentage of male sterility are 100 percent. It showed significant value in Chinese cabbage hybrids production. To identify the male sterile type and study specific fragments related to CMS96, 4 primers according to atp9?coxI?orf138 and orf224 were designed for PCR analysis in three sets ofeleven Chinese cabbage materials(including maintainer、 Pol CMS、 Ogn CMS and CMS96),which had same nucleus and diferent cytoplasm in each set.Results showed fi'agments could be amplified by atp9 an d coxl primers in all materials,and there were no diferences between them.While specific fragm ents could be amplified by o0C138 and orf224 primers.309bp fragm ents could only be am plified in all Ogu CM S an d CM S96,an d there were no products in maintainer and Pol CMS by orf138 primers.689bp fragm ents could only be amplified in all Pol CMS,and there were no products in maintainer、 Ogu CMS and CMS96 by orf224 primers.RT · PCR analysis showed 309bp flag mems were expressed in flowers of Ogu CMS and CMS96,and 689bp fagments were expressed in flowers of Pol CMS.Sequences were aligned by BLAST method.Result showed that 309bp fragments shared high similarity with orf138 in Ogu CMS radish and Brassica cybrids of Ogu CMS radish,wllich 172 nucleotide sequences and 58 amino acids were same among them.And 689bp fragments shared high similarity(100%)with Pol orf224 in B.napus,which 677 nucleofide sequences and 225 amino acids were same among them.Therefore the initial male stefility transferred to Ogu CMS and CMS96 in Chinese cabbage came from Ogu CMS in radish.The possine reason related to them was similar to Ogu orf(138 in radish.and for Pol Chinese cabbage it was similar toPol orf224 in B.napus .
【语种】中文
【第一作者】张德双
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【学科分类】园艺学

【题目】大白菜细胞质雄性不育的分子鉴定及序列分析
【中文关键词】大白菜; 细胞质雄性不育; CMS96; atp6; orf222; 多重PCR;
【英文关键词】Chinese cabbage; Cytoplasmic male sterile; CMS96; atp6; orf222; Multi-PCR;

【中文摘要】为了获得3种大白菜细胞质雄性不育系Ogu CMS,Pol CMS,CMS96和保持系间的多态性以及定位大白菜CMS96不育系所属的不育类型,利用设计的atp6,orf222单一和混合引物PCR扩增3组11份同核异质大白菜细胞质雄性不育系和保持系mtDNA。结果表明,atp6引物在大白菜Ogu CMS不育系扩增的200 bp片段为其特异带;orf222引物仅在大白菜Pol CMS和CMS96不育系有扩增产物,但二者有3点完全不同:大白菜Pol CMS不育系扩增产物为675bp,CMS96不育系扩增产物为669 bp,二者相差6个核苷酸,后者定名为大白菜CMS96-orf222。大白菜CMS96-orf222与甘蓝型油菜Nap CMS的nad5c基因和Nap-orf222基因同源性均为99%,E值为0.0;大白菜Pol CMS的675 bp序列具有ORF224开放阅读框,没有保守结构域,而大白菜CMS96的669 bp序列具有ORF222开放阅读框和保守结构域YMF19。另外,atp6和orf222混合引物多重PCR扩增产物存在明显多态性:800 bp为大白菜保持系的差异带型;2 300 bp和1 500 bp为大白菜P0l CMS不育系特异带型;200 bp为大白菜Ogu CMS不育系特异带型;690 bp为大白菜CMS96不育系特异带型。该方法仅用一次PCR反应快速地将3种大白菜细胞质雄性不育系和保持系一次性全部区分开,为大白菜分子育种和常规育种更好地相结合提供了简单、快速、准确和重复性好的方法和手段。

【英文摘要】To study specific fragments linked to Pol CMS,Ogu CMS,CMS96 and to identify sterile system of CMS96 in Chinese cabbage (Brassica campestris L.ssp.pekinensis),primers ofatp6,orf222 and their primer combinations were designed for PCR analysis in 11 Chinese cabbage mtDNAs.Results showed 200 bp fragments could only be amplified in all Ogu CMS by atp6 primer;Fragments of 669 bp in CMS96 and 675 bp in Pol CMS could only be amplified by orf222 primer.Further study showed that ORF(open reading frame)in Pol CMS 675 bp fragments was 0RF224,while it was ORF222 in CMS96 669 bp fragments.669 bp fragment in CMS96 was named CMS96-o~222.Alignment with nucleotide acids showed CMS96-orJ'222 in Chinese cab bage was 99% homological to nad6c and 00'222 of Nap CMS in Brassica napus.The E-value was 0.0.CMS96-ORF222 owned a putative conserved domain YMF19 which was similar to the mitochondrial membrane protein YMF19,while 675 bp fragments in Pol CMS did not.Meanwhile,by multi-PCR technique with atp6 and orf222 primer comb inations,polymorphic results were obtained:200 bp fragments were specific for Ogu CMS;800 bp fragments were different bands for maintainer;1 500 and 2300 bp fragments were specific for Pol CMS;690 bp fragments were specific for CMS96.A rapid molecular technique for distinguishing 3 CMS types in Chinese cabbage were founded.Therefore,3 CMS systems in Chinese cab bage were different in the rearrangement of mtDNAs.Now the chimeric rearrangement of mtDNA in CMS96 is obtained and studied.

【语种】中文

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【学科分类】园艺学

【题目】早熟大白菜新品种京秋新56号的选育

【中文关键词】大白菜; 京秋新56号; 一代杂种; 早熟; 翻黄心;

【英文关键词】Chinese cabbage; ‘ Jingqiuxin No.56 ’; F1 hybrid; Early-maturity; Yellow fluffy-topped head;

【中文摘要】京秋新56号是由双1和02-531两个自交不亲和系配制而成的早熟大白菜一代杂种,生长期55d(天),株高46cm,开展度约70cm;外叶绿色,叶柄绿白色,叶球中桩、舒心、翻黄心,球高30.2cm,横径14.0cm,球形指数2.1;单株净菜质量1.5~2.0kg,每667m2净菜产量4000~5000kg,净菜率70%左右;抗病毒病、霜霉病和黑腐病,适应性强,品质较好,适宜北京、河北、山东、江苏、贵州、云南、四川等地栽培。

【英文摘要】‘ Jingqiuxin No.56 ’ is a high quality Chinese cabbage F1 hybrid with yellow fluffy-topped head.It is developed by crossing two self-incompatible lines shuang1 with 02-531.Its growth period is 55 days.The leaf head is 30.2 cm in height,14.0 cm in diameter,1.5-2.0 kg in net weight.The head shape index is 2.1.Its net yield is about 60-75 t · hm-2.Its net head rate is about 70 %.It is resistant to virus,downy mildew and black rot.It has strong adaptability and good quality.It has been extended to Beijing,Hebei,Jiangsu,Guizhou,Yunnan and Sichuan Provinces.

【语种】中文

【第一作者】张凤兰

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【题目】中国大白菜产业发展现状及品种需求和育种对策
【中文关键词】大白菜;发展现状;品种需求;育种对策
【英文关键词】无
【中文摘要】大白菜是我国种植面积最大的蔬菜作物之一,生态类型多样,分布广,产量高,耐贮运,供应期长,营养全面,食用方法多样,且种植简易、省工、成本低,其丰欠关系到蔬菜的市场价格,直接影响市场供应和人民生活,在我国菜篮子中具有不可替代的基础地位。
【英文摘要】无
【语种】中文
【第一作者】张凤兰
【通讯作者】张凤兰
【期刊名称、卷期、页码】中国果菜,2009(5):9-10
【论文发表时间】2009-03-15 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】园艺学

【题目】春大白菜新品种京春白2号的选育
【中文关键词】大白菜; 京春白2号; 一代杂种;
【英文关键词】Chinese cabbage; ‘ Jingchunbai No.2 ’; F1 hybrid;
【中文摘要】京春白2号是由两个自交不亲和系92A7和9421配制而成的春大白菜一代杂种。定植后55~60d(天)收获,耐先期抽薹,高抗霜霉病,抗病毒病、黑腐病。植株生长势强,株高36.9cm,开展度53.2cm,外叶绿色,叶柄浅绿色,球内叶浅黄色。叶球炮弹形,球形指数1.7,单球质量2.5kg,每667m2净菜产量7500~8000kg,已在北京、河北、山东、甘肃、云南、贵州等地推广种植。
【英文摘要】Jingchunbai No.2 is a new spring Chinese cabbage F1 hybrid bred by crossing self-incompatible line 92A7 with 9421.It takes about 55-60 days from transplanting to harvest.It is tolerant to inmanturity bolting,and is high resistant to downy mildew,virus disease and black rot.Its characteristics include strong growth vigor,36.9 cm in plant height,53.2 cm in plant spread,green outer leaf,light green petiole and light yellow inner leaf.Its head shape is ovate.Average head weight is about 2.5 kg.Its yield in open field is about 11215 - 12010 t · hm- 2. It has been extended to Beijing, Hebei,Shandong, Gansu, Yunnan and Guizhou etc.
【语种】中文
【第一作者】余阳俊
【通讯作者】余阳俊
【期刊名称、卷期、页码】中国蔬菜,2009(4):66-68
【论文发表时间】2008-12-12 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】园艺学

【题目】中熟大白菜新品种京秋75号的选育
【中文关键词】大白菜; 京秋75号; 一代杂种; 中熟;
【英文关键词】Chinese cabbage; Jingqiu No.75; F_1 hybrid; Mid-maturity;
【中文摘要】京秋75号是利用游离小孢子培养技术快速育成的中熟大白菜一代杂种。生长期75 d(天)左右,植株较直立,株高49 cm,开展度约71 cm,外叶绿色,叶柄白色;叶球中桩合抱,牛心形,顶部抱合较好,球高29 cm,横径19 cm,球形指数1.5,结球紧实;单株净菜质量3.0 kg左右,每667 m2净菜产量6 500~7 000 kg,净菜率72%,抗病毒病、霜霉病、黑斑病,品质优良,商品性好,适合北京、河北、山东、黑龙江、吉林、内蒙古等地栽培。
【英文摘要】Jingqiu No.75 is a high quality Chinese cabbage F1 hybrid.It can be harvested in about 75 days after sowing.The plant is 49 cm in height,about 71 cm in width.Its leaf head is 29 cm in height,19 cm in diameter.The average head weight is about 3.0 kg.Its yield

is 97.5-105.0 t · hm-2.Its net head rate is 72 %.It has resistance to virus,downy mildew and Altemaria leaf spot.It has been extended in Beijing,Hebei,Shandong,Heilongjiang,Jilin and Inner Mongolia.
【语种】中文
【第一作者】张凤兰
【通讯作者】张凤兰
【期刊名称、卷期、页码】中国蔬菜,2009(2):71-73
【论文发表时间】2008-11-16 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】园艺学

【题目】苗用型大白菜新品种京研快菜
【中文关键词】大白菜;新品种;京研快菜
【英文关键词】无
【中文摘要】"京研快菜"为苗用型大白菜一代杂种,主要以幼苗或半成株供食用。生长速度快,播种后28~30天开始收获半成株上市。外叶绿色,叶面皱,有光泽,无毛,叶肉厚,质地柔软,帮白色、宽、厚、纤维少,品质极佳,维生素C含量466毫克/公斤,可溶性糖8.5克/公斤。播种后35天株高约29.2厘米,单株重约130克。耐热、耐湿,适应性广。高抗病毒病、黑斑病,抗霜霉病。株型较直立,适于密植,每667平方米(1亩)可种植3.5万~4万株,产量4000~4500 公斤。已在北京、天津、河北、新疆、云南、贵州、四川、湖北、福建、广东、海南等地推广种植。
【英文摘要】无
【语种】中文
【第一作者】余阳俊
【通讯作者】余阳俊
【期刊名称、卷期、页码】中国蔬菜.2009(13):25
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【引文索引类型】其他
【引文索引号】0
【学科分类】园艺学

【题目】小株型大白菜新品种京春娃娃菜的选育
【中文关键词】小株型大白菜; 京春娃娃菜; 一代杂种;
【英文关键词】Chinese cabbage; ‘ Jingchunwawacai ’; F1 hybrid;
【中文摘要】京春娃娃菜是由两个自交不亲和系9410和0037配制而成的小株型大白菜一代杂种。极早熟,定植后45~50d(天)收获,株型较小,较直立,适于密植,每667m2可种植10000株以上。耐先期抽薹性强。外叶绿色,叶柄白色,球内叶浅黄色,叶球筒形,球高21.5cm,横径12.0cm,单球质量0.8kg,净菜率66.5%,每667m2净菜产量7000~8000kg。抗TuMV和黑腐病,高抗霜霉病,品质佳。已在北京、天津、河北、河南、甘肃、云南、贵州等地推广种植。
【英文摘要】‘ Jingchunwawacai ’ is a new mini Chinese cabbage F1 hybrid bred by crossing self-incompatible line 9410 with 0037.It takes about 45-50 days from transplanting to harvest.It has smaller plant size which fits to transplant in high density.It is tolerant to bolting,and resistant to TuMV,black rot,and high resistant to downy mildew.Its head shape is ovate with 21.5 cm of head height and 12.0 cm of head diameter.Its inner leaves are light yellow in color.Its average head weight is about 0.8 kg.Its net head rate is 66.5 %. The yield in open field is 105 - 120 t · hm- 2. It has been extended to Beijin,Tianjin, Hebei, Henan, Gansu, Yunnan and Guizhou.
【语种】中文
【第一作者】余阳俊
【通讯作者】余阳俊
【期刊名称、卷期、页码】中国蔬菜.2009(6):67-69
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【引文索引类型】其他
【引文索引号】0
【学科分类】园艺学

【题目】小株型大白菜新品种京春娃娃菜
【中文关键词】小株型大白菜; 新品种;京春娃娃菜
【英文关键词】无
【中文摘要】京春娃娃菜是由两个自交不亲和系配制而成的小株型大白菜一代杂种。亲本之一9410是1994年引入日本春大白菜品种,经过5代连续自交分离、选择,于2003年育成稳定的自交不亲和系,其株型较小,早熟,耐先期抽薹性强。另一亲本0037是1999年引入山东春大白菜品种,经过5代连续自交分离、选择,,于2003 年初步育成稳定的自交不亲和系,其株型小,极早熟,耐先期抽薹性较强。
【英文摘要】无
【语种】中文
【第一作者】余阳俊
【通讯作者】余阳俊
【期刊名称、卷期、页码】中国蔬菜.2009(7):28
【论文发表时间】2008-10-19 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】园艺学

【题目】春大白菜新品种京春白2号
【中文关键词】春大白菜;新品种;京春白2号
【英文关键词】无
【中文摘要】京春白2号是由两个自交不亲和系92A7和9421配制而成的春大白菜一代杂种。92A7较早熟,抗病毒病、霜霉病,耐先期抽薹性强,外叶绿色,叶球合抱,球内叶白色,配合力高。9421极早熟,抗病毒病、霜霉病,耐先期抽薹性较强,叶色深绿,叶球合抱,上下等粗,球内叶黄色,品质好,配合力高。
【英文摘要】无
【语种】中文
【第一作者】余阳俊
【通讯作者】余阳俊
【期刊名称、卷期、页码】中国蔬菜.2009(5):34-35
【论文发表时间】2008-10-09 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】园艺学

【题目】中熟大白菜京秋75号
【中文关键词】中熟大白菜;京秋75号
【英文关键词】无
【中文摘要】京秋75号是由2001C4-1和04-409两个自交不亲和系配制而成的中熟大白菜一代杂种。2003年试配组合,同时开始秋播品种比较试验。2004年春用网棚扩繁种子,2003、2004年在北京市农林科学院蔬菜研究中心试验农场进行秋播品种比较,2006、2007年参加北京市组织的区域试验和生产试验, 2008年通过北京市农作物品种审定委员会审定。
【英文摘要】无
【语种】中文
【第一作者】张凤兰
【通讯作者】张凤兰
【期刊名称、卷期、页码】中国蔬菜.2009(3):26
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【引文索引类型】其他
【引文索引号】0
【学科分类】园艺学

【题目】大力发展大白菜生产和消费新模式
【中文关键词】大白菜;生产;消费;新模式
【英文关键词】无
【中文摘要】大白菜是我国栽培面积最大的蔬菜作物之一,2006年全国播种面积262.37万hm2,占蔬菜总播种面积的14.5%(1),居各种蔬菜作物之首。近年来,随着人民生活水平的日益提高,蔬菜种类日趋丰富,与过去相比,不但传统秋冬季大白菜消费量逐年减少,而且大白菜的栽培季节、栽培区域、生产和消费模式都发生了重大改变,出现了一些新的生产和消费模式———苗用大白菜、娃娃菜和小型大白菜。
【英文摘要】无
【语种】中文
【第一作者】张凤兰
【通讯作者】张凤兰
【期刊名称、卷期、页码】中国蔬菜,2008,(11):9
【论文发表时间】2007-12-27 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】园艺学

【题目】大白菜黑腐病鉴定的湿度试验及其苗期与成株期抗病性的相关分析
【中文关键词】大白菜黑腐病; 苗期; 成株期; 相对湿度; 抗病性;
【英文关键词】Black rot of Chinese cabbage; Seedling stage; Adult-plant stage; Relative humidity; Disease resistance;
【中文摘要】对北京新4号、北京新1号、北京大牛心、京翠70号、京翠60号、京秋65号6个大白菜品种进行苗期黑腐病鉴定的湿度试验及其苗期和成株期抗病性的相关性分析。结果表明:试验材料之间对黑腐病的抗性存在显著差异,其中北京新1号抗性最强。比较不同保湿处理下的病情指数,表明湿度是影响黑腐病发病的关键因素。用DPS软件对6个大白菜品种的苗期和成株期抗性的相关性进行回归分析,表明苗期人工接种(接种前不保湿,接种后保湿24h)和成株期的病情指数存在显著线性相关,说明用苗期人工接种鉴定大白菜黑腐病抗性的方法是可靠的。
【英文摘要】Taking Chinese cabbage〔Brassica campestris L.ssp.pekinensis(Lour)olsson〕‘Beijingxin No.4’,‘Beijingxin No.1’,‘Beijingdaniuxin’,‘Jingcui No.60’,‘Jingcui No.70’,‘Jingqiu No.65’as tested materials,humidity test and correlation analysis of Chinese cabbage seedling and adult-plant resistance to black rot were studied.The result indicated that there existed significant differences among different Chinese cabbages for black rot resistance and‘Beijingxin No.1’had the strongest resistance to black rot.Comparing disease indexes under different wet conditions, we found moisture was the key factor affecting black rot occurances. Using DPS software to conduct regression analysis and analyzing the correlation between artificial inoculation disease index of black rot in seedling stage and in adult plant stage, we found the results were that there existed notable linear correlation between artificial inoculation in seedling stage(before inoculation no moisture and after inoculation moisture for 24 h)and the disease index in adult-plant stage, and the method of artificial inoculation in seedling stage to identify resistance to black rot is reliable.
【语种】中文
【第一作者】翟文慧
【通讯作者】严红
【期刊名称、卷期、页码】中国蔬菜,2010,(10):59-63
【论文发表时间】2010-04-01 00:00:00
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【引文索引号】0
【学科分类】园艺学

【题目】甘蓝链格孢菌侵染对白菜保护酶活性和H2O2含量的影响
【中文关键词】白菜;甘蓝链格孢菌;保护酶;H202
【英文关键词】non-heading Chinese cabbage;Alternaria brassicicola;protective enzymes;H2 02
【中文摘要】以抗黑斑病白菜'苏州青'自交系和感黑斑病白菜'短白梗'自交系为材料,研究其接种甘蓝链格孢菌后保护酶活性及H2O2含量的变化.结果显示,抗病和感病材料的多酚氧化酶(PPO)、超氧化物歧化酶(SOD)和过氧化氢酶(CAT)活性与接种前相比均升高,且抗病材料的PPO、SOD活性始终高于感病材料,而CAT活性低于感病材料;接种后抗病材料苯丙氨酸

解氨酶(PAL)活性升高,而感病材料的PAL活性降低;抗病和感病材料接种后过氧化物酶(POD)活性、H2O2含量均呈上升趋势,且抗病材料的H2O2含量能很快降至较低水平.由此表明:甘蓝链格孢菌侵染白菜后,抗病材料与感病材料相比,能生成较多的PAL和PPO抵抗病原菌的侵染,并能短时迸发H2O2刺激抗氧化酶活性升高,使植物体内H2O2含量处于相对较低的水平,降低活性氧伤害.

【英文摘要】Changes of protective enzymes activities and the content of H202 were studied after Alternaria brassicicola infection on two no · heading Chinese cabbage materials(Suzhouqing and Duanbaigeng).Results showed that PPO activity.SOD activity and CAT activity were increased in both disease · resistant material and disease-susceptible material,and PPO activity,SOD activity in Suzhouqing were higher than that in Duanbaigeng after infection,while CAT activity was lower than that in Duanbaigeng.As to PAL activity,it Was increased in Suzhouqing but decreased in Duanbaigeng.POD activity and H202 content were increased in both Suzhouqing and Duanbaigeng after inoculation,and the content of H202 could be lowered quickly in disease—resistant line.Thus it could be considered that compared with disease—susceptible material,disease—resistant material Was able to produce more PPO and PAL that may resist the infection of Alternaria brassicicola,and Was able to produce more H202 in a short time to promote antioxidant enzymes activities,which could maintain low H20 level and reduce the damage of reactive oxygen species after innoculation.

【语种】中文
【第一作者】王利英
【通讯作者】侯喜林
【期刊名称、卷期、页码】园艺学报,2008,35(7):1065~1068
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【引文索引号】0
【学科分类】园艺学

【题目】水杨酸诱导不结球白菜抗黑斑病机制的探讨
【中文关键词】不结球白菜; 黑斑病; 水杨酸; 抗病相关物质;
【英文关键词】non-heading Chinese cabbage; black spot disease; SA; resistant-related materials;
【中文摘要】以不结球白菜感黑斑病品种短白梗为材料,于两叶一心期用0.5 mmol.L-1水杨酸(SA)进行叶面喷雾处理,用半定量RT-PCR技术检测叶片中Bcchi、BcPR4、BcAF基因的表达变化,并在SA处理后24 h接种甘蓝链格孢菌(Alterna-ria brassicicola),研究抗病相关物质的变化,以探讨SA诱导的抗病机制。结果表明,SA喷雾处理后显著诱导了BcAF、BcPR4、Bcchi在短白梗中的表达;接种后,经SA处理的短白梗中,48 h前SOD活性、12 h后POD活性、48 h前PPO活性和0~12 h与84 h后H2O2含量均高于未经处理的,而CAT活性在处理36 h后低于未经处理的。用SA对短白梗进行喷雾处理可明显降低其病情指数,表明SA诱导系统获得性抗性在提高黑斑病抗性方面起到重要作用。

【英文摘要】0.5 mmol · L-1 SA was used to spray leaves of Duanbaigeng which is susceptible to black spot disease at two-leaves and one heart stage,and semi-quantitative RT-PCR was done to detect the expression of Bcchi,BcPR4,BcAF in leaves.Alternaria brassicicola was inoculated 24 h after SA treatment in order to study the changes of resistance-related materials to know better of the resistant mechanism of SA induction.The results showed the expression of Bcchi,BcAF and BcPR4 was significantly induced and enhanced by Duanbaigeng. After inoculation, the activities of SOD (0-48) , POD (12h later) , PPO (0-48 h) and the content of H2O2 (0-12h and 84h later) were all higher than those unp rocessed by SA in Duanbaigeng. However, CAT active was lower than that unp rocessed after 36 h2treatment. SA can reduce the disease index which indicates that systematically acquired resistance induced by SA plays an important role in the resistance to A lternaria brassicicola in non-heading Chinese cabbage.

【语种】中文
【第一作者】王利英
【通讯作者】侯喜林
【期刊名称、卷期、页码】南京农业大学学报,2009,32(4):23~27
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【学科分类】园艺学

【题目】热激诱导不结球白菜热激蛋白合成与耐冷性分析

【中文关键词】不结球白菜; 热激蛋白; 耐冷性; 实时定量; 抗氧化酶;
【英文关键词】Brassica campestris ssp.chinensis; heat shock protein(HSP); chilling tolerance; real-time quantitative PCR; antioxidase;
【中文摘要】以不结球白菜暑绿为试材,研究了热激处理(42℃)诱导不结球白菜热激蛋白(BcHSP)合成与耐冷的相关性。结果表明:热激处理明显增强了不结球白菜幼苗的耐冷性,降低了膜伤害程度。超氧化物歧化酶(SOD)、过氧化氢酶(CAT)、过氧化物酶(POD)活性含量增加,而丙二醛(MDA)含量下降。已从热激诱导的不结球白菜中克隆了小分子量BcHSP基因(日本DNA数据库DDBJ登录号:AB367955)。荧光实时定量PCR分析表明BcHSP的表达量与耐冷性相一致。低温(4℃)胁迫下,在大肠杆菌中异源表达BcHSP可维持大肠杆菌较高的细胞活力,这些结果表明BcHSP合成与不结球白菜耐冷性的提高有关。
【英文摘要】The relationship between heat shock protein expression and plant chilling tolerance was studied in Brassica campestris ssp.chinensis Shul ü .Heat shock(42 ℃)applied to Brassica campestris ssp.chinensis seedling increased the chilling tolerance of seedling and decreased the permeability of cellular membranes.The activities of superoxide dismutase,catalase and peroxidase increased,and in contrast,the malondialdehyde content depressed.A full length cDNA of small heat shock protein(sHSP) was isolated from Brassica campestris ssp. chinensiswith 42 ℃ heat shock. The gene was designated as B cHSP (DDBJ accession number AB367955). Realtime quantitative PCR analysis revealed that the BcHSP gene exp ression was coincided with chilling tolerance of seedling. The heterologous expression of BcHSP could maintain higher cell viability of Escherichia coliunder low temperature stress (4 ℃). These results indicated that the BcHSP synthesis was correlated with the increased chilling tolerance of B rassica campestris ssp1chinensis seedling.
【语种】中文
【第一作者】郑佳秋
【通讯作者】侯喜林
【期刊名称、卷期、页码】南京农业大学学报,2010,33(2):30~34
【论文发表时间】2008-10-09 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】园艺学

【题目】不结球白菜叶片脯氨酸与可溶性蛋白含量的QTL分析
【中文关键词】不结球白菜; 脯氨酸; 可溶性蛋白; QTL定位;
【英文关键词】non-heading Chinese cabbage; proline; soluble protein; QTL mapping;
【中文摘要】用不结球白菜杂交品种暑绿的112个双单倍体纯系构建了包含186个分子标记的遗传连锁图谱,利用复合区间作图法检测了叶片脯氨酸含量和可溶性蛋白含量两性状的数量性状基因座(QTL)。结果表明:叶片脯氨酸含量由位于第5连锁群上与分子标记C20相距7.2cM的QTL控制,其加性效应和贡献率分别为0.37%和8.32%;可溶性蛋白含量由位于第3连锁群上与分子标记AE153相距0.8cM的QTL控制,其加性效应和贡献率分别为0.004%和8.12%。
【英文摘要】In this study,an attempt was made to detect quantitative trait locus(QTL)for the leaf proline content and soluble protein content in a double haploid(DH)population derived from F1 hybrid variety Shul ü by using composite interval mapping approach,based on a genetic linkage map with 186 molecular markers.The result showed that one QTL was detected for each of the two traits above.For leaf proline content,the QTL,with additive effect of 0.37% and the proportion of the total phenotypic variation explained of 8.32% , was placed on 7.2 cM apart from maker C20 on the fifth linkage group; and for soluble protein content,the QTL, with additive effect of 01004% and the percent of the total phenotypic variance explained of 8.12% , was located on 0.8cM close to markerAE15-3 on the third linkage group.
【语种】中文
【第一作者】班青宇
【通讯作者】侯喜林
【期刊名称、卷期、页码】南京农业大学学报,2010,33(2):35~38
【论文发表时间】2008-10-26 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】园艺学

【题目】大白菜新品种郑早60的选育
【中文关键词】大白菜; 品种; 郑早60 ; 一代杂种
【英文关键词】无
【中文摘要】郑早60 是郑州市蔬菜所用早熟耐热自交不亲和系9504 - 11 和EP19 - 13 - 6 - 6 配成的一代杂种。该品种早熟、综合性状优良,生育期60d 左右,叶球叠抱,短柱形,株形半直立,适宜密植,单球净重2. 5~3. 0kg ,净菜率74 % ,净菜产量60 000~90 000kgPhm2 ,高抗病毒病、软腐病,抗霜霉病。维生素C 含量230mgPkg、可溶性糖28. 0 %、粗纤维0. 56 %。适宜河南、河北、山东、北京、安徽、湖北、山西、陕西、云南、江苏等地种植。
【英文摘要】无
【语种】中文
【第一作者】刘卫红
【通讯作者】刘卫红
【期刊名称、卷期、页码】《河南农业科学》2006年第10期
【论文发表时间】2006-04-26 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】园艺学

【题目】早熟大白菜品种比较试验
【中文关键词】大白菜;早熟品种;比较试验
【英文关键词】无
【中文摘要】为了选出适合河南省种植的早熟、丰产、优质、高效的大白菜品种, 笔者对近几年在河南省种植面积较大的早熟大白菜进行了品比试验, 2005年对这几个品种分5个播期进行了比较, 播期分别为6月9日,7月14日,7月23日,8月4日,8月14日,发现7月23日和8月4日这两个播期大白菜病虫害轻、结球速度快、采收期正好在国庆节前后, 经济效益较好, 现将试验结果报告如下。
【英文摘要】无
【语种】中文
【第一作者】刘卫红
【通讯作者】刘卫红
【期刊名称、卷期、页码】《长江蔬菜》 2006年第5期
【论文发表时间】2005-12-23 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】园艺学

【题目】大白菜新品种郑早55
【中文关键词】大白菜;新品种;郑早55
【英文关键词】无
【中文摘要】郑早55是河南省郑州市蔬菜研究所选育的矮桩叠抱、耐热、极早熟大白菜一代杂种。其母本石39是从河北引进的石特1号经10余代单株系统选育而成的自交不亲和系石- 3 - 6 - 9 - 8 - 7 - 5 - 39 (简称石39) ,矮桩叠抱,外叶绿色,帮白色,生育期60 d (天)左右,株高32. 0 cm,开展度63. 5 cm,单球质量1. 4 kg,花期亲和指数0. 4 ~2. 4,蕾期亲和指数6~14,抗病毒病、霜霉病和软腐病;父本9501 -49是从台湾引进的耐热品种经杂交重组、自交分离、单株系统选育而成的自交不亲和系夏6 - 7 - 15 - 4 - 2 - 3 -4 - 11 (简称9501 - 49) ,外叶绿色,叶面平展、无毛,株高20 cm,开展度45 cm,生育期45 d (天)左右,叶球叠抱,长圆形,单球质量0. 5~0. 7 kg,耐热性强,高温下结球性好,为“ 九五 ”国家科技攻关通过验收的耐热极早熟材料之一。
【英文摘要】无
【语种】中文
【第一作者】吴海东
【通讯作者】刘卫红
【期刊名称、卷期、页码】《中国蔬菜 》 2007年第3期
【论文发表时间】2007-01-29 00:00:00

【引文索引类型】其他
【引文索引号】0
【学科分类】园艺学

【题目】秋早熟大白菜无公害栽培技术规程
【中文关键词】秋早熟大白菜;无公害栽培;技术规程
【英文关键词】无
【中文摘要】大白菜是北方冬春淡季的主食菜,大白菜生产的丰欠直接关系到市场供应的稳定,也关系到农民的经济收入问题。栽培早熟大白菜,对提早秋菜上市、增加花色品种和解决秋淡有重要作用,特别是增加了农户种大白菜的收入,具有较高的经济效益。近年来,河南省早熟大白菜栽培面积迅速增加,但由于缺乏科学系统的早熟、高产、无公害栽培技术,延用传统的种植方法,致使产量产值较低。针对生产上存在的问题,我们组织协作,开展了早熟大白菜秋无公害栽培技术研究,在前几年研究工作的基础上,总结出大白菜秋早熟无公害栽培技术规程。
【英文摘要】无
【语种】中文
【第一作者】刘卫红
【通讯作者】刘卫红
【期刊名称、卷期、页码】《河南农业科学》2008年第11期
【论文发表时间】2008-07-01 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】园艺学

【题目】苗用白菜品种及其高效栽培技术
【中文关键词】大白菜,栽培技术
【英文关键词】无
【中文摘要】大白菜是我国传统蔬菜,营养丰富,品质柔嫩,供应时间长,食用方法多样,深受广大消费者喜爱。其幼苗作为上市蔬菜品种的白菜苗,具有独特的风味,可做汤、做馅、炒食,且生长时间短,播种时间、范围广,产品价格高,1~4 元/kg,经济效益好。市场销量逐年上升,供销两旺。
【英文摘要】无
【语种】中文
【第一作者】刘卫红
【通讯作者】刘卫红
【期刊名称、卷期、页码】《种业导刊》2008年第7期
【论文发表时间】2008-04-05 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】园艺学

【题目】优势白菜品种亲本选育及育种技术创新
【中文关键词】大白菜,育种技术,优势育种
【英文关键词】无
【中文摘要】经过多年的白菜品种选育及育种方法探索,选育出适宜市场需求的大白菜新品种,改良了亲本材料,积累了育种方法和技术。
【英文摘要】无
【语种】中文
【第一作者】刘卫红
【通讯作者】刘卫红
【期刊名称、卷期、页码】《十字花科蔬菜研究进展2008》论文集
【论文发表时间】2008-10-12 00:00:00

【引文索引类型】其他
【引文索引号】0
【学科分类】园艺学

【题目】大白菜花药培养影响因素的研究
【中文关键词】大白菜;花药培养;胚状体;诱导率
【英文关键词】Chinese cabbage; Anther culture; Embryoid; Induction rate
【中文摘要】对17份大白菜品种(品系)进行花药培养,有15个品种诱导出胚,品种诱导成功率为8812%。其中,德阳王的胚诱导率最高,为24106胚/蕾。对大部分基因型来说,以B5 - 10培养基的诱导效果最好。生长在自动化温室中的供体植株比冬暖式大棚的供体植株更容易诱导出胚,叠抱类型比合抱类型的品种更容易诱导出胚。
【英文摘要】Anther culture was carried out with 17 varieties of Chinese cabbage1 The embryos were induced from 15 varieties and the induction rate was 8812%1 Among the tested cultivars, Deyangwang had the highest rate of embryo induction with 24106 embryos per bud1Most genotypes got the highest induction rate on B5 - 10 medium1 Donor plant grown in automatic greenhouse was easier to induce embryo than that grown in solar greenhouse, and the repeat type was easier than the close type.
【语种】中文
【第一作者】张清霞
【通讯作者】杨晓云
【期刊名称、卷期、页码】山东农业科学,2009,1:58-60
【论文发表时间】2008-07-23 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】园艺学

【题目】小白菜硝酸盐累积的基因型差异
【中文关键词】小白菜; 基因型; 硝酸盐; 硝酸还原酶; 采收时期
【英文关键词】B rassica chinensis; genotype; nitrate; nitrate reductase; harvest time
【中文摘要】比较分析了32种基因型小白菜材料及同一基因型小白菜不同部位硝酸盐含量的差异及其原因。结果显示:不同基因型小白菜间和同一基因型小白菜的不同部位间硝酸盐含量均有显著差异;不同基因型小白菜的不同部位硝酸盐含量与该部位硝酸还原酶活性呈显著负相关;随着收获期的延长,不同基因型小白菜各部位的硝酸盐含量均显著下降,且叶片中硝酸盐累积量的降低幅度比叶柄中大。
【英文摘要】An experimentwas carried out to investigate the differences in nitrate accumulation in 32 genotyp ic materials aswell as in different parts of same genotyp ic material of B rassica chinensis. And the cause of the difference was analyzed. Significant differences in nitrate contentswere observed between parts of the same genotyp icmaterial and between different genotyp ic materials of B rassica chinensis. For different genotyp ic materials of B rassica chinensis, nitrate content accumulated in one organ exhibited a negative correlation with nitrate reductase activity in the organ.Asmaterials ripened, the nitrate contents in different parts declined significantly,with more decrease in leaves than in petioles.
【语种】中文
【第一作者】田园
【通讯作者】袁希汉
【期刊名称、卷期、页码】江苏农业学报,2007,23(5):459-463
【论文发表时间】2006-11-21 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】园艺学

【题目】根系硝酸还原酶对小白菜硝酸盐吸收和代谢的影响
【中文关键词】小白菜; 硝酸盐; NRA; 代谢
【英文关键词】无
【中文摘要】采用溶液培养方法,选取上海青、兔子腿矮脚黄、上海青×兔子腿矮脚黄F1 代为材料,筛选出对根系硝酸还原酶(NRA)抑制效果最佳的硝酸还原酶抑制剂Na2WO4 的浓度为0. 8 mmol/L。研究结果表明,根系NRA受抑的情况下根系

对NO3- 吸收速率显著下降,而地上部的硝酸盐含量并无显著差异。同时,根系NRA受抑条件下,其根系可溶性糖浓度提高,而地上部可溶性糖浓度则相对降低。
【英文摘要】无
【语种】中文
【第一作者】梁 亮
【通讯作者】袁希汉
【期刊名称、卷期、页码】江苏农业科学,2008,3:153-155
【论文发表时间】2008-01-16 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】园艺学

【题目】橙色大白菜球叶总黄酮的提取与测定方法的研究
【中文关键词】大白菜; 黄酮; 超声波; 分光光度法; RP-HPLC
【英文关键词】Chinese cabbage; Flavonoid; Ultrasonic; UV spectrophotometry; RP-HPLC
【中文摘要】以橙色叶球大白菜为试材对总黄酮提取及含量测定方法进行了研究。通过单因素试验和L12 (43)正交试验筛选出最佳提取方法是超声波法, 其提取工艺是以80%乙醇为溶剂, 在料液比(g/mL)为1∶20, 温度60℃条件下, 用频率为60 Hz的超声波连续提取2次, 每次提取1 h。以芦丁为标样, 利用分光光度法和RP-HPLC法进行黄酮测定, 比较表明, 分光光度法和RP2HPLC法测定的结果趋势一致, RP-HPLC法优于分光光度法。建立了大白菜黄酮的RP-HPLC测定法, 流动相为甲醇∶水∶乙酸= 6∶9314∶016,流速015 mL /min, 柱温25℃, 检测波长280 nm。
【英文摘要】The methods of extraction and determination of the total flavonoids in the leaf2head of heading Chinese cabbages [B rassica cam pestris ssp. pek inensis (Lour.) O lsson] were studied. The op timal conditions for the ultrasonic extracting p rocess were screened by single factor analysis and orthogonal analysis, which using 80% ethanol as imp regnant, at the ratio 1∶20 of solid to liquid (g/mL) , the total flavonoids were extracted by 60 Hz ultrasonic at temperature 60℃ for 1 h, 2 times. U sing rutin as standard compound, the total flavonoids of orange colour Chinese cabbages were determined byUV spectrophotometry and RP2HPLC, respectively. The result shows that RP2HPLC is better than spectrophotometry with the same trend. The condition of RP2HPLC is that a ODS column was used with methanol-water-acetic acid (6∶931.4∶0.6) as the mobile phase, at a flow rate of 015 mL /min, 25℃ of the column temperature and 280 nm of the UV detectection wavelength.
【语种】中文
【第一作者】李娟
【通讯作者】张鲁刚
【期刊名称、卷期、页码】园艺学报. 2007.34(4):923-928
【论文发表时间】2007-07-02 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】园艺学

【题目】彩色大白菜新品种“ 金冠2号 ”的选育
【中文关键词】彩色大白菜 ; 金冠2号 ; 一代杂种 ; 类胡萝卜素 ; 抗病
【英文关键词】Color Chinese cabbage;Jinguan No.2;F1 hybrid;Carotenoid;Disease resistance
【中文摘要】在1996年育成彩色大白菜材料的基础上,应用优良自交系92S24等采用杂交、自交,育成了系列彩色大白菜自交系,2002年从20多个杂交组合中筛选“ 金冠2号 ”新品种(01S1024×01S915)。该品种叶球叠抱,高头球形,株高41cm,株幅65cm;球形指数1.4;外叶绿色,球叶外层2~3片叶为绿色,内层叶色为橙色,在阳光下叶色稍变红;单球净重2.5~3.0kg,净菜率为75%以上,结球紧实,营养丰富,商品性好;球叶类胡萝h素含量为优质普通大白菜秦白二号的3.47倍,vC、可溶性糖、粗蛋白分别提高44%、36%和18%,干物质提高11.73%,粗纤维减少26.0%。一般净菜产量为90.0t/hm~2左右,高抗病毒病、霜霉病、干烧心、软腐病和黑斑病,生育期75~80d。2004年通过陕西省新品种鉴定。
【英文摘要】Jinguan No. 2 is a new F1 hybrid of orange heading Chinese cabbage suitable for autumn, combined by self-incompatible lines 01S1024 and 01S915, with green leaf, low of leaf margin undulation, mid-maturity,vigorous plant. Its leaf head is obovate, orange color. The average net weight per leafhead is 2.5~3.0 kg, with hard head, high nutrient, and attractive appearance. The content of carotenoid in head is 3.47 times as Qinbai No. 2, a normal Chinese cabbage, and vC, soluble sugar, crude protein, dry

material is 44%, 36%, 18% and 11.73% higher than it respectively, and cellulose is 26. 0% lower than it. The ratio of net vegetable is over 75%. It is resistance to virus, downy mildew, tipburn and soft-rot. It can be harvested in 75~80 days after sowing and yielded net vegetable 90.0 t · hm~(-2). It has been approved by Shaanxi Province Crop Approving Committee in 2004.
【语种】中文
【第一作者】张鲁刚
【通讯作者】张鲁刚
【期刊名称、卷期、页码】西北农业学报 2007 ,16 (1) :204~206
【论文发表时间】2006-06-21 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】园艺学

【题目】春大白菜无公害生产技术规程.
【中文关键词】春大白菜;无公害生产;技术规程
【英文关键词】无
【中文摘要】选用冬性强、生育期短、商品性好、耐先期抽薹的品种, 如新黄、羞月、改良春秋玉、春泉、金峰、春胜、冠春、春金刚、春黄、春强等。春大白菜可采用直播, 也可育苗移栽。直播一般穴播, 每亩用种量75~1 00 克, 育苗移栽每亩用种量50~75 克。播前用种子量0.3%的25%瑞毒霉可湿性粉剂或种子量0.4%的50%福美双可湿性粉剂拌种。
【英文摘要】无
【语种】中文
【第一作者】张鲁刚
【通讯作者】张鲁刚
【期刊名称、卷期、页码】种养科学,2007,3:33/38
【论文发表时间】2006-06-22 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】园艺学

【题目】春夏大白菜黑斑病病原鉴定和抗性鉴定方法比较
【中文关键词】大白菜; 黑斑病; 甘蓝链格孢; 抗性鉴定
【英文关键词】Chinese cabbage; black leaf spot; A lternaria brassicicola; resistance identification
【中文摘要】为大白菜抗黑斑病新品种选育和种质创新,对陕西省春夏大白菜黑斑病进行调查、病样采集、病菌分离及形态和分子鉴定。结果表明,甘蓝链格孢A lternaria brassicicola是唯一病原。利用3个不同抗性的白菜品种研究了孢子浓度、苗龄和温度对大白菜黑斑病发病的影响,建立了大白菜抗甘蓝链格孢黑斑病的人工接种鉴定方法,即采用二叶期幼苗,以1×104 pfu /mL孢子浓度喷雾接种,随后置25 ℃条件下,先黑暗下保湿24 h , 接着正常管理3天, 从第4天开始夜间保湿, 白天揭开,第8天保湿24 h后调查发病情况,其结果客观反映大白菜品种的抗病性能。
【英文摘要】In order to p rovide technical support for breeding new varieties and germp lasm innovation of Chinese cabbage resistance to black spot, the black spot leaves samp les of Chinese cabbage were collected in Shaanxi Province. The pathogen was isolated and purified by single spore and identified by special molecule marker. It was determined that Alternaria brassicicola was the only pathogen causing black spot in spring-summer Chinese cabbage. By studying the influence of inoculation spore concentrations, seedling stage and growing temperature on black spot occurrence with three different resistance varieties, an artificial inoculation method for black spot identification was optimized and set up, which key procedure is praying 1 ×104 pfu /mL spores on seedling with two true leaves, and placing at 25 ℃ condition, then keeping moisture and dark for 24 h, keep ingmoisture at night from 4th - 7th day, keep ingmoisture 24 h in 8th day, then investigated. The result from the method was exact in accordance with the true resistance type of Chinese cabbage.
【语种】中文
【第一作者】王风敏
【通讯作者】张鲁刚
【期刊名称、卷期、页码】植物保护学报,2007,34(6):614~618

【论文发表时间】2007-11-01 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】园艺学

【题目】陕西省大白菜黑腐病苗期人工接种抗性鉴定方法研究
【中文关键词】大白菜;黑腐病;抗性鉴定
【英文关键词】Brassica campestris L . ssp penki nsis ;Black rot ; Identification
【中文摘要】为给大白菜抗黑腐病的新品种选育和种质创新提供技术保障,以陕西省大白菜主产区致病力强的黑腐病病菌株YL217 做菌源,以4 个不同抗病性的大白菜品种为试材,研究了苗龄、接种浓度和发病温度对抗病性鉴定的影响,建立了优化的大白菜黑腐病苗期人工接种鉴定方法,即接种方法采用喷雾法,接种菌量为1. 0 ×108 pfu/ mL ,接种时期为4~5 叶期,发病温度控制26 ℃。该方法鉴定结果准确可靠,能客观反映不同大白菜品种的抗病性能。
【英文摘要】In order to provide a technical support for breeding new varieties and germplasm innovation of Chinese cabbage (B rassica cam pestris L .ssp penki nsis) with resistance to black rot , the representative Chinese cabbage leaves of black rot were collected in cent ral Chinese cabbage fields of Shaanxi province , then the pathogen bacterium (Xanthomonas campestris pv. campestris (Pam.) Dowson ,)was separated , purified and classified according to its morphologic characteristics and Koch ’ postulates ,the bacterium strian YL217 ,which has strongest infection capacity in 35 representative bacterium strains , was selected and used in resistance inoculation , by comparing the effects of seedling stage ,temperature and concent ration of bacterium on the disease identification. The optimizing artificial inoculation method for black rot identification were set up , which key procedure is praying bacterium liquor of 1 ×108 pf u/ mL on seedling with 425 true leaves stage , and keeping at 26 ℃. it's results was effective and exact and was in accordance with the resistance type of different Chinese cabbage.
【语种】中文
【第一作者】芦 燕
【通讯作者】张鲁刚
【期刊名称、卷期、页码】西北农业学报.2008,17(4):219~222
【论文发表时间】2008-03-27 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】园艺学

【题目】大白菜温敏雄性不育TsCMS7311育性恢复的细胞学观察
【中文关键词】大白菜温敏雄性不育系;育性恢复; 细胞形态学
【英文关键词】Thermo-sensitive male sterile Chinese cabbage ; Fertility restoration ; Cytomorp hology
【中文摘要】以大白菜温敏雄性不育系TsCMS7311 为试材,对发生育性恢复和未发生育性恢复的花药进行细胞学观察。结果表明,在孢原细胞期之前,二者没有明显差异。常温下,未发生育性恢复的花药在孢原细胞期就停止发育;少数花药1~2 个角隅处可分化形成孢原细胞,造孢细胞,花粉母细胞,但花粉母细胞在减数分裂的第一次分裂时解体。在低温处理条件下,育性恢复,花药发育正常,经过孢原细胞期、造孢细胞期、花粉母细胞期后,可以顺利形成四分体,可育花药的四分体可以释放出小孢子并发育为成熟的花粉粒,同时绒毡层细胞开始解体,最后消失。
【英文摘要】Thermo2sensitive male sterile Chinese cabbage TsCMS7311 was used as test material s , and the cytomorp hology was carried out in ant hers of t he fertility restoration and not . It was found that there was no significant difference between two group s before t he stage of archesporical cell . Under normal temperature , anthers of not fertility restoration stopped developing in the stage of archespori-cal cell ;122 comers of a few anther could differentiate and form archesporical cell , sporogenous cells and microspore mot her cell , but microspore mother cell disintegrated on the first meiotic division.Under low temperat ure condition , fertility restoring , anther developing normally , the tetrads formed after archesporical cell , sporogenous cells and microspore mother cell . Subsequently , micro spores were free from the tetrad of fertile anther and formed mature pollen grains , tapetumof the fertile anthers began to disintegrate and disappear at last .
【语种】中文
【第一作者】董美云
【通讯作者】张鲁刚

【期刊名称、卷期、页码】西北农业学报.2008,17(4):104~108
【论文发表时间】2008-03-31 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】园艺学

【题目】大白菜抽薹性状的主基因+多基因遗传分析
【中文关键词】大白菜;抽薹;主基因+多基因;遗传
【英文关键词】Chinese cabbage;bolting;major gene plus polygene;inheritance
【中文摘要】以大白菜易抽薹自交系06S1703和耐抽薹自交系06J32形成的P,、Pz、F-、Fz、Bl和岛等6个世代为材料,应用主基因+多基因多世代联合分析方法,对大白菜抽薹性状进行了研究。结果表明,大白菜的抽簟性受2对加性一显性一上位性主基因+加性一显性一上位性多基因控制,其中2对主基因的加性效应值分别为一3.575 8和一13.619,显性效应值分别为一3.755 2和一2.257 7。b、岛和F2世代的主基因遗传率分别为87.95%、95.13%和96.25%。只在B1群体中检测到多基因效应,遗传率仅为1.39%,说明大白菜的抽薹性是以主基因遗传为主,可以进行早期选择。
【英文摘要】The mixed major-gene plus polygene inheritance model was used to analyze the inheritance of bolting in the heading Chinese cabbage(Brassica campestris L.ssp.pekinensis)with six generations of early bolting variety 06S1 703(P1)and bolting variety 06J32(P2)and their,F1,B1,B2 and F2.The results showed that the bolting trait was controlled by two major genes with additive-dominance-epistatic effects plus poly-genes with additive-dominance-epistatic effects(E-0 model)in hybrid (06S1703X06J32).the additive effects of the tWO major genes were-3.575 8 and-13.619 respectively,and the dominance effects of the two major genes were-3.755 2 and-2.257 7 respectively;The heritability of the major genes in B1,B2 and F2 were 87.95%,95.13%and 96.25%respectively,but the polygene heritability only be checked in B1,which is 1.39%.It indicated that the bolting trait in Chinese cabbage was dominated by major genes.It is fit for early selection.
【语种】中文
【第一作者】卓祖闯
【通讯作者】张鲁刚
【期刊名称、卷期、页码】西北植物学报,2009. 29(5):0867-0873
【论文发表时间】2009-04-21 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】园艺学

【题目】大白菜杂交种“ 冠春 ”特异性SCAR标记的获得及其验证
【中文关键词】大白菜; 冠春; 杂交种;种子纯度;SCAR
【英文关键词】Chinese cabbage ; Guanchun ; Hybrid ; Purity of seed ; SCAR
【中文摘要】以获得的春大白菜品种"冠春"的特异性RAPD标记为依据,通过对8个特异片段的回收,克隆测序,采用引物延长法设计了SCAR引物,经过双亲及其杂交一代的鉴定,6个SCAR引物多态性消失,2个SCAR引物扩增出了单一的特异条带,而且SCAR标记的差异与原始的RAPD特异性标记的差异完全相同,为大白菜杂交种"冠春"的品种鉴定和品种保护提供了技术依据。
【英文摘要】In order to get a stable DNA marker for hybrid F1 identification,the DNA segments of the special RAPDs obtained before were recovered,cloned and sequenced,then eight pairs of SCAR primers were designed and verified in F1 and two parents,its results showed that six SCAR primers lost the RAPD polymorphic and two SCAR primers amplified a single special SCAR marker,which difference is in accord with the RAPD.Therefore,a stable and simple method for the Guanchun F1 identification was established.
【语种】中文
【第一作者】张鲁刚
【通讯作者】张鲁刚
【期刊名称、卷期、页码】西北农业学报,2010,(2):177-182
【论文发表时间】2009-08-25 00:00:00
【引文索引类型】其他

【引文索引号】0
【学科分类】园艺学

【题目】大白菜感染甘蓝链格孢后三种抗氧化酶活性的变化
【中文关键词】大白菜; 黑斑病; 甘蓝链格孢; 酶活性; 抗病性
【英文关键词】Chinese cabbage; black leaf spot;A. brassici cola; enzymes activit ies; disease resistance
【中文摘要】以2个抗病和2个感病的大白菜品种为材料,研究人工接种甘蓝链格孢后叶片过氧化物酶(POD)、过氧化氢酶(CAT)和苯丙氨酸解氨酶(PAL)活性的动态变化及其与抗病性的关系。结果表明:抗病品种在受到甘蓝链格孢侵染时,叶片内POD活性反应较感病品种快,但POD活性值上升比感病品种小;抗病品种在受到病原菌侵染时,叶片内CAT活性反应快,且一直维持在一个较高的水平,而感病品种在受病菌侵染后叶片内的CAT活性变化缓慢,变化程度低;另外无论是抗病品种还是感病品种的PAL酶活性在接种后的动态变化有相似规律,接种后所有品种的PAL酶活性均比未接种前增加。
【英文摘要】The relationship between the activity of CAT,POD,PAL and the resistances to Alternaria brassicicola were studied.The results showed that POD activity in the resistant cultivars raised earlier than in the susceptible ones after inoculation with A.brassicicala,but the highest point of POD activity in the resistant cultivars was lower than in the susceptible cultivars;The activities of CAT in the resistant cultivars raised earlier and kept a high level after inoculation with A.brassicicola,but slow and small change in the susceptible cultivars; The dynamic change of PAL activity were similar in susceptible and resistant varieties af ter inoculation with A. brassicicola, which was that the act ivities of PAL were increased after inoculation with A. brassicicola.
【语种】中文
【第一作者】王风敏
【通讯作者】张鲁刚
【期刊名称、卷期、页码】北方园艺,2010,(9):164~166
【论文发表时间】2010-02-03 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】园艺学

【题目】早熟大白菜新品种东农906的选育
【中文关键词】大白菜 东农906 一代杂种 早熟
【英文关键词】Chinese cabbage,Dongnong 906, F1 hybrid, Earlymaturity
【中文摘要】东农906是由自交不亲和系47-5-2和88-4-1配制而成的秋大白菜一代杂种。矮桩合抱类型,株高31.5cm,株幅58.0cm,球形指数1.5,顶部小尖开。叶浅绿色,帮白色,球叶40片左右。早熟,播种后63d(天)可以收获,可持续采收到85d(天),不长侧芽、不裂球。65d(天)收获时平均单株质量1.8kg,每667m2净菜产量4000kg左右;80d(天)收获时平均单株质量2.5kg,每667m2净菜产量5000kg左右;净菜率77.4%。品质优良,口感好,VC含量246.50mg·kg-1,纤维素0.22%,可溶性固形物5.65%,干物质4.54%。抗TuMV、软腐病、霜霉病,已在黑龙江、吉林、内蒙古等地推广种植。
【英文摘要】Dongnong 906 is a new Chinese cabbage F_1 hybrid developed by crossing two self-incompatible lines 47-5-2 and 88-4-1.Its head shape index is 1.5.It takes only 63 days from sowing to harvest and can be harvested up to 85 days after sowing.The average head weight is about 1.8 kg in 65 days after sowing and 2.5 kg in 80 days after sowing.The yield in open field is about 60-75 t · hm -2 .It is resistant to TuMV,downy mildew and soft rot.It is suitable for cultivation in Heilongjiang,Jilin and InnerMongolia in autumn.
【语种】中文
【第一作者】张耀伟
【通讯作者】张耀伟
【期刊名称、卷期、页码】中国蔬菜,2006(7):23-24
【论文发表时间】2006-01-23 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】园艺学

【题目】大白菜抗感品种间作提高感病品种抗病毒病能力研究
【中文关键词】大白菜; 间作; 病毒病; 病情指数

【英文关键词】Chinese cabbage ; intercropping ; incidence index ; virus disease
【中文摘要】为了探讨通过抗感品种间作栽培方式来提高大白菜品种抗病毒病的能力,采用小区试验和对黑龙江大白菜区试与生试结果分析。结果表明,抗感品种间作可提高感病大白菜品种抗病毒病能力;抗性不同的品种间作使同一品种在区试、生试中表现出不同的抗性,与对照相比表现出不同增产幅度。
【英文摘要】The resistance of the susceptible variety of Chinese cabbage to viruses was studied by plot tests,regional tests and productive tests in Heilongjiang. The results showed that the resistance of the susceptible variety to viruses could be enhanced through intercropping of resistant varieties and susceptible varieties.Intercropping made cultivars exhibit different resistance to viruses in regional tests and productive tests,leading to increase of yields to different degrees compared with the control.
【语种】中文
【第一作者】史国立
【通讯作者】张耀伟
【期刊名称、卷期、页码】植物保护,2006,32(5):38-40
【论文发表时间】2005-11-27 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】园艺学

【题目】大白菜对软腐病抗性的快速鉴定方法研究
【中文关键词】大白菜;软腐病;苗期;活体接种;鉴定方法
【英文关键词】无
【中文摘要】通过3个试验研究各种因素对活体接种软腐细菌后的大白菜软腐病发病的影响,建立了一套大白菜对软腐病抗性的快速鉴定方法。通过接种后空气湿度对软腐病发病的影响,得出最佳发病湿度在90%以上;通过L9(34)有重复的正交试验,研究接种方法、苗龄、接种液对软腐病发病的影响,得出最佳接种方法是用刀片轻划4道小伤口、最佳苗龄为7~8叶期、适宜接种液为液体培养基悬浮液;通过接种浓度对软腐病发病的影响试验,得出最佳接种液孢子量为1013个/mL;病情指数调查均在接种后第7天。
【英文摘要】无
【语种】中文
【第一作者】史国立
【通讯作者】张耀伟
【期刊名称、卷期、页码】植物保护,2006,32(6):135-138
【论文发表时间】2006-04-07 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】园艺学

【题目】大白菜硝酸盐含量的配合力分析
【中文关键词】大白菜;硝酸盐;配合力;遗传力
【英文关键词】Chinese cabbage;nitrate;combining ability;heritability
【中文摘要】试验以5个大白菜高代自交系作亲本,按Griffing Ⅱ完全双列杂交遗传设计配制15个杂交组合,在2个施氮水平下(300kg · hm-2和不施氮),进行大白菜硝酸盐含量配合力和遗传力分析。结果表明,大白菜硝酸盐含量的一般配合力方差占主导地位;加性效应和非加性效应对大白菜硝酸盐含量都有重要作用,但以加性效应为主,广义遗传力较高,狭义遗传力中等。
【英文摘要】Total five inbred lines with different nitrogen using efficiency(NUE) in Chinese cabbage were selected as the experimental samples.Total 10 hybrid combinations were designed according to Griffing II principle.The combining ability and heritability were analyzed with 10 hybrid combinations and 5 inbred lines under the high N(300 kg · hm-2) and the low N(no N).The results showed that the variance of general combining ability was predominant;both additive variation and non-additive variation were significant in the nitrate content at two N levels,the additive effect played more important roles;the broad—sense heritability was high and the narrow · sense heritability was middle.
【语种】中文

【第一作者】杨树秀
【通讯作者】张耀伟
【期刊名称、卷期、页码】东北农业大学学报.2009,40(12):24-28
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【学科分类】园艺学

【题目】大白菜软腐病抗性的分子标记筛选
【中文关键词】大白菜;软腐病;分子标记;AFLP
【英文关键词】Chinese cabbage; Chinese cabbage soft rot; Molecularmarker; AFLP
【中文摘要】本试验以抗、感软腐病的大白菜材料为亲本,以其F2代分离群体为试材,采用AFLP分析技术结合BSA分组法,以E2M3引物组合筛选出一个150 bp的与感病基因连锁的标记;利用获得的分子标记对F2代分离群体进行了分子鉴定。结果表明:分子标记与抗性鉴定结果具有很高的一致性,证实了所筛选出的标记基因应用于抗性鉴定的可行性。
【英文摘要】The F2 segregating population of susceptible material 1042 and resistant one 683 were used as experiment materials.By AFLP combined with bulked segregation analysis(BSA),one AFLP molecular marker of 150 bp linked to soft rot susceptible gene was screened with E2M3 primer combination,which stably existed in each individual of the F2 population.The results indicated that the AFLP molecular marker was a rapid and simple DNA method for the resistance screening of Chinese cabbage soft rot.
【语种】中文
【第一作者】牟晋华
【通讯作者】王翠花
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【学科分类】园艺学

【题目】芸薹种作物抽薹相关基因BrFLC1的CAPS标记.
【中文关键词】芸薹种作物; 抽薹; B rFLC1基因; CAPS标记
【英文关键词】Brassicarapa L. syn. campestris L. ; bolting; BrFLC1 gene; CAPS marker
【中文摘要】以16份芸薹种作物DH系为试材,通过人工春化处理对其抽薹性状进行了鉴定,明确了材料间抽薹早晚存在显著差异;根据BrFLC1基因序列设计引物进行PCR扩增发现,所有16份材料均获得980bp的片段。多序列比对与抽薹性的关联分析发现,材料的抽薹早晚与扩增片段的碱基变异相关联,并发现关联位点的碱基变异为限制性内切酶Mva Ⅰ的识别位点;利用该酶对PCR产物酶切可以将材料明显区分开来,从而建立了BrFLC1基因的CAPS标记(命名为G-Mva Ⅰ)。利用此标记对96份芸薹种作物DH材料的验证表明,该基因的分子标记结果与抽薹时间表型显著相关,用该标记可以进行分子标记辅助选择。
【英文摘要】Bolting time of 16 Brassica rapa accessions was investigated under artificial vernalization treatment.The results showed that there was a wide range variation of bolting time among these accessions.Polymerase chain reaction(PCR)with a primer pair based on the BrFLC1 gene sequence generated a 980 bp fragment from all accessions.A base variation located at P3 was significantly associated with bolting time,and the base variation at this position is the recognition site of restriction enzyme Mva Ⅰ.Therefore,a cleaved amplified polymorphic sequences (CAPS) marker designated as G2M va Ⅰ was developed for this locus by digesting the amp lified fragmentwithM va Ⅰ. The markerwas verified in 96 B. rapa DH lines, disp laying a significant association between the bolting phenotypes and the genotypes of G2M va Ⅰ. These results indicated that G2M va Ⅰ can be easily used formarker2assisted selection (MAS) in late bolting or bolting2resistance breeding.
【语种】中文
【第一作者】原玉香
【通讯作者】王晓武
【期刊名称、卷期、页码】园艺学报, 2008, 35 (11): 1635 -1640
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【学科分类】园艺学

【题目】大白菜DH群体TuMV抗性的QTL定位与分析.
【中文关键词】大白菜 ; TuMV ; QTL定位 ; DH群体
【英文关键词】Chinese cabbage; Turnip mosaic virus (TuMV) ; QTL mapping; DH population
【中文摘要】利用已构建的包含287个标记位点的遗传图谱的大白菜DH群体,采用多模型QTL作图的方法,通过苗期人工接种TuMV-C_4株系对来自抗病亲本Y195-93和感病亲本Y177-12的DH群体的TuMV抗性进行QTL分析.共检测到3个QTLs,分别位于R03、R04和R06连锁群上,解释的表型变异在10.5%~21.9%之间,3个QTLs可解释40.0%的表型总变异.其中位于R04上命名为Tu-2的QTL解释的表型变异最高,为21.9%,其余两个位于R03和R06上的QTLs,分别解释10.5%和14.5%的表型变异.
【英文摘要】One hundred and eighty-three doubled haploid (DH) lines derived from the cross of two Chinese cabbage [Brassica campestris L. ssp. pekinensis (Lour.) Olssom] DH lines, Y177-12 (TuMV-susceptible) and Y195-93 (TuMV-resistant) , were used to map quantitative trait loci (QTL) related to TuMV resistance. TuMV resistance was evaluated for young seedlings by inoculating true leaves with TuMV-C_4 strain. Based on the reported genetic map with 287 loci, 3 QTLs were detected for TuMV resistance, localizing on linkage groups R03, R04 and R06, respectively. The most significant of the identified QTL locates on R04, named Tu-2, explaining 21. 9% of the phenotypic variance. The other two QTLs mapped on R03 and R06, explaining 10. 5% and 14. 5% of the phenotypic variance, respectively. The three QTLs together explained 40. 0% of the TuMV resistance variance.
【语种】中文
【第一作者】张晓伟
【通讯作者】谢从华
【期刊名称、卷期、页码】园艺学报, 2009, 36(5):731 -736.
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【引文索引类型】其他
【引文索引号】0
【学科分类】园艺学

【题目】影响白菜游离小孢子培养关键因素分析
【中文关键词】白菜; 小孢子培养
【英文关键词】Brassica campestris ssp. chinensis; Microspore culture
【中文摘要】对影响白菜游离小孢子培养的关键因素进行分析研究。单因素研究结果表明:54个基因型之间的小孢子胚诱导率差异显著;对供体材料低温处理,在0~5d范围内小孢子胚诱导率差异不大,超过5d则明显降低;高温诱导在12~60h范围内差异不大,超过此范围则小孢子胚诱导率明显降低;NLN培养基中添加生长素(NAA)和细胞分裂素(6-BA)对小孢子胚诱导率影响不大,添加的浓度过大时小孢子胚诱导率反而降低;活性炭的有无和浓度大小对小孢子胚诱导率影响极大。通过基因型、生长素、细胞分裂素、活性炭4因素分析表明:基因型之间差异显著,活性炭不同浓度之间差异显著;基因型与活性炭不同浓度之间的互作差异显著;其它的5个一级互作、4个二级互作和1个三级互作差异均不显著。
【英文摘要】Several factors affecting isolated microspore culture of non-heading Chinese cabbage(Brassica campestris ssp.chinensis)were studied in experiments.The results from mono-factor experiments showed that there were significant differences in the frequency of microspore-induced embryos among different genotypes.In the low temperature treatment,no significant differences were found during 0-5 days,while the frequencies were obviously lower when the period was longer than five days.There were no significant differences in high temperature when the incubation time was within 12-60 h, but the frequencies of microspore-induced embryos were much lower over this duration. The addition of auxins (NAA) and the cytokinins (62BA) in NLN medium showed no significant effect on the frequencies of microspore-induced embryos, but when the concentration was excessive, the frequencies decreased. The p resence and concentration of activated charcoal had a great influence on the frequency of microsporeinduced embryos. Moreover, fourfactor analysis of genotype, auxin, cytokinins and activated charcoal concentrations indicated that there were significant differences among different genotypes and activated charcoal concentrations,respectively, and also significant differences among these two interactions, while other interactions remained nonsignificant.
【语种】中文
【第一作者】耿建峰

【通讯作者】侯喜林
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【引文索引号】0
【学科分类】园艺学

【题目】利用DH群体构建不结球白菜遗传连锁图谱
【中文关键词】不结球白菜; DH群体; 分子标记; 遗传图谱
【英文关键词】non-heading Chinese cabbage; doubled haploid population; molecularmarker; genetic map
【中文摘要】以不结球白菜品种暑绿的112个双单倍体(double haploid,DH)株系构成的群体作为作图群体,利用SRAP、SSR、RAPD和ISSR 4种分子标记来构建不结球白菜分子遗传连锁图谱。通过Mapmaker 3.0/EXP软件分析,得到1张不结球白菜分子遗传图谱,图谱总长度1 116.9 cM,共包括14个连锁群,186个多态性分子标记,其中包括114个SRAP、33个SSR、24个RAPD和15个ISSR标记,其中偏分离标记44个,占23.7%。每条连锁群上的标记数在4-27个之间,连锁群的长度在30.3-165.8 cM的范围内,平均图距在3.4-11.1 cM之间,总平均距离6.0 cM。
【英文摘要】The first genetic linkage map of non-heading Chinese cabbage(Brassica campestris ssp.chinensis)was constructed,which was based on a DH(doubled haploid)population including 112 DH lines,derived from a released F1 hybrid variety Shul ü .Four kinds of markers of SRAP,SSR,RAPD and ISSR were adopted and 186 polymorphic markers including 114 SRAP,33 SSR,24 RAPD and 15 ISSR markers were integrated into the resulted map using Mapmaker 3.0/EXP version,which was consisted of 14 linkage groups and covered 1 116.9 cM.A total of 44 (2317%) distorted markers distributed in the map. Number ofmarkers included in the linkage group svaried from 4 to 27, the length of linkage groups from 30.3 cM to 165.8 cM and mean marker interval distance from 3.4 cM to 11.1 cM individually, and a mean marker interval distance of 610 cM between markers.
【语种】中文
【第一作者】耿建峰
【通讯作者】侯喜林
【期刊名称、卷期、页码】南京农业大学学报, 2007,30(2):23 -28
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【引文索引号】0
【学科分类】园艺学

【题目】基因型和有机附加物对小白菜花药培养胚状体诱导的影响
【中文关键词】小白菜; 花药培养; 诱导率; 植株再生
【英文关键词】Pak- choi; Anther culture; Efficiency of induction; Plant regeneration
【中文摘要】对13个小白菜品种进行花药培养,结果表明:在B5+谷氨酰胺0.8g/L+蔗糖10%固体培养基上有11个诱导出小孢子胚。各品种间小孢子胚产量差别较大,每100枚花药产胚数(诱导率)在0.11%-17.62%之间。比较B5培养基中蔗糖、有机物浓度和谷氨酰胺配比结果表明,B5+2倍B5有机物+谷氨酰胺0.4g/L+蔗糖10%+琼脂0.8%效果较好,小孢子胚最高诱导率达103.91%。
【英文摘要】Anthers from 13 varieties of pak-choi were cultured in B5 medium with 10% sucrose and 0.8 g/L L-glutamine, microspore-derived embryoids and regenerants were obtained from 11 varieties. The yield of microspore-derived embryoids (No. of embryoids per 100 anthers)varied from 0.11% to 17.62% among varieties. The effect of sucrose concentrations and additive organic matters in B5 medium on embryogenesis was investigated. The results showed that B5 medium with 10% sucrose and 0.4 g/L L-glutamine was optimal,with the highest efficiency of induction of 103.91%.
【语种】中文
【第一作者】蒋武生
【通讯作者】蒋武生
【期刊名称、卷期、页码】中国瓜菜, 2006(2):1-4
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【学科分类】园艺学

【题目】活性炭对小白菜游离小孢子培养的影响
【中文关键词】小白菜;游离小孢子培养;小孢子胚;诱导率;活性炭
【英文关键词】Chinese cabbage ; Isolated microspore culture ;Microspore-derived embryos ;Frequency ;Activated charcoal
【中文摘要】以24个小白菜品种为材料,通过在NLN培养基中添加不同浓度活性炭,研究其对游离小孢子培养的影响。结果表明:在NLN-13培养基中添加活性炭(0.5 g/L),有利于小孢子胚的诱导和形成,供试材料(N4,N8)添加活性炭处理胚诱导率较未添加活性炭的处理分别提高19,66.5倍。采用添加活性炭(0.5 g/L)的NLN培养基对24份小白菜品种进行游离小孢子培养,有20份材料诱导出胚,培养成功率为83.3%。表明添加活性炭的培养基对小白菜游离小孢子培养有较好的效果。不同基因型间胚诱导率差别较大,每花蕾诱导胚数为0.4~86.7个。依据胚诱导率的高低可将其分为极易诱导、易诱导、难诱导和不能诱导出胚4类。B5+6-BA 0.2 mg/L+NAA 0.02 mg/L+活性炭0.5 g/L+3%蔗糖+1%琼脂培养基有利于幼胚长成植株。
【英文摘要】Fluency of activated charcoal on isolated microspore culture in Chinese cabbage was studied.The results showed that NLN-13 liquid medium with activated charcoal(0.5 g/L)was obviously better in frequency of microspore-derived embryos and frequency of regenerated plants.Frequency of microspore-derived embryos in N4 and N8 was increased 19 and 66.5 times.Isolated microspores from 24 varieties of Chinese cabbage were cultured in NLN-13 liquid medium with activated charcoal(0.5 g/L),20 varieties were produced microspore-derived embryos. Embryo yield per bud (frequency microspore-derived embryos) was from 0.4 to 86.71.Microspore-derived embryos on B5 medium with 62BA 0.2mg/ L and NAA 0.02 mg/ L and activated charcoal 0.5 g/ L and 3% sucrose and 1% agar is good to regenerated plants.
【语种】中文
【第一作者】蒋武生
【通讯作者】蒋武生
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【学科分类】园艺学

【题目】橘红心大白菜核基因雄性不育系转育方法研究
【中文关键词】大白菜;橘红心;遗传;核基因雄性不育
【英文关键词】无
【中文摘要】以白色球心大白菜雄性不育甲型两用系AB01的可育株MsfMs为母本,以橘红色球心大白菜自交系北京-1和山东-1为父本,配制F1、F2及BC1,鉴定各世代叶球颜色和雄蕊育性,分析球色遗传规律,以及球色、花色及雄蕊育性的遗传关系,探索橘红心大白菜核基因雄性不育系转育方法.结果表明,球心颜色由一对基因控制,橘红心为隐性,白心为显性;橘红心与橘红花性状为完全连锁或一因多效;球心颜色与雄蕊育性独立遗传;橘红心大白菜自交系北京-1和山东-1在核不育基因位点上的基因型均为纯合隐性可育msms.提出了利用普通白心大白菜核基因雄性不育材料转育橘红心大白菜雄性不育系的遗传模式.
【英文摘要】无
【语种】中文
【第一作者】冯辉
【通讯作者】冯辉
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【学科分类】园艺学

【题目】四种甘蓝雄性不育类型差异基因表达分析
【中文关键词】甘蓝; 雄性不育; cDNA-AFLP; 基因表达

【英文关键词】cabbage; male sterility; cDNA-AFLP, gene expression
【中文摘要】通过cDNA-AFLP分析了4种甘蓝(Brassicaoleracea)雄性不育类型的花粉败育特异中断基因表达特点,并对不同特异表达类型分别选取代表性TDFs克隆测序。结果表明,表达差异在转录片段多态性上能反应出不同雄性不育类型在细胞学水平上的败育时期和特征差异,4种不育类型中萝卜胞质不育(OguCMS)与可育类型遗传距离最近。实验未检出萝卜胞质不育特异中断的TDFs,说明其特异中断基因数目较少,因此检测到这一类基因较为困难。三种代表黑芥胞质不育(NiCMS),隐性核不育(Ms-cr1)和显性核不育(Ms-cd1)特异中断表达的TDFs共计46条。序列分析结果表明,黑芥胞质不育,隐性核不育和显性核不育类型分别与烟酰胺腺嘌呤二核苷酸(NADH)脱氢酶,具RNA识别结构域(RRM)的蛋白,质膜类钙转运ATP酶基因表达受阻有关。
【英文摘要】There are four most important types of cabbage (Brassica oleracea) male sterilities (Nigra crtoplasmic male sterility, NiCMS; Ogura cytoplasmic male sterility, OguCMS; recessive genic male sterility, Ms-cr1 and dominant genic male sterility, Ms-cd1)in China. These male sterile lines and their corresponding fertile lines were analyzed for their gene expression specificity by cDNA-AFLP. The transcript diversity reflected the different characteristics among the four types of male sterility. OguCMS had the nearest genetic distance to fertile types. The OguCMS specifically interrupted TDFs was not detected. The results suggested that there were fewer OguCMS specifically interrupted genes as they were more difficult to be detected when comparing with others. Forty six NiCMS totally, Ms-cr1 and Ms-cd1 specific TDFs were detected. Sequence analysis of representative TDFs from each group showed that NiCMS, Ms-cr1 and Ms-cd1 were related to nad4 NADH dehydrogenase, RNA recognition motif (RRM)- containing protein and calcium-transporting ATPase expression interruption respectively.
【语种】中文
【第一作者】康俊根
【通讯作者】王晓武
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【题目】蔬菜科技,任重道远
【中文关键词】蔬菜科技; 科学研究; 存在问题
【英文关键词】vegetable sci-tech ; scientific research ; problem
【中文摘要】近年来,我国蔬菜科技实力不断加强,学术活动十分活跃,政府对蔬菜科技的投入明显增加,在蔬菜种质资源、遗传育种、设施栽培、病虫害防治、贮藏加工、质量安全等方面的研究取得显著成绩,指出我国蔬菜科技工作存在的主要问题,并提出今后的主要任务。
【英文摘要】The strength of Chinese vegetable sci-tech enhanced continuously and its academic activity was quite lively within several years.At the same time,the government investment of vegetable sci-tech increased distinctly.The study of vegetable sci-tech made a remarkable achievement on vegetable germplasm resources,genetic breeding,facilities cultivation,insect and disease control,store and process,quality safety and so on.The article pointed out the main problems of Chinese vegetable sci-tech works and proposed the main task for the future.
【语种】中文
【第一作者】方智远
【通讯作者】方智远
【期刊名称、卷期、页码】广东农业科学,2006(1),5-10
【论文发表时间】2006-01-05 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】园艺学

【题目】芜菁花叶病毒外壳蛋白基因的克隆与序列分析
【中文关键词】芜菁花叶病毒 外壳蛋白基因 序列分析
【英文关键词】TuMV, Coat p rotein gene, Sequence analysis

【中文摘要】将来自北京地区甘蓝和芥菜上的TuMV外壳蛋白基因片段分别克隆到pMD18-T载体中,测序并进行序列分析。结果表明:两者CP基因序列长度均为867个核苷酸,编码288个氨基酸,它们的核苷酸同源性为97·2%,氨基酸同源性为97.6%;两者与GenBank中的部分CP基因序列的核苷酸同源性在87.8%~97.8%之间,氨基酸同源性在91.7%~99.0%之间;分子进化树分析两者可归属World-B组。

【英文摘要】Two samples of turnip mosaic virus,which infected cabbage and turnip in Beijing,were named TuMV-BJ1 and TuMV-BJ2,respectively. The CP genes of TuMV-BJ1 and TuMV-BJ2 were sequenced after being cloned into pMD18-T Vector,and were compared with the CP gene sequences of TuMV reported in GenBank. The results showed that the CP genes of TuMV-BJ1 and TuMV-BJ2 were all 867 nucleotides and coded 288 amino acids in length,and nucleotids homology was 97.2 % and amino acids homology was 97.6 %. They all shared,with the CP gene sequences of TuMV reported in GenBank, nucleotid homologies of 87. 8 % - 97. 8 % and amino acid homologies of 91. 7 % - 99. 0 %. Based on the phylogenetic analysis of the CP gene sequences, TuMV - BJ1 and TuMV - BJ2 belonged to world - B group of TuMV.

【语种】中文

【第一作者】庄木

【通讯作者】庄木

【期刊名称、卷期、页码】中国蔬菜,2006(3),6-8

【论文发表时间】2005-10-14 00:00:00

【引文索引类型】其他

【引文索引号】0

【学科分类】园艺学

【题目】Bt基因及其在蔬菜育种中的研究与利用

【中文关键词】Bt基因; 转基因; 蔬菜育种;

【英文关键词】无

【中文摘要】本文介绍了Bt基因分类、杀虫机理及转BT基因植物的研究进程,综述了BT基因在蔬菜转化中的研究进展,并对其应用前景进行了展望。

【英文摘要】无

【语种】中文

【第一作者】王晓娟

【通讯作者】杨丽梅

【期刊名称、卷期、页码】中国蔬菜,2006(9):35-38

【论文发表时间】2006-07-10 00:00:00

【引文索引类型】其他

【引文索引号】0

【学科分类】园艺学

【题目】芜菁花叶病毒CP基因反向重复植物表达载体的构建及遗传转化

【中文关键词】芜菁花叶病毒; 外壳蛋白基因; 反向重复; 遗传转化;

【英文关键词】TuMV; Coat protein; Inverted repeat; Transformation;

【中文摘要】针对芜菁花叶病毒外壳蛋白基因构建反向重复表达载体,利用农杆菌介导法将其导入四九菜心,PCR检测共获得13个阳性转化株,遗传转化效率为2%。

【英文摘要】The construct using inverted repeat sequences of the coat protein gene of TuMV was designed,and introduced into Sijiucaixin via Agrobacterium tumefaciens-mediated transformation system.13 positive transformants were obtained through PCR analysis.The transgenic efficiency was up to 2 %.

【语种】中文

【第一作者】罗静

【通讯作者】庄木

【期刊名称、卷期、页码】中国蔬菜,2007,2:10-12

【论文发表时间】2007-01-12 00:00:00

【引文索引类型】其他

【引文索引号】0
【学科分类】园艺学

【题目】近年来秋冬甘蓝育种研究进展
【中文关键词】秋冬甘蓝;育种;研究进展
【英文关键词】无
【中文摘要】从秋冬甘蓝育种目标、种质资源引进鉴定、育种材料筛选、雄性不育系选育与小孢子培养、新品种选育等方面,对近年秋冬甘蓝育种取得的进展进行了综述,并对存在的问题与对策进行了讨论。
【英文摘要】无
【语种】中文
【第一作者】杨丽梅
【通讯作者】杨丽梅
【期刊名称、卷期、页码】中国十字花科蔬菜研究进展,2008,11-14
【论文发表时间】2008-10-12 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】园艺学

【题目】近年来春甘蓝育种研究进展
【中文关键词】春甘蓝;育种;进展
【英文关键词】无
【中文摘要】从春甘蓝育种目标、种质资源引进鉴定、育种材料、新品种选育和育种技术等几个方面,对近年来取得的进展进行综述,并就存在的问题与对策进行了讨论。
【英文摘要】无
【语种】中文
【第一作者】庄木
【通讯作者】庄木
【期刊名称、卷期、页码】中国十字花科蔬菜研究进展,2008,8-10
【论文发表时间】2008-10-12 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】园艺学

【题目】我国甘蓝产销变化与育种对策
【中文关键词】甘蓝;产销变化;育种对策
【英文关键词】无
【中文摘要】甘蓝育种应根据生产和市场需求确立一些新的育种目标:适于高海拔、高纬度栽培的耐裂球、耐贮运、抗病(特别是抗枯萎病、黑腐病)、优质的中早熟圆球类型或中熟扁球类型甘蓝品种;适于中原地区露地越冬栽培的耐寒性强的扁球或近圆球类型甘蓝品种;适于东部地区秋冬栽培鲜食或脱水加工用的叶球深绿色、绿叶层次多的扁球或近圆球类型甘蓝品种等。
【英文摘要】无
【语种】中文
【第一作者】方智远
【通讯作者】方智远
【期刊名称、卷期、页码】中国蔬菜,2008 (1) : 1-2
【论文发表时间】2007-12-08 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】园艺学

【题目】一个结球甘蓝群体主要农艺性状的遗传效应分析
【中文关键词】结球甘蓝; DH群体; 农艺性状; 主基因+多基因; 遗传分析;
【英文关键词】Brassica oleracea var.capitata; DH population; agronomy trait; mixed major gene and polygene genetic model; inheritance analysis;
【中文摘要】采用游离小孢子培养方法,构建了一个甘蓝F_1(624×24-5)的DH群体,利用该DH群体重复试验数据建立了结球甘蓝主要农艺性状的数量性状主基因+多基因混合遗传模型,分析了结球甘蓝8个主要农艺性状的遗传效应。结果表明,除开展度没有主基因只有多基因存在外,其余7个性状均符合2对主基因+多基因遗传模型。其中,数量性状主基因的遗传率中最高的是最大外叶柄长,为90.44%,最大外叶宽次之,为67.22%;外短缩茎长和中心柱长的主基因遗传率较高,分别为58.62%和56.00%;叶球高主基因遗传率最低,为20.30%,其次为最大外叶长和株高,分别为23.32%和31.74%;多基因遗传率中最高的是叶球高度,为49.80%;开展度环境效应方差占总表现型方差的81.35%,受环境影响最大,而外叶柄长的环境效应方差只占总表现型方差的9.56%,受环境影响最小。
【英文摘要】The segregation analysis method of identifying mixed major genes and polygenes by using a doubled haploid(DH) population derived from F_1 microspore culture of a cross between 624 and 24-5 was conducted to study the inheritance of 8 agronomic traits in cabbage.Except the plant spreading showed a model of polygenes,the other inheritances of the 7 traits showed the models of two major genes plus polygenes. The largest petiole length had the highest heritability of major genes of 90.44%,the heritability of the largest variance leave width was 67.22%, basic stem length and core length had a lower hefitability of major genes of 58.62% and 56.00%, head height had the lowest heritability of major genes of 20.30%, the next are the largest leave length and plant height of 23.32% and 3l.74%, respectively. Head height had the highest heft-tabitity of polygenes of 49.80%.The influence of environment on trait of the plant spreading was the best,the environmental variance was 81.35% of phenotypic variance. The influence of environment on trait of the petiole length was the least,the environmental variance was 9.56% of phenotypic variance.
【语种】中文
【第一作者】缪体云
【通讯作者】刘玉梅
【期刊名称、卷期、页码】园艺学报,2008,35(1):59-64
【论文发表时间】2007-09-14 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】园艺学

【题目】原生质体培养在芸薹属蔬菜作物中的研究进展
【中文关键词】芸薹属; 蔬菜; 原生质体培养; 原生质体融合
【英文关键词】Brassica; vegetable; protoplast culture; protoplast fusion;
【中文摘要】原生质体是遗传转化的优良受体。在原生质体培养过程中会产生很多无性系变异,还可以产生体细胞杂种,这些都为蔬菜育种提供了新的途径。介绍了原生质体培养及原生质体融合方法的研究进展,综述了原生质体培养在芸薹属蔬菜育种中所取得的研究成果,并对今后研究的方向进行了展望。
【英文摘要】Protoplast can be used as an excellent receptor in genetic transformation.Variation of protoplast-derived plants are very common.Cybrids also can be obtained from protoplast fusion.All this pave way for vegetable breeding.Advance in protoplast culture and protoplast fusion and application of these technology in the breeding of Brassica vegetable were reviewed in this paper.The prospect of these protoplast based technology was discussed as well.
【语种】中文
【第一作者】张艳
【通讯作者】李成琼
【期刊名称、卷期、页码】生物技术通讯,2007,18(3):543-545
【论文发表时间】2006-09-18 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】园艺学

【题目】重庆市蔬菜产业现状、存在的问题及发展对策
【中文关键词】重庆市; 蔬菜产业; 现状; 问题; 对策
【英文关键词】Chongqing ; vegetables indust ry ; current status ; problem; measure
【中文摘要】论述了重庆市发展蔬菜产业的重要意义和重庆市蔬菜产业发展的现状,并针对蔬菜产业发展过程中存在的主要问题,提出了发展对策和建议。
【英文摘要】The paper reviews the significance and the developing status of vegetable industry in Chongqing.Taking into consideration the main problems of vegetable industry in its development,some measures and policy options are proposed.
【语种】中文
【第一作者】司 军
【通讯作者】李成琼
【期刊名称、卷期、页码】西南农业大学学报社科版,2007,5(5):62-65
【论文发表时间】2007-04-12 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】园艺学

【题目】甘蓝自交不亲和信号传导中THL1和SRK相互作用的体外检测
【中文关键词】S-位点受体激酶; 类硫氧还蛋白; 毕赤酵母;
【英文关键词】S-locus receptor kinase; Thioredoxin-like protein; Pichia pastoris;
【中文摘要】在甘蓝自交不亲和信号传导中SRK和THL1之间可能存在相互作用。为进一步证实该相互作用,以甘蓝E1为材料,采用RT-PCR技术扩增了THL1和SRK激酶结构域(记为SRKE1)编码序列,构建了THL1原核表达质粒pET43.1-THL1,SRKE1原核表达质粒pET431-SRKE1和真核表达质粒pPIC9K-SRKE1,分别在宿主菌大肠杆菌BL21和毕赤酵母GS115中进行表达。THL1融合蛋白经胰岛素检测,表明表达的THL1有氧化还原活性。建立了体外检测蛋白质相互作用的新方法,并用该方法对THL1与SRKE1的相互作用进行了检测,结果表明THL1可与SRKE1相互作用并形成稳定的复合体,这为深入分析THL1与SRK相互作用机理提供了理论和技术基础。
【英文摘要】The SRK and THL1 from Brassica oleracea L. act probably with each other in self-incompatibility signal process. In present study, with an aim to testify the interaction, the coding sequences of THL1 and SRK kinase domain(named as SRKE1) were amplified from stigma mRNA of Brassica oleracea L., and inserted into the expression vector pET43.1 and yeast expression vec- tor pPIC9K to construct the recombinant plasma pET43.1-THL1, pET43.1-SRKE1, and pPIC9K-SRKE1. The recombinant protein were expressed in E. coli(BL21) and Pichia pastoris (GS115), respectively. Thioredoxin activity was tested by the ability of THL1 reducing insulin, showing that THL1 had oxidation/reduction activity. A new method was put forward for testing the interaction between proteins, through the method the interaction between SRKE1 and THL1 was analyzed, showing that SRKE1 and THL1 could act with each other to combine and form a stable complex. This research provides a theoretical and technical bases for further analysis of the interaction mechanism between SRK and THL1.
【语种】中文
【第一作者】高启国
【通讯作者】朱利泉
【期刊名称、卷期、页码】作物学报,2008,34(6):934-943
【论文发表时间】2008-06-05 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】园艺学

【题目】夏秋甘蓝新品种西园10号的选育
【中文关键词】甘蓝; 西园10号; 一代杂种;
【英文关键词】Cabbage; Xiyuan No.10; F1 hybrid;
【中文摘要】西园10号是以日本引进的胞质不育材料经5代回交转育获得的优良胞质雄性不育系2002041为母本,以南坪甘蓝经11代自交纯化的稳定优良自交系2002070为父本配制的夏秋甘蓝一代杂种。生育期105~120d(天),外叶11~13片,灰绿色;叶球扁圆形,纵径11.0~13.0cm,横径21.5~23.5cm,叶球紧实度0.52,中心柱长5.5cm,球叶脆嫩,品质优良,单球质量1.5kg左右,VC含量310.4mg · kg-1(FW),纤维素7.5g.kg-1(FW),可溶性固形物5.3%;耐热,抗TuMV,中抗黑腐病,耐根肿病,每667m2产量

3500kg左右,适宜我国南方地区夏秋季栽培。
【英文摘要】Xiyuan No.10 is a new cabbage F1 hybrid developed by cytoplasmic male sterile line 2002041 with inbred line 2002070.The growth period is 105-120 days.The head is flat round and compact,with tender leaves,and good quality,11.0-13.0 cm in height,21.5-23.5 cm in diameter.Newel is 5.5 cm.Average head weight is about 1.5 kg.The content of VC is 310.4 mg · kg-1,that of fibre is 7.5 g · kg-1,that of soluble solid is 5.3 %.It is tolerant to heat. It is resistant to TuMV,middle resistant to black rot,tolerant to club root. It yields about 52. 5 t · hm - 2. It is suitable to be cultivated in the south of China.
【语种】中文
【第一作者】任雪松
【通讯作者】李成琼
【期刊名称、卷期、页码】中国蔬菜,2008(2):33-34
【论文发表时间】2008-01-06 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】园艺学

【题目】结球甘蓝抗裂球机理及防治措施研究进展
【中文关键词】结球甘蓝; 裂球; 机理; 防治措施;
【英文关键词】Cabbage; Head splitting; Mechanism; Prevention measures;
【中文摘要】从裂球的遗传因素、叶球解剖特征、生理特性、环境条件、栽培措施等方面分析了结球甘蓝裂球发生的原因,并提出了相应的预防措施。
【英文摘要】Head splitting happens easily during cabbage development. The studies on head splitting in cabbage were reviewed to analyze the factors to influence for head splitting from genetic factor, morphological features, physiological characters, environmental conditions, cultural practices and so on, and some prevention measures for head splitting are put forward in cabbage.
【语种】中文
【第一作者】汝学娟
【通讯作者】李成琼
【期刊名称、卷期、页码】长江蔬菜,2008(10):4-6
【论文发表时间】2008-05-19 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】园艺学

【题目】十字花科植物根肿病及抗根肿病育种研究进展
【中文关键词】十字花科植物; 根肿病; 抗病育种; 研究进展;
【英文关键词】crucifer:clubroot disease; breeding for clubroot resistance; research progress;
【中文摘要】本文对十字花科植物根肿病病原菌的症状、分类、分布、生物学特征 ,以及十字花科植物抗根肿病育种等方面的研究进展作了较为全面的综述 ,以期为我国开展十字花科根肿病及抗病育种的研究提供借鉴
【英文摘要】In this paper,research progress on symptom,classification,distribution,biological characteristics of clubroot disease,and crucifer breeding for clubroot resistance are reviewed in detail It is expected that these can give a useful reference to studies of crucifer clubroot disease and breeding for clubroot resistance in China.
【语种】中文
【第一作者】司 军
【通讯作者】李成琼
【期刊名称、卷期、页码】中国十字花科蔬菜研究进展2008,北京:中国农业科学技术出版社.2008年,25-31
【论文发表时间】2001-10-08 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】园艺学

【题目】低温处理对结球甘蓝生理生化指标的影响
【中文关键词】结球甘蓝;低温胁迫;细胞膜透性;MDA;可溶性糖;脯氨酸
【英文关键词】无
【中文摘要】以大将1020、YR寒冬(耐寒性强)和伊日珥1019、捷利亚1049(耐寒性弱)为试材,对其丙二醛(MDA)含量、可溶性糖含量、脯氨酸含量、细胞膜透性的变化进行测定,在-1℃低温处理下的结果表明:耐寒性强的品种可溶性糖含量和脯氨酸含量的增幅明显高于耐寒性弱的品种,而丙二醛(MDA)含量、相对电导率的增幅都小于耐寒性弱的品种;可将脯氨酸含量和可溶性糖含量二者结合起来作为结球甘蓝幼苗耐寒性鉴定的参考指标。
【英文摘要】无
【语种】中文
【第一作者】蔡青
【通讯作者】李成琼
【期刊名称、卷期、页码】中国十字花科蔬菜研究进展2008,北京:中国农业科学技术出版社.2008年,67-70
【论文发表时间】2008-10-12 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】园艺学

【题目】春甘蓝抽薹过程中碳水化合物和相关酶的变化
【中文关键词】春甘蓝;春化;抽薹;可溶性糖蔗糖;POD;SOD
【英文关键词】无
【中文摘要】以两个耐抽薹能力不同的春甘蓝品种“春丰”和“2006042”为材料,研究了抽薹过程中不同发育阶段叶片中碳水化合物和POD、SOD的变化。结果表明,两品种的可溶性糖和蔗糖伴随着花芽分化的进行而升高,花芽分化结束时逐步降低.蔗糖在抽薹时降低至最低水平。POD活性在花原基分化期和抽薹期出现两次峰值,有可能参与了植物的花芽分化及抽薹过程。SOD活性呈现“之”字形升高的趋势,到抽薹时达到最高值。
【英文摘要】无
【语种】中文
【第一作者】杨小明
【通讯作者】李成琼
【期刊名称、卷期、页码】中国十字花科蔬菜研究进展2008,北京:中国农业科学技术出版社.2008年,72-75
【论文发表时间】2008-10-12 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】园艺学

【题目】甘蓝叶片组织结构与裂球关系探讨
【中文关键词】甘蓝;叶片组织结构;裂球
【英文关键词】无
【中文摘要】本试验以“争春甘蓝”(易裂球)、紫甘蓝“宝石马特2号”(极耐裂球)和“荷兰捷甘65”(较耐裂)为材料,采用石蜡切片法对叶片解剖特征进行了研究。结果表明:甘蓝叶片组织结构与抗裂程度有关。抗裂球品种“宝石马特2号”(紫甘蓝)的叶表皮细胞壁较厚,薄壁组织细胞较小,呈椭圆形,排列紧密且整齐,细胞间隙小,角质层较厚,维管束发达,次生木质部导管多;易裂球品种表皮细胞薄,薄壁组织细胞较长、较大,排列疏松且不整齐,细胞间隙大,角质层薄,维管束不发达且次生木质部导管少。
【英文摘要】无
【语种】中文
【第一作者】汝学娟
【通讯作者】李成琼
【期刊名称、卷期、页码】中国十字花科蔬菜研究进展2008,北京:中国农业科学技术出版社.2008年,80-84
【论文发表时间】2008-10-12 00:00:00
【引文索引类型】其他

【引文索引号】0
【学科分类】园艺学

【题目】甘蓝自交不亲和决定因子的体外表达和相互作用的检测
【中文关键词】结球甘蓝 ; 自交不亲和 ; S位点受体激酶(SRK) ; S位点富含半胱氨酸蛋白(SCR) ; 原核表达
【英文关键词】Brassica oleracea L. var. capita ta L. ; self-incompatibility; S-locus receptor kinase(SRK) ; S-locus cysteine-rich protein (SCR) ; prokaryotic expression
【中文摘要】S位点受体激酶(SRK)和s位点富含半胱氨酸蛋白/S位点蛋白11(SCR/SP11)分别为甘蓝自交不亲和(self-incompatibility,S1)信号传导的雌雄决定因子.为了深入研究两者的作用机理和进行人工调控,本研究以结球甘蓝ZQ为材料,利用pET · NusA融合蛋白表达系统,将包含SRK胞外域和跨膜域的mSRK蛋白和SCR蛋白在大肠杆菌B121中融合表达,经SDS-PAGE电泳检测表达出融合蛋白大小分别约为116 kD和74 kD.进一步将两融合蛋白进行体外相互作用的检测,结果表明mSRK与SCR蛋白能够相互结合形成稳定的复合体,这为下一步实现SRK-SCR复合体聚合与解离的人为调控提供了技术平台.
【英文摘要】Self-incompatibility of Brassica okracea L. var. cczpitata L. is determined by the female de- terminant S-locus receptor kinase (SRK) and the male determinant S-locus cysteine rich proteinls-locus pro- tein 11 (SCR/SPl1). For further study on mechanism and reagent control of the interaction between the de- terminant factors, extracellular and transmember domains of SRK (named as mSRK) and open reading frame of SCR were amplified from Brassica oleracea L. ' ZQ' . Then fusion protein of mSRK about 116 kD and SCR- orf about 74 kD were expressed in E. coli BL21 by the PET NusA fusion expression system and separated by SDS-PAGE electrophoresis. After SCR-orf was incubated with mSRK for 2 hours, the interaction between the two proteins was analyzed; The result shows that mSRK and SCR could combine with each other and form a stable complex.
【语种】中文
【第一作者】杨洋
【通讯作者】王小佳
【期刊名称、卷期、页码】园艺学报2009,36(3):355 – 362
【论文发表时间】2009-01-20 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】园艺学

【题目】结球甘蓝耐寒性研究进展
【中文关键词】结球甘蓝; 耐寒性; 研究现状;
【英文关键词】Cabbage; Cold tolerance; Identification;
【中文摘要】综述了结球甘蓝耐寒性生理生化方面的研究进展及耐寒性鉴定研究现状,并对其发展趋势进行了展望。
【英文摘要】The physiological and biochemical mechanism of tolerance to cold and the identification of cold tolerance are reviewed in cabbage.The prospect of cold tolerance of cabbage was also discussed.
【语种】中文
【第一作者】蔡青
【通讯作者】李成琼
【期刊名称、卷期、页码】长江蔬菜(学术版),2009 (1):1-3
【论文发表时间】2008-10-08 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】园艺学

【题目】春甘蓝耐抽薹性的研究进展
【中文关键词】甘蓝; 春甘蓝; 春化; 耐抽薹性;
【英文关键词】Cabbage; Spring cabbage; Vernalization; Botling tolerance;
【中文摘要】对近年来国内外有关甘蓝的春化、抽薹特性以及鉴定方法的研究进行了综述,并结合育种现状对以后春甘蓝耐抽薹育种提出了展望。

【英文摘要】Advance in the cabbage vernalization,bolting character,the identificatons of resistance to bolting and breeding actuality of botling tolerance were reviewed in this paper.The prospect of breeding of spring cabbage to botling tolerance was discussed well.
【语种】中文
【第一作者】杨小明
【通讯作者】李成琼
【期刊名称、卷期、页码】北方园艺2009 (1):111-114
【论文发表时间】2008-08-11 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】园艺学

【题目】结球甘蓝对根肿病的抗性鉴定与评价
【中文关键词】结球甘蓝; 根肿病; 抗性鉴定; 评价
【英文关键词】Brassica oleracea var. capitata L; clubroot ; resistance identification; evaluation
【中文摘要】分别利用室内人工接种鉴定、田间人工接种鉴定、田间自然诱发鉴定3种方法,对19份甘蓝材料的抗性进行鉴定,并进行了综合评价,结果表明:‘日本甘蓝’、‘皱叶甘蓝’、‘大楠木’3份材料对根肿病表现为抗病,可以作为抗病育种的材料.3份材料‘天津圆球甘蓝’、‘北黑大平头’、‘小楠木’对根肿病表现为感病.
【英文摘要】In this study,nineteen cabbage varieties were identified for their resistance to clubroot(Plasmodiophora brassicae Woron.),using the methods of inoculation identification in the laboratory,inoculation identification in the field and natural identification in the field,and the identification results were evaluated comprehensively.The results showed that four materials(RIBENGANLAN , ZHOUYEGANLAN and DANANMU) were resistant to clubroot,which could be utilized in resistance breeding and three materials(TIANJINYUANQIU GAN LAN , BEIHEIDAPINGTOU and XIAONANMU) w ere susceptible to clubroot.
【语种】中文
【第一作者】司 军
【通讯作者】李成琼
【期刊名称、卷期、页码】西南大学学报(自然科学版),2009,31(6),26-30
【论文发表时间】2009-02-26 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】园艺学

【题目】甘蓝SSR-PCR技术体系的优化
【中文关键词】甘蓝 ; SSR ; 技术体系 ; 影响因子
【英文关键词】cabbage;SSR;system;influencing factor
【中文摘要】以甘蓝自交系15R(南宝)和14S(北黑大平头)为材料,对SSR-PCR扩增程序进行了优化,分别利用不同浓度的聚丙烯酰胺凝胶电泳和琼脂糖凝胶电泳对SSR-PCR扩增产物进行了检测.结果表明:适宜的扩增程序为94℃变性45 sec,60℃退火,72℃延伸1 min,每个循环较低0.5℃,进行20个循环,94℃变性45 sec,55℃退火45sec,72℃延伸1 min,进行15个循环,72℃延伸10 min,16℃保存,10%的聚丙烯酰胺凝胶电泳比琼脂糖凝胶电泳更适合对甘蓝SSR-PCR扩增产物的检测.
【英文摘要】In this study, we optimized SSR-PCR amplification procedure and detected SSR-PCR amplifica-tion of the cabbage varieties 15R(NANBAO)and 14S (BEIHEIDAPINGTOU), using polyacrylamide gel electrophoresis and agarose gel electrophoresis. The following procedure consisting of two steps was shown to be appropriate for amplification, i. e. the first step: 20 cycles of denaturation at 94 ℃ for 45 s, annealing at 60 ℃ and extension at 72 ℃ for 1 min; the second step: 15 cycles of denaturation at 94℃ for 45 c, annealing at 55 ℃ for 45 s and extension at 72 ℃ for 1 min. After that, amplification was ended with extension at 72 ℃ for 10 min. 10% polyacrylamide gel electrophoresis appeared to be more suitable for SSR-PCR amplification of cabbage than agarose gel electrophoresis.
【语种】中文
【第一作者】司 军
【通讯作者】李成琼
【期刊名称、卷期、页码】西南师范大学学报(自然科学版),2009,34(3),166-169

【论文发表时间】2008-12-10 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】园艺学

【题目】甘蓝花药培养胚状体诱导形成影响因子研究
【中文关键词】甘蓝; 花药; 组织培养; 诱导; 胚状体;
【英文关键词】cabbage; anther; tissue culture; induction; embryoid;
【中文摘要】用甘蓝F1、F2和自交系S33个世代6种基因型材料进行甘蓝花药培养诱导胚状体形成影响因子研究。结果显示:(1)高浓度蔗糖对甘蓝胚状体形成具有显著的诱导作用,6%蔗糖浓度是甘蓝花药培养的最适浓度,其胚状体的诱导率最高达12.2%;(2)材料基因型是影响花药培养的主要因素,F2和F1代材料胚状体诱导效果好,且胚状体诱导率F2代(F2P192和F2P194)18.9%比F1代(F1S17和F1S13)17.1%较高,但差异不显著,自交系S3代材料很难诱导出胚状体;(3)B5培养基比MS培养基更适合甘蓝花药胚状体的诱导培养。结果表明,甘蓝F2代是其花药诱导培养胚状体的最佳基因型材料,B5+2.0 mg/L 2,4-D+2.0 mg/L KT+6%Suc是甘蓝花药诱导培养胚状体的最适培养基。
【英文摘要】Six genotypes in three generations,cabbage F_1 and F_2 and inbred S_3 were used in anther culture to study the factors affecting embryoid induction and formation of cabbage anthers in culture.It was shown that(1) high sucrose concentration exerted significant inductive effect on embryoid formation and the optimum sucrose concentration of cabbage anther culture was 6% and the embryoid induction rate reached as high as 12.2% at this sucrose concentration;(2) The genotypes of the materials were the major factor affecting cabbage anther culture and the materials in cabbage F1 and F2 performed better in embryoid induction and the embryoid induction rate in F2 (F2 P192 and F2P194) was 18. 9% , higher but not significantly than the embryoid induction rate of 17.1% in F1 (F1 S17 and F1 S13) and the inbred materials in S3 were difficult to be induced to produce embryoids; (3) B5 medium was more suitable to induce cabbage anthers to produce embryoids in culture than MS medium. These indicated that cabbage materials in F2 were the best materials for embryoid induction of cabbage anthers in culture and the optimal medium for embryoid induction of cabbage anthers was B5+ 2.0 mg/ L2, 4-D+ 2.0 mg/ L KT+ 6% sucrose.
【语种】中文
【第一作者】张恩慧
【通讯作者】张恩慧
【期刊名称、卷期、页码】西北植物学报 2006.Vol.26(11):2373-2376
【论文发表时间】2006-09-13 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】园艺学

【题目】不同因素对甘蓝花药愈伤组织诱导的影响
【中文关键词】甘蓝; 花药培养; 愈伤组织; 诱导率;
【英文关键词】cabbage; anther culture; callus; induction rate;
【中文摘要】以F2代甘蓝品种P 192和P 194为材料,研究了激素、温度、光照、活性炭及取材部位对甘蓝花药愈伤组织诱导培养的影响。结果表明,2,4-D在甘蓝花药诱导培养中具有重要作用,各激素组合中以2.0 m g/L 2,4-D+2.0 m g/L KT处理的诱导率最高,达到41.67%;在甘蓝花药培养前对花蕾同时进行低温预处理3 d、高温预培养3 d和初期暗培养处理3 d的效果较任何一种单独处理效果好,其诱导率为25.00%;添加活性炭的诱导率较不添加活性炭略低;同一生长时期同一植株的不同部位的材料对甘蓝花药诱导培养无显著影响。
【英文摘要】Using hybrids of F_2 P192 and P194 as the materials,effects of factors,such as hormone,temperature and light,active carbon and material positions on induction culture of cabbage anther were studied.The results showed that:2,4-D had important effect on anther induction culture.Hormone composition of 2,4-D 2.0 mg/L and KT 2.0 mg/L was best to promote induction culture among all hormone compositions,and its induction rate was 41.67%.The composition treatment with low temperature pretreatment,pre-culture at high temperature and darkness culture at initial stage was better than any kind alone to process before anther culture of cabbage, its induction rate was 25.00%. Induction rate of active carbon treatment was lower than that of contrast treatment slightly . Materials gotten from different positions of the same plant at the same growth period had no significant influence on induction culture.
【语种】中文

【第一作者】许忠民
【通讯作者】张恩慧
【期刊名称、卷期、页码】西北农林科技大学学报(自然科学版)2006.Vol.34(9):65-67
【论文发表时间】2006-02-28 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】园艺学

【题目】利用细胞质雄性不育系选育的甘蓝新品种‘绿球66’
【中文关键词】甘蓝; 细胞质; 雄性不育; 品种; 杂种;
【英文关键词】Cabbage; Cytoplasm; Male sterile line; Variety; Hybrid;
【中文摘要】‘绿球66’甘蓝利用转育的细胞质雄性不育系和自交系杂交而成。该品种为中早熟甘蓝一代杂种,定植到收获66d,单球质量1·53kg;抗病,抗裂球,品质优,叶球绿;适应性强,陕西省及其全国同类地区均可栽培。
【英文摘要】‘L ü qiu 66’is a F_1 by crossing the female parent of cytoplasmic male sterile line (CMS03-12- 58963) and male parent of inbred line (MP01-68-53192). It is middle-early matured, about 66 days from planting to harvest, with 1.53 kg of the single head weight. It has strong resistance to head dehiscence and many diseases, good and sweet quality, the green-leaf head. It was fitting to be planted in Shaanxi province and other similar part of China.
【语种】中文
【第一作者】张恩慧
【通讯作者】张恩慧
【期刊名称、卷期、页码】园艺学报 2006,33(4):929
【论文发表时间】2006-08-07 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】园艺学

【题目】甘蓝胞质雄性不育系及其保持系花药和叶片生化特性分析
【中文关键词】甘蓝; 胞质雄性不育系; 激素; 游离氨基酸; 叶绿素;
【英文关键词】cabbage; cytoplasmic male sterility line; hormone; free amino acid; chlorophyll;
【中文摘要】对甘蓝胞质雄性不育系CMS158及其保持系花药激素、游离氨基酸和叶片叶绿素含量进行了比较研究。结果表明,不育系花药KT和IAA含量极显著低于保持系,GA含量不育系和保持系没有显著差异。游离氨基酸总量不育系花药极显著高于保持系,脯氨酸和胱氨酸含量不育系花药极显著低于保持系,赖氨酸含量两系无明显差异,苏氨酸在两系中均未检出,其余氨基酸含量均是不育系花药高于保持系;不育系花药中丝氨酸含量最高,保持系花药中脯氨酸含量最高,两系中天冬氨酸和脯氨酸含量的差异最大。叶片叶绿素含量不育系和保持系无显著差异。
【英文摘要】The contents of anther hormones,free amino acids and chlorophyll in CMS158,a cytoplasmic male sterility line,and its maintainer,were comparatively examined.It was shown that the KT and IAA content in the anthers of the male sterility line were significantly lower than those in the anthers of the maintainer and there existed no obvious difference between the GA contents in the anthers of the male sterility line and its maintainer.The content of free amino acids in the anthers of the male sterility line was extremely higher than that in the anther of the maintainer, the contents of proline and cystine contents in the anthers of the male sterility line were extremely lower than those in the anthers of the maintainer, there was no significant differences between the lysine contents of the male sterility line and its maintainer; threonine were not detected in the male sterility line and its maintainer and the contents of the other amino acids were higher in the male sterility line than in the maintainer; the highest serine content appeared in the anthers of the male sterility line and the highest proline appeared in the anthers of the maintainer and the aspartic acid and proline contents in the anthers of the male sterility line and its maintainer. The anthers of the male sterility line did not significantly differed from those of the maintainer in chlorophy ll content.
【语种】中文
【第一作者】许忠民
【通讯作者】张恩慧
【期刊名称、卷期、页码】西北植物学报 2006.Vol.26(12):2592-2595

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【引文索引类型】其他
【引文索引号】0
【学科分类】园艺学

【题目】秦甘80甘蓝秋季高效栽培技术规程
【中文关键词】甘蓝;秦甘80;秋季高效栽培;技术规程
【英文关键词】无
【中文摘要】秦甘80 是由西北农林科技大学参加国家科技攻关课题, 最新选育的适宜春秋两季栽培的甘蓝品种, 2000 年通过陕西省农作物品种审定委员会审定, 同年获国家“ 九· 五 ”期间主要农作物新品种后补二等奖,2001 年列为国家科技成果转化资金项目重点推广新品种, 2004 年通过甘肃、宁夏、新疆农作物品种审定委员会登记。
【英文摘要】无
【语种】中文
【第一作者】冯志峰
【通讯作者】张恩慧
【期刊名称、卷期、页码】陕西农业科学 2006(1):117-1124
【论文发表时间】2005-11-18 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】园艺学

【题目】甘蓝叶球不同叶片叶绿素和类胡萝卜素含量变化研究
【中文关键词】甘蓝; 叶球; 叶绿素; 类胡萝卜素;
【英文关键词】Cabbage; Leaf; Chlorophyll; Carotenoid;
【中文摘要】对3个甘蓝品种叶球不同叶位叶片的叶绿素、类胡萝卜素的含量变化研究表明,甘蓝叶球不同叶片叶绿素含量和类胡萝卜素含量变化趋势基本相似,由外向内其含量变化可分为3个区段:色素含量速减区、色素含量缓减区和色素含量近零区;叶绿素a、b及类胡萝卜素含量与叶绿素含量之间均呈现极显著的正相关,r≥0.989,其中叶绿素a对叶绿素含量的贡献最大;品种之间,叶球叶绿素总含量秦甘80表现最高,秦甘70次之,秦甘60最低,表明甘蓝品种间叶球叶绿素含量存在一定差异。
【英文摘要】Chlorophyll and carotenoid content of three cabbage varieties in different leaves was studied in the experiment.The results showed that chlorophyll and carotenoid content in different cabbage leaves varied similarly,which consisted of fast reducing section,slowly reducing section and near zero section from outer leaves to inner leaves;There was striking correlation between Chl.a,Chl.b,ccar and Chl.a+b,r≥0.989,among which Chl.a has the most obvious relationship with Chl.a+b;Among three varieties,the total chlorophyll content of Qingan 80 was the highest,and the second was Qingan 70 while Qingan 60 was the lowest.It showed that difference lied in total chlorophyll content of different varieties.
【语种】中文
【第一作者】马超
【通讯作者】张恩慧
【期刊名称、卷期、页码】西北农业学报 2007 Vol.16(1):35-38
【论文发表时间】2006-06-28 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】园艺学

【题目】甘蓝游离小孢子培养中影响胚状体形成的主要因素
【中文关键词】甘蓝; 小孢子培养; 胚状体;
【英文关键词】Brassica; Microspore culture; Embryoid;
【中文摘要】以甘蓝的19个基因型为试材,对影响甘蓝游离小孢子培养诱导胚状体形成的3个主要因素进行了研究。结果表明:供体植株基因型是影响小孢子发生胚状体的关键因素,不同材料之间的诱导频率差异显著;两种激素以不添加6-BA和NAA或只添加6-BA 0.05 mg/L为甘蓝游离小孢子培养的最适激素浓度;高温处理能显著提高小孢子培养的出胚率,供试材料

经33°C热激处理后出胚率最高,出胚率高达6.10胚/蕾。
【英文摘要】The test studied three important factors of isolated microspores culture inducing embryos information on 19 cole crops genotypes were studied.The results showed that genotype plays a decisive role on informing embryoid in microspore culture,the induction frequency of embryoids significantly difference among different genotypes As no.Add 6-BA and NAA or only add 0.05 mg/L 6-BA were the most adaptable incretion concentration.Put the materials into high temperature culture at the beginning could greatly develop the embryos frequency, and its embryos frequency was much higher in 33°C temperature disposition and got to 6.10 per bud.
【语种】中文
【第一作者】桑玉芳
【通讯作者】张恩慧
【期刊名称、卷期、页码】西北农业学报 2007 Vol.16(2):125-129
【论文发表时间】2006-11-12 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】园艺学

【题目】抗病优质甘蓝新品种绿球66选育及其栽培特性
【中文关键词】甘蓝品种; 绿球66; 一代杂种; 栽培特性;
【英文关键词】Cabbage; Lvqiu 66; F1 hybrid; Planting characteristic;
【中文摘要】绿球66是利用甘蓝胞质雄性不育系CMS03-12-58963和抗病优质自交系MP01-68-53192选育成的杂交一代甘蓝新品种,定植到收获66d左右。植株综合性状优良,中心柱6.2cm,紧实度0.65,帮叶比24.3%;叶质脆甜,富含营养物质,100g鲜重含蛋白质1.2g,可溶性糖3.7g,干物质6.1g,Vc 0.038g;抗病毒病、黑腐病和霜霉病3种病害;单球重1.53kg,产量65 025.3kg/hm2。
【英文摘要】Lvqiu 66 is a new cabbage F1 hybrid developed by crossing cytoplasmic male sterile line(CMS03-12-58963) and male parent of inbred line(MP01-68-53192)with high resistance to diseases,good qualities.It took 66 days from transplanting to harvesting.Its central axis was 6.2 cm high,compactness was 0.65,petiole leaf ratio was 24.3%,100g leaves contain 1.2g of protein,3.7g soluble sugar,6.1g of dry matter and 0.029g of Vitamin C.It resisted mosaic virus,black rot,frost mildew.Average head weight was about 1.53kg.The average yield was 65 025. 3 kg/ hm2 .
【语种】中文
【第一作者】许忠民
【通讯作者】张恩慧
【期刊名称、卷期、页码】北方园艺 2007(6):1-3
【论文发表时间】2007-03-21 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】园艺学

【题目】芸薹属作物雄性不育研究进展
【中文关键词】芸薹属; 雄性不育; 花粉败育; 生理生化; 遗传机制;
【英文关键词】Brassica; Male sterility; Pollen abortion; Physio-biochemistry; Genetic mechanism;
【中文摘要】综述了芸薹属作物雄性不育系的花器的形态特征,以及芸苔属作物雄性不育系花粉败育的细胞学与生理生化研究进展,同时对两种不育类型的遗传机制研究进展进行了概述。
【英文摘要】The flower of shape characteristic and the research advances on the pollen abortion and the physio-biochemistry of male sterility in Brassica were summarized. At the same time, the genetic mechanisms of two types of sterility were concluded.
【语种】中文
【第一作者】许忠民
【通讯作者】张恩慧
【期刊名称、卷期、页码】中国农学通报 2007(2)317-319
【论文发表时间】2006-11-02 00:00:00
【引文索引类型】其他
【引文索引号】0

【学科分类】园艺学

【题目】优质抗病甘蓝品种秦甘78的选育及优良特性分析
【中文关键词】甘蓝品种; 秦甘78; 一代杂种; 优质性; 抗病性;
【英文关键词】Cabbage; Qingan 78; F1 hybrid; Disease resistance; Good qualities;
【中文摘要】秦甘78是利用优质抗病和配合力高的两个自交不亲和系BD2549-5-6-8和YP0326-8-5-2-8选育成的杂交一代中熟甘蓝新品种,定植到收获78 d左右。植株综合性状优良,中心柱5.2 cm,紧实度0.58,帮叶比24.9%;叶质脆甜,100 g鲜重含蛋白质1.9 g,粗纤维素5.5 g,可溶性糖3.2 g,干物质7.6 g,vC 0.052 g;抗TuMV、Br和CMV 3种病害;单球重1.90 kg,产量68 310.3 kg/hm2。
【英文摘要】Qingan 78 is a new cabbage F1 hybrid developed by crossing self-incompatible(SI) line BD2549-5-6-8 with SI line YP0326-8-5-2-8.Both lines have high resistance to diseases,good qualities and high combining ability.It takes 78 days from transplanting to harvesting.Its core is 5.2 cm high, compactness is 0.58,petiole leaf ratio is 24.9%,100 g leaves contain 1.9 g of protein,5.5 g of crude fiber,3.2 g of soluble sugar,7.6 g of dry matter and 0.052 g of vitamin C.It resisted TuMV, Br, CMV. Average head weight is 1.90 kg. The average yield is 68 310.3 kg / hm2 .
【语种】中文
【第一作者】许忠民
【通讯作者】张恩慧
【期刊名称、卷期、页码】西北农业学报2007,16(2):130-132
【论文发表时间】2006-10-30 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】园艺学

【题目】甘蓝类蔬菜小孢子培养研究进展
【中文关键词】甘蓝; 小孢子培养; 胚胎发生; 植株再生;
【英文关键词】cabbages; microspore culture; embryogenesis; plant regeneration;
【中文摘要】综述了甘蓝类蔬菜小孢子培养中有关取样、选样、胚胎发生以及影响胚胎发生的关键因素、植株再生等方面的研究进展,并指出了目前甘蓝类小孢子培养所存在的问题及解决方法。
【英文摘要】this paper reviewed the research progress in cabbages microspore culture relating to obtain buds,select buds,embryogenesis and those major effecting factors,plant regeneration,etc.the problems of cabbages isolated microspore culture and its counter-measures were pointed out.
【语种】中文
【第一作者】杨安平
【通讯作者】杨安平
【期刊名称、卷期、页码】中国农学通报 2008(7)332-335
【论文发表时间】2008-05-19 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】园艺学

【题目】甘蓝一代杂种秦甘60及其双亲的同工酶电泳分析
【中文关键词】甘蓝; 一代杂种; 秦甘60; 同工酶;
【英文关键词】Cabbage; F1 hybrid; Qingan60; Isozyme;
【中文摘要】应用同工酶电泳技术,分析了甘蓝一代杂种秦甘60及其亲本叶片中的过氧化物酶(POD)和酯酶同工酶(EST)图谱。结果表明,甘蓝秦甘60(F1)及其亲本在苗期的POD酶谱和EST酶谱表现相一致,都表现为单一亲本型,具有母本的完整酶带。对秦甘60(F1)杂交率的鉴定在其反交种中是可以利用POD酶Rf0.227、0.273酶带或EST酶Rf0.778酶带将其与父本自交种区分开,但在正交种中与母本自交种不易区别。
【英文摘要】Applying to isozymes electrophoresis technique,this article analysised the hybrids of cabbage Qingan60 and its parents in seedling stage.The result showed that the hybrids and its parents POD isoenzyme patterns in leaves were similar to EST isoenzyme patterns.They all have the whole isoenzyme of female plant,all showing the single parent shape.According to the identification of

crossing rate of Qingan60(F1),it can be separated the reciprocal crosses hybrids from self-pollinated seeds by using the bands of EST Rf 0.778. Otherwise orthogonal hybrids are difficult to separate from self-pollinated seeds.
【语种】中文
【第一作者】王莎莎
【通讯作者】张恩慧
【期刊名称、卷期、页码】西北农业学报2008,17(2):179-182
【论文发表时间】2007-10-15 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】园艺学

【题目】菜粮间套高效栽培模式
【中文关键词】菜粮间套;高效;栽培模式
【英文关键词】无
【中文摘要】陕西省三原县位于关中盆地中部, 地势北高南低, 南部为平原区, 夏季多雷阵雨, 秋季多连阴雨,6~ 8月常有干旱发生, 但灌溉条件好, 为三原县主要农作区, 一般早霜始于10月下旬, 晚霜终于3月下旬, 无霜期204 d(天)。为使本地种植业朝着菜粮兼顾、节本增效的方向发展, 笔者根据当地气候条件和市场需求进行了一年多茬栽培试验, 总结出3种覆盖与露地相结合、菜粮间套高效栽培模式, 每667m2年收入1. 0万元左右。目前这3种模式主要应用于三原县鲁桥镇, 种植面积达1 000 hm2。
【英文摘要】无
【语种】中文
【第一作者】杨安平
【通讯作者】杨安平
【期刊名称、卷期、页码】中国蔬菜2008(10): 53-54
【论文发表时间】2008-04-01 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】园艺学

【题目】春甘蓝耐裂球性鉴定方法及标准研究初报
【中文关键词】春甘蓝;裂球;鉴定方法
【英文关键词】无
【中文摘要】通过对春甘蓝几个不同耐裂球性品种的叶球成熟后,延迟不同天数的田间裂球指数研究分析,结果表明,随着时间延长甘蓝叶球裂球指数逐步增加,扁圆型叶球比圆球型叶球的耐裂球性较强,并初步提出了甘蓝叶球成熟后晚收10天作为耐裂球性鉴定时期,根据叶球的裂球指数对甘蓝叶球耐裂球性划分成高耐裂球、耐裂球、中耐裂球和易裂球4个不同的等级标准。
【英文摘要】无
【语种】中文
【第一作者】许忠民
【通讯作者】张恩慧
【期刊名称、卷期、页码】中国十字花科蔬菜研究进展,2008:76-79
【论文发表时间】2008-10-12 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】园艺学

【题目】甘蓝小孢子诱导胚状体选用花蕾与细胞发育关系研究
【中文关键词】甘蓝;小孢子;胚状体;花蕾;发育
【英文关键词】无

【中文摘要】甘蓝在春季自然条件下生长抽薹植株花蕾的小孢子发育时期,以现蕾5天时,花粉细胞随着内容物的增多和液泡的形成变大,细胞核被挤到细胞边缘,靠近细胞壁,处于单核靠边期。以花蕾大小判断,在4.5~5.49mm区段范围内甘蓝小孢子所处的单核靠边期平均所占比例为76%.花蕾小孢子多数处在单核靠边期,容易诱导出胚状体。
【英文摘要】无
【语种】中文
【第一作者】张恩慧
【通讯作者】张恩慧
【期刊名称、卷期、页码】中国十字花科蔬菜研究进展,2008:240-244
【论文发表时间】2008-10-12 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】园艺学

【题目】春甘蓝腋芽叶片离体培养及植株再生技术研究
【中文关键词】春甘蓝 ; 腋芽 ; 叶片 ; 组织培养 ; 植株再生
【英文关键词】spring cabbages;axillary bud;leaf;tissue culture;plant regeneration
【中文摘要】[目的]探索一种能保留春季栽培春甘蓝亲本春性的育种方法.[方法]以春季田间栽培的春甘蓝MP01-11152、GB9266-18136、DT409-05121 3个亲本自交系为试材,选用其成熟叶球腋芽叶片为外植体,首先以MS为基础培养基,添加0,2,3,4,5 mg/L 6-苄基腺嘌呤(6-BA)、0,0.05,0.1,0.2,0.3,0.4,0.5 mg/L α-萘乙酸(NAA)对MP01-11152亲本自交系进行筛选,筛选出6-BA和NAA的最佳质量浓度;然后利用已选出的6-BA和NAA最佳质量浓度,分别对供试3个品种进行腋芽叶片离体培养及植株再生研究.[结果]以MP01-11152为材料进行离体培养,筛选出6-BA和NAA的最佳质量浓度分别为2和0.4 mg/L.3个亲本自交系中,GB9266-18136在MS+2 mg/L 6-BA+0.4 mg/L NAA中诱导的不定芽分化率最高,为211%;MP01-11152次之,为122%;DT409-05121最低,为82%.将诱导出的不定芽在 MS+0.3 mg/L NAA生根培养基中诱导生根,不定根的诱导频率可达98%,并锻炼生长成苗.[结论]在MS培养基中添加适宜质量浓度的6-BA或NAA 2种激素,能够有效地提高春甘蓝腋芽叶片不定芽的诱导分化率,基因型对不定芽诱导的分化率有一定影响.
【英文摘要】[Objective] This passage discusses the method for keeping the springness from the leaf of the axillary buds on spring, to develop and enhance the breeding of spring cabbages. [Method] Three parental inbred lines MP01-11152, GB9266-18136, DT409-05121 were cultured in axillary bud's leaves. A study on maximum plants regeneration was done in MS medium complementing to the material of MPOl-11152,with MS as media by adding 6-BA with the concetration of 0,2,3,4,5 mg/L,then adding NAA with the concetration of 0,0. 05,0. 1,0. 2,0. 3,0. 4,0. 5 mg/L to screen the optimal concentration on this basis, Finally,the obtained optimal concentration of 2 mg/L 6-BA + 0. 4 mg/L NAA was used to research the plant regeneration on the material of MP01-11152,GB9266-18136,DT409-05121. IResultl The differentiation of shoot regeneration of MP01-11152 was 92% with 6-BA 2 mg/L and 122% with 2 mg/L 6-BA+0. 4 mg/L NAA. GB9266-18136, one of the three parental inbred lines, obtained a high differentiation rate of 211%,MP01-11152's differentiation 122%. DT409-05121's differentiation 82%. Medium for root was MS containing 0. 3 mg/L NAA and could be cultured and developed into plantlets, the rooting rate as high as 98%. [Conclusion] For the leaf in growth period of the axillary buds on spring cabbages,it could improve the differentiation of shoot in MS medium complemented with 6-BA or NAA. The genotypes have certain effects on shoot differentiation rate.
【语种】中文
【第一作者】张高翔
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【学科分类】园艺学

【题目】结球越冬甘蓝无公害栽培技术
【中文关键词】结球甘蓝;越冬;无公害栽培技术
【英文关键词】无

【中文摘要】结球越冬甘蓝在长江流域栽培面积比较大,在湖北、湖南、河南、上海等地形成相当生产规模,是当地冬季种植的主要蔬菜品种之一。结球越冬甘蓝无公害栽培667m2产量可达到3500~4500kg,由于采用无公害栽培技术生产,销售价格基本上能够稳定在0.7 元/kg 左右,除去农资成本500 元/667 m2,667 m2 经济效益达3 000 元左右, 经济效益可观,市场前景十分广阔。
【英文摘要】无
【语种】中文
【第一作者】高兵
【通讯作者】高兵
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【题目】SRAP、ISSR技术的优化及在甘蓝类植物种子鉴别中的应用
【中文关键词】甘蓝类植物; SRAP; ISSR; 反应体系; 鉴别;
【英文关键词】Brassica oleracea L.; SRAP; ISS; reaction system; identify;
【中文摘要】将SRAP与ISSR2种分子标记技术应用于8种甘蓝类植物(BrassicaoleraceaL.)的种子鉴别中。先以甘蓝(Brassicaoleraceavar.capitata)基因组DNA为模板,通过对SRAP、ISSR反应体系中各影响因素的逐一筛选,优化了甘蓝类植物SRAP、ISSR反应体系。进而采用30个SRAP引物组合和15个ISSR引物对白甘蓝、皱叶甘蓝、红甘蓝、羽衣甘蓝、花椰菜、青花菜、抱子甘蓝、球茎甘蓝的基因组DNA进行了PCR扩增,结果表明M3-E5与M4-E5两个SRAP引物组合可以在8种甘蓝类植物之间显示较高的多态性;844和888两个ISSR引物也可在8种甘蓝类植物之间产生很好的多态,特别是844引物单独应用即可区分所有材料。
【英文摘要】In this study, the molecular marker technology of SRAP and ISSR were applied in rapid identification of seeds from eight species of Brassica oleracea L. Firstly, using the genomic DNA of cabbage as template, SRAP and ISSR reaction systems were optimized through testing every factor, respectively, that affects PCR amplification. Then, using the optimized reaction systems, 30 SRAP primer pairs and 15 ISSR primers were applied to amplify genomic DNA of cabbage, savoy, purple cabbage, borecole, cauliflower,broccoli, Brussels sprouts, and kohlrabi The results showed that high polymorphisms were exhibited among the eight species of Brassica oleracea L. by SRAP primer pairs of M3-E5 and M4-E5, as well as ISSR primers of 844 and 888, especially primer 844 which can identify all eight materials efficiently.
【语种】中文
【第一作者】刘冲
【通讯作者】薄天岳
【期刊名称、卷期、页码】生物工程学报,2006,22(4):25-28
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【学科分类】园艺学

【题目】耐抽薹春甘蓝新品种早春6号的选育及其特性研究
【中文关键词】甘蓝; 早春6号; 耐先期抽薹;
【英文关键词】cabbage; "Zaochun No.6"; tolerance to inmanturity bolting;
【中文摘要】利用甘蓝自交不亲和系2P-42与48余份甘蓝父本杂交,培育出了优势明显的一代杂种“ 早春6号 ”,其具有生长势强、结球性好,叶球紧实、牛心形,平均单球重1 kg左右,抗黑腐病能力强,耐寒性好,并具有较好的耐先期抽薹能力,适合春季栽培,平均亩产2 500 kg以上,比对照争春增产10%左右。
【英文摘要】A new variety,"Zaochun No.6" of cabbage(Brassica oleracea L.) was bred by hybridizing two self-incompatible lines,2P-42 and 2P-04.The field experiments showed that the "Zaochun No.6" had strong growth vigor and good heading character with compact and heart-shaped heads around 1.0 kg of the weight.The "Zaochun No.6" also had strong resistance to black rot,good cold resistance,and inmanturity bolting tolerance,and so was suitable for cultivation in spring.Its yield per unit area increased by 10% over Zhengchun.

【语种】中文
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【题目】6个甘蓝自交系的3个主要营养品质性状配合力分析
【中文关键词】甘蓝; 营养品质性状; 一般配合力; 特殊配合力;
【英文关键词】Cabbage; Nutritional quality character; General combining ability; Specific combining ability;
【中文摘要】采用P(P+1)/2完全双列杂交设计对6个甘蓝自交系的3个主要营养品质性状进行一般配合力(GCA)和特殊配合力(SCA)分析,结果表明:3个性状同时受加性和非加性效应控制。同一品质性状不同亲本的GCA差异很大,同一自交系不同品质性状的GCA也有差异,在6个自交系中Vc的一般配合力效应值最高的是P6亲本;还原糖的一般配合力效应值最高为是P1;P6粗纤维的一般配合力效应值最低。同一性状不同组合和同一组合各性状的SCA效应值均有较大差异。试验中Vc含量的特殊配合力较好的有P1×P2、P3×P4、P4×P5;还原糖含量特殊配合力较好的有P1×P6、P3×P5;而对于要求降低粗纤维含量的育种要求,选择P1×P4较为适合。
【英文摘要】The general combining ability(GCA) and specific combining ability(SCA) of 3 major nutritional quality characters in 6 inbred lines of cabbage were analysed through P(P+1)/2 complete diallel cross.The results showed that the three characters were controlled simultaneously by both additive gene actions and non-additive gene actions.The difference of GCAs for each character was great between different parents,and for one inbred line also there was difference between the GCAs of different characters. Among 6 inbred lines, P6 had the highest GCA of vitamin C and the low est GCA of crude fiber, and P1 had the highest GCA of reducing sugar. The SCAs of a character between different combinations were quite different and so were the SCAs of different characters for one combination. P1×P2, P3×P4 and P4×P5 had a better SCA of vitamin C, and P1×P6 and P3×P5 had a better SCA of reducing sugar character. P1×P4 combination was appropriate for the breeding purpose of low crude fiber.
【语种】中文
【第一作者】陈锦秀
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【题目】“ 夏光 ”、“ 早夏16 ”甘蓝杂交种DNA指纹图谱的构建
【中文关键词】甘蓝 ; 杂交种 ; SSR ; RAPD ; DNA指纹图谱
【英文关键词】Cabbage;Hybrid;SSR;RAPD;DNA Fingerprint
【中文摘要】用SDS法提取甘蓝(Brassica oleracea vat.capigata)杂交种“ 夏光 ”、“ 早夏16 ”及其各自亲本的基因组DNA,通过SSR、RAPD两种分子标记方法构建其DNA指纹图谱用于纯度鉴定。利用30对甘蓝SSR引物和50个适用于甘蓝的RAPD引物,以各杂交种及其亲本的基因组DNA为模板组合进行筛选,结果显示:多数SSR引物对两组合扩增带型一致,未能建立SSR指纹图谱;通过RAPD标记方法筛选出能鉴定两杂交种纯度的引物分别为S15、S42、S147和S42、S78、S88,其中引物S42对两组合均能扩增出特异的RAPD指纹图谱,并将RAPD指纹图谱转蛮为相府的数字指纹。
【英文摘要】The genomic DNAs were extracted by the method of SDS from two cabbage (Brassica oleracea vat, capitata) hybrids ("Xiaguang", "Zaoxia 16") and their parents in order to establish their DNA fingerprints by RAPD and SSR methods for identification of seed purity, The genomic DNAs of each hybrid and its parents were used as one group of template DNA to screen 30 pairs of SSR primers and 50 RAPD primers. The results indicated that the types of DNA bands amplified by most SSR primers in the two groups was similar, so the establishment of SSR fingerprints failed, But 3 efficacious RAPD primers were gained in each group, which were S15, S42, S147 and S42, S78, S88 respectively. The specific RAPD fingerprints in the two groups could be established with S42 primer and then transformed into digital fingerprints.

【语种】中文
【第一作者】刘冲
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【题目】不同结球甘蓝自交系氮效率的分析
【中文关键词】结球甘蓝; 自交系; 产量; 氮效率; 氮响应度;
【英文关键词】cabbage(Brassica oleracea var.capitata); inbred lines; yield; N use efficiency; N responsiveness
【中文摘要】试验研究了在3个氮处理水平上对12个结球甘蓝自交系的氮效率。结果表明,不同结球甘蓝自交系的产量、氮吸收效率、氮生理利用效率、氮效率和氮响应度存在显著的差异。据氮效率分析,把供试结球甘蓝自交系划分为4个类型:92-1041,96-1047,96-1013,606-12-21属于双高效型;96-1025-1,96-1028属于低氮高效型;96-1038-8,92-1023,97-1126属于双低效型;96-1012-3-11,97-1018,PR1-3-6属于高氮高效型。
【英文摘要】Pot experiment with 12 cabbage inbred lines was conducted to study the difference in N efficiency at 3 N levels.The results showed that significant difference existed among inbred lines in yield,N uptake efficiency,N physiological utilization efficiency,N efficiency and N responsiveness.According to N efficiency,cabbage inbred lines can be clarified into four types: 92-1041,96-1047,96-1013,606-12-21 were belong to double high efficiency which presented high yield under both high and low nitrogen rate;96-1025- 1,96-1028 were high efficiency only in low N application; 96- 1038- 8, 92- 1023, 97- 1126 were belong to doublelow efficiency which presented low yield under both high and low nitrogen application; 96- 1012- 3- 11, 97- 1018,PR1- 3- 6 were high efficiency only in high N application.
【语种】中文
【第一作者】周传余
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【期刊名称、卷期、页码】东北农业大学学报 2007.2
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【题目】甘蓝类蔬菜亲缘关系的RAPD初步分析
【中文关键词】甘蓝类蔬菜; RAPD; 遗传多样性; 亲缘关系;
【英文关键词】Brassica oleracea L.; RAPD; Genetic diversity; Genetic relationship;
【中文摘要】利用RAPD标记从DNA水平上对30份甘蓝类蔬菜材料进行亲缘关系和遗传多样性分析,从100对引物中选出10对扩增效果较好的引物,用其扩增出90条带,其中多态条带72条,多态率为80.0%。对RAPD结果进行UPGMA分析,结果表明,在相似系数0.85处可以清楚的将它们划分为6组,并且从分子生物学的角度分析了它们之间的亲缘关系。
【英文摘要】RAPD analysis on genetic relationship and genetic diversity of 30 samples of Brassica oleracea L.was conducted.Ten primers were selected from 100 primers to amplify 30 samples,and a total number of 90 bands were amplified,among which 72(80.0 %)were polymorphic.The results of RAPD were analyzed by UPGMA clustering.The result showed that all samples could be divided into 6 groups with the similarity coefficient of 0.85,and their genetic relationship was analyzed.
【语种】中文
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【题目】Bt基因的克隆及植物表达载体的构建
【中文关键词】Bt基因; 克隆; 植物表达载体;
【英文关键词】Bt gene; clone; plant expression vector;
【中文摘要】试验将从质粒pB110上克隆得到的Bt基因的片段,连接到高效的植物表达载体质粒pBI121上,此重组质粒经过限制性内切酶酶切分析和PCR鉴定,证明含有抗虫基因的植物表达重组质粒已构建成功。
【英文摘要】The sequence of Bt gene which was cloned from pB110 plasmid was connected to the high effec-tive plants expression vector pBI121 plasmid,through the identification of enzyme digestion and PCR,the results showed that the plant expression vectors containing insect resistance Bt gene had been constructed successfully.
【语种】中文
【第一作者】于守江
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【题目】芸薹属作物开花相关性状的遗传和分子标记研究进展
【中文关键词】芸薹属作物; 抽薹; 开花; 遗传和分子标记;
【英文关键词】Brassica crops; Bolting; Flowering; Heredity and molecular marker;
【中文摘要】芸薹属作物的抽薹时间和开花时间是两个与商品性关系重要的数量性状。从模式植物拟南芥春化的分子机理、芸薹属作物抽薹开花期性状的遗传学研究与分子标记研究以及芸薹属作物抽薹开花期QTLs的研究等几个方面,综述芸薹属作物抽薹、开花期等数量性状的研究进展,为今后从事相关研究奠定理论基础。
【英文摘要】Flowering time and bolting time of Brassica crops were two important quantitative traits related to the commerciality.Study advances in heredity and molecular markers of flowering time and bolting time of Brassica crops were summarized,including the molecular mechanism of vernalization in Arbidopsis,genetics,molecular marker and QTLs analysis.It established the rationale for the correlative researches in the future.
【语种】中文
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【题目】番茄抗病基因的Codominant-SCAR体系建立与优化
【中文关键词】番茄 ; 抗病基因 ; Codominant-SCAR ; MAS
【英文关键词】Tomato,Resistant gene,Codominant-SCAR, MAS
【中文摘要】在本研究中,利用近等基因系建立了番茄抗病基因的Codominant—SCAR体系。利用已知序列设计的5对引物SCAR1、SCAR2、SCAR3、SCAR4和SCAR5,分别可以用于标记识别抗根结线虫基因胁,抗番茄斑点萎凋病毒病基因Sw-5,抗烟草花叶病毒基因Tin2~2、Tm-1、Tm-2;其中SCAR1、SCAR3和SCAR5为共显性,能有效地区分纯合抗病基因型、杂合抗病基因型与感病基因型。结果表明该方法具有重复性好、迅速、简便、成本低的特点,可用于番茄和其它作物的分子育种。
【英文摘要】A standard Co-dominant-SCAR system fitting for tomato was established to identify seven tomato NILs. 5 PCR primers were designed based on the published sequence, SCAR1 marker tightly linked with Mi gene, SCAR2 marker tightly linked with Sw-5 gene, SCAR3 marker tightly linked with Tin2~2 gene, SCAR4 marker tightly linked with Tin-1 gene, SCAR5 marker tightly linked with Tin-2 gene. Among them, SCAR1, SCAR3, SCAR5 were co-dominant marker, homozygous genotypes, heterozygous genotypes and

susceptible genotypes were distinguishable after cleavage with the restriction enzyme. The results indicated that the co-dominant-SCAR is characterized by good reproducibility, low cost and time consuming. It is useful for the MAS application in tomato and other crops breeding.
【语种】中文
【第一作者】陈丽静
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【题目】野生种多毛、醋栗番茄与栽培种番茄的指纹图谱分析
【中文关键词】野生番茄; 栽培番茄; 指纹图谱; CAPS; SSR;
【英文关键词】wild tomato; cultivated tomato; fingerpringting; CAPS; SSR;
【中文摘要】利用CAPS和SSR两种分子标记技术,对野生种多毛和醋栗番茄与栽培种番茄的DNA指纹图谱进行了分析。结果表明,30对CAPS和10对SSR引物中,分别有19对和7对引物产生清晰明显且稳定的多态性条带。利用两种标记共获得了98个标记位点,分析表明SSR标记的检测效率高于CAPS标记。相对于栽培种而言,多毛番茄有16.3%的特异信息,醋栗番茄有10%的特异信息。该些标记为番茄遗传图谱的构建、重要基因的标记及遗传育种提供了有力工具。
【英文摘要】Using CAPS and SSR two molecular techniques, the fingerprinting of wild tomato and cultivated tomato were analyzed. In this study, 19 out of 30 pairs of CAPS primers and 7 out of 10 SSR primers were selected, which gave stable and polymorphic amplification profiles. This two molecular techniques produced 98 bands, the results showed that the detectability of SSR is better than CAPS, 16.3 percent were form L.hirsutum, 10 percent were from L.pimpinellifolium, this two wild tomatoes could be used in genetics
【语种】中文
【第一作者】吴玉辉
【通讯作者】李君明
【期刊名称、卷期、页码】中国农学通报, 2008,24(4):80-84
【论文发表时间】2008-01-21 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】园艺学

【题目】激活标签法及其在番茄功能基因组的应用
【中文关键词】激活标签法; 番茄; 功能基因组;
【英文关键词】Activation tagging; Tomato; Functional genomics;
【中文摘要】激活标签法是近年来新发展起来的一种研究基因功能有价值的补充方法。该文综述了激活标签法的研究进展及其在番茄功能基因组研究中的应用。
【英文摘要】Activation tagging is a new valuable complementary method for gene function research.This paper reviews the development of activation tagging and its application in tomato functional genomics.
【语种】中文
【第一作者】苏彩霞
【通讯作者】李君明
【期刊名称、卷期、页码】华北农学报,2007(S1):172-176
【论文发表时间】2007-02-10 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】园艺学

【题目】番茄苗龄对晚疫病生理小种T1的抗性表现差异研究

【中文关键词】番茄 ; 晚疫病 ; 苗龄抗性
【英文关键词】Tomato;Late blight; Age-related resistance
【中文摘要】对感病和抗病品系3、6、9叶苗龄番茄幼苗人工接种晚疫病菌T1小种,结果表明,感病品系随着苗龄的增加,对晚疫病的感病程度有所减轻,其中6叶期较3叶期、9叶期较6叶期幼苗的病级指数分别降低了28.8%和3.9%,但差异不显著;9叶期较3叶期降低了31.0%,差异达显著水平.抗病品系的6叶期和9叶期较3叶期幼苗病级指数均降低了50%左右,差异达极显著水平;6叶期和9叶期幼苗抗性基本相同.
【英文摘要】Susceptible and resistant tomato lines were artificially inoculated with Phytophthora infestans strain T, during different seedling ages of 3, 6, 9 leaves. Results indicated that with the seedling aging the susceptible lines presented lower susceptible level. The disease index decreased 28. 8% and 3. 9% respectively for 6 leaves stage compared to 3 leaves stage and 9 leaves stage compared to 6 leaves stage, while the difference between them was not significant. The disease index of 9 leaves seedlings decreased 31. 0% than 3 leaves ones and the difference was significant at 5 % level. Regarding to the resistant lines, the disease index of 6 and 9 leaves reduced also about 50% when compared to 3 leaves seedling. The difference was significant at 1% level. The resistance of 6 and 9 leaves age seedling was almost the same.
【语种】中文
【第一作者】李君明
【通讯作者】李君明
【期刊名称、卷期、页码】植物遗传资源学报,8(2):231-233
【论文发表时间】2007-01-10 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】园艺学

【题目】番茄遗传转化体系的建立及LC和GFP标记基因的表达
【中文关键词】Le gene:绿色荧光蛋白;番茄:遗传转化
【英文关键词】Lc gene,GFP gene,Tomato,Genetic transformation
【中文摘要】本研究以小型番茄(miniature Lycopersicon esculentum Mill.)Micro-Tom为试材,建立其以子叶、下胚轴为外植体的高效、稳定再生体系及遗传转化体系.结果表明,以子叶、下胚轴为外植体时,诱导愈伤组织和芽分化的适宜培养基均为MS+6-BA 2.0mg/L+IAA 0.2mg/L,芽分化率均可高达92%.两种外植体适宜的生根培养基均为MS+NAA 0.1mg/L.同时,通过根癌农杆菌介导法,建立了Micro-Tom的遗传转化体系.而乙酰丁香酮能大大提高根癌农杆菌转化番茄的效率,当AS=180 μm/L时,芽分化率为52.8%;OD600=0.14是转化的最佳菌液浓度;子叶外植体与农杆菌共培养后,经过诱导,根的再生,获得了抗性苗,利用绿色荧光蛋白(GFP)检测和整株表型为紫色(Lc)基因的表达,初步证明外源基因已经整合到Micro-Tom中,为番茄激活标签体系的建立奠定了基础.
【英文摘要】Micro-Tom(miniature Lycopersicon esculentum Mill.)was used as the material,to establish the high efficient and stable plant regeneration by cotyledon and hypocotyl.111e results showed that with cotyledon and hypocotyl as explants,the best callus initiation and shooting medium was MS+6-BA 2.0ms/L+IAA 0.2mg/L.The best rooting medium for both the explants was MS+NAA 0.1 mg/L.Meanwhile established genetic transformation system of Micro-Tom though Agrobacterium tumefaciens,and gained purple mutant.The results showed that AS could improve the transformation rate.when AS is 1 801xm/L,the differentiation rate was 52.8%,OD啪20.14 Was the best infect concentration;Kan resistant plant obtained from the infection of explants with Agrobacterium.Detection of green fluorescent protein under microscope and the express of Lc gene firstly confirmed that transgene was integrated into Micro—Tom.
【语种】中文
【第一作者】苏彩霞
【通讯作者】李君明
【期刊名称、卷期、页码】中国农学通报,23(6):131-136
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【学科分类】园艺学

【题目】番茄“白化”突变体的发现及作为育种材料的鉴定
【中文关键词】番茄;“白化”突变体;果实;
【英文关键词】无
【中文摘要】作者在1998年种植番茄-中蔬4号.的田间,发现部分突变体材料,其果实及叶片均有变异,叶片具有黄色斑点,果实表现/白化0。根据其田间表现性状,并经过连续3年的观察,选出性状一致、可稳定遗传的突变材料。暂命名为番茄/白化0突变体。
【英文摘要】无
【语种】中文
【第一作者】李景富
【通讯作者】李景富
【期刊名称、卷期、页码】园艺学报,2006,33(1):384
【论文发表时间】2006-03-07 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】园艺学

【题目】番茄晚疫病菌研究进展
【中文关键词】番茄;晚疫病菌;研究进展;
【英文关键词】tomato; Phytophthora infestans(Mont.)de Bary; research progress;
【中文摘要】本文从番茄晚疫病菌的交配型、生理小种、线粒体DNA单倍型、同工酶基因型、DNA指纹图谱等方面的研究进行了综述,并对目前生产和研究中存在的问题和今后的研究方向进行了概述。
【英文摘要】The research progress of Phytophthora infestans(Mont.)de Bary was summarized,including mating type,physiological races,mtDNA haplotype,allozyme genotype and DNA fingerprint.Some questions and future studies were also discussed.
【语种】中文
【第一作者】余文贵
【通讯作者】余文贵
【期刊名称、卷期、页码】江苏农业学报,2008,24(4):516-521
【论文发表时间】2007-11-01 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】园艺学

【题目】江苏省番茄晚疫病菌小种鉴定及品种抗性筛选
【中文关键词】番茄;晚疫病;生理小种;抗性资源;
【英文关键词】tomato; late blight; physiological race; resistance resource;
【中文摘要】分离纯化72份采自江苏省的番茄晚疫病标样,获得番茄晚疫病菌菌株35株。采用亚洲蔬菜研究与发展中心提供的5个鉴别寄主进行生理小种鉴定,鉴定结果表明:江苏省番茄晚疫病菌的小种类型有T0、T1、T1.2、T1.2.3、T1.3.4,其中T1.2地理分布最广,出现频率最高,占鉴定总数的37.2%;其次为T1,占总数的34.3%;T1.2.3、T1.3.4和T0分别占鉴定总数的17.1%、5.7%和5.7%。采用优势小种T1.2对54份番茄品种或育成品系进行苗期喷雾接种,结果表明:高抗、中抗、高感品种分别占鉴定总数的14.8%、7.4%和77.8%,其中高抗材料均来自野生材料和野生材料杂交转育的后代,而江苏省生产上大部分主栽品种对晚疫病菌均表现为感病。因此,江苏省番茄生产应该高度重视抗病品种的引进和培育。
【英文摘要】Thirty-five isolates were obtained from 72 tomato late blight specimens collected in Jiangsu province and part of neighbor zone.Physiological races of the isolates were identified with five differential tomato cultivars from the World Vegetable Center.T0,T1,T1.2,T1.2.3 and T1.3.4 were identified,with race T1.2 the most widely distributed and predominant one with a frequency of 37.2%.Following T1.2,T1 occurred with frequency of 34.3%.The races T1.2.3,T1.3.4 and T0 were narrowly distributed with frequencies of 17.1%, 5.7% and 5.7%, respectively. Artificial spraying inoculation was carried out with predominant raceT1. 2 on the seedlings of 54 tomato varieties or lines. Highly resistant and moderately resistant cultivars which were derived from wild resources accounted for only 14.8% and 7.4% of the total identified cultivars, while highly susceptible cultivars which were also predom inantely planted in Jiangsu province amounted to 77.8%. It is important to introduce resistant resources and breed resistant cultivars for tomato production in Jiangsu province.

【语种】中文
【第一作者】余文贵
【通讯作者】余文贵
【期刊名称、卷期、页码】江苏农业学报,2007,23(6):618-621
【论文发表时间】2007-05-14 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】园艺学

【题目】番茄晚疫病及抗病育种研究
【中文关键词】番茄;晚疫病菌;抗病育种;
【英文关键词】tomato;Phytophthora infestans(Mont)de Bary;resistance breeding
【中文摘要】本文综述了国内外对番茄晚疫病菌特征特性、生理小种以及番茄抗晚疫病机制、抗性遗传规律、抗病育种等方面的研究进展,并对当前生产和研究中存在的问题和今后研究方向进行讨论.
【英文摘要】The research progress on tomato late blight was summarized ,including the character and race of Phytophthora infestans,mechanism of resistance,inheritance of resistance and resistance breeding. Some questions and future studies were also discussed.
【语种】中文
【第一作者】赵统敏
【通讯作者】赵统敏
【期刊名称、卷期、页码】江苏农业学报,2006,22(2):175-180
【论文发表时间】2005-10-13 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】园艺学

【题目】我国番茄晚疫病流行体系的研究进展
【中文关键词】番茄; 晚疫病; 发生危害; 流行特点; 规律;
【英文关键词】无
【中文摘要】综述了我国番茄晚疫病的发生危害、流行特点、晚疫病菌的侵染规律,以及品种和小种变异、天气条件、人为活动等因素对番茄晚疫病的影响,并对流行体系的预报模型作了较为详细的叙述。
【英文摘要】无
【语种】中文
【第一作者】赵统敏
【通讯作者】赵统敏
【期刊名称、卷期、页码】江苏农业科学,2006(6):3-6
【论文发表时间】2006-09-25 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】园艺学

【题目】番茄晚疫病菌线粒体DNA单倍型鉴定及其分析
【中文关键词】晚疫病菌; 线粒体DNA; 单倍型; 鉴定;
【英文关键词】Phytophthora infestans(Mont.)de Bary; mtDNA; haplotype; identification;
【中文摘要】利用F2/R2和F4/R42组引物对91个番茄晚疫病菌菌株m tDNA的多态性区段P2和P4进行了PCR扩增。PCR产物经限制性酶切进行m tDNA单倍型分析,结果显示:上述菌株分为Ib和IIb两种m tDNA单倍型类型,分别占5.5%和94.5%。由此表明IIb类型为样本采集区的优势的m tDNA单倍型类型。
【英文摘要】mtDNA haplotypes of 91 strains on Phytophthora infestans(Mont.)de Bary were identified based on the technologies of PCR and RFLP using two pairs of primers F2/R2 and F4/R4 to amplify the polymorphism regions of P2 and P4.The results showed that there were two typies of mtDNA haplotype:Ib and IIb,and the type of IIb was the priority one which covered 94.5% of the strains tested.

【语种】中文
【第一作者】余文贵
【通讯作者】余文贵
【期刊名称、卷期、页码】江苏农业学报,2009,25(6):1095-1099
【论文发表时间】2009-03-23 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】园艺学

【题目】番茄晚疫病菌同工酶基因型鉴定与分析
【中文关键词】番茄; 晚疫病菌; 6-磷酸葡萄糖异构酶; 肽酶; 基因型; 鉴定; 分析;
【英文关键词】tomato; Phytophthora infestans(Mont.)de Bary; glucose-6-phosphate isomerase; peptidase; genotype; identification; analysis;
【中文摘要】以91个番茄晚疫病菌菌株为材料,利用醋酸纤维素薄膜电泳技术,对其6-磷酸葡萄糖异构酶(Gpi)和肽酶(Pep)进行基因型鉴定与分析。结果共发现4种Gpi类型:100/100/111、86/100/111、86/100和100/100;两种Pep类型:100/100和92/100。其中100/100/111和100/100分别为病样采集区主流的Gpi与Pep类型,在所有病样采集区均有发现,各占全部鉴定菌株数量的85.7%和94.5%。醋酸纤维素薄膜电泳技术可以快速、准确应用于晚疫病菌同工酶基因型鉴定。
【英文摘要】Genotypes of glucose-6-phosphate isomerase(Gpi)and Peptidase(Pep)of 91 strains of Phytophthora infestans(Mont.)de Bary were identified by using the technology of cellulose acetate electrophoresis (CAE).There were four genotypes of Gpi,100/100/111,86/100/111,86/100,and 100/100,and two genotypes of Pep,100/100 and 92/100.100/100/111 was the priority genotype of Gpi and 100/100 was the priority genotype of Pep,which accounted for 85.7% and 94.5% of the strains tested, respectively.CAE was a rapid and reliable approach for identification of isoenzyme genotypes of phytophthora infestans.
【语种】中文
【第一作者】赵统敏
【通讯作者】赵统敏
【期刊名称、卷期、页码】江苏农业学报,2008,24(6):871-874
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【引文索引号】0
【学科分类】园艺学

【题目】番茄浙杂205的特征特性及栽培技术
【中文关键词】番茄; 浙杂205; 特征特性; 栽培技术
【英文关键词】无
【中文摘要】浙杂205 是浙江省农科院蔬菜研究所选育的番茄新品种, 2006 年6 月通过浙江省科技厅鉴定。该品种为大红果, 商品性好, 货架期长, 耐贮运, 株型紧凑, 抗逆抗病性好, 适应性广, 全国喜食大红果地区均可种植。栽培要点为适期播种, 合理密植, 适当疏花疏果, 合理施肥, 及时整枝打杈, 注意病虫害防治等。
【英文摘要】无
【语种】中文
【第一作者】阮美颖
【通讯作者】阮美颖
【期刊名称、卷期、页码】浙江农业科学2007年第5期
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【引文索引号】0
【学科分类】园艺学

【题目】耐贮藏番茄新品种‘浙杂205’
【中文关键词】番茄; 一代杂种; 耐贮藏

【英文关键词】Tom ato; Hybrid; Long-storage
【中文摘要】‘浙杂205’.是中早熟番茄一代杂种,耐低温、弱光,高抗枯萎病,抗ToMV,中抗叶霉病;中大果型,大红色,鲜艳,果面光滑;丰产性好,产量可达150~ 200 t/hm2,耐贮藏,室温下(25℃) 货架期长达25 d;适合保护地栽培。
【英文摘要】A new mid-early maturing tomato hybrid ‘Zheza 205’ has been released. It can be grown normally in low temperature and weak light. It is highly resistant to ToMV, fusarium w ilt ,verticillium wilt and moderately resistant to leafmold. Medium to large in fruit size, bright red in color, regular in shape and good commodity with high yield. The yield is 150- 200 t /hm2. Fru it is storable. Its shelflife lasts 25 days in room temperature (25℃). The cultivar is suitable for protected cultivation.
【语种】中文
【第一作者】周国治
【通讯作者】杨悦俭
【期刊名称、卷期、页码】园艺学报 2007,34(6):1594
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【引文索引号】0
【学科分类】园艺学

【题目】苗期亚低温对番茄生殖生长的影响
【中文关键词】番茄; 亚低温; 苗龄; 生殖生长; 畸形果率
【英文关键词】Tomato; Low temperature; Seedling age; Reproductive growth; Malformed fruit rate
【中文摘要】对10个不同基因型番茄(Lycopersicon esculentum Mill)品种(系)的苗期3个不同阶段进行10/5℃ 亚低温处理。结果表明,苗期10/5℃ 处理使番茄开花期推迟,对第一花序坐果率有较大影响,并以7~ 8片真叶期低温处理影响最大;苗期10/5℃ 处理均会引起畸形果率的提高,以2~ 3、7~ 8 片真叶期处理影响大。不同的基因型,其生殖生长对低温的反应也是不同的。
【英文摘要】Ten different genotypes of tomato lines were used as test materials. The 10/5℃ low temperature treatment for them was carried out at their three different leaf ages, and then the seedlings were planted in a plastic tunnel. The results showed that the low temperature treatment made the flowering time of tomato postpone and in jured the first in florescence fruit setting. The effect of the treatment at 7-8 leaves stage was the greatest. The low temperature treatment also made them alformed fruit rate in crease and the effect of the treatment at 2-3 and 7-8 leaves stages were greater. Different geno types of tomato lines had different responses of reproductive growth to the low temperature treatment.
【语种】中文
【第一作者】周国治
【通讯作者】杨悦俭
【期刊名称、卷期、页码】上海农业学报 , 2008,(02)
【论文发表时间】2008-04-07 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】园艺学

【题目】番茄抗黄化曲叶病育种研究进展
【中文关键词】番茄黄化曲叶病;抗性基因;分子标记;育种
【英文关键词】tomato yellow leaf curl disease (TYLCD); resistance gene; molecular marker; breeding
【中文摘要】番茄黄化曲叶病是一种毁灭性病害,该病是世界许多地区番茄生产的重要限制因素。该病害在田间由烟粉虱传播,由于不同地区的番茄黄化曲叶病毒变异较大,这使番茄抗番茄黄化曲叶病育种进展很慢。本文从番茄黄化曲叶病毒的检测与防治、番茄抗源材料的筛选与抗性鉴定、抗番茄黄化曲叶病基因及其分子标记等几个方面论述了目前国内外的研究现状,并就存在的问题及未来研究方向进行了讨论。
【英文摘要】Tomato yellow leaf curl disease (TYLCD) is the most destructive disease of tomato. It can cause serious loss, and is the main limiting factor in tomato production in many parts of the world. It is spread by silverleaf whiteflies, also known as Bemisia tabaci. The high variability among tomato yellow leaf curl virus isolates from different geographical areas makes progress in breeding for resistance to TYLCD slowly. This paper reviews detection and control of TYLCV, current advance of study on the screening of TYLCD-resistance, methods of resistance identification, genes with resistance/tolerance to TYLCD and molecular marker. The

problems to be solved and prospects of TYLCD-resistant breeding were discussed.
【语种】中文
【第一作者】叶青静
【通讯作者】杨悦俭
【期刊名称、卷期、页码】中国农业科学 , 2009,(04)
【论文发表时间】2008-07-07 00:00:00
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【引文索引号】0
【学科分类】园艺学

【题目】利用PCR技术同时检测番茄抗根结线虫基因(Mi-1)和抗叶霉病基因(Cf-9)
【中文关键词】番茄 ; Mi-1 ; Cf-9 ; 分子标记
【英文关键词】tomato;Mi-1;Cf-9;molecular marker
【中文摘要】利用同一PCR反应体系,对分别与番茄抗根结线虫的Mi-1基因和抗番茄叶霉病的Cf-9基因紧密连锁的CAPS(cleaved amplified polymorphic sequences)标记进行同时扩增筛选,扩增的特异性片段与单引物扩增片段吻合.与Cf-9基因紧密连锁的CAPS1标记在抗病试材中可扩增出2775bp的特异片段,且存在TaqⅠ酶切位点,酶切后产生1177bp、446bp、370bp和160bp的不同特异片段;与Mi-1基因紧密连锁的CAPS2为共显性标记,抗性材料中产生915bp的特异片段,TaqⅠ酶切后产生719bp和196bp的特异片段.该体系可用于在同一PCR反应体系中对Mi-1和Cf-9 2个抗病基因进行同时筛选鉴定.该体系的建立不仅省时、省工,节省费用,而且可用于苗期早期辅助选育,加快番茄育种进程.
【英文摘要】Mi-1 and C f-9 genes in tomato tightly linked with two CAPS (cleaved amplified polymorphic sequence) markers and respectively resistant to root-knot nematode and leaf mold were amplified and screened by using a single PCR reaction. The PCR products were correspond to the amplified bands produced by single CAPS primer. Among them, 2775 bp fragment linked with C f-9 gene was amplified in the resistant tomato lines. The amplified bands were distinguishable after cleavage with the restriction enzyme TaqⅠ. Genotype with C f-9 gene could produce 1177 bp, 446 bp, 370 bp and 160 bp bands, respectively. The co dominant CAPS2 marker tightly linked with Mi-1 gene produced 915 bp fragment in the resistant tomato lines. Genotype with Mi-1 gene could produce 719 bp and 196 bp bands, respectively. The replicated stable results proved that two resistant genes could be identified simultaneously by using corresponding CAPS primer under adaptable condition. Compared with single primer PCR, this system is time-saving, labor saving and low cost. It could be very useful for markerassisted selection during early stage in tomato and efficiently speed up breeding procedure.
【语种】中文
【第一作者】周国治
【通讯作者】杨悦俭
【期刊名称、卷期、页码】浙江大学学报(农业与生命科学版) , 2008,(02):163-168
【论文发表时间】2007-03-27 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】园艺学

【题目】番茄ISSR-PCR反应体系的优化
【中文关键词】番茄 ; ISSR ; 体系优化
【英文关键词】Tomato;ISSR;System optimization
【中文摘要】以番茄(Lycopersicon esculentum)基因组DNA为模板,对番茄ISSR—PCR反应体系的Mg~(2+)、dNTPs、TaqDNA聚合酶浓度和退火温度进行了探讨,确立了适合番茄植物ISSR分析技术体系,为番茄植物遗传多样性和分子系统学研究提供技术支持。
【英文摘要】The genomic DNA of tomato was used as a template,the factors of ISSRPCR system for tomato,including concentrations of Mg~(2+),dNTP and Taq DNA polymerase and annealing temperature,were investigated,and a technical system of ISSR analysis suitable to tomato was established.
【语种】中文
【第一作者】朱为民

【通讯作者】朱为民
【期刊名称、卷期、页码】上海农业学报,2007,23 (3):5-8
【论文发表时间】2007-06-01 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】园艺学

【题目】上海地区番茄黄化曲叶病毒病的鉴定及嫁接接种法研究
【中文关键词】番茄黄化曲叶病毒, 鉴定, 嫁接
【英文关键词】Tomato Yellow leaf curl virus (TYLCV), Identification, Graft
【中文摘要】番茄黄化曲叶病毒(tomato yellow leaf curl virus, TYLCV)是一种由烟粉虱(Bemisia tabaci)和嫁接传播的双生病毒,在热带、亚热带地区给番茄生产造成严重威胁。根据番茄黄化曲叶病毒的保守序列设计一对引物,运用PCR 技术从上海地区的感病番茄中扩增出一条575 bp 的特异带,而健康植株无此带。测序表明该序列与番茄黄化曲叶病毒具有极高的同源性(97%~99%)。将健康接穗嫁接到感染番茄黄化曲叶病毒的番茄砧木上,间隔15 d 和30 d,分别提取接穗的DNA,并用PCR 法检测病毒,发现嫁接15 d 后在部分接穗中检测到TYLCV 病毒,嫁接30 d 后在所有的接穗中均检测到病毒,因此,嫁接法可以作为番茄黄化曲叶病毒病的接种鉴定方法。
【英文摘要】Tomato yellow leaf curl virus (TYLCV), transmitted by the whitefly Bemisia tubuci (Gennadius) and grafting is one of the most devastating diseases of cultivated tomato (Lycopersicon esculenrum Mill.). TYLCV causes economic losses in tomato crop in many tropical and subtropical regions. A pair of primers was designed according to the specific sequence of the TYLCV gene and used in the PCR detection of the virus in the infected tissues of tomato grown in the Shanghai areas. The results showed that the target fragment of about 575 bp could be detected in infected sample, but not from health sample. Sequencing results indicated that the DNA, a sequence was most closely related to TYLCV (97%~99% sequence identity). In graft inoculation, health tomato as cions were side graft-inoculated with stems from TYLCV-infected source plants of tomato. Total DNA were extracted from cions after 15 days and 30 days for PCR detection. The results showed that some of cions infected TYLCV after 15 days,and all of them infection after 30 days. Thereby, graft-inoculation can be used in TYLCV resistance breeding.Thereby, graft-inoculation can be used in TYLCV.
【语种】中文
【第一作者】于力
【通讯作者】朱为民
【期刊名称、卷期、页码】基因组学与应用生物学,2009,28(1):115-118
【论文发表时间】2009-01-05 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】园艺学

【题目】TYLCV侵染对番茄叶绿素荧光猝灭和吸收光能分配的影响
【中文关键词】番茄 ; TYLCV ; 叶绿素荧光猝灭 ; 吸收光能分配
【英文关键词】Tomato;TYLCV;Chlorophyll fluorescence quenching;Absorbed light energy allocation
【中文摘要】研究了上海地区番茄黄化曲叶病毒侵染番茄后在不同时期对叶绿素荧光猝灭和吸收光能分配的影响.结果表明:病毒侵染后,叶绿素含量逐渐下降,后期虽有所提高,但一直低于健康对照;叶绿素荧光参数Fv/Fm、Fv'/Fm'、ETR、ΦPSⅡ、qP均低于对照,只有qN大于对照.与健康对照比,病毒侵染后导致了光化学反应速率的降低以及天线热耗散和反应中心过剩能量的增加.
【英文摘要】The chlorophyll fluorescence quenching and absorbed light energy allocation changes of TYLCV-infected tomato plants at different stages were studied in Shanghai area. The results showed that after infected,the plants' chlorophyll content started decreasing and somewhat increased at later stage,but was lower than that of control plants all the time.Compared with control plants,the infected plants were lower in such fluorescence parameters as Fv/Fm,Fv'/Fm',ETR,ΦPS Ⅱ and qP,and higher only in qN.TYLCV infection resulted in a decrease in photochemical reaction rate and an increase in antenna heat dissipation and excessive energy of reaction center.
【语种】中文
【第一作者】张永平

【通讯作者】朱为民
【期刊名称、卷期、页码】上海农业学报,2009,25 (2):10-14
【论文发表时间】2009-04-08 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】园艺学

【题目】设施栽培专用番茄新品种申粉8号的选育
【中文关键词】设施栽培; 番茄品种; 申粉8号
【英文关键词】Pro tected cu lt ivation; Tomato variety; Shenfen 8
【中文摘要】申粉8号番茄是由筛选出的抗病亲本经杂交选育而成的, 其特点是高抗烟草花叶病毒(TMV) 和叶霉病, 中抗黄瓜花叶病毒(CMV)。果色粉红, 高圆形, 单果重190 g, 畸形果率低, 成熟早, 早期产量高, 一般产量97. 5 t/hm2。
【英文摘要】The variety Shenfen 8 was bred through crossing between selected parents resistant to diseases and had such characteristics as high resistance to TMV and Leaf downy mildew and moderate resistance to CMV, pink in fruit color, prolate ellipsoid in fruit shape, low rate of deformed fruits, early maturation and high early-stage yield. Its fruit weight was 190 g and its yield was generally 97.5 t/hm2.
【语种】中文
【第一作者】朱龙英
【通讯作者】朱为民
【期刊名称、卷期、页码】上海农业学报,2009, 25 (1) : 55 - 58
【论文发表时间】2008-12-15 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】园艺学

【题目】番茄新品种“ 莎龙 ”
【中文关键词】番茄; 杂种
【英文关键词】Tomato; Hybrid
【中文摘要】‘ 莎龙 ’是青岛农业科学院新育成的适合保护地、露地栽培的中熟番茄一代杂种, 抗ToMV、枯萎病、南方根结线虫害, 中果型大红果, 丰产性好, 产量达150 000 kg /hm2 以上, 耐贮藏, 室温下(25℃) 货架期在18 d以上。
【英文摘要】Shalong is a new mid-ripening tomato hybrid. It is resistant toMV, fusarium wilt and southern root-knot nematode disease, mid-type fruit,regular shape, good commodity and high yield. The yield is more than 150 000 kg /hm2. It has good storage to lerance and its shelf life is 18 days at room temperature (25℃).The variety is suitable for protected field and open field production.
【语种】中文
【第一作者】黄婷婷
【通讯作者】黄婷婷
【期刊名称、卷期、页码】园艺学报 2007 (1)
【论文发表时间】2007-01-23 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】园艺学

【题目】耐贮藏番茄新品种“ 艾丽莎 ”
【中文关键词】番茄; 一代杂种; 耐贮藏
【英文关键词】Tomato; Hybrid; Long-storage
【中文摘要】‘ 艾丽莎 ’是适合保护地栽培的中早熟番茄一代杂种, 高抗叶霉病, 抗TMV、枯萎病等病害,单果质量150~180 g, 果实扁圆中果型大红果; 丰产性好, 产量达150 000 kg /hm2以上; 耐贮藏, 室温(25℃) 下货架期在20 d以上。
【英文摘要】Ailisha, a new mid-maturing tomato F1hybrid, has been released. It is resistant to leafmo ld,TMV and Fusarium wilt disease, middle fruit,regular shape, has good quality and high yield. Its yield is 150000 kg / hm2. It is long storable and the shelf life is 20 days in room temperature (25℃) . The cultivar is suitable for protect production and open field production.

【语种】中文
【第一作者】黄婷婷
【通讯作者】黄婷婷
【期刊名称、卷期、页码】园艺学报 2007 (3)
【论文发表时间】2007-04-03 00:00:00
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【引文索引号】0
【学科分类】园艺学

【题目】“ 莎彤 ”番茄新品种及栽培技术
【中文关键词】番茄;新品种;“ 莎彤 ”;栽培技术
【英文关键词】无
【中文摘要】“ 莎彤 ”是青岛市农业科学研究院新育成的适合保护地、露地栽培的中熟番茄一代杂交种, 其母本是自交系S 以2- 4, 1996 年由以色列引入品种R- 144 中分离10 代得到, 具有早熟、抗裂、耐贮藏、果实圆整、果色红、耐低温的特点; 父本是S21, 1999 年由美国引入试材分离9 代所得, 具有抗病毒病、高抗叶霉病、枯萎病, 较耐贮藏, 单果重220~ 250 g, 品质好等特点。2006 年6 月通过青岛市科技局组织的专家鉴定。
【英文摘要】无
【语种】中文
【第一作者】刘炳禄
【通讯作者】刘炳禄
【期刊名称、卷期、页码】山东农业科学 2007 (3)
【论文发表时间】2006-12-14 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】园艺学

【题目】番茄一代杂交种“ 艾丽莎 ”的选育及栽培技术要点
【中文关键词】番茄; 一代杂交种; 艾丽莎; 选育
【英文关键词】无
【中文摘要】“ 艾丽莎 ”是青岛市农业科学研究院新育成的适合保护地、露地栽培的中熟番茄一代杂交种, 抗ToMV、枯萎病、叶霉病等病害, 中果形, 红果, 果实光滑美观; 丰产性好, 产量达180 000 kg / hm2 以上; 耐贮藏, 室温下(25°C) 货架期在18 天以上。
【英文摘要】无
【语种】中文
【第一作者】黄婷婷
【通讯作者】黄婷婷
【期刊名称、卷期、页码】山东农业科学 2007 (3)
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【引文索引号】0
【学科分类】园艺学

【题目】番茄抗晚疫病基因Ph-3的RAPD标记
【中文关键词】番茄 ; 晚疫病 ; RAPD标记 ; Ph-3基因
【英文关键词】late blight; RAPD marker; gene Ph-3
【中文摘要】以番茄抗晚疫病材料CLN2037和感病材料T2-03杂交的F_2分离群体的147个单株为试材,通过抗病性鉴定,选择高抗单株和高感单株分别建抗、感病池.采用BSA法筛选了230条RAPD引物,其中引物CCPB272-03(序列为GGTCGATCTG)在抗、感病池扩增出多态性片段CCPB272-03_(740),通过F_2单株验证后证明CCPB272-03_(740)与抗晚疫病基因Ph-3紧密连锁,遗传距离为5.8 cM.

【英文摘要】The objective of this study was to identify RAPD marker for resistance to late blight in tomato.BSA (Bulked Segregant Analysis) was used to search for RAPD markers linked to late blight resistant gene Ph-3,using F_2 segregating population(147 individuals)derived from a cross of CLN2037(resistant) and T2-03(susceptible).Two hundred and thirty decamer primers with arbitrary sequences are chosen for polymerase chain reaction amplication.One RAPD marker CCPB272-03_(740)(the sequence of the primer is GGTCGATCTG) was tightly linked to the resistant gene Ph-3 and it was 5.8 cM from the resistant gene.
【语种】中文
【第一作者】邱夷鹏
【通讯作者】李海涛
【期刊名称、卷期、页码】园艺学报, 2009,36(8):1227-1232
【论文发表时间】2009-06-26 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】园艺学

【题目】辽宁部分地区番茄晚疫病菌生理小种及抗病性鉴定.
【中文关键词】番茄晚疫病 生理小种 鉴别寄主 抗病性鉴定
【英文关键词】Tomato late blight, Physiological race, Differential host, Resistance identification
【中文摘要】将番茄材料Ts19、Ts33、W. Va700、L3708和LA1033作为鉴别寄主, 对辽宁省沈阳、新民、岫岩的番茄晚疫病菌的6个菌株进行了生理小种鉴定, 结果共鉴定出3个生理小种, 即生理小种T0、T1和T1, 2。引进的抗病材料CLN2037G、CLN2037H 对辽宁地区番茄晚疫病菌生理小种T1, 2表现为抗病, 抗性明显优于当地材料。辽宁当地主栽品种对晚疫病没有抗性, 全部枯死。
【英文摘要】Five tomato lines, TS19(ph+) , TS33 (ph-1) , W. Va 700(ph-1,2), L3708(ph-3,4) and LA1033(ph-5), were used as differential hosts to identify the physiological races of six Phytophtora infestans strains collected from Shenyang, Xinmin and Xiuyan of Liaoning province. Three races of T0, T1 and T1, 2 were found out. Two breeding lines of CLN2037G and CLN2037H were resistant to race T1, 2. Eight breeding lines and five varieties planted in Liaoning province were all susceptible to physiologica l race T1, 2.
【语种】中文
【第一作者】张子君
【通讯作者】李海涛
【期刊名称、卷期、页码】中国蔬菜, 2007 (8) : 24-26
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【引文索引号】0
【学科分类】园艺学

【题目】番茄晚疫病人工接种技术研究及抗病种质资源筛选
【中文关键词】番茄; 晚疫病; 人工接种; 抗病性鉴定
【英文关键词】tomato; late blight; artificial inoculation; resistance identification
【中文摘要】为探索适宜番茄晚疫病人工接种的技术体系, 对番茄晚疫病人工接种技术进行了系统的研究, 结果表明: 适宜番茄晚疫病苗期人工接种的方法是孢子囊悬浮液喷雾法和涂抹法, 6~8 叶期是植株适宜的接种时期, 适宜接种的保湿时间和孢子囊浓度分别为24h和5×104 孢子囊・mL-1。采用孢子囊悬浮液喷雾法和离体叶片涂抹法对20 份番茄材料进行了抗病性鉴定, 筛选出6 份抗病试材, 以CLN2037G、CLN2307H 和CLN2037I 抗性最好, 表现为高抗; 喷雾法和离体叶片涂抹法两种方法的鉴定结果基本一致。
【英文摘要】The artificial inoculation of tomato late blight was studied. The results indicated that spraying method and painting method with sporangial suspension were the proper inoculation methods. Seedling ages of 6 to 8 leaves were suitable for the artificial inoculation. The best moisture preserving time and inoculation concentration were 24h and 5×104sporangia・mL-1respectively.The resistance identification of 20 tomato resources with spraying method on the seedlings and painting method on the detached leaves showed 6 resistant tomato resources, with CLN2037G, CLN2037H and CLN2307I as the examples.The results of spraying method and painting method of detached leaves were idemfified.
【语种】中文

【第一作者】姜晓艳
【通讯作者】李海涛
【期刊名称、卷期、页码】沈阳农业大学学报, 2008- 08, 39(4): 408- 411
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【引文索引号】0
【学科分类】园艺学

【题目】番茄晚疫病菌生物学特性研究
【中文关键词】番茄; 晚疫病菌; 生物学特性
【英文关键词】Tomato;Phytophthora infestans;Biological characteristics
【中文摘要】对番茄晚疫病菌的生物学特性进行了初步研究, 试验结果表明: 病菌菌丝在大多数培养基上均能良好生长, 其中RSA 培养基最适宜菌丝生长及产孢; 光照条件不利于菌丝生长及产孢, 而黑暗条件起到促进作用; 菌丝对碳源的利用, 以蔗糖最好, 甘露糖最差; 在氮源利用方面, 大多数氮源均促进菌丝生长, 产孢量以氨基丙酸最多, 胱氨酸最少; 菌丝生长和产孢的温度范围为10~ 30℃ , 最适温度20℃ , 适宜pH 为5~ 9。孢子囊萌发的最适温度为15℃ , 高于35℃不能萌发; 光照抑制孢子囊的萌发, pH 为7 时孢子囊萌发率最高; 孢子囊在各种营养物质中均能萌发; 孢子囊的致死温度为57℃ , 10min。
【英文摘要】The study of biological characteristics of Phytophthora inf estans showed that the mycelium could grow better on the most of culture media, but RSA was the best one. The light held up the growth of mycelium and sporangium, and the dark generated the promoting effect. The pathogen could make full use many kinds of carbohydrates. The sucrose was the best C source and mannose was the worst C source. Alanine was the best N source while cystine was the worst one. The temperature for mycelial growth and sporulation was from 10℃ to 30℃ , and the optimum temperature was 20℃ . The proper pH values ranged from 5 to 9. For sporangium germination of the pathogen, the optimum temperature was 15℃ . The sporangium failed to germinate at temperature higher than 35℃ . The light had no effect on the sporangium germination, and the proper pH value was 7. All kinds of nutrients were suitable for sporangium germination. The sporangia lethal temperature was 57℃, 10min.
【语种】中文
【第一作者】姜晓艳
【通讯作者】李海涛
【期刊名称、卷期、页码】河南农业科学, 2008(8):91-94
【论文发表时间】2008-03-11 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】园艺学

【题目】番茄灰霉病抗性鉴定技术和抗病QTL的研究现状.
【中文关键词】番茄,灰霉病,抗性鉴定,QTLs
【英文关键词】无
【中文摘要】综述了番茄灰霉病人工接种抗病性鉴定技术、抗病资源的筛选鉴定、抗病基因的QTL定位, 并对未来抗病育种研究进行了展望。
【英文摘要】无
【语种】中文
【第一作者】邹庆道
【通讯作者】李海涛
【期刊名称、卷期、页码】中国蔬菜,2008 (7) : 42-44
【论文发表时间】2008-05-12 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】园艺学

【题目】番茄灰霉病抗病资源的初步筛选

【中文关键词】番茄; 灰霉病; 抗源筛选; 离体茎接种
【英文关键词】Tomato; Gray mold; Resistance screening; Vitro stem inoculation
【中文摘要】通过离体茎接种法, 对26份番茄材料进行灰霉病抗病资源筛选, 结果表明: 多毛番茄T2-07-316高抗灰霉病, 接种6 d后相对茎侵染率及相对茎腐扩展速率均为0; 另有7份转基因普通番茄对灰霉病也表现出较好的抗性, 相对茎侵染率在151 00 % ~ 381 33% 之间, 相对茎腐扩展速率在101 22 % ~ 23157% 之间, 其中以T2-07-337抗性最好。
【英文摘要】Through vitro stem inoculation method, resistances of 26 tomato germplasms to gray mold(Botrytis cinerea) were identified. The results showed that Solanum. habrochaites T2-07-316 was highly resistant to graym old with zero of relative stem infection frequency (RSIF) and relative stem rot expansion rate (RSRER) after inoculated 6 days. That other 7ma terials showed resistant to the disease with RSIF of 15100% - 38133% and RSRER of 10122 % - 23157 %, and T2-07-337 showed stronger disease resistance.
【语种】中文
【第一作者】徐 明
【通讯作者】李海涛
【期刊名称、卷期、页码】中国蔬菜, 2009 (2) : 38 - 41
【论文发表时间】2008-06-25 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】园艺学

【题目】不同培养基对番茄早疫病菌菌丝生长的影响
【中文关键词】番茄早疫病; 培养基; 固体培养; 液体培养
【英文关键词】无
【中文摘要】试验采用固体培养和液体培养两种方法, 初步筛选出番茄早疫病的病原菌适宜生长的培养基。试验结果表明, 在固体培养中, 以PDA 最为适宜, 其次为CSA 和C zapek琼脂。在液体培养中, 以PD液最为适宜, 其次为PTD液和PTS液。
【英文摘要】无
【语种】中文
【第一作者】张子君
【通讯作者】李海涛
【期刊名称、卷期、页码】辽宁农业科学, 2007 (4) : 17-18
【论文发表时间】2006-12-12 00:00:00
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【引文索引号】0
【学科分类】园艺学

【题目】樱桃番茄果长性状的主基因-多基因混合遗传分析.
【中文关键词】樱桃番茄 ; 果长 ; 主基因+多基因 ; 遗传分析
【英文关键词】Lycopersicon esculentum var.cerasiforme AleL;Fruit length;major gcne+polygene;genetic analysis
【中文摘要】以樱桃番茄(Lycopersicon esculentum var.cerasiforme Alef)圆形自交系W403(P_1)和梨形自交系W403(P_2)为亲本,构建P_1、F_1(P_1×P_2)、P_2、B_1(F_1×P_2)、B_2(F_1×P_2)和F_2共6个家系世代群体,应用植物数量性状主基因+多基因混合遗传模型和经典遗传学方法对该6个家系世代群体果长进行多世代联合分析,结果表明:W403果长受一对隐性等位主基因控制,W403×W405遗传符合1对主基因+多基因遗传模型.B_1、B_2和F_2群体主基因遗传率分别为70.20%、54.73%和48.78%,多基因遗传率分别为0,19.94%和26.67%,说明F_2世代果长表现出较高的主基因遗传率,并受环境影响.对W403×W405组合果长性状的改良要以主基因为主,同时注意环境的影响.
【英文摘要】W403 (a round-shaped) and W405 (a pear-shaped var.cerasiforme) were employed to establish six genealogical populations (P_1,F_1,P_2,B_1,B_2 and F_2).The Fruit length of the populations were analyzed by means of classic genetics and the major gene + polygene mixed inheritance model of quantitative traits; The analysis indicated that the Fruit length in W403 was controlled by a recessive major gene and the inheritance of the Fruit length fitted one major gene plus polygene model.Heritability values of the major genes of B_1,B_2 and F_2 population were estimated as 0%,19.94% and 26.67% respectively,while those polygene were 70.20%,54.73% and 48.78%.These results indicated that major gene in F_2 was a key factor and environment factor was also

relatively important.This implies that in the genetic improvement of Fruit length major gene is a main factor whereas environmental effect should be taken care of.
【语种】中文
【第一作者】成颖
【通讯作者】李海涛
【期刊名称、卷期、页码】沈阳农业大学学报, 2009-02,40(1): 88-91
【论文发表时间】2009-02-15 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】园艺学

【题目】樱桃番茄果形主基因-多基因混合遗传分析
【中文关键词】樱桃番茄 ; 果形指数 ; 主基因+多基因 ; 遗传分析
【英文关键词】Var.cerasiforme;Fruit shape index;Major gene+polygene;Genetic analysis
【中文摘要】以樱桃番茄圆形自交系W403(P1)和梨形自交系W405(P2)为双亲,构建P1,F1,P2,B1,B2和F26个家系世代群体,应用植物数量性状主基因+多基因混合遗传模型和经典遗传学方法对该6个世代群体果形指数进行多世代联合分析,结果显示:W403×W405果形遗传符合2对完全显性主基因+加性-显性多基因模型。B1,B2和F2群体主基因遗传率分别为14.99%,79.05%和79.70%,多基因遗传率分别为5.34%,7.31%和4.89%,说明F2果形表现出较高的主基因遗传率。对W403×W405组合果形性状的改良要以主基因为主,同时注意环境的影响。
【英文摘要】W403,a round-shaped,and W405,a pear-shaped var.cerasiforme,were employed to establish six genealogical populations,P1,F1,P2,B1,B2 and F2,the fruit shape index of the populations were analyzed by means of classic genetics and the major gene + polygene mixed inheritance model of quantitative traits.The results showed that,the Fruit shape index was controlled by two completely dominant major gene plus additive-dominant polygene model.Heritability values of the major genes of B1,B2 and F2 population were 14.99%,79.05% and 79.70% respectively,while those polygene were 5.34%,7.31% and 4.89%.These results indicated that major gene in F2 was a key factor and environment factor was also relatively important.This implies that in the genetic improvement of fruit shape index major gene is a main factor whereas environmental effect should be taken care of.
【语种】中文
【第一作者】成颖
【通讯作者】李海涛
【期刊名称、卷期、页码】华北农学报, 2008 ,23 (6) : 164-167
【论文发表时间】2008-10-06 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】园艺学

【题目】多毛番茄LYC4对灰霉病的抗性鉴定
【中文关键词】多毛番茄LYC4;灰霉病;抗病性
【英文关键词】Lycopersicon hidutum LYC4;Botrytis cinerea;Disease resistance
【中文摘要】采用孢子悬浮液接种法,鉴定了多毛番茄LYC4 叶、茎、果实对灰霉病菌的抗性。结果表明:多毛番茄LYC4整株接种的病情指数为0,离体叶接种的发病率为0;离体茎接种的相对茎侵染率为0,相对茎腐扩展速率为0;离体果实接种的相对病斑扩展速率为5.7 %。多毛番茄LYC4 叶、茎、果实3 个部位接种均表现高抗,是1 份优秀的灰霉病抗源材料。
【英文摘要】The resistance of Lycopersicon hidutum LYC4 to Botrytis cinerea was evaluated by inoculating spore suspension to seedlings,and leaf,stem,fruit segments.The results showed that the disease index was 0 in both seedlings and detached-leaves,the relative stem infection rate and fruit rot expansion rate were 0 and 5.7 %,respectively.For this reason,the L. hirdutum LYC4 is considered to be highly resistant to tomato gray mold.
【语种】中文
【第一作者】邹庆道
【通讯作者】李海涛
【期刊名称、卷期、页码】中国蔬菜,2010 (08): 53-55,

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【引文索引号】0
【学科分类】园艺学

【题目】番茄新品种春优一号的选育.
【中文关键词】番茄,新品种,春优一号
【英文关键词】无
【中文摘要】春优一号是以自交系04- 315 为母本, 自交系04- 26 为父本配制的番茄一代杂种。中熟, 生育期118 天; 无限生长类型, 植株生长势适中; 普通叶型, 叶深绿色, 表面无光泽; 第8~9 节位着生第一花序; 果实成熟粉红色, 稍有绿果肩, 扁圆形, 肉厚心室多, 果脐小, 质沙味酸甜适口, 可溶性糖4.8%左右, 平均单果重200 克左右; 抗逆性强, 抗病毒病、叶霉病, 耐低温性好, 收获集中, 前期产量高。
【英文摘要】无
【语种】中文
【第一作者】穆欣
【通讯作者】李海涛
【期刊名称、卷期、页码】吉林蔬菜, 2007(3):88
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【引文索引类型】其他
【引文索引号】0
【学科分类】园艺学

【题目】番茄花药培养愈伤组织诱导及植株再生的研究
【中文关键词】番茄; 花药培养; 愈伤组织; 植株再生
【英文关键词】tomato; anther culture; callus; plant regeneration
【中文摘要】以5 个番茄F1 杂交种为试材, 研究了基因型、植物生长调节剂、变温处理和椰乳对愈伤组织发生及植株再生的影响, 旨在优化番茄花药培养的技术方法。结果表明: 不同基因型愈伤组织发生率不同; 培养基中添加0.5mg · L- 1 的2,4- D 较NAA, 5 个材料的愈伤组织平均诱导率提高了10.04%; 4℃48h+33℃72h 的处理对愈伤组织的诱导有明显的促进作用; 培养基中加入50mg · L- 1 的椰乳可提高愈伤组织诱导率。植株再生的较优培养基为MS+0.2mg · L- 1 IAA+2.0mg · L- 16- BA +0.5mg · L- 1ZT。基因型和培养基是愈伤组织的发生和植株再生的主要影响因素; 适当的低温处理配合高温热激, 及在培养基中添加椰乳有利于愈伤组织的发生。
【英文摘要】The effects of genotypes, plant growth regulators, variable temperature pretreatment, coconut milk on callus inducement frequency and plant regeneration were studied in five F1 hybrids of tomato by anther culture method in order to optimize the technology and method. It was found that the rate of callus was related to the genotypes; the callus inducement frequency with addition of 0.5mg · L- 1 2,4- D increased 12.91% than that with addition of NAA; 4℃ 48h+33℃ 72h pretreatments enhanced remarkably the frequency of the callus inducement frequency; 50mg · L- 1 coconut milk could enhance the callus inducement frequency; the medium of MS+0.2mg · L- 1IAA+ 2.0mg · L- 16- BA +0.5mg · L- 1ZT induced plant regeneration. So genotypes and culture medium are the major factors which effect the callus inducement frequency and plant regeneration; suitable low and high temperature pretreatment and coconut milk can enhance the callus inducement frequency.
【语种】中文
【第一作者】刘晓荣
【通讯作者】陶承光
【期刊名称、卷期、页码】沈阳农业大学学报, 2008- 08, 39(4): 476- 478
【论文发表时间】2008-01-02 00:00:00
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【引文索引号】0
【学科分类】园艺学

【题目】番茄抗根结线虫病基因(Mi)分子标记的评估

【中文关键词】番茄; 根结线虫病; 分子标记; 人工接种; 分子标记辅助选择
【英文关键词】Tomato; Root-knot nematode; Molecule markers; Artificial inoculation; Molecular marker assisted selection
【中文摘要】利用前人研究获得的2 对与番茄根结线虫病基因(M i) 连锁的分子标记, 对15份番茄材料进行苗期抗根结线虫病鉴定, 以检测其在育种实践中的有效性。结合室内分子标记鉴定和苗期人工接种鉴定, 筛选出对番茄根结线虫病免疫的材料1 份, 高抗根结线虫病的材料3份, 感根结线虫病的材料11份。结果表明,引物SCAR1和SCAR2均能检测出抗根结线虫病的特异条带, 但SCAR1标记与苗期人工接种的病情指数表现出更大的相关性。说明SCAR1标记更适合应用于番茄抗根结线虫病的辅助选择中。
【英文摘要】Two molecule markers linked to root-knot nematode resistance gene (Mi) were used to identify the root-knot nem atode resistance in 15 tomato materia ls during the seedling stage, and 1 immune material, 3 high resistant materials, and 11 susceptivem aterials were selected by molecular markers assisted by selection and artificial inoculation. The results showed that both SCAR1 and SCAR2 can amplify the specific band which may linked to root-knot nem atode resistance gene. Themarker SCAR1, which showed closer relation with disease index of artificial inoculation during seedling stage, was more suitable to be selected to identify root-knot nematode resistance in tomato.
【语种】中文
【第一作者】王明霞
【通讯作者】张其安
【期刊名称、卷期、页码】中国蔬菜,2009(18)21-24
【论文发表时间】2009-04-30 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】园艺学

【题目】番茄新品种皖粉6号品种特征特性与配套栽培技术
【中文关键词】皖粉6号; 特征; 栽培技术
【英文关键词】anfen No16; Character istics; Cultivation technique
【中文摘要】“ 皖粉6号 ”系杂交选育而成, 集早熟、高产、优质于一体。介绍了该品种的特征特性、产量表现、品质, 提出了配套栽培技术。
【英文摘要】Wanfen No16 is a new tomato variety with early mature, high yielding and good quality, and its characteristics of biology, yielding and quality and corresponding cultivation techniques were introduced.
【语种】中文
【第一作者】江海坤
【通讯作者】张其安
【期刊名称、卷期、页码】河北农业科学,2007,11(2):21-22
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【引文索引类型】其他
【引文索引号】0
【学科分类】园艺学

【题目】抗根结线虫番茄新品种及引种注意事项
【中文关键词】番茄;新品种;抗根结线虫;引种;注意事项
【英文关键词】无
【中文摘要】近年来,根结线虫的为害已成为农业、特别是设施蔬菜生产中的一个严重问题。以北京为例,全市十几个郊区县均有根结线虫发生,感病蔬菜一般减产20 %~30 %,严重的减产50 %,甚至绝收。番茄是受根结线虫为害严重的主要蔬菜作物之一。早在20 世纪40 年代,科学家就已把野生番茄对根结线虫的抗性成功地转入到栽培番茄。20 世纪60、70 年代抗线虫番茄品种就已在发达国家应用。实践证明,在根结线虫为害严重的地区,选用抗线虫番茄品种是最为经济、有效、安全的防控途径。北京市农林科学院蔬菜研究中心从1997 年就开始了番茄抗根结线虫育种研究,经过多年的遗传改良、资源与技术储备,成功地把抗线虫基因转入到优良骨干自交系中。2005 年培育出粉果、硬肉型抗线虫番茄品种仙客1号,相继又培育出仙客5 号、仙客6 号等系列粉果抗线虫番茄品种。
【英文摘要】无

【语种】中文
【第一作者】柴敏
【通讯作者】柴敏
【期刊名称、卷期、页码】中国蔬菜,2009,19:34-35
【论文发表时间】2009-09-10 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】园艺学

【题目】番茄苗期抗旱性鉴定及其评价方法的研究
【中文关键词】抗旱,番茄,苗期,极度干旱,聚类分析
【英文关键词】Drought resistance, Tomato, Seedling, Extreme drought, Clustering analysis
【中文摘要】以不同番茄品种(系) 为材料, 采用极度干旱过程中遮阳和不遮阳的处理方法对其进行抗旱性筛选, 以确定有效、易行的番茄苗期抗旱性鉴定评价方法。经过比较分析, 发现苗期以营养钵栽植, 施以极度干旱处理并在强光照天气采取遮阳措施是番茄抗旱性鉴定较为有效的方法, 通过此方法从139 份番茄材料中筛选出24 份抗旱性强的材料, 59份耐旱材料。
【英文摘要】In order to establish an effective evaluation method for testing tomato drought resistance, different tomato varieties(lines) were tested under extreme dry conditions with sun covered and uncovered treatments to screen their drought resistance. Through comparative analysis, an effective method was found for drought resistance identification. In this method, seedlings were planted in earthen bowl filled with nutrients, treated with extreme dry soil under in tensified sun light but with coverage. 24 highly drought resistance and 59 drought tolerance materials were screened from 139 tomato materials by this method.
【语种】中文
【第一作者】张丽英
【通讯作者】柴敏
【期刊名称、卷期、页码】中国蔬菜,2008,2:15-20
【论文发表时间】2007-10-19 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】园艺学

【题目】无限生长型番茄新品种华番2号、华番3号
【中文关键词】番茄;无限生长型;新品种;华番2号;华番3号
【英文关键词】无
【中文摘要】华番2 号和华番3 号是由华中农业大学园艺林学学院番茄研究室选育的杂种一代番茄新品种。已通过湖北省农作物品种审定委员会蔬菜专业委员会组织的现场考察, 专家鉴定一致认为: 该品种具有丰产性好、品质优良、耐贮性强等特点。适合在长江流域塑料大棚和露地以及北方地区设施栽培。
【英文摘要】无
【语种】中文
【第一作者】李汉霞
【通讯作者】叶志彪
【期刊名称、卷期、页码】长江蔬菜,2008,8:4-5
【论文发表时间】2008-06-13 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】园艺学

【题目】番茄新品种阿克斯1号的选育
【中文关键词】番茄; 阿克斯1号; 一代杂种; 抗病
【英文关键词】Tomato; ‘ AkesiNo.1 ’ ; F1 hybrid; Resistant to disease

【中文摘要】阿克斯1号是以优质、高抗青枯病、抗病毒病的X20 株系为母本, 以1801株系为父本配制而成的番茄一代杂种。无限生长类型, 中晚熟, 春季栽培从播种至初收约108 d (天) , 秋季栽培约99 d (天) 。果实近圆形, 果形指数01 96, 外形美观, 青果无绿色果肩, 成熟果鲜红色、有光泽。平均单果质量125 g, 果肉厚01 75 cm, 肉质硬实, 耐贮运。中抗青枯病和病毒病, 在高温条件下能正常结果, 抗逆性强, 品质优, 适合出口、市销和北运。每667 m 2 产量3 000 kg左右, 适宜华南及类似气候地区露地栽培。

【英文摘要】‘ AkesiNo.1 ’is a tomato F1 hybridbred by crossing lineX20 which is good quality, high resistant to bacterialwilt and virus disease as female parent and 1801 as male parent. It grows vigorously.It is of middle and late maturity. It takes about 108 days from seedling to harvest in spring cultivation and about 99 days in autumn cultivation. Its fruit is of round shape with 0.96 fruit shape index. Its young fruit shoulder is not green. The matured fruit is red in color with better firmness. Its average single fruit weight is 125g and the fruit thickness is 0.75 cm. It is good for storage and transportation. It is middle resistant to bacterialwilt and virus disease. It can bear fruit under high temperature with good stress resistance and superior quality. It is suitable for exporting, city marketing and transporting to Northern areas. Its yield is about 45 t/ hm 2. It is suitable to be cultivated in open field in Southern or similar climate region.

【语种】中文

【第一作者】黎振兴

【通讯作者】黎振兴

【期刊名称、卷期、页码】中国蔬菜,2009(4):69-71

【论文发表时间】2008-11-05 00:00:00

【引文索引类型】其他

【引文索引号】0

【学科分类】园艺学

【题目】SCAR标记转化失败的原因和对策

【中文关键词】SCAR标记; SCAR转化失败; 原因和对策;

【英文关键词】SCAR marker; SCAR conversion failure; Reasons and remedies;

【中文摘要】SCAR标记作为一种快速、简便可以直接应用的分子标记,在标记辅助选择育种中发挥着重要的作用。但是目前SCAR标记的转化效率不是很高。本文从引物设计、序列相似或多拷贝及DNA甲基化等方面分析SCAR标记转化失败的可能原因;同时从引物设计技巧、PCR反应条件、借助CAPS和SSCP技术以及借助原始标记邻近序列等方面综述了SCAR标记转化失败的情况下获得序列特异性标记的几种有效补救手段。

【英文摘要】SCAR marker,as a fast,simple and direct useable molecular marker,played an important role in marker-assisted selection breeding. However,the conversion rate of SCAR markers is not very high at present. In this summary,we analysed the possible causes of SCAR conversion failure from the aspects,such as primer design,multi-copy or similarity of sequence,and DNA methylation,etc. At the same time,when the conventional SCAR marker conversion was failed,several effective remedy approaches for obtaining sequence-specific markers were overviewed from the aspects of primer design, PCR reaction condition, by CAPS and SSCP technology and with the aid of the flanking sequences of the origin markers.

【语种】中文

【第一作者】孙保娟

【通讯作者】黎振兴

【期刊名称、卷期、页码】分子植物育种,2010,Vol.8,No.3,589-594

【论文发表时间】2010-03-16 00:00:00

【引文索引类型】其他

【引文索引号】0

【学科分类】园艺学

【题目】抗青枯病番茄新品种“ 渝抗10号 ”

【中文关键词】番茄; 青枯病; 品种;

【英文关键词】tomato; bacterial wilt; cultivar;

【中文摘要】‘ 渝抗10号 ’番茄是新育成的一代杂交种,无限生长型,中晚熟;果实圆形,成熟果红色,平均单果质量140g;可溶性固形物含量5.12%,维生素C含量0.181mg · g-1,可溶性糖含量3.62%,可滴定酸含量0.38%;果实硬度0.71kg · cm-2,耐贮运;高抗青枯病,抗ToMV和枯萎病;露地栽培平均产量53.7t · hm-2。

【英文摘要】‘ Yukang 10 is a new tomato hybrid.It was indeterminate and mid-late maturity.Fruits are round in shape,the color of a ripe fruit is red,and the average fruit weight is 140 g.The content of soluble solids is 5.12%,vitamin C is 0.181 mg · g-1,soluble sugar is 3.62%,and titratable acid is 0.38%.Fruit rigidity is 0.71 kg · cm-2.It is highly resistant to bacterial wilt,ToMV and fusarium wilt.Average yield was 53.7 t · hm-2 in open field.
【语种】中文
【第一作者】尹贤贵
【通讯作者】王小佳
【期刊名称、卷期、页码】园艺学报, 2010年,37(2)
【论文发表时间】2010-01-06 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】园艺学

【题目】早熟加工番茄新品种‘ 新番21号 ’
【中文关键词】加工番茄 ; 早熟 ; 一代杂种
【英文关键词】processing tomato;early maturing;hybrid
【中文摘要】加工番茄新品种‘ 新番21号 ’为早熟一代杂种,耐热,从出苗到90%果实成熟约110d,果实方圆形,果色深红,果肉厚0.8cm,平均单果质量60g。加工品质较好,果实硬度好,丰产,产量一般为90~120t · hm~(-2),适于生产番茄酱和去皮整番茄。
【英文摘要】‘ Xinfan 21 ' is a new early maturing processing tomato hybrid, It takes about 110 days from emergence to 90% of fruit ripening. The average mass of blocky shaped fruit is 60 g. ‘ Xinfan 21 ' produces excellent yield of firm fruit with good internal color, thick walls, high quality and has high tolerence to heat. The yield is 90 - 120 t · hm~(-2). It is used for production of paste and whole peeling tomatoes.
【语种】中文
【第一作者】王建江
【通讯作者】王建江
【期刊名称、卷期、页码】园艺学报,2008,35(5):776
【论文发表时间】2008-01-28 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】园艺学

【题目】早熟加工番茄新品种新番20号的选育
【中文关键词】加工番茄; 新番20号; 一代杂种; 早熟;
【英文关键词】Processing tomato; Xinfan No.20; F1 hybrid; Early maturity;
【中文摘要】新番20号是以TD-09-4-1-2为母本、以TD-06-5-2-3为父本配制而成的早熟加工番茄一代杂种。植株有限生长类型,果实椭圆形或方圆形,鲜红色,平均单果质量64g,番茄红素含量110mg · kg-1(FW),可溶性固形物4.76%;从出苗至85%果实红熟约108d(天),成熟期集中,每667m2产量6500kg左右,已在新疆、甘肃、内蒙古等地推广种植630hm2。
【英文摘要】Xinfan No.20 is a new F1 hybrid with early-maturity and is good for processing.It is developed by crossing inbred line TD-09-4-1-2 and TD-06-5-2-3.Its fruit shape is oval or square round with dark red color.The average fruit weight is 64 g.The lycopene content is 110 mg · kg-1.The content of soluble solid is 4.76 %.It takes about 108 days from seedling sprout to 85 % fruit ripening.The average yield is over 97.5 t · hm-2.It has been extended to Xinjiang,Gansu,Inner Mongolia,etc.with a total area of 630 hm2.
【语种】中文
【第一作者】李 艳
【通讯作者】李 艳
【期刊名称、卷期、页码】中国蔬菜,2008(1):30-31
【论文发表时间】2007-11-21 00:00:00
【引文索引类型】其他
【引文索引号】0

【学科分类】园艺学

【题目】加工番茄-石红208
【中文关键词】加工番茄;石红208
【英文关键词】无
【中文摘要】1 特征特性该品种为中熟品种,有限生长类型,长势中等,株高70~75cm.果实椭圆形,果个大,大小较匀,平均单果重75~80g,最大可达100g,果实色泽红,果实耐压力好,产量高.番茄红素含量≥13mg/100g鲜重,可溶性固型物≥5.3%,果实非常耐贮运.
【英文摘要】无
【语种】中文
【第一作者】韩海
【通讯作者】韩海
【期刊名称、卷期、页码】新疆农垦科技,2008 (l):43-44
【论文发表时间】2007-12-15 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】园艺学

【题目】加工番茄早熟性状的相关性分析及QTL定位
【中文关键词】加工番茄; 早熟性; 相关性分析; QTL定位;
【英文关键词】processing tomato; earliness; correlation; QTL mapping;
【中文摘要】利用加工番茄TD-13和TD-41杂交的185个F2群体,分析与早熟性相关的各生育期性状,并对相关性状进行QTL分析。结果表明:成熟期与始花期、始花节位、结果期、开花至成熟天数呈极显著正相关,与早期结果数,平均单果重相关性不显著。利用复合区间作图法检测到与加工番茄早熟性状相关的12个QTLs。控制始花期和始花节位的QTLs分别检测到3个,控制成熟期和平均单果重的QTLs分别检测到2个,控制开花至成熟天数和早期结果数的QTL分别检测到1个。
【英文摘要】185 F2 segregating population which were derived from a cross between TD-13 and TD-41 were used to analyze the correlation of earliness traits between growth periods.And QTLs detection of these traits were employed in this population.The results showed that the days of maturity were positively correlated with the days of first flowering,first flowering node,fruiting period,the days from flowering to maturity,but no correlation with fruite number,average weight of each frute.A total of 12 QTLs were detected by composite interval mapping, including 3 QTLs for the days of first flowering and first flowering node; 2 QTLs for maturity and average weight of each fruite; 1 QTL for flow ering and the days from flowering to maturity.
【语种】中文
【第一作者】位江静
【通讯作者】薛 琳
【期刊名称、卷期、页码】北方园艺,2010,(10) :106-108
【论文发表时间】2010-03-01 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】园艺学

【题目】利用高光谱数据和叶面积指数对加工番茄产量估算的研究
【中文关键词】冠层高光谱; 光谱变量; 叶面积指数; 估算模型;
【英文关键词】canop hyperspectral; hyperspectral parameters; estimation mode;
【中文摘要】以ASD FieldSpec光谱仪实测了大田中不同生育期加工番茄的冠层高光谱、叶面积指数及作物的产量,采用单时相线性逐步回归和复合回归,建立了加工番茄光谱变量-叶面积指数与产量的复合光谱估产模型,并对模型的估算结果进行了初步分析。分析结果表明,在青熟期光谱参数与叶面积指数相关性最大,而其他时期的光谱变量与产量相关性均达到了显著水平;复合回归模型以4个生育期与产量的复合回归最为理想。
【英文摘要】Canopy reflectance of processing tomato was measured with ASD FieldSpec at different growth stages; leaf area index (LAI) and processing tomato yields were collected. The relationship between canopy reflectance LAI and processing tomato yield was analyzed with single phase Linear Stepwise Regression and multivariate regression. The results revealed that there was a good relativity

between hyperspectral data and leaf area index at green maturing period, and was not significant correlation in other period.The ideal compound regression model of compound regression between production and 4 growth periods of tomato was obtained.
【语种】中文
【第一作者】樊科研
【通讯作者】田丽萍
【期刊名称、卷期、页码】湖北农业科学,2009,48(2):462-464
【论文发表时间】2008-09-28 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】园艺学

【题目】加工番茄光响应特征及其与产量的相关性研究
【中文关键词】加工番茄; 产量; 光响应特征参数; 相关性;
【英文关键词】Processing tomato; Yield; Photoresponse characteristic parameters; Relationship;
【中文摘要】[目的]研究加工番茄光响应特性及其与产量的相关性。[方法]用Li-6400在设定的光强梯度下对不同品种加工番茄进行光响应测定,对光响应曲线加以研究分析。根据光响应曲线的拟合方程计算最大光合速率,光饱和点,光补偿点,暗呼吸和表观量子效率等相关参数,把产量与这些参数进行相关性分析。[结果]结果表明,产量与最大光合速率、光饱和点、光补偿点、暗呼吸和表观量子效率等相关参数之间存在显著相关关系。[结论]可为加工番茄的田间栽培和高光效育种提供理论依据。
【英文摘要】[Objective] The research aimed to study the photoresponse characteristics of processing tomato and the relationship between its and yield.[Method] The response of photosynthesis rate to light intensity of different varieties were measured with Li-6400 under the different gradients,and the light response curves were researched and analyzed.The characteristic parameters including maximum photosynthetic ratio(Pnmax),light saturation point(LPS),light compensation point(LCP),dark respiration(Rd),apparent quantum efficiency (AQY) were calculated from those simulated equations. The relationship between yield and these characteristic parameters was analyzed. [Result] The results showed that there were significant relationship between yield and those characteristic parameters. [Conclusion] The study can provide theoretical basis for the cultivation and high light efficiency breeding of processing tomato.
【语种】中文
【第一作者】李英才
【通讯作者】田丽萍
【期刊名称、卷期、页码】安徽农业科学,2009,37(7):2853-2588
【论文发表时间】2008-12-11 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】园艺学

【题目】加工番茄叶面积的遥感估算模型
【中文关键词】叶面积指数(LAI); 加工番茄; 冠层光谱变量; 遥感估算模型;
【英文关键词】LAI; Processing tomato; Canopy spectral parameters; Estimate models;
【中文摘要】研究了不同水肥条件下加工番茄里格尔87-5和石红-206的冠层高光谱变量与叶面积指数的关系。发现加工番茄叶面积指数(LAI)与归一化植被指数(NDVI)和两个抗大气植被指数具有很强的相关性,r值均达到极显著水平。选取各个生育时期相关性最好的光谱变量与同步测定的叶面积指数建立LAI的遥感估算模型。苗期、坐果期、红熟期和采收期指数模型最好,青熟期一元三次模型最好,R2分别为0.6162、0.7426、0.6531、0.6532和0.6531。将建立的模型进行精度分析预测R2值分别为0.573、0.7359、0.5677、0.5504和0.6286。
【英文摘要】Studied the relationships between processing tomato canopy spectral parameters under the diffrence of the nitrogenous nutrition level and water level and LAI. The results showed that there were significant correlations between the canopy spectral parameters(NDVI、VARI_green and VARI_700)and LAI. And established the hyperspectral sensing estimation models about LAI of processing tomato
【语种】中文

【第一作者】杜培林
【通讯作者】田丽萍
【期刊名称、卷期、页码】北方园艺,2008(6):25-27
【论文发表时间】2008-01-30 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】园艺学

【题目】加工番茄光合特性的研究
【中文关键词】加工番茄; 光合特性; 光合速率;
【英文关键词】Tomato; Leaf; Photosynthetic characteristics; Photosynthetic rate; Diurnal variation;
【中文摘要】以里格尔87-5、石红206、石红3号3个加工番茄品种为材料,对其光合特性进行研究。结果表明,在开花期不同品种的加工番茄在9:00~11:00的净光合速率(Pn)不同,里格尔87-5的Pn最大;3个品种在开花期的Pn日变化均呈明显的双峰曲线,2个峰值分别出现在11:00和17:00,13:00左右出现午间的光抑制现象;此外,叶片气孔导度与叶片光合速率的日变化趋势基本一致,呈平行变化趋势,说明气孔导度是影响光合速率的直接因子。
【英文摘要】In order to afford a theory for tomato planting in the dry area,the characteristics of photosynthesis in tomato leaf was studied.The results showed that the photosynthetic rate(Pn) of the different tomato varieties were different at 9:00 and 11:00 in flowering period,and Pn of Ligeer 87-5 was the highest.The diurnal variation of photosynthetic rate(Pn) in tomatoe leaf were in double-peak curves with decreasing feature at noon.The peak of peripheral leaf was recorded at 11 :00 and 17 :00.The bottom of peripheral leaf was recorded at 13 :00. Stomatic conductance was the key factor of middayslump.
【语种】中文
【第一作者】李玉巧
【通讯作者】田丽萍
【期刊名称、卷期、页码】安徽农业科学,2007,35(15) :4436-4437 ,4412
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【引文索引类型】其他
【引文索引号】0
【学科分类】园艺学

【题目】叶面喷施NaCl对加工番茄果实耐挤压性和品质的影响
【中文关键词】加工番茄; NaCl处理; 果实品质; 果实硬度; 果实耐压力;
【英文关键词】processing tomato; sodium chloride treatment; fruit quality; fruit firmness; fruit compression tolerance;
【中文摘要】以加工番茄品种里格尔87-5和石红12为试材,研究了在果实发育期叶面喷施不同质量浓度NaCl对果实耐挤压性和品质的影响。结果表明,在适宜质量浓度范围内,叶面喷施NaCl可以提高加工番茄果实硬度、耐压力和产量,改善果实品质,但两个品种对NaCl质量浓度的反应有一定差异。对品种里格尔87-5,3.0 g/L NaCl处理使产量和果实硬度极显著提高,果实耐压力、可溶性总糖、还原糖和Vc含量增加;6.0 g/L NaCl处理可显著增加还原糖和可溶性总糖含量,对果实硬度、耐压力、Vc含量和产量的影响不大;9.0 g/L NaCl处理使果实硬度极显著降低,并对果实耐压力和产量有一定的不利影响。对品种石红12,3.0 g/L NaCl处理能显著提高产量,并有增加可溶性总糖、还原糖、Vc含量、果实硬度和耐压力的趋势;6.0 g/L NaCl处理能极显著提高产量,显著增加果实耐压力和Vc含量,但还原糖含量显著降低;9.0 g/L NaCl处理则显著降低果实耐压力和还原糖含量,对其他指标的影响不大。综合各指标分析认为,NaCl处理加工番茄的适宜质量浓度为3.0-6.0 g/L。
【英文摘要】The effects of foliage spraying of sodium chloride at different qualities and concentrations during fruit development on fruit firmness,compression tolerance and quality etc were studied with two processing tomato varieties Ligeer 87-5 and Shihong 12 as the experiment materials.The results showed that foliage spraying of sodium chloride could increase the firmness,compression tolerance,quality and yield of fruit,but the same concentration of sodium chloride might result differently on different cultivars.For cv. Ligeer 8725, 3.0 g/L sodium chloride treatment most significantly increased the f ru it yield and compression tolerance, and increased total sugar content, fruit firmness and contents of reducing sugar and vitam in C. 6.0 g/L sodium chloride treatment significantly raised the contents of reducing sugar and vitam in C, but had no significant influence on fruit firmness, compression tolerance, yield and the content of total soluble sugar. 9.0 g/L sodium chloride treatment most significantly decreased fruit firmness, and had bad effects on fruit compression tolerance and yield. For cv. Shihong 12, 3.0 g/L sodium chloride treatment significantly increased the yield, and had the trend to increase the contents of total soluble sugar, reducing sugar, vitamin C and fruit firmness and compression tolerance. 6.0 g/L

sodium chloride treatment most significantly increased the yield, significantly increased fruit compression tolerance and vitamin C content,but greatly decreased reducing sugar content. 9.0 g/L sodium chloride treatment significantly decreased fruit compression tolerance and reducing sugar content, but had no obvious influence on the other index. In comprehensive consideration, the suitable concent ration of sodium chloride treatment on processing tomato variety falls in the range of 3.0- 6.0 g/L .

【语种】中文
【第一作者】程智慧
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【期刊名称、卷期、页码】西北农林科技大学学报(自然科学版),2007,35(2): 97-100,105
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【引文索引类型】其他
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【学科分类】园艺学

【题目】干旱区滴灌覆膜条件下加工番茄对钙镁铁的吸收及分配规律研究
【中文关键词】覆膜; 滴灌; 加工番茄; 养分吸收; 分配规律;
【英文关键词】drip irrigation; covering membrane; processing tomato; absorbed nutrient; law of distribution;
【中文摘要】在覆膜滴灌条件下,研究了加工番茄在不同生育期对钙镁铁的吸收及分配规律,以及土壤在不同生育期的供肥规律。结果表明:(1)有效钙在同一生育期的吸收量为叶>茎>根>果;在不同生育期根和茎对有效钙的吸收规律相似,比较稳定;叶对钙的吸收,随着生育期的推移,逐渐升高。(2)有效镁在整个生育期分配于茎、叶中较多,根、果中较少;同时对有效镁的吸收,定植期各部位略高,其余各个时期又趋于稳定,变化幅度不大。(3)铁的测定由于污染原因,以致测试结果不能正确反映植株对铁的吸收规律。(4)土壤在不同生育期的供肥规律各不相同。
【英文摘要】In this paper,nutrient absorption and distribution of Ca,Fe,Mg in processing tomato were studied under plant mulched drip irrigation.The result indicated that(1)in a growthing stage,the content of Ca absorbed in leaf is more than in stem,root,and fruit.Along with growth stage goes on,the content of Ca becomes more and more.(2)In all growth stage,the content of Mg is increased more in stem and leaf than in root and fruit.As well as above,the content of Mg in transplanting stage is increased more than in other stages. (3) Because of the pollution ,the content of Fe in plant can not be obtained by the normal absorption law. (4) In different stages , the concentration of Ca , Mg , Fe in soil is differential .

【语种】中文
【第一作者】薛琳
【通讯作者】薛琳
【期刊名称、卷期、页码】新疆农业科学,2006,43(3):2.9-212
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【引文索引类型】其他
【引文索引号】0
【学科分类】园艺学

【题目】加工番茄光合日变化及影响因子的研究
【中文关键词】加工番茄; 净光合速率;日变化;群体光合;气孔导度;相关分析
【英文关键词】Processing tomato;Net photosynthetic rate;The Diurnal change; Canonv annarent photosynthetic rate; Stomatal conductance to H202; Correlation analysis
【中文摘要】用Li-6400和同化箱对加工番茄G-2单叶和群体光合日变化进行测定并对输出数据加以研究分析.结果表明:G-2光合日变化曲线呈双峰型并具有"午睡"现象;与日变化显著相关的影响因子有气孔导度、胞间CO2浓度、蒸腾速率和大气CO2浓度,最主要的影响因子是气孔导度,气孔导度大净光合速率就高,可为田间栽培和高光效育种提供理论依据.
【英文摘要】The Diurnal changes of net photosynthetic rate of Leaf Blade and canonv annarent photosynthetic rate of G-2 were measured with Li-6400 and Assimilation box. The results studied on the datas indicated that the photosynthetic rate of G-2 took on a double-peak curve and "noonbreak" phenomenon. Stomatal conductance,intercellular CO2 concentration, transpiration rate and atmospheric CO2 concentration were significant correlation factors with photosynthetic rate,especially stomatal conductance. The net photosynthetic rate was big with increesing of stomatal conductance.It can provide theoretieal basis for the cultivation and high photosynthetic rate breeding.

【语种】中文
【第一作者】李英才
【通讯作者】田丽萍
【期刊名称、卷期、页码】北方园艺,2009(4):4-7
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【引文索引类型】其他
【引文索引号】0
【学科分类】园艺学

【题目】番茄果实可溶性固形物含量与果实指标的相关性研究
【中文关键词】番茄; 可溶性固形物含量; 果实指标; 相关性;
【英文关键词】tomatoes; soluble solids content; fruit indication; relations];
【中文摘要】为探究影响可溶性固形物含量(SSC)的密切关系因子,及为高固形物品种的选育和番茄采后加工出高质量的番茄酱产品提供依据,对6个番茄品种果实发育、成熟后贮藏过程中SSC的动态变化及其与其果实指标的相关性进行了分析。结果表明:在影响番茄SSC的各种指标中,品种间差异较大,品种TD41×TD13(X2)SSC最低,品种HT16-①-①-①(X6)SSC最高;在番茄的不同成熟期,SSC先是增加,增加到一定含量时就略有下降,但品种HT16-①-①-①(X6)却是先下降后直线上升,这可能与品种的早熟有关,与田间观察一致。TD13(X3)和HT16-①-①-①(X6)两个番茄品种,在采摘后放置过程中,SSC先降后升,第4d时达到了最高,后基本保持不变,到第9d时SSC又开始下降。番茄SSC与可溶性糖含量呈显著相关,相关系数为0.840;与有机酸含量呈极显著相关,相关系数为0.946;与Vc含量呈极显著相关,相关系数为0.952;与番茄红素含量呈中度正相关,相关系数为0.545;与单果重呈轻度负线性相关,相关性系数为-0.140;与果型指数也呈轻度负线性相关,相关性系数仅为-0.077。
【英文摘要】In order to find the tight related factors that contribute to the SSC,to provide proof for the choosing and cultivating of tomatoes and the producing high-quality tomato jam products,our experiment chooses six types of tomatoes to seek the relations between tomatoes,ssc and other fruit indication,through two processes of fruit developing periods and fruit storage time.The outcome shows that varieties is the most important.In all the effects that influence soluble solids content(SSC),TD 41 ×TD 13(X 2)contains the least SSC while HT16 2 ①2 ①2 ①(X6) contains t he most . In t he different growing periods of t he f ruit s , SSC increased at first ,when it comes to a point ,it will decrease ,while HT16 2 ①2 ①2 ①(X6) decreases at the early stage ,then increase to the top ,which may be explained by its later maturiaty. In the process of the tomatoes storage ,SSC decreases at first t hen increases slowly. On t he fourth day ,it reaches the top and keep s steady in the following days ,when the ninth day comes ,ssc decreases again. Ssc has a significant positive relation with the suluble sugar ,Pearson Correlation is 0. 840 ;a greatly significant positive relation with content of the organic arid ,Pearson Correlation is 0. 946 and a greatly significant positive relation with Vc , Pear son Correlation is 0. 952 ,a positive relation with ycopene when the γ value equals 0. 545. But ssc has negative relation with the weight of the every fruit when the γ is - 0. 140 ,also a negative relation with the types of the fruit ,the γ equals - 0. 077 ,the two relations are too light .
【语种】中文
【第一作者】罗 颖
【通讯作者】田丽萍
【期刊名称、卷期、页码】《石河子大学学报:自然科学版》2010,28(1):23-27
【论文发表时间】2009-09-15 00:00:00
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【引文索引号】0
【学科分类】园艺学

【题目】氮磷钾配施对加工番茄产量及生理特性的影响
【中文关键词】氮磷钾;配施;加工番茄;产量;生理特性;影响
【英文关键词】无
【中文摘要】覆膜滴灌栽培是新疆兵团农业正在大面积推广应用一种先进技术, 已成功应用在棉花的种植上, 它不但节水, 而且还大大提高肥料的利用效率。我们就覆膜滴灌条件下, 不同的氮磷钾肥配施对加工番茄的产量及生理特性的影响作了初步研究, 现将试验结果报道如下。
【英文摘要】无

【语种】中文
【第一作者】田丽萍
【通讯作者】褚贵新
【期刊名称、卷期、页码】《长江蔬菜》,2006(6):51-52
【论文发表时间】2006-03-01 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】园艺学

【题目】低温对加工番茄光合生理特性的影响
【中文关键词】低温; 加工番茄; 光合生理; 影响;
【英文关键词】Low temperature; Tomato; Photosynthetic physiology; Effect;
【中文摘要】以里格尔87-5、石红206、石红3号3个加工番茄品种为材料,对低温下其光合生理特性进行研究,旨在为加工番茄的高产栽培,品种选育和逆境鉴定方法提供理论基础。结果表明:加工番茄随着温度的降低,表现为Pn降低、Chl含量下降、MDA和可溶性蛋白含量升高,且均存在着品种间差异,具有较高Pn的里格尔87-5和石红206较石红3号对于低温逆境的适应性要强。
【英文摘要】The research was three tomatoes(Riegel 87-5,Shihong 206,Shihong 3) varieties physiological property under low temperature.In order to provide tomato s theoretical principle of high-yield culture technique,varietiey selection,adversity identify method.The results indicated that the tomato s Pn and the contents of tomato s Chl was reduced,that MDA and dissolubility protein of tomato was raised with the temperature was reducing,at the same time between varieties was discrepancy,and Riegel 87-5 and Shihong 206 suitabilities were more powerful than Shihong 3.
【语种】中文
【第一作者】薛 琳
【通讯作者】薛 琳
【期刊名称、卷期、页码】北方园艺,2008(7):11-13
【论文发表时间】2008-02-20 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】园艺学

【题目】加工番茄穴盘育苗生产技术研究
【中文关键词】加工番茄; 穴盘; 育苗移栽;
【英文关键词】Processing tomato; Cell tray; Transplant;
【中文摘要】自2005年以来,我国加工番茄生产方式从以直播为主向育苗移栽转变。从温室、基质、穴盘、品种选择、水肥管理、病虫草害防治、生长调控和练苗、秧苗定植等方面阐述了加工番茄穴盘育苗。
【英文摘要】Production of processing tomato in China has been from direct seeding to transplanting since 2005.This article gives a detailed description on raising tomato seedling,including greenhouse,growing media,transplant trays,variety selection,irrigation and fertilization management,pest and disease management,growth regulation,hardening transplants,and seedling planting.
【语种】中文
【第一作者】王建江
【通讯作者】王建江
【期刊名称、卷期、页码】北方园艺2009(2):123-126
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【引文索引类型】其他
【引文索引号】0
【学科分类】园艺学

【题目】陕西加工番茄制种基地现状调查
【中文关键词】加工番茄;陕西;制种基地;现状调查

【英文关键词】无
【中文摘要】陕西是我国最早的杂交番茄制种基地之一,随着加工番茄杂交种的需求量不断增加,制种面积也在逐年扩大。但近两年出现了一些问题,制种面积有所减少,而且部分制种户生产热情不高。笔者通过几年来在陕西蹲点调查,将个人了解到的一些情况和建议整理总结如下。
【英文摘要】无
【语种】中文
【第一作者】曾沂辉
【通讯作者】曾沂辉
【期刊名称、卷期、页码】西北园艺2008(3):53
【论文发表时间】2008-01-27 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】园艺学

【题目】直立类型加工番茄栽培技术
【中文关键词】直立; 加工番茄;
【英文关键词】无
【中文摘要】讲述了新兴的加工番茄特殊种群—直立类型加工番茄生物学性状和栽培技术要点,重点阐述了直立加工番茄的矮化、密植和高产栽培技术,利用该技术在正常情况下可获得90000~150000 kg/hm2的产量。
【英文摘要】无
【语种】中文
【第一作者】曾沂辉
【通讯作者】曾沂辉
【期刊名称、卷期、页码】内蒙古农业科技2007(7):214
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【引文索引类型】其他
【引文索引号】0
【学科分类】园艺学

【题目】田间管理对加工番茄品种特性的影响
【中文关键词】加工番茄;田间管理;品种特性;影响
【英文关键词】无
【中文摘要】加工番茄在我国大面积栽培已有十余年时间。随着加工番茄杂交种的研发推广, 品种越来越多,但是生产中产量提高幅度并不大,主要原因是种植户对加工番茄的品种特性和生长习性等并未完全了解,甚至在某些认识上存在误区。一般来说,基因是决定一个品种特性表现的内在因素,而栽培环境对品种特性的影响也相当大。一个优良品种的优良特性要得以表现,必须要创造与其相适应的栽培环境。如果在田间管理中采取措施不当,往往使该品种的田间表现与品种自身具有的熟性、产量、品质、抗病性等特性大不相同。
【英文摘要】无
【语种】中文
【第一作者】曾沂辉
【通讯作者】曾沂辉
【期刊名称、卷期、页码】西北园艺2010(4):53
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【引文索引类型】其他
【引文索引号】0
【学科分类】园艺学

【题目】hp-1和hp-2 基因对番茄营养生长及色素积累的影响
【中文关键词】hp-1 ; hp-2 ; 番茄 ; 营养生长 ; 色素

【英文关键词】hp-J;hp-2;Tomato;Nutritional growth;Pigment
【中文摘要】以9套含有纯合hp-1和hp-2基因的番茄自交系为材料,通过对苗期营养生长和果实色素积累有关特征比较发现:在光周期生长条件下,所有含有hp-1和hp-2基因的番茄自交系均表现出相似的特征。即与不含hp基因对照相比:幼苗下胚轴和植株节间显著受到抑制,花期延迟(p<0.01);子叶、胚轴、花萼以及果实中叶绿素、花青素和番茄红素显著提高;hp-1和hp-2基因在不同遗传背景下表现度不同。
【英文摘要】In order to compare the characteristics of nutritional growth and pigment accumulation in different genetic background,nine tomato inbred lines containing pure hp-1 and hp-2 gene were used as experimental materials.The results suggested that NIL(Liger nearly isogenic lines)contained consistent characteristics with hp mutant in photoperiod growth condtion;such as,they had shorter hypocotyls,elevated levels of anthocyanin in cotyledons,hypocotyls and calyces compared with control.Furthermore,all inbred lines containing hp gene had later flowering time(days)and shorter internode;further research on fruit pigment showed that chlorophyll and locopene content were significantly enhanced.But hp-1 and hp-2 gene had inconsistent expressivity in different genetic background.
【语种】中文
【第一作者】马金竹
【通讯作者】王景安
【期刊名称、卷期、页码】华北农学报 2008,23(6):15-19
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【学科分类】园艺学

【题目】利用等位基因特异性PCR技术检测番茄高色素基因hp1和hp2的单核苷酸多态性
【中文关键词】高色素基因; 单核苷酸多态性(SNP); 等位基因特异性PCR; 番茄;
【英文关键词】high pigment genes; single nucleotide polymorphism(SNP); allele-specific PCR; tomato;
【中文摘要】番茄(Lycopersicon esculentem)高色素基因hp1和hp2突变体与野生型基因相比均发生了单碱基的点突变,用常规PCR技术很难区分。实验对碱基错配类型和位置与特异性PCR的关系进行了研究。结果表明,引入TA-TG双碱基错配的引物,退火温度在49.3±0.1℃时能把hp1基因的突变位点和野生型的对应位点区分开来。引入T-C碱基错配的引物,退火温度在53.5±0.1℃时能把hp2基因的突变位点和野生型的对应位点区分开来。错配碱基在引物3 端的位置对PCR的特异性影响不大。
【英文摘要】Comparing with their corresponding wild allele genes, a single nucleotide mutation was taken place in high pigment genes hp1 and hp2 of tomato(Lycpersicon esculentum), respectively, which was very difficult to be discriminated by normal PCR technique.In this experiment, the relationship between specific PCR and mismatched bases as well as their positions were studied.Results showed that the primer with double-base mismatch TA-TG could distinguish mutation location of hp1 from its wild allele location at annealing temperature 53.5+0.1 ℃. The position of mismatched bases at 3' end of primers had little effect on specificity of PCR.
【语种】中文
【第一作者】金凤媚
【通讯作者】刘仲齐
【期刊名称、卷期、页码】农业生物技术学报 2009,17 (5):851-857
【论文发表时间】2009-01-03 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】园艺学

【题目】加工番茄在中国的产业化进程及其发展潜力
【中文关键词】加工番茄; 品种改良; 产量; 品质; 抗病性;
【英文关键词】processing tomato; variety improvement; yield; quality; disease resistance;
【中文摘要】对加工番茄新品种的改良潜力和产业化进程中存在的问题进行了分析和讨论,认为组织多学科联合的科技队伍进行攻关,对新品种的产量潜力和品质特性进行持续改良,才能从原材料上保证我国加工番茄产业的持续高速发展。

【英文摘要】The potential of developing new processing tomato varieties and problems in industrialization were analyzed and discussed. It is concluded that scientists in multi-disciplines should be organized to solve key problems. Yield potential and quality characteristics of new varieties should be improved continuously, which would guarantee the steady high speed of developing processing tomato from original material in China.
【语种】中文
【第一作者】李建华
【通讯作者】刘仲齐
【期刊名称、卷期、页码】天津农业科学2009(5):26-29
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【引文索引类型】其他
【引文索引号】0
【学科分类】园艺学

【题目】加工技术和育种技术对美国番茄生产的影响
【中文关键词】番茄; 加工技术; 育种技术; 美国;
【英文关键词】tomato; processing technique; breeding technique; America;
【中文摘要】简要介绍了番茄驯化和栽培发展的历史。对美国罐头工业和株系育种在番茄生产中发挥的作用、遗传资源利用现状和育种技术的发展历程、番茄及其制品的消费现状等方面进行了述评,分析了加工技术和新品种改良技术对美国番茄生产的深远影响。
【英文摘要】History of evolving and culturing tomato was briefly introduced. Reviews were made on the roles played by canning industry and single plant line breeding in tomato production, utilization of genetic germplasms and procedure of breeding technique development, situation of consuming tomato and its products. Profound effects of processing and new variety improving techniques on tomato production in America were analyzed.
【语种】中文
【第一作者】李建华
【通讯作者】刘仲齐
【期刊名称、卷期、页码】天津农业科学2010(4):21-24
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【学科分类】园艺学

【题目】优质鲜食红辣椒新品种‘粤红1号’
【中文关键词】辣椒; 品种;
【英文关键词】hot pepper; Capsicum annuum L.; cultivar;
【中文摘要】‘粤红1号’是鲜食红辣椒早中熟一代杂种,适合在南方地区露地栽培。青熟果绿色,羊角形,无棱沟,果长17.7cm,宽2.0cm,果肉厚0.3cm,单果质量30g。红熟果大红色,鲜艳有光泽,果面光滑,果条直,硬度好,耐贮运,辣味浓,品质佳。
【英文摘要】‘Yuehong 1’is a new mid-early maturing cultivar of table hot pepper hybrid suitable for south China area by outdoor planting pattern. The unripe fruit is green, sheep-horn shaped with good marketable character that is 17.7 cm length, 2.0 cm width and 0.3 cm flesh thickness. The single fruit weight is 30 g. Moreover, the ripe fruit is red with fresh and smooth appearance, high pungent as well as excellent storage capacity.
【语种】中文
【第一作者】李 颖
【通讯作者】王恒明
【期刊名称、卷期、页码】园艺学报2009,36(4):619
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【学科分类】园艺学

【题目】早中熟优质辣椒新品种‘汇丰2号’
【中文关键词】辣椒; 品种;
【英文关键词】Capsicum annuum L.; cultivar;
【中文摘要】‘汇丰2号’辣椒是早中熟优质杂交一代品种,果实羊角形,青果绿色,成熟果大红色。果长18.0~18.2cm,果宽2.53~2.64cm,肉厚0.31~0.32cm,单果质量36.4~39.4g,单株产量0.29~0.55kg。商品性好,耐贮运,品质佳。中抗疫病,耐热性、耐寒性、耐涝性和耐旱性均强。适合在南方地区露地栽培。
【英文摘要】‘Huifeng 2 is a new mid-early maturing cultivar of hot pepper hybrid suitable for south China area by outdoor planting pattern.The shape of unripe fruit is sheep-horn,with green skin,about 18.0-18.2 cm in length,2.53-2.64 cm in width and 0.31-0.32 cm in flesh thickness.The single fruit weight is 36.4-39.4 g.Moreover,the ripe fruit has smooth appearance,high pungency and excellent storage capacity.
【语种】中文
【第一作者】王恒明
【通讯作者】李 颖
【期刊名称、卷期、页码】园艺学报2010,37(2):337-338
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【学科分类】园艺学

【题目】辣椒恢复系选育及三系配套研究
【中文关键词】辣椒; 雄性不育; 恢复系; 三系配套;
【英文关键词】Capsicum annuum L.; male sterile; restorer line; three lines combination;
【中文摘要】利用辣椒雄性不育系与恢复源材料杂交,以其F1及后代高可育株作母本,再与优良辣椒自交系进行连续回交,在不育细胞质的基础上,将自交系的优良性状逐步转育到恢复源中,选育出新的具有不育系细胞质基因"S"的辣椒强优恢复系,并实现辣椒"三系配套"。
【英文摘要】Male sterile lines of hot pepper(Capsicum annuum L.) were crossed with restoring source plants. The progeny (F1) of the crosses and the fertile plants from the progeny of the F1 were used as male parent to continuously backcross with the desirable self lines in order to transfer the desirable traits of the self lines into the restoring source plants based on the male-sterile cytoplasm. New high restorer lines of hot pepper containing male-sterile cytoplasm gene‘S’were selected, and three lines of hot pepper were combined successfully.
【语种】中文
【第一作者】王恒明
【通讯作者】李 颖
【期刊名称、卷期、页码】热带作物学报2009,12(30):1736--1739
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【学科分类】园艺学

【题目】辣椒种质资源的分子评价
【中文关键词】辣椒; 种质资源; 分子评价;
【英文关键词】Capsicum; germplasm resources; molecular evaluation;
【中文摘要】系统介绍了辣椒种质资源冗余、遗传狭窄性分子评估以及辣椒种间亲缘关系和种内遗传多样性分子评价的主要进展。列举了一些优异种质特异基因的分离与克隆,并指出了辣椒种质资源研究正朝着资源保存核心化、基因发掘规模化、资源评价精细化的方向发展。
【英文摘要】Redundancy of pepper germplasm resources,narrow genetic background,intra-specific genetic diversity and inter-specific phylogenetic relationships by molecular evaluation were reviewed.This article listed the isolation and cloning of the specific gene from excellent germplasm.At the same time the author indicated that developing trends for capsicum germplasm resources evaluation will be core collection of capsicum germplasm resources,large scale discovery of genes and precise molecular evaluation of

germplasm resources.
【语种】中文
【第一作者】徐小万
【通讯作者】徐小万
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【学科分类】园艺学

【题目】辣椒苗期耐热耐湿鉴定方法的研究
【中文关键词】辣椒; 苗期; 耐热耐湿; 鉴定;
【英文关键词】hot pepper (Capsicum annuum L.); seedling stage; high temperature and air humidity resistance; identification;
【中文摘要】以辣椒各生理指标的耐逆系数为衡量辣椒单项耐逆能力大小的指标,用聚类分析法、主成分分析法、隶属函数法对辣椒不同品种(系)耐热耐湿性予以综合评价。综合评价的结果,将10个供试品种(系)按耐热耐湿由强到弱划分为4级:高度耐热耐湿(I)、中度耐热耐湿(G、J、W、H)、不耐热耐湿(C、E、F、K)和极不耐热耐湿(D)。几种关于辣椒品种(系)耐热耐湿综合评价的方法具有较好的一致性,同时利用耐热耐湿性的综合评价值与单项指标间建立的最优回归方程可以预测其他辣椒品种(系)耐热耐湿性大小。
【英文摘要】The high temperature and air humidity resistance coefficient of single character were used to value the single capability of high temperature and air humidity resistance of hot peper(Capsicum annuum L.), and the methods of cluster analysis, principal component analysis and subordinate function were used in comprehensive evaluation for high temperature and air humidity resistance of hot pepper varieties at the seedling stage. On the basis of correlation analysis between the high temperature and air humidity humidity resistance obtained from the above components in varieties , the 10 tested varieties could be divided into four classes of tolerance:most tolerant variety was I, followed by G, J, W, H. Less tolerant were C , E , F , K.The rest variety was not tolerant at all . The results showed that the above comprehensive evaluation methods for high temperature and air humidity resistance of hot pepper varieties at the seedling stage were well coincident . At the same time ,the evaluation of high temperature and air humidity resistance could be forecasted by using the best regressive function that was founded by the comprehensive value of high temperature and air humidity resistance and the value of single index.
【语种】中文
【第一作者】徐小万
【通讯作者】徐小万
【期刊名称、卷期、页码】核农学报2009,23(5):884-890
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【学科分类】园艺学

【题目】辣椒耐高温高湿生理生化性状灰色关联度分析
【中文关键词】辣椒; 耐高温高湿性; 生理生化性状; 灰色关联度分析;
【英文关键词】Hot pepper; High temperature and air humidity resistance; Physic-biochemical traits; Gray correlation analysis;
【中文摘要】采用灰色关联分析(Gray correlation analysis),探讨辣椒生理生化性状与耐高温高湿的关系。对分别处于高温高湿和正常条件下的10个辣椒品种(系)21个生理生化性状耐高温高湿系数进行了分析和评价。依据各品种(系)的加权关联度对参试品种(系)进行了聚类分析,参试品种(系)中极耐高温高湿的品种(系)有I、G二个品种(系)。与耐高温高湿关联度最大的是花青素含量、过氧化氢含量、超氧化物歧化酶活性和脱氢抗坏血酸还原酶活性4个生理生化性状,它们在高温高湿双重逆境胁迫下所受的影响最大,与辣椒耐高温高湿性关系最密切。因而可以选用花青素含量、过氧化氢含量、超氧化物歧化酶活性、脱氢抗坏血酸还原酶活性等生理生化性状进行辣椒耐高温高湿的以性状为基础的选择,以提高选择效率。
【英文摘要】This paper aims at probing the relationship between physic-biochemical traits and the high temperature and air humidity resistance of hot pepper varieties.A total 21 physic-biochemical traits that measured in 10 hot pepper varieties at high temperature and air humidity and control conditions,were analyzed using gray relational grade analysis method.Gray correlation degrees facilitated in identifying the high temperature and air humidity resistance of hot pepper.And the cluster based on the relation

degree of 10 hot pepper varieties. Varieties that had the strongest high temperature and air humidity resistance among the 10 hot pepper varieties were I and G. It was concluded that the physicbiochemical traits had the closest relationship with the high temperature and air humidity resistance of hot pepper , and these traits were significantly influenced by high temperature and air humidity stress ,thus had the greatest relation degree with the high temperature and air humidity index. So the physicbiochemical traits including leaf flower pigment content , H2O2 content , SOD , DHAR could be used.

【语种】中文
【第一作者】徐小万
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【学科分类】园艺学

【题目】Study on Agrobacterium-mediated transformation of pepper with Barnase and Cre Gene.
【中文关键词】无
【英文关键词】pepper (Capsicum annuum L.); genetic transformation; male sterile; TA29-Barnase; Crellox system
【中文摘要】无
【英文摘要】This study was designed to control plant fertility by cell lethal gene Barnase expressing at specific developmental stage and in specific tissue of male organ under the control of Crellox system, for heterosis breeding of chili pepper (Capsicum annuum L.). Chili pepper inbred lines (A, D, E, and I) were transformed with Cre gene and Barnase gene situated between loxp, separately, by means of Agrobacterium co-culture. In this study, we had established a high transformation system by extensive study of affecting factors including genotype, selection of marker, and lethal dose. Cotyledon with petiole from 9-11-day-old seeding was pre-cultured on media MR [MB (MS mineral + vitamine B5)+BA (6-Benzyladenine) 5.0 mg L(-1)+IAA (indoleacetic acid) 1.0 mg L(-1)+GA(3) (gibberellic acid) 1.0 mg L(-1)+sucrose 3%+agar 6.5 g L(-1)] for 2 d. The explants were infected by Agrobacterium tumefaciens when their OD(600) (optical density at 600 nm) reached 0.6-0.9. After co-cultured for 4-5 d on media MC [MB + BA 5.0 mg L(-1)+IAA 1.0 mg L(-1)+GA(3) 1.0 mg L(-1)+sucrose 3%+agar 6.5 g L(-1)+AS (acetosyringone) 200 mu mol L(-1)], these cotyledons with petiole were cultured on selective differentiation medium in the media MT [MB medium supplemented with BA [5.0 mg L(-1)+IAA 1.0 mg L(-1)+GA(3) 1.0 mg L(-1)+AgNO(3) 5.0 mg L(-1)+CW (coconut water) 5% + Km (kanamycin) 65 mg L(-1)+Cb (carbenicillin) 500 mg L(-1)+3% sucrose + agar 6.5 g L(-1)]. The Kmr (kanamycin resistant) bud rosettes were elongated on selective elongation medium and rooted on rooting medium. PCR and Southern blotting analysis of Kmr plantlet indicated that the foreign genes had been integrated into the genome of pepper. The transgenic plants with Cre gene developed well, blossomed out, and set fruit normally. The transgenic plants with Barnase gene grew well with normal appearance of flower, but they showed different fertility from complete sterility, partial sterility to complete fertility, and similar results were obtained from in vitro pollen germination experiments.
【语种】英文
【第一作者】Liu Juan-xu)
【通讯作者】Lei Jian-jun
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【学科分类】园艺学

【题目】高温高湿对不同品种(系)现蕾期辣椒(Capsicum annuum L.)抗氧化性的影响
【中文关键词】高温高湿 ; 辣椒 ; 现蕾期 ; 抗氧化性
【英文关键词】high temperature/air humidity;hot pepper ; buding stage;antioxidant activity
【中文摘要】选用10个具有代表性辣椒品种(系),于人工气候室内分别在正常和高温高湿条件下,研究了现蕾期辣椒抗氧化系统生理生化性状的变化以及不同品种(系)的抗氧化性差异.结果表明:10个辣椒品种(系)抗坏血酸(AsA)、花青素含量下降,而谷胱甘肽(GSH)、花色苷含量增加;超氧化物歧化酶 (SOD)、过氧化物酶(POD)、过氧化氢酶(CAT)、苯丙氨酸解氨酶(PAL)4个酶活性一致增强.根据8个生理生化指标的相对值,通过坐标综合评定法对活性氧的抑制和清除进行分析,抗氧化

剂类的贡献大于抗氧化酶类;系统聚类法将10个辣椒品种(系)的抗氧化性强弱分为3类:06591、115-5-5-12-9-1-2. B04-99-5-1-1-2、06597、06590为强抗氧化性品种(系);B04-51-4-2-1-2-1和43-5-1-1-1为中等抗氧化性品种(系);06592、B04-114-1-I-1-1-1、B04-5124-1(系)为弱抗氧化性品种

【英文摘要】The experiment was carried out in climate chambers to investigate the effects of high temperature and air humidity on reduced glutathione content, ascorbic acid content, anthocyanidin content, anthocyanin content and antioxidative enzyme activities in ten hot pepper varieties leaves under both normal and high temperature/air humidity conditions during budding stage. The results indicated that contents of ascorbic acid and anthocyanidin decreased, contents of glutathione and anthocyanin increased, activities of superoxide dismutase, peroxidase, phenylalanine ammonia-lyase and catalase increased under high temperature/air humidity stress among the tested 10 varieties. According to the relative value of 8 indexes, the result of the coordinate synthetic assessment method showed that the antioxidant's contribution to the inhibition and scavenging of active oxygen was greater than the antioxidant enzymes. At the same time, the method of cluster was used to evaluate antioxidant activity differences of hot pepper varieties, and 10 tested varieties could be into three classes of the antioxidant activity. The strongest antioxidant activity varieties were 06591,115-5-5-12-9-1-2, B04-99-5-1-1-2, 06597,06590, followed by B04-51-4-2-1-2-1 and 43-5-1-1-1, and the lowest were activity varieties 06592,B-04-114-1-1-1-1-1 and B04-512-4-1

【语种】英文

【第一作者】徐小万

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【学科分类】园艺学

【题目】辣椒雄性不育材料H9A小孢子败育机理

【中文关键词】生化特性; 细胞形态学; 雄性不育; 小孢子; 辣椒;

【英文关键词】biochemical characteristics; cytomorphology; male sterile; microspore; pepper;

【中文摘要】运用光学、电子显微技术及生化指标测定法,对辣椒(Capsicum annuum)雄性不育材料H9A及其保持系H9B小孢子不同发育时期进行细胞形态学观察及生化特性分析。结果表明,雄性不育材料H9A的小孢子败育发生在单核前期,由于绒毡层细胞极度膨胀,四分体受挤压后破裂并降解,无法形成正常的单核花粉粒,属于孢子体败育。不育材料花蕾中的过氧化物酶活性从四分体时期开始明显高于保持系,保持系游离脯氨酸含量从单核小孢子期开始明显高于不育材料;不育材料小孢子发育各时期的可溶性蛋白含量都明显低于保持系,但丙二醛含量均高于保持系。

【英文摘要】The study involved cell morphological observation and comparison of biochemical characteristics of the new male sterile materials H9A and its maintainer H9B by means of optical and electron microscopy and measurement of biochemical indexes.Microspore abortion of H9A occurred in the early uninucleate stage.The tapetum cells were in extreme hypertrophy so that tetrads were extruded to crack and break down and could not form normal uninucleate pollen grains;the abortion type was sporophyte.During this period,the buds were 0.526 – 0.572 cm long and 0.318 – 0.372 cm in diameter; the corolla was about one quarter the length of the calyx. The peroxidase activities in the flower buds of H9A were significantly greater than that in the maintainer line beginning at the tetrad stage, and the content of free proline in the flower bud of the maintainer line H9B was significantly higher than that of H9A in the mononuclear microspore stage.The soluble protein content during the stages of microspore development in H9A was significantly lower than that in H9B,but malonaldehyde (MDA) content was higher than that in the maintainer line.

【语种】中文

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【学科分类】园艺学

【题目】辣椒新型质核互作雄性不育材料H9A不育机理研究
【中文关键词】辣椒; 小孢子; 雄性不育; DDRT-PCR;
【英文关键词】pepper; microspore; male sterility; DDRT-PCR;
【中文摘要】为研究辣椒雄性不育的机理,在花期,采用常规的石蜡切片法,对新型辣椒雄性不育材料H9A及其保持系H9B小孢子不同发育时期进行细胞形态学观察;采用DDRT-PCR技术对H9A与H9B小孢子发育过程进行mRNA差异显示,筛选差异表达的基因。切片观察发现:供试雄性不育材料的小孢子败育发生在单核前期,此时花蕾纵径0.526~0.572 cm,横径0.318~0.372 cm,花冠和花萼之比约为1∶4;通过DDRT-PCR,共获得27条差异表达的cDNA片段,其中在H9A中获得12条,在H9B中获得15条。结果说明新型辣椒雄性不育材料H9A的小孢子败育发生在单核前期,败育原因可能是绒毡层细胞程序性死亡异常并极度液泡化膨胀,四分体受挤压后破裂降解,不能形成正常的单核花粉粒。败育时期与花蕾外部形态相关。在败育期表达的27条差异cDNA片段为研究辣椒雄性不育机理的候选基因奠定了基础。
【英文摘要】To observe the abortion process during the development of microspore and to isolate the genes related to male sterility in the new cytoplasmic-nuclear male sterile material H9A,to further reveal the male sterile mechanism in pepper.The cell morphological observation between the new male sterile material H9A and its maintainer H9B was conducted by means of normal paraffin section method.The DDRT-PCR was used to isolate the differentially expressed genes during the development of microspore between H9A and H9B.The results showed that the microspore abortion of H9A occurred in the early uninucleate stage , during this period , the buds were 0. 526 - 0. 572 cm in height and 0. 318 -0. 372 cm in diameter , the length was approximately in the ratio of 1 ∶ 4 between corolla and calyx ; Twenty seven differentially expressed cDNA fragments were is olated by DDRT2PCR, including 12 cDNA fragments in H9A and 15 in H9B. The reas on for the abortion was possibly that the tapetum cells were subjected to hypertrophy via vacuolation so that the tetrads were extruded and broken into pieces , so the normal uninucle ate pollen grains could not form. The microsp ore abortion stage was related to the external shape of the flower bud. The 27 cDNA fragments acquired in this study could be candidate genes related to male sterility and their function needs further study.
【语种】中文
【第一作者】王建军
【通讯作者】巩振辉
【期刊名称、卷期、页码】中国农业大学学报,2009,14(5):47-53
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【引文索引号】0
【学科分类】园艺学

【题目】冷诱导基因C-重复基序结合因子4(CBF4)在辣椒中的遗传转化及抗寒性分析
【中文关键词】辣椒 ; 遗传转化 ; 农杆菌介导 ; CBF4基因
【英文关键词】pepper;genetic transformation;Agribacterium mediated;CBF4 gene
【中文摘要】利用根癌农杆菌(Agribacterium tumefaciens)介导的带柄子叶转化法将拟南芥(Ambidopsis thaliana)C-重复基序结合因子4(CBF4)转入辣椒(Capsicum annuum L.),优化并完善了甜椒品种B12的遗传转化体系.结果表明,外植体经过2 d预培养,在OD600约为0.8的工程菌液中侵染5~6 min后,再经共培养2 d,延迟筛选10 d能获得较高的转化率.获得60株卡那霉素抗性再生植株,经PCR和RT-PCR检测.46株为阳性转基因植株,转化率高达76.67%.经过15°C低温处理后,对阳性植株的抗寒性生化指标、形态指标分析发现,转基因植株的SOD和POD活性都明显高于未转基因植株,转基因植株比未转基因植株的株型紧凑,叶片肥厚、平直,叶色浓绿,叶面积大.
【英文摘要】The cultivar B12 of pepper(Capsicum almUllll L.)was successfully transformed with the C-repeat binding factor 4 (CBF4)gene of Arabidopsis thaliana by Agrobacterium-mediated transformation.The regeneration system of peppers was optimized and promoted.The results showed that the highest transformation frequency was obtained when the leaves were precultivated for 2 days,the OD600 of Agrobacterium was about 0.8,the Agrobacterium was infected for 5~6 min,and cocultured for 2 days,and selected at 10 days later.Results showed that 60 km-resistant regenerated plants were obtained.and 46 of which were positive by the analysis of PCR and RT-PCR.The rate of transgene was 76.67%.The biochemical indexes indicated that the activities of SOD and POD in transgenetic plants were higher than that of the non-transgenic plant after the cold(15°C)resistant treatment.The morphological indexes of transgenic plants showed that it was compact plant type with thicker,darker green and larger leave areas compared with the non-transgenic plants.
【语种】中文
【第一作者】王兴娥

【通讯作者】巩振辉
【期刊名称、卷期、页码】农业生物技术学报,2009,17(5):830-835
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【学科分类】园艺学

【题目】辣椒花药培养胚状体发生的组织学和细胞学研究
【中文关键词】辣椒 ; 花药培养 ; 胚状体 ; 组织学 ; 细胞学
【英文关键词】Pepper.Anger culture.Embryoid.Histology.Cytology
【中文摘要】采用荧光显微镜、扫描电镜和透射电镜技术,系统研究了辣椒花药培养胚状体发生的组织学和细胞学变化特征.辣椒单个花药中花粉发育具有强烈的不同步性.随着培养时期的变化,不同时期花粉的百分率也发生变化.处于单核靠边期的小孢子培养以后按两种发育途径之一进行发育.在多数情况下,孢子体不对称分裂,产生典型双核花粉.胚性花粉粒是由营养核的重复分裂形成的.当小孢子从四分体中释放出来,特殊类型的外壁已经形成.在随后的花粉发育过程中,小孢子体积增大,外壁继续加厚.培养24h后,小孢子体积增大.胚性发生的小孢子表现出两种不同的形态变化,当胚状体发育到心形胚时,胚状体的表皮细胞排列规则.用光学和电子显微镜分析了小孢子胚状体形态形成过程,及胚状体诱导后细胞组织发生的一系列结构变化的时序性特征,这些变化主要影响质体、液泡室、细胞壁和细胞核,进一步分化的程序模拟合子胚的发育.
【英文摘要】The characteristics of histology and cytology of embryogenesis in pepper anther culture were examined with fluorescence microscopy, scanning microscopy, and electron microscopy. Pepper was characterized by a strong asynchrony of pollen development within a single anther. With the change of culture period, the proportion of dead pollen increased drastically from 2 day after culture. Microspores that were cultured at the late-uninucleate stage followed one of two developmental pathways. In the more common route, the first sporophytic division was asymmetric and produced what appeared to be typical bicellular pollen. Embryogenic pollen was formed by repeated divisions of the vegetative nuclei. An exine with its specific pattern had already been formed, when microspores were released from tetrads. During subsequent pollen development, microspores increased in size and continued to strengthen the exine. After 24h in culture, the microspores had increased in size. Thereafter, embryogenesis was indicated in some microspores by two different morphological changes. One featured an expansion in volume of the cell cluster around the germination aperture, the other showed cell cluster volume expansion over the entire microspore surface. Morphogenesis of microspore-derived embryos has been analyzed, at both light and electron microscopical levels. The changes in cell organization after embryogenesis induction, and the characterization of the time sequence of a set of structural events, had been also explained. These changes mainly affected the plastids, the vacuolar compartment, the cell wall and the nucleus. Further differentiation processes mimicked that of the zygotic development.
【语种】中文
【第一作者】张菊平
【通讯作者】巩振辉
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【学科分类】园艺学

【题目】利用mRNA差异显示技术克隆辣椒抗疫病相关基因片断
【中文关键词】辣椒疫病; 抗病基因; mRNA差异显示;
【英文关键词】Phytophthora blight; Resistant gene; mRNA differential display;
【中文摘要】利用差异显示技术,以感病对照品种B27、中抗疫病品种A3、高抗疫病品种A11为试材,用辣椒疫霉菌诱导处理6叶期幼苗,进行接种前后基因差异表达分析。采用3条锚定引物5′dT12A/G/C 3′和20条随机引物(B0301-B0320)组合,进行反转录差异显示PCR,克隆并分析辣椒疫病抗性相关基因。共获得差异表达片段7条,经BLAST检索,发现T12C/B0312-251(Gen-Bank登录号EU280142)与粉蓝烟草的推测编码ml基因的部分mRNA有90%的同源性;T12C/B0312-248(GenBank登录号EU280143)与辣椒编码区序列ERD15 mRNA有99%的同源性;T12G/B0312-339(GenBank登录号EU280144)与番茄mRNA序列113946R克隆有92%的同源性,片段T12C/B0307-170,T12G/B0317-374,T12A/B0320-235,T12A/B0320-195未发现其与已报导的序列有同源性。该试验所得的差异片段推测为与辣椒疫病抗性相关的基因。

【英文摘要】We extracted total RNA from the leaves of cv.B27(susceptible variety),cv.A3(medium-resis-tant variety) and cv.A11(high-resistant variety) in pepper after inoculated with Phytophthora capsici at six-leaf stage,and analyzed the different genes expression after inoculation by DDRT-PCR.Using 3 anchor primers(5 dT12A/G/C 3) and 20 arbitrary primers(B0301-B0320)at DDRT-PCR,Cloning of the Genes Resistant to Phytophthora capsici in Pepper.Finally we gained seven different expression gene fragments.The BLAST results showed that T12C/ B0312O251(GenBank accession No. EU280142) was homologous to Nicotiana glauca partial mRNA for putative ML domain protein (ml gene) at 90 %. T12C/ B0312O248(GenBank accession No. EU280143) was homologous to Capsicum annuum ERD15 mRNA ,complete cds at 99%. T12 G/ B0312O339(GenBank accession No. EU280144) was homologous to L ycopersicon esculentum clone 113946R mRNA sequence at 92%. T12 C/ B0307O170 , T12 G/ B0317O374 ,T12 A/ B0320O235 ,T12 A/ B0320O195 was lowly homologous to known genes. These fragments we gained from the experiment are proposed to be diseaseO resistant genes.
【语种】中文
【第一作者】王永成
【通讯作者】巩振辉
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【学科分类】园艺学

【题目】辣椒小孢子发育时期与花器形态的相关性
【中文关键词】辣椒; 小孢子; 发育时期; 花器形态;
【英文关键词】Capsium annuam L.; microspore; development stage; shape of flower organs;
【中文摘要】为了直接从花蕾大小或花药的形态特征来判断小孢子的发育时期,对辣椒小孢子发育时期的细胞学,以及小孢子不同发育时期与花萼特征、花蕾大小和花药颜色的关系进行了研究。结果表明,辣椒小孢子发育经四分体时期、单核期和双核期,各时期特征明显。辣椒小孢子发育时期与花蕾的外部形态特征、花药颜色密切相关。供试辣椒品种的小孢子处于单核靠边期时花蕾纵径在4.253-5.074 mm,花蕾横径在4.191-5.367 mm,花瓣与花萼等长或稍长,花药长度在2.020-2.565 mm,花药宽度在0.982-1.417 mm。辣椒同一花蕾小孢子发育存在一定程度的渐续性即不同步。依据花器官形态特征可判断小孢子的发育时期,从而确定花药培养最佳时期所对应的选蕾标准。
【英文摘要】The bud size and morphological characteristics of the buds and anthers were defined and the paper focused on the relation between the microspore development and the calyx characteristics,the size of bud and the color of anthers.The results showed that pepper s microspore develped at three stages:tetrad,uninucleate,and binucleate,and each stage demonstrated distinctive characteristics.Microspore development also has correlativity with the morphological characteristics of buds and the color of anthers.The buds 4. 253- 5. 074mm in height and 4. 191- 5. 367mm in diameter, and the anthers 2. 020- 2. 565mm in length and 0. 982- 1. 417 mm in width were discovered to contain microspores at the late2un inucleate. Microspore development of the same bud in pepper showed graduality to some extent. We can judge the development stage of pepperps micro spore by morphological characterist ics of flower organs so as to define the standard of bud selection in correspondence with the optimal stage of anthers culture.
【语种】中文
【第一作者】张菊平
【通讯作者】巩振辉
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【学科分类】园艺学

【题目】辣椒产量和品质性状Hayman遗传分析
【中文关键词】辣椒; 双列杂交; 产量性状; 品质性状; 遗传参数估算;
【英文关键词】Pepper; Capsicum annuum L.; Diallel crosses; Yield characters; Quality characters; Genetic parameter estimation;
【中文摘要】将辣椒(Capsicam annuumL.)6个亲本,按(1/2)n(n-1)双列杂交法配制15个杂交组合,用Hayman双列杂交分析法估算5个关于产量、品质性状的遗传参数。Wr对Vr的回归分析结果表明,单株产量、小区产量、辣椒素和干物质含量的遗

传符合“加性—显性”模型;早期产量的遗传不符合“加性—显性”模型。Wr+Vr与Yr间相关分析表明,单株产量、小区产量、早期产量和干物质含量呈负相关,说明含有更多显性基因的亲本具有较小的Wr+Vr值;辣椒素含量呈正相关,说明含有较多辣椒素显性基因的亲本具有较大的Wr+Vr值。遗传参数估算表明,辣椒素和干物质含量的遗传是加性效应方差明显大于显性效应方差;单株产量和小区产量的遗传加性效应方差明显小于显性效应方差;早期产量的遗传是显性效应方差显著大于加性效应方差,同时还存在显著的、复杂的上位性效应。

【英文摘要】Six pepper(Capsicam annuum L.) parents were used to produce 15 combinations by diallel crosses excluding reciprocals.Genetic parameters for five yield or quality characters were estimated according to Hayman s method.Analysis of regression Wr against Vr indicated that inheritance of yield per plant,yield per plot,capsaicin or dry matter content conformed to the “ additive-dominant ” model while that of early yield per plot did not.Correlation analysis showed that there was a negative correlation between Wr+Vr and Yr in the characters of yield per plant, yield per p lot, early yield per plot and drymatter content, implying that the parents possessing more dominant genes have lower W r +V r values. However, there was a positive correlation betweenW r +V r and Yr in capsaicin content at 1% significant level, which means that the parents possessing more dominant genes for high cap saicin content have relatively highW r +V r values. Estimation of the genetic parameters showed that the additive variance was greater than the dominant variance for cap saicin and drymatter contentswhile the opposite situationswere true for yield per plant, yield per plot. For early yield per plot,the dominant variance was significantly higher than the additive variance, and there were significant complex epistatic effects.

【语种】中文

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【学科分类】园艺学

【题目】利用抑制消减杂交技术分离辣椒细胞质雄性不育育性恢复相关EST

【中文关键词】辣椒; 细胞质雄性不育; 恢复基因; 抑制消减杂交; 差异表达;

【英文关键词】pepper; cytoplasmic male sterility; restorer gene; suppression subtractive hybridization; differential expression;

【中文摘要】以辣椒(Capsicum annuum L.)细胞质雄性不育系23A、121A,和其相应的近等基因恢复系23C、121C为试验材料,利用抑制消减杂交(SSH)技术成功构建了CMS恢复基因诱导表达的消减cDNA文库。结合高密度点阵膜杂交差异筛选,获得了282个阳性克隆。通过测序,除去重复序列共得到175个Unique ESTs。在GenBank上进行BLAST分析,55个EST片段未找到对应的同源序列,可能代表了新基因;120个EST片段找到了对应的同源序列,包括103个已知功能基因和17个未知功能基因。按照MIPS功能分类法,将其分为14个功能组,涉及代谢、胁迫应答、蛋白活性、转录因子、信号转导等多方面的功能。

【英文摘要】To isolate fertility restoration-related genes in pepper cytoplasmic male sterility(CMS)lines,a forward subtracted cDNA library was constructed using suppression subtractive hybridization(SSH).The cDNA of pepper CMS line 23A and 121A were used as driver and near-isogenic restorer line 23C and 121C as tester.Genes differentially expressed were screened using dot blot hybridization.A total of 175 non-redundant expressed sequence tags(ESTs)were identified.The genes potential function analysis showed that 103 of these genes were homologous to known genes, and 55 could be new genes. The ESTswere sorted into 14 functional categories according to theMunich Information Center for Protein Sequences (MIPS) method.

【语种】中文

【第一作者】郭 爽

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【学科分类】园艺学

【题目】辣椒离体植株再生及其变异的SSR检测

【中文关键词】辣椒; 离体植株再生; 变异; SSR;
【英文关键词】Pepper(C.annuum L.); In vitro plant regeneration; Variation; SSR;
【中文摘要】采用6个不同基因型辣椒(Capsicum annuum L.)的子叶、下胚轴、去除生长点并带下胚轴和各切去一半的两片子叶、去除生长点并带下胚轴和半片子叶为外植体,分别培养在附加不同激素和AgNO3的MB5和MS培养基上,研究不同基因型、外植体、激素配比和AgNO3等对外植体不定芽诱导和芽伸长的影响。结果表明,不定芽诱导以MB5+2.0mg・L-1TDZ+1.0mg・L-1IAA+4mg・L-1AgNO3培养基最佳,诱导率最高可达100%。而芽伸长的最佳培养基为MB5+3.0mg・L-16-BA+0.5mg・L-1IAA+5.0mg・L-1AgNO3+2.0mg・L-1GA3,最高伸长率可达87.5%。生根培养基为MS+0.2mg・L-1IAA+0.1mg・L-1NAA,生根率均达100%。不同的外植体类型具有不同的不定芽诱导和芽伸长的能力,以去除生长点并带下胚轴和各切除一半的两片子叶作外植体时的诱导效果最好。用50对SSR引物检测再生植株,其中86株伏地尖的再生植株和对照植株间均没有扩增出差异条带,而茄门再生植株的SSR检测结果有12对引物表现多样性。
【英文摘要】In vitro plant regeneration was achieved from 6 pepper lines(C.annuum L.).The effects of different types of explants including cotyledon(C),hypocotyls(H),two half cotyledons with hypocotyl(CS)and half of one cotyledon with hypocotyl(CH),medium,genotype,hormones and SSR detecting of regenerated plants were evaluated.The best medium for bud induction was MB5 with addition of 2.0 mg・L-1 TDZ,1.0 mg・L-1 IAA,and 4 mg・L-1 AgNO3.The induction rate was as high as 100 %.The best medium for bud elongation was MB5 with 310 mg・L - 1 6 - BA, 015 mg・L - 1 IAA, 510 mg・L - 1 AgNO3 and 210 mg・L - 1 GA3. The highest rate of bud elongation was 8715 %. Medium for rooting was MS with 012 mg・L - 1 IAA and 011 mg・L - 1 NAA. The rate for rooting was 100 %. Different types of explants had different abilities to bud induction and elongation. The CS was the best for induction. A total of 50 pairs of SSR primers were used to analyze generation variation in regenerated-plants and original plants. Twelve pairs of primers showed polymorphisms in plants regenerated from line ‘ Q iemen ’, while no genetic variance was detected in 86 regenerated p lants of line ‘ Fudijian ’
【语种】中文
【第一作者】沈火林
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【题目】Changes in Biochemical Characteristics Related to Firmness during Fruit Development of Pepper (Capsicum annuum L)
【中文关键词】无
【英文关键词】cellulose; cell wall hydrolases; flesh firmness; pepper lines; insoluble pectin; soluble pectin
【中文摘要】无
【英文摘要】Five pepper (Capsicum annuum L.) lines with varying degrees in flesh firmness were used to identify biochemical characteristics related to fruit softening. Firmness of fruit flesh (with epidermis attached) and flesh (without epidermis) was measured at different developmental stages: premature [15-20 days post-anthesis (DPA), stage 1], green mature (commercially ripe, 30-35 DPA, stage 2), colour turning (fruit becoming 30-40% red, 40-50 DPA, stage 3), and red ripe (fruit totally red, 60-70 DPA, stage 4). Since firmness with and without the epidermis attached changed similarly in all pepper lines during development, flesh firmness (without the epidermis) was used to represent pepper fruit firmness. Biochemical characteristics measured included insoluble pectin, soluble pectin, and cellulose contents, and the activities of pectin methyl-esterase (PME), polygalacturonase (PG), beta-galactosidase, and cellulase. in all lines, flesh firmness was highest at stage 3, and then decreased during development. Soluble pectin content also increased in all lines. Cellulose content normally decreased after stage 3, but these changes varied among lines. With ripening PG and PME decreased in the most firm lines, and cellulase and beta-galactosidase were the key enzymes involved in the less firm lines. These biochemical characters related to fruit firmness and firmness type should provide for breeding for improvements in storage and transportation.
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【第一作者】Cheng, J.
【通讯作者】Shen, H
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【学科分类】园艺学

【题目】不同硬度辣椒品系果实组织结构观察与细胞壁物质含量测定
【中文关键词】辣椒; 硬度; 组织结构; 果胶; 纤维素;
【英文关键词】Pepper(Capsicum Annuum L.); Firmness; Tissue structure; Pectin; Cellulose;
【中文摘要】选用5个不同硬度的辣椒品系,分别在果实发育不同时期,进行果实硬度和细胞壁物质原果胶、可溶性果胶以及纤维素等含量的测定,同时采用石蜡切片法对不同时期果实的组织结构进行了观察。结果表明,不同硬度品系果实带皮硬度与果肉硬度之间没有显著差异;在硬度下降过程中,果实组织结构变化很大,硬度越小的果实,组织结构变化越剧烈;原果胶与可溶性果胶含量变化对405和409等灯笼椒类型品系的果实硬度可能有较大影响,而纤维素含量变化对529等尖椒类型品系可能有较大影响。
【英文摘要】Five pepper(Capsicum Annuum L.) lines with different fruit firmness were selected to detect the fruit firmness and investigate the cell wall substrates such as primary pectin,soluble pectin,and cellulose content,the fruit tissue structure at different developmental stages of fruit was observed by means of paraffin section.The results showed that there was no significant difference between fruit firmness and flesh firmness;the fruit tissue structure changed drastically along with the fruit firmness decreasing , the smaller the fruit firmness , the greater the fruit tissue structure changing , the primary pectin and soluble pectin content may have greater influence to the 405 , and 409 lines , which were lantern type pepper , however , the cellulose content may have more influence to the 529 , 585 , and 607 lines , which were hot chilli type pepper .
【语种】中文
【第一作者】程杰山
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【题目】A SCAR marker linked to the N gene for resistance to root knot nematodes (Meloidogyne spp.) in pepper (Capsicum annuum L.),
【中文关键词】无
【英文关键词】Pepper; Capsicum annuum L.; Disease resistance; Root-knot nematode; Meloidogyne spp.; SCAR; N gene; Marker assisted selection
【中文摘要】无
【英文摘要】The root-knot nematodes (Meloidogyne spp.) are important nematode pests and cause serious diseases in pepper in the world. No molecular markers linked to the nematodes resistance N gene have been reported. In this paper, 'Carolina Wonder' (Capsicum annuum L.), a sweet pepper line resistant to root-knot nematode with N gene, '20080-5-29' (C. annuum L), an inbred line susceptible to root-knot nematode with good horticultural characteristics, and their F(2) progeny with 320 individuals were used as materials. Evaluation of resistance and susceptibility of parental lines, F(1) and F(2) progeny inoculated with root-knot nematodes (Meloidogyne incognita) were carried out. 'Bulked segregant analysis' method was used to search for polymorphic markers from 512 pairs of AFLP primers. Based on the assessment of resistance and susceptibility and polymorphism of the AFLP marker in F(2) population, the genetic linkage distance between the AFLP marker and the N gene was estimated. One AFLP marker E39/M41-339 was obtained and transferred to a SCAR marker amplifying a 315 bp DNA fragment linked to the N resistant allele and a 331 bp fragment linked to the N(+) susceptible allele. The distance between the molecular marker and the nematodes resistance N gene is 6.3 cM. This research delivered a valuable tool for the marker assisted selection of nematodes resistance in pepper. (C) 2009 Elsevier B.V. All rights reserved.
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【第一作者】Wang, L. H
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【题目】辣椒幼苗叶片解剖特征及光合特性对弱光的响应
【中文关键词】辣椒; 弱光; 显微结构; 叶绿体超微结构; 气孔; 光合特性;
【英文关键词】capsicum; low light; anatomical structure; ultrastructure of chloroplast; stomata; photosynthetic characteristics;
【中文摘要】以4个弱光适应性不同的辣椒(Capsicum annuum L.)基因型(甜味型和辣味型)为试材,在人工气候室内研究了弱光(75~100μmol.m-2.s-1)条件下幼苗叶片显微结构、叶绿体超微结构、气孔特征,以及光合特性的适应性变化。结果表明,弱光下辣椒幼苗叶片变薄,栅栏组织/海绵组织比值增加,‘伏地尖’(辣味型)和‘上海圆椒’(甜味型)具有较高的栅栏组织/海绵组织比值;叶绿体数减少,但叶绿体变大,基粒数、基粒厚度和基粒片层增加,淀粉粒增大、增多,2个辣味型材料比2个甜味型材料具有较高的叶绿体数和基粒数。辣椒(甜味型)展叶过程中下表皮气孔密度下降,而展叶14d以后的气孔指数和单片叶气孔数变化不大。弱光下叶片气孔密度、气孔指数和单片叶气孔数减小,但气孔变大,其中‘上海圆椒’气孔纵轴、横轴较正常光照下增加,‘20078’则横轴显著增加;弱光环境中叶片表皮细胞变大并发生扭曲皱褶,气孔与表皮平齐或略显外突,保卫细胞角质层上可观察到明显的环状褶皱。弱光下辣椒幼苗的光饱和CO2同化速率(Asat)、暗呼吸速率(Rd)、夜间呼吸速率(Rn)、光呼吸速率(Rp)、光补偿点(LCP)、光饱和点(LSP)、CO2补偿点(Γ)、CO2饱和点(CSP)、羧化效率(CE)以及RuBP最大再生速率下降,表观量子效率(Φi)上升;辣味型较甜味型材料Asat下降幅度较小,并且具有较低的LCP、LSP及其Rd、Rn和Rp。弱光下各基因型辣椒的光合启动时间均有所延长,弱光敏感性材料表现更为明显。
【英文摘要】Four genotypes of capsicum(Capsicum annuum L.) with distinct low light tolerance were used to study the response of anatomical structure,ultrastructure of chloroplast,stomatal characteristics and photosynthetic characteristics of leaves to low light(75-100 μmol · m-2 · s-1) in a phytotron.The results revealed that leaves treated with low-light became thinner with an increase of palisade/spongy tissue ratio,and two genotypes including hot pepper Fudijian and sweet pepper Shanghai Yuanjiao had higher ratio than the other two. Under low light, the number of chlorop last decreased, but the size of chlorop lasts and starch grains, the number of grana, grana lamella, starch grain and grana thickness of chlorop last increased. Comparing with sweet pepper, hot pepper had more chlorop lasts and granas. In sweet pepper, the stomatal density in lower epidermal descended during leaf unfolding, but no more changes of stomatal index and number of stomata per leaf occurred after 14 days of leaf unfolding. Low light treatment resulted in decreases of stomatal density, stomatal index and number of stomata per leaf, and increases of the stomatal size, the vertical and horizontal axes of stomata in ‘Shanghai Yuanjiao’. Simultaneously, the longer horizontal axes of stomata were also observed in another genotype ‘20078’. The epidermal cells of sweet pepper grown under low lightwere large and distorted. Meanwhile the stomata and lower epidermal cellwere equal height or the stomata slightly protruded out of the epidermalwall. The cycle wrinkle could be obviously observed on cuticle of guard cell in lower epidermis of leaves under low light. Photosynthetic parameters including light saturated rate of the CO2 assimilation (Asat) , dark resp iration rate (Rd) , night resp iration rate (Rn) , light resp iration rate (Rp) , light compensation point (LCP) , light saturation point (LSP) , CO2 compensation point (Γ) , CO2 saturation point(CSP) , carboxylation efficiency (CE) and maximum RuBP regeneration rate decreased, while apparent quantum yield (Φi) increased under low light. The Asat decreasing, LCP, LSP, Rd , Rn and Rp were lower in hot pepper than those in sweet pepper. The start time of photosynthesis (namely, the net photosynthetic rate i.e. Pn from zero to maximum) in low2light leaveswas relatively p rolonged, especially in low light-sensitive than in low light-tolerant genotypes. Hence, some adap tive response of photosynthetic characteristic to low light have happened in capsicum leaves.
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【第一作者】眭晓蕾
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【题目】甜(辣)椒花药培养胚状体诱导与植株再生

【中文关键词】甜(辣)椒; 花药培养; 胚状体; 植株再生;
【英文关键词】pepper(Capsicum annuum L.); anther culture; embryoid; plant regeneration;
【中文摘要】以10份不同基因型甜(辣)椒为试材进行花药培养,通过对基因型、取蕾时期、低温预处理、热激处理、碳源及外源激素浓度配比等因素的研究,建立有效的甜(辣)椒花药培养胚状体发生体系。结果表明:基因型是限制甜(辣)椒花药培养胚状体诱导的关键因素,不同品种间出胚率差异显著,其中品种003出胚率最高,为10.8%;处于盛花期的花蕾最适于甜(辣)椒花药培养;4℃低温预处理1~3 d有利于胚状体的诱导,以处理2 d的胚状体产率最高;以2%的麦芽糖代替3%的蔗糖能显著提高出胚率和子叶形胚的比率,筛选出适于甜(辣)椒花药培养胚状体诱导的最佳培养基为MS+0.5 mg/L NAA+1.0 mg/L KT+2%麦芽糖,能有效地提高出胚率并促进植株再生;获得了6个基因型的子叶形胚和再生植株。
【英文摘要】Ten varieties of pepper were used to study the effects of genotype,flower buds harvest time,cold-pretreatment, hot-shock treatment,carbon source and combination of hormones on the anther culture in Capsicum annuum L. Through these tests,an effective system of embryoid production was established.Cotyledonary embryoids and plantlets were obtained from six genotypes.The results showed that genotype was the key factor in embryoid induction.The embryoid formation frequency was different significantly among different genotypes.The variety 003 had the highest embryoid formation frequently which was 10.8%.The flower buds at full-bloom stage were found to optimum for anther culture in pepper.Coldpretreatment(4°C)for 1-3d also promoted embryoid induction,while the highest embryoid for frequently was obtained from anther pretreated at 4°C for 2d.Embryoid and cotyledonary embryoid formation frequently could be more remarkably improved by 2% maltose than 3% sucrose.The optimal culture medium which could effectively improve embryoid and regenerated plantlets formation was MS +0.5mg/L,NAA+1.0mg/L KT +2% maltose.
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【第一作者】孙少霞
【通讯作者】王述彬
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【题目】辣椒抗黄瓜花叶病毒同源序列的克隆与分析
【中文关键词】辣椒; 黄瓜花叶病毒; 抗病基因同源序列; 核苷酸结合位点-富含亮氨酸重复;
【英文关键词】pepper(Capsicum annuum L.); cucumber mosaic virus; resistance gene analog; NBS-LRR;
【中文摘要】根据已知抗病基因的核苷酸结合位点(NBS)保守结构域设计简并引物,以高抗黄瓜花叶病毒的辣椒Yv2007001为试材,获得10条抗病基因同源序列(RGA)。经序列分析,这些RGAs皆具有开放阅读框和NBS保守结构域(P-loop、Kinase-2、Kinase-3a、RNBS-C和GLPL),属于nonTIR-NBS-LRR类抗病基因同源序列。其中RGA46与番茄花叶病毒抗性基因Tm-22的氨基酸同源性为78%,可能与辣椒抗黄瓜花叶病毒(CMV)相关。其它序列与已知抗病基因Prf、RPP13、I2C-1、Mi-1.2、L6、M氨基酸相似性为21%~70%。所得RGA序列的Ka/Ks值为0.0110~0.3051,均显著小于1,表明"纯化选择"在辣椒NBS区域进化中起主要作用。
【英文摘要】Ten resistance gene analogs(RGAs) were cloned from a pepper variety(Yv2007001)with high resistance to cucumber mosaic virus(CMV),using a PCR approach with degenerate primers designed from conserved motifs found in a number of plant resistance genes.Sequence analysis showed that all RGAs belong to nonTIR-NBS-LRR subgroup,containing ORF and five conserved motifs including P-loop,kinase-2a,kinase-3a,RNBS-C and GLPL.RGA46 showed 78% homology at the deduced amino acid with Tm-22(ToMV),suggesting that RGA46 has correlation with resistance to CMV. The highest and the lowest homology, between the RGAs and known resistance genes (Prf, RPP13, I2C21,M i2112, L6 and M)were found 70% and 21% respectively. The ratios of non2synonymous (Ka) to synonymous nucleotide substitution (Ks) of the NBS domains of RGAswere 01011 0 - 01305 1, less than which showed that purifying selection plays an important role in evolutionary process of resistance genesNBS region of pepper.
【语种】中文
【第一作者】杨学玲
【通讯作者】王述彬
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【学科分类】园艺学

【题目】辣椒细胞质雄性不育基因的AFLP分析
【中文关键词】辣椒; 细胞质雄性不育(CMS); 扩增片段长度多态性(AFLP); 序列分析;
【英文关键词】Hot pepper(Capsicum annuum L.); Cytoplasmic male sterility(CMS); Amplified fragment length polymorphism(AFLP); Sequence analysis;
【中文摘要】本文采用AFLP(amplified fragment length polymorphism)技术对辣椒(Capsicum annuum L.)细胞质雄性不育系21A及其相应的保持系21B基因组DNA进行多态性比较,筛选了64对AFLP选择性引物Pst Ⅰ-NNN+Mse Ⅰ-NNN组合,有60对引物组合均在两系间扩增出5447条带,多态性位点为4个,其中在不育系材料中仅有2个多态性片段AGC/CGC378和ATC/GAG446,对特异片段进行克隆、测序,其序列全长分别为340bp和408bp,它们编码的氨基酸序列与烟草基因组线粒体DNA序列同源性达94%和96%。
【英文摘要】AFLP technique with 64 pairs of primer combinations Pst Ⅰ-NNN+Mse Ⅰ-NNN were employed to find the polymorphisms between the genomic DNAs of cytoplasm male sterile line 21A and its maintainer line 21B in hot pepper. It was shown that 5 447 bands were amplified in two lines with 60 pairs of primer combinations. There were 4 polymorphic loci in two lines and only 2 polymorphic fragments AGC/CGC378 and ATC/GAG446 were found in cytoplasm male sterile line. These specific AFLP fragments were cloned and sequenced.Sequencing analysis indicated that the length of the sequence were 340 bp and 408 bp, with 94% and 96% identities of its amino acid sequence with a part of the Nicotiana tabacum mitochondrial DNA genome.
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【第一作者】刘科伟
【通讯作者】王述彬
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【题目】雌雄同株黄瓜单性结实性遗传分析
【中文关键词】黄瓜; 雌雄同株; 单性结实; 主基因+多基因; 遗传;
【英文关键词】cucumber; monoecious; parthenocarpy; major gene plus polygene; inheritance;
【中文摘要】【目的】分析雌雄同株黄瓜单性结实性的主基因+多基因混合遗传特点,为选育强单性结实雌雄同株黄瓜品种提供理论依据。【方法】通过强单性结实雌雄同株黄瓜自交系‘6457’与非单性结实自交系‘6429’和‘6426’构建的6个世代群体,应用植物数量性状主基因+多基因联合分离分析方法,分析不同遗传背景和季节雌雄同株黄瓜单性结实性遗传表现。【结果】雌雄同株黄瓜单性结实性遗传受2对主基因+多基因控制(E-1-0,E-1-2)。两主基因的加性效应值均较大,B1、B2、F2主基因遗传率分别为72.2%—88.8%、52.5%—93.1%、88.6%—95.4%,相应的多基因遗传率分别为0—11.2%、0—43.1%、0—1.5%。【结论】强单性结实性雌雄同株黄瓜品种选育以双亲均为强单性结实为宜,常规杂交育种早期世代选择有效。
【英文摘要】【Objective】 The mixed major gene plus polygenes inheritance of parthenocarpy in monoecious cucumber were studied to provide a theoretical basis for breeding monoecious cucumber varieties of strong parthenocarpy. 【Method】 Using the model of the major gene plus polygene of quantitative traits,a joint analysis of six-generations from crossing a highly parthenocarpic monoecious lines 6457 with two non-parthenocarpic inbred lines 6429 and 6426 was carried out to investigate the inheritance of the parthenocarpy in cucumber in different backgrounds and seasons. 【Result】 The results showed that inheritance of parthenocarpy was controlled by two major genes and polygenes. The additive effects of the two major genes were great. The major gene heritabilities of B1, B2, and F2 were 72.2%-88.8%, 52.5%-93.1%, and 88.6%-95.4%, respectively. While the corresponding polygene heritabilities were 0-11.2%, 0-43.1%, and 0-1.5%, respectively. 【Conclusion】 The breeding of monoecious cucumber with highly parthenocarpy should choose parents that both are highly parthenocarpy. Selection of parthenocarpy can be carried out in the earlier generations of conventional crossing breeding.
【语种】中文
【第一作者】闫立英
【通讯作者】陈劲枫

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【学科分类】园艺学

【题目】黄瓜同源三倍体创制及减数分裂行为观察
【中文关键词】黄瓜; 同源三倍体; 减数分裂;
【英文关键词】cucumber(Cucumis sativus L.); autotriploid; meiotic;
【中文摘要】采用常规杂交法研究黄瓜二、四倍体杂交过程中亲本育性、授粉组合及亲本基因型对杂交结实率的影响,并利用减数分裂制片法对获得的黄瓜同源三倍体进行了花粉母细胞减数分裂行为的观察。结果显示:(1)同源四倍体自交结实率比较低(13.0%~14.5%),可能与其花药内所包含的正常花粉粒比例小及花粉管萌发长度较短有关。(2)二、四倍体杂交组合的结实率很低(0.26%~1.02%),但在两种配组方式之间存在着明显差异,即以同源四倍体黄瓜为父本和二倍体黄瓜为母本的杂交结实率比较高,反之则杂交结实率比较低。(3)在二、四倍体杂交过程中,二、四倍体的基因型对杂交结实率的影响较大,以杂交双亲同属一个基因型的杂交效果较好。(4)同源三倍体花粉母细胞减数分裂过程与二倍体基本相同,但存在较高频率的染色体异常行为:中期Ⅰ染色体构型复杂,在大多数花粉母细胞中可观察到单价体、二价体、三价体的存在;中期Ⅰ和Ⅱ有少数染色体游离于赤道板外;后期Ⅰ和后期Ⅱ常出现落后染色体、染色体桥及细胞分裂不同步现象,其最终结果导致了不正常四分体和不可育配子的形成。(5)同源三倍体花粉粒的平均可染率和萌发率分别为18.8%和11.3%。研究结果表明,黄瓜二、四倍体正反交能直接获得同源三倍体材料;同源三倍体花粉母细胞减数分裂异常导致不育配子的形成是引起其育性低的细胞学原因;同源三倍体的部分育性为通过同源三倍体的回交来选育初级三体系奠定了基础。
【英文摘要】The effects of fertility of parents,pollination combination and genotype of parents on seed-setting in hybridization between autotetraploid and diploid were analyzed with conventional cross method,and the meiosis of pollen mother cells(PMCs) in autotriploid cucumber was also studied using meiotic analysis.The results showed:(1)The low seed-sets(13.0%~14.5%) of the autotetraploidy combinations may be attributed to the presence of more abnormal pollen in the anthers or length of pollen tube.(2)The seed-sets of cross combinations between autotet raploid and diploid were very low (0. 26 %~1. 02 %) ,but t here were obvious different seed2settings between t he two mating met hods. If the autotet raploid cucumber was used as the male parents and the diploid as the female parents , higher seed-sets were found in the hybridized combination. However ,the seed-sets in the combinations were lower if the diploid cucumber was used as male parents. (3)Besides ,the effect of genotype of parents on production of autot riploid was biggish ; the average percentage of autot riploid production was higher when autotet raploid and diploid were belonging to same genotype. (4) The PMCs meio is of the autot riploid was similar to the diploid. However , the higher frequency of abnormality was observed in autot riploid. Variable chromosome configurations ,e. g. univalent and trivalent were observed in most PMCs of the autot riploid at metap hase Ⅰ. In additional , some of the chromo somes were found not to rank at metap hase plate in metap hase Ⅰ and metap hase Ⅱ cell s. At anaphase Ⅰ and anap hase Ⅱ ,chromosome lagging ,bridges and asynchronization were f requently observed as well ,which led to formation of abnormality tet rad and inviable gametes. (5) The average percentages of pollen dryration and pollen germination were 18. 8 % and 11. 3 % ,respectively. These findings indicate t hat autot riploid could obtain directly f rom autotet raploid by diploid crosses. The decrease in fertility is due to irregularities of chromosome behavior during meiosis with the formation of imbalanced and non-viable gametes in autot riploid cucumber . Meanwhile ,autot riploid was partially fertile which established groundwork for the selection of the primary trisomic cucumber by autot riploid backcross method.
【语种】中文
【第一作者】刁卫平
【通讯作者】陈劲枫
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【学科分类】园艺学

【题目】全雌黄瓜单性结实性的遗传分析
【中文关键词】黄瓜; 全雌; 单性结实性; 遗传;

【英文关键词】cucumber; gynoecious; parthenocarpy; inheritance;
【中文摘要】采用植物数量性状主基因+多基因混合遗传模型对黄瓜强单性结实雌性系‘6401’与非单性结实自交系‘6429’、‘6426’杂交组合多世代群体的单性结实性进行联合分析,结果表明:全雌黄瓜单性结实性在不同遗传背景下遗传表现基本一致,单性结实性遗传均表现为不完全隐性基因遗传,符合E-1-1模型,受两对加性—显性—上位性主基因+加性—显性多基因控制。两组合第1主基因显性效应、主基因显性×显性互作效应以及多基因效应较大。‘6401×6429’组合的B1、B2、F2群体(主基因+多基因)遗传率分别为51.36%、72.31%和76.78%;‘6401×6426’组合的B1、B2、F2群体(主基因+多基因)遗传率分别为20.50%、75.39%和74.58%。强单性结实全雌黄瓜品种选育以双亲均为强单性结实为宜。
【英文摘要】Using the model of the major gene plus polygene of quantitative traits, a joint analysis of multi-generations from crossing a highly parthenocarpic gynoecious lines‘6401’with two non-parthenocarpic inbred lines‘6429’and‘6426’was carried out to investigate the inheritance of the parthenocarpy in cucumber. Results showed that the inheritance of parthenocarpy in gynoecious cucumbers with different genetic backgrounds was fitted into the same genetic model. Inheritance of parthenocarpy is expressed as incompletely recessive, fit the E-1-1 model, and controlled by two additive-dominant-ep istatic major genes and additive-dominant polygenes. Dominant effect of the firstmajor gene and dominant ×dominant interaction between the two major genes as well as polygene effects were higher in those two cross combinations. The heritabilities of B1 , B2 , F2 from cross‘6401 ×6429’were 51136% , 72131% and 76178% , respectively, while the heritabilities of B1 , B2 , F2 from‘6401 ×6426’were 20150% , 75139% and 74158% respectively. These results indicated that breeding of gynoecious cucumber with highly parthenocarpy should choose parents that both are highly parthenocarpy.
【语种】中文
【第一作者】闫立英
【通讯作者】陈劲枫
【期刊名称、卷期、页码】园艺学报, 2009, 35(10): 1441-1446.
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【引文索引类型】其他
【引文索引号】0
【学科分类】园艺学

【题目】雌雄同株黄瓜单性结实性主基因+多基因混合遗传分析
【中文关键词】黄瓜 ; 单性结实性 ; 主基因+多基因 ; 遗传分析
【英文关键词】cucumber; parthenocarpy; major gene plus polygene; genetic analysis
【中文摘要】以雌雄同株黄瓜强单性结实自交系'6457'和非单性结实自交系'6426'为亲本,建立了5世代联合群体(P_1、P_2、F_1、F_2、F_(2：3)),采用植物数量性状主基因+多基因混合遗传模型对群体的单性结实性进行多世代联合分析.结果表明:雌雄同株黄瓜单性结实性表现为不完全显性遗传,符合D-2遗传模型,受1对加性主基因+加性-显性多基因控制.主基因加性效应值为14.7,多基因加性效应值为20.9,多基因显性效应值为25.8.F_2的遗传率为56.6%,F_(2：3)的遗传率为48.7%.因此,对雌雄同株黄瓜单性结实性的遗传改良,可选择强单性结实性材料,通过杂交、回交转移主基因,达到选育强单性结实性材料目的.
【英文摘要】Using the model of the major gene plus polygene of quantitative traits,a joint analysis of five-generations (P_1,P_2,F_1,F_2 and F_(2:3)) from crossing a highly parthenocarpic monoecious line '6457' with a nonparthenocarpic inbred line '6426' was carried out to investigate the inheritance of the parthenocarpy in cucumber.The results showed that the inheritance of parthenocarpy in monoecious cucumbers was expressed as incompletely recessive,and fitted to the model D-2,i.e.controlled by an additive major gene and additivedominant polygenes.Additive effects of the major gene and polygene were 14.7 and 20.9 respectively.While dominant effects of polygene were 25.8.The heritabilities of F_2 and F_(2:3) were 56.6% and 48.7% respectively.These results suggest that the conventional crossing breeding will be more effective for the improvement of parthenocarpy in monoecious cucumber.
【语种】中文
【第一作者】闫立英
【通讯作者】陈劲枫
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【引文索引号】0

【学科分类】园艺学

【题目】黄瓜品种RAPD指纹图谱的构建及遗传相似性分析
【中文关键词】黄瓜; RAPD标记; 遗传相似性分析; 指纹图谱;
【英文关键词】cucumber(Cucumis sativus L.); RAPD; fingerprinting; genetic similarity analysis;
【中文摘要】利用RAPD技术对22个具有广泛遗传基础的黄瓜品种进行了指纹图谱构建及遗传相似性分析,从240条RAPD随机引物中筛选出27条具有稳定多态性的引物。27条引物共扩增出163条带谱,其中多态性带70条,平均多态性比例为43.10%。9条RAPD引物产生的12个特异性标记可以单一地鉴别9个品种,利用不同引物的组合可将其他品种鉴别出来。通过UPGMA法进行聚类分析,当GSC=0.6888时,可将22个黄瓜品种分为4个群。22个品种间的平均遗传相似系数为0.8004,说明黄瓜的遗传变异较低,遗传基础狭窄。
【英文摘要】Twenty-seven RAPD primers that could amplify stable polymorphic products were selected from 240 random primers for the fingerprinting construction of cucumber varieties and genetic similarity analysis.Totally 163 bands were amplified,among which 70 bands were polymorphic,the average percentage of polymorphic bands being 43.10%.Nine varieties could be identified independently with 12 specific markers generated by 9 primers.All the 22 varieties could be identified by the combination of several primers.The clustering analysis showed that 22 cucumber varieties could be divided into four group swhen the GSC value was 0.688 8. The average genetic similarity coefficence was 0.800 4, which indicated low genetic diversity and narrow genetic base of cucumber.
【语种】中文
【第一作者】刘丽娟
【通讯作者】陈劲枫
【期刊名称、卷期、页码】江苏农业学报, 2009, 25(4): 824-828.
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【题目】黄瓜耐热材料筛选
【中文关键词】黄瓜; 耐热性; 种质资源;
【英文关键词】Cucumber; Heat tolerance; Germplasm resource;
【中文摘要】为了获得黄瓜耐热性材料,以所收集的生态型不同的黄瓜品种为试材,经田间自然高温幼苗期与成株期耐热性筛选,结合人工高温幼苗耐热性筛选,结果获得耐热黄瓜材料6个,热敏黄瓜材料2个,丰富了黄瓜耐热性与热害研究的材料,有助于解决黄瓜生产中的热害问题。
【英文摘要】In order to select heat tolerant cucumber,we had compared heat tolerance of different ecotype cucumbers in the field and at seedling stage under 42 °C for 24 h. The results showed that six cultivars were heat tolerant and two cultivars were heat sensitive. The tests found materials for study heat tolerance and heat injury in cucumber. This discovery will play a role in finding a genetic solution for heat injury problem in cucumber production.
【语种】中文
【第一作者】杨寅桂
【通讯作者】陈劲枫
【期刊名称、卷期、页码】中国瓜菜, 2008, 1: 1-3.
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【引文索引号】0
【学科分类】园艺学

【题目】热胁迫对耐热性不同黄瓜品种及其F1代叶片膜透性和保护酶活性的影响
【中文关键词】黄瓜;热胁迫;保护酶;膜透性;杂种优势
【英文关键词】Cucumber;Heat stress;Protective enzyme;Membrane permeability;Hetemsis
【中文摘要】为了选育耐热黄瓜品种,以黄瓜(Cucumis sativus L.)耐热品种Poinsett 97、热敏品种Boothbyls Blonde和它们的F1代为试验材料,研究黄瓜幼苗在28、38°C条件下,叶片中保护性酶类活性和膜透性的变化.结果表明:在38°C热胁迫下.耐热品种的相对电导率、MDA含量提高量明显低于热敏品种,而其保护酶SOD、POD活性和PRO含量的提高量明显高于热敏

品种,CAT活性的降低量明显低于热敏品种.在F1代中,POD活性表现正向杂种优势外,其余均为负向优势.
【英文摘要】Cucumber varieties Poinsett 97,a heat tolerance variety,Boothbyls Blonde,a heat susceptive variety,and their FI Poinsett 97xBoothbyls Blonde were used to research the dynamic changes of the activities of membrane protective enzymes(superoxide dismutase—SOD.pemxidase—POD,catalase—CAT),the content of malondialdehyde(MDA),the content of PRO and relative conductance(RC) of the leaves under 28°Cand 38°C.The results showed that under heat stress the increase of RC,MDA content was evidently lower;the increase of the SOD,POD activity and the content of PRO was evidently higher.The decrease of CAT activity was evidently lower in the heat tolerance variety than the heat susceptive variety.The positive heterosis of POD was observed,negative heterosis of the others index were found in the FI.
【语种】中文
【第一作者】李为观
【通讯作者】陈劲枫
【期刊名称、卷期、页码】中国瓜菜, 2008, 2: 1-5.
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【引文索引号】0
【学科分类】园艺学

【题目】黄瓜种质资源的搜集、评价与科学育种
【中文关键词】黄瓜; 种质资源; 遗传育种; 发展趋势;
【英文关键词】无
【中文摘要】本文在分析我国黄瓜遗传育种研究现状和存在不足的基础上,强调了黄瓜种质对现代科学育种的重要作用,并提出了该领域今后发展的重点方向。
【英文摘要】无
【语种】中文
【第一作者】李加旺
【通讯作者】李加旺
【期刊名称、卷期、页码】农业科技通讯,2006,7
【论文发表时间】2006-07-16 00:00:00
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【引文索引号】0
【学科分类】园艺学

【题目】供体植株栽培季节和栽培方式对黄瓜未受精子房离体培养的影响
【中文关键词】黄瓜; 未受精子房; 离体培养; 栽培季节; 栽培方式;
【英文关键词】Cucumber(Cucumis sativus L.); Unfertilized ovary; Culture in vitro; Growing season; Cultivation ways;
【中文摘要】研究了供体植株栽培季节和栽培方式对黄瓜未受精子房离体培养的影响,结果表明,单倍体胚胎发生率和植株再生率在温度相对较高的6月下旬、7月上旬以及9月份明显高于其他季节;生长发育前期的供体植株单倍体再生率相对较高且稳定;随着供体植株逐渐衰老,其未受精子房培养的污染率不断上升;种植于塑料大棚内的供体材料比种植在露地中的供体材料具有更高的单倍体胚胎发生率和成苗率。
【英文摘要】Effects of donor plant growing seasons and cultivation ways on cucumber unfertilized ovary culture were investigated.The results indicated that the rate of haploid embryo formation and plant regeneration were higher in warmer seasons of late June,early July and September.Donor plants in early growing stages have a higher haploid plant regeneration rate.As donor plants grew older,contamination rate increased dramatically.Plants grew in plastic tunnel have a higher rate of embryo formation and plant regeneration , but a lower contamination rate.
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【第一作者】魏爱民
【通讯作者】杜胜利
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【题目】与黄瓜抗黑星病相关基因紧密连锁的SSR标记
【中文关键词】黄瓜 ; 黑星病 ; 抗性相关基因 ; SSR
【英文关键词】Cucumber,Scab,Resistance-related gene,SSR
【中文摘要】本研究以黄瓜抗黑星病母本Q6和感黑星病父本F51及其F2代分离群体为试材,采用BSA法和SSR技术建立了对黑星病的抗病组和感病组,SSR引物CSWCTT02D在抗感组间表现多态性,且呈共显性.经162个F2单株验证,在高抗单株和高感单株中分别仅扩增出246 bp和256 bp的特异片段,而在中间类型个体中同时扩增出了两个特异片段.连锁分析结果表明,该标记与黄瓜黑星病抗病相关基因紧密连锁,距离为3.1 cM.测序结果显示,两个片段的差异在于10个碱基的插入或缺失.
【英文摘要】With a F_2 population derived from (Q6×F51) as materials,polymorphism between resistant and susceptible bulk of cucumber scab were studied using BSA method and SSR technology.A co-dominant SSR marker,CSWCTT02D-246 bp/256 bp,was screened.The resistant and susceptible F_2 plants possessed the 246 bp and the 256 bp fragments,respectively,and the mid-plants owned the two fragments.The SSR marker was closely linked to the cucumber scab resistance-related gene,and the genetic distance between the marker and gene was 3.1 cM.Fragements sequencing of the co-dominant SSR marker indicated that their length were 246 bp and 256 bp respectively.The difference of the two fragments lied in the insert-deletion of 10 bp.
【语种】中文
【第一作者】王惠哲
【通讯作者】王惠哲
【期刊名称、卷期、页码】分子植物育种,2009(3):550-554
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【题目】越夏黄瓜高产栽培技术
【中文关键词】越夏黄瓜;高产栽培技术
【英文关键词】无
【中文摘要】越夏黄瓜一般于月上中旬播种, 一月即可陆续采摘上市。由于其生长期正处于高温多雨季节, 管理不当易导致病虫害严重发生, 造成产量低、效益差。现将越夏黄瓜高产栽培技术总结如下:1、选用优良品种。2、培育壮苗定植。3、改良地膜覆盖。4、科学浇水追肥。5、合理调整植株。6、加强病虫防治。
【英文摘要】无
【语种】中文
【第一作者】李加旺
【通讯作者】李加旺
【期刊名称、卷期、页码】西北园艺,2007(3):11-12
【论文发表时间】2007-03-12 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】园艺学

【题目】利用未受精子房培养技术育成黄瓜新品种“津美3号”
【中文关键词】黄瓜; 未受精子房培养; 品种;
【英文关键词】cucumber; unfertilized ovary culture; cultivar;
【中文摘要】‘津美3号’是采用未受精子房离体培养技术育成的黄瓜杂交一代新品种。植株生长势强,瓜长13~15cm,表面光滑、亮绿,清香可口,耐低温弱光能力强,丰产性好,越冬温室栽培总产量15kg·m-2以上。
【英文摘要】Jinmei 3 is a new gynoecious cucumber hybrid.The plant grows vigorously and produces green,smooth,sweet and crisp fruits.The fruit is about 13-15 cm long.It is tolerant to low temperature and low light intensity.The yield is above 15 kg·m-2 in green house cultivation.

【语种】中文
【第一作者】韩毅科
【通讯作者】杜胜利
【期刊名称、卷期、页码】园艺学报,2010,3
【论文发表时间】2009-12-16 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】园艺学

【题目】黄瓜新品种‘吉杂迷你一号’的选育
【中文关键词】黄瓜;“吉杂迷你一号”;一代杂种;
【英文关键词】"Cucumber"; Jiza Mini No.1; F1 hybrid;
【中文摘要】"吉杂迷你一号"黄瓜是以欧引4-1-1-1-1为母本,以自交系S1-1-4-2为父本配制而成的华南型黄瓜一代杂种。植株生长势强,以主蔓结瓜为主,全株雌性,节成性强,结瓜数多,果实商品性状优良,短棒状,果长14~16cm,单瓜重50~80g,果腔小,果皮深绿色,有光泽,品质好,无刺无棱基本无果粉,果型整齐一致,品质好,肉质细脆,微甜有香气,1hm2产量10万kg。适宜春、秋大棚和日光温室栽培。
【英文摘要】"Jiza Mini No.1"was a new hybrid Huanan cucumber,it s female parent was Ouyin4-1-1-1-1,male parent was S1-1-4-2.It is full female flower s plant and it grows vigorously,then it has many fruits that are short and excellent.Average length of fruits was 14~16 cm,average weight was 50~80 g.Color of fruit was dark green,surface appears luster.The fruit was formal and taste sweet.Average yield was 100 000 kg/hm2.This breed was suitable for cultivation in plastic tunnel and warm house.
【语种】中文
【第一作者】赵福顺
【通讯作者】赵福顺
【期刊名称、卷期、页码】北方园艺,2009,12:63-64
【论文发表时间】2009-07-20 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】园艺学

【题目】黄瓜新品种粤秀3号的选育
【中文关键词】黄瓜;新品种;粤秀3号;选育
【英文关键词】无
【中文摘要】粤秀3 号是以A- 2 为母本、C- 8 为父本配制的一代杂种。A- 2 是在100 多份资源材料鉴定的基础上, 从中选出从亚洲蔬菜中心引进的材料, 用单株选育法经7 代自交纯化的优异材料。主要特点是早熟, 植株长势较强, 分枝强,主侧蔓结果, 瓜长棒形、瓜条顺直、瓜长40cm、瓜把3.8cm, 品质中等。父本C- 8 是从长春密刺系统变异植株中选出单株, 其表现植株生长势强, 叶色深绿、叶片较小, 抗病性强, 商品瓜多、瓜条顺直, 皮色深绿有光泽, 黄色条纹不明显, 经6 代单株选育, 表现稳定。2001 年试配组合, F1 表现综合性状好,尤其在生长势及产量性状表现优异。2002- 2003 年进行品种比较试验, 2004- 2005 年参加全省区试, 同时在广东的番禺、茂名、湛江及广西、四川等地进行不同区域生产试种, 表现早熟, 果实商品性强, 产量高, 抗病抗逆性较强, 适合华南地区及全国各地种植。该品种于2006 年12 月通过广东省品种委员会审定。
【英文摘要】无
【语种】中文
【第一作者】林毓娥
【通讯作者】林毓娥
【期刊名称、卷期、页码】中国种业,2007(6):51-52
【论文发表时间】2007-06-15 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】园艺学

【题目】黄瓜新品种‘粤秀8号’
【中文关键词】黄瓜; 品种;
【英文关键词】cucumber; cultivar;
【中文摘要】‘粤秀8号’黄瓜是以优质自交系材料Y6与K39杂交育成的新品种。生长势强,主侧蔓结瓜,坐果性强。瓜长棒状,瓜把短,皮色深绿有光泽,刺瘤大而密,瓜长38~40cm,肉厚1.1cm,口感脆,味微甜,商品性佳,耐贮运。中早熟,抗病抗逆性强,耐热性较强,耐寒性和耐涝性中等,适于华南地区春秋两季栽培。
【英文摘要】Yuexiu 8 is a new cucumber cultivar(Y6×K39).It is mid-early maturity,very vigour,and good fruit setting,both main stem and lateral bine could bear fruit.The fruit is about 38 – 40 cm long,1.1 cm thick.The skin is dark green with luster and prickles.It is delicious and crisp.It is resistant to wilt,high and low temperature,flooding,storage and transportation. Yuexiu 8 is suitable to cultivation in spring and autumn in south China.
【语种】中文
【第一作者】林毓娥
【通讯作者】林毓娥
【期刊名称、卷期、页码】园艺学报,2010,37(3):511-512
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【学科分类】园艺学

【题目】不同材质果袋春夏季节套袋对黄瓜果实发育和品质的影响
【中文关键词】黄瓜; 果实套袋; 连续套袋; 果实发育; 微环境; 品质; 农药残留;
【英文关键词】cucumber; fruit bagging; successive-fruit-bagging; fruit growth; micro-environment; quality; residual pesticide;
【中文摘要】以“冬冠3号”黄瓜品种为试材,于春夏生长季节(4~7月份)在日光温室中研究了白膜袋、鲜膜袋、白纸袋和黄纸袋4种套袋处理对黄瓜果实微环境、果实生长发育和营养品质及农药残留的影响。结果表明:不论晴天还是阴天,所有套袋处理的袋内光照强度降低,相对湿度增大,温度提高;白纸袋增温效果最好,鲜膜袋内相对湿度最高,黄纸袋内光照最弱。单株单瓜套袋和单株果实连续套袋试验均表明,套袋后果实鲜重增长加快,瓜长度增加,瓜皮色显著变浅。连续套袋后,单瓜重普遍提高,大头瓜率降低,但化瓜率、弯瓜率和尖头瓜率增加;游离氨基酸含量提高;维生素C含量无显著变化;叶绿素和类胡萝卜素的含量普遍降低;可溶性蛋白质含量白纸袋和鲜膜袋的提高,黄纸袋和白膜袋的降低,但与CK间的差异均未达到5%显著水平。套袋可有效降低果实中氧化乐果的残留量,其中黄纸袋效果最好,其次为鲜膜袋、白膜袋和白纸袋。综合考虑各指标,认为春夏季节黄瓜果实套袋栽培应优先选用白纸袋,鲜膜袋和白膜袋不适宜在该季节使用。
【英文摘要】The research of fruit bagging was conducted in a farmer s solar greenhouse in Yangling,Shaanxi Province from April to July 2005 with four different types of bags: the white plastic film bag(WFB),the freshness-keeping plastic film bag(FFB),the white paper bag(WPB) and the yellow paper bag(YPB),in which cucumber fruit of cv.Dongguan No.3 was bagged.The objectives are first to rate the effectiveness of fruit bagging with different types of bags in controlling the residual chemical pesticides which are now commonly used to control pests in cucumber production, and second to investigate the bio-effects of fruit bagging on fruit growth and quality to evaluate the feasibility of fruit bagging technique in cucumber production. The no-bagging of fruit was taken as the control (CK) . Two experiments were carried out in this research, one was to bag only one fruit on a plant (one-fruit-bagging) and the second was to bag all the fruits on a plant(successive-fruit-bagging) . The experiments were rep licated three times and randomly arranged in the greenhouse. The treatment was conducted by choosing the newly opening female flower, measuring the length of the ovary, artificially pollinating the flower, and then bagging the female flower (young fruit) with a bag. The samp le p lants were sp rayed with the testing pesticide oxidized dimethoate twice. The micro-environment wasmeasured, which include the temperature, the relative humidity (RH) and the light intensity both outside and inside the bag during the period of fruit growing. The sample fruits were harvested to examine fruit morphology, yield, nutritive quality and the residual of the testing pesticide.The results show that on both sunny and cloudy days, light intensity inside all the bags is weakened, while RH and temperature increased. The highest temperature increase is inWPB and the highest RH increase is in FFB. The lowest level of light intensity record is in YPB. Both one-fruit-bagging and the successive-fruit-bagging on a plant show that the fresh weight (FW) growth rate and fruit length are increased by different levels according to different bagging treatments. Thecolor of fruit skin is lightened markedly in all four treatments of both experiments. With the successive-fruit-bagging, the single fruit weight is generally increased, the rate of big-head fruit is decreased, but the rate of aborted fruit, the rate of crooked fruit and the rate of pointed-head fruit are increased. Compared with the control, the content of free amino acids is increased, the amount of vitamin C is not changed markedly, but the content of chlorophyll and carotenoid are decreased.The content of soluble protein in fruit inWPB and FFB are increased, but reduced in YPB andWFB. There is no marked difference in soluble protein between

those treatments and the control. The residual of testing pesticide in the harvested fruit is effectively reduced by all the treatment of fruit bagging. YPB appears to be the best, which reduces the residual by 76.6%. FFB, WFB and WPB decrease the residual by 71. 6% , 69. 8% and 68. 9% respectively. In comprehensiveconsideration, WPB is recommended first. FFB and WFB are thought not suitable to use in the spring-summer growth season.
【语种】中文
【第一作者】程智慧
【通讯作者】程智慧
【期刊名称、卷期、页码】生态学报,2007,27(2)
【论文发表时间】2006-05-17 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】园艺学

【题目】黄瓜耐热性芽苗期鉴定指标筛选及预测方程的建立
【中文关键词】黄瓜; 耐热性; 芽苗期鉴定; 形态指标; 预测方程;
【英文关键词】cucumber; hot tolerance; identification at germination stage; morphological index; forecast equation;
【中文摘要】【目的】研究高温胁迫下黄瓜芽苗期的主要生物学性状,筛选芽苗期黄瓜耐热鉴定的形态指标。【方法】以25℃为对照(CK)温度,以4个已知耐热性的黄瓜品系种子为试材,在不同高温(35,38,42℃)下发芽6d后,测定芽苗形态指标,并进行主成分分析和回归分析。【结果】38℃高温发芽条件下,黄瓜幼苗的全鲜质量(X1)、去子叶鲜质量(X2)、根鲜质量(X3)、下胚轴长(X4)、活力指数(X5)与黄瓜品系耐热性的相关性比35和42℃下更密切,可作为耐热种质筛选的指标;主成分分析表明,第一、二主成分对耐热性评价的贡献率分别为89.03%和9.86%;通过回归分析建立了黄瓜耐热性预测方程。【结论】在38℃高温条件下发芽后6d测定的X2和X5,可作为黄瓜耐热性芽苗期鉴定的简易指标,利用回归方程Y=-0.347 3+0.245 0 X2+0.073 5 X5,可以预测黄瓜品种资源的耐热性。
【英文摘要】【Objective】 The biological characteristics at germination and sprouting stage were studied to screen hot tolerance identification morphologic indexes for cucumber.【Method】 Taking the 4 hot-tolerance known straits of cucumber as the test material and 25 ℃ as the temperature control,the main morphological indexes of cucumber were investigated under different high temperature(35 ℃,38 ℃,42 ℃) conditions 6 days after germination.The principal component analysis and regression analysis were made according to these indexes.【Result】 The whole-plant fresh weight(X1),fresh weight of plant without cotyledon(X2),root fresh weight(X3),hypocotyl length (X4) and vigor index(X5)showed significant correlations with hot-tolerance,which were suggested to be the reliablescreening indexes to identify hot tolerance variety .The first and second principal component contributed 89.03% and 9.86% to the hot tolerance of cucumber,respectively.A regressive equitation was established to access cucumber hot tolerance.【Conclusion】 The indexs X2 and X5 of cucumber germinated at 38℃ for 6 days are thought to be the simple indexs and the regressive equitation Y=-0.3473+0.2450×2+0.0735×5 is selected to forecast the hot tolerance of cucumber germplasm at germination and sprouting stage.
【语种】中文
【第一作者】程智慧
【通讯作者】孟焕文
【期刊名称、卷期、页码】西北植物学报,已录用
【论文发表时间】2010-09-25 00:00:00
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【引文索引号】0
【学科分类】园艺学

【题目】光滑少刺型黄瓜新品种水果黄瓜1号的选育
【中文关键词】光滑少刺型黄瓜; 水果黄瓜1号; 一代杂种;
【英文关键词】Cucumber; Shuiguohuanggua No.1; F1 hybrid;
【中文摘要】水果黄瓜1号母本456-5-12混来源于以色列引进材料,父本79033-18-2-3-1-2-5-1混来源于江苏地方品种黄金坠。该品种为光滑少刺型黄瓜一代杂种。植株生长势强,以主蔓结瓜为主。瓜短圆筒形,瓜皮绿色,瓜条顺直,表面光滑无棱沟,刺浅褐色、稀少。瓜长约19.6cm,横径约3.0cm,单瓜质量115g左右,瓜把长2.3cm,小于瓜长的1/7,肉厚占横径的64.7%左右。对白粉病、细菌性角斑病、霜霉病、枯萎病的田间抗性优于对照(翠绿、新泰密刺、青研黄瓜1号)。商品性好,风味品质优良,每667m2产量7500kg左右。

【英文摘要】Shuiguohuanggua No.1 is a new cucumber F1 hybrid developed by crossing 456-5-12hun with 79033-18-2-3-1-2-5-1hun.It grows vigorously.The average fruit weight is about 115 g.Fruits are green,sweet and crispy with highly marketable percentage.The fruit neck is about 2.3 cm which is about 1/7 of the fruit length.Its yield is 112.5 t · hm-2.It has stronger resistance to powdery mildew,augular leaf spot,downy mildew and Fusarium wilt than cuilu,xintaimici and qingyanhuanggua No.1.
【语种】中文
【第一作者】张守才
【通讯作者】张守才
【期刊名称、卷期、页码】中国蔬菜,2007.11:25-26
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【引文索引类型】其他
【引文索引号】0
【学科分类】园艺学

【题目】保护地黄瓜新品种翠龙的选育
【中文关键词】黄瓜; 翠龙; 一代杂种;
【英文关键词】Cucumber; Cuilong; F1 hybrid;
【中文摘要】从84份黄瓜品种资源中经自交或系内混合授粉选育出400余份试材,从中筛选出优良自交系96481-1-自混-1-混和8273-1-12-10-7-1-3混杂交,配制成一代杂种翠龙。该组合植株生长势强,以主蔓结瓜为主。瓜短圆筒形,皮浅绿色,瓜条顺直,瓜表面光滑无棱沟,刺瘤白色,小且稀少。瓜长20.5cm,横径3.17cm,3心室。平均单瓜质量125g左右,瓜把长2.6cm,小于瓜长的1/7,肉厚占横径的61.7%。春季平均早期产量10092.8kg/hm2,比对照青研黄瓜一号平均增产41.67%;春季平均总产量82730.8kg/hm2,比对照青研黄瓜一号平均增产237.6%。秋季平均总产量47340.4kg/hm2,比对照翠绿增产7.6%。风味品质佳,口感清香、脆甜。抗枯萎病,较抗细菌性角斑病、霜霉病。
【英文摘要】‘ Cuilong ’ is a new F1 hybrid by crossing line 96481-1-1 with 8273-1-12-10-7-1-3. It grows vigorously with high resistance to downy mildew and Fusarium wilt. In autumn it takes only 46 d from sowing to first harvest. Its yields is 82.7 t · hm2,237.6 % higher than that of Qingyanhuanggua NO.1 . Average single fruit weight is about 125 g. Fruit is green,sweet and crispy with high marketable percentage. The fruit neck is about 2.6 cm which is about 1/7 of fruit length.
【语种】中文
【第一作者】张守才
【通讯作者】张守才
【期刊名称、卷期、页码】长江蔬菜,2008.8:23-24
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【引文索引号】0
【学科分类】园艺学

【题目】水果黄瓜1号特征特性及栽培技术要点
【中文关键词】水果黄瓜1号; 特征特性; 栽培技术要点;
【英文关键词】无
【中文摘要】本文介绍了光滑少刺型黄瓜新品种水果黄瓜1号特征特性、丰产性、品质特性、抗病性等,并详细介绍了该品种的栽培技术要点。
【英文摘要】无
【语种】中文
【第一作者】李磊
【通讯作者】张守才
【期刊名称、卷期、页码】山东农业科学,2008.8:117-118
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【学科分类】园艺学

【题目】华南型黄瓜新品种翠龙的特征特性及栽培技术要点
【中文关键词】黄瓜; 翠龙; 一代杂种;
【英文关键词】无
【中文摘要】翠龙是青岛市农业科学研究院蔬菜研究所培育的华南型黄瓜新品种,丰产性好,风味品质佳,口感清香、脆甜,抗细菌性角斑病、霜霉病、枯萎病。
【英文摘要】无
【语种】中文
【第一作者】李磊
【通讯作者】张守才
【期刊名称、卷期、页码】山东农业科学,2009.3:118-119
【论文发表时间】2009-01-04 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】园艺学

【题目】黄瓜自交系低温弱光耐受性快速筛选平台的建立
【中文关键词】黄瓜; 低温弱光耐受性; 快速筛选平台;
【英文关键词】Cucumber; Tolerance to low temperature and poor light; Rapid screening system;
【中文摘要】黄瓜对低温和弱光的耐受性是两个相对独立的性状,需要单独进行评价。设计了以叶面积增长量为主要性状指标的弱光(或弱光+偏低温)耐受性的评价指标体系和以冷害指数作为临界低温耐受性评价指标的快速筛选体系,两者可复合实施。
【英文摘要】The tolerance to low temperature and the tolerance to poor light are two independent characters of cucumber. So they need to be evaluated separately. A multiple evaluating system is designed. First step, using the increase of leaf area to evaluate the tolerance ability under poor light or the combination of poor light and sub-optimal temperature. Second step, using the same seedlings, critical low temperature tolerance ability can be evaluated by investigating the cold injury index. Ideal results have been gained by using the evaluating system on the selection of cucumber inbred lines .
【语种】中文
【第一作者】张峰
【通讯作者】王永健
【期刊名称、卷期、页码】长江蔬菜,2006,4:39-40
【论文发表时间】2005-12-27 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】园艺学

【题目】设施黄瓜栽培专用品种选育的路径探讨
【中文关键词】黄瓜; 设施栽培; 品种选育;
【英文关键词】cucumber; protected cultivation; variety breeding;
【中文摘要】适应保护地生产发展和市场对黄瓜品种特性的新要求,在研究改进抗逆性、抗病性和分子标记追踪血缘等技术的基础上,通过有性杂交,聚合抗病性、低温弱光耐受性、持续生长结果能力以及与品质相关的优良性状,选育出了多个有刺型、无刺型等不同类型的优良骨干亲本自交系和优良品种,在生产上推广应用,取得了较高社会经济效益。
【英文摘要】In order to accelerating the development of cucumber cultivation under protection,the techniques of evaluation of tolerance to environment stress and controlling the genetic background,and the breeding for gathering the genes of disease resistance,tolerance to lower temperature and poor light as well as the ability of sustainable growth and fruit formation were studied.Till now,several spine and spineless cucumber core inbred lines and cultivars were bred and extended in cucumber production.
【语种】中文
【第一作者】张峰
【通讯作者】王永健

【期刊名称、卷期、页码】沈阳农业大学学报 ,2006, 37(3):446-450
【论文发表时间】2006-03-20 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】园艺学

【题目】龙园“绿春”旱黄瓜栽培关键技术
【中文关键词】旱黄瓜;龙园“绿春”;栽培关键技术
【英文关键词】无
【中文摘要】龙园“绿春”旱黄瓜是黑龙江省农业科学院园艺分院黄瓜研究室培育的适合春大棚及露地栽培的旱黄瓜杂优一代新品种,是哈尔滨市近郊早春主栽品种,也是黑龙江省主栽品种,并在吉林、辽宁有较大面积栽培,内蒙、广东、山东等省栽培效果反映良好。“绿春”为鲜食品种,也可以作加工用,商品瓜淡绿色,有光泽,刺瘤稀少,果肉脆嫩,清香味浓,深受北方人喜爱。因其产量高,品质佳,销路旺,效益好,深受生产者、消费者欢迎,栽培面积也迅速扩大,经济效益及社会效益日益显著。
【英文摘要】无
【语种】中文
【第一作者】张作标
【通讯作者】张作标
【期刊名称、卷期、页码】北方园艺,2006,2
【论文发表时间】2005-12-20 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】园艺学

【题目】保存方法和年限对黄瓜枯萎病病菌致病力的影响
【中文关键词】黄瓜; 枯萎病菌株; 保存方法;
【英文关键词】Cucumber; Bacterial strain of fusarium wilt of cucumber; Preservation method;
【中文摘要】对已经在冰箱里用不同方法保存了11~22a的黄瓜枯萎病病菌进行了致病力的测定研究。研究结果表明,黄瓜枯萎病菌在试管PDA固体斜面培养基中保存22a,经过培养纯化后仍有很强的致病力,同一方法保存不同年限的菌株其成活率与致病力差异不显著,而相同保存年限不同保存方法保存的菌株成活率差异显著,其中试管PDA固体斜面培养基和大三角瓶麦粒培养基保存方法较好。
【英文摘要】Pathogenicity determination of fusarium wilt pathogens in cucumber preservation in icebox for 11-22 years since 1984 was studied. The results showed that pathogens preservation for 22 years in PDA solid slant medium in test tube were still high pathogenicity. Preserved by the same method and different period,difference between survival rate of bacterial strain and pathogenicity was not significant. Preserved by the same period and different method,difference was significant. The method of PDA solid slant medium and wheat grain in trigonal tank were better.
【语种】中文
【第一作者】张作标
【通讯作者】柳景兰
【期刊名称、卷期、页码】长江蔬菜,2010,6
【论文发表时间】2009-10-14 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】园艺学

【题目】加工型黄瓜锦春新品种的选育
【中文关键词】加工型黄瓜; 锦春; 杂交一代;
【英文关键词】Jinchun; processing cucumber; F1 hybrid;
【中文摘要】锦春是以自交系H141为母本、自交系L25-7为父本配制的杂优新品种。该品种长势中等,节成性好,早熟性突出,果实短圆柱型,果皮绿色,白刺稀少,肉质致密,果型指数3.5左右,商品性优良,丰产性好,抗病性强,耐贮运加工及鲜食,适宜

春露地栽培。
【英文摘要】Processing cucumber Jinchun is a new F1 hybrid using inbred line H141 as female parent and L25-7 as male parent.Plant vigour is medium.The character of early mature was very good.The fruit was short-cylindrica shape,green color of fruit peel and few white spine.Shape index of fruit was about 3.5.Commercial value,high yield and disease resistance are all outstanding.It is suitable for storage,processing and fresh-eating,cultivation in spring openground.
【语种】中文
【第一作者】张作标
【通讯作者】柳景兰
【期刊名称、卷期、页码】北方园艺,2010,8
【论文发表时间】2009-10-10 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】园艺学

【题目】DNA分子标记在瓜类遗传育种中的应用
【中文关键词】瓜类; DNA分子标记; 遗传育种;
【英文关键词】Cucumis; DNA molecule maker; genetic breeding;
【中文摘要】文章综述了DNA分子标记在瓜类作物遗传图谱构建,瓜类种质资源研究与品种纯度的鉴定,瓜类作物基因分子标记研究及基因克隆方面的应用研究进展。
【英文摘要】Advance of application of several DNA molecule makers in Cucumis was summarized in this paper.They had been used in various aspects including genetic map construction,germplasm research and purity control of cultivars,identification makers linked to important genes and map-based gene cloning.
【语种】中文
【第一作者】范金霞
【通讯作者】秦智伟
【期刊名称、卷期、页码】东北农业大学学报,2006,.37(2):249-253
【论文发表时间】2004-12-08 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】园艺学

【题目】黄瓜耐热性遗传分析
【中文关键词】黄瓜; 耐热性; 细胞质膜热稳定性; 遗传分析;
【英文关键词】cucumber; heat tolerance; cytoplasm membrane heat stability; genetic analysis;
【中文摘要】以两个耐热和两个热敏的黄瓜亲本进行完全双列杂交,连同亲本、F1代自交和回交世代(P1,P2,F1,F2,B1,B2)作为试验材料,对高温处理的叶片进行细胞质膜热稳定性测定。运用MINQUE(1)的统计方法,以Cockerham提出的遗传模型建模原理,用加性-显性遗传模型对结果进行遗传分析。结果表明,黄瓜耐热性属于多基因控制的数量遗传,由主效基因控制;加性效应为59.052,显性效应为18.509;广义遗传率为42.109%,狭义遗传率为55.308%。
【英文摘要】Using the two cucumber parents of complete diallel cross between heat tolerance and heat sensitive,the generation F1 of the two parents and backcross generation(P1,P2,F1,F2,B1,B2) were as the experiment materials to determine heat stability of cytoplasm membrane of cucumber leaves treated by high temperature.By using MINQUE(1) statistical method and the genetic model modeling theory brought by Cockerham,the research analyzed the genetic result by AD genetic model.The result showed the heat tolerance of cucumber belonged to quantity heredity controlled by multi- genes and was also controlled by main gene. The adding effect was 59.052, dominance effect was 18.509, broad heritability ratio was 42.109% and the narrow heritability ratio was 55.308%.
【语种】中文
【第一作者】张鹏
【通讯作者】秦智伟
【期刊名称、卷期、页码】东北农业大学学报,2007,38(4):486-490
【论文发表时间】2006-05-10 00:00:00

【引文索引类型】其他
【引文索引号】0
【学科分类】园艺学

【题目】黄瓜霜霉病抗病基因的RAPD及SCAR标记
【中文关键词】黄瓜; 霜霉病抗病基因; RAPD标记; SCAR标记;
【英文关键词】cucumber(Cucumis sativus L.); downy mildew resistance gene(dm); RAPD markers; SCAR markers;
【中文摘要】以感霜霉病黄瓜L18-10-2和抗霜霉病黄瓜129为亲本构建F2代分离群体,以F3代植株霜霉病抗性鉴定表示F2代各单株抗病性并得以区分各单株杂合或纯合感病性,采用RAPD技术和转SCAR的方法筛选黄瓜抗霜霉病基因分子标记.结果显示,在318条RAPD引物中有18条引物表现出两亲本间多态性,其中引物P18的SB-SP18561扩增片段与霜霉病抗病基因之间紧密连锁,根据交换率和Kosambi函数公式计算其遗传距离为7.85 cM.回收SBSP18561片段并克隆和测序,其准确长度为561 bp.将该RAPD标记转换为SCAR标记,长度为494 bp,命名为SSBSP18494.
【英文摘要】The mapping population was constructed with the susceptible cucumber L18-10-2 and the resistant cucumber 129 as parents.The identification of resistance for downy mildew of F2 progeny was carried out using that of F3 progeny,which could distinguish the heterozygous and homozygous susceptibility of every individual.The markers of resistance to downy mildew were screened with the RAPD technique.The results showed that 18 primers of 318 RAPD primers could detect the polymorphism between the two parents. The polymorphic fragment SBSP18561 amplified by the primer P18 showed linkage relation with the dm gene. The linkage distance was calculated as 7. 85 cM according t he crossover value and the formula of the Kosambi function. The segment SBSP18561 was recovered ,cloned and sequenced. Its length truly was 561 bp . The RAPD marker was t riump hantly converted into a SCAR marker . The marker was named SSBSP18494 for the length of 494 bp .
【语种】中文
【第一作者】丁国华
【通讯作者】秦智伟
【期刊名称、卷期、页码】西北植物学报,2007,27(9):1747-1751
【论文发表时间】2007-07-17 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】园艺学

【题目】黄瓜瓜把长度QTL定位的研究
【中文关键词】黄瓜; 瓜把长度; SSR; QTL;
【英文关键词】Cucumis sativus; carpopodium length; SSR; QTL;
【中文摘要】利用长瓜把的黄瓜自交系129与短瓜把的Z3杂交衍生的F2株系,检测与瓜把长度相关的QTL。DNA从F2株系提取,并且利用SSR引物对其进行扩增。总共有5个呈现清晰、可重复的多态性分子标记用于QTL检测。结合瓜把数据,利用Mapmaker3.0b构建基因连锁图谱,运用Windows QTL Cartographer V2.0检测QTL。LOD大于2作为QTL存在的阈值。4个来自于同一个连锁群的分子标记CSWGATT01B、CSWGATT01C、CSCT335和CSWGATT01A与瓜把长度显著相关。Qchl1与分子标记CSWGATT01B、CSWGATT01C紧密连锁,与二者分别相距3.4cM和18.0cM,且变异贡献率为18.49%。
【英文摘要】A F2 population derived from 129, a cucumber inbred line with long carpopodium, and Z3, a cultivar with short carpopodium, was used to identify quantitative trait loci (QTL) associated with cucumber carpopodium length. DNA was extracted from F2 plants and amplified using simple sequence repeat (SSR) marker. Five polymorphic SSR markers were used for QTL detection and construct the genetic linkage map using Mapmaker 3.0b. QTLs were detected with Windows QTL Cartographer V2.0. Four markers CSWGATT01B, CSWGATT01C, CSCT335 and CSWGATT01A that came from one linkage group significantly associated with carpopodium length. Qchl1 was linked with SSR markers CSWGATT01B and CSWGATT01C by 314 cM and 1810 cM, respectively. It explained 18149% of phenotypic variation.
【语种】中文
【第一作者】王桂玲
【通讯作者】秦智伟
【期刊名称、卷期、页码】园艺学报,2008,35(4):543-546
【论文发表时间】2008-03-07 00:00:00

【引文索引类型】其他
【引文索引号】0
【学科分类】园艺学

【题目】水果型黄瓜新品种东农804选育
【中文关键词】水果型黄瓜; 东农804; 一代杂种;
【英文关键词】Mini-cucumber; ‘ Dongnong 804 ’; F1 hybrid;
【中文摘要】东农804是利用优势育种法选育的水果型黄瓜一代杂种。母本D0420是强雌性自交系,父本D0202是高代稳定自交系。植株长势强,叶片深绿色,茎秆粗壮,分枝少、主蔓结瓜,节成性好,第7~8节以上每节有瓜,高抗细菌性角斑病和枯萎病,抗霜霉病、白粉病。瓜长22~24cm,瓜粗3cm左右,单瓜质量150~180g,标准瓜率大于85%。果实深绿色,有光泽,瓜腔小于瓜横径1/2,每667m2产量3800~4300kg。适宜在华北、东北地区春秋保护地栽培。
【英文摘要】‘ Dongnong 804 ’ is a new mini-cucumber F1 hybrid bred by using heterosis breeding.The female D0420 is strong female inbred line,and the male D0202 is inbred line.It grows vigorously.Its leaf is dark green and the vine is thick and strong.It bears fruits mainly in its main stem with high rate of fruit-setting and low rate of branching.It is highly resistant to bacterial augular leaf spot and Fusarium wilt,resistant to downy mildew and powdery mildew.Its fruit is dark green,lustrous,22-24 cm in length,about 3 cm in diameter, and 150 - 180 g in weight. The standard fruit rate is above 85 %. The length of fruit cavity is below 1 /2. It yields 5710 - 6415 t · hm- 2.
【语种】中文
【第一作者】周秀艳
【通讯作者】秦智伟
【期刊名称、卷期、页码】中国蔬菜,2009,22:74-75
【论文发表时间】2009-08-31 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】园艺学

【题目】常规灌溉条件下自根和嫁接黄瓜灌溉水分配的研究
【中文关键词】日光温室; 黄瓜; 嫁接; 灌溉水分配;
【英文关键词】solar greenhouse; cucumber; graft; distribution of irrigation water;
【中文摘要】研究了常规灌溉条件下,日光温室冬春茬和秋冬茬生产中,嫁接和自根黄瓜灌溉水分配状况。结果表明,二茬口试验中灌溉水分配量顺序均为土壤渗漏>植株蒸腾>土壤蒸发>土层贮水。其中,冬春茬灌溉水的分配比例为土壤渗漏44.3%、植株蒸腾35.4%、土壤蒸发15.7%、土层贮水4.6%;秋冬茬灌溉水分配比例为土壤渗漏49.6%、植株蒸腾29.7%、土壤蒸发13.9%、土层贮水6.8%。受根系分布状况和温室光温条件的影响,冬春茬土壤渗漏的比例低于秋冬茬,植株蒸腾与土壤蒸发的比例高于秋冬茬。冬春茬和秋冬茬嫁接黄瓜与自根黄瓜相比,土壤渗漏量分别低8.4%和3.4%,土壤蒸发量分别低12.0%和1.0%,蒸腾量分别高15.3%和4.0%,因此嫁接是一种有效的节水措施。
【英文摘要】In order to provide academic proof for establishing proper agricultural measure,the distribution of irrigation water of grafted and own-rooted cucumber of winter-spring and autumn-winter cropping under traditional irrigation in solar greenhouse was studied.The results showed that the irrigation water distribution ratio of cucumber of winter-spring cropping is 44.3% of soil water drainage,35.4% of transpiration,15.7% of evaporation and 4.6% of soil moisture storage.The irrigation water distribution ratio of cucumber of autumn-winter cropping is 49. 6 % of soil water drainage , 29. 7 % of transpiration , 13. 9 % of evaporation and 6. 8 % of soil moisture storage. Because of the effect of root distribution and light and temperature condition of greenhouse , the proportion of winter-spring cropping ’ s soil water drainage is lower than autumn-winter cropping ’ s , the proportion of winter2-spring cropping ’ s transpiration and evaporation is higher t han autumn-winter cropping ’ s. Compare grafted cucumber of winter-spring and autumn-winter cropping with own-rooted cucumber , soil water drainage decrease 8. 4 % and 3. 4 % , respectively , evaporation decrease 12. 0 % and 1. 0 % , respectively , transpiration increase 15. 3 % and 4. 0 % , thereby graft is an effective water-saving measures.
【语种】中文
【第一作者】陈小燕
【通讯作者】任华中
【期刊名称、卷期、页码】灌溉排水学报, 2008, 27:4-44

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【引文索引号】0
【学科分类】园艺学

【题目】嫁接和自根黄瓜灌溉水分配和水分利用效率的研究
【中文关键词】日光温室; 黄瓜; 嫁接; 灌溉水分配; 水分利用效率;
【英文关键词】Solar greenhouse; Cucumber; Graft; Distribution of irrigation water; Water use efficiency;
【中文摘要】研究了常规灌溉条件下,日光温室冬春茬和秋冬茬生产中,嫁接和自根黄瓜(Cucumis sativus L.)灌溉水分配状况和水分利用效率,旨在为制定合理的农艺节水措施提供理论依据。结果表明,两茬口试验中灌溉水分配量顺序均为土壤渗漏>植株蒸腾>土壤蒸发>土层贮水。其中,冬春茬灌溉水的分配比例为土壤渗漏44.3%、植株蒸腾35.4%、土壤蒸发15.7%、土层贮水4.6%;秋冬茬灌溉水分配比例为土壤渗漏49.6%、植株蒸腾29.7%、土壤蒸发13.9%、土层贮水6.8%。受根系分布状况和温室光温条件的影响,冬春茬土壤渗漏的比例低于秋冬茬,植株蒸腾与土壤蒸发的比例高于秋冬茬。冬春茬和秋冬茬嫁接黄瓜与自根黄瓜相比,土壤渗漏量分别低8.4%和3.4%,土壤蒸发量分别低12.0%和1.0%,蒸腾量分别高15.3%和4.0%;两茬口嫁接黄瓜的水分利用效率均显著高于自根黄瓜,因此嫁接是一种有效的节水措施。
【英文摘要】In order to provide academic proof for establishing proper agricultural measure,the distribution of irrigation water and water use efficiency of grafted and own-rooted cucumber of winter-spring and autumn-winter cropping under traditional irrigation in solar greenhouse was studied.The results showed that,the sequence of the irrigation water distribution ratio is soil water drainage>transpiration>evaporation>soil moisture storage.The irrigation water distribution ratio of cucumber of winter-spring cropping is 44. 3 % of soil water drainage , 35. 4 % of transpiration , 15. 7 % of evaporation and 4. 6 %of soil moisture storage. The irrigation water distribution ratio of cucumber of autumn-winter cropping is 49. 6 % of soil water drainage , 29. 7 % of transpiration , 13. 9 % of evaporation and 6.8 % of soil moisture storage. Because of the effect of root distribution and light and temperature condition of greenhouse , the proportion of winter-spring cropping's soil water drainage is lower than autumn-winter cropping ’ s , the proportion of winter-spring cropping ’ s transpiration and evaporation is higher than autumn-winter cropping ’ s. Compare grafted cucumber of winter-spring and autumn-winter cropping with own-rooted cucumber , soil water drainage decrease 8. 4 % and 3. 4 % , respectively ,evaporation decrease 12. 0 % and 1. 0 % , respectively , transpiration increase 15. 3 % and 4. 0 %; the water use efficiencies of graf ted cucumber of two croppings are bot h significantly higher than that of own-rooted cucumber , thereby graft is an effective water-saving measures.
【语种】中文
【第一作者】陈小燕
【通讯作者】任华中
【期刊名称、卷期、页码】西北农学报, 2008,17(6):130-135
【论文发表时间】2008-05-15 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】园艺学

【题目】常规灌溉条件下嫁接和增施氮肥对温室黄瓜耗水量及水分利用效率的影响
【中文关键词】嫁接; 施氮水平; 黄瓜; 耗水量; 水分利用效率;
【英文关键词】graft; nitrogen supplying level; cucumber; water consumption; water use efficiency;
【中文摘要】在日光温室内研究了常规灌溉条件下,嫁接和3种施氮水平(0、110和331kg.hm-2)对日光温室黄瓜耗水量和水分利用效率的影响.结果表明:在嫁接和追施氮肥331kg.hm-2时,黄瓜耗水量最高,冬春茬和秋冬茬分别为3350和2181m3.hm-2,水分利用效率也最高,两茬口分别为27.2和36.9kg.m-3.在施氮量相同的情况下,嫁接黄瓜的耗水量比自根黄瓜提高3~6,经济产量和水分利用效率则分别提高28和20.9;随着施氮量的增加,嫁接黄瓜耗水量和水分利用效率均显著增加,自根黄瓜耗水量也随施氮量的增加而增加,但水分利用效率却在施氮110kg.hm-2时最高.因此,嫁接栽培可显著提高黄瓜耗水量及水分利用效率,且随着施氮量的增加而显著增加;增施氮肥也可显著提高自根黄瓜的耗水量,但氮肥增施过多则将降低自根黄瓜的水分利用效率。
【英文摘要】An experiment was conducted in solar greenhouse to study the effects of graft and different nitrogen(N) supply levels(0,110,and 331 kg · hm-2) on the water consumption and water use efficiency(WUE) of cucumber(Cucumis sativus L.) under traditional irrigation.The results showed that when topdressing 331 kg N · hm-2,the water consumption of grafted cucumber was the

highest,being 3 350 m3 · hm-2 and 2 181 m3 · hm-2 in winter-spring and autumn-winter cropping,so did the WUE,being 27.2 kg · m-3 and 36.9 kg · m-3,respectively. Comparing with those of self-rooted cucumber, the water consump tion, economic yield, andWUE of grafted cucumber under the same N topdressing levels were increased by 3%- 6% , 28% , and 2019% , respectively, and the water consump tion andWUE of grafted cucumber were increased with increasing N supply level. The water consump tion of self-rooted cucumber also increased with increasing N supply level, but itsWUE was the highestwhen the N supply was 110 kg · hm- 2. It was indicated that graft could markedly promote the water consumption andWUE of cucumber, and the effectwasmore markedly with increasingN supply level. To increase N supp ly could also markedly promote the water consumption of self-rooted cucumber, but the WUE would be lower when excessive N was supplied.

【语种】中文
【第一作者】陈小燕
【通讯作者】任华中
【期刊名称、卷期、页码】应用生态学报, 2008,19(12):2656-2660
【论文发表时间】2008-09-20 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】园艺学

【题目】不同因素对黄瓜未受精子房胚状体诱导的影响
【中文关键词】黄瓜; 未受精子房; 雌核发育; 胚状体;
【英文关键词】Cucumber; Unfertilized ovaries; Gynogenesis; Embryoids;
【中文摘要】以黄瓜未受精子房为试材,研究了激素种类、暗培养、温度等对启动雌核发育和胚状体诱导的影响,旨在探讨建立黄瓜未受精子房培养获得再生植株的技术体系。结果表明,未授精子房预培养阶段,25℃下暗培养1 d,启动雌核发育的反应率最高可达91.3%;TDZ浓度对启动雌核发育的影响与温度有关:相同TDZ浓度下,25℃比35℃更适合启动雌核发育;25℃条件下,启动雌核发育的最适TDZ浓度为0.02 mg/L,反应率可达90.1%;35℃热激处理中,启动雌核发育的最适TDZ浓度为0.06 mg/L,反应率为61.1%;胚状体诱导阶段,培养基中添加1.0 mg/L6-BA时,平均每子房产胚量最高,为10.53个。
【英文摘要】The aim of this research was to establish a plants regeneration system for cucumber(Cucumis sativus L.)via in vitro gynogensis in order to provide a quick way to obtain self-bred lines for cucumber F1 breeding.It researched the effects of the growth regulators,dark culture and temperature on induction of gynogenesis and embryoids.Data indicated that in preliminary culture the maximum frequency of gynogenesis response was 91.3% in 25℃ for 1 day dark culture.25℃ was better for the initiation of genogensis compared with 35 ℃in medium supplemented the same concent ration of TDZ.The maximum f requency of gynogenesis response was up to 90. 1 % in CBM medium supplemented 0. 02 mg/ L TDZ in 25 ℃ t reatment , while t his f requency was 61. 1 % in CBM medium supplemented 0. 06mg/ L TDZ in 35 ℃t reatment . The maximum number of embryoid induction was 10. 53 per ovary in CBM medium supplemented 1. 0 mg/ L BAP.

【语种】中文
【第一作者】王 璐
【通讯作者】任华中
【期刊名称、卷期、页码】西北农业学报, 2008, 17(4):267-270
【论文发表时间】2008-03-11 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】园艺学

【题目】中国刺瘤型黄瓜种质遗传多样性和亲缘关系的AFLP分析
【中文关键词】黄瓜; AFLP; 遗传多样性; 亲缘关系;
【英文关键词】Cucumber; AFLP; Genetic diversity; Relationship;
【中文摘要】利用AFLP(Amplified fragment length polymorphisms)分子标记技术对99份来源不同的中国刺瘤型黄瓜(Cucumis sativusL.)种质的遗传多样性和亲缘关系进行了分析,以确定中国黄瓜的遗传基础,指导育种实践。从77对引物组合中选出7对多态性较高的组合进行扩增,共扩增出382条条带,多态性带179条,多态性带比率为46%,总体平均期望杂合度为0.314。聚类分析显示,可将99份黄瓜种质资源划分为短瓜类群和长瓜类群,长瓜类群又可以分为3个亚群,3个亚群的黄瓜具有各自类群的表型特点。中国刺瘤型黄瓜种质资源表现出丰富的遗传多样性,是黄瓜育种优良的基因源。

【英文摘要】In this study,Genetic diversity and relationship of 99 cucumber germplasms were assessed by molecular marker technology AFLPs,to make sure the genetic basement of the Chinese warty cucumber and direct breeding.7 selective primer pairs were screened from total 77 primer pairs and 179 polymorphic bands were observed from total 382 bands.The percentage of polymorphic bands was 46.86%.The average expected heterozygosity of AFLP loci among all accessions was 0.314.Based on AFLPs results,99 materials were clustered into two groups , namely short fruit cucumber group and long fruit cucumber group , and the long fruit cucumber group was further classified into there sub-groups. This results were consistent with the morphological character. Chinese cucumber germplasm had a high degree in genetic diversity and were an excellent gene source for cucumber breeding.
【语种】中文
【第一作者】杨福强
【通讯作者】任华中
【期刊名称、卷期、页码】西北农业学报, 2009, 18(6):205-211
【论文发表时间】2009-06-10 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】园艺学

【题目】耐热黄瓜新品种中农106号的选育
【中文关键词】黄瓜; 中农106号; 一代杂种; 耐热;
【英文关键词】Cucumber; ‘ Zhongnong No.106 ’; F1 hybrid; Heat resistance;
【中文摘要】中农106号是以04796为母本,以02465为父本配制而成的黄瓜一代杂种。瓜皮深绿色,腰瓜长35cm以上,瓜把长小于瓜长的1/8,商品瓜率90%左右。刺瘤密,白刺,瘤小,无棱,少纹,口感脆甜。高抗西葫芦花叶病毒(ZYMV),抗西瓜花叶病毒(WMV)、黄瓜花叶病毒(CMV)、白粉病、角斑病、枯萎病,中抗霜霉病。耐热,每667m2产量最高可达10000kg,适宜春、夏秋露地栽培。
【英文摘要】‘ Zhongnong No.106 ’is a new cucumber F1 hybrid using inbred line 04796 as female parent and 02465 as male parent.Its fruit is over 35 cm in length with short neck and dark green skin.It yields high.Its highest yield can reach 150 t · hm-2.It has high resistance to ZYMV,resistance to WMV,CMV,powdery mildew,angular leaf spot and Fusarium wilt,middle resistance to downy mildew.It is suitable for open field cultivation in spring or summer and autumn.
【语种】中文
【第一作者】顾兴芳
【通讯作者】顾兴芳
【期刊名称、卷期、页码】中国蔬菜,2008(6):31-33
【论文发表时间】2008-04-20 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】园艺学

【题目】露地优质黄瓜新品种中农20号的选育
【中文关键词】黄瓜; 中农20号; 一代杂种; 露地栽培;
【英文关键词】Cucumber; ‘ Zhongnong No.20 ’; F1 hybrid; Open field cultivation;
【中文摘要】中农20号是以优质、丰产、抗病自交系02484为母本,以优质、耐热自交系02465为父本配制而成的早熟黄瓜一代杂种。瓜皮深绿色,有光泽,腰瓜长30~35cm,瓜把长小于瓜条长的1/8,商品瓜率高,口感脆甜,尤其适宜超市销售。高抗西葫芦花叶病毒(ZYMV)、西瓜花叶病毒(WMY),抗角斑病、霜霉病、白粉病,中抗枯萎病、黄瓜花叶病毒(CMV),早春露地栽培每667m2产量10000kg以上,适宜春、夏秋露地栽培。
【英文摘要】‘ Zhongnong No.20 ’is a new cucumber F1 hybrid using inbred line 02484 as maternal parent and 02465 as paternal parent.Its fruit is about 30-35 cm in length with short neck and dark shining green skin.The fruit neck is less than 1/8 of the fruit length.It is good for supermarket sale.It has high resistance to ZYMV,WMY,resistance to angular leaf spot,downy mildew,powdery mildew,middle resistance to Fusarium wilt and CMV.The yield is over 150 thm-2.It is suitable for open field cultivation in spring or summer and autumn.
【语种】中文

【第一作者】顾兴芳
【通讯作者】顾兴芳
【期刊名称、卷期、页码】中国蔬菜,2008(7):29-31
【论文发表时间】2008-04-20 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】园艺学

【题目】黄瓜白粉病抗性遗传规律及分子标记研究进展
【中文关键词】黄瓜; 白粉病; 遗传规律; 分子标记; 综述;
【英文关键词】Cucumber; Powdery mildew; Inheritance; Molecule marker; Review;
【中文摘要】综述了国内外黄瓜白粉病抗性遗传规律、分子标记的最新研究进展。并针对研究中存在的问题进行分析,对今后的研究方向进行了展望。
【英文摘要】The latest research progress on the inheritance of resistance and molecular markers in cucumber (Cucumis sativus L.) powdery mildew were summarized,the existing problems in present studies and the research direction for future were discussed.
【语种】中文
【第一作者】刘苗苗
【通讯作者】刘宏宇
【期刊名称、卷期、页码】中国蔬菜,2009(24):7-14
【论文发表时间】2009-11-15 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】园艺学

【题目】优质日光温室黄瓜新品种“中农26号”的选育
【中文关键词】黄瓜; 中农26号; 一代杂种; 优质; 抗病;
【英文关键词】Cucumber; ‘Zhongnong No.26’; F1 hybrid; Superior quality; Resistance to disease;
【中文摘要】中农26号是以01316为母本和04348为父本配制而成的黄瓜一代杂种。瓜色深绿,腰瓜长约30cm,瓜把短,心腔小,果肉绿色,商品瓜率高;综合抗病性强,抗霜霉病、白粉病、病毒病,中杭枯萎病;耐低温弱光;持续结瓜及丰产优势明显。早春日光温室栽培产量高达8900kg·(667m2)-1。适宜北方日光温室各茬口栽培。
【英文摘要】‘Zhongnong No.26’is a newly bred cucumber F1 hybrid using inbred line 01316 as maternal parent and 04348 as paternal parent. Its fruit is about 30 cm in length with short neck and dark green skin. It has resistance to downy mildew, powdery mildew, ZYMV, WMV, mid-resistance to Fusarium wilt. It is tolerate to low temperature and weak light. It can bear fruit sustainably and has remarkable high yielding potential. It can yield 133.5 t·hm-2 in early spring in solar-greenhouse. It is suitable for protected cultivation, especially for solar-greenhouse.
【语种】中文
【第一作者】顾兴芳
【通讯作者】顾兴芳
【期刊名称、卷期、页码】中国蔬菜,2010(16)已经接收
【论文发表时间】2010-06-08 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】园艺学

【题目】Vegetable Production in Solar Plastic Greenhouses: Past, Present and Future in Shandong Province
【中文关键词】无
【英文关键词】Yang Qi; protected culture; winter vegetable production; SPG; cucumber
【中文摘要】无
【英文摘要】The primitive form of solar plastic greenhouse (SPG) was plastic covered "Yang Qi", which was normally used for culture of vegetable transplants but with glass windows. Since its appearance in Shandong Province (China) around 1989, SPG has gone

through major modifications on both structure and cover materials. Most of current SPGs have three solid brick/soil walls (the east, west and north side) and polyethylene plastic covers (the south side and top). Relying exclusively on solar energy, SPG is capable of producing over 30 different vegetable species, including temperate vegetable crops in winter, at regions with the minimal temperature above 15 degrees C. The acreage of SPG in Shandong Province has exceeded 140 kha, producing 20-25% of the vegetables in China. The total output and value of vegetables produced was 18.5% and 20.4% of the nation, respectively. The export of Shandong vegetables was about a million t/year, valued over $400 million. In addition to the improvement in SPG structure, progress in the cultivation techniques through the years had made the rapid growth in SPG acreage possible. These techniques, which had aided in boosting farmer's profits from $15k/ha to $50k/ha, included the use of SPG specific cultivars, grafted transplants, adequate fertilizer, CO2 implementation, and scientific temperature controls. The major challenges to vegetable production in SPGs are soil deterioration and severe plant disease and pest problems. Future study should address the integrated pest control, diversification of vegetable species and cultivars, and improvement of qualities in vegetable produces.

【语种】英文

【第一作者】Sun, X

【通讯作者】Sun, X

【期刊名称、卷期、页码】The Asian and Australasian Journal of Plant Science and Biotechnology,Acta Horticulturae. 2006,761: 299-303

【论文发表时间】2006-05-03 00:00:00

【引文索引类型】SCI

【引文索引号】UT WOS:000255678800039

【学科分类】园艺学

【题目】低温弱光对黄瓜植株生长、光合特性的影响

【中文关键词】黄瓜; 低温弱光; 生长; 光合特性; 叶绿素; 荧光;

【英文关键词】cucumber; low temperature and poor light; growth; photosynthetic characters; chlorophyll; fluorescence;

【中文摘要】研究了偏低温弱光条件对5个黄瓜品种苗期植株下胚轴、真叶数、叶长叶宽、叶绿素含量、净光合速率及叶绿素光化学效率的影响。结果表明,偏低温弱光造成黄瓜下胚轴、真叶数以及叶长叶宽的生长量减少,叶片的叶绿素含量、净光合速率和叶绿素光化学效率降低。不同品种受低温弱光逆境影响的部位和程度不同。

【英文摘要】Effects of low temperature and poor light on hypocotyls,true leaves,leaf length and width,chlorophyll content,net photosynthetic rate and chlorophyll photochemical efficiency of 5 cucumber varieties were studied.The results showed that the increment of hypocotyls,true leaf increasing and leaf expanding were reduced under the stress of low temperature and poor light.Chlorophyll content,net photosynthetic rate and Chlorophyll photochemical efficiency(Fv/Fm) were also decreased compared with CK.Part and degree influenced were different under low temperature and poor light in different cucumber varieties.

【语种】中文

【第一作者】张红梅

【通讯作者】余纪柱

【期刊名称、卷期、页码】沈阳农业大学学报,2006,37(3)339-342

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【引文索引类型】其他

【引文索引号】0

【学科分类】园艺学

【题目】弱光下黄瓜苗期几个生理指标的遗传分析

【中文关键词】黄瓜幼苗; 双列杂交; 弱光; 配合力; 遗传力; 遗传分析; POD; PPO; MDA; Chla/Chlb;

【英文关键词】Cucumber seedling; Diallel crossing; Low light; Combining ability; Heritability; Genetic analysis; POD; PPO; MDA; Chl a/Chl b;

【中文摘要】以6份黄瓜自交系为试材,采用完全双列杂交设计GriffingⅡ配制了21个组合。对正常温度(25℃/15℃)弱光条件下黄瓜苗期几个生理指标作了配合力、遗传力和遗传分析的研究,其中包括过氧化物酶(POD)、多酚氧化酶(PPO)两种酶的活性,丙二醛(MDA)含量,叶绿素a与b的比值(Chl a/Chl b)4个指标,得到表现较好的3个亲本和5个组合。结果表明,在正常温度弱光条件下这4个指标的狭义遗传力均很低。PPO活性、MDA含量和Chl a/Chl b值的遗传均不符合加性-显性模型。

【英文摘要】Six cucumber inbred lines were used as test materials and 21 combinations were made through complete diallel cross GriffingⅡ.The combining ability,heritability and genetic analyses of several physiological indexes at the seedling stage,including activities of peroxidase(POD)and polyphenol oxidase(PPO),content of MDA and ratio of chlorophyll a to chlorophyll b,were conducted.The results showed that the narrow heritabilities of all the four indexes were very low under normal temperature(25℃/15℃) and low light.The activity of polyphenol oxidase (PPO) , content of MDA and ratio of chlorophyll a to chlorophyll b were not in line with additive2dominant model . In the experiment 3 inbred lines and 5 combinations had a rather good performance.
【语种】中文
【第一作者】李建吾
【通讯作者】余纪柱
【期刊名称、卷期、页码】上海农业学报, 2006,22(1)25-30
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【学科分类】园艺学

【题目】不同砧木对嫁接黄瓜细胞保护酶活性和丙二醛含量的影响
【中文关键词】黄瓜; 嫁接; 细胞保护酶; 丙二醛;
【英文关键词】cucumber; graft; protective enzyme; MDA;
【中文摘要】将欧洲型黄瓜品种春秋王和华南型黄瓜品种沪杂6号分别嫁接到4种不同的砧木上,对嫁接黄瓜和自根黄瓜叶片2种细胞保护酶(SOD和POD)活性的变化及丙二醛(MDA)含量进行分析。结果表明,不同砧木嫁接处理后SOD和POD的活性都呈先升高后下降的趋势,第3周时达到最大,且春秋王和沪杂6号嫁接苗叶片中2种酶的活性水平都高于自根苗,而自根苗中MDA含量高于所有嫁接苗;不同砧木之间保护酶活性和MDA差异不显著。
【英文摘要】Europe type "Chunqiuwang" and South China type "Huza No.6" were grafted on 4 different rootstocks. Activities of protective enzyme and contents of MDA of grafted and self-root cucumber seedlings were studied. The results showed that activities of superoxide dismutase(SOD) and peroxidase(POD) in leaves of grafted seedlings were higher than those of self-root seedlings, and the current went firstly up and then went down. But the contents of MDA of self-root seedlings were higher than those of grafted seedling.It also showed that there was no significant difference between grafted seedlings in cucumber grafting.
【语种】中文
【第一作者】解静
【通讯作者】余纪柱
【期刊名称、卷期、页码】上海交通大学学报(农业科学版),2007,25(1)30-33
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【学科分类】园艺学

【题目】黄瓜早期耐冷性鉴定指标的筛选
【中文关键词】黄瓜; 耐冷性; 鉴定指标; 筛选; 相关分析;
【英文关键词】Cucumber; Cold tolerance; Determining indicator; Screening; Correlation analysis;
【中文摘要】以津春5号黄瓜品种和上海市农业科学院园艺研究所黄瓜课题组选育的3个材料07-QP-17(华南型)、07-QP-22(欧洲型)、07-QP-48(欧洲型)为试材,比较研究了黄瓜在目前设施栽培中经常出现的临界低温(15℃/7~8℃)下形态指标、叶绿素荧光参数和几种生理生化指标的变化。结果表明:低温胁迫下,黄瓜叶片表现出明显的冷害症状,叶长和叶宽增长缓慢;叶绿素、脯氨酸和丙二醛(MDA)含量呈下降趋势;叶绿素荧光参数Fo、Yield、ETR、qN比处理前有所下降,Fv/Fm先上升后下降,各品种间叶绿素荧光参数的变化差异不大。相关性分析表明:叶绿素含量和叶绿素荧光参数与黄瓜的冷害指数显著相关。
【英文摘要】The cucumber cultivar Jinchun 5 and three different-type lines(07-QP-17,07-QP-22 and 07-QP-48)bred by the Horticultural Research Institute were used as test materials,and the comparative study was made on the morphological indexes,chlorophyll fluorescence parameters and physiological and biochemical changes of cucumber seedings under the critical low temperature(15℃at day and 7~8℃at night which often occurred in protected culture in winter and spring) in order to screen determining indicators of early cold tolerance of cucumber. The results showed that under the low temperature,cucumber grew slowly

in leaf length and width and decreased in chorophyll, proline and MDA contents, and the chlorophyll fluorescence parameters Fo, yield, ETR and qN were slightly less than those before low temperature treatment,but Fv/Fm increased first and then decreased. The differences in changes of chlorophyll fluorescence parameters were not great among different cultivars(lines).The correlation analysis indicated that the chorophyll content and the chlorophyll fluorescence parameters were significantly correlated with the index of chilling injury of cucumber seedlings.

【语种】中文
【第一作者】张红梅
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【题目】不同南瓜砧木对嫁接黄瓜生长和果实品质的影响
【中文关键词】黄瓜; 砧木; 嫁接; 生长; 品质
【英文关键词】Cucumber; rootstock; graft; growth; quality
【中文摘要】用4种不同的南瓜(cucurbita moschata)砧木中原共生Z101、圣砧三号、西光和K2 - 902对欧洲型黄瓜(Cucumis sativus L.)品种春秋王和华南型黄瓜品种沪杂6号进行嫁接,试验结果表明: 2个黄瓜品种与4种砧木的嫁接亲和性都较好;嫁接苗的茎粗大于自根苗,生长势强;嫁接果实中Vc含量下降,而可溶性糖含量增加,可溶性蛋白含量除了春王/K2902低于对照外,其它组合都高于对照。春秋王嫁接苗果实的风味只有春秋王/K2902比自根苗差,而沪杂6号嫁接苗的果实风味普遍都比自根苗淡。综合分析,中原共生Z101和圣砧三号比较适合做春秋王和沪杂6号的嫁接砧木。
【英文摘要】The Europe type cucumber variety “ Chunqiuwang ” and South China type “ Huza No. 6 ” were grafted on the 4 different pumpkin rootstocks of Zhongyuangongsheng Z101, Shengzhen No. 3, Xiguang and K2 - 902. The survival rate, growth and fruit quality after graftingwere studied. The results showed that, Chunqiuwang and Huza No. 6 have good graft compatibilitywith 4 rootstocks; Stem diameter of grafting cucumber is bigger than that of self - rooted cucumber, the growth potential is better; In the grafting cucumber fruit, the Vc content is decreased and the soluble sugar content is increased, the soluble p rotein contents in grafting combinations excep t Chunqiuwang/K2 - 902 are higher than that in self - rooted cucumber. In the grafting combinations of Chunqiuwang, the fruit flavor of Chunqiuwang/K2 - 902 isworse than that of self - rooted cucumber, which is the same as the grafting combinations of Huza No.6. Generally analyzed, Zhongyuangongsheng Z101 and Shengzhen No. 3 are the suitable rootstocks for Chunqiuwang and Huza No. 6.
【语种】中文
【第一作者】张红梅
【通讯作者】余纪柱
【期刊名称、卷期、页码】内蒙古农业大学学报,2007,28(3)177-181
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【引文索引类型】其他
【引文索引号】0
【学科分类】园艺学

【题目】全雌性小型加工黄瓜新品种选育
【中文关键词】黄瓜; 全雌性; 加工型; 选育;
【英文关键词】Cucumber; Gynoecy; Machining type; Breeding;
【中文摘要】注重全雌性和侧枝分生能力2个特性,通过自交、分离、纯化等手段,获得了全雌性稳定的加工用小型黄瓜新品种C02-7(定名银龙加工黄瓜1号),该组合与同类进口品种相比,有早熟、生长势强、侧枝分生力强、抗病(霜霉病、白粉病)、丰产等优点。
【英文摘要】A small stable hologynic cucumber used for processing,tentatively named"Yinlong 1",was bred by means of selfing,separation and purification in which the attention to both gynoecy and side branch growth capacity was paid.Compared with imported similar varieties,this combination had such advantages as earliness,strong growth vigor and capacity of generating side branches,high resistance to downy mildew and powdery mildew,and high yield.

【语种】中文
【第一作者】殷伯贤
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【期刊名称、卷期、页码】上海农业学报,2007,23(2):6-9
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【题目】不同苗龄喷施硝酸银对黄瓜雌性系诱雄效果的研究
【中文关键词】黄瓜; 雌性系; 诱雄; 品种; 春季; 秋季;
【英文关键词】Cucumber; Gynoecious inbred line; Male-flower-induction; Variety; Spring; Autumn;
【中文摘要】以华南型与华北型两个黄瓜雌性系品种为试材,在春、秋两季分别试验,研究不同苗龄用AgNO3诱雄的效果。结果表明,诱雄时期相同,春季、秋季雄花出现的节位大致相同,但秋季处理雄花节位更宽泛;随着处理时期的推移,雄花出现节位减少,雄花数目也远远少于前期处理,30节以上更难出现雄花,在春季这一现象尤为明显;两个雌性系品种之间的诱雄效果差别不明显。
【英文摘要】Two cucumber varieties of gynoecious inbred line,South China type M16 and North China type MC2065,were used as materials to study the effect of inducing male flower by spraying 300 mg/L AgNO3 twice every stage,from cotyledon stage to ten-leaf stage.The results showed that the main nodes of male flowers were the same generally,but there were more in autumn than in spring.With the treatment period delayed,the nodes of male flowers reduced,the number of the male flowers was much less than in the early period.And itwas hard that the male flowers appeared up the 30 th node, which was especially obvious in sp ring.The effects had no significantly difference between the two cucumber varieties of gynoecious inbred line.
【语种】中文
【第一作者】金 洪
【通讯作者】孙小镭
【期刊名称、卷期、页码】山东农业科学 2010(1):32-35
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【学科分类】园艺学

【题目】 山东黄瓜地方品种资源果实外观品质的评价
【中文关键词】山东黄瓜; 地方品种资源; 果实外观性状; 评价;
【英文关键词】Shandong cucumber; Local germplasm; Fruit appearance characters; Evaluation;
【中文摘要】对山东黄瓜地方品种资源的瓜条形状、皮色、刺、瘤、刺色、棱沟、瓜长、把长、横径、单瓜重、把瓜比、果型指数等12个果实外观性状进行了调查分析,结果表明,山东黄瓜地方品种资源果实外观性状具有丰富的遗传多样性,平均多样性指数为1.58。华北型种质果实外观性状的平均多样性指数高于华南型种质。根据生产上对果实外观性状的要求,对两种生态类型中优良种质资源进行了评价。从外观形态上筛选出各自的代表性种质,在两种生态类型中筛选了长瓜短把型种质和短重型种质,为资源的利用和品种的选育提供了信息。
【英文摘要】Twelve fruit appearance characters of local germplasm from Shandong including fruit shape,pericarp color,tumor,spine,spine color,edge,fruit length,fruit stalk length,fruit width,simple fruit weight,ratio of fruit stalk to fruit and sharp index of fruit were investigated.The results showed that the genetic diversity of fruit characters was high,with a diversity index in average of 1.58.In the two ecotypes,the average diversity index in North China type was higher than in South China type.Those good local germplasms in the two ecotypes were evaluated.
【语种】中文
【第一作者】曹齐卫
【通讯作者】孙小镭
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【题目】黄瓜果实性状的Hayman遗传分析
【中文关键词】黄瓜; 果实性状; 遗传参数估计;
【英文关键词】Cucumber; Fruit characters; Genetic parameter estimation;
【中文摘要】将黄瓜6个亲本,按照完全双列杂交配制30个杂交组合,用Hayman分析方法估计果长、把长、横径、单果重、单株结果数等果实性状的遗传参数。Wr对Vr的回归分析表明,果长、把长、横径、单果重、单株结果数的遗传符合"加性-显性"模型。Wr+Vr与Yr的相关性分析表明,单株结果数呈负相关,说明含有更多显性基因的亲本具有较小的Wr+Vr值;果长、把长、横径、单果重呈正相关,说明含有更多显性基因的亲本具有较大的Wr+Vr值。遗传参数估算表明,把长、单株结果数、单果重的遗传加性效应方差小于显性效应方差;果长、横径的遗传是加性效应方差大于显性效应方差。
【英文摘要】Six cucumber parents were used to produce 30 combinations by crosses.Genetic parameters for five fruit characters were estimated according to Hayman s method.Analysis of regression Wr against Vr indicated that inheritance of fruit length,fruit stalk length,fruit width,weight of per fruit and the fruit number of per plant conformed to the additive-dominant model.Correlation analysis showed that there was a negative correlation between Wr+Vr and Yr in the fruit number of per plant,It implied that the parents possessingmore dominant genes had lowerW r +V r values . However, there was a positive correlation between W r + V r and Yr in fruit length, fruit stalk length, fruit width and weight of per fruit ,which meaned that the parents possessingmore dominant genes had higherW r +V r values. Estimation of the genetic parameters showed that the dominant variance was greater than the additive variance for fruit stalk length,weight of per fruit and the fruit number of per plant. while the additive variance was greater than the dominant variance for fruit length and fruit width.
【语种】中文
【第一作者】曹齐卫
【通讯作者】孙小镭
【期刊名称、卷期、页码】 西南农业学报2009.3
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【题目】甜瓜基因组学研究进展
【中文关键词】甜瓜(Cucumismelo; L.); 国际葫芦科基因组计划; 遗传图谱; 分子标记; QTL定位; 基因克隆;
【英文关键词】Melon; ICuGI; Genetic mapping; Molecular marker; QTL mapping; Gene cloning;
【中文摘要】甜瓜是一种世界性的园艺作物。随着现代生物技术的迅速发展,甜瓜基因组学研究越来越深入,国际葫芦科基因组计划也已经筹备完成即将启动。目前已构建有14张甜瓜遗传图谱,多个重要性状的分子标记及数量性状位点已找到并定位在图中,并开始在葫芦科作物之间进行比较基因组图谱方面的研究。已克隆出枯萎病抗性基因Fom-2,其它农艺性状基因的克隆工作也在陆续开展。本文在甜瓜遗传连锁图谱的构建、重要性状分子标记及QTL定位、比较基因组学及基因克隆等方面分别对其研究进展进行了探讨,以期为我国的甜瓜基因组学研究提供有益的参考。
【英文摘要】Melon (Cucumis melo L.) is one of a worldwide horticultural crop. Along with the development of modern biotechnology, much more progresses in the study of the genomics of melon have been made. International Cucurbit Genomics Initiative (ICuGI) has been ready run soon. At present, fourteen melon genetic maps have been constructed, many molecular markers linked to important traits and quantitative trait locis are found and some has been located on the maps. The research of compatative genomic maps on cucurbitaceous crops has begun. The cloning of resistance gene to Fom- 2 has been cloned and the cloning of other economical genes is also listed in this article. The study of melon genetic map construction, molecular marker linked to the important traits and QTL mapping, comparative genomics,gene cloning are discussed, which may be implicative for accelerating melon genomics studies in China.
【语种】中文
【第一作者】苏芳
【通讯作者】许勇

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【题目】葫芦科瓜类作物分子标记辅助育种研究进展
【中文关键词】葫芦科; 分子标记; 遗传图谱; 基因定位; 标记辅助选择;
【英文关键词】Cucurbitaceae Molecular marker Genetic map Location of gene MAS;
【中文摘要】综述了几种常用分子标记在葫芦科瓜类作物遗传图谱构建、重要性状基因定位、遗传多样性及亲缘关系分析、分子标记辅助选择及在葫芦科遗传育种中的应用,对目前葫芦科遗传育种中应用分子标记技术存在的问题和解决方案进行了探讨,并对葫芦科分子标记辅助育种的前景做了展望。
【英文摘要】The paper summarizes the applications of molecular markers in the construction of genetic linkage maps,genetic mapping of the important traits,analysis of germplasm diversities and genetic relations,molecular marker-assisted selection,the applications of the genetics and breeding in Cucurbitaceae. The problems and solutions of molecular markers in genetics and breeding of Cucurbitaceae are discussed. The prospect of molecular marker-assisted breeding of Cucurbitaceae is viewed in order to improve the research in this field in China.
【语种】中文
【第一作者】邹明学
【通讯作者】许勇
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【学科分类】园艺学

【题目】甜瓜白粉病抗性基因Pm_2F的遗传特性及与其紧密连锁的特异片段
【中文关键词】甜瓜; Cucumis; melo; L.; 白粉病; 抗性基因; 特异片段;
【英文关键词】melon; Cucumis melo L.; powdery mildew; resistant gene; specific fragment;
【中文摘要】在明确瓜类白粉病生理小种的基础上,以感白粉病新疆哈密瓜[Cucumis melo L.ssp.melo convar.ameri(Pang.)Greb.]来源的自交系K7-2和抗白粉病日本网纹甜瓜[Cucumismelo L.ssp.melo convar.cantalupa(Pang.)Greb.]来源的自交系K7-1为亲本及其F2S6群体为试材,对甜瓜白粉病抗性遗传机制和紧密连锁标记进行深入研究。群体遗传分析表明,K7-1对白粉病Podosphaera xanthii(DC.)VPGelyuta生理小种2F的抗性受一对显性基因Pm-2F控制。同时采用SSR分析技术发现,抗病特异片段CM-BR120-172、CMBR8-98与Pm-2F紧密连锁,连锁距离分别为1cM和3cM。抗病特异片段CMBR120-172在120份甜瓜种质资源材料验证中符合率达87.5%。
【英文摘要】Podosphaera xanthii(DC.)VP Gelyuta race 2F caused melon(Cucumis melo L.)powdery mildew was the prevailing race in Beijing.The segregation of resistance had been evaluated in F2S6 population of the cross between the resistant Japanese cantaloupe[Cucumis melo L.ssp.melo convar.cantalupa(Pang.)Greb.]line K7-1 and the susceptible Xinjiang Hami melon[Cucumis melo L.ssp.melo convar.ameri(Pang.)Greb.]line K7-2.The resistance to P.xanthii race 2F in K7-1 was controlled by one single dominant Pm-2F gene.SSR technique had been used for the identification of markers linked to powdery mildew resistance. Two specific fragments CMBR120- 172 and CMBR8- 98 were closely linked to Pm 22F gene at a distance of 1 cM and 3 cM, respectively. The efficiency of CMBR120- 172 was about 87.5% in 120 melon germplasms. The markers identified in this experminentwere closest to Pm 22F gene to date, and the research,therefore, can be used in melon molecular breeding.
【语种】中文
【第一作者】张海英
【通讯作者】许勇
【期刊名称、卷期、页码】园艺学报,2008, 35 (12) : 1773 - 1780
【论文发表时间】2008-11-06 00:00:00
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【引文索引号】0
【学科分类】园艺学

【题目】西瓜抗病毒基因zym-CH的比较图谱定位
【中文关键词】西瓜 ; zym-CH ; BSA法 ; 共线性 ; 比较定位
【英文关键词】watermelon; the resistant gene for Zucchini yellow mosaic virus; bulked segregant analysis; collinearity relationship; comparative mapping
【中文摘要】以西瓜抗ZYMV-CH(小西葫芦黄花叶病毒中国株系,Zucchini yellow mosaic virus-CHINA)野生种质P. I.595203和感病自交系98R为试材构建F_2群体和F_(2:30群体,采用BSA法筛选与抗病基因zym-CH连锁的分子标记,并利用以F_2S_8群体(P.I.296341-FR×97103)构建的西瓜参考遗传图谱进行zym-CH的比较定位.试验结果表明:在参考遗传图谱已经定位的RAPD和SSR标记中,RAPD标记b13_(-1400)与zym-CH的遗传距离为25.6 cm;SSR标记MCPI_(-14)和MCPI_(-26)与zym-CH的遗传距离分别为57 cM和87 cM,比较分析发现这些标记在两个图谱上的分布呈共线性关系.根据zym-CH与标记b13(-14000、MCPI(-14)和MCPI(-26)之间的遗传关系,将西瓜抗病毒病基因zym-CH初步定位在西瓜参考遗传图谱3号连锁群105 cM处.
【英文摘要】The watermelon germplasm P. I. 595203 resistant to ZYMV-CH (Zucchini yellow mosaic virus-CHINA) and 98R susceptible to ZYMV-CH were used as the parents to construct F_2 population and F_(2:3) population. The markers linked to the resistant gene zym-CH were filtered by BSA strategy. The reference genetic map constructed basing on the F_2S_8 population (P. I. 296341-FR 97103) was used for comparative mapping of zym-CH gene. The results showed that bl3_(1400), MCPI_(-14) and MCPI_(26) were linked to zym-CH gene with the genetic distance of 25. 6 cM, 57 cM and 87 cM respectively. The resistant gene zym-CH was located on 105 cM of the linkage group 3 by the collinearity relationship of zym-CH, b13_(-1400), MCPI_(-14) and MCPI_(-26)in the two linkage maps.
【语种】中文
【第一作者】徐向丽
【通讯作者】许勇
【期刊名称、卷期、页码】园艺学报,2009, 36 (2) : 227 - 232
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【引文索引号】0
【学科分类】园艺学

【题目】早熟优质耐裂西瓜新品种京欣四号的选育
【中文关键词】京欣四号; 优质; 耐裂; 品种选育;
【英文关键词】Jingxin No.4; Good quality; Anti-cracking; Cultivar breeding;
【中文摘要】西瓜新品种京欣四号早熟,果实发育期28 d,全生育期90d左右。植株生长势强,抗病,坐瓜性好。果实圆形,绿底覆盖墨绿窄条纹,外形美观。单瓜质量7~8 kg,剖面均匀,红瓤,中心可溶性固形物含量11.5%。皮薄,耐裂,耐储运,肉质脆嫩,口感佳。与京欣一号相比,耐裂性有较大提高,中心糖度高,瓤色更红。适于早春小拱棚、露地和秋大棚栽培及远距离运输。
【英文摘要】Jingxin No.4 is a new early-maturing and good quality anti-cracking watermelon F_1 hybrid with high yield.It takes about 90 days from sowing to harvest and 28 days from flowering to fruiting.It s vigorous with good disease resistance and fruit setting ability.Its fruit shape is round with bright-green rind and dark-green narrow stripes.The average fruit weight is 7-8 kg.Its flesh color is red and the taste is crisp with excellent flavor.Its soluble solid content is above 11%.It has thin and tough rind,and the fruit is suitable for storage and transportation. It's more anti-crack and sweeter than Jingxin No.l. It's well adapted to early spring and autumn plastic house culture and open field culture.
【语种】中文
【第一作者】宫国义
【通讯作者】许勇
【期刊名称、卷期、页码】长江蔬菜,2008,6b:22-24
【论文发表时间】2008-04-23 00:00:00
【引文索引类型】其他

【引文索引号】0
【学科分类】园艺学

【题目】西瓜抗枯萎病基因同源序列的克隆与分析
【中文关键词】西瓜; 枯萎病; 抗病基因同源序列; 核苷酸结合位点;
【英文关键词】Watermelon; Fusarium wilt; Resistance gene analogs; Nucleotide binding site;
【中文摘要】本研究根据已克隆的抗枯萎病基因的NBS保守结构域设计了22条上游简并引物和17条下游简并引物,以西瓜抗枯萎病种质PI296341-FR和感枯萎病品种97103为材料,获得了7条来自基因组DNA的RGA序列(GenBank登录号:DQ156558-DQ156564),均含有NBS保守区的P-环、kinase-2或kinase-3等抗病基因的特征序列结构,所编码的氨基酸序列与已知抗枯萎病基因Fom-2、I2C-1、I2C-2和I2等编码的氨基酸序列表现出11% 72%的同源性,其中来自PI296341-FR的RGA序列175R1与甜瓜抗枯萎病基因Fom-2的同源性最高,为72%。来自PI296341-FR与97103的RGA序列之间同源性较高(73% 97%),证明了抗病基因在进化上的保守性。
【英文摘要】22 upper degenerate primers and 17 lower degenerate primers were designed basing on the NBS conserved domains of the cloned wilt resistance genes. 7 RGA sequences (GenBank Accession number: DQ156558-DQ156564) were harvested from the genomics DNA of wilt resistance germ plasm PI296341-FR and the susceptible variety 97103. All the RGAs contain NBS conserved domains such as P-loop、kinase-2 and kinase-3. The amino acids deduced from the RGAs shared homology (11%~72%) with those deduced from the known wilt resistance gene such as Fom- 2, I2C- 1, I2C- 2 and I2. The RGA 175R1 from PI296341-FR shared high homology (72%) with the melon wilt resistance gene Fom- 2. The RGAs from PI296341-FR were homologous (73%~97%) with the RGAs from 97103. This result proves the conservation of disease resistance gene evolution.
【语种】中文
【第一作者】郭绍贵
【通讯作者】许勇
【期刊名称、卷期、页码】分子植物育种,2008,6(4),793-800
【论文发表时间】2008-04-23 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】园艺学

【题目】西瓜抗枯萎病相关EST-SSR的信息分析
【中文关键词】西瓜 ; 枯萎病 ; EST ; SSR
【英文关键词】Watermelon;Fusarium wilt;EST;SSR
【中文摘要】对西瓜枯萎病菌生理小种1诱导的抑制差减杂交cDNA文库测序获得的4000条EST进行分析,经过前处理后拼接得到1487条unigene序列,全长为759 kb.在其中978条unisene序列中共检索出2136个EST-SSR,出现频率为53.4%.EST-SSR的平均分布距离和平均长度分别是1/0.36 kb、19.59 bp.EST-SSRs中的重复单元以二核苷酸和三核苷酸重复为主,二者在总EST-SSRs中的出现频率为98.08%.GA/TC和GAA/TTC是二、三核苷酸中的优势重复类型,分别占二、三核苷酸重复的25.78%和12.97%.西瓜抗枯萎病相关EST资源的SSR信息分析为进一步建立西瓜EST-SSR标记和探索其在西瓜基因组学研究中的应用奠定了基础.
【英文摘要】Simple sequence repeats (SSRs) were investigated in the unigene sequences from suppression subtractive hybridization (SSH) cDNA library which constructed with watermelon root induced by Fusarium oxysporum f. sp. niveum race 1 .A total of 1487 unigene sequences corresponding to 795 kb were searched,resulting in the identification of 2 136 SSRs.The estimated frequency of SSRs was approximtely 53.4% ,and the overall average length of SSRs was 19.59 bp, the average distance of distribution were 1/0.36 kb.The di- and tri-nucleotide repeats appeared to be the most abundant SSRs,accounting for 98.08% in all the EST-SSRs.The adentine rich repeats such as GA/TC and GAA/TTC were predominant in each type of SSRs (di-,tri-),accounting for 25.78% and 12.97% in di- and tri-nucleotide repeats respectively . These EST-SSRs information could be efficiently exploited for the development of gene-derived SSR markers.
【语种】中文
【第一作者】冯建明
【通讯作者】许勇
【期刊名称、卷期、页码】华北农学报, 2009,24(3):87-91

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【引文索引类型】其他
【引文索引号】0
【学科分类】园艺学

【题目】新疆哈密瓜永久遗传图谱构建及比较分析
【中文关键词】甜瓜; SSR; 遗传图谱; 比较作图;
【英文关键词】melon; Cucumis melo L.; SSR marker; genetic map; comparative mapping;
【中文摘要】新疆哈密瓜〔Cucumismelo L.ssp.melo convar.ameri(Pang.)Greb.〕是我国特有的栽培甜瓜种质资源,具有不同于网纹甜瓜〔Cucumismelo L.ssp.melo convar.cantalupa(Pang.)Greb.〕的独立遗传背景。以新疆哈密瓜和网纹甜瓜为亲本构建F2S6作图群体,采用SSR标记技术获得同时具有哈密瓜和网纹甜瓜遗传背景的永久遗传图谱。图谱由22个连锁群组成,包括201个SSR标记,1个白粉病抗性基因标记,覆盖基因组长度977.153cM,标记间的平均距离4.837cM。本图谱中的17个连锁群与Fernandez-Silva等构建的网纹甜瓜遗传背景图谱具有线性关系,两张图谱共有46个相同SSR标记。
【英文摘要】Xinjiang Hami melon,with independent and different genetic background of cantaloupe,is a unique cultivar in China.A set of populations were developed from a cross between the cantaloupe[Cucumis melo L.ssp. melo convar. cantalupa(Pang.) Greb.]and the Xinjiang Hami melon[Cucumis melo L. ssp. melo convar. ameri(Pang.) Greb.].Simple sequence repeat(SSR) markers were used to construct permanent genetic map with the F2S6 populations. The map consisted of 22 linkage groups,contained 201 SSR markers and 1 morphological trait, it spanned a total genetic distance of 9771153 cM with an average map interval of 41837 cM between two markers. Seventeen linkage groups in the map were collinearwith cantaloupe genetic map, 46 SSR markers were common in two maps. The construction of Xinjiang Hamimelon SSR map laid foundation for the continuation of the international integration of melon common genetic map and comparative study.
【语种】中文
【第一作者】陆 芳
【通讯作者】张海英
【期刊名称、卷期、页码】园艺学报,2009, 36 (12) : 1767 - 1774
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【学科分类】园艺学

【题目】西瓜和黄瓜乙烯受体ETR1基因片段的克隆与序列比较分析
【中文关键词】ETR1; 基因克隆; 西瓜; 黄瓜;
【英文关键词】ETR1; Gene cloning; Citrullus lanatus(Thunb.) Matsum & Nadai var.lanatus; Cucumis sativus L.;
【中文摘要】乙烯受体基因ETR1是乙烯信号转导过程中的关键调控基因。研究根据ETR1基因的保守序列设计引物,以西瓜(Citrullus lanatus(Thunb.)Matsum&Nadai var.lanatus)和黄瓜(Cucumis sativus L.)的基因组DNA为模板进行PCR扩增,获得序列长度分别为1 633 bp和1 491 bp的基因片段CLETR1和CSETR1。序列分析表明,CLETR1和CSETR1与Genebank中收录的多条ETR1基因的核苷酸序列同源性在80%~98%,氨基酸序列同源性在75%~98%。西瓜和黄瓜ETR1基因片段的编码序列存在明显的单核苷酸变异,共23个核苷酸位点存在SNPs(Single nucleotide polymor-phisms),其中5个SNPs导致4个编码氨基酸的改变。
【英文摘要】ETR1 was the controlling gene in ethylene signal transduction.A pair of oligo nucleotide primers were designed from conserved domain of ETR1 gene family.PCR amplifications were performed on genomic DNA template of Citrullus lanatus(Thunb.) Matsum & Nadai var.lanatus and Cucumis sativus L.,they produced two fragments of 1 633 bp and 1 491 bp,named CLETR1 and CSETR1 respectively.The results of Blastn on NCBI Genebank database indicated that many highly matched homologous nucleic acid sequences and amino acid sequences were all ethylene receptor gene ,the ratio were 80 % - 95 % and 75 % - 90 % respectively. The single nucleotide variations were found in the conserved sequences between CL ETR1 and CSETR1 ,there were 23 SNPs(single nucleotide polymorphisms) in the encoding region ,and 5 of them resulted 4 amino acids difference.
【语种】中文
【第一作者】曹 迪
【通讯作者】张海英

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【引文索引类型】其他
【引文索引号】0
【学科分类】园艺学

【题目】辐射花粉授粉诱导甜瓜单倍体
【中文关键词】甜瓜 ; 辐射花粉 ; 单倍体 ; 胚离体培养
【英文关键词】Cucumis melo L.; Irradiated pollen; Haploid; Emhryo cu]ture in vitro
【中文摘要】为了掌握辐射花粉授粉诱导甜瓜单倍体技术,以5种基因型甜瓜为材料,通过应用γ射线辐射的花粉进行授粉结合胚胎培养,从2种基因型中获得了单倍体植株,单倍体的平均诱导频率为0.29%.这2种基因型分别属于厚皮和薄皮甜瓜类型.花粉的辐射剂量为300 Gy和600 Gy时,供试材料的平均坐果率分别为50%和10%.辐射剂量为300 Gy时,诱导厚皮甜瓜4810和薄皮甜瓜新富玉形成了单倍体植株,单倍体植株的诱导频率分别为0.55%和0.63%;剂量为600 Gy时未能诱导供试材料形成单倍体.研究结果表明母本的基因型和花粉的辐射剂量对坐果率和单倍体的产生有一定的影响.此外,对单倍体植株与正常二倍体植株的形态学进行了比较观察,结果表明单倍体植株生长势弱,叶片较小,雄花和雌花均败育.
【英文摘要】Haploid melon {Cucumis melo L.) plants were obtained from two among five genotypes tested through pollination with γ-irradiated pollens and subsequent embryo culture in vitro, the average induction rate was 0.29%. These two genotypes represent thick (C. melo ssp. melo) and thin [C. melo ssp. conomon (Thunb) Greb] rind melon. Average fruit settings of donor plants were 50% and 10%, when the γ-ray doses were 300 Gy and 600 Gy respectively. Haploid were induced from thick and thin rind melon, line 4810 and cultivar Xinfuyu, to which the induction rate of haploid were 0.55% and 0.63% respectively, when the dose was 300 Gy. When the dose was 600 Gy, however, no haploid plant was produced from any tested material. The results indicated that matemal genotypes and irradiation doses had certain effects on both fruit setting and haploid production. Morphological comparison between haploid and diploid donor plants showed that the haploid had smaller leaves and sterile male and female flower, grew less vigorously.
【语种】中文
【第一作者】张永兵
【通讯作者】陈劲枫
【期刊名称、卷期、页码】果树学报,2006,23(6):892-895
【论文发表时间】2006-08-01 00:00:00
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【引文索引号】0
【学科分类】园艺学

【题目】雪峰全新花皮无籽西瓜新品种的选育
【中文关键词】无籽西瓜; 新品种; 雪峰全新花皮无籽;
【英文关键词】Seedless watermelon; New variety; Xuefeng Quanxin Huapiwuzi;
【中文摘要】雪峰全新花皮无籽[2440(SBW4×SQW2)×XH]是湖南省瓜类研究所最新育成的高产、优质无籽西瓜三交花皮新品种。全生育期106d左右,果实发育期35d左右,易坐果,单果重6~7kg,667m2产量3800~4500kg,果实中心可溶性固形物含量12%左右。2006年2月通过湖南省农作物品种审定委员会审定。
【英文摘要】A new seedless watermelon variety named Xuefeng Quanxin Huapiwuzi with pedigree(SBW4×SQW2)×XH is developed by Hunan Cucurbit Research Institute. It is a seedless watermelon variety with high yield and quality. It is resistant to diseases and wetness. It sets fruit easily and produces fruit with average size of 6-7 kg. Fruit matures about 106 days from sowing and 35 days from pollination. The yield per 667 m2 is 3 800-4 500 kg. The soluble solid content in center of the fruit is 12%. It is officially registered in Hunan Province in February 2006.
【语种】中文
【第一作者】邓大成
【通讯作者】邓大成
【期刊名称、卷期、页码】《中国瓜菜》2007年第6期20-22
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【学科分类】园艺学

【题目】白皮甜瓜品种雪峰蜜2号的选育
【中文关键词】厚皮甜瓜; 新品种; 雪峰蜜2号; 白皮; 白肉;
【英文关键词】Melon; New variety; Xuefengmi No.2; White rind; White flesh;
【中文摘要】雪峰蜜2号系湖南省瓜类研究所选育的白皮白肉厚皮甜瓜新品种。2001-2002年参加品种比较试验,2003-2004年参加国家甜瓜品种区域试验、生产试验。其主要特性为:中熟种,全生育期100~110d,果实发育期40~45d;生长势中等,易于坐果;果实圆形,果皮白色、光滑有光泽,商品率高;果肉白色,肉厚3.5~4.0cm,中心可溶性固形物含量14%~17%,肉质脆;单果重1.1~1.7kg,单产2350kg/667m2左右,高产在4000kg以上;耐贮运,抗病性强,适应性广。
【英文摘要】Xuefengmi No. 2 is a new melon F1 hybrid developed by crossing two inbred lines M8208 and N7056. The whole growing period is about 100-110 days and the to ripening of fruit is about 40-45 days. The vines is medium growth tendency and easy to set fruit. The fruit is white and shape is round. The skin is white,sleek and lucency. The central soluble solid content is 14%-17%. Hardrind and easy to store. Yield of 2 350 kg/667 m2. This variety is resistant to disease and moisture. The adaptabilities is good, especially adapt to be cultivated in safeguard.
【语种】中文
【第一作者】罗伏青
【通讯作者】罗伏青
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【学科分类】园艺学

【题目】网纹甜瓜新品种雪峰蜜3号的选育
【中文关键词】网纹甜瓜; 新品种; 雪峰蜜3号; 杂种一代;
【英文关键词】Netted melon; New variety; Xuefengmi No.3; F1 hybrid;
【中文摘要】雪峰蜜3号系湖南省瓜类研究所以2个高代自交系NX1818和M8255为亲本选育出的杂交一代网纹甜瓜新品种。2003-2004年参加品种比较试验,2005-2006年参加国家甜瓜品种区域试验、生产试验,其主要特性为:中晚熟,全生育期100~115d,果实发育期43~48d;生长势较强,易于坐果;果实圆形,果皮灰绿色,细密网,上网易,商品率高;果肉淡黄绿色,肉厚3.5cm,中心可溶性固形物含量13%~18%,肉质香脆;单果重1.0~1.6kg,667m2产量2450kg左右,高产在3800kg以上;耐贮运,抗病性强,适应性广。2006年通过全国西瓜甜瓜品种鉴定委员会鉴定。
【英文摘要】Xuefengmi No.3 is a new F1 hybrid melon developed by crossing two inbred lines NX1818 and M8255.Xuefeng- mi No.3 was tested in regional variety trials in 2003-2004 and national melon variety trials in 2005-2006.Xuefengmi No.3 has vigorous plant and sets fruit easily.The total growing period is about 100-115 days and the fruit development period is 43-48 days.The fruit is globe with pale green skin and high density net.Its flesh is light yellow green with thickness of 3.5 cm and soluble solids content 13%-18.The average weight is 1.0-1.6 kg with good storage and ahipping ability. The yield per 667m2 is about 2 450-3 800 kg. Xuefengmi No.3 is resistance to diseases and has wide adoptability.Xuefengmi No.3 was approved for national registration in 2006.
【语种】中文
【第一作者】罗伏青
【通讯作者】罗伏青
【期刊名称、卷期、页码】《中国瓜菜》2008年第3期23-25
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【引文索引类型】其他
【引文索引号】0
【学科分类】园艺学

【题目】黑皮黄瓤小西瓜新品种雪峰小玉8号的选育

【中文关键词】西瓜; 新品种; 小果型; 小玉8号;
【英文关键词】Watermelon; New variety; Small fruit watermelon; Xiaoyu No. 8;
【中文摘要】雪峰小玉8号是湖南省瓜类研究所最新育成的长椭圆形、黑皮、黄瓤、耐贮运二倍体小果型西瓜新品种。植株生长势强,抗病抗逆性强,坐果性好。全生育期85d左右,果实发育期25d左右。皮厚约0.7cm,果皮硬度26kg/cm2,不裂果;中心可溶性固形物含量12%~13%;单果重2~3kg,667m2产量2000~3500kg。2007年2月通过湖南省农作物品种审定委员会审定。
【英文摘要】Xuefeng Xiaoyu No. 8 is a new small fruited yellow flesh seeded watermelon F1 hybrid with durable rind. The plant is strong in vigor,resistant to disease and easy to set fruit. The fruit is long oval shaped and has black skin with dark green stripes. Fruit matures about 85 days from sowing and about 25 days from flowering. The fruit rind is thin,about 0.7 cm,but durable and the rind toughness is greater than 26 kg/cm2. The flesh is yellow and crisp,the soluble solid contents is about 12%-13%. Average fruit weight is 2-3 kg and the yield is 2 000- 3 500 kg per 667 m2.
【语种】中文
【第一作者】莫小平
【通讯作者】莫小平
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【引文索引号】0
【学科分类】园艺学

【题目】花皮红瓤小果型西瓜新品种雪峰小玉九号的选育
【中文关键词】小果型; 西瓜新品种; 小玉九号; 选育;
【英文关键词】无
【中文摘要】雪峰小玉九号是湖南省瓜类研究所最新育成的早熟、优质小果型西瓜新品种,全生育期春季栽培85d左右,果实成熟期24d左右。植株生长势强、抗病性较强,抗逆性强,耐低温弱光性好,易坐果。果实椭圆形,果皮绿底有墨绿窄条,果皮厚约0.35cm。单果重2.0kg左右。果肉鲜红色,肉质细脆,口感风味好。中心可溶性固形物含量12%~13%,中边梯度小。667m2产量爬地栽培2000~2500kg,立架栽培2500~3000kg。该品种于2007年2月通过湖南省农作物品种审定委员会审定(审定编号:湘审瓜2007003)。
【英文摘要】无
【语种】中文
【第一作者】莫小平
【通讯作者】莫小平
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【引文索引号】0
【学科分类】园艺学

【题目】西瓜杂交制种中细菌性果腐病的预防措施探讨
【中文关键词】西瓜;杂交制种;细菌性果腐病;预防措施
【英文关键词】无
【中文摘要】瓜类细菌性果腐病是近年来威胁全球瓜类作物的严重病害,是典型的由种子带菌引起的传染性病害,对我国的冲击首先表现在西瓜制种业,是影响种子进出口的最大障碍。细菌性果腐病主要通过伤口、气孔侵染,借风力、雨水、灌溉水、喷灌和昆虫等传播。西瓜制种整枝去雄的伤口、污染的刀具和器皿及人为的传播均有助于病害的流行;病害远距离传播靠带菌的种子、鲜果和病果。病原主要在种子和土壤的病残体上越冬,成为来年发病的初侵染源。长时间低温阴雨反常天气是其大发生的主要诱因。根据本所对该病多年的研究,探讨西瓜人工杂交制种过程中对细菌性果腐病的预防措施,对于保证种子质量,促进西瓜产业发展和提高制种效益,具有积极而重要的意义。
【英文摘要】无
【语种】中文

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【引文索引号】0
【学科分类】园艺学

【题目】南方丘陵山地四倍体亲本种子优质高产繁殖技术
【中文关键词】南方丘陵山地;四倍体亲本种子;优质高产繁殖技术
【英文关键词】无
【中文摘要】我国南方大部分地区属丘陵山地,面积较广,利用其海拔高、昼夜温差大、土质肥沃、病虫害少的优势,进行四倍体少子西瓜亲本种子繁殖,辅以科学的栽培管理技术,可成功获得优质高产的四倍体亲本种子.同时,在生产后期,采用各种技术措施对种子进行消毒处理可有效地减少瓜类细菌性果腐病的侵染.
【英文摘要】无
【语种】中文
【第一作者】欧小球
【通讯作者】莫小平
【期刊名称、卷期、页码】《中国种业》2009年第6期 61-62
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【引文索引类型】其他
【引文索引号】0
【学科分类】园艺学

【题目】西瓜生理病害及其防治
【中文关键词】西瓜;生理病害;防治
【英文关键词】无
【中文摘要】随着西瓜种植面积的逐年扩大.西瓜生产过程中因生理病害造成的损失日趋严重.引起广大瓜农和农业工作者的重视。如何预防西瓜生理性病害,提高商品西瓜的品质,成为一个亟待解决的问题。现就西瓜生产过程中常见的生理性病害及其相关防治措施介绍如下。
【英文摘要】无
【语种】中文
【第一作者】欧小球
【通讯作者】莫小平
【期刊名称、卷期、页码】《中国种业》2008年第11期 46-47
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【引文索引号】0
【学科分类】园艺学

【题目】转基因甜瓜研究进展
【中文关键词】转基因甜瓜; 新种质; 抗病; 提高品质; 控制成熟;
【英文关键词】Transgenic melon; new germ plasma resources; resistant diseasesand insects; improve guality; contral ripening;
【中文摘要】甜瓜基因工程是利用分子克隆技术,分离、提取或人工合成具有抗病、抗虫、提高品质等某一特性的基因片段,并利用根癌农杆菌介导或基因枪等技术转入甜瓜植株,可获得前所未有的甜瓜新种质,这是提高甜瓜遗传育种、品种改良,拓宽种质资源范围的一条有效途径。目前,转基因甜瓜研究主要集中在抗病、抗虫与提高果实品质和控制果实成熟等方面,本文就转入的上述外源基因研究做一综述。
【英文摘要】We can obtain a new melon germ plasma by the molecule technology which transform some functional fragments into melon plant with Agrobacterium tumefaciens and gene gun,those new fragments include resistant diseases and insects genes,control fruit quality genes,etc.This is a efficacious approach in the research field of melon heritance breeding and germ plasma resources.In

present,the research of transgenic melon focus on the resistant diseases and insects,improve fruit quality and control fruit ripening to elong the shelf life. This paper reviewed some transgenic melon researches.
【语种】中文
【第一作者】王怀松
【通讯作者】王怀松
【期刊名称、卷期、页码】内蒙古农业大学学报2007,28(3):256-259
【论文发表时间】2007-05-30 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】园艺学

【题目】甜瓜遗传多样性的AFLP分析
【中文关键词】甜瓜; 遗传多样性; 亲缘关系; AFLP;
【英文关键词】melon; genetic diversity; relationship; AFLPs;
【中文摘要】利用AFLP(Amplified fragment length polymorphism)分子标记技术对48份甜瓜(Cucumis meloL.)材料遗传多样性和亲缘关系进行了研究.从64对引物中筛选出了10对进行选择性扩增,共扩增出423条带,其中多态性条带172条,多态率为40.66%.聚类分析将供试材料分成了两大类群,即厚皮甜瓜类群和薄皮甜瓜类群,并进一步将厚皮甜瓜类群分成了4个亚类,与甜瓜传统分类结果基本一致.
【英文摘要】Genetic diversity and relationship of 48 melon(Cucumis melo L.)germplasms were studied by molecular marker technology AFLPs(Amplified fragment length polymorphisms).Ten selective primer pairs were screened from total 64 primer pairs and 172 polymorphic bands were observed from total 423 bands.The polymorphic percentage was 40.66%.Based on AFLPs results,48 materials were clustered into two groups,ie,thick-peel melon and thin-peel melon,and the thick-peel melon was further classified into four sub-groups. The results were consistent with the traditional classification.
【语种】中文
【第一作者】程振家
【通讯作者】王怀松
【期刊名称、卷期、页码】西北植物学报2007,27(2)0244`0248
【论文发表时间】2007-01-26 00:00:00
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【引文索引号】0
【学科分类】园艺学

【题目】应用基因芯片检测酸味抗病甜瓜果实基因表达
【中文关键词】甜瓜;基因芯片;实时荧光定量PCR;果实基因表达
【英文关键词】Cucumis melo;microarray;RT-PCR;fruit gene expression
【中文摘要】利用Melon cDNA array ver1.0检测新疆厚皮甜瓜(Cucumis melo var.ameri)果实基因表达的可行性,并检测了经60Co γ射线辐射诱变后的新疆厚皮甜瓜酸味抗病变异株成熟果实基因的表达.结果显示:该芯片平均能够检测新疆厚皮甜瓜基因2 008个,检测出的基因占该芯片基因探针总数的65.4%;检测酸味抗病变异株上调表达的基因251个,占检出基因总数的12.5%;下调表达的基因224个,占检出基因总数的11.16%.利用RT-PCR验证芯片结果的可靠性,结果表明,用Melon cDNA array ver 1.0检测新疆厚皮甜瓜成熟果实基因表达水平是可行的.
【英文摘要】The feasibility of using Melon cDNA array ver1.0 to detect the gene epression in mature fruit of Cucumis melo var. ameri with sourness taste and resistance variation. The results showed that the melon cDNA array verl.0 could detect the expression of 2008 genes in Cucumis melo var. ameri variety of sourness taste and resistance. The detected genes accounted for 65.4% of the total 3068 probe group.251 upregulated and 224 down-regulated genes were detected in variety of sourness taste and resistance,accounting for 12.5% and 11.16% of total detected genes respectively. Using RT-PCR to validate the changes in mRNA abundance detected by microarray analysis ,the results showed that melon cDNA array verl.0 could be efficiently used for gene expression analysis of Cucumis melo var. ameri.
【语种】中文
【第一作者】张红

【通讯作者】张显
【期刊名称、卷期、页码】西北植物学报2009,29(4):0669-0673
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【引文索引号】0
【学科分类】园艺学

【题目】甜瓜白粉病抗性AFLP连锁标记的初步研究
【中文关键词】甜瓜; 白粉病; 遗传; 分子标记; M60/E25-520;
【英文关键词】Melon; Powdery mildew; Genetics; Molecular marker; M60/E25-520;
【中文摘要】甜瓜白粉病是危害我国甜瓜(Cucumis melo L.)生产的主要病害之一。以抗病的7-2和感病的7-1、7-3杂交组合与分离群体进行了甜瓜抗白粉病连锁分子标记研究,建立了AFLP标记技术体系,找到了1个与甜瓜白粉病抗病基因紧密连锁的AFLP标记:M60/E25-520。
【英文摘要】Powdery mildew is one of the most destructive diseases in melon(Cucumis melo L.)production in China.In this experiment,we studied the AFLP marker linked to powdery mildew resistance in melon line 7-2 by BSA method.The hybrids and segregation populations derived from resistant line 7-2 and susceptible lines 7-1 and 7-3 were used for this study.We have established a highly stable and optimized AFLP protocol,and found M60/E25-520 marker was linked to one powdery mildew resistant gene of melon.
【语种】中文
【第一作者】王怀松
【通讯作者】张志斌
【期刊名称、卷期、页码】中国瓜菜2009(2):4-6
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【引文索引类型】其他
【引文索引号】0
【学科分类】园艺学

【题目】无籽西瓜枯萎病抗性的遗传分析
【中文关键词】无籽西瓜;枯萎病抗性;遗传分析
【英文关键词】无
【中文摘要】西瓜枯萎病(Fusarium oxysporum f. sp. niveum)是西瓜生产中的毁灭性病害,培育和应用抗病品种是防治此病害最经济有效的措施。我国自20世纪80年代开展西瓜抗枯萎病育种以来,已培育出一批抗病品种并在生产上推广应用,但主要集中于二倍体西瓜,在三倍体无籽西瓜育种方面几乎没有涉及,因此无籽西瓜生产中缺少抗枯萎病品种。生产上对无籽西瓜枯萎病的防治主要是采用嫁接,防病的效果也较为理想,但嫁接增加了生产成本而且还存在不亲和、果实品质降低等问题。目前无籽西瓜生产面积正在逐年扩大,适时开展无籽西瓜抗枯萎病育种是满足生产需要、有效防治病害的根本途径。本试验采用NCⅡ杂交设计配制了部分无籽西瓜组合,鉴定双亲及F1 的枯萎病抗性并进行配合力分析,以初步了解无籽西瓜抗枯萎病组合双亲选配的一般规律。
【英文摘要】无
【语种】中文
【第一作者】徐锦华
【通讯作者】徐锦华
【期刊名称、卷期、页码】中国蔬菜,2006(6):19-21
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【引文索引类型】其他
【引文索引号】0
【学科分类】园艺学

【题目】四倍体西瓜种质资源的抗枯萎病性鉴定及其遗传规律初探
【中文关键词】四倍体西瓜; 种质资源; 三倍体西瓜; 枯萎病抗性; 抗性遗传分析;

【英文关键词】tetraploid watermelon; germplasm; triploid watermelon; resistance to fusarium wilt; genetic analysis of resistance;
【中文摘要】采用苗期接种法对51份四倍体西瓜种质资源进行枯萎病抗性鉴定,并选择不同抗性的四倍体西瓜与二倍体西瓜按NCⅡ杂交设计配制三倍体西瓜组合,通过方差分析研究四倍体西瓜的枯萎病抗性遗传规律。结果表明:三倍体西瓜枯萎病抗性受其双亲的加性和非加性遗传共同控制,且以加性遗传为主,源于四倍体母本的加性遗传相对重要于二倍体父本的加性遗传;亲本的一般配合力效应与其枯萎病抗性呈显著正相关。
【英文摘要】Fusarium wilt(Fusarium oxysporum f.sp.Niveum) resistance in 51 accessions of tetraploid watermelon germplasm was identified in the seedlings through artificial inoculation,and inheritance of resistance was studied by analysis of variance of resistance in triploid watermelon combinations which were made with tetraploid and diploid watermelon using incomplete diallel mating method(NCⅡ).The results indicated that the resistance of triploid watermelon combinations was controlled by additive and non-additive heredity components, and the former was more important relatively than the later.The additive heredity component of tetraploid female parentwasmore important than that of diploid male parent. The resistance of each parentwas significantly positively related to its general combining ability.
【语种】中文
【第一作者】徐锦华
【通讯作者】徐锦华
【期刊名称、卷期、页码】江苏农业学报,2006,22(2):141-144
【论文发表时间】2005-07-29 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】园艺学

【题目】西瓜杂交种子纯度鉴定方法的现状及研究进展
【中文关键词】西瓜; 杂交种子纯度; 鉴定方法;
【英文关键词】Watermelon; Hybrid seed purity; Identific methods;
【中文摘要】综述了西瓜杂交种子纯度鉴定的方法以及电泳技术和分子标记技术,在西瓜杂交种子纯度检测应用方面的研究进展及存在的问题。
【英文摘要】In this paper,indentification methods of watermelon hybrid seeds were reviewed. In addition,the advantages and disadvantages of electrophoresis and molecular marker technology on identification of watermelon hybrid seeds were also discussed.
【语种】中文
【第一作者】万云龙
【通讯作者】万云龙
【期刊名称、卷期、页码】中国瓜菜,2006(6):27-28
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【学科分类】园艺学

【题目】江苏省蔬菜种质资源保护与利用现状
【中文关键词】蔬菜; 种质; 资源; 保护; 利用
【英文关键词】无
【中文摘要】21世纪是生物技术的世纪,生物技术竞争的关键是种质资源的竞争。种质资源工作是育种工作的基础。植物育种的实践证明,突破性的成就决定于关键性基因资源的开发与利用。加入WTO 和农业产业的升级,对蔬菜育种提出了优质、多抗、专用的要求。而实现这些目标,首先取决于资源。一个地方和单位所拥有种质资源的数量和质量,以及对其特性和遗传规律的研究深度和广度,是衡量其育种水平的重要标志之一。因此,广泛地搜集、科学地保存、不断地创新种质资源,是现代生物技术竞争的重要特点。蔬菜种质资源的保存与创新,是保证江苏省蔬菜产业可持续发展的基础性工作、公益性研究。因此,构造江苏省蔬菜种质资源保护平台十分必要。
【英文摘要】无
【语种】中文
【第一作者】羊杏平

【通讯作者】羊杏平
【期刊名称、卷期、页码】中国蔬菜,2006(增刊):19-22
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【引文索引号】0
【学科分类】园艺学

【题目】甜瓜蔓枯病的防治药剂筛选试验
【中文关键词】甜瓜;蔓枯病;防治药剂;筛选试验
【英文关键词】无
【中文摘要】甜瓜蔓枯病已成为保护地厚皮甜瓜栽培中发生最普遍、危害最严重的真菌性病害,它的发生常会导致毁灭性的后果[1]。在许多甜瓜生产区,蔓枯病是仅次于根结线虫病的第二大病害[2],尤其在老瓜产区和专业种瓜田块更为突出。蔓枯病如防治不当,植株死亡率高达30%~40%,直接导致甜瓜品质和产量严重下降。由于目前尚无高抗品种,化学防治仍是主要防治途径。
【英文摘要】无
【语种】中文
【第一作者】江蛟
【通讯作者】徐锦华
【期刊名称、卷期、页码】长江蔬菜,2007(11):48-49
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【引文索引类型】其他
【引文索引号】0
【学科分类】园艺学

【题目】网纹甜瓜果实主要性状的配合力分析
【中文关键词】网纹甜瓜; 果实性状; 配合力;
【英文关键词】Muskmelon; Character of fruit; Ability of combining;
【中文摘要】选用6份网纹甜瓜材料按Griffing方法Ⅳ配制杂交组合15个,对网纹甜瓜果实的主要性状进行配合力分析。结果表明,单果质量、折光糖含量、果肉厚度和果形指数的遗传均受加性效应和非加性效应的控制,其中单果质量、折光糖含量和果形指数的遗传以加性效应为主,果肉厚度的遗传则以非加性效应为主。M-14为综合性状较优,利用潜力高的亲本材料。
【英文摘要】Combining ability of main characters of muskmelon fruit was analyzed by 15 cross combinations which were made with 6 muskmelon parents by the method of Griffing Ⅳ.The results showed that the fruit weight,the sugar content,the flesh thickness and the shape exponent were controlled by additive and non-additive heredity components.The fruit weight,the sugar content and the shape exponent were mainly controlled by additive effect but the flesh thickness was mainly controlled by non-additive effect.M-14 could be a fine parent for breeding for its general characterswere excellent.
【语种】中文
【第一作者】徐锦华
【通讯作者】徐锦华
【期刊名称、卷期、页码】中国蔬菜,2007(1):15-17
【论文发表时间】2006-10-31 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】园艺学

【题目】应用PAGE梯度电泳技术鉴定西瓜杂交种纯度
【中文关键词】西瓜; PAGE梯度电泳; 杂交种纯度;
【英文关键词】watermelon(Citrullus vulgaris); electrophoresis gradient-PAGE; hybrid seed purity;
【中文摘要】应用PAGE梯度电泳技术分析西瓜杂交种苏蜜五号、早抗京欣和抗病苏蜜及其父母本种子的酯酶、过氧化物酶、多酚氧化酶及种子蛋白。结果显示:除早抗京欣发芽5 d时过氧化物酶有一明显谱带特征可以有效区别杂种与亲本

外,其他电泳组合谱带虽清晰但无明显差异,表明西瓜遗传基础相对狭窄。蛋白质和同工酶难以发现统一的谱带特征来检测不同西瓜杂交种子的纯度。由于不同杂交种双亲的遗传背景不同,对于亲缘关系相对较远的一些品种可能会出现某些特别的特征以用来鉴别真假杂种。

【英文摘要】Electrophoresis patterns of esterase,peroxidase and polyphenoloxidase in the seed of watermelon hybrids Sumi 5,Zaokangjinxin,Kangbingsumi,and their parents were analyzed by gradient-PAGE.A band of POD in the seeds of Zaokangjinxin after five days of germination was seen obviously which could distinguish the hybrid with its parents.The bands of POD were not found in the electrophoresis patterns of other hybrids and parents.The bands of protein and esterase isoenzyme did not show any difference between hybrids and their parents. Some specific bands could be used to distinguish hybrid from its parents with different genetic backgrounds.

【语种】中文

【第一作者】万云龙

【通讯作者】万云龙

【期刊名称、卷期、页码】江苏农业学报,2007(23)4:326-329

【论文发表时间】2006-09-16 00:00:00

【引文索引类型】其他

【引文索引号】0

【学科分类】园艺学

【题目】甜瓜蔓枯病病原鉴定及其生物学特性

【中文关键词】蔓枯病菌;生物学特性;rDNA-ITS;甜瓜

【英文关键词】gummy stem blight;biological character;rDNA-ITS;muskmelon

【中文摘要】从江苏省部分地区感染蔓枯病的甜瓜茎上分离病原菌,并对其形态学、生物学特性及致病力进行了研究.结果表明,共分离得到4株甜瓜蔓枯病菌株,这4株病菌的最适生长温度为25 ℃,培养基pH值对病菌生长的影响不大.另外,对这4个菌株的核糖体RNA基因内转录间隔区(rDNA-ITS)进行了PCR扩增和序列测定,并在GenBank中进行了Blast搜索和比对分析,根据rDNA-ITS序列分析结果结合甜瓜病株症状和病菌的形态学特征,初步认为江苏省甜瓜蔓枯病的病原菌为Didymella bryoniae (Auersw.) Rehm.,其无性型为西瓜壳二孢Ascochyta citrullina Smith.

【英文摘要】Gummy stem blight is an important disease of muskmelon in the middle and later growth season.The affected stems of muskmelon were collected from some areas of Jiangsu province,China,and four strains of the pathogenic fungi isolated from the sample stems were investigated for the morphological and biological characters.The optimal temperature for the fungal growth Was 25°C.and there were no significant effects of the pH value in the media on the growth of the pathogen.The rDNA-ITS genes of 4 isolates were amplified and sequenced.Based on the Blast search and the alignment analysis in GenBank database combined morphological characters,the pathogen of muskmelon gummy stem blight was identifled as Didymella bryoniae(Auersw.)Rehm.,anamorph being Ascochyta citrullina Smith.

【语种】中文

【第一作者】李伟

【通讯作者】陈怀谷

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【引文索引号】0

【学科分类】园艺学

【题目】苏北地区哈密瓜秋季大棚栽培技术

【中文关键词】哈密瓜;秋季;大棚;栽培技术

【英文关键词】无

【中文摘要】从新疆农业科学院引进两个哈密瓜品种。(1)98—18:中熟,果实发育期45d。植株生长势较强,坐果整齐一致,耐湿耐弱光,抗病性较强。果实卵圆形,皮色灰黄,方格网纹密而凸,肉色橘红,单瓜重1.5~2kg。(2)雪里红:早中熟,果实发育期40d,果皮白色,偶有稀疏网纹,成熟时白里透红,果肉浅红,单瓜重1.5~2kg。

【英文摘要】无

【语种】中文
【第一作者】高长洲
【通讯作者】高长洲
【期刊名称、卷期、页码】上海蔬菜,2008(6):97-98
【论文发表时间】2008-06-12 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】园艺学

【题目】西瓜品种枯萎病抗性的遗传研究
【中文关键词】西瓜; 枯萎病; 抗性; 遗传;
【英文关键词】watermelon; Fusarium wilt; resistance; inheritance;
【中文摘要】选用7份对西瓜枯萎病抗性不同的材料作亲本,采用Griffing双列杂交方法II对西瓜枯萎病抗性遗传规律进行研究。试验结果表明,西瓜对枯萎病抗性由隐性多基因控制,其遗传符合加性-显性模型,加性效应比显性效应更为重要,且感病对抗病表现为部分显性,显性方向指向增效,隐性基因为减效,在所有亲本中所携带的隐性基因比显性基因多。且不同西瓜抗性材料的杂交组合所表现的遗传规律不一致:Calhoun Gray、Sugerlee对枯萎病1号生理小种的抗性遗传是呈基因互作的单基因显性性状遗传;Charleston Gray和欣抗♀、红5-2对枯萎病1号生理小种的抗性遗传则很复杂,不能用简单的显隐关系来解释。
【英文摘要】Seven watermelon materials with different resistances to fusarium wilt were used as parents to study the inheritance rule of resistance to fusarium wilt by Griffing s diallel crossing system Ⅱ.The inheritance of resistance to fusarium wilt in watermelon was controlled by recessive polygene and conformed to the additive-dominance model.Additive effect played a more important role than dominant effect did.The susceptibility was partially dominant,with dominant gene showing the effect of increasing susceptibility, and the recessive gene, the effect of decreasing suscep tibility. All the parents carried less dormant genes than the dominant genes. The inheritance rule of resistance to fusarium wilt varied in tested materials and their cross combination. The resistance to race 1 fusarium wilt showed a single gene dominant hereditywith gene interaction in watermelon Calhoun Gray and Sugerlee. The inheritance of resistance to race 1 fusarium wiltwas comp licated,and could not be exp lained with dominant and recessive theory in watermelon Charleston Gray, Xinkang♀, and Hong 522.
【语种】中文
【第一作者】羊杏平
【通讯作者】羊杏平
【期刊名称、卷期、页码】江苏农业学报,2008,24(6):882-887
【论文发表时间】2008-06-12 00:00:00
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【引文索引号】0
【学科分类】园艺学

【题目】利用RAPD和ISSR分子标记对西瓜作图亲本的多态性分析
【中文关键词】西瓜; RAPD; ISSR; 体系优化; 多态性分析;
【英文关键词】watermelon; RAPD; ISSR; system optimization; polymorphism analyses;
【中文摘要】以西瓜为材料,对基因组DNA的RAPD和ISSR分析体系中的Mg2+、dNTPs和引物浓度进行了优化。筛选出的RAPD优化体系(20μl)为:引物0.4μmol/L,dNTPs 200μmol/L,Mg2+2.0 mmol/L,DNA 20 ng,1×Buffer缓冲液,Taq酶1.0 U;ISSR优化体系(16μl)为:引物0.25μmol/L,dNTPs 160μmol/L,Mg2+1.0 mmol/L,DNA 20ng,1×Buffer缓冲液,Taq酶0.64 U。以远生态西瓜品种自交系64-1-3和6-2、及23-1和4-1-2为作图亲本,利用筛选好的RAPD和ISSR体系对作图亲本的多态性进行分析。结果表明,在作图亲本64-1-3和6-2中,181个RAPD引物中有11个引物不能有效扩增,其余170个引物产生了525条扩增带,平均每个引物在基因组中可检测到3.08个基因位点,其中可检测出多态性位点的引物有55个,产生了77条多态性扩增带,平均多态率为14.67%; 62个ISSR引物中有17个引物不能有效扩增,其余45个引物产生了188条扩增带,平均每个引物产生了4.18条扩增带, 15个多态性引物可以在双亲间检测到多态性位点23个,平均每个多态性引物能扩增出1.53个多态性位点,多态率为12.23%。在作图亲本23ª 21和421ª 22中,利用499个RAPD引物进行了基因组的扩增,其中43个引物为非有效引物,456个引物产生了1 431条带,平均每个引物产生3.14条带, 142个多态性引物检测到了240个多态性基因位点,平均多态率为16.77%。表明西瓜作图亲本间的遗传背景较狭窄。

【英文摘要】Genomic DNA of watermelon was analyzed by optimizing the concentration of Mg2+,dNTPs,and primer in RAPD and ISSR analysis systems.The screened optimization system of RAPD for watermelon genomic DNA was 20 μl,which contained primer 0.4 μmol/L,dNTPs 200 μmol/L,Mg2+ 2.0 mmol/L,DNA 20 ng,1×Buffer,Taq E 1.0 U.The optimization system of ISSR was 16 μl,which contained primer 0.25 μmol/L,dNTPs 160 μmol/L,Mg2+ 1.0 mmol/L,DNA 20 ng,1×Buffer,Taq E 0.64 U.RAPD and ISSR were applied in polymorphism analyses of watermelon mapping parents,64-1^{a}-3 and 6^{a}-2,and 23^{a}-1and 4-1^{a}-2, which were self lines of district variety far from zoology.The results of mapping parents 64-1^{a}-3 and 6^{a}-2 showed that 170 out of 181 RAPD primers generated 525 amplified bands with an average of 3.08 gene loci per primer, and of the 170 amplified primers, 55 could test the polymorphic loci, which produced 77 polymorphic bands, and the polymorphism rate was 14.67%; 45 out of 62 ISSR primers generated 188 amplified bandswith an average of 4.18 bands per primer. And 15 polymorphic primers produced 23 polymorphic loci in mapping parents 64-1^{a}-3 and 6^{a}-2. One polymorphic primer could amplify 1.53 polymorphic loci averagely. The polymorphism rate of ISSR analyseswas 12.23%1 In mapping parents 23^{a}-1and 42-1^{a}-2, 456 out of 499 RAPD primers amplified 1431 bands with an average of 3.14 bands per primer, and 142 polymorphic primers produced 240 polymorphic loci, and the polymorphism rate was 161.77%1 These showed that the genetic background of watermelon mapping parents was narrow.
【语种】中文
【第一作者】羊杏平
【通讯作者】侯喜林
【期刊名称、卷期、页码】江苏农业学报,2009,25(5):1100~1107
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【引文索引号】0
【学科分类】园艺学

【题目】网纹甜瓜珍珠春季大棚栽培技术
【中文关键词】网纹甜瓜;珍珠;春季;大棚;栽培技术
【英文关键词】无
【中文摘要】珍珠是由江苏省农科院蔬菜所新育成的网纹甜瓜一代杂种。全生育期120 天,果实高圆形,果皮灰绿色,网纹细密,果肉翡翠绿色,单果质量1.3 kg 左右。抗白粉病,耐湿、耐高温,适应性强,果实含糖量15%~17%。现将其春季大棚栽培技术介绍如下。
【英文摘要】无
【语种】中文
【第一作者】高长洲
【通讯作者】高长洲
【期刊名称、卷期、页码】长江蔬菜,2009(3):11-12
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【引文索引类型】其他
【引文索引号】0
【学科分类】园艺学

【题目】西瓜甜瓜嫁接栽培技术研究进展
【中文关键词】西瓜; 甜瓜; 嫁接栽培; 亲和性; 抗病抗; 逆性; 产量; 品质;
【英文关键词】Watermelon; Melon; Grafting culture; Affinity; Disease resistance; Stress tolerance; Yield; Quality;
【中文摘要】综述了西瓜甜瓜嫁接栽培的意义、嫁接技术的研究和应用概况,详细论述了嫁接在亲和性、抗病抗逆性、产量、品质等方面生理和机理研究进展,探讨了西瓜甜瓜嫁接栽培的应用前景及存在的问题。
【英文摘要】This article summaries the purpose, research and application of grafting technology in watermelon and melon production. This paper reviews the physiology and mechanism of grafting affinity,resistance to disease and tolerance to stress,and yield and quality of grafted watermelon and melon. The article also discusses the application of grafting and problems of watermelon and melon production using grafting.
【语种】中文
【第一作者】刘广

【通讯作者】刘广
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【引文索引类型】其他
【引文索引号】0
【学科分类】园艺学

【题目】甜瓜抗白粉病基因SRAP分子标记筛选
【中文关键词】甜瓜; 白粉病抗性基因; SRAP标记;
【英文关键词】melon(Cucumis melo L.); powdery mildew resistant gene; SRAP marker;
【中文摘要】以感白粉病甜瓜A120和抗白粉病甜瓜A119为亲本构建F2代分离群体,采用BSA和SRAP相结合的方法筛选与甜瓜抗白粉病基因相连锁的分子标记。结果显示,294条SRAP引物中有6条引物在抗病与感病池间表现出多态性;对8个高抗和8个高感单株进行扩增,引物me46em51和me3em6分别在高感单株中扩增出210 bp和205 bp的多态性条带,而高抗单株无此扩增带,与抗病、感病池结果一致。采用JoinMap3.0软件进行连锁分析,两标记与抗白粉病基因的连锁距离分别为18.2 c M和23.4 c M,初步推测本实验中甜瓜白粉病抗性为隐性多基因控制。
【英文摘要】The mapping population was constructed with the susceptible melon A120 and the resisant melon A119 as parents.The markers of resistance to powdery mildew were screened with the BSA and SRAP technique.The results showed that 6 primers of 294 SRAP primers could detect the polymorphism between the resistant pool and susceptible pool.No band were detected in 8 high-resistant individuals and signature band of 210 bp and 205 bp were amplified respectively in 8 high-susceptible individuals with me46em51 and me3em6 ,which was correspondent to the results in resistant and susceptible pool . Based on the linkage analysis by JoinMap3. 0 , the distance between the two markers with the powdery mildew resistance gene were 18. 2 cM and 23. 4cM separately. It is preliminarily deduced that powdery mildew resistance in melon is controlled by polygene recessive genes.
【语种】中文
【第一作者】赵光伟
【通讯作者】徐永阳
【期刊名称、卷期、页码】西北植物学报,2010,30(6):1105~1110
【论文发表时间】2010-04-28 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】园艺学

【题目】西瓜种质资源遗传差异的SRAP和EST-SSR分析
【中文关键词】野生西瓜;栽培西瓜;多态性;SRA;EST-SSR
【英文关键词】Wild watermelon;Cultivated watermelon;Polymorphic;SRAP;EST-SSR
【中文摘要】利用30对SRAP(Sequence related amplified polymorphism)引物和11对EST-SSR引物对西瓜9份栽培自交系、3份美国材料和6份非洲野生种进行了遗传多样性分析.结果表明,栽培种与野生种间多态性比率高达92.11%,野生种间多态性比率为34.11%,栽培种间多态性比率仅为21.05%.3份美国材料的扩增带多数与栽培种相似,但也扩增出了一些特异条带.试验表明SRAP和EST-SSR用于西瓜作物的遗传分析是高效可行的.
【英文摘要】The genetic diversities were studied using 30 SRAP primer pairs in 9 cultivated watermelon lines,3 American lines,6 African wild lines.The results implied that the polymorphic percentage between cultivated lines and wild lines was 92.11%,the polymorphic percentage in wild lines was 34.11%,and in cultivated lines wag 21.05%.The bands of American lines were mostly the same as cultivated lines and some specific bands were amplied.The resuits showed that SRAP and EST.SSR were highly effective and feasible on watermelon studying.
【语种】中文
【第一作者】赵胜杰
【通讯作者】刘文革
【期刊名称、卷期、页码】华北农学报,2010,25(3):76~79
【论文发表时间】2010-03-12 00:00:00
【引文索引类型】其他

【引文索引号】0
【学科分类】园艺学

【题目】秋水仙素和胺磺灵除草剂诱导小型西瓜四倍体研究
【中文关键词】秋水仙素; 胺磺灵; 小型西瓜; 四倍体; 诱导;
【英文关键词】Colchicine; Oryzalin; Mini watermelon; Tetraploid; Induction;
【中文摘要】用0.2%秋水仙素水溶液和不同浓度胺磺灵除草剂滴苗处理诱导小型西瓜四倍体。结果表明,用秋水仙素处理,诱变频率基因型间差异较大,高的可以达到26.3%,低的仅有1.4%。胺磺灵诱导小型西瓜四倍体有一定的效果,但整体诱导频率不高。
【英文摘要】Tetraploid mini fruit watermelon were induced using 0.2% colchicine and oryzalin with different concentration. The results showed that there was significant difference on tetraploid induction rate among different genotypes. The maximum could reached 26.3% and the minimum was only 1.4%. For oryzalin induction, tetraploid could also happen, but the induction rate was lower.
【语种】中文
【第一作者】赵胜杰
【通讯作者】刘文革
【期刊名称、卷期、页码】长江蔬菜(学术版),2010(8):12~13
【论文发表时间】2010-03-18 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】园艺学

【题目】甜瓜白粉病抗性反应中相关防御酶活性变化
【中文关键词】甜瓜; 白粉病; 抗性; 防御酶活性;
【英文关键词】melon; powdery mildew; resistance; defense enzyme activity;
【中文摘要】在人工接种条件下,通过测定接种后过氧化物酶(POD)、过氧化氢酶(CAT)、多酚氧化酶(PPO)的活性,研究了甜瓜白粉病抗性反应中相关防御酶活性变化。结果表明,抗、感品种对照的POD、CAT、PPO酶活性无明显差异。接种后,它们的3种酶活性都比对照提高;抗性品种CAT活性高于感病品种;感病品种POD活性高于抗性品种;直到接种后5天,抗病品种PPO活性才超过感病品种,并呈上升趋势。
【英文摘要】The change of defense enzyme activity in the resistant reaction to melon powdery mildew were studied through determined the perroxidase(POD), catlase(CAT)and Polyphenoloxidase(PPO) activity after artificial inoculation. The results showed that the activity of POD、CAT and PPO had no obvious difference between resistance and susceptible control. Activity of the three kind enzymes had increased after inoculating compared with their control. CAT activity of the resistant variety was higher than the susceptible variety. The case of POD activity is opposite to CAT. PPO activity of resistant variety was exceeded than susceptible variety until five days after inoculation.
【语种】中文
【第一作者】赵光伟
【通讯作者】徐永阳
【期刊名称、卷期、页码】中国农学通报,2009,25(16):206~209
【论文发表时间】2009-05-20 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】园艺学

【题目】西瓜抗病毒RNAi植物表达载体的构建
【中文关键词】西瓜; 病毒病; RNA沉默; 植物表达载体;
【英文关键词】Watermelon; Virus diseases; RNA silencing; Plant expression vector;
【中文摘要】为了研究转化同一种病毒的不同基因在转基因西瓜中引发RNA沉默的效果以及利用RNA沉默培育抗多种病毒的策略,以pFGC5941为骨架质粒,分别构建了ZYMV cp、nib和Hc-Pro基因的反向重复植物表达载体pFIRZYMVCP、pFIRZYMVNIb和pFIRZYMVHc-Pro;利用重叠延伸PCR的方法,首先构建了含有CMV cp、WMV cp和ZYMV cp部分基因片

段的CWZ cp三价基因,采用该三价基因构建了CWZ cp基因的反向重复植物表达载体pFIRCWZ CP。研究首次在国际上构建了西瓜转基因抗病毒RNAi植物表达载体,为探讨RNA沉默在转基因抗病毒西瓜中的应用奠定了基础。

【英文摘要】In order to investigate the effect of different genes of a virus genome on gene silencing in tansgenic plants and the strategy of gene silencing for resistance to multiple viruses,On the basic of pFGC5941 vector,the plant expression vectors pFIRZYMV CP,pFIRZYMV NIB and pFIRZYMV Hc-Pro obtainting inverted repeat gene sequences of coat protein (CP) gene,replicases gene (nib)and helper componentproteinase gene (Hc-Pro)of Zucchini yellow mosaic virus(ZYMV) respectively,under the control of the cauliflower mosaic virus 35S promoter were constructed. The overlap-extention PCR technology was applied to obtain the trivalent CMV - WMV-ZYMV cp genes containing the partial Cucumber mosaic virus(CMV)cp gene sequence,Watermelon mosaic virus (WMV)cp gene sequence and ZYMV cp gene sequence. The plant expression vector pFIRCWZ CP containing inverted repeat trivalent CMV-WMV-ZYMV cp gene sequence under the control of the cauliflower mosaic virus 35S promoter was constructed. This research firstly constructed the RNAi plant expression vectors in transgenic watermelon field,which will be a basis of application of RNA silencing in transgenic watermelon of resistanceto viruses.

【语种】中文

【第一作者】吴会杰

【通讯作者】古勤生

【期刊名称、卷期、页码】果树学报,2009,26(4):525~531

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【引文索引号】0

【学科分类】园艺学

【题目】BTH诱导西瓜甜瓜抗病毒病研究

【中文关键词】西瓜; 甜瓜; BTH; 系统获得性抗性; 病毒病;

【英文关键词】Watermelon; Melon; BTH; Systemic acquired resistance; Virus;

【中文摘要】为了考察S-甲基苯基(1,2,3)噻二唑-7-硫代羧酸酯(benzothiodiazole,BTH)诱导西瓜对小西葫芦黄花叶病毒(Zuccini yellow mosaic virus,ZYMV)、西瓜花叶病毒(Watermelon mosaic virus,WMV)与甜瓜对黄瓜花叶病毒(Cucumber mosaic virus,CMV)的抗病效果,分别在接种ZYMV、WMV、CMV前喷施BTH。结果表明:在接种ZYMV、WMV、CMV前3d用25 μg/mLBTH处理西、甜瓜,4周后植株的病情指数减少,相对防效分别为55.6%、56.8%、78.2%;进一步研究发现,经BTH处理后,诱导时间的长短对病情指数有一定的影响;BTH对病毒病的防治效果优于病毒A、病毒K、宁南霉素、芸薹素内酯。

【英文摘要】Benzo-(1,2,3)-thiadiazole-7-carbothioic acid S-methyl ester(benzothiodiazole,BTH)was applied to watermelon and melon plants to test systemic acquired resistance(SAR)in watermelon plants against Zucchini yellow mosaic virus (ZYMV)and Watermelon mosaic virus(WMV),and melon plants against Cucumber mosaic virus(CMV). The application of BTH was done before the plants were inoculated with ZYMV,WMV and CMV. The resistance was evident with reduced disease severity in BTH-treated plants. The average relative effectiveness 4 weeks after treatments was 55.6% ,56.8%,78.2% for ZYMV,WMV and CMV,respectively,when watermelon and melon plants were treated with BTH at concentration of 25 μg/mL 3 days before virus inoculations. Further research showed that the time between treatment with BTH and inoculation with virus also affected disease indices. The effectiveness of BTH was better than that of moroxydine hydrochloride copper acetate,K virusicide,Ningnanmycin and brassinolide.

【语种】中文

【第一作者】闫涛

【通讯作者】古勤生

【期刊名称、卷期、页码】中国瓜菜,2009(4):4~7

【论文发表时间】2009-04-16 00:00:00

【引文索引类型】其他

【引文索引号】0

【学科分类】园艺学

【题目】甜瓜种质资源遗传多样性及亲缘关系研究

【中文关键词】薄皮甜瓜; 厚皮甜瓜; 形态学; AFLP; 薄皮与厚皮甜瓜杂交; 聚类分析;
【英文关键词】Cucumis melo ssp. conomon; C. melo ssp. melo; Morphology; AFLP; Hybrid between subspecies C. melo ssp. conomon and C. melo ssp. melo; Cluster analysis;
【中文摘要】利用形态学分类方法、AFLP技术对甜瓜育种资源及品种进行分类及亲缘关系的研究。形态学聚类分析将31份材料分为薄皮甜瓜和厚皮甜瓜,厚皮甜瓜又可分为网纹甜瓜、早熟、晚熟厚皮甜瓜3组,选育的新品种大部分被划分在早熟组。利用AFLP技术的聚类分析表明,6对引物共扩增产生524条扩增带,多态性带的比率为76%,聚类分析将之分为5大组:包括根据生态区域划分的3组薄皮甜瓜、厚皮甜瓜、网纹甜瓜,但网纹甜瓜并不包括所有有网纹的瓜。试材的亲缘关系为:长江中下游的薄皮甜瓜与厚皮甜瓜的亲缘关系最近,其次是华南薄皮甜瓜、东北薄皮甜瓜、网纹甜瓜。说明AFLP用于检测差异性不大的甜瓜种质之间的亲缘关系非常有效,这些结果有助于确定育种资源的亲缘关系,为育种提供理论依据。
【英文摘要】Total of 31 melon samples collected from melon breeding resources and cultivated species, were used as materials for studying their genetic diversity and phylogenetic relationship by traditional taxonomy as well as AFLP markers. Based on morphological cluster analysis these melons could be classified into Cucumis melo ssp. conomon and C. melo ssp. melo. C. melo ssp. melo could be subdivided into 3 groups, which are: C. melo L. var. reticulates Nad, early variety and late variety. The new melon cultivars were subsumed into the early variety. With 6 informative primers in AFLP analysis, there were 524 amplified bands in total, and polymorphic frequency was 0.76. The AFLP cluster analysis revealed that these 31 cultivated melons could be classified into 5 groups, including the 3 groups of C. melo ssp. conomon classified by different ecological regions,one group of C. melo ssp. melo, and finally the group of C. melo L. var. reticulates Nad . The C. melo L. var. reticulates Nad were classified into one group alone, but not including all the melons that have nets. The relationship among the 31 cultivated melons was classified into C. melo ssp. Conomon, C. melo ssp. Melo, C. melo ssp of the Lower Yangtze Region.Conomon Northest China C. melo ssp., Conomon South China C. melo L. var. reticulates Nad .AFLP has been proven effective in classifying the melon germplasmthat genetic distance have little difference. These results are helpful to determine the relationship of these cultivated melons, offering theoretical foundations for breeding.
【语种】中文
【第一作者】徐志红
【通讯作者】徐志红
【期刊名称、卷期、页码】果树学报,2008,25(4):552~558
【论文发表时间】2008-05-13 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】园艺学

【题目】利用二硝基苯胺类除草剂离体诱导西瓜四倍体
【中文关键词】西瓜; 四倍体; 二硝基苯胺类除草剂; 离体诱导; 倍性;
【英文关键词】watermelon; tetraploid; dinitroaniline herbicide; in vitro induction; ploidy;
【中文摘要】以二倍体西瓜单系Z-A和Z-R为试验材料,采用不同浓度的二硝基苯胺类除草剂——胺磺灵、二甲戊乐灵和氟乐灵处理其离体子叶,以秋水仙素和不含任何诱导剂的液体培养基为对照,研究诱导西瓜四倍体的效果。结果表明,3种除草剂诱导西瓜四倍体的效果都比秋水仙素好,二甲戊乐灵、胺磺灵、氟乐灵和秋水仙素的四倍体诱导率分别为40.0%、33.3%、26.7%和13.3%。采用子叶直接处理比间接处理的四倍体诱导率高。通过FDA荧光法对西瓜试管苗叶片表皮保卫细胞叶绿体计数,进行四倍体变异早期鉴定,准确率为90%以上。
【英文摘要】Tetraploid watermelons were successfully induced in vitro by treating cotyledons of diploid watermelon lines Z-A and Z-R in liquid MS medium with three dinitroanilines herbicide oryzalin,pendimethalin and trifluralin in different concentrations,colchicine or no inductor used as control.The results indicated that the effects of tetraploid induction were better by using three dinitroanilines than those of colchicine.The induced tetraploid rate of oryzalin,pendimethalin,trifluralin and colchicine was 40.0%,33.3% , 26.7% and 13.3% respectively. The induction rate of direct treatment in which the cut cotyledonswere directly planted into inductive medium was higher than that of indirect treatment in which the cotyledonswere pre-cultured on differentiation medium (MS +BA 210 mg · L - 1) for 7 d before p lanted into inductive medium. The tetraploid of watermelon plantlets was determined in the early stage with FDA fluorescence method in which the chlorop lasts of epidermal guard cellswere counted under a microscope and UV light. The detective rate was above 90%. The confirmed tetrap loid plantlets were transp lanted into a greenhouse and self-pollinated and the seeds of tetrap loidswere obtained.
【语种】中文
【第一作者】阎志红

【通讯作者】刘文革
【期刊名称、卷期、页码】园艺学报,2008,35(11):1621~1626
【论文发表时间】2008-10-10 00:00:00
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【引文索引号】0
【学科分类】园艺学

【题目】高产优质西瓜新品种郑抗无籽8号的选育
【中文关键词】无籽西瓜; 三倍体; 新品种; 郑抗无籽8号; 高产;
【英文关键词】Seedless watermelon; Triploid; New variety; Zhengkang Wuzi No. 8; High yield;
【中文摘要】郑抗无籽8号是以MMD为母本、将军为父本杂交育成的无籽西瓜新品种。中晚熟,果实发育期37~40d。生长势强,抗病耐湿性好。果个大,产量高,单果重可达8~10kg,普通栽培667m2产量4500kg左右,温室嫁接栽培在5000kg以上。果实圆球形,纯黑皮,幼果转黑快,外形美观;瓜瓤大红色,中心可溶性固形物含量可达11.8%以上,边部8.5%以上;瓤质硬脆,白秕籽小、少,风味好,品质优,极耐贮运。全国各地均可栽培。2008年通过河南省无籽西瓜品种审定。
【英文摘要】Zhengkang Wuzi No. 8 is a new triploid seedlezater maturity,grows vigorously,sets fruit normally,is resistant to disease and humidity. The average fruit is about 8-10 kg, and the 667m2 yield is 4 500 kg in open field and over 5 000 kg with grafting cultivation in greenhouse. The fruit is round with dark green skin color without stripes,the young fruit skin gets dark fast. The flesh is red with small undeveloped seed hull,fine texture,crisp and sweet. The flesh sugar content is over 11.8% at center. It has good adaptability and is suitable for long distance shipping. It can be grown in most seedless watermelon production areas in China.
【语种】中文
【第一作者】刘文革
【通讯作者】刘文革
【期刊名称、卷期、页码】中国瓜菜,2008,21(5):21~25
【论文发表时间】2008-07-26 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】园艺学

【题目】特大新抗9号西瓜新品种及其配套栽培技术
【中文关键词】西瓜;新抗9号;新品种;栽培技术
【英文关键词】无
【中文摘要】特大新抗9 号(郑抗9 号改良型) 系中国农业科学院郑州果树研究所最近培育出的中熟、大果型新品种。该品种具植株生长势强, 分枝性中等, 坐果力强, 瓤色大红, 含糖量高,品质优, 产量高, 果皮韧, 耐贮运, 中抗枯萎病等特点。我国大部分地区均可栽培, 特别适宜于黄淮海和西北地区栽培。多年试验和生产栽培表明, 特大新抗9 号品种采用自根或嫁接育苗, 地膜覆盖或双膜覆盖栽培, 整枝压蔓, 667 m2 栽植密度700~900 株(双蔓整枝) 或600~700 株(三蔓整枝) , 重施底肥,适时足量浇水, 主蔓第2、第3 雌花留瓜、1 株1 瓜, 八至九成熟采收, 能充分发挥品种特性, 含糖量在12% 以上, 单果重8~10 kg, 667 m2 产量4 500 kg 左右。
【英文摘要】无
【语种】中文
【第一作者】孙德玺
【通讯作者】孙德玺
【期刊名称、卷期、页码】中国瓜菜,2008(1):33~34
【论文发表时间】2007-09-28 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】园艺学

【题目】Real time TaqMan RT-PCR assay for the detection of Cucumber green mottle mosaic virus.
【中文关键词】无

【英文关键词】cucumber green mottle mosaic virus; tobamovirus; real time RT-PCR; quarantine virus
【中文摘要】无
【英文摘要】A real time reverse-transcription polymerase chain reaction (RT-PCR) was developed for efficient detection of Cucumber green mottle mosaic virus (CGMMV). The method was designed to use a duo-primer system with a TaqMan probe targeting the conserved sequence in 3' noncoding region (NCR) of CGMMV to detect isolates of this virus collected in China. The sensitivity of the real time RT-PCR assay was 0.13 pg of total RNA or 50 molecules of RNA transcripts. This level of sensitivity indicated that the one step real time RT-PCR developed in the present study could be used for routine testing assays. The real time RT-PCR method could assist in the implementation of quarantine measures for prevention and control of the disease caused by CGMMV. (c) 2008 Elsevier B.V. All rights reserved.
【语种】英文
【第一作者】Chen Hongyun
【通讯作者】Chen Hongyun
【期刊名称、卷期、页码】Journal of Virological Methods ,2008(149): 326 – 329
【论文发表时间】2007-09-29 00:00:00
【引文索引类型】SCI
【引文索引号】UT WOS:000255622400018
【学科分类】园艺学

【题目】哈密瓜风味小果型厚皮甜瓜新品种中甜2号的选育
【中文关键词】厚皮甜瓜; 新品种; 中甜2号; 小果型;
【英文关键词】Cucumis melo; New variety; Zhongtian No. 2; Small fruit;
【中文摘要】中甜2号是适合我国西部露地及东部地区保护地栽培的的厚皮甜瓜优良品种。果实发育期30~35d,椭圆形果,单果重1.5~2.5kg,果皮金黄色,果肉橘红色,中心可溶性固形物含量14%~17%,口感脆甜,具哈密瓜的美味。2003年10月通过国家级甜瓜新品种鉴定;2006年获河南省科技进步二等奖。
【英文摘要】Zhongtian No. 2 is a new variety of Cucumis melo. It is suitable for growing in open field in western China and protected production in eastern China. The fruit matures 30-35 days from pollination. The fruit is oval shaped with golden skin and light red flesh. The soluble solids content is 14%-17%. The average fruit weights 1.5-2.5 kg. It has the taste of Hami melon. Zhongtian No. 2 is officially registered in October 2003 in China.
【语种】中文
【第一作者】徐志红
【通讯作者】徐志红
【期刊名称、卷期、页码】中国瓜菜,2007(6),25~27
【论文发表时间】2007-09-24 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】园艺学

【题目】优质西瓜新品种中科一号高效栽培技术
【中文关键词】西瓜;新品种;中科一号;高效栽培技术
【英文关键词】无
【中文摘要】中科一号是中国农科院郑州果树所选育的早熟、优质西瓜新品种(国审菜2002002) 。全生育期约85天, 果实发育期25~28 天。生长势强, 分枝力中等, 第1雌花节位4~6 节, 雌花间隔4~5 节, 雌花率20%~25%,极易坐果。果实圆正, 果形指数1.03, 底色翠绿、有14条左右的墨绿色锯齿条带, 深浅适中, 条带细, 整齐清晰, 果皮硬, 不裂果。瓤肉深桃红色, 质酥脆细腻, 汁多,中心糖可达12%。单瓜重5~6 kg, 667 m2 产量4 000 kg,嫁接稀植栽培时, 单瓜重可达10 kg 以上。适合保护地、露地和嫁接栽培, 在我国华北、东北、西北及南方的部分地区均可种植。现将其大棚栽培技术总结如下。
【英文摘要】无
【语种】中文
【第一作者】孙德玺
【通讯作者】孙德玺

【期刊名称、卷期、页码】长江蔬菜,2007(11):12~13
【论文发表时间】2007-08-10 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】园艺学

【题目】小西葫芦黄花叶病毒外壳蛋白基因导入西瓜的遗传转化
【中文关键词】西瓜; 外壳蛋白; 遗传转化;
【英文关键词】Watermelon; Coat protein; Transformation;
【中文摘要】研究了西瓜品种ZKM的再生体系和农杆菌介导小西葫芦黄花叶病毒(Zucchini yellowmosaic virus,ZYMV)的外壳蛋白(cp)基因导入西瓜的遗传转化体系。结果表明,质量分数0.6%琼脂是适宜种子萌发的基本培养基,切取5d龄的西瓜无菌苗子叶为外植体,接种在MS+BA2.0mg/L诱导培养基上,诱导不定芽效率最高。选用75mg/L卡那霉素筛选西瓜抗性芽较为合适,外植体经预培养2~3d,菌液浓度以OD600nm值为0.4,共侵染10min有利于提高西瓜转化的效率。经PCR检测,ZYMVcp基因已经导入西瓜植株,转化频率为0.15%。
【英文摘要】The regeneration and transformation of watermelon with Zucchini yellow mosaic virus coat protein gene by Agrobacterium tumefaciens were studied.The results showed that 0.6% agar was suitable to watermelon seed germination.The explants taken from 5 day-old seedlings were better for regeneration and transformation.MS medium containing 2.0 mg/L benzyladenine(BA) was the best induction medium.To induce resistant adventitious shoots,75 mg/L kanamycin was suitable for selection.Pre-culturing explants for 2 to 3 days and infection with Agrobacterium tumefaciens LBA 4404 with OD600 nm of 0.4 for 10 minutes could improve transformation rate. The transformation frequency was 0.15%. The integration of ZYMV cp gene into the regenerated progenies was confirmed by PCR.
【语种】中文
【第一作者】刘丽锋
【通讯作者】古勤生
【期刊名称、卷期、页码】果树学报,2007,24(4):496~502
【论文发表时间】2007-04-15 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】园艺学

【题目】地高辛标记探针检测5种葫芦科作物病毒的斑点杂交方法
【中文关键词】聚合酶链反应(PCR); 地高辛标记探针; 斑点杂交; ZYMV; WMV; CMV; PRSV-W; SqMV;
【英文关键词】PCR; Digoxigenin-labelled cDNA probe; Dot-blot hybridization; ZYMV; WMV; CMV; PRSV-W; SqMV;
【中文摘要】【目的】探索5种葫芦科作物病毒即小西葫芦黄花叶病毒(Zuccini yellow mosaic virus,ZYMV)、西瓜花叶病毒(Watermelon mosaic virus,WMV)、黄瓜花叶病毒(Cucumber mosaic virus,CMV)、番木瓜环斑病毒西瓜株系(Papaya ringspot viruswatermelon strain,PRSV-W)和南瓜花叶病毒(Squash mosaic virus,SqMV)的斑点杂交检测技术,为葫芦科作物种子带毒的快速准确鉴定、流行病学研究和转基因检测等提供技术和方法。【方法】以构建的重组质粒为模板,用PCR方法合成了相应的地高辛标记的cDNA探针。通过斑点杂交检测西葫芦病叶汁液来考察探针的灵敏性和特异性。同时设计了3种不同长度的SqMV探针(0.55、1.6、2.7kb)对杂交效果进行了研究。【结果】ZYMV、WMV、CMV、PRSV-W 和SqMV 的5 种探针检测各自侵染西葫芦病汁液的稀释低限分别为1∶160、1∶160、1∶320、1∶160、1∶320,而每种探针与健康西葫芦和其它4 种病毒的反应均为阴性。不同长度的SqMV 探针杂交结果相同。【结论】用PCR 方法合成的地高辛标记的探针,能够直接在植物组织中将5 种病毒检测出来,具有较好的灵敏性、特异性和重复性。探针的长度对杂交的灵敏性和特异性没有影响。
【英文摘要】【Objective】 To provide a good alternative assay in seed health test,epidemiological and transgenic research, dot-blot hybridization was developed to detect five viruses infecting cucurbitaceous crops-Zuccini yellow mosaic virus (ZYMV), Watermelon mosaic virus (WMV), Cucumber mosaic virus (CMV), Papaya ringspot virus-watermelon strain(PRSV-W)and Squash mosaic virus (SqMV).【Method】Digoxigenin-labelled cDNA probes of the five viruses were synthesized by PCR with specific primers. The probes were applied in dot-blot hybridization to detect ZYMV, WMV, CMV, PRSV-W and SqMV in crude extraction of infected leaves. And three SqMV probes of different lengths (0.55, 1.6, 2.7 kb) were designed to research the effect of hybridization.【Result】The sensitivity for detection of the crude extraction of infected leaves by ZYMV, WMV, CMV, PRSV-W and SqMV was down to 1∶160,

1：160, 1：320, 1：160, 1：320, respectively. The three SqMV probes of different lengths showed no differences.【Conclusion】The digoxigenin-labelled probes prepared by PCR could be used for accurate and rapid identification of five viruses infecting cucurbitaceous crops with good stability, sensitivity, specificity and reproducibility.
【语种】中文
【第一作者】孟 娟
【通讯作者】古勤生
【期刊名称、卷期、页码】中国农业科学,2007,40(12):2741~2746
【论文发表时间】2007-02-06 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】园艺学

【题目】优质橙黄瓤小果型西瓜品种金玉玲珑的选育
【中文关键词】小果型西瓜; 新品种; 金玉玲珑; 优质; 橙黄瓤;
【英文关键词】Mini-watermelon; New variety; Jinyu Linglong; Excellent quality; Orange yellow flesh;
【中文摘要】金玉玲珑是中国农业科学院郑州果树研究所育成的早熟、优质小果型西瓜品种。全生育期85d左右,果实发育期约28d。果实高圆形,浅绿果皮上覆深绿色齿状条带;中心可溶性固形物含量11.0% 12.0%,瓜瓤橙黄色,瓤质细,口感好;单果重1.5 2.5kg;皮薄,皮厚0.3cm左右。抗逆性好,易坐果,保护地、露地均可栽培。在小区比较试验、全国及北京市小果型西瓜品种区试中表现良好,综合性状赶上或超过对照;在2005年全国农业技术服务中心组织的保护地西瓜甜瓜展评中名列小果型西瓜第1名。
【英文摘要】Jinyu Linglong is a variety of mini-watermelon produced by Zhengzhou Fruits Institute,Chinese Academy of Agricultural Sciences. The variety has 85 days of life history,28 days of fruit growth period,globe fruit shape,orange yellow flesh,and 11.0%~12.0% of central soluble solid contents,and 1.5~2.5 kg of average fruit mass. It is suitable to be cultivated in open fields or in greenhouse.
【语种】中文
【第一作者】刘君璞
【通讯作者】刘君璞
【期刊名称、卷期、页码】中国瓜菜,2006(6),12~14
【论文发表时间】2006-10-20 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】园艺学

【题目】黑皮大果无籽西瓜新品种郑抗无籽5号的选育
【中文关键词】无籽西瓜; 新品种; 郑抗无籽5号; 黑皮; 大果;
【英文关键词】Seedless watermelon; New variety; Zhengkang Wuzi No. 5; Dark rind; Big fruit;
【中文摘要】郑抗无籽5号是以MMD为母本,D106为父本杂交育成的新品种。该品种中晚熟,果实发育期36-39d。生长势较强,抗病耐湿,易坐果,单果重6-8kg,普通栽培667m2产量4500kg左右。果实圆球形,黑皮,覆蜡粉,外形美观;瓜瓤鲜红色,中心可溶性固形物含量12%以上;瓤质硬脆,白秕籽小、少,汁液多,风味正,品质优。果实整齐度好,商品果率高,极耐贮运。该品种适应性强,全国各地均可栽培。已在全国15个省示范推广逾1.2万hm2。
【英文摘要】Zhengkang Wuzi No. 5 is a new triploid seedless watermelon by crossing tetraploid line MMD as female parent with diploid line D106 as male parent. It has later maturity,grows vigorous,set fruit normally,resistance to disease and humidity. The average fruit is about 6-8 kg. The yield is 4 500 kg/667 m2 in open field. The fruit is round with dark green rind with no stripes,covered with white cere. Flesh is dark red with small seed traces,fine texture,crisp and sweet. Its sugar content is over 12.0%. It is unique in market for size, shape and rind pattern and for long distance shipping. It is suitable for cultivation in all the country.
【语种】中文
【第一作者】刘文革
【通讯作者】刘文革
【期刊名称、卷期、页码】中国瓜菜,2006,(3):12~15

【论文发表时间】2006-03-13 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】园艺学

【题目】西瓜倍性回复突变研究
【中文关键词】西瓜; 倍性; 回复突变;
【英文关键词】Watermelon; Ploidy; Revertant;
【中文摘要】2001年和2002年在四倍体西瓜品种790010、日み66、91E7和770007中各发现1份类似二倍体西瓜的种子,对这4份突变体进行了形态学和细胞学的观察和鉴定。结果表明:突变体的茎、叶、花、果实和种子的形态特征与对照四倍体有明显差异。显微特征也有差异,其花粉粒直径和保卫细胞均较小,叶绿体数也减少,体细胞具22条染色体,是对照四倍体的一半,具典型的二倍体西瓜特征,同时还具原品种特征,因此确定4份突变体均由四倍体西瓜回复突变而来。
【英文摘要】Four mutants were discovered in autotetraploid watermelon varieties 790010,日み66,91E7 and 770007 in 2001 and 2002. Their morphological and cytological characteristics were observed and identified, comparing with original autotetraploid watermelon. The morphological traits of the mutants had been obvious characteristics of diploid watermelon and original variety. The pollen size and leaf guard cell size of the mutants become smaller and chloroplasts number in guard cell diminished, and chromosomes number of the mutants somatic cell were 22, which were half of autotetrap loid watermelon. Finally four mutants were confirmed revertants of autotetrap loid watermelon.
【语种】中文
【第一作者】谭素英
【通讯作者】刘文革
【期刊名称、卷期、页码】园艺学报,2006,33(3):632~634
【论文发表时间】2005-09-26 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】园艺学

【题目】嫁接砧木对西瓜果实糖分积累及蔗糖代谢相关酶活性的影响
【中文关键词】砧木; 西瓜; 糖分积累; 蔗糖转化酶; 蔗糖磷酸合酶; 蔗糖合酶;
【英文关键词】rootstock; watermelon; sugar accumulation; invertase; sucrose phosphate synthase; sucrose synthase;
【中文摘要】【目的】研究在果实发育过程中嫁接西瓜糖分积累及蔗糖代谢相关酶活性的变化,探讨不同砧木影响果实品质的机理。【方法】采用优质中小型西瓜早佳为接穗和对照,丝瓜、南瓜(铁木真)、葫芦(昌砧力士F1)、野生西瓜1号、野生西瓜2号为砧木,测定嫁接和对照西瓜果实在发育过程中果糖、葡萄糖、蔗糖的含量以及与蔗糖积累相关酶的活性。【结果】与对照相比,野生西瓜2号/早佳组合的果实糖积累极显著增高,而其他嫁接组合的糖积累均降低,丝瓜/早佳组合的果实糖含量最低;自根和嫁接西瓜果实发育过程中蔗糖转化酶(Inv)活性降低,蔗糖磷酸合酶(SPS)活性升高,蔗糖合酶(SS)在西瓜果实发育后期主要起合成作用,促进果实蔗糖积累, 蔗糖代谢相关酶净活性值增大。在整个果实发育过程中, Inv、SPS、S S 共同作用于嫁接西瓜和自根西瓜果实的糖分积累及构成; 嫁接和对照西瓜果实以己糖积累为主, 蔗糖积累为辅。【结论】砧木不同, 西瓜果实的糖分积累量也不同, 其中野生西瓜2 号对早佳西瓜品质影响最小, 可以作为优良的嫁接砧木在生产实践中应用。
【英文摘要】【Objective】 The sugar accumulation,changes of activities of sucrose-metabolism related enzymes and the mechanism of the effects on fruit quality by grafting were all studied in this research.【Method】 Zaojia was taken on the CK,and wild watermelon 1 and 2,pumpkin(Tiemuzhen),calabash(Changzhanlishi F1)and loofah were used as five different rootstocks.Then,fructose,glucose,sucrose and the activities of sucrose-metabolism related enzymes were all determinated.【Result】 Compared with the ck,the sugar accumulation increased extremely significant by grafting with the wild watermelon 2, but that of the other treatments all decreased and the sugar accumulation of loofah/ Zao jia was the lowest . The sucrose invertase activity decreased; the activitives of sucrose phosphate synthase and net for sucrose-metabolism enzymes all increased during the development of own-rooted and grafted watermelons. During the whole fruit development including own-rooted and grafted watermelon fruits, the invertase, sucrose phosphate synthase and sucrose synthase together acted on sugar accumulation and constitution, and accumulation of hexose sugar was more than sucrose accumulationin grafted and owned-rooted watermelons. 【Conclusion】 Different root stocks had different sugar contents in watermelons, the wild watermelon 2 made the smallest effects on fruit quality, and the sucrose synthase

played the important role in promoting sugar accumulation in the latter part of the developing fruits. So it can be used as a good root stock in the field.
【语种】中文
【第一作者】孟文慧
【通讯作者】张显
【期刊名称、卷期、页码】西北农林科技大学学报,2009,24(3):127~132
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【引文索引号】0
【学科分类】园艺学

【题目】西瓜不同品种苗期人工接种炭疽病菌后的生理生化变化
【中文关键词】西瓜; 炭疽病菌; 生理生化变化; 苗期抗性;
【英文关键词】watermelon; Colletotrichum orbiculare; biochemical and physiological changes; seedling anthrachos resistance;
【中文摘要】【目的】探讨西瓜苗期炭疽病抗性与叶片组织中过氧化物酶(POD)、多酚氧化酶(PPO)活性及叶绿素、可溶性蛋白含量的关系。【方法】以抗性不同的西瓜品种西农八号、M08(抗病品种)和红小玉、玲珑王(感病品种)为材料,在苗期用1×106mL-1炭疽病菌孢子悬浮液接种,于接种当天(接种前)及接种后第2,4,6,8天,对西瓜叶片中与抗性有关的POD、PPO活性及叶绿素、可溶性蛋白含量进行了测定。【结果】西瓜炭疽病抗性与叶片组织中POD、PPO活性以及叶绿素、可溶性蛋白含量密切相关。接种炭疽病菌后,各品种西瓜叶片组织中POD和PPO活性都显著提高,抗病品种POD和PPO活性始终高于感病品种;叶绿素含量与品种的抗病性呈正相关;接种后各西瓜品种叶片可溶性蛋白含量均高于对照,但感病品种峰值出现时间较抗病品种早。【结论】不同抗性西瓜品种对炭疽病的抗性与POD、PPO 活性及叶绿素含量存在一定的正相关, 与可溶性蛋白含量存在一定的负相关。
【英文摘要】【Objective】The study determined the relationship between watermelon cultivars of anthracnose resistance and POD,PPO and the content of chlorophyll and soluble protein.【Method】The activity of peroxidase(POD),polyphenol oxidase(PPO) and the content of chlorophyll and soluble protein in the leaves of four watermelon cultivars with different resistance to Colletotrichum orbiculare were measured.Xinongbahao and Hongxiaoyu were resistant cultivars,Hongxiaoyu and Linglongwang were susceptible cultivars.The seedlings ino culated by 1 106 mL- 1 spore solution were studied before ino culation and on the 2nd , 4th , 6th and 8th day.【Result】The results showed that there was a close relation between watermelon cultivars of anthracnose resistance and POD, PPO and the co ntent of chlorophy ll and soluble protein. POD and PPO activities were all enhanced obviously after ino culation, and the activities of resistant cultivars were higher than those of the susceptible cultivars. The content of chlorophyll and the resistance of cultivar had positive relativity. The contents of soluble protein of the inoculated were all higher than the comparison, but the peak value of the cultivars whose resistance appeared earlier than the susceptible cultivars.【Conclusion】The relative POD and PPO activity and chlorophy ll content were possibly correlated with disease resistance of the tested watermelon cultivars. Negative relationship was possibly in existence between the content of soluble protein and the disease resistance of the tested watermelon cultivar.
【语种】中文
【第一作者】罗婷
【通讯作者】张显
【期刊名称、卷期、页码】西北农林科技大学学报,2009,37(2):130-134
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【引文索引号】0
【学科分类】园艺学

【题目】西瓜新品种农科大6号的选育
【中文关键词】西瓜; 新品种; 农科大6号; 优质;
【英文关键词】Watermelon; New variety; Nongkeda No.6; Good quality;
【中文摘要】西瓜新品种农科大6号是以高抗枯萎病母本M08和优质父本F11配制而成,该品种全生育期100 d左右,果实发育期34 d。果实长椭圆形,果皮绿色,上覆深绿色中细条带。果肉大红色,肉质沙脆,中心折光糖含量10.1%。单瓜重4.8 kg。产量3 356.9 kg/667m2。2005年通过国家品种鉴定和天津市品种审定。

【英文摘要】Nongkeda No.6 is a new watermelon F1 hybrid developed by crossing female parent M08,high resistance to fusarium wilt,and male parent F11 with good quality.The fruit matures 100 days from sowing and 34 days from flowering,and has an elongated shape with medium-wide dark green stripes on a green background.The flesh was bright red with crisp-sandy texture and 10.1% soluble solids at center.Average fruit weight was 4.8 kg.The yield was about 3 356.9 kg per 667m2.
【语种】中文
【第一作者】张勇
【通讯作者】张显
【期刊名称、卷期、页码】北方园艺,2008(7):72-73
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【学科分类】园艺学

【题目】早熟优质迷你西瓜品种玲珑王的选育
【中文关键词】西瓜; 新品种; 玲珑王; 优质;
【英文关键词】无
【中文摘要】玲珑王是杂交一代西瓜新品种,早熟,全生育期100 d,果实发育期28 d。植株长势中强,低温弱光条件下坐果性好,果实商品率较高。果实椭圆形,果形指数1.28。果皮绿底覆深绿色窄条带,皮厚约5 mm,果肉鲜红色,中心折光糖含量11.7%,肉质细脆,汁多纤维少,口感风味好。抗病性、抗逆性较强。单瓜质量1.5 kg,1 hm~2产量达到33 000~58 500 kg。
【英文摘要】无
【语种】中文
【第一作者】张勇
【通讯作者】张显
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【引文索引号】0
【学科分类】园艺学

【题目】籽用西瓜种质资源抗枯萎病离体筛选技术的研究
【中文关键词】籽用西瓜; 中信1号红籽瓜; 种质资源; 枯萎病; 体细胞无性系变异; 抗性; 离体筛选; 离体鉴定;
【英文关键词】Citrullus lanatus ssp.vulgaris var.megalaspermus Lin et Chao; Zhongxin No.1 red-seed watermelon; Germplasm resources; Fusarium wilt; Somaclonal variation; Resistance; Selection in vitro; Evaluation with detached leaves;
【中文摘要】以籽用西瓜中信1号红籽瓜不定芽为筛选材料,利用镰刀菌酸(Fusariumacid,FA)为胁迫剂,进行红籽瓜抗枯萎病无性系变异体离体筛选技术和红籽瓜种质资源抗病性鉴定的研究。结果表明,红籽瓜体细胞无性系抗性变异体离体筛选的FA适宜浓度为15mg.L-1。初步建立了红籽瓜抗性变异体离体筛选体系,获得了抗FA变异体的再生植株。筛选出红籽瓜种质资源高抗材料2份,中抗材料6份,轻抗材料11份,高感材料17份。
【英文摘要】Somaclonal variation of red-seed watermelon(Citrullus lanatus ssp.vulgaris var.megalaspermus Lin et Chao)was used in selecting in vitro of the germplasm resources resistant to Fusarium wilt under the stress of Fusarium acid(FA).The results showed that the suitable concentration of FA for selection was 15 mg · L-1.The system of selection in vitro for the resistant mutants in red-seed watermelon was preliminary established and the plantlet regeneration of mutants were obtained.Two high resistant(HR)varieties,6 m odera tely resistant(MR) varieties, 11 slightly resistant(SR) varieties and 17 high susceptible(HS) varieties were selected by using the system.
【语种】中文
【第一作者】柳唐镜
【通讯作者】汪李平
【期刊名称、卷期、页码】中国蔬菜,2007,(10):16-19
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【学科分类】园艺学

【题目】淹水对红籽瓜嫁接苗生长和根系生理生化的影响
【中文关键词】红籽瓜; 嫁接苗; 淹水胁迫; 根系; 生理代谢;
【英文关键词】Red-seed edible seed watermelon; Grafted seedling; Waterlogging stress; Roots; physiological metabolism;
【中文摘要】以丝瓜为砧木,"中信1号"红籽瓜为接穗,研究淹水胁迫对红籽瓜嫁接苗和自根苗生长和根系生理生化特性的影响。研究结果表明,淹水胁迫后,嫁接苗的生物量和根系活力均显著高于自根苗。随着淹水胁迫时间的延长,可溶性糖和脯氨酸含量均呈先上升后下降的趋势,嫁接苗植株上升幅度较大而下降幅度较小,并始终显著高于同期的自根苗。嫁接苗根系MDA含量先升后降,而在自根苗中持续上升,且同期自根苗增加幅度明显大于嫁接苗。
【英文摘要】Using luffa(Luffa cylindrica Roem.) as rootstock and "Zhongxin No.1" Red-seed edible seed watermelon(Citrullus lanatus ssp.vulgaris var.megalaspermus Lin et Chao) as scion,the effects of waterlogging stress on the contents of physiological metabolism in leaves of both grafted and own-root seedlings were studied.The results indicated that the biomass of grafted seedlings and the vitality of root system was significantly obviously higher than the own-root seedlings under the waterlogging stress.With the extension of time to waterlogging stress, soluble sugar and proline content showed a phenomenon of first rising then declining. The level of increasing was bigger than the level of decreasing on both soluble sugar and proline, and the level of changes in grafted seedling is significantly higher than that in own-root seedlings at the same period. MDA content in the root of grafted seedlings increased first and then decreased, but it in own-root seedlings was significantly higher than that in grafted seedling at the same period, and in own-root seedlings was higher than that in the other treatment all the time.
【语种】中文
【第一作者】柳唐镜
【通讯作者】李劲松
【期刊名称、卷期、页码】长江蔬菜,2009,(2b):18-21
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【引文索引号】0
【学科分类】园艺学

【题目】‘风味3号’甜瓜光合特性和果实品质研究初报
【中文关键词】甜瓜; 光合特性; 果实; 品质;
【英文关键词】melon; photosynthetic characteristics; fruit; quality;
【中文摘要】以风味3号甜瓜为主要试材,雪丽和雪里红2个甜瓜品种为对照,研究叶片的光合特性和果实品质的变化。结果表明:在结果中期,风味3号叶片的净光合速率和叶色值都显著高于对照,表现出较强的光合能力。风味3号果实可溶性固形物含量显著高于对照。在甜瓜果实发育过程中,对风味形成起主导作用的可溶性糖和有机酸分别是蔗糖和柠檬酸,而且两者在风味3号果实中的含量都显著高于对照品种,表现出特殊风味。
【英文摘要】The leaf photosynthetic characteristics and fruit qualities of Flavor No.3,Xueli and Xuelihong melon were investigated.The results showed that Net photosynthetic rate and leaf colour value of Flavor No.3 leaf were significantly higher than those of Xueli and Xuelihong at the middle stage of fruit development.It indicated that Flavor No.3 had a higher potential in photosynthesis.The soluble solid content of Flavor No.3 fruit was significantly higher than those of Xueli and Xuelihong.During the fruit development, sucrose and citric acid were the major soluble sugar and organic acid contributing to the fruit flavor. The contents of sucrose and citric acid in Flav or No. 3 were significantly higher than those of Xueli and Xuelihong.
【语种】中文
【第一作者】汤谧
【通讯作者】别之龙
【期刊名称、卷期、页码】华中农业大学学报,2008,27(3):71-75
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【学科分类】园艺学

【题目】西瓜、甜瓜果实品质及调控研究进展
【中文关键词】西瓜; 甜瓜; 果实; 品质; 进展;
【英文关键词】Watermelon; Melon; Fruit; Quality; Progress;
【中文摘要】西瓜甜瓜深受消费者喜爱,但是近年来品质呈现下降的趋势。西瓜甜瓜的品质包括外观品质、营养品质和风味品质,而品质的形成又受品种、土壤环境、肥料供应、水分供应、栽培方式、生长调节剂以及采收与贮运等因素的影响,所以要针对以上因素,从改进育种手段和栽培技术2大方面来改良和提高品质。
【英文摘要】Watermelon and melon are popular fruits,but their qualities have decreased in recent years.The qualities of watermelon and melon includes outer appearance,nutrition and flavor qualities,and they are affected by many factors such as cultivar,soil condition,fertilizer supply,water supply,cultivate means,growth regulator,harvest,storage,and etc.Breeding methods and culture techniques should be considered to improve the qualities of watermelon and melon.
【语种】中文
【第一作者】汤谧
【通讯作者】别之龙
【期刊名称、卷期、页码】长江蔬菜,2009,(2b):10-14
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【学科分类】园艺学

【题目】风味4号甜瓜设施栽培技术
【中文关键词】甜瓜; 设施; 栽培技术;
【英文关键词】Melon; Protected culture; Culture techniques;
【中文摘要】介绍了风味4号甜瓜的品种特性,基于前期多年多点的栽培经验,提出了设施栽培下风味4号的各项管理技术,包括育苗、定植、栽培管理和采收等环节,旨在建立标准化的栽培技术体系,为该品种的推广应用提供指导。
【英文摘要】Cultivar characteristics of "Flavor No.4" melon were introduced,and culture techniques under protected horticulture were put forward based on the culture experiences in different sites and different years,and the techniques mainly concentrated on seedling,planting,field management and harvesting.The aim is to set up standard culture techniques of "Flavor No.4" melon,which is very important for the demonstration of this cultivar
【语种】中文
【第一作者】汤谧
【通讯作者】别之龙
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【学科分类】园艺学

【题目】红籽瓜主要产量性状的遗传力及相关性分析
【中文关键词】红籽瓜; 产量性状; 遗传力; 相关性;
【英文关键词】Red-seed edible seed watermelon; Yield related traits; Heritability; Genetic correlation;
【中文摘要】以红籽瓜农家品种及自交系为供试材料,采用随机区组试验设计,用方差分析法估算了单株坐瓜数、单瓜重、单瓜种子数、单瓜种子重、种仁重、千粒重、出仁率、产籽率和种子体积的广义遗传力;并对43个红籽瓜品种9个产量性状的遗传力、遗传变异系数和相关性进行了研究。结果表明,上述9个产量性状的广义遗传力分别为12.86%,80.14%,75.96%,74.39%,48.01%,17.12%,24.97%,18.60%和37.07%。单瓜重、单瓜种子数和单瓜种子重的遗传力较高,对其进行早世代单株选择有较好的效果;遗传变异系数以千粒重和出仁率较高,选择潜力大。性状间相关性的研究表明:通过对单瓜重的选择,可实现对单瓜种子数、单瓜种子重、种仁重和种子体积等性状的间接选择。并对红籽瓜产量性状遗传力分析结果及其在育种中的应用进行了讨论。
【英文摘要】Local varieties and inbred lines of red-seed edible seed watermelon were used as experimental materials in this study. The randomized block design and analysis of variance were adopted to estimate broad sense heritability of fruit per plant,fruit

weight,seeds per fruit, seed weight per fruit,seed embryo weight,1 000-seed weight,percentage of embryo,percentage of seeds and seed size. Heritability,genetic variation coefficient and genetic correlation of 9 yield related traits of 43 varieties of red-seed edible seed watermelon were studied. Results showed that the broad sense heritability of 9 yield related traits were 12.86%, 80.14%, 75.96%, 74.39%, 48.01%, 17.12%, 4.97%, 18.60% and 37.07%, respectively. The results showed that heritability of fruit weight, seeds per fruit and seed weight per fruit were high and can be selected effectively by the method of selecting single plant at earlier generations. The variable coefficients of the 1 000- seed weight and percentage of embryo were high and can be selected with high potential gain. Based on the genetic correlation of traits, seeds per fruit,seeds weight per fruit, embryo weight and seed size can be indirectly selected by selecting fruit weight. The results of heritability analysis and the utilization of heritability in red- seed edible seed watermelon breeding were discussed in this paper.

【语种】中文
【第一作者】柳唐镜
【通讯作者】汪李平
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【题目】厚皮甜瓜新品种秋季设施栽培适应性试验研究
【中文关键词】厚皮甜瓜; 设施栽培; 品质; 适应性;
【英文关键词】Hami melon; Greenhouse production; Quality; Adoptability;
【中文摘要】以新疆哈密瓜研究中心选育的4个高档厚皮甜瓜品种黄皮98-18、绿皮98-18、雪里红和新金雪莲为材料,研究了在武汉市秋季塑料大棚栽培条件下4个厚皮甜瓜品种的生长发育过程,以期筛选出适宜华中地区秋季栽培的厚皮甜瓜品种。结果表明,4个甜瓜品种的果实发育期依次为45、47、40和35d,单果重依次为952.08、995.26、937.84和661.28g,果形多样;黄皮98-18和新金雪莲风味浓郁,口感绵软,绿皮98-18和雪里红鲜脆淡爽;4个品种都富含维生素C、游离氨基酸和可溶性蛋白。4个厚皮甜瓜品种都适合秋季设施栽培,综合产量、品质和抗病性考虑,黄皮98-18是最佳品种。
【英文摘要】Four Hami melon cultivars Yellow 98-18,Green 98-18,Xuelihong and Xinjinxuelian, developed by Hami Melon Research Center of Xinjiang,were evaluated in greenhouse in the fall in Wuhan to select suitable variety for East China. The fruit of the 4 cultivars matured 45,47,40 and 35 days after pollination,and the fruit weights were 952.08,995.26,937.84 and 661.28 g,respectively. Yellow 98-18 and Xinjinxuelian flesh was flavorful and soft,and Green 98-18 and Xuelihong had crisp flesh and were light in flavor. The fruits of four cultivars had high content of vitamin C, free amino acid and soluble protein.All cultivars are suitable for greenhouse production in autumn, and Yellow98- 18 is the best.

【语种】中文
【第一作者】汤谧
【通讯作者】别之龙
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【学科分类】园艺学

【题目】西瓜主要农艺性状与裂果性状的相关及通径分析
【中文关键词】西瓜; 裂果; 农艺性状; 通径分析;
【英文关键词】Watermelon; Fruit-cracking; Agronomic trait; Path analysis;
【中文摘要】对西瓜的14个农艺性状进行相关与通径分析。相关分析结果表明,裂果率与果皮厚度、外果皮木质化程度呈显著或极显著相关。经过逐步回归,10个性状与裂果有直接和间接效应,决定系数为1.000,剩余通径系数为0.0018。外果皮木质化程度对裂果的直接作用最大,直接通径系数达到0.796,可将其作为筛选抗裂品种的重要参考性状。
【英文摘要】The correlation and path analysis on 14 agronomic traits of watermelon were studied.The results of correlation analysis showed that the thickness of skin and lignifications degree of epicarps were significantly related to fruit cracking rate.The gradual regression analysis revealed that 10 traits have direct and indirect effects on fruit cracking.The determine coefficient is 1.000 and the rest

path coefficient is 0.001 8.Because of the direct path coefficient reaches 0.796,the lignifications degree of epicarps plays an important role on fruit cracking. So it can be taken as a ma in selective trait for anti cracking variety
【语种】中文
【第一作者】江海坤
【通讯作者】袁希汉
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【学科分类】园艺学

【题目】西瓜裂果性状的基因型研究
【中文关键词】西瓜; 裂果; 抗性; 基因型; 鉴定;
【英文关键词】Watermelon; Fruit cracking; Resistance; Identification;
【中文摘要】在普通大棚和露地两种栽培条件下鉴定西瓜裂果性,制定西瓜的裂果性状分级标准和抗性评价标准;田间鉴定发现,14个稳定自交系中有13个发生不同程度的裂果,占92.86%;两种栽培环境对裂果的影响效应有差异(F=27.048**,F0.01=3.91),但抗裂程度显著相关(r=0.937**,r0.01=0.6614,df=13)。不同基因型西瓜裂果性差异显著(F保护地=10.7218**,F露地=5.783**,F0.01=1.90,df=13),其中,材料‘x-101’在两种不同的栽培条件下均不裂果,性状稳定,且其综合品质表现优良,可作为抗裂育种的材料。
【英文摘要】Resistance to fruit cracking in the 14 gene-types watermelon was evaluated under opening and protected conditions.Grades,symptoms characters and rating of fruit-cracking in watermelon are drawn up.13(92.86%) of them crack under two conditions.According to the comprehensive evaluation,the variance of the susceptibility indices were significant in opening field (F=5.783**,F0.01=1.90,df=13) and protected field(F=10.721 8**,F0.01= 1.90,df=13).The correlation coefficients of susceptibility indices in both conditions were signif icant (r = 0. 937** , r0. 01 =0.661 4, df= 13) . x- 101 has the immunity to fruit- cracking with good quality, and can be potentially used in the breeding program as the resistant parents to the fruit- cracking.
【语种】中文
【第一作者】江海坤
【通讯作者】袁希汉
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【引文索引号】0
【学科分类】园艺学

【题目】流式细胞术在乳酸菌自溶检测中的应用
【中文关键词】流式细胞术 乳酸菌 自溶 检测
【英文关键词】Flow cytometry Lactic acid bacteria Autolysis
【中文摘要】目的】使用流式细胞术(Flow Cytometric)建立一种新的检测方法,可快速筛选自溶度不同的乳酸菌菌株。【方法】菌悬液经20mmol/L的PI-PBS染液在4°C条件下避光染色30min,上流式细胞仪进行测定,检测器激发光波长488nm,检测波长630nm,每个样品收集1×10^5个细胞,联机使用CellQuest软件分析结果。【结果】阳性染色细胞数与细胞总数之比很好地反映菌液中自溶细胞与非自溶细胞的比例关系,整个检测过程耗时仅为1h左右。【结论】与传统检测方法比较,FCM测定结果稳定可靠,检测时间短,为乳酸菌的自溶特性研究及筛选自溶度不同的菌株用作商业发酵剂提供了便利条件。
【英文摘要】[Objective]The autolysis rate of lactic acid bacteria is crucial for their applications as dairy starters and as probiotics.To establish a rapid and sensitive method to detect autolysis rate of lactic acid bacteria,Flow Cytometry Method (FCM) can be employed.[Methods]Cell suspensions were dyed by PI-PBS (20 mmol/L) in 4°C dark environment for 30 min.A 630 nm long pass filter was used to collect the red fluorescence (FL3 488 nm),and 1 × 10^5 cells were collected from each sample.Data were analyzed by CellQuest online analysis system.Test time ranged from 40 to 100 s,depending on the concentrations of cell suspensions.FCM enumerations were accurate to 104 cells/mL.[Results]Correlation test did not show difference between FCM test and other methods for the determination of autolysis rate of lactic acid bacteria.[Conclusion]FCM is a good analytical method that allows rapid and sensitive

measuring the viability of lactic acid bacteria
【语种】中文
【第一作者】孙洁
【通讯作者】吕加平
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【题目】干酪乳杆菌干酪亚种Lactobacillus casei subsp.casei SY13对衰老模型小鼠的抗氧化作用
【中文关键词】干酪乳杆菌 D-半乳糖 衰老小鼠 体内抗氧化
【英文关键词】Lactobacillus casei D-galactosc aged mice antioxidative activity in vivo
【中文摘要】【目的】利用一株经体外筛选具有较强抗氧化活性的干酪乳杆菌干酪亚种(Lactobacillus casei subsp.casei)SY13活菌制剂和灭活制剂研究D-半乳糖所致衰老模型小鼠体内抗氧化能力。【方法】采用SY13活菌制剂和灭活制剂饲喂由D-半乳糖连续皮下注射诱导的亚急性衰老模型小鼠,以各组小鼠血清和肝组织匀浆中超氧化物岐化酶(SOD)、谷胱甘肽过氧化物酶(GSH-Px)的活力、总抗氧化能力(T-AOC)及脂质过氧化产物丙二醛(MDA)的含量为指标,全面评价其在小鼠体内的抗氧化能力。【结果】Lactobacillus casei subsp.casei SY13活菌制剂高、中剂量组(20、10mL · kg-1)能降低连续6周注射D-半乳糖诱发的衰老小鼠血清和肝脏组织中的MDA含量,同时提高血清和肝脏组织中GSH-Px活力以及总抗氧化能力(T-AOC),SOD活力变化不明显。【结论】SY13活菌制剂能有效提高亚急性衰老小鼠的抗氧化能力,具有一定延缓衰老的作用。
【英文摘要】[Objective] The objective of the experiment was to study the antioxidative activity of viable cells and heat-killing cells of Lactobacillus casei subsp.casei SY13 on aged model mice induced by D-galactose.[Method] ICR subacute aged model mice,which were given subcutaneous injection of D-galactose continuously,were fed with viable cells and heat-killing cells of Lactobacillus casei subsp.casei SY13.The content of malondialdehyde(MDA),activity of superoxide dismutasc(SOD),glutathione peroxidase(GSH-Px)and total antioxidant capacity(T-AOC)in serum and liver of the mice were tested.[Result] SY13 viable cells high dose group and middle dose group(20,10 mL · kg-1)could obviously reduce the aged mice serum and liver tissue MDA content,enhance evidently the GSH-Px activity and total antioxidant capacity(T-AOC),but the SOD activity did not change significantly.[Conclusion] Lactobacillus casei subsp.casei SY13 viable cells Can obviously increase the antioxidant ability of ageing mice and has certain anti-aging effects.
【语种】中文
【第一作者】张书文
【通讯作者】吕加平
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【题目】费氏丙酸杆菌谢氏亚种和植物乳杆菌亚油酸异构酶的分离纯化
【中文关键词】共轭亚油酸(CLA) 费氏丙酸杆菌费氏亚种(P.freudenreichii ssp.shermanii) 植物乳杆菌(L.plantarum) 亚油酸异构酶
【英文关键词】conjugated linoleic acid (CLA) P. freudenreichii ssp. shermanii L. plantarum linoleate isomerase
【中文摘要】采用盐析、Sephacryl S-200HR凝胶过滤层析、DEAE Sepharose F.F.离子交换层析相结合的方法,分别建立了来源于费氏丙酸杆菌谢氏亚种(P.feudenreichii ssp.shermanii)和植物乳杆菌(L.plantarum)的亚油酸异构酶的分离提取步骤。结果表明不同来源的亚油酸异构酶在纯化的过程中表现出不同的洗脱特性,P.freudenreichii ssp.shermanii亚油酸异构酶的分子质量约为56kDa,L.plantarum亚油酸异构酶的分子质量为50.65kDa。不同来源亚油酸异构酶的分离纯化方法存在差异。
【英文摘要】Using sahing-out method, combined with Sephacryl S-200HR gel filtration chromatography and DEAE Sepharose F.F. ion exchange chromatography, linoleate isomerase was isolated and purified from P. freudenreichii ssp. shermanii and L. plantarum, respectively, linoleate isomerase from different sources showed different elution characteristics in the purification process. The molecular weight of linoleate isomerase from P. freudenreichii ssp. shermanii was 56 kDa, and that from L. plantarum was 50.65 kDa.

The result indicated that big differences existed in the purification method of linoleate isomerase due to their different sources.
【语种】中文
【第一作者】王丽敏
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【题目】Mapping drought status of winter wheat from MODIS data in North China plain
【中文关键词】干旱监测;MODIS;TVDI;华北平原
【英文关键词】drought mapping, MODIS, TVDI, North China Plain
【中文摘要】冬小麦是华北平原最重要的作物体系之一,但其干旱十分严重。本文中,为更好的进行农业管理,提出了一种方法来监测平原冬小麦的干旱情况。这种方法是基于温度植被干旱指数(TVDI),TVDI是从Ts-NDVI空间的干湿边缘计算得到的。本方法使用MODIS数据来监测华北平原冬小麦2006年生长季3-5月的干旱状态。结果表明此地区农业干旱的空间变异十分明显。河北东部、山东西部和河南西北部的干旱相对严重。中国气象局的天气报告证实了对干旱状态的监测结果。干旱监测结果与中国气象局报道的干旱分布有高度的一致性,这表明利用TVDI方法对监测华北平原干旱情况具有适应性。
【英文摘要】Drought is very severe in North China Plain, where winter wheat is one of the most important cropping systems. In this paper,we present an approach to map drought status of winter wheat in the plain for better farming management. The approach isbased on the temperature-vegetation dryness index (TVDI) computed from the wet and dry edges of Ts-NDVI space. Usingthe MODIS data, we applied the approach to map drought status in North China Plain for the winter wheat growing periodfrom March to May in 2006. Our results show that spatial variation of agricultural drought is very obvious in the region.Severe drought was observed in eastern Hebei, western Shandong, and northwestern Henan province respectively. Theweather reports from China Meteorological Administration were used to validate our mapping results of the drought status.The highly accordance of our drought mapping results with the reported drought distribution from CMA confirms theapplicability of TVDI approach in drought mapping in North China Plain.
【语种】英文
【第一作者】Lei Gao
【通讯作者】Lei Gao
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【题目】MODIS-based remote sensing monitoring of grass production in China
【中文关键词】遥感,监测;草原,产草量,MODIS数据
【英文关键词】remote sensing, monitoring, grass, production, MODIS data
【中文摘要】草原产草量的监测对于草地资源的管理、畜牧业的发展以及改善生态环境具有重要意义。根据 MODIS遥感数据和同期地面调查数据,对我国 2005年草原产草量进行了系统估算。用 MODIS数据计算全国草原的归一化植被指数(NDVI),针对6个不同类型草原区建立了NDVI和地面样方的产草量之间的关系模型,用这些模型推算全国草原产草量分布。结论如下: (1)2005年全国草原干草总产量达到 29421万吨,平均单产达到830kg/hm2干草;(2) 2005年我国草原有 3个牧草高产区,分别位于东北呼伦贝尔草原、锡林浩特草原和大兴安岭西麓;青海东部、四川西北部和甘肃中南部以及新疆西北部;(3) 2005年干草产量位列前 7位的省区依次是内蒙古、青海、新疆、四川、西藏、黑龙江和甘肃;例如,内蒙古因草原面积大而成为我国第一大草原牧草生产省 , 2005年有 6037万吨干草;(4)总产草量位于前5位的草地类型依次为高寒草甸类、温性草原类、低地草甸类、温性草甸草原类与山地草甸类;(5)2005年8月份全国草原产草量与 2004年同期相比总体持平;各草原大省的变化情况分别为:青海、甘肃2省区的草产量略有增加,青海增加了9%,甘肃增加了4%;内蒙古减少约3%;西藏、新疆和四川3省区基本与2004年同期持平。研究结果对我国草原资源管理、 草原畜牧业发展和草地生态系统研究具有较大

的参考价值。
【英文摘要】Monitoring grassland production is of great importance for utilizing andadministering grassland, developing pasturage and improving the ecologicalenvironment. Using Moderate Resolution Imaging Spectroradiometer (MODIS)data and ground truth data for the six grassland regions of China, regional modelswere established to estimate the grassland production in 2005. The NormalizedDifference Vegetation Index (NDVI) was first computed from the MODIS data.Ground truth data were obtained from a large-scale field investigation in 2005. Thefollowing results were obtained: (1) total hay output from the grassland in Chinawas 294 214 thousand tons in 2005, with an average yield of 830 kg/ha. (2) Therewere three regions with high grass productivity in 2005: the grassland coveringHulunbuir, Xilinhaote and the western Daxing ’anling; the region including easternQinghai, northwestern Sichuan and mid-southern Gansu; and the northwesternXinjiang region. (3) Grassland production for the whole of China in August 2005remained at the same level as that in August 2004. However, the situation in themajor grassland provinces was different: grass production in 2005 in both Qinghaiand Gansu increased by 9% and 4%, respectively, when compared with that in2004. Grass production in Inner Mongolia decreased by 3%, while the productionin Liaoning, Xinjiang and Sichuan remained unchanged in comparison to that in2004. (4) The models based on the six regions are the most suitable for monitoringgrass production in China and can meet the need of estimating of grassproductivity. The results are very important for grassland administration, pasturegrazing and grassland ecosystem studies in China.
【语种】英文
【第一作者】徐斌
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【题目】Remote sensing monitoring of grass growing in grassland ecosystems of China
【中文关键词】草地长势;草地类型;草地退化;草地;遥感
【英文关键词】grassland growing, grassland types, grassland degradation, pasture, remote sensing
【中文摘要】近几十年,中国草地生态系统的退化受到了高度关注。草地长势是判断草地是否退化的重要因素。本文中,我们利用EOS/MODIS数据来开发一种合适的方法来监测中国草地长势。首先,计算得到2005-2006年草地生长季的4-10月归一化植被指数(NDVI)。为了评估草地长势,提出植被指数R,R值为计算得到的2006和2005年NDVI差值。根据R值将其分为5级(从1级到5级):差,较差,持平和较好、好。根据不同区域和草地类型将中国的草地区域分为许多小的亚区。研究结果表明2006年长势好于2005年。长势情况为持平、较好和好的区域占整体草原区域的71.43%,其面积为251420km2。2006年整体长势为:3级>4级>2级>5级>1级。草地长势的评价对于草地生态系统的可持续管理是急需的。
【英文摘要】Grassland degradation in grassland ecosystems of China has been highly concerned in recent decades. Grasslandgrowing is an important element for identification of grassland degradation. In this paper we intend to develop anapplicable method for grassland growing monitoring in China using the EOS/MODIS data. Firstly the normalizeddifference of vegetation index (NDVI) can be calculated from April to October within grassland growing period in 2005and 2006. In order to evaluate the grassland growing, vegetation index R was proposed, which was calculated from theNDVI value difference of the two years 2006 and 2005. According to the R value, five grades (from grade1 to grade5)were obtained: worse, slightly worse, balance, slightly better and better. Grassland region in China can be divided into anumber of small sub-regions for determination of different regions and grassland types. Our results indicate thatgrassland growing was better in 2006 than in 2005. The grassland with balance, slight better and better growingaccounted for 71.43% of the total grassland area, the area is 251.42 thousand KM2. The overall growing of 2006 is:Grade3>Grade4>Grade2>Grade5>Grade1.Valuation of the grassland growing is thus urgently required for betteradministration of the grassland ecosystem for sustainable development.
【语种】英文
【第一作者】Liping Lu
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【题目】Remote sensing monitoring upon the grass production in China
【中文关键词】遥感;监测;草原;产草量;MODIS
【英文关键词】remote sensing; monitoring; grassland; grass production; MODIS data
【中文摘要】利用MODIS遥感数据和全面的地面调查数据,对我国 2005年草原产草量进行了估算。首先利用MODIS数据计算NDVI,然后针对六个分区分别建立产草量与NDVI估算模型。主要结论如下:(1) 2005年我国草原有 3个牧草高产区,分别位于东北呼伦贝尔草原、锡林浩特草原和大兴安岭西麓;青海东部、四川西北部和甘肃中南部以及新疆西北部;(2)2005年全国草原干草总产量达到 29421.39万吨,平均单产达到829.67kg/hm2干草;(3) 2005年干草产量位列前7位的省区依次是内蒙古、青海、新疆、四川、西藏、黑龙江和甘肃;例如,2005年内蒙古有 6037万吨干草而成为中国产草量第一大省。(4)总产草量位于前5位的草地类型依次为高寒草甸类、温性草原类、低地草甸类、温性草甸草原类与山地草甸类;其中温性草甸草原与山地草地占全国总产草量的62.2%。(5)2005年8月份全国草原产草量与 2004年同期相比总体持平;各草原大省的变化情况分别为:青海、甘肃2省区的草产量略有增加,青海增加了9.02%,甘肃增加了3.63%;内蒙古减少约3%;西藏、新疆和四川3省区基本与2004年同期持平。研究结果对我国草原资源管理、 草原畜牧业发展和草地生态系统研究具有较大的参考价值。
【英文摘要】Using MODIS remote sensing data and ground truth data, a thorough investigation was conducted to monitor the productivityof grasslands in China for the year 2005. The Normalized Difference Vegetation Index (NDVI) was first computed from theMODIS data. Then the data from the NDVI images were used to correlate with the grass yield data from the ground sampling campaigns.Six regional models were accordingly established from the correlation for estimation of grass production in the six maintypes of steppe in China. The main results from the estimation could be summarized as follows: (1) High grass productivity in 2005was obtained in the following 3 regions: the grassland covering Hulunbuir, Xilinhaote, and the western Daxing ’anling, the region includingthe eastern Qinghai, the northwestern Sichuan and the mid-southern Gansu, and the northwestern Xinjiang region. (2) Totalhay output from the grasslands in China amounted to 294213.86 thousand tons in 2005 with an average yield of 829.67 kg/hm2. (3)The following 7 provinces were the largest grass producers in China: Inner Mongolia, Qinghai, Xinjiang, Sichuan, Tibet, Heilongjiangand Gansu. For example, Inner Mongolia produced 60370.82 thousand tons of hay in 2005, and hence became the No. 1 grassproducer of China. (4) Among the steppe types, the following 5 had the largest grass production: Alpine meadow, Temperate steppe,Low-land meadow, Temperate meadow steppe and Montane meadow with total production accounting for 62.2% in China. (5) Grassproduction of the entire China in August 2005 remained at the same level as that in August 2004. However, the situations of majorgrassland provinces were different: grass production in both Qinghai and Gansu in 2005 increased to 9.02% and 3.63%, respectively,when compared with that in 2004. The grass production in Inner Mongolia decreased by 3%, while the production in Tibet, Xinjiangand Sichuan remains unchanged when compared with that in 2004. These results were very important for grassland administration,pasture grazing and grassland ecosystem studies in China.
【语种】英文
【第一作者】Xu Bin
【通讯作者】Xu Bin
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【题目】Remote Sensing of Agro-droughts in Guangdong Province of China Using MODIS Satellite Data
【中文关键词】广东省;农业干旱;干旱监测;遥感;MODIS数据
【英文关键词】Guangdong province, agricultural drought, drought monitoring, remote sensing, MODIS data
【中文摘要】本研究基于植被供水指数(VSWI)和降水距离指数(PDI)开发了一种实用的方法来监测中国广东省的干旱情况。从归一化的VSWI和PDI中发展得到评估农业干旱严重性的综合指数(SADI)。使用MODIS卫星影像和地面观测站得到的降水数据,及此方法监测了广东省2006年的干旱情况。监测结果表明省内生长季5-9月的干旱平均情况是非常低的。然而,在广东省的不同县严重程度的季节变化是非常明显的。6月下旬(中国传统将每个月分为3期。每10天为1期)、7月上旬

、8月中旬及9月下旬的干旱情况较严重。空间上,西部雷州半岛在5月中旬干旱最严重。验证表明只使用了遥感数据的监测结果与干旱统计数据和中国国家气象卫星中心的数据具有普遍的一致性。这证明此干旱监测方法具有适用性。在广东西部雷州半岛的干旱严重性鉴别结果好于中国国家气象局,这可能表明了本方法能够为农业管理与农业经营提供一个较好的选择方法来提高干旱监测的精度。

【英文摘要】A practical approach was developed in the study for drought monitoring inGuangdong province of China on the basis of vegetation supply water index (VSWI) andprecipitation distance index (PDI). A comprehensive index for assessment of agro-droughtseverity (SADI) was then established from the normalized VSWI and PDI. Using MODISsatellite images and precipitation data from ground-observed meteorological stations, weapplied the approach to Guangdong for drought monitoring in 2006. The monitoring resultsshowed that the drought severity on average was very low in the province during the maingrowing season from May to September in 2006. However, seasonal variation of theseverity was also obvious in difference counties of the province. Higher severity of droughtcould be seen in the periods of late-June (In China each month is traditionally divided into3 periods. Each is with 10 days and has different names. This division system is mainlywith consideration of farming seasons hence has been widely used as the basis of droughtmonitoring periods in China. In order to keep this tradition, we define, for example, forJune, the early-June as the period from 1st to 10th of June, the mid-June as the period from11th to 20th, and the late-June as the period from 21st to 30th. So mid-August denotes theperiod from 11th to 20th of August, and early-July the period from 1st to 10th of July, and soon.), early-July, mid-August and late-September. Regionally, Leizhou Peninsula in the west had the most serious drought before mid-May. Validation indicated that our monitoringresults were generally consistent with the drought statistics data and the results fromChinese National Satellite Meteorological Center (CNSMC), which used only remotesensing data. This consistence confirmed the applicability of our approach for droughtmonitoring. Our better identification of drought severity in Leizhou Peninsula of westernGuangdong than that of CNSMC might suggest that the approach developed in the studywas able to provide a better alternative to increase the accuracy of drought monitoring foragricultural administration and farming.

【语种】英文

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【通讯作者】Zhihao Qin

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【学科分类】地理学

【题目】Using vegetation photosynthesis model to estimate net primary production of rangeland ecosystem in Inner Mongolia of China

【中文关键词】植被光合模型;草原生态系统;NPP;内蒙古

【英文关键词】Vegetation Photosynthesis Model, rangeland ecosystem, NPP, in Inner Mongolia

【中文摘要】内蒙古的干旱草原生态系统较为脆弱,人为活动尤其是过牧被认为是导致脆弱生态系统转为退化生态系统的主要原因。NPP是干旱生态系统脆弱性监测的重要因素。在本次研究中,使用植被光合模型评估内蒙古草原生态系统的NPP。其目的是监测到内蒙古NPP的空间分布情况,并加强对脆弱地区的可持续发展。已对模型中几处做出改善,尤其是参数部分,模型中用到的地表温度是从MODIS热波段数据中的分割窗算法中得到的。使用MODIS影像数据和地表气候数据,应用改善的模型评估2003年内蒙古NPP值。结果表明内蒙古2003年平均NPP值为192.03gCm-2GR-1,NPP的空间分布十分明显。西部NPP值非常低,而东部和东北部NPP值相对高些。在多种草地类型中,温性草甸草原NPP值最高,尽管温性草原平均NPP值不高,但由于其面积最大,所以在整体NPP值中占有最高比率。将我们的研究与使用传统方法进行的研究进行比较证实了本次研究结果的准确性。

【英文摘要】Rangeland in Inner Mongolia is an arid ecosystem with vulnerability. Anthropogenic activities especially over-grazinghave been believed to be a leading factor shifting the vulnerability into actual degradation in the ecosystem. Net primaryproductivity (NPP) is an important indicator for vulnerability monitoring in arid ecosystem. In this study we use thevegetation photosynthesis model to estimate NPP of rangeland ecosystem in Inner Mongolia. The objective is to examinethe spatial variation of NPP in Inner Mongolia and to highlight vulnerable areas for sustainable development. Severalimprovements have been done to the model especially in its parameterization. Land surface temperature required by themodel was estimated from split window algorithm proposed for MODIS thermal band data. Using the MODIS imagedata and the ground climate datasets, we applied the improved model to estimate the NPP in 2003 in Inner Mongolia.Our results showed that mean NPP was 192.03gC m-2 Gr-1 in Inner Mongolia in 2003. Spatial variation of the NPP wasvery obvious. Very low NPP was observed in the western parts while relatively high NPP could be

seen in the easternand northeastern parts. For various type rangelands, temperate alpine meadow is the highest. Although the mean NPP oftemperate steppe is not high, its area is the largest in Inner Mongolia, so it has the highest ratio to total NPP. Comparisonof our NPP with similar studies from conventional methods confirms the accuracy of our estimation.

【语种】英文

【第一作者】Ruijie Wang

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【学科分类】地图学

【题目】草原产草量遥感估算方法发展趋势及影响因素

【中文关键词】草原估产;遥感模型;植被指数;生物量;信息匹配

【英文关键词】estimating grass production ; model of remote sensing ; vegetation index ; biomass ; information matching

【中文摘要】草原产草量估算是实行以草定畜、草畜平衡管理的前提条件。遥感模型方法是目前从宏观上用于估算产草量的有效方法。该研究对遥感估算方法进行了详细阐述,并针对国内外的研究现状,分别讨论了基于遥感的统计模型法、综合模型法和其它相关方法,分析了不同方法的优缺点,探讨了建模过程中的影响因素,最后对产草量遥感估算方法的发展趋势及前景进行了展望。遥感模型法中的统计模型仍是今后大面积估产中应用的重点,而遥感模型法中的综合模型在今后草地生物量估算中将有很大的发展潜力,新的数学方法的不断探索和多种相关模型的不断融合将实现从微观形成机制的研究到宏观产量形成模拟的一体化方面有着重要的前景。

【英文摘要】Estimating grass production is a precondition of animal loading balance and range management . Thereare three main types of models for estimating grass production : field measurement , meteorological model s andremote sensing. The remote sensing met hod is t he one principally discussed , but ot her approaches are brieflyint roduced. Advantages and limitations are analyzed and t rends and pro spect s are discussed. Statistical methodsbased on remotely sensed data are al so important in application for large areas of grasslands , and integratedmodel s will play an increasingly important role in f ut ure grasslands studies. The continual exploration of newmat hematical methods will result in production and f usion of many related model s of micro forming mechanismswhich will be integrated wit h t he models of macro yield formation.

【语种】中文

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【学科分类】地球科学其他学科

【题目】草原植被遥感监测方法研究进展

【中文关键词】草原植被; 遥感监测; NDVI; 方法进展

【英文关键词】grassland vegetation; remote sensing monitoring; NDVI; method development

【中文摘要】在回顾我国草原植被遥感监测方法的基础上, 重点介绍目前农业部在草原植被遥感监测中所使用的方法及其局限性。提出我国草原植被遥感监测今后应关注和解决的重点问题, 指出草原植被遥感监测方法的研究重点应集中在提高草原植被遥感监测的精度和方法标准化上, 并建议应加强我国草原遥感监测和信息化管理平台的建设。

【英文摘要】The advance of technology of remote sensing monitoring for grassland vegetation in China, especially administered bythe Ministry of Agriculture of China, is reviewed in this paper. Some key issues are discussed. It is suggested that priority fieldsshould be focused on the precision and standardization. Information management platform of remote sensing monitoring of grasslandwill also play an important role and should be constructed

【语种】中文

【第一作者】徐斌
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【题目】规模化猪场废水污灌农田的土壤 Zn 和 Cu空间变异分析
【中文关键词】猪场废水; 污水灌溉; 农田土壤; 重金属; 空间变异
【英文关键词】swine wastewater; sewage- irrigation; farmland soil; heavymetal; spatial variability
【中文摘要】为了解长期施用猪场废水对农田土壤 Zn 和 Cu 的影响, 应用 GIS 结合地统计学方法对河北省京安猪场区域农田的清洁区和灌溉 8 年猪场废水的污灌区耕层(0~20 cm) 共 52 个土壤样品的 Zn 和 Cu 的全量和有效态含量的空间结构和分布特征进行了分析。结果表明, Zn 和 Cu 的全量和有效态量受随机性和结构性影响, 其中, 有效 Zn 和全 Cu 以随机性影响为主, 全 Zn 和有效 Cu 受结构性影响为主。Zn 和 Cu 有效态含量分别与全量正相关, 与全氮、有效氮、全磷和有效磷正相关, 与 pH 负相关, 与有机质相关不明显。从空间分布来看, Zn 和 Cu 全量和有效态含量主要为果园>污灌地>机井地>林地和苜蓿地。根据背景调查、变异函数分析、Kriging 内插图分析和不同采样区 Zn 和 Cu 含量统计分析, 影响整个研究区土壤 Zn 和 Cu 分布的主要随机性因素为猪场废水的应用, 长期灌溉猪场废水会带来土壤 Zn 和 Cu 积累, 以及 Zn 和 Cu 有效态含量的增加。
【英文摘要】Spatial variability of heavy metal in the plough layer (0~20 cm) of groundwater- irrigation farmland soils and sewage-irrigationfarmland soils which had been applied swine wastewater from Jing' an swine- farm for 8 years was studied using geographic information sys-tem (GIS) technique and geostatistical analysis, to analyze the effects of long- term swine wastewater applied on Zn and Cu in soils. 52 soilsamples were collected and analyzed in terms of the total concentration and bio- available concentration of Zn and Cu, pH and the contents ofsoil nutrients. The results indicated that the spatial variability of the total concentration and bio- available concentration of Zn and Cu wereimpacted byrandomfactors and structural factors together, bio- available Zn and total Cu were dominated by random factors, and total Zn andbio- available Cu were primarily controlled by structural factors. Bio- available Zn and bio- available Cu positively correlated to total Zn andtotal Cu respectively, positively correlated to total nitrogen, bio- available nitrogen, total phosphor and bio- available phosphor, but negativelycorrelated to pH, and correlated to organic matter insignificantly. The statistics analysis of Zn and Cu in soil from different samples and mapof ordinary Kriging interpolation revealed that the total concentration and bio- available concentration of Zn and Cu were: orchard soil>sewage soil>soil irrigated with groundwater>woodland and clover- land. According to the analysis of background investigation, the variogram,the value of the total concentration and bio- available concentration of Zn and Cu in different samples and the map of ordinary Kriging inter-polation, the main randomfactor influencingthe distribution ofZn and Cu in soils in this region was swine wastewater applied. The Zn and Cuwould be accumulated and the bio- available concentration of Zn and Cu would be increased in soils if the swine wastewater was long-termapplied in this region.
【语种】中文
【第一作者】黄治平
【通讯作者】徐斌
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【题目】规模化猪场区域农田土壤重金属积累及影响评价分析
【中文关键词】猪场废水; 污水灌溉; 农田土壤; 重金属; 因子分析; 影响评价
【英文关键词】Swine wastewater; Sewage- irrigation; Farmland soil; Heavy metals; Factor analysis; Assessment
【中文摘要】为了解长期灌溉猪场废水对农田土壤重金属的影响, 采集了河北省京安猪场区域农田清洁区和灌溉 8 年猪场废水污灌区的耕层(0~20 cm) 共 52 个土壤样品, 并测定了样品的 pH、养分和 Zn、Cu、Cr、Ni、Pb 和 As 全量和有效态含量,根据背景资料、相关分析和主成分分析确定重金属污染来源, 应用富集因子分析重金属积累程度, 并应用污染指数进

行重金属影响评价分析。结果表明,灌溉猪场废水对土壤主要带来 Zn 和 Cu 的富集,对 Ni、Cr 和 As 几乎没有富集效应,Pb 和 As的富集主要由施用化肥引起。尽管灌溉 8 年猪场废水后土壤的 Zn、Cu、Cr、Ni、Pb 和 As 含量在安全范围内,但土壤重金属有效态含量不仅与重金属全量正相关,还与土壤 pH 负相关,而灌溉猪场废水会降低土壤 pH,从而增加土壤重金属有效态含量。因此,长期灌溉猪场废水不但要注意土壤 Zn 和 Cu 积累,还需采取措施降低土壤 Zn、Cu 等重金属有效态含量以防重金属带来环境风险。

【英文摘要】The total and bio- available concentrations of Zn, Cu, Cr, Ni, Pb and As , pH and the contents of soilnutrients of the 52 soil samples (0- 20cm) of the groundwater- irrigated farmland soils and the sewage- irrigatedfarmland soils applied with swine wastewater from Jing ’ an swine- farm (total 8 years) were measured. The primarysource of heavy metals was confirmed according to background investigation, correlation analysis and principalcomponent analysis. Heavy metal accumulation were analyzed by enrichment factors, and the assessment of heavymetals was done by pollution index. The results indicated that swine wastewater irrigation lead to accumulation of Znand Cu,but not for Cr, Ni and As. Accumulation of Pb and As was from fertilization principally. Swine wastewaterirrigation would decrease soil pH and increase the bio- available concentrations of Zn, Cu, Cr, Ni, Pb and As. Thoughconcentrations of Zn, Cu, Cr, Ni, Pb and As in the soils were within the safty range after the application of swinewastewater in the last 8 years, the accumulation of Zn and Cu should be paid attention and some measures should betaken to decrease the bio-available concentrations of heavy metals after long- term application of swine wastewater.

【语种】中文

【第一作者】黄治平

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【学科分类】农学其他学科

【题目】基于GIS 的中国苜蓿资源分布和生产力分析

【中文关键词】苜蓿; GIS ;资源分布;生产力

【英文关键词】Alfalfa ; GIS ; Resources dist ribution ; Productivity

【中文摘要】针对目前我国苜蓿种植缺乏合理的规划和布局、盲目引种等问题,于2006 年初对全国苜蓿种植县开展了的问卷调查,对目前苜蓿资源情况进行了全面了解,并利用地理信息系统(GIS) 对其空间分布和生产力状况进行了详细分析。研究表明,截止到2005 年全国16 个省区的614 个苜蓿分布旗县的苜蓿累计保留面积达254177 万hm2 ,占全国人工草地面积的5018 %;并按照面积数据分布情况将其划分为5 级(小于333hm2 、333~3333hm2 、3333~10000hm2 、10000~33333hm2 、33333~74313hm2) ,各级分别占苜蓿总面积的0183 %、14149 %、28184 %、42145 %、13162 %;苜蓿平均干草单产为10150kg/ hm2 ,占总面积的46 %;根据数据分布情况将干草产量数据划分为5 级(小于3000kg/ hm2 、3000~7500kg/ hm2 、7500~12000kg/ hm2 、12000~18000kg/ hm2 、18000~31005kg/ hm2) ,各级分别占总面积的14132 %、21131 %、46175 %、14186 %、0183 %; 全国苜蓿种子田面积17129 万hm2 ,种子平均单产为325113kg/ hm2 。

【英文摘要】According to t he requirement s for alfalfa planting ,an integrated national questionnaire on alfalfaplanting in county level was carried out in 2006 ,which covered planting area ,p roductivity ,seed productionand it s utilization in 614 counties of 16 alfalfa planting provinces1 The Geograp hy Information System(GIS)has been applied for analyzing alfalfa special dist ribution and productivity1 The result s showed that t he to2tal accumulative planting area of alfalfa was 2155 million hm2 , about 5018 % of total past ure area ; and al2falfa planting area was classified into 5 level s : < 333hm2 , 333 ~ 3333hm2 , 3333 ~ 10000hm2 , 10000 ~33333hm2 and 33333~74313hm2 ,which was 0183 % , 14149 % , 28184 % ,42145 % ,13162 % of total area re2spectively ; average hay yield was 10150kg/ hm2 ,about 46 %of total planting area ;and t he p roductivity wasclassified into 5 level s : < 3 000kg/ hm2 , 3000~7500kg/ hm2 , 7500~12000 kg/ hm2 ,12000~18000kg/ hm2 ,18000~31005kg/ hm2 ,which was 14132 % ,21131 % ,46175 %,14186 %,0183 % of total area respectively ; seedplanting area was 0117 million hm2 ,average productivity was 325113 kg/ hm21

【语种】中文

【第一作者】白可喻

【通讯作者】白可喻

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【学科分类】农学其他学科

【题目】基于MODIS 数据的草原荒漠化年际动态变化研究
【中文关键词】内蒙古;荒漠化指数; EOS2MODIS 数据
【英文关键词】Inner Mongolia ; Desertification index ; EOS-MODIS data
【中文摘要】近几十年日益加重的荒漠化已成为内蒙古乃至中国和邻国如韩国、日本的非常严重的环境问题。通过EOS2MODIS 遥感数据计算出归一化植被指数(NDVI) 和植被覆盖指数(PV) ,反演求得荒漠化指数(DI) 对内蒙古地区进行荒漠化地区的识别,根据像元数进行统计各种类型的面积。最后我们运用该方法对内蒙古荒漠化进行监测,研究表明可以准确的得到该研究区荒漠化现状分布,同时根据像元统计可以得到荒漠化面积每年以212 %的速率增大。荒漠化地区的荒漠化程度同样以每年10 %的速度加重。结合气象观测的气温和降水数据分析,表明该方法对于荒漠化的监测是可行的,准确性也较高。
【英文摘要】The increasingly severe desertification in recent decades has been an important environmentalproblem for China and also adjacent count ries such as Korea and J apan1 EOS - MODIS data were applied toevaluate t he severity of desertification in Inner Mongolia1 A met hodology has been proposed to use t he redband and near inf rared band of MODIS for monitoring/ evaluating the desertification on t he basis of surfacevegetation changes1 The vegetation coverage index (VCI) in pixel scale was calculated f rom normalizeddifference vegetation index (NDVI) , and t hen applied it to const ruct t he desertification index (DI) for e2valuation of desertification severity1 Result f rom validation with rainfall and temperat ure data indicatedt hat accuracy of t he met hodology is acceptable and applicable for desertification severity evaluation1 Finallyt he proposed met hodology is applied to the st udy region of Inner Mongolia for evaluation of desertificationseverity1 The result s can best represent t he act ual stat us of current desertification in t he region1 There2fore , it can be conclude that t he p roposed met hodology is feasible for desertification monitoring in InnerMongolia.
【语种】中文
【第一作者】朱玉霞
【通讯作者】朱玉霞
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【题目】青藏高原那曲地区冬虫夏草资源分布空间分析方法
【中文关键词】冬虫夏草;GIS;空间分析;分布;西藏那曲
【英文关键词】Cordyceps sinensis; GIS; spatial analysis; distribution; Nakchu; Tibet
【中文摘要】:冬虫夏草(Cordyceps sinensis)是分布在我国青藏高原的可再生资源,具有极其名贵的中药材价值,而目前我国冬虫夏草资源的分布区域尚不清楚。以西藏那曲地区为例,根据冬虫夏草资源分布的生境条件,结合冬虫夏草的生态特性指标,利用地理信息系统(GIS)空间分析方法对冬虫夏草的空间分布区域进行了分析。结果表明,那曲地区冬虫夏草资源主要分布于那曲的东部,分布面积约为4. 93 万km2 ,占地区总面积的12. 54%。与实地调查结果比较,提出的基于GIS 空间分析的冬虫夏草分布区分析方法精度较高,说明空间分析方法在冬虫夏草资源调查评价上具有一定的可行性,为今后的冬虫夏草资源调查等相关研究提供方法支持。
【英文摘要】Cordyceps sinensis is a unique resource as traditional Chinese medicine with precious value in Tibetan Plateau ofChina. However,spatial distribution of the resource was still unknown very clearly. This paper intended to map thedistribution of Cordyceps sinensis resource in Nakchu region in Tibet,using an approach of GIS spatial analysis. Thecharacteristics of Cordyceps sinensis were considered with habitat conditions for the mapping. Our mapping result showedthat Cordyceps sinensis in Nakchu was mainly distributed in Eastern Regions,with an area of 49300 km2,accounting for12. 54% of the total. Verification with field investigation confirmed the accuracy of the mapping approach. This indicatedthe feasibility of applying GIS technology in monitoring the spatial dynamics of Cordyceps sinensis resource in future.
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【题目】我国退牧还草工程重点县草原植被长势遥感监测
【中文关键词】MODIS 数据;草原遥感;归一化植被指数;草原植被长势;退牧还草工程
【英文关键词】MODIS data ; remote sensing ; NDVI ; grassland vegetation growth; the project of grassland withdraw from grazing
【中文摘要】利用遥感和地理信息系统等先进技术手段,基于MODIS 数据,对我国4 大主要草地类型区的退牧还草工程县的草原植被长势进行了监测,主要结论如下:1) 内蒙古东部退化草原区2005 年草原植被长势虽然差于2004年的面积有上升趋势,但是总体长势良好,明显好于2004 年;2) 蒙甘宁西部荒漠草原区2005 年草原植被长势较差,虽然生长季节草原植被长势差于2004 年的面积呈上升趋势,但总体相对比较稳定;3) 新疆北部退化草原区2005与2004年相比长势持平的草地面积所占比重大,比较稳定,呈现出长势好差交替的时序变化格局;4) 青藏高原东部江河源草原区2005 年草原长势好于2004 年的草地面积占本区总草地面积的48.07 % ,长势差于2004 年的草地面积占本区草地总面积的32.56 % ,与2004 年持平的占19.37 % ,由此表明青藏高原东部区草原长势明显好于2004年同期,长势差和长势好于2004 年的草原面积波动较为明显。
【英文摘要】The integration of 3S (RS , GIS , GPS) was used to monitor t he vegetation growt h in t he project of the grassland wit hdrawn f rom grazing in t he counties wit h MODIS data. Some conclusions are : 1) The areas of degraded grassland in 2005 were bigger t han in 2006 in eastern Mongolia , but t he whole grassland vegetationgrowt h was bet ter t han in 2004 ; 2) In 2005 , vegetation growt h in desertified grassland of western Inner Mon2golia2Ningxia2Gansu was worse t han in 2006 and t he variance was smaller ; 3) The share of areas in nort hernXinjiang grassland where vegetation growt h was unchanged or larger and stable than 2004 , and t here appear s tobe a bet ter2wor se alternation of temporal changes ; 4) In t he riverhead areas of t he Yangtze and Yellow Riversof t he eastern Tibet Plateau , the areas where vegetation growt h was bet ter t han 2006 occupy 48. 1 % of allgrassland in t he area , but vegetation growth was wor se in 32. 56 % of t he grassland areas in t his region. Areawhere vegetation growt h was unchanged relative to 2004 occupy 19. 37 % of all t he area. Grassland growt h in2005 was bet ter in t he same period t han in the previous year
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【题目】县域可持续发展评价中的生态足迹动态研究
【中文关键词】县域;可持续发展评价;生态足迹;阿鲁科尔沁旗
【英文关键词】County-level region; Assessment of sustainable development; Ecological footprint; Aluke ’rqin Banner
【中文摘要】:【目的】县域(县级区域)是中国同时具备地域、空间和行政独立性的最基本区域单元,对其进行可持续发展评价具有积极的理论和现实意义。【方法】运用基于生物物理量计算实现区域可持续发展评价的生态足迹模型,对内蒙古阿鲁科尔沁旗1982　2003 年的发展进行时间序列动态分析。【结果】计算结果显示,阿鲁科尔沁旗人均生态足迹以6.01%的年均增速从1982 年的1.19gha 增长到2003 年的4.05gha,从1982 年人均0.58gha 的生态盈余,转变为2003 年的人均生态赤字1.47gha;全旗生物生产性面积供需不对称,存在结构性错位;万元GDP占用生态足迹衡量的资源利用效益一直处于低水平。【结论】研究表明,阿鲁科尔沁旗的自然资源消耗、土地利用及对环境的影响已经远超过生态系统的承载力,亟需采取有效措施以扭转长期以来的不可持续状况。
【英文摘要】【Objective】As China ’s basic regional units characterized with regional, spatial and administrational independence,assessments of county ’s (county-level region ’s) sustainable development is a matter of importance. 【Method】The paper tookAluke ’rqin Banner of Inner Mongolia Autonomous Region as a studied example and assessed its developmental history based ontime-series data from 1982 to 2003 by applying Ecological Footprint (EF) Model. The model is a natural capital accounting inbiophysical units and a useful indicator for measuring the pressure imposed by humanity on natural capital. 【Result】The calculatedresults showed that the EF per person increased at a speed of 6.01% per year from 1.19gha in 1982 to 4.05gha in 2003. The

countyfaced a ecological deficit of 1.47 gha in 2003, though there appeared an ecological reserve of 0.58 gha in 1982. Structural asymmetryexisted between demand for and supply of bio-productive areas. Ecological footprints per 104yuan (GDP) had no significant changefrom 1982 to 2003, which was 20.6 gha in 2003 and also higher than that of average value (EF per 104yuan GDP in 1999) of China,Western China and Inner Mongolia Autonomous Region, etc.. 【Conclusion】 Human activities in Aluke’rqin Banner had exceededthe biosphere capacity. The county had suffered from ecological overshoot and severe depletion of natural resources. Obviously theway of development of Aluke’rqin Banner was unsustainable and corresponding countermeasures should be taken as soon aspossible.

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【题目】中国草原产草量遥感监测
【中文关键词】遥感; 监测; 草原; 产草量; MODIS 数据
【英文关键词】Remote Sensing; monitoring; grassland; grass production; MODIS Data
【中文摘要】根据MODIS遥感数据和同期地面调查数据, 对我国2005年草原产草量进行了系统估算。用MOD IS数据计算全国草原的归一化植被指数NDV I, 针对6个不同类型草原区建立了NDVI和地面样方的产草量之间的关系模型, 用这些模型推算全国草原产草量分布。结论如下: (1) 2005年我国草原有3个牧草高产中心, 分别位于东北呼伦贝尔草原、锡林浩特草原和大兴安岭西麓; 青海东部、四川西北部和甘肃中南部以及新疆西北部; (2) 2005年全国草原干草总产量达到29421. 39万t, 平均单产达到829. 67kg /hm2干草; (3) 2005年干草产量位列前7位的省区依次是内蒙古、青海、新疆、四川、西藏、黑龙江和甘肃; 例如, 内蒙古因草原面积大而成为我国第一大草原牧草生产省, 2005年有6037. 08万t干草; (4)总产草量位于前5位的草地类型依次为高寒草甸类、温性草原类、低地草甸类、温性草甸草原类与山地草甸类; (5) 2005年8月份全国草原产草量与2004年同期相比总体持平; 各草原大省的变化情况分别为: 青海、甘肃2省区的草产量略有增加, 青海增加了9. 02%、甘肃增加了3. 63%; 内蒙古减少约3%; 西藏、新疆和四川3省区基本与2004年同期持平。研究结果对我国草原监理、草原畜牧业发展和草地生态系统研究具有较大的参考价值。
【英文摘要】Us ing MODIS rem ote sens ing data and ground truth data, we conducted a thorough invest igat ion to theproductiv ity of grasslands in China for the year 2005. The Norm alized D ifference Vegetation Index (NDV I) was firstcomputed from theMODIS data. Then the data from theNDV I mi agesw ere used to correlate to the grass yield data from theground sampling cam paigns. S ix reg iona lmodels w ere accordingly established from the corre lation for estmi ation o f grassproduction in the six ma in types of steppes in China. Them ain results from the estmi ation cou ld be summarized as fo llow s:(1) H igh grass product iv ity in 2005 was obta ined in the fo llow ing 3 reg ions: the grassland coveringH ulunbuir, X ilinhaote,and the w estern Daxing a'nling, the region includ ing the eastern Q ingha,i the northwestern Sichuan and the m id-southernGansu, and the northwestern Xinjiang reg ion. (2) T otal hay output of the grasslands in Ch ina amounted to 294213.9 thousand tons in 2005, w ith an average yield of 829. 67 kg /hm2. (3) The fo llow ing seven prov inces were the largest grassproducers in China: InnerM ongolia, Q ingha,i X injiang, Sichuan, T ibet, H eilong jiang and Gansu. For example, InnerM ongolia produced 60370. 82 thousand tons of hay in 2005, hence becam e the no. 1 grass producer of Ch ina. (4) Amongthe steppes types, the follow ing five had the largest grass production: A lp ine m eadow, T emperate steppe, Low-landm eadow, T emperatemeadow steppe and M ontane m eadow, w ith total production accounting for 62. 2% o f China. (5)G rass product ion of the entire Ch ina in August 2005 rem ained at the same level as that in August 2004. How ever, thes ituations of m ajor grassland prov inces w ere different: grass product ion in both Q ingha i and Gansu in 2005 increased9102% and 3. 63% respectively when com pared w ith that in 2004. The grass production in InnerM ongolia decreased 3%,wh ile the production in T ibet, X in jiang and S ichuan rem ains unchanged when com pared to that in 2004. These resultswerevery mi portant for grassland adm inistrat ion, pasture graz ing and grass land ecosystem studies in China.

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【题目】中国苜蓿综合气候区划研究
【中文关键词】苜蓿; 综合气候区划; 秋眠等级; 地理信息系统; 气候数据层面
【英文关键词】Alfalfa , Climatic subdivision , Fall dormancy level , Geograp hic Information System (GIS) , Climatic database layer
【中文摘要】以近2000 个气象台站(哨) 的气候数据为依据,以地理信息系统技术为平台对我国的苜蓿(Alfalfa) 进行了单项气候和综合气候区划。我国苜蓿综合气候区划共分为6 个区域,第Ⅰ, Ⅵ区域为不适合种植或极少有适合苜蓿品种的区域,占国土面积的46. 14 %。其他4 区从气候上适合于苜蓿生产,占国土总面积的53. 87 %; Ⅱ, Ⅲ, Ⅳ区域属于传统苜蓿种植区,占国土总面积的43. 29 %; Ⅴ区主要位于亚热带,耐湿、热品种在本区域种植具有广阔的前景。结合苜蓿品种的气候生态适应性、品种试验结果和秋眠性等级等,对各区域适合种植的品种进行了推荐,这对于指导我国苜蓿生产具有应用价值。
【英文摘要】Based on t he database f rom 2000 meteorological stations in China , t he alfalfa climatic subdivi2sions was synt hesized by using Geograp hic Information System (GIS) . Six climatic regions were identifiedfor climatic suitability of alfalfa , region Ⅰ and Ⅵwere identified as least suitable regions for alfalfa plant2ing and counted about 46. 14 % of total state land areas ; t he ot her four regions were climatic suitable areasand about 53. 87 % of total state land areas. Regional Ⅱ, Ⅲand Ⅳwere t raditional alfalfa planting areas ,which occupied about 43. 29 % of total state land areas ; Ⅴ region was sub2t ropical area for moist ure andheat resistance varieties. According to t he climatic suitability , variety performance test , and fall dormancycharacteristics , the suitable alfalfa varieties were recommended for different climatic regions.
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【题目】东北草原区产草量和载畜平衡的遥感估算*
【中文关键词】东北草原; 产草量; 草畜平衡; 遥感
【英文关键词】rangeland region of Northeast China ; grass production ; balance of livestock carrying capacity ; remote sensing (RS)
【中文摘要】基于国内外相关研究进展, 结合国家农业部草原遥感监测相关任务, 依托大量的草原地面样方数据源, 开展了东北草原区产草量和载畜平衡的遥感估算研究。主要结论有: (1)指数模型是进行草原区产草量遥感估算的优化模型, 模型的估产精度达到80 %以上; (2)2007 年东北草原鲜产草量总计16916 万吨, 折合干草5094 万吨; 鲜重单产为4562kg/ ha , 折合成干重单产为1374kg/ ha ; (3) 2007 年东北草原区75 %以上的牧区和半牧区县(旗) 牲畜超载, 牧区载畜平衡指标为32123 % , 半牧区载畜平衡指标为48151 %。本文可为东北草原区的畜牧业发展规划提供科学依据。
【英文摘要】Biomass on the grassland is t he main indicator of balance of livestock carrying ca2pacity , and is al so an important reference for t he sustainable development and managementof t he grassland. Based on t he p rogress in t his field at home and abroad , t his paper aims toconduct research on t he grassland monitoring under t he guidance of t he Minist ry of Agri2cult ure of China. Supported by high2precision data sources of grassland , we st udied t hecalculation of grass production and balance of livestock carrying capacity in t he rangelandregion of Nort heast China. The main conclusions are as follows : (1) The index model ist he most appropriate one for t he calculation of grass production. The accuracy of t he yieldestimation model is more than 80 %. (2) In 2007 , t he outp ut of f resh grass amount s to169 ,160 t housand tons , equivalent to 50 ,940 thousand tons of hay , and f resh weight perunit area is 4562 kg/ ha , equaling 1374 kg/ ha of dry weight ; (3) In 2007 , pastoral areasand semi2pastoral areas are generally overgrazed. The balance rate of livestock carrying ca2pacity of t he pastoral areas is 32. 23 % , and t hat of t he semi2pastoral areas is 48. 51 %.There are t hree counties stocking deficiently , 11 counties stocking app ropriately , 31 coun2t ries stocking avergrazed , 11 counties stocking seriously overgrazed , and one countystocking ext remely overgrazed. Among t he 57 count ries , more t han 43 count ries are stock2ing

overgrazed or even ext remely overgrazed , accounting for 75 % of t he total . This articlecan provide a basis for t he scientific plan of t he development of animal husbandry in t herangeland region of Northeast China.
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【题目】与TaFRA 蛋白相互作用候选蛋白的筛选
【中文关键词】酵母双杂交; 共转化; TaFRA; 相互作用; 候选蛋白
【英文关键词】TaFRA; yeast two hybridization; co-transformation; candidate proteins
【中文摘要】F-box 蛋白是E3 泛素连接酶SCF 复合体的重要亚基, 通过底物蛋白的特异识别发挥功能。TaFRA 是在盐胁迫差异表达片段基础上通过RACE 方法获得的一个基因, 编码F-box 蛋白。文章利用TaFRA 基因构建诱饵表达载体, 直接用cDNA+pGAD+pBD 共转化酵母双杂交的方法筛选相互作用的候选蛋白。通过对阳性克隆的鉴定和测序分析, 共获得44 个与TaFRA 相互作用的候选蛋白, 32 为已知蛋白, 包括硫氧还蛋白、金属硫蛋白、ATP 合成酶及丝氨酸/苏氨酸蛋白激酶等多种逆境胁迫反应蛋白及转录因子蛋白, 说明TaFRA 与胁迫反应相关,可能通过对上述蛋白编码基因的调控参与了植物的胁迫反应过程, 为进一步阐明TaFRA 的功能及作用机制奠定了理论基础。
【英文摘要】F-box protein is an important subunit of SCF complex, an E3 ligase in ubiquitin system, and its function was determined through mediating the specific recognition and combining with substrate protein. TaFRA (F-box related to abiotic stress) was identified by RACE based on the fragments diferently expressing in wheat seedling exposed to salt stress and encodes an F-box protein. In this study, pBD-TaFRA bait expression vector was constructed, and DNA+pGAD+pBDwas directly co-transformed into yeast hybrid system to screen condidate proteins interacting with TaFRA. Fourty-four candidate proteins were obtained, in which 32 were known proteins and transcript factors related to stress tolerance such as thioredoxin, metallothinein, ATP synthase, and serine/threonine protein kinase etc. This indicates that TaFRA participates instress response through regulating above condidate genes, which will provide basis for revealing the mechanism of TaFRA reaction to abiotic stress.
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【题目】植物激素信号传导途径研究进展
【中文关键词】植物激素;信号途径;相互作用;研究进展
【英文关键词】plant hormone; signal pathway; interaction; research progress
【中文摘要】植物激素是植物体内合成的微量有机物质,在植物生长发育的各个阶段、以及生物和非生物胁迫适应性中都发挥着重要作用。综述了生长素、赤霉素、脱落酸、茉莉酸和乙烯五种激素信号传导途径及其在植物生长发育中的相互作用等方面取得的最新研究进展,以期为激素的理论和应用研究提供参考。
【英文摘要】Plant hormone is one kind of organic compound synthesized in vivo and plays an important role in plant growth, development and adaption to biotic and abiotic stress. This paper reviewed the progress of five phytohormone signal pathways including auxin, gibberellins, abscisic acid, jasmonate acid, ethylene and their interactions in the plant growth and development. Hope it could provide the foundation for theory and utilization in plant hormone study.
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【学科分类】农业基础学科

【题目】基于SSR 标记的小麦骨干亲本育种重要性研究
【中文关键词】小麦;大面积推广品种;骨干亲本;基因型分析
【英文关键词】common wheat;major cultivar;founder;microsatellite genotyping
【中文摘要】目的 通过对大面积推广小麦品种和育种骨干亲本的全基因组多位点扫描分析,探讨两者之间的遗传关系及骨干亲本在小麦育种中的作用。方法 利用ABI3730 对中国66 份大面积推广的小麦品种和13 份育种骨干亲本的481个SSR位点进行基因型扫描分析。结果 以基因型数据为基础的主坐标及NJ 聚类分析,发现中国大面积推广品种可聚成6个大组,每一组中至少有一个骨干亲本。系谱分析表明,每一组中大面积推广品种和骨干亲本之间均存在密切的血缘关系,前者大多为骨干亲本的后裔;同一省份的品种多数聚在一起。来自同一组合的骨干亲本碧蚂4 号含有的优势等位变异数多于大面积推广品种碧蚂1 号,同样,郑引4 (St2422-464)多于郑引1 号(St1472-506);新一代骨干亲本往往由上一代骨干亲本衍生而来;来源于同一组合的骨干亲本与大面积品种相比,前者与其组合中的骨干亲本间存在更大的遗传差异。【结论】只有对资源的创新、引进和利用给予足够的重视,育种工作才能取得大的突破。
【英文摘要】【Objective】 The purpose of this study was to reveal genetic relationship between the large-scale cultivated wheat varieties and the founder genotypes (cornerstone breeding parents) and illuminate the role of the founder genotypes in breeding at genomic level. 【Method】 Sixty-six large-scale planted varieties and 13 founder genotypes were genotyped at 481 SSR loci by the ABI 3730. 【Result】 Analyses of principal coordinate (PCO) and neighbor-joining cluster based on the genotyping data showed that the 66 large-scale planted varieties were clustered into six major groups. In each group, there is at least one founder. Within each group, most of the large-scale planted varieties are the descendents of the founder. Varieties from the same province usually jointed into one group. Two founders, Bima 4 and St2422-464 convey more alleles favored in breeding than their sister lines, Bima 1 and St1472-506, respectively. Usually, the older cornerstone breeding parents are the founders for the new ones. Among sister lines, the new founder has more difference than large-scale cultivated varieties to their founder genotype. 【Conclusion】 Therefore, innovation and enhancement of germplasm is the base for breeding large-scale planted varieties. It should occupy proper portion in national breeding program.
【语种】中文
【第一作者】盖红梅
【通讯作者】张学勇
【期刊名称、卷期、页码】中国农业科学,2009,42(5):1503-1511
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【学科分类】农学其他学科

【题目】Diverse approaches to achieving grain yield in wheat
【中文关键词】小麦;籽粒产量;比较基因组学;关联单元型
【英文关键词】Wheat; Grain yield;Comparative Genomics;Association Haplotype
【中文摘要】人工选择(驯化与育种)在植物基因组上留下了强烈的印迹。第二代高通量测序技术使得在3至5个月内完成一个完整基因的测序工作成为可能,并且测序成本逐渐降低。这为规模化鉴定经历了强烈选择的植物基因组区域奠定了基础。重要农作物如水稻、玉米、高粱等参考序列的完成将极大地促进在这些作物中进行重测序。标记/性状关联分析,特别是单元型(单元型块)关联分析,将有力于重要基因组区域、优异等位基因或单元型的精细定位。综述了小麦中解析产量相关性状的基因组方法。
【英文摘要】Artificial selection (domestication and breeding) leaves a strong footprint in plant genomes. Second generation high throughput DNA sequencing technologies make it possible to sequence the gene complement of a plant genome within 3 to 5 months, and the costs of doing so are declining very quickly. This makes it practical to identify genomic regions that have undergone very strong selection. Available reference sequences of important crops such as rice, maize, and sorghum will promote the wide use of re-

sequencing strategies in these crops. Marker/trait associations, especially haplotype (or haplotype block) association analyses, will help the precise mapping of important genomic regions and location of favored alleles or haplotypes for breeding. This mini-review examines a genomics approach to defining yield traits in wheat.
【语种】英文
【第一作者】Roberto A.Barrero
【通讯作者】张学勇
【期刊名称、卷期、页码】Funct Integr Genomics (2011)11:37-48
【论文发表时间】2011-02-01 00:00:00
【引文索引类型】null
【引文索引号】
【学科分类】农学其他学科

【题目】Nocturnal windborne migration of ground beetles, particular Pseudoophonus griseus (Coleoptera: Carabidae), in China
【中文关键词】步甲,飞行的行为,陷光,夜间迁移,Pseudoophonus
霉菌(装甲),雷达观测
【英文关键词】Carabid , flight behaviour , light trapping , nocturnal migration , Pseudoophonus griseus (Panzer) , radar observations
【中文摘要】1光陷阱,空中网进行由kytoon(气球)和两个ento的网络mological雷达使用,以调查是否迁移地面甲虫noctur中国应受通过。网络广,同时突然增加光陷阱捕获,随后下降后,表明季节性长途夜间地面甲虫迁移,Pseudoophonus霉菌(装甲)预占主导地位,在8月。 2空中网诱捕表示,步甲能够登上海拔在至少有200米,成为windborne。雷达观测表明,迁徙甲虫形成于约200层浓度高密度 - 300米。 这些浓度的逆温层顶部重合和风速最大,这表明,步甲倾向于选择温暖,他们的长途迁移的快速移动的空气。 4,地面甲虫向顺风方向的导向和流离失所偏南风。他们的空气顺风下降的速度增加,因此,迁移甲虫似乎是节约能源。 5平均值±SD位移速度(地面速度)和空气的速度分别为6.85±1.73米/ S(N= 172)和4.45±1.54米/秒(N= 172),分别。持续时间飞行,从面积密度变化来自雷达数据估计,约9 - 10小时,表明甲虫可能迁移数百公斤米,在一个单一的飞行。
【英文摘要】1 A network of light-traps, an aerial net carried by kytoon (balloon) and two ento-mological radars were used to investigate whether ground beetles migrate noctur-nally through China. The network-wide, simultaneous sudden increase in light trap catches, and after subsequent decrease, indicated a seasonal long-distance night migration of ground beetles, with Pseudoophonus griseus (Panzer) pre-dominant, in August. 2 Aerial net trapping indicated that carabids were able to ascend to altitudes of at least 200 m and become windborne. Radar observations indicated that the migratory beetles formed high-density layer concentrations at approximately 200 – 300 m. 3 These concentrations were coincident with the top of the temperature inversion and a wind speed maximum, which suggested that the carabids tended to select warm, fast moving air for their long-distance migration. 4 The ground beetles orientated and displaced towards the downwind direction in southerly winds. Their air speed decreased as the tailwind increased and, thus, migrating beetles appeared to be conserving energy. 5 The mean ± SD displacement speed (ground speed) and air speed were 6.85 ± 1.73 m/s (n = 172) and 4.45 ± 1.54 m/s (n = 172), respectively. The duration of flight, estimated from the variation in area density derived from radar data, was approximately 9 – 10 h, indicating that the beetles might migrate hundreds of kilo-metres in a single flight.
【语种】英文
【第一作者】Hong-Qiang Feng
【通讯作者】周益林
【期刊名称、卷期、页码】Agricultural and Forest Entomology (2007), 9, 103 – 113
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【引文索引类型】其他
【引文索引号】
【学科分类】植物保护学

【题目】抗青霉芽孢杆菌优良菌株的分离、筛选及鉴定
【中文关键词】解淀粉芽孢杆菌 青霉 鉴定 抑菌
【英文关键词】Bacillus amyloliquefaciens Penicillium sp. identification antifungal activity

【中文摘要】为了获得一株对青霉有强烈拮抗作用的芽孢杆菌以应用于食品的防腐保鲜中,从木瓜、柑橘、葡萄、全麦面包、太子参、陈皮等食品及中草药共计30个样品中分离得到132株芽孢杆菌。通过平板对峙法,筛选出18株对青霉有较强拮抗作用的芽孢杆菌。对其中3株抑菌效果显著的芽孢杆菌利用杯碟法测定其发酵液的抑菌效果,最终筛选出一株芽孢杆菌LPL40,其发酵上清液对青霉的抑菌圈直径达到(13.94±1.90)mm。通过形态学、生理生化及16SrDNA鉴定,最终将该菌株命名为解淀粉芽孢杆菌LPL40(Bacillus amyloliquefaciens LPL40)。

【英文摘要】In order to screen antifungal Bacillus sp. strains for applications in food preservation, 132 strains were separated from 30 kinds of fruits and herbs, of which 18 were assessed by plate confrontation tests to have strong antifungal activity against Penicillium sp. The fermentation supernatants of 3 of the 18 strains with stronger antifungal activity were tested for their antifungal activity, and LPL40 revealed the strongest antifungal activity against Penicillium sp. and the inhibition zone of cell- free supernatant was (13.94 ± 1.90) mm in diameter. Based on morphological characteristics, physiological and biochemical tests and identification of 16S rDNA sequence, LPL40 was identified as Bacillus amyloliquefaciens.

【语种】中文

【第一作者】赵一楠

【通讯作者】李平兰

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【引文索引号】

【学科分类】食品科学技术基础学科

【题目】基于图像的昆虫远程自动识别系统的研究

【中文关键词】关键词:昆虫;自动识别;远程识别;图像处理;计算机视觉

【英文关键词】关键词:昆虫;自动识别;远程识别;图像处理;计算机视觉

【中文摘要】摘 要:只有对害虫进行鉴定才能在农业生产中对害虫进行有目的的防治,而对昆虫进行鉴定只有少数分类专家才能完成,鉴定需求的日益增加与专家相对较少形成了一对尖锐的矛盾。该文的研究尝试为该矛盾的解决提供一条新的思路:在标准方法下获取昆虫图像,并经由 Internet 网络上传给自动种类识别系统服务器,从而实现远程识别。系统首先对昆虫图像进行基于形状和颜色特征值的提取。昆虫图像的形态特征值由矩形度、延长度、球状型、叶状型、似圆度和 7个Hu不变矩等12个特征值组成,颜色特征值由红、绿、蓝、灰度真方图及基于红、绿的二维色度直方图特征值分别组成,然后建立径向基神经网络分类器,每一特征向量由独立的径向基神经网络做为分类器,最终识别由每个分类器识别结果的线性组合而成。采用该系统对16种昆虫进行了测试,每种昆虫取40个样本,20个用做训练、20个用做测试,准确率达到96%以上。

【英文摘要】摘 要:只有对害虫进行鉴定才能在农业生产中对害虫进行有目的的防治,而对昆虫进行鉴定只有少数分类专家才能完成,鉴定需求的日益增加与专家相对较少形成了一对尖锐的矛盾。该文的研究尝试为该矛盾的解决提供一条新的思路:在标准方法下获取昆虫图像,并经由 Internet 网络上传给自动种类识别系统服务器,从而实现远程识别。系统首先对昆虫图像进行基于形状和颜色特征值的提取。昆虫图像的形态特征值由矩形度、延长度、球状型、叶状型、似圆度和 7个Hu不变矩等12个特征值组成,颜色特征值由红、绿、蓝、灰度真方图及基于红、绿的二维色度直方图特征值分别组成,然后建立径向基神经网络分类器,每一特征向量由独立的径向基神经网络做为分类器,最终识别由每个分类器识别结果的线性组合而成。采用该系统对16种昆虫进行了测试,每种昆虫取40个样本,20个用做训练、20个用做测试,准确率达到96%以上。

【语种】中文

【第一作者】杨红珍

【通讯作者】沈佐锐

【期刊名称、卷期、页码】农业工程学报 2008,24(1):188-192

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【引文索引类型】EI

【引文索引号】

【学科分类】植物保护学

【题目】Cloning of a 9-cis- epoxycarotenoid dioxygenase gene and the responses of Caragana korshinskii to a variety of abiotic stresses

【中文关键词】脱落酸,柠条锦鸡儿,克隆,9-顺式-环氧类胡萝卜双加氧酶,抗逆
【英文关键词】Abscisic acid,caraganakotshinskii,cloning, 9-cis-epoxycarotenoid dioxygenase,stress tolerance
【中文摘要】脱落酸(ABA)调节植物适应对各种环境响应。9-顺式-环氧类胡萝卜双加氧酶(NCED)是ABA合成途径中主要的步骤之一。利用RACE技术,NCED基因从柠条锦鸡儿中克隆出来。CkNCED全长2442bp,开放阅读框1818bp,编码605个氨基酸。其氨基酸序列与其它物种NCED有很高同源性。Southern blot分析显示,CkNCED1在柠条锦鸡儿基因组中是单拷贝。当柠条锦鸡儿在水份缺乏,ABA积累增加很大,同时CkNCED1 mRNA在叶、茎中也极大增加,但在根中也适度增加。在干旱、ABA、盐份、冷处理下,实时荧光定量PCR结果显示,CkNCED1 转录水平极大增加,同时其ABA量也迅速增加。综合这些结果,CkNCED1在柠条锦鸡儿ABA合成中可能起重要作用
【英文摘要】Abscisic acid (ABA) regulates plant adaptive responses to various environmental stresses. Oxidative cleavage of cis-epoxycarotenoids catalyzed by 9-cis-epoxycarotenoid dioxygenase (NCED) is the main regulatory step in the biosynthesis of ABA in higher plants. Using RACE technology, a full-length cDNA-encoding NCED gene was isolated and characterized from the leaves of Caragana korshinskii (Peashrub). The 2442-bp full-length CkNCED1 had a 1818-bp ORF, which encodes a peptide of 605 amino acids. The deduced amino acid sequence of CkNCED1 protein shared high identity with other NCEDs. Southern blot analysis revealed that the gene CkNCED1 was a single copy in the genome of C. korshinskii. When C. korshinskii plants were exposed to a water deficit, ABA accumulation was followed by large increases in CkNCED1 mRNA in leaves and stems, but only a moderate increase in the roots. Conversely, rehydration of stressed leaves caused a rapid decrease in CkNCED1 mRNA and ABA levels. RT-PCR and Quantitative real-time PCR analysis showed that salt stress rapidly induced the strong expression of CkNCED1 in leaves and roots of C. korshinskii, as well as ABA accumulation. The expression of CkNCED1 and ABA accumulation was also induced by cold stress and the application of exogenous ABA. Taken together, these results suggest that CkNCED1 likely plays a primary role in the biosynthesis of ABA in C. korshinskii.
【语种】英文
【第一作者】王学敏
【通讯作者】高洪文
【期刊名称、卷期、页码】Genes and genomic system 2009, 84:397-405.
【论文发表时间】2009-12-22 00:00:00
【引文索引类型】SCI
【引文索引号】DOI: 10.1266
【学科分类】畜牧学

【题目】Isolation and Characterization of GoRAV ,a noval gene encoding a RAV-type Protein in Galegae orientalis
【中文关键词】生物胁迫,山羊豆侧柏,半定量RT-PCR,亚细胞定位,转录因子RAV
【英文关键词】abiotic stress, Galegae orientalis, semi-quantitative RT-PCR, subcellular localization, transcription factor RAV
【中文摘要】RAV是在高等植物中具有AP2和类B3两个不同的DNA结合域的独特的转录因子,在植物生长和发育中的作用还不清楚。该试验中,我们从山羊豆和侧柏中分离了一个新的RAV家族基因,GoRAV,对冷刺激有响应。序列比对表明它和RAV其他家族成员中AP2和B3具有较高的同源性。洋葱表皮细胞的瞬时表达分析表明GoRAV蛋白定位在细胞核中的。而半量RT-PCR(S-Q RT-PCR)分析表明GoRAV会受寒冷,脱水,高盐和脱落酸的诱导,在非生物胁迫的早期响应中,侧柏能被强烈诱导。GoRAV在叶中比在茎中的含量丰富,但是在根中不表达。这个研究将一个新的成员加入RAV家族中。
【英文摘要】RAV is a unique transcription factor in higher plants with AP2 and B3-like two distinct DNA-binding domains, but its roles in plant growth and development remains unknown. We have isolated a novel RAV family gene from Galegae orientalis, called GoRAV, which responds to cold induction. Sequence alignment showed that it shares high identity with other RAV family members in AP2 and B3 domain. Transient expression analysis using onion epidermal cells indicated that GoRAV protein is localized in the nucleus. Semi-quantitative RT-PCR (S-Q RT-PCR) analysis indicated that GoRAV is induced by cold, dehydration, high-salinity and abscisic acid, with the strongest induction in G. orientalis leaves during the early response to abiotic elicitors. GoRAV is more abundant in leaf than in stem, but is not expressed in root. This work adds a new member to the RAV family.
【语种】英文
【第一作者】陈小芳
【通讯作者】高洪文
【期刊名称、卷期、页码】Genes and genomic system. 2009,84:101-109
【论文发表时间】2009-05-25 00:00:00
【引文索引类型】SCI

【引文索引号】http://dx.doi.org/10.1266/ggs.84.101
【学科分类】畜牧学

【题目】Suppression of cotton bollworm in China in areas with Bt toxin-containing cotton
【中文关键词】转基因棉花,Bt
【英文关键词】Transgenic cotton;Bacillus thuringiensis (Bt)
【中文摘要】从苏云金芽孢杆菌(Bt)中产生杀虫毒素转基因棉花抵制棉花害虫棉铃虫(Helicoverpa armigera)已经被广泛种植在亚洲。H. armigera从1992年到2007年的种群动态的分析来研究显示, Bt棉花的种植可以防治害虫爆发。研究领域包括在中国北部六省每年总共300万公顷的棉花和2200万公顷的其他作物(玉米、花生、大豆和蔬菜)增长超过1000万资源贫乏的农民。我们的数据表明Bt棉花不但控制H. armigera来设计能够抵御在转基因棉花这种害虫,但也可能减少它出现在其他主机作物和可能减少一般需要喷洒杀虫剂。
【英文摘要】Transgenic cotton that has been engineered to produce insecticidal toxins from Bacillus thuringiensis (Bt) and so to resist the pest cotton bollworm (Helicoverpa armigera) has been widely planted in Asia. Analysis of the population dynamics of H. armigera from 1992 to 2007 in China indicated that a marked decrease in regional outbreaks of this pest in multiple crops was associated with the planting of Bt cotton. The study area included six provinces in northern China with an annual total of 3 million hectares of cotton and 22 million hectares of other crops (corn, peanuts, soybeans, and vegetables) grown by more than 10 million resource-poor farmers. Our data suggest that Bt cotton not only controls H. armigera on transgenic cotton designed to resist this pest but also may reduce its presence on other host crops and may decrease the need for insecticide sprays in general.
【语种】英文
【第一作者】Kong-Ming Wu
【通讯作者】Kong-Ming Wu
【期刊名称、卷期、页码】Science, 2008 Sep ; 321 :1676-1678
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【引文索引号】SCI
【学科分类】植物保护学

【题目】Baseline susceptibility of Cnaphalocrocis medinalis (Lepidoptera: Pyralidae) to Bacillus thuringiensis toxins in China
【中文关键词】转基因棉花,Bt
【英文关键词】Cnaphalocrocis medinalis, Bacillus thuringiensis, baseline susceptibility, bioassay
【中文摘要】Geographic variability in susceptibility of Teld-collected Cnaphalocrocis medinalis(Guene ´ e) (Lepidoptera: Pyralidae) to Bacillus thuringiensis (Berliner) was studied to establish ageographic baseline for comparison of future population responses to the increased use of B.thuringiensis-based insect control products. Colonies of C. medinalis were established from 10 populations collected from 10 different provinces in the major rice (Oryza savita L.)-growing regions of China. Populations were evaluated for their susceptibility to Cry1Ac and Cry1Ab endotoxin proteins with the leaf-dip bioassay. The LC50 values to Cry1Ac and Cry1Ab were estimated for the 10 populations. Bioassay results indicated that the ranges of LC50 in the second instars of C. medinalis to Cry1Ac and Cry1Ab were from 3.77 to 208.22 mg ([AI])/liter and 0.22D7.05 mg ([AI])/liter, respectively. The relative ratios in susceptibility between the most susceptible and the most tolerant populations were beyond 50-fold for Cry1Ac and 30-fold for Cry1Ab. Moreover, there was a signiTcant positive correlation between susceptibilities to the two toxins tested, suggesting that insect populations that are relatively tolerant to one protein are also relatively tolerant to the other.
【英文摘要】Geographic variability in susceptibility of Teld-collected Cnaphalocrocis medinalis(Guene ´ e) (Lepidoptera: Pyralidae) to Bacillus thuringiensis (Berliner) was studied to establish ageographic baseline for comparison of future population responses to the increased use of B.thuringiensis-based insect control products. Colonies of C. medinalis were established from 10 populations collected from 10 different provinces in the major rice (Oryza savita L.)-growing regions of China. Populations were evaluated for their susceptibility to Cry1Ac and Cry1Ab endotoxin proteins with the leaf-dip bioassay. The LC50 values to Cry1Ac and Cry1Ab were estimated for the 10 populations. Bioassay results indicated that the ranges of LC50 in the second instars of C. medinalis to Cry1Ac and Cry1Ab were from 3.77 to 208.22 mg ([AI])/liter and 0.22D7.05 mg ([AI])/liter, respectively. The relative ratios in susceptibility between the most susceptible and the most tolerant populations were beyond 50-fold for Cry1Ac and 30-fold for Cry1Ab. Moreover, there was a signiTcant positive correlation between susceptibilities to the two toxins tested, suggesting that insect populations that are relatively tolerant to one protein are also relatively tolerant to the other.

【语种】英文
【第一作者】L. Z. HAN
【通讯作者】M. L. HOU
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【学科分类】植物保护学

【题目】Population dynamics of Sesamia inferens on transgenic rice expressing Cry1Ac and CpTI in southern China
【中文关键词】transgenic rice lines, Sesamia inferens, Cry1Ac level, population dynamics
【英文关键词】transgenic rice lines, Sesamia inferens, Cry1Ac level, population dynamics
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【语种】英文
【第一作者】LANZHI HAN
【通讯作者】KONGMING WU
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【学科分类】植物保护学

【题目】Effects of different brush border membrane vesicle isolation protocols on proteomic analysis of Cry1Ac binding proteins from the midgut of Helicoverpa armigera
【中文关键词】Bacillus thuringiensis, binding protein, brush border membrane vesicles, Cry1Ac, Helicoverpa armigera, two-dimensional electrophoresis
【英文关键词】Bacillus thuringiensis, binding protein, brush border membrane vesicles, Cry1Ac, Helicoverpa armigera, two-dimensional electrophoresis
【中文摘要】Brush border membrane vesicles (BBMV) isolated from insect midguts have been widely used to study Cry1A binding proteins. Sample preparation is important in twodimensional electrophoresis (2-DE), so to determine a suitable BBMV preparation method in Helicoverpa armigera for 2-DE, we compared three published BBMV preparation methods mostly used in sodium dodecyl

sulfate-polyacrylamide gel electrophoresis (SDSPAGE). All methods yielded similar types and numbers of binding proteins, but in different quantities. The Abdul-Rauf and Ellar protocol was the best of the three, but had limitations. Sufficient protein quantity is important for research involving limited numbers of insects, such as studies of insect resistance to Bacillus thuringiensis in the field. Consequently, we integrated the three BBMV isolation methods into a single protocol that yielded high quantities of BBMV proteins from H. armigera larval midguts, which proved suitable for 2- DE analysis.

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【语种】英文

【第一作者】Li-Zhen Chen
【通讯作者】Yu-Yuan Guo

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【学科分类】植物保护学

【题目】Introgression of a disrupted cadherin gene enables susceptible Helicoverpa armigera to obtain resistance to Bacillus thuringiensis toxin Cry1Ac

【中文关键词】Helicoverpa armigera (Hu ¨ bner), Bacillus thuringiensis, Cry1Ac, resistance, cadherin, fitness costs
【英文关键词】Helicoverpa armigera (Hu ¨ bner), Bacillus thuringiensis, Cry1Ac, resistance, cadherin, fitness costs

【中文摘要】A disrupted allele (r1) of a cadherin gene (Ha_BtR) is genetically associated with incompletely recessive resistance to Bacillus thuringiensis toxin Cry1Ac in Cry1Ac-selected strain (GYBT) of Helicoverpa armigera. The r1 allele of Ha_BtR was introgressed into a susceptible SCD strain by crossing the GYBT strain to the SCD strain, followed by repeated backcrossing to the SCD strain and molecular marker assisted family selection. The introgressed strain (designated as SCD-r1, carrying homozygous r1 allele) obtained 438-fold resistance to Cry1Ac, > 41-fold resistance to Cry1Aa and 31-fold resistance Cry1Ab compared with the SCD strain; however, there was no significant difference in susceptibility to Cry2Aa between the integrated and parent strains. It confirms that the loss of function mutation Ha_BtR alone can confer medium to high levels of resistance to the three Cry1A toxins in H. armigera. Reciprocal crosses between the SCD and SCD-r1 strains showed that resistance to Cry1Ac in the SCD-r1 strain was completely recessive. Life tables of the SCD and SCD-r1 strains on artificial diet in the laboratory were constructed, and results showed that the net replacement rate (R0) did not differ between the strains. The toxicity of two chemical insecticides, fenvalerate and monocrotophos, against the SCD-r1 strain was not significantly different from that to the SCD strain. However, larval development time of the SCD-r1 strain was significantly longer than that of the SCD strain, indicating a fitness cost of slower larval growth is associated with Ha_BtR disruption in H. armigera.

【英文摘要】A disrupted allele (r1) of a cadherin gene (Ha_BtR) is genetically associated with incompletely recessive resistance to Bacillus thuringiensis toxin Cry1Ac in Cry1Ac-selected strain (GYBT) of Helicoverpa armigera. The r1 allele of Ha_BtR was introgressed into a susceptible SCD strain by crossing the GYBT strain to the SCD strain, followed by repeated backcrossing to the SCD strain and molecular marker assisted family selection. The introgressed strain (designated as SCD-r1, carrying homozygous r1 allele) obtained 438-fold resistance to Cry1Ac, > 41-fold resistance to Cry1Aa and 31-fold resistance Cry1Ab compared with the SCD strain; however, there was no significant difference in susceptibility to Cry2Aa between the integrated and parent strains. It confirms that the loss of function mutation Ha_BtR alone can confer medium to high levels of resistance to the three Cry1A toxins in H. armigera. Reciprocal crosses between the SCD and SCD-r1 strains showed that resistance to Cry1Ac in the SCD-r1 strain was completely recessive. Life tables of the SCD and SCD-r1 strains on artificial diet in the laboratory were constructed, and results showed that the net replacement rate (R0) did not differ between the strains. The toxicity of two chemical insecticides, fenvalerate and monocrotophos,

against the SCD-r1 strain was not significantly different from that to the SCD strain. However, larval development time of the SCD-r1 strain was significantly longer than that of the SCD strain, indicating a fitness cost of slower larval growth is associated with Ha_BtR disruption in H. armigera.
【语种】英文
【第一作者】Y.-H. Yang
【通讯作者】Y.-D. Wu
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【学科分类】植物保护学

【题目】Modified female calling behaviour in Cry1Ac-resistant Helicoverpa armigera
【中文关键词】Bacillus thuringiensis (Bt); calling behaviour; fitness cost; Helicoverpa armigera; resistance
【英文关键词】Bacillus thuringiensis (Bt); calling behaviour; fitness cost; Helicoverpa armigera; resistance
【中文摘要】The proportion of females of the resistant strain calling was significantly reduced by 14%, and the age of the calling peak was delayed by 1 night compared with that of the susceptible strain.During the scotophase, females of the resistant strain started calling more than 100 min later on nights 3 to 7, and spent 30 – 100 min less time on nights 2 to 7 than the susceptible females. The onset time of calling advanced and the time spent calling increased as a function of age in both susceptible and resistant strains.
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【语种】英文
【第一作者】Xin C Zhao
【通讯作者】Kong M Wu
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【学科分类】植物保护学

【题目】A single linkage group confers dominant resistance to Bacillus thuringiensis d-endotoxin Cry1Ac in Helicoverpa armigera
【中文关键词】Bacillus thuringiensis, Helicoverpa armigera, Amplified fragment length polymorphism, Cry1Ac, dominant resistance
【英文关键词】Bacillus thuringiensis, Helicoverpa armigera, Amplified fragment length polymorphism, Cry1Ac, dominant resistance
【中文摘要】The BKBT strain of Helicoverpa armigera was derived from a susceptible BK77 strain (collected from Bouake, Cote D ’ Ivoire in 1977) through 30 generations of selection with activated Bacillus thuringiensis d-endotoxin Cry1Ac. Unlike recessive inheritance of Cry1Ac resistance in H. armigera from previous reports, resistance to activated Cry1Ac in the BKBT strain is dominant. A backcross approach was used to map dominant resistanceto Cry1Ac in the BKBT strain. One hundred and forty-seven informative amplified fragment length polymorphism (AFLP) DNA markers covered all 31 linkage groups of H. armigera. Five AFLP markers linked to Cry1Ac resistance in the BKBT strain were on the same autosomal linkage group, which is the only linkage group contributing dominant Cry1Ac resistance in the BKBT strain of H. armigera.
【英文摘要】The BKBT strain of Helicoverpa armigera was derived from a susceptible BK77 strain (collected from Bouake, Cote D ’ Ivoire in 1977) through 30 generations of selection with activated Bacillus thuringiensis d-endotoxin Cry1Ac. Unlike recessive inheritance of Cry1Ac resistance in H. armigera from previous reports, resistance to activated Cry1Ac in the BKBT strain is dominant. A backcross approach was used to map dominant resistanceto Cry1Ac in the BKBT strain. One hundred and forty-seven informative amplified fragment length polymorphism (AFLP) DNA markers covered all 31 linkage groups of H. armigera. Five AFLP markers linked to Cry1Ac resistance in the BKBT strain were on the same autosomal linkage group, which is the only linkage group contributing

dominant Cry1Ac resistance in the BKBT strain of H. armigera.
【语种】英文
【第一作者】Y. Wu
【通讯作者】Y. Wu
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【学科分类】植物保护学

【题目】Toxicity of chlorantraniliprole to Cry1Ac-susceptible and resistant strains of Helicoverpa armigera
【中文关键词】Chlorantraniliprole ; Cry1Ac resistance ; Glutathione-S-transferase ; Helicoverpa armigera ; Total esterase
【英文关键词】Chlorantraniliprole ; Cry1Ac resistance ; Glutathione-S-transferase ; Helicoverpa armigera ; Total esterase
【中文摘要】Transgenic Bt cotton expressing Cry1Ac is important in controlling various agricultural pests, including Helicoverpa armigera. Especially for transgenic crops that are cultivated in large expanses, avoiding resistance development is a key for ensuring sustainability of Bt technologies. Integrated pest management, in which transgenic crops are strategically combined with rational pesticide use, may help to prevent H. armigera resistance acquisition in Bt cotton. In this study, we evaluated the toxicity of a novel insecticide (chlorantraniliprole) on Cry1Ac-susceptible and resistant individuals of H. armigera. More specifically, we assessed the effect of chlorantraniliprole on the activity of two enzymes and conducted laboratory bioassays to determine its toxicity on H. armigera larvae. Chlorantraniliprole increased esterase and glutathione- S-transferase activities in Cry1Ac susceptible and resistant populations of H. armigera. Cry1Ac resistant populations XJ-F (Cry1Ac resistance ratio 21.8-fold), XJ-10.0 (95.8-fold) and BTR (3536.5-fold) did not show cross-resistance to chlorantraniliprole, with LC50 values of 0.0733 (lg/mL) in XJ-F, 0.0545 (lg/ml) in XJ-10.0 and 0.0731 (lg/mL) in BTR, which were close to that in the susceptible strain 96S (0.0954 lg/mL). Our work shows that chlorantraniliprole could be considered to be integrated in Bt cotton management schemes to delay the H. armigera resistance development.
【英文摘要】Transgenic Bt cotton expressing Cry1Ac is important in controlling various agricultural pests, including Helicoverpa armigera. Especially for transgenic crops that are cultivated in large expanses, avoiding resistance development is a key for ensuring sustainability of Bt technologies. Integrated pest management, in which transgenic crops are strategically combined with rational pesticide use, may help to prevent H. armigera resistance acquisition in Bt cotton. In this study, we evaluated the toxicity of a novel insecticide (chlorantraniliprole) on Cry1Ac-susceptible and resistant individuals of H. armigera. More specifically, we assessed the effect of chlorantraniliprole on the activity of two enzymes and conducted laboratory bioassays to determine its toxicity on H. armigera larvae. Chlorantraniliprole increased esterase and glutathione- S-transferase activities in Cry1Ac susceptible and resistant populations of H. armigera. Cry1Ac resistant populations XJ-F (Cry1Ac resistance ratio 21.8-fold), XJ-10.0 (95.8-fold) and BTR (3536.5-fold) did not show cross-resistance to chlorantraniliprole, with LC50 values of 0.0733 (lg/mL) in XJ-F, 0.0545 (lg/ml) in XJ-10.0 and 0.0731 (lg/mL) in BTR, which were close to that in the susceptible strain 96S (0.0954 lg/mL). Our work shows that chlorantraniliprole could be considered to be integrated in Bt cotton management schemes to delay the H. armigera resistance development.
【语种】英文
【第一作者】Guangchun Cao
【通讯作者】Kongming Wu
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【学科分类】植物保护学

【题目】Cotton bollworm resistance to Bt transgenic cotton: A case analysis
【中文关键词】棉铃虫,Bt 棉花,抗性机制,抗性监测,抗性治理
【英文关键词】Helicoverpa armigera, Bt resistance, transgenic cotton, resistance mechanism, management strategies
【中文摘要】棉铃虫是危害棉花最严重的害虫之一. 作为生物技术产品, 转Bt 杀虫基因棉花产生的Cry 毒素对棉铃虫有高效毒杀作用. Bt 棉花已在世界范围内商业化种植, 通过有效控制棉铃虫种群数量, 而显著减少了化学农药的用量. 尽管没有发现棉铃虫田间种群对Bt 棉花产生高水平抗性, 但室内持续筛选已培育出多个高水平抗性品系, 表明存在棉铃虫对Bt 棉花

产生抗性的风险. 鉴于棉铃虫对Bt 棉花产生抗性可能对Bt 棉花利用价值的影响, 国内外近10 年来对此进行了系统深入地研究. 本文综述了棉铃虫对Bt 棉花抗性的生物化学和分子机制、抗性治理与监测技术的最新研究进展, 并分析了中国、澳大利亚和印度等国家棉铃虫对Bt 棉花的抗性治理策略.

【英文摘要】Cotton bollworm (Helicoverpa armigera) is one of the most serious insect pests of cotton. Transgenic cotton expressing Cry toxins derived from a soil bacterium, Bacillus thuringiensis (Bt), has been produced to target this pest. Bt cotton has been widely planted around the world, and this has resulted in efficient control of bollworm populations with reduced use of syn-thetic insecticides. However, evolution of resistance by this pest threatens the continued success of Bt cotton. To date, no field populations of bollworm have evolved significant levels of resistance; however, several laboratory-selected Cry-resistant strains of H. armigera have been obtained, which suggests that bollworm has the capacity to evolve resistance to Bt. The de-velopment of resistance to Bt is of great concern, and there is a vast body of research in this area aimed at ensuring the contin-ued success of Bt cotton. Here, we review studies on the evolution of Bt resistance in H. armigera, focusing on the biochemi-cal and molecular basis of Bt resistance. We also discuss resistance management strategies, and monitoring programs imple-mented in China, Australia, and India.

【语种】英文

【第一作者】LIU Chen Xi

【通讯作者】Wu Kong Ming

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【学科分类】植物保护学

【题目】Proteomic analysis of novel Cry1Ac binding proteins in Helicoverpa armigera (H ü bner)

【中文关键词】Bacillus thuringiensis; Helicoverpa armigera; brush border membrane vesicles; proteomics; peptide mass fingerprinting

【英文关键词】Bacillus thuringiensis; Helicoverpa armigera; brush border membrane vesicles; proteomics; peptide mass fingerprinting

【中文摘要】Aminopeptidase N (APN) and cadherin-like proteins have been previously identified as Cry1Ac-binding proteins in Helicoverpa armigera (Hu ¨ bner). In this study, a proteomic approach was used to identify novel Cry1Ac-binding proteins in H. armigera. Brush border membrane vesicles (BBMV) of H. armigera were extracted and separatedby two-dimensional gel electrophoresis (2-DE). Cry1Ac-binding proteins were detected using antisera against Cry1Ac. Peptide mass fingerprinting (PMF) was used to identify Cry1Ac-binding proteins. In total, four proteins were identified as candidate Cry1Ac-binding proteins in H. armigera: vacuolar ATP synthase (V-ATPase) subunit B, actin, heat shock cognate protein (HSCP), and a novel protein.

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【语种】英文

【第一作者】Li-Zhen Chen

【通讯作者】Yu-Yuan Guo

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【学科分类】植物保护学

【题目】Gene cloning and expression of aminopeptidase N and cadherin from midgut of the rice stem borer, Chilo suppressalis

【中文关键词】aminopeptidase N, cadherin, Chilo suppressalis, heterologous expression,
Tn cells

【英文关键词】aminopeptidase N, cadherin, Chilo suppressalis, heterologous expression,
Tn cells

【中文摘要】The rice stem borer, Chilo suppressalis Walker is one of the most important insect pests on rice in Asia, north Africa and southern Europe. Transgenic Bt rice has beendeveloped in the laboratory with good resistance to this pest and other Lepidopteran insects,which will provide a possible alternative tool for this pest control. The full-length cDNAsencoding an aminopeptidase N (CsAPN) and a cadherin (CsCad) were cloned from C.suppressalis. CsAPN showed common features of, and high identities to, other insect APNsin its deduced amino acid sequence. Although a full-length cDNA encoding cadherin-likeprotein has been reported in GenBank, the newly isolated cadherin here (CsCad) showedsome differences in its amino acid sequence, especially at the 7th cadherin repeat region(CR7), which indicated the newly isolated CsCad might be another allele. CsAPN andCsCad were successfully expressed in insect Tn cells, and the blot analysis showed thesetwo proteins could bind Bt toxin Cry1Ab. The results will provide valuable informationfor the studies of toxin mode of action and the possible toxin resistance mechanisms in thispest.

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【语种】英文
【第一作者】Hong-Kun Yu
【通讯作者】Ge-Mei Liang
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【引文索引号】SCI
【学科分类】植物保护学

【题目】Cross-resistance of Cry1Ab-selected Asian corn borer to other Cry toxins
【中文关键词】Bacillus thuringiensis, Ostrinia furnacalis, Bt maize, cross-resistance, Cry proteins
【英文关键词】Bacillus thuringiensis, Ostrinia furnacalis, Bt maize, cross-resistance, Cry proteins

【中文摘要】The Asian corn borer, Ostrinia furnacalis (Guene ´ e) (Lepidoptera: Crambidae),is the most important insect pest of maize in China. Despite the proven track record of biotech Bacillus thuringiensis (Bt) maize to provide an effective means to control lepidopteran pests such as the European corn borer Ostrinia nubilalis (Hu ¨ bner), these crops have not been commercialized in China. However, Cry1Ab- and Cry1F-expressing maize derived from genetic transformation events MON810 (Monsanto), Bt11 (Syngenta) and TC1507 (Pioneer, DuPont) as well as Cry1Ah-, Cry1A- (a Cry1Ab/Cry1Ac hybrid toxin), and Cry1Ac-, Cry1Ie-expressing maize developed by the Chinese institutions have been shown to effectively suppress O. furnacalis in field trials. The development of resistance in target pests is a major threat to the use of Bt maize. A strain of O. furnacalis selected with Cry1Ab protein incorporated into artificial diet developed more than 100-fold resistance to Cry1Ab after 35 generations of selection, and readily consumed Cry1Ab-expressing maize silks. Although LC50s of the selected insect strain were not progressively increased, andeven decreased in the following generations, these insects (ACB-AbR) could survive on Cry1Ab-expressing maize tissue after 51 generations of selection. In addition, susceptibility of ACB-AbR to a number of other Bt toxins to which the selected strains had not previously been exposed, was significantly decreased. The highest level of cross-resistance was observed with Cry1Ah (131-fold), followed by Cry1Ac (36-fold). A low level of cross-resistance (6-fold) to Cry1F was also detected. In contrast, ACB-AbR was equally susceptible to Cry1Ie as the unselected control strain. These results indicate that the availability of multiple toxins couldimprove resistance management strategies, provided that the potential for cross-resistance among toxins is not an issue.

【英文摘要】The Asian corn borer, Ostrinia furnacalis (Guene ´ e) (Lepidoptera: Crambidae),is the most important insect pest of maize in China. Despite the proven track record of biotech Bacillus thuringiensis (Bt) maize to provide an effective means to control lepidopteran pests such as the European corn borer Ostrinia nubilalis (Hu ¨ bner), these crops have not been commercialized in China. However, Cry1Ab- and Cry1F-expressing maize derived from genetic transformation events MON810 (Monsanto), Bt11

(Syngenta) and TC1507 (Pioneer, DuPont) as well as Cry1Ah-, Cry1A- (a Cry1Ab/Cry1Ac hybrid toxin), and Cry1Ac-, Cry1Ie-expressing maize developed by the Chinese institutions have been shown to effectively suppress O. furnacalis in field trials. The development of resistance in target pests is a major threat to the use of Bt maize. A strain of O. furnacalis selected with Cry1Ab protein incorporated into artificial diet developed more than 100-fold resistance to Cry1Ab after 35 generations of selection, and readily consumed Cry1Ab-expressing maize silks. Although LC50s of the selected insect strain were not progressively increased, andeven decreased in the following generations, these insects (ACB-AbR) could survive on Cry1Ab-expressing maize tissue after 51 generations of selection. In addition, susceptibility of ACB-AbR to a number of other Bt toxins to which the selected strains had not previously been exposed, was significantly decreased. The highest level of cross-resistance was observed with Cry1Ah (131-fold), followed by Cry1Ac (36-fold). A low level of cross-resistance (6-fold) to Cry1F was also detected. In contrast, ACB-AbR was equally susceptible to Cry1Ie as the unselected control strain. These results indicate that the availability of multiple toxins couldimprove resistance management strategies, provided that the potential for cross-resistance among toxins is not an issue.

【语种】英文

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【学科分类】植物保护学

【题目】Diverse cadherin mutations conferring resistance to Bacillus thuringiensis

【中文关键词】Helicoverpa armigera , Bacillus thuringiensis ,Cadherin ,Resistance ,Bt cotton

【英文关键词】Helicoverpa armigera , Bacillus thuringiensis ,Cadherin ,Resistance ,Bt cotton

【中文摘要】Transgenic cotton expressing Bacillus thuringiensis (Bt) toxins has been widely adopted to control some key lepidopteran pests including the bollworm Helicoverpa armigera. Evolution of resistance to Bt cotton by target pests is a major threat to the continued success of Bt cotton. Previous results revealed 3 null alleles (r1-r3) of a cadherin gene (Ha_BtR) conferring Cry1Ac resistance in H. armigera. An F1 screen of 123 singlepairfamilies was conducted between a Cry1Ac-resistant strain (the SCD-r1 strain, homozygous for the r1 allele of Ha_BtR) and field-derived insects from Jiangpu population (Jiangsu province, China) in 2008. Five new null alleles of Ha_BtR (r4-r8) were identified in six candidate single-pair families. These null alleles were created through either an insertion or a point mutation. Interestingly, intact alleles of Ha_BtR were found in two field-derived insects from another two candidate single-pair families. It suggests that these two field-derived insects may carry novel resistance alleles of Ha_BtR, with missense mutations resulting in a non-functional cadherin protein, or a major dominant mutation at a locus other than cadherin. The resistance allele frequency of Ha_BtRwas detected at an appreciable level (0.024) in the Jiangpu population of H. armigera in 2008. Together with previous findings, a total of eight different resistance alleles of Ha_BtR were identified from three Chinese strains of H. armigera. Mutational diversity of Ha_BtR could impairDNA screening for Bt resistance allele frequency in the field, and an F1 screen should be used routinely for monitoring cadherin-based resistance allele frequencies in H. armigera.

【英文摘要】Transgenic cotton expressing Bacillus thuringiensis (Bt) toxins has been widely adopted to control some key lepidopteran pests including the bollworm Helicoverpa armigera. Evolution of resistance to Bt cotton by target pests is a major threat to the continued success of Bt cotton. Previous results revealed 3 null alleles (r1-r3) of a cadherin gene (Ha_BtR) conferring Cry1Ac resistance in H. armigera. An F1 screen of 123 singlepairfamilies was conducted between a Cry1Ac-resistant strain (the SCD-r1 strain, homozygous for the r1 allele of Ha_BtR) and field-derived insects from Jiangpu population (Jiangsu province, China) in 2008. Five new null alleles of Ha_BtR (r4-r8) were identified in six candidate single-pair families. These null alleles were created through either an insertion or a point mutation. Interestingly, intact alleles of Ha_BtR were found in two field-derived insects from another two candidate single-pair families. It suggests that these two field-derived insects may carry novel resistance alleles of Ha_BtR, with missense mutations resulting in a non-functional cadherin protein, or a major dominant mutation at a locus other than cadherin. The resistance allele frequency of Ha_BtRwas detected at an appreciable level (0.024) in the Jiangpu population of H. armigera in 2008. Together with previous findings, a total of eight different resistance alleles of Ha_BtR were identified from three Chinese strains of H. armigera. Mutational diversity of Ha_BtR could impairDNA screening for Bt resistance allele frequency in the field, and an F1 screen should be used routinely for monitoring cadherin-based resistance allele frequencies in H. armigera.

【语种】英文

【第一作者】Jing Zhao
【通讯作者】Yidong Wu
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【学科分类】植物保护学

【题目】Lethal and sub-Lethal effects of transgenic rice containing cry1Ac and CpTI genes on the pink stem borer, Sesamia inferens (Walker)
【中文关键词】transgenic rice ;Sesamia inferens lethal ; sub-lethal effect
【英文关键词】transgenic rice ;Sesamia inferens lethal ; sub-lethal effect
【中文摘要】【Objective】 Lethal and sub-lethal effects of transgenic rice containing cry1Ac and CpTI genes on the pink stem borer(Sesamia inferens) were studied to collect information for ecological risk assessment on insect-resistance to transgenic rice.【Method】 In vitro insect-feeding bioassay was conducted to evaluate the lethal and sub-lethal effects of transgenic rice lines (ⅡYouKF6 and KF6) on S. inferens at four different growing stages, i.e., seedling, tillering and elongation, booting, milk and maturing.【Result】 Transgenic rice at seedling stage showed significantly high lethal effect on S. inferens with the shortest lethal duration of 50% and 100% of individuals and the highest corrected mortalities after feeding on transgenic lines at this stage for 3 and 6 days. Secondly followed by tillering and elongation stage, 50% and 100% of S. inferens were dead after feeding on transgenic lines at this stage for 4 and 10 days, respectively. Moreover, corrected mortalities for 6 days feeding on transgenic lines at this stage were significantly higher than that at booting and milk and maturing stages. Lethal effect of KF6 on S. inferens decreased significantly atbooting stage. Lethal duration of 50% of S. inferens significantly extended and its corrected mortalities for 6 days feeding also declined remarkably. However, lethal effect of ⅡYouKF6 on S. inferens did not decrease significantly at this stage. Transgenic rice at booting and milk and maturing stages did not present significantly lethal to S. inferens and it showed the longest lethal duration of 50% of individuals and the lowest corrected mortalities for 3 and 6 days feeding. A few larvae of S. inferens could survive, pupate and emerged on these two transgenic lines at boot and milk and maturing stages. Sub-lethal effect of two transgenic lines on S. inferens also differed significantly between different developmental stages. Continuously feeding on transgenic rice lines at seedling and tillering and elongation stages could delay the development of larvae and pupae and decrease pupation rate, but no effect was shown on eclosion rate. Larval development was significantly inhibited after feeding on transgenic rice at booting stage, but no obvious effects were observed in pupal stages, pupation and eclosion rates. There were no significant differences for larval and pupal development, pupation and eclosion rates between feeding on transgenic and control rice lines at milk and maturing stages. Larval and pupal weights significantly declined, but no influence was shown on fecundity, when S. inferens infested on transgenic rice at any stage.【Conclusion】 There were significant differences in lethal and sub-lethal effects of transgenic rice on S. inferens at different developmental stages, and the effects gradually decreased with the increase of growing stages of rice plant.
【英文摘要】【Objective】 Lethal and sub-lethal effects of transgenic rice containing cry1Ac and CpTI genes on the pink stem borer(Sesamia inferens) were studied to collect information for ecological risk assessment on insect-resistance to transgenic rice.【Method】 In vitro insect-feeding bioassay was conducted to evaluate the lethal and sub-lethal effects of transgenic rice lines (ⅡYouKF6 and KF6) on S. inferens at four different growing stages, i.e., seedling, tillering and elongation, booting, milk and maturing.【Result】 Transgenic rice at seedling stage showed significantly high lethal effect on S. inferens with the shortest lethal duration of 50% and 100% of individuals and the highest corrected mortalities after feeding on transgenic lines at this stage for 3 and 6 days. Secondly followed by tillering and elongation stage, 50% and 100% of S. inferens were dead after feeding on transgenic lines at this stage for 4 and 10 days, respectively. Moreover, corrected mortalities for 6 days feeding on transgenic lines at this stage were significantly higher than that at booting and milk and maturing stages. Lethal effect of KF6 on S. inferens decreased significantly atbooting stage. Lethal duration of 50% of S. inferens significantly extended and its corrected mortalities for 6 days feeding also declined remarkably. However, lethal effect of ⅡYouKF6 on S. inferens did not decrease significantly at this stage. Transgenic rice at booting and milk and maturing stages did not present significantly lethal to S. inferens and it showed the longest lethal duration of 50% of individuals and the lowest corrected mortalities for 3 and 6 days feeding. A few larvae of S. inferens could survive, pupate and emerged on these two transgenic lines at boot and milk and maturing stages. Sub-lethal effect of two transgenic lines on S. inferens also differed significantly between different developmental stages. Continuously feeding on transgenic rice lines at seedling and tillering and elongation stages could delay the development of larvae and pupae and decrease pupation rate, but no effect was shown on eclosion rate. Larval development was significantly inhibited after feeding on transgenic rice at booting stage, but no obvious effects were observed in pupal stages, pupation

and eclosion rates. There were no significant differences for larval and pupal development, pupation and eclosion rates between feeding on transgenic and control rice lines at milk and maturing stages. Larval and pupal weights significantly declined, but no influence was shown on fecundity, when S. inferens infested on transgenic rice at any stage. 【Conclusion】 There were significant differences in lethal and sub-lethal effects of transgenic rice on S. inferens at different developmental stages, and the effects gradually decreased with the increase of growing stages of rice plant.

【语种】中文
【第一作者】HAN Lan-zhi
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【题目】Early Warning of Cotton Bollworm Resistance Associated with Intensive Planting of Bt Cotton in China
【中文关键词】Early Warning , Cotton Bollworm Resistance , Bt Cotton
【英文关键词】Early Warning , Cotton Bollworm Resistance , Bt Cotton
【中文摘要】Transgenic crops producing Bacillus thuringiensis (Bt) toxins kill some key insect pests, but evolution of resistance by pests can reduce their efficacy. The predominant strategy for delaying pest resistance to Bt crops requires refuges of non-Bt host plants to promote survival of susceptible pests. To delay pest resistance to transgenic cotton producing Bt toxin Cry1Ac, farmers in the United States and Australia planted refuges of non-Bt cotton, while farmers in China have relied on ‘‘natural’’ refuges of non-Bt host plants other than cotton. Here we report data from a 2010 survey showing field-evolved resistance toCry1Ac of the major target pest, cotton bollworm (Helicoverpa armigera), in northern China. Laboratory bioassay results show that susceptibility to Cry1Ac was significantly lower in 13 field populations from northern China, where Bt cotton has been planted intensively, than in two populations from sites in northwestern China where exposure to Bt cotton has been limited. Susceptibility to Bt toxin Cry2Ab did not differ between northern and northwestern China, demonstrating that resistance to Cry1Ac did not cause cross-resistance to Cry2Ab, and implying that resistance to Cry1Ac in northern China is aspecific adaptation caused by exposure to this toxin in Bt cotton. Despite the resistance detected in laboratory bioassays, control failures of Bt cotton have not been reported in China. This early warning may spur proactive countermeasures, including a switch to transgenic cotton producing two or more toxins distinct from Cry1A toxins.
【英文摘要】Transgenic crops producing Bacillus thuringiensis (Bt) toxins kill some key insect pests, but evolution of resistance by pests can reduce their efficacy. The predominant strategy for delaying pest resistance to Bt crops requires refuges of non-Bt host plants to promote survival of susceptible pests. To delay pest resistance to transgenic cotton producing Bt toxin Cry1Ac, farmers in the United States and Australia planted refuges of non-Bt cotton, while farmers in China have relied on ‘‘natural’’ refuges of non-Bt host plants other than cotton. Here we report data from a 2010 survey showing field-evolved resistance toCry1Ac of the major target pest, cotton bollworm (Helicoverpa armigera), in northern China. Laboratory bioassay results show that susceptibility to Cry1Ac was significantly lower in 13 field populations from northern China, where Bt cotton has been planted intensively, than in two populations from sites in northwestern China where exposure to Bt cotton has been limited. Susceptibility to Bt toxin Cry2Ab did not differ between northern and northwestern China, demonstrating that resistance to Cry1Ac did not cause cross-resistance to Cry2Ab, and implying that resistance to Cry1Ac in northern China is aspecific adaptation caused by exposure to this toxin in Bt cotton. Despite the resistance detected in laboratory bioassays, control failures of Bt cotton have not been reported in China. This early warning may spur proactive countermeasures, including a switch to transgenic cotton producing two or more toxins distinct from Cry1A toxins.
【语种】英文
【第一作者】Haonan Zhang
【通讯作者】Yidong Wu
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【题目】杆状病毒包涵体蛋白的共同抗原性研究

【中文关键词】杆状病毒;棉铃虫核型多角体病毒;包涵体蛋白;保守多肽;Westernesternesternesternesternestern blotblotblotblot;共同抗原性

【英文关键词】baculovirus; Heliocoverpa armigera nucleopolyhedrovirus; occlusionbodyprotein; Westernblot;

【中文摘要】在比对已公布的37种杆状病毒包涵体蛋白氨基酸序列的基础上,选定棉铃虫核型多角体病毒(aN HaNaNPV)多角体蛋白的两个高度保守多肽(aa54-113aaaa和206-245aaaa)制备多克隆抗体,用 Westernesternesternesternesternestern blotblotblotblot法检测这两个高度保守多肽与多种杆状病毒包涵体蛋白之间的血清学关系. 结果表明,HaNaNPV多角体蛋白的两个多肽的抗体与14种核型多角体病毒的多角体蛋白和5种颗粒体病毒的颗粒体蛋白均有明显的杂交信号,表明杆状病毒的包涵体蛋白之间具有共同的抗原决定簇. 根据杆状病毒包涵体蛋白之间的这种血清学关系,进一步讨论了利用免疫金试纸技术检测病毒杀虫剂中包涵体含量的可行性.

【英文摘要】Thehe resultsresultsresultsresultsresultsresultsresults revealedrevealedrevealedrevealedrevealedrevealedrevealedrevealed thatthatthatthat eacheacheacheach ofof thethethe two peptidespeptidespeptidespeptidespeptidespeptidespeptidespeptides ofof HaNaNPV polyhedrinpolyhedrinpolyhedrinpolyhedrinpolyhedrinpolyhedrinpolyhedrinpolyhedrinpolyhedrin wasas ableableableable toto bebe hybridihybridihybridihybridihybridihybridihybridihybridizeded withithith eacheacheacheach ofof thethethe polyhedrin o nucleopolyhedroviruse an ranulin o ranuloviruses indicatin tha th occlusio polyhedrinspolyhedrinspolyhedrinspolyhedrinspolyhedrinspolyhedrinspolyhedrinspolyhedrinspolyhedrinspolyhedrinspolyhedrins ofof 14 nucleopolyhedrovirusesnucleopolyhedrovirusesnucleopolyhedrovirusesnucleopolyhedrovirusesnucleopolyhedrovirusesnucleopolyhedrovirusesnucleopolyhedroviusesnucleopolyhedrovirusesnucleopolyhedrovirusesnucleopolyhedrovirusesnucleopolyhedrovirusesnucleopolyhedrovirusesnucleopolyhedrovirusesnucleopolyhedovirusesnucleopolyhedrovirusesnucleopolyhedrovirusesnucleopolyhedrovirusesnucleopolyhedrovirusesnucleopolyhedrovirusesnucleopolyhedrovirusesnucleopolyhedrovirusesnucleopolhedrovirusesnucleopolyhedrovirusesnucleopolyhedrovirusesnucleopolyhedrovirusesnucleopolyhedroviruses andandandand granulinsranulinsranulinsranulinsranulinsranulinsranulinsranulins ofof 5 granulovirusesranulovirusesranulovirusesranulovirusesranulovirusesranulovirusesranulovirusesranulovirusesranulovirusesranulovirsesranulovirusesranulovirusesranuloviruses, indicatinindicatinindicatinindicatinindicatinindicatinindicatinindicatinindicating thatthatthatthat thethethe occlusionocclusionocclusionocclusionocclusionocclusionocclusionocclusionocclusion bodybodybodybody proteinsproteinsproteinsproteinsproteinsproteinsproteinsproteins ofof differentdifferentdifferentdifferentdifferentdifferentdifferentdifferent baculovirusesbaculovirusesbaculovirusesbaculovirusesbaculovirusesbaculovirusesbaculovirusesbaculovirusesbaculovirusesbaculovirues baculovirusesbaculovirusesbaculoviruses sharedsharedsharedsharedsharedshared commoncommoncommoncommoncommoncommon epitopesepitopesepitopesepitopesepitopesepitopesepitopesepitopesepitopesepitopesepitopes. Furthermoreurthermoreurthermoreurthermoreurthermoreurthermoreurthermoreurthermoreurthermoreurthermoreurthermore, thethethe feasibilityfeasibilityfeasibilityfeasibilityfeasibilityfeasibilityfeasibilityfeasibilityfeasibilityfeasibilityfeasibility ofof developindevelopindevelopindevelopindevelopindevelopindevelopindevelopindevelopindeveloping a techniquetechniquetechniquetechniquetechniquetechniquetechniquetechniquetechniquetechnique forforfor determinationdeterminationdeterminationdeterminationdeterminationdeterminationdeterminationdeterminationdeterminationdeterminationdeterminatondeterminationdeterminationdetermination ofof thethethe occlusionocclusionocclusionocclusion occlusionocclusionocclusionocclusion bodybodybodybody concentrationsconcentrationsconcentrationsconcentrationsconcentrationsconcentrationsconcentrationsconcentrationsconcentrationsconcentrationscncentrationsconcentrationsconcentrationsconcentrationsconcentrations inin viralviralviralviralviral pesticidespesticidespesticidespesticidespesticidespesticidespesticidespesticidespesticidespesticidespesticides byby usinusinusinusing Colloidalolloidalolloidalolloidalolloidalolloidalolloidalolloidalolloidal GoldGoldGoldGold Stripestripestripes tripestripes isis discusseddiscusseddiscusseddiscusseddiscusseddiscusseddiscusseddiscusseddiscusseddiscussed basedbasedbasedbasedbased onon thethethe resultsresultsresultsresultsresultsresultsresults describeddescribeddescribeddescribeddescribeddescribeddescribeddescribeddescribed inin thisthisthisthis paperpaperpaperpaperpaperpaper

【语种】中文

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【通讯作者】孙修炼

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【题目】用甜菜夜蛾增殖马尾松毛虫质型多角体病毒的研究
【中文关键词】甜菜夜蛾,马尾松毛虫质型多角体病毒,替代寄主
【英文关键词】Dendrolimus punctatus; cytoplasmic polyhedrosis virus; Spodoptera exigua; substitutive host
【中文摘要】以甜菜夜蛾为替代宿主增殖马尾松毛虫多角体病毒DpCPV的研究结果表明,DpCPV在甜菜夜蛾体内连续繁殖三代后的DpCPV-Se3与DpCPV具有相同电泳图谱,多角体和病毒粒子在电子显微镜下观察未发现形态上的明显变化,生测结果表明,二者毒力差异不显著,认为以甜菜夜蛾为替代宿主增殖马尾松毛虫多角体病毒DpCPV有可行性
【英文摘要】The infectivity and genetic stability of Dendrolimus punctatus cytoplasmic polyhedrosis virus (DpCPV) propagated in the substitutive host Spodoptera exigua were investigated. DpCPV-Se3, which was propagated in S. exigua for three passages, had identical electrophoresis pattern with the original isolate. They were shown with no differences in polyhedra and virion morphology under electron microscope. According the results of bioassays, DpCPV-Se3 had a similar infectivity with original isolate against the second instars of D. punctatus and the median lethal concentration (LC50) of DpCPV-Se3 (0.92×103 PIB/mL) was not significantly different from that of the original isolate (1.44×103 PIB/mL). Sequencing analysis indicatedthat the variations of S7 and S10 fragments between DpCPV-Se3 and DpCPV were minor, and S. exigua might be a good substitutive host for the mass-production of DpCPV for biological control.
【语种】中文
【第一作者】孙修炼
【通讯作者】孙修炼
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【学科分类】植物保护学

【题目】Impact of Helicoverpa armigera nucleopolyhedroviruses expressing
【中文关键词】棉铃虫核型多角体病毒,靶标昆虫,非靶标昆虫
【英文关键词】Helicoverpa armigera; nucleopolyhedrovirus Genetically modified viruses; Cathepsin L-like cysteine protease; Insecticidal activity; Control efficacy
【中文摘要】表达蛋白酶棉铃虫核型多角体病毒对棉田靶标和非靶标昆虫没有显著影响,具有应用前景
【英文摘要】Baculoviruses have been genetically engineered to improve their insecticidal properties and reduce crop damage. In this study, a recombinant Helicoverpa armigera nucleopolyhedrovirus (HearNPV-cathL) expressing a cathepsin L-like cysteine protease from the flesh fly, Sarcophaga peregrina, was constructed.Its insecticidal properties in the laboratory, occlusion body yield in diseased larvae, efficacy of protecting cotton from larval feeding damage and impact on predator densities in the fields were assessed. In the laboratory, the infectivity of this recombinant was not different from the wild-type parent (HearNPV-WT) and a recombinant virus (HearNPV-AaIT) which expresses an insect-selective neurotoxin from the scorpion Androctonus australis. The median survival times of 2nd or 3rd instar H. armigera larvae after infection with HearNPV-cathL were reduced about 26% in comparison to Hear-NPV-WT. Occlusion body yield in the diseased larvae inoculated with HearNPV-cathL, which were similar to that with HearNPV-AaIT, was reduced 63% in comparison to HearNPV-WT. In the field, when virus formulations were multiply applied to control natural infestations of H. armigera on cotton, both HearNPV-cathL and HearNPV-AaIT treatments protected cotton from larval feeding damage better than the wild-type virus treatment. Predator densities in the recombinant virus treatments were similar to those in wild-type virus treatments and untreated control. These results suggest that the recombinant HearNPVs have potential for practical use.
【语种】英文
【第一作者】胡志红
【通讯作者】胡志红
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【题目】The open reading frame Bm21 of Bombyx mori nucleopolyhedrovirus is not essential for the viral replication in vitro but its deletion extends the median survival time of the infected larvae
【中文关键词】蚕核型多角体病毒的开放阅读框21(Bm21);生物活性
【英文关键词】Bombyx mori nucleopolyhedrovirus (BmNPV),the open reading frame 21 (Bm21),biological activity
【中文摘要】本文对家蚕核型多角体病毒的开放阅读框21(Bm21)进行了特性研究。 bm21预测编码含有55.8 kDa的蛋白质和不完全保守的富含亮氨酸重复。快速扩增cDNA末端的(39RACE)显示,Bm21单首次发现感染后6小时也包含了完整的Bm20。 59RACE发现3个转录起始位点,其中映射到杆状病毒早期转录图CGTGC和CAGT。瞬时表达和二重感染分析表明,BM21定位在细胞核内。病毒的一步生长曲线分析表明, Bm21空病毒与出发病毒生产动力学类似。生物活性分析表明, Bm21空病毒致死浓度LC50值与对照病毒类似,但是,ST50显着高于控制病毒。这些结果表明,BM21在病毒体外复制是不必要的,但基因缺失延缓杀死被感染的幼虫。
【英文摘要】In this report, the open reading frame 21 (Bm21) of Bombyx mori nucleopolyhedrovirus (BmNPV),one of the unique genes of group I NPVs, was characterized. Bm21 is predicted to encode a protein of 55.8 kDa and was found to contain imperfectly conserved leucine-rich repeats. 39 Rapid amplification of cDNA ends (39RACE) showed that the transcript of Bm21 was first detected from 6 h post-infection and that it also encompassed the complete Bm20. 59RACE revealed three transcription initiation sites, one of which mapped to the baculovirus early transcription motifs CGTGC and CAGT. Transient-expression and superinfection assays indicated that BM21 localized in the nucleus of infected BmN cells. To study the function of BM21, a Bm21-null virus was constructed using bacmid technology. Viral one-step growth curve analyses showed that the Bm21-null virus had similar budded virus production kinetics to those of the parental virus. Bioassay analyses showed that the median lethal concentration (LC50) of the Bm21-null virus was similar to that of the control virus; however, the median survival time (ST50) of the knockout virus was significantly longer than the control virus. These results indicate that BM21 is not essential for virus replication in vitro, but that deletion of the gene delays the killing of the infected larvae.
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【第一作者】胡志红
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【题目】In vitro assessment of plant lectins with anti-pinwood nematode activity
【中文关键词】松材线虫
【英文关键词】Lycoris radiata agglutinin (LRA); Pinellia ternata agglutinin (PTA); Pinewood nematode
【中文摘要】从球茎的Pinellia ternata和Lycoris radiata纯化两种凝集素蛋白。p . ternata凝集蛋白PTA和l . radiata凝集蛋白LRA形成聚合物并凝固兔子红血细胞和酵母细胞。两种蛋白质稀释到不同浓度后混入松木线虫、测量和线虫生存。结果表明,两种凝集素蛋白显著降低线虫种群数量。经过,当500 μg /毫升蛋白质使用96小时,线虫数量显著下降,高浓度的蛋白质对松木线虫毒性更强。此外,蛋白质对松木线虫持续时间长、我们的结果显示这两个凝集素蛋白有显然毒性作用,影响松木线虫体外生存。
【英文摘要】Two lectin proteins were purified from the corms of Pinellia ternata and Lycoris radiata. Both P. ternata agglutinin (PTA) protein and L. radiata agglutinin (LRA) protein formed polymers and coagulated both rabbit red blood cells and yeast cells. The two proteins were each diluted to different concentration and then mixed with pinewood nematodes, and nematode survival was measured. Results showed that the two lectin proteins showed significant levels of resistance against nematodes and the nematode population was significantly reduced, compared to PBS buffer without protein control group. The mean number of nematodes of two lectin proteins group was significantly lower than that of control group constantly throughout the assay period with differences being very significant at $P < 0.01$ after 24 h. After 96 h, when 500 μg/ml proteins were used, nematode number significantly declined to an average of 26 (approximately 43% of the controls) and 32.2 (approximately 53.3% of the controls) nematodes at LRA and PTA protein,

respectively, compared to the control group. Results also indicated that higher concentrations of protein were more toxic to the pinewood nematode. Even when the concentration was as low as 30 μg/ml, the toxic proteins retained their anti-nematodeactivity. Furthermore, pinewood nematode was exposed to the proteins for longer, more pinewood nematodes were killed. Our results indicated the two lectin proteins both apparently have a toxic effect on the pinewood nematode that affects its survival in vitro.
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【第一作者】赵秀云
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【题目】Isolation and characterization of GoDREB, a novel gene encoding an ERF-type protein in Galegae orientalis
【中文关键词】脱落酸,生物胁迫,东方山羊豆,信号途径,转录因子ERF
【英文关键词】ABA,abiotic stress,Galegae orientalis,signaling pathway,transcription factor ERF
【中文摘要】在高等植物中,ERF是具有AP2 DNA结合域的一类独特转录因子。从东方山羊豆中,克隆一个类ERF基因,命名为GoDREB。序列比对发现,与其它拥有AP2结构域的ERF家族成员有较高同源性。基因瞬时表达表明,GoDREB定位于细胞核。实时荧光定量PCR分析表明,GoDREB受非生物胁迫的诱导,如:冷、干旱、盐份。外源激素,如茉莉酸甲酯、水杨酸都可使GoDREB表达上调。然而,ABA并没有诱导GoDREB mRNA积累。这些结果表明,GoDREB可能在这两个激素调节中起作用,但可能不参与在ABA依赖的信号调节中。在烟草中超表达GoDREB,在盐分、干旱、低温胁迫下,表现出高的忍耐性。这些结果表明,GoDREB作为ERF转录因子一员,在东方山羊豆信号传导中起重要作用。
【英文摘要】ERF is a unique transcription factor in higher plants with AP2-like DNA-binding domains. An ERF-like gene was isolated from Galegae orientalis, termed GoDREB. Sequence alignment showed that it shares high identity with other ERF family members in AP2 domain. Transient expression analysis indicated that GoDREB protein is localized in the nucleus. Quantitative RT-PCR analysis results showed that GoDREB is induced by a variety of abiotic stress, such as cold, dehydration, and high-salinity. Exogenous hormones, such as methyl jasmonate acid and salicylic acid, also up-regulate the expression of GoDREB. However, ABA did not induce the mRNA accumulation of GoDREB. These results implied that the GoDREB might play a role in these two hormones-dependent but not be involved in the ABA-dependent stress signaling pathway. Overexpression of GoDREB in transgenic tobacco plants resulted in higher tolerance to high salinity, osmotic and low-temperature stresses. These results suggest that GoDREB may play an essential role as an ERF transcription factor in regulation of stress-responsive signaling in G. orientalis
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【第一作者】王学敏
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【学科分类】畜牧学

【题目】The inhibitory activity of endophytic Bacillus sp. strain CHM1 against plant pathogenic fungi and its plant growth-promoting effect
【中文关键词】从稻田分离了一株Bacillussp strainCHM1,具有抗真菌活性的分离。从形态,生理生化特性,16S rDNA序列分析的基础上,CHM1鉴定为地衣芽孢杆菌。CHM1培养滤液能抑制灰霉病cinereapers镰刀菌枯萎病,纹枯病,赤霉病,Dothiorella gregaria和炭疽病菌菌丝。当CHM1悬浮液喷洒在植物叶片上,对玉米小斑病和蚕豆纹枯病菌防治效果分别为70.22%和62.79%。水稻和油菜(油菜)根围使用能促进幼苗生长,表明CHM1可能是一个潜在的保护玉米,蚕豆,油菜和水稻(Oryza sativa)的植物体内细菌(PGPE)。
【英文关键词】• PGPE; Endophytic bacteria; Identification; Antifungal activity
【中文摘要】内生细菌,鉴定,促进植物生长,抗真菌活性

【英文摘要】A Bacillussp., strainCHM1, possessing antifungal activity was isolated from a paddy field in the present study. On the basis of the comprehensive taxonomic data from morphological, physiological and biochemical characteristics, and 16S rDNA sequence analysis, CHM1 was identified to be Bacillus licheniformis. The culture filtrate of CHM1, even when sterilized, inhibited mycelial growth of Fusarium oxysporum, Rhizoctonia solani, Botrytis cinereapers, Gibberella zeae, Dothiorella gregaria and Colletotrichum gossypii in vitro. When CHM1 culture suspension was sprayed on plant leaves, it protected maize (Zea mays) against infection by Bipolaris maydis and horsebean (Vicia faba) against infection by R. solani with a mean control efficacy of 70.22 and 62.79%, respectively. The culture suspension of CHM1, drenched around the root of rice and cole (Brassica napus), promoted seedling growth. The data here showed that Bacillussp. CHM1 could be a potential agent to protect maize, horsebean, cole and rice (Oryza sativa) plants from infection by pathogenicfungiin vivo and had properties as a plantgrowth-promotingendophytic bacterium (PGPE).
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【第一作者】赵秀云
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【题目】A novel dehydration-responsive element- binding protein in Caragana korshinskii is involved in responding to multiple abiotic stress and enhance the stress-tolerance in over-expression transgenic tobacco
【中文关键词】柠条锦鸡儿,DREB,信号调节,耐逆
【英文关键词】Caragana korshinskii, DREB , Signaling regulation ,Stress tolerance
【中文摘要】脱水应答元件结合蛋白(DREB)特异性结合于干旱应答响应元件,并且是植物特有转录因子家族成员,在植物应对各种非生物胁迫(如冷、干旱、盐),调节基因表达起重要作用。在本研究中,从柠条中克隆该基因,命名为CkDBF(DRE结合因子)含有保守的APETLA2(AP2)/ERF乙烯响应结合元件结构域。在CkDBF N端,富含K、R氨基酸的基序,对于其定位于细胞核起重要作用。CkDBF 其DNA结合特异性、转录活性在酵母单杂实验中得到验证。CkDBF在高盐、干旱、低温、ABA处理下,表达量都被上调。在转基因烟草中,对盐、干旱有高的忍耐性;在正常生长条件下,诱导下游基因表达。这些结果表明,CkDBF作为转录因子在柠条胁迫应答信号中起重要作用。
【英文摘要】The dehydration-responsive element-binding (DREB) protein specifically binds the dehydration-responsive element and is part of a plant-specific family of transcription factors that play important roles in regulating the expression of genes in response to a variety of abiotic stresses, including drought, high salt, and low temperature. In this study, a DREB-like gene containing a conserved APETLA2 (AP2)/ethylene responsive element binding factor (ERF) domain, termed DRE binding factor (CkDBF), was isolated from Caragana korshinskii. The K, R-rich motif in the N-terminal region was shown to play an essential role in nuclear localization of CkDBF. DNA-binding specificity and transactivation activity of CkDBF were verified by yeast one-hybrid experiments. Expression of CkDBF was shown to be upregulated by high salt, dehydration, low temperature, and the phytohormone abscisic acid (ABA). Overexpression of CkDBF in transgenic tobacco plants resulted in higher tolerance to high salinity and osmotic stresses and induction of a downstream target gene under normal conditions. These results suggest that CkDBF may play an essential role as a DREB transcription factor in regulation of stress-responsive signaling in C. korshinskii.
【语种】英文
【第一作者】王学敏
【通讯作者】高洪文
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【学科分类】畜牧学

【题目】Purification of novel protein elicitor from Botrytis cinerea that induces disease resistance and drought tolerance in plants
【中文关键词】灰葡萄孢菌,蛋白激发子,纯化,抗病性,抗旱性

【英文关键词】Botrytis cinerea, protein elicitor, purification, disease resistance, drought tolerance

【中文摘要】PebC1, 是从灰葡萄孢BC-4-2-2-1中分离的一个新蛋白质。通过HiTrapTM FF和RESOURCETM阴离子交换色谱法纯化,蛋白质显示为一个单带,分子量36KD,pI为4.85。质谱测定获得三肽段,比对同源性匹配两种蛋白XP_001593856.1和XP_001551609.1。XP_001551609.1为初生多肽。PebC1能显著提升小麦幼苗生长,最佳浓度5μg/毫升。提高小麦根系活力1.29倍,小麦幼苗抗旱综合指数增加了从36.53到57.08。在最佳的PebC1蛋白质浓度10μg/毫升下对番茄灰霉诱导抗病性达69.19%。此外,苯丙氨酸解氨酶活性(PAL),过氧化物(POD),和多酚氧化酶(PPO)植物抗病相关的新陈代谢也大大增,24小时后PAL活力增加了46.84%, ,而POD和PPO活动增加了109.5%和111.0%。

【英文摘要】PebC1, a novel protein elicitor was isolated and purified from the mycelium of gray mold fungus, Botrytis cinerea strain BC-4-2-2-1. The protein was eluted through HiTrapTM DEAE FF and RESOURCETM Q anion exchange chromatography and displayed as a single band with an apparent molecular weight of 36 kDa on silver staining SDS-PAGE. The pI of the purified protein PebC1 was determined by 2-DE and was 4.85. Three peptide segments were obtained by MALDI-TOF. Similarity, the homology matching using protein BLAST search found that two proteins viz. XP_001593856.1 and XP_001551609.1 were having high score and covered sequence of the three peptides. Protein XP_001551609.1, a deduced protein nascent polypeptide-associated complex alpha-polypeptide, was more authentic because it was from Botryotinia fuckeliana that is better known as its anamorph, Botrytis cinerea and showed 95% homology with the three polypeptides. The gene pebC1 (Genbank accession number FJ748868) was amplified from Botrytis cinerea and consists of 639bp, which is same as a registered gene of XM_001551559, a nascent polypeptide-associated complex alpha polypeptide derived from an annotated genomic sequence of Botryotinia fuckeliana B05.10. The PebC1 protein significantly promoted wheat seedling growth with an optimum protein concentration of 5 μg/mL. Root systemic activity of wheat with 4-5 leaves increased by 1.29 fold, and the wheat seedling drought resistance integrated index increased from 36.53 to 57.08 under two cycles of drought stress after treatment of PebC1. PebC1 protein at the optimum concentration of 10 μg/mL induced 69.19% disease resistance against gray mold fungus in tomato.Furthermore, Phenylalanine ammonia-lyase (PAL), peroxides (POD), and polyphenol oxidase (PPO) related to plant resistance metabolism were also increased considerably after PebC1 treatment.. PAL activity was increased by 46.84% at 24 h post treatment, while POD and PPO activity increased by 109.5% and 111.0% at 72 h, respectively over the control.

【语种】英文

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【学科分类】植物保护学

【题目】极细链格孢菌peaT1基因在毕赤酵母中的表达与功能 分析

【中文关键词】peaT1, 极细链格孢菌, 毕赤酵母

【英文关键词】peaT1, Alternaria tenuissima, Pichia pastoris

【中文摘要】建立了在毕赤酵母(Pichia pastoris)中分泌表达PeaT1蛋白的技术。将来源于极细链格孢菌(Alternaria tenuissima)的基因peaT1亚克隆至酵母分泌型表达载体pPIC9K, 构建了重组表达载体pPIC9K-peaT1, 分别用Sal I或Bgl II酶切线性化后电击转入毕赤酵母GS115菌株中, 经MD平板筛选、PCR鉴定获得整合有外源基因的重组菌株。在 -Factor及AOX1基因启动子和终止信号的调控下, PeaT1在酵母中大量表达并分泌到胞外, SDS-PAGE检测表明表达蛋白的表观分子量约为35 kD。表达蛋白上清稀释液能诱导烟草产生对TMV抗性, 其枯斑数抑制率可达到30.37%。每升表达上清液经超滤浓缩和离子交换层析可纯化目的蛋白16.13 mg, 该纯化蛋白能显著地促进小麦幼苗的生长

【英文摘要】In this study, peaT1 gene was subcloned into the Pichia pastoris expression vector pPIC9K, which contained both the methanol-inducible promoter and the transcription terminator of the AOX1 gene, resulting the plasmid pPIC9K-peaT1. The recombinant plasmid was linearized by Sal I or Bgl II and transformed into P. pastoris GS115 by electroporation method. Recombinant strain was screened by Minimal Dextrose Medium and further confirmed by PCR. The gene was in frame integrated into the Pichia genome through homologous recombination, resulting the recombinant strain. Regulated by the α-Factor, promoter of AOX1 gene and termination signal of yeast genomic, the recombinant protein was expressed and secreted into the supernatant. The SDS-PAGE analysis indicated that the apparent molecular weight of target protein was about 35 kD. Bioassay results showed that the inhibition rate of the expressed protein against TMV was 30.37%. The supernatant was collected and then purified by anion exchange chromatography. This protein can promote seedling growth of wheat obviously

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【题目】植物激活蛋白PeaT1诱导烟草对TMV的系统抗性
【中文关键词】激活蛋白;烟草;TMV;病程相关蛋白基因;实时荧光定量PCR;系统获得抗性
【英文关键词】elicitor PeaT1; tobacco; TMV; pathogenesis-related gene; real-time Q-PCR; SAR
【中文摘要】枯斑三生烟草(Samsun-NN)经激活蛋白PeaT1诱导后接种烟草花叶病毒(Tobacco mosaic virus, TMV),对TMV产生了明显的系统获得抗性,枯斑抑制率达54.05%,枯斑大小也受到一定程度的限制。研究结果表明,PeaT1处理烟草植株下位三片叶不同时间后,其上部叶片中PPO、POD和PAL3种抗病防御酶活性均比对照提高,第4 d 酶活性达到最高值。实时荧光定量PCR检测结果显示,经PeaT1诱导4 d 后烟草叶片中抗病相关基因PR1a、PR1b、NPR1在转录表达水平上较未诱导对照都有不同程度的上调。由以上结果我们推测PeaT1诱导烟草产生了系统获得抗性,本研究为进一步阐明PeaT1诱导植物抗病信号传导途径奠定了基础。
【英文摘要】The systemic resistance to Tobacco mosaic virus (TMV) was induced after treatment of Samsun-NN tobacco leaves with elicitor PeaT1, the inhibition rate of necrosis was up to 54.05%. Smaller size of TMV lesions was also detected on these leaves. When the three lower leaves of tobacco plants were treated with PeaT1 by foliar spraying, the significant increase of PPO, POD and PAL activities was observed in untreated upper leaves, and the maximum of them appeared at the 4th day after treatment. The real-time Q-PCR study revealed that the level of resistance related genes PR1a、PR1b、NPR1 expression was also increased compared with control to varying degrees. The results indicated that elicitor PeaT1 could induce disease resistance in tobacco plant, which would lay a basis for studying signal transduction of disease resistance induced by PeaT1 in plant.
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【题目】提高蛋白激发子产量的培养基及发酵条件的优化
【中文关键词】极细链格孢菌;培养基;发酵条件;蛋白激发子
【英文关键词】Alternaria tenuissima; Culture medium; Fermentation condition; Protein elicitor
【中文摘要】为了进一步提高极细链格孢菌产蛋白激发子的产量,本文通过单因子和多因子试验与分析,筛选优化了适于极细链格孢菌产生蛋白激发子的培养基和培养条件,并检测了发酵过程中pH、还原糖、氨基氮和菌丝量变化以及与蛋白激发子产量的关系。结果表明,土豆淀粉和黄豆粉对蛋白激发子产量影响最大,其次是蛋白胨和无机盐。优化的发酵培养基主要成分为(g/L):碳源Ⅰ15、葡萄糖5、玉米淀粉5、土豆淀粉20、谷氨酸10、氮源Ⅰ5、黄豆粉10、硫酸铵5。确定了优化的培养条件,调整培养基起始pH为7.0~7.5,将18h菌龄的种子培养液按10%接种量接种到装液量为75mL的500ml摇瓶中,在温度28±1℃、摇床转速180r/min下培养可获得理想的蛋白产量。在优化的培养基和培养条件下,发酵12~48h该菌进入对数生长期,48h进入稳定生长期, 60h菌丝和蛋白激发子产量达最高。蛋白产量与菌体生物量呈正相关,当还原糖、总糖量消耗到最低水平时, 菌丝产量和蛋白激发子产量达最高。优化的培养基菌丝干重收率达3.9g/100ml,蛋白激发子产量达到5.17g/L,比普通的土豆液体培养基提高近4倍。
【英文摘要】The optimum medium and culture conditions of Alternaria tenuissima were studied for increase the production of protein elicitor. The fermentation parameters such as pH, DO2, reducing sugar, total sugar and animo nitrogen in the process of the fermentation was mensurated. The relationship between these parameters and protein elicitor yield was analyzed. The results indicated that potato starch and soybean powder are key factors for increase of protein elicitor yield. The optimum medium is carbonaceous

component I 15g/L, glucose 5g/L, corn starch 5g/L, potato starch 20g/L, glutamic acid 10g/L, nitric component I 5g/L, soybean powder 10g/L, (NH4)2SO4 5g/L. Medium initial pH was adjusted to 7.0~7.5. The stock was cultured for 18h and inoculated to 75 mL liquid medium in 500mL shake flask at 10%(V/V). Culture temperature was 28±1 ° C and rotation speed was 180 r/min. The fermentation for 12~48h was log stage of the fungus growth and then come into steady stage in 48 h. The highest yieid of protein elicitor occurred in 60 h. The yield of protein elicitor is directly proportional to mycelium. When the content of reducing sugar and total sugar was consumed to bottom, the hightest yields of biomass and protein elicitor were obtained. The yield of dry mycelium reached 3.9 g/100 mL and protein elicitor yield reached 5.17g/L, which increased by 4 times compared with usual potato medium.

【语种】中文

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【学科分类】植物保护学

【题目】Purification and characterization of a glycoprotein elicitor from Alternaria tenuissima

【中文关键词】极细链格孢,糖蛋白激发子,纯化,特性,诱导植物抗病性

【英文关键词】Alternaria tenuissima, glycoprotein elicitor, purification, character, inducing plant resistance.

【中文摘要】糖蛋白激发子诱导植物抗性,并成为一个潜在的植物病害生物防治剂。本文从极细链格孢中分离纯化了一个新的糖蛋白激发子。蛋白质的SDS-PAGE银染显示单峰,高效液相色谱法鉴定显示一个主要蛋白质峰。纯化蛋白的表观分子量为66 kDa,等电点(PI)约4.27。这种蛋白质被确定为糖蛋白。蒽酮比色法和考马斯蓝G-250染色表明,碳水化合物和蛋白质的含量比例为1.75。糖蛋白在15°C能诱导烟草抗烟草花叶病毒(TMV),增强小麦幼苗生长。糖蛋白激发子为植物病害防治提供了一个有效途径。

【英文摘要】Glycoprotein elicitor can induce plant resistance and become a potential agent for biological control of plant diseases. Here, a new glycoprotein elicitor was purified with the method of cold alcohol precipitation and anion exchange chromatography from the mycelium of Alternaria tenuissima strain JH505, which was identified on the basis of morphological features and sequence analysis of rDNA internal transcribed spacer (ITS). The protein showed a single band on SDS-PAGE stained with silver and appeared one main protein peak in HPLC. The apparent molecular weight of the purified protein was 66 kDa and isoelectric point (pI) was about 4.27. This protein was identified as glycoprotein by glycoprotein staining Kit. Anthrone-colorimetric assay and Coomassie blue G-250 staining showed that carbohydrate and protein content was in a ratio of 1.75. After deglycosylation by trifluoromethane-sulfonic acid (TFMS), this glycoprotein showed two bands on the SDS-PAGE, and which means the glycoprotein may have at least two glycosylation sites. The glycoprotein induced tobacco resistance against tobacco mosaic virus (TMV) and enhanced wheat seedling growth at 15°C. The glycoprotein elicitor provided an effective way of alternative strategies for plant disease control.

【语种】英文

【第一作者】杨秀芬

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【学科分类】植物保护学

【题目】激活蛋白PeaT1在烟草细胞膜上的结合位点及其特性

【中文关键词】PeaT1;PR蛋白;结合位点;质膜

【英文关键词】PeaT1; PR protein; binding sites; plasma membrane

【中文摘要】激活蛋白PeaT1是从极细链格孢菌(Alternaria tenuissima)中分离的、能诱导植物产生系统获得抗性的蛋白激发子。为了阐明PeaT1诱导植物提高抗性的分子机制,本文采用RT-PCR技术研究了PeaT1诱导烟草悬浮细胞后不同时间PR-1a基因的转录活性,在烟草悬浮细胞中加入20 μg/mL的PeaT1 8 h后,PR-1a基因转录活性达到最高;相同浓度的PeaT1处理烟草植株,烟草叶片中酸性PR蛋白表达量升高。激光共聚焦显微镜观察到FITC荧光素标记的PeaT1可与烟草悬浮细胞表面结

合;免疫荧光法进一步证明PeaT1可与烟草细胞质膜结合;使用共价交联剂BS3证明125I- PeaT1可与烟草细胞质膜上的两个分子结合,而与加热和蛋白酶解后的质膜不能发生交联,说明与PeaT1结合的分子具有蛋白特性,分子量分别为20kDa和30kDa。上述实验结果证明在烟草细胞质膜上存在着激发子PeaT1受体样的结合位点。

【英文摘要】The protein elicitor, PeaT1 derived from Alternaria tenuissima has been found to trigger systemic acquired resistance in plant. The present investigation is aimed to study the molecular mechanisms of PeaT1 in disease resistance. It was found that the transcription level of PR-1a gene in tobacco suspension cells was highest after 8 hours of incubation with PeaT1 at the concentration of 20 μg/mL. Similarly, the expression level of acidic PR protein was observed in tobacco leaves treated with same concentration of PeaT1. It was revealed that FITC labeled PeaT1 could bind with surface of tobacco suspension cells by using Confocal Scanning Laser microscope. Similarly, it was noticed that PeaT1 could bind with protoplasts of tobacco cells when immunofluorescence method was used. Furthermore, two proteins of about 20 kDa and 30 kDa linked with 125I-PeaT1 were identified on tobacco plasma membranes by using the homobifunctional cross-linking reagent BS3. The sensitivity of binding sites to proteinase and heat treatment further supported the proteinaceous nature of interacting molecules at plasma membrane. The work reports the existence of binding site with many characteristics of expected elicitor receptor.

【语种】中文

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【学科分类】植物保护学

【题目】A toxin protein from Xenorhabdus nematophila var. pekingensis and insecticidal activity against the larvae of Helicoverpa armigera.

【中文关键词】xenorhabdus nematophlia var. pekingensis,是从北京土壤中分离的斯氏carpocaposae的共生细菌。以前的研究已经证明,这种细菌表现出对棉铃虫,小菜蛾和甜菜夜蛾幼虫的高拒食活性。本文报道了胞内毒蛋白的纯化、分子克隆和拒食活性。纯化的蛋白显示单一条带,相对分子量为212 kDa,我们将此蛋白命名为XnAFP2。MALDI-TOF得到的多肽片段覆盖了线虫PMFI1296毒蛋白的40%氨基酸序列,扩增获得了XnAFP2编码序列,由7575 bp组成。该基因同源比对表明:与来自X. nematophila strain BP 的A2 gene from (GenBank accession number AY282763) 有99%相似性,与毒蛋白 xptA2 有92% 相似性。该蛋白能引起棉铃虫幼虫体重下降,迅速停止取食。当喂食人工饲料含6.0微克/克(W / W)毒蛋白对棉铃虫3龄幼虫生长抑制率达97.90%。4龄幼虫体重下降,幼虫期延长,减少化蛹和羽化率明显下降。在选择和非选择叶盘试验中,24小时对5龄幼虫的拒食率分别为78.43%和87.64%。

【英文关键词】Xenorhabdus nematophila var. pekingensis, Purification, Insecticidal protein, Antifeedant activity

【中文摘要】嗜线虫致病杆菌,纯化,杀虫活性,拒食活性

【英文摘要】Xenorhabdus nematophlia var. pekingensis, which is highly virulent for many insects,is a symbiotic bacterium of Steinernema carpocaposae isolated from the soil of Beijing in China. Previous study had proved that the bacterium showed high antifeedant activity against the larvae of Helicoverpa armigera, Plutella xylostella and Spodoptera exigua. Herein, we reported the purification, molecular cloning and antifeedant activity of an intracellular toxic protein. The purified protein displayed a single band and the relative molecular weight was over 212 kDa determined by SDS-PAGE. We designated the protein as XnAFP2. Peptide segments were obtained by MALDI-TOF and covered 40% amino acid sequence of a toxin protein from X. nematophilus PMFI1296. The full cDNA sequence encoding for XnAFP2 (Genbank accession number FJ222606) was amplified from X. nematophlia var. pekingensis and consists of 7575 bp. The gene showed homology with up to 99% identity to the A2 gene from X. nematophila strain BP (GenBank accession number AY282763) and 92% identity to the insecticidal toxin xptA2 gene from X. nematophila PMFI 1296(GenBank accession number AJ308438). The protein caused a rapid cessation in feeding and reduction in larvae weight of H. armigera. When fed to 3rd instar larvae of H. armigera with artificial diet containing 6.0 μg/g (w/w) toxin protein, growth reduction reached 97.90%. The insecticidal protein obviously decreased 4th instar larva weight, lengthened larval stage, reduced pupation and emergence rate. The antifeedant rate in choice and no- choice leaf disk test against 5th instar larvae was 78.43% and 87.64% in 24 h, respectively.

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【第一作者】杨秀芬

【通讯作者】杨秀芬
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【学科分类】植物保护学

【题目】低磷供应对植物根系构型的影响
【中文关键词】拟南芥; 低磷; 生理机制; 根系构型
【英文关键词】Arabidopsis thaliana; low-phosphate supply; physiolog icalmechanism; root system arch itecture
【中文摘要】在人工气候箱中, 采用Johnson培养基对拟南芥在低磷供应条件下根系构型的变化进行了研究, 结果表明: 拟南芥在磷饥饿诱导下, 主根缩短, 侧根密度、根毛的数量和长度显著增加, 并且, 根尖到第一侧根和第一根毛的距离也大大缩短。这些改变增加了根系比表面积, 并且使得根系分布更加靠近土壤表层, 有利于提高植物吸收土壤中有机磷的效率。低磷胁迫还导致拟南芥根系分生组织区细胞形状变异, 柱细胞数量减少; 主根生长和细胞伸长的动力学分析显示, 磷饥饿促使拟南芥主根生长变缓, 细胞长度随磷饥饿程度的加深迅速缩小。Cy cB 1; 1: GUS染色分析结果表明, 低磷破坏拟南芥根系分生组织细胞分裂能力, 这些结果说明磷胁迫同时抑制了细胞的伸长和分裂, 从而引起拟南芥主根的缩短。
【英文摘要】Using Johnson medium, under climatic chamber cond ition, we detected the change o f roo t arch itecture under Pistarvation in Arabidop sis. Results showed that the P deficiency inhib ited primary root g row th, enhanced lateral root concentrat ion and stimulated root hair e longation and root hair pro liferat ion. Moreover, P-starvation decreases the d istance from roo t tip to first latera l root primordium and to f irst roo t hair. These changes increased the root spec ific surface area and distributed the roo t system closer to so il surface, therefore enhanced the absorption ab ility of roo .t P starvation also induced the cell distortion, arrested columella cells deve lopmen.t The kinetic assays on cell length and prim ary root grow th showed a reduction in the primary root elongat ion and in the cell length w hen compared w ith high P-grow n plants. CycB 1; 1: GUS staining suggested that P-starvation destroyed cell div ision in roo tmeristem. Therefore, the reduced primary root growth was due to the reduced cell elongation and cell division.
【语种】中文
【第一作者】王学敏
【通讯作者】王学敏
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【学科分类】畜牧学

【题目】Stable isotope labeled mass spectrometry for the quantification of protein expression induced by PeaT1
【中文关键词】稳定同位素标记,蛋白差异,作用机理,PeaT1
【英文关键词】Quantitative proteomics, Stable Isotope labeling, PeaT1, Mechanism.
【中文摘要】PeaT1是一种从极细链格孢真菌中分离蛋白激发。早期研究显示,PeaT1可诱导抗病性和促进植物生长。但PeaT1诱导抗性激励尚不清楚。本文报道了利用稳定同位素标记技术研究PeaT1在拟南芥质谱蛋白质的功能的差异。我们观察到,PeaT1涉及许多蛋白质在植物新陈代谢,逆境和蛋白质合成的不同表达。
【英文摘要】PeaT1 is a kind of protein elicitor that was isolated from the fungus, Alternaria tenuissima. Our earlier studies revealed that PeaT1 could induce disease resistance and promote growth in plant. But how did the PeaT1 induce this function is not yet clear. Here, we reported a modified method of stable isotope labeled mass spectrometry in Arabidopsis to investigate the differences in protein related to the function of the PeaT1. We observed that PeaT1 resulted in different expression of many proteins which involved in plant metabolism, stress, and protein synthesis.
【语种】英文
【第一作者】邱德文
【通讯作者】邱德文
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【学科分类】植物保护学

【题目】Purification and expression of a protein elicitor from Alternaria
【中文关键词】极细链格孢,蛋白激发子,SAR,TMV,烟草
【英文关键词】Alternaria tenuissima; protein elicitor; SAR;TMV; tobacco.
【中文摘要】从极细链格孢菌中分离纯化了一种新的蛋白激发子PeaT1。 PeaT1为热稳定酸性蛋白。能诱导烟草对烟草花叶病毒(TMV)的系统性获得抗性的,但没有引起过敏性反应。克隆获得了激发子编码序列,序列分析表明,该cDNA长度为624 bp的开放阅读框,编码与新生多肽相关的207个氨基酸多肽。 将peaT1基因克隆到表达载体PET-28A并转化大肠杆菌BL21(DE3)中。重组蛋白激发子也引发了烟草植物的防御反应。
【英文摘要】A new protein elicitor, PeaT1, was purified from the mycelium of Alternaria tenuissima by column chromatography. PeaT1 was identified as a heat-stable and acidic protein. It induced systemic acquired resistance to tobacco mosaic virus (TMV) in tobacco plants but did not cause hypersensitive response. The elicitor-encoding genewas cloned by rapid amplification of cDNA ends method. Sequence analysis revealed that the cDNA is 624 bp in length and the open reading frame encodes for a polypeptide of 207 amino acids with a nascent polypeptide-associated complex domain. The peaT1 gene was cloned into the expression vector pET-28a and transformed into Escherichia coli BL21 (DE3). The recombinant elicitor also triggered defence responses in intact tobacco plants. The availability of the pure protein offers the possibility to isolate the corresponding receptor and links it to the downstream signalling pathway。
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【第一作者】qiudewen
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【学科分类】植物保护学

【题目】The role of the PI3K-Akt signal transduction pathway in Autographa californica multiple nucleopolyhedrovirus infection of Spodoptera frugiperda cells
【中文关键词】杆状病毒;PI3K-Aktsignaltransductionpathway; 病毒复制,基因表达
【英文关键词】Baculovirus; PI3K-Aktsignaltransductionpathway;Viral replication; Gene expression
【中文摘要】许多病毒激活磷酸肌醇3激酶(PI3K)-Akt信号通路,从而调节与抗细胞凋亡,增殖,细胞周期,蛋白质的合成和糖代谢相关的信号途径的多样化的下游,以增强其复制。到今天为止,在杆状病毒复制的PI3K-Aktpathway的作用尚未确定。在本研究中,我们证明,感染Sf9细胞与Autographacalifornicamultiplenucleopolyhedrovirus(AcMNPV的)在感染后1小时能升高细胞Akt磷酸化。最大的Akt磷酸化发生在感染后6小时,并保持不变,直到18小时后。 PI3K的特异性抑制剂LY294002,抑制Akt的磷酸化并有剂量依赖性,表明AcMNPV诱导Akt的磷酸化存在PI3K的依赖性。 LY294002抑制PI3K-AKT活化,显著降低病毒产量。只有当被感染24小时内添加抑制剂,病毒产量减少,暗示PI3K的激活发生在感染早期。相应的,病毒的DNA复制和晚期(VP39),很晚(POLH)病毒蛋白表达被LY294002处理破坏,LY294002对早期(IE1)和中早期(GP64的)蛋白表达没有影响。这些结果表明,PI3K-Aktpathway是高效杆状病毒复制所需要的。
【英文摘要】pathway, thereby modulating diverse downstream signaling pathways associated with antiapoptosis, proliferation, cell cycling, protein synthesis and glucose metabolism, in order to augment their replication. To date, the role of the PI3K-Aktpathway in Baculovirus replication has not been defined. In the present study, we demonstrate that infection of Sf9 cells with Autographacalifornicamultiplenucleopolyhedrovirus (AcMNPV) elevated cellular Akt phosphorylation at 1 h post-infection. The maximum Akt phosphorylation occurred at 6 h post-infection and remained unchanged until 18 h post-infection. The PI3K-speci fi c inhibitor, LY294002, suppressed Akt phosphorylation in a dose-dependent manner, suggesting that AcMNPV-induced Akt phosphorylation is PI3K-dependent. The inhibition of PI3K-Akt activation by LY294002 significantly reduced the viral yield, including a reduction in budded viruses and occlusion bodies. The virus production was reduced only when the inhibitor was added within 24 h of infection, implying that activation of PI3K occurred early in infection. Correspondingly, both viral DNA replication and late (VP39) and very late (POLH) viral protein expression were impaired by LY294002 treatment; LY294002 had no effect on immediate-early

(IE1) and early-late (GP64) protein expression. These results demonstrate that the PI3K-Aktpathway is required for efficient Baculovirus replication.
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【学科分类】植物保护学

【题目】柠条锦鸡儿肌动蛋白基因的克隆和表达稳定性分析
【中文关键词】肌动蛋白; 柠条锦鸡儿; 克隆; 表达稳定性
【英文关键词】actin; Caragana korshinskii; cloning; expression stability
【中文摘要】以几种豆科植物中肌动蛋白的氨基酸保守序列设计简并引物, 采用RT-PCR 结合RACE 扩增技术, 从柠条锦鸡儿叶片中克隆到一个编码肌动蛋白的基因, 命名为CkACT。该基因cDNA全长为1 655 bp, 开放阅读框1 134 bp, 编码377个氨基酸。氨基酸比对分析表明, 该基因编码的氨基酸与其他植物肌动蛋白基因具有较高的同源性。不同组织中的表达基本上一致, 不同发育时期的基因表达相似, 低温、NaCl、干旱和ABA 处理后的表达强度没有明显差异, 说明CkACT 基因表达稳定。
【英文摘要】An actin gene, CkACT, was cloned from the leaves of Caragana korshinskii by using RT-PCR andRACE with degenerate primers which were synthesized based on the high homologous region among the sequencesof several leguminous ACT genes. The full-length cDNA of CkACT was 1 655 bp and contained a1 134-bp open reading frame encoding a 377-amino acid protein. The deduced amino acid sequence of CkACT protein shared high identity with other ACTINs via multiple alignment. CkACT expressed constitutively in all tested organs, including root, shoot and leaf. There was no significant difference in mRNA expression in different development stage or under cold, NaCl, drought and ABA treatment. These results indicated that the expressionof CkACT is stable.
【语种】中文
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【题目】Autographa californica multiple nucleopolyhedrovirus ac76 is involved in intranuclear microvesicle formation
【中文关键词】夜蛾核型多角体病毒(AcMNPV的)orf76;胞核内微泡形成
【英文关键词】Autographa californica multiple nucleopolyhedrovirus ac76;intranuclear microvesicle formation
【中文摘要】在这项研究中,我们描述了多个夜蛾核型多角体病毒(AcMNPV的)orf76(ac76)特征,这是一个高度保守的鳞翅目昆虫杆状病毒功能未知的基因。 ac76转录分析显示,多重multicistronic转录的转录从一个典型的TAAG后期转录起始,但在AcMNPV感染Sf9细胞后24小时终止在不同的3'两端。为了调查ac76在杆状病毒生命周期中的作用,用AcMNPV的Bacmid的系统构建敲除ac76病毒。显微镜,滴定分析和Western blot分析表明,敲除ac76病毒无法产生出芽病毒。实时定量PCR分析表明敲除ac76病毒并不影响病毒DNA的合成。电子显微镜显示,在ac76缺失病毒转染的细胞中没有观察到病毒诱导的细胞核内的microvesicles。共聚焦显微镜分析表明,在感染后期Ac76主要定位在核周围。这表明ac76在细胞核内的微泡形成中起着作用。据我们所知,这是鉴定的第一个杆状病毒基因参与细胞核内微泡的形成。
【英文摘要】In this study, we characterized Autographa californica multiple nucleopolyhedrovirus (AcMNPV) orf76 (ac76), which is a highly conserved gene of unknown function in lepidopteran baculoviruses. Transcriptional analysis of ac76 revealed that transcription of multiple overlapping multicistronic transcripts initiates from a canonical TAAG late-transcription start motif but terminates at different 3′ ends at 24 h postinfection in AcMNPV-infected Sf9 cells. To investigate the role of ac76 in the baculovirus life cycle, an ac76-knockout virus was constructed using an AcMNPV bacmid system. Microscopy, titration assays, and Western blot

analysis demonstrated that the resulting ac76-knockout virus was unable to produce budded viruses. Quantitative real-time PCR analysis demonstrated that ac76 deletion did not affect viral DNA synthesis. Electron microscopy showed that virus-induced intranuclear microvesicles as well as occlusion-derived virions were never observed in cells transfecte d with the ac76-knockout virus. Confocal microscopy analysis revealed that Ac76 was predominantly localized to the ring zone of nuclei during the late phase of infection. This suggests that ac76 plays a role in intranuclear microvesicle formation. To the best of our knowledge, this is the first baculovirus gene identified to be involved in intranuclear microvesicle formation

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【题目】hrpE基因在水稻细条病菌Hrp pilus形成和致病性中起重要作用
【中文关键词】水稻条斑病菌; hrpE; H rp pilus; 致病性; 过敏反应
【英文关键词】Xanthomona s o ryza e pv. o ryzico la; hrpE; Hrp pilus; patho gen icity; hypersensitive response
【中文摘要】水稻条斑病菌(Xanthom ona s o r yzae pv. o ryzico la,Xoo c) 的hrp (hypersen sitive re sponse and pa thog en ic ity)基因簇编码形成Ó 型分泌系统(T3SS), 将致病性的效应分子通过H rpF转位装置注入水稻细胞中, 从而导致水稻产生抗(感) 病性, 但 Xoo c 的H rpE是否形成H rp p ilus还不清楚。本研究对Xoo c 的hrpE 基因进行突变, 发现hrpE 突变体在水稻上丧失致病性和在烟草上丧失激发HR的能力。与水稻互作结果显示, hrpE 突变体不能够与水稻细胞互作, 其在水稻组织中的生长能力显著下降。电镜结果显示, hrpE 突变体不能够形成H rp pilus, 从而导致水稻条斑病菌丧失在水稻上的致病性。功能互补结果显示, 完整的h rpE 基因可以恢复hrpE 突变体在烟草上激发HR 反应的能力、在水稻上的致病性以及在水稻薄壁细胞间形成H rp p ilus的能力, 表明hrpE 基因形成H rp p ilus是水稻条斑病菌分泌致病性效应分子的重要条件。
【英文摘要】The hrp (hypersensit iv e respon se and pa thogen icity) genes o fXan thomonas o ryzae pv. o ryzico la(Xo oc) encode a type Ó secret ion sy stem (T3SS) , through w hich T3SS ef fecto rs are in jected in to rice ce llsand resu lting in susceptib ility or resistance to the patho gen infection. How ever, it is unclear w he ther the hrpE gene is responsible fo r the fo rm ation o f theH rp pilus. In this study, the hrpE genew as knocked o ut and fo undthat the hrpE mutan t lo st pathogenic ity in rice and the ability to trig gerHR (hypersensitive response) in tobacco.The mutan t did no t interact w ith rice cells and its grow th w as reduced in rice tissues, compared to the w ild-type o f the bacterium. E lectronm icro scopy revea led that the lo ss o f pathogenic ity o f the hrpE m utant inricew as due to the lack o f Hrp pilus fo rmed in rice parenchym a. The complem ent w ith the hrpE gene in the m utant re sto red HR induct ion in tobacco, patho gen icity in rice and fo rm ation o f H rp pilus betw een bacterial and rice ce lls in parenchyma. It w as sugg ested tha t the hrpE gene w as essen tial fo r fo rm ation o f theH rp pilus through w h ich T3SS effecto rs w ere secre ted into rice cells

【语种】中文
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【题目】水稻条斑病菌hrcC、hpa3和hrpE基因表达不依赖hrpG和hrpX基因调控
【中文关键词】水稻条斑病菌; hrp 调节基因; Ó型分泌系统; RT-PCR
【英文关键词】Xanthomonas oryzae pv. oryzicola; hrp genes; T3S components; RT-PCR
【中文摘要】决定水稻条斑病菌(Xanthomonas oryzae pv. oryzicola) 在非寄主植物上激发过敏反应(hypersensitive response, HR) 和在寄主水稻上致病性(pathogenicity) 的hrp 基因簇是受hrpG 和hrpX 基因调控的, 但还不清楚hrpG 和hrpX 基因是否共同决定着所有hrp 基因的表达。=方法>本文通过基因敲除方式获得了水稻条斑病菌的hrpG 和hrpX 基因的双突变体。=结果>烟草和水稻上测定结果显示, 双突变体与单突变体一样, 均在烟草上失去HR 激发能力和丧失在水稻上的致病性; 相

应地, 功能互补后双突变体恢复至野生表型。细菌在水稻悬浮细胞、hrp 诱导培养基XOM3 和营养丰富的培养基NB 中生长后的RT-PCR 结果显示,NB 中hrp 基因低水平表达, XOM3 和水稻细胞能够高水平诱导hrp 基因表达。无论何种生长条件, hrpG 单突变体中hrcC、hrcT 、hpa3 和hrpE 基因表达, 而hpa1 、hpa2 、hpaB、hrcJ 和hrpG 基因不表达; hrpX 单突变体中hpa2、hrcC、hpa3、hrpE 和hrpG 基因表达, 而hpa1 、hrcT、hpaB 和hrcJ 基因不表达; hrpG 和hrpX 双突变体中hrcC、hpa3 和hrpE 基因表达, 而hpa1 、hpa2 、hpaB、hrcT、hrcJ 和hrpG 基因不表达。=结论>这提示, 水稻条斑病菌的hrcC、hrpE 和hpa3 基因不受hrpG 和hrpX 基因单独或同时调控, 而hrcT 基因受HrpG 调控。由此推测, 水稻条斑病菌Ó型分泌系统关键组份的表达有可能通过另外的信号途径进行调控, 这为进一步分析型分泌途经的形成提供了线索。

【英文摘要】The hrp(hypersensitive response on nonhost plants and pathogenicity in host plants) gene cluster, which conforms Xanthomonas oryzae pv. oryzicola, the causal agent of bacterial leaf streak in rice, to the ability to elicit a hypersensitive response (HR) in nonhost tobacco and pathogenicity in host rice, is thought to be regulated by the hrpG and hrpX genes.However, it is unclear whether the hrpG and hrpX genes regulate all the hrp gene expression of the cluster coordinately or not. [Methods] We constructed amutant with both hrpG and hrpX genes knocked out. [Results] which, as the same as the singlemutant at the hrpG or hrpX gene, lost the ability to trigger HR in tobacco and pathogenicity in rice, respectively.Correspondingly, the hrpG and hrpX genes together could restore such the ability to the double mutant at the hrpG and hrpX loci. After grew in rice suspension cells, hrp- inducing medium XOM3 and nutrien-t rich medium NB for 16 hours, respectively,reverse transcriptional polymerase chain react ion (RT- PCR) revealed that: the expression of hrp genes in NB medium was lower that that in rice cells and XOM3 medium; in whatever growth media, the hrcC, hrcT, hrpE and hpa3 genes expressed, while the hpa1, hpa2, hpaB, hrcJ , and hrpG genes did not in the hrpG mutant; the hpa2, hrcC, hpa3, hrpE and hrpG genes expressed, while the hpa1 , hrcT , hpaB and hrcJ genes did not in the hrpX mutant; the hrcC, hrpE and hpa3 genes expressed, but the hpa1 , hpa2 , hpaB, hrcT , hrcJ and hrpG genes did not in the hrpG and hrpX double mutant.[Conclusion] This indicated that the expression of the hrcC, hrpE and hpa3 genes was not regulated by the hrpG andPor hrpX genes, but the expression of the hrcT gene was negat ively controlled by the hrpG gene. Thus, we postulated that the expression of key type- Ó secretion (T3S) apparatus components was controlled by an unknown signaling pathway, which may facilitate our further understanding on the formation of the T3S machine.

【语种】中文

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【题目】蛋白激发子PeaT1的高密度发酵及生理功能检测

【中文关键词】蛋白激发子 PeaT1 高密度发酵 低温

【英文关键词】Protein elicitor PeaT1 High cell density fermentation Low temperature

【中文摘要】PeaT1是从极细链格孢菌(A lternaria tenuissim a)中提取出的一种植物蛋白激发子,具有促进植物生长,增强作物抗逆性的功能。由于该蛋白具有无残留、无毒副作用的优点,因此具有发展为生物农药的应用前景。在100 L发酵罐中利用分批补料技术对PeaT1工程菌进行高密度发酵,通过AKTA蛋白纯化仪对发酵产物进行了亲和纯化,并检测了纯化所得蛋白对水稻在15℃低温下生长的影响。发酵最终菌体密度达80 g/L,每升菌液纯化得到蛋白90 mg,纯化所得蛋白能够促进水稻低温下的生长,具有激发子活性。

【英文摘要】PeaT1 is a p rotein elicitor obtained from A lternaria tenuissim a. Itwas found that this p rotein had the function of p romo2ting p lant growth and increasing the tolerance of crop s. It could be developed as a biological pesticide without residual, and effect char2acters. In this paper, the engineering bacteria of PeaT1 was used for high cell density fermentation. The exp ressed p rotein was purifiedby affinity chromatography. The final cell density reached 80 g/L and about 90 mg/L purified PeaT1 could be gained. The function as2say indicated that PeaT1 could p romote rice growth at 15℃ temperature. This research could p romote the development of PeaT1 as bio2logical pesticide.

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【题目】微生物蛋白激发子PeaT1的获得及诱导水稻抗旱性的初步研究
【中文关键词】PeaTl;蛋白激发子;原核表达;纯化;抗旱性
【英文关键词】PeaTl;protein elicitor;prokaryofie expression;purification;drought tolerance
【中文摘要】PeaTl是来源于极细链格胞菌(Altermzria tenuissima)的一种蛋白激发子,具有促进植物生长和提高抗逆性的功能。为了进一步研究该激发子的功能,构建了表达该蛋白质的原核表达载体pET28a-peaTl,诱导表达获得大量目的蛋白质。利用AKTA蛋白质纯化系统,通过亲和层析、离子交换层析和分子筛等纯化技术,获得高纯度的PeaTl蛋白。用不同浓度的纯化蛋白处理水稻,进行抗旱性检测,结果表明PeaTl可明显提高水稻的抗旱性。
【英文摘要】PeaTl,a protein elicitor isolated and purified from Alternaria tenuissima has been proved to possess the functions of promoting plant growth and increasing plant stress tolerance.In order to further study the functions of PeaTl,a prokaryotie expression vector pEl.28a,圮o ” wag constructed to express and obtain amount of target protein.The Ml WaS purified by several steps including affinity chromatography.ion-exchange chromatography and sizeexclusive chromatography.The effect of PeaTl on enhancing drought resistance of rice was detected with different concentrations of PeaTl.The result showed that PeaTl could significantly increase the drought resistance of rice.
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【题目】III型分泌装置蛋白HrcJ 决定条斑病菌在植物上的过敏反应和致病性的研究
【中文关键词】水稻条斑病菌;hrcJ;III型分泌系统;致病性;过敏反应
【英文关键词】Xanthomonas oryzae pv.oryzicola; hrcJ; type-III secretion system; pathogenicity; Hypersensitive response
【中文摘要】水稻条斑病菌(Xanthomonas oryzae pv. oryzicola,Xooc)的hrp(hypersensitive responseand pathogenicity)基因编码形成的III型分泌系统(type III secretion system,T3SS),将致病性效应分子注入水稻细胞中,但Xooc 的hrcJ 基因在致病性中的作用以及其如何参与形成T3SS 分泌装置,并不明确。【方法】本研究根据标记交换原理对Xooc 的hrcJ 基因进行了敲除。【结果】发现hrcJ 突变体丧失在水稻上的致病性和在烟草上的HR 激发能力。酵母双杂交显示,HrcJ 蛋白N 端脂蛋白结构域可与HrcC 互作,HrcJ 蛋白C 端跨膜结构域可与HrcV 互作,提示HrcJ 蛋白联接于T3SS 装置的内膜和外膜之间。功能互补结果显示,缺失脂蛋白结构域和跨膜结构域的hrcJ 基因均不能恢复hrcJ 突变体在烟草上的HR 激发能力和在水稻上的致病性。RT-PCR 结果显示,hrcJ 的表达受hrpX 基因调控,hrcJ 基因突变后不影响效应分子hpa1 的表达。【结论】hrcJ 基因是水稻条斑病菌致病性和非寄主上激发HR 的关键因子,其基因产物参与了T3SS 装置的形成。
【英文摘要】【Objective】 Repertoires of pathogenicity effectors in Xanthomonas oryzae pv. oryzicola are injected into plant cellsthrough type-III secretion system (T3SS) which is encoded by the hrp (hypersensitive response and pathogenicity) genes, but it isunclear what roles the hrcJ gene plays in pathogen pathogenesis in rice and in T3SS formation. 【Method】 In this report, the hrcJgene was knocked out by marker exchange method. 【Result】 It was found that the mutant had lost the ability to trigger HR intobacco and pathogenicity in rice. Protein-protein interactions, revealed by yeast two-hybrid system, demonstrated that thelipoprotein domain at N-terminal of HrcJ interacted with HrcC and the transmembrane domain at C-terminal interacted with HrcV,indicating that HrcJ was a linker protein between the inner and out membranes of the pathogen cell for T3SS formation.Complementation assays in planta showed that either the deletion in the lipoprotein domain or in the transmembrane domain did notrestore HR induction in tobacco and pathogenicity in rice to the hrcJ mutant. The reverse transcriptional polymerase chain reaction(RT-PCR) revealed that the hrcJ gene expression was regulated by the hrpX gene and the expression of the effector gene hpa1 wasnot affected in the hrcJ mutant. 【Conclusion】 These results suggest that the hrcJ gene is required not only for HR induction in tobacco and pathogenicity in rice, but also in T3SS formation through which pathogenicity determinants are secreted into plant cells.

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【题目】受条斑病菌侵染的水稻cDNA文库构建
【中文关键词】水稻;水稻条斑病菌;cDNA文库;sMAR下“技术;病程相关蛋白
【英文关键词】Xanthomonas oryzae pv.Oryzicola,cDNA library, pathogenesis related protein genes
【中文摘要】:提取经条斑病菌(‰毗如彻枷删pv.明融)侵染诱导后的水稻mRNA,利用sMARTTM技术于载体pGADl7一够AB上构建了水稻cDNA文库。检测发现.文库中含有水稻病程相关蛋白基因仇PR~,n、DsJP尺一,6和JpHL。随机提取cDNA文库克隆的质粒,酶切分析发现,该cDNA文库的插入片段分布在500~2 000 bP之间,平均大小约为l kb,重组率达95%。上述结果表明.水稻受条斑病菌侵染的cDNA文库质量较好,这为研究条斑病菌致病性因子与水稻互作机制奠定了工作摹础。
【英文摘要】Condtructing a a rice cDNA library is a fundamental basis for understanding molecular interaction of rice with Xanthomonas oryzae, the pv.Oryzicola, the critical pathogen of bacterial leaf streek in rice.The total RNA were extracted from rice leaves previously infected for10 hours by the pathogen.The cDNA were reversely transcripted from the mRNA using SMARTTM technique and then ligated into a vector pGADT7-siAB at the sites of sfiA and sfiB. Collections of the ligated plasmid DNA were the cDNA library of rice which had interaction with the pathogen.The PCR amplification of OsPr-1a , OsPr-1b and PAL as pathogenesis related protein genes indicated that the cDNA library contained those genes.Digestion of randomly selected clones of library with enzyme sfi I demonstrated that the sizes of inserted fragments in the vector were between 500一2 000 bp,that the average size was about l kb,and that 95%of the library clones were recombinants. The above suggests that the constructed cDNA library of rice is of good quality and of use for isolation of interacting proteins with pathogenicity deteminants of the bacterium by a yeast two—hybrid system.
【语种】中文
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【题目】水稻条斑病细菌hrp基因诱导表达系统的建立
【中文关键词】水稻条斑病细菌;hrp基因;^hrp诱导培养基;水稻;RT-PCR
【英文关键词】Xanthomonas oryzae pv. Oryzicola (Xooc),hrp gene;^hrp- inducing medium;rice;RT-PCR
【中文摘要】:水稻条斑病细菌(‰n#幻,加n∞omm pv.o聊驰。如,‰Dc)决定在非寄主植物上激发过敏反应(hypersensitive response)和在寄主水稻上具致病性(patllogenicity)的^伊基因簇是诱导表达的。为研究危,p基因的功能,利用卸01和^帜基因的启动子与曲基因进行融合,构建了^伊基因诱导表达系统。绿色荧光蛋白表达揭示,‰”的唧基因在营养丰富的NB培养基上不能有效表达,在h甲诱导培养基x0M3上可有效表达。以^帜和^伊G突变体为参照,RT-PCR研究结果提示,‰oc野生型菌株伽l基因在NB上不能有效表达,在xOM3培养基上可有效表达。相应地,矗帜突变体中切口1基因不能被诱导表达,而在^甲G突变体中却01基因转录表达水平低于野生菌。研究结果还证实,水稻悬浮细胞能高效诱导‰oc的矗甲基因表达。‰oc h甲基因诱导表达系统的建立为研究^伊基因功能、发掘r13Ss效应分子以及开展‰oc致病性研究奠定了基础。
【英文摘要】The hrp genes of Xanthomonas oryzae pv. Oryzicola (Xooc),which is the causal agent of bacterial leaf streak in rice,possesses the ability to elicit hypersensitive response on nonhost plants and the pathogenicity in host rice.In order to analyze the function of the hrp genes,we developed hrp- inducing systems using transcriptional hrp::gfp fusions with the promoters of hrpX and hpa 1 of xooc.The levels of GFP protein expression indicated that the hrp gene expression in xooc was not efficiently induced in NB medium,but efficiently in XOM3 medium. Using the hrpG and hrpX mutants of xooc as the contro1s,the results by RT-PCR

demonstrated that in wild type strain the expression of hpa1 gene was suppressed in NB medium,but was increased in XOM3 medium.When incubated in XOM3, the expression of the hpa1 gene was abolished in hrpXmutant,whIe the level of the hpa1 gene expression was lower in the hrpG mutant than that in wild-type strain.More importantly,it was found that the induction of the hrp gene expression was strongly increased in response to rice suspension cells and callus in this study.This suggests that the,hrp一inducing systems,XOM3 or rice suspension cells or rice callus, for the induction of the hrp genes expression be useful for functionally analyzing the hrp genes,mining effectors secreted by the type III secretion apparatus and understanding pathogenicity determinats of.Xooc.

【语种】中文
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【题目】白叶枯病菌xopXoo基因在致病性中的作用
【中文关键词】水稻; 白叶枯病菌; xopX oo 基因; 过敏反应; 致病性
【英文关键词】r ice; Xanthomonas or yz ae pv. or y z ae; xopXoo gene; hyper sensitive r esponse; pathogenicity
【中文摘要】辣椒斑点病菌(Xanthomonas camp es tr is pv. vesicatoria, Xcv) 在非寄主烟草上的过敏反应与x opX 基因有关, 但在白叶枯病菌(Xanthomonas ory z ae pv. or y z ae, Xoo) 基因组中并未标注xopX 同源基因的功能。为研究白叶枯病菌中xopX 同源基因在致病性中的作用, 对白叶枯病菌的x opX oo 基因进行了克隆和突变, 并对xopX oo 突变体在非寄主烟草上的过敏反应、水稻苗期的水浸症状以及成株期的致病性和病菌生长能力进行了分析。测定结果显示, x opX oo 基因突变并不改变白叶枯病菌在烟草上激发过敏反应和在水稻上产生水浸症状能力, 但突变菌株在成株期水稻上的致病性和菌体生长能力显著下降。遗传互补能够恢复xopX oo 突变体的致病性和菌体生长能力, 表明x opX oo 是白叶枯病菌的致病性基因。还对白叶枯病菌激发非寄主烟草产生过敏反应的可能基因进行了讨论
【英文摘要】T he x opX gene from X anthomonas camp estr is pv. vesicatoria (X cv) is invo lved in hypersensitive response inductionin nonhost tabacco and enhances the susceptibility of host pepper . How ever, the function o f the homolog w ith xopX revealed by the genome sequence of X. or yz ae pv. ory z ae (Xoo) strains MAFF311018 and KACC10311 is uncertain. T o studythe function of xopX homolog in Xoo , a xopX oo gene of X oo was cloned and mutated. T he xopX oo mutant induced hypersensitiv e response in tobacco and water soaking symptoms in rice seedlings, but its pathogenicity and repr oductive capacity decreased greatly in r ice leaves. Complementation of the xopXoo mutant w ith the xopX oo g ene recovered the bacter ial g rowth and the ability to cause the lesion leng th to the wild type, suggested that the xopX oo g ene was r elated to the pathogenicity of Xoo in rice. Moreover, the pr oducts of putative g enes possibly eliciting hypersensitive response in tobacco w er e postulated
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【第一作者】陈功友
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【题目】极细链格孢菌66kDa 激活蛋白的纯化及诱导烟草抗TMV的功能.
【中文关键词】极细链格孢菌;激活蛋白;分离纯化;诱导抗性
【英文关键词】Alternaria tenuissima;activator protein;isolation and purification;induced resistance
【中文摘要】通过加热离心、乙醇沉淀、离子交换层析、超滤等方法,从极细链格孢菌(Alternaria tenuissima)JH505菌株的菌丝体中分离纯化出一种激活蛋白,经SDS-PAGE银染显示单一条带,表观分子量约为66kD,糖蛋白特异性染色确定其为糖蛋白。该蛋白可以诱导三生烟产生抗性,处理后的三生烟对烟草花叶病毒的抑制效果显著,抑制枯斑率可达到49%。
【英文摘要】An activator protein was isolated and purified from the mycelium of Alternaria tenuissima JH505 by heating, centrifugation, alcohol extraction, ion-exchange chromatography and ultra-filtration. The SDS-PAGE sliver staining showed a single

band of protein with 66 kD molecular weight .Staining experiments showed that the protein was glycoprotein . This protein could induce tobacco (Samsun NN) resistance to TMV. The inhibitory rate of necrosis reached 49% comparing with control,
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【第一作者】杨秀芬
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【题目】一种促进植物根系生长的极细链格孢菌蛋白分离、纯化和生物功能.
【中文关键词】蛋白纯化 等电点测定 生物活性
【英文关键词】Protein Purification pI measuring activity
【中文摘要】通过硫酸铵沉淀、有机溶剂沉淀、离子交换和分子筛连用的方法,从极细链格孢菌JH505菌株中分离纯化到分子量约为35KD的植物激活蛋白。利用固相梯度凝胶双向电泳方法测定了该蛋白的等电点为4.22。将该纯化蛋白稀释液浸泡小麦种子8小时,7天后小麦根系琥珀酸脱氢酶活性提高65.27%,经蛋白处理的小麦根长比对照组提高了13.1%。
【英文摘要】A new plant elicitor from Alterneria tenuissima was purified using ammonium sulphate fractionation,organic solvent anion exchange chromatography and size exclusion chromatography. A protein exhibited a single band on SDS-PAGE is 35kD.and its pI is 4.22 using immobiline dry strip gel. The wheat seeds were treated with the purified elicitor at a certain concentration, then measured the succinate dehydrogenase, the result showed that the protein has a remarkable effect on improving the succinate dehydrogenase.
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【第一作者】杨秀芬
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【题目】灰葡萄孢菌激活蛋白PebC2的生物功能.
【中文关键词】灰葡萄孢菌;激活蛋白PEBC2;纯化;生物活性
【英文关键词】Botrytis cinerea; activator protein PEBC2; purification; bioactivity
【中文摘要】通过沸水浴、离心、阴离子交换层析等方法,从灰葡萄孢菌Botrytis cinerea BC-4-2-2-1菌丝体中分离纯化出一种激活蛋白,命名为PEBC2,经SDS-PAGE银染显示呈单一条带,相对分子量约为14kD。该激活蛋白能显著提高小麦种子的发芽率,促进小麦幼苗生长,增强小麦的抗旱性和番茄对灰霉病的抗性。经激活蛋白处理后小麦发芽率从75.00%提高到98.33%,处理7、9、11天时株高分别比对照增加了17.07%、23.05% 和17.19%,幼苗抗旱综合系数从36.53提高到57.45;该激活蛋白对番茄灰霉病的诱抗效果达60.09%。
【英文摘要】An activitor protein named as PEBC2 was isolated and purified from the hypha of Botrytis cinerea by boiling water bath, centrifugation, ultra-filtration and anion exchange chromatography, etc. The activator protein appeared as a single band corresponding to molecular weight of approximately 14 kD on SDS-PAGE with silver staining. This protein can obviously promote seed germination,seedling growth and drought tolerance of wheat, it can also induce tomato to gain resistance to gray mould. By treating with this protein, the germination rate of wheat seed increased from 75.00% to 98.33%, the plant height of wheat in 7, 9, 11 days respectively increased by 17.07%, 23.05%, 17.19%, the comprehensive drought-resistance coefficient of wheat seedling improved from 36.53 to 57.45. This protein ’s effect of induced resistance to gray mould of tomato reached 60.09%.
【语种】中文
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【题目】紫花苜蓿种质耐盐性综合评价
【中文关键词】紫花苜蓿; 苗期; 耐盐性; 综合评价; 生理反应
【英文关键词】Medicago sativa,seeding stage,salt tolerance,evaluation ,physiological response
【中文摘要】以中苜1 号为对照, 对来自俄罗斯的18 份紫花苜蓿种质的耐盐性进行了综合评价, 并对盐胁迫下的生理反应进行了初步研究。结果表明, 运用标准差系数赋予权重法进行综合评价, 不但考虑了不同指标的权重, 还定量的鉴定出了每份材料的耐盐能力, 比聚类分析的结果更具科学合理性, 试验共筛选出M7、M9、M15、810 共4 份耐盐性强的种质; 在此基础上, 进一步探讨了盐胁迫下的生理反应, 除叶水势随着盐浓度的增加呈下降趋势外, 游离脯氨酸含量、可溶性糖含量、细胞质膜透性、丙二醛含量、水分饱和亏缺则呈上升趋势, 且不同材料变化幅度不同。可溶性糖含量、细胞质膜透性、丙二醛含量、水分饱和亏缺和叶水势等指标很好的反映了材料间的耐盐性, 可直接作为耐盐评价的鉴定指标。
【英文摘要】Using Zhongmu no.1 as control, evaluate the the salt tolerance of 18 copys alfalfa germplasm from Russia and study physiological response. The results show that the use of standard deviation coefficient not only to consider the weight of the different indicators, quantitative Identification of salt tolerance of each material. The result is more scientific and reasonable than the cluster analysis results .the test screen out, M7, M9, M15, 810. totally, 4 salt Strong collections; On this basis, to further explore the physiological responses to salt stress, except that leaf water potential downward trend with the increase in salt concentration, free proline Acid content, soluble sugar content, cell membrane permeability, MDA content, water saturation deficit is rising.the change rate of different materials is different .The soluble sugar content, cell membrane permeability, MDA content, water saturation deficit and leaf water potential and other indicators can show the salt tolerance between materials well, and use as a direct Indicators for the identification of salt tolerance.
【语种】中文
【第一作者】李源
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【题目】柠条GDP-甘露糖-3',5'-异构酶基因的克隆、表达分析及植物表达载体的构建
【中文关键词】克隆; GDP- 甘露糖- 3′, 5′- 异构酶; 柠条; 序列分析
【英文关键词】Cloning; GDP-mannose-3′, 5′-epimerase; Caragana korshinskii; Sequence analysis
【中文摘要】L- 抗坏血酸是一种抗氧化剂, 能够保护植物免受活性氧的伤害, GDP- 甘露糖- 3c, 5c- 异构酶基因(GME) 是L- 抗坏血酸合成途径中的关键基因。根据其他植物GME 的氨基酸保守序列设计简并引物, 通过RT- PCR 结合RACE 扩增技术, 从柠条叶片中克隆了1 个编码GM E 的基因, 命名为CkGME , Genebank 登录号为FJ603689。基因全长1604bp, 开放阅读框1134bp, 编码377 个氨基酸, 氨基酸同源性比对分析表明, 该基因编码的氨基酸与其他植物GME 基因具有较高的同源性。进化树分析表明, 该基因编码的氨基酸序列与豆科植物大豆和截型苜蓿的亲缘关系最近, 与十字花科植物拟南芥的亲缘关系次之, 与禾本科植物水稻和玉米的亲缘关系较远。利用4e 和GA3 处理不同时间的柠条植株进行半定量RT- PCR 分析结果表明, 该基因在4e 处理不同时间后表达量没有明显变化, 在GA3处理不同时间后表达量显著下降。利用pCAMBIA- 1300 质粒构建含35S 启动子的正义表达载体, 酶切图谱和PCR检测结果证明该表达载体构建成功。
【英文摘要】L -ascorbic acid is a kind of ant iox idant , w hich could protect the plants from ROS. GDP-mannose-3′, 5′-epimerase(GME) gene is a key gene in the biosynthesis pathway of L -ascorbic acid. Using a pair of degenerate primer designed based on the sequences of the homolog ous gene from other plants and the RACE technology , a full length cDNA encoding GME gene was isolated and characterized from the leaves of Caragana korshinskii . The 1604bp full length CkGME (accessio number FJ603689) had a 1134bp ORF, which encodes a peptide o f 377 amino acids. The deduced amino acid sequence of CkGME protein shared high identity with other GMEs. Phylogenetic analysis indicated that CkGME is closely related with Gly cine max and Medicago truncatula, then with

Arabidopsis thaliana, but far away from Oryza sativa and Zea mays. Semi-quantitive RT-PCR analysis indicated that gene expression of CkGME had no difference compared with control after treated with 4°C for a during time, but was dow n -regulated after treated with GA3 . Subsequently, the over - expression vector of CkGME gene was constructed with the aid of pCAMBIA -1300.
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【第一作者】王美珍
【通讯作者】王学敏
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【学科分类】畜牧学

【题目】A Solution on Pork Quality Traceability from Farm to Dinner Table in Tianjin City,China
【中文关键词】动物标识;猪肉;跟踪;溯源;PDA;GPRS
【英文关键词】animal identification, pork, tracking, traceability, PDA, GPRS
【中文摘要】【目的】满足政府监管猪肉的安全生产和食品消费者的知情权,保障猪肉食品的公共安全。【方法】采用动物的标识技术、PDA 智能识读技术、GPRS 技术、Intranet 和Internet 等技术,结合中国《畜禽标识和养殖档案管理办法》,提出基于猪肉安全生产的物质流与信息流的跟踪与溯源流程,设计集约化养猪场及散养模式下养殖、屠宰与销售环节的元数据及相应的关系型数据表,并开发上述3 个环节的数据记录系统,以及面向政府监管和消费者查询的公共网络平台。【结果】开发的集约化养殖过程信息系统在记录猪只各种事件数据的基础上,具有对饲料添加剂和兽药使用的业务预警功能,能及时向溯源中央数据库提交出栏猪只的养殖过程事件;开发的PDA数据采集系统,能移动采集散养猪只的养殖事件数据,并通过GPRS 远程提交溯源数据;开发的基于web 技术的天津猪肉质量溯源平台,具有在线集成来自养殖、屠宰和销售环节的各种标识数据及有关猪肉质量安全数据,并实现标识的转换与数据的关联,最终实现从生产源头向消费终端的跟踪和反方向的可追溯。【结论】本研究开发的或集成的各种标识技术、元数据规范及数据记录系统和web 查询平台,经过实际应用是可行的,个别技术瓶颈随通讯技术的发展将得到解决,其全面实施将为保证猪肉质量安全生产的监管及满足消费需求提供技术支撑。
【英文摘要】In order to meet government supervision of pork production safety as well as consumer’s right to know what they buy and protect the public safety of pork food, this study adopts animal identification, intelligent personal digital assistant (PDA) reading and writing, general packet radio service (GPRS), and other information technologies, proposes a pork tracking and traceability inferstructure based on pork production substrace flow and data flow, designs the metadata structure and related datatbases for farming, slaughtering, and retailing sector based on intensive pig farming and smallhold pig farming, develops three different data-recording systems, and finally establishes a public network platform for the information inquiry in light of “the administrative rules on identification and rearing files for animal and poultry” in China. The farming process information system supplies early warning for the usage of drugs and feed additives based on data of every individual pig and timely uploading all events data to remote traceability database when pigs are sold; the PDA data collecting system can collect farming events data for pigs fed by farmers and submit to the center database by GPRS; the web-based Tianjin’s pork traceability platform can integrate all identifications and related pork quality data from farming,slaughtering to marketing by online, and achieve pork tracking from product origin to consumption and tracing in the turnover direction. It is feasible to realize pork quality traceability by identification technologies developed and/or integrated, metadata specifications designed, three data-recording systems developed, and web-inquiring platform established.Some individual technical bottlenecks will be resolved with the development of communication technologies. The full implementation in Tianjin, China, will supply technical support for guaranteeing the quality and safety of pork production and meeting consumer’s demands.
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【第一作者】XIONG Ben-hai
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【题目】生猪及其产品从农场到餐桌质量溯源解决方案-以天津为例
【中文关键词】动物标识;猪肉;跟踪;溯源;PDA;GPRS
【英文关键词】animal identification; pork; tracking; traceability; PDA; GPRS
【中文摘要】【目的】满足政府监管猪肉的安全生产和食品消费者的知情权,保障猪肉食品的公共安全。【方法】采用动物的标识技术、PDA 智能识读技术、GPRS 技术、Intranet 和Internet 等技术,结合中国《畜禽标识和养殖档案管理办法》,提出基于猪肉安全生产的物质流与信息流的跟踪与溯源流程,设计集约化养猪场及散养模式下养殖、屠宰与销售环节的元数据及相应的关系型数据表,并开发上述3 个环节的数据记录系统,以及面向政府监管和消费者查询的公共网络平台。【结果】开发的集约化养殖过程信息系统在记录猪只各种事件数据的基础上,具有对饲料添加剂和兽药使用的业务预警功能,能及时向溯源中央数据库提交出栏猪只的养殖过程事件;开发的PDA数据采集系统,能移动采集散养猪只的养殖事件数据,并通过GPRS 远程提交溯源数据;开发的基于web 技术的天津猪肉质量溯源平台,具有在线集成来自养殖、屠宰和销售环节的各种标识数据及有关猪肉质量安全数据,并实现标识的转换与数据的关联,最终实现从生产源头向消费终端的跟踪和反方向的可追溯。【结论】本研究开发的或集成的各种标识技术、元数据规范及数据记录系统和web 查询平台,经过实际应用是可行的,个别技术瓶颈随通讯技术的发展将得到解决,其全面实施将为保证猪肉质量安全生产的监管及满足消费需求提供技术支撑。
【英文摘要】The study was made to meet government supervision of safe pork production as well as consumer's right to know what they will buy and to protect the public safety of pork food.【Method】This study adopted animal identification, intelligent PDA reading and writing, GPRS, intranet and internet and other information technologies, and proposed a pork tracking and traceability infarstructure based on pork production substrance flow and data flow, and designed the metadata and related databases for farming and slaughtering as well as retailing sector based on pigs intensive farming and backyard farming,and developed three different data-recording systems for different production processes, and finally formed a public network platform for inquiring in light of China's "Animal Identification and Animal Feeding File Management Approach". 【Result】 The farming process information system supplies early warning for the usage of drugs and feed additives on the basis of data of pigs individual and timely uploading all events data to remote central tracing database when pigs are sold. The PDA data acquisition system can collect farming events data for those pigs owned by farmers by mobile and submitted them to the oriented database through GPRS. The web-based Tianjin ’s pork traceability platform can integrate the whole labeling and related pork quality data from farming, slaughtering to marketing by online, and set up these data inner relationships, and reached pork tracking from its origin to consumption and its tracing through turn-over direction. 【Conclusion】The developed and/or integrated various identification technologies, designed metadata specifications, three data-recording systems and the formed web-inquiring platform are feasible in pork quality traceability. Some individual technical bottlenecks will be resolved with the development of communication technology. The full implementation of this solution will supply technical support in guarantee of the quality and safety of pork production supervision and meet consumers ’ demand.
【语种】中文
【第一作者】熊本海
【通讯作者】熊本海
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【学科分类】畜牧、兽医科学其他学科

【题目】散养模式下猪只个体标识及溯源体系的建立
【中文关键词】散养,移动装置,农产品,猪,养殖档案,溯源
【英文关键词】separated feeding, mobile devices, agricultural products, swine,f eeding files, traceability
【中文摘要】为了猪肉安全生产的监管和满足食品消费者的知情权,保障猪肉食品的公共安全,论文采用标识技术、PDA移 动智能识读技术、GPRS技术和Internet等技术,结合中国“ 畜禽标识及养殖档案管理办法 ”,提出了猪只散养模式下养殖过程信息的采集技术方案,设计了散养模式下养殖过程信息的元数据结构及相应的mobile数据表,开发了猪只移动养殖环节数据采集记录与传输的嵌入式系统,与面向政府监管和消费者查询的公共网络平台实现了移动互联。所开发的移动系统能够实现猪只耳标的移动识别、包括饲料、兽药使用和违禁药品监测等各种事件的移动记录,及时向溯源数据库移动系统提交出栏猪只的养殖数据,同样可远程维护散养猪只的养殖档案数据,最终实现散养模式下从生产源头到消费终端的跟踪和溯源。该移动数据采集系统,解决了中国养猪业主体模式——农户散养模式下猪只养殖电子档案建立的难题,并经在

天津猪肉质量溯源体系中的实际应用证明是可行的,个别技术瓶颈随通讯技术的发展将得到解决,其全面实施将为保证中国农户养殖模式下生猪及其产品溯源体系与制度的建设提供技术支撑。

【英文摘要】In order to meet the requirements of government supervision of pork production safety as well as consumer's right to know what they buy and to protect the public safety of pork food, animal identification, intelligent PDA mobile inquiring and reading, GPRS, internet and other information technologies were adopted, and a data collection method was uploaded to set up pigs farming files under free-range pig-rearing system. Related metadata structures and its mobile database was designed, and a mobile PDA embedded system was developed to collect pig individual information. And the information was uploaded into the remote central database. Finally, a mobile link with a specific website was realized. The formed embedded PDA could identify both a special swine bar ear tags appointed by Ministry of Agriculture of China and a general data-matrix bar ear tags was designed and it could record all of input data including feed types, feed additives, animal drugs and even some forbidden medicines and submit them to the oriented database through GPRS. At the same time, the remote central database could be maintained by mobile PDA and GPRS, and finally reach the aim of pork tracking from its origin to consumption and its tracing through turn-over direction. A feasible technology solution was suggested how to set up network electronical swine feeding data files involved swine separated mode based on farmers. The solution was proved practical through its application in the Tianjin ’s pork quality traceability system construction. Although some individual techniques have some adverse effects on the system running such as GPRS transmitting speed now, these will be resolved with the development of communication technolog. The full implementation of this solution around China will supplly technical supports in guaranteeing the quality and safety of pork production supervision and meet the demand of consumers.

【语种】中文

【第一作者】熊本海
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【学科分类】畜牧、兽医科学其他学科

【题目】A Practical Web-based Tracking and Traceability Information System for the Pork Products Supply Chain

【中文关键词】溯源,食品安全,条形码,信息系统
【英文关键词】traceability;food safety; bar code;information system.

【中文摘要】猪肉是中国人主要的膳食蛋白质来源,猪肉质量安全需要建立猪产品溯源系统。基于对猪生产过程中主要投入品(疫苗、饲料、兽药等)和猪饲养、屠宰及零售关键控制点的分析,本研究开发完成了包括条码识别系统、数据记录系统、关系数据库系统、数据查询系统在内的应用平台。其能满足政府管理及消费者的需要,能够收集猪肉质量安全信息,多种渠道传输数据,同时通过查询终端和产品分割条码回溯到养殖场及生猪个体。本平台已在天津示2个猪养殖场及相关的屠宰场、零售超市示范运行,实现了从农场到餐桌猪肉产品全链条监管。

【英文摘要】Pork is the major dietary animal protein source of Chinese, the concerns on pork quality and safety have urged China Administration establish the tracking and traceability system for animal products safety through the legislation. Based on analysis of the factors that affect pork products quality including inputs (vaccines, fodder, additives and veterinary drugs, et al.) and key control points during swine feeding, slaughtering and retail process, This study has developed a practical application platform consists of a bar-code based data identification system, a data-record keeping system, correlated databases, and a data query interface. This application platform can meet the government's regulation and consumer demands by enabling the pork quality data be collected and uploaded different processes, and through inquiries interface terminals and a final splitting product tracing code, the safety information of its final farm and corresponding individual pig can be retrieved. The designed systems have already be deployed in Tianjin ’s two farms, with their associated abattoirs and retail supermarkets, indicating the methodology and its technical solution are applicable, and can be used to monitor the pork products supply chain from the farm to the dinner table.

【语种】英文

【第一作者】XIONG Ben-hai
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【学科分类】畜牧、兽医科学其他学科

【题目】A Collection Scheme for Tracing Information of Pig Safety Production
【中文关键词】猪,PDA,溯源,信息采集
【英文关键词】Pig, PDA, Traceability, Information Collection
【中文摘要】以天津市散养模式猪场为研究原型,深入分析包括疫苗、饲料、兽药等投入品和监督监管信息特征,提出了投入品事件元数据模型,事件整合及数据传输标准规范,开发完成了基于移动PDA的二维耳标识别和溯源信息采集系统。通过移动PDA实现溯源投入品及监督监管事件的信息采集,上传到溯源中心数据库并完成事件整合处理。该系统已在天津市示范运行,证明方便可行,可以满足猪产品质量溯源需要。
【英文摘要】This study takes one main production pattern of smallhold pig farming in Tianjin as a study prototype, deeply analyzes characters of informations about tracing inputs including vaccines,feeds,veterinary drugs and supervision test in pig farming, proposes inputs metadata, criteria for integrating inputs event and interface norms for data transmision, developes and completes identification of 2D ear tags and traceability information collection system of pig safety production based on mobile PDA. The system has implemented functions including setting and invalidate of 2D ear tags, collection of tracing inputs and supervision in the mobile PDA and finally integration of tracing events (the epidemic event,feed event,drug event and supervision event) on the traceability data center (server). The PDA information collection system has been applied for demonstration in Tianjin, the collection is simple, convenient and feasible. It could meet with requirements of traceability information system of pig safety production.
【语种】英文
【第一作者】罗清尧
【通讯作者】罗清尧
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【学科分类】畜牧、兽医科学其他学科

【题目】动物及动物产品标识与可追溯体系的研究进展
【中文关键词】动物; 动物产品; 标识; 可追溯
【英文关键词】animal; animal p roduct; identification; traceability
【中文摘要】如何实现动物及其产品的全程质量监控是当前的一个重大课题。而实行动物及其产品标识与可追溯管理是有效解决动物卫生与动物产品安全问题的重要措施。本文借鉴发达国家经验,回顾可追溯制度的建设与可追溯系统的实施,提出适合中国国情的可追溯管理,建议制定相关的与国际接轨的动物卫生标准体系。同时,介绍中国可追溯系统试点研究的进展,以及面对制约溯源系统的问题,指出应用的难点与未来可追溯体系的发展。
【英文摘要】How to realize fully quality control in animals and their p roducts is currently a major issue. And implementing identification and traceabilitymanagement in animals and their p roducts is an effective solution to animal health and animal p roducts safety issues. According to the advance experience in developed counties and reviewing the construction and imp lementation of the traceability system in China, the traceability management for Chinaps national conditions was raised, and the animal health standards system with international norm was recommended to constituted. At the same time, this paper introduced the development of the experimental p ig traceability system in China, and p roblems in restricting traceability system, also pointed out difficulties in app lication and development of traceability system in future.
【语种】中文
【第一作者】陆昌华
【通讯作者】陆昌华
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【学科分类】畜牧、兽医科学其他学科

【题目】动物及动物产品标识与可追溯体系研究的探讨
【中文关键词】动物;动物产品;标识;可追溯
【英文关键词】animal,animal products,identification,traceability
【中文摘要】现代化的动物产业发展模式,给动物产品安全带来诸多风险,导致食源性疾病患病人数增多,引发一系列动物产品安全事件。在养殖阶段,为控制疫病发生,提高生产效率,需要使用疫苗、药物及添加剂等,但是,超标准使用或违规使用,将导致动物产品药物残留、重金属等有害物质超标;在动物产品的加工、物流和销售等环节,均存在不合格卫生条件与违规使用添加剂等风险。在世界范围内,动物产品安全性成为重大公共安全问题,关系到产业可持续发展和人类身心健康,是亟待解决的社会问题。本文根据我国畜牧业生产现状、经济社会发展水平和动物源食品的消费特点,借鉴国外动物标识技术的经验,阐述作者2002 年以来从事《动物及动物产品标识与可追溯体系研究》工作,提出建立我国动物及动物产品标识技术与可追溯管理的框架,如何与生产单位相结合推广溯源系统,跨省大流通格局与多部门管理的问题和可追溯体系的未来。
【英文摘要】without English abstract
【语种】中文
【第一作者】陆昌华
【通讯作者】陆昌华
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【题目】基于GIS的生猪及产品物流与追溯平台构件化设计
【中文关键词】食品安全; 追溯; 软构件; GIS; 生猪及产品
【英文关键词】food safety; traceability; software component; GIS; swine and pork
【中文摘要】针对目前中国农产品追溯系统缺少GIS分析功能,在了解软构件技术的研究与应用现状的基础上,将GIS、物流管理和软构件技术引入农产品追溯领域。通过研究设施定位、车辆路线、空间追溯、产品查询和产品召回等功能,提出生猪及产品物流与追溯平台的框架结构,探讨基于GIS的畜产品可视化追溯。
【英文摘要】In view of the situation that GIS analysis is not involved in traceability system of p roduce in China, GIS,logisticsmanagement and software component technologywere taken into agricultural traceability field based on the software component technology researches. Through researches on the basic functions of site positioning, vehicle route, space tracea bility, p roduct search and p roduct recall, the framework of swine and pork logistics and traceability p latform was structured to discuss the animal p roducts visual traceability based on GIS.
【语种】中文
【第一作者】白红武
【通讯作者】陆昌华
【期刊名称、卷期、页码】江苏农业学报.2008,24(5):711-715.
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【引文索引号】无
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【题目】动物标识及疫病可追溯体系与公共卫生
【中文关键词】动物;动物产品;标识;可追溯
【英文关键词】aniaml,animalproducts,identification,traceability
【中文摘要】如何实现动物标识及疫病可追溯体系是当前的一个重大课题。而实行动物标识及疫病可追溯体系是有效解决动物疫病防控,保障畜牧业健康发展,维护公共卫生安全的重要措施。本文阐述了中国动物疫病防治出现新的问题与动物产品安全的现状。同时,针对国内外动物屠宰生产的差距,采用动物标识技术方法,实施可追溯体系,达到减少人畜共患病和药物残留对人体的危害,解决人们食用动物性食品的安全问题。并介绍中国进行可追溯系统试点研究的进展,以及面对

制约溯源系统的问题,指出应用的难点与未来可追溯体系的发展。
【英文摘要】without English abstract
【语种】中文
【第一作者】陆昌华
【通讯作者】陆昌华
【期刊名称、卷期、页码】猪业科学.2008,(12):82-86.
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【学科分类】畜牧、兽医科学其他学科

【题目】家畜及其肉产品质量可追溯信息链特点及设计对策
【中文关键词】家畜; 肉产品; 信息链; 追溯
【英文关键词】Farm animal;Meat product; Information chain; Traceability
【中文摘要】如何实现动物标识及疫病可追溯体系是当前的一个重大课题。而实行动物标识及疫病可追溯体系是有效解决动物疫病防控,保障畜牧业健康发展,维护公共卫生安全的重要措施。本文阐述了中国动物疫病防治出现新的问题与动物产品安全的现状。同时,针对国内外动物屠宰生产的差距,采用动物标识技术方法,实施可追溯体系,达到减少人畜共患病和药物残留对人体的危害,解决人们食用动物性食品的安全问题。并介绍中国进行可追溯系统试点研究的进展,以及面对制约溯源系统的问题,指出应用的难点与未来可追溯体系的发展。
【英文摘要】The characteristics of information chain for traceability of farm animals and their meat products was discussed in this paper, also the effective countermeasures were brought forward for the design of entire information chain. Some advices were given according to characteristics of different objects and the environment in series phases of animal production and processing, including animal raising, slaughtering, cutting, packaging and distributing, especially for the selection of animal identification. A preliminary solution to the traceability of meat transportation cold chain was proposed as well. Based on the idea of suggested countermeasures for traceability system, construction of a prototype traceability system was introduced, in which variety technologies, such as barcode technology, radio frequency technology, information and network technology were employed, and findings of this paper could provide a basis for establishing a national traceability system for farm animals and their products, and eventually to reach the goal of safe production and safe consumption of animal products.
【语种】中文
【第一作者】王立方
【通讯作者】王立方
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【学科分类】畜牧、兽医科学其他学科

【题目】猪肉质量安全可追溯系统养殖环节的设计与实现
【中文关键词】猪肉;可追溯;养殖
【英文关键词】Pork;Traceability;Breed
【中文摘要】本文介绍猪肉质量安全可追溯系统的养殖环节,包括追溯数据、猪场管理、安全预警、官方兽医等几个部分。
【英文摘要】This article introduced the breed tache in the system of pork quality safe traceablity,including the trace data,the pig management,the safe warning,the official veter/narian and so on.
【语种】中文
【第一作者】杨亮
【通讯作者】杨亮
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【题目】河北省猪肉质量安全可追溯系统查询环节设计
【中文关键词】猪肉;追溯系统;查询环节;标识
【英文关键词】pork;traceability system;search section;labeling
【中文摘要】介绍了河北省猪肉质量安全可追溯系统的建立过程中,关于查询环节的数据采集和信息系统建立的解决方案,包括系统开发环境、猪肉终端分割产品的标识解决方案,以及基于网络查询、手机或PDA的WAP查询、短信查询等三种查询方式的设计与实现。
【英文摘要】A solution to quality traceability of swine and their products for Hebei province was introduced.It mainly included system development environment,identification solution of pork terminal cut products,the design and realization of se~ch section based on the web searching,the WAP searching of Mobile PDA,or short message searching.
【语种】中文
【第一作者】杨亮
【通讯作者】杨亮
【期刊名称、卷期、页码】农业网络信息. 2009,(11):30-35.
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【引文索引号】无
【学科分类】畜牧、兽医科学其他学科

【题目】河北省猪肉质量安全可追溯系统养殖环节设计
【中文关键词】追溯系统;养殖环节;标识
【英文关键词】pork;traceability system;breeding section;labeling
【中文摘要】介绍了河北省猪肉质量安全可追溯系统的建立过程中,关于养殖环节的数据采集和信息系统建立的解决方案,包括可追溯的背景和定义、开发工具的选用、养殖环节系统建立的框架图、养殖环节数据库的建立和追溯数据的采集等几个部分。
【英文摘要】A solution to data collection and information system establishment O11 swine breeding process during the construction of pork quality and safety traceability system of Hebei province was introduced.It mainly included the background and definition of the traceability,the selection of development tool,the establishment of information management frame chart for breeding process,the database estab lishment of breeding process,the data collection of traceab ility system.
【语种】中文
【第一作者】杨亮
【通讯作者】杨亮
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【引文索引号】无
【学科分类】畜牧、兽医科学其他学科

【题目】猪肉质量安全可追溯系统屠宰环节的设计与实现
【中文关键词】猪肉;追溯系统;屠宰环节;标识
【英文关键词】Pork;Traceability system;Slaughter tache;Labeling
【中文摘要】本文介绍猪肉质量安全可追溯系统建立过程中,关于屠宰环节的数据采集和信息系统建立的解决方案,包括采集数据项目的设计,胴体的标识和识读技术,标识和质量安全数据的现场采集,数据通过官方兽医的提交,最终服务于猪肉生产全过程的溯源系统的建立。
【英文摘要】This paper introduces a kind of solution on pigs's slaughter process during establishment of pork quality and safety traceability system.It mainly includes the design of collected data items,labeling of swine cal~asses and their reading,just-in-time data gathering and data uploading of process information by official vets,and ultimately serves the traceability system solutions establishment

of entire process of the po rk production.
【语种】中文
【第一作者】杨亮
【通讯作者】杨亮
【期刊名称、卷期、页码】农业网络信息.2008,(1):22-25.
【论文发表时间】2008-01-15 00:00:00
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【引文索引号】无
【学科分类】畜牧、兽医科学其他学科

【题目】基于PDA的猪肉质量安全溯源信息采集方案
【中文关键词】猪;PDA;溯源;信息采集
【英文关键词】Pig; PDA; Traceability; Information Collection.
【中文摘要】本研究以天津市商品猪散养农户模式为研究对象,深入分析猪溯源投入品(包括疫苗、饲料、兽药)及监督检测信息的特点,提出了投入品元数据、事件集成、数据传输接口规范,开发完成了PDA猪溯源信息采集系统,实现了溯源耳标识别、佩戴及注销,疫苗、饲料及兽药等溯源投入品及盐酸特伦特罗、磺胺类药物等监测信息的采集,并在溯源数据中心实现实时投入品事件整合集成。PDA猪溯源信息采集系统已经在天津市示范应用,信息采集处理简单、方便、实用,信息采集方案示范运行良好,能够满足猪肉质量溯源系统信息采集的需要。
【英文摘要】This study takes one main production pattern of smallhold pig farming in Tianjin as a study prototype, deeply analyzes characters of informations about tracing inputs including vaccines,feeds,veterinary drugs and supervision test in pig farming, proposes inputs metadata, criteria for integrating inputs event and interface norms for data transmision, developes and completes identification of 2D ear tags and traceability information collection system of pork quality safety based on mobile PDA. The system has implemented functions including setting and invalidate of 2D ear tags, collection of tracing inputs and supervision in the mobile PDA and finally integration of tracing events (the epidemic event,feed event,drug event and supervision event) on the traceability data center (server). The PDA information collection system has been applied for demonstration in Tianjin, the collection is simple, convenient and feasible. It could meet with requirements of traceability information system of pig safety production.
【语种】中文
【第一作者】罗清尧
【通讯作者】罗清尧
【期刊名称、卷期、页码】第二届国际计算机及计算技术在农业中的应用研讨会”暨“第二届中国农村信息化发展论坛”论文集.2008年10月:55-60.中国畜牧兽医学会信息技术分会2008年学术研讨会论文集.2008年8月:217-220.
【论文发表时间】2008-10-15 00:00:00
【引文索引类型】ISTP
【引文索引号】无
【学科分类】畜牧、兽医科学其他学科

【题目】A Solution on Identification and Rearing Files in Smallhold Pig Farming
【中文关键词】猪,散养猪场,移动PDA,养殖档案,溯源
【英文关键词】Pig; Smallhold Pig Farming; Mobile PDA; Rearing files; Traceability
【中文摘要】为了猪肉安全生产的监管和满足食品消费者的知情权,保障猪肉食品的公共安全,本文采用标识技术、PDA移 动智能识读技术等技术,结合中国“畜禽标识及养殖档案管理办法”,提出了猪只散养模式下养殖过程信息的采集技术方案,开发了猪只移动养殖环节数据采集记录与传输的嵌入式系统,与面向政府监管和消费者查询的公共网络平台实现了移动互联。所开发的移动系统能够实现猪只耳标的移动识别、包括饲料、兽药使用和违禁药品监测等各种事件的移动记录,及时向溯源数据库移动系统提交出栏猪只的养殖数据,同样可远程维护散养猪只的养殖档案数据,最终实现散养模式下从生产源头到消费终端的跟踪和溯源。该移动数据采集系统在天津猪肉质量溯源体系中的实际应用证明是可行的,个别技术瓶颈随通讯技术的发展将得到解决。
【英文摘要】In order to meet government supervision of pork production safety as well as consumer's right to know what they will buy and to protect the public safety of pork food, this study adopts animal identification, mobile intelligent PDA reader , GPRS, internet and other information technologies, and put forward a data collection method to set up rearing files of pig in smallholdpig farming, and designs related metadata structures and its mobile database, and develops a mobile PDA embedded system to collect

individual information of pig and uploading into the remote central database, and finally realizes mobile links to the a specific website. The embedded PDA can identify both a special pig bar ear tag appointed by the Ministry of Agricultural and a general data matrix bar ear tag designed by this study by mobile reader, and can record all kinds of inputs data including bacterins, feed additives, animal drugs and even some forbidden medicines and submitted them to the center database through GPRS. At the same time, the remote center database can be maintained by mobile PDA and GPRS, and finally reached pork tracking from its origin to consumption and its tracing through turn-over direction. This study has suggested a feasible technology solution how to set up network pig electronic rearing files involved smallholdpig farming based on farmer and the solution is proved practical through its application in the Tianjin ’s pork quality traceability system construction. Although some individual techniques have some adverse effects on the system running such as GPRS transmitting speed now, these will be resolved with the development of communication technology. The full implementation of the solution around China will supply technical supports in guaranteeing the quality and safety of pork production supervision and meet consumer demand.

【语种】英文

【第一作者】熊本海

【通讯作者】熊本海

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【引文索引类型】ISTP

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【学科分类】畜牧、兽医科学其他学科

【题目】Development for Breeding Performance Management System on Pig Farms

【中文关键词】猪场,繁育母猪,信息管理,泌乳性能

【英文关键词】Pig farms, Breeding sows, Information management, Farrowing performance

【中文摘要】本系统对种猪场过程管理尤其是繁殖参数进行了系统分析,提出了种猪场的完整模拟模型,包括一系列的参数如配种参数、妊娠参数、断奶参数等,使用Visual Basic 6.0,Access 数据库,水晶报表和不同品种猪的遗传参数开发完成了猪场数字管理系统。原始数据输入方便,智能提醒,能对不同时期多种繁殖参数进行统计、分析并图形化显示。母猪历史资料卡能显示母猪全生命周期的繁殖记录,包括配种率,配种间隔,平均妊娠天数、平均断奶重等重要繁殖信息。借助于系统分析和软件设计技术,本系统实现了不同猪品种和不同胎次,从配种至断奶整个繁殖过程数字化管理,种猪场的信息管理和智能分析。

【英文摘要】The study was conducted to supply systemic and dynamic analysis data to support a better operation on a breeding pig farm with process management, especially in reproduction parameters. A full simulation model on a breeding pig farm running was proposed in the study, and a series of definitions of process parameters related to service performance, farrowing performance and weaning performance was put forward. Some of them are described on the calculating models. The relationship structural database was designed and a set of digital management information system was developed, based on proposed definitions and models by using Visual Basic 6.0、Access databases and Crystal report combined with genetic characteristic of different pig breeds. The System supplies a series of convenient , intelligent input interfaces of original datum, and all different reproduction data can be counted, analyzed and graphically shown, based on different performances in a specific duration, and it can dynamically derive out all sows history card that shows a complete reproduction performances including some important indexes such as farrowing rate, farrowing interval, average gestation days and average weaned weight etc. in terms of parities, which can be used to decide whether a female needs to be fell into disuse. Therefore, with the help of system analysis and software design techniques, the system made it possible to realize information management and intelligence analysis for a breeding pig farm based on whole digital management of reproduction process from services through weaning and among different categories of breeding pigs and parities.

【语种】英文

【第一作者】XIONG Ben-hai

【通讯作者】XIONG Ben-hai

【期刊名称、卷期、页码】IFIP International Federation for Information Processing,Vol 258;Computer and Computing Technologies in Agriculture,Vol.1(Boston:Springer),pp.267-275.

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【引文索引号】无
【学科分类】畜牧、兽医科学其他学科

【题目】无角道赛特、特克塞尔和小尾寒羊夏季生长发育性能的比较分析
【中文关键词】育肥; 夏季; 肉羊;
【英文关键词】fattening; summer; mutton sheep;
【中文摘要】为了比较道赛特羊、特克塞尔羊及小尾寒羊的生长发育性能和适应性,试验对3品种羊的初生重、断奶重、体高、体重、体长、胸围、管围等生长发育指标进行测定分析,育肥后进行屠宰测定。结果表明,2个引进品种间初生重和断奶重无显著差异,且均表现出早期生长发育快的特点,其体高、体重等生长发育指标及屠宰性状均高于小尾寒羊,表现出良好的肉用效果和适应性。育肥后无角道赛特羊、特克塞尔羊胴体重、腰肌重、大腿重和眼肌面积显著高于小尾寒羊(P<0.05)。
【英文摘要】In order to compare the growth and development performance and adaptability of the Poll Dorset,Texel and Small-tail han sheep,the growing development targets as follows: birth weight,weaning weight,withers height,body weight,body length,circumference and circumference of cannon bone were measured and slaughter analyzed.The results showed that the introduction of two varieties of birth weight and weaning weight were not significantly different,and characteristics of rapid early growth and development had a better play,their height,weight,and carcass traits were higher than the Small-tail han sheep.,showing a good performance and adaptability of meat.The carcass weight,psoas muscle weight,thigh weight and eye muscle area were higher than Small-tail han sheep with after fattening in Poll Dorset and Texel(P<0.05).While the Small-tail han sheep in withers height,body weight and body length of these three targets of fattening rate were higher than another two breeds.
【语种】中文
【第一作者】魏彩虹
【通讯作者】杜立新
【期刊名称、卷期、页码】畜牧兽医2010年第12期
【论文发表时间】2010-07-21 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】畜牧学

【题目】细极链格孢菌蛋白激发子对棉株光合特性的影响
【中文关键词】细极链格孢菌;蛋白激发子;光合特性
【英文关键词】hybrid cotton; Alternaria tenuissima;protein elicitor; photosynthesis characteristics
【中文摘要】以湘杂棉3号F 为对象,用Li一6400光合作用测定仪测定了细极链格孢菌蛋白激发子(PEAT)诱导下的光合速率、气孔导度、蒸腾速率、外界光合作用有效辐射等指标.结果表明,PEAT诱导可以提高棉花生长功能叶的叶绿素含量、净光合速率、气孔导度、蒸腾速率、外界光合作用有效辐射等,延缓叶片的衰老和光合功能衰退,延长了叶片的光合功能期,使光合速率维持在一个较高的水平.
【英文摘要】Using Xiang hybrid Fi as experimental material,the response of hotosynthesis speed,blowhole leading,transpiration speed of cotton photo synthetically active radiation to changes caused by protein elicitor from Alternaria tenuissima was studied using a Li一6400 in China.Analyzing of the major photosynthesis indexes,indicated PEAT could enhance the chlorophyll content,photosynthesis speed, blowhole leading, and transpiration speed, photo synthetically active radiation stage.Thus, the aging of leaves and the decline of photosynthetic capability were delayed,and the photosynthetic eficiency could be maintained at a higher leve1.
【语种】中文
【第一作者】邱德文
【通讯作者】邱德文
【期刊名称、卷期、页码】湖南农业大学学报(自然科学版),2008,34 (1):1-5
【论文发表时间】2009-05-05 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】植物保护学

【题目】一种促进植物根系生长的极细链格孢菌
【中文关键词】蛋白纯化; 激发子; 极细链格孢菌; 生物活性
【英文关键词】protein purification ; plant activator protein ; Alternaria tenuissima ; bioactivities
【中文摘要】通过硫酸铵沉淀、有机溶剂沉淀、离子交换和分子筛连用的方法,从极细链格孢菌JH505菌株中分离纯化到分子量约为35kD 的植物激发子。利用固相梯度凝胶双向电泳方法测定了该蛋白的等电点为4122 。将该纯化蛋白稀释液浸泡小麦种子8h ,7d 后小麦根系琥珀酸脱氢酶活性提高65127 % ,经蛋白处理的小麦根长比对照提高1311 %。
【英文摘要】A new plant activator from Alternaria tenuissima was purified using ammonium sulphate frac2tionation , organic solvent , anion exchange chromatography and size exclusion chromatography. The protein exhibited a single band on SDS2PAGEwith molecular weight of 35 kD. Its pI was determined as 4.22 using immobiline dry strip gel . The wheat seeds were treated with the purified elicitor at various concentrations for 8 h and the succinate dehydrogenase was measured after 7 d growth. The result showed that the protein has a remarkable effect on the activity of succinate dehydrogenase which was 65127 % higherthan that of control . Also , the length of main root was improved 1311 % comparing to the control .
【语种】中文
【第一作者】杨秀芬
【通讯作者】杨秀芬
【期刊名称、卷期、页码】中国生物防治,2007,23 (2) 170 - 173
【论文发表时间】2007-04-09 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】植物保护学

【题目】水稻品种日本晴粳稻组培培养基的筛选
【中文关键词】培养基;日本晴;成熟胚;根癌农杆菌;组织培养;蛋白激发子;转基因
【英文关键词】medium;Nipponbare;scutellum;Agrobacterium;tissue culture;protein elicitor;transgene
【中文摘要】采用B6、MS和NB 3种培养基,以粳稻(Oryza sativa ssp.japonica)品种日本晴的成熟胚为受体材料进行组织培养,比较了3种培养基的效果。结果表明,在3种培养基中,NB培养基对愈伤组织的诱导效果最好,转化效率最高,最适合于日本晴成熟胚的组织培养。在此基础上,通过根癌农杆菌(Agrobacterium tumefaciens)介导转化法将稻瘟菌蛋白激发子基因pemG1导入日本晴基因组,获得了转基因水稻植株。PCR、Northern blot和Western blot分别证实了pemG1基因的整合、转录和表达。遗传分析表明,外源基因在转基因日本晴后代中的分离符合3∶1的理论比例。
【英文摘要】N6,MS and BN mediums were adopted for tissue culture of Nipponbare(japanica)scutellum,and the effects of thethree mediums on the cultrue were compared.Results indicated that,among the three kinds of culture mediums,NB medium workedbest in the calli induction and gene transformation and was most suitable for tissue culture of Nipponbare scutellum.Based on thisresult,elicitor-encoding gene pemG1 from Magnaporthe grisea was introduced into the genome of Nipponbare viaAgrobacterium-mediated method.And transgenic rice plants were obtained.The integration,transcription and expression of pemG1 inrice were confirmed by PCR,Northern blot and Western blot,respectively.Genetic analysis showed that the transgenes weresegregated normally in the progenies.
【语种】中文
【第一作者】邱德文
【通讯作者】邱德文
【期刊名称、卷期、页码】农业生物技术学报,2008,16(5):824~830
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【引文索引类型】null
【引文索引号】
【学科分类】植物保护学

【题目】交链孢菌中一种酸性糖蛋白
【中文关键词】细极链格胞 糖蛋白 β - 消去反应
【英文关键词】A lternaria tenu issim a glycop rotein β -elimination reaction
【中文摘要】采用液氮研磨、离心、阴离子交换柱HitrapTM DEAE FF、分子筛柱Hitrap Superdex 75 /300等一系列分离纯化方法对细极链格胞(A ternaria tenuissim a)水溶性酸性糖蛋白激发子进行了纯化。经SDS2PAGE、Native2PAGE检测,蛋白

分子量约为66KDa;经全蛋白银染和糖蛋白染色试剂盒对其鉴定为糖蛋白。经蒽酮2硫酸法测定,糖与蛋白比例为1. 75。经β2消去反应判定糖蛋白的连接类型为O2连接。生物活性测定表明,该蛋白可促进小麦种子的萌发和幼苗的生长。

【英文摘要】A acidic glycop rotein from A lternaria tenu issim a. had been isolated and purified by anion2exchange chromatography on HitrapTM DEAE FF and molecular sieve chromatography on Hitrap Superdex 75 /300. The glycoprotein was p roved to have the molecularweight of about 66 kD byNative2PAGE and SDS2PAGE. The glycoprotein was identified that the carbohydrate and p rotein contentswere in a ratio of 1. 75 by GelCode Glycop rotein Staining Kit (Pierce accompany) , antrone2colorimetric assay. The type of glycocidic bond was judged by β2elimination reaction oxygen juncture. B ioassay detection indicated that the glycop rotein could increase the sp routing rate and promote the growth of wheat seeds

【语种】中文

【第一作者】邱德文

【通讯作者】邱德文

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【引文索引号】

【学科分类】植物保护学

【题目】Stable isotope labelled mass spectrometry for quantification of the

【中文关键词】极细链格孢蛋白激发子,稳定同位素标记,差异蛋白

【英文关键词】Alternaria tenuissima ,protein elicitor, the stable isotope labelled mass spectrometry method

【中文摘要】从极细链格孢分离了蛋白激发子,该激发子激发烟草对烟草花叶病毒的抗性,但不会导致过敏性坏死。激发子诱导棉花对黄萎病的抗性,增加棉花产量,但其机制尚不清楚。在这项研究中,利用稳定同位素标记的质谱法定量研究差异蛋白表达的相对丰度。差异表达蛋白在拟南芥中与蛋白质代谢,修饰,胁迫和抗氧化登发有关。

【英文摘要】The protein elicitor from the mycelium of Alternaria tenuissima has been isolated. The elicitor triggered resistance to the tobacco mosaic virus in tobacco by inducing relative oxygen species, but without causing hypersensitive necrosis. The elicitor is reported to impart resistance against Verticillium dahliae and to increase yield in cotton, but its mechanism is not yet clear. In this study, the stable isotope labelled mass spectrometry method was used to quantify the relative abundances of protein expression induced by PeaT1 in Arabidopsis. A significant difference in the relative abundances for the expression of different proteins related to metabolism, modification, regulatory, defense, stress and antioxidation was found in Arabidopsis.

【语种】英文

【第一作者】邱德文

【通讯作者】邱德文

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【学科分类】植物保护学

【题目】稻瘟菌蛋白激发子基因pemG1 植物表达载体的构建及其转化烟草的研究

【中文关键词】烟草, 蛋白激发子, 植物表达载体, 遗传转化

【英文关键词】Tobacco, Protein elicitor, Plant expression vector, Genetic transformation

【中文摘要】设计含Mlu Ⅰ酶切位点的接头,将其连接入经Kpn Ⅰ和BamH Ⅰ酶切后的质粒pCAMBIA2300-Ubi-Ocs,得到pCAMBIA2300-Ubi-adaptor-Ocs。设计含有Kpn Ⅰ和Mlu Ⅰ酶切位点的引物,以稻瘟菌基因组DNA 为模板扩增得到pemG1 序列。将其连接入pMD18-T 得到pMD18-T-pemG1。最后,用Kpn Ⅰ和Mlu Ⅰ从pMD18-T- pemG1 切下pemG1 基因片段,将其连接入pCAMBIA2300-Ubi-adaptor-Ocs 的Kpn Ⅰ-Mlu Ⅰ酶切位点,构建成稻瘟菌蛋白激发子基因pemG1 的植物表达载体体pCAMBIA2300-Ubi-pemG1-Ocs。用冻融法将pCAMBIA2300-Ubi-pemG1-Ocs 导入根癌农杆菌菌株AGL-1,再通过根癌农杆菌介导转化获得了转基因烟草株系。用PCR,Northern 和Western 杂交验证了pemG1 基因在受体烟草基因组中的整合,转录和表达。此研究为下一步通过稻瘟菌蛋白激发子基因pemG1 的表达来提高转基因烟草的抗病性打下了基础。

【英文摘要】An adaptor harboringMlu Ⅰ restriction site was designed and cloned into Kpn Ⅰ-BamH Ⅰ site of pCAMBIA2300-Ubi-Ocs plasmid to get pCAMBIA2300-Ubi-adaptor-Ocs. Primer pair harboring Kpn Ⅰ and Mlu Ⅰ sites was also designed to amplify

Magnaporthe grisea DNA template to get pemG1 sequence, which was cloned into pMD18-T vector to form pMD18-T- pemG1. Finally, the Kpn Ⅰ-Mlu Ⅰ fragment of pemG1 from pMD18-T-pemG1 was cloned at Kpn Ⅰ-Mlu Ⅰ site of pCAMBIA2300-Ubi-adaptor-Ocs to form plant expression vector pCAMBIA2300- Ubi-pemG1-Ocs. The expression vector construct was transfered to Agrobacterium tumefaciens AGL-1 strain by freeze-thaw method. Transgenic tobacco lines were produced by Agrobacterium-mediated transformation.Integration, transcription and expression of pemG1 in tobacco were respectively confirmed by PCR, Northern blot and Western blot. This work layed a good foundation for enhancement of disease resistance conferred by expression of pemG1 gene in tobacco.

【语种】中文
【第一作者】邱德文
【通讯作者】邱德文
【期刊名称、卷期、页码】分子植物育种,2008 年,第6 卷,第3 期,第419-424 页
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【学科分类】植物保护学

【题目】基于图像的昆虫远程自动识别系统的研究.
【中文关键词】关键词:昆虫;自动识别;远程识别;图像处理;计算机视觉
【英文关键词】关键词:昆虫;自动识别;远程识别;图像处理;计算机视觉
【中文摘要】摘 要:只有对害虫进行鉴定才能在农业生产中对害虫进行有目的的防治,而对昆虫进行鉴定只有少数分类专家才能完成,鉴定需求的日益增加与专家相对较少形成了一对尖锐的矛盾。该文的研究尝试为该矛盾的解决提供一条新的思路:在标准方法下获取昆虫图像,并经由 Internet 网络上传给自动种类识别系统服务器,从而实现远程识别。系统首先对昆虫图像进行基于形状和颜色特征值的提取。昆虫图像的形态特征值由矩形度、延长度、球状型、叶状型、似圆度和 7个Hu不变矩等12个特征值组成,颜色特征值由红、绿、蓝、灰度真方图及基于红、绿的二维色度直方图特征值分别组成,然后建立径向基神经网络分类器,每一特征向量由独立的径向基神经网络做为分类器,最终识别由每个分类器识别结果的线性组合而成。采用该系统对16种昆虫进行了测试,每种昆虫取40个样本,20个用做训练、20个用做测试,准确率达到96%以上。
【英文摘要】摘 要:只有对害虫进行鉴定才能在农业生产中对害虫进行有目的的防治,而对昆虫进行鉴定只有少数分类专家才能完成,鉴定需求的日益增加与专家相对较少形成了一对尖锐的矛盾。该文的研究尝试为该矛盾的解决提供一条新的思路:在标准方法下获取昆虫图像,并经由 Internet 网络上传给自动种类识别系统服务器,从而实现远程识别。系统首先对昆虫图像进行基于形状和颜色特征值的提取。昆虫图像的形态特征值由矩形度、延长度、球状型、叶状型、似圆度和 7个Hu不变矩等12个特征值组成,颜色特征值由红、绿、蓝、灰度真方图及基于红、绿的二维色度直方图特征值分别组成,然后建立径向基神经网络分类器,每一特征向量由独立的径向基神经网络做为分类器,最终识别由每个分类器识别结果的线性组合而成。采用该系统对16种昆虫进行了测试,每种昆虫取40个样本,20个用做训练、20个用做测试,准确率达到96%以上。
【语种】中文
【第一作者】杨红珍
【通讯作者】沈佐锐
【期刊名称、卷期、页码】农业工程学报 2008,24(1):188-192
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【学科分类】植物保护学

【题目】灰葡萄孢菌激活蛋白对番茄灰霉病的诱导抗性
【中文关键词】灰霉病;激活蛋白;诱导抗性;防御酶
【英文关键词】gray mould disease;protein activator;induced resistance;protective enzyme
【中文摘要】为探索激活蛋白对植物诱导抗病性机理,分析诱导过程中植物的应激反应,采用室内盆栽的方法,研究了来源于灰葡萄孢菌(Botrytis cinerea)的14kD激活蛋白PEBC2诱导番茄对灰霉病的抗性,结果表明,经1.182 μg/mL激活蛋白诱导处理后番茄对灰霉病的抗性有显著提高,番茄接种灰霉菌17d后,对灰霉病的诱抗效果达到67.03%。测定了番茄体内与抗病代

谢有关的苯丙氨酸解氨酶(PAL)、过氧化物酶(POD)和多酚氧化酶(PPO)活性的动态变化,经激活蛋白处理后,番茄幼苗叶片的苯丙氨酸解氨酶(PAL)、过氧化物酶(POD)和多酚氧化酶(PPO)活性均有不同程度提高,PAL活性在诱导48h后达到最高,比对照提高53.82%;POD活性在诱导168h后达到最高,是对照的2.63倍;PPO活性在24h和120h出现两个峰值,分别比对照增加77.57%和87.21%。说明防御相关酶活性的提高,是激活蛋白诱导番茄植株抗灰霉病的主要生理机制之一。

【英文摘要】A 14kD protein elicitor from Botrytis cinerea, which can induce tomato to gain resistance of gray mould disease, was researched by the method of pot culture in the green room. The inducing efficiency reached 67.03% at 17th day post inoculation of pathogen when seeds were dipped in 1.182 μg/ml activator protein. To reveal the mechanism of resistance induction, the dynamic variation of PAL, POD, PPO which relate with resistance metabolism were measured as following. The activity of Phenylalanine ammonia lyase (PAL) Peroxides (POD) and polypheol oxidase (PPO) were increased effectively after inducement The activity of PAL increased by 53.82% comparing with contrast at 48h. The maximum activity of POD was2.63 times of untreatment and appeared at 168 h .The activity of PPO increased by 77.57% and 87.21% at 24 h and 120 h, respectively .The enhancement of activity of the enzyme correlated with defense is one of the main physiological mechanisms of protein activator inducing disease resistance.

【语种】中文

【第一作者】邱德文

【通讯作者】邱德文

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【学科分类】植物保护学

【题目】北京地区10 个紫花苜蓿引进品种的生产性能研究

【中文关键词】北京地区; 引种试验; 苜蓿品种; 产量; 株高

【英文关键词】Beijing area; Int roduced test ; A lfalfa cult ivar; Yield; Plant height

【中文摘要】通过2002~ 2007 年的田间试验, 对国外10 个紫花苜蓿品种的产量性能进行了评价, 以期筛选出适宜北京及周边地区种植的苜蓿品种, 并为新品种的选育提供参考。结果表明: 不同年份的苜蓿年产量具有极显著差异(P<0.01) ; 10 个苜蓿品种中6 年平均年产量(干重) 居前三位的是爱菲尼特、牧歌、胜利者, 干草产量分别为131 9t/ hm2 、131 8t / hm2、131 6t/ hm2 ; 不同茬次的产量存在显著差异(P< 01 05) , 第1 茬产量最高, 占年总产量的32%以上, 第4 茬产量最低, 占年总产量的百分比不足18%, 第2 茬和第3 茬产量之间差异不显著; 不同茬次对年产量的相对重要性依次为: 第1 茬> 第2 茬> 第3 茬> 第4 茬; 不同年份之间的年株高存在显著差异(P< 01 05) , 2002 年各品种年株高最低, 2007 年最高; 10 个品种间的年株高没有显著差异, 牧歌的年株高始终位居前5 位。综合6 年的结果, 筛选出适宜北京地区种植的苜蓿品种为爱菲尼特、牧歌、胜利者。

【英文摘要】A f ield study w as co nducted for six years to evaluate the dry mat ter yield of ten cult ivars in Beijing area, and to determine the suitable cultiv ars for Beijing and it s surrounding ar eas. A nd this study could provide informat ion for alfalfa breeding prog rams. The result s show ed that the climat ic conditions resulted in sig nif icant ly differ ent dry mat ter yield among years (P < 0.01) . T he top cult ivars w ith the hig hest means of annual dry matter y ield w ere Aff inity (131 9t / hm2) , AmeriGraze701 (131 8t / hm2) and Agg ressor (131 6t / hm2) , respect iv ely . There w ere sig nif icant dif ferences in dry matter yield o f four harvest s among the six harvest year s (P< 01 05) . The f ir st harvest had the hig hest dry matter yields and obtained more than 32% of annual dry mat ter yield. T he fourth harvest g ot the low est yield and were less than 18% of annual yield. And there w ere no sig nif icant differ ences betw een the second and thir d harvests(P> 01 05) . The effect s order of four harvests o n annual dry mat ter yield was first harv est > second harvest> thir d harvest> fourth harv est. For each cult ivar, ther e w ere significant dif ferences in annual plant height amo ng six harv est y ears(P< 01 05) , w ith the hig hest in 2002 and the low est in 20071 And A meriGraze701 w as alw ay s one of the top f iv e cult ivars w ith the hig hest annual plant height in five years, but the differences amo ng ten cult ivars w ere insig nif icant (P> 0.05). Af finity, Amer iGraze701 and Ag gressor aresuitable to be cultivated in Beijing ar ea and around.

【语种】英文

【第一作者】康俊梅

【通讯作者】孙彦

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【学科分类】畜牧学

【题目】LEA蛋白研究进展
【中文关键词】LEA蛋白;基因表达和调节;逆境胁迫
【英文关键词】Late embriogenesis abundant protein; Gene expression and regulation; Environmental stress
【中文摘要】LEA蛋白(1ate embriogenesis abundant protein,LEA)是生物体中广泛存在的一类与渗透调节有关的家族蛋白,该蛋白的编码基因在植物种子胚胎发育晚期表达量丰富,而且在环境胁迫如干旱、低温、盐胁迫、ABA、紫外辐射和NaHCO,等条件下墟A基因的mRNA也会大量累积。艇M蛋白显著的理化特性是具有很高的亲水性和热稳定性,即使在煮沸条件下也能保持水溶状态。LEA蛋白在细胞中可以稳定细胞膜结构,作为分子伴侣,具有结合离子和防止氧化等作用,被认为是在胁迫过程中对植物起保护作用的物质之一。针对这些重要特性,分别综述了LEA蛋白的分类、结构、编码基因和表达调节方式及其在植物生长过程中的作用。
【英文摘要】Abstract:Late embryogenesis abundant protein(LEA)are a suite ofimportant family proteins found in organisms,which are generally involved in osmoregulation.These genes encoding proteins are expressed abundantly at the late stage embryonic development ofplant seeds。or subjected to environmental stress such as drought,low temperature,salt stress,ABA,ultraviolet radiation and saline—alkalization stress.Significant physical and chemical properties of LEA protein feature high hydrophilie and thermal stability,even undercondition of boiling water they can maintain water—soluble state.LEA proteins Can stabilize the cell membrane structure.and as molecular chaperones.cocombineions and prevent oxidation.The classification and structure of LEA protein,encodinggenes,their expressionand regulation and their roles in different physiological processes were summarized in this paper..
【语种】中文
【第一作者】白永琴
【通讯作者】杨青川
【期刊名称、卷期、页码】生物技术通报,2009,9:1 – 7
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【学科分类】畜牧学

【题目】紫花苜蓿种子水分快速测定方法研究
【中文关键词】紫花苜蓿; 种子; 水分; 快速测定
【英文关键词】A lfalfa (Med icago sativa); seed; moisture conten;trapidmeasurement
【中文摘要】试验以不同水分含量的紫花苜蓿种子为材料, 应用高恒温烘干法、微波加热法和种子水分速测仪法分别测定种子水分。结果表明, 高恒温烘干法作为种子质量检测的标准方法, 能够准确测定种子水分, 但需要较长的时和专业的设备。种子水分速测仪仅局限于其规定的测量范围内测定种子水分变化。利用微波加热法在低档下连续加热紫花苜蓿种子9 m in, 再以1 m in为单位加热3~ 5次即可基本烘干水分。测定水分值虽均低于高恒温烘干法, 但在短时间内能够较准确测定高水分样品, 对于及时快速确定苜蓿种子收获、加工以及贮藏过程中的水分变化, 指导紫花苜蓿种子的生产具有重要作用。
【英文摘要】The experiments w ere conducted to determ ine the su itable test ing method o fmo isture content of alfa lfa (M ed icago sativa) seeds, d ifferent moisture content samples were tested by apply ing h igh constant temperature oven dry ing, m icrow ave hea ting and seed mo isturemeter. The resu lts show ed: seedmo isture con tent cou ld be accurate ly tested by the oven method, but it requ ired long t ime and specif ic equipm ents. The seed mo isture meter is lim ited in instrumentm easuring range to determ ine the variety o fmo istur conten.t The results obta ined from m icrow ave oven heating, dry ing continuous under the low-g rade after 9m inutes, then heated aga in as 1 m inute for the heating un its to 3- 5 times, w ere low er than h igh constant temperature oven dry ing, but itw as usefu l for detecting h ighmo isture content seeds in a sho rt time. Itw ou ld play an important ro le in understanding the change of alfalfa seedsmo isture content during seed harvesting, processing and storage, gu iding the seed product ion to ma intain the high quality of seeds.
【语种】中文
【第一作者】张露明

【通讯作者】毛培胜
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【学科分类】畜牧学

【题目】遮荫对紫花苜蓿生长发育和产草量
【中文关键词】紫花苜蓿; 遮荫; 生长发育; 产草量
【英文关键词】Medicago sativa; shading ; grow th; yield
【中文摘要】以3 个紫花苜蓿(Medicago sativa) 品种为材料, 通过田间遮荫网控制光照强度, 研究了紫花苜蓿在不同遮荫强度下(对照、遮荫50%、遮荫80%) 的生长情况, 分析了紫花苜蓿的生长发育和产草量指标。结果表明, 遮荫处理对紫花苜蓿叶绿素a 和b 含量影响不显著, 叶绿素a/ b 值随遮荫强度的增大而降低; 苜蓿株高、茎叶比、产草量等指标随遮荫强度的增大而降低, 全年产草量对照分别是遮荫50%和80%的3 倍和8倍; 第1 茬产草量占总产草量的百分比随遮荫强度的增大而增大。在遮荫条件下种植紫花苜蓿, 建议遮荫强度不要超过50%, 产量以第1 茬为主, 减少刈割次数。
【英文摘要】An ex periment w as carr ied out using three Medi cago sat iv a varieties by cont rolling lig ht intensity with shading net to study the growth in different shading t reatment s (the cont rol, shaded 50% and shaded 80%) , and to analy ze indices of grow th and y ield. T he r esult s show ed that the content of chloro phyll a and b w as not af fected significant ly by shading tr eatment s, but chlo rophy ll a/ b decreased with the increased shading intensity. The plant height, stem/ leav es rat io, yield of alfal fa decreased with the increased shading intensity. The y ields o f w hole y ear in the co nt rol w ere three t imesand eig ht t imes in shaded 50% and 80% respect iv ely . The percent of first cut t ing yield in total y ield increased w ith the higher shading intensity . T he shading intensity should be not mo re than 50% if planting M. sati va in shading env ir onment , at the same t ime the y ield w as priority to f irst cut t ing y ield and should reduce cutt ing times.
【语种】中文
【第一作者】王国良
【通讯作者】盛亦兵
【期刊名称、卷期、页码】草业科学,2010,27(10):69-73
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【引文索引号】DOI 10.1007/s11033-009-9590-7
【学科分类】畜牧学

【题目】紫花苜蓿茎叶浸提液对波斯婆婆纳化感效应的研究
【中文关键词】化感作用;紫花苜蓿;品种;波斯婆婆纳
【英文关键词】Allelopt hy ; Alfalfa ; Variety ; Per sian speedwell
【中文摘要】以波斯婆婆纳为受体,采用培养皿砂培法对15 个紫花苜蓿品种的化感作用进行研究。结果表明,不同品种的紫花苜蓿茎叶浸提液对波斯婆婆纳种子萌发、幼苗生长产生不同程度的影响,具有浓度效应,即浓度高时产生抑制作用,浓度低时则产生促进作用;受体波斯婆婆纳幼根对紫花苜蓿化感物质的敏感性强于幼苗;同一浓度处理下,不同紫花苜蓿品种化感作用存在很大差异,0.15gFW/ mL 浓度处理下陇东苜蓿对受体种子发芽的抑制作用明显强于其他品种,抑制率达到98.62 % ,同时完全抑制了幼苗的生长;其次是皇冠和中苜1 号。
【英文摘要】The allelopathy of fif teen varieties of alfalfa was st udied by cult ure plate and sand cult ure bioassays. The acceptor was persian speedwell seed. The result s showed that the aqueous ext ract s from stems and leaves of different varieties of alfalfa affected seed germination and growth of seedlings of per sian speedwell in various degree. And the effect was related to concent ration. There was inhibition effect at higher concent ration and t here was the enhancement effect at lower concent ration. Root s of t he per sian speedwell was more sensitive to the ext ract s t han seedlings. Allelopathy of t he fif teen varieties differed at the same aqueous ext ract s concent ration. The inhibition effect of t he aqueous extracts from Longdong (0.15gFW/ mL) was t he st rongest in t he fif teen varieties. The inhibitory rate was 98. 62 %. And the aqueous ext ract s f rom Longdong (0. 15gFW/ mL) inhibited the growt h of seedlings absolutely The inhibition effect of Phabulous and Zhongmu No. 1 were st ronger t han that of other varieties except Longdong.
【语种】中文

【第一作者】李美娜
【通讯作者】李美娜
【期刊名称、卷期、页码】中国草地学报,2010,32(1):69-74
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【题目】偃麦草属植物叶片表皮形态与结构研究
【中文关键词】偃麦草属;叶表皮形态;解剖结构;聚类分析
【英文关键词】Elytrigia Desv.;Leaf epidermal morphology;Anatomy structure;Cluster analysis
【中文摘要】于2008年6月初对偃麦草属1 2个植物种15份种质材料抽穗期的叶片表皮形态与结构进行了扫描电镜观察,旨在通过形态解剖结构特点的分析,为该属植物的分类鉴定提供科学依据。结果表明:所有材料上表皮都具有长细胞和气孔器细胞;除EE009、EE022、E1021、E1029、EPY002、EC002、EH001、ES001外,都含有乳突,呈斑泡状、圆头状或倾斜状;刺毛存在于除EC002、EE009、EE022、EJ00l、EPO004、EPY002外的其他所有种;短细胞马蹄形或椭圆形,仅存在于EB001、EC002和EI 001中;大毛仅在EJ001和ES001中发现;从横切面看,脉间普遍存在泡状细胞,且EB001、EH001、EPY002泡状细胞下陷形成“绞合细胞”,其余均不下陷;维管束鞘2层,纤维分布在维管束的上下方,与维管束连接。然后,利用15份种质材料的10个叶片表皮的形态指标进行欧氏距离聚类分析,将其分为6类,较好地反映出各种质材料亲缘关系的远近。
【英文摘要】The leaf epidermal morphology and structure of 1 5 germplasms belong to 1 2 Elytrigia Desv.species at heading stage were examined using scanning electron microscope at the beginning of J une,2008 in order to provide scientific basis for the taxonomy of the genus.The results show that the long cells and stomata cells were found in the upper epidermis of all species. The tested germplasm s except for EE009, EE022,E1021,E1029,EPY002,EC002,EH O01,and ES001 showed papillae in spot,spherical,or oblique shapes.The prickle hair existed in the tested germplasms except for EC002,EE009,EE022,EJ001,EP0004,and EPY002. The short cells showed horseshoe or ova1 shapes and only existed in EB001,EC002,and EL001.The macrohair was only found in EJOOl and ES001.According to the leaf transverse sections.the bulliform cells were found in the intercostaI zone of all tested germplasm s and showed sankand formed into the hinge cells only in EB001,EH OO1。and EPY002. Two layers of the vascular bundle sheaths were showed in al1 germplasm s,and the fibre was distributed in both upper and below sides of the vascular bundle and joined together.At the same time,the 1 5 germplasms were divided into 6 groups indicating the genetic relationships among them according to the Euclidean Distance Cluster Analysis based on 10 indices of the leaf epidermal morphology and structure.
【语种】中文
【第一作者】史广东
【通讯作者】孟林
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【题目】偃麦草属植物种质材料不同耐盐群体生理指标分析
【中文关键词】偃麦草属;种质;耐盐性;生理指标
【英文关键词】Elytrigia Desv.;germplasm;salt tolerance;physiological indexes
【中文摘要】采用温室苗期模拟NaC1盐分胁迫方法,对来自于21个国家的偃麦草属8个植物种34份种质材料苗期的叶片相对含水量(RWC)、相对电导率(REc)、脯氨酸(Pro)、K /Na 、相对生长速度变化率、耐盐系数、存活率和出现盐害到死亡时间等指标进行测定,且将0.9%NaC1浓度下的各项生理指标变化率和生长指标测定值,利用欧氏最大距离聚类分析,将34份偃麦草属植物种质划分为3个耐盐群体(级别):即耐盐种质、中度耐盐种质、敏盐种质。在此基础上,对NaC1胁迫下的RWC、REC、Pro和K /Na 等生理指标进行比较分析,结果显示:随着NaC1胁迫浓度的增加,不同耐盐群体的偃麦草属植物种质材料叶片的各项生理指标表现出不同的变化趋势,其中REC、Pro、Na均呈逐渐增加趋势,而K 、K /Na 和RWC则呈逐渐下降趋势,但当NaC1浓度上升至1.2% 时,与对照(CK)相比,耐盐种质的REC、Pro和Na 分别增加了121.83% 、29.25倍和145.45% ,K 、K /Na 和RWC分别下降了26.89% 、74.26% 和l6.40% ;而敏盐种质的REC、Pro和№ ’分别增加了199.20% 、75.45倍和617.86% ,K 、K /Na 和RWC分别下降了43.16% 、93.55% 和27.69% ,中度耐盐种质的增加和下降幅度居于二者之间

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【英文摘要】The simulating salinity stress method in green house was adopted,and the relative water content,the relative electrical conductivity rate(REC),the content of free proline(Pro),K /Na ,the change rate of relative growth(RWC),the salt.tolerant coeficient,the livability and the days of salinity injure to death of 34 germplasm and materials 0f 8 species of Etyt@ /a Desv.collected from 21 difierent countries were measured and analyzed at seedling stage,and the ab0ve 8 index values at 0.9% NaCl concentration were an alyzed using the Euclidean Farthest Distan ce Cluster MetIlod. e results showed that 34 germplasm and materials were classified into 3 salt tolerant colonies(classes),namely higher salt tolerant germplasm (HSTG),medium salt tolerant germplasm (MSTG)and sensitive salt germplasm (SSG).And diferent variation trends and rules of the physiological indexes of diferent salt tolerant Elytrigia Desv.germpalsm were showed, among them, REC, Pro and Na showed gradually increase but K 、 K /Na and RWC showed gradually decrease,but when NaCl concentration was raised up to 1.2% ,REC,Pro an d Na were increased by 121.83% ,29.25 times an d 145.45% ;K ,K /Na an d RW C were decreased by 26.89% ,74.26% an d 16.40% for the HSTG,respectively.However,REC,Pro an d Na were increased by 199.20% ,75.45 times an d 17.86% ;K .K /Na and RW C were decreased by 43.16% ,93.55% an d 27.69% for the SSG,respectively.rI1le increase and decrease seales of the MSTG were in the middle.
【语种】中文
【第一作者】孟林
【通讯作者】孟林
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【题目】偃麦草属植物种质材料苗期耐盐性综合评价
【中文关键词】偃麦草属;种质;苗期;耐盐性;评价
【英文关键词】Elytrigia;germplasm ;seedling stage;salt tolerance;evaluation
【中文摘要】采用温室苗期模拟NaC1盐分胁迫方法,对来自于21个国家的偃麦草属8个植物种34份种质材料苗期的叶片相对含水量、相对电导率、脯氨酸、K /Na 、相对生长速度变化率、耐盐系数、存活率和出现盐害到死亡的时间等指标进行测定与分析,并对偃麦草属植物种质材料苗期的耐盐性进行综合评价。结果表明,上述指标均是偃麦草属植物种质材料苗期耐盐性评价的有效指标。且通过对0.9 NaCI浓度下的各项指标进行综合聚类,可将34份偃麦草属植物种质划分为3个耐盐级别,即耐盐种质有ER030、ER035、ER041、EE011、EE014、EE017、EE023、EE026、EE047、EH001、EH002和EPU02;中度耐盐种质有ER008、ER014、ER027、ER032、ER037、ER038、ER044、ER045、EE007、EE027、EJOOl、EPO02、EPO03和EPO04;敏盐种质有ER028、ER033、ER036、ER039、EE022、EJ003、EL001和E1022。
【英文摘要】Abstract:Simulating salinity stress in a green house was used to study the relative water content(RW C),relative electrical conductivity rate(EC),content of free proline(Pro),K /Na ,changes of relative growth rate,the salt-tolerant coefficient,the livability and time of salinity injury to death of Elytrigia.Materials of 34 germplasms and 8 species of Elytrigia collected from 2 1 countries were measured and analyzed at the seedlingstage,and the salt tolerances were comprehensively evaluated.Eight indexes were all effective for evaluation of salt tolerance of germ plasm and materials of Elytrigia at seedling stage.Cluster analysis of salt tolerant indexes showed the 34 germ plasms and materials could be divided into three salt tolerant levels,e.g.
strong(ER030,ER035,ER041,EE011,EE014,EE017,EE023,EE026,EE047,EH001,EH002,EPU02),medium(ER008,ER014,ER027,ER032,ERO37,ERO38,ER044,ER045,EE007,EE027,EJ001,EPO02,EP0O3,EP004),and the
weaker(ER028,ER033,ER036,ERO39,EE022,EJ003,ELO01,E1022).
【语种】中文
【第一作者】孟林
【通讯作者】孟林
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【题目】中间偃麦草和长穗偃麦草解剖结构的扫描电镜观察
【中文关键词】中间偃麦草;长穗偃麦草;形态解剖;扫描电镜
【英文关键词】Elytrigiaintermedia ; Elytrigia elongata ; morphological anatomy; scanning eletron microscope (SEM)
【中文摘要】运用扫描电镜观察了中间偃麦草El y t ri gia intermedia 和长穗偃麦草E. elongata 的根、茎、叶以及根茎的形态解剖结构,结果显示:2 种植物的根形态均由表皮、皮层和中柱组成,表皮着生大量根毛,内皮层细胞壁5 面加厚,在横切面上呈马蹄形;茎与根茎的维管束分内外两圈分布,中央有髓腔;叶片形态由表皮、叶肉和叶脉3 部分构成,表皮细胞包括长细胞、附属物、气孔器细胞和泡状细胞。中间偃麦草和长穗偃麦草的叶片表皮微形态上存在显著差异,其中长穗偃麦草叶脉上分布3~4 列乳突,而中间偃麦草叶脉上则分布3~4 列刺毛,另外在根皮层细胞中发现了发达的类似通气组织的结构,产生原因亟待进一步研究。
【英文摘要】The anatomical st ruct ure of root , stem , leaf and rhizome of Elytrigia elongata and E.intermedia was examined under t he scanning elect ron microscope (SEM) . The anatomical structure of root transverse section was consisted with epidermis , cortex and stele. The number of root hairs appeared in the epidermis , and t he endodermis cell had 5 t hickened walls and was the horseshoe2shaped in the transverse section. Two circles of vascular bundles and a central pith cavity showed in the stem and rhizome morp hology. The leaf was differentiated into parts , including epidermis , mesophyll and veins. The epidermal cell consisted with long cell s , stomata cell s , bulliform cell s and subsidiary objects. Two species had significant difference in leaf epidermis micromorp hology , 3 to 4 rows of papillawere dist ributed in the costal zone of E. elogata leaves , but 3 to 4 rows of prickle hair were dist ributed in the same areas of E. i ntermedi a leaves. In addition , the well-developed similar aerenchyma was found in the root cortex and f urther research is necessary to find out the cause.
【语种】中文
【第一作者】史广东
【通讯作者】孟林
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【题目】被内生真菌侵染的禾草提取液对真菌的抑制作用
【中文关键词】禾草内生真菌,抑菌作用,孢子萌发,菌丝生长
【英文关键词】Neotyphodium, inhibition, spore germination, mycelial growth
【中文摘要】以带有与不带有Neotyphodium 属内生真菌的醉马草Achnatherum inebrians、披碱草Elymus dahuricus 和野大麦Hordeum brevisubulatum 的草粉浸提液对细交链孢Alternaria alternata、根腐离蠕孢Bipolaris sorokiniana、燕麦镰孢Fusarium avenaceum 和绿色木霉Trichoderma viride 进行了抑菌活性研究。结果表明:披碱草、醉马草和野大麦草粉浸提液对细交链孢、根腐离蠕孢、燕麦镰孢和绿色木霉的菌落生长、孢子萌发率和芽管长度均有一定的抑制作用。而披碱草中的Neotyphodium可显著增强披碱草草粉浸提液对细交链孢、燕麦镰孢、绿色木霉菌落生长及对细交链孢和根腐离蠕孢孢子萌发及燕麦镰孢芽管长度的抑制作用;醉马草中的Neotyphodium 显著增强了醉马草草粉浸提液对燕麦镰孢、绿色木霉菌落生长和芽管长度,以及细交链孢、根腐离蠕孢和燕麦镰孢孢子萌发的抑制作用;野大麦中的Neotyphodium 显著增强了野大麦草粉浸提液对绿色木霉菌落生长、孢子萌发和芽管长度的抑制作用。
【英文摘要】Fungistasis of the acetone extracts of endophyte-infected (E+) and endophyte-freed (E-) Achnatherum inebrians, Elymus dahuricus and Hordeum brevisubulatum was tested with against Alternaria alternata, Bipolaris sorokiniana, Fusarium avenaceum and Trichoderma viride. The results showed that the extracts of A. inebrians, E. dahuricus and H. brevisubulatum had inhibiting effect to mycelial growth and spore germination of A. alternata, B. sorokiniana, F. avenaceum and T. viride to a certain extent. E.extracts of E. dahuricus could remarkably enhanced the inhibition on mycelial growth of A. alternata, F. avenaceum and T. viride,spore germination of A. alternata and B. sorokiniana, as well as length of germ tube of F. avenaceum; E+ extracts of A. inebrians could remarkably enhanced inhibition on mycelial growth of F. avenaceum and T. viride, spore germination of A. alternata, B.sorokiniana and F. avenaceum, as well as length of germ tube of F. avenaceum and T. viride; E+ extracts of H. brevisubulatum could remarkably enhanced the inhibition on mycelial growth, spore germination and length of germ tube of T. viride. It was indicated that Neotyphodium endophytes could enhance the antifungal activity of the extracts of A. inebrians, E. dahuricus and H. brevisubulatum against A. alternata, B. sorokiniana, F. avenaceum and T. viride.

【语种】中文
【第一作者】杨松
【通讯作者】李春杰
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【题目】麦角生物碱在醉马草内生真菌共生体中的空间分布
【中文关键词】醉马草; 内生真菌; 麦角生物碱; 分布
【英文关键词】A chnather um inebrians ; N eoty p hodium endophyte; ergo t alkalo id; dist ribut ion
【中文摘要】本研究检测了2007 年9 月采自新疆哈密(HM) 、青海铁卜加(TBJ) 、甘肃肃南(SN) 、甘肃天祝(TZ) 、甘肃夏河(XH) 5 个不同地理种群的醉马草内生真菌共生体的麦角生物碱含量, 结果表明, 醉马草种群内不同器官中麦角新碱及麦角酰胺含量均不同, 且麦角新碱的含量均显著高于麦角酰胺的含量(P< 0. 05) 。5 个种群间麦角酰胺、麦角新碱及总生物碱的含量除叶鞘外, 均以H M 最高, 分别为53. 656, 117. 784 和160. 816 mg / kg 干重。相关性分析表明, 植株叶片、茎秆和果穗麦角酰胺、麦角新碱及总生物碱的含量均与种群生长的年均温度呈正相关关系。
【英文摘要】Er got alkaloids w er e det rected in drunken horse grass (A chnather uminebr ians) - N eoty p hodium gansuense endophyte symbionts taken f rom 5 different g eographical sites: Hami in Xinjiang (HM) , Tiebujia in Qing hai (TBJ) , Sunan (SN) , T ianzhu (T Z) and Xiahe (XH) in Gansu in September 2007. Different ergine and erg onovine content s were fo und in different org ans o f drunken horse g rass and the ergo no vine contents were significant ly gr eater than those of ergine (P < 0. 05) . The er gine, erg onovine and total alkaloid contents(53. 656, 117. 784 and 160. 816 mg/ kg dry mat ter, respect iv ely) w ere highest in plants f rom HM except in the leaf sheaths. Co rrelat ion analyses indicated that erg ine, ergonovine and total alkalo id co ntent s of leaf blades,stems and heads of plant s w er e positiv ely related to the annual average temperature.
【语种】中文
【第一作者】代乐英
【通讯作者】李春杰
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【题目】苜蓿杂种优势研究进展
【中文关键词】苜蓿; 杂种优势; 研究; 利用
【英文关键词】Alfalfa; Heterosis; Research; Ut ilizat io n
【中文摘要】对当前国内外苜蓿杂种优势的基础研究、遗传特性及优势形成机理进行了概述, 并对其发展方向进行了初步展望, 旨为苜蓿杂种优势利用的深入研究和高产优质苜蓿种质的创新提供参考。
【英文摘要】T he basic research, hereditar y pr operty and heterosis mechanism o f alfalfa in China and abroad were int ro duced, and its development direction was prospected to provide reference for the further resear ch and utilization o f alfalfa heterosis and the innovat io n of high yield and quality of alfalfa germplasm.
【语种】中文
【第一作者】蔡丽艳
【通讯作者】石凤翎
【期刊名称、卷期、页码】中国草地学报,2010,32(4):92-97
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【题目】苜蓿雄性不育系配合力和遗传力分析
【中文关键词】苜蓿; 雄性不育系; 配合力; 遗传力
【英文关键词】Medicago sp. ; male sterile lines; combining ability; her itability
【中文摘要】以8 个苜蓿(Medicago sp.) 雄性不育系和4 个优良苜蓿品种为亲本, 采用不完全双列杂交试验设计(NCII 设计) , 对其F1 代的干草产量性状进行配合力和遗传力分析。结果表明: 1) 苜蓿干草产量性状的一般配合力和特殊配合力差异均显著(P < 0. 05) , 说明基因的加性效应和非加性效应均起到重要作用。苜蓿不育系2 号、10 号、12 号一般配合力较好, 可作优良的亲本; 2) 就苜蓿干草产量性状而言, 一般配合力和特殊配合力之间无明显的对应关系。干草产量性状的广义遗传力和狭义遗传力中等, 适合在早中世代选择。
【英文摘要】Conducted w ith eight male ster ile lines of Medi cago sp. and four excel lent Medi cago sp. varieties as parents in way of incomplete diallel cro ss design (NCII) , the combining abil ity and heritabiity for F1 hay product ion character s w ere studied. The result s show ed that 1) both g ener al combining ability and specif ic combining ability of hay product io n character w as very signif icant differ ence, it was explained that the addit ive and non-addit ive variat ion w ere principal. T he general combining abilities of sterile line number as 1, 10 and 12 were better than other Medi cag o sp. mater ials, they could serveas better parent s; 2) there w as no obvious correlat io n betw een g eneral combining ability and specific combining ability on Medi cago sp. hay yield t rait s. Bo th w ide and narr ow heritability were medium and the character s could be selected in the ear ly or medium generations.
【语种】中文
【第一作者】陈海玲
【通讯作者】石凤翎
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【学科分类】畜牧学

【题目】紫花苜蓿果糖-1 ,6-二磷酸醛缩酶基因全长克隆及分析
【中文关键词】紫花苜蓿;果糖-1 ,6-二磷酸醛缩酶(ALD) ;SMART RACE;进化树;半定量RT2PCR
【英文关键词】Medicago sativa L. ;fructose-1 ,6-bisphosphate aldolase (ALD) ; SMART RACE ;phylogenetic tree ;RT-PCR
【中文摘要】根据已知的与盐胁迫相关的EST 序列,采用SMART RACE 方法克隆了紫花苜蓿果糖-1 ,6-二磷酸醛缩酶(ALD) 全长cDNA ,命名为MsALD(GenBank accession No. FJ896113) 。序列分析结果表明,该cDNA 全长1 487bp ,包含一个1194 bp 的最大开放阅读框,编码398 个氨基酸。经同源比对和进化树分析,MsALD 基因编码的氨基酸与红三叶草、马铃薯、烟草等的果糖21 ,62二磷酸醛缩酶(ALD) 氨基酸序列一致性高达90 %以上,确定其属于第Ⅰ类果糖-1 ,6-二磷酸醛缩酶。半定量RT2PCR 分析表明,MsALD 基因可能与紫花苜蓿抗盐机理相关。
【英文摘要】Based on an EST of Medicago sativa L., a full length of 1487 bp cDNA was isolated using SMART RACE. This gene was named MsA L D (GenBank accession No. FJ 896113) . The sequence analysis has revealed that MsALD contains a maximum open reading frame of 1194 bp for 398 amino acids. The putative amino acid sequence was highly similar to ALD from some other plants ,such as T rifolium pratense ,So lanum tuberosum and Nicotiana paniculata. Sequence analysis indicated that MsA L D belogs to tclass I ALD. The result of the RT-PCR showed t hat MsALD is highly expressed in Medicago sativ a L . after being treated for 2 hours. This indicated that MsALD may play an important role in salt tolerace of Medicago sativa L.
【语种】中文
【第一作者】龙瑞才
【通讯作者】龙瑞才
【期刊名称、卷期、页码】西北植物学报,2010 ,30 (6):1075 - 1082
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【学科分类】畜牧学

【题目】紫花苜蓿LEA 蛋白基因ihpRNA 表达载体构建及烟草转化

【中文关键词】紫花苜蓿; MsLEA3-1 基因; RNA 干扰; ihpRNA 表达载体; 烟草转化
【英文关键词】Medicago sativa L.; MsLEA3-1 gene; RNA interference; ihpRNA expression vector; Tobacco transformation
【中文摘要】根据紫花苜蓿LEA 蛋白MsLEA3-1 基因(GenBank 登录号为EU665182)序列, 设计两对含有酶切位点的特异性引物LEAf1/LEAf2 和LEAr1/LEAr2, 以构建好的PMD-LEA 质粒为模板, 分别合成用于构建干扰载体的正反义片段pMD-F 和pMD-R, 将正反义片段分别插入表达载体pART27 的相应位置, 构建成含有发夹结构的RNAi 载体pART-F-R, 经过Not I 酶切鉴定, 证明载体构建成功。通过农杆菌介导的方法, 以干扰表达载体pART-F-R 转化烟草,经过PCR 检测, 得到16 株阳性转基因植株, 为MsLEA3-1 基因的功能研究奠定基础。
【英文摘要】During long-term evolution, plant has developed various physiological functions and bio-chemical mechanisms to respond the diverse stresses in different environments. Plant cell accumulates a series of proteins to reduce cell dehydration in the period of water shortage, of all proteins, late embriogenesis abundant LEA protein has been paid attention, which is one of the hot topics in plant stress physiology. In the paper, an RNAi expression vector harboring MsLEA3-1 gene fragment from Medicago sativa L. was constructed. On the basis of the sequence of Medicago sativa LEA protein (MsLEA3-1) gene (GenBank accessionnumber: EU665182), two pairs of specific primers containing different enzyme sites were designed. With the template of PMD-LEA plasmid constructed, positive-sense strand and antisense strand were obtained, which were separately inserted into the expression vector pART27. The RNAi vector pART-F-R containing a hairpin structure was confirmed by the digestion of restriction enzymes. pART-F-R was transformed into tobacco by Agrobacterium-mediated transformation system. PCR testing showed that 16 transgenic plants were obtained.
【语种】中文
【第一作者】白永琴
【通讯作者】白永琴
【期刊名称、卷期、页码】作物学报,2010, 36(9): 1484－1489
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【学科分类】畜牧学

【题目】紫花苜蓿锌指蛋白基因RNAi表达载体的构建及在苜蓿的转化
【中文关键词】紫花苜蓿; 锌指蛋白; RNAi; 转基因
【英文关键词】Alfalfa (Medicago sativa L.); Zinc finger protein; RNAi; Transgene
【中文摘要】根据紫花苜蓿锌指蛋白MsZFN 基因(GenBank 登录号为EU624138)序列, 设计两对含有酶切位点的特异性引物, 以紫花苜蓿cDNA 为模板, 分别合成用于构建干扰载体的正反义片段, 将正反义片段分别插入表达载体pART27的相应位置, 构建成含有发夹结构的RNAi 载体pART-F-R。利用农杆菌介导方法, 将pART-F-R 转化到紫花苜蓿中,经过PCR 检测, 获得了3 株转基因植株。经过RT-PCR 检测, 证明转基因植株中MsZFN 基因表达量明显低于未转基因的植株。结果表明, 已构建成功具有发夹结构的RNAi 载体pART-F-R, 它可有效的抑制紫花苜蓿MsZFN 基因。
【英文摘要】On the basis of the sequence of Medicago sativa Zinc Finger Protein (MsZFN) gene (GenBank accession No.EU624138), two pairs of specific primers containing different enzyme sites were designed. With the template of full-length cDNA,positive-sense strand and antisense strand were obtained, which were separately inserted into the expression vector pART27. TheRNAi vector pART-F-R containing a hairpin structure was constructed. Mediated by Agrobacterium tumefaciens, pART-F-R was transformed into alfalfa plants. PCR testing showed that three transgenic plants were obtained. The result of RT-PCR showed that transgenic alfalfas had lower expression level of MsZFN gene than the wild type. These results indicated that the RNAi vector pART-F-R containing a hairpin structure was constructed successfully and highly efficient for the simultaneous silence of MsZFN gene.
【语种】中文
【第一作者】秦智慧
【通讯作者】杨青川
【期刊名称、卷期、页码】作物学报,2010, 36(4): 596－601
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【引文索引号】
【学科分类】畜牧学

【题目】Effects of rotation and interplanting on soil bacterial communities and cucumber yield
【中文关键词】轮作 套作 土壤细菌多样性
【英文关键词】rotation interplanting soil bacterial communities
【中文摘要】通过PCR-DGGE方法,主要研究了小麦、菜豆等轮作或套作对黄瓜根际土壤细菌多样性的影响。
【英文摘要】By the method of PCR-DGGE, this paper studied the effects of rotation with wheat, soybean, villose vetch, clover, and alfalfa and intercropping with onion and garlic on the bacterial communities in rhizosphere soil of cucumber. The results showed that rotation and intercropping with test plants increased the diversity and evenness indices of bacterial communities in cucumber rhizosphere soil, and also, cucumber yield. The sequencing of DGGE bands indicated that most of the bands had high homology with uncultured bacterial species, and were of Sphingobacterium and Proteobacteria. High bacterium G+C was only detected when cucumber was intercropped with onion. The diversity of soil bacterial communities varied with the growth stages of cucumber, being the highest at vigorous fruiting stage. It was suggested that intercropping with onion and rotation with wheat were the best cultivation modes of cucumber.
【语种】英文
【第一作者】吴凤芝
【通讯作者】吴凤芝
【期刊名称、卷期、页码】Acta Agriculturae Scandinavica Section B _ Soil and Plant Science,2009,59:431-439
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【学科分类】土壤学

【题目】不同作物间作对黄瓜病害及土壤微生物群落多样性的影响
【中文关键词】间作 土壤微生物群落多样性 病情指数 RAPD T-RFLP
【英文关键词】intercropping soil microbial community diversity disease index RAPD T-RFLP
【中文摘要】分别采用RAPD和T—RFLP技术,研究了小麦、毛苕子和三叶草分别与黄瓜间作对黄瓜病害、黄瓜根际土壤微生物群落多样性和黄瓜产量的影响。结果表明,小麦、毛苕子与黄瓜间作均能提高黄瓜根际土壤微生物群落多样性,其中,小麦一黄瓜间作对黄瓜根际土壤微生物群落多样性的影响最为突出;3种作物分别与黄瓜间作均显著提高了黄瓜产量(p〈0.01),其中小麦一黄瓜间作的产量优势最强;同时,3种作物分别与黄瓜间作均降低了黄瓜角斑病、白粉病、霜霉病和枯萎病的病情指数和尖孢镰刀菌的数量。间作有利于提高土壤微生物群落的多样性、减轻病害、提高黄瓜产量。
【英文摘要】
Plenty of reports about effects of intercropping improving yield and reducing disease incidence are availabl e, but little was reported about the mechanism of the effects. RAPD and T-
RFLP methods were used to study effects of intercropping of cucumber with wheat, vicia villosa and cl over, individually, on cucumber disease indexes, cucumber rhizosphere soil microbial community diversity an d yield. Results showed that intercropping of cucumber with wheat and vicia villosa increased soil micro bial community diversity in cucumber rhizosphere, and the effect of the latter was the most prominent.
All intercropping modes increased cucumber yield significantly (p 〈
0. 01), and the effect of the intercropping of cucumber with wheat was more significant over that of the others. Meanwhile, intercropping decreased disease indexes of angular leaf spot, powdery mildew, downy mildew and Fusarium wilt, and decreased population of Fusarium oxysporum no matter with wh at plant. So it is quite obvious that intercropping increasees soil microbial community diversity and yield of cucumber, but mitigates diseases.
【语种】中文
【第一作者】吴凤芝
【通讯作者】吴凤芝
【期刊名称、卷期、页码】土壤学报,2009,46(5):899-906
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【学科分类】土壤学

【题目】轮套作对黄瓜土壤微生物多样性及产量的影响
【中文关键词】黄瓜;轮套作;土壤微生物群落;DNA 序列多样性;产量;RAPD
【英文关键词】cucumber; rotation-intercropping; soil microbial community; DNA sequence diversity; yield; RAPD
【中文摘要】【目的】研究轮套作对黄瓜各个时期的土壤微生物多样性及黄瓜产量的影响。【方法】采用随机扩增多态性 DNA 分析(random amplified polymorphism DNA,RAPD)方法。【结果】轮作处理中,小麦和大豆轮作处理可以显著提高黄瓜土壤微生物群落 DNA 序列多样性各指数(P<0.05),其黄瓜产量极显著高于对照(P<0.01);与对照相比,毛葱套作处理显著提高黄瓜土壤微生物群落 DNA 序列多样性各指数,其黄瓜产量极显著高于对照(P<0.01)。【结论】小麦、大豆轮作和毛葱套作有利于改善土壤微生态环境,提高黄瓜产量。
【英文摘要】【Objective】 The objective of the experiment is to study the effect of rotation and interplanting on microbialcommunity diversity in different growth periods and cucumber yield. 【Method】 RAPD techniques were adopted as researchmethods. 【Result】 Wheat-soybean rotation significantly improved the cucumber microbial DNA sequence diversity index (P<0.05), and significantly increased yield of cucumber (P<0.01).Compared to control, onion interplanting treatment also significantlyincreased cucumber microbial DNA sequence diversity index and yield of cucumber (P<0.01).【Conclusion】 Wheat-soybeanrotation and garlic interplanting could facilitate improving soil micro-ecological environment and increase the yield of cucumber.
【语种】中文
【第一作者】庄岩
【通讯作者】吴凤芝
【期刊名称、卷期、页码】中国农业科学,2009,42(1):204-209
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【引文索引号】
【学科分类】土壤学

【题目】富有机质土壤栽培方式对大白菜产量及品质的影响
【中文关键词】大白菜;富有机质土壤;限根栽培;产量;品质
【英文关键词】Chinese cabbage, organic soil, root restriction cultivation, yield, nutrient quality
【中文摘要】为明确不同栽培方式对大棚大白菜蔬菜产量、品质和土壤养分利用的影响,以园田土壤栽培为对照,研究了以农业废弃物腐熟麦秸与腐熟大粪干及园田土壤等为主要原料配制的富有机质土壤限根和非限根栽培方式的作用。结果表明,与富有机质限根栽培和普通土壤栽培相比,采用富有机质土壤非限根栽培的大白菜生长势好,根系活力强,叶绿素含量高,增产效果显著,产量较对照提高了20.68%;硝酸盐含量降低了359 mg/kg,降幅达38.26%,富有机质土壤非限根栽培还明显增加了大白菜叶球的干物质含量,增幅为17.2 %;与对照相比,富有机质土壤非限根栽培的大白菜的粗蛋白含量、总糖含量和维生素C含量分别提高了4.9%、0.9%和2.44%。表明富有机质土壤非限根栽培方式对提高白菜产量及改善营养品质效果良好。
【英文摘要】"To study the effects of organic soil cultivation ways on the yield and nutrient quality of Chinesecabbage, the ordinary soil cultivation (CK), organic soil (mixture of composed straw, composed manure and soil) cultivation with root restriction and organic soil cultivation without root restriction were used. The results showed that the vegetable with organic soil cultivation growth better than CK, which had higher plant height and stem diameter. The root activity and photosynthesis rate of organic soil was higher than CK. And the yield of Chinese cabbage was increased about 20.68% . The nutrient quality of Chinese cabbage was improved compare to CK. Although root restriction by a plastic film decreased the leakage of the soil nutrient and water,it might save water and fertilizer, the root unrestricting organic soil had higher root activity and chlorophyll content in leaves; and organic soil without root restriction significantly increased the Chinese cabbage yield and improved its nutrient quality. The results showed that organic soil cultivation without root restriction of Chinese cabbage had higher root activity, higher chlorophyll content, which yield significant increased and nitrate content reduced significantly than ordinary soil
【语种】中文
【第一作者】舒海波
【通讯作者】贺超兴
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【学科分类】园艺学

【题目】有机土影响大棚白菜产量和品质的生理机制
【中文关键词】有机土;大白菜;产量;营养品质
【英文关键词】Organic soi;l Chinese cabbage;Yield;Nutrient quality
【中文摘要】以普通土壤栽培为对照,研究了农产废弃物玉米秸秆及大粪干为主要原料经腐熟后与洁净土配制的有机土栽培基质对大白菜产量和营养品质的影响。结果表明:采用有机土栽培的大白菜生长势好,根系活力强,光合速率高,增产效果极显著,产量提高28. 1%;而大白菜的硝酸盐含量降低了470 mg/kg,降幅达36. 7%;有机土栽培还明显增加了大白菜叶球的干物质含量,增幅为16. 8%;与对照相比,有机土壤栽培的大白菜的粗蛋白含量、总糖含量和维生素C含量均有不同程度的提高。表明有机土栽培在提高大白菜产量和改善白菜的营养品质方面有良好的应用效果。
【英文摘要】The organic soilmixed with composed corn stalfks,manure and clean soilwas used as substrate forChinese cabbage cultivation to compare the yield and nutrient quality in ordinary soi.l The results showed thatChinese cabbage cultivatedwith organic soilgrew better than that in ordinary soil because the growth vigor, root activity, photosynthetic rate increased in organic soil cultivation, and the yield in organic soil could increase 28. 1%,where as the nitrates content in vegetableswere decreased dramatically,whichwas470 mg/kg lower than that in ordinary soi,l about36. 7% lower than that in ordinary soi.l The drymatter content ofChinese cabbage ball in organic soil increased about 16. 8% than that in soi,l and the Chinese cabbage cultivated under organic soil had higher crude protein content, total sugar and vitamin C content. Such experiment seemed thatorganic soil cultivation could be used in Chinese cabbage production to increase yield and improve nutrient quality.
【语种】中文
【第一作者】贺超兴
【通讯作者】贺超兴
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【引文索引号】
【学科分类】园艺学

【题目】温室有机土限根栽培对番茄生长和产量品质的影响
【中文关键词】番茄;有机土;限根栽培;产量;营养品质
【英文关键词】tomato ; organic soil;root restriction cultivation;yield;nutrient quality
【中文摘要】以普通土壤栽培为对照,研究了番茄在以由腐熟玉米秸、腐熟牛粪和园田土配制成的有机土限根栽培与非限根栽培条件下对日光温室越冬栽培番茄生长、生理特性和产量形成的影响。结果表明:有机土栽培的番茄生长势好,株高与茎粗均显著优于普通土壤;有机土栽培的根系活力、光合速率均高于土壤栽培;最终表现为有机土栽培的产量提高和营养品质改善,且成熟期提早。与非限根栽培相比,随番茄栽培的延续,限根栽培土壤中速效N、P、K含量在前期与非限根栽培相当的情况下,在中后期明显高于非限根处理,而有机质和全N、P、K的下降速度也显著低于非限根栽培,非限根栽培的土壤电导率明显下降,而限根则相对稳定,非限根栽培的耗水量明显多于限根栽培处理,表明非限根栽培的肥水渗漏较高,而限根栽培的肥水损耗率显著降低。限根栽培的根系活力在前期和中期均高于非限根栽培,限根栽培较非限根栽培明显提高了番茄的坐果数,显著提高了前期产量和总产量,增幅分别达31.3%和8.3%,而非限根栽培和土壤栽培的平均单果重均高于限根栽培。有机土栽培的番茄其营养品质如总糖、番茄红素含量明显优于普通土壤栽培,而有害健康的硝酸盐含量显著低于土壤栽培,且限根栽培的番茄又明显优于非限根番茄。因此番茄有机土栽培具有促使番茄提早成熟,增加番茄产量提高番茄品质的效果,而限根栽培方式明显优于非限根栽培,且具有更好的节水节肥和增产效果。
【英文摘要】The effects of organic soil (mixture of decomposed corn stalk,manure and soil) with root restriction culture to tomato in plant growth ,yield and nutrient in solar greenhouse over the winter were studied compare to ordinary soil cultivation(CK).The results showed that the plant under organic soil cultivation growth better than CK,which has higher plant height and stem diameter. the root activity and photosynthesis rate of organic soil is better than CK,the mature stage will be earlier than CK.comparing with root non-restriction culture,root restriction by a plastic film will decerase the leakage of the nutrient atoms and water to keep a suitable fertility level,so it will saving water and fertilizer.The root activity of root restriction organic soil will higher than organic soil without film.

Organic soil cultivation will increased tomato chlorophy II a, chlorophy II (a+b)content in leaves;and organic soil with film root restriction significantly increase the tomato yield and improve tomato nutrient quality. The root reatriction by film will saving water and increase soil fertility, so it is a environment friendly technique in protected horticulture.
【语种】中文
【第一作者】舒海波
【通讯作者】贺超兴
【期刊名称、卷期、页码】设施园艺研究新进展 2009:310-316
【论文发表时间】2009-08-26 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】园艺学

【题目】接种AM真菌对不同育苗基质中甜椒苗期生长的影响
【中文关键词】AM真菌;育苗基质;甜椒苗期;影响
【英文关键词】AM substrate pepper seedling
【中文摘要】"研究比较普通土、秸秆有机土和草碳蛭石3种育苗基质中接种两种丛枝菌根真菌GM、GV对甜椒苗期生长的影响,结果表明:在营养含量较高的有机土育苗基质中,接种AM真菌对甜椒苗的影响最弱,而在营养水平较低的草碳蛭石无土育苗基质中,接种AM真菌对甜椒苗有显著的促进作用,其中AM真菌在草炭蛭石中对甜椒苗根系的侵染率也最高,而GM的接种效果优于GV。
【英文摘要】The effects of GM,GV on pepper seedling were studied, the result showed AM had significantly improved to pepper seedling.
【语种】中文
【第一作者】王林闯
【通讯作者】贺超兴
【期刊名称、卷期、页码】中国园艺文摘 2009,(9):12-15
【论文发表时间】2009-08-28 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】园艺学

【题目】PCR-DGGE和FAMEs技术在土壤微生物多态性研究中的应用
【中文关键词】PCR-DGGE FAMEs 土壤微生物 多态性分析 应用
【英文关键词】PCR-DGGE FAMEs Soil microbes The diversity analysis Application
【中文摘要】" 将PCR-DGGE 和FAMEs 等生物技术新方法用于土壤微生物分析可有效的克服传统培养方法的局限性,为土壤微生物多样性、群落结构及动态变化的研究提供了更全面、可靠的方法,受到了国内外研究者的重视。本文综述了PCR-DGGE 和FAMEs 技术的原理及其在土壤微生物多样性、群落结构及动态变化方面的应用效果,指出了实际应用存在的问题。
【英文摘要】PCR-DGGE and FAMEs are two new modern techniques which were used in analyzing the aspects of soil microbes.By this new techniques the shortcoming of conventional plate culture methods could be overcome, because they could provide a more full and credible method to the study of diversity, structure and changes of soil microorganism communities. This paper described the principles of PCR-DGGE and FAMEs and theirs applications in soil microorganism communities study.
【语种】中文
【第一作者】王林闯
【通讯作者】贺超兴
【期刊名称、卷期、页码】生物技术通报 2009(增刊):113-117
【论文发表时间】2009-07-17 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】土壤学

【题目】蔬菜残株的化学组成
【中文关键词】蔬菜 残株 化学组成
【英文关键词】Vegetables, Stumps, Chem ical characteristics
【中文摘要】"应用常规化学分析方法系统地测定了辣椒、番茄、黄瓜、茄子、结球甘蓝和芹菜6种主栽蔬菜采后残株的化学组成。结果表明,蔬菜残株各器官含水量为73. 77% ~91. 91%;以烘干基计算,大量元素(N、P、K)含量为31. 7~85. 7 g·kg-1,中、微量元素(Ca、Mg、Fe、B、Zn)含量为16. 2 ~87. 1 g·kg-1,有机质含量为428. 4~674. 3 g·kg-1,其中主要是纤维素和木质素, C/N为7. 0~21. 3。
【英文摘要】In this paper, the chem ical components ofpepper, tomato, cucumber, eggplant, cabbage and celery stumpswere tested.The results showed that in vegetable stumps themoisture contentwas 73. 77 % -91. 91 %, drymater con-tents ofmajor elements(N, P and K)were 31. 7-85. 7 g · kg-1, the content ofm icro and m iddle elements(Ca,Mg, Fe,B and Zn)were 16. 2-87. 1 g · kg-1, the contentoforganicmaterwas 428. 4-674. 3 g · kg-1, amongwhich themajorelementswere fibrin and lignin, the C/N ratioswas 7. 0-21. 3.
【语种】中文
【第一作者】莫舒颖
【通讯作者】尚庆茂
【期刊名称、卷期、页码】中国蔬菜 2008,(12):21-23
【论文发表时间】2008-08-16 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】园艺学

【题目】有机土栽培对大白菜产量和品质的影响
【中文关键词】有机土壤 大白菜 产量 品质
【英文关键词】organic soil cultivation　yield and quality　cabbage
【中文摘要】以普通土壤栽培为对照袁研究了以农产废弃物腐熟玉米秸与腐熟大粪干及洁净土壤等为主要原料配制的有机土栽培基质对大白菜产量和品质的影响遥结果表明院有机土栽培的大白菜生长势好袁根系活力强袁光合速率高袁增产效果显著袁产量较对照提高了28.09%,大白菜硝酸盐含量降低了470 mg/kg,降幅达36.72 %,有机土栽培还明显增加了大白菜叶球的干物质含量,增幅为16.8%,与对照相比, 有机土壤栽培的大白菜的粗蛋白含量尧总糖含量和维生素C 含量分别提高了4.9%,0.9%和2.44%.
【英文摘要】The effect of organic soil cultivation on yield and quality of cabbage were studied.
【语种】中文
【第一作者】赵大芹
【通讯作者】贺超兴
【期刊名称、卷期、页码】长江蔬菜 2008,(3):53-55
【论文发表时间】2008-03-13 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】园艺学

【题目】芦笋低成本有机土栽培新技术
【中文关键词】芦笋　有机土栽培
【英文关键词】Asparagus　orginal soil cultivation
【中文摘要】由于芦笋根系发达,不同根际土质和不同理化结构对其产量影响很大,近年来,我们采用腐熟秸秆、腐熟有机肥与土壤配制成结构疏松营养丰富的有机土进行科学种植,取得了每667 m2单产高达1 100 kg的良好效果,农民收入相当可观,是农民增收致富有效途径,现将此方法介绍如下。
【英文摘要】The effect of orginal soil cultivation on asparagus were studied.
【语种】中文
【第一作者】贺超兴
【通讯作者】贺超兴

【期刊名称、卷期、页码】长江蔬菜 2008,(2):18-19
【论文发表时间】2008-03-12 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】园艺学

【题目】小鼠睾丸支持细胞和胰岛共培养的研究
【中文关键词】睾丸支持细胞;胰岛;培养
【英文关键词】ertoli eell;islet;culture
【中文摘要】在成功分离睾丸支持细胞和胰岛的基础上,以小鼠睾丸支持细胞作为饲养层与胰岛进行共培养,通过形态学方法和胰岛素荧光免疫测定法观察单独培养和共同培养条件下胰岛的生长特性及胰岛素分泌功能.结果表明,睾丸支持细胞能够为胰岛提供良好的生长微环境,促进胰岛增殖,显著延长体外培养条件下胰岛的生存期限,共培养19 d后胰岛的存活率依然在90%以上.在功能上,共培养组胰岛的胰岛素分泌水平从第7天开始就显著高于单独培养组(P<0.01),培养15 d后2个共培养组的胰岛素刺激指数分别为2.13±0.13和2.58±0.11,表明睾丸支持细胞饲养层能保持胰岛素高分泌水平和良好的糖刺激反应性,是一种比较理想的胰岛体外长期培养方法.
【英文摘要】On the basis of success in separating sertoli cells and islets,mouse sertoli cells as feeder layer were cocultured with islets。the islets growth characteristics and insulin secretion under the condition of single culture and cocuhure was observed respectively by morphology method and insulin fluoroimmunoassay method.The result indicated that the sertoli cells could provide a better microenvironment for the growth of islets,which could promote the proliferation of islets andsignificantly extend its survival time in vitro,and the survival rate of islets was above 90%after 19 days of coculture.The insulin secretion in coculture group was significantly higher than that in single cultured group from 7th days(P<O.01),15 days after coculture,the average insulin stimulation index in the two coculture groups was still 2.13±0.13 and 2.58±0.1 1 respectively.The results showed that sertoli cell as cytotrophoblast could maintain a higher level of insulin secretion and response to glucose,which was aN ideal method for longterm culture of islets in vitro.
【语种】中文
【第一作者】杨润军
【通讯作者】许尚忠
【期刊名称、卷期、页码】畜牧兽医学报,2009,40(1):41-48
【论文发表时间】2009-01-15 00:00:00
【引文索引类型】其他
【引文索引号】无
【学科分类】畜牧学

【题目】温室蔬菜优质高效生产技术研究回顾与展望
【中文关键词】温室蔬菜 高效生产 回顾与展望
【英文关键词】greenhouse vegetable production
【中文摘要】温室蔬菜优质高效生产技术研究回顾与展望
【英文摘要】greenhouse vegetable production
【语种】中文
【第一作者】贺超兴
【通讯作者】贺超兴
【期刊名称、卷期、页码】中国农业科学 2007,40(增刊):334-341
【论文发表时间】2008-05-22 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】园艺学

【题目】丛枝菌根真菌对温室有机土栽培黄瓜的作用研究
【中文关键词】菌根; 黄瓜; 有机基质; 土壤基质
【英文关键词】Arbuscular mycorrhizal fungi; cucumber; organic soil; greenhouse

【中文摘要】研究了2种丛枝菌根真菌在有机土基质和普通土壤中对温室黄瓜生长、产量及营养品质的影响。结果表明:接种GM后黄瓜的光合速率,叶片可溶性糖都显著高于对照;接菌可显著提高黄瓜产量,在有机土中接种Glomouse (GM)和Glomous versiform~(GV)可使黄瓜产量分别比对照提高28.5% 和25.4% ,而土壤中接种GM和GV亦可使其产量分别比对照提高58.1%和31.3% ,同时接种菌根菌后瓜条中的总糖、VC、干物重均明显提高,营养品质得到明显改善。因此可以认为在黄瓜生产中应用菌根苗可以明显提高黄瓜的产量品质。

【英文摘要】2 strains arbuscular mycorrhizal fungi(AMF)were used to study the efects on cucumber growth,yield and quality of fruit in organic soil and ordinary soil cultivation under greenhouse.The results showed that cucumber plants with GM inoculation may have higher photosynthetic rate。soluble sugar content in leaves than plants without inoculation.Glomous versiforme(CV)and Glomous mosseae(GM)inoculation may increase cucumber yield by 28.5% and 25.4% in organic soll respectively.Whereas GV and GM inoculation plants in soil may increase the yield by 58.1% and 31.3% higher than CK.Meanwhile AMF inoculation seedlings can also improve nutrient quality by increase fruit sugar content,VC,dry matter weight

【语种】中文

【第一作者】秦海滨

【通讯作者】贺超兴

【期刊名称、卷期、页码】内蒙古农业大学学报 2007,28(3):69-72

【论文发表时间】2007-06-21 00:00:00

【引文索引类型】其他

【引文索引号】

【学科分类】园艺学

【题目】基于. NET 构架的安全猪肉全程可追溯系统实现

【中文关键词】.NET 技术; 安全猪肉; 全程监控; 可追溯系统

【英文关键词】.NET technology; safety pork; whole process monitoring; traceability system

【中文摘要】可追溯系统是构建食品安全体系的一个重要组成部分, 通过国内外可追溯系统研究的现状、个体标识和系统网络架构等关键技术的阐述, 运用二维条码技术、RFID(无线射频电子标识) 技术和组件技术, 构建了肉用猪及其产品的全程质量控制, 实现了基于. NET 构架的猪肉安全生产的追溯系统。

【英文摘要】The traceability system plays an important role in food safety system . The article int roduces act ualit ies of internal and overseas traceability syst em, individual marker and system net work frame. Using tw o-dimension bar code, RFID, . NET framew pork and component technology, the pork traceability w as implemented. It w ill realize the w hole process monitoring and control of pork and pork production.

【语种】中文

【第一作者】谢菊芳

【通讯作者】谢菊芳

【期刊名称、卷期、页码】农业工程学报.2006,22(6):218-220.

【论文发表时间】2006-06-10 00:00:00

【引文索引类型】其他

【引文索引号】

【学科分类】畜牧、兽医科学其他学科

【题目】畜禽产品安全生产数字化监控体系

【中文关键词】畜禽产品; 数字化; 监控

【英文关键词】livestock products; digita;monitoring

【中文摘要】畜禽产品数字化安全监控体系, 是在畜禽高度集约化生产方式下, 实施由畜禽养殖至终端产品的所谓农场到餐桌0的全程质量控制。在比较世界发达国家畜禽产品数字化安全监控体系的的基础上, 建立了以二维条码塑料耳标为标识物的猪肉溯源数字系统和以批次记录鸡肉可追溯电子文档管理系统, 将这两个系统分别在南京天环集团和山东民和牧业有限公司实施、验证。

【英文摘要】The extraord inary degree of integration of an im al industry facilitates- farm to folk. tracing w ith total controlof all the factors involved from raising the livestock to the product. Based on the com parison ofapproaches to mon itoring and controlling livestock products safety in developed countries, a digital traceab ility system for pork iden tified by tw o-dim ention barcode plastic ear tag and a electronic identification system for ch icken w ere set up. These two system s work w ell in a food company and a feed com

pany
【语种】中文
【第一作者】白云峰
【通讯作者】白云峰
【期刊名称、卷期、页码】江苏农业学报.2007,23 (4):340~345
【论文发表时间】2007-04-10 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】畜牧、兽医科学其他学科

【题目】Effects of Hot Environment and Dietary Protein Level on Growth Performance and Meat Quality of Broiler Chickens
【中文关键词】肉鸡 有效温度 蛋白质 代谢能 肉品品质
【英文关键词】Hot environment, Dietary protein level, Performance, Meat quality, Broiler
【中文摘要】本试验选用21-42日龄AA肉鸡216只,随机分为12个组,每组3个重复,每个重复6只鸡,分别饲养于四个环境控制舱中。试验采用4×3双因子安排的随机设计,第一因子为温度(以有效温度ET表示)处理,设4个水平,分别是15.0、21.2、35.3和37.6℃。第二个因子为日粮蛋白含量(以粗蛋白CP表示),设3个水平,分别是18.67、20.00和21.33%,代谢能均为12.55 MJ/Kg。试验结果表明:(1)有效温度对肉鸡的日采食量、日增重及料肉比影响显著(P<0.05),常温组的生产性能最好,当温度超过常温时,随温度上升,日采食量及日增重显著(P<0.05)下降。适宜蛋白水平(20%)组的生产性能最高。(2)与常温组相比,高温显著增加(P<0.05)肉鸡的屠宰率、半净膛率、全净膛率、腹脂率和腿肌率,显著(P<0.05)降低屠体重、胸肌重、腿肌重、胸肌率及肌间脂肪宽。低温组屠宰率显著(P<0.05)升高。随着日粮的蛋白浓度升高,肉鸡的半净膛率及全净膛率显著(P<0.05)降低。(3)与低温组相比,高温组的胸肌及腿肌PH值显著(P<0.05)升高。与常温组相比,低温组及极高温组的腿肌剪切力显著(P<0.05)上升。与常温组相比,极高温组的胸肌L*值及高温组的腿肌L*值都显著(P<0.05)升高。极高温组的胸肌及腿肌a*值显著升高(P<0.05)。高蛋白组的胸肌及腿肌a*值显著(P<0.05)上升。有效温度与日粮蛋白水平对胸肌及腿肌的L*值及a*值都有互作效应(P<0.05)。(4)与常温组相比,高温及极高温组鸡的胸肌及腿肌蛋白质含量显著(P<0.05)下降,随着日粮蛋白水平的升高,胸肌的蛋白质含量显著(P<0.05)升高。与常温组相比,有效温度的上升与下降都显著(P<0.05)增加了胸肌及腿肌脂肪含量。高蛋白组的胸肌粗脂肪含量比适宜蛋白组显著(P<0.05)降低。高温及极高温显著(P<0.05)增加了胸肌的水分含量。低温显著(P<0.05)降低腿肌的粗灰分。高蛋白组的胸肌粗灰分显著(P<0.05)高于其它组。(5)高温显著(P<0.05)升高血清中总蛋白和白蛋白、显著(P<0.05)降低血清球蛋白的含量。极高温组的血清胆固醇浓度显著(P<0.05)升高。与常温组相比,低温组及极高温组的血清甘油三酯含量显著(P<0.05)降低。极高温组血清尿酸显著(P<0.05)升高。高蛋白组的血清胆固醇含量显著(P<0.05)下降、尿酸含量显著(P<0.05)升高。有效温度与日粮蛋白浓度对血清胆固醇浓度有显著(P<0.05)的互作效应。(6)有效温度对肝脏及胸肌中的丙二醛(MDA)含量影响显著(P<0.05)。与常温组相比,极高温组的肉鸡肝脏及胸肌中的丙二醛含量显著(P<0.05)升高。总之,通过试验研究可知温度是影响肉鸡生产性能及肉品品质的重要因素之一,日粮能量及蛋白水平也对生产性能及肉品品质有一定的影响。
【英文摘要】This study was conducted to determine the effect of hot environment and dietary crude protein level (CP) on performance, carcass characteristics, meat visual quality, muscle chemical composition and malondialdehyde (MDA) concentration of tissues in broilers. Two hundred and sixteen 21-d old Arbor Acre broilers were used in a 4×3 factorial arrangement and randomly reared in 4 environmental chambers and fed on 3 diets with different CPs for 3 weeks. The results showed: (1) when air temperature (AT) rose to 33°C,average daily feed intake, average daily gain, carcass weight, right breast meat weight, left thigh and drumstick meat weight decreased (p<0.05) and feed conversion rate decreased (p<0.05), but the ratio of carcass to live weight and of left thigh and drumstick meat weight to carcass weight had opposite change (p<0.05). (2) There were significant differences in pH and shear force in breast meat, and shear force, L* and a* in thigh meat (p<0.01 or 0.05) among hot environments. Dietary CP level tended to affect breast meat pH and pH and L* of thigh meat (p<0.06 or 0.09). Compared to the normal temperature (22°C), low temperature (15°C) and hot humid (AT 33°C, relative humidity (RH) 80%) treatment significantly (p<0.05) decreased the tenderness of thigh meat. L* and a* value in thigh meat under high temperature treatments, regardless of RH, was higher (p<0.05) than those under normal temperature. (3) Protein content in breast and thigh meat of broilers fed under high temperature (33°C) was lower (p<0.05) than that under 22°C, but fat content had an adverse change. High temperature (33°C) increased the moisture of breast meat significantly (p<0.05). Protein content in breast meat increased significantly (p<0.05), in which fat content had an adverse change (p<0.05), when the dietary protein rose.(4)MDA concentration in liver and breast meat under hot humid (AT 33°C, RH 80%) treatment increased markedly (p<0.05). (5) High damp could sharpen the bad effect of high temperature on performance, carcass yield and choice cuts, crude protein and moisture content in breast meat. It was concluded that hot environment could affect the performance and meat quality of broiler chicks more significantly than CP level and that high humidity would aggravate the bad influence of high temperature on the broiler.

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【题目】猪的异常行为与其福利水平
【中文关键词】猪 福利评价 评分 异常行为
【英文关键词】pigs;assessment ;score;abnormal behavior
【中文摘要】作者介绍了猪群中常见异常行为的种类、概念,分析了引起猪异常行为的因素、发生程度及其产生的后果。总结出了一套简单易行、可以量化的异常行为评价体系和方法,并建立了猪的异常行为与福利水平之间的联系。
【英文摘要】This paper introduces definition of abnormal behavior and summarizes the inducing reasons, the degrees and the consequence of the abnormal behavior. Finally, the available and quantifiable methods for the assessment of animal abnormal behavior are presented, and then the relation of abnormal behavior and animal welfare level is established.
【语种】中文
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【题目】二氢杨梅素对肉鸡抗氧化酶及胸肌品质的影响
【中文关键词】二氢杨梅素;肉鸡;抗氧化酶;胸肌品质
【英文关键词】Dihydromyricetin; Broiler; Antioxidant enzyme; Breast meat quality
【中文摘要】本文旨在研究二氢杨梅素(DMY)对肉鸡抗氧化酶及胸肌品质的影响。采用单因子完全随机设计,将144只28日龄的AA肉用公鸡分为4个处理组,每个处理组6个重复,每个重复6只鸡。分别饲喂含0、100、200、400mg/ kg DMY的4种日粮,饲养于7月中旬高温季节,试验持续3周,试验期间日平均温度26.5℃。研究发现,二氢杨梅素对肉鸡血清、肝脏中的超氧化物歧化酶(SOD) 、过氧化氢酶(CAT)无显著影响(P>0. 05) ,但显著降低血清肌酸激酶(CK)的活性及血清和肝脏中丙二醛(MDA)的含量(P<0. 05) ,同时显著降低肉鸡胸肌的滴水损失和剪切力值(P<0.05) ,对肉色L值、a值、b值和pH的影响未达到显著水平。表明二氢杨梅素对肉鸡体内的抗氧化酶无影响,可能通过直接清除自由基,降低体内的脂质过氧化物含量,减少细胞内特征酶的流失,这种作用可能与二氢杨梅素改善胸肌滴水损失和嫩度有关。
【英文摘要】The study was conducted to study the effects of dihydromyricetin (DMY) on antioxidant enzyme and breast meat quality of broilers. One hundred and forty four 28-day-old AA made broilers were randomly allocated to four treatments with six replicates each and six broilers in each replicate, andrespectivelyfedwith0, 100, 200, 400mg/kg DMY. The trial started at Late-July and lasted for three weeks with an average temperature of 26.5°C. The results showed that the supplement of DMY had no significant effect on the activities of SOD and CAT enzyme in serum and liver of broiler (P>0.05) , but significantly decreased the serum CK enzyme activity and the MDA content in serum and liver (P<0.05) . At the same time, it significantly decreased drip loss and shear force of broiler breast muscle (P<0.05) , but had no significant effect on meat color L, a, b and pH value (P>0. 05) . These results indicated that DMY could not affect the antioxidant enzymes. It might reduce lipid peroxidation and loss of feature enzyemes by clearing free radicals directly, which might be associated with improving the drip loss and tenderness of breast muscle.
【语种】中文
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【题目】Identification of Differentially Expressed Proteins Between Bull X and Y Spermatozoa
【中文关键词】Cattle;2-DE;Differentially expressed proteins
【英文关键词】Cattle;X/Y spermatozoa;2-DE;Differentially expressed proteins
【中文摘要】Differential expression of genes leads to variation in phenotypes of X and Y sperm, even though some differential gene products are shared through an intercellular bridge. Differentially expressed proteins between X and Y sperm sorted from semen of nine bulls were compared using two-dimensional electrophoresis (2-DE) coupled with mass spectrometry (MS) analysis. Overall, 663 ± 12 and 647 ± 22 protein spots were detected in X sperm and Y sperm, respectively, and 42 significant protein spots were differentially expressed between them ($P < 0.05$). Sixteen of these protein spots were successfully identified by MS and tandem MS and were found to be closely relevant to energy metabolism, stress resistance, cytoskeletal structure and the activity of serine proteases. Expression levels of two of these proteins, CAPZB and UQCRC1, were verified by Western blot. We propose that these differentially expressed proteins may affect the phenotype of X and Y sperm, binding and fusion of sperm/oocyte and development of the zygotic embryo. Our preliminary results provide an overview of differential expression in total protein levels between X and Y spermatozoa. Identification of these altered proteins may provide a theoretical basis for understanding the biological differences between the two types of sperm.
【英文摘要】Differential expression of genes leads to variation in phenotypes of X and Y sperm, even though some differential gene products are shared through an intercellular bridge. Differentially expressed proteins between X and Y sperm sorted from semen of nine bulls were compared using two-dimensional electrophoresis (2-DE) coupled with mass spectrometry (MS) analysis. Overall, 663 ± 12 and 647 ± 22 protein spots were detected in X sperm and Y sperm, respectively, and 42 significant protein spots were differentially expressed between them ($P < 0.05$). Sixteen of these protein spots were successfully identified by MS and tandem MS and were found to be closely relevant to energy metabolism, stress resistance, cytoskeletal structure and the activity of serine proteases. Expression levels of two of these proteins, CAPZB and UQCRC1, were verified by Western blot. We propose that these differentially expressed proteins may affect the phenotype of X and Y sperm, binding and fusion of sperm/oocyte and development of the zygotic embryo. Our preliminary results provide an overview of differential expression in total protein levels between X and Y spermatozoa. Identification of these altered proteins may provide a theoretical basis for understanding the biological differences between the two types of sperm.
【语种】英文
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【题目】Study of the amplification capacity of a two-temperature PCR and its application in bovine sex identification
【中文关键词】Bovine; Rapid PCR; sex identification; Two-temperature PCR
【英文关键词】Bovine; Rapid PCR; sex identification; Two-temperature PCR
【中文摘要】To study the amplification potential and establish a Two-temperature PCR sex identification method, DNA templates prepared from bovine blood, sperm and hair follicles were amplified through two-temperature PCR in this study. Fragments from 207 bp to 1413 bp could be amplified successfully, while fragments of 1500 bp in length could not be amplified. In further studies, we found that an extension step was necessary to amplify longer fragments, and as the extension time decreased, the denaturation and annealing times were increased. After optimization, we found the best two-temperature PCR to be a reaction using 1.0 mmol/l $Mg2+$, 1.0 unit polymerase and 30 cycles. The amplification results using different equipment and Taq polymerases indicated that the two-temperature PCR can be used for any fragment equal to or less than 1413 bp with any common Taq polymerase. The kinetic rate of the polymerase was determined to be the factor limiting the amplification length and rate. Additionally, the PCR timing was shortened from 1.5-2.0

hours to 30-38 min with the two-temperature PCR. The sex identification of bovine blood, fibroblasts and blastmeres were carried out by turns using this rapid PCR, and a rapid sex identification method of cattle embryo was establishment. Both amplification time and cost were saved greatly with this method and we found that the two-temperature PCR was sensitive and fast enough for widespread use in many research areas, such as genetics, sex identification, forensics and clinical medicine.

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【语种】英文
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【题目】A study of a method to assess the purity of sorted bovine semen using rapid single-sperm sexing PCR

【中文关键词】Single sperm; sex typing; rapid PCR; bovine semen
【英文关键词】Single sperm; sex typing; rapid PCR; bovine semen

【中文摘要】Sort reanalysis using flow cytometry is the most common method for determining the purity of X- or Y-enriched semen. The high cost of this technique (including the required expensive, proprietary machine) limits efforts to improve the technique and to promote develop applications for the sorted semen. In this study, the “ sperm sex ”(the presence of the X or Y chromosome) was identified by both rapid PCR and flow cytometry reanalysis. The rapid PCR results showed that the percentages of X and Y sperm were 48% and 52% in unsorted semen, 92% and 8% in X-enriched semen and 17% and 83% in Y-enriched semen, respectively. Reanalysis of the DNA content of the sorted samples revealed that the X and Y sperm frequencies were 92% and 8% in X-enriched semen and 15% and 85% in Y-enriched semen, respectively. The sex ratio of unsorted semen analyzed by PCR did not significantly deviate from the expected ratio of 1:1, and there was no significant difference between the sex ratios of sorted semen samples determined by PCR and flow cytometry reanalysis. These results indicate that we have established an effective, reliable and rapid PCR method to verify the purity of sorted semen. This method should contribute greatly to the improvement of sperm sorting techniques and the development of applications for sorted semen.

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【题目】Study of a simple and rapid PCR sex identification of bovine embryo
【中文关键词】Bovine embryo; rapid PCR; sex identification; Simple PCR
【英文关键词】Bovine embryo; rapid PCR; sex identification; Simple PCR
【中文摘要】A rapid and simple PCR sex identification of embryo is very important for bovine embryo transferring. Many sex identification methods using duplex PCR were established according to Sry gene. But the identification process was affected greatly by more primers interaction. In order to decrease the interference from more primers, we explored a simple and rapid PCR method. The sequences of Amelogenin alleles located at both sex chromosomes were downloaded from GenBank. A pair of sex specific primers was designed to span the 63-bp longer insertion sequence in X chromosome. Bovine samples of blood, fibroblasts and demi-embryos were sexed with these primers. Two-temperature PCR cycling program was used, in which the extension step was deleted, while the denaturizing and annealing steps were shortened to 1 s. The results shown ideal identification were obtained, and observable amplification were also obtained using even single fibroblast. 20 bovine embryos were identified by this PCR cycling program, and 15 embryos (9 females and 6 males) were transferred. The sexing results were confirmed by the anatomically proven sex after parturition, respectively. The comparison of amplification results between blood samples of bovine and human shows the excellent specificity to bovine. Thus, a simple, rapid and effective PCR sex identification method was established.
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【语种】英文
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【题目】X、Y 精子分离纯度评价方法的研究进展
【中文关键词】精子; 分离精子; 纯度评价; 单精子巢式 PCR
【英文关键词】sperm; sorted sperm; purity evaluation; single sperm nested PCR
【中文摘要】对检测分析分离精液中 X、Y 精子纯度的方法进行了综述, 并将各种方法的原理、技术操作过程和方法的优缺点进行了比较分析。认为如能在技术上有所突破,提高方法的灵敏度、精确性, 降低检测时间, 单精子巢式 PCR 方法将可能成为一种低成本、常规化的检测手段, 在精子分离方法优化研究中发挥更大的作用, 并推动其他单精子遗传检测技术取得新进展。

【英文摘要】In this review of methods for purity assessment of isolated chromosome X- and Y-bearing sperm, we compared the sperm will become a conventional and popular method with lower costs, and the method will play a very important role in principles, operating procedures, as well as pros and cons for various methods. We conclude that nested PCR of single optimizing the X, Y sorting method, if the sensitivity and accuracy of the method can be increased and the testing time decreased, and promote the new progress in other genetic testing techniques on single sperm.
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【题目】牛精子蛋白质组学技术平台的建立及冻融前后精子差异蛋白初步分析
【中文关键词】精子 TRIzol 差异蛋白
【英文关键词】Spermatozoa TRIzol Differential proteins
【中文摘要】通过探索不同的精子蛋白制备方法、水化液成分和优化 2D 电泳程序以建立牛精子蛋白质组学研究技术平台,同时以牛鲜冻精为实验材料通过差异凝胶电泳寻找冻融前后精子蛋白的改变。结果表明:使用改进的热 TRIzol法裂解精子细胞制备蛋白,结合优化的2D 电泳技术可建立稳定的牛精子蛋白质组学研究技术平台。差异凝胶电泳揭示牛精子在冻融后有质和量的改变:冻融后缺失的蛋白点有 20个,表达下调的有 2个,表达上调的有 10个。作为一项阶段性的实验成果,研究建立的 2D平台和所发现的冻融引起的差异表达蛋白质点为揭示冷冻损伤机理和性控精液的差异蛋白质组学研究奠定了较好的基础。
【英文摘要】The proteomics technique platform of bovine spermatozoa was established by exploring the different sample preparation methods, the components of rehydration solution and optimizing the 2D electrophoresis protocols. The differential proteins between the fresh and frozen-thawed spermatozoa were also explored. The results indicated that the technique system with the high qualitative and stable 2D image had been obtained by p reparing the bovine spermatozoa p roteins with the heat TRIzol method and combining with the optimized 2D electrophoresis protocols. The differential in-gel electrophoresis showed that 20 protein spots were absent in quality, 2 spots decreased and 10 spots increased significantly in quantity after frozen2thawed. As a intermediate result, the 2D platform established in the research and the differential proteins found between fresh and frozen sperm will p rovide better basis for revealing the cryodamage mechanism of sperm cryop reservation and studying the differential p roteom ics of the X, Y spermatozoa.
【语种】中文
【第一作者】陈龙
【通讯作者】王栋
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【题目】精子性染色体相关基因转录本及检测方法研究进展
【中文关键词】转录物 精子 性别相关基因
【英文关键词】Transcript Spermatozoa Sex related gene
【中文摘要】精子形成过程中,基因表达经历了减数分裂性染色体失活,但有很多基因在减数分裂后期转录又重新被激活。转录产物研究表明, X和 Y染色体特异基因在不同物种精子中都发生了不同程度的转录,并且对转录产物的研究方法也取得了巨大进展,产生了微阵列、SAGE及抑制消减杂交等先进的技术手段,随着这些技术的日益成熟和完善,通过深入研究,精子中性别相关基因转录表达调控机理将越来越清晰,并推动性别特异蛋白的研究取得更大进展。
【英文摘要】The expression of genes are subject to meiotic sex-chromosome inactivation (MSC I) during spermatogenesis, but lots of gene transcripts are reactivated in postmeiotic. The studies on transcripts show that the transcription of X and Y chromosome

specific genes occur in differentmammalian species spermatozoa in some extent. The study techniques of the transcripts had made great progress, such as DNA microarray, Serial Analysis of Gene Expression, Suppression Subtractive Hybridization and so on. With further development of these technologies, the transcription and regulation mechanism of sex-determining genes in spermatozoa will be more and more clear, and greater progress will be made on the research of sex specific protein.
【语种】中文
【第一作者】王永贵
【通讯作者】王栋
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【题目】猪精液冷冻保存影响因素的研究进展及展望
【中文关键词】精液 冷冻保存 蛋白质
【英文关键词】Semen Cryopreservation Protein
【中文摘要】由于在经济生产中的重要意义,猪精液冷冻保存技术已成为研究的焦点。早期的研究多集中在对冷冻保护剂和冷冻方法的筛选与优化上,对猪精液冷冻保存进行了深入的探索。但研究表明,无论采用何种冷冻保护剂、何种冷冻方法都损害了精子的受精能力,并伴随有蛋白质的丢失、表达量的改变、功能活性的增减等,这就迫使该领域的研究向充分揭示冷冻对精子损伤的机理方向转移,希望通过揭示冷冻保存所导致的蛋白质结构和功能改变的实质,充分阐明冷冻损伤的机理,为猪精液冷冻保存提供理论依据,并最终促进猪精液冷冻保存技术的快速发展。
【英文摘要】Abstract For the important role in economic production, the study has been focused on the technique of cryopreservation of boar semen. During earlier time the screening and optimizing the cryprotective mediums and freezing methods were focused on, which exploited the technique of cryopreservation deeply. However, it indicated that the fecundation ability was decreased no matter what cryoprotective mediums and what freezing methods were used, companied with the losing of proteins, changing of p roteins expressing quantity and increasing or decreasing of the function and activity in sperm after cryopreservation. Now, it is altering to exploit the essence of the change of protein structure and function, and elucidate the cryodamage mechanism of sperm cryopreservation, which may provide the basic theory for cryopreservation of boar semen and promote the rapid development of the technique of boar semen cryopreservation.
【语种】中文
【第一作者】陈龙
【通讯作者】王栋
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【题目】蛋白质组学数据库建设的研究进展
【中文关键词】蛋白质组学; 生物信息学; 蛋白质数据库
【英文关键词】Proteomics / bioinformatics / protein database
【中文摘要】生物信息学是蛋白质组学研究的重要组成部分。大量蛋白质组学研究所获得的数据都需要借助生物信息学知识和方法快速有效地解释其背后隐含的生命信息。现已形成Swiss2Prot、P IR、UniProt等强大的蛋白质分析数据库。全面深刻地了解这些数据库建设进展将有助于积极有效地进行蛋白质组学研究。
【英文摘要】生物信息学是蛋白质组学研究的重要组成部分。大量蛋白质组学研究所获得的数据都需要借助生物信息学知识和方法快速有效地解释其背后隐含的生命信息。现已形成Swiss2Prot、P IR、UniProt等强大的蛋白质分析数据库。全面深刻地了解这些数据库建设进展将有助于积极有效地进行蛋白质组学研究。
【语种】中文
【第一作者】陈龙

【通讯作者】王栋
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【题目】牛精子全蛋白二维电泳IEF程序优化及染色方法的比较
【中文关键词】牛;精子全蛋白;二维电泳
【英文关键词】bovine ;spermatozoa proteins ;two2dimensional gel electrophoresis
【中文摘要】以牛精子全蛋白为试验材料进行二维电泳试验研究,优化和改进了一向等电聚焦参数,比较了不同的染色方法,并运用 Image Master 6. 0 软件分析了二维电泳图谱。结果表明,采用 24 cm,p H3~10 线性 IP G 胶条进行牛精子全蛋白二维电泳,等电聚焦 80000 Vh 和结合硝酸银染色方法可得到较多蛋白点和较高分辨率的二维电泳图谱。
【英文摘要】The IEF protocols of the two-dimensional gel electrophoresis for bovine spermatozoa proteins was optimizied, the staining methods were comparied and the 2 D image was analyzied with the software of Image Master 6. 0. The result indicated that the better stability and reproducibility of 2 D image was acquired by using the 24cm (p H3~10) Linar strips , focusing for 80000Vh and combining with the silver staining methods.
【语种】中文
【第一作者】陈龙
【通讯作者】王栋
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【学科分类】畜牧、兽医科学基础学科

【题目】PCR技术在性别鉴定及性别控制应用中的研究进展
【中文关键词】PCR技术 性别鉴定 性别控制 研究进展
【英文关键词】PCR technology Sex identification Sex control Progress
【中文摘要】PCR技术是一项发展迅猛的生物技术,因具有快速、灵敏、简便及特异性强等特点而被广泛应用于性别鉴定及其它许多相关研究领域。应用于性别鉴定的PCR方法从简单PCR法、双重或多重PCR法、巢式PCR法发展到改进的两温度梯度PCR法;而不同性别间除了呈现有或无关系(类似于Sry基因)的基因序列外,也检测到了很多类似于锌指蛋白和牙釉蛋白的呈现不同性别特征的基因序列,这为性别鉴定引物的设计和PCR法进行性别鉴定提供了另一种全新的思路,即如果根据这种性别多态性DNA序列特点设计引物,采用两温度梯度PCR扩增技术进行PCR性别鉴定,则可望简化鉴定程序、降低检测时间、提高鉴定效率,使PCR性别控制技术更加成熟和实用化。随着研究的深入,PCR技术在性别鉴定及控制的应用中必将日益成熟,并推动此项技术在其它相关领域中的研究和应用取得更大的进展。
【英文摘要】As a rapid development biological technology, PCR has been widely used in many related fields such as sex identification with its rapidness sensitiveness, convenience and specificity. The PCR method used in sex identification varies from simple PCR, nested PCR tomodified two-temperature gradient PCR. Besides the gene sequences such as SRY, which only locates in the Y chromosome, gene sequences like zinc finger protein which present different gender characteristics between different genders were also detected. This has provided a brand-new primer designing thought and PCR method for sex identification. With the development of the study, the PCR technique is bound to become more mature on the application of sex identification and sex control. Much more progress will be made on promoting the application of PCR to other related fields at the same time.
【语种】中文
【第一作者】林博
【通讯作者】王栋
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【题目】cDNA消减文库差异表达基因检测分析方法的研究进展
【中文关键词】文库筛选; 差异表达基因; 检测分析
【英文关键词】library screening ; differentially expressed genes; detection and assay
【中文摘要】同已有的差异表达基因分离方法相比, 抑制消减杂交以其快速、高效及假阳性率低等优点被广泛应用, 并形成了反向Northern 斑点杂交和表达谱基因芯片技术2 种差减cDNA 文库筛选方法, 同时, 快速发展的生物信息学为文库中大量阳性差异表达片段的序列分析提供了最有力的技术手段, 而RT- PCR 和实时荧光定量PCR 为进一步在mR N A 水平验证基因的表达差异性和初步揭示基因功能奠定了技术基础。作者在简要综述上述各方法的原理、特点及应用基础上指出, 先测序后筛库的研究策略可以在成本增加较低的前提下大幅度提高差异表达基因的研究效率。
【英文摘要】Compared with the existing methods on separating differentially expressed g enes, suppression subtractive hybridization has been used extensively for the characteristics of high eff iciency and low false positive rate, and reverse Northern dot blotting and expression profile gene chip of two kinds of techniques had been developed to screen the subtractive cDNA libraries. At the same time, the highly developing bioinformatics provides the most forceful means to analyse the sequence information of positive differentially ex pressed fragments. Further more, RT- PCR and real time fluorescence quantitative PCR are the methods that further validate the differential expression of genes at mRNA level and exposit the gene functions preliminarily. After reviewing the principles, characteristics and applications of these methods, suggestion was given that the efficiency of research on differentially expressed genes will be increased largely while the cost will not if the library screening strategy was used after sequencing the clones.
【语种】中文
【第一作者】岳洋
【通讯作者】王栋
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【题目】牛精子蛋白质组的双向电泳和质谱鉴定初步研究
【中文关键词】精子;蛋白质组学;双向电泳;基质辅助激光解吸电离飞行时间质谱
【英文关键词】spermatozoa; proteomics; two-dimenional gel electrophoresis; MALDI-TOF-MS
【中文摘要】通过建立牛精子双向电泳 - 质谱鉴定研究平台 ,为从蛋白质水平研究精子生理机能奠定技术基础;采用改进的热 TRIzol法裂解精子细胞制备蛋白 ,应用双向凝胶电泳 (22DE)分离牛精子蛋白 ,通过基质辅助激光解吸电离飞行时间质谱 (MALD I2TOF2MS)鉴定蛋白质点。得到了重复性较好的牛精子2DE图谱 ,质谱鉴定 16个蛋白质点。建立牛精子双向电泳- 质谱鉴定研究平台,为后续牛精子X、Y差异蛋白点的检测和分析奠定了理论和技术基础。
【英文摘要】In order to lay a technological foundation for studying physiological function of spermatozoa, proteomics research of bovine spermatozoa with two dimensional gel electrophesis and MALDI-TOF-MS were established. The heat TRIzol method and two dimensional gel electrophoresis(2DE) were used to separate the total proteins of bovine X and Y spermatozoa, ImageMaster 6. 0 software was applied to analyze 2DE images, and proteins were identified by both MALD I-TOF-MS and 2DE. As a result, 16 proteins in the spermatozoa were identified. So it provided a basis for detecting and analyzing the differential proteins of the X and Y bovine spermatozoa.
【语种】中文
【第一作者】韩卫东
【通讯作者】王栋
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【题目】Study on cryodamge mechanism of sperm cryopreservation of bovine
【中文关键词】Proteomics / transcriptomics / cryodamage mechanism/sperm
【英文关键词】Proteomics / transcriptomics / cryodamage mechanism/sperm
【中文摘要】Cryopreservation of bovine sperm can result in as much as a sevenfold fertility decrease. Studying the change of gene expression in transcriptomics and the proteomics level will be useful in understanding the damage mechanism of sperm cyopreservation, and help to find the solution method to increase the efficacy of cryopreservation. Fresh and frozen bull sperm were lysed by TRIzol combining with β -mercaptoethenol respectively. The aqueous phase was used to isolate the total RNA to construct the suppression subtract hybridization library, while the organic phase was used to prepare the global protein. Now the optimized 2D technique has been set up, and the primary 2D map of bovine sperm protein was obtained, in which more than 1000 protein spots could be detected with 2D Platinum 6.0 software. The comparative analysis of global protein between fresh and frozen bull sperm was being proceeded. At the same time, the suppression subtract hybridization library had been constructed and the differential screening step was being performed to minimize the false positive. The results will be verification from the transcriptomics and the proteomics respectively, the cryodamage mechanism will be primarily revealed at last.
【英文摘要】Cryopreservation of bovine sperm can result in as much as a sevenfold fertility decrease. Studying the change of gene expression in transcriptomics and the proteomics level will be useful in understanding the damage mechanism of sperm cyopreservation, and help to find the solution method to increase the efficacy of cryopreservation. Fresh and frozen bull sperm were lysed by TRIzol combining with β -mercaptoethenol respectively. The aqueous phase was used to isolate the total RNA to construct the suppression subtract hybridization library, while the organic phase was used to prepare the global protein. Now the optimized 2D technique has been set up, and the primary 2D map of bovine sperm protein was obtained, in which more than 1000 protein spots could be detected with 2D Platinum 6.0 software. The comparative analysis of global protein between fresh and frozen bull sperm was being proceeded. At the same time, the suppression subtract hybridization library had been constructed and the differential screening step was being performed to minimize the false positive. The results will be verification from the transcriptomics and the proteomics respectively, the cryodamage mechanism will be primarily revealed at last.
【语种】英文
【第一作者】王栋
【通讯作者】王栋
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【题目】牛冻、鲜精子差异蛋白双向电泳和质谱鉴定的初步研究
【中文关键词】冻、鲜精子;2-DE;质谱分析;冷冻损伤
【英文关键词】frozen and fresh spermatozoa; 2-DE; MS; cryodamage
【中文摘要】采用适合于精子裂解的热 Trizol法制备牛精子全蛋白质,应用线性固相IPG 胶条(pH3~7、24cm)进行精子全蛋白2-DE电泳,在冻精和鲜精蛋白图谱中分别检测到839 ±34个蛋白点和564 ±16个蛋白点,经差异比较和显著性检验,在冻、鲜精子中共得到19个具有显著差异的蛋白点,在冻精中表达上调的蛋白点有9个,表达下调的蛋白点有1个,只在 冻精中表达的蛋白点有9个。经过酶解和质谱鉴定,获得了3个差异蛋白点的质谱信息,生物信息学分析结果发现,这3个差异点分别为中性鞘磷脂酶激活结合因子(FAN)、谷胱甘肽S转移酶(GST-Mu5)及锌离子结合细胞色素氧化酶,分别与细 胞 应 激 和 凋 亡有 关。推测认为,这3种与细胞应激反应及凋亡相关的蛋白在冻精中显著增高可能与精子冷冻损伤有关。
【英文摘要】Heat Trizol method was used to prepare the global protein of bovine spermatozoa, and the global proteins of fresh sperm and frozen sperm was separated by the technique of 2-DE with linear IPG(pH 3 to pH7, 24 cm). 839±34 protein spots were obtained from the sample of frozen spermatozoa, while 564±16 from the sample of fresh spermatozoa. 19 differential proteins between frozen and fresh sperm were detected after analysis and significance test with software of ImageMasterTM 2D platinum, 9 of which were expressed up-regulated while one of which was down-regulated in the sample of frozen spermatozoa. In addition, 9 spots were found only in frozen sperm. After enzymolysis and MS detection, mass sperctrum information of 3 differential proteins were considered to be neutral sphingomyelinase(N-SMase) activation associated fractor(FAN), glutathione-S-transperase(Mu5) and zincion binding structure of bovine heart cytochrome coxidase in the fully oxidized state, which were related to cell stress and apoptosis. It was

presumed that the increasing of these proteins significantly in frozen sperma were involved with cryodamage of sperm.
【语种】中文
【第一作者】吴承疆
【通讯作者】王栋
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【题目】猪精子冷冻损伤研究进展
【中文关键词】猪 精子 冷冻损伤
【英文关键词】Boar, Sperm, Frozen-thawed damge
【中文摘要】综述了猪冻存精子顶体、质膜和线粒体的形态学变化及其对精子受精能力的影响,同时分析了冻融精子中所发生的蛋白质、DNA等生物大分子的变化及其可能对冻存精子质量及受精能力的影响,指出冷冻保存过程对精子蛋白质、DNA等生物大分子质和量的影响是精子冷冻损伤的实质,应用先进的蛋白组学进行猪精子冷冻损伤机理研究,有助于深刻揭示冷冻损伤的分子机理,为推动猪精液冷冻保存技术研究取得突破性进展提供理论依据。
【英文摘要】The morphological change of acrosome, plasma membrane and mitochondrion of rozen-thawed boar sperm and their effect on the fertilization ability of sperm were reviewed, and the changes of biomacromolecules of frozen-thawed boar spermatozoa were also analysed. As a result, the conclusion was drawn that the effect of quality and quantity of biomacromolecules such as protein, DNA, are the cryodamage essence of frozen- thawed spermatozoa in the process of cryopreservation. The application of the advanced proteomics on study of the cryodamage mechanism of frozen-thawed boar spermatozoa will contribute to the elucidation of the molecular mechanism of freezing injury, and will provide rationale support for the technique breakthrough of the cryopreservation of boar semen.
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【第一作者】陈晓丽
【通讯作者】王栋
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【题目】蛋白质组学技术在精子蛋白研究中的应用
【中文关键词】精子蛋白 蛋白质组学
【英文关键词】Sperm protein Proteomics
【中文摘要】从蛋白质组学研究的技术手段、蛋白质组学在人类不育及精卵相互识别并结合的机理研究、免疫法开展男性避孕方法的研究及蛋白质组学研究方法在家畜繁殖环节中的应用等几个方面阐述了蛋白质组学在人类生殖及动物繁殖环节相关研究中的重要作用。说明蛋白质组学已经成为生命科学未来发展的主要分支之一,为揭示生命个体的蛋白质动态变化提供了技术手段和理论基础,并将在药物开发,生命活动机理研究等方面发挥巨大作用,也必将会在家畜繁殖学领域发挥其应有的作用。
【英文摘要】Proteomics was important for the coherent study of human reproduction and animal breeding including human infertility, sperm2egg binding and mutual recognition of the mechanism. It was well known that proteomics had become one of the main branches of life sciences in the future. This provides the technological means and theoretical foundation for the individual dynamic changes in the protein. A t the same time, it plays an important role in the drug development, the mechanism of life activities and in the field of livestock breeding.
【语种】中文
【第一作者】韩卫东
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【学科分类】畜牧、兽医科学基础学科

【题目】宰前休息方式对猪福利、血液成分及肉质的影响
【中文关键词】商品猪 休息方式 猪福利 血液指标 肉质;
【英文关键词】finishing pigs; lairage conditions; mental performance; blood index; meat quality
【中文摘要】选取体质量约为100 kg、氟烷基因型为NN的长×大二元杂交猪60头,随机分为3组:不休息组,休息3 h组,休息3 h+玩具组,公母各半。根据评分标准分别记录休息过程中猪的精神状况。放血时收集血样,用于分析血浆中皮质醇、促肾上腺皮质激素(ACTH)浓度,乳酸脱氢酶、肌酸激酶活性,乳酸、血糖浓度;添加EDTA-K2抗凝剂的血样用于血细胞分析。同时在放血时,测定血温。屠宰后,测定背最长肌24 h滴水损失;背最长肌(LM)、半膜肌(SM)45 min以及24 h的pH、色值、导电率。结果表明:①休息3 h+玩具组在3个时间段的精神评分要极显著高于休息3 h组,随着时间的延长猪都表现出趋于平静的趋势;②休息3 h+玩具组和休息组3 h组在皮质醇、促肾上腺皮质激素要显著低于不休组(P<0.05),相反乳酸脱氢酶、肌酸激酶要显著高于不休息组(P<0.05),而休息3h+玩具组与休息3 h组差别不显著(P<0.05);③3个休息处理组在肉质指标上没有出现显著差别(P<0.05);④休息3 h+玩具组、休息3 h组在红细胞数(RBC)、血红蛋白含量(HGB)均要显著低于不休息组(P<0.05);休息3h+玩具组在白细胞数(WBC)上显著高于不休组(P<0.05);休息3 h组的淋巴细胞绝对值(W-SCC)显著高于不休息组(P<0.05);而休息3 h+玩具组与休息3 h组在所有的免疫指标上都没有显著差异(P>0.05)。根据上述的结果显示,宰前一定要让猪有一个休息的过程,这种措施能有效缓解猪的应激,并能恢复其免疫能力;在休息的过程中,添加部分福利玩具,至少对猪的精神状态有明显的好处。
【英文摘要】A total of 60 crossbred(Large White × Landrace) pigs with halothane genotype NN(castrated males and females) were allotted into three treatments:3 h lairage with toys,3 h lairage and 0 h lairage in a randomized complete block design and used to evaluate the influence of lairage conditions on mental performance, blood index and meat quality for finishing pigs at slaughter.Mental performance of the pigs was recorded by score standards during lairage. Blood samples were taken at exsanguinations to measure blood temperature, plasma cortisol, ACTH, glucose, lactate, plasma enzymes and hematological index.Post-mortem meat quality measurements including muscle colour value(MCV),electrical conductivity(EC),pH at 45 min and 24 h from Longissimus thoracis and Semimembranosus and drip loss were taken respectively.The result showed:① 3 h lairage group with toys demonstrated significantly higher mental performance than 3 h lairage group at 3 sampling times.All the pigs showed increasedly calm with the lairage time running off;② 0 h lairage increased cortisol, ACTH and lactate(P<0.05),while decreased lactate dehydrogenase(LDH), creatine kinase(CK)(P<0.05).All biochemical index in serum were not influenced by toys during lairage(P<0.05);③ Muscle colour value, electrical conductivity, pH at 45 min and 24 h from Longissimus thoracis(LM)and Semimembranosus(SM) and drip loss were not affected by any treatment(P<0.05);④ 3 h lairage with toys and 3 h lairage groups exhibited high red blood cell(RBC),hemoglobin(HGB) when compared to 0 h lairage.Whereas,3 h lairage with toys displayed higher white blood cell(WBC) levels than 0 h lairage. In addition, Lymphocyte(W-SCC) was significantly higher in 3 h lairage compared with 0 h lairage. There were significant difference for hemocyte index between 3 h lairage with joys and 3 h lairage groups.We could conclude from the results that in local commercial conditions, the most adequate pre-slaughter lairage time was 3 hours for short travel. Pigs resting showed an increase in relieving stress and a recovery in immune competence. Hence, holding pigs in lairage with toys for a few hours after arrival at the abattoir may at least improve mental state.
【语种】中文
【第一作者】蒋思文
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【题目】宰前应激对猪肉质的影响以及初步机理研究

【中文关键词】宰前应激;肉质;应激激素;肌细胞
【英文关键词】pre-slaughter stress; meat quality; stress hormones; primary muscle cells
【中文摘要】宰前应激在我国猪肉生产中普遍存在。本文旨在研究宰前应激对肉质的影响以及肉质的变化与应激激素之间的关系。并通过体外细胞模型来模拟应激状态下应激激素对肌细胞的影响。结果表明:宰前导致应激激素显著上升(P<0.05),同时大部分肉质指标也发生显著的变化(尸<0.05)。进一步的相关分析表明:宰前应激状态下,应激激素的变化与大部分肉质指标存在着显著相关(P<0.05)。细胞应激模型表明:地塞米松(DEX)对肌细胞有明显的细胞毒性,同时下调GRa基因的表达。BAx基因表达量随DEX刺激浓度的增加而上调,Bcl-2与之相反。且均具有浓度依赖效应。等浓度的Ru486能够完全抑制DEx的生物学效应。推测宰前应激可能通过应激激素与GRa结合发挥其对肌肉组织的毒性作用,这种作用可能通过BAX/Bcl-2来实现对肉质的改变。
【英文摘要】The Pre-slaughter stress commonly existed in the meat practice of pigs. To study the effects ofPre-slaughter on the meat quality and stress hormones of finishing Pigs. A stress model of skeletal muscle was employed in vitro to further find some mechanism of stress hormones how to influence meat quality. The result showed: most of the meat quality was marked change accompanies with an exaggerated release of stress hormones(P<0.05). Statistically there was significant correlation between most of the meat quality and stress hormones(P<0.05). Here we show that in stress model of muscle cells, DEX has significant cytotoxic effects on muscle cells and also markedly down- regulated the expression of GRa. In addition, the mRNA level of Bel-2 was down-regulated while that of BAX was up-regulated, leading to increased ratio of Pro- aPoPtotie BAX/Bcl-2 in a dose-dependent manner. These effects could be prevented by isoconeentration of RU486. We could speculate on the basis of the results obtained from this pilot study that stress hormones might exert its cytotoxic effects on muscle tissue via the binding of GRa and GRa might up- regulate the ratio of BAX/Bel-2 which in turn finally affect meat quality.
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【题目】宰杀方式对猪血液成分以及肉质的影响
【中文关键词】宰杀方式; 生化指标; 免疫指标; 肉质
【英文关键词】slaughter measure; biochemical indicator; immunity indicator; meat quality
【中文摘要】选择体重约为100 kg、氟烷基因型为NN的长×大二元杂交猪16头,按照年龄、体重相近,公母各半原则分为2组,试验1组采取直接刺杀心脏放血致死。试验2组采取电麻(75 V1、.5 A、3~4 s)击晕后,割破颈部血管放血致死。屠宰后测定血液生化指标、相关肉质指标以及免疫指标。结果表明:屠宰方式对肉质与免疫能力的影响较小,但反映应激程度的激素指标(皮质醇、促肾上腺皮质激素)差异显著,在屠宰过程中,经历电麻击晕方式的猪比直接刺杀心脏放血屠宰的猪应激程度要小得多,从动物福利角度考虑,电麻击晕优于直接刺杀心脏放血。因此,在这2种屠宰方式选择上,应该优先考虑电麻击晕这一屠宰方式。
【英文摘要】Sixteen crossed pigs(Landrace×LargeWhite) with same HAL genotype(NN) were allotted to two groups according to the age,weight,and sex through a randomized complete block design.The average body weight of these pigs were 100 kg.Pigs were slaughtered by directly killing heart in group 1,and the others were stunned by electricity(75 V,1.5 A,3~4 s).Some blood indicators,meat quality and immunity indicators were analyzed immediately after exsanguinations.The result showed:slaughter measures had little effect on immunity and meat quality.However,some stress indicatiors,such as cortisol and ACTH,showed significant differences between two slaughter methods.It was concluded that pigs subjected to directly killing showed a more intense stress response than pigs subjected to electrical stun-kill.Accordingly,compared to those slaughter methods,we should preferentially choose electrical stun-kill methods,taking into account pig welfare.
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【题目】环境富集和饲养密度对绵羊福利的影响
【中文关键词】小尾寒羊;福利;环境富集;饲养密度
【英文关键词】small tail han sheep; welfare; environmental enrichment; stocking density
【中文摘要】试验主要研究环境富集和饲养密度对绵羊生产性能、血清指标、屠宰性能的影响。选用健康的小尾寒羊24只,分为A、B、C3组,每组8只,A组为高集约化模式,B组为高集约化模式+运动场模式,C组为环境富集模式。结果表明,各组绵羊的末重、平均日增重、平均日采食量、饲料转化率差异不显著,环境富集和适宜的饲养密度有提高绵羊生产性能的趋势。环境富集和适宜的饲养密度可以极显著改善前膝清洁度指数(P<0.01),显著改善后膝、后臀的清洁度指数(P<0.05);环境富集和适宜的饲养密度能显著降低第37天血清皮质醇浓度(P<0.05);各组肉品质差异不显著(P>0.05);宰杀后各组pH45min和pHult的差异不显著(P>0.05)。因此,环境富集和饲养密度能在一定程度上提高绵羊福利。
【英文摘要】A study was conducted to investigate effects of environmental enrichment and stocking density on performance,serum cortisol concentrations,meat quality and sarcous pH of sheep,twenty four small tail han sheep were assigned to three treatments:①confinement in a pen(A);②confinement in a pen with a yard(B);③confinement in a pen with a yard and environmental enrichment as well(C).The results showed that environmental enrichment and stocking density had no significant effects on growth performances(P>0.05),although they tended to improve it.A highly significant difference in surface cleanness existed among groups(P<0.01)and at Day 37,environmental enrichment and stocking density significantly significantly decreased serum cortisol concentration(P<0.05).Environmental enrichment and high stocking density did not affect meat yield and pH45 min,pHult of sarcous(P>0.05).The results indicated that environmental enrichment and stocking density can improve sheep welfare.
【语种】中文
【第一作者】刁其玉
【通讯作者】刁其玉
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【题目】畜禽应激、福利与肉品质
【中文关键词】动物应激;动物福利;肉品质
【英文关键词】animal stress; animal welfare; meat quality
【中文摘要】规模化、集约化的工厂式畜禽养殖及加工方式在我国不断推广,与之相关的畜禽应激问题也随之而来,严重影响了动物的福利,进而影响了畜禽的健康及产品品质。本文主要从饲养、运输和屠宰三个环节阐述了畜禽应激、福利与肉品质的联系。
【英文摘要】With the development of intensive livestock, more and more studies focus on animal stress and welfare, which further affected the animal health and meat quality. This article expatiates the relationship between animal stress, animal wealfare and meat quality induced during livestock production, transport and slaughter period.
【语种】中文
【第一作者】顾宪红
【通讯作者】顾宪红
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【题目】地面类型和玩具对生长猪生长和健康的影响
【中文关键词】生长猪;地面类型;玩具;加热地面;健康
【英文关键词】growing pig; floor type; toys; warm floor; health
【中文摘要】试验选用平均体重为26.22kg的生长母猪(大白♂×长白♀)432 头,随机等分成冷地面、冷地面+玩具、加热地面、加热地面+玩具 4 个处理,每个处理 6 个重复,每个重复18 头猪,1 圈为1 个重复,试验期为 35 天。试验期间记录每个处理猪的采食量皮肤损伤得分和圈栏污染情况;采集血样测定肌酸激酶、血糖浓度以及嗜中性粒细胞/淋巴细胞比值(N/L);采集唾液测定皮质醇浓度。结果表明:①与冷地面组相比,加热地面组平均日增重显著升高(P =0.01) ,料肉比极显著降低 (P <0.01) ;玩具能够显著降低猪的平均日采食量(P =0.03) ,但是地面和玩具的互作对猪的生产性能没有显著影响 (P =0.27-0.78) 。②加热地面组相比冷地面组能够显著降低圈栏污染面积(P =0.02) 和躯体皮肤损伤程度(P =0.01) ,加热地面上猪的蹄部损伤也有降低的趋势 (P =0.10) ;玩具对圈栏污染面积和猪体表损伤的影响均不显著(P>0.05) 。③加热地面与冷地面相比显著降低了血糖(Glu)水平(P =0.02) ,玩具显著降低了嗜中性粒细胞的数量(P =0.03) 和N/L 值(P=0.04) 。④试验第一周加热地面上饲养的猪皮质醇浓度极显著降低(P <0.01) ,但是第三周皮质醇浓度无显著减少(P =0.44) ,到第五周仍显著降低 (P =0.04) 。由本试验得出,加热地面可以提高猪的生产性能,减少圈栏污染面积和皮肤损伤;加热地面和玩具都可以减少猪的应激,改善动物福利。
【英文摘要】Four hundreds and thirty-two White×Landrace female growers with initial weight of 26.22±1.17kg were randomly allotted to investigate the effect of floor type (no warm floor and warm floor) and toys (no provided and provided) on the performance and welfare of growing pigs for 35 days. The results showed that, warm floor significantly increased ADG (P =0.01) and decreased F/G (P<0.01) compared to cold floor and toys significantly decreased ADFI (P =0.03), but no interaction between floor type and toys was showed on performance (P =0.27-0.78). The pollution area in pens (P =0.02) and body skin lesion scores (P =0.01) were significantly decreased in the warm floor group compared with the cold floor group. In addition, hoof lesions showed degressive trend in warm floor group (P =0.10), and the pollution of pens and body skin lesion scores had no significant differences between no toys and toys provided. Blood sugar level was significantly decreased in the warm floor compared with the cold floor (P =0.02). Blood neutrophil / lymphocyte (N/L) in the pigs provided with toys significantly decreased (P =0.04). The saliva cortisol level of warm floor group was significantly decreased in the former phase and the latter phase of the trial (P <0.01, P=0.04). In conclusion, warm floor could enhance the performance, reduce the pollution of pens and skin lesions, and in addition, warm floor and toys could reduce the stress and improve the welfare in the pigs.
【语种】中文
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【中文关键词】畜禽福利;有机畜牧业
【英文关键词】livestock and poultry welfare; organic livestock
【中文摘要】本文从畜禽福利和有机畜牧业的概念出发,阐述了二者之间的关系以及在我国的重视程度、发展现状和实践意义。最后就我国畜牧业的发展提出了自己的思考,预测了畜禽福利和有机畜牧业各自的前景。
【英文摘要】This article expounds the relation between the two in our country and the attention of development, the present situation and practical significance from livestock welfare and organic concept of animal husbandry. Finally talk about the development of animal husbandry in China, and forecasts the prospect of their respective of the welfare of livestock and the organic poultry and animal husbandry.
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【题目】不同胚龄皮质酮处理对鸡胚胎生长发育的影响
【中文关键词】鸡; 胚胎发育; 皮质酮; 孵化率
【英文关键词】chicken; embryo development; corticosterone; hatching ability
【中文摘要】本试验通过不同胚龄鸡胚外源皮质酮处理,研究外源皮质酮对鸡胚生长发育及出雏效果的影响,初步探索肉鸡代谢程序化效应。700枚质量相近的AA肉鸡种蛋,分3个不同时间进行卵黄囊重复注射:孵化前注射(E0);7胚龄注射(E7);14胚龄注射(E14);每一时间点分200 ng皮质酮处理组和玉米油正对照组,并设定负对照组1个。21胚龄记录出雏时间、出雏率、出雏重、屠宰器官质量,并测定雏鸡血浆中血糖、尿酸和甘油三酯含量。结果表明:0胚龄皮质酮处理显著降低了孵化率(P<0.05),增加了胚胎的死亡率;7胚龄200 ng皮质酮处理组缩短了孵化时间(P<0.05),并有降低孵化率的趋势,鸡胚胎的心脏、肝脏的发育受到了抑制(P<0.05)。研究表明皮质酮的处理效应与注射胚龄有关,此外注射本身也会对胚胎的发育和物质代谢造成一定的影响。
【英文摘要】The experiment was conducted to investigate the possible effect of corticosterone treatment at different hatching time on the development of chicken embryos.Seven hundreds of AA broiler eggs were divided into 7 groups and randomly subjected to one of the seven treatments:corticosterone treatment(200 ng) at E0,E7 and E14,three positive control groups that injected with corn oil at E0,E7 and E14,and one negative control group.The incubation time,hatching ability and posthatching body weight were recorded.The blood samples were collected and the organs weight were measured after hatching.The results indicated that corticosterone treatment at E0 significantly reduced hatching ability(P<0.05) and increased mortality of embryo.Corticosterone treatment at E7 shortened the incubation time(P<0.05) and tended to reduce the hatching ability.The development of heart and liver were restrained by corticosterone treatment(P<0.05).The result showed that the effect of corticosterone on the development of chicken embryo was age dependent.Moreover,the effect of injection had an adverse effect on embryos as well.
【语种】中文
【第一作者】林海
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【题目】蛋鸡笼养的福利问题
【中文关键词】蛋鸡;笼养;福利
【英文关键词】hen;cage culture;welfare
【中文摘要】随着蛋鸡生产集约化程度的不断提高,蛋鸡笼养所产生的动物福利问题越来越受到人们关注,世界各国的动物福利组织及法规都要求改善蛋鸡的福利状况。作者综述了蛋鸡笼养所产生的福利和健康问题,以及对传统鸡笼的替代方式。
【英文摘要】With the continuous improvement of the degree of intensification of laying hens, more and more attention is arisen to animal welfare issues for the caged hens. Animal welfare organizations and regulations of the countries in the world are for improving the welfare of laying hens. Caged laying hens welfare and health issues, as well as an alternative to the traditional cages are reviewed here.
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【题目】不同笼养条件下蛋鸡健康与福利的比较研究
【中文关键词】笼养条件;蛋鸡;健康;福利;环境
【英文关键词】cage conditions;layers;health;welfare;environment
【中文摘要】研究不同笼养条件下蛋鸡的健康和福利状况。选取位于北京地区的3家商品蛋鸡场,场A、B、C,其饲养密度分别为411、420和450 cm2/只。对夏季不同蛋鸡场内环境参数及空气中NH3、CO2和H2S的质量浓度进行测定,记录蛋鸡的产蛋性能和死亡率,分析异常行为的发生频率。结果表明:场C的即时风速、最大风速和平均风速均显著高于场A和B(P<0.05),场C和A的空气温度、风寒温度、应激温度、露点温度均显著低于场B(P<0.05)。NH3和CO2质量浓度各场均有显著差异(P=0.003和P=0.011),其中均以场C最低,分别为1.00和83.73 mg/m3;H2S质量浓度低于测定下限1.00 mg/m3。观察发现,场C鸡群比场A和B鸡群对外界敏感性强。蛋鸡外观评分各场差异不显著,但蛋鸡步态评分及鸡蛋污损评分各场差异显著(P=0.042和P=0.023),其中步态评分场C显著高于场A和B(P<0.05),鸡蛋污损评分场C显著低于场A和B(P<0.05)。各场中蛋鸡异常行为的发生频率无显著差异。场C入舍母鸡产蛋量显著高于场A和B(P<0.05),平均蛋重、料蛋比、平均产蛋率、高峰期产蛋率、腿病发生率、产蛋疲劳症发生率、死亡率各场均无显著差异,但场C蛋鸡生产周期显著短于场A和B(P<0.05)。3家商品蛋鸡场饲养环境、管理措施等综合因素造成的差异远大于单纯饲养密度造成的差异,为了提高现阶段我国笼养蛋鸡的健康和福利状况,应该更加重视蛋鸡整体养殖环境和管理措施的改善。
【英文摘要】Layer’s health and welfare were compared under different cage conditions.Three commercial layer farms in Beijing were chosen(named A,B and C,respectively) and their stocking densities were 411,420 and 450 cm2,respectively.The environmental parameters,atmospheric NH3,CO2 and H2S concentrations were measured;and laying performance,mortality and incidence frequency of abnormal behavior of layers were recorded and analyzed.The results show that the wind speed,maximum wind gust and average wind speed of C were significantly higher than those of A and B(P<0.05);atmospheric temperature,wind chill,hot stress and dew point in A and C were significantly lower than those B(P<0.05).There were significant differences for average NH3 and CO2 concentration among the farms(P=0.003 and P=0.011) and NH3 and CO2 concentrations in C were lowest(1 mg/m3 and 83.73 mg/m3,respectively)(P<0.05); average H2S concentration was below the limit of 1 mg/m3.The birds from C were observed to have a greater sensitivity to outside visitors compared with those from A and B.Appearance score had no significant difference,but gait score and egg contamination score had significant difference among the farms(P=0.042 and P=0.023),in which gait score of C was significantly higher than that of A and B,and egg contamination score of C was significantly lower than that of A and B.The incidence frequency of abnormal behaviours had no significant differences among the farms.The hen-week egg production was significantly different among the farms(P=0.004),in which C was significantly higher than A and B(P<0.05);there had no significant differences for average egg mass,feed egg ratio,average egg production rate,egg production rate at peak period,leg diseases incidence,layer fatigue incidence,and mortality,except that the production period of C was significantly shorter than that of A and B(P<0.05).The study showed that great differences among the three cage conditions had greater effects on the health and welfare of layers than the stocking density and cage way themselves.To increase the current layer’s health and welfare,more emphasis should be put on the improvement of the total environmental condition and management measures.
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【题目】环境丰富度对肉猪生产性能及胴体性状的影响
【中文关键词】舍饲; 环境丰富度; 育成育肥猪; 生产性能; 胴体品质
【英文关键词】housing system; environmental enrichment; growing-finishing pig; performance; carcass trait
【中文摘要】舍饲圈栏环境对猪的生长发育和健康影响很大,为了解不同环境丰富度配置与肉猪生产性能和胴体性状之间的关系,利用铁链、玩具球以及拱槽3种福利性设施,设置8种不同的环境丰富度,对达兰配套系的320头70至150日龄的育成育肥猪进行了试验研究。结果表明:环境丰富度对育成育肥猪的生产性能和胴体品质有明显影响,其中同时设置铁链、玩具球、拱槽试验组的猪只生产性能和胴体品质最好,平均出栏重、平均日增重比对照组提高了5.49kg(p<0.05),10.84%(p<0.05),料重比比对照低13.83%(p<0.05),各处理组的背膘厚、屠宰率、瘦肉率、眼肌面积、胴体长度和后腿比例也均以同时设置铁链、玩具球、拱槽试验组为最好。

【英文摘要】In order to investigate the relationships of housing system environment enrichment on performance and carcass traits of pork pigs, eight different combinations of environmental enrichment were placed in the growing-finishing pig pen with three kinds of welfare establishments: iron chain, toy ball and concrete box with cobbles. A total of 320 Darlland synthetic line pigs(from 70 d to 150 d in day-age) were used to evaluate the influences of the eight combinations environment enrichment on growth performance and carcass characteristics. The results showed that the growth performance and carcass characteristics of pork pigs could be affected by the environment enrichment. Among the seven pens, the highest growth performance and the best carcass characteristics of pigs were showed in the seventh pen which enriched with iron chain, toy ball, and concrete box together. The average finishing weight of the seventh experimental group was 5.49 kg and average daily weight gain(ADG) was 10.84% higher than that of control group($p<0.05$). And the feed conversion ratio(FCR) significantly decreased by 13.83% at the experiment stage. The results of slaughting trial showed that the average thickness of backfat, carcass yield, eye muscle area, carcass length, and the hinder leg weight ratio were better than those of the control group. The seventh group was also the best among the experimental groups.
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【题目】夏季饮水温度和圈舍使用风扇对绵羊福利的影响
【中文关键词】小尾寒羊;动物福利;热应激;饮水温度;风扇
【英文关键词】Small-tail Han sheep; animal welfare; heat stress; water temperature; fan
【中文摘要】选用健康的小尾寒羊36只,分为4组,每组3个重复,每重复3只,研究了水温和风扇因素对小尾寒羊生长性能、血清指标、运动量、生理参数的影响。人工设置环境分别为:A组.暴晒+饮水水温35°C;B组,饮水水温25°C;c组,饮水水温15°C;D组,风扇(3.5 m/s)+饮水水温1O°C。结果表明,饮用冷水和风扇因素对试验羊的生产性能没有显著影响($P>0.05$);血清学指标显示,第3O天D组血清皮质醇浓度显著低于A、B组($P<0.05$);第4周c、D组的运动量显著高于A、B组($P<O.05$),A组直肠温度显著高于其他3组($P<O.05$);整个试验期D组的呼吸频率极显著低于其他3组($P<0.O1$)。因此,夏季采用凉水和风扇能部分改善小尾寒羊的福利。
【英文摘要】无
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【第一作者】刁其玉
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【题目】环境富集材料对不同饲养密度条件下肉鸡生产性能的影响
【中文关键词】饲养密度; 环境富集材料; 肉鸡; 生产性能
【英文关键词】stocking density; environmental enrichment materials; broiler; production performance
【中文摘要】选择21日龄健康的AA肉公鸡816只,研究环境富集材料对不同饲养密度条件下肉鸡生产性能和屠宰性能的影响。试验采用3(饲养密度)×2(环境富集材料)设计,每个处理4个重复。试验结果表明:随着饲养密度的增加,肉鸡日增重和采食量极显著地降低($P<0.01$),料肉比明显增加($P<0.01$),添加环境富集材料除能使高饲养密度组的死亡数大幅度降低外,对生产性能的其他指标影响不明显($P>0.01$);添加环境富集材料能使不同饲养密度水平下饲养的肉鸡的腹脂率明显下降($P<0.05$)。研究表明:高饲养密度降低了肉鸡的日增重和采食量,增加了料肉比;在肉鸡舍中添加环境富集材料降低了肉鸡的腹脂率,且在一定范围内可提高屠体率。
【英文摘要】The effects of environmental enrichment materials on the production and slaughter performance in different stocking density were investigated in these treatments in broiler.This experiment adopted 3(stocking density) ×2(enriched material)

design,selecting 21-day-old healthy Male chickens 816 piece from Arbor Acres(AA) and respectively were equally randomly distributed to 6 treatments,each treatments with repeat 4.The results of this experiment showed that with the stocking density increasing,broiler ’ s daily gain and feed intake was significantly decreased(P<0.01),and feed conversion rate was significantly increased(P<0.01).Add environmental enrichment materials,except enable high stocking density treatments mortality decreased by half,other performance indicators was not obvious effects(P>0.01);stocking density was not affected for carcass ’ s property(P>0.05),but add environmental enrichment materials enable different stocking density levels of feeding chickens percentage of abdominal fat was significantly decreased(P<0.05).The study indicates that high stocking density reduces the broiler ’ s daily gain and feed intake and increased feed conversion rate;Add environmental enrichment materials to percentage of reduce abdominal fat in broiler housing,thereby improving the utilization of the carcass.

【语种】中文
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【题目】环境富集材料对肉鸡福利指标的影响
【中文关键词】环境富集材料; 肉鸡; 福利指标
【英文关键词】environmental enrichment materials; broilers; welfare indicators
【中文摘要】【目的】探讨富集环境材料对肉鸡福利水平的影响。【方法】选择健康状况良好、体重为(368.18±1.03)g的600只22日龄AA肉公鸡,随机分在栖架、玩具、沙粒、栖架+玩具+沙粒的复合组及对照5个组中,每个处理3个重复,每个重复40只鸡。【结果】结果表明:增加栖架和玩具可更好的满足肉鸡日常行为需要,减少肉鸡恐惧感,改善羽毛质量和步态评分,促进骨骼发育,降低血液中H/L值。而提供沙粒对AA肉鸡的福利指标没有显著影响。【结论】增加栖架或玩具可在一定程度上改善AA肉鸡的福利水平。
【英文摘要】【Objective】This article aimed at investigating the effects of environmental enrichment materials on broiler welfare.【Method】600 healthy AA broilers weighed(368.18±1.03)g at 22 days were allocated into four environmental enrichment treatments,including perch,toy,sand,perch toy sand,and another control group,three replicates per treatment,forty broilers per replicate.【Result】The results showed that adding perches and toys can satisfy broilers daily behavior requirement,reduce their scariness,improve the feather condition,increase the gait score and promote the skeleton development,degraded the Heterophil to Lymphocyte【H/L】.But adding sand didn ’ t make significant effects on broilers ’ welfare indicators.【Conclusion】 The results indicated adding perches or toys could improve the broiler welfare.
【语种】中文
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【题目】不同饲养方式对肉仔鸡健康状况和行为的影响
【中文关键词】饲养方式; 肉仔鸡; 健康状况; 行为
【英文关键词】rearing pattern; broiler; health; behavior
【中文摘要】本文旨在探讨不同饲养方式对肉仔鸡健康状况和行为的影响。选择健康状况良好、体重为(367.66±1.12)g的480只22日龄爱拔益加肉公鸡,随机分在地面平养、网上饲养及散养3个处理中,每个处理4个重复,每个重复40只鸡。试验期28 d。结果表明:各处理间肉仔鸡的饮水、采食、修饰和休息行为的次数、紧张不动性的持续时间、腿长、腿宽的不对称性(FA)及腿长、腿宽和翅膀长的综合FA、羽毛质量评分(FCS)无显著差异(P>0.05)。与其他2个处理相比,散养组肉仔鸡日常的觅食、沙浴及运动行为的次数显著增加,步态评分值显著降低(P<0.05)。与网上饲养相比较,散养显

著降低了肉仔鸡翅膀宽的FA(P<0.05)。由此可知,散养在一定程度上提高了肉仔鸡的健康状况,丰富了肉仔鸡的自然行为。
【英文摘要】The trial was conducted to investigate the effects of rearing pattern on health and behavior of broilers. Four hundred and eighty 22-day-old healthy AA cocks with an average body weight of (367. 66 ±1.12) g were allocated into three treatments, which included floor-reared, net-reared, extensive-reared group, and four replicates in each treatment, forty broilers in each replicate. The results showed that, there were not significant differences in the times of drinking, foraging, preening and resting, the tonic immobility duration (TI), fluctuanting asymmetry (FA) of leg length and width and the combined fluctuanting asymmetry of leg length, leg width and wing length, and feather conditions score (FCS) among treatments (P>0. 05). Compared to the other two treatments, the times of foraging, sand bathing and movement behavior in extensive-reared group increased significantly, and gait score (GS) decreased significantly (P<0. 05). Compared to the netreared group, fluctuanting asymmetry (FA) of wings width in extensive-reared group increased significantly (P<0. 05). It was concluded that the extensive-reared group improved the health status and enriched the natural behavior of broilers.
【语种】中文
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【中文关键词】肉鸡; 福利; 环境; 生产管理
【英文关键词】broiler chicken; animal welfare; environment; production management
【中文摘要】在现代肉鸡生产中,肉鸡的健康与福利问题越来越突出,已经对人类的健康产生了影响。本文从肉鸡生长环境与生产管理两个方面对现代肉鸡生产中的福利问题进行阐述,环境主要包括温度、通风、饲养密度、垫料质量及氨气浓度;生产管理主要强调限饲、光照、运输和屠宰。并提出相关建议,以提高目前肉鸡生产的福利状况。
【英文摘要】Nowadays,the health and welfare of broiler chicken is becoming more and more bad,it had already adverse effects to humanity ’s health.This article illustrated the welfare problem of dorking in modern production from two aspects,the one was the growing environment which included temperature,aeration,rearing density,padding quality and ammonia level;the other one emphasized limited feeding,illumination,transportation and slaughter,and offered relevant proposals in order to raise the status of dorking welfare.
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【第一作者】卢庆平
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【学科分类】畜牧学

【题目】群体规模和玩具对生长猪生产性能及福利的影响
【中文关键词】生长母猪;群体规模;玩具;生产性能;福利
【英文关键词】growing pig; group size; toys; performance; welfare
【中文摘要】本试验选用日龄、体重相近(26.32 ±0.98kg)的648 头二元杂交生长母猪(大白♂×长白♀)随机分为四组,采用2*2 双因子设计,因子一为群体规模,设18 头/ 圈和54头/ 圈2 个水平,因子二为玩具,设无玩具和有玩具两个水平。每个处理组合设 4 或6圈(重复),所有试猪获得的资源(料槽宽度、饮水器数量)和饲养密度(0.96m2/ 头)相同,试验期为35 天。试验发现,群体规模和玩具对生长猪的生产性能影响不大(p >0.05) ;大圈饲养能明显降低圈栏的污染面积(p <0.01) ,而玩具因素对圈栏的污染面积影响不大 (p >0.05) ;试验初期,有玩具的猪只唾液皮质醇含量明显低于无玩具组(p <0.01) ;大圈饲养和提供玩具分别与小圈饲养和无玩具组相比均能显著降低血液中嗜中性粒细胞与淋巴细胞比(N/L)值 (p <0.01, p<0.05) 。因此表明,群体规模和玩具因素在不降低猪生产性能的同时,能提高猪的抗应激能力,一定程度上提高了猪的福利水平;大圈饲养还

能有效地减少圈栏的污染面积,提高猪舍的卫生状况。
【英文摘要】Six hundreds and forty-eight White×Landrace female growers of similar initial weight (26.32 ±0.98kg) and age were randomly allocated to investigate the effect of group size (18 and 54 pigs/pen) and toys (no provided and provided) on performance and welfare for 35 days. For all the trial pigs, space allowance was 0.96m2/pig, with one drinker per 9 pigs and 7.8cm feeder allowance per pig. The result showed that average daily feed intake (ADFI), average daily ga in (ADG) and feed conversion ration (FCR) were not different among all the treatments (p >0.05). Over the entire period of the trial, large groups had less pollution proportion of the pens than small groups (p <0.05).Toys decreased saliva cortisol concentration at day 3 of the trial (p <0.01). Neutrophil: lymphocyte ratios (N/L) also differed and the pigs with large-group or toys had low N/L value (p <0.01, p <0.05). It was concluded that large group and toys could increase the anti-stress capability and welfare of the pigs with no difference of performance, and that large group also decreased the pollution proportion of the pens.
【语种】中文
【第一作者】顾宪红
【通讯作者】顾宪红
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【题目】实行畜禽福利饲养是有机畜牧业的基本要求
【中文关键词】畜禽福利; 有机畜牧业
【英文关键词】animal welfare; organic animal husbandry
【中文摘要】从畜禽福利和有机畜牧业的概念出发,阐述了二者之间的内在联系以及在我国的重视程度、发展现状和实践意义,最后探讨了畜禽福利和有机畜牧业在促进我国畜牧业持续发展中的作用。由此得出,实行畜禽福利饲养是有机畜牧业的基本要求,而且发展福利饲养和有机畜牧业将有利于从根本上解决目前我国畜牧业面临的环境污染、产品品质和安全问题。
【英文摘要】Based on the concepts of animal welfare and organic animal husbandry,this paper expounds the inherent relation between the two,their development status,significance for practice and the importance in China.Finally,it discusses the role of animal welfare and organic animal husbandry in promoting the sustainable development of animal husbandry in China.It is therefore concluded that welfare raising is a basic requirement for organic animal husbandry,and that developing welfare raising and organic animal husbandry will solve the problems of environmental pollution,quality and safety of products confronting animal husbandry in China.
【语种】中文
【第一作者】顾宪红
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【题目】有效温度与日粮能量水平对肉鸡生产性能及胴体组成的影响
【中文关键词】肉鸡; 有效温度; 代谢能; 生产性能; 胴体组成
【英文关键词】broiler; effective temperature; metabolizable energy; performance; carcass composition
【中文摘要】采用4×3双因子多水平随机试验设计,研究了有效环境温度(ET,15.0、21.2、35.3和37.6℃)和日粮能量浓度(ME,11.71、12.55和13.39 MJ/kg)对4~6周龄肉鸡生产性能、屠体性能和肌肉成分的影响。试验选用21日龄AA肉鸡216只,随机分为12个组,置于4个环控舱中,每舱3组,每组等分成3个重复(笼),每个重复(笼)6只鸡,饲喂1种试验日粮,为期3周。试验开始及结束时测量试鸡的个体体重和相应阶段各重复的耗料量;饲养试验结束时进行屠宰,测量屠宰指标,并取胸、腿肌测定其成分。结果表明:(1)有效温度对肉鸡的日采食量、日增重及料肉比影响显著(P<0.05),当温度超过常温时,日采食量及日增重显著下降(P<0.05),料肉比显著升高(P<0.05);(2)高温或极端高温显著提高肉鸡的屠宰率、半净膛率、全净膛率和腿肌

率(P<0.05),显著降低屠体重、胸肌重、腿肌重、胸肌率、皮下脂肪厚、肌间脂肪宽(P<0.05)。低温组屠宰率显著升高(P<0.05),皮下脂肪厚显著下降(P<0.05)。随着日粮能量浓度的升高,肉鸡屠体重显著升高(P<0.05),胸肌率及皮下脂肪厚显著降低(P<0.05);(3)有效温度对胸肌常规成分和胆固醇含量均有显著影响(P<0.05)。与常温组相比,极高温组鸡的胸肌和腿肌蛋白质含量显著下降(P<0.05);有效温度的上升与下降都显著增加了胸肌及腿肌的粗脂肪含量(P<0.05);高温及极高温显著增加了胸肌的水分含量(P<0.05);低温显著降低腿肌的粗灰分(P<0.05)。日粮能量水平对腿肌粗蛋白含量有显著影响(P<0.05),与适能组相比,高能组腿肌蛋白质含量显著降低(P<0.05)。有效温度与日粮能量蛋白水平对胸肌粗灰分含量有交互作用(P<0.05)。由此可得,有效温度对肉鸡生产性能、屠体组成和胸肌、腿肌成分的影响程度远远超过日粮能量浓度,高温能显著降低肉鸡生产性能、屠体性能、肌肉蛋白质含量,增加肌肉脂肪含量,而提高日粮能量浓度则可增加肉鸡屠体重,但能否通过调整日粮能量浓度以减缓高温对肉鸡生产性能、其它屠体指标和肌肉成分的影响还有待进一步研究。

【英文摘要】In a 4×3 factorial design trial,216 21-day-old Arbor Acre(AA) broilers were randomly allocated into 12 groups,each with 3 replicates of 6 birds,reared in 4 chambers which effective temperature(ET) was controlled at 15.0,21.2,35.3 and 37.6℃,respectively,and fed on one of the trial diets containing 11.71,12.55 and 13.39 MJ/kg ME,respectively,for three weeks.Body weight and feed consumption were measured at d 21 and d 42.After feeding trial,two birds from each replicate were slaughtered for carcass and meat measurement.The results showed that:(1) Under high temperature(35.3℃ and 37.6℃),average daily feed intake(ADFI) and average daily gain(ADG) significantly decreased(P<0.05),and feed conversion rate(FCR) markedly rose(P<0.05).Trial dietary ME level and the interaction between ET and ME had no remarkable effect on performance.(2) High temperature(35.3℃ or 37.6℃) increased significantly the ratio of carcass yield to live weight,percentage of half-eviscerated yield,percentage of eviscerated yield and the ratio of meat yield in left thigh and drumstick to uneviscerated carcass yield(P<0.05),but decreased significantly carcass yield,meat yield in right breast,meat yield in left thigh and drumstick,the ratio of meat yield in right breast to uneviscerated carcass yield,subcutaneous fat thickness and fat width between muscles(P<0.05).Under low temperature the ratio of carcass yield to live weight increased and subcutaneous fat thickness decreased significantly(P<0.05).Carcass yield increased,and the ratio of meat yield in right breast to uneviscerated carcass yield and subcutaneous fat thickness decreased significantly(P<0.05),as the dietary ME level rose.(3) High temperature(37.6℃) decreased the protein of breast meat and thigh meat significantly(P<0.05);Both high and low temperature significantly increased the fat deposition of breast and thigh meat(P<0.05);High temperature(35.3℃ and 37.6℃) increased the moisture of breast meat significantly(P<0.05);Low temperature decreased the meat ash significantly(P<0.05).The protein of thigh meat in the broilers reared under high dietary ME was significantly lower than that under proper dietary ME(P<0.05).It was concluded that ET had more significant effect on performance and carcass composition in broiler than dietary ME level,and that there were lower performance,carcass composition and crude protein content in meat in broiler reared under high temperature.

【语种】中文

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【学科分类】畜牧学

【题目】沙棘提取物对断奶仔猪消化机能的影响

【中文关键词】沙棘提取物; 断奶仔猪; 断奶应激; 消化机能

【英文关键词】sea buckthorn extracts; weaned piglets; weaned stress; digestive function

【中文摘要】选取28日龄长×大二元断奶仔猪24头,随机分两处理组,每个处理3个重复,每个重复4头,对照组饲喂基础日粮,试验组饲喂添加0.1%沙棘提取物的日粮,试验期28d。试验结束时测定胃、胰腺和小肠内容物的胃蛋白酶;胰腺和十二指肠的淀粉酶、脂肪酶、蛋白酶;胃黏膜厚度、小肠各段绒毛高度和隐窝深度。结果表明,在饲料中添加0.1%沙棘提取物可显著提高断奶仔猪消化酶活性以及空肠和回肠的绒毛高度(P<0.05),并可改善断奶仔猪消化机能,缓解仔猪的断奶应激。

【英文摘要】To evaluate the effects of sea buckthorn extracts on digestive function in weaned piglets, 24 Landrace×Large White weaned piglets at (28±2) d of age were randomly allotted into the treatment and control group, respectively. Each group was randomly assigned to a diet containing 0 or 0.1% of sea buckthorn extracts. Each treatment was replicated using three repititions with four piglets. Experimental period was 28 d. The results showed that both jejunum villus height and the activities of digestive enzymes of weaned piglets increased significantly by sea buckthorn extracts (P<0.05), others were not significantly (P>0.05). The results suggest that digestive function is improved by diet containing 0.1% sea buckthorn extracts, thereby weaned stress is alleviated.

【语种】中文
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【题目】生长育肥猪对环境丰富度材料的选择倾向性研究
【中文关键词】生长育肥猪; 环境丰富度; 选择倾向; 接触频次; 福利
【英文关键词】finishing pig; environmental enrichment; selection preference; contact frequency; welfare
【中文摘要】研究舍饲圈栏条件下猪对环境丰富度材料的选择倾向性。随机抽取20头70~150日龄生长育肥猪,选择不同的啃咬、鼻拱及蹭痒材料,就生长育肥猪对各种材料的接触频次及时间等行为学指标进行研究。结果表明:生长育肥猪对各种材料的选择偏爱程度随放置时间的延续而减弱;对啃咬材料的接触频次大小和接触时间长短顺序依次为,铁链>尼龙绳>剪成条状的自行车内胎>塑料水管>细铁棍,其中对铁链的接触频次显著高于其他材料;对鼻拱材料的接触频次大小、接触时间长短依次为新鲜泥土>鹅卵石>蘑菇培养土>稻草>碎木屑>玩具塑料球;猪蹭痒时更多的选择木质蹭痒架。
【英文摘要】It is an important technical measure to improve the welfare of housing pigs by increasing the environmental enrichment.To investigate the selection preference of finishing pigs for different environmental enrichment materials in a housing system,some environmental enrichment materials were tested in this study.The actions of 20 finishing pigs randomly selected were video-recorded and analyzed the contact frequency and time.The result showed that the contact frequency and times between the pigs and the gnawing materials decreased with the time of a material to be provided.The sequence of the contact frequency and time was: iron chain>nylon string>striped bicycle inner tube>plastic water pipe>thin iron stick.The average contact frequency of iron chain is significantly higher than that of others.The sequence of contact frequency and time between pigs and the rooting materials is: fresh clay>cobble>incubation earth for mushroom>straw>smashed sawdust>plastic ball.The favorite ranking material for pigs is wood shelf.
【语种】中文
【第一作者】李保明
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【题目】宰前应激对猪肉品质的影响及调控技术研究进展
【中文关键词】宰前应激;评价指标;调控方法
【英文关键词】pre-slaughter stress;evaluation index; controlling methods
【中文摘要】宰前应激严重影响着猪肉品质以及猪的福利,引起了人们的广泛关注。国内外都在积极探索宰前应激对肉质的影响规律,以期望通过一些积极的调控手段来降低宰前应激对猪肉品质的影响,同时提高猪在运输、屠宰过程中的福利。本文主要综述了影响猪肉品质以及猪福利的宰前应激因素、应激的评价指标以及降低宰前应激的调控方法等方面的研究进展。
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【语种】中文
【第一作者】蒋思文
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【学科分类】畜牧学

【题目】长期高温对商品肉鸡和地方品种鸡肉质及风味的影响
【中文关键词】热应激;肉质性状;风味;肉鸡
【英文关键词】heat exposure; meat quality traits; flavor; broiler
【中文摘要】选择体质量相近、健康的5周龄AA肉公鸡和北京油鸡公鸡各108只,评价持续高温对其胸肌肉质性状及风味物质含量的影响。试验设3个处理:34℃持续高温,自由采食(试验组,34AL);21℃适温,自由采食(适温对照组,21AL);21℃适温,采食量与34AL组相同(采食配对组,21PF)。每个品种的鸡随机分在3个处理中,分别在3个人工环境控制舱中饲养,试验至8周龄结束。结果表明:在34℃环境温度下饲养3周后,AA肉鸡胸肌L*值和滴水损失增加(P<0.05),肌苷酸含量降低(P<0.01),肌内脂肪含量明显升高(P<0.01);热暴露北京油鸡胸肌肉质性状(除pHu外)及肌内脂肪、肌苷酸含量与对照组相比无显著差异(P>0.05)。研究指出,持续34℃高温使AA肉鸡胸肌肉质有一定程度下降;而北京油鸡对高温的适应性较强,肌纤维对高温不敏感。
【英文摘要】108 healthy male chickens(5 wk old) with similar body weight,from Arbor Acres(AA) and Beijing-You(BJY) respectively were used to study the effects of chronic heat stress on meat quality and contents of the flavor substances in breast muscle.Chickens from each stock were randomly alloted into 3 treatments: constant high ambient temperature at 34 ℃ with ad libitum feeding(34AL),constant optimal ambient temperature at 21 ℃ with ad libitum feeding(21AL),and constant optimal ambient temperature 21 ℃ but pair-fed to the amount consumed by the 34AL group(21PF).All birds were reared in 3 environmental chambers until the end of the trial at 8 wk of age.The results showed that exposed to the heat of 34 ℃ for three weeks,AA broilers exhibited higher L* values and drip loss in breast muscle(P<0.05),moreover,they showed decreased content of insine monphosphate(IMP)(P<0.01).For BJY chickens,heat exposure had no significant influence on meat quality traits(except for pHu) and contents of IMF and IMP in breast muscle(P>0.05).The data indicated that chronic heat exposure(34 ℃) had a detrimental effect on meat quality traits of breast muscle in AA broilers,while Beijing-You chickens had higher adaptability to high temperature,their muscle fibers were insensitive to heat exposure(34 ℃).
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【题目】用超声波活体检测建立肉牛宰后性状的预测模型
【中文关键词】肉牛 超声波技术 宰后性状 数学模型
【英文关键词】无
【中文摘要】为了对肉牛进行早期选择并适时屠宰,该文通过超声波活体检测技术获得6种国内常用肉牛杂交品种和本土品种(60头)8月龄、22月龄眼肌面积和背膘厚数据,集中育肥屠宰后,用50头幼龄牛和成年牛超声测定的眼肌面积、背膘厚及体重建立了成年牛宰后性状(眼肌面积、背膘厚、产肉性状(高档肉质量、后部肉质量、优质肉质量和胴体质量))的数学预测模型,并对加入体重资料前后的预测模型进行检验分析.结果表明,屠宰后眼肌面积、背膘厚预测模型的决定系数小于0.75,但产肉性状预测模型的决定系数均大于0.75,经10头牛数据验证,所有模型预测结果与实测结果无显著差异,说明利用超声波技术测得幼龄牛或成年牛的眼肌面积和背膘厚预测屠宰后眼肌面积、背膘厚和产肉性状是可行的,且加入体重的预测模型较未加入的模型更为精确
【英文摘要】无
【语种】中文
【第一作者】王淑辉
【通讯作者】许尚忠
【期刊名称、卷期、页码】农业工程学报,2008,24(2):237-240
【论文发表时间】2008-02-28 00:00:00
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【引文索引号】无
【学科分类】畜牧学

【题目】牛BMP3基因cDNA克隆及组织表达谱分析
【中文关键词】牛; BMP3; cDNA克隆; 组织表达
【英文关键词】cattle; BMP3; cDNA cl oning; tissues exp ressi on
【中文摘要】用 RT2 PCR的方法克隆了鲁西黄牛 BMP3基因 1 555 bp的 cDNA序列 ,该序列包含 1个 1 428 bp的完整开放阅读框 ,编码 476个氨基酸残基;通过对推导的牛 BMP3蛋白进行生物信息学分析发现 ,牛 BMP3蛋白的分子量为 53 506 . 27 D,等电点为 9 . 42,该蛋白前 22个氨基酸残基为信号肽序列 ,而亚细胞定位分析发现 ,该成熟蛋白可能位于细胞外.通过与最新公布的牛基因组比对 ,发现牛 BMP3基因位于牛基因组第 6号染色体上 ,由 3个外显子和 2个内含子组成 ,牛 BMP3基因 cDNA序列与人、 小鼠、 大鼠和鸡 BMP3基因 cDNA序列的相似性分别达到 84% , 81% , 81% , 79% ,是进化上保守的基因.在牛卵巢、 肝、 肌肉、 小肠、 脂肪、 子宫、 肾脏、 心肌、 肺、 胰腺等组织中都检测到 BMP3基因表达 ,表明牛 BMP3基因是一个功能重要、 进化保守的基因 ,具有广泛的组织表达谱
【英文摘要】The Luxi cattle BMP3 gene cDNA was cl oned by RT2 PCR and a 1 555 bp cDNA sequence was obtained, includinga 1428 bp whole ORF regi on and encoding 476 ani mo acid residuals . The mo2 lecular weight of p redicted cattle BMP3 p rotein was 53506 . 27 D and the is oelectric point was 9.42 The first 22 amino acids in N2terminalwas signal pep tide . The maturation pr otein was p redicted toex2ist out of cells by subcellular l ocalizati on analysis . The cattle BMP3 gene consists of three exons and two intr ons, which were l ocated in the sixth chromat os ome in contrastwith the newest cattle genomes Cattle BMP3 gene cDNA shared 84% , 81% , 81% , 79% si milarity in nucleic acid sequences with human, rat, mouse and chicken . The BMP3 gene exp ressi on was detected in ovary, liver, skelet on muscle, small intestine, fat, uterus, kidney, heart, lung, pancreas . This indicated the cattle BMP3 gene is animportant and conservative gene, which is broadly exp ressed in all kinds of tissues
【语种】中文
【第一作者】张小辉
【通讯作者】许尚忠
【期刊名称、卷期、页码】河南农业大学学报,2009,43(2):161-164
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【引文索引号】无
【学科分类】畜牧学

【题目】牛Fas基因的cDNA克隆及其功能预测分析
【中文关键词】as/APO-1/CD95;牛;基因克隆;序列分析
【英文关键词】无
【中文摘要】RT-PCR技术从中国西门塔尔牛睾丸组织总RNA中反转录Fas cDNA,将其克隆于PMD19-T vector后进行测序分析,并对其表达的蛋白结构功能进行预测、分析.结果表明,牛的FaS cDNA序列为1109 bp,编码323个氨基酸残基,在氨基酸序列上与羊、猪、人、小鼠的同源性分别为90.5%、65.3%、56.7%和48.6%。Fas蛋白的胞外区有2个糖基化位点和3个富含半胱氨酸残基的结构亚域,对Fas蛋白的定位及凋亡信号识别有重要作用。牛与羊、猪、人、小鼠Fas的死亡结构域(FADD)氨基酸序列的同源性分别为94.3%、68.5%、59.6%和70.8%,体现了该结构在各物种间较强的保守性及接受凋亡信号诱导靶细胞凋亡的重要性。组织表达谱发现Fas不仅表达于牛的淋巴、脾等淋巴系统,而且高表达于牛生殖系统的睾丸,卵巢等器官,对于进一步阐明Fas在公牛精子发生过程中的调控作用奠定基础.
【英文摘要】无
【语种】中文
【第一作者】杨润军
【通讯作者】许尚忠
【期刊名称、卷期、页码】中国畜牧杂志,2009,45(19):1-5
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【学科分类】畜牧学

【题目】应用逐步回归法估测中国西门塔尔牛体重的研究
【中文关键词】体尺指数;逐步回归;估测体重;中国西门塔尔牛
【英文关键词】无
【中文摘要】本研究根据内蒙古乌拉盖地区某牛场牛的体长、体高、胸围、腹围、管围等体尺指数,应用逐步回归法,对牛的体重进行估测,并比较实测体重与估测体重之间的差异.得出估测中国西门塔尔牛体重的一般公式,按此公式所作的F和t检验均表明预测值与实际体重测定值无显著差异,其相关系数值达到0.952.
【英文摘要】无
【语种】中文
【第一作者】贺建宁
【通讯作者】许尚忠
【期刊名称、卷期、页码】中国畜牧兽医,2009,36(9):199-200
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【引文索引类型】其他
【引文索引号】无
【学科分类】畜牧学

【题目】牛生长性状、肉质性状和胴体性状间的典型相关分析
【中文关键词】:生长性状;肉质性状;胴体性状;典型相关
【英文关键词】无
【中文摘要】在牛的育种实践中,通常要同时对多个性状进行选育。为了取得更大的经济效益,就要努力选育生长速度快、肉质鲜嫩并且牛肉产量高的品种或品系。在制定育种方案时,较难同时考虑两两性状间相关关系,而通过对包含不同数量性状指标的各组变量进行相关关系研究,就可以达到对多个数量性状综合选择的目的。典型相关分析就是研究两组性状之间相关关系的一种统计方法,它既能反映各性状组内部的线性关系,又能反映组间的相关关系,是了解多个性状间遗传规律的好方法。本研究通过对牛育种中常用的二类性状进行典型相关分析,揭示各组性状间的内在联系,为我国牛的遗传育种提供参考。
【英文摘要】无
【语种】中文
【第一作者】李姣
【通讯作者】许尚忠
【期刊名称、卷期、页码】第七届全国养牛学分会学术研讨会论文集,2009
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【引文索引号】无
【学科分类】畜牧学

【题目】牛睾丸差异表达基因Septin 10的筛选、鉴定及组织表达研究
【中文关键词】睾丸周长;DDRT—PCR;Septin 10;反Northern杂交i荧光定量PCR;组织表达谱
【英文关键词】rotal circumference;DDRT—PCR;Septin 1 0;the reverse Northern blot;realtime PCR;multi-tissue expression profile
【中文摘要】本研究旨在筛选出决定或影响公牛睾丸周长(SC)的基因片段,并研究其功能和表达特征,为今后种公牛的选育提供理论基础.用mRNA差异显示技术从睾丸周长极显著差异(P<0.01)的睾丸组织中筛选差异表达的基因片段,并用反Northern杂交及荧光定量的方法鉴定筛选的结果,研究筛选出基因的组织表达谱.结果,筛选出1条差异表达片段A71,经测序和BLAST分析发现该片段与牛Septin 10基因高度间源(99%),且该基因在肝脏等9个组织中都有表达,在2组睾丸组织中相对表达量差异显著(P<0.05).分析结果表明,Septin 10基因是牛睾丸差异表达基因,可作为一个研究牛繁殖性状的候选基因.
【英文摘要】This study was designed to detect differential gene expression fragments in bulls of two groups which had significant difference in scrotal circumference (SC) (P<0.01), and analyze their expression characteristics. The differential gene expression fragments were detected by dif-ferential display RT-PCR, then were identified by the reverse Northern blot analysis and real-time PCR analysis, finally the expression profile of the differential gene was analyzed. One spe-cific fragment named A71 was found. After sequencing and BLAST analysis, A71 showed high homology (99%) to bovine Septin 10 gene. The gene was expressed in various tissues, and showed significant difference between the two groups (P<0.05). The results indicated that the Septin 10 gene was differential

expression gene in testicle of bulls and it might be a candidate gene in regulating reproduction traits in bulls.
【语种】中文
【第一作者】李姣
【通讯作者】许尚忠
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【学科分类】畜牧学

【题目】吉林省中国草原红牛培育及选育提高进程
【中文关键词】草原红牛;选育提高;进程
【英文关键词】无
【中文摘要】作者介绍了中国草原红牛的培育过程及育成后的选育提高进程。经选育后的吉林中国草原红牛(含1/4丹麦红牛血)3胎泌乳期244.39 d,提高9.59%;产奶量(3~5胎平均)3145.88 kg,提高了89.21%;最高个体产量5329.85 kg,提高了59.34%。在相同饲养条件下,含1/4利木赞血的吉林中国草原红牛胴体重提高8.13%,屠宰率提高3.24%,净肉率提高4.57%,眼肌面积提高15.25%,骨率变化不大,胴体脂肪覆盖度略有下降,牛肉中氨基酸、脂肪酸含量变化不明显。
【英文摘要】无
【语种】中文
【第一作者】吴健
【通讯作者】胡成华
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【学科分类】畜牧学

【题目】牛PON1基因对生长和胴体性状的影响
【中文关键词】肉牛;PONl基因;SNPs;关联分析;生长性状;胴体性状
【英文关键词】beef cattle;PONl gene;SNPs;association analysis;growth traits;carcass trait
【中文摘要】克隆了牛PONl基因,检测其外显子上的SNPs,对EcoRV和Alu I 2种限制性内切酶酶切PONl基因后的等位基因频率和所产生的基因型频率进行估计,并对EfoRV和Alu I 2种酶酶切后所产生的多态性对生长和胴体性状的影响进行分析。实验动物为30头安格斯、30头海福特和28头西门塔尔牛。关联分析应用SAS9.1的GLM过程中最小二乘均数Tukey7S检验进行分析。结果明,PONl基因克隆获得1 205 bp的cDNA序列,其编码区为1 068 bp,编码355个氨基酸;外显子SNPs检测表明,仅在其第6外显子区域存在2个突变化点,且没有引起氨基酸变异,但可分另0被EcoRV和Alu I 2种酶酶切。EcoRV位点,AG基冈型的个体有着较高的试验前体质量(329.97土6.08)kg,宰前质量(577.56士8.32)kg,净肉质量(275.894-4.05)kg和较为适僦的嫩度(3.10_-4-0.19)kg(P<O.05);Alu I位点,AA基因型的个体也有着较高的试验前体质量(333.37±8.93)kg,宰前质量(576.82±1'3.18)kg,净肉质量(275.49士6.43)kg和平均口增质量(o.68±0.02)kg·d。(P<O.05);并在此位点不同的基因型个体间肉色评分有着硅著的差异(P<O.05)。在曲种和基因之间除了全骨质量、眼肉质量、大理行花纹评分、眼肌面积和肉色评分外,其它性状均存在显著的差异(P<0.05)。连锁分析表明,作为一个新陈代谢功能基因,PONl基因的单核苷酸多态性可能直接影响肉牛的背膘厚,如A。A。G。G。基因型。
【英文摘要】In order to estimate the allelic and genotypic frequencies at the PONl/EcoR V and PONl/AluI loci and association analysis between these SNPs and growth and carcass traits.The cDNA of bovine PONl gene was cloned,and the SNPs in its exons were detected.Genotyping was performed on 30 Angus,30 Hereford and 28 Simmental cattles using the GLM procedure of SAS and the least square means of the genotypes were compared by the Tukey’S test.1 205 bp cDNA sequence were obtained.including 1 068 bp ORF region and which encodes 355 amino acids residues,and was accessed by GenBank,the accession number is EU289337.Two SNPs were detected in exon6 only.Individuals with AG genotype at the PONl/EcoR V 10CUS have higher weight at the time of entry into the fattening corrals(329.97±6.08)kg and close to the time of slaughter(577.56±8.32)kg and net meat weight(275.89±4.05)kg,fitted tenderness(3.10士0.19)kg(P<O.05);Individuals with AA genotype at PONl/Alu I locus has higher weight at the time of entry(333.37±8.93)kg and slaughter(576.82士13.18)kg and net meat weight (275.49±6.43)kg,and average daily

gain(0.68±0.02)kg · d叫(P<0.05).The meat color score is also significant higher(P<0.05).Between genotypes and breeds,there were significant difference observed except TBW,REMG,MBS,REA and MCS(P<O.05).As a metabolism gene,genotypes of the SNPs of PONl gene might be reflecting BFT directly,such as A。A。G。G。genotype ·

【语种】中文
【第一作者】姬爱国
【通讯作者】许尚忠
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【学科分类】畜牧学

【题目】牛TG基因启动子区遗传变异与肉质和胴体性状的相关性研究
【中文关键词】牛 甲状腺球蛋白基因 肉质性状 胴体组成性状
【英文关键词】cattle;thyroglobulin gene;meat quality traits;carcass composition traits
【中文摘要】以8个肉牛品种为试验材料,扩增TG基因启动子区,测序后发现G82A和C422T 2个突变位点.利用SAS软件采用最小二乘法拟合线性模型将2个位点的不同基因型与牛胴体组成和肉质性状进行关联分析.结果发现,C422T位点与先前报道的大理石花纹等级无相关性,与其它胴体组成和肉质性状也未发现相关性.位于C422T位点上游的G82A位点与宰前活体质量和眼肌面积显著相关(P<0.05),GG为有利基因型,G等位基因为有利等位基因.因此,G82A可能是影响牛胴体性状的分子标记
【英文摘要】In this experiment,promoter region of TG gene from eight breeds was amplified and sequenced.Two SNPs were identified at position 82 and 422 of TG gene(X05380).The effects of these polymorphisms of TG gene on carcass and meat quality traits were analyzed.The results showed that C422T polymorphism had no association with marbling score and any other carcass and meat quality traits.G82A polymorphism significantly associated with live weight and loin muscle area(LMA)(P<0.05).Individuals with genotype GG and GA had significantly larger liveweight and LMA than those with AA genotype(P<0.05).In a word,G82A SNP might be a good DNA marker to be used in MAS for carcass traits
【语种】中文
【第一作者】张路培
【通讯作者】许尚忠
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【学科分类】畜牧学

【题目】肌肉生成抑制素和抑制素融合表达质粒的构建及其表达
【中文关键词】肌肉牛成抑制素;抑制素;基因表达;乙肝表面抗原
【英文关键词】statin;inhibin;gene expression;hepatitis B surface antigen
【中文摘要】以乙肝表面抗原S基因为载体,分别将肌肉生成抑制素(myostatin)N端基肉片段(MSTN)和抑制素(inhibin)N端基因片段(/Nn)分别插入S基因编码的C端和第112—113氨基酸残基密码子之间,构建MSTN-INH融合表达质粒pVAX.SMI。酶切和测序鉴定表明.重组质粒pVAX.SMI构建成功。脂质体法将pVAX.SMI转染HeLa细胞,Western blot检测重组蛋白的表达,结果表明,重组蛋白成功在HeLa细胞中表达。
【英文摘要】Two DNA fragments encoding N-term ofmyostatin fMSTm)and inhibin(1HN)were incorporated into Hepatitis B virusS gene at C · term and site of amino acid sequence I 1 2 and I 1 3 tO construct allexpression plasmid of pVAX—SML The plasmidpVAX-SMl was identified by restriction endonuclease digestion and sequencing.pVAX—SMI WaS then transfected intO HeLa cells andthe recombinant protein was detected by Western blot.The result showed that the plasmid could express recombinant MSTN and INHsuccessfully.And the pVAX—SMI expression plasmid was constructed successfully
【语种】中文
【第一作者】张路培

【通讯作者】许尚忠
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【题目】RESEARCH ON AN EFFECTIVE DOMAIN META-SEARCH ENGINE SYSTEM
【中文关键词】meta search engine; domain information; web search engine.
【英文关键词】meta search engine; domain information; web search engine.
【中文摘要】The rapid growth of web information brings a fact that a single search engine can not return a satisfied result for users ' queries. In this paper, we propose an effective domain search engine system, called DSES, which can obtain results by a unified interface to several searches and aggregates them using an efficient domain determination algorithm. Finally, we give an experiment whose result proves the validity of the method using for searching domain Web page's information.
【英文摘要】The rapid growth of web information brings a fact that a single search engine can not return a satisfied result for users ' queries. In this paper, we propose an effective domain search engine system, called DSES, which can obtain results by a unified interface to several searches and aggregates them using an efficient domain determination algorithm. Finally, we give an experiment whose result proves the validity of the method using for searching domain Web page's information.
【语种】英文
【第一作者】谢能付
【通讯作者】谢能付
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【学科分类】信息科学与系统科学基础学科

【题目】Allelic variants of phytoene synthase 1 (Psy1) genes in Chinese and CIMMYT wheat cultivars and development of functional markers for flour colour
【中文关键词】小麦, Psy1, 基因, 功能标记
【英文关键词】Wheat, Psy1, Gene, Functional markers
【中文摘要】Phytoene synthase genes influence yellow pigment (YP) content in wheat grain, and are associated with the quality of end-use products. In the present study, a suite of 217 Chinese winter wheat cultivars and 342 CIMMYT spring wheat cultivars were used to search for phytoene synthase 1 gene variations and to detect and compare their genetic effects in different genetic backgrounds. An initial focus on the Chinese winter wheat cultivars revealed four allelic variants of this gene on chromosome 7B (Psy-B1), designated as Psy-B1a, Psy-B1b, Psy-B1c and Psy-B1d. The frequencies of these four alleles were 39.6, 43.8, 15.7 and 0.9%, respectively. A co-dominant marker YP7B-1 based on a 5-bp InDel of polyCin the fifth intron of Psy-B1 amplified a 151-bp PCR fragment in accessions with the medium YP content allele Psy-B1a, and a 156-bp fragment in lower YP content accessions with Psy-B1b. Two dominant markers YP7B-2 (428 bp) and YP7B-3 (884 bp) were designed for accessions with Psy-B1c and Psy-B1d, respectively. Allele Psy-B1c was associated with high YP content, but the phenotypic effect of Psy-B1d was not determined due to the limited number of accessions. In CIMMYT spring wheat cultivars, Psy-B1a, Psy-B1b, Psy-B1d and a further allelic variant, Psy-B1e, were detected with frequencies of 50.6, 29.2, 19.6 and 0.6%, respectively. Psy-B1c was not found in the CIMMYT germplasm. However, no significant differences were detected for mean YP content among CIMMYT wheat lines with different Psy-B1 genotypes. A new allelic variant of Psy-A1, designated Psy-A1c, was identified in three CIMMYT wheat lines, and this allele was associated with higher YP content.
【英文摘要】Phytoene synthase genes influence yellow pigment (YP) content in wheat grain, and are associated with the quality of end-use products. In the present study, a suite of 217 Chinese winter wheat cultivars and 342 CIMMYT spring wheat cultivars were used to search for phytoene synthase 1 gene variations and to detect and compare their genetic effects in different genetic backgrounds. An initial focus on the Chinese winter wheat cultivars revealed four allelic variants of this gene on chromosome 7B (Psy-B1), designated as Psy-B1a, Psy-B1b, Psy-B1c and Psy-B1d. The frequencies of these four alleles were 39.6, 43.8, 15.7 and 0.9%, respectively. A co-dominant marker YP7B-1 based on a 5-bp InDel of polyCin the fifth intron of Psy-B1 amplified a 151-bp PCR fragment in accessions

with the medium YP content allele Psy-B1a, and a 156-bp fragment in lower YP content accessions with Psy-B1b. Two dominant markers YP7B-2 (428 bp) and YP7B-3 (884 bp) were designed for accessions with Psy-B1c and Psy-B1d, respectively. Allele Psy-B1c was associated with high YP content, but the phenotypic effect of Psy-B1d was not determined due to the limited number of accessions. In CIMMYT spring wheat cultivars, Psy-B1a, Psy-B1b, Psy-B1d and a further allelic variant, Psy-B1e, were detected with frequencies of 50.6, 29.2, 19.6 and 0.6%, respectively. Psy-B1c was not found in the CIMMYT germplasm. However, no significant differences were detected for mean YP content among CIMMYT wheat lines with different Psy-B1 genotypes. A new allelic variant of Psy-A1, designated Psy-A1c, was identified in three CIMMYT wheat lines, and this allele was associated with higher YP content.

【语种】英文

【第一作者】何心尧

【通讯作者】夏先春

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【学科分类】农业基础学科

【题目】Allelic Variation at the Vernalization Genes Vrn-A1,Vrn-B1, Vrn-D1, and Vrn-B3 in Chinese Wheat Cultivars and Their Association with Growth Habit

【中文关键词】小麦,春化基因,分布规律

【英文关键词】Wheat, Varnalization genes, Distribution

【中文摘要】Information on the distribution of vernalization genes and their association with growth habit is crucial to understanding the adaptability of wheat (Triticum aestivum L.) cultivars to different environments. In this study, 278 Chinese wheat cultivars were characterized with molecular markers for the vernalization genes Vrn-A1,-B1, -D1, and -B3. Heading time was evaluated in a greenhouse under long days without vernalizaton. The dominant Vrn-D1 allele showed the highest frequency in the Chinese wheat cultivars (37.8%), followed by the dominant Vrn-A1, -B1, and -B3 alleles. Ninety-two winter cultivars carried recessive alleles of all four vernalization loci, whereas 172 spring genotypes contained at least one dominant Vrn allele. All cultivars released in the North China Plain Winter Wheat Zone were winter type. Winter (53.0%), spring (36.1%), and early-heading (10.9%) cultivars were grown in the Yellow and Huai River Valley Winter Zone. Most of the spring genotypes from this zone carried only the dominant Vrn-D1 allele, which was also predominant (64.1%) in the Middle and Lower Yangtze Valley Winter Zone and Southwestern Winter Wheat Zone. In three spring-sown wheat zones, all cultivars were early-heading spring types that frequently possessed the strongest dominant Vrn-A1a allele and combinations with other dominant Vrn gene(s). The Vrn-D1 allele is associated with the latest heading time, Vrn-A1 the earliest, and Vrn-B1 intermediate values. The information is important for breeding programs in countries interested in using Chinese wheats.

【英文摘要】Information on the distribution of vernalization genes and their association with growth habit is crucial to understanding the adaptability of wheat (Triticum aestivum L.) cultivars to different environments. In this study, 278 Chinese wheat cultivars were characterized with molecular markers for the vernalization genes Vrn-A1,-B1, -D1, and -B3. Heading time was evaluated in a greenhouse under long days without vernalizaton. The dominant Vrn-D1 allele showed the highest frequency in the Chinese wheat cultivars (37.8%), followed by the dominant Vrn-A1, -B1, and -B3 alleles. Ninety-two winter cultivars carried recessive alleles of all four vernalization loci, whereas 172 spring genotypes contained at least one dominant Vrn allele. All cultivars released in the North China Plain Winter Wheat Zone were winter type. Winter (53.0%), spring (36.1%), and early-heading (10.9%) cultivars were grown in the Yellow and Huai River Valley Winter Zone. Most of the spring genotypes from this zone carried only the dominant Vrn-D1 allele, which was also predominant (64.1%) in the Middle and Lower Yangtze Valley Winter Zone and Southwestern Winter Wheat Zone. In three spring-sown wheat zones, all cultivars were early-heading spring types that frequently possessed the strongest dominant Vrn-A1a allele and combinations with other dominant Vrn gene(s). The Vrn-D1 allele is associated with the latest heading time, Vrn-A1 the earliest, and Vrn-B1 intermediate values. The information is important for breeding programs in countries interested in using Chinese wheats.

【语种】英文

【第一作者】张晓科

【通讯作者】夏先春

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【学科分类】农业基础学科

【题目】Allelic variation of polyphenol oxidase (PPO) genes located on chromosomes 2A and 2D and development of functional markers for the PPO genes in common wheat
【中文关键词】小麦,Ppo基因,功能标记
【英文关键词】Wheat, Ppo genes, Functional marker
【中文摘要】Polyphenol oxidase (PPO) activity is highly related to the undesirable browning of wheat-based end products, especially Asian noodles. Characterization of PPO genes and the development of their functional markers are of great importance for marker-assisted selection in wheat breeding. In the present study, complete genomicDNA sequences of two PPO genes, one each located on chromosomes 2A and 2D and their allelic variants were characterized by means of in silico cloning and experimental validation. Sequences were aligned at both DNA and protein levels. Two haplotypes on chromosome 2D showed 95.2% sequence identity at the DNA level, indicating much more sequence diversity than those on chromosome 2A with 99.6% sequence identity. Both of the PPO genes on chromosomes 2A and 2D contain an open reading frame (ORF) of 1,731 bp, encoding a PPO precursor peptide of 577 amino acids with a predicted molecular mass of » 64 kD. Two complementary dominant STS markers, PPO16 and PPO29, were developed based on the PPO gene haplotypes located on chromosome 2D; they amplify a 713-bp fragment in cultivars with low PPO activity and a 490-bp fragment in those with high PPO activity, respectively. The two markers were mapped on chromosome 2DL using a doubled haploid population derived from the cross Zhongyou 9507/CA9632, and a set of nullisomic – tetrasomic lines and ditelosomic line 2DS of Chinese Spring. QTL analysis indicated that the PPO gene co-segregated with the two STS markers and was closely linked to SSR marker Xwmc41 on chromosome 2DL, explaining from 9.6 to 24.4% of the phenotypic variance for PPO activity across three environments. In order to simultaneously detect PPO loci on chromosomes 2A and 2D, a multiplexed marker combination PPO33/PPO16 was developed and yielded distinguishable DNA patterns in a number of cultivars. The STS marker PPO33 for the PPO gene on chromosome 2A was developed from the same gene sequences as PPO18 that we reported previously, and can amplify a 481-bp and a 290-bp fragment from cultivars with low and high PPO activity, respectively. A total of 217 Chinese wheat cultivars and advanced lines were used to validate the association between the polymorphic fragments and grain PPO activity. The results showed that the marker combination PPO33/PPO16 is eYcient and reliable for evaluating PPO activity and can be used in wheat breeding programs aimed for noodle and other end product quality improvement.
【英文摘要】Polyphenol oxidase (PPO) activity is highly related to the undesirable browning of wheat-based end products, especially Asian noodles. Characterization of PPO genes and the development of their functional markers are of great importance for marker-assisted selection in wheat breeding. In the present study, complete genomicDNA sequences of two PPO genes, one each located on chromosomes 2A and 2D and their allelic variants were characterized by means of in silico cloning and experimental validation. Sequences were aligned at both DNA and protein levels. Two haplotypes on chromosome 2D showed 95.2% sequence identity at the DNA level, indicating much more sequence diversity than those on chromosome 2A with 99.6% sequence identity. Both of the PPO genes on chromosomes 2A and 2D contain an open reading frame (ORF) of 1,731 bp, encoding a PPO precursor peptide of 577 amino acids with a predicted molecular mass of » 64 kD. Two complementary dominant STS markers, PPO16 and PPO29, were developed based on the PPO gene haplotypes located on chromosome 2D; they amplify a 713-bp fragment in cultivars with low PPO activity and a 490-bp fragment in those with high PPO activity, respectively. The two markers were mapped on chromosome 2DL using a doubled haploid population derived from the cross Zhongyou 9507/CA9632, and a set of nullisomic – tetrasomic lines and ditelosomic line 2DS of Chinese Spring. QTL analysis indicated that the PPO gene co-segregated with the two STS markers and was closely linked to SSR marker Xwmc41 on chromosome 2DL, explaining from 9.6 to 24.4% of the phenotypic variance for PPO activity across three environments. In order to simultaneously detect PPO loci on chromosomes 2A and 2D, a multiplexed marker combination PPO33/PPO16 was developed and yielded distinguishable DNA patterns in a number of cultivars. The STS marker PPO33 for the PPO gene on chromosome 2A was developed from the same gene sequences as PPO18 that we reported previously, and can amplify a 481-bp and a 290-bp fragment from cultivars with low and high PPO activity, respectively. A total of 217 Chinese wheat cultivars and advanced lines were used to validate the association between the polymorphic fragments and grain PPO activity. The results showed that the marker combination PPO33/PPO16 is eYcient and reliable for evaluating PPO activity and can be used in wheat breeding programs aimed for noodle and other end product quality improvement.
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【第一作者】何心尧
【通讯作者】夏先春
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【学科分类】农业基础学科

【题目】Characterization of phytoene synthase 1 gene (Psy1) located on common wheat chromosome 7A and development of a functional marker
【中文关键词】小麦,Psy1基因,7A染色体,功能基因标记
【英文关键词】Wheat, Psy1 gene, 7A chromosome, Functional marker
【中文摘要】Phytoene synthase (Psy), a critical enzyme in the carotenoid biosynthetic pathway, demonstrated high association with the yellow pigment (YP) content in wheat grain. Characterization of Psy genes and the development of functional markers for them are of importance for marker-assisted selection in wheat breeding. In this study, the full-length genomic DNA sequence of a Psy gene (Psy-A1) located on chromosome 7A, was characterized by in silico cloning and experimental validation. The cloned Psy-A1 comprises six exons and Wve introns, 4,175 bp in total, and an ORF of 1,284 bp. A co-dominant marker, YP7A, was developed based on polymorphisms of two haplotypes of Psy-A1, yielding 194 and 231-bp fragments in cultivars with high and low YP content, respectively. The marker YP7A was mapped on chromosome 7AL using an RIL population from cross PH82-2/Neixing 188, and a set of Chinese Spring nullisomic – tetrasomic lines and ditelosomic line 7AS. Psy-A1, co-segregating with the STS marker YP7A, was linked to SSR marker Xwmc809 on chromosome 7AL with a genetic distance of 5.8 cM, and explained 20 – 28% of the phenotypic variance for YP content across three environments. A total of 217 Chinese wheat cultivars and advanced lines were used to validate the association between the polymorphic band pattern and grain YP content. The results showed that the functional marker YP7A was closely related to grain YP content and, therefore, could be used in wheat breeding programs targeting of YP content for various wheat-based products.
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【语种】英文
【第一作者】何心尧
【通讯作者】夏先春
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【学科分类】农业基础学科

【题目】Development of an STS marker tightly linked to Yr26 against wheat stripe rust using the resistance gene-analog polymorphism (RGAP) technique

【中文关键词】小麦, STS标记, Yr26, RGAP技术
【英文关键词】Wheat, STS marker, Yr26, RGAP technique
【中文摘要】The gene Yr26 confers resistance to all races of Puccinia striiformis f. sp. tritici (PST), the casual pathogen of wheat stripe rust in China. Here, we report development of a molecular marker closely linked to Yr26 using a resistance gene-analog polymorphism (RGAP) technique. A total of 787 F2 plants and 165 F3 lines derived from the cross Chuanmai 42/Taichung 29 were used for linkage analysis. Eighteen near-isogenic lines (NILs) and 18 Chinese wheat cultivars and advanced lines with different genes for stripe rust resistance were employed for the validation of STS markers. A total of 1,711 RGAP primer combinations were used to test the parents and resistant and susceptible bulks. Five polymorphic RGAP markers were used for genotyping all F2 plants. Linkage analysis showed that the five RGAP markers were closely linked to Yr26 with genetic distances ranging from 0.5 to 2.9 cM. These markers were then converted into STS markers, one, CYS-5, of which was located 0.5 cM to Yr26 and was closely associated with the resistance gene when validated over 18 NILs and 18 Chinese wheat cultivars and lines. The results indicated that CYS-5 can be used in marker-assisted selection targeted at pyramiding Yr26 and other genes for stripe rust resistance.
【英文摘要】The gene Yr26 confers resistance to all races of Puccinia striiformis f. sp. tritici (PST), the casual pathogen of wheat stripe rust in China. Here, we report development of a molecular marker closely linked to Yr26 using a resistance gene-analog polymorphism (RGAP) technique. A total of 787 F2 plants and 165 F3 lines derived from the cross Chuanmai 42/Taichung 29 were used for linkage analysis. Eighteen near-isogenic lines (NILs) and 18 Chinese wheat cultivars and advanced lines with different genes for stripe rust resistance were employed for the validation of STS markers. A total of 1,711 RGAP primer combinations were used to test the parents and resistant and susceptible bulks. Five polymorphic RGAP markers were used for genotyping all F2 plants. Linkage analysis showed that the five RGAP markers were closely linked to Yr26 with genetic distances ranging from 0.5 to 2.9 cM. These markers were then converted into STS markers, one, CYS-5, of which was located 0.5 cM to Yr26 and was closely associated with the resistance gene when validated over 18 NILs and 18 Chinese wheat cultivars and lines. The results indicated that CYS-5 can be used in marker-assisted selection targeted at pyramiding Yr26 and other genes for stripe rust resistance.
【语种】英文
【第一作者】闻伟锷
【通讯作者】夏先春
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【学科分类】农业基础学科

【题目】Development of STS markers and establishment of multiplex PCR for Glu-A3 alleles in common wheat (Triticum aestivum L.)
【中文关键词】小麦,Glu-A3亚基,STS标记,多重PCR
【英文关键词】Wheat, Glu-A3 alleles, STS markers, multiplex PCR
【中文摘要】Low-molecular-weight glutenin subunits (LMW-GS) play a key role in determining the processing quality of the end-use products of common wheat. The objectives of this study were to identify genes at Glu-A3 locus, develop the STS markers, and establish multiplex PCR with the STS markers for Glu-A3 alleles. Gene-specific PCR primers were designed to amplify six near-isogenic lines (NILs) and Glenlea with different Glu-A3 alleles (a, b, c, d, e, f and g) defined by the protein electrophoretic mobility. Three Glu-A3 genes with complete coding sequence were cloned, designated as GluA3-1, GluA3-2 and GluA3-3, respectively. Seven dominant allele-specific STS (sequence tagged sites) markers were designed based on the SNPs (single nucleotide polymorphisms) among different allelic variants for the discrimination of the Glu-A3 protein alleles a, b, c, d, e, f and g. Four multiplex PCRs were established including Glu-A3b t Glu-A3f, Glu-A3d t Glu-A3f, Glu-A3d t Glu-A3g, and Glu-A3b t Glu-A3e. These markers and multiplex-PCR systems were validated on 141 CIMMYT wheat varieties and advanced lines with different Glu-A3 alleles, confirming that they can be efficiently used in marker-assisted breeding.
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different allelic variants for the discrimination of the Glu-A3 protein alleles a, b, c, d, e, f and g. Four multiplex PCRs were established including Glu-A3b t Glu-A3f, Glu-A3d t Glu-A3f, Glu-A3d t Glu-A3g, and Glu-A3b t Glu-A3e. These markers and multiplex-PCR systems were validated on 141 CIMMYT wheat varieties and advanced lines with different Glu-A3 alleles, confirming that they can be efficiently used in marker-assisted breeding.

【语种】英文
【第一作者】王林海
【通讯作者】夏先春
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【学科分类】农业基础学科

【题目】Development of two multiplex PCR assays targeting improvement of bread-making and noodle qualities in common wheat
【中文关键词】小麦,加工品质,多重PCR
【英文关键词】Wheat, processing quality, multiplex PCR
【中文摘要】Wheat quality properties are genetically determined by the compositions of high and low molecular weight glutenin subunits, grain hardness, polyphenol oxidase (PPO) activity and starch viscosity. Two multiplex PCR assays were developed and validated using 70 cultivars and advanced lines from Chinese autumn-sown wheat regions. Multiplex PCR I includes molecular markers for genes/loci x-secalin, Glu-B1-2a (By8), Glu-D1-1d (Dx5), Glu-A3d, Glu-B3 (for non-1B/1R type) and Pinb-D1b targeting improved gluten parameters and pan bread quality. Multiplex PCR II comprises markers for genes/loci Ppo-A1, Ppo-D1 and Wx-B1b targeting improved noodle quality. The results were consistent with those achieved by SDS-PAGE and RPHPLC, indicating that the two multiplex assays were highly effective, with good repeatability and low costs enabling their use in wheat breeding programmes. In total, nine alleles (subunits) at locus Glu-B1,four at Glu-D1 and five at Glu-A3 locus were identified, and the alleles (subunits) Glu-B1b (7 + 8), Glu-B1c (7 + 9), Glu-D1a (2 + 12), Glu-D1d (5 + 10), Glu-A3a, Glu-A3c and Glu-A3d were most frequently present in the cultivars and lines tested. The 1B ¦ 1R translocation was present in 28 (40.0%) lines, whereas the Wx-B1 null allele for better noodle quality was present in only seven (10.0%) cultivars and advanced lines, and 37 (52.9%) lines had Pinb-D1b associated with hard grains. The allele Ppo-A1b on chromosome 2AL associated with lower PPO activity was present in 38 (54.3%) genotypes, whereas the less effective allele Ppo-D1a on chromosome 2DL, also associated with low PPO activity was present in 45 (64.3%) of genotypes. These two multiplex PCR assays should be effective in marker assisted selection targeting improved pan bread-making and noodle qualities.
【英文摘要】Wheat quality properties are genetically determined by the compositions of high and low molecular weight glutenin subunits, grain hardness, polyphenol oxidase (PPO) activity and starch viscosity. Two multiplex PCR assays were developed and validated using 70 cultivars and advanced lines from Chinese autumn-sown wheat regions. Multiplex PCR I includes molecular markers for genes/loci x-secalin, Glu-B1-2a (By8), Glu-D1-1d (Dx5), Glu-A3d, Glu-B3 (for non-1B/1R type) and Pinb-D1b targeting improved gluten parameters and pan bread quality. Multiplex PCR II comprises markers for genes/loci Ppo-A1, Ppo-D1 and Wx-B1b targeting improved noodle quality. The results were consistent with those achieved by SDS-PAGE and RPHPLC, indicating that the two multiplex assays were highly effective, with good repeatability and low costs enabling their use in wheat breeding programmes. In total, nine alleles (subunits) at locus Glu-B1,four at Glu-D1 and five at Glu-A3 locus were identified, and the alleles (subunits) Glu-B1b (7 + 8), Glu-B1c (7 + 9), Glu-D1a (2 + 12), Glu-D1d (5 + 10), Glu-A3a, Glu-A3c and Glu-A3d were most frequently present in the cultivars and lines tested. The 1B ¦ 1R translocation was present in 28 (40.0%) lines, whereas the Wx-B1 null allele for better noodle quality was present in only seven (10.0%) cultivars and advanced lines, and 37 (52.9%) lines had Pinb-D1b associated with hard grains. The allele Ppo-A1b on chromosome 2AL associated with lower PPO activity was present in 38 (54.3%) genotypes, whereas the less effective allele Ppo-D1a on chromosome 2DL, also associated with low PPO activity was present in 45 (64.3%) of genotypes. These two multiplex PCR assays should be effective in marker assisted selection targeting improved pan bread-making and noodle qualities.
【语种】英文
【第一作者】张晓科
【通讯作者】夏先春
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【学科分类】农业基础学科

【题目】Distribution of the photoperiod insensitive Ppd-D1a allele in Chinese wheat cultivars
【中文关键词】中国,小麦品种,光周期基因,分布
【英文关键词】China, Wheat cultivars, photo-period genes, distribution
【中文摘要】Photoperiod response is of great importance for optimal adaptation of bread wheat cultivars to specific environments, and variation is commonly associated with allelic differences at the Ppd-D1 locus on chromosome 2D. A total of 926 Chinese wheat landraces and improved cultivars collected from nine wheat growing zones were tested for their genotypes at the Ppd-D1 locus using allele-specific markers. The average frequency of the photoperiod-insensitive Ppd-D1a allele was 66.0%, with the frequencies of 38.6 and 90.6% in landraces and improved cultivars, respectively. However, the Ppd-D1a allele was present in all improved cultivars released after 1970 except for spring wheats in high latitude northwestern China, and winter wheats in Gansu and Xinjiang. The presence of the Ppd-D1a allele in landraces and improved cultivars increased gradually from north to south, illustrating the relationship between photoperiod response and environment. Ppd-D1a in Chinese wheats is derived from three sources, Japanese landrace Akagomughi and Chinese landraces Mazhamai and Youzimai. The current information is important for understanding the broad adaptation of improved Chinese wheat cultivars.
【英文摘要】Photoperiod response is of great importance for optimal adaptation of bread wheat cultivars to specific environments, and variation is commonly associated with allelic differences at the Ppd-D1 locus on chromosome 2D. A total of 926 Chinese wheat landraces and improved cultivars collected from nine wheat growing zones were tested for their genotypes at the Ppd-D1 locus using allele-specific markers. The average frequency of the photoperiod-insensitive Ppd-D1a allele was 66.0%, with the frequencies of 38.6 and 90.6% in landraces and improved cultivars, respectively. However, the Ppd-D1a allele was present in all improved cultivars released after 1970 except for spring wheats in high latitude northwestern China, and winter wheats in Gansu and Xinjiang. The presence of the Ppd-D1a allele in landraces and improved cultivars increased gradually from north to south, illustrating the relationship between photoperiod response and environment. Ppd-D1a in Chinese wheats is derived from three sources, Japanese landrace Akagomughi and Chinese landraces Mazhamai and Youzimai. The current information is important for understanding the broad adaptation of improved Chinese wheat cultivars.
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【题目】Identification of Genomic Regions Controlling Adult-Plant Stripe Rust Resistance in Chinese Landrace Pingyuan 50 Through Bulked Segregant Analysis
【中文关键词】小麦,条锈病,成株抗性基因,定位
【英文关键词】Wheat, Stripe rust, Adult-plant resistance, Genomic regions
【中文摘要】Stripe rust, caused by Puccinia striiformis f. sp. tritici, is one of the most widespread and destructive wheat diseases worldwide. Growing resistant cultivars with adult-plant resistance (APR) is an effective approach for the control of the disease. In this study, 540 simple sequence repeat markers were screened to map quantitative trait loci (QTL) for APR to stripe rust in a doubled haploid (DH) population of 137 lines derived from the cross Pingyuan 50 × Mingxian 169. The DH lines were planted in randomized complete blocks with three replicates in Gansu and Sichuan provinces during the 2005 – 06, 2006 – 07, and 2007 – 08 cropping seasons, providing data for four environments. Artificial inoculations were carried out in Gansu and Sichuan with the prevalent Chinese race CYR32. Broad-sense heritability of resistance to stripe rust for maximum disease severity was 0.91, based on the mean value averaged across four environments. Inclusive composite interval mapping detected three QTL for APR to stripe rust on chromosomes 2BS, 5AL, and 6BS, designated QYr.caas-2BS, QYr.caas-5AL, and QYr.caas-6BS, respectively, separately explaining from 4.5 to 19.9% of the phenotypic variation. QYr.caas-5AL, different from QTL previously reported, was flanked by microsatellite markers Xwmc410 and Xbarc261, and accounted for 5.0 to 19.9% of phenotypic variance. Molecular markers closely linked to the QTL could be used in

marker-assisted selection for APR to stripe rust in wheat breeding programs.

【英文摘要】Stripe rust, caused by Puccinia striiformis f. sp. tritici, is one of the most widespread and destructive wheat diseases worldwide. Growing resistant cultivars with adult-plant resistance (APR) is an effective approach for the control of the disease. In this study, 540 simple sequence repeat markers were screened to map quantitative trait loci (QTL) for APR to stripe rust in a doubled haploid (DH) population of 137 lines derived from the cross Pingyuan 50 × Mingxian 169. The DH lines were planted in randomized complete blocks with three replicates in Gansu and Sichuan provinces during the 2005 – 06, 2006 – 07, and 2007 – 08 cropping seasons, providing data for four environments. Artificial inoculations were carried out in Gansu and Sichuan with the prevalent Chinese race CYR32. Broad-sense heritability of resistance to stripe rust for maximum disease severity was 0.91, based on the mean value averaged across four environments. Inclusive composite interval mapping detected three QTL for APR to stripe rust on chromosomes 2BS, 5AL, and 6BS, designated QYr.caas-2BS, QYr.caas-5AL, and QYr.caas-6BS, respectively, separately explaining from 4.5 to 19.9% of the phenotypic variation. QYr.caas-5AL, different from QTL previously reported, was flanked by microsatellite markers Xwmc410 and Xbarc261, and accounted for 5.0 to 19.9% of phenotypic variance. Molecular markers closely linked to the QTL could be used in marker-assisted selection for APR to stripe rust in wheat breeding programs.

【语种】英文

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【学科分类】农业基础学科

【题目】Identification of SNPs and development of functional markers for LMW-GS genes at Glu-D3 and Glu-B3 loci in bread wheat (Triticum aestivum L.)

【中文关键词】小麦,低分子量,功能基因标记

【英文关键词】Wheat, LMW-GS, Functional markers

【中文摘要】Low-molecular-weight glutenin subunits (LMW-GS) have great effect on wheat processing quality, but were numerous and difficult to dissect by SDS-PAGE. The development of functional markers may be the most effective way for a clear discrimination of different LMW-GS genes. In the present study, three different approaches were used to identify SNPs of different genes at Glu-D3 and Glu-B3 loci in bread wheat for the development of six STS markers (3 for Glu-D3 and 3 for Glu-B3 genes) that were validated with distinguished wheat cultivars. Firstly, seven LMW-GS gene sequences (AY585350, AY585354, AY585355, AY585356, AY585349, AY585351 and AY585353) from Aegilops tauschii, the diploid donor of the D-genome of bread wheat, were chosen to design seven pairs of AS-PCR primers for Glu-D3 genes. By amplifying the corresponding genes from five bread wheat cultivars with different Glu-D3 alleles (a, b, c, d and e) and Ae. tauschii, a primer set, S13F2/S13R1, specific to the gene AY585356, was found to be positive to cultivars with alleles Glu-D3c and d. Nevertheless, the other five pairs of primers designed from AY585350, AY585349, AY585353, AY585354 and AY585355, respectively, did not produce specific PCR products to the cultivars tested. Secondly, all the PCR products from the five primer sets without specific characteristics were sequenced and anSNPfrom the gene AY585350 was detected in the cultivarHartog, which resulted in the second STS marker S1F1/S1R3 specific to the allelic variant of AY585350. Thirdly, three Glu-D3 sequences (AB062851, AB062865 and AB062872) and three Glu-B3 sequences (AB062852, AB062853 and AB062860) defined by Ikeda et al. (2002) were chosen to query wheat EST and NR databases, and DNAmarkers were developedbasedon the putative SNPs among the sequences. Using this approach, four STS markers were developed and validated with 16-19 bread wheat cultivars. The primer set T1F4/T1R1 was also a Glu-D3 gene-specific marker for AB062872, while T2F2/T2R2, T5F3/T5R1 and T13F4/T13R3 were all Glu-B3 gene specific markers for AB062852, BF293671 and AY831800, respectively. The chromosomal locations of the sixmarkers wereverifiedbyamplifying thegenomicDNAof Ae. tauschii (DD), T. monococcum (AA) and T. turgidum(AABB) entries, as well as Chinese Spring and its group 1 chromosome nulli-tetrasomic lines. The results are useful to discriminate the corresponding Glu-D3 and Glu-B3 genes in wheat breeding programs.

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【题目】Molecular characterization of allelic variations at Pina and Pinb loci in Shandong wheat landraces, historical and current cultivars
【中文关键词】小麦,籽粒硬度,基因
【英文关键词】Wheat, Kernel hardness, Genes
【中文摘要】Grain hardness is very important in determining the milling and end-use quality of bread wheat. The objectives of this study were to develop gene specific primers for the allele Pina-D1b, evaluate the method for the identification of Pinb-D1p with restriction enzyme PflMI and characterize allelic variations at Pina and Pinb loci in Shandong wheat germplasm. Based on the nucleotide sequences of Ha locus reported previously (CR626934 and CR626926), 121 primer sets were developed to test the Pina-D1b allele. Sequence alignment showed that the promoter region of Pina-D1b allele was highly conserved in the region from _1134 to _23 bp relative to the transcription start codon ATG. Pinb-D1p was first reported in Chinese wheat landraces, with a base A deletion at position 213 in the coding region. Restriction analysis of Pinb-D1p indicated that the base A deletion resulted in the missing of the cleavage site with enzyme PflMI and the digestion with PflMI was validated as a reliable tool for the identification of Pinb-D1p allele. A total of 523 wheat accessions from Shandong province including 431 landraces, 63 historical and 29 current cultivars were chosen for the test of SKCS hardness and identification of puroindoline alleles using DNA markers developed in this study and those reported previously. Frequencies of soft, mixed and hard genotypes were 3.9%, 20.4% and 75.6% in Shandong landraces; 68.3%, 19.0% and 12.7% in historical cultivars; and 27.6%, 58.6% and 13.8% in current cultivars, respectively. Frequencies of Pina-D1b, Pinb-D1b and Pinb-D1p were 38.0%, 0.9% and 59.6% in hard landraces; and 37.5%, 37.5% and 25% in hard historical cultivars, respectively, whereas the Pinb-D1b was the only genotype in hard current cultivars. A novel Pinb allele with double mutations at the positions 96 (C to A) and 213 (deletion of A) was found in three landraces and designated as Pinb-D1aa.
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【第一作者】李根英
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【题目】Molecular characterization of Pina and Pinb allelic variations in Xinjiang landraces and commercial wheat cultivars

【中文关键词】小麦,新疆品种,籽粒硬度,基因
【英文关键词】Wheat, Xinjiang cultivars, Kernel hardness, Genes

【中文摘要】Grain hardness plays an important role in determining both milling performance and quality of the end-use products produced from common or bread wheat. The objective of this study was to characterize allelic variations at the Pina and Pinb loci in Xinjiang wheat germplasm for further understanding the mechanisms involved in endosperm texture formation, and the status of grain texture in Chinese bread wheat. A total of 291 wheat cultivars, including 56 landraces, and 95 introduced and 140 locally improved cultivars, grown in Xinjiang, were used for SKCS measurement and molecular characterization. Among the harvested grain samples, 185 (63.6%), 40 (13.7%), and 66 (22.7%) were classiWed as hard, mixed and soft, respectively. Eight diVerent genotypes for the Pina and Pinb loci were identiWed, including seven previously reported genotypes, viz., Pina-D1a/Pinb-D1a, Pina-D1a/Pinb-D1b, Pina-D1b/Pinb-D1a, Pina-D1a/Pinb-D1p, Pina-D1a/Pinb-D1q, Pina-D1a/Pinb-D1aa, Pina-D1a/Pinb-D1ab, and a novel Pinb allele, Pinb-D1ac. This new allele, detected in Kashibaipi (local landrace) and Red Star (from Russia) has a double mutation at the 257th (G to A substitution) and 382nd (C to T substitution) nucleotide positions of the coding region. Pina-D1b, Pinb-D1b, and Pinb-D1p were the most common alleles in Xinjiang wheat germplasm, with frequencies of 14.3%, 38.1% and 28.6% in hard textured landraces, 25.5%, 56.9% and 11.8% in hard introduced cultivars, and 24.8%, 47.8% and 26.5% in hard locally improved cultivars, respectively. The restriction enzymes ApaI, SapI, BstXI and SfaNI were used to identify Pinb-D1ab or Pinb-D1ac, Pinb-D1b, Pinb-D1e and Pinb-Dg, respectively, by digesting PCR products of the Pinb gene. The unique grain hardness distribution in Xinjiang bread wheat, as well as the CAPs markers for identiWcation of the Pinb alleles provided useful information for breeding wheat cultivars with optimum grain textures.

【英文摘要】Grain hardness plays an important role in determining both milling performance and quality of the end-use products produced from common or bread wheat. The objective of this study was to characterize allelic variations at the Pina and Pinb loci in Xinjiang wheat germplasm for further understanding the mechanisms involved in endosperm texture formation, and the status of grain texture in Chinese bread wheat. A total of 291 wheat cultivars, including 56 landraces, and 95 introduced and 140 locally improved cultivars, grown in Xinjiang, were used for SKCS measurement and molecular characterization. Among the harvested grain samples, 185 (63.6%), 40 (13.7%), and 66 (22.7%) were classiWed as hard, mixed and soft, respectively. Eight diVerent genotypes for the Pina and Pinb loci were identiWed, including seven previously reported genotypes, viz., Pina-D1a/Pinb-D1a, Pina-D1a/Pinb-D1b, Pina-D1b/Pinb-D1a, Pina-D1a/Pinb-D1p, Pina-D1a/Pinb-D1q, Pina-D1a/Pinb-D1aa, Pina-D1a/Pinb-D1ab, and a novel Pinb allele, Pinb-D1ac. This new allele, detected in Kashibaipi (local landrace) and Red Star (from Russia) has a double mutation at the 257th (G to A substitution) and 382nd (C to T substitution) nucleotide positions of the coding region. Pina-D1b, Pinb-D1b, and Pinb-D1p were the most common alleles in Xinjiang wheat germplasm, with frequencies of 14.3%, 38.1% and 28.6% in hard textured landraces, 25.5%, 56.9% and 11.8% in hard introduced cultivars, and 24.8%, 47.8% and 26.5% in hard locally improved cultivars, respectively. The restriction enzymes ApaI, SapI, BstXI and SfaNI were used to identify Pinb-D1ab or Pinb-D1ac, Pinb-D1b, Pinb-D1e and Pinb-Dg, respectively, by digesting PCR products of the Pinb gene. The unique grain hardness distribution in Xinjiang bread wheat, as well as the CAPs markers for identiWcation of the Pinb alleles provided useful information for breeding wheat cultivars with optimum grain textures.

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【第一作者】王亮
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【题目】Novel DNA variations to characterize low molecular weight glutenin Glu-D3 genes and develop STS markers in common wheat
【中文关键词】小麦,麦谷蛋白,低分子量亚基,功能基因标记
【英文关键词】Wheat, Gluten, LMW-GS, Functional markers
【中文摘要】Low-molecular-weight glutenin subunits (LMW-GS) play an important role in bread and noodle processing quality by inXuencing the viscoelasticity and extensibility of dough. The objectives of this study were to characterize Glu-D3 subunit coding genes and to develop molecular markers for identifying Glu-D3 gene haplotypes. Gene speciWc primer sets were designed to amplify eight wheat cultivars containing Glu-D3a, b, c, d and e alleles, deWned traditionally by protein electrophoretic mobility. Three novel Glu-D3 DNA sequences, designated as GluD3-4, GluD3-5 and GluD3-6, were ampliWed from the eight wheat cultivars. GluD3-4 showed three allelic variants or haplotypes at the DNA level in the eight cultivars, which were designated as GluD3-41, GluD3-42 and GluD3-43. Compared with GluD3-42, a single nucleotide polymorphism (SNP) was detected for GluD3-43 in the coding region, resulting in a pseudo-gene with a nonsense mutation at the 119th position of deduced peptide,and a 3-bp insertion was found in the coding region of GluD3-41, leading to a glutamine insertion at the 249th position of its deduced protein. The coding regions for GluD3-5 and GluD3-6 showed no allelic variation in the eight cultivars tested, indicating that they were relatively conservative in common wheat. Based on the 12 allelic variants of three Glu-D3 genes identiWed in this study and three detected previously, seven STS markers were established to amplify the corresponding gene sequences in wheat cultivars containing Wve Glu-D3 alleles (a, b, c, d and e). The seven primer sets M2F12/M2R12, M2F2/M2R2, M2F3/M2R3, M3F1/M3R1, M3F2/M3R2, M4F1/M4R1 and M4F3/M4R3 were speciWc to the allelic variants GluD3-21/22, GluD3-22, GluD3-23, GluD3-31, GluD3-32, GluD3-41 and GluD3-43, respectively, which were validated by amplifying 20 Chinese wheat cultivars containing alleles a, b, c and f based on protein electrophoretic mobility. These markers will be useful to identify the Glu-D3 gene haplotypes in wheat breeding programs.
【英文摘要】Low-molecular-weight glutenin subunits (LMW-GS) play an important role in bread and noodle processing quality by inXuencing the viscoelasticity and extensibility of dough. The objectives of this study were to characterize Glu-D3 subunit coding genes and to develop molecular markers for identifying Glu-D3 gene haplotypes. Gene speciWc primer sets were designed to amplify eight wheat cultivars containing Glu-D3a, b, c, d and e alleles, deWned traditionally by protein electrophoretic mobility. Three novel Glu-D3 DNA sequences, designated as GluD3-4, GluD3-5 and GluD3-6, were ampliWed from the eight wheat cultivars. GluD3-4 showed three allelic variants or haplotypes at the DNA level in the eight cultivars, which were designated as GluD3-41, GluD3-42 and GluD3-43. Compared with GluD3-42, a single nucleotide polymorphism (SNP) was detected for GluD3-43 in the coding region, resulting in a pseudo-gene with a nonsense mutation at the 119th position of deduced peptide,and a 3-bp insertion was found in the coding region of GluD3-41, leading to a glutamine insertion at the 249th position of its deduced protein. The coding regions for GluD3-5 and GluD3-6 showed no allelic variation in the eight cultivars tested, indicating that they were relatively conservative in common wheat. Based on the 12 allelic variants of three Glu-D3 genes identiWed in this study and three detected previously, seven STS markers were established to amplify the corresponding gene sequences in wheat cultivars containing Wve Glu-D3 alleles (a, b, c, d and e). The seven primer sets M2F12/M2R12, M2F2/M2R2, M2F3/M2R3, M3F1/M3R1, M3F2/M3R2, M4F1/M4R1 and M4F3/M4R3 were speciWc to the allelic variants GluD3-21/22, GluD3-22, GluD3-23, GluD3-31, GluD3-32, GluD3-41 and GluD3-43, respectively, which were validated by amplifying 20 Chinese wheat cultivars containing alleles a, b, c and f based on protein electrophoretic mobility. These markers will be useful to identify the Glu-D3 gene haplotypes in wheat breeding programs.
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【题目】QTL mapping for adult-plant resistance to stripe rust in Italian common wheat cultivars Libellula and Strampelli
【中文关键词】小麦,抗条锈病,基因标记
【英文关键词】Wheat, Strip rust resistance, Gene markers
【中文摘要】Italian common wheat cultivars Libellula and Strampelli, grown for over three decades in Gansu province of China, have shown effective resistance to stripe rust. To elucidate the genetic basis of the resistance, F3 populations were developed from crosses between the two cultivars and susceptible Chinese wheat cultivar Huixianhong. The F3 lines were evaluated for disease severity in Beijing, Gansu and Sichuan from 2005 to 2008. Joint- and single-environment analyses by composite interval mapping identified five quantitative trait loci (QTLs) in Libellula for reduced stripe rust severity, designated QYr.caas-2DS, QYr.caas-4BL, QYr.caas-5BL.1, QYr.caas-5BL.2 and QYr.caas-7DS, and explained 8.1 – 12.4, 3.6 – 5.1, 3.4 – 8.6, 2.6 and 14.6 – 35.0%, respectively, of the phenotypic variance across four environments. Six interactions between different pairs of QTLs explained 3.2 – 7.1% of the phenotypic variance. The QTLs QYr.caas-4BL, QYr.caas-5BL.1 and QYr.caas-7DS were also detected in Strampelli, explaining 4.5, 2.9 – 5.5 and 17.1 – 39.1% of phenotypic variance, respectively, across five environments. Three interactions between different pairs of QTLs accounted for 6.1 – 35.0% of the phenotypic variance. The QTL QYr.caas-7DS flanked by markers csLV34 and Xgwm295 showed the largest effect for resistance to stripe rust. Sequence analyses confirmed that the lines with the QYr.caas-7DS allele for resistance carried the resistance allele of the Yr18/Lr34 gene. Our results indicated that the adult-plant resistance gene Yr18 and several minor genes confer effective durable resistance to stripe rust in Libellula and Strampelli.
【英文摘要】Italian common wheat cultivars Libellula and Strampelli, grown for over three decades in Gansu province of China, have shown effective resistance to stripe rust. To elucidate the genetic basis of the resistance, F3 populations were developed from crosses between the two cultivars and susceptible Chinese wheat cultivar Huixianhong. The F3 lines were evaluated for disease severity in Beijing, Gansu and Sichuan from 2005 to 2008. Joint- and single-environment analyses by composite interval mapping identified five quantitative trait loci (QTLs) in Libellula for reduced stripe rust severity, designated QYr.caas-2DS, QYr.caas-4BL, QYr.caas-5BL.1, QYr.caas-5BL.2 and QYr.caas-7DS, and explained 8.1 – 12.4, 3.6 – 5.1, 3.4 – 8.6, 2.6 and 14.6 – 35.0%, respectively, of the phenotypic variance across four environments. Six interactions between different pairs of QTLs explained 3.2 – 7.1% of the phenotypic variance. The QTLs QYr.caas-4BL, QYr.caas-5BL.1 and QYr.caas-7DS were also detected in Strampelli, explaining 4.5, 2.9 – 5.5 and 17.1 – 39.1% of phenotypic variance, respectively, across five environments. Three interactions between different pairs of QTLs accounted for 6.1 – 35.0% of the phenotypic variance. The QTL QYr.caas-7DS flanked by markers csLV34 and Xgwm295 showed the largest effect for resistance to stripe rust. Sequence analyses confirmed that the lines with the QYr.caas-7DS allele for resistance carried the resistance allele of the Yr18/Lr34 gene. Our results indicated that the adult-plant resistance gene Yr18 and several minor genes confer effective durable resistance to stripe rust in Libellula and Strampelli.
【语种】英文
【第一作者】路亚明
【通讯作者】夏先春
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【学科分类】农业基础学科

【题目】QTL mapping for flour and noodle colour components and yellow pigment content in common wheat
【中文关键词】小麦,黄色素含量,基因定位
【英文关键词】Wheat, Yellow pigment content, QTL
【中文摘要】Improvement of flour colour is an important breeding objective for various wheat-based endproducts. The objectives of this study were to identify quantitative trait loci (QTL) for flour colour components and yellow pigment content (YPC), using 240 recombinant inbred lines (RILs) derived from a cross between the Chinese wheat cultivars PH82-2 and Neixiang 188. Field trials were performed in a Latinized a-lattice design in Anyang and Jiaozuo, Henan Province and Taian, Shandong, in the 2005 – 2006 and 2006 – 2007 cropping seasons providing data for six environments. One hundred and eighty-eight polymorphic SSR markers, rye

secalin marker Sec1, STS markers YP7A for a phytoene synthase gene (Psy-A1), and four glutenin subunit markers, were used to genotype the population and construct the linkage map for subsequent QTL analysis. Two major QTL were detected for YPC, associated with 1RS (1B.1R translocation) and the Psy-A1 (7A) gene, explaining 31.9% and 33.9% of the phenotypic variances, respectively. 1RS also had large influences on Fa*, Fb*, KJ, NL*and Nb*, and Psy-A1 genes showed large effects on Fa*, Fb*, Kj, Fci, NL*, Na* and Nb*, explaining from 4.5 to 26.1% and 4.3 to 35.9% of the phenotypic variances, respectively. In addition, QTL for flour colour parameters and yellow pigment content were also detected on chromosomes 1A and 4A, accounting for 1.5 – 4.1% of the phenotypic variance. The genetic effect of the 1B.1R translocation on flour colour parameters was also discussed.

【英文摘要】Improvement of flour colour is an important breeding objective for various wheat-based endproducts. The objectives of this study were to identify quantitative trait loci (QTL) for flour colour components and yellow pigment content (YPC), using 240 recombinant inbred lines (RILs) derived from a cross between the Chinese wheat cultivars PH82-2 and Neixiang 188. Field trials were performed in a Latinized a-lattice design in Anyang and Jiaozuo, Henan Province and Taian, Shandong, in the 2005 – 2006 and 2006 – 2007 cropping seasons providing data for six environments. One hundred and eighty-eight polymorphic SSR markers, rye secalin marker Sec1, STS markers YP7A for a phytoene synthase gene (Psy-A1), and four glutenin subunit markers, were used to genotype the population and construct the linkage map for subsequent QTL analysis. Two major QTL were detected for YPC, associated with 1RS (1B.1R translocation) and the Psy-A1 (7A) gene, explaining 31.9% and 33.9% of the phenotypic variances, respectively. 1RS also had large influences on Fa*, Fb*, KJ, NL*and Nb*, and Psy-A1 genes showed large effects on Fa*, Fb*, Kj, Fci, NL*, Na* and Nb*, explaining from 4.5 to 26.1% and 4.3 to 35.9% of the phenotypic variances, respectively. In addition, QTL for flour colour parameters and yellow pigment content were also detected on chromosomes 1A and 4A, accounting for 1.5 – 4.1% of the phenotypic variance. The genetic effect of the 1B.1R translocation on flour colour parameters was also discussed.

【语种】英文
【第一作者】张叶伦
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【题目】Quantitative Trait Loci Mapping for Adult-Plant Resistance to Powdery Mildew in Chinese Wheat Cultivar Bainong 64

【中文关键词】小麦,条锈病,成株抗性,基因定位
【英文关键词】Wheat, Strip rust, Adult-plant resistance, QTL

【中文摘要】Adult-plant resistance (APR) is an effective means of controlling powdery mildew in wheat. In the present study, 406 simple-sequence repeat markers were used to map quantitative trait loci (QTLs) for APR to powdery mildew in a doubled-haploid (DH) population of 181 lines derived from the cross Bainong 64 × Jingshuang 16. The DH lines were planted in a randomized complete block design with three replicates in Beijing and Anyang during the 2005 – 06 and 2007 – 08 cropping seasons. Artificial inoculations were carried out in Beijing using the highly virulent Blumeria graminis f. sp. tritici isolate E20. Disease severities on penultimate leaves were scored twice in Beijing whereas, at Anyang, maximum disease severities (MDS) were recorded following natural infection. Broad-sense heritabilities of MDS and areas under the disease progress curve were 0.89 and 0.77, respectively, based on the mean values averaged across environments. Composite interval mapping detected four QTLs for APR to powdery mildew on chromosomes 1A, 4DL, 6BS, and 7A; these were designated QPm.caas-1A, QPm.caas-4DL, QPm.caas-6BS, and QPm.caas-7A, respectively, and explained 6.3 to 22.7% of the phenotypic variance. QTLs QPm.caas-4DL and QPm.caas-6BS were stable across environments with high genetic effects on powdery mildew response, accounting for 15.2 to 22.7% and 9.0 to 13.2% of the phenotypic variance, respectively. These results should be useful for the future improvement of powdery mildew resistance in wheat.

【英文摘要】Adult-plant resistance (APR) is an effective means of controlling powdery mildew in wheat. In the present study, 406 simple-sequence repeat markers were used to map quantitative trait loci (QTLs) for APR to powdery mildew in a doubled-haploid (DH) population of 181 lines derived from the cross Bainong 64 × Jingshuang 16. The DH lines were planted in a randomized complete block design with three replicates in Beijing and Anyang during the 2005 – 06 and 2007 – 08 cropping seasons. Artificial inoculations were carried out in Beijing using the highly virulent Blumeria graminis f. sp. tritici isolate E20. Disease severities on penultimate leaves were scored twice in Beijing whereas, at Anyang, maximum disease severities (MDS) were recorded following natural infection. Broad-sense heritabilities of MDS and areas under the disease progress curve were 0.89 and 0.77, respectively, based on the mean values averaged across environments. Composite interval mapping detected four QTLs for APR to powdery mildew on

chromosomes 1A, 4DL, 6BS, and 7A; these were designated QPm.caas-1A, QPm.caas-4DL, QPm.caas-6BS, and QPm.caas-7A, respectively, and explained 6.3 to 22.7% of the phenotypic variance. QTLs QPm.caas-4DL and QPm.caas-6BS were stable across environments with high genetic effects on powdery mildew response, accounting for 15.2 to 22.7% and 9.0 to 13.2% of the phenotypic variance, respectively. These results should be useful for the future improvement of powdery mildew resistance in wheat.

【语种】英文

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【学科分类】农业基础学科

【题目】多重PCR的建立及黄淮麦区主要品种品质相关基因的鉴定

【中文关键词】普通小麦;加工品质;多重PCR

【英文关键词】Common wheat (Triticum aestivum L.); Processing quality traits; Multiplex PCR

【中文摘要】【目的】小麦加工品质由多个位点控制,而每个位点又有多个等位基因控制。建立品质性状多重PCR反应体系是提高分子标记辅助选择效率及降低成本的一种重要措施。【方法】选择影响小麦品质性状重要基因的分子标记,即高分子量谷蛋白亚基基因标记Ax2*;Bx14;Bx17 和Dx5;低分子量谷蛋白亚基基因标记Glu-A3 d;糯蛋白亚基Wx-B1 基因标记BDFL-BRD 和Wx-D1 基因标记MAG269;1BL/1RS 易位标记ω-sec 及多酚氧化酶(PPO)活性基因标记PPO18。根据优质面包;优质面条亚基组成要求及引物的退火温度,建立3 个多重PCR 反应体系PCR-Ⅰ(Ax2*/Bx17/Dx5);PCR-Ⅱ(BDFL-BRD/MAG269/PPO18)和PCR-Ⅲ(Bx14/Glu-A3d/ω-sec)。【结果】用构建的3 个多重PCR 对141 份黄淮麦区小麦品种加工品质相关基因的分布情况进行了检测。结果表明Ax2*;Bx14;Bx17具有较低的分布频率,分别为4.3%;7.1%;1.4%;Dx5 和Glu-A3 d 分布频率相对较高,分别为17.7%和27.7%;而1BL/1RS 易位和低PPO 活性(扩增片段为876 bp)的材料分别占44.0%和51.8%;Wx-B1 缺失材料占4.3%。在供试的141 份材料中已有80 份进行了高;低分子量谷蛋白亚基和黑麦碱的SDS-PAGE 电泳检测,与本研究建立的多重PCR 检测结果完全一致。【结论】建立的多重PCR 体系可以准确;稳定;高效地检测9 个小麦品质性状的基因组成。

【英文摘要】Abstract:【Objective】Wheat quality is controlled by many loci and each of them has several alleles. Development of multiplex PCR is very important to enhance the efficiency and reduce the cost in molecular marker assisted breeding for wheat quality traits.【Method】 In the present study, the molecular markers for important quality trait genes, i.e., high-molecular-weight glutenin subunit (HMW-GS) genes Ax2*, Bx14, Bx17 and Dx5, and low-molecular-weight glutenin subunit (LMW-GS) gene Glu-A3d, as well as the marker BDFL-BRD for Wx-B1, MAG269 for Wx-D1, ω-sec for 1BL/1RS translocation and PPO18 for polyphenol oxidase(PPO)activity, were chosen. Three combinations of multiplex PCRs, PCR-Ⅰ(Ax2*/Bx17/Dx5), PCR-Ⅱ(Bx14/Glu-A3d/ω-sec) and PCR-Ⅲ (BDFL-BRD/MAG269/PPO18) were built up according to genes controlling for pan bread and Chinese noodle quality, and the annealing temperatures of different markers. 【Result】A total of 141 wheat cultivars from Yellow and Huai River Valley wheat region were evaluated adopting the multiplex PCRs, and 80 of them were previously assessed using SDS-PAGE for HMW-GS, LMW-GS and secalin, and the corresponding results were identical. Of the 141 wheat cultivars, the frequencies of Ax2*, Bx14 and Bx17 were 4.3%, 7.1%, and 1.4%, while Dx5 and Glu-A3d accounted for 17.7% and 27.7%, respectively. Presences of 1BL/1RS translocation and low polyphenol oxidase (PPO) activity genes were much higher, up to 44.0% and 51.8%, respectively. Wx-B1 null type accounted for 4.3%, and no Wx-D1 null type presented.【Conclusion】The results indicated that the three multiplex PCRs developed can be used to detect the nine genes stably and efficiently.

【语种】中文

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【学科分类】农业基础学科

【题目】小麦新品种济麦22抗白粉病基因的分子标记定位
【中文关键词】普通小麦; 白粉病; 抗病基因; 分子标记
【英文关键词】Common wheat; Powdery mildew; Resistance gene; Molecular markers
【中文摘要】为明确济麦22 携带抗白粉病基因的染色体位置, 利用济麦22 与感病亲本中国春杂交, 用小麦白粉菌(Blumeria graminis f. sp. tritici)强毒性小种E20 对F2 抗;感分离群体和F2:3 家系进行抗病鉴定和遗传分析。结果表明,济麦22 携带1 个显性抗白粉病基因, 暂被命名为PmJM22。运用SSR 和EST 标记及分离群体分组分析法(bulked segregant analysis, BSA), 将其定位在2BL 染色体上, 与4 个SSR 和5 个EST 标记间的连锁距离为7.7 cM (Xwmc149)到31.3 cM (Xbarc101)。通过分析2BL 上其他抗白粉病基因的来源;染色体位置和抗性反应, 认为PmJM22 不同于Pm6;Pm26;Pm33 和MlZec1。
【英文摘要】Abstract: Wheat powdery mildew, caused by Blumeria graminis f. sp. tritici, is one of the most important diseases of wheat (Triticum aestivum L.) worldwide. Breeding resistant wheat cultivars is the most economical and effective approach to control the disease. Jimai 22, a newly released wheat cultivar with high yield, broad adaptability, and good quality, is related to broad-sprectrum resistance to the isolates of B. graminis f. sp. tritici at both seedling and adult plant stages. To map the resistance gene of Jimai 22 on wheat chromosome, we used a highly virulent isolate E20 to screen the F2 plants and F2:3 lines derived from the cross of Jimai 22/Chinese Spring. Genetic analysis indicated that Jimai 22 carried a single dominant gene for resistance to powdery mildew, designated PmJM22 tentatively. Using bulked segregant analysis (BSA) with SSR and STS markers, PmJM22 was located to chromosome 2BL. Linkage analysis indicated that the resistance gene was linked to four SSR and five EST markers, with genetic distances from 7.7 (Xwmc149) to 31.3 cM (Xbarc101). Based on the origins, chromosome locations, and reaction patterns, PmJM22 is different from all the known powdery mildew resistance genes Pm6, Pm26, Pm33, and Mlzec1 on chromosome 2BL.
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【通讯作者】夏先春
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【题目】新疆小麦品种高分子量谷蛋白亚基及相关品质基因的分子标记检测
【中文关键词】普通小麦; 高分子谷蛋白亚基; SDS-PAGE; 品质基因; 分子标记
【英文关键词】Common wheat; HMW-GS; SDS-PAGE; Processing quality; Molecular markers
【中文摘要】高分子量麦谷蛋白亚基;1B・1R 易位系;多酚氧化酶(PPO)活性及黄色素含量等基因对小麦加工品质有重要影响, 准确;快速鉴定这些基因对品质改良有重要意义。本研究对新疆当地及国内外引进的321 份小麦品种进行SDS-PAGE 分析, 利用特异性分子标记对高分子量谷蛋白亚基中的Dx5;Bx7;By8;By9 亚基;1B・1R 易位系;PPO和黄色素含量基因进行鉴定, 进一步验证分子标记检测的可靠性和准确性, 为优质小麦分子标记辅助育种提供材料和方法。SDS-PAGE 分析表明, 供试材料有21 种亚基类型, 其中Glu-A1 位点有3 种类型, 以null 为主; G1u-B1 位点有10 种类型, Bx7+By8 和Bx7+By9 亚基占主导地位; Glu-D1 位点有8 种类型, Dx2+Dy12 和Dx5+Dy10 占主导地位。分子标记检测表明, Dx5 亚基的频率为38.3%, Bx7 亚基的频率为85.7%, By8 亚基的频率为38.9%, Bx9 亚基的频率为42.7%; 特异性PCR 标记扩增与SDS-PAGE 鉴定结果的吻合率分别为97.2%;98.4%;93.4%和97.2%。在新疆当地品种;其他国内品种和国外品种中, 1B・1R 易位系材料的频率分别为22.0%;31.5%和25.0%, Psy-A1b 的频率分别为9.0%;10.8%和5.4%, Ppo-A1b 的频率分别为38.0%;43.8%和45.7%, Ppo-D1a 的频率分别为48.0%;66.9%和40.2%。同时含Ppo-A1b 和Ppo-D1a 的材料有74 份, 占23.0%。本试验中采用的基因特异性标记重复性好;准确率高, 可有效用于小麦品质分子标记辅助选择。
【英文摘要】Abstract: High molecular weight glutenin subunits (HMW-GS), 1B・1R translocation, polyphenol oxidase (PPO) activities, and yellow pigment content are mostly correlated with the processing quality of common wheat (Triticum aestivum L.). An accurate and fast characterization of these genes is of great importance in the improvement of wheat quality. In this study, a total of 321 wheat genotypes, including 100 Xinjiang local wheat cultivars, 130 introductions from other provinces of China, and 91 introductions from other countries, were analyzed by SDS-PAGE method. In addition, the functional markers of Dx5, Bx7, By8, By9, 1B・1R, PPO16, PPO18, PPO29, and YP7A were used to detect their allelic variations. Twenty-one subunit combinations were found according to the SDS-PAGE data, three types at Glu-A1 locus with null as a major subunit, 10 types at Glu-B1 locus with Bx7+By8 and Bx7+By9 as major subunits, and eight types at Glu-D1 locus with Dx2+Dy12 and Dx5+Dy10 as major subunits. The frequencies of the Dx5, Bx7,

By8, and Bx9 subunits revealed by functional markers were 38.3%, 85.7%, 38.9%, and 42.7%, respectively, with 97.2%, 98.4%, 93.4%, and 97.2% of consistency with SDS-PAGE results, respectively. Eighty-six genotypes had 1B • 1R translocations, with 22.0% in Xinjiang local cultivars, 31.5% in the introductions from other provinces of China, and 25.0% in those from other countries, respectively. The frequencies of Psy-A1b detected by YP7A marker were 9.0%, 10.8%, and 5.4% among three group genotypes, respectively. The PPO18 marker for the Ppo-A1 locus yielded Ppo-A1b allele with frequencies of 38.0%, 43.8%, and 45.7% among three group genotypes, respectively. The Ppo-D1a allele frequencies were 48.0%, 66.9%, and 40.2% among three group genotypes, respectively, according to the PPO16 and PPO29 markers at Ppo-D1 locus. However, only 74 genotypes contained Ppo-A1b and Ppo-D1a alleles at both loci, accounting for 23.0% of the genotypes. The functional markers applied in this study were repeatable, accurate and stable, and can be effectively used in wheat quality breeding.

【语种】中文

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【题目】中国冬小麦品种多酚氧化酶活性基因等位变异检测及其分布规律研究

【中文关键词】普通小麦;PPO基因;功能标记;分子标记辅助选择
【英文关键词】Common wheat(Triticum aestivum L.);Polyphenol oxidase(PPO)genes;Functional marker;Marker—assisted selection(MAS)

【中文摘要】【目的】利用分子标记研究中国冬小麦品种PPO基因的等位变异及其与PPO活性的关系,为小麦PPO活性的分子标记辅助选择(MAS)奠定基础。【方法】利用PPO基因的功能标记PP01 8;PP029和PP016对中国4个麦区的冬小麦品种(系) (试验I)和山东省常用亲本(试验II)共31l份进行2A和2D染色体上PPO等位基因Ppo-Ala;Ppo-Alb;Ppo-Ola和 D 6的检测。【结果】PP018在等位基因Ppo-Ala(高PPO)和 p 6(低PPO)中分别扩增685 bp和876 bp的片段,PP016和PP029在Ppo-91a(低PPO)和Ppo-Dlb(高PPO)两个等位基因中分别扩增71 3 bp和490 bp的片段 31l份品种(系)中Ppo-Ala;Ppo-Alb;Ppo-91a和Ppo-9lb等位基因的频率分别为41.8%;58.2%;59.8%和4O.2%,PPO活性在同一基因的两个等位基因间差异均达显著水平(p<0.05);两个PPO基因的等位基因组合类型分布频率为:Ppo-~la/Ppo-91a(2 7.3%);Ppo-Ala/Ppo-Dlb(1 4.5%);D Ppo-91a(32.5%)和 D Ppo-9lb(25.7%),彼此差异均达显著水平(尸<0.05)。各麦区间PPO活性基因分布存在明显差异,Ppo-Ala基因在长江中下游冬麦区和西南冬麦区分布较多,频率分别为6O.7%和56.O%;Ppo-Alb基因在北部冬麦区和黄淮冬麦区分布较高,频率分别为65.6%和6O.3%;而Ppo-91a基因在北部冬麦区;黄淮冬麦区;长江中下游冬麦区和西南冬麦区分布明显高于Ppo-9lb基因频率,分别为65.6%;53.6%;75.O%和76.O%。【结论】PP018;PP01 6和PP029标记的检测方法简单;稳定性好,所检测的等位变异类型能有效反映品种的PPO活性值。中国冬麦区品种低PPO活性基因分布频率相对较多。因此,根据PPO基因类型组配亲本,并利用PP0基因功能标记在育种早代筛选低PPO活性的基因型,可促进面制品色泽的改良。

【英文摘要】Abstract:【Objective]The aims of this study were to characterize the allelic distribution of PPO genes in Chinese winter wheat cultivars with molecular markers and analyze the association between PPO activity and different PPO alleles for the improvement of PPO activity in marker—assisted selection(MAS).[Method]A total of 3 1 1 Chinese wheat cultivars and advanced lines collected from four winter wheat regions(Experiment 1)and common parents in Shan dong province(Experiment 2)were tested with the functional markers PPO18,PPO16 and PPO29 for the identification of four allelic variants Ppo-Ala,Ppo-Alb,Ppo—Dla and Ppo—Dlb on chromosomes 2A and 2D.[Result]PPO18 could amplify a 685一bp and an 876一bp fragments in the cultivars with the allele PpD—AJa (high PPO)and Ppo-Alb(1ow PPO),respectively.Two complementary dominant markers.PPO 1 6 and PPO29。amplified a 7 1 3.Bp and a 490一bp fragment in the genotypes with Ppo—Dla(1ow PPO)and Ppo—Dlb(high PPO),respectively.The frequencies for Ppo-Ala,印lo-Alb,Ppo—Dla and Ppo—Dlb were 41.8%,58.2%,59.8% and 40.2%,in the 3 1 1 cultivars and advanced lines, respectively.Significant differences in PPO activities were detected between the genotypes with Ppo-Ala and those with Ppo-Alb (P<0.05),and between the genotypes for印lD—Dla and those for Ppo—Dlb.Frequencies of PPO allelic combinations for Ppo-Ala/epo—Dla,Ppo-Ala/Ppo—Dlb,Ppo-Alb/Ppo—Dla an d Ppo-Alb/Ppo—Dlb were 27-3%,14.5% ,32.5% an d 25.7%,and highly significant differences in PPO activity were found among the four genotypes <0.05).Ppo-Ala was present as a major allele in middle and low Yangtze Valley winter wheat region and southwestern winter wheat region.with frequencies of 60.7% and 56.0% .respectively,whereas Ppo-Alb was found as a major allele in northern winter wheat region and Yellow and huai facultative winter wheat region,with frequencies of 65.6% and 60-3% ,respectively.Ppo—Dla was dominant in northern winter wheat region,Yellow and Huai

facultative winter wheat region,middle and low Yangtze Valley winter wheat region and southwestern winter wheat region, with frequencies of65.6%,53.6%,75.0%and 76.0%,respectively.[Conclusion]PP018,PPOI6 and PPO29 were simple and stable functional markers that can accurately discriminate different alleles of PPO genes on chromosomes 2A and 2D,exhibiting high correlation between grain PPO activity and PP0 genotypes.The alleles of low PPO activity were dominant in Chinese winter wheat regions.Therefore,employing the PPO markers to test parents and separating generations descendants in wheat breeding programs would help breeder to select the individuals with low PPO activity,accelerating the progress for the improvement of undesirable darkening of end—use product

【语种】中文

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【学科分类】农业基础学科

【题目】中国和CIMMYT小麦品种Bx7亚基超量表达基因(Bx7OE)的分子检测

【中文关键词】普通小麦(Triticum aestivum L.); RP-HPLC; STS 标记; 分子标记辅助选择; Bx7OE

【英文关键词】Common wheat (Triticum aestivum L.); RP-HPLC; STS marker; Marker-assisted selection; Bx7OE

【中文摘要】高分子量谷蛋白亚基Bx7 的超量表达对提高小麦面筋强度有重要作用。利用反相高效液相色谱(RP-HPLC)和STS 标记检测了163 份中国和CIMMYT 小麦品种(系)的高分子谷蛋白亚基Bx7 超量表达基因(Bx7OE)。结果表明,TaBAC1215C06-F517/R964 标记和TaBAC1215C06-F24671/R25515 标记可分别在含有Bx7OE 基因的材料中扩增出447bp 和844 bp 的特异带, 在不含Bx7OE 基因的材料中无相应目标带, 两个STS 标记的检测结果完全一致。在163 份小麦品种(系)中, 11 份品种(系)含有Bx7OE 基因, 占总数的6.7%。RP-HPLC 与STS 标记检测结果一致。利用这两个STS标记可以方便;快速;准确地检测Bx7OE 基因。

【英文摘要】Abstract: Over-expression of the high molecular weight glutenin subunit (HMW-GS) Bx7 is highly associated with dough strength of wheat (Triticum aestivum L.) flour. A total of 163 Chinese and CIMMYT wheat cultivars and advanced lines were tested by two STS markers and RP-HPLC to understand the presence of HMW-GS gene Bx7OE. The results indicated that the markers TaBAC1215C06-F517/R964 and TaBAC1215C06-F24671/R25515 could amplify a 447 bp and a 844 bp PCR fragments, respectively, in the lines with Bx7OE, whereas no PCR products were detected in the lines without Bx7OE. Of the 163 cultivars and lines, specific PCR fragments were amplified in 11 genotypes by the two markers, indicating the presence of Bx7OE in these lines, with a frequency of 6.7%. The results obtained by RP-HPLC were consistent with those revealed by STS markers. These two STS markers could be used to detect the presence of Bx7OE gene in wheat cultivars.

【语种】中文

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【学科分类】农业基础学科

【题目】中国小麦品种黄色素含量基因等位变异分子检测及其分布规律研究

【中文关键词】普通小麦;黄色素;八氢番茄红素合成酶基因;功能标记;分子标记辅助选择

【英文关键词】Common wheat (Triticum aestivum L.); Yellow pigment (YP); Phytoene synthase (Psy) gene; Functional marker; Marker-assisted selection (MAS)

【中文摘要】【目的】八氢番茄红素合成酶(phytoene synthase,Psy)基因是影响小麦黄色素含量的关键基因,利用分子标记检测中国冬小麦品种(系)Psy-A1 基因的等位变异及其与黄色素含量的关系,进一步验证Psy-A1基因分子标记的有效性。【方法】利用7A 染色体上Psy-A1 基因的分子标记YP7A 检测该基因在中国217 份冬小麦品种(系)中的等位变异,分析不同等位变异与黄色素含量的相关性及变化趋势。【结果】Psy-A1 基因标记YP7A为共显性标记,在高;低黄色素含量的小麦材料

中分别扩增出194 bp 和231 bp 片段,相应的等位基因为Psy-A1a和Psy-A1b(GenBank 编号分别为EF600063 和EF600064)。在217 份冬小麦品种(系)中,含有等位基因Psy-A1a和Psy-A1b 的品种(系)分别占62.2%和37.8%,二者黄色素含量平均值差异达到极显著水平(P<0.01)。其中,北方冬麦区;黄淮冬麦区;长江中下游冬麦区及西南冬麦区Psy-A1a 等位基因的分布频率分别为75.0%;72.0%;25.9%和33.3%。【结论】分子标记YP7A 可以作为小麦品种黄色素含量选择的辅助工具。

【英文摘要】Abstract:【Objective】 Phytoene synthase (Psy) gene is a critical gene influencing biosynthetic pathway of yellow pigment (YP) in common wheat. The aims of this study were to detect the allelic variations of Psy-A1 gene in 217 Chinese winter wheat cultivars and lines using the functional marker YP7A developed from the sequence polymorphisms of Psy-A1 gene on chromosome 7A, and to investigate the association between YP content and allelic variations of Psy-A1 gene to evaluate the feasibility of the marker for selecting wheat cultivars with either low or high YP content. 【Method】 Allelic variations of 217 Chinese winter wheat cultivars from different wheat regions were detected using YP7A. The association between allelic variations of Psy-A1 gene and YP content were investigated. 【Result】 YP7A, a co-dominant marker of Psy-A1 gene, can amplify a 194-bp and a 231-bp fragment in the genotypes with Psy-A1a frequently for high YP content and Psy-A1b mostly for low YP content, respectively. Highly significant differences in YP content were detected between the genotypes with Psy-A1a and those with Psy-A1b (P<0.01). The occurrence frequencies for Psy-A1a and Psy-A1b were 62.2% and 37.8% in the 217 cultivars, respectively. Significant differences of allelic variations were found in wheat cultivars from different wheat regions of China. In the Northern Winter Wheat Region, Yellow & Huai Winter Wheat Region, the Middle & Lower reaches of the Yangtze River Winter Wheat Region and Southwestern Winter Wheat Region, frequencies of the allele Psy-A1a were 75.0%, 72.0%, 25.9% and 33.3%, respectively. 【Conclusion】 The molecular marker YP7A exhibites the characteristics of high efficiency and reliability in evaluating YP content, and can be used as a molecular tool for marker-assisted selection (MAS) in wheat breeding programs targeting for either low or high YP content.

【语种】中文

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【学科分类】农业基础学科

【题目】BACILLUS SUBTILIS for Salt Stress Relief in Vegetable Cultivation

【中文关键词】无土栽培,基质,栽培槽,番茄

【英文关键词】beneficial microorganism, bacterium, NaCl stress, lettuce, FZB 24

【中文摘要】无

【英文摘要】Bacillus subtilis is a beneficial microorganism (Gram positive bacterium) safe to humans and the environment. Since Johnson reported in 1945 that Bacillus subtilis produced bacitracin many studies have taken place on Bacillus subtilis as a biocontrol agent to suppress biotic diseases. In this paper we have studied the effects of Bacillus subtilis for abiotic stress relief on lettuce growth under salt stress. The strain we used was Bacillus subtilis FZB 24. 0.1% and 0.2% NaCl were used as the stress levels. The cultivation system was water culture. The results showed that, compared to the control treatments without Bacillus subtilis, under 0.1% NaCl and 0.2% NaCl stress, the yield of lettuce of Bacillus subtilis treatments was raised by 6.5% and 32.0%, respectively. Bacillus subtilis significantly increased the activity of SOD and CAT of lettuce while decreasing the MDA content under salt stress. This indicated that Bacillus subtilis enhanced the stability of the cell membrane. Bacillus subtilis raised the root vigor of lettuce under salt stress. Bacillus subtilis also improved photosynthesis of lettuce under salt stress by increasing the net photosynthetic rate and the stomatic conductance. The quality of lettuce did not change greatly by adding Bacillus subtilis. So the application of Bacillus subtilis is a safe and promising way to relieve salt stress in vegetable production.

【语种】英文

【第一作者】刘伟

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【学科分类】园艺学

【题目】枯草芽孢杆菌对盐胁迫条件下黄瓜根际酶活性的影响
【中文关键词】枯草芽孢杆菌,盐胁迫,根际,酶活性
【英文关键词】Bacillus subtilis, Salt stress, Rhizosphere, Enzyme activities
【中文摘要】通过基质栽培方式,研究了枯草芽孢杆菌在盐胁迫条件下对黄瓜根际脱氢酶、多酚氧化酶、过氧化氢酶、过氧化物酶、脲酶和碱性磷酸酶活性的影响。结果表明,在无盐胁迫条件下,枯草芽孢杆菌提高了根际脱氢酶、脲酶和碱性磷酸酶的活性,显著提高了根际多酚氧化酶和过氧化氢酶的活性;在低浓度盐胁迫,即2倍正常浓度营养液浇灌下,枯草芽孢杆菌提高了根际脱氢酶、过氧化物酶活性,显著提高了根际过氧化氢酶、脲酶和碱性磷酸酶的活性;在高浓度盐胁迫,即4倍浓度营养液浇灌下,添加枯草芽孢杆菌对根际酶活性的影响与不加菌处理没有显著差异。
【英文摘要】Effects of Bacillus subtilis (B. S) on dehydrogenase activity,polyphenoloxidase activity,catalase activity,peroxidase activity,urease activity and alkaline phosphatase activity of cucumber under salt-stress was studied through substrate culture. The results showed that under no salt stress,Bacillus subtilis increased dehydrogenase activity,urease activity and alkaline phosphatase activity,significantly increased polyphenoloxidase activity and catalase activity in the rhizosphere. Under lower-concentration salt stress,(i. e. double of normal nutrient solution level) ,Bacillus subtilis increased dehydrogenase activity and peroxidase activity,significantly increased catalase activity,urease activity and alkaline phosphatase activity in the rhizosphere. Under higher-concentration salt stress,(i. e. four times of normal nutrient solution level) ,compared to no B. S treatment,Bacillus subtilis had no significant influence on rhizosphere enzyme.
【语种】中文
【第一作者】闫海霞
【通讯作者】刘伟
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【引文索引号】无
【学科分类】园艺学

【题目】规模化猪场六种绿化树种固碳释氧能力的研究
【中文关键词】规模化猪场; 绿化植物; 固碳释氧
【英文关键词】Large-scale Pig Farm; greening tree species; carbon fixation and oxygen release
【中文摘要】利用LI- 6400便携式光合测定系统分析测定了辽宁阜新原种猪场6种绿化树种的生理生态指标, 进而对其固碳释氧能力进行评价。结果表明: 不同月份, 6种绿化树种的净光合速率日变化曲线明显不同, 主要为双峰型, 第一个峰值多出现在上午7: 00- 9: 00左右, 第二个峰值在14: 00- 16: 00之间, 中午时均出现明显的光合午休现象。银中杨和小叶杨净光合速率分别在6、7月份达到最高值, 呈单峰曲线变化; 南果梨和苹果梨在8月份明显降低, 随后升高, 呈双峰曲线变化; 白丁香和紫丁香在6月份有明显降低, 也呈双峰曲线变化。6、7、8三个月份6种绿化树种的固碳释氧能力较强, 9月份次之, 5月份最弱。苹果梨的固碳释氧能力最高, 其次是白丁香、南果梨、小叶杨和银中杨, 而紫丁香的固碳释氧能力最差。苹果梨、白丁香及小叶杨是合适的绿化植物, 适宜于广泛推广, 大面积种植。
【英文摘要】The physiological indices of six greening tree species on a large-scale Pig Farm of Fuxin city were measured by the LI-6400 portable photosynthesis system, and their carbon- fixation and oxygen-release potentials were evaluated. The results indicated that the daily curves of the net photosynthetic rates of the six tree species were mainly a double-peak type, with the first peak appearing between7: 00 - 9: 00, the second one between 14: 00- 16: 00, and an apparent photosynthetic siesta phenomenon at noon. The net photosynthetic rates of Populus alba bero linensis and Populus simonii Car seasonally varied as single-peak curve and arrived at the peak in June and July, respectively. And that of Pyrusussur iensisM iaxin. f. and Pyrus ussuriensisM axin. varied as adouble-peak curve, with a valley August. The net photosynthetic rates of Passer montanus saturatus Stejneger and Syringa ob lata Lindl also seasonally varied as a double-peaks curve, with a significant reduction in June1 The potentials of the six tree species on fixing carbon and releasing oxygen were high in them onths of June, July and August, weaker in September, and weakest in May. The order of the irpotentials on fixing carbon and releasing oxygen was Pyrus ussur iensisM iaxin. f. > Passerm ontanus saturatus Stejneger > Pyruus suriensisM axin. > Populus simonii Carr. > Populus alba berolinensis > Syringa oblata Lindl. Pyrus ussur iensisM iaxin. f., Passerm ontanus saturatus Stejneger and Populus simonii Carr. were suitable greening tree species for widely planting on the large-scale pig farm.

【语种】中文
【第一作者】王少军
【通讯作者】史奕
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【题目】对畜禽粪便发酵腐熟指标判定的探讨
【中文关键词】畜禽粪便; 好氧发酵; 堆肥; 腐熟指标
【英文关键词】livestock and poultry manure; good oxygen fermentation; compost; indexes of compost
【中文摘要】以猪粪为例, 通过加入腐熟剂发酵与自然发酵对比, 探讨了畜禽粪便好氧发酵堆肥腐熟度的判定指标。实验表明, 松散度、感官气味、温度、pH 值、含水量、铵态氮、碳氮比、蛋白酶活性、大肠杆菌数、蛔虫卵死亡率、种子发芽率等可作为判定畜禽粪便腐熟度的指标, 另外, 重金属和抗生素也应作为重要指标进行检测, 随着研究的深入还应从生物学、物理学、生物化学等方面综合判断。
【英文摘要】With the comparison of decomposition both maturing agent fermentation and natural fermentation, the indexes of compost for maturity livestock and poultry manure with good oxygen fermentation are discussed by taking the pig manure as the example. The experiment shows that loose divergence, sense organ smell, temperature, pH value, water content, ammonium nitrogen, carbon nitrogen ratio(C / N) , protein enzyme activity, backwoods coli number, roundworm egg mortality rate, the seed- germination percentage can be as theindexes of compost. Moreover, the heavy metal and the antibiotic also should be as the important indexes of compost. Along with the thorough research, the evaluation from the biology, physics, biochemistry should be done.
【语种】中文
【第一作者】江志阳
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【题目】沃特和PAM保水剂对土壤水分及马铃薯生长的影响研究
【中文关键词】沃特保水剂,PAM保水剂,马铃薯,土壤水分,生长状况
【英文关键词】Wote super absorbent, PAM,potato, soil moisture, growth condition
【中文摘要】D在陕北黄土丘陵沟壑区以不施为对照? 开展了浸种E 穴施保水剂沃特和 < 4= 对土壤水分和马铃薯生长影响研究F结果表明D 沃特E < 4= 不同处理 > $ G! $+ HE " $ GI $+ H土层土壤含水率在盛花前略高于对照? 茎叶衰老后略低于对照F不同处理 $ G> $ $+ H土层土壤水含量苗期略高于对照B 花期沃特E < 4= 穴施用量 > J和 " $K ; L 0 H!处理极显著高于对照? 沃特E < 4= 穴施用量 M $K ; L 0 H!和 > 8 $ N浸种处理显著低于对照B 收获期不同处理均低于对照F 不同处理花期E 收获期均表现为沃特E < 4= 施用量越大? 生物量E 块茎产量越高? 块茎个数越少? 最大块茎越大F从播种到花期沃特E < 4= 穴施用量 > J和" $K ; L 0 H!处理的耗水量显著低于对照? 从播种到收获期不同处理的耗水量与对照无显著差异? 但花期E 收获期不同处理的水分利用率和水分产出率均极显著高于对照F 沃特和 < 4= 在马铃薯生产应用中? 穴施应以 " $K ; L 0 H!到 I JK ; L 0 H!为宜F用 > 8 $ N的浓度浸种? 可成为沃特和 < 4= 在马铃薯生产中利用的主要方式
【英文摘要】
【语种】中文
【第一作者】杜社妮
【通讯作者】白岗栓
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【题目】沃特和PAM 施用方式对土壤水分及玉米生长的影响.
【中文关键词】土壤水含量,施用方式,沃特保水剂,PAM,玉米,生长状况
【英文关键词】soil moisture, application methods, Wote super absorbent, PAM, maize, growth condition
【中文摘要】:为了鉴别沃特保水剂和 PAM 不同施用方式的施用效果,在陕北黄土丘陵沟壑区开展了撒施、沟施、穴施对土壤水含量和玉米生长影响的田间试验。结果表明不同施用方式提高了 0~10 cm土层土壤水含量,而 30~40 cm土层土壤水含量则随降水量的多少呈现出不同的规律性。随着玉米的生长,不同施用方式影响的土层深度逐渐加深,从三叶期 0~50 cm土层增加到成熟期的 0~200 cm土层,土壤水含量表现为沟施、穴施高于撒施,撒施高于对照。3 种施用方式对玉米出苗无显著影响,但均提高了玉米生物量、籽粒产量、水分利用效率,降低了玉米的耗水量,其中沟施、穴施的效果强于撒施。沃特、PAM 相同施用方式对土壤水含量和玉米生长无显著影响,且沟施和穴施之间无显著性差异,但沃特单位施用量单位面积的增产量高于 PAM。玉米生产中,沃特、PAM 应以沟施或穴施为主
【英文摘要】Abstract: In order to determine the effects of Wote super absorbent and PAM with various application methods, fieldexperiments were conducted to investigate their effects on soil moisture and maize growth in the loess hilly and gully areas ofnorthern Shaanxi Province. Wote super absorbent and PAM were applied with three treatments of broadcasting, furrowing, andholing. The results showed that the three treatments could increase soil moisture within 10 cm deep below soil surface, whilesoil moisture in 30~40 cm layer showed different regimes with various precipitations at the maize growing stage. At the maizegrowing stage, soil depth affected by the treatments extended from 50 cm at three leaves stage to 200 cm at the maturationstage. The application treatments, in terms of soil moisture, were ranked in the descendant order of furrowing and holing,broadcasting, and CK. The three application methods could hardly influence maize germination, but could increase maizebiomass, kernel yield, and water use efficiency and decrease water consumption by maize. The effects of furrowing and holingtreatments were better than that of broadcasting treatment. Wote super absorbent and PAM with the same application methoddid not significantly affect soil moisture and maize growth. There was no evident difference between furrowing and holingtreatments as well. Yield per unit amount of application for Wote super absorbent was higher than that for PAM. Optimumapplication method ofWote and PAM should be furrowing or holing application in maize production.
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【题目】沃特和PAM对土壤水分及玉米生长的影响
【中文关键词】沃特;PAM;玉米;土壤 水分;生长状况
【英文关键词】Wote super absorbent;PAM;maize;soil moisture;growth status
【中文摘要】:为了鉴别沃特保水剂的施用效果及确立合理的施用量,在陕北黄土丘陵沟壑区,采用田间试验方法,开展沟施不同用量沃特及 PAM 对土壤水分和玉米生长的影响研究.结果表明,玉米生育期间lO~20 cm土层和4O~50 cm土层土壤贮水量均随沃特、PAM施用量的增大而提高.玉米三叶期0~5Ocm土层、拔节期0~i00 cm土层、抽穗一吐丝期0~i50 cm土层、成熟期O~200 cm土层土壤贮水量均显著高于对照,且随沃特、PAM施用量的增大而提高.玉米叶片光合速率、茎叶生物量、根系生物量、果穗生物量、茎杆粗度、籽粒产量、千粒重均随沃特、PAM施用量的增加而提高.从播种到成熟期,玉米耗水量减少,水分利用效率、水分产出率极显著提高.相同施用量沃特、PAM的土壤贮水量和玉米生物量、产量无显著差异.在陕北黄土丘陵沟壑区,沃特、PAM在玉米生产中沟施应以45 kg.hm 左右为宜
【英文摘要】In order tO explore using effect and using amount of Wote super absorbent,field experimentsof applying 0(CK),15,30,45,60 kg-hm。Wote super absorbent and PAM respectively in furrow wereconducted tO study their effects on soil moisture and maize growth in loess hilly and gully regions ofnorthern Shaaxi.The result showes that soil moisture increased with increasing amounts of

Wote andPAM in 10—20 cm and 40—50 cm soil depth during the growth season of maize.Soil moisture with Woteand PAM treatments was significantly(P<O.05)higher than that of CK in 0-50 cm soil depth in threeleaves stage,in O-100 cm soil depth in jointing stage,in O-150 cm soil depth in tasselling-silking stage,and in 0-200 cmsoil depth in maturing stage,and soil moisture increased with increasing amounts ofWote and PAM.Photosynthesis rate of leaves,biomass of stem and leaves,roots,corn ear.and thediameter of stem,kernel yields,1000一kernel weight all increased with increasing amounts of Wote andPAM.From seeding tO maturing stage,water consumption of maize with Wote and PAM treatments waslower than that of CK,but water use efficiency and water output rate were super significantly(P<O.O1)higher than that of CK.There were no differences in soil moisture,biomass,and yields between sameamount of Wote and PAM.Optimum amount of Wote and PAM in maize furrow cropping system shouldbe 45 kg.hm in loess hilly and gully regions of northern Shaaxi.

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【题目】黄土丘陵区仁用杏园不宜间作沙打旺
【中文关键词】仁用杏;沙打旺;间作;土壤水分;土壤养分;树体生长
【英文关键词】Armeniaca vulgaris×A.sibirica;Astragalus adsurgens;Interplant;Soil moisture;Soil nu。trient;Growth status
【中文摘要】:在陕北黄土丘陵沟壑区对清耕和间作沙打旺(Astragalus adsurgens)6年、4年、2年仁用杏园0 500 cm土层土壤水分、有机质、全氮、全磷、速效氮、速效磷、速效钾含量及树体生长状况进行了测定,结果表明,间作沙打旺,除了在秋季提高了0—100 cm土层土壤水分以外,在春季、夏季和秋季均显著降低了0—500 cm土层土壤水分,且间作沙打旺年限越长,降低越显著。间作沙打旺提高了0—100 cm土层土壤有机质和全氮含量,间作年限越长效果越显著,但对100 cm土层以下的土壤有机质和全氮无显著影响。间作沙打旺对土壤全磷含量无显著影响。间作沙打旺显著降低了土壤速效养分含量,其中速效氮降低深度达500 cm土层,速效磷、速效钾达300 cm土层,且间作年限越长,降低越显著。间作沙打旺显著削弱了树体的长势,降低了坐果率和杏仁产量。间作沙打旺存在着与仁用杏争水争肥的矛盾,黄土丘陵沟壑区仁用杏园不宜间作沙打旺。
【英文摘要】Abstract:The experimentation of interplant Astragalus adsurgens in Armeniaca vulgaris×A.sibirica or.chard had been done in loess hilly and gully region of northern Shaanxi.The moisture,organic matter,totalN,total P,available N,available P。available K of 0—500 em soil layers and the growth status of A.vulgar~×A.sibirica of clean tillage,interplant six years,interplant four years and interplant two years had been de-termined.The results showed that the soil moisture of interplant As.adsurgens increased in 0—100 em soillayer in autumn.but the soil moisture of the treatments of interplant As.adsurgens reduced significantly inspring time,summertime and autumn in 0—500 em soil layer,and the soil moisture reduced obviously as inter.plant years increasing.In 0—100 em soil layers,organic matter and total N of the treatments of interplant As.adsurgens were higher than clean tillage,and increased obviously as interplant years increasing,but the soilorganic matter and total N under 100 em soil layers weren ' t significant difference than clean tillage.Betweenthe treatments of interplant As.adsurgens and clean tillage,soil total P didn ' t have significant difference.Soilavailable N,available P and available K of the treatments of interplant As.adsurgens were significant lowerthan clean tillage,soil available N reduced from 0 em to 500 em soil layers,soil available P and available Kreduced from 0 em to 300 em soil layers,and thedecreased obviously as interplant years increasing.content of available N,available P and available K in soilThe A.vulgaris×A.sibirlca growth of the treatments of interplant As.adsurgens were significant weaker,and fruit set

percentage and the almond yield were significantlower than clean tillage.Between As.adsurgens and A.vulgaris×A.sibirica there were a contention for waterand nutrient.A. vulgaris×A. sibirica orchard wasn ' t suitable interplant As. adsurgens in loess hilly and gullyregion.
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【题目】沃特保水剂对西瓜生长及土壤环境的影响
【中文关键词】沃特保水剂; PAM; 西瓜栽 培; 土壤环境
【英文关键词】Wote super absorbent; PAM; watermelon cultivate; soi1 environment
【中文摘要】[摘 要] 在陕北黄土丘陵沟壑区, 以不施保水 剂为对照, 开展 了沃特和 PAM 保水剂对西瓜 生长及 土壤环境影响的研 究。结果表明, 施用沃特和 PAM 降低 了西瓜缓苗期的地表最高温度, 提高 了地 表的平均温度 、 最低温度及 10em土层 和20 em土层的土壤温度, 增加 了土壤的含水量, 特别是开花坐瓜期 0~30 em土层 的土壤含水量 。西瓜幼苗的成活率随沃特 和 PAM 施用量 的增加而提高。沃特和 PAM 保水剂 的施用促进 了西瓜主蔓和根系的生 长, 增强 了叶片的光合作用能力, 增加 了西瓜 的生物量, 使西瓜 的成熟期 提前, 产量 和产值增加, 水分利 用效率 显著提高 。相 同施用量的沃特与 PAM相 比, 对西瓜 生长及 土壤环境的影响差异均不显著 。沃特和 PAM 在西瓜上 的适宜使用量均为每株1.5~2.0 g, 即16.67~22.22 kg/hm 。
【英文摘要】Abstract:Compared with the loess hilly and gully regions of northern Shaanxi without using Wote SU—per absorbent and PAM, influence of Wote and PAM on the soi1 environment and the growth of watermel—on had been researched. The result showed that Wote and PAM increased the average temperature of theearth S surface, temperatures of 10 cm soi1, 20 cm soi1 and the 1owest temperature of the earth ' S surface。butreduced the highest temperature of the earth ' S surface in reviving phase. Soil moisture was increased by u—sing Wote and PAM, and the soil moisture of 0—30 cm soil in florescence and fruiting phase was also in—creased. The surviving percent of watermelon seedling increased with the increasing of quantities of Woteand PAM. It was Wote and PAM that promoted the growth of main tendrilled vine and roots, enhanced thephotosynthesis, increased watermelon biomass, moved the harvest phase up, increased the yields and theproduction value, and obviously increased the water use efficiency of watermelon. There were not remarka—ble differences betwen the soi1 environment and the growth of watermelon when Wote and PAM were usedsame quantities. Suitable quantities of Wote and PAM for watermelon should be 1.5—2.0 g plant, or16.67—22.22 kg/hm .
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【题目】间伐对仁用杏园土壤理化性质及生长结果的影响
【中文关键词】仁用杏;间伐强度; 土壤养分;土壤水分;生长状况
【英文关键词】A rmeniaca v ulgar i s @ A . sibi ri ca; thinning intensity; soil nutr ient; so i l moisture; gr ow th status
【中文摘要】摘要: 为了探讨密闭仁用杏园衰败的原因, 采用常规的方法研究了间伐对仁用杏园土壤养分、 水分及树体生长等方面的影响。结果表明: 间伐减小了土壤容重, 略微增加了土壤孔隙度;间伐显著提高了 0- 40 cm 土层土壤有机质、 0-

20 cm 土层土壤全氮, 略微提高了 0- 20 cm 土层土壤全磷; 间伐显著提高了 0- 80 cm 土层土壤速效氮、 0- 40 cm 土层土壤速效磷和 0- 60 cm 土层土壤速效钾, 且间伐强度越大土壤养分越高; 间伐显著提高了 0- 500cm 土层土壤水分, 在干旱的春季、夏季优为显著,且间伐强度越大, 土壤水分越高;间伐显著促进了仁用杏生长,提高了坐果率和杏仁产量。白于山山区仁用杏间伐后密度应为 167~ 222 株/ hm2。

【英文摘要】Abstract: In or der to invest ig ate the r eason of degenerate of A rmeniaca v ulgari s @ A . sibi r ica, the effect s o fplant - thinning ex periment on soil nut rient , soil mo istur e and gr ow th o f A rmeniaca vulgar is @ A. sibir i ca hadbeen researched by general method. The results show ed that soil bulk density slig ht ly decreased compared toCK. Soil organic mat ter content o f thinning tr eatment s in 0- 40 cm soil depths and total N in 0- 20 cm soildepth signi f icant ly incr eased, total P in 0- 20 cm soil depth increased slight ly, available N in 0- 80 cm, a -v ailable P in 0- 40 cm, and available K in 0- 60 cm soil depths in thinning t reatment s significant ly increasedw i th thinning intensity incr easing compared to CK. T hinning t reatments co nt ributed to more so i l moisture in0- 500 cm so il depth compared to CK, and especially in spring and summer. Thinning significant ly enhancedthe g row th, and increased f ruit set percentage and almond y ields of A rmeniaca v ulgari s @ A . sibir ica. A nopt imum intensity o f about 167~ 222 t rees/ hm2w as propo sed for A rmeniaca vulgari s @ A . sibir i ca o rchardin Baiyushan mountain

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【题目】安塞县水土保持型生态农业建设探索
【中文关键词】水土保持型生态农业 ;植被 ;基本农田 ;果树 ;畜牧业 ;设施蔬菜
【英文关键词】eco-agriculture with soil and water conservation;vegetation;basic farmland;fruit tree;stockbreed—ing;facility vegetabl
【中文摘要】:简述了水土保持型生态农业的概念和其建设原则。安塞县水土保持型生态农业应以水土保持为前提 , 以乡土树种 为主 , 适地适树 , 适地适林 , 搞好植被建设 ; 加强梯 田、 淤地 坝建设 , 扩大杂粮 生产 , 实现粮食 自给 。同时应加强果 园建设 与管护 , 加强畜牧建 设 , 稳定设施蔬 菜栽 培面 积 , 建 立商 品性 果树 、 畜牧和设施蔬菜产业
【英文摘要】:The concept and establishing principle of eco—agriculture with soil and water conservation have beenbriefly narrated.The eco—agriculture in Ansai County should be based on a great many works on soil andwater conservation.During vegetation restoration,tree species and forest must match their sites,and localtree species should be selected as the major species.In order to attain grain self_sufficiency,construction ofterrace and check dam should be strengthened,and minor crop production should be increased.Moreover,inorder to develop the industries of commercial fruit,stockbreeding and facility vegetable,the orchard develop—ment and management,as well as stockbreeding development should be enhanced,and facility vegetable cul—tivation should be stabilized
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【题目】玉米地膜覆盖的土壤环境效应
【中文关键词】玉米;地膜覆盖;土壤;环境 效应

【英文关键词】maize;plastic film mulching;soil ;effect on environment
【中文摘要】:通过田间试验研究了地膜覆盖和露地栽培对玉米的土壤温度、水分、养分、盐分含量和土壤生物学特性及硝酸盐含量的变化。结果表明,在玉米生长前期,地膜覆盖5,lO,l5,2O,25 cm土层的土壤日平均温度比露地提高2.4"C、3.O℃、2.9℃、2.2℃、2.7"C,6~7月份比露地降低1.1℃、O.5℃、O.5℃、O.6℃、O.6℃。地膜覆盖O~1O,1O~2O,2O-30,30~40 cm土层的土壤含水量分别比霉地增加18.84%、1O.67%、11.12%和8.9%。地膜覆盖增强了土壤蔗糖酶和碱性磷酸酶的活性,增加了土壤微生物的数量、CO2浓度、土壤呼吸和土壤NO—N的含量。减少了土壤氮素的损失。地膜覆盖降低了土壤有机质、氮素、速效磷的含量、过氧化氢酶和脲酶的活性及土壤表层的盐分含量。地膜覆盖提高了玉米的生物量和经济产量。
【英文摘要】:Change of temperature,moisture,nutrient,biological characteristic,salinity and nitrate contentin soil was studied under cultivation with plastic film mulching and no film covering.The results showed thatdaily average temperature of soil with plastic mulching was higher than that without film covering in growthprophase of maize.The degree of enhancing temperature in 5,10,15,20 cm and 25 cm soil layers was 2.4℃、3.0℃、2.9℃、2.2℃and 2.7"C respectively.In June and July,daily average temperature of soil with filmmulching was lower than that without film covering.The degree of dropping temperature in 5,10,15,20 cm and25 cm soil layers was 1.1℃、0.5℃、0.5℃、0.6℃、0.6℃.The amount of enhancing soil moisture in 0~10,10~20,20~30 cm and 30~40 cm soil layer was 18.84%、10.67%、11.12%and 8.9%.Under cultivation withplastic mulching,it increased sucrase activity,phosphatase activity,number of soil microorganism,CO2 concen—tration,soil respiratory intensity,NO]一N content and decreased loss of soil nitrogen.Simultaneity it de—creased soil organic,N,avail N,avail P,catalase activity,urease activity and salinity content in soil surface lay—er.Thus plastic film mulching increased maize yield and biomass
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【第一作者】杜社妮
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【题目】灌溉方式对黄瓜生长、产量及水分利用效率的影响
【中文关键词】黄瓜;灌溉方式;生长;产量;根系活力;水分利用效率
【英文关键词】cucumber;irrigation method;growth;yield;root activity;water use efficiency
【中文摘要】以黄瓜为试验材料,研究常规沟灌、滴灌、交替沟灌和固定沟灌4种灌溉方式对目光温室内黄瓜生长、产量及水分利用效率的影响.结果表明:4种灌溉方式对黄瓜株高、茎粗、叶片数和叶面积的影响不同;黄瓜前期产量是交替沟灌>滴灌>常规沟灌>固定沟灌,中期和后期产量是滴灌>交替沟灌>固定沟灌>常规沟灌,总产量的变化与中期和后期产量的变化相同;滴灌和交替沟灌的黄瓜根系活力无显著差异,但二者的根系活力极显著地高于常规沟灌和固定沟灌;水分利用效率和水分产出率的变化趋势一致,滴灌最高,交替沟灌次之,常规沟灌最低,而耗水量的变化与水分利用效率和水分产出率的变化相反.说明日光温室内黄瓜适宜的灌溉方式为滴灌和交替沟灌
【英文摘要】:The effects of tradition irrigation,dropping irrigation,alternation irrigation and fixed irrigationon the growth,yield and water use efficiency of cucumber in sunlight greenhouse were analyzed.Resultsshowed that the effects of four irrigation methods on plant height,stem diameter,leaf number and leafarea of cucumber were different.The prophase yield under different irrigation treatments were ranked inthe descendant order of alternation irrigation,dropping irrigation,tradition irrigation,and fixedirrigation,and the metaphase,anaphase yield and total yield were ranked in the descendant order ofdropping irrigation,alternation irrigation,fixed irrigation and tradition irrigation,respectively Rootactivities of cucumber for dropping irrigation and alternation irrigation were remarkablely higher thanthose of tradition irrigation and fixed irrigation,but there was no significant difference between droppingirrigation and alternation irrigation.The order of water use efficiency and water output rate was asfollows:dropping irrigation~alternation irrigation S>fixed

irrigation~tradition irrigation,however,theorder of water consumption amount of cucumber was opposite.It is indicated that the suitable irrigationmethods of cucumber are dropping irrigation and alternation irrigation in the sunlight greenhou
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【题目】影响"山地苹果"发展的因素分析
【中文关键词】黄土丘陵沟壑区;苹果;农村政策;地方政府;农民行为
【英文关键词】loess hilly and gully region; apple; rural policy; local government; farmer behavior
【中文摘要】采用问卷调查、入户调查等方法,调查影响陕北黄土丘陵沟壑区“山地苹果”发展的因素变化。结果表明该区“山地苹果”发展具有明显的区域特征。随着衣食问题的解决及土地承包期限的延长,山地苹果栽植面积迅速增加;农业特产税对苹果发展没有太大的影响,但农业特产税的取消以及退耕还林还草的实施促进了苹果的发展;地方政府在苹果发展过程中起到了决策者和开拓者的作用;该区苹果销售基本不受市场的影响,但技术创新能力低,技术匮缺仍为苹果生产效益较低的主要原因。随着农村劳动力的转移和生产资料价格的上升,苹果生产将转向机械化和科技化。
【英文摘要】Abstract: The paper investigated influencing factors changes on apple development in loess hilly and gully region ofnorthern Shaanxi since reform and opening up by questionnaire surveys, house surveys and other methods. The resultsshowed that the apple development had obvious regional characteristics. With the problem of food and clothing solvedafter the land contract to individual, demand for sunny slope land and semi-sunny slope land which suitable for plantingapple surged, but demand for shady slope land which suitable for grain production reduced. Short duration of landcontract in early stage had limited the apple development, after prolonging it, the apple cultivation area had been rapidlyincreased. Although special agricultural products tax had no significant impact on apple development, the abolitionof it and the implementation of the policy of returning farmland to forest had promoted the apple development. Localgovernment had played a role of decision-maker and pioneer in apple development process. There would be no rapiddevelopment but for local government strong advocacy and support. The apple had a good quality, and its good price hadstimulated the apple development. Although the fruit grower had changed the learning technologies attitude from passiveto active, lack of regional technological innovation, and technology scarcity was still the main reason of lower productionefficiency. Apple production should shift to mechanization and technology with the rural labor transfering and capitalgoods prices increasing.
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【题目】黄土丘陵区雨季栽植油松试验
【中文关键词】油松,雨季,生境,存活率,生长量
【英文关键词】Chinese pine,rainy season,habitat,survival rate,growth amount
【中文摘要】:在陕北黄土丘陵沟壑区以春季栽植的2年生油松为对照,开展了雨季栽植2年生和1年生油松试验.通过测定春季、雨季栽植油松后45 d的气候、土壤水分,调查栽后4年内啮齿类动物的危害状况和油松的存活率、生长状况后得知:雨季的降水量比春季大,空气相对湿度高,风速低,气温与地温高,土壤含水量高,蒸发量在栽植后26 d内较低,利于油松缓苗和生长;雨季栽植躲过了栽植当年啮齿类动物的春季危害高峰,苗木存活率高.从栽植当年到栽植后第4年,雨季栽植的油松存活率一直比春季栽植的高,雨季栽植的2年生苗木树体生长量比春季栽植的2年生苗木生长

量大,雨季栽植的1年生苗木树体生长量与春季栽植的2年生苗木基本相同.雨季栽植油松能够显著提高苗木的存活率,促进苗木生长.

【英文摘要】Compared with planted two-year-old seedlings of Chinese pine in spring time,the experimentation ofplanted two・-year-・old and one・-year・-old seedlings of Chinese pine in rainy time in the loess hilly and gullyregions of northern Shaanxi Province had been done. rhe climate of 45 days from planted date and the soilhumidity had been observed in spring time and rainy season。Harm status of rodent,Chinese pine ’S survivalrate.and Chinese pine ’S growth status of four years fromplanted year had been investigated。 rhe resultsshowed that the precipitation in rainy season was more than that in spring time,the air relative humidity washigher,the evaporation of 26 days fromthe planted date was lower,and wind speed was lower;the airtemperature,soil temperatures,and the soil humidity were higher in rainy season than those in spring time。The habitat in rainy season was benefiting the seedlings to revive and grow.The seedlings planted in rainyseason had avoided rodent harm peak in spring time in the planted year,SO the seedlings’survival rate washigher。From the planted year to four years later,the seedlings’survival rate planted in rainy season washigher than that planted in spring time,and the growth amount of two-year-old seedlings was more than thatplanted in spring time,that of one-year-old seedlings was almost same as that planted in spring time。PlantedChinese pine in rainy season could obviously improve seedlings ’survival rate,and promote seedlings ’growth

【语种】中文

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【题目】柿炭疽病鉴别与防治

【中文关键词】柿炭疽病;为害症状;发病规律;防治措施

【英文关键词】Persimmon anthracnose; Damage symptoms ; Occurrence law; Controlling measure

【中文摘要】[目的]研究柿炭疽病的鉴别与防治方法。[方法]研究柿炭疽病病原及特征、侵染与发生规律、为害症状,总结其防治方法。[结果]柿炭疽病病原为柿盘长孢菌,属半知菌亚门真菌。孢子萌发、入侵、菌丝体生长、产孢都需要较高的温度,最适温度为25 ℃,致死温度为50 ℃(10 min)。柿炭疽病发生的强弱与寄主、环境、栽培情况等因素有关,主要为害果实和枝条。采用清洁果园、选用抗病品种和选栽无病苗木、平衡施肥、完善排灌系统、密植稀枝、利用坐地苗嫁接建园及提高嫁接部位的农业措施可控制病害的发生,病情严重则需要喷洒杀菌剂或保护剂,喷药时重点应喷施在嫩梢、果面和枝干的病斑上。[结论]该研究可为柿炭疽病防治提供参考。

【英文摘要】[Objective] The study aimed t o research the identificati on of persimmon anthracnose and its controlling methods . [Method] Thepathogen and characteristics, infection and occurrence law, damage symp t oms of persimmon anthracnose were stated simply and the methodsfor controlling the disease were summed up. [Result] The pathogen of persimmon anthracnose was Gloeosporium kaki Hori, belonging to Deu2teromycotina. The spore germinati on and invasion, the sporulation and the mycelial growth all required a higher temperature, with the op timumtemperature of 25 ℃ and the lethal temperature of 50 ℃ (10 min) . The occurrence strength of persimmon anthracnose related with the factorssuch as host, environment, culture circumstances, mainly doing harm to the fruits and branches . The occurrence of the disease could con2trolled by such agricultural measures as cleaning the orchard, using the resistant varieties and planting the disease2 free seedlings, adopting thebalanced fertilizati on, imp roving the irrigati on and drainage systems, conducting the dense planting and thin branches, building the gardenwith grafting the ground seedlings and raising the grafted parts of the stock . In a serious condition of the disease it needed to spray the fungi2cides or p rotective agent for the control of the persimmon anthracnose . The fungicides should be mainly s p rayed on the scab of the shoot, fruitsurface and branches . [Conclusi on] The study provided the reference for the control of the persimmon anthracnose

【语种】中文

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【题目】灰藜光合日变化及其与环境因子相关性的研究
【中文关键词】灰藜;光合特性;环境 因子;相关系数
【英文关键词】Chenopodium glaucum;photosynthetic character;environmental factor;correlative coeffi.cient
【中文摘要】:在晴朗无风的天气条件下,用LI一6400便携式光合仪测定了灰藜的光合作用日变化特性及光合有效辐射(PAR)、田间co浓度(ca)、空气湿度(RH)和空气温度(.ra)的日变化规律,分析了净光合速率(Pn)、蒸腾速率(Tr)和气孔导度(Gs)与环境因子的相关性。结果表明:灰藜的Pn、Tr和Gs的日变化均为典型的“双峰”曲线.峰值和低谷出现的时间一致,峰值约出现在12:00和l4:o0,约l3:00处于“低谷”;环境因子的日变化均为“单峰”曲线。灰藜的Pn、Tr和Gs与PAR、Ta呈极显著的正相关(P<0.01),与RH呈显著的负相关(P<O.O5),与Ca的负相关关系不显著,并且三者之间有极显著的相关性(P<0.O1)。
【英文摘要】:On sunny days,diurnal dynamics of photosynthetic characters of Chenopodium glaucum andenvironmental factors(PAR,Ca,RH and Ta)were measured using the Portable LI一6400 PhotosynthesisSystem made in the US,and the correlation between photosynthetic rate or transpiration rate or stomataconductance in leaves of Chenopodium glaucumand phy—ecological factors was analyzed.The resuhshowed that the curves of diurnal variation of photosynthetic rate,transpiration rate and stomata conduc—tance of Chenopodium glaucum leaves had two peaks and the peaks and depression occu~ed at the sametime,peaks at 12:00 and 14:00,and depression at 13:00.The curves of diurnal variation ofPAR,Ca,RH and Ta had one peak.Correlation analyses showed that there was an extremely remarkable positivecorrelation between photosynthetic rate,transpiration rate,stomata conductance and PAR,Ta(P<0.01),and a remarkable negative correlation between photosynthetic rate,transpiration rate,stomataconductance and relative humidity(P<0.05),and an inapparent negative correlation between photosyn-thetie rate,transpiration rate,stomata conductance and Ca,moreover,there was an extremely remarkablepositive correlation among photosynthetic rate,transpiration rate and stomata conductance.
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【题目】发展核桃应注意的几个问题
【中文关键词】核桃,发展
【英文关键词】development
【中文摘要】核桃是世界四大干果之一,也是我国重要的经济树种。核桃仁含脂肪64.96 ,其中9O 为不饱和脂酸。核桃仁含蛋白质高达14.3%,还含有丰富的维素A、B、E及钙、磷、铁、锌等多种矿物元素。随着人生活质量的提高,核桃的消费量越来越大。目前全核桃栽培面积已经达到200万hm。,位居世界之首,但产量仅5O万t,平均单产为250 kg/hrnz。近年来从云南到新疆掀起了核桃发展热潮,为保证核桃生产健康发展,特针对目前核桃发展中存在的问题,提出一些建议。

【英文摘要】
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【题目】Immune Condition of Chlamys farreri in Response to Acute Temperature Challenge
【中文关键词】无
【英文关键词】Acutetemperaturechallenge; Chlamysfarreri; Biomarkers; Haemocyte activities; High tolerance
【中文摘要】无
【英文摘要】The effects of acutetemperaturechallenge on some immune parameters of haemocyte in Zhikong scallop, Chlamysfarreri, recognised as a temperature sensitive bivalve species, were evaluated over a short period of time. Scallops were suddenly transferred from 17 ° C to 11 ° C, 23 ° C and 28 ° C for a period of 72 h. Total haemocyte count (THC), percentage of phagocytic haemocytes, reactive oxygen species (ROS) production, acid phosphatase (ACP) and superoxide dismutase (SOD) activities (in both haemocyte lysate and cell-free haemolymph) were chosen as biomarkers of temperature stress. Results demonstrated that the percentage of phagocytic haemocytes and ACP activity in cell-free haemolymph of scallops challenged at 28 ° C for 72 h significantly decreased. By contrast, reactive oxygen species production by haemocytes increased when compared to the initial values. It is concluded that haemocyte activities of C. farreri appear to be compromised when scallops were transferred from 17 ° C to 28 ° C. Meanwhile, no obvious negative effect of acutetemperature stress was detected on haemocyte activities of C. farreri challenged at 11 ° C, which highlighted the high tolerance of scallops to acute decrease of seawater temperatures.
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【第一作者】Muyan Chen
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【题目】Immune responses of the scallop Chlamys farreri after air exposure to different temperatures
【中文关键词】无
【英文关键词】Airexposure; Chlamysfarreri; Immuneresponses; Survival time; Temperature
【中文摘要】无
【英文摘要】The present study examined the influence of airexposure at differenttemperatures: a common perturbation associated with aquaculture handling practices, on immuneresponses in zhikong scallopChlamysfarreri. Scallops were exposed to air for 2 h, 6 h, 12 h and 24 h at 5 ° C, 17 ° C and 25 ° C respectively. Thereafter, a recovery period of 24 h at 17 ° C was applied. Haemocyte mortality, phagocytosis and reactive oxygen species (ROS) production of haemocytes, acid phosphatase (ACP) and superoxide dismutase (SOD) activity in haemocyte lysates were chosen as immunomarkers of anoxic stress. The results showed that an increase of haemocyte mortality and a decrease of phagocytosis and ACP activity were observed after 2 h of airexposure for all temperatures tested. Moreover, a significant increase of ROS production occurred following 2 h of airexposure at 25 ° C and 24 h of airexposure at 17 ° C. Significant differences were also observed in haemocyte mortality, percentage of phagocytic cells and ACP and SOD activity depending on the temperature of airexposure. Finally, after 24 h of recovery at 17 ° C, percentage of phagocytic haemocytes and ACP activity did not return to initial values. ROS production was significantly higher than before the recovery period and initial values for scallops subjected to airexposure at 5 ° C. In our study, scallops showed a relative low anoxia tolerance under a high temperature. All the scallopsair exposed to 25 ° C died after the 6 h sampling. In conclusion, airexposure associated to aquaculture practices was demonstrated to strongly affect functional immune activities of scallop haemocytes, and high

temperatureairexposure caused reduced survival of scallops.
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【题目】Variations of enzyme activities in the haemocytes of scallop Chlamys farreri after infection with the acute virus necrobiotic virus (AVNV)
【中文关键词】无
【英文关键词】Chlamysfarreri; Acutevirusnecrobioticvirus (AVNV); Haemocyte; Enzymeactivities
【中文摘要】无
【英文摘要】Acute virus necrobiotic virus (AVNV) is one of the main pathogens for large scale mortality of Chinese scallop Chlamys farreri. In this paper, C. farreri were infected by different dilutions of AVNV supernatant (5(0), 5(-1), 5(-2), 5(-3), 5(-4), 5(-5), 5(-6), 5(-7), respectively), and dead individuals were counted every day for 15 days. Samples from groups of 5(-3) and 5(-5) were taken every day till 15 days and the activities of acid phosphatase (ACP), alkaline phosphatase (ALP), superoxide dismutase (SOD), myeloperoxidase (MPO), phenoloxidase (PO), peroxidase (POD) and catalase (CAT) in haemocytes were measured. The results of virus challenge showed that survival rates of scallops in groups of 5(0) and 5(-1) decreased sharply after the first day and died out completely on the 5th and 4th day, respectively. In other groups (5(-2), 5(-3), 5(-4), 5(-5), 5(-6) and 5(-7)), survival rates decreased gradually till 6 or 7 days, then kept steady till 15 days, and they were dose-dependent, increasing from 12% to 80% as the dose decreased from 5(-2) to 5(-7) viral supernatant. In the control group, survival rate was 88%. Enzyme activities for groups of 5(-3) and 5(-5) illustrated that activities of ACP, SOD, MPO, PO in groups of 5(-3) and 5(-5) were significantly higher than the control group in the first 9 or 10 days, and went back to the control group levels gradually after 10 days. Moreover, their activities in group of 5(-3) varied more than that in the group of 5(-5), especially activities of MPO, PO. Differently, the activities of POD and CAT were reduced or induced by virus infection and showed no regular trends in the experiments. The activity of ALP was not detected.
【语种】英文
【第一作者】Jing Xing
【通讯作者】Wenbin Zhan
【期刊名称、卷期、页码】Fish & Shellfish Immunology, 25(6), 847-852
【论文发表时间】2008-12-01 00:00:00
【引文索引类型】SCI
【引文索引号】doi:10.1016/j.fsi.2008.09.008
【学科分类】水产学其他学科

【题目】Loop-mediated isothermal amplification for rapid detection of Acute viral necrobiotic virus in scallop Chlamys farreri
【中文关键词】无
【英文关键词】Acute viral necrobiotic virus; scallop Chlamys farreri; loop-mediated isothermal amplification
【中文摘要】无
【英文摘要】Loop-mediated isothermal amplification (LAMP) assay for rapid and sensitive detection of Acute viral necrobiotic virus (AVNV) in scallop Chlamys farreri was developed and evaluated. Four primers recognizing six targets on distinct AVNV DNA sequences were designed and the LAMP reaction was carried out in a water bath. Reaction temperature and time were optimized at 64 degrees C for 60 mins and LAMP products were detected using agarose gel electrophoresis and visual assessment. Confirmation of the expected LAMP products was performed with MboI restriction enzyme analysis. The detection limit of LAMP assay was as low as 1 fg AVNV DNA and accordingly, this assay was 100 times more sensitive than conventional PCR technique. A comparative evaluation of 20 samples using the LAMP and PCR assays revealed a complete accord in positivity or negativity for AVNV. These results indicate that the LAMP assay is simple, sensitive, specific, and has a great potential for detection of AVNV in the laboratory and field.

【语种】英文
【第一作者】WeiCheng Ren
【通讯作者】Chongming Wang
【期刊名称、卷期、页码】Acta virologica, 53 (3), 161 – 167
【论文发表时间】2009-07-01 00:00:00
【引文索引类型】SCI
【引文索引号】doi:10:4149/av_2009_03_161
【学科分类】水产学其他学科

【题目】Assessment of the local environmental impact of intensive marine shellfish and seaweed farming - application of the MOM system in the Sungo Bay, China
【中文关键词】无
【英文关键词】Shellfish culture; Environmentalimpact; Redox potential; Benthic fauna; Modelling-Ongrowing fish farms-Monitoring (MOMsystem); China; Shandong; SungoBay
【中文摘要】无
【英文摘要】The impact of large scale shellfish (Crassostrea gigas, Chlamys farreri) and seaweed (Laminaria japonica) culture on the benthic environment at the SungoBay, China was assessed using the B-investigation of the MOMsystem. The MOMsystem (Modelling-Ongrowing fish farms-Monitoring) was developed to control the impact of organic waste from marine fish farms in Norway, but it is based on a general concept of environmental management and may be adapted to other fish species and longline shellfish or seaweedfarming by adjusting parameters and techniques. 10 sampling station were set and a total of 66 sediment samples were collected. Seasonal variations in three groups of parameters were compared, but no significant differences were detected between the different culture species sites. Benthic animals were found in all samples, and the redox potential stayed above + 50 mV. The sediment conditions according to the Groups 2 and 3 parameters of the MOM-system were compared. The results suggest that the Sungou Bay benthic environment belong to condition 1 or 2, which means that the effects of long term shellfish and seaweedfarming activities on the benthic environment of Sungou Bay were low. But the result also showed that the impacts in summer and autumn are likely to be greater than in winter and spring. More studies need to be performed to adjust the investigation to Chinese conditions and to shellfishfarming, so as to form an adequate system for China. The reasons that keep the SungoBay benthic environment in good condition were analysed.
【语种】英文
【第一作者】Jihong Zhang
【通讯作者】Jihong Zhang
【期刊名称、卷期、页码】Aquaculture, 287 (3-4), 304 – 310
【论文发表时间】2009-02-01 00:00:00
【引文索引类型】SCI
【引文索引号】doi:10.1016/j.aquaculture.2008.10.008
【学科分类】水产养殖学

【题目】Development of a loop-mediated isothermal amplification assay for rapid and sensitive detection of ostreid herpesvirus 1 DNA
【中文关键词】无
【英文关键词】Ostreidherpesvirus1 (OsHV-1); Oyster; Loop-mediatedisothermalamplification (LAMP); Detection
【中文摘要】无
【英文摘要】A loop-mediated isothermal amplification (LAMP) assay was developed for rapid, specific and sensitive detection of ostreid herpesvirus 1 (OsHV-1) DNA. A set of four primers was designed, based on the sequence of the ATPase subunit of the OsHV-1 DNA-packaging terminase gene. The reaction temperature and time were optimized to 64 ° C and 60min, respectively. LAMP products were detected by agarose gel electrophoresis or by visual inspection of a color change due to addition of fluorescent dye. The developed method was highly specific for detection of OsHV-1, and no cross-reaction was observed with other DNA viruses, such as White spot syndrome virus (WSSV), Penaeus stylirostris densovirus (PstDNV), Turbot reddish body iridovirus (TRBIV) and Lymphocystis disease virus (LCDV) found commonly in China. The lower detection limit of the LAMP assay was approximately 20 copies per reaction, and it was 100 times more sensitive than that of conventional PCR. A comparative evaluation of 10 oyster samples

using LAMP and PCR assays showed overall correlation in positive and negative results for OsHV-1. These results indicate that the LAMP assay is a simple, rapid, sensitive, specific and reliable technique for the detection of OsHV-1. The LAMP technique has capacity for use for the detection of OsHV-1 both in the laboratory and on farms.

【语种】英文

【第一作者】WeiCheng Ren

【通讯作者】Chongming Wang

【期刊名称、卷期、页码】Journal of Virological Methods, 170 (1-2), 30 – 36

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【引文索引号】doi:10.1016/j.jviromet.2010.08.015

【学科分类】水产学其他学科

【题目】Physiological and immune responses of Zhikong scallop Chlamys farreri to the acute viral necrobiotic virus infection

【中文关键词】无

【英文关键词】Chlamysfarreri; Acuteviralnecrobioticvirus; Physiological; Immuneresponse

【中文摘要】无

【英文摘要】The Zhikong Scallop, Chlamys farreri, is one of the most important bivalve mollusks cultured in northern China. However, mass mortality of the cultured C. farreri has posed a serious threat to the maricultural industry in recent years. Acute Viral Necrobiotic Virus (AVNV) is believed as an important etiological agent causing the scallop mass mortalities. To understand the mechanism behind the AVNV associated scallop disease and mortality, we assessed the physiological and immune responses of C. farreri to the virus infection using oxygen consumption rate, ammonium-nitrogen excretion rate, hemocyte copper, zinc superoxide dismutase gene expression, and plasma superoxide dismutase activity and alkaline phosphatase activity as indicators. Scallops challenged by AVNV at 25 degrees C developed typical disease signs 2 days after virus injection. Before the disease manifested, scallop oxygen consumption and NH4+-N excretion rates rose and then fell back. Real-time PCR revealed that the hemocyte cytosol Cu, Zn SOD gene expression was upregulated followed by recovery. The plasma SOD activity, however, augmented consistently following virus injection. Moreover, plasma AKP activity first lowered and then elevated gradually to the highest level at 24 h post virus injection. Scallops challenged by AVNV at 17 degrees C neither developed notable disease nor showed obvious responses that could be associated with the virus infection. While the results suggested a correlation between the elevated seawater temperature and the AVNV infection associated C. farreri mortalities, they also indicated that the viral infection provoked multiple physiological and immune responses in the host scallops.

【语种】英文

【第一作者】Baojun Tang

【通讯作者】Baozhong Liu

【期刊名称、卷期、页码】Fish & Shellfish Immunology,29(1), 42-48

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【学科分类】水产学其他学科

【题目】Seasonal variations in growth and clearance rate of the Zhikong scallop Chlamys farreri suspended in the deep water of Haizhou Bay, China

【中文关键词】无

【英文关键词】Chlamys farreri, Growth, Clearance rate, Biodepositon method, Water temperature

【中文摘要】无

【英文摘要】The growth and survival of the Zhikong scallop Chlamys farreri suspended in deep water of Haizhou Bay were studied from July 2007 to June 2008, and the biodeposition method was used to estimate the clearance rate of C. farreri under field conditions. Results showed that the scallop grew fast during all the culture time, with the exception of summer. The condition index of the scallop increased with time and reached the highest value in spring of the second year. The survival of scallops was 60.8 ± 3.9% at the end of this study, mortality occurring mainly during the summer and autumn of the first year. The clearance rate fluctuated obviously with season,with the highest value in September 2007, and the lowest value in March 2008. Factors accounting for variations in growth and

clearance rate of scallops are also discussed.
【语种】英文
【第一作者】Zonghe Yu
【通讯作者】Hongsheng Yang
【期刊名称、卷期、页码】Aquaculture International, 18(5), 813 – 824
【论文发表时间】2010-05-01 00:00:00
【引文索引类型】SCI
【引文索引号】doi:10.1007/s10499-009-9302-2
【学科分类】水产养殖学

【题目】Growth, survival and immune activity of scallops, Chlamys farreri Jones et Preston, compared between suspended and bottom culture in Haizhou Bay, China
【中文关键词】无
【英文关键词】Chlamys farreri;aquaculture;seasonal variation;water temperature;dissolved oxygen (DO);immune activities
【中文摘要】无
【英文摘要】We examined the growth, survival and immune response of the scallop, Chlamys farreri, during a 1-year period in deep water of Haizhou Bay. Scallops were cultured using two methods: (1) in lantern nets at a 5 m depth and (2) in a bottom culture system (sleeves) on the seabed at about a 25 m depth. Shell heights, meat dry weight and immune activities in the haemolymph (superoxide dismutase and myeloperoxidase) were measured bimonthly or quarterly from July 2007 to June 2008. Survival was measured at the end of the study and environmental parameters in the experimental layers were monitored during the experiment. The growth and immune activities of scallops were lower when the water temperature was high, which was consistent with the main mortality occurring in summer. The growth and immunity of scallops were higher in the suspended culture than in the bottom culture during the experiment, with the exception of shell growth during the last study period. Survival of scallops in the suspended culture (54.6±12.3%) was significantly lower than that in the bottom culture (86.8±3.5%) at the end of this study. We conclude from our results that the high mortality of C. farreri can be prevented by culturing them in a bottom culture system before November of the first year, and then transferring them to a suspended culture to improve scallop production.
【语种】英文
【第一作者】Zonghe Yu
【通讯作者】Hongsheng Yang
【期刊名称、卷期、页码】Aquaculture Research, 41(6), 814-827
【论文发表时间】2009-07-01 00:00:00
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【引文索引号】doi:10.1111/j.1365-2109.2009.02358.x
【学科分类】水产学其他学科

【题目】Survival, growth, and immune activity of scallop Chlamys farreri cultured at different depths in Haizhou Bay during the warmest months of the year
【中文关键词】无
【英文关键词】Chlamys farreri, survival, growth, mortality, immune activity, hot season, water depth
【中文摘要】无
【英文摘要】Survival, growth and immune response of the scallop, Chlamys farreri, cultured in lantern nets at five different depths (2, 5, 10, 15, and 20 m below the sea surface) were studied in Haizhou Bay during the hot season (summer and autumn) of 2007. Survival and growth rates were quantified bimonthly. Immune activities in hemolymph (superoxide dismutase (SOD) and acid phosphatase (ACP)) were measured to evaluate the health of scallops at the end of the study. Environmental parameters at the five depths were also monitored during the experiment. Mortalities mainly occurred during summer. Survival of scallops suspended at 15 m (78.0%) and 20 m (86.7%) was significantly higher than at 2 m (62.9%), 5 m (60.8%) or 10 m (66.8%) at the end of the study. Mean shell height grew significantly faster at 10 m (205.0 μm/d) and 20 m (236.9 μm/d) than at 2, 5 or 15 m in summer (July 9 to September 1); however, shell growth rate at 20 m was significantly lower than at the other four depths in autumn (September 2 to November 6). In contrast to summer, scallops at 5 m grew faster (262.9 μm/d) during autumn. The growth of soft tissue at different depths showed a similar trend to the shell. Growth rates of shell height and soft tissue were faster in autumn than in summer, with the exception of shell height at 20 m.

SOD activity of scallops increased with depth, and ACP activity was significantly higher at 15 and 20 m than at other depths, which suggests that scallops were healthier near the bottom. Factors explaining the depth-related mortality and growth of scallops are also discussed. We conclude that the mass mortality of scallop, C. farreri, during summer can be prevented by moving the culture area to deeper water and yield can be maximized by suspending the scallops in deep water during summer and then transferring them to shallow water in autumn.

【语种】英文
【第一作者】Zonghe Yu
【通讯作者】Hongsheng Yang
【期刊名称、卷期、页码】Chinese Journal of Oceanology and Limnology, 28(3), 498-507
【论文发表时间】2010-03-01 00:00:00
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【学科分类】水产学其他学科

【题目】Variations of retention efficiency of bivalves to the different concentration and organic content of suspended particles
【中文关键词】无
【英文关键词】retention efficiency, Mytilus edulis, Crassostrea gigas, Chlamys farreri
【中文摘要】无
【英文摘要】Retention efficiencies (RE) of scallop (Chlamys farreri), oyster (Crassostrea gigas) and mussel (Mytilus edulis) in a flow-through system were measured to understand the short-term response to various particle and organic matter concentrations. By comparing the RE of C. farreri with that of C. gigas and M. edulis, we gained further knowledge on the feeding physiological characteristics of C. farreri and ascertained the possible cause of high summer mortalities of this species. The experimental feeding conditions included natural differences in the abundance and composition of suspended seston, as well as conditions in which seston abundance and composition were manipulated by adding natural silt or cultured microalgae. The results show that in natural sea water, the minimum particle size for maximal retention in M. edulis, C. gigas and C. farreri was approximately 4, 6, and 8 μm, respectively; the RE of 2-μm (equivalent spherical diameter) particles was 17%, 19%, and 8%, respectively; and the relative standardized RE was 58%, 49%, and 18%, respectively. In C. gigas and M. edulis, the minimal particle size for maximal retention did not change with food quality (organic content). C. farreri was more sensitive to fluctuations in particle concentration and organic content. With particle concentration increase, the minimal particle size for maximal retention in scallop shifted to large particles and the RE for 2-μm particle decreased from 8% in natural seawater to 1.6% – 6% in silt-enriched groups. With organic content increase, the minimal particle size for maximal retention shifted from 8 to 5 μm in natural seawater.Variation in RE of C. farreri with food conditions and the relationship between lower RE and smaller particle size may hamper C. farreri from food taking due to the decrease in the size distribution of phytoplankton in Sungo Bay.

【语种】英文
【第一作者】Jihong Zhang
【通讯作者】Jihong Zhang
【期刊名称、卷期、页码】Chinese Journal of Oceanology and Limnology, 28(1), 498-507
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【学科分类】水产养殖学

【题目】栉孔扇贝急性病毒性坏死症(AVND)病理学观察与分析
【中文关键词】栉孔扇贝, 急性病毒性坏死症, 组织病理学, 细胞病理学
【英文关键词】Chlamys farreri, Acute viral necrobiotic disease, Histopathology, Cytopatholog
【中文摘要】2000~2002年,应用光镜和电子显微技术对AVND发生期间栉孔扇贝(Chlamys farreri)各主要组织器官病理变化进行了连续观察。光镜观察显示,除生殖腺、闭壳肌外,濒死栉孔扇贝的外套膜、鳃、肾、消化腺和肠组织都有不同程度的组织病理变化。病灶主要出现在上述各器官的结缔组织以及上皮组织,病理变化表现为细胞核肿大、固缩、破裂,核染色质边缘化或空泡化,受感染细胞崩解、脱落,留下大片均质无结构的空白区域,形成凝固性坏死,结缔组织细胞质中有嗜碱性包涵体样颗粒存在。电镜观察显示,在病灶出现的组织细胞内,细胞核染色质异常凝集和边缘化、核膜周隙扩张或溶解

。细胞器病理变化明显,内质网扩张,核糖体脱落,有髓鞘样小体出现;线粒体肿大、嵴融解,整个细胞出现解体现象。病变的结缔组织细胞与间质细胞细胞质中有大量直径为130~170 nm、具有囊膜的球形病毒粒子存在,负染电镜观察表明,病毒囊膜表面覆有长20 nm放射状纤突。病毒的发生基质在细胞质内,并被一膜性结构所包围。病毒在宿主细胞中的繁殖分为3个阶段,即病毒发生期、病毒装配期和病毒释放期。病理学观察证明,病毒感染与病理变化具有明显的相关性。

【英文摘要】Successive pathologic observations on main tissues and organs of cultured scallop Chlamys farreri, collected from the coast of Shandong (China) during mass mortality due to the onslaught of virulent disease,were conducted with light microscope and transmission electron microscope in 2000~2002. The observation of the moribund scallops showed that distinct histopathological changes appeared. The lesions were found in gills, mantle, kidney, intestine and digestive gland, but adductor muscle and sexual gland were excepted. The typical infection was characterized as multiple and severe infection with disordered and necrotic architecture. Indistinct basophil inclusions were observed on the infected tissues. Cellular changes included nclear hypertrophy, chromatin margination, pyknosis, karyorrhexis, and cellular disintegration that often resulted in empty space amongst the lesions. Transmission electron microscope revealed the presence of sphere2shaped, enveloped virions, 130 to 170 nm in diameter, in the cytoplasm of infected cell from above2mentioned various tissues. The spike of envelope, according to observation by using negative stain after isolation and purification, was 20nm in length. The virogenic matrix was inside the cytoplasmic vesicles with membrane. Virion development in the cytoplasmic vesicles could be divided into three stage, viz. emergence, assembly and release. Infected cell with virion could bring about obvious pathologic changes, such as chromatin marginated and perinuclear space dilated in hypertrophied nuclei, ribosome detach from turgescent rough endoplasmic reticulum, myelinbody appeared in the cytoplasm, mitochondria swell and mitochondrial cristae rupture. Lastly, cellular disintegration resulted in empty space amongst the lesions. The pathological observation verified that the pathological effects were associated with the viral infection.

【语种】中文
【第一作者】王崇明
【通讯作者】王崇明
【期刊名称、卷期、页码】海洋水产研究,2007,28(4),1 – 8
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【题目】荧光实时定量技术及其在水产养殖研究中的应用
【中文关键词】荧光实时定量PCR,水产养殖
【英文关键词】Real-time PCR, Aquaculture
【中文摘要】荧光实时定量PCR技术是近年来快速发展起来的一门新技术,它是核酸探针技术、荧光共振能量传递技术(Fluorescence Resonance Energy Transfer,FRET)和PCR技术的有机结合。与常规PCR相比,它具有特异性更强、有效解决PCR污染问题、自动化程度高、能较准确定量等特点。本文综述了荧光实时定量PCR技术的基本原理及几种广泛应用的荧光化学方法,并概述了荧光实时定量PCR技术在水产养殖研究领域的应用现状,并对荧光实时定量PCR技术的应用前景进行了展望。

【英文摘要】Real time fluorescent quantitative PCR(Real time PCR)technique had been under rapid development in recent years.As a integration of fluorescent probes,fluorescence resonance energy transfer(FRET)and traditional PCR techniques,real time PCR exceeded the limitations of traditional PCR method by allowing for high sensibility,specificity and automation,and avoiding pollution in traditional PCR.This review covers the basic principles and several fluorescent techniques used widely in real—time fluorescent quantitative PCR,and the current applications of this technique in aquaculture.The disadvantage and future prospect of applications for real—time PCR were discussed。

【语种】中文
【第一作者】任伟成
【通讯作者】王崇明
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【引文索引号】2.417130651E9
【学科分类】水产学其他学科

【题目】栉孔扇贝急性病毒性坏死病毒荧光定量PCR检测方法的建立和应用
【中文关键词】栉孔扇贝 AVNV AVND 荧光定量聚合酶链式反应(FQ-PCR) Taq Man探针
【英文关键词】Chlamys farreri, AVNV, AVND, FQ-PCR, Taq Man prob
【中文摘要】根据栉孔扇贝(Chlamys farreri)急性病毒性坏死病毒(Acute viral necrobiotic virus,AVNV)的基因序列,选择保守区段,应用Beacon Designer 7.0软件设计了一对能特异性扩增90bp片段的引物和TaqMan探针,建立并完善了AVNV荧光定量聚合酶链式反应(Fluorescent quantitative polymerase chain reaction,FQ-PCR)诊断方法。该方法在108~102病毒拷贝范围内有较好的线性关系,AVNV拷贝数(X)和循环数(C)t的相关关系为:lgX=-0.29Ct+13.28(相关系数R2=0.998);检测AVNV的灵敏度为102拷贝;特异性实验表明只对AVNV基因组呈阳性反应。应用FQ-PCR对76份采自夏季发病期前后的栉孔扇贝样品进行检测,结果发现68份样品检测结果为阳性,阳性检出率为89.47%,高于普通PCR的阳性检出率(80.26%)。研究结果表明,该方法快速、灵敏,特异、重复性良好且能实现AVNV的定量检测,对AVNV的快速诊断和分子流行病学的调查以及AVNV疫情监测具有重要意义。
【英文摘要】Acute viral necrobiotic virus (A V N V) is an enveloped, spherical virus (130 nm to 170 nm in diameter), with spike-like surface protrusions. This pathogen has been causing acute viral necrobiotic disease (A V N D) in scallop Chlamys farreri in China during summer time. Acute mortality of infected scallop can be as high as 90% within 5 to 8 days. Successful therapeutics for scallop against this virus is not available thus far, to the best of our knowledge. Therefore, development of preventive strategies, especially rapid and early detecting assay for this viral pathogen, is of special urgency in disease management of scallop farming. Several methods such as ultrastructural examination and ELISA have been developed for ANAV detection. However, these assays are generally time-consuming, laborious and insensitive. In this paper, based on the DNA sequences of AVNV, a pair of specific primers which can specifically amplify a 90bp fragment, and a fluorescent Taq Man probe were designed. Then, a specific, fluorescence based quantitative polymerase chain reaction (F Q-PCR) assay for real-time detection of AVNV was developed and optimized initially. It could obtain excellent linearity when the AVNV concentration is between 108 and 102 copies, lgX = - 0.29 Ct + 13.28 (correlation coefficient R2 = 0.998). After the procedure of fluorescent quantitative polymerase chain reaction (F Q- PCR) assay for acute viral necrobiotic virus was optimized, the specificity, sensitivity and reproducibility of the method were estimated. The detection limit of this assay was 102 copies for AVNV. It was also found that the specificity of this assay was high without any cross-reactions with DNA from AVNV uninfected C. farreri and other viruses such as WSSV, IHHNV, TRBIV and KHV found commonly in China. The coefficients of variance (CV) of cycle threshold were 0.61 %-2.03 % and 0.92 %-2.88 % for the intra-assay and inter-assay tests respectively, which indicated good reproducibility. Seventy-six samples of C. farreri collected from Qingdao, Rongcheng, Changdao in Shandong province and Dalian in Liaoning province during July to September in 2007 were tested by using FQ-PCR and conventional PCR assays. The results showed that the detection rate of FQ-PCR was 89.47 %, higher than that of conventional PCR (8 0. 26 %). The FQ-PCR assay demonstrated exceptionally higher sensitivity compared to that of traditional PCR by picking up 7 additional positive cases. None of the positive samples by PCR assay were missed by FQ-PCR assay, thereby showing superior sensitivity of FQ-PCR method. This increased sensitivity makes FQ-PCR a better choice than the traditional PCR for the detection of AVNV in cases when lower concentrations of virus are expected in asymptomatic samples. Thus, virus-carrying C. farreri can be found during early infection stages and effectively controlled before the infection becomes epizootic. Therefore, it is confirmed that the FQ-PCR assay is a powerful tool for the detection of AVNV with rapidity, sensitivity, specificity, accuracy and quantification.
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【第一作者】任伟成
【通讯作者】王崇明
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【题目】鱼虾贝病毒分离纯化技术概述
【中文关键词】水产动物, 病毒, 分离纯化
【英文关键词】Aquatic animals, Virus Purification
【中文摘要】多年来由于水产动物病毒病的流行,在世界范围内给水产养殖业,尤其是鱼类、对虾类和贝类养殖产业带来了严重的危害。病毒的分离纯化作为研究病毒病的必要手段,作用十分重要。因此,国内外学者对此进行了大量的研究,并

取得了许多成果。本文综述了这3种水产动物病毒分离纯化的研究概况。
【英文摘要】In recent years,the outbreak of the aquatic animal diseases caused serious damage to aquaculture industry.The damage was particularly serious in cultivated fish and shellfish.Virus purification is very important as a necessary step for virus disease research.A lot of work on virus purification has been done by domestic and foreign scholars,and lots of accomplishments were achieved.This paper reviews the virus purification methods in fish and shellfish.
【语种】中文
【第一作者】任伟成
【通讯作者】王崇明
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【题目】浅海养殖滤食性贝类生态容量的研究进展
【中文关键词】滤食性贝类; 生态容量; 模型; 海水养殖
【英文关键词】filter-feeding shellfish; ecological carrying capacity; model; mariculture
【中文摘要】全球贝类养殖强度和规模日趋增长,在追求海域养殖产出最大化的同时,引发了一系列生态环境问题,其中,生态容量问题已引起世界范围的广泛关注,并成为水产养殖业可持续发展中迫切需要解决的科学问题。尽管中国是世界上贝类养殖的第一大国,但是在贝类养殖的容量研究方面起步较晚,数值模型的研究也相对滞后。本文概述了滤食性贝类生态容量的概念和国外生态容量研究现状和进展,介绍了目前国际上较为成熟的2个生态容量评估模型(DEPOMOD模型和ECOPATH模型)及其优点和局限性,列举了中国目前贝类养殖容量和生态容量的研究现状与实践,并分析了其中存在的问题,展示了近海养殖生态和生态容量的研究思路,旨在为建立基于生态系统水平管理的健康养殖模式提供科学依据。
【英文摘要】With rapidly development of shellfish mariculture in the world,the problem of environmental impact became serious. In order to make the mariculture industry sustainable development,ecological carrying capacity becomes one of worldwide problem. China as the biggest country for producing marine shellfishes in the world,the research on the production carrying capacity,especially on numerical model of ecological carrying capacity of shellfish mariculture was lag. In this paper,the conception and evaluation model of ecological carrying capacity of filter-feeder shellfish were briefly described. It exhibited two kinds of mathematic model(DEPOMOD model and ECOPATH model) that were used worldwide in the assessment of ecological carrying capacity,and introduced the progresses and shortages. The current status and problem of research on carrying capacity in China were reviewed. And some scientific proposals for the improvements of the studies on the ecological carrying capacity were made in this paper.
【语种】中文
【第一作者】张继红
【通讯作者】方建光
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【题目】盐度和饵料密度对栉孔扇贝Chlamys farreri稚贝滤水率的影响
【中文关键词】栉孔扇贝; 稚贝; 滤水率; 盐度; 饵料密度
【英文关键词】Chlamys farreri Spat Filtration rate Salinity Microalgae density
【中文摘要】采用静水法研究了恒定温度(24±0.5°C)、饵料密度(3.0×104cell/ml)、不同盐度(20、25、30和35)和恒定温度(24°C±0.5°C)、盐度30、不同饵料密度梯度(3.0×104、4.5×104和6.0×104cell/ml)对栉孔扇贝稚贝(壳长1.177~2.017mm)滤水率的影响。结果表明,栉孔扇贝稚贝的滤水率(FRS)开始随着盐度的升高而升高,在25~30之间存在最大值,然后随盐度的升高而下降,与盐度(S)间的相关关系为FRS=-30.893S2+1691.5S-19610(r=0.847,以整体干重计算)或FRS=-0.022S2+1.2236S-14.522(r=0.928,以个体数量计),通过公式推算在盐度27.8时FRS达到最大值,为3.54L/g.dw.h(2.49×10-3L/h.ind);投饵密度(Q)对栉孔扇贝稚贝的滤水率(FRQ)有显著影响(P<0.05),二者之间的相关关系为FRQ=-0.0693Q2+0.6484Q-1.0835(r=0.722),其变化趋势亦呈现先升高后下降的抛物线趋势,推算金藻密度为4.7×104cell/ml时滤水率最大,为0.43×10-3L/h.ind。

【英文摘要】At temperature 24±0.5℃, the filtration rates of scallop Chlamys farreri spats (1.177~2.017 mm in shell length) were determined at different salinities (20,25,30,35) when microalgae density was 3.0×104cell/ml and different density of microalgae (Dicrateria zhanjiangensis) (3.0×104 cell/ml, 4.5×104 cell/ml, 6.0×104 cell/ml) when salinity was 30, using static water method. The relationship between the filtration rate (FRS) and the salinity (S) can be expressed by FRS =-30.893S2+1 691.5S-196 10 (r=0.847) (calculated by whole dry weight), FRS =-0.022S2+1.223 6S-14.522 (r= 0.928, calculated by individual quantity) . We estimated that at the salinity of 27.8,the filtration rate reached the maximum value, 3.54L/g · dw · h(2.49×10-3 L/ h · ind). The filtration rate of the scallop spats increased with the salinity when the salinity was lower than 27.8 and decreased when it was more than 27.8. Feeding rate had significant influence on the filtration rates of the scallop (P< 0.05). When fed with D.zhanjiang ensis at in the concentrations of 3.0×104 cell/ml, 4.5×104 cell/ml, 6.0×104 cell/ml, the filtration rate of the scallop spats increased and then decreased in a parabolic trend.It was estimated that the highest filtration rate(0.43×10-3 L/ h · ind)could be reached when the density was 4.7×104cell/ml.The relationship between the filtration rate (FRQ) and the microalgae density (Q) was FRQ=-0.069 3Q2+0.648 4Q-1.083 5(r= 0.722)。
【语种】中文
【第一作者】杜美荣
【通讯作者】方建光
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【题目】栉孔扇贝急性病毒性坏死病毒(AVNV)卵内的垂直传播途径
【中文关键词】AVNV; 垂直传播; 间接ELSIA; 间接免疫荧光; 电子显微镜技术
【英文关键词】acute viral necrotic virus(AVNV); vertical transmission; indirect ELISA; IFA; technology of electron microscope
【中文摘要】急性病毒性坏死病毒已被证实为是一种对养殖栉孔扇贝危害极大的病原体,探讨其传播途径是防控扇贝"大规模死亡症"的前提之一。将亲贝各放在一独立育苗水体内产卵、孵化,并进行幼虫培育。通过春季和秋季室内人工育苗,从40个独立育苗水体中,采获亲贝、卵各23个家系样品,受精卵、D形幼虫、壳顶幼虫各12个家系样品,眼点幼虫2个家系样品。采用间接ELISA法、间接免疫荧光技术和电子显微镜技术对亲贝、卵和发育各期的幼虫进行定性和定位的检测。结果发现,栉孔扇贝的性腺组织中存在病毒粒子,而卵、受精卵及各期发育幼虫体内均未检测到病毒。由此可以判断:AVNV可以感染栉孔扇贝的性腺,但并不存在卵内垂直传播的可能性。
【英文摘要】The virus named AVNV (acute viral necrotic virus) can cause the mass mortality in cultured scallops Chlamys farreri. So the research of AVNV vertical transmission is necessary. In the experiment,the study put the parental scallops into the separate breeding waters,then spawning,hatching,and cultivating larvae. According to the artificial spring and autumn seed of scallop indoors,from the forty separate breeding water bodies,23 parental scallops,23 eggs,12 spermoviums,D larvae and shell young,2 eyebot larvae were obtained. For the qualitative and localized detection,the methods of Indirect ELISA,IFA and Electron microscope were used to detect parental scallops,eggs and the larvae with different development phases. The result shows that the virus can be detected in the gonad of the parental scallops,but it can not be detected in the eggs,spermoviums,D larvae,shell young,and eyebot larvae. This indicates that AVNV can infect the gonad of scallop (Chlamys farreri),but there does not exist the route of vertical transmission sensu stricto. For further study,the research of horizonatal transmission is essential.
【语种】中文
【第一作者】于佐安
【通讯作者】王崇明
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【题目】栉孔扇贝春季升温育苗与保苗技术研究
【中文关键词】栉孔扇贝春苗; 虾池; 保苗

【英文关键词】spring seed of Chlamys farreri; shrimp pond; temporary cultivation
【中文摘要】栉孔扇贝Chlamys farreri在中国海水养殖业中占有十分重要的地位,但目前苗种来源仍多采用半人工采苗的方法,苗种数量和质量均无法保证,已经严重制约了产业的发展。2007年2~6月,笔者在红岛蛤原良种有限公司进行了春季升温育苗试验,采取在自然水温很低的情况下(6.9℃),逐步升温促熟,经过23d室内亲贝暂养,在52m3水体中共培养出库稚贝(壳长719.58±65.74μm)12.8×106粒,保苗后壳长4.923mm×5.661mm稚贝8.3×106粒。此次出库稚贝的中间培育采用改造后的虾池(5.33hm2),在虾池中打桩拉浮绠,每隔1.5m悬挂浮球一个,吊养保苗袋,虾池中水温适宜,饵料生物丰富,提高了稚贝成活率,平均保苗率高达65%.
【英文摘要】Zhikong scallop Chlamys farreri plays an important role in China’s mariculture.The seeds of this species were collected artificially from natural waters at present.Thus,it is difficult to meet the needs in quantity and quality and the development of the industry is seriously limitted.The artificial reproduction experiment in spring was carried out from February to June of 2007 in Hongdao Clam Original and Eugenic Breed Development Co.Ltd.Under relative low water temperature(about 6.9℃),by promoting water temperature gradually,the induced mature was obtained.After 23 days’ indoor culture,the parents spawned.In the water body of 52 m3,12.8×106 seeds with mean shell height 719.58±65.74 μm were got.After the temporary cultivation,there were 8.3×106 individuals.Temporary cultivation was carried out in the mended shrimp pond.Because of the suitable temperature and abundant bait-organisms in the shrimp pond,the survival rate of the juvenile was increased,reaching 65%.
【语种】中文
【第一作者】杜美荣
【通讯作者】方建光
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【题目】原位杂交技术及其在水产养殖动物病毒性疾病诊断中的应用
【中文关键词】原位杂交; 地高辛标记; 水产养殖; 检测
【英文关键词】无
【中文摘要】本文介绍了原位杂交技术的发展概况、基本原理和应用价值,并概述了原位杂交技术在水产养殖动物(包括鱼、虾、贝类)病毒性疾病的检测、定位和体内表达模式等方面的应用。此外,还对该技术的应用前景进行了展望。
【英文摘要】无
【语种】中文
【第一作者】蔡玉勇
【通讯作者】王崇明
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【题目】桑沟湾营养盐时空分布及营养盐限制分析
【中文关键词】营养盐分布; 季节变化; 营养盐限制因子; 海水养殖; 桑沟湾
【英文关键词】Nutrient distribution Seasonal variation Nutrient limitation Mariculture Sanggou Bay
【中文摘要】根据2006年4、7、11月和2007年1月共4个航次的调查数据,分析了桑沟湾水域的溶解无机氮(DIN)、活性磷酸盐(PO43-)和活性硅酸盐(Si)含量的时空分布特征,采用营养盐浓度阈值法和化学计量法对桑沟湾营养盐潜在的限制性进行了分析。结果显示,桑沟湾DIN、PO43-、Si含量及分布呈现出明显的季节变化:DIN在秋季最高,春季最低;PO43-在秋季最高,夏季最低;Si在夏季最高,秋季最低。春季DIN和PO43-的含量低于理论上浮游植物生长的营养盐阈值的站位分别占44%和39%;夏季PO43-的潜在限制性较强,浓度低于营养盐阈值的站位占68%,受PO43-潜在限制的几率达79%,DIN和Si分别为5%和0;秋、冬季Si可能是浮游植物生长的主要限制因子。讨论了海水养殖、陆源输入及外海交换对营养盐时空分布的影响。目前,桑沟湾营养盐浓度基本属于国家一类、二类水质。但是,长期变化趋势显示DIN有上升的趋势。

【英文摘要】The distribution of dissolved nutrients in Sanggou Bay was investigated in April,July and November 2006 and January 2007.The concentration and distribution of dissolved inorganic nitrogen (DIN),phosphate (PO43-) and silicate in Sanggou Bay showed obvious seasonal variation.DIN reached the lowest level in spring and the highest level in autumn; PO43- concentration was at the lowest level in summer and the highest level in autumn; while Si concentration reached the lowest point in autumn and the highest point in summer.Limiting nutrients for the growth of phytoplankton were assessed by the method of theoretical half-saturation constant (Ks) and stoichiometric ratios among DIN,PO43-and SiO2-3.The results showed that in spring,the percentage of stations with concentration of DIN and PO43-below Ks was 44% and 39%,respectively,suggesting for potential N and P limitation.In summer,the percentage of stations with PO43-concentrations below Ks was 68%,and potential P-limitation was at 79% probability,N and Si limitation were at 5% and 0% probability,respectively.In autumn and winter,Si was the major limiting nutrient,and the potential Si-limitation was at 94% and 78% probability,respectively.The effect of mariculture activities,land-based input,and water exchange with Yellow Sea on the space-time distribution of nutrients were discussed.Based on the long-term data,more attention should be paid to DIN enrichment in Sanggou Bay.
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【第一作者】张继红
【通讯作者】方建光
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【题目】桑沟湾夏季栉孔扇贝养殖笼内水质变化
【中文关键词】海水养殖; 污损生物; 栉孔扇贝; 桑沟湾
【英文关键词】Mariculture Biofouling Scallop Chlamys farreri Sanggou Bay
【中文摘要】以2006年桑沟湾筏式养殖的栉孔扇贝为研究对象,测定了网笼内的水质状况及栉孔扇贝的死亡率,探讨了污损生物的可能影响。结果表明,(1)经过7个月的养殖,初始密度低于30个/层的实验组,栉孔扇贝的死亡率低于6%;高密度实验组(40个/层)的死亡率高达27%;(2)网笼内、外的磷酸盐、硅酸盐浓度没有显著性差异,但是,7、8月份的氨氮浓度差异较为明显;(3)同营养盐浓度的变化相比,网笼内、外叶绿素a浓度的变化较大,在9月份,高密度组的网笼内叶绿素a浓度低于0.67mg/m3,食物可能为高密度组扇贝生长、存活的限制因子;(4)8月份,高密度组网笼内的细菌总数显著高于笼外及其他密度组。分析认为,高温期网笼内的水质状况及食物限制可能与养殖栉孔扇贝的死亡有关。
【英文摘要】Water quality inside the lantern nets and the mortality of scallop Chlamys farreri in Sanggou Bay in 2006 were evaluated.The results showed that after 7 months of culture,the mortality rate was below 6% for scallops with the initial density of less than 30 individuals per disk,while up to 27% for scallops with high initial density of 40 individuals per disk.There was no significant difference between the concentrations of dissolved phosphorous and silicate inside and outside the lantern nets.However,the concentration of ammonia was significantly different in July and August.The concentration of chlorophyll a inside and outside the lantern nets was significantly different.In September,for the experimental scallop groups with high density,the concentration of chlorophyll a was lower than 0.67 mg/m3,and food may be the limiting factor for the growth and survival of scallops.In August,the concentration of bacteria inside the lantern nets with the high density group was significantly higher than that of the outside and the low density group.Therefore,in summer,water quality and food supply may be closely related to the mortality of scallops.
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【题目】主要浮游微藻携带急性病毒性坏死症病毒(AVNV)的研究

【中文关键词】浮游微藻; 急性病毒性坏死症病毒(AVNV); 栉孔扇贝; 水平传播途径
【英文关键词】microalgae; acute viral necrobiotic disease virus (AVNV); Chlamys farreri; horizontal transmission
【中文摘要】研究常见浮游微藻对栉孔扇贝"急性病毒性坏死症病毒"(AVNV)的黏附和携带,探讨微藻作为病毒水平传播媒介的可能性,进而了解AVNV的水平传播途径。我们选取培养17种海区常见浮游微藻,在微藻生长的指数增长期混入AVNV病毒粗提液,用PCR等分子检测法定期对试验微藻携带AVNV的情况进行检测。实验结果表明,亚心形扁藻、小球藻、绿色杜氏藻、四爿藻、中肋骨条藻和小新月菱形藻可以在一定时间内携带AVNV,占到实验微藻总数的35.3%。用携带AVNV的6种微藻投喂试验栉孔扇贝以分析其致病力,结果表明,试验扇贝表现出典型的急性病毒性死亡症状,在试验的9d时间内,6组感染组试验扇贝的累积死亡率均显著(P<0.05)或极显著(P<0.01)高于对照组,表明携带AVNV的微藻具有显著的致病性。本研究的结果表明,栉孔扇贝通过摄食携带AVNV的微藻而感染发病是可能的,浮游微藻可能是AVNV水平传播的重要传递体。
【英文摘要】We studied the possible role that marine microalgae may play during the outbreaks of acute viral necrobiotic disease(AVND) of cultured zhikong scallops(Chlamys farreri) .In order to elucidate the possibility of marine microalgae carrying AVNV(acute viral necrobiotic disease virus) ,seventeen species of microalgae were co-cultured with pure AVNV solution and were assayed daily by PCR to study whether they could carry AVNV.Further experiments were conducted to investigate whether the virus carried by microalgae could re-infect zhikong scallops.The results showed that 6 (including Platymonas subcordiformis,Chlorella sp., Dunaliella viridis,and Tetraselmis tetrathele in Chlorophyta and Nitzschia closterium minutissima,and Skeletonema costatum in bacillariophyta) of 17 microalgae,which account for 35.3% of the tested algae,could carry AVNV,the AVNV detections in microalgae were positive during 96 to 144 h.The 6 AVNV-microalgae complex were fed to zhikong scallops,the tested scallops show a typical acute viral necrobiosis symptom,and the accumulated mortalities of scallops fed with the AVNV-microalgae complex were significant(P<0.05) or highly significant(P<0.01) compared with that of the control fed with mixture with 6 species microalgae during the nine-day experiment,which indicated that the AVNV-microalgae complex have an impressing ability to infect the scallops.Based on these laboratory challenges studies,the microalgae can serve as a vector in the horizontal pathway of transmission of AVNV via feeding or filtering process of scallops.
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【题目】扇贝养殖海区浮游生物携带AVNV的荧光定量分析
【中文关键词】栉孔扇贝; 浮游生物; 急性病毒性坏死症; 荧光定量PCR
【英文关键词】Chlamys farreri; acute viral necrosis virus(AVNV); FQ-PCR; plankton
【中文摘要】为了探明养殖海区浮游生物与AVNV流行传播的关系,实验自2009年5月至11月,分别从青岛沙子口和荣成桑沟湾两个扇贝养殖海区定期采取50和300cm两个水层水样,经25、3和0.22μm3个孔径的滤膜分级过滤收集3个粒径的浮游生物组分,利用荧光定量PCR技术对浮游生物携带AVNV的情况进行了定量检测。结果表明两个海区浮游生物样品均检测到AVNV,检测的AVNV数量也均在8月份达到峰值,沙子口海区每升海水中浮游生物携带4.11×106拷贝的AVNV,桑沟湾海区浮游生物携带1.49×105拷贝的AVNV。两个海区3个粒径浮游生物组分携带AVNV的数量从高到低依次为0.22~3μm组分、3~25μm组分和大于25μm组分,但两个水层(50和300cm)浮游生物携带AVNV的数量则没有显著差异。结合养殖期间扇贝摄食浮游生物的特点,研究认为,扇贝在养殖期间可能会通过滤食携带病毒的浮游饵料而感染AVNV,海区浮游生物可能是导致AVNV流行的重要传播媒介。
【英文摘要】AVNV(acute viral necrosis virus)is the pathogen leading to mass mortality of cultured Chlamys farreri,but the transmission of the virus is unknown.In order to clarify the relationship between the plankton and transmission of AVNV,and to afford proof for tracing transmission track,the sea water samples were fetched from 50 cm and 300 cm depths in the sea area for culturing Chlamys farreri at Shazikou of Qingdao and Sanggouwan of Rongcheng regularly from May to November in 2009,and the plankton was collected by 25 μm,3 μm,0.22 μm pore size filter,respectively.The AVNV carried by the plankton was identified by FQ-PCR.The results showed that the virus could be carried by the plankton,and the virus number in the plankton from both sea areas arrived at the peak in August.The highest number of AVNV identified for the samples from Shazikou sea area was 8.21×106 copies per litre sea water,and that was 2.98×105 copies for the samples from Sanggouwan sea area.Based on the number of AVNV carried,the plankton

group with different particle sizes was 3-0.22 μm,25-3 μm and >25 μm from high to low in turn.The number of AVNV carried by the plankton from 50 cm and 300 cm depths was not different significantly.This is the first report about AVNV carried by the plankton from the sea area for cultured scallop.These results implied that the scallop could be infected by taking the plankton that carried AVNV as food,and the plankton was crucial carrier of AVNV.

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【题目】海州湾前三岛海域栉孔扇贝(Chlamys farreri)生长特征与养殖容量的评估
【中文关键词】栉孔扇贝; 离岸养殖; 生长; 生物沉积法; 滤水率; 养殖容量
【英文关键词】Chlamys farreri; Offshore aquaculture; Growth; Biodepositon method; Clearance rate; Carrying capacity
【中文摘要】2007年7月—2008年6月,在海州湾前三岛附近海域进行了栉孔扇贝深水筏式养殖实验。周年监测了海区的环境因子和栉孔扇贝的生长情况,并利用生物沉积法,现场研究了各生长时期扇贝的滤食作用。结果表明,该海区养殖栉孔扇贝在当年秋、冬季和次年春季生长迅速,夏季生长相对缓慢,周年平均软组织生长速度为11.29mg/d,平均干贝壳生长速度为48.84mg/d,扇贝能够于次年年初达到商品规格(6cm)。不同时期栉孔扇贝滤水率之间差异显著,在扇贝规格相似的情况下,滤水率随水温升高而升高;而水温相近的情况下,滤水率随扇贝规格增大而增加。利用改进的Incze等(1981)的养殖容量模型,评估了该海区养殖容量,结果表明在现有养殖模式下,2007年7、9、11、12月以及2008年3、6月,沿着海流方向适养区域长度分别为4.0、4.6、4.7、5.1、4.5和3.2km,平均为4.35km;垂直于海流方向单位宽度(100m)的海区可以支持的扇贝湿重随着扇贝的生长逐渐增加,到2008年3月份达到最高(16.73t),随后开始下降。
【英文摘要】The growth of scallop Chlamys farreri suspended-cultured in deep water of Haizhou Bay was studied from July 2007 to June 2008;and a biodeposition method was used to estimate the clearance rate of C.farreri in field conditions.Results show that the scallop grew fast in the culture time,except for summer;the average growth rate of dry tissue weight was 11.29mg/d;the average growth rate of dry shell weight was 48.84mg/d;and the scallop could reach the commercial size(6cm in shell height) at the beginning of the second year.The clearance rate was influenced significantly by water temperature and scallop size,and increased with water temperature rising and scallop growing.A modified model after Incze et al.was used to evaluate the carrying capacity of scallop cultured in this area.Results of test in different seasons show that the suitable length of culture area along current direction was 4.35km in width of 100m,in which the wet weight of scallop increased steadily with growth,reaching the maximum in March 2008 for 16.73t.
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【题目】栉孔扇贝D形幼虫血细胞发生特点的研究
【中文关键词】栉孔扇贝; D形幼虫; 血细胞; 单克隆抗体
【英文关键词】Chlamys farreri; D larvae; haemocyte; monoclonal antibody
【中文摘要】研究组前期实验表明,栉孔扇贝(Chlamys farreri)从囊胚期开始的各发育时期中,以D形幼虫期开始出现形态可辨的血细胞。本文采用石蜡切片、组织化学、栉孔扇贝血细胞单克隆抗体的免疫组化方法,定位、观察栉孔扇贝D形幼虫血细胞的分布和形态特点。结果表明:可辨形态的血细胞集中分布于幼虫的外套膜、面盘、口、食道、胃、消化腺、肠等组织,游离的血细胞大多为球形或椭球形,直径约为1~3 μm,中央有一深色细胞核,而在消化腺中血细胞密集层叠,形态各异。在该时期未观察到不同类型的血细胞和造血组织。结论认为,D形幼虫期开始出现形态可辨的血细胞,主要分布于与摄食消化相关的组织器官内。

【英文摘要】Preliminary data showed that,during the development of Chinese scallop Chlamys farreri,distinguishable haemocytes occurred since the stage of D larvae.In this paper,the study on the distribution and morpha of haemocytes in D larvae were carried out by the methods of light microscopy,histochemical staining and immunohistochemistry(IHC) with monoclonal antibodies against haemocytes of C.farreri.The results showed that the haemocytes with distinguishable morpha were mainly distributed in the tissues of mantle,velum,mouth,esophagus,stomach,digestive gland and intestine.Moreover,the dissociative haemocytes with a fuscous nuclear in center were spherical or spheroidical,with a diameter of 1~3 μm,and assembled in digestive gland.However,the different types of haemocytes and the hematopoietic tissues were not found in D larvae stage.So,as a conclussion,we deduced that the haemocytes became morphologically distinguishable from D larvae stage and mainly distributed in tissues and organs which are related to feeding and digestion.

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【题目】扇贝养殖海区浮游生物及大型海藻携带AVNV病毒的检测分析

【中文关键词】栉孔扇贝; FQ-PCR; AVNV; 浮游生物; 大型海藻

【英文关键词】Chlamys farreri; AVNV; FQ-PCR; plankton; macroalgae

【中文摘要】为了解扇贝养殖海区浮游生物及大型海藻与急性病毒性坏死症病毒(AVNV)流行传播的关系,本研究于2008年和2009年从青岛沙子口和荣成桑沟湾2个养殖海区采集水样,离心收集浮游生物并随机采集大型海藻,采用荧光定量PCR(FQ-PCR)技术对这些样品携带AVNV情况进行检测。结果显示,沙子口海区8月份的浮游生物样品中检测到AVNV,每升海水中浮游生物携带的病毒数量为6.92×105拷贝;桑沟湾海区4月份的浮游生物样品也检测到AVNV,每升海水中浮游生物携带的病毒数量为1.26×103拷贝。从青岛沙子口海区随机采集的10种大型海藻中有7种[包括孔石莼(Uiva pertusa)、浒苔(Enteromorpha prolifera)、细毛石花菜(Gelidium crinale)、缘管浒苔(E.Linza)、海膜(Halymenia floresia)、扁江蓠(Gracilaria textorii)、刚毛藻(Cladophora)]检测到病毒,带毒样品占到检测样品总数的55.56%,其中在12份孔石莼样品中,11份样品检测到病毒,携带病毒数量最高为7.68×104/0.1(g2009年8月25日)。从荣成桑沟湾海区采集的14种大型海藻样品中有3种(包括孔石莼、海膜和马尾藻)检测到病毒,带毒样品占到检测样品总数的20.83%,其中2009年7月采集的孔石莼样品携带病毒数量最高,为3.06×103/0.1g。这一结果说明海区浮游生物及部分大型海藻均可携带AVNV,而摄食携带病毒的浮游生物可能是扇贝感染发病的原因,有关大型海藻携带AVNV在该病原流行传播中的作用还有待进一步研究。

【英文摘要】In order to illuminate the function of plankton and macroalgae on transmission of Acute Viral Necrobiotic Viru(sAVNV),samples of macroalgae and plankton were collected randomly from sea areas along Shazikou of Qingdao and Sanggouwan of Rongcheng in 2008 and 2009.The AVNV carried by plankton and different species of macroalgae was identified by PCR and FQ-PCR technique.The results showed that the AVNV was detected from plankton collected along the sea areas for Chlamysfarreri culturing at Shazikou in August and at Sanggouwan in April by FQ-PCR,and the copy numbers of AVNV were 6.92×105 and 1.26×103 per liter of sea water,respectively.Twenty of 36 macroalgae samples collected along the sea areas of Shazikou in 14 months were AVNV positive,accounting for 55.56%of the total number.The positive samples included seven species which were Uivapertusa,Enteromorpha prolifera,Gelidium crinale,E.linza,Halymenia floresia,Gracilaria textorii and Cladophora.Five of 24 macroalgae samples collected along the sea area of Sanggouwan in nine months were AVNV positive,accounting for 20.83%of the total number.The positive samples belonged to three species including U.pertusa,H.floresia and Sargassum.U.pertusa was the main macroalgae carrying AVNV.Eleven of 12 U.pertusa samples collected along sea areas of Shazikou were AVNV positive,with the highest AVNV number being 7.68×104/0.1g in fresh sample collected on August 25,2009,while at that of Sanggouwan,three of fiveU.pertusa samples collected were AVNV positive,with the highest AVNV number being 3.06×103/0.1g in fresh sample collected in July,2009.The present results implied that plankton and some of macroalgaes could carry AVNV,and the scallops could be infected when they take plankton carrying virus as food.The role of macroalgae carrying AVNV in transmission of AVNV remains to be further studied.

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【题目】Study on water-releasing, heat-absorbing and temperature-declining potential of six green plants in large-scale pig farm
【中文关键词】猪场、绿色植物、降温增湿
【英文关键词】Pig farm; Green plants; Water release and temperature degradation
【中文摘要】采用LI-6400光合仪测定了辽宁阜新市祖代原种猪场6种绿化植物的降温增湿等生理生态指标。结果表明,蒸腾速率日变化在5月和7月呈双峰型,峰值出现在9:00和13:00;明显的单峰出现在9月份11:00。6种绿化植物的降温增湿潜力6-8月份较强,5月次之,9月最低。银中杨降温增湿潜力最高;随后是苹果梨、南果梨、小叶杨、白丁香,紫丁香最低。4种乔木增湿能力超过1500 g/m2/d,说明4种乔木降温增湿能力好于2中灌木,适合猪场栽种。
【英文摘要】Physiological indices of six green plants in large-scale Pig Farm of Fuxin city were tested by LI-6400 photosynthesis testing system. Furthermore, the water-releasing, heat-absorbing and temperature-declining potential of these plants were studied. The results indicated that diurnal change of transpiration rate mostly presents the double-peak curve in May and in July, and the peak value appears in 9:00 and 13:00. It appears single-peak curve in September, and the peak value appears about 11:00. The water-releasing, heat-absorbing and temperature-declining potential of six green trees was stronger in June, July and August, and took second place in May, and was lowest in September. The water-releasing, heat-absorbing and temperature-declining potential of Populus alba berolinensis was the highest, and followed by Pyrus ussuriensis Miaxim.f., Pyrus ussuriensis Maxim., Populus simonii Carr and Passer montanus saturatus Stejneger, and those of Syringa oblata Lindl were the lowest. The amount of water-releasing of four arbor trees exceeded 1500 g/m2/d, which indicated that the water-releasing, heat-absorbing and temperature-declining potential of arbor trees were better than those of shrub trees, and were suitable green trees in large-scale pig farm.
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【英文关键词】Pig manure; Pig slurry; Accumulation of soil NH4
+-N and NO3
--N; Large-scale pig farm
【中文摘要】土壤无机氮随采样深度和时间下降;和对照比,施猪粪和猪粪液的土壤无机氮分别增加76.0% and 156.1%(P <0.001),施猪圈肥土壤 NH4+-N 增加 33.7%,而猪粪液仅增加7.4% ;NO3--N 分别是 86.9% 和 198.0%,(P < 0.001)。
【英文摘要】The amount of soil inorganic N declined significantly with increasing of sampling depthand sampling time (P < 0.001). Compared with CK, application of untreated pig manure and slurry increased significantly the amount of soil inorganic N by 76.0% and 156.1%, respectively (P <0.001). Compared with CK, application of untreated pig manure increased significantly the amount of soil NH4+-N by 33.7%, however, application of untreated pig slurry decreased remarkably that of soil NH4+-N by 7.4% (P < 0.001). Application of untreated pig manure and pig slurry increased significantly the amount of soil NO3--N by 86.9% and 198.0%, respectively compared with CK, (P< 0.001). Soil NO3--N accounted for the majority of soil inorganic N irrespective of fertilization treatment or sampling time, its percent were 80.13%, 84.27% and 92.63% in the CK, pig manure and pig slurry treatments, respectively. This result indicated that application of untreated pig manure and slurry increased significantly the amount of soil inorganic N, especially soil NO3--N, which occurred the potential risk of nitrate pollution.

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【题目】蔬菜根结线虫无公害防治技术
【中文关键词】根结线虫,防治技术
【英文关键词】control technique
【中文摘要】随着我国农业结构调整，蔬菜种植面积，特别是温室蔬菜种植面积不断增大，根结线虫为害严重，而根结线虫又加重了枯萎病、根腐病等土传性病害的发生，阻碍了蔬菜产业的发展。根结线虫发生在土壤中，使用溴甲烷、涕灭威、呋喃丹、神农丹、杀线威等药剂防治，极易造成环境污染和高毒农药残留，根结线虫无公害防治成为蔬菜生产上急需解决的问题。
【英文摘要】
【语种】中文
【第一作者】杜社妮
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【题目】论黄土沟壑区小尺度水资源优化配置的重要性
【中文关键词】黄土高原；沟壑区；小尺度；水资源；优化配置
【英文关键词】:loess plateau;hilly and gully regions;small scale;water resources;optimal deployment
【中文摘要】:通过深入黄土高原丘陵沟壑区的腹地调查，对水资源特点、地形地貌特征、生产经营方式等进行了分析，指出由于该区域水资源量少、分布不均、缺乏常规水源；地形破碎、山高、坡陡、沟深、沟谷密度大；区域内农业生产只能在小流域分割的自然单元内进行、生产特别分散、规模小、以户经营、城镇间经济联系不紧密、彼此呈孤立的发展状态等特点，决定此类区域水资源配置与开发利用以小流域单元内自身资源为主，小尺度水资源配置更符合此类区域的特点。通过对黄土丘陵沟壑区水资源开发利用中存在的问题和国内外水资源配置研究的进展分析认为，目前在水资源配置方面的研究成果，主要集中在大区域及宏观水资源优化配置，对小尺度的水资源优化配置研究较少,可支撑和指导黄土丘陵沟壑区的小尺度水资源优化配置、高效利用的研究成果和科学规划的不足，开展小尺度水资源配置研究，对于指导该类区域的水资源合理利用具有重要意义，十分必要。
【英文摘要】:The present study mainly analyrzes water features,gemorphology features,production andoperation modes in the loess hilly and gully regions through an in—depth investigation.It is found out thatthe major characteristics in the regions are deficient water resources,uneven distribution and brokenterrain(such as high and steep hills,deep gully and dense valleys)..The agricultural production can onlybe carried on within natural cells in the fragmented basins with features of decentralization,small—scale,household—level,isolation and weak economic ties between towns.All the above points would lead to afact that water resources in these regions should be deployed and utilized depending on their ownresources in the cells. An optimaldeployment of water resources at small scale Canbetter meet therequirement of the characteristics of the regions.Analyses on optimal deployment of water resources athome and at abroad are mainly performed for large—scale or macro—scale regions.Little study results Canbe referred for optimal deployment of water resources related to small—scale regions

.Therefore,it issignificant and necessary to study the optimal of water resources for small—in scale regions,which ismeaningful to guide reasonable utilization of water resources in these regions

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【题目】温度处理对温室黄瓜根结线虫的控制效果研究
【中文关键词】温度;黄瓜;根结线虫;控制效果
【英文关键词】Temperat ure ; Cucumber ; Root knot nematodes ; Cont rol effect
【中文摘要】通过盆栽与大田试验相接合的方法研究了温度处理对黄瓜根结线虫病的效应。结果表明,黄瓜根结线虫病对温度反映比较敏感,45 ℃温度处理8 h,在盆栽条件下发病程度减轻98. 8 %,处理16 h防治效果达到100 %,50 ℃温度处理 8 h,防治效果也达到100 %。在田间试验条件下,高温闷棚4 d发病程度减轻99. 6 %,高温闷棚 8 d田间未见病株。高温处理后棚室第 3 年对根结线虫病的控制效果仍高达 95 %以上。该技术具有可操作性、 可持续性和环境友好型的特点,是控制北方地区温室黄瓜根结线虫病的有效技术措施,具有广阔的应用前景。
【英文摘要】Effect s of different temperat ure on the cucumber root knot nematodes disease was studied byt he test in pot s and field , The result s showed t hat t he knot nematodes was sensitive to temperat ure.In pot cultivation , t he cucumber was t reated for 8 hour s at 45 ℃, and t he disease incidence and indicewas decreased 89. 8 % and 98. 8 % , respectively. The cont rol effect s of t reating of 16 hour s are 100 % ,and 8 hour s at 50 ℃are al so 100 %. In field , t he cucumber was t reated for 4 day by solarization , andt he disease incidence and indice was decreased 89. 2 % and 99. 6 %. The cucumber was t reated for 8 dayby solarization , and the disease did not occur . The cont rol effect s of Solarization on t he cucumber rootknot nematodes disease was over 95 % af ter t hree year . The character of technical measure is practical2ly , sustainable and environment2 f riendly , so it is effective measure of cont rolling the cucumber rootknot nematodes disease in t he nort hern area of China.
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【第一作者】陈志杰
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【题目】纸坊沟流域植被恢复区灌木林昆虫群落时间结构及动态分析
【中文关键词】昆虫群落; 植被类型; 多样性 ; 恢复区
【英文关键词】insect community;plant types;diversity;restoration area
【中文摘要】: 通过对纸房沟流域不同植被恢复区昆虫进行调查 , 结果表明: 昆虫种类数以天然灌木林最高, 混交林次之, 单纯林分较低,个体数量以柠条林昆虫数量最高, 其次为混交林和沙棘林 , 天然灌木林变化幅度最小。各植被昆虫种类和数量季节变化符合 Y=似 + + +d函数变化规律。从特征指数来分析: 昆虫群落多样性指数 5— 9月份大小次序均为天然灌木林 >混交林 >单纯林分, 均匀度以单纯林和混交林的昆虫群落变化幅度较大, 天然灌木林变化幅度最小。群落的优势度与均匀度值的变化呈相反趋势。主分量分析表明: 植物类型不同的昆虫群落 , 其主导因素和时间格局不同, 且结构越复杂, 主导因素和时间格局越明显: 相反 , 则主导因素和时间格局分化不明显; 通过排序植食性昆虫、 捕食性昆虫、 寄生性昆虫在各植被昆虫群落变化的不同时期 占主导因素。
【英文摘要】The insects were investigated from March 2004 to November 2004 at Zhifanggou watershed in hilly area of loessplateau..The result showed that the insect species varied spatially in the following order:the natural bush forests,the mixedforests,and the simple forest

s.The number of the insect individuals in Caragana korshinskii were the highest,followed bymixed forests and Hippaphae rhamnoides,and the number of the insect individuals in the natural bush forestswere thesmallest.The season changes of number of the insect species and individuals in various vegetations Can be described by afunction Y ax+ +c +d.The order of diversity value of the insect community in various vegetations from May toSeptember were the natural bush forests,the mixed forests and the simple forests.The evenness value' S change range of thesimple forests and mixed forests are higher,and the natural bush forests are smaller.Contrary trend are assumed in thedominance values and the evenness values in time course.The principal component analysis were used for studying mainfactors and the temporal patterns of the insect communities in different time,and the insect commuonty in the natural bushforests had a more complicated composition,less fluctuation,more obvious mian factors and temporal patterns.However,inthe mixed forests and the simple forests,the composition of the insect commuonty were simple and fluctuated greatly,theirmian factors and temporal patterns were not obvious.

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【题目】陕西温室黄瓜根腐病及流行因素研究
【中文关键词】陕西省 温室黄瓜 根腐病 病原菌 流行因素 栽培环境
【英文关键词】Shaanxi Province, Greenhouse cucumber, Root rot, Pathogen, Epidemic factor, Cultivation environment
【中文摘要】摘 要 为明确陕西省温室黄瓜根腐病的病原及流行影响因素，采用病原物组织分离的常规方法及田间系统调查，对陕西温室黄瓜棚室出现的两种类型根腐病进行了系统研究。结果表明，陕西省不同生态区温室黄瓜根腐病病原菌不同，陕北地区黄瓜根腐病病原菌为甜瓜疫霉(Phytophthora melonis)，关中地区为尖孢镰刀菌(Fusarium oxysporum)。菌落均在10~30 ℃条件下正常生长发育，以20~25 ℃条件下发育最快，当温度超过30 ℃菌落生长速度减慢。设施栽培面积的增加、土壤连作年限的延长、不合理的轮作种植及大水漫灌等与温室黄瓜根腐病的发生密切相关。黄瓜栽培环境的变化是影响黄瓜根腐病流行的主要因素。
【英文摘要】Abstract To elucidate pathogen and epidemic factors of cucumber root rot, two pathotypes of cucumber root rot weresystematically investigated under solar greenhouse conditions by tissue isolation, single spore purification and re-inoculation inShaanxi Province. The results show that the pathogens are different in different ecological regions, and the pathogen responsible forcucumber root rot in northern Shaanxi is identified as Phytophthora melonis, while that for Guanzhong region is Fusariumoxysporum. The pathogen colony grows normally within 10~30 ℃, and rapidly within 20~25 ℃. When temperature is over 30 ℃,the colony growth rate lowers. The prevalence of cucumber root rot are closely related to increased plantation areas, the number ofyears of continuous cropping, unreasonable crop rotation and flood irrigation. Environmental changes in cucumber fields constitutethe main epidemic factor of cucumber root rot.
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【第一作者】陈志杰
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【题目】陕西枣缩果病流行因素研究
【中文关键词】枣树缩果病；发病过程；流行 因素
【英文关键词】jujube-fruit shrink disease,development of disease,disease fact
【中文摘要】：为有效控制陕西关中地区枣树生产中危害不断加重的枣缩果病，通过田间定点、 定株调查，对陕西大荔县6处枣园枣缩果病的病原菌越冬场所、 侵染循环规律进行了调查，并对发病情况、 病情指数和流行因素进行了分析。结果表明：病原菌于5月下旬开始侵染，7月中旬开始发病，8月下旬至9月中旬为田间发病高峰期。病原菌主要靠风雨传播，从水孔、 气孔及果洼侵入枣果而发病。枣树皮、 枣头、 枣吊、枣枝条、 枣落叶都是病原菌的越冬场所。其发生与枣果发育期 、 枣吊位置、 挂果量 、 气候 因子、 立地条件、虫害、 栽培品种及管理水平有密切关系。根据缩果病发病规律，提出了合理选择园址、 选择抗病品种、 加强田间管理等防治建议。
【英文摘要】:In order to control the jujube—fruit shrink disease,the development and factors of jujube-fruitshrink disease were studied according to the experiments conducted in 6 jujube gardens of Dali county from2005--2007.The results showed that pathogens started to infect the fruit in the last ten days of May.Thedisease first occurred in the mid ten days of June,and reached the peak from the last ten days of Augusttothe mid ten days of September.The pathogen mainly spreaded by wind or rain,and infected the dot of fruitor fruit depression.The pathogens could overwinter in many organs,such as bark,once branches,fruitingbranch,fruits,and deciduous,but the fruits were the most important infection source.The shrink of fruitisclosely related with fruit development,fruiting branch location,fruit number,tree vigor,weather factor,standsite,insect attack,management,and variety.Some control suggestions for farmers are given according to reg-ularity of the jujube—fruit shrink disease epidemic.
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【题目】渭南设施蔬菜可持续发展对策
【中文关键词】渭南; 设施蔬菜; 生产现状; 对策
【英文关键词】Weinan,facility vegetables,production status,measures
【中文摘要】提　要:随着设施蔬菜大面积发展，出现了诸如病虫危害严重、 土壤连作障碍程度加剧 、 经济效益下降、销售不畅等突出问题。提出了因地制宜、 科学规划、 优化布局、 扩大规模与增加效益并重、 加强创新研究、 推广设施绿色食品蔬菜生产新技术等可持续发展对策。
【英文摘要】
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【题目】陕西温室番茄根结线虫病发生规律与绿色防治技术
【中文关键词】设施栽培; 番茄;根结线虫; 发生规律;绿色防治技术
【英文关键词】facility cultivation,potato
【中文摘要】采用室内和田间相结合的方法，研究了陕西温室栽培番茄根结线虫的发生规律与防治技术。结果表明,番茄根结线虫一年在陕西发生 4- 5 代。以卵或 2 龄幼虫随病残体在土壤中度过寄主中断期。温室栽培面积增加、 土壤连作年

限的延长以及感病番茄品种是引起根结线虫病严重发生的重要因素。切断传播途径是预防根结线虫病发生面积进一步扩大的关键措施。选种千禧、 耐莫尼塔高抗品种、 高温消毒等措施是目前控制番茄根结线虫最为有效的绿色防治技术。
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【题目】低温期温室番茄灰霉病绿色防治技术.
【中文关键词】低温,温室,番茄
【英文关键词】low-temperature,greenhouse,tomato
【中文摘要】番茄灰霉病是保护地番茄栽培中的重要病害。随着保护地番茄栽培面积的增加, 栽培年限的延长, 其发生不断加重, 一般可使产量损失 15%~20%。冬季寒冷季节温室番茄发病尤为严重, 常规药剂喷雾防治又增加湿度, 往往加重其发生。为减少损失, 有效预防其发生, 现介绍该病在低温期症状特点、 流行因素及绿色防治措施。
【英文摘要】
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【题目】不同防治措施对根结线虫防治效果和黄瓜生长发育的影响
【中文关键词】黄瓜 根结线虫 防治效果 生长发育
【英文关键词】cucumber
【中文摘要】采用田间对比试验,研究了垄沟式太阳能消毒、石灰氮、石灰氮麦草、垄鑫处理土壤对根结线虫的防治效果,以及对黄瓜植株生长发育的影响。结果表明,4种处理对黄瓜根结线虫的防治效果分别为100%、82.7%、84.8%、94.9%。对黄瓜植株株高、叶片数、根系均为正效应。提高了黄瓜叶片中叶绿素含量、氨基酸总量及光合速率。尤以垄沟式太阳能消毒技术对根结线虫防治效果显著,对黄瓜植株生长发育促进作用也最为明显。新增投入产出依次为1:17.8、1:13.9、1:13.2、1:5.6。
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【题目】几种杀菌剂防治温室黄瓜根腐病的效果
【中文关键词】杀菌剂; 温室黄瓜; 根腐病; 防治效果
【英文关键词】fungicides, greenhouse cucumber, root- rot, control effect

【中文摘要】摘 要: 采用菌丝生长速率测定法, 测定了 25%奥宁、 70%代森锰锌、 55%敌克松 3 种药剂对陕西温室黄瓜根腐病陕北菌株和关中菌株的毒力, 并进行了土壤药剂处理及灌根田间药效试验。 结果表明, 参试的 3种药剂对关中和陕北两种菌株的菌丝生长均具有明显的抑制作用, 25%奥宁可湿性粉剂抑菌效果最好,55%敌克松可湿性粉剂效果次之, 70%代森锰锌可湿性粉剂抑菌效果最差。对关中菌株 EC50 分别为0.3754、 219.5887、 105.5966, 对陕北菌株依次 0.2771、160.5462、 89.5241。 药剂处理土壤田间经济有效的用量均分别为 200g、 2000g、 2000g。药剂灌根防治效果均不明显, 生产上不宜推广应用。

【英文摘要】Abstr act: Three fungicides (25% AONING, 70% Mancozeb, 55% sodiump (dimethylamino) benzenediazo sul-fonate) toxicity on cucumber root rot were tested by hypha growth speed of Northern Shaanxi and Guanzhongregion solar greenhouse, carry out fungicides treatment soil and irrigate root experiment .The result showedthat three fungicides have obviously repress function on hypha growth in two pathogens. The best effect was25% AONING WP, the followed was 55% sodiump (dimethylamino) benzenediazosulfonate WP, the worst is70% Mancozeb WP. Guanzhong Region Pathogens EC50 separately was 0.3754, 219.5887, 105.5966. North-ern Shaanxi Pathogens EC50 separately were 0.2771, 160.5462, 89.5241. Economics effective amount used inthe field is 200g, 2000g, 2000g. The result of irrigate root are not remarkable, and not suitable promoted inthe production.

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【学科分类】农业基础学科

【题目】不同灌溉方式对温室嫁接黄瓜根系分布影响的研究

【中文关键词】黄土高原 温室 黄瓜 根系分布 灌溉方式

【英文关键词】Loess Plateau,Greenhouse,Cucumber,Root distribution,Irrigation pattern

【中文摘要】采用土柱模拟试验和大田调查相结合的方法, 研究 了不 同灌溉方式下温室嫁接黄瓜根 系分布特征 ,结果表明: 膜下暗灌和滴水灌溉温室黄瓜根系干重最大值分别出现在黄瓜定植后 180 d和 210 d, 黄瓜拔蔓时根系干重后者较前者高 29.0%。黄瓜不同发育时期根系垂直分布特征有明显差异 , 在初瓜期前, 0—20 cm根系干重前者明显高于后者, 20 cm以下根系干重二者无明显差异; 结瓜盛期 以后, 0~20 cm根系干重二者差异不明显, 20 cm以下根 系干重后者显著高于前者。膜下暗灌和滴水灌溉黄瓜根系水平分布在 0—15 cm, 分别 占总根干重的96.6%、 94.2%。随着黄瓜生长发育的推进 , 膜下暗灌内侧根系分布数量逐渐下降, 结瓜期以前内侧根 系占植株根系总数量的61.1%, 中后期 占15.6%; 而滴灌黄瓜全发育期, 内外侧根系分布数量比较均衡。说明灌水方式对温室嫁接黄瓜根系分布特征有显著影响。

【英文摘要】Abstract Root distribution characteristics of greenhouse cucumber were analyzed using simulated soil column culture method and~rmland research.The results show that irrigation under plastic film mulch and drip irrigation yield the highest cucumber root dryweight at 180 d and 210 d after planting,but root dry weight is 29%higher under drip irrigation at harvest.There is significantdifference in vertical distribution of cucumber root at different growth periods between drip irrigation and irrigation under plasticfilm mulch.Before initial fruit appearance stage,the difference in root dry weight is insignificant below 20 cm depth of soil,whileroot dry weight under irrigation with plastic film mulch treatment is higher than that under drip irrigation at 0—20cm depth.Afterabundant fruit stage,root dry weight difference between two irrigation patterns is insignificant at 0—20 cm depth,but root dryweight of drip irrigation is significantly higher than irrigation under plastic film mulch below 20 cm.Cucumber root horizontal dis—tribution is mainly in the 0—15 cm.accounting for 96.6%and 94.2%of total root weight for two irrigation patterns.With thegrowth of the cucumber plant.inner root distribution gradually decreases from 61.1%to 15.6%of total root amount from beforefruit appearance stage to mid or late fruit stage for irrigation under plastic film mulch.The inner and outer rootdistribution bal—ances out during cucumber growth period under drip irrigation.

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【题目】不同药剂防治温室黄瓜根结线虫病效果及安全性评价
【中文关键词】药剂 温室黄瓜 根结线虫 田间药效 安全性评价
【英文关键词】solarhouse
【中文摘要】采用盆栽试验与田间试验相结合的方法,研究了不同药剂对黄瓜根接线虫病的防治效果及对温室黄瓜生长发育的效应。结果表明,5亿活孢子/g淡紫拟青霉颗粒剂、1.8%阿维菌素乳油、98%垄鑫微粒剂、10%福气多颗粒剂、0.15%杀线丹颗粒剂、50%辛硫磷乳油对温室黄瓜根接线虫病均有一定的防治效果。以98%隆鑫微粒剂防治效果最好,每666.7m~2 10 000g使用剂量,药后50d、200d防效分别为100%、92.3%。10%福气多防效次之。淡紫拟青霉、1.8%阿维菌素等生物制剂防治效果较低。同一种药剂在同一使用剂量条件下,土壤施用防治效果优于灌根的防治效果。参试的上述6种药剂在试验浓度范围内对温室黄瓜均未产生药害或抑制黄瓜生长,其安全系数分别为4.8倍、2.7倍、2.3倍、2.9倍、3.7倍
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【题目】枣缩果病空间分布型研究
【中文关键词】枣缩果病 空间分布格局 抽样技术
【英文关键词】uubefruit shrinkdisease satialdistribution attern samlin techniue
【中文摘要】摘要 应用聚集指标法和Ta y lor幂指数及Iwaom -m回归分析法测定了枣缩果病病株的空间分布型 结果表明枣缩果病病株田间分布趋于聚集分布 其聚集原因主要是由风雨气候因素 病菌本身生物学特性和刺吸式昆虫吸食传毒扩散共同引起的 运用Iwaom -m回归中的两个参数 值 建立了理论抽样数模型 N1.96=3.842D1.463m+0.083 N1.64=2.69D 1.463m+0.083 序贯抽样模型 T0 n =5 n±6.0053 n 确定了不同精度下的理论抽样数及序贯抽样数 提高了调查抽样的效率 可为枣缩果病林间抽样调查及防治提供依据
【英文摘要】Abstract A gg re g atedindicesandp ower lawofTa y lorandIwaoswa y re g ressiverelationb ym -m wereusedtotest thes p atialdistributionp atternof thej u j ube - fruit shrinkdiseaseoninfectedp lants Theresults showedthattheinfectedp lantswasofa gg re g atedt yp eandthea gg re g ationdistributionwasmainl ycausedb ywindor rain bio -lo g icalcharacteristicsofthep atho g enands p readin gof j u j ube - fruit shrinkdiseasetransmittedb yinsects.Accord -in gtothep arametersofs p atialdistribution thetheoretical sam p lin gnumbermodelN1.96=3.842D 1.463 m+0.083 N1.64=2.69D 1.463 m+0.083 andse q uencesam p lin gmodelT0 n =5 n±6.0053 n werep ro -p osed.Theo p timal sam p lin gnumberandse q uencesam p lin gtableweredeterminedfor im p rovin gtheefficienc yofsam p lin g whichp rovidedabasisfortheforest sam p lin gsurve yandcontrol.
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【题目】纸房沟流域植被恢复区乔木林昆虫群落结构及动态分析
【中文关键词】昆虫群落; 林分类型; 多样性; 恢复区
【英文关键词】i nsect commun i ty ; p lant types ; d i versi ty ; resto ration area
【中文摘要】摘要: 2008年 4~ 11月通过对纸房沟流域乔木林恢复区昆虫进行调查, 结果表明: 昆虫种类数以自然乔木林最高, 混交林次之, 单纯林分较低, 个体数量以柳树林昆虫数量最高, 其次为混交林和刺槐林, 自然乔木林变化幅度最小。昆虫群落多样性指数高低次序均为自然乔木林 > 混交林 > 单纯林分, 均匀度以单纯林和混交林的昆虫群落变化幅度较大, 自然乔木林变化幅度最小。群落的优势度与均匀度值的变化呈相反趋势。主分量分析表明, 林分类型不同的昆虫群落, 其主导因素和时间格局不同, 且结构越复杂, 主导因素和时间格局越明显; 相反, 则主导因素和时间格局分化不明显; 植食性昆虫类群在各林分中均为优势类群, 自然乔木林的天敌种类数和个体数量明显高于其它林分, 通过排序不同功能类群在各林分昆虫群落变化的不同时期占主导因素。并探讨了植物群落与昆虫多样性间的生态关系, 为植被恢复和森林害虫的自然生态调控提供依据。
【英文摘要】Abst ract : Insects w ere investiga ted from March to Nove mber i n 2008 at Zhifanggou w atershed , Anscounty , Shaanx iProvince in h ill y area of loess p lateau . The resu l t sho w ed that t he insect spec ies variespatia l ly in the fo l lo w ing or der : the nat ural arbor forests , t hem i xed forests , and t he si mple forests . Thnu mber o f the insect ind i v i duals inP eri p loca sep iu m w ere the highest , follo w ed bym i xed forests andR oi n i a p seudoacacia, and t he number o f the i nsect i ndividuals i n the natural arbo r fo restsw ere the s mallesThe order of diversity va l ue of the insect commun i ty in various fo rests f rom M ay to Septe mber w ere t hnatural bush forests , t he m i xed forests and the si mple forests . The evenness va l ue s change range o f t hsi mple forests and m i xed fo rests are h i gher , and the nat ural bush forests are s ma l ler . Cont rary trend aassumed in t he dom inance values and the evennes s values i n ti me course . Moreover , ma i n facto rs anthe tempora l patterns o f t he i nsect commun i ty in the natural arbor forests are more complicated fl uctut i ve , and obvious than t hat in them i xed forests and the si mple forests by t he pri ncipa l component analsis . Dom i nant communities w ere phytophagous group in various forests , and the species and i nd i v iduaof natura l enemy in the natura l ar bor forest w ere the h i gher than o ther . D i fferent functional g r oup w eobv ious m ian factors i n dieeerent ti me by sample or d i nation of the i nsect commuo i ty . The relationsh i p bt w een plant communities and i nsects d i versi ty w as discussed in this paper , in order to prov i de ev i denfor the vegetation restorat i on and the ecolog ical regulat i on of pests .
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【题目】施肥对日光温室土壤微生物与酶活性变化的影响.
【中文关键词】日光温室 施肥 土壤酶活性 土壤微生物
【英文关键词】Greenhouse ,Fertilization ,Soil enzyme activity ,Soil microorganisms
【中文摘要】在日光温室内 ,采用田间试验的方法 ,研究不同施肥处理对西红柿土壤酶活性和土壤微生物数量的影响。结果表明:施有机肥、 化肥、 有机肥 +叶面肥处理土壤磷酸酶活性增加 ,施化肥 +叶面肥处理比施化肥处理土壤磷酸酶活性增加;施有机肥处理土壤脲酶活性增强;施化肥 +叶面肥处理土壤磷酸酶活性比施有机肥 +叶面肥处理降低;施肥对蔗糖酶和过氧化氢酶活性的影响较小。施有机肥处理土壤细菌、 真菌和放线菌数量增加 ,施化肥处理土壤细菌数量降低 ,土壤真菌和放线菌数量增加。
【英文摘要】The effect of different fertilizations of tomato on soil microorganisms and enzyme activity was studied undergreenhouse condition. Results show that phosphatase activity increases by using organic manure , NP fertilizer and organicmanure plus foliar feed. There is a greater increase in phosphatase activity with the use of NP fertilizer plus foliar feed thanthe use of NP fertilizer alone. Using organic manure enhances urease activity. Fertilization with NP plus foliar feed leads tolower phosphatase activity than fertilization with organic manure plus foliar feed. Fertilization shows no significant effectson the activities of catalase and sucrase. The number of bacteria and fungi and actnomycete increases by using organize ma2nure. Using NP fertilizer decreases the number of bacteria ,increases the number of fungi and actinomycete.

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【题目】连作对设施黄瓜产量和品质及土壤酶活性的影响
【中文关键词】黄瓜;连作障碍; 土壤呼吸强度;土壤酶活性
【英文关键词】cucumber: continuous cropping obstacle; soil respiration; soil enzyme act ivitiy
【中文摘要】[摘 要] =目的> 揭示黄瓜产生连作障碍的机理, 为设施蔬菜的可持续发展和减轻连作障碍提供参考依据。=方法> 在日光温室内进行田间试验,以露地玉米地土壤为对照,研究不同连作年限(4, 5, 8 和 12 年)下黄瓜产量和品质及土壤酶活性的变化。=结果> 随着黄瓜连作年限的增加,黄瓜产量、 可溶性固形物和维生素 C 含量均下降,硝酸盐含量上升,土壤呼吸强度降低, 土壤脲酶活性、 蔗糖酶活性、 碱性磷酸酶活性均呈先上升后降低的趋势; 随着黄瓜生长季节的变化,土壤脲酶活性呈先上升后降低再升高的趋势,土壤蔗糖酶活性、 碱性磷酸酶活性和土壤呼吸强度均呈先上升后降低的趋势。=结论> 随着连作年限的延长,设施黄瓜的产量和品质均下降,土壤脲酶、 蔗糖酶和碱性磷酸酶活性均呈先升高后降低的趋势。
【英文摘要】Abstr act: =Object ive> T he study was to discover the mechanism of cucumber cont inuous cropping ob2stacles in order to provide r eference to the sustainable development of the facility vegetable and alleviat ingthe obstacles of cont inuous cropping. =Method> The dynamic changes of cucumber yield, quality and soilrespi r at ion and enzymes act ivit ies wer e studied under different cont inuous cropping years (4, 5, 8 and 12year s) in Yan. an solar greenhouse. =Result> T he r esult s showed that with the increase of cont inuous crop2ping years, the yield of cucumber decreased significant ly, soluble sugar and Vc content s of cucumber de 2clined, nit rate content increased, soil respirat ion decreased, the act ivit ies of urease, inver tase and alkalinephosphatase in soil increased first and then decreased.With the change of the cucumber growing season, theurease act ivi ty in soil declined after an obvious incr easing, and final ly increased, the activity of soi l invert2ase, alkaline phosphatase and soil respirat ion increased at the beginning and then decreased. =Conclusion>Both yield and quality of cucumber declined, soil enzyme act ivity increased first and then decreased with theincrease of cont inuous cropping years.
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【题目】不同地区与栽培方式下蔬菜品质的变异性分析
【中文关键词】地区;栽培方式;品质;变异性
【英文关键词】Region ; Cultivating model ; Quality ; Variability
【中文摘要】摘 要: 通过对陕西省延安和杨凌两地春季蔬菜进行对比试验 ,分析了不同地区及栽培方式下的蔬菜 p H值、维生素 C含量、 可溶性糖含量和硝酸盐含量等的差异。结果表明 ,陕西延安春季蔬菜的可溶性糖含量和维生素 C含量较杨凌的高;杨凌露地蔬菜的硝酸盐污染指数为轻度 ,延安露地蔬菜除绿叶菜类为硝酸盐中度污染外 ,其余菜类为轻度污染。从营养品质和安全品质分析 ,延安蔬菜的品质优于杨凌蔬菜的品质。延安露地蔬菜的可溶性糖含量和维生素 C含量都较拱棚和日光温室的高。除拱棚葱蒜类受到硝酸盐中度污染外 ,其他菜类为轻度污染;露地和拱棚中的蔬菜受到硝酸盐的轻度污染。从营养品质和安全品质上比较 ,露地蔬菜的品质比拱棚和日光温室的蔬菜品质要好。
【英文摘要】Abstract : According to the experiment on spring vegetable in Yan ′ an and Yangling , Shaanxi province ,t his paper analyzed t he variability of vegetable quality including p H , vitamin c (vC) content , solublesugar and nit rate content under different region and cultivating model . The result s showed t hat t hecontent of vC and soluble sugar in Yan ′ an , Shaanxi was higher t han t

hose in Yangling. The vegetableplant under open field condition in Yangling was light2polluted by nit rate , but in Yan ′ an only greenleaf vegetable in open field was middling 2polluted by nit rate , the other vegetable species were light2polluted by nit rate. Compared f rom nut rition and safety quality , vegetable quality in Yan ′ an were bet2ter t han t hose in Yangling. In Yan ′ an , the vegetable content of soluble sugar and vC under open fieldcondition were higher than t hose under shield t rellises and sunlight greenhouse condition. Undershield t rellises condition , only shallot garlic vegetable was middling 2polluted by nit rate , t he othervegetable species were light2polluted. The vegetable under open field and shield t rellises conditionwere light2polluted. Compared f rom nut rition and safety quality , quality of open field vegetable werebet ter than t hose under shield t rellises and sunlight greenhouse condition.

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【学科分类】农业基础学科

【题目】不同作物对土壤生物学特性的影响
【中文关键词】作物;土壤呼吸;土壤酶活性
【英文关键词】crop s ; s oil res p irati on; s oil enzymes activities
【中文摘要】摘要: 为了比较大田作物与蔬菜作物之间土壤生物学特性的差异 ,分析了茄子、 番茄、 辣椒、 豇豆和玉米土壤呼吸及土壤脲酶、 过氧化氢酶、 蔗糖酶和碱性磷酸酶活性的动态变化。结果表明:几种作物土壤呼吸及土壤酶活性均表现出由低到高再到低的变化趋势 ,相对于几种蔬菜作物 ,玉米在整个测定期内土壤呼吸及土壤酶活性变化较平稳 ,多重比较结果显示 ,各作物间土壤呼吸释放的 CO2量差异不显著 ,茄子、 番茄土壤脲酶活性显著高于豇豆和玉米;番茄、 辣椒、 豇豆过氧化氢酶活性显著高于玉米 ,茄子的过氧化氢酶活性最低;茄子蔗糖酶活性显著高于其他几种作物 ,而各作物间土壤磷酸酶活性无显著差异。种植玉米或蔬菜作物对土壤呼吸 CO2释放量无显著影响 ,而对土壤脲酶、 过氧化氢酶及蔗糖酶活性有显著影响。
【英文摘要】Abstract: To compare the difference of s oil bi ol ogical characteristics bet ween field crop s and vegetable cr op s, dy2namic change of of s oil res p irati on, s oil urease, s oil catalase, s oil invertase and s oil alkaline phos phtase activity ofthe eggp lant (S olanum m elongena L.) , t omat o (L ycopersicon escu len tum Mill .) , pepper (capsicum anm uumL.) , cowpea (V igna ungn icu la ta ssp . sesqu ipeda lis cv .) and maize (Z ea m ays L.) was analyzed res pectively .The result showed that s oil res p irati on and s oil enzymes activities of these crop s exhibited changing trend of l ow2high2l ow. Compared with the vegetable cr op s, the fluctuati on of s oil res p irati on and s oil enzymes activitieswere morestable during maize whole growth peri od . Duncan ’ smulti p le test result showed the difference of the s oil res p irati onreleased CO2 quantity of different crop swere not significance among the crop s . Urease activity of eggp lant and t oma2t o was higher than that of cowpea and maize . Tomat o, pepper and cowpea s oil catalase activities were higher thanmaize, and the l owest crop was eggp lant . Invertase activity of eggp lant s oil was higher than the other cr op s, but thedifference of s oil alkaline phos phtase of different cr op swas not significance . Maize or other vegetables p lanting haveno significance influence t o s oil res p irati on CO2 emissi on, however, different crop s had significant influence on s oilenzymes activities, es pecially on s oil urease, s oil catalase and s oil invertase activities .

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【题目】黄土丘陵区粮食生产的实践与认识

【中文关键词】基本农田;粮食生产;种植结构;新品种;肥料
【英文关键词】basic farmland ; grain production ; crop seeding pat tern ; new variety ; fertilizer
【中文摘要】摘 要: 燕沟流域退耕还林后在粮田面积大幅度减少的新形势下,粮食生产减地不减产并取得增产增效的效果。总结其经验,认识到在黄土高原中部丘陵区,要实现粮食安全生产,应该采取建设确保人均 0. 14~0. 20 hm2基本农田,调整粮食作物种植结构,建立与水资源状况相适应的抗逆应变型种植制度,选择和推广耐旱与丰产性能良好的旱肥型优良品种和增加化肥和有机肥投入等措施。
【英文摘要】Abstract : The conversion of cropland to forestland has resulted in a considerable decrease of cropland. Inthis new situation , we carried out some experiment s to demonst rate the benefit of fertilizing in the cropland ,which can ensure the stability of the total grain yield by greatly increasing the grain yield per unit land. In addi2tion , the product value and cash income of farmers had also been increased in Yangou watershed. In order to re2alize grain yield safety in the cent ral section of hilly area of the Loess Plateau , we ought to ensure 0. 14~0. 20hm2basic farmland per capita , adjust the pat tern of crop farming , build up a new cultivating system that couldadapt to new crop varieties and water resources situation , choose and demonst rate selected seeds that can enduredrought and increase yield , and increase the input of chemical fertilizer and organic fertilizer .
【语种】中文
【第一作者】王栓全
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【题目】黄土丘陵区纸坊沟流域农业生态安全预警分析
【中文关键词】黄土丘陵区;纸坊沟流域;生态安全;灯号模型;预警分析
【英文关键词】Loess Hilly region ;the Zhifanggou Valley ;ecological security ;cresset model ;pre2warning analysis
【中文摘要】[摘 要] 【目的】为黄土丘陵区生态安全预警及其建设提供科学依据。 【方法】以纸坊沟流域近 70 年代表年份生态安全态势及影响因子的分析为基础,参考压力2状态2响应(PSR)模型建立农业生态安全预警指标体系。运用层次分析法(AHP)和德尔菲法(Delphi)确定指标权重,采用综合指数法计算生态安全质量值,用演化轴解释生态安全预警模式,定量评价该流域 1938~2005 年的农业生态安全状况,并预测 2015 年的发展趋势。 【结果】纸坊沟流域1938年处于蓝灯区,无需预警;1958 年为黑灯区,需作生态安全恶化速度预警;1975 和 1985 年处于红灯区,需作生态安全较差状态预警;1995年处于黄灯区,2005 和 2015 年继续向良好方向演化,均不需预警,但从发展趋势来看,预计人口密度于 2020 年左右进入警戒状态。 【结论】研究结果与该流域的实际情况相符,该指标体系和生态安全预警模型可以应用于黄土丘陵区。
【英文摘要】Abstract : 【Objective】The study provided ecology security p re2warning and security const ruction wit hcientific basis in the Loess Hilly region.【Met hod】 Based on analysis of ecological security state and impactactor s of Zhifanggou valley during 70 year s and Press2State2Response (PSR) model ,pre2warning index sys2em of agricultural ecology security was established. A HP and Delp hi met hool s were used to determine in2icator weight ;integrated value of ecology security was calculated by integrated index met hod ;developmentxis was used to explain five model s of ecology security pre2warning ; ecological security conditions f rom938 to 2005 were quantitatively assessed and developing tendency in 2015 was predicted.【Result】The re2ult s indicated t hat security condition of the Zhifanggou Valley lay in blue light region and there was noneed for p re2warning in 1938 ; and t he black light region needed pre2warning of deterioration velocity in958 ;and t he red light region needed ill condition pre2warning in 1975 and 1985 ;and in yellow light regionn 1995 ,it continued to develop in benign state and no need for pre2warning in 2005 and 2015 , but wit hresent development tendency ,the aut hor p redict s peasant s pop ulation density will be in pre2warning staten 2020.【Conclusion】Research result s are consistent wit h concrete condition ,and the index system and pre2warning model s of ecology security can be used in t he Loess Hilly region.
【语种】中文
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【题目】黄土丘陵区纸坊沟流域农业生态经济安全评价
【中文关键词】黄土丘陵区;纸坊沟流域;农业生态经济安全;指标体系;评价
【英文关键词】Key words the Hilly—gully region of Loess Plateau;Zhifanggou watershed;agricultural eco—economic safetindex system;evaluation
【中文摘要】摘要 以近70年纸坊沟流域农业生态经济系统演变过程为基础,利用国家“九五”科技攻关项目中所提出的评价指标体系,对纸坊沟流域不同发展阶段标志年份的农业生态经济安全状况进行了评价,得出:农业生态经济系统在1938、2000、2005年处于亚安全状态,1958、1975年处于极端不安全状态,1985、1990、1995年处于不安全状态。通过对农业生态经济安全变化驱动力的分析,预测了纸坊沟流域农业生态经济安全的发展趋势,提出了黄土丘陵区实现农业生态经济安全的策略:以培育主导产业为中心,完善农业系统循环链网,调整产业结构,实现农业资源的有效、永续利用。
【英文摘要】Abstract Based on the developing process of agricultural eco—economic system of Zhifanggou watershed nearly70 years,and the evaluation index system which was suggested in national ninth five years subject,thesituation of the agricultural eco—economics snfety in mark years of different development stage of Zhifanggouwatershed Was evaluatied.It Was concluded that,the agricultural eco—economic system had been the situationof sub—safety in 1938,2000,2005,extreme unsafe in 1958,1975,and unsafe in 1985,1990,1995.Through the analysis of driving force for the change of agricultural eco—economics safety,it may be forecastedthat the developing trend of the agricultural eco—economics safety,and some proposals to achieve agriculturalCS safety,focusing on the cultivation of leading industry,improving circular chain of the system,and adjusting industry structure,achieving the effective and sustainable use of agricultural resource weresuggested.
【语种】中文
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【题目】黄土丘陵区纸坊沟流域近70年农业生态安全评价
【中文关键词】黄土丘陵区;纸坊沟流域;农业生态安全;层次分析法;评价
【英文关键词】he Loess Hilly Region;Zhifanggou Valley;agricultural ecO—security;analytic hierarchy process(AHP);assessme
【中文摘要】摘要:在国内外已有研究的基础上,结合黄土丘陵区纸坊沟流域近70a来农业生态经济系统演变过程,参考PSR模型,从生态环境、社会经济和综合功能3方面构建黄土丘陵区流域农业生态安全评价指标体系,基于层次分析法赋权的综合指数评价方法,对纸坊沟流域1938—2005年农业生态安全状况进行评价。结果表明:该流域农业生态安全状况发生了先降后升的变化,1938年处于较安全状况,1958年为极不安全状况,1975年和1985年都处于较不安全状况,1995年处于临界安全状况,2005年属于较安全状况。评价结果表明纸坊沟流域还需要进一步优化农业系统结构,实现农业生态安全。
【英文摘要】Abstract:Ecological security is one of the foundations of national security,and is the basis of regional sustainabledevelopment.Regional ecological security includes ecological—environmental security,economic security and socialsecurity.On the basis of the development of the eco · economic system of Zhifanggou Valley in the Loess Hilly Region over 70years,based on historical research and related literature,and with the Pressure—State—Response(PSR)model framework鸽afoundation,a 3-layer conceptual assessment index system for the agricultural eco—security,which included ecological · environment,socio-economic,and integrated functions,Was established for the Loess Hilly Region.Using the AnalyticHierarchy Process(AHP)and an integrating index evaluation method,the Zhifanggou Valley Was used as a ease study andits agricultural eco-security status,from 1938 to 2005,Was assessed quantitatively.The results showed that its EcologicalSecurity Integrated Value(ESIV)had a trend of unsafe to safe.The valley was in arelatively safe and avery unsafe statin 1938 and 1958,respectively;in an

unsafe condition in 1975 and 1985;and in acritically safe and arelatively safe statein 1995 and 2005,respectively.The research results indicated that the agricultural system structure of the ZhifanggouValley is still in need of further optimization for realizing agricultural eco · security.
【语种】中文
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【题目】黄土丘陵区农业生态经济效益评价指标体系的构建
【中文关键词】黄土丘陵区; 农业生态经济效益; 可持续发展; 指标体系
【英文关键词】loess hilly region; agro -ecological and economic efficiency; sustainable development; index system
【中文摘要】摘 要: 以/ 黄土高原水土保持与可持续生态建设试验示范区0为研究对象,在分析区域农业生态经济系统演变过程及生态经济效益的变化情况的基础上,确立了农业生态经济效益的主要内容及其影响因素, 预测了区域内典型流域未来 5~ 15 a 的人均经济收入以及未来 30~ 40 a的人口、 人均基本农田、 人均果园和人均羊单位。并以此为依据,构建了适合于黄土丘陵区的农业生态经济效益评价指标体系, 包括生态环境、经济效益和可持续发展 3 个大类, 20个具体指标。
【英文摘要】Abstract: T aking the Baota district of Yan. an Ci ty and seven tow nships(tow ns) of Ansai County for ex am -ple, this paper discussed the evo lut ion o f regional ag ro - ecolog ical economic system and the correspondingchang es in it s ecolo gical and economic benefit s. We r ecognized the major contents of agro -ecolo gical eco nomyand it s main inf luencing facto rs, and predicted the per -capita income in the follow ing 5~ 15 y ears, and thepopulat ion, per - capital basic farmland, o rchards and sheep in the nex t 30~ 40 years in it s typical w atershedregion. By the method of sy stem analysis, the main 20 specific index es f rom the indexes sy stem w er e furtherrecog nized, w hich can be categ orized into eco -enviro nment , economic benefit and sustainable development ,w e w orked o ut to const ruct the eco -agr icultural eco nomic indicators evaluat ion sy stem that are suitable forthe lo ess hil ls and gully region.
【语种】中文
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【题目】An immune deficiency homolog from the white shrimp, Litopenaeus vannamei, activates antimicrobial peptide genes
【中文关键词】无
【英文关键词】LvIMD
Death domain
AMPs
Innate immunity
Toll/Imd pathway
【中文摘要】无
【英文摘要】Invertebrates rely on innate immunity as the fi rst line defense against microbes. In Drosophila, theinducible antimicrobial peptides (AMPs) regulated by the Toll and immune de fi ciency (Imd) pathways are important effectors in innate immunity. Here we report an immune de fi ciency homolog (LvIMD) from the white shrimp, Litopenaeus vannamei. The full-length cDNA of LvIMD is 758 bp with an open reading frame of 483 bp that encodes a putative protein of 160 amino acids including a death domain at the C-terminus. LvIMDdeath domain shows similarity to that ofDrosophila IMDand human receptor interacting protein 1 (RIP1) of the tumor necrosis factor receptor (TNFR) pathway, with 27.9% and 26.4% identity, respectively. Phylogenetic analysis

shows that LvIMD clusters with a predicted protein from the starlet sea anemone (Nematostella vectensis) independent to insect IMDs and vertebrates RIP1s. LvIMD mRNA is expressed in most tissues and is induced in hepatopancreas and hemocytes after immune challenge. Luciferase reporter assays con fi rm that LvIMD is able to induce the expression of AMP genes, including Drosophila Attacin A and shrimp Penaeidin 4 in S2 cells. To our knowledge, this is the fi rst report that LvIMD participates in innate signaling to activate the expression of AMP genes in shrimp.

【语种】英文
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【学科分类】免疫学

【题目】Identification of miRNA from Porphyra yezoensis by High-Throughput Sequencing and Bioinformatics Analysis
【中文关键词】高通量测序;生物信息学分析;条斑紫菜miRNA
【英文关键词】High-Throughput Sequencing; Bioinformatics Analysis Identification;miRNA;Porphyra yezoensis
【中文摘要】利用高通量测序和生物信息学分析手段鉴定条斑紫菜miRNA
【英文摘要】Background: miRNAs are a class of non-coding, small RNAs that are approximately 22 nucleotides long and play important roles in the translational level regulation of gene expression by either directly binding or cleaving target mRNAs. The red alga, Porphyra yezoensis is one of the most important marine economic crops worldwide. To date, only a few miRNAs have been identified in green unicellar alga and there is no report about Porphyra miRNAs.Methodology/Principal Findings: To identify miRNAs in Porphyra yezoensis, a small RNA library was constructed. Solexa technology was used to perform high throughput sequencing of the library and subsequent bioinformatics analysis to identify novel miRNAs. Specifically, 180,557,942 reads produced 13,324 unique miRNAs representing 224 conserved miRNA families that have been identified in other plants species. In addition, seven novel putative miRNAs were predicted from a limited number of ESTs. The potential targets of these putative miRNAs were also predicted based on sequence homology search.Conclusions/Significance: This study provides a first large scale cloning and characterization of Porphyra miRNAs and their potential targets. These miRNAs belong to 224 conserved miRNA families and 7 miRNAs are novel in Porphyra. These miRNAs add to the growing database of new miRNA and lay the foundation for further understanding of miRNA function inthe regulation of Porphyra yezoensis development.
【语种】英文
【第一作者】梁成伟
【通讯作者】叶乃好
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【学科分类】生物化学

【题目】Somatic cells serve as a potential propagule bank of Enteromorpha prolifera forming a green tide in the Yellow Sea, China
【中文关键词】浒苔;绿潮;微观世代;繁殖体;再生;体细胞
【英文关键词】Enteromorpha prolifera . Green tide .Microscopic forms . Propagule bank . Regeneration . Somatic cells
【中文摘要】体细胞无性繁殖是导致绿潮藻浒苔爆发的潜在机制
【英文摘要】For the last 2 years, vast accumulations of the unattached filamentous green alga, Enteromorpha prolifera, have occurred during summer along the coastal region ofthe Yellow Sea, China. However, algae do not seem to occur after the end of the fertile season. It has been suggested that banks of microscopic forms of the algae,primarily spores, function as a survival mechanism for this opportunistic alga. Therefore, in this study, field surveys and laboratory cultures were conducted to determine if somatic cells were serving as a propagule bank to enable the algae to survive through periods of unfavorable conditions. Laboratory experiments demonstrated that somatic regeneration was one of the most important approaches by which E. prolifera colonized and flourishedin the

study area. Indeed, at least 19.32% of somatic cells from the filamentous segments could survive for 2 months under various temperatures (0, 5, 10, 15, 20, and 30 ° C at anirradiance of 60 μ mol photons m − 2 s − 1) and irradiances (darkness, 5 10, 15, 20 and 30 μ mol photons m − 2 s − 1 at a temperature of 20 ° C). Additionally, greater than 35.85% of the somatic cells could survive at 0 ° C or in darkness for 2 months, and no less than 15.99% of these cells resumed growth when the temperature and irradiance were adjusted to the normal levels (20 ° C and 60 μ mol photons m − 2 s − 1). Furthermore, the results of field surveys revealed that viable E. prolifera was widespread in high quantities in the sediment of the Yellow Sea when the macroalga was absent. Taken together, the results of this study suggest that somatic cells may act as an overwintering stage for the annual spring bloom of E. prolifera. These findings should be useful in future studies conducted to behavior of somaticcells in green tide as well as in the management of future spring blooms of E. prolifera.

【语种】英文

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【学科分类】发育生物学

【题目】Evaluation of the pyrolytic and kinetic characteristics of Enteromorpha prolifera as a source of renewable bio-fuel from the Yellow Sea of China

【中文关键词】浒苔; 热解; 动力学

【英文关键词】Enteromorpha prolifera; Pyrolysis; Kinetics

【中文摘要】评估中国黄海浒苔作为生物能源的热裂解动力学特征

【英文摘要】The pyrolytic and kinetic characteristics of Enteromorpha prolifera fromthe Yellow Sea were evaluated at heating rates of 10, 20 and 50 ◦ C min − 1, respectively. The results indicated that three stages appeared during pyrolysis; dehydration, primary devolatilization and residual decomposition. Differences in the heating rates resulted in considerable differences in the pyrolysis of E. prolifera. Speci fi cally, the increase of heating rates resulted in shifting of the initial temperature, peak temperature and the maximum weight loss to a higher value. The average activation energy of E. prolifera was 228.1 kJmol − 1, the pre-exponential factors ranged from 49.93 to 63.29 and the reaction orders ranged from 2.2 to 3.7. In addition, there were kinetic compensation effects between the pre-exponential factors and theactivation energy. Finally, theminimumactivation energy was obtained when a heating rate of 20 ◦ Cmin − 1 was used.

【语种】英文

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【学科分类】生物化学

【题目】Laboratory studies on vegetative regeneration of the gametophyte of Bryopsis hypnoides Lamouroux (Chlorophyta, Bryopsidales)

【中文关键词】羽藻;原生质体;叶片;繁殖方法;生活史

【英文关键词】Bryopsis hypnoides, protoplast, thallus segment, propagation method, life history.

【中文摘要】羽藻原生质体融合再生研究

【英文摘要】Vegetative propagation from thallus segments and protoplasts of the gametophyte of Bryopsis hypnoides Lamouroux (Chlorophyta, Bryopsidales) was studied in laboratory cultures. Thallus segments were cultured at 20 ° C, 20 mol photons m-2 s-1, 12:12 h LD); protoplasts were cultured under various conditions, viz. 15 ° C, 15 mol photons m-2 s-1, 10:14 h LD; 20 ° C, 20 mol photons m-2 s-1, 12:12 h LD; and 25 ° C, 25 mol photons m-2 s-1, 14:10 h LD. Microscope observation revealed that the protoplast used for regeneration was only part of the protoplasm and the regeneration process was complete in 12 h. The

survival rate of the segments was 100% and the survival rate of protoplasts was around 15%, regardless of culture conditions. Protoplasts were very stable in culture and were tolerant of unfavorable conditions. Cysts developed at the distal end or middle portion of gametophytic filaments under low illumination (2 - 5 mol photons m-2 s-1), the key induction factor. Cysts formed several protoplast aggregations inside or the cyst as a whole detached directly from the matrix and all the units were able to develop directly into new gametophytes. Regeneration directly from protoplasts and thallus segments were also discovered in the field. A relatively completed life history of B. hypnoides is established with newly discovered propagation methods, namely protoplast regeneration.

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【第一作者】叶乃好
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【学科分类】细胞生物学

【题目】Identification of the S-genotypes of several sweet cherry (Prunus avium L.) cultivars by AS-PCR andpollination
【中文关键词】自交不亲和性;李属;S-RNase;AS-PCR; 授粉.
【英文关键词】Self-incompatibility, Prunus avium, S-RNase, AS-PCR, pollination test.
【中文摘要】通过AS-PCR和授粉技术鉴定几个不同栽培品系樱桃树的S基因型
【英文摘要】Sweet cherry cultivars display a self-incompatibility system that restricts self-fertilization and fertilization between cultivars bearing identical S-alleles. PCR-based S-allele typing system for sweet cherry cultivars has been recently developed. It has been reported that all known self-incompatibility (S) alleles of sweet cherry were more than 16 based on the AS-PCR analysis. In this work, two sets of AS-PCR primers that were designed based on conserved domains of cDNA sequences of S-RNases has been used to characterize the S-genotype of 38 sweet cherry cultivars, including 15 cultivars whose S-genotype had not been previously described.Pollination test was also performed to validate the PCR results, and the consistent results were got. A wide variation in the frequency of S-alleles in the Sweet cherry germplasm was observed. S3 was the most common in the cultivars evaluated, and S7, S10-S16, S23-S25 as rare allele was not found in China geographical areas in our study.
【语种】英文
【第一作者】王鸿霞
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【学科分类】分子生物学

【题目】Photosynthetic properties of the protoplasts from Bryopsis hypnoides Lamouroux. during the earlyregeneration process
【中文关键词】光合放氧速率;吸收光谱;激发光谱
【英文关键词】Photosynthetic oxygen evolution rate, absorbance spectra, excitation spectra.
【中文摘要】羽藻再生过程中光合特性的变化
【英文摘要】The scanning electronic microphotograph (SEM), photosynthetic oxygen evolution rate and excitation spectra at liquid nitrogen temperature (77 K) of the protoplasts from Bryopsis hypnoides were determined at the early regeneration period (12 h). SEM revealed an existence of the tight aggregation; cell membrane and wall were about 10 min, 6 and 12 h respectively, after the culture. Oxygen evolution rate decreased slowly during the whole process and a minus value appeared at 6 h. Peaks originated from photosystem II (PS II) and photosystem I (PS I) apparently shifted to shorter wavelength during the regeneration process in the excitation spectra. No peak from PS I was determined until in the spectrum of 12 h, which was excited by the wavelength of 436 nm; while the peak from PS I appeared in the spectrum of extruded protoplast excited by the wavelength of 660 nm and strengthened during the rest of the regeneration process.

【语种】英文
【第一作者】叶乃好
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【学科分类】细胞生物学

【题目】Pyrolytic characteristics and kinetics of two brown algae and sodium alginate
【中文关键词】海带;马尾藻;海藻酸钠;热裂解;动力学分析
【英文关键词】Laminaria japonica;Sargassum pallidum;Sodium alginate;Pyrolysis;Kinetic analysis
【中文摘要】两种褐藻热裂解动力学特性
【英文摘要】The pyrolytic and kinetic characteristics of two macro-algae (Laminaria japonica and Sargassum pallidum)and sodium alginate were evaluated and compared at heating rates of 10, 30 and 50 C min 1under aninert atmosphere after which the kinetic factors were calculated. The results indicated that three stagesappeared during pyrolysis, moisture evaporation, primary devolatilization and residual decomposition.Signi fi cant differences in the average activation energy, thermal stability, fi nal residuals and reactionrates existed between the samples studied. The primary devolatilization stage of L. japonica and S. pallidum could be described by the Avramic – Erofeev equation (n = 3), whereas that of alginate sodium could be described by the Jander equation (n = 2). Calculation of the most probable mechanism function of zoneI of the two macro-algae indicated that alginate was mainly decomposed during zone I. The average activation energies of L. japonica, S. pallidum and sodium alginate were 207.7, 202.9 and 188.1 kJ mol 1,respectively.
【语种】英文
【第一作者】李德茂
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【学科分类】生物化学

【题目】黄土丘陵沟壑区不同土地利用模式对土壤酶活性和土壤微生物影响研究
【中文关键词】黄土丘陵沟壑区;土壤酶活性,土壤微生物
【英文关键词】Loess hilly region;Soil enzymes activity;Soil microorganism;Factor analysis
【中文摘要】摘要:对黄土丘陵沟壑地区不同土地利用模式土壤酶活性和土壤微生物进行了测定,研究了土壤酶活性、微生物与土壤主要肥力指标对黄土丘陵沟壑地区不同土地利用模式下土壤肥力质量的关系。结果表明,不同土地利用模式o~20 cm土壤酶活性之间差异明显,而20~40 cm不同土地利用模式之间土壤酶活性差异较小,研究区域不同土地利用模式土壤微生物数量差距较大。本研究利用因子分析法来分析不同土地利用方式土壤酶活性、土壤微生物数量和土壤主要肥力指标,并根据各因子之间综合得分得出:日光温室的土壤肥力效益最好,然后依次为农田、拱棚、经济作物、果园。
【英文摘要】Abstract:According to determination of soil enzymes activity and soil microorganism under differentland use in loess hilly gully region,the relationships of soil enzymes activity,soil microorganism andsoil fertility under different land use in the loess hilly gully region were discussed in detail.The re—suits showed that the O--20cm soil enzymes activity varies significantly and the 20‘——40 soil enzymesactivity had little differences under different land use patterns,the soil microorganism quantity differ—ence among different land use patterns were significant.Using factor analysis to analysis the soil en—zymes activity,soil microorganism and soil main fertility index,according to the comprehensive factorscores:The soil fertility of solar greenhouse were best,and the soil fertility from high to low is crop—land>arch shed>economic crops>orchard.
【语种】中文
【第一作者】万超
【通讯作者】万超
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【学科分类】农业基础学科

【题目】黄土高原丘陵沟壑区不同土地利用模式对土壤机械组成和速效养分影响分析
【中文关键词】黄土高原丘陵沟壑区;土壤机械组成;速效养分
【英文关键词】oess hilly gully region,soil mechanical composition,available nutrient
【中文摘要】摘要:通过对黄土高原丘陵沟壑区不同土地利用模式土壤机械组成和速效养分的测定。论述黄土高原丘陵沟壑区不同土地利用模式对土壤机械组成和速效养分的影响。结果表明:草地的在两个土层速效养分含量差别不大。而其他土地利用模式咄0 cm土层的速效养分含量均高于2叫0 cm土层。关中土壤的速效养分明显高于黄土高原丘陵沟壑区。草地的速效养分都低于其它土地利用模式。黄土高原丘陵沟壑区土壤机械组成分布大致为:粉粒>细砂粒>粗砂粒岛粘粒。速效养分只与咄0cm的粘粒含量承显著正相关。黄土高原丘陵沟壑区土壤肥力结构不协调,尤其是氮磷比失衡,磷肥施用量过度。各种经济模式应调整施肥结构及耕作方式。
【英文摘要】Abstract:According to determination of soil mechanical composition and available nutrient under differentland uses in the loess hilly Sully region,effect of soil mechanical composition and under different land u8esin the loess hilly suny region were discussed in detail. ’nle results showed that available nutrient contenthave little difference in O—l Ocm and 20--40 cm soil of grassplot,but available nutrient content in 0—20cmsoil hi.gher than in 20-40 cm soil of other land uses patterns.Available nutrient content in Guanzhong areaobviously hisher than available nutrient content in loess hiUy gully region,available nutrient content ingragsplot lower than available nutrient content in other land u8e8 patterns.Soil mechanical composition distilbution in loess hilly gUdly region is silt>fine sand>thick sand 2-elay.Available nutrient content and soil rr屾一chanical composition content wag significant positive correlation.Soil fertility structure isn ’t coordinated,especially for ratio of nitrogen to phosphorus is imbalance,and content of phosphorus is excessive in the loesshilly gully region.Every land uses should adjust fertilization constitution and tillage methods.
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【题目】5-氨基乙酰丙酸对日光温室番茄生长发育和产量品质的影响
【中文关键词】5 -氨基乙酰丙酸; 番茄生长发育;产量品质; 日光温室
【英文关键词】5 -amino lev ulinic acid; tomato gr ow th; y ield quality; sunlight g reenho use
【中文摘要】[摘 要] =目的> 为外源 5 -氨基乙酰丙酸(ALA) 在日光温室蔬菜上的应用提供科学依据。=方法> 研究了不同浓度 ALA 处理对日光温室番茄生产的影响。=结果> ALA 以及 ALA+ N 叶面施用均明显提高了番茄植株株高、 叶绿素相对含量和果实产量,并改善了番茄果实品质; 与对照相比, 外源 ALA 各处理植株株高、 叶绿素相对含量和单株生物产量均有明显提高,其中 D 处理(ALA1号肥料第1 次 2 kg/ hm2, 第 2~ 4 次 1 kg/ hm2) 效果最佳,植株株高、 叶绿素相对含量及单株生物产量分别提高 27. 18%, 17. 75%和 13. 93%;外源 ALA 对番茄果实产量和品质也有明显的提高和改善作用,其中处理 B(ALA1号肥料第 1 次 0. 5 kg/ hm2, 第2~ 4 次0. 3 kg / hm2)对果实产量效果最明显,处理 EALA3 号肥料第 1 次 2. 5 kg / hm2,第 2~ 4 次 1. 5 kg / hm2)对果实品质效果最佳。=结论> 处理 E(ALA3 号肥料第 1次 2. 5 kg/ hm2, 第 2~ 4次 1. 5 kg/ hm2) 既有利于番茄生长发育,又能增加产量并改善品质,为最佳的 ALA 施用量及方法。
【英文摘要】Abstract: =Object ive> Scient ific foundat io n w as prov ided for the application of exo genous ALA (5 -am-inolevulinic acid) in the gr eenho use vegetables. =Method> Effect s o f ALA applicat ion o n the g row th, y ieldand quality of the tomato in the gr eenhouse w er e studied. =Result> The r esult s show ed that ALA andALA+ N enhanced the plant height , chlo rophy ll, yield of the tomato and improv ed the quality of the fruit.ALA and ALA+ N o f al l the t reatments w ere signi f icant ly bet ter than the co nt rol in plant heig ht , chloro -phyll, biolo gic yield of the tomato. The D t reatment w as the best of all the t reatments. The plant height,chloro phyll, biolo gic yield of the tomato w ere increased by 27. 18%, 17. 75% and 13. 93% . A LA and ALA+ N improv ed the mean yield and quality of the tomato. There w as the most signi f icant increase in the meanyield and quali ty of the tomato compared w

i th the cont ro l. The B t reatment w as the best o ne for the meanyield and the E t reatment w as the best one for the quality of the tomato.=Conclusion> Comprehensive ana- ly sis of the effect s of ALA applicatio n on the grow th, the yield, and the quality indicated that the E t reat -ment (A LA+ N) should be 2. 5 kg/ hm2for the f irst time, 1. 5 kg / hm2fo r the second to the for th time
【语种】中文
【第一作者】徐铭
【通讯作者】徐福利
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【题目】黄海绿潮浒苔的形态学观察及分子鉴定
【中文关键词】浒苔:形态学观察;分子鉴定
【英文关键词】Enteromorpha prolifera;morphological characters;molecular phylogenetic analysis
【中文摘要】2008年6月初,黄海中南部海域出现罕见的大面积的绿潮现象,经初步鉴定,认为造成本次绿潮的种类为浒苔属(Enteromorpha)藻类,但是其种一级分类地位的确定成为自绿潮爆发以来最有争议的问题之一。本研究采用形态学观 察与分子鉴定相结合的方法, 对在黄海海域采集的 2 2个浒苔样品及青岛栈桥海域的漂浮浒苔样品进行了鉴定。结果表 明, 不同站位的浒苔样品均具有主枝, 且高度分枝, 但丝状体的长度及宽度有较大差异; 藻体色泽也有较大差异, 有深绿色、 鲜绿色和黄绿色之分: 藻体细胞大小差异较大: 切片观察表明所有样品都具有浒苔典型的管状结构, 且细胞位于单层藻体的中央;ITS及 5.8 SrDNA序列分析表明2 3个浒苔样品序列完全一致, 由此确定这些浒苔样品均属于同一种浒苔属浒苔(Enteromorphapr olifera)。
【英文摘要】Morphological characteristics and molecular phylogenetic analysis of green tide Enteromorphasp.occurred in the Yellow Sea
【语种】中文
【第一作者】张晓雯
【通讯作者】叶乃好
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【题目】黄土高原坡地苹果土壤肥力及矿质氮积累分析
【中文关键词】坡地; 苹果园; 黄土高原; 矿质氮
【英文关键词】slope; apple orchard; Loess Plateau; mineral N
【中文摘要】摘 要: 采用田间取样与室内分析相结合的方法, 研究了黄土高原坡地苹果园肥力状况与矿质氮累积。结果表明,坡地苹果园土壤肥力低, 氮、 磷严重缺乏,钾相对丰富, 土壤属于砂壤土, 通气性强, 保肥、 保水性差。0) 60 cm 土层土壤有机质含量为 9. 24~ 28. 12 g/ kg ,全氮为 0. 22~ 0. 60 g / kg ,速效磷为 0. 17~ 16. 08mg / kg ,速效钾为 80. 06~ 168. 39 mg / kg ;黄土高原坡地苹果园中 NO-3) N 有深层累积分布, 累积深度大于 2 m, 在 180) 200 cm 层最高累积量达 249. 61 kg/ hm2, 而 NH+4) N 无深层累积。不同施肥处理对土壤剖面中的 NH+4) N 和 NO-3) N 含量分布影响不同, 对 NH +4) N 含量和分布影响不明显, 但不同施肥方式对 NO-3) N 含量分布影响显著。施加氮肥促进 NO-3) N 深层累积, 施加磷肥有助于降低土层中的NO-) N 含量, 缩小富集量的分布范围。
【英文摘要】Abstract: Soil fert ility and mineral N accumulat ion of slope apple o rchard on the Loess Plateau are studied.Result s show that soil appears low -fert i lity due to the serious lack o f N and P. Soil is sandy loam, w ith bet tersoil aerat ion and poor w ater and nut rient retent ion. Fert i lity status of slope apple or chard o n the Loess Plat -eau is low o n the w ho le. The content of soil nut rient s of the 0) 60 cm soil lay er is as follow s: or ganic mat teris 9. 24~ 28. 12 g / kg; to tal N is 0. 22~ 0. 60 g/ kg; av ailable P is 0. 17~ 16. 08 mg/ kg ; and available K is80. 06~ 168. 39 mg/ kg . T her e are NO-3) N enrichment lay er s below 2 m of slope apple o rchard o n the Lo essPlateau. Dif ferent fert ilizat ions have significant effect s on the NO-3) N dist ribut ion and its co ntent in the soilpro files, w hile the NH+4) N dist ribut ion and it s content w ere relat ively constant . For mo re N t reatment , theNO-3) N enrichment depth

increases, w hile fo r mo re P treatment , the NO-3) N enrichment depth decreasesin the soil prof iles.
【语种】中文
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【题目】黄土高原丘陵沟壑区不同土地利用模式对土壤氮素淋溶的影响
【中文关键词】黄土高原丘陵沟壑区; 氮素淋溶; NO-3 - N 淋溶
【英文关键词】loess hilly and gully region; nit rog en leaching; ni t rate ni t ro gen leaching
【中文摘要】摘 要:通过对黄土高原丘陵沟壑区不同土地利用模式土壤剖面 NO3 - N、 NH4 - N、 有机质和全氮分布的测定, 论述黄土高原丘陵沟壑区不同土地利用模式对土壤氮素淋溶的影响,对当地农业发展提出建议。结果表明:在 200 cm内土壤 NO-3 - N 最大值都出现在 200 cm 处,其中日光温室最大为20. 36 mg/ kg。土壤 NH+4 - N 在200 cm内是较均匀的分布在 10~ 25 mg/ kg。不同土地利用模式对土壤剖面土壤NH+4 - N、 有机质和全氮分布没有影响。随着深度的变化对土壤 NH +4 - N 分布也没有影响。土壤有机质和全氮在土壤剖面的分布是, 随着深度的增加而减少, 60 cm 以下有机质保持在 1. 07~ 5. 95 g/ kg,全氮保持在 0. 12~ 0. 35 g / kg。根据试验结果得出, 土壤氮素淋溶的主要成分是NO-3 - N,土壤 NO-3 - N 淋溶程度与降雨、 灌溉、 施肥量呈正比,在坡地的淋溶较少。
【英文摘要】Abstract: According to soil pro file of nitr ate nitro gen, ammo nium nit rogen, o rganic mat ter and total ni t ro -g en under dif ferent land uses pat terns, ef fects of soil nitr ogen leaching under dif ferent land uses in the loesshilly and gully region w ere discussed in detail, and pr opo sals w er e gaven fo r lo cal ag ricultural develop -ment . T he result s show ed that soil nitr ate nit rogen max imum appeared on 200 cm. The max imum is thatsolar greenhouse. s content is 20. 36 mg/ kg . Soil ammonium ni t ro gen content is 10~ 25 mg / kg. Ef fect ofsoil ammonium nit rogen, o rganic matter and total ni t ro gen under dif ferent land uses in the loess hilly andgully region w ere not o bv io us. With the depth of the changes soil ammonium nitr ogen haven. t changes.Soil org anic mat ter and total nit rog en. s dist ribut io n decreases w ith the incr ease in depth, but kept organicmatter content at 1. 07~ 5. 95 g/ kg and kept total nitrogen at 0. 12~ 0. 35 g/ kg under 60 cm. The results showedthat soi l ni t rogen leaching. s main components is soi l nitrate nitrogen, soil ni t rate ni t rogen leaching and rainfall , ir -rigation, fertil izat ion amount w as posi tive correlation, soil nitrate nitrogen leaching is less in slope land.
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【第一作者】邹诚
【通讯作者】徐福利
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【题目】黄海绿潮浒苔(Enteromorpha prolifera)生活史的初步研究
【中文关键词】浒苔; 生活史; 配子; 孢子; 体细胞; 叶状体片段
【英文关键词】Enteromorpha prolifera; life history,gametes;spores;somatic cells;segments of thallus
【中文摘要】实验室条件下对2008年6月黄海中南部海域暴发的绿潮浒苔(Enteromorpha prolife)样品进行培养, 观察记录绿潮浒苔生活史不同世代的生长发育情况。结果显示, 成熟藻体释放出的雌、 雄配子结合后固着, 随后发育形成新个体;刚释放出的孢子具有聚集生长的趋势, 随后发育形成具有假根和叶状体分化的新个体; 在生长衰败期, 部分藻体体细胞发生明显变化, 细胞膨胀后发生分裂, 发育形成新个体并能在死去的藻体上附着生长: 培养的叶状体片段两端迅速愈合, 并显示生长极性, 两端分别形成叶状体和假根。后两种单性生殖方式目前尚未见公开报道。
【英文摘要】Life history of Enteromorpha prolifera under laboratory condition
【语种】中文

【第一作者】叶乃好
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【学科分类】发育生物学

【题目】免耕施肥对灌浆期玉米、鼓粒期大豆叶片过氧化
【中文关键词】免耕施肥;叶片; 膜脂过氧化;脯氨酸;玉米; 大豆
【英文关键词】no- tillage ; leaves ; membrane lipid perox idation; Pro ; maize ; soybean
【中文摘要】摘要: 研究免耕施肥对玉米灌浆期、 大豆鼓粒期叶片过氧化作用和脯氨酸含量的影响,为黄土丘陵旱作农区确定合理的耕作施肥方式提供叶片生理方面的科学依据。试验在陕西安塞黄土丘陵旱作农区的田间小区进行, 分析了传统翻耕化肥 (CF)、 翻耕有机肥 (CM)、 翻耕无肥 (CN); 免耕化肥 (NF)、 免耕有机肥 (NM)、 免耕无肥 (NN) 6种处理对玉米灌浆期、 大豆鼓粒期叶片 POD活性、 MDA、 Pro和叶绿素含量的影响。免耕玉米 POD 活性小于翻耕, 免耕大豆与传统翻耕无显著差异,免耕方式 NN、 NM 和 NF对其 MDA、 Pro和叶绿素含量的影响均表现为差异显著。具体为免耕措施下玉米灌浆期、 大豆鼓粒期叶片中 MDA 含量均低于翻耕, 叶绿素含量高于翻耕, 免耕玉米 Pro含量高于翻耕; 但免耕大豆 Pro含量小于翻耕, 其中免耕措施下玉米 NM、 大豆 NF表现最优。在黄土丘陵旱作农区实施免耕能减缓玉米灌浆期、 大豆鼓粒期叶片膜脂过氧化程度, 提高叶绿素含量,延缓叶片衰老,增强抗旱能力。
【英文摘要】Abst ract : A ccor d i ng to fie l d plot experi ment in Shanx iAnsa, i this paper takes a research on effect leaves. PODacti v ity , MDA, Pro contents and Ch lor ophy ll conten. t the trea t ments i ncludes plo w t il lage w ith chem ica l fertilizer(CF), p l o w tillagew i th organic fertilizer(CM), plo w til lagew i thou t fert i lizer(CN), no- tillagew i th organic ferti- lizer(NF), no- t il lage w i th organic fert i lizer(NM) , no- tillagew ithout fert i lizer(NN) , i n maize gra i n fil ling stageand i n soybean seed filli ng stage i n l oess hill y dry farm i ng areas . The resu l ts sho w: POD act i v i ty ofma ize i n no-til lage treat ments is l ow er than plo w t i llage , POD act i v i ty of soybean in no- t i llage treat ments have no si gnificantdif ferences . NN, NM and NF all have sign i ficant d i fferencesw it hMDA contents , Pro contents and ch l orophy ll con -tent . Specific as : i n no- till age t reat ments , bothmaize and soybean l eaves . MDA contents are lo w er than p l ow t i l- lage , Chlorophyll con tent h i gher than tilli ng . Pro contents o fm aize i n no- tillage treat ments is h i gher than p l ow t i l- lage ; but Pro conten ts o f soybean in no- tillage treat men ts is l o w er than plo w tillage , m aize i n no- til lage and soy -bean i n no- tillagew ith or ganic t reat ments is bes. t Summarization above physi o log ic characters , the i mplement o fno-tillage in loess hill y dry far m i ng areas can sl o w membrane li p i d perox idat i on , i ncrease chlorophy ll conten, t de -lay l eaf-senescence , ra i se up the drought resistance .
【语种】中文
【第一作者】黄茂林
【通讯作者】梁银丽
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【题目】地表覆盖方式对辣椒水分利用效率品质及氮素分布的影响
【中文关键词】水分利用效率;
果实品质 ;
硝酸还原酶;
硝态氮
【英文关键词】w a t e r u s e e f f i e
ie n ey;
f r u it qu a
l ity : n it r a t e
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u e ta s e s
a c tivity ; n
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【中文摘要】摘 究 表覆 方式对辣椒 (a n u u)水分利 效率 品质 叶片硝酸 原酶 性 植株 壤中氮素分布的影响。结果表明,覆盖可增加辣椒整个生育期土壤水分含量。覆盖地膜和覆盖秸秆 +地膜比其他地表处理方式能显著增加辣椒的产量和经济收人 ,提高产量水分利用效率和经济水分利用效率。覆盖可显 著降低耕作层(0一2 0。m)土壤硝态氮含量,且随着土层深度的增加,硝态氮含量显著降低,但对各土壤铁态氮含量无 显著影响。对品质而言,覆盖地膜处理辣椒果实pH 、维生素C 含量显著高于其他处理 ,且其电导率、阳离子交换量和硝酸盐含量显著低于其他处理 。覆盖可增强叶片硝酸还原酶活性,降低叶片中的全氮含量,显 著降低每百千克产量氮肥吸收量。从提高辣椒的品质、环境安全、肥料利用和经 济效益各因素考虑 ,生产中辅以科学的水分管理 ,覆盖地膜和覆盖秸秆十 地膜是可行的地表覆盖方式。

【英文摘要】A b s t r a c t :T h e e f f e e ts of 5 0 11 m u l ehin g a pp r o a c he s on w a te r u se e f f i e ie n ey f r u i t q u a l i ty a n d l e a f n i tr a te r e d u e ta se s a e ti v i ty of e叩s i e u m (C如si c u m a n m u u m L.),a n d a s w e l l a s v l a n t a n d 5 0 1 1 nit r a te a l l o e a ti o n w e r e stud i e d in a g r e e n ho u s e e n v i-r o n m e n t.T h e r e w e r e f o u : tr e a t m e n ts in the s t u d y ,n a m e l y ,e o n t r o l(CK),s t r a w m u l ehi n g(T ,),p l a s tie f i l m m u l ehin g(T 2),a n d str a w a n d p la s t i e f i l m e o m bi n e d m u l ehi n g(T 3).T h e r e sul ts sho w tha t 5 0 11 w a te r e o n te n ts a , in e r e a s e d in thee a p si e u m脚w t h pe r i od f o r the thr e e m u l ehing Pr a c t ie e s ,a n d Pl a stie f i l m m u l ehin g a n d s t r a w a n d p l a s ti e f i l m e ol n b in edm u l ehi n g e a n g e t hig h e a p si e u m yiel d s ,w a t e r u se e f f i e ie n e y of yi e l d a n d e e o n o而e w a te r u see f f ie ie n ey e o m Pa r e to theo the r tw o tr e a t m e n ts .5 0 11 n i tr a te 一N c o n te n t s。f the til l a罗 l aye r(o 一2 0 c m)ar e 5 1邵i f i e a n tl y d e eo a sed u n d e r the m u l ehin gtr e a tm e n ts ,thehigh the 5 0 1 1 d e p ths ,thel o w e r the 5 0 1 1 nitr a te e o n te n ts.H o w e v e r ,5 011 a m m o ni u m一N e o n te n ts a r e n o t 5 19-ni f i e a n tl y af f e e te d by the m u l ehin g Pr a e ti e e s.V i ta而nC e o n te n t a n d pH va l u e o f e a p si e u m f r U i t a r e in e r e a s e d u n d e r thep l a s ti e f i l m m u l ehin g,w hil e el e e tr i e ity e o n d u e ti vity ,e a t io n e x eha n g e e a p a e i ty a n d nitr a te e o n te n t of the 5 0 11 a r e d e -e r e a s e d.Nitr a te 比d u e ta s e s a c ti v i ty o f l e a v e s a r e in e玲a s e d u n d e r them u l ehin g pr a c ti e e s ,w hil e to t a l N e o n te n t o f l e a v e s 1 5de e r e a s e d,a n d theN a b s o甲ti o n am ou n t p e r l(X) k g yi e l d s 15 r e d u e e d 5 1, i f ie a n tl y.I n a幼e u l t u r e pr o d u e ti o n ,hel p e d w i thse ie n ti f ie w a te r m a n 卿m e n t,p l a s tie f i l mm u l ehin g,a n d str a w a n d p l a s tie f i l m e ol n b in ed m u l ehi n g a r e f e a s ibl em u l ehi n g

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【第一作者】周茂娟
【通讯作者】梁银丽
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【题目】超声波辅助浸提浒苔水溶性物质的工艺条件优化
【中文关键词】浒苔;水溶性活性物质;超声波;浸提
【英文关键词】Enteromorpha prolifera;Water—soluble activity material;Ultrasonic;Extraction
【中文摘要】[目的] 优化超声波辅助浸提浒苔水溶性物质的工艺条件。[方法] 采 自青岛海区的新鲜浒苔作为试材, 采用超声波辅助法浸提了浒苔水溶性活性物质,通过单因素试验研究了浸提时间、浸提温度、超声波功率对浸提得率的影响, 并通过正交试验优化 了提取工艺。 [结果] 3种因素均对浒苔水溶性物质浸提得率具有显著影响, 其中超声波功率对浸提影响最大, 其次是浸提温度和浸提 时间。通过单因素试验研究以及正交试验优化的最佳工艺条件: 超声波辅助浸提时间为4.5h,浸提温度为75℃,超声波功率为200W。该活性物质的浓缩采用旋转蒸发法, 干燥采用冷冻真空干燥。[结论]浒苔水溶性活性物质为晶体状,颗粒均匀, 可作为功能活性成分添加于各种食品之中。
【英文摘要】Optimization on the Ultrasonic Assisted Extraction Technology for Water—soluble Material from Enteromorpha prolifera
【语种】中文
【第一作者】陈利梅

【通讯作者】叶乃好
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【题目】陕北黄土丘陵沟壑区水土保持耕作及施肥下农田土壤种子库特征研究
【中文关键词】保护性耕作;农田土壤种子库;多样性; 相似性; 密度
【英文关键词】conservation t i llage ; so i l seed bank ; di vers i ty ; sm i i larity ; de nsity
【中文摘要】摘要: 为了探明多年免耕下农田恶性杂草发生的机理, 提高保护性耕作下作物对农田恶性杂草持久稳定的抑制效果, 依据陕西安塞田间 4a的定位试验, 采用小区调查取样和室内实验相结合的方法, 从物种组成、 密度特征、 多样性以及相似性特征等方面, 研究了黄土丘陵旱作农区大豆 (G l y ci ne max)、 玉米 (Z ea m ay s)、 红小豆 (Sem en P haseoli)、马铃薯 (So l anum tubero sum)在翻耕化肥 (CF)、 翻耕有机肥 (CM)、 翻耕无肥 (CN)、 免耕化肥 (NF)、 免耕有机肥 (NM)、 免耕无肥 (NN)等水平下的农田土壤种子库。结果表明: (1) 4种作物 24种土样中共萌发出 12个物种 1965株幼苗, 隶属于 7科 12属。 1年生杂草占 94%, 棒头草 (fugaxnees ex steud)、 苋菜 (Acalypha australis)、 马唐 (D i g itar i a sangu i nalis)、 早熟禾 (P oa sphondy lodes)为优势种, 占 87 %。 (2)在 0~20cm土层不同处理间,土壤种子库的密度变动于 (282 . 9 ? 63 . 4) ~ (7482 . 5 ? 1078 . 3)粒 # m- 2, 其中, 红小豆小区 > 马铃薯小区 > 大豆小区 >玉米小区; 翻耕小区 > 免耕小区; 有机肥小区 > 化肥小区 > 无肥小区,差异极显著。(3)土壤种子库密度 NM 红小豆最高, NN 玉米最低;丰富度指数 CF大豆为 2 . 30 ; NN 红小豆为 0 . 29 ;多样性指数 NN 大豆为 5 . 56 , CF红小豆为 0 . 45 ; 生态优势度 NF玉米为 1 . 35 , CF大豆为 0 . 17。玉米、 大豆是黄土丘陵沟壑旱作农区免耕下农田抑制杂草最为适宜的作物, NM 玉米、 NF大豆和 NM 大豆是黄土丘陵沟壑旱作农区较优的耕作管理方式,其农田的生态效应是能够竞争性抑制恶性杂草的蔓延,优化土壤环境, 杂草的多样性高且比较均衡, 杂草的土壤种子库密度低。
【英文摘要】Abstract : To bet ter understand them echan i s m ofweed occ urrence and suppression ef fect of cr ops on weeds , we conducteda 4 -year field experm i ent in 4 crops under di ffere nt tillage and fertili zati on regm i es i n Ansa, i Shaanx, i China . The speciescomposi t i on , seed densi ty , divers i ty and the sm i i lari ty werem easured in so i l seed bank of soybean (G lyci ne max), corn(Zea m ays) , Red Bean (Se m en Phaseol i) and potato (Solanum t uberos um). The t i llage and ferti lizat i on treat m ents i neac h cr op i ncluded til- l chem ica l fertilizer (CF) , til- l or ganic m a nure (C M), till no fertilizer (CN), no -t i ll che m icalfert i lizer (NF), no -til- l organicmanure (NM) , and no -t i l- l no fertilizer (NN). The resul ts show e d that : (1) T here were12 wee d species i n 1965 seedli ngs fro m 24 so i l sa mples in 4 crops . T hese species bel onged to 7 fam i lies and 12 ge nuses and94% of the m were annualw eeds . Ba ngtou grass (fugax nees ex steud) , a m ara nth (A calypha austr alis), lar ge crabgrass(Digit aria s anguinalis) and Poa(Poa s phondylodes) were the dom i nant species and accounte d for 87%; (2) I n 0 -20c m so i lof dif ferent treatments , w eed dens i ty ranged from (282 . 9 ? 63) to (7482 . 5 ? 1078 . 3) seeds#m- 2. There weres i gnificant di fferences (P < 0 . 01) i n w eed densi ty among crops , til lage systems , and fertil izati on regm i es . The r anking ofw eed seed densi ty was Red Bean pl ot> potato plot > soybean plot > corn plot among 4 cr ops , ti llage plot > no -til lagepl ot bet w een 2 ti llage treat m ents , and or ganic fertil izer plot > F erti lizer plot > no fertilizer pl ot a m ong fertilizationtreat m ents ; (3) Soil seed bank had the highestweed densi ty i n NM Re d Bean and the lowest dens i ty i n NN corn . The richi ndex was the highest (2 . 30) i n CF soybean and the l ow est (0 . 29) i n NN Red Bean . The di versi ty i nde x was the h i ghesti n NN soybean (5 . 56) and the lowest in CF Red bean (0145) . The eco l og ical advantage ofNF c orn was the h i ghest (1 .35) and that of CF soybean w as the l ow est (0 . 17) . Am ong the fertilizati on treatments , the sm i il ar c oeffi c i ent o f soil seedbank ranged from 0 to 0 . 63 i n t i lled syste m and from 0 . 67 to 0 . 92 i n no -t i ll system. As a resul t , cor n and soybean wereoptm i al crops to inh i bi t wee ds i n t he dr y land far m i ng reg i on of the L oess P lateau , and the best treat m entsw ereNM corn ,NF soybea ns and NM soybean . The ec o l ogical be nefi ts of these crops incl ude inhi biti ng the spread ofw eeds co m peti tive tocrop , m ai nta i ning h i gh di vers i ty and equili briu m ofw eeds , decreasing wee d densi ty i n soil seed bank and optm i iz i ng so i lenvironment .
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【题目】水土保持耕作及施肥对盛花期大豆光合生理的影响
【中文关键词】水土保持耕作 施肥 光合速率 水分利用效率 旱作农田 大豆
【英文关键词】Conservation tillage, Fertilization, Photosynthetic rate, Water-use efficiency, Dryland farming, Soybean
【中文摘要】摘 要 依据陕西安塞田间试验, 采用LI-6400便携式光合仪, 在自然条件下对黄土丘陵区旱作农田传统翻耕化肥(CF)、翻耕有机肥(CM)、翻耕无肥(CN)、免耕化肥(NF)、免耕有机肥(NM)、免耕无肥(NN)等处理下盛花期大豆叶片的净光合速率、气孔导度、水分利用效率及影响因子日变化进行了研究。结果表明: 6 种不同处理的大豆叶片净光合速率日变化均为双峰曲线, 峰值分别在 11:30、16:00 出现。NM、NF 处理对提高大豆净光合速率有明显的促进作用, 其中以有机肥(NM)最为显著。气孔导度与蒸腾速率之间达极显著正相关(P<0.01,r=0.999 4)。气孔导度日变化也为双峰, 峰值分别出现在 11:30、16:00。不同处理下, 大豆的水分利用效率呈单峰曲线, 峰值出现在 10:00, 低谷出现在 13:00 以后。其中, NF、NM 处理能显著提高大豆盛花期的水分利用效率。相关分析表明: 气孔导度、蒸腾速率、叶温、光合有效辐射及基于叶温的蒸汽压亏缺是大豆光合作用的促进因子, 而胞间 CO2 浓度、 空气 CO2 浓度、 空气相对湿度则为主要的限制因子。 CF、 NF 处理在 8:30~10:20和 13:00, CM、NN 处理在 8:30、11:30~13:00、17:30, CN、NM 处理则在 8:30、13:30 各影响因子与净光合速率相关程度较高, 相关系数一般在±0.9 以上。在黄土丘陵区旱作农田大豆最适宜的管理方式为 NM、NF。
【英文摘要】Abstract Based on field plot experiments in the Ansai region, Shaanxi Province, the paper analyzed net photosynthetic rate, stomatal conductance and water-use efficiency in soybean leaves at full-bloom stage under different tillage and fertilization. The LI-6400 portable photosynthesis system was used in the analysis. The treatments included plow tillage with chemical fertilizer (CF), plow tillage with organic fertilizer (CM), non-fertilized plow tillage (CN), fertilized no-tillage (NF), no-tillage with organic manure (NM) and non-fertilized no-tillage (NN). The results show that diurnal variation of net photosynthetic rate of soybean follows the typical bimodal curve in the different treatments; peaking at 11:30 and 16:00. NM and NF treatments, especially NM, significantly enhance net photosynthetic rate of soybean. A significant correlation exists between stomatal conductance and net photosynthetic rate (P<0.01), with a correlation coefficient of 0.999 4. Diurnal variation of stomatal conductance is also a bimodal, peaking at 11:30 and 16:00. In different treatments, water-use efficiency of soybean follows a uni-peak curve, highest at 10:00 and lowest after 13:00. NM and NF treatments have a significantly enhancing effect on soybean water-use efficiency. Correlation analysis shows that stomatal conductance (Cond), evaporation ratio (Tr), leaf temperature (Tl), photosynthetically active radiation (PA R) and supplemental vapor pressure deficit (Vpdl, based leave temperature) are positive factors of photosynthesis in soybean. On the other hand, inter-cell CO2 concentration (Ci), air CO2 concentration (CO2R) and air relative humidity (RH-R) mainly limit photosynthesis in soybean. CF & NF at 8:30~10:20 and 13:00; CM & NN at 8:30, 11:30~13:00 & 17:30; and CN & NM at 8:30 & 13:30 have significant correlation between impacting factors and net photosynthetic rate, with a correlation coefficient of ±0.9. The optimum management modes forgrowing soybean in dry farmlands on the Hilly Loess region are NM and NF.
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【第一作者】黄茂林
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【题目】低温真空干燥浒苔等温吸湿曲线研究
【中文关键词】低温真空干燥;浒苔;等温吸湿曲线;回归方程
【英文关键词】Low temperature vacuum drying;Enteromorpha prolifera;Moisture sorption isotherm;Regression equation
【中文摘要】[目的] 建立经低温真空干燥后的浒苔干品的等温吸湿曲线, 为浒苔的加工和贮藏提供科学参考。[方法] 研究低温真空干燥浒苔在10-45℃温度范围内的等温吸湿曲线并拟舍得到曲线的回归方程。[结果] 低温真空干燥浒苔试样lO℃的等温吸湿曲线呈反S形, 随着温度升高等温吸湿曲线的反S特性逐渐减弱。在 0~50℃范围内。质量干基含水量2 4%是市场上安全贮藏和流通不会因为温度变化腐烂的最高含水量。[结论]研究所获得的低温真空干燥浒苔等温吸湿曲线回归方程的值均大于O.97,其拟合程度较好。

【英文摘要】Study on the Moisture Sorption Isotherllis of Low Temperature Vacuunl Dried Enteromorpha prolifera
【语种】中文
【第一作者】陈利梅
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【题目】灌溉方式对樱桃番茄产量和品质的影响
【中文关键词】樱桃番茄;灌溉方式; 产量;果实品质
【英文关键词】cherry tomato; irr ig ation method; yield; fruit quality
【中文摘要】[摘 要] =目的> 研究灌溉方式对樱桃番茄产量和品质的影响, 为番茄栽培过程中合理用水提供理论依据。方法> 采用棚室内小区试验,研究 6 种灌溉方式(Ñ .常规沟灌; Ò.交替沟灌; Ó.固定灌溉种植行; Ô. 固定灌溉操作行; Õ.前期采用常规沟灌,结果期采用交替沟灌; Ö .前期采用交替沟灌,结果期采用常规沟灌) 对樱桃番茄产量与品质的影响。=结果> 不同灌溉方式之间樱桃番茄产量与品质特征值达到极显著差异水平, 其中处理Ñ 和Ö 的果形指数、 单果质量及产量均极显著高于其他 4 种处理, 果形指数分别为 1. 22 和 1. 21, 平均单果质量高达 14. 28 和 14. 05但处理Ò~ Ô的果实糖酸比、VC 含量、 可溶性固形物含量及干物质含量均极显著高于处理Ñ、 Ö 和Õ, 只是造成硝酸盐含量轻度积累。=结论> 前期采用交替沟灌,而结果期采用常规沟灌, 不仅提高了樱桃番茄的产量与品质,而且还有节水的效果,这种灌溉方式可以在番茄生产中加以推广应用。
【英文摘要】Abstract: =Object iv e> The recearch studied the ef fect of i r rig atio n metho ds on yield and quality ofcherry tomato to prov ide theoret ical basis fo r reasonably using water in tomato y ielding .=Method> Plo t ex -periment w as carried o ut to study the ef fect s of six different irrigat ion methods o n tomato yield and qualityduring f rui t stage in g reenhouse. T he six i r rigat io n methods w ere: who le irrig at ion(Ñ) , alternat ive i r rig a -t ion(Ò) , g row th row irrigat io n(Ó) , operated row irrigat io n(Ô) , ear ly w ho le irrig at ion and later alterna -t ive irr ig ation(Õ) , early alternativ e i r rigat io n and later w hole i r rigat io n(Ö) . =Result> The results indica -ted that f rui t appearance index , sing le mass and y ield o f t reatment Ñ, Ö w ere sig ni f icantly hig her thanthose of the other tr eatment s. Fr uit appearance index w as 1. 22, 1. 21, single mass as high as 14. 28 g, 14. 05g. Sug ar / acid rat io , VC co ntent , soluble solid and dr y mat ter content s of t reatment Ò- Ô w ere significant -ly impro ved, but nit rate content s w ere a lit t le hig her. =Conclusio n> Early alter nat ive irrigat ion and laterw ho le i r rigat io n not only impro ved the y ield and quality o f cherr y tomato, but also improv ed w ater use eff- iciency . T his irrigat ion method co uld be w idely used in tomato pr oduct ion.
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【题目】黄土区免耕条件下两种土壤酶活性变化
【中文关键词】水土保持耕作; 环保;土壤酶; 黄土丘陵沟壑区
【英文关键词】soil and water conservation ti llage; envi ronmental protection; soi l enzyme; loess hilly and gully re gion
【中文摘要】摘 要: 为了确定合理环保的耕作制度, 2007~ 2008 安塞田间定位试验黄土丘陵旱作农区大豆(Glycine ma x、玉米(Zea ma ys L) 、 红小豆(Semen Phaseoli)、 马铃薯(Solanum tuberosum Li nn.) 在翻耕化肥(CF) 、 翻耕有机肥(CM) 、耕无肥(CN)、 免耕化肥(NF) 、 免耕有机肥(NM) 、 免耕无肥(NN) 等水平下的农田土壤脲酶、 蔗糖酶活性。结果表在作物花期, 大豆、 玉米土壤脲酶活性较高, 蔗糖酶活性较低,而红小豆、 马铃薯则与之相反, 差异极显著。到作收获后,玉米土壤脲酶、 蔗糖酶活性增高,增幅在 83%以上,而马铃薯、 红小豆、 大豆三种作物土壤脲酶活性降低,幅在10%以上, 蔗糖酶活性增强, 增幅在 40%以上。从花期到收获后, 免耕降低了土壤脲酶活性, 提高了土壤蔗酶活性,在黄土丘陵沟壑旱作农区两种土壤酶活性表现较优的作物为大豆、 玉米, 较优的处理为 NM 玉米、 NF大其田间环保效应为: 作物生长期间两种

酶活性比较高, 收获后两种酶活性则降低, 有利于提高作物生长期土壤效利用率,减少作物收获后温室气体的排放。
【英文摘要】Abstract: In order to determine a reasonable til lage system, a two -year e xperiment was conducted in Ansai, north - Shaanxi to tes t soil unease activi ty and sucrase activity of the fields of Glycine max L, Zea mays L, Semen PhaseoliSolanum tube rosum Linn in the treatments of the tillage fertilizer (CF) , til ling organic manure (CM) , tillage no fer -er (CN) ; no -till fertil izer (NF) , no -t i ll organic manure (NM) , no -t i lla ge no ferti lizer (NN) in loes s hi lly and gullyon. The results showed that : in the flowering sta ge soi l unease activity of soybean and maize fields increased, but su -e ac t ivi ty decreased, whi le those of adzuki bean and potato were opposi te. After harvest time, soil unease activity andase activi ty of maize field inc reased by 83%, while soil unease activi ty of potato, adzuki bean and soybean f ields de -sed, and the decreasing range was above 10% and sucrase act ivity increased by over 40%. From flo wering s ta ge tovest t ime, no ti llage reduced soil unease activi ty but increased sucrase activi ty. The effect of envi ronmental protectionthat the two kinds of soi l enzyme showed high activi ty in the growth period but low activi ty after harves t , which canrove fertil izer efficiency in crop gro wth period and reduce the emission of greenhouse gas af ter harvest.
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【题目】不同前茬对设施黄瓜产量和品质及土壤酶活性的影响
【中文关键词】轮作 前茬作物 黄瓜产量 黄瓜品质 土壤呼吸 土壤酶活性
【英文关键词】Rotation, Proceding crop, Cucumber yield, Cucumber quality, Soil respiration, Soil enzyme activity
【中文摘要】摘 要 试验研究了在延安日光温室不同前茬作物条件下, 黄瓜随着生长季节的变化其产量和品质及土壤呼吸和酶活性的动态变化。 结果表明, 前茬为豇豆的黄瓜产量和土壤碱性磷酸酶活性较高, 前茬为番茄的黄瓜可溶性糖含量和土壤呼吸强度较高, 前茬为四季豆的黄瓜维生素C含 量较高, 前茬为翻青玉米的黄瓜硝酸盐含量和土壤脲酶活性较高, 前茬为翻青黑豆的土壤蔗糖酶活性较高。从提高黄瓜产量的角度出发, 豇豆-黄瓜是最佳模式, 而从改善黄瓜品质的角度出发, 番茄-黄瓜和四季豆-黄瓜是最优模式。
【英文摘要】Abstract Dynamic changes in cucumber yield, quality, soil respiration and enzyme activity were studied under different proced-ing crops in different growing seasons in Yan ’an solar greenhouse. The results show that cucumber yield and soil alkaline phos-phatase activity are high under cowpea-cucumber rotation. Soil respiration and cucumber soluble sugar content significantly increase under tomato-cucumber rotation. Vc content of cucumber improves significantly under kidney bean-cucumber rotation. Soil urease activity and nitrate content of cucumber also increase under maize-green manure-cucumber rotation. And sucrase activity in the soil is highest under black bean-green manure-cucumber rotation system. For high cucumber yield, cowpea-cucumber rotation system is the most suitable model. However, tomato-cucumber and kidney bean-cucumber rotation systems are the most suitable models for improving cucumber quality.
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【题目】陕北黄土丘陵区新农村植被建设问题分析
【中文关键词】陕北黄土丘陵区;新农村植被建设;生态环境
【英文关键词】loess hilly and gully regions of nort hern Shaanxi ; new socialist count ryside vegetation con2 st ruct ; ecological environmen

【中文摘要】摘 要:为了促进陕北黄土丘陵沟壑区新农村植被建设的健康发展,对该区新农村植被建设进行了调查,发现新农村植被建设过程中存在着3个主要问题。(1)喜欢选择常绿树种,且多以松类、柏类为主,影响了当地以苹果、梨为主的果业发展。(2)模仿城市绿化,热衷于修建广场和草坪,导致田园风光、传统文化等乡村特色消失。(3)树种、草种比较单一,多为外来树种,不能反映区域特色,且树种、草种间搭配不够合理,存在着相克现象。建议新农村植被建设以乡土树种为主,合理搭配树种,突出田园风光和区域特色。

【英文摘要】Abstract :In order to promote new count ryside vegetation const ruction healt hy development in loess hillyand gully regions of northern Shaanxi , an investigation had been done and found 3 main problems in t heprocess of new count ryside vegetation const ruction. The first problem was evergreen t rees usually beenchosen at first , and most species were conifer , such as pine , cypress. These evergreen species had adverseeffect on t he local f ruit , such as apple and pear indust ry development . The second problem was imitatedt he urban greening , keen to build squares and lawn , caused t he pastoral , t raditional cult ure and ot her s oft he village character s disappeared. The t hird problem was t rees and grasses species relatively simple , andmo st were exotic species , not reflected t he regional characteristics , and t he t rees and grasses species collo2cation were not reasonable , there were mutual rest raint . The aut hor s p roposed t hat the native vegetationsshould be main vegetations in t he process of new count ryside vegetation const ruction , t rees and grassesshould be ar ranged reasonable , and characteristic of count ryside and region should be stand out .

【语种】中文

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【题目】施用PAM防治松散土风蚀的机理及其抵御风沙能力研究

【中文关键词】松散土; PAM; 风蚀控制; 风沙流

【英文关键词】loo sen so il ; Polyacrylamide (PAM) ; w ind erosion co nt ro l ; w ind f low w i th sand

【中文摘要】摘要: 采用室内风洞试验方法, 研究了内蒙古西部干旱半干旱地区荒漠沙地松散土风蚀规律、风沙流对风蚀量的影响和施用 PAM 防治松散土壤风蚀的机理及其抗风沙流的能力。风沙流对风蚀量的影响试验, 采用试样接续放置的方法, 前一试样为后一试样提供风沙流; 施用 PAM 试样抗风沙流的能力试验, 采用 PAM 使用量为 1g / m2, 2 g/ m2和 4 g/ m2等 3 个处理水平和 0, 17. 6%, 36. 4%, 7. 7%等 4 个吹角水平。试验结果表明, 相同的风速条件下风沙流对土壤的侵蚀程度比净风侵蚀程度高得多, 侵蚀量显著不同; PAM 用量为 1 g / m2时, 在 7~ 8m/ s 风速的风沙流作用下只能经历 5~ 10 min 的吹蚀试样即破坏; PAM 用量为 2 g / m2时可以抵御 8~ 10 m/ s 风速的风沙流历时 30 min 的吹蚀; PAM 用量达 4 g/ m2时, 可以抵御 10 m/ s 风速的风沙流历时 30 min 的吹蚀试样仍未破坏, 几乎可以防止自然界 99% 的各级风速所引起的土壤风蚀。从经济方面考虑, 推荐 PAM 用量为 2g / m2可以防止自然界中大部分风力(约 97%~ 99%) 造成的风蚀,经济上是可行的。经 PAM 处理的试样破坏过程和切片分析得出, 在松散土表面喷施 PAM 之所以能够有效地防止风蚀,最根本的原因是施用 PAM 溶液后松散土表面可形成较厚的结皮。

【英文摘要】Abstract: It have been studied with w ind tunnel exper iment s that the w ind erosion rule of loosing soil on thehungriness sand land of w estern Inner Mengo lia, the impact of w ind flow w ith sand o n the w ind erosion a mount , the mechanism by use of PAM to keep f rom w ind er osion of loosing soil and it s capability to w ith stand w ind f low w ith sand. The samples w ere taken in sequences abo ut the impact of w ind f low w i th sand o nthe w ind ero sion amo unt and anterior sample applied w ind f low w ith sand for po ster io r one. T he 3 lev els ofPAM dosag e (1 g / m2, 2 g / m2and 4 g/ m2) and 4 w ind degrees (0, 17. 6%, 36. 4% and 57. 7%) w as co ntainedin the test s for PAM sample capability to w ithstand w ind f low w ith sand. T he result s show ed that the ero sion ability of w ind f low with sand w as much more than the ability of pur e wind w hen the w ind v elo city w asequal and the w ind er osion amount s of them w ere evident ly dif ferent . The samples just only w ithsto od windflow w i th sand for 5 to 10 minutes w ith a w ind veloci ty of 7~ 8 m/ s w hen PAM do sage w as 1 g/ m2. How ev er the samples w ould w ithstand w ind f low w ith sand for 30 minutes w ith a w ind velocity o f 8~ 10 m/ s w henPAM dosage was 2 g/ m2. It w ould withstand wind f low with sand for more than 30 minutes with exceeding 10 m/ swind velocity w hen PAM dosage w as 4 g/ m2and the sample almost could prevent 99% of all soil erosion caused bynatural w inds. The dosage of 2 g/ m2PAM was recommended normal ly and economically in the paper for most ofwind erosion (about 97% ~ 99%) could be prevented. T he surface could form a crack w hen PAM solution w assprayed on loosing soils surface so that it could effectually prevent from wind erosions.

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【题目】地表处理方式对日光温室辣椒水分利用效率及土壤硝态氮、速效磷分布的影响
【中文关键词】日光温室 辣椒 水分利用效率 硝态氮 速效磷
【英文关键词】s olar greenhouse; pepper ; water use efficiency; nitrate N; available phos phorus
【中文摘要】摘 要 研究了不同地表处理方式对日光温室辣椒水分利用效率及土壤氮磷分布的影响.结果表明:地表覆盖秸秆 +地膜处理的辣椒产量水分利用效率和经济水分利用效率最高 ,分别达 33104 kg · m- 3和 50122元 · m- 3; 其次是地表覆盖地膜处理 ,分别达 18181 kg · m- 3和28157元 · m- 3.不同地表处理方式对 0~20 cm土壤的硝态氮含量有显著影响 ,地表覆盖秸秆和覆盖秸秆 +地膜处理 ,分别为 31198 mg · kg- 1和 31196 mg · kg- 1,小于对照处理 (50133 mg · kg- 1) ;地表覆盖地膜和使用保水剂处理的硝态氮含量较低.与对照相比 ,各处理辣椒对氮肥的利用均有所增加 ,耕层硝态氮积累减少.在 0~20 cm耕层内 ,地表覆盖地膜处理的速效磷含量最低 ,为 0172 mg · kg- 1,其次是地表覆盖秸秆 +地膜处理 ,为 0192 mg · kg- 1.地表覆盖秸秆 +地膜和地表覆盖地膜处理增加了当季作物对肥料的利用率 ,减少了肥料的损失 ,提高了产量.
【英文摘要】Abstract: A greenhouse study on the effects of s oil covering on pepper (Capsicum anm uum L.)water use efficiency and s oil nitrate and available phos phorus contents showed that straw mulch +p lastic fil m mulch could get the highest pepper yield water use efficiency (33104 kg · m- 3) and e2conomic water use efficiency (50122 yuan · m- 3) , foll owed by p lastic fil m mulch, with the t wo pa2rameters being 18181 kg · m- 3and 28157 yuan · m- 3, res pectively . Significant differences of ni2trate N content in 0- 20 cm s oil layerwere observed among different treat ments . The control had thehighest nitrate N content (50133 mg · kg- 1) , foll owed by straw mulch (31198 mg · kg- 1) andstraw + p lastic fil m mulch (31196 mg · kg- 1) , and p lastic fil m mulch and app lying water p reser2ving agent . Compared with the contr ol, s oil covering could increase the nitrate N use efficiency ofpepper, and decrease the accumulati on of nitrate N in p l ough layer . In 0- 20 cm s oil layer, treat2ment p lastic fil m mulch had the l owest available phos phorus content (0172 mg · kg- 1) , and thesecond (0192 mg · kg- 1) was the treat ment straw + p lastic fil m mulch . Treat ments straw + p lasticfil m mulch and p lastic fil m mulch could increase pepper fruit yield and fertilizer use efficiency, anddecrease fertilizer l oss
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【题目】温室土壤连作对黄瓜主要病害的影响
【中文关键词】日光温室 连作 黄瓜 病害
【英文关键词】Sunlit greenhouse, Succession p roduction system, Cucumber,Disease
【中文摘要】摘 要 在温室条件下,通过田间系统观察和室内测定相结合的方法,研究了不同连作年限温室土壤对黄瓜主要病害发生的影响。结果表明:随种植年限的延长,土壤中病原微生物数量增加,是导致黄瓜土传病害加重的主要原因;黄瓜植株生长发育不良,黄瓜的光合速率及抗性酶活性降低,植株自身抗病性下降,是引起黄瓜病害发生加重的内因;温室内温度降低、 湿度提高、 光照下降,是导致黄瓜病害发生加重的外部条件。随着连作年限延长,黄瓜病害发生依次加重,土传病害对连作的反应比气传病害敏感,病害是土壤连作障碍的重要原因之一。
【英文摘要】Abstract Under sunlit greenhouse conditi on, systematic field and laboratory surveyswere carried out to study the effects of differ2ent cr op successi ons on main disease devel opment in cucumber . The results show increasing numbers of s oil pathogenic micr obeswith p r ol onged p lanting, the main reas on for disease occurrence and sp read of soil2 borne diseases . Hypogenetic p lant, l ower photo2synthetic rates and enzyme activities decrease self2resistance of the cucumber p lant t o disease . These form the internal2

causes ofcucumber disease outbreak . I ncreases in humidity, decreases in temperature and sunlight are the external2 causes of cucumber dis2ease outbreak . The longer the successi on, the severer is the s p read of s oil2 borne diseases . The effect of continuous cropp ing ismorea sensitive factor in the s p read of s oil2 borne diseases than in the s p read of air2 borne diseases . Diseases are one of themain i mpedi2ments t o succession p roducti on systems .

【语种】中文
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【题目】海带不同部位褐藻胶含量及其凝胶性能研究
【中文关键词】海带;褐藻胶;M / G值;凝胶强度;持水力
【英文关键词】laminaria,alginate,M/G ratio,gel hardness,water holding capacity
【中文摘要】将海带藻体划分为基部边缘部分、基部中间部分、中部边缘部分、中部中间部分和尖部 5个部分,分别测定了其褐藻胶含量、M / G值、褐藻胶凝胶的强度和持水力,并对不同部位褐藻胶的含量和 M / G 值进行比较 ,并研究 M/ G值对褐藻胶凝胶特性的影响。研究发现 ,海带中部的褐藻胶含量高于基部和尖部, 边缘部分褐藻胶含量高于中间部分。而海带的M/ G值的大小顺序为基部 >中部 >尖部,海带中部的 M / G值大于边缘的。褐藻胶的M / G值的不同对其凝胶特性有较大的影响,M / G值越大,褐藻胶凝胶的凝胶强度越小,而其持水力越强。在食品中应用褐藻胶时,可以根据实际的要求来改变褐藻胶的M / G值获得所需要的凝胶强度和持水力等凝胶特性。
【英文摘要】Content and gelling properties of alginate from different region of Lamimaria
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【第一作者】陈利梅
【通讯作者】叶乃好
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【题目】黄土丘陵区不同土地利用方式对土壤含水率的影响
【中文关键词】土壤水分,分布格局,土地利用,梯田建设,黄土丘陵区
【英文关键词】soil moisture,distribution pattern,land use,temce building,loess hilly and gully region
【中文摘要】干旱半干旱地区,土壤含水率是影响作物生长和植被恢复的重要因子。采用土钻法对黄土丘陵区典型流域不同土地利用方式下土壤含水率进行了比较。结果表明,农田土壤含水牢显著较高,这与农田坡度较小及梯田建设有关,还与农作物蒸腾耗水相对较小有关。林地、灌木地和草地土壤含水率相对较低,且相互间无显著差别。黄土丘陵区土壤含水率主要受坡度和土壤稳定入渗速率的影响。但草地十壤含水率还与坡向及年生物量有关。土壤水分分布格局与该区土层深厚,地下水埋藏较深,土壤水分收入主要受降雨的补给有关。因此,该区农田建设应在坡度较小(<100)的地形上进行,并优先考虑梯田。坡度较大的地方应以天然灌木和草奉群落的保育为手。人工乔灌林只适宜在沟道等水分条件较好的地方种植。
【英文摘要】In arid and semiarid region,soil moisture is one of the key factors influencing plant growth.In this paper,the soil moisture in different land use types were investigated by auger in a small watershed in hilly and gully region of the Loess Plateau,China.The results showed that soil moisture in croplands was the highest,which was due to gentle slopes,terrace building and lower crop water requirements.The soil moisture in forestlands,shrub lands and grasslandswere lower and had no significant difference between any two of them.The stepwise regression analysis showed that soil moistures was mainly influenced by slope gradient and soil stable infiltration rate.Furthermore,the soil moisture in grassland was also influenced by slope aspect and aboveground biomass.In conclusion,croplands can be built on gentle slopes(<100).In steep gradient,the vegetation building should emphasize the natural community conservation.The artificial vegetation including forest and bush can be built in small topographies with higher soil moisture

such as the bottom of gully.
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【题目】黄土丘陵区退耕前后典型流域农业生态经济系统能值分析
【中文关键词】农业生态经济系统,环境工程,退耕生态,黄土丘陵区,退耕还林草政策,能值分析
【英文关键词】agricultural eco-economic system, environmental engineering,ecological restoration,loess hilly region,grain for green policy,emergy analysis
【中文摘要】应用能值分析理论和方法,从资源的投入和产出结构角度对黄土丘陵区退耕还林草政策实施前后纸坊沟流域农业牛态经济系统的资源利用、环境压力、能值指标变化及生态经济效益进行比较研究。结果表明:退耕前,该流域农业生态经济系统农产品总产出能值为7.53E+18 sej,退耕后减小了1.50E+17 sej,单位面积农产品生产力由退耕前的5.38E+15 sej,hm2上升到退耕后的1.68E+16 sej/hm2,畜产品的产出能值有所下降。退耕后系统生产优势度指数由退耕前的O.60上升到O.72,系统稳定性指数由退耕前的0.51增加到退耕后的0.53,退耕后流域人口承载力较退耕前大。退耕前后该流域能值投入率及环境负荷几乎无变化,净能值产出率由0.11增加到O.29,退耕前流域人均能值用量为5.16×10 ” sej,退耕后增加到5.41×10 ¨ sej,系统可持续发展指数由退耕前的2.55上升到退耕之后的6.69。退耕后,能值一货币比为2.21×1012 sej/$,与退耕前相比变化不大。为了使该流域的农业生态系统更加持续稳定的发展,需进一步调整农业结构,优化资源投入配置,提高资源生产效率,减小环境负荷,逐步走向系统可持续性不断增强的健康发展轨道。
【英文摘要】Based on emergy theory and method,resource utilization,environmental pressure,variation of emergy indexes and efficiency of agricultural eco-economic system were analyzed before and after ‘ ‘ grain for green policy ’ ’ from resource input and output in zhifanggou watershed in loess hilly region of China.The results showed that the total emergy output of agricultural products of agricultural eco—economic system was 7.53E+1 8 sej before grain for green in watershed,and decmased 1.50E+17 sej after this policy.The production of agricultural products per unit area increased from 5.38E+15 sej/hm2 to 1.68E+16 sej/hm2 and emergy output ofanimal products decreased.The dominance index of system production increased from O.60 to 0.72,the stability index of system increased from 0.5 1 to 0.53,and the population carrying capacity Was also increased after grain for green.However,emergy investment ratio and environmental loading were nearly stable.Net emergy yield ratio increased from 0.1 1 to 0.29.and emergy per capita also change from 5.16x1015 sejto 5.41×10 ” sej.Index ofsystem sustainable development also increased from 2.55 to 6.69. After grain for green,the ratio of emergy-monetary was 2.21x 10 “ sej/$,which changed little鹤compared with before returning farmland.For sustainable and stable development of agricultural ecosystem in zhifanggou watershed,adjusting agricultural structure,optimizing the allocation of resource input,improving resource productivity and reducing the environmental loading were all needed in the next step.In this way,the agriculture of zhifanggou watershed could develop more sustainable and healthy.
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【题目】不同灌溉方式对温室黄瓜根系分布影响的研究
【中文关键词】黄土高原　温室　黄瓜　根系分布　灌溉方式
【英文关键词】Loess P l ateau , G ree nhouse , Cucu mber , Root d i stri bution , Irr i gati on pattern
【中文摘要】摘　要　采用土柱模拟试验和大田调查相结合的方法, 研究了不同灌溉方式下温室嫁接黄瓜根系分布特征,结果表明: 膜下暗灌和滴水灌溉温室黄瓜根系干重最大值分别出现在黄瓜定植后 180 d和 210 d , 黄瓜拔蔓时根系干重后者

较前者高 29 . 0%。黄瓜不同发育时期根系垂直分布特征有明显差异,在初瓜期前, 0~ 20 c m根系干重前者明显高于后者, 20 c m以下根系干重二者无明显差异; 结瓜盛期以后, 0~ 20 c m根系干重二者差异不明显, 20 c m以下根系干重后者显著高于前者。膜下暗灌和滴水灌溉黄瓜根系水平分布在 0~ 15 c m, 分别占总根干重的 96 . 6%、 94 . 2 %。随着黄瓜生长发育的推进,膜下暗灌内侧根系分布数量逐渐下降, 结瓜期以前内侧根系占植株根系总数量的 61 . 1%, 中后期占 15 . 6% ;而滴灌黄瓜全发育期, 内外侧根系分布数量比较均衡。说明灌水方式对温室嫁接黄瓜根系分布特征有显著影响。

【英文摘要】Abstract Root d istr i bu ti on c har acter isti cs of greenhouse cuc umberwere analyze d usi ng sm i u lated soil col umn cult u r em ethod andfar m l and researc h . The r esults show that irr i gati on under p lastic fil m mu l ch a nd drip irr i gatio n yiel d the h i ghest c ucu mber root d r yweight at 180 d and 210 d after p la n ti ng , bu t root dr y we i ght is 29% h i gher under dr i p irr i gati on at harves. t Ther e i s sign ifi cantd ifference i n vertical d istr i bu ti on of cucu mber root at d iffere n t gr ow t h per i ods bet wee n dr i p irr i gati on a nd i rr i gation under p lasti cfil m mu lc h . Before i n itial fru it appear ance stage , the d iffere nce in r oot d r y wei gh t is i ns i gn ifica n t belo w 20 c m depth of so i , l wh il eroot dr y wei gh t under irr i gati on w it h plastic fil m mu l ch tr eat m e n t i s h i gher t han that under dr i p irr i gati on at 0~ 20 c m depth . A ftera bundant fru it stage , root dr y wei ght d iffer ence bet w ee n t two irrigati on patterns is i nsi gn ificant at 0~ 20 c m de p t h , but r oot d r yweight of dr i p irr i gati on is sign ifi cantly higher tha n irr i gati on under p lastic fil m mulch below 20 cm. Cucu mber r oot hor izontal d is tr i bution i sm ai n l y i n t he 0~ 15 c m, acc ounti ng for 96 . 6% and 94 . 2% of total rootw ei ght for t wo i rr i gation patterns . W ith t hegro w th of the cucu mber plan, t i nner r oot d i stribu ti on graduall y decr eases from 61 . 1% to 15 . 6 % of total r oot amoun t fr om befor efru it appeara nce sta ge t o m i d or late fru it stage for irrigation under p l astic film mu lch . The i nner and outer r oot distr i butio n bal a nces out dur i ng cucu mber growth per i od under dr i p irr i gati on

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【题目】氮肥水平对甘蓝产量和品质及土壤硝态氮含量的影响
【中文关键词】氮肥; 甘蓝;产量; 品质;硝态氮含量
【英文关键词】nit rog en fert ilizer; Br assica ol er acea; yield; quality ; NO3
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N content

【中文摘要】摘 要:以 京丰 1 号 甘蓝品种为试验材料, 通过田间小区试验研究了不同氮肥用量对甘蓝产量、 品质以及土壤NO3- N 含量的影响. 结果表明, (1) 随着施氮量的增加,甘蓝产量呈先升高后降低趋势,并于施氮量为 185. 14 kg/hm2时产量最高 (25. 86 kg/ 8. 4 m2) . (2)随着施氮量的增加,甘蓝的 NO3- N 含量明显增加, 而 Vc 和可溶性糖含量则逐渐下降,并且残留在土壤中的 NO3- N 含量持续增加. 因此,为达到优质高产并同时保持土壤的可持续利用2

【英文摘要】Abstract: According to the field ex periment s, cabbag e(Br assica ol er acea v ar . cap i tata) yield, cabbage quali ty and nit rate content in soil under different nit rog en level w ere studied. T he result s show ed that under adefinite lev el, cabbage y ield increased signif icant ly as the using amount of ni t ro gen increased. The yield ofcabbage w as the hig hest under nit rog en fert ilizer as 185. 14 kg/ hm2. NO3- N contents in cabbage and soilincreased w ith the nit rog en levels arise. How ever, Vc and soluble sugar content of f resh cabbage decreasedw i th the increasing o f nit rogen. Therefor e, for human health, nit rog en level sho uld be maintained around185. 14 kg / hm2, in o rder to increasing y ield, improving quality of veg etable and pr otect ing enviro nment .

【语种】中文
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【中文关键词】生态系统健康;定量评价;小流域;侵蚀环境
【英文关键词】ecosystem health;quantitative assessment;small watershed;erosion environment
【中文摘要】生态经济系统健康是黄土丘陵区侵蚀环境下水土保持与生态建设的目标。在分析侵蚀环境下生态系统健康特征和诊断指标筛选原则的基础上,从资源环境支持、社会经济人文影响和生态综合功能3个方面,选择17个因素作为参评因子,建立了一套适合于侵蚀环境小流域生态经济系统健康诊断的指标体系。以均方差决策法确定各指标的权重,运用递阶多层次综合法、线性加权函数法分别建立二级层次和综合指标健康诊断模型——健康指数。分析研究侵蚀环境小流域生态经济系统健康动态,结果表明,该环境系统健康状况相对稳定,健康指数呈逐年波动式上升趋势(由1985年的o.370增大到2003年的O.573),具有较强的可持续发展能力。同时,以现实生态经济最佳水平为目标,引入障碍度、优势度等概念,运用通经分析对该环境小流域系统健康进行障碍和优势诊断,并据此提出了建设对策和建议,为该环境小流域生态环境建设提供科学依据。
【英文摘要】To reach the ecosystem health from both ecological and economic points is the objective of water conservation and ecological building in the loess hilly area under erosion environment.On the principle of ecosystem healthy quantitative assessment and diagnosis index selecting, 17 factors were selected and evaluation index system was established to make ecosystem health assessment form the following three aspects: resource and environmental capacity, social and economic impact, and ecological services in a small watershed under erosion environment.The mean-square deviation decision method was employed to determine the weight of each factor and then the step-up multilayer synthesis with liner weighting function method was used to build two-level hierarchy and collecting index health consultation model-health index.The health dynamics of eco-economy system in the small watershed under erosion environment was analyzed.It was shown that the watershed ecosystem is relatively stable and the health index has an increasing trend from annual fluctuation(0.370 in 1985 to 0.573 in 2003).This is indicates that it has a quite strong ability on sustainable development.At the same time,the obstacle and advantage to the watershed ecosystem health were studied by introducing the concepts of obstacle degree and advantage,and path analysis method,with considering the real eco-economicoptimal level as the uppermost goal.Finally,suggestions on ecological building were provided which give a scientific basis to the ecosystem rehabilitation in the small watershed.
【语种】中文
【第一作者】戴全厚
【通讯作者】戴全厚
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【学科分类】生态学

【题目】5-氨基乙酰丙酸对日光温室油麦菜产量 及品质的影响
【中文关键词】5- 氨基乙酰丙酸;油麦菜; 光合特性;叶绿素; 产量
【英文关键词】5- amino levu linic acid; leaf used let tuce; photosynthet ic characteristics; chlorophyll ; yield
【中文摘要】摘 要: 为了解 5- 氨基乙酰丙酸(ALA) 在蔬菜上的应用效果,日光温室田间试验 ALA 叶面喷施和土壤表面施以及 ALA+ N 叶面施用对油麦菜生长发育、 产量和品质的影响。结果表明: ALA 以及 ALA+ N 叶面施用和土表面喷施均明显提高了油麦菜的光合速率、 叶绿素含量和产量,并改善了油麦菜品质; 与对照相比,外源 ALA 各理光合速率和产量均达到极显著水平(P< 0. 01) , 其中 ALA+ N 叶面施用效果最佳, 光合速率和产量分别提高7%和 41. 6%;外源 ALA 对油麦菜叶绿素含量和品质也有明显地提高和改善, 并且 ALA+ N 效果最为明显,叶喷施和土壤喷施 ALA 次之,但它们三者之间差异不显著。
【英文摘要】Abstract: The f ield experiment w as carried out at sunlight greenhouse to study the effect of 5- amino levul inic acid (ALA) and 5- amino levu l inic acid+ N (ALA+ N) on the growth, yield and quality of leaf used let tuce. The results show ed that ALA and ALA+ N enhanced the photosynthesis, chlorophyll , y ield of leaf usedlettuce and improved the quality of leaf used lettuce. ALA and ALA+ N of all the t reatment s w ere significantlybet ter than the cont rol(P< 0. 01) in the photosynthesis and yield of leaf used lettuce, ALA+ N t reatment w asthe best in al l the treatment s, the photosynthesis and yield of leaf- used let tuce increased by 34. 7% and41. 6%. ALA and ALA+ N improved the content of chlorophyll and quality of leaf used let tuce, there w as themost signi f icant increase the content of chlorophyll and quality of leaf used let tuce compared to the control. Thestudy indicated that the applicat

ion of ALA and ALA+ N increased the y ield and quali ty of leaf used lettuce andthere was no significant di f ference among them.
【语种】中文
【第一作者】徐铭
【通讯作者】徐福利
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【学科分类】农业基础学科

【题目】白于山山区大扁杏生产中的问题分析.
【中文关键词】大扁杏; 品种;霜冻; 园址;结果部位; 结果枝
【英文关键词】P. armeniaca ∀ P. sibirica; fros t; variety; orchard site; frui t - set ting position; fruiting branch
【中文摘要】摘 要: 陕北白于山山区以大扁杏为主开展了仁用杏基地建设, 但大扁杏开花不结果, 经济效益差。通过多年的调查和监测认为该区大扁杏生产中存在的主要问题是花期、 幼果期霜冻频繁且强度较重,易冻花冻果; 选择的主栽品种为龙王帽,树体生长量小, 开花早且花期短,不抗霜冻;大多数杏园建立在南坡坡地上, 培育的树形以开心形为主,树体的结果部位较低, 选留的结果枝为花束状果枝和短果枝, 开花早、 花期短且集中, 不易躲避霜冻等。建议该区积极选育开花晚、 抗霜冻的大扁杏品种, 加强栽培管理, 同时建立以山杏为主的仁用杏生产基地。
【英文摘要】Abstract: Baiyushan hilly area of northern Shaanxi w as a large base of almond apricot that is dominated byPrunus armeniaca ∀ P . sibi rica, but P . armeniaca. ∀ P . sibir ica t rees in this reg ion only blossom w ithoutfruit, having no output value. Invest igat ion and observ at ion have been taken for many years and the causes ofthe problem have been unvei led. It has been found out that P. armeniaca ∀ P. sibir ica f lorescence and sett ingfruit phase encountered strong and frequent frost, w hich could easily hurt the f low er and young frui t . At thesame t ime, Longw angmao, the dominat ing variety , grew slowly and i t s f lorescence w as shorter and earlier thanother variet ies, and resisted frost w eakly. Most P . armeniaca ∀ P . sibir ica orchards w ere built in southernslope land, where the frui t t rees∋ florescence w as shorter and earl ier than in other slope land, very easy to en counter f rost . Most t rees w ere trained as open center shape, f rui t sett ing posit ions w ere relat ively low, and mostfruit ing branches were spur frui t ing and short fruiting ones, so the f lorescence was shorter, earlier and more cen t ralized, making it different to avoid the frost. Some suggest ions are put forw ard in order to resolve these prob lems, including select ing and breeding new varieties w i th late f lorescence and anti f rost , strengthening cul t iva t ion management. At the same time, a larger base of almond apricot dominated by P. armeniaca var. ansushould be established.
【语种】中文
【第一作者】白岗栓
【通讯作者】白岗栓
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【题目】黄土高原地区南瓜幼稚施肥模式研究
【中文关键词】南瓜; 氮;磷; 钾;品质; 施肥模式
【英文关键词】pumpkin; N; P; K; quality ; fert i lizing model
【中文摘要】摘 要: 安塞试验站 2005~ 2006 连续两年采用 N、 P、 K 三因素最优设计, 田试不同施肥量对南瓜 Vc和干物质两项营养品质的影响,探讨南瓜优质的 N、 P、 K 肥效反应模式。结果表明, N 肥对南瓜 Vc含量的影响最大, K 肥对干物质含量的影响最大, N 与 P 交互作用和 N 与K 交互作用对南瓜 Vc、 干物质含量影响显著。筛选出南瓜优质的较佳施肥量为:施氮 90~ 95 kg/ hm2,施磷 75~ 80 kg/ hm2,施钾 25~ 30 kg/ hm2。N P2O5 K2O= 1. 00 0. 83 0. 28
【英文摘要】Abstract: The ex periment for opt imum desig n of N, P and K fert ilization model w as conducted to study theinfluence of different fert i lizat ion rate to pumpkin dry matter quali ty and Vc content . The resul t s show ed that Nhad signi f icant effect on Vc content of pumpkin, and P had significant effect on the content of dry matter, w hi lethe inf luence of N and P, N and K correlat ion to pumpkin dry matter and Vc content was remarkable. The opti mum amount of N, P, and K fert i lizat ion w as nit rogen N 90~ 95 kg/

hm2, phosphorous P2O5 75~ 80 kg/ hm2and potassium 25~ 30 kg/ hm2. The N P2O5 K proport ion w as 1 0. 83 0. 28.
【语种】中文
【第一作者】高静
【通讯作者】梁银丽
【期刊名称、卷期、页码】干旱地区农业研究26(3)86-89
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【题目】土壤水分对日光温室西葫芦耗水量及产量的影响
【中文关键词】西葫芦; 日光温室; 产量; 耗水量; 水分利用效率
【英文关键词】Summer squash; So lar g reenho use; Yield; Water consumpt ion; Water use eff iciency
【中文摘要】摘 要: 在日光温室中研究了不同土壤水分条件对西葫芦耗水量、 产量及水分利用效率的影响。结果表明,在整个生育期,西葫芦总耗水量随土壤含水量的增大而增大。土壤相对含水量保持在 90%~ 100% 时,耗水量最大,为 8 668. 25 m3/ hm2。然而水分利用效率却最低,仅为 39. 7 kg/ m3。相反, 土壤含水量下限为 70%(T3)时, 耗水量虽不高,产量却最高, 达到 352. 4 t/ hm2,叶片净光合速率和结瓜数也最大,水分利用效率也相应最大,达到了 66. 1 kg/ m3。综合考虑产量构成诸因子和水分利用效率, 认为过量灌溉对提高西葫芦产量并不利,合理利用水资源, 土壤水分控制在田间持水量的 70%~ 80%较适宜。
【英文摘要】Abstract: Water consumpt ion, yields and WUE (w ater use ef ficiency) o f summer squash (Cueurbi ta.p ep o) under di f ferent w ater condit ions w ere studied in so lar gr eenhouse. The result s show ed that,during the w ho le gr ow th, the to tal amount of w ater co nsumpt ion g ot higher with the increase of soilmoisture. U nder 90% ~ 100% relat ive so i l moisture, the the to tal w ater consumpt ion w as hig hest, upto 8 668. 25 m3/ hm2. However, WU E to ok on o pposite tr end, o nly w as 39. 7 kg / m3. On the co nt rary,under 70% ~ 80% (T 3) r elat ive soil moisture, yield, net photosynthesis rate and the amount of fr uitw ere hig hest , WUE w as also highest , up to 66. 1 kg/ m3. Considered sy stematically f rom all part s ofyield form and WUE, under 70% ~ 80% relat ive soil moisture, both w ere suitable. It co ncluded thatto o much irrig at ion w as no t goo d to impro ve yield, in order to ut i lize w ater resources reasonably , soilw ater content sho uld be co nt ro lled under 70%~ 80% of field water content.
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【第一作者】熊亚梅
【通讯作者】梁银丽
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【题目】水肥交互作用对黄土高原南瓜光合特性及其产量的影响
【中文关键词】水肥交互; 南瓜; 光合特性; 产量
【英文关键词】water and fertilizer coupling, pumpkin, photosynthetic character, yield
【中文摘要】摘 要: 通过不同的灌水和施肥处理, 研究水肥交互作用对南瓜光合特性日变化及产量的影响, 结果表明: 水分与施肥因子对南瓜叶片的光合特性和产量有重要影响, 在水分胁迫的情况下, 肥水交互作用不显著, 在水分较低的情况下, 二者表现互为限制条件的协同作用; 在水分较高的情况下, 肥水交互作用转变成顺序加和作用。 其中单因素效应大小表现为: 氮 > 水 > 磷, 耦合效应大小表现为: 氮与水耦合 > 氮与磷耦合 > 磷与水耦合。在水分适宜时, 适宜的施肥量(施氮量 50kg / hm2、 施磷量 35 kg / hm2)可以提高南瓜光合速率和产量, 不施肥或施肥量过高都会影响南瓜光合速率和产量。
【英文摘要】Abstr act: Effects of water and fertilizer coupling on photosynthetic characteristics and yield of pumpkin wereinvestigated at conditions with different water and fertilizer treatments. The results showed that: the influenceof water and fertilizer factors on the pumpkin photosynthetic characters and yield are great, water and fertil-izer coupling was not significant under the water stress situation, water and fertilizer coupling was restrictedeath other under the low water situation, water and fertilizer coupling was increased eath other under the highwater situation. The ingle factor effect is: N>water>P, the coupling effect is: nitrogen and water coupling>ni-trogen and phosphorus coupling>phophorus and water coupling. The appropriate fertilization level (nitrogen50kg.hm- 2,

phosphorus 35 kg.hm- 2) can increase the photosynthetic rate and yield of pumpkin when the waterlevel was appropriated.
【语种】中文
【第一作者】高静
【通讯作者】梁银丽
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【题目】黄土丘陵区纸坊沟流域农业生态安全评价指标体系初探
【中文关键词】黄土丘陵区,纸坊沟流域,农业生态安全,指标体系
【英文关键词】loess hill and gully region, zhifanggou watershed,agricultural ecology security ,index systems
【中文摘要】以脂肪沟流域为例,构建了黄土丘陵区流域农业生态安全评价指标体系
【英文摘要】taking zhifanggou watershed for am example,this paper aims to design an evaluation index system for agricultural ecology security in the loess hill and gully region.
【语种】中文
【第一作者】李芬
【通讯作者】王继军
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【题目】侵蚀环境生态恢复过程中人工刺槐林(Robinia pseudoacaia)土壤微生物量演变特征
【中文关键词】侵蚀环境;人工刺槐林;生态恢复;微生物量;土壤质量
【英文关键词】erosion environment; Robinia pseudoacaia;ecological restoration; soil microbial biomass ;soil quality
【中文摘要】采用时空互代法,以典型侵蚀环境纸坊沟流域生态恢复过程中不同年限的人工刺槐林为研究对象,选取坡耕地和天然侧柏林为参照,分析了植被恢复过程中土壤微生物量、呼吸强度、代谢商及理化性质的演变特征。结果表明,生态恢复过程中刺槐林土壤理化性质得到明显改善,微生物量随恢复年限的增加变化显著,10-15a后达到显著水平;并随年限逐渐增加,在近熟林和成熟林期基本达到稳定,成熟林后期又开始上升,恢复50a的刺槐林微生物量碳、氮、磷较坡耕地增加幅度分别为213%,201%和83%,但仅为天然侧柏林的50.98%,55.17%和61.48%。呼吸强度随恢复年限增加先升高后降低,与有机碳变化规律不同步;qCO2在恢复初期较坡耕地显著升高,随后迅速降低,25a后开始回落到坡耕地以下,50a后达到最低值,与天然侧柏林没有显著差异。相关性分析显示微生物量碳、氮、磷、qCO2与土壤养分和恢复年限相关性最为密切,达到显著(P<0.05)或极显著水平(P<0.01)。人工刺槐林促进生态恢复可以依靠生物的自肥作用恢复土壤肥力和增加微生物量,但要恢复到破坏前该地区顶级群落时的土壤微生物量和理化性状,还需要一个漫长的阶段,这个阶段可能需要上百年的时间。
【英文摘要】
【语种】中文
【第一作者】薛箓
【通讯作者】戴全厚
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【题目】温室黄瓜根结线虫非化学防治技术研究初报

【中文关键词】温室黄瓜; 根结线虫病; 非化学防治
【英文关键词】cucumber in greenhouse, root knot nematodes, Not chemistry control
【中文摘要】摘 要:采用大田与室内相结合的方法, 研究了高温闷棚、 低温冷冻、 轮作倒茬、 淹水等不同绿色防治技术措施对温室黄瓜根结线虫病的防治效果。结果表明低温冷冻法对温室黄瓜根结线虫病具有显著的防治效果, 适宜在冬季温度低于- 15℃, 且持续 20d 以上的地区推广应用。黄瓜与棉花、 大葱和大蒜轮作切断根结线虫的食物链, 减轻根结线虫的危害。淹水法虽然对根结线虫病有较好的防治效果, 但在缺水和保水性能比较差的垆土和黄绵土的北方地区推广应用受到很大限制。高温闷棚法对根结线虫病的防治效果最好, 高温闷棚 8d 对根结线虫病的防治效果达到 100%, 闷棚后第 3 年防治效果仍高达 96.2%。完全能替代化学药剂防治, 可操作性强, 成本低, 协调了根结线虫病的防治与温室绿色食品黄瓜生产的矛盾。
【英文摘要】Abstr act: Effects of different control measures such as high temperature disinfection, rational rotation ,freez-ing and flooded condition on the cucumber root knot nematodes disease was studied by the test in laboratoryand field .The results showed that the effects of freezing on the root knot nematodes disease was significant,and the control measure could be applied extensively in the areas which temperature is less than - 10°Candcontinues more than 20 days in winter. Cucumber- cotton, Scallion and Garlic rotation system cut off the foodchain of the root knot nematodes, and decreased its damage. The control effect of flooded condition was bet-ter, but it was not suitable in the northern area of China which soil is Lou soil and loessial soil. The controleffect of high temperature disinfection was the best, when the soil were treated for 8 day by high temperaturedisinfection, the control effects on the cucumber root knot nematodes was 100%,and still was 96.2% afterthree year. So the high temperature disinfection might alternate chemical control, and coordinate conflict be-tween the root knot nematodes disease control and cucumber green production in greenhouse
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【题目】中国沙棘、俄罗斯沙棘和俄罗斯沙棘×中国沙棘光合特性及影响因子
【中文关键词】中国沙棘; 俄罗斯沙棘; 俄罗斯沙棘 × 中国沙棘; 光合特性; 植物因子; 环境因子
【英文关键词】Chinese seabuckthorn ; Russian seabuckthorn ; Russian seabuckthorn ×Chinese seabuckthorn ; photo synthetic characteristic ; plant factor ; environment factor
【中文摘要】摘 要: 在陕北黄土丘陵沟壑区用L I 26400 光合仪对中国沙棘、 俄罗斯沙棘和俄罗斯沙棘 ×中国沙棘光合特性及影响因子进行了测定。测定结果表明三者的光合速率、 气孔导度、 胞间 CO2 浓度、 蒸腾速率日变化均为“ 双峰 ”曲线。中国沙棘光合“ 午休 ”现象较轻 ,日光合速率和午后光合速率、 气孔导度、 胞间 CO2 浓度、蒸腾速率极显著(p < 0. 01)高于俄罗斯沙棘和俄罗斯沙棘 × 中国沙棘。中国沙棘光合作用最适气孔导度、大气 CO2 浓度、 空气相对湿度比俄罗斯沙棘小 ,最适胞间 CO2 浓度、 蒸腾速率、 气温、 光合有效辐射比俄罗斯沙棘高。中国沙棘在最适气孔导度、 胞间 CO2 浓度、 蒸腾速率和大气 CO2 浓度下的光合速率比俄罗斯沙棘高;在最适气温、 空气相对湿度、 光合有效辐射下的光合速率比俄罗斯沙棘低。俄罗斯沙棘 ×中国沙棘光合“ 午休 ”现象比中国沙棘强 ,比俄罗斯沙棘弱 ,午后光合速率与俄罗斯沙棘相近;俄罗斯沙棘 ×中国沙棘最适气孔导度、 大气 CO2 浓度高于中国沙棘和俄罗斯沙棘 ,最适胞间 CO2 浓度低于中国沙棘和俄罗斯沙棘 ,最适蒸腾速率、 气温、 空气相对湿度、 光合有效辐射居于中国沙棘和俄罗斯沙棘之间。俄罗斯沙棘× 中国沙棘在最适气孔导度下的光合速率高于中国沙棘和俄罗斯沙棘;在最适胞间 CO2 浓度、 蒸腾速率、气温、 大气 CO2 浓度、 空气相对湿度、 光合有效辐射下的光合速率低于中国沙棘和俄罗斯沙棘。中国沙棘、俄罗斯沙棘和俄罗斯沙棘 × 中国沙棘的光合速率均与上午的气孔导度、 胞间 CO2 浓度、 蒸腾速率、 气温、 大气 CO2 浓度、 空气相对湿度、 光合有效辐射显著相关 ,均为“ 抛物线 ”关系。
【英文摘要】Abstract : In order to under stand the p hotosynt hetic characteristics of Chinese seabuckt horn , Russian sea2buckt horn , and Russian seabuckthorn ×Chinese seabuckt horn , research on the 3 species and t heir influenceactor s were conducted with Portable L I26400 Photosynt hesis System in t he loess hilly and gully region ofNort hern Shaanxi Province. Result s showed t hat diurnal cour ses of p hotosynt hetic rates , stomatal conduct2nce , intercellular CO2 concent ration , and t ranspiration rate of the 3 species were t he double2peak typeurves. Midday depression of Chinese seabuckthorn was light , and diurnal p hotosynt hetic rates and af ter2noon p hotosynthetic rates were significantly higher than Russian seabuckthorn and Russian seabuckt horn ×Chinese seabuckt horn (p < 0. 01) . Stomatal conductance , intercellular CO2 concent ration , and t ranspirationate in af ternoon for Chinese seabuckt horn were

significant ly higher than Russian seabuckthorn and Russianeabuckt horn × Chinese seabuckthorn (p < 0. 01) . Optimum stomatal conductance , air CO2 concent ration ,nd air relative humidity for p hotosynthesis of Chinese seabuckthorn were lower t han Russian seabuckt horn ,nd optimum intercellular CO2 concent ration , t ranspiration rate , air temperat ure , and p hotosynt hetic activeradiation were higher t han Russian seabuckt horn. Under the conditions of optimum stomatal conductance ,intercellular CO2 concent ration , t ranspiration rate , and air CO2 concent ration , p hotosynt hetic rates of Chi2nese seabuckt horn were higher than Russian seabuckt horn. Under t he conditions of optimum air tempera2t ure , air relative humidity , and p hotosynt hetic active radiation , p hotosynt hetic rates of Chinese seabuckt hornwere lower than Russian seabuckt horn. Midday dep ression of Russian seabuckt horn × Chinese seabuckt hornwas lower t han Chinese seabuckt horn and higher t han Russian seabuckt horn , and p hotosynt hetic rates weresimilar to Russian seabuckt horn in af ternoon. Optimums stomatal conductance and air CO2 concent ration forp hotosynt hesis of Russian seabuckt horn × Chinese seabuckt horn were higher than Chinese seabuckt horn andRussian seabuckt horn ; it s optimum intercellular CO2 concent ration was lower t han Chinese seabuckthorn andRussian seabuckt horn ; and it s optimum t ranspiration rate , air temperat ure , air relative humidity , and p hoto2synt hetic active radiation were between Chinese seabuckt horn and Russian seabuckthorn. Under t he condi2tion of optimum stomatal conductance , p hotosynt hetic rates of Russian seabuckt horn × Chinese seabuckt hornwere higher t han Chinese seabuckt horn and Russian seabuckt horn. Under t he condition of optimum intercel2lular CO2 concent ration , t ranspiration rate , air temperat ure , air CO2 concent ration , air relative humidity ,and p hotosynt hetic active radiation , p hotosynt hetic rates of Russian seabuckt horn × Chinese seabuckt hornwere lower than Chinese seabuckt horn and Russian seabuckthorn. Photosynthetic rates of t he 3 species hadsignificant ly cor relations with stomatal conductance , intercellular CO2 concent ration , t ranspiration rate , airtemperat ure , air CO2 concent ration , air relative humidity , and p hotosynt hetic active radiation in forenoon ,and t heir relationship s might be described by a parabola.

【语种】中文
【第一作者】杜社妮
【通讯作者】杜社妮
【期刊名称、卷期、页码】水土保持通报 28(4)26-32
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【学科分类】农业基础学科

【题目】延河流域本氏针茅(Stipa bungeana)分布预测——广义相加模型及其应用
【中文关键词】自然植被;植被·环境关系;广义线性模型;广义相加模型
【英文关键词】natural vegetation;species—environment relation;Generalized Linear Model;Generalized Additive Model
【中文摘要】物种分布预测,对于物种的保护、利用和恢复具有重要意义。利用广义相加模型(GAM,Generalized Additive Model),对延河流域典型地带性物种本氏针茅(Stipa bungeana)的空间分布预测进行研究,以期为该流域本氏针茅草地的保护、恢复等提供依据。结果表明,本氏针茅分布的环境梯度较广,在坡度、坡向、温度与降雨的各个梯度上都有分布,除高平地和侵蚀剧烈的沟道外,各种地形部位上亦可以存在。建立的广义相加模型表明,本氏针茅的分布主要取决于年均蒸发量和温度季节变化两个因子,而非单纯的降雨、温度因素。从其分布概率看,本氏针茅在延河流域大部分地区都有可能分布,但其分布集中区主要在中北部,与实际观测相符。模型检验表明,建立的模型满足统计要求。
【英文摘要】
【语种】中文
【第一作者】温仲明
【通讯作者】温仲明
【期刊名称、卷期、页码】生态学报,2008,28(1):0192—0201.
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【学科分类】生态学

【题目】长武苹果生产中存在的问题及建议
【中文关键词】:苹果;施肥;修剪;管理

【英文关键词】words : apple ;fertilization ;pruning ;management
【中文摘要】摘 要:通过实地调查和与当地果农座谈的方法,了解长武县苹果生产存在的问题。 提出了该县苹果应以乔化树和短枝型为主,不同的生长阶段采取相应的修剪手法,加强异常气候条件下苹果的管理,合理施肥,确定适宜的结果量等管理措施,提高苹果的产量和品质。
【英文摘要】Abstract : By field survey and having an informal discussion with fruit grower , mostly problems of apple production inchangwu county is that cultivation technique was scarce , fertilization of fruit tree was inconsequence ,fruit tree fruitedmore than fruit tree fact ,good quality fruit rate was low , fruit tree management in spring unconventionality climate wasunbecoming , production disengaged fact of fruit tree and unilaterally hankered fruit tree remodelment . This paper ad2vanced that changwu county should inseminate arboreal fruit tree and stumpy fruit tree , adopt corresponding pruningtechnique in different growth phase , strengthen management in unconventionality climate , fertilize by fruit tree develop2ment , make sure fitting fruit amount , as well as enhance yield and quality of apple fruit .
【语种】中文
【第一作者】杜社妮
【通讯作者】杜社妮
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【题目】缺硼引起“ 黄苹果“ 的发生与防治
【中文关键词】“ 黄苹果 ”;硼元素;缺硼原因;缺硼症状;防治措施
【英文关键词】yellow apple
【中文摘要】摘 要:简述了苹果树缺硼症状及硼元素的生理功能,指出“ 黄苹果 ”的发生主要是由于树体缺硼引起的,而树体缺硼与土壤缺硼、 土壤水肥及树体管理不当等密切相关。提出防治树体缺硼应加强土壤水肥管理,增施有机肥,减少化肥,及时修剪和疏花疏果,开展土壤补硼和叶面喷硼等措施。
【英文摘要】
【语种】中文
【第一作者】杜社妮
【通讯作者】白岗栓
【期刊名称、卷期、页码】北方园艺 9 230-231
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【题目】5-氨基乙酰丙酸对日光温室油麦菜产量及品质的影响
【中文关键词】5- 氨基乙酰丙酸;油麦菜; 光合特性;叶绿素; 产量
【英文关键词】5- amino levu linic acid; leaf used let tuce; photosynthet ic characteristics; chlorophyll ; yield
【中文摘要】摘 要: 为了解 5- 氨基乙酰丙酸(ALA) 在蔬菜上的应用效果,日光温室田间试验 ALA 叶面喷施和土壤表面喷施以及 ALA+ N 叶面施用对油麦菜生长发育、 产量和品质的影响。结果表明: ALA 以及 ALA+ N 叶面施用和土壤表面喷施均明显提高了油麦菜的光合速率、 叶绿素含量和产量,并改善了油麦菜品质; 与对照相比,外源 ALA 各处理光合速率和产量均达到极显著水平(P< 0. 01) , 其中 ALA+ N 叶面施用效果最佳, 光合速率和产量分别提高4. 7%和 41. 6%;外源 ALA 对油麦菜叶绿素含量和品质也有明显地提高和改善, 并且 ALA+ N 效果最为明显,叶面喷施和土壤喷施 ALA 次之,但它们三者之间差异不显著。
【英文摘要】Abstract: The f ield experiment w as carried out at sunlight greenhouse to study the effect of 5- amino levunic acid (ALA) and 5- amino levu l inic acid+ N (ALA+ N) on the growth, yield and quality of leaf used let uce. The results show ed that ALA and ALA+ N enhanced the photosynthesis, chlorophyll , y ield of leaf usedttuce and improved the quality of leaf used lettuce. ALA and ALA+ N of all the t reatment s w ere significantlyet ter than the cont rol(P< 0. 01) in the photosynthesis and yield of leaf used lettuce, ALA+ N t reatment w ashe best in al l the treatment s, the photosynthesis and yield of leaf- used let tuce increased by 34.

7% and1. 6%. ALA and ALA+ N improved the content of chlorophyll and quality of leaf used let tuce, there w as theost signi f icant increase the content of chlorophyll and quality of leaf used let tuce compared to the control. Theudy indicated that the applicat ion of ALA and ALA+ N increased the y ield and quali ty of leaf used lettuce andhere was no significant di f ference among them.
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【期刊名称、卷期、页码】干旱地区农业研究 26(3)133-136
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【题目】河套灌区番茄脐腐病的发生与防治
【中文关键词】番茄脐腐病;土壤水分;有机肥;钙肥
【英文关键词】navel rot of tomato; soi l moisture; organic fert i lizer; calcium fertilizer
【中文摘要】! 摘! 要:河套灌区番茄脐腐病发生较重,主要原因是番茄开花坐果后不再灌水,不能满足番茄正常生长的水分需求;施肥以化肥为主,重施氮肥,少施磷钾肥,不施钙肥,导致植株缺钙;河套灌区土壤盐渍化较高,生产中存在连茬、 耕作管理粗放等。防治番茄脐腐病应从水分均衡供应、垄沟种植、 增施有机肥、 减施化肥和叶面补钙等方面着手。
【英文摘要】Ab stract:The main reason of navel rot of tomato serious occurrence in Hetao irrigation district w ere: no i rrigation af terflowering and frui t set ting that could not meet the water demand for tomato normal grow th; fert i lizat ion wi th chemicalfertilizer-based, heavy appl ication ni trogenous ferti lizers, less applicat ion phosphate fert i lizers and potas sium ferti lizers,and wi thout appl ication calcium fert i lizers, that resulting in tomato calcium deficiency. Besides these, there were highersoi l sal inizat ion, c ont inuous cropping, and t i llage management extensive. Control navel rot of tomato should proceedfrom balanced supply of water, furrow planting, application of organic fertil izer, reducing fertil izer and fol iar calcium andother aspects.
【语种】中文
【第一作者】耿桂俊
【通讯作者】杜社妮
【期刊名称、卷期、页码】北方园艺 2 185-187
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【题目】云雾山天然草地植物生长规律
【中文关键词】天然草地;株高;地上单株生物量;Logistic模型;动态分形;降雨量
【英文关键词】nature grassland; plant height; individual aboveground biomass; Logistic model; dynamic fraction; precipitation
【中文摘要】试验以云雾山优势种本氏针茅、大针茅与伴生种百里香、铁杆蒿、厚穗冰草、二裂萎陵菜和阿尔泰狗娃花为研究对象,对每一植物选择典型植株进行标记,重点从植物株高和地上单株生物量两个方面对其生长动态,进行一个生长周期(返青期.枯黄期)的观察测量,结果表明:(1)植物生长在株高和地上单株生物量达到最大值之前,均基本符合Logistic生长模型;(2)在植物整个生长过程中,地上单株生物量月变化与株高存在动态分形关系 (3)植物生长除受其生物学特性支配外还受外界环境因子的限制,在干旱半干旱地区,降雨量显得尤为重要,在本次试验中,植物株高增长和地上单株生物量月变化均与降雨量累积存在着极显著的对数相关性。
【英文摘要】
【语种】中文
【第一作者】王丽学
【通讯作者】程积民
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【题目】日光温室滴灌条件下黄瓜氮、磷、有机肥肥效与施肥模式研究
【中文关键词】日光温室 黄瓜 肥效 施肥模式
【英文关键词】greenhouse,cucumber,fertilizer response,fertilization model
【中文摘要】摘要 采用氮 磷 有机肥三因素五水平最优设计 在陕北黄土高原进行了日光温室黄瓜 和有机肥肥效与施肥模式的田间试验。得到了日光温室黄瓜 、和有机肥的肥效反应模式 ,以及 、和有机肥单因素对 日光温室黄瓜产量的影响。结果表明 , 、 、有机肥对 日光温室黄瓜产量增加的影响是有机肥 ,施用有机肥是 日光温室黄瓜增产的主要措施。当施 几 仇 量小于 扩 扩 、施氮量小于 巧 岁 扩时 , 、肥有增产效果 ,用量大于此施肥量时 、肥效降低。根据反应模式提出黄瓜 目标产量在 一 姗 岁 扩之间,置信区间的 、 、有机肥最佳施肥用量为 ,一 的 、仇 一卯 、有机肥 一 口 。为。 一 。日光温室黄瓜种植应以有机肥为主 ,氮、磷肥配合施用。
【英文摘要】
【语种】中文
【第一作者】徐福利
【通讯作者】徐福利
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【题目】河套灌区油葵菌核菌的发生与防治
【中文关键词】油葵; 菌核菌; 危害症状; 防治措施
【英文关键词】oil sunflower; Sclerotinia sclerotiorum; symptoms; control measures
【中文摘要】摘 要: 简述了油葵菌核病的形态特征、 生理特性、 发病症状、 发病规律及传播途径, 提出河套灌区防治油葵菌核病首先应减少种子传染, 积极开展地膜覆盖、 垄沟种植、 轮作、 宽行密植及间作套种, 加强土壤管理和田间管理, 适期播种和分期采收等。防治油葵菌核病要以农业防治为主, 化学防治为辅, 采用综合防治。
【英文摘要】Abstract: This paper introduced the morphological characteristics, physiological characteristics, symptoms,occurrence regularities and modes of transmission of oil sunflower Sclerotinia sclerotiorum. In order to control oilsunflower Sclerotinia sclerotiorum, reduced seeds infection should be in the first place, and actively carried outplastic mulching, furrow planting, crop rotation, wide-row close planting and intercropping, strengthened soilmanagements and field managements, optimum sowing and harvesting by stages. Control oil sunflower Sclerotiniasclerotiorum should based on agriculture control, supplemented by chemical control, and used integrated control.
【语种】中文
【第一作者】张蕊
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【题目】安塞县苹果发展的生态环境评价及对策
【中文关键词】安塞县; 生态环境; 苹果; 发展规模
【英文关键词】Ansai County; ecological environment; apple; development scale
【中文摘要】摘　要: 根据安塞县的生态环境和苹果生产现状, 对安塞县苹果生产提出相关建议。认为安塞县中部丘陵沟壑区、 南部次生林区适宜优质鲜食苹果生产; 北部白于山山区降水偏少, 温度偏低,不适宜优质鲜食苹果生产。建议安塞县2007! 2010年以中部、 南部为中心, 每年新栽鲜食苹果1. 667 ∀ 103hm2,到 2010 年全县苹果总面积可达到 1. 667∀ 104hm2。

【英文摘要】Abstract: Accor ding to ecolo gical environment and apple product io n situat ion in Ansai County , the hilly andgully area in the middle part and the secondly forest r eg ion in the south of A nsai County are suitable to thepro duct ion of f ine table apple. However, the Baiyushan r eg io n in the nor th Ansai Co unty is not sui table tothe product io n of f ine table apple on account o f low pr ecipitat ion and low temper ature. 1. 667 ∀ 103hm2tableapple orchards should be built in the hilly and gully area in the middle and secondly for est reg ion of A nsaiCo unty fr om 2007 to 2010 every year. T he total area o f apple orchards in Ansai county may be reached 1. 667∀ 104hm2in 2010.
【语种】中文
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【题目】防雹网对果园立地环境及苹果生长的影响
【中文关键词】防雹网,水果,设施,生长状况
【英文关键词】anti-hail net, fruits, facilities, growth
【中文摘要】摘 要:在陕北黄土丘陵沟壑区以普通苹果园为对照,研究了覆盖防雹网对果园立地环境、冰雹伤害和苹果生长状况等的影响。结果表明:防雹网具有一定的升温及遮荫作用,对果园的气温、地表温度、20 cm土壤温度、40 cm土壤温度影响表现为早晚提高,中午降低,日均温略有提高,影响程度为气温>地表温度>20 cm 土壤温度>40 cm 土壤温度,晴 天>阴天。防雹网对果园空气湿度、土壤水分无显著影响,但极显著地降低晴天的光照强度和风速,且风速越大,降低的效果越明显。防雹网略微降低苹果叶片的光合速率,极显著地削弱枝条长势,显著降低果实产量,但对果实品质无显著影响。防雹网极显著降低果实、叶片的伤害率和伤害指数,显著提高果实的经济产值。在冰雹频繁发生区域,应加强防雹网的使用与推广。
【英文摘要】
【语种】中文
【第一作者】白岗栓
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【题目】不同水肥条件下番茄土壤微生物群落多样性及其与产量品质的关系
【中文关键词】内含子切接点引物 多样性指数 产量 品质
【英文关键词】intron-splice junction primer, Shannon-Wiener index, yield, quality
【中文摘要】摘 要 采用内含子切接点引物(Intron-splice junction primer)和长随机引物的PCR(Polymerase chain reaction, 聚合酶链)标记技术, 就黄土高原不同水肥处理对日光温室番茄土壤微生物群落多样性进行了研究, 并对产量、品质的影响进行了分析。结果表明, 所用的6个引物共能扩增出182条稳定清晰的条带, 其中142条为多态性条带, 多态性条带为78.02%。聚类分析与主坐标分析表明, 水肥对土壤微生物群落多样性的变化有不同的影响。土壤微生物群落多样性指数与番茄产量、果实的Vc、可溶性蛋白质含量成正相关, 尤其与Vc的相关系数达0.921 1, 而与可溶性固形物含量成负相关关系。6个水肥组合中WmFh(中水高肥)土壤微生物群落多样性指数最高, 且番茄果实的Vc、可溶性蛋白质含量及产量显著高于其他处理, 可溶性固形物含量较低。该组合有利于土壤微生物群落的多样性和稳定性的提高, 利于土壤生态环境的改善和番茄优良品质的形成。
【英文摘要】Abstract Aims Our objective was to investigate diversity within soil microbial communities and tomato yields and qualities under different soil water and fertilization treatments. Methods PCR (polymerase chain reaction) with long random primers and intron-splice junction prim-ers were used to study greenhouse soil microbial diversity with tomato cultivated under different treat-ments. Important findings A total of 182 bands were detected with 6 primer combinations, and 142 (78.02%) of the bands were

polymorphic. Soil microbial community diversity was affected by the different soil water contents and fertilizations. Diversity was positively correlated with yields, VC contents and solu-ble protein contents, but negatively correlated with soluble solids contents. The highest soil microbial community diversity index was detected under the treatment of medium water level and high fertiliza-tion; the VC contents, soluble protein contents and yields of tomato fruits were significantly higher and the soluble solids of the tomato fruits was lower than those in other treatments. This showed that treat-ment can enhance the soil microbial community diversity and stability and to improve soil ecological environments and tomato quality.

【语种】中文
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【题目】黄土丘陵沟壑区坡地有机碳变化及碳循环初步研究
【中文关键词】农业生态安全; 驱动力; 主成分分析; 通径分析; 纸坊沟流域
【英文关键词】agro ecological securi ty; driving forces; principal components analysis (PCA) ; path analysis (PA) ; Zhifanggou Catchment
【中文摘要】摘要 以黄土丘陵沟壑区纸坊沟小流域为研究对象, 利用 1985 2006 年调查和监测资料,综合现有研究成果, 将主成分分析和通径分析方法相结合,分析可能影响农业生态安全态势变化的各因子, 探讨农业生态安全态势变化的驱动力。结果表明:自然条件是影响黄土丘陵沟壑区纸坊沟小流域农业生态安全态势变化的基础, 人文社会经济条件是其变化的主要驱动力,具体可归纳为经济发展、 人口压力、 流域产业结构调整和农业科技进步 4 类因子; 此外,国家和区域的相关政策、 农业产业链与资源量相关度对农业生态安全也有一定影响。
【英文摘要】Abstract Based on investigation and monitoring data from 1985 to 2006 at Zhi fanggou Catchment in Hi lly gully Region of the Loess Plateau and current research achievement, methods of principal components analysis(PCA) and path analysis (PA) were combined to analyze impact factors which af fec t change of agro ecologicalsecuri ty state, and driving forces of agro ec ological securi ty change were discussed. The obtained results showthat the basis of agro ecological securi ty change are natural condi tions and i ts main driving forces are socio economic si tuations that can be classi fied into four types, which are economic development , the pressure ofpopulation, indus trial rest ructuring of catchment , agricul tural scienti fic and technological progres s. Besides,the related pol icies of nat ion and region, correlation degree of a gricultural industrial chain and resources haveinfluence on i t to some extent.
【语种】中文
【第一作者】李芬
【通讯作者】王继军
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【题目】土壤含水量度结果期温室辣椒生长及果实品质的影响
【中文关键词】土壤含水量;温室辣椒;生长发育;果实品质;水分利用率
【英文关键词】:soil moisture ;greenhouse pepper ;plant growt h ;f ruit quality ;water utility efficiency
【中文摘要】[摘 要] 【目的】研究土壤含水量对结果期温室辣椒(Capsicum annuumL.)生长、 果实品质、 干物质分配及水分利用效率的影响 ,以确定温室辣椒结果期的最佳土壤含水量 ,提高设施蔬菜水分利用效率。 【方法】以精选牛角椒为研究对象 ,经 4 个土壤含水量(土壤含水量分别为田间持水量的 40 %~55 %(A1) ,55 %~70 %(A2) ,70 %~85 %A3)和 85 %~100 %(A4))的水分处理后 ,测定并分析植株生长、 果实品质、 干物质分配、 产量和水分利用效率的变化规律。 【结果】在土壤含水量为田间持水量的 70 %~85 %时 ,同化物在辣椒地上和地下部分的分配更趋合理 ,产量最高 ,为 6. 05 kg/ m2;在土壤含水量为田间持水量的 55 %~70 %时 ,辣椒果实品质各项指标均达到最大值 ,其中 Vc、 游离氨基酸、 可溶性总

糖和可溶性蛋白质含量分别为 1. 16 mg/ g ,363. 6 μg/ g ,19. 4 mg/ g 和 19. 7 mg/ g ,此时水分利用率也最大 ,为 28. 66 kg/ m3,分别比 A1、 A3、 A4 处理提高了19. 5 % ,30. 3 %和51. 3 %。【结论】综合考虑水分对果实品质、 干物质分配以及水分利用效率和产量的影响后认为 ,土壤含水量为田间持水量的 55 %~70 % ,可以作为辣椒结果期理想的土壤水分控制指标。

【英文摘要】Abstract :【Objective】The influence of soil moist ure on t he growt h of greenhouse pepper (Ca psicumannuum L .) ,f ruit quality ,t he accumulation and dist ribution of dry mat ter and water utility efficiency wasst udied to select t he scope of t he optimum soil moist ure indicator of greenhouse pepper of f ruiting stage.【Met hod】Horns pepper was researched by the four soil moisture level s (field capacity 40 % - 55 %2A1 ,55 % - 70 %2A2 ,70 % - 85 %2A3 ,85 % - 100 %2A4) to measure the change rule of plant growt h ,f ruit quali2ty ,t he accumulation and dist ribution of dry mat ter and water utility efficiency.【Result】The result s indica2ted that t he highest outp ut was 6. 05 kg/ m2and assimilation of dist ribution on t he ground and t he under2ground sections was more reasonable ,in t he field capacity of soil moist ure content 70 % - 85 % conditions.When soil water accounted for 55 % - 70 %of t he field capacity ,quality indicator s reached the maximum :Vc1. 16 mg/ g ,f ree amino acids 363. 6 μg/ g , soluble sugar 19. 4 mg/ g and soluble protein 19. 7 mg/ g respec2tively. And water utility efficiency in t he conditions was al so the largest (28. 66 kg/ m3) , respectively in2creased by 19. 5 % ,30. 3 % and 51. 3 % compared with A1 ,A3 ,A4 .【Conclusion】Taking into considerationof t he effect s of soil moist ure on f ruit quality , t he dist ribution of dry mat ter ,water utility efficiency andf ruit yield ,the field capacity 55 % to 70 % could be used as an ideal soil moist ure indicator of f ruiting stageof greenhouse pepper .

【语种】中文

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【学科分类】农业基础学科

【题目】黄土丘陵沟壑区纸坊沟小流域农业生态安全态势变化的驱动力分析

【中文关键词】土壤; 土壤有机碳; DNDC模型; 碳循环

【英文关键词】s oil ; s oil organic carbon; DNDC model ; carbon cycling

【中文摘要】摘要: 在利用长期定位试验的实测土壤有机碳 (S OC)数据,验证 DNDC (脱氮 -分解作用)模型在黄土丘陵沟壑区应用的可行性基础上,应用 DNDC模型来研究黄土丘陵沟壑区坡耕地农田土壤碳库储量动态变化及碳循环特征。结果表明:施肥可提高作物残体与根系分泌物的外源 C携入量,也能提高土壤异氧呼吸对内源 C的消耗,且施用有机肥后提高效果显著。总体上,单施有机肥、 有机肥配施氮肥均能显著提高 0~30 cm土层 S OC含量, 40年后各处理 S OC分别比初始值提高了90129%、 86146%。不施肥和单施氮肥, S OC含量总体都呈现下降趋势, 40年后各处理 S OC分别比初始值降低了3152%、 0138%。依据 DNDC模型模拟结果,在黄土丘陵沟壑区坡地上,为保持和提高土壤肥力,增加碳库储量,以施用有机肥为主,配合施用一定量的氮肥将是非常有效的措施。

【英文摘要】Abstract: Based on the feasibility of DNDC (denitrificati on 2 decompositi on) model in the hilly2gully areas of the Loess Plateau, which was verified by the 82 year s oil organic carbon (SOC) dataderived from l ong2term experi ment, continuous SOC changes and carbon cycle features on thesl ope land were studied by usingDNDC model . The study not only p r ovides scientific basis for in2creasing the regi on ’ s agricultural s oil fertility and far m p r oducti on, but als o makes a corres pondingcontributi on t o scientific reducing, therefore it is of great p ractical significance . The results, de2rived from the combinati on data of validati on si mulati on and 402 year l ong2term si mulati on, indica2ted that fertilizer app licati on could increase the amount of input exogenous carbon, which wasbr ought int o s oil such as cr op residues and r oot exudates, while fertilizati on could increase consu2ming endogenous carbon by s oil heterotr ophic res p irati on; the effect of the only manure or com2pound manure and chemical fertilizer app licati onswere significant . On the whole, the content ofSOC in the 0 - 30 cm s oil layer of the onlymanure or the compound manure and nitr ogen app lica2ti onswere 90 . 29% or 86 . 46% higher significantly than the starting values 40 years ago, res pec2tively . However, the content of SOC in the contr ol treat ment or in the chemical nitr ogen app lica2ti on treat mentwere 3 . 52% and 0 . 38% l ower than the starting values 40 years ago, res pectively .According t o the si mulating results of DNDC model on the sl ope land in hilly areas of the LoessPlateau, app lyingmanure mainly with a certain amount of nitrogen fertilizer will be an effectivemeasure formaintaining i mp r oved s oil fertility, increasing the amount of st orage of the organic car2bon pools in s oil .

【语种】中文

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【题目】沙枣(Elaeagnus angustifolia.)和孩儿拳头(Grewia.biloba G.Don var.parviflora)幼苗气体交换特征与保护酶对干旱胁迫的响应
【中文关键词】沙枣;孩儿拳头;气体交换;保护酶;干旱胁迫
【英文关键词】E.angustifolia;G biloba G.Don var.parviflora;gas exchange;protective enzyme;drought stress
【中文摘要】以沙枣和孩儿拳头2年生盆栽苗为材料,采用称重控水的方法设置4个土壤含水量梯度(CK、T1、T2、T3),研究不同干旱胁迫对沙枣和孩儿拳头气体交换特征与保护酶的影响。结果显示:(1)干旱胁迫不仅引起两物种净光合速率、蒸腾速率、气孔导度、胞间CO2浓度的下降,而且使其日变化曲线在一定程度上发生改变;在轻度(T1)和中度胁迫(T2)下,两物种净光合速率下降主要是由气孔因素引起的,重度胁迫(T3)下,净光合速率下降主要是非气孔因素引起的。(2)随着干旱胁迫增加,沙枣瞬时水分利用效率呈现增加一下降语增加趋势,孩儿拳头呈现下降趋势;两物种表观光能利用效率显著下降,重度胁迫下(T3),下降率达50%左右,孩儿拳头表观光能利用效率对干旱胁迫比较敏感;两物种表观CO2利用效率总体呈现下降趋势,沙枣表观CO2利用效率日进程经历了单峰(T1)、双峰(T2)、单峰(T3)的变化,孩儿拳头各处理的表观CO2利用效率日变化均呈现单峰曲线。(3)随着干旱胁迫加剧,两物种叶片的超氧化物歧化酶(SOD)、过氧化物酶(POD)、过氧化氢酶(CAT)活性先升高后降低,土壤含水量高于12.8%时,两物种SOD酶活性均高于CK,随着土壤含水量的降低,SOD酶活性低于CK;重度胁迫下(T3),沙枣POD酶活性虽然有所下降,但仍高于CK,而孩儿拳头则和CK无显著差异;两物种CAT酶活性在重度胁迫下(T3)显著低于CK;随着干旱胁迫程度的增加,两物种叶片中的丙二醛(MDA)含量均呈现升高趋势,孩儿拳头脂质过氧化程度受干旱胁迫的影响较大。
【英文摘要】
【语种】中文
【第一作者】孙景宽
【通讯作者】张文辉
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【题目】Identification and functional study of a shrimp Relish homologue
【中文关键词】无
【英文关键词】Relish; Shrimp; Innate immunity; NF-κB; Antibacterial peptide
【中文摘要】无
【英文摘要】Rel/NF-κB transcription factors play central roles in induction and regulation of innate immune responses. Here we describe the identification and functional analysis of a Relish homologue, LvRelish and its shorter isoform sLvRelish, from the Pacific white shrimp, Litopenaeus vannamei. The LvRelish gene has 22 exons in approximately 15 kb genomic sequence. The full-length cDNA of LvRelish is 4071 bp with an open reading frame that encodes 1207 amino acids. LvRelish contains a conserved Rel homology domain (RHD), a nucleus localization signal, an IκB-like domain (six ankyrin repeats), and a death domain, suggesting that it belongs to the class I NF-κB. sLvRelish cDNA is 1051 bp encoding 317 amino acids. It shares the RHD region with LvRelish. RT-PCR analysis showed that LvRelish and sLvRelish mRNAs were expressed at different levels in tissues. Western blot analysis showed that recombinant intact LvRelish could be cleaved into two fragments in S2 cells, and immunofluorescence assay showed that the plasmid-expressed LvRelish protein was seen both in the cytoplasm and the nucleus. Electrophoretic mobility shift assay showed that recombinant RHD of LvRelish in S2 cells bound specifically with Drosophila melanogaster κB motifs in vitro. Both the LvRelish and its RHD domain transactivated the reporter gene controlled by the 5′ flanking region of penaeidin 4, an antibacterial peptide of shrimp, suggesting that LvRelish can regulate the transcription of penaeidin 4 gene. Identification of LvRelish will help us better understand shrimp immunity and may help obtain more effective methods to prevent shrimp diseases.

【语种】英文
【第一作者】黄仙德
【通讯作者】何建国
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【学科分类】免疫学

【题目】黄土高原半干旱区侧柏(Platycladus orientalis)树干液流动态
【中文关键词】黄土高原;侧柏;树下液流;热扩散式探针;气象因子
【英文关键词】The Loess Plateau; Platycladus orientalis; sapflow; thermal dissipation probe(TDP); climatic factors
【中文摘要】应用热扩散式树干茎流计于2008年4-10月对黄土高原安塞县侧柏人工林树下液流速率进行了连续测定,并对周围气象、土壤水分等多个环境因子进行了同步测定。结果表明:侧柏在不同月份晴天树干液流速率变化具有明显的昼夜节律性,呈单峰曲线;且各月液流速率F1均值受土壤供水水平限制总体呈下降趋势,即4月份最大,为0.00135 cms-1;10月份最小为0.00011 cm • s-1;树干液流速率与光合有效辐射、大气温度、水汽压差呈极显著JF相关,与相对湿度呈负相关,其相关程度:光合有效辐射>水汽压差>大气温度>相对湿度,并可用线性表达式来估算;侧柏边材面积和地径旱幂指数关系,并以此结合密度估算出样地侧柏人工林的边材面积为4.65m2,最终估算出侧柏人工林生长季总耗水量为1159.6 t • hm-2。
【英文摘要】
【语种】中文
【第一作者】于占辉
【通讯作者】陈云明
【期刊名称、卷期、页码】生态学报,2009,29(7):3970—3976.
【论文发表时间】2009-07-24 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】生态学

【题目】纸坊沟流域近25年景观斑块功能类型及动态
【中文关键词】纸坊沟;流域;景观斑块;景观动态;景观指数
【英文关键词】Zhifanggou;valley;landscape patch;landscape dynamic;landscape index
【中文摘要】对黄土高原安塞地区纸坊沟流域过去25a的景观动态进行了调查,结果表明,在不同时期景观呈现一定的差异,但整体结构未出现明显的改变。生态防护性景观,经济生产型景观,生活服务型景观占总体的百分比相对稳定。在2005年,生态防护型景观所占的比例最大,同时经济生产型所占比例最小。每个植被景观的斑块数量较小,但平均面积较大且破碎程度低。植被景观的生物多样性指数和均匀度指数随时间先增加后减少,而优势度指数随时间先减少后增加。2005年的景观结构较为合理,植被得到了一定的恢复,植被生态系统达到了理想的水平,森林,灌木和草地的结构比例合理,地区的生态安全和农业生产得到了加强。因此,这个景观结构可以作为当地的生态重建和植被修复的范例。
【英文摘要】
【语种】中文
【第一作者】许晓波
【通讯作者】张文辉
【期刊名称、卷期、页码】2009,45(8),154-160
【论文发表时间】2009-08-17 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】生态学

【题目】基于模糊综合评判的森林群落稳定性评价体系模型构建——以黄龙山主要森林群落为例
【中文关键词】森林群落;稳定性;模糊综合评判;模型构建

【英文关键词】forest community;stability;fuzzy synthetic evaluation;established model
【中文摘要】基于模糊综合评判理论,以黄龙山分布的油松林、油松+辽东栎林、辽东栎林和白桦林4种森林群落类型为例,选择反映森林群落基本特征的种群更新潜力、林地土壤肥力、林地生产力、物种多样性和人为干扰这5项指标(共15个因子),构建森林群落稳定性评价模型,通过计算该评价模型的隶属函数值来评判森林群落稳定性。结果表明:黄龙山4种主要森林群落稳定性表现为辽东栎林>油松+辽东栎林>油松林>白桦林,评判结果符合当地森林群落发育状况;评价模型中评价因子的选择反映了森林群落稳定性的基本特征,突出了常用方法对群落调查获取的林业数据的应用;评价过程避免了繁琐的数学计算,可操作性强,具有较好的推广应用价值。基于5项指标的模糊综合评判的森林群落稳定性评价模型可以应用于森林群落稳定性评价
【英文摘要】
【语种】中文
【第一作者】郭其强
【通讯作者】张文辉
【期刊名称、卷期、页码】林业科学,2009,45(10),19-24
【论文发表时间】2009-10-08 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】生态学

【题目】黄土高原半干旱区人工林刺槐展叶期
【中文关键词】黄土高原;刺槐;展叶期;树干液流;热扩散式探针;气象因子
【英文关键词】Loess Plateau; Robinina pseudoacacia; leaf fiushing period; sap flow; thermal dissipation probe(TDP); climatic factores
【中文摘要】应用热扩散式树干茎流计(TDP)于2008年4月26日至5月31日,在黄土高原半干旱区安塞县对人工林刺槐展叶期树干液流及其气象、土壤水分等6个指标进行连续测定。结果表明:刺槐展叶期可分为芽期、展叶初期、中期和全叶期。在芽期,刺槐树干液流速率日变化无明显昼夜波动;在展叶初期至全叶期日变化呈现出从微弱波动逐渐增大到趋于平稳的剧烈波动;在展叶中期以后液流速率表现为上升快、下降缓慢的单峰曲线;在全叶期平均峰值约为0.002 7 cm·s-1;树干液流速率与光合有效辐射强度、大气温度、水蒸气压亏缺和风速呈极显著正相关,与相对湿度呈负相关,其相关程度依次为光合有效辐射强度>大气温度>水蒸气压亏缺>相对湿度>风速,且可用光合有效辐射强度和大气温度线性表达式来估测;土壤水分在展叶期呈逐渐减少趋势,但对树干液流的胁迫不显著;在展叶期刺槐单株日蒸腾耗水量随直径的增大而增大并与胸径呈良好的线性关系,可用来估算展叶期刺槐人工林蒸腾耗水量。
【英文摘要】
【语种】中文
【第一作者】于占辉
【通讯作者】陈云明
【期刊名称、卷期、页码】林业科学,2009,45(4),54-59
【论文发表时间】2009-04-09 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】生态学

【题目】黄土高原蔡家川林场森林质量评价
【中文关键词】森林质量评价;层次分析法;次生林;黄土高原
【英文关键词】forest quality evaluation;analytic hierarchy process;secondary forest;Loess Plateau
【中文摘要】在综合考虑林分结构、群落演替特征和林地生产力水平的基础上,应用层次分析方法,以陕西延安市黄龙山林业局蔡家川林场为例。构建天然次生林森林质量评价模型和指标体系,得到油松林、辽东栎林、白桦林、油松一辽东栎混交林、油松一白桦混交林和辽东栎一白桦混交林的综合质量评分值。结果表明:采用森林结构、演替趋势和林地生产力3大类8个评价指标(郁闭度、物种丰富度、均匀度、枯枝落叶厚度、乔木蓄积量、灌草生物量、幼苗数量及优势种幼树幼苗与乔木数量之比)可以较为全面地反映该地区次生林质量状况,森林结构对森林质量影响较大,群落演替状况次之,林地生产力影响较小,评价指标对森林质量的贡献值由大到小依次为林分郁闭度0.356 2。枯枝落叶厚度0.21l 6,优势种幼树幼苗与乔木数量之比0.130 5,均匀度0.105 8,乔木蓄积量0.082 6,物种丰富度0.064 4,幼苗数量0.037 2,灌草生物量0.Oll 8;天然林保护工

程实施10多年来,蔡家川林场林分综合得分值28.0—92.2,接近一半的森林处于较好水平,质量差和较差的林分极少,油松、辽东栎及油松一辽东栎天然次生林质量相对较好,林分综合得分值65—73,而白桦林、辽东栎一白桦混交林和油松一自桦混交林的林分质量较差,综合评分值均低于60.00;该评价方法操作简单,可以解决森林质量评价中的量化问题,评价模型和指标体系可以在黄土高原其他地区的次生林质量评价中借鉴和应用。
【英文摘要】
【语种】中文
【第一作者】王乃江
【通讯作者】张文辉
【期刊名称、卷期、页码】林业科学,2010,46(9),7-13
【论文发表时间】2010-09-24 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】生态学

【题目】不同作物根系分泌物对黄瓜的化感作用
【中文关键词】黄瓜; 化感作用;前茬作物; 根系分泌物; Hoag land 营养液
【英文关键词】Cucumis stat irus L. ; allelopathy ; fr ont stubble cr op; secret ion o f ro ot ; Hoagland nutr ient so-
lut ion
【中文摘要】[摘 要] 就不同作物根系分泌物溶液对黄瓜种子和黄瓜幼苗的化感作用进行了研究。结果表明,油菜、 玉米、 小麦和小白菜对黄瓜种子发芽势和发芽率的抑制作用均较低;除玉米根系分泌物溶液外,其余作物根系分泌物溶液均抑制黄瓜种子胚根和胚芽生长,且胚芽的受抑制强度大于胚根; 玉米、 油菜、 小白菜和黄瓜根系分泌物溶液对黄瓜幼苗苗高和茎粗有促进作用, 且对黄瓜幼苗根长和根数的抑制作用较小。说明玉米是黄瓜种植最适宜的前茬作物, 其次是油菜和小白菜,而豇豆、 豆角和黑豆等豆科作物不宜作为黄瓜种植的前茬作物。
【英文摘要】Abstract: This paper studied the allelo pathy funct io ns of the ro ot s secr et ion o f di f ferent crops on thecucumber seed spro ut and the seedling grow th. T he result indicated that the inhibito ry intensity o f theroo ts secr et ion of the rape, the corn, the w heat and the pakchoi cabbag e were smaller than that o f o thercr ops o n the g erminat ion tendency and the g erminat ion rate of cucumber seed. Ex cept the co rn root s secre-tio n solut ion, the root s secretio n solut ion of other cro ps suppressed the radicle and the plumule g row th ofthe cucumber seed, and the plumule w ere r estr ained mo re g reat ly than the r adicle by tho se crops r oot secre-tio n. The ro ot s secret ion so lut ion of the co rn, the rape, the pakchoi cabbag e and the cucumber promoted theseedling height and the stem thickness of cucumber seedl ing , and small inhibitory act ion to the root lengthand the per plant root s of the cucumber seedling , which ex plained that corn w as the most sui table fro ntstubble crops of cucumber, and the nex t suitable fro nt stubble cr ops fo r cucumber rotat ion system w ere therape and the pakchoi cabbage. But the leg uminaceous cr ops, such as cowpea, green bean and black soy-beans, w ere not suitable.
【语种】中文
【第一作者】由海霞
【通讯作者】由海霞
【期刊名称、卷期、页码】西北农林科技大学学报
【论文发表时间】2005-12-19 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】农业基础学科

【题目】黄土丘陵区流域农业生态经济安全问题初探
【中文关键词】黄土丘陵区; 流域农业生态经济安全; 可持续发展; 现状; 策略
【英文关键词】loess hil ly and g ul ly region; agricultural ecological and economic securi ty of the w atershed; sus-
tainable development ; current situat ion; st rateg y
【中文摘要】摘要: 流域农业生态经济安全系指满足流域生态经济可持续发展的一种态势, 包含了3个层次的内容, 具有3个重要特征。 依据黄土丘陵区流域发展现状, 农业生态经济安全状况可以划分为4个等级: 安全、 亚安全、 不安全、 极端不安全,大部分流域处于亚安全或不安全态势;以纸坊沟流域为例, 分析了系统在亚安全态势下的具体表现。 针对系统亚安全或不安全态势下的主要问题, 提出了对策建议:发展商品型生态农业,强化产业与资源的耦合关系; 调整产业结构,促进产业

优化升级;建立流域农业生态经济安全预警系统, 及时调整系统外物、 能输入。
【英文摘要】Abstract: The agricultural ecological and economic securi ty of w atershed means that a sort of si tuation w hich sat-isfy sustainable development of ecological economy of the watershed, containing 3 levels of content s and 3 impor-tant characters. According to the current status of the w atershed in the loess hil ly and g ully region, the si tuat ionof ag ricul tural ecological and economic security of the w atershed can be divided into 4 g rades: security , sub- securi-ty , insecurity, ext reme insecurity, a majori ty of the watershed has been under the state of sub- safety or insecuri-ty ; Take Zhi fanggou valley as an example, the author analy ses the practical performance of the system in sub- safe-ty situat ion. Researching on the main problem caused by the system in the situat ion of sub- safety or insecuri ty,the author put forw ard the countermeasures and sug gest ions: Developing ecological agriculture w ith commodi ty e-conomy , and consolidat ing the coupled relat ion betw een industry and resources; Adjusting indust rial structure andadvancing indust rial optimize and upgrade; Building up early- w arming system of ag ricul tural ecolog ical and eco-nomic securi ty of the w atershed, and adjusting input of mat ter and energ y outside the system in t ime.
【语种】中文
【第一作者】王继军
【通讯作者】王继军
【期刊名称、卷期、页码】水土保持通报 1 179-182
【论文发表时间】2006-12-15 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】农业基础学科

【题目】黄土高原半干旱区刺槐生长盛期树干液流动态
【中文关键词】气象因子, 黄土高原, 刺槐, 树干液流, 热扩散式探针
【英文关键词】climatic factors, Loess Plateau, Robinia pseudoacacia, sap flow, thermal dissipation probe
【中文摘要】通过研究树干液流速率与气象因子的关系, 可以定量地分析树木生长与群落蒸腾耗水的相互关系, 揭示黄土高原半干旱区刺槐水分利用动态及其适应环境因子的内在机理, 为当地生态环境建设提供理论依据。应用热扩散式树干茎流计(TDP)于2008年7月1日至7月26日, 在黄土高原半干旱区安塞县对刺槐(Robinia pseudoacacia)人工林生长盛期树干液流速率进行了连续测定, 并对周围气象、土壤水分等指标进行了同步测定。刺槐生长盛期树干液流速率晴天日变化呈宽峰形曲线, 在测量时期液流速率日平均值为0.001 33 cm • s – 1; 刺槐树干单位边材面积的液流速率与光合有效辐射、大气温度、水汽压差呈极显著正相关关系, 与相对湿度呈负相关关系。其相关程度绝对值顺序为光合有效辐射>大气温度>水汽压差>相对湿度>风速; 刺槐边材面积与胸径之间存在着显著的线性相关关系, 相关系数为0.878, 单位边材面积的液流速率随树干胸径的增大而减小。
【英文摘要】
【语种】中文
【第一作者】吴芳
【通讯作者】陈云明
【期刊名称、卷期、页码】植物生态学报 2010, 34 (4): 469 – 476
【论文发表时间】2010-04-09 00:00:00
【引文索引类型】null
【引文索引号】
【学科分类】生态学

【题目】整地时期对土壤物理性质及苹果幼树生长的影响
【中文关键词】穴状整地时期; 土壤物理性质; 苹果幼树; 成活率
【英文关键词】period of soil preparation by digging hole; soil physical property; young apple tree; livability
【中文摘要】摘 要: 为了提高陕北黄土丘陵沟壑区苹果幼树的栽植成活率和保存率,对 3 个穴状整地时期的土壤物理性状及苹果幼树生长状况进行了监测研究。结果表明,穴状整地后土壤容重降低,土壤总孔隙度和非毛管孔隙度提高。雨季前穴状整地提高了春季和幼树生长前期的土壤水分, 减小了土壤日温差, 提高了苗木成活率, 促进了树体生长。但雨季后和春季穴状整地降低了春季和幼树生长前期的土壤水分, 加大了土壤日温差, 降低了苗木成活率, 削弱了树体生长,并且加深了定植当年的地面塌陷深度,降低了苹果幼树冬春季的枝条含水量,提高了枝条抽条指数, 降低了苗木保存率。陕北丘陵沟壑区栽植苹果时应该在雨季前穴状整地。

【英文摘要】Abstract: In or der to increase the liv ability and survival rate of young apple tr ees in the loess hilly and gullyar eas of No rthern Shaanxi Prov ince, soil physical propert ies and y oung apple t ree g row th w ere monito red bythe three tr eatment s of soil preparat ion by dig ging hole before rainy season, after rainy seaso n, and inspring . Results show ed that so i l bulk densi ty w as decreased and soil total porosity and soil non -capillary po -r osity w ere increased af ter soil prepar at ion by digg ing hole. For the t reatment of soil preparat io n by dig gingho le before rainy season, soil mo istur e w as incr eased in spring and t ree grow th pr ophase perio d; soil temper -ature dif ference betw een daily max -temper ature and daily min -temper ature w as decreased; tr ee liv ability w asincreased; and t ree g row th w as promoted. How ev er, for the t reatment s of soil preparat io n by digg ing ho leaf ter rainy seaso n and in spring, soil moisture w as decreased; soil temperature differ ence w as incr eased; t reelivability w as reduced; t ree g row th w as w eakened; gr ound subsidence depth w as deepened in plant year;branch w ater content w as r educed in the w inter and spring ; branch shrivel ing index w as incr eased; and t reesurvival r ate w as decreased. Soil preparat io n by dig ging hole befo re rainy season is sug gested w hen appletr ees w er e planted in the loess hilly and gully area of No rthern Shaanx i Pro vince.
【语种】中文
【第一作者】杜社妮
【通讯作者】杜社妮
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【学科分类】农业基础学科

【题目】定植穴对局部土壤物理性质及苹果生长的影响
【中文关键词】定值穴,土壤物理性质,苹果树,黄土丘陵沟壑区
【英文关键词】planting hole, soil physics character, apple tree, loess hilly and gully region
【中文摘要】摘 要:为了探索陕北黄土丘陵沟壑区苹果栽植成活率低、树体生长状况差的原因,对 3 种定植穴土壤物理性状及苹果生长状况进行了监测研究。结果表明定植沟、大定植穴降低了 0~100 cm土层土壤容重和开挖到雨季的土壤水分,其中开挖到定植是土壤水分散失的主要阶段。定植沟、大定植穴提高了 0~100 cm土层土壤总孔隙度、非毛管孔隙度和地面塌陷深度,相对提高了雨季期间的土壤水分,提高了枝条失水量和抽条指数,造成苗木成活率降低,树体生长量和产量降低。陕北丘陵沟壑区栽植苹果不宜采用雨季后开挖定植沟、大定植穴,翌年春季定植;春季定植时应以普通定植穴为主,并边挖边栽。
【英文摘要】
【语种】中文
【第一作者】白岗栓
【通讯作者】白岗栓
【期刊名称、卷期、页码】农业工程学报 25 26-33
【论文发表时间】2009-02-10 00:00:00
【引文索引类型】EI
【引文索引号】
【学科分类】农业基础学科

【题目】黄土丘陵区不同土地类型土壤水分分布规律研究
【中文关键词】土地类型; 土壤水分;黄土丘陵沟壑区
【英文关键词】dif ferent land types; soi l mois ture; loes s hil ly and gully re gion
【中文摘要】摘 要: 在黄土丘陵沟壑区燕沟流域, 于 2002~ 2006 年定位监测不同类型土地不同坡位、 坡向的土壤含水量,对土壤含水量的动态变化进行了系统分析。结果表明:不同土地类型的土壤含水量差异明显, 坝地最高, 平均 19.%,川台地次之, 平均 17. 21%,梯田平均 16. 34%, 坡地最低, 平均 15. 04%, 土壤含水量与年降雨量呈正相关, 相关系数为 0. 68;土壤含水量月变化动态呈现/ 单谷0曲线, 7月份最低;不同坡位的土壤含水量变化趋势为随坡位升高,土壤水分含量递减; 不同坡向的土壤含水量变化趋势为阴坡> 阳坡。
【英文摘要】
【语种】中文

【第一作者】王栓全
【通讯作者】王栓全
【期刊名称、卷期、页码】干旱地区农业研究 29(6)
【论文发表时间】2009-04-20 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】农业基础学科

【题目】Molecular cloning, characterization, expression and antibacterial analysis of a lysozyme homologue from Fenneropenaeus merguiensis
【中文关键词】溶菌酶-C;墨吉对虾;PCR-克隆;表达;抗菌活性
【英文关键词】Lysozyme C; Fenneropenaeus merguiensis; PCR-cloning; Expression; Antibacterial activity
【中文摘要】The gene coding for lysozyme in banana prawn (Fenneropenaeus merguiensis) was cloned, sequenced and expressed in pET-32a vector. The deduced amino acid sequence of F. merguiensis lysozyme showed 37-93% similarity with the mouse, human, chicken, and tiger prawn counterparts. The lysozyme was purified to homogeneity and observed as a band of approximately 15 kDa in 12% SDS-PAGE. Semiquantitative RT-PCR analysis demon-strated that mRNA transcripts of lysozyme could be mainly detected in the tissues of hemocytes, gill, gonad and lym-phoid organ of unchallenged shrimps, whereas the expression of lysozyme transcripts was increased in all the tested tissues after heat-killed Vibrio alginolyticus chal-lenge. The temporal expression of lysozyme mRNA in hemolymph challenged by Micrococcus luteus and V. alg-inolyticus was both up-regulated and reached the maximum level at 8 and 16 h post stimulation, respectively, and then dropped back to the original level. Bacteriolytic activity of lysozyme against different bacterial cultures was deter-mined by solid phase as well as turbidimetric assay. Lysis was obtained against Gram positive and Gram negativebacteria with strong inhibition against shrimp pathogens V. alginolyticus and V. parahemolyticus . In addition, the study of inhibition mechanism revealed that the antibacte-rial activity of lysozyme was a result of bactericidal effect.
【英文摘要】The gene coding for lysozyme in banana prawn (Fenneropenaeus merguiensis) was cloned, sequenced and expressed in pET-32a vector. The deduced amino acid sequence of F. merguiensis lysozyme showed 37-93% similarity with the mouse, human, chicken, and tiger prawn counterparts. The lysozyme was purified to homogeneity and observed as a band of approximately 15 kDa in 12% SDS-PAGE. Semiquantitative RT-PCR analysis demon-strated that mRNA transcripts of lysozyme could be mainly detected in the tissues of hemocytes, gill, gonad and lym-phoid organ of unchallenged shrimps, whereas the expression of lysozyme transcripts was increased in all the tested tissues after heat-killed Vibrio alginolyticus chal-lenge. The temporal expression of lysozyme mRNA in hemolymph challenged by Micrococcus luteus and V. alg-inolyticus was both up-regulated and reached the maximum level at 8 and 16 h post stimulation, respectively, and then dropped back to the original level. Bacteriolytic activity of lysozyme against different bacterial cultures was deter-mined by solid phase as well as turbidimetric assay. Lysis was obtained against Gram positive and Gram negativebacteria with strong inhibition against shrimp pathogens V. alginolyticus and V. parahemolyticus . In addition, the study of inhibition mechanism revealed that the antibacte-rial activity of lysozyme was a result of bactericidal effect.
【语种】英文
【第一作者】麦维军
【通讯作者】胡超群
【期刊名称、卷期、页码】Molecular Biology Reports. 36, 1587-1595
【论文发表时间】2009-08-01 00:00:00
【引文索引类型】SCI
【引文索引号】DOI10.1007/s11033-008-9355-8
【学科分类】水产学基础学科

【题目】黄土丘陵区土壤水分垂直分布规律研究
【中文关键词】黄土丘陵沟壑区; 土壤水分; 垂直分布
【英文关键词】loess hilly and gully area; soil moisture content; vertical distribution
【中文摘要】摘 要: 以黄土丘陵沟壑区燕沟流域为研究对象, 对流域内 2006 年不同类型土壤水分垂直变化进行了分析。结果表明,在实验设计条件下, 不同层次的土壤水分变幅较大,坝地、 梯田和坡地各层土壤含水量变化与降雨量的季节性变化呈现出较一致的趋势, 而苹果地除 0) 100 cm 外, 100) 200 cm 随着降雨量的季节性变化出现较大波动;不同类型土地的土壤含水量变化程度不同,同一类型土地的土壤含水量变化幅度也有差异, 10 cm 处土壤含水量变异系数最大, 随着土层深度

的增加变异系数逐渐递减。根据土壤含水量变异系数分析,将不同类型土壤含水量垂直变化划分为速变层、 活跃层、 次活跃层和相对稳定层 4 个层次;并建立了不同类型土地各层土壤含水量变异系数回归方程。

【英文摘要】Abstract: The vert ical variations of different types of soil moisture in Yan. gou w atershed in the hi lly and gul ly areaof the Loess Plateau are analyzed. Resul t s show that the variat ion of soil moisture content in di fferent layers is greatunder the condi t ion of designed experiment . Soil moisture content s on dam, terrace, and slope are consistent wi th theseasonal change of rainfall. Soil moisture content of 100) 200 cm layer in orchard fluctuates significant ly w i th theseasonal change of rainfall. The variat ion of soil moisture content is different in extent not only under the differentland types, but also under the same land type. The variation coef ficient of soi l moisture content is the biggest at 10cm depth and is gradually reduced with increased soil depth. According to the analysis of the variation coefficient, thevertical distribution of soil moisture content under di f ferent land types may be divided into vertiginous layer, act ivelayer, subact ive layer, and relatively stable layer. Regression equations of the variat ion coefficient are also found forthe soil layers of different land types.

【语种】中文

【第一作者】岳宏昌

【通讯作者】王栓全

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【引文索引号】

【学科分类】农业基础学科

【题目】设施条件下氮肥对大青菜硝酸盐及土壤矿质氮累积的影响

【中文关键词】硝酸盐;大青菜; 氮肥;设施农业

【英文关键词】N i trate ; Garden sass ; N i trogen fertilizer ; Facili ties cond i t i on

【中文摘要】摘　要: 采用田间实验研究了施用氮肥对设施条件下大青菜生长发育和产量,以及对土壤硝酸盐含量累积分布的影响。结果表明,在施氮肥 0~ 500 kg hm- 2范围内, 氮肥施用量越大, 产量越高,但到达一定量时, 便不能再促进产量的提高,反而会引起减产。土壤铵态氮含量随着土壤剖面向下不断下降,表层的铵态氮含量较高, 土壤硝态氮含量在整个土壤剖面的分布变化较小, 但也是从表层向下处于一种缓慢减少的趋势, 铵态氮的累积主要集中在上部土壤剖面, 硝态氮的累积分布在整个土壤剖面, 土壤硝态氮含量随施肥量增加而增加; 氮肥施用量对硝酸盐含量有很大影响。在施氮肥 0 ~ 700kg hm- 2范围内, 氮肥施用量越多,大青菜硝酸盐含量越高。

【英文摘要】Abst ract : The effect of n i trogen fert i lization on green vege tables gro w th and y ield and the so il nit rate n i tr ogen andammon i um nit rogen accumulation w as studied i n a sunlight greenhouse i n the loess p l ateau area . The resu l t indicatedt hat the y ie l d of garden sass increased at the n i trogen fertil izer applicati on of 0- 500 kg hm- 2, but the y ield decreased a700 kg hm- 2. Ammon i um n i tr ogen accumulation decreased a l ong w i th t he soil depth . The content of soil n i trate changedsli ghtly f rom 0 to 100 c m in the so il profile , but the content of ammonia accu mu lati on changed consi derab l y　Ammoniaw as accumu lated i n 0- 40cm in the so il pro fi le and so il n i trate w as accumu lated i n the whole so i l depth prof i le . Theni trogen fertilizer applicat i on ra te had very si gnificantl effect on t he n i trate content i n garden sass . W i th i n t he n i trogenfert i lizer application rate (0- 700 kg hm- 2) , the more n i tr ogen fert i lizer application rate , the g reater conten t o f n i tratei n garden sass w as found .

【语种】中文

【第一作者】徐福利

【通讯作者】徐福利

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【引文索引类型】其他

【引文索引号】

【学科分类】农业基础学科

【题目】黄土丘陵区沙棘人工林发育过程中物种多样性及种间关联变化

【中文关键词】物种重要值;相似性系数; α -多样性; 种间联结性;人工林

【英文关键词】species importance value; simialarity index; α -diversity;interspecific association; plan-tation

【中文摘要】根据野外调查资料,分析了不同发育阶段沙棘人工群落物种多样性及种间关联的变化特征。结果表明,群落各层及总体物种多样性基本呈“S”形波动变化。在不同发育阶段的沙棘群落中,物种丰富度和多样性指数均呈现草本层>灌木层的趋势。灌木层物种多样性指数在撂荒地中较低,随群落发育逐渐增加,灌木层物种均匀度指数在13年生的沙棘林中较高;草本层多样性指数在3年生的人工林中较高,在8年生的人工林中较低,在25年生的人工林中较高。人工沙棘林中种间关联正负绝对值基本呈抛物线形变化,13年生左右显著程度和联结强度较弱,群落内物种间物种替代速度缓慢,竞争较少,群落组成和结构相对稳定。在沙棘人工林的经营和管理上,应是13年生以前以保护为主,到25年生时进行适度择伐,抚育萌生幼苗,促进种群更新发育。
【英文摘要】
【语种】中文
【第一作者】郭连金
【通讯作者】张文辉
【期刊名称、卷期、页码】应用生态学报,2007,18(1):9-15
【论文发表时间】2008-01-11 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】生态学

【题目】黄土丘陵沟壑区坡地土壤有机碳变化及碳循环初步研究
【中文关键词】土壤; 土壤有机碳; DNDC模型; 碳循环
【英文关键词】soi; l so i l organic car bon ; DNDC mode; l carbon cycling
【中文摘要】摘要: 在利用长期定位试验的实测土壤有机碳 (SOC)数据,验证 DNDC(脱氮 - 分解作用)模型在黄土丘陵沟壑区应用的可行性基础上,应用 DNDC模型来研究黄土丘陵沟壑区坡耕地农田土壤碳库储量动态变化及碳循环特征。结果表明:施肥可提高作物残体与根系分泌物的外源 C携入量,也能提高土壤异氧呼吸对内源 C的消耗, 且施用有机肥后提高效果显著。总体上,单施有机肥、 有机肥配施氮肥均能显著提高 0~ 30 c m土层 SOC含量, 40年后各处理 SOC分别比初始值提高了90 29 %、 86 46 %。不施肥和单施氮肥, SOC含量总体都呈现下降趋势, 40年后各处理 SOC分别比初始值降低了3 52%、 0 38%。依据 DNDC模型模拟结果,在黄土丘陵沟壑区坡地上, 为保持和提高土壤肥力,增加碳库储量, 以施用有机肥为主, 配合施用一定量的氮肥将是非常有效的措施。
【英文摘要】Abst ract : Based on the feasi b i lity of DNDC (den i tri fication decomposi t i on) model i n t he h il ly gu l ly areas o f t he Loess Plateau , wh ich w as verified by the 8 year so il or gan ic carbon (SOC) da taderived f rom long ter m experi m en, t continuous SOC changes and carbon cyc le features on thesl ope land w ere studied by using DNDC mode. l The study no t on ly prov ides scient i fic basis for i n creasi ng the reg i on s ' agr i cu l tura l soil fertili ty and far m product i on , but a lso makes a correspond i ngcont ribution to scientific reduci ng , therefore it is of great pract ica l sign i f i cance . The results , de rived f rom the combinat i on data of va li dation si mu lation and 40 year l ong term si mulation, i nd ica ted that fert i lizer app li cation cou l d i ncrease the amount o f i nput exogenous car bon , w hich w asbrought i nto so il such as crop residues and roo t exudates , wh i le fertilizat i on cou l d increase consu m ing endogenous carbon by so il heter o t rophic resp i ration; the effect o f the on l y manure or com pound manure and chem ica l fertilizer applicat i ons w ere sign i f i can. t On thew ho le , the content ofSOC i n the 0- 30 cm so i l l ayer of the on lymanure or the compoundm anure and n i trogen app lica t i ons w ere 90 . 29% or 86. 46 % h i gher sign i ficantly than the starting va l ues 40 years ago , respec t i ve l y . Ho w ever , the content o f SOC i n the contro l t reat m ent or in t he chem ica l n i t rogen app lica t i on treat men tw ere 3 . 52 % and 0 . 38 % l ower than t he start i ng va l ues 40 years ago , respecti ve l y .A ccor d i ng to the si mu lati ng results of DNDC model on the slope land i n h il ly areas o f t he LoessPlateau, app l y ing manure ma i nly w ith a certain amount o f n i tr ogen fertilizerw ill be an effectivemeasure forma i ntaining i mpr oved so il fert i lity , i ncreasi ng the amount of storage of the organ ic car
【语种】中文
【第一作者】陈晨
【通讯作者】陈晨
【期刊名称、卷期、页码】自然资源学报 25(4)
【论文发表时间】2010-04-06 00:00:00
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【引文索引号】
【学科分类】农业基础学科

【题目】黄土丘陵区延河流域潜在植被分布预测与制图
【中文关键词】潜在植被;植被-环境;广义相加模型;分布预测
【英文关键词】potential vegetation;vegetation—environment;generalized additive model;distribution prediction.
【中文摘要】在植被的分布预测与制图对植被恢复规划具有重要的指导价值.利用广义相加模型(generalized additive model,GAM),结合GIS空间分析技术和环境梯度分层采样技术,为延河流域24个地带性物种建立了分布模型,并在考虑群落内部物种种间关系及其分布概率的基础上,对物种分布进行运算,模拟预测了延河流域37种植物群落的分布状况和延河流域的潜在植被分布.结果表明:研究区植被分布预测值与实际调查值间的差异不显著,预测的植被空间分布较好地反映了延河流域潜在的植被分布状况,表明该模型具有较好的预测能力,对于区域植被恢复的目标设定和恢复规划具有重要意义.
【英文摘要】无
【语种】中文
【第一作者】温仲明
【通讯作者】温仲明
【期刊名称、卷期、页码】应用生态学报.2008,19(9):1897-1904
【论文发表时间】2008-09-12 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】生态学

【题目】云雾山本氏针茅群落根系分布特征
【中文关键词】云雾山;本氏针茅;根系;分布特征
【英文关键词】Yunwu mountain;Stipa bungeana Trin.;Root system;Distribution characteristics
【中文摘要】为揭示本氏针茅(Stipa bungeana Trin.)群落的生理生态适应机制,采用根系取样器(Φ=9 cm)对宁夏云雾山本氏针茅群落根系分布特征和土壤含水量进行研究。结果表明:本氏针茅群落地下生物量、根长密度、根表面积、比根长均随土壤深度增加而减少,均表现出向表层(0~20 cm)集聚的趋势,且集中分布于0~40 cm土层,最大值均分布在0~20 cm土层,而底层(80~100 cm)最小;所有主要根系分布参数在0~20 cm和20~40 cm土层之间差异显著,以下各层差异不显著;土壤含水量与根生物量和比根长相关性达显著水平(P<0.05),与根表面积、根长密度均呈成正相关;根表面积、根生物量、根长密度和比根长问相关性均达极显著水平(P<0.01)。
【英文摘要】
【语种】中文
【第一作者】周梦华
【通讯作者】程积民
【期刊名称、卷期、页码】草地科学,2008,16(3);267-271
【论文发表时间】2008-05-08 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】生态学

【题目】封育对云雾山本氏针茅草地群落的影响
【中文关键词】云雾山;本氏针茅群落;群落特征;封育
【英文关键词】Yunwu Mountain;Stipa bungreana Trin.;Community characteristic;Enclosure;Species diversity
【中文摘要】以云雾山封育与未封区为对象,采用样线法进行调查,重点分析二者群落特征和地上生物量的变化,以期为退化草地植被恢复提供依据。结果表明:封育后本氏针茅(Stipa bungeana)群落发生较大变化,物种数显著增加、演替差异明显,由未封区的本氏针茅+大针茅(S.gigantea)群落演替为封育后的大针茅+本氏针茅群落;未封区本氏针茅种群的优势地位明显加强,重要值明显大于封育区;封育与未封区群落的相似性系数为0.419;物种丰富度指数和多样性指数(修正的Simpson指数、Shannon-winner指数、Audair和Groff指数)均表现为封育区>未封区,而均匀度指数则相反;封育区地上生物量明显增加,其中禾本科、蔷薇科和杂类草占总生物量的比例均表现为封育>未封区,而菊科则相反。

【英文摘要】
【语种】中文
【第一作者】贾晓妮
【通讯作者】程积民
【期刊名称、卷期、页码】草地科学,2008,16(3):272-277
【论文发表时间】2008-05-17 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】生态学

【题目】草地生态系统土壤呼吸及其影响因素研究进展
【中文关键词】草地生态系统;土壤呼吸;影响因素;研究进展
【英文关键词】grassland ecosystem;so订respiration;affected factors;review
【中文摘要】土壤呼吸在全球碳收支中占有重要的地位,笔者对草地生态系统土壤呼吸在陆地生态系统碳平衡中的作用、土壤呼吸的分类及其影响因素等方面进行了综述。结果表明,草地生态系统土壤呼吸在不同时间空间各组分所占比例不同,生物、非生物及人为活动等因素对草地土壤呼吸影响各异,主要从土壤温度、气候变暖、土壤湿度、降水、干旱化、土壤C/N等非生物因素,叶面积指数、植物光合作用、植被凋落物等生物因素以及人类干扰活动等方面具体阐述这螳因素变化对土壤呼吸产生的影响,并对草地土壤呼吸的Q10值及各影响因素间的交互作用进行归纳总结。提出草地生态系统土壤呼吸研究存在的问题和今后重点发展方向,并对未来草地生态系统土壤呼吸的研究工作做进一步的展望。
【英文摘要】
【语种】中文
【第一作者】周萍
【通讯作者】刘国彬
【期刊名称、卷期、页码】草地科学,2009,18(2),184-193
【论文发表时间】2009-04-17 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】生态学

【题目】黄土丘陵区封禁对侵蚀土壤微生物生物量的影响
【中文关键词】黄土丘陵区;封禁;侵蚀土壤;微生物生物量
【英文关键词】Hilly Loess Plateau;Closing measures;Eroded soil;Soil microbial biomass
【中文摘要】采用时空互代法,以典型侵蚀环境纸坊沟流域不同封禁年限的狼牙刺群落和杂灌群落为研究对象,选取放牧地和天然次生林为参照,分析了生态恢复过程中土壤微生物生物量、呼吸强度、代谢商及理化性质的演变特征。结果表明,封禁后土壤理化性质明显改善;微生物生物量随封禁年限的延长变化显著,阳坡随封禁年限增加土壤微生物生物量逐渐增加,25 a后微生物生物量碳、氮、磷较封禁前分别增加252%、161%和174%,但显著低于天然侧柏林,仅为其39.O%、41.8%和53.7%;阴坡封禁前10年微生物生物量迅速增加,随后增加幅度减缓,呈波动式缓慢上升趋势;封禁25 a后微生物生物量碳、氮、磷分别增加108%、93%和102%,但明显低于天然杂灌丛群落和辽东栎林,仅为辽东栎林的54.4%、49.1%和40.1%。土壤呼吸强度在封禁5 a后增大明显,且随着年限增加逐渐上升,阳坡25 a时达到最大值,而阴坡15 a时达到最大值,随后开始有所下降,25 a后降至最低点,但仍显著高于放牧地,相同封禁年限的土壤呼吸强度阴坡明显高于阳坡。qCO2随着封禁进程逐渐降低,25 a后达到最低值。相关性分析显示微生物生物量碳、氮、磷、呼吸强度、qCO2与土壤养分和恢复年限相关性密切,达到显著(P<0.05)或极显著水平(P<0.01)。
【英文摘要】
【语种】中文
【第一作者】戴全厚
【通讯作者】刘国彬
【期刊名称、卷期、页码】土壤学报,2008,45(3):518-525
【论文发表时间】2008-05-17 00:00:00
【引文索引类型】其他

【引文索引号】
【学科分类】生态学

【题目】黄土高原生态经济建设若干问题
【中文关键词】生态退化;生态经济建设;黄土高原
【英文关键词】degeneration of zoology; eco-economic construction; the Loess Plateau
【中文摘要】以水土流失为基本特征的生态退化严重制约着黄土高原的社会经济发展重建及恢复生态系统是新时期黄土高原地区的主要战略目标之一本文在分析以往黄土高原生态建设成果的基础上从生态经济学角度解读黄土高原生态退化的社会经济原因分析生态经济相互作用的机理并探讨了该区域生态经济建设的主要目标及途径
【英文摘要】
【语种】中文
【第一作者】党小虎
【通讯作者】刘国彬
【期刊名称、卷期、页码】生态经济,2007(1),24-27
【论文发表时间】2008-01-19 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】生态学

【题目】NaCl胁迫对花棒种子萌发的影响
【中文关键词】花棒;盐胁迫;种子萌发
【英文关键词】Hedysarum scoparium;salt stress;seed germination
【中文摘要】不同浓度的NacI溶液对花棒(heyedysarum scoparium)种子进行胁迫萌发实验,观察其发芽率和萌发后种苗的生长情况.并测定萌发吸水率及淀粉酶活性。结果表明:花棒种子萌发对盐胁迫有一定的适应性,当NaCl盐浓度≤0.9%时,种子的发芽率均能达到90%以上;但随着NaCl浓度的增加,种子的萌发吸水受到抑制,淀粉酶活性降低。发芽率、发芽指数和活力指数均呈逐渐下降趋势。当NaCI盐浓度≤0.6%时,种子萌发出的幼苗生长基本不受影响;但当NaCI盐浓度≥1.5%时,胚根伸长基本停止。
【英文摘要】
【语种】中文
【第一作者】晋丽娟
【通讯作者】张文辉
【期刊名称、卷期、页码】干旱地区农业研究,2007,25(3),150-153
【论文发表时间】2007-05-19 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】生态学

【题目】黄土丘陵沟壑区沙棘人工林不同恢复阶段物种多样性与土壤肥力的关系研究
【中文关键词】沙棘人工林;物种多样性;土壤肥力;黄土丘陵沟壑区
【英文关键词】Hippophae rham noides ssp.sinensis plantations;species diversity;soil fertility;hilly and gully region of Loess Plateau
【中文摘要】对黄土高原丘陵沟壑区沙棘人工林不同恢复阶段物种多样性与土壤肥力的关系进行了研究。结果表明,在沙棘人工林恢复的初、中期阶段,口一多样性指数和土壤肥力(有机质合量和氮含量)的增加正相关较明显.在恢复的中期p多样性指数变化较强烈,且土壤有机质含量变化较大,表现出在沙棘人工林恢复的同时,土壤有机质含量也会有所增加,二者基本上是同步的。对土壤肥力与沙棘人工林植物组成性状的关系进行多元回归分析后发现,土壤全氮与木本植物种数、植物种数和物种多样性等因素有关;全磷与物种多样性等因素有关;土壤全钾和pH值的变化比较复杂,与植物组成性状的关系不明显。
【英文摘要】
【语种】中文
【第一作者】李登武

【通讯作者】李登武
【期刊名称、卷期、页码】干旱地区农业研究,2007,25(5),25-30
【论文发表时间】2007-09-08 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】生态学

【题目】不同密度油松人工林生长更新状况及群落结构
【中文关键词】造林密度;生长状况;更新;物种多样性;油松人工林
【英文关键词】density ;growt h ;regeneration ; species diver sity ; Pi nus t abul aef ormis artificial forest
【中文摘要】【目的】阐明黄土高原森林区油松人工林初植密度对群落更新和持续发育的影响,为当地油松人工林经营管理提供参考。【方法】通过野外调查和室内分析相结合的方法,研究了陕西宜川地区不同初植密度1 m ×1 m(密度Ⅰ) ,1 m ×2 m(密度Ⅱ) ,2 m ×2. 5 m(密度Ⅲ)) 35 年生油松人工林的林木个体生长、林地更新、群落物种多样性及土壤养分特征。【结果】油松人工林的死亡率随初植密度的增大呈增加趋势,油松死亡年龄、胸径、树高、冠高和冠幅随初植密度的增加而减小;油松死亡率、胸径、冠高和冠幅与初植密度之间有显著的相关关系,但油松树高与初植密度之间的相关性不显著。油松人工林林下幼苗(树) 的更新状况在低密度林地内最好。在各初植密度油松人工林中,各层物种丰富度指数、均匀度指数和多样性指数均表现为灌木层> 草本层。群落总体多样性表现为丰富度指数和多样性指数在3 种初植密度间的变化趋势一致,均为Ⅲ> Ⅱ> Ⅰ;均匀度指数J sw 和Ea 则表现为Ⅰ> Ⅲ> Ⅱ,而J si表现为Ⅲ> Ⅰ> Ⅱ。不同初植密度林地间土壤养分和水分存在显著差异。【结论】根据样地数据和野外实地观察结果认为,宜川地区油松初始造林密度应在2 800~3 000 株/ hm2 ,在进入生长高峰期后,适时间伐至1 200~1 500株/ hm2比较合适。
【英文摘要】
【语种】中文
【第一作者】王梅
【通讯作者】张文辉
【期刊名称、卷期、页码】西北农林科技大学学报(自然科学版),2009,37(7),75-80
【论文发表时间】2009-07-18 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】生态学

【题目】乔木蒸腾耗水量研究方法述评与展望
【中文关键词】蒸腾作用; 研究方法; 热技术法
【英文关键词】transpiration; research method; thermal methods
【中文摘要】参阅了大量国内外有关乔木蒸腾研究方法文献, 认为乔木蒸腾量研究方法主要有二大类, 即组织器官测定、单木测定; 分类对典型研究方法(快速称重法、气孔计法、整株容器称重法、同位素示踪法、热脉冲法、树干热平衡法、热扩散探针法) 进行了述评, 对比分析了各种方法间的优缺点及其适用范围; 展望了乔木蒸腾耗水作用研究方法的应用前景, 认为热技术法是未来几年内的主要测定方法。
【英文摘要】
【语种】中文
【第一作者】于占辉
【通讯作者】陈云明
【期刊名称、卷期、页码】水土保持研究,2009,16(3),281-285
【论文发表时间】2009-06-13 00:00:00
【引文索引类型】null
【引文索引号】
【学科分类】生态学

【题目】延安公路山辽东栎林优势植物光合适应性分析
【中文关键词】辽东栎林;光合参数;耐荫性;光合适应类群

【英文关键词】Quercus Liaotungensis forest; photosynthetic parameter; shade tolerance; photosynthetic adaptation pattern
【中文摘要】【目的】研究辽东栎群落中优势植物林内外光合参数的变化特点,以阐明植物的光能利用多样性在群落持续发育中的作用。【方法】在8月份生长旺盛期,采用LI-6400光合仪对延安公路山辽东栎林内16种成年优势植物进行光响应曲线测定,通过非线性拟合得到最大净光合速率(Pmax)、光饱和点(LSP)、光补偿点(LCP)和表观量效率(AQY)4个参数。对比分析16种植物在林内和林外孤立木状态不同光环境下的适应特征及平衡策略,对林内外16种植物的Pmax、AQY 与植物耐荫性的相关关系进行多元回归分析,并采用聚类分析的方法,对林内16种优势植物进行光合适应类群划分。【结果】(1)不论在林内还是林外,16种植物的光能利用特性不同。同一种植物的上述4个参数值在林内外有不同程度的升高或降低,同一类群的不同植物在林内外的光能利用调节模式具有趋同性,有15种植物林外的4个参数较林内差异显著或极显著(P<0.05)。(2)在林内,16种优势植物的LCP 与Pmax呈正相关,与AQY 呈负相关;在林外,16种优势植物的LCP 与Pmax、AQY 均呈微弱的负相关。(3)根据不同植物4个光合参数在林内外生境条件下的适应模式,对林内16种植物进行聚类分析,得到3个光合适应类群,每一类群均有其特殊的光合参数调节模式。【结论】辽东栎群落各优势植物的光合参数随生境的变化而变化,乔灌草植物变化差异不同,这是维持群落稳定的基础。
【英文摘要】
【语种】中文
【第一作者】关晋宏
【通讯作者】张文辉
【期刊名称、卷期、页码】西北农林科技大学学报(自然科学版),2010,38(7),167-174
【论文发表时间】2010-07-17 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】生态学

【题目】4种柳树苗木叶的PV水分参数对水分胁迫的响应
【中文关键词】柳树苗木;叶PV水分参数;水分胁迫
【英文关键词】Salix seedings; PV parameter; water stress
【中文摘要】在温室内研究了瑞典能源柳C号、2号柳、4号柳和陕北红皮柳苗木的抗旱能力。对其盆栽苗木施行水分轻度胁迫、中度胁迫、重度胁迫及正常(供水)生长4种处理,应用压力室和PV技术测定4种柳树苗木在不同处理状态下的叶组织多项水分参数,以此对其苗木的耐旱能力作综合评定。结果表明,在水分胁迫条件下,2号柳苗木叶吸收水分的能力最强;4种柳树的苗木均有一定的渗透调节和保持膨压能力,4号柳、2号柳、红柳的苗木能通过增加叶束缚水的含量来实现渗透调节,但其依靠改变苗木叶束缚水的含量来实现渗透调节的作用有限,红柳、4号柳苗木在土壤相对含水量降至61%时,2号柳苗木在土壤相对含水量降至46%时,其叶由束缚水含量所引起的渗透调节作用消失;在水分胁迫条件下,红柳、4号柳苗木通过改变叶组织细胞壁的弹性来保持其的膨压,2号柳、能源柳C号的苗木主要靠叶渗透调节来维持其的膨压。水分胁迫能增强红柳、能源柳C号、4号柳苗木保持最大膨压的能力,而降低% 号柳苗木维持最大膨压的能力;4 号柳能通过提高苗木叶细胞原生质忍耐脱水的能力来适应干旱,能源柳, 号、红柳苗木叶细胞原生质耐脱水能力对水分胁迫的适应性差,在水分胁迫条件下其耐脱水能力减弱。通过对4种柳树苗木叶组织渗透调节和维持膨压能力的综合比较,其抗旱能力由强至弱依次为能源柳C号、2号柳、红柳和4号柳。
【英文摘要】
【语种】中文
【第一作者】王贞红
【通讯作者】张文辉
【期刊名称、卷期、页码】西部林业科学,2007,36(1),34-38
【论文发表时间】2007-03-17 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】生态学

【题目】延安地区辽东栎群落结构特征的研究
【中文关键词】辽东栎;近自然林经营;林分结构;分布格局;重要值;延安地区
【英文关键词】Quercus liaotungensis forest; Close-to-nature Forest Management; forest structure ; distribution pattern; importance value ; Yan ’an area

【中文摘要】【目的】研究延安地区辽东栎群落的结构特征,为延安森林区近自然森林经营提供理论和实践依据。【方法】以延安地区植物群落演替的辽东栎顶极群落为参照系统,选设5 块标准地,并在其中设立36 个小样方进行调查,对辽东栎次生林的结构特征及优势种群特征进行研究。【结果】延安森林区辽东栎次生林内有乔、灌木21 种,其中主要的12 种乔、灌植物重要值大小排序依次为:辽东栎(41. 57 %) > 小叶锦鸡儿(12. 68 %) > 水枸子(11. 58 %) > 土庄绣线菊(5. 03 %) 、山杏(4. 95 %) > 山樱桃(3. 93 %) 、陕西荚蒾(3. 91 %) > 三裂槭(2. 92 %) 、茶条槭(2. 40 %) 、黄蔷薇(2. 36 %) 和秋胡颓子(2. 25 %) ;辽东栎、山杏、三裂槭和杜梨垂直分布呈UML 型,侧柏呈UL 型,具有ML 型分布的植物有茶条槭、山樱桃、大果榆、山楂、小叶锦鸡儿、水枸子、土庄绣线菊、葱皮忍冬、紫丁香和桃叶卫矛,北京丁香呈现M 型分布;在群落中出现的21 种乔、灌木中,辽东栎、水枸子、小叶锦鸡儿等16 种植物呈现集群分布,侧柏等5 种植物种群为随机分布;辽东栎种群胸径与高度呈现幂次关系。【结论】延安地区天然次生辽东栎群落物种组成丰富,垂直分层明显,种群以集群分布为主,反映了群落内各种种群对环境非均质性的选择和适应及次生异龄复杂的结构特点,表明辽东栎群落是稳定和可持续的。
【英文摘要】无
【语种】中文
【第一作者】薛智德
【通讯作者】朱清科
【期刊名称、卷期、页码】西北农林科技大学学报(自然科学版),2008,36(10),82-87
【论文发表时间】2008-10-18 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】生态学

【题目】不同能源柳无性系对NaCl胁迫的生理响应
【中文关键词】能源柳;土壤盐浓度;气体交换参数;保护酶;有机渗透调节物质
【英文关键词】energy willow; soil NaCl concentration; gas exchange parameters; p rotective enzymes; organic osmotic substance
【中文摘要】为了探索不同能源柳无性系的耐盐潜力,在盆栽条件下,对1年生能源柳无性系2、4、C、E扦插苗设置NaCl盐分梯度,使其土壤含盐量保持在0、0. 2%、0. 4%、0. 6%、0. 8% ,并以乡土旱柳为对照,胁迫45d后,对5个无性系的气体交换参数、保护酶活性和有机渗透调节物质进行测定。研究发现: (1)在低浓度盐胁迫下(土壤含盐量0 0. 4%) ,导致各能源柳光合速率降低的是气孔因素;在高浓度盐胁迫下(土壤含盐量大于0. 4%) ,导致各能源柳无性系光合速率下降的主要是非气孔因素。(2)随着土壤盐浓度的增加,各能源柳无性系的过氧化氢酶(CAT)活性逐渐减小,过氧化物酶(POD)活性先增加后减小,而超氧化物歧化酶(SOD)活性呈现增加的趋势,并且4个能源柳无性系在盐胁迫条件下保护酶活性强于旱柳。(3)在土壤含盐量小于0.16%时, 4个能源柳无性系的可溶性蛋白含量始终大于旱柳;在整个胁迫过程中,能源柳C的脯氨酸含量始终大于旱柳。(4)与旱柳相比, 4个能源柳无性系在土壤含盐量0 0. 4%的土壤中都能良好生长,其中能源柳C的耐盐潜力更大,可在土壤含盐量为0. 6%的土壤中正常生长。这说明, 4个能源柳无性系均可在天津轻、中度盐渍化地区栽培。
【英文摘要】无
【语种】中文
【第一作者】刘 斌
【通讯作者】张文辉
【期刊名称、卷期、页码】生态学报,2010, 30(4) :0895—0904
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【引文索引号】null
【学科分类】生态学

【题目】黄土高原子午岭柴松种群生殖特性研究
【中文关键词】柴松种群; 生殖特性; 生殖年龄; 种子与球果; 生殖力表
【英文关键词】Pinus tabulaef ormis f. shek annesi s populat ion; repro duct ive characteristic; repro duct ive age; cone sand seed; fecundity table
【中文摘要】目的:探索柴松(Pinus tabulaef ormis f. shek annesis) 种群的基本生殖特性, 为柴松种群的持续发展和合理经营管理提供依据。　　方法 在对黄土高原子午岭地区柴松分布范围进行全面踏查的基础上, 选择不同生境(阴坡、半阴坡和半阳坡) 柴松生长发育较好的地段设置12 块样地, 分析不同生境下柴松种群的生殖年龄(Ar) 、球果在树冠上的分布格局、结实和产种数量、生殖力表以及环境因子。　　结果 (1) 柴松种群的最小生殖年龄(Ar min) 、最大生殖年龄(A rma

x) 、平均生殖年龄(A r) 和周限生殖年龄(Ap c) 值分别为18, 130, 48 和112 年, 不同生境条件下柴松种群的生殖年龄差异较大,其中A r min和A r 值为阴坡> 半阴坡> 半阳坡, A rma x和A p c 值为半阳坡> 半阴坡> 阴坡。(2)不同生境中的柴松种群均具有结实能力, 阴坡种群的单株球果数和种子数均较高, 各种群球果主要分布在树冠上部及东、北方向。(3) 生殖力表显示, 随着年龄的变化, 生殖力存在低! 高! 低的趋势, 阴坡和半阴坡柴松种群的生殖旺盛期为50~ 90 年, 半阳坡为30~ 50 年; 并且阴坡柴松种群具有较强的生殖能力, 是柴松种群的最适生存环境。(4) 主成分分析表明, 人为干扰(0. 984) 和土壤水分含量(- 0. 974) 是影响柴松种群生殖的最主要因子。 结论 柴松林经营管理要以就地保护为主, 并应根据种群所在区域的生境条件进行分类管理。

【英文摘要】

【语种】中文

【第一作者】赵 峰

【通讯作者】张文辉

【期刊名称、卷期、页码】西北农林科技大学学报(自然科学版),2009,37(10),67-75

【论文发表时间】2009-10-17 00:00:00

【引文索引类型】其他

【引文索引号】

【学科分类】生态学

【题目】黄土丘陵区不同植被恢复模式对土壤酶活性的影响

【中文关键词】黄土丘陵区; 植被恢复; 土壤酶活性

【英文关键词】eroded Hilly Loess Plateau, vegetations recovery, soil enzyme activities

【中文摘要】为了解侵蚀环境下植被恢复对土壤酶活性的影响, 以典型侵蚀环境黄土丘陵区纸坊沟流域生态恢复30a 植被长期定位试验点为研究对象, 选取坡耕地为参照, 分析了植被恢复过程中土壤脲酶、磷酸酶、蔗糖酶、淀粉酶、纤维素酶、过氧化氢酶、多酚氧化酶及理化性质的演变特征。结果表明, 黄土丘陵区的坡耕地由于不合理的人为干扰, 土壤理化性质和酶活性较弱, 通过植被恢复可以有效的改善土壤肥力, 不同恢复模式对土壤酶活性和肥力的改善作用不同, 恢复30a, 脲酶活性增加33%~213%, 磷酸酶活性增加275%~394%, 蔗糖酶活性增加70%~210%, 纤维素酶活性增加24%~48%, 过氧化氢酶增加32%~96%, 多酚氧化酶降低23%~29%, 淀粉酶变化规律不同。不同植被恢复模式其生物特性不同, 对土壤酶活性影响也不同。相关性分析说明磷酸酶、蔗糖酶、纤维素酶和多酚氧化酶与其它因子相关性相对较强,可以作为评价土壤质量的生物学指标。

【英文摘要】

【语种】中文

【第一作者】戴全厚

【通讯作者】姜峻

【期刊名称、卷期、页码】中国农学通报,2008,24(9),429-434

【论文发表时间】2008-09-20 00:00:00

【引文索引类型】其他

【引文索引号】

【学科分类】生态学

【题目】黄土丘陵区狼牙刺群落恢复过程中物种多样性动态研究

【中文关键词】黄土丘陵区;狼牙刺群落;物种多样性;恢复

【英文关键词】Loess Hilly Region ;SoPhora daridii community ;species diversity ;recovery

【中文摘要】研究不同恢复阶段狼牙刺群落下植物恢复过程的动态特征:从灌木和草本各层的物种多样性指数看,不同阶段狼牙刺群落表现出大致相同的趋势,即草本层!灌木层。同一层次的物种多样性指数D 和~ 虽然数值不同,但在不同阶段狼牙刺群落有基本一致的趋势,灌木层物种多样性指数基本上随恢复时间的增加而增加;草本层多样性指数在荒草地阶段较高,其他阶段的狼牙刺群落随恢复时间的增加而减少。随着群落恢复,群落相似性增加。总体上,随着狼牙刺群落的恢复,不同科属的植物种类在增加,群落生态优势度增加,群落趋向稳定。采取封禁措施,减少人为干扰,是狼牙刺群落恢复的有效途径。

【英文摘要】

【语种】中文

【第一作者】徐学选
【通讯作者】张文辉
【期刊名称、卷期、页码】河北农业大学学报,2006,29(3),1-5
【论文发表时间】2006-05-20 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】生态学

【题目】黄土高原地区水土保持科学研究的重点领域
【中文关键词】水土保持;科学研究;黄土高原
【英文关键词】soil and water conservation;scientific research;loess plateau
【中文摘要】对黄土高原地区生态建设的需求与水土保持科学研究现状,分析了黄土高原水土保持科学研究的成就与发展趋势,提出该区未来需加强土壤侵蚀过程、机制及侵蚀模型、植被恢复的潜力及调控、大尺度土壤侵蚀及水土保持的格局与规律、水土流失及治理的环境效应评价理论与模型、水土流失治理的生态服务功能评价和不同尺度水土保持与生态建设模式研究等重点研究领域。
【英文摘要】
【语种】中文
【第一作者】刘国彬
【通讯作者】刘国彬
【期刊名称、卷期、页码】中国水土保持,2008,(12),37-39
【论文发表时间】2008-12-26 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】生态学

【题目】黄土丘陵区两种典型灌木群落坡面侵蚀泥沙颗粒组成及养分流失的比较
【中文关键词】灌木群落; 颗粒组成; 比表面积; 养分流失
【英文关键词】shrub land; particle composition ; specif ic surface area ; nutrient loss
【中文摘要】在野外模拟降雨条件下,比较研究了黄土丘陵区柠条(Caragana korshinki i) 和狼牙刺(S ophora vici i f ol ia) 径流小区产流产沙、侵蚀泥沙颗粒组成、比表面积(SSA) 及养分流失特征。结果表明,两种灌木群落均能显著减小坡面径流泥沙的流失。产流后流失泥沙黏粒、SSA 与养分含量随降雨时间总体呈现降低趋势,其中有机质变化显著,全磷变化不显著。受植被盖度影响,泥沙中黏粒与养分含量均表现为柠条群落> 狼牙刺群落> 对照裸地。侵蚀泥沙具有富集黏粒和富集养分的特征,富集率随群落盖度增大而增大(柠条> 狼牙刺> 裸地) 。不同形态养分富集率不同,其中有机质均在2. 5 以上,全氮平均富集率为2. 13 ,全磷为1. 23 。富集率随产流时间呈线性递减。流失泥沙养分含量与黏粒(粒径< 0. 002 mm) 含量及SSA 达到极显著的正相关。坡面土壤养分主要以黏粒为载体流失。SSA 的变化不仅能体现土壤颗粒组成的变化,而且能够反映土壤养分的变化。
【英文摘要】
【语种】中文
【第一作者】张冠华
【通讯作者】刘国彬
【期刊名称、卷期、页码】水土保持通报,2009,29(1),1-6
【论文发表时间】2009-02-21 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】生态学

【题目】瑞典能源柳无性系嫁接与整形可塑性研究
【中文关键词】瑞典能源柳;无性系;嫁接方法;整形可塑性
【英文关键词】Sweden energy willow;clong;grafting method;plasticity of shaping

【中文摘要】以1 a生瑞典能源柳无性系为材料,进行不同嫁接时间、不同砧木、不同嫁接方法和整形可塑性试验。结果表明:嫁接成活率春季较秋季高15.1%;乡土树种旱柳和金丝柳均可做砧木,金丝柳的嫁接成活率较高,在6个无性系中,插皮接法成活率较旱柳高10.o%,带木质部芽接高6.5%;嫁接方法以改良插皮接最优,嫁接伤口愈合好,普通插皮接次之,带木质部芽接和劈接法成活率最差;柳树主枝适合于进行小于180。的弯曲造型;平茬具有复壮作用,首先促进了分枝,其次是增加了分枝基径和高的相对生长量,叶片数的增幅最小。
【英文摘要】
【语种】中文
【第一作者】何景峰
【通讯作者】张文辉
【期刊名称、卷期、页码】西北林学院学报2009.24(6):65--一69
【论文发表时间】2009-06-20 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】生态学

【题目】陕西栓皮栎天然群体同工酶遗传多样性研究
【中文关键词】栓皮栎;天然群体;同工酶;遗传多样性;陕西
【英文关键词】Quaercl肌variabilis;natural population;isozyme;genetic diversity;Shaanxi Province
【中文摘要】利用凝胶电泳法研究了陕西省境内3个栓皮栎天然群体的遗传变异和分化情况,测定和分析过氧化物酶(POD),酯酶(EST),苹果酸脱氢酶(MDH)和乙醇脱氢酶(ADH)的多态位点百分率、等位基因平均数、等位基因频率、平均期望杂合度和基因分化系数,结果表明:陕西栓皮栎天然群体的遗传变异绝大部分在群体内,占总变异的95.1%,群体间变异仅占总变异的4.9%,多态位点百分率为75%,等位基因平均数为2.708,平均期望杂合度为0.388.
【英文摘要】
【语种】中文
【第一作者】周建云
【通讯作者】张文辉
【期刊名称、卷期、页码】西南林学院学报,2008,28(2),1-4
【论文发表时间】2008-04-19 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】生态学

【题目】延河流域典型物种分布预测模型比较研究
【中文关键词】物种分布预测; R--BIOMOD; 最优模型
【英文关键词】predictive distribution of species; R--BIOMOD; best model
【中文摘要】物种分布预测一直以来都是生态学研究的重要内容之一。应用生态学的发展为物种分布预测提供了众多强有力的模型, 在推进物种分布预测进展的同时, 也增加了合适模型选择的难度。评价和比较不同模型的预测效果, 对于模型的选择和应用具有非常重要的意义。以黄土丘陵区延河流域为研究区, 采用R 语言和BIOMOD 程序包为平台, 选择人工神经网络(artif icial neural netw or ks, ANN) 等9 个较常用的物种分布模型, 比较它们在物种分布预测精度上的差异, 为物种分布预测模型的选择提供依据, 也为进一步预测未来气候变化情景下物种空间分布的变化奠定基础。研究结果表明, 不同模型对不同物种的模拟精度差异明显。根据Kappa, T SS 和Roc 评价方法, 9 个模型对百里香(T hymus mongolicus) 分布的预测精度最高; 对铁杆蒿(A r temisia g melinii) 分布的模拟精度最差; 而对其余物种分布的模拟精度均比较理想, 其中以随机树RF 模型最好。
【英文摘要】
【语种】中文
【第一作者】曹剑侠
【通讯作者】温仲明
【期刊名称、卷期、页码】水土保持通报,2010,30(3),134-139
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【引文索引类型】其他
【引文索引号】
【学科分类】神经生物学

【题目】黄土丘陵区中尺度生态经济系统健康诊断方法探索
【中文关键词】黄土丘陵区;中尺度;健康诊断;障碍度;生态系统恢复重建
【英文关键词】Loess hilly and gully region; Mesoscale Health indicators diagnoses; Limiting degree Ecosystem rehabilitation
【中文摘要】生态经济系统健康是黄土高原水土保持与生态建设的目标本文在分析流域生态系统健康特征和诊断指标筛选原则的基础上构建了一套适合于该区中尺度生态经济系统健康诊断指标体系以均方差决策法确定了各指标的权重运用递阶多层次综合法线性加权函数法分别建立了二级层次和综合指标健康诊断模型——健康指数采用比较生态学方法分析研究黄土丘陵区中尺度生态经济系统健康空间和时间动态变化结果表明该区系统健康状况相对稳定在不同途径生态恢复措施实施过程中流域健康指数呈逐年波动式上升趋势由建设前的0.2125 增大的现在的0.5188 具有可持续发展能力同时以现实生态经济最佳水平为目标引入障碍度优势度等概念对该区中尺度系统健康进行空间维上的障碍和优势诊断并据此提出了不同模式建设的对策和建议为该区生态环境建设提供科学依据
【英文摘要】
【语种】中文
【第一作者】戴全厚
【通讯作者】戴全厚
【期刊名称、卷期、页码】中国农业科学 2006,38(5):990-998
【论文发表时间】2006-05-27 00:00:00
【引文索引类型】其他
【引文索引号】
【学科分类】生态学

【题目】灌丛内人工林窗的相对光照强度和土壤水分条件
【中文关键词】人工林窗;干扰;相对光照强度;土壤水分
【英文关键词】artificial gap;human disturbances;relative hght intensity;soil water content
【中文摘要】加快延安地区人工促进植被恢复进程,探讨不显著降低植被水土保持效益的科学合理的人工干扰方式和强度,采用照度计测定和烘干法,测定密闭灌丛内鱼鳞坑和条带人工林窗相对光照强度和土壤水分并进行分析。结果表明:1)鱼鳞坑林窗与灌丛内相对光照强度相差不大,灌丛展叶期阴坡坡面日平均相对光照强度分别是44.54%和36.48%;生长季节坡面Et平均相对光照强度小于10%,7月中旬分别为7.30%和3.33%,10月中旬分别为9.81%和4.08%。2)条带林窗坡面日平均相对光照在4月中旬、7月中旬和10月中旬分别为76.38%、71.92%和65.70%。是灌丛内相对光照强度的2.09、21.60和16.10倍;植物生长期上午有效光合作用强烈的08:O卜11:00,相对光照强度超过80%,下午高温强光辐射时,相对光照强度在50%左右或以下。条带林窗一方面上午可增强光照强度促进苗木光合作用,另一方面可避免或减少苗木遭受下午强光的伤害。3)植物整个生长发育季节内,条带林窗0.100 cm深土层土壤含水量4、6、10月份分别高出灌丛内2.41%、1.48%和3.17%;鱼鳞坑林窗内,6和10月份0。100 cm土层土壤含水量分别增加0.86%和1.87%。条带林窗内光照得到调整,土壤含水量增加,对提高苗木成活率和保存率具有重要意义。
【英文摘要】无
【语种】中文
【第一作者】薛志德
【通讯作者】薛志德
【期刊名称、卷期、页码】中国水土保持科学,2008,6(4):54-58
【论文发表时间】2008-06-21 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】生态学

【题目】天山云杉种群数量动态研究
【中文关键词】天山云杉;种群数量;结构动态

【英文关键词】Picea schrenkiana;population quantity;structure dynamics
【中文摘要】选择了15个设在天山地区25 m×25 m的样地,通过样地调查和数据统计,研究了天山云杉(Piceachrenkiana)种群的年龄结构、静态生命表,运用时间序列预测模型分析了种群数量动态。种群年龄结构分析表明,种群的年龄结构呈倒J型分布,个体数量主要集中在Ⅰ、Ⅱ龄级(个体数量比例占82.70%),幼龄个体数量较多,中、老龄个体数量较少。种群生命表、亏损率曲线、存活曲线、死亡率曲线、生存函数曲线的分析表明:天山云杉有1个死亡高峰,出现在Ⅱ龄级的年龄阶段;存活曲线基本介于DeeveyⅡ和DeeveyⅢ型之间;引入生命表的几个函数能较好地说明种群的动态和结构变化。时间序列分析表明:在未来20、40、60、80、100、120和140年中。天山云杉种群幼龄级个体数量相对丰富,种群稳定。
【英文摘要】
【语种】中文
【第一作者】宋于洋
【通讯作者】张文辉
【期刊名称、卷期、页码】南京林业大学学报(自然科学版),2009,33(1),64-68
【论文发表时间】2009-01-10 00:00:00
【引文索引类型】null
【引文索引号】
【学科分类】生态学

【题目】基于自然植被的延河流域生物量空间分布格局评估
【中文关键词】生物量; 广义相加模型; 植被指数; 分布预测
【英文关键词】biomass; gener alized additive model; vegetation index ; distribut ion prediction
【中文摘要】研究植被的生物量分布及环境对生物量的承载状况, 对于区域植被恢复规划、布局等具有重要意义。以黄土丘陵区延河流域为研究区, 以自然植被为参照, 利用广义相加模型(GAM, g eneralized additiv e mo del) 及GI S 空间分析技术预测了流域潜在生物量的分布格局; 同时, 利用遥感资料, 预测出流域现有的植被生物量及其空间格局。以潜在生物量为参照, 现实生物量为基础, 通过空间分析, 对流域环境的生物量承载状况进行评估。结果表明: 在流域东南部地区, 潜在生物量高于现实生物量; 而在中北部, 有较多的立地环境的现实生物量大于潜在生物量, 超过了环境生物量的最大现实承载能力, 导致人工植被在这些立地环境条件下的退化。识别这些植被, 对于流域植被的改造和利用、流域植被恢复规划与布局等具有重要的应用价值。
【英文摘要】
【语种】中文
【第一作者】张佳
【通讯作者】温仲明
【期刊名称、卷期、页码】水土保持研究,2010,17(3),36-39
【论文发表时间】2010-06-19 00:00:00
【引文索引类型】null
【引文索引号】
【学科分类】生态学

【题目】瑞典能源柳不同无性系扦插苗年生长规律研究
【中文关键词】瑞典能源柳;年生长过程;Logistic方程;灰色关联度
【英文关键词】Sweden energy willow;Annual growth;Logistic equation;Grey correlation analysis
【中文摘要】对8个瑞典能源柳(简称瑞能)不同无性系1年生扦插苗生长动态、苗木生长与气象因子的灰色关联度的研究结果表明,瑞能扦插苗的年生长规律符合Logistic曲线特征,据此方程可以建立苗高、地径与生长的拟合模型。可将苗木生长划分为3个阶段:生长初期、速生期和生长后期,其中处于速生期苗木的高和地径生长量均超过全年总量的55.2%,地径处于速生期阶段长于苗高,但两者生长量占全年总量之比较为接近,分别是56.7%和s7.4%;在制约苗木生长的气象因子中,温度是苗木生长的主导因子。
【英文摘要】无
【语种】中文
【第一作者】宋晓珍
【通讯作者】何景峰

【期刊名称、卷期、页码】西北农业学报,2009,18(1):271—276,280
【论文发表时间】2009-01-24 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】生态学

【题目】黄土高原植被恢复与建设策略
【中文关键词】植被恢复;策略;人工林草群落;天然化培育;黄土高原
【英文关键词】vegetation recovery;policy;artificial grass;loess plateau
【中文摘要】中国水土流失与生态安全综合科学考察——西北黄土区考察组获得的资料为依据,对黄土高原地区植被恢复的基础和潜力进行了系统分析,提出了植被恢复的目标和策略。黄土高原天然群落恢复的基本措施是封育,有条件的区域应实施人工促进,使植被自然恢复力与人为促进力相结合;人工植被建设应充分利用乡土树草种,合理利用外来种,采用防护性整地和管理措施,造林种草后引导乡土物种进入群落,进行天然化培育;以流域为治理单元,优化景观斑块空间布局和面积构成,逐步改造具有退化特征的人工群落,使建群种能够自我更新,群落可永续利用;政府部门在政策上要保护现有成果,扩大自然修复比例;保护大户承包治理的积极性,鼓励多元化投资,进行植被建设;扩大黄土区植被建设和科研投资力度,培育黄土区植被恢复方面的科技创新能力。
【英文摘要】
【语种】中文
【第一作者】张文辉
【通讯作者】张文辉
【期刊名称、卷期、页码】中国水土保持,2009,(1),24-27
【论文发表时间】2009-01-17 00:00:00
【引文索引类型】null
【引文索引号】
【学科分类】生态学

【题目】陕北黄土高原油松人工种群结实与更新
【中文关键词】油松;人工林;球果;种子;更新
【英文关键词】Pinus tabulaeformis Carr.;artificial forest;cone;seed;regeneration
【中文摘要】过野外调查和室内试验,调查了陕北黄土高原半干旱、半湿润地区油松人工种群的结实特性、种子生活力、幼苗更新和生长状况等基本特征,分析影响油松人工种群生殖及更新的因素,确定了油松人工种群的天然更新边界.结果表明八个地区的油松都具有结实能力.对不同地区种子生活力和发芽率测定表明地区间差异不显著.由北向南,随年降水量的增加,油松球果长、宽、单果种子数、种子长、宽、千粒重逐渐增加.有活力种子的数量可以满足天然更新的需要.北部地区,种子落地后不能萌芽成苗,中南部地区种子落地后能萌芽成苗,但只有南部地区幼苗幼树生长良好,林下更新有效.影响油松人工种群更新的环境闪素分析表明降水最是最主要限制岗素.油松人T种群天然更新分界线应该在年降水量550 mm的等降水线左右.未来油松人工林培育应立足于降雨量大于550 mm的南部湿润半湿润地区,半干旱地区不宜再扩大油松人工林面积.
【英文摘要】
【语种】中文
【第一作者】王梅
【通讯作者】张文辉
【期刊名称、卷期、页码】兰州大学学报(自然科学版),2009,45(5),88-93
【论文发表时间】2009-10-24 00:00:00
【引文索引类型】null
【引文索引号】
【学科分类】生态学

【题目】黄土丘陵区退耕地土壤水分入渗特征及影响因素
【中文关键词】退耕地;土壤层次;土壤入渗;土壤结皮

【英文关键词】abandoned farmland;soil layer;soil infiltration;soil crust
【中文摘要】为评价退耕还林(草)工程的成效及认识下垫面改变对土壤水文过程的影响,采用圆盘入渗仪以4,6、8年退耕地为对象,长芒草草地为对照在黄土丘陵区分层(表层、20锄、40 cm)研究退耕地土壤水分入渗特征,并探讨其影响因素。结果表明:1)较短年限退耕地表层土壤入渗能力较天然草地差.而下层人渗能力较天然草地强;2)退耕地下层的初始入渗速率是表层的1.2一1.4倍,稳定入渗率是表层的1.9—2.8倍,饱和导水率是表层的1.9—3.0倍;3)随着退耕年限增加,表层土壤入渗能力下降,而下层入渗能力增强;4)土壤结皮阻碍退耕地表层土壤的入渗。
【英文摘要】
【语种】中文
【第一作者】徐敬华
【通讯作者】陈云明
【期刊名称、卷期、页码】中国水土保持科学,2008,6(2):19-25
【论文发表时间】2009-02-21 00:00:00
【引文索引类型】null
【引文索引号】
【学科分类】生态学

【题目】黄龙山林区不同培育措施对辽东栎种群结构与动态的影响
【中文关键词】辽东栎;培育措施;径级结构;生命表;存活曲线;时间序列
【英文关键词】Quercus liaotungensis;diameter—class structure;life table;survivorship curve;time sequence model
【中文摘要】采用样地法对黄龙山林区实施抚育和封育措施的辽东栎林进行了调查,分析了2种培育措施对辽东栎种群径级结构、静态生命表和存活曲线的影响,并运用时间序列模型对不同培育措施的辽东栎种群数量动态进行了预测,结果表明:黄龙山林区辽东栎种群的径级结构从整体上为金字塔形,小径级个体数量较多,中、大径级个体数量较少,属于稳定型,经过抚育,辽东栎种群的径级结构更加合理;不同培育措施的辽东栎种群存活曲线都基本接近DeeveyIII型,种群个体早期死亡率较高,进入生理衰退年龄之后,死亡率趋于稳定;时间序列分析表明不同培育措施的辽东栎各径级株数均有不同程度的增加,径级越小增加幅度越大。根据黄龙山林区辽东栎种群的生长特点,建议在辽东栎林发育到一定时期进行抚育以创造有利的生长和发育条件,另外在种子丰产年,适时采收种子,建立苗圃,扩大人工种群。
【英文摘要】
【语种】中文
【第一作者】卢彦昌
【通讯作者】张文辉
【期刊名称、卷期、页码】西北植物学报,2006,26(7):1407—1413
【论文发表时间】2006-07-14 00:00:00
【引文索引类型】null
【引文索引号】
【学科分类】生态学

【题目】黄土高原地区植被生态修复策略与对策
【中文关键词】生态修复;指导思想;目标;黄土高原
【英文关键词】ecological rehabilitation;leading ideas;aim;Loess Plateau
【中文摘要】根据近年来黄土高原地区实施植被生态修复的经验和黄土高原生态安全考察成果,论述植被生态修复的特点和功能,提出植被生态修复的核心内涵是将人为促进群落演替的人力与天然群落演替的自然力结合起来,实现区域生态系统整体恢复与局部快速恢复相结合的有效途径。黄土高原植被生态修复的目标是:区域内植物群落物种多样性平均增加10%一15%;地带性植被的代表种盖度在群落中占到20%。25%;植被总覆盖度75%。85%;水土流失强度有显著性减少。目前植被生态修复的关键问题是有关基础理论研究和技术措施积累不足,方法简单,效益不高。未来应采取正确生态修复思路,尽快解决生态修复中关键技术理论;科学规划,在典型地区黄龙森林区和安
【英文摘要】
【语种】中文
【第一作者】张文辉
【通讯作者】张文辉

【期刊名称、卷期、页码】中国水土保持科学,2009,7(3):114—118
【论文发表时间】2009-06-27 00:00:00
【引文索引类型】null
【引文索引号】
【学科分类】生态学

【题目】不同坡向人工油松林生长状况与林下物种多样性分析
【中文关键词】油松;坡向I生长状况;物种多样性
【英文关键词】slope aspect;growth;species diversity
【中文摘要】采用野外调查的方法,研究了绥德地区28年生不同坡向人工油松林林木个体生长、植物种类、相似系数和林下物种多样性特征,以明确坡向对人工油松林生长和群落结构的影响。结果显示。(1)阴坡油松的胸径、树高、冠高和冠幅均显著大于阳坡;(2)阴坡与阳坡林下分别有植物21和19种,共有种11种。群落相似系数为55%。说明坡向对人工油松林林下物种组成影响较大。(3)阴坡物种丰富度指数、均匀度指数和多样性指数均表现为草本层>灌木层;而阳坡的Shannon—wiener指数和Pielou指数(.,。,)则与阴坡相反。为灌木层>草本层;群落总体多样性表现为丰富度指数和多样性指数均是阴坡稍大于阳坡,而均匀度指数表现为阳坡稍大于阴坡。研究表明,绥德地区人工油松林的生长状况阴坡娃著优于阳坡,但与陕北南部地区人工油松林相比,该地区人工油松林林木生长各项指标还是较低。群落结构配置不合理。
【英文摘要】
【语种】中文
【第一作者】王梅
【通讯作者】张文辉
【期刊名称、卷期、页码】西北植物学报,2009,29(8):1678—1683
【论文发表时间】2009-08-22 00:00:00
【引文索引类型】null
【引文索引号】
【学科分类】神经生物学

【题目】栓皮栎RAPD反应条件优化研究
【中文关键词】栓皮栎;RAPD;体系优化
【英文关键词】Quercus variabilis;RAPD;system optimization
【中文摘要】通过单因素2循环试验对栓皮栎RAPD反应条件进行系统优化,探讨了RAPD各反应条件间的交互作用,建立了栓皮栎RAPD的最佳反应体系和扩增程序。结果表明:(1)各反应因素对栓皮栎RAPD扩增具有不同影响,各因素间的交互作用明显,单因素多循环试验设计能够有效的减少其交互作用、优化出RAPD扩增的最佳反应体系和程序;(2)适合栓皮栎RAPD反应的体系总体积为20“ L,模板DNA用量30 ng,Taq DNA聚合酶用量1.75U,引物用量8 pmol,M92+浓度2.0 mmol·L~,dNTPs浓度O.25 mmol·L~,10×Buffer 2 gL;适合栓皮栎RAPD扩增的程序是94℃预变性4 min,94℃变性40 S,40℃退火30 S,72℃延伸2 min,40个循环,72℃延伸10 min。
【英文摘要】
【语种】中文
【第一作者】任耀忠
【通讯作者】张文辉
【期刊名称、卷期、页码】西北林学院学报2009,24(2):55-一59
【论文发表时间】2009-02-20 00:00:00
【引文索引类型】null
【引文索引号】
【学科分类】生态学

【题目】黄土丘陵区沙棘人工林天然化发育过程中的种间联结性研究
【中文关键词】沙棘;人工林;种间联结;黄土高原
【英文关键词】Hippophae rhamnoides;plantation;interspecific connectivity;Loess Plateau
【中文摘要】采用样地调查法,并通过方差分析、X2检验及共同出现百分率PC计算,对黄土高原丘陵沟壑区经过3 a、8a、13 a、25 a发育的沙棘群落中主要种群间联结性进行了比较研究。结果表明,灌木层的4个发育阶段,总体关联性都表现出轻

微正相关。草本层中。发育3 a的群落,总体联结性表现出极显著正相关,但种间关系不够稳定;发育8 a的群落,总体关联性表现出轻微正相关,种间关系不稳定;发育1 3 a的群落,总体关联性表现出极显著正相关,负关联种对减少,种间关系逐步趋于稳定;发育25 a的群落,种间关系相对稳定。表明沙棘在黄土高原丘陵区人工林天然化发育的过程中,已实现了自我更新。说明人工林只有经天然化发育过程才能实现持续利用,达到普通生态系统的服务功能。
【英文摘要】
【语种】中文
【第一作者】王涛
【通讯作者】张文辉
【期刊名称、卷期、页码】西北植物学报,2006,26(4):0784一0790
【论文发表时间】2006-04-15 00:00:00
【引文索引类型】null
【引文索引号】
【学科分类】生态学

【题目】干旱胁迫下沙枣和孩儿拳头叶绿素荧光特性研究
【中文关键词】沙枣;孩儿拳头;叶绿素荧光;干旱胁迫
【英文关键词】Elaeagnus angustifolia L. ; Grew ia biloba G. Don var. parvif lora (Bge.) Hand. 2Mazz. ; chlorophyll fluore scence; drought stress
【中文摘要】以沙枣和孩儿拳头2 年生盆栽苗为材料,采用称重控水的方法设置对照(土壤含水量为25. 6% ~2712%) ,轻度胁迫(19. 2%~20. 8%) ,中度胁迫(12. 8% ~14. 4%) ,重度胁迫(6. 4% ~8. 0%) 4个梯度,研究了干旱胁迫对沙枣和孩儿拳头色素含量和叶绿素荧光特性的影响。结果表明: (1)随着干旱胁迫的加剧,两物种叶绿素a含量,叶绿素a /b比值,总叶绿素含量呈下降趋势,且叶绿素a对干旱胁迫的反应较叶绿素b敏感,但两物种叶绿素b含量和胡萝卜素含量变化规律不一致。(2)随着干旱胁迫的加剧,孩儿拳头Fm、Fv 呈下降趋势,沙枣相反,但两物种F0 呈增加趋势, Fv /F0、F ′ v /F ′ m 呈下降趋势, Fv /Fm 差异不显著; PhiPS2、ETR、qP先升高后降低,N PQ则先降低后升高。(3)虽然两物种表现出较强的抗旱性,但在重度干旱胁迫下(6. 4% ~8. 0%) ,光合色素含量、叶绿素荧光参数受到较大影响,推测此时的土壤水分含量为两物种光合色素、光系统Ⅱ的耐受极限;物种间相比,孩儿拳头更为敏感,在今后的园林管护中,要根据土壤水分状况和物种间的差异做好园林灌溉。
【英文摘要】
【语种】中文
【第一作者】孙景宽
【通讯作者】张文辉
【期刊名称、卷期、页码】植物研究 2009, 29 (2) : 216~223
【论文发表时间】2009-02-21 00:00:00
【引文索引类型】null
【引文索引号】
【学科分类】生态学

【题目】黄土丘陵区典型植物群落根系垂直分布与环境因子的关系
【中文关键词】根系;环境因子;典范对应分析;黄土丘陵区
【英文关键词】root system;environmental factors;canonical correspondence analysis;Hilly—gully region of Loess Plateau
【中文摘要】濯人研究植被恢复过程中根系与环境因子的响应规律,对于当前西部地区的生态环境建设中有关林草措施的配置问题具有重要理论意义和实践价值。采用对应分析(CA)和典范对应分析(CCA)方法研究黄土丘陵区4种典型植物群落的根系垂直分布特征及其与环境因子的关系。结果表明,所选群落的根系生物量随土层深度增加而明显减小,0—40 cm土层根系生物量超过总根量的85%。借助CA分析将根系的垂直分布特征分为Tl、T2和J13,其中大多数群落属于Tl型,即表层根量聚积型,0—20 cm土层根量远高于其他层次;T2和13型为深根与浅根型根系的组合类型,层次变化相对缓和。群落根系的垂直分布及变化受环境因子的综合影响,Tl型分布在硝态氮含量较高且有机质和全氮含量较低的地段;T2和,乃型的有机质和全氮含量较高,硝态氮含量较低;土壤水分含量、密度、硝态氮是影响退耕地典型植物群落根系垂直分布特征的主要环境因子。
【英文摘要】

【语种】中文
【第一作者】武春华
【通讯作者】陈云明
【期刊名称、卷期、页码】中国水土保持科学,2008,6(3):65—70
【论文发表时间】2008-06-21 00:00:00
【引文索引类型】null
【引文索引号】
【学科分类】生态学

【题目】本氏针茅与柳枝稷光合生理生态特征比较研究
【中文关键词】柳枝稷; 本氏针茅; 光合速率; 蒸腾速率; 水分利用效率
【英文关键词】Panicum virgatum; Stipa bungeana; photosynthetic rate; transpiration rate; water use efficiency
【中文摘要】采用美国L l一CO R 公司生产的Li 一6 4 0 0 便携式光合测定系统, 选择在干早季节里, 在田间自然条件下, 测定并比较研究了引种牧草柳枝被和天然牧草本氏针茅两种禾本科植物的光合生理生态特征的日变化。结果表明, 柳枝视属于高光合、低蒸腾和高水分利用效率的植物, 具有较强的气孔调节能力。柳枝理之所以具有较高的光合速率, 主要是因为它具有较强的叶肉细胞狡化能力,较低的气孔导度降低了燕腾速率, 从而提高了水分利用效率; 本氏针茅属于较低光合,较高蒸腾和低水分利用效率的植物, 但二者均能在黄土高原保持良好的生长。
【英文摘要】
【语种】中文
【第一作者】周秋平
【通讯作者】程积民
【期刊名称、卷期、页码】水土保持通报,2009,29(2),129-133
【论文发表时间】2009-02-21 00:00:00
【引文索引类型】null
【引文索引号】
【学科分类】生态学

【题目】黄土丘陵区纸坊沟流域生态恢复的经济特征分析
【中文关键词】产业多样性指教;综合生产力;贫困指数;黄土丘陵区
【英文关键词】Industrial diversity index; integrated productivity; poverty index; the Loess Hilly Region
【中文摘要】本文以黄土丘陵区纸坊沟流域为研究对象,从生态与经济协调发展的角度,分析了流域实施生态恢复试验示范建设以来经济特征的变化.评价其经济效应。结果表明:生态恢复使流域产业香农多样性指数大于1,显示产业结构得到优化;1998—2005年间综合生产力水平实现了由低到高的跨越,并且与产业香农多样性指数呈正相关;2005年恩格尔系数为0.45.基尼系数为0.22, Sen和FGT贫困指数分别为0.2和0.17。表明生态恢复明显改善了当地农民的生活水平
【英文摘要】
【语种】中文
【第一作者】党小虎
【通讯作者】刘国彬
【期刊名称、卷期、页码】人文地理,2009,24(2),90-95
【论文发表时间】2009-02-28 00:00:00
【引文索引类型】null
【引文索引号】
【学科分类】生态学

【题目】黄土高原丘陵沟壑区不同生境条件下柠条人工种群无性繁殖与更新研究
【中文关键词】黄土高原;不同生境;柠条人工种群;无性繁殖
【英文关键词】Loess Plateau;different habitats;artificial Caragana korshinskill population;asexual propagation
【中文摘要】通过对黄土高原丘陵沟壑区纸坊沟流域12个阳坡和阴坡柠条人工种群样地群落特征和无性繁殖特征进行调查,系统地研究了柠条人工种群在黄土高原丘陵沟壑区不同生境条件下无性繁殖与更新状况,为该地区柠条人工种群的经营管理提供依据。主要结论是:生长在阳坡的柠条无性繁殖较阴坡旺盛,无性系母株通过萌生苗和根蘖苗产生的分株数量

和扩展范围均优于阴坡,山坡上部优于山坡下部,但从分株生长情况来看,阳坡无性分株的个体生长不如阴坡,山坡下部的柠条长势弱于山坡上部;不同生境柠条人工种群均存在分株枯死现象,坡上部的分株枯死量较坡下部大,最大枯死率出现在阳坡上部(25.9%);不同龄级比较,1~2 a生幼苗枯死率最高;对土壤中柠条根系萌芽点的空间分布范围分析表明,山坡上部柠条根系在6~30 cm土层最为密集,山坡下部以6~20 cm土层最为密集,山坡上部柠条根系水平扩展距离比山坡下部大;无性分株萌芽点空间分布格局受坡位影响大,而与坡向关系不密切。柠条种群适应力、繁殖力强,在丘陵沟壑区能够自我更新,是严酷条件下植被恢复的优良树种。
【英文摘要】
【语种】中文
【第一作者】孙黎黎
【通讯作者】张文辉
【期刊名称、卷期、页码】西北林学院学报2010,25(1):1~6
【论文发表时间】2010-01-08 00:00:00
【引文索引类型】null
【引文索引号】
【学科分类】生态学

【题目】黄土丘陵区退耕地植被恢复过程中土壤入渗特征的变化
【中文关键词】黄土高原;植被恢复;入渗;饱和导水率
【英文关键词】Loess Plateau; plant restoration; infiltration; saturated hydraulic conductivity
【中文摘要】采用空间代替时间的方法,将黄土丘陵区1.4,8a退耕地上的植物群落组成演替序列,并以当地较稳定的天然狼牙刺群落和人工柠条群落作对照,用圆盘入渗仪(卜700)对上述群落下土壤稳定入谬过程和人渗特征进行了对比研究。(1)天然狼牙蒯群落下土壤稳定入渗速率小于人工柠条群落下的稳定人渗速率,因为人工柠条群落生物量较高,植被对土壤的改善作用更大。(2)随着退耕年限的增加,土壤的平均入渗速率和饱和导水率也在增加,其中1,4,8 a退耕地上饱和导水率分别达到狼牙刺群落下的52%,74%和98%。稳定入渗率能够达到狼牙刺群落下的57%,88%和91%。说明随着退耕地上植被的恢复,土壤稳定入渗速率不断提高。(3)土壤的人渗特征受土壤理化性质影响很大。其中土壤孔隙度对土壤稳定人渗影响最大,医为随着退耕地植被的恢复,通过根系的穿插分割作用,以及根系死亡后形成的生物性大孔,使土壤中有效孔隙数量不断增加,土壤入渗性能得到提高。
【英文摘要】
【语种】中文
【第一作者】勃海锋
【通讯作者】刘国彬
【期刊名称、卷期、页码】水土保持通报,2007,27(3),1-5
【论文发表时间】2007-03-24 00:00:00
【引文索引类型】null
【引文索引号】
【学科分类】生态学

【题目】黄龙山林区不同培育措施对油松种群数量动态及物种多样性的影响
【中文关键词】年龄结构;生命表;存活曲线;时间序列;物种多样性
【英文关键词】age structure;life table;survival curve;time series;species diversity
【中文摘要】根据对黄龙山林区经过抚育、渐伐和封育措施的3类油松林种群开展样地调查,研究了3种培育措施对油松林种群的年龄结构、静态生命表、存活曲线和物种多样性的影响,并运用时间序列模型对不同培育措施的油松林种群数量动态进行了预测。结果表明:3种油松林种群结构特征基本一致,其幼、老龄级个体数较少,中龄级个体数量较大,总体判断黄龙山油松林种群属于稳定状态。在经历3种不同培育措施的油松林群落中,抚育和渐伐措施物种丰富度指数最大;封育措施物种多样性和均匀度指数最大。经过抚育和渐伐措施的油松种群属进展型,而经过封育措施的油松种群属稳定型。说明在黄龙山林区,油松林种群未来应该以封育为主,适当的抚育和渐伐措施为辅,以促进群落持续发育。
【英文摘要】
【语种】中文
【第一作者】吴涛

【通讯作者】张文辉
【期刊名称、卷期、页码】西北植物学报,2006,26(5):1007 1013
【论文发表时间】2006-05-19 00:00:00
【引文索引类型】null
【引文索引号】
【学科分类】生态学

【题目】秦岭冷杉和巴山冷杉种群年龄结构及动态的比较分析
【中文关键词】秦岭冷杉;巴山冷杉;年龄结构;生命表;存活曲线;时间序列
【英文关键词】Abies chensiensis:Age fargesii:Age structure:Life table;Survival curves;Time series
【中文摘要】在秦岭林区对不同生境条件下濒危种秦岭冷杉(Abies chensiensis)和广布种巴山冷衫(Abiesfargesii)种群的年龄结构、生命表、存活曲线以及时间序列预测进行了比较分析。结果表明:秦岭冷杉在各个坡向上幼龄林林木株数均明显小于巴山冷杉。在各个坡向上,秦岭冷杉均呈衰退型,而巴山冷杉均呈稳定型。坡向对秦岭冷杉种群存活曲线的影响比巴山冷杉的影响大。在未来的20,40及60 a,秦岭冷杉种群Ⅱ、Ⅲ龄级的种群表现为先增后减的不稳定趋势,而Ⅳ龄级以后的种群表现为小幅度的增加趋势。巴山冷杉种群各龄级株数在未来的20、40及60 a均呈明显的增加态势。最后,给出了对不同生境的秦岭冷杉应采取的具体管理措施。
【英文摘要】
【语种】中文
【第一作者】史小华
【通讯作者】张文辉
【期刊名称、卷期、页码】东北林业大学学报,2009,37(1),10-14
【论文发表时间】2009-01-03 00:00:00
【引文索引类型】null
【引文索引号】
【学科分类】生态学

【题目】黄龙山不同白桦林群落结构特征研究
【中文关键词】白桦林群落;林分状况;物种组成;物种多样性;生物量
【英文关键词】Betula platyphylla community;stand;species composition;species diversity;biomass
【中文摘要】在黄龙山林区以4种不同白桦林群落类型为研究对象,共设置20 mx 20 m的样地15块,从林分特征、物种组成、物种多样性、灌木和草本生物量及乔木蓄积量等方面,对不同白桦林群落类型结构特征进行调查分析。结果显示:(1)群落B林(自桦+茶条械混交)中自桦林分状况为最好,其次为群落A(油松+白桦混交林),群落D(自桦纯林)最差;(2)不同群落中植物种类分别为群落A(51种)>群落B(49种)>群落D(48种)>群落c(38种);(3)物种多样性指数为群落A>群落B>群落C>群落D;(4)不同群落内草本和灌木总生物量排序为群落D(73.19t · hm_2)>群落B(65.07 t · hml)>群落C(59.93 t · hml)>群落A(44.82 t · hm_2),乔木蓄积量为群落A(123.50 m3 · hrnl)>群落D(69.50 m3 · hml)>群落B(53.25 m3 · hml)>群落C(50.25 rn3 · hml)。研究结果表明,黄龙山不同白桦林群落中混交林在生长状况、物种组成、物种多样性和生物量方面均优于纯白桦林。表明白桦混交林对保持黄龙山森林群落稳定性,提高林分质量,实现白桦林向松栎林的逐渐过渡有重要意义。
【英文摘要】
【语种】中文
【第一作者】郭其强
【通讯作者】张文辉
【期刊名称、卷期、页码】西北植物学报,2007,27(1):0132—0138
【论文发表时间】2007-01-02 00:00:00
【引文索引类型】null
【引文索引号】
【学科分类】生态学

【题目】黄土高原丘陵区不同生境小叶杨人工林物种多样性及其群落稳定性分析
【中文关键词】小叶杨;不同生境;物种多样性;群落结构动态;土壤水分养分效应

【英文关键词】Populus simonii;different habitat;species diversity;community structure-dynamics;soil—water and-n11trient effects
【中文摘要】通过样地调查,对黄土高原丘陵沟壑区处于阴坡、半阴坡、半阳坡、阳坡4种生境条件下,经过30年发育的小叶杨人工林物种多样性,群落结构动态和土壤水分养分效应进行了系统研究,结果表明:(1)不同生境小叶杨人工林总体上物种丰富度、多样性指数和均匀度指数均呈现出阴坡>半阴坡>半阳坡>阳坡的趋势,且林内物种多样性指数表现为:草本层>灌木层;(2)不同生境条件下的小叶杨人工林年龄结构分析表明,尽管阴坡小叶杨长势相对较好,但更新幼苗数量相当有限,很难实现种群的自我更新,不适合作为人工林培育;(3)土壤含水量和养分因坡向不同而呈现出明显的差异,尽管阴坡和半阴坡的水分、养分条件相对较好,但也出现了枯梢、病虫害等衰老特征,因此阴坡、半阴坡的生境对小叶杨来说也不合适。未来应该对现有林地在保护的前提下,间伐衰老个体,补植和引入乡土物种,进行天然化培育。
【英文摘要】
【语种】中文
【第一作者】张婷
【通讯作者】张文辉
【期刊名称、卷期、页码】西北植物学报,2007,27(2):0340-0347
【论文发表时间】2007-02-02 00:00:00
【引文索引类型】null
【引文索引号】
【学科分类】生态学

【题目】NaCl胁迫对3种不同处理四翅滨藜种子萌发的影响
【中文关键词】四翅滨藜;冷藏;自然存放;盐胁迫;种子萌发相关指标
【英文关键词】Refrigerate;Natural store;Salt stress;Seed germination parameters
【中文摘要】为了探讨储藏条件和盐胁迫对四翅滨藜种子萌芽力的影响,以冷藏10个月(冷藏种子)、自然存放10个月(新种子)、自然存放22个月(旧种子)的四翅滨藜种子为材料,在不同NaCl浓度的溶液中培养,测定3种不同处理的四翅滨藜种子在盐胁迫下发芽率、发芽指数、活力指数、胚根和胚轴的生长指标的变化。结果表明:①新种子的最高萌发浓度为o.2 mol/L,旧种子和冷藏种子最高萌发浓度为o.25 moI/L。②与对照相比,旧种子和冷藏种子的各指标均小于新种子,且旧种子最低。长时间自然存放和冷藏均会推迟四翅滨藜种子胚根和胚轴的延伸日期,且长时间自然存放推迟的更晚。得出长时间自然存放使种子的活力降低最快。③尽管低浓度的Nacl(o.05 m01/L)处理下冷藏种子发芽率、发芽指数和活力指数均高于对照,但盐胁迫会抑制四翅滨藜种子的发芽。而对3种处理种子的胚根、胚轴的长度和生长速率的影响均表现为低浓度促进高浓度抑制。相同浓度盐胁迫对新种子和旧种子的抑制作用大于冷藏种子。说明冷藏提高了四翅滨藜种子的耐盐潜力。
【英文摘要】
【语种】中文
【第一作者】王娟娟
【通讯作者】张文辉
【期刊名称、卷期、页码】西北农业学报2010,19(1):104—111
【论文发表时间】2010-01-02 00:00:00
【引文索引类型】null
【引文索引号】
【学科分类】生态学

【题目】黄龙山油松林和油松+辽东栎混交林物种组成及优势种群动态
【中文关键词】油松;辽东栎;物种组成;优势种群动态
【英文关键词】Pinus tabulaeforrnis;Quercus liaotungensis;species compositions;preponderant population dynflmic
【中文摘要】根据黄龙山油松(Pinustabulaeformis)林和油松+辽东栎(Quercusliaotungensis)混交林共6个群丛中27个典型样地调查资料,分析了松栎林群落物种组成、多样性指数和优势种群动态。结果表明:(1)松栎混交林中灌木层和草本层植物种数均大于油松林,且灌木和草本种类因群落生境不同而有差异。(2)物种多样性分析显示。油松林和松栎混交林中由于生境不同导致灌木层物种多样性差异最大。(3)优势种群分析表明,油松林中阴坡幼苗数量较多。种群最大的为IV和V龄级个体;松栎混交林中油松和辽东栎幼苗充足。到Ⅱ、m龄级二者均大量减少,此后油松个体增加而辽东栎减少,说明松栎林发育过程中各层次植物物种相砭制约,优势种群之间也存在竞争,凡受生境条件影响较大。(4)主成分分析表明,气温、土壤、光照和总郁闭度是主要影响因子。因此,在未来森林抚育中应适当减少优势种群密度。促进异龄化;采取有效措施合理搭

配灌木和草本,强化对森林发育有利的因素,提高林分质量。
【英文摘要】
【语种】中文
【第一作者】曹旭平
【通讯作者】张文辉
【期刊名称、卷期、页码】西北植物学报,2010,30(5),1012-1019
【论文发表时间】2010-05-15 00:00:00
【引文索引类型】null
【引文索引号】
【学科分类】生态学

【题目】沙棘人工种群在不同生境条件下的繁殖特征
【中文关键词】沙棘;人工种群;根蘖萌苗;生境
【英文关键词】Hippophae rhamnoides;artificial population;root suckers;habitat
【中文摘要】以沙棘人工种群根蘖萌苗为研究对象,通过对丘陵沟壑区纸坊沟流域不同生境沙棘人工种群根蘖萌苗,产生的无性系个数、空间分布和生长状况的调查,系统研究不同生境条件下沙棘人工种群的根系产生幼苗的基本特征及其与环境因素的关系。主要结论是:沙棘人工种群的更新几乎完全依赖于无性繁殖更新,种子萌发产生的幼苗在调查地内很少发现;生长在阴坡的沙棘人工种群无性繁殖较阳坡的旺盛;母株通过根蘖萌芽形成无性系小株的数量、水平扩展范围、无性系小株个体生长均优于阳坡;山坡下部优于山坡上部。不同生境种群均存在枯枝现象,阴坡沙棘种群枯枝率最小(5%);阳坡萌蘖苗的枯枝最大(20%)。不同龄级中,以5---6 a生无性小株枯枝率最高。土壤中沙棘根蘖幼苗萌发点的空间分布分析表明,在土壤2"--6 cm为密集区,水平扩展距离在山坡上部距离较远,可达到3 m,山坡下部扩展距离较近,最远不超过1.5 m,无性系小株萌发点空间分布格局受坡位影响大,而与坡向关系不密切。尽管沙棘人工种群在丘陵沟壑区基本都能自我更新,但在生境选择中,应该尽量利用水分条件较好,土质疏松的生境,以获得最佳生长效果和水土保持功能。
【英文摘要】
【语种】中文
【第一作者】李倩
【通讯作者】张文辉
【期刊名称、卷期、页码】西北林学院学报2010,25(1):71~76
【论文发表时间】2010-01-16 00:00:00
【引文索引类型】null
【引文索引号】
【学科分类】生态学

【题目】黄土高原不同立地条件下刺槐人工林种群的无性繁殖与更新
【中文关键词】黄土高原; 刺槐人工林; 不同立地条件; 无性繁殖
【英文关键词】Loess plateau; locust tree plantation; different habitat; asexual reproduction
【中文摘要】目的> 在黄土高原丘陵沟壑区不同立地条件下, 研究刺槐人工林无性繁殖与更新状况, 为该地区刺槐人工林的经营管理提供依据。=方法> 对黄土丘陵沟壑区安塞试验站、纸坊沟和县南沟流域12 个阳坡和阴坡刺槐人工林样地的林分特征、土壤含水量、外界干扰、无性繁殖和林下物种进行了系统调查。=结果> 阴坡样地不同深度土层的平均土壤含水率高于阳坡样地; 生长在阴坡的刺槐人工林无性繁殖较阳坡旺盛, 阴坡无性株萌蘖的数量和扩散范围明显大于阳坡; 在相同坡向的刺槐林群落中, 坡下部的根系萌苗量大于坡上部; 影响刺槐无性繁殖的另一个重要因素是外界干扰, 在立地条件差、人为践踏、砍伐和放牧的样地中, 刺槐人工林的根系萌苗扩散程度大于无外界干扰或干扰较轻的样地; 不同立地条件下刺槐的无性繁殖潜力趋势为: 阴坡下部> 阳坡下部> 阴坡上部> 阳坡上部。=结论> 刺槐人工林在黄土丘陵沟壑区的适生范围是阴坡下部及沟谷地区。
【英文摘要】
【语种】中文
【第一作者】张长庆
【通讯作者】张文辉
【期刊名称、卷期、页码】西北农林科技大学学报(自然科学版),2009,37(1),135-144

【论文发表时间】2009-01-24 00:00:00
【引文索引类型】null
【引文索引号】
【学科分类】生态学

【题目】侵蚀环境退耕撂荒地植物种群演变动态研究
【中文关键词】侵蚀环境}退耕撂荒地;植物种群演变;生态位;种群替代
【英文关键词】Erosion environment;Abandoned arable land;Population evolution;Niche;Population substitutio
【中文摘要】以侵蚀环境不同年限的撂荒地为研究对象,研究撂荒后植物种群生态结构演变过程,结果表明,退耕撂荒后植被演替恢复过程可划分为:先锋植物物种期(1~5 a),物种渐繁荣期(6~8 a),物种鼎盛期(9~13a),物种准稳定期(13~20 a)、物种相对稳定期(20~30 a)和灌木先锋物种入侵期(30~50 a)。其中先锋植物物种期以茵陈蒿、苦买菜、猪毛菜为关键种;物种渐繁荣期以委陵菜、阿尔泰狗哇花和隐子草为关键种;物种鼎盛期多物种共存,关键种不明显;物种准稳定期以长芒草、铁杆蒿和达乌里胡枝子为关键种;物种相对稳定期以铁杆蒿、达乌里胡枝子为关键种;灌木先锋物种主要有杠柳、木本铁线莲、绣线菊等。在植被恢复过程中,先锋植物物种在演替初期先增多,而后逐渐减少,到演替中后期时演变为偶见种或从群落中基本消失;而一些过渡指示物种,其地上生物量大多星升r_一降的变化趋势;群落稳定优势种的地上生物量呈持续增大的演变趋势,它们在群落中的重要性也是越来越大。而演替中的过渡优势种的地上生物量的演变趋势为单峰曲线,它们在群落中的重要性同样经历了一个由升到降的演变过程。同时,退耕撂荒地植被演替中,大多数先锋植物的生态位宽度较窄,分布范围较小,是生态特化种;但优势先锋植物,生态位宽度却较大,分布范围极广,是生态泛化种。与之相对应的演替中后期过渡优势种或稳定优势种,生态位宽度则较窄,分布范围不及优势先锋植物,是生态相对泛化种。退耕撂荒地植被演替中植物种群的替代是通过物种的生态适应性和种间竞争来实现的。
【英文摘要】
【语种】中文
【第一作者】戴全厚
【通讯作者】刘国彬
【期刊名称、卷期、页码】西北农业学报,2008,17(4):320—328
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【引文索引类型】null
【引文索引号】
【学科分类】生态学

【题目】延安公路山辽东栎林优势植物水分适应性及适应类型分析
【中文关键词】延安公路山;辽东栎林;水分关系;水分适应类型
【英文关键词】Yan’an Gonglu mountain;Quercus liaotungensis forest;plant water relation;water adaptation types
【中文摘要】以陕西省延安公路山辽东栎林群落为对象.测定林内外不同状态下12种优势植物的水势日进程、自然饱和亏、临界饱和亏等水分利用参数,分析它们在林内和林外孤立木状态下的水分利用多样性和水分平衡策略,以揭示辽东栎群落水分利用多样性在群落持续发育中的作用。结果表明:(1)在林内或林外12种优势植物的水势日变化趋势基本一致,一天内每一时段物种间水势值跨度不同,林内种间水势跨度为0.85~1.93 Mpa,林外种间水势跨度为0.6~1.83Mpa;林内物种间日最低水势(一1.43---一3.05 Mpa)及临界饱和亏(63.12%~92.59%)变幅较大;各优势植物水势日进程与气象因子显著相关。(2)林内外各时段物种间水势跨度不同,14:oo和17:oo林外物种间水势跨度大于林内;12种植物的水势日变化与林内有显著差异(P<O.05),且在林内和林外环境下水分参数具有相似变化趋势。(3)根据黎明前水势、日最低水势、自然饱和亏、临界饱和亏将辽东栎林内12种优势植物水分利用策略聚类分为4个水分适应类型,每个适应类型具有特殊的水分适应方式。可见,辽东栎群落内12种优势植物的水分利用参数及其对环境适应表现出多样性特点,为该群落持续发育奠定了基础。
【英文摘要】
【语种】中文
【第一作者】崔之鑫
【通讯作者】张文辉
【期刊名称、卷期、页码】西北植物学报,2010,30(1):0111--0119

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【学科分类】生态学

【题目】3种园林树木种子萌发期耐盐性研究
【中文关键词】杠柳;白蜡;孩儿拳;盐胁迫;萌发;耐盐临界值;保护酶
【英文关键词】critical concentration;defense enzymes;salt stress
【中文摘要】以杠柳,白蜡和孩儿拳3种绿化树种为材料,在室内设置5个NaCl胁迫梯度,系统测定了其种子的萌发,生长和生理生化指标及其耐盐临界值,并用隶属函数法综合评价了它们在种子萌发期的耐盐性。结果表明:随着盐胁迫浓度的增加,杠柳,白蜡和孩儿拳种子的萌发率,萌发指数,胚根生长速率,种子活力指数和相对含水量均呈下降趋势,且相同盐处理的指标值及各指标的耐盐性临界值均表现为杠柳>白蜡>孩儿拳。
【英文摘要】
【语种】中文
【第一作者】姜珊
【通讯作者】张文辉
【期刊名称、卷期、页码】西北植物学报,2009,29(4):0733—0741
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【引文索引类型】null
【引文索引号】
【学科分类】生态学

【题目】黄土丘陵半干旱区典型人工林土壤水分特征
【中文关键词】黄土丘陵区; 人工林; 土壤水分特征曲线; 饱和导水率
【英文关键词】loess hilly region ; artif icial forest ; soil water characteristic curve ; saturated soil water conductivity
【中文摘要】在黄土丘陵区选取不同林龄典型人工乔木林刺槐,灌木林沙棘、柠条,并以经过30 a 多自然演替形成的荒坡草地作为对照,研究了人工林地土壤水分特点。结果表明, (1) 人工林地总体持水能力较差,不同类型林地土壤持水能力顺序:刺槐林> 沙棘林> 柠条林,随着林分的生长,土壤持水能力均有增强的趋势; (2) 土壤的导水能力随着林龄的增加有明显提高,林龄较接近时,刺槐林较沙棘林和柠条林饱和导水率大; (3) 随着林分生长,林地土壤饱和含水量值增大,林地蓄水能力增强; (4) 与荒坡对照相比,人工林改善土壤持水、导水能力的效果不一定有生态系统自我修复作用形成的植被群落好。
【英文摘要】
【语种】中文
【第一作者】徐敬华
【通讯作者】陈云明
【期刊名称、卷期、页码】水土保持通报,2010,30(3),48-52
【论文发表时间】2010-03-27 00:00:00
【引文索引类型】null
【引文索引号】
【学科分类】生态学

【题目】黄土丘陵沟壑区燕沟流域的景观构成及功能类型
【中文关键词】黄土丘陵沟壑区;小流域;景观构成;景观功能类型
【英文关键词】loess hilly2gully region ; small water shed ;landscape composition ;landscape f unction type
【中文摘要】【目的】统计分析燕沟流域不同生态功能景观的斑块构成,为流域治理效果评价和景观格局优化提供依据。【方法】野外现地勾绘景观斑块类型图,内业进行数字化处理,建立燕沟流域的景观类型分类系统和数据库,统计相关景观指数,分析流域景观构成。【结果】(1) 燕沟流域景观类型中,杂灌丛(浓杂灌丛和稀杂灌丛) 面积最大,农田、刺槐林、成熟果园和草地面积次之;以上6 种景观类型占流域面积的91. 03 %、占流域斑块数的81. 68 % ,构成流域景观的主体;流域整体景观属于细粒结构。(2) 三大景观功能类型中,生态防护型景观的斑块数、斑块面积、斑块周长均最高,占流域景观的近2/ 3 ,经济生产型景观次之;生态防护型、经济生产型、生活服务型三类景观的面积比约为2. 08 ∶1 ∶0. 12 。(3) 流域内自然景观与人类主导景观斑块面积的比例相当,经济生产型景观是人类主导景观的主要组成部分。【结论】目前燕沟流域景观构

成的特点为:景观类型多样,斑块数量丰富,景观整体粒级微小,景观破碎,人类活动对流域景观的构成影响大;三大景观功能类型的构成,为燕沟流域治理效果评价和景观格局优化提供了依据,可作为同类地区小流域治理的重要参考。
【英文摘要】
【语种】中文
【第一作者】林 洋
【通讯作者】张文辉
【期刊名称、卷期、页码】西北农林科技大学学报(自然科学版),2010,38(1),145-153
【论文发表时间】2010-01-23 00:00:00
【引文索引类型】null
【引文索引号】
【学科分类】生态学

【题目】陕西子午岭森林植物群落种间联结性
【中文关键词】种间联结;子午岭;黄土高原;天然次生林
【英文关键词】interspecific association; Ziwuling; the Loess Plateau; natural secondary forest
【中文摘要】用方差比率(VR)和基于2 ×2联列表,通过x2统计量检验、共同出现百分率(PC) 、联结系数(AC)的方法,对地处黄土高原中部的陕西子午岭森林植物群落乔木层12个树种、灌木层20个树种和草本层21种植物的种间联结性进行了研究。结果表明,乔木层、灌木层总体种间关联性表现为显著正关联,草本层为不显著正关联。乔木层主要种群表现出相互独立的特点,但辽东栎(Quercus wutaishanica)和油松(Pinus tabulaefom is) ,油松和茶条槭(Acer ginnal) ,茶条槭和白桦(B etula platyphy lla) ,杜梨(Py rus betulaefolia)与辽东栎、油松、茶条槭、白桦等7个种对存在一定正关联。正关联的种对数是副关联的2倍。灌木层南蛇藤(Celastrus orbiculatus)和悬钩子(Rubus corchorifolius) 、水栒子(Cotoneaster m altif lorus)和红瑞木(Cornus alba) 、多花胡枝子(Lespedeza f loribund)和华北丁香(Sy ringa oblate)之间存在极显著的正联结; 华北绣线菊(Spiraea fritschiana)和野葡萄(V itisam urensis) 、冻绿(Rham uns utilis)和栓翅卫矛(Euonym us phellom anes) 、南蛇藤和野葡萄、南蛇藤和葱皮忍冬(Lonicera ferdinandii)之间存在显著的正联结。正关联和副关联种对数相当。草本层种间联结表现出较为松散的特征,无关联的种对数多达21个。正副关联的种对数约为3∶2。最好将多个指标配合使用能更好地说明种间联结程度。
【英文摘要】
【语种】中文
【第一作者】王乃江
【通讯作者】张文辉
【期刊名称、卷期、页码】生态学报,2010, 30(1) :0067—0078
【论文发表时间】2010-01-16 00:00:00
【引文索引类型】null
【引文索引号】
【学科分类】生态学

【题目】黄土丘陵半干旱区人工林细根分布特征及土壤特性
【中文关键词】黄土丘陵区; 人工林; 细根参数; 土壤特性
【英文关键词】loess hilly area; plantation; fine root characteristic; soil property
【中文摘要】采用连续钻取土芯法对黄土丘陵半干旱区典型林分和荒坡地进行了根系采样, 分析了人工林生长发育过程中的细根垂直分布特征及其土壤特性。结果表明, 7 个林分细根的生物量、根长密度、表面积、比根长等形态测定参数均具有明显的垂直分布特征, 即随着土层深度的增加而显著减小。0 ! 60 cm 土层的平均值, 细根生物量、根长密度、细根表面积指标均以14 龄沙棘林最大, 30 龄刺槐林次之, 10 龄刺槐林最小, 比根长则以10 龄刺槐林最大, 14 龄沙棘林与30 龄刺槐林最小。不同类型林分150 cm 以下土层均存在明显的干层现象, 乔灌种差异对其影响很小, 随着林龄的增加, 土壤干燥化程度增加; 乔木刺槐林对土壤容重的改善作用大于2 种灌木林, 随林龄增加改善土壤容重的深度增加; 不同林分土壤有机碳垂直分布特征与根系一致, 0 ! 60 cm 土层的土壤有机碳平均含量, 以24 龄沙棘和50 龄柠条林最高, 10 龄刺槐林最低。
【英文摘要】
【语种】中文
【第一作者】王琳琳

【通讯作者】陈云明
【期刊名称、卷期、页码】水土保持通报,2010,30(4),27-31
【论文发表时间】2010-04-17 00:00:00
【引文索引类型】null
【引文索引号】
【学科分类】生态学

【题目】侵蚀环境撂荒地植被恢复与土壤质量的协同效应
【中文关键词】侵蚀环境;撂荒地;植被恢复;土壤质量;协同效应
【英文关键词】Erosion environment; Abandoned arable land; Vegetation recovery; Soil quality; Synergistic effect
【中文摘要】【目的】探索黄土丘陵区退耕撂荒地植被恢复与土壤相关要素的关系,为生态恢复重建决策提供理论依据。【方法】以中国科学院安塞水土保持实验站墩山退耕不同年限的撂荒地为研究对象,通过植被群落特征调查和土壤质量测试分析等,运用相关和回归分析方法对植被恢复过程中植被与土壤质量的协同效应研究。【结果】在其恢复过程中,植被地上生物量与植被覆盖度呈正相关,它们与土壤容重呈负相关,而与土壤大团聚体、水稳性大团聚体、有机质含量、全氮含量、水解氮含量、速效钾含量、微生物量(C、N、P)以及土壤呼吸强度之间呈正相关,与土壤全磷、速效磷含量无显著相关性。同时,植被地上生物量和植被覆盖度与土壤抗蚀性关系密切,它们与表示土壤抗蚀性能的土壤团聚度、结构系数之间呈正相关,与土壤分散系数、结构体破坏率之间呈负相关。土壤容重与土壤大团聚体、水稳性团聚体含量之间呈负相关,土壤大团聚体含量与水稳性团聚体含量之间亦呈正相关。【结论】黄土丘陵区退耕撂荒地植被恢复过程中,土壤质量得到不断恢复提高,并能促进植被的生长繁衍,推动植被恢复演替进展,植被恢复健康和演替的同时,亦进一步推动土壤质量的改善提高,二者之间表现为正向互作效应。
【英文摘要】
【语种】中文
【第一作者】戴全厚
【通讯作者】刘国彬
【期刊名称、卷期、页码】中国农业科学 2008,41(5):1390-1399
【论文发表时间】2008-05-24 00:00:00
【引文索引类型】null
【引文索引号】
【学科分类】生态学

【题目】黄土高原主要森林类型自然性的灰色关联度分析
【中文关键词】黄土高原; 森林自然性; 森林类型; 灰色关联分析; 构成指数
【英文关键词】the Losses P lateau; forest naturalness; forest type; gray relat ional analysis; compose index
【中文摘要】为了解陕西黄土高原子午岭林区主要森林类型的自然性, 以油松林、辽东栎林、白桦林、山杨林和侧柏林等5 种森林类型为研究对象, 通过0　　1 型变量聚类, 较为客观地提出了森林群落各个演替阶段的植物组成, 并计算出了各自的群落顶极适应值; 采用层次分析的方法, 得到群落特征指标权重, 然后利用灰色关联分析方法, 得到了各个森林群落的灰色关联度。研究结果表明, 黄土高原不同森林类型的群落顶极适应值由大到小依次为辽东栎林(Quercus wutaishan ica) 8. 37, 油松林(P inu stabulaefom is) 8. 16, 山杨林(Pop ulus david iana) 7. 89, 侧柏林(P laty cladus or ientalis) 6. 88, 白桦林(B etula p la typhy lla) 6. 87; 关联度由大到小依次为油松林1. 143、辽东栎林1. 085、侧柏林0. 893、白桦林0. 849、山杨林0. 789。油松林和辽东栎林的灰色关联度较高, 是这一地区较为稳定的理想森林类型, 侧柏林和白桦林的关联度居中, 山杨林最小。辽东栎林和油松林属于该地区的顶极和亚顶极群落类型, 白桦林和侧柏林属于演替过渡类型, 山杨林为演替阶段较低的森林类型。用灰色关联度的方法能够定量地分析森林群落的自然性, 研究结果对森林近自然经营、林分改造有一定的应用价值和科学意义。
【英文摘要】
【语种】中文
【第一作者】王乃江
【通讯作者】张文辉
【期刊名称、卷期、页码】生态学报,2011, 31(2): 0316　　0325
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【引文索引号】
【学科分类】生物进化论

【题目】Above- and belowground dynamics of plant community succession following abandonment of farmland on the Loess Plateau, China
【中文关键词】退耕地;群落演替;土壤含水量;养分
【英文关键词】Abandoned farmland . Community .Nutrient . Population . Soil moisture . Succession
【中文摘要】在植被恢复和植被演替过程中,地表和地下部分的变化是植物应对土壤资源改变的反应特征。本次实验在2006年测定了退耕时间分别是2年,4年,6年和8年(每个处理两次重复)的实验样地中地上部分和地下部分的植物特征,土壤含水量,养分状况。退耕地原种植作物为土豆,耕作方式为锄犁,耕种前对地表植被进行了清理,退耕后自然植被入侵
【英文摘要】
【语种】英文
【第一作者】王国梁
【通讯作者】王国梁
【期刊名称、卷期、页码】Plant Soil (2009) 316:227 – 239
【论文发表时间】2009-09-12 00:00:00
【引文索引类型】null
【引文索引号】
【学科分类】生态学

【题目】瑞典能源柳引种苗期生长特性的研究
【中文关键词】瑞典能源柳;生长动态;红皮柳;物候;生物量
【英文关键词】Sweden energy willow; growth dynamic; Salex purpurea ; phenology; biomass
【中文摘要】本研究以乡土树种红柳为对照(CK),在西能农林科技大学教学实验苗圃,对引种的8个1a生瑞典能源柳无性系进行物候、高与地径的生长动态及生物量的研究。结果表明:CI)8个瑞典能源柳无性系均能在杨陵地区完成正常的生长周期,并且成活率均达到90%以上,与GK差异显著(}<0. 05);t2)除瑞能D,瑞能1与红柳只有一次高生长高峰期外,其它无性系都有2个高生长高峰期,高的生长速生期集中在5月下旬-7月中旬,其净生长量占全年生长量的49.100^-59.6%, t3)9个柳树无性系均有3个地径生长高峰期,但是生长高峰期的时间不完全相同,地径生长速生期集中在5月下旬-7月上旬,其净生长童占全年的35. 8环}---SL 600o t4)8个瑞典能源柳无性系生物量总量都高于GK,并且除瑞能1外,都与CK差异显著,其中瑞能G,瑞能E,瑞能2三个无性系根系生物量也与CK差异显著,证明其根系发达,可能比乡土红皮柳更适宜西北地区生长。
【英文摘要】
【语种】中文
【第一作者】张英
【通讯作者】张文辉
【期刊名称、卷期、页码】西北林学院学报2009, 24(4); 80-84
【论文发表时间】2009-04-25 00:00:00
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【引文索引号】
【学科分类】生态学

【题目】黄土丘陵区上黄试区农业生态经济系统演变阶段划分及其驱动力初探
【中文关键词】黄土丘陵区;固原上黄试验区;农业生态经济系统;驱动力;发展趋势
【英文关键词】Loess Plateau; Shanghuang experimental areain Guyuan; agricultural force ; developing trend eco-econormc system ; driving
【中文摘要】黄土丘陵区固原上黄试验区近20年(1986-2005)来农业生态经济系统演变过程可划分为三个阶段:第I阶段(1988-1999)、第n阶段(1999-2002)、第m阶段(2002-2005)。在对农业生态经济系统演变三个阶段的特征及互动过程分析的基础上,利用通径分析方法探讨了各个阶段的驱动力.第I阶段:提高单产是主要驭动力;第n阶段:退耕还林还草是主要驱动力;第m阶段:经济利益是主要驱动。

【英文摘要】
【语种】中文
【第一作者】张丽萍
【通讯作者】程积民
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【学科分类】生态学

【题目】黄土丘陵半干旱区退化刺槐林不同改造方式效果分析
【中文关键词】退化;刺槐;改造方式;效果分析
【英文关键词】degradation; Robinia pseudoacacia;reformative way; effect analysis
【中文摘要】采用野外典型抽样调查和室内分析测定的方法,在黄土丘陵半千旱区一安塞水土保持综合试脸站研究了退化刺槐林经萌集更新和重造侧柏林改造后林地土壤水分含量、乔木根系生物量和生物多样性指标的差异。结果表明:萌集更新林地内的土壤水分含童和生物多样性指数均高于重造侧柏林地;不同改造方式下整个土层内根系生物量的差异较大,根系生物量最大的是重造侧柏林地,为17. 59 g,最小的是退化刺槐林,为16. 59 g。萌集刺槐林与退化刺槐林相比,土壤水分含蚤和生物多样性指数变化不大,但林内乔木种类较退化刺槐林内丰富。因此利用间伐萌集方式对退化刺槐林改造是可行的。
【英文摘要】
【语种】中文
【第一作者】许鹏辉
【通讯作者】陈云明
【期刊名称、卷期、页码】西北林学院学报,2009. 24(4): 109---113
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【学科分类】生态学

【题目】5一氨基乙酰丙酸在育苗和盐碱地造林中的使用效果
【中文关键词】ALA;盐碱地;造林;育苗
【英文关键词】5-aminolevulinie acide;saline soil;forestation;seedling
【中文摘要】日的】探索5一氨基乙酰丙酸(AIA)杠黄土高原育苗和造林中的使用效果。【方法】以紫穗槐种子为材料。采用土壤表面喷施和叶面喷施方法,研究了AI.A对紫穗槐幼苗生长的影响;采用裸根苗直接栽植、裸根苗蘸根、裸根曲浸根和容器苗直接栽植、容器苗浇根5种方法处理苗小,研究了AI.A对樟子松、油松和侧柏造林成活率的影响。【结果】在陕西关||进行紫穗傀播种育苗时,幼苗期喷施AI.A溶液,刘幼苗生长有一定的促进作用,有助于提高幼曲质世。喷施浓度以300 mI…/I为宦;土壤表面喷施的效果较好。盐碱地樟子松造林使用ALA可明显提高造林成活率,使用效果好于油松和侧柏;同一树种小同处理方法之间以及同一处理方法不同树种之间的造林成活率有一定差异。但树种和处理方法之间存在比较明硅的交互作用。用300 ml,/I。AI,A溶液对樟子松进行裸根苗蘸根、容器苗浇恨、容器苗直接栽植和裸根苗直接栽植处理,造林成活率可以提高到80%以卜,对侧柏处理效果不明显。【结论】AI,A对育苗和造林有一定的促进作用,I可以有选择地使厢。
【英文摘要】
【语种】中文
【第一作者】王乃江
【通讯作者】王乃江
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【题目】黄土丘陵区小流域系统生态经济要素分析———以宁夏隆德县李太平小流域为例
【中文关键词】生态经济系统;生态经济;结构能值;小流域
【英文关键词】eco-economic system; eco-economic structure; emergy; small watershed
【中文摘要】以隆德县李太平小流域为例,对比分析了退化小流域系统恢复重建过程中系统的生态经济要素变化,揭示系统演变趋势。应用能值方法分析了投入产出的动态变化,评价治理的生态经济效果。结果显示:农、林、牧业用地比例由1990年的6.2:2.0:1.0变为2003年的1.9:1.4:1.0,土地利用及种植结构趋于合理,农业产值所占比重由79.6%下降为54.8%,林业、牧业、副业产值比例分别由9.6%,9.6%,1.1%上升为22.7%,15.1%,7.4%,收入多样性指数也呈增加趋势,显示了流域收入构成的多元化,有利于生态经济系统的稳定。同时,恩格尔系数减小,表明人民生活水平日益提高。基于能值的流域生态经济系统投入产出效率动态研究结果表明在调整后的土地利用格局及种植结构下,净能值产出率由1990年的2.5增长到2003年的3.41,资源利用效率逐年提高,环境负荷率在1990,1995和2003年分别为2.55,2.44和2.11,呈减小趋势,能值持续性指数从1990年的0.98增加到2003年的1.62,经济与生态环境的协调性不断提高。研究结果表明该治理模式是成功的。
【英文摘要】
【语种】中文
【第一作者】党小虎
【通讯作者】刘国彬
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【学科分类】生态学

【题目】Diploid Oocyte Formation and Tetraploid Embryo Development Induced by Cytochalasin B in Bovine
【中文关键词】四倍体;牛胚胎;细胞松弛素B;胚胎发育
【英文关键词】tetraploid; bovine embryo; cytochalasin B; development
【中文摘要】四倍体胚胎是研究植入后胚胎发育中多倍体细胞的有利模型,同时也是胚胎干细胞和IPS细胞生产嵌合体的有利工具。本研究使用细胞松弛素B(CB)处理减数分裂中的牛卵母细胞,诱导形成多倍体的卵子和胚胎。结论:(1)、2.0mg/ml的CB处理成熟中的牛卵母细胞24小时,可以显著降低卵母细胞的成熟率和成熟卵子的单倍体率。超过50%的卵母细胞不能够排出第一极体,大多数没排极体的卵子都是2倍体(60条染色体);(2)、7.5和15 mg/ml CB预处理成熟中的卵母细胞10小时,可以显著降低卵子的成熟;而后处理组的卵母细胞大多数含有2n染色体;(3)后处理组中没有排出第一极体的卵母细胞孤雌胚胎发育率(25-28%)显著高于预处理组,24小时处理组和对照组(12-16%)。(4)、核型分析发现,CB处理后没有排出第一极体的卵子所发育得到的胚胎中有74%的一细胞期胚胎是4n,120条染色体;82%的二细胞期胚胎是4n,75%的囊胚是四倍体囊胚。总之,CB可以抑制第一极体的排放,打乱纺锤体结构,降低卵子成熟效率和形成四倍体胚胎。

【英文摘要】Tetraploid embryos are a useful model for postimplantation development of polyploidy cells, and tetraploid cells are an advantage in studies for chimeras yielding offspring completely derived from embryo stem cells or induced pluripotent cells. This study was designed to investigate the effects of cytochalasin B (CB) on bovine oocyte meiosis, and to induce the formation of diploid oocytes and tetraploid embryos. The results showed that: (1) incubation of oocytes in CB at _2.0 mg/mL concentrations for 24 h significantly decreased oocyte maturation and the matured oocytes ’ haploid composition. Over 50% of the CB-treated oocytes did not expel PB1 (non-PB1), and most of the non-PB1 oocytes contained 2n (60) chromosomes. (2) Pretreatment of oocytes with CB at concentrations of 7.5 and 15 mg/mL for 10 h significantly decreased oocyte maturation. Posttreatment of oocytes with CB resulted in most of the oocytes containing 2n chromosomes.(3) The parthenogenetic blastocysts (25 – 28%) derived from the non-PB1 oocytes of posttreatment group was significantly higher than that from pretreatment, whole period treatment, and the control oocytes (12 – 16%). (4) Cytogenetic analysis of the embryos derived from CB-treated non-PB1 oocytes resulted in 74% of the one-cell stage embryos being 4n¼120 chromosomes, 82% of two-cell stage embryos contained 4n chromosomes in each blastomere, and 75% of the blastocysts were tetraploidy (4n¼120). (6) The stopped uncleaved one-cell embryos showed an amazing phenomenon of over 15% of them containing extra chromosomes, which suggested multiple DNA duplication occurred within 40 h after activation. In conclusion, CB inhibits PB1 extrusion, disfigures spindle structure, decreases oocyte maturation, and results in formation of diploid (2n or 4c) oocytes. The diploid oocytes resulted in a higher development of tetraploid embryos, which would be a unique approach for the production of tetraploid embryos in bovine.

【语种】英文
【第一作者】白春玲,刘慧
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【学科分类】发育生物学

【题目】Multiple histone site epigenetic modifications in nuclear transfer and in vitro fertilized bovine embryos
【中文关键词】表观遗传,组蛋白修饰,体外受精,体细胞核移植
【英文关键词】Epigenetic reprogramming, Histone modifications, In vitro fertilization, Somatic cell nuclear transfe
【中文摘要】无
【英文摘要】During mammalian embryonic development, DNA methylation and histone modifications are important in gene expression regulation and epigenetic reprogramming. In cloned embryos, high levels of DNA methylation and abnormal demethylation were widely observed during the preimplantation period. Little is known whether there is a difference in histone modifications between in vitro fertilization (IVF) and cloned embryos during preimplantation development. In the present study, the distributions and intensity patterns of acetylations in H3 lysine 9, 18 and H4 lysine 8, 5 and tri-methyl lysine 4 and dimethyl-lysine 9 in histone H3 were compared in cloned and IVF bovine preimplantation embryos by using indirect immunofluorescence and scanning confocal microscopy. The results showed that the acetylation and methylation levels of H3K9ac, H3K18ac, H4K5ac, H4K8ac, H3K4me3 and H3K9me2 were abnormally high in the cloned embryos from the pronuclear to the 8-cell stage. H4K8ac and H4K5ac in the cloned embryos were particularly abnormal when compared with the IVF controls. At the blastocyst stage differences dissipated between cloned and IVF embryos and the distribution and intensity patterns of all histone modifications showed no obvious difference. These results suggest that somatic cells in recipient oocytes produced aberrant histone modifications at multiple sites before the donor cell genome is activated. After zygotic genome activation, distributions and intensity patterns of histone modifications were comparable with both cloned and IVF embryos
【语种】英文
【第一作者】吴侠,李燕
【通讯作者】李光鹏
【期刊名称、卷期、页码】Zygote
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【学科分类】发育生物学

【题目】Production of cloned transgenic cow expressing omega-3 fatty acids
【中文关键词】N-3多不饱和脂肪酸基因,转基因牛,体细胞核移植
【英文关键词】N-3 fatty acid desaturase gene, mfat-1, Transgenic cattle, Nuclear transfer
【中文摘要】无
【英文摘要】n-3 Polyunsaturated fatty acids (n-3 PUFA) are important for human health. Alternative resources of n-3 PUAFs created by transgenic domestic animals would be an economic approach. In this study, we generated a mfat-1 transgenic cattle expressed a Caenorhabditis elegans gene, mfat-1, encoding an n-3 fatty acid desaturase. Fatty acids analysis of tissue and milk showed that all of the examined n-3 PUAFs were greatly increased and simultaneously the n-6 PUAFs decreased in the transgenic cow.Asignificantly reduction of n-6/n- 3 ratios (P\0.05) in both tissue and milk were observed.
【语种】英文
【第一作者】吴侠
【通讯作者】李光鹏
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【学科分类】发育生物学

【题目】Nuclear transfer procedures in the ovine can induce early embryo fragmentation and compromise cloned embryo development
【中文关键词】胞质碎裂,离子霉素,体外发育,体内发育
【英文关键词】Cytoplasmic fragmentation, DC pulse, Ionomycin, In vitro development, In vivo development
【中文摘要】无
【英文摘要】Cytoplasmic fragmentations are frequently observed in early mammalian embryos, and especially in the human. In our research we have observed subtle clues that the occurrence of fragmentation was most likely a result of somatic cell nuclear transfer (NT) protocols, and in particular, the in vitro culture system. In this study we examined various putative factors that might induce early embryo fragmentation in the ovine. The results indicate that nuclear transfer protocols such as the fusion parameter, activation treatment, and especially the choice of culture medium affected embryo cleavage rates and resulted in a higher incidence of fragmented embryos. Upon using the same fusion parameter, activation parameters that were based upon amino acids containing synthetic oviduct fluids (SOFaa) culture system resulted in significantly lower fragmentation rates than when utilizing a Charles Rosenkrans 1 (CR1aa) culture system. Fragmented embryos typically exhibited irregular numbers of blastomeres with the majority of blastomeres devoid of chromatin. Factors such as fusion DC pulse, activation treatment and culture system led to higher fragmentation and also affected in vitro and in vivo embryo development. The SOFaa based culture system produced a higher number of quality NT embryos resulting in higher pregnancy rates and the birth of live lambs as compared to the CR1aa based system ($P < 0.05$). We conclude that early embryo fragmentation in the ovine is caused by suboptimal cloning protocols, and NT embryo development is especially affected by the culture system used.
【语种】英文
【第一作者】雪莲
【通讯作者】李光鹏
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【学科分类】发育生物学

【题目】大鼠肌肉卫星细胞的分离、鉴定与诱导分化
【中文关键词】大鼠,肌肉卫星细胞,成肌诱导,成脂诱导
【英文关键词】Rat, Satellite cells, Myoblast, Adipogenesis
【中文摘要】肌肉卫星细胞是组织特异性干细胞,负责着骨骼肌的生长和再生。尽管发现卫星细胞的存在已经有50 多年的历史了,但分离鉴定肌肉卫星细胞的方法仍然不稳定。本研究使用两步酶消化和差速贴壁相结合的方法分离大鼠(Rattus norvegicus)肌肉卫星细胞。免疫细胞化学染色显示,分离的大鼠肌肉卫星细胞高表达Desmin;通过RT-PCR 鉴定所分离的细胞表达肌源性干细胞因子Myf5 及Myod1;成肌诱导48 h 后,卫星细胞开始形成多核的肌管;成脂诱导1 周后,细胞内开始出现脂滴,2 周后充脂细胞明显增多。研究结果提示,分离的卫星细胞具有肌源性,有发育形成肌管和向成脂细胞分化的能力。
【英文摘要】Satellite cells are regarded as a population of muscle-specific committed progenitors which are responsible for the postnatal maintenance, growth, repair and regeneration of skeletal muscles. Although satellite cells have been first isolated for 50 years, the isolation protocols are still to be modified. In this study, the combination of two-step enzyme digestion and purification with different speed adherence protocols were used to isolate rat (Rattus norvegicus)satellite cells. Analyses of the cells with desmin immunocytochemical staining indicated that the cells were derived from skeletal muscle; RT-PCR of Myf5 and Myod1 showed that they expressed muscle-specific transcription factor; Myotubes began to form at 48 h in induced-culture medium; Lipid droplets began to appear in cells after 1 week,and the number of adipose cells increased significantly after 2 weeks. The results suggested that isolated satellite cells could be induced into adipogenesis, and had the abilities to develop into myobubes and differentiated into adipose cells.
【语种】中文
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【学科分类】发育生物学

【题目】克隆绵羊遇到的问题及其分析
【中文关键词】细胞核移植; 胚胎; 体外发育; 体内发育; 胎儿巨大症
【英文关键词】nuclear t ransfer; embr yo; in vit ro dev elo pment; in vivo development ; large of fspring
【中文摘要】本研究以体外成熟不同时间的绵羊卵母细胞为胞质受体, 对去核、融合、不同激活方法、卵裂率、桑/ 囊胚率和克隆胚受胎率等作了研究与分析. 观察妊娠受体母羊的状态、胎儿体内发育情况, 分析影响胎儿发育的原因. 结果显示, 成熟培养18h、22h、2 4h 卵母细胞的盲吸去核率无显著性差异(84. 9%, 86. 6%, 84. 3%, p> 0. 05) , 但显著高于26h 组的去核率(71. 7%) . 离子酶素联合cyclo hex imide(CH X) 对重构胚进行激活, 卵裂率显著高于A23187 联合6 DM AP 的激活方法(84. 6% vs 63. 2%, p< 0. 05) , 但二者处理对桑/ 囊胚率发育无显著差异(25. 5% v s18. 7%, p> 0. 05) . 作为胞质受体, 成熟20h 的卵母细胞与成熟24h 和26h 的卵母细胞相比, 不利于重构胚的体外发育, 桑/ 囊胚率差异显著(12. 3% v s 25. 3%, 23. 4%, p< 0. 05) . 分别以美丽奴、杜泊肉羊的体细胞为供体细胞进行克隆生产, 90 天以后的妊娠率为10%- 17%, 发育到期率为10%以上. 出生羔羊的体重普遍较大.
【英文摘要】Effect s of manipulat ion technique aspect s such as oocyte cytoplast , enucleat ion, fusion, and par theno genet ic act iv at ion on the in vitr o and in vivo development o f the cloned sheep embry os w er e studied. After t ransfer of cloned embryo s into recipient ew es, the developmental status o fpregnant ew es w ere systemat ically observed and recor ded during the who le period. The result sshow ed that there w as no sig nif icant differ ence in enucleat ion rates of o ocy tes matured for 18h, 20h,24h (84. 9% , 86. 6%, 84. 3% , p> 0. 05) . How ever, T hey w ere significant ly higher than that of oo cytes matured for 26h(71. 7% , p< 0. 05) . T he activ at ion pr otoco l of ionomycin and cycloheximide(CHX) combinat ion resulted in a significant ly higher cleavage rate than the pro to co l o f A23187 and 6- dimethylaminipurine(6- DMAP) combinat ion(84. 6% v s 63. 2%) . T he morulae/ blasto cy st develo pment , how ever , has no significant dif ference betw een these tw o act iv at ion pr otoco ls(25. 5% vs 18. 7%, p> 0. 05) . When using 24h- and 26h- matur ed oo cytes fo r the cloning, the mo rulae/ blastocyst development as sig nif icant ly higher than that o f 20h- matured o ocy tes(25. 3%, 23. 4% vs 12. 3%, p< 0. 05) . Donor cells came f rom Merino and Dorper sheep, af ter t ransfer o f the cloned embry os to recipient ew es, 10%- 17% pregnancies w ere established at Day 90, and mo re than 10% of them dev elo ped to term in both Merino and Dorper sheep. Unfortunately , most of the lambs w ere overw eight , the possible reasons w er e analyzed.
【语种】中文
【第一作者】雪莲
【通讯作者】李光鹏
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【题目】内蒙古白绒山羊的体细胞克隆
【中文关键词】体细胞克隆; 绒山羊; 胚胎移植; 卵母细胞
【英文关键词】nuclear t ransfer; cashmer e goat ; embryo t ransfer; o ocy te
【中文摘要】内蒙古白绒山羊是具有悠久历史的绒肉兼用的品种, 对荒漠和半荒漠环境有较强的适应性. 山羊绒是来自绒山羊的细绒毛, 具有极高的商业价值. 为了扩大优秀绒山羊数量, 本试验尝试利用体细胞克隆技术进行绒山羊克隆研究. 从一只成年优秀公绒山羊中, 取其耳缘组织,培养获得成纤维细胞. 从当地屠宰场获得山羊卵巢, 抽取卵母细胞并体外培养成熟. 然后以绒山羊成纤维细胞为核供体, 通过体细胞克隆技术生产克隆胚胎. 核移植重构胚的融合率、卵裂率和囊胚发育率分别为75. 8%, 72. 6% 和11. 6%. 将处于1- 至2- 细胞期的胚胎移植入同期发情受体母山羊输卵管中, 于2009 年4 月30 日诞生了一只克隆绒山羊. 该克隆羊的生长状态及产绒量与细胞核供体山羊相一致, 呈现良好的发育态势, 说明体细胞克隆技术可以成为良种绒山羊的扩繁途径.

【英文摘要】Cashmere is a f iber obtained f rom a cashmere g oat, w hich is go od in commercial quality and quant ity. T he Inner Mongo lia cashmere goat is a lo cal breed for bo th cashmere and meat w ith a long history , it adapt s w ell to the desert and semidesert pastur es. A local champio n male cashmer e goat w as selected for the cloning. A piece of ear t issue was col lected f rom this championship and cul tured to g et fibroblast cells. Oocytes w ere aspirated fr om the goat ovaries collected fr om a local slaughterhouse and the matured oocytes w er e used as recipient cy to plasm. The somat ic cells w er etr ansferred to the enucleated oocytes and the fused and reconst ructed embryo s w ere cultured in SOFaa media for abo ut 40 h. T he result s show ed that the fusion, cleavag e, and blastocyst development rates were 75. 8%, 72. 6% , and 11. 6%, respectively. The tr ansfer of 1to 2cell stag e embryo s to oviduct s of recipient go at s resulted in 21. 4% pregnancy (3/ 14) at Day 50 after embryo t ransfer. One lamb w as naturally delivered on April 30, 2009 w ith a birth weight of 3. 1 kg. It grow s rapidly to 4. 5 kg and 21. 0 kg at 10 and 60 days af ter its birth, respectively. Eig ht months later, the clone g row s up to 41kg, w hich w as significant ly higher than average g row ing rate.

【语种】中文

【第一作者】白春玲

【通讯作者】李光鹏

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【学科分类】发育生物学

【题目】牛体外成熟卵母细胞染色体形态学研究

【中文关键词】减数分裂; 卵母细胞; 染色体; 牛

【英文关键词】Meiosis; Qocytes; Chromosome; Bov ine

【中文摘要】[目的] 为了给牛体细胞克隆和转基因克隆工作提供基础性材料。[方法] 在显微镜下,从卵液中捡出卵丘 卵母细胞复合体, 置入成熟培养液中进行成熟培养, 处理培养不同时期的卵母细胞, 所得的去掉卵丘的卵母细胞固定在载玻片上, 染色、冲洗、晾干, 在显微镜下观察。[结果] 表明: 成熟培养0 h 到4 h 大多数卵母细胞处于GV 期(97. 5%~ 87. 8%) , 培养6 h 以后GVBD 发生了卵母细胞数量明显增多(51. 6%) , 成熟培养8 h~ 12 h 处于PreMI 的卵母细胞逐渐减少(76. 7%~ 43. 2%) , MI 期卵母细胞逐渐增多(13. 3% ~ 50. 0%) 。成熟培养16 h有17. 8% 的卵母细胞处于MII 期, 大部分细胞仍处于MI 期(40. 0%) 和AI/ T I 期(42. 2%) 。从16 h~ 24 h, MII 期卵逐渐增多, 培养24 h 后大多数卵母细胞排出第一极体到达MII 期(86. 5%) 。[结论] 在减数分裂过程中, 染色体也发生了显著的形态变化。第一次减数分裂中期时的染色体清晰可数, 进入后期时, 分开的两团染色体各自凝集成染色质团, 并且一直持续到末期, 到达第二次减数分裂中期时又成为清晰可数的染色体状态。

【英文摘要】T o invest igate the meiot ic pro gression and the chr omosomal morpholog ical changes o f the bo vine o ocy tes matured in v it ro , o ocy tes w er e collected fo rm from oo ctye liquid under micr oscope. The majority of the oocy tes maintained at GV stage (97. 5% ~ 87. 8%) during the f irst 4 h after cultur e. Six ho urs later, ar ound 51. 6% of the o ocy tes occurred GVBD. When the o ocy tes w ere matured for 8h to 12h, the number of the oocytes in pre metaphase stage gr adually decreased (from 76. 7% to 43. 2%) and the oocytes in metaphase I (MI) rapidly increased (from 13. 3% to 50. 0%) . Appr oximately 17. 8% of the oocytes reached metaphase II (MII) at 16 h, and reached the highest (86. 5%) af ter the oo cytes matured fo r 24 h. Simultaneously, the morpholog y and config urat ion o f the chromosomes occurred obviously chang ed during in v it ro maturat ion. The chromo somes w ere accountable at MI, and gradually became condensed into mass of chromatin w hen the oo cytes dev elo ped to anaphase and telophase. T he chr omosomes then became countable w hen the oocy tes dev elo ped to nex t metaphase stage.

【语种】中文

【第一作者】其不日

【通讯作者】李光鹏

【期刊名称、卷期、页码】中国牛业科学,2009,第35 卷第4 期,1-5

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【学科分类】发育生物学

【题目】脱氧胆酸处理对大鼠肌肉卫星细胞的影响
【中文关键词】脱氧胆酸(DCA) ; 大鼠; 卫星细胞
【英文关键词】deox ycholic acid (DCA) ; rat; satellite cells
【中文摘要】肌肉卫星细胞是组织特异性干细胞, 负责骨骼肌的生长和再生。尽管卫星细胞的发现已有50 多年的历史, 但肌肉卫星细胞的维持培养仍是一个难以解决的问题。本研究使用脱氧胆酸(deox y cho lic acid, DCA) 处理肌肉卫星细胞, 结果发现,50 mo l/ L脱氧胆酸能显著促进肌肉卫星细胞的增殖。Western blo tting 检测发现50 mol/ L DCA 能促进细胞 catenin 表达水平的持续增加。处理6 d 后的细胞仍然保持着肌肉卫星细胞的成肌能力。
【英文摘要】Satellite cells are r eg arded as a po pulat ion o f muscle specific commit ted pr og enitors that ar e r esponsible for the po st natal maintenance, g rowth, repa ir and reg ener atio n of skeletal muscles. Although satellit e cells nav e been first isolated 50 years ag o, the character istic that is maintained by cultur e still cann& t r eso lve. In this study , 50 mo l/ L deox ycholic acid(DCA) co uld pr omote the pr oliferation o f rats& satellite cells. The ex pression of catenin increased g radually by Wester n blo tting . The cells tr eated w ith DCA st ill could fusio n.
【语种】中文
【第一作者】焦泽华
【通讯作者】李光鹏
【期刊名称、卷期、页码】中国畜牧兽医 2010 年第37 卷第12 期,39-43
【论文发表时间】2010-07-01 00:00:00
【引文索引类型】其他
【引文索引号】DOI: 10.3969/j.issn.1674-7968.2011.02.015
【学科分类】发育生物学

【题目】新生犊牛的关键护理提高克隆牛存活率
【中文关键词】克隆牛;出生;护理;管理;存活率
【英文关键词】cloned cattle;birth;medical care;management;survival rate
【中文摘要】对犊牛生产过程与产后护理方面做了大量细致的观察、管理、护理,使体细胞克隆牛出生率以及犊牛出生后存活率大大提高,新生克隆犊牛存活率高达83%.
【英文摘要】Morphological observation,medical care and management of new born cloned calves in the producing and feeding were seriously observed and studied.After the careful care management,the survival rate of new born calves is 83%.
【语种】中文
【第一作者】程磊
【通讯作者】李光鹏
【期刊名称、卷期、页码】内蒙古大学学报(自然科学版) 2011年,第42 卷第4期,442-448
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【引文索引号】DOI: 10.3969/j.issn.1674-7968.2011.02.015
【学科分类】发育生物学

【题目】光质对海带幼孢子体生长和假根发育的影响
【中文关键词】海带,孢子体,假根,光质,蓝光
【英文关键词】Laminaria japonica Aresch, Sporophyte, Rhizoid, Light quality,Blue light
【中文摘要】以海带Laminaria japonica幼孢子体为材料,比较了不同光质(白光、红光和蓝光)对其生长的影响,并对假根的发育进行了研究。在为期56 d的培养期内,蓝光始终促进幼孢子体的生长,平均叶片大小为9 530±125 m 长/1 350± 49肛m 宽,是对照白光组的4倍之多(2 200±56 p.m 长/356±20 p.m 宽);而红光下,藻体生长极为缓慢,叶片大小仅为580±63,um 长/135± 11 p.rn宽。但是三光质下,藻体假根生长差异较小;假根长/叶片长为红光下最大,蓝光下最小,三光质下该比值均随着培养时间的延长而下降。由于海带的主要捕光色素之一岩藻黄素的吸收峰位于蓝光区,因此加大环境中蓝光的辐射可有效提高光能利用率,从而提高实际光合效率,加快藻体的生长;而假根部由于结构和功能特性,光合能力有所退化,对光质差异不敏感,因而在三光质下的生长相似。
【英文摘要】Effects of light qualities(white light,red light and blue light)on the growthand rhizoid development of Laminaria japonica Aresch young sporophyte were investigated.During the culture period of 5 6 days,the young sporophyte cultured in blue light had a frondsize of 9 530±125 m length/1 350±49 m width,about four~folds greater than that in whitelight;and the young

sporophytes ’ growth was much delayed in red light,at a size of 580 4-63m length/135± 11 m width.However,the development of rhizoid showed little differencebetween different light qualities.The ratios of rhizoid 1ength to frond length were the highest in red 1ight and lowest in blue light,which all decreased as the cultures prolonged.Fucoxanthin,one of the major light harvesting pigments in Laminaria with absorption spectrum peaking in blue light region is highly effective in capturing blue light. Consequently,the more the blue light irradiance was provided,the more the light energy was captured,resulting in the higherphotosynthetic rate. Because the rhizoid is differentiated from the Laminaria frond and possesses degraded photosynthetic capacity,it was less reactive to light qualities than the frond and showed similar development under the three lights.

【语种】中文
【第一作者】汪文俊
【通讯作者】王飞久
【期刊名称、卷期、页码】渔业科学进展. 30(5): 113-118
【论文发表时间】2009-10-20 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】水产学基础学科

【题目】Effect of blue light on indoor seedling culture of Saccharina japonica (Phaeophyta)
【中文关键词】叶绿素荧光,配子体,光合作用,孢子体,游孢子
【英文关键词】Chlorophyll fluorescence, Gametophyte, Photosynthesis, Sporophyte, Zoospore
【中文摘要】Saccharina japonica is a brown alga that has been commercially cultured on a large scale in China. Integrating the light condition under seawater and the adaptation of Saccharina to this condition, it is expected that blue light would be beneficial to Saccharina culture system. Consequently, the detailed effect of blue light on the key stages during indoor seedling culture of S. japonica was investigated in this study. Irradiances and light qualities had little effect on zoospore attachment and germination. Egg formation occurred sooner under blue light than white light. Under optimum irradiances, 95 ± 4% female gametophytes gave rise to eggs in 6 d under blue light, while it took 12 d for over 90% formation of eggs under white light. Over a culture period of 3 weeks, mean sporeling length and width under blue light was 1.39 and 1.56 times of that under white light, respectively, while the mean sporeling size obtained under red light was only 25% of that under white light. The higher growth rate under blue light was largely due to higher photosynthetic efficiency, as indicated by chlorophyll fluorescence of photosystem II. In addition, the mean ratio of sporeling width to length under blue light was significantly higher than that under white light. These results suggest that blue light would be superior to white light for indoor seedling culture of S. japonica. Based on these findings, an improved S. japonica seedling culture system is discussed.
【英文摘要】无
【语种】英文
【第一作者】汪文俊
【通讯作者】王飞久
【期刊名称、卷期、页码】Journal of Applied Phycology. 22(6): 737-744
【论文发表时间】2010-03-10 00:00:00
【引文索引类型】SCI
【引文索引号】DOI: 10.1007/s10811-010-9514-x
【学科分类】水产学基础学科

【题目】Rapid and Sensitive Detection of Singapore grouper iridovirus by Loop-Mediated Isothermal Amplification
【中文关键词】grouper, loop-mediated isothermalampli fi cation, nested PCR, Singapore grouperiridovirus
【英文关键词】None
【中文摘要】AIMS: The aim of this paper was to develop a loop-mediated isothermal amplification (LAMP) method for rapid, sensitive and inexpensive detection of Singapore grouper iridovirus (SGIV) in grouper (GP), Epinephelus sp. METHODS AND RESULTS: A set of six specific primers was designed by targeting the SGIV ORF-014L. With Bst DNA polymerase large fragment, the target DNA can be amplified as early as 20 min at 65 degrees C in a simple water bath. The detection limit is about 0.02 fg (equivalent to 6.3 copies) of plasmid ORF-014L. LAMP products could be judged with three different methods. There were no cross-reactions with seven other aquatic animal viruses indicating high specificity of the LAMP. The LAMP method was applied to detect SGIV in virus-infected GP cells and GP tissues effectively. CONCLUSIONS: The LAMP described in this study is a cheap, sensitive, specific and rapid

protocol for the detection of SGIV in cells and in GP tissues. SIGNIFICANCE AND IMPACT OF THE STUDY: The developed LAMP method can be simply applied both in field condition and in laboratory operation for specific detection of SGIV infection.
【英文摘要】None
【语种】英文
【第一作者】X.L. Mao, S. Zhou
【通讯作者】Qin QW
【期刊名称、卷期、页码】Journal of Applied Microbiology. 2008, 105(2):389-397
【论文发表时间】2008-01-01 00:00:00
【引文索引类型】SCI
【引文索引号】doi:10.1111/j.1365-2672.2008.03761.x
【学科分类】水产学其他学科

【题目】Development of a SYBR Green I Real-Time PCR for Quantitative Detection of Vibrio aligimolyticus in Seawater and Seafood.
【中文关键词】gyrB gene, quantitative detection, real-time PCR, seafood, seawater, Vibrio alginolyticus.
【英文关键词】None
【中文摘要】Aim: Vibrio alginolyticus is an economically important micro-organism The main aim of the present study was to develop a real-time polymerase chain reaction (PCR) assay for rapid, sensitive and effective quanti fi cation of V. alginolyticus in seawater and seafood.
【英文摘要】None
【语种】英文
【第一作者】Zhou S
【通讯作者】Qin QW
【期刊名称、卷期、页码】Journal of Applied Microbiology, 2007, 152(8):1457-65
【论文发表时间】2009-03-01 00:00:00
【引文索引类型】SCI
【引文索引号】doi:10.1111/j.1365-2672.2007.03420.x
【学科分类】水产学其他学科

【题目】Variation in the immunoglobulin levels in turbot (Scophthalmus maximus) after vaccination with Streptococcus iniae
【中文关键词】turbot - Streptococcus iniae - flow cytometry - immunoglobulin
【英文关键词】None
【中文摘要】A pathogenic bacterium (S636), identified as Streptococcus iniae, was isolated from turbot (Scophthalmus maximus) in 2005. We immunized turbot with formalin-killed S. iniae four times (on days 1, 14, 21, and 28) by intraperitoneal inoculation. After each vaccination, we obtained serum samples and isolated the lymphocytes from the peripheral blood, spleen, pronephros, and mesonephros. We measured surface Ig-positive (sIg+) lymphocytes and serum antibody levels from these organs using flow cytometry and enzyme-linked immunosorbent assay (ELISA), respectively, using monoclonal antibodies against turbot immunoglobulin. We confirmed that the antibody reacted with both the surface and plasma Ig by confocal laser scanning microscopy and electron microscopy. The percentage of sIg+ in the lymphocytes increased following each successive vaccination. The mean percentage increased from 31.96% (control) to 37.49%, 38.36%, 42.9%, and 51.63% in the peripheral blood; from 27.09% to 36.63%, 36.81%, 39.28%, and 46.0% in the spleen; from 22.2% to 28.99%, 29.21%, 32.83%, and 41.58% in pronephros; and from 18.12% to 22.17%, 22.45%, 25.69%, and 31.68% in the mesonephros. The ELISA results were consistent with these results. Both the total and specific antibody levels increased with each vaccination. The mean OD value of the specific antibody assay increased from 0.094, to 0.269, 0.283, 0.333, and 0.421; for total antibody the mean OD value increased from 0.133, to 0.292, 0.323, 0.413, and 0.527.
【英文摘要】None
【语种】英文
【第一作者】ZHAN Wenbin
【通讯作者】ZHAN Wenbin
【期刊名称、卷期、页码】Chinese Journal of Oceanology and Limnology, 2009,27(3); 1-7

【论文发表时间】2008-10-01 00:00:00
【引文索引类型】SCI
【引文索引号】DOI: 10.1007/s00343-009-9195-y
【学科分类】水产学其他学科

【题目】Detection of lymphocystis disease virus in Japanese flounder Paralichthys olivaceus and other marine teleosts from northern China
【中文关键词】lymphocystis disease virus - PCR - in-situ hybridization - Paralichthys olivaceus - Sebastes schlegeli - Lepidotrigla microptera - Scophthalmus maximus
【英文关键词】None
【中文摘要】We isolated a strain of lymphocystis disease virus (LCDV) from Japanese flounder (Paralichthys olivaceus) cultured in northern China. Based on published sequences of major capsid protein (MCP) gene of LCDV-cn (GenBank: AF126405), we designed two primer sets P1/P2 and P3/P4. We then used one-step or nested PCR and in-situ hybridization (ISH) to detect LCDV and identify the target tissues or cells in infected Japanese flounder. The PCR products were positive in purified viral supernatant, skin nodules, gut, gill, kidney, spleen, stomach, heart, and liver of Japanese flounder. We compared the DNA sequence with 14 MCP nucleotide sequences from GenBank, including Megalocytivirus (OFIV and RSIV), Iridovirus (CzIV and WIV), Ranavirus (TFV and FV3), and Lymphocystivirus (8 LCDV). Based on the alignment, we confirmed the PCR product was from Lymphocystivirus (GenBank accession number DQ279090 (LCDV-HD)). Using ISH, we noted the presence of LCDV in the skin nodules, gut, gill, spleen, stomach, and heart of spontaneously infected Japanese flounders. We successfully amplified LCDV fragments from Schlegel s black rockfish (Sebastes schlegeli Higendorf), redwing sea robin (Lepidotrigla microptera G ü nther) and turbot (Scophthalmus maximus) using the one-step and nested PCR, suggesting the target genes can be widely detected in fish using this method.
【英文摘要】None
【语种】英文
【第一作者】ZHAN Wenbin
【通讯作者】ZHAN Wenbin
【期刊名称、卷期、页码】Chinese Journal of Oceanology and Limnology.
【论文发表时间】2010-03-01 00:00:00
【引文索引类型】SCI
【引文索引号】DOI: 10.1007/s00343-010-9934-0
【学科分类】水产学其他学科

【题目】Development and evaluation of a one-step loop-mediated isothermal amplification for detection of spring viraemia of carp virus
【中文关键词】detection and diagnosis of SVCV, RT-LAMP, SVCV.
【英文关键词】None
【中文摘要】Aim: Spring viraemia of carp virus (SVCV) is the causative agent of SVC disease. The main aim of our study was to develop a one-step reverse transcription loop-mediated isothermal ampli fi cation (RT-LAMP) assay for rapid, sensitive and effective detection of SVCV
【英文摘要】None
【语种】英文
【第一作者】Z Liu;Y. Teng
【通讯作者】Z Liu;Y. Teng
【期刊名称、卷期、页码】Journal of Applied Microbiology, 2008, 105(4): 1220-1226
【论文发表时间】2008-10-01 00:00:00
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【引文索引号】doi:10.1111/j.1365-2672.2008.03858.x
【学科分类】水产学其他学科

【题目】A rapid DNA extraction method for PCR ampli fi cation from wetland soils

【中文关键词】氨氧化古菌,氨氧化细菌,氯化钙,玻璃珠,SDS法
【英文关键词】ammonia-oxidizing archaea, ammonia-oxidizing bacteria, calcium chloride, glass bead, SDS method.
【中文摘要】研究目标:应用聚合酶链式反应检测了从湿地土壤样品中快速提取DNA的方法。方法和结果:与氯化钙/ SDS /酶法和美国进口的UltraCleanTM土壤提取试剂盒相比,本研究建立的玻璃珠/氯化钙/ SDS方法能快速提取土壤DNA,用时约2个小时且无需纯化。结论:本研究成功建立快速提取土壤DNA方法,该法可以适用于各种富含腐殖酸的环境样品的DNA提取。研究的意义:该方法提供了一个从土壤中高效提取DNA技术,为后续研究土壤氨氧化细菌和氨氧化古菌多样性提供了提供了可能。
【英文摘要】Aims: We tested a method of rapid DNA extraction from wetland soil samplesfor use in the polymerase chain reaction.Methods and Results: The glass bead / calcium chloride / SDS method obtainedin the present study was compared with the calcium chloride / SDS / enzymaticextraction method and the UltraClean Soil DNA Isolation Kit. Rapid DNAextraction could be completed within about two hours without puri fi cationsteps.Conclusions: This study succeeded in establishing a fast soil DNA extractionprotocol that can be applied to various environmental sources that are rich inhumic acid content.Signi fi cance and Impact of the Study: The method provides a technology withhigh-quality DNA extraction from soils for testing the diversity of AOB andAOA.
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【第一作者】李靖宇
【通讯作者】赵吉
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【学科分类】微生物学

【题目】Study on the Divergent Characteristics of Soil Fungi and Actinomycetes at Dry Lake Wetland on Typical Steppe
【中文关键词】典型草原,干涸湖泊湿地,真菌,放线菌,多样性
【英文关键词】Typical steppe, Dry lake wetland, Fungi, Actinomycetes, Diversity
【中文摘要】本文主要通过平板培养技术研究了优势土壤丝状菌,尤其是典型草原区干涸湖泊湿地土壤真菌和放线菌的组成和分布;对比分析了湖泊湿地和典型草原两大微生物区系的分异特征;计算了土壤丝状菌的多样性,丰富度,均匀度和优势度。对于真菌而言,湖床中心(LC),典型草原(TS)和湖床边缘(LB),湖滨(LS)的多样性和丰富度指标之间有显著差异,LC和TS与LB和LS的优势度指标之间有显着性差异。对于放线菌而言,LC与LS,LB与TS之间的多样性指标有显着差异,LC与TS之间的丰富度有显著差异,LC与LS之间的均一度有显著差异。在LC样点,占主导地位的真菌区系为毛霉,占100%。 在LB样点,毛霉占据26.25%,青霉占据45%。在LS样点,主导的区系是毛霉和青霉,分布占48%和34.48%。在TS样点,青霉已成为优势菌群,占92.23%。对于放线菌, LC最优势的菌群 是Griseofuscus,占55.71%。在LS样点,占主导地位的菌群为Griseofuscus和秃顶菌群,约占18.75%和20%。在TS样点,优势菌群Griseofuscus和Flavus菌,占16.08%和14.69%。上述研究结果为更好地认识湿地的演替和向发展机制提供了依据,为干涸湖泊湿地的保护和合理利用奠定了基础。
【英文摘要】In this study, the composition and distribution of dominant soil filamentous microbes , such as fungi and actinomycetes, at dry lake wetland soil on typical steppe were measured through Spread-Plate-Technique; the divergent characteristics of two microbial floras at lake wetland and typical steppe were analyzed; and several indicators of soil filamentous microbes, for example, diversity, richness, evenness, and dominance, were calculated. For fungi, there is significant difference between lake center (LC), typical steppe (TS) & lake bed (LB), lake side (LS) for diversity and richness; and there is significant difference between LC and TS& LB and LS for dominance. For actinomycetes, there is significant difference between LC & LS, and LB& TS for diversity; and there is significant difference between LC&TS for richness; and there is significant difference between LC&LS for evenness. At LC, the most dominant floras is Mucor, accounting for 100%. At LB, Mucor accounts for 26.25% and Penicillium accounts for 45%. At LS, the dominant floras are Mucor, accounting for 48%, and Penicillium, accounting for 34.48%. At TS, Penicillium has become the dominant flora to account for 92.23%. For actinomycetes, the most dominant floras at LC is Griseofuscus, accounting for 55.71%. At LS, the dominant floras are Griseofuscus accounting for18.75%, and balding group, accounting for 20%. At TS, the dominant flora are Griseofuscus, accounting for16.08%, and Flav us, accounting for 14.69%.The results have demonstrated a better understanding toward the development and succession mechanisms of wetland to provide the basis for protection and rational utilizations of dry lake wetland.
【语种】英文
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【学科分类】生态学

【题目】Diversity of Fungi and Actinomycetes in Soil of Enclosed and Grazing Wetland on Inner Mongolian Plateau
【中文关键词】内蒙古高原,围封和放牧,真菌,放线菌,多样性
【英文关键词】Inner Mongolian Plateau, Enclosed and grazing, Fungi, Actinomycetes, Diversity
【中文摘要】通过平板培养技术测定了内蒙古高原上河漫滩湿地土壤真菌和放线菌的数量,对比分析了河漫滩湿地和典型草原两大微生物区系的分异特征,同步计算了丝状微生物的多样性,丰富度,均匀度和优势度等指标。对于真菌,围封区和放牧区之间的多样性和丰富度指标间存在显着差异,围封塔头尖(WT)和围封塔头间(WJ)之间的均一度有显着差异,放牧塔头尖(FT)和放牧塔头间(FJ)之间的优势度有显着差异。对于放线菌,放牧塔头尖(FT)和放牧塔头间(FJ)之间的多样性和丰富度指标间存在显着差异,围封塔头尖(WT)和围封塔头间(WJ)之间、放牧塔头尖(FT)和放牧塔头间(FJ)之间的丰富度有显着差异。河漫滩湿地土壤的优势菌群是毛霉和青霉。但是,围封和放牧区湿地土壤的优势菌群有所不同。这些研究结果为更好揭示河漫滩湿地的演化和发展机制以及合理利用和保护河漫滩湿地奠定了基础。
【英文摘要】Soil fungi and actinomycetes, in floodplain wetland on Inner Mongolian Plateau were measured through Spread-Plate-Technique; the divergent characteristics of these two floras at floodplain wetland and typical steppe were analyzed;and several indicators of soil filamentous microbes, for example, diversity, richness, evenness, and dominance, were calculated. For fungi, there is significant difference between enclosed and grazing regions for diversity and richness; and there is significant difference between bump-top in enclosed regions (WT) and bump-top in grazing regions (WJ) for evenness; there is significant difference between in-between-bumps in enclosed regions (FT) and in-between-bumps in grazing regions (FJ) for dominance. For actinomycetes, there is significant difference between in-between-bumps in grazing regions and bump-top in grazing regions for diversity and evenness; and there is significant difference between bump-top and in-between-bumps in enclosed regions, bump-top in grazing regions and in-between-bumps in grazing regions for richness. The dominant groups are Mucor, Penicilliu floodplain wetland. But the dominant groups have changed in enclosed and grazing regions. The results have demonstrated a better understanding toward the development and succession mechanisms of floodplain wetland to provide the basis for protection and rational utilizations of floodplain wetland.
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【学科分类】生态学

【题目】Distributive Characteristics of Soil Microorganisms at Wetland on Mongolian Plateau in Inner Mongolia
【中文关键词】内蒙古高原,湿地,河漫滩,土壤微生物
【英文关键词】Mongolian Plateau, wetland, floodplain, soil microorganisms
【中文摘要】本文研究了内蒙古高原河湿地土壤微生物的分布特征。结果表明,锡林河湿地不同样块土壤微生物各区系(如围封和放牧区塔头和塔间,低河漫滩与高河漫滩)的数量分布规律是相同的,表现为细菌>放线菌>真菌。封闭区湿地土壤细菌的数量高于其他区域的。由于是围封区处于自然恢复过程,塔头和塔间之间的细菌数量没有显着差异。由于塔尖为季节性洪水淹没样点,而塔间为长期积水样点、水分含量高。由于水分含量高不利于放线菌的生存,因此塔尖放线菌数高于塔间。虽然真菌对水分的要求低,塔尖真菌数目高于塔间。放牧区湿地塔尖土壤有更多的微生物,这是因为淹水时间较短和空气流通较好。塔尖有机质更为丰富,这是由于动物粪以及枯草落叶丰富了土壤有机质含量,这有利于放线菌和真菌的繁殖。由于塔间大多是亲水性的植物和较低的生物多样性,土壤微生物的数目也很少。 河漫滩区低河漫滩细菌的数量高于高河漫滩的,这是因为较高的含水量有利于细菌的繁殖。放线菌是嗜碱性的细菌,低河漫滩处的放线菌数量高于高河漫滩的,这是因为高含水量使低河漫滩土壤发生盐碱化。高河漫滩真菌的数量高说明高河漫滩环境更适于真菌的生存和繁

衍。

【英文摘要】This research is to study the distributive characteristics of soil microorganisms at river wetland on Mongolian Plateau in Inner Mongolia. The results showed that the quantities distribution of various floras of soil microorganisms in different plots (such as bump-top and in-between-bumps in enclosed and grazing regions, low floodplain and high floodplain) at wetland of the Xilin River are the same, which is bacteria > actinomycetes > fungi. In enclosed region, the amounts of bacteria are higher than that of other regions. Since is under natural restoration process in enclosed region, there is no significant difference between bump-top and in-between-bumps. At bump-top, it is seasonally flooded, and at in-between-bumps, there is always ponded water to cause high water content. Since high water content is not in favor to the survival of actinomycetes, the number of actinomycetes at bump-top is higher than that at in-between-bumps. Though there is low requirement of water for fungi, the number of fungi at bump-top is higher than that at in-between-bumps. In grazing region, there are more soil microorganisms at bump-top due to shorter flooded time and better air ventilation. At bump-top, organic matter is much richer, due to resupplied from animal manure, withered grass and falling leaves, which is in favor to the reproduction of actinomycetes and fungi. Since there are mostly hydrophilic plants and less biodiversity at in-between-bumps, the number of soil microorganisms is smaller. In floodplain region, the amount of bacteria at low floodplain is higher than that at high floodplain, due to higher water content, which is in favor to the reproduction of bacteria. Actinomycetes are basophilic bacteria. The amount of actinomycetes at low floodplain is higher than that at high floodplain, since high water content has led low floodplain to alkali soil. The amount of fungi at high floodplain is higher due to more suitable environment for survival and reproduction.

【语种】英文

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【学科分类】生态学

【题目】温度盐度对条斑星鲽胚胎发育的影响

【中文关键词】条斑星鲽; 胚胎发育; 温度; 盐度;

【英文关键词】Verasper moseri Embryonic development Temperature Salinity;

【中文摘要】就温度、盐度对条斑星鲽胚胎发育的影响作了初步探讨。实验表明,胚胎发育的适宜温度为6~12°C,最适水温为8~10°C,在适温范围内胚胎孵化速度与温度呈正相关关系(N=65.925T-0.9672)。盐度低于27,受精卵下沉,27~30之间悬浮于水体中,盐度高于35,受精卵浮于水面。胚胎孵化的适宜盐度范围、最适盐度范围分别为25~40和28~36;盐度低于25或高于40,孵化率都降低。研究表明,条斑星鲽胚胎发育的生物学零度(阈温度)为-0.1°C,有效积温值为1726.48°C.h。另外,根据其Q10值推算的胚胎发育的适宜水温与实验结果相似。

【英文摘要】A preliminary study was done on the ffects of temperature and salinity on embryonic development of barfin flounder Verasper moseri. The results showed that the suitable temperatures for hatching were 6~12°C, and the optimum temperatures were 8~10°C. There was a positive relationship between the embryonic development speed and temperature at the suitable range of temperatures(N= 65.925T-0.967 2). Embryos sank to the water bottom when salinity was lower than 27, suspended in the water column when salinity was between 27~30, and floated on the water surface when salinity was above 35. The suitable and optimum salinity range for hatching was 25~40 and 28~36, respectively. Salinity below 25 or above 40 both led to low hatching rate. The calculation results showed that the threshold temperature for embryo development was -0.1°C, effective accumulated temperature was 1 726.48°C · h. In addition, the suitable temperature for hatching embryos of barfin flounder according to its Q10 value was similar to the experimental result.

【语种】中文

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【学科分类】水产养殖学

【题目】条斑星鲽染色体核型分析
【中文关键词】条斑星鲽,染色体,核型,植物血细胞凝集素(PHA)
【英文关键词】Verasper moseri,Chromosome,Karyotype,PHA
【中文摘要】采用体内注射植物血细胞凝集素(PHA)和秋水仙素法制备条斑星鲽染色体。实验鱼头肾细胞经体内短期培养,取出体外经低渗处理、卡诺氏固定液固定后,常规空气干燥法制作染色体标本。Giemsa染液染色后获得中期分裂相进行核型分析。结果表明,条斑星鲽有46条染色体,其核型为2 n=46=2 sm+44 t,即有1对亚中部着丝点染色体和22对端部着丝点染色体,染色体臂数为NF=48,尚未发现有多倍体的现象,也未发现异型性染色体和随体染色体。
【英文摘要】The karyotype of Verasper moseri was studied through the chromosome prepa—rations obtained from head kidney by the method of injecting PHA and colchicines.After 1OWpermeating and Carnoy ’S fixation,air drying method was used to make chromosome samples,which were dyed by Giemsa afterwards.The results showed that the diploid chromosome num—ber of Verasper moseri was 2 n=46 and its karyotype formulae were 2 n=46= 2 sm + 44 t.Namely,there were one pair of submetacentric chromosome and 22 pairs of telocentric chromo—some.NF= 48.There was no visible evidence of polyploidy chromosome and sex chromosome.
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【第一作者】王妍妍
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【题目】条斑星鲽(Verasper moseri)的早期生长发育特征
【中文关键词】条斑星鲽,胚胎发育,胚后生长发育,形态特征
【英文关键词】Verasper moseri, Embryonic development, Post-embryonic development and growth, Morphological characters
【中文摘要】采用显微观察和测绘法对条斑星鲽早期生长发育的数量和形态特征进行了系统的观察和测量。结果表明,条斑星鲽成熟卵子为悬浮性、端黄卵,圆球形,卵径1.7—1.9ram,无油球。在水温f9.0±0.5yc条件下,受精卵经196.3h孵化出膜。在水温l2—14°C条件下,7日龄(DAH,days afterhatching)仔鱼卵黄囊消耗殆尽,开口,肛门与外界相通,开始进入外源性营养阶段。仔鱼开口饵料为轮虫,8日龄仔鱼开始摄食轮虫,12日龄开始摄食卤虫无节幼体,30日龄开始进行配合饲料转化,40日龄后苗种摄食配合饲料良好。生活史无鳔。脊椎骨末端上曲发生在21日龄,至28目龄完成。70日龄幼鱼鳞片和侧线已形成,鳍条数量与成体完全一致。变态过程:32日龄苗种进入变态期,左侧眼睛开始上移,42曰龄眼睛转移至头顶,50目龄眼睛转到右倒,完成变态。研究了鳍的发生及生长过程:背鳍、胸鳍、腹鳍、尾鳍、臀鳍分别发生于l9、0、20、19、10天,至50日龄幼鱼,除胸鳍外其它鳍的鳍条数与成鱼一致。
【英文摘要】M orphology of barfin flounder Verasper moseri in early life stage were studied; including features of yolksac larva,preflexion larva,postflexion larva and juveniles.Eggs and semen were stripped from the ovary cavity and spermducts by gently compressing the genital area of sexually matured female and male fish.The eggs were fertilized artificially,cultured at(9.0±O.5)°Cand salinity 33— 35,sampled every 30- 60min,and observed with a microscope.The fenilizedeggs were 1.7— 1.9 mm in diameter.from which embry os were hatched out about 1 96 h post fertilization.Newly hatchedlarvae,(4.92~0.29)mm long,were nursed at 1 2— 1 4°C,which were dependent entirely on the egg—contained energy till 7DAH(Days After Hatching),with mouth and anus opened;this is termed as mixed feeding stage.After yolk was exhaustedat 9 DAH,the development entered exogenous feeding stage.Larvae began to feed in rotifers B.plicatili at 8 DAH,andnauplii of brine shrimp Artemia salina from 1 3 to 45 DAH.No swim bladder was shown all over the life history.The flex—ion of notochord started at 21 DAH with total length 8.3 1+0.23 mm (=30),and finished at 28 DAH with total lengthreached(9.32~0.54)mm (n=30).When total length reached 10.22~0.41 i1"1111(/7=30),post flexion larvae attained juvenilestage.Metamorphosis began at 32 DAH and completed at 50 DAH,the left eye moved to the right side,the juveniles entered the bottom life stage.At 70 DAH,lateral line form ed and total length achieved 30.5~6。62 mm =30),the juvenilesentered youth stage.Dorsal fin,pectoral fin,pelvic fin,caudal fin,anal fin anlage formed at 1 9,0,20,1 9,and 1 0 DAH,respectively,and were completed after 50 DAH except pectoral fin.70 DAH instead.
【语种】中文

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【题目】不同积温情况下栉孔扇贝雌性生殖腺中磷脂、核酸及水分的含量变化
【中文关键词】栉孔扇贝;积温;雌性生殖腺;磷脂;RNA/DNA值;水分含量
【英文关键词】Chlamys farreri;Accumulated temperature;Ovary;Phospholipid; RNA/DNA ratio;Water content
【中文摘要】为研究某些生化组分与栉孔扇贝雌性生殖腺成熟情况的关系,在亲贝促熟的后期,对不同积温情况下栉孔扇贝雌性生殖腺中的磷脂、核酸及水分的含量进行测定。结果表明,磷脂含量、RNA/DNA值及水分含量均随着积温升高(从210℃到300℃)而增加,但成熟的卵子一经产出后,雌性生殖腺中的磷脂含量、RNA/DNA值及水分含量均降到最低。组织切片的结果表明雌性生殖腺中的卵子在成熟过程中体积明显增大,以至于滤泡中充分成熟的卵子被挤压成不规则形状,细胞核的核膜和核仁在卵子排出去之前一般都消失。成熟卵子产出后的滤泡中出现空泡,未能排出的卵子部分被滤泡吸收,形态模糊。
【英文摘要】This study was conducted to find the relationship between some biochemical substance content and ripeness of the gonad of female Chlamys farreri. Changes of the contents of phospholipid, nucleic acid and water in the gonad at different stages of accumulative temperature were analyzed in late period of artificial ripening parent scallops. The results showed that RNA/DNA ratio, content of phospholipid and water increased gradually with the accumulated temperature increasing(from 210℃-300℃), but reduced dramatically after the eggs were spawned.The result of tissue slices showed that the eggs in the follicles became larger and larger so that they were extruded to be abnormal shapes, the nucleus membrane and nucleolus of mature eggs disappeared; vacuoles apeared in the follicles after mature eggs were laid out, and the residual eggs were assimilated by the follicles, at the same time, their shapes became blurry.
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【题目】条石鲷的早期生长发育特征
【中文关键词】条石鲷,胚胎发育,胚后生长,发育
【英文关键词】Rock bream,Oplegnathus fasciatus,Embryonic development,Post—embryonic development,Growt
【中文摘要】对条石鲷(Oplegnathusfascmt~)早期生活史阶段生长发育特征进行了观察和测量,描述了胚胎和胚后各发育阶段的生长发育特征。条石鲷成熟卵子为浮性、端黄卵,卵径0.86 mm±0.012 mm (n:30),单油球, 油球径0.18 mm一0.22 mm。在水温23.5℃ ±0.5℃ 、盐度30.5、pH 8.0—8.3条件下,受精卵经27.5 h孵化出膜。初孵仔鱼消化道细而直,随着仔鱼发育,消化道变得粗大、弯曲,肠道内褶回增多,消化能力增强。3日龄(仔鱼孵化出膜后第一天称为0日龄,以此类推)仔鱼卵黄囊消耗殆尽,开口,肛门与外界相通,油球在6日龄消耗完毕,进入外源性营养阶段。仔稚鱼培育在室内水泥池进行。在水温2l℃一24%、盐度27—33、pH 8.0—8.3条件下,仔鱼开口饵料为s型褶皱臂尾轮虫,4日龄仔鱼开始摄食轮虫或轮虫卵,13日龄开始摄食卤虫无节幼体,25日龄开始进行配合饲料转化,30日龄后苗种摄食配合饲料良好。4 E1龄仔鱼鳔原基形成,7日龄时鳔开始充气变为亮泡状,生活史终生有鳔。色素细胞首先出现在12 h 50 rain的胚体上,至18 h已在胚体全身分布,随着胚体发育,色素细胞增多。脊椎骨末端弯曲在15日龄开始,至24日龄弯曲过程完成,除腹鳍外其它鳍的鳍条数与成鱼一致,牙齿(硬齿和绒毛齿)生成,可咬食饵料。体表七条横向黑色素带是条石鲷的一个显著体态特征。21日龄鱼体表形成第一条横向黑色素带,23日龄时体表形成第二条色素带,25日龄时形成第三条色素带,29日龄时仔鱼体表第五条色素带形成,至40日龄时第七条色素带形成,此时稚鱼体态除背鳍、尾鳍、腹鳍上色素外与成体相似。60 13龄幼鱼鳞片形成,在体态上与成体无明显区别[动物学报54(2):332—341,2008]。

【英文摘要】The rock bream Oplegnathus fasciatus,a marine fish species,has a wide distribution along the coastline of China,Japan and Korea.Morphological characters were studied in the early life stages of the rock bream,including the embryonic stage,the yolk sac lalva,preflexion lalva,postflexion lal va and juvenile stages.Experiments were carried out in Qingdgo ZhonghmFishery Co.,Ltd.from lst June to 3lAugust,2o05.Parent fish were caught from wild populations in the southern yeHow Sea.BefoIe the experiment,fish were transferred to indoor broodstock tanks(5.0 m in diameter × 1.0 m in depth),achieving arenewal of 4OO% 一500% of water exchange pe r day with constant aeration.The water quMities were:tempe rature 21.0°C 一23.0°C ,salinity 30.5。pH 8.0— 9.0.Bro dfish were fed fresh or frozen flesh of Concha ostreae and Crangon crangon L.Artificial Dhotothermal conditioning controls were applied to induce natural spawning during May, 2004 and May, 2005,respectively,and natural spawning occurred successfully.Eggs were immedlately collected when observed in the breed stock tank,transferred into incubation tanks(30 L)and maintained at temperatures of 23.5°C ±0.5°C ,salinity 30.5 and DH 8.0—8.3 inflowing water.Fertilized eggs were sampled every 10—30 min,and observed in a N1KON MSZ800 microscope . The morphologicalcharacters of the specific developmental stages were photographed using a digital camera(N1KON coolpix 4500).e fertilized egs were spherical in shape,measuring 0. 86 mm ±0.012 mm in diameter and the embryos hatched 0ut about27.5 h post fertilization.Larvae were transferred into nursery tanks(5.0 m diameter× 1.0 m deep)under the foil0w c0nditi0ns:temperature was 21°C 一24oC ,salinity 27—33,pH 8—8.3,DO≥5 mg/L. Total body length of newly hatched larvae was 1.95mm 4-0.043 mm,the intestine was thin,short and straight,and then became longer,curled and complicated during development.Larval development and growth mai~y depend on energy from the yolk sac and oil globe till 3 DAH. During 0.5 DAH to 1.5DAH,42.6% of yolk was absorbed.Yolk reserves were exhausted by 3DAH (Day after hatching).Meantime,the mou【h andanus ope ned, larvae entered a mixed feeding stage, depe nding on the endogenous energy and exogenous feeding. 0il wasexhausted by 6 DAH, and larvae entered the exogenous feeding stage. The first food consumed was S or SS type retifersB.plicatilis nourished with unicellular algae(Ch/ore//a sp.).Larvae began to feed upon retifers or retifer eggs at 4 DAH.Thefirst amount consumed was 1—2 retifer(or retifer eggs)/individual and the feeding ratio was about 26.7% (n:30),graduallvincreasing to over 94% at 7 DAH.Artemia salina was fed at l 3 DAH till 30 DAH.La rvae were eompletely weaned t0 eommereialfeeds at 30 DAH when their total length was l7.02 mm±2.292 mm (n:30).I1le swim bladder anlagen appeared at 4 DAH,then inflated as a bright vesicle at 8 DAH. I1le inflation rate increased from7 1.4% (n=30)to about 95% at 25 DAH.Swim bladder abnormalities were observed in s0me individuals and these led t0death.Melanophores occured in the embryo at l2 h post fertilization,and were distributed throughout the body by l8 h postfertilization.Flexlon of notochord started at 15 DAH with totaJ length was 4. 88 mm ±0.53l mm (n:30),and the caudal finformed.Flexion was complete at 24 DAH when total lengths ranged from 10.98 mm 4-0.792 mm (n:30).At the same time,adevelopment of the dorsal fin,pe ctoral fin and caudal fin was completed. Tooth was 10— 15 in Bumbe r.W hen total lengthreached l7.02 mm 4-2.292 mm (n=30),post flexion larvae attained iuvenile stage,all the fin completed in nu/nber,first dorsalfin well developed. e first black pigment strip of the body surface form ed at 22 DAH.the second form ed at 23 DAH.the thirdat 24 DAH,and the fifth at 30 DAH.Bv 4J0 DAH,all the seven strips were complete.At 60 DAH.the lateralline form ed and atotal length of 6.43 mm±1.037 mm (n:30)was reached,at which time the iuveniles resembled adults in appearance l ActaZoologica Sinica 54 (2):332—34l,2008 1.

【语种】中文

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【学科分类】水产养殖学

【题目】条斑星鲽CYP19a基因克隆及其在雄鱼生殖周期中的表达

【中文关键词】条斑星鲽; P450芳香化酶; 克隆; mRNA表达;

【英文关键词】Verasper moseri; cytochrome P450 aromatase; clone; mRNA expression;

【中文摘要】细胞色素P450芳香化酶(P450arom)作为P450细胞色素酶超家族中的一员,是性类固醇生成途径中的末端酶,能够将雄激素转化为雌激素。在大多数脊椎动物中,P450arom由CYP19单基因编码。但是在鱼类中存在两种P450芳香化酶,分为性腺型芳香化酶(P450aromA)和脑型芳香化酶(P450aromB),它们由不同的基因(CYP19a和CYP19b)编码,分布在不同的组织。通过简并引物扩增及RACE cDNA扩增克隆,在国内外首次获得全长为2167bp的条斑星鲽CYP19a cDNA序列,并将推测的氨基酸序列与其它物种P450arom氨基酸序列进行多重比较,发现存在跨膜螺旋区、I-螺旋区、Ozol肽区、芳香化酶特异保守区以及血红素结合区。通过RT-PCR分析了P450aromA mRNA在条斑星鲽不同组织中的表达情况,结果表明,CYP19a基因主要在脑、卵巢和精巢中表达,其次在肠、肝脏、肾脏也有少量表达。同时也分析了P450aromA mRNA在处于不同发育

期的精巢中的表达情况,发现在Ⅱ期精巢中表达量最高,在Ⅴ期精巢中表达量最低。

【英文摘要】Estrogens are key players in sexual differentiation and development and their production is essential for normal sexual development in both females and males. Cytochrome P450 aromatase is the terminal enzyme in steroidogenic pathway that converts androgens into estrogens. In most of vertebrates,P450arom is the product of the CYP19 gene,which exists as a single copy per haploid genome. In contrast,there are two isoforms of aromatase in teleosts,which are encoded by two different genes,CYP19a and CYP19b,as well as have different distribution. This work describes the molecular cloning of the cDNA encoding the barfin flounder(Verasper moseri) gonad cytochrome P450 aromatase(CYP19a) by means of reverse transcriptase polymerase chain reaction(RT-PCR),degenerate primers PCR amplification and 5 ’-and 3 ’-rapid amplification of cDNA ends(RACE) analyses. We cloned the complete cDNA sequence of CYP19a gene and the length is 2 167 bp,encoding a protein of 523 amino acids. Via Blastn,the CYP19a cDNA displayed high identity with Atlantic halibut(Hippoglossus hippoglossus),Japanese flounder(Paralichthys olivaceus) and southern flounder(Paralichthys lethostigma). Alignment analysis using barfin flounder CYP19a gene deduced animo acid sequence and animo acid sequences of other species showed that there were transmembrane helix region,I-helix region,Ozol ’s peptide region,aromatase-specific conserved region and heme-binding region in the deduced animo acid sequence. Phylogenetic analysis suggested the occurrence of a gene duplication for cytochrome P450 aromatase in the teleost lineage after its divergence from the tetrapods. Furthermore,the higher identity between barfin flounder P450aromA and P450aromAs of other teleosts suggested that they have the same origin. A semiquantitative PCR was developed to measure mRNA expression levels of CYP19a gene of barfin flounder. Expression analysis in different tissues demonstrated that P450aromA transcripts were highly abundant in brain,ovary and testis,less abundant in intestine,liver and kidney,showing that not only gonads can produce steroids but also other tissues have steroidogenic capability. And we analyzed the relative mRNA expression level of CYP19a in testes at different stages of reproductive cycle,there were the highest level at stage Ⅱ and the lowest level at stage Ⅴ. These changes in expression profiles may imply differences in the functionality of the enzyme between different stages,suggesting an important role for P450aromA in barfin flounder testes development.

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【题目】栉孔扇贝(♀)×虾夷扇贝(♂)杂交子代胚后发育过程中遗传构成变化研究
【中文关键词】栉孔扇贝 虾夷扇贝 杂交 GISH RAPD
【英文关键词】Chlamys farreri, Patinopecten yessoensis, Hybrid RAPD, GISH

【中文摘要】采用GISH和RAPD技术对栉孔扇贝(♀)和虾夷扇贝(♂)杂交子代胚后发育4个重要时期(担轮幼虫期、D形幼虫期、壳顶幼虫期、附着变态期)的遗传构成进行了检测。GISH结果表明,杂交扇贝在担轮幼虫期和D形幼虫期均继承了来自父母本遗传物质,而在发育至壳顶幼虫期时却已经未检测不到来自父本的遗传物质。在RAPD检测中,50条随机引物共扩增出35条栉孔扇贝的特异条带和28条虾夷扇贝特异条带,其中栉孔扇贝特异条带在杂交子代4个时期出现的条数分别为:担轮幼虫期21条、D形幼虫期19条、壳顶幼虫期23条、附着变态期23条;而虾夷扇贝特异条带在杂交子代4个时期出现的条数分别为:17、16、1、1。这些结果表说明,杂交子代遗传结构贝基因组在进入壳顶幼虫期时发生重大改变,大部分父本遗传物质从杂交贝基因组中丧失,并确定杂交子代中父本遗传物质消失的时间始于担轮幼虫期。

【英文摘要】RAPD analysis and genome in situ hybridization(GISH) were applied to reserach into the genetic variation of the Chlamys farreri and Patinopecten yessoensis hybrid scallop larvae during the four life history stages(trochophore,D shaped larvae,umbo stage larvae and eye-spot larvae).For RAPD analyses, 50 random primers were used and 35 C. farreri specific bands and 28 P. yessoensis specific bands were detected in the broodstock. Different numbers of C.farreri specific bands were found in the hybrid during the four life history stages,and the numbers were:21 in trochophore,19 in D shaped larvae, 23 in umbo stage larvae, and 23 in eye-spot larvae. The numbers of the P. yessoensis specific bands found during these stages were 17,16,1 and 1,respectevely. Meanwhile, the result of GISH analysis indicated that the hybrid scallop separately inherited one set of chromosomes(n=19) from both C. farreri and P. yessoensis brood stock during both the trochophore stage and the D-shaped larvae stage, while no P. yessoensis germ plasm was founded in the umbo stage larvae and the eye-spot larvae.It was found that, a big transformation of the genetic composition of the hybrid happened in umbo stage larvae when most of the paternal germ plasm was lost in the genome of the hybrid scallops.

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【题目】Study on the relationship between CO2absorption and aboveground biomass of riparian wetland plant communities in inland river,Inner Mongolia plateau
【中文关键词】湿地群落,CO2固定,地上生物量,河岸植被
【英文关键词】wetland community; CO2 fixed; aboveground biomass; riparian vegetation
【中文摘要】在这项研究中,我们用LI-7000 CO2/H2O分析仪测量了中国内蒙古锡林河流域CO2的吸收和典型湿地植物群落的生物量。结果如下:1) The Poa annua+Equisetum一年生植物群落, Lathyrus palustris群落, Polygonum alopecuroides群落, Cirsium esculentum 群落, and Glyceria maxima+Equisetum hyemale群落进行的光合作用有类似的变化趋势,在七月初的光合作用能力最强,然而洪水期Glyceria maxima和Equisetum hyemaleachieves光合作用在七月下旬进入高峰期。 2)在整个生长季节,由Polygonum alopecuroidesreached占主导的群落的生物量在九月初达到峰值,而其他湿地植物群落生物量在8月中旬达到极值。 3)对于湿地植物群落, 被植物固定的CO2量和地上生物量之间的没有显着相关性,不能使用CO2固定量来反映植物群落的生物量。
【英文摘要】In this study, we measured CO2 absorption and biomass of the typical wetland plant communities using the LI-7000 CO2/H2O analyzer in the Xilin River Basin, Inner Mongolia, China. The results are as follows: 1) 1) The Poa annua+Equisetum arevene Community, Lathyrus palustris Community, Polygonum alopecuroides Community, Cirsium esculentum Community, and Glyceria maxima+Equisetum hyemale Communitiy have a similar changing trend of photosynthesis, taking photosynthesis ability in early July as strongest, while flooded community which is composed of Glyceria maximaand Equisetum hyemaleachieves the peak of photosynthesis ability in late July. 2) During the growing season, the biomass of community dominated by Polygonum alopecuroidesreached the extreme value at the beginning of September, whereas the biomass of other communities presented the extreme value in mid-August. 3) For a wetland plant community, there is not a remarkable relevance between CO2 fixed and aboveground biomass, and it can not use the CO2 fixed by community to reflect the standing crop of community.
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【题目】桑沟湾营养盐时空分布及营养盐限制性分析
【中文关键词】营养盐分布 季节变化 营养盐限制因子 海水养殖 桑沟湾
【英文关键词】Nutrient distribution Seasonal variation Nutrient limitation Mariculture SanggouBay
【中文摘要】根据2006年4、7、11月和2007年1月共4个航次的调查数据,分析了桑沟湾水域的溶解无机氮(DIN)、活性磷酸盐(PO43-)和活性硅酸盐(Si)含量的时空分布特征,采用营养盐浓度阈值法和化学计量法对桑沟湾营养盐潜在的限制性进行了分析。结果显示,桑沟湾DIN、PO43-、Si含量及分布呈现出明显的季节变化:DIN在秋季最高,春季最低;PO43-在秋季最高,夏季最低;Si在夏季最高,秋季最低。春季DIN和PO43-的含量低于理论上浮游植物生长的营养盐阈值的站位分别占44%和39%;夏季PO43-的潜在限制性较强,浓度低于营养盐阈值的站位占68%,受PO43-潜在限制的几率达79%,DIN和Si分别为5%和0;秋、冬季Si可能是浮游植物生长的主要限制因子。讨论了海水养殖、陆源输入及外海交换对营养盐时空分布的影响。目前,桑沟湾营养盐浓度基本属于国家一类、二类水质。但是,长期变化趋势显示DIN有上升的趋势。

【英文摘要】Thedistributionof dissolvednutrients inSanggou Bay was investigatedinA-pril, JulyandNovember 2006andJanuary2007. Theconcentrationanddistributionof dissolvedinorganicnitrogen(DIN), phosphate(PO43-) andsilicateinSanggouBayshowedobvious sea-sonal variation. DINreachedthelowest level inspring andthehighest level inautumn; PO43-concentrationwas at thelowest level insummer andthehighest level inautumn; whileSi con-centrationreachedthelowest point inautumnandthehighest point insummer. Limitingnutrents for thegrowthof phytoplanktonwereassessedbythemethodof theoretical half-saturationconstant (Ks) andstoichiometricratios among DIN, PO43-andSiO2-3 . Theresults showedthatinspring, the percentageof stations withconcentrationof DINandPO43-belowKs was 44%and39%, respectively, suggestingfor potential NandPlimitation. Insummer, thepercentageofstations withPO43-concentrations belowKs was 68%, andpotential P-limitationwas at 79%probability, NandSi limitationwereat 5%and0%probability, respectively. Inautumnandwin-ter, Siwasthemajor limitingnutrient, andthepotential S-i limitationwasat 94%and78%prob-ability, respectively. The effect of mariculture activities, land-based input, andwater exchangewithYellowSeaonthespace-timedistributionof nutrients werediscussed. Basedonthelong-termdata, moreattentionshouldbepaidtoDINenrichment inSanggouBay.

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【题目】半滑舌鳎卵巢发育的组织学和形态数量特征研究

【中文关键词】半滑舌鳎,卵巢发育,组织学

【英文关键词】Cynoglossus semilaevis Ganther,Gonadal development,Histological observation

【中文摘要】采用组织学方法系统研究了人工养殖条件下半滑舌鳎亲鱼卵巢的组织发育周年变化特征。结果表明,卵母细胞发育可分为6个时相,卵巢发育分为6期。卵巢不同发育时期都由不同类型的卵母细胞组成,半滑舌鳎为非同步分批多次产卵类型。周年发育过程中,6月龄前的鱼卵巢发育处于第工期;9~12月龄卵巢可发育至第Ⅱ期;12月龄半滑舌鳎性腺可发育达到Ⅲ期,并一直保持至24月龄。3龄雌鱼达到性成熟,卵巢可发育至第Ⅳ期;随着水温和光周期的调控,卵巢发育进入成熟期(Ⅴ期),发生水合现象是卵母细胞成熟并准备排卵的信号;产卵结束后卵巢退化至第Ⅵ期,排出的卵母细胞退化吸收,以Ⅲ期卵巢越冬后,卵巢退化至Ⅱ期并持续至下一个繁殖周期。人工养殖条件下,卵巢内存在卵母细胞闭锁现象。性腺周年发育过程中,性腺指数(GSI)在性腺达到成熟期时达到峰值,产卵结束后性腺快速退化,GSI值各月份差异显著(P<0.05),亲鱼性腺重量在卵巢发育成熟过程中一直处于生长状态。亲鱼肝脏指数(HSI)在产卵前7~8月份(性腺达到成熟期前30 d左右)达到最大,表明7~8月份是性腺进行卵子发育、卵黄能量储备的重要时期,亲鱼在产卵前通过积极摄食储备体内能量,肝脏在卵母细胞卵黄积累方面具有重要的生理作用。肥满度(CF)值在繁殖盛期10~ l1月份达到最大,表现出与GSI类似的变化趋势。

【英文摘要】The temporal dynamics of oocyte growth and ovary development were examinedduring a 1 2一month ovarian maturation cycle in captive Cynoglossus semilaevis Gtinther usinglight microscopy method.Results showed that the oocyte growth could be divided into 6 phases and ovary development consisted of 6 periods accordingly.Two or three distinct batches of vitel—logenic oocytes were found in Cynoglossus semilaevis Gtinther ovaries at one development stage,indicating that this species are a non—synchronized multiple batch spawners.The ovaries are in stage 1 when the fish are less than 6-month old,which only appears once in their whole life.As fish grew,the ovaries enter into stage II when they are 9 to 1 2 months old.The stage III which were characterized by cortical alveoli accumulation was attained when the fish were 1 2一month old and maintained until 24一month old.Deposition of lipids and vitellogenesis began to happen in ovaries of stageIV when the fish were over 3 years old.The ovaries could be matured (stage V)under artificial photothermal control from May to August and fish spawned between September and November.H ydration observed in oocytes indicates that the fish were complete—ly matured for ovulation.After spawning period,the ovaries retrogressed to stage Ill via stageVI ,then continued regressing to stage 1I and was maintained until the next reproductive sea—son.Gonadosomatic index(GSI),hepatosomatic index(HSI)and condition factor(CF)were all found to increase prior to,or during the peak phase of vitellogenic growth corresponding to the gonad development,which are important indices for evaluating the reproductive condition of the parental fish.Cynoglossus semilaevis Ganther appear to strategically utilize episodes of high feeding activity to accrue energy reserves early in the reproductive cycle prior to its deployment during periods of rapid ovarian growth.In the developing ovaries(mainly after stageIV),some post—vitellogenic follicles failed to undergo final maturation,resulting in widespread preovulatory atresia,which may depress the fecundity or be an indicator of capacity of multiple spawns.

【语种】中文
【第一作者】柳学周
【通讯作者】柳学周
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【学科分类】水产养殖学

【题目】温度、盐度对条石鲷胚胎发育影响及初孵仔鱼饥饿耐受力
【中文关键词】条石鲷,胚胎发育,温度,盐度,饥饿
【英文关键词】Rock bream Oplegnathus fasciatus,Embryonic development,Temperature,Salinity,Starvation
【中文摘要】研究了盐度、温度对条石鲷胚胎发育的影响和初孵仔鱼对饥饿的耐受力。结果表明,胚胎发育的适宜盐度范围为2O~35,最适盐度范围为25~30,孵化率都在89 以上,盐度低于20或高于35,孵化率都降低。盐度对孵化时间有一定影响,盐度高于35或者低于15条件下孵化时间都延长。胚胎发育的适宜温度范围为21~27℃,孵化率都在77 以上,最适温度范围为23~25℃,孵化率达89 以上,低于19℃ 或者高于27℃ 时孵化率降低且初孵仔鱼畸形率升高。胚胎孵化时间与温度成负相关关系,胚胎发育速率与温度成正相关关系。条石鲷胚胎发育的生物学零度(阈温度)为10.O6℃,有效积温值为405.3。C ·h。对胚胎发育的Q 。值进行了计算。饥饿条件下,条石鲷初孵仔鱼8日龄全部死亡,半数死亡时间出现在第6天,饥饿对初孵仔鱼生长具有明显的抑制作用。
【英文摘要】A series of experiments have been conducted to study the effects of salinity andtemperature on embryonic development and starvation endurance of newly hatched larvae ofrock bream Oplegnathus fasciatus(T.& S.).Experiments were carried out in Qingdao Zhong—hai Fishery Co.,Ltd.from 2004~ 2007.Eggs were collected immediately after spawning andtransferred into tanks for incubation.Salinity study was carried out in 2005,with treatmentsatsalinities of 40,35,30,25,2O,15,10 and 5.The results showed that the suitable salinities for em—bryonic hatching ranged from 20 to 35 with the most suitable range between 25~ 30,whenhatching rates were all above 88 .Salinities above 40 or below 20 led to low hatching rate andprolonged hatching time. Temperature study was done in 2004,2005 and 2007,respectively.Taking into consideration the hatching rate,hatching time and deformity rate of the newlyhatched larvae,it is deduced that the suitable temperatures for hatching ranged from 21---27°Cwith hatching rates above 77 ;most suitable temperatures were 23~ 25°C with high hatchingrates over 89 and low deformity rate of newly hatched larvae. Hatching time was negativelycorrelated with temperature while embryonic development speed was positively correlated withtemperature.The threshold temperature for embryo development was calculated as 10.06°C ,the effective accumulated temperature was 405.3°C · h.In addition,Q10 value was calculated,and was found tO accord with the experimental result. Newly hatched larvae were starved to death at 8 DAH with half death time appeared at 6 DAH ;starvation had regative effects on lar—val growth.
【语种】中文
【第一作者】徐永江
【通讯作者】柳学周
【期刊名称、卷期、页码】渔业科学进展2009,30(3):25-31
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【学科分类】水产养殖学

【题目】饥饿对条石鲷仔稚鱼生长发育的影响
【中文关键词】条石鲷,仔稚幼鱼,饥饿,生长
【英文关键词】Rock bream Oplegnathus fasciatus L.,Juvenile fish,Starvation,Growth
【中文摘要】采用实验生态学方法研究了饥饿对条石鲷仔稚幼鱼的影响。结果表明,水温18、22和26℃时,初孵仔鱼的PNR点分别出现在6~7 d、6~7 d和4~4.5 d。仔鱼开口摄食时间随温度降低而滞后,22℃ 时初次摄食率最高,26℃ 时初次摄食率降至50 以下。温度对仔稚幼鱼耐饥饿的能力影响明显,18和22℃ 时,前期仔鱼半数死亡时间为4~5 d,而13日龄仔鱼半数死亡时间为2.5 d,24日龄稚鱼的为1.5~2 d,实验鱼饥饿3 d后,大部分已经不能恢复摄食。在26℃ 时,前期仔鱼和13日龄仔鱼的半数死亡时间为1.5 d,24日龄稚鱼为2~2.5 d,而45日龄幼鱼在22和26℃ 时半数死亡时间都为6 d,表明随着生长发育,苗种对饥饿耐受能力明显增强。饥饿对条石鲷幼鱼的生长影响显著(P<0.05),饥饿条件下的仔鱼全长和体重增加远远低于对照组,甚至

出现体重的负增长,30日龄幼鱼在饥饿条件下的体重损失率达到50 9/6以上,而45日龄幼鱼饥饿后的体重损失率约为10 ,13日龄仔鱼阶段是条石鲷早期生长发育阶段中较为敏感的阶段。

【英文摘要】Effects of starvation on growth and surviva1 in early life stage of rock breamOplegnathus fasciatus were studied.The results showed that PNR of newly hatched larvae ap—peared at 6~ 7 d,6~ 7 d and 4~4.5 d respectively at temperatures of 18°C ,22°C and 26°C .The first feeding time was delayed at low temperatures,for example,the larvae opened mouthon 4 d at 18°C whereas mouth opened on 3 d at both 22°C and 26°C .The first feeding ratereached the highest value(73.3)at 22°C but was 1ower at 18°C and 26°C .Temperature hadsignificant effects on the survival of the larvae and j uveniles.When temperature was 1 8°C and22°C ,half mortality time of early larvae appeared at 4~ 5 d while it was 2.5 d for 13 d—old lar—vae and 1.5~2 d for 24 d-old juveniles.The half mortality time of 45 d larvae was 6 d at 22°Cand 2 6°C .These results indicated that the capability of fish to tolerate starvation and tempera—ture was enhanced with growth.Growth was delayed significantly(P< 0.05)by starvation;thefish in the experiment showed slow growth in total length and even negative growth in bodyweight.For example,the 3 0 d—old j uvenile fish lost 5 0 of body weight after starvation corn—pared tO the beginning,and the ratio was 10 for 45 d—old j uvenile.In conclusion,the results suggested that the 1 3 d—old larvae were most sensitive to starvation and environmental changes.

【语种】中文

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【学科分类】水产养殖学

【题目】条石鲷的耗氧率与窒息点研究

【中文关键词】条石鲷,耗氧率,窒息点,昼夜变化

【英文关键词】Rock bream Oplegnathus fasciatus,Oxygen consumption rate,Asphyxiation point,Diurnal variation

【中文摘要】2008年4~8月,采用Winkler法研究了70日龄(平均全长37.68mm,平均体重1.07g)和105日龄(平均全长65.71mm,平均体重5.58g)的条石鲷在不同温度(15、20和25°C)、不同盐度(2O、25和30)下的耗氧率、窒息点及耗氧率昼夜变化。结果表明,105日龄组的相对耗氧率明显低于70日龄组,但个体耗氧量明显高于70日龄组;耗氧率随幼鱼体重的增加而相对减少。盐度一定时,温度升高,相对耗氧率和个体耗氧量都随之增大。盐度对70日龄幼鱼组的耗氧率影响显著(P<0.05),对105日龄幼鱼组影响不显著(P>0.05)。盐度25左右、温度2O~25°C 时是条石鲷苗种培育和生长的最适盐度和最适温度。条石鲷在温度15~25°C 、盐度20~30下的窒息点为1.602 1~2.953 8 mgO /L,窒息点随着个体的增大而降低;温度、盐度对条石鲷窒息点的影响均不显著(P>0.05)。条石鲷耗氧率的昼夜变化明显,白天的耗氧率平均为0.945 9mg 02/g · h,夜间平均为0.272 7mg 02/g · h,白天的耗氧率是夜间的3~5倍,条石鲷白天代谢旺盛并持续到夜间22:O0左右。

【英文摘要】Studies on the oxygen consumption rate,its diurnal variation and asphyxiationpoint of rock bream Oplegnathus fasciatus at different salinities(20,25,30)and temperatures(1 5°C ,2o°C ,2 5°C)were carried out in Qingdao Zhonghai Fishery Corporation,Ltd.from A—pril to August,2008.The experimental fish were divided into two groups:70d—old group at anaverage body weight of 1.07g and an average body length of 37.68 mm ;105d—old group at anaverage body weight of 5.59g and an average body length of 65.71 mm. The results showedthat relative oxygen consumption rate of J05d——old fish was significantly higher than that of 70d——old fish.while the asphyxiation point of the former was lower.The oxygen consumption rate Ofrock bream decreased as their body weight increase.Both relative oxygen consumption rate andindividual oxygen consumption increased with the rise of water temperature when salinity wasunchanged.The effect of salinity on oxygen consumption rate of 70d—old fish was significant(P< O.05)whereas it was not significant for 105d—old fish (P> 0.05).The optimum salinity forgrowth of rock bream was 2 5.and the optimum temperatures were 20~ 2 5 °C .The asphyxia—tion point of rock bream were between 1.602 1 mg 02/L and 2.953 8 mg 02/L at different tem—peratures and salinities and it decreased with the increase in body weight.Neither salinity nortemperature had significant effects on which (P> 0.05). The oxygen consumption rate of theyoung fish was 0.945 9 mg O2/g.h in daytime,which was about 3~5 times higher than thenighttime.Rock bream showed high metabolism rate till 22 :00pm.

【语种】中文

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【学科分类】水产养殖学

【题目】β-integrin mediates WSSV infection
【中文关键词】无
【英文关键词】β-integrin; WSSV; Receptor; Phage display library; Coimmunoprecipitation; Gene silencing
【中文摘要】无
【英文摘要】White Spot Syndrome Virus (WSSV) is a virulent and widespread dsDNA virus with a wide range of hosts. Although remarkable progress has been made on virus characterization, however, its mechanism of infection is poorly understood. In this study, by analyzing the phage display library of the WSSV genome, a WSSVenvelope protein VP187 (wsv209) was found to interact with shrimp integrin. VP187 possesses the RGD motif. The interaction between integrin and VP187 was confirmed with coimmunoprecipitation. These results demonstrate for the first time an interaction between the WSSVenvelope protein and a cell surface molecule. Soluble integrin, integrin-specific antibody and an RGD-containing peptide were found to block the WSSVinfection in vivo and in vitro. Gene silencing using a sequence-specific dsRNA targeting β-integrin effectively inhibited the virus infection. These findings suggest that β-integrin may function as a cellular receptor for WSSV infection.
【语种】英文
【第一作者】Li Deng-Feng
【通讯作者】Yang Feng
【期刊名称、卷期、页码】Virology.368(1):122-32.
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【学科分类】病毒学

【题目】Evidence of existence of infectious hypodermal and hematopoietic necrosis virus in penaeid shrimp cultured in China
【中文关键词】无
【英文关键词】IHHNV; Litopenaeus vannamei; PCR; In situ hybridization; Dot blot hybridization; Histopathology
【中文摘要】无
【英文摘要】Infectious hypodermal and hematopoietic necrosis virus is the causative agent of a shrimp disease which causes economic losses on a global scale. A pair of primers, I2814F/I3516R, was designed from the IHHNV genomic sequence AF218266 (GenBank) that encodes for structural protein corresponding to nucleotides 2814 – 3516, which amplifies a 703 base pair (bp)region from the virus genome. PCR amplification with the primers generated a product of the expected size from the purified IHHNV DNA of Litopenaeus vannamei and IHHNV-infected penaeid populations but not from the IHHNV-free shrimp, white spot syndrome virus (WSSV) and hepatopancreatic parvovirus (HPV). The PCR amplicon described above was labeled withdigoxigenin (DIG)-11-dUTP as a probe used for dot blot hybridization and in situ hybridization test. Under the optimized PCR conditions, the primers were detected by as little as 20 fg of purified IHHNV DNA, which contained only 8.83 x103 copies ofIHHNV, a 1000-fold greater than using dot blot hybridization. Sections of histopathology showed eosinophilic intranuclear inclusions (Cowdry type A inclusions or CAIs) in infected tissues while in situ hybridization, cells displayed an intense reactionwith the DIG-labeled probe. PCR assay was developed to detect IHHNV in penaeid shrimp and other crustaceans from the rearing ponds of China (March 2001 – June 2004). The positive rate was 51.5% (154 out of 299) and 8.3% (2 out of 24) for penaeid shrimp and crab samples, respectively. The survey demonstrated the presence of IHHNV in China.
【语种】英文
【第一作者】Yang Bing
【通讯作者】Huang Jie
【期刊名称、卷期、页码】Veterinary Microbiology 120: 63 – 70
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【学科分类】兽医学

【题目】Effect of VP28 DNA Vaccine on White Spot Syndrome Virus in Litopenaeus vannamei
【中文关键词】无
【英文关键词】White spot syndrome virus (WSSV) - VP28 - DNA vaccine - Litopenaeus vannamei
【中文摘要】无
【英文摘要】White spot syndrome virus (WSSV) occurs worldwide and causes high mortality and considerable economic damage to the shrimp farming industry. Considering the global environmental, the economic and sociological importance of shrimp farming, and the constraints of high intensity cultivation, development of novel control measures against the outbreak of WSSV become inevitable. In this study, we have explored the protective efficacy of DNA vaccination and tissue distribution of the recombinant plasmid in immunized Litopenaeus vannamei. The VP28 gene was cloned in the eukaryotic expression vector pVAX1, and the construct vector was named as lpv28. The protective effect of lpv28 against WSSV was evaluated in L. vannamei by injecting lpv28 construct and later challenging with WSSV. Expression of these proteins from the recombinant plasmids was confirmed in vitro by RT-PCR and Western blot analysis. The result of vaccination trials showed that a survival rate in shrimp vaccinated with lpv28 was 52.5% at most compared to control groups (100% mortality). The immunological parameters analyzed in the vaccinated and control groups showed that the vaccinated groups owned a high level of lysozyme, alkaline phosphatase, and total superoxide dismutase when compared to the control group. Furthermore, protein expression analysis indicated that VP28 can be detected in gill, muscle and head soft tissue of the shrimps in the immunized group after 14th day injection. Thus, the result indicated that DNA vaccination strategy has a potential utility against WSSV.
【语种】英文
【第一作者】Li Xiang
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【学科分类】水产学其他学科

【题目】Membrane Binding Activity with Virus in White Spot Syndrome Virus-Infected Fenneropenaeus chinensis
【中文关键词】无
【英文关键词】White spot syndrome virus, Fenneropenaeus chinensis, binding activity, Infection
【中文摘要】无
【英文摘要】Problem Statement: White Spot Syndrome Virus (WSSV) is one of the most disastrous pathogens in shrimp culture, having caused high mortality in many cultured shrimp species. It is wellknown that the most important step of viral infection is cell attachment. Approach:Thereforedetermining the binding activity of shrimp cells to WSSV is an important to evaluate anti-infection ability and understanding the procedure of a viral infection. So this study aims to analyze binding activity of cell membrane with WSSV in shrimp of Fenneropenaeus chinensis (F. chienesis). WSSV was used to stimulate F. chinensis and binding activity in gills, muscle and hepatopancreas with virus within the procession of WSSV was measured. Results:The results showed that binding activity in gills with WSSV within infection stage (0-96 h) had no significant change. The highest binding activity was attained after infection 24-48 h in muscle. The binding activity in hepatopancreas with WSSV was lower during infection stage (0-96 h). Conclusion/Recommendation: The higher binding activity of WSSV to gills and muscle indicated that gills and muscle are the importance target tissue for WSSV infection. This suggested that receptor of WSSV existed in gills and muscle.
【语种】英文
【第一作者】刘庆慧
【通讯作者】刘庆慧
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【学科分类】水产学其他学科

【题目】Molecular Epidemiological Investigation of Infectious Hypodermal and Hematopoietic Necrosis Virus and Taura Syndrome Virus in Penaeus Vannamei Cultured in China
【中文关键词】无
【英文关键词】Infectious hypodermal and hematopoietic necrosis virus(IHHNV); Taura syndrome virus(TSV); Prevalence; Genetic variation
【中文摘要】无
【英文摘要】The Infectious hypodermal and hematopoietic necrosis virus (IHHNV) and Taura syndrome virus (TSV) are two important shrimp viruses in cultured shrimp in America. These two viruses weretransmitted to China at the beginning of the 21st century. In this study, 214 shrimp samples of Penaeus vannamei were collected from seven different areas of China and tested by PCR for IHHNV and TSV infection. The results showed that there were a high prevalence of IHHNV (65.42%) and low prevalence of TSV (3.27%) in the tested samples. Several samples were found to be co-infected with these two viruses. A 3 kb fragment of 7 positive IHHNV samples and a structure protein region (ORF2) of three TSV positive samples were amplified and sequenced. The sequence comparison indicated that both IHHNV and TSV sequenced in China have a low genetic variations compared with the prototype IHHNV and TSV from Hawaii. Phylogenetic analysis showed that TSV isolates were clustered into two groups, Asia and America group, which was genetically correlated to geographic distribution.
【语种】英文
【第一作者】Zhang Cong
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【学科分类】病毒学

【题目】Proteomic Analyses of the Shrimp White Spot Syndrome Virus
【中文关键词】无
【英文关键词】White spot syndrome virus (WSSV); Proteomic analysis; Structural proteins
【中文摘要】无
【英文摘要】White spot syndrome virus (WSSV), a unique member within the virus family Nimaviridae, is the most notorious aquatic virus infecting shrimp and other crustaceans and has caused enormous economic losses in the shrimp farming industry worldwide. Therefore, a comprehensive understanding of WSSV morphogenesis, structural proteins, and replication is essential for developing prevention measures of this serious parasite. The viral genome is approximately 300kb and contains more than 180 open reading frames (ORF). However, most of proteins encoded by these ORF have not been characterized. Due to the importance of WSSV structural proteinsin the composition of the virion structure, infection process and interaction with host cells, knowledge of structural proteins is essential to understanding WSSV entry and infection as well as for exploring effective prevention measures. This review article summarizes mainly current investigations on WSSV structural proteins including the relative quantities, localization, function and protein-protein interactions. Traditional proteomicstudies of 1D or 2D gel electrophoresis separations and mass spectrometry (MS) followed by database searches have identified a total of 39 structural proteins. Shotgun proteomics and iTRAQ were initiated to identify more structural proteins. To date, it is estimated that WSSV is assembled by at least 59 structural proteins, among them 35 are defined as the envelope fraction (including tegument proteins) and 9 as nucleocapsid proteins. Furthermore, the interaction within several major structural proteins has also been investigated. This identitification and characterization of WSSV protein components should help in the understanding of the viral assembly process and elucidate the roles of several major structural proteins.
【语种】英文
【第一作者】Tan Yan-wei
【通讯作者】石正丽

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【学科分类】病毒学

【题目】WSSV-VP39 基因克隆与结构分析
【中文关键词】WSSV-VP39; 基因; 克隆; 序列分析;
【英文关键词】WSSV-VP39 Gene Clone Sequence analysis
【中文摘要】根据已公布的WSSV-VP39全基因序列(GenBank No.AAL89161)设计1对引物,经PCR扩增及琼脂糖凝胶电泳分析,扩增出约898bp的特异条带,将其回收后克隆入pGAPZα-A载体中,并进行序列测定与分析。结果表明,扩增序列与Gene Bank登录序列(GenBank No.AAl89161)核苷酸同源性100%。序列分析表明,WSSV-VP39基因编码蛋白无跨膜区域,有多个蛋白激酶C、酪蛋白激酶Ⅱ磷酸化位点和酪氨酸硫酸化位点,1个糖基化位点。蛋白序列比对结果表明,WSSV-VP39与WSSV-VP37具有较高的同源性,其在WSSV侵染中的作用值得关注。
【英文摘要】PCR primer was designed according to WSSV-VP39 nucleotide sequence from GenBank. After PCR reaction and electrophoresis analysis, a specific 898bp DNA band was amplified and cloned into vector of pGAPZα-A. Nucleotide sequence analysis showed that the sequence amplified was 100 % identity with the sequence of GeneBank(GenBank No.AA l89161)of WSSV-VP39. Predicted protein from nucleotide sequence of WSSV-VP39 had no notable transmembrane region, but contained much PKC-PHOSPHO-SITE, CK2-PHOSPHO-SITE, SULFATION -SITE. BLAST protein results showed that WSSV-VP39 had high homology with WSSV-VP37. The function of WSSV-VP39 in the course of WSSV infection claims attention.
【语种】中文
【第一作者】刘庆慧
【通讯作者】刘庆慧
【期刊名称、卷期、页码】海洋水产研究,Vol. 28, No. 5;36-41
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【学科分类】水产学其他学科

【题目】重组毕赤酵母SMD1168/pGAPZaA—VAP1稳定性及发酵表达WSSV—VAP1
【中文关键词】WSSV-VAP1 重组毕赤酵母 稳定性 发酵
【英文关键词】WSSV- VAP1 Recombinant Pichia p astor is Stability Fermention
【中文摘要】研究发酵时间和接种量对WSSV-V AP1 重组菌蛋白表达量的影响及重组毕赤酵母中外源基因的稳定性。结果表明, 构建的重组菌SMD1168/ pGAPZaA-V AP1 在发酵72h 后, 蛋白表达量占总蛋白101 45%, 控制接种量对基因工程菌Pi chia p astori s 表达WSSV-VAP1 非常重要。外源基因的插入对宿主菌的生长未产生明显的影响, 重组质粒在毕赤酵母SMD1168 中很稳定。
【英文摘要】The effect of inoculation and fermention t ime on WSSV-VAP1 ex pression in recombinantPichia p astor is was studied. The result showed that t he percentage of expressionprotein was 10. 45% of total supernant protein. T he volume of inoculation was an impor tantfact or for WSSV-VAP1 ex pres sion. Stability of WSSV-VA P1 gene in recombinant P. p astor isshowed that the t ransformation of WSSV-VAP1 g ene had little effect on the growt h of the host cells. T he recombinant plasmid had ex cellent stability in P. p astor is SMD1168.
【语种】中文
【第一作者】刘庆慧
【通讯作者】刘庆慧
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【学科分类】水产学其他学科

【题目】对虾白斑综合症病毒VP28基因的表达及其与血细胞的结合
【中文关键词】白斑综合症病毒 v p28 表达 活性分析
【英文关键词】White spot syndrome virus vp28 Ex pression Activity analysis
【中文摘要】根据GenBank 上WSSV 囊膜蛋白基因v p28 的序列, 设计合成引物, PCR 扩增得到vp28 基因, 成功构建重组表达载体pBAD/ g IIIA VP28 并转化大肠杆菌E. col i。用L 阿拉伯糖在37 诱导重组基因工程菌, 表达产物经SDS PAGE 和Western blot 检测, 显示有与预期大小31kDa 相符合的目的蛋白。荧光显微镜方法分析显示, 表达的VP28 可与克氏原螯虾血细胞结合。结果表明, 在合适的培养条件下, 构建的重组表达载体pBAD/ g IIIA V P28 不仅能够表达vp28 基因, 而且表达的VP28具有很高的抗原结合活性。
【英文摘要】In this study, a pair of pr imers was designed by pr imer desig n software 5 0 ac cording to t he s equence of vp28 gene of whit e spot syndrome virus (WSSV) in GenBank. The vp28 DN A fragment was amplified by PCR and cloned into Escher ichia coli (E. coli) expression vector pBAD/ g A successfully. The pBAD/ g A V P28 was t hen transformed into E. coli. Af ter L arabinose induction at 37 , the fusion prot ein with 31 kDa was expressed, which was con f irmed by SDS PAGE and Western blot analy sis. Binding assay by fluorescence microscopy invitro showed that V P28 was capable of binding t o shrimp hemocytes. Results confirmed that the recombinant vector pBA D/ g A V P28 can ex press vp28 gene of WSSV and t he V P28 had highantigenic activity.
【语种】中文
【第一作者】陈文博
【通讯作者】刘庆慧
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【学科分类】水产学其他学科

【题目】发酵条件对细菌工程菌产WSSV-VP37的影响
【中文关键词】发酵条件 重组V P37 蛋白表达
【英文关键词】Fermenting procedure Recombinant V P37 Protein expres sion
【中文摘要】在pBAD/ g IIIA-VP37 重组表达载体构建的基础上, 研究发酵工艺参数对重组WSSV VP37(rVP37) 蛋白表达量的影响, 并对重组质粒的稳定性和重组菌的生长进行研究。结果表明, pBAD/gIIIA VP37 表达的rVP37 以包涵体形式存在于菌体中, 发酵温度及诱导时间影响rVP37 蛋白表达和菌体产量, 以37 诱导5h 最佳。重组质粒在宿主菌中具有良好的分离稳定性, WSSV VP37 基因的插入对宿主菌的生长规律影响不大。
【英文摘要】The effect of fermenting procedure on WSSV VP37 expres sion and t he stabilityin recombinant pBAD/ g IIIA VP37 was studied. T he result showed that recombinant VP37(rV P37) protein was expressed in inclusion body. The temperature and incubation time of fer mentat ion affected the product ion of rVP37. T he best results were attained by incubat ion f or 5hat 37 . T he recombinant plasmid had excellent st ability in Top10. And the st udy also showedthat transformation of WSSV V P37 gene had litt le effect on the growth of host cells.
【语种】中文
【第一作者】张秀丽
【通讯作者】刘庆慧
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【学科分类】水产养殖学

【题目】实时荧光定量PCR检测对虾白斑综合症病毒方法的建立
【中文关键词】实时荧光定量PCR;白斑综合症病毒;检测
【英文关键词】SYBR Green I rea1 time PCR,WSSV,Dctectio

【中文摘要】[目的]根据对虾白斑综合症病毒(White Spot Syndrome Virus,WSSV)的保守序列,利用 mer 5.0软件设计引物,建立了WSSV的荧光实时定量PCR检测体系。[方法]构建含有WSSV目扩增片段的质粒为标准品,进行定量PCR扩增,探索反应条件。[结果]确定了最佳退火温度(61 oC)和最佳引物浓度(0.2 Ixmol/L),标准品浓度在8.8×10 一8.8×10 个拷贝数之间有典型的“ s ”型扩增曲线,标准曲线中模板拷贝数( )与 值的关系为Ct=一3.597 lgX+42.547,相关系数R =0.993。[结论]该检测方法特异性强,对传染性皮下和造血器官坏死病毒(IHHNV)、肝胰腺细小病毒(HPV)没有扩增反应。

【英文摘要】l 0biective l A real—time fluorescent quantitative PCR assay utilizing SYBR green I dye was developed for detection and quantization of white spot syndrome virus particles isolated fron infected shrimp.i Method l A pair of specific primers which could amplify a 221 bp fragment were designed based on Primer Express 5.0 software.The standards were established with plasmid containing the conserved region of WSSV.Reaction conditions were explored.I Resuh I The result showed that 61°C was the best annealing temperature and 0.2 ixmol/L was thebest primers concentration.Typical…s ’ amplification curves were showed between concentrations of 8.8×1O 一8.8×10 copies.The linear relationship between virus concentration(X)and Ct was Ct=一3.597 lgX+42.547 with the correlation coe伍cient R =0.993.1 Conclusion lTh e primers were specific for WSSV and did not react with either Infectious Hypodermal and Hematopoietic Necrosis Virus(IHHNV)or Hepatopanereatic Parvovirus(HPV).

【语种】中文

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【通讯作者】刘庆慧

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【学科分类】农学其他学科

【题目】WSSV-VP37小肽在大肠杆菌中的偏爱型表达

【中文关键词】偏爱密码子; VP37; 大肠杆菌; 表达;

【英文关键词】Codon opt imization V P37 E. coli Expression

【中文摘要】选用对虾白斑综合征病毒(White Spot Syndrome Virus,WSSV)囊膜蛋白VP37的功能区段,利用大肠杆菌密码子偏爱性,在氨基酸不变的情况下将VP37中的密码子通过人工合成改为大肠杆菌偏爱型密码子,并克隆至表达载体pBAD/gIIIA中,构成重组载体pBAD/gIIIA-VP37p ′。将重组载体转化入大肠杆菌Top10中,在相同条件下用L-阿拉伯糖与未优化的重组菌株Top10-pBAD/gIIIA-VP37p一同诱导。结果显示,与野生型基因VP37p相比,经密码子优化的VP37p ′基因表达目的蛋白量占总蛋白的40.5%,明显高于野生型6.5%的目的蛋白表达量。

【英文摘要】T he expres sion levels of proteins in Escher ichia coli appear to be preferentialfor some special codons. In order to enhance the expression level, we designed a part ial se quence of t he WSSV VP37 gene based on t he codons of E. coli so that it s expression levelwould be optimized. The optimized VP37 fragment was ligated to the expression vector pBAD/ gII IA. Then the resulted recombinant pBAD/ gIIIA VP37p was transformed into E. coli Top 10 and thecells were induced by L arabinose. SDS PAGE analysis showed that the content of VP37p constituted40 5% of the total proteins. Compared with the wild type recombinant pBAD/ gIIIA VP37p, the ex pression level of the optimized recombinant VP37p (40 5% of the total proteins) was significantlyhigher than that of the wild type VP37p (6 5% of the total proteins) .

【语种】中文

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【学科分类】水产学其他学科

【题目】一种大规模制备双链RNA的简单方法及其在斑节对虾中的应用

【中文关键词】斑节对虾; RNA干扰; 双链RNA; 体内转录; 大肠杆菌HT115; kazal型蛋白激酶抑制剂;

【英文关键词】Penaeus monodon; RNAi; dsRNA; in vivo transcription; Escherichia coli HT115; kazal proteinase inhibitor

【中文摘要】RNA干扰(RNAi)是由双链RNA(dsRNA)诱发的特异性沉默目的基因表达的过程,一种大规模制备双链RNA的方法可以便利RNAi技术的应用。以斑节对虾kazal型蛋白激酶抑制剂(KPI)基因为例,详细介绍了一种以体内载体表达大量制备dsRNA(>300nt)的方法。使用商业载体pGEMT和pDRIVE,以2步克隆法构建含有发夹环(hairpin loop)dsRNA表达载体,转化RNA酶III缺陷的大肠杆菌HT115(DE3)进行体内转录制备dsRNA。构建的发夹RNA表达载体含有494bp的正向靶序列和403bp的反向互补靶序列,其中正向靶序列多出的91bp即可成为loop环,而无需再次克隆加入。培养30mL的细菌,即可得到1mg纯化的dsRNA,而其成本仅为使用商业化体外转录试剂盒的四分之一。为评估RNAi效果,按照每1克虾体肌肉注射2μg dsRNA的剂量,在dsRNA注射后0,6,12和24h采集血淋巴,RT-PCR检测KPI mRNA的基因转录水平。与对照组GFP-dsRNA和NaCl注射组相比,KPI-dsRNA注射组可以在24h内沉默血淋巴中的KPI基因。结果表明该方法是可大规模制备长的dsRNA的方法。

【英文摘要】RNA interference(RNAi)is initiated by double-stranded RNA(dsRNA)and has been used to improve our knowledge of the shrimp immune system.RNAi has also been used on a therapeutic approach for shrimp virus control.Method for dsRNA synthesis on a large scale will facilitate the application of RNAi in farmed shrimp.Kazal proteinase inhibitor(KPI) gene of shrimp Penaeus monodon was used as an example to show a large-scale preparation of long double-stranded RNA(>300 nt) in detail by a 2-step cloning method.Two commercial vectors pGEMT and pDRIVE were used to construct a dsRNA-expression system,which transformed into RNase-deficient Escherichia coli HT115(DE3).The hairpin-RNA consisted of the target forward sequence(494 bp)and a 91-base shortened version of its inverted repeat(403 bp)to introduce a loop,no more need for direct cloning of the loop segment.The hairpin-expression vector resulted in large-scale dsRNA synthesis,the yield of dsRNA was about 1 mg dsRNA/30 mL bacterial culture,and its cost was approximately one fourth of the cost of same production by using a commercial in vitro transcription kit.A test group of shrimp Penaeus monodon(8 g,12 shrimp each group)was injected intramuscularly in the fourth or fifth abdominal segment with 16 μg dsRNA to investigate the sequence specific RNAi effect on endogenous KPI mRNA expression.The NaCl injected group and GFP-dsRNA injected group were used as control.Hemolymph(200 μL)was collected from 3 shrimp at 0 h,6 h,12 h,and 24 h.RT-PCR test showed that KPI expression was completely knocked-down at 24 h.It should be possible to produce industrial-scale dsRNA production for shrimp farms by this in vivo transcription method. 更多

【语种】中文

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【学科分类】水产养殖学

【题目】鲽形目分类信息分析系统的建立与实现

【中文关键词】鲽形目; 数据库; 分类学信息; 分类检索系统

【英文关键词】pleuronectiformes; database; taxonomic information; taxonomic identification system;

【中文摘要】鲽形目鱼类经济价值较高,进化史悠久复杂,形态构造呈特殊的不对称性,分类系统备受关注但至今尚未统一。本文通过创建专项数据库、标准化数据索引和流程化分类学功能模块,将鲽形目分类阶元系统、分类检索表、序列比对搜索、DNA条码检索、分子系统树和分类参考资料等分类学信息研究的各要素有机地融为一体,实现了对传统分类特征与分子序列特征的信息集成、关联、分析和应用,阐明了将数据搜索、挖掘、分析和通用查询等综合应用于分类检索系统的方法,建立了一种特定阶元的分类系统软件开发模式,开发了鲽形目分类信息分析系统。

【英文摘要】The taxonomy system of the order Pleuronectiformes has attracted great attention because of the economic importance and the extremely specialized asymmetric morphology of flatfishes,but remains unresolved for its long and complex evolution history as well as the complicated physical structure.Here we constructed an integrated information management system for taxonomic and molecular information of the order.By establishing a new process to deal with a comprehensive database,a standard compound-index and dynamic taxonomic function modular programming,several most important taxonomic study methods are bound together to Windows platform,including the taxonomy system,identification key, DNA barcoding system and molecular software tools for gene sequence analysis of molecular phylogeny. The aim of developing the program is to establish an easy-using and functional tool for excavation,association, analysis and application of exploration and research of taxonomic data,both for traditional morphological information and for gene sequence data.The program will be able to provide a new model for designation of taxonomic information of an assigned taxonomic category. 更多

【语种】中文
【第一作者】杨俊杰
【通讯作者】张全启
【期刊名称、卷期、页码】中国海洋大学学报2010,40(7):59-65
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【题目】条斑星鲽精子超微结构研究
【中文关键词】条斑星鲽,精子,超微结构,核前凹陷
【英文关键词】Verasper moseri,Ultrastructure,Spermatozoon,Anterior pit of the nucleus
【中文摘要】分别以扫描电镜和透射电镜方法研究了条斑星鲽精子的超微结构。条斑星鲽精子全长45.57±3.23/~m,主要包括三部分:头部、中段和鞭毛。头部呈圆形,主要结构为近圆形的细胞核;中段不发达,主要包括线粒体和中心粒复合体两部分,具有多个未分化的圆形小线粒体;鞭毛细长,结构为典型的“9+2”型双联微管结构,无侧鳍。这些特征表明,条斑星鲽的精子属于简单的原始类型。条斑星鲽精子不具顶体,但具有开口于核前端稍偏处呈不规则状的核前部凹陷及核内核泡结构,核前凹陷与染色质区无界膜分隔,部分精子在凹陷前端存在由核膜构成的凸起。凹陷区的前部及其开口处常有多个小的具单层界膜的囊泡,这些结构可能是顶体的遗迹,但也不排除其是向外释放核内物质的一种途径的可能性。
【英文摘要】The ultrastructure of barfin flounder Verasper moseri spermatozoon was stud—ied with scanning microscopy and trans—mission electron microscopy.Total length of the spermis 45.57± 3.23tzm (n一11),and the sperm includes three parts:head,mid—piece and flagellum.The spherical head mainly consists of the nearly circular cel1 nucleus.The mid—piece iS corn—posed of mitochondria and center grain complex,with some round undifferentiated small mitochondria.The typical‘9+2’pattern of the flagellum has quite simple structure,which meansthat the spermatozoon of barfin flounder can be classified as a primitive type,which iS found inmost of the advanced fish taxa.But the anterior vesicles and pit of the nucleus of this spermato—zoon have seldom reported from other species.There is no acrosome in the sperm.At anterolat—era1 to the nucleus,there is a chromatin—free,electron—lucent area,which was named the anteri—or pit of the nucleus.W ithin and in front of the pit,an irregular—shaped structure and some dif—ferent sized vesicles that are encapsulated in a layer of membrane were found.W ith regard to ac—rosome and acrosome vestige present in some other euteleosts,we presume that the vesiclesmay represent acrosome vestiges though they may also function to release nuclear material,while the irregular—shaped structure in front of the nucleus may be caused by improper samplepreparation.
【语种】中文
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【题目】性类固醇激素及其受体在半滑舌鳎性腺分化发育过程中的表达与生理功能
【中文关键词】半滑舌蹋;E2;ERα;AR;免疫组织化学
【英文关键词】Cynoglossus semilaevis G ü nther, 17 β -Estradiol, Estrogen receptor, Androgen receptor, Immunohistochemistry
【中文摘要】首次用17丹雌二醇(E Z)及其受体(ER a) 肇酮受体(A R)的多克隆抗体在半滑舌蹋(心nog lossus sem ilae二15G 如th er)性腺分化发育过程中进行免疫细胞化学定位研究 结果表明:在半滑舌蝎原始性腺中已有民 E R 和A R 的分布和表达;卵原细胞 初级卵母细胞 精原细胞 初级精母细胞 次级精母细胞对E :及ER a A R 抗体均呈现不同程度的阳性反应,在精细胞和精子中对玖和E R 呈免疫阴性反应,而A R 则一直保持较强表达,揭示了半滑舌蹋性腺中类固醇激素可能通过旁分泌调控机制刺激卵子和精子发育和成熟 性类固醇激素及其受体免疫阳性物定位在生殖细胞的胞质 胞膜和核膜等广泛部位并有表达, 在性腺分化和不同发育时期的表达强度有所不同, 表明其在性腺分化发育过程各阶段所起生理功能不同 这些结果为证明性类固醇激素及受体参与调节半滑舌蹋性腺分化发育提供了重要形态学新证据。

【英文摘要】Immuno-histo-chemical localization of 17β-estradiol (E2), receptors of testosterone (AR) and esrogen α (ERα) were investigated for the first time in the gonads during differentiation and development of Cynoglossus semilaevis Günther using polyclonal antibodies. The results indicated that E2, AR and ERα coexisted in the primary gonad before differentiation. Oogonia, oocytes, spermatogonia, primary spermatocytes and secondary spermatocytes all showed positive reaction to E2, AR and ERα antibodies, whereas in spermatid and spermatozoa, E2 and its classical receptor ERα were not expressed expecr for AR. AR existed and strongly expressed in the gonad at all different differentiation and developmental stages, which indicated that sex steroid hormone may regulate the maturation of gametes through paracrine way. The sex steroid hormone and their receptors were expressed in cytomembrane, cytoplasm, nuclear membrane or nuclear plasm at different developmental stages with different intensity respectively, which showed their special functional characters, these results make it clear that E2, AR and ERα may physiologically functioned differently at different developmental stages of gonad. These results provided new morphological proofs that E2, AR and ERα participate in the regulation of physiological function in gonad differentiation and development in tongue fish.

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【题目】Divergent Characteristics of Soil Fungi and Actinomycetes at River Wetland on Typical Steppe

【中文关键词】典型草原,河流湿地,真菌,放线菌,多样性
【英文关键词】Typical Steppe, River Wetland, Fungi, Actinomycetes, Diversity

【中文摘要】在这项研究中,通过平板培养技术研究了优势土壤优势菌的组成,如河流湿地和典型草原土壤真菌和放线菌的组成和趋异特征,分析了土壤丝状菌的几个指标,例如多样性、丰富度、均匀度和优势度。结果表明,土壤丝状菌优势菌群沿着陆向分布呈现有明显的趋异特征。对于真菌,河中心(HX),河边(HB),低河漫滩(DQ)及高河漫滩(EQ)与典型草原(DT)之间的多样性和丰富度有显著的差异;HX和DQ和EQ之间的均一度有显著的差异。对于放线菌,HX和HB之间与EQ和DT之间的多样性和均匀度有显著的差异;HX、HB、DQ、EQ与DT之间的丰富度有显着的区别。河流湿地和典型草原之间的优势菌群有一定差异。在HX点,最优势菌群是毛霉,占100%。在DQ点,优势菌群是毛霉和头孢,各占50%。在EQ点,毛霉和头孢分别占62.2%和21.1%。在DT点,青霉成为优势菌群,占69.2%。对于放线菌,秃顶菌群在HB点占100%和66.7%。在DQ点,两个主要的菌群是秃头菌和Griseofuscus菌,分别占据38.5%和41.3%。在DT点,占主导地位的菌群是Griseofuscus,为61.7%。对于河流湿地,丝状菌的数量和多样性从水生环境→湿生环境→陆生环境都表现出趋异特征,其中DQ、EQ和DT点更适合丝状微生物的生长,丝状微生物的分解过程促进了河流湿地的形成和演化。这些结果为更好地认识河流湿地的形成和演化机制提供了依据,为保护和合理利用河流湿地奠定了基础。

【英文摘要】In this study, the composition of dominant microorganisms, such as fungi and actinomycetes, in river wetland soil on typical steppe were measured through Spread-Plate-Technique; the divergent characteristics of these two floras at river wetland and typical steppe were analyzed; and several indicators of soil filamentous microorganisms, for example, diversity, richness, evenness, and dominance, were calculated. The results demonstrated that there is obvious divergence characteristics of terrestrial distribution for predominant flora, i.e. soil filamentous microorganisms, at river wetland on typical steppe. For fungi, there is significant difference between river center (HX), riverside (HB), low floodplain (DQ) & high floodplain (EQ), and typical steppe (DT) for diversity and richness; and there is significant difference between HX and DQ & EQ for evenness. For actinomycetes, there is significant difference between HX & HB, and EQ & DT for diversity and evenness; and there is significant difference between HX, HB, DQ & EQ, and DT for richness. There are certain differences between predominant floras at river wetland and typical steppe. At HX, the most dominant flora is Mucor to account for 100%. At DQ, the dominant floras are Mucor, accounting for 50%, andCephalosporium, accounting for 50%. At EQ, Mucor accounts for 62.2% and Cephalosporium accounts for 21.1%. At DT, Penicillium has become the dominant flora to account for 69.2%. For actinomycetes, balding group accounts for 100% at HB and 66.7%. At DQ, two dominant floras are balding group and Griseofuscus to account for 38.5% and 41.3%, correspondingly.At DT, the dominant flora is Griseofuscus to account for 61.7%. For filamentous microorganisms at river wetland, two indicators, numbers and diversity, have shown the divergent characteristics that it evolves from humidogene to humidogene terrestrial, then to terrestrial, where soil environment at DQ, EQ and DT are more suitable for the growth of filamentous microorganisms, and the decomposing processes from filamentous microorganisms have facilitated the development and succession process of river wetland. The results

have demonstrated a better understanding toward the development and succession mechanisms of river wetland to provide the basis for protection and rational utilizations of river wetland.
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【题目】The Distributive Characteristics of Soil Microorganisms at Dry Lake Wetland on Semiarid Grassland
【中文关键词】半干旱草原,干涸湖泊湿地,土壤微生物
【英文关键词】Semiarid grassland, Dry lake wetland, Soil microorganisms
【中文摘要】这项研究调查了半干旱干旱湖泊湿地土壤微生物的分布特征。选择了辉腾锡勒4个样块,典型草原(DT),湖边(HB),湖床(HD)和湖中心(HX)进行调查。结果表明,DT样块的需氧细菌数目是HB的1.07倍、HX的1.14倍,HD的1.45倍。在DT样块真菌的数量是HD 的3.81倍、 HB的10.65倍、HX的25.75倍。 HX、HB和其他两个样块之间有显着性差异(P <0.05)。此外,HD和DT之间有显着的差异。在DT产孢细菌的数量是HD的1.65倍,HB的2.15倍,HX的6.35倍。 HD,HB和其他两个地块之间也有显着的差异。在HB的放线菌数量最高,为HD的2.12倍,DT 的2.27倍,HX的3.43倍。此外,半干旱草原区干涸湖泊湿地土壤微生物群落有一个明显的横向分布特征土。除了放线菌外,干涸湖泊湿地土壤微生物数量均低于典型草原。是一个显着的土壤微生物总数和微生物生物量碳之间存在显著的相关性。这些结果可以为退化干涸湖泊湿地的恢复提供理论基础,为湿地微生物资源的开发和利用奠定了理论基础。
【英文摘要】This research investigated the distributive characteristics of soil microorganisms at dry lake wetland on semiarid grassland. Four plots, typical steppe (DT), lake side (HB), lake bed (HD), and lake center (HX), were selected from Huitengxile located in semiarid grassland to conducted this investigation. The results showed that the number of aerobic bacteria at DT is 1.07 times that at HB, 1.14 times that at HX, and 1.45 times that at HD. The number of fungi at DT is 3.81 times that at HD, 10.65 times that at HB, and 25.75 times that at HX. There is significant difference between HX, HB and the other two plots ($p<0.05$). Also, there is significant difference between HD and DT. The number of Spore-forming bacteria at DT is 1.65 times that at HD, 2.15 times that at HB, and 6.35 times that at HX. There is significant difference between HD, HB and the other two plots, as well. The number of actinomycetes at HB is highest which is 2.12 times that at HD, 2.27 times that at DT, and 3.43 times that at HX. Moreover, there is a distinct feature of transverse distribution for soil microorganisms communities at dry lake wetland on semiarid grassland. Excluding actinomycetes, the number of soil microorganisms at dry lake wetland were both lower than that at typical steppe. There is a significant correlation between the total amount of soil microorganisms and microbial biomass C at dry lake wetland. These results can be used as the theoretical foundation for the restoration of degraded lake wetland, and the exploitation and utilization of wetland microbial resources.
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【题目】Terrestrial distribution of soil microbial quantity in natural wetland of the Xilin River at Mongolian Plateau
【中文关键词】蒙古高原,天然湿地,土壤微生物,陆向分布
【英文关键词】Mongolian plateau; natural wetland; soil microorganism; terrestrial distribution
【中文摘要】本研究调查了锡林河自然湿地土壤细菌,真菌和放线菌数量的陆分布。结果发现典型草原和天然湿地土壤微生物群落组成从污泥床(HX)到典型草原(DT)发生了明显的变化,即随着海拔高度的变化土壤水分含量逐渐减少发生了显著的改变。总的微生物和好氧性细菌的数量沿着HX、HB和DQ的顺序逐渐增加。 DQ点好氧菌的数量为HB的2.74倍,为

HX的5.53倍。沿着DQ, EQ和DT的顺序微生物总数和好氧性细菌的数量逐渐减少。 DQ好氧菌数是EQ的1.36倍、为DT的9.89倍。从HX到DT微生物分布呈现单峰趋势且峰值出现在DQ,表明DQ环境更适合好氧菌的生长和繁殖。芽孢细菌和真菌数量随着土壤水分的减少逐渐增加,此外,芽孢细菌和真菌数量,与有机质,总氮,总磷和微生物生物量碳含量呈现正相关关系。HX,HB和其他三个样本间芽孢细菌的数量有显着差异,且在DQ,EQ,DT间存在显著差异。真菌数量在HX,HB,DQ,DT和EQ,EQ及DT之间有显著差异。 DT含有数量最多的放线菌,其数量与DT和湿地之间有显著差异。

【英文摘要】Terrestrial distribution with soil bacteria, fungi and actinomycetes amount of the Xilin River natural wetland was investigated. The result that soil microbial community compositions of typical grasslands and natural wetlands, with the elevation changes gradually reduce the soil moisture content from bed sludge (HX) to typical steppe (DT), changed significantly. The total microbial and aerobic bacteria numbers were gradually increased in order of HX, riparian mire (HB) and low flood plain (DQ). DQ is 2.74 times as aerobic bacteria number as HB and 5.53 times as aerobic bacteria number as HX. The total microbial and aerobic bacteria numbers were gradually decreased in order of DQ, high flood plain (EQ) and DT. DQ is 1.36 times as aerobic bacteria number as EQ and 9.89 times as aerobic bacteria number as DT. The tendency of microbial terrestrial distribution from HX to DT is single peak which appear DQ, indicating that DQ environment is more suitable for growth and reproduction of aerobic bacteria. Spore-forming bacteria and fungi numbers were gradually increased with soil moisture decreasing from HX to DT, in addition, the positive correlations are foundbetween Spore-forming bacteria and fungi numbers and organic matter, total nitrogen, total phosphorus and microbial biomass C contents. Spore-forming bacteria numbers have significant differences between HX, HB and other three samples, and significant differences were found among DQ, EQ, DT. Fungi numbers have significant differences between HX, HB, DQ and EQ, DT, and significant differences were found between EQ and DT. DT included the largest number of actinomycetes and its numbers have significant differences between DT and wetlands.

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【题目】辉腾锡勒草原干涸湖泊中氨氧化微生物群落结构分析
【中文关键词】湖泊干涸,MPN-PCR,氨氧化古菌,氨氧化细菌,生物多样性
【英文关键词】dry-up,MPN-PCR,Ammonia-oxidizing archaea,Ammonia-oxidizing bacteria,biodiversity

【中文摘要】【目的】以内蒙古辉腾锡勒草原九十九泉湿地为对象,研究湖泊干涸过程中氨氧化微生物的群落结构及其变化。【方法】通过 MPN-PCR 定量测定氨氧化古菌(AOA) 和氨氧化细菌(AOB) 的数量; 构建 amoA 基因克隆文库,进行系统发育分析; 结合土壤环境因子,探讨湿地退化过程中影响氨氧化微生物的潜在因素。【结果】依湖泊湿地退水梯度的不同样点中,有 75% 的样点 AOB 的数量高于 AOA,AOB 与 AOA 的数量比率为0.3-18.1。从湖心到湖岸草原带,AOA 和 AOB 的数量有明显增加,但生物多样性呈降低趋势,二者没有呈现正相关。研究发现,AOB 的数量与土壤中 NH+4 -N 的变化存在良好响应。系统发育分析显示,退化湖泊湿地 AOA 克隆序列均来自于泉古菌门(Crenarchaeota) ; AOB 的 amoA 基因的克隆序列大部分与亚硝化单胞菌属(Nitrosomonas) 有一定同源性,较少部分与亚硝化螺菌属(Nitrosospira) 有一定同源性。【结论】湖泊退水过程增加了湿地土壤氨氧化微生物的数量,而氨氧化微生物的种群丰度有所降低。AOA 和 AOB 群落对湖泊湿地的退化过程做出了响应,其中 AOB 的响应较为明显,氧化条件和土壤铵浓度的改变可能是促成这种响应的重要原因。

【英文摘要】[Objective]To investigate the structure of ammonia-oxidation microbial communities in the wetlands to dry-up process at 99 degraded lakes of the Huitengxile grassland in the Inner Mongolia Plateau.[Methods]The microbial quantity of ammonia-oxidizing archaea (AOA) and ammonia oxidizing bacteria (AOB) were examined by most probable number-polymerase chain reaction (MPN-PCR) . The clone libraries of amoA were constructed and phylogenetics were analyzed.With analysis of the soil properties,we evaluated the effects of wetlands degradation on ammonia-oxidation microbes communities.[Results]In 75% of the samples,the quantity of AOB communities was higher than that of AOA; moreover, quantity of bacterial were up to 18. 1-fold more abundant than Archaea's.The AOB microbial quantity was strongly correlated with NH+4 -N content in the soil.Phylogenetic analyses of the amoA gene fragments showed that most AOB sequences from degraded wetlands were affiliated with Nitrosomonas-like species and a few close to Nitrosospira. All AOA sequences belonged to the kingdom Crenarchaeote.[Conclusion] Experimental results showed that quantity of ammonia-oxidation microbes increased but community diversity declined during wetlands degradation ,and

oxidation conditions and ammonium concentration in the soil might play important roles in the community structure of both the AOA and AOB.
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【题目】内蒙古高原干涸湖泊反硝化及甲烷氧化细菌的群落分析
【中文关键词】反硝化细菌;甲烷氧化细菌;末端限制性片段长度多态性(T-RFLP)技术;干涸湖泊;草原湿地
【英文关键词】denitrifying bacteria;methanotrophs;T-RFLP;dry-up lake;steppe wetland
【中文摘要】以内蒙古高原半干旱草原区干涸湖泊为研究对象,应用末端限制性片段长度多态性(T-RFLP)技术对湿地土壤中的反硝化和甲烷氧化关联菌群的关键功能基因 nosZ 和 pmoA 进行了研究,根据末端限制性片段(T-RFs)分析了两种菌群的群落结构及多样性变化,以及环境因素所产生的影响,并探讨了土壤微生物群落对湖泊干涸的响应机制.结果表明:干涸湖泊的湖心、湖底土壤反硝化和甲烷氧化细菌多样性指数较高,群落结构较复杂;而较早干涸的湖坡以及相邻草原对照区,两个菌群多样性指数较低,群落结构相对单一.从湖心到相邻草原,反硝化和甲烷氧化细菌的群落相似度逐渐降低,显示两个菌群处于动态演替中.湖泊干涸过程中,水分含量和有机质含量对反硝化和甲烷氧化细菌的群落结构影响显著;高 pH 值和高铵态氮分别对反硝化和甲烷氧化细菌有抑制作用.随着湖泊干涸,土壤微生物群落因环境扰动而受到胁迫,这一过程会加剧 CO 2 等温室气体的排放.
【英文摘要】The method of terminal restriction fragment length polymorphism (T-RFLP) was used to study the community structures and diversities of denitrifying bacteria and aerobic methanotrophs by two key functional genes nosZ and pmoA in the wetland soils of dry-up lake in the Inner Mongolia Plateau. And the effects of soil factors on them were also evaluated, then the mechanism of microbiological communities in wetland soils response to the dry-up lake were discussed. The results showed that the diversity indices of denitrifying bacteria and aerobic methanotrophs were higher, and community structures appeared more complicated at the later dry-up plots. The opposite results were shown at the earlier dry-up plot and the adjacent steppe. Their similarity coefficients gradually declined from the middle of the lake to the adjacent steppe, indicating communities dynamic succession. During drying process, soil moisture and organic matter content had significant influence on both of them. In addition, high pH value and high NH+4 -N had inhibitory effects on denitrifying bacteria and the aerobic methanotrophs, respectively. The microbial communities were under the stress of dry-up process, which led to more emission of carbon dioxide and other greenhouse-gas from wetland soils.
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【题目】基于活力和恢复力的典型草原健康评价和群落退化分级研究
【中文关键词】典型草原,活力,恢复力,生态系统健康
【英文关键词】typical steppe; vigor; resilience; ecosystem health
【中文摘要】根据群落的不同退化演替状况和物种组成情况, 随机选取19个位于锡林郭勒高原和呼伦贝尔高原的调查样地, 进行典型草原健康评价和群落退化分级研究。结果表明, 处在不同退化演替阶段的草原中的群落的优势种类型、活力和恢复力指数均存在很大差异, 活力和恢复力指数不存在明显的相关性, 这可能是由于活力指数表现 的是植物的地上生物量, 而恢复力指数表现的是植物的株/ 丛数, 在株/ 丛数很多的情况下生物量可能很小; 草原群落地上总生物量受 放牧强度、刈割 程度、围封时间、围封前群落状态和区域降水等因素的综合作用, 使得各调查样地群落的活力指数差异显著; 以中

国科学院草原生态系统定位研究站1981年设置的围封的羊草+大针茅草原当时的状态作为参照系统,评价了呼伦贝尔高原和锡林郭勒高原典型草原的健康状况,并对其退化程度进行了量化分级,可为草原管理、植被恢复重建和生态系统健康评价提供参考。

【英文摘要】The characterist ic of plant communities in t he t ypical st eppe of the Inner M ongolia plateau were investigated, and the vigor and resilience of plant communit ies w ere also calculated. The plant communities in different degradation and succession series presented great difference in dominant species, vigor and resilience. As the climax of typical steppe, S trip a g randis+ L eymus chinensis community kept the healthy species and higher biomass productivity because it could make full use of environmental resources. According to the characteristic of plant communities,the mode of degradat ion and succession, vigor and resilience, the ecosystem health of typical steppe was assessed using the sample of Stripa grandis+ L eymus chinensis community in 1981 as a reference system. The condit ions of degradation of communit ies were also quantitat ively classified. The results of this paper could be used as a simple, accurate and suitable method for ecosystem health assessment and management of typical steppe.

【语种】中文

【第一作者】王立新

【通讯作者】刘华民

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【学科分类】生态学

【题目】放牧对典型草原区湿地植物群落土壤呼吸的影响

【中文关键词】土壤呼吸速率;温度敏感性;土壤水分;生物量;Q10值

【英文关键词】soil respiration;temperature sensitivity;soil moisture;biomass;Q 10

【中文摘要】湿地的研究已成为生态学的重点,而湿地CO2通量研究则是该领域研究热点问题之一.采用 LI-8100土壤碳通量测量系统,测定了锡林河流域不同利用方式(围封保育与自由放牧)下的湿地土壤呼吸速率并分析了土壤温度、土壤湿地和地下根生物量等对其影响.结果表明,(1)湿地植物群落土壤呼吸日变化均呈现不对称单峰型曲线,其主要受土壤温度的影响.围封保育湿地植物群落土壤呼吸速率和日变化幅度均低于自由放牧样地,但其 Q 10值高于自由放牧样地,均值分别为2.848和2.250.(2)在0-50cm 各层土壤温度中,围封样地湿地植物群落土壤呼吸速率与地下10cm 的土壤温度拟合最好,而自由放牧样地则与地下15cm 的温度拟合最好.在围封湿地植物群落中土壤温度可以解释呼吸变化速率的57.2%-86.3%,而 在 自由放牧湿地植物群落中土壤温度则可以解释呼吸变化速率的57.7%-88.9%.(3)在湿地植物群落中,土壤温度是水分含量最高的湿地植物群落土壤呼吸的敏感因子,最高温时其呼吸速率达到峰值;而土壤水分是水分含量最低的湿地植物群落土壤呼吸的敏感因子,其土壤呼吸速率峰值出现在生长季水分含量最高月份.

【英文摘要】Research on wetlands has become the focus of ecology,and the research on CO 2 flux has been one hot topic.With the L1-8100soil carbon flux measurement system,the different soilrespiration were determined ,and the corresponding effect of relevant soil moisture,ground and underground biomass and soil temperature on it was analyzed.a)The results shown that the daily variation of soil respiration presents an asymmetric and single peak curve,and this variation was mainly determined by soil temperature.In the whole growing season,the amplitude in enclosed wetlandswas lower than that in degraded wetlands,the Q 10 of enclosed wetlands,however,was high than thatof degraded wetlands,and the means were 2.848and 2.250respectively.b)The soil respiration fitted best with temperature of underground 10cm in enclosed wetlands,but fitted best with temperature of underground 15cm in degraded wetlands.Soil temperature could explain the variation of soilrespiration in enclosed and degraded wetlands by 57.2%-86.3%and 57.7%-88.9%respectively.c)Soil temperature was the main sensitive factor of soil respiration in wetland plant communitieswith the highest moisture,when the temperature went to the highest,the respiration got to a peak;soil moisture is a sensitive factor in wetland communities with the lowest moisture,and the soil respiration rate got to a peak in the growing season when the soil moisture was highest.

【语种】中文

【第一作者】高娟

【通讯作者】王立新

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【学科分类】生态学

【题目】15. Phylogenetic Analysis of Ammonia Oxidation Archaea from Natural Wetlands in Inner Mongolia Plateau
【中文关键词】湿地土壤,氨氧化古菌
【英文关键词】wetland soil; ammonia-oxidizing archaea
【中文摘要】为了更好地理解氨氧化古菌(AOA)的系统发育,我们使用玻璃珠/氯化钙/ SDS法提取湿地土壤样品中DNA以便于后续的聚合酶链反应。通过该方法获得amoA基因的扩增子,再通过克隆和测序来进行系统发育分析。 amoA基因序列表明,四种不同土壤中的氨氧化古菌均属于不可培养的泉古菌。
【英文摘要】To better understand the phylogeny of ammonia-oxidizing archaea(AOA), we used the glass bead/calcium chloride/SDS method to extract DNA from wetland soil samples for use in the polymerase chain reaction. Amplicons of the amoA gene obtained by this method were cloned and sequenced for phylogenetic analysis. The AmoA gene sequences obtained indicate that the ammonia-oxidizing archaea belong to uncultured Crenarchaeota in these four different soils.
【语种】英文
【第一作者】李靖宇
【通讯作者】赵吉
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【学科分类】微生物学

【题目】内蒙古高原典型草原区河漫滩湿地植物群落退化表征
【中文关键词】退化表征,退化机制,湿地退化,锡林河
【英文关键词】degradation characterization, degradation mechanisms, wetland degradation, Xilin River
【中文摘要】草原区河流河漫滩草甸是生物多样性表现最充分和生物生产力最高的地段,但由于过度放牧利用,绝大部分草甸处于退化状态。该文以锡林河流域中游的河漫滩草甸为研究对象,比较分析了围封保育湿地与放牧退化湿地群落组成、地上生物量,以及共有植物种的植株高度、节间长、叶长、叶宽,土壤含水量、容重,群落地下根量及根的分布,土壤微生物生物量碳、氮的变化。结果表明:1)放牧使得湿地植物群落优势种发生变化,原有湿生植物逐渐向旱生化转变,同时地上及地下生物量明显降低。2)退化湿地的植物呈现显著小型化现象。3)放牧退化湿地的土壤含水量较围封保育湿地低,其垂直分布及地下根的垂直分布也发生变化。在低河漫滩,土壤水分随土层的增加而增加,根量也趋于深层化。但在高河漫滩湿地,土壤含水量接近典型草原,根未出现深层化分布趋势。4)放牧践踏引起土壤容重和土壤紧实度增加。5)放牧使得低河漫滩湿地土壤微生物生物量增加,而在过渡区及高河漫滩湿地,放牧使得土壤微生物生物量碳、氮含量显著降低。
【英文摘要】Aims River floodplain meadow is the most productive sites of biological, but due to excessive grazing, the vast majority becomes degraded meadow. In this paper, we compared Aims River floodplain meadow is the most productive sites of biological, but due to excessive grazing, the vast majority becomes degraded meadow. In this paper, we compared fenced (non-grazed) and grazed sites within the wetland. We present results of analyses of changes of vegetation in a Xilin River basin (Inner Mongolia) wetland meadow. Our findings is good information for the restoration of degraded wetlands and important for the restoration and management of degradation of wetland. Methods We carried out vegetation and soil characteristics studied include plant community composition, aboveground biomass, plant height, internode length, main species leaf length and width, plant community root biomass and root distribution, soil moisture content, soil bulk density, soil microbial biomass, carbon and nitrogen content. Important findings Grazing affects plant dominant species significantly by gradually replacing original wetland plants with more drought-resistant ones. It also significantly reduces the aboveground and belowground biomass; Plants in a degraded wetland meadow are smaller thus resulting in the decline in community productivity; Grazing also causes the drop in soil moisture in a wetland below the fenced sites. In the low flood plain, soil moisture and root biomass both increase with increasing soil depth. However, in the high flood plain, soil moisture does not change with soil depth and is similar to that of the typical steppe; Soil bulk density increases as a result of grazing and trampling by animals. Overall, soil becomes compacted due to these activities; In the high and low floodplain wetlands, the changes of soil microbial biomass carbon and nitrogen between fenced and grazed site are varied. In the low floodplain wetlands, grazing makes microbial biomass increased, while in the high floodplain wetlands, grazing makes significant reduction in microbial biomass carbon and

nitrogen.
【语种】中文
【第一作者】李建玮
【通讯作者】王立新
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【学科分类】生态学

【题目】暖温型草原土壤微生物生物量碳相关指标的评价作用
【中文关键词】暖温型草原;土地利用;土壤健康;生物学质量;呼吸商
【英文关键词】warm-temperate steppe; land use type; soil health; biological quality, qCO2
【中文摘要】选择内蒙古皇甫川流域暖温型典型草原区耕地、林地、草地等11种不同土地利用类型,测定分析了微生物生物量水平相关的土壤生物学指标,包括土壤的微生物生物量-C(Cbio)、基础呼吸量-C(CBR)、潜在呼吸量-C(CPR)、可浸提有机碳(Cext)等量化指标,计算出与土壤微生物生理生态功能有关的呼吸商(qCO2)、潜在呼吸商(CPR/Cbio)、矿化商(Cext/Cbio)、呼吸活化商(CBR/CPR)等衍生系数。结果表明:不同土地利用现状下,土壤生物学质量状况存在明显不同,土壤微生物生物量按农业耕地、乔木林地、天然草地、灌木林地、空闲湿地呈递减趋势,土壤微生物呼吸商等生理生态状况也呈基本一致的变化规律。该区域土壤肥力水平总体偏低,农业耕地、乔木林地(人工)和天然草地以生物量为指标的生态肥力仅为Ⅴ级水平。该区域土壤微生物的生理生态状况较为正常,土壤处于较为健康的状态,只有灌木林地(人工)和空闲湿地的土壤处于不稳定状态。坡上耕地、杨树林地和沙棘林地有较强的恢复潜力,沙柳林地和沟坝湿地恢复力最弱。通过因子辐射图和判别分析证实以上量化指标或参数均具有良好的土壤质量评价效果。
【英文摘要】In the warm-temperate steppe of Huangfuchuan watershed of Inner Mongolia, soil bioindicators related to soil microbial biomass were analyzed in different land use type, including quantitative indicators such as microbial biomass-C (Cbio), available organic-C (Cext), basal respiration-C (CBR), potential respiration-C (CPR), and derived parameters such as metabolic quotient (qCO2), respiratory activation quotient (CBR/CPR), potential respiration quotient (CPR/Cbio), mineralization quotient (Cext/Cbio). Analysis by synthesis showed that the soil health status was different under different land-use type. The eco-physiological responses of soil microorganism were found to be the diminishing law according to the order of agricultural land, arbor forest land, original herbage land, bush forest land and alluvial wetland. As a whole, the soil fertility of all plots is on the low side in warm-temperate steppe, in which the soil fertility of agricultural land, man-made arbor forest land, original herbage land can reach level V, that is to say, the soil is healthy correspondingly, while the soil of man-made bush forest land and alluvial wetland is ill. There is greater restoration potentiality in sloping fields, Populus simonii forest land and Hippophae rhamnoides areas, while there is the poorest restoration potentiality in Salix psammophyla land and dike fields. Based on the factors radiation charts and discriminant analysis, the bioindicators or parameters were proved to have good evaluation results. The index system for assessing soil health can be divided into three aspects,i.e. quantity,activity and functionality of soil microbe, which can synthetically reflect the soil biological quality information so that they can be used as sensitive and quantitive bioindicators in monitoring and evaluating soil health.
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【通讯作者】赵吉
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【题目】七带石斑鱼(Epinephelus septemfasciatus)两个野生群体形态差异分析
【中文关键词】七带石斑鱼,野生群体,形态学差异,分析
【英文关键词】Sevenband grouper Epinephelus septemfasciatus, Wild populations, Morphological difference, Analysis

【中文摘要】对2种不同地理种群七带石斑鱼进行14项形态性状的测定,采用2种多元统计分析方法和f.检验方法,比较了2个群体的外部形态特征。f.检验结果表明,2群体在14个性状中有12个性状表现出极其显著差异(JP<0.O1),1个性状表现出差异显著(P<0.05)。主成分分析构建了3个反映形态特征信息的综合性指标——主成分1、主成分2和主成分3,三者的贡献率分别为29.873%、25.091%和16.875%,三个主成分的累积贡献率为71.804%,2群体之间存在明显的偏离态势,形成两个不同的类群,2群体在主成分1轴上的差异较在主成分2轴上的差异更为明显,主成分1主要由经 检验差异指标数量多和差异程度大的性状组成。判别分析表明,2个七带石斑鱼群体的形态差异显著(P<O.OOO1),建立了2个群体的判别函数,其判别准确率及综合判别率均为100%,可以认为逐步判别法对七带石斑鱼不同群体的初步鉴定是可行的。差异系数(c_D)计算的结果表明,尽管2群体在形态上存在一定的差异,但尚未达到亚种水平。主成分分析、f 检验和判别分析的结论基本上是类似的,它们从不同的角度反映了群体间的形态学差异。

【英文摘要】Morphologic comparison between two different populations of Epinephelus septemfasciatus from Japan andsouth Korea was conducted with 14 morphological indices using statistics methods.The results of t-test indicate that 12 of14 morphological indices were significantly different(P<0.01)between the two populations.Principal component analysisrevealed three principal components,contributing 29.87% ,25.09% and 16.88% ,respectively,and reaching cumulatively7 1.80% .Therefore,the morphological variations between the two populations are significant,and come mainly from thefirst principal component.The results of discriminant analysis revealed also a significant difference between the twopopulations(P<0.0001).Two discriminant functions were obtained;the identification accuracy and the total discriminantaccuracy were all 100% ,which shows that it is feasible to adopt stepwise discriminatory analysis to distinguish the twopopulations.In this study,all the results have revealed some morphological differences between the two populations.However,almost aU the morphological indices were not different enough to feature a subspecies.In addition,the result ofdiscriminant analysis agrees with that of principal component analysis and t-test,leading to the same conclusion.

【语种】中文

【第一作者】王新安

【通讯作者】陈超

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【学科分类】水产养殖学

【题目】七带石斑鱼肌肉营养成分分析与品质评价

【中文关键词】七带石斑鱼,肌肉,营养成分,评价

【英文关键词】Epinephelus septemfasciatus,Muscle,Nutritional components,Nutrjtional evaluation

【中文摘要】对饲养的七带石斑鱼Epinephelus septemfasciatus Thunberg的含肉率、营养成分及鱼肉品质进行了研究,采用常规肌肉营养测定方法分析了4尾成鱼的肌肉营养成分。结果表明,七带石斑鱼的含肉率为76.73 ,肌肉(鲜样)中粗蛋白含量为19.6O ,粗脂肪为2.70 ,氨基酸总含量为18.33 ,其中7种必需氨基酸的总含量为7.59 ,占氨基酸总含量的41.4 ,其必需氨基酸的构成比例符合联合国粮农组织/世界卫生组织(FAO/W HO)的标准模式。必需氨基酸指数(EAAI)为82.38,5种鲜味氨基酸的总含量为8.22 。多不饱和脂肪酸含量为32.45 ,其中EPA 与DHA 的平均含量分别为6.11 和12.78 。七带石斑鱼肌肉矿物元素种类丰富,矿物质中钾含量(4561.02mg/kg)最高,在微量元素中锌含量(4.20 mg/kg)最高。

【英文摘要】Nutritional components in muscle of Epinephelus septemfasciatus were ana—lyzed with routine methods.The results showed that contents of crude protein,crude fat anddressed fish of fresh muscles were 1 9.60 ,2.70 and 76.73% ,respectively.The total con—tent of amino acids was 18.33% ;the content of essential amino acids was 7.59 ;the percent—age of essential amino acids in total amino acids was 41.40 .The five delicious amino acidaccOUnted for 8.22 and the amount of po1yunsa1turated fatty (PUFA)was 32.45 .The es—sential amino acids index (EAAI)was 82.38.The content of EPA and DHA was 6.1 l and12.78 ,respectively.It was apparent that the content of the different amino acids was stable and the corrtrition rate of the essential amino acids accorded with FAO/WHO standard.The compositon of mineral and trace elements of the fish was reasonable. It was indicated that E.septemfasciatus is a fish species with better nutritive value and therefore E.septemfasciatus will be an important cultured species in the future.

【语种】中文

【第一作者】程 波

【通讯作者】陈 超

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【中文关键词】MS 222;麻醉;圆斑星鲽;有效质量浓度
【英文关键词】M S-222;anaesthetization;Verasper varieg,ates;effective mass-concentration
【中文摘要】不同水温(1 5°C 、20°C 和25°C)下、不同质量浓度的MS 222对圆斑星鲽成鱼的麻醉效果不同。根据鱼体在最终麻醉状态和复苏过程中的行为持征,分别把麻醉和复苏过程分为6个和4个时期。15°C 、20 oC和25 oC时MS 222麻醉圆斑星鲽成鱼的有效质量浓度分别为】8o~300 mg/I 、160~280 mg/I 和15O~230 mg/I 。实验结果表明:高水温条件下成鱼进入麻醉状态所需麻醉剂浓度较低;l5°C 、2o°C 和25°C 温度下在各自的有效质量浓度(180~300 mg/I 、l6o~280 rag/1 和l 5o~230 mg/I)范围内,浓度越高鱼体达到A4期的麻醉时间越短,但复苏时间无明显差异。随着水温的升高,同等麻醉浓度的麻醉剂对圆斑星鲽的麻醉效果逐渐增强。M~222麻醉圆斑星鲽的效果好,鱼体入麻时间短、复苏快,安全边界宽,是一种理想的鱼用麻醉剂。
【英文摘要】The anaesthetic effects of MS一222 on adult Verasper variegates depend upon water temperature(for exam ple,l5°C ,2O°C and 25°C) and M S一222 concentration. Based on the behavior characteristics ofthe fish at its fina】anaesthetic status and in the revival process,the final anaesthetic status can be dividedinto six stages,and the revivaI process into four stages.The effective anaesthetic concentrations of M S一222on adult Verasper variegates at 15°C ,20°C and 25°C are 180~300 mg/I ,160 280 mg/I and 150~230rag/I respectively.It is shown in the results that the effective concentration of MS一222 becomes 1owerwith higher water temperature. W ithin the effective concentration ranges described above.the higher theconcentration of M S一222 is,the shorter the tim e for the fish tO be anaesthetized up to Stage 4,while thetime for the fish tO revive are rather independent upon M S一222 concentration. If M S一222 concentration remains unchanged,the M S一222 anaesthatic effects on the fish become stronger as the water tem perature isincreased.M S一222 as a fish anaesthetics is effective,it enables the fish tO be rapidlv anaesthetized.andthen to revive soon after the fish has been anaesthetized. Also it is safe within a wider dosage range for theanaesthetization.Therefore M S一222 iS an idea1 fish anestheti
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【题目】七带石斑鱼繁殖群体“突眼”症病原菌的分离与鉴定
【中文关键词】七带石斑鱼;“突眼”症;病原菌;哈维氏弧菌;
【英文关键词】Epinephelus septemfasciatus Exophthalmic disease Pathogenic bacteria Vibrio harveyi;
【中文摘要】2007~2008年间,对暴发"突眼"症的七带石斑鱼繁育群体,从细菌学、寄生虫学和病毒学等方面进行了全面的筛查和实验研究。从具有明显"突眼"症的七带石斑鱼病灶组织中分离出1株致病力极强的优势菌CB1008,经人工感染试验证实为此次七带石斑鱼"突眼"症的致病菌。该菌革兰氏染色呈阴性,电镜下观察菌体呈短杆状,极生单鞭毛。通过API-32E鉴定系统和菌体常规形态特征、培养特性和生理生化反应指标测定,以及16S rDNA测序分析等综合鉴定,菌株CB1008为弧菌属哈维氏弧菌Vibrio harveyi。药敏试验结果表明,该菌株对氯霉素、萘啶酸、四环素、氟哌酸和氟罗沙星等5种药物较为敏感。
【英文摘要】A pathogenic bacterial strain CB1008 was isolated from the eyes and internal organs of seven-band grouper Epinephelus septemfasciatus.It was proved to be the pathogen of the diseased seven-band grouper by artificial infection test.Morphological observations showed that it was a short-rod and Gram-negative bacterium with single polar flagella.According to API-32E system,through traditional physiological and biochemical experiments and 16S rDNA gene homology comparison of the bacterium,the results showed that the reisolated strain CB1008 was Vibrio harveyi.The test of sensitivity of strain CB1008 to 36 kinds of antibiotics revealed that the pathogen was sensitive to Chloramphenicol,Nalidixan,Tetracycline,Norfloxacin and Fleroxacin.V.harveyi is a kind of pathogenic bacterium commonly found in cultured marine finfish,but this is the first time that V.harveyi is reported as the pathogenic bacterium of seven-band grouper in China.

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【题目】半滑舌鳎(Cynoglossus semilaevis)血浆性类固醇激素表达与卵巢发育及温光调控的关系研究
【中文关键词】半滑舌鳎; 性类固醇激素; 卵巢发育; 温光调控;
【英文关键词】Cynoglossus semilaevis G ü nther; Sex steroids; Gonadal development; Photothermal regulation;
【中文摘要】采用放射免疫法(RIA)、组织切片技术和形态测量法首次系统研究了人工养殖条件下半滑舌鳎亲鱼卵巢的年周期发育过程中血浆中性类固醇激素[雌二醇(E2)和睾酮(T)]的表达规律与性腺发育[组织结构、性腺指数(GSI)、肥满度(CF)和肝脏指数(HSI)]及温度和光周期调控的关系。结果表明,半滑舌鳎属于非同步分批产卵类型,卵巢发育依据卵母细胞形态和组成划分为五期。GSI、CF和HSI随性腺的年周期发育而呈现规律性变化。水温调节与GSI和HSI值变化呈显著正相关关系。性腺的年周期发育过程中,血浆中E2在8月(Ⅳ期)达到峰值,进入产卵期后(9月)开始下降。T含量在9月达到最大值,在10月开始下降。在年周期各月份,雌鱼体内E2表达水平都远高于T表达水平,E2与T呈显著正相关关系。水温调节对E2和T表达水平影响显著且与其呈正相关关系,光周期调节对T和E2表达水平影响不显著。E2表达水平与HSI变化呈显著正相关关系,与CF变化呈负相关关系,T表达水平与HSI变化呈正相关关系,表明性类固醇激素表达水平可用于准确判断鱼类的生殖状态。本研究结果可为温光调控人工亲鱼性腺发育成熟、激素诱导亲鱼产卵提供重要技术依据。
【英文摘要】The annual serum sex steroids (17?-estrodial, testosterone) expression and gonadal development parameters [gonadosomatic index (GSI), hepatosomatic index (HSI) and condition factor (CF)] of Cynoglossus semilaevis G ü nther were studied during annual maturation cycle. In addition, the relationships between GSI, CF, HSI, sex steroids and temperature and photoperiod were investigated using statistical analysis. C. semilaevis features asynchronous gonadal development and batch spawnings. The gonad development is divided into 5 stages according to oocytes development, during which GSI value, HSI value and CF value changed synergistically. The serum estradiol level increased in June (stage Ⅲ) and peaked in August (stage Ⅳ, $P<0.05$), just before spawning. After the spawning, it dropped to a relative low level, and back to the lowest level after November until May. The T level ascended in July and peaked in September ($P<0.05$), a month later than that of estrodiol. During the year round development, the serum estrodiol level was always higher than testosterone; and a positive relationship was found between them ($r = 0.733$, $P<0.05$). The E2/T ratio increased in November, and peaked in next January, then decreased to low level until October. Temperature imposed significant effect on E2 and T levels and the positive relationship between them; while photoperiod showed no significant effect ($r<0.3$, $P>0.05$). These results highlight the temperature may be the primary environmental cue to activate BPG axis. In addition, E2 levels were positively correlated with the HSI values, but negatively with the CF values. Moreover, the T level was significantly correlated with the HSI values. In conclusion, based on the relationship between sex steroids and gonadal development, the sex steroids level could serve as a useful tool to determine the timing for hormone induced-spawning in farmed female C. semilaevis.
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【题目】条斑星鲽染色体带型的研究
【中文关键词】条斑星鲽,C带,Ag-NORs带,G 带
【英文关键词】Verasper moseri,C— binding,Ag——NORs,G—banding
【中文摘要】开展了条斑星鲽染色体C带、Ag—NORs带及G一带的研究。结果发现,条斑星鲽染色体显示较为复杂的C一带,有4对染色体整体呈阳性深染,分别为3、l3、20、22号染色体;3对具居间(一带,分别为l、4、8号染色体;9号染色体整体

显示阴性,其余有大小不一的着丝粒C一带。计算其异染色质含量为54.91 。银染分裂相中Ag—NORs出现的数目以两个的频率最高,达87.5 ,与此相一致,在间期核中通过银染表现出两个核仁的间期核数目的频率也最高,故确定条斑星鲽染色体具有1对Ag—NORs,位于亚中部着丝点染色体的短臂上,为端部Ag—NOR。Ag—NORs的数目为1~3个,以出现两个Ag—N()R的频率最高,达87.5 ,与此相同的是,在间期核中,通过银染表现出两个核仁的间期核数目的频率也最高。G一带研究显示,条斑星鲽有37条深染带,22条浅染带。

【英文摘要】The C—binding,Ag—NORs,and G—banding patterns of the metaphase chromosomes of barfin flounder Verasper moseri were investigated in this study.The results showedthat the interstitial regions of most chromosomes exhibited positive C—bands。 in which the whole3rd,13th,20th,and 22nd pair of chromosomes showed totally positive C~band,whilst the l st,4th and 8th pair of chromosomes only showed positive C—bands in the middle region,the restwith centromeric positive C—bands.However,the 9th pair of chromosomes showed negative re—sult.The C—banding heretochromatin occupied 54.91 of the total chromosome in the presentstudy.Silver staining study showed that most chromosomes featured two silver—stained nuclearorganizing regions(Ag—NORs)with the percentage of 87.5 .Accordingly,the interphase rillcleus with 2 nucleolus appeared most frequently,thus it is supposed that the barfin flounderbears a pair of Ag—NORs which 1ocated at the end of short arm of the submetacentric chromosomes.A total of 5 9 positive G—bands(3 7 strong,2 2 light)were recorded in 2 3 pairs of chromosomes.These results would provide basic data for the genomic research and biodiversity conservation of barfin flounder

【语种】中文

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【题目】条斑星鲽卵巢发育规律和性类固醇激素周年变化研究

【中文关键词】条斑星鲽,卵巢发育,组织学,性类固醇激素
【英文关键词】Verasper moseri,Ovary development,Histology,Sen1m steroi d hormone

【中文摘要】采用组织学方法、形态测量法、放射免疫法(RIA)等技术方法,研究了人工养殖条件下条斑星鲽雌性亲鱼卵巢发育成熟和性类固醇激素的年周期变化规律。结果表明,条斑星鲽属于非同步分批产卵类型。卵母细胞按其组织学特点可分为6个时相,卵巢发育依据其形态特征可划分为相应的6个时期。卵巢年周期发育过程中,性腺指数(GSI)、肝脏指数(HSI)和肥满度(CF)发生变化,表现出与性腺发育协同一致的变化规律。统计分析表明,卵巢年周期发育过程中,GSI和HSI值与CF值都存在显著的正相关关系,GS 值的变化与水温调控呈显著的负相关关系。亲鱼血浆中雌二醇(E。)在6月份开始升高,9月份达到年周期申的第1个小高峰,翌年2月份,E 表达水平达到最高峰值,4月产卵结束后,E。表达水平降低并维持较低水平至下一个生殖季节。血浆中睾酮(T)含量在7月达到第1个峰值,并在翌年1月份达到第2个峰值,在4月份产卵后降至最低水平并维持至下一个生殖季节。统计分析表明,E。与T存在正相关关系,E。与光周期调控存在正相关关系,同时与Gs 和CF呈弱的正相关关系。

【英文摘要】The annual ovarian maturation steroids levels were studied radioimmunoassay.cycle and the variation of correlated plasma sex by employing light microscopy and morphometric methods combined addition,the relationships between GSI,CF,HSI,sex steroidsand temperature,photoperiod were investigated through statistical analysis. Results showedthat barfin flounder features asynchronous oocyte development and batch spawnings. The OO—cyte growth included six phases,and six stages in ovary maturation cycle accordingly. Gonado—somatic index(GSI),hepatosomatic index(HSI)and condition factor(CF)were all found toincrease prior to,or during the peak phase of vitellogenic growth corresponding to the gonad de—velopment.Statistica1 analysis revealed that GS1 was positively correlated with CF while H SIshowed negative relationship with CF. Temperature played more important role in regulatingthe gonad development compared with photoperiod based on the correlation analysis betweenGSI,temperature and photoperiod.During spawning the serum estradiol level began to increasein June(stageⅢ)and reached the first relatively lower peak in September and peaked in Febru—ary.After the spawning,it dropped down to a relative low level and maintained until the nextreproductive cycle. The testosterone level achieved the first relatively high peak in July andpeaked in January,which was a month earlier than that of estradio1.A positive relationship wasfound between estradiol and testosterone leve1.Statistical analysis revealed that a positive rela—tionship existed between photoperiod and estradiol leve1.In addition,the estradiol level showedpositive correlations with GS I and CF. These results could highlight the reproductive cycle ofcaptive barfin flounder females,and also serve 38 useful tools for broodstock breeding and de—termination of timing for hormone induced spawning.

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【题目】盐度对七带石斑鱼胚胎发育和初孵仔鱼活力的影响
【中文关键词】七带石斑鱼,胚胎发育,盐度,SAI,饥饿耐受力
【英文关键词】Epinephelus septemfasciatus,Embryonic development,Salinity,SAI,Starvation-resisting ability
【中文摘要】观察比较了8个盐度梯度[1O、15、20、25、30(自然海水)、35、40和45]下七带石斑鱼Epi—nephelus septemfasciatus受精卵的孵化周期、孵化率和畸形率及卵黄囊仔鱼的畸形率,并在上述条件下对七带石斑鱼进行了耐饥饿试验,测定其生存活力指数(SAD。结果显示,受精卵孵化的最适盐度范围为30~35,盐度高于35,孵化率随着盐度的升高而降低,仔鱼畸形率随之升高;盐度低于25,孵化率随盐度的降低而降低,仔鱼畸形率随之升高。仔鱼的最适生存盐度为3O~35,此盐度下的仔鱼存活系数为24.7±0.36和23.27±3.O1。
【英文摘要】The hatching periods,hatching rate and deformity rate of the fertilized eggs,deform~ity rates of the post-embryonic larvae and the survival activity index(SAD of the newly hatched larvae of Epinephelus septemfasciatus were examined at salinities of 10,15,20,25,natural seawater salini—ties of 30,3 5,40 and 4 5.The results showed that:1.the optimum salinity for hatching was between3O and 35.W hen the salinity was above 35 or below 25,the hatching rates decreased and the Dercent~age of abnormallarvae increased;2.the optimum salinity for larval survival was in the range of 30~35,and the SAI values of the fish were 24.7-+-0.36 and 23.27~3.01,respectively
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【中文关键词】七带石斑鱼; 胚胎发育; 胚后发育; 饥饿
【英文关键词】Epinephelus septemfasciatus Development of embryo Post-embryonic develonment Starvation
【中文摘要】对七带石斑鱼胚胎和仔稚鱼发育过程进行了观察,描述了从受精卵到仔稚鱼各发育时期的形态特征;在水温22±0.5℃、盐度30条件下进行七带石斑鱼仔鱼的饥饿耐受力实验,记录了饥饿条件下初孵仔鱼的存活与生长、卵黄囊与油球的利用情况。结果表明,胚胎发育可划分为卵裂期、囊胚期、原肠胚期、神经胚期和器官形成期。在水温20.5±0.5℃、盐度30.0条件下,受精卵历时38h45min孵化出膜。初孵仔鱼全长1.059±0.071mm,至4日龄全长2.27~2.36mm时,卵黄囊完全消失;16日龄,全长4.99mm时,鳔形成;至25~30日龄,尾鳍鳍条发育完整。在饥饿条件下,初孵仔鱼的死亡高峰出现在孵化后4~6d,半数死亡时间出现在5d,至7d饥饿仔鱼全部死亡。卵黄囊期仔鱼的生长可分为3个阶段:仔鱼初孵时的快速生长期,卵黄囊消失前后的慢速生长期,以及在不能建立外源性摄食后的负生长期。随着生长发育时间的延长,饥饿仔鱼与正常条件下仔鱼的生长差异显著(P<0.05)。饥饿仔鱼体长较短,头大且体瘦,长期饥饿后脑后部下陷。
【英文摘要】Embryonic and early larval development and growth of Epinephelus septemfasciatus,including morphological features and developmental period, were observed and studied. Starvation tolerance test was also conducted and other index such as larvae survival and growth, yolk sac, and oil globule utilization rate were recorded under the condition of water temperature 22±0.5℃ and salinity 30. Based on the obtained data, the embryonic development of E.septemfasciatus was divided into five stages, namely cleavage stage, blastula stage, gastrula stage, neurula stage, as well as organogenesis stage. The embryos hatched at 38h45min after fertilization in seawater at 20.5±0.5 ℃ and salinity of 30.0. The whole length of newly-hatched larva was 1.059±0.07 mm. The yolk sac of larvae disappeared 4d post hatching at a whole length of 2.27~2.36 mm, and air bladder of larvae formed during 8~15d post hatching. Then

the soft rays of caudal fin developed finally at 30d post hatching.Newly-hatched larvae showed 100% mortality after 7 days of starvation, and the half mortality time was 5d and themortality peaked at 4~6d post hatching. The growth of yolk sac larvae can be divided into three periods: rapid growth period of newly hatched larvae, slow growth period before and after the disappearance of yolk sac,and negative growth period afterwards due to the lack of exogenous feeding. Starvation magnified the difference of growth between starved and normal larvae (P<0.05). Larvae had shorter soma length, bigger head and thinner body after a period of food deprivation. The rear part of head sunk after long-time starvation.

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【中文关键词】七带石斑鱼; 亲鱼繁殖; 仔稚鱼培育; 苗种中间培育;
【英文关键词】Epinephelus septemfasciatus; broodstock reproduction; larval rearing; juvenile nursery;
【中文摘要】七带石斑鱼(Epinephelus septemfasciatus)具有经济价值高、生长速度快和低温耐受性强等特点,是东北亚温带海域理想的网箱养殖品种之一,已成为中、日、韩三国海水鱼类繁育研究的热点。由于存在雄鱼性成熟年龄高、人工驯养条件下难以实现自然产卵和初孵仔鱼弱小等难题,其稳定和高效的种苗规模化繁育技术尚未完全建立起来。本文综述了七带石斑鱼人工繁育技术研究现状,重点总结日本近20年在亲鱼繁殖、仔稚鱼培育和苗种中间培育等方面取得的研究进展,并就其发展前景进行分析,旨为中国七带石斑鱼苗种规模化繁育技术研发提供参考。
【英文摘要】Seven-band grouper Epinephelus septemfasciatus,a fast growing and commercially valuable marine fish species with better tolerance to cold water temperature than most other grouper species,is considered as one of the most potential species for marine fish cage culture in the temperate seas along the coast of Northeast Asia.It has been investigated intensively for aquaculture during the past several decades in the countries of China,Japan and Korea where it distributes.However,the stable and efficient artificial breeding technique of seven-band grouper has not been established fully,owing to some reproduction problems such as extended maturation age for male,failure to spawn spontaneously under captivity and the fragility of newly hatched larvae.The progress on broodstock reproduction,larval rearing,and the nursery of juveniles of seven-band grouper,which has been achieved mainly by Japanese scientists during the past twenty years,is reviewed.Further research priorities in this domain are also suggested.This paper also provides necessary referential information for the research on the mass seed production technique of seven-band grouper in China.
【语种】中文
【第一作者】刘新富
【通讯作者】庄志猛
【期刊名称、卷期、页码】中国水产科学,2010,17(5):1128-1136
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【学科分类】水产养殖学

【题目】Evaluation of the potential role of the macroalga Laminaria japonica for alleviating coastal eutrophication
【中文关键词】无
【英文关键词】Macroalgae; Laminariajaponica; Nutrient uptake rate; Nutrient remove efficiency; Environmental factors
【中文摘要】无
【英文摘要】The rapid development of human activities has caused serious eutrophication of coastal waters in China in the recent decades. The study of the biofiltration capacity of Laminariajaponica under laboratory conditions showed a significant nutrient uptake. After 36 h of incubation, around 42%, 46%, 44% of N and 45%, 42%, 35% of P were removed from three gradients of medium concentrations, respectively. In the conditions of different ratios of N/P and NO3 – N/NH4 – N, the optimum N/P ratio for nutrient uptake was 7.4 and L. japonica prefered NO3 – N rather than NH4 – N as nitrogen source. Temperature and irradiance affected uptake

rates significantly. The maximal N uptake rate appeared at 10 ° C and 18 μ mol photons m − 2 s − 1 and the maximal P uptake rate was found at 15 ° C and 144 μ mol photons m − 2 s − 1. Moreover, further studies were needed to investigate the bioremediation potential of L. japonica in the open sea.
【语种】英文
【第一作者】徐东
【通讯作者】叶乃好
【期刊名称、卷期、页码】Bioresource Technology102: 9912-9918
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【引文索引号】doi:10.1016/j.biortech.2011.08.035
【学科分类】水产养殖学

【题目】Preparation and characteristics of bio-oil from the marine brown alga Sargassum patens C. Agardh
【中文关键词】无
【英文关键词】Sargassum patens C. Agardh; Liquefaction; Bio-oil
【中文摘要】无
【英文摘要】The marine brown alga, Sargassum patens C. Agardh, floating on the Yellow Sea, was collected and converted to bio-oil through hydrothermal liquefaction with a modified reactor. A maximum yield of 32.1 ± 0.2 wt.% bio-oil was obtained after 15 min at 340 ° C, at a feedstock concentration of 15 g biomass/150 ml water, without using a catalyst. The bio-oil had a heating value of 27.1 MJ/kg and contained water, lipid, alcohol, phenol, esters, ethers and aromatic compounds. The solid residue obtained had a high ash and oxygen content. The results suggest that S. patens C. Agardh has potential as biomass feedstock for fuel and chemical products
【语种】英文
【第一作者】李德茂
【通讯作者】叶乃好
【期刊名称、卷期、页码】Bioresource Technology,104:737-742
【论文发表时间】2012-01-01 00:00:00
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【引文索引号】doi:10.1016/j.biortech.2011.11.011.
【学科分类】水产养殖学

【题目】Characterization of the LhcSR gene under light and temperature stress in the green alga Ulva linza
【中文关键词】无
【英文关键词】Ulva linza LhcSR .Full-length.Expression analysis.Green tide
【中文摘要】无
【英文摘要】As a green-tide-forming macroalga, Ulva linza is distributed worldwide and therefore subject to various environmental stresses. The LHCSR (also known as LI818 in green alga and LHCX in diatoms) protein is a stress-related member of the LHC family that plays an important role in photo-protective mechanism, which has been only found in algae. In this study, we cloned full-length cDNA sequence encoding the LhcSR gene from U. linza and analyzed its expression in response to different temperature and illumination gradients. The results showed that high light (HL) could enhance expression of LhcSR and that the expression level peaked at 3 h under HL. Similarly, the expression of LhcSR could also be induced by low temperature (LT). However, the expression patterns of LhcSR were quite different in response to LT and HL treatment. Specifically, the maximum gene expression under LT was much higher (11.8-fold) than under HL (5.4-fold) when compared to the expression under normal conditions. The upregulated expression of LhcSR lasted for 12 h under LT, but 3 h under HL. These data suggest that the LhcSR gene is involved in photoprotection in U. linza, and the results suggest a stronger link to LT. In addition, the discrepancy in expression under HL and LT was consistent with the ecological features of this alga, which only thrives during the cold season (featured as LT and low light).
【语种】英文
【第一作者】董美涛
【通讯作者】叶乃好

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【引文索引号】doi:10.1007/s11105-011-0311-8.
【学科分类】水产养殖学

【题目】Growth and loss of mariculture kelp Saccharina japonica in Sungo Bay, China
【中文关键词】无
【英文关键词】Kelp Saccharina japonica – Growth – Distal erosion – Falloff – Breakoff – Sungo Bay – Laminariales
【中文摘要】无
【英文摘要】The aim of this study was to understand the growth dynamics of Saccharina japonica (previously known as Laminaria japonica), particularly the portion lost during its growth cycle and the key factors that control loss rate in Sungo Bay, China. Growth and loss of S. japonica were investigated between January and July 2010 in Sungo Bay. Losses of the seaweed are typically the result of three factors: removal of the entire individual from mariculture ropes (falloff), breakage in sections of the thalli (breakoff), and erosion of distal tissue. Results showed that individual growth rates in wet weight ranged between 2.4 and 32.7 g day − 1. The total falloff rate was approximately 16% and took place during January and February. Breakoff rate showed a significant positive correlation with kelp length and took place during June and July. The erosion rate increased significantly from January to the end of April, reaching a maximum value of 20.4 g day − 1 on 25 April, and maintained a relatively higher value following the peak value (approximately 10 – 15 g day − 1). Erosion rates were positively correlated with temperature ($r = 0.787$, $n = 23$, $p < 0.01$) before May; however, they were not significantly correlated with temperature from May to July ($p = >0.05$). There was no significant relationship between erosion and transparency. At the end of this experiment, the ratio of total loss of carbon and nitrogen to gross production was 61% and 54%, respectively. Loss from distal erosion, falloff, and breakoff in carbon was 91.5, 4.2, and 4.3%, respectively. In Sungo Bay, the annual gross production and total loss in carbon and nitrogen were estimated to be 58,652 t C and 3,506 t N, and 36,150 t C and 1,920 t N. This is expected to have a significant impact on the detritus available in the food chain.
【语种】英文
【第一作者】张继红
【通讯作者】张继红
【期刊名称、卷期、页码】Journal of Applied Phycology ,26(5):1209-1216
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【引文索引号】doi: 10.1007/s10811-011-9762-4
【学科分类】水产养殖学

【题目】Isolation and characterization of Toll-likereceptor9 in half-smoothtonguesoleCynoglossussemilaevis
【中文关键词】无
【英文关键词】TLR9; Cynoglossussemilaevis; Vibrio anguillarum; Gene expression; Immune recognition; Quantitative real-time PCR
【中文摘要】无
【英文摘要】Toll-likereceptors (TLRs) are considered as key sensors to trigger the host's innate immune system and adaptive immune responses by recognizing various PAMPs and initiating signal transduction. TLR9, as a member of TLR family, mediates the recognition of unmethylated CpG dinucleotide motifs commonly found in both bacterial and viral genomes. In the current study, the TLR9 gene was isolated from one of flatfish species, half-smoothtonguesole (Cynoglossussemilaevis). In the 4588 bp genomic sequence, three exons, two introns, and 5′ UTR of 23 bp and 3′ UTR of 342 bp were identified. Putative amino acid sequence was 1062 residues long, including a typical conserved cytosolic Toll/interleukin-1 receptor (TIR) domain, 14 leucine-rich repeat (LRR) motifs, with greater than 60% identity to gilthead sea bream Sparus aurata and Japanese flounder Paralichthys olivaceus orthologs. Quantitative RT-PCR analysis indicated a broad expression of csTLR9, especially in spleen and gonads. No statistically significant changes were observed for csTLR9 mRNA levels in spleen and head kidney after inactive Vibrio anguillarum immunisation. In C. semilaevis ontogeny, the expression of csTLR9 appeared to be developmentally regulated. The presence of maternal TLR9 mRNA and the dramatic decrease of TLR9 expression at metamorphic stage indicated TLR9 might be involved in C. semilaevis development.

Comparing sequence and expression profile of csTLR9 with mammalian and other piscine TLR9s suggested that the main function of TLR9 might be conserved across vertebrates, although species-specific features were present
【语种】英文
【第一作者】Yan Yu
【通讯作者】Quanqi Zhang
【期刊名称、卷期、页码】Fish and Shellfish Immunology,2009,26(3):492-499
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【引文索引类型】SCI
【引文索引号】1050-4648
【学科分类】水产学基础学科

【题目】Full-length sequence and expression analysis of a myeloid differentiation factor 88 (MyD88) in half-smooth tongue sole Cynoglossus semilaevis
【中文关键词】无
【英文关键词】Cynoglossus semilaevis,Full-length sequence,MyD88
【中文摘要】无
【英文摘要】Myeloid differentiation factor 88 (MyD88) is a universal and crucial adaptor protein, which plays an essential role in the intracellular signalling elicited by IL-1R/TLR superfamily. In the present study, we report the full-length sequence of MyD88 gene in half-smooth tongue sole (Cynoglossus semilaevis). In the 2855 bp genomic sequence, five exons and four introns were identified. The cloned cDNA exhibited 110 bp of 5′ UTR, 576 bp of 3′ UTR and 858 bp of the entire open-reading frame encoding a polypeptide of 285 amino acids. The protein sequence included a typical conserved cytosolic Toll/interleukin-1 receptor (TIR) domain, an intermediate domain (ID) and a death domain (DD), and shared greater than 70% identity with Japanese flounder Paralichthys olivaceu ortholog. Real-time polymerase chain reaction (RT-PCR) analysis indicated a broad expression of csMyD88, especially in ovary and spleen. Quantitative RT-PCR analysis indicated that the csMyD88 mRNA levels were significantly increased in the spleen and head kidney after inactive Vibrio anguillarum challenge and the expression of csMyD88 appeared to be developmentally regulated during C. semilaevis ontogeny. Although, species-specific differences were present, the similarity between mammalian and piscine MyD88s suggested that the main function of MyD88 might be conserved across vertebrates.
【语种】英文
【第一作者】Y. Yu
【通讯作者】Quanqi Zhang
【期刊名称、卷期、页码】International Journal of Immunogenetics,2009,36(3): 173 – 182
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【引文索引类型】SCI
【引文索引号】10.1111/j.1744-313X.2009.00846.x
【学科分类】分子生物学

【题目】几种常用饵料对稚幼参生长影响的初步研究
【中文关键词】浒苔、刺参、蛋白酶、饲料
【英文关键词】Enteromorpha prolifera Sea cucumber Apostichopus japonicus
Prot ease Feed
【中文摘要】浒苔Enteromorpha prolifera 是一种能形成绿潮的大型海藻, 含有丰富的蛋白质、脂肪和微量元素。用蛋白酶、纤维素酶、甲酸及自然发酵等方法处理浒苔, 并作为饲料喂养刺参Apos-tichopus japonicus。结果表明, 用蛋白酶处理的浒苔能显著提高刺参的生长率。说明用适当的方法加工后, 浒苔可以作为刺参的良好饲料, 实现浒苔的资源化利用。
【英文摘要】Enteromorpha prolifera is a seaweed species t hat is responsible for widespreadgreen tides. It is also a seafood species and contains relatively high levels of protein, f att y acidsand trace elements. In t his study, fresh E. p rolifera was treat ed by protease, cellulose , formicacid and nat ural fermentation, before being used as feed for young sea cucumber A postichopusjaponicus . T he protease treated E. p rolifera obtained good grow th in sea cucumbers. It issugg ested that , after proper treatment and proces sing, E. prolif era may be a good feed sourcefor sea cucumbers, and this is a feasible way to utilize this green tide species as a resource .
【语种】中文

【第一作者】朱建新
【通讯作者】朱建新
【期刊名称、卷期、页码】海洋水产研究
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【引文索引类型】SSCI
【引文索引号】1000-7075(2009) 05-0108-05
【学科分类】水产养殖学

【题目】海水循环水养殖系统工程优化设计
【中文关键词】海水循环水养殖系统; 养殖工程; 水处理设备
【英文关键词】no
【中文摘要】设计并建设了海水循环水养殖系统工程, 研发出水处理设施与设备, 包括: 综合生物滤池、全自动微滤机、蛋白质分离器、渠道式紫外线消毒器、管道溶氧器、多点在线自动水质监测系统等, 并进行养殖生产。主要水质指标达到: COD< 3. 5 m g /L, TN < 0. 5 m g /L, DO> 8 m g /L, 总大肠菌群< 3 500个/L。养殖鲆鲽鱼类平均单产30 kg /m2, 高产池35 kg /m2。
【英文摘要】no
【语种】中文
【第一作者】杜守恩
【通讯作者】杜守恩
【期刊名称、卷期、页码】渔业现代化
【论文发表时间】2007-06-01 00:00:00
【引文索引类型】SSCI
【引文索引号】1007-9580(2007)03-4
【学科分类】水产养殖学

【题目】国外工厂化循环水养殖池排污及排水系统综述
【中文关键词】工厂化养殖、循环水养殖系统、 排污排水装置
【英文关键词】no
【中文摘要】养殖池底排污、排水系统是工厂化循环水养殖中的关键部分, 通过排污排水设备完成养殖池中固体废弃物与废水的排放处理, 实现养殖废水资源与能源的回收利用和达标排放。综述了国内外工厂化循环水养殖池底排污、排水系统, 对现有的几种常用排污装置作了详细介绍。
【英文摘要】no
【语种】中文
【第一作者】马德林
【通讯作者】曲克明
【期刊名称、卷期、页码】渔业现代化
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【学科分类】水产养殖学

【题目】工厂化循环水养殖预排污系统与排水系统研究与设计
【中文关键词】工厂化养殖;固体颗粒;预排污;自动排污系统;自动排水系统
【英文关键词】Industrial culture,Solids, Pre-removal , Auto-drain sewage system Auto-drain system
【中文摘要】一种新型的用于工厂化养殖固体颗粒预去除系统研制成功。该水处理系统最大的特点是:不需要任何的外在动力。该系统主要包括两部分: (1) 靠养鱼池外置竖管设定水位来实现自动排水的排水系统; (2) 靠养鱼池排水管口附近放置的筛网和转动水轮上的毛刷的共同作用, 去除养殖循环水中的较大的固体颗粒(残饵和粪便) 的排污系统。在去除过程中, 耗水率均在5 %以内; 固体颗粒的去除率也均在80 %以上。
【英文摘要】A new-style system for pre-removal of solids in industrial fish farming was developed.The supreme specialty of this s ystem is no external power . The system mainly consisted of two parts: (1) the auto-drain syst em controlled by the enactment of water

level through standpipe outside the f ish tank; (2) the solids (remnant feed & feces) auto-removal system operated by the joint action of a screen beside the drainpipe and the brush in water wheel. During the removal process, wat er loss rates were all within 5% and solids removal rates were all higher than 80 %.

【语种】中文
【第一作者】姜辉
【通讯作者】曲克明
【期刊名称、卷期、页码】海洋水产研究
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【引文索引类型】SSCI
【引文索引号】1000-7075(2007) 04-0077-06
【学科分类】水产养殖学

【题目】循环水养殖系统中的固体悬浮物去除技术
【中文关键词】循环水养殖系统;固体悬浮物;去除工艺
【英文关键词】aquaculture mode;lpond culture; facilities aquaculture; recirculating aquaculture; net cage culture
【中文摘要】循环水养殖系统(Rec ircu la ting aquacu lture system s, RAS) 中固体悬浮物(Suspended so lids, SS)的去除效果直接影响到鱼类生长、生物净化效果、系统配置和运行成本等诸多重要因子。根据固体悬浮物产生、物理特性和分布规律, 结合颗粒悬浮物去除工艺特点, 对去除技术进行系统研究分析。固体悬浮物源自饲料, 密度一般为1. 05~ 1. 19 g / cm3, 运用重力分离、过滤和泡沫分离等工艺通过预处理、粗过滤和精处理三道工艺步骤, 可分别去除不同直径的颗粒物质, 在达到合理含量的前提下, 获得低能耗、低成本和系统稳定运行的综合效果。固体悬浮物的去除符合目标明确、排出及时和区别对待三原则, 去除工艺注重相关技术的优化集成。
【英文摘要】As an important country of the aquaculture farming in the w orld, how the aquaculture facilitiesmode l of china walking up the orbit of sustainable development it needs pay more attention to the system efficiency in the respect of " saving water, economizing on land and energy, and re lease reduction " under the premise of the further guarantee for the healthy farming. Pond culture, flow ing water fish culture, recirculating aquaculture system (RAS), and the net cage culture are the main intensive aquaculture facilities model in china. These facilities didn't bring in to play the ir function on hea lthy farm ing and sustainable development at the time of exerting huge productivity, because o f the existence of outstanding problems or contradiction tosome extent in the control of aquaculture water, the water resource utilization, the efficiency of the production system, and environment influence, etc. Basing on the analysis o f the four above mentioned farming facilities,and combining with the latest important research achievement in aquaculture facilities field, this paper points out the development direction of the aquaculture model in china and the important techno logy problem s need to be solved, including the four development mode l as follow s: pond eco engineering aquaculture facilities, water saving aquaculture facilities, economical RAS, and systematic deep sea net cage farming facilities .
【语种】中文
【第一作者】倪 琦
【通讯作者】倪 琦
【期刊名称、卷期、页码】渔业现代化
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【学科分类】水产养殖学

【题目】不同溶氧条件下亚硝酸和氨氮对中国对虾的急性毒性效应
【中文关键词】亚硝酸盐,非离子氨,中国对虾,急性毒性
【英文关键词】nitrite,non-ion ammonia,Fenneropenaeus chinensis, acute toxicity
【中文摘要】研究了正常溶氧(5.5-6.0 m g /l) 和过饱和溶氧(10-12 m g /I) 条件下亚硝酸盐和氨氮对中国对虾的急性毒性效应。试验结果表明正常溶氧条件下, 亚硝酸盐对中国对虾的48 h LC50值和96 h LC50值(95 % 可信限) 分别为69.43mg/L (58.53-82.36 mg/L) ,43.80 mg/L(37.57-51.06 mg/L), 非离子氨对中国对虾的48 h LC50 值和96 h LC50值(95 % 可信限) 分别为1.36 mg/L (1.15-1.61 mg/L) 和0.98 mg/L(0.83-1.16 mg/L); 而过饱和溶氧条件下亚峭酸盐对中国对虾的48 h LC50 值和96 h LC50值(9 5 % 可信限) 分别为94.80 mg/L(79.77-112.66 mg/L) 和58.64 mg/L(51.40-66.90 mg/L);非离子氨对中国对虾的48 h LC50 值和96 h LC50值(9 5 % 可信限) 分别为1.36 mg/L (1.15-1.61 mg/L) 和0.98 mg/L(0.83-1.16 mg/L)。亚硝酸盐和非离子氨时

中国对虾均具有一定的毒性, 无论在正常溶氧还是过饱和溶氧条件下, 非离子氨对中国对虾的毒性都大于亚峭酸盐, 同时高溶氧的存在使中国对虾对这两种物质毒性耐受能力得以提高, 且过饱和溶氧对非离子氨毒性的影响程度高于亚稍酸盐。

【英文摘要】The acute toxic effects of nitrite and non-ion ammonia on Fenneropenaeus chinensis were studied at normal (5.5-6.0mg/L) and hyperoxic (10-12mg/L) dissolved oxygen.The results showed that the 48h and 96h median lethal concentrations (LC50) (98% confidence limits) of nitrite for F.chinensis at normal oxygen level were 69.43mg/L (58.53-82.36 mg/L) and 43.80 mg/L(37.57-51.06 mg/L),respectively ; and those of nonion ammonia were 1.36 mg/L (1.15-1.61 mg/L) and 0.98 mg/L(0.83-1.16 mg/L) ,respectively .However ,under hyperoxic conditions ,the 48h and 96h LC50 (98% confidence limits) of nitrite for F.chinensis were 94.80 mg/L(79.77-112.66 mg/L) and 58.64 mg/L(51.40-66.90 mg/L),respectively ;and those of non-ion ammonia were 2.37 mg/L(2.05-2.75 mg/L) and 1.52 mg/L(1.30-1.77 mg/L),respectively .Both nitrite and ammonia nitrogen were found to be toxic to F.chinensis;yet the toxic effects of non-ion ammonia were more significant than that of nitrite ,irrespective of oxygen levels .At the same time , F.chinensis could toletate much higher concentrations of nitrite or non-ion ammonia under hyperoxic conditions ,and compared to nitrite ,the toxicity of non-ion ammonia was more easily alleviated by the hyperoxic conditions.

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【题目】赤潮生物治理及竞争模型构建
【中文关键词】赤潮,生物治理,竞争,生物模型
【英文关键词】Red tide , biological control competition mathematical mode
【中文摘要】赤潮生物治理是一种全新的治理方法, 已经逐步应用于实践。本文依据生物治理方法的不同原理进行分类。利用营养盐竞争抑制赤潮藻的生长和繁殖、利用他感作用植化相克及细胞接触杀灭赤潮藻、利用捕食作用抑制赤潮藻的繁殖。在量化各治理方法影响因素的基础上, 构建生物数学模型。通过微分方程形式, 探讨生物治理过程中赤潮藻和治理生物　　如无害藻的生消变化过程。将生物数学竞争模型应用于生物治理中无害藻的筛选、投入时机选择、投入数量计算等, 通过竞争模型构建对于赤潮治理及海洋环境的可持续性发展具有现实意义。

【英文摘要】Biologica control of red tide is a different way from the traditional ways ,such as ,physical and chemical control ,and it has been gradually applied into practices .The aim of the study is to analyze the biological control of red tide by using the competition of nutrition salt ,allelopathy ,cell concentration ,zooplankton grazing play .Author has studied the biological control of red tide and construction of biological mathematical competition model .The construction of mathematical model has a practical significance for control of red tide and sustainable development of sea environment .

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【题目】温度对三角褐指藻叶绿素荧光特性及生长的影响
【中文关键词】三角褐指藻; 叶绿素荧光参数; 叶绿素相对含量; 细胞密度
【英文关键词】Phaeodactylum tricornutum ,chlorophyll fluorescence parameters ,relative fluorescence content ,cell density
【中文摘要】研究三角褐指藻(Phaeodactylum tricornutum) 一次性培养过程中,不同温度(5-30℃) 对其叶绿素荧光参数、细胞密度以及叶绿素相对含量的影响。单因子方差分析结果表明: 在整个培养周期中, 温度对三角褐指藻各叶绿素荧光参数(Fv / Fm 、Fv / Fo, PS , ETR, qP 和NPQ) 及生长均有显著影响(P<0.05) 。多重比较结果表明: 在本实验条件下, 三角褐指藻的

最适生长温度是20°C。5 °C处理组从接种后第1 天开始各荧光参数(Fv/ Fm, Fv / Fo, PS , ETR, qP 和NPQ)都明显下降, 但第5 天开始恢复;10°C处理组各荧光参数仅在接种后第1 天出现下降, 第2 天就基本恢复正常;30°C处理组从处理后第1 天开始一直到实验结束, 叶绿素荧光参数(Fv/Fm,Fv/Fo,PS, ETR 和qP)、叶绿素相对含量和细胞密度均显著低于其他各处理组。相关性分析结果表明: 在整个培养周期内, 叶绿素相对含量与细胞密度均成极显著的正相关关系。荧光参数(Fv/Fm , Fv/Fo ,PS , ETR) 、叶绿素相对含量以及细胞密度与温度的相关性则随着温度范围及培养天数的不同而变化。本文还初步探讨了叶绿素荧光技术在筛选耐高温或耐低温微藻品系中的应用。

【英文摘要】The effects of different temperatures(5-30°C) on the chlorophyll fluorescence parameters, cell density and relative chlorophyll content of Phaeodactylum tricornutum were examined in batch cultures. One-way analysis of variance shows that temperature had significant effects on the fluorescence parameters(Fv/Fm, Fv/Fo,PS,ETR,qP and NPQ)and growth of P. t ricornutum during the entire experimental period(P<0.05) . Multiple comparison tests show that the optimal growth temperature of P .t ricornutum under the experimental conditions is 20°C. The above fluorescence parameters of P.t ricornutum under 5°Cand 10°C significantly decreased from the very first day after inoculation, which began to recover several days after inoculation. How ever, compared with other temperatures(5-25°C),the high temperature of 30°C resulted in a significant decrease in the fluorescence parameters(Fv/Fm, Fv/Fo , PS ,ETR and qP), cell density and relative chlorophyll content during the entire experimental period. The analysis of correlations shows that there are significant positive correlations between relative chlorophyll content and cell density during the entire experimental period. Moreover, some fluorescence parameters(Fv/Fm,Fv /Fo , PS and ETR) , relative chlorophyll content and cell density all showed significant correlations with temperature, the pat tern and strength of the correlations varied with temperature range and culture age during the entire experimental period. In addition, the possibility of using chlorophyll fluorescence induct ion kinetics in selecting high or low temperature-resistant .Microalgal strains is also discussed in this paper.

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【题目】海水对虾工程化循环水养殖系统模式分析
【中文关键词】循环水养殖系统; 工厂化养殖; 对虾养殖; 海水养殖
【英文关键词】recirculating aquaculture systems; industrial aquaculture; shrimp culture; mariculture
【中文摘要】对虾养殖由于受到水资源和虾病的困扰, 工厂化循环水养殖已经成为今后对虾养殖的一个重要方向。对虾工厂化循环水养殖系统的结构包括了养虾池、水处理技术、消毒杀菌、增氧技术、水温调节装置等。目前, 典型的养殖模式有美国德州跑道式对虾养殖系统、台南室内自动化循环水养虾系统、美国佛罗里达三阶段养殖系统和美国夏威夷基于微藻的循环水对虾养殖系统。文中对这4种典型的对虾工厂化循环水养殖系统的养殖试验情况进行分析比较。

【英文摘要】The shrimp cultivation are getting in trouble of water consumption and diseases, so the recirculating marine shrimp cultivation has been playing an important part of shrimp cultivation. The recirculating marine shrimp cultivation systems structure includes culture tank, water treatment techno logy, disinfect ion or sterilization, aeration techno logy, water temperature adjusting dev ice and so on. At present the paper introduces 4 typical cultivation models, that is the American Texas recirculating raceway shrimp cultivation system, the Taiwan indoor shrimp culture system, the American Florida 3 phase shrimp production system and the American Hawaiim icroalgae based recirculating shrimp cultivation system. The paper analyses and compares the experimental results of these 4 kinds o f typical shrimp cultivation systems.

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【题目】投喂蚯蚓对中国明对虾生长及生化组成的影响
【中文关键词】赤子爱胜蚓;中国明对虾;生长;氨基酸;脂肪酸
【英文关键词】Fenneropenaeus chinensis;Eisenia foetida;growth;biochemical components
【中文摘要】以不同比例的鲜活赤子爱胜蚓(Eisenia foetida)和人工饲料配合投喂中国明对虾(Fenneropenaeus chinensis) 幼虾,测定各种饵料配比对其生长和生化组成的影响。结果表明,在人工饲料中配合投喂1/4 以上的赤子爱胜蚓(干重比)可显著提高中国明对虾幼虾的生长速率(P<0.05),但对对虾的成活率没有显著影响。随着蚯蚓投喂量的增加,对虾肌肉水解氨基酸的总量以及其中的必需氨基酸、鲜味氨基酸(谷氨酸Glu、天冬门氨酸Asp、甘氨酸Gly、丙氨酸Ala) 和促摄食氨基酸(蛋氨酸Met、赖氨酸Lys、甘氨酸Gly) 的含量都呈增加的趋势,分析结果表明,投喂蚯蚓对对虾肌肉中促摄食氨基酸含量的影响最大,鲜味氨基酸次之,对必需氨基酸含量的影响最小。氨基酸营养价值的评价结果表明,投喂蚯蚓可提高对虾肌肉蛋白质的营养价值,改善对虾肌肉品质。随着蚯蚓投喂量的逐渐增加,对虾肌肉脂肪中的必需脂肪酸、Σ n-3 相对含量及其表示脂肪酸营养价值高低的Σ n-3/ Σ n-6 的比值都呈降低的趋势,且在蚯蚓投喂量占日投喂量的1/4 以上时达差异显著;对蚯蚓肌肉脂肪酸的分析结果表明:蚯蚓脂肪中的二十二碳六烯酸(DHA) 相对含量较低,因此,以蚯蚓作为对虾饲料,特别是亲虾的DHA 饲料来源时,应配合投喂DHA 含量较高的其他饲料。
【英文摘要】The purposes of the present study were to evaluate the impacts of different diet compositions on growth and biochemical components of shrimp Fenneropenaeus chinensis juveniles feeding fresh diet Eisenia foetida mixed with formulated diet in different proportions. The results showed that shrimps were more fond of earthworm diet than formulated diet and the diet in the proportion 1:3 of fresh diet to formulated diet significantly increased the growth rate(P<0.05). With the increase of earthworm diet proportion,body length and its corporeity significantly meliorated but no obvious influence on survival rate happened. With the increment of fresh diet proportion,the contents of total amino acids,essential amino acids,delicious amino acids (Glu,Asp,Gly and Ala) and feeding-boosted amino acid (Met,Lys and Gly) were significantly increased in muscle. With earthworm diet,feeding-boosted amino acid was observably affected,followed with delicious amino acids and essential amino acids in shrimp muscle. According to the nutritive value evaluation,the nutritive value of protein and quality of shrimp muscle can be improved by feeding fresh diet. With the increment of fresh diet proportion,the contents of total fatty acids,essential fatty acids,relative content of Σ n-3 and the ratio of Σn-3/Σn-6 decreased significantly in muscles,especially when the fresh diet feeding accounted for more than 1/4 of the feeding scale per day. With the growth results of shrimps,the lack of DHA had no influence to its growth. With the feeding increase of earthworm,growth of shrimp juveniles were obviously accelerated. The analysis of fatty acid content in fresh diet showed that DHA level was the lowest,thus,the diet with high DHA levels should be included when Eisenia foetida was considered as the major diet resource of unsaturated fatty acids.
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【题目】甲鱼养殖废水在土壤植物生态系统的处理与应用
【中文关键词】甲鱼养殖废水; 土壤- 植物系统; 生态工程; 散叶莴苣
【英文关键词】Chinese turtle aquaculture effluent; soil-plant system; ecologicial engineering; Lactuca Sativa L. Var. Longifolia L
【中文摘要】以甲鱼养殖温室排放的富含营养物的养殖废水和利用废水栽培蔬菜的生态工程生产系统为研究对象, 和商品营养液对比, 在4 种不同土壤上开展了浇灌甲鱼养殖废水栽培散叶莴苣(生菜) 的研究。120 d 的实验结果表明, 用甲鱼废水和营养液分别处理4 种土壤的生菜产量差异不显著, 但生产上要用甲鱼废水完全替代营养液作为肥料用于土壤栽培, 还需对甲鱼废水进行预处理;潮土对甲鱼养殖废水有较大的适应性; 甲鱼养殖废水的主要营养元素组成与植物需要相比, P 元素和K 元素还比较缺乏。用甲鱼类废水处理的4 种土壤生菜的含Ca 量均大于用营养液处理的4 种土壤。
【英文摘要】Reducing negative environmental impacts from aquaculture activities is a key issue for ensuring long- term sustainability of the industry .Alternately the pollution that the wastewater drained from aquaculture farms has intensified the contradiction between traditional aquaculture and environment control. To develop sustainable aquaculture on the basis of the lowest invest and friendly environment is beingextremely urgent. An ecological engineering system, which was composed of Chinese turtle farm wastewater and

plastic greenhouse where vegetables were irrigated with wastewater drained from turtle pond, was discussed. The lettuce (Lactuca Sativa L. Var. Longifolia L), contrasted with commercial nutrient solution, was irrigated with Chinese turtle aquaculture effluent in four soils, red soil, alluvial soil I, alluvial soil II and paddy soil. 120 days experiment showed that the lettuce production irrigated with commercial nutrient showed no significant differencecompared with that irrigated with Chinese turtle aquaculture effluent, however, the Chinese turtle farm wastewater could completely replace the commercial nutrient in production for irrigation only when it was pretreated. Alluvial soil revealed a favorable adaptability to Chinese turtle farm waste water .The absence of phosphorus and potassium in Chinese turtle farm wastewater did not meet with the lettuce' s normal requirement .Calcium content in the lettuce treated with Chinese turtle aquaculture effluent was more than that of commercial nutrient .This technique based on ecological engineering seems promising for reusing nutrient from intensive aquaculture, but continued research on this type of solution is required.

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【学科分类】农学其他学科

【题目】磷限制及恢复对小球藻叶绿素荧光特性的影响

【中文关键词】小球藻; 磷浓度; 叶绿素荧光参数; 瞬时变化; 恢复

【英文关键词】Chlorella sp; P concentration; chlorophyll fluorescence parameters; nutrient induced fluorescnce transients(NIFT); recovery

【中文摘要】研究了小球藻(Chlorella sp.) 一次性培养过程中, 培养基中不同磷浓度(0、10、36.3和290.4 uM) 对其叶绿素荧光参数、细胞密度和叶绿素含量的影响以及磷添加后各荧光参数的瞬时变化(nutrient induced fluorescence transients, NIFT反应) 及恢复情况。培养温度为20±1℃, 盐度为31, 光照强度为100 umolm-2 s-1。单因子方差分析的结果表明, 随着培养时间的延长, 磷浓度对小球藻的光合作用及生长均有显著影响(P<0.05)。多重分析的结果表明, 小球藻的最适磷浓度为36.3uM。小球藻的最大光能转化效率(Fv /Fm)、实际光能转化效率(PSII)、电子传递效率(ETR)、光化学淬灭(qP)、细胞密度以及叶绿素含量随着起始磷浓度的增大而增大, 在磷浓度为36.3 uM 达到最大值。磷重新添加后, 瞬时荧光不断下降, PSII出现瞬间的上升后恢复至原初状态, qP、非光化学淬灭(NPQ) 则不断上升。限制7 d后重新添加磷, 各处理组的Fv /Fm、5 PSII、ETR、NPQ 24 h内基本恢复, 而对照组的变化不显著。

【英文摘要】The effects of different P concentrations (0,10,3613,290.4uM) on the chlorophyll fluorescence parameters ,cell density and relative chlorophyll content o f Chlorella sp.were reported .The algae were obtained from the Microalgae Culture Center(MACC), Ocean University of China .The cultures were grown at 20±1℃ , the salinity was adjusted to 31 by using distilled water,and the light intensity was 100 umolm-2 s-1.One-way analysis of variance showed that P concentrations have significant effects on the photosynthes is and growth of Chlorella sp .with the culture age increasing (P<0.05). For Chlorella sp1, Fv/Fm , PSII, ETR, qP,cell densities and chlorophyll contents all increased with the increase of P concentrations and reached their highest values at 36.3um .Multiple comparison tests show ed that the optimal P concentrations for the photosynthesis and grow th of Chlorella sp1 is 36.3um.The chlorophyll fluorescence parameters showed characteristic NIFT responses following PO3-4 addition to P-starved Chlorella sp,fluorescence decreased but qP , NPQ increased steadily, PS II increased sharply, and then a decrease to the same steady state as that prior to add ition1Seven days later, the lacked nutrient P was added and chlorophy ll fluorescence parameters were measured every 2 hours .The results showed that Fv /Fm , PSII, ETR of Chlorella sp1w ere all recovered in 24 hours1The changes of qN, NPQ were not significant.

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【中文关键词】大菱鲆;溶氧;过饱和溶氧;生长;消化酶
【英文关键词】Turbot(Scophthalmus maximus) ;dissolved oxygen;hyperoxic oxygen;growth;digestive enzyme
【中文摘要】为了解、确定工程化养殖中过饱和溶氧对大菱鲆生长的影响而进行本项研究。通过充液态氧与空气使实验水体的溶氧分别达到:过饱和溶氧水平为(12±1)mg/L、(14±1)mg/L,正常溶氧水平为(7.0±0.5)mg/L。实验研究结果显示,过饱和溶氧组的大菱鲆生长速度及饵料利用率明显高于正常溶氧组($p<0.05$);而在过饱和溶氧条件下与正常溶氧条件下大菱鲆的丰满度无显著差异($p<0.05$)。对大菱鲆胃和肠道蛋白酶、脂肪酶与淀粉酶的分析发现,过饱和溶氧条件下,大菱鲆的胃蛋白酶活性较正常溶氧条件下明显提高($p<0.05$),而脂肪酶与淀粉酶的酶活力未得到显著性提高($p<0.05$)。
【英文摘要】To determine that effects of hyperoxic oxygen on turbot with engineering culture systems , We discussed mainly that the effects of different dissolved oxygen environment (hyperoxic oxygen conditions 12±1 mg/L, 14±1 mg/L, normal oxygen level 7±0.5 mg/L)on growth ,digesitive activity of turbot .The mainly results was following .The growth speed of the turbot and utilization rate of feedstuff with the hyperoxic conditions were higher than that of the normal oxygen level($p<0.05$) . There was not obviously difference ($p>0.05$) between fat factor under hyperoxic oxygen conditions and that at the normal dissolved oxygen level . The digestive enzyme in the turbot stomach and gut were respectively studied . The results showed ,there was no obviously higher between amylase and lipase of stomach, gut under hyperoxic oxygen conditions than normal oxygen level($p>0.05$) .but the protease activity of stomach under hyperoxic oxygen was effectively strenghtened($p<0.05$) , although the the protease activity of gut had been raised , but the difference was not obvious ($p>0.05$).
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【第一作者】徐勇
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【学科分类】水产养殖学

【题目】海水封闭循环水养殖系统中生物滤器填料的选择与应用
【中文关键词】海水封闭循环水、养殖生物滤器曝气、生物滤池、生物填料
【英文关键词】no
【中文摘要】生物滤器是海水封闭循环水养殖系统的核心水处理单元,而生物填料又是生物滤器的重要组成。在阐述生物滤器的分类、作用,生物填料的特性、种类,以及新型生物填料开发应用的基础上,针对海水养殖废水与生活污水的区别,介绍了生物填料在海水封闭循环水养殖中的应用,提出了在海水封闭循环水养殖系统中,氨化细菌、硝化细菌等微生物必须满足的条件:耐高盐、耐寡营养、适应中低温、好氧,以及安全等特性;生物填料必须满足高效、低成本、耐海水腐蚀、耐冲击负荷和绿色环保等要求。
【英文摘要】no
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【学科分类】农学其他学科

【题目】臭氧处理海水对小球藻生长和水质的影响研究
【中文关键词】臭氧生成氧化物; 小球藻; 生长; 水质净化
【英文关键词】ozone produced oxidant Chlorella spp. ; micro-algae; seed breeding;
water quality purification

【中文摘要】臭氧消毒后生成的氧化物如果过量将影响养殖生物和饵料微藻的生长, 为此采用经臭氧处理的海水培养小球藻(Chlorella spp.) , 分析臭氧处理海水生成氧化物对小球藻生长的影响以及臭氧处理海水后氨氮(NH4+ -N)和亚硝酸盐氮(NO2- -N) 含量变化。试验结果表明, 在温度(25±1℃),光照度10000lx左右, 光照时数:黑暗时数为14 h:10 h, pH 8.0±0.1, 盐度30.0±0.1的条件下, 臭氧生成氧化物质量浓度< 0.735m g /L时, 对小球藻不产生毒害作用;在臭氧生成氧化物质量浓度> 1.036mg/L时, 有明显的毒害作用(小球藻大量死亡);质量浓度为2.364 mg/L时, 小球藻全部死亡。经臭氧处理的海水, 其氨氮和亚硝酸盐氮的质量浓度降低, 其中氨氮最大降低82.6%。
【英文摘要】The effect of Ozone produced oxidants in sea water to the growth of chlorella spp. and water quality was studied. Meanwhile, NH4+-N and NO2--N concentration in sea water by treated ozone were analyzed .The results showed that the density o f OPO under the level of 0.735 mg/L was harmless to the growth of chlorella spp. , while it was obviously harmful above 1.036 mg/L and lots of chlorella spp. had perished.NH4+ -N and NO2--N concentration in ozone treated sea water decreased.
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【学科分类】水产养殖学

【题目】海水循环水高效养鱼工程优化设计
【中文关键词】海水循环水;养殖工程;优化设计
【英文关键词】Seawater circulation ,fish culture engineering ,optimized design
【中文摘要】本文介绍“ 十一五 ”国家科技支撑计划课题基地建设---天津立达水产养殖公司海水循环水高效养鱼工程的优化设计。包括养鱼池与水处理设施设备一体布置的节能型车间设计、水处理工艺、流水分段生物滤池设计及课题组研发的封闭全自动微滤机、蛋白质分离器、紫外线消毒池、管道高效溶氧器等。
【英文摘要】The optimized design of high efficiency engineering of marine fish culture in recirculation systems at a experiment base for the eleventh five year plan national key technologies and project .Tianjin Lida aquaculture Co.,is introuduced in this paper .The design covers an treatment measures ,a sectioned flow-through filtration tank ,and a whole new set of innovations made by the project partners ,including an enclosed automatic micro-filtration tank ,and a whole new set of innovations made by the project partners ,including an enclosed automatic micro-filtrator ,a protein separator ,an ultraviolet disinfection tank and a tubular high effiency oxygen dissolver ,etc.
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【学科分类】水产养殖学

【题目】水体中添加两种菌剂对凡纳滨对虾存活、生长及消化酶活力的影响
【中文关键词】凡纳滨对虾;消化酶;短小芽孢杆菌;胶红酵母菌; 需钠弧菌;
【英文关键词】Litopenaeus vannamei;digestive enzyme; Bacillus pumilus;Rhodotorula mucilaginosa; Vibrio natriegens
【中文摘要】向水体中添加不同浓度的短小芽孢杆菌CGM CC 1004(Bacillus p umilus) 和胶红酵母菌CGM CC 1013(Rhodotor ula mucilaginosa) 以研究凡纳滨对虾(Litoenaeus vannamei) 体长、体质量、存活率、胃蛋白酶、肝胰腺淀粉酶和肝胰腺脂肪酶的影响, 以及需钠弧菌(Vibr io natr iegens) 的感染效果。结果表明: 向水体中添加104 CFU/ mL 短小芽孢杆菌能提高对虾体长、存活率, 但结果不显著, 但对体质量增长率具有显著提高作用;水体中添加104 CFU/ mL 短小芽孢杆菌对提高需钠弧菌感染后对虾成活率有一定的提高作用; 水体中添加104 CFU/ mL 短小芽孢杆菌能显著提高胃蛋白酶活性, 但是对肝胰腺淀粉酶活性有一定抑制作用; 添加复合菌剂比添加单一菌种的作用要好; 亦证明了向水体中添加细菌的方式对凡纳滨对虾的体长、体质量、存活率以及水质指标影响比较小, 但是对消化酶具有一定的提高作用。

【英文摘要】Bacillus pumilus and Rhodotorula mucilaginosa with different concentrations were added to aquaculture tanks for shrimp(Litop enaeus vannamei) , and such parameters as body length, body weight ,survival rate, stomach proteinase , hepatobiliary & pancreatic amylase, hepatobiliary & pancreatic lipase of shrimp,etal.were determinated . An experimental infection of shrimp by Vibrio natriegens was also tested .The results showed that a treatment group with 100 mg/ kg Bacillus pumilus could promote body length and livability, but there is no significant difference. And this group can significantly promote body weight .This group could improve shrimp livability after the infection of Vibrio natriegens , significantly enhanced astomach proteinase activity, but inhibited the activity of the hepatobiliary & pancreatic amylase; the treatment group with two species is better than the group with one in inhibiting the activity of hepatobiliary.And the result s showed that methodology of adding bacteria to waters has few effect on shrimp body length,body weight , livability and water quality, but can improve digestive enzyme activities.
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【题目】海水养殖废水中氨氮测定方法的影响因素及改进研究
【中文关键词】海水养殖; 氨氮测定; 次溴酸盐氧化法; 纳氏试剂比色法
【英文关键词】mariculture water;NH3-N determination;Hypobrom ite Oxidation process;nesslers' reagent colorimetry
【中文摘要】采用酒石酸钾钠溶液--氢氧化钠溶液作为屏蔽剂排除海水中钙、镁离子对测定的干扰, 将纳氏试剂比色法用于对海水养殖废水中氨氮的测定, 最佳测定条件为200 g /L 的氢氧化钠溶液用量2.5 mL, 纳氏试剂1.5 mL, 显色时间25 m in。该方法对盐度为10-32的海水可以直接测定, 氨氮质量浓度在0.01-0.04 mg/L符合比尔定律, 检出限为0.01 mg/L, 加标回收率在91%-108%。
【英文摘要】Hypobrom ite Oxidation process can not apply to NH3-N determination in mariculture water, this is mainly because the high NH3-N concentration is out of the range of standard curve. Further more, the concentration of organic matters and reducing substances are too high, NH3-N can not achieve complete oxidation due to the lack of oxidant The tests indicated that with potassium sodium tartrate and sodium hydroxide solution as shielding agent for eliminating the interference of calcium and magnesium ions, Hypobrom ite Oxidation proscess can be used to determine NH3-N. The best conditions in the lab were as follows: the dosage of sodium hydroxide solution was 2.5 mL at its concentration of 200 g /L, the dosage of Nessler s' Reagentw as 1.5mL, and the best color developing time was 25 minutes. This method is suitable for sea water with salinity at 10-32.Bear's law is obeyed for NH3-N in the range of 0.01-0.04 mg/L, the detection limit is 0.01mg/L and the recovery of standard addition is in the range of 91%-108%. This method is convenient ,good sensitivity, color fast and stable, and it fully meets the requirements of NH3-N determination in mariculture water
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【题目】竹子填料海水曝气生物滤器除氮性能和硝化细菌群落变化研究
【中文关键词】海水生物滤器;竹子填料;氨氮去除;硝化细菌;养殖废水
【英文关键词】Marine biofilters ;Bamboo medium ;NH+4-N removal;Nitrifying bacteria; Aquaculture waste water
【中文摘要】生物滤器是循环水养殖系统的关键水处理单元, 主要用于去除水体中水溶性的氮化物。采用人工模拟海水养殖废水, 在系统运行的水力停留时间HRT 为1h, 水温为18-25℃, 气水比为3:1, 初始C/N= 3:1, pH 为8.05-8.53 条件下, 对竹子填料浸没式生物滤器的挂膜过程和稳定运行阶段系统去除氨氮的运行特性, 以及挂膜过程中的硝化细菌群落变化进行了实验研究。结果表明, 在较低的NH+4-N 浓度条件下, 采用竹子填料的生物滤器有较快的挂膜速度, 挂膜成功后滤料表面

上生长的氨氧化细菌和亚硝酸氧化细菌的数量分别为4.5×105、1.5×105 (光面) 和1.1×106 CFU/ml(粗面) 。具有较高且稳定的氨氮去除效果, 氨氮去除效率达到80% , 出水浓度小于0.06 mg/L, 满足海水循环养殖系统中的应用要求。

【英文摘要】Biofilter is the key water treatment unit of marine RAS(Recirculating Aquaculture System) , and it plays an important role in water soluble nitrogen removal. A pilot scale experiment study was systematically carried out with synthetic aquaculture waste water. The performances of ammonia removal in start up and steady state period were examined in the ma rine biofilters packed wit h bamboo medium. The hydraulic retention time, temperature ,gas/ water ratio, C/ N and pH were 1 hour, 18-25°C, 3 :1, 3:1 and 8.05-8.53, respectively. Results showed that marine biofilter packed with bamboo substrate enabled the nitrifying bacteria to grow rapidly, and the number of ammonia oxidizing bacteria and nitrite oxidizing bacteria was 4.5×105 CFU/ml、1.5×105 CFU/ml(smooth) and 1.1×106 CFU/ml(crude) in steady state period, respectively. The ammonia removal rate of biofilter was highly efficient.The ammonia nitrogen concentration in the effluent of bamboo biofilters was below 0.06 mg/L ,which was much lower than the toxic level for almost all the aquaculture species.

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【题目】重金属胁迫对三角褐指藻生长及叶绿素荧光特性的影响
【中文关键词】三角褐指藻;重金属胁迫;叶绿素荧光
【英文关键词】Phaeodactylum tricornutum; heavy metal stress; chlorophyll fluorescence

【中文摘要】利用调制式叶绿素荧光仪研究了不同浓度的重金属Cu2+ , Zn2+ , Cd2+胁迫不同时间(24、48、72和96 h)后, 三角褐指藻叶绿素荧光特性的变化情况。测定的主要参数有: 光系统II(PS II)的最大光能转化效率(Fv/Fm)、PS II的潜在活性(Fv/Fo)、PSII的实际光能转化效率(Yield = 5P SII)、相对光合电子传递效率(rETR)、光化学淬灭(qP) 和非光化学淬灭(NPQ)。研究结果表明, 重金属(Cu2+ , Zn2+ , Cd2+)胁迫下三角褐指藻的叶绿素荧光参数F v /Fm 、F v /F o、Yield、rETR 和qP均明显降低, 并且随着重金属离子浓度的增加, 胁迫时间的延长, 下降幅度逐步增大; NPQ 先上升后下降或者逐渐上升; 细胞密度和叶绿素含量也显著降低。对3 种重金属离子的半抑制浓度(EC50)的计算结果表明, 3 种重金属毒性大小顺序为Cu2+ > Cd2+> Zn2+ 。

【英文摘要】The modulate chlorophyll fluorescence kinetics of Phaeodactylum tricornutum under different heavy metal concentrations(Cu2+ , Zn2+ , Cd2+) and different time (24h, 48h, 72h and 96h) were investigated with Water-PAM chlorophyll fluorometer.The main parameters were determined in the present study in cluding the maximalphotochemical efficiency of PS II (Fv/Fm), the potential activity of PSII (Fv/Fo) , the actual photochemical efficiency of PSII in the light (Yield = 5 PSII), the relative electron transportrate (rETR) , the photochemical quenching (qP) and the non-photochemical quenching (NPQ). The results showed that the fluorescence parameters Fv/Fm, Fv/Fo, Yield, rETR and qP of P. tricornutum all were decreased under the of stress heavy metals (Cu2+ , Zn2+ , Cd2+). The changed degree above the parameters was increased with the in crease of heavy metal concentration andtime. NPQ first was increased then decreased or increased with the exposure time under heavy metal stress. The celldensity and chlorophyll content were also decreased under heavy metal stress. The EC50 (the effective concentration causing 50% inhibition) values showed that the toxicity results can be expressed as Cu2+ > Cd2+> Zn2+ .

【语种】中文
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【题目】高温胁迫对球等鞭金藻3011和8701叶绿素荧光特性的影响
【中文关键词】球等鞭金藻;高温胁迫;叶绿素荧光
【英文关键词】Isochrysis galbana; high temperature stress; chlorophyll fluorescence kinetics
【中文摘要】以球等鞭金藻(Isochry sis galbana) 3011和8701为实验材料,研究了高温胁迫(35- 50)对其叶绿素荧光特性的影响。结果表明,与对照组相比,高温胁迫下2株金藻的叶绿素荧光参数Fv/Fm(PS的最大光能转化效率)、Fv/Fo(PS的潜在活性)、PS(PS的实际光能转化效率)、rETR (相对光合电子传递效率)和qP(光化学淬灭)均明显降低,并且随着胁迫温度的升高,胁迫时间的延长,下降幅度也逐步增大。NPQ (非光化学淬灭)的变化趋势则与其他荧光参数不同,3011的NPQ 随着胁迫温度的升高和胁迫时间的延长先上升后下降;8701的N PQ 变化则与胁迫温度有关,35和40°C理下NPQ 随着胁迫时间的延长而逐渐上升,45处理下NPQ 则先上升后下降。3011与8701的耐热性存在一定差异。3011在40°C下处理10 m in后,经过一定的时间后各荧光参数基本恢复,而在45和50°C下处理10m in后,各参数均不能恢复。8701在35和40°C处理10 min后,经过一定时间后,荧光参数Fv/Fm 和Fv/Fo基本恢复到对照水平,而在45°C下处理10m in后,各参数均不能恢复。本文还对高温胁迫下2株金藻的响应机制以及叶绿素荧光技术在筛选耐高温微藻品系中的应用进行了初步探讨。
【英文摘要】In this paper, two microalgal strains (Isochrysis galbana 3011 and 8701) were used to study the difference of chlorophyll a fluorescence parameters under high temperature stress (35-50°C). The results showed that the maximal photo chemical efficiency of PS(Fv/Fm), the potential activity of PSII(Fv/Fo), the relative electron transport rate (rETR), the actual photo chemical efficiency of the PSII reaction centers of light adapted cells (PSII) and the photo chemical quenching (qP) all decreased under high temperature stress in the two microalgal strains. The changed degree of the above parameters increased with the increase o f temperature and the increasing exposure time. NPQ in the two microalgal strains exhibiteddifferent patterns of variation with high temperature stress, the values in 3011 first increased then decreased ,while that in 8701 increased with stress time at 35°C and 40°C, but first increased then decreased at 45°C.There are some heat tolerance varieties between the two microalgal strains 3011 and 8701. Fo r 3011, the parameters Fv/Fm, Fv/Fo, PSII, rETR and qP could almost recover to the control values in the normal temperature after 10 min high temperature treatments at 40°C , but could not recover when the stress temperature are at 45°Cnd 50°C . As to 8701, the parameters Fv/Fm and Fv/Fo could almost recover to the control values at 25°C ,after 10m in high temperature stress a t 35°Cand 40 °C, but all parameters could not recover to the control value s when the temperature is above 45°C. The responsive mechanism of Isochrysis galbana to high temperature stress as well as the possibility of determining the high temperature resistance in microalgae using chlorophyl fluorescence induction kinetics was also discussed in this paper.
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【题目】光照强度对雨生红球藻叶绿素荧光特性及虾青素含量的影响
【中文关键词】雨生红球藻;光照强度;叶绿素荧光参数;虾青素
【英文关键词】Haematococcus pluvialis ;illumination;chlorophyll fluorescence parameters; astaxanthin content
【中文摘要】研究了不同光照强度对雨生红球藻(Haematococcus pluvialis) 叶绿素荧光特性及虾青素含量的影响。测定的主要参数有PSII 的最大光能转化效率(Fv/Fm)、PSII 的潜在活性(Fv/Fo)、PSII 的实际光能转化效率(ΦPSII) 、光合电子传递效率(ETR)、光化学淬灭(qP)、非光化学淬灭(NPQ)、细胞密度、叶绿素相对含量以及虾青素含量。单因子方差分析结果表明,在整个培养周期中,光照强度对雨生红球藻各叶绿素荧光参数、叶绿素相对含量、细胞密度以及虾青素含量均有显著影响(P < 0.05)。多重比较结果表明,雨生红球藻的最适生长光照强度是50 umol.m-2.s-1,当光照强度为300 umol.m-2.s-1时单个细胞中的虾青素含量均显著高于其它处理组(P<0.01),但是单位体积虾青素含量以50 umol.m-2.s-1处理组为最高。相关性分析结果表明,在整个培养周期内,叶绿素相对含量与细胞密度均成显著正相关关系。荧光参数(Fv /Fm、Fv /Fo、5 PSÒ 、ETR、qP、NPQ)、叶绿素相对含量以及细胞密度与光照强度的相关性则随着培养天数的不同而变化。
【英文摘要】In this paper, the effects of different illumination on the chlorophyll fluorescence parameters and astaxanth in content of haematococcus pluvialis were examined.Themain parameters determined in the present study including the maximal photochemical efficiency of PSII (Fv/Fm), the potential activity of PSII (Fv/Fo), the actual photochemical efficiency of PSII in the light (ΦPSII),the electron transport rate (ETR) , the photochemical quenching (qP) , the non-photo chemical quenching (NPQ) , cell density, relative chlorophyll content and astaxanth in content. One-way analysis of variance showed that illumination had significant effects on

thefluorescence parameters, relative chlorophyll content, cell density and astaxan thin content of H.pluvialis during the entire experimental period (P<0. 05). Multiple comparisons show that the optimal growth illumination of H. pluvialis under the experimental conditions was 50 umol.m-2.s-1 . The astaxanth in content (ug.cell-1)at 300 umol.m-2.s-2were significantly higher than that in other treatments .But the astaxanthin content (ug/ml) at 50 umol.m-2.s-1 was highest in all treatments. The analysis of correlations showed that there were significant positive correlations between relative chlorophyll content and cell density during the entire experimental period. Moreover, some fluorescence parameters (Fv/Fm , Fv/Fo, ΦPSII, ETR, qP, NPQ), relative chlorophyll content and cell density all showed significant correlations with illumination, the pattern and strength of the correlations varied with culture age days.

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【题目】温度对雨生红球藻叶绿素荧光特性及虾青素含量的影响
【中文关键词】雨生红球藻、温度、叶绿素荧光、虾青素
【英文关键词】haematococcus pluvialis ; temperature; chlorophyll fluorescence parameters;
astaxanthin content
【中文摘要】研究了不同温度(5-35℃) 对雨生红球藻(Haematococcus pluvialis) 叶绿素荧光特性及虾青素含量的影响。测定的主要参数有: PSII 的最大光能转化效率(Fv/Fm)、PSII 的潜在活性(Fv / Fo) 、PSII 的实际光能转化效率(ΦPSII) 、光合电子传递效率(ETR) 、细胞密度、叶绿素相对含量以及虾青素含量。单因子方差分析结果表明: 在整个培养周期中, 温度对雨生红球藻各叶绿素荧光参数、叶绿素相对含量、细胞密度以及虾青素含量均有显著影响(P< 0.05) 。多重比较结果表明, 在本实验条件下, 雨生红球藻的最适生长温度是20 ℃, 其单位体积虾青素含量以20℃处理组为最高, 而单个细胞中的虾青素含量则以5 ℃和30℃为最高。相关性分析结果表明: 培养天数为3-10 天时, 叶绿素相对含量与细胞密度均成显著正相关关系。本文还初步探讨了叶绿素荧光技术在筛选耐高温或耐低温微藻品系中的应用。
【英文摘要】In this paper, the effects of different temperatures (5-35°C) on the chlorophyll fluorescence parameters and astaxanthin content of Haematococcus pluvial is were examined.The main parameters determined in the present study included the max imal photochemical efficiency of PSII (Fv/Fm) , the potential activity of PSII (Fv /Fo) , the actual photo chemical efficiency of PSII in the light (ΦPSII) , the relative electron transport rate (ETR) , cell density , relative chlorophyll content , and astaxanthin content. One-way analysis of variance showed that temperature had significant effects on the fluorescence parameters, relative chlorophyll content , cell density and astaxanthin content of H.pluvialis during the entir eexperimentalperiod (P< 0. 05) . Multiple comparisons show that the optimal growth temperatureof H.p luvialis under the experimental conditions was 20 °C. T he astax anthin content of H.pluvialis expressed by ug/mL showed the highest valve at 20°C while that expressed by ug/cell reached the highest value at 5°C and 30°C. T he analysis of correlations showed that there were significant positive correlations between relative chlorophyll content and cell density from day 3 to day 10. In addition, the possibility of using chlorophyll fluorescence induction kinetics in selecting high or low temperature resistance micro algal strains was also discussed in this paper.

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【题目】Cd2+胁迫对6株微藻生长及叶绿素荧光特性的影响
【中文关键词】微藻; Cd2+ ; 叶绿素荧光

【英文关键词】microalgae; Cd2+ ; chlorophyll fluorescence

【中文摘要】研究了不同浓度的Cd2+ 胁迫不同时间(24h、48h、7 2h 和96h) 后, 6 株微藻(绿色巴夫藻Pavlovaviridis 、等鞭金藻塔溪堤品系Tahitian Isochrysis galbana、小球藻Chlor ellasp. 、微绿球藻Nannochloris oculata、雨生红球藻Haematococus pluvialis 和塔胞藻Pyramidomonassp.) 生长及叶绿素荧光特性的变化情况。测定的主要参数有: PSII 的最大光能转化效率(Fv/ Fm) 、PSII 的潜在活性(Fv/ Fo) 、PSII 的实际光能转化效率(Yield) 、相对光合电子传递效率(rETR) 、细胞密度和叶绿素相对含量。研究结果表明, Cd2+ 胁迫下6 株微藻的荧光参数Fv/Fm 、Fv/ Fo 、Yield、rETR、细胞密度和叶绿素相对含量均与Cd2+ 浓度呈显著的负相关, 均随着Cd2+ 浓度的增加而降低。胁迫时间对各荧光参数也有显著影响。随着胁迫时间的延长, 绿色巴夫藻的Fv/ Fm 、Yield 和rET R 逐渐下降, Fv / Fo 先下降后上升, 至72h 时又有所下降; 等鞭金藻塔溪堤品系和微绿球藻的Fv / Fm 、Fv/ Fo、Yield 和rET R 随着胁迫时间的延长均逐渐下降;小球藻和雨生红球藻的上述荧光参数先下降, 之后分别在48h 和72h 时逐渐上升;塔胞藻的上述荧光参数则先上升后下降。在Cd2+ 胁迫下, 6 株微藻细胞密度和叶绿素相对含量也显著降低, 随着胁迫时间的延长, 细胞密度和叶绿素相对含量下降的幅度也逐步增大。相关分析结果表明, 6 株微藻的叶绿素相对含量与细胞密度均呈极显著的正相关关系。通过细胞密度计算出来的Cd2+ 对6 株微藻96h 的半抑制浓度(96h-EC50) 分别为绿色巴夫藻(151. 538umol/ L) , 等鞭金藻塔溪堤品系(14. 161umol/ L) , 小球藻(17. 150umol/ L) , 微绿球藻(3. 498umol/ L) , 雨生红球藻(15. 205umol/ L) , 塔胞藻(19. 722umol/ L) , 因此6 株微藻对Cd2+ 的耐受性大小顺序为: 绿色巴夫藻> 塔胞藻> 小球藻> 雨生红球藻> 等鞭金藻塔溪堤品系> 微绿球藻。

【英文摘要】It w as investigated that the growth and chlorophyll fluorescence characteristics of 6 microalgal strains (Pavlova viridis , Tahitian Isochrysis galbana, Chlorella sp. , Nannochloris oculata , Haematococus pluvialis and Pyramidomonas sp.) under different Cd2+ concentration and different durat io ns (24h, 48h, 72h and 96h) . The main parameters determined in the present study including the maximal photochemical efficiency of PSII (Fv/Fm) ,the potential activity of PSII (Fv/ Fo) , the actual photochemical efficiency of PSII in the light (Yield) , the relative electron transport rate (rETR) , cell density , and relative chlorophyllcontent. The results showed that the fluorescence parameters (Fv/Fm, Fv/ Fo , Yield, and rETR) , cell density , and relative chlorophyll content of 6 microalgal strains all exhibit significant negative correlations to Cd2+ concentration, being lowest at higher Cd2+ concentration. Exposure durations also have significant effects on the fluorescence parameters o f 6 microalgal strains. For P .viridis, Fv / Fm, Yield, and rETR decreased with the increasing exposure duration, Fv/ Fo first decreased then increased, and declined again at 72h; The parameters Fv/ Fm, Fv/Fo, Yield, and rETR in Tahitian I .galbana and N .oculata all decreased w ith the increasing exposure duration, while those in Chlorellasp. and H .pluvialis first decreased, and then increased at 48h and 72h, respectively; The above parameters in Pyramidomonas sp. first increased then decreased with the increasing exposure duration.Cd2+ exposure also caused the decrease of the cell density, and relative chlorophyll content of6 microalgal strains, the changed degree of the above parameters increased with the increasing Cd2+ concentration and exposure duration. The correlation analysis results showed that there are significant positive correlations between the relative chlorophyll content and cell density o f 6 microalgal strains. T he 96h-EC50 (the effective concentration causing a 50% inhibit ion) values calculated by cell density were as follows: P.viridis (151.538umol/L) , Tahitian I sochrysis galbana (14. 16umol/L),Chlorella sp.(17.150umol/ L),N .oculata(3.498umol/ L) , H.pluvialis(15. 205umol/ L) , Pyramidomonas sp. (19.722umol/L) , respectively. Therefore, comparison of the 96h-EC50 values based on the cell density variation amongthe six micro algal species indicated the order of their tolerance to Cd2+ was P.viridis> Pyramidomonas sp. > Chlorella sp. > H .pluvialis > Tahitian I sochrysis galbana >N .oculata.

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【学科分类】海洋科学

【题目】人工湿地技术及其在水产养殖废水处理中的应用

【中文关键词】人工湿地 水产养殖 水处理 进展

【英文关键词】constructed wetland; aquaculture wastewater treatment; progress

【中文摘要】本文在介绍人工湿地废水处理技术及其国内外研究现状的基础上,探讨了人工湿地生态系统在脱氮除磷,去除有机物、悬浮固体、重金属和病原微生物等方面的效果及其影响因素,深入分析了人工湿地生态系统的净水机理和数学模型,并对其在水产养殖废水处理中的研究与应用进行了综述。指出了目前国内外利用人工湿地技术进行废水处理存在的问题,并对其在水产养殖废水处理中的应用进行了展望。

【英文摘要】In this paper ,research progress of constructed wetland (CW) treating wastewater was reviewed including the removal of nitrogen ,phosphorus organic matter ,suspended solid ,heavy metal and pathogenic microorganism ,and its influencing factors .Progress of purification mechanism and mathematical model in the CW ,and its application in the treatment of aquaculture wastewater was also reviewed .Meanwhile ,the current problem in the CW research were analyzed and the application in the aquaculture wastewater treatment was prospected.
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【题目】不同处理方法对浒苔饲喂稚幼刺参效果的影响
【中文关键词】浒苔;刺参;蛋白酶;饲料
【英文关键词】Enteromorpha prolifera ; Sea cucumber ; Apostichopus japonicus ;Protease ;Feed
【中文摘要】浒苔Enteromorpha prolifera 是一种能形成绿潮的大型海藻, 含有丰富的蛋白质、脂肪和微量元素。用蛋白酶、纤维素酶、甲酸及自然发酵等方法处理浒苔, 并作为饲料喂养刺参Apostichopus japonicus。结果表明, 用蛋白酶处理的浒苔能显著提高刺参的生长率。说明用适当的方法加工后, 浒苔可以作为刺参的良好饲料, 实现浒苔的资源化利用。
【英文摘要】Enteromorpha prolifera is a seaweed species that is responsible for widespreadgreen tides. It is also a seafood species and contains relatively high levels of protein, fatty acids and trace elements. In t his study, fresh E.prolifera was treated by protease, cellulase, formic acid and natural fermentation, before being used as feed for young sea cucumber Apostichopus japonicus . The protease treated E. prolifera obtained good growth in sea cucumbers. It is suggested that , after proper treatment and processing, E.prolifera may be a good feed source for sea cucumbers, and this is a feasible way to utilize this green tide species as a resource.
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【学科分类】水产养殖学

【题目】循环水养殖系统中自然微生物生物膜形成过程实验
【中文关键词】循环水养殖系统;自然微生物;生物膜;生物载体
【英文关键词】recirculating aquaculture systems; natural microbes; bio-film;
microbial carrier
【中文摘要】进行了不同初始NH 4-N 浓度, 在实验水温20-24℃条件下, 利用微生态制剂辅助, 循环水养殖系统中自然微生物生物膜形成过程的实验研究。结果表明: 不同NH4-N 浓度对自然微生物生物膜形成产生显著影响, 5、10 和20 mg/L高浓度NH4-N 更易于微生物的扩繁生长和生物膜形成, 其生物膜达到预期水质净化效果的形成周期, 即生物挂膜成熟周期, 约需要35-40 d。生物挂膜成功后, 形成很好的硝化作用, 实验生物滤池中的NH4-N、NO2-N浓度均保持低于0.05m g/L, COD浓度低于3mg/L, 显示出对NH4-N、NO2-N和COD很高的去处效果, 但对PO4-P处理效果不明显。而1和2mg/L低浓度NH4-N不易于微生物的扩繁生长, 难以形成具有较好水质净化效果的生物膜, 即生物挂膜难以成功。
【英文摘要】The studied on the experiment of process of formed bio-film of the natural microbeswas conducted by the microbial ecological agent assisted in different ammonia nitrogen concentrations in recirculating aquaculture systems, under the condition of water temperature 20 to 24°C. The results of experiments showed that different ammonia nitrogen concentrations had a significant impact on bio-film form ation of natural microbes in bio-filter. The bio-film was prone to expand, grow and form in high ammonia nitrogen concentrations 5m g/L, 10 mg/L, 20mg/L, and could complete the formation period of anticipating purifying effect of water quality, mature periods of bio-film formation were needed about 35-40 days. A fter the bio-film formation, the complete nitrification

was established, ammonia nitrogen and nitrite nitrogen concentrations kept below 0.05mg/L, and COD concentration was under 3mg/L, but the treatment effect of phosphate was not obvious in experimental biofilter. Contrarily, in the low ammonia concentrations of 1mg/L, 2 mg/L, themicrobes were not prone to expand and grow, and were difficult to form the bio-film of preferable purifying effect of water quality, that was to say, it was difficult to form the bio-film successfully.

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【中文关键词】凡纳滨对虾;聚六亚甲基双胍;饵料藻类;安全性
【英文关键词】Litopenaeus vannamei; polyhexamethylene biguanide(PHMB); feeding algae; security
【中文摘要】采用药浴方式,研究了一种新型消毒剂———聚六亚甲基双胍对凡纳滨对虾受精卵、无节幼体、幼虾、成虾的毒性及饵料藻类的影响。结果表明,聚六亚甲基双胍对凡纳滨对虾幼虾24、48 h 的LC50 为64.1 mg·L-1 和31.13 mg·L-1,安全浓度Sc 为2.20 mg·L-1;聚六亚甲基双胍对凡纳滨对虾成虾24、48 h 的LC50 为66.17 mg·L-1 和32.16 mg·L-1,安全浓度Sc 为2.28 mg·L-1,为了保证凡纳滨对虾的安全性,聚六亚甲基双胍的用量应控制在0.5 mg·L-1 之内;聚六亚甲基双胍在125 mg·L-1 浓度内对受精卵的孵化率无明显影响,0.5 mg·L-1 浓度以内对无节幼体的变态率无明显影响。聚六亚甲基双胍对球等鞭金藻和亚心形扁藻表现出了明显的剂量-效应关系,其对球等鞭金藻和亚心形扁藻的生长不产生抑制的最高浓度为5 mg·L-1;聚六亚甲基双胍对球等鞭金藻48、96、144 h 的EC50 为27.01、34.95 mg·L-1 和33.14 mg·L-1;亚心形扁藻为34.65、28.73 mg·L-1 和20.57 mg·L-1,聚六亚甲基双胍对两种藻类的安全浓度分别3.5 mg·L-1 和2.9 mg·L-1,表明聚六亚甲基双胍对亚心形扁藻的影响更明显。
【英文摘要】The security of polyhexamethylene biguanide(PHMB)on different growth stages of Litopenaeus vannamei and feeding algae were investigated.The results showed:cumulative mortality of juvenile and adult Litopenaeus vannamei increased with increasing concentration of PHMB. 24 h and 48 h median lethal concentrations(LC50)of PHMB on juvenile shrimp of Litopenaeus vannamei were 64.1 mg·L-1 and31.13 mg·L-1, and security concentration(Sc)was 2.20 mg·L-1. 24 h and 48 h median lethal concentrations(LC50)of PHMB on adult shrimp of Litopenaeus vannamei were 66.17 mg·L-1 and 32.16 mg·L-1, and security concentration(Sc)was 2.28 mg·L-1. In order to guarantee security on culturing Litopenaeus vannamei, the using amount of PHMB should below 0.5 mg·L-1. Hatching and metamorphosis test showed:hatchingrate of control group was 87%, and hatching rate of test group was the range of 79%~92%. There was no significant influence on hatching rate of zygote when the concentration of PHMB below 125 mg·L-1, and there was no significant influence on metamorphosis rate of nauplius when the concentration of PHMB below 0.5 mg·L-1. With the increase of PHMB concentration, the growth inhibition rate of Isochrysis galbana andPlatymonas subcordiformis was increasingly apparent. There was an excellent relationship between dose and effect of PHMB on Isochrysis galbana and Platymonas subcordiformis, and the sensitivity of Platymonas subcordiformis to PHMB is higher than Isochrysis galbana. The highest concentration of no significant influence of PHMB on Isochrysis galbana and Platymonas subcordiformis was 5 mg·L-1. 48 h, 96 h and 144 h EC50 of PHMB on Isochrysis galbana were 27.01, 34.95 mg·L-1 and 33.14 mg·L-1, and the corresponding concentrations of Platymonas subcordiformis were 34.65,28.73 mg·L-1 and 20.57 mg·L-1. According to the classification of aquatic organisms toxicity, the toxicity of PHMB to Isochrysis galbana and Platymonas subcordiformis belonged to moderate toxicity.
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【题目】基于计算机视觉的罗非鱼适应环境的体色变化研究
【中文关键词】罗非鱼; 鱼体色;背景颜色;社会应激;计算机视觉
【英文关键词】Tilapia; Fish skin color; Background color; Social stress; Computer vision
【中文摘要】多数鱼类的体色会受应激条件、环境背景、健康状况、生长发育和社会地位等因素的影响而发生改变。本文利用基于计算机视觉的体色量化技术研究正常情况和社会应激条件下罗非鱼对背景颜色的适应性, 以及在背景颜色变化过程中体色变化的响应速度。实验结果表明: 已适应白色背景的鱼放入黑色背景水体后, 体色变化主要发生在前10s内, 放入时和放入10s后的体色明度值差异极显著(** p< 0.01); 在白色背景下适应的鱼放入黑色背景下适应2h后其体色变得很黑, 将其放入白色背景水体后体色在10s内可发生由深到浅的变化, 放入时和放入10s后的体色明度值差异极显著(** p < 0.01)。在蓝色背景下适应的鱼放入黑色背景水体后, 体色变化主要发生在前10s内, 放入时和放入10s后的体色明度值差异显著(* p< 0. 05)。在蓝色背景下适应的鱼放入黑色背景下适应2h后的体色变得很黑, 再将其放入白色背景水体后体色由深变浅, 放入时和10s后的体色明度值发生极显著变化(** p <0.01)。处于社会应激条件下劣势地位的鱼体色会变黑, 刚放入白色背景水体时的平均灰级达到12.7阶,放入60s、1800s后的体色和刚放入时没有显著差异。受社会应激影响轻微的鱼体色在1800 s后适应了环境的颜色, 明度值和没有受应激影响鱼的体色接近, 而受伤或受社会应激影响较严重的鱼体色改变较小。鱼在高浓度非离子氨(UIA浓度为0.178mg /L)的水中处理3h后, 鱼的体色变得很黑, 刚放入白色背景水体时平均灰级达到15 1阶, 放入10s、120s后鱼的体色变化不大, 放入180s后鱼的体色变浅, 平均灰级达到9 3阶, 与刚放入时的体色明度相比差异显著(* p< 0.05)。
【英文摘要】Some fish color modification can occur under stress conditions, environment background color, health status, fish reproductive period, along with social class .The skin color of tilapia adapted to background color under normal conditionsand social stress conditions, as well as skin color modifications response rate during color modification period, were investigated by fish color quantifying techno logy based on computer vision .The results showed that skin color modification of tilapia had adapted white background happened in the first 10s while putting tilapia into the aquarium with black background,and the lightness level of the skin color had much significant modification (** p<0.01) in 10s .The skin color of tilapiahad adapted white background appeared deeply black while putting tilapia into the aquarium with black background for 2h,and then the color changed from deep color to tint in 10swhile putting tilapia into the aquarium with white background, thelightness level of the skin color had much significant modificat ion (** p < 0.01) in 10s . The skin color modification of tilapia had adapted blue background happened in the first 10s while putting tilapia into the aquarium with black background,and the lightness level of the skin color had significant modification (* p < 0.05) in 10s .The skin color of tilapia had adapted blue background appeared deeply black while putting tilapia into the aquarium with black background for 2h, andthen the color changed from deep color to tint in 10s while putting tilapia into the aquarium with white background, the lightness level of the skin color had much significant modification (** p < 0.01) in 10s .The tilapia color modification can changed black under social stress .The mean density steps of color researched 12 7 ranks while putting tilapia into the aquarium with white background and the lightness level o f the skin color had no significant modification after 60s and 1800s in white back-ground .The skin color of tilapia suffered lower social stress conditions can adapted the environment color after 1800s and the lightness level of the skin color was similar with those in normal conditions .T he lightness level of the skin color of tilapia was hurt and suffered severe social stress changed little .The skin color of tilapia treated with high UIA (0.178mg /L) became darker and the mean density steps of color researched 15.1 ranks while putting tilapia into the aquarium with white background and the lightness level of the skin color had no significantmodification after 10s and 120s in white background .The mean density steps of color researched 15.1 ranks at 180s and the lightness level of the skin color had significant modification (* p<0.05)
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【题目】重金属对微藻胁迫的研究现状及前景
【中文关键词】微藻;重金属;叶绿素荧光

【英文关键词】microalgae; heavy metals; chlorophyll fluorescence
【中文摘要】从重金属对微藻生长繁殖、生理生化、叶绿素荧光的影响等方面综述了重金属对微藻胁迫的研究现状及前景,并对叶绿素荧光技术在重金属对微藻胁迫研究中的应用进行了初步探讨。
【英文摘要】In this paper, the effects of heavy metal stress on the growth, reproduction, physiology , biochemistry and chlorophyll fluorescence o f microalgae are reviewed. The present situation and prospect of studies on microalgae stress by heavy metals are addressed. The possibility of using chlorophyll fluorescence techniques in studying microalgae stress by heavy metals is also discussed.
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【题目】循环水养殖系统生物挂膜的消氨效果及影响因素分析
【中文关键词】循环水养殖系统;生物滤池;挂膜;影响因素;水力停留时间
【英文关键词】Recirculating aquaculture systems ; Bio-filter ; Bio-film formation Impact factors; Hydraulic retention time (HRT)
【中文摘要】针对工厂化循环水养殖系统,利用海水中的自然净化微生物挂膜,挂膜成功后,形成了很好的硝化作用,进行不同水温、进水氨氮浓度和水力停留时间(HRT) 影响因素实验。结果表明,相同的进水氨氮浓度,随着水温的升高,不同水温之间氨氮浓度变化差异显著(P < 0.05) 。在28 ℃水温时,经过生物膜120 h 的净化处理,进水氨氮浓度降低到最低;随着进水氨氮浓度和HRT 的增大,氨氮去除率及特殊去除率也不断的增大,但在同一进水氨氮浓度下,氨氮特殊去除率随着水力停留时间的延长反而降低。
【英文摘要】Bio-film was successfully formed by making use of the natural purifying microbein the sea for the industrial recirculation aquaculture systems. T he nitrification impact factors , including water temperatures, influent ammonia nitrogen concentrations and hydraulic retention time (HRT) were also explored . The results showed that at the same influent ammonia nitrogen concentration and HRT, the ammonia nitrogen concentrations changed significantly at different water temperatures (P< 0.05) . When the water temperature was 28°C , after purified by bio-film for 120 hours, the influent ammonia nitrogen concentration dropped to the lowest concentration. The ammonia nitrogen removal rate and the specific ammonia removal rate were gradually increased as the influent ammonia nitrogen concentration and HRT increased. However , at the same ammonia nitrogen concentration, the specific ammonia nitrogen removal rate decreased as HRT was prolonged.
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【学科分类】水产养殖学

【题目】节能型半滑舌鳎循环水养殖车间优化设计
【中文关键词】循环水养殖系统;生物滤池;挂膜;影响因素;水力停留时间
【英文关键词】seawater recirculation aquaculture; fish culture engineering; optimized design; Cynoglossus semilaevlis
【中文摘要】优化设计建设了半滑舌鳎循环水养殖车间,车间建筑面积2 880 m2,养殖水面1 340 m2。优化设计主要包括节能型养鱼车间、循环水处理工艺、补充水及外排废水处理工艺、养鱼池、生物滤池及渠道式紫外线消毒池设计。该养鱼车间比一般低拱车间节能30%以上。生物滤池为4段流水式结构。养鱼池能自动清污,倒U 形管控制水位。渠道式紫外线消毒池消毒效率高,细菌去除率99%以上。通过养鱼工程优化设计及基地建设,提出了我国未来海水循环水养殖的三级推广模式。

【英文摘要】The optimized design of high efficiency engineering of marine fish culture in recirculation systems was set up at Tianjin Lida Marine Resource Development Co. Ltd. The fish farm occupies an area o f 2 880m3,including a fish culture area o f 1 340m2. The aim of this establishment is for protection of marine environmentand energy saving, so as to promote marine recirculation fish culture systems. The design covers an energy saving fish culture workshop, a series of recirculation water treatment water supplement and waste water discharge facilities, fish tanks, a sectioned flow through filtration tank and a runway style UV sterilization. The fish culture workshop can save more than 30% energy compared with ordinary low arch workshop. Bio-filtration tank is a four section flow through system. The fish tanks are designed to clean automatically, with water level controlled by an up-side-dow n U shaped tube. The runway style UV sterilization has high efficiency and can remove 99% of all bacteria. This optimized engineering design of seawater recirculation fish culture system and the building of experiment base has set up a model for the extension of marine recirculation aquaculture.
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【学科分类】水产养殖学

【题目】竹环填料生物滤器在两种海水鱼养殖废水处理中的运行效果及微生物群落分析
【中文关键词】竹环填料生物滤器;海水养殖废水;氨氮去除率;微生物群落
【英文关键词】bamboo medium biofilter; marine aquaculture wastewater; ammonia removal rate; microbial community
【中文摘要】以点带石斑鱼(Epinephelus malabaricas)、半滑舌鳎(Cynoglossus semilaevis)养殖排放水为处理对象, 在生产现场研究了竹环填料生物滤器处理高盐度、低氨氮负荷海水养殖废水的运行效果以及挂膜阶段和稳定运行阶段微生物群落变化规律。结果表明, 点带石斑鱼养殖废水进水氨氮质量浓度为0.93-1.33 mg/L, 氨氮去除率达到27%-39%, 挂膜时间需45 d;半滑舌鳎养殖废水进水氨氮质量浓度为0.38-0.52 mg/L, 氨氮去除率达到20%-30%, 挂膜时间需65 d。另外, 对生物滤器挂膜阶段和稳定运行阶段的氨氧化细菌数量和亚硝酸氧化细菌数量进行了统计, 氨氧化细菌的数量在点带石斑鱼和半滑舌鳎养殖排放水处理系统中分别达到104-105 CFU/mL 和103 CFU/mL, 亚硝酸氧化细菌数量则分别达到104 CFU/mL 和103 CFU/mL, 并分析了温度、进水氨氮负荷、反硝化作用对半滑舌鳎养殖废水生物滤器亚硝酸盐积累现象的影响。
【英文摘要】The performance characteristics and microbial community of biofilter packed with bamboo ring were investigated in Epinephelus malabaricas wastewater and Cynoglossus semilaevis wastewater with high salinity and low ammonia. It was found that the ammonia removal rate of E. malabaricas wastewater was 27%-39%, when theinlet ammonia concentrations were 0.93~1.33 mg/L, and the biofilm development needed about 45 days; while the ammonia removal rate of C.semilaevis wastewater was 20%-30%, when the inlet ammonia concentrations were 0.38-0.52 mg/L, and the biofilm development needed about 65 days. In addition, the number of AOB and NOBduring the start-up and steady state of the biofilter were counted, the number of AOB in E.malabaricas wastewater bioreactor and C.semilaevis wastewater bioreactor reached to 104~105 CFU/mL and 103 MPN/mL, respectively; and the NOB number reached to 104 CFU/mL and 103 CFU/mL, respectively. The influences of temperature, inlet ammonia concentration, and denitrification on the nitrite accumulation in C.semilaevis wastewater were analyzed.
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【题目】对虾工程化循环水养殖系统构建技术
【中文关键词】对虾,循环水养殖,系统,构建

【英文关键词】shrimp, recirculating aquaculture, system, construction
【中文摘要】讨论了一种高效经济保持藻类生长的对虾工程化循环水养殖系统构建技术。并利用此系统开展室内凡纳滨对虾生产试验。养殖用水采用经室外池塘充分氧化后的咸井水(盐度14‰~26‰),放苗密度:500 尾/m2,排放水经系统处理后循环使用。并且在试验期间,探索了一种低耗高效运行模式。90 d 养殖期,系统溶解氧均值5.1 mg/L,氨氮0.002~0.15 mg/L,pH 值7.62~8.29,获良好水生态环境调控效果。系统产量4.6 kg/m2,饲料系数1.14,每生产1 kg 虾耗水1 000 L、耗电2.16 kWh,取得高产量、高效率养殖生产结果。
【英文摘要】The paper is focused on the construction technology of an economical recirculating aquaculture systems used for raising shrimp (Lieopenaeus vanamei) with microalgae. Original water used for the system was sea water, which would be oxygenated in the pond outside. Culture density was 500 spieces/m2. By the culture test, an economical mode was developed. In the early period, blower was used for aeration to supply the oxygen demand and the water was not reused. In the middle period, after about 15 days, all the water treatment devices were started and the water was fully reused. In the last period, oxygenation was added into the system. During the culture period, about 90 days, average dissolved oxygen concentration in the water was about 5.1 mg/L, TAN concentration changed between 0.002-0.15 mg/L,pH 7.62-8.29. The cultural test has obtained a good result, final shrimp output in the cultural tank were about 4.6 kg/m2,and the cost was very low. For raising 1 kg shrimp, 1 000 L water and 2.16 kW • h electricity was cost.
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【题目】循环水养殖系统(RAS)生物载体上微生物群落结构变化分析
【中文关键词】生物载体; 生物挂膜; 微生物群落结构; 循环水养殖系统(RAS) ; PCR-DGGE
【英文关键词】bio-carrier; bio-film formation; microbial community structure; recirculating aquaculture systems(RAS) ; PCR-DGGE
【中文摘要】为研究循环水养殖系统(recirculating aquaculture systems,RAS) 生物滤池挂膜及运行过程中生物载体上微生物群落结构的变化及其脱氮机制,采用传统微生物培养方法,对不同时期生物载体上的异养细菌、氨氧化细菌及硝化菌进行培养计数. 并通过变性梯度凝胶电泳技术,对细菌的16S rDNA V3 可变区的PCR 扩增片段进行分离,分析了所得到的细菌群落特征DNA指纹图谱,对其中的优势菌属使用序列数据进行同源性分析并建立系统发育树. 结果表明,随着时间的推移,3 类细菌的数量都呈现出先增加后逐渐降低直至达到稳定的趋势. 各个时期生物载体上微生物群落的组成非常丰富,Shannon 指数分别为1. 53、1. 44、1. 57、1. 08、1. 27 和1. 30. 不同时期生物载体上微生物的种类有一定的变化,但2 个相邻时期的Cs值(相似性指数) 都比较高,说明微生物群落的变化与演替是缓慢而有规律的. 生物载体上存在多类细菌共同作用于养殖水体污染物的去除,出水水质能达到高密度养殖的要求,其主要优势种群以Proteobacteria 和Flavobacteria 为主,分离鉴定出了亚硝化单胞菌属(Nitrosomonas) 及黄杆菌(Flavobacteriaceae bacterium) 等兼性厌氧细菌,表明生物滤池中可能同时存在硝化和脱氮途径.
【英文摘要】In order to study the variation of microbial community structure and the mechanism of denitrification on bio-carrier in recirculating aquaculture systems(RAS) during the periods of bio-film formation and operation the systems,traditional microbiological methods were applied to count the quantity of heterotrophic bacteria,ammonia oxidize bacteria and nitrite oxidize bacteria. The amplified products of variable V3 region of bacterial 16S rDNA were separated by using denaturing gradient gel electrophoresis(DGGE) . And bacterial community DNA fingerprint was obtained. The sequences retrieved from the DGGE bands were used forhomology analysis and construction of phylogenetic tree. It presented a trend that the quantity of the three types of bacteria increased gradually to a top and then fallen slowly to a stable level. The composition of microbial community of bio-carrier was very abundant in all periods,and the Shannon index was 1. 53,1. 44,1. 57,1. 08,1. 27 and 1. 30,respectively. During different periods,there was a certain shift in the microbial community structure,while the Cs value(similar index) in two adjacent periods was high,indicating the variation and succession of the microbial community was slow and regular. Several bacteria had an effect on removal of pollutants for farming water and the effluent water quality could meet the requirements of high-density culture. Among them,Proteobacteria andFlavobacteria were main communities. The Nitrosomonas and some other facultative anaerobic bacteria(Flavobacteriaceae bacterium)were identified,which indicated that there may be coexisted pathways of nitrification and denitrification in bio-filter.

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【学科分类】环境科学技术及资源科学技术其他学科

【题目】盐度对盐生杜氏藻叶绿素荧光参数的影响
【中文关键词】盐生杜氏藻盐度 叶绿素荧光参数 生长
【英文关键词】no
【中文摘要】本文研究了一次性培养过程中,不同盐度(15、30、60、90、120、150)对盐生杜氏藻PSII最大光能转化效率Fv/Fm、PSⅡ的潜在活性Fv/Fo、PSⅡ的实际光能转化效率ΦPSⅡ、相对光合电子传递效率rETR、叶绿素相对含量及细胞密度的影响。实验结果表明:盐度对盐生杜氏藻的光合作用及生长均有显著影响(P<0.05);盐生杜氏藻进行光合作用和生长的最适盐度都为90。相关性分析结果表明:在整个培养周期中,Fv/Fm、叶绿素相对含量均与细胞密度呈显著的正相关关系。
【英文摘要】no
【语种】中文
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【学科分类】科学技术统计学

【题目】重金属胁迫对杜氏盐藻生长及叶绿素荧光特性的影响
【中文关键词】杜氏盐藻Dunaliella salina;重金属胁迫; 叶绿素荧光
【英文关键词】Dunaliella salina ;heavy metal stress; chlorophyll fluorescence
【中文摘要】研究了杜氏盐藻Dunaliella salina 在不同浓度的Cu2+、Zn2+、Cd2+等重金属离子胁迫一段时间(24、48、72和96 h)后, 叶绿素荧光特性的变化情况。测定的主要参数有: PSII 的最大光能转化效率(Fv/Fm)、PSII 的潜在活性(Fv/Fo)、PSII 的实际光能转化效率(Yield)、相对光合电子传递效率(rETR)、光化学淬灭(qP)和非光化学淬灭(NPQ)。研究结果表明, 当Cu2+浓度范围在600~800 μmol/L 时, 杜氏盐藻的Fv/Fm、Fv/Fo、Yield、rETR 和qP 均明显降低, NPQ 变化不规律, 随着胁迫时间的延长, 除qP 在96 h时有所上升外, 各荧光参数均逐渐降低; Zn2+胁迫下Fv/Fm、Fv/Fo、Yield 和rETR 随着浓度的增加而降低, NPQ 先下降后上升, qP 仅在Zn2+浓度范围(800~3200 μmol/L)下明显下降, 随着胁迫时间的延长, 各荧光参数均逐渐降低; Cd2+胁迫下各荧光参数均明显下降, 随着胁迫时间的延长, Fv/Fm、Fv/Fo 和NPQ先下降后上升, 在48 h 时达到最低值, Yield、rETR 和qP 均逐渐降低。在3 种重金属离子胁迫下, 细胞密度和叶绿素相对含量也显著降低。根据3 种重金属离子的半抑制浓度(EC50), 其毒性大小顺序为Cu2+ >Cd2+ > Zn2+。
【英文摘要】The modulate chlorophyll fluorescence kinetics of Dunaliella salina under different concentrations of heavy metals (Cu2+, Zn2+, Cd2+) and different durations (24, 48, 72 and 96 h) were investigated. The main parameters determined in the present study included the maximal photochemical efficiency of PSII (Fv/Fm), the potential activity of PSII(Fv/Fo), the actual photochemical efficiency of PSII in the light (Yield), the relative electron transport rate (rETR), the photochemical quenching (qP), and the non-photochemical quenching (NPQ). The results showed that the parameters of D. salina Fv/Fm, Fv/Fo, Yield, rETR and qP reduced markedly at 600~800 μmol/L by Cu2+, NPQ first decreased then increased, and declined at 400 μmol/L again. The changed degree of the parameters all reduced with the increasing exposuretime except qP rose at 96 h; Fv/Fm, Fv/Fo, Yield and rETR reduced under toxic effect by Zn2+, NPQ first decreased then increased, qP declined clearly just at 800~3200 μmol/L by Zn2+, the parameters all decreased with the increasing exposure time; all of the parameters reduced under toxic effect by Cd2+, Fv/Fm, Fv/Fo and NPQ first decreased then increased with the increasing exposure time, the data reach to the lowest at 48 h, Yield, rETR and qP decreased all the time.The cell density and chlorophyll content were also decreased under heavy metal stress. The EC50 values indicated that thetoxicities

followed the order of Cu2+ >Cd2+ >Zn2+.
【语种】中文
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【学科分类】海洋科学

【题目】赤潮治理的技术、经济、生态效益评价及分析研究
【中文关键词】赤潮治理;技术评价;经济效益;生态效益
【英文关键词】the HABs control plan;technology;economical benefit;ecological benefit
【中文摘要】赤潮治理应从技术、经济与生态i个角度进行评价与分析。技术评价主要探讨治理技术的适用性和实施手段的可行性;经济效益评价根据投入产出理论,建立赤潮治理的经济评价模型,对赤潮治理经济效益评价方法进行初步研究,用以评价不同治理方案的优劣;生态效益评价利用自然生态系统和社会经济系统的内在联系,建立赤潮治理生态经济学模型,用以寻求赤潮治理的对策。基于分析,本文提出解决环境富营养化、提高环境对污染物接纳能力、提高废弃物的再利用率、加强职能部门对措施的落实、加大科研投入探索新的治理方式等是赤潮治理成功的关键。
【英文摘要】The HABs(harmful algae blooms)control plan contains technology ,economy and ecological views.Technology view includes technology serviceability and implementation feasibility;The economic view establishes the HABs economic evaluation model to choose the correct plan;The ecological view makes use of the relations between natural ecosystem and the social system in order to structure the HABs ecological economics model and to seek the essential countermeasure.Theauthor proposes the solutions to control the HABs.Firstly,we should reduce the eutrophication .Secondly ,we should enhance the environment to the pollutant admission ability or reuse the pollutant.Thirdly,we should strengthen the implementation of policy.Finally,we should increase the scientific investment to explore the new way to control the HABs.
【语种】中文
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【题目】三角褐指藻遗传转化体系建立及绿色荧光蛋白基因表达
【中文关键词】三角褐指藻;基因枪;遗传转化;绿色荧光蛋白;基因表达
【英文关键词】Chlamys farreri ; D larvae; haemocyte; monoclonal antibody
【中文摘要】三角褐指藻能够大量合成并积累PUFAs, 特别是EPA, 有望成为工业化生产EPA 的原料。以pPha- T1 为基础质粒构建了含有绿色荧光蛋白基因的重组质粒pPha-GFP, 采用基因枪方法转化三角褐指藻, 通过抗生素(博莱霉素) 筛选得到转化藻株, 在蓝光的激发下, 转化藻发出绿色荧光, 说明绿色荧光蛋白(GFP) 基因成功表达。三角褐指藻遗传转化体系的建立为该藻分子遗传学研究奠定了基础。
【英文摘要】Preliminary data showed that, during the development of Chinese scallop Chlamys farreri ,distinguishable haemocytes occurred since the stage of D larvae. In this paper, the study on the distribution and morpha of haemocytes in D larvae were carried out by the methods of light microscopy, histochemical staining and immunohistochemistry (IHC) with monoclonal antibodies against haemocytes of C.farreri. The results showed that the haemocytes with distinguishable morpha were mainly distributed in the tissues of mantle, velum, mouth, esophagus, stomach, digestive gland and intestine. Moreover , the dissociative haemocytes with a fuscous nuclear in center were spherical or spheroidical, with a diameter of1-3 um, and assembled in digestive gland. However, the different types o f haemocytes and the hematopoietic tissues were not found in D larvae stage. So, as a conclusion , we deduced that the haemocytes became morphologically distinguishable from D larvae stage and mainly distributed in tissues and organs which are related to feeding and digestion.

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【学科分类】海洋科学

【题目】四种填料滤器处理养鱼废水的硝化性能
【中文关键词】硝化,细菌,废水处理,封闭循环水养殖,载体填料
【英文关键词】nitrification, bacteria, wastewater treatement, marine recirculation aquaculture system, substrate
【中文摘要】为了研究不同填料对海水养殖废水处理的硝化效能,并为生物滤器硝化动力学模型的构建、生物滤器的设计与管理提供基础数据支持,本文在5 个化学耗氧量/总氨氮比0、0.8、2、6、12 条件下,研究了竹制空心生化球、麦饭石、陶粒和生物滤球等4 种填料的生物滤器去除模拟海水养殖废水中化学需氧量和总氨氮,以及生物膜微生物种群结构和数量的变化。结果表明:在低化学需氧量/总氨氮(<6)条件下麦饭石填料的生物滤器具有最高的化学需氧量和总氨氮去除效能,最高分别可达850 和21 g/(m3·d)(化学需氧量/总氨氮=0.8);竹制空心生化球次之,其化学需氧量和总氨氮去除效能最高分别可达750 和23 g/(m3·d)(化学需氧量/总氨氮=6);陶粒略次于竹制空心生化球,其化学需氧量和总氨氮去除效能最高分别可达650 和15 g/(m3·d);而生物滤球效果最差,其化学需氧量和总氨氮去除效能最高分别可达650和11 g/(m3·d);化学需氧量/总氨氮的升高将抑制总氨氮去除效能,但可提高化学需氧量的去除效能。在温度为15~22°C,水力停留时间为0.5 h 的运行条件下,生物滤器的生物膜成熟需40~50 d 左右:竹制空心生化球滤器最慢,约需50 d;其他填料约需40 d。竹制空心生化球滤器在高化学需氧量/总氨氮,较其他试验填料滤器具有更好的总氨氮去除效能,在海水养殖生产中有良好的应用前景。
【英文摘要】To explore mariculture wastewater removal capacity by biofliter and to acquire the parameters of nitrification kinetics in biofilter for promoting RAS applied study and extensive application, Bamboo Ring, Maifan Stone, Ceramic Pellet and Plastic Ball (PE) substrates were packed into different biofilters. The physical chemistry characters of substrates, COD and ammonia nitrogen removal capacity were investigated and evaluated by simulated mariculture wastewater under five C/T ratio (COD/TA N=0, 0.8, 2, 6, 12). The results showed that 1) COD and TAN removalcapacities of biofilter packed with Maifan Stone substrate were the highest under low C/T (<6), with the highest rate of 850 and 21 g/(m3·d) (C/T = 0.8) respectively. The second was the Bamboo Ring substrate, with the highest rate of 750 and 23 g/(m3·d) (C/T = 6) respectively. As carbon concentration improving, the TAN removal rate decreased and COD removal rate increased. 2) Under the condition of 15 – 22°C and HRT 0.5 h, nitrobacteria number for different substrates reached a plateau and matured in 40 – 50 d, Bamboo Ring in 50 d, others in 40 d. Choosing different substrate can impact the running stability of biofilter. Substrate is closely related with biofilm maturation duration and nitrification process, and affects nitrifying capacity obviously. Bamboo Ring substrate can remove TAN with the highest rate under higher C/T(>6) ratio condition and has a potential in RAS production.
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【学科分类】农业工程

【题目】A bioaugmentation failure caused by phage infection and weak biofilm formation ability
【中文关键词】无
【英文关键词】marine culture; water circulation; ammonia removal; Lutimonas sp. H10; nitrification breakdown; fluorescent in situ ;hybridization (FISH)
【中文摘要】无
【英文摘要】Two biological aerated filters (BAF) were setup for ammonia removal treatment of the circulation water in a marine aquaculture. One of the BAFs was bioaugmented with a heterotrophic nitrifying bacterium, Lutimonas sp. H10, where the ammonia

removal was not improved and the massive inoculation was even followed by a nitrification breakdown from day 9 to 18. The nitrification was remained stable in control BAF operated under the same conditions. Fluorescent in situ hybridization (FISH) with rRNA-targeted probes and cultivable method revealed that Lutimonas sp. H10 almost disappeared from the bioaugomented BAF within 3 d, and this was mainly due to the infection of a specific phage as revealed by flask experiment, plaque assay and transmission electron observation. Analyses of 16S rRNA gene libraries showed that bacterial groups from two reactors evolved differently and an overgrowth of protozoa was observed in the bioaugmented BAF. Therefore, phage infection and poor biofilm forming ability of the inoculated strain are the main reasons for bioaugmentation failure. In addition, grazing by protozoa of the bacteria might be the reason for the nitrification breakdown in bioaugmented BAF during day 9 – 18.

【语种】英文

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【学科分类】环境科学技术及资源科学技术其他学科

【题目】Effects of cryoprotectants and salinities on viability and fatty acid profile of two haptophytes during preservation at low temperature

【中文关键词】无

【英文关键词】Pavlova viridis ; Isochrysis galbana Parke ; Cryoprotectants ; Salinity ; Viability ; Fatty acids

【中文摘要】无

【英文摘要】Effets de cryoconservateurs et de la salinite sur la viabilite et le profil des acides gras de deux haptophytes pendant la conservation a basse tempeature (-22±1°C). La production aquacole peut etre amelioree en utilisant des microalgues de bonne qualite pour les larves et les juveiles. Ce papier presente les effets de diffeents cryosonservateurs et de differents niveaux de salinit sur la viabilite et la teneur en acides gras de deux haptophytes, Pavlova viridis et Isochrysis galbana Parke lors dune conservation a -22±1°C . Les meilleurs cryoconservateurs des deux haptophytes ont ete selectionns en evaluant leur viabilite apres decongelation. Les resultats montrent que 10% de DMSO (dimehyl-sulfoxyde)+ 5% Glycerol, dune part et 10% de DMSO + 5% Proline, dautre part, sont les meilleurs cryoconservateurs pour P. viridis et I. galbana, respectivement. Ces deux haptophytes presentent une meilleure viabilit aux plus fortes salinite testeess, 21,3 et 32. Enfin, la teneur en acides gras reste stable pendant toute la duree de stockage, independemmant de la viabilite . Cest un point important dans la mesure ou les acides gras, particulierement les acides gras polyinsatures,jouent un role important dans la qualite nutritive des microalgues en aquaculture.

【语种】英文

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【学科分类】海洋科学

【题目】Construction and characterization of a normalized cDNA library of Nannochloropsis oculata (Eustigmatophyceae)

【中文关键词】无

【英文关键词】Eustigmatophyceae; Nannochloropsis oculata; normalized cDNA library; expressed sequence tag

【中文摘要】无

【英文摘要】We constructed and characterized a normalized cDNA library of Nannochloropsis oculata CS-179, and obtained 905 nonredundant sequences (NRSs) ranging from 431 – 1 756 bp in length. Among them, 496 were very similar to nonredundant ones in the GenBank (E ≤1.0e-05), and 349 ESTs had significant hits with the clusters of eukaryotic orthologous groups (KOG). Bases G and/or C at the third position of codons of 14 amino acid residues suggested a strong bias in the conserved domain of 362NRSs (>60%). We also identified the unigenes encoding phosphorus and nitrogen transporters, suggesting that N. oculata could efficiently

transport and metabolize phosphorus and nitrogen, and recognized the unigenes that involved in biosynthesis and storage of both fatty acids and polyunsaturated fatty acids (PUFAs), which will facilitate the demonstration of eicosapentaenoic acid (EPA) biosynthesis pathway of N. oculata. In comparison with the original cDNA library, the normalized library significantly increased the efficiencies of random sequencing and rarely expressed genes discovering, and decreased the frequency of abundant gene sequences.
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【学科分类】海洋科学

【题目】Molecular identification of Pampus fishes (Perciformes, Stromateidae)
【中文关键词】无
【英文关键词】Pampus; Cytochrome c oxidase I;16S rRNA ; Pampus minor
【中文摘要】无
【英文摘要】Concerning the nomenclature, most problems arise from the great confusion due to the morphological similarities in Pampus. Twenty-five individuals in Pampuswere sampled from different localities about 2,000 km apart along the coast of China covering the Yellow Sea, the East China Sea and the South China Sea. The sequences of cytochrome c oxidase I (COI) and 16S rRNA (16S) genes of the mitogenomes were determined. Combined with the morphological characteristics, five Pampus species,P. minor, P. punctatissimus, P. chinensis, P. cinereus and Pampus sp., were identified. The genetic distance of intraspecies ranged from 0.000 to 0.004, while it varied from 0.012 to 0.133 for interspecies based on the 16S sequences. For COI sequence data analysis, the genetic distance of intraspecies ranged from 0.000 to 0.005, while it varied from 0.057 to 0.162 for interspecies. Phylogenetic trees showed that all Pampus fishes reciprocally constituted a monophyletic group with strong support. The sister-group relationships between P. minor and Pampus sp. andbetween P. chinensis and P. punctatissimus were revealed respectively. In the current GenBank data, P. minor isconsidered P. cinereus or P. argenteus by mistake. For the lack of a P. echinogaster specimen, we cannot decide on the name of Pampus sp. as P. argenteus or P. echinogaster.
【语种】英文
【第一作者】崔朝霞
【通讯作者】崔朝霞
【期刊名称、卷期、页码】Ichthyol Res
【论文发表时间】2009-08-01 00:00:00
【引文索引类型】SCI
【引文索引号】10228-009-0119-9
【学科分类】海洋科学

【题目】Broader pattern of tandem repeats in the mitochondrial control region of Perciformes
【中文关键词】无
【英文关键词】mtDNA; control region; tandem repeats; Perciformes; evolution
【中文摘要】无
【英文摘要】Perciformes, the largest order of vertebrates with 20 suborders, is the most diverse fish order that dominates vertebrate ocean life. The complete mitochondrial control region (CR) of Trichiurus japonicus (Trichiuridae, Scombroidei) and Pampus sp. (Stromateidae, Stromateoidei) were amplified and sequenced. Together with data from GenBank, the tandem repeats in the mitochondrial CR from 48 species, which covered nine suborders of Perciformes, are reported in this study. The tandem repeats tendto be long in the suborder Percoidei and Stromateoidei. The identical repeats in 21 species of Cichlidae suggest a common origin and have existed before species divergence. Larimichthys crocea shows tandem repeats instead of the typical structure of the central conserved sequence blocks, which was first reportedin Perciformes and vertebrates. This might have resulted from interruption of the polymerase activity during the H-strand synthesis. The four broader patterns presented here for the tandem repeats, including those in both the 5′ and 3′ ends, only in the either 5′ or 3′ end, and in the central conserved domain of thecontrol region, will be useful for

understanding the evolution of species.
【语种】英文
【第一作者】崔朝霞
【通讯作者】崔朝霞
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【引文索引类型】SCI
【引文索引号】00343-010-9091-5
【学科分类】海洋科学

【题目】Artificial gynogenesis in Cynoglossus semilaevis with homologous sperm and its verification using microsatellite markers
【中文关键词】半滑舌鳎 雌核发育 倍性分析 微卫星
【英文关键词】Cynoglossus semilaevis gynogenesis ploidy analyser microsatellite
【中文摘要】半滑舌鳎人工雌核发育技术和
【英文摘要】Effective methods for induction of gynogenetic diploids in Cynoglossus semilaevis are needed to initiate monosex culture. An effective protocol to induce half-smooth tongue sole gynogenesis using homologous sperm was developed in this study. A UV dose of 50 mJ cm-2 was found to be the most effective for genetic inactivation of tongue sole sperm. Treatment optima for cold shocks were 5 degrees C for 20-23 min at 5 min after fertilization and the hatching rate of gynogenetic diploids was 10.0%. Microsatellite analysis at locus Csou 6 revealed that there was no genetic contribution from the paternal genome in 24 progenies of a meiotic gynogenetic family. Polymerase chain reaction demonstrated that only four individuals of 24 meiotic gynogenetic diploids produced the female-specific band of about 205 bp. The female/male ratio of gynogenetic diploids was significantly different from the theoretical ratio of 1:1. It is possible that there are some recessive lethal genes in W chromosome
【语种】英文
【第一作者】季相山
【通讯作者】陈松林
【期刊名称、卷期、页码】Aquaculture Research,may 17 2010;41(6):913-920
【论文发表时间】2010-05-17 00:00:00
【引文索引类型】SCI
【引文索引号】000277690700013
【学科分类】水产增殖学

【题目】Construction of Two BAC Libraries from Half-Smooth Tongue Sole Cynoglossus semilaevis and Identification of Clones Containing Candidate Sex-Determination Genes
【中文关键词】半滑舌鳎,BAC文库,性别决定
【英文关键词】Half-smooth tongue sole; BAC library; Sex determination; Female-specific marker; Sex-related gene; Cynoglossus semilaevis
【中文摘要】构建半滑舌鳎两个BAC文库及筛选性别决定基因
【英文摘要】Half-smooth tongue sole (Cynoglossus semilaevis) is an increasingly important aquaculture species in China. It is also a tractable model to study sex chromosome evolution and to further elucidate the mechanism of sex determination in teleosts. Two bacterial artificial chromosome (BAC) libraries for C. semilaevis, with large, high-quality inserts and deep coverage, were constructed in the BamHI and HindIII sites of the vector pECBAC1. The two libraries contain a total of 55,296 BAC clones arrayed in 144 384-well microtiter plates and correspond to 13.36 haploid genome equivalents. The combined libraries have a greater than 99% probability of containing any single-copy sequence. Screening high-density arrays of the libraries with probes for female-specific markers and sex-related genes generated between 4-46 primary positive clones per probe. Thus, the two BAC libraries of C. semilaevis provided a readily useable platform for genomics research, illustrated by the isolation of sex determination gene(s).
【语种】英文
【第一作者】邵长伟
【通讯作者】陈松林
【期刊名称、卷期、页码】Mar Biotech

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【引文索引号】000282592900008
【学科分类】水产增殖学

【题目】All-triploid Japanese flounder (Paralichthys olivaceus) induction by cold shock
【中文关键词】牙鲆 三倍体诱导 冷激
【英文关键词】Japanese flounder (Paralichthys olivaceus) triploidy induction cold shock
【中文摘要】冷激的方法诱导三倍体牙鲆
【英文摘要】Cold shock is a useful method of inducing triploidy in some fish species. In this paper, triploidy in Japanese flounder (Paralichthys olivaceus) was induced by applying cold shocks of 3 degrees C, three or four minutes after fertilization, for 15, 25, 35, 45, 55, or 65 min. Ploidy of fry was analyzed using a ploidy analyzer. Survival was lower in treatments shocked at four minutes than in treatments shocked at three minutes after fertilization, and decreased as the duration of the cold shock increased. The abnormality rate increased with the shock duration. The best results were achieved in the treatment shocked three minutes after fertilization for 25 min, resulting in 100% triploidy with the highest survival rate (93.27%) and one of the lowest abnormality rates (15.87%). This study shows that cold shock is a highly effective method for inducing triploidy in the Japanese flounder.
【语种】英文
【第一作者】徐田军
【通讯作者】陈松林
【期刊名称、卷期、页码】Israeli Journal of Aquaculture, 2010;62(1):43-49
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【引文索引类型】SCI
【引文索引号】000277890800006
【学科分类】水产增殖学

【题目】Artificial gynogenesis and assessment of homozygosity in meiotic gynogens of spotted halibut (Verasper variegatus)
【中文关键词】圆斑星鲽,人工雌核发育,微卫星
【英文关键词】Verasper variegatus; Gynogenesis; Microsatellite; Homozygosity
【中文摘要】圆斑星鲽人工雌核发育技术和纯合性评价
【英文摘要】In the present study, methodology of gynogenetic induction in spotted halibut were developed and optimized; the sex ratio of putative meiotic gynogenetic diploids was determined using AFLP-based molecular sexing technique; the homozygosity of gynogenetic population was assessed as opposed to cultivated population. The results showed that high percentage of meiotic gynogenetic diploids were generated when the eggs fertilized with irradiated heterologous sea perch frozen sperm (30-50 mJ cm(-2)) were cold shocked in sea water of -1A degrees C for 40-75 min at 5 min after fertilization. About 15,200 diploid gynogenetic larvae were achieved and they exhibited normal morphology similar to diploid control. The gynogenetic diploids were 100% female, which first confirmed the female homogamete (XX/XY) sex determination in spotted halibut. The genetic analysis showed that the average H (O) was, respectively, 0.404 and 0.724 in gynogenetic population and cultivated population, indicating an increase of homozygosity in gynogenetic population.
【语种】英文
【第一作者】季相山
【通讯作者】陈松林
【期刊名称、卷期、页码】Aquaculture Internal
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【引文索引类型】SCI
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【学科分类】水产增殖学

【题目】Comparison of Chromosome Preparation methods for the Different Developmental Stages of the Half-smooth Tongue Sole, Cynoglossus Semilaevis

【中文关键词】染色体修复 半滑舌鳎 发育阶段 性染色体
【英文关键词】Chromosome preparation Cynoglossus semilaevis Developmental stages Sex chromosome
【中文摘要】比较半滑舌鳎不同时期不同的染色体制备方法
【英文摘要】Here we present a comparison of the different chromosome preparation methods, including the method of the single embryo or larva, the method of juvenile-swimming and the method of phytohemagglutinin injection, used for the different developmental stages of the half-smooth tongue sole, Cynoglossus semilaevis. The mean index of mitosis for the three methods was 0.79%, 0.09% and 0.15%, respectively. From the well-spread metaphase chromosomes obtained, it was determined that C. semilaevis has a diploid chromosome number of 42 and heterotypic sex chromosomes. Also, the metaphase chromosomes produced could be used for karyotype preparation and banding studies. The three methods are also successfully used for chromosome preparation in Japanese flounder (Paralichthys olivaceus) and summer flounder (Paralichthys dentatus).
【语种】英文
【第一作者】邵长伟
【通讯作者】陈松林
【期刊名称、卷期、页码】Micron, JAN 2010;41(1):47-50
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【引文索引号】000272089800007
【学科分类】水产增殖学

【题目】Three Tetraspanins from Chinese shrimp (Fenneropenaeus chinensis), may play important roles in WSSV infection
【中文关键词】WSSV; 跨膜四超家族; TM4SF; 中国明对虾
【英文关键词】WSSV tetraspanins TM4SF Fenneropenaeus chinensis
【中文摘要】中国对虾四跨膜蛋白超家族在WSSV病毒感染过程中可能起到重要作用
【英文摘要】Three members of the tetraspanin/TM(4)SF superfamily were cloned from Chinese shrimp, Fenneropenaeus chinensis. The deduced amino acid sequences of the three proteins have typical motifs of the tetraspanin/TM(4)SF superfamily. Phylogenetic analysis of the proteins, together with the known tetraspanins of invertebrates and vertebrates, revealed that they belong to different tetraspanin subfamilies: CD9, CD63 and tetraspanin-3. The three cloned genes of CD9, CD63 and tetraspanin-3 showed apparently different tissue distributions. The CD9 gene (FcCD9) was specifically expressed in the hepatopancreas. While for the CD63 gene (FcCD63), the highest expression was detected in nerves, epidermis and heart, with low expression in haemocytes, ovary, gill, hepatopancreas and stomach and no expression in intestine, muscle and lymphoid organ. Compared with FcCD9 and FcCD63, the tetraspanin-3 gene (FcTetraspanin-3) was more broadly expressed and its highest expression was detected in the intestine. Its expression in nerves was lower than in the intestine, but was higher than in other tissues. Expression in haemocytes, ovary and muscle was much lower than in other tissues. The expression profiles of FcCD9, FcCD63 and FcTetraspanin-3 in different tissues, including haemocytes, lymphoid organ and hepatopancreas, were compared by real-time PCR when shrimp were challenged by live white spot syndrome virus (WSSV) and heat-inactivated WSSV. All three tetraspanins were markedly up-regulated in the live WSSV-challenged shrimp tissues. The data suggested that the three cloned members of TM(4)SF superfamily in Chinese shrimp may play a key role in the route of WSSV infection.
【语种】英文
【第一作者】王兵
【通讯作者】相建海
【期刊名称、卷期、页码】Journal of Fish Diseases,JAN 2010;33(1):15-29
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【引文索引类型】SCI
【引文索引号】000272657700002
【学科分类】水产学基础学科

【题目】Screening of genes related to ovary development in Chinese shrimp Fenneropenaeus chinensis by suppression subtractive hybridization
【中文关键词】中国对虾 卵巢 抑制性消减杂交 三倍体

【英文关键词】Fenneropenaeus chinensis Ovary Suppression subtractive hybridization Triploid
【中文摘要】通过抑制性消减杂交的方法筛选中国对虾卵巢发育相关基因
【英文摘要】In the present study, a suppression subtractive hybridization (SSH) technique was applied to identify differentially expressed genes in the ovary between diploid and triploid shrimp. For the forward library (RNA from the ovary of triploid shrimp as the tester), 54 genes were identified. For the reverse library (RNA from the ovary of diploid shrimp as the tester), 16 genes were identified. The identified genes encoded proteins with multiple functions, including extracellular matrix components, cytoskeleton, cell growth and death, metabolism, genetic information processing, signal transduction/transport or immunity related proteins. Eleven differentially expressed genes were selected to be confirmed in the ovaries of triploid and diploid shrimp by semi-quantitative RT-PCR. Genes encoding spermatogonial stem-cell renewal factor, cytochrome c oxidase subunits I and II, clottable protein, antimicrobial peptide and transposase showed up-regulated expressions in the ovary of triploid shrimp. Genes encoding tubulin, cellular apoptosis susceptibility protein, farnesoic acid O-methyltransferase, thrombospondin and heat shock protein 90 genes showed higher expressions in the ovary of diploid shrimp. The differential expressions of the above genes are suggested to be related to the ovary development of shrimp. It will provide a new clue to uncover the molecular mechanisms underlying the ovarian development in penaeid shrimp. (C) 2010 Elsevier Inc. All rights reserved.
【语种】英文
【第一作者】谢玉素
【通讯作者】相建海
【期刊名称、卷期、页码】Comp Biochem Physiol Part D Genomics Proteomics, JUN 2010 ;5(2);98-104
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【引文索引类型】SCI
【引文索引号】000279214000003
【学科分类】水产学基础学科

【题目】Cloning and expression patterns of two isoforms of spermatophore-specific CHH-like gene in Chinese shrimp, Fenneropenaeus chinensis
【中文关键词】甲壳动物高血糖激素 克隆 表达 原位杂交 精荚囊 中国对虾
【英文关键词】Crustaceanhyperglycemic hormone (CHH) Cloning Expression In situ hybridization Spermatophore sac Fenneropenaeuschinensis
【中文摘要】中国对虾精巢特异性两个CHH-like基因单体的克隆和表达分析
【英文摘要】Two full-length cDNA sequences (Fc-CHH1, Fc-CHH2) encoding a crustacean hyperglycemic hormone (CHH) precursor homolog and their DNA sequences were cloned from Chinese shrimp Fenneropenaeus chinensis. The deduced amino acid sequences of them are predicted to contain a signal peptide and a mature peptide. The mature peptides of Fc-CHH1 and Fc-CHH2 shared 78% identity, but they showed low identities (less than 40%) to CHH peptides from other species. Both Fc-CHH1 and Fc-CHH2 proteins contain six highly conserved cysteine residues which are characteristic of the CHH family peptides. The transcripts of Fc-CHH1 and Fc-CHH2 were shown to be specifically present in the spermatophore sac of mature male Chinese shrimp through reverse transcription-polymerase chain reaction (RT-PCR) detection. The transcripts of Fc-CHH1 and Fc-CHH2 begin to appear at the immature stage (115 days after the first post-larvae stage) when the spermatophore sac was first observed to be appeared. In situ hybridization analyses showed that Fc-CHH1 and Fc-CHH2 transcripts located at the epithelial cells in the internal wall of the spermatophore sac. In the cloned DNA sequences of Fc-CHH1 and Fc-CHH2, the predicted transcription factor binding sites in the 5' flanking sequences are different from those previously reported for CHH family genes of crustacean. To our knowledge, these are novel CHH-like genes expressed specifically in male shrimp. Their function needs to be further investigated. (C) 2010 Elsevier Inc. All rights reserved.
【语种】英文
【第一作者】李诗豪
【通讯作者】相建海
【期刊名称、卷期、页码】Gen Comp Endocrinol,1 June 2010;167(2):308-316
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【学科分类】水产学基础学科

【题目】Construction of a genetic linkage map and mapping of a female-specific DNA marker in half-smooth tongue sole (Cynoglossus semilaevis)
【中文关键词】半滑舌鳎, AFLP标记,微卫星标记,遗传连锁图谱,性别特异性标记,定位
【英文关键词】Half-smooth tongue sole AFLP markers Microsatellite markers Genetic linkage map Female-specific marker Mapping
【中文摘要】半滑舌鳎基因连锁图谱的构建及一种雌性特异性DNA标记的定位
【英文摘要】The half-smooth tongue sole (Cynoglossus semilaevis, hereafter, "tongue sole") is a marine flatfish with great commercial importance for fisheries and aquaculture in China. It has also been a promising model for the study of sex determination mechanisms in fish. Here, we report the construction of a genetic linkage map for the tongue sole, based on 137 markers including 103 AFLP markers, 33 microsatellite markers, and one female-specific DNA marker. Twenty-six linkage groups (LGs) were found. The total map length was 934.6 cM (Kosambi), with an average spacing of 8.4 cM, covering 64.4% of the estimated genome size. Furthermore, a female-specific SCAR marker, CseF-382, was mapped on LG5. This study represents the first genetic linkage map in the tongue sole. This map has great potential in the identification of quantitative traits loci and sex-related genes and marker-assisted selection in the tongue sole. Meanwhile, the new set of polymorphic microsatellite markers developed in this study is not only useful for genetic mapping but also of critical importance for studies on genetic diversity and broodstock management in tongue sole.
【语种】英文
【第一作者】廖小林
【通讯作者】陈松林
【期刊名称、卷期、页码】Mar Biotech,12 February 2009;11(6):699-709
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【引文索引类型】SCI
【引文索引号】000271644100004
【学科分类】水产增殖学

【题目】Microsatellite-centromere mapping in Cynoglossus semilaevis using gynogenetic diploid families produced by the use of homologous and non-homologous sperm
【中文关键词】微卫星标记-着丝点连锁图谱 半滑舌鳎 雌核发育 微卫星
【英文关键词】M-C mapping Cynoglossus semilaevis gynogenesis microsatellite
【中文摘要】半滑舌鳎来源于同源和异源精子产生的雌核发育二倍体家系的微卫星标记-着丝点连锁图谱
【英文摘要】Twenty-one microsatellite markers were studied in three meiogynogenetic families of Cynoglossus semilaevis gunther for centromere mapping using half-tetrad analysis. Among the 13 mapped loci, 10 were estimated to be located in the telomeric region, one in the centromeric region, and two in the intermediate region of the chromosome. This study provides a basis for constructing a linkage map of C. semilaevis
【语种】英文
【第一作者】季相山
【通讯作者】陈松林
【期刊名称、卷期、页码】J Fish Biol, AUG 2009;75(2):422-434
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【引文索引号】000269807800008
【学科分类】水产增殖学

【题目】Isolation and characterization of 31 polymorphic microsatellite markers in barfin flounder (Verasper moseri) and the cross-species amplification in spotted halibut (Verasper variegatus)
【中文关键词】微卫星标记 条斑星鲽 圆斑星鲽 种间扩增
【英文关键词】Microsatellite markers; Repeat-enriched library; Barfin flounder; Verasper variegatus; Cross-species amplification
【中文摘要】分离鉴定条斑星鲽31个多态性微卫星标记及在圆斑星鲽中的种间扩增
【英文摘要】In the present study, we report 31 polymorphic microsatellite markers, of which 28 were isolated from two repeat-enriched libraries constructed from genomic DNA, and three were detected in two genes (MCH-R1 and MCH-R2) of barfin flounder

(Verasper moseri). A total of 94 alleles were detected with an average of 3.0 alleles per locus. The number of alleles, observed and expected heterozygosity per locus ranged from two to six, from 0.30 to 1.00 and from 0.33 to 0.78, respectively. Three loci significantly deviated from Hardy-Weinberg equilibrium after Bonferroni correction ($P < 0.0016$) and no significant linkage disequilibrum between pairs of loci was found. Cross-species amplification of these markers was evaluated using the closely related species spotted halibut (Verasper variegatus). This study will potentially be useful for stock management, constructing of a genetic linkage map, mapping economically important quantitative trait loci (QTL), and studying the population genetic diversity of barfin flounder (Verasper moseri).

【语种】英文
【第一作者】马洪雨
【通讯作者】陈松林
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【引文索引号】000270737400070
【学科分类】水产增殖学

【题目】New polymorphic microsatellite markers for the summer flounder, Paralichthys dentatus
【中文关键词】大西洋牙鲆 富集文库 微卫星 种群结构
【英文关键词】Paralichthys dentatus; Enriched genomic library; Microsatellites; Population structure
【中文摘要】大西洋牙鲆新多态性微卫星标记
【英文摘要】To address this shortcoming, a microsatellite-enriched genomic DNA library of P. dentatus was generated and screened by sequencing. Twelve dinucleotide microsatellite loci were characterized by genotyping 24 samples. The observed number of alleles ranged from three to thirteen with an average of 8.25, while the effective number of alleles ranged from 2.21 to 8.28 with an average of 5.06. The observed and expected heterozygosities ranged from 0.0833 to 0.9583 and from 0.5594 to 0.8980, respectively. Significant deviations from Hardy-Weinberg expectations were detected at three loci and linkage disequilibrium between two loci was significant after applying Bonferroni correction. In cross-species amplification, three species showed at least two polymorphic loci. The 12 highly polymorphic microsatellite markers represent a powerful molecular tool, which will allow for detailed population genetic analyses on this important marine fish.
【语种】英文
【第一作者】邵长伟
【通讯作者】陈松林
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【引文索引类型】SCI
【引文索引号】000265832000053
【学科分类】水产增殖学

【题目】Developement of polymorphic microsatellite markers from barfin flounder (Verasper moseri) and their cross-species amplification
【中文关键词】条斑星鲽 微卫星 简单重复序列
【英文关键词】Barfin flounder; Verasper moseri; Microsatellites; SSR
【中文摘要】条斑星鲽的多态性微卫星标记及种间扩增
【英文摘要】we reported 10 polymorphic microsatellite loci isolated from a dinucleotide-enriched genomic library of barfin flounder (Verasper moseri). The number of alleles, observed, and expected heterozygosity per locus in a test population ranged from 2 to 6, from 0.3333 to 1.0000, and from 0.4866 to 0.7774, respectively. One locus significantly deviated from Hardy – Weinberg equilibrium after Bonferroni correction and no significant linkage disequilibrium was found between pairs of loci. Cross-species amplification of these microsatellite loci in additional five fish species was performed. These polymorphic microsatellite loci would be useful for investigating genetic population structure and construction of genetic linkage map in Verasper moseri
【语种】英文

【第一作者】苗贵东
【通讯作者】陈松林
【期刊名称、卷期、页码】Conservation Genetics, 2009;10(3):701-703
【论文发表时间】2009-04-01 00:00:00
【引文索引类型】SCI
【引文索引号】000265832000049
【学科分类】水产增殖学

【题目】Synaptonemal complex analysis in spermatocytes of diploid and triploid Chinese shrimp Fenneropenaeus chinensis
【中文关键词】中国对虾 联会复合体 精母细胞 二倍体 三倍体
【英文关键词】Synaptonemal complex; Fenneropenaeus chinensis; Spermatocytes; Diploid; Triploid
【中文摘要】二倍体和三倍体中国对虾精母细胞中联会复合体的分析
【英文摘要】A modified surface spreading technique for synaptonemal complex (SC) analysis was tested to assess the process of chromosome synapsis in spermatocytes of diploid and induced triploid Fenneropenaeus chinensis. Spermatocytes of diploid shrimp showed typical morphological characteristics of eukaryote SC, with complete synapsis of bivalents. No recognizable bivalent associated with sex chromosomes was observed in spermatocytes of diploid shrimp. However, differences in morphology of SC, including unsynapsed univalents, bivalents, totally paired trivalents with non-homologous synapsis, partnerswitches and triple synapsis were identified at early pachytene stage of triploid spermatocytes. Triple synapsis was especially common at late pachytene stage in spermatocytes of triploid shrimp. The observed abnormal synapsis behavior of chromosomes in spermatocytes indicated that triploid male shrimp may find it difficult to develop normal haploid sperm
【语种】英文
【第一作者】谢玉素
【通讯作者】李富花
【期刊名称、卷期、页码】Tissue and Cell, OCT 2008;40(5):343-350
【论文发表时间】2008-10-01 00:00:00
【引文索引类型】SCI
【引文索引号】000259938900005
【学科分类】水产增殖学

【题目】Isolation and characterization of microsatellite DNA loci from the Southern flounder, Paralichthys lethostigma
【中文关键词】富集文库 微卫星 漠斑牙鲆
【英文关键词】enriched genomic library; microsatellites; Paralichthys lethostigma
【中文摘要】分离鉴定漠斑牙鲆微卫星DNA位点
【英文摘要】we constructed a repeat-enriched genomic library from P. lethostigma. A total of 39 new microsatellites were identified, for which 33 primer pairs were designed. After validating and scoring, 10 of these loci were polymorphic in a test population with the range of alleles from two to nine per locus. The observed and expected heterozygosities ranged from 0.2500 to 0.9000 and from 0.4469 to 0.8514, respectively. These polymorphic microsatellites will be useful for genetic diversity analysis and linkage map construction for P. lethostigma
【语种】英文
【第一作者】邵长伟
【通讯作者】陈松林
【期刊名称、卷期、页码】Mol Ecol Resou, MAR 2008;8(2):381-383
【论文发表时间】2008-01-28 00:00:00
【引文索引类型】SCI
【引文索引号】000253827300034
【学科分类】水产增殖学

【题目】Cryopreservation of spotted halibut (Verasper variegatus) sperm
【中文关键词】圆斑星鲽 精子 冻存 存活率 繁殖率

【英文关键词】Spotted halibut; Verasper variegates; Semen, Cryopreservation; Motility; Fertility
【中文摘要】圆斑星鲽精子冷冻技术
【英文摘要】In this project, cryopreservation technique for sperm of spotted halibut was developed. The effects of various extenders and cryoprotectants on motility of frozen-thawed sperm were examined. The motility of frozen-thawed sperm in TS-2 was higher than that in ASW and MPRS ($p < 0.05$) and was not significantly different from that of fresh sperm ($p > 0.05$). While the motility of frozen-thawed sperm cryopreserved with 13.3% EG (ethylene glycol), 13.3% glycerol, 13.3% MeOH (methanol) and 13.3% DMF (dimethylformamide) was less than 5%, no significant differences were observed in the motility between fresh sperm and frozen-thawed sperm cryopreserved with 13.3% DMSO (dimethyl sulfoxide), 13.3% PG (propylene glycol) ($p > 0.05$). Using the above method, we cryopreserved spotted halibut semen with extender TS-2 and 13.3% DMSO or 13.3% PG. As a result, the fertilization rate (34.52 +/- 10.92%) and hatching rate (23.53 +/- 11.80%) of frozen-thawed sperm were not significantly different from that of fresh sperm ($p > 0.05$). Motility and time delay in the activation of frozen-thawed sperm activated by artificial seawater at different salinity were different. Low salinity (low osmolality) could delay the activation of frozen-thawed sperm. The highest motility was observed with artificial seawater of 30%. ($p < 0.05$). The most suitable temperature of seawater to activate spotted halibut frozen sperm was determined to be 18 degrees C ($p < 0.05$). However, temperature of seawater has no significant effect on time delay in the activation of frozen-thawed sperm ($p > 0.05$).
【语种】英文
【第一作者】田永胜
【通讯作者】陈松林
【期刊名称、卷期、页码】Aquaculture, NOV 1 2008; 284(1):268-271
【论文发表时间】2008-11-01 00:00:00
【引文索引类型】SCI
【引文索引号】000261445000037
【学科分类】水产增殖学

【题目】Development of 15 novel dinucleotide microsatellite markers in the Senegalese sole Solea senegalensis
【中文关键词】微卫星标记 富集文库 塞内加尔鳎
【英文关键词】enriched genomic library; microsatellite markers; Senegal sole; Solea senegalensis
【中文摘要】塞内加尔鳎
【英文摘要】Development of 15 novel dinucleotide microsatellite markers in the Senegalese sole Solea senegalensis
【语种】英文
【第一作者】陈松林
【通讯作者】陈松林
【期刊名称、卷期、页码】Fisheries Science, DEC 2008;74(6):1357-1359
【论文发表时间】2008-12-01 00:00:00
【引文索引类型】SCI
【引文索引号】000261442400025
【学科分类】水产增殖学

【题目】Molecular marker-assisted sex control in half-smooth tongue sole Cynoglossus semilaevis
【中文关键词】半滑舌鳎 雌性特异性标记 性别逆转 假雄性 遗传性别 分子标记辅助性别控制
【英文关键词】Half-smooth tongue sole; Cynoglossus semilaevis; Female specific marker; Sex reversal; Neo-male; Genetic sex; Molecular marker-assisted sex control
【中文摘要】半滑舌鳎性别控制相关分子标记
【英文摘要】In the present study, a female-specific AFLP marker (CseF305) was isolated from female genomic DNA of the tongue sole and sequenced. One pair of SCAR primers was designed based on the sequences of the female-specific marker. A PCR method for identifying genetic sex of the sole was developed. PCR amplification of genomic DNA from tongue sole adults using the SCAR primers resulted in a specific fragment in 30 female individuals, but not in 30 males. Secondly, effects of methyltestosterone treatment on the female:male sex ratio of tongue sole fry were examined. methyltestosterone at a concentration of 20-100 mu g/L center dot H2O can induce genetic females to reverse to phenotypic males in juvenile tongue sole and produce a high proportion of males (97-100% males). Phenotypic males with female genotype, that is, neo-males, were detected by using female-specific SCAR primers. The neo-males were

cultured and matured, and used to mate with normal females to produce progeny. 130,000 fry were produced by using sperm from neo-males. Genetic sex identification demonstrated that 73% of the neo-male progeny fry contained female-specific DNA markers. Three combinations of sex chromosomes (ZZ, ZW and WW) were observed in the neo-male progeny. WW super-female individuals containing 2 huge heteromorphic chromosomes were found in some fry

【语种】英文
【第一作者】陈松林
【通讯作者】陈松林
【期刊名称、卷期、页码】Aquaculture, OCT 1 2008; 283(1):7-12
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【引文索引类型】SCI
【引文索引号】000260567600002
【学科分类】水产增殖学

【题目】Artificial gynogenesis and sex determination in half-smooth tongue sole (Cynoglossus semilaevis)
【中文关键词】半滑舌鳎 人工雌核发育 性别决定机制 WW超雌
【英文关键词】Half-smooth tongue sole; Cynoglossus semilaevis; Artificial gynogenesis; Sex determination mechanism; WW super female
【中文摘要】半滑舌鳎人工雌核发育技术和性别决定
【英文摘要】Half-smooth tongue sole (Cynoglossus semilaevis) is an important cultured marine fish as well as a promising model fish for the study of sex determination mechanisms. In the present study, a protocol for artificial gynogenesis of half-smooth tongue sole was developed in order to identify the sex determination mechanism and to generate all-female stock. The optimal UV-irradiation dose for genetically inactivating sea perch spermatozoa was determined to be >= 30 mJ/cm(2). The optimal initiation time for cold shock of gynogenetic embryos was determined to be 5 min after fertilization, while the optimal temperature and treatment duration were determined to be 20-25 min at 5 degrees C. Chromosomes from common diploids, gynogenetic haploids, and diploids were analyzed. WW chromosomes were discovered in some of the gynogenetic diploids. The microsatellite marker was applied to analyze gynogenetic diploid fry. Among the 30 gynogenetic diploid fry, 11 fry contained only one allele, while 19 contained two alleles, which had the same genotype as their mother. The female-specific DNA marker was observed in four individuals out of ten gynogenetic diploid fry. Ploidy analysis of 20 putative gynogenetic fry showed them all to be diploid. Thus, a protocol for the induction of artificial gynogenesis has been developed for the first time in half smooth tongue sole, and the sex determination mechanism in the tongue sole was determined to be female heterogametic with the ZW chromosome.

【语种】英文
【第一作者】陈松林
【通讯作者】陈松林
【期刊名称、卷期、页码】Mar Biotech, APR 2009;11(2):243-251
【论文发表时间】2009-09-09 00:00:00
【引文索引类型】SCI
【引文索引号】000264702000009
【学科分类】水产增殖学

【题目】Molecular cloning, characterization and expression analysis of gonadal P450 aromatase in the half-smooth tongue-sole, Cynoglossus semilaevis
【中文关键词】半滑舌鳎 细胞色素P450芳香酶 cDNA 表达
【英文关键词】Cynoglossus semilaevis; Gonadal P450 aromatase; cDNA; Expression
【中文摘要】半滑舌鳎P450芳香酶基因克隆和表达分析
【英文摘要】To Study the role of gonadal cytochrome P450 aromatase (P450aromA) in sex differentiation, the cDNA was isolated from the ovary of the half-smooth tongue-sole, Cynoglossus semilaevis. The deduced amino acid sequence exhibited high homology with P450arom of other teleosts. Alignment and phylogenetic analysis of the P450arom showed that the tongue sole P450aromA belonged to the gonadal P450arom Subfamily. The 5'-flanking region of the P450aromA gene contains two Ad4 binding motifs and a half site of the palindrome sequence of the estrogen-responsive element (the ERE half). P450aromA transcripts were highly abundant in the Ovary, less abundant in the testis, but not present in the brain, liver, spleen, kidney, muscle, skin, heart, head kidney, gill, intestine,

or eyes by RT-PCR. The P450aromA mRNA increased with gonad development, but was less abundant ill the testis compare to the ovary in all phases. Highly abundant P450aromA was detected in the female ovary, but was less abundant in the testis in neo-males obtained by methyltestosterone or temperature treatment. These results imply that P450arom may be involved in gonadal development and sex differentiation in the tongue sole.

【语种】英文

【第一作者】邓思平

【通讯作者】陈松林

【期刊名称、卷期、页码】Aquaculture, FEB 1 2009;287(1):211-218

【论文发表时间】2009-02-01 00:00:00

【引文索引类型】SCI

【引文索引号】000263024200030

【学科分类】水产增殖学

【题目】Polymorphic dinucleotide microsatellites in tongue sole (Cynoglossus semilaevis Gu¨ nther)

【中文关键词】半滑舌鳎 富集基因组文库 微卫星序列

【英文关键词】Cynoglossus semilaevis; enriched genomic library; microsatellites

【中文摘要】半滑舌鳎二核苷酸微卫星序列多态性

【英文摘要】From a (GT)(n)-enriched genomic library, 57 microsatellites were isolated and characterized. Seventeen of these loci were polymorphic in a test population with alleles ranging from three to 13, and observed and expected heterozygosities from 0.1613 to 1.0000 and from 0.2126 to 0.8983, respectively. Five loci deviated from the Hardy-Weinberg equilibrium in the sampled population, and linkage disequilibrium between two loci was significant after applying Bonferroni correction. Three additional fish species assessed for cross-species amplification revealed that only one locus was also polymorphic in one species. These polymorphic microsatellite loci should provide sufficient level of genetic diversity to evaluate the breeding strategy and investigate the fine-scale population structure in C. semilaevis.

【语种】英文

【第一作者】廖小林

【通讯作者】陈松林

【期刊名称、卷期、页码】Mol Ecol Note, NOV 2007; 7(6):1147-1149

【论文发表时间】2007-11-11 00:00:00

【引文索引类型】SCI

【引文索引号】000250647700064

【学科分类】水产增殖学

【题目】Isolation of female-specific AFLP markers and molecular identification of genetic sex in half-smooth tongue sole (Cynoglossus semilaevis)

【中文关键词】AFLP 半滑舌鳎 雌性特异性标记 性别鉴定

【英文关键词】AFLP; Cynoglossus semilaevis; female-specific marker; half-smooth tongue sole; SCAR; sex identification

【中文摘要】半滑舌鳎雌性特异AFLP分子标记及遗传性别的分子鉴定

【英文摘要】Artificially produced male and female half-smooth tongue sole (Cynoglossus semilaevis) were used to screen sex-specific amplified fragment length polymorphism (AFLPs) molecular markers. The phenotypic sex of 28 tongue soles was determined by histological sectioning of gonads. The AFLP analysis of 15 females and 13 males via 64 primer combinations produced a total of 4681 scorable bands, of which 42.11% and 43.39% of bands were polymorphic in females and males, respectively. Seven female-specific AFLP markers were identified and designated as CseF382 ' CseF575, CscF783, CseF464, CseF136, CseF618, and CseF305, respectively. One female-specific AFLP marker (CseF382) was amplified, recovered from the gels, cloned, and sequenced (accession no. DQ487760). This female-specific AFLP marker was converted into a single-locus polymerase- chain reaction (PCR) marker of a sequence-characterized amplified region OSCAR). A simple PCR method of using the specific primers was developed for identifying genetic sex of half-smooth tongue sole. PCR products demonstrated that the initial 15 females produced the female-specific band of about 350 bp, but the initial 13 male individuals failed to produce the band. We also investigated the applicability of the PCR primers in other tongue sole individuals. The same female-specific fragment of about 350 bp was found in the additional 59 female individuals, but not in the additional 58 male individuals. This AFLP-based molecular sexing technique may have great application potential in

elucidation of sex determination mechanisms and sex control in half-smooth tongue sole.
【语种】英文
【第一作者】陈松林
【通讯作者】陈松林
【期刊名称、卷期、页码】Mar Biotech, MAR-APR 2007;9(2):273-280
【论文发表时间】2007-03-01 00:00:00
【引文索引类型】SCI
【引文索引号】000245949800013
【学科分类】水产增殖学

【题目】Isolation and characterization of twenty novel microsatellite
【中文关键词】无
【英文关键词】Cynoglossus semilaevis, Microsatellite,Polymorphic marker ,Half-smooth tongue sole
【中文摘要】无
【英文摘要】Twenty novel microsatellite markers for halfsmoothtongue sole (Cynoglossus semilaevis) were isolatedand characterized from a simple sequence repeat-enrichedlibrary constructed with (GA)15 and (CA)15. The polymorphismwas assessed using 32 individuals collected fromone locality along the Chinese coast. The result showed thenumber of alleles ranged from 2 to 14, with an average of8.7 alleles/locus. The values of observed and expectedheterozygosities ranged from 0.2609 to 1.0000 and from0.2367 to 0.9716, respectively. Six microsatellite locideparted significantly from Hardy – Weinberg equilibrium.No linkage disequilibrium was found. These markers willbe useful for the conservation studies and populationstructure assessment for this species.
【语种】英文
【第一作者】Qiwang Zhong
【通讯作者】Quanqi Zhang
【期刊名称、卷期、页码】Conservation Genetics,2009,10: 1617 – 1620
【论文发表时间】2009-01-28 00:00:00
【引文索引类型】SCI
【引文索引号】10.1007/s10592-009-9809-0
【学科分类】分子生物学

【题目】Cloning, characterization and expression analysis of hepcidin gene from red sea bream (Chrysophrys major)
【中文关键词】抗菌肽,红鲷,脾脏
【英文关键词】hepcidin;red sea bream (Chrysophrys major); spleen
【中文摘要】鉴定表达分析红鲷抗菌肽基因
【英文摘要】A cDNA encoding hepcidin was isolated from a library of cDNA from spleen of red sea bream (Chrysophrys major) by expressed sequence tag analysis. The expression of the hepcidin mRNA in various tissues was examined. Challenge of red sea bream with Escherichia coli DH5 alpha elevated hepcidin mRNA levels in spleen, gill, liver, and intestine
【语种】英文
【第一作者】陈松林
【通讯作者】陈松林
【期刊名称、卷期、页码】Antimicrob. Agents Chemo, 2005;49(4):1608-1612
【论文发表时间】2005-04-01 00:00:00
【引文索引类型】SCI
【引文索引号】000228082500056
【学科分类】水产学基础学科

【题目】Development and characterization of a continuous embryonic cell line from turbot (Scophthalmus maximus)
【中文关键词】大菱鲆,胚胎干细胞系,核型
【英文关键词】turbot; Scophthalmus maximus; embryonic cell line; karyorype
【中文摘要】大菱鲆连续性胚胎细胞系的建立

【英文摘要】A continuous cell line, TEC (turbot embryonic cell line), was established from embryos at the gastrula stage of a cultured marine fish, turbot (Scophthalmus maximus), and has been cultured for more than 200 days with more than 60 passages. The TEC cells were cultured in DMEM medium supplemented with antibiotics, fetal bovine serum (FBS), sea perch serum (SPS), and basic fibroblast growth factor (bFGF). The cells were small and round, and grew actively and stably in culture. Effect of temperature, fetal bovine serum (FBS) concentration, and bFGF on the growth of TEC cells was examined. The cells grew well in the temperature range of 24-30 degrees C, but have a reduced growth rate at temperatures below 18 degrees C. The growth rate of TEC cells in medium containing 15% FBS was higher than that in medium containing 7.5% FBS. Addition of bFGF to the medium significantly increased the growth rate of TEC cells. Chromosome analysis revealed that TEC cells have a normal diploid karyotype with 2n=4m+12st+28t. High survival rate has been obtained after cryopreservation of cell cultures.
【语种】英文
【第一作者】陈松林
【通讯作者】陈松林
【期刊名称、卷期、页码】Aquaculture,2005;249:63-68
【论文发表时间】2005-09-12 00:00:00
【引文索引类型】SCI
【引文索引号】000231765000007
【学科分类】水产学基础学科

【题目】Inductive expression and characterization analysis of Paralichthys olivaceus pigment epithelium-derived factor in a virally infected cell line
【中文关键词】牙鲆,色素上皮衍生因子,草鱼出血病病毒
【英文关键词】pigment epithelium-derived factor; Paralichthys olivaceus; grass carp hemorrhage virus; flounder embryonic cells; genomic organization; differential expression; virus induction
【中文摘要】用病毒感染的细胞系诱导表达分析牙鲆色素上皮衍生因子
【英文摘要】A continuous cell line, TEC (turbot embryonic cell line), was established from embryos at the gastrula stage of a cultured marine fish, turbot (Scophthalmus maximus), and has been cultured for more than 200 days with more than 60 passages. The TEC cells were cultured in DMEM medium supplemented with antibiotics, fetal bovine serum (FBS), sea perch serum (SPS), and basic fibroblast growth factor (bFGF). The cells were small and round, and grew actively and stably in culture. Effect of temperature, fetal bovine serum (FBS) concentration, and bFGF on the growth of TEC cells was examined. The cells grew well in the temperature range of 24 – 30 ° C, but have a reduced growth rate at temperatures below 18 ° C. The growth rate of TEC cells in medium containing 15% FBS was higher than that in medium containing 7.5% FBS. Addition of bFGF to the medium significantly increased the growth rate of TEC cells. Chromosome analysis revealed that TEC cells have a normal diploid karyotype with 2n = 4m + 12st + 28t. High survival rate has been obtained after cryopreservation of cell cultures.
【语种】英文
【第一作者】陈玉栋
【通讯作者】桂建芳
【期刊名称、卷期、页码】Biochemical and Biophysical Research Communications,2005;335:799-809
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【引文索引类型】SCI
【引文索引号】000231663200023
【学科分类】水产学基础学科

【题目】Electron microscopic Analysis of the Viromatrix of Rana grylio Virus in a Fish Cell line
【中文关键词】蛙虹彩病毒,超微结构,定量分析
【英文关键词】iridovirus; RGV; viromatrix; ultrastructure; quantitative analysis
【中文摘要】蛙虹彩病毒在鱼类细胞系中病毒装配区的研究
【英文摘要】Rana grylio virus (RGV), a Ranavirus belonging to the family Iridoviridae, assembles in the viromatrix which is a factory for viral genome replication and particle assembly. Ultrastructural studies of the viromatrix will clarify the pathway of assembly. The viromatrix and quantitative changes in RGV infected epithelipma papulosum cyprini (EPC) cells, one of fish cell lines, were studied by electron microscopy. It was shown that viromatrices were adjacent to the nucleus, and the electron density was lower than that of the

surrounding cytoplasm. The viromatrix contained virus particles with different forms, electron-dense materials and amorphous structures which included tubules and membranous materials. Tubules were often observed in direct continuity with empty capsids. Several bundles of intermediate filaments were seen alongside the viromatrix and crystalline aggregates. Large clusters of mitochondria occurred in proximity to viromatrix. A total of 990 cells profiles were examined. The results showed that 394 cells contained viromatrix: 89.3% contained one, and 10.7% contained two to four viromatrices. The number of viromatrices increased gradually and reached a peak at 16 h p.i. The viromatrix area at 24 h p.i. increased up to 7.4 +/- 0.69 mu m(2) which was three-times lower than that at 6 h p.i. The number of empty capsids within viromatrix was generally more than that of "full" particles at different time points, and there was a strong positive correlation between them

【语种】英文
【第一作者】黄晓红
【通讯作者】张奇亚
【期刊名称、卷期、页码】Journal of Virological Methods, 2006;133(2):117-123
【论文发表时间】2006-05-01 00:00:00
【引文索引类型】SCI
【引文索引号】000236956200001
【学科分类】水产学基础学科

【题目】Seasonal variation of virioplankton in a eutrophic shallow lake
【中文关键词】浮游病毒,季节变化,浅水湖
【英文关键词】virioplankton; bacterioplankton; seasonal variation; shallow lake; eutrophication
【中文摘要】富营养化浅水湖泊中浮游病毒的季节变化
【英文摘要】Lake Donghu is a typical eutrophic freshwater lake in which high abundance of planktonic viruses was recently revealed. In this study, seasonal variation of planktonic viruses were observed at three different trophic sites, hypertrophic, eutrophic, and mesotrophic regions, and the correlation between their abundances and other aquatic environmental components, such as bacterioplankton, chlorophyll a, burst size, pH, dissolved oxygen, and temperature, was analyzed for the period of an year. Virioplankton abundance detected by transmission electron microscope (TEM) ranged from 5.48 x 10(8) to 2.04 x 10(9) ml(-1) in all the sites throughout the study, and the high abundances and seasonal variations of planktonic viruses were related to the trophic status at the sampled sites in Lake Donghu. Their annual mean abundances were, the highest at the hypertrophic site (1.23x10(9) ml(-1)), medium at the eutrophic site (1.19x10(9) ml(-1)), and the lowest at the mesotrophic site (1.02x10(9) ml(-1)). The VBR (virus-to-bacteria ratio) values were high, ranging from 49 to 56 on average at the three sampled sites. The data suggested that the high viral abundance and high VBR values might be associated with high density of phytoplankton including algae and cyanobacteria in this eutrophic shallow lake, and that planktonic viruses are important members of freshwater ecosystems.
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【题目】Spatial distribution and morphologic diversity of virioplankton in Lake Donghu, China
【中文关键词】浮游病毒,空间分布,形态多样性
【英文关键词】virioplankton; spatial distribution; morphological diversity; Lake Donghu; bacterioplankton
【中文摘要】中国东湖浮游病毒的空间分布和形态多样性
【英文摘要】The spatial distribution and morphological diversity of virioplankton were determined in Lake Donghu which contains three trophic regions: hypertrophic, eutrophic and mesotrophic region. Virioplankton abundance measured by transmission electron microscope (TEM) ranged from 7.7 x 10(8) to 3.0 x 109 ml(-1), being among the highest observed in any natural aquatic system examined so far. The spatial distribution of virioplankton was correlated significantly with chlorophyll a concentration ($r = 0.847$; $P < 0.01$) at the sampling sites in Lake Donghu. 76 morphotypes were observed. Most morphotypes have tails, belonging to Siphoviridae,

Myoviridae and Podoviridae. The majority of tailed phages in the lake were Myoviridae. Morphotypes which were rarely reported, such as prolate-headed virus-like particles, lemon-shaped virus-like particle, and viruses resembling Tectiviridae and Corticoviridae were all observed in the lake. It is concluded that the high viral abundance might be associated with high density of phytoplankton including algae and cyanobacteria. There was high viral diversity in this eutrophic shallow lake. In addition, cyanophage represented an important fraction of the virioplankton community in Lake Donghu

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【题目】Cloning, expression and subcellular distribution of a Rana grylio virus late gene encoding ERV1 homologue
【中文关键词】蛙虹彩病毒,RNA干扰
【英文关键词】Rana grylio virus (RGV); Iridovirus; ERV1; Late viral gene; RNAi
【中文摘要】蛙虹彩病毒晚期编码ERV1 homologue克隆表达分析和亚细胞定位
【英文摘要】An essential for respiration and viability (ERV1) homologue, 88R, was cloned and characterized from Rana grylio virus (RGV). Database searches found its homologues in all sequenced iridoviruses, and sequence alignment revealed a highly conserved motif sh

【语种】英文
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【题目】Molecular characterization and stress-induced expression of a cDNA encoding Paralichthys olivaceus heme-regulated initiation factor 2 α kinase
【中文关键词】半调控抑制因子2a激酶,草鱼出血病病毒,牙鲆,胚胎干细胞系
【英文关键词】Heme-regulated initiation factor 2a kinase (HRI); Grass carp haemorrhagic virus (GCHV); Flounder (paralichthys olivaceus)
embryonic cells (FEC); Inductive expression; Stress responses
【中文摘要】牙鲆半调控抑制因子2激酶的克隆鉴定及压力胁迫下的表达
【英文摘要】The heme-regulated initiation factor 2a kinase (HRI) is acknowledged to play an important role in translational shutoffin reticulocytes in response to various cellular stresses. In this study, we report its homologous cDNA cloning andcharacterization from cultured flounder embryonic cells (FEC) after treatment with UV-inactivated grass carphaemorrhagic virus (GCHV). The full-length cDNA of Paralichthys olivaceus HRI homologue (PoHRI) has 2391 bpand encodes a protein of 651 amino acids. The putative PoHRI protein exhibits high identity with all members of eIF2akinase family. It contains 12 catalytic subdomains located within the C-terminus of all Ser/Thr protein kinases, a uniquekinase insertion of 136 amino acids between subdomains IV and V, and a relatively conserved N-terminal domain (NTD).Upon heat shock, virus infection or Poly I:C treatment, PoHRI mRNA and protein are significantly upregulated in FECcells but show different expression patterns in response to different stresses. In healthy flounders, PoHRI displays a widetissue distribution at both the mRNA and protein levels. These results indicate that PoHRI is a ubiquitous eIF2a kinaseand might play an important role in translational control over nonheme producing FEC cells under different stresses.r 2006 Elsevier Ltd. All rights reserved.

【语种】英文

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【题目】Differential expression of three Paralichthys olivaceus Hsp40 genes in responses to virus infection and heat shock
【中文关键词】热激蛋白40,牙鲆,鲆弹状病毒
【英文关键词】heat shock protein (Hsp) 40; paralichthys olivaceus; Scophthalmus maximus rhabdovirus; differential expression; heat shock
【中文摘要】三种牙鲆Hsp40 基因在热激和病毒感染时的不同表达
【英文摘要】By subtractive suppression hybridization, three Hsp40 homologues have been identified in the flounder (Paralichthys olivaceus) embryonic cells (FEC) after treatment with UV-inactivated turbot (Scophthalmus maximus L.) rhabdovirus (SMRV), termed PoHsp40A4, PoHsp40B6 and PoHsp40B11, whose encoded proteins all possess the conserved DnaJ domain, a signature motif of the Hsp40 family. Based on different protein structure and phylogenetic analysis, they can be categorized into two subfamilies, PoHsp40A4 for Type I Hsp40, PoHsp40B6 and PoHsp40B11 for Type 11 Hsp40. Further expression analysis revealed two very different types of kinetics in response either to heat shock or to virus infection, with a marked induction for PoHsp4OA4 and a weak one for both PoHsp40B6 and PoHsp40B11. A very distinct tissue distribution of mRNA was also revealed among the three genes, even between PoHsp40B6 and PoHsp40B11. This is the first report on the transcriptional induction of Hsp40 in virally stimulated fish cells, and the differential expressions might reflect their different roles in unstressed and stressed cells
【语种】英文
【第一作者】董彩文
【通讯作者】桂建芳
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【学科分类】水产学基础学科

【题目】Characterization of the Rana grylio virus 3β-hydroxysteroid dehydrogenase and its novel role in suppressing virus-induced cytopathic effect
【中文关键词】蛙虹彩病毒,3β羟基类固醇脱氢酶,瞬时早期反应基因,亚细胞定位
【英文关键词】Iridovirus; Ranagryliovirus (RGV); 3β-Hydroxysteroid dehydrogenase (3β-HSD); Immediate-early gene; Subcellular localization; Mitochondria; Cytopathiceffect (CPE)
【中文摘要】鉴定蛙虹彩病毒3β羟基类固醇脱氢酶基因及抑制病毒诱导病变效应中的作用
【英文摘要】The 3β-hydroxysteroid dehydrogenase (3β-HSD) isoenzymes play a key role in cellular steroid hormone synthesis. Here, a 3β-HSD gene homolog was cloned from Ranagryliovirus (RGV), a member of family Iridoviridae. RGV 3β-HSD gene has 1068 bp, encoding a 355 aa predicted protein. Transcription analyses showed that RGV 3β-HSD gene was transcribed immediate-early during infection from an initiation site 19 nucleotides upstream of the translation start site. Confocal microscopy revealed that the 3β-HSD-EGFP fusion protein was exclusively colocalized with the mitochondria marker (pDsRed2-Mito) in EPC cells. Upon morphological observation and MTT assay, it was revealed that overexpression of RGV 3β-HSD in EPC cells could apparently suppress RGV-inducedcytopathiceffect (CPE). The present studies indicate that the RGV immediate-early 3β-HSD gene encodes a mitochondria-localized protein, which has a novelrole in suppressingvirus-induced CPE. All these suggest that RGV 3β-HSD might be a protein involved in host-virus interaction.
【语种】英文
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【题目】Molecular characterization of three Rana grylio virus (RGV) isolates and Paralichthys olivaceus lymphocystis disease virus (LCDV-C) in iridoviruses
【中文关键词】蛙虹彩病毒,虹彩病毒,淋巴囊肿病毒
【英文关键词】RGV; LCDV-C; Iridovirus; Lymphocystisvirus; Ranavirus; MCP
【中文摘要】分离鉴定三种蛙虹彩病毒和牙鲆淋巴囊肿病毒
【英文摘要】Three Rana grylio virus (RGV) isolates and lymphocystis disease virus (LCDV-C) were molecularly characterized by antigenicity comparison, Western blot detection of viral polypeptides, restriction fragment length polymorphism analysis of viral genomes, and MCP sequence analysis. Significant antigenicity differences existed among the three RGV isolates and LCDV-C. Western blot detection indicated that the viral polypeptides of three RGV isolates could be recognized by the anti-RGV9807 serum, whereas no bands were observed in the LCDV-C, and significant differences exist among the band patterns of three RGV isolates. Restriction fragment length polymorphism (RFLP) analysis was performed by digesting genomic DNA of the four iridovirus isolates with restriction endonucleases HindIII, KpnI, XbaI and BamHI. On the whole, obvious discrepancies existed between LCDV-C and RGV isolates, and some significant band pattern differences were also revealed between RGV9808 and RGV9506 (or RGV9807) in the profiles of restriction endonucleases Xbal, Kpn I and BamHI. PCR amplification and sequence analysis of MCP gene sequence further revealed their phylogenetic relationship among the three RGV isolates, LCDV-C and other iridoviruses. RGV9506, RGV9807 and RGV9808 are clustered together with other ranaviruses, such as FV3, BIV, TFV and ENHV, although the RGV9808 is more close to EHNV than to other ranaviruses. Additionally, LCDV-C is clustered with LCDV-1, the type species of genus Lymphocystisvirus. The current study provides clear evidence that significant genetic difference exists among the three RGV isolates. Therefore, further work on comparative genomic studies will contribute significantly to understanding of their taxonomic position and pathological mechanism.
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【学科分类】水产学基础学科

【题目】Major histocompatibility complex class II B allele polymorphism and its association with resistance/susceptibility to Vibrio Anguillarum in Japanese flounder(Paralichthys olivaceus)
【中文关键词】抗病性,耐病性,牙鲆,多态性
【英文关键词】cDNA; disease resistance; disease susceptibility; Japanese flounder; major histocompatibility complex class IIB (MHC IIB) Paralichthys olivaceus; polymorphism
【中文摘要】牙鲆主要组织相容性复合体 II B等位基因多态性及对鳗弧菌耐受性
【英文摘要】The full length of major histocompatibility complex (MHC) class IIB cDNA was cloned from a Chinese population of Paralichthys olivaceus by homology cloning and rapid amplification of cDNA ends-polymerase chain reaction (RACE-PCR). The MHC IIB genomic sequence is 1,864 bp long and consists of 34-bp 5'UTR, 741-bp open reading frame, 407-bp 3'UTR, 96-bp intron1, 392-bp intron2, 85-bp intron3, and 109-bp intron4. Phylogenetic analysis showed that the putative MHC class IIB amino acid of the Chinese P. olivaceus shared 28.3% to 85.4% identity with that of the reported MHC class IIB in other species. A significant association between MHC IIB polymorphism and disease resistance/ susceptibility was found in Chinese P. olivaceus. Thirteen different MHC IIB alleles were identified among 411 clones from 84 individuals. Among the 280 (268) nucleotides, 32 (11.4%) nucleotide positions were variable. Most alleles such as alleles a, b, c, d, e, f, j, k, i, m were commonly found in both resistant and susceptible stock. Via chi(2) test, allele d was significantly more prevalent in individuals from susceptible stock than from resistant stock, and their percentages were 23.80% and 7.14%, respectively. In addition, allele g occurred in 9 and allele h in 4 of 42 resistant individuals that were not present in the

susceptible stock; their percentages were 21.4% and 9.52%, respectively. Although allele l was found only in 8 individuals from the susceptible stock, its percentage is 19.05%.
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【学科分类】水产学基础学科

【题目】Molecular identification and expression analysis of the natural killer cell enhancing factor (NKEF) gene from turbot (Scophthalmus maximus)
【中文关键词】大菱鲆,自然杀伤细胞因子,基因表达
【英文关键词】turbot; Scophthalmus maximus; NKEF; natural killer cell enhancing factor; cDNA; expression
【中文摘要】分子克隆和分析大菱鲆自然杀伤细胞因子基因
【英文摘要】We have recently isolated a cDNA encoding NKEF from turbot (Scophthalmus maximus). The cDNAs of NKEF were cloned from turbot spleen cDNA library. The 904 bp full-length cDNA of the NKEF was obtained by RACE and consisted of 122 bp 5' terminal UTR, 591 bp encoding region and 191 bp 3' terminal UTR. The 591 bp open reading frame was found to code for a protein with 197 amino acid residues. The deduced amino acid sequence of turbot had 85.3%, 81.7%, 81.2%, 80.7%, 80.7%, 79.2%, 78.2%, 77.7%, 77.7%, 77.2% and 58.2% identity with that of zebrafish, channel catfish, flounder, Tetraodon nigroviridis, rainbow trout and mouse Prx2-1, human NKEF-A, carp and rat TSA, human NKEF-B and yeast TSA, respectively. RT-PCR indicated that NKEF transcripts were abundant in the head kidney, spleen and liver, less abundant in the kidney and intestine, and least in gill, muscle and heart. The level of NKEF mRNA in embryos gradually increases during embryogenesis from two cell stage to fry stage. Challenge of turbot with pathogenic bacteria Vibrio anguillarum, significantly elevated NKEF mRNA levels in the liver and spleen in a time-dependent fashion. The NKEF transcripts were detected in turbot embryonic cell line (TEC). Challenge of the TEC cell cultures with pathogenic bacteria, V. anguillarum, significantly elevated NKEF mRNA levels in TEC cell cultures 48 h after infection
【语种】英文
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【题目】Molecular polymorphism and expression analysis of MHC class II β gene from red sea bream (Chrysophrys major)
【中文关键词】主要组织相容性复合体 II B,多态性,红鲷
【英文关键词】Major histocompatibility complex class II B; MHCclass II B; Gene; Polymorphism; Redseabream; Chrysophrysmajor; cDNA; Expression
【中文摘要】红鲷MHC class Ii β 基因分子多态性分析
【英文摘要】we have isolated cDNAs encoding class II B from spleen cDNA library of redseabream (Chrysophrysmajor) by using EST sequencing, and examined genomic organization, molecularpolymorphism and expression of redseabreamclass II Bgene. As in other vertebrates, five exons and four introns were identified in redseabreamclass II Bgene. Seven class II B alleles were identified from seven individuals of redseabream. The deduced amino acid sequence of redseabreamMHCclass II B 1(Chma-DAB*0101) had 87.1, 85.1, 87.1, 90.4, 87.1, 90.8% identity with those of redseabreamclass II B 2, 3, 4, 5, 6, 7(Chma-DAB*0201-Chma-DAB*0701), respectively, and had 75.2, 74.5, 55.9, 55.1, 34.3 and 30.4% identity with those of striped sea bass, cichlid, rainbow trout, Atlantic salmon, mouse and human, respectively. Four different class II B alleles were observed in a single individual and two different 3′ untranslated region (3′ UTR) sequences from this individual may infer the existence of two loci at least. Semi-quantitative RT-PCR demonstrated that high expression was detected in liver, head kidney, kidney, intestine, gill, stomach, hear and spleen, low expression in

muscle and blood. Challenge of redseabream with the pathogenic bacteria, Vibrio anguillarum, resulted in a significant decrease in the expression of MHCclass II B mRNA from 5 to 72 h after infection in liver, spleen, head kidney and intestine, followed by a recovery to normal level after 96 h

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【题目】Molecular identification and expression analysis of natural resistance associated macrophage protein (Nramp) cDNA from Japanese flounder (Paralichthys olivaceus)
【中文关键词】牙鲆,cDNA,表达
【英文关键词】Japanese flounder; Paralichthys olivaceus; Nramp; cDNA; expression
【中文摘要】自然抗性相关巨噬细胞蛋白基因克隆和表达分析
【英文摘要】We have recently isolated a cDNA encoding Nramp from Japanese flounder (Paratichthys olivaceus). The full-length cDNA of the Nramp is 3066 bp in length, including 224 bp 5' terminal UTR, 1662 bp encoding region and 1180 bp 3' terminal UTR. The 1662-nt open reading frame was found to code for a protein with 554 amino acid residues. Comparison of amino acid sequence indicated that Japanese flounder Nramp consists of 12 transmembrane (TM) domains. A consensus transport motif (CTM) containing 20 residues was observed between transmembrane domains 8 and 9. The deduced amino acid sequence of Japanese flounder had 77.30%, 82.71%, 82.67%, 79.64%, 80.72%, 90.97%, 91.16%, 60.14%, 71.48%, 61.69%, 72.37% identity with that of rainbow trout Nramp alpha and beta, channel catfish Nramp, fathead minnow Nramp, common carp Nramp, striped sea bass Nramp, red sea bream Nramp, mouse Nramp 1 and 2, human Nramp 1 and 2, respectively. RT-PCR indicated that Nramp transcripts were highly abundant in spleen, head kidney, abundant in intestine, liver and gill, and less abundant in heart. The level of Nramp mRNA in embryos gradually increases during embryogenesis from 4 h (8 cell stage) to 80 h (hatched stage) after fertilization
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【第一作者】陈松林
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【题目】Molecular identification and expression analysis of a CXCL10-like chemokine from turbot (Scophthalmus maximus)
【中文关键词】趋化因子,大菱鲆,感染,cDNA
【英文关键词】chemokine; CXC; CXCL10; turbot; Scophthalmus maximus; infection; cDNA
【中文摘要】大菱鲆CXCL10-like因子基因克隆及表达分析
【英文摘要】We have constructed a turbot spleen cDNA library that has over 2.2 x 10(6) primary clones. Its average insert size was estimated to about 700-2000 bp by PCR of 40 randomly picked clones. A novel turbot CXC chemokine was screened from this library. Both 5 '-RACE and 3 '-RACE were carried out in order to obtain the complete cDNA, which contains a 79 bp 5 ' UTR, a 372 bp open reading frame encoding 123 amino acids and a 227 bp 3 ' UTR. Four exons and three introns were identified in the turbot CXC chemokine gene. The three introns were 591 bp, 86 bp and 125 bp, respectively. Both BLASTP similarity comparisons and Phylogenetic analysis showed that the turbot CXC chemokine was closer to CXCL10. Interestingly, the highest expression levels of the turbot CXC chemokine were detected at 12 h in liver and spleen after challenge with V anguillarum and at 5 h in head kidney. The expression in liver decreased gradually after 12 h and returned the level of background after 72 h. In spleen, the expression kept high levels till 24 h and then became faint consistent with background. The expression of the CXC chemokine was not detected in normal tissues of turbot, which suggested it only was induced when challenged with V anguillarum. These results indicated that the turbot CXC chemokine

played an important role in turbot immune response.
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【通讯作者】陈松林
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【学科分类】水产学基础学科

【题目】Molecular cloning and expression analysis of the natural resistance associated macrophage protein (Nramp) cDNA from turbot (Scophthalmus maximus)
【中文关键词】大菱鲆,天然抗性相关巨噬细胞蛋白,基因表达
【英文关键词】turbot; Scophthalmus maximus; Nramp; cDNA; expression
【中文摘要】大菱鲆天然抗性相关巨噬细胞蛋白基因克隆及表达分析
【英文摘要】Nramp (natural resistance associated macrophage protein) has been identified as one of the major candidate genes for controlling natural resistance and/or susceptibility to intracellular pathogens in vertebrates. However, few reports are available about the structure and function of Nramp in teleost. We have recently isolated the cDNA encoding Nramp from turbot (Scophthalmus maximus). The full-length cDNA of the Nramp is 2584 bp in length, including 69 bp 5'terminal UTR, 850 bp 3'terminal UTR and 1665 bp open reading frame for a protein with 554 amino acid residues (Genbank accession number: DQ263240). Comparison of amino acid sequence indicated that turbot Nramp consists of 12 transmembrane regions (TM) domains. A consensus transport motif (CTM) containing 20 residues was observed between transmembrane domains 8 and 9. The deduced amino acid sequence of turbot Nramp exhibited between 60 and 92% homology with 13 other vertebrate Nramp sequences. Nramp transcripts were found to be highly abundant in head kidney, kidney and spleen, abundant in intestine and gill, less abundant in liver, brain, heart and gonad, least in muscle and skin. The level of Nramp mRNA in embryos gradually increases during embryogenesis from blastula stage to fry stage. Challenge of turbot with pathogenic bacteria, Vibrio anguillarum, elevated Nramp mRNA levels in liver and spleen. The Nramp transcripts were detected in turbot embryonic cell line (TEC). Challenge of the TEC cell cultures with pathogenic bacteria, V anguillarum, significantly elevated Nramp mRNA levels in TEC cell cultures. (c) 2006 Elsevier Inc. All rights reserved.
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【学科分类】水产学基础学科

【题目】Cloning, characterization and expression analysis of a novel CXC chemokine from turbot (Scophthalmus maximus)
【中文关键词】大菱鲆,趋化因子,感染
【英文关键词】CXC; chemokine; turbot; Scophthalmus maximus; infection; cDNA
【中文摘要】大菱鲆新CXC趋化因子基因克隆鉴定和表达分析
【英文摘要】Chemokines represent a superfamily of chemotactic cytokines playing an important role in leucocyte chemotaxis. Here we report a novel turbot CXC chemokine screened from a turbot spleen cDNA library. The complete cDNA of the turbot CXC chemokine contains an 81 bp 5' UTR, a 414 bp open reading frame (ORF) encoding 137 amino acids and a 449 bp 3'UTR. Four exons and three introns are identified in the turbot CXC chemokine gene. Phylogenetic analysis showed that the turbot CXC chemokine clustered apart from all other CXC chemokines. RT-PCR demonstrated that turbot CXC chemokine was expressed highly in spleen and head kidney. During the early stages of embryo development after fertilization, it appears that low expression level of turbot CXC chemokine was firstly observed at somites stage. Interestingly, the turbot chemokine was highly and rapidly (5 h) induced in liver, spleen and head kidney of turbot after challenge with Vibrio anguillarum. Furthermore, the expression of CXC chemokine was also dramatically increased after challenge in turbot embryonic cells (TECs). These results indicated that the turbot CXC chemokine played

an important role in turbot immune response.
【语种】英文
【第一作者】刘洋
【通讯作者】陈松林
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【学科分类】水产学基础学科

【题目】Molecular cloning and expression analysis of a hepcidin antimicrobial peptide gene from turbot (Scophthalmus maximus)
【中文关键词】大菱鲆,抗菌肽,cDNA,表达
【英文关键词】turbot; Scophthalmus maximus; hepcidin; cDNA; gene; expression
【中文摘要】大菱鲆抗菌体基因克隆鉴定及表达分析
【英文摘要】Antimicrobial peptides (AMPS) are regarded as important components of the host innate immune system and play crucial role in host defence against microbial invasion. A small number of hepcidin AMPS have been isolated from teleosts. Here, we report the isolation of a hepcidin gene from the liver of turbot (Scophthalmus maximus) (GenBank accession numbers: AY994074 and AY994075). In the 1037 bp-long genomic sequence, three exons and two introns were identified. The full-length cDNA is 778 by long and contains an ORF of 273 by encoding a prepropeptide of 90 amino acid residues. The predicted prepropeptide consists of three domains: a signal peptide (24 amino acids), a prodomain (40 amino acids) and a mature peptide (26 amino acids). RT-PCR demonstrated that hepcidin transcripts were highly abundant in liver, abundant in heart, head kidney, spleen, skin and gill, less abundant in blood cell, gonad and intestine, and undetectable level in muscle. The level of the hepcidin mRNA in embryos gradually increases during embryogenesis from 2 h (2 cell stage) to 95 h (larva stage) after fertilisation. Challenge of turbot with pathogenic bacteria, Listonella anguillarum, significantly elevated hepcidin mRNA levels in liver and spleen in a time-dependent fashion. The hepcidin transcripts were detected in turbot embryonic cell line (TEC). Challenge of TEC cells with the pathogenic bacteria significantly elevated hepcidin mRNA levels. (c) 2006 Elsevier Ltd. All rights reserved.
【语种】英文
【第一作者】陈松林
【通讯作者】陈松林
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【学科分类】水产学基础学科

【题目】Molecular identification, polymorphism and expression analysis of major histocompatibility complex class II A and B genes of turbot (Scophthalmus maximus)
【中文关键词】大菱鲆,大菱鲆主要组织相容性复合体IIA和B,多态性
【英文关键词】cDNA; expression; major histocompatibility complex class II; MHC class IIA and B; polymorphism; turbot Scophthalmus maximus
【中文摘要】大菱鲆主要组织相容性复合体IIA和B基因克隆鉴定和表达分析
【英文摘要】Major histocompatibility complex (MHC) class II has a central role in the adaptive immune system by presenting foreign peptides to the T-cell receptor. The full lengths of MHC class IIA and B cDNA were cloned from turbot by homology cloning and rapid amplification of cDNA ends polymerase chain reaction (RACE PCR), and genomic organization, molecular polymorphism, and expression of turbot class IIB gene were examined to study the function of class IIB gene in fish. The deduced amino acid sequence of turbot class IIA (GenBank accession no.DQ001730) and turbot class IIB (GenBank accession no. DQ094170) had 69.8%, 67.6%, 65.5%, 59.2%, 54.5%, 52.8%, 46.2%, 46.6%, 28.3%, 28.5%, 22.2% identity and 71.5%, 70.7%, 67.1%, 68.4%, 46.7%, 53.5%, 46.7%, 50.0%, 25.2%, 29.2%, 27.6% identity with those of Japanese flounder, striped sea bass, red sea bream, cichlid, rainbow trout, Atlantic salmon, carp, zebrafish, nurse shark, mouse and human, respectively. Eleven class IIB alleles were identified from three turbot individuals. The amino acid sequence of turbot class IIB designated as Scma-DAB* 0101 had 86.9%, 88.6%, 88.6%, 89.4%, 87.8%,

86.9%, 84.1%, 86.5%, 87.3%, 77.1%, and 86.9% identity with those of turbot class IIB 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 (Scma-DAB*0201-Scma-DAB*1201), respectively. Six different class IIB alleles observed in a single individual may infer the existence of three loci at least. Semiquantitative reverse transcriptase PCR (RT-PCR) demonstrated that turbot class IIA and B were ubiquitously expressed in normal tissues. Challenge of turbot with pathogenic bacteria, Vibrio anguillarum, resulted in a significant decrease in the expression of MHC class IIB mRNA from 24 h to 48 h after infection in liver and head kidney, and a significant decrease from 24 h to 72 h after infection in spleen, followed by an increase after 96 h, respectively.

【语种】英文
【第一作者】张玉喜
【通讯作者】陈松林
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【学科分类】水产学基础学科

【题目】Mitochondrion-mediated apoptosis induced by Rana grylio virus infection in fish cells
【中文关键词】鱼类细胞,凋亡,蛙虹彩病毒
【英文关键词】fish cell; apoptosis; mitochondrion; mitochondrial fragmentation; rana glylio virus (RGV); caspase
【中文摘要】鱼类细胞中蛙虹彩病毒介导的细胞凋亡
【英文摘要】A fish cell line, fathead minnow (FHM) cell, was used to investigate the alteration of mitochondrial dynamics and the mechanism of apoptosis under Rana grylio virus (RGV) infection. Microscopy observations, flow-cytometry analysis and molecular marker detection revealed the apoptotic fate of the RGV-infected cells. Some typical apoptotic characteristics, such as chromatin condensation, DNA fragmentation and mitochondrial fragmentation, were observed, and significantly morphological changes of mitochondria, including size, shape, internal structure and distribution, were revealed. The mitochondria in RGV-infected cells were aggregated around the viromatrix, and the aggregation could be blocked by colchicine. Moreover, the Delta psi m collapse was induced, and caspase-9 and caspase-3 were activated in the RGV-infected cells. In addition, NF-kappa B activation and intracellular Ca2+ increase were also detected at different times after infection. The data revealed the detailed dynamics of mitochondrion-mediated apoptosis induced by an iridovirus, and provided the first report on mitochondrial fragmentation during virus-induced apoptosis in fish cells.

【语种】英文
【第一作者】黄友华
【通讯作者】张奇亚
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【学科分类】水产学基础学科

【题目】Improvement and observation of immunoelectron microscopic method for the localization of frog Rana grylio virus (RGV) in infected fish cells
【中文关键词】免疫电镜,鱼类细胞,虹彩病毒
【英文关键词】immunoelectron microscopy; iridovirus; RGV; fish cell; amorphous structures
【中文摘要】改进免疫电镜观察病毒在感染细胞中的定位方法
【英文摘要】In this paper, to understand the roles of amorphous structures which were observed within the viromatrix of Rana grylio virus (RGV), an improved immunoelectron microscopy (IEM) method was developed to detect the localization of RGV in carp Epithelipma pap

【语种】英文
【第一作者】黄晓红
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【引文索引号】000246629400007
【学科分类】水产学基础学科

【题目】Characterization and expression analysis of Paralichthys olivaceus voltage-dependent anion channel (VDAC) gene in response to virus infection
【中文关键词】电压依赖阳离子通道,诱导表达,牙鲆,病毒感染
【英文关键词】voltage-dependent anion channel; inductive expression; Paralichthys olivaceus; virus infection; apoptosis
【中文摘要】鉴定分析病毒感染后细胞电压依赖阳离子通道的表达
【英文摘要】Voltage-dependent anion channel (VDAC, also known as mitochondrial porin) is acknowledged to play an important role in stress-induced mammalian apoptosis. In this study, Paralichthys olivaceus VDAC (PoVDAC) gene was identified as a virally induced gene fr
【语种】英文
【第一作者】刘爱军
【通讯作者】张奇亚
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【引文索引类型】SCI
【引文索引号】000248509800011
【学科分类】水产学基础学科

【题目】Isolation and characterization of a rhabdovirus from co-infection of two viruses in mandarin fish
【中文关键词】鳜鱼,共感染,蛙虹彩病毒
【英文关键词】mandarin fish; co-infection; rhabdovirus; SCRV; N gene; Vesiculovirus
【中文摘要】从鳜鱼感染的两种病毒中分离鉴定一种弹状病毒
【英文摘要】Co-infection of two viruses has been observed in mandarin fish (Siniperca chuatsi), but the two viruses have not been characterized. In this study, a rhabdovirus has been isolated from the co-infected two viruses extracted from the diseased mandarin fish
【语种】英文
【第一作者】陶建军
【通讯作者】张奇亚
【期刊名称、卷期、页码】Aquaculture,2007;262(1):1-9
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【引文索引类型】SCI
【引文索引号】000244384500001
【学科分类】水产学基础学科

【题目】Isolation and characterization of Scophthalmus maximus rhabdovirus
【中文关键词】大菱鲆,弹状病毒,鱼类病毒病
【英文关键词】rhabdovirus; Scophthalmus maximus; fish viral disease; rhabdovirus polymerase
【中文摘要】分离鉴定大菱鲆弹状病毒
【英文摘要】A rhabdovirus associated with a lethal hemorrhagic disease in cultured turbot Scophthalm us maximus Linnaeus was isolated. The virus induced typical cytopathogenic effects (CPE) in 9 of 15 fish cell lines examined and was then propagated and isolated fro
【语种】英文
【第一作者】张奇亚
【通讯作者】张奇亚
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【学科分类】水产学基础学科

【题目】Characterization of an early gene encoding for dUTPase in Rana grylio virus
【中文关键词】蛙虹彩病毒,早期病毒基因,蛋白合成抑制子
【英文关键词】Rana grylio virus (RGV); iridovirus; DUTPase (DUT); early viral gene; protein synthesis inhibitor; DNA replication inhibitor
【中文摘要】鉴定一种早期编码蛙虹彩病毒dUTPase基因
【英文摘要】dUTPase (DUT) is a ubiquitous and important enzyme responsible for regulating levels of dUTP. Here, an iridovirus DUT was identified and characterized from Rana grylio virus (RGV) which is a pathogen agent in pig frog. The DUT encodes a protein of 164aa w
【语种】英文
【第一作者】赵哲
【通讯作者】张奇亚
【期刊名称、卷期、页码】Virus Res,2007;123(2):128-137
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【引文索引号】000244017300003
【学科分类】水产学基础学科

【题目】Establishment, characterization, and virus susceptibility of a new marine cell line from red spotted grouper (Epinephelus akaara)
【中文关键词】鱼类细胞系,虹彩病毒,赤点石斑鱼
【英文关键词】fish cell line; iridovirus; red spotted grouper Epinephelus akaara; rhabdovirus; transfection
【中文摘要】一个新的赤点石斑鱼细胞系的建立鉴定及病毒敏感性研究
【英文摘要】A marine fish cell line from the snout of red spotted grouper Epinephelus akaara, a protogynous hermaphrodite, was established, characterized, and subcultured with more than 60 passages. The grouper snout cell line (GSC) cells multiplied well in Dulbecco'
【语种】英文
【第一作者】周广州
【通讯作者】张奇亚
【期刊名称、卷期、页码】Mar Biotechnol,2007;9(3):370-376
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【学科分类】水产学基础学科

【题目】Identification and characterization of two homologs of interferon stimulated gene ISG15 in crucian carp
【中文关键词】草鱼,出血病,干扰素
【英文关键词】Carassius auratus; ISG15; differential expression; interferon; grass carp; haemorrhagic virus; antiviral-relevant genes; innate immune response
【中文摘要】分离鉴定鲫鱼两种同源ISG15基因
【英文摘要】ISG15 is one of the most strongly induced genes upon viral infection, interferon (IFN) stimulation, and lipopolysaccharide, (LPS) stimulation, and only one copy has been found in mammals so far. Here two fish ISG15 genes, termed CaISG15-1 and CaISG15-2, h
【语种】英文
【第一作者】张义兵

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【学科分类】水产学基础学科

【题目】Molecular characterization and inductive expression of a fish protein arginine methyltransferase 1 gene in response to virus infection
【中文关键词】蛋白质精氨酸甲基转移酶1,牙鲆,病毒感染
【英文关键词】protein arginine methyltransferase 1; Paralichthys olivaceus; Scophthalmus maximus rhabdovirus virus (SMRV); virus infection; differential expression; antiviral immune response
【中文摘要】病毒感染后蛋白质精氨酸甲基转移酶1基因鉴定和诱导表达分析
【英文摘要】Protein arginine methyltransferase 1 (PRMT1) is currently thought as an effector to regulate interferon (IFN) signalling. Here Paralichthys olivaceus PRMT1 (PoPRMT1) gene was identified as a vitally induced gene from UV-inactivated Scophthalmus maximus Rh
【语种】英文
【第一作者】董彩文
【通讯作者】桂建芳
【期刊名称、卷期、页码】Fish Shellfish Immunol,2007;22(4):380-393
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【引文索引号】000244247700008
【学科分类】水产学基础学科

【题目】The Innate immune response to grass carp hemorrhage virus (GCHV) in cultured Carassius auratus blastula (CAB) Cells
【中文关键词】干扰素基因,基因表达,草鱼出血病病毒
【英文关键词】Interferon response; Interferon system genes; Gene expression; Carassius auratus blastulae embryonic (CAB) cells; Grass carp
hemorrhagic virus (GCHV)
【中文摘要】金鱼肠细胞系对草鱼出血病病毒的天然免疫反应
【英文摘要】Virus infection of mammalian cells activates an innate antiviral immune response characterized by production ofinterferon (IFN) and the subsequent transcriptional upregulation of IFN-stimulated genes (ISGs) by the JAK-STATsignaling pathway. Here, we report that a fish cell line, crucian carp (Carassius auratus L.) blastulae embryonic (CAB) cells,can produce IFN activity and then form an antiviral state after infection with UV-inactivated grass carp hemorrhagic virus(GCHV), a double-stranded (ds) RNA virus. From UV-inactivated GCHV-infected CAB cells, 15 pivotal genes werecloned and sequenced, and all of them were shown to be involved in IFN antiviral innate immune response. These IFNsystem genes include the dsRNA signal sensing factor TLR3, IFN, IFN signal transduction factor STAT1, IFN regulatoryfactor IRF7, putative IFN antiviral effectors Mx1, Mx2, PKR-like, Viperin, IFI56, and other IFN stimulated genes (ISGs)IFI58, ISG15-1, ISG15-2, USP18, Gig1 and Gig2. The identified fish IFN system genes were highly induced by activeGCHV, UV-inactivated GCHV, CAB IFN or poly(I).poly(C), and showed similar expression patterns to mammals. Thedata indicate that an IFN antiviral innate immune response similar to that in mammals exists in the UV-inactivatedGCHV-infected CAB cells, and the IFN response contributes to the formation of an antiviral state probably through JAKSTATsignaling pathway. This study provides strong evidence for existence of IFN antiviral innate immune response infish, and will assist in elucidating the origin and evolution of vertebrate IFN system
【语种】英文
【第一作者】张义兵
【通讯作者】桂建芳
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【学科分类】水产学基础学科

【题目】MHC polymorphism and disease resistance to Vibrio anguillarum in 12 selective Japanese flounder (Paralichthys olivaceus) families
【中文关键词】牙鲆,主要组织相容性复合体,鳗弧菌,抗病性
【英文关键词】Paralichthys olivaceus; major histocompatibility complex; Vibrio anguillarum; disease resistance
【中文摘要】12个牙鲆家系中主要组织相容性复合体多态性及对鳗弧菌抗病性研究
【英文摘要】Genetic variation in the major histocompatibility complex (MHC) class IIB was tested in Japanese flounder (Paralichthys olivaceus) for survival after challenge with bacterial infection. The material consisted of 6000 Japanese flounder from 60 families cha
【语种】英文
【第一作者】徐田军
【通讯作者】陈松林
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【引文索引号】000259759700004
【学科分类】水产学基础学科

【题目】Identification and characterization of a novel envelope protein in Rana grylio virus
【中文关键词】包被蛋白,蛙虹彩病毒
【英文关键词】envelope protein; Rana grylio virus
【中文摘要】分离鉴定一种新的蛙虹彩病毒包被蛋白
【英文摘要】Viral envelope proteins have been proposed to play significant roles in virus infection and assembly. In this study, an envelope protein gene, 53R, was cloned and characterized from Rana grylio virus (RGV), a member of the family Iridoviridae. Database se
【语种】英文
【第一作者】赵哲
【通讯作者】张奇亚
【期刊名称、卷期、页码】Journal of General Virology,2008;89:1866-1872
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【引文索引类型】SCI
【引文索引号】000258301800009
【学科分类】水产学基础学科

【题目】Functional domains and the antiviral effect of the dsRNA-dependent protein kinase PKR from Paralichthys olivaceus
【中文关键词】牙鲆,双链RNA依赖的蛋白激酶PKR
【英文关键词】Thymidylate synthase; Lymphocystis disease virus from China (LCDV-C); Cell transformation; Foci formation; Anchorage-independent growth
【中文摘要】牙鲆双链RNA依赖的蛋白激酶PKR功能区和抗病性研究
【英文摘要】we identify the first fish PKR gene from the Japanese flounder Paralichthys olivaceus (PoPKR). PoPKR encodes a protein that shows a conserved structure that is characteristic of mammalian PKRs, having both the N-terminal region for dsRNA binding and the C-terminal region for the inhibition of protein translation. The catalytic activity of PoPKR is further evidence that it is required for protein translation inhibition in vitro. PoPKR is constitutively transcribed at low levels and is highly induced after virus infection. Strikingly, PoPKR overexpression increases eIF2 alpha phosphorylation and inhibits the replication of Scophthalmus maximus rhabdovirus (SMRV) in flounder embryonic cells, whereas phosphorylation and antiviral effects are impaired in transfected cells expressing the catalytically inactive PKR-K421R variant, indicating that PoPKR inhibits virus replication by phosphorylating substrate eIF2 alpha. The interaction between PoPKR and eIF2 alpha is demonstrated by coimmunoprecipitation assays, and the

transfection of PoPKR-specific short interfering RNA further reveals that the enhanced eIF2 alpha phosphorylation is catalyzed by PoPKR during SMRV infection. The current data provide significant evidence for the existence of a PKR-mediated antiviral pathway in fish and reveal considerable conservation in the functional domains and the antiviral effect of PKR proteins between fish and mammals.
【语种】英文
【第一作者】赵哲
【通讯作者】桂建芳
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【引文索引类型】SCI
【引文索引号】000257545300011
【学科分类】水产学基础学科

【题目】Constitutive expression of thymidylate synthase from LCDV-C induces a transformed phenotype in fish cells
【中文关键词】胸甘酸合成酶,淋巴囊肿病毒,细胞转染
【英文关键词】Thymidylate synthase; Lymphocystis disease virus from China (LCDV-C); Cell transformation; Foci formation; Anchorage-independent growth
【中文摘要】淋巴囊肿病毒诱导的转染型细胞系中胸苷酸合成酶的组成性表达
【英文摘要】Thymidylate synthase (TS), an essential enzyme in DNA synthesis and repair, plays a key role in the events of cell cycle regulation and tumorformation. Here, an investigation was presented about subcellular location and biological function of viral TS from lymphocystis disease virus from China (LCDV-C) in fish cells. Fluorescence microscopy revealed that LCDV-C TS was predominantly localized in the cytoplasm in fish cells. Cell cycle analysis demonstrated that LCDV-C TS promoted cell cycle progression into S and G2/M phase in the constitutive expressed cells. As a result, the cells have a faster growth rate compared with the control cells as revealed by cell growth curves. For foci assay, the TSexpressed cells gave rise to foci 4 – 5 weeks after incubation. Microscopic examination of the TS-induced foci revealed multilayered growth and crisscross morphology characteristic of transformed cells. Moreover, LCDV-C TS predisposed the transfected cells to acquire an anchorageindependent phenotype and could grow in 0.3% soft agar. So the data reveal LCDV-C TS is sufficient to induce a transformed phenotype in fish cells in vitro and exhibits its potential ability in cell transformation. To our knowledge, it is the first report on viral TS sequences associated with transforming activity.
【语种】英文
【第一作者】赵哲
【通讯作者】张奇亚
【期刊名称、卷期、页码】Virology,2008;372:118-126
【论文发表时间】2008-06-01 00:00:00
【引文索引类型】SCI
【引文索引号】000253325300012
【学科分类】水产学基础学科

【题目】Genomic sequence of mandarin fish rhabdovirus with an unusual small non-transcriptional ORF
【中文关键词】基因组序列,弹状病毒,鳜鱼
【英文关键词】genomic sequence; rhabdovirus; mandarin fish; non-transcriptional ORF
【中文摘要】鳜鱼弹状病毒带有小的非转录框的基因组序列
【英文摘要】The complete genome of mandarin fish Siniperca chuatsi rhabdovirus (SCRV) was cloned and sequenced. It comprises 11,545 nucleotides and contains five genes encoding the nucleoprotein N, the phosphoprotein P, the matrix protein M, the glycoprotein G, and
【语种】英文
【第一作者】陶建军
【通讯作者】张奇亚
【期刊名称、卷期、页码】Virus Research,2008;132:86-96
【论文发表时间】2008-03-01 00:00:00
【引文索引类型】SCI

【引文索引号】000254109100010
【学科分类】水产学基础学科

【题目】Generation and characterization of monoclonal antibodies against the flounder Paralichthys olivaceus rhabdovirus
【中文关键词】免疫组化,鱼弹状病毒,单克隆抗体,流式细胞仪
【英文关键词】fish rhabdoviruses; monoclonal antibodies; immunocytochemistry; flow cytometry
【中文摘要】牙鲆弹状病毒单克隆抗体的制备
【英文摘要】Two MAbs (3C7 and 3C9) against flounder Paralichthys olivaceus rhabdovirus (PORV) were generated with hybridoma cell fusion technology and characterized by an indirect enzyme-linked immunosorbent assay, isotype test, Western blot and immunodot analysis a
【语种】英文
【第一作者】周广州
【通讯作者】张奇亚
【期刊名称、卷期、页码】Journal of Virological Methods,2008;148:205-210
【论文发表时间】2008-03-01 00:00:00
【引文索引类型】SCI
【引文索引号】000254720500026
【学科分类】水产学基础学科

【题目】Isolation, characterization and genome sequence of a birnavirus strain from flounder Paralichthys olivaceus in China
【中文关键词】牙鲆,基因组序列,双RNA病毒
【英文关键词】flounder Paralichthys olivaceus; birnavirus; genome sequence
【中文摘要】从牙鲆中分离鉴定一种双RNA病毒株并进行基因组测序
【英文摘要】A birnavirus strain, Paralichthys olivaceus birnavirus (POBV), was isolated and characterized from cultured flounder in China, and its complete genomic sequence was subsequently determined. The virus could induce cytopathic effects (CPE) in four of seven
【语种】英文
【第一作者】赵哲
【通讯作者】张奇亚
【期刊名称、卷期、页码】Archives of Virology,2008;153:1143-1148
【论文发表时间】2008-06-01 00:00:00
【引文索引类型】SCI
【引文索引号】000256089000016
【学科分类】水产学基础学科

【题目】Development and characterization of monoclonal antibodies to spring viraemia of carp virus
【中文关键词】单克隆抗体,鱼类蛙虹彩病毒,流式细胞术
【英文关键词】monoclonal antibodies; fish rhabdovirus; spring viraemia of carp virus (SVCV0504); flow cytometry
【中文摘要】鲤春病毒鉴定及单克隆抗体制备
【英文摘要】Five monoclonal antibodies (mAbs) against spring viraemia of carp (SVCV0504, isolated from common carp in China) were produced from mice immunized with purified virus preparations. The virion of SVCV contains five structural proteins, representing the nu
【语种】英文
【第一作者】陈中元
【通讯作者】张奇亚
【期刊名称、卷期、页码】Veterinary Immunology and Immunopathology,2008;123:266-276
【论文发表时间】2008-01-15 00:00:00
【引文索引类型】SCI
【引文索引号】000256747800011

【学科分类】水产学基础学科

【题目】Detection of cutaneous antibodies in excised skin explants from grass carp, Ctenopharyngodon idella (Valenciennes), immune to Scophthalmus maximus rhabdovirus
【中文关键词】草鱼,鲆弹状病毒
【英文关键词】Ctenopharyngodon idellus; cutaneous antibodies; detection; grass carp; Scophthalmus maximus rhabdovirus; skin culture
【中文摘要】从草鱼皮肤组织块中检测鲆弹状抗体
【英文摘要】This study determined whether cutaneous antibodies were present in excised skin explants of grass carp, Ctenopharyngodon idella, immune to Scophthalmus maximus rhabdovirus (SMRV). Culture fluid from immune skin explants were assayed by indirect enzyme-lin
【语种】英文
【第一作者】吕爱军
【通讯作者】张奇亚
【期刊名称、卷期、页码】Journal of Fish Diseases, 2008;31 (8):556-565
【论文发表时间】2008-08-01 00:00:00
【引文索引类型】SCI
【引文索引号】000257493600001
【学科分类】水产学基础学科

【题目】Establishment of one Chinese sturgeon (Acipenser sinensis) tail fin cell line and its susceptibility to frog iridovirus
【中文关键词】染色体,核型,细胞病变效应,淡水鱼,免疫荧光
【英文关键词】chromosome; cytopathic effect; electron microscope; freshwater fish; immunofluorescence; karyotype
【中文摘要】中华鲟尾鳍细胞系的建立鉴定及对蛙虹彩病毒的敏感性
【英文摘要】Chinese sturgeon Acipenser sinensis, a cartilaginous ganoid, is a 'living fossil' on a deeply isolated evolutionary branch. A cell line was established from Chinese sturgeon tail-fin tissue (CSTF) . These epithelial CSTF cells grew well in Dulbecco's modified Eagle's medium at 25 degrees C. Karyotypic analysis revealed a normal diploid karyotype with 2n = 264 and large numbers of punctate chromosomes. A strain of frog iridoviruses [Rana grylio virus (RGV)] was used to test the susceptibility of this cell line to infection. Infection was confirmed by cytopathic effect, immunofluorescence and electron-microscope observations, which detected the viral antigens or particles in the cytoplasm of RGV-infected cells. Molecular analysis further suggested that c. 550 bp DNA fragment could be cloned from the RGV-infected CSTF cells' DNA with major capsid protein gene polymerase chain reaction primers. Furthermore, after transfection with pEGFP vector DNA, the CSTF cell line produced significant fluorescent signals indicating its utility in exogenous studies.
【语种】英文
【第一作者】周广州
【通讯作者】张奇亚
【期刊名称、卷期、页码】Journal Fish Biololgy,2008;73:2058-2067
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【引文索引类型】SCI
【引文索引号】000261252300014
【学科分类】水产学基础学科

【题目】Expressional induction of Paralichthys olivaceus cathepsin B gene in response to virus, poly I:C and lipopolysaccharide
【中文关键词】牙鲆,诱导表达,脂多糖
【英文关键词】Flounder (Paralichthys olivaceus); Cathepsin B; Expressional induction; Lipopolysaccharide (LPS); Virus infection
【中文摘要】在病毒,poly I:C 和脂多糖的诱导下牙鲆组织蛋白酶B的表达
【英文摘要】Cathepsin B is a lysosomal cysteine protease of the papain-like enzyme family with multiple biological functions. In this study, Paralichthys olivaceus cathepsin B (PoCatB) cDNA was isolated from flounder embryonic cells (FEC) treated with UV-inactivated

【语种】英文
【第一作者】张富铁
【通讯作者】桂建芳
【期刊名称、卷期、页码】Fish Shellfish Immunol,2008;25(5):542-549
【论文发表时间】2008-11-01 00:00:00
【引文索引类型】SCI
【引文索引号】000261564400011
【学科分类】水产学基础学科

【题目】Molecular characterization and functional analysis of Carassius auratus interferon regulatory factor-1
【中文关键词】干扰素调控因子1,草鱼出血病病毒,诱导表达,核定位
【英文关键词】interferon regulator factor-1 (IRF-1); Carassius auratus; grass carp hemorrhagic virus; inductive expression; nuclear localization signal (NLS); subcellular localization
【中文摘要】草鱼干扰素调控因子1的分子克隆和表达分析
【英文摘要】Interferon (IFN)-regulatory transcription factor-1 (IRF-1) has been studied in mammals and fish but little is known about the relationship between its gene structure and nuclear 'ion of IRF-1 protein. In this study, a cDNA encoding Carassius auratus IRF-
【语种】英文
【第一作者】史燕
【通讯作者】桂建芳
【期刊名称、卷期、页码】Developmental and Comparative Immunology,2008;32(2):134-146
【论文发表时间】2008-09-01 00:00:00
【引文索引类型】SCI
【引文索引号】000252062400006
【学科分类】水产学基础学科

【题目】Cloning, characterization and expression analysis of a CC chemokine gene from turbot (Scophthalmus maximus)
【中文关键词】大菱鲆,CC趋化因子
【英文关键词】Turbot; Scophthalmus maximus; cDNA; CC chemokine; Infection; RT-PCR; RACE
【中文摘要】大菱鲆CC趋化因子的克隆鉴定和表达分析
【英文摘要】The chemokines are a superfamily of chemotactic cytokines playing an important role in leukocyte chemotaxis. Here, a turbot head kidney cDNA library was constructed in which KC70 was identified as a CC chemokine. Unknown 5' and 3' parts of the cDNA were a
【语种】英文
【第一作者】陈松林
【通讯作者】陈松林
【期刊名称、卷期、页码】Fish Physiol Biochem,2009;
【论文发表时间】2010-06-01 00:00:00
【引文索引类型】SCI
【引文索引号】000277710800005
【学科分类】水产学基础学科

【题目】Molecular cloning, genomic structure, polymorphism and expression analysis of major histocompatibility complex class IIA and IIB genes of half-smooth tongue sole (Cynoglossus semilaevis)
【中文关键词】主要组织相容性复合体 II,基因组结构,多态性
【英文关键词】Major histocompatibility complex (MHC) class II; cDNA; Genomic structure; Polymorphism; Expression; Half-smooth tongue sole (Cynoglossus semilaevis)
【中文摘要】半滑舌鳎主要组织相容性复合体IIA and IIB 分子克隆和表达分析
【英文摘要】Major histocompatibility complex (MHC) genes play an important role in the immune response of vertebrates. Its function is to present foreign peptide to the T-cell. In order to study the function and molecular polymorphism of class II genes in

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【语种】英文
【第一作者】徐田军
【通讯作者】陈松林
【期刊名称、卷期、页码】Fish Shell Immunol,2009;27:192-201
【论文发表时间】2009-04-01 00:00:00
【引文索引类型】SCI
【引文索引号】000268914600014
【学科分类】水产学基础学科

【题目】Specific MHC class II B Allele Associated with Resistance to Edwardsiella tarda in Turbot (Psetta maxima)
【中文关键词】主要组织相容性复合体 IIB,大菱鲆,抗病性
【英文关键词】Edwardsiella tarda; major histocompatibility complex II B; polymorphism; Psetta maxima; resistance; susceptibility; turbot
【中文摘要】特异MHC class II B等位基因位点与大菱鲆对爱德华菌抗病性相关
【英文摘要】Specific MHC class II B alleles associated with resistanceto Edwardsiella tarda in turbot, Psetta maxima (L.)
【语种】英文
【第一作者】徐建勇
【通讯作者】陈松林
【期刊名称、卷期、页码】J Fish Disease,2009;32:637-640
【论文发表时间】2009-01-28 00:00:00
【引文索引类型】SCI
【引文索引号】000267071800009
【学科分类】水产学基础学科

【题目】Expression regulation and functional characterization of a novel interferon inducible gene Gig2 and its promoter
【中文关键词】干扰素,干扰素刺激基因,表达调控,启动子
【英文关键词】Gig2; Interferon; Interferon-stimulated gene (ISG); IRF7; Poly I:C; Promoter; Interferon-stimulated response elements; Expression regulation
【中文摘要】一种新的干扰素诱导基因Gig2和其启动子的克隆和表达分析
【英文摘要】Grass carp hemorrhagic virus (GCHV)-induced gene 2 (Gig2) is a novel gene previously identified from UV-inactivated GCHV-treated Carassius auratus blastulae embryonic (CAB) cells, suggesting that it should play a pivotal role in the interferon (IFN) antiv
【语种】英文
【第一作者】蒋珺
【通讯作者】张义兵
【期刊名称、卷期、页码】Mol Immunol,2009;46(15):3131-3140
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【引文索引类型】SCI
【引文索引号】000270489800029
【学科分类】水产学基础学科

【题目】Subcellular localization and inductive expression of the dsRNA-dependent protein kinase PKR from Japanese flounder, Paralichthys olivaceus
【中文关键词】双链RNA依赖的蛋白激酶,诱导表达,牙鲆
【英文关键词】Double-stranded RNA (dsRNA)-dependent protein kinase (PKR); Inductive expression; Paralichthys olivaceus
【中文摘要】牙鲆双链RNA依赖的蛋白激酶的诱导表达及亚细胞定位
【英文摘要】The double-stranded RNA (dsRNA)-dependent protein kinase (PKR) belongs to the eIF2 alpha kinase family and plays a critical role in interferon (IFN)-mediated antiviral response. Recently, in Japanese flounder (Paralichthys olivaceus), a PKR gene has been

【语种】英文
【第一作者】朱蓉
【通讯作者】桂建芳
【期刊名称、卷期、页码】Progress on Natural Science,2009;19(10):1227-1234
【论文发表时间】2009-10-10 00:00:00
【引文索引类型】SCI
【引文索引号】000270021300008
【学科分类】水产学基础学科

【题目】Antimicrobial activity-specific to Gram-negative bacteria and immune modulation-mediated NF-kappaB and Sp1 of a medaka beta-defensin
【中文关键词】青鳉,抗菌活性,免疫调控
【英文关键词】Medaka; beta-Defensin; Antibacterial activity; Promoter analysis; NF-kappa B; SP1; Immune modulation
【中文摘要】特异抗革兰氏阴性菌活性的青鳉β-防御素以及NF-kappaB and Sp1介导的免疫调控
【英文摘要】Defensins are a group of cationic antimicrobial peptides which play an important role in the innate immune system by exerting their antimicrobial activity against pathogens. In this study, we cloned a novel beta-defensin cDNA from medaka (Oryzias latipes)
【语种】英文
【第一作者】桂建芳
【通讯作者】陈松林
【期刊名称、卷期、页码】Dev Comp Immunol,2009;33(4):624-637
【论文发表时间】2009-01-01 00:00:00
【引文索引类型】SCI
【引文索引号】000263781100024
【学科分类】水产学基础学科

【题目】DRIP IRRIGATION LATERAL DESIGN PROCEDURE BASED ON EMISSION UNIFORMITY AND FIELD MICROTOPOGRAPHY
【中文关键词】emitter manufacturing variation; field microtopography variation; emitter hydraulic variation; irrigation uniformity
【英文关键词】emitter manufacturing variation; field microtopography variation; emitter hydraulic variation; irrigation uniformity
【中文摘要】Field microtopography, hydraulic variation of the emitter, and manufacturing variation of emitters were analyzed to study their influence on the uniformity of drip irrigation system water application. The manufacturing coefficient in the emitter flow equation is taken as a random variable that represents the emitter manufacturing variation. Uneven field microtopography resulting in emitter pressure and flow variations is also considered as a random variable. Microtopography and the manufacturing coefficient that are assumed to follow a normal distribution were generated with a computer code. The rate of emitter discharge variation, the coefficient of discharge variation,and Christiansen s coefficient of uniformity were calculated for drip irrigation systems. Finally, the emitter uniformity equation was determined through the statistical analysis of 100 data sets, and a new design method for drip irrigation laterals is proposed. The results indicate that neglecting the microtopography leads to inappropriate design of lateral pipe diameter and length, especially when emitter operating pressures are low.
【英文摘要】Field microtopography, hydraulic variation of the emitter, and manufacturing variation of emitters were analyzed to study their influence on the uniformity of drip irrigation system water application. The manufacturing coefficient in the emitter flow equation is taken as a random variable that represents the emitter manufacturing variation. Uneven field microtopography resulting in emitter pressure and flow variations is also considered as a random variable. Microtopography and the manufacturing coefficient that are assumed to follow a normal distribution were generated with a computer code. The rate of emitter discharge variation, the coefficient of discharge variation, and Christiansen ’s coefficient of uniformity were calculated for drip irrigation systems. Finally, the emitter uniformity equation was determined through the statistical analysis of 100 data sets, and a new design method for drip irrigation laterals is proposed. The results indicate that neglecting the microtopography leads to inappropriate design of lateral pipe diameter and length, especially when emitter operating pressures are low.
【语种】英文

【第一作者】朱德兰
【通讯作者】吴普特
【期刊名称、卷期、页码】IRRIGATION AND DRAINAGE,59:1-12
【论文发表时间】2009-03-02 00:00:00
【引文索引类型】SCI
【引文索引号】10.1007/s00271-009-0196-6
【学科分类】水利工程基础学科

【题目】文家沟水库筑坝土料分散性和抗渗性能试验
【中文关键词】水工材料;分散性土;物理化学性质;分散机理;抗渗性能
【英文关键词】hydraulic material; dispersive soil; physical and chemical property; dispersive mechanism; impermeability
【中文摘要】遇水分散并流失破坏是分散性土的重要特征,对工程的安全性造成严重威胁,但是由于分散性土发现较晚,工程实例较少,因而对分散性土的判别方法、分散机理及其应用等研究不够深入。在分析土样物理化学性质和矿物成分的基础上,应用碎块、针孔、双比重计、孔隙水可溶盐和交换性钠百分比等试验方法,对文家沟水库筑坝土料的分散性和分散机理进行了研究,并探讨了土样自身抗渗和在反滤料保护条件下的抗渗性能。研究认为,文家沟水库筑坝土料属于过渡性土和分散性土;土样中含有较多的蒙脱石和钠离子以及酸碱度较高是土样产生分散性的主要原因;土样的自身抗渗较差,但是在有反滤料保护条件下具有良好的抗渗性能。结果表明:黏土产生分散性的条件是土样中含有较多的蒙脱石和钠离子以及酸碱度呈强碱性,分散性土在合适的反滤料条件下具有较强的抗渗性。
【英文摘要】The key character of dispersive clay is to be dispersed and wrecked by water flows, causing serious threats to engineering safety. But those studies on dispersive clay, such as the methods of identification, dispersive mechanism and their applications, are still not deep enough and satisfactory due to their trivial discovery and few engineering practices. Based on the analysis of physical and chemical characters and mineralogical composition, the dispersivity and dispersive mechanism of the dam soil samples in Wenjiagou Reservoir are studied by double-hydrometer tests, pore water salts tests, pinhole tests, crumb tests and exchangeable sodium percentage tests, and further investigations on the impermeability of soil samples are also carried out by itself and under the protection of inverted filter materials. The results show that soil samples are transitional and dispersive soil because of rich montmorillonoid, plenty of sodium-ion and strong alkalescence. The soil samples have weakself-impermeability, but favorable impermeability under the protection of the inverted filter materials. The studies indicate that soil becomes dispersive clay only under the conditions of rich montmorillonoid contents, more sodium-ion and strong alkalescence, and the dispersive clay presents a better seepage prevention under the protection of appropriate inverted filtermaterials.
【语种】中文
【第一作者】樊恒辉
【通讯作者】樊恒辉
【期刊名称、卷期、页码】岩土工程学报,31(3):458-463
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【引文索引类型】EI
【引文索引号】20091612040664
【学科分类】水工材料

【题目】基于CorelDRAW软件的小流域模型雨滴测量试验研究
【中文关键词】CorelDRAW;雨谱特性;人工降雨;色斑法
【英文关键词】CorelDRAW; raindrop distribution; artificially simulated rainfall; color-spot method
【中文摘要】降雨雨谱的观测,是了解降雨特性的一项重要工作。修建小流域模型,是对小流域进行各种试验研究的有效手段。该文基于相似率要求,在模型降雨雨滴较小,雨谱参数难以测定问题的基础上,运用CorelDRAW软件与传统色斑法相结合,探索出一种新的测量与数据处理方法,并得出不同情况下模型的雨谱特性。该法提高了测量精度,并减少了工作量。
【英文摘要】Raindrop spectrum observation is a key to acquiring the raindrop characteristics. To build small watershed model is an effective way to do experiment in all kinds of small drainage areas. Based on the similitude ratio and the small raindrop of model rainfall and the difficulty of measuring raindrop spectrum characteristics, the authors tried to use raditional Color-spot method with CorelDRAW to form a new method for data processing and obtained the raindrop spectrum characteristics. It proves that the new method can improve measuring precision and reduce the workload greatly.

【语种】中文
【第一作者】舒若杰
【通讯作者】高建恩
【期刊名称、卷期、页码】农业工程学报,22(11):44-46
【论文发表时间】2006-11-11 00:00:00
【引文索引类型】EI
【引文索引号】20070410389883
【学科分类】固体地球物理学

【题目】锡林郭勒典型草原不同放牧强度下土壤微生物数量的分布特征
【中文关键词】典型草原;放牧强度;土壤微生物
【英文关键词】Typical steppe; Grazing intensity; Soil microorganisms
【中文摘要】比较研究了锡林郭勒典型草原不同放牧强度下土壤微生物数量的分布特征。平板计数的结果表明:在0~10cm和10~20cm土层中,土壤好气性细菌(Aerophilebacteria)和放线菌(Actinomycetes)数量均表现为放牧3d(G3)>不放牧(G5)>放牧12d(G1)样地的趋势;好气性细菌数量在0~10cm土层中,放牧3d与放牧12d和不放牧样地之间有显著性差异;在10~20cm土层,放牧3d和不放牧与放牧12d之间有显著性差异。放线菌数量在0~10cm和10~20cm土层中均为放牧3d与放牧12d之间有显著性差异。土壤真菌数量在0~10cm土层中,放牧12d>放牧3d>不放牧,其中放牧3d比不放牧增加5·88%。可见,适当放牧有助于土壤微生物数量的增加,而过度放牧会导致土壤微生物数量明显减少。
【英文摘要】Distribution characteristics of the number of soil microorganisms under different grazing in-tensity in Xilingol typical steppe was investigated. The results showed that the total aerophile bacteria andactinomycetes numbers in the 0~10 cm and 10~20 cm soil depth were in the order of grazing for 3 days >no grazing > grazing for 12 days. In 0~10 cm soil depth, aerophile bacteria numbers had significantdifferences among grazing for 3 days, grazing for 12 days and no grazing; In 10~20 cm soil depth, therewere significant differences in number of aerophile bacteria among grazing for 3 days, grazing for 12 daysand no grazing. In 0~10 cm and 10~20 cm soil depth, there were significant differences in actinonycetesnumber between grazing for 3 days and grazing for 12 days. The number of fungi in 0~10 cm soil depthwas in the order of grazing for 12 days > grazing for 3 days > no grazing. Fungi number in grasslandgrazing for 3 days were increased by 5.88% than that in no grazing. Conservative grazing was beneficial toincrease of soil microorganisms, but heavy grazing resulted in the reduction of soil microorganisms.
【语种】中文
【第一作者】邵玉琴
【通讯作者】赵吉
【期刊名称、卷期、页码】中国草地学报,2011,33(2):63-68
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【学科分类】生态学

【题目】不同治理措施对退化草原土壤可培养微生物区系的影?
【中文关键词】治理措施;退化草原;土壤微生物
【英文关键词】Control measures;Degraded grassland;Soil microorganisms
【中文摘要】利用纯培养技术,对退化草原四项不同治理措施(浅耕翻、耙地、播种羊草、围栏封育)处理后的土壤微生物进行研究。结果表明,四项治理措施中,各类群土壤微生物均显著高于对照区。0~10 cm土层,微生物各类群的数量均依次为浅耕翻>耙地>播种羊草>围栏封育>对照;四项治理措施细菌数量依次比对照区增高了91.95%、89.66%、87.36%和73.56%;真菌数量增高了53.06%、50.34%、50.34%和23.81%;放线菌数量增高了41.27%、38.89%、24.47%和22.63%。10~30 cm土层,细菌和放线菌的数量均依次为浅耕翻>耙地>播种羊草>围栏封育>对照;四项治理措施细菌数量依次比对照区增高了43.59%、43.59%、41.03%和33.33%;放线菌数量分别比对照区增高了34.19%、31.15%、29.74%和5.39%;而该土层真菌数量则依次为围栏封育>播种羊草>浅耕翻>耙地>对照,四项治理措施分别比对照增高了221.74%、191.30%、162.86%和161.43%。采取不同治理措施后,微生物各类群的数量增高幅度各不相同,其中0~10cm土层细菌数量增高幅度最高,真菌次之,放线菌最低。而10~30cm土层真菌数量增高幅度最高,细菌次之,放线菌最低。四项治理措施土壤微生物与对照均有显著性差异。

【英文摘要】Soil microbial numbers in four grasslands recovered by different control measures such asshallow ploughing, harrowing, sowingLeymus chinensisand enclosed & grazing, were measured throughspread-plate-technique. The result showed that soil microbial numbers of the grassland recovered were sig-nificantly more than those of controlled grassland unrecovered. In the 0~10 cm soil layer, soil microbialnumbers of four grasslands recovered were gradually decreased in order of shallow ploughing, harrowing,sowingLeymus chinensisand enclosed & grazing. Compared to controlled grassland unrecovered, the bac-teria of four grasslands recovered increased by 91.95%, 89.66%, 97.36% and 73.56%, the fungi in-creased by 53.06%, 50.34%, 50.34% and 23.81%, the actinomycetes increased by 41.27%, 38.89%,24.47% and 22.36%, respectively. In the 10~30 cm soil layer, the bacteria and actinomycetes of fourgrasslands recovered were gradually decreased in order of shallow ploughing, harrowing, sowingLeymuschinensisand enclosed & grazing respectively. Compared to controlled grassland unrecovered, the bacteriaincreased by 43.59%, 43.59%, 41.03% and 33.33%, the actinomycetes increased by 34.19%, 31.15%,29.14% and 5.39%, respectively. The fungi of four grasslands recovered in the 10~30 cm soil layer weregradually decreased in order of enclosed & grazing, sowingLeymus chinensis, shallow ploughing and har-rowing. Compared to controlled grassland unrecovered, the bacteria of four grassland recovered in the 10~30 cm layer increased by 221.74%, 191.30%, 162.86% and 161.43%. After taking different controlmeasures, the change of bacteria, actinomycetes, and fungi in the grassland soil were not identical. In the0~10 cm layer, the change of bacteria was the fastest, and the change of fungi was faster than that of acti-nomycetes, but in the 10~30 cm layer ,the change of fungi was the fastest, and the change of bacteria wasfaster than that of actinomycetes. For soil microbial, there was significant difference between four grass-lands recovered and controlled grassland unrecovered.

【语种】中文

【第一作者】邵玉琴

【通讯作者】赵吉

【期刊名称、卷期、页码】中国草地学报,2011,33(5):77-81

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【学科分类】生态学

【题目】Suitability of two seaweeds Gracilaria lemaneiformis and Sargassum pallidum as potential feed for the abalone Haliotis discus hannal Ino cultured in Sanggou Bay

【中文关键词】无

【英文关键词】Abalone; Haliotis discus hannai Ino; Seaweeds; Aquaculture; Feed and nutrition

【中文摘要】无

【英文摘要】The suitability of two algae species, Gracilaria lemaneiformis and Sargassum pallidum, for use as food sources for the abalone Haliotis discus hannai Ino was evaluated. Abalones were fed one of five experimental diets: 1) kelp Laminarijaponica; 2) G. lemaneiformis; 3) S. pallidum; 4) a mixed diet of L.japonica and G. lemaneiformis (1:1); and 5) a mixed diet of L. japonica and S. pallidum (1:1) for a period of 4 months. The survival, growth (shell length and body weight), condition index (body weight/shell length), and feed utilization were measured. Survival was excellent (100%) in all groups. Growth rate (body weight) was highest in the abalone fed kelp exclusively, followed by the mixed diet of kelp and G. lemaneiformis. The abalone fed S. pallidum had the lowest increase in body weight and the lowest feed intake. The mixed diet of kelp and G. lemaneiformis yielded the biggest increase in shell length. There were no significant differences in the condition index among all the treatment groups. The mean daily feed intake of L. japonica was highest, followed by the mixed diets of kelp and G. lemaneiformis, and was lowest for S. pallidum. Abalone exhibited a preference for L. japonica. The feed conversion efficiency was highest for G.lemaneiformis. Results suggest that G.lemaneiformis can be used as a partial substitute for kelp in the diet of cultured abalone.

【语种】英文

【第一作者】齐占会

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【期刊名称、卷期、页码】Aquaculture,300: 189-193

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【学科分类】水产养殖学

【题目】The potential for utilizing fouling macroalgae as feed for abalone Haliotis discus hannai.,
【中文关键词】无
【英文关键词】fouling macroalgae; abalone Haliotis discus hannai; diet; nutritional value
【中文摘要】无
【英文摘要】In order to assess the potential of utilizing fouling macroalgae as feed for abalone Haliotis discus hannai, the species, biomass and total stock of fouling macroalgae attached on the aquaculture facility-lines were investigated and assessed at Sungo Bay, China, in August 2007. The nutritional value of four fouling macroalgae (Codium fragile, Sargassum muticum, Ulva pertusa and Laminaria japonica) and one cultured macroalgae (Gracilaria lemaneiformis) as the diet of abalone was assessed by analysis of the chemical composition of the macroalgae and by measuring bioavailability and digestibility to abalone H. discus hannai under laboratory conditions in August 2007. The results showed that the biomass of fouling macroalgae at the two sites was 243.61 ± 26.23 and 1078.15 ± 50.28 g m − 1 respectively. The contents of protein of G. lemaneiformis and C. fragile were 18.30% and 17.60%, respectively, which were significantly higher than the others. The five macroalgae were accepted by the abalone, and growth energies (P) and growth efficiency (%) were positive. However, significant differences were found among the different macroalgae. The growth efficiencies of abalone show a negative relationship with the levels of dietary lipid and a positive relationship with the protein contents. These results suggest that fouling macroalgae have a great potential to be used as diets of abalone.
【语种】英文
【第一作者】张继红
【通讯作者】张继红
【期刊名称、卷期、页码】Aquaculture research,41(12):1770-1777
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【引文索引类型】SCI
【引文索引号】doi:10.1111/j.1365-2109.2009.02478.x
【学科分类】水产养殖学

【题目】虾夷扇贝的摄食生理及其在獐子岛海域的群体滤水能力
【中文关键词】虾夷扇贝 摄食生理 獐子岛 养殖容量
【英文关键词】Patinopecten yessoensis feeding physiology Zhang Zidao Island carrying capacity
【中文摘要】为了獐子岛海域虾夷扇贝养殖容量评估模型的建立,采用模拟现场流水系统和生物沉积方法测定了不同规格虾夷扇贝在不同季节的滤水率(CR)、摄食率和吸收效率,并探讨了温度与滤水率的关系.通过断面生物量调查,获得该海域虾夷扇贝的壳高频率分布情况.结果显示,5月份虾夷扇贝的滤水率最大.其它3个月份虾夷扇贝的滤水率差异不显著,10月份的吸收效率最低.温度(T)与滤水率(CR)呈抛物线的关系,在本实验的条件下,虾夷扇贝摄食的最适温度为10 ℃.滤水率与壳高呈典型的幂函数关系.根据滤水率与壳高的关系、獐子岛海域养殖虾夷扇贝的壳高频率分布情况以及总生物量,推算出不同月份的群体滤水能力,结合獐子岛的潮差、水面面积等数据,计算出其在该海域的食物限制性指标--清滤效率.结果显示:目前獐子岛养殖虾夷扇贝的清滤效率平均为0.054《1,虾夷扇贝的养殖量低于养殖容量,在养殖密度和规模上,尚有很大的发展空间.
【英文摘要】For the purpose of establishing the evaluation model of patiaopecten yessoensis carrying capacity in Zhang Zidao Island waters,the semi-in-situ flowing-through system and the biogenic sediment method were used to measure the clearance rate (CR),feeding and intaking rate of difference size scallops in different seasons.The relationship of clearance rate and water temperature was studied.Through 4 transect ’s field surveys,the biomass and shell heights distribution in the areas were got.The results showed that among these experimental conditions,the clearance rate (CR) was highest in May,average CR was 1.05±0.25 L.ind-1.h-1.The relationship of water temperature and CR is same as the parabola line,the CR arrived the peak value at 10 ℃.According to the relationship of CR and shell height,the biomass and shell height distribution in the areas,the population clearance rates in different months were calculated.And combining with the data of average tide range and total surface areas,the food limited indictor-clearance efficiency (CE) was assessed;the average value of CE was 0.054,which was much lower than 1.The results showed that the cultivated density in Zhang Zidao Island is lower than the carrying capacity,which means that the aquacultural industry of the scallop in the area still has a large potential developing space.
【语种】中文
【第一作者】张继红

【通讯作者】张继红
【期刊名称、卷期、页码】吉首大学学报,28(4):85-90
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【引文索引号】无
【学科分类】水产养殖学

【题目】獐子岛养殖水域叶绿素含量时空分布特征及初级生产力季节变化.
【中文关键词】獐子岛 叶绿素 初级生产力 虾夷扇贝
【英文关键词】Zhangzidao Island Chlorophyll a Primary production scallop Patinopecten yessoensis Japanese
【中文摘要】2005年3、5、7和10月对獐子岛养殖海域(共设18个站位)进行叶绿素浓度的调查。结果表明,调查海区叶绿素浓度为1.23~2.85mg/m^3,均值为1.78±0.57mg/m^3。叶绿素浓度的季节性变化显著,最高值出现在冬季,夏季的值最低;平面分布的特性为春、夏、冬季分布比较均匀。秋季叶绿素浓度的区域性差异较大,主要表现为近岸区的叶绿素浓度低于中间深水区域,可能与养殖虾夷扇贝摄食压力有关,但尚需进一步研究。垂直分布较为均匀,夏季表层叶绿素浓度高于底层,其他季节的分布趋势与夏季相反。初级生产力的季节性变化明显,与叶绿素的变化趋势不同,从3~10月,初级生产力逐渐增大,变化范围为30.4~117.0mgC/m^2·d,平均值为76.6±41.9mgC/m^2·d。结合同步调查的水温、营养盐数据得知,水温和溶解性无机氮是影响初级生产力的主要因素
【英文摘要】
Zhangzidao Island is the largest opecten yessoensis in China. Chlorophyll a (chla) mariculture base for Japanese scallop Patin-
around this area (at 18 sampling stations) was investigated in March, May, July and October, 2005. Results showed that chla concentrations in the area varied between 1.23-
2.85mg/m^3 , with an annual average of 1.78±0.57mg/m^3. There was a significant seasonal variation in chla during the investigation period. The highest and lowest values of chla appeared in March and July, respectively; while the spatial distribution of chla did not vary significantly throughout the year, except in October. In October, The concentration of chla near the island was higher than that in the off-
shore areas, which might be related to the feeding impact of cultivated scallops. The vertical distribution of chla was more uniform, with chla concentration a little higher at the surface than in the bottom. Seasonal variation of primary production was significant and differed to that of chla concentration. From March to October, the primary production increased from 30. 4 mgC/m^2· d to 117.0 mgC/m^2 · d,with an annual average of 76.6±41.9 mgC/m^2 · d. Correlation analysis revealed significant positive correlations between primary production and water temperature or the concentration of dissolved inorganic nitrogen.
【语种】中文
【第一作者】张继红
【通讯作者】张继红
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【学科分类】水产养殖学

【题目】Immune Responses of Zhikong Scallop Chlamys farreri after Air Exposure to Different Temperatures
【中文关键词】无
【英文关键词】Airexposure; Chlamysfarreri; Immune responses; Survival time; Temperature
【中文摘要】无
【英文摘要】The present study examined the influence of airexposure at differenttemperatures: a common perturbation associated with aquaculture handling practices, on immune responses in zhikongscallopChlamysfarreri. Scallops were exposed to air for 2 h, 6 h, 12 h and 24 h at 5 °C, 17 °C and 25 °C respectively. Thereafter, a recovery period of 24 h at 17 °C was

applied. Haemocyte mortality, phagocytosis and reactive oxygen species (ROS) production of haemocytes, acid phosphatase (ACP) and superoxide dismutase (SOD) activity in haemocyte lysates were chosen as immunomarkers of anoxic stress. The results showed that an increase of haemocyte mortality and a decrease of phagocytosis and ACP activity were observed after 2 h of airexposure for all temperatures tested. Moreover, a significant increase of ROS production occurred following 2 h of airexposure at 25 ° C and 24 h of airexposure at 17 ° C. Significant differences were also observed in haemocyte mortality, percentage of phagocytic cells and ACP and SOD activity depending on the temperature of airexposure. Finally, after 24 h of recovery at 17 ° C, percentage of phagocytic haemocytes and ACP activity did not return to initial values. ROS production was significantly higher than before the recovery period and initial values for scallops subjected to airexposure at 5 ° C. In our study, scallops showed a relative low anoxia tolerance under a high temperature. All the scallopsair exposed to 25 ° C died after the 6 h sampling. In conclusion, airexposure associated to aquaculture practices was demonstrated to strongly affect functional immune activities of scallop haemocytes, and high temperatureairexposure caused reduced survival of scallops.

【语种】英文

【第一作者】陈慕雁

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【学科分类】水产养殖学

【题目】Immune condition of Chlamys farreri in response to acute temperature challenge.

【中文关键词】无

【英文关键词】Acutetemperaturechallenge; Chlamysfarreri; Biomarkers; Haemocyte activities; High tolerance

【中文摘要】无

【英文摘要】The effects of acutetemperaturechallenge on some immune parameters of haemocyte in Zhikong scallop, Chlamysfarreri, recognised as a temperature sensitive bivalve species, were evaluated over a short period of time. Scallops were suddenly transferred from 17 ° C to 11 ° C, 23 ° C and 28 ° C for a period of 72 h. Total haemocyte count (THC), percentage of phagocytic haemocytes, reactive oxygen species (ROS) production, acid phosphatase (ACP) and superoxide dismutase (SOD) activities (in both haemocyte lysate and cell-free haemolymph) were chosen as biomarkers of temperature stress. Results demonstrated that the percentage of phagocytic haemocytes and ACP activity in cell-free haemolymph of scallops challenged at 28 ° C for 72 h significantly decreased. By contrast, reactive oxygen species production by haemocytes increased when compared to the initial values. It is concluded that haemocyte activities of C. farreri appear to be compromised when scallops were transferred from 17 ° C to 28 ° C. Meanwhile, no obvious negative effect of acutetemperature stress was detected on haemocyte activities of C. farreri challenged at 11 ° C, which highlighted the high tolerance of scallops to acute decrease of seawater temperatures.

【语种】英文

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【通讯作者】杨红生

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【学科分类】水产养殖学

【题目】Effects of aestivation on the energy budget of sea cucumber Apostichopus japonicus (Selenka) (Echinodermata: Holothuroidea)

【中文关键词】无

【英文关键词】seacucumber; Apostichopusjaponicus; aestivation; energybudget; water temperature; body weight

【中文摘要】无

【英文摘要】Apostichopusjaponicus is a kind of temperate seacucumbers, known to aestivate when water temperature rises above 20 ° C to 24.5 ° C. In this study, we measured the effects of aestivation on the energy utilization (i.e., energy allocation in growth, feces

discharge, respiration and excretion) of A. japonicus with two different body weights (134.0 g ± 3.5 g and 73.6 g ± 2.2 g) at water temperature from 10 ° C to 30 ° C with an interval of 5 ° C. Noticeable variation in the energy utilization of seacucumbers was observed in this study. During the non-aestivation period, energy deposit in growth was lower and the energy loss in feces accounted for the majority of the feeding energy. Under the threshold temperature, the feeding energy reduced and the proportion of energy deposit in growth became negative. During aestivation, seacucumbers discontinued feeding energy, resulting in weight loss. Our study suggested that the ecological implication of aestivation in this species could lead to a model of energy saving during the long-term hot period.

【语种】英文
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【学科分类】水产养殖学

【题目】Food sources of three bivalves living in two habitats of Jiaozhou Bay (Qingdao, China): indicated by lipid biomarkers and stable isotope analysis.
【中文关键词】无
【英文关键词】bivalve, food sources, lipid biomarker, stable isotope
【中文摘要】无
【英文摘要】Food sources of three filter-feeding bivalves from two habitats (intertidal oyster Crassostrea gigas, mussel Mytilus galloprovincialis, and subtidal cultured scallop Chlamys farreri) of Jiaozhou Bay (Qingdao, China) were determined by fatty acid and stable isotope analysis. Cultured scallop was characterized by significant diatom markers such as 16:1/16:0 close to 1 and high ratio of 20:5(n － 3)/22:6(n － 3), hence we assume that the scallop mainly feeds on diatoms. Fatty acid biomarkers specific to bacteria and terrestrial materials were also found in considerable amounts in scallop tissue, which suggested that there were substantial bacterial and terrestrial input into the food of the species. Intertidal oyster and mussel, however, exhibited significant flagellate marker, 22:6(n － 3), and lower level of diatom markers, which indicated that flagellates are also part of intertidal bivalves ’ planktonic food sources; meanwhile, high level of Chlorophyta fatty acid marker, Σ18:2(n － 6) + 18:3(n － 3), suggested that Ulva pertusa (Chlorophyta) seaweed bed supplied important food sources to intertidal bivalves. Additionally, result of stable isotope analysis showed that phytoplankton contributed 86.2 to 89.0% to intertidal bivalves ’ carbon budget; macroalga U. pertusa origin source had a contribution of 8.7% to 11.0%, which indicated its role as an important supplemental food source to intertidal bivalves. From this study, it is concluded that the dietary difference of three bivalves probably relates to the different potential food sources in the scallop farm and intertidal zone in Jiaozhou Bay.
【语种】英文
【第一作者】许强
【通讯作者】杨红生
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【学科分类】水产养殖学

【题目】Bioenergetic responses of sub-adult sea cucumber Apostichopus japonicus (Selenka) (Echinodermata: Holothuroidea) to temperature with special discussion regarding its southernmost distribution limit in China.
【中文关键词】无
【英文关键词】Seacucumber; Apostichopusjaponicus; Temperature; Bioenergeticresponses; Global ocean warming; Geographical distributionlimit; Northward shift
【中文摘要】无

【英文摘要】1.This paper investigated the bioenergeticresponses of the seacucumber Apostichopus japonicus (wet weights of 36.5±1.2 g) to different water temperatures (5, 10, 15, 20, 25 and 30 °C) in the laboratory.2.Results showed that theoretically the optimal temperatures for energy intake and scope for growth (SFG) of sub-adultA. japonicus was at 15.6 and 16.0 °C, respectively. The aestivation threshold temperature for this life-stage seacucumber could be 29.0 °C by taking feeding cessation as the indication of aestivation.3.Our data suggests that A. japonicus is thermo-sensitive to higher temperature, which prevents it from colonising sub-tropical coastal zones. Therefore, water temperature plays an important role in its southernmostdistributionlimit in China.4.The potential impact of global ocean warming on A. japonicus might be a northward shift in the geographical distribution.
【语种】英文
【第一作者】袁秀堂
【通讯作者】杨红生
【期刊名称、卷期、页码】Journal of Thermal Biology,34(6),315-319
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【引文索引号】doi:10.1016/j.jtherbio.2009.05.001
【学科分类】水产养殖学

【题目】Survival, growth, and immune activity of scallop Chlamys farreri cultured at different depths in Haizhou Bay during the warmest months of the year.
【中文关键词】无
【英文关键词】Chlamys farreri, survival, growth, mortality, immune activity, hot season, water depth
【中文摘要】无
【英文摘要】Survival, growth and immune response of the scallop, Chlamys farreri, cultured in lantern nets at five different depths (2, 5, 10, 15, and 20 m below the sea surface) were studied in Haizhou Bay during the hot season (summer and autumn) of 2007. Survival and growth rates were quantified bimonthly. Immune activities in hemolymph (superoxide dismutase (SOD) and acid phosphatase (ACP)) were measured to evaluate the health of scallops at the end of the study. Environmental parameters at the five depths were also monitored during the experiment. Mortalities mainly occurred during summer. Survival of scallops suspended at 15 m (78.0%) and 20 m (86.7%) was significantly higher than at 2 m (62.9%), 5 m (60.8%) or 10 m (66.8%) at the end of the study. Mean shell height grew significantly faster at 10 m (205.0 μm/d) and 20 m (236.9 μm/d) than at 2, 5 or 15 m in summer (July 9 to September 1); however, shell growth rate at 20 m was significantly lower than at the other four depths in autumn (September 2 to November 6). In contrast to summer, scallops at 5 m grew faster (262.9 μm/d) during autumn. The growth of soft tissue at different depths showed a similar trend to the shell. Growth rates of shell height and soft tissue were faster in autumn than in summer, with the exception of shell height at 20 m. SOD activity of scallops increased with depth, and ACP activity was significantly higher at 15 and 20 m than at other depths, which suggests that scallops were healthier near the bottom. Factors explaining the depth-related mortality and growth of scallops are also discussed. We conclude that the mass mortality of scallop, C. farreri, during summer can be prevented by moving the culture area to deeper water and yield can be maximized by suspending the scallops in deep water during summer and then transferring them to shallow water in autumn.
【语种】英文
【第一作者】于宗赫
【通讯作者】杨红生
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【学科分类】水产养殖学

【题目】Starvation-induced Changes of Hemocyte Parameters in the Zhikong Scallop Chlamys farreri.
【中文关键词】无
【英文关键词】immunology, scallop, aquaculture, Chlamys farreri
【中文摘要】无

【英文摘要】Substantial nutritional and energetic demands are associated with immune activation and the maintenance of an efficient immune system. One-year-old Chlamys farreri (Jones and Preston) scallops were maintained in lantern nets in different nutritional conditions (satiation and starvation) for 40 days. After the 40-day treatments, the condition index and the total hemocyte count (THC) decreased significantly in the starved group compared with the satiated and initial control groups. The percentage of phagocytic hemocytes also was significantly reduced with starvation. In contrast, no significant effect of starvation was observed on reactive oxygen species (ROS) production. The acid phosphatase (ACP) activities in cell-free hemolymph increased significantly in scallops in starved and satiated treatments compared with the initial control, whereas ACP activity in hemocyte lysate was significantly lower in the starved group. These results indicate that starvation stress compromises immunological activities of scallops.
【语种】英文
【第一作者】徐彪
【通讯作者】杨红生
【期刊名称、卷期、页码】Journal of Shellfish Research,27(5),1195-1199
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【学科分类】水产养殖学

【题目】Involvement of Ca2+ Signaling Pathway During Oocyte Maturation of the Northern Quahog Mercenaria mercenaria
【中文关键词】无
【英文关键词】GVBD, northern quahog, Mercenaria mercenaria, hard clam, oocyte maturation, Ca2+, signaling pathway
【中文摘要】无
【英文摘要】In many molluscs, it has been found that Ca2+ signaling pathway is involved in the resumption of meiotic maturation in oocytes. To better understand the possible role of Ca2+ signaling pathway in regulating meiotic maturation in oocytes of the northern quahog Mercenaria mercenaria, free extracellular Ca2+, A23187 (calcium ionophore), verapamil (calcium channel blocker), and trifluoperazin (calmodulin antagonist) were used to incubate oocytes or serotonin-induced oocytes by pharmacological methods. Results show that extracellular Ca2+ (50 10 μM) and A23187 (1 10 μM) can stimulate the meiotic maturation. In addition, verapamil (1 100 μM) and trifluoperazin (10 1,000 μM) could inhibit serotonin-induced oocyte maturation. Therefore, Ca2+ is essential for the reinitiation of meiotic maturation in oocytes of the northern quahog. Moreover, an increase in [Ca2+]i can promote meiotic maturation.
【语种】英文
【第一作者】张涛
【通讯作者】张涛
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【学科分类】水产养殖学

【题目】桑沟湾养殖栉孔扇贝食物来源研究——脂肪酸标志法
【中文关键词】脂肪酸标志法 栉孔扇贝(Chlamys farreri) 食物来源
【英文关键词】fatty acid biomarker Chlamysfarreri food source
【中文摘要】运用脂肪酸标志法分析了桑沟湾养殖栉孔扇贝(Chlamys farreri)春、夏季食物来源组成。结果表明,桑沟湾养殖栉孔扇贝饵料组成中含有硅藻类、细菌、大型绿藻类、鞭毛藻类等饵料来源,且各种饵料来源比例具有较显著的季节变化。采样期间硅藻脂肪酸标志16:1/16:0(相对质量分数比,下同)从0.91降至0.45,表明扇贝硅藻类饵料来源比例呈逐渐下降趋势;细菌脂肪酸标志18:1n-7/18:1n-9比值从0.31升至0.90,奇数碳、支链脂肪酸相对质量分数从2.15%升至3.28%,表明扇贝细菌类饵料来源比例呈逐渐上升趋势;绿藻脂肪酸标志∑(18:2n-6+18:3n-3)质量分数从2.78%升至5.77%,表明大型绿藻来源有机质饵料比例逐渐上升。栉孔扇贝脂肪酸组成中较高比例的DHA表明扇贝摄取了富含DHA的有机质,如鞭毛藻类、微型浮游动物等。栉孔扇贝食物来源的季节变化很可能是由水体中潜在食物来源的季节变化所导致。
【英文摘要】
Food sources of scallop Chlamys farreri cultured in Sanggou Bay from February to August (2006) were

determined using fatty acid biomarkers. Scallop's diet consisted of diatoms, bacteria, flagellate and seawee d (Chlorophyta) originated organic matters. Diatom biomarker 16:1/16:0 declined from 0.91 to 0.45, which indicated that diatom food source declined during the sampling period; bacterial biomarkers 18:1n-7/18:1n-9 and odd & branched fatty acids increased from 0.31 and 2.15% to 0.90 and 3.28% respectively, whi ch indicated the increase of bacterial food source in scallop's diet. Chlorophyta biomarker ∑(18:2n-6+18:3n-
3) increased from 2.78% to 5.77%, and it was suggested that the scallop may ingested some amount o f organic matters derived of Chlorophyta in warm season. High level of22:6n-
3 (DHA) biomarker indicated that the scallop probably ingested food sources rich in DHA, such as fla gellates, micro-
zooplankton, larvae and eggs. Seasonal changes of scallop's diet probably was caused by the variation of potential food sources in the water.

【语种】中文
【第一作者】许强
【通讯作者】杨红生
【期刊名称、卷期、页码】海洋科学,31,78-83
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【学科分类】水产养殖学

【题目】Responses of microbial biomass and respiration of soil to topography, burning, and nitrogen fertilization in a temperate steppe
【中文关键词】无
【英文关键词】Burning; Microbial biomass; N fertilization; Metabolic quotient; Temperate steppe; Topography
【中文摘要】无
【英文摘要】Abstract: Temporal dynamics of microbial biomass and respiration of soil and their responses to topography, burning, N fertilization, and their interactions were deter-mined in a temperate steppe in northern China. Soil microbial indices showed strong temporal variability over the growing season. Soil microbial biomass C (MBC) and N (MBN) were 14.8 and 11.5% greater in the lower than upper slope, respectively. However, the percentage of organic C present as MB C and the percentage of total N present as MBN were 16.9 and 26.2% higher in the upper than lower slope, respectively. Neither microbial respiration (MR) nor metabolic quotient (qCO2) was affected by topography. Both MBC and MBN were increased by burning, on average, by 29.8 and 14.2% over the growing season, and MR and qCO2 tended to reduce depending on the sampling date, especially in August. Burning stimulated the percent-age of organic C present as MBC and the percent age of total N present as MBN in the upper slope, but did not change these two parameters in the lower slope. No effects of N fertilization on soil microbial indices were observed in the first growing season after the treatment. Further research is needed to study the long-term relationships between changes in soil microbial diversity and activity and plant community in response to burning an d N fertilization.
【语种】英文
【第一作者】刘卫星
【通讯作者】万师强
【期刊名称、卷期、页码】Biol Fertil Soils (2007) 44:259 – 268
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【学科分类】土壤学

【题目】Copper fertilizer effects on copper distribution and vertical transport in soils
【中文关键词】无
【英文关键词】oxides; Ground surface; accumulation; Long term; Manganese oxides; manganese oxides; carbonates; organic materials; Sequential extraction; Procedure; Extraction process; Pentetic acid; instability; depth; Application time; samples; Soil profile;

soil profiles; Field study; field studies; Status; Environment; Bioavailability; transport; fertilizers; copper
【中文摘要】无
【英文摘要】The fate of Cu fertilizer in soils is important for its plant availability and environmental significance. Little research has been done to investigate the status of Cu in soil under repeated application of Cu fertilizer. A field study was conducted to determine the distribution and transport of Cu in soil profiles after 17 years' applications of Cu fertilizer. Soil samples obtained at different application times and soil depths were analyzed for labile Cu by a diethylenetriaminepentaacetic acid (DTPA) extraction procedure. A modified sequential extraction technique was used to separate soil Cu into exchangeable (Exe), organic matter weakly bound (Who), carbonate bound (Carb), manganese oxides bound (MnOx), organic matter specifically bound (Sbo), and mineral bound (Min) fractions. The results showed that long-term application of Cu fertilizer caused the accumulation of Cu in the surface soil. The accumulation of soil Cu in the 0-15 cm and 0-60 cm soil layers accounted for 41.3% and 57.3% of the Cu applied over 17 years. Calculations indicated that little Cu was removed from the plots by crop harvest, which meant that about 40% of fertilizer Cu leached below the 60 cm soil depth. Additional evidence suggested that some Cu leached below 400 cm. Total labile Cu and the increase in labile Cu in the surface layer soil followed a linear relationship with the amount of Cu added and with the application time of the Cu fertilizer. Copper bound to minerals and weakly bound to organic matter accounted for 76% to 92% of the total Cu in soil. In addition, the two fractions had the same distribution trend in the soil profile. The Cu content of different fractions declined in a similar order, i.e. Min-Cu>Wbo-Cu>Exe-Cu>Sbo-Cu>Carb-Cu>MnOx-Cu, regardless of Cu treatment. Most Cu added to soil entered into Min, Exe, Wbo, and Carb fractions. The Exe-Cu, Wbo-Cu, and Carb-Cu fractions are readily mobile and can be used to predict Cu transport. The transport ability of Cu fractions followed the order of M/bo-Cu>Exe-Cu>Carb-Cu and increased with increasing soil depth. These results indicate that the accumulation of Cu in the soil resulting from the long-term application of Cu fertilizer could pose an environmental risk due to the downward mobility of Cu.
【语种】英文
【第一作者】魏孝荣
【通讯作者】邵明安
【期刊名称、卷期、页码】Geoderma 138 (2007) 213 – 220
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【学科分类】农业基础学科

【题目】Plant Nitrogen Dynamics and Nitrogen-use Strategies under Altered Nitrogen Seasonality and Competition
【中文关键词】无
【英文关键词】Competition;C3 and C4 grasses;nitrogen seasonality;nitrogen productivity;mean residence time;temperate steppe
【中文摘要】无
【英文摘要】Background and Aims Numerous studies have examined the effects of climatic factors on the distribution of C3 and C4 grasses in various regions throughout the world, but the role of seasonal fluctuations in temperature, precipitation and soil N availability in regulating growth and competition of these two functional types is still not well understood. This report is about the effects of seasonality of soil N availability and competition on plant N dynamics and N-use strategies of one C3 (Leymus chinensis) and one C4 (Chloris virgata) grass species. Methods Leymus chinensis and C. virgata , two grass species native to the temperate steppe in northern China, were planted in a monoculture and a mixture under three different N seasonal availabilities: an average model (AM) with N evenly distributed over the growing season; a one-peak model (OM) with more N in summer than in spring and autumn; and a two-peak model (TM) with more N in spring and autumn than in summer. Key Results The results showed that the altered N seasonality changed plant N concentration, with the highest value of L. chinensis under the OM treatment and C. virgata under the TM treatment, respectively. N seasonality also affected plant N content, N productivity and N-resorption efficiency and proficiency in both the C3 and C4 species. Interspecific competition influenced N-use and resorption efficiency in both the C3 and C4 species, with higher N-use and resorption efficiency in the mixture than in monoculture. The C4 grass had higher N-use efficiency than the C3 grass due to its higher N productivity, irrespective of the N treatment or competition. Conclusions The observations suggest that N-use strategies in the C3 and C4 species used in the study were closely related to seasonal dynamics of N supply and competition. N seasonality might be involved in the growth and temporal niche separation between C3 and C4 species observed in the natural ecosystems.
【语种】英文
【第一作者】袁志友

【通讯作者】万师强
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【学科分类】农业基础学科

【题目】Changes in ecosystem carbon stocks following grassland afforestation of semiarid sandy soil in the southeastern Keerqin Sandy Lands, China
【中文关键词】无
【英文关键词】Carbon sequestration;Land-cover change;Pinus sylvestris var. mongolica;Populus simonii
【中文摘要】无
【英文摘要】The ecological consequences of grassland afforestation in arid/semiarid sandy regions are not well known with respect to tree species and stand age. The present Study quantifies the changes in above- and belowground carbon (C) stocks following afforestation in the southeastern Keerqin Sandy Lands with species of Mongolian pine and poplar. We Studied 15-, 24-, and 30-year-old Mongolian pine plantations, 7-, 11-, and 15-year-old poplar plantations, and adjacent grasslands. The results show that total ecosystem C stocks increased following grassland afforestation. Aboveground C stocks increased at a rate of 2.75 Mg C ha(-1) yr(-1) in the poplar plantations, and 1.06 Mg C ha(-1) yr(-1) in the Mongolian pine plantations. Mineral soil C stocks decreased during the early stage of forest establishment, but recovered with increasing stand age. Root C stock increased significantly in the Mongolian pine plantations, but the poplar plantations showed no such increase relative to the grassland. Our results indicate that afforestation of the grassland in the Southeastern Keerqin Sandy Lands would sequester more C than would continuous grassland. Tree species selection and stand developmental age should be considered in planning future afforestation projects. (C) 2008 Elsevier Ltd. All rights reserved
【语种】英文
【第一作者】胡亚林
【通讯作者】曾德慧
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【学科分类】农业基础学科

【题目】Simulating infiltration into stony soils with a dual-porosity model
【中文关键词】无
【英文关键词】water-holding characteristics; hydraulic conductivity; rock fragments; porous-media; forest ecosystems; nitrogen balances; coarse fragments; generic model; flow; transport
【中文摘要】无
【英文摘要】Soils containing rock fragments are widely distributed in the world. However, literature on the dynamic simulation of water movement in stony soils is scarce. In this paper, a dual-porosity model was used to simulate water infiltration into soils containing rock fragments. Sensitivity analysis of the dual-porosity model parameters demonstrates that the increase of rock fragment content clearly decreased infiltration into stony soils. Big stones hampered infiltration more than small stones. Spherical stones accelerated infiltration compared with solid, cylindrical stones and rectangular, slab-like stones. Numerical analysis was also performed to test and compare a non-equilibrium dual-porosity model (NDPM) with an equilibrium dual-porosity model (EDPM) and an equilibrium single-pore model (ESPM). Infiltration experiments on disturbed soils were carried out to verify the ability of the NDPM to simulate infiltration into stony soils. Based on hydraulic parameters of soils without rock fragments and mass transfer coefficients obtained independently, the extrapolated cumulative infiltrations calculated by the NDPM were in good agreement with the observed data. Fitted model parameters of the NDPM indicate that rock fragments not only act as a source or sink to affect infiltration but also change the pore structure of the fine earth, apart from reducing the cross-sectional area for water flow. Though further studies are required to improve the dual-porosity model, it already describes more characteristics of infiltration into stony soils and explains more phenomena than does the single-porosity model.

【语种】英文
【第一作者】马东豪
【通讯作者】邵明安
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【学科分类】农业基础学科

【题目】Lemmas and Endosperms Significantly Inhibited Germination of Leymus chinensis (Trin.) Tzvel. (Poaceae)
【中文关键词】无
【英文关键词】Dormancy; Endosperm; Lemma; Leymuschinensis; Mechanical resistance; Palea
【中文摘要】无
【英文摘要】The mechanism of seed dormancy in Leymuschinensis (Trin.) Tzvel. has not been fully understood. In particular, the role of mechanical resistance offered by glumes remains unclear, and this study sought to investigate that role. Glumes (including lemmas and paleas) and endosperms were removed partly or fully and the effect of so treating the seeds on germination was assessed. Germination was significantly higher (95%) in seeds in which the lemmas had been removed than that observed in intact seeds (72%) but was not significantly different from that in seeds from which the glumes had been removed. These results show that lemmas and not paleas play a critical role in germination of L. chinensis. There was no significant difference in germination percentage between the treatments in which the glumes were removed and that in which the glumes were removed and put back again in their original position. The endosperm also significantly influenced germination: seeds in which a quarter or a half of the endosperm had been removed recorded almost 100% germination. Dormancy in L. chinensis thus appears to be controlled by the lemma and the endosperm.
【语种】英文
【第一作者】马红媛
【通讯作者】梁正伟
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【学科分类】农业基础学科

【题目】Climatic warming changes plant photosynthesis and its temperature dependence in a temperate steppe of northern China
【中文关键词】无
【英文关键词】Warming; C3plants; C4plants; Photosynthesis; Temperaturedependence
【中文摘要】无
【英文摘要】Warming responses of photosynthesis and its temperaturedependence in two C3 grass (Agropyron cristatum, Stipa krylovii), one C4 grass (Pennisetum centrasiaticum), and two C3 forb (Artemisia capillaris, Potentilla acaulis) species in atemperatesteppe of northernChina were investigated in a field experiment. Experimental warming with infrared heater significantly increased daily mean assimilation rate (A) in P. centrasiaticum and A. capillaris by 30 and 43%, respectively, but had no effects on other three species. Seasonal mean A was 13, 15, and 19% higher in the warmed than control plants for P. centrasiaticum, A. capillaries, and S. krylovii, respectively. The mean assimilation rate in A. cristatum and P. acaulis was not impacted by experimental warming. All the five species showed photosynthetic acclimation to temperature. The optimum temperature for photosynthesis (Topt) and the assimilation rate at Topt in the five species increased by 0.33 – 0.78 ° C and 4 – 27%, respectively, under experimental warming. Elevated temperature tended to increase the maximum rate of ribulose-1,5-bisphosphate (RuBP) carboxylation (Vcmax) and the RuBP regeneration capacity (Jmax) in the C3plants and carboxylation efficiency and the CO2-saturated photosynthetic rate in the C4plant at higher leaf temperature, as well as the optimum temperatures for the four parameters. Our results indicated that photosynthetic responses to warming were species-specific and that most of the species in the temperatesteppe of northernChina could acclimate to a warmer environment. The changes in the temperaturedependence of Vcmax and Jmax, as well as the balance of these two processes altered the temperaturedependence of photosynthesis under climaticwarming.

【语种】英文
【第一作者】牛书丽
【通讯作者】万师强
【期刊名称、卷期、页码】Environmental and Experimental Botany 63(1-3): 91-101
【论文发表时间】2007-10-08 00:00:00
【引文索引类型】SCI
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【学科分类】农业基础学科

【题目】Different growth responses of C3 and C4 grasses to seasonal water and nitrogen regimes and competition in a pot experimen
【中文关键词】无
【英文关键词】Chloris virgata;competition, growth;Leymus chinensis;nitrogen seasonality;water seasonality
【中文摘要】无
【英文摘要】Understanding temporal niche separation between C(3) and C(4) species (e.g. C(3) species flourishing in a cool spring and autumn while C(4) species being more active in a hot summer) is essential for exploring the mechanism for their co-existence. Two parallel pot experiments were conducted, with one focusing on water and the other on nitrogen (N), to examine growth responses to water or nitrogen (N) seasonality and competition of two co-existing species Leymus chinensis (C(3) grass) and Chloris virgata (C(4) grass) in a grassland. The two species were planted in either monoculture (two individuals of one species per pot) or a mixture (two individuals including one L. chinensis and one C. virgata per pot) under three different water or N seasonality regimes, i.e. the average model (AM) with water or N evenly distributed over the growing season, the one-peak model (OPM) with more water or N in the summer than in the spring and autumn, and the two-peak model (TPM) with more water or N in the spring and autumn than in the summer. Seasonal water regimes significantly affected biomass in L. chinensis but not in C. virgata, while N seasonality impacted biomass and relative growth rate of both species over the growing season. L. chinensis accumulated more biomass under the AM and TPM than OPM water or N treatments. Final biomass of C. virgata was less impacted by water and N seasonality than that of L. chinensis. Interspecific competition significantly decreased final biomass in L. chinensis but not in C. virgata, suggesting an asymmetric competition between the two species. The magnitude of interspecific competition varied with water and N seasonality. Changes in productivity and competition balance of L. chinensis and C. virgata under shifting seasonal water and N availabilities suggest a contribution of seasonal variability in precipitation and N to the temporal niche separation between C(3) and C(4) species.
【语种】英文
【第一作者】牛书丽
【通讯作者】万师强
【期刊名称、卷期、页码】Journal of Experimental Botany 59: 1431-1439
【论文发表时间】2008-05-19 00:00:00
【引文索引类型】SCI
【引文索引号】10.1093/jxb/ern051
【学科分类】农业基础学科

【题目】Water-deficit stress-induced anatomical changes in higher plants
【中文关键词】无
【英文关键词】Higher plants; Drought; Water use efficiency (WUE); Morphology; Responsive genes
【中文摘要】无
【英文摘要】Water is vital for plant growth and development. Water-deficit stress, permanent or temporary, limits the growth and the distribution of natural vegetation and the performance of cultivated plants more than any other environmental factors do. Although research and practices aimed at improving water-stress resistance and water-use efficiency have been carried out for many years, the mechanism involved is still not clear. Further understanding and manipulating plant-water relations and water-stress tolerance at the scale of physiology and molecular biology can significantly improve plant productivity and environmental quality. Currently, post-genomics and metabolomics are very important to explore anti-drought gene resource in different life forms, but modern agricultural sustainable development must be combined with plant physiological measures in the field, on the basis of which post-genomics and metabolomics will have further a practical prospect. In this review, we discussed the anatomical changes and drought-tolerance strategies under drought condition in higher plants.

【语种】英文
【第一作者】邵宏波
【通讯作者】邵宏波
【期刊名称、卷期、页码】Comptes Rendus Biologies 331(3): 215-225
【论文发表时间】2008-01-31 00:00:00
【引文索引类型】SCI
【引文索引号】10.1016/j.crvi.2008.01.002
【学科分类】农业基础学科

【题目】Advances in functional regulation mechanisms of plant aquaporins: Their diversity, gene expression, localization, structure and roles in plant soil-water relations (review)
【中文关键词】无
【英文关键词】Plant aquaporins; water channel; stress; biomembrane interface; soil-water relations
【中文摘要】无
【英文摘要】Aquaporins are important molecules that control the moisture level of cells and water flow in plants. Plant aquaporins are present in various tissues, and play roles in water transport, cell differentiation and cell enlargement involved in plant growth and water relations. The insights into aquaporins' diversity, structure, expression, post-translational modification, permeability properties, subcellular location, etc., from considerable studies, can lead to an understanding of basic features of the water transport mechanism and increased illumination into plant water relations. Recent important advances in determining the structure and activity of different aquaporins give further details on the mechanism of functional regulation. Therefore, the current paper mainly focuses on aquaporin structure-function relationships, in order to understand the function and regulation of aquaporins at the cellular level and in the whole plant subjected to various environmental conditions. As a result, the straightforward view is that most aquaporins in plants are to regulate water flow mainly at cellular scale, which is the most widespread general interpretation of the physiological and functional assays in plants.
【语种】英文
【第一作者】初立业
【通讯作者】邵宏波
【期刊名称、卷期、页码】Molecular Membrane Biology 25(3): 179-191
【论文发表时间】2008-02-23 00:00:00
【引文索引类型】SCI
【引文索引号】10.1080/09687680801914508
【学科分类】农业基础学科

【题目】Soil water carrying capacity for vegetation: A hydrologic and biogeochemical process model solution
【中文关键词】无
【英文关键词】Hydrologic cycle; Biogeochemicalprocesses; Soilwatercarryingcapacity; Arid and semi-arid area; Vegetation density; Model
【中文摘要】无
【英文摘要】The research for a maximum stand density that maintains sustainable development is necessary in arid and semi-arid areas where the conflict between limited soilwater storage and the need for more plants in improving environmental quality almost always exists. However, the quantification of the research is not easy since it requires insight interpretations of the effects of plant density on soilwater storage and soilwater stress on plant growth. Such quantification is incomplete with current empirical methods or physical models because the dynamics effects of soilwater stress and its feedbacks are not included. This paper presents a physically based model of soilwatercarryingcapacity for vegetation (SWCCV). The model build on the concept of an equilibrium adjustment of vegetation growth to soilwater dynamics, by iterative calculation between hydrologic and biogeochemicalprocesses that account for the interactions between the limiting effects of soil moisture on photosynthesis and evaporative demand on soilwater. It is capable to calculate the maximum plant density at any given initial conditions (site-specific data, vegetation, weather, and etc.) through hourly, daily and yearly cycles. Exploratory simulation to evaluate the model against results from previous studies for two sites indicated that the predictions by the model had good agreement with measured soilwater contents in each layer, LAI and NPP for plants. Under the same initial conditions the predicted soilwatercarryingcapacity captured well the soilwater difference between two sites in terms of controlling

vegetation density. Overall, the SWCCV model is capable in terms of predicting soilwatercarryingcapacity, providing a new approach for understanding soil – vegetation interactions and making recommendations for better management of vegetation construction in arid and semi-arid areas.

【语种】英文
【第一作者】夏永秋
【通讯作者】邵明安
【期刊名称、卷期、页码】Ecological Modelling 214(2-4): 112-124
【论文发表时间】2008-05-25 00:00:00
【引文索引类型】SCI
【引文索引号】10.1016/j.ecolmodel.2008.01.024
【学科分类】农业基础学科

【题目】Water- and plant-mediated responses of soil respiration to topography, fire, and nitrogen fertilization in a semiarid grassland in northern China
【中文关键词】无
【英文关键词】Fire; Grassland; Nitrogenfertilization; Soil moisture; Soilrespiration; Temperature; Topography
【中文摘要】无
【英文摘要】Soilrespiration is one of the major carbon (C) fluxes between terrestrial ecosystems and the atmosphere and plays an important role in regulating the responses of ecosystem and global C cycling to natural and anthropogenic perturbations. A field experiment was conducted between April 2005 and October 2006 in asemiaridgrassland in northernChina to examine effects of topography, fire, nitrogen (N) fertilization, and their potential interactions on soilrespiration. Mean soilrespiration was 6.0% higher in the lower than upper slope over the 2 growing seasons. Annual burning in early spring caused constant increases in soilrespiration (23.8%) over the two growing seasons. In addition, fire effects on soilrespiration varied with both season and topographic position. Soilrespiration in the fertilized plots was 11.4% greater than that in the unfertilized plots. Water- and plant-mediation could be primarily responsible for the changes in soilrespiration with topography and after fire whereas the positive responses of soilrespiration to N fertilization were attributable to stimulated plant growth, root activity and respiration. The different mechanisms by which topography, fire, and N fertilization influence soilrespiration identified in this study will facilitate the simulation and projection of ecosystem C cycling in the semiaridgrassland in northernChina.
【语种】英文
【第一作者】徐文华
【通讯作者】万师强
【期刊名称、卷期、页码】Soil Biology & Biochemistry 40(3): 679-687
【论文发表时间】2007-11-06 00:00:00
【引文索引类型】SCI
【引文索引号】10.1016/j.soilbio.2007.10.003
【学科分类】农业基础学科

【题目】Seasonal variations in nitrogen mineralization under three land use types in a grassland landscape
【中文关键词】无
【英文关键词】Abandoned field;Crop field;Steppe;Nitrification;Inner Mongolia
【中文摘要】无
【英文摘要】Soil nitrogen (N) mineralization is an important component of the N cycling process in ecosystems. In this study, we assessed the seasonal patterns of net soil N mineralization and nitrification using an intact soil core incubation method in the upper 0 – 10cm soil layer in three representative land use types. These included a fenced steppe, an abandoned field and a crop field in a grassland landscape of Inner Mongolia, China. The study was conducted from September 2004 to August 2005. Our results demonstrate marked seasonal variations in inorganic N pools, net nitrogen mineralization and net nitrification. Net N mineralization was higher in the crop field than in the fenced steppe and the abandoned field. Daily rates of N mineralization and nitrification during the growing season were approximately twice their corresponding mean annual rates. Accumulative mineralization and nitrification of N during the growing season accounted for about 90 and 85% of that measured for the entire year. Rates of mineralization and nitrification were positively correlated with soil bulk density, but negatively correlated with soil pH. Net N mineralization and

nitrification were strongly regulated by land use, precipitation, soil water and temperature.
【语种】英文
【第一作者】张学林
【通讯作者】王其兵
【期刊名称、卷期、页码】Acta Oecologica-International Journal of Ecology 34(3): 322-330
【论文发表时间】2008-07-26 00:00:00
【引文索引类型】SCI
【引文索引号】10.1016/j.actao.2008.06.004
【学科分类】农业基础学科

【题目】The responding relationship between plants and environment is the essential principle for agricultural sustainable development on the globe
【中文关键词】无
【英文关键词】Plants; Gene regulatory network system; Abiotic stress; Signal transduction; Soil environment; Physiological mechanisms
【中文摘要】无
【英文摘要】The mutual-responding relationship between plants and environment is involved in all life processes, which are the essential bases for different types of sustainable development on the globe, particularly the critical basis for agricultural sustainable development. How to regulate the above relationship between plants and the corresponding environment (in particular soil environment) is the key problem to modern sustainable agriculture development under global climate change, which is one of the hot topics in the field of plant biology. Detailed dissection of this responding relationship is also important for conducting global eco-environmental restoration and construction. Although powerful methodology and dataset related to genomics, post-genomics, and metabolomics have provided some insights into this relationship, crop physiological measures are also critical for crop full performance in field. With the increase of tested plants (including model plants) and development of integrated molecular biology, a complete understanding of the relationship at different scales under biotic and abiotic stresses will be accelerated. In the current paper, we will cover some important aspects in combination with the recent work from our laboratory and related advances reflected by international academic journals, as follows: plant physiological function performance under natural condition, plant gene regulatory network system under abiotic stresses, gene regulatory network system and drought resistance improvement, summary of the related work from our laboratory, conclusions, and acknowledgement.
【语种】英文
【第一作者】周毅
【通讯作者】邵宏波
【期刊名称、卷期、页码】Comptes Rendus Biologies 331(4): 321-328
【论文发表时间】2008-01-17 00:00:00
【引文索引类型】SCI
【引文索引号】10.1016/j.crvi.2008.01.008
【学科分类】农业基础学科

【题目】Primary production and rain use efficiency across a precipitation gradient on the Mongolia plateau
【中文关键词】无
【英文关键词】ANPP; arid and semiarid land; ecosystem management; Eurasian Steppe; Inner Mongolia grassland; mean annual precipitation; nitrogen addition; plant functional group composition; rain-use efficiency
【中文摘要】无
【英文摘要】Understanding how the aboveground net primary production (ANPP) of arid and semiarid ecosystems of the world responds to variations in precipitation is crucial for assessing the impacts of climate change on terrestrial ecosystems. Rain-use efficiency (RUE) is an important measure for acquiring this understanding. However, little is known about the response pattern of RUE for the largest contiguous natural grassland region of the world, the Eurasian Steppe. Here we investigated the spatial and temporal patterns of ANPP and RUE and their key driving factors based on a long-term data set from 21 natural arid and semiarid ecosystem sites across the Inner Mongolia steppe region in northern China. Our results showed that, with increasing mean annual precipitation (MAP), (1) ANPP increased while the interannual variability of ANPP declined, (2) plant species richness increased and the relative abundance of

key functional groups shifted predictably, and (3) RUE increased in space across different ecosystems but decreased with increasing annual precipitation within a given ecosystem. These results clearly indicate that the patterns of both ANPP and RUE are scale dependent, and the seemingly conflicting patterns of RUE in space vs. time suggest distinctive underlying mechanisms, involving interactions among precipitation, soil N, and biotic factors. Also, while our results supported the existence of a common maximum RUE, they also indicated that its value could be substantially increased by altering resource availability, such as adding nitrogen. Our findings have important implications for understanding and predicting ecological impacts of global climate change and for management practices in arid and semiarid ecosystems in the Inner Mongolia steppe region and beyond.
【语种】英文
【第一作者】白永飞
【通讯作者】白永飞
【期刊名称、卷期、页码】Ecology 89(8): 2140-2153
【论文发表时间】2008-08-01 00:00:00
【引文索引类型】SCI
【引文索引号】10.1890/07-0992.1
【学科分类】农业基础学科

【题目】Changes in carbon and nitrogen of Chernozem soil along a cultivation chronosequence in a semi-arid grassland
【中文关键词】无
【英文关键词】LAND-USE CHANGE; ORGANIC-CARBON; MANAGEMENT; MATTER; CONSERVATION; ECOSYSTEMS; PASTURE; TILLAGE; STORAGE; STOCKS
【中文摘要】无
【英文摘要】Changes in the carbon (C) stock of grassland soil in response to land use change will increase atmospheric CO2, and consequently affect the climate. In this study we investigated the effects of land use change on soil organic C (SOC) and nitrogen (N) along a cultivation chronosequence in the Xilin River Basin, China. The chronosequence consisted of an undisturbed meadow steppe, a 28-year-old cropland and a 42-year-old cropland (abbreviated as Steppe, Crop-28 Y and Crop-42Y, respectively). Crop-28Y and Crop-42Y were originally created on the meadow steppe in 1972 and 1958, respectively. The soil samples, in ten replications from three depth increments (0 – 10, 10 – 20 and 20 – 30 cm), were collected, respectively, in the two cropland fields and the adjacent undisturbed steppe. Bulk density, SOC, total N and 2 m KCl-extractable mineral N including ammonium and nitrate were measured. Our results showed that the greatest changes in the measurements occurred in the 0 – 10 cm soil depth. The SOC stock in the upper 30-cm soil decreased by 9.83 Mg C ha − 1 in Crop-28Y and 21.87 Mg C ha − 1 in Crop-42Y, which indicated that approximately 10 and 25% of the original SOC of the steppe had been emitted over 28 and 42 years, respectively. Similarly, the total N lost was 0.66 Mg N ha − 1 and 1.18 Mg N ha − 1, corresponding to approximately 9% and 16%, respectively, of the original N at the same depth and cropping duration as those noted for SOC. The mineral N concentration in the soil of both the two croplands was greater than that in the steppe soil, and the ammonium-N was less affected by cultivation than the nitrate-N. The extent of these changes depended on soil depth and cropland age. These effects of cultivation were much greater in the top 10 cm of soil than in deeper soil, and also greater in Crop-42Y than in Crop-28Y. The findings are significant for assessing the C and N sequestration potential of the land use changes associated with grassland conversion, and suggest that improved management practices are needed to sequester SOC and total N in the cropped soil in a semi-arid grassland.
【语种】英文
【第一作者】王其兵
【通讯作者】王其兵
【期刊名称、卷期、页码】European Journal of Soil Science 60(6): 916-923
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【引文索引类型】SCI
【引文索引号】10.1111/j.1365-2389.2009.01174.x
【学科分类】农业基础学科

【题目】Photosynthetic overcompensation under nocturnal warming enhances grassland carbon sequestration
【中文关键词】无

【英文关键词】carbohydrate; carbon; China; climate warming; ecosystem; photosynthesis; respiration; temperate steppe; temperature.
【中文摘要】无
【英文摘要】A mechanistic understanding of the carbon (C) cycle-climate change feedback is essential for projecting future states of climate and ecosystems. Here we report a novel field mechanism and evidence supporting the hypothesis that nocturnal warming in a temperate steppe ecosystem in northern China can result in a minor C sink instead of a C source as models have predicted. Nocturnal warming increased leaf respiration of two dominant grass species by 36.3%, enhanced consumption of carbohydrates in the leaves (72.2% and 60.5% for sugar and starch, respectively), and consequently stimulated plant photosynthesis by 19.8% in the subsequent days. Our experimental findings confirm previous observations of nocturnal warming stimulating plant photosynthesis through increased draw-down of leaf carbohydrates at night. The enhancement of plant photosynthesis overcompensated the increased C loss via plant respiration under nocturnal warming and shifted the steppe ecosystem from a minor C source (1.87 g C x m(-2) x yr(-1)) to a C sink (21.72 g C x m(-2) x yr(-1)) across the three growing seasons from 2006 to 2008. Given greater increases in daily minimum than maximum temperature in many regions, plant photosynthetic overcompensation may partially serve as a negative feedback mechanism for terrestrial biosphere to climate warming.
【语种】英文
【第一作者】万师强
【通讯作者】万师强
【期刊名称、卷期、页码】Ecology 90(10): 2700-2710
【论文发表时间】2009-10-01 00:00:00
【引文索引类型】SCI
【引文索引号】10.1890/08-2026.1
【学科分类】农业基础学科

【题目】Response of ecosystem carbon exchange to warming and nitrogen addition during two hydrologically contrasting growing seasons in a temperate steppe
【中文关键词】无
【英文关键词】carbon; climatic warming; grassland; nitrogen; plant functional type; precipitation; respiration; soil moisture; temperature
【中文摘要】无
【英文摘要】A large remaining source of uncertainty in global model predictions of future climate is how ecosystem carbon (C) cycle feedbacks to climate change. We conducted a field manipulative experiment of warming and nitrogen (N) addition in a temperate steppe in northern China during two contrasting hydrological growing seasons in 2006 [wet with total precipitation 11.2% above the long-term mean (348 mm)] and 2007 (dry with total precipitation 46.7% below the long-term mean). Irrespective of strong intra- and interannual variations in ecosystem C fluxes, responses of ecosystem C fluxes to warming and N addition did not change between the two growing seasons, suggesting independence of warming and N responses of net ecosystem C exchange (NEE) upon hydrological variations in the temperate steppe. Warming had no effect on NEE or its two components, gross ecosystem productivity (GEP) and ecosystem respiration (ER), whereas N addition stimulated GEP but did not affect ER, leading to positive responses of NEE. Similar responses of NEE between the two growing seasons were due to changes in both biotic and abiotic factors and their impacts on ER and GEP. In the wet growing season, NEE was positively correlated with soil moisture and forb biomass. Negative effects of warming-induced water depletion could be ameliorated by higher forb biomass in the warmed plots. N addition increased forb biomass but did not affect soil moisture, leading to positive effect on NEE. In the dry growing season, NEE showed positive dependence on grass biomass but negative dependence on forb biomass. No changes in NEE in response to warming could result from water limitation on both GEP and ER as well as little responses of either grass or forb biomass. N addition stimulated grass biomass but reduced forb biomass, leading to the increase in NEE. Our findings highlight the importance of changes in abiotic (soil moisture, N availability) and biotic (growth of different plant functional types) in mediating the responses of NEE to climatic warming and N enrichment in the semiarid temperate steppe in northern China.
【语种】英文
【第一作者】夏建阳
【通讯作者】万师强
【期刊名称、卷期、页码】Global Change Biology 15(6): 1544-1556

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【引文索引号】10.1111/j.1365-2486.2008.01807.x
【学科分类】农业基础学科

【题目】Spatial variability of soil total nitrogen and soil total phosphorus under different land uses in a small watershed on the Loess Plateau, China
【中文关键词】无
【英文关键词】Asia; Far East; Shaanxi China; China; geostatistics; Statistical character; Geographical division; plateaus; Sampling design; Ground surface; Spatial distribution; autocorrelation; eutrophication; surface water; Soil quality; Soil fertility; nitrogen; agriculture; loess; drainage basins; phosphorus; land cover; land use; Total nitrogen; soils; Spatial variability;
【中文摘要】无
【英文摘要】The spatial variability of soil total nitrogen (STN) and soil total phosphorus (STP) levels, which may be greatly affected by land use, plays an important role in both agriculture and the environment, especially with regard to soil fertility, soil quality, and water-body eutrophication. Little research has been done that addresses the spatial patterns of STN and STP under different land use types at a watershed scale. We collected 689 soil surface (0-20 cm) samples, using a grid sampling design, from the Liudaogou watershed (6.89 km2) on the Loess Plateau of North China. Using classical statistical and geostatistical methods, we characterized and compared the spatial heterogeneities of STN and STP under different land use types (farmland, grassland, and shrubland).Concentrations of STN and STP were normally distributed with the exception of STP in grassland, and decreased in the order: farmland > grassland > shrubland. Stepwise multiple regression analysis indicated a strong relationship between STN and soil organic carbon (which was mainly controlled by plant growth and microbial activity), while STP was associated with the content of finer soil particles (which absorb P more readily and whose distribution is related to slope aspect and altitude). Both STN and STP showed moderate variability under different land use types. Nugget ratios for STN showed a moderate spatial dependence and decreased in the order: farmland > grassland > shrubland, whereas STP increased in that order and showed strong, moderate, and weak spatial dependence, respectively. The type of optimal theoretical isotropy models differed for STN and STP as well as for the land use type. We concluded that spatial patterns of STN and STP would change significantly with land use changes currently being implemented to achieve sustainable agriculture development and environmental restoration. Taking land use type into account when considering the spatial variation of STN and STP would increase the accuracy in modeling and prediction of soil nutrient status and nutrient movement at the watershed scale.
【语种】英文
【第一作者】王云强
【通讯作者】张兴昌
【期刊名称、卷期、页码】Geoderma 150(1-2): 141-149
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【引文索引号】10.1016/j.geoderma.2009.01.021
【学科分类】农业基础学科

【题目】Effects of two perennials, fallow and millet on distribution of phosphorous in soil and biomass on sloping loess land, China
【中文关键词】无
【英文关键词】Aboveground biomass; Phosphorus distribution; Sloping land; Soil moisture; Vegetation restoration
【中文摘要】无
【英文摘要】Soil erosion causes sequential eco-environmental problems in the Loess Plateau of China. Therefore, vegetation restoration measures were adopted in this area by converting steep cropland into alternative land uses in order to remedy the erosion problem and alleviate land degradation. As part of the effort to understand the potential of this management practice in sequestering nutrients, the present study assessed the impact of vegetation restoration on the distribution of phosphorus (P) and aboveground biomass on a sloping land in this area. The study compared four land uses, Korshinsk Peashrub (KOP), alfalfa (ALF), natural fallow (NAF), and millet (MIL). KOP, ALF and NAF were adopted as vegetation restoration patterns, while MIL was an example of crop land. For the sampling time the average aboveground P pools of KOP, ALF, and MIL were 1.118. 0.406. and 0.091 g m(-2), respectively. The magnitudes of the aboveground biomass and tissue P concentration of the three land uses followed the same order.

Both vertical and horizontal distributions of soil Olsen P of KOP were relatively uniform. Soil Olsen P of ALF accumulated significantly at the down-slope position within the surface 60 cm soil profile. The down-slope accumulation of soil Olsen P was significant at the depth of 80 to 100 cm and 0 to 20 cm for NAF and MIL, respectively. The soil Olsen P concentrations in deeper soil layers of KOP and ALF were clearly lower than that of NAF, while MIL had apparent higher concentrations of soil Olsen P in the 0 to 20 cm layer of soil. Generally, the vegetation restoration did not present a significant effect on total soil P level,with the average values of 0.722,0.751,0.747, and 0.729 kg m(-2) for KOP,ALF, NAF and MR, respectively. However, an apparent accumulation of total soil P at the down-slope position was observed for NAF and MIL treatments. For ALF and KOP, the soil Olsen P and the soil moisture content were correlated positively to the aboveground P pool. For MIL, however, the higher aboveground P corresponded to a higher soil Olsen P but to a lower soil moisture content. Results from the four years of data suggest that ALF is the fastest absorber of soil P, while KOP is the best vegetation to sequester soil P of the soil-plant systems in this study. (C) 2009 Elsevier B.V. All rights reserved.

【语种】英文
【第一作者】付晓莉
【通讯作者】邵明安
【期刊名称、卷期、页码】Catena 77(3): 200-206
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【学科分类】农业基础学科

【题目】Distribution of soil organic C, N and P in three adjacent land use patterns in the northern Loess Plateau, China
【中文关键词】无
【英文关键词】Chinese Pine; Korshinsk Peashrub; Native grass; Nitrogen; Phosphorous; Organic carbon; The northern Loess Plateau
【中文摘要】无
【英文摘要】The northern Loess Plateau is an important cropping-pastoral ecotone and wind-water erosion crisscross region in China, but the distribution of soil organic carbon (C), nitrogen (N) and phosphorus (P) in different land uses across this vulnerable ecoregion is not well understood. This study was carried out to determine the distribution patterns of soil organic C, N and P in native grassland and in two woody lands (Chinese Pine land and Korshinsk Peashrub land) that were established on the native grassland 28 years ago. In the north part of the Loess Plateau, the concentrations of soil organic C, N and P were lower than in the southern Loess Plateau either across or within the land use patterns. The concentrations and stocks of organic C and total N were significantly decreased in Chinese Pine and Korshinsk Peashrub lands compared with those in native grassland in the surface 0-40 cm soil layer, where more than 70% of the roots were distributed. The decreases in organic C in 0-40 cm soil layers were 2.6 and 3.0 Mg C ha{ ^{1} (26.3 and 27.7%) by Chinese Pine and Korshrinsk Peashrub, while those of total N were 0.6 and 0.4 Mg N ha{ ^{1} (31.5 and 17.2%), respectively, compared with native grassland. Both concentration and stock of total P varied only slightly with land use. The findings suggested that the conversion of natural grass into Chinese Pine and Korshinsk Peashrub resulted in decreased soil organic C and total N in the surface 0 to 40 cm soil layer of the northern Loess Plateau. Our results further indicated that a combination of low temperatures, little precipitation and large soil degradation impede increasing C and N stocks by afforestation, and the afforestation on grassland should be viewed very critically in such areas.
【语种】英文
【第一作者】魏孝荣
【通讯作者】邵明安
【期刊名称、卷期、页码】Biogeochemistry 96(1-3): 149-162
【论文发表时间】2009-08-12 00:00:00
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【学科分类】农业基础学科

【题目】Hydraulic conductance and vulnerability to cavitation in corn (Zea mays L.) hybrids of differing drought resistance
【中文关键词】无

【英文关键词】Hydraulic conductivity; Vulnerability; Cavitation; Corn
【中文摘要】无
【英文摘要】Water transport through the xylem is essential for replacing water loss during transpiration, thus preventing desiccation and permitting photosynthesis. The occurrence of cavitation and embolism due to drought impairs transport to the transpiring leaves. Most research in this discipline has been conducted on woody plants. Less attention has been given to cavitation of crops and its physiological significance for understanding crop water relations. In this paper, hydraulic conductance and vulnerability of xylem to cavitation were studied in corn hybrids with different drought resistances. The results indicated that stems of drought-resistant ‘Pioneer 3902’ not only had a higher conductivity on both a stem area and leaf area basis but also had a greater resistance to cavitation. The estimated xylem pressure at 63.2% loss of conductivity (Weibull fitting parameter b) and at 50% loss of conductivity (P50) in ‘Pioneer 3902’ were about 0.2 MPa lower than in ‘Pride 5’. Higher conductivity in ‘Pioneer 3902’ was mainly attributed to more vascular bundles per stem area rather than greater vessel diameter. The central bundles and peripheral vascular bundles showed the same degree of cavitation although the vessels of central bundles were generally larger than in peripheral bundles.
【语种】英文
【第一作者】李秧秧
【通讯作者】李秧秧
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【学科分类】农业基础学科

【题目】Land cover change effects on soil chemical and biological properties after plating Mongolian pine (Pinus sylvestris var. mongolica) in sandy lands in Keerqin, northeastern China
【中文关键词】无
【英文关键词】Grassland;Savanna;Plantation;Semiarid sandy soil;Soil C and N mineralization rates;Urease and invertase activities;Soil microbial biomass C;Soil metabolic quotient(q CO2)
【中文摘要】无
【英文摘要】We compa red soil moi sture content, pH,total organic carbon (Corg), total nitrogen (TN), totalphospho rus (TP) and inorganic N (NH4+ – N,NO3 − N)concent rations, soil potential C and N mineraliz ationrates, soil mic robia l biomass C (Cmic), soil meta bolicquotie nt (q CO2), soil microbial quotient (C mic/ Corg)and soil enzyme (urease and invertase) activities insemiarid sandy soils under three types of land cover:gras sland, Mong olian pine (Pinus sylvest risva r.mong olica) plant ation, and elm (Ulmus punila) – grass savanna in south easte rn Keer qin, in northeast China.Soil Corg, TN and TP concent rations (0 – 10,10 – 20,20 – 40 and 40 – 60 cm) were low er while soil C/N andC/P rati os wer e higher in the p lantatio n than ingrass land and savanna . The effects of land coverchange on NH4+ – N and NO3 – N concentrati ons, soilpotent ial nitr ification and C minerali zation rates in thesurfa ce soil (0 – 10 cm) wer e dependen t on samp lingseason ; but soil potential N mine ralization rates werenot affected by land cover type and samp ling season .The effects o f land cover ch ange onC micand q CO2 ofsurfa ce soil were not signi ficant; but Cmic/Corg were significantly affe cte d by land cov er change and samp ling se ason. We also foun d that land co ver change, sampling s eason and l and c over type ×samp ling season inte raction significan tly influenced soil enzyme (urease and inver tase) acti vities. Usu ally soil enzyme activities w ere l ower in the pine planta tions than in grassland and savanna . Our results sugges t that land cover change mark edly influenced soil chemi cal and biol ogical proper ties in sandy soils in the semiari d regio n, an d these effects vary with samp ling season .
【语种】英文
【第一作者】曾德慧
【通讯作者】胡亚林
【期刊名称、卷期、页码】Plant Soil 317: 121-133
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【引文索引类型】SCI
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【学科分类】农业基础学科

【题目】Characterizing Salt-affected Soils of Songnen Plain Using Saturated Paste and 1:5 Soil-to-Water Extract Methods
【中文关键词】无
【英文关键词】electrical conductivity (EC);Na+ concentration;sodium adsorption ratio (SAR);total cation concentration (TCC)
【中文摘要】无
【英文摘要】In the Songnen Plain, Northeast China, chemical parameters of salt-affected soils were previously obtained from 1:5 soil-to-water (1:5) extracts so that there is no information available for soil salinity and sodicity from the saturated paste (SP) extracts. The work reported here characterized soil salinity and sodicity of SP extracts and compared salinity and sodicity measurements using SP and 1:5 extraction methods from 121 soil samples from various sites of salt-affected soil areas in the Songnen Plain. Electrical conductivity (EC), major cations (Na+, K+, Mg2+, Ca2+), sodium adsorption ratio (SAR), and pH were determined and analyzed using SP extracts and 1:5 extracts.The sodium ion was the predominant cation so that Na+ concentration was close to total cation concentration (TCC). The SAR in the 121 samples was remarkably high; 22 soils had a SAR > 1000 (mmolc L − 1)1/2 with a maximum SAR value of 4042.57 (mmolc L − 1)1/2 for SP extract. The SAR was highly correlated with EC (r 2 > 0.86, P < 0.0001). The salt-affected soils are predominantly saline-sodic based on the classification of the USDA (195416. U.S. Department of Agriculture (USDA) . 1954 . Diagnosis and improvement of saline and alkali soils . USDA , Washington , DC . View all references). Through a regression analysis, total cation concentration was strongly related to EC with slopes of 10.3 and 9.8 without y intercept in SP and 1:5 extracts, respectively.Significant relationships (r 2 > 0.81, P < 0.0001) existed between EC, Na+, and SAR in SP and 1:5 extracts. However, K+, Ca2+, and Mg2+ of SP extracts was not related to those of 1:5 extracts.
【语种】英文
【第一作者】迟春明
【通讯作者】王志春
【期刊名称、卷期、页码】Arid Land Res Manage
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【学科分类】农业基础学科

【题目】The effects of land use on soil N mineralization during the growing season on the northern Loess Plateau of China
【中文关键词】无
【英文关键词】Ammonification; Chinese Pine woods; Grassland; Korshinsk Peashrub land; Nitrification; The northern Loess Plateau; mojave desert ecosystem; nitrogen mineralization; terrestrial; ecosystems; temperate grassland; dynamics; forest; carbon; transformations; plantations; pine
【中文摘要】无
【英文摘要】The mineralization and availability of soil nitrogen (N) are vital processes in the sustainable management of soil resources and ecosystems. We studied the mineralization and availability of soilN on the northernLoessPlateau of China during the growingseason under three different land use conditions: Chinese Pine woods, grassland, and Korshinsk Peashrub land. Mineral N varied significantly during the growingseason and was always significantly higher at soil depths of 0 – 10 cm soils than at depths of 10 – 20 cm. NO3 − -N predominated shrublands, while NH4+-N was dominant in grassland in both the 0 – 10 cm and 10 – 20 cm soil layers. In Pine woods, NO3 − -N dominated the 0 – 10 cm soil layer, while NH4+-N dominated in the 10 – 20 cm soil layers. In shrublands, the 0 – 10 cm and 10 – 20 cm soil layers showed nitrification rates of 1.6 – 3.6 and 1.0 – 3.5 times higher than those in the corresponding soil layers of grassland, respectively. However, the ammonification rate in shrublands did not differ from that in grasslands. Ammonification and nitrification dominated the Nmineralization process at the beginning and middle of the growingseason, respectively, while both processes were balanced at the end of the growing period. The cumulative nitrified, ammonified and total mineralized N in shrublands were 178%, 27%, and 116% and 161%, 29%, and 93% higher in the 0 – 10 cm and 10 – 20 cm soil layers than those in grasslands and 203%, 97%, and 165% and 235%, 69%, and 151% higher than those in pine woods, respectively. The conversion of grasslands to pine woods reduced N availability at soil depths of 0 – 20 cm, but the conversion of grasslands to shrublands increased N availability. The uptake of soilN by vegetation was close to (in pine woods) or less than (in grasslands and shrublands) the mineralized N in the 0 – 20 cm soil layer during the period of vegetation growth. Overall, the results indicated that there was abundant N availability; therefore we conclude that N availability is not likely to limit ecosystem productivity in either of these three land use patterns on the northernLoessPlateau.
【语种】英文

【第一作者】魏孝荣
【通讯作者】邵明安
【期刊名称、卷期、页码】Geoderma 160(3-4): 590-598
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【引文索引号】10.1016/j.geoderma.2010.11.007
【学科分类】农业基础学科

【题目】Soil iron fractionation and availability at selected landscape positions in a loessial gully region of northwestern China
【中文关键词】无
【英文关键词】availability; fraction; iron; landscape position; loessial gully watershed; soils
【中文摘要】无
【英文摘要】Soil Fe fractions and availability vary with landscape positions, because landscape position affects soil chemical properties and water conditions. In the present study, we investigated Fe fractions and availability at selected landscape positions in the loessial gully region of northwestern China. Four landscape positions, plateau, slope, terrace, and gully bottom were investigated. For each landscape position, soil samples were collected at 2-cm increments to a depth of 8cm. Iron in the soil samples was fractionated by a modified sequential extraction method. Available Fe was assessed by diethylene thiamine pentacetic acid (DTPA) extraction procedure. The results showed that soil profile distributions of DTPA-Fe varied greatly with landscape position in the study area. The largest content of DTPA-Fe content was observed in the plateau soils, while the smallest content was observed in the gully bottom soils. Iron in soils existed mainly in the mineral bound fraction, which accounted for about 73 to 96% of the total Fe. The content of Fe in soil fractions varied greatly with landscape position. Exchangeable Fe and organic matter bound Fe were direct sources of available Fe, but exchangeable Fe contributed little to the total available Fe due to its low content in the soils. Oxides bound Fe was an indirect source of available Fe. The results of the present study indicate that landscape position strongly influences soil profile distribution and capacity of available Fe by influencing soil Fe fractions and organic matter distributions.
【语种】英文
【第一作者】魏孝荣
【通讯作者】邵明安
【期刊名称、卷期、页码】Soil Science and Plant Nutrition 56(4): 617-626
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【学科分类】农业基础学科

【题目】Changes in soil organic carbon and total nitrogen after 28 years grassland afforestation: effects of tree species, slope position, and soil order
【中文关键词】无
【英文关键词】Chinese pine;Korshrinsk peashrub;Soil profile;Tree canopy
【中文摘要】无
【英文摘要】The effect of conversion of grassland to woodland on organic carbon (OC) and total nitrogen (TN) has significance for global change, land resource use and ecosystem management. However, these effects are always variable. Here, we show results of a study in an arid area in China on profile distribution of OC and TN in soils covered by two different woody tree canopies and outer canopy space (grassland between woody plant canopies). The soils were at various slope positions (upper, middle and lower slopes) for Chinese pine (Pinus tabulaeformis) and Korshrinsk peashrub (Caragana korshinskii) lands, and of different soil orders (Castanozems, Skeletal, Loessial and Aeolian soils). The objectives were to relate the effects of land use change on OC and TN to slope position and soil order. Soil OC and TN were significantly larger at Korshrinsk peashrub slope locations than at Chinese pine slope locations. Soil OC and TN were small at the lower slope position for Korshrinsk peashrub, however, they were largest at the middle slope for Chinese pine. Korshrinsk peashrub always increased soil OC and TN under brush canopy at the three slope positions, while Chinese pine increased them at lower slopes and decreased them at upper slopes. For the soil types, OC and TN in Korshrinsk peashrub land were in the order of Castanozems > Skeletal > Loessial > Aeolian soils. Korshrinsk peashrub also increased OC and TN under brush canopy in the four soils. Our results indicated that soil OC and TN in canopy soils differed greatly from associated values in the outer canopy soils,

and the effects of grassland afforestation varied significantly with tree species, slope position, and soil type. Therefore, we suggest that differentiating such factors can be an effective approach for explaining variances in OC and N changes caused by land use conversion.
【语种】英文
【第一作者】魏孝荣
【通讯作者】邵明安
【期刊名称、卷期、页码】Plant and Soil 331(1-2): 165-179
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【学科分类】农业基础学科

【题目】Soil organic carbon and total nitrogen as affected by vegetation types in Northern Loess Plateau of China
【中文关键词】无
【英文关键词】Soilorganiccarbon; Totalnitrogen; Vegetationtype; NorthernLoessPlateau
【中文摘要】无
【英文摘要】One of the most fragile areas in the ChinaLoessPlateau, is the transitional belt that is subjected to wind and water erosion. The transitional belt accounts for about 30% of the LoessPlateau area. To reduce soil degradation in the LoessPlateau, the Chinese government initiated a state-funded vegetation restoration project in 1999. The effectiveness of this project on transitional belt soils is unknown. The objective of this study is to determine the effects of four dominant vegetationtypes on soilorganiccarbon (SOC) and nitrogen (N) in a selected catchment within the transitional belt. Korshinsk Peashrub (KOP), purple alfalfa (ALF), and natural fallow (NAF) were selected as vegetation restoration types because they have been used widely to remedy soil degradation. The fourth vegetationtype selected was millet (MIL) because it has been an important crop in the region. In 2004, four 61 × 5 m plots were established on 12 ° slope land. The plots were parallel and separated by 80 cm. Based upon soil samples collected in August of 2007, there were large variations in the distributions and stocks of SOC and N across the four vegetationtypes. Compared with MIL, KOP significantly increased the concentration and stock of SOC and totalnitrogen (TN) in 0 – 100 cm soil profiles, while ALF and NAF were not significantly different. The distributions of SOC and TN concentrations and stocks of KOP, ALF and NAF were relatively uniform along a hillslope, while there was an increasing trend along the hillslope in MIL. This result suggests that ALF and NAF would be beneficial in SOC and TN sequestration over a long-term because of their ability to reduce the loss of SOC and TN by soil erosion. We also found that both vegetationtypes and hillslope position had no significant effects on C:N ratio. Our study demonstrated that improvements of SOC and TN stocks in the transitional belt could be made through well managed vegetation restoration measures.
【语种】英文
【第一作者】付晓莉
【通讯作者】邵明安
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【学科分类】农业基础学科

【题目】A preliminary investigation of the dynamic characteristics of dried soil layers on the Loess Plateau of China
【中文关键词】无
【英文关键词】Asia; Far East; China; arid environment; organic carbon; chemical properties; correlation; depth; glycine; density; rainfall; thickness; vegetation; growth; drainage basins; water content; land use; soil profiles; lead; management; desiccation; plateaus; loess; soils;
【中文摘要】无
【英文摘要】Serious soil desiccation, resulting from climatic conditions and poor land management, may lead to the formation of a dried soil layer (DSL), which can negatively affect ecological and hydrological processes. To mitigate these effects through management, it is necessary to understand property interactions within DSLs, compared with those in the whole soil profile, and DSL formation processes under different land uses. We investigated the relationships between soil water content (SWC) and plant root indices, and other soil properties, under various land uses in the Liudaogou watershed on the Loess Plateau, China. We also studied the

development of DSLs as a function of the growth age of two vegetation types. Rate of formation and thickness of DSLs were dependent on vegetation type: DSLs formed after 2 years of alfalfa (Medicago sativa) growth and 3 years of Caragana korshinskii growth; after 4 years of growth, DSLs under alfalfa were thicker than those under C. korshinskii, but after 31 years the DSL thickness under C. korshinskii (4.4 m) exceeded that formed under alfalfa (3 m). The more persistent DSLs occurred below a 100 cm thick upper soil layer that was seasonally dried and replenished by rainfall under both vegetation types. The degree of soil desiccation under natural vegetation was generally less than that under non-indigenous plant species, and was similarly less over a period of about 30 years for a natural plant succession sequence than for an artificial one. Thus, the use of natural vegetation succession management principles would possibly reduce soil desiccation during vegetative restoration. Densities of root length, weight, and surface area, and the average root diameter of soybean (Glycine max), alfalfa, Stipa bubgeana, and C. korshinskii all decreased with increases in soil depths below 20 cm. Correlations between SWC and root indices, and various soil physical and chemical properties, were generally weaker within the DSL layers than within the whole soil profile. The only significant correlation was between soil organic carbon and SWC under alfalfa ($r = 0.627$, $P < 0.05$). Soil desiccation may thus interfere with these typical interrelationships occurring within the whole soil profile. Our findings may provide a helpful base reference for the control and restoration of DSLs occurring on the Loess Plateau and in similar arid and semi-arid regions.

【语种】英文
【第一作者】王云强
【通讯作者】邵明安
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【学科分类】农业基础学科

【题目】Using a new criterion to identify sites for mean soil water sorage evaluation
【中文关键词】无
【英文关键词】Property of soil; physical properties; Soil water properties; Water storage; soils; Soil science; Earth science; evaluation; soil moisture; Site; Criterion; utilization;
【中文摘要】无
【英文摘要】Establishing a few sites in which measurements of soil water storage (SWS) are time stable significantly reduces the efforts involved in determining average values of SWS. This study aimed to apply a new criterion—the mean absolute bias error (MABE)-to identify temporally stable sites for mean SWS evaluation. The performance of MABE was compared with that of the commonly used criterion, the standard deviation of relative difference (SDRD). From October 2004 to October 2008, SWS of four soil layers (0-1.0, 1.0-2.0, 2.0-3.0, and 3.0-4.0 m) was measured, using a neutron probe, at 28 sites on a hillslope of the Loess Plateau, China. A total of 37 SWS data sets taken over time were divided into two subsets, the first consisting of 22 dates collected during the calibration period from October 2004 to September 2006, and the second with 15 dates collected during the validation period from October 2006 to October 2008. The results showed that if a critical value of 5% for MABE was defined, more than half the sites were temporally stable for both periods, and the number of temporally stable sites generally increased with soil depth. Compared with SDRD, MABE was more suitable for the identification of time-stable sites for mean SWS prediction. Since the absolute prediction error of drier sites is more sensitive to changes in relative difference in terms of mean SWS prediction, the sites of wet sectors should be preferable for mean SWS prediction for the same changes in relative difference.
【语种】英文
【第一作者】胡伟
【通讯作者】邵明安
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【学科分类】农业基础学科

【题目】Organic carbon in soil physical fractions under different-aged plantations of Mongolian pine in semi-arid region of Northeast China
【中文关键词】无
【英文关键词】Ecological restoration; Extracellular enzyme; Keerqin Sand Lands; Pinus sylvestris var.mongolica Litv.; Soilcarbon storage; Soilphysical fractionation
【中文摘要】无
【英文摘要】In order to understand the changes of surface soilcarbon (C) storage following the afforestation of sandy grasslands, we used physical fractionation procedures to quantify C concentrations and sucrase enzyme activity in bulk soil and different particle fractions along two replicate chronosequences of Mongolianpine (Pinus sylvestris var. mongolica Litv.) plantations in the southeastern Keerqin Sand Lands, NortheastChina. Carbon concentration in bulk topsoil (0 – 15 cm) initially decreased following afforestation of grassland and subsequently increased as the forest matured. In general, this pattern of C concentration changes was associated with all particle-size fractions (except clays) and both macro- and microaggregates. The patterns of topsoil C were also influenced by wind erosion and deposition, with marked increases in the relative mass of silt and fine sand fractions occurring during forest development. The loss of aggregates immediately following afforestation was counteracted by formation of aggregates as the forests developed, contributing to the stabilization of carbon. To enhance soil C storage during afforestation of sandy soils in such semi-aridregions it is recommended to minimize disruption of grassland vegetation during the planting stage.
【语种】英文
【第一作者】陈伏生
【通讯作者】陈伏生
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【题目】Effects of nitrogen addition on vegetation and ecosystem carbon in a semi-arid grassland
【中文关键词】无
【英文关键词】Carbon partitioning;Carbon pool Keerqin Sandy Lands;Nitrogen limitation;Sandy grassland; Species composition
【中文摘要】无
【英文摘要】To clarify responses of plant and soil carbon (C) and nitrogen (N) pools in grassland ecosystem to N addition, a field experiment was performed in a grassland in Keerqin Sandy Lands, Northeast China. We investigated vegetation composition and C and N pools of plant and soil (0-30 cm) after five consecutive years of N addition at a rate of 20 g N m^{-2} y^{-1}. Vegetation composition and species diversity responded dramatically to N addition, as dominance by C_4 perennials was replaced with C_3 annuals. Carbon in aboveground pool increased significantly (over two-fold), mainly due to the increase of the C in aboveground living plants and surface litter, which increased by 98 and 134%, respectively. Although soil C did not change significantly, the root C pool decreased in response to 5 years of N addition. The total ecosystem C pool was not significantly impacted by N addition because the large soil pool did not respond to N addition, and the increase in aboveground C was offset by the decrease in root C pool. Moreover, N addition significantly increased the aboveground N pool, but had no significant effects on belowground and total ecosystem N pools. Our results suggest that in the mid-term N addition alters the C and N partitioning in above- and belowground pools, but has no significant effects on total ecosystem C and N pools in these N-limited grasslands.
【语种】英文
【第一作者】曾德慧
【通讯作者】曾德慧
【期刊名称、卷期、页码】Biogeochemistry 98(1-3): 185-193
【论文发表时间】2009-11-01 00:00:00
【引文索引类型】SCI
【引文索引号】10.1007/s10533-009-9385-x
【学科分类】农业基础学科

【题目】Soil microbial properties under N and P additions in a semi-arid, sandy grassland
【中文关键词】无
【英文关键词】Basal respiration;Microbial metabolic quotient;Microbial quotient;Net nitrogen mineralization;Nitrification;Soil microbial biomass
【中文摘要】无
【英文摘要】Surface (0　15 cm) soil samples were collected from a semi-arid, sandy grassland in Keerqin Sandy Lands, Northeast China to study changes in soil microbial and chemical properties after five consecutive years of nitrogen (N) and phosphorus (P) additions. Nitrogen and P additions and their interactions negligibly affected soil organic carbon and total N contents, while P addition significantly increased soil total P content. Soil pH was significantly decreased by N addition, which significantly increased net nitrification rate, whereas it did not affect net N mineralization rate. No significant effects of N and P additions and their interactions on basal respiration were detected. In addition, N addition significantly decreased microbial biomass C (MBC) and N, and thus microbial quotient, but increased dissolved organic C and microbial metabolic quotient due to the significant decrease of MBC. Our results suggest that in the mid-term the addition of N, but not P, can change soil microbial properties, with a possible decline in soil quality of semi-arid, sandy grasslands.
【语种】英文
【第一作者】李禄军
【通讯作者】曾德慧
【期刊名称、卷期、页码】Biology and Fertility of Soils 46(6): 653-658
【论文发表时间】2010-05-07 00:00:00
【引文索引类型】SCI
【引文索引号】10.1007/s00374-010-0463-y
【学科分类】农业基础学科

【题目】Role of endogenous hormones, glumes, endosperm and temperature on germination of Leymus chinensis (Poaceae) seeds during development
【中文关键词】无
【英文关键词】endogenous hormones;temperature;Leymus chinensis;anthesis;seed;germination
【中文摘要】无
【英文摘要】Leymus chinensis is an original dominant plant in the Songnen grassland, and it has great value for restoration of severely degraded land. However, seeds are dormant, and low germination percentage is a problem for restoring L.chinensis grassland. The mechanism of seed dormancy is not been well understood. The primary aims of the present study were to investigate the dormancy mechanism of L.chinensis seeds (caryopses) with reference to the role of embryo-covering layers, endogenous hormones and temperature. Changes in concentration of the endogenous hormones GA3, indoleacetic acid (IAA), zeatin riboside (ZR) and abscisic acid (ABA) in L.chinensis seeds from anthesis to maturity were measured by the enzyme-linked immunosorbent assay method. Germination at different stages of maturity were tested at 16/28 ° C, 5/28 ° C and 5/35 ° C for intact seeds with glumes (control), intact seeds with glumes removed (naked-whole seeds) and intact seeds with glumes and one-half of the endosperm removed (naked-half seeds).Important FindingsOf the four endogenous hormones monitored, only the concentration of ZR differed significantly between the beginning and the end of seed development (increased); the GA3/ABA ratio also did not differ. Rank of germination percentage of control at the three temperature regimens was 5/28 ° C > 16/28 ° C > 5/35 ° C. Germination percentage of the naked-half seeds reached 1% under the three temperature regimens. We concluded that dormancy of L.chinensis seeds is not mainly controlled by endogenous hormones. Germination temperature, mechanical resistance of glumes and inhibition of endosperm are the main factors controlling dormancy and germination of L.chinensis seeds.
【语种】英文
【第一作者】马红媛
【通讯作者】梁正伟
【期刊名称、卷期、页码】Journal of Plant Ecology-Uk 3(4): 269-277
【论文发表时间】2010-01-28 00:00:00
【引文索引类型】SCI

【引文索引号】10.1093/jpe/rtp035
【学科分类】农业基础学科

【题目】Distribution of biomass and diversity of Stipa Bungeana community to climate factors in the Loess Plateau of Northwestern China
【中文关键词】无
【英文关键词】Stipa bungeana community;biomass model;species diversity;climatic factor;Loess Plateau
【中文摘要】无
【英文摘要】Based on 28 year field data of Stipa bungeana community in arid, semi-arid, semi-humid areas of the Loess Plateau of Northwestern China, we studied species diversity and above ground biomass of S. bungeana community, analyzed the responses of above ground biomass to climate in different areas, and built a model of relationship between biomass and climatic factors. Results showed that there were significant differences for species diversity and above ground biomass among different sampling area. The species diversity range of S. bungeana was from 8.5 - 30.8 (ind/m(2)), and above ground biomass range was from 407.3 - 817.3 (g/m(2)) among studied area. The optimal distribution altitude range for S. bungeana is 1400 - 2000 m in arid area, 1200 - 1900 m in semi-arid area, and 600 - 1600 m in semi-humid area. Results also showed that the growth of S. bungeana was affected by different climatic factors, with rainfall as the major factor. Meanwhile, there was a close relationship between monthly biomass and rainfall during the growth stage. The models of monthly biomass and climate were built to compare the results and reveal the relationship between climatic factors and the growth of S. bungeana community.
【语种】英文
【第一作者】程杰
【通讯作者】程积民
【期刊名称、卷期、页码】Afr J Biotech 9(40): 6733-6739
【论文发表时间】2010-10-04 00:00:00
【引文索引类型】SCI
【引文索引号】10.5897/AJB10.910
【学科分类】农业基础学科

【题目】Climate warming and biomass accumulation of terrestrial plants: a meta-analysis
【中文关键词】无
【英文关键词】latitude;plant functional types;plant growth;precipitation;temperature
【中文摘要】无
【英文摘要】Growth of terrestrial plant species and functional types (PFTs) in response to climate warming determines future dynamics of terrestrial vegetation. • Here, a meta-analysis was conducted with data collected from 127 publications to reveal general patterns of biomass responses of terrestrial plants to warming. • Warming significantly increased biomass by 12.3% (with a 95% confidence interval of 8.4-16.3%) across all the terrestrial plants included. However, biomass responses were dependent upon PFTs, with significantly greater stimulation of woody (+26.7%) than herbaceous species (+5.2%). Warming effects on biomass showed quadratic relationships with both latitude and mean annual temperature, but did not change with mean annual precipitation or experimental duration. In addition, the other treatments, including CO(2) enrichment, nitrogen addition, drought and water addition, did not alter warming responses of plant biomass. • Dependence of the terrestrial plant biomass responses to warming upon PFTs, geographic and climatic factors as well as warming magnitudes will have consequent influences on community composition and structure, vegetation dynamics, biodiversity and ecosystem functioning in a warmer world. Our findings of functional type-specific responses of terrestrial plants are critical for improving predictions of climate-terrestrial carbon feedbacks.
【语种】英文
【第一作者】林德禄
【通讯作者】万师强
【期刊名称、卷期、页码】New Phytologist 188(1): 187-198
【论文发表时间】2010-05-18 00:00:00
【引文索引类型】SCI
【引文索引号】10.1111/j.1469-8137.2010.03347.x

【学科分类】农业基础学科

【题目】Interannual variability of soil microbial biomass and respiration in responses to topography, annual burning and N addition in a semiarid temperate steppe
【中文关键词】无
【英文关键词】Carbon; Fire; Hillslope; Microorganisms; Nitrogen; Precipitation
【中文摘要】无
【英文摘要】Soil microorganisms are sensitive to changes in environmental factors and play critical roles in the responses of terrestrial ecosystems to natural or anthropogenic perturbations. This study was conducted to examine interannualvariability of soilmicrobialbiomass and respiration in response to topography, annualburning and Naddition in asemiaridtemperatesteppe in northern China. Averaged across the 3 years from 2005 to 2007, soilmicrobialbiomass carbon (MBC), nitrogen (MBN) and respiration (MR) were 31.6, 36.7, and 16.2% greater in the lower than upper slope, respectively. The topographic difference was larger in the drier year, leading to stronger temporal variability of MBC, MBN, and MR in the upper than lower slope. Annualburning stimulated MBC and MBN, on average, by 23.3 and 14.4%, but it suppressed MR. Both the positive responses of soilmicrobialbiomass and the negative responses of MR to burning declined over time. Nitrogen addition reduced MBC and MBN by 17.1 and 8.3% respectively, and the negative effects increased with year. Naddition also amplified temporal variability of MBC, MBN and MR. Across the 48 plots, soilmicrobialbiomass and respiration showed positive dependence upon soil moisture and dissolved organic carbon (C). In addition, coefficient variations (CVs) of microbialbiomass and respiration were also positively correlated with CVs of soil moisture and aboveground biomass (AGB), suggesting water and plant regulation on the interannualvariability of soil microorganisms in response to environmental disturbances in the semiaridtemperatesteppe. Amplified temporal variability of soil microorganisms under drought, fire and Naddition indicates reduced stability of soilmicrobial community with consequent influences on ecosystem function under environmental change.
【语种】英文
【第一作者】刘卫星
【通讯作者】万师强
【期刊名称、卷期、页码】Geoderma 158(3-4): 259-267
【论文发表时间】2010-09-15 00:00:00
【引文索引类型】SCI
【引文索引号】10.1016/j.geoderma.2010.05.004
【学科分类】农业基础学科

【题目】Nitrogen effects on net ecosystem carbon exchange in a temperate steppe
【中文关键词】无
【英文关键词】biofuel feedstock production; carbon sequestration; clipping; grassland; interannual variability; land use; net ecosystem carbon exchange; nitrogen; phosphorus; photosynthesis; plant cover
【中文摘要】无
【英文摘要】It has widely been documented that nitrogen (N) enrichment stimulates plant growth and net primary production. However, there is still dispute on how N addition affects net ecosystem CO2 exchange (NEE), which represents the balance between ecosystem carbon (C) uptake and release. We conducted an experimental study to examine effects of N addition on NEE in a temperate steppe in northern China from 2005 to 2008. N was added at a rate of 10 g N m − 2 yr − 1 with NH4NO3 alone or in combination with phosphorous (P, 5 g P2O5 m − 2 yr − 1) in both clipped and unclipped plots. Over the 4 years, N addition significantly stimulated growing-season NEE, on average, by 27%. Neither the main effects of P addition or clipping nor their interactions with N addition were statistically significant on NEE in any of the 4 years. However, the magnitude of N stimulation on NEE declined over time. N addition significantly increased NEE by 60% in 2005 and 21% in 2006, but its effect was not significant in 2007 and 2008. N-induced shift in species composition was primarily responsible for the declined N stimulation over time. The gradually increasing coverage of the upper canopy species (Stipa krylovii) and standing litter accumulation induced light limitation on the lower canopy species (Artemisia frigida). Thus, N-induced shifts in plant species composition strongly regulated the direct effects of N addition on C sequestration in the temperate steppe.
【语种】英文

【第一作者】牛书丽
【通讯作者】万师强
【期刊名称、卷期、页码】Global Change Biology 16(1): 144-155
【论文发表时间】2010-01-05 00:00:00
【引文索引类型】SCI
【引文索引号】10.1111/j.1365-2486.2009.01894.x
【学科分类】农业基础学科

【题目】Water-use efficiency in response to climate change: from leaf to ecosystem in a temperate steppe
【中文关键词】无
【英文关键词】climate warming; evapotranspiration; grassland; gross ecosystem productivity; net ecosystem carbon exchange; photosynthesis; precipitation regimes; species composition; water-use efficiency
【中文摘要】无
【英文摘要】Water-use efficiency (WUE) has been recognized as an important characteristic of ecosystem productivity, which links carbon (C) and water cycling. However, little is known about how WUE responds to climate change at different scales. Here, we investigated WUE at leaf, canopy, and ecosystem levels under increased precipitation and warming from 2005 to 2008 in a temperate steppe in Northern China. We measured gross ecosystem productivity (GEP), net ecosystem CO2 exchange (NEE), evapotranspiration (ET), evaporation (E), canopy transpiration (Tc), as well as leaf photosynthesis (Pmax) and transpiration (Tl) of a dominant species to calculate canopy WUE (WUEc=GEP/T), ecosystem WUE (WUEgep=GEP/ET or WUEnee=NEE/ET) and leaf WUE (WUEl=Pmax/Tl). The results showed that increased precipitation stimulated WUEc, WUEgep and WUEnee by 17.1%, 10.2% and 12.6%, respectively, but decreased WUEl by 27.4%. Climate warming reduced canopy and ecosystem WUE over the 4 years but did not affect leaf level WUE. Across the 4 years and the measured plots, canopy and ecosystem WUE linearly increased, but leaf level WUE of the dominant species linearly decreased with increasing precipitation. The differential responses of canopy/ecosystem WUE and leaf WUE to climate change suggest that caution should be taken when upscaling WUE from leaf to larger scales. Our findings will also facilitate mechanistic understanding of the C – water relationships across different organism levels and in projecting the effects of climate warming and shifting precipitation regimes on productivity in arid and semiarid ecosystems.
【语种】英文
【第一作者】牛书丽
【通讯作者】万师强
【期刊名称、卷期、页码】Global Change Biology 17(2): 1073-1082
【论文发表时间】2010-05-22 00:00:00
【引文索引类型】SCI
【引文索引号】10.1111/j.1365-2486.2010.02280.x
【学科分类】农业基础学科

【题目】Contrasting effects of clipping and nutrient addition on reproductive traits of Heteropappus altaicus at the individual and population levels
【中文关键词】无
【英文关键词】Clipping;Heteropappus altaicus;Inflorescence;Nitrogen ;Phosphorus;Pollen;Population;Temperate steppe
【中文摘要】无
【英文摘要】This study was conducted to examine the effects of clipping and nutrient addition on plant traits of a dominant perennial forb species, Heteropappus altaicus (Willd.) Novopokr. (Compositae), at both the individual and population levels in a temperate steppe in northern China. A nested experimental design was used with clipping as the main factor and nutrient, including nitrogen (N), phosphorus (P) and both, addition as the second factor. The main effect of clipping reduced plant height, aboveground biomass (AGB) per plant, and pollen production per floret by 15.8, 34.3, 28.0% (all $p < 0.05$), respectively, but enhanced reproductive allocation and population density by 8 and 28.2% (both $p < 0.05$), respectively, suggesting contrary effects of clipping on H. altaicus traits at the individual and population levels. N addition significantly stimulated plant height, AGB per plant, reproductive allocation, pollen diameter, and pistil length, but decreased population density. The main effects of P addition also stimulated the plant traits at individual level, but did not change population traits. The significant interactions of clipping and nitrogen addition were observed on AGB per plant, pollen production, and population density. The differential responses of H. altaicus at the individual and population

levels to clipping and nutrient addition indicate that the future dynamics of H. altaicus in the temperate steppe are uncertain and need long-term research to demonstrate.
【语种】英文
【第一作者】吴明煜
【通讯作者】牛书丽
【期刊名称、卷期、页码】Ecological Research 25(4): 867-874
【论文发表时间】2010-04-24 00:00:00
【引文索引类型】SCI
【引文索引号】10.1007/s11284-010-0718-y
【学科分类】农业基础学科

【题目】The Influence of Historical Land Use and Water Availability on Grassland Restoration
【中文关键词】无
【英文关键词】community structure; diversity stability; historical land use; old field; steppe; water addition
【中文摘要】无
【英文摘要】The ecological role of historical land use has rarely been explored in the context of grassland restoration. We conducted a 4-year field experiment in a steppe and an old field in Inner Mongolia in northern China to examine the influence of historical land use and water availability on ecosystem restoration. Species richness, evenness, and plant cover were higher in the steppe than in the old field. The steppe was more temporally stable compared with the old field in terms of species richness, evenness, plant density, and cover. Water addition increased peak aboveground biomass, belowground net primary productivity, species richness, plant density, and cover in both the steppe and the old field. Water addition also enhanced the stability of ecosystems and the restoration of grassland. Our findings suggested that historical land use determines community structure and influences the process of grassland restoration. Converting grasslands to farmland in semiarid areas can cause the long-term loss of biodiversity and instability of ecosystem with consequent impacts on ecosystem services. The amendment of limited resources is an effective practice to increase the success of ecosystem restoration.
【语种】英文
【第一作者】徐柱文
【通讯作者】韩兴国
【期刊名称、卷期、页码】Restoration Ecology 18: 217-225
【论文发表时间】2010-09-15 00:00:00
【引文索引类型】SCI
【引文索引号】10.1111/j.1526-100X.2009.00595.x
【学科分类】农业基础学科

【题目】Plant responses following grazing removal at different stocking rates in an Inner Mongolia grassland ecosystem
【中文关键词】无
【英文关键词】Grazing removal;Ecosystem stability;Compensatory effect;Precipitation variation;Grassland management;Grassland restoration
【中文摘要】无
【英文摘要】Grazing removal is widely used in grassland management. Plant responses following grazing removal at different organizational levels, however, are not well understood. We examined plant responses at different stocking rates in an Inner Mongolia grassland ecosystem dominated by Leymus chinensis and Stipa grandis. Our results indicated that plant response patterns differed significantly among stocking rates, at different levels of organization, and between wet and dry years. Community aboveground net primary production (ANPP) recovered more quickly at low and moderate stocking rates than those at high stocking rates. Response of aboveground net primary production (RANPP) was significantly positively correlated with both individual biomass and density responses of L. chinensis. Overcompensation of L. chinensis after grazing removal contributed greatly to positive RANPP at the community level. Significant compensatory effects were found between the two dominant species and between dominant species and the remaining non-dominant species. Variation in precipitation significantly affected community ANPP, relationships between community and species responses, and compensatory effects between species. Our study suggests that periodic grazing removal is likely to be a useful method for grassland management and that a combination of species with compensatory effects can be advantageous for

reseeding practices in grassland restoration.
【语种】英文
【第一作者】刘艳书
【通讯作者】潘庆民
【期刊名称、卷期、页码】Plant and Soil 331(1-2): 165-179
【论文发表时间】2010-06-23 00:00:00
【引文索引类型】SCI
【引文索引号】10.1007/s11104-010-0458-3
【学科分类】农业基础学科

【题目】Spatial variability and distribution of soil nutrients in a catchment of the Loess Plateau in China
【中文关键词】无
【英文关键词】ArcGIS, ammonium nitrogen, nitrate nitrogen, organic matter, total nitrogen, total phosphorus
【中文摘要】无
【英文摘要】Inappropriate land use is one of the main reasons for soil erosion and nutrient loss in the hilly loess area of the Liudaogou catchment of the Loess Plateau, a typical topography area of hills and gullies. Good management practices, such as the nutrient variability for the different land uses (woodland, grassland, shrub land, farmland, and gully), would help the farmers. One study of the use of Geographic Information System (GIS) spatial analysis and geostatistic analysis was carried out in the catchment. The results showed that the trend of the content of clay and silt in the different soil ranks was: farmland < grassland < shrub land < gully soil. The sandy soil contained fewer nutrients than did the other soils. The farmland contains fewer total phosphorus (TP) and . The spatial dependence of the total nitrogen (TN) and the organic matter (OM) in the sandy soil is strong, but is only moderate in the other types of land use except for OM in farmland. The spatial dependence of TP in the different types of land use patterns is strong too, except in woodland, and the dependence of TP is moderate in grassland. The spatial dependence of and is not strong, especially in woodland, shrub land, and farmland. The dependence of is weak in grassland, gully, and farmland. In the catchment scale, the degree of spatial dependence (GD) is moderate for soil nutrients especially for TN and , but the different nutrients were modelled in different stationary models. The spatial variability of OM, TP, and was modelled by a Gaussian model, and the spatial variability of TN and was modelled by an exponential equation. The nutrients distribution in the catchment has been mapped by GIS. From the results, it was seen that annual grass played an important role in the conservation and improvement of soil quality in the Loess Plateau. In addition, the farmland should be given more fertilizer.
【语种】英文
【第一作者】韩凤鹏
【通讯作者】张兴昌
【期刊名称、卷期、页码】Acta Agriculturae Scandinavica, Section B - Plant Soil Science 60(1): 48-56
【论文发表时间】2010-02-23 00:00:00
【引文索引类型】SCI
【引文索引号】10.1080/09064710802613065
【学科分类】农业基础学科

【题目】Estimating soil organic carbon storage and distribution in a catchment of Loess Plateau, China
【中文关键词】无
【英文关键词】Soil organic carbon density;Soil organic carbon storage;Soil organic carbon distribution;The Loess Plateau
【中文摘要】无
【英文摘要】Using soil as a carbon sink to sequester carbon dioxide has attracted much attention. But there is little research on soil organic carbon (SOC) in the Loess Plateau because of the extremely complex topography. In this study, SOC storage was estimated based on a soil survey of a small catchment in the Loess Plateau, northwest China. The SOC content of 169 profiles and the bulk density of 12 profiles were measured. The study area was classified into six different classes: farmland, grassland, shrub land, woodland, gully, Aeolian sandy soil. Results showed that the soil bulk density and SOC content are affected by land use and soil types, and the relationship between them could be expressed by a power function. Grassland had the highest SOC density, and next came farmland. Gully and Aeolian sandy soil had the lowest SOC density. The SOC content per area in the grassland and farmland was higher than the other classes and the shrub land was similar to the woodland while the Aeolian sandy soil and gully were the lowest. All of the changes in

the cumulative SOC storage with the increasing depth follows a logarithmic model. The SOC storage in the catchment of farmland, grassland, shrub land, woodland, gully, and Aeolian sandy soil was estimated as 3.32 × 106 kg, 9.45 × 106 kg, 1.023 × 107 kg, 2.73 × 106 kg, 5.76 × 106 kg, and 2.94 × 106 kg, respectively. The total SOC storage of 100 cm depth in the catchment is 3.443 × 107 kg.
【语种】英文
【第一作者】韩凤鹏
【通讯作者】张兴昌
【期刊名称、卷期、页码】Geoderma 154: 261-266
【论文发表时间】2010-01-15 00:00:00
【引文索引类型】SCI
【引文索引号】10.1016/j.geoderma.2009.10.011
【学科分类】农业基础学科

【题目】Community structure and composition in response to climate change in a temperate steppe
【中文关键词】无
【英文关键词】diversity; grassland; plant functional group; temperature; water availability
【中文摘要】无
【英文摘要】Climate change would have profound influences on community structure and composition, and subsequently has impacts on ecosystem functioning and feedback to climate change. A field experiment with increased temperature and precipitation was conducted to examine effects of experimental warming, increased precipitation and their interactions on community structure and composition in a temperate steppe in northern China since April 2005. Increased precipitation significantly stimulated species richness and coverage of plant community. In contrast, experimental warming markedly reduced species richness of grasses and community coverage. Species richness was positively dependent upon soil moisture (SM) across all treatments and years. Redundancy analysis (RDA) illustrated that SM dominated the response of community composition to climate change at the individual level, suggesting indirect effects of climate change on plant community composition via altering water availability. In addition, species interaction also mediated the responses of functional group coverage to increased precipitation and temperature. Our observations revealed that both abiotic (soil water availability) and biotic (interspecific interactions) factors play important roles in regulating plant community structure and composition in response to climate change in the semiarid steppe. Therefore these factors should be incorporated in model predicting terrestrial vegetation dynamics under climate change.
【语种】英文
【第一作者】杨海军
【通讯作者】万师强
【期刊名称、卷期、页码】Global Change Biology 17(1): 452-465
【论文发表时间】2011-01-15 00:00:00
【引文索引类型】SCI
【引文索引号】10.1111/j.1365-2486.2010.02253.x
【学科分类】农业基础学科

【题目】Estimating total net primary productivity of managed grasslands by a state-space modeling approach in a small catchment on the Loess Plateau, China
【中文关键词】无
【英文关键词】Totalnetprimaryproductivity; Spatial heterogeneity; State-space models; Classical statistics; Vegetation restoration
【中文摘要】无
【英文摘要】Managedgrasslands are important for stabilizing soil and reducing soil erosion on sloping lands. In order to obtain information for better grassland management and soil protection at small scales, managedgrasslandtotalnetprimaryproductivity (TNPP) data were collected and analyzed with a first order state-spaceapproach and a classical linear regression approach. The objective was to determine the effects of soil properties and site elevation on managedgrassland TNPP. Soil water content (SWC), soil bulk density (BD), saturated soil hydraulic conductivity (Ks), soil temperature (T), soil clay content (CC), soil organic carbon (SOC), soil NO_3^-–N, soil NH_4^+–N, soil Olsen phosphorus concentration (OP) and site elevation (SE) data were collected along a 300-m transect in the ChinaLoessPlateau. Soil properties and site elevation were evaluated in bi- and multivariate autoregressive state-space analysis to clarify the key factors affecting the spatial distribution of TNPP. Results show that most of the measured variables contributed to the

variation of TNPP. CC and OP were especially helpful in describing the spatial pattern of TNPP. The state-spacemodeling results were compared with classical statistics methodologies, indicating that the state-spaceapproach described the spatial pattern of TNPP much better than the equivalent classical regression methods. All of the TNPP variation was represented by state-space models that included soil NO3 − N and OP or soil CC and OP. Only 76% of the variance of the TNPP was represented by classical statistics analysis because the classical statistics did not include sampling position and assumed sample independence. State-space models are recommended for studying spatial relations between vegetation and soil variables in natural soil-plant systems on the ChinaLoessPlateau.

【语种】英文

【第一作者】贾小旭

【通讯作者】邵明安

【期刊名称、卷期、页码】Geoderma 160: 281-291

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【引文索引类型】SCI

【引文索引号】10.1016/j.geoderma.2010.09.016

【学科分类】农业基础学科

【题目】Impact of litter quality and soil nutrient availability on leaf decomposition rate in a semi-arid grassland of Northeast China

【中文关键词】无

【英文关键词】Keerqin Sandy Lands; Litterdecomposition; Nutrient enrichment; Species identity

【中文摘要】无

【英文摘要】It was hypothesized that litter with higher N concentration would decompose faster than that with lower N concentration and that increased soilnutrientavailability would stimulate litterdecomposition. To examine the interspecific differences in decompositionrate of leaflitter in relation with differences in litter chemistry and soilnutrientavailability, senescent leaves of four species Pennisetum flaccidum, Artemisia scoparia, Chenopodium acuminatum and Cannabis sativa, and soil samples with different fertilization treatments (no fertilization, N, P, and N + P fertilizations, respectively) were collected from a sandy grassland in NortheastChina and incubated under laboratory conditions. The decompositionrate of leaflitter was determined by measuring the CO2 emission during decomposition of litter. We found remarkable interspecific differences in leafdecompositionrates. Moreover, rates of litterdecomposition at different incubation stages were correlated with different litterquality indices. The rate of litterdecomposition was positively correlated with initial litter N concentration in the initial stage of the incubation, whereas it was negatively correlated with litter N and P concentrations in the late stage. Responses of litterdecomposition to soilnutrientavailability differed among species. Our results suggest that both indirect changes in litterquality through shifts of species composition/dominance and direct changes in soilnutrientavailability under nutrient addition conditions could affect litterdecomposition and consequently C and nutrient cycling of grassland ecosystems.

【语种】英文

【第一作者】李禄军

【通讯作者】曾德慧

【期刊名称、卷期、页码】Journal of Arid Environments 75: 787 − 792

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【引文索引号】10.1016/j.jaridenv.2011.04.009

【学科分类】农业基础学科

【题目】Foliar N/P ratio and nutrient limitation to vegetation growth on Keerqin sandy grassland of North-east China

【中文关键词】无

【英文关键词】biomass partitioning; Keerqin sandy lands; luxury consumption; N/P stoichiometry; nitrogen limitation

【中文摘要】无

【英文摘要】To examine whether the critical leaf N/P ratios (of 14, 16) are valid to test nutrient limitation in the context of semi-arid sandy grasslands, an experiment was conducted on a Keerqin sandy grassland in North-east China to investigate the responses of plant biomass and nutrient concentrations to fertilization. Plant biomass production and leaf nutrient concentrations were measured after five consecutive years of fertilization with N (20 g N m − 2 year − 1) and/or P (10 g P2O5 m − 2 year − 1). Nitrogen fertilization increased the shoot biomass by twofold and consequently the shoot/root ratio, whereas P fertilization had little effect on either shoot biomass or

shoot/root ratio. Leaf N/P ratio varied among species with an average of 5 · 6 in the control, while the mean leaf N/P ratio (7 · 5) under the N fertilization treatment remained below the threshold of 14. Our results suggest that the critical N/P ratio (14, 16) is not applicable as a test for nutrient limitations in the context of semi-arid, sandy grassland.
【语种】英文
【第一作者】李禄军
【通讯作者】曾德慧
【期刊名称、卷期、页码】Grass and Forage Science 66: 237 – 242
【论文发表时间】2011-01-15 00:00:00
【引文索引类型】SCI
【引文索引号】10.1111/j.1365-2494.2011.00781.x
【学科分类】农业基础学科

【题目】Important foliar traits depend on species-grouping: analysis of a remnant temperate forest at the Keerqin Sandy Lands, China
【中文关键词】无
【英文关键词】Diminishing return; Leaf N/P ratio; Sandy forest ecosystem; Semi-arid region; Species functional group; Specific leaf area
【中文摘要】无
【英文摘要】Foliar traits are often interpreted to reflect strategies for coping with water and nutrient supply limitations. In this study, we measured several important leaf traits for 147 species sampled from a remnant, temperate deciduous broad-leaved forest in Keerqin Sandy Lands, Northeast China to test whether these traits are invariant or dependent on water supply limitations. Our data show that average specific leaf area (SLA), nitrogen (N) and phosphorus (P) concentrations, leaf C/N, C/P and N/P were 273 cm2/ g, 18.1 mg /g, 1.60 mg/ g, 28.2, 343 and 12.4, respectively. However, most of these traits were significantly different (P < 0.05) for different species groupings based on growth forms, phylogenetic history, photosynthetic pathways, or habitats. SLA was positively correlated with leaf P concentration across the broad spectrum of 118 species and most species functional groupings. However, SLA was not correlated with N concentration across all species or within each species functional group. SLA and N and P concentrations in dry habitats were lower than those in wet habitats, whereas leaf C/N, C/P, and N/P had the opposite trend both across all species and within major species functional groupings (herb, monocots and C3 species). Our data indicate that SLA vs. leaf N and SLA vs. P relationships may be regulated differentially for different species functional groupings and that water limitation may have a greater influence than nutrient limitation for plant growth.
【语种】英文
【第一作者】陈伏生
【通讯作者】曾德慧
【期刊名称、卷期、页码】Plant and Soil 340: 337 – 345
【论文发表时间】2010-10-20 00:00:00
【引文索引类型】SCI
【引文索引号】10.1007/s11104-010-0606-9
【学科分类】农业基础学科

【题目】Plant community responses to nitrogen addition and increased precipitation: the importance of water availability and species traits
【中文关键词】无
【英文关键词】community composition; community structure;nitrogen enrichment; plant functional group; plant traits; precipitation; species richness; temperate steppe; water availability
【中文摘要】无
【英文摘要】Global nitrogen (N) enrichment and changing precipitation regimes are likely to alter plant community structure and composition, with consequent influences on biodiversity and ecosystem functioning. Responses of plant community structure and composition to N addition and increased precipitation were examined in a temperate steppe in northern China. Increased precipitation and N addition stimulated and suppressed community species richness, respectively, across 6 years (2005 – 2010) of the manipulative experiment. N addition and increased precipitation significantly altered plant community structure and composition at functional groups levels. The significant relationship between species richness and soil moisture (SM) suggests that plant community structure is

mediated by water under changing environmental conditions. In addition, plant height played an important role in affecting the responses of plant communities to N addition, and the effects of increased precipitation on plant community were dependent on species rooting depth. Our results highlight the importance and complexity of both abiotic (SM) and biotic factors (species traits) in structuring plant community under changing environmental scenarios. These findings indicate that knowledge of species traits can contribute to mechanistic understanding and projection of vegetation dynamics in response to future environmental change.
【语种】英文
【第一作者】杨海军
【通讯作者】万师强
【期刊名称、卷期、页码】Global Change Biology 17: 1365-2486
【论文发表时间】2011-09-15 00:00:00
【引文索引类型】SCI
【引文索引号】10.1111/j.1365-2486.2011.02423.x
【学科分类】农业基础学科

【题目】Fractions and bioavailability of soil inorganic phosphorus in the Loess Plateau of China under different vegetations
【中文关键词】无
【英文关键词】bioavailability;fraction;inorganic phosphorus;vegetation;soil development;Loess Plateau
【中文摘要】无
【英文摘要】Plants play an important role in soil phosphorus nutrition. However, the effect of plants on phosphorus nutrition in soils of the Loess Plateau of China is not well understood. This study was conducted to reveal the relationships between plants and phosphorus' fractions and availability in the Loess Plateau of China. Twenty-two plant communities were surveyed and soil samples under different plant canopies were collected for the determination of soil properties and inorganic phosphorus fractionation. The results showed that Leguminosae and Lilaceae reduced pH and increased organic matter, cation exchange capacity, total and Olsen phosphorus in soils under their canopies, while Labiatae and Rosaceae increased pH and decreased organic matter, cation exchange capacity, total and Olsen phosphorus in soils under their canopies. The contents of Ca2P, Ca8P, Al-P and Fe-P were highly related with soil Olsen phosphorus. They were all higher in soils under Leguminosae and Lilaceae and lower in soils under Labiatae and Rosaceae. The results of this study indicate that Leguminosae and Lilaceae improved phosphorus nutrition in soils, yet Labiatae and Rosaceae impeded the improvement of phosphorus nutrition in soils under their canopies, which will be of more help to instruct vegetation restoration in the region and provide information for soil development.
【语种】英文
【第一作者】魏孝荣
【通讯作者】邵明安
【期刊名称、卷期、页码】Acta Geol. Sin.-Engl. 85: 263-270
【论文发表时间】2011-02-23 00:00:00
【引文索引类型】SCI
【引文索引号】10.1111/j.1755-6724.2011.00396.x
【学科分类】农业基础学科

【题目】Biological role of MicroRNA-103 based on expression profile and target genes analysis in pigs
【中文关键词】无
【英文关键词】miR-103; Tissue expression profile; GO term enrichment; Preadipocyte differentiation; Pig
【中文摘要】无
【英文摘要】MicroRNAs (miRNAs) are endogenously expressed RNAs consisting of 20-24 nucleotides. These molecules are thought to repress protein translation by binding to target mRNAs. However, biological functions have not been assigned to most of the 175 porcine miRNAs registered in miRBase (release 15.0). In an effort to uncover miR-103 important in pigs, we examined the integrative tissue expression profile and gene ontology (GO) term enrichment of predicted target genes to determine the global biological functions of miR-103. Our results demonstrated that miR-103 is involved in various biological processes including brain development, lipid metabolism, adipocyte differentiation, hematopoiesis, and immunity. Moreover, we also experimentally verified effects of miR-103 in porcine preadipocytes. miR-103 levels increased in differentiating adipocytes, and inhibition of miR-103 effectively inhibited preadipocyte differentiation. In addition, mRNA levels of the putative miR-103 target RAI14 were higher in miR-

103 inhibitor-treated adipocytes. These results demonstrate that miR-103 is involved in porcine preadipocyte differentiation and may act through the putative target gene RAI14. In a word, our data provide new insights into the global biological role of miR-103.
【语种】英文
【第一作者】李国喜
【通讯作者】杨公社
【期刊名称、卷期、页码】Molecular Biology Reports 2011.38(7):4777-4786
【论文发表时间】2010-12-09 00:00:00
【引文索引类型】SCI
【引文索引号】WOS:000294362500068
【学科分类】畜牧学

【题目】MicroRNA identity and abundance in developing swine adipose tissue as determined by Solexa sequencing
【中文关键词】无
【英文关键词】microRNA; ADIPOSE TISSUE; EXPRESSION PROFILES; SOLEXA SEQUENCING; SUS SCROFA
【中文摘要】无
【英文摘要】MicroRNAs (miRNAs) are small similar to 22-nt regulatory RNAs that regulate the stability and translation of cognate mRNAs. MiRNAs participate in the regulation of adipogenesis, and identification of the full repertoire of miRNAs expressed in adipose tissue is likely to significantly increase our understanding of adipose tissue growth and development. Here, we adopted a deep sequencing approach to determine the identity and abundance of miRNAs in developing swine adipose tissue. Via this approach, we identified the sequences and relative expression levels of 227 conserved miRNAs (of which 59 were novel) and 66 potential porcine miRNAs. The expression levels displayed a large range, as reflected by the number of sequence reads, which varied from several counts for rare miRNAs to several million reads for the most abundant miRNAs. The abundant miRNAs principally belonged to 32 miRNA gene families, including miR-143, miR-103, let-7, and miR-148. Of the conserved miRNAs, 93 miRNAs were up-regulated and 33 miRNAs were down-regulated in the adult pig adipose tissue. Moreover, we observed sequence variants and seed edits of the miRNAs. KEGG pathway analysis and GO term enrichment suggested that highly expressed miRNAs are involved in adipose tissue development, signal transduction, cell-cell and cell-extracellular matrix communication, neural development and function, and lipid metabolism including carboxylic acid, oxoacid, fatty acid, steroid, glycerolipid, alcohol and phospholipid metabolism. Our results expand the number of known porcine miRNAs and provide a thorough account of the miRNA transcriptome in porcine adipose tissue.
【语种】英文
【第一作者】李国喜
【通讯作者】杨公社
【期刊名称、卷期、页码】Journal of Cellular Biochemistry 2011.112:1318-1328
【论文发表时间】2011-01-19 00:00:00
【引文索引类型】SCI
【引文索引号】WOS:000289361900010
【学科分类】畜牧学

【题目】Accumulation of beta-catenin by lithium chloride in porcine myoblast cultures accelerates cell differentiation
【中文关键词】无
【英文关键词】Porcine myoblasts; Wnt/beta-catenin pathway; Differentiation; Lithium chloride
【中文摘要】无
【英文摘要】The Wnt/beta-catenin signaling pathway regulates cell proliferation and differentiation to determine cell fate during embryogenesis. Lithium chloride (LiCl) is known to activate canonical Wnt signaling by inhibiting glycogen synthetase kinase-3 beta and consequently stabilizing free cytosolic beta-catenin. To understand the role of the Wnt/beta-catenin pathway in the regulation of porcine myoblast differentiation, we studied the effects of LiCl on cultured porcine myoblasts and beta-catenin expression. A supplementation of 25 mM LiCl induced myoblast differentiation into myotubes over 3 days of culture. By semi-quantitative RT-PCR analyses, levels of mRNA encoding MyoD, Myogenin, Myf5 and several Wnt-responsive genes in the cultured myoblast cells were significantly increased after LiCl treatment. Using Western blotting and immunofluorescence analysis, we found that the protein levels of beta-catenin were consistently increased by LiCl. Meanwhile, phosphorylated GSK-3 beta at Ser9 levels were also increased as an indicator of GSK-3 beta inactivation. Additionally, the nuclear staining of endogenous beta-catenin was also significantly increased in

porcine myoblasts 48 h after LiCl treatment. These results provided additional evidence that Wnt/beta-catenin is a significant pathway that regulates myogenic differentiation. An enhanced level of beta-catenin plays a positive role in porcine myoblast differentiation.
【语种】英文
【第一作者】杨映娟
【通讯作者】杨公社
【期刊名称、卷期、页码】Molecular Biology Reports 2011.38(3):2043 – 2049
【论文发表时间】2010-09-21 00:00:00
【引文索引类型】SCI
【引文索引号】WOS:000286941400077
【学科分类】畜牧学

【题目】Molecular Cloning, Expression and Subcellular Distribution of an Alternative Splice Variant of the Porcine Sirt2 Gene
【中文关键词】无
【英文关键词】Sirt2(T); Splice variant; Porcine; Expression; Subcellular distribution
【中文摘要】无
【英文摘要】Sirt2, a NAD(+)-dependent histone deacetylase, plays a critical role in regulating lifespan, metabolism, mitosis and adipocyte differentiation. Here two bands of the porcine Sirt2 protein were found by western blotting, so we speculated existence of Sirt2 isoforms. Next, we cloned the porcine Sirt2 gene, and also found its alternative splice variant and named the novel splicing variant Sirt2(T). The complete cDNA sequence of Sirt2(T) is 1059 bp, encoding a deduced protein of 352 amino acids which is 39 amino acids shorter at the N-terminus than Sirt2. RT-PCR revealed that the Sirt2(T) mRNA is extensively expressed in porcine tissues, and can be expressed during adipocyte differentiation. In addition, immunofluorescence and transfection demonstrated that Sirt2(T) is located in the cytoplasm and nucleus.
【语种】英文
【第一作者】刘炳婷
【通讯作者】杨公社
【期刊名称、卷期、页码】Molecular Biology Reports 2010, 31(1):1671-1676
【论文发表时间】2009-10-13 00:00:00
【引文索引类型】SCI
【引文索引号】WOS:000274212500066
【学科分类】畜牧学

【题目】Regulation of ATGL Expression Mediated by Leptin in vitro in Porcine Adipocyte Lipolysis
【中文关键词】无
【英文关键词】ATGL expression; Regulation; Leptin
【中文摘要】无
【英文摘要】Adipose triglyceride lipase (ATGL), as an adipose-enriched protein, is able to hydrolyze triglycerides and plays an important part in triglyceride lipolysis of fat tissue. Leptin, an adipocyte cytokine, can increase the fat decomposition process. Many phenomena indicate that ATGL has a close relationship with leptin's promoting the hydrolysis of triglycerides. However, the regulatory mechanism of ATGL in leptin's promoting fat hydrolysis has not been directly and systematically studied yet. This study demonstrated that ATGL was expressed in vitro by leptin regulation. The amount of ATGL mRNA increased and the amount of ATGL protein decreased based on a dose-dependent manner when leptin concentrations ranged from 5 to 50 ng/ml were used to treat fully differentiated porcine adipocytes for 3 h. In addition, this study revealed that JAK-STAT and MAPK signaling pathways, as well as PPAR gamma all played important roles in the ATGL expression mediated by leptin.
【语种】英文
【第一作者】李玉成
【通讯作者】杨公社
【期刊名称、卷期、页码】Molecular and Cellular Biochemistry 2010,331:121-128
【论文发表时间】2009-07-22 00:00:00
【引文索引类型】SCI

【引文索引号】WOS:000272869200015
【学科分类】畜牧学

【题目】Mitochondrial development and the influence of its dysfunction during rat adipocyte differentiation.
【中文关键词】无
【英文关键词】Mitochondrial development; Primary adipocyte; Differentiation; Mitochondrial dysfunction; PGC-1 beta
【中文摘要】无
【英文摘要】Mitochondrial biogenesis is inherent to adipocyte differentiation. Mitochondrial dysfunction leads to abnormal lipid accumulation or the deterioration of the differentiation process. The aim of this study is to investigate the mitochondrial development during the differentiation of rat primary adipocytes and the effect of mitochondrial dysfunction on this process. We found, for the first time, that the number of mitochondria markedly increased during adipocyte differentiation by transmission electron microscopy. By immunofluorescence staining that the protein content of Cyt c increased in differentiated adipocyte in comparison with preadipocyte. The mRNA expression levels of mitochondrial gene including cytochromes c (Cyt c), malate dehydrogenases (MDH), and peroxisome proliferator activated receptor (PPAR) gamma coactivator-1 beta (PGC-1 beta) significantly increased along with the proceeding of adipocyte differentiation. The damage to mitochondrial respiratory chain function by rotenone caused significant decrease in gene expressions including mitochondrial MDH and PGC-1 beta, and PPAR gamma, CAAT/enhancer binding protein alpha (C/EBP alpha) and sterol regulatory element binding protein-1c (SREBP-1c), which are known as transcription factors of differentiation, and differentiation marker gene named fatty acid synthetase. Moreover, an apparent decrease was found in the synthesis of triglyceride and ATP due to the damage to mitochondria by rotenone. Based on the above results, our present study revealed that the density and oxidative capacity of mitochondrial markedly increased during primary adipocyte differentiation, and on the other hand, we suggested that mitochondria dysfunction might inhibit the differentiation process.
【语种】英文
【第一作者】卢荣华
【通讯作者】杨公社
【期刊名称、卷期、页码】Molecular Biology Reports 2010,37(5): 2173-2182
【论文发表时间】2009-08-22 00:00:00
【引文索引类型】SCI
【引文索引号】WOS:000279308400005
【学科分类】畜牧学

【题目】Tissue Expression of Porcine FoxO1 and Its Negative Regulation during Primary Preadipocyte Differentiation
【中文关键词】无
【英文关键词】FoxO1; Tissue expression; Regulation; Porcine preadipocyte; Differentiation; IGF-I
【中文摘要】无
【英文摘要】The Forkhead transcription factor O 1 (FoxO1) gene plays an important role in the integration of hormone-activated signaling pathways with the complex transcriptional cascade that promotes clonal cell line differentiation. However, tissue expression of porcine FoxO1 and its function during porcine preadipocyte differentiation remained poorly understood. In the present study, we investigated tissue expressions of FoxO1 in pig by real time quantitative RT-PCR (qRT-PCR) and western blotting, and explored its role in porcine preadipocytes differentiation by RNA interference technique and qRT-PCR. FoxO1 gene expressions were highly in subcutaneous adipose and visceral adipose tissues, and higher in piglets than those in adults ($P < 0.05$). We showed that expression of endogenous FoxO1 in preadipocytes transfected with pBS/U6-siFoxO1-1748 expression vector was inhibited efficiently. After reducing expression of FoxO1, glycerol-3phosphate dehydrogenase (GPDH) activity and triglyceride (TG) content increased from day 1 to 9, and the time-course expressions of several key adipogenic genes mRNA, including peroxisome proliferator-activated receptor c on day 3, 5, and 7, adipocyte fatty acid binding protein on day 1, 3, and 5, and sirtuin1 on day 1, 3, and 5, were increased significantly ($P < 0.05$). Lipoprotein lipase was unrelevant to FoxO1. By using insulin-like growth factor-I treating, expression of FoxO1 reduced at day 3 and 5 ($P < 0.05$), and significant differentiation of porcine preadipocyte with increasing number of filled-lipid cell and size of lipid droplets, GPDH activity and TG content were promoted. These results suggested that porcine FoxO1 gene took part in the regulation of adipose and was a negative transcription regulation factor in preadipocyte differentiation.
【语种】英文

【第一作者】庞卫军
【通讯作者】杨公社
【期刊名称、卷期、页码】Molecular Biology Reports 2009,36(1):165-176
【论文发表时间】2008-02-22 00:00:00
【引文索引类型】SCI
【引文索引号】WOS:000262088100023
【学科分类】畜牧学

【题目】Interleukin-6 Stimulates Lipolysis in Porcine Adipocytes
【中文关键词】无
【英文关键词】Interleukin-6; Lipolysis; Porcine adipocytes; ERK; Perilipin A; PGC-1 alpha
【中文摘要】无
【英文摘要】Interleukin (IL)-6 stimulates lipolysis in human and rodents adipocytes. However, the mechanism regulating this process is little known. In this study, we demonstrated that IL-6 increased lipolysis in differentiated porcine adipocytes by activation of extracellular signal-related kinase (ERK), which was inhibited by specific ERK inhibitor PD98059. IL-6 treatment did not elevate intracellular cAMP and specific PKA inhibitor H89 did not affect IL-6-induced lipolysis, which suggested that protein kinase A (PKA) pathway was not involved in IL-6-induced lipolysis. Also, the expressions of perilipin A and PPAR gamma 2 were significantly reduced in response to IL-6 treatment, but the expressions of peroxisome proliferators-activated receptor gamma coactivator-1 alpha (PGC-1 alpha), carnitinepalmitoyl-transferase-1 (CPT-1), and uncoupling protein 2 (UCP2) were significantly elevated. In conclusion, these results suggested that chronic high dose or IL-6 directly stimulated lipolysis in porcine adipocytes through activation of ERK, subsequently repressing perilipin A and promoting PGC-1 alpha expression.
【语种】英文
【第一作者】杨永青
【通讯作者】杨公社
【期刊名称、卷期、页码】Endocrine 2008,33(3):261-269
【论文发表时间】2008-11-28 00:00:00
【引文索引类型】SCI
【引文索引号】WOS:000263168100006
【学科分类】畜牧学

【题目】Roles of Wnt/β-catenin signaling in adipogenic differentiation potential of adipose-derived mesenchymal stem cells
【中文关键词】无
【英文关键词】porcine AMSCs; Wnt/beta-catenin pathway; adipogenesis; differentiation
【中文摘要】无
【英文摘要】Wnt/beta-catenin signaling pathway controls differentiation of various cells by regulating the expression of target genes. beta-Catenin plays a central role in Wnt/beta-catenin signaling pathway. To investigate the molecular mechanisms of fate determination in adipose-derived mesenchymal stem cells (AMSCs), we investigated effects of Wnt3a and beta-catenin, two key members of the Wnt/beta-catenin signaling, in adipogenic differentiation of porcine AMSCs. We demonstrated that Wnt3a protein can inhibit the adipogenic differentiation of porcine AMSCs in vitro culture. By stabilization of cytoplasmic beta-catenin with continuous treatment by LiCl, the adipogenic differentiation of AMSCs was also suppressed and the osteogenesis was stimulated. In contrast, a loss of beta-catenin in AMSCs enhanced the adipogenic differentiation and rescued LiCl-induced anti-adipogenesis. In addition, the mutual activation of CCAAT/enhancer-binding protein-alpha (C/EBP alpha) and peroxisome proliferator-activated receptor-gamma (PPAR gamma) were repressed in the presence of Wnt3a or LiCl, but increased in the gene silencing of beta-catenin. Taken together, our study indicated that Wnt/beta-catenin signaling pathway inhibited the adipogenic differentiation potential and alter the cell fate from adipocytes to osteoblasts. (c) 2008 Elsevier Ireland Ltd. All rights reserved.
【语种】英文
【第一作者】李惠侠
【通讯作者】杨公社
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【引文索引类型】SCI
【引文索引号】WOS:000259044300016
【学科分类】畜牧学

【题目】Expression of TGH and its role in porcine primary adipocyte lipolysis
【中文关键词】无
【英文关键词】Triacylglycerol hydrolase (TGH); hormone-sensitive lipase (HSL); Isoproterenol; lipolysis; pig
【中文摘要】无
【英文摘要】Aims Triacylglycerol hydrolase (TGH) plays an important role in intracellular lipid metabolism. However, most previous studies on TGH were focused on rodent animals. Pig is considered as one of the best models for studying obesity, diabetes, and other lipid metabolism related diseases. So far, we do not know whether TGH is to play a role in lipolysis in porcine primary adipocyte through stimulation by hormones as Hormone-sensitive lipase (HSL). The objective of this study is to explore the mechanisms that regulate TGH expression in porcine adipocyte and its role in fasting-induced and Isoproterenol-stimulated lipolysis in porcine primary adipocytes. Materials and methods Stromal-vascular cells containing preadipocytes were isolated from cervical and dorsal subcutaneous adipose tissues of approximately 3-day-old Chinese male piglets. After confluence, the differentiation was induced by Insulin, hydrocortisone, and transferrin. The primary adipocytes were cultured in various concentration (0.1 to 200 mu mol/l) Isoproterenol for 0-12 h or serum-free medium after differentiation. The glycerol release and triacylglycerol (TG) contents were detected when the cells were collected. Then, expression of TGH and HSL mRNA and their protein were determined by RT-PCR, Western Blot, and lipolytic analysis. Results Both TGH mRNA and protein were not detected on day 0, but as differentiation was induced, their expression displayed a great increase. The expression of TGH mRNA showed the highest level on day 4, but its protein reached the highest level on day 6 and began to fall down from day 8. The expression of TGH mRNA and proteins was increased in serum-free media, and mRNA expression was decreased while changed into complete media again. The glycerol release increased significantly when the cells were cultured with serum-free media. The lower concentration of Isoproterenol (0.1 and 1 mu mol/l) did not affect the expression of TGH and HSL, but higher concentration (10, 100, and 200 mu mol/l) could greatly up-regulate HSL expression but did not affect TGH level. Also, the higher concentration of Isoproterenol could increase the glycerol release and decrease TG content in dose-dependent manner. Conclusions These results suggested that TGH expression is differentiation-dependent in porcine primary adipocytes and TGH plays a role in fasting-induced lipolysis not hormone-stimulated lipolysis.
【语种】英文
【第一作者】张利红
【通讯作者】杨公社
【期刊名称、卷期、页码】Mol Cell Biochem 2008,315:159 – 167
【论文发表时间】2008-06-10 00:00:00
【引文索引类型】SCI
【引文索引号】WOS:000257123900019
【学科分类】畜牧学

【题目】Differential effects of two indigenous broilers exposed go cold stress and characters of follicle density and diameter
【中文关键词】淮南麻黄鸡、文昌鸡、冷应激、激素酶、毛囊密度和直径
【英文关键词】Huainan partridge chicken,
Wenchang chicken, Cold stress, Plasma hormone
and enzyme, Follicle density and diameter.
【中文摘要】地方品种表现出不同的耐寒性能,通过对两个不同地域地方品种耐寒性能以及毛囊特性的比较分析,有助于阐明地方品种的抗逆特性,并可应用于地方品种选育和改良。
【英文摘要】Indigenous chickens from various part ofChina, due to different feather characters,always performed differently when counteredwith cold stress. In this study, the effects oflong term hypothermia on serum hormones(triiodothyronine, thyroxine and insulin) andactivity of plasma enzymes (Alanine aminotransferase,aspartate aminotransferase,gamma-glutamyltransferase, creatine kinaseand lactic dehydrogenase) were studied intwo indigenous broiler breeds, Huainan partridge(H) and Wenchang (W) chickens.Chickens in 20 ° C±2 ° C were compared withthose subjected to moderate (15 ° C±2 ° C) andsevere low temperature (10 ° C±2 ° C) for oneweek. Long-term hypothermia elevated plasmainsulin and reduced T4 in W, deceleratedinsulin and increased

T4 in H, while T3 didnot change in the two breeds. Plasmaenzymes AST, LDH and CK decreased in thetwo breeds and ALT only decreased in Wexposed to cold stress. A significantlydecreased body weight gain of H and no variationsin W at low temperature were observed.However, a trend of decreased weight gain inW was observed when bred under low temperaturecondition. Follicle density and diameterwere compared in the two breeds with backdensity in H significantly higher than W anddiameter from back of H significantly smallerthan W, while much larger than the latter atlatero-abdominal part. We investigated thepattern of serum biological change, folliclediameter and density under cold stress conditionin two indigenous broiler breeds from differentareas of China to provide informativeguidance for broiler production and indicationsin breeding of cold resistant breed.

【语种】英文

【第一作者】陈兴勇

【通讯作者】耿照玉

【期刊名称、卷期、页码】Italian Journal of Animal Science 2011; volume 10:e8

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【引文索引类型】SCI

【引文索引号】doi:10.4081/ijas.2011.e8

【学科分类】畜牧学

【题目】Bingchamides A and B, two novel cyclic pentapeptides from the Streptomyces bingchenggensis: fermentation,isolation, structure elucidation and biological properties

【中文关键词】无

【英文关键词】antitumor activity; bingchamides A and B; cyclic pentapeptides; Streptomyces bingchenggensis

【中文摘要】无

【英文摘要】Two novel cyclic pentapeptides, bingchamides A (1) and B (2), have been isolated from the organic extracts of the mycelium of Streptomyces bingchenggensis. The structures of 1 and 2 were elucidated on the basis of extensive 1D and 2D NMR, as well as HRESI-MS, electrospray ionization-MS, UV and IR spectroscopic data analysis. Bingchamides A (1) and B (2) exhibited in vitro cytotoxicity toward human colon carcinoma cell line HCT-116 with the IC50 values of 14.1 and 18.0 lgml 1, respectively. The bingchamides A (1) and B (2) scaffolds are probably promising structures for the development of new antitumor agents.

【语种】英文

【第一作者】向文胜

【通讯作者】王相晶

【期刊名称、卷期、页码】The Journal of Antibiotics 2009, 62, 501-505

【论文发表时间】2009-07-17 00:00:00

【引文索引类型】SCI

【引文索引号】doi:10.1038/ja.2009.60

【学科分类】微生物学

【题目】A novel macrolide compound from Streptomyces bingchenggensis: fermentation, isolation, structure elucidation and biological properties

【中文关键词】无

【英文关键词】cytotoxic activity; novel macrolide compound; ST906 (1); Streptomyces bingchenggensis

【中文摘要】无

【英文摘要】Natural products play an important role in drug discovery and have been used for the treatment of diseases for decades. They constitute a leading source of novel molecules for the development of new drug candidates.1 – 3 To search for more bioactive compounds, we havereported earlier the isolation and structure elucidation of milbemycins, b13, b14, a28, a29, and a30, and secomilbemycins A and B from Streptomyces bingchenggensis.4 – 6 In this paper, we obtained a novel macrolide compound, ST906 (1), from S. bingchenggensis, and described the fermentation, isolation, structural elucidation and cytotoxic activity.

【语种】英文

【第一作者】向文胜

【通讯作者】王相晶

【期刊名称、卷期、页码】The Journal of Antibiotics 2009, 62, 229 – 231

【论文发表时间】2009-03-13 00:00:00
【引文索引类型】SCI
【引文索引号】doi:10.1038/ja.2009.14
【学科分类】微生物学

【题目】New b-class milbemycin compound from Streptomyces avermitilis NEAU1069: fermentation, isolation and structure elucidation
【中文关键词】无
【英文关键词】Streptomyces avermitilis NEAU1069; b-class milbemycins; structure elucidation
【中文摘要】无
【英文摘要】Microbial metabolites attract increasing attention as potential pesticides. They are expected to overcome the resistance and pollution that have accompanied the use of synthetic pesticides.1,2 Our experiments were conducted as part of a program to screen new antibiotics for pesticides and antiparasitic veterinary drugs, or as semisynthetic intermediates. As a result, a new compound **1**, two known milbemycins 2 and 3 and avermectin B1a were isolated from the fermentation broth of Streptomyces avermitilis NEAU1069 strain. This paper describes the fermentation, isolation and identification of compounds **1**, 2 and 3.
【语种】英文
【第一作者】王明
【通讯作者】向文胜
【期刊名称、卷期、页码】The Journal of Antibiotics 2009, 62, 587 – 591
【论文发表时间】2009-08-14 00:00:00
【引文索引类型】SCI
【引文索引号】doi:10.1038/ja.2009.78
【学科分类】微生物学

【题目】Role of nsdA in negative regulation of antibiotic production and morphological differentiation in Streptomyces bingchengensis
【中文关键词】无
【英文关键词】antibiotic production; nsdA; sporulation; Streptomyces bingchengensis
【中文摘要】无
【英文摘要】To investigate the function of nsdA in Streptomyces bingchengensis, it was cloned and sequenced, which presented an 89.89% identity with that of S. coelicolor. The kRED-mediated PCR-targeting technique was used to create nsdA replacement in the S. bingchengensis_226541 chromosome. The nsdA disruption mutant, BC29, was obtained, which produced more pigment and spores than did the ancestral strain. HPLC analysis revealed that the disruption of nsdA efficiently increased milbemycin A4 production and nanchangmycin production by 1.5-fold and 9-fold, respectively. Complementation of the nsdA mutation restored the phenotype and antibiotic production. These results showed that nsdA negatively affected sporulation and antibiotic production in S. bingchengensis.
【语种】英文
【第一作者】王相晶
【通讯作者】向文胜
【期刊名称、卷期、页码】The Journal of Antibiotics 2009, 62, 309 – 313
【论文发表时间】2009-05-15 00:00:00
【引文索引类型】SCI
【引文索引号】doi:10.1038/ja.2009.33
【学科分类】微生物学

【题目】Improvement of milbemycin-producing Streptomyces bingchenggensis by rational screening of ultravioletand chemically induced mutants
【中文关键词】无
【英文关键词】Milbemycin; Streptomyces bingchenggensis; Strain improvement; Rational screening
【中文摘要】无

【英文摘要】Milbemycin antibiotics are produced by Streptomyces hygroscopicus subsp. aureolacrimosus and a newly isolated Streptomyces bingchenggensis, respectively. According to the biosynthetic pathway of milbemycins generated by S. hygroscopicus subsp. aureolacrimosus, arational screening procedure with UV irradiation and N-methyl-N0-nitroso-N-nitrosoguanidine (NTG) mutation was performed to obtain high milbemycin-producing S. bingchenggensis. Aminoacetic acid (Glycine)-resistant mutants (AAr), propionate-resistant mutants (PRPr), streptomycin- resistant mutants (STRr) and 2-deoxy-D-glucoseresistant mutants (DOGr) were selected successively. A strain S. bingchenggensis BC-109-6 with AAr, PRPr, STRr and DOGr was obtained and its production of milbemycin A3 and A4 reached 1,450 lg/ml, which was 80% higher than that of the ancestral strain S. bingchenggensis BC-101-4. The subculture experiments indicated that the hereditary characteristic of high productivity of S. bingchenggensis BC-109-6 was stable. The production of milbemycin A3 and A4 by S. bingchenggensis BC-109-6 in a 50-l fermentor could reach 1,380 lg/ml after 360 h batch fermentation.
【语种】英文
【第一作者】王相晶
【通讯作者】向文胜
【期刊名称、卷期、页码】World J Microbiol Biotechnol 2009, 25:1051 – 1056
【论文发表时间】2009-02-17 00:00:00
【引文索引类型】SCI
【引文索引号】DOI 10.1007/s11274-009-9986-5
【学科分类】微生物学

【题目】Three new milbemycin derivatives from Streptomyces bingchenggensis
【中文关键词】无
【英文关键词】new milbemycin a31; secomilbemycins C and D; Streptomyces bingchenggensis
【中文摘要】无
【英文摘要】In the continuing study of the chemical compositions of the strain Streptomyces bingchenggensis, three new milbemycin derivatives, milbemycin a31 (1), secomilbemycins C (2), and D (3), were isolated. Their structures were established on the basis of extensive spectroscopic analysis.
【语种】英文
【第一作者】王相晶
【通讯作者】向文胜
【期刊名称、卷期、页码】Journal of Asian Natural Products Research 2009,11, 597 – 603
【论文发表时间】2009-01-18 00:00:00
【引文索引类型】SCI
【引文索引号】DOI: 10.1080/10286020902819897
【学科分类】微生物学

【题目】Isolation and Identification of Novel Macrocyclic Lactones from Streptomyces avermitilis NEAU1069 with Acaricidal and Nematocidal Activity
【中文关键词】无
【英文关键词】Streptomyces avermitilis NEAU1069; novel macrolide compounds; acaricidal activity; nematocidal activity
【中文摘要】无
【英文摘要】Bioactivity-guided fractionation of Streptomyces avermitilis NEAU1069 fermentation broth was used to isolate and determine the chemical identity of bioactive constituents with acaricidal and nemotocidal activity. The structures of novel compounds 1 and 2 were determined on the basis of spectroscopic analysis, including 1D and 2D NMR as well as HRESI-MS, ESI-MS of spectrometry analysis, UV and IR spectroscopic analyses, and comparison with data from the literature. The acaricidal activities of the isolated compounds against adult mites and mite eggs were evaluated by mortality and unhatched eggs. The nematocidal activity of the isolated compounds against Caenorhabditis elegans was calculated according to the immobilized rates against the total number of tested nematodes. The results indicated that compounds 1 and 2 exhibited potent acaricidal activity against adult mites, with a mortality of >90% at a concentration of 30 μg/mL. However, compounds 1 and 2 showed only weak acaricidal activity against mite eggs, with unhatched mite egg rates of <60% at a concentration of 100 μg/mL. Compound 2, a hydroxylated derivative at C-23 of 1, possessed a high nematocidal activity against C. elegans, with an immobility of >90% at a concentration of 10 μg/mL. These results demonstrate

that compounds **1** and 2, especially compound 2, have potential as pesticides with acaricidal and nematocidal activity.
【语种】英文
【第一作者】王相晶
【通讯作者】向文胜
【期刊名称、卷期、页码】J. Agric. Food Chem. 2010, 58, 2710 – 2714
【论文发表时间】2009-01-15 00:00:00
【引文索引类型】SCI
【引文索引号】DOI:10.1021/jf902496d
【学科分类】微生物学

【题目】New nemadectin congener from Streptomyces microflavus neau3: fermentation, isolation, structure elucidation and biological activities
【中文关键词】无
【英文关键词】acaricidal activity; nematocidal activity; nemadectin congener; Streptomyces microflavus neau3
【中文摘要】无
【英文摘要】Bioactivity-guided fractionation of Streptomyces microflavus neau3 fermentation broth was used to determine the chemical identity of bioactive constituents. The structure of the new compound **1** was determined on the basis of spectroscopic analysis, including 1D and 2D NMR, as well as HRESI-MS, ESI-MS, UV and IR, and compared with the data reported in the literature. The acaricidal and nematocidal activities of the isolated compound **1** and its previously reported analogs 2, 3, 4 and 5 were evaluated. The results demonstrate that compounds **1**, 2, 3, 4 and 5, especially compound **1**, have potential as antiparasitics with acaricidal and nematocidal activities. These lactones shed new insights into the structural diversity of nemadectin and milbemycin analog libraries that are potentially accessible by combinatorial biosynthesis.
【语种】英文
【第一作者】向文胜
【通讯作者】王相晶
【期刊名称、卷期、页码】The Journal of Antibiotics 2010, 63, 171 – 175
【论文发表时间】2010-02-26 00:00:00
【引文索引类型】SCI
【引文索引号】doi:10.1038/ja.2010.12
【学科分类】微生物学

【题目】Reversal of P-glycoprotein-mediated multidrug resistance in vitro by doramectin and nemadectin
【中文关键词】无
【英文关键词】doramectin; nemadectin; multidrug resistance; P-glycoprotein
【中文摘要】无
【英文摘要】Objectives: Multidrug resistance (MDR) is a serious obstacle encountered in cancer treatment. This study was performed to explore the reversal of MDR by doramectin from the avermectin family and nemadectin belonging to the milbemycin family.Methods: The MTT assay was used to evaluate the abilities of the two compounds to reverse drug resistance in adriamycin-resistant human breast carcinoma cells (MCF-7/adr). Intracellular accumulation of adriamycin was determined by HPLC. The effects of the two compounds on inhibiting P-glycoprotein (P-gp) efflux was demonstrated by accumulation of rhodamine 123 in MCF-7/adr cells. To investigate the mechanism of reversal by the two compounds, the expressions of P-gp and the MDR1 gene encoding P-gp were tested by flow cytometry and reverse-transcriptase PCR.Key findings: Doramectin and nemadectin at the high dose of 8 mmol/l significantly increased the sensitivity of MCF-7/adr cells to adriamycin by 49.35- and 23.97-fold, respectively. They also increased the intracellular accumulation of adriamycin and rhodamine 123 in MCF-7/adr cells in a dose-dependent manner. Expression of both P-gp and MDR1 were down-regulated.Conclusions: Doramectin and nemadectin are promising agents for overcoming MDR in cancer therapy. Doramectin was more potent in reversing MDR.
【语种】英文
【第一作者】高爱丽
【通讯作者】向文胜

【期刊名称、卷期、页码】Journal of Pharmacy and Pharmacology 2010, 62: 393 – 399
【论文发表时间】2010-04-06 00:00:00
【引文索引类型】SCI
【引文索引号】DOI 10.1211/jpp/62.03.0016
【学科分类】药效学

【题目】5-ketoreductase from Streptomyces bingchengensis: overexpression and preliminary characterization
【中文关键词】无
【英文关键词】Biotransformation; C5-ketoreductase (MilF); Milbemycins A3 and A4; 5-Oxomilbemycins A3 and A4; Streptomyces bingchengensis
【中文摘要】无
【英文摘要】To elucidate the biotransformation from 5-oxomilbemycins A3 and A4 to milbemycins A3 andA4 in Streptomyces bingchengensis, the C5-ketoreductase gene (milF) was cloned using PCR with the specific primer designed from homologous nucleotide sequences. The C5-ketoreductase (MilF) was heterologously expressed in E. coli BL21 (DE3) as a His-tagged fusion protein. The characterization and biotransformation function of purified MilF wasverified by in vitro enzyme assay. MilF is an NADPH-dependent reductase. The biotransformation products, analyzed by LC-APCI/MS, were identified as milbemycin A3 and milbemycin A4. MilF is thus present in Streptomyces bingchengensis and can transform 5-oxomilbemycins A3 and A4 to milbemycins A3 and A4. These findings are significant for understanding the biosynthetic pathway of milbemycins in Streptomyces bingchengensis and pave the way to obtain a producer strain of 5-oxomilbemycins directly by targeted milF disruption.
【语种】英文
【第一作者】王相晶
【通讯作者】向文胜
【期刊名称、卷期、页码】Biotechnol Lett 2010, 32:1497 – 1502
【论文发表时间】2010-06-19 00:00:00
【引文索引类型】SCI
【引文索引号】DOI 10.1007/s10529-010-0320-y
【学科分类】微生物学

【题目】A novel and practical synthesis of substituted 2-ethoxy benzimidazole: candesartan cilexetil
【中文关键词】无
【英文关键词】Candesartan cilexetil; Receptor antagonist; Antihypertensive; Synthesis
【中文摘要】无
【英文摘要】A novel and practical synthetic route for the preparation of candesartan cilexetil from methyl 2-amino-3-nitrobenzoate is described. The key steps are the reaction of methyl 2-bromo-3-(diethoxymethyleneamino) benzoate with (20-(1-trityl-1H-tetrazol-5-yl) biphenyl-4-yl) methanamine and the final formation of 2-ethoxy benzimidazole ring via intramolecular N-arylation. The final ring closure process could be utilized to prepare other 2-substituted benzimidazoles. The method is simple for operation and suitable for industrial production.
【语种】英文
【第一作者】王平
【通讯作者】向文胜
【期刊名称、卷期、页码】Tetrahedron 2010,66, 5402e5406
【论文发表时间】2010-05-31 00:00:00
【引文索引类型】SCI
【引文索引号】doi:10.1016/j.tet.2010.05.037
【学科分类】有机化学

【题目】Reversal of P-glycoprotein-mediated multidrug resistance in vitro by milbemycin compounds in adriamycin-resistant human breast carcinoma (MCF-7/adr) cells
【中文关键词】无

【英文关键词】Milbemycin; MCF-7/adr; Multidrug resistance; P-glycoprotein
【中文摘要】无
【英文摘要】The effects of milbemycin A4 (MB A4), milbemycin oxime A4 (MBO A4) and milbemycin b1 (MB b1) on reversing multidrug resistance (MDR) of tumor cells were firstly conducted according to the following research, including MTT [3-(4,5-dimethylthiazol-2-yl)-2,5-diphenyl tetrazolium bromide] assay, the accumulation of adriamycin, the accumulation and efflux of rhodamine 123 (Rh123), the regulations of MDR1 gene, and expression of P-gp. The three milbemycins (5 lM) showed strong potency to increase adriamycin cytotoxicity toward adriamycin-resistant human breast carcinoma cells MCF-7/adr with reversal fold (RF) of 21.42, 19.06 and 14.89, respectively. In addition, the mechanisms of milbemycins on P-glycoprotein (P-gp)-mediated MDR demonstrated that the milbemycins significantly increased the intracellular accumulations of adriamycin and Rh123 via inhibiting P-gp transport function. Based on the analysis of the P-gp and MDR1 gene expression using flow cytometry and RT-PCR, the results revealed that milbemycin compounds, particularly MB A4, could regulate down the expression of the P-gp and MDR1 gene. These findings suggest that the milbemycins probably represent promising agents for overcoming MDR in cancer therapy, and especially MB A4 is better modulator with the lowest toxicity.
【语种】英文
【第一作者】向文胜
【通讯作者】王相晶
【期刊名称、卷期、页码】Toxicology in Vitro 2010, 24, 1474 – 1481
【论文发表时间】2010-07-23 00:00:00
【引文索引类型】SCI
【引文索引号】doi:10.1016/j.tiv.2010.07.020
【学科分类】药效学

【题目】Genome Sequence of the Milbemycin-Producing Bacterium Streptomyces bingchenggensis
【中文关键词】无
【英文关键词】genome sequence; S. bingchenggensis
【中文摘要】无
【英文摘要】Streptomyces bingchenggensis is a soil-dwelling bacterium producing the commercially important anthelmintic macrolide milbemycins. Besides milbemycins, the insecticidal polyether antibiotic nanchangmycin and some other antibiotics have also been isolated from this strain. Here we report the complete genome sequence of S. bingchenggensis. The availability of the genome sequence of S. bingchenggensis should enable us to understand the biosynthesis of these structurally intricate antibiotics better and facilitate rational improvement of this strain to increase their titers.
【语种】英文
【第一作者】王相晶
【通讯作者】向文胜
【期刊名称、卷期、页码】JOURNAL OF BACTERIOLOGY 2010,192, 4526 – 4527
【论文发表时间】2010-06-25 00:00:00
【引文索引类型】SCI
【引文索引号】doi:10.1128/JB.00596-10
【学科分类】微生物学

【题目】Expression pattern of dmrt4 from olive flounder (Paralichthys olivaceus) in adult gonads and during embryogenesis
【中文关键词】无
【英文关键词】Paralichthys olivaceus dmrt4 Real-time reverse transcriptase-PCR Whole mount in situ hybridization Sexually dimorphic expression
【中文摘要】无
【英文摘要】The dmrt (doublesexand mab-3 related transcription factor) gene family comprises severaltranscription factors that share a conserved DM domain. Dmrt1 is considered to be involved in sexualdevelopment, but the precise function of other family members is unclear. In this study, we isolated genomic DNA and cDNA sequences of dmrt4,a member of the dmrt gene family, from olive flounder, Paralichthys olivaceus, through genome walking and real-time reverse transcriptase (RT)-PCR. Sequence analysis indicated that its genomic DNA contains two exons and one intron. A transcriptional factor binding sites prediction program identified

a sexual develop-ment-related protein, Sox9 (Sry-like HMG box containing 9) in its 50 promoter. Protein alignment and phylogenetic analysis suggested that flounder Dmrt4 is closely related to tilapia Dmo (DM domain gene in ovary). The expression of dmrt4 in adult flounder was sexually dimorphic, as shown by real-time RT-PCR analysis, with strong expression in the testis but very weak expression in the ovary. Its expression was also strong in the brain and gill, but there was only weak or no expression at all in some of the other tissues tested of both sexes. During embryogenesis, its expression was detected in most developmental stages, although the level of expression was distinctive of the various stages. Whole mount in situ hybridization revealed that the dmrt4 was expressed in the otic placodes, forebrain, telencephalon and olfactory placodes of embryos at different developmental stages. These results will improve our understanding of the possible role of flounder dmrt4 in the development of the gonads, nervous system and sense organs.
【语种】英文
【第一作者】Aiyun Wen
【通讯作者】P. Zhang
【期刊名称、卷期、页码】Fish Physiology and Biochemistry, 35(3): 421-433
【论文发表时间】2008-10-09 00:00:00
【引文索引类型】SCI
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【学科分类】水产养殖学

【题目】Genetic characterization of asymmetric reciprocal hybridization between the flatfishes Paralichthys olivaceus and Paralichthys dentatus
【中文关键词】无
【英文关键词】Paralichthys olivaceus Paralichthys dentatus Asymmetric viability Hybridization Chromosomal elimination AFLP
【中文摘要】无
【英文摘要】Interspecific reciprocal crosses between the two flatfishes Paralichthys olivaceus and P. dentatus yielded hybrids with different viabilities. Specifically, the hybrids of P. olivaceus female and P. dentatus male (HI) were found to be viable, while the reciprocal hybrids from P. dentatus female and P. olivaceus male (HII) were completely inviable. All the HII individuals showed morphological deformities and died before first feeding. The chromosome analysis showed that HI individuals had the same chromosome number as parents. However, two chromosomes were missing in HII offspring indicating that the latter were aneuploids. Genomic inheritance from the parents to F(1) progeny was also examined by amplified fragment length polymorphism (AFLP) analyses, and the results showed differences between reciprocal hybrids. Almost all AFLP bands (97.71%) observed in parents were passed on to HI individuals. In contrast, only 86.64% of the AFLP bands from parents were scored in HII individuals. Frequency of lost parental bands was thus significantly higher in HII than that in HI and intraspecific crosses, which was probably associated with chromosomal elimination. In addition, higher segregation distortions were found in hybrids than in controls, although these differences were not significant. The present study indicates that chromosomal elimination and loss of AFLP loci occurred in inviable HII individuals, while such genomic changes were not found in viable HI individuals. Possible implications of such difference on genomic changes for asymmetric viability in reciprocal hybrids are discussed.
【语种】英文
【第一作者】Dongdong Xu
【通讯作者】P. Zhang
【期刊名称、卷期、页码】Genetica, 137(2):151-158.
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【学科分类】水产养殖学

【题目】Cloning and stage-specific expression of CK-M1 gene during metamorphosis of Japanese flounder, Paralichthys olivaceus
【中文关键词】无
【英文关键词】CK-M1 metamorphosis gene expression Paralichthys olivaceus
【中文摘要】无
【英文摘要】The symmetrical body of flatfish larvae changes dramatically into an asymmetrical form after metamorphosis. The molecular mechanisms responsible for this change are poorly understood. As an initial step to clarify these mechanisms, we used

representational difference analysis of cDNA for the identification of genes active during metamorphosis in the Japanese flounder, Paralichthys olicaceus. One of the up-regulated genes was identified as creatine kinase muscle type 1 (CK-M1). Sequence analysis of CK-M1 revealed that it spanned 1 708 bp and encoded a protein of 382 amino acids. The overall amino acid sequence of the CK-M1 was highly conserved with those of other organisms. CK-M1 was expressed in adult fish tissues, including skeletal muscle, intestine and gill. Whole mount in-situ hybridization showed that the enhanced expression of CK-M1 expanded from the head to the whole body of larvae as metamorphosis progressed. Quantitative analysis revealed stage-specific high expression of CK-M1 during metamorphosis. The expression level of CK-M1 increased initially and peaked at metamorphosis, decreased afterward, and finally returned to the pre-metamorphosis level. This stage-specific expression pattern suggested strongly that CK-M1 was related to metamorphosis in the Japanese flounder. Its specific role in metamorphosis requires further study.

【语种】英文

【第一作者】CHEN Yanjie

【通讯作者】QI Jie

【期刊名称、卷期、页码】Chinese Journal of Oceanology and Limnology,28(3):558-564

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【引文索引号】DOI:10.1007/s00343-030-9023-4

【学科分类】水产养殖学

【题目】Expression Profiling and Validation of Potential Reference Genes During Paralichthys olivaceus Embryogenesis

【中文关键词】无

【英文关键词】Expression profiles Paralichthys olivaceus Quantitative real-time PCR Reference genes

【中文摘要】无

【英文摘要】Differential expression of genes is crucial to embryogenesis.The analysis of gene expression requires appropriate references that should be minimally regulated during the embryonic development.To select the most stable genes for gene normalization,the expression profiles of eight commonly used reference genes(ACTB,GAPDH,rpL17, α -Tub,EF1- α ,UbcE,B2M,and 18S rRNA)were examined during Japanese flounder(Paralichthys olivaceus)embryonic development using quantitative real-time polymerase chain reaction.It was found that all seven mRNA genes appeared to be developmentally regulated and exhibited significant variation of expression.However,further analyses revealed the stage-specific expression stability.Hence when normalization using these mRNA genes,the differential and stage-related expression should be considered.18S rRNA gene,on the other hand,showed the most stable expression and could be recommended as asuitable reference gene during all embryonic developmental stages in P.olivaceus.In summary,our results provided notonly the appropriate reference gene for embryonic development research in P.olivaceus,but also possible guidance toreference gene selection for embryonic gene expression analyses in other fish species.

【语种】英文

【第一作者】Qiwang Zhong

【通讯作者】Qiwang Zhong

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【引文索引号】DOI:10.1007/s10126-007-9064-7

【学科分类】水产养殖学

【题目】The isolation and characterization of myostatin gene in Japanese flounder (Paralichthys olivaceus): Ubiquitous tissue expression and developmental specific regulation

【中文关键词】无

【英文关键词】Paralichthys olivaceus Myostatin GDF 11 Expression profiles SNP Microsatellite

【中文摘要】无

【英文摘要】Myostatin(MSTN) is a negative regulator of skeletal muscle growth and development. In the current study,the MSTN gene was cloned from one of fl at fi sh species, Japanese flounder (Paralichthys olivaceus). In the 5520-bp genomic sequence, three exons, two introns, and 5' and 3' flanking sequences were identified. The putative amino acid sequence was 377 residues long, including a signal peptide, nine conserved cysteine residues, and a RXXR proteolytic processing site. The overall amino acid sequence of the P.

Olivaceus MSTN(pMSTN) was highly conserved with that of other organisms. Phylogenetic analysis suggested the evolutionary relationships of pMSTN with other known MSTN and GDF-11 genes. There were four microsatellite sequences identified in noncoding regions and 19 SNPs identified in coding sequences.Expression analysis revealed that pMSTN gene was expressed not only in the skeletal muscle, but also in other tissues, including cartilage, which has not been reported in fish previously. Although pMSTN was expressed in gill, no transcript could be detected in FG-9307, a continuous gill cell line from P. olivaceus.Quantitative RT-PCR analysis indicated that the expression of pMSTN appeared to be developmentally regulated. The pMSTN mRNA detected in unfertilized eggs indicated the maternal deposit. Considering of the ubiquitous tissue distribution and the continuous expression of pMSTN during the whole embryonic development in Japanese flounder, MSTN gene in fish may play different roles in comparison with that in mammals.

【语种】英文
【第一作者】Qiwang Zhong
【通讯作者】Quanqi Zhang
【期刊名称、卷期、页码】Aquaculture. 180: 247-255.
【论文发表时间】2008-04-09 00:00:00
【引文索引类型】SCI
【引文索引号】doi:10.1016/j.aquaculture.2008.04.015
【学科分类】水产养殖学

【题目】Genetic linkage mapping of turbot (Scophthalmus maximus L.) using microsatellite markers and its application in QTL analysis
【中文关键词】无
【英文关键词】genetic linkage map microsatellites (SSR) quantitative trait locus (QTL) turbot Scophthalmus maximus L.
【中文摘要】无
【英文摘要】Genetic linkage maps of turbot, Scophthalmus maximus L., were constructed using a double pseudo-testcross strategy with 158microsatellitemarkers. The parents and F1 progeny (100 individuals)were used as segregatingpopulations. Weidentified 21 and 30 genetic linkage groups in the male and femalemaps, respectively. The malelinkage map was composed of 110 loci and spanned 721.7 cM, with an average intermarker spacing of 9.9 cM,while the female map was composed of 110 loci and spanned 919.1 cM, with an average intermarker spacing of12.9 cM. The estimated coverage of the linkage maps was 63.5% for the male and 54.2% for the female, based ontwo estimates of genomelength. The ratio ofmale:female recombination rates for sharedmarkers was 1:1.3. Thisstudy represents the second microsatellite genetic linkage map for turbot. In addition,we conducted quantitativetrait loci mapping of important economical traits. One possible QTL associated with turbot body length wasdetected on male linkage group 7. This QTL will be validated in a successive study and is expected to be useful inmolecular marker-assisted selection in turbot.

【语种】英文
【第一作者】Xiaohong Ruan
【通讯作者】Jie Kong
【期刊名称、卷期、页码】Aquaculture 308: 89 – 100
【论文发表时间】2010-08-10 00:00:00
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【引文索引号】doi:10.1016/j.aquaculture.2010.08.010
【学科分类】水产养殖学

【题目】Cloning and characterization of type II Interleukin-1 receptor cDNA from Japanese flounder (Paralichthys olivaceus)
【中文关键词】无
【英文关键词】Japanese flounder (Paralichthys olivaceus)
Type II interleukin-1 receptor
Vibrio anguillarum
RT-PCR
Tissue expression
【中文摘要】无

【英文摘要】The type II interleukin-1 receptor (IL-1RII) cDNA was cloned from Japanese flounder (Paralichthys olivaceus) by mRNA differential display (DD-PCR) and rapid amplification of cDNA ends (RACE). The full-length cDNA is 1793 bp in length, including a 100 bp 5′-terminal untranslated region (UTR), a 430 bp 3′-terminal UTR, and a 1263 bp open reading frame (ORF). The ORF encodes 420 amino acid residues with an estimated molecular mass of 46.65 kDa. The protein possesses signature features of the IL-R family, consisting of one N-terminal signal peptide, one transmembrane (TM) domain, two Ig-like domains in its extracellular region, one short cytoplasmic tail of 17 amino acids and four conserved proline residue sites. The predicted amino acid sequence has 65.3%, 52.5% and 51.6% identity with gilthead seabream, rainbow trout and Atlantic salmon IL-1RII, respectively. Phylogenetic analysis supported a close relation to mammalian IL-1RII. Reverse Transcription Polymerase Chain Reaction (RT-PCR) analysis indicated that the IL-1RII gene expression of Japanese flounder was weakly up-regulated and reached the peak expression in the kidney, spleen, and gill at 6 h after infection with Vibrio anguillarum, at 1.9, 2.0 and 1.5 times relative to the uninfected fish, respectively. These results suggest that IL-1RII has a signal transduction function and possibly plays a minor role in immune regulation against bacterial(s) infection in Japanese flounder.
【语种】英文
【第一作者】Yuding Fan
【通讯作者】ZHANG Quanqi
【期刊名称、卷期、页码】Comparative Biochemistry & Physiology, Part B.,157: 59-65
【论文发表时间】2010-05-06 00:00:00
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【学科分类】水产养殖学

【题目】Estimates of genetic and phenotypic parameters for weight and length in P aralichthys olivaceus
【中文关键词】无
【英文关键词】Paralichthys olivaceus heritability genetic correlation genetic mating design diallel cross maternal effect
【中文摘要】无
【英文摘要】The complete diallel cross design was employed to estimate the genetic parameters of the growth of Japanese flounder(Paralichthys olivaceus).A total of 60 full-sib families were cultivated and two growth-related traits,body weight(BW)and body length(BL),were examined at average 2,3 and 8 months of age respectively,with 1 800 individuals measured in each age group(30 per family). Based on the additive-dominance-maternal-effect genetic analysis model,the restricted maximum likelihood approach was used to estimate various(co)variance components.The results showed that narrow-sense heritability estimates of BW and BL were respectively:0.29±0.01 and 0.22±0.02 at 2 months of age,0.32±0.02 and 0.30±0.04 at 3 months of age,0.48±0.04 and 0.40±0.05 at 8 months of age;broad-sense heritability estimates were respectively:0.44±0.02 and 0.54±0.04 at 2 months of age,0.35±0.01 and 0.36±0.03 at 3 months of age,0.49±0.03 and 0.45±0.04.All heritabilities were statistically significant(P<0.05).Additive genetic correlations between BW and BL at 2,3 and 8 months of age were consistently positive and highly significant(P<0.01):0.93±0.02,0.95±0.03 and 0.92±0.03 respectively.Maternal effect was significant(P<0.05)only at 2 months of age, and was not detected at 3 and 8 months of age.According to the heritability estimates,the mass selection strategy should be e?cient for the breeding of Japanese flounder.
【语种】英文
【第一作者】Yong-sheng Tian
【通讯作者】Yong-sheng Tian
【期刊名称、卷期、页码】Acta Oceanologica Sinica, 30(6): 58-64
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【引文索引类型】SCI
【引文索引号】DOI: 10.1007/s13131-011-0161-0
【学科分类】水产养殖学

【题目】Steroid sex hormone dynamics during estradiol-17 β induced gonadal differentiation in Paralichthys olivaceus(Teleostei)
【中文关键词】无
【英文关键词】olive flounder gonadal differentiation estradiol- β (E) testosterone(T) exogenous E treatment

【中文摘要】无
【英文摘要】Steroid sex hormones,such as estradiol-17 ² (E2)and testosterone(T),are important regulators of sex change in fish.In this study,we examined the effects of E2 treatment on the dynamics of E2 and T during gonadal differentiation in the olive flounder Paralichthys olivaceus using histology and radioimmunoassay(RIA).Flounder larvae were divided into five groups(G0 G4),and fed with 0 (control),0.2,2,20 and 100 mg E2/kg feed from 35 to 110 day post hatching(dph).Fish growth in the G1 and G2 groups was not significantly different from that of the control group(P0.05),while fish in the G3 and G4 groups were less active and showed growth depression and high mortality.The gonads of fish in the G3 and G4 groups were smaller and surrounded by hyperplastic connective tissue.The frequency of females in the G0 G4 groups was 54.5%,75.0%,100%,100%and 93.3%,respectively.The RIA analyses of E2 and T showed that T levels decreased during gonadal differentiation,and increased slightly at the onset of ovarian differentiation,while E2 levels increased gradually and peaked at the onset of ovarian differentiation in the control group.In the E2-treated groups,T levels decreased before the onset of ovarian differentiation.E2 levels were high on the 48 dph,but declined to a lower level on the 54 dph, and then increased gradually during gonadal differentiation.And a sharp increase of E2 levels were observed in all E2-treated groups at the onset of ovarian differentiation.The data suggest that T and E2 play important roles during gonadal differentiation,and an E2 dose of 2 mg/kg feed could induce sex reversal in P.olivaceus.
【语种】英文
【第一作者】SUN Peng
【通讯作者】ZHANG Peijun
【期刊名称、卷期、页码】Chinese Journal of Oceanology and Limnology, 28(2): 254-259
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【学科分类】水产养殖学

【题目】Induction of diploid gynogenesis in turbot Scophthalmus maximus with left-eyed flounder Paralichthys olivaceus sperm
【中文关键词】无
【英文关键词】Turbot Paralichthys olivaceus Heterologous sperm Gynogenesis
Cold shock
【中文摘要】无
【英文摘要】Turbot Scophthalmus maximus exhibits sexually dimorphic growth, with females growing faster and reaching larger adult sizes than males. Thus, development of techniques for preferentially producing females is necessary to optimize production of these species. In this paper, gynogenetic diploids of turbot were induced by activating egg development with ultraviolet (UV)-irradiated left-eyed flounder Paralichthys olivaceus sperm combined with cold shock to prevent extrusion of the second polar body. The results of UV irradiation experiments showed that survival, motility, and duration of activity of P. olivaceus sperm generally decreased with increase in UV dose. The typical Hertwig ’s effect was observed after fertilized turbot eggs with UV-irradiated P. olivaceus sperm and the optimal UV dose for gynogenetic haploid production was 36,000 erg mm-2. At 15 C, appropriate timing of cold shock for retention of the second polar body in turbot eggs was at 6 min after fertilization. Results of different combinations of two shock temperatures (1 or 3 C) and four shock durations (15, 25, 35 or 45 min) at 6 min after fertilization demonstrated that shock of 25 min at 1 C gave the highest production of diploid gynogens (39.58% relative to its diploid control). The results of this study reveal that the use of UVirradiated P. olivaceus sperm for activation of turbot eggs and cold shock for polar body retention is an effective method to produce gynogenetic offspring.
【语种】英文
【第一作者】Jian-He
【通讯作者】Feng You
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【学科分类】水产养殖学

【题目】Hybrids between olive flounder Paralichthys olivaceus and stone flounder Kareius bicoloratus karyotype, allozyme and RAPD analyses
【中文关键词】无
【英文关键词】artificial hybridization - Paralichthys olivaceus (Temminck et Schlegel) - Kareius bicoloratus (Basilewsky) - karyotype - allozyme - RAPD
【中文摘要】无
【英文摘要】The hybrid between olive flounder Paralichthys olivaceus and stone flounder Kareius bicoloratus was produced by artificial insemination of olive flounder eggs with stone flounder sperm. Sinistral and dextral are two types of hybrid progeny after metamorphosis. Karyotypes of both hybrid flounders are the same as those of the two parental species. Of the 22 loci examined from 12 allozymes, 12 confirmed hybridization of the paternal and maternal loci in hybrids and no difference was found in allozyme patterns of sinistral and dextral hybrid fishes. RAPD patterns of these specimens were also studied with 38 primers selected from 104 tested. Among them, the PCR products of 30 primers showed hybridization of the paternal and maternal bands. Genetic variation between hybrids and their parental stocks was analyzed by RAPD using 10 of the above 38 primers. The average heterozygosity and genetic distance were calculated. The results suggested that the filial generation could inherit a little more genetic materials from paternal fish than that from maternal fish.
【语种】英文
【第一作者】Feng You
【通讯作者】Feng You
【期刊名称、卷期、页码】Chinese Journal of Oceanology and Limnology, 27(2):317-323
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【引文索引号】DOI:10.1007/s00343-009-9134-y
【学科分类】水产养殖学

【题目】Molecular cloning and expression of PoIR2, a novel gene involved in immune response in Japanese flounder (Paralichthys olivaceus)
【中文关键词】无
【英文关键词】Paralichthys olivaceus Vibrio anguillarum immune-related gene (PoIR2) tissue expression prokaryotic expression
【中文摘要】无
【英文摘要】A novel immune-related gene was expressed in Japanese flounder (Paralichthys olivaceus) injected withVibrio anguillarum. The complete cDNA contained a 169 bp 5 UTR, a 336 bp open reading frame (ORF) encoding 111 amino acids and a 556bp 3 UTR. Six exons and five introns were identified in the PoIR2 gene. Blastp similarity comparison showed its encoding protein had 50% similarity to Danio rerio neuromedin S (NMS), but further alignment indicated they did not have NMS C-terminal conservational signature domain. So it was not defined as an NMS homologue. Protein structure analysis indicated it had a 26aa signal peptide and was a secretory pathway protein. RT-PCR demonstrated that the expression of PoIR2 was quickly induced and drastically increased in liver, kidney, spleen, gills, intestine, heart, and skeletal muscle after infected with V. anguillarum. These results indicated that the PoIR2 might play some important role in Japanese flounder immune response system. This gene was named PoIR2 (P.olivaceus immune-related gene 2, GenBank accession number: EU224372). The mature PoIR2 peptide was expressed in BL21(DE3) pLysS using pET-32a(+) vector and a great part of the recombinant mature peptide existed as soluble type.
【语种】英文
【第一作者】LI Shuo
【通讯作者】ZHANG Quanqi
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【学科分类】水产养殖学

【题目】三种鲆鲽鱼养殖群体的遗传多样性及特异性AFLP标记研究

【中文关键词】条斑星鲽 星斑川鲽 漠斑牙鲆 养殖群体 AFLP 遗传多样性
【英文关键词】Verasper moseri Platichthys stellatus Paralichthys lethostigma cultured stock AFLP genetic diversity
【中文摘要】应用AFLP技术对条斑星鲽、星斑川鲽及漠斑牙鲆的养殖群体进行遗传分析。8对EcoRI/MseI 引物在条斑星鲽、星斑川鲽、漠斑牙鲆养殖群体中分别得到196、207、187条扩增带。其群体的多态位点比例分别为26.02%、25.12%、39.57%,Nei遗传多样性指数和Shannon遗传多样性指数分别为0.1101和0.1587,0.1008和0.1465,0.1566和0.2238。结果表明,条斑星鲽和星斑川鲽养殖群体的遗传变异水平相对较低,而漠斑牙鲆的遗传变异水平相对较高。同时还筛选获得了这3种鲆鲽鱼的共享标记19个,种的特有标记依次为44、45、34个。并根据两两间的遗传距离构建了UMPGA聚类关系图,从分子生物学角度衡量了其亲缘关系。
【英文摘要】The AFLP technology was used to analyze the genetic diversity of the cultured stocks of badin flounder, starry flounderand southern flounder. Eight pairs of EcoR I/Mse I primer eombinatious were used, and 196, 207, 187 AFLP bands were amplified, respectively. Within these three stocks, the percentages of polymorphic locus Were 26.02%, 25.12% and 39.57%, and the Nei's genetic diversity values and Shannon indexes were 0.1101 and 0.1587, 0.1008 and 0.1456, 0.1566 and 0.2238, respectively. The result suggested that the cultured stocks of barfin flounders and starry flounders showed lower genetic variability, and the southern flounder stock showed higher genetic variability. Moreover, 19 species specific bands which were uniform among the three flounders were found,and the numbers of exclusive band, found in barfin flounder, starry flounder and southern flounder were 44, 34 and 45, respectively. The UMPGA based on genetic distance values among these three flounders was constructed to reveal the relationship of the species.
【语种】中文
【第一作者】徐冬冬
【通讯作者】张培军
【期刊名称、卷期、页码】高技术通讯,18(2):216-220
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【学科分类】水产养殖学

【题目】牙鲆GHR基因Promoter区微卫星序列多态性与生长性状关系的初步研究.
【中文关键词】牙鲆 GHR基因5’端Promoter区 微卫星 遗传多样性 性状连锁分析
【英文关键词】Paralichthys olivaceus growth hormone receptor(GHR)gene 5’ promoter region microsatellite genetic diversity association analysis of traits
【中文摘要】采用牙鲆GHR基因5’端Promoter区的1个微卫星标记,对胶南和日照2个牙鲆养殖群体进行了群体遗传多样性的研究,并探索该基因多态性位点与牙鲆生长性状之间的相关性。结果表明,2个群体在该座位的等位基因数为12和9个,有效等位基因数为6.26和5.04个,多态信息含量为0.84和0.80。2个群体该座位的Hardy-Weinberg遗传偏离指数均为正值,并没有显示出杂合子缺失,但各基因型分布频率都在一定程度上偏离Hardy-Weinberg平衡(P<0.01)。连锁分析中发现,在胶南群体中,IM基因型对应的个体在全重、全长、体长、头长、体高和眼径形态学数据中均是最大的;在日照群体中,BC基因型对应的个体在全重、全长、体高、尾柄高、尾柄长和眼径数据中均是最大的;而CJ基因型对应的个体在体长和头长这两组数据中是最大的。该结果为研究GHR基因的变异对鱼类生长发育的影响及探索将该基因作为生长遗传标记的可行性奠定了实验基础。 更多还原
【英文摘要】Genetic diversity of two cultured stocks of the left eyed flounder(Paralichthys olivaceus) from Jiaonan Country and Rizhao Country were analysed by using one microsatellite loci in the 5 promoter region of growth hormone receptor(GHR)gene,and the polymorphisms and their associations with growth traits were also investigated.The results showed that the allele numbers were 12 and 9,respectively,the effective alleles numbers were 6.26 and 5.04,the Fixation Indexes were-0.02 and-0.20,the Shannon indexes were 2.08 and 1.82,the heterozygosity observed values were 0.96 and 0.85,the unbiased expected heterozygosity values were 0.84 and 0.81,the values of polymorphism information content were 0.84 and 0.80 in the two stocks.The deviations from Hardy-Weinberg index of the two stocks were both positive,which did not show lack of heterozygosity.While the chi-square test presented that this microsatellite locus in both stocks were deviated from the Hardy-Weinberg equilibrium(P<0.01).SPSS was used to study the possible association of the detected variations with growth traits.The evaluation of association effects between these microsatellite patterns with weight,total length,body length,head length,body height and distance between eye suggests the individuals with genotype IM was the highest in the Jiaonan stock(P<0.05).While in the Rizhao stock,values of weight,total length,body height,tail height,tail length and distance between eyes of the individuals with genotype BC were higher than those of the other genotypes,and values of body length and head length of the individuals with genotype CJ were higher than those of the other genotypes.These data would provide a potential use for GHR gene as

the genetic marker of fish growth in the future MAS.
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【题目】牙鲆性腺分化的组织学研究
【中文关键词】牙鲆(Paralichthys olivaceus) 性腺分化 组织学
【英文关键词】Paralichthys olivaceus gonadal differentiation histology
【中文摘要】运用组织学方法对牙鲆(Paralichthys olivaceus)的性腺分化和发育过程进行了观察。结果表明,牙鲆的性腺发育可分为3个阶段,即原始性腺阶段、性腺分化阶段和性腺分化后阶段。培育水温为18℃~20℃下,孵化后第45天、平均全长为22.0 mm±2.8 mm的牙鲆,其性腺分化尚未开始,属于原始性腺。70日龄、平均全长为38.0 mm±1.7 mm的牙鲆,部分个体中观察到卵巢的雏形,其余个体中性腺变化并不大;到了第110天、平均全长达到86.5 mm±5.9 mm时,雌性个体卵巢的卵巢腔进一步增大,并出现卵原细胞向卵母细胞的转变。精巢的分化开始于90日龄、平均全长为63.5 mm±3.4 mm的幼鱼,此期精原细胞快速增殖,体细胞进行有丝分裂并逐渐形成输精管原基;进一步的细胞学分化则出现在100日龄、平均全长为76.0 mm±8.6 mm的个体中,此时可以看到精小叶的形成;在平均全长为140.0 mm±15.2 mm时,精巢中出现初级精母细胞,标志着性腺分化的基本完成。
【英文摘要】Gonadal differentiation and development in olive flounder(Paralichthys olivaceus) were studied by histological observation.A gonad development process could be divided into three phrases,i.e.,primary gonad stage,gonadal differentiation stage and post-differentiation stage.When fish were raised at temperature of 18~20°C,gonad formed and remained undifferentiated till the 45th day post hatching(D45).When juveniles reached about 38.0±1.7 mm of mean total length(TL) on the D70,ovarian cavity was observed in pressumptive ovary.On the D1 10,when mean total 1ength reached about 86.54-5.9 mm.ovarian cavity grew bigger,and oocytes were firstly detected.Differentiation of testis was firstly observed in j uvenile flounder with mean total length of 63.5±3.4 mm on the D90。when spermatogenous cell proliferated rapidly and spermaduct formed.Seminal lobule appeared on the D100 when juveniles reached about 76.0 mm of total length.And when flounders reached total length about 140.0 mm,appearance of spermatocyte indicated the completion of gonadal sex differentiation.
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【题目】牙鲆受精的细胞学研究
【中文关键词】牙鲆(Paralichthys olivaceus) 受精细胞学 单精受精
【英文关键词】Paralichthys olivaceus fertilization biology monospermy
【中文摘要】通过组织切片,对牙鲆(Paralichthys olivaceus)的受精过程进行细胞学观察发现,这一过程包括精子入卵、卵母细胞第二次成熟分裂排出第二极体、雌雄原核形成与融合,直到合子进行第一次有丝分裂,在受精的整个过程中所有观察过的受精卵都只发现一个精子形成原核,并最终与卵原核结合形成合子,由此判断牙鲆的受精方式是单精受精。本实验的研究结果,不仅能够从理论上丰富海水鱼类的受精生物学基础研究资料,又可为生产中牙鲆染色体操作遗传育种提供依据。
【英文摘要】The observations of fertilization process of flouder were showed by histology.The whole processes,such as sperm entering into egg,the second polar-body discharging,male and the female pronucleus forming,two pronuclei fusing into zygote and dividing into two cells eventually were almost the same as the processes of fetilization in the other teleost.One male pronucleus was

observed in one egg.The male and the female pronuclei contacted with each other and formed the nucleus of zygote.It could be sure that the pattern of the fertilization of flouder is monospermy.These results not only showed more theoretical data on the fertilization biology of the marine fish,but also provided the basis for the commercial chromosomal manipulation and genetic breeding of olive flounder.

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【第一作者】孙威
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【题目】8种鲆鲽鱼种间遗传距离与杂交亲和性的相关性分析
【中文关键词】鲆鲽鱼 遗传距离 杂交亲和性 16S rDNA 细胞色素C氧化酶Ⅰ基因
【英文关键词】flatfish genetic distance hybrid fitness 16S rDNA CO Ⅰ
【中文摘要】2005-2008年,先后进行了褐牙鲆♀×夏牙鲆♂、褐牙鲆♀×石鲽♂、褐牙鲆♀×条斑星鲽♂、褐牙鲆♀×大菱鲆♂、大菱鲆♀×条斑星鲽♂的正反交试验,并收集了文献报道的研究资料,包括条斑星鲽×圆斑星鲽、石鲽×星斑川鲽、夏牙鲆×漠斑牙鲆及褐牙鲆×圆斑星鲽的正反交试验结果,对所涉及的8种鲆鲽鱼远缘杂交亲和性进行分析。根据Russell对杂交亲和性的定义,正反交均可行,杂交适合度为1;正反交单向可行,杂交适合度为0.5,正反交均不可行,杂交适合度为0。同时,根据这8种鲆鲽鱼的16S rDNA和CO Ⅰ基因部分序列的差异,估算其种间遗传距离。对8种鲆鲽鱼的种间遗传距离和杂交适合度作相关性分析,二者呈线性负相关(R2=0.81,P<0.01),即杂交的亲和性随种间遗传距离增大而降低。研究表明,鲆鲽鱼的杂交亲和性与其遗传分化程度具有相关性,可以通过种间遗传距离对鲆鲽鱼远缘杂交的亲和性进行预测。
【英文摘要】Reciprocal hybrids of olive flounder ♀(Paralichthys olivaceus)×summer flounder ♂(P. dentatus),olive flounder ♀(P. olivaceus) × barfin flounder ♂(Verasper moseri),olive flounder ♀(P. olivaceus) × turbot ♂(Scophthalmus maximus) were performed by artificial fertilization from 2005 to 2008. And data of hybridization on eight flatfish species in previous reports were also collected including barfin flounder (V. moseri) × spotted halibut (V. variegatus),stone flounder (Kareius bicoloratus)× starry flounder (Platichthys stellatus),summer flounder (P. dentatus) × southern flounder (P. lethostigma) and olive flounder (P. olivaceus) × spotted halibut (V. variegatus). The hybrid compatibilities of interspecific crosses on these eight flatfish species were analyzed. According to Russell ’s definition,hybrid fitness was scored 1 when the offspring of reciprocal crosses were both viable. The hybrid fitness was scored 0.5 when one direction of reciprocal crosses was viable,and hybrid fitness was scored 0 when the offspring of reciprocal crosses were both inviable. Meanwhile,the ribosomal RNA 16S (16S rRNA) partial sequences and the mitochondrial cytochrome c oxidase subunit Ⅰ (CO Ⅰ) partial sequences of the eight flatfishes were obtained and analyzed. Based on combined sequence data of mtDNA 16S rDNA and CO Ⅰ,intrespecific pairwise distances were calculated and a phyogenetic tree was constructed. The relationship between hybrid fitness of the flatfishes and pairwise genetic distances was evaluated and linear correlation existed between the two(R2=0.81,P<0.01). The hybrid compatibilities declined with the interspecific genetic distances. Our results suggested that negetive correlation exists between hybrid compatibility and genetic divergence in flatfishes. The hybrid compatibility between different species of flatfishes could be predicted by analysis of interspecific genetic distance. And these results would be good references for further hybrid breeding study in flatfish
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【题目】大菱鲆(SCOPHTHALMUS MAXIMUS)四个不同地理群体数量形态特征比较
【中文关键词】大菱鲆 群体 形态特性
【英文关键词】Turbot Scophthalmus maximus L. Population Morphological characteristics
【中文摘要】采用聚类分析、单因子方差分析和主成分分析方法,对4个不同地理群体大菱鲆进行了12 项形态性状的测定,比较了4个群体的外部形态特征。聚类分析结果表明,4种大菱鲆群体中,丹麦和挪威之间及英国和法国之间的差异较小,丹麦、挪威和英国、法国之间的差异较大。方差分析多重比较结果表明,4个群体在部分形态特征上表现出明显差异,其中,英国和法国群体、挪威和丹麦群体之间形态特征差异显著指标较少,丹麦群体和英国群体、丹麦群体和法国群体、挪威群体和英国群体、挪威群体和法国群体之间差异显著指标较多。主成分分析构建了3个反映形态特征信息的综合性指标——主成分1、主成分2和主成分3,三者的贡献率分别为38.663%、14.117%和8.976%.三个主成分的累积贡献率为61.756%。分析结果显示,英国和法国群体、挪威和丹麦群体之间形态差异不显著,丹麦群体和英国群体、丹麦群体和法国群体、挪威群体和英国群体、挪威群体和法国群体之间形态差异显著,且差异主要来源于主成分1,而主成分1主要由经方差分析多重比较差异显著的指标组成,显然,主成分分析与聚类分析、方差分析的结论基本上是类似的,它们从不同的角度反映了群体间的形态学差异。
【英文摘要】Statistic morphologic characters of four different populations of Scophthalmus maximus in Denmark,Norway,Britain,and France were revealed and compared on the basis of 1 2 morphological indices using hierarchical cluster, one—way ANOVA,and principal component analyses.The results show that among the four populations,the Danish and Norwegian are similar in morphology,SO be the British and France ones.The Danish/Norway ones are quite different from Britain/France ones.One—way ANOVA analysis and multiple comparison have revealed also the same results.In principal component analysis,three principal components were constructed,the contributions from the first,second and third principal component were 38.663%,14.117%and 8.976%,respectively.The cumulative contribution rate was 61.756%.The results show that the morphological variations of Denmark—-Norway population and Britain—-France population are small but large in other pairs.Moreover,the discriminative variation comes mainly from the first component.Therefore,the 3 different statistic methods on the morphology of the species demonstrated a consistent result that indicates the biological affinity of the anima1
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【第一作者】马爱军
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【题目】大菱鲆(Scophthalmus maximus生长性状相关的微卫星标记筛选术
【中文关键词】微卫星标记 大菱鲆 生长性状 分群分离分析法
【英文关键词】Microsatellitesmolecularmrakers ScophthalmusmaximusL. Growthtrait Bulkedsegregantanalysis
【中文摘要】采用分群分离分析法,以同一批受精卵孵化的同池养殖大菱鲆生长性状发生分离的群体为材料,进行徽卫星DNA遗传分析,以揭示影响大菱鲆生长发育速度方面的遗传信息。30个多态性微卫星位点对生长高值组(F组)和生长低值组(s组)各10个样本建立的DNA混合池进行扩增时,在两池间出现了7个差异片段。通过对两组大菱鲆个体PCR扩增出的差异条带进行统计,分析微卫星位点与大菱鲆生长性状的相关性。结果表明,有1个微卫星位点(SmaClO)在355bp的等位基因片段与大菱鲆生长性状存在一定的负相关性;有4个微卫星位点(SmaC02、SmaC06、SmaC09、Bll—I12/6/3)分别在258bp、l82bp、226bp、175bp的等位基因片段与大菱鲆生长性状存在正相关性,其中位点Smac09在226bp的等位基因片段与生长性状的正相关性极显著,相关系数达到0.354。位点SmaC09所扩增出的等位基因片段可作为具有良好生长特性人工选育群体的分子标记,指导大菱鲆的辅助育种。
【英文摘要】Genetic variation ofcultured stock ofScophthalmusmaximusL.whosegrowth traitwassegregated wasstudiedwithbulked segregantanalysis.TwoclasseswithmixedDNA templateof10 sampleswereanalyzed in 30poly—morphicmicrosatellitesloci.A totalof7uniqueallelesforeachclasswerefoundinalltheloci.AfterPCR ampliifcationontheindividuals.diferentialbandswerecalculatedandthecorrelationbetweengrowthtraitandmicrosatellitelociwases—tablished.Theresultsshow thatonelOCUSiSnegativelycorrelated with growthtraitsignificantly.whileotherfourloci.positivelyrelated,amongthem SmaC09isofextremesigniifcanceat0.354(P<0.01).ThismicrosatelliteanditsdifferentialbandcouldbeusedasamolecularmarkertoselectedstocksofgoodgrowthperformanceatmolecularlevelforS.maximus

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【题目】纯氧充气对大菱鲆生长及水质指标的影响
【中文关键词】纯氧增氧技术 大菱鲆 生长 水质指标 影响
【英文关键词】Pure oxygen aeration Turbot(Scophthatmus maximus) Growth Water quality indices Effect
【中文摘要】主要研究了纯氧增氧技术对大菱鲆的生长及养殖水体中几项重要水质因子的影响。本实验中,实验池中的溶氧最低能维持在8.96±0.16mg/L,最高时可达到12.2±0.71mg/L。经过282d的培养,大菱鲆体重由3O.43±0.42g达到1103.73±19.00g,日增重率平均为1.24±0.149/6,整个实验期间大菱鲆均处于快速生长状态。至实验结束时,养殖密度最终达到33.99±0.59kg/m。。养殖水体中,PH变化范围在7.62~8.03之间,平均pH为7.76±0.05。COD变化范围在0.75~1.85mg/L,平均COD为1.04±0.16mg/L。亚硝酸盐浓度1.27~7.23t~g/L之间,平均浓度在3.23±0.21t~g/L。氨氮浓度一般维持在0.07~0.28mg/L,平均浓度为0.14±0.02mg/L。硝酸盐浓度在0.39~0.69mg/L之间,平均浓度为0.51±0.02mg/L。COD、pH、亚硝酸盐浓度很低,均在渔业水质标准所规定的范围以内。
【英文摘要】In thisexperiment,theeffectofpureoxygenaeration on thegrowth ofculturedturbotandsomeimportantwaterqualityindiceswerestudied.Theresultsshowed thatDO intestpoolalwaysexceeded8.9±0.16mg/L,themaximum valuereaching12.24-0.71mg/L.Thebodyweightofturbotincreasedfrom 30.434_-0.42gtO 1103.73±19.00 gafterbeingcul—turedfor282days,theaveragedailygrowthratebeing 1.24±0.14.Theturbotalwayskeptinquickgrowing stateduring thetestperiod,and thedensity ofturbotreached 33.994-0.59 kg/m。attheendofexperiment.W aterqualityindicesinculturepoolsduringtheexperimentwereasfollows:pH rangedfrom 7.62tO 8.03,themean7.76±0.05;COD ranged from 0.75mg/L tO1.85mg/L,themean 1.04-.4 0.16 mg/L;nitriteranged from 1.27 g/L tO 7.23/~g/L,themean3.23-.40.21 g/L;ammoniarangedfrom 0.07mg/L tO0.28mg/I,themean0.14-4-;nitraterangedfrom 0.39mg/LtO0。69mg/L,themean0.51mg/L.COD,nitriteandpH wereallinkeepingwith waterqualitystandardforfishery.
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【中文关键词】大菱鲆 家系 生长性能 比较
【英文关键词】无
【中文摘要】为培育优良的大菱鲆养殖新品种,收集了4个不同地理群体的大菱鲆作亲本,根据巢式设计,采用人工受精技术,在群体间和群体内构建了全同胞和半同胞家系,对其不同生长时期(生长阶段)全同胞家系的生长性能进行了比较。综合不同生长时期家系的体质量差异分析和不同生长阶段家系的生长速度分析,结果表明:来自英国和法国的群体间和群体内家系的生长性能比丹麦和挪威群体的群体间和群体内家系的生长性能更为优良,部分英国群体、法国群体与丹麦群体、挪威群体的群体间家系也存在着较为优良的生长性能;不同生长时期(生长阶段)家系生长性能的排序存在不一致性,生长时期(生长阶段)越长,相邻两个生长时期(生长阶段)家系生长性能的相关性越高,家系排序的一致性越好;根据不同生长时期(生长阶段)家系生长性能的相关分析,在通过选择育种对大菱鲆进行遗传改良时,进行个体选择的时期应不低于9月龄
【英文摘要】无
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【题目】大菱鲆4个引进地理群体遗多样性的微卫星分析
【中文关键词】大菱鲆 地理群体 微卫星 遗传多样性
【英文关键词】Turbot Scophthalmus maximus L. Geographical stock Microsatellite DNA Polymorphic analysis
【中文摘要】利用12对微卫星分子标记对大菱鲆Scophthalmus maximus 4个引进地理群体进行遗传多样性分析。结果表明,等位基因数(A)为2~10个,平均等位基因数为4.3,有效等位基因数(Ne)为1.6~6.1,平均有效等位基因数为2.7,各位点的杂合度观测值(Ho)为0.0000~0.5625,杂合度期望值(He)为0.3823~0.8416。各群体之间无偏倚杂合度期望值由小到大依次为丹麦群体、英国群体、法国群体、挪威群体,运用SPSS软件对无偏倚杂合度期望值进行Kruskal-Wallis检验,其结果(H=4.438,df=3,P=0.218)表明,4个群体的遗传多样性差异不显著。群体间平均遗传分化指数(Fst)为0.1117,各群体之间存在中度遗传分化。用UPGMA法进行聚类分析,4个群体聚为两类,挪威群体和丹麦群体聚为一类,法国群体和英国群体聚为一类。结合Hardy-Weinberg平衡和遗传偏离指数(d),4个群体都不同程度的偏离平衡。4个群体具有一定的遗传分化、较好的遗传多样性,适合作为大规模家系选育的基础群体。
【英文摘要】Genetic diversities within and between four geographical stocks of turbot Scophthalmus maximus(imported from Norway,Denmark,France,and UK) were assessed through 12 microsatellite loci.The results showed that the number of alleles(A) and effective alleles(Ne) were in the range of 2~10 and 1.6~6.1,with an average of 4.3 and 2.7,respectively.The observed heterozygosities(Ho) and unbiased expected heterozygosities(He) ranged in 0.000 0~0.562 5 and 0.382 3~0.841 6 respectively.The rank of the He values for the four stocks in an increasing order was: DenmarkUKFranceNorway.A comparison by Kruskal-Wallis test(SPSS software)(H=4.438,df=3,P=0.218) revealed that there was no significant difference in genetic diversities of the four geographical stocks.Genetic diversity coefficient(Fst) was 0.111 7,which indicated that there was moderate genetic differentiation among these four geographical stocks.The genetic distance of the four geographical stocks was calculated and the cluster analysis by UPGMA method was carried out.The stocks were pooled into two groups: one goup of Norway and Denmark stocks,the other group of France and UK stocks.Hardy-Weinberg equilibrium and genetic deviation index(d) showed a reasonable difference within each stock.
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【题目】大菱鲆不同进口群体杂交后代的早期生长差异
【中文关键词】大菱鲆 杂交组合 家系 选育 生长
【英文关键词】Scophthalmus maxinms L. crossing combination families selective breeding growth
【中文摘要】2003-2005年间,分5批收集不同批次进口的大菱鲆群体,从各群体中挑选性腺发育良好的个体,利用人工授精技术,通过不平衡巢式交配设计,构建了5种杂交组合,测试其杂交子一代生长性能,为培育优良的大菱鲆养殖新品种提供基础资料。5个杂交组合共生产31个家系,在初孵仔鱼第25天和第80天,从每个家系随机取样50尾,测定其体长、体重等性状值,计算各杂交组合和家系25~80 d的绝对增重率,通过方差分析、聚类分析比较各组合、家系间的生长性能的差异,并对不同家系25 d和80 d的体长体重相关性进行了分析。结果表明:杂交组合25 d、80 d体重性状间存在较大变异,80 d体重LSD多重比较显示丹麦与法国进口群体的杂交组合(D×F)子一代生长优于其它杂交组合。系统聚类分析表明,丹麦×智利(D×C)组合与丹麦×法国(D×F)组合生长性能较为接近聚为一类,丹麦×西班牙(D×S)组合、丹麦×英国(D×E)组合和英国×西班牙(E×S)3个组合聚为一类,且前者的生长速度高于后者。家系间生长性能聚类分析表明,生长速度最快的家系分布在不同的杂交组合,80 d体重的组合内家系间方差分析也表明组合内家系间存在较大变异。组合间和家系间生长分析发现大部分

组合和家系在25 d和80 d的体长、体重性状值排序上不一致。家系相关分析表明,25 d体长、体重与80 d体长、体重间相关系数(0.132、0.096)和决定系数(0.017、0.009)均较小,25 d体长体重对80 d体长体重的影响甚微。

【英文摘要】Five batches of turbot,Scophthalmus maxinms L.,imported from 2003 to 2005 was collected to initiate the genetic breeding program.The five batches of turbot were Spain(S),Chile(C),Denmark(D),England (E)and France(F)respectively.The unbalanced nest design was adopted and five cross combinations(thirty one full-sib families)were obtained by in vitro fertilization.Sample of fifty individuals was randomly collected from each family,and body length (cm) and the body weight (g) of fry on 25 days and 80 days were analysed by variance analysis,correlation analysis and cluster analysis.Th e results showed that there was significant diference in body weight of fry on 25 days and 80 days.Least significant difference for comparisons of multiaverage in body weight showed the fastest growth rate occured in the Cross between the Danish batch and the French batch.Th e results of the cluster analysis indicated that five cross combinations could be divided into two groups.The first group including two cross combinations(D×C and D×F)was better than the other groups including three cross combinations(D×S,D×E and E×S)on growth rate.The families with better growth rate were found in each CroSS and the ANOVA analysis for body weight showed it was significantly diferent among the cross combinations.The data sorting of body length and the body weight on 25 days and 80 days ranked diferent in most cross and families.Th e results of the correlation an alysis showed that the correlation index(0.132,0.096)and determination coeficients (0.017,0.009)were small betwen the body length and the body weight of fry on 25 days and 80 days.It was clear that the growth time gave slightly indirect efect on body weight from 25 days to 80 days.The early growth traits varied in diferent hybrids CroSS combinations of the imported turbot. Th e results of this study im ply the need and eficiency for turbot genetic breeding,by hvbridization and selection based on Best Linear Unbiased Prediction,for the im po rted Scophthalmus maxinms L.

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【题目】大菱鲆25日龄3个经济性状的遗传参数评估
【中文关键词】大菱鲆 遗传力 遗传相关 育种值
【英文关键词】Scophthalmus maximus L. Heritability Genetic correlation Breeding value

【中文摘要】为估计我国引进大菱鲆群体的遗传学参数,2006年从多个大菱鲆养殖场采集源于不同国家和地区、不同进口批次的大菱鲆亲鱼,利用人工授精技术构建了66个全同胞家系,包括26个父系半同胞家系组。选用混合模型方程,通过约束最大似然法进行了方差、协方差、遗传力和遗传相关等估计。结果表明,大菱鲆25d仔鱼体长、存活率和白化率的遗传力分别为0.20、0.07和0.22;3个性状间呈负遗传相关关系,检验不显著。研究结果表明,大菱鲆体长和白化率是中度遗传力,选择育种潜力较大;3个性状任何性状的选择对其他两个性状的影响很小,利用一个性状对另一个性状的间接选择是不可行的。

【英文摘要】Different batches of imported turbot Scophthalmus maximus L.,were collected from different fish farms as broodstock for a genetic breeding program in 2006.Twenty-six paternal half-sib families and sixty-six full-sib families were obtained by artificial fertilization.Variance,covariance matrix,heritability and genetic correlation were estimated by restricted maximum likelihood.The results showed that the heritability of body length,survivorship and albinism rate for 25 d fry were 0.20,0.07 and 0.22,respectively.There was no significant correlation between the three traits.The study revealed moderate heritability in body length and albinism rate and a relatively high potential for selective breeding.Selection of any one of the three traits had little effect on the others,indicating that indirect selection of these traits was unfeasible.

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【题目】大菱鲆生长性状在不同生长发育阶段的相关分析
【中文关键词】大菱鲆 生长性状 遗传相关 表型相关
【英文关键词】Scophthalmus maximus Growth trai t Genetic correlation
Phenotypic correlation
【中文摘要】为培育优良大菱鲆养殖品种,收集来源于不同国家、不同地区和不同批次的大菱鲆亲鱼8批,从各群体中挑选性腺发育良好的个体,利用不平衡巢式设计方法和人工授精技术,每条雄鱼个体配两条雌鱼个体,共构建38个父系半同胞和76个母系全同胞,分别测定了每个家系生长到25和80日龄的体重、全长和体长,利用父系半同胞组内相关法估计各性状之间的相关性。对大菱鲆遗传相关分析表明,体重和全长的遗传相关系数为0.95,体重和体长的遗传相关系数为0.88和1.00,全长和体长的遗传相关系数为0.99。对大菱鲆表型相关分析表明,体重和全长的表型相关系数为0.881,体重和体长的表型相关系数为0.622和0.871,全长和体长的表型相关系数为0.947。并且经相关系数显著性检验,各性状间的表型相关都呈极显著水平(P0.01)。另外,多元回归分析建立了全长(X1)和体长(X2)对体重(Y)的回归方程,生长性状与体重的复相关指数为R2=0.789,说明它们都是直接影响体重的重要指标。
【英文摘要】Eight batches of imported turbot Scophthalmus maximus were collected as broodstock to initiate the genetic breeding program. By an unbalanced nested breeding design,artificial fertilization of the broodstock at a female:male ratio of 2: 1 resulted in 38 paternal half-sibs and 7 6 maternal full-sibs. Genetic and phenotypic correlations were estimated for body weight, body length, and total length of the turbot seedlings on 25d and 80d. Significant genetic correlations were found between body weight and total length(0.95),body weight and body length(0.88, 1.00), or total length and body length (0.99). Highly significant phenotypic correlations(P< 0.01) were found between body weight and total length(0.881),body weight and body length(0.622, 0.871),or total length and body length(0.947). Multiple regression equation of total length(X1)and body length(X2)to body weight was obtained,and the high compound correlation index (R2=0.789) indicated that these growth traits had direct influence on body weight.
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【题目】水产动物育种分析与管理系统的开发和应用
【中文关键词】水产动物育种 BLUP 软件 育种
【英文关键词】Aquatic animal breeding BLU P Software Breeding
【中文摘要】针对国内水产动物多性状选择育种研究处于起步阶段的现状,以BLUP遗传评定为核心的水产动物多性状复合育种技术体系为依托,结合国内水产动物育种项目研究,开发了一套适合大多数水产动物育种分析与项目管理的软件系统。该系统是在WindowsXP环境下利用MicrosoftSQLServer2000数据库和基于ObjectPascal语言的DelphiIDE工具开发完成的。主要包括6个功能模块:系统管理、基本信息、种质管理、性能管理、育种分析和销售管理等,覆盖整个育种项目周期,并对流程实行标准化,能够自动化完成种质和性能测定数据的管理、遗传参数估计、育种值计算和配种方案制定等主要工作。软件已经在中国对虾、大菱鲆和罗氏沼虾等育种项目中得到应用,其推广和应用能够有效提升行业的整体育种技术水平,推动我国水产动物育种工作的发展。
【英文摘要】Research on aquatic animal multi-trait breeding has been launched in China only recently.We developed an aquatic animal breeding analysis and management system applicable for most aquatic animals,by focusing on BLUP breeding value evaluation and integrating several aquatic animal breeding programs in China.This software was developed using Microsoft SQL Server 2000 database and Delphi IDE tool which was based on Object Pascal language in Windows XP.It was consisted of six functional modules,including system management,basic information,germplasm management,performance management,breeding analysis and sales management.It covered the whole lifecycle of a breeding program,and standardized the program flow.The software can automatically complete primary tasks such as germplasm data management,germplasm and performance tests,estimation of genetic parameters,calculation of breeding values,design for mating schemes,etc.This software was applied in breeding programs for Chinese shrimp Fenneropenaeus chinensis,turbot Scophthalmus maximus L.and giant freshwater shrimp Macrobrachium rosenbergii.The application and extension of this software will improve the technology and support the development of aquatic animal breeding in

China.
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【题目】大菱鲆4个进口群体的形态差异分析
【中文关键词】大菱鲆 形态差异 多元分析
【英文关键词】Scophthalmus maximus Morphological variationMultivariation analysis
【中文摘要】选择2003~2004年进口的4个大菱鲆不同进口群体(英国、法国1、法国2、法国3),测定了其全长、体长、头长、吻长、体高、尾柄高和尾柄长等7项形态性状。采用聚类、主成分分析和判别分析3种多元分析方法,对大菱鲆的6项比例形态性状参数进行比较研究。聚类分析与主成分分析结果均表明,法国1和法国2群体间形态最接近,而与英国群体、法国3群体的趋异程度较大。主成分分析构建了两个主成分,其贡献率:主成分1为61.069%,主成分2为34.343%,累计贡献率为95.412%。以判别分析建立了4个群体的判别函数,判别准确率分别为46.7%~80.0%(P1)和51.7%~77.4%(P2),综合判别率为62.5%。3种多元分析结果表明,4个大菱鲆群体在形态上已经产生一定程度的差异,且集中表现在全长、体长、头长、吻长和尾柄长这5个形态性状指标上。
【英文摘要】Four stocks of turbot Scophthalmus maximus, imported during 2003 and 2004, were collected from Laizhou, Ganyu, Changyi and Jiaonan city. The total length, body length, head length, snout length, body height, caudal peduncle length, caudal peduncle height were measured. Based on six morphological proportional traits of S. maximus, three multivariation analysis methods, including cluster analysis, prinpical component analysis and discriminant analysis were adopted to comparatively investigate the morphological variation. The results of cluster analysis and principal component analysis indicated that morphological traits were similar between the two French stocks, but quite different from that of the British and another French stocks. In the principal component analysis, two principal components were constructed, and contributory ratio was 61. 069% for the first principal component and 34. 343% for the second principal component, and the cumulative contributory ratio was 95. 412%. The discriminant functions of four stocks were established, and the discriminant accuracy was 46.7%-80.0% (P1) and 51.7%-77.4%(P2). The total discriminant accuracy was 62.5%. All results indicated that there were some morphological differences among the four stocks and the indicator of morphological traits were total length, body length, head length, snout length and caudal peduncle length.
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【题目】大菱鲆测量性状对体重的影响效果分析
【中文关键词】大菱鲆 测量性状 体重 通经分析 回归模型
【英文关键词】Scophthalmus maximus Morphometric Body weight Path analysis Regression equation
【中文摘要】选取了初孵仔鱼90日龄的大菱鲆114尾,测定了全长、体长、头长、吻长、体高、尾柄高、尾柄长和体重等8项性状.采用相关分析和通径分析方法,剔除了与体长有共线性的自变量全长,计算了以测量性状为自变量对体重依变量的相关系数、通径系数、决定系数及相关指数,建立测量性状对体重的回归方程.结果表明,大菱鲆7个测量性状均与体重的相关系数达到极显著水平(P<0.01);体长、体高和尾柄高对体重的通径系数达到显著水平,是直接影响体重的重要指标,决定系数分析结果与通径分析结果有一致的变化趋势;所选测量性状与体重的复相关指数为R.2=0.895,是影响体重的主要自变量;多元回归分析建立了体长(X2)、体高(X5)和尾柄高(X6)对体重(Y)的回归方程.

【英文摘要】The effects of metric traits on body weight of turbot were analyzed, using correlation analysis and path analysis. Data for this study were collected from 114 fry 90 days after hatch in Haiyang city, Shandong Province. The total length (X1), body length (X2), head length (X3), snout length (X4), body depth (X5), caudal peduncle depth (X6), caudal peduncle length (XT)and body weight (Y) were measured. Total length was eliminated from the variable data set because it was co-linear with body length. Seven metric traits were used as independent variables, and body weight was used as a dependent variable for path analysis. Path coefficients (Pi), determination coefficients (di) and correlation index (R2) were calculated in path analysis. The results showed that all seven correlation coefficients between each metric traits and the weight achieved were all very significantly different (P〈0.01). The path coefficients (Pi) of the body length (X2), body depth (X5) and caudal peduncle depth (X6) to the body weight all reached a level of significance. These attributes were very indicative of determining the body weight. Judging from the result of high correlation index (R^2 =0. 895), the main variables (X2, X5, X6) were selected. The multiple regression equation of body length (X2), body depth (X5) and caudal peduncle depth (X5) to the body weight was obtained. This paper provides a theoretical support for genetic breeding of turbot.
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【题目】微卫星标记在大菱鲆(SCOPHTHALMUS MAXIMUS L.)家系系谱印证中的应用研究
【中文关键词】微卫星 大菱鲆 系谱识别
【英文关键词】microsatellites Scophthalmus maximus L. genealogical identification
【中文摘要】用8个微卫星标记对大菱鲆7个人工选育家系进行了系谱鉴别和遗传多样性研究。8个微卫星位点的平均多态信息含量为0.6721,平均杂合度为0.7206。8个微卫星位点在7个家系分析中,共检测到40个等位基因,每个位点的等位基因数在38个之间,每个位点平均有5个等位基因。根据已知亲本及子代基因型,成功的推断出了7个家系中缺失亲本的基因型。在双亲未知的情况下8个微卫星位点累积排除概率是97.07%,已知单亲时累积排除概率达99.63%。用UPG-MA法对7个家系的137个子代个体进行了聚类分析,90.5%同一家系的子代个体能完全聚类到一起,分类结果与系谱来源基本一致。微卫星标记可以为大菱鲆混养家系进行亲权鉴定和系谱构建提供技术支持。
【英文摘要】Eight microsatellite markers were used to estimate the kinship and the genetic diversity of seven turbot(Scophthalmus maximus L.) families.The average polymorphic information content(PIC) and the average heterozygosity were 0.6721 and 0.7606,respectively.Totally forty alleles were detected at eight microsatellite loci in seven full-and half-sib families of turbot.The number of the alleles at each locus ranged from three to eight.Based on the genotypes of either known parent or none of them and offspring,all the absent parental genotypes of the seven families were deduced.According to the unique alleles among the families,each family could be distinguished from the others.Cervus3.0 analysis showed that the combined exclusion probability was 97.07% if parents were both unknown and the combined exclusion probability was 99.63 % when only one of the parental genotype was known.A dendrogram was constructed using UPGMA based on genetic similarity matrix.The UPGAM dendrogram of the 137 individuals indicated that 90.5% of the individuals from each family could be fully clustered and the classification results accorded with the source of genealogy.The results showed that microsatellite marker is useful tool for genealogical identification of turbot.
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【题目】牙鲆鳃细胞系染色体组型的变异分析

【中文关键词】牙鲆 细胞系 染色体 组型
【英文关键词】Paralichthys olivaceus cell line chromosome karyotype
【中文摘要】对传代296次的牙鲆(Paralichthys olivaceus)鳃细胞系(FG)进行染色体制备和组型分析,并与牙鲆活体鳃细胞组型进行比较。牙鲆活体鳃细胞染色体数目为48,且均为端部着丝粒染色体,染色体组型公式为2n=48,48t,NF=48。而鳃细胞系的染色体数目出现较大变化,有两个分布区间,一个区间是53~79;另一个是119~139。其模式染色体数为68,在模式细胞分裂相中,有30对端部着丝粒染色体和4对中部着丝粒染色体;染色体条数在119以上的分裂相中,除了有很多中部着丝粒染色体以外,小染色体也以很高的频率出现。通过上述研究分析表明,牙鲆鳃细胞系经多次传代后,其染色体与活体鳃细胞染色体相比存在着明显的差别,已经发生了变异,不适合用于牙鲆染色体核型、组型等方面的研究。[
【英文摘要】The karyotypes of flounder Paralichthys olivaceus gill and flounder gill cell line (FG) which had been subcultured for 296 generations were analyzed and compared with that of live gill cell of P. olivaceus. The chromosomes of flounder gill were all acrocentric chromosomes and the chromosome number was 481 the karyotype formula was 2n=48,48t, NF=48. The chromosome number of FG cell line fluctuated largely. Two interval distribution were identified: one was from 53 to 79, and the other was from 119 to 139. Its modal chromosome number was 68, and the metaphase chromosomes of modal cells included 4 pairs of metacentric chromosomes and 30 pairs of acrocentric chromosomes. Among the metaphases whose chromosome numbers were more than 119 many metacentric chromosomes were detected, and microchromosomes were also found at a high frequency. The results showed that after subcultured for many generations the flounder gill cell line chromosomes had changed apparently compared to flounder gill; the cell line had undergone cell transformation and karyotype evolution, and the chromosomes of FG cell line could not be used for chromosome research of flounder P. olivaceus
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【题目】ISSR标记在牙鲆(PARALICHTHYS OLIVACEUS)与石鲽(KAREIUS BICOLORATUS)种间杂交一代的分离方式分析
【中文关键词】单对杂交 牙鲆 石鲽 ISSR标记 分离方式 连锁图谱 分离比例 孟德尔偏分离 多态性
【英文关键词】Tairmating Paralichthys olivaceus Kareius bicoloratus ISSR markers Segregation pattern Linkage map
【中文摘要】利用ISSR标记对牙鲆♀与石鲽♂单对杂交亲本及其子一代(全同胞家系)的分离方式进行了研究。结果表明,8个ISSR引物共扩增出181个标记,其中116个为多态性,占总数的64.09%;标记在F1代呈三种分离方式:符合孟德尔分离比例、偏离孟德尔分离比例和异常分离。符合孟德尔分离比例的情况包括:不分离(代表了亲本基因型的5种组合:AA×AA、AA×Aa、Aa×AA、AA×aa、aa×AA);1∶1分离(代表了亲本基因型的2种组合:Aa×aa、aa×Aa);3∶1分离(代表了亲本基因型的1种组合:Aa×Aa)。偏分离的标记包括:亲本中呈多态而在子代中偏离1∶1分离的标记和亲本均有而在子代中偏离3∶1分离的标记。异常分离的标记包括:F1代出现双亲均不具备的标记和双亲或单亲有而子代却无的标记。3种分离位点出现的频率和数量分别为:82.87%、150,11.05%、20,6.08%、11;双亲共有标记中85.33%的不发生分离,单亲特有标记中28.57%—35.85%发生正常分离,该研究结果可为进一步利用该群体构建牙鲆和石鲽遗传连锁图谱奠定良好的工作基础并提供一定的理论依据。
【英文摘要】The segregation pattern of ISSR markers in the F1 of interspecies cross between Paralichthys olivaceus and Kareius bicoloratus was studied.Eight primers yielded 181 markers,of which 116(64.09%) were polymorphic.The segregation showed three patterns:Mendelian,deviated Mendelian,and abnormal.The Mendelian segregation included three types:(1) non-segregation that reflects five genotypic combinations of the parents:AA×AA,AA×Aa,Aa×AA,AA×aa,and aa×AA;(2) 1∶1 segregation,reflecting two genotypic combination of the parents,Aa×aa and aa×Aa;(3) 3∶1 segregation,reflecting one genotypic combination of the parents,Aa×Aa.The deviated pattern includes two types:polymorphic in the parents and deviated from 1∶1 ratio in the progenies and the appeared in the parents and deviated from 3∶1 ratio in progenies.The abnormal pattern includes two types:absent in the parents but present in the progenies,and present in the parents but absent in the progenies.The percentages and amounts of the three patterns were 82.87%,150;11.05%,20;and 6.08%,11;respectively.In addition,85.33% of the markers presenting in both the parents did not segregate and 28.57%— 35.85% of the markers presenting in only one parent showed normal segregation.The above results could provide certain theoretical basis for further work to the construction of linkage map of P.olivaceus and K.bicoloratus.

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【题目】牙鲆fibrinogen β基因的克隆及表达分析
【中文关键词】牙鲆Paralichthys olivaceus fibrinogen β 克隆 组织表达
【英文关键词】Paralichthys olivaceus fibrinogen β cloning expression
【中文摘要】通过mRNA差异显示发现一个鳗弧菌刺激后在牙鲆肝脏中表达量显著增加的片段,结合RACE技术得到了该差异片段1856bp的全长eDNA,包含一个1479bp的开放阅读框,编码的蛋白质含有fibrinogen β的C末端签名序列。同源性分析表明其氨基酸序列与鱼类以及哺乳类的fibrinogen β都具有高度的相似性,因此可断定此基因为牙鲆的fibrinogen β基因(GenBank登录号为EF581895)。RT—PCR分析表明,在注射鳗弧菌后,该基因在肝脏、肾脏、脾脏、腮、肠、心脏中的表达量呈现逐渐增加的趋势。推测其可能在鳗弧菌侵染中,起到了促进伤口愈合的作用,或通过和其他细胞因子结合在防御细菌的侵染中发挥免疫调节作用。
【英文摘要】A number of novel genes are identified,which are expressed in Japanese flounder(Paralichthys olivaceus) injected with Vibrio anguillarum by differential display.This paper reports the characterization of one of these novel genes,fibrinogen β.The full length cDNA is 1 856 bases long and contains an ORF of 1479 bases.Sequence analysis revealed that there was a C-terminal domain signature in the deduced amino acids.Alignment analysis showed that the amino acid sequence had a high identity with that from fishes and mammals.When challenged with Vibrio anguillarum,the expression level of flounder fibrinogen β in liver,kidney,spleen,gill,intestine and heart tissues increased obviously.These results might indicate that the flounder fibrinogen β may help stop bleeding by helping blood clots formation,or associate with other cytokines and play a critical role in the host immune response.
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【题目】牙鲆同质雌核发育二倍体的诱导及其早期生长研究
【中文关键词】牙鲆 同质雌核发育 静水压力 生长 性控育种
【英文关键词】Paralichthys olivaceusmitogynogenetic diploidshydrostatic pressuregrowthsex control
【中文摘要】人工诱导雌核发育是水产动物性别控制的重要技术手段之一,同时也是快速建立近交系或纯系、建立遗传作图群体的方法之一。采用静水压力抑制受精卵第一次卵裂的方法诱导了牙鲆同质雌核发育二倍体。不同的处理起始时刻、不同压力及压力持续的时间对受精卵的发育及染色体加倍率有较大影响。处理组受精卵发育相对缓慢,畸形率较高,正常仔鱼孵化率较低。如果处理前受精卵保持在(15.5±0.5)℃,压力处理受精卵的最佳条件是:从受精后75 min开始、用55 MPa的压力处理6 min,该条件下处理组正常仔鱼孵化率较高,为13.7%,染色体观察和最大核仁数计数结果表明,此时的二倍体诱导率也最高。染色体观察结果还显示在不同处理组中存在不同比例的非整倍体。利用获得的最佳诱导条件处理获得了数千尾雌核发育幼鱼,观察表明,雌核发二倍体鱼的生长速度明显低于普通二倍体,且个体间差异较大。该研究为进一步开展牙鲆全雌育种和连锁图谱的构建提供技术支撑。
【英文摘要】Artificial production of gynogenetic diploids is one of the methods for sex control in aquatic animals,for the establishment of inbreeding or pure lines and for the construction of mapping material.In this study we produced viable mitogynogenetic diploids by hydrostatic pressure shocks in olive flounder Paralichthys olivaceus.The timing,different pressures and different treatment durations greatly affected the development as well as the diploidy rates of treated embryos.Treated eggs showed

slower development speed,higher malformation rate and lower hatching rate than normal diploid did.When the fertilized eggs were maintained at(15.5±0.5) ℃ before any treatment,the optimal hatching rate of normal fry was achieved by pressure shocks of 55 MPa applied at 75min after fertilization with 6min duration.Under these conditions,the normal fry hatching rate of the treated eggs was 13.7%.Chromosome observation and counting of the maximum number of nucleolus showed that the diploidy rate was the highest.Chromosome observation also defined some aneuploids in the treated groups.Several thousand of gynogens were obtained by treatment with the optimal conditions.These diploid gyngens showed slower growth rate and bigger among-individual variation than the normal diploid control did.The successful production of mitogynogenetic diploids provided materials for sex control breeding and for the construction of fine genetic map in this species.

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【题目】3月龄牙鲆形态性状对体质量的通径分析
【中文关键词】牙鲆 形态形状 相关分析 通径分析 多元回归方程
【英文关键词】Paralichthys olivaceus Morphometric traits Correlation analysis Path analysis Multiple regression equation
【中文摘要】随机选取3月龄牙鲆 Paralichthys olivaceus 100尾,分别测量全长(X1)、体长(X2)、头长(X3)、体厚(X4)和体高(X5)共5个形态学指标和体质量(y)。通过SAS软件进行相关性分析和回归分析,分别计算以形态性状为自变量对体质量的通径系数和决定系数,进而对各性状对体质量的影响进行剖分。明确影响3月龄牙鲆体质量的主要形态性状,为牙鲆选育提供数据支持和理想的测度指标。结果表明,各形态性状间及与体质量的相关系数均达到极显著(P<0.01)。体长、体厚和体高对体质量的通径系数均达到极显著的水平(P<0.01);所选形态性状对体质量的决定系数R2=0.945,表明所选形态性状是影响3月龄牙鲆体质量的主要性状。通过对各形态性状偏回归系数的显著性检验,剔除不显著的性状自变量后,建立最优的多元回归方程:Y= -4.988+ 0.763X2+2.997X +1.089X,各偏回归系数均达到极显著水平(P<0.01)。
【英文摘要】One hundred 3-month aged Paralichthys olivaceus were randomly sampled for measuring five morphometric traits including full length (X1),body length (X2),head length(X3),body thickness (X4),body height(X5)and body weight(y). Through path analysis and multiple linear regression with SAS8.2 software,this study estimated the path coefficients and determination coefficients of each morphometric trait to body weight and dissected effect of each morphometric trait on body weight as direct effect and indirect effect.This study also confirmed the main morphometric traits influencing the body weight of 3-month aged P.olivaceus and provided data support and optimal measuring indexes for selective breeding of P.olivaceus.The results showed that the correlation coefficients between all morphometric traits and body weight were extremely significant(P< 0.01).The path coefficients of body length,body thickness and body width of 3-month aged P.olivaceus to body weight were all extremely significant (P<0.01). The total determination coefficient(R2)of all selected morphometric traits to body weight was 0.945, Indicating that the morphometric traits included in this study were major factors influencing body weight.The insignificant morphometric traits were excluded through coefficient test of partial regression,and then the optimal multiple linear regression equation was established as Y= -4.988+ 0.763X2+ 2.997X4+ 1.089X5,for which all included partial regression coefficients were extremely significant(P< 0.01).

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【题目】牙鲆抗病群体和家系的建立及其生长和抗病性能初步测定

【中文关键词】牙鲆 抗病群体 日本群体 黄海群体 家系 选育 生长率 抗病力
【英文关键词】Paralichthys olivaceus Japanese population disease-resistant population Huanghai population family selection breeding growth rate disease resistance
【中文摘要】通过自然选择和人工感染途径筛选出抗鳗弧菌病牙鲆鱼种,将其培育成亲鱼94尾,建立了牙鲆抗病群体;从日本引进了牙鲆日本群体;以上述2个群体以及黄海中捕捞的黄海群体为基础群体,通过不同组合的交配,建立了63个牙鲆家系,其中半同胞家系54个,全同胞家系9个.生长比较实验表明这63个家系的生长速度存在着明显差异,从中筛选出生长快速的家系4个(家系36,42,43和57),生长较快的家系9个(家系27、28、35、39、41、51、60、65和76),生长慢的家系1个(75号家系).通过对59个家系的抗病能力测定表明,不同家系在抗鳗弧菌感染的能力上存在着明显差别,从中鉴定出抗病力强的家系3个(家系50,61和68号),其在鳗弧菌感染后的成活率高达60%以上;抗病力比较强的家系17个,其成活率为39%~60%;抗病力一般的家系33个,其成活率为17%~39%之间;抗病力差的家系6个,其成活率在17%以下.这些牙鲆家系的建立为牙鲆抗病、高产新品种的培育奠定了重要基础.
【英文摘要】Japanese flounder (Paralichthys olivaceus)is a widely cultured marine fish species in China and is high valued because of its fast growth and good taste.However,diseases of the cultured fish have occurred frequently and losses due to infectious diseases limit profitability and development of aquaculture.To breed new flounder strain with enhanced disease-resistance and growth rate is an important task in marine fish aquaculture.In the present study,94 disease-resistant individuals selected from natural selection and artificial challenge by pathogenic bacteria,Vibrio anguillarum, were used as one of basic populations for developing family.Japanese population of the flounder were imported from Japan in 2003 and used as one of basic populations.In addition,the flounder captured from Yellow sea were used as one of the basic population for developing family .Different mating of the above three populations resulted in 63 families in which 54 families are half-sibling family,9 families are full-sibling families. Growth comparison demonstrated that there are big differences in growth rate among the 63 families.Some families exhibited fast growth while some families grow very slowly.Among the 63 families,4 fast-growth families(Family36,42,43and57),9 secondly fast-growth families(Family27,28,35,39,41,51,60,65and76), and one slow-growth family(75)were identified.Bacterial challenge experiments demonstrated that there are big differences in disease resistance among the 59 tested families.Some families exhibited strong disease resistance to bacterial infection,while some families are not resistant to bacterial challenge.Among the 59 families,3 families(Family50,61and 68)with strong disease resistance with a survival rate of over 60%were identified,17 families with secondly strong disease resistance with a survival rate of 39-60%,33 families with normal disease resistance with a survival rate of 17-39% ,and 6 families with low disease resistance with a survival rate of less than17% were identified.Development of the 63 families lay foundation for selective breeding of flounder stains with fast growth and disease resistance.
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【题目】异源冷冻精子诱导大菱鲆的雌核发育
【中文关键词】大菱鲆 鲈 精子 雌核发育 冷休克
【英文关键词】Scophthalmus maximus Lateolabrax Japonicus sperms gynogenesis cold shock
【中文摘要】采用冷冻保存的鲈(Lateolabrax japonicus)精液不经紫外线照射直接与大菱鲆(Scophthalmus maximus)卵进行杂交,可以刺激大菱鲆卵进行胚胎发育,胚胎发育率(发育至原肠期后胚胎成形的卵占总卵数的百分比)可达79.1%。通过与精子照射组单倍体发育过程等对比观察发现,杂交后代为大菱鲆的单倍体。如果在"受精"后2~10min内将大菱鲆卵在0~6℃冷休克处理10~50min,均能诱导卵子染色体加倍。对冷休克处理条件的筛选结果表明,在0℃条件下,卵子在受到鲈鱼精子刺激后6min开始进行冷休克处理25min,二倍体孵化率(雌核二倍体苗占受精卵的百分比)最高,可达34.8%。通过对各实验组卵发育情况的跟踪观察,发现单倍体与雌核发育二倍体在发育过程中有明显的差异,这种差异最早出现在8细胞期。单倍体胚胎头部发育不正常,眼泡较小,身体短且扭曲较严重,从肌节期开始沉积大量的黑色素颗粒。仔鱼孵化1周内单倍体即全部死亡。与正常二倍体对照组相比较,证明所得正常形态仔鱼即为雌核发育二倍体。
【英文摘要】The study aims to establish the method of gynogenesis induction in turbot(Scophthalmus maximus)by heterologous sperms of sea perch(Lateolabrax japonicus). Sperms of L. japonicus whether irradiated by UV light or not,both can stimulate S. maximus eggs to start development process. Besides,embryonic development of the two groups is entirely the same. Turbot eggs were

fertilized with untreated and UV light treated sperms of sea perch,respectively. Embryonic development rate of untreated group is almost 79.1% and that of treated group was 47.6%. Put into 13 °C seawater,the eggs hatched out after about 95 h. Because the genome is not doubled,both of them exhibit aberrant development. The embryos are deformed,with shorter tails,and hard to hatch. Only a few can hatch out. They present "haploid syndrome" such as small brain,shorter body axes, weak activition and diffi cult hatching. So,it can be concluded that the hybridization fries of turbot eggs and sea perch sperms are haploids. When the fertilized eggs are maintained at 13 °C before any treatment,chromosome diploid is achieved by early cold shocks starting at 2-10 min after fertilization,at -1-6 °C and for 10-50 min durations. For obtaining the maximal hatching rate of diploid (proportion of diploids to fertilized eggs) in this species(34.8%), the optimal cold shock starts at 6 min after fertilization,at -1.5-0 °C and continues for 25 min. The haploids die out after 5-7 days and the left ones are turbot gynogenesis diploids. There is no difference between gynogenesis diploid and common diploid and no crossbreed individuals of S. maximus and L. japoniaus are found. By comparing the development rate and morphological characteristics of common diploid,haploid and manually induced gynogenesis diploid embryos,it can be concluded that there are signifi cant differences in embryonic development rate among them. The development rate of common diploid and haploid is higher than that of manually induced gynogenesis diploid. In morphological characteristics,the haploid embryos exhibit typical haploid syndrome with the characteristics of small head,short tail,weak activation and being diff icult to break membrane. However,manually induced gynogenesis diploid embryos are identical to common diploid in the above parameters.

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【题目】牙鲆抗鳗弧菌病家系筛选及其分析
【中文关键词】牙鲆 杂交组合 家系 弧菌病 抗病力
【英文关键词】Paralichthys olivaceus combination family Vibrio anguillarum disease resistance
【中文摘要】2007年以从养殖牙鲆(Paralichthys olivaceus)中筛选出的抗病选育群体、从日本引进的日本群体以及从黄海捕捞的野生群体为摹础,进行各种组合方式的交配,建立了63个牙鲆家系;2008年又建立了30个家系.对2007年培育的59个家系和2008年培育的30个家系进行了鳗弧菌(Vibrio anguillarum)感染实验,结果表明,不同家系间的抗病力存在极显著的差异(P<0.01).从2007年培育的59个家系中筛选出4个抗病家系,鳗弧菌感染后存活率达到50%以上;2008年的30个家系中5个家系抗病力较强,鳗弧菌感染后的存活率达到60%以上.2008年培育的30个家系其4月龄和6月龄的感染后存活率的相关系数为0.403(P<0.05),表明不同生长时期的感染结果具有一致性.230 d的体长和体质量与对鳗弧菌的抗病力存在显著的相关关系(P<0.05),皮尔森相关系数分别为0.282和0.237.研究发现,日本群体与抗病选育群体的杂交后代抗病性能表现优异,可以通过日本群体与中国群体间的杂交进行遗传改良,达到培育出高产、抗病牙鲆新品种的目的.

【英文摘要】Japanese flounder (Paralichthys olivaceus)is a widely cultured marine fish species in China and is high valued because of its fast growth and good taste.However,diseases of the cultured fish have occurred frequently and losses due to infectious diseases limit profitability and development of aquaculture.To breed new flounder strain with enhanced disease-resistance and growth rate is an important task in marine fish aquaculture.In the present study,94 disease-resistant individuals selected from natural selection and artificial challenge by pathogenic bacteria,Vibrio anguillarum, were used as one of basic populations for developing family.Japanese population of the flounder were imported from Japan in 2003 and used as one of basic populations.In addition,the flounder captured from Yellow sea were used as one of the basic population for developing family .Different mating of the above three populations resulted in 63 families in which 54 families are half-sibling family,9 families are full-sibling families. Growth comparison demonstrated that there are big differences in growth rate among the 63 families.Some families exhibited fast growth while some families grow very slowly.Among the 63 families,4 fast-growth families(Family36,42,43and57),9 secondly fast-growth families(Family27,28,35,39,41,51,60,65and76), and one slow-growth family(75)were identified.Bacterial challenge experiments demonstrated that there are big differences in disease resistance among the 59 tested families.Some families exhibited strong disease resistance to bacterial infection,while some families are not resistant to bacterial challenge.Among the 59 families,3 families(Family50,61and 68)with strong disease resistance with a survival rate of over 60%were identified,17 families with secondly strong disease resistance with a survival rate of 39-60%,33 families with normal disease resistance with a survival rate of 17-39% ,and 6 families with low disease resistance with a survival rate of less than17% were identified.Development of the 63 families lay foundation for

selective breeding of flounder stains with fast growth and disease resistance.
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【题目】牙鲆不同家系生长性能比较及优良亲本选择
【中文关键词】牙鲆 家系 生长性能 后裔测定 亲本选择
【英文关键词】Paralichthys olivaceus family growth performance progeny testing parent selection
【中文摘要】针对牙鲆生长慢的问题,实验室建立了63个牙鲆家系生长性能进行了测定和比较分析.对日龄80~230 d的不同家系鱼苗的体长和体重进行了测量,发现家系之间存在明显的生长差异,生长最快家系平均体重是最慢家系的3.08倍,最大体长是最小体长的1.47倍.家系的绝对增重率分布在0.138~0.478.利用多元方差分析(MANOVA)对家系因子进行分析表明,牙鲆家系生长日龄对家系体长和体重未达显著影响(P>0.05);利用单因素方差(one-wayANOVA)分析和多重比较法(SNK)对63个家系的生长指标进行分析比较后表明,所有家系可分为生长快速、生长较快、生长一般、生长较慢和生长最慢5个组,5组之间具有显著性差异(P<0.01),筛选出19、36、51、21、69、61、64和81号8个生长快速家系.利用多重比较法对RS♂×JS♀、RS♂×RS♀、RS♂×YS♀、JS♂×RS♀、JS♂×JS♀、YS♂×:RS♀、YS♂×Js♀7个杂交组合产生的后代生长性状进行综合分析,发现JS♂×RS♀杂交产生的家系生长最快(P<0.05),不同群体间与群体内杂交产生家系在生长上存在着明显的差异(P<0.05).利用半同胞家系进行后裔性状测定和分析,对牙鲆3个群体中14个父本和12个母本的生长遗传性状进行鉴定,发现JS29、JS12和RS41 3个父本及RS75、RS28、RS86、JS21和JS22 5个母本产生的家系生长较快(P<0.05).利用生长最快家系和生长最慢家系的体长和体重数据,建立了体长和体重关系式,决定系数R~2>0.5、α值相近、b<3,表明家系个体的体长和体重密切相关,家系生长环境较稳定,两家系都处于异速生长阶段.
【英文摘要】Japanese flounder (Paralichthys olivaceus)is a widely cultured marine fish species in China and is high valued because of its fast growth and good taste.However,diseases of the cultured fish have occurred frequently and losses due to infectious diseases limit profitability and development of aquaculture.To breed new flounder strain with enhanced disease-resistance and growth rate is an important task in marine fish aquaculture.In the present study,94 disease-resistant individuals selected from natural selection and artificial challenge by pathogenic bacteria,Vibrio anguillarum, were used as one of basic populations for developing family.Japanese population of the flounder were imported from Japan in 2003 and used as one of basic populations.In addition,the flounder captured from Yellow sea were used as one of the basic population for developing family .Different mating of the above three populations resulted in 63 families in which 54 families are half-sibling family,9 families are full-sibling families. Growth comparison demonstrated that there are big differences in growth rate among the 63 families.Some families exhibited fast growth while some families grow very slowly.Among the 63 families,4 fast-growth families(Family36,42,43and57),9 secondly fast-growth families(Family27,28,35,39,41,51,60,65and76), and one slow-growth family(75)were identified.Bacterial challenge experiments demonstrated that there are big differences in disease resistance among the 59 tested families.Some families exhibited strong disease resistance to bacterial infection,while some families are not resistant to bacterial challenge.Among the 59 families,3 families(Family50,61and 68)with strong disease resistance with a survival rate of over 60%were identified,17 families with secondly strong disease resistance with a survival rate of 39-60%,33 families with normal disease resistance with a survival rate of 17-39% ,and 6 families with low disease resistance with a survival rate of less than17% were identified.Development of the 63 families lay foundation for selective breeding of flounder stains with fast growth and disease resistance.
【语种】中文
【第一作者】陈松林
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【题目】牙鲆3个养殖群体遗传结构的微卫星分析
【中文关键词】牙鲆 养殖群体 微卫星标记 遗传多样性
【英文关键词】Paralichthys olivaceus Cultured population Microsatellite marker Genetic diversity
【中文摘要】采用微卫星标记分析技术,用5个多态性的微卫星标记对来自3个不同国家(中国、日本和韩国)的牙鲆养殖群体进行了遗传多样性研究。研究结果表明,3个牙鲆群体平均等位基因在4.8~5.6之间,平均观测杂合度(H0)在0.3917~0.5643之间,平均期望杂合度(HE)在0.5981~0.6264之间。有多个位点在不同的群体中偏离哈代-温伯格平衡。遗传距离分析表明,中国群体与日本群体遗传距离最近,韩国群体与日本群体遗传距离最远。分子方差分析(AMOVA)表明,群体内遗传变异与群体间遗传变异分别占总遗传变异的92.44%和7.56%,固定系数(Fst)为0.0752(P<0.001),表明牙鲆3个养殖群体遗传分化显著。
【英文摘要】The genetic diversity of cultured Japanese flounder Paralichthys olivaceus from three countries (China, Japan and Korea) was studied by using five microsatellite markers. The results showed that the average number of alleles per population ranged between 4.8~5.6, and the mean observed heterozygosity (Ho) was 0.391 7~0.564 3, while the mean expected heterozygosity (HE) was 0.598 1~0.626 4.Hardy-Weinberg Equilibrium (HWE) test revealed several loci in some populations deviated significantly from HWE balance. Genetic distance analysis showed that the smallest distance was between Chinese and Japanese populations and the largest distance was between Korean and Japanese populations. The Fst values between populations indicated that there was significant genetic differentiation among the three cultured populations.
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【第一作者】邵长伟
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【题目】双列杂交分析比较两个养殖群体杂交牙鲆抗病力
【中文关键词】牙鲆 群体 杂交优势 抗病力
【英文关键词】Japanese flounder Paralichthys olivaceus Broodstock Heterosis Disease resistance
【中文摘要】采用双列杂交设计对牙鲆Paralichthys olivaceus两个养殖群体:日本群体(J)和中国抗病选育群体(C)进行群体间杂交和群体内自繁,获得C(♀)×C(♂)、J(♀)×J(♂)、J(♀)×C(♂)和C(♀)×J(♂)4个交配组合的子一代。针对受精率、孵化率、白化率和存活率4个性状进行了组合间的比较,计算了各项性状的杂种优势率,对组间各性状进行了方差分析,并进行了相关分析。结果表明,杂交组在受精率、孵化率及存活率上存在着不同程度的杂种优势,其中C(♀)×J(♂)后代在孵化率和存活率两个性状上的杂种优势率分别为33.99%和31.37%。对4个性状的表型相关分析表明,受精率和孵化率的相关系数为0.657,受精率和存活率相关系数为0.432,分别达到了极显著水平(P<0.01)。分析结果认为,两个不同群体间的种内杂交是牙鲆优良品种培育的有效途径。 更多还原
【英文摘要】The first generation of four broodstock combinations, C (♀) ×C (♂), J (♀) ×J (♂), J (♀) ×C (♂) and C (♀) ×J (♂) were obtained from mating and crossing within and between Japanese broodstock (J) and China disease resistante broodstock (C) of Japanese flounder Paralichthys olivaceus using complete diallel crosses. Comparisons of fertilization rate, hatch rate, albinism rate and survivorship were made among four treatments in this study. Heterosis and correlations were found in different characteristics. The results showed that there were significant differences between the hybridization groups and self-fertilized groups on albinism rate and survival rate. Heterosis on hatch rate reached 33.99% and heterosis on survivor rate reached 31.37% in C (♀) ×J (♂) group. Correction analysis demonstrated highly significant correlations (P<0.01) between fertilization rate and hatch rate (0.657), and fertilization rate and survival rate (0.432). These results indicated that the crosses between different stocks might be potentially effective for genetic improvement in Japanese flounder. 更多
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【题目】日本牙鲆主要组织相容性复合体DAB等位基因的多态性
【中文关键词】牙鲆 主要组织相容性复合体 等位基因 多态性
【英文关键词】Japanese flounder Paralichthys olivaceus Major histocompatibility complex Allele Polymophism
【中文摘要】根据牙鲆(Paralichthys olivaceus)主要组织相容性复合体(MHC)DAB基因序列设计特异性引物,在日本牙鲆基因组中扩增了包括DAB基因完整外显子2和内含子1在内的长度为408bp的DNA片段。对该片段克隆测序后,发现了37个MHC-DAB等位基因,各等位基因的频次以及各主型中亚型数目分布都不平衡。在第二外显子273bp核苷酸序列中有50个位点发生变异,核苷酸多样性PI值为0.0618,在编码的氨基酸序列中存在多态变异位点30个,其中简约信息位点29个,单变异位点1个。非同义替代与同义替代的比率在抗原结合区(PBR)和非PBR编码区分别为10.0和1.62,分析表明正向选择机制可能是产生牙鲆MHC-DAB多态性的主要因素。估计的核苷酸的转换和颠换数随着遗传距离的增加而增加。各等位基因间的系统发生关系表明,19个主型分为两个群。对氨基酸组分和密码子的偏倚性以及分布频率的分析表明各同义密码子的使用频率不均衡。本研究为牙鲆MHC-DAB基因的遗传进化和分子标记辅助育种的研究提供了理论基础。
【英文摘要】Polymorphismof themajor histocompatibilitycomplex (MHC) DAB gene inJapaneseflounder Paralichthys olivaceus was investigated using sequences analysis. Inthis study, 24individuals were selected to amplify partial exon1 and intron2,complete intron1 and exon2of DAB gene. 131sequences were subsequently used to analyze genetic variation and revealed 31different sequences, which presented 31 novel alleles belonging to19 allele major types according to accepted nomenclaturerules.Frequencyof alleles and numbers of subtype were not distributed equally. There were 50 variable sites inexon2, the average number of nucleotide diversity PI value of the whole sequences was 0106181 The nucleotide sequence was corresponded with putative91amino acids peptide, 32.97%(30out of 91) of the amino acid were variable, of which29parsimonyinformativesites wereobserved. The rates of non2synonymous substitution (dN) were 10100 times and 1162 times higher than the rate of synonymoussubstitution(dS) inthe peptide2bindingregions (PBR) andnon2PBR, respectively. The rate of dN occurredat a significantlyhigher frequencythanthat of dS in PBR, dN in PBRwas higher thanthat in non2PBR, but dS in PBR was significantlylower thaninnon2PBR. Inthis study, the highratioof dNPdS value andhighallelic diversityobservedinflounder suggesteda balancingselectionintheMHC2DAB gene, whichexplainedthe high polymorphism of MHC2DAB gene in Japanese flounder. The number of transitions and tranversions gradually increased with genetic distances, indicating that the MHC2DAB gene might discuss the genetic evolution. Phylogenetictree was based using NJ method revealed apreliminary phylogeny among19 MHC2DAB major typeof alleles. Frequencyof synonymcodonswere not distributed equally. These results provide molecular date for the study on genetic variation and marker 2 assisted selective breeding inJapaneseflounder [Acta ZoologicaSinica54 (5) :909- 917, 2008].
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【题目】三个牙鲆育种群体亲本效应及遗传参数估计
【中文关键词】牙鲆 随机效应 遗传相关 遗传力
【英文关键词】Japanese flounder Paralichthys olivaceus random effect genetic correlation heritability
【中文摘要】针对牙鲆(Paralichthys olivaceus)养殖品种生长速度变慢、抗病力降低这一问题.近年来构建了牙鲆抗病群体(RS)、日本群体(JS)和黄海群体(YS)3个育种群体,开展牙鲆选择育种,建立了63个家系,收集了所有家系5 328尾鱼苗的体长和体重数据.借助线形混合模型(Linear mixed model)、"加性-显性"模型、约束极大似然法(REML)及最佳线性无偏预测(BLUP)分别估计亲本效应值、体重和体长遗传力和遗传相关、父母本效应和杂交效应.预测结果显示,其中父本130,141,146,170,218,229,303和308随机效应达到了极显著效应水平(P<0.01),父本112,122,141,190,212达到显著水平(P<0.05),所有母本体重随机效应达到了极显著水平(P<0.01);体长和体重两性状的加性、显性、表型和基因型相关分量都达到极显著

水平(P<0.01),体长和体重的加性方差比率均大于显性方差比率,可见两性状的遗传效应主要取决于基因的加性效应.体长的总遗传效应率为31.20%,体重的总遗传效应率为33.58%,体长和体重的随机方差比率分别达到68.80%和66.41%,说明养殖环境等因素对牙鲆体长和体重的影响较大,同时说明在牙鲆选择育种中消除环境影响极为重要.体长和体重的狭义遗传率分别为0.199和0.256(P<0.01),广义遗传率分别为0.312和0.336(P<0.01),牙鲆在以上两性状上属于中等遗传力,通过选择育种可取得较大的遗传进展.对3个牙鲆育种群体杂交随机效应估计结果显示,抗病群体和黄海群体在体长和体重两性状上加性随机效应显著(P<0.05);抗病群体分别与日本群体、黄海群体杂交,其后代表现出显性随机效应达到0.10的水平(P<0.10),黄海群体自交、日本群体和黄海群体杂交随机效应不显著(P>0.05),因此在杂交组配中选择抗病群体与其他两个群体交配可取得较好的效果.

【英文摘要】The Japanese flounder (Paralichthys olivaceus) is one of the most important species for the coastal fisheries and mariculture in China. However, in recent years, the Japanese flounder aquaculture has many problems such as disease, growth rate depression etc. due to neglect systemic breeding research.In recent years, through three methods such as artificial selection, introduction of fine stocks from Japanese and collection of local wild stocks, we have established gradually disease-resistant stock (RS), Japanese stock (JS) and Huang hai(Yellow) Sea stock (YS) as broodstocks. Subsequently, we constructed 63half-and full-sib families. After 230 days of growth, in total 5 328 individuals from these families were randomly captured to measure their body length and body weight. Based on these data, we estimated parents'random effect for each family using Linear mixed model. At the same time, we estimated the heritability and correlation coefficient between body weight and body length using Restricted Maximum Likelihood method (REML) based on additive - dominance model. Simultaneously, the parents' effect and hybrid effect were estimated using BLUP (Best Linear Unbiased Prediction) method. According to the estimated results of parents' random effect, the effect value for male 130, 141, 146, 170, 218, 229, 303 and 308 has reached a significant level of random effect (P<0. 01), and male parent 112, 122, 141, 190. and 212 has reached a significant level of random effect (P<0. 05). While the effect value for all female parents has reached a significant level of random effect (P<0. 01). The results of genetic correlations for body length and body weight showed that four components such as additive, dominant, phenotype and genotype have been to achieve significant level (P<0. 01). The results of estimated heritability showed that the additive variance ratio of body length and body weight was bigger than that of dominant variance, which suggested that the genetic effect of body length and body weight depends largely on the additive effect of genes. The total genetic effect of body length and body weight was 31. 20% and 33. 58%, respectively, and the random variance of body weight and body length was 68. 80% and 66. 41%, respectively. These findings suggested that environmental factors have great impacts on body length and body weight of Japanese flounder,so the elimination of the environmental factors was important in the process of breeding. The narrow sense heritability of body length and body weight was 0. 199 and 0. 256(P<0. 01), respectively, and the broad sense heritability of body length and body weight was 0. 312 and 0. 336(P<0. 01) , respectively. The heritability of body length and body weight was moderate, which indicated that selection for the two growth traits would result in greater genetic improvement. RS showed positive additive effect (P<0. 05) on body length and body weight, however, YS showed negative additive effect (P<0. 05) on body length and body weight. The hybrids between RS and JS showed positive additive random effect (P<0. 10), and the hybrids between RS and YS showed negative additive random effect (P<0. 10) , however, the random effects of the offspring of RS and the hybrids between JS and YS were not significant (P>0. 05). Therefore, RS hybridized with the other two stocks (JS and YS) could obtain good result in selective breeding of Japanese flounder.

【语种】中文

【第一作者】田永胜

【通讯作者】陈松林

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【引文索引类型】其他

【引文索引号】0253-4193 (2009) 06-0119-10

【学科分类】水产养殖学

【题目】牙鲆4个选择性繁育后代群体遗传结构的微卫星分析

【中文关键词】牙鲆 养殖群体 遗传多样性微卫星分析

【英文关键词】Paralichthys olivaceus Cultured stocks Genetic diversity Microsatellite analysis

【中文摘要】为了检测由3个牙鲆基础群体组合交配建立的4个选择性繁育后代群体的遗传多样性水平,本研究利用10对微卫星引物分析了其遗传结构信息。计算结果表明,等位基因数3~10个,平均等位基因数5.7个,有效等位基因数1.3571~4.5979,平均有效等位基因数2.9832,各个位点的平均观测杂合度0.2083~1.0000,平均期望杂合度0.2081~0.7956,多态信息含量0.1671~0.7501,其中中度多态位点两个,高度多态位点7个,各群体的多态信息含量从大到小依次为日本亲鱼与抗病亲鱼杂交后代群体、抗病亲鱼自繁后代群体、抗病亲鱼与黄海野生亲鱼繁殖后代群体、日本亲鱼自繁后代群体。分析结果

表明,4个群体的遗传多态水平均较高,对4个选择性繁育后代群体的平均观测杂合度值进行X。检验表明,群体间遗传多样性差异不显著。日本亲鱼自繁后代群体与中国海域亲鱼繁育后代群体(抗病亲鱼自繁后代群体和抗病亲鱼与黄海野生亲鱼繁殖后代群体)的遗传距离较远,分别为0.2724和0.3310。根据群体间的遗传距离利用NJ法构建系统树,抗病亲鱼自繁后代群体和抗病亲鱼与黄海野生亲鱼繁殖后代群体聚为一支,日本亲鱼自繁后代群体和日本亲鱼与抗病亲鱼杂交后代群体聚为一支,对遗传偏离指数的分析表明群体间的遗传平衡差异很大。

【英文摘要】Genetic diversity among four selective offspring stocks obtained by mating among three basic populations of Japanese flounder Paralichthys olivaceus was assessed using ten microsatellite loci.Results showed that the allele number(A)was 3~1 0,average allele number was 5.7,effective allele number(A,)was 1.357 1~4.597 9,average effective allele number was 2.983 2,average observed heterozygosity(H。)of each locus was 0.208 3~1.000 0,average expected heterozygosity(H)of each lOCUS was 0.208 1~0.795 6,average polymorphism information content(PIC)of each lOCUS was 0.167 1~0.7501,and polymorphism information content of JRS,RRS,RYS and JJS followed a decreasing order.Moderate and high genetic diversity was found in JJS and the other three stocks,and X。test revealed that there was no significant difference in average observed heterozygosity of the four selective offspring stocks.Genetic distance between JJS and RRS or RYS was comparatively higher than that between RRS and RYS.The genetic distance among the four stocks was used to construct NJ dedrogram via MEGA software.RRS and RYS were within one branch。and JJS and JRS within another branch.Genetic deviation index indicated a difference among stocks.These results indicated that these microsatellite 1OCi selected were very sensitive and could be used in further selective and genetic breeding studies of Japanese flounder.

【语种】中文

【第一作者】徐田军

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【期刊名称、卷期、页码】渔业科学进展,30(4):57-63

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【引文索引类型】其他

【引文索引号】1000-7075(2009)04-0057-07

【学科分类】水产养殖学

【题目】Actinoalloteichus nanshanensis sp. nov., isolated from the rhizosphere of a fig tree (Ficus religiosa)

【中文关键词】无

【英文关键词】Actinoalloteichus nanshanensis sp. nov.

【中文摘要】无

【英文摘要】A Gram-positive, aerobic actinomycete, designated strain NEAU 119T, was isolated from the rhizosphere of a fig tree and was characterized using a polyphasic approach. The isolate formed branching, non-fragmenting vegetative hyphae and produced black pigment on yeast extract/malt extract (ISP medium 2). The G+C content of the DNA was 76.6 mol%. The organism had chemotaxonomic characteristics typical of the genus Actinoalloteichus and was closely related to the type strains of Actinoalloteichus cyanogriseus, Actinoalloteichus spitiensis and Actinoalloteichus hymeniacidonis, currently the only three recognized species of the genus Actinoalloteichus, sharing 16S rRNA gene similarities of 96.4, 96.6 and 98.1 %, respectively. However, the results of DNA – DNA hybridization studies demonstrated that the novel strain showed only 46.8% relatedness with the type strain of A. hymeniacidonis. In addition, a set of phenotypic characteristics also readily distinguished strain NEAU 119T from the type strains of recognized species of the genus Actinoalloteichus. According to the above data, it is proposed that strain NEAU 119T represents a novel species, Actinoalloteichus nanshanensis sp. nov. The type strain of Actinoalloteichus nanshanensis is NEAU 119T (5CGMCC 4.5714T5NBRC 106685T).

【语种】英文

【第一作者】向文胜

【通讯作者】王相晶

【期刊名称、卷期、页码】International Journal of Systematic and Evolutionary Microbiology 2011, 61, 1165 – 1169

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【引文索引类型】SCI

【引文索引号】DOI 10.1099/ijs.0.023283-0

【学科分类】微生物学

【题目】Identification of the major flavonoids from the extract of Pleioblastus argenteastriatus leaves in
【中文关键词】无
【英文关键词】Antioxidant activity; Pleioblastus argenteastriatus; Flavonoid; Structure elucidation
【中文摘要】无
【英文摘要】Pleioblastus argenteastriatus leaves were extracted with 95% ethanol, then the extract waspartitioned with water and petroleum ether. The water fraction after removal of the solvent was subjected to macroporous absorption resin (AB-8), and was eluted with H2O, 20% ethanol, 40% ethanol, 60% ethanol, 80% ethanol and acetone respectively. Most of the flavonoids were eluted into 20%, 40% and 60% ethanol fractions, and total flavonoid content of these three fractions were determined to be 38.01, 48.57 and 23.24 g of RE/100 g DW by colorimetric method. These three fractions exhibited strong scavenging activities for DPPH, hydroxyl radical and superoxide anion. Nine major flavonoids were isolated from these three fractions by sephadex LH-20 column chromatography method, and their structures were elucidated through analysis of MS, IR, UV and NMR data, and they were identified as follows: 5,7,3′-trihydroxy-6-C-β-D-digitoxopyranosyl-4′-O-β-D-glucopyranosyl flavonoside (1), 5,7,4′-trihydroxy-3′,5′-dimethoxy flavone (2), 5,3′,4′-trihydroxy-7-O-β-Dglucopyranosyl flavonoside (3), 5,4′-dihydroxy-3′,5′-dimethoxy-7-O-β-D-glucopyranosyl flavonoside(4), 5,7,3′,4′-trihydroxy-6-C-[α-L-rhamnopyranosyl-(1→6)]-β-D-glucopyranosyl flavonoside. (5),5,7,3′,4′-tetrahydroxy-6-C-β-D-glucopyranosyl flavonoside (6), 5,7,3′,4′-tetrahydroxy-8-C-β-Dglucopyranosyl flavonoside (7), 5,7,4′-trihydroxy-6-C-β-D-glucopyranosyl flavonoside (8) and 5,7,4′-trihydroxy-8-C-β-D-glucopyranosyl flavonoside (9).
【语种】英文
【第一作者】xuefeng guo
【通讯作者】xuefeng guo
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【引文索引类型】SCI
【引文索引号】null
【学科分类】农学其他学科

【题目】褐藻酸钠的分光光度法测定技术
【中文关键词】铜试剂; 分光光度法; 褐藻胶; 褐藻酸铜;
【英文关键词】scupferron; pectrophotometric method; algin; copper alginate;
【中文摘要】采用铜试剂显色分光光度法测定褐藻酸钠的含量。实验中铜离子与褐藻酸钠反应生成褐藻酸铜,过量铜离子在碱性条件下与铜试剂反应生成黄棕色配合物,在447nm波长条件下测定该配合物的吸光值。利用标准曲线求出与褐藻酸钠结合的铜离子量进而计算褐藻酸钠的含量,最终通过该方法测得褐藻酸钠样品的纯度为99.28%,测定结果的精密度为0.58%。该法具有操作简便、准确、灵敏、重复性好等优点,能够满足褐藻酸钠含量的测定要求。
【英文摘要】A cupferron spectrophotometric method was presented for the determination of sodium alginate.The copper ions reacted with sodium alginate to produce copper alginate,the excessive copper and cupferron in alkaline conditions reacted to form a yellow brown colloidal complex.The sodium alginate content was determined by the standard curve established at 447 nm wavelength.The results showed that the purity of sodium alginate was 99.28%.The relative standard deviation(RSD%)was 0.58%.The method was simple,accurate,high sensitivity and repeatability.The method was suitable for the determination of the sodium alginate.
【语种】中文
【第一作者】王泽文
【通讯作者】冷凯良
【期刊名称、卷期、页码】食品与发酵工业、35卷5期、149-152
【论文发表时间】2010-05-01 00:00:00
【引文索引类型】其他
【引文索引号】1006-4990(2010)10-0054-02
【学科分类】分析化学

【题目】活性炭吸附法回收海带化工提碘废水中的碘
【中文关键词】碘回收; 活性炭; 海带; 提碘废水;

【英文关键词】iodine recovery; active carbon; kelp; iodine production effluent;
【中文摘要】研究了应用活性炭吸附法对海带化工中的提碘后废水中低含量的碘进行回收的新工艺。传统海带加工中海带浸泡水经离子交换提碘后其中碘质量浓度为20~30 mg/L,这部分碘可在pH为1.5~2.0条件下经氧化后由活性炭柱富集。富集后的活性炭柱经氢氧化钠溶液洗脱,洗脱液经酸化中和可获得碘质量浓度为300~400 mg/L的溶液。该工艺为提碘废水的回收利用提供了一条切实可行的途径。
【英文摘要】A new technology,which applied active carbon adsorption method to recover the low-content residue iodine from the iodine production effluent in the kelp chemical industry,was researched.Mass concentration of residue iodine in the traditional iodine production effluent after treated by ion-exchange resin was at 20~30 mg/L,which can be Absorbed and collected by the carbon columns after oxidation under the condition of pH at 1.5~2.0.Carbon columns that contain iodine were eluted with NaOH solvent.After neutralized with HCl the mass concentration of iodine in the eluate could be at 300~400 mg/L.The new technology is a practical way for the recycling of the iodine production effluent. 更多
【语种】中文
【第一作者】苗钧魁
【通讯作者】冷凯良
【期刊名称、卷期、页码】无机盐工业、42卷10期、54-55
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【引文索引类型】其他
【引文索引号】1006-4990(2010)10-0054-02
【学科分类】化学分离工程

【题目】荣福海带中内源植物激素含量的动态变化研究
【中文关键词】高效液相色谱; 荣福海带; 内源植物激素;
【英文关键词】HPLC Rongfu Laminaria saccharia Endogenous hormones;
【中文摘要】以荣福海带为材料,采用高效液相色谱法紫外检测不同时期和不同部位海带中内源植物激素含量的变化。结果表明,在海带生长的幼嫩期、厚成期和成熟期,吲哚乙酸(IAA)和脱落酸(ABA)呈递增的趋势;玉米素(ZT)在海带成熟期达到最大值,厚成期含量最少;吲哚丁酸(IBA)在厚成期达到最大值,幼嫩期含量最少。同一生长阶段的海带体内植物激素纵向分布规律为:海带尖部的IAA含量较高,中带部的ZT含量明显较高,而基部的IBA和ABA的含量较高。
【英文摘要】The variations of endogenous hormones in different periods and different parts of Rongfu Laminaria saccharia were analyzed by high performance liquid chromatography coupled with UV detector.It was found that the content of indole-3-acetic acid(IAA) and abscisic acid(ABA) increased significantly in three important periods of L.japonica(juvenile,grow-out,mature).The content of zeatin(ZT) reached the highest in the mature period,and the lowest in the grow-out period.The content of indolebutyric acid(IBA) reached the highest in the grow-out period,and the lowest in the juvenile period.At each development stage,different plant hormones were found at the highest contents in different parts of the L.saccharia blade;IAA showed the highest content in the top,while the highest contents of ZT was found in the middle,and both IBA and ABA were found in the bottom
【语种】中文
【第一作者】王泽文
【通讯作者】冷凯良
【期刊名称、卷期、页码】渔业科学进展、32卷1期、94-98
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【引文索引类型】其他
【引文索引号】1000-7075(2011)01-0094—05
【学科分类】分析化学

【题目】柱前衍生高效液相色谱法分析海带岩藻聚糖的单糖及糖醛酸组成
【中文关键词】岩藻聚糖; 1-苯基-3-甲基-5-吡唑啉酮; 柱前衍生化; 高效液相色谱法
【英文关键词】Fucoidon; 1-phenyl-3-methyl-5-pyrazolone; Pre-column derivatization; High performance liquid chromatography
【中文摘要】建立了一种柱前衍生高效液相色谱法同时测定海带中岩藻聚糖的单糖及糖醛酸组成的方法。岩藻聚糖经4 mol/L三氟乙酸降解后,用1-苯基-3-甲基-5-吡唑啉酮(PMP)进行衍生化,并采用配有紫外检测器的反相高效液相色谱仪在250 nm波长下进行测定,实现了7种单糖和糖醛酸的良好分离。结果表明:该岩藻聚糖样品由5种单糖和2种糖醛酸组成,其物质量之比为甘露糖∶鼠李糖∶葡萄糖醛酸∶半乳糖醛酸∶葡萄糖∶半乳糖∶岩藻糖

=0.03：3.7：0.22：0.74：0.12：1.1：4.1。该方法重现性良好,能够快速对多糖样品进行组成分析。
【英文摘要】High performance liquid chromatography(HPLC) was employed for the analysis of monosaccharide and uronic acids in fucoidon from fresh seaweed with pre-column derivatization.After degradated by 4 mol/L trifluoroacetic acid and derivatived with 1-phenyl-3-methyl-5-pyrazolone(PMP),monosaccharides and uronic acids in fucoidon were separated by reversed-phase HPLC with gradient elution,and monitored by ultraviolet detector at 250 nm.The result show that fucoidon consists of 5 kinds of monosaccharides and 2 kinds of uronic acids.The ratio of mannose,rhamnose,glucuronic acid,galacturonic acid,glucose,galactoses,fucose is 0.03：3.7：0.22：0.74：0.12：1.1： 4.1.The developed method is suitable for the rapid analysis of polysaccharide with good reproducibility.
【语种】中文
【第一作者】王泽文
【通讯作者】冷凯良
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【引文索引类型】其他
【引文索引号】1006-6144(2011)01-0026-05
【学科分类】分析化学

【题目】延边黄牛及其导入1/4利木赞血牛比较研究(Ⅰ)
【中文关键词】延边黄牛; 导入1 /4利木赞血; 增重效果; 血液指标
【英文关键词】Yanbian Cattle ;gaining effect;blood indexes
【中文摘要】选择延边黄牛(公牛)、含有1 /4利木赞血的延边黄牛(公牛)及其去势牛(公牛)各4头, 分别设为对照组、试验1组和试验2组进行试验。经过160 d的育肥试验, 试验1组、试验2组和对照组的日增重分别为1. 10, 1. 03, 0. 91 kg, 试验1组显著高于对照组(P < 0. 05); 饲料报酬分别为4. 70, 5. 02和5. 68, 对照组显著高于试验1组(P < 0. 05) ; 体尺的测定结果表明, 试验末期试验1组体长、体高、胸围、尻长明显高于试验2组(P < 0. 05); 胸深和腰角宽试验1组极显著高于试验2组(P < 0. 01); 试验1组的体高极显著高于对照组(P < 0. 01) ; 腰角宽和尻长试验1组显著高于对照组(P < 0. 05)。血液指标的测定结果表明: 总胆固醇含量对照组最高, 与试验1组相比差异显著(P < 0. 05) ; GPT 含量试验2组和对照组低于试验1组, 且差异显著(P < 0. 05) ; GOT含量试验1组和对照组高于试验2组, 差异极显著(P < 0. 01) ; 其他各项指标组间差异不显著(P > 0. 05), 且均在正常范围之内。
【英文摘要】无
【语种】中文
【第一作者】严昌国
【通讯作者】严昌国
【期刊名称、卷期、页码】黑龙江畜牧兽医、2008.29(7)31-34
【论文发表时间】2008-07-10 00:00:00
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【引文索引号】null
【学科分类】畜牧学

【题目】5个群体微卫星DNA多态性研究
【中文关键词】5 个群体; 微卫星DNA; 多态性
【英文关键词】Five groups; Micro- satellite DNA; Polymorphism
【中文摘要】选用草原红牛30 头、蒙古牛10 头、夏洛来牛10 头、利木赞牛6 头和西门塔尔牛10 头组成的试验牛群体共计66 头, 经过牛血液或肝脏基因组DNA 的提取、8 对微卫星引物的PCR 扩增、扩增产物的聚丙烯酰胺电泳分型、分析各位点等位基因及全部个体的标记基因型、PPAP3.0 和SPSS10.0 软件计算基因频率、多态信息含量(PIC)和杂合度、遗传距离等步骤从分子水平上分析了在8 个位点的遗传多态性。结果表明, 微卫星位点IDVGA2、IDVGA46、TGLA44、BM1824、ETH225、BM2113、IDVGA44、IDVGA55 扩增出的条带数分别为6、6、6、5、4、2、6、4 条, 平均条带数分别为4.4、4、4.2、3.6、3.4、2、4.8、3.2 条, 平均PIC/H 分别为0.683 1/0.733 7、0.596 3 /0.660 2、0.646 2/0.700 1、0.558 1/0.630 2、0.552 9/0.615 8、0.371 1/0.417 4、0.683 1/0.728 4、0.5431/0.615 3, 均属于高度多态性位点。用于群体遗传标记的研究是较理想的。

【英文摘要】In this study, a group of Charolais, Limousin, Simmental, Steppe Red Cattle, Mongolian Cattle waschosen and its population genetic polymorphism was analyzed in the level of molecule by the process of genomeDNA extraction from blood, PCR amplification of 8 primers, fragment typing with polyacrylamide gelelectrophoresis (PAGE), allele and genotype analysis of every locus by UVIBAND system, calculation of allelefrequencies, Polymorphism information content (PIC) and Heterozygosity by PPAP3.0 and SPSS10.0. The resultsshowed that the number of alleles in IDVGA2, IDVGA46, TGLA44, BM1824, ETH225, BM2113, IDVGA44,IDVGA55 was 6, 6, 6, 5, 4, 2, 6, 4, and the polymorphism information content (PIC) and H was 0.6831/0.7337,0.5963/0.6602, 0.6462/0.7001, 0.5581/0.6302, 0.5529/0.6158, 0.3711/0.4174, 0.6831/0.7284, 0.5431/0.6153.All of them were high polymorphic loci. So they were ideal loci in the study of looking for genetic markers relatedto the production performance.
【语种】中文
【第一作者】李向阳
【通讯作者】张国梁
【期刊名称、卷期、页码】吉林农业科学、2008,33(3):37-40,54
【论文发表时间】2008-06-25 00:00:00
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【引文索引号】null
【学科分类】畜牧学

【题目】玉米秸秆在农业生态系统中的综合利用
【中文关键词】玉米秸秆; 生态系统; 畜牧业; 综合利用
【英文关键词】Maize straw; Ecological system; Animal husbandry; Comprehensive Utilization
【中文摘要】农作物秸秆是农业生产的必然产物, 又是一种重要的资源。它不仅被广泛应用于动物饲料生产中, 而且又可作为能源利用, 有着多方面的利用价值。本文主要是针对玉米秸秆在农业生态系统中的综合利用做一个综述。
【英文摘要】Straw is the inevitable product of agricultural production, and it is an important resource. It is widelyused in the production of animal feed and can be used as an energy source and a wide range of usage. Acomprehensive utilization ofmaize strawin agricultural ecological systemwas reviewed in the paper.
【语种】中文
【第一作者】高国臣
【通讯作者】张国梁
【期刊名称、卷期、页码】吉林农业科学、2008,33(4):59-61
【论文发表时间】2008-08-25 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】畜牧学

【题目】草原红牛微卫星标记研究
【中文关键词】草原红牛; 微卫星; 标记
【英文关键词】Steppe Red Cattle; Microsatellite; Marker
【中文摘要】选用草原红牛30 头作为试验牛群体, 经过牛血液基因组DNA 的提取、8 对微卫星引物的PCR 扩增、扩增产物的聚丙烯酰胺电泳分型、计算机凝胶成像分析系统分析各位点等位基因及全部个体的标记基因型、PPAP3.0 软件计算基因频率、多态信息含量(PIC)和杂合度等步骤从分子水平上分析了草原红牛在8 个位点的遗传多态性。结果表明, IDVGA2、IDVGA46、TGLA44、BM1824、ETH225、BM2113、IDVGA44 和IDVGA55等位基因数分别为6、6、6、4、4、2、6 和4, 多态信息含量分别为0.722 3、0.749 3、0.671 3、0.584 9、0.671 5、0.508 9、0.761 2 和0.596 5, 这8 个位点均为高度多态位点。8 个位点作为遗传标记应用于草原红牛遗传育种研究是可行的。
【英文摘要】In this study, a group of 30 Steppe Red Cattle (SRC) individuals was chosen and its populationgenetic polymorphism was analyzed in the level of molecule by the process of genome DNA extractionfromblood, PCR amplification of 8 primers, fragment typing with polyacrylamide gel electrophoresis(PAGE),allele and genotype analysis of every locus by UVIBAND system, calculation of allele frequencies, polymorphisminformationcontent (PIC) and Heterozygosity by PPAP3.0. The results showed that the number of allelesin IDVGA2, IDVGA46, TGLA44, BM1824, ETH225, BM2113, IDVGA44 and IDVGA55 was 5, 4, 3 and 4,and the polymorphism information content (PIC) was 0.5420, 0.6736, 0.5218 and 0.5750, respectively. Theseloci were high polymorphic loci. The number of alleles in BM2113, BM1824, IDVGA55 and TGLA44 was 6,6, 6, 4, 4, 2, 6 and 4, and PIC was 0.7223, 0.7493, 0.6713,

0.5849, 0.6715, 0.5089, 0.7612 and 0.5965, respectively.They were high polymorphic loci. As genetic marker, the 8 loci can be used in the study of geneticsand breeding of Grassland Red Cattle.
【语种】中文
【第一作者】张国梁
【通讯作者】张国梁
【期刊名称、卷期、页码】吉林农业科学、2008,33(5)
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【学科分类】畜牧学

【题目】草原红牛与安格斯杂种牛(F1)肉用性能的比较
【中文关键词】杂交牛; 营养水平; 育肥效果
【英文关键词】crosses; nutrition level; f inishing effect
【中文摘要】利用草原红牛、安格斯杂种牛(F1) 作为试验牛种, 按营养水平分为高、中营养水平组进行育肥、屠宰试验。结果表明: 安格斯杂种牛(F1) 日增重、胴体重、屠宰率高于草原红牛; 草原红牛肉中氨基酸、脂肪酸、粗蛋白质含量高于安格斯杂种牛(F1) , 但品种间差异不显著(P> 0 05) 。
【英文摘要】In this study, Red cattle of Steppe and Angus crossbred were used for experiment s materials,high level and median level groups were divided according to nutrition level, f inishing and slaughtering experiments were conducted, and data required for significant differences were analysed. The results showthat daily gains, carcass weight , killout percent of Angus crosses are higher than those of Red cattle ofSteppe, but the contents of amnio acid, fat acid and prude protein of Red cattle of Steppe are higher thanthose of Angus crosses.The significant differences are small between two breeds.
【语种】中文
【第一作者】张国梁
【通讯作者】张嘉保
【期刊名称、卷期、页码】吉林农业大学学报、2009,31(3):316-318,337
【论文发表时间】2009-06-15 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】畜牧学

【题目】草原红牛IGF-I基因5′调控区序列生物信息学分析
【中文关键词】草原红牛 IGF I 基因 5 调控区 生物信息学
【英文关键词】Red steppes IGF I gene 5 UTR B io inform atics
【中文摘要】胰岛素样生长因子 I(IGF I) 基因为多启动子基因, 也是影响动物生长发育和肉用性状的重要候选基因。在克隆草原红牛IGF I 基因5 调控区1 954 bP的基因组序列基础上, 利用生物信息学软件, 分析了IGF I 5 调控区的启动子结构;预测出评分在95分以上的转录因子结合位点有71个; 分析结果没有发现CpG岛和TATA box。研究结果为进一步研究IGF I转录效率以及对草原红牛生长和肉用性状的影响奠定基础。
【英文摘要】As am ulti prom o ter gene, Insu lin like g row th factor I (IGF- I) gene is essential candidate gene fo r anim a l g row th, de ve lopm ent and mea t qua lity tra it The red steppes IGF I gene 5 UTR was cloned and sequenced, then a 1 954 bp gene sequence was acquired B io informa tics too ls w ere used to ana ly se the prom oter reg ions, by wh ich 71 transc riptiona l factors bind ing s ites were predicted w ith sco res h igher than 95 But the CpG island and the TATA box w as not found in the reg ion The resu lt cou ld estab lish the basis for further research on IGF I transcription efficiency and its effect on grow th and m eat qua lity tra it of red steppes
【语种】中文
【第一作者】张金玉
【通讯作者】赵志辉
【期刊名称、卷期、页码】生物技术通报、2009,(5):119-121
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【学科分类】畜牧学

【题目】草原红牛改良群体H-FABP基因SNP及其与肉质性状的相关分析
【中文关键词】H- FABP; PCR- SSCP; SNP; 肉质性状; 草原红牛
【英文关键词】H- FABP; PCR- SSCP; SNP; meat quality traits;grassland red cattle
【中文摘要】试验采用PCR- SSCP 的方法对含1/ 2 利木赞血缘的改良草原红牛的H- FABP 基因5 - 调控区进行SNP 分析, 并分析其多态性与改良草原红牛肉质性状的相关性。结果表明: 改良草原红牛H- FABP 基因5 - 调控区存在多态位点, 在136 位点发生1 个T 碱基的插入突变, 在142 位点, 发生了G A 转换。相关分析结果显示剪切力在AA 和AB、BB 基因型间差异极显著(P< 0. 01) , AB 与BB 基因型间差异不显著(P> 0. 05) , A 基因对剪切力有负效应, 其余肉质性状在不同基因型间差异均不显著(P> 0. 05) 。表明H- FABP 基因对改良草原红牛肉质嫩度有显著影响。
【英文摘要】无
【语种】中文
【第一作者】文力正
【通讯作者】张嘉保
【期刊名称、卷期、页码】中国畜牧兽医、2008,35(7):66-69
【论文发表时间】2008-07-20 00:00:00
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【引文索引号】null
【学科分类】畜牧学

【题目】草原红牛H-FABP基因单核苷酸多态性及其对肉质的影响
【中文关键词】H-FABP; PCR-SSCP; 肉质; 草原红牛
【英文关键词】H- FABP, PCR- SSCP, meat quality, Red Steppe
【中文摘要】通过选择对肉质性状有影响的优势基因型作为遗传标记, 为草原红牛的继续选育提供理论依据。运用PCR- SSCP 方法对草原红牛H-FABP 基因5′- 调控区进行研究, 分析其与肉质性状的相关性。草原红牛H-FABP 基因5′- 调控区136 位点一个T 碱基的插入突变, 142 位点发生了G- A 转换。相关分析结果表明剪切力在AA 和AB、BB 基因型间差异极显著(P<0.01) , AB 与BB 基因型间差异不显著(P>0.05) , 其余肉质性状不同基因型间差异均不显著(P>0.05) 。H-FABP 基因对草原红牛嫩度有显著影响。
【英文摘要】Selected superiority genotype that influenced meat quality trait as molecular genetic marker, whichcould provide some theoretical basis for Red Steppe further breeding. H- FABP 5 ’ UTR polymorphisms in 16Red Steppes was studied used PCR- SSCP. The correlationship was carried out between different genotypeand meat quality. The results showed that base T was inserted in 136bp and the transformation of G→A in142bp. The difference between AA with AB and BB was extremely significant (P<0.01) in tenderness, but ABand BB was no significant difference (P>0.05). The difference between genotype with the others meat quality was not significant (P>0.05). The effect was very significant of H- FABP gene to tenderness traits in RedSteppe.
【语种】中文
【第一作者】文力正
【通讯作者】张嘉保
【期刊名称、卷期、页码】中国农学通报、2008,24(5):17-21
【论文发表时间】2008-05-05 00:00:00
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【引文索引号】null
【学科分类】畜牧学

【题目】Histological study of germ cells development and apoptosis in mongolian sheep fetal ovaries
【中文关键词】无
【英文关键词】Sheep; Fetal ovary; Oogonia; Ovigerous cords; Primordial follicles; Apoptosis
【中文摘要】无

【英文摘要】Mammalian germ cells proliferate by mitosis and begin meiotic development in fetal ovaries. The aim of this study is to demonstrate the germ cell proliferation and apoptosis, and elucidated some of the key developmental events and stages in Mongolian sheep fetal ovaries. Fourty three pairs of sheep fetal ovaries at days 37 – 99 of gestation were collected from local slaughterhouse. Studies in histological structure of ovaries and germ cell apoptosis were achieved by employing light microscopy and terminal deoxynucleotidyl transferase-mediated nick end labeling (TUNEL). Following fetal gestation age increasing, three key development events were detected: oogonia fleetly proliferated by mitosis and clustered at days 37 – 55 of gestation in ovarian cortex forming oogonia nest; the formation of ovigerous cords (OC) and disorganization took place at day 51 – 81, especially at days 63 – 66 more OC developed, and more germ cells in OC entered meiosis prophase; subsequently, with the OC disappeared, primordial follicles gradually prevailed from day 73 of gestation. Another observation was germ cells apoptosis and the number of apoptotic germ cells showed a peak from day 58 to day 73 ($P < 0.05$) and germ cells in OC were prone to apoptosis. The study provides evidence about histological feature and germ cells apoptosis in sheep fetal ovaries.
【语种】英文
【第一作者】齐.阿拉达尔
【通讯作者】张涌
【期刊名称、卷期、页码】Animal Reproduction Science;2008,103:179 – 186.
【论文发表时间】2008-01-15 00:00:00
【引文索引类型】SCI
【引文索引号】243DK
【学科分类】畜牧、兽医科学基础学科

【题目】Phytohemagglutinin improves efficiency of electrofusing mammary gland epithelial cells into oocytes in goats
【中文关键词】无
【英文关键词】Electrofusion; Mammary gland epithelial cells; Nuclear transfer; Phytohemagglutinin; Goat
【中文摘要】无
【英文摘要】The objective was to investigate the effect of phytohemagglutinin (PHA) on the fusion of mammary gland epithelial (MGE) cells into enucleated oocytes in goats. The toxicity of PHA was evaluated by testing its effect on the development of parthenogenetic caprine oocytes. The effective dose and duration of PHA treatment (100 mg/mL, 20 min incubation) was selected and used to compare fusion efficiency and embryo development following nuclear transfer. Two electrofusion protocols, chamber fusion (CF) and pressurized microelectrode fusion (pMEF), were also compared, when couplets were treated with and without PHA (100 mg/mL, 20 min). Fusion rate of couplets increased from 52.8 to 74.0% for the CF protocol ($P < 0.05$), but was not significantly different for the pMEF protocol (72.7% vs. 78.1%) after PHA treatment. There were no significant differences between treated group and control in rates of subsequent cleavage or blastocyst development. Following transfer of the cloned blastocysts derived from the PHA-treated group and the control group into synchronized recipients, pregnancy rates (Day 30) were not significantly different between treated group and control (28.6% vs. 25.0%). However, all recipients aborted within 120 d, microsatellite DNA analyses confirmed that the aborted fetuses were genetically identical to the donor goat. In conclusion, the fusion rate of caprine MGE cell couplets was improved by pre-incubating couplets in medium containing 100 mg/mL PHA prior to electrical pulsing, and embryos derived from PHA treatment established early pregnancies.
【语种】英文
【第一作者】张玉玲
【通讯作者】张涌
【期刊名称、卷期、页码】Theriogenology;2008,69: 1165 – 1171
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【引文索引类型】SCI
【引文索引号】301KH
【学科分类】畜牧、兽医科学基础学科

【题目】郑黄糯2号糯玉米不同密度产量及品质效应研究
【中文关键词】糯玉米;郑黄糯2号;密度;产量;品质
【英文关键词】waxy corn;Zhenghuangluo No2;density;yield;quality

【中文摘要】2008年在郑州市做了郑黄糯2号密度试验,通过对生育期、植株性状、穗部性状和子粒品质分析比较,结果表明:密度对郑黄糯2号产量和子粒品质影响显著。随着种植密度的增加,郑黄糯2号产量先升后降,郑黄糯2号蛋白含量先上升,然后趋于平稳,油分含量呈下降的趋势,淀粉含量变化无规律。为该品种大面积生产提供科学依据。
【英文摘要】The manure-density split plot experiments of new waxy corn variety ZhengheinuoNo1 were done at Zhengzhou city in 2006.Comparison analysis by output of fresh ear, the trait of fresh ear, benefits of planting were conducted. The result showed that if the planting object was harvesting fresh ear, the optimally treatment combination of manure-density was planting density should 60000 plants/hm2 and the rate of fertilizer application should urea 450kg/hm2, acid phosphate 450kg/hm2, potassium chloride 240kg/hm2. The result gave some scientic basis for the popularizing of this variety.
【语种】中文
【第一作者】周波
【通讯作者】周波
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【引文索引号】null
【学科分类】农艺学

【题目】不同密度对郑黄糯2号玉米产量及构成因素的影响
【中文关键词】玉米;郑黄糯2号;密度;产量,产量构成因素
【英文关键词】corn;Zhenghuangluo No2;density;yield;yield component
【中文摘要】2008年在河南省郑州市以郑黄糯2号为试材,研究了4.5万、6.0万、7.5万、9.0万、10.5万株/hm2种植密度对其产量及构成因素的影响。结果表明:产量随着种植密度的增加先升后降,郑黄糯2号最适宜种植密度90000株/hm2。为该品种大面积生产提供科学依据。
【英文摘要】The manure-density split plot experiments of new waxy corn variety ZhengheinuoNo1 were done at Zhengzhou city in 2006.Comparison analysis by output of fresh ear, the trait of fresh ear, benefits of planting were conducted. The result showed that if the planting object was harvesting fresh ear, the optimally treatment combination of manure-density was planting density should 60000 plants/hm2 and the rate of fertilizer application should urea 450kg/hm2, acid phosphate 450kg/hm2, potassium chloride 240kg/hm2. The result gave some scientic basis for the popularizing of this variety.
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【第一作者】周波
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【题目】植被作用下土壤干化的反馈效应及相关问题讨论
【中文关键词】植被建设; 土壤干化; 反馈效应; 黄土高原
【英文关键词】vegetation construction; soil desiccation; feedback effect; Loess Plateau
【中文摘要】黄土高原普遍发生的植被作用下的土壤干化现象,从一个独特角度恰当反映了环境对植被的限制作用。由于人工林草植被不同于天然植被,其负反馈调节机制脆弱,这种植物生长用水与环境供水之间的矛盾表现,使人工林草植被生长滞缓,稳定性下降,甚至导致其衰亡,并对后续深根性植物的生长发育一般起到显著的抑制作用。但是,后续天然植被或者浅根性植物却仍然能够继续良好发育。显然,植被作用下的土壤干化,对追求一定的经济目标来说有其不利性,但对于防止土壤侵蚀并不一定就产生负面影响。需要根据经营目标区别对待人工林草植被的稳定性。人工林草植被的自然化过程研究是有关生态恢复的一个有意义的命题。
【英文摘要】Owing to vegetation construction in the Loess Plateau, much attention has been paidto soil desiccation by vegetation for many years. Right thinking about soil desiccation by vegetation would conduce to controlling it, and furthering reasonable management and evolution of vegetation. The feedback response of vegetation to soil desiccation by itself is mainly discussed in this paper. We believe that the phenomenon of soil desiccation by vegetation occurring universally in the Loess Plateau just reflects

environmental limitation on vegetation from a peculiar angle. Because artificial forest and grass vegetation is weak in the mechanism of negative feedback regulation compared with natural vegetation, the contradictory show between water use by plant growth and water supply by environment constitutes a so serious threat to stability of artificialforest and grass vegetation that it grows slowly and even declines, and commonly takesmarked restraining effect on development of follow- up plant rooting deep after vegetation declination. But on the other hand it is noticeable that follow- up natural vegetation or plant rooting superficially still may succeed to grow well. It is obvious that soil desiccation by vegetation isn ’t favorable for seeking economical goal, but it would uncertainly cause a negative effect on protection of soil from erosion. The stability of artificial forest and grass vegetation should be treated respectively according to their managing goals. The research on naturalizing process of artificial forest and grass vegetation would be a significant proposition related to ecological restoration.

【语种】中文
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【题目】ABT和CaCN_2对葡萄插条萌芽生根及一些生理生化指标的影响
【中文关键词】葡萄; 生根粉; 石灰氮; 生化代谢; 生根
【英文关键词】grape, ABT, CaCN2, biochemical metabolize, rooting
【中文摘要】以无核白葡萄一年生枝条为试材,研究ABT和CaCN2对葡萄插条萌芽生根及生理生化代谢的影响。结果表明,ABT处理的葡萄硬枝插条生根早,生根率高,生根数多,不定根生长健壮;CaCN2处理的葡萄插穗萌芽早,萌芽率高,萌芽后枝条平均生长量大;ABT+CaCN2处理的萌芽率和生根率介于二者之间,但均与对照差异显著(P≤0.05),与ABT、CaCN2单独处理差异不显著。ABT和ABT+CaCN2处理能促使插穗中淀粉向可溶性糖的转化,从而促进插穗生根。IAAO、PPO与葡萄扦插生根过程有密切关系,其变化因生根时期不同而不同。总的趋势是前期高活性的IAAO有利于降解体内高浓度的IAA,促进根的诱导;后期低活性的IAAO有利于保护IAA免受分解,促进根的生长。PPO在不定根形成时,活性迅速上升,从而促进生根。
【英文摘要】The rooting and physiological biochemistry metabolize changes were studied during rooting of the hardwood of Thompson seedless grape (Vitis vinifera L.) by treating of ABT and CaCN2 with water control. The results indicated that the cuttings by treating of ABT rooted earlier, rooting date and the number of roots more than other treatments, and the roots grew healthily. The cuttings by treating of CaCN2 buded earlier,and buding date and the length of branchs were more than others.Root rates and bud rates by treating of CaCN2 firstly , then by treating of ABT were between ABT and CaCN2, respectively, but there were significantdifference with water control, and no significance ABT and CaCN2, respectively. Starch could change to soluble sugar easily by treating of ABT singly or both ABT and CaCN2, so promoting rooting. The activity of indoleacetic acid oxidase (IAAO) , polyphenol oxidase (PPO) , as w ell as, the relationship between enzyme activities and rooting capacities of Thompson seedless grape cuttings was studied in this paper. There were the more relationship between rooting capacities and enzyme activities, which changed with different rooting time. During callus formatting, higher IAAO activities could release IAA in grape, benefiting inducingroots, but during root elongating, lower IAAO activities benefited to protect IAA been released, promoting roots growing. During the course of adventitious root formation, PPO activities increase quickly, promoting rooting.

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【题目】水坠坝建设中的水枪冲土及其筑坝效应
【中文关键词】水枪冲土;塑态泥浆;抗滑效应;水坠坝
【英文关键词】无
【中文摘要】介绍了新一代冲土水枪的性能及其施工应用效果。在施工试验中系统观测了施工工效、施工成本、泥浆浓度以及高浓度泥浆的填筑效应。采用水枪冲土造泥能进一步节省工程费用,而且能造出浓度很高的泥浆,形成塑态。这种泥浆的连续上坝对水坠坝的安全稳定十分有利,同时还会产生3种效应:一是可以缩小边埂的宽度,二是可以加快冲填速度,三是可以提高重粉质壤土水坠坝的经济合理性。
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【题目】黄土丘陵沟壑区林地水文生态效应
【中文关键词】丘陵沟壑区; 林地; 水土保持; 土壤水分
【英文关键词】loess hilly gullied region; woodland; soil and water conservation; soil water content
【中文摘要】根据安塞水土保持试验站1993~2002年林地径流小区的降雨产流产沙的定位观测资料及2002年土壤含水量资料,分析了不同树种对坡面尺度降雨产流产沙及土壤水分的影响。结果表明:场降雨径流小区的产流量、产沙量与降雨量具有较好的相关性;多元回归分析表明,场降雨产流量和产沙量与降雨量和最大30min雨强的乘积呈正相关,与植被覆盖度呈负相关,场降雨产沙量回归方程复相关系数为0.253,各处理场降雨产流量回归方程复相关系数的变化范围为0.465~0.723,均达到了极显著的水平(P<0.01)。同时,各树种均具有良好的减流减沙功能,与农地相比,年均产流量和产沙量分别减少4.8%~52.9%和26.8%~86.0%;沙棘纯林及其混交林的减流减沙效益优于油松纯林。同时,沙棘纯林及其各混交林在造林初期就表现出良好的减流减沙效益,随着树龄的增长,其作用更加明显;而油松纯林在造林初期作用不明显,甚至出现产流量和产沙量大于农地的现象,但随着树龄的增长,减流减沙作用逐渐呈现并增大。沙棘纯林及其混交林30cm以下土壤含水量在整个生长季中均呈递减趋势,生长季初(4月份)土壤含水量最高,而生长季末(10月份)降到最低值。2002年沙棘纯林的耗水深度为220cm,而其混交林的耗水深度达到300cm。同时,在整个生长季节中,沙棘纯林及其混交林整个剖面平均土壤含水量存在着显著的差异,表现为:沙棘×杨树<沙棘<沙棘×油松。
【英文摘要】Soil and water conservation benefits of different afforested trees in the loess hilly gullied region were evaluated based on runoff and soil erosion measured in vegetated runoff plots between 1993 and 2002. Soil water conditions and their dynamics under forestation trees were also analyzed according to soil water content measured in 2002. Results showed that runoff and sedmient were correlated w ith rainfal.l Multiple regression analysis indicated that there was a positive correlation between runoff and the product of rainfall depth and maxmium 0.5 hour rainfall intensity at the significant level of 0.01, as well as between sedmient and the product of rainfall depth and maxmium 0.5 hour rainfall intensity. However, both runoffand sedmient were negatively correlated with vegetation cover. The multiple correlation coefficient ranged from 0.465 to 0.723 for runoff and was 0.253 for sedmient. In addition, soil and water conservation benefits were reasonably evident for all afforested trees. Compared with farm land, runoff and sedmient decreased to 4.8% ,52.9% and 26.8% 86.0%,respectively. The soil and water conservation benefits of Hippophae rhamnoides and its mixtures were greater than those of Pinus tabulae form is whose cover was poor in the early growth years, during which runoff and sedmient were even greater than those of farm land. But the benefits increased as the trees grew. However, the soil and water conservation benefits ofHippophae rhamnoides and its mixtures were good even in the early grow ing years and became even better as trees grew over tmie in eleven years. So ilw ater content below 30 cm soil layer under the H rhamnoides and itsm ixtures decreased during the entire growing season, being highest in April and lowest in October. Water consumption depths of the Hippophaerhamnoides under monoculture and biculture were 220 and 300 cm, respectively, in 2002. There were significant differences in soil water content form ono species of Hippophae rhamnoides and its binarym ixtures during the entire growing season. The tree species, in terms of soil water content, ranked in the ascendant order of Hippophae rhamnoides Populussim onii Carr mixture, Hippophae rhamnoides, and Hippophae rhamnoides Pinus tabulae form is mixture
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【题目】黄土高原沟壑区不同树种的水土保持效益及其适应性评价
【中文关键词】黄土高原沟壑区; 造林树种; 造林方式; 水保效益; 土壤水分
【英文关键词】tableland gully area of the Loess Plateau; afforested tree species; afforestation method; soil and water conservation benefit ; soil water content
【中文摘要】【目的】研究黄土高原沟壑区不同树种幼林的水土保持效益及其适应性。【方法】以草地为对照,对黄土高原沟壑区刺槐、油松、沙棘、侧柏纯林及其混交林径流小区的产流产沙情况、土壤水分状况及各树种的生理特性进行了分析。【结果】造林初期,各树种及其不同造林方式的水土保持效益均比较差,处于水土保持功能低下阶段,土壤侵蚀的差异主要是由植被的不同覆盖度引起的,二者呈二次多项式关系;回归分析表明,当覆盖度达53%时土壤侵蚀较为轻微。草地和各树种林下0~250 cm土层土壤水分变化较大,其中以刺槐消耗土壤水分最多,其次是侧柏,油松、沙棘和草地之间差异不明显;刺槐纯林与其混交林下土壤水分的差异比较明显,而其他树种不同造林方式下的土壤水分无明显差异。各树种叶片的水分利用效率表现为侧柏>油松≈沙棘>刺槐,油松与沙棘混交造林后两者的水分利用效率都有显著提高;各树种叶片的蒸腾速率表现为刺槐≈沙棘>油松>侧柏,沙棘与油松或刺槐混交后,油松与刺槐的蒸腾速率均有所降低,而沙棘变化不显著。【结论】综合考虑树种的水保效益及其适应性可以发现,沙棘与油松混交可能是黄土高原沟壑区较为适宜的一种造林方式。
【英文摘要】Objective Soil and water conservation benefits and suitability of different young afforestedtrees were evaluated in tablel and gully area of the Loess Plateau. Method The runoff, soil erosion, soil water content and physiological characteristics of , mono species of R . p seudoacacia, P. tabulae formis, P. or iental is, H . r hamnoides and their mixtures in vegetated runoff plots were analyzed taking grassland asa control. Result The results demonstrated that in the early stage of afforestation, the benefits of water and soil conservation were relatively poor for all afforested tree species and afforestation methods. The differences of soil ero sion amo unt s betw een each tree species under monoculture or biculture resulted f rom differences in vegetation cover . The relationship between soil erosion and vegetation cover could be ex pressed by a quadratic function. Regression analysis showed that soil erosion was not severe w hen vegeta tion cover was more than fifty percent . Soil water content varied with the soil depth within the top 250 cm in grassland and each wood lot, but it became more or less constant below the 250 cm depth. R. p seudoaca cia consumed most soil water, follow ed by P . or ientali s, P . tabulaef ormi s, and H . r hamnoides with the lasttwo being similar to the grassland. There were no significant differences in soil water contents between mono species and its binary mixtures, except for R. p seudoacacia and its mixtures. Water use ef ficiency followed the orderof: P. or ientalis > P. tabulaef ormis !H . rhamnoides > R. p seudoacacia. The leaf water use efficiencies of bothP. tabulaeformis and H . rhamnoides in the mixture were significantly increased compared to the mo nocul tures. The leaf transpiration rates follow ed the order of : R. p seudoacacia ! H . rhamnoides > P. tabulae formi s > P . or ientali s. Compared to their monocultures, the leaf transpirationrates of P. tabulaeformisand R. p seudoacacia decreased in their biculture mixed with H . r hamnoides, while the transpiration rates ofH . rhamnoides remained relatively constant . Conclusion Considering soil and water conservation benefitsand adaptability of each tree species, we could conclude that the biculture of H . r hamnoides and P . tabulae formis is very likely suitable for af forestation in tableland gully areas o f the Loess Plateau.
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【题目】渭北旱塬不同龄苹果细根空间分布特征
【中文关键词】根长密度;细根分布;苹果;渭北旱塬
【英文关键词】root length density; fine root distribution; apple; Weibei rainfed tableland
【中文摘要】以渭北旱塬3龄、10龄、15龄和20龄苹果树为对象,采用根钻法,沿3等分园半径方向(径向)、距树干1.0、1.5m和2.0m处设置采样点,研究了不同树龄的细根空间分布特征。结果表明,3龄苹果细根主要分布于径向1.5m以内和垂向0.5m以上,15龄和20龄苹果细根分布超出径向2.0m和垂向1.4m,10龄细根分布范围大于3龄,与15龄和20龄接近。在根系主要分布区内3龄和10龄细根分布稀疏,15龄和20龄细根分布密集;细根空间分布演化过程可分为3个阶段,即3~10龄为细根范围扩张阶段,10~15龄为细根密度扩张阶段,15~20龄为细根密度退化阶段;苹果细根空间分布无明显方向性差异;10龄、15龄和20龄苹果表层(0~20cm)平均根长密度低于下层(20~40cm),高峰值一般出现在40~80cm,此深度以下根长密度随深度递减,3龄苹果表层平均根长密度高于下层;在径向2.0m内随径向距离增大,3龄、15龄和20龄平均根长密度逐渐降低,而10龄根长密度逐渐增加。根长密度在径向变化上存在局部变异现象。
【英文摘要】Root distribution and its resource demands of different aged app le trees are not same. Numerous studies focused on the spatial distribution of roots of specific aged trees and however, few studieswere done for different aged app le trees.The spatial distribution of the fine roots of different aged apple trees in the Weibei rainfed tableland was investigated. Thefine roots of the 32 aged apple tree were distributed mainly within a range of 1. 5 m, horizontally, and within a thickness of 0.5 m, vertically, while those of the 20 and 152aged app le trees exceeded 2 m in the radial direction and 1. 4 m in the vertical direction. The dominated distribution range of the 10-aged tree was greater than that of the 3-aged tree, and it was close to those of the 15 and 20-aged trees. The fine roots of the 3 and 10 aged treeswere sparsely distributed, while those of the 20 and 15-aged trees were densely distributed. Evolution of root length density (RLD) of the fine roots can bedivided into three stages: range expanding stage (3 and 10-aged) , density expanding stage (10 and 15-aged) , and density degradation stage (15 and 20-aged) . Directional difference in the RLD of fine roots was not distinct. The RLDs in 0220 cm surface soil for 10, 15, and 20-aged trees were less than those in 20-40 cm soil layer. Peak values for the trees wereobserved in 40-80 cm soil layer below which the RLDs decreased gradually. The RLD of the 3- aged tree in 0-20 cm surface soil was higher than those in deeper layers. Within 2 m range in radial direction, the RLDs of the 3, 15, and 20-aged trees increased with distance, while that of the 10-aged tree decreased. Some variations of RLD in radial direction were found forall aged trees.
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【题目】黄土高塬沟壑区径流调控综合治理模式研究
【中文关键词】水沙调控; 治理模式; 水土保持; 黄土高塬沟壑区
【英文关键词】无
【中文摘要】论述了黄土高塬沟壑区水沙时空分布、功能和效益上的差异性。采取"以水换沙"是构建黄土高塬沟壑区水沙调控体系的技术关键。基于径流调控利用的多元综合治理模式具有径流的主导性、多因子、多单元、多手段、多效益和多目标的特点。根据黄土高塬沟壑区塬、坡、沟、川四大地貌单元的特点,总结出的20种径流泥沙调控利用范式。
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【学科分类】环境工程学

【题目】黄土塬区不同地形部位和土地利用方式对土壤物理性质的影响
【中文关键词】土壤物理性质;地形部位;土地利用方式;黄土塬区;小流域
【英文关键词】soil physical property; slope position; land use type; loess tableland area; small watershed.
【中文摘要】在黄土塬区王东沟流域采集不同地形部位和不同土地利用方式下土壤样品,测定其颗粒组成、容重和饱和导水率,借助变异系数、非参数检验等方法研究了不同地形部位和不同利用方式对土壤物理性质的影响.结果表明:土壤物理性质在水平方向和沿垂直剖面都存在变异,但在同一地形部位或同一土地利用类型内,容重和颗粒组成基本相似.水平方向,饱和导水率属强变异,粘粒和砂粒含量属中等变异,粉粒含量和容重属弱变异;沿垂直剖面,土壤的粒级分布具有连续性,但0~25cm的土壤容重和饱和导水率与下层土壤差异显著.沿坡面从上向下,土壤趋向粘重,但饱和导水率增大;其中上坡位和中坡位的土壤性质相似,在相关研究中可以进行合并.草地与其他利用方式下的土壤性质差异显著,主要受地形部位的影响;耕地和果园的土壤性质相似且不同于其他利用类型,表明人为干扰对土壤物理性质有重要影响.
【英文摘要】Soil samp les under different land use types and at different slope positions in theWang2donggou watershed of loess tableland area were collected to determine their particle composition,bulk density (ρ b) , and saturated hydraulic conductivity (Ks) , and the effects of land use type andslope position on the soil physical p roperties were studied in virtue of the variation coefficient andnon2parameter tests. The results showed that the physical p roperties of soil varied in horizontal di2rection and vertical p rofile, however at the same slope position or under the same land use type, the ρ b and particle composition were similar. In horizontal direction, Ks varied strongly, slit content and ρ b varied weakly, and clay and sand contents varied medially. In vertical p rofile, soil particles hada continuous distribution, but ρ b and Ks varied greatly in 0- 25 cm layer. W ith the slope degree de2scended, soil contained more clay and had a higher ρ b, and Ks increased. At upper and middleslopes, soil physical p ropertieswere similar, and thus, could be merged into one in related resear2ches. There was a significant difference in soil physical p roperties between grassland and other landuse types, which wasmainly due to the effects of slope position, but the soil physical p roperties infarmland and orchard were similar, indicating the important effects of human activities.
【语种】中文
【第一作者】李志
【通讯作者】李志
【期刊名称、卷期、页码】应用生态学报,2008,19(6):1303- 1308
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【学科分类】土壤学

【题目】黄土塬区旱作农田长期定位施肥对冬小麦水分利用的影响
【中文关键词】黄土高原; 长期定位施肥; 土壤水分; 水分利用; 冬小麦
【英文关键词】Loess Plateau; long term fertilization; soil water; water use; winter wheat
【中文摘要】对长期定位施肥试验第22年度的测定数据进行了分析,探讨了旱地施肥对冬小麦水分利用的影响。试验结果表明,测定年份冬小麦的耗水深度受播种前雨季降雨入渗深度的影响位于地下200 cm左右。长期单施磷肥处理,播种期土壤有效贮水量与不施肥的对照接近,而单施氮肥,氮磷配施和氮磷钾配施均显著低于对照;在施P2O590 kg/hm2配施氮肥或施N 90 kg/hm2配施磷肥,随着施氮量或施磷量从0增加到180 kg/hm2,播种期土壤有效贮水量均逐渐降低,但前者作物的土壤水分消耗表现出降低趋势,而后者表现出增加趋势。与对照相比,各施肥处理均提高了土壤有效底墒的利用率。氮磷配施比单施磷肥降低了土壤供水占作物耗水的比例,使得作物生长和产量的形成对当季降水的依赖性增加。与对照相比,氮磷配施及氮磷钾配施显著提高了冬小麦收获指数、产量和水分利用效率,而单施磷肥和氮肥使收获指数、产量和水分利用效率显著降低。施P2O590 kg/hm2的条件下,不同施氮量之间收获指数差异较小,而产量和水分利用效率均高于单施磷肥;施N 90 kg/hm2的条件下,不同施磷量作物的收获指数、产量和水分利用效率均得到提高。
【英文摘要】The water utilization of winter wheat in dryland farming was studied according to the data measured at the long term fert ilization experiment, which has been established for 22 years on the Loess Plateau. The results indicated that soil water consumption depth was affected by the infiltration depth during raining season before seeding, and it was as deep as200 cm in the soil profile in the study year. As for ASWS(available soil water storage) at seeding stage after long term fertilization, single phosphorus application treatment was similar to the controlled treatment , while single nitrogen appli cation or mixed nitrogen phosphorous application or mixed nitrogen phosphorous potassium application was less than the control treatment. For the mixed nitrogen with 90 kg/ ha phosphorus or mixed phosphorus with 90 kg/ ha nitrogen treat ment, ASWS at seeding stage took a descendant trend as the nitrogen rates or the phosphorus rates increased from 0 to 180 kg/ ha, while for this experiment year, soil water consumption by crop was decreased by the former treatments con trary to the latter. For phosphorus applicat ion of 90 kg/ ha,

both available soil water content and soil water consumption of winter wheat in the study year were significantly decreased by increasing nitrogen applicat ion. For nitrogen applicationof 90 kg/ ha, available soil water content was decreased with increased phosphorus application, while soil water consump tion of winter wheat was increased. Compared with the control treatment, single phosphorus applicat ion, mixed nitrogen phosphorous application, and mixed nitrogen phosphorous potassium application increased utilizat ion rate of available soil water content. Mixed nitrogen phosphorus applicat ion increased utilization rate of available soil water content in compari son with the single applications of the two fertilizers, but compared with single phosphorus applicat ion, mixed nitrogen phosphorus applicat ion decreased the proportion of soil water consumption to crop water consumption and increased the dependency of crop yield on precipitat ion during the growing season. Harvest index, grain yield, and water use efficiencyfor mixed nitrogen phosphorus applicat ion and mixed nitrogen phosphorus potassium application were all increased in comparison with single nitrogen application or single phosphorus application treatments. When phosphorus was applied at90 kg/ ha, the difference in harvest index for various nitrogen applicationrates was not significant, while grain yield and water use efficiency were higher than those in the case of single phosphorus application. When nitrogen was applied at 90kg/ ha, harvest index, grain yield, and water use efficiency at different phosphorus application rates were all increased in comparison with single nitrogen application.

【语种】中文
【第一作者】王兵
【通讯作者】刘文兆
【期刊名称、卷期、页码】植物营养与肥料学报,2008,14(5):829-834
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【引文索引号】null
【学科分类】农业基础学科

【题目】提高人工植被培育中土壤抗旱性的综合措施
【中文关键词】作物栽培,造林种草,抗旱,技术
【英文关键词】crop cultivation, forestation and grass planting, drought resistance, techniques
【中文摘要】干旱条件下培育人工植被,采取适当的抗旱措施是必不可少的,其中作为植物生长发育所需水分、营养的载体,土壤是显著的可调控对象,对其合理处置与抗旱有着密切的关系。以土蓄水、抑制蒸发、改良土壤、培肥地力等有利于对有限水分的利用。提高土壤抗旱性的综合措施包括土壤耕作、土壤培肥、土壤覆盖、防止水分深层渗漏等方面。在气候暖化的背景下,为增强土壤抗旱措施的效果,提高其技术水平,分析了与蓄水、保水、集水以及用水有关的土壤抗旱方式及其特点。在综合述评的基础上,还讨论了土壤抗旱措施的技术应用问题和需要研究的主要方面。
【英文摘要】Cultivating artificial vegetation under drought circumstances needs to take adequate measures for drought resistance indispensably. Soil is a notable controlled object as carrier of water and nutrients required by plant growth and development, and reasonable treatments of it are closely related with drought resistance. Soil water storage, restraint evaporation, soil improvement and betterment of land fertility are beneficial to the using of limited water. Thecomprehensive measures for improving drought resistance of soil include several aspects such as soil tillage, soil fertilization, soil mulching and preventing water seepage to deep layer. In the background of the climate warming, in order to enhance the effects of measures for improving drought resistance of soil and raise their technical level, ways andcharacteristics of soil drought resistance measures concerning water storing, water retaining, water harvesting and water using were analyzed. Based on the synthetical review, issues on application of techniques for soil drought resistance measures and main aspects which needed to research for the future were also presented.
【语种】中文
【第一作者】王晗生
【通讯作者】王晗生
【期刊名称、卷期、页码】农业工程学报,2008, 24(12):41-47
【论文发表时间】2008-12-11 00:00:00
【引文索引类型】EI
【引文索引号】1002-6819(2008)-12-0041-07
【学科分类】土壤学

【题目】黄土高原农村社会-生态系统适应性循环机制分析
【中文关键词】社会—生态系统; 适应性循环; 黄土高原; 王东村
【英文关键词】social-ecological system; adaptive cycle ; Loess Plateau; Wangdong Village
【中文摘要】基于社会—生态系统适应性循环模型,以陕西省长武县王东村为例,通过对系统几个关键变量的观察,分析了黄土高原地区农村社会—生态系统适应性循环的演变机制;并从适应性循环周期中研究了系统的恢复力和适应性能力变化过程。结果表明,建国以来王东村社会—生态系统依次经历了一个完整的适应性循环(1949—1961年)、贫穷困境(1961—1980年)和新的一个适应性循环的前环阶段(1980至今);制度变革特别是土地制度的调整是系统循环过程的驱动力,而技术革新可以使系统维持在开发阶段;干旱等气候变化事件对系统具有强烈的扰动作用,并可能导致整个系统崩溃释放。
【英文摘要】Based on the adaptive cycle model , the evolvement mechanism of social2ecological system was explored in a case st udy of Wangdong Village , Changwu County , Shaanxi Province. The dynamic adaptive cycles of Wangdong Village were identified by integrating key variables from social , economic ,and ecological aspect s. The social2ecological system of Wangdong Village has experienced a total adaptive cycle (1949 —1961) , then fell into a poverty t rap (1961 —1980) , and now is in t he exploitation p hase of a new adaptive cycle (1980 -) . The institutional changes , especially the adjustment of land use policies , are the main drivingforce for t he adaptive cycles. The technical innovation maintains t he current system in the exploitation p hase. Climate change such as drought is a st rong dist urbance to the social ecological system and may lead the system into a releasing phase.
【语种】中文
【第一作者】王俊
【通讯作者】刘文兆
【期刊名称、卷期、页码】水土保持通报,2008,28(04):94-99
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【引文索引类型】其他
【引文索引号】null
【学科分类】生态学

【题目】长武塬区大气降水中氢氧同位素特征分析
【中文关键词】氢氧同位素;降水;大气降水线;环境效应;氘盈余;长武塬区
【英文关键词】ydrogen and oxygen isotopes;precipitation;local meteoric water line(LMWL);environmental effects;deuterium excess;Changwu tableland
【中文摘要】通过测定长武塬区2005年降水水样的氢氧同位素组成,分析了该区降水氢氧同位素组成的基本特征。结果表明,长武塬区大气降水线方程为δD=7.44δ~(18)O+1.69,其斜率和截距与全球以及我国大气降水线相比均偏小,这与研究区地理位置和气候条件有关;降水氘盈余d值4—6月份较大,大于或接近10,7—10月份则小于10;以天为时间单位采集的次降水,其氢氧同位素组成的温度效应和降水量效应均不显著,而连续2 d长历时降水的雨量效应极显著;降水氢氧同位素组成季节变化明显,春季降水的氢氧同位素值较高,夏季同位素值降低,秋季同位素值最小,这在以次降水量为权重的加权平均值中表现得更加明显。
【英文摘要】Precipjtation is the most important component of water cycle procesS. Hydrogen and oxygen isotopic compositions of precipitation are closely related to the source of vapor and the meteorologic process of rainfan formation. The isotopic compositions of precipitation over the Changwu tableland in 2005 are studied.Local meteoric water line is fitted as)=7.44 818 O+1.69.Its slope and intercept are Iower than those of global meteoric water line and Chinese meteoric water line,which are related to the geographical and meteorological characteristics in the area. Deuterium excess shows seasonal variatioll. The values of deuterium excess are higher than or about lO from April to June and Iess than 10 from July to October.EIoth temperature and rainfaU amount have ‘ no significant effect on the isotopic compositions of individual rainfall events with one—day—period. For the 2一day—period rainfall events,rainfall amount have significant effect on them. Moreover,the isotopic compositions of precipitation have seasonal variation. The 8D and 18 0 values arehigher in springj lower in summer,and much lower in autumn,which is more remarkable in the average of 8D and 818 O when the individual rainfall amount is assigned as a weight.
【语种】中文
【第一作者】王锐
【通讯作者】刘文兆
【期刊名称、卷期、页码】水土保持学报, 2008,22(03):56-59
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【学科分类】资源科学技术

【题目】赫连勃勃墓地考
【中文关键词】赫连勃勃; 统万城; 嘉平陵; 墓地
【英文关键词】无
【中文摘要】经实地考察、查阅史料,对史书所载大夏赫连勃勃的四个墓地作了考证。初步认定赫连勃勃嘉平陵位于统万城遗址附近;山西赵城县霍山最高峰是勃勃第五子、大夏最后一个皇帝赫连定之墓;陕北延川县城南杜甫川白浮图寺前墓葬群是勃勃长子、前太子赫连?墓;而甘肃省镇原县南川方家沟则是勃勃第四子、准太子赫连伦之墓。之所以皆被称为赫连勃勃墓,各有其原因,共同点是战乱造成史籍佚失、人们只知勃勃而不知其子,以致讹传成真。期望该项研究对今后的考古工作指出一条可资参考的线索,对进一步辨别统万城遗址的真伪提供证据。
【英文摘要】无
【语种】中文
【第一作者】姚文波
【通讯作者】姚文波
【期刊名称、卷期、页码】甘肃社会科学, 2008,(06):p201-205
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【引文索引号】null
【学科分类】考古学其他学科

【题目】汶川大地震陇东黄土高原崩塌滑坡的调查分析
【中文关键词】5. 12汶川大地震; 陇东黄土高原; 土壤侵蚀; 环境效应
【英文关键词】5. 12 Wenchuan Earthquake; the Loess Plateau of East Gansu Province; soil erosion; environmental effect
【中文摘要】通过对甘肃省庆阳市、平凉市5. 12汶川大地震地质灾害实地调查,发现此次地震造成的崩塌和滑坡,以小型为主,数量众多,主要分布在现代侵蚀沟边缘部位的断崖和陡坡上。地震在塬面、缓坡丘陵和川台地上所造成的崩塌,与窑洞住宅和采矿业的分布基本一致。此次地震虽未造成大中型崩塌和滑坡,但对该地环境的影响不能忽视———可改变微地貌、使未来几年内的土壤流失量有所增加等。认为在黄土高原地区,地震烈度到达Ⅳ度以上,就会引起较为严重的重力侵蚀。对于我国地震高发区之一的黄土高原而言,探讨水土流失的成因时,须要关注地震的影响。
【英文摘要】This paper is based on the field investigation of the geological disaster that caused by the 5. 12 Wenchuan Earthquake in Qingyang City and Pingliang City, Gansu Province. It is found that the earthquake2induced collap ses and landslides are charcterized by small type and large number and are mainly distributed at the of the edges ofmodern erosion ditch; The earthquake induced landslides distributed in the tableland surface, gentle slope hills and tableland of the valley, is consistent with the cave dwelling and the engineering construction. Although this earthquake has not caused large or medium sized landslip, we cnnont neglect the influence of its natural environment, which may change the microphysiognomy and increase the soil erosion etc. in the next few years. It indicates that it will cause more serious gravity erosion once the earthquake intensity over degree Ⅳ in the Loess Plateau area, which slightly has the difference from the former general recognition. For the Loess Plateau that is one of the frequent earthquake areas in China, effects of theearthquakes need to be considered when the genesis of soil erosion discussed
【语种】中文
【第一作者】姚文波
【通讯作者】刘文兆
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【学科分类】资源科学技术

【题目】黄土高塬沟壑区生态修复途径探讨

【中文关键词】生态修复; 水土流失; 齐家川示范区; 黄土高塬沟壑区
【英文关键词】无
【中文摘要】水土流失是黄土高塬沟壑区的主要生态环境问题。黄河生态工程齐家川示范区建设实践表明, 黄土高塬沟壑区生态修复应以小流域为单元, 以科技为支撑, 以保持水土、防洪减灾、改善生态、增加农民收入和促进区域经济发展为目标, 各类生态修复措施相配套, 提高水资源利用率, 通过退耕还林还草、封沟禁牧提高植被覆盖度, 提高社会效益与经济效益。
【英文摘要】无
【语种】中文
【第一作者】常文哲
【通讯作者】常文哲
【期刊名称、卷期、页码】人民黄河,2009,31(02):102-103
【论文发表时间】2009-02-18 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】资源科学技术

【题目】3 个地方鸡种线粒体DNA CO Ⅰ基因条形码遗传多样性研究
【中文关键词】地方鸡种; 遗传多样性; CO Ñ 基因; DNA 条形码
【英文关键词】indigeno us chicken breeds; genet ic diversity ; CO Ñ gene ; DNA barco ding
【中文摘要】以大骨鸡、安义瓦灰鸡和金湖乌凤鸡3 个地方鸡种为研究对象, 利用DNA 测序技术测定了线粒体细胞色素C氧化酶亚基Ñ (cytochrome c ox idase ÑCO Ñ) 基因序列, 以揭示3 个地方鸡种CO Ñ基因的遗传多样性。结果表明, 选择的这段CO Ñ基因序列在3 个地方鸡种中有3 个突变位点, 为4 个单倍型。大骨鸡、瓦灰鸡和金湖乌凤鸡品种内平均多态性分别为0. 15% , 0. 3072% , 0. 3073%。3 个地方品种单倍型多样度范围为0. 2222- 0. 5030, 平均为0. 3954。瓦灰鸡遗传多样性相对较丰富, 大骨鸡相对较贫乏。3 个鸡种群体间的Kimura 双参数遗传距离范围为0. 060~ 0. 077; 瓦灰鸡群体内的遗传距离最大, 为0. 089。3 个品种的DNA 分类和形态学分类基本一致, 该基因可以探讨地方鸡种分类问题。
【英文摘要】T he CO Ñ gene in Dagu, Wahui and Jinhu silky w as amplified using PCR and sequencing.The sequences w ere analyzed to ex plor e genet ic diversity in thr ee chicken breeds. T he study rev ealed thatthere w ere 3 po lymophic sites and 4 haplo ty pes. T he av erag e genet ic diversity w as 0. 15%, 0. 3072% and0. 3073% w ithin Dag u, Wahui and Jinhu populat ion respect iv ely . The Haplotype diversity w as 0. 2222-0. 5030and the average of them w as 0. 3954. T he g enetic diversity w as higher in Wahui and w as low er inDagu. Kimura 2- parameter distance betw een three chicken breeds w as 0. 060~ 0. 077. DNA tax onomyw as consistent w ith morpho logical taxo nomy among three chicken breeds. The phylog enetic relat ionshipsof the breeds can be w ell resolved by CO Ñ gene sequences.
【语种】中文
【第一作者】屠云洁
【通讯作者】屠云洁
【期刊名称、卷期、页码】家畜生态学报,2009,30 (1):16-19
【论文发表时间】2009-01-12 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】畜牧学

【题目】长武黄土高塬沟壑区降水及侵蚀性降雨特征
【中文关键词】降水量; 侵蚀性降雨; 黄土高塬沟壑区
【英文关键词】precipitation ; erosive rainfall ; Loess Plateau-gully Region
【中文摘要】利用长武县气象局1957—2006年的日降水量资料,分析该地区降水的年内、年际变化、概率分布特征等。结果表明:该区降水量季节分布不均,主要集中在7—9月;降水量的年际变化幅度较大,多年变化呈明显的丰水、平水、枯水年交替发生现象;降水量的年际变化大于年降水时间的年际变化。对侵蚀性降雨研究发现,其主要发生在7、8月,以降雨量小于30 mm的降雨次数较多;降雨强度随降雨量增加而减小;同时,以短历时降雨为主,历时在30min以内的降雨次数较多,其他时段相对较少。

【英文摘要】The monthly and annual distribution characteristics of precipitation as well as the probability distribution of annual precipitation were studied , utilizing the daily precipitation from 1957 to 2006 , data of which supplied by the Changwu Meteorological Station. The results demonstrate that the distribution of monthly precipitation is variable , and mainly concentrated in July , August , and September. The total annual precipitation varied greatly from year to year. The annual variation of precipitation is larger than the annual variation of rainy days. Analysis of the soil erosive rainfall showed that the highest occurrence of rainfall happened in July and August . The times of rainfall that amounts of rainfall less than 30 mm were more than others. As to single soil erosive rainfall , the rainfall intensity reduced along with the rainfall amount increasing. Meanwhile the times of rainfall duration within 30 min are more than that over 30 min.

【语种】中文

【第一作者】陈杰

【通讯作者】刘文兆

【期刊名称、卷期、页码】中国水土保持科学,2009,7(1):27 - 31

【论文发表时间】2010-02-21 00:00:00

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【引文索引号】null

【学科分类】资源科学技术

【题目】高塬沟壑区董志塬沟头溯源侵蚀典型调查研究

【中文关键词】董志塬;溯源侵蚀;发生类型

【英文关键词】Dongzhiyuan;head-cut;genetic types

【中文摘要】详细调查了董志塬地区的西峰区、宁县以及庆城县的沟头溯源侵蚀情况,并对近年来发生前进的沟头进行了详细的实地测量和地形地貌特点分析,对董志塬沟头溯源侵蚀整体情况做出概括。在此基础上将溯源侵蚀的发生类型划分:水力冲刷型、陷穴诱发型、裂缝诱发型和人为诱发型。针对每种类型进行了典型的实例分析。

【英文摘要】This paper investigated the situation of head-cuts in Xifeng area, Ning county and Qingchengcounty on Dongzhiyuan. We carried out a detailed measurement and analysis of terrain characteristics on the gully heads, and summarized the overall situation of head-cuts on Dongzhiyuan. On this basis we summed up the genetic types of head-cuts that included flow induced types, sink hole-induced types, fissure-induced types and human-induced types, and analyzed each type.

【语种】中文

【第一作者】陈绍宇

【通讯作者】王文龙

【期刊名称、卷期、页码】中国农学通报,2009,25(09):258-263

【论文发表时间】2009-06-12 00:00:00

【引文索引类型】其他

【引文索引号】null

【学科分类】资源科学技术

【题目】黄土高塬沟壑区董志塬沟头溯源侵蚀特征及其防治途径

【中文关键词】董志塬; 溯源侵蚀; 影响因素; 发生类型; 防治措施

【英文关键词】Dongzhiyuan ; head-cut ; influence factor ; genetic type ; protective measure

【中文摘要】黄土高塬沟壑区沟头溯源侵蚀非常普遍,已经对塬面地区的土地、农田、村庄民居、道路和工厂造成了严重的威胁。通过对董志塬的调查发现,影响溯源侵蚀的因素为自然和人为因素两类。自然因素主要包括降雨径流、地形地貌和土质。总结出溯源侵蚀的发生类型为水力冲刷型、陷穴诱发型、裂缝诱发型和人为诱发型。溯源侵蚀的过程从时间顺序上可分为3 个阶段,主要分为水力冲刷阶段、水力和重力共同作用阶段、重力侵蚀阶段。最后,根据不同类型的沟头侵蚀与活动特点,提出了沟头的主要防护措施。

【英文摘要】Head-cut is a widespread and serious ero sion type on t he Loess Plateau and it has already t hreat ened farmlands , local residents , roads , and factories. According to t he field investigation on Dongzhiyuan ,the influence factor s of head-cuts are natural and human factor s. The nat ural factor s mainly include runoff ,topography , and soil . The genetic types of head2cut are summed up , including flow2induced type , sink hole induced type , fissure induced type , and human induced type. According to the order of time , the development of head cut can be divided into three stages : water erosion stage , water and gravity erosion stage , and gravity erosion stage. The cont rol measures of gully head are presented based on the characteristics of different erosion types.

【语种】中文
【第一作者】陈绍宇
【通讯作者】王文龙
【期刊名称、卷期、页码】水土保持通报,2009,29(04)37-41
【论文发表时间】2009-08-19 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】资源科学技术

【题目】水土保持构建黄河水沙调控体系的地位及模式
【中文关键词】水土保持;水沙;调控;治理
【英文关键词】soil and water conservation ; water and sediment ; regulation ; governing model
【中文摘要】论述了黄土高塬沟壑区水沙在时空分布、功能和效益上的差异性,提出通过对径流的调控实现对泥沙的调控,径流的调控利用就成为构建协调的水沙关系的主要技术手段. 首次提出了基于径流调控利用的多元综合治理模式,以汇水单元为径流调控利用单元,在治理顺序上,根据治理效益依次按照塬面、沟谷、阴坡、阳坡的顺序进行治理. 采取“ 调蓄汛期径流,减少入黄泥沙 ”是构建黄土高塬沟壑区水沙调控体系的技术关键,也就是就地拦蓄汛期的雨洪资源,达到就地截留、入渗、集蓄、转化或利用,大幅度减少泥沙的流失,减轻黄河下游泥沙淤积危害. 同时分析了该区水土流失具有径流的主导性、多因子、多单元、多手段、多效益和多目标的特点,总结出了20 种径流泥沙调控利用范式,该模式已在黄河水土保持生态工程建设中得到推广应用并取得了显著成效.
【英文摘要】This paper discusses on the differences in spatial and temporal dist ribution , functions and benefits of water and sediment in t he gully regions of loess plateau , proposes a method to achieve the control of sediment by the means of runoff regulation and control. So the runoff control utilization has become themain technical means to build the coordinate relationship between water and sediment . The pluralistic general governing model based on t he runoff2cont rol utilization is firstly proposed. Taking catchment unit as the runoff regulation unit according to the management benefit s , we should fir st control the plateau area ,and then valleys , shady slope and sunny slope accordingly in cont rol sequence. “ to regulate and store runoff , reduce the Yellow River sediment ” is t he key technology to construct the water and sediment regulation system in the gully regions of loess plateau ; that is , to store the flood runoff resources in site , to get the aim of intercepting , infilt rating , storing and using runoff , reducing soil loss greatly , reducing downst ream sedimentation hazards of the Yellow River . At the same time , the soil erosion characteristics which are runoff dominated , multi-factor , multiunit , multi-means , multiple benefit and multi-objective are analyzed. In t he end , 20 kinds of runoff and sediment control paradigms are summed up , which has been popularized and achieved remarkable results at the Yellow River soil and water conservation ecological engineering construction.
【语种】中文
【第一作者】李怀有
【通讯作者】李怀有
【期刊名称、卷期、页码】武汉大学学报(工学版),2009,42(05)635-639
【论文发表时间】2009-10-06 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】河流泥沙工程学

【题目】黄土高原环境异质性与植被的恢复与重建
【中文关键词】生物气候条件;自然植被;造林实践;区域分异;黄土高原
【英文关键词】bioclimatic conditions; natural vegetation; forestation p ractices; regional diffenrentiation; the Loess Plateau
【中文摘要】黄土高原是一个独特的地理区域,由于对其原生植被的不同认识,自然区划历来富有争议。为因地制宜地进行植被建设,在辨析植被属性有关论点(黄土无林、草原次生等)的基础上,主要由现代植被证据进一步讨论黄土高原的自然地带。分析了生物气候条件在不同地域之间的分异性,阐述了植被地带特征。为充分说明植被地带性,还从历史的角度探讨了植被建设的效果。表明黄土高原环境的非均质性可表征为森林、草原等地带,不能认为黄土高原不具有森林发育的地带性环境。相对于森林地带北界森林线,森林草原地带北界应为树木线。植被建设不应局限于一种土地利用模式,不能无视疏林及稀疏灌丛在森林草原地带的客观存在。

【英文摘要】The Loess Plateau is a distinct geographical region, where natural regionalization has always been of much controversy because of variation in understanding its primary vegetation. In order to construct vegetation in line with local conditions, based on the discrimination on the viewpoints (no forests in the loess Plateau, secondary grasslands, etc.relevant to the vegetation p roperty of the Loess Plateau, the paper further dealt with the natural zonation of the Loess Plateau by adop ting modern vegetation evidences. After analyzing the regional differentiation of bioclimatic conditions and the vegetation zonal characteristics in the region, the author investigated the actual effects of the vegetation construction inhistory so as to fully illustrate the vegetation zonality. It is shown that the Loess Plateau might be regionalized into several different vegetation zones of forest and steppe for no homogeneity of its environment. The op inion that the zonal environment for forest growth is not possessed in the Loess Plateau is accordingly inadequate. So far as the north demarcation line for the forest zone is called forest line, the north demarcation line for the forest2steppe zone should be called tree line. The vegetation construction shouldn ′ t be confined to such a land use pattern as “ the 28-word general plan ” put forward by ZhuXianmo. The objective reality of thin woods and sparse shrubberies in the forest-steppe zone should not be ignored. At last, some other issues deserving attention and research were also presented.
【语种】中文
【第一作者】王晗生
【通讯作者】王晗生
【期刊名称、卷期、页码】生态学报, 2009,29(05):2445-2455
【论文发表时间】2009-05-06 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】资源科学技术

【题目】长武塬区不同土地利用条件下土壤水分深剖面分布特征比较
【中文关键词】土壤水分;土壤水分垂直分布;长武塬区
【英文关键词】soil moisture ; vertical distribution of soil moisture ; Changwu tableland
【中文摘要】通过调查取样的方法对长武塬面不同土地利用条件下(作物地,果园,苜蓿地) 土壤水分状况在0~600 cm范围深度内进行对比,结果显示:长武塬区小麦收获期,不同土地利用条件下土壤水分含量总体存在较大差异,其中春玉米地由于上年小麦收获后直到春玉米播种前土地休闲,土壤含水量显著高于其它土地利用方式。其它土地利用条件下土壤平均含水量相对较低,在0~300 cm 的范围内含水量分布表现为果园> 苜蓿地> 小麦地。300 cm以下含水量表现为小麦地> 果园> 苜蓿地;同时,不同利用条件下土壤水分剖面低湿层的位置深度也不相同,小麦地土壤水分低湿层深度较果园地和多年苜蓿地浅,土壤水分剖面形态与分布特征受利用模式影响显著。
【英文摘要】The study was conducted to compare soil moisture under different models of land use by field investigation and sampling in Changwu tableland. Results showed that there were great differences in the total content of soil moisture under different models of land use after wheat-cutting date and before rainy season. The content of soil moisture inmaize land was greater than that under other models of land use because of recharging of rainwater and fallow of cropland in past year. The averaged content of soil moisture under other models of land use showed significant differences in different soil layers. According to soil moisture in 0~300 cm soil layer , the land uses could be ranked in the order of orchard land > Alfalfa land > farmland. The 200~300 cm soil layer was a transition layer and below the 300 cm soil depth , the land uses could be ranked in the order of farmland > orchard land > alfalfa land. At the same time , different land uses caused different soil moisture profiles. The main differences of soil moisture in farmland could be found in orchardland and alfalfa land , which showed that the types of land use and land coverage were the main factors affecting the depth of water use.
【语种】中文
【第一作者】武阿锋
【通讯作者】刘文兆
【期刊名称、卷期、页码】干旱地区农业研究,2009, 27(05):133-136
【论文发表时间】2009-09-18 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】土壤学

【题目】黑核桃在黄土高塬沟壑区的引种栽培及发展前景
【中文关键词】黑核桃; 引种; 栽培技术; 黄土高塬沟壑区
【英文关键词】无
【中文摘要】对从美国引进的黑核桃在黄土高塬沟壑区进行栽培适应性和繁育试验, 1998　　2008年的试验观察表明: 美国黑核桃在黄土高塬沟壑区引种栽培后适应性强, 生长速度快, 可通过种子育苗、嫁接等繁育方法扩大栽培面积, 是黄土高原地区较为理想的一种引进林木, 有望成为黄土高原地区农用林业的主要硬阔树种之一, 在园林绿化、退耕还林、水土保持等方面具有广阔的发展前景。
【英文摘要】无
【语种】中文
【第一作者】闫晓玲
【通讯作者】闫晓玲
【期刊名称、卷期、页码】中国水土保持,2009,(07)37-38+57
【论文发表时间】2010-02-08 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】园艺学

【题目】配施钾肥、有机肥对旱地春玉米光合生理特性和产量的影响
【中文关键词】钾肥; 有机肥; 产量; 光合生理特性; 旱地; 春玉米
【英文关键词】Potassium; Organic fertilizer; Yield; Photosynthetic physiological characteristics; Dry land; Spring maize
【中文摘要】以长期定位施肥试验为平台, 研究在施用氮磷肥条件下, 配施钾肥、有机肥对黄土塬区春玉米光合生理特性和产量的影响。结果表明: 配施钾肥在灌浆前期降低了L AI 、W UE 、叶片水势、干物质积累量、叶片光合和蒸腾速率, 但在灌浆后期提高了LA I 、WUE 、干物质积累量和叶片光合速率, 且与对照间达显著差异, 这说明配施钾肥对春玉米生长的影响主要表现在生育后期; 配施钾肥可显著提高整个生育期的S PA D(叶绿素相对含量) 、株高; 可促进同化向籽粒的转移, 使籽粒产量增加; 但收获指数下降了3. 2%。而配施有机肥可显著提高春玉米整个生育期的L AI 、株高、SPA D、光合速率和蒸腾速率等生理指标(WUE 和水势除外) 和产量,使籽粒产量和生物产量增加, 与对照、钾肥间差异均达到显著水平(P< 0. 05) 。在富含钾素的黄土塬区, 配施有机肥对春玉米光合生理特性和产量的作用优于配施钾肥。
【英文摘要】Field experiments were conducted to investig ate the effect s of potassium and organic fertilizer on photosynthetic physiolog ical characteristics and yield of spring maize in phosphorus and nitrogen fertilizer application to an experimental field on the Changwu tableland of the Loess Plateau. Results showed that application of potassium fertilizer decreased the LAI , leaf water potential, dry matter accumulation, and leaf photosynthetic and transpiration rate before the filling stage, but increased the LAI , dry matter accumulation, and photosynthetic rate af ter the f illing stage. The dif ference was significant in contrast to CK. This indicated that the effects of potassium fertilizer on spring maize mostly o ccurr ed at the later gr ow ing stage. In cont rast to CK, the effect s could significantly increase SPAD and plant height through the whole growing stage, increase grain y ield by 844. 8 kg/ ha, or 10% , and reduce har vest index by 3. 2% . However, application of organic fertilizer could significantly increase the LAI , plant height , SPA D, photosynthetic and transpiration rate (except leaf WUE and water potential) , and yield, and increase grain yield by 687. 8 kg / ha, o r 20. 0 % . Application of or ganic fertilizer could raise biomass yield by 11025 kg / ha, or by 18. 7%, with the harvest index reaching to 48. 8%. T he applicatio n of org anic fert ilizer fo r biomass yield had significant difference (P <0. 05) in contr ast to CK and potassium fert ilizer application, increasing 6. 5% and 9. 7%, respectively. The effects of o rganic fertilizer on photosynthetic physiological characteristics and the yield were greater than those of potassium fertilizer in the tableland of enriched potassium, but application of potassium and organic fertilizer had no significant effects on the leaf WUE .
【语种】中文
【第一作者】杨玉玲
【通讯作者】刘文兆
【期刊名称、卷期、页码】西北农业学报,2009,18(3):116-121
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【引文索引类型】其他
【引文索引号】null
【学科分类】农业基础学科

【题目】不同施肥处理对农田生态系统微量元素收支及循环率的影响1
【中文关键词】饲喂-堆腐过程; 养分循环; 下辽河平原; 有机肥; 化肥;
【英文关键词】feeding-composting process; nutrient cycling; lower reaches of Liaohe Plain; manure; chemical fertilizer;
【中文摘要】以下辽河平原一组长期定位试验为平台,研究了不同施肥制度下农田生态系统微量元素的循环率及当季微量养分收支。结果表明:不同元素在饲喂-堆腐过程中的循环率差异较大,Zn的循环率最低,但也接近80%,Fe、Mn、Cu、Pb的循环率均超过80%,其中Fe、Mn、Pb的循环率均接近90%,微量元素在饲喂-堆腐过程中的循环率随投料量的增加有增加的趋势。以有机肥形式输入农田的微量元素远大于以化肥形式输入农田的量,且输入量随有机肥用量的增加而增加。不同处理间微量元素的移出量以NPK+M处理最高,CK处理最低。各处理土壤微量元素收入小于支出,不同处理间收支差额NPK+M<M<CK<NPK,表明单施化肥加剧土壤微量元素赤字化,养分循环利用可弥补土壤微量元素的损失,减小收支差额。
【英文摘要】A group of long-term field trials was conducted at the lower reaches of Liaohe Plain to study the effects of different fertilization modes on the recycling rates and current season budgets of trace elements in cropland ecosystems.In the process of feeding-composting,the recycling rates of trace elements varied with the elements.Zn had the lowest recycling rate which still approached to 80%,while Fe,Mn,Zn,and Pb had a recycling rate of>80%,and especially that of Fe,Mn and Pb was>90%.The recycling rate increased with the increasing amount of feed stuffs and bedding materials.The trace elements input of farmland from manures was far higher than that from chemical fertilizers,and increased with increasing amount of the manures applied;while the trace elements output by crops was the highest in treatment NPK+M,and the lowest in treatment CK.The input was lower than the output,and the budget in different fertilization treatments followed the order of NPK+M<M<CK<NPK.Therefore,applying chemical fertilizers alone induced the deficit of soil trace elements,while nutrients recycling would offset the soil trace elements loss by crops,and minimize the deficit.
【语种】中文
【第一作者】朱先进
【通讯作者】宇万太
【期刊名称、卷期、页码】生态学杂志,29(3):491-497
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【引文索引号】null
【学科分类】土壤学

【题目】水土保持效益评价指标研究
【中文关键词】效益评价; 指标体系; 水土保持; 问卷调查
【英文关键词】benefit evaluation; index system; soil and water conservation; questionnaire
【中文摘要】基于对陇东黄土高原部分地区的问卷调查和相关文献资料分析,发现大多数群众对水土流失综合治理事业及其各项措施具有很高的认同感,但参与治理的积极性不高,进而影响了综合治理的效果;小区域的水土保持工作虽有成效,但因非示范区、非项目区效果不明显,大尺度地域范围内综合治理的成效就有限。造成这些问题的一个重要原因是没有充分重视综合治理实施者的经济利益;因此,水土流失综合治理的评价,应将经济效益放在首位。利用综合治理的经济利益调动实施者的参与热情和积极性,把引导群众致富与其客观上所具有的生态效益和社会效益紧密结合,以达到综合治理目的。基于此,提出了综合治理效益评价指标体系。
【英文摘要】Through questionnaire survey and the analysis of relative literature data on soil and waterconservation of the Loess Plateau in east Gansu Province, it is found that most of local people are aware of the importance of soil and water conservation measures, but they are not so active in the participation in the work, which thus reduces the effects of comprehensive control. Soil and water conservation obviously succeeds at small scale. However, at large scale the implementation is not as desirable as expected because of the undesirable applications in the non2demonstration zones and non2project areas. The major reason for this is that an insufficient attention is paid to the economic benefits during the implement of soil and water conservation measures. Therefore, an evaluation of comprehensive control of soil and water loss should give first priority to economic efficiency. In order to achieve the better comprehensive control, implementers. enthusiasm and initiative should be mobilized by economic benefits and the efforts for them to get rich should combine closelycomprehensive control with ecological and social benefits. Based on the consideration, a system of evaluation indexes is presented for comprehensive control of soil and water loss
【语种】中文
【第一作者】姚文波

【通讯作者】刘文兆
【期刊名称、卷期、页码】中国水土保持科学, 2009,7(01):112-117
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【引文索引号】null
【学科分类】资源科学技术

【题目】不同水分条件下化肥对玉米产量的贡献
【中文关键词】长期定位试验; 降雨; 施肥; 肥料贡献率;
【英文关键词】Long-term field experiment; Precipitation; Fertilization; Contribution rate of fertilizer;
【中文摘要】以16年长期定位试验为平台,研究了8种施肥制度与4种降雨年景条件下肥料的增产、稳产性能及其对产量的贡献。结果表明:施肥与水分条件对玉米产量均有显著影响,平水年份玉米产量最高,肥料增产效果也达到最佳,其次为丰水年,旱、涝年份最低;N、P和K配施玉米产量最高,无N肥处理作物产量偏低,但在旱、涝条件下P、K肥有利于提高玉米的抗逆性;对玉米产量贡献N>P>K,单施K肥其在平、丰水年对产量贡献率为负值,说明这一地区K尚未成为玉米生产中的限制因子,其只有与N肥配施才可发挥增产作用。综上,合理的养分配施可以提高肥料对玉米产量的贡献,促进肥料交互作用对产量的提升,同时,适宜的水分条件可使肥料增产作用更好发挥。
【英文摘要】Based on a 16-year located experiment,this paper studied the yield-increasing effect,yield-stabilizing feature and contribution rate of fertilizers to maize yield under different fertilization and precipitation conditions.The results showed that fertilization and precipitation had obvious influences on crop output.In normal precipitation years the yields were the highest and the yield-increasing effect of chemical fertilizers was the best.In the higher precipitation years the yield was the highest under NPK treatment and was lower under non-nitrogen treatments,but P and K could increase the stress resistance of maize.The contribution rate of chemical fertilizers to maize yield was N>P>K and maize yield under K treatment was lower than CK treatment in normal or higher precipitation years.It suggests that K was not a limiting factor for crop yield and K could increase maize yield when applied with N.Proper nutrients and water supply would improve the contribution rate of fertilizers to maize yield and promote the interaction between fertilizers on yield-increasing effect.
【语种】中文
【第一作者】马强
【通讯作者】宇万太
【期刊名称、卷期、页码】土壤,42(2):213-218
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【学科分类】土壤学

【题目】补充灌溉及氮磷配施对黄土塬区冬小麦水分利用及产量的影响
【中文关键词】冬小麦; 补充灌溉; 氮磷配施; 产量; 水分利用效率
【英文关键词】Triticum aestivum L. ; supplemental irrigation ; nitrogen and phosphorus rates ; crop yield ; water use efficiency
【中文摘要】采用裂区试验设计,对黄土塬区补充灌溉及氮磷配施条件下麦田土壤水分动态、作物产量及水分利用效率等进行研究。结果表明:1)冬小麦对土壤水分的利用深度随小麦生长发育逐渐加深,在越冬前期和孕穗期分别达1.2和2.2 m土层以下,不同处理土壤含水量在小麦生育前期差异不明显,孕穗后氮磷配施处理的土壤含水量显著低于不施肥处理;2)试验条件下,补充灌溉后同样施肥处理的作物产量与雨养相比,虽有增加但不显著;不论是雨养水平,还是补充灌溉水平,氮磷配施均表现出显著的增产效果,从低氮低磷到高氮高磷,增产幅度在134%到240%之间;3)氮磷配施能显著提高冬小麦水分利用效率,而补充灌溉后水分利用效率降低3%~30%,但未达显著水平;4)不同氮磷配施的增产效应高于补充灌溉,补充灌溉与高氮高磷处理有显著的水肥协同效应,能显著提高作物产量并保持较高的水分利用效率。
【英文摘要】Effects of supplemental irrigation and different nitrogen and phosphorus rates on crop yield , soil water content , and water use efficiency of Triticum aestivum L. were studied by using a randomized complete block split plot design. Results indicated that soil water consumption depth increased along with wheat growing stages , which went down to 112 and 212 m during pre-wintering stage and booting stage respectively. Soil water content for different treatments had no significant difference in initial stages , however , after bootingstage , soil water content for the treatments of different nitrogen and phosphorus rates were significantly lower than that for non2fertilization application. Soil water content for rain-fed and supplemental irrigation treatments had no significant difference. Both

supplemental irrigation and different nitrogen and phosphorus ratestreatments increased crop yields and significantly increased soil water consumption. Supplemental irrigation increased crop yields , but had no significant difference than rain2fed treatment , however , the nitrogen and phosphorus application treatment increased crop yields from 134 % to 240 % more than non2fertilization application treatment . Application of different nitrogen and phosphorus ratessignificantly increased water useefficiency of Triticum aestivum L. . Howerver , supplemental irrigation decreased water use efficiency from 3 % to 30 % , which had no significant difference statistically. The different nitrogen and phosphorus rates treatments significantly improved crop yield compared with supplemental irrigation. Supplemental irrigation and the treatment of high nitrogen and high phosphorus rate significantly increased crop yield and gave higher water use efficiency.

【语种】中文
【第一作者】张益望
【通讯作者】刘文兆
【期刊名称、卷期、页码】中国水土保持科学,2009,7(5):76-81
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【引文索引类型】其他
【引文索引号】null
【学科分类】农业基础学科

【题目】下辽河平原不同生态系统土壤呼吸动态变化
【中文关键词】土壤呼吸; 生态系统; 季节变化;
【英文关键词】soil respiration; ecosystem; seasonal fluctuation;
【中文摘要】利用长期定位试验对下辽河平原农田生态系统、人工林生态系统和草地生态系统等土壤呼吸状况进行了分析,探讨了不同生态系统土壤呼吸强度的季节变化规律及其主要影响因素。结果表明:下辽河平原不同生态系统土壤呼吸强度季节动态变化趋势基本一致,土壤呼吸强度高峰首先出现在水、热条件适宜的夏季,而后在秋季由于有机物归还量增加,且水热条件亦较适宜的情况下再一次出现高峰;在农田生态系统中,施肥可明显增强土壤呼吸作用,两年平均土壤呼吸强度NPK+M与NPK分别比CK处理提高70%和40%;在草地生态系统中,有机物料归还和人类活动是影响土壤呼吸的主要因素,其强度变化顺序为:每年收获移出>荒地>裸地;人工林生态系统虽有一定有机物料输入,但其数量有限,呼吸强度低于农田生态系统和草地生态系统。
【英文摘要】Soil respiration is one of important sources of CO2 emitted from biosphere to atmosphere.Based on a long-term monitor results, seasonal fluctuation and main influence factors of soil respiration with different ecosystems in the lower reaches of the Liaohe River plain were analyzed.The results showed that there was a similar seasonal pattern for soil respiration with different ecosystems.The first peak value was in summer with suitable hydrothermal condition,and the second was in autumn.Fertilization could increase soil respiration in agro-ecosystem and the highest soil respiration was in NPK+M treatment,followed by NPK,and the lowest in CK.Compared with CK treatment,soil respiration was increased by 70% and 40% for NPK+M and NPK treatments,respectively.Soil respiration in grass ecosystem was determined by the rate of organic materials returning and human activities.The changes of soil respiration intensity was mowing land>waste land>bare land.Although it had some residues backed to plantation ecosystem,soil respiration in plantation system was still lower than in agro-ecosystem and grass ecosystem.
【语种】中文
【第一作者】宇万太
【通讯作者】马强
【期刊名称、卷期、页码】干旱地区农业研究,28(1):122-129
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【学科分类】土壤学

【题目】H-FABP 基因在鹿苑鸡和隐性白羽鸡肉质中的差异表达
【中文关键词】荧光定量逆转录PCR; 基因表达; 肉品质
【英文关键词】chicken; FQ-RT- PCR; gene expressio n; meat quality
【中文摘要】以鹿苑鸡和隐性白羽鸡为研究对象, 选用心脏脂肪酸结合蛋白(H-FABP) 基因作为影响鸡肌内脂肪(IMF) 的候选基因, 利用实时荧光定量逆转录PCR, 对12 周龄H-F ABP 基因mRNA 进行定量分析, 结合IM F 含量和屠宰性状测定, 分

析H-FABP 基因表达水平对IMF 含量等性状的影响。结果表明: H-FABP 和内参基因GA PDH 熔解曲线均为单峰, 无杂峰及二聚体, 定量准确。鹿苑鸡胸肌和腿肌的IMF 含量显著高于隐性白羽鸡。H-FABP 基因mRNA 表达量与IMF 含量呈显著的负相关。隐性白羽鸡H-FABP 基因mRNA 在胸肌和腿肌的IMF 的表达量显著高于生长较慢的鹿苑鸡。

【英文摘要】Luyuan chicken and Recessive w hite chicken w ere used as ex per imental populatio ns. FQ-RT- PCR techniquewas used to study gene expressio n in hear fat ty acid- binding pr otein (H-FAB P) g ene at 12 w eeks o f ag e. Melting curv eanalysis show ed a single peak o f H-FA BP and GAP DH g ene. IMF content in breast muscle and leg muscle o f Luy uan at12 weeks w as higher than that o f Recessive w hite. Statistic analyses show ed that the H-FA BP mRNA expression level had sig nificant ly neg at ive cor relatio n w ith IM F contents. T he H-FA BP mRNA ex pression level in IMF co nt ent in Recessive white w as significantly hig her than that o f Luyuan which grows slowly .

【语种】中文

【第一作者】屠云洁

【通讯作者】屠云洁

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【学科分类】畜牧学

【题目】利用PLFA方法研究不同土地利用方式对潮棕壤微生物群落结构的影响

【中文关键词】土壤呼吸; 生态系统; 季节变化;

【英文关键词】soil respiration; ecosystem; seasonal fluctuation;

【中文摘要】利用长期定位试验对下辽河平原农田生态系统、人工林生态系统和草地生态系统等土壤呼吸状况进行了分析,探讨了不同生态系统土壤呼吸强度的季节变化规律及其主要影响因素。结果表明:下辽河平原不同生态系统土壤呼吸强度季节动态变化趋势基本一致,土壤呼吸强度高峰首先出现在水、热条件适宜的夏季,而后在秋季由于有机物归还量增加,且水热条件亦较适宜的情况下再一次出现高峰;在农田生态系统中,施肥可明显增强土壤呼吸作用,两年平均土壤呼吸强度NPK+M与NPK分别比CK处理提高70%和40%;在草地生态系统中,有机物料归还和人类活动是影响土壤呼吸的主要因素,其强度变化顺序为:每年收获移出>荒地>裸地;人工林生态系统虽有一定有机物料输入,但其数量有限,呼吸强度低于农田生态系统和草地生态系统。

【英文摘要】Soil respiration is one of important sources of CO2 emitted from biosphere to atmosphere.Based on a long-term monitor results, seasonal fluctuation and main influence factors of soil respiration with different ecosystems in the lower reaches of the Liaohe River plain were analyzed.The results showed that there was a similar seasonal pattern for soil respiration with different ecosystems.The first peak value was in summer with suitable hydrothermal condition,and the second was in autumn.Fertilization could increase soil respiration in agro-ecosystem and the highest soil respiration was in NPK+M treatment,followed by NPK,and the lowest in CK.Compared with CK treatment,soil respiration was increased by 70% and 40% for NPK+M and NPK treatments,respectively.Soil respiration in grass ecosystem was determined by the rate of organic materials returning and human activities.The changes of soil respiration intensity was mowing land>waste land>bare land.Although it had some residues backed to plantation ecosystem,soil respiration in plantation system was still lower than in agro-ecosystem and grass ecosystem.

【语种】中文

【第一作者】毕明丽

【通讯作者】宇万太

【期刊名称、卷期、页码】中国农业科学,43(9):1834-1842

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【学科分类】土壤学

【题目】Vertical Distribution and Seasonal Dynamics of Fine Root Parameters for Apple Trees of Different Ages on the Loess Plateau of China

【中文关键词】无

【英文关键词】fine root, vertical distribution, seasonal dynamics, apple tree, Loess Plateau
【中文摘要】无
【英文摘要】The vertical distribution pattern and seasonal dynamics of fine root parameters for the apple trees of different ages(3,10,15,and 20 years old) on the Loess Plateau of China were studied.Soil coring method was used to determine the vertical distribution and seasonal dynamics of fine roots at different root radial distances(1.0,1.5,and 2.0 m from the main tree trunk).The fine root biomass density(FRD),fine root length density(RLD),and specific root length(SRL),as well as soil water content and soil temperature were also measured.The FRD and RLD for the 10,15,and 20 years old trees reached peak values in the 20-30 cm soil layer.For the 3 years old tree,the highest FRD and RLD were observed in the 10-20 cm soil layer.The FRD and RLD decreased with increased soil depth from the 10-20 or 20-30 cm soil layer for all age apple trees.The SRL declined with the increase of tree age.The FRD at the 1.0 m radial distance from the main tree trunk was higher than that at other radial distances in the 3 and 10 years old orchard.However,in the 15 and 20 years old orchards,especially the 20 years old orchard,the FRD at the 2.0 m radial distance was nearly equal to or higher than that at the 1.0 and 1.5 m radial distances.For all the root radiuses or the tree ages,the FRD,RLD,and SRL were the highest in spring and the lowest in autumn.The age of an apple tree does not affect the vertical distribution pattern but the biomass of fine roots and the SRL.Radial distance affects the root horizontal distribution of 3 and 10 years old trees but the 15 and 20 years old trees.Additionally,effects of soil temperature and soil moisture on fine root distribution or seasonal dynamics are not significant.
【语种】英文
【第一作者】GAN Zhuo-ting
【通讯作者】LIU Wen-zhao
【期刊名称、卷期、页码】Agricultural Sciences in China, 2010,9(1):46-55.
【论文发表时间】2011-01-18 00:00:00
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【引文索引号】10.1016/s1671-2927(09)60066-3
【学科分类】园艺学

【题目】不同施肥制度对作物产量及土壤磷钾肥力的影响
【中文关键词】施肥; 土壤肥力; 产量;
【英文关键词】application of fertilizer; soil fertility; yield;
【中文摘要】在潮棕壤上进行了19 a的定位试验,研究了不同施肥制度对作物产量和土壤磷钾肥力变化的影响。结果表明,单施氮肥能显著提高玉米产量,施钾肥能显著提高大豆籽实产量,其效果优于磷肥。循环猪圈肥的施用能在一定程度上增加作物的产量,但不能达到显著水平。氮磷钾配合循环猪圈肥不仅能增加作物产量而且有很好的稳产作用。未施磷肥处理,土壤速效磷含量呈迅速下降趋势,随种植时间推移,土壤速效磷含量下降速率趋缓。施用磷肥,土壤速效磷含量均有显著增加。不施钾肥处理加剧了土壤钾素的消耗,土壤速效钾和缓效钾浓度下降明显;氮磷钾肥并施处理基本能维持土壤钾初始水平;同时施用氮磷钾肥和循环堆肥土壤速效钾和缓效钾浓度均有所增加。
【英文摘要】A study on crop yield and soil P and K fertility was conducted based on a consecutive 19-year field trial in different fertilization systems.The result indicated that N treatment had a significant yield-increasing effect on maize.Soybean yield increased with the application of K fertilizer,while the application of P fertilizer could not increase soybean yield significantly.The application of recycled manure increased soybean seeds and maize grain yields to a certain degree.Combined application of NPK and recycled manure could not only increase significantly but also stabilize crop yield.In the treatments without phosphorous fertilizer,the available P content decreased rapidly in the first several years,then the rate of decrease slowed over time.In the treatments with phosphorous,the soil available P content increased significantly.The concentration of soil available K and slow-release K decreased significantly without K fertilizer application,and the concentration of soil available K and slow-release K maintained the initial value in NPK treatment.The application of recycled manure and NPK fertilizer increased significantly the concentration of soil available K,while the increment of slow-release K was not significant.
【语种】中文
【第一作者】宇万太
【通讯作者】马强
【期刊名称、卷期、页码】干旱区农业研究,28(3):123-128
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【学科分类】土壤学

【题目】影响“山地苹果”发展的因素分析
【中文关键词】黄土丘陵沟壑区;苹果;农村政策;地方政府;农民行为
【英文关键词】loess hilly and gully region; apple; rural policy; local government; farmer behavior
【中文摘要】采用问卷调查、入户调查等方法,调查影响陕北黄土丘陵沟壑区“山地苹果”发展的因素变化。结果表明该区“山地苹果”发展具有明显的区域特征。随着衣食问题的解决及土地承包期限的延长,山地苹果栽植面积迅速增加;农业特产税对苹果发展没有太大的影响,但农业特产税的取消以及退耕还林还草的实施促进了苹果的发展;地方政府在苹果发展过程中起到了决策者和开拓者的作用;该区苹果销售基本不受市场的影响,但技术创新能力低,技术匮缺仍为苹果生产效益较低的主要原因。随着农村劳动力的转移和生产资料价格的上升,苹果生产将转向机械化和科技化。
【英文摘要】The paper investigated influencing factors changes on apple development in loess hilly and gully region of northern Shaanxi since reform and opening up by questionnaire surveys, house surveys and other methods. The results showed that the apple development had obvious regional characteristics. With the problem of food and clothing solved after the land contract to individual, demand for sunny slope land and semi-sunny slope land which suitable for plantingapple surged, but demand for shady slope land which suitable for grain production reduced. Short duration of land contract in early stage had limited the apple development, after prolonging it, the apple cultivation area had been rapidly increased. Although special agricultural products tax had no significant impact on apple development, the abolitionof it and the implementation of the policy of returning farmland to forest had promoted the apple development. Local government had played a role of decision-maker and pioneer in apple development process. There would be no rapid development but for local government strong advocacy and support. The apple had a good quality, and its good price hadstimulated the apple development. Although the fruit grower had changed the learning technologies attitude from passive to active, lack of regional technological innovation, and technology scarcity was still the main reason of lower productionefficiency. Apple production should shift to mechanization and technology with the rural labor transfering and capital goods prices increasing.
【语种】中文
【第一作者】白岗栓
【通讯作者】杜社妮
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【引文索引号】null
【学科分类】园艺学

【题目】不同施肥制度对作物产量及土壤磷素肥力的影响
【中文关键词】施肥制度; 作物产量; 磷素; 土壤肥力;
【英文关键词】Fertilization system; Crop yield; Phosphorous; Soil fertility;
【中文摘要】在潮棕壤上连续进行18年的定位试验,研究了不同施肥制度对作物产量和土壤磷素肥力的影响。结果表明:与对照处理相比,施用磷肥有明显的增产和稳产作用。不施磷肥处理,土壤磷素收支赤字,土壤全磷和速效磷含量均明显下降,且土壤磷收支的盈亏值与土壤速效磷的增减量呈显著直线相关;施磷肥处理,土壤磷素收支盈余,18年间耕层土壤全磷含量均明显提高,提高幅度为0.02~0.04g·kg-1,土壤速效磷含量亦明显增加,特别是在试验的后几年,土壤速效磷含量似有加速上升的趋势。施氮肥对玉米有明显增产作用,施磷钾肥对玉米增产作用不明显;大豆则相反,施氮肥增产作用不明显,施磷钾肥有显著增产作用。
【英文摘要】The effect of different fertilization systems on crop yield and soil phosphorous fertility was investigated in an 18-year field experiment in aquic-brown soils.The results indicate that crop yield significantly increases while the yield fluctuation decreased in treatments with phosphorous fertilizer compared to the control.In treatments without phosphorous fertilizer,there is a deficit in P budget and total and available P content decreases significantly.A strong linear correlation exists between P budget and available P fluctuation in treatments without phosphorous.In treatments with phosphorous,total P content increases significantly (from 0.02 to 0.04 g·kg-1),while available P content also increases significantly (especially in the latter stages of the trial).N fertilizer application significantly increases maize grain yield,while P and K fertilizers have insignificant effect on maize yield increase.Conversely,while mean soybean yield is unaffected by N fertilizer application,P and K fertilizers affect mean soybean yield significantly.
【语种】中文

【第一作者】宇万太
【通讯作者】马强
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【学科分类】土壤学

【题目】不同有机肥处理对设施菜地土壤硝态氮分布影响
【中文关键词】设施菜地; 有机肥; 硝态氮;
【英文关键词】greenhouse soil; organic manure; NO3--N;
【中文摘要】以辽宁省新民市某设施蔬菜生产基地土壤为研究对象,通过设置5个不同有机肥处理的实验小区,系统研究了不同的有机肥施入量(0~60 t.hm-2)在黄瓜和豆角生长期间对0~40 cm土层土壤NO3--N含量的影响,以及在黄瓜和豆角分别收获后土壤剖面NO3--N垂直分布特征。结果表明,土壤NO3--N含量的动态变化与植株的生长发育和有机肥施用水平关系密切。5月份,0~40 cm土壤各个土层的硝酸盐含量均高于其他时期;对于不同的施肥水平,当施肥量为60 t.hm-2时0~40 cm各个土层的土壤硝态氮含量均高于其他处理。土壤剖面NO3--N含量分布特征表明,低量有机肥的施入不会引起NO3--N在深层土壤的累积和淋溶,但会导致填闲作物生长过程中氮素供给的不足;当有机肥的施入量为60 t.hm-2时,0~120 cm土层出现了不同程度的淋溶现象。
【英文摘要】A field plot experiment was conducted in Xinmin suburb to study the effects of different applying organic manure(0~60 t · hm-2) on NO3——N distribution and the vertical distribution of NO3——N in soil depth profile in greenhouse soil.Five treatments(0,10,20,40 and 60 t · hm-2 of organic manure)were installed.The results showed that the distribution characteristics of NO3——N in soil were affected by the growth stage of plants and the application rate of organic manure.The NO3——N content in 0~40 cm soil layer was higher than the other growth stages in May.For different applying organic manure,when the application rate of organic manure was 60 t · hm-2,the NO3——N content in 0~40 cm soil layer was the highest.In the latest growth stages,the low application rate of organic manure could not lead to the accumulation and eluviation in deep-seat soil,but could cause insufficient supply of nitrogen on crops during their growth.When the applying organic manure was 60 t · hm-2,there were some different degrees about eluviations in the soil of 0~120 cm.
【语种】中文
【第一作者】张迪
【通讯作者】牛明芬
【期刊名称、卷期、页码】农业环境科学学报, 29(增刊): 156- 161
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【学科分类】土壤学

【题目】整地时期对土壤物理性质及苹果幼树的影响
【中文关键词】穴状整地时期; 土壤物理性质; 苹果幼树; 成活率
【英文关键词】period of soil preparation by digging hole ; soil physical property; young apple tree ; livability
【中文摘要】为了提高陕北黄土丘陵沟壑区苹果幼树的栽植成活率和保存率,对3个穴状整地时期的土壤物理性状及苹果幼树生长状况进行了监测研究。结果表明,穴状整地后土壤容重降低,土壤总孔隙度和非毛管孔隙度提高。雨季前穴状整地提高了春季和幼树生长前期的土壤水分,减小了土壤日温差,提高了苗木成活率,促进了树体生长。但雨季后和春季穴状整地降低了春季和幼树生长前期的土壤水分,加大了土壤日温差,降低了苗木成活率,削弱了树体生长,并且加深了定植当年的地面塌陷深度,降低了苹果幼树冬春季的枝条含水量,提高了枝条抽条指数,降低了苗木保存率。陕北丘陵沟壑区栽植苹果时应该在雨季前穴状整地。
【英文摘要】In order to increase t he livability and survival rate of young apple t rees in t he loess hilly and gully areas of Northern Shaanxi Province , soil p hysical properties and young apple t ree growt h were monitored by the t hree t reatment s of soil preparation by digging hole before rainy season , af ter rainy season , and in spring. Results showed that soil bulk density was decreased and soil total porosity and soil non2capillary porosity were increased after soil preparation by digging hole. For the treatment of soil preparation by digginghole before rainy season , soil moisture was increased in spring and tree growth prophase period ; soil temperature difference

between daily max-temperature and daily min-temperature was decreased ; tree livability was increased ; and t ree growt h was promoted. However , for the t reatment s of soil preparation by digging hole after rainy season and in spring , soil moist ure was decreased ; soil temperat ure difference was increased ; treelivability was reduced ; tree growth was weakened ; ground subsidence depth was deepened in plant year ;branch water content was reduced in t he winter and spring ; branch shriveling index was increased ; and tree survival rate was decreased. Soil preparation by digging hole before rainy season is suggested when apple trees were planted in t he loess hilly and gully area of Northern Shaanxi Province.

【语种】中文
【第一作者】杜社妮
【通讯作者】杜社妮
【期刊名称、卷期、页码】水土保持通报, 2010,303):180-195
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【引文索引号】null
【学科分类】园艺学

【题目】沈阳西郊污灌区农田铜锌铅污染特征分析
【中文关键词】农田; 土壤污染; 重金属污染; 铜; 锌; 铅; 污水灌溉;
【英文关键词】farmland; soil pollution; heavy metal pollution; copper; zinc; lead; waste water irrigation;
【中文摘要】为评价污水灌溉区农田土壤重金属污染状况,采用单因子指数和综合多因子指数法,对沈阳西郊污灌区农田土壤重金属铜锌铅的污染特征进行了研究。结果表明,于洪区宁官、高明、胡孤家和四台子四个样点土壤均受到三种重金属污染,其中宁官点0~10 cm土层铜、锌、铅含量分别达到69.74 mg.kg-1、275.09 mg.kg-1和81.83mg.kg-1,分别是当地土壤背景值的2.82、4.59和3.60倍。各样点土壤有效态铜、锌、铅含量也远高于未受污染地区的平均含量,土壤铜、锌、铅有效态含量占全量的比例分别为4.65%~15.46%、1.36%~3.84%和5.46%~18.86%。说明沈阳西郊污灌区农田土壤重金属污染较严重,必须通过工程、生物及化学措施进行长期的污染治理。

【英文摘要】The farmland soils in western Shenyang suburb,Liaoning Province of China were irrigated with waste waster in late of the last century.To assess heavy metal contamination status in soils irrigated with waste water,the characteristics of Cu,Zn and Pb pollution in farmland soils of western Shenyang suburb were evaluated using single-factor indices and multiply-factor indices.The results show that all the test soils in Ningguan,Gaoming,Hugujia and Sitaizi were contaminated by Cu,Zn and Pb.Total content of Cu,Zn and Pb in 0-10 cm layer of the Ningguan site were up to 69.74mg.kg-1,275.09mg.kg-1 and 81.83mg.kg-1,respectively,and the pollution indices based on background values were 2.82,4.59 and 3.60,respectively.The available Cu,Zn and Pb were also higher in the test soils than in the unpolluted soils.The ratios of available to total content of Cu,Zn and Pb were 4.65%-15.46%,1.36%-3.84% and 5.46%-18.86%,respectively.It is concluded that the test soils in waste water irrigation area of western Shenyang suburb were heavily contaminated,suggesting that engineering,biological and chemical measures must be taken to remedy contaminated soils in a long period.

【语种】中文
【第一作者】张玉革
【通讯作者】姜勇
【期刊名称、卷期、页码】辽宁工程技术大学学报(自然科学版), 28(1):134-137
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【引文索引号】null
【学科分类】土壤学

【题目】缺硼引起“ 黄苹果 ”的发生与防治
【中文关键词】黄苹果 ”;硼元素;缺硼原因;缺硼症状;防治措施
【英文关键词】无
【中文摘要】简述了苹果树缺硼症状及硼元素的生理功能,指出"黄苹果"的发生主要是由于树体缺硼引起的,而树体缺硼与土壤缺硼、土壤水肥及树体管理不当等密切相关。提出防治树体缺硼应加强土壤水肥管理,增施有机肥,减少化肥,及时修剪和疏花疏果,开展土壤补硼和叶面喷硼等措施。

【英文摘要】无
【语种】中文
【第一作者】杜社妮
【通讯作者】白岗栓
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【学科分类】园艺学

【题目】施磷对不同质地土壤Olsen-P和CaCl-2-P动态变化的影响
【中文关键词】施磷; Olsen-P; CaCl2-P;
【英文关键词】Phosphorous fertilization; Olsen-P; CaCl2-P;
【中文摘要】通过对河北栾城农业生态站潮土和吉林白城淡黑钙土2种质地不同的土壤施用不同剂量磷肥,在25℃恒温条件下好气培养,培养期的第1、3、10、30和60天采集土样,测定土壤Olsen-P和CaCl2-P含量的动态变化,研究了磷肥施入土壤引起农业磷面源污染的可能性。利用Heckrath分段回归模型,分别对培养60d后2种土壤Olsen-P、CaCl2-P含量进行拟合,得到土壤环境敏感磷临界点对应的土壤Olsen-P含量,以此证明土壤固磷能力。结果表明:当施磷量超过400kg · m-2时,2种土壤Olsen-P和CaCl2-P含量均显著增加,并且2种土壤在相同条件下培养后,同一处理的各组分有效磷的变化规律并不相同,说明当施磷量超过400kg · hm-2,2种土壤磷流失的可能性均增加,并且不同类型土壤,磷流失能力也不同;培养60d后拟合得到的栾城和白城土壤环境敏感磷临界点对应的土壤Olsen-P含量分别为88.9和142.5mg · kg-1,表明白城土壤固磷能力明显高于栾城土壤。
【英文摘要】Aquic brown soil samples from the Agro-Ecological Experimental Station of Chinese Academy of Sciences in Luancheng of Hebei Province and light chernozem samples from Baicheng of Jilin Province were applied with different doses of phosphorous fertilizer, and aerobically incubated at 25 ℃ for 1, 3, 10, 30, and 60 days. The dynamic changes of Olsen-P and CaCl2-P in the soil samples during incubation were studied, aimed to approach the possibility of agricultural phosphorus non-point source pollution from these soils caused by phosphorous fertilization. In the meantime, Heckrath segmented regression model was used for fitting the Olsen-P and CaCl2-P contents in the two soils after incubated for 60 days to obtain the Olsen-P content corresponding to the environmental sensitive point of soil phosphorus, which would be regarded as the proof of soil phosphorus-fixation capacity. The results indicated that when the phosphorous fertilization rate exceeded 400 kg · hm-2, the Olsen-P and CaCl2-P contents in the two soils increased significantly, and under the same incubation conditions, the quantitative changes of Olsen-P and CaCl2-P in the same phosphorous fertilization treatments were different, illustrating that a phosphorous fertilization rate of > 400 kg · hm-2 increased the possibility of phosphorus loss from the soils, and the phosphorus loss capacity was different between the two soils. After incubated for 60 days, the Olsen-P content corresponding to the environmental sensitive point of soil phosphorus in Luancheng and Baicheng was 88.9 and 142.5 mg · kg-1, respectively, suggesting that the soil from Baicheng had an obviously higher phosphorus fixation capability than that from Luancheng.
【语种】中文
【第一作者】温林钦
【通讯作者】陈欣
【期刊名称、卷期、页码】生态学杂志, 28 (5) : 872- 878
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【学科分类】土壤学

【题目】灌溉方式对黄瓜生长产量及水分利用效率的影响
【中文关键词】黄瓜; 灌溉方式; 生长; 产量; 根系活力; 水分利用效率
【英文关键词】cucumber ; irrigation method ; growth ; yield ; root activity ; water use efficiency
【中文摘要】以黄瓜为试验材料,研究常规沟灌、滴灌、交替沟灌和固定沟灌4种灌溉方式对日光温室内黄瓜生长、产量及水分利用效率的影响.结果表明:4种灌溉方式对黄瓜株高、茎粗、叶片数和叶面积的影响不同;黄瓜前期产量是交替沟灌>滴灌>常规沟灌>固定沟灌,中期和后期产量是滴灌>交替沟灌>固定沟灌>常规沟灌,总产量的变化与中期和后期产量的变

化相同;滴灌和交替沟灌的黄瓜根系活力无显著差异,但二者的根系活力极显著地高于常规沟灌和固定沟灌;水分利用效率和水分产出率的变化趋势一致,滴灌最高,交替沟灌次之,常规沟灌最低,而耗水量的变化与水分利用效率和水分产出率的变化相反.说明日光温室内黄瓜适宜的灌溉方式为滴灌和交替沟灌.

【英文摘要】The effects of tradition irrigation , dropping irrigation , alternation irrigation and fixed irrigation on the growth , yield and water use efficiency of cucumber in sunlight greenhouse were analyzed. Results showed that the effects of four irrigation methods on plant height , stem diameter , leaf number and leaf area of cucumber were different . The prophase yield under different irrigation t reatments were ranked in the descendant order of alternation irrigation , dropping irrigation , tradition irrigation , and fixed irrigation ,and the metaphase , anaphase yield and total yield were ranked in the descendant order ofdropping irrigation , alternation irrigation , fixed irrigation and t radition irrigation , respectively. Root activities of cucumber for dropping irrigation and alternation irrigation were remarkablely higher than those of tradition irrigation and fixed irrigation , but there was no significant difference between dropping irrigation and alternation irrigation. The order of water use efficiency and water output rate was as follows : dropping irrigation > alternation irrigation > fixed irrigation > t radition irrigation , however , theorder of water consumption amount of cucumber was opposite. It is indicated that the suitable irrigation methods of cucumber are dropping irrigation and alternation irrigation in the sunlight greenhouse.

【语种】中文

【第一作者】杜社妮

【通讯作者】白岗栓

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【学科分类】园艺学

【题目】双氰胺对设施菜地土壤硝酸盐淋溶和苦苣硝酸盐累积的影响

【中文关键词】设施菜地; 双氰胺; 硝酸盐;

【英文关键词】protected vegetable field; dicyandiamide; nitrate;

【中文摘要】在设施菜地条件下,研究了添加不同浓度双氰胺(DCD)对土壤和苦苣硝酸盐含量及苦苣产量的影响。结果表明,添加2%和5%双氰胺可有效降低苦苣生长初期表层土壤硝酸盐含量,推迟硝酸盐含量高峰出现15d左右,减少硝酸盐的深层淋溶,显著降低苦苣体内硝酸盐和亚硝酸盐含量,提高苦苣产量。添加10%双氰胺使土壤硝酸盐含量始终保持较低水平,对防止硝酸盐深层淋溶和降低苦苣硝酸盐和亚硝酸盐含量效果显著,对苦苣产量影响较小。

【英文摘要】A field experiment was conducted on a protected vegetable field in Shenyang suburb of Liaoning to study the effects of applying dicyandiamide(DCD) on the nitrate leaching in the profile of aquic brown soil and the nitrate accumulation in chicory under protected cultivation. Applying DCD with a rate of 2% and 5% of fertilizer N could effectively decrease the nitrate accumulation in topsoil at the early growth stage of chicory,postpone the peak period of this nitrate accumulation by about 15 days,reduce the nitrate leaching into deeper soil layers,and also,decrease the nitrate and nitrite contents in chicory plants and increase chicory yield. When the application rate of DCD was 10% of fertilizer N,soil nitrate content maintained at a lower level,which was of significance in preventing nitrate leaching into deeper soil layers and decreasing the nitrate and nitrite contents in chicory plants,and chicory yield was less affected.

【语种】中文

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【学科分类】土壤学

【题目】陕西渭北高原苹果绵蚜的发生与防治

【中文关键词】苹果绵蚜;传播途径;危害特征;防治措施

【英文关键词】woolly apple aphid; transmission route; harm characteristics; control measures
【中文摘要】简述了苹果绵蚜的形态特征、生活习性、危害特性、迁移和传播途径以及在陕西渭北高原的防治关键时期,提出防治苹果绵蚜应首先抓好植物检疫,做好农业防治,保护和引进、释放天敌,及时开展化学防治,并提出防治时的注意事项。
【英文摘要】This paper introduced the morphological characteristics, living habits, harm characteristics, migration and transmission route of woolly apple aphid, and key control periods in Weibei Plateau in Shaanxi. In order to control woolly apple aphid, plant quarantine should be the first job to be done; agricultural control should be actively done; native predator should be protected, introduced and released; chemical control should be done in a timelymanner, and matters need attention when prevention and treatment had been put out.
【语种】中文
【第一作者】杜社妮
【通讯作者】杜社妮
【期刊名称、卷期、页码】中国农村小康科技, 2010,(07):54-56
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【引文索引类型】其他
【引文索引号】null
【学科分类】园艺学

【题目】沈阳市郊不同年限蔬菜温室土壤有效态微量元素分布特征
【中文关键词】蔬菜温室; 土壤; 微量元素; 土壤pH; 土壤有机碳;
【英文关键词】Vegetable greenhouse; Soil; Micronutrient; Soil pH; Soil organic carbon;
【中文摘要】对沈阳市郊大民屯镇不同使用年限蔬菜温室77个样点土壤有效态微量元素的分布特征进行调查研究的结果表明,土壤有效态Fe、Mn、Cu、Zn含量分别为8.57~60.30mgkg-1、2.69~22.43mgkg-1、0.64~7.52mgkg-1和0.56~9.29mgkg-1,变异系数为50%左右;随着温室使用年限的增加,土壤有效态Fe、Mn、Cu、Zn含量总体上呈增加的趋势;使用年限较短的蔬菜温室,土壤微量元素缺乏的可能性较大,而使用年限较长的蔬菜温室,土壤Cu和Zn超量的风险则相对较高。由于温室管理个体的差异,一些使用年限相对较长的温室通过置换土壤、施加腐熟牛粪、厩肥、作物秸秆以及其他有机物料等措施,也可使土壤中微量元素保持在较适宜的状态。温室土壤微量元素有效态含量与土壤pH呈极显著负相关关系(P<0.01),与土壤有机C含量呈极显著正相关关系(P<0.01)。
【英文摘要】The distribution of soil available micronutrients in vegetable greenhouses of different utilization ages with 77 sampling sites was examined in Damingtun Township of Shenyang . Results showed that the contents of soil available Fe, Mn, Cu and Zn were 8.57-60.30 mg kg-1, 2.69-22.43 mg kg-1, 0.64-7.52 mg kg-1 and 0.56-9.29 mg kg-1, respectively. The coefficient of variation was about 50% for test variables. Generally, soil available Fe, Mn, Cu, and Zn contents increased with the greenhouse utilization ages. The possibilities of micronutrient deficiency were more in greenhouses with shorter utilization ages, while the risks of Cu and Zn contamination were more in those with longer utilization ages. Some vegetable greenhouses with longer utilization ages could sustain a suitable micronutrient status with soil replace, cattle manure, stable manure, crop residue and other organic amendments, depending on the management level of individual farmers. Soil available micronutrient contents were negatively correlated with soil pH (P<0.01), but positively correlated with soil organic carbon (P<0.01).
【语种】中文
【第一作者】秦莹
【通讯作者】姜勇
【期刊名称、卷期、页码】土壤通报,40 (3):648-652
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【学科分类】土壤学

【题目】葡萄糖对东北黑土有机氮矿化的调控作用
【中文关键词】氮; 矿化; 葡萄糖; 黑土;
【英文关键词】nitrogen; mineralization; glucose; black soil;

【中文摘要】采用Stanford和Smith的间歇淋洗好气矿化培养法研究了添加外源底物对东北黑土有机氮矿化进程和矿化速率的影响。结果表明,葡萄糖能够降低土壤有机氮的矿化进程和矿化速率,促进土壤有机氮的固定。葡萄糖与氮肥配施处理也表现出对土壤有机氮的截获作用。葡萄糖对土壤有机氮的矿化具有调控作用,这对于提高农田土壤氮素利用率、减少氮素损失具有重要意义。

【英文摘要】Effects of extraneous substrates on the process and rate of organic nitrogen mineralization in black soil,Northeast China was studied,using the Stanford and Smith mineralization and incubation method.Results show that addition of glucose inhibited mineralization process and reduced mineralization rate of soil organic nitrogen and promoted fixation of soil nitrogen,and that combined application of glucose and nitrogen demonstrated positive effect on sequestration of organic nitrogen.In conclusion,glucose could regulate mineralization of soil organic nitrogen,which is of important significance in improving nitrogen utilization efficiency and reducing nitrogen loss in farmland.

【语种】中文

【第一作者】张威

【通讯作者】张旭东

【期刊名称、卷期、页码】生态与农村环境学报, 25 (4) : 52 - 54

【论文发表时间】2009-10-25 00:00:00

【引文索引类型】其他

【引文索引号】null

【学科分类】土壤学

【题目】Identification and Control of Persimmon anthracnose

【中文关键词】无

【英文关键词】Persimmon anthracnose; Damage symptoms; Occurrence law; Controlling measure

【中文摘要】无

【英文摘要】[Objective]The study aimed to research the identification of Persimmon anthracnose and its controlling methods. [Method]The pathogenand characteristics,infection and occurrence law,damage symptoms of persimmon anthracnose were stated simply and the methods for controllingthe disease were summed up. [Result]The pathogen of Persimmon anthracnose was Gloeosporium kaki Hori,belonging to Deuteromycotina.Germination and invasion of the conidia,sporulation and growth of mycelium all required high temperature,with the optimum temperature of 25℃ and the lethal temperature of 50 ℃ (10 min) . The occurrence strength of Persimmon anthracnose related with the factors including host,environment,culture circumstances,mainly doing harm to the fruits and branches. The occurrence of the disease could be controlled by such agriculturalmeasures as cleaning the orchard,using the resistant varieties and planting the disease-free seedlings,adopting the balanced fertilization, improvingthe irrigation and drainage systems,conducting the dense planting and thin branches,building garden using the seedling that grafting on plantedstock and raising the grafted parts of the stock. When the incidence was heavy, it needed to spray the fungicides or protective agent for the controlof the Persimmon anthracnose. The fungicides should be mainly sprayed on the lesion of shoot,fruit surface and branches. [Conclusion]Thestudy provided the reference for the control of the Persimmon anthracnose.

【语种】英文

【第一作者】DU She-ni

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【学科分类】植物保护学

【题目】基于GIS的黄土高塬沟壑区砚瓦川流域地形特征提取与分析

【中文关键词】数字高程模型(DEM) ; 地形因子; GIS 空间分析; 地形特征

【英文关键词】DEM; terrain factors ; spatial analysis ; terrain feature

【中文摘要】以GIS技术为依托,研究了典型高塬沟壑区砚瓦川流域的地形分布特征。以1∶5万地形图作为信息源,矢量化等高线,并用Hutchinson方法建立DEM(ANUDEM)。从DEM中提取了坡度、剖面曲率和坡长三个地形因子,并对其特征进行了分析,同时与丘陵沟壑区相应地形因子特征进行了对比。结果显示:流域50%的面积坡度在9°以下、剖面曲率小于

7,这反映出高塬沟壑区地面比较平坦的地形特点。坡长分布主要集中在10~150m,其中10m坡长分布最广。这些地形特征信息为砚瓦川流域及同类地区的生态建设与农业生产提供了有力的技术和基础数据支撑。

【英文摘要】With t he using of GIS , many topograp hical dist ribution characteristics information of Yanwachuan basin which located in typical tableland2gully region can be obtained. This studyextracted the contour lines f rom 1 ： 50 000 topograp hic map firstly , and utilized Hutchinson ’ s algorithm to create DEM (ANUDEM) , from which much surface morphology information such as slope , profile curvature and slope length are extracted , and their characteristic are discussed then. The results showed that 50 % of the areaconcent rated below 9 degrees and t he slope curvat ure less t han 7 , which indicated t hat the relatively flat area is the most distributed area. Slope length dist ribution mainly concent rated in 10~150 m , and 10 m is the moste distributed area. The information provided a st rong technology and basic data support for ecological const ruction and agricult ural production in Yanwachuan basin and similar areas.

【语种】中文

【第一作者】方磊

【通讯作者】刘文兆

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【论文发表时间】2010-06-22 00:00:00

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【引文索引号】null

【学科分类】测绘科学技术其他学科

【题目】黄土塬区苹果园土壤有机碳分布特征

【中文关键词】土壤有机碳;苹果园;黄土塬区

【英文关键词】soil organic carbon; apple orchard; Loess Tableland

【中文摘要】以黄土塬区塬面和梁坡梯田5、10、15a和20a苹果园为对象,在行间距果树1.0、1.5m和2.0m处用土钻法分层采集0-100cm土样,LiquiTOCⅡ测定样品土壤有机碳(Soil Organic Carbon,SOC)含量,分析两种地形条件下各龄果园SOC的分布特征。结果表明:塬面5、10、15a和20a果园SOC分别为6.39、6.46、6.66g/kg和6.47g/kg,梁坡分别为5.83、6.05、6.54g/kg和6.09g/kg,两种地形条件下同龄果园SOC差异显著(P<0.05),但龄间SOC消长趋势相似,均有15a的>20a的>10a的>5a的;水平方向上,5a果园SOC沿树干向外增大,10a果园减小,15a和20a果园变化较小,塬面和梁坡同龄果园间SOC水平分布格局较一致;垂直方向上,同梁坡相比,塬面果园4个层次(0-10cm、10-20cm、20-50cm和50-100cm)的平均SOC较高;梁坡果园50-100cm土层的SOC龄间差异较大,20-50cm土层龄间差异较小,塬面果园50-100cm土层的SOC龄间变化较小;在"纯果园"利用阶段,果园利用方式并未引起SOC下降,深层SOC有明显的积累效应。

【英文摘要】Soil organic carbon(SOC) is a large component of the global carbon cycle,and related to atmospheric CO2 levels because soils have the potential for C release or sequestration,depending on land use,land management and climate. In addition,SOC is vital for ecosystem function,having the greater influences on soil structure,soil fertility,water holding capacity,cation exchange capacity and the soil ’ s ability to form complexes with metal ions and store nutrients. The influence of landuse changes on SOC is not only relevant to vegetation type,but also to its growth phase. As an important landuse pattern on Loess Tableland,apple orchard is inconsistent with cereal field in the input and output forms of SOC. In order to understand the influence of the transition of landuse pattern from cereal field to apple orchard on the SOC pool,as well as the characteristics of spatial distribution and variations of SOC in different growth periods of apple orchards,SOCwas measured at the distances of 1. 0m,1. 5m and 2. 0m from each apple tree core in 5a,10a,15a and 20a apple orchards on tableland and slope terrace of the Loess Tableland. Soil samples were collected by Soil Drill and the SOC was measuredby LiquiTOCII analyzer. Results showed that the SOC contents in 5a,10a,15a and 20a apple orchards on tableland were 0. 39 g /kg,6. 46 g /kg,6. 66 g /kg and 6. 47 g /kg,respectively,and on slope terrace,were 5. 83 g /kg,6. 05 g /kg,6. 54g /kg and 6. 09 g /kg,respectively. The SOC content on tableland was significantly higher than that on slope land for the same age apple orchards(P < 0. 05),and however,the SOC content rank of apple orchard on tableland and slope land hadthe same order. Along apple tree core in the horizontal direction,the SOC content ascended at 5a,declined at 10a,and steadied at 15a and 20a. The horizontal distribution patterns of the SOC on slope land were similar to the same age appleorchard on tableland. In vertical direction,the SOC contents of 0 - 10cm,10 - 20cm,20 - 50cm and 50 - 100cm layers in 5a,10a,15a,and 20a apple orchards on tableland were higher than those on slope land,respectively. The SOC content indifferent age apple orchards varied widely at the 50 - 100 cm layer on slope land and slightly in the 20 - 50cm layer onslope land and 50 - 100 cm layer on tableland. Based on our experiment,the SOC content did not decrease in the 5a to 20aapple orchards,and on the contrary,increased in the deeper soil layers.

【语种】中文

【第一作者】甘卓亭
【通讯作者】刘文兆
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【学科分类】土壤学

【题目】黄土高原沟壑区中尺度流域水土流失治理探讨
【中文关键词】中尺度; 流域; 治理途径
【英文关键词】无
【中文摘要】将砚瓦川流域划分为中尺度流域分区治理, 项目区上游塬面面积大, 交通方便, 地下水埋藏较浅, 饮水条件较好,以“保塬固沟”为主; 项目区中游塬面破碎, 交通相对落后, 人均土地面积大, 塬地少, 山坡地多, 饮水条件差, 以“塬沟兼治”为目标; 项目区下游塬面窄小, 川台地面积大, 人均土地面积较多, 交通困难, 要在粮食自给的条件下, 退耕还林还草,有效控制水土流失, 促进全流域水土保持生态工程建设。
【英文摘要】无
【语种】中文
【第一作者】郭锐
【通讯作者】郭锐
【期刊名称、卷期、页码】人民黄河, 2010, 32(09):76-77
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【引文索引号】null
【学科分类】资源科学技术

【题目】渭北黄土高原苹果生产中的问题及解决方案
【中文关键词】渭北黄土高原;苹果;问题;解决方案
【英文关键词】Weibei Loess Plateau;apple;problem;solution
【中文摘要】渭北黄土高原是世界上唯一符合优质苹果生产7项气象条件的地区,是世界上苹果连片种植面积最大的区域,但在生产过程中仍然存在盲目性生产,品种单一,修剪技术差,大量施用氮肥,缺乏品牌效应及营销机构等,且随树龄的增加,果园土壤中出现了干层和硝态氮积累等问题。针对苹果生产中存在的问题,提出建园前应做好规划,生产中要开辟肥源,量化施肥,节水灌溉,合理修剪等,并且要加强自然灾害防治,建立良好的营销体系。
【英文摘要】Weibei Loess Plateau was the only high-quality apple production region in China which was in line with theseven weather conditions,and it was the largest area where had contiguous apple growing regions in the world. However,there still exsited many problems on the production process such as aimless production,a single species, poor pruning techniques,and use of a large number of nitrogen fertilizer,lack of branding effects and marketing organizations.And with the tree-age increasing,the dry layer appeared,in orchard soil accumulation of NO3-N and so on.For these problems in apple production,some proposes had been put out to make a good program before building,set up the production of manure,quantify fertilization,water-saving irrigation,reasonable pruning etc,and ability to the prevention for strong natural disaster and establishment of a good marketing system.
【语种】中文
【第一作者】李明霞
【通讯作者】杜社妮
【期刊名称、卷期、页码】水土保持研究,2010,17(04):252-257
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【引文索引号】null
【学科分类】园艺学

【题目】解集GCMs输出评估黄土塬区农田侵蚀的潜在变化

【中文关键词】气候变化; 黄土高原; 土壤侵蚀; GCMs; WEPP
【英文关键词】clmi ate change; the Loess P lateau; so il loss; GCMs; WEPP
【中文摘要】已经确认的极端降水事件增多等气候变化趋势, 可能对黄土高原的土壤侵蚀造成重要影响。使用一种简单有效的转换函数法和天气发生器CLIGEN (climate GENerator), 解集4种GCM s (Genera l Circulation models)在3种排放情景下的时空尺度建立气候变化情景, 结合WEPP (Water Erosion Prediction Project)模型评估2010- 2039年气候变化对黄土高塬沟壑区长武农田土壤侵蚀的潜在影响。结果表明, 较1957- 2005年, 长武2010- 2039年的年均降水量可能变化- 2. 6% - 17. 4%, 年均降水方差是当前的0. 984- 1. 389倍, 降水量增多且暴雨次数增加的概率较大; 最高和最低温度分别升高0. 6- 2. 6℃ 和0. 6 - 1. 7 ℃ , 方差分别是当前值的0. 748- 1. 155和0. 736 - 1. 387倍, 方差增大的概率较大。受气候变化影响, 2010- 2039年径流普遍增长0% - 130%, 土壤侵蚀变化- 5% - 195%, 侵蚀加剧的可能性极大; 但保护性耕作可有效减少径流和侵蚀, 是农田生态系统适应未来气候变化的有效措施。
【英文摘要】The confirmed clmiate change trends, such as the increase of extrem e ra infall events, may have great m ipacts on soil erosion through a ltering driving forces of soil erosion and influencing the growth condition of plants. The Loess Plateau of China is one of the most erodible areas in the world, the potent ia l response of so il erosion to future clmiate change need to be assessed specifically for th is information is very useful for decis ion m aking. The objective of this study was to assess the site specific mi pacts o f clmiate change during 2010- 2039 on so il eros ion in Changwu County in the tableland gullyregion of the Loess P lateau. A new smiple transfer function method and weather generator CL IGEN (CL Imate GENerator) were used to downscale the spatial tempora l scales o f fourGeneralC irculat ionM odels (CCSR /NIES, CGCM2, CSIRO M k2andH adCM 3) under three em ission scenarios (A2, B2 and GGa) . TheWEPP (Water and Erosion Prediction Project) model was employed to smiulate the responses of agro ecosystem s. Two t illage system s, .i e. conventional tillage andconservation tillage, w ere used to discuss the adaptive m easures to clmiate change. Results show ed that clmi ate would change signif icantly during 2010- 2039 comparedw ith 1957- 2005. The annualm ean precipitation would change - 2. 6% to 17. 4%, the variance of annual precipitation would be 0. 984 to 1. 389 tmi es of the present, and it is very likely that theprecipitation am ount and storm frequency would increase. Annual mean maxmium and minmium tem perature would increase0. 6 to 2. 6 ℃ and 0. 6 to 1. 7 ℃ , and the variance rat ios of 2001- 2039 to 1957- 2005 for maxmium and minmiumtemperature were 0. 748- 1. 155 and 0. 736- 1. 387, respectively. The probability of variance increase was great. The predicted clmi ate changes would cause great changes in runoff and soil loss in slope field of the Loess P lateau. Underconventional tillage, WEPP predicted a change of 10% to 130% for runof,f - 5% to 195% for soil loss during 2010-2039. However, WEPP predicted a change of - 34. 2% to 71% for runoff - 76. 5% to - 25. 8% for soil loss during2010- 2039 under conservation t illage. The changed magn itudes of runoff and soil loss under conservation tillage were farless than those under convent ional t illage. The results indicated that adopt ion of conservation t illage had great potential toreduce the adverse effects of clmiate changes on runoff and soil loss and thus protect agro ecosystems. The new spatial downscaling m ethod, emphasizing on matching the probability distributions, can be widely used in clmiate scenariosdevelopment based on GCM s as it relaxed the demands upon the ex istence of strong correlationsh ips between station measured and GCM projected monthly precipitation and temperature.
【语种】中文
【第一作者】李志
【通讯作者】李志
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【学科分类】资源科学技术

【题目】黄土塬区坡面土壤侵蚀对全球气候变化的响应
【中文关键词】气候变化; 黄土高原; 全球环流模式; 天气发生器; WEPP
【英文关键词】climate change ; Loess Plateau; general circulation model ; CLIGEN; WEPP
【中文摘要】气候变化将对黄土高原土壤侵蚀产生重要影响,评估其可能影响可为农业生产提供重要的决策依据。基于全球环流模式HadCM3,建立黄土塬区长武县2010—2039年A2a,B2a和GGa1共3种气候情景;进而使用土壤侵蚀预报模型WEPP模拟该区农田(5 ° 和10 ° 坡地)的土壤侵蚀变化。结果表明,2010—2039年长武县年均降水量可能增长1.8%~17.5%,年均最高和最低温度分别升高0.5℃~0.9℃和2.0℃~2.3℃。相对于目前气候下的耕作条件,2010—2039年5月和8—10月的径流量和侵蚀量显著增大;年均径流量可增长52%~119%,年均土壤侵蚀量可能增长37%~170%。气候变化将加剧黄土高原农田水土流失,需要采取相应的措施来减缓其不利影响。

【英文摘要】Climate change will have considerable impact s on soil erosion on t he Loess Plateau and assessing the possible impact s may provide usef ul information for agriculture production. The objective of this study was to simulate t he response of slope erosion (5 ° and 10 °) on the loess tableland during 2010 - 2039 based onHadCM3 (Hadley Cent re Coupled Model , ver sion 3) and WEPP (Water Erosion Prediction Project) model .GCMs predicted a 1. 8 % to 17. 5 % increase in annual precipitation , 0. 5 °Cto 0. 9 °Crises in maximum temperature , and 2. 0 °Cto 2. 3 °Crise in minimum temperat ure for the region. Compared with the present climate , the runoff and soil loss of May and August to October will increase greatly. Percent increases , as averaged for each emissions scenario and slope , ranged from 51 % to 117 % for annual runoff and 31 % to 170 %for annual soil loss. Climate change will exacerbate soil and water loss in hill slopes on the Loess Plateau and some counter measures are necessary to mitigate the adver se effects of climate change.
【语种】中文
【第一作者】李志
【通讯作者】李志
【期刊名称、卷期、页码】水土保持通报, 2010, 30(1):1-6
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【学科分类】资源科学技术

【题目】1965年至2005年泾河流域极端降水事件的变化趋势分析
【中文关键词】黄土高原;泾河流域;极端降水事件;Mann-Kendall;小波分析
【英文关键词】Loess Plateau; Jing River watershed; Extreme precipitation events; Mann-Kendall test;Wavelet analysis
【中文摘要】极端降水事件是导致黄土高原水土流失的主要原因之一,分析其变化趋势可为该区的生态建设提供重要的参考信息。选取泾河流域为研究区域,基于Mann-Kendall和小波分析等方法,分析了1965年-2005年极端降水事件的降水量、降水天数、降水强度和严重干旱次数等的变化趋势、突变、年代际变化和振荡周期等。结果表明,泾河流域极端降水事件的整体变化趋势不显著,但其发生频率和强度等都可能呈上升趋势,且存在空间差异,流域中下游呈上升趋势而流域西南部和北部呈下降趋势。各指标均呈波动变化,但基本都在1985年以后呈上升趋势,且在2000年左右发生多次上升突变;波动周期为2~3a,7~8a,13a和17a。尽管变化趋势不显著,但极端降水事件的各指标都趋于升高,表明未来极端降水事件可能对泾河流域的水土保持工作造成更加严重的威胁。
【英文摘要】Extreme climate events often cause more damages to society and ecosystems than dosimple shifts in the mean values, and the impacts of extreme precipitation events are one of the most critical reasons causing severe soil and water loss over the Loess Plateau. Therefore,variations trends in extreme precipitation events need to be reasonably assessed, which can provide meaningful information on regional ecological conservation. The authors performed a study on the Jing River watershed using daily precipitation data from 18 meteorological stations during 1965-2005. Extreme precipitation events were defined in terms of percentile values. Indices, such as amount, frequency, intensity and severe drought frequency, were used to quantify the extreme precipitation events. The Mann-Kendall test and wavelet analysis method were employed to analyze the monotonic trend, abrupt change, interdecadal change and the period of each index. Results showed that the mean annual amount of extreme precipitation events was 143.9 mm/a, accounting for 27% of the total amount of annual precipitation. The mean annual frequency, intensity and maximum daily amount of extreme precipitation events were 3.6 d/a, 39.8 mm/d and 52.3 mm/d, respectively; while the mean annual frequency of severe drought was 7.4 times/a. Most stations in the Jing River watershed had no significant monotonic trend in each selected index of extreme precipitation events; however, the frequency and intensity of extreme precipitation eventstended to increase. Furthermore, the variation trends in extreme precipitation events exhibited spatial variability, which might be caused by the integrated effects of terrain, meteorological conditions and global warming. Specifically, there was a positive trend in extreme precipitation events in the middle and lower reaches of the river that was generally in line with the dominant change trends; while a negative trend in extreme precipitation events in the southwestern and northern watershed was detected, which was opposite to the dominant change trend. Each index was fluctuating during 1965-2005; however, they all increased since 1985 and showed several abrupt changes around the year 2000. The oscillating periods of all indices were found to be 2-3 a, 7-8 a, 13 a and 17 a. Though the annual precipitation amount had a slightly downward trend, each index of extreme precipitation events showed an insignificant upward trend. Therefore, the changesin extreme precipitation events should be paid more attention compared with annual precipitation amount due to potential catastrophic damages resulting from extreme precipitation events to water and soil loss. The findings of this study implied that extreme precipitation events in future mightcause more severe adverse influences on soil and water conservation in the Jing River watershed.Therefore, some adaption actions should be taken to mitigate the adverse effects of climate change on human and natural systems.

【语种】中文
【第一作者】李志
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【学科分类】资源科学技术

【题目】1965~2005年泾河流域极端温度事件变化特征
【中文关键词】气候变化;极端温度事件;黄土高原;Mann - Kendall小波分析
【英文关键词】climate change; extreme temperature events; the Loess Plateau; Mann-Kendall Test; Wavelet Analysis
【中文摘要】利用18个气象站点1965~2005年的日气温数据,基于Mann-Kendall检验、小波分析等方法,分析黄土高原泾河流域极端温度事件的频次、平均强度、年极值和气温日较差的变化趋势、年代际变化和振荡周期等。结果表明,41a以来泾河流域极端高温事件增多而极端低温事件减少,极端低温平均强度显著降低,年极值呈增长趋势。各变量均发生突变,一般在1990年有明显趋势转变。较1965~1990年,90年代以来各变量的变幅较大,极端高(低)温的发生频次变化+9.5d(-8.6d),极端高(低)温的平均强度变化+0.8℃(-1.3℃),气温年极大(小)值增加1.8℃(0.2℃),日较差增大了0.4℃。极端温度事件有3、8~9和17a的振荡周期。
【英文摘要】Based on temperature data during 1965 - 2005 in J inghe watershed and through Mann-Kendall test and morlet wavelet method, this study analyzed the monotonic trend, interdecadal change and period of frequency, intensity, annual extreme value and diurnal range for extreme temperature events. Results showed that in recent 41 years the frequency of extreme high temperature events (EHT) increased while that of extreme low temperature events (ELT) decreased, the intensity of ELT decreased significantly and the annual extreme temperature increased. For each variable abrupt change occurred and generally changed in 1990. Compared with 1965 - 1990, each variable changed greatly since 1990s, the frequency of EHT and ELT changed +9. 5 d and - 8. 6 d, the intensity of EHT and ELT changed +0. 8 ℃ and - 1. 3 ℃, the annual extreme highest and lowest temperature increased 1. 8 ℃ and 0. 2 ℃, respectively; the diurnal range increased 0. 4 ℃. The extreme temperature events haveseveral oscillating period such as three years, eight to nine years, seventeen years and twenty eight years
【语种】中文
【第一作者】李志
【通讯作者】李志
【期刊名称、卷期、页码】地理科学, 2010,30(03)469-474
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【学科分类】资源科学技术

【题目】泾河流域气候变化及其与ENSO的关系
【中文关键词】泾河流域;气候变化;ENSO;Mann-Kendall;小波分析
【英文关键词】Jinghe watershed; climate change; ENSO; Mann-Kendall; wavelet analysis
【中文摘要】ENSO(厄尔尼诺-南方涛动)常引起大气环流的改变并导致气候异常,探讨区域气候变化与ENSO的关系有助于理解区域水文等各方面的变化。通过Mann-Kendall、相关性检验和小波分析等方法,研究了1960-2005年泾河流域气候变化及其与ENSO的关系。结果表明,1960-2005年,泾河流域气候趋向暖干,且这种趋势在90年代以来愈加显著。气候变化与ENSO有显著的关系。降水对ENSO的响应程度强于温度;降水可能受南方涛动的影响比较大,而温度可能受海表温度的影响较多;ENSO暖事件对泾河流域气候变化的影响可能大于冷事件。
【英文摘要】As ENSO (El Nino-Southern Oscillation) often leads to alteration in atmospheric circulation and further causes climatic variation, exploring the relationship between regional climate changes and ENSO is helpful for understanding the variation in regional hydrology. This study analyzed the relationship between the climate changes in the Jinghe watershed and ENSO through Mann-Kendall, correlation test and wavelet analysis. Results showed that climate tended to be warmer and drier during 1960-2005, and this trend has been more significantsince the 1990s. Climate changes in the Jinghe watershed were closely correlated with ENSO. Precipitation was more sensitive to ENSO than temperature. Precipitation was more sensitive to SOI and temperature was more

sensitive to SST. The impacts of ENSO warm events on climate changes in the Jinghe watershed were more significant than cold events.
【语种】中文
【第一作者】李志
【通讯作者】李志
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【学科分类】资源科学技术

【题目】1961—2007年黄土高原极端降水事件的时空变化分析
【中文关键词】极端降水事件; 黄土高原; Mann-Kendall
【英文关键词】extreme precipitation events; the Loess Plateau; Mann-Kendall
【中文摘要】极端降水事件会引起严重的灾害事件,其变化趋势需要进行详尽的评估。基于50个站点1961—2007年日降水数据,定义极端降水事件及衡量指标后,使用M ann-Kendall法评估了黄土高原极端降水事件的空间分布和时间变化特征。结果表明,极端降水事件的空间分布具有东南—西北方向的梯度变化特征,降水量、强度和年最大日降水量均从东南向西北递减,而严重干旱事件从东南向西北递增。多数站点极端降水事件的各指标都具有单一趋势,但各指标具显著性趋势的站点数差异很大。约40%的站点极端降水频率具有显著降低趋势;约30%的站点极端降水量的减少趋势和严重干旱频率的增加趋势具有显著性;约10%的站点极端降水强度的上升趋势和年最大日降水量的下降趋势显著。
【英文摘要】Extreme p recip itation events (EPE) can result in severe hazards, and their changingtrend needs to be assessed in details. Based on the daily p recip itation data of 50 weather stations and the definition of EPE as well as the indices, the spatial distribution and temporal trends of EPE in the Loess Plateau of China during 1961 - 2007 were assessed usingMann2Kendall method. Results showed that annual total amount, intensity and annual dailymaximum p recip itation amount decreased from the southeast to the northwest, severe drought events increased from the southeast to the northwest. Most stations have monotonic trends in indices of EPE during 1961 -2007; however, the numbers of stationswith significant trends are of great difference. About 40% of the stations have significant downward trend in frequency of EPE, 30% of the stations have significant downward trend in annual total amount of EPE and upward trend in frequency of severe drought events, and about 10% of the stations have significant upward trend in intensity of EPE and downward trend in annual daily maximum precipitation amount.
【语种】中文
【第一作者】李志
【通讯作者】李志
【期刊名称、卷期、页码】自然资源学报, 2010, 25(02):291-299
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【引文索引号】null
【学科分类】资源科学技术

【题目】黄土高原水土保持植物措施蓄水保土效益研究
【中文关键词】黄土高原; 水土保持; 植物措施; 蓄水保土
【英文关键词】无
【中文摘要】黄土高原地区植被稀疏,坡陡沟深,土质疏松,水土流失严重,生态环境日益恶化。对黄土高原地区多年水土保持造林、种草和封坡禁牧等措施的蓄水保土效益及毁林毁草后水土保持效益减退情况进行的研究表明:沟谷林、沙棘林、人工林等均可有效地减少径流量和土壤侵蚀量,具有较好的蓄水保土效益;森林被破坏对流域年径流总量影响较小,对径流年内分配影响较大;在黄土高塬沟壑区退耕地种植草木樨,可有效地减少冲刷量和径流量。
【英文摘要】无
【语种】中文
【第一作者】王斌
【通讯作者】王斌
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【题目】黄土高塬沟壑区植物路面与土质路面水动力参数特征对比
【中文关键词】道路侵蚀; 剥蚀率; 水流剪切力; 水流功率; 单宽能耗
【英文关键词】road erosion; soil detachment rate; flow shear stress; flow power; energy consumption of unit width
【中文摘要】黄土高塬沟壑区道路侵蚀异常严重,给农业生产与农产品运输造成了极大不便,目前情况下植物路是防治道路侵蚀最经济有效的方式。通过野外放水冲刷试验,系统对比分析了植物路与土质路土壤剥蚀率与各水动力参数间的关系。结果表明:3°~9°的植物路较土质路平均减沙64.68%;道路侵蚀剥蚀率与各水力学参数之间具有很好的相关性,其中水流功率与土壤剥蚀率相关性最高;土壤剥蚀率与水流剪切力呈幂函数关系,与水流功率和单宽能耗呈线性关系。研究结果对深入揭示植物路防蚀机制有重要意义。
【英文摘要】The condition of road erosion was extremely serious on the Loess Plateau, which caused great inconven ience to the ag ricultura l product ion and transportation. At present the plant covered road was the most effective and economical way to prevent the road erosion. The scouring experiments were conducted to contrastive analyze the relationships between soil detachment rate and hydrodynamic parameters of plant covered road and earth covered road. The results showed that with the range of slope gradient from 3 to 9 , compared to the earth covered road, the soil detachment rate of the plant covered road reduced by 64- 68% ; Significant correlation exits between soil detachment rate and the hydrodynamic parameters, and the flow power has the highest significant correlation with soil detachment rate; There was a power function relationship between the soil detachment rate and the flow shear stress,and there was a linear relationship betw een the soil detachment rate and the flow power, energy consumption of unit width; It had important significance to get a further analysis on the mechanism of erosion reduction of plant covered road.
【语种】中文
【第一作者】王浩
【通讯作者】王文龙
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【学科分类】资源科学技术

【题目】长武塬区地下水位动态特征分析
【中文关键词】地下水位;动态特征;补给;长武塬区
【英文关键词】groundwater level;dynamic characteristic;recharge;Changwu tableland
【中文摘要】依据长武塬区1975~2005年间地下水位4个不同长度时间序列监测资料,对塬区不同地段地下水位多年动态变化进行系统研究。距离塬心较近位置监测井551#和552#的地下水季节变幅分别达0.26 m和0.29 m,受降水补给明显;多年动态监测均呈先稳定后下降的趋势,受年降水量先增后减和地下水开采量逐渐增加的影响;距离塬心较远的监测井554#和555#水位季节变化较小,年际变化也各异,受降水垂直补给影响较小,与地下水埋藏较深、塬面破碎有关。针对塬区地下水变化特点,为保护有限地下水,应该加强地下水资源统一管理,限制地下水的开采量,"以补定采";同时,合理规划,增加地下水补给量,从而实现塬区地下水有效持续利用。
【英文摘要】According to the monitored data of groundwater level in four diferent time series during 1975—2006,well 551 ,552 ,554 and 555 on Changwu tableland,the annual an d monthly changes of groundwater level were systematically analyzed.As to well 551 and 552 ,which are near to the middle of the tableland,the monthly changes of groundwater level reach 0.26m and 0.29m respectively and are significantly afected by rainfall recharge.And the annualchanges of groundwater level show “ stable · downward ” trend,which is afected by the same trend of annual precipitation and gradual increasing groundwater exploitation.The monthly change of groundwater levels of well 554 and 555 ,which are far from the middle of the tableland,is small and the annual change is different,both of which are lessaffected by the direct recharge of precipitation and are more afected by the deeper groundwater levd and smaller physiognomy.Therefore,dome suggestions on wisely using and protection of groundwater were put forward SO as to supply

referentialmaterials for the efficiency and sustainable use of groundwater on Changwu tableland,such as strengthening uniform management and restraining the exploitation,by constricting the number of motor-pumped wells and adopting the rule that the exploitation amount should comply with that of recharge,an d scientific planning of infiltration depressions to increasethe recharge of precipitation.
【语种】中文
【第一作者】王锐
【通讯作者】刘文兆
【期刊名称、卷期、页码】干旱地区农业研究,2010,28(03):48-52
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【学科分类】资源科学技术

【题目】黄兰沙梗草在黄土高原地区的引种栽培试验
【中文关键词】黄兰沙梗草; 引种栽培; 黄土高原地区
【英文关键词】无
【中文摘要】对从美国引进的黄兰沙梗草进行了栽培试验,测试其在黄土高原地区的物候表现、生长状况、经济价值等。结果表明:黄兰沙梗草适应性较强,栽培技术简便易行,生长迅速,年产鲜草可达30~40 t/hm2,产草量较高,耐旱、抗盐碱,各种家畜均喜食,对地面也起到很好的抗蚀防冲作用,生态经济利用价值较高。
【英文摘要】无
【语种】中文
【第一作者】闫晓玲
【通讯作者】闫晓玲
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【题目】唐以来方家沟流域地貌的演变与复原
【中文关键词】方家沟; 地貌复原; 唐代初期
【英文关键词】Fang jiagou drainage area; restoration of landforms; early Tang Dynasty
【中文摘要】以方家沟沟掌台地上的十六国末期赫连伦墓地和沟口汉墓群为依据,确定出方家沟流域现代侵蚀沟的地貌年龄上限为北魏太武帝始光二年(425 A D)。结合现代侵蚀沟地貌年龄计算公式,最终确定其现代侵蚀沟初始侵蚀年代为唐贞元五年(789 A D)前后。根据洪河流域20多年来的侵蚀模数值,计算方家沟流域1 129 a来的侵蚀总量。在1∶10 000地形图上测得方家沟流域现代侵蚀沟的空腔体积。在此基础上,以今天地貌为基准,复原其地貌至唐初,并虚拟绘制出地貌复原图。结果显示,至少到唐初,方家沟流域还是低丘宽谷地貌,不存在深陷的V型谷,V型谷形成的时间要稍晚一些。这种现象普遍存在于陇东盆地泾河的三、四级支流和部分一、二级支流流域。复原结果很好地支持了历史时期黄土高原水土流失日趋严重这一结论。
【英文摘要】This paper focuses on the research of landform restoration of the entire watershed- Fang jiagou drainage area, with some breakthrough in research methods and contents. The upper limit of the initial development period of the contemporary erosion ditch is obtained by using the tomb relics sites, and then its initial developmental period is gotten by using geomorphic age formula of the contemporary erosion ditch of the loess plateau. The final result of the contemporary erosion ditchs geomorphic ages is got by making the comparative analysis of the two results. The historical land form recovery of the entire watershed is achieved by integrating the land form age, erosion modulus of the Honghe River basin for nearly 20 years, and the data of cavity of the contemporary erosion ditch on110 000 landform map. It is ascertained that the geomorphologic age of the contemporary erosion ditch of Fang jia gou drainage area was 425 A. D. , the 2nd year of Shiguang, Taiwu Emperor, Northern Wei Dynasty. This is the result based on the information obtained from the Cemetery of Lun He lian in the Six teen Countries Period (317-420 A. D.) and the Tombs of the Han Dynasty in Fang jiagou Mizoguch.i With the formula of geomorpho logic agesof the contemporary erosion ditch, the age in this area was finally defined as around 789 A. D. , the 5th year of Zhenyuan, TangDynasty. The tota l amount of erosion in this area since 1 129 has been

calculated based on the data in the recent 20 years. The volume of the contemporary erosion ditch in th is areaw asm easured on a topographicmap (1 10 000). The land forms were restored to early Tang dynasty, and a geomorpho logicmap was virtually designed in accordance with the data obtained and with the present landforms in th is area. The results show that at least in early Tang Dynasty, the landform w as a low lying hill and roomy valley, and there was no chasmalV modelerosion ditch. It was estimated that the V model erosion ditch was shaped later. It was also found that this phenomenon is universa l in the 3rd and 4th, and some of 1st and 2nd grades drainage areas of the branches o f the Jinghe R iver, Longdong B asin. It is supported by the results of restoration of landforms that soil and water loss was in creasingly severe in historical period in Loess Plateau. A lthough it is only one sample, evolutional law of the loess plateau landform in history period can be discovered through the research of a number of samples of the watershed.Therefore the research can provide us with relative exact and valuable indicators for the comprehensive soil erosion control in the Loess Plateau.

【语种】中文
【第一作者】姚文波
【通讯作者】侯甬坚
【期刊名称、卷期、页码】干旱区地理, 2010,33(04):509-517
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【题目】西晋以来彭原古城附近沟谷的演变与复原
【中文关键词】彭原古城;沟谷演变;地貌年龄;现代侵蚀沟
【英文关键词】Pengyuan Ancient - Town Sites ; landform evolution ; geomorphic age ; contemporary erosion ditch
【中文摘要】根据历史文献和考古调查,确定出甘肃省庆阳市西峰区彭原乡的两座古城遗址分别是后汉富平县城(GC1)和唐宋彭原县城(GC2),唐宋彭原县是北魏永和元年(434年)以后从今庙头嘴村搬迁到南庄村。据此推断泾河四级支流、马莲河三级支流彭原沟(当地称湫沟)流域的现代侵蚀沟,是在此年以后开始发育的。利用黄土高原现代侵蚀沟地貌年龄计算公式,计算出彭原沟主干沟道现代侵蚀沟的地貌年龄为1669±819年,沟口附近的现代侵蚀沟发育于西晋成帝咸康五年(339年)前后,其主要分支沟谷现代侵蚀沟的地貌年龄介于900±442~1300±638年之间。沟头平均延伸速度为3.367m/a,沟谷平均下切速度为0.063m/a,平均加宽速度0.19m/a。公式计算结果与考古结果基本相符,研究结果具有较高的信度。依此结果,将彭原沟及其支流地貌复原至西晋时期。
【英文摘要】This paper focuses on historical document s and archaeological investigation , theAncient - Town Sites Determined that were Fuping county of Donghan Dynasty and Pengyuan countyof Tang Dynasty and Song Dynasty in Pengyuan Town , Xifeng county , Gansu province. The countytown of Donghan Dynasty and Pengyuan county of Tang Dynasty relocated f rom Miaotouzui Village to Nanzhuang Village af ter 434 ’ s A. D. , the 1th year of Yonghe , Beiwei Dynasty. It was speculate that contemporary erosion ditches of the 3th branches of Manlian River , the 4t h branches of Jinghe River developed after this year . Based on the formula of geomorp hologicages of the contemporary erosion ditch , calculated t he geomorp hic ages of main St ream of contemporary erosion ditch of Pengyuangou was 1669 ±819 years old , developed after 339 ’ s A. D. , the 5th year of Xiankang , Xijin Dynasty. The geomorphic ages of its branches were 900 ±442~1300 ±638 years old. The average forward speedy ofgullies head was 3. 367m/ a. The average speedy of vertical erosion of gullies was 0. 063m/ a. The average widened speedy of gullies was 0. 19m/ a. The two results is basically same that based on formula and archaeological study. The results had high reliability. Based on this results restored the landforms of the Pengyuangou drainage area and its branches to Xijin Dynasty.
【语种】中文
【第一作者】姚文波
【通讯作者】姚文波
【期刊名称、卷期、页码】中国历史地理论丛, 2010, 25(02):15-26+113
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【题目】黄土塬区苹果树蒸腾速率变化特征及其影响因子
【中文关键词】苹果树;蒸腾速率;茎流计;黄土塬;总辐射
【英文关键词】apple tree ; transpiration rate ; sap flow probe ; the loess tableland ; global solar radiation
【中文摘要】报道了应用茎流计(TDP)测定黄土塬区苹果树主要生长季节蒸腾速率的试验结果,并对其影响因子做了分析。研究表明:晴天苹果树蒸腾速率的日变化为单峰曲线;逐日变化为昼高夜低、骤升骤降的特征,夜间接近于0,白天单株苹果树蒸腾速率峰值变化幅度为300~1 000 g/h;6~8月是苹果树蒸腾耗水的主要月份,其中7月份的单株平均日蒸腾量为3 038 g/d;与苹果树的生育期相联系,平均日蒸腾量最大出现在果实膨大期,随后是秋梢生长期和幼果膨大期。在测定时段,随总辐射的增强及气温的升高,苹果树蒸腾速率随之增加。
【英文摘要】This paper reported the experimental results of apple tree transpiration rate measured by TDP mainly in the growing seasons on the Loess Plateau , and the influencing factors to transpiration rate was also analyzed. The results showed that : the change of transpiration rate in clear day was in a form of single peak curve ; the diurnal change of transpiration rate was characterized by an upsurge and followed by a plummet . The transpiration rate , at night , was near 0g/ h , while it changed from 300 g/ h to 1 000 g/ h in the day time. June , July and August were the main periods for transpiration water consumption. In July , the amounts of daily transpiration reached to 3038 g/ d. Associated with the growthphase of apple trees , the maximum daily transpiration amounts appeared in the fruit expanding process stage , then the growing stages of shoots and young fruit in the autumn. In the experimental period , the transpiration rate of apple trees increased with the increasing of global solar radiation and atmospheric temperature
【语种】中文
【第一作者】于金凤
【通讯作者】刘文兆
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【引文索引号】null
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【题目】应用时间序列模型分析长武塬区地下水水位的变化特征
【中文关键词】地下水位; 动态变化; 时间序列分析; 长武塬区
【英文关键词】groundwater level ; dynamic variation of groundwater ; time-series analysis ; Changwu tableland
【中文摘要】针对长武塬区地下水资源贫乏的问题,运用时间序列分析理论对长武塬区地下水位动态变化进行了分析和模拟。采用多项式拟合计算水位动态的趋势分量,运用谐波分析提取周期项,利用自回归(AR)模型模拟随机分量,将得到的三个分量进行叠加建立预报模型。依据长武塬区三口监测井的月平均水位埋深资料,运用SAS提供的指数平滑模型建立地下水位动态模拟和预测模型,并对模型的模拟和预测精度进行分析。(1)时间序列分析法可以简易快捷地模拟预测研究区的地下水位变化,且计算简单,所需资料较少且易于获得,可作为一种简易快速的地下水位模拟预测模型;(2)所建立的时间序列模型需要及时更新资料以提高预测精度;(3)通过对周期项的分析可知研究区地下水位变化存在的主要周期为7.4~10a,且周期逐年增长,揭示了地下水位的多年变化规律;(4)研究区地下水水位呈下降趋势,尤其近几年水位下降幅度增大,应加以控制。
【英文摘要】According to problem existed in water resource indigent on Changwu tableland , the time-series analysis theory is applied to analyze and simulate the dynamic variation of groundwater on Changwu tableland. First , the trend component of groundwater level dynamic variation is picked up by polynomial calibration , the periodic component is extracted by spectrum analysis and the stochastic component is simulated by using autoregression (AR)model. Then , a forecasting model is established through superposition of the three components. According to the month average ground water level data of the three wells in Changwu tableland ,the dynamic simulating and forecasting model of groundwater level is established respectively by using index smooth model provided by SAS , and t he accuracy of models is analyzed. The analysis of t he application example shows that : (1) Thetime-series model is a simple simulation and forecast model of groundwater level because of simple computation and less demand of data. But the data should be continually updated in order to improve the accuracy of model ; (2) But the data should be continually up dated in order to improve the accuracy of model ;(3) There is a major period in the variation of groundwater level in this area , including 7. 4 years and 10 years cycle which becomes longer year by year , by which seasonal and secular variation of groundwater level is revealed ; (4) The prediction for years after 2008 indicates that a continuing decline of groundwater level exists in this area , which must be controlled in time.

【语种】中文
【第一作者】张盼
【通讯作者】刘文兆
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【题目】齐家川示范区水土保持综合治理研究
【中文关键词】水土保持; 综合治理; 技术体系; 齐家川
【英文关键词】无
【中文摘要】齐家川示范区以小流域为单元进行综合治理,治理措施包括工程措施、植物措施、小型拦蓄工程措施、节水灌溉措施和技术推广措施。示范区以径流高效利用和水资源合理配置为重点和特色,建立了集塬面、沟坡、沟道径流集蓄利用为一体,节灌、补灌相结合的崔沟径流高效利用示范村,搭建了传统水土保持治理措施与节水灌溉、集水造林等新技术措施衔接、组装与集成的平台,提高了地表径流利用率。
【英文摘要】无
【语种】中文
【第一作者】张绒君
【通讯作者】张绒君
【期刊名称、卷期、页码】人民黄河, 2010, 32(10):104-105
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【引文索引号】null
【学科分类】资源科学技术

【题目】轮作及不同施肥措施对春玉米生长、产量及水分利用的影响
【中文关键词】春玉米; 连作; 轮作; 有机肥; 产量; 耗水量
【英文关键词】spring maize; continuous cropping; rotation; manure; crop yield; water consumption
【中文摘要】依托24a轮作与施肥长期定位试验,重点对2007年不同轮作方式和施肥条件下春玉米生长、产量及水分利用状况进行了研究。结果表明,不同处理春玉米叶面积,生物量及籽粒产量有相同的变化规律,即在相同施肥条件下,玉米连作(CT)处理的叶面积、生物量以及籽粒产量均高于玉米轮作处理;在轮作(RT)条件下,叶面积、生物量以及籽粒产量均为:RT—NPM>RT—NPK>RT—NP;不同处理间总生物量及籽粒产量均有显著性差异;不同处理0—300cm土壤平均含水量在整个生育期先降低后升高,灌浆期降至最低,春玉米耗水量顺序为:CT—NPM>RT—NPM>RT—NPK>RT—NP;在相同施肥条件下,轮作处理的水分利用效率大于连作处理的水分利用效率;轮作不同施肥处理,RT—NPM处理的水分利用效率最高,RT—NP和RT—NPK处理的水分利用效率均较低。
【英文摘要】Based on 24 year rotation and fertilizer experiments, the effects of rotation and fertilization on the growth, yield and water consumption of spring maize were studied. Results showed that at the same fertilization level, leaf area, yield, and biomass of continuous cropping maize were higher than rotation treatment .Under the same rotation conditions, RT-NPM had the highest leaf area, yield, and biomass, RT-NPM was the second, and RT-NP was the lowest . Yield and biomass of the three treatments were significantly different . The averaged soil water content in 0-300 cm layer decreased firstly and then increased in different development stages and eventually fell to the lowest level in the silking stage. The order of treatments, by water consumption of spring maize, was CT-N PM> RT-N PM> RT-NPK> RT-P. The rotation maize had the highest water use efficiency, continuous cropping maize was in the second level, and RT-NP and RT-NPK were in the lowest level.
【语种】中文
【第一作者】张益望
【通讯作者】刘文兆
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【题目】高塬沟壑区径流高效利用示范户跟踪监测研究
【中文关键词】径流高效利用; 示范监测户; 降水量集蓄; 南庙村; 高塬沟壑区
【英文关键词】无
【中文摘要】通过试验监测方法,在南庙径流高效利用示范村有水窖、果园滴灌和养畜的生态经济户中,选择农业经济收入很好、好、一般、较差的各1户,以户为单元,对试验示范监测户的降水量集蓄、用水来源、耗水量及去向、经济效益等方面进行分析,研究提出了径流高效利用生态经济标准户的标准:庭院集雨场面积350~450 m2,水窖容积50~80 m3,果园面积0.3 hm2左右,配套果园滴灌工程,适当养猪养羊。
【英文摘要】无
【语种】中文
【第一作者】常文哲
【通讯作者】常文哲
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【引文索引号】null
【学科分类】资源科学技术

【题目】高塬沟壑区集水草畜转化试验研究
【中文关键词】集水; 牧草; 养畜; 示范监测户; 寥坳村; 高塬沟壑区
【英文关键词】无
【中文摘要】通过试验监测方法,在寥坳集水草畜转化示范村选择家庭农业经济收入很好、好、一般、差、很差的各1户作为试验示范监测户,对降水集蓄量、用水量及来源、耗水量及去向、养殖效益、养畜能力等进行分析比较,提出集水草畜转化示范标准户的条件:人口4~6人,养母牛2头、仔牛1头,种植苜蓿0.3~0.5 hm2,庭院集雨场面积400~550 m2,水窖容积50~100 m3,沼气池1座。
【英文摘要】无
【语种】中文
【第一作者】常文哲
【通讯作者】常文哲
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【题目】不同添加剂对淮南麻黄鸡抗冷应激能力的影响
【中文关键词】添加剂; 冷应激; 淮南麻黄鸡; 生长发育
【英文关键词】additive; cold stress; Huainan spotted-y ellow chicken; growth and development
【中文摘要】研究不同添加剂对淮南麻黄鸡冷应激处理时血液中激素水平的动态变化和冷应激处理后淮南麻黄鸡生长发育的影响。将480 只40 日龄的淮南麻黄鸡随机分为6 组, 第1~ 4组为冷应激试验组, 分别在日粮和饮水中加入中草药、复合添加剂、营养成分和生理调节剂, 第5 组为冷应激对照组, 第6 组为非冷应激对照组。结果表明, 第1 组采食量显著高于第3、4、5和6 组(P < 0. 01) , 第3 组饮水量显著高于第4、5 和6 组(P < 0. 05) 。淮南麻黄鸡血清三碘甲腺原氨酸(T3) 、游离三碘甲腺原氨酸(FT 3) 、游离甲状腺素(FT4) 的含量与冷应激时间呈极显著的正相关关系(P < 0. 01) 。冷应激处理后, 不同处理组间淮南麻黄鸡血液中T 3、T4、FT 3 和FT 4 的含量发生了变化, 不同处理组的FT 4、T4、T3 和FT3 分别于第1、2、4 d 和4 d出现了显著性差异(P < 0. 05) 。冷应激处理后淮南麻黄鸡的生长发育以第1 组最佳, 第2 组 较差。当鸡处于冷应激状态时, 在日粮中加入中草药, 有助于提高机体的抗应激能力。

【英文摘要】T he aim of this study w as to invest igate the effect of four kinds o f addit ives o n the dy namicchang e of blood hormo ne during cold st ress and grow th and development af ter cold st ress in Huainan spotted-yellow chicken. 480 chickens were selected and randomly allocated to six t reatment gro ups. The diet scontaining Chinese herbs and compound addit ives w ere given to feed group one and group tw o , respect ively. T he drinking w ater containing nut rit ion compo nent and physiolog ical regulator w ere employed fo rgroup three and gro up four , respect ively. The basic diet w ere used fo r g roup five considered as cont ro lgroup during co ld st ress and g roup six fed in the normal temperature. The result s show ed that , the feedintake of gro up o ne w as sig nif icant ly higher than that of g roup three, four, five and six (P < 0. 01) anddrinking amo unt of g roup three w as higher than that o f group four five and six (P < 0. 05) . T he concentrat ions of t riiodo thyr onine (T3) , f ree tr iiodothyronine (FT3) , f ree thyro xine (FT 4) in the ser um and thetr eatment time of cold st ress w er e posit ively correlated (P < 0. 01) . T here w ere differ ence among thesegroup on the chang ing concent rat ions of T3, T4, FT 3 and FT 4 in the ser um at the f ir st , second, fouth andfouth day (P < 0. 05) , r espect ively. The growth and development o f group one was the best and that wasthe worst of group tw o among these groups. When the chickens w ere ex posed to cold st ress, Chinese herbs added in the diet could improve the ability of r esistance of co ld st ress.

【语种】中文

【第一作者】许月英

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【学科分类】畜牧学

【题目】高塬沟壑区中尺度流域水土保持示范基地建设

【中文关键词】水土保持; 综合治理; 中尺度流域; 砚瓦川流域

【英文关键词】soil and water conservation; integrated treatment; mesorscale watershed; Yanwachuan Watershed

【中文摘要】砚瓦川流域水土流失面积为208.7 km2,占流域总面积的63.52%,水土流失较为严重,主要采用工程措施、植物措施、小型拦蓄工程措施、节水灌溉措施对该流域进行了综合治理,共完成水土保持综合治理面积138.81 km2,建成谷坊928道、沟头防护62处、水窖1496眼、涝池90座、骨干坝6座、小型淤地坝2座、径流高效利用示范点5个,使该流域土地利用结构发生了很大变化,取得了可观的经济效益、生态效益和保水保土效益。

【英文摘要】The area of soil and water loss of Yanwachuan Watershed where the soil and water loss is severe is 208. 7 km2, making up 63. 52% of the total drainage area. It mainly implements the following measures of engineering, vegetation, small sized im pounding workand water saving irrigation for integrated treatment. It has completed integrated treatment area of 138. 81 km2 through soil and water conservationand built 928 check dams, 62 protection of gully heads, 1 496 cisterns, 90 ponds, 6 key dams, 2 small sized warping dams and 5 pilot areas of efficient use of runoff in total having a great change on the structure of land use of the watershed and achieving considerable benefitsin economy, ecology and soil and water conservation.

【语种】中文

【第一作者】常文哲

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【学科分类】资源科学技术

【题目】黄土塬区土壤水分分布特征及其对不同土地利用方式的响应

【中文关键词】土壤,水分,土地利用,黄土塬区,土壤干燥化,响应

【英文关键词】soils, moisture, land use, the Loess Tableland, soil desiccation, response

【中文摘要】该文就陕西省长武黄土塬区主要土地利用方式下0~20 m土壤剖面水分分布特征及其与土壤质地的关系进行了调查与分析,以期服务于土地利用方式的优化配置及区域水文水资源研究。结果表明,黄土剖面古土壤层物理黏粒含量较黄土层高约2%~6%,质地较重;0~20 m剖面田间持水率和萎蔫湿度分别为(21.39±0.13)%和(8.06±0.45)%。黄土深层土壤

水分分布特征与黄土-古土壤序列有关,一般情况下,一层黄土和一层古土壤构成一次湿度高低起伏,并有随深度增加湿度变大的趋势。荒草地、18年苹果园地、8年生及23年生苜蓿草地0~20 m土层平均湿度分别为18.89%、15.45%、14.77%和10.59%,连作高产小麦地0~13 m土层平均湿度为18.74%。高产麦田和荒草地3 m以下土层没有发生干燥化现象;18年苹果园地在10 m以上土层发生了中度和轻度为主的土壤干燥化现象;8年苜蓿草地在10 m以上土层发生了重度、中度和轻度的土壤干燥化现象,其中重度干燥化现象出现在4 m以上土层;而23年苜蓿在整个20 m土层都发生了重度和中度的土壤干燥化现象,其中重度干燥化现象出现在17 m以上土层。可以看出,高耗水型人工林草因水分负平衡所导致土壤干燥化,随年限增加渐进地向深层土层发展,这在苜蓿草地上表现的更为突出。

【英文摘要】The characteristics of soil moisture distribution in 0~20 m loess profiles under different land use patterns and its relations with soil texture on the Changwu Loess Tableland were investigated for the optimal allocation of land use patterns and the study of regional hydrology and water resources. Results showed that physical clay in soil layers of red-brown paleosol was 2%-6% higher than in loess layers. Field capacity and wilting point were (21.39±0.13)% and(8.06±0.45)%, respectively. The characteristics of soil moisture distribution in deep layers were related to the loesspaleosol sequences. Generally, one paleosol layer and one loess layer constituteda up-down humidity level and there was an increasing trend in soil moisture with increased depth. The average soil moisture contents in the loess profiles in grasslandwas measured, 18-yr apple orchard, and 8-yr and 23-yr planted alfalfa grasslands were 18.89%, 15.45%, 14.77%, and 10.59%, respectively. The average soil moisture content at 0-13 m layer in high-yield wheat field was 18.74%. There was no soil desiccation below the depth of 3 m in high-yield wheat field and grassland. In 18-yr apple orchard, soil desiccationoccured in the upper 10 m of the profile, being mainly moderate desiccation and light desiccation. In 8-yr planted alfalfa grassland, soil desiccation occured above 10 m of the profile, being severe desiccation, moderate desiccation, and light desiccation, and the severe desiccation occured above 4 m of the profile. In 23-yr planted alfalfa grassland,soil desiccation occured in the whole loess profile and the severe desiccation occured in the upper 17 m of the profile. The soil desiccation caused by negative water balance can gradually develop to deep soil layers with age in planted woodland and grassland and it is more prominent in alfalfa grassland.

【语种】中文
【第一作者】程立平
【通讯作者】刘文兆
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【学科分类】土壤学

【题目】高塬沟壑区水畜沼果生态经济技术试验研究
【中文关键词】高塬沟壑区; 生态; 经济; 径流
【英文关键词】Hilly-gullied area of loess plateau,Ecology,Economy,Runoff
【中文摘要】通过试验监测方法,在甘肃省庆阳市西峰区崔沟"水畜沼果"示范村的生态经济户中,确定家庭经济收入很好、好、一般、差、很差各1户,共5户,以户为单元,系统监测各户的需水量、用水来源、耗水量、水去向和经济效益等方面的指标。自来水用量、集蓄水量占总用水量72.3%和27.7%;自来水主要用于果园灌溉、畜用、人用和菜园灌溉,依次为86.3%、6.7%、4.7%和2.3%;集蓄水主要用于畜用、果园和菜园灌溉,依次为75.2%、16.9%和7.9%。沼气年平均使用率为49.1%。研究提出"水畜沼果"生态经济示范标准户,对实现模块化、集成化和快速、大规模推广具有重要的作用。

【英文摘要】Through experimental and monitoring methods,we chose five ecological economy families in the village of Cuigou “ water livestock methane-fruits ” model units. These five families are divided into five types of very good,good,normal,poor, and very poor by their incomes. Each family is a unit,systematic monitoring indicators such as the family water demand,water sources,water consumption water use,and economic benefit etc. Running,water storage capacity takes 72. 3% and 27. 7% of total water consumption; it is mainly used for orchard irrigation,livestock use,and human use,garden irrigation,followed by86. 3%,6. 7%,4. 7% and 2. 3%. Stored water is mainly used for livestock,irrigation of orchards and vegetable gardens, followed by 75. 2%,16. 9% and 7. 9%. Biogas utilization rate is 49. 1% on average. The research gives standard ecological economic model families for “ water livestock methane-fruits ”,it plays an important role in realizing modular,integrated,rapid and large-scale promotion.

【语种】中文
【第一作者】李怀有
【通讯作者】李怀有
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【学科分类】资源科学技术

【题目】山地苹果树更新修剪对树体营养及生长的影响
【中文关键词】苹果;更新修剪;树体营养;生长
【英文关键词】apple;renewal pruning;nutrition;growth
【中文摘要】在陕北黄土丘陵沟壑区以常规修剪为对照,探讨更新修剪对盛果期山地苹果树体营养和生长方面的影响。结果表明:更新修剪提高了叶片、枝条中的氮、磷、钾、钙含量,提高了果实中的氮、钾、钙含量,对果实中的磷和根系中的磷、钾无显著影响;降低了根系中的氮、钙含量;显著增加了长枝、中枝的比例,显著降低了短枝、叶丛枝比例,促进了枝条健壮发育。更新修剪增加了叶面积,提高了叶绿素、单果质量、果实维生素C和有机酸含量,对果实可溶性固形物、总糖、着色面积等无显著影响,提高了果实产量,极显著提高了果园的经济产值。
【英文摘要】Compared with common pruning in Loess hilly and gully region of Northern Shaanxi,theeffects of renewal pruning on mountain apple tree ’s nutrition and growth at full productive age had been determined. The results showed that renewal pruning increased nitrogen,phosphorus,potassium,calcium contents in leaves and branches,and increased nitrogen,potassium and calcium contents in fruit,reduced nitrogen and calcium contents in roots,but had no significant effects on phosphorus content in fruit,phosphorus and potassium contents in roots. Renewal pruning significantly increased the proportion of long branch and medium branch,significantly reduced the proportion of short branch and leafage branch, and promoted branch robust development. Renewal pruning increased leaf area,chlorophyll content,fruit weight,fruit vitamin C and organic acid contents,but had no significant effects on fruit firmness,soluble solids,total sugar,and coloring area. Renewal pruning increased fruit yields and significantly improved orchard economic value.
【语种】中文
【第一作者】李明霞
【通讯作者】杜社妮
【期刊名称、卷期、页码】园艺学报,2011,38(1):139 – 144
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【引文索引号】null
【学科分类】园艺学

【题目】更新修剪对盛果末期苹果光合能力及果实品质的影响
【中文关键词】盛果末期苹果树; 更新修剪; 光合能力; 果实品质; 枝条生长
【英文关键词】apple tree in final full productive stage; renewal pruning ; photosynthetic ability ; fruit quality ; shoot growth
【中文摘要】【目的】探讨更新修剪对盛果末期苹果树光合能力及枝条生长、果实品质的影响。【方法】在渭北旱原,对盛果末期苹果树进行更新修剪和长放修剪(对照),利用LI-6400光合仪测定2种修剪方式下不同枝条叶片的光合能力,并测定枝条生长状况和果实品质的相关指标。【结果】盛果末期苹果树果台副梢、叶丛枝、发育枝叶片的光合速率和气孔导度日变化曲线均呈双峰曲线,蒸腾速率则呈单峰曲线,胞间CO2浓度呈"反抛物线";更新修剪极显著提高了不同枝条叶片的光合速率、气孔导度和蒸腾速率,极显著降低了叶片胞间CO2浓度;更新修剪显著或极显著提高了中枝、长枝的数量,显著或极显著提高了果实单株产量、单果质量、果形指数及有机酸、可溶性固形物和可溶性糖含量,对果实硬度及维生素C含量无显著影响。【结论】更新修剪提高了盛果末期苹果树叶片的光合能力,促进了枝条生长,提高了果实产量和单果质量。
【英文摘要】Objective The study was to investigate the effect of renewal pruning on photosynthetic ability and shoots g rowth, fruit quality of apple tree in final full productive stage. Method In Weibei Plateau, renewal pruning and long branch pruning (control) on final full productive stage, photosynthetic ability of different shoots with two types o f pruning were measured by LI6400 photosynthetic and shoo growth and related indicators of fruit quality w ere measure. Result The diurnal variation of photosynthetic rate and stomatal conductance of bourse shoot , leafage shoot and vegetative shoot all showed bimodalcurve, the diurnal variation of transpiration showed single curve, and the diurnal variation of intercellula CO2 concent ratio n showed antiparabolacurve . Renewal pruning significantly increased photosynthetic rate, stomatal conductance and transpiration of different shoots; and significantly decreased intercellularCO2 concentration. Renewal pruning extremely signficant or significantly increased amount of long branch and medium branch, ext remely significant or significantly increased fruit yields, fruit weight, fruit

shape index and acid content , solule solids and the content of soluble sugar; and it had no significant effect on fruit firmness and vitamin C. Conclusion Renewal pruning increased the photosynthetic ability of leaves, promoted shoots growth, and improved yields and fruit weight of apple tree in final full productive stage.
【语种】中文
【第一作者】李明霞
【通讯作者】白岗栓
【期刊名称、卷期、页码】西北农林科技大学学报(自然科学版), 2011,39(01):179-185
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【学科分类】园艺学

【题目】旱区经营人工植被对土壤干化过程的调控
【中文关键词】人工植被; 土壤干化; 水分平衡; 旱区
【英文关键词】artificial vegetation; soil desiccation; water balance; dry land areas
【中文摘要】人工植被在北方旱区具有重要的意义,但在干旱少雨的条件下开展建设,必须讲求水分平衡。基于此,作者通过考察长期的经营实践,从土壤水分角度讨论人工植被与环境之间的耦合匹配问题。阐述了普遍发生的人工植被作用下的土壤干化对植被自身的不利影响以及其可调控性,并进一步对调控途径和措施进行了分析。表明人为采取措施可以将土壤干化现象加以调节和控制,如局部带状或团块状种植、疏伐、轮作、休闲、灌溉等。在贯彻适地适种原则的基础上,还需选择耗水量少的抗旱节水植物和可维持土壤水库水平的密度或盖度,这是保证人工植被稳定持久值得重视的又一重要方面。预防土壤干化是首要的,需多途径相互结合进行调控。对土壤干化过程的调控实际上就是有效经营人工植被。需要结合经营目标评定人工植被的稳定性。
【英文摘要】Artificial vegetation is of great significance in the dryland areas of northern China, butwater balance must be thought over in its construction under droughty conditions of less precipitation. Based on this, the paper dealt with the matching of artificial vegetation to its environment from the angle of soil moisture by investigating long-term management practices. After presenting the unfavorable feedback effects of so il desiccation occurring un iversally by artificial vegetation and its contro llab ility, the author further analyzed the controlling ways andmeasures. It is shown that the phenomenon of soil desiccation might be controlled by artificia lmeasures, such as partial afforestat ion or cultivation of forage grasses in strips or patches, thinning, rotation cropping, fallowness, irrigation, etc. On the basis of carrying out the principle of planting in a ccordance with site conditions, drought resistant and water-saving plants that consume less water and communitydensity or coverage to mainta in soil reservoir level would need to be chosen, which is another important aspect to deserve to be taken seriously for guaranteeing vegetation stability. Preventing soil desiccation is themost importan,t and some controllingw ays should be integrated. Controlling soil desiccation is actually equivalent to effective ly m anaging artificial vegetation. The managing goal is one of them a in factors to assess the stability of artificial vegetation
【语种】中文
【第一作者】王晗生
【通讯作者】王晗生
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【题目】干旱条件下人工幼林自然化经营的生长效果
【中文关键词】人工林; 幼树生长; 土壤水分; 自然化经营; 旱区
【英文关键词】无
【中文摘要】根据人工林自然化经营的理念进行造林试验,整地采用鱼鳞坑,幼林抚育中仅在其坑面松土除草。对土壤水分、幼树生长量等的测定结果表明,采用鱼鳞坑整地以及松土除草处理均能够显著提高旱季土壤的水分含量,后者是对前者的增进,前者作用可持续多年,而后者仅当年有效。不同处理方式下幼树的生长效果为:春季和夏季两次处理>春季一次处理>夏季一次处理>未处理。与旱季土壤蒸发失水特征相符,春季松土除草占有重要的地位。人工幼林自然化经营并不与其生长相悖。

【英文摘要】无
【语种】中文
【第一作者】王晗生
【通讯作者】王晗生
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【学科分类】森林培育学

【题目】糙米替代玉米在麻黄鸡育肥期应用效果研究
【中文关键词】麻黄鸡; 育肥期; 糙米; 玉米
【英文关键词】Partridge chicken; Fattening period; Brown rice; Corn
【中文摘要】研究了不同比例糙米替代玉米, 对育肥期麻黄鸡生产和屠宰性能的影响。将180只120日龄麻黄鸡随机分为3个处理组, 即对照组(0%替代)、试验Ñ组(10% 糙米替代) 和试验Ò组(20%糙米替代) , 每个处理组4个重复。每周统计各组耗料量, 每2周称重1次, 并于第4周末于每个重复内随机取2只测定其屠宰性能。结果表明: 各糙米替代组对麻黄鸡增重无显著影响, 育肥前期饲料转化率高于育肥后期, 但各组间差异不明显; 各糙米替代组对育肥期麻黄鸡主要屠宰性能无显著影响, 10%替代组腹脂率显著低于对照组和试验Ò组。表明糙米部分替代玉米作为麻黄鸡育肥期饲料是可行的, 但糙米用量以不超过10%为宜。
【英文摘要】T he effects o f brown rice instead of corn on the production and slaughter perform ance during the fatten ingperiod of partridge chicken were studied1The resu lts show ed that the effects of corn, 10% brown rice and 20% brown riceon the weight gain of ch icken w ere not s ign ificant1The feed conversion rate at early fatting stage was higher than that atlate, while the differences am ong three groupsw ere not obv ious1The brown rice had no s ign ificant effect on the slaughterperformance1The percentage of abdom inal fat o f10% brown rice was s ign ificantly low er than those of corn and 20% brownrice1That was to say, the brown rice could be used as feed instead of corn, and the am ount was less than 10%.
【语种】中文
【第一作者】陈兴勇
【通讯作者】耿照玉
【期刊名称、卷期、页码】河北农业科学,2010,14(6):59-60,75
【论文发表时间】2010-05-27 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】畜牧学

【题目】高塬沟壑区禾本科牧草集水种草试验研究
【中文关键词】禾本科牧草; 集水种草; 牧场草; 高塬沟壑区
【英文关键词】无
【中文摘要】在同一集水区宽度、同一集蓄比、不同播种方式下,对牧场草、红象、传奇、球道、优美、老芒麦、披碱草、杂三叶进行集水种草试验,观测蓄水区的土壤含水率,及牧草出苗率、适宜性、产草量等,经对比分析表明:高塬沟壑区荒山种植的首选草种是牧场草,披碱草、老芒麦、优美可作为辅助牧草与其他产量高的牧草混播,而杂三叶不能在天然草场改良中应用。
【英文摘要】无
【语种】中文
【第一作者】闫晓玲
【通讯作者】闫晓玲
【期刊名称、卷期、页码】人民黄河,2011,33(06):144-148
【论文发表时间】2011-06-21 00:00:00
【引文索引类型】其他
【引文索引号】null

【学科分类】资源科学技术

【题目】砚瓦川流域径流高效利用研究
【中文关键词】径流利用; 地表水利用率; 砚瓦川流域
【英文关键词】无
【中文摘要】根据砚瓦川流域产汇流规律、地下水埋藏深度、雨洪径流资源利用目标、经济发展方向及开发目标,分上、中、下游3个区分别选取典型村进行了径流高效利用模式建设:上游雨洪径流高效利用模式,地表水利用率由2.95%提高到30.49%;中游庭院集水草畜转化模式,地表水利用率由1.07%提高到17.98%;下游河川径流利用模式,地表水利用率由1.27%提高到50.7%。上、中、下游径流高效利用的重点和方式各具特点,经济社会效益显著提高。
【英文摘要】无
【语种】中文
【第一作者】张绒君
【通讯作者】张绒君
【期刊名称、卷期、页码】人民黄河, 2011, 33(06):136-139
【论文发表时间】2011-06-02 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】资源科学技术

【题目】高塬沟壑区阴坡林分配置集水造林试验研究
【中文关键词】阴坡; 集水造林; 水平阶; 鱼鳞坑; 油松; 沙棘; 高塬沟壑区
【英文关键词】无
【中文摘要】高源沟壑区阴坡集水造林时,采用水平阶、鱼鳞坑和不整地3种整地形式,对油松纯林、油松×沙棘混交林的生长状况进行了试验研究。结果表明:水平阶整地形式下,油松×沙棘混交林的成活率、保存率、干径、郁闭度最高;水平阶整地费用最高,其次为鱼鳞坑。在劳力稀少、经济欠发达的山区可采用鱼鳞坑整地形式造林,以保证苗木成活率,降低成本。
【英文摘要】无
【语种】中文
【第一作者】张西宁
【通讯作者】张西宁
【期刊名称、卷期、页码】人民黄河, 2011,33(06):140-143
【论文发表时间】2011-06-18 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】资源科学技术

【题目】高塬沟壑区阳坡林分配置集水造林试验研究
【中文关键词】林分配置; 集水造林; 侧柏; 沙棘; 集水槽; 鱼鳞坑; 阳坡; 高塬沟壑区
【英文关键词】无
【中文摘要】对高塬沟壑区阳坡不同集水造林处理方式的土壤含水率、造林成活率、苗木生长量等进行了对比研究,结果表明:集蓄槽整地方式土壤含水率最高,集水面积越大,收集的雨水越多,土壤含水率越高;在立地条件较差的高塬沟壑区阳坡地段,采用集蓄槽整地造林效果最佳,其次为鱼鳞坑;侧柏×沙棘混交林的造林成活率和林木生长量优于侧柏纯林,采用集蓄槽整地造林成活率和林木生长量优于鱼鳞坑,且两种整地方式均比对照(不整地)好。
【英文摘要】无
【语种】中文
【第一作者】赵国栋
【通讯作者】赵国栋
【期刊名称、卷期、页码】人民黄河, 2011, 33(06):142-143
【论文发表时间】2011-06-26 00:00:00

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【引文索引号】null
【学科分类】资源科学技术

【题目】低温环境下不同采食量对黄羽肉种鸡生产性能的影响
【中文关键词】黄羽肉鸡;采食量;生产性能
【英文关键词】Huangyu broiler; food intake; production performance
【中文摘要】试验研究了低温环境下采食量对肉种鸡生产性能的影响。选取20 周龄体重相近的黄羽肉种鸡432 只,随机分成4 个饲料水平组,每组9 个重复(12 只/重复):基础日粮组(C);试验组分别在基础日粮上增加2 g(C+2 组)、4 g(C+4 组)和6 g(C+6 组)日粮,统计产蛋初期不同饲料水平下黄羽肉种鸡产蛋率和蛋重。结果表明:在整个试验周期内,各试验组与基础日粮组间产蛋率差异不显著(P >0.05);各试验组内产蛋率差异亦不显著(P<0.05);而C+6 组的蛋重显著高于对照组(C)(P<0.05);各试验组与对照组体重差异不显著(P >0.05)。结论:在低温环境下,适当增加饲喂量有助于黄羽肉种鸡生产性能的提高。
【英文摘要】Effects of different feed intake on Huangyu broilers were tested under low temperature in the trial. 432 broilers with similarbody weigh at 20 week-old were randomly divided into 4 groups, and respectively fed with different diet level, namely basal diet group(C), basal diet with 2 g feed addition (C+2), basal diet with 4 g feed addition (C+4) and basal diet with 6 g feed addition (C+6).Statistics in egg production rate and egg weight indicated that, in the experimental period, there was no difference between experimentalgroup and basal diet group in egg production rat(P>0.05), but C+6 in egg weight was higher than that of C(P<0.05). However, there wasno marked difference between C and the other groups in body weight again (P>0.05). In conclusion, application of addition into feed intake would improve the productivity of Huangyu broilers under low temperature to a degree.
【语种】中文
【第一作者】夏文涛
【通讯作者】耿照玉
【期刊名称、卷期、页码】畜牧与饲料科学,2009,30(10):130-131
【论文发表时间】2009-10-07 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】畜牧学

【题目】干旱影响下人工林的天然更新进程
【中文关键词】人工林; 天然更新; 幼苗建立; 土壤水分; 黄土高原
【英文关键词】plantation forest; natural regeneration; seedling; soil moisture; Loess Plateau
【中文摘要】通过植被状况调查、气象条件分析以及地面处理试验,在分析人工林天然更新因子的同时,对更新幼苗的发生进行了探讨。结果表明:落种的萌发成苗过程是干旱影响下人工林天然更新的关键环节,其间水分因子起着显著的作用。更新幼苗与降水特点密切相关,冬季积雪、春季或旱季出现连续数日的降水过程或连阴雨天气,都是更新幼苗发生的有利条件。冬、春季缺少持续降水,干燥的地表使得更新幼苗难以发生。地面处理产生的覆土效果可改善落种的水分环境,克服降水条件的制约,从而促进更新幼苗的发生。为使成苗状况稳定和完成天然更新,进一步讨论了人工促进更新的一些措施。
【英文摘要】Based on the investigation of some typical plantation forests and peripheral natural grasslands in adrought-prone semihumid area on the Loess Plateau,the analyses on meteorological conditions and the trial of shallowscarification of plantation land with fallen seeds and seedlings for regeneration were mainly regarded the factorsaffecting the natural regeneration of plantation forests. The results indicated that the germination of fallen seeds onland surface and seedling formation would be the key links for the natural regeneration of plantation forests underdrought,in which water factor might be a dominant factor. Closely related to rainfall,the favorable aspects to ensureseedling occurrence for regeneration is snow cover accumulated in winter without thawing until early spring,and also precipitation lasting for a number of days or continuous rainy overcast appearing in spring or droughty season.Owing to successive scarcity of precipitation in winter and spring,it is difficult to emerge seedlings for regenerationin dry land. Nevertheless,to earth up may improve soil moisture conditions in dry land for fallen seeds andovercome the restriction of precipitation scarcity,thus the emergence of seedlings for regeneration may be improved.In order to stabilize the survival and growth of seedlings and achieve the natural regeneration of plantationforests,it is suggested to take some artificial measures.

【语种】中文
【第一作者】王晗生
【通讯作者】王晗生
【期刊名称、卷期、页码】干旱区研究, 2012, 29(05):743-750
【论文发表时间】2012-09-11 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】森林培育学

【题目】低温应激对淮南麻黄鸡血清生化指标的影响
【中文关键词】淮南麻黄鸡;血清酶;低温应激
【英文关键词】Huainan partridge chicken; serum enzyme; cold stress
【中文摘要】为探讨不同强度和时间冷应激对皖北地方鸡种淮南麻黄鸡公鸡血清酶的影响,将4 周龄健康公雏分别暴露于2℃和10℃环境温度下,分别于0、0.5、1、2、3、6、12、24、72 和144 h 取6 只公雏,检测血清中丙氨酸氨基转移酶(ALT)、天门冬氨酸氨基转移酶(AST)、γ-谷氨酸氨基转移酶(γ-GT)、乳酸基质速率法测乳酸脱氢酶(LDH)和酶偶联法测肌酸激酶(CK)的水平。结果表明:极端低温应激(2℃)下,各时段血清中ALT、AST、γ-GT、LDH 及CK 均表现出不同的变化规律,即在应激早期血清酶水平快速升高,至中期下降至与对照组接近的水平,慢性应激达3~6 d 时,各血清酶水平再次升高。在中度冷应激(10℃)条件下,血清中各酶水平变化较不明显,只在慢性应激达3~6 d 时检测到血清酶水平的上升或下降。
【英文摘要】In order to investigate the effects of different intensities and time of cold stress on the serum enzyme ofHuainan partridge chicken, 4-week-old healthy male chicken were randomly selected and exposed at 2°C and 10°C,respectively. 6 blood samples were collected at 0, 0.5, 1, 2, 3, 6, 12, 24, 72 and 144 h, respectively, and ALT, AST, γ-GT, LDH and CK in the serum were measured. The results showed that under the extreme low temperature (2°C), theALT, AST, γ-GT, LDH and CK in each time all showed different change rules, i.e., serum enzymes elevated significantlyduring early time of cold stress and then decreased to the level of control group's at middle time, and when cold stresssustained for 3 to 6 days, serum enzymes rose again. Under the mid-cold stress (10°C), no obvious changes were observedfrom each serum enzyme, but the significant rise or decrease of serum enzymes was observed from long-term cold stress (3 to 6 days).
【语种】中文
【第一作者】陈兴勇
【通讯作者】耿照玉
【期刊名称、卷期、页码】湖南农业科学,2010,(11):122-124
【论文发表时间】2010-04-09 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】畜牧学

【题目】Soil water dynamics and deep soil recharge in a record wet year in the southern Loess Plateau of China
【中文关键词】无
【英文关键词】Soil water recharge;
Eco-hydrology;
Loess Plateau;
Dryland farming
【中文摘要】无
【英文摘要】Terrestrial water cycles are influenced by hydrologic and textural properties of the deep loess layer in the Loess Plateau. Analyses of soil water profile distributions are needed to understand the regional water cycle processes and to guide agricultural production and sustainability. The objective of this study was to quantify the extent of deep soil water recharge and soil water profile dynamics during 1987 – 2003, especially in a record wet year of 2003, in common cropping systems in a semiarid-subhumid region of the southern Loess Plateau. The Chinese Ecological Research Network (CERN) site and a long-term rotation experiment site in a flat tableland were selected for this study. Soil moisture profiles were measured by a neutron probe to a depth of 6 m in 2003. The precipitation of 954 mm at the Changwu County Meteorological Station in 2003 was 63.4% higher than the long-term average (584 mm), and was a record high since 1957. Although cropping systems affected deep soil water recharge, the persistent dry soil layer

formed between 2- and 3-m depths in croplands, resulting from many years of intensive cropping, was fully replenished in all cropping systems in 2003. Further frequency analysis indicated that the desiccated layer between 2- and 3-m depths would be fully recharged at least once in about 10 years for all existing cropping systems excluding continuous alfalfa. This finding should alleviate concerns about the formation of a permanent deep-soil desiccation layer as well as its potential impact on the long-term sustainability of the existing intensive cropping systems in the region.

【语种】英文
【第一作者】Wenzhao Liu
【通讯作者】Wenzhao Liu
【期刊名称、卷期、页码】Agricultural Water Management, 2010, 97 (8): 1133-1138
【论文发表时间】2010-08-17 00:00:00
【引文索引类型】SCI
【引文索引号】10.1016/j.agwat.2010.01.001
【学科分类】农业基础学科

【题目】Spatial distribution and temporal trends of extreme temperature and precipitation events on the Loess Plateau of China during 1961——2007
【中文关键词】无
【英文关键词】extreme temperature;precipitation events;Loess Plateau of China
【中文摘要】无
【英文摘要】Extreme climate events often cause catastrophic damage to nature and human society. Therefore, regional assessments in various climates and geographic regions are needed for understanding the uncertainties of the change trends for extreme climate events. The objective of this study was to assess the spatial distribution and temporal trends of extreme precipitation and temperature events on the Loess Plateau of China during 1961 – 2007. Nine indicators (pq90, px5d, pint, pxcdd, pnl9, txq90, tnq10, tnfd, txhw90) were chosen to quantify extreme climate events, the Mann-Kendall method and linear trend analysis were used to test the change in trend and the magnitude, and inverse distance weighted interpolation was used to interpolate the spatial patterns. Results showed that most extreme climate indicators were spatially distributed with obvious gradients from the southeast to the northwest. Heavy rainfall threshold (pq90), greatest 5-day total rainfall (px5d), heavy rainfall days (pnl9) and cold-night threshold (tnq10) decreased from the southeast to the northwest, while simple daily rainfall intensity (pint), longest dry period (pxcdd) and number of frost days (tnfd) increased from the southeast to the northwest. Most stations had monotonic trends in extreme indicators during 1961 – 2007. However, the number of stations with significant trends varied greatly. Precipitation-based indicators showed more mixed patterns of change and few stations had significant trends. However, temperature-based indicators had more uniform changes and most stations had significant trends. Hot-day threshold (txq90) and cold-night threshold (tnq10), and the longest heatwave (txhw90) tended to increase while the number of frost days decreased since the 1960s on the Loess Plateau. Overall, extreme precipitation events did not change significantly; however, extreme temperature events became more severe and frequent. The results implied that extreme climate events on the Loess Plateau will continue to have adverse impacts, and adaptive measures should be considered for future ecological construction and agriculturally sustainable development.
【语种】英文
【第一作者】Zhi Li
【通讯作者】Fen-li Zheng
【期刊名称、卷期、页码】Quaternary International, 2010, 226 (1-2): 92-100
【论文发表时间】2010-04-16 00:00:00
【引文索引类型】SCI
【引文索引号】10.1016/j.quaint2010.03.003
【学科分类】资源科学技术

【题目】Generation of induced pluripotent stem cell from buffalo (Bubalus bubalis) fetal fibroblasts with buffalo-derived defined factors
【中文关键词】无
【英文关键词】无

【中文摘要】无

【英文摘要】Ectopically, expression of defined factors could reprogram mammalian somatic cells into induced pluripotent stem cells (iPSCs), which initiates a new strategy to obtain pluripotent stem cell lines. Attempts have been made to generate buffalo pluripotent stem cells by culturing primary germ cells or inner cell mass, but the efficiency is extremely low. Here, we report a successful method to reprogram buffalo fetal fibroblasts (BFFs) into pluripotent stem cells [buffalo induced pluripotent stem cell (biPSCs)] by transduction of buffalo defined factors (Oct4, Sox2, Klf4, and c-Myc) using retroviral vectors. The established biPSCs displayed typical morphological characteristics of pluripotent stem cells, normal karyotype, positive staining of alkaline phosphatase, and expressed pluripotent markers including Oct4, Sox2, Nanog, Lin28, E-Cadherin, SSEA-1, SSEA-4, TRA-1-81, STAT3, and FOXD3. They could form embryoid bodies (EBs) in vitro and teratomas after injecting into the nude BALB/C mice, and 3 germ layers were identified in the EBs and teratomas. Methylation assay revealed that the promoters of Oct4 and Nanog were hypomethylated in biPSCs compared with BFFs and pre-biPSCs, while the promoters of Sox2 and ECadherin were hypomethylated in both BFFs and biPSCs. Further, inhibiting p53 expression by coexpression of SV40 large T antigen and buffalo defined factors in BFFs or treating BFFs with p53 inhibitor pifithrin-a (PFT) could increase the efficiency of biPSCs generation up to 3-fold, and nuclear transfer embryos reconstructed with biPSCs could develop to blastocysts. These results indicate that BFFs can be reprogrammed into biPSCs by buffalo defined factors, and the generation efficiency of biPSCs can be increased by inhibition of p53 expression. These efforts will provide a feasible approach for investigating buffalo stem cell signal pathways, establishing buffalo stem cell lines, and producing genetic modification buffaloes in the future.

【语种】英文

【第一作者】邓彦飞

【通讯作者】石德顺

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【引文索引号】2222222

【学科分类】畜牧、兽医科学基础学科

【题目】基于光谱分析技术的苹果花钾素含量估测研究

【中文关键词】光谱分析,苹果花,钾素含量,估测

【英文关键词】spectral analysis,apple flower,kalium content,estimation

【中文摘要】用光谱分析技术手段探索了苹果花钾素含量的估测方法。先对苹果花的原始光谱反射率(Ri)及其8种光谱变换形式(Ri'、Ri''、1/Ri、(1/Ri)'、lg(1/Ri)、(lg(1/Ri))'、lgRi、(lgRi)')与钾素含量进行相关分析,找出与钾素含量相关性较显著的光谱形式;然后,采用逐步回归分析方法,筛选敏感波长与光谱参数,建立钾素含量估测模型;进而对模型进行优选和检验,确定最佳估测模型。结果表明,苹果花光谱反射率的一阶微分Ri'与钾素含量的相关性最显著;以筛选出的敏感波长669nm和1442nm的一阶微分建立的估测模型具有较好的线性趋势;经检验,其拟合方程的R2为0.6955,RMSE为2.7,RE%为4.6。这表明该模型对苹果花钾素含量的估测具有较好的准确度,可作为最佳估测模型。该研究为快速估测苹果花营养元素含量提供了理论依据与参考。

【英文摘要】The kalium content in apple flowers are estimated by using a spectroscopic technology.Firstly,the correlation of the original spectral reflectance(Ri)and 8 spectral transformation forms(Ri'、Ri''、1/Ri、(1/Ri)'、lg(1/Ri)、(lg(1/Ri))'、lgRi、(lgRi)') of apple flowers with the kalium content are analyzed,so as to find the most significant spectral forms.Then,the stepwise regression analysis methodis is used to select the sensitive wavelengths and spectral parameters and establish kalium content estimation models.Finally,the best estimation models are determined through model verification.The result shows that the first derivative of spectral reflectance Ri ’ is most correlated with the kalium content in apple flowers.The estimation model established with the 669nm and 1442nm sensitive wavelengths of the first derivative has the best linear trend.In its fitting equation,R2 is 0.6955,the root mean square error is 2.7and the relative error RE% is 4.6.This indicates that the model has a better estimation accuracy for the kalium content in apple flowers and can be used as the best estimation mode1.This study provides the theoretical basis for the fast estimation of nutrient content in apple flowers.

【语种】中文

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【题目】基于高光谱的苹果果期冠层光谱特征及其果量估测
【中文关键词】高光谱;数码照片;苹果果期;光谱特征;估测模型
【英文关键词】hyperspectral; digital photos; applefruit stage; spectral features; estimationmodel
【中文摘要】苹果冠层光谱特征是苹果树遥感生理监测和生产管理的重要依据。对栖霞市苹果果期的冠层反射光谱进行实测,结合数码照相技术探明了苹果果期的反射光谱特性和敏感波段,并通过敏感波段与果树比指标建立回归模型,实现了对苹果冠层果量(果树比)的无损估测。结果表明:苹果树果期冠层光谱曲线总体表现为对蓝光和红光的吸收及对绿光的反射,在近红外750—1300nm之间表现为强烈的反射,且在1650nm和2200nm附近呈现两个反射峰。选择435、670、730、940、1140nm和1480nm等6个波段为苹果果期的敏感波段。利用这些波段分别构建了差值、比值及归一化植被指数,筛选了最佳光谱参数,进而构建了果量(果树比)估测模型,经筛选验证确定苹果果量的最佳估测模型为: y = 0.0086[NDVI(940, 730)]2-1.0934NDVI(940, 730)+0.3209。模型为苹果果期果量的精确估测提供了比较快捷的方法途径。
【英文摘要】Canopy spectral characteristics of apple tree are the basis for apple physiological monitoring with remote sensing and production management. This study carriedout the measurement of apple tree canopy spectral reflectance at apple fruit stage in Qixia City. The reflective spectral features and sensitive wavebands of apple tree canopy at fruit stage were initially explored and regression models between sensitive bandsand the ratio of fruit/tree were established with digital photography techniques. The non-destructive estimation of fruit amount (fruit/tree ratio) was realized. The results showed that thespectral featuresof apple treecanopyat fruit stage mainly presented as absorption of blue light and red light, reflectionof green light, and the strong reflection of near-infrared between 750nm to 1300nm, with two reflection peaks near 1650nm and 2200nm. The sensitive bands tofruit amount were 435nm, 670nm, 730nm, 940nm, 1140nm and 1480nm. Vegetation indices of difference, ratio and normalized difference were built respectively with the sensitive bands, and the best spectral parameterswere selected. Estimation models of fruit amount (fruit/tree ratio) were established accordingly and the best model was evaluated and validated as y = 0.0086[NDVI (940, 730)]2- 1. 0934NDVI (940, 730) + 0. 3209. This model is expected to provide a relatively fast and accurate estimation method for canopy fruit amount at apple tree fruit stage.
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【题目】基于高光谱的苹果花氮素含量预测模型研究
【中文关键词】苹果花; 高光谱; 氮素含量; 预测模型
【英文关键词】Appleflower; Hyperspectrum; Nitrogencontent ; Predictionmodel
【中文摘要】苹果花氮素含量是反映其质量高低的重要因素, 利用高光谱技术对苹果花氮素含量进行定量化反演, 可为苹果信息化管理提供理论依据。在室内条件下, 利用ASDFieldSpec 3地物光谱仪, 测定了120个盛花期苹果花样品的高光谱反射率, 并化验了其氮素含量。在分析苹果花原始光谱和一阶导数光谱特征的基础上, 与其氮素含量进行相关分析, 确定敏感波段, 构建特征光谱参数, 建立氮素含量预测模型, 对模型进行了优选和检验。结果表明, 苹果花氮素含量与原始光谱反射率在374~696, 1340~1890, 2052~2433nm波段呈极显著负相关, 在736~913nm呈极显著正相关; 与一阶导数光谱反射率在637~675nm呈极显著负相关, 在676~746nm呈极显著正相关。构建的6个特征光谱参数与苹果花氮素含量均呈极显著相关。通过进一步比较和筛选, 确定了基于640nm和676nm原始光谱反射率的2个苹果花氮素含量最佳预测模型。经检验, 模型决定系数R2分别为0.18258和0.18936, 平均预测精度达92.9%和94%。研究成果为快速预测苹果花氮素含量及苹果的实时营养诊断提供了理论依据和技术支撑。
【英文摘要】The present paper aims to quantitatively retrieve nitrogen content in apple flowers, so as to provide an important basis for apple information nization management. By using ASD FieldSpec 3 field spectrometer , hyperspectral reflectivity of 120 apple flower samples in full-bloom stage was measured and their nitrogen contents were analyzed. Based on the apple flower original spectrum and

first derivative spectral characteristics, correlation analysis was carried out between apple flowers original spectrum and first derivative spectrum reflectivity and nitrogen contents, so as to determine the sensitive bands. Based on characteristic spectral parameters, prediction models were built , optimized and tested. The results indicated that the nitrogen content of apple was very significantly negatively correlated with the original spectral reflectance in the 374-696, 1340-1890 and 2052-2433nm,while in 736-913nm they were very significantly positively correlated; the first derivative spectrum in 637-675nm was very significantly negatively correlated, and in 676-746nm was very significantly positively correlated. All the six spectral parameters establishedwere significantly correlated with the nitrogen content of apple flowers. Through further comparison and selection,the prediction models built with original spectral reflectanceof 640 and 676nm were determined as the best for nitrogen content predictionof apple flowers. The test results showed that the coefficients of determination(R ’) of the two models were 0.8258 and0.8936, the total root mean square errors (RMSE) were0.732and0.6386, and the slopes were 0.8361and1.0192respectively. Therefore the models produced desired results for nitrogen content prediction of apple flowers with average prediction accuracy of 92.9%and94.0%. This study will provide theoretical basis and technical support for rapid apple flower nitrogen content prediction and nutrition diagnosis.

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【题目】基于人工神经网络的红籽瓜数量性状研究
【中文关键词】红色籽用西瓜, 数量性状, BP神经网络, 自组织竞争神经网络, 预测, 聚类
【英文关键词】Red seed-using watermelon, Quantitative character, BP neural networks, Self-organizing competitive neural networks,Prediction,Cluster
【中文摘要】在作物育种过程中,人们获取了大量的数量性状数据,这些农业领域的数据中含有性状复杂、变异广泛、数量庞大的原始信息。如何发现和利用这些数据中所蕴藏的规律与特征,已成为育种工作者关注的问题。随着人工神经网络技术的发展,人工神经网络技术已在多个领域中得到广泛的应用。人工神经网络具有并行处理、自适应自组织、联想记忆及容错性等优点,能从大量的、有噪声的、模糊的数据中,提取隐含在其中事先不知道的有用信息和知识。本研究在安徽省自然科学基金项目“籽用西瓜种质资源性状遗传规律及优势组合的研究(项目编号:01041108)”项目支持下,通过田间试验与测量,获得多代红色籽用西瓜自交系主要经济性状数据集,依据此数据集,探讨了BP神经网络、自组织竞争神经网络技术在红色籽用西瓜数量性状的应用方案,取得一定研究成果。
【英文摘要】In the Process of breeding, huge amount of quantitative character data is acquired, which contains complex, various and huge primitive information. How to find and use the useful and potential character in those data has become a key question for breeding experts.With the development of Artificial neural networks technology, Artificial neural networks has been wildly used. Artificial neural networks advantages such as parallel process, self organized, associate memory and error adapt, its can abstract useful information and knowledge from data which is mass、 noisy and fuzzy. The reaserch is in the support of natural science foundation of Anhui Province Research on germplasm resources characteristics hereditary regularity and dominative combination for Red-using watermelon. Inbred line economical character data set of Red seed-using watermelon of multi-generation was gained by field tests and measures in our research. According to the data set, the BP neural network and self-organizing competitive neural networks were discussed and some results were obtained.

【语种】中文
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【题目】基于案例推理与虚拟仪器的砀山酥梨黑星病预测系统研究
【中文关键词】梨黑星病, 虚拟仪器, 基于案例推理, 数据采集, 预测, 远程传输, 集成
【英文关键词】Pear Scab, Virtual Instrument, Case-Based Reasoning, Forecast, Data acquisition, Remote transfer, Integration
【中文摘要】预测预报是梨黑星病得到有效控制和防治的前提和首要环节。当前在实际生产应用中,梨黑星病主要预测方法是专家依据其经验来预测未来发病趋势。该方法过于依赖专家经验,实时性差,效率较低,很难满足生产需求。因此,建立一套科学有效的梨黑星病预测预报方法及综合防治体系在生产上具有十分重要的意义。本研究在安徽省高校自然科学研究项目“基于案例推理与虚拟仪器技术的集成应用:梨黑星病预测新途径”支持下,研究将虚拟仪器和基于案例推理技术相结合,利用虚拟仪器技术开发梨园生态环境数据自动采集系统,采用基于案例推理技术建立梨黑星病自动预测系统,并将二者集成为梨黑星病实时预测系统,实现梨黑星病发病状况和趋势的及时、准确与远程预测,为杨山酥梨黑星病乃至果树病害的预测预报提供了一条新的途径和方法。
【英文摘要】Pear scab forecast is a premise of its effective control. Currently, the main technique of the forecast applied in the practice of pear production is that the future occurrence trend is forecasted by experts'experience. Excessively relying on experts'experience results in poor real-time, low efficiency and hard situation to meet the production demand.Therefore,a scientific and effective forecast method and an integrated management system for pear scab is greatly significant in pear production.The study was in the support of Anhui Higer School natural science research program"A new forecasting method for Pear scab based on the integration of case-based reasoning and vitural instrument".Vitural instrument was combined with case-based reasoning technique in the research.The vitural instrument was used to develop an automatic acquisition system for pear orchard and the case-based reasoning was used to establish an automatically forecasting system for pear scab. Both systems were integrated into a whole, which realized real-time, remote and accurate forecast for future situation and occurance trend of pear scab. The research provided a new method and technique for the forecast for pear scab even fruit disease.
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【题目】基于高光谱的苹果花磷素含量监测模型研究
【中文关键词】苹果花;高光谱;磷素含量;监测模型
【英文关键词】apple flower;hyperspectrum;phosphorus content;monitoring model
【中文摘要】在室内条件下,利用 ASD FieldSpec 3地物光谱仪,测定了盛花期苹果花的高光谱反射率,在分析苹果花原始光谱反射率及其一阶导数特征的基础上,分析了高光谱反射率与磷素含量间的相关关系,确定其敏感波段,构建了特征光谱参数,并建立了苹果花磷素含量的监测模型. 结果表明:苹果花磷素含量与 350 ~370nm 、670 ~1385nm 、1620 ~1760 nm 波段的原始光谱反射率以及波段 500 ~520 nm 光谱反射率的一阶导数呈极显著正相关,与波段 670~730nm一阶导数呈极显著负相关;光谱参数 DVI (936, 676)、DVI (977, 676)、NDVI (936, 676)、NDVI (977 , 676)与苹果花磷素含量的相关性较好,其相关系数均达到 0.77以上,由此建立了以4种光谱参数为自变量的磷素含量监测模型,其中, 以NDVI (936, 676)为自变量构建的监测模型具有最大的决定系数(R2=09385)、最小的均方根误差(RMSE=0.6883)和最小的相对误差(RE=76%),预测精度达到92.4 %,为最佳监测模型.
【英文摘要】By using ASD FieldSpec 3 field spectrometer, the hyperspectral reflectance of apple flowers at fullb-looming stage was measured under laboratory conditions, and the correlations of the hyperspectral reflectance with the phosphorus content of apple flowers were analyzed based on the original spectrum and the first derivative spectral characteristics of the flowers. The sensitive wavebands were determined, the characteristic spectral parameters were constructed, and the monitoring models for the phosphorus content of apple flowers were established accordingly. Correlation analysis showed that the phosphorus content of apple flowers was significantly positively correlated with the original spectral reflectance at 350- 370nm , 670- 1385nm , and 1620- 1760nm , and the first derivative reflectance at 500- 520 nm , and significantly negatively correlated with the first derivative reflectance at 670 - 730nm. The spectral parameters DVI (936, 676) , DVI (977, 676) , NDVI (936, 676) and ND VI (977 , 676) had close correlations with the phosphorus content of apple flowers, the correlation coefficients being all > 077. By using these spectral parameters as independent

variables, four monitoring models for the phosphorus content of apple flowers were established, among which , the model with NDVI (936, 676) as the variable was validated a s the best monitoring model, its determination coefficient was the highest (R2 = 09385) , root mean square error and relative error were the smallest (RM S E= 0. 6883, and R E = 76%) , and prediction accuracy reached 92 4 %.

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【题目】基于高光谱和数码照相技术的苹果花期光谱特征研究
【中文关键词】高光谱;数码照片;苹果花期;光谱特征;相关性
【英文关键词】hyperspectral; digital photoes; apple florescence; spectral features; correlation
【中文摘要】【目的】旨在探索苹果花期的光谱特征和敏感波段。【方法】以栖霞市为研究区,利用苹果花期数码照片监督分类,提取苹果花树比和花叶比指标信息,通过与同步高光谱探测数据的相关分析,研究苹果树花期光谱特性,确定其敏感的光谱波段。【结果】苹果树花期光谱特征主要表现为对蓝光和红光的吸收、对绿光的反射,和对 750~1 300 nm 近红外的强烈反射。其光谱特征变化与花叶比和花树比指标呈现较好的相关性,敏感波段范围为400~530 nm的蓝青光和570~700 nm的橙红光,以及中等花树比果树760~1 350 nm的近红外。【结论】该研究提出了高光谱遥感与数码照相技术相结合的有效方法,初步探明了苹果树花期的光谱特征,为苹果园地信息提取、营养诊断和苹果生产管理的实时性与信息化提供了理论依据和技术支撑。
【英文摘要】【Objective】 This study aims on the spectral features and sensitive spectrum wave band in the apple florescence. 【Method】Taking Qixia City as the research region, using supervised classification of the flowering apple digital photos to extract the target information of the ratio of apple flower/leaf and apple flower/tree, this paper carries out the correlation analysis of the ratio data with synchronization hyperspectral detection data, to determine the spectral features and sensitive spectrum wave band of the apple florescence. 【Result】 The spectral features of apple florescence mainly presented as absorption of blue light and red light, reflection of green light, and the strong reflection of near-infrared between 750 nm to 1 300 nm. The change of apple florescence spectral features and the target information of apple flower/leaf and apple flower/tree present a good correlation, and it indicates that the sensitive wave band range is 400-530 nm cyan light, 570-700 nm orange-red light, and the 760-1 350 nm nearly infrared of medium flower/tree of apple trees. 【Conclusion】 This study puts forward an effective way of the hyperspectral remote sensing with the combination of digital photos, preliminaryly proved the spectral characteristics of flowering apple trees, and it has provided a theoretical basis and technical support for the extracting apple's field information, nutrition diagnosis and apple production and management of real-time and informationization.
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【题目】基于中高分辨率卫星遥感数据的县域冬小麦估产
【中文关键词】相对辐射校正,决策树分类,植被指数,冬小麦估产
【英文关键词】relativeradiometriccalibration, decision tree classification, vegetation index, winter wheat yield estimation
【中文摘要】随着人口的增加和耕地面积的不断减少,粮食安全问题一直备受关注。该文以山东省广饶县为研究区,探讨基于中高分辨率卫星遥感数据的县域冬小麦估产技术。采用陆地卫星和中巴资源卫星(CBERS)中高分辨率遥感图像,选择冬小麦信息较为突出的4个相似时相,经几何精校正、掩膜、相对辐射校正等预处理,在分析研究区典型地物光谱特征的基

础上,采用决策树分类方法提取冬小麦种植面积。同时,利用植被指数变化规律对各时相植被指数进行修正,根据植被指数分布情况及其与产量的关系,分别构建了基于像元比值植被指数之和(∑RVI)及不同长势区归一化植被指数(NDVI)的冬小麦估产模型。结果显示:各时相冬小麦种植面积的提取精度均在96%以上,且具有较好的空间精度;二种估产模型的估产精度分别达到了96%以上和94.74%,效果较好。研究为县域冬小麦产量的预测提供了有效方法,能更好地指导冬小麦生产和粮食政策的制定,对区域农业可持续发展和粮食安全有积极价值。

【英文摘要】Grain safety has been attracting much more attention as the population increasing and cultivated land decreasing continually. Taking Guangrao County, Shandong Provinceas the study area,winter wheat yield estimation techniques were explored based on high and moderate resolution remote sensing data at county level.Selecting four medium and high resolution images of Landsat and China-Brazil Earth Resources Satellite(CBERS), which hare the similar temporal characteristics with obvious winter wheat information, the area of winter wheat was acquired by a decision tree classification approach through image pre-processing,including geometric accurate correction, masking and relative radiometric calibration, based on the analysis of spectrum characteristics of typical objects in the study area.Vegetation indexes were calibrated according to their changing trends, and winter wheat yield estimation models were established based on the sum of vegetation index with pixel ratio (∑RVI) and normalized difference vegetation index(NDVI) in different growing areas, respectively, according to their relations to wheat yields. The results showed high precision for winter wheat area extraction of more than 96%, and precision for yield estimation of two models were better than 96% and 94.74%, respectively. The study provides an effective method for winter wheat yield prediction, which is favorable for winter wheat production and grain policy-making and has significance for regional agriculture sustainable development and grain safety.

【语种】中文

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【学科分类】农业基础学科

【题目】苹果花期冠层光谱探测的规范化技术方法探讨

【中文关键词】苹果花期; 冠层; 光谱探测; 规范化技术方法

【英文关键词】Apple florescence; Canopy; Spectral detection; Standardizationof technical methods

【中文摘要】2008年和2009年, 针对苹果花期冠层光谱进行了不同天气条件、不同探测时间、不同探头高度、不同探测角度条件下的冠层反射光谱探测试验, 分析其对苹果花期冠层光谱特性的影响, 探索规范化的光谱探测技术方法。结果表明, 苹果花期冠层在不同条件下的反射光谱响应呈现出一定的规律性, 特别是在760~1350nm近红外波段表现尤为明显。研究发现, 随着光照强度的减弱, 冠层光谱反射率降低, 在晴天和少云时探测冠层光谱较理想; 风速在2级以下时, 冠层光谱较稳定; 在10:00~15:00测定冠层光谱差异较小; 探测高度以整个苹果树冠层充满光谱仪探头视场时光谱曲线较稳定; 探头以垂直或近似垂直观测为最佳。在此基础上, 提出了苹果花期冠层光谱探测的规范化技术方法, 为苹果冠层光谱探测及信息提取提供了科学依据。

【英文摘要】Aiming at spectral detection of apple florescence canopy, the present paper carried out spectral detection tests under different weather conditions, different detection times, and different detection heights and angles to apple canopy in the two years of 2008and2009, so as to analyze impacts of these factors on apple canopy spectral characteristics and explore standardized spectral detection methods for apple florescence canopy. The results indicated the regularity in spectral reflectance of apple florescence canopy to a certain degree under different conditions, especially in the 760-1350nmnear-infrared bands. The authors found that canopy spectral reflectance declined along with the decrease in sunshine and it is appropriate to detect canopy spectrum in sunny days with few clouds. In addition, spectral reflectance tended to be stable when the windscalewasbelowgrade2. The discrepancy of canopy spectra is small during the time periodfrom10:00to 15:00of a day compared to that of other times. For maintaining stable spectral curves, the height of detector to apple canopy needed to be adjusted to cover the whole canopy within the field of view according to detection angle of the detector. The vertical or approximately vertical detection was the best for canopy spectral reflectance acquisition. The standardization of technical methods of spectral detection for apple florescence canopy was proposed accordingly, which provided theoretical references for spectral detection and information extraction of apple tree canopy.

【语种】中文

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【学科分类】园艺学

【题目】苹果叶片的高光谱特征及其色素含量监测研究
【中文关键词】苹果叶片;高光谱特征;叶片色素含量;红边面积
【英文关键词】apple leaf; hyperspectral characteristic; leaf pigment content; red edge area
【中文摘要】【目的】分析苹果叶片的高光谱特征,探索建立苹果叶片色素含量的高光谱监测模型,以促进高光谱技术在苹果长势监测中的应用。【方法】通过方差分析方法,分析苹果春梢和秋梢停止生长两个时期功能叶片的不同部位、不同含水率、不同品种的高光谱特征。利用相关分析方法,研究高光谱参数与叶片色素含量间的关系,并建立基于光谱参数的叶片色素含量监测模型。【结果】在760—1 300 nm 的近红外波段,叶片光谱反射率后部低、前部高、中部居于二者之间;随着叶片含水率降低,光谱反射率逐渐增大;不同品种的叶片,光谱反射率差异显著。光谱参数 R 800/R550、红边面积 S r 和绿峰反射率R g 与叶片色素含量之间有较好的相关性,并分别建立了色素含量监测模型。其中以S r 建立的 Chl a、Chl(a+b)、Car 含量监测模型和以R 800/R 550 建立的 Chl b 含量监测模型为最佳。经均方根误差(RMSE)和相对误差(RE%)指标测试表明,模型能较好地监测苹果叶片色素含量。【结论】用红边面积S r 和波段组合R 800/R550 来监测苹果叶片色素含量效果较好,为苹果长势遥感监测提供了理论依据。
【英文摘要】【Objective】The aims of this study are to analyze hyperspectral characteristics of apple leaves, to build hyperspectral monitoring models for pigment content in apple leaves and to promote the application of hyperspectral techniques in apple growth monitoring.【Method】Hyperspectral characteristics of apple functional leaves of different leaf parts with different water contents and apple species were analyzed by using variance analysis method at apple spring and autumn branch stop-growing stages. Relationship between leaf hyperspectral parameters and pigment content was investigated by using relevance analysis method. Hyperspectral parameter based monitoring models for apple leaf pigment content estimation were established.【Result】 The results showed that in 760-1 300 nm near-infrared band, spectral reflectance of the rear part of the leaf was the lowest, that of the front part was the highest and reflectance of the middle area was in the between. The reflectance gradually increased with the decrease of leaf water content, and it appeared different obviously for different apple varieties. Spectral parameters R800/R550, red edge area Sr and green peak reflectivity Rg showed a close correlation with leaf pigment cont ent, and their monitoring models were established accordingly. Models established with Sr for Chl a, Chl (a+b) and Car content monitoring and models established with R800/R550for Chl b monitoring showed the best results. These models were proved to be reliable fo r apple leaf pigment monitoring by the in dex validation of root mean square deviation (RMSE) and relative error (RE%). 【Conclusion】 The results indicated the effectiveness of red edge area Srand band combination of R800/R550for apple leaf pigment content monitoring and provided a theoretical basis for apple growth remote sensing monitoring.
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【题目】苹果花期冠层反射光谱特征
【中文关键词】光谱分析,模型,反射光谱,苹果花期,冠层
【英文关键词】spectrum analysis, models,reflective spectral, apple florescence, canopy
【中文摘要】苹果花期是果树生产与管理的关键阶段,对冠层反射光谱特征研究具有重要的理论和现实意义。该文以山东省栖霞市为研究区,通过实测的120棵苹果花期冠层反射光谱数据,在分析不同累计样本容量冠层反射光谱特征的基础上,用方差分析和相关分析的方法,系统地研究了苹果树有花与无花、不同花量、花期不同阶段、不同树龄及不同品种的冠层反射光谱特征。研究结果表明,随着累计样本容量的增加,冠层反射光谱曲线趋于稳定、平滑。有花与无花冠层光谱反射率

在431~500、591~680、761~1300nm波段方差分析结果极显著(α=0.01);不同花量的冠层与391~513、598~687、711~1193nm波段的反射率显著相关(p<0.05);在670nm“红谷”附近,反射率随花量的增加而增大,在近红外761~1300nm波段,反射率随花量的增加而减小;不同品种之间,除嘎啦外,红富士、金帅和新红星之间不易区分。

【英文摘要】The apple florescence is a key stage for apple production and management, and the study of apple canopy reflective spectralis of important theoretical and practical significance. Qixia City, Shandong Province was selected as the study area, and reflective spectral data of120apple florescence canopies were obtained. Based on the effects of different sample numbers on reflective spectral, the reflective spectral characteristics of apple florescence canopies with and without flowers, with different amount off lowers ,at different florescence stages,and with different ages and species of apple trees were system atically studied by using variance and correlation analysis methods. The results indicated that with the increase of cumulative sample numbers, the reflective spectral curves of apple florescence canopyes became stable and smooth. In the wave bands of 431-500, 591-680and761-1300nm,the variance analysis results of canopies with and without flowers were very significant(α=0.01). Results showed that the correlations of canopies with different amount off lowers with reflectances in 391-513, 598-687and711-1193nmwave bands were significant(p<0.05).Reflectance increased at the 670 nm Red Valley and decreased in the near-infrared band of761-1300 nm with the increase off lower amount. Reflective spectral characteristics among different apple species of Red Fuji, Jinshuai and New Red Star were hard to be distinguished except that for Gala. These results revealed the tremendous potential of capturing information of apple florescence with hyperspectral measurement, and it provided the references for constructing retrieval models of remote sensing.

【语种】中文

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【学科分类】园艺学

【题目】苹果花期的冠层高光谱特征研究

【中文关键词】苹果花期; 高光谱; 冠层; 红边

【英文关键词】Appleflorescence; Hyperspectrum; Canopy; Red-edge

【中文摘要】系统分析苹果花期冠层高光谱特征, 探明其敏感光谱波段, 为大面积苹果树信息提取与营养状况的遥感反演等提供理论依据。利用ASDFieldSpec3便携式地物光谱仪实测的120个苹果花期的冠层高光谱数据, 在分析了不同累计样本容量对花期冠层高光谱特征影响的基础上, 采用方差分析的方法, 明确了苹果花期的冠层高光谱特征及反映花期冠层高光谱的敏感波段。结果表明, 随着累计样本容量的增加, 苹果花期的高光谱曲线趋于稳定、平滑。在550nm绿峰处和760~1300nm的反射高原区, 反射率随着花量的增多而减小, 在670nm的红谷处, 反射率随着花量的增多而增大; 在350~400 nm, 400~500 nm, 600~680nm, 760~1300nm波段的方差分析结果极显著, 是反映花期冠层光谱的敏感波段; 随着花量的增多, 红边位置、红边斜率和红边面积有逐渐减小的趋势。

【英文摘要】The present study aims to system atically analyze the hyperspectral characteristics of appleflorescencecanopyandex2plore the sensitive spectra to provide the theoretical basis for large area apple information extracting and remote sensing retrieval for nutrition diagnosis. Basedonthe120hyperspectral data of appleflorescencecanopyacquiredwithASDFieldSpec3portable object spectrometer , the effects of different sample numbers on hyperspectral characteristics were analyzed. Using variance analysis method, the hyperspectral characteristics of apple flore scence canopy and the sensitive wave bands were obtained. The re2sults showed that with the increase in cumulative sample numbers, the hyperspectrumcurves of apple florescence became stable and smooth. At the 550nmgreenpeakandthe 76021300nmreflectionplateau, the reflection rate reduced with the increase in flowering amount , while in the redvalley of 670nm, the reflection rate increased with the increase in flowering amount ; At the wave bands of 3502500, 6002680and76021300nm, the variance analysis results showed very significant differences, indicating that they were sensitive wave bands of florescence canopy. With the increase in flowering amount , the red2edge position, thered2edge slopeandred2edge area tended to decrease gradually.

【语种】中文

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【题目】苹果盛果期冠层高光谱与其组分特征的定量模型研究
【中文关键词】苹果盛果期; 高光谱; 冠层组分; 相关分析; 定量模型
【英文关键词】Appletree canopy at prosperous fruit stage; Hyperspectrum; Canopy components;Correlationanalysis; Quantitative models
【中文摘要】从分析苹果树盛果期冠层高光谱入手, 结合同一时间的数码照片, 在Erdas, ViewSpec Pro, DPS和LIBSVM等软件的支持下, 采用相关分析、线性回归、逐步回归、基于BP人工神经网络分析、支持向量机回归方法, 探析高光谱反射率及其转换数据与冠层组分指数间的关系。结果表明, 冠层反射率受地表反光膜的影响显著; 原始反射率与果叶比的相关性最好, 611~ 680nm为反映两者关系的特征波段; 在特征波段内, 依据原始反射率和果叶比所建立的4种模型都可满足预测需要, 但基于BP人工神经网络模型和支持向量机回归模型整体上优于一元线性回归模型和多元线性回归模型, 尤以支持向量机回归模型精度最高。研究结果可为后续的苹果遥感估产工作提供理论支持。
【英文摘要】Hyperspectral technique has become the basis of quantitative remote sensing. Hyperspectrum of apple tree canopy at prosperous fruit stage consists of the complex information of fruits, leaves, stocks, soil and reflecting films, which was mostly affected by component features of canopy at this stage. First, the hyperspectrum of 18sample apple trees with reflecting films was compared with that of 44treeswithout reflecting films. It could be seen that the impact of reflecting films on reflectance was obvious, so the sample trees with ground reflecting films should be separated to analyze from those without ground films. Secondly, nine indexes of canopy components were built based on classified digital photos of 44apple trees without ground films. Thirdly, the correlate on between the nine indexes and canopy reflectance including some kinds of conversion data was analyzed. The results showed that the correlation between reflectance and the ratio of fruit to leaf was the best, among which the max coefficient reached0.815, and the correlation between reflectance and the ratio of leaf was a little better than that between reflectance and the density of fruit. Then models of correlation analysis, linear regression, BPneural network and support vector regression were taken to explain the quantitative relationship between the hyperspectral reflectance and the ratio of fruit to leaf with the softwares of DPSandLIBSVM. It was feasible that all of the four models in611 680nmcharacteristic band are feasible to be used to predict, while the model accuracy of BPneural network and support vector regression was better than onevariable linear regression and multi variable regression, and the accuracy of support vector regression model was the best. This study will be servedasa reliable theoretical reference for the yield estimation of apples based on remote sensing data.
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【题目】乡镇级耕地质量综合评价及其时空演变分析
【中文关键词】乡镇级 ; 综合评价 ; 农户行为
【英文关键词】townscale; cultivatedland; householdbehavior
【中文摘要】以山东广饶县丁庄镇为例 ,探索乡镇尺度耕地质量评价的体系与方法 , 以便更好地指导农业生产 。在系统分析耕地自然环境条件 、土壤理化性质 、农业基础设施的基础上 ,充分考虑农户对耕地质量的影响并构建指标体系 , 以模糊评判法综合评价了 1979 年 、2005年和2007年的耕地质量 ,并在此基础上分析了其时空变化特征 。结果表明:丁庄镇耕地质量不断提高 ,呈现出明显的时空演变规律 。一 、二级地所 占耕地面积从 1979 年 的0.060% , 增加到 2005年的 91.42%和2007年的 98.62 % ,耕地质量稳步提高 ;耕地离行政中心 、河流越远 ,离渤海越近 ,其质量降低 ,东北部近海地区和镇政府驻地附近地区耕地质量增幅明显高于其它地区。研究发现 ,作物平均产量与耕地质量之间存在极显著的线性关系 。该研究丰富了乡镇尺度耕地质量评价的方法体系 ,对乡镇耕地质量评价及其耕地资源高效 、可持续利用有积极指导意义 。

【英文摘要】Taking Dingzhuang Town, Guangrang County of Shandong Province as a case, the system and method of cultivated land evaluation at town scale were explored in order to serve agricultural production better than before. Basing on the analysis of environmental conditions of cultivated and, soil physical and chemical properties and agricultural infrastructure, indexes system was established with sufficientconsiderationoffarmers ’ influenceoncultivatedlandqualitywhichwas estimated by fuzzy discrimination method in1979, 2005 and2007, and then their spatial and temporal variation characteristics were analyzed. The results show that cultivated land quality of Dingzhuang Town improves continuously and presents obvious spatio2temporal variation rules. The area of the first and second grades is0. 060%of the total cultivated land area in1979, which increases to 91.42%and98.62% in 2005 and 2007, separately, and the quality of cultivated land improves steadily. The quality of cultivated land decreases which is located farfrom administration center and rivers or nears the Bohai Sea, and the increase amplitude of cultivated land that nears the Bohai Sea in the northeast and around the administration center is higher than other area. Average yield of crops has extremely significant linear relationship with cultivated and quality. This study enriches the system and methods of cultivated land quality evaluation and has significance to cultivated land quality evaluation and effective and sustainable use of land resource at town scale.
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【中文关键词】小尺度;地形;农地;土壤质量;影响
【英文关键词】small-scale;terrain;agricultural land;soil quality;influence
【中文摘要】地形差异是土地利用结构和空间分布格局分异的重要影响因子,也是土地质量的重要参评因素。选择泰山东麓多种地貌类型过渡区,利用数字高程模型(DEM)提取研究区坡度、高程等地形因子信息,通过GIS空间分析划分研究区农地土壤质量等级,利用SPSS统计分析高程、坡度等地形因子对土壤质量的影响。结果表明:土壤质量等级随地形变化呈规律性演替,坡度和高程与土壤质量呈极显著相关关系,且坡度对土壤质量的影响大于高程;随着坡度的上升,土壤质量分值呈抛物线趋势,而随着高程的上升,土壤质量呈降低趋势,且各高程段内不同坡度等级土壤质量分值也呈抛物线走势;土壤质量的最高分值位于坡度2°~5°、高程0~150 m的地形部位。
【英文摘要】The difference of terrain is an important influence factor to land-use structure and spatial patterns. And it is also an important evaluation factor to the evaluation of land quality. Taking various terrain transitional zones in the east of MountainTai as the study area, Digital Elevation Model (DEM) was used to acquire the information of slope and elevation, and the levels of soil quality in the study area were classified through the GIS spatial analysis.On this basis,SPSS statistical analysis was used to analyze the influences of slope and elevation to soil quality and the distribution of scores in the different slope and elevation grades. The results demonstrate that with the terrain changing, the level of soil quality presents a regular succession, that it presents a significant correlation between the slope and the soil quality ,and also between the elevation and the soil quality, and the influence of slope to the soil quality is greater than that of elevation. With the rise in slope, the soil quality presents aparabolic trend ,and as the elevation rises,the soil quality presents a depressed trend. The soil quality of different slope grades also presents aparabolic trend in the different elevation grades,and that the highest scoreof the soil quality is at the site of 2 ° ~5 ° and0~150m. The results well prove the influences of the slope and the elevation to the soil quality ,and also providea scientific basis for soil improvement and sustainable use of land resources in the study area.
【语种】中文
【第一作者】马群
【通讯作者】赵庚星
【期刊名称、卷期、页码】地理与地理信息科学,2009,25(3):77-80
【论文发表时间】2009-06-17 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】园艺学

【题目】 ε-聚赖氨酸测定方法的改进
【中文关键词】甲基橙; ε-聚赖氨酸;比色法
【英文关键词】methyl orange; ε-polylysine;colorimetric method
【中文摘要】研究了甲基橙法测定 ε-聚赖氨酸的试验条件,得出结论:甲基橙从水中重结晶后,溶于pH6.6、0.1 mol/L 磷酸钠缓冲液中,终浓度为1 mmol/L;将2 mL ε-聚赖氨酸溶液与2 mL 1 mmol/L甲基橙溶液混合;混合物在30°C条件下剧烈振荡30 min,4 000 r/min 离心15 min;取1 mL上清液稀释50 倍,在465 nm 波长下测吸光度,计算 ε-聚赖氨酸含量.
【英文摘要】The conditions of detecting ε-polylysine (ε-PL) concentration by the methyl orange were studied in the paper. The results were as follow. After recrystallization from water,methyl orange was dissolved in 0.1mol/L sodium phosphate buffer (pH6.6) at a final concentration of 1 mmol/L. Then 2ml ε-PL solution was mixed with 2ml methyl orange solution. The mixtureswere vigorously reacted on a reciprocal shaker at 30°C for 30min and then centrifuged for 15min at 4000 r/min. The absorbance of the supernate diluted 50-fold was read at 465nm and the ε-PL content was calculated.
【语种】中文
【第一作者】曹伟峰
【通讯作者】贾士儒
【期刊名称、卷期、页码】天津科技大学学报,2007,22(2):9-11,32
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【引文索引类型】其他
【引文索引号】null
【学科分类】食品科学技术基础学科

【题目】采用超滤法纯化 ε-聚赖氨酸
【中文关键词】 ε-PL;超滤;膜通量;蛋白截留率; ε-PL 透过率
【英文关键词】 ε-PL; ultrafiltration; membrane flux; retention rate of proteins; transmittance rate of ε-PL
【中文摘要】采用超滤技术从 ε-聚赖氨酸(ε-PL)粗品溶液中纯化 ε-PL,研究了超滤过程中的操作压力、操作温度、超滤液的体积和料液初始浓度等因素对膜通量和粗品溶液中蛋白截留率及 ε-PL 透过率的影响;并确立了采用聚砜膜去除 ε-PL 粗品溶液中蛋白工艺的最佳参数,在此条件下,蛋白去除率达到86.2%, ε-PL 透过率达到86.7%。
【英文摘要】The purification of ε-polylysine (ε-PL) by Ultrafiltration was studed. The processing conditions, including effects of operation pressure, temperature, volume and initial concentration of crude product solution, were optimized. Under the optimal conditions, the protein removal rate and the transmittance rate reached 86.2% and 86.7%, respectively.
【语种】中文
【第一作者】袁国栋
【通讯作者】贾士儒
【期刊名称、卷期、页码】现代食品科技,2008,24(3):241-243
【论文发表时间】2008-12-01 00:00:00
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【引文索引号】null
【学科分类】食品科学技术基础学科

【题目】淀粉酶产色链霉菌TUST2中 ε-聚赖氨酸降解酶的纯化和性质
【中文关键词】淀粉酶产色链霉菌; ε2聚赖氨酸降解酶; 分离纯化
【英文关键词】Streptom yces diastatochromogenes; ε-Poly-L-lysine-degrading enzyme; Purification and characte rization
【中文摘要】分离得到产抗菌聚氨基酸 ε2聚赖氨酸菌株淀粉酶产色链霉菌TUST2, 从中纯化了 ε2聚赖氨酸降解酶, 并对其性质进行了研究. 结果表明, 该酶为膜结合蛋白. 为提取该降解酶, 先收集菌体细胞并用超声波破碎, 细胞膜部分用110 mol/L NaSCN溶液溶解. 将粗酶液进行Sephadex G100凝胶柱层析分离. 用100mmol/L磷酸缓冲液洗脱, 收集活性部分. 纯化后的样品用SDS2PAGE检测, 酶亚基分子量约为54700. 酶活力在pH = 610~910间稳定, 最适宜pH = 710. 酶的最适温度为30 °C, 在10~50 °C水浴30 min酶活力未见明显下降. 研究了不同金属离子对酶活力的影响, 结果表明, Zn2 + , Cu2 + 和Fe3 + 可分别提高酶活力29172% , 15185%和15108%; 但Ag+ , Hg2 + , Co2 +和Mn2 +对酶活力有强烈的抑制作用. Ca2 + , K+和Ba2 +对酶活力没有影响. 添加4% Tween280能提高酶活力10% , 但EDTA能强烈抑制酶活力. 研究结果表明, 此降解酶的性质与白色链霉

菌产生的ε2聚赖氨酸降解酶的性质相似.
【英文摘要】S treptom yces diastatochrom ogenes TUST2, which was isolated from Hainan province, p roduced the antimicrobial poly(amino acid) , ε -poly-L -lysine. In this study, the ε -poly-L -lysine-degrading enzyme was purified from this strain and its p roperties of this enzyme were determined. Preliminary data suggested that the ε -poly-L-lysine-degrading enzyme was a cell membrane associated protein. To extract this enzyme, bacterial cells were collected and disrup ted with an ultrasonic oscillator, the membrane fraction were solubilized with110 mol/L NaSCN solution. The coarse enzyme extraction was subjected to Sephadex G100 column for purification. With 100 mmol/L phosphate buffer as elution solution, the fractionswith the enzyme activitywere collected. The purified sample was analyzed with SDS2PAGE and the subunitmolecularmass of the enzyme was estimated to be about 54700. The enzyme was stable between pH 610 and 910, with a maximum at pH = 710.The optimum temperature was 30 °C, and no significant activity losswas observed when the enzyme was incubated at 10—50 °C for 30 min. The effect of differentmetal ions on the activity of the enzyme were also investigated, some metal ions, including Zn2 + , Fe3 + , and Cu2 + , could increase the enzyme activities by29. 72% , 15. 85%, and 15. 08% , respectively; while some other metal ions, including Ag+ , Hg2 + , Co2 + and Mn2 + , strongly inhibited the enzyme activity. The enzyme activity was not affected by Ca2 + , K+ and Ba2 + . Experiment results also showed that the enzyme activity increased 10% by addition of 4% Tween280,while EDTA strongly inhibited the enzyme activity. These results suggested that the specificities of this enzyme are similar to that of the ε -poly-L-lysine-degrading enzyme from streptomyces albulus.
【语种】中文
【第一作者】谭之磊
【通讯作者】贾士儒
【期刊名称、卷期、页码】高等学校化学学报,2009,30(12):2404-2408
【论文发表时间】2009-12-01 00:00:00
【引文索引类型】SCI
【引文索引号】ISI:000273792900016
【学科分类】食品科学技术基础学科

【题目】茶树冻害减灾避灾关键技术与应用
【中文关键词】茶树;冻害;减灾;避灾
【英文关键词】tea plant; freezing injury;disaster reduction;avoiding disaster
【中文摘要】我国茶区面积大、分布广,气候因子、地理条件复杂,特别是高纬度、高海拔的地区,茶树越冬很易遭受冻害。茶树冻害后不仅会造成当年春茶减产减值,甚至绝收,严重的还会影响到以后一、二年的茶叶生产效益。我们对冻害受灾茶园进行了广泛的调查,对茶树冻害减灾避灾关键技术与应用进行了总结。
【英文摘要】无
【语种】中文
【第一作者】江昌俊
【通讯作者】江昌俊
【期刊名称、卷期、页码】茶业通报.2009.31(3):105-108
【论文发表时间】2009-02-09 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】园艺学

【题目】动物冷应激反应中多种基因调控机制的研究
【中文关键词】冷应激; 基因; 调控
【英文关键词】co ld stress; gene; regulation
【中文摘要】冷应激可引起动物生产性能下降, 诱发多种疾病, 甚至造成死亡。研究动物冷应激发生机制, 探索科学的应激监测方法, 对提高应激预防水平, 保障畜牧业发展有重要意义。动物应激可涉及多种基因表达的改变。作者简要综述了包括抗冻蛋白(AFP) 基因、热休克蛋白(H SP70) 基因、即刻早期基因(c-f os) 、诱导型一氧化氮合成酶(iNOS) 基因在动物冷应激反应中的表达调控机制。
【英文摘要】Cold str ess can cause per formance descends, induce var ious diseases, even result in death in po ultr ies. Studyingthe poultry co ld stress mechanism and inv estigating scientif ic str ess monit or method, w hich fo cus on the body biochemical ind-icato r in cold str ess reactio n, hav e impo rtant meaning to elev ate prev entative level of stress and ensure livestock farming dev elo pment.T

he g ene ex pression mechanisms of cold resistance in animals including the functio nal mechanism of antifr eeze pr oteins(AFP) , heat shock protein(H SP 70) , c-f os and iNOS g enes are summarized in this paper.
【语种】中文
【第一作者】屠云洁
【通讯作者】屠云洁
【期刊名称、卷期、页码】中国畜牧兽医,2010,37(1):84-87
【论文发表时间】2009-06-08 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】畜牧学

【题目】苹果花期冠层反射光谱探测技术规程
【中文关键词】苹果;花期冠层;反射光谱;探测;技术规程
【英文关键词】Apple;flowering canopy;reflectance spectrum;measurement;technical regulation
【中文摘要】苹果花期冠层反射光谱探测技术规程
【英文摘要】Technical regulation of apple flowering canopy reflectance spectrum measurement
【语种】中文
【第一作者】朱西存
【通讯作者】赵庚星
【期刊名称、卷期、页码】苹果花期冠层反射光谱探测技术规程
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【引文索引类型】其他
【引文索引号】null
【学科分类】园艺学

【题目】苹果花反射光谱测定技术规程
【中文关键词】苹果花;反射光谱;测定;技术规程
【英文关键词】Apple flower;reflectance spectrum;measurement;technical regulation
【中文摘要】苹果花反射光谱测定技术规程
【英文摘要】Technical regulations of apple flower reflectance spectrum measurement
【语种】中文
【第一作者】朱西存
【通讯作者】赵庚星
【期刊名称、卷期、页码】苹果花反射光谱测定技术规程
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【引文索引类型】其他
【引文索引号】null
【学科分类】园艺学

【题目】二氧化碳对鸡胚发育和孵化的影响
【中文关键词】鸡;孵化;胚胎发育;CO2
【英文关键词】无。
【中文摘要】长期以来人们认为高CO2水平对家禽孵化是有害的,但近年来的研究显示在孵化的某些阶段高碳酸血对发育的胚胎是有利的。本文综述CO2对家鸡胚胎发育和孵化的影响,认为胚胎在发育的某些关键期需要CO2来增加胚胎的生长,刺激早期出雏,改善孵化率,提高出雏后生长。然而,不同孵化阶段对CO2耐受程度不同,需要进一步研究有利水平的适宜阶段和限度,以确定实际孵化生产中最佳的气体条件。
【英文摘要】无。
【语种】中文
【第一作者】吴义景

【通讯作者】吴义景
【期刊名称、卷期、页码】中国家禽,2009,31(19):35-37
【论文发表时间】2009-10-07 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】畜牧学

【题目】抗性与简易肉鸡舍对雏鸡生长及血液生化指标的影响
【中文关键词】淮南麻黄鸡; 抗性肉鸡舍; 简易鸡舍; 血液生化指标
【英文关键词】Huainan par tr idg e chicken; adversity r esist ant bro iler house; simple coo p; bloo d bio chemical index
【中文摘要】为分析新建抗性肉鸡舍的保温效果及对肉用雏鸡生长发育的影响, 分别测定抗性肉鸡舍和简易鸡舍内外温度,并在2 栋鸡舍内各饲养300 只4 周龄淮南麻黄鸡, 2 周后称量体重及测定血液生化指标。结果表明: 饲养于抗性肉鸡舍的肉鸡能保证在正常时间内出栏, 体重与简易鸡舍内肉鸡差异不显著, 但有增加趋势; 两鸡群血脂含量差异不显著, 但简易鸡舍鸡群血脂有上升趋势; 简易鸡舍鸡群血清酶活性呈上升趋势, 且乳酸脱氢酶活性与抗性肉鸡舍鸡群差异显著; 甲状腺素、三典甲腺原氨酸含量也表现出显著差异。抗性肉鸡舍可有效调节舍内小环境, 保证雏鸡正常生长, 值得推广应用。
【英文摘要】In o rder to elucidate the insulation and chicken gr ow th promotio n between new ly designed adversit y resistantbr oiler house and simple chicken coo p, inner and outer temperature was tested, 300 H uainan par tridg e chickens in4-w eek- ag es w ere bred in the tw o houses respect ively, and body weight and biochemica l indices wer e measured after 2weeks. The r esults show ed that, bo dy w eight from chickens br ed in the adver sity resistant ho use had no signif icant differencew ith the gr oup fr om simple coop but w ith obvio us increasing tr end, and ensur ed the no rmal time fo r sale. Blo od lipidsalso showed no difference between the two gr oups but an o bv ious rising tr end was det ected from gr oup ho used in thesimple coop. Ser um enzymes show ed rising tr end fr om chickens fed in the simple co op and LDH and T T3 wer e sig nif-icantly higher than that of chickens fr om adv ersit y resistant house (P< 01 05) . This study indicated that the adv ersity resistanthouse can effect ively r egulate the m icro- environment t o ensure the normal g row th of br oilers and is go od fo r po pularization
【语种】中文
【第一作者】陈兴勇
【通讯作者】耿照玉
【期刊名称、卷期、页码】扬州大学学报(农业与生命科学版),2011,32(2):32-35
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【引文索引号】null
【学科分类】畜牧学

【题目】应激对家禽神经内分泌系统的影响
【中文关键词】冷应激; 家禽; 神经内分泌
【英文关键词】Cold stress; Poultry; Neuroendocr ine
【中文摘要】冷应激可引起家禽生产性能下降, 诱发多种疾病, 甚至造成死亡。研究家禽冷应激发生机制, 探索科学的应激监测方法, 对提高应激预防水平, 保障畜牧业发展有重要意义。冷应激反应的生理机制几乎涉及所有器官和组织, 能量代谢、神经内分泌、行为和生产性能等均发生改变, 其中, 神经内分泌在整合调节过程中起主导作用。主要综述了寒冷应激对以交感神经-肾上腺髓质(SAM)系统、下丘脑-垂体-肾上腺皮质(HPA)轴和下丘脑-垂体-甲状腺(HPT)轴为主的神经内分泌机能的影响。
【英文摘要】Cold stress can cause perform ance descends, induce var ious diseases, even result in die of poultr ies. Study on the poultry cold stressm echanism and investigating scientific stressmon itormethod, which focus on the body b iochem ica l indicator in co ld stress reaction, had mi portantm eaning to elevate preventative leve l of stress and ensure livestock farm ing deve lopm en.t A lmost a ll organs and tissues are involved in the physiological mechanism of cold stress. Energymetabo lism, neuroendocr ine, behavior and perform ances ability can be changed, in wh ich neuroendocrinefunction w as dom inan.t The influence of co ld stress on neuroendocr ine function such as hypothalam ic-p ituitary-adrena l cortex axis(HPA), hypothalamic-pituitary-thyro id(HPT) ax is and Sympathesis-adrena lmedulla(SAM) werem ainly summarized
【语种】中文

【第一作者】屠云洁
【通讯作者】屠云洁
【期刊名称、卷期、页码】安徽农业科学,2009,37(24) :11555- 11557
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【引文索引号】null
【学科分类】畜牧学

【题目】利用实时荧光定量RT- PCR 检测鸡A-FABP和H-FABP基因的差异表达
【中文关键词】荧光定量逆转录PCR;A-FABP 基因;H-FABP 基因;相对定量;鸡
【英文关键词】A-FABP gene;H-FABP gene;relative quantification;chicken
【中文摘要】依据鸡A-FABP 和H-FABP 基因及参照基因GAPDH 序列设计引物,以鸡心肌、胸肌和腿肌、肝脏和腹脂总RNA 逆转录合成的cDNA 为模板,GAPDH 基因为参照基因,应用SYBR Green I 实时荧光定量PCR 检测如皋黄鸡和安卡红鸡A-FABP 和H-FABP 基因的差异表达。结果表明:A-FABP、H-FABP 基因和参照基因GAPDH 基因融解曲线为单峰,无杂峰及二聚体,其扩增效率分别为99.7%、99.8% 和100.0%。如皋黄鸡H-FABP基因在心肌、胸肌和腿肌的差异表达量分别是安卡红鸡的0.0860、0.0680 倍和0.0580 倍(P<0.05)。H-FABP 基因mRNA 表达量与肌内脂肪含量呈显著负相关。如皋黄鸡A-FABP 基因在腹脂和肝脏的表达量分别是安卡红鸡的15.9640 倍和10.9640 倍(P<0.05),而在心肌、胸肌和腿肌的表达量差异不显著。
【英文摘要】The relative expression in heart and adipocyte fatty acid-binding protein (H-FABP and A-FABP) genes wasdetected using real time quantitative RT-PCR in Rugao and Anka chicken. The primers were designed according to thesequences of H-FABP, A-FABP and GAPDH gene. GAPDH gene was the internal reference gene. The cDNA fragmentwas amplified from leg muscle, breast muscle, cardiac muscle, liver and abdominal fat mRNA;H-FABP, A-FABP andGAPDH gene expression was detected using SYBR Green I real-time fluorescent quantity PCR. Melting curve analysisshowed a single peak of H-FABP, A-FABP gene and GAPDH gene. PCR efficiency of H-FABP, A-FABP and GAPDHwas 99.7%,99.8% and 100.0% respectively. The relative H-FABP mRNA level (ratio of Anka to Rugao) in cardiacmuscle was 0.0860, 0.0680 and 0.0580, significantly higher than that of the other tissues (P < 0.01). H-FABP mRNAexpression level was significantly negative correlation with IMF contents. The relative A-FABP mRNA level (ratio ofAnka toRugao) in abdomen fat and liver was 15.9640 and 10.9640, significantly higher than that of the other tissues (P <0.01). The relative A - FABP mRNA level in abdomen fat was higher than that of Liver. There were no significantdifferences between leg muscle, breast muscle and cardiac muscle of relative A-FABP mRNA levels .
【语种】中文
【第一作者】屠云洁
【通讯作者】陈国宏
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【题目】Bacterially expressed dsRNA protects maize against SCMV infection
【中文关键词】玉米,SCWV,RNAi,dsRNA,
【英文关键词】Maize, Sugarcane Mosaic Virus (SCMV), RNAi, dsRNA, RNA-mediated virus resistance
【中文摘要】待定
【英文摘要】RNA interference (RNAi) is a sequence-spe-cific, posttranscriptional gene silencing (PTGS) process in plants that is mediated by dsRNA homologous to the silenced gene(s). In this study, we report an efficient method to produce dsRNA using a bacterial expression system. Two fragments of the Sugarcane Mosaic Virus (SCMV) CP (coat protein) gene were amplified by RT-PCR, and cloned into the inverted-repeat cloning vector pUCCRNAi. The two recombinant plasmids were trans-formed individually into E. coli HT115, an RNase-III deficient strain, and dsRNA was induced by isopropyl-b- D-thiogalactopyranoside (IPTG). The crude extracts ofE. Coli HT115 containing large amounts of dsRNA were applied to plants as a spray and the experiment confirmed a preven-tative efficacy. Our findings demonstrated that spraying crude dsRNA-containing extracts inhibited SCMV infec-tion, and the dsRNA derived from an upstream region (CP1) was more effective than was dsRNA derived from a downstream region (CP2) of the

SCMV CP gene. The results provide a valuable tool for plant viral control using dsRNA and the PTGS approach.
【语种】英文
【第一作者】甘德芳
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【期刊名称、卷期、页码】Plant Cell Report、2010、29、1261-1268
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【学科分类】分子生物学

【题目】清远麻鸡H-FABP 和A-FABP 基因mRNA 的差异表达研究
【中文关键词】清远麻鸡; 荧光定量逆转录PCR; A- FABP 基因; H- FABP 基因; 差异表达
【英文关键词】Q ing yuan part ridge chicken; FQ-RT-PCR; A-FABP g ene; H-FABP g ene; gene ex pression
【中文摘要】分析心脏脂肪酸结合蛋白(H- FABP) 和脂肪细胞型脂肪酸结合蛋白(A- FABP) 基因mRNA在不同日龄清远麻鸡不同组织中的差异表达量, 为进一步阐明H- FABP、A- FABP 在鸡IMF 含量和腹脂沉积中的作用机制奠定基础。= 方法> 依据鸡H- FABP 和A- FABP 基因及参照基因GAPDH 序列设计引物, 以鸡心肌、胸肌、腿肌、肝脏和腹脂mRNA 逆转录合成的cDNA 为模版, 应用SYBR Green Ñ 实时荧光定量PCR, 检测56 和120 日龄清远麻鸡A- FABP、H- FABP 基因mRNA 的差异表达量。=结果> H- FABP、A- FABP 和GAPDH 的基因融解曲线均为单峰, 无杂峰及二聚体, 定量准确。120 d 时清远麻鸡的胸肌和腿肌的肌内脂肪(IMF) 含量显著高于56 d; H- FABP 基因mRNA 120 d 时在心肌、胸肌和腿肌的差异表达量显著高于56 d, 且同一日龄时在心肌的差异表达量显著高于胸肌和腿肌(P< 0. 05) 。120 d 时清远麻鸡A- FABP 基因mRNA 在腹脂和肝脏的差异表达量显著高于56 d; 同一日龄时, A- FABP 基因mRNA 在腹脂的差异表达量显著高于肝脏, A- FABP 基因在心肌、胸肌和腿肌中不表达。相关分析表明, H- FABP 基因mRNA 差异表达量与胸肌、腿肌IM F 含量分别呈显著和极显著正相关, A- FABP 基因mRNA 差异表达量与腹脂率呈极显著负相关。= 结论> H- FABP 基因主要在鸡肌肉组织的肌内脂肪中表达, 而且在心肌中高度表达, 与IM F 含量呈显著或极显著的正相关, 其是IM F 含量的下调基因; A- FABP 基因主要在腹脂与肝脏中表达, 且在腹脂中高度表达, 与腹脂率呈极显著负相关, 是脂肪细胞的上调基因, 且为正调控。
【英文摘要】Heart fat ty acid-binding protein(H-FA BP) and adipocyte fatty acid-binding proteinand (A-FABP) gene ex pr ession o f different t issues w ere analy sed in Qing yuan patr idge chicken at differentag es. T he study w ill establish a basis for clarifying H-FABP and A-FABP gene ex pression mechanismin IMF and abdomen fat deposition. =Method> The pr imer s w ere designed according to the sequencesof H-FABP, A-FABP and GAPDH gene. T he c-DNA fragment amplified f rom leg muscle, breast muscle,cardiac muscle, liver and abdominal fat w as used as a standard template; H-FABP and A-FABP gene expressionw as detected using SYBR Green I rea-l t ime fluorescent quant ificat ion PCR. The r elat ive ex pressionin H-FABP, A-FABP g ene w as detected using real t ime quantitativ e RT-PCR in Qing yuan pat ridge chicken.=Result> Melt ing curve analy sis show ed a sing le peak of the g enes. IMF co ntent in breast muscle and leg muscle of Qing yuan part ridge on 120 d w as higher than that of 56 d. How ev er, the relat ive H-FABPmRNA level in these t issues w as signif icant ly low er than that of Qingyuan part ridge o n 56 d. T he relat iveH-FABP mRNA level in Car diac muscle was significant ly higher than that o f breast muscle and leg muscle.The relat ive A-FABP mRNA levels of abdomen fat and liv er w ere sig nif icantly hig her than that of the othert issues(P < 0. 05) . T he relat ive A-FABP mRNA level in abdomen fat w as hig her than that in liv er. HFABPmRNA expressio n level w as significant ly post iv e to IMF contents. A-FABP mRNA ex pression levelw as signif icant ly negat iv e to abdomen fat and liver. =Conclusion> H-FABP g ene mRNA was ex pr essed inIMF of differ ent muscle t issues. Mo reover, the relat ive H-FABP mRNA level w as much hig her in Cardiacmuscle. H-FABP mRNA ex pression level w as significant ly posit ive to IMF. Furthermo re, it had neg at iveef fect on IMF content . A-FABP gene mRNA w as expressed in abdomen fat and liver. Moreover, the relat iveA-FABP mRNA levels in abdominal fat w as higher. A-FABP mRN A ex pr ession level w as significant ly negative to abdominal fat . A-FABP mRNA ex pression level had a significant ly positive ef fect o n abdominal fat rate.
【语种】中文
【第一作者】屠云洁
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【学科分类】畜牧学

【题目】玉米自交系B73全基因组NBS类型抗病基因分析
【中文关键词】玉米;生物信息学;抗病基因;核苷酸结合位点(NBs);系统进化树
【英文关键词】Zea mays L.:Bioinformatics;Disease resistance gene;Nucleotidebinding site:Phylogenetic tree
【中文摘要】核苷酸结合位点(NBS)类型抗病基因是植物抗病基因中最大的一个类别,也是近年来植物抗病分子育种研究的一大热点。本研究对玉米自交系B73全基因组中含有NBS结构的候选抗病基因进行了基因总数、类型、系统进化关系等分析。在B73全基因组中含有165个NBS结构的基因,远远少于水稻中的同类基因,按照N.端结构和亮氨酸富集区(LRR)结构,将其分为153个标准结构和12个非标准结构NBS基因。其中,标准结构基因又分为CC.NBS.LRR、CC.NBS、NBS、NBS—NBS、NBS—LRR、NBS.NBS—LRR、NBS.X、X.NBS等8个类型。系统进化树分析表明,NBS类型抗病基因存在明显的两大分支,与水稻的星状发散型分布有很大差异。通过基因家族分析,还发现了玉米NBS类型基因的复制现象,但发生复制的因比例低于水稻,可能足造成玉米NBS抗病基因数目较少的原因之一。
【英文摘要】Nucleotide—bindingsite(NBS)disease resistance gene is a largest category in plant disease resistance genes,which is a focusin recent studies onmolecular breeding of plant disease resistance.Usingmaize(ZeamaysL.)inbred line B73,thecomplete set of diseaseresistancecandidate genes at encodeNBSwasidentifiedin the genome.Theputative NBS genes werecharacter-izedwith respect tostructural diversity,phylogenetic relationships andSO on.0nehundredand sixty—five NBS—codingsequences wereidentified intotwo types:nonregular(12)andregular NBS genes(153).The amountofNBS genesis muchsmallerin maize thanin japonicarice(Oryza sativa L.).The 153 regular NBS genes were categorized into eightclasses,includingCC—NBS—LRR, CC.NBS,NBS,NBS—NBS,NBS.LRR,NBS—NBS—LRR,NBS—X,and X.NBS,according toN—terrainal motifand leucine.Rich repeat(LRR)domains motif.The 165NBS genes showedtwo remarkablebranchesin the phylogenetictree,differing from the radiation structure in japonica rice.Gene duplication event Was observed based on gene family analysis of the NBSdis— ease.Resistance genes in maize;howeveL theratio of gene duplication Wassmallerthan that in rice.This might beoneoftherea-sonsfor less NBSdisease—resistance genes in maizethanin rice.
【语种】中文
【第一作者】汪结明
【通讯作者】程备久
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【学科分类】农业基础学科

【题目】Cold stress in broiler: global gene expression analyses suggest a major role of CYP genes in cold responses
【中文关键词】无。
【英文关键词】Broiler Cold stress Pituitary Gene expression profile CYP gene
【中文摘要】无。
【英文摘要】To understand the exact mechanism of coldstressin broilers depends heavily on identification of differentiallyexpressed genes, rarely conducted so far, in thepituitary of 1 day pre- and post-cold-stress. Therefore, toidentify such genes in the present study, gene expressionprofiling was performed using the pituitary as a model. Theresults showed that the expression of 15 genes were upregulatedand 15 down-regulated in the pituitary of coldstressed broilers compared with normal ones; and thesedifferentially expressed genes belong to groups involvedwith catalytic activity, enzyme regulatory activity, signaltransducer activity and transporter activity. Functionalanalysis revealed that cytochrome P450 (CYP) gene group,such as CYP7A1, CYP1A1, which are highly related to fatmetabolism, involved in those biological activities. Furthermore,blood lipid levels of triglyceride, total cholesterol,low-density-lipoprotein and high-density-lipoproteinwere measured, and the decreased level of blood lipid aftercold stress suggested that lipid could positively affectCYP7A1 gene expression in broilers. However, future studyis required to quantify the CYP gene expression during coldstress. In conclusion, our findings will not only offer basicgenetic information to identify candidate genes for chickenbreeding of anti-cold stress broilers, but also provide newclues for deciphering mechanisms underlining cold stress in vertebrates.

【语种】英文
【第一作者】陈兴勇
【通讯作者】耿照玉
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【学科分类】畜牧学

【题目】Effect of bamboo (Phyllostachys pubescens) extract on broiler chickens under cold stress
【中文关键词】无。
【英文关键词】Huainan partridge chicken, powdered bamboo extract, weight gain, serum enzymatic activity
【中文摘要】无。
【英文摘要】The objective of the study was to establish whether powdered bamboo extract (BFRE) as a feedadditive for chickens was effective in maintaining body weight gain and serum enzymatic activity whenbirds are exposed to cold stress. Broiler Huainan partridge chickens (4 weeks old), fed a diet containingpowdered BFRE (0.3 g/kg) for one week, showed significant weight gains compared to the control.Subsequently, the chickens were exposed to low temperatures (15 or 10 ° C) for one week with or withoutBFRE addition. After one week of exposure to 15 or 10 ° C, serum enzymatic activities were recorded.Chickens not receiving BFRE and exposed to 10 ° C showed a significant decrease in the body weight gainand in serum creatine kinase, lactic dehydrogenase L and alanine aminotransferase activities, whereas theactivity of these enzymes changed to a lesser extent in chickens receiving BFRE. However, body weightgains were maintained within the normal range when the ambient temperature was 10 ° C. In conclusion,BFRE was an effective additive in preventing chicken losing body weight during cold stress and in variationin serum enzymatic activities when exposed to cold stress. The results suggest that powdered BFRE is aneffective additive in minimizing the negative effects of cold stress in broiler chickens.
【语种】英文
【第一作者】陈兴勇
【通讯作者】耿照玉
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【学科分类】畜牧学

【题目】杂交棉人工制种不同授粉方法的效益分析
【中文关键词】棉花; 杂交制种; 人工授粉; 成铃率; 综合效益
【英文关键词】无
【中文摘要】对目前河南省杂交棉制种中所采用的自制授粉器授粉与直接授粉、小瓶授粉等辅助授粉方法的产量和综合效益进行了对比分析, 结果表明: 直接授粉法成铃率最高, 从而使其产量最高, 达到1854. 8 kg/ hm2 , 综合效益最好; 人工自制授粉器法授粉虽然最省工, 但制种产量低, 导致其效益下降, 综合效益比直接授粉法低3 216 元/ hm2。
【英文摘要】无
【语种】中文
【第一作者】焦宏廷
【通讯作者】房卫平
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【题目】冬虫夏草液态发酵菌丝体中化学成分分析

【中文关键词】冬虫夏草(Cordyceps sinensis);发酵菌丝体;化学成分
【英文关键词】Cordyceps sinensis;submerged cultivation mycelium;chemical ingredients
【中文摘要】对冬虫夏草(Cordyceps sinensis)液态发酵菌丝体的主要化学成分进行了分析。冬虫夏草液体发酵菌丝体中粗蛋白和粗脂肪的含量分别为24.53% 和6.69%;腺苷含量为0.3755mg/g,D- 甘露醇含量为88.80mg/g,胞内多糖含量为133.9mg/g,麦角甾醇含量为1.80mg/g。冬虫夏草液态发酵菌丝体主要成分含量与天然虫草相似。
【英文摘要】This investigation characterized the main chemical ingredients of submerged cultivation mycelium of Cordycepssinensis. The contents of crude protein and crude fat were 24.53% and 6.69% respectively; The contents of adenosine, mannitol,intracellular polysaccharide and ergosterol were 0.3755, 88.80, 133.9 and 1.80 mg/g respectively. The level of main ingredients in the submerged cultivation mycelium was similar to that in the natural Cordyceps sinensis.
【语种】中文
【第一作者】谭之磊
【通讯作者】贾士儒
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【学科分类】食品科学技术基础学科

【题目】生物防腐剂 ε -聚赖氨酸的稳定性
【中文关键词】 ε -聚赖氨酸;稳定性;抑菌剂
【英文关键词】 ε -polylysine;stability;antimicrobial agent
【中文摘要】研究了 ε -聚赖氨酸(ε -PL)在不同温度、pH、盐离子浓度条件下的稳定性及 ε -PL 适宜的贮存条件.结果表明: ε -PL 在121 ℃处理60 min 仍具有优良的热稳定性;在pH 4.0~7.5 时 ε -PL 相对抑菌活性高于95%,但在pH 8.0~9.0 时其相对抑菌活性下降约15%;Na+、NH4+、Mg2+对 ε -PL 的相对抑菌活性无影响;而Ag+、Fe2+、Cu2+浓度大于0.8 mol/L 时,这些盐离子对供试菌的毒害作用显著于 ε -PL 的抑菌作用. ε -PL 适宜的贮存条件是避光、低温,其稳定率大于97%.
【英文摘要】The stability of ε -polylysine(ε -PL)at different temperature,pH,concentrations of salt irons and the appropriate storage conditions of ε -PL were studied. The results indicate that ε -PL remains excellent thermal stability even with the treatment of 121 ℃ for 60 min. The relative antimicrobial activity of ε -PL is more than 95% during pH 4.0-7.5,however therelative antimicrobial activity decreases by 15% or so at pH 8.0-9.0. Na+,NH4+ and Mg2+ have no effect on the relative antimicrobial activity of ε -PL,whereas the poisonous impact of Ag+,Fe2+ and Cu2+ on the tested strains is more prominent than the antimicrobial activity of ε -PL when the concentrations of these metallic irons are more than 0.8 mol/L. The favorablestorage condition for ε -PL is dark environment and low temperature,and the stability rate is more than 97%.
【语种】中文
【第一作者】赵娟
【通讯作者】贾士儒
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【学科分类】食品科学技术基础学科

【题目】氮离子入法筛选 ε -聚赖氨酸高产菌株
【中文关键词】氮离子注入;诱变选育;抗性平板法; ε -聚赖氨酸
【英文关键词】nitrogen ion implantation; mutation breeding; resistant mutant; ε - polylysine
【中文摘要】研究氮离子注入法诱变选育 ε -聚赖氨酸高产菌株。本文从土壤筛选的菌株TS02 出发,通过注入不同剂量30 keV 氮离子,辅以抗性平板法结合抑菌圈法,筛选出了一株 ε -聚赖氨酸高产白色链霉菌(Streptomyces albulus)GC11。经多次传代实验结果表明GC11稳定性良好。摇瓶发酵培养24 h,GC11 抑菌圈直径为23.20 mm,比TS02 提高了1.32 倍;5 L 自控发酵罐发酵培养72 h,GC11 ε -PL产量为4.21 g/L,比TS02 提高了 1.30 倍,达到了提高 ε -聚赖氨酸产量的目的。
【英文摘要】The screening of high ε - polylysine(ε -PL)-producing strains was studied by mutation with nitrogen ion implantation. After implantation of different dose of 30keV nitrogen ions and using inhibitive circle screening method and resistant

mutant assay, a Streptomycesalbulus GC11 strain with high ε-PL yield was obtained with stable genetic characteristics. After 24 h rotation-flask cultivation, the diameter of inhibition zone of GC11 strain was 23.20 mm which was 1.32-fold than that of TS02 strain; and after 72 h 5 L automatic fermentation jar cultivation, the productivity of ε-polylysine of GC 11 strain was 4.21 g/L which was 1.30-fold than that of TS02 strain.

【语种】中文
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【题目】pH 调控和蔗糖流加控制对乳酸链球菌素发酵的影响
【中文关键词】乳酸乳球菌;乳酸链球菌素;pH 调控;补料发酵
【英文关键词】Streptococcus lactis;nisin;pH control;fed-batch fermentation
【中文摘要】研究了乳酸乳球菌发酵过程中pH 调控和补料对产物生成的影响.研究采用三种不同的pH 调控方式(初始pH7.0):(1)恒定pH6.8;(2)当pH 降到6.2 时恒定pH6.2;(3)发酵6,h 后每2,h 调节pH 至6.8.结果表明,在发酵过程中按方式2 调节pH 与不调控pH 相比,乳酸链球菌素效价提高了2.48 倍.分别选用了4、5、6 和8,g·(L－1·h－1)蔗糖流加速度,当按5,g·(L－1·h－1)恒速流加蔗糖溶液,乳酸链球菌素效价提高约2.9 倍.
【英文摘要】The combined effects of various pH control strategies and sucrose feeding rates on nisin production were studied.Three different pH control strategies were studied in this study(the intial pH was 7.0):(1)a constant pH at 6.8;(2)after pH dropped 6.2,a constant pH at 6.2;(3)after 6 h, adjusting pH at 6.8 every 2 h. The results demonstrate that nisintiter by strategy(2)yielded almost 2.6 times higher than that by strategy without pH adjustment. Sucrose feeding rates are designed at 4,5,6 and 8,g·(L－1·h－1),respectively. Nisin titer increase about 2.9-fold by constant addition of sucrose at afeeding rate of 5,g·(L－1·h－1).
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【第一作者】刘亚丽
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【题目】米酒乳杆菌素分离纯化条件研究
【中文关键词】米酒乳杆菌素;分离纯化;葡聚糖凝胶层析
【英文关键词】sakacin;isolation and purification;Sephadex column chromatography
【中文摘要】目的:对米酒乳杆菌产生的广谱细菌素进行分离纯化技术研究。方法和结果:采用活性炭脱色、冷乙醇沉淀、Sephadex G50 葡聚糖凝胶层析和高效液相色谱技术对米酒乳杆菌产生的细菌素进行分离纯化。结果表明,发酵浓缩液脱色的最佳工艺条件为活性炭加量3.5%、温度40°C、脱色时间20h,脱色率达64.5%。冷乙醇沉淀的最佳乙醇终浓度为80%,葡聚糖凝胶层析的洗脱液流速为0.5ml/min,上样量3ml,高效液相色谱纯化的流动相为90% 的甲醇水溶液,在此条件下可得到电泳纯的细菌素。结论:确定了米酒乳杆菌素的分离纯化条件,为细菌素的理化性质和抑菌机理的研究提供依据。
【英文摘要】Objective: To study the isolation and purification technology of a broad-spectrum bacteriocin, sakacin produced by Lactobacillus sake G2. Methods: The cell-free fermentation broth of Lactobacillus sake G2 containing sakacin was decolored with active carbon and precipitated with cold ethanol to remove macromolecular impurities, and purified by Sephadex G50 column chromatography and HPLC. Results: The optimum conditions for isolation and purification were as follows: decoloring the cell-free supernatant of Lactobacillus sake G2 with 3.5% of active carbon addition at 40 °C for 20 h (the decolorization rate reached 64.5%), finial ethanol concentration 80%, elution flow rate of Sephadex G50 column 0.5 ml/min, sampling volume 3 ml, and taking 90% methanol aqueous solution as mobile phase for HPLC. Under these conditions, the electrophoretic purity of sakacin was obtained.

Conclusions: This study can lay the foundation for the future study of physicochemical properties and bacteriostatic mechanism of sakacin.
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【题目】一种ε-聚赖氨酸降解酶活性测定的新方法
【中文关键词】 ε-聚赖氨酸降解酶; 酶活; 甲基橙法;
【英文关键词】 ε-poly- L- Lys-degrading enzyme; enzyme activity; MeO method;
【中文摘要】针对现有ε-聚赖氨酸降解酶活力测定中存在的问题。建立了一种利用甲基橙法测定ε-聚赖氨酸量的变化,从而测定ε-聚赖氨酸降解酶酶活的新方法。通过对反应温度、时间、底物浓度和缓冲体系的研究.确定了新方法的酶活测定条件。验证实验表明,新方法有较好的精确性和准确性,为ε-聚赖氨酸降解酶的研究提供了一种安全简便的测定方法。
【英文摘要】A new method that is based on the methyl orange(MeO)method for measuring the amount of ε-poly-L-Lys has been developed to present the activities of ε-poly-L-Lys-degrading enzyme.Experiments were conducted to determine the optimal reaction conditions such as temperature,incubation time,substrate concentration and buffer system.The result measured by the new method was proved to be precise.This study provided a safe and convenient method for research of ε-poly-L-Lys-degrading enzyme.
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【题目】A novel bacteriocin with a broad inhibitory spectrum produced by Lactobacillus sake C2, isolated from traditional Chinese fermented cabbage
【中文关键词】米酒乳杆菌;细菌素;16S rDNA鉴定;分子量;中国传统发酵食品泡菜
【英文关键词】Lactobacillus sakei;Bacteriocin;16S rDNA sequence;Molecular weight;Traditional Chinese fermented cabbage
【中文摘要】本文从中国传统发酵食品泡菜中分离出300株乳酸菌,从中筛选得到一株产细菌素的菌株C2,排除有机酸和过氧化氢的作用后,发现该菌株所产细菌素能够强烈抑制金黄色葡萄球菌ATCC63589和大肠杆菌ATCC25922的生长。通过表型观察、生理实验和16S rDNA鉴定菌株C2为米酒乳杆菌。该菌株所产细菌素为米酒乳杆菌素,后经低温乙醇和葡聚糖凝胶色谱柱纯化。通过Tricine凝胶电泳确定米酒乳杆菌素C2的分子量约为5.5kDa,在目前已知米酒乳杆菌素中分子量为最大。米酒乳杆菌素C2表现出广谱的抑菌活性、热稳定性(121℃15min)和pH稳定性(pH3.0-8.0)。米酒乳杆菌素C2对蛋白酶敏感,但对脂肪酶、α-淀粉酶和β-淀粉酶不敏感。以上特性均表明米酒乳杆菌素C2是一种新型的,具有广谱抑菌活性的Ⅱ类细菌素,而且该细菌素的发现很可能扩展乳酸菌所产细菌素在食品工业中的应用范围。
【英文摘要】By excluding the effects of organic acids and hydrogen peroxide, strain C2 producing a bacteriocin strongly inhibited Staphylococcus aureus ATCC 63589 and Escherichia coli ATCC 25922 was selected from 300 lactic acid bacteria isolated from traditional Chinese fermented cabbage. Strain C2 was identified as Lactobacillus sakei by phenotypical and physiological tests and 16S rDNA identification. This bacteriocin,which was designated sakacin C2, was purified by cold ethanol and Sephadex G50 column chromatography for further studies. The molecular weight of sakacin C2 was 5.5 kDa by Tris-Tricine SDS – PAGE, which was the largest among all known sakacins. Sakacin C2 exhibited a wide range of antimicrobial activity,strong heat stability (15 min at 121 C) and pH stability (pH 3.0 – 8.0). Sakacin C2 was sensitive to protease but insensitive to lipase, a-amylase and b-amylase. These characters suggested that sakacin C2 was a novel Class II bacteriocin with a broad inhibitory spectrum and might broaden the

application range of bacteriocins from LAB in the food industry.
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【题目】不同地理群体三疣梭子蟹非特异性免疫功能的比较
【中文关键词】三疣梭子蟹,免疫酶活,非特异性免疫
【英文关键词】Portunus trituberculatus, Enzyme activities, Nonspecific immunity
【中文摘要】研究了不同地理群体的三疣梭子蟹免疫酶活之间的差异。
【英文摘要】The non-specific immune functions were studied in four populations of Portunus trituberculatus from Haizhou Bay, Dandong, Zhoushan and Laizhou Bay for the immunity enzyme activities in haemolymph, muscle and hepatopancreas tissue of the crabs. Results showed that SOD activities of haemolymph and muscle were not significant different by four populations. However, the hepatopancreas SOD activity of Haizhou Bay population was higher than that of Laizhou Bay population significantly ($P<0.05$), and there was no significant difference among other populations ($P>0.05$). On the GSH-px activities of the haemolymph and hepatopancreas, Haizhou Bay population was significantly higher than Laizhou Bay population ($P<0.05$). The MDA content, LSZ and ALP activities in different tissues were similar and there were no significant differences among the four populations. The results of the immunity enzyme activities are quite correlated with those of nonspecific immunity abilities of preventing disease and disease resistance evaluation.
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【第一作者】陈萍
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【题目】Effects of inbreeding on growth and WSSV resistance of the juvenile Chinese shrimp,Fenneropenaeus chinensis
【中文关键词】无
【英文关键词】 Fenneropenaeus chinensis; inbreeding; inbreeding depression; body weight; survival time; WSSV resistance;
【中文摘要】无
【英文摘要】To date,few studies had investigated the effects of inbreeding on growth and disease resistance,although inbreeding depression of such traits could play an important role in the evolution and ecology in Chinese shrimp,Fenneropenaeus chinensis.Effects of inbreeding on body weight and survival time post infection WSSV of juvenile shrimp were quantified in this study.All families were reared under the similar environment conditions,and the differences of growth time between two groups were not significant.The mean body weight and mean survival time of the wild shrimp group were(1.58±0.01) g and(100.43±0.68) h,and those of the shrimp group with inbreeding coefficient 25% were(1.43±0.04) g and(85.84±1.70) h,respectively.The differences of body weight and survival time post infection WSSV between two groups were all extremely significant($P<0.01$).The difference of phenotypic correlation was not significant($P>0.05$) between body weight and WSSV resistance of the wild shrimp group,which is 0.16±0.00,and the inbred shrimp group,which is 0.20±0.00.In this study the estimated inbreeding depression coefficient was-3.80%±0.17% for body weight and-5.81%±0.11% for survival time post infection WSSV per 10% increase in inbreeding coefficient.Results were consistent with the viewpoint that inbreeding could reduce growth and disease resistance.Those highlight the need to maximize the genetic diversity in base population,and to control the rate of inbreeding in selective breeding programs and wild resource protection.

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【题目】5- 溴尿嘧啶对中国明对虾受精卵的处理条件
【中文关键词】化学诱变;5- 溴尿嘧啶;中国明对虾
【英文关键词】 chemical mutagen; 5-bromouracil; Fenneropeaeus chinensis;
【中文摘要】利用化学诱变剂5- 溴尿嘧啶(5-Bromouracil,5-BrUra) 处理不同发育时期中国明对虾(Fenneropenaeus chinensis)胎,统计孵化率,根据统计学分析结果获得最佳处理条件,并探讨温度、盐度和pH 对5- 溴尿嘧啶处理效果的影响以及- 溴尿嘧啶对中国明对虾幼体发育的影响。结果表明:(1)5- 溴尿嘧啶诱变中国明对虾的最佳起始处理阶段为原肠期,达到接近半致死效果的浓度和处理时间组合分别为0.5 mg/mL 6 h、0.3 mg/mL 15 h 和0.1 mg/mL 24 h;(2) 温度和盐度5- 溴尿嘧啶诱变中国明对虾胚胎的效果可产生显著影响,而pH 影响不显著;(3)5- 溴尿嘧啶能影响中国明对虾幼体前期(无节幼体N→ 溞状III) 发育,而对溞状III至仔虾期间的幼体发育没有显著影响。在此阶段,经5- 溴尿嘧啶处理后孵化出的幼体能够正常变态
【英文摘要】Artifi cially induced mutation by chemical mutagens plays an important role in new variety breeding of crops and micro-organisms. And a lot of new strains with new commercial traits have been produced. However, few studies are reported on mutagen ’ s application in aquatic organism breeding,especially in marine shrimps. In the present study,embryos of marine shrimp Fenneropenaeus chinensis at different developmental stages were treated by 5-bromouracil (5-BrUra) at different concentration and duration time. To investigate the influence of environmental factors on the effects of 5-BrUra,three temperature (17,20 and 23 °C),three salinity (24,30 and 36) and three pH value(7.6,8.1 and 8.6)were set and orthogonal test was adopted in this test. Metamorphic rates and survival rates were obtained under different treatment conditions. Results are as follows:1)The optimum initial embryonic stage for mutagen treatment was gastrula stage,and three combinations of treating concentration and duration which could induce 50% lethal death were screened as 0.5 mg/mL and 6 hours duration,0.3 mg/mL and 15 hours duration,and 0.1 mg/mL and 24 h duration,respectively. 2)Temperature and salinity signifi cantly affected the effects of 5-BrUra on hatching rate($P < 0.05$) while no signifi cant effects of pH was observed within the experimental pH ranges($P > 0.05$). 3)From the stage of zoea III,no meaningful differences were observed on the metamorphosis rates between 5-BrUra treatment and control groups,and 5-BrUra treated larva could normally metamorphosize,suggesting that 5-BrUra mainly affect larva on the early developmental stages from nauplius to zoea III .ion.
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【题目】中国对虾生长性状遗传参数的估计
【中文关键词】中国对虾 遗传力 遗传相关 生长性状
【英文关键词】 Fenneropenaeus chinensis Heritability Genetic correlation Growth traits;
【中文摘要】通过人工授精的方法建立了中国对虾21个半同胞家系(47个全同胞家系)。测量了中国对虾21个半同胞(47个全同胞)家系的体长、头胸甲长、头胸甲宽、第2和第3腹节处宽、第2和第3腹节处高、第1腹节长、第6腹节长和体重,共测量中国对虾1387尾。采用混合家系材料,利用Mtd-freml软件中的动物模型进行分析,平均体重作为协变量,得到的生长性状遗传力在0.04~0.20。体重遗传力为0.14±0.16。体长的遗传力为0.10±0.06,头胸甲长为0.07±0.06,头胸甲宽为0.05±0.04,第2、3腹节宽为0.20±0.16,第2、3腹节高的最低为0.04±0.13,第1腹节长为0.09±0.09,第6腹节长为0.19±0.15。各个性状间表现出高的正相关,其中头胸甲宽和体长以及2.3腹节高的遗传相关最大,达到了1.0±0.01,第1腹节长和2.3腹节宽的

遗传相关最小为0.82±0.08。遗传力估计结果表明,中国对虾体长、体重性状的遗传力属于中度遗传力,在加性效应控制下,对中国对虾生长性状进行选择育种具有很大的遗传改良潜力,可以获得较好的选择效果。性状间高遗传相关说明在对体重进行选择的同时,其余的生长性状可以获得相关的间接选择反应。通过性状间的相关关系研究,可以对两性状间的关系进行明确的定量,有利于制定合理的多性状选择方案。在实际育种工作过程中,可以排除一些不利的或者相关性小的性状,以达到目的性状的最佳选择进展。实验结果为中国对虾的间接选择和早期选择育种提供依据。

【英文摘要】Twenty-one half-sib families(47 full-sib families)of the Chinese shrimp Fenneropenaeus chinensis were obtained by artificial insemination.Eight growth traits of 1 387 shrimps of these families were measured,including body length,cephalothorax length,cephalothorax width,width of the second and third abdominal segment,height of the second and third abdominal segment,length of the first abdominal segment,length of the last abdominal segment and body weight.The values of heritability were estimated using mixed-animal model in multiple-trait derivative-free restricted maximum likelihood(MTDFREML)software,with average body weight as covariate,and family as a random factor in the statistical model.The heritability estimates for all growth traits were at medium level,ranging from 0.04±0.13~0.20±0.16.The heritability was 0.10±0.06 for total body length,0.07±0.06 for cephalothorax length,0.05±0.04 for cephalothorax width,0.20±0.16 for the width of the second and third abdominal segment,0.04±0.13 for the height of the second and third abdominal segment,0.09±0.09 for the length of the first abdominal segment,0.19±0.15 for the length of the last abdominal segment and 0.14±0.16 for body weight,respectively.Genetic correlations were high between the growth traits.The genetic correlation between cephalothorax width and total body length was the highest(1.0±0.01),and that between the length of the first abdominal segment and the width of the second and third abdominal segment was the lowest(0.82±0.08).The findings in this work suggested that these growth traits were under additive genetic control and are expected to respond to selection.The high and positive genetic correlation between growth traits indicated that selection for high body length levels would result in positive response in other traits.Correlation analysis of genetic parameters could quantify the relationship between growth traits,and facilitate the planning for multi-traits breeding programme.Growth traits of little correlations should be excluded in practice,in order to achieve the best result of selection for the target traits.The results of this study provided theory basis for indirect and early breeding of F.chinensis.

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【题目】基于表型值和育种值的的中国对虾生长、抗逆性状相关分析
【中文关键词】中国对虾 遗传力 遗传相关 生长性状
【英文关键词】 Fenneropenaeus chinensis Body weight Stress-resistance trait Breeding value Correlation;

【中文摘要】通过人工授精的方法建立了中国对虾21个半同胞家系(47个全同胞家系)。测量了中国对虾21个半同胞(47个全同胞)家系的体长、头胸甲长、头胸甲宽、第2和第3腹节处宽、第2和第3腹节处高、第1腹节长、第6腹节长和体重,共测量中国对虾1387尾。采用混合家系材料,利用Mtd-freml软件中的动物模型进行分析,平均体重作为协变量,得到的生长性状遗传力在0.04~0.20。体重遗传力为0.14±0.16。体长的遗传力为0.10±0.06,头胸甲长为0.07±0.06,头胸甲宽为0.05±0.04,第2、3腹节宽为0.20±0.16,第2、3腹节高的最低为0.04±0.13,第1腹节长为0.09±0.09,第6腹节长为0.19±0.15。各个性状间表现出高的正相关,其中头胸甲宽和体长以及2.3腹节高的遗传相关最大,达到了1.0±0.01,第1腹节长和2.3腹节宽的遗传相关最小为0.82±0.08。遗传力估计结果表明,中国对虾体长、体重性状的遗传力属于中度遗传力,在加性效应控制下,对中国对虾生长性状进行选择育种具有很大的遗传改良潜力,可以获得较好的选择效果。性状间高遗传相关说明在对体重进行选择的同时,其余的生长性状可以获得相关的间接选择反应。通过性状间的相关关系研究,可以对两性状间的关系进行明确的定量,有利于制定合理的多性状选择方案。在实际育种工作过程中,可以排除一些不利的或者相关性小的性状,以达到目的性状的最佳选择进展。实验结果为中国对虾的间接选择和早期选择育种提供依据。

【英文摘要】 Breeding values of three traits for 170 d Fennerpenaeus chinensis,including body weight,survival time and survivorship in resistance to White Spot Syndrome Virus(WSSV)were estimated using single trait animal model,and correlation analysis was performed at family level between the phenotype and the breeding value of these traits.Heritability of the three traits were estimated as 0.22±0.16,0.14±0.12 and 0.03±0.021,respectively,and the breeding value of each trait was calculated against these values.At family level,correlation analysis of phenotypic value revealed a certain positive and significant

correlation(r=0.35,P<0.05)between average 170d body weight and resistance to WSSV,while coefficients between all the other traits were very small and not significant.All correlation coefficients of family breeding values between the three traits were small;among which the correlation coefficient between 170d body weight and resistance to WSSV was the highest(0.038),while those between 170d body weight and survival rate,or between survival time and survival rate were negative(r=-0.24,r=-0.027),and statistically insignificant.Therefore,the multi-traits composite selection method was required for shrimp F.chinensis genetic breeding program.

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【题目】中国对虾家系水平遗传多样性的AFLP分析
【中文关键词】中国对虾 家系 遗传多样性 AFLP 标记
【英文关键词】 Fenneropenaeus chinensis Family Genetic diversity AFLP Marker;
【中文摘要】采用扩增片段长度多态性分子标记技术对中国对虾的40个家系共200个样品进行了家系水平的遗传多样性分析。利用10对引物共产生307个表达清晰可用于分析的标记,其中189个标记表现为多态性,占总标记数的61.56%;中国对虾各个家系多态位点百分率在12.7%~34.2%之间;各个家系基因多样性指数在0.0494~0.122之间,Shannon指数的范围在0.0725~0.182之间(家系水平为0.1975)。对40个家系的AMOVA分析结果显示,家系间的基因分化系数Gst=0.4713,即总的遗传变异中有47.13%的变异存在于家系间,家系内的遗传变异占总遗传变异的52.87%。采用UPGMA法对中国对虾的40个家系进行了聚类分析,确定了各个家系之间的遗传亲缘关系;并且对200个个体进行了聚类分析。结果表明,90%同一家系的子代个体能完全聚类在一起。通过家系间的遗传分化系数Gst对中国对虾的40个家系间的基因流进行了估测,结果显示,Nm=0.5609,表明基因流处于较低水平。
【英文摘要】 Amplified fragment length polymorphism(AFLP)technique was used to detect the genetic variation among a total of 200 individuals representing 40 families.Popgene version 1.32,MEGA3.1 and AMOVA in Alequin 2.0 software were used for data analysis.Ten pairs of selective EcoR Ⅰ and Mse Ⅰ primers produced 189 polymorphic markers out of total 307 bands amplified;the percentage of polymorphic loci was 61.56%.The percentages of polymorphic loci of the forty families were between 12.7% and 34.2%.Genetic diversity index of the families were between 0.049 4~0.122,and Shannon genetic diversity index were between 0.072 5 and 0.182(intra-family index was 0.197 5).AMOVA(Analysis of molecular variance)showed that a large proportion(52.87%)of genetic variation resided within families,while only a small proportion(47.13%)of genetic variation resided between families,representing an inter-family genetic differentiation index of Gst=0.471 3.Cluster analysis by UPGMA revealed the genetic distance and relationship between the 40 families,and the UPGMA dendrogram of the 200 individuals indicated that 90% of the individuals from each family could be fully clustered.Genetic diversity index G-based estimation revealed a low gene flow(Nm=0.560 9)among the 40 families.

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【题目】中国对虾3种育种模式的BLUP遗传评定分析
【中文关键词】中国对虾 精细育种模式 全同胞育种模式 群组育种模式 BLU P
【英文关键词】Fenneropenaeus chinensis Half-sib breeding mode Full-sib breeding mode Group breeding mode BLUP;
【中文摘要】设计了3 种育种模式, 精细育种模式(A) 、全同胞育种模式(B) 和群组育种模式(C) , 分别利用不同的系谱信息(所有系谱、全同胞、群组) , 考虑不同的遗传力水平, 在家系和个体水平上进行选择效果的对比分析。采用单性状动物模型, 考虑各家系标记时的平均体重为协变量, 通过BLUP 法估计个体体重育种值。家系选择水平上的结果表明, 利用全同

胞育种模式选取的家系(50% 的淘汰率)与精细育种模式相比, 一致率在90% 以上, 估计的家系育种值与精细育种模式间的相关系数在0.9以上, 相关程度高。在个体选择水平上, 全同胞育种模式与精细育种模式间存在着较大差距。以10%的留种率为标准, 前者留取的个体与后者的一致率在68.61%~ 83.21% 。全同胞育种模式估计的个体育种值与精细育种模式间的相关系数在0.770~ 0.935 之间, 低于家系选择水平的相关程度。群组水平上的比较分析表明, 利用群组育种模式选取的群组(50%的淘汰率) 与精细育种模式相比, 除C5 为90.91% 外, 其余模式一致率均为100% 。群组育种模式估计的育种值与精细育种模式间的相关系数在0.98 以上, 相关程度高。这说明通过群组育种模式选取的群组, 准确可信度高。与精细育种模式相比较, 在个体水平上群组育种模式估计的个体育种值和其排队顺序是存在较大差别的。以10% 的留种率为标准, 群组育种模式与精细育种模式相同留种个体的百分比在57.66%~ 85.40% 。群组育种模式估计的个体育种值与精细育种模式间的相关系数在0.772~ 0.941 之间。相对于精细育种模式, 采用群组育种模式进行个体选择的可信度要低一些。

【英文摘要】 Three breeding modes,including half-sib breeding(A),full-sib breeding(B)and group breeding(C)were designed,and the effects of individual and family selection based on simulation of three breeding strategies were compared and analyzed at different levels of heritability.Breeding value for weight was calculated by single trait animal model and BLUP,and average family body weight was used as a covariate.Over 90% of selected families(50% families selected)by either A or B strategy were the same for family level selection,and the correlation coefficients for their family breeding values of body weight were all more than 0.9 at different levels of heritability,indicating for a high degree of correlation between the two modes of family selection.However,there were great difference for individual selection between A and B strategies,for which 68.61%~83.21% of the selected individuals(at a standard individual selection ratio of 10%)were the same.The correlation coefficient of the breeding values for individual body weight between the two modes varied between 0.770 ~ 0.935,and was lower than family selection between A and B.The ratio of uniformity for groups selected(50% group selection ratio)between C and A modes were 100% except C5,and correlation coefficients for their group breeding values of body weight were all more than 0.98 at different levels of heritability,indicating that the groups selected by group breeding mode(C)was accurate and authentic.However,there were big differences between C and A modes for individual selection,in terms of the breeding values and their sequence.The uniformity ratio of individuals selected(at a standard of 10% selection ratio)by C and A modes was between 57.66%~85.40% at different levels of heritability.The correlation coefficient of breeding values of individual body weight between the two modes varied between 0.772~0.941.Compared with A mode,C mode was less reliable for individual selection.

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【题目】中国对虾体重育种值估计的动物模型分析。

【中文关键词】中国对虾 动物模型 BLU P 育种值 家系选择 个体选择
【英文关键词】 Fenneropenaeus chinensis Animal model BLUP breeding value Family selection Individual selection;

【中文摘要】育种值是选种和配种计划制定的基础, 其准确性与选择效果密切相关。利用中国对虾2005年21 个父系半同胞组共1 387 个个体体重数据, 将家系标记时的平均体重、全同胞组效应等因子组合, 建立了4 种不同的动物模型, 应用BLU P 法估计体重育种值。4 种模型的估计结果分析表明, 家系标记时的平均体重和全同胞家系效应是两个重要影响因子, 建立的AFB 动物模型比其他模型所估计的结果更准确。AFB 动物模型估计中国对虾145 d 的体重遗传力为0 14 0 076, 据此计算育种值并进行模拟留种分析。结果显示, 在根据表型值或育种值选种的情况下, 育种值选种的留种家系或个体的育种值比表型值选种分别提高50% 和80 59% , 育种值选择的效率更高。

【英文摘要】Breeding value estimation is the basis for selective breeding and planning of a mating programme,and its accuracy has a direct effect on the result of selection.Four animal models(A,AB,AF,AFB)were built based on the combination of average body weight at tagging(covariate)and full-sib group effect(uncorrelated random effect)of 1 387 animals from 21 paternal half-sib groups of Fenneropenaeus chinensis,and the breeding value of body weight of all individuals were estimated using BLUP(Best linear unbiased prediction)method.Analysis of these breeding values revealed that,average body weight at tagging and full-sib group effect were important factors for estimating breeding value of body weight,and AFB model achieved greater accuracy in breeding value estimation than the other models.The estimated heritability of 145d body weight by AFB model was 0.14±0.076;and based on this,the breeding value was estimated and simulated selection was made.It was found that,the efficiency of breeding value selection for family or individual body weight was 50% or 80.59% higher than phenotypic value selection. dual selection.

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【题目】应用BLUP法对中国对虾一代选择的遗传进展
【中文关键词】中国对虾　BLU P　生长性状　遗传进展
【英文关键词】 Fenneropenaeus chinensis BLUP Growth traits Genetic gain;
【中文摘要】为了评估中国对虾最佳线性无偏预测(Best liner unbiased predict ion, BLUP) 的育种效果,利用2005 年评估的个体育种值, 组建3 个高育种值家系为实验组, 3 个平均值育种值家系为对照组,进行了生长对比测试。2006 年, 6 个家系的苗种经过独立培育、中间暂养, 体重达到1 g 左右时用荧光标记进行了标记, 标记后的幼虾同时放养于对虾养殖池中。在生产养殖池中养殖63 d 后进行生长性状的测定。BLUP 法预测结果显示, 中国对虾一代选育后的预期遗传进展为0.78 g, 相对于选育前全群的平均值6.68 g 提高了约11.68%。实际对比测试结果表明, 高育种值家系后代平均体重为21.55g, 平均育种值家系的平均体重为19.03 g , 选育一代的体重提高13.28%。结果表明, BLU P 育种技术对中国对虾生长性状的选育效果显著。
【英文摘要】 A growth comparison experiment was carried out on F1 of Fennropenaeus chinensis to evaluate the genetic gain of BLUP(best linear unbiased prediction)breeding method.Based on individual breeding value estimation of 2005,three families with high breeding values were constructed as treatments,and three families with medium breeding values were used as control.Offspring of the six families were cultured separately through the larval and juvenile stages in 2006,and were fluorescence-tagged when they reached a body weight of 1 g.The shrimps were tagged with a unique family code by injecting different colours of"Visible Implant Fluorescent Elastomers"(VIE)before being stocked in one grow-out pond.Growth of these shrimps was measured after 63 d.The expected genetic gain of the growth trait by BLUP method was 0.78 g,representing an 11.68% increase compared to the average value of the population before selective breeding(6.68 g).Result of measurement showed an average weight gain of 21.56 g for offspring of the high breeding value families,and 19.03 g for offspring of the medium breeding value families,representing a 13.28% increase of body weight in F1.It is suggested that,BLUP breeding technology was effective for selecting growth traits of F.chinensis. on. dual selection.
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【题目】微卫星技术对黄、渤海海域7个不同地理群体中国对虾的遗传结构和遗传分化研究
【中文关键词】中国对虾　地理群体　遗传分化　微卫星DNA
【英文关键词】 Fenneropenaeus chinensis Geographic populationGenetic differentiation Microsatellite DNA;
【中文摘要】采用微卫星DNA 技术对黄、渤海海域7 个不同地理群体的中国对虾进行了遗传结构和遗传分化研究。7 个地理群体分别来自辽东湾(LD) 、渤海湾(BH) 、海州湾(HZ) 、乳山湾(RS) 、海洋岛(HYD) 、朝鲜半岛西海岸(KW) 以及朝鲜半岛南海岸(KS) 。7 对多态性良好的微卫星引物共检测到109 个等位基因, 群体平均期望杂合度(H e) 范围为0 810~ 0 864。49 个群体位点中, 只有15 个符合Hardy-Weinberg 平衡。U PGMA 聚类分析显示, 各地理群体亲缘关系与地理位置关系密切。根据各地理群体间遗传距离及AMOVA 遗传分化检验结果, 可将中国对虾分为3 个独立种群, 分别为中国沿岸黄、渤海群体、朝鲜半岛西海岸群体及朝鲜半岛南海群体; 其中中国沿岸黄、渤海群体内部也发生了一定程度的遗传分化, 但是否达到种群水平还有待于进一步验证。
【英文摘要】 In the present study, microsatellite DNA technique was applied to investigate the genetic structure and differentiation of prawn Fenneropenaeus chinensis from seven geographic locations: Liaodong Bay (LD), Bohai Bay (BH), Haizhou Bay (HZ), Rushan Bay (RS), Haiyangdao fishing ground (HYD),the west coast of the Korean Peninsula (KW) and the south coast of the Korean

Peninsula (KS) in the Bohai and Yellow Seas. A total of 109 alleles were obtained from seven loci in 210 prawns. The average expected heterozygosity (He) of populations varied from 0.810 to 0.864. Out of 49 population-locus cases, only 15 accorded with the Hardy-Weinberg equilibrium. Cluster analysis by UPGMA indicated that the relationship among different geographic populations was related to their locations. Based on the values of genetic distance (D) and AMOVA analysis, three independent populations were identified as population of the Bohai and Yellow seas along the Chinese coast, population of the west coast of the Korean Peninsula and population of the south coast of the Korean Peninsula. Moreover, some differentiation in the population of Bohai and Yellow seas along the Chinese coast has also been observed, but further analysis is needed to verify the degree of differentiation.

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【学科分类】水产养殖学

【题目】蚯蚓与蝇蛆对中国对虾生长及抗白斑综合症病毒感染的研究

【中文关键词】无

【英文关键词】 Fenneropenaeus chinensis; earthworm; housefly larva; white-spot syndrome virus(WSSV); artificial infection;

【中文摘要】无

【英文摘要】Chinese shrimp(Fenneropenaeus chinensis) is one of the leading cultured species in China.But shrimp farming is currently threatened by pathogen,such as virus,bacteria,etc,among which the white spot syndrome virus(WSSV) is the most serious.The efficient method to avoid or diminish the influence of the virus may lie in the diet,as evidences had revealed the main way that the WSSV was spread in Chinese shrimp was caused by food.This study was initiated to assess the effect of earthworm and housefly larva on growth and survival rate of F.chinensis after WSSV infection.Commercial feed and clam were control groups,and earthworm and housefly larva were assigned into four treatment groups.Three repetitions were made for each diet treatment with 130 individuals in each repetition.The body length and the body weight were measured before and after the experiment,respectively.The survival rate was also calculated when the shrimp were challenged with different gradient WSSV by oral infection,and the dead shrimp were removed every two hours.The descending order of the gain of body weight and body length in the four diet treatment was clam,earthworm,housefly larva and commercial feed.There was significant difference between the body length($P<0.05$) and very significant difference between the body weight of each group($P<0.01$).Fixed linear model was applied to test the survival rate of F.chinensis by diet variation and different WSSV dosage.The results showed that the survival rate of F.chinensis fed on earthworm and housefly larva was significantly higher than that of the clam and commercial diet fed groups,and the survival rate of group fed on housefly larvae was significantly higher than that of group fed on artificial feed.The results indicated that earthworm and housefly larvae can obviously enhance the growth and disease resistance of Chinese shrimp,and are good food for Chinese shrimp.Results detected by Nest-PCR showed none of shrimp was infected by WSSV prior to the experiment,and the positive rate of 96.94% of shrimp mortality was possibly caused by infection.

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【题目】近交对中国明对虾生长、存活及抗逆性的影响

【中文关键词】中国明对虾;近交;生长;存活;抗逆

【英文关键词】 Fenneropenaeus chinensis; inbreeding; growth; survival; stress resistance;
【中文摘要】以“中国对虾遗传育种中心”2个近交家系为基础培育近交群体,近交系数为0.375;以“中国对虾遗传育种中心”选育的核心群体做对照群体。将实验对虾养殖60 d,每隔20 d测量体长与体质量。通过体长、体质量、存活率、耐盐力、耐温力和抗白斑综合症病毒(WSSV)感染能力6个指标来评价近交对中国明对虾生长、存活和抗逆性的影响。方差分析表明,近交群体和对照群体在体长、体质量和存活率这3个性状上差异显著(P<0.05),近交衰退系数分别为-4.027 O%、-7.300 0%、一5.803 3%;而近交群体和对照群体在耐盐力、耐温力和抗WSSV感染能力3个抗逆性状上差异不显著(e>o.os),近交衰退系数分别为0.084 1%、--0.739 4%、1.911 0%。研究结果表明,近交使中国明对虾生长、存活等性状产生显著的衰退,而对抗逆性这一性状没有显著影响
【英文摘要】 Inbreeding,which refers to situations in which relatives mate,is unavoidable in aquaculture populations because of the restricted population size. To date,few studies investigated the effects of inbreeding on growth and stress resistance traits,although inbreeding depression of such traits had made great impact on the evolution and ecology of Chinese shrimp,Fenneropenaeus chinensis. This study quantified the effects of inbreeding on body length,body weight, survival rate,salinity-tolerance,temperature-tolerance and anti-WSSV(White spot syndrome virus) of domesticated F. chinensis in Chinese Shrimp Genetics Breeding Centre. Two inbreeding F. chinensis families from the Centre were used as broodstocks to produce inbreeding populations whose inbreeding coefficient was 0.375. Meanwhile,core populations of F. chinensis from the same center were settled as control. Inbreeding and control groups were both tagged with visible implant elastomer(VIE),and then cultivated together under the same conditions. Body length as well as body weight was measured per 20 days during the experiment. The results showed that the first three traits including body length, body weight and survival rate of inbreeding population were significantly higher than those of control populatio(nP<0.05), whose inbreeding depression coefficients were -4.027 0%,-7.300 0% and -5.803 3%,respectively. Compared with the first three traits,the last three traits including salinity-tolerance,temperature-tolerance and anti-WSSV were slightly affected by inbreeding effect(P>0.05),with their inbreeding depression coefficients being 0.084 1%, -0.739 4% and 1.911 0%,respectively. These results demonstrated that inbreeding could cause significant depression on growth and survival,but not on stress resistance traits in F. chinensis. Nest-PCR(Polymerase Chain Reaction) was used to detect WSSV infection in F. chinensis. Result showed that few individuals were infected by WSSV before the experiment,but the virus positive rate was 83.33% according to the fist-step PCR and 90.00% according to the secondstep PCR after the experiment.
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【题目】水产动物选择育种的近交分析
【中文关键词】群体选择 近交 有效群体 选择反应 水产动物
【英文关键词】
【中文摘要】采用随机模拟技术模拟了水产动物的群体选择流程, 比较分析了15 个世代后群体的近交系数、近交率、选择反应、表型值等参数. 模拟分析中, 亲本的雌雄比例定为1 1, 选种数量设定500, 1000 和2000 个个体, 个体产卵量分别设为104 , 5 104 , 1 105 , 2 105 , 5 105 和1 106 共6 个梯度, 选种池塘个数设为1, 2, 3. 采用个体选择和家系内选择两种方式选择留种. 结果表明, 产卵量、个体选择方式和选择池塘数目是影响水产动物群体选择中近交系数和选择反应的3 个最主要的因素. 进一步的分析认为, 目前水产动物群体选择技术能够导致育种群体严重近交, 应采取相应的近交控制策略, 主要包括增加有效群体的数目、增加池塘数目以及选择合适的选育方法.
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【题目】复合生物过滤技术在水产养殖废水处理中的应用研究进展
【中文关键词】复合水处理技术;生物过滤;水产养殖;生物滤器;废水处理;水质净化
【英文关键词】The combined technology of water treatment; living biological filtration; aquaculture; biofilter; waste water treatment; water purify
【中文摘要】介绍了复合生物过滤技术的概念、原理、特点,以及植物滤器与微生物滤器复合生物过滤技术、动物滤器与植物滤器或微生物滤器过滤等主要几种复合生物过滤技术在实际生产中的应用,探讨了复合生物过滤技术在养殖废水处理中的发展趋势。
【英文摘要】The water treatment is one of the key techniques in recirulation aquaculture system.The combi-ning biofiofilter water treatment technique is one of the popular fields in fishery engineeri-ng research.This paper introduced the concept,principles,characteristics,and several kinds of combining biofilter water treatment techniques applied in aquaculture water treatment,such as plant and microorganism biofilters,animal and plant or microorganism biofilters.Trends of com-bining biofilter techniques in aquaculture water treatment are discussed finally.
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【题目】通过精液移植构建中国明对虾家系及微卫星分型鉴定父本
【中文关键词】中国明对虾;精液移植;微卫星;基因分型
【英文关键词】 Fenneropenaeus chinensis; semen transplantation; microsatellite; genotype;
【中文摘要】:本研究首次采用精液移植法进行中国明对虾(Fenneropenaeus chinensis)的家系构建,利用10尾已交尾雌虾纳精囊精液对17尾未交尾雌虾进行了移植,共建立11个中国明对虾家系,其中含有父系半同胞家系2个;精液移植的平均受精率为46.8%,最高受精率为78%,授精成功率为64.7%。为了揭示每个家系母本内精液的来源情况,选用6个中国明对虾微卫星标记对11个家系的母本、母本内精液及每个家系的6个个体进行分析,推算出每个家系各自的父本基因型,并与各自母本精液基因型进行比较,成功地对11个家系进行了父本鉴定。实验结果表明,11个家系的父本基因型与各自母本内精液基因型相同,每个家系内个体属全同胞关系,即对于1尾自然交尾雌虾,其纳精囊内精液只来自于1尾雄虾。通过本实验,验证了精液移植在构建中国明对虾全同胞家系和半同胞家系中的可行性,阐明了精液移植家系内个体的亲缘关系,为中国明对虾选育工作提供了技术保证。
【英文摘要】 the construction of base population with broad genetic variation.The base population can be established by forming a synthetic breeding population where brood stock from different populations are systematically crossed with each other to secure that their offsprings do not inbreed but carry new combinations of alleles.Howerer,lack of male brood stocks restricts the establishment of enough families.In order to resolve this problem,we used semen transplantation to construct families of F.chinensis among different populations,and for the sake of obtaining pedigree information, microsatellites were used for identifying parentage relationships among individuals. Semen from spermathecas of ten mated shrimps was transferred into the spermathecas of 17 shrimps which were not mated,and 11 full-sib families were obtained,including two half-sib families.The average fertilization rate was 46.8%with the highest being 78%.The success rate of artificial insemination by semen transplantation was 64.7%. Six microsatellite markers were used to identify parentage relationships among the individuals.We identified paternity of the 11 families through genotype data of female parents,semen and six individuals of each family,and constructed clear pedigrees by using microsatellite loci.All of the six microsatellite loci were polymorphic.Forty alleles were detected in 11 female parents at six microsatellite loci.The numbers of alleles at each locus were between four and nine.Forty-two kinds of genotypes were acquired in 11 female parents.All the paternal genotypes of the 11 families were inferred based on the genotypes of the female parents and their offsprings.Through the analysis of expected sire genotypes and semen genotypes,we successfully identified the paternity of 11 families.Results indicated that the male parent genotypes were identical with the semen genotypes,which demonstrated that semen in each spermatheca was from one male shrimp,and the offsprings of each

family were full-sibs.These results demonstrate that it is feasible to use semen transplantation technique as a way to establish F.chinensis families.It also shows that microsatellite markers can be used as a powerful tool for obtaining pedigree information in selective breeding programs of F. chinensis.The results of the experiment will establish foundation for producing full-and half-sibs families,and the technology of semen transplantation can provide basis for shrimp breeding programs.

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【通讯作者】孔杰

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【题目】中国对虾抗WSSV相关基因表达特征的DDRT-PCR分析

【中文关键词】中国对虾;抗白斑综合征病毒;mRNA 差异显示技术;

【英文关键词】 Fenneropenaeus chinensis; WSSV-resistant; mRNA differential display PCR;

【中文摘要】为了分析中国对虾(Fenneropenaeus chinensis)抗白斑综合征病毒(WSSV)相关的分子机理,本研究以中国对虾“黄海2号”作为实验材料,进行白斑综合征病毒感染实验,感染20 d后获得了59尾存活的对虾。采用mRNA差异显示技术(DDRT-PCR)分析感染实验中早期濒死中国对虾和感染20 d后仍存活对虾基因表达的差异,共回收到46个阳性差异片段。差异片段序列同源性功能分析的结果表明,差异片段所编码的蛋白主要参与氧化磷酸化、蛋白质合成、糖酵解、信号转导等生物过程。以上结果初步反映了中国对虾抗白斑综合征病毒相关基因的表达特征,为研究对虾抗白斑综合征病毒的作用机制及培育抗白斑综合征病毒对虾新品种提供了基础数据

【英文摘要】White spot syndrome is a viral disease that seriously threatens shrimp aquaculture.In order to study the molecular basis related to WSSV-resistance in Fenneropenaeus chinensis,"Huanghai No.2"was challenged by WSSV.There were 59 shrimps survived from the challenge experiment after twenty days post-infection in the end.The gene expression in survival shrimps twenty days post-infection was compared with the earliest moribund shrimps in post-infection by mRNA Differential Display PCR.Forty-six positive differential fragments were recovered.Then sequences of the positive differential fragments were determined and blasted in GenBank.Most of them were foundto code proteins related to oxidative phosphorylation,protein synthesis,glycolysis and signal transduction.The study showed partly the molecular basis related to WSSV-resistant genes in shrimp,and provided basic data for understanding mechanisms related to WSSV-resistant in shrimp and WSSV-resistant shrimp breeding.

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【题目】三疣梭子蟹四个野生群体形态差异分析

【中文关键词】三疣梭子蟹;野生群体;形态学差异;聚类分析;判别分析

【英文关键词】Portunus trituberculatus ,wild population ,morphological difference cluster analysis, discriminant analysis

【中文摘要】:通过对鸭绿江121、莱州湾、海州湾、舟山4个野生群体的三疣梭子蟹(Portunus trituberculatus)14项生物学外部形态性状的测量,采用多元分析方法对其进行比较分析。聚类分析结果表明,海州湾、舟山2个群体形态最为接近,鸭绿江口和莱州湾2个群体形态较为接近。对样本所属群体进行判别分析,4个群体雌蟹的综合判别率为87.0%,其中海州湾最低,为80.0%;莱州湾最高为92%。4个群体雄蟹的综合判别率为80.8%,其中海州湾最低,为72.0%;鸭绿江口最高,为96%。并建立4个群体各自的判别函数公式。通过对16项形态比例参数进行单因素方差分析,找到了4个群体间存在显著差异的形态比例参数。3种分析结果均认为,4个群体三疣梭子蟹在形态上已产生一定程度的差异,但所有的差异均未达到亚种水平,需要多项参数综合判别才能将4个群体的三疣梭子蟹区分开。

【英文摘要】
Portunus triuberbuculatus is an important economical species in China. In recent years, the wild stocks of P. triuberbuculatus along the coast of China have suffered fatal decrease in their resources due to overfishing and cultivation. So it is very important to analyze the morphological diversity of P. triuberbuculatus. In October 2005,50 individuals were collected individually from four wild geographic populations distributed in the Yalu River estuary, Laizhou Bay, Zhoushan, and Haizhou Bay. In this research, cluster analysis,discriminant analysis and One-Way ANOVA analysis were applied in the analytical process. Based on 14 morphological characters of each population of P. trituberculatus from four locations, cluster analysis and discriminant analysis were conducted. Crabs from Haizhou Bay and Zhoushan were pooled into one group while crabs from Yalu River estuary and Laizhou Bay were pooled into another group by cluster analysis. In discriminant analysis, total accuracy rate of discriminant on female crabs from four locations was 87.0 %. The accuracy rate of Haizhou Bay population was the lowest(80.0 %), while that of Laizhou Bay population was the highest (92%). Total accuracy rate of discriminant on male crabs from four locations was 80.8%. Haizhou Bay population was the lowest at 72.0 %, while Yalu River estuary population was the highest at 96 %. The discfiminant functions of the populations from four locations were established, respectively. OneWay ANOVA was conducted on 16 proportional parameters. The results showed that some proportional parameters were significantly different among the four populations. In this study all results supported that there were some morphological differences among the four populations, but variations of all the morphological traits were not characterized subspecies. Some integrative analysis was needed to distinguish accurately all geographic populations.
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【题目】三疣梭子蟹不同地理种群内自繁和种群间杂交子一代生长性状的比较
【中文关键词】三疣梭子蟹, 种群, 杂交, 杂种优势, 育种
【英文关键词】Portunus trituberculatus, Population, Cross, Heterosis, Breeding
【中文摘要】采用不同地理种群体内自繁和种群间杂交的方法, 进行了自繁和杂交子一代生长性状的比较研究。结果表明, 80 日龄时的杂交子一代在各项指标都表现出一定的杂种优势(0.24%—13.50%),LS 在这5 个性状中都高于ZL。100 日龄时杂交子一代表现出的杂种优势有所下降, 杂种优势率在-0.88%—4.13%之间, 甲长表现出杂种劣势。120 日龄时杂交子一代的杂种优势范围为-1.91%—4.37%, 甲长、甲宽表现出杂种劣势。可见不同杂交组合、不同性状、不同时间表现出的杂种优势有显著差异。ANOVA 分析表明:80 日龄、100 日龄、120 日龄时, 5 个生长性状在群体之间存在极显著差异。实验结果表明:三疣梭子蟹4 个杂交子一代在生长性状上存在一定程度的杂种优势, 可见种内群体间杂交是培育三疣梭子蟹优良新品系的重要方法之一。
【英文摘要】Portunus trituberculatus(Family Portunidae)is an economically valued crab species.However,rapid expansion in agro-industry of it in recent years in China yielded also some problems such as frequent diseases outbreak,breed/strain degeneration,and natural resource depletion.They have limited the sustainable development.In this research,matings and crosses within and among three different geographical populations(Zhoushan:ZS;Laizhou Bay:LZ;and Haizhou Bay:HZ)of the species were screened for new breed and strains.Seven populations of first filial generations have been obtained,of which three were of matings and 4 crossings.The characteristic indices of the first filial generations were measured on Days 80,1 00,and 1 20.Results show that the heterosis was significant in the whole carapace width,carapaceidth,carapace length,body height,and body weight;for instance,the difference in heterosis of Day 80 one was 0.24% 一13.5% .The heterosis in LS was greater than in ZL in all dimensions.On Day 100.the heterosis varied 一0.88% 一4.13% with hybrid weak ness in carapace length.On Day 120.the heterosis varied 一1.91%一4.37% with hybrid weakness in carapace length and carapace width.Analysis with ANOVA program shows that some traits were significantly different among seven populations of the first filial generations.Hybridization was proved important in this study for increasing the growth performance of trituberculatus

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【题目】三疣梭子蟹形态性状对体重的影响结果效果分析
【中文关键词】三疣梭子蟹 形态性状 相关分析 回归分析
【英文关键词】Portunus trituberculatus ,Morphological characters,Correlation analysis, Regression analysis
【中文摘要】通过对鸭绿江口、莱州湾、海州湾和舟山4个采样地点的三疣梭子蟹Portunus tritubercul。一tus12项形态性状的测量,采用相关分析和通径分析方法,计算了以形态性状为自变量对体重作依变量的相关系数、通径系数、决定系数及相关指数,定量分析了形态性状对体重的影响效果。结果表明,三疣梭子蟹12个形态性状均与体重的相关系数达到极显著水平(P<0.01);通径分析揭示了多元分析中多个自变量与依变量的真实关系。全甲宽、甲长、体高、第1侧齿间距、第2侧齿间距、大螯不动指长对体重的通径系数达到显著水平。所选形态性状与体重的复相关指数为R。:0.882 6,说明影响体重的主要自变量指标已经找到;多元回归分析建立了全甲宽(X)、甲长(X)、体高(X)、第一侧齿间距(X)、大螯不动指长(X)对体重(y)的回归方程,为三疣梭子蟹育种提供理论依据。
【英文摘要】Based on the measurement of 1 2 morphological characters of blue crab(PortunUS trituberculatus)from four areas including Yalu River estuary,Laizhou Bay,Haizhou Bay,and Zhoushan Island,the relationships between these data and body weight of these crabs wereinvestigated,using correlation analysis and path analysis.The 1 2 morphological characters were used as independent variables,and body weight was used as a dependent variable for path analysis.Path coefficients(Pi),determination coefficients( )and correlation index(R)were calculated in path analysis.All twelve correlation coefficients between the 1 2 morphological characters and the body weight were found tO be significant(P~ 0.01).Path analysis revealed a rel able relationship between the independent variables and the dependent variable. Significant path coefficients(Pi)were found between the full carapace width(X1),carapace length(X2),body height(X4),first obital margin width (X5),second orbital margin width (X6),fixed finger length of the claw (X7)and the body weight.According to their high compound correlation index(R 一0.882 6),the main variables(X1,X2,X4,X5,X6,X7)were selected.Multiple regression equations for the full carapace width(X1),carapace length(X2),body height(X4),first obital margin width(X5),fixed finger length of the claw (X7)and the body weight wereobtained,which provided a theoretical basis for blue crab breeding.
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【题目】三疣梭子蟹3个地理种群杂交子一代生长和存活率的比较
【中文关键词】三疣梭子蟹 自繁 杂交 生长性状 存活率
【英文关键词】Portunus trituberculatus;cross population;mating population;trait;breeding
【中文摘要】为了培育三疣梭子蟹P ortunus trituberculatus 新品系, 开展了不同地理种群内自繁和种群间杂交的工作, 获得了3个自繁群体和4个杂交群体, ZZ1、LL1和HH1分别来自舟山野生种群(ZS)、莱州湾野生种群(LZ) 和海州湾野生种群(H Z) 自繁一代; ZL1和LS1是ZS 与LZ杂交一代, HL1和LH1是LZ与H Z杂交一代。运用方差分析对7个子一代群体的5个主要生长性状(全甲宽、甲宽、甲长、体高、体重) 进行了比较, 发现一些性状在7个子一代群体之间表现出显著差异, 计算各项生长性状及存活率的杂种优势,4个杂交子一代群体在一些性状方面表现出杂种优势(01 33% ~ 46112%) , 但不同杂交组合间和不同性状间的杂种优势存在差异, 有的性状甚至表现出杂交劣势。获得的7个群体将成为进一步选育的基础群体,子一代变异性的增加为进一步选育奠定了基础。

【英文摘要】Hybridization was carried out within and among different geographical populations of crab Portumts trituberculatusto breed new strains.Seven populations of first filial generations were obtained,in which three popula · tions,designated ZZ1,LL1 and HH1,were from wild populations ofZhoushan(ZS),Laizhou Bay(LZ),and Haizhou Bay(HZ).Two populations ZL1,and LS1 were from cross between ZS and LZ,two populations HLl and LHl were from cross between LZ and HZ. Analysis of five growth traits,total carapace width, carapace width ,carapace length,body height and body weight by ANOVA revealed that some traits were significantly diferent among the seven populations of first filial generations.There existed different extent heterosis(0.33% 一46.12%)for growth in total carapace width,carapace width,carapace length,body height,body weight and livability in first filial generation of four hybrids.Heterosis was diferent in diferent combinations and traits,indicating that the seven populations were considered as the basic po pulations to breed new strains.Increased variation parameters in first filial generation of cross could be a very good potential for new strain selecting.

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【学科分类】水产养殖学

【题目】三疣梭子蟹基因组小卫星特征分析

【中文关键词】三疣梭子蟹;基因组;重复序列;小卫星

【英文关键词】Por tunus t ri tuber culatus; genome; repeat sequences; minisatel lites

【中文摘要】通过构建三疣梭子蟹部分基因组文库,对获得的4 164个克隆测序,共获得总长度为622 409 bp的DNA序列。在序列拼接后长度500~1 500 bp的709个克隆中,筛选到130个小卫星序列,其序列总长度占测序序列总长度的2.55 。小卫星序列中,以12 bp重复单位的序列数量最多(10.77),总体趋势表现为重复单位越长,相应的重复序列数目越少(R=一0.663,P<O.01)。小卫星重复单位拷贝数分布范围以8 bp重复单位最广为3.9~66.5;其次是13 bp重复范围在2.0~40.6;再次是26 bp重复,范围在2.3~21.0。平均拷贝数最高的三种重复类型分别为8 bp重复(19.96),25 bp重复(16.00)和22 bp重复(15.85)。小卫星序列中各重复单位的拷贝数分布范围2~66.5,集中分布在2~25,且表现为拷贝数目越大,其相应的重复序列数目越低的趋势。130个重复序列分别由123种重复单位所组成,因而小卫星重复序列的类型很多。初步分成三类:2种碱基组成类别、3种碱基组成类别和4种碱基组成类别,并进一步根据各个重复序列中所含有的碱基种类的数量从大到小排列这些碱基而分成若干小类。从这些分类中可以看出,三疣梭子蟹基因组中的小卫星整体上是富含A/T的重复序列,并揭示了其与微卫星重复序列之间的关系,即一部分小卫星重复序列可能起源于微卫星序列。

【英文摘要】In this paper, genome library of crab Por tunus t ri tuberculatus w as const ructed. By sequencing randomly, 4 164 clones o f sequences in the genomic libr ar y o f crab Por tunus tr ituber culatus w ere obtained. Then, using softw are DNAST AR (V ersion 5?? 0) to assemble all of the clones, 709 clones independent o f each other, w er e made in w hich the length of DN A sequences is about 622 409 bp in total. With the help o f the bio-soft T andem Repeat s Finder (Version 2?? 02) , 130 minisatellites w ere screened in the crab??s g enome DNA sequences. Their cumulative length occupied 2?? 55% of the to tal length of DNA sequences. In the minisatellite sequences, tw elve-nucleot ide repeats w ere the mo st f requent type, accounting fo r 10?? 77% o f the total number of minisatellites. It show ed that the number o f sequences decreased w ith the length of it s repeat unit (R = - 0?? 663, P < 0?? 01) . Eig ht-nucleot ide r epeat had the largest range of copy number of repeat unit (3?? 9- 66?? 5) , the fo llow ing w ere thirteen-nucleot ide repeat type(2?? 0- 40?? 6) and twenty-six-nucleot ide(2?? 3- 21?? 0) , respectively. Descending three r epeat types in mean copy number of r epeat unit w ere eig ht-nucleo tide repeat (19?? 96) , tw enty-five-nucleot ide (16?? 00) and tw enty-tw o-nucleot ide (15?? 85) , respect ively. The range of copy number of repeat unit varied fr om 2 to 66?? 5, and the copy number mostly rang ed from 2 to 25. Mor eo ver , it w as show ed that the number o f corresponding minisatellites decreased as copy number of repeat unit increased. In this research, the 130 minisatellite sequences are composed of 123 kinds of repeat units, so it is very diff icult to classify the minisatellite sequences. The minisatellite sequences can be classified into three types: dinucleotide minisatellite sequences composed of two kinds of nucleotide, t rinucleotide minisatellite sequences composed of three kinds of nucleotide and tet ranucleot ide minisatellite sequences composed of four kinds of nucleotide. Further, all of above sequences can be divided into many sub-types according to the composition of nucleotide and their number from large to small. Totally , the minisatellite sequences in Portunus trituberculatus are A/ T rich. This paper also discussed the genesis and evolut ion of minisatellite repeat sequences, and it is belived that the minisatellite repeats may come f rom the microsatellite repeat s. It could be very pract ical to use minisatellite to study the genome of Portunus tr ituber culatus and

would be applied to a variety of fields.
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【题目】三疣梭子蟹基因组微卫星特征分析
【中文关键词】三疣梭子蟹;基因组;微卫星
【英文关键词】Portunus trituberculatus:microsatellite:genome
【中文摘要】:对三疣梭子蟹(Portunus trituberculatus)部分基因组DNA文库测序,获得了总长度为622 409个碱基的基因组DNA序列,从中找到微卫星重复序列(1~6 bp重复)697个。统计微卫星重复类型,以两碱基重复数目最多,为445个,占微卫星序列总数目的63.84%;其次是三碱基重复152个,占21.81%;再次分别是单碱基重复45个,占6.46%;四碱基重复31个,占4.45%;五碱基重复14个,占2.01%;六碱基重复10个,占1.43%。在单碱基重复类型中,重复拷贝类别全部为A;两碱基重复类型中,AG重复数目最多,其次是AC和AT;三碱基重复类型中以ACT最多,其次是AGG和AAT.四碱基重复类型中,AGAC重复数目最多:五碱基重复类型中,以AACCT重复拷贝类别最多;六碱基重复中以AGGGGA重复数目最多。GC重复拷贝类别的重复数目很少,只发现1个(GenBank注册号为EU113241)
【英文摘要】By sequencing randomly,4 1 64 clones of sequences in the genomic library of crab Portunus trituberculatus were obtained.Software DNASTAR (Version 5.0)was used to assemble all of the clones in this study.The length of DNA sequences is about 622 409 bp totally.W ith the help of the bio-software Tandem Repeats Finder (Version 2.02),697 microsatellite repeat sequences are found in the sequences.In the 697 repeat sequences,the number of dinucleotide repeat is 445,being the richest(63.84%)of all the repeat sequences.The second one is trinucleotide repeat with 1 52(2 1.8 1%);the third one is mononucleotide repeat with 45(6.46%);the forth one is tetranucleotide repeat with 3 1(4.45%):the fiflh one is petranucleotide repeat with l 4(2.0 1%);the sixth one is hexanucleotide repeat wilh 1 0(1.43%).Forty-five mononucleotide repeat sequences are all composed of the motif ofA,while the motif of C was not found among the mononucleotide repeats.In dinucleotides repeats,the number ofAGrepeat is 214,accounting for 48.09%;and the numbers ofAC and AT repeats are 187(42.02%)and 43(9.66%),respectively.Eight classes of repeat sequences that include motifs OfACT,AGG,AAT,ACC,AAG,ATC,AAC and AGC are found in trinucleotides repeat,in which the number of ACT repeats is the largest with 42:the second one is AGG (35);the others are AAT(28),ACC(21),AAG(9),ATC(7),AAC(7)and AGC(3)in turn.AGAC,AACCT and AGGGGA repeats are the richest ones in tetranucleotide一,pentranucleotide-an d hexanucleo.tide.repeat,respectively.Only one GC dinucleotide repeat is found in the study and its GenBank accession numberis EU 11 324 1.The reason of fewer GC repeat is possibly that methylation of C in CpG islands results in mutation ofC.T or that it is difi cult to sequence the GC repeat sequences.Distributions of copy numbers in diferent types of repeat sequences are as follows:copy numbers of mononucleotide repeats are mainly between 28 and 40 or between 68 and 76,accounting for 80.00% totally;copy numbers of dinucleotides are mainly betw een l 2 and 36,accounting for 64.04% :copy numbers of trinucleotides repeats are mainly between 8 and 24,accounting for 57.90% ;copy numbers oftetre一,pen~a-and hexanucleotides repeats together are mainly betw een 4 and 12.In general,the length ofmicrosatellite repeat sequences are mainly 24-72 bp.Based on the above,it can be concluded that the nucleotide mutation of microsatellite locations has been accumulated largely in a long term of evolution;and there would be abundant polymorphism in these loca.tions.Therefore,it would be practical to use microsatellite to study the genome of trituberculatus and the method would be applied to a variety of fields including population diferentiation,kinship analysis,linkage analysis,and evolutional and ecological studies.Th is study provides base for P trituberculatus microsatellite researches.
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【学科分类】水产养殖学

【题目】建立半定量检测养殖环境和水产动物中的致病性副溶血弧菌
【中文关键词】副溶血弧菌; 快速检测; 半定量; 菌落PCR; tl基因
【英文关键词】Vibrio paraha emolyticus ; rapid detection; semi-quantitative; colony PCR; tl gene
【中文摘要】以tl为靶基因, 将菌落PCR 技术和平板菌落计数法相结合, 建立致病性副溶血弧菌快速、半定量检测方法。PCR 扩增的目的片段为673 bp, 人工污染样品检测最低限固体样品为3. 1 @ 102 cfu /g, 液体样品为1. 3@ 102 cfu /mL, 菌落PCR 每反应体系的检测低限为90 cfu。对人工污染样品的检测结果显示, PC-PCR方法检测结果与常规检测结果一致, 可用于养殖环境及水产品中细菌的动态监测。
【英文摘要】A rapid and semi2quantita tive method was deve loped for detec tion of p athogenic Vibrio pa raha rm olyticus, using t l gene a s a targe ted gene, combined the me thod of pla te count for bacteria l colonie s and colony PCR. The expec ted PCR product was 673 bp. Detec tion limit for a rtificia l contaminants wa s 3. 1 ×102 cfu/g of solid samp le and 1. 3 102 cfu/ml of liquid samp le; Detection limit of co lony PCR reaction system was 90 cfu. The contamina ted samp les we re detected by both PC2PCR and routinemethods with a comp le tely coinc ident re sult. This integra ted analytical PC2 PCR method should be further app lied for dynamic detection in aquaculture
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【题目】三疣梭子蟹不同日龄生长性状相关性及其对体重的影响
【中文关键词】三疣梭子蟹 生长性状 表型相关 遗传相关 通径分析
【英文关键词】Portunus trituberculatus,growth traits,phenotypic correlation,genetic correlation,path analysis;
【中文摘要】利用定向交尾技术构建三疣梭子蟹15个半同胞家系和38个全同胞家系。测量每个家系80d、100d和120d的全甲宽(X1)、甲宽(X2)、甲长(X3)、体高(X4)和体重(Y)。采用相关分析和通径分析方法计算不同日龄各性状的遗传相关、表型相关、以形态性状为自变量对体重作依变量的相关系数、通径系数、决定系数。结果表明,5个生长性状的表型相关系数在0.759~0.972之间,遗传相关系数在0.170~0.975之间。经显著性检验,各性状间的表型相关和遗传相关都呈极显著水平(P0.01),各性状不同日龄对体重的直接影响不同,80d:X1X2X3X4,100d:X1X3X2X4,120d:X3X2X1X4,80d和100d时主要通过全甲宽间接影响体重,120d主要通过甲长和甲宽间接影响体重。建立全甲宽(X1)、甲宽(X2)、甲长(X3)和体高(X4)对体重(Y)的多元回归方程,不同日龄各生长性状与体重的复相关指数R2分别为0.960,0.971,0.892,说明它们都是直接影响体重的重要指标。
【英文摘要】In order to find out the main growth traits of Portunus trituberculatus which have influence on body weight,and define degree of correlation among characters,thirty eight full-sib groups and fifteen half-sib groups of Portunus trituberculatus were obtained by directional mating techniques. Full carapace width(X1),carapace width(X2),carapace length(X3),body height(X4),and body weight (Y) of each family on 80 d,100 d and 120 d were measured. The phenotype correlation coefficients and the genetic correlation coefficients were calculated by correlation analysis at the different ages. The first 4 morphometric attributes (X1-X4) were used as independent variables,and body weight (Y) was used as a dependent variable for path analysis. Path coefficients,and determination coefficients were calculated in path analysis. The results showed that the phenotypic correlation of the five traits was between 0.759 and 0.972,and the genetic correlation was between 0.170 and 0.975. All five correlation coefficients achieved very significant difference(P<0.01)levels. The direct effects by the characters have an order at the three stages,80 d: X1>X2>X3>X4,100 d: X1> X3> X2> X4,120 d: X3> X2> X1> X4,among them X1 weighted the most to the body weight on 80 d and 100 d,X1 and X3 weighted the most to the body weight on 120 d. Full carapace width which have the largest direct impact on body weight (0.471 9) is the most important indicators for indirect selection of body weight. Multiple regression equation of (X1,X2,X3,X4) to body weight at different developmental stages was obtained as: 80 d Y=-54.113+0.491X1+0.632 X2+0.325 X3+0.451 X4;100 d Y=-123.484+0.627 X1+0.928 X2+1.433 X3+0.152 X4;120 d Y=-158.239+0.137 X1+1.410 X2+2.370 X3+0.800 X4.The high compound correlation index(R2=0.960,0.971,0.892) indicated that these growth traits had direct influence on body weight. Efficient scheme of multiple trait

selection will be made if we obtain definite quantitative relationship between each two characters.This study provides theoretical evidence and perfect measure target for breeding of Portunus trituberculatus

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【题目】溶藻弧菌对三疣梭子蟹抗氧化酶系统的影响
【中文关键词】三疣梭子蟹(Portunustrituberculatus);溶藻弧菌(Vibmo alginolyticus);抗氧化酶活;脂质过氧化物
【英文关键词】Portunus trituberculatus;Vibrio alginolyticus;Antioxidant enzyme system ;Lipid peroxidation
【中文摘要】从患乳化病的养殖三疣梭子蟹(Portunus trituberculatus)体组织内分离出病原菌——溶藻弧菌(Vibrioalginolyticus),通过肌肉注射的方式对三疣梭子蟹进行感染实验,对照组注射等量的生理盐水,在感染后0、24、48和72 h分别采集不同处理组三疣梭子蟹的血淋巴、肌肉和肝胰腺组织,测定溶藻弧菌对其各组织抗氧化相关酶活的影响。结果表明:注射生理盐水的对照组三疣梭子蟹体组织中抗氧化酶和MDA含量在不同的采样时间变化不显著(P>0.05)。与对照组比较,三疣梭子蟹感染溶藻弧菌后血淋巴、肌肉和肝胰腺组织中s0D活性随着感染时间的延长显著降低(P<0.05)。在感染溶藻孤菌24 h时血淋巴和肝胰腺组织中GSH—px活性有增强的趋势(P>0.05),随后在感染48 h后GSH—px活性显著降低(P<0.05);感染组各体组织中的MDA含量均随着感染时间的延长而显著上升(P<O.05)。结果显示梭子蟹感染溶藻弧菌后机体消除氧化过程自由基的抗氧化酶活降低,脂质过氧化物水平升高,使得抗氧化防御能力下降。
【英文摘要】The present study examined the changes occurring in the antioxidant defence status in haemolym ph,muscle hepatopancreas and tissue of Portunus trituberculatus infected by Vibrio alginolyticus. It is a kind of bacteria-V.alginolyticu that was isolated from tissue of diseased P.trituberculatus farmed under natural conditions.The healthy crabs were infected with V.alginolyticu by intramuscular injection of the isolated bacteria and 0.9 Nacl solution as a contro1 respectively. Activities of superoxide dimutase (SOD),glutathione peroxidase(GSH-px)and levels of lipid peroxides(MDA)were measured at 0 h,24 h, 48 h and 72 h following the infection.The results showed:The control crabs did not exhibit any significant variation in SOD,GSH-px and MDA activities in the tissues.However,V.alginolyticu infection induced a significant decrease of SOD activities in haemolymph,and muscle hepatopancreas of infected crabs compared with the control(P< 0.05).The GSH-px activities of the haemolymph and hepatopancreas were higher at 24 h after infection。whereas decreased significantly in the 1 ast course of infection compared with the eontrol (P< 0.05).The M DA levels of different tissues were increased significantly in infected crabs with the infection time(P<0.05).The results of this study indicated that the tissue antoxidant enzyme activities in P.trituberculatus infected by V.alginolyticu were decreased and were consistent with M DA leve1.The antoxidant defence system of crab was destroyed,and the abilities of preventing disease and disease resistance decjned.
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【题目】Computational Study on the Conformation and Vibration Frequencies of β-Sheet of ε-Polylysine in Vacuum
【中文关键词】环庚烷岔型氢键; ε-聚赖氨酸;多肽;ONIOM
【英文关键词】cyclohepta bifurcated hydrogen bond; ε-polylysine; peptide; ONIOM
【中文摘要】设计两种含有三个L-赖氨酸的低聚物作为模型分子,用于模拟ε-聚赖氨酸(ε-PL)链中β折叠的构造,它们的C端和N端分别由乙胺和α-L-氨基丁酸封端。采用ONOIM(B3L YP/6-31G:PM3)方法对它们进行了化学计算。获得最优构象并将IR频率与实验数据相对比。结果显示,两条链通过自由折叠形成环庚烷岔型氢键,其中酰胺基和α-氨基基团来源于一条链,而羰基则源于另一条链。岔型氢键的键角为66.6°。利用ONIOM [B3LYP/6-31G(d):PM3]进行的频率分析,结果表

明主要基团如氨基化合物和胺基基团的IR吸收频率和实验结果一致。

【英文摘要】Two oligomers, each containing 3 L-lysine residues, were used as model molecules for the simulation of the β-sheet conformation of ε-polylysine (ε-PLL) chains. Their C terminals were capped with ethylamine and N terminals were capped with α-L-aminobutanoic acid, respectively. The calculations were carried out with the hybrid two-level ONOIM (B3LYP/6-31G:PM3) computational chemistry method. The optimized conformation was obtained and IR frequencies were compared with experimental data. The result indicated that the two chains were winded around each other to form a distinct cyclohepta structure through bifurcated hydrogen bonds. The groups of amide and α-amidocyanogen coming from one chain and the carbonyl group from the other chain were involved in the cyclohepta structure. The bond angle of the bifurcated hydrogen bonds was 66.6°. The frequency analysis at ONIOM [B3LYP/6-31G (d):PM3] levelshowed the IR absorbances of the main groups, such as the amide and amidocyanogen groups, were in accordance with the experimental data.

【语种】英文

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【学科分类】食品科学技术基础学科

【题目】溶藻弧菌对三疣梭子蟹溶菌酶和磷酸酶活性的影响

【中文关键词】三疣梭子蟹 溶藻孤菌 溶菌酶 酸性磷酸酶 碱性磷酸酶

【英文关键词】 Portunus trituberculatus Vibrio alginolyticus Lysozyme(LSZ) Acid phosphatase(ACP)Alkaline phosphatase(ALP)

【中文摘要】将健康的三疣梭子蟹(平均体重176 4-21.3g)分别注射生理盐水和溶藻弧菌,在感染后0、24、48和72h分别采集不同处理组梭子蟹的血淋巴、肌肉和肝胰腺组织,测定其中的溶茵酶(LSZ)、酸性磷酸酶(ACP)及碱性磷酸酶(ALP)活性,研究溶藻弧茵对三疣梭子蟹体内免疫相关酶活的影响。结果表明,感染组梭子蟹血淋巴LSZ活性在感染后24h显著高于对照组(P<0.05),随后活性显著降低(P<0.05);肌肉和肝胰腺组织中LSZ活性在感染24h有稍微上升的趋势,但是随着感染时间的延长其活性又逐渐下降,且在感染48h后分别显著低于对照组(P<0.05)。感染组梭子蟹不同组织中ACP和ALP酶活随着感染时间的延长均呈下降的趋势,且感染48h后显著低于对照组(P<0.05)。试验表明,三疣梭子蟹感染溶藻弧菌后对机体免疫相关酶活指标的影响较大,导致机体免疫防御能力的减弱。

【英文摘要】Healthy Portunus trituberculatus(averaging body weight 176±21.3g)were used to determine the changes of the immunity enzyme activities in haemolymph,muscle and hepatopancreas tissue after the crabs were injected with 0.9% Nacl solution(Control)and Vibrio alginolyticus.The relative immunity indicators were measured at 0h,24h,48h and 72h after the infection.The results showed that:The lysozyme(LSZ)activity of heamolymph increased significantly(P<0.05)in V.alginolyticus infected crabs in the initial 24h,but at 48h and 72h the activity reduced significantly(P<0.05)below the control level.The LSZ activities of muscle and hepatopancreas decreased significantly after infection(P<0.05).Both the ACP and ALP activities reduced significantly in the heamolymph,muscle and hepatopancreas tissue of infection group respectively(P<0.05).However,the control crabs did not experience any significant variation in LSZ,ACP and ALP activities in all the tissues.The results of this study indicated that immunity enzyme in P.trituberculatus infected by V.alginolyticu was induced more significantly,which accompanied by weakened immunity ability of the crab

【语种】中文

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【学科分类】水产养殖学

【题目】三疣梭子蟹4个野生群体遗传差异的同工酶分析

【中文关键词】三疣梭子蟹 野生群体 同工酶 遗传差异
【英文关键词】Portunus trituberculatus Wild populations Isozyme Genetic diversity
【中文摘要】采用聚丙烯酰胺不连续凝胶垂直电泳技术对三疣梭子蟹Portunus trituberbuculatus4个野生群体(鸭绿江口、莱州湾、海州湾和舟山)的同工酶进行检测,分析群体间的生化遗传差异。结果发现(1)4个群体的多态座位百分数(P。.。。)分别为:鸭绿江口13.6 、莱州湾13.6 、海州湾13.6%和舟山13.6 。(2)4个群体间的生化遗传差异不显著,4个群体间的遗传距离D一0.000 54~0.001 70,属种内群体间差异。(3)聚类分析表明:4个群体分为两组,海州湾和舟山两群体之间的亲缘关系最近,聚为一组。莱州湾和鸭绿江口群体亲缘关系比较近,聚为另一组。
【英文摘要】Vertical polyacrylamide gel electrophoresis was used to investigate the genetic variation of isozyme of Portunus trituberbuculatus. Four wild geographic populations distributed in the Yalujiangkou(YL),Laizhou Bay(LZ),Zhoushan(ZS) and Haizhou Bay(HZ) (48 individuals each)were surveyed. Of 22 loci encoding 11 enzymes,three were polymorphic. The results showed that: (1)the mean proportion of polymorphic loci(P0.99) of YL,LZ,ZS and HZ were 13.6%,13.6%,13.6% and 13.6%,respectively ;(2) there were no significant differences in biochemical genetic characteristics of the P. trituberbuculatus among four wild geographic populations. The genetic divergences (Dnei) among the four wild geographic populations ranged from 0.00054 to 0.00170,which were lower than that between subspecies;(3) dendrogram constructed based on the genetic distances among the four populations showed that there were two different groups: one being composed of YL and LZ and the other of ZS and HZ.　还原
【语种】中文
【第一作者】樊祥国
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【学科分类】水产养殖学

【题目】三疣梭子蟹(Portunus trituberculatus)莱州湾、舟山野生个体定向交配产生F2代家系的AFLP分析
【中文关键词】三疣梭子蟹 定向交配F家系 AFLP分析 遗传距离 多态位点 遗传连锁图谱 分子标记技术 莱州湾 遗传多样性分析 分离比例
【英文关键词】　Portunus trituberculatus Directional mating F2 family AFLP analysis;
【中文摘要】以三疣梭子蟹莱州湾、舟山野生群体杂交(莱州湾♀×舟山♂)产生F2代家系63个个体及F1代亲本为实验群体,采用AFLP分子标记对其进行遗传分析。35对选择性引物共扩增出1742个位点,其中分离位点为417个,不分离位点为1325个,多态位点比例为23.9%。在分离位点中,符合1∶1孟德尔分离比例的位点为226个,占总分离位点数的54.2%;偏离1∶1孟德尔分离比例的位点为31个,占总分离位点数7.4%。符合3∶1孟德尔分离比例的位点为128个,占总分离位点数的30.7%;偏离3∶1孟德尔分离比例的位点为32个,占总分离位点数的7.7%。家系内基因多样性指数为0.130,Shannon指数为0.193。遗传距离分析显示,子代个体与母本Nei’s遗传距离介于0.064~0.111之间,与父本Nei’s遗传距离介于0.065~0.107之间。其中,63号个体与48号个体分别与父、母本亲缘关系最远。本实验中,偏分离位点比例属正常范围,杂交F2代家系遗传多样性偏低。本研究结果为三疣梭子蟹野生群体及家系遗传多样性分析,遗传连锁图谱构建等方面提供一定的技术支持。
【英文摘要】Portunus trituberculatus is one of the most important fishery resources in China because of its high commercial value. In recent years,it has suffered from overfishing and various diseases,and the total resource of wild populations has decreased year by year. Considering for this situation,it is necessary to study the genetic diversity and genetic linkage map of P. trituberculatus. In this study,maternal broodstock and paternal broodstock were sampled from Laizhou Bay and Zhoushan Island wild population,respectively. Through directional mating (1♂×3♀),they generated F1 family. 63 individuals of F2 family came from sisterhood intercross between F1 family and these broodstock were used as experiment materials. The AFLP analyses showed that a total of 1 742 loci were produced,of which 417 loci were polymorphic,accounting for 23.9%. In these polymorphic loci,there were 226 (accounting for 54.2% of total segregating loci) loci segregating as 1∶1 Mendelian model while 31 (7.4%) loci segregating as distorted model.128 loci (30.7%) segregated as 3∶1 model and the numbers of 32 (7.7%) loci were distortion bands. Additionally,several AFLP bands which segregated neither as 1∶1 nor as 3∶1 were named with odd segregating loci. They were treated as non-segregating loci in order to reduce the influence of statistical error. Genetic diversity index of the F2 was 0.130,and Shannon genetic diversity index was 0.193. Analysis of distances showed that Nei’s genetic distance of family with male parent and female parent were between 0.064~0.111,0.065~0.107 respectively. In the mean time,No63 individual was most distant from its male parent and No48 individual was most distant from its female parent. The main purpose of the study was to provide the technical support for genetic diversity analysis of wild populations or families and construction of high density genetic linkage map of P. trituberculatus.

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【题目】三疣梭子蟹家系的建立及生长性状比较
【中文关键词】三疣梭子蟹 家系 生长性状 交配模式 平均值 日龄 体重比 成活率 生长优势 选育
【英文关键词】Portunus trituberculatus; family; growth traits
【中文摘要】以莱州湾和舟山野生群体为材料,以完全双列杂交法设计搭配组合,采用1×3♀交配模式,首次利用人工控制定向交尾技术成功构建三疣梭子蟹家系,经过两代选育,对生长到80,100,120日龄10个F2代家系的生长和家系内的变异进行了比较分析。120日龄时,10个家系体重大小顺序为:J9J10J1J8J4J3J2J5J7J6,全甲宽大小顺序为:J9J10J1J4J8J3J2J5J7J6,甲宽大小顺序为:J9J10J1J8J4J3J2J5J7J6,甲长大小顺序为:J9J10J1J8J4J3J2J5J7J6,体高大小顺序为:J9J10J1J8J4J3J2J5J7J6。J9J、10的体重极显著大于其他8个家系(P≤0.01),J9体重比J6大96.10%,比J7大76.87%;J10体重比J6大72.77%,比J7大55.76%,表现出明显的生长优势,是两个生长性状良好的家系,为育种工作提供了良好的材料。
【英文摘要】With the rapid expansion and intensification of the culture of Portunus trituberculatus,various issues such as diseases,bad quality of larvas and less natural resources,have occurred and become increasingly serious,causing economic losses.They have become the limiting factors in the sustaining development of this program.Finally,these issues can be resolved by providing excellent breeds provided by using the selective breeding program,which is an important way of selecting breeding by establishing families.Ten families of second generation of P.trituberculatus were established by using an unbalanced nested design.For the ten families,at the age of 120 days,the body weight is in the order of J9>J10>J1>J8>J4>J3>J2>J5>J7>J6,the full carapace width is in the order of J9>J10>J1>J4>J8>J3>J2>J5>J7>J6,the carapace width is in the order of J9>J10>J1>J8>J4>J3>J2>J5>J7>J6,J9>J10>J1>J8>J4>J3>J2>J5>J7>J6,and the body height is in the order of J9>J10>J1>J8>J4>J3>J2>J5>J7>J6.The families named J9 and J10 are significantly larger than the other eight families in body weight(P≤0.01).For example J9 is larger than J6 and J7 by 96.10%,and 76.87% in body weight,respectively.J10 is larger than J6 and J7 by 72.77% and 55.76% in body weight,respectively.It is suggested that J9 and J10 are the families with the best growth traits
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【题目】三疣梭子蟹遗传连锁图谱的初步构建
【中文关键词】三疣梭子蟹 AFLP SSR 遗传连锁 图谱
【英文关键词】Portunus trituberculatus AFLP SSR Genetic linkage map
【中文摘要】利用 AFLP和 S S R标记技术结合“ 拟测交 ”策略, 以三疣梭子蟹莱州湾、 舟山野生群体杂 交(1 x 3 早) 产生的 F 代 家系为作 图群体 , 初步构建 了三疣梭子蟹雌、 雄性遗传连锁 图谱。用经过筛选的 6 0对 AF I P引物和 3对 S S R引物对亲本及 1 0 8个 F 。 代个体进行遗传分析, 共得到母本分 离 标记 214个, 其 中155个标记 (AFL P标记 1 5 3个 , S S R标记 2个) 符合 1:1孟德 尔分 离规律 ; 父本分 离标记 1 9 5个, 1 3 9个标记(AFLP标记 1 3 8个, S S R标记 1个) 符合 1:1孟德 尔分离规律 。雌性图谱包括 1 0 0个遗传标记 , 分布在 9个连锁群 , 6个三联体 , 1 5个连锁对 , 图谱总长度为 1544c M,标记平均间隔 22.0c M, 总覆盖率为 52.9 。雄性图谱 包括 7 1个遗传标记 , 分布在 6个连锁群 , 6个三联体 , 1 1 个连锁对, 图谱总长度 1 1 7 4 . 2 c M, 标记平均间隔 2 4 . 0 c M, 总覆盖率为 4 9 . 5 , 图谱 中遗传标记 分布 比较均 匀 。
【英文摘要】Genetic linkage map of Portunus trituberculatus was constructed using "double pseudo-testcross" strategy with AFLP and SSR molecular labeling techniques.In this study,maternal and paternal broodstock were sampled from Laizhou Bay and Zhoushan

Island wild populations of P.trituberculatus,respectively.Through the directional mating(1♂×3♀),the wild parents were used to generate F1 family.The 108 progenies of directional mating F2 family coming from sisterhood intercross between F1 family and its parents were used as experiment materials.Sixty AFLP primer combinations and 3 pairs of SSR primers were screened to produce 214 maternal markers and 195 paternal markers.There were 155 markers which included 153 AFLP markers and 2 SSR markers segregating as 1∶1 model from 214 maternal markers.139 markers which contained 138 AFLP markers and 1 SSR marker segregated in 1∶1 model in 195 parental markers.The female linkage map consisted of 100 markers distributed in 9 linkage groups(more than three markers),6 triplets and 15 doublets,which covered a total length of 1 544 cM.Average marker spacing of female linkage map was 22.0 cM and the observed genome length accounted for 52.9% of the estimated genome length.The paternal linkage map consisted of 71 markers distributed in 6 linkage groups,6 triplets and 11 doublets,spanning the distance about 1 174.2 cM with average marker spacing of 24.0 cM and its genome coverage was 49.5%.The Pearson analysis results showed that all the genetic markers distributed in linkage map uniformly.This study provided a starting point for further construction of high density linkage maps,as well as for the mapping of functional genes and the location of quantitative trait loci(QTL)in P.trituberculatus.

【语种】中文
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【题目】三疣梭子蟹4个野生群体线粒体16S rRNA和CO Ⅰ基因片段的比较分析
【中文关键词】三疣梭子蟹; 线粒体; 16S rRNA; CO Ñ ; 梭子蟹科; 系统进化
【英文关键词】Portunus trituberculatus; mtDNA; 16S rRNA gene; CO Ⅰ; Portunidea; molecular phylogeny
【中文摘要】对分别采自辽东湾、 莱州湾、 海州湾和舟山的三疣梭子蟹(P ortunus tr ituber culatus) 4 个野生群体的线粒体 16SRNA 和 CO Ñ基因片段进行了扩增和测序,分别得到长度为 524 bp 和 658 bp 的片段。2 段序列的碱基组成均显示较高的 A+ T 比例(16S rRNA 基因 70. 8%, CO Ñ基因 63%) , 这与果蝇、 虾类、 蟹类等无脊椎动物的 16S rRNA 和 CO Ñ基因片段研究结果相似。通过对三疣梭子蟹 16S rRNA 和 CO Ñ基因片段遗传特征的研究, 发现种内变异较低, 在 16 个样本中,16S rRNA 基因序列中共检测到 1 个变异位点, 2 种单倍型; CO Ñ基因序列中共检测到 4 个变异位点, 5 种单倍型。另外,以中华绒螯蟹为外群探讨了梭子蟹科(Por tunidea)几个属种的系统进化关系。用 MEGA4. 0 软件中的 NJ 法构建了系统进化树,基于 16S rRNA 和 CO Ñ 2 种片段的聚类结果均显示梭子蟹属(Por tunus)与美青蟹属(Callinectes)亲缘关系最近,先聚在一起,然后再与蟳属(Char y bd is)聚在一起, 最后才与外群中华绒螯蟹聚在一起, 这一结果与传统分类基本一致。
【英文摘要】Mitochondrial 16S rRNA gene and CO Ⅰ gene fragments were amplified and sequenced from 4 wild populations of Portunus trituberculatus.Respectively,524 bp and 658 bp long partial gene fragments of the 16S rRNA gene and the CO Ⅰ gene were obtained.A high percentage of A+T base composition in the two sequences was observed,which was similar to the results of studies on drosophila,shrimp,crab and other invertebrates.Little sequence variation was observed in 16S rRNA gene and CO Ⅰ gene fragments within species.Two haplotypes were identified from 16 samples with 1 variation site of 16S rRNA gene and 5 haplotypes were identified from 16 samples with 4 variation sites of CO Ⅰ gene.In addition,the phylogenetic relationship among several genera of Portunidea was discussed using Eriochier sinensis as the out-group.The molecular phylogenetic trees were constructed by the NJ method using software MEGA4.0,and Portunus was clustered with Callinectes first,then they were clustered with Charybdis,and finally with Eriochier sinensis.The results are consistent with classical taxonomy.

【语种】中文
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【中文关键词】氨氮胁迫; 三疣梭子蟹; 酚氧化酶原系统; 免疫指标
【英文关键词】ammonia exposure; Portunus trituberculatus; prophenoloxidase system; immune parameters;
【中文摘要】摘要: 以三疣梭子蟹 (Portunus trituberculatus) 为研究对象, 研究氨氮胁迫对其酚氧化酶原系统和免疫指标的影响。 实验分0 mg/L、 1 mg/L、 5 mg/L、 20 mg/L氨氮处理组, 分别于0 h、 6 h、 12 h、 24 h、 48 h取样并进行相关指标测定。结果表明: 氨氮胁迫对三疣梭子蟹血淋巴多巴胺含量、 血细胞数量、 血细胞酚氧化酶原 (p r o PO) 活力和mRNA表达以及抗菌、 溶菌活力的影响显著 (P < 0.05) 。各处理组血淋巴多巴胺含量于6 h达到最大值, 12 h后恢复至对照组水平; 各处理组血细胞数量均呈明显下降趋势, 除20 mg/L氨氮处理组半颗粒细胞、 总细胞数量表现为逐渐下降趋势外, 其他处理组3类血细胞和总细胞数量分别于12 h或24 h时降至最低值, 然后保持稳定。各处理组上述指标分别呈明显下降、 升高、 下降和峰值变化趋势, 其中1 mg/L处理组血细胞proPO活力在12 h后恢复至对照组水平, 而mRNA表达与对照组差异不显著, 其他处理组血胞proPO活力和mRNA表达分别于12 h、 6 h后保持稳定; 各处理组抗菌活力于6 h或12 h达到最小值, 然后恢复至对照组水平, 而溶菌活力在24 h后趋于稳定, 且1 mg/L处理组与对照组无明显差异。各处理组血细胞数量、 proPO活力、 溶菌活力在稳定后均与氨氮浓度呈明显的负相关性, 而血细胞proPO mRNA表达呈显著正相关性。由此可见, 三疣梭子蟹在氨氮胁迫下血细胞数量、 proPO活力和mRNA表达以及免疫指标表现出明显的时间剂量效应性, 具有显著的免疫毒性效应。本研究旨在为三疣梭子蟹养殖水环境调控和病害防治提供基础依据。[
【英文摘要】The object of this study was to evaluate the effects of ammonia on prophenoloxidase system and immune parameters of swimming crab Portunus trituberculatus. The crabs were exposed to different ammonia levels:0 mg/L (nature seawater or control),1 mg/L,5 mg/L and 20 mg/L NH4Cl for 48 h and sampled randomly at 0 h,6 h,12 h, 24 h and 48 h. The results indicated that ammonia exposure had a significant effect on dopamine(DA) concentration, haemocyte count,proPO activity,proPO mRNA expression,antibacterial and bacteriolytic activities of the crabs (P < 0.05). DA concentration in haemolymph of the experimental groups increased until 6 h,then recovered to the same level as control after 12 h. Total haemocyte count(THC) and differential haemocyte count(DHC) decreased significantly. THC and semi-granular cell count of the crab exposed to 20 mg/L ammonia decreased during 48 h exposure time. The haemocyte count of the other groups decreased until 12 h or 24 h,and then became stable. The proPO activity,proPO mRNA level and bacteriolytic activity showed significant decrease,increase and decrease trends respectively during the 48 h exposure. The proPO activity of 1 mg/L group recovered to control level after 12 h,and no significant difference of mRNA expression was observed between 1 mg/L group and control. The activity of proPO and mRNA expression of 5 mg/L and 20 mg/L groups became stable at 12 h and 6 h. Bacteriolytic activities became stable after exposed to ammonia for 24 h,meanwhile,1 mg/L group recovered to control level. Antibacterial activity reached the minimum at 6 h or 12 h,having no significant difference with control. Haemocyte count,proPO activity and bacteriolytic activity in experimental groups were negatively related with ammonia concentration after stabilized,while proPO mRNA level showed a positive relation. It is concluded that ammonia exposure has the effects to decline the haemocyte count,proPO activity,proPO mRNA expression,antibacterial and bacteriolytic activities on crab P. trituberculatus which can cause deleterious effects on the immune system
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【题目】莱州湾三疣梭子蟹的生化遗传分析
【中文关键词】三疣梭子蟹　　莱州湾　　同工酶　　生化遗传分析
【英文关键词】Portunus trituber culatus,Laizhou Bay , Isozyme, Biochemical genetic analysis
【中文摘要】摘要　　采用聚丙烯酰胺不连续凝胶垂直板电泳技术对三疣梭子蟹的同工酶进行检测。分析了13种同工酶在莱州湾三疣梭子蟹肌肉中的表达情况,并对同工酶的表型进行了生化遗传分析。结果表明, 13 种同工酶有22 个基因位点编码,其中L d h -1, Me -3, G dh -1, Sdh -1, G6p d -1 和S od -3 共 6 个位点是多态的,多态位点百分数是27. 3 %。三疣梭子蟹的平均每个位点的等位基因的有效数目 Ae为1. 227 0,平均每个位点的预期杂合度H e为0. 117 0,实际杂合度H o为0. 215 9。同时还分析了三疣梭子蟹的各个多态位点的H ardy -Weinberg 偏离指数: L d h -1、 Me -3 和S od -3 的 d 值都为 1. 000 0,Gdh

-1、 Sdh -1 和G6p d -1 的d 值分别为0. 504 7、 0. 872 6 和0. 059 7。这些数据表明,莱州湾三疣梭子蟹的种质资源还处于较好的状态。

【英文摘要】"Expressions of isozymes in muscle of Portunus trituberculatus collected fromLaizhou Bay were detected with the technique of vertical polyacrylamide gels electrophoresis.Thirteen isozymes(MDH,LDH,ME,ADH,SDH,EST,SOD,POD,IDH,GDH,G6PD,PGM,SCD)were examined,with their genetypes being recorded.Then biochemical genetics a—nalysis was conducted according to the lOCUS number,alleles etc.The results indieated that the 13 isozymes had 22 loci,among them 6 loci,including Ldh-1,』‰3,Gdh-1,Sdh-1,G6pd-1and Sod一3。were polymorphisc,the mean percentage of polymorphic loci(P)being 2 7.3%.The mean effective number of alleles per locus(A。)is 1.227 0;the mean expected heterozygosi—ty per locus(H。)is 0.117 0;and the mean observed heterozygosity per locus(Ho)is 0.215 9.In addition,the deviation indexes of each polymorphic locus from Hardy-Weinberg(d value)were also calculated.All of the data indicated that the Portunus trituberculatus had higher geneticv ariability."

【语种】中文

【第一作者】李鹏飞

【通讯作者】刘萍

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【学科分类】水产养殖学

【题目】梭子蟹牙膏病病源菌—溶藻弧菌的鉴定及其系统发育分析

【中文关键词】梭子蟹 溶藻弧菌 牙膏病 16S rRNA 系统发育树

【英文关键词】Portunus trituberculatus,Vibrio alginolyticus,Toothpaste disease,16S rRNA ,Phylogenetic analysis

【中文摘要】从山东潍坊池塘养殖的患有牙膏病的三疣梭子蟹(Portunus t ri tuber culatus)中分离到 1 株病原菌(PX25) ,经回接感染证实为该病的病原菌。经生理生化试验及形态结构观察显示, 该菌株革兰氏阴性,短杆状, 直或稍弯曲,两端钝圆;固体培养基上培养后进行染色具有周生侧毛, 液体培养基中培养后进行鞭毛染色具一极生单鞭毛;悬滴法观察PX25 菌株具有很强的运动性。对其16S rRNA基因进行PCR 扩增、 测序和系统发育分析。结果表明,该菌株与溶藻弧菌亲缘关系最近,相似性达99. 35 %。综合菌体在形态、 生理生化、 API 20NE 与 API 20E 自动鉴定结果、 16S rRNA 同源性等方面的特性,确认PX25 为溶藻弧菌(Vibr io alginoly ti cus)。

【英文摘要】A pathogenic bacterium was isolated from Portunus trituberculatus ill with toothpaste disease.The bacteria were Gram-negative,and in a shape of short rod. The complete 16S rRNA gene sequence of the bacteria was determined following PCR amplification,.The sequence was aligned with those available Vibrio and phylogenetic trees inferred using N-J method.The organism and the typestrain of Vibrio alginolyticus consistently formed a monophyletic clade wi th a distant sequence similari-ty of 9 9.3 5 6.According to morphological features,biochemical and physiological characteristics。 API 20NE and API 20E systems and 1 6S rRNA phylogenetic analysis,dentified as Vibrio alginolyticus。

【语种】中文

【第一作者】刘淇

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【学科分类】水产养殖学

【题目】蟹类微卫星DNA标记的筛选及其在遗传学研究中的应用

【中文关键词】蟹类; 微卫星; 遗传学

【英文关键词】crabs;microsatellites;genetic

【中文摘要】微卫星 DNA 标记是近年来最受研究者青睐的分子标记之一。由于其具有高度多态性、 共显性遗传、 基因组中含量丰富且随机分布等特点,已被应用于种群分化研究、 亲缘分析、 基因连锁分析、 进化以及生态学研究等许多领域。近年来,蟹类微卫星的研究报道日益增多。文中对蟹类微卫星分离方法、 引物设计、 遗传学特性以及在种群遗传、

家系分析、遗传多样性评价等方面的最新研究进展进行综述,并分析微卫星分析中无效等位基因(null allele) 、 / 结巴0带(stutter bands)和上游等位基因/ 扩增丢失0现象(upper allelic dropout) 的产生原因以及对微卫星基因型判读带来的影响。

【英文摘要】In the last few years, microsatellites have become one of the most popular toolecular markers used with applications in many different fields.M icrosatellite DNA is among the most efficient class of molecu1ar markers due to their hypervariable and codominant nature with relatively high abundance and random distribu tion in the genome,and has been applied to a variety of fields including population differentiation , kinship analysis,linkage analysis,and evolutionaI and ecological studies.Recently,studies on micI.Osatellites in crabs areincreasing.In this article,we review the isolation methods,primer of design, developmental status and geneticcharacteristics of microsatellites,and their applications in studies on population study, pedigree analysis。assessmerit of genetic diversity,and analyze the causes resulting in null alleles, stutter bands, upper allelic d Dpoutsand their effects on the genotyping of microsatellite

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【第一作者】刘萍

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【学科分类】水产养殖学

【题目】复方三氯异氰尿酸对斑节对虾(Penaeus monodon)幼体的毒性试验

【中文关键词】斑节对虾 幼体 半致死浓度 安全浓度

【英文关键词】Penaeus monodon Larvae Medium lethal concentration Safe concentration

【中文摘要】摘要 用静水试验法研究了复方三氯异氰尿酸对斑节对虾幼体的急性毒性。试验设8个浓度组和1个对照组:0、0.5、1.0、1.5、2.0、2.5、3.o、3.5和4.0(×10_6)每组3个平行。结果表明,24 hLC50、48 hLC50和安全浓度(×10-6)分别是无节幼体:1.58、1.35和0.29;蚤状幼体:1.71、1.24和0.2;糠虾幼体:2.2、1.46和O.24;仔虾:3.23、2.62和0.53。幼体对试验药物的忍受力由大到小分别是仔虾、无节幼体、糠虾幼体和蚤状幼体。试验结果可为斑节对虾育苗安全用药提供参考。

【英文摘要】Trichloroisocyanuic acid(TCCA)is a type of antibiotic medicine with high efficiency,low toxicity,and non-residue which meets the requirement of harmless medicine use in food.Acute toxicity of TCCA to the larvae of Penaeus monodon was determined in static bioassay tests.The concentrations of the chemical used in the experiment were 0,0.5,1.0,1.5,2.0,2.5,3.0,3.5 and 4.0(×10-6),with three replicates for each concentration.The results showed that the 24h LC50,48h LC50 and safe concentration(SC)values(10-6)were 1.58,1.37 and 0.29 for nauplius,respectively;1.7 1,1.24 and 0.2 for zoea larvae,respectively;2.2,1.46 and 0.24 for mysis larave,respectively;3.23,2.62 and 0.53 for post-larvae,respectively.From high to low,the endurance of larvae to the chemical was post-larvae,nauplius, mysis and zoea.The result can be used as a reference for safe application of medicines in larvae rearing of P.monodon.

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【学科分类】水产养殖学

【题目】中国南海斑节对虾群体与西印度洋、西太平洋群体种群遗传结构的比较分析

【中文关键词】斑节对虾　延伸因子1-alpha 内含子序列　种群结构　遗传多样性

【英文关键词】斑节对虾; 延伸因子1-alp ha 内含子序列; 种群结构; 遗传多样性

【中文摘要】采用聚合酶链式反应(PCR) 技术对海南三亚、深圳、湛江、北海4 个斑节对虾群体共95个个体的延伸因子1-alp ha 内含子序列进行了扩增, 对扩增产物进行克隆转化, 并将阳性克隆产物进行序列测定, 最终获得了大小约216 bp 的可供分析的核苷酸序列。将获得的序列与从Genbank 上下载的西太平洋、西印度洋种群的序列进行比较分析, 结果表明, 中国海域种群的基因多样性最低, 西太平洋海域的基因多样性水平最高; 通过对遗传分化指数F ST 的分析,发现西太平洋群

体和西印度洋群体之间以及两者与中国海域群体间遗传分化具有极显著性差异(P < 0　　001) 。U PGMA 系统树显示, 10 个斑节对虾群体形成两大分支, 一支由西太平洋群体和中国海域群体组成, 另一支由西印度洋群体单独组成; 中国海域群体中北海群体单独聚成一支。序列差异的分析结果表明, 中国海域群体与西印度洋群体之间的亲缘关系最远, 与西太平洋群体之间的亲缘关系较近; 中国海域内部各群体之间, 北海群体与海南、深圳、湛江群体之间的亲缘关系较远, 形成一个独特的地理种群。

【英文摘要】Polymerase chain react ion (PCR) technique w as used to amplify the elo ng at ion factor 1-alpha intronsequences region for 95 wild individuals of Penaeus monodon caught from sea waters of Sanya of Hainan, Shenzhen, Zhanjiang and Beihai in the south China Sea. The PCR products were cloned. The electropositive cloned products were sequenced. As a result, about 216 bp nucleotide sequences that could be analysed were obtained (the primer and some of the marg inal sequences were excluded) . The nucleotide sequences of the black tiger prawn from China combined with the sequences of the western Indian Ocean and western Pacific populations (from Genbank) were analysed. By using Clustal X to align and compare the sequences of the 207 individuals with each other, 188 v ariation sites were observed, of which there were 67 insert ion sites or deletions, and 121 polymorphic sites. 89 haplotypes w were detected from the elongat ion factor 1-alp ha intro n sequences, the Haploid div ersity(H d) was 0.975. The results showed that gene diversity of the China populat ion w as minimum, gene diversity of the western Indian Ocean populat io n w as the greatest. By analyzing popult ion pair wise FST-valules, it indicated very strong differentiat ion between populations from the western Pacific Ocean and western Indian Ocean(P < 0.001) , this differentiation was also detected among the south China Sea, western Indian Ocean and western Pacific populations. In the molecular phylogenetc tree constructed by the method of UPGMA, the w estern Pacific Ocean and China populations aggregated into a branch, the western Indian Ocean population aggregated another branch. Judged by sequence difference analysis, the distance related between the China and western Indian population was farther than the distance related between China and w ester n Pacific population; among four populations of the south China Sea, Beihai population was more distantly related with Shenzhen, Hainan and Zhanjiang populations, while Shenzhen, Zhanjiang and Hainan populations were more closely related.

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【题目】盐度对斑节对虾蜕壳、存活、生长和饲料转化率的影响
【中文关键词】盐度, 斑节对虾; 存活率; 生长; 饲料转化率
【英文关键词】salinity ; Penaeusm onodon; survivalrate ; growth ; feed conversion rate
【中文摘要】对平均体重 1　　20　　0　　05 g的斑节对虾 (P enaeusm onodon) 稚虾进行为期 30 d的养殖试验, 分别测定其在不同养殖盐度条件下的蜕壳间期、成活率、特定增长率和饲料转化率。斑节对虾的成活率在盐度 5时最低, 低于 60%, 与其它盐度试验组差异显著, 而其它试验组之间差异不显著。在 5 ~ 25盐度范围内, 蜕壳间期随着盐度升高而延长, 盐度达 30以上后又缩短, 25时为最大值; 盐度 5 、 10和 15之间差异显著, 15、20 、 30和 35之间差异不显著。特定增长率和饲料转换率随盐度升高呈现双峰的波浪式变化趋势; 特定增长率在盐度 20 (3　18　0　14)%　d- 1和 25 (2　98　0　26)%　d- 1时达到最高。蜕壳间期与生长率存在极显著的正相关关系 (P < 0　001)。在盐度 20、 25、30时饲料转化率高, 分别为 (52　76　3　06)%、(54　90　5　14)% 和 (51　56　7　58)%, 与其它盐度试验组之间差异显著。因此, 斑节对虾养殖的适宜盐度应为 20~ 30 , 在此条件下可实现较高的成活率、特定增长率和饲料转换率
【英文摘要】Juveniles Penaeus mondon with average weight (1.20±0.05 g) were cultured at salinities of 5,10,15, 20,25,30 and35. The intermolt period, survival rate, specific growth rate (SGR) and feed conversion rate (FCR) were analyzed. The resultsshowed that survival rate of P. monodon at salinity 5 was the lowest (< 60 %) and significantly different (P < 0.05) from that of the other salinity groups, and there were no significant (P > 0 .05) differences in survival rate among the other salinity groups. With the salinity increasing from 5 to 25, the intermolt period increased , and when the salinity was over 30 , the inter molt period decreased,the peak w as appeared at salinity 25 ; there were significant differences among salinity 5 , 10 , 15 groups,but no significant differences among salinity 20,25,30,35 groups. As the salinity increasing, the SGR and FCR showed a wavy line with double peaks.SGR was higher at salinity 20 (3.18± 0.14)% • d- 1and 25 (2.98±0.26)% • d- 1.There was a significant positive relationship between the intermolt period and SGR (P < 0.001). FCR was higher at salinity 20~ 30 and significantly different from that of the other treatments. The results suggusted that the

optimal salinity for P. monodon culture was 20~ 30 at which higher survival rate, SGR and FCR can be attained.
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【通讯作者】江世贵
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【题目】中国南海野生斑节对虾5个地理群体线粒体16S rRNA基因序列比较分析
【中文关键词】斑节对虾; 延伸因子1 -alp ha 内含子序列; 种群结构; 遗传多样性
【英文关键词】Penaeus monodon; elo ng at ion facto r 1 -alp ha int ron sequence; populat ion st ructure
【中文摘要】摘要: 采用聚合酶链式反应(PCR)技术对海南三亚、 深圳、 湛江、 北海4 个斑节对虾群体共95个个体的延伸因子 1 -alp ha 内含子序列进行了扩增, 对扩增产物进行克隆转化, 并将阳性克隆产物进行序列测定,最终获得了大小约 216 bp 的可供分析的核苷酸序列。将获得的序列与从Genbank 上下载的西太平洋、 西印度洋种群的序列进行比较分析, 结果表明, 中国海域种群的基因多样性最低, 西太平洋海域的基因多样性水平最高; 通过对遗传分化指数F ST的分析,发现西太平洋群体和西印度洋群体之间以及两者与中国海域群体间遗传分化具有极显著性差异(P < 0　001) 。U PGMA 系统树显示, 10 个斑节对虾群体形成两大分支, 一支由西太平洋群体和中国海域群体组成, 另一支由西印度洋群体单独组成; 中国海域群体中北海群体单独聚成一支。序列差异的分析结果表明,中国海域群体与西印度洋群体之间的亲缘关系最远,与西太平洋群体之间的亲缘关系较近;中国海域内部各群体之间, 北海群体与海南、 深圳、 湛江群体之间的亲缘关系较远, 形成一个独特的地理种群。
【英文摘要】"The aim of the present study was to survey mtDNA 16S rRNA sequence variation to assess genetic diversity and genetic structure of the wild tiger prawn in the coastal waters of Sout h China. The samples of P. monodon had been obtained from the coastal waters of South China which included the coastal waters of Sanya (SY) , Shenzhen (SZ) , Zhanjiang (Z J) , Yang jiang (Y J) , and Beihai (BH) . 100 individuals of P. monodon were caught from the five putative populations (SY putative population , SZ putative population , Y J putative population, Z J putative population and BH putative population) . The PCR technique was used to amplify the mtDNA 16S rRNA among 100 individuals. The PCR products were purified and sequenced. As a result, 440 bp nucleotide sequences o f partial16S rRNA were obtained (some of the marginal sequences were excluded) . 19 haplotypes and 28 variable sites were detected among all partial mitochondrial 16S rRNA sequences of 100 tiger prawns. Nucleotide diversities (∏) in SY putative population , SZ putative population, Y J putative population, Z J putative population and BH putative population were 0.004 35,0. 005 86, 0.01050, 0 .01081 and 0.01168 respectively. Haplotype diversities (H) in SY putative population, SZ putative population, Y J putative population, Z J putative population and BH putative population were 0. 6895, 0.5211, 0.5737, 0.6000 and 0.7211 respectively. FST values between Z J and SY, SZ putative populations , between BH and SY, SZ putative populations showed significant genetic differences, and FST values among all the other populations showed no strong genetic differences . Significant genetic differentiation among all five putative populations was found by analysis of molecular variance (AMOVA) . The N J tree of the five putative populations showed the SY and SZ putative populations had the closest relation among the five putative populations ; the BH and Z J putative populations had the greatest genetic distance from the SY and SZ putative populations among t he five putative populations . Therefore, we conclude that the five putative populations can provide two basic populations for selective breeding of P. monodon; one is the SY and SZ geographic stock , and the other is the Z J and BHgeographic stock. "
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【题目】工厂化养殖循环水固液分离特性及处理工艺选择分析
【中文关键词】固体废物;固液分离;表面负荷;水产养殖;水力粒径
【英文关键词】solids waste; solid- liquid separation; overflow rate; aquaculture; hydraulic particle size
【中文摘要】采用固体颗粒去除率累积计算法,以牙鲆(Paralichthys olivaceus) 养殖循环水为例,研究了其固液分离特性。结果表明,120min 时固体颗粒去除率可达49.3%±0.02%,对应表面负荷为0.39m ▪ 3m-2 ▪ h-1,与城市污水处理中二次沉淀池设计表面负荷接近。大于100 μm的固体颗粒水力粒径占50%左右,此部分颗粒适于用重力沉降或水力旋流工艺去除。小于60 μm的颗粒占37% 左右,此部分难于水力分离。应基于养殖循环水的固液分离特性选择适合的固液分离工艺处理养殖循环水。
【英文摘要】The solid-liquid separating characteristics in the recirculating aquaculture system (RAS) ofJapanese flounder (Paralichthys olivaceus) cultivation was investigated by using the cumulati-ve particle removal rate calculus to process data. From test data the key parameters can be obtained including overflow rate, removal rate and hydraulic particle size.The results showed that the removal rate of solids waste was 49.3%±0.02% at 120 min and 0.39m ▪ 3m-2 ▪ h-1of overflow rate, close to that of the second sedimentation basin used in municipal sewageplant. The distribution of particle size above 100 μm varied obviously while that below 60 μm varied narrowly. Hydraulic particle size of solid above 100 μm made up about 50% of all solids. The processes of gravity settling and swirl separation were suitable for separating this part of solids. Particle size of solid less than 60 μm made up about 37% and was difficult to separate by hydraulics. Suitable process of solid- liquid separation should be chosen based on the solid- liquid separating characteristics of recycled aqualculture wastewater. Finally foam separating and hollow fibre membrane process were discussed. Fine filters used in industry maybe suit for recycled aquaculture wastewater treatment.
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【题目】斑节对虾亲环素A(cyclophilinA)基因的克隆及启动子序列分析
【中文关键词】斑节对虾; cyclophilinA基因;克隆;启动子;序列分析
【英文关键词】Penaeus monodon; cyclophilinA gene; genomic walking; promoter; gene library
【中文摘要】摘要: 通过同源克隆和RACE技术获得斑节对虾(Penaeus monodon) 亲环素A (cyclophilin A, CYPA) 的cDNA序列。 根据已克隆的cDNA序列设计引物, 利用染色体步移技术(Genomic DNA walking)从斑节对虾卵巢组织中克隆了CYPA基因的启动子和基因组DNA序列。测序结果表明, 斑节对虾亲环素A (PmCYPA) cDNA全长834 bp, 其中开放阅读框(open reading frame, ORF)为495 bp, 可编码164个氨基酸; 5 ’ 非编码区为31 bp, 3 ’ 非编码区为308 bp。从斑节对虾基因组文库中扩增的CYPA基因组DNA全长3 181 bp, 其中包括启动子区域1 173 bp, 1个内含子426 bp, 2个外显子序列:分别为101 bp和399 bp。在5 ’ UTR上游区域有明显的启动子序列, 包含一个GC盒和2个CAAT盒, 同时还包含AP1、 CRE等调控元件, 符合真核生物典型的启动子特征。分析基因的结构表明所克隆的PmCYPA符合PPIase家族成员特征, 属于此基因家族成员
【英文摘要】CyclophilinsA is a family of proteins that bind the immunosuppressive agent cyclosporin A(CsA) with high affinity and belong to the superfamilies of peptidyl-prolyl cis-trans isomerases(PPIase). CypA has highly conserved structures and exhibits various biological activities which have an important role in cell cycle events. The PPIase activity of CypA can bind to intra-cellular proteins and accelerate folding, assembly and transport of these proteins. It also has molecular chaperones action. The techniques of homology cloning and anchored PCR were used to clong the cyclophilin A (CYPA) gene from Penaeus monodon. We obtained the CYPA ’ S promoter and genomic DNA sequence from the muscular tissue of Penaeus monodon on basis of designed primers according to the cloned full-length cDNA using genomic walking technology. The results showed after the sequence was analysed,the cDNA sequence contained 495bp ORF which could translate a putative peptide of 164 amino acids,31bp 5 UTR and 308bp 3 UTR. The CYPA genomic DNA amplified from Penaeus monodon genomic library was 3 181bp which consists of 1 173 bp promoter region,one 426 bp intron and two exons sequences(101bp,399bp).The CYPA genomic DNA has apparente promoter region in the 5 UTR upstream including a GC box and two CAAT box,it also contains AP1 and CRE regulatory element,all these typical characteristics are accord with eukaryon promoter region,these characteristic conform that our cloned gene belongs to the family of PPIase.
【语种】中文

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【题目】养殖密度对斑节对虾存活、生长和能量收支的影响
【中文关键词】斑节对虾;养殖密度;存活;生长;能量收支
【英文关键词】P e anae usmonodon ; Stocki ng density ; Surv i va; l Grow t h ; Energy budget
【中文摘要】摘要　[目的]研究斑节对虾(Penaeusm onodon)不同养殖密度对其存活、 生长和能量收支的影响。[方法]设置养殖密度分别为 20 、 40 、80、 120 、 160尾 /m2(相当于 2 0、 40 、 80 、 120 、 160万尾 /hm2)的不同试验组, 测定斑节对虾在试验条件下存活、 生长及能量收支情况。[结果] 20尾 /m2情况下对虾存活率最高, 160尾 /m2最低,其他 3个密度水平存活率差异不显著。湿重特定生长率除 20尾 /m2外,随密度增加而下降, 1 60尾 /m2最低。增重量 (湿重)与密度的回归关系为: y = - 0 . 19 5 4 l n(x) + 1 . 41 3 2(R2= 0 . 726 8)。生长能占食物能的比例和密度的回归关系为 y = - 3 . 283 6 ln(x) + 30 . 548 0(R2= 0 . 786 5)。[结论]该研究从体重生长、 能量收支及环境负荷角度探讨了不同养殖密度下斑节对虾生长情况,为斑节对虾的科学养殖提供了依据。
【英文摘要】This study was to investigatet he effects of different stocking densities on the survival growth and energy budget of juvenile Peanaeusmonodon. [Method] Different stocking densities of 20,40,80,120,and 160 individuals persquaremeter (. ie .200 000 ,400 000 , 800 000 , 1 200 000 , and 1 600 000 individuals perhectare) were designed to investigate the survival growth and energy budget of juvenile P. monodon under expermiental conditions . [Result] The survival rate in the treatment of 20 individuals persquaremeter was highest, while in the treatment of 160 individuals persquaremeter was the lowest; the differences in survival rates among the other three levels of stocking density failed to pass the significant test. Except the treatment of 20 individuals persquaremeter, the specific growth rate of wet weight assumed a falling trend with the increase of stocking densities to them inmiumin the treatment of the treatment of 160 individuals persquaremeter. The relationship between wet body weight gain and stocking density could be described by the regression equationy = - 0.195 4ln(x) + 1 . 413 2 (R2= 0.726 8) ; and the relations hip between the ratio of growth energy to diet energy and stocking density could be described by the regression equation y = - 3.2836ln(x) + 30 . 548 0 (R2= 0.786 5).[Conclusion] From the angle of growth of bodyweight, energy budget and environmental burden , we investigated the growth conditions of P. monodon at different stocking densities , which provided basis for the scientific breeding of P. monodon .
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【题目】血清素在斑节对虾催熟过程中的作用.
【中文关键词】血清素 切除眼柄 班节对虾 催熟
【英文关键词】serotonin ; eyesta l k -ab l a ti on ; Penaeus monodon ; ma t uration
【中文摘要】摘要: 在斑节对虾 Penaeusm onodon催熟催产过程中, 常用的方法是切除眼柄。此实验选用体重为 149　5　25　8 g自然海区斑节对虾, 比较了注射血清素 (serotoni n) 和切除眼柄 2种处理方法对斑节对虾的催熟效果。血清素注射剂量为 50　g　g- 1体重, 在实验的第 1、5和 10天注射, 共计 3次。结果显示, 2种方法处理后, 受试亲虾性腺指数 (gonad soma ti c i ndex , GSI) 显著高于对照组, 同时注射血清素的实验组亲虾的存活率及其卵子孵化率显著高于切除眼柄的实验组。实验结果表明, 血清素对斑节对虾催熟有促进作用, 但发挥效应所需要的时间较长; 从切除眼柄手术到第一次产卵所需时间较短, 但是手术后的亲虾死亡率较高
【英文摘要】Eyestalk-ablation is used usually to induce ovarian maturation in Penaeus monodon. Wild P.monodon females were obtained from the sea around Sanya, weighted 149.5±25.8 g. Serotonin solution was injected into broodstock at 50 μg・g-1

bodyweight on the 1st, 5th, 10th day. Survival and hatching rate were significantly higher in serotonin - injected females than unilaterl eyestalk-ablated shrimp. But the time to the first spawning event from the beginning o f treatment was shorter for eyestalk-ablated females. Gonadso-matic index (GSI) inseroton in - injected and eyestalk -ablated groups were both significantly higher than the control. The results suggested that stimulation of serotonin can enhance the ovarian maturation of P.monodon.

【语种】中文
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【题目】斑节对虾6个家系生长、饲料利用和全虾营养成分的比较 .
【中文关键词】斑节对虾; 家系; 生长; 饲料利用; 营养成分
【英文关键词】P enaeusm onodon ; fa m ily ; g row th
【中文摘要】以海南三亚野生斑节对虾 (P enaeus m onodon) 为亲本, 建立 6个家系 (hsy5 -5 , hsy7 -7 , hsy8 -5 , hsy10 -10 , hsy12 -13和 hsy15 -15) 进行生长、饲料利用和混养生长试验, 同时分析各个家系全虾的营养成分。在生长和饲料利用试验中, 家系 hsy10 -10的增重率和饲料系数优于其它家系; hsy8 -5、 hsy10 -10和 hsy12 -13的成活率高于hsy5 -5、 hsy7 -7和 hsy15 -15 , 但差异不显著 (P > 0 1 05)。在混养生长试验中, 水泥池混养时, 家系 hsy10 -10的成活率 高达 90%, 分 别比 hsy8 -5、 hsy12 -13、 hsy7 -7 、 hsy15 -15 和 hsy5 -5 家 系 高出 13 13%、 13 1 3 %、 2010%、23 1 3%和 30 1 0 %; hsy10 -10和 hsy8 -5的月总增重率高于其它 4个家系; 池塘混养时, hsy10 -10家系的平均体重高于 6个家系平均值的 1311%。结果表明, 家系 hsy10 -10的成活率、增重率和饲料系数均优于其它家系, 且含有最高的粗蛋粗脂肪和最低的水分。
【英文摘要】The growth, feed utilization and whole-body composition of six Penaeusmonodon families (hsy5-5, hsy7-7, hsy8-5, hsy10-10, hsy12-13and hsy15-15) were studied .These families were established using wild brood stock from Sanya Bay by the method of artificial in semination. In the feed utilization and growth experiment, the weight gain and feed conversion ratio (FCR) of hsy10-10 were superior to the others. The survival rates of hsy8-5 , hsy10-10 and hsy12 -13 were higher than the others but not significant (P >0.105).When cultured in concrete tank in mix , the survival rate of hsy10-10 was as high as 90 percent, higher than other five families (hsy8-5 , hsy12-13 , hsy7-7 , hsy15-15 and hsy5-5) by 13.3%, 13.3 %, 20.0%, 23.3 % and 30.0%, respectively. The total month weight gain of hsy10-10 and hsy8-5 was higher than other four families. When cultured in earthen pond, the final body weight of hsy10-10 was higher than the average of the six families by 13.1%. It was concluded that the survival rate, weight gain and FCR of family hsy10-10 were superior to the other families, and the whole shrimp of hsy10-10 had the highest contents of crude protein and lipid and the lowest of moisture among six families.

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【题目】斑节对虾真核生物翻译起始因子3亚基4 (btselF3g)序列分析及组织表达特性.
【中文关键词】斑节对虾; e I F3g ; 克隆; 组织表达
【英文关键词】P enaeusm onodon ; e I F3g ; m olecular clon i ng ; tissue expressi on
【中文摘要】摘要: 通过 mRNA 差异显示 (differenti a l d isplay , DD) 技术筛选的差异片段, 与斑节对虾 (Penaeus m onodon)混合组织 cDNA文库中的 EST进行拼接, 获得斑节对虾真核生物翻译起始因子 3亚基 4 (btse I F3g) 的全序列(GenBank登录号: FJ829364)。 btseIF3g全长 1 041 bp , 由 72 bp 5 c 非编码区、 90 bp 3 c 非编码区以及 879 bp的开放阅读框组成, 推测编码一个长度为 292个氨基酸的蛋白。经 BLAST分析, btse I F3g C端含有一个 RNA 识别基 (RNA recogn ition m oti, f RRM) 的保守结构域 (E值为 2 1 72e -25)。利用氨基酸序列进行系统发育分析表明,btseIF3g与 e I F3g属于同一分支。采用荧光定量

PCR (Rea- l ti m e PCR) 方法对 250日龄的雌、雄斑节对虾不同组织表达特性研究发现, btseIF3g在眼柄神经节、脑神经、肝胰腺、性腺和肌肉组织中均有表达, 在卵巢中的相对表达量极显著 (P < 0101) 高于其他组织, 这一结果提示 eIF3g可能与斑节对虾卵巢发育相关。

【英文摘要】In order to analyze the function of a differential expression cDNA fragment of gonads of domesticated broodstock blacktiger shrimp (Penaeusmonodon), the blacktiger shrimp eukaryotic translation initiation factor 3 subunitG (btseI F3g) had been found by spliced with the EST, after screening in the P.monodon mix cDNA library.The full length cDNA of btseIF3g (GenBank accession no.FJ 829364) contained a 5 ’ cuntranslated region (UTR) o f 72bp, a 3 ’ UTR of 90bp and an ORF of 879bp encoding a polypeptide of 292 aminoacids with an estimated molecular mass of 32.97 kDa. RNA recognition motif (RRM) was found in the btseIF3g deduced amino acid sequence. Phylogenetic analysis of the eIF3 gene family indicated that the btse I F3g was homologous to the eIF3g1 mRNA expression of btseIF3g could be detected in 250 -day – oldP.monodon ’ s eyestalk , brain , hepatopancreas , gonad and muscle by fluorescent quantitative realtime PCR analysis. The highest expression level of btseIF3g in the ovary indicated that btseIF3g played an important role in oogenesis.

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【题目】丁香酚对中国对虾幼虾麻醉效果的研究
【中文关键词】中国对虾;丁香酚;麻醉
【英文关键词】Fen nero penae us c hinens is ; Eugenol; Anesthet ic effec
【中文摘要】为麻醉中国对虾幼虾寻求一种好的方法。[方法]研究不同浓度丁香酚对中国对虾的麻醉效果、 麻醉后对虾离水操作的可行性及温度对麻醉效果的影响。[结果]水温为2 4 、 丁香酚浓度为50~ 40 0 mg/ L 时,幼虾可被有效麻醉;且在50~ 40 0 mg/ L的浓度范围内,随着丁香酚浓度的增加,对虾麻醉所需的时间缩短,而复苏所需的时间不断增加;丁香酚浓度低于200 mg/ L 时,麻醉对虾的复苏率可达 1 00% ;而用40 0 mg/L 的药液麻醉对虾时,对虾的复苏率仅有66 . 67%。对苏醒后的对虾继续观察3 d,各试验组的对虾存活率均为10 0%。同种剂量的药液,其麻醉效果随着水温(18~ 2
【英文摘要】The aim of the study is to seek a good anesthetic to Fenneropenaeus chinensis.[Method] The anesthetic effect of eugenol on juvenile Fenneropenaeus chinensis was investigated.[Result] The juvenile can be effectively anaesthetized by 50-400 mg/L eugenol aqueous solution with temperature of 24 °C. Within the concentration range of 50-400 mg/L,the increasing of the eugenol concentration could shorten the required time of anesthesia,meanwhile prolong the time of recovery.The recovered rate of prawn reached 100% when the eugenol concentration was lower than 200 mg/L,while the recovered rate of prawn was just 66.67% when the eugenol concentration was higher than 400 mg/L.The survival rate of prawns in test group is 100% from the observation of three consecutive days. For the specific dose,the anesthetic effect enhanced with the increase of water temperature during 18-27 °C.[Conclusion] Eugenol is safe and efficient anesthetics that can be applied in genetic breeding of prawn.
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【第一作者】 黄雪芹
【通讯作者】孔杰
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【题目】两个凡纳滨对虾家系体重与体长的关系
【中文关键词】凡纳滨对虾L itop eneaus vannam ei; 家系; 体长; 体重; 相互关系
【英文关键词】 Litopeneaus vannamei; family; body weight; body length; relationship;

【中文摘要】凡纳滨对虾Litop eneaus vannam ei家系的培育是遗传选育种的基础, 其生长特性包括生长速度、体重与体长的关系等, 是家系的表型特征。报道了凡纳滨对虾2个家系的体长与体重的关系。通过回归分析, 凡纳滨对虾家系1体重(W)与体长(L) 的关系为: W = 0. 005 9L 3. 2809 (R 2 = 0. 993 1); 家系2 体重与体长的关系为: W = 0. 005 9L3. 297 4 (R2 =0. 994 0), 2个家系体重与体长的关系没有明显的变化, 得出凡纳滨对虾体重与体长的关系为: W = 0. 005 9L3. 2895 (R2 =0. 993 4)。
【英文摘要】 The cultivation of Litopeneaus vannamei families is the base of selected genetic breeding. Family phenotype features consist of growth speed, body weight (W)-length(L) relationship and so on. The relationship between body weight and length of the two families of Litopeneaus vannamei was reported. By regress analysis, the regress equations of the body weight (W)-length (L) relationship of the two families were obtained as W=0.005 9L 3.280 9(R 2=0.993 1) for family one and W=0.005 9L 3.297 4(R 2=0.994 0)for family two. As there was no difference in the relationship between body weight and length of the two families,the regressive equation of W-L relationship of Litopeneaus vannamei cultivated in pond was obtained as W=0.005 9L 3.289 5 (R 2=0.993 4).
【语种】中文
【第一作者】 张灵侠
【通讯作者】胡超群
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【学科分类】水产养殖学

【题目】细角滨对虾(Litopenaeus stylirostris)的幼体发育及形态特征
【中文关键词】细角滨对虾 L . sty lir ostr is; 幼体发育; 刚毛
【英文关键词】 Litopenaeus stylirostris; larval development; setation;
【中文摘要】摘要: 以细角滨对虾 L itop enaeus s ty lir os tr is 为实验对象, 按时间顺序观察了胚胎各期的形态特征。通过解剖从无节幼体到仔虾第 1 天各期幼体的附肢, 对其发育形态及其刚毛着生方式进行了描述和统计。比较研究了细角滨对虾和凡纳滨对虾 L v annamei 无节幼体期形态差异以及色素的变化、溞状幼体期眼上棘形态的差异以及大颚齿数。结果表明, 无节幼体期细角滨对虾的色素明显多于凡纳滨对虾; 两者溞状幼体期眼上棘的形态存在明显差异; 两者在无节幼体至仔虾第 1 天各期大颚活动齿的数目变化一致。
【英文摘要】 Pond-reared blue shrimp Liotpenaeus stylirostris at embryonic developmental stages was studied,and the morphological variation and time series were observed.Details of the appendix setation and segmentation from nauplius to postlarva were described and summarized.The results indicated that Litopenaeus stylirostris at nauplius stage has much more pigment than Litopaenaeus vannamei,and their supraorbital spines at protozoan Ⅱ and Ⅲ stages were obviously different in morphology.The numbers of mandible teeth of the above two species are identical at each larval stage
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【第一作者】 许尤厚
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【题目】抗生素对于对虾苗池水体细菌区系的影响
【中文关键词】抗生素 细菌群落 对虾育苗池 PCR-DGGE
【英文关键词】antibiotics; bacterial community; shrimp hatchery system; PCR-DGGE
【中文摘要】以细菌16S rDNA片段作为分子标记,采用PCR结合DGGE(Denaturing gradient gel electrophoresis)的方法构建了细菌区系指纹图谱,研究了对虾苗池使用硫酸链霉素、土霉素和氨苄青霉素3种抗生素后水体细菌区系的变化.结果表明:在120h试验期内,与对照组相比,苗池水体分别经0.5mg·mL-1的硫酸链霉素、土霉素和氨苄青霉素处理后,细菌区系均产生了显著变化;对照组水体0~30h时段的细菌DGGE条带聚为一组,56~120h取样时的条带聚为一组;而3个处理组水体0~56h时段的细菌DGGE条带聚为一组,72~120h聚为一组.对DGGE图谱典型条带进行测序,经BLAST-N比对,表明对虾苗池水体细菌多

样性丰富,包括可培养的细菌(主要包括亚硫酸盐杆菌、红假单胞菌、美人鱼发光杆菌、聚球菌、海洋放线菌、黄杆菌、丝状光合细菌、粘细菌、哈氏弧菌)和某些不可培养的其他海洋细菌等.其中,单胞菌、发光杆菌、放线菌、黄杆菌、粘细菌和2种不可培养的其他海洋细菌不受抗生素的影响;而硫细菌、丝状光合细菌和另外8种不可培养的其他海洋细菌则因抗生素种类不同产生了不同的时空变化.

【英文摘要】W ith bacterial16S rRNA gene (rDNA) asmolecularmarker and by using PCR-DGGE technique, the fingerprints ofbacterial communitywere constructed to study the effects of applying streptomycin sulfate, terramycin, and penicillin on the bacterial community in shrimp hatchery system. W ithin the 120 h experimental period, significant difference in the diversity of the bacterial communitywas observed between the treatments applied with 0・5 mg・L-1of test antibiotics and the contro.l In the contro,l the band patterns in 0-30 hwere clustered into one clade, and those in 56-120 h were clustered into another; while in the treatments applied with test antibiotics, the band patterns in 0-56 hwere clustered into one clade, and those in 72-120 hwere clustered into another. After the sequencing of DGGE bands, the BLAST-N searches for sequence similarity showed greatdiversity ofbacterial species, including culturable bacteria (mainlySulfitobactersp., Rhodobacteraceaesp.,Photobacterium damselae, Synechoccoccussp.,Actinomycetales, Flavobacteriaceae, Filamentousphotosynthetic, Mucus, andVibrio harveyi) and some unculturedmarine bacteria, amongwhich,Rhodobacteraceaesp.,Photobacterium damselae, Actinomycetales, Flavobacteri-aceae, Mucus, and two unculturable bacteriawere less affected by the three antibiotics, while Sulfitobactersp.,Filamentousphotosynthetic, and other eightunculturablemarine bacteria changed in different spatiotemporal patternswith the kinds of test antibiotics.

【语种】中文

【第一作者】张吕平

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【学科分类】水产养殖学

【题目】凡纳滨对虾全同胞家系的建立及生长比较

【中文关键词】凡纳滨对虾　全同胞家系　生长　变异系数

【英文关键词】Litopenaeus vannamei; full-sib family; growth; coefficient of variation;

【中文摘要】全同胞家系是遗传分析的重要材料.采用自然交配法建立了62个凡纳滨对虾第一代全同胞家系,对其中17个家系进行了比较研究.结果表明,各家系的孵化率、出苗率与雌性亲本的大小相关性不显著.17个家系中有7个家系显示生长优势,其大小顺序依次是A02>A11>A01>A17>A06>A08>A16;7个家系在40周内的生长速度较17个家系的平均值高23.2%.在所有家系中,A01、A02、A11等3个家系的体重显著大于其它家系(P<0.05),其平均生长速度较所有家系平均生长速度分别快25.5%、31.6%和31.0%.这3个家系的整齐度良好,在养殖中期的个体变异系数分别为11.58%、9.95%和8.48%,后期均小于5%,显示出优良的经济性状,为进一步选择培育凡纳滨对虾的快速生长新品系奠定了基础.

【英文摘要】Full-sib family is an important material for genetic analysis. Sixty-two full-sib families of the first generation of Pacific white leg shrimp,Litopenaeus vannamei,are constructed by natural mating and seventeen of them are studied in growth traits. Results indicate no significant correlation of hatchability and survival rate of postlarvae to the weight of female parent. Seven families are significantly faster in growth than others in the 40 weeks of growth traits,and the order of their weight is A02>A11>A01>A17>A06>A08>A16. These seven faster families are 23.2% higher than the mean value of all 17 families in growth rate (g/week) during the 40 weeks traits (P<0.05). By comparison of each family,families A01,A02 and A11 are 25.5%,31.6% and 31.0% larger than the mean value of the seventeen families respectively. Moreover,these three families display the smaller coefficient of variation (CV),and the CV values in the middle of growth period are 11.58%,9.95% and 8.48% respectively. The CV values of the three families are <5% in the later growth period. Therefore the results indicate that they are three families with excellent economic properties. These results are helpful for further selective breeding of fast-growth line of Litopenaeus vannamei.

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【第一作者】张吕平

【通讯作者】胡超群

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【题目】凡纳滨对虾海水养殖系统内细菌群落的PCR- DGGE分析
【中文关键词】凡纳滨对虾 细菌群落 PCR-DGGE 海水养殖系统
【英文关键词】Litopenaeus vannamei; bacterial communities; PCR-DGGE; marine culture system;
【中文摘要】采用PCR-DGGE(PCR-denaturing gradient gel electrophoresis)技术对一个典型的凡纳滨对虾(Litopeneaus vannamei)海水养殖系统细菌群落进行分子分析。结果表明,沿岸水、蓄水池、养殖池水具有较高的细菌种类多样性,而蓄水池进水、对虾粪样、肠壁定植细菌样以及排水渠污水的细菌多样性程度低。每种环境群落的优势种明显。3个养殖池水样(Y1、Y2、Y3)、2个沿岸水样(W1、W2)、2个粪样(F1、F2)、蓄水池水样(B1、B2)及2个肠壁定植细菌样(G1、G2)各自具有高度群落相似性。BLAST结果表明,12个条带克隆序列所代表优势种很可能来源于以下几个属:柔发菌属(Flexithrix)、黏纤维菌属(Cytophaga)、Dyella属、聚球菌属(Synechococcus)、Chlorarachnion属、支原菌属(Mycoplasma)、草螺菌属(Herbaspirillum)、河氏菌属(Hahella)、Ruegeria属。本研究表明,PCR-DGGE技术可以用于海水对虾养殖系统的细菌群落结构分析。对于海水对虾养殖系统来说,一些序列所代表的主要细菌种类极有可能是很少被注意到或研究过的,具有潜在的研究价值。
【英文摘要】The bacterial communities in a typical culture system of marine shrimp (Litopenaeus vannamei) was analyzed at molecular level. DNA was extracted from three samples from farming water,three samples from longshore water,three sample from impounding reservoir,one sewage water sample,three feces samples,and three bacterial samples on the gut wall,and PCR was carried out with primer pairs GC968f/1401r followed by agarose electrophoresis and DGGE. The band fingerprinting in DGGE gel was performed with cluster analysis by MVSP software. The main bands in DGGE gel were recovered for reamplification and following clone sequencing. The acquired sequences were performed BLAST searches against NCBI database,and the sequences including the closely related sequences were aligned with Clustal W program in BioEdit software for phylogenetic analysis. The results indicated that all the samples could be well amplified in PCR and gave rise to predicted 470 bp fragments. DGGE result showed that environmental water samples from longshore,impounding reservoir,and farming pond have much higher bacterial diversity than the samples from impounding reservoir,the feces,intestinal walls,and sewage water. The dominant bacterial species were obvious in any environment samples. The bacterial communities profile from three samples farming water had high similarity. So did two samples from longshore water,two feces samples,two samples from impounding reservoir and two samples from intestinal walls. The" genetic distance" of the samples evaluated by the cluster with MVSP revealed the difference of the bacterial communities,but the order of the samples in the cluster did not correspond with the spatial order of the samples and the similarity due to adjacent spatial order. Obviously,it could be explained by the fact that the shrimp culture system investigated was managed under high-density and intensive mode,and more easily influenced by human effort. The main microbes represented by 12 main bands in DGGE gel were closely related to Flexithrix,Cytophaga,Dyella,Synechococcus,Chlorarachnion,Mycoplasma,Herbaspirillum,Hahella,and Ruegeria,most of which belong to the members of Proteobacteria and Cytophaga-Flexibacter-Bacteroides. Thus it is suggested that conventional culture methods can cause huge bias on analysis of environmental bacterial communities. The present study demonstrates that PCR-DGGE can be used for molecular analysis of bacterial communities from marine shrimps culture system . As for marine shrimp culture system,it is most likely that some bacteria have not been noticed or investigated,and has potential research value.
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【通讯作者】胡超群
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【题目】凡纳滨对虾精子发生的超微结构研究
【中文关键词】凡纳滨对虾Litopenaeus vannamei 精子发生 顶体 超微结构
【英文关键词】Litopenaeus vannamei; spermatogenesis; acrosome; ultrastructure;
【中文摘要】对凡纳滨对虾Litopenaeus vannamei精子发生的过程进行了透射电镜的观察。结果表明,成熟凡纳滨对虾精巢为指状,分16叶。凡纳滨对虾精子发生分为精原细胞、初级精母细胞、次级精母细胞、精子细胞和精子5个时期。染色质

经历了从以异染色质为主变为高度凝聚状态,再经解聚为弥散絮状的变化过程。核膜由完整转变为不完整。凡纳滨对虾精子发生过程中仅见线粒体、内质网、核糖体细胞器的参与,未见有典型的高尔基体结构的出现。顶体由内质网囊泡团和线粒体囊泡共同转变而来。精子的棘突以及亚顶体区需在输精管的中后端形成,而非在精巢中形成。纳精囊内精子比储精囊内精子的棘突细长。

【英文摘要】Spermatogenesis in shrimp Litopenaeus vannamei was investigated using light and transmission electron microscopy.Results showed that the matured testis of L.vannamei was fingers-like,which was comprised of 16 leaves.Spermatogenesis in L.vannamei could be divided into five stages: spermatogonium,primary spermatocyte,secondary spermatocyte,spermatid and sperm.During spermatogenesis,chromatins underwent dramatic changes.At the stage of spermatogonium,the heterochromatins were spread in the nucleus and some of them were distributed under the nuclear membrane.At the stage of spermatocyte,chromatins became highly coacervative.At the stage of spermatid and sperm,the chromatins lost condensation and looked like flocculus.Mitochondria,endoplasmic reticulum and ribosome were observed during spermatogenesis.No typical golgi apparatus were observed.The acrosome was derived from endoplasmic reticulum vesicles and mitochondria vesicles.The sperm spike and sub-acrosome were formed in the vas deferens,not in the testis.The sperm spike from the seminal receptacle was longer than that from the terminal ampullae.

【语种】中文

【第一作者】许尤厚

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【学科分类】水产养殖学

【题目】两个凡纳滨对虾全同胞家系在不同盐度下的生长比较

【中文关键词】凡纳滨对虾 盐度梯度 生长 体长 体重

【英文关键词】Litopenaeus vannamei; salinity gradient; growth; body length; body weight;

【中文摘要】在1‰—40‰盐度范围内,设置9个盐度梯度(1‰、5‰、10‰、15‰、20‰、25‰、30‰、35‰、40‰),比较不同盐度对2个具有不同遗传背景凡纳滨对虾Litopenaeus vannamei全同胞家系的影响。结果表明,盐度对2个凡纳滨对虾家系的影响存在较大差异。对虾家系B03在10‰—40‰盐度范围内,体长、体重差异不明显,成活率较高;对虾家系B08在1‰—40‰盐度范围内,体长、体重、增长率具有明显的变化规律,从盐度1‰到15‰逐渐升高,15‰以后逐渐减小。对虾家系B03的成活率整体高于B08的成活率,2个家系均难以适应盐度为1‰和5‰的水体。研究为凡纳滨对虾的家系选育提供一定的数据支持。

【英文摘要】An experiment was conducted to determine effects of different salinities(1‰,5‰,10‰,15‰,20‰,25‰,30‰,35‰,40‰) on growth rates of two full-sib families of Litopenaeus vannamei.The results suggested that salinity has different effects on the two families.For family B03,no obvious differences in body length and body weight existed in salinity range from 10‰ to 40‰.The growth of family B08 changed obviously with salinity,which increased with salinity in the range of 1 ‰ to 15‰ but decreased when salinity varied from 15‰ to 40‰.The mean survival rate of family B03 was higher than that of family B08.Both families did not show good tolerance to salinity between 1‰ and 5‰.Our findings provide evidence for the selective breeding of new line of L.vannamei.

【语种】中文

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【学科分类】水产养殖学

【题目】新凡纳滨对虾生长性状的双列杂交分析

【中文关键词】凡纳滨对虾; 双列杂交; 杂种优势; 生长; 成活率
【英文关键词】Litopenaeus vannamei; diallel cross; heterosis; growth; survival rate
【中文摘要】以来源于两个不同遗传背景群体的凡纳滨对虾Litopenaeus vannamei 为亲本, 设置PP(P♀×P♂)、PH(P♀×H♂)、HP(H♀×P♂)、HH(H♀×H♂) 4 个实验组(P 代表进口群体, H 代表选育群体), 进行进口个体(P♂和P♀)与选育个体(H♂和H♀)间的双列杂交实验, 分析比较其子一代的生长与存活情况。结果发现, 对虾存活由高到低顺序为HH>HP>PH>PP, PH 实验组表现出明显的存活杂种优势, 其育苗期间的杂种优势平均值为(27.72±11.88)%, 下塘90d 后成活率的杂种优势为30.50%。在生长前期(30 日龄以前)对虾平均体长和体重的顺序是HP>PH>HH>PP, 而在生长后期则为PP>HP>PH>HH。HP 实验组在整个养成期(10、30、60 和90d)均表现出体长和体重上的杂种优势, 杂种优势值分别为24.00%、13.71%、2.55%、2.79%和112.46%、54.06%、8.16%、12.48%。结果表明, 选育群体为母本、进口群体为父本的对虾杂交后代的生长和存活性状明显提高。
【英文摘要】The authors analyzed the growth and survival of the first generation of Litopenaeus vannamei after crossing within and between imported shrimp individuals(P♂,P♀) and selected individuals(H♂,H♀) using complete diallel crosses to set up four combinations,PP(P♀×P♂),PH(P♀×H♂),HP(H♀×P♂) and HH(H♀×H♂).The results showed that survival rate was in the order of HH>HP>PH>PP,and the survival heterosis appeared in PH,with average survival heterosis of(27.72-11.88)% in the young stage and 30.50 at the 90th day.In the early growth stage(the first 30 days),the average body length and weight were both sequenced as HP> PH> HH> PP,while in the late growth,as PP> HP> PH> HH.The growth heterosis was found in body length and weight.The values of body length heterosis were 24.00%,13.71%,2.55%,and 2.79%;while the values of body weight heterosis were 112.46%,54.06%,8.16%,and 12.48% at the 10th,30th,60th and 90th days.In conclusion,the growth and survival traits of hybrids offspring crossing selection individuals as male parents and imported individuals as female parents will be improved significantly.
【语种】中文
【第一作者】林红军
【通讯作者】沈琪
【期刊名称、卷期、页码】热带海洋学报,2010 年 第29 卷 第6 期:51－56
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【学科分类】水产养殖学

【题目】中国明对虾与5种虾类线粒体16SrRNA和COI基因片段的序列比较及其系统学初步研究
【中文关键词】中国明对虾 S rRNA基因 COI基因 PCR 多态性
【英文关键词】Fennerpenaeus chinensis; 16S rRN A gene; COI gene; PCR; polymorphism
【中文摘要】采用PCR扩增和序列测定等技术,对中国明对虾(Fennerpenaeus chinensis)线粒体DNA16S rRNA和细胞色素氧化酶I(COI)基因片段进行了初步研究,分别得到16S rRNA和COI 2个基因片段的碱基序列,其中16S rRNA基因片段的大小为515 bp,碱基A+T,G+C的组成分别为66.47%和33.53%;COI基因片段的大小为472 bp,碱基A+T,G+C的组成分别为62.50%和37.29%.在2种基因片段中,AT的组成明显高于GC的组成,这与果蝇、虾类、蟹类等无脊椎动物的16S rRNA和COI基因片段的研究结果相似.通过对中国明对虾16S rRNA和COI 2个基因片段遗传特征的研究,16S rRNA只有8处核苷酸的碱基在4个群体间表现出差异,COI基因片段中共检测出24个多态性核苷酸位点,其种内变异较低.另外,将本研究所得序列与GenBank中对虾科5个种的16S rRNA基因片段序列进行比较后,发现其聚类关系与传统分类相一致.
【英文摘要】Mitochondrial 16S rRNA and COl gene fragments of F.chinensis were amplified via PCR,and then the PCR products were purified and sequenced.For 16S rRNA gene fragments,515 bp nucleotide sequences were obtained,and the A+T and G+C contents in this fragment were respectively 66.47%,33.53 %.As for the COI gene fragments,the size was 472 bp and the A+T and G+C contents were 62.50%,37.29% respectively.Analysis of 16S rRNA and COI gene fragments indicated that: 1) the AT content was higher than CG content,which was similar to the results of studies on drosophila,shrimp,crab and other invertebrates;2) four families from the test had 6 variable nucleotide positions of 16S rRNA gene fragments,but there were twenty-four variable nucleotide positions about the sequence of COI gene fragments.In addition,it is found that the graphical phylogenetic tree of 16S gene fragment of five shrimps in shrimp family is consistent with current systematic of these species
【语种】中文
【第一作者】麦维军
【通讯作者】麦维军
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【题目】用煤渣和沸石处理海水养殖废水的挂膜动力学研究
【中文关键词】动力学;挂膜;海水养殖废水;煤渣;沸石
【英文关键词】kinetics; biofilm formation; mariculture waste water; cinder; zeolite
【中文摘要】研究了用煤渣和沸石作为填料的硝化滤器挂膜过程中动力学参数的变化规律,并对生物膜进行了电镜观察。结果表明:在挂膜过程中,总氨氮的降低遵循一级反应规律:一级反应的相关性随着时间的延长显著性增加,直至挂膜成熟稳定;煤渣和沸石填料挂膜的一级反应速率常数分别为0.744d-1和0.679 d-1。
【英文摘要】The regularity of kinetics parameterswas determined and biofilm surface was observed through microscopes during biofilm formation in nitrification filters by cinder and zeolite media. It was found that during biofilm formation the ammonia degradation followed the first-order dynamics which became more obvious as the time went on. This tendency was kept until the biofilm functional stabilization. The first-order dynamics degradatio nrate was 0.744d-1for cinder and 0.679 d-1 for zeolite.
【语种】中文
【第一作者】张俊新
【通讯作者】刘长发
【期刊名称、卷期、页码】大连水产学院学报,2008,23,(3):205-209
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【学科分类】水产工程学

【题目】凡纳滨对虾各月龄性状的主成分与判别分析
【中文关键词】凡纳滨对虾 相关分析 主成分分析 判别分析
【英文关键词】Litopenaeus vannamei; correlation analysis; principal component analysis; discriminant analysis
【中文摘要】为了研究凡纳滨对虾各性状增长规律和判定最佳生长季节凡纳滨对虾的体格与月龄的关系,选择1~6月龄凡纳滨对虾各1000只,选择全长、体长、第一腹节背高、第三腹节背高、第一腹节背宽、头胸甲长和体重共7个性状,进行主成分与判别分析。结果表明:各月龄凡纳滨对虾性状之间均呈现显著的正相关(P0.01),其中以全长与体长的相关性最为明显,1月龄凡纳滨对虾体重与形态性状的相关系数较小。各月龄凡纳滨对虾的主成分有所不同,1~2月龄凡纳滨对虾的第一主成分为长度因子,第二主成分为宽度因子,第三主成分为高度因子;3月龄凡纳滨对虾的第一主成分与1~2月龄凡纳滨对虾一致,但第二主成分为高度因子,第三主成分为体重因子;4~6月龄凡纳滨对虾的第一主成分为体重因子,第二主成分为高度因子,第三主成分为宽度因子。1~3月龄凡纳滨对虾形态性状的增长优先于体重,4~6月龄凡纳滨对虾体重优先于形态性状的增长。错过最佳生长季节的凡纳滨对虾的与体格大小相符的月龄可通过建立的判别式来判断,总的判别准确率为98.98%,其中2~4月龄凡纳滨对虾的判别准确率为100%。
【英文摘要】In order to research on the rule of the relative growth of traits of Litopenaeus vannamei and judging the age matching with the size of L.vannamei missing the best growing season,the data acquired by measuring the total length(X1),body length(X2),first abdominal segment depth(X3),third abdominal segment depth(X4),first abdominal segment width(X5),carapace length(X6)and body weight(Y)of Penaeus vannamei at different ages in Banqiao Village of Dongfang City,Hanan Province were analyzed by principal component and discriminant analysis.Result shows that the correlation between any two traits of L.vannamei is significant(P<0.01)at all tested ages.,among which those between the total length(X1)and body length(X2)are relatively larger and those between body weight(Y)and morphometric attributes are relatively smaller.The principal components of L.vannamei at different ages are different.For example,the first principal component of L.vannamei at from one month of age to two months is length factor,the second principal component is width factor and the third principal component is depth factor.Also,for L.vannamei at three months of age,its first principal component is the same as that at from one month of age to two months,but its second principal component is depth factor and its third principal component is body weight factor.Finally,the first principal component of L.vannamei at from four months of age to six months is body weight factor,the second principal component is depth factor and the third principal component is width factor.The results of principal component analysis reflect that the growth of morphometric attributes of L.vannamei at from one month of age to three months takes priority compared with that of body weight,but the growth of body weight of L.vannamei at from three

months of age to six months is given priority to compared with that of morphometric attributes.The month age closely related to the size of L.vannamei which has missed the best growing period can be deduced by employing the discriminant equations mentioned in this paper and the results of the discriminant analysis demonstrate that the overall accuracy is 98.98% and those of L.vannamei at two months of age to four months all reach 100%

【语种】中文
【第一作者】何铜
【通讯作者】刘小林
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【学科分类】水产养殖学

【题目】EST-SSR分子标记在水生动物遗传研究中的应用
【中文关键词】EST—SSR 水生动物 遗传育种 分子标记
【英文关键词】EST-SSR; aquatic animal; genetic breeding; molecular marker
【中文摘要】EST(Expressed Sequence Tag,基因表达序列标签)是指从cDNA文库中随机挑选单克隆进行测序,所获得的序列片段,长度一般约60~500bp。自Adams等[1]首先提出EST计划并测定了609条人脑组织的EST以来,EST计划在不同物种,尤其是水生动物中得到了不断的扩展和深入的研究。
【英文摘要】无
【语种】中文
【第一作者】张琼
【通讯作者】刘小林
【期刊名称、卷期、页码】水产科学,2010,第 29 卷第5 期,302-306
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【题目】凡纳滨对虾净肉质量的影响因素分析
【中文关键词】凡纳滨对虾(Litopenaeus vannamei)　形态性状　生产性能　相关分析
【英文关键词】Litopenaeus vannamei; morphometric attribute; correlation analysis;
【中文摘要】选择5月龄凡纳滨对虾(Litopenaeus vannamei)1 200尾,测定净肉质量、去头质量、全长、体长、第一腹节背高、第三腹节背高、第一腹节背宽和头胸甲长共8个性状,采用相关分析和通径分析的方法,计算了以形态性状和去头质量为自变量对净肉质量作依变量的通径系数、决定系数及相关指数,定量地分析了形态性状和去头质量对净肉质量的影响效果.研究表明,凡纳滨对虾6个形态性状和去头质量与净肉质量的相关系数除头胸甲长外均达到极显著水平(P<0.01);所选性状与净肉质量的复相关指数R2=0.958;多元回归分析建立了去头质量、全长、头胸甲长对净肉质量的回归方程,为对虾的良种选育提供了理论依据.
【英文摘要】The effects of morphometric attributes on net weight for Litopenaeus vannamei were analyzed.Data for this study were collected from five-month-old 1 200 L.vannamei in Banqiao Village of Dongfang City,Hainan Province.The body weight except for head(X1),whole body length(X2),body length(X3),fist first abdominal segment depth(X4),third abdominal segment depth(X5),first abdominal segment width(X6),carapace length(X7) and net weight(Y) were measured.The correlation coefficients among the attributes were calculated. Path coefficient(pi),determination coefficients(di) and correlation index(R2) were calculated in path analysis.The results showed that six correlation coefficients between each morphometric attribute and the weight achieved very significant difference(P<0.01) levels.The path coefficient analysis revealed a truthful relationship between the independent variables and the dependent variable.Judging from the result of high correlation index(R2=0.958),the main variables(X1,X2,X7) have been selected.The multiple regression equation of body weight except for head,whole body length,carapace length to the net weight is obtained to estimate the net weight.This paper provides a theoretical tool to measure breeding shrimps in aquaculture.　更多
【语种】中文

【第一作者】李刚
【通讯作者】刘小林
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【题目】虾类遗传育种研究进展
【中文关键词】遗传育种 虾类 进展
【英文关键词】genetics and breeding; shrimp; advance
【中文摘要】虾在水产养殖业中占有极为重要的地位。20世纪50年代以来,随着众多经济虾类人工培育苗种的成功,其养殖业发展迅猛,由50年代的世界虾产量不足5.0×105t,到现在维持在1.9×106t的水平。尤其是近年来特种水产养殖业的兴起,使虾类的身价倍增。世界养殖业总产量约3—5年翻一番。
【英文摘要】无
【语种】中文
【第一作者】李刚
【通讯作者】刘小林
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【题目】凡纳滨对虾体重校正系数的研究
【中文关键词】凡纳滨对虾;回归分析;校正系数
【英文关键词】Penaeus vannamei; Correlation analysis; Adjusting coefficient
【中文摘要】测量海南南疆生物有限公司板桥育苗基地 20 03年 14个家系 600只凡纳滨对虾不同月龄的体重;采用回归分析方法,并利用回归分析的显著性检验,建立了最优回归方程及凡纳滨对虾的生长曲线;根据最优化方程,以 6月龄体重为标准制定了体重的校正系数表。校正系数表是由生产实践总结而来的,在制定该凡纳滨对虾育苗基地的育苗工作、 生产计划以及进行不同生产组别和不同对虾的生产性能比较时,用以校正到可比水平,具有重要的实际应用价值。
【英文摘要】The weight records of 600 Penaeus vannamei from Banqiao Village of Dongfang City,Hainan Province in 2003 were measured;These adjusting coefficients for weight of Penaeus vannamei were investigated with the simple statistical polynomial regression analysis method.The best regression equation was established and measured extremely significant by difference significance test.The table of coefficient for adjusting weight of Penaeus vannamei in this base was presented.Practice using of adjusting coefficient of weight was calculated for comparing the different groups or different species as the example
【语种】中文
【第一作者】李刚
【通讯作者】刘小林
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【学科分类】水产养殖学

【题目】The cytosolic manganese superoxide dismutase cDNA in swimming crab Portunus trituberculatus: Molecular cloning, characterization and expression
【中文关键词】无
【英文关键词】Portunus trituberculatus; Cytosolic manganese superoxide dismutase (cMnSOD); Cloning; Expression

【中文摘要】无
【英文摘要】A cytosolicmanganesesuperoxidedismutase (cMnSOD) cDNA was cloned from the haemocytes ofswimmingcrabPortunus trituberculatus using reverse transcription polymerase chain reaction (RT-PCR) and rapid amplification of cDNA ends (RACE) method. Analysis of the nucleotide sequence revealed that the cMnSOD full-length cDNA consisted of 1106 bp with an open reading frame of 861 bp encoding a protein of 286 amino acids. Four conserved amino acids responsible for binding manganese (H110, H158, D243 and H247) and MnSOD signatures from 243 to 250 (DVWHHAYY) were observed. Sequence comparison showed that the cMnSOD deduced amino acid sequence of P. trituberculatus had similarity of 92%, 78%, 77% and 75% to that of blue crabCallinectes sapidus, white shrimp Litopenaeus vannamei, giant tiger prawn Penaeus monodon and freshwater prawn Macrobrachium rosenbergii, respectively. Quantitative real-time RT-PCR analysis revealed that P. trituberculatus cMnSOD transcript was strongly detected in haemocytes, hepatopancreas, heart, stomach, intestine, gill, ovary and muscle. RT-PCR analysis indicated that cMnSOD transcripts both in haemocytes and hepatopancreas increased at 3 h and 6 h after infection. These facts indicate that cMnSOD is potentially involved in the acute response against invading bacteria in P. trituberculatus.
【语种】英文
【第一作者】Li, Jitao
【通讯作者】Li,Jian
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【题目】Identification and functional study of a shrimp Dorsal homologue
【中文关键词】无
【英文关键词】Dorsal, Shrimp, Innate immunity, NF-kappa B, Antibacterial peptide
【中文摘要】无
【英文摘要】Rel/NF-kappa B transcription factors play central roles in induction and regulation of innate immune responses. Here, identification and functional analysis of LvDorsal, a Dorsal homologue from the Pacific white shrimp Litopenaeus vannamei, were described. The full-length cDNA of LvDorsal is 2204 bp with an open reading frame that encodes 400 amino acids. The deduced LvDorsal contains a conserved Rel homology domain (RHD), an IPT (Ig-like, plexins and transcription factors) domain and a nucleus localization signal, suggesting that it belongs to the class II NF-kappa B. RT-PCR analysis showed that LvDorsal mRNAs were expressed in all the tissues tested, including gill, epidermis, hemocytes, intestine, stomach, eyestalk, brain, hepatopancreas, muscle, heart and pyloric caecum. Immunofluorescence assay showed that recombinant LvDorsal was translocated into the nucleus of Drosophila S2 cells. Electrophoretic mobility shift assay illustrated that recombinant LvDorsal RHD from S2 cells bound specifically with D. melanogaster kappa B motifs. Additionally, the dual-luciferase reporter assays indicated that LvDorsal could transactivate the reporter gene controlled by the 51 flanking region of shrimp penaeidin-4 and Drosophila attacin genes, suggesting that LvDorsal can regulate the transcription of shrimp penaeidin-4 gene. Study of LvDorsal will help us to better understand shrimp immunity and may help to obtain more effective methods to prevent shrimp diseases
【语种】英文
【第一作者】Huang Xiande
【通讯作者】Yin Zhixin
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【题目】cDNA cloning, expression and antibacterial activity of lysozyme C in the blue shrimp (Litopenaeus stylirostris)
【中文关键词】无

【英文关键词】Lysozyme C; Litopenaeus stylirostris; PCR-cloning; Expression; Antibacterial activity
【中文摘要】无
【英文摘要】The gene coding for lysozyme in blue shrimp (Litopenaeus stylirostris) was cloned, sequenced and expressed in pET-32a vector. The deduced amino acid sequence of F. merguiensi lysozyme showed 37-93% similarity with the mouse, human, chicken, and tiger prawn counterparts. The lysozyme was purified to homogeneity and observed as a band of approximately 15 kDa in 15% SDS-PAGE. Semi-quantitative RT-PCR analysis demonstrated that mRNA transcripts of lysozyme could be mainly detected in the tissues of haemocytes, gill, gonad and the lymphoid organ of unchallenged shrimps, whereas the expression of lysozyme transcripts was increased in all the tested tissues after the heat-killed Vibrio alginolyticus challenge. The temporal expression of lysozyme mRNA in haemolymph challenged by Micrococcus luteus and V. alginolyticus was both up-regulated and reached the maximum level at 8 and 16 h post-stimulation, respectively, and then dropped back to the original level. Bacteriolytic activity of the lysozyme against different bacterial cultures was determined by the solid phase and turbidimetric assays. The results demonstrated that the lysozyme we obtained was not only against Gram-positive and Gram-negative bacteria but also against shrimp pathogens V. alginolyticus and V. parahemolyticus. In addition, the study of the inhibition mechanism revealed that the antibacterial activity of the lysozyme was a result of the bactericidal effect. (C) 2009 National Natural Science Foundation of China and Chinese Academy of Sciences. Published by Elsevier Limited and Science in China Press.
【语种】英文
【第一作者】Mai, Weijun
【通讯作者】Hu, Chaoqun
【期刊名称、卷期、页码】Progress in natural science,19 (2009) 837 – 844
【论文发表时间】2009-07-10 00:00:00
【引文索引类型】SCI
【引文索引号】2.6634510001e+011
【学科分类】水产养殖学

【题目】Molecular cloning and mRNA expression of cathepsin C gene in black tiger shrimp (Penaeus monodon)
【中文关键词】无
【英文关键词】molecular cloning; Cathepsin C; mRNA expression; Penaeus monodon
【中文摘要】无
【英文摘要】Cathepsin C (dipeptidyl-peptidase 1, DPPI) is a lysosomal cysteine proteinase belonging to the papain superfamily, which is capable of removing dipeptides sequentially from the amino terminus of peptide and protein substrates. In the present study, the cDNA of a cathepsin C was cloned from black tiger shrimp Penaeus monodon (designated PmcathepsinC) by homology cloning and rapid amplification of cDNA ends (RACE) approaches. The full-length cDNA of PmcathepsinC consisted of 2051 nucleotides with a canonical polyadenylation signal sequence AATAAA and a poly(A) tail, and an open reading frame (ORF) of 1350 bp encoding a polypeptide of 449 amino acid residues with a predicted molecular weight of 50.0 kDa and theoretical isoelectric point of 5.65. The high identity of PmcathepsinC with Cathepsin C in other organisms indicated that PmcathepsinC should be a new member of the Cathepsin C family. By fluorescent quantitative real-time PCR, mRNA transcript of PmcathepsinC was detectable in all the examined tissues with higher level in ovary and heart. The temporal expression of PmcathepsinC mRNA in the hepatopancreas was up-regulated by lipopolysaccharicle (LPS) stimulation and reached the maximum level at 4 h post-stimulation, and then dropped back to the original level gradually. These results indicated that PmcathepsinC was a constitutive and inducible acute-phase protein that perhaps involved in the immune defense of P. monodon
【语种】英文
【第一作者】Qiu, Lihua
【通讯作者】Jiang, Shigui
【期刊名称、卷期、页码】Comparative Biochemistry and Physiology Part A 150 (2008) 320 – 325
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【引文索引类型】SCI
【引文索引号】2.5797510001e+011
【学科分类】水产养殖学

【题目】Molecular cloning and mRNA expression of peroxiredoxin gene in black tiger shrimp (Penaeus monodon)
【中文关键词】无
【英文关键词】Cloning; Peroxiredoxin; RT expression; Black tiger shrimp (Penaeus monodon)
【中文摘要】无
【英文摘要】The techniques of homology cloning and anchored PCR were used to clone the peroxiredoxin (Prx) gene from black tiger shrimp (Penaeus monodon). The full length cDNA of black tiger shrimp Prx (PmPrx) contained a 5' untranslated region (UTR) of 51 bp, an ORF (open reading frame) of 582 bp encoding a polypeptide of 193 amino acids with an estimated molecular mass of 22.15 kDa and a 3' UTR of 948 bp. Sequence comparison showed that PmPrx shared higher identities with Prx IVs than that with other isoforms of Prx, indicating PmPrx was a member of the Prx IV family. A quantitative reverse transcriptase Real-Time PCR (qRT-PCR) assay was developed to assess the mRNA expression of PmPrx in different tissues and the temporal expression of PmPrx in the hepatopancreas challenged by lipopolyssacharide (LPS). Higher-level mRNA expression of PmPrx was detected in the tissues of hepatopancreas, gonad and heart. The expression of PmPrx in the hepatopancreas was up regulated after stimulated by LPS. The results indicated that PmPrx was a constitutive and inducible expressed protein and could be induced by LPS.
【语种】英文
【第一作者】Qiu, Lihua
【通讯作者】Jiang, Shigui
【期刊名称、卷期、页码】Molecular biology reports, 26 (2009) 821 – 827
【论文发表时间】2010-07-01 00:00:00
【引文索引类型】SCI
【引文索引号】2.7968660003e+011
【学科分类】水产养殖学

【题目】Variation of Specific proteins,Mitochondria and fatty acid composition in gill of Scylla serrata (Crustacea, Decapoda) under low temperature adaptation
【中文关键词】无
【英文关键词】fatty acid; gill; low temperature adaptation; mitochondria; proteomic; Scylla serrata
【中文摘要】无
【英文摘要】The mud crab Scylla serrata is an important commercial crustacean inhabiting estuarine water along the coast of southeast China. Metabolism in the gill is affected continuously by fluctuating water temperature and, therefore, the ability to cope with temperature change is essential to maintain physiological function. This experiment was conducted to help understand the mechanism of low temperature adaptation in S., serrata gill. In this study, 40 healthy juvenile male S. serrata from the same broodstock were grouped randomly into four groups, which were kept at 5 degrees C, 10 degrees C, 15 degrees C and 27 degrees C, with the same feeding regime during a 3-week adaptation period. Two-dimensional electrophoresis of the proteome was conducted to separate the specific proteins responsible for low temperature adaptation. Variations in the mitochondria were observed using transmission electron microscopy, and fatty acid composition was determined using gas chromatography. The results showed that different numbers of specific proteins were expressed under different low temperature adaptation, with more expressed at 5 degrees C and 10 degrees C than at 15 degrees C. Mitochondrial morphology also varied under different low temperature adaptation, but there was no linear relationship between microbial density and adaptation temperature. The composition of different fatty acids in the gill varied considerably with adaptation temperature, but elongation of the carbon chain and transition from fatty acids occurred at lower temperatures. Thus, changes in the specific proteins, mitochondria and fatty acid composition of the gill were the positive effects of low temperature on metabolism, leading to improved adaptation ability in S. serrata.
【语种】英文
【第一作者】Wang, Gui-zhong
【通讯作者】Wang, Gui-zhong
【期刊名称、卷期、页码】Journal of Experimental Marine Biology and Ecology 352 (2007) 129 – 138
【论文发表时间】2007-11-30 00:00:00
【引文索引类型】SCI
【引文索引号】2.5079140001e+011
【学科分类】水产养殖学

【题目】Seasonal variations of ATPase activity and antioxidant defenses in gills of the mud crab Scylla serrata (Crustacea, Decapoda).
【中文关键词】无
【英文关键词】MUSSEL MYTILUS-GALLOPROVINCIALIS; SHRIMP MACROBRACHIUM-OLFERSII; NA+-K+-ATPASE; DIGESTIVE GLAND; LIPID-PEROXIDATION; OXIDATIVE STRESS; BIVALVE MOLLUSKS; COMMON MUSSEL; VITAMIN-E; ENZYMES
【中文摘要】无
【英文摘要】The mud crab Scylla serrata is an important commercial crustacean being widely distributed along the southeastern coast of China. This crab and particularly its gills are subjected to seasonal fluctuations of environmental factors due to direct exposure to seawater. The investigation of seasonal variations of ATPase and antioxidant defenses in gills could be helpful for the understanding of physiological regulation mechanism of seasonal adaptations. In this study, mud crabs were collected from the subtropical waters near Xiamen island, Southeast China (24 degrees 26' 46 " N, 118 degrees 04' 04 " E), in August and November, 2002, and February and May, 2003, respectively, being considered as specimens from summer, autumn, winter and spring, respectively. Only healthy intermoult male crabs without carapace or appendage damage were used, having a carapace width of 7.05 +/- 0.52 cm and a wet weight of 130 +/- 20 g. The activities of four ATPases and three antioxidation enzymes (superoxide dismutase, catalase, glutathione peroxidase) and the content of malondialdehyde in gills were measured. The results showed that the activities of Na+, K+- ATPase, Mg2+- ATPase, Ca2+- ATPase and Ca2+, Mg2+- ATPase reached maximum levels similarly in summer and decreased in winter. The activities of superoxide dismutase and catalase were higher in summer and lower in winter, with a significant decrease in winter compared to the other seasons ($p < 0.01$). Glutathione peroxidase activity was higher in summer, and lower in autumn, being significantly higher in summer or winter than in spring or autumn ($p < 0.01$). Malondialdehyde content was higher in summer and lower in spring with significant differences among the different seasons ($p < 0.01$). In summary, the obvious seasonal activity variations of four ATPases and antioxidant enzymes and the content of malondialdehyde reflect a seasonal regulation of the physiological metabolising enzyme and the antioxidant capacity to cope with seasonal alterations of environment factors such as fluctuating salinities and temperatures.
【语种】英文
【第一作者】Kong, Xianghui
【通讯作者】Wang, Guizhong
【期刊名称、卷期、页码】Marine biology,2008 154:269 – 276
【论文发表时间】2008-04-01 00:00:00
【引文索引类型】SCI
【引文索引号】2.5475140001e+011
【学科分类】水产养殖学

【题目】Hepatopancreas cell culture from Scylla paramamosain .
【中文关键词】无
【英文关键词】Hepatopancreas; Cell culture; Subculture; Scylla paramamosain
【中文摘要】无
【英文摘要】Hepatopancreas is an important digestive and endocrine organ in crustacean. However, there are few reports on cell cultures from crabs. Here, the cell cultures of hepatopancreas from Scylla paramamosain was studied in vitro. Both the primary cell culture and subculture were grown in Leibovitz' L-15 medium, M199 medium, or a specially designed medium for S. paramamosain (MSP). The results showed that hepatopancreas cells in vitro grew in compact clusters in 2-3 d. Four types of cells could be identified. They were embryo cells, fibrillar cells, resorptive cells, and blister-like cells, respectively. Some of these cells could be subcultured for three generations. The MSP supported the best survival of these hepatopancreas cells, while M199 medium was the least effective of these three media. Fetal bovine serum and crab muscle extracts as supplements stimulated growth, but the crab hemolymph inhibited cell growth. Taken together, MSP is an appropriate medium for hepatopancreas cell cultures from S. paramamosain and can support cultures through several passages.
【语种】英文
【第一作者】Zeng, Hui
【通讯作者】Ye, Haihui
【期刊名称、卷期、页码】In Vitro Cell.Dev.Biol.—Animal, 2010 46:431 – 437

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【引文索引类型】SCI
【引文索引号】2.7728410001e+011
【学科分类】水产养殖学

【题目】Changes in progesterone levels and distribution of progesterone receptor during vitellogenesis in the female mud crab (Scylla paramamosain)
【中文关键词】无
【英文关键词】crab; hormones; progesterone; progesterone receptor; vitellogenesis; Scylla paramamosain
【中文摘要】无
【英文摘要】Vertebrate-type steroids, such as progesterone, have been identified in crustaceans. The physiological activity of progesterone during vitellogenesis is still not well understood. In this study, progesterone levels in the female mud crab, Scylla paramamosain, were determined by enzyme-linked immunosorbent assay. Peak levels of progesterone were detected during the previtellogenic stage in the hemolymph, ovary, and hepatopancreas, whereas the progesterone level decreased significantly in vitellogenic stage I. During vitellogenic stage II, progesterone levels rose again in the hemolymph and ovary, but continued to decrease in the hepatopancreas. By using western blotting, progesterone receptor (PR), with an apparent molecular weight of 70 kDa, was identified in the ovary during both vitellogenic stages I and II. By means of immunohistochemistry, PR was detected mainly in the follicle cells during vitellogenic stage I and in the nuclei of oocytes in vitellogenic stage II. Our results strongly suggest that progesterone promotes vitellogenesis in the mud crab, S. paramamosain via a classical genomic mechanism.
【语种】英文
【第一作者】Ye, Haihui
【通讯作者】Ye, Haihui
【期刊名称、卷期、页码】MARINE AND FRESHWATER BEHAVIOUR AND PHYSIOLOGY,2010,43: 1, 25 — 35
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【引文索引类型】SCI
【引文索引号】2.769642e+011
【学科分类】水产养殖学

【题目】Molecular cloning and characterization of a heat shock protein 70 gene in swimming crab (Portunus trituberculatus)
【中文关键词】无
【英文关键词】Portunus trituberculatus; Heat shock protein 70; SNP; mRNA expression; Vibrio alginolyticus
【中文摘要】无
【英文摘要】Hsp70 can stimulate cells of the innate immune system directly by acting as "danger"-signaling molecules. To understand the immune defense mechanisms of swimming crab Portunus trituberculatus (Decapoda: Brachyura: Portunidae), the cDNA of Hsp70 (designated PtHsp70) was cloned by the combination of homology cloning and rapid amplification of cDNA ends (RACE). The full-length PtHsp70 cDNA was 2195 bp, including an open reading frame (ORF) of 1950 bp encoding a polypeptide of 650 amino acids with estimated molecular mass of 71.1514 kDa and theoretical isoelectric point of 5.38. FASTA and BLAST analysis indicated that PtHsp70 should be an inducible cytosolic member of the Hsp70 family. The coding region of PtHsp70 was uninterrupted and four SNIPS with 1133C/T, 1311C/T, 1551C/T and 1809 A/G were detected by direct sequencing of 20 genomic samples. Using fluorescent real-time quantitative PCR, the transcriptional expression of PtHsp70 showed a clear time-dependent response after challenge by Vibrio alginolyticus, the main causative agent of emulsification disease causing large mortality in P. trituberculatus. This is the first report on the expression of Hsp70 induced by pathogen stimulation in Brachyura. Phylogenetic analysis revealed that the inducible Hsp70s were divided into two groups in crab and PtHsp70 was clustered into the Hsp/Hsc group (Clade I) by maximum-likelihood (ML) and Bayesian inference (BI) methods. GAP repeat and GGMP motif of inducible Hsp70 gene in the crab species were only found in Clade I.
【语种】英文
【第一作者】Cui, Zhaoxia
【通讯作者】Cui, Zhaoxia
【期刊名称、卷期、页码】Fish & shellfish immunology,28 (2010) 56 – 64

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【引文索引号】2.7423510001e+011
【学科分类】水产养殖学

【题目】Complete mitochondrial genome of the Asian paddle crab Charybdis japonica (Crustacea: Decapoda: Portunidae): gene rearrangement of the marine brachyurans and phylogenetic considerations of the decapods.
【中文关键词】无
【英文关键词】Charybdis; Mitochondrial genome; tRNA(His) gene; Gene rearrangement; Phylogenetics
【中文摘要】无
【英文摘要】Given the commercial and ecological importance of the Asian paddle crab, Charybdis japonica, there is a clearly need for genetic and molecular research on this species. Here, we present the complete mitochondrial genome sequence of C. japonica, determined by the long-polymerase chain reaction and primer walking sequencing method. The entire genome is 15,738 bp in length, encoding a standard set of 13 protein-coding genes, two ribosomal RNA genes, and 22 transfer RNA genes, plus the putative control region, which is typical for metazoans. The total A+T content of the genome is 69.2%, lower than the other brachyuran crabs except for Callinectes sapidus. The gene order is identical to the published marine brachyurans and differs from the ancestral pancrustacean order by only the position of the tRNA (His) gene. Phylogenetic analyses using the concatenated nucleotide and amino acid sequences of 13 protein-coding genes strongly support the monophyly of Dendrobranchiata and Pleocyemata, which is consistent with the previous taxonomic classification. However, the systematic status of Charybdis within subfamily Thalamitinae of family Portunidae is not supported. C. japonica, as the first species of Charybdis with complete mitochondrial genome available, will provide important information on both genomics and molecular ecology of the group.
【语种】英文
【第一作者】Liu, Yuan
【通讯作者】Cui, Zhaoxia
【期刊名称、卷期、页码】Molecular Biology Reports,2010,37:2559 – 2569
【论文发表时间】2010-06-01 00:00:00
【引文索引类型】SCI
【引文索引号】2.7930840005e+011
【学科分类】水产养殖学

【题目】Complete mitochondrial genome of the Chinese spiny lobster Panulirus stimpsoni (Crustacea: Decapoda): genome characterization and phylogenetic considerations
【中文关键词】无
【英文关键词】Panulirus stimpsoni; Decapoda; Mitochondrial genome; Phylogenetics
【中文摘要】无
【英文摘要】The genetics and molecular biology of the commercially important Chinese spiny lobster, Panulirus stimpsoni are little known. Here, we present the complete mitochondrial genome sequence of P. stimpsoni, determined by the long polymerase chain reaction and primer walking sequencing method. The entire genome is 15,677 bp in length, encoding the standard set of 13 protein-coding genes, two ribosomal RNA genes, and 22 transfer RNA genes. The overall A + T content of the genome is 65.6%, lower than most malacostracan species. The gene order is consistent with the pancrustacean ground pattern. Several conserved elements were identified from P. stimpsoni control region, viz. one [TA(A)]n-block, two GA-blocks and three hairpin structures. However, the position of [TA(A)]n-block and number of hairpin structure are different from those in the congeneric P. japonicus and other decapods. Phylogenetic analyses using the concatenated nucleotide and amino acid sequences of 13 protein-coding genes do not support the monophyly of suborder Pleocyemata, which is in contrast to most morphological and molecular results. However, the position of Palinura and Astacidea is unstable, as represented by the basal or sister branches to other Reptantia species. P. stimpsoni, as the second species of Palinura with complete mitochondrial genome available, will provide important information on both genomics and conservation biology of the group.
【语种】英文
【第一作者】Liu, Yuan

【通讯作者】Cui, Zhaoxia
【期刊名称、卷期、页码】Molecular Biology Reports, 2011 38:403 – 410
【论文发表时间】2011-01-01 00:00:00
【引文索引类型】SCI
【引文索引号】2.8489620005e+011
【学科分类】水产养殖学

【题目】Molecular cloning and characterization of a serine proteinase homolog prophenoloxidase-activating factor in the swimming crab Portunus trituberculatus
【中文关键词】无
【英文关键词】Portunus trituberculatus; Serine protein homologous; Eyestalk; Haemocyte
【中文摘要】无
【英文摘要】Serine proteinase homologues (SPHs), as one of prophenoloxiase-activating factors (PPAFs), play critical roles in innate immunity of crabs. Based on an EST from the eyestalk full length cDNA library, the complete cDNA (designated as PtSPH) and genomic DNA of SPH from the swimming crab Portunus trituberculatus were cloned in this study. The estimated molecular weight of mature PtSPH (354 amino acids) was 38.7 kDa and its isoelectric point was 5.08. Multiple sequence alignment revealed that PtSPH lacked a catalytic residue with a substitution of Ser in the active site triad to Gly. Phylogenetic analysis indicated PtSPH together with PPAFs of Callinectes sapidus (AAS60227), Eriocheir sinensis (ACU65942), Penaeus monodon (ABE03741, ACP19563) and Pacifastacus leniusculus (ACB41380), formed a distinct cluster which only included clip-SPHs. As the first analyzed genomic structure of PPAFs in crustaceans, two introns were found in the open reading frame region of this gene. The mRNA transcripts of PtSPH could be detected in all the examined tissues, and were higher expressed in the eyestalk than that in gill, hepatopancreas, haemocytes and muscle. Accompanied with the change in phenoloxidase (PO) activity and total haemocyte counts, the temporal expression of PtSPH gene in haemocytes after Vibrio alginolyticus challenge demonstrated a clear time-dependent expression pattern with two peaks within the experimental period of 32 h. These findings suggest that PtSPH is involved in the antibacterial defense mechanism of Portunus tritubercualtus crab.
【语种】英文
【第一作者】Cui, Zhaoxia
【通讯作者】Cui, Zhaoxia
【期刊名称、卷期、页码】Fish & shellfish immunology,2010,29 679-686
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【引文索引类型】SCI
【引文索引号】2.8150050002e+011
【学科分类】水产养殖学

【题目】The complete mitochondrial genome of the mantid shrimp Oratosquilla oratoria (Crustacea: Malacostraca: Stomatopoda): Novel non-coding regions features and phylogenetic implications of the Stomatopoda
【中文关键词】无
【英文关键词】Oratosquilla oratoria; Stomatopoda; Mitochondrial genome; Non-coding regions; Phylogenetics
【中文摘要】无
【英文摘要】The complete mitochondrial (mt) genome sequence of Oratosquilla oratoria (Crustacea: Malacostraca: Stomatopoda) was determined; a circular molecule of 15,783 bp in length. The gene content and arrangement are consistent with the pancrustacean ground pattern. The mt control region of O. oratoria is characterized by no GA-block near the 3' end and different position of [TA(A)]n-blocks compared with other reported Stomatopoda species. The sequence of the second hairpin structure is relative conserved which suggests this region may be a synapomorphic character for the Stomatopoda. In addition, a relative large intergenic spacer (101 bp) with higher A + T content than that in control region was identified between the tRNA(Glu) and tRNA(Phe) genes. Phylogenetic analyses based on the current dataset of complete mt genomes strongly support the Stomatopoda is closely related to Euphausiacea. They in turn cluster with Penaeoidea and Caridea clades while other decapods form a separate group, which rejects the monophyly of Decapoda. This challenges the suitability of Stomatopoda as an outgroup of Decapoda in phylogenetic analyses. The basal position of Stomatopoda within Eumalacostraca according to the morphological characters is also questioned. (C) 2010 Elsevier Inc. All rights reserved.

【语种】英文
【第一作者】Liu,Yuan
【通讯作者】Cui,Zhaoxia
【期刊名称、卷期、页码】COMPARATIVE BIOCHEMISTRY AND PHYSIOLOGY D-GENOMICS & PROTEOMICS,2010,Sep5(3):190-198
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【引文索引类型】SCI
【引文索引号】2.813144e+011
【学科分类】水产养殖学

【题目】Genetic differentiation in seven geographic populations of the fleshy shrimp Penaeus (Fenneropenaeus) chinensis based on microsatellite DNA
【中文关键词】无
【英文关键词】Penaeus (Fenneropenaeus) chinensis; Genetic differentiation; Geographic Population; Microsatellite DNA
【中文摘要】无
【英文摘要】Microsatellite DNA markers were used to investigate the genetic diversity of Penaeus (Fenneropenaeus) chinensis, a topic of controversy in previous Studies. A total of 210 individual shrimps were collected in seven geographic locations in the Yellow and Bohai Seas: Liaodong Bay (LD), Bohai Bay (BH), Haizhou Bay (HZ), Rushan Bay (RS), Haiyangdao fishing ground (HYD), the west coast (KW), and the south coast of the Korean peninsula (KS). A new population of P. chinensis was identified in KS. A total of 109 alleles were identified from seven loci. Among the 49 population loci, 34 showed significant deviation from the Hardy-Weinberg equilibrium. Cluster analysis using UPGMA revealed a close genetic relationship of P. chinensis between BH and LD and between RS and HZ, while the shrimp from KW and KS diverged. Genetic distance and AMOVA analysis identified three areas with distinct populations: the Bohai and Yellow Seas along the Chinese coast; the west coast of Korea, and the south coast of Korea. These results are consistent with tagging-recapture data and some molecular DNA marker studies, but different from results by mitochondrial gene methods. (c) 2008 Elsevier B.V. All rights reserved.
【语种】英文
【第一作者】Meng, Xian Hong
【通讯作者】Kong, Jie
【期刊名称、卷期、页码】AQUACULTURE ,2009,Feb287(1-2):46-51
【论文发表时间】2009-02-01 00:00:00
【引文索引类型】SCI
【引文索引号】2.6302420001e+011
【学科分类】水产养殖学

【题目】Construction of AFLP-based genetic linkage maps for the Chinese shrimp Fenneropenaeus chinensis
【中文关键词】无
【英文关键词】Fenneropaeneus chinensis, genetic linkage maps,Construction of AFLP-based
【中文摘要】无
【英文摘要】Fenneropaeneus chinensis is an important species in marine fishery resources and aquaculture in China. A genetic linkage map is essential for improving the efficiency of its breeding by marker-assisted selection and identifying commercially important genes. Linkage maps of F chinensis were constructed with an F2 mapping population (110 progenies) using amplified fragment length polymorphic (AFLP) marker in this study. Fifty-five AFLP primer combinations produced 532 AFLP markers fitting for map strategy in mapping family. The markers with 3:1 segregating ratios were analyzed using F2 intercross model for the common linkage map, while the markers with 1:1 ratio were analyzed using the pseudo-testcross strategy. The maps of male, female and common were constructed. The female map included 103 markers that formed 28 linkage groups, covering a total length of 1090 M All markers were linked with the linkage groups. Segregation distortion was observed for 6 of 103 markers in the female map. The average distance between markers was 14.53 cM and ranged from 4.4 to 24.8 M The male map included 144 markers that formed 35 linkage groups. Ten markers remained unlinked in male map. Segregation distortion was observed for 7 of 144 markers in the male map. The total distance of male map covered 1617 M The average distance between markers was 16.36 cM. The male map was 32.6% longer than the female map, which may reflect sex-specific recombination rates in Chinese shrimp. The common map was composed of 216 markers, including in

44 linkage groups covering a total distance of 1772.1 cM. Two markers remained unlinked. No distorted markers of 216 markers were shown in the common map. The distance between markers was 10.42 M An average estimated genome size for the Chinese shrimp was 2420 cM, which was consistent with the relative size of the Penaeid genome. The distribution of AFLP markers was relatively even in chromosomes of Chinese shrimp maps. The linkage analysis presented in this work provided some insight into the level of polymorphism and genetic variation of Chinese shrimp.
【语种】英文
【第一作者】Tian Yi
【通讯作者】Kong, Jie
【期刊名称、卷期、页码】CHINESE SCIENCE BULLETIN ,2008,Apr53(8):1205-1216
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【引文索引类型】SCI
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【学科分类】水产养殖学

【题目】Molecular cloning and characterization of prophenoloxidase gene in swimming crab Portunus trituberculatus
【中文关键词】无
【英文关键词】Portunus trituberculatus; Prophenoloxidase; Immunity; Cloning; Expression
【中文摘要】无
【英文摘要】Phenoloxidase (PO), a melanin-synthesizing enzyme, found as a zymogen (proPO) in hemolymp, plays an important role in arthropod defence. In this study, a prophenoloxidase (proPO) cDNA was cloned from the haemocytes of swimming crab Portunus trituberculatus by a reverse-transcription polymerase chain reaction (RT-PCR) and rapid amplification of cDNA end (RACE) method. Analysis of the nucleotide sequence revealed that the cDNA clone had a full-length of 3040 bp, with an open reading frame of 2019 bp, a 5'-untranslated region of 138 bp, and a long 3'-untranslated region of 1707 bp. It encoded a protein of 672 amino acids which has a predicted molecular weight of 77.4 kDa and with an estimated pI of 6.19. It is predicted to possess all the expected features of proPO members, including two putative tyrosinase copper-binding motifs with six histidine residues and a proteolytic activation site. Comparison of amino acid sequences showed that the proPO-deduced amino acid of P. trituberculatus has an overall similarity of 56%-87% to that of other crustaceans. Northern blot analysis revealed that the presence of proPO was expressed in haemocytes, hepatopancreas and ovary, but not in eyestalk, gill and muscle. RT-PCR analysis indicated that proPO showed different expression profiles in crab haemocytes and hepatopancreas after Vibrio alginolyticus challenging. These facts indicated that proPO was potentially involved in the acute response against invading bacteria in P. trituberculatus. (C) 2009 Elsevier Ltd. All rights reserved.
【语种】英文
【第一作者】Chen, Ping
【通讯作者】Li,Jian
【期刊名称、卷期、页码】FISH & SHELLFISH IMMUNOLOGY ,2010,Jan28(1):106-112
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【学科分类】水产养殖学

【题目】Molecular cloning, characterization and mRNA expression of two antibacterial peptides: Crustin and anti-lipopolysaccharide factor in swimming crab Portunus trituberculatus.
【中文关键词】无
【英文关键词】Crustin; Anti-lipopolysaccharide factor; cDNA cloning; mRNA expression; Bacterial challenge; Portunus trituberculatus
【中文摘要】无
【英文摘要】In this study, the cDNAs of a crustin and an anti-lipopolysaccharide factor (ALF) were cloned from the hemocytes of swimming crab Portunus trituberculatus using rapid amplification of cDNA ends (RACE) approaches. The full-length cDNA of P. trituberculatus crustin (denoted as PtCrustin) was of 584 bp, including an open reading frame (ORF) of 333 bp encoding a 21 amino acids signal peptide and a mature polypeptide of 89 amino acids with the predicted molecular mass of 10.08 kDa. The typical conserved cysteine residues containing WAP domain at the C-terminal displayed high similarity to other crustins. Moreover, the full-length

cDNA of P. trituberculatus ALF (denoted as PtALF) was of 1050 bp, including an ORF of 372 bp encoding a 26 amino acids signal peptide and a mature polypeptide of 97 amino acids with the predicted molecular mass of 11.35 kDa. PtALF contained two conserved cysteine residues and showed high similarity to other crab ALFs. Using fluorescent real-time quantitative PCR. PtCrustin mRNA was expressed at the highest level in hemocytes and higher level in stomach while extremely low in hepatopancreas, muscle, gill and heart. In contrast, the PtALF mRNA expression was observed in all tissues. The relative expression levels of PtCrustin and PtALF in hemocytes of P. trituberculatus showed a clear time-dependent response after challenge with Vibrio alginolyticus. These results indicate that PtCrustin and PtALF are two acute-phase proteins involved in the immune responses of P. trituberculatus. (C) 2010 Elsevier Inc. All rights reserved.

【语种】英文

【第一作者】Yue, Feng

【通讯作者】Pan, Luqing

【期刊名称、卷期、页码】COMPARATIVE BIOCHEMISTRY AND PHYSIOLOGY B-BIOCHEMISTRY & MOLECULAR BIOLOGY ,2010,Jun 156(2):77-85

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【引文索引类型】SCI

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【学科分类】水产养殖学

【题目】Molecular cloning and characterization of a novel c-type lysozyme gene in swimming crab Portunus trituberculatus

【中文关键词】无

【英文关键词】C-type lysozyme; Portunus trituberculatus; cDNA cloning; mRNA expression; Bacterial challenge

【中文摘要】无

【英文摘要】Lysozymes are key proteins to invertebrates in the innate immune responses against bacterial infections. In this study, the full-length cDNA of a novel c-type lysozyme was cloned from the haemocytes of swimming crab Portunus trituberculatus using rapid amplification of cDNA ends (RACE) approaches. The full-length cDNA of lysozyme was of 984 bp, containing a 5' untranslated region (UTR) of 90 bp, a 3' UTR of 222 bp with a poly (A) tail, and an open reading frame (ORF) of 672 bp encoding an 18 amino acids signal peptide and a mature polypeptide of 205 amino acids with the predicted molecular weight of 23.76 kDa. The conserved catalytic sites Glu51 and Asp69, and the eight conserved cysteine residues identified in lysozyme suggesting it belonged to c-type lysozyme. Also, the swimming crab c-type lysozyme may belong to calcium-binding c-type lysozymes because of containing the three Asp residues (Asp98, Asp103 and Asp104), which are conserved in calcium-binding c-type lysozymes. Quantitative real-time RT-PCR analysis revealed that the mRNA transcripts of lysozyme were expressed at the highest level in haemocytes, with higher level in gill, moderately in hepatopancreas and muscle while low in stomach and heart. The mRNA expression of lysozyme in haemocytes was down-regulated significantly after challenge with Vibrio alginolyticus at 3 h, and then kept at the low expression level until 24 h. As time progressed, the mRNA expression of c-type lysozyme was recovered to the control level after 24 h injection. The results indicate swimming crab c-type lysozyme may be an inducible acute-phase protein and bacterial challenge could decline its mRNA expression. (C) 2010 Elsevier Ltd. All rights reserved.

【语种】英文

【第一作者】Pan, Luqing

【通讯作者】Pan, Luqing

【期刊名称、卷期、页码】FISH & SHELLFISH IMMUNOLOGY,2010,Aug 29(2): 286-292

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【学科分类】水产养殖学

【题目】Immune responses and expression of immune-related genes in swimming crab Portunus trituberculatus exposed to elevated ambient ammonia-N stress

【中文关键词】无

【英文关键词】Ammonia-N; Portunus trituberculatus; Immune response; Gene expression; Crustin; Anti-lipopolysaccharide factor; Lysozyme; alpha(2)-Macroglobulin

【中文摘要】无
【英文摘要】The effects of ammonia-N (0, 1, 5 and 20 mg L(-1)) on immune responses and immune-related gene expression were determined in swimming crab Portunus trituberculatus. The results showed that the THC and phagocytic activity of P. trituberculatus exposed to 1, 5 and 20 mg L(-1) ammonia-N decreased significantly during the experimental time. The antibacterial and bacteriolytic activities decreased significantly to the minimum at 6 or 12 h respectively, then recovered to the control level except bacteriolytic activity exposed to 5 and 20 mg L(-1) ammonia-N. alpha(2)-macroglobulin (alpha(2)-M) activity of all ammonia-N exposure groups decreased significantly, then recovered to the control level rapidly and tended to be stable after 12 h. With crabs exposed to 20 mg L(-1) ammonia-N, the gene expression levels of crustin and lysozyme decreased significantly, then recovered to the control level after 12 h. ALF expression also decreased significantly when exposed to 5 and 20 mg L(-1) ammonia-N, then remained stable and significantly lower than the control group after 6 h. In contrast, alpha(2)-M gene expression was induced by ammonia-N exposure significantly. The results suggest that high concentration ammonia-N exposure could reduce the crab immunity severely, and induce the short-term response in terms of immune gene regulation. (C) 2010 Elsevier Inc. All rights reserved.
【语种】英文
【第一作者】Yue, Feng
【通讯作者】Pan, Luqing
【期刊名称、卷期、页码】COMPARATIVE BIOCHEMISTRY AND PHYSIOLOGY A-MOLECULAR & INTEGRATIVE PHYSIOLOGY,2010,Nov157(3):246-251
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【引文索引类型】SCI
【引文索引号】2.8241690001e+011
【学科分类】水产养殖学

【题目】Molecular characterization and expression analysis of extracellular copper – zinc superoxide dismutase gene from swimming crab Portunus trituberculatus
【中文关键词】无
【英文关键词】Portunus trituberculatus; Extracellular copper-zinc superoxide dismutase (ecCuZnSOD); Immunity; Cloning; Expression
【中文摘要】无
【英文摘要】An extracellular CuZnSOD cDNA was cloned from the haemocytes of swimming crab Portunus trituberculatus by a reverse-transcription polymerase chain reaction (RT-PCR) and rapid amplification of cDNA end (RACE) method. Analysis of the nucleotide sequence revealed that the ecCuZnSOD full-length cDNA consisted of 965 bp with an open reading frame of 579 bp. It encoded a polypeptide of 192 amino acids which had a predicted molecular weight of 20.0 kDa and with an estimated pI of 6.23. The deduced amino acid sequence contained a putative signal peptide of 31 amino acids. It is predicted to possess all the expected features of CuZnSOD members, including amino acids responsible for binding Cu and Zn, two putative CuZnSOD signatures, two cysteines and one N-linked glycosylation site. Sequence comparison showed that the CuZnSOD deduced amino acid sequence of P. trituberculatus has similarity of 80%, 76%, 55% and 50% to that of blue crab Callinectes sapidus, mud crab Scylla serrata, crayfish Pacifastacus leniusculus and freshwater prawn Macrobrachium rosenbergii, respectively. The ecCuZnSOD transcripts expressed in all examined tissues, including haemocytes, hepatopancreas, heart, stomach, intestine, gill, ovary and muscle. RT-PCR analysis indicated that ecCuZnSOD transcripts both in haemocytes and hepatopancreas increased in the first 3 h after Vibrio alginolyticus challenging, as the bacterial infection progressed, the challenged crabs decreased to levels significantly lower than control by 96 h post-infection. These facts indicated that ecCuZnSOD was potentially involved in the acute response against invading bacteria in P. trituberculatus.
【语种】英文
【第一作者】Li, Jitao
【通讯作者】Li,Jian
【期刊名称、卷期、页码】MOLECULAR BIOLOGY REPORTS,2011,Mar38(3):2107-2115
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【引文索引号】2.8694140009e+011
【学科分类】水产养殖学

【题目】The construction of a cDNA library enriched for immune genes and the analysis of 7535 ESTs from Chinese mitten crab Eriocheir sinensis
【中文关键词】无
【英文关键词】cDNA library; ESTs analysis; Eriocheir sinensis; Bacteria challenge; Innate immunity
【中文摘要】无
【英文摘要】Chinese mitten crab Eriocheir sinensis is one of the most important aquaculture crustacean species in China. A cDNA library was constructed from hemocytes of E. sinensis challenged with the mixture of Listonella anguillarum and Staphylococcus aureus, and randomly sequenced to collect genomic information and identify genes involved in immune defense response. Single-pass 5' sequencing of 10368 clones yielded 7535 high quality ESTs (Expressed Sequence Tags) and these ESTs were assembled into 2943 unigenes. BLAST analysis revealed that 1706 unigenes (58.0% of the total) or 4593 ESTs (61.0% of the total) were novel genes that had no significant matches to any protein sequences in the public databases. The rest 1237 unigenes; (42.0% of the total) were closely matched to the known genes or sequences deposited in public databases, which could be classed into 20 or 23 classifications according to "molecular function" or "biological process" respectively based on the Gene Ontology (GO). And 221 unigenes (7.5% of all 2943 unigenes, 17.9% of matched unigenes) or 969 ESTs (12.9% of all 7535 ESTs, 32.9% of matched ESTs) were identified to be immune genes. The relative higher proportion of immune-related genes in the present cDNA library than that in the normal library of E. sinensis and other crustaceans libraries, and the differences and changes in percentage and quantity of some key immune-related genes especially the immune inducible genes between two E. sinensis cDNA libraries may derive from the bacteria challenge to the Chinese mitten crab. The results provided a well-characterized EST resource for the genomics community, gene discovery especially for the identification of host-defense genes and pathways in crabs as well as other crustaceans. (C) 2009 Elsevier Ltd. All rights reserved.
【语种】英文
【第一作者】Gai, Yunchao
【通讯作者】Wang, Lingling
【期刊名称、卷期、页码】FISH & SHELLFISH IMMUNOLOGY,2009,Dec27(6):684-694
【论文发表时间】2009-12-01 00:00:00
【引文索引类型】SCI
【引文索引号】2.724922e+011
【学科分类】水产养殖学

【题目】A thioredoxin with antioxidant activity identified from Eriocheir sinensis
【中文关键词】无
【英文关键词】Thioredoxin; Eriocheir sinensis; Gene cloning; Innate immunity; mRNA expression; Antioxidant capacity
【中文摘要】无
【英文摘要】Thioredoxin, with a redox-active disulfide/dithiol in the active site, is the major ubiquitous disulfide reductase responsible for maintaining proteins in their reduced state. In the present study, the cDNA encoding thioredoxin-1 (designated EsTrx1) was cloned from Chinese mitten crab Eriocheir sinensis by using rapid amplification of cDNA ends (RACE) approaches. The full-length cDNA of EsTrx1 was of 641 bp, containing a 51 untranslated region (UTR) of 17 bp, a 3' UTR of 306 bp with a poly (A) tail, and an open reading frame (ORF) of 318 bp encoding a polypeptide of 105 amino acids. The high similarity of EsTrx1 with Trx1s from other animals indicated that EsTrx1 should be a new member of the Trx1 sub-family. Quantitative real-time PCR analysis revealed the presence of EsTrx1 transcripts in gill, gonad, hepato-pancreas, muscle, heart and haemocytes. The expression of EsTrx1 mRNA in haemocytes was up-regulated after Listonella anguillarum challenge, reached the maximum level at 6 h post-stimulation, and then dropped back to the original level gradually. In order to elucidate its biological functions, EsTrx1 was recombined and expressed in E. coli BL21 (DE3). The rEsTrx1 was demonstrated to possess the expected redox activity in enzymatic analysis, and to be more potent than GSH in antioxidant capacity. These results together indicated that EsTrx1 could function as an important antioxidant in a physiological context, and perhaps is involved in the responses to bacterial challenge. (C) 2009 Elsevier Ltd. All rights reserved.
【语种】英文
【第一作者】Mu, Changkao
【通讯作者】Zhao, Jianmin
【期刊名称、卷期、页码】FISH & SHELLFISH IMMUNOLOGY,2009,May 26(5):716-723

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【引文索引号】2.6665940001e+011
【学科分类】水产养殖学

【题目】蒺藜苜蓿全基因组抗病基因和基因扩张分析
【中文关键词】苜蓿;核苷酸结合位点(NBs);抗病基因;基冈复制;生物信息学;
【英文关键词】medicago thunctula;nucleotide—binding-site(NBS);disease resistance gene;gene duplication;bioinformatics
【中文摘要】摘要:利用BLAST(basiclocal alignment search t001)和HMM(hidden markov model)工具,对蒺藜苜蓿(Medicagotruncatula) 全基因组Mr2.0数据中含有核苷酸结合位点(NBS)结构的抗病基因进行了分析,包括NBS基因数量、类型、基因复制、物理位置分析和系统进化树关系分析。结果表明,在苜蓿全基因组中找到469个含有NBS结构的抗病基因,其中包括446个标准结构NBS基因、23个非标准结构NBS基因。通过对全基冈组内标准NBS类型抗病基因进行物理位置和基闪家族分析,发现苜蓿基因组中抗病基阂存在明显的基因复制现象,基因的复制对苜蓿基因组中NBS类型抗病基因数量扩张起到了重要的作用。
【英文摘要】By BLAST (basic local alignment search tool) and HMM (hidden markov model) analyses, a complete set of disease resistance candidate genes encoding nucleotide-binding-sites NBS) was identified in a complete genome(Mt2.0) of medicago truncatula and these putative R genes were characterized with respect to structural diversity, gene duplication, physical positions and phylogenetic relationships. The results showed that 469 NBS-coding sequences, which contained 446regular NBS genes and 23 non-regular NBS genes, were found in the complete genome. By NBS standard physical locations and gene families analyses, significant excesses of gene duplications which played a major role for the expansion of disease resistance genes were found in the whole genome of medicago thunctula.
【语种】中文
【第一作者】赵阳,江海洋
【通讯作者】程备久
【期刊名称、卷期、页码】农业生物技术学报 2009,17(6):1062-1069
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【引文索引号】null
【学科分类】生物进化论

【题目】Leptin promoted meiotic maturation of bovine oocytes and development of parthenogenetic activation and yak (Bos grunniens)-bovine interspecies cloned embryos
【中文关键词】无
【英文关键词】yak, leptin, oocyte maturation, interspecies cloning
【中文摘要】无
【英文摘要】Leptin has a central role in the regulation of oocyte and embryo development. The objective of the current study was to investigate the effect of leptin addition during oocyte maturation in vitro on meiotic maturation of bovine oocytes and development of parthenogenetic activation (PA) and yak-bovine interspecies cloned embryos. In addition, the effect of leptin supplementation in embryo culture medium on preimplantation development of yak-bovine interspecies cloned embryos was investigated. Leptin addition at 10 and 100ng/mL during oocyte maturation significantly increased the proportion of bovine oocytes that developed to metaphase II (MII) stage compared to the control (81.0+/-3.8 and 77.0+/-4.0 versus 62.2+/-1.8, P<0.05). Leptin at 10ng/mL significantly increased the blastocyst rate after PA compared to the control (31.6+/-4.3 versus 20.4+/-3.2, P<0.05). Leptin supplementation at 10ng/mL during oocyte maturation strikingly increased the blastocyst development of yak-bovine interspecies cloned ernbryos (33.2+/- 4.0 versus 22.8+/- 2.7, P<0.05) and the inner cell mass (ICM) and total cell number per blastocyst, and reduced the incidence of apoptotic cells per blastocyst compared to the control. When present in the embryo culture medium, leptin at 100 ng/mL significantly increased the blastocyst development of yak-bovine interspecies cloned embryos compared to the control (34.2 +/- 4.9 versus 22.0 +/- 3.2, P<0.05). Meanwhile, leptin at 100 and 1000ng/mL significantly increased ICM and total cell number per blastocyst and reduced the proportion of apoptotic cells per blastocyst. In conclusion, leptin supplementation promoted the meiotic maturation of bovine oocytes and the developmental capacity of PA and yak-bovine interspecies cloned embryos.

【语种】英文
【第一作者】郭志林
【通讯作者】张涌
【期刊名称、卷期、页码】BELGIAN JOURNAL OF ZOOLOGY,2008,138 (2): 184-190
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【学科分类】畜牧、兽医科学基础学科

【题目】Development of bovine – ovine interspecies cloned embryos and mitochondria segregation in blastomeres during preimplantation
【中文关键词】无
【英文关键词】bovine; ovine; nuclear transfer; mitochondrion; real-time PCR
【中文摘要】无
【英文摘要】The objective of the study was to investigate interspecies somatic cell nuclear transfer (iSCNT) embryonic potential and mitochondrial DNA (mtDNA) segregation during preimplantation development. We generated bovine-ovine reconstructed embryos via iSCNT using bovine oocytes as recipient cytoplasm and ovine fetal fibroblast as donor cells. Chromosome composition, the total cell number of blastocyst and embryonic morphology were analyzed. In addition, mtDNA copy numbers both from donor cell and recipient cytoplasm were assessed by real-time PCR in individual blastocysts and blastomeres from 1- to 16-cell stage embryos. The results indicated the following: (1) cell nuclei of ovine fetal fibroblasts can dedifferentiate in enucleated bovine ooplasm, and the reconstructed embryos can develop to blastocysts. (2) 66% of iSCNT embryos had the same number of chromosome as that of donor cell, and the total cell number of iSCNT blastocysts was comparable to that of sheep parthenogenetic blastocysts. (3) RT-PCR analysis in individual blastomeres revealed that the ratio of donor cell mtDNA: recipient cytoplasm mtDNA remained constant (1%) from the one- to eight-cell stage. However, the ratio decreased from 0.6% at the 16-cell stage to 0.1% at the blastocyst stage. (4) Both donor cell- and recipient cytoplasm-derived mitochondria distributed unequally in blastomeres with progression of cell mitotic division. Considerable unequal mitochondrial segregation occurred between blastomeres from the same iSCNT embryos. (c) 2007 Elsevier B.V All rights reserved
【语种】英文
【第一作者】华松
【通讯作者】华松
【期刊名称、卷期、页码】ANIMAL REPRODUCTION SCIENCE 卷: 105 期: 3-4 页: 245-257
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【引文索引号】285LP
【学科分类】畜牧、兽医科学基础学科

【题目】Development In Vitro and Mitochondrial Fate of Interspecies Cloned Embryos
【中文关键词】无
【英文关键词】NUCLEAR TRANSFER EMBRYOS; CYTOPLASM SUPPORTS DEVELOPMENT; BOVINE EMBRYOS; SOMATIC-CELLS; SPERM MITOCHONDRIA; RABBIT OOCYTES; CUMULUS CELLS; DNA; CATTLE; SHEEP
【中文摘要】无
【英文摘要】Although the technique of interspecies somatic cell nuclear transfer can be used to increase the population size of endangered mammals, the mitochondrial heteroplasmy in cloned embryos and animals makes this idea doubtful. In present study, goat-sheep cloned embryos were constructed by fusing goat foetal fibroblasts (GFFs) into sheep oocytes and then cultured in vitro to investigate the capability of sheep oocyte dedifferentiating GFF nucleus. Moreover, at each stage of 1- (immediately after fused), 2-, 4-, 8-, 16- cell, morula and blastocyst, the copy number of mtDNA from GFF and sheep oocyte was examined using real-time PCR. The results showed that: 7.4% of the fused cloned embryos can develop to the blastocyst stage; in the process of one cell to the morula stage, the copy number of two kinds of mtDNA was stable relatively; however, in the process of morula to the blastocyst stage, the decreasing in the copy number of GFF-derived mtDNA, while the increasing in sheep oocyte-derived, resulted in their ratio of decreasing sharply from 2.0 +/- 1.0% to 0.012 +/- 0.004%. This study demonstrates that: (i) the goat-sheep cloned embryos have the ability to develop to

blastocyst in vitro; (ii) from the morula stage to the blastocyst stage of goat-sheep cloned embryos, goat derived mitochondria can be gradually replaced with those from sheep oocyte.
【语种】英文
【第一作者】马立兵
【通讯作者】张涌
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【引文索引号】296MW
【学科分类】畜牧、兽医科学基础学科

【题目】Quantitative analysis of mitochondrial RNA in goat-sheep cloned embryos
【中文关键词】无
【英文关键词】IN-VITRO DEVELOPMENT; EARLY MOUSE EMBRYOS; NUCLEAR TRANSFER; BOVINE EMBRYOS; CUMULUS CELLS; SPERM MITOCHONDRIA; DNA; FATE; TRANSCRIPTION; OOCYTES
【中文摘要】无
【英文摘要】Mitochondria are the key generators of cellular ATP, and contain extranuclear genome-mitochondrial DNA (mtDNA). In the process of nuclear transfer (NT), heteroplasmic sources of mtDNA from a donor cell and a recipient oocyte are mixed in the cytoplasm of the reconstituted embryo. Previous studies showed inconsistent patterns of mtDNA inheritance in offspring and early fetuses generated through interspecies NT. The quantitative analysis of mitochondrial RNA (mtRNA) in interspecies cloned embryos is useful for better understanding the fate of two types of mitochondria. The components of nicotinamide adenine dinucleotide (NADH) dehydrogenase were coded by both nuclear DNA (nDNA) and mtDNA. The Subunit 1 (ND-1) is one of seven NADH dehydrogenase subunits coded by mtDNA. In present study, using real-time and reverse-transcription PCR, the copy number of species-specific ND-1 mRNA was examined in goat-sheep cloned embryos of various developmental stages, and was applied to evaluate the expression pattern of species-specific mtDNA. The results of showed that (1) the expression of mtDNA derived from goat fetal fibroblast (GFF) decreased from 1-cell stage (immediately after fused) to 2-cell stage, and could not be detected from 4-cell stage onward to blastocyst stage; (2) the expression of mtDNA derived from sheep oocyte was roughly constant from 1-cell stage to the 8-cell stage, increased gradually from 16-cell stage, and sharply at morula and blastocyst stage. Moreover, we strongly argued a mechanism, that is GFF-derived mitochondria were degraded for the depression of bioenergetic functions, and then selectively eliminated during the embryogenesis of goat-sheep cloned embryos.
【语种】英文
【第一作者】马立兵
【通讯作者】张涌
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【引文索引类型】SCI
【引文索引号】240EA
【学科分类】畜牧、兽医科学基础学科

【题目】Reconstruction of corneal epithelium with cryopreserved corneal limbal stem cells in a goat model
【中文关键词】无
【英文关键词】limbal stem cells; cryopreservation; amniotic membrane; allograft
【中文摘要】无
【英文摘要】We describe a procedure to construct an artificial corneal epithelium from cryopreserved limbal stem cells (LSCs) for corneal transplantation. The LSCs were separated from limbal tissue of male goats. The primary LSCs were identified by flow cytometry and were expanded. They were examined for stem cell-relevant properties and cryopreserved in liquid nitrogen. Cryopreserved LSCs were thawed and then transplanted onto human amniotic membrane, framed on a nitrocellulose sheet, to construct corneal epithelium sheets. The artificial corneal epithelium was transplanted into the right eye of pathological models of total limbal stem cell deficiency (LSCD). Then, the effects of reconstruction were evaluated by clinical observation and histological examination. Polymerase chain reaction analysis was used to detect the SRY gene. The data showed that transplantation of cryopreserved LSCs, like fresh LSCs,

successfully reconstructed damaged goat corneal surface gradually, but the SRY gene expression from male goat cells could only be detected in the first 2 months after transplantation. The therapeutic effect of the transplantation may be associated with the inhibition of inflammation-related angiogenesis after transplantation of cryopreserved LSCs. This study provides the first line of evidence that cryopreserved LSCs can be used for reconstruction of damaged corneas, presenting a remarkable potential source for transplantation in the treatment of corneal disorders.
【语种】英文
【第一作者】弥胜利
【通讯作者】窦忠英
【期刊名称、卷期、页码】MOLECULAR REPRODUCTION AND DEVELOPMENT 卷: 75 期: 11 页: 1607-1616
【论文发表时间】2008-11-01 00:00:00
【引文索引类型】SCI
【引文索引号】355RX
【学科分类】畜牧学

【题目】利用ICP-AES测定农田生态系统微量元素Mn和Cu的循环率与收支
【中文关键词】Mn; Cu; 循环率; 收支
【英文关键词】Mn; Cu; Residual rate; Budge
【中文摘要】将长期定位试验和ICP-AES测试相结合,研究了不同施肥制度下农田生态系统微量元素Mn和Cu的循环和收支状况。结果表明,Mn和Cu因属沉积型循环其循环率高于80%,且随投料量增加呈增加趋势。两种微量元素均入不敷出,收支差额呈现M<(或≤)NPK+M<CK<NPK,说明单施化肥可引起严重的收支赤字,而循环有机肥施入可缓解收支失衡。
【英文摘要】The recycling rate and budget of Mn and Cu under different fertilization regimes by using long-term field experiment and ICP-AES analysis were investigated in the present paper.The results showed that the recycling rates of Mn and Cu were greater than 80% because of sediment recycling type,and the values increased with the amount of feed stuffs increasing.Both the two elements under different fertilization regimes showed budget deficit,with the deficit order of M<(or≤)NPK+M<CK<NPK,showing that chemical fertilizer application might induce severe deficit,while application of recycling organic matter might minimize the unbalance.
【语种】中文
【第一作者】周桦
【通讯作者】徐永刚
【期刊名称、卷期、页码】光谱与光谱分析 48(3):665-671
【论文发表时间】2011-10-20 00:00:00
【引文索引类型】SCI
【引文索引号】295556300055
【学科分类】土壤学

【题目】红球菌在环保领域的应用研究进展
【中文关键词】生物修复 红球菌 环保 应用研究
【英文关键词】bioremediation Rhodococcus enviromental protection applied research
【中文摘要】生物修复技术是在生物降解的基础上发展起来的一种新兴的环境保护技术。红球菌属的许多菌株可降解多种有机污染物,有些菌株可产生多种生物活性物质,是环境生物修复中非常重要的一个菌属。目前,红球菌已被研究应用于生物脱硫、石油污染修复、危险性有机化合物降解、污水处理等环保行业。文章综述了红球菌属在环境保护领域的应用研究进展,对红球菌的深入研究作了展望。
【英文摘要】Bioremedation, based on biodegradation, is a new environmental protectin technology. As many strains can degrade a variety of organic pollutants and can produce diverse bioactive substance, Rhodococcus spp plays a very important role in enviromental bioremediation. At present, many strains of Rhodococcus have been applied to biodesulfurezation, remendiation of oil pollution, degradation of hazardous chemicals, sewage treatment and other environmental protection industries. Applied research progress of Rhodococcus in environmental protection is summarized and in-depth research of Rhodococcus is also prospected in this paper.
【语种】中文
【第一作者】陈军伟

【通讯作者】唐欣昀
【期刊名称、卷期、页码】环境科学与技术,2009 Nov;32(B12):162-165.
【论文发表时间】2009-12-15 00:00:00
【引文索引类型】其他
【引文索引号】无
【学科分类】环境科学技术基础学科

【题目】Isolation and characterization of chlorpyrifos degrading strains from soil with high chlorpyrifos accumulation
【中文关键词】毒死蜱降解微 嗜酸寡养单胞菌 副球菌 不动杆菌 硝基还原假单胞菌
【英文关键词】chlorpyrifos degradation Stenotrophomonas acidaminiphila Paracoccus pantotrophus Acinetobacter lwoffii Pseudomonas nitroreducens
【中文摘要】许多高效毒死蜱降解菌被从生产毒死蜱公司的污水处理系统污泥出口附近分离。四株典型的菌株, β ,Z5 T15 E30被选作进一步的研究。当毒死蜱在10 mg/l,四个菌株在24小时内的降解率分别为89.42%、59.66%、81.42%和43.1%,并以毒死蜱作为唯一碳源。研究它们的细胞形态学、生理学和生物化学特性,并分析研究了16S rDNA 。这四种菌株被鉴定为嗜麦芽寡养单胞菌(Stenotrophomonas maltophilia),副球菌(Paracoccus pantotrophus)鲁氏不动杆菌鲁氏不动杆菌(Acinetobacter lwoffii)和硝基还原假单胞菌(Pseudomonas nitroreducens)。
【英文摘要】Many strains with high chlorpyrifos degradation efficiency were isolated from thesludge near the export of wastewater treat system of the company that produces chlorpyrifos. Fourtypical strains, β , E30, T15 and Z5, were chosen for further studies. The degradation rates of fourstrains were 89.42%, 59.66%, 81.42% and 43.1%, respectively in 24 hours when chlorpyrifos at10 mg/L was used as the only carbon source. The cell morphology, physiology and biochemistrycharacters, and analysis of 16S rDNA were studied. The four strains were identified asStenotrophomonas maltophilia, Paracoccus pantotrophus, Acinetobacter lwoffii and Pseudomonasnitroreducens, respectively.
【语种】英文
【第一作者】张君
【通讯作者】唐欣昀
【期刊名称、卷期、页码】3rd International Conference on Environmental and Knowledge Transfer,2010 May;13:898-902.
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【引文索引类型】ISTP
【引文索引号】无
【学科分类】环境科学技术基础学科

【题目】有机磷农药降解菌及其基因工程研究新进展
【中文关键词】有机磷农药 微生物降解 基因工程菌
【英文关键词】Organophosphorus pesticides microorganism degradation genetic engineering strain
【中文摘要】有机磷农药是目前我国使用量最大的农药, 对农业的发展有重要的作用, 但同时造成了严重的环境污染. 利用微生物及其产生的降解酶来降解农药是行之有效的方法. 随着分子生物学技术的深入利用,农药的微生物降解已在基因工程领域取得了很大进展. 本文综述了有机磷农药降解微生物的筛选、降解酶和基因的克隆、基因工程菌的构建以及应用等几个方面的研究进展。
【英文摘要】Organophosphorus pesticides (Ops) are most extensively used pesticides around the world. Although Ops have playing imporant roles in protecting agricultural crops from insect pests and weeds, and in controlling disease-transmitting vectors, they cause serious environmental pollution problems. The biotechnology involving the use of microorganisms or their cell-freeenzyme preparations in degrading pesticides appears to have promising applications in degrading the residual pesticides. With the depth of molecular biology techniques to use, microbial degradation of pesticides in the field of genetic engineering has made considerable progress. The screening of microorganisms degrading these pesticides, the study on degrading enzymes ang genes, the construction and application of genetic engineering strains are summarized.
【语种】中文
【第一作者】孙兰英
【通讯作者】花日茂
【期刊名称、卷期、页码】激光生物学报,2010 Apr;9(2): 278-284.

【论文发表时间】2010-04-20 00:00:00
【引文索引类型】其他
【引文索引号】10.3969/j.issn.1007-7146.2009.02.001
【学科分类】环境科学技术基础学科

【题目】电转化法将luxAB基因导入毒死蜱降解菌β菌株的研究
【中文关键词】电转化 luxAB 菌株β 毒死蜱 微生物降解
【英文关键词】electroporation luxAB strain β chlorpyrifos microbial degradation
【中文摘要】采用电转化法将带发光酶基因luxAB的质粒pTR102导入毒死蜱降解菌β菌株,研究了细胞生长状态、电压强度、电击时间和质粒浓度对转化效率的影响,并对转化子的生理特性进行研究.实验结果表明,以处于对数生长早期的菌液制备感受态细胞,在质粒浓度16.5μg·mL-1、电压2.5kV,电击时间3ms条件下的转化率最高,可达2.73×102个.μg-1(以每μg质粒DNA中所含转化子个数计).转化子lux-β分别在抗生素平板和LB平板中传代10次,仍具有发光活性和对卡那霉素(Km)的抗性,说明质粒pTR102在转化子中可以稳定遗传.转化子的生理特性变化不显著,对毒死蜱的降解能力较出发菌株提高了近1倍.
【英文摘要】A new luxAB gene-labelling method was established in this study in order to provide a method of investigating and tracing the colonization dynamics and degradation activity of chlorpyrifos-degrading bacteria in the natural environment. The luxAB genes were introduced into chlorpyrifos-degrading strain β by electroporation. Cells in initial logarithmic phase were more sensitive to foreign DNA,and the maximum transformation rate was up to 2.73×10^{2} transformants per microgram plasmid DNA when the plasmid concentration was 16.5 μg·mL-1 under the conditions of voltage 2.5kV and time 3ms. After plate transfers with or without antibiotics for 10 generations the transformant lux-β still had lum inescence activity and Km resistance,indicating that the transformant was genetically stable. In addition,the physiological and biochemical characteristics of lux-β changed little,and the chlorpyrifos-degradation rate of lux-β doubled compared with that of the wild strain β.
【语种】中文
【第一作者】王昀璐
【通讯作者】花日茂
【期刊名称、卷期、页码】环境科学学报环境科学学报,2011 Jan;31(1):40-45.
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【引文索引号】无
【学科分类】环境科学技术基础学科

【题目】一株毒死蜱降解新菌株Sphingopyxis terrae R17的分离鉴定及降解特性
【中文关键词】毒死蜱 Sphingopyxis terrae 分离鉴定 降解特性
【英文关键词】Chlorpyrifos Sphingopyxis terrae Isolation and idetification Degradation characteristics
【中文摘要】从农药厂排污沟排污口分离到一株能降解毒死蜱的新菌株,命名为R17,经生理生化和16S rNDA序列同源性分析,鉴定为Sphingopyxis terrae。R17可以利用毒死蜱作为唯一碳源生长,该菌株的最适生长温度为35℃、最是pH为7-8,在此条件下培养28h后,菌落浓度达9.18×108cfu·mL-1。研究了该菌株在不同时间,对不同浓度毒死蜱大的降解特性,结果表明,当接菌量为9×107cfu·mL-1,在1d,2d,3d和4d内对10mg·L-1的毒死蜱降解率分别达到18.95%,31.23%,36.55% and 47.69%,在2d内对10mg·L-1的毒死蜱降解率分别达到50.21%, 43.46% and 31.23%.
【英文摘要】One bacterial strain, named R17, was isolated from the sludge polluted with chlorpyrifos which had the capability to utilize chlorpyrifos as the sole carbon and energy sources. Strain R17 was identified preliminarily as Sphingopyxis terrae based on its physiological and biochemical characters and its 16S rDNA homologue sequence analysis. Under the optimal growth condition, 35℃ and pH 7-8,Strain R17 could reach 9.18×108cfu·mL-1 after 28h. The chlorpyrifos degradation characteristics of strain R17 were studied with different times and different initial chlorpyrifos concentrations. The results showed that with the inoculation of 9×107cfu·mL-1, the degradation rate of chlorpyrifos by strain R17 were 18.95%,31.23%,36.55% and 47.69% in 1d, 2d,3d and 4d respectively. The degradation rate of R17 with initial concentration of 1mg·L-1, 5mg·L-1, 10mg·L-1 chlorpyrifos reached 50.21%, 43.46% and 31.23% after 2d ,respectively.
【语种】中文
【第一作者】李瑞雪

【通讯作者】花日茂
【期刊名称、卷期、页码】激光生物学报,2011 Apr;20(2):261-268.
【论文发表时间】2011-02-20 00:00:00
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【引文索引号】10.3969/j.issn.1007-7146.2011.02.001
【学科分类】环境科学技术基础学科

【题目】寡养单胞菌在环境保护中的应用研究进展
【中文关键词】寡养单胞菌 环保 应用
【英文关键词】Stenotrophomonas Environmental protection Application
【中文摘要】综述了寡养单胞菌属在环境保护中的应用研究进展,对寡养单胞菌的深入研究作了展望。
【英文摘要】The application of Stenotrophomonas in environmental protection was summarized in this study. And the deep research in future was looked forward.
【语种】中文
【第一作者】王昀璐
【通讯作者】花日茂
【期刊名称、卷期、页码】安徽农业科学,2010 Jun;38(28):15796-15797,15800.
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【引文索引号】无
【学科分类】环境科学技术基础学科

【题目】A Multiresidue Method for 20 Pesticides in Radix paeoniae Alba of Chinese Herb by Gas Chromatography with Electron-capture Detection
【中文关键词】白芍 农药 多残留分析
【英文关键词】Radix paeoniae Alba Pesticides Multi-residue analysis
【中文摘要】.通过超声波提取,硅胶柱层析法、具有电子俘获检测(ECD)的气相色谱(GC),一种快速地检测中药白芍多种残留的方法被优化,本方法的平均回收率为 74.45到115.14%.这种方法通过检测中药板兰根,Pltycodon grandiflorum,牡丹皮和茯苓中的农药残留被证明。
【英文摘要】A rapid multiresidue method was developed for the determination of 20 pesticides in Radix paeoniae Alba of Chinese herb by ultrasonic wave extraction, silica gel column chromatography and gas chromatography (GC) with electron-capture detection (ECD) in this study, Mean recoveries of the method ranged from 74.45 to 115.14%.The validation of the proposed approach was verified on Isatis indigotica Fort, Pltycodon grandiflorum, Cotex mouta and Poria cocos of Chinese herbs; good recoveries were also obtained in the range of 72.51 – 113.47%,respectively.
【语种】英文
【第一作者】高倩
【通讯作者】花日茂
【期刊名称、卷期、页码】Bull Environ Contam Toxicol,2010 ;84:779-783.
【论文发表时间】2010-04-07 00:00:00
【引文索引类型】SCI
【引文索引号】10.1007/s00128-010-9981-4
【学科分类】环境科学技术基础学科

【题目】Colonization and Chlorpyrifos degradation of Strain Stenotrophomonas acidaminiphila lux-β in Soil
【中文关键词】微嗜酸寡养单胞菌 lux-β 毒死蜱 降解 定殖
【英文关键词】Stenotrophomonas acidaminiphila lux-β chlorpyrifos degradation colonization
【中文摘要】一个毒死蜱降解菌微嗜酸寡养单胞菌(Stenotrophomonas acidaminiphila) lux-β被选为研究对象,菌株lux-β在土壤中的生存和毒死蜱降解能力被研究,为毒死蜱降解细菌在自然环境中的检测和定殖提供技术支持。结果表明,在灭菌土壤中菌株lux-β数量先上升,再缓慢下降。而在非灭菌土壤中数量下降很快。这表明土著微生物对外来的微生物产生重大影响。相比没有毒死蜱的土壤,在添加毒死蜱的土壤中有更大数量的lux-β,这表明,毒死蜱可以作为lux-β的营养。微生

物在毒死蜱降解中扮演重要角色,菌株lux-β比本地微生物具有更高的降解能力,这两类微生物在降解毒死蜱过程中可能产生协同效应。

【英文摘要】A chlorpyrifos-degrading strain of Stenotrophomonas acidaminiphila, lux-β was chosen for research object, and the survival and chlorpyrifos-degrading activity of strain lux-β in the soil with different treatments have been investigated in this study, so as to provide technique support for monitoring the colonization and degrading activity of chlorpyrifos-degrading bacteria in natural environment. The result indicated that the quantity of lux-β in the soil rose first and decreased slowly in sterilized soil while quickly in non-sterile soil, which suggested that native microbes had a significant influence on alien microbes. The quantity of lux-β was larger in soils with chlorpyrifos than those in soils without chlorpyrifos, and this indicated that chlorpyrifos could be used as nutrient by strain lux-β. Microbes played an important role in degrading chlorpyifos, and lux-β had higher degradation ability than native microbes, the two of which could generate synergistic effect on degrading chlorpyrifos.

【语种】英文

【第一作者】王昀璐

【通讯作者】花日茂

【期刊名称、卷期、页码】Remote Sensing,Environment and Transportation Engineering,2011 Mar:4863-4867

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【学科分类】环境科学技术基础学科

【题目】Viability and Chlorpyrifos Degradation Characteristics of Strain lux-R17 in Soil

【中文关键词】毒死蜱降解菌株 luxAB标记 土壤 可行性 降解特性

【英文关键词】chlorpyrifos-degradation strain, luxAB labeling, soil, viability, degradation characteristics

【中文摘要】利用三亲本杂交的方法,luxAB基因被引入Sphingopyxis terrae R17, 标记基因在宿主菌中具有良好的遗传稳定性。标记菌株luxR17在1、2、3、4 d对10 mg/l毒死蜱降解率分别为17.72%、24.14%、35.06%和48.48%。在2 d,菌株luxR17对1、5、10 mg/l毒死蜱的降解速率分别为41.64%、35.20%、24.14%。接种3-6d后,luxR17的数量在自然土壤减少,后趋于稳定,菌落数为1.89×105 cfu/g。 而luxR17在接种至灭菌土后,在9 d内菌落的数量持续增加,在15 d保持在一个较高的水平,然后逐渐下降,趋于稳定。在3、6、9、12 d,在无菌土中,菌株luxR17对20 mg/l毒死蜱降解速率分别为42.37%,70.92%,80.04%和94.70%,而在自然土中,相同的降解时间降解率达到55.92%、72.27%、89.13%和98.31%。

【英文摘要】luxAB gene was introduced into strain Sphingopyxis terrae R17 by triparental mating methodsuccessfully, and the labeled strain luxR17 with good genetic stability was obtained. Thedegradation rate of luxR17 on 10 mg · L-1 chlorpyrifos were 17.72%, 24.14%, 35.06% and 48.48%respectively after 1, 2, 3, 4d. Within 2d, the degradation rate of luxR17 on 1, 5, 10 mg · L-1chlorpyrifos were 41.64%, 35.20% and 24.14% respectively. The quantity of luxR17 in naturalsoil decreased generally after inoculated for 3-6d, and became stable with the viable counts of1.89×105cfu · g-1. The quantity of luxR17 in sterilized soil kept increasing within 9d, andmaintained at a high level within 15d, then decreased gradually and became stable. Thedegradation rate of luxR17 on 20 mg · L-1 chlorpyrifos in sterilized soil were 42.37%, 70.92%,80.04% and 94.70% after 3, 6, 9, 12d, while which achieved 55.92%、72.27%、89.13% and98.31% in natural soil after the same degradation time.

【语种】英文

【第一作者】李瑞雪

【通讯作者】花日茂

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【引文索引号】无

【学科分类】环境科学技术基础学科

【题目】Isolation and identification of malathion – degrading strain of Brevundimonas diminuta

【中文关键词】马拉硫磷 生物降解 缺陷假单抱菌

【英文关键词】Malathion Biodegradation Brevundimonas diminuta

【中文摘要】在本研究中,由电穿孔的方法,含有luxAB基因的质粒pTR10被成功地转入B.diminuta L19。影响L19电转化效率的影响因素如电场强度,电击时间和细胞生长时期被优化,电穿孔的最佳条件,如下所示:电场强度是14 kv/cm,电击时间是

3.5ms,细胞生长阶段为OD600 0.724。研究了转化子的遗传稳定性,以及luxAB对有机磷农药降解的影响。为了监测B.diminuta,标记菌为有机磷农药降解菌的示踪提供可靠的路径。B.diminuta对马拉松,甲基对硫磷、毒死蜱降解的加能力被研究。实验结果表明,luxAB基因可以在菌株L19中表达,在连续传代15次,发光仍然是稳定的。菌株在标记和未标记是对有机磷农药降解的能力差异不显著。发光标记可以用作选择标记的细菌检测。由于有一个广泛的农药降解谱,并且对马拉松有最强的降解能力。48小时对马拉松,甲基对硫磷、毒死蜱是24.06 mg/L、3.51mg/L和1.86 mg/L。对土壤修复和污水处理具有很大的潜在应用能力。

【英文摘要】A malathion (MLT) degrading strain L19 was isolatedfrom the soil that had been sprayed with MLT for a long time,and strain L19 could grow up with MLT as the sole carbonsource. Strain L19 could degrade 87.32% of MLT in mediumwith 20 mg · L-1 MLT after 48h with conditions of 30°C and pH6.5, and the MLT decomposed was positively correlated withdegradation time. Morphological characteristics and 16SrDNAsequence analysis indicated the homology between strain L19 andstrain AB021415 (Brevundimonas diminuta) was 98%. Thereforestrain L19 was preliminarily identified as Brevundimonasdiminuta.

【语种】英文

【第一作者】赵静

【通讯作者】唐欣昀

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【学科分类】环境科学技术基础学科

【题目】马拉硫磷的应用及其降解研究进展

【中文关键词】马拉硫磷 有机磷杀虫剂 研究 应用 进展

【英文关键词】Malathion organphosphorous pesticide syudy application progress

【中文摘要】马拉硫磷是一种高效低毒的有机磷杀虫剂,被广泛用于农业防害以及粮食仓储。大量使用马拉硫磷已经对地表水,蔬菜瓜果造成污染。综述了近几年来我国马拉硫磷的使用状况、对食物等的污染状况、对人畜的危害以及马拉硫磷降解的研究进展。

【英文摘要】Malathion is a highly efficient and low toxicity organophosphate insecticide, is widely used in agricultural Agricultural pest control and grain storage. The extensive use of malathion has caused serious pollution of surface water, vegetables and fruits. In this paper, the use of malathion, pollution of malathion on food and hazards to humans and animals, and malathion degradation and research progress in recent years has been studied.

【语种】中文

【第一作者】赵静

【通讯作者】唐欣昀

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【引文索引号】无

【学科分类】环境科学技术基础学科

【题目】Fast degradation of chlorpyrifos in soil by strain Cupriavidus taiwanensis X1 labeled with luxAB

【中文关键词】毒死蜱 台湾贪铜菌 降解 电穿孔 LuxAB 土壤

【英文关键词】Chlorpyrifos Cupriavidus Taiwanensis Degradation Electroporation LuxAB Soil

【中文摘要】为研究拥有强的毒死蜱水解能力的台湾贪铜菌毒的生态行为,利用电转将报告基因luxAB成功引入细胞。具有遗传稳定性和荧光的标记菌株被获得。标记和未标记的两个菌株在12h内,无机盐培养基中都能完全降解200 mg/l的毒死蜱。实验结果表明,引入luxAB并不影响菌株X1生长和对毒死蜱的降解。当标记菌株luxX1和菌株X1被接种到含500mg/l毒死蜱的土壤中,细胞浓度和毒死蜱残留检测和数据显示,标记菌株luxX1可以完全去除毒死蜱在12 d并存活在土壤中。标记菌lux X1在有机磷的环境修复中是一个潜在的优秀选择。

【英文摘要】For researching ecological behaviors of Cupriavidus taiwanensis X1 which has strong hydrolysis activity on chlorpyrifos(CP), reporter gene luxAB was successfully introduced into cells by electroporation. The labeled strain X1-lux with genetic stability and fluorescence was obtained. Both of strain X1 and X1-lux could completely degrade 200 mg/l CP within 12h in minimal salt

medium, and experimental results showed that introduction of luxAB did not affect strain X1 growth and degradation on CP. The cells of X1-lux and X1 were inoculated into soil with 500 mg/l CP, the cell concentration and CP residual was detected, and data revealed that strain X1 could absolutely removed CP in 12d and survive in soil. Strain X1 is a potential excellent choice for bioremediation of organophosphorus polluted environments.

【语种】英文
【第一作者】朱贝贝
【通讯作者】唐欣昀
【期刊名称、卷期、页码】Advanced Materials Research,2011 Dec;356:2566-2570.
【论文发表时间】2011-11-20 00:00:00
【引文索引类型】EI
【引文索引号】10.4028/www.scientific.net/AMR.356-360.2566
【学科分类】环境科学技术基础学科

【题目】Impact of long-term organic fertilizer application on lignin in Mollisol
【中文关键词】无
【英文关键词】Soil organic carbon; Lignin; CuO oxidation; Long-term fertilization
【中文摘要】无
【英文摘要】Fertilization is one of the essential managements to maintain and increase soil organiccarbon (SOC) level in agroecosystems. It has been realized that fertilizer applications influenced theturnover of labile and refractory organic carbon pools in arable soil markedly. However, the dynamicof relatively refractory lignin in response to fertilization is still kept unclear. Therefore, the impact oflong-term organic fertilization on the content and degradation degree of lignin in Mollisol wasinvestigated. Lignin monomers were released by alkaline CuO oxidation method and quantified bygas chromatography (GC). At the time scale of decades, lignin was clearly accumulated in soil and therelative accumulation of lignin in SOC was evident after long-term organic fertilizer application.Compared with the unfertilized soil, lower acid to aldehyde ratios of vanillyl and syringyl unitsinduced by organic fertilization suggested a lower degradation degree of lignin incorporated into soilto some extent. It could be concluded that long-term organic fertilization was an effective fertilizerpractice for lignin accumulation in soil and SOC sequestration in Mollisol in northeast of China.

【语种】英文
【第一作者】刘宁
【通讯作者】张旭东
【期刊名称、卷期、页码】Advanced Materials Research 113-114: 1332-1335
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【引文索引类型】EI
【引文索引号】284428600005
【学科分类】土壤学

【题目】风障对茶园的减风增温效果及对茶树冠层叶片含水率影响
【中文关键词】风,含水率,保温,茶园,风障
【英文关键词】wind , moisture content , thermal insulation , tea garden ,windbreaks
【中文摘要】为解决冬季茶园风寒冻害问题,于2008年1月在安徽农业大学茶场建立塑料薄膜风障,测定风障对茶园的减风增温作用及其对茶树冠层叶片含水率的影响。风障的高度为2.0 m,以5×7网格点测定2.8、2.0 m风障高和1.2 m茶树冠层高度3个层次的风速,以4×4网格点测定地表温度、茶树冠层叶片含水率。结果表明2.8 m高度,风障上方的风速比环境风速增加30%左右,下风方向的减风作用随风速增大而减小,距离风障7 m区域是风速减弱最强的区域,环境风速2.6 m/s时中轴线风速减小13.5%,环境风速1.0 m/s时的减小幅度达40.0%,在15 m位置基本恢复环境风速。风障高度(2.0 m)最大减风距离出现的位置介于距离风障7~10 m之间。由于薄膜风障不透风,在冠层高度(1.2 m)形成约2倍风障高度宽的准静风区。风障的有效减风作用区域大约相当于风障高度的7.5倍。风障的保温作用与日照条件关系密切,日照较强则可提高保护区的温度,夜间与阴天保温作用较不明显。大风作用下,茶树叶片含水率呈一定程度下降,下降幅度与风速正相关,风速大区域含水率下降幅度也大。在风障有效保护区域,大风结束后叶片含水率可较迅速地恢复,风障有效保护区域外的叶片含水率降幅较小,但恢复较慢。综合减风、增温及叶片含水率恢复情况,薄膜风障对于减轻冬季大风降温的危害具有较好的作用。

【英文摘要】无
【语种】中文
【第一作者】杨书运
【通讯作者】江昌俊
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【引文索引号】null
【学科分类】园艺学

【题目】稻草和地膜覆盖对冬季茶园保温增温作用的研究
【中文关键词】茶园 稻草覆盖 地膜覆盖 地表温度 冬季保温增温作用
【英文关键词】Tea plantation, Straw mulching, Plastic film mulching, Surface temperature, Winter warming and insulation
【中文摘要】通过对稻草秸秆覆盖、地膜覆盖等不同覆盖物表层及其对应的地表最低、最高温度 23 d 连续测定与对比分析, 研究了覆盖物对地表的保温、增温作用。各测点最低温度相关系数最小为 0.889, 最高温度相关系数最小为 0.813, 均在 0.01 水平显著相关, 表明温度场高度相关。与对照相比, 稻草覆盖使地表最低温度平均提高 1.2 ℃以上, 地膜覆盖则提高 0.2 ℃以上。天气晴好状态下, 稻草覆盖的保温作用强于地膜覆盖, 且与覆草厚度无关; 阴雨雪天气, 稻草与地膜的保温作用均显著下降, 稻草覆盖的降幅小于地膜覆盖, 且覆盖厚度大降幅较小。 天气晴好条件下地膜覆盖可以提高地表温度, 无光环境中地膜无显著增温作用; 将茶园覆盖的稻草分为晴天干草、晴天湿草、阴天干草、阴天湿草 4 种类型, 其增温效果与稻草类型有关, 且强于地膜覆盖。总之, 与地膜相比, 稻草覆盖保温效果好, 并具有一定的增温效果, 无污染, 材料来源丰富, 更适宜于作为冬季防寒材料。
【英文摘要】无
【语种】中文
【第一作者】杨书运
【通讯作者】江昌俊
【期刊名称、卷期、页码】Chinese Journal of Eco-Agriculture, 18(2): 327 − 333
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【引文索引号】null
【学科分类】园艺学

【题目】茶园地面覆盖的保温防冻作用
【中文关键词】茶园;稻草覆盖;地膜覆盖;地表温度;防冻作用
【英文关键词】Tea plantation; Straw mulching; Plastic film mulching; Surface temperature; Freeze protection
【中文摘要】以茶园为研究对象 ,设置两种厚度的稻草覆盖、 地膜覆盖和不覆盖 (对照) 4种处理 ,在最冷月份(2009年1月)连续观测覆盖层表面及其对应的地面最高温度、 最低温度 ,研究地表覆盖的保温作用和对茶树的防冻效果。结果表明 ,逐日最低温度与太阳辐射日总量呈显著的反相关关系 ,其中覆盖物表面最低温度与太阳辐射的相关系数大于覆盖下地表面。观测期间深草、 浅草与地膜覆盖的地面最低温度平均值分别为1.2℃、 1.1℃和- 1.4℃,分别比对照高 4.4℃、 4.3℃ 和 1.8℃,稻草覆盖的保温作用明显强于地膜覆盖 ,但稻草厚度差异所产生的保温作用差异不显著。同时观测到 ,地膜覆盖处理的地表最高温度明显高于对照 ,而稻草覆盖处理的地表最高温度明显低于对照 ,不同厚度稻草覆盖处理间的差异不显著 ,说明地膜覆盖有明显的增温作用而稻草覆盖没有。进一步观测发现 ,稻草覆盖处理的茶树冠层叶片冻伤脱落率 <地膜覆盖 <对照 ,但相互间差异不大;而地膜覆盖处理的春茶早芽萌发期最早 ,稻草覆盖的最晚。
【英文摘要】无
【语种】中文
【第一作者】杨书运
【通讯作者】江昌俊
【期刊名称、卷期、页码】中国农业气象 (Chinese Journal of Agr ometeorol ogy) , 31 (2) : 305 - 309
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【引文索引号】null
【学科分类】园艺学

【题目】茶树冷诱导基因RAV的克隆与表达特性分析
【中文关键词】茶树; RAV转录基因; 基因克隆; qRT-PCR; 表达分析
【英文关键词】Camellia sinensis; RAV transcription factor; gene clone; qRT-PCR; expression analysis
【中文摘要】对利用cDNA-AFLP技术所获得的茶树低温诱导差异表达片段TDF, 通过RACE方法获得含完整编码区序列的茶树RAV基因cDNA克隆, 其开放阅读框编码361个氨基酸, 包含两个保守的结构域AP2和B3, 与多种植物RAV蛋白具有高度同源性。qRT-PCR分析表明, 茶树RAV基因受低温、乙烯、NaCl等上调表达, 最大表达量分别是诱导前的5.8、10.0和1.9倍。在成熟叶片、芽、嫩茎中RAV基因表达量相近, 花蕾和嫩根中表达较低, 而在种子中不表达。推测该基因在组织中的表达受到严格控制以及在响应非生物胁迫中发挥重要作用。
【英文摘要】无
【语种】中文
【第一作者】陈林波
【通讯作者】江昌俊
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【引文索引号】null
【学科分类】园艺学

【题目】Pb(Ⅱ)、Zn(Ⅱ)对孔石莼吸收总氨氮的影响
【中文关键词】重金属;胁迫;孔石莼;总氨氮;吸收
【英文关键词】Heavy metals; stress; Ulva pertusa; ammonia nitrogen; uptake
【中文摘要】在实验室条件下研究了大型海藻孔石莼Ulva pertusa在Pb(Ⅱ)、Zn(Ⅱ)胁迫下对不同浓度总氨氮的吸收过程。总氨氮的设计水平为0、0.25、0.5、110、1.5、2.0mg/L, Pb(Ⅱ)、Zn(Ⅱ)的质量浓度为0.5、1.0mg/L,持续时间为12h。结果表明:对照组在0~1h内,孔石莼对总氨氮的吸收速率显著高于之后的时间段,有明显的快吸收过程;在Pb(Ⅱ)、Zn(Ⅱ)的胁迫下,这种初期快速吸收的现象减弱;两种重金属都能对孔石莼吸收总氨氮产生抑制作用,其中Pb(Ⅱ)、Zn(Ⅱ)对孔石莼吸收总氨氮初期阶段(0~1h)的胁迫作用显著,抑制率达40%~70%;高浓度(1mg/L)的Pb(Ⅱ)、Zn(Ⅱ)对孔石莼吸收总氨氮的胁迫作用大于低浓度(015mg/L);Zn(Ⅱ)对孔石莼吸收总氨氮的抑制作用强于Pb(Ⅱ)。
【英文摘要】The TNH3- N uptake by sea lettuce Ulv apertusa under stress of different concentrations (0.5, and1. 0mg/L) of Pb(Ⅱ) and Zn(Ⅱ) were determined at ammonia nitrogen concentrations of 0, 0.25, 0.5, 1.0, 1.5, and 2.0mg/L for 12 hours in a laboratory. The uptake rate was found to be significant higher in 0-1h than in interval time, and significant surge up take occurred at beginning of the experiments in the control group, but the surge uptake decreased significantly by stress of Pb(Ⅱ) and Zn(Ⅱ). Significant inhibition was observed when the concentration of Pb(Ⅱ) and Zn(Ⅱ) was 0.5 and 1.0mg/L in the 0- 1 hour. Zn(Ⅱ) showed stronger inhibition of the uptake rates than Pb(Ⅱ).
【语种】中文
【第一作者】魏海峰
【通讯作者】魏海峰
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【引文索引号】null
【学科分类】水产保护学

【题目】牙鲆海水循环养殖系统生物膜上3种细菌的数量与代谢活性
【中文关键词】移动床生物滤器;异养细菌;氨化细菌;氨氧化细菌;亚硝酸氧化细菌
【英文关键词】Moving bed biofilter; heterotrophic bacteria; ammonifiers; ammonia oxidizing bacteria; nitrite oxidizing bacteria
【中文摘要】从牙鲆(Paralichthys olivaceus)海水循环养殖系统中移动床生物滤器载体生物膜上获取异养细菌、氨化细菌和硝化细菌样本。异养细菌用平板涂布法计数,其代谢活性以培养8 h的氧吸收速率表示。氨化细菌、氨氧化细菌(AOB)

和亚硝酸氧化细菌(NOB) 用MPN法计数,其代谢活性分别以培养24 h NH4+-N 浓度的增加、NH4+-N浓度的减少和NO2--N浓度的减少表示。结果表明,生物膜成熟之后,4 种生理类群细菌的数量和代谢活性基本保持稳定。异养细菌数量为107~108CFU ▪ m-2(载体),氨化细菌、AOB和NOB 数量分别为107~108MPN ▪ m-2(载体)、105~106 MPN ▪ m-2(载体) 和105~106 MPN ▪ m-2 (载体)。分批培养测得异养细菌的氧吸收速率、氨化细菌的氨化速率、AOB 的氨氧化速率和NOB 的亚硝酸氧化速率分别是0.591~0.738 g (O2) ▪ m-2 ▪ d-1、0.081~0.135 g (NH4+-N) ▪ m-2 ▪ d-1、0.017~0.031 g (NH4+-N) ▪ m-2 ▪ d-1和 0.020~0.038 g (NO2—N) ▪ m-2 ▪ d-1。异养细菌的氧吸收速率、氨化细菌的氨化速率和AOB 的氨氧化速率与异养细菌、氨化细菌和AOB 的数量呈正相关。移动床生物滤器生物膜的平均氨和亚硝酸盐去除速率为(0.121±0.076) g (NH4+-N) ▪ m-2 ▪ d-1和(0.139±0.181) g (NO2—N) ▪ m-2 ▪ d-1。同时测定了底物浓度和pH 对氨化细菌、AOB 和NOB 代谢活性的影响。结果显示,氨化细菌的氨化速率、AOB 的氨氧化速率和NOB 的亚硝酸氧化速率与底物浓度(蛋白胨、NH4+-N和NO2—N) 呈线性相关,pH 为8.0 时3 种生理类群细菌的代谢活性较pH 6.5 或pH 9.5 时高。

【英文摘要】In the present study, viable numbers and metabolic activities of aerobic heterotrophic bacteria, ammonifiers ,ammonia oxidizing bacteria (AOB), nitrite oxidizing bacteria (NOB) in marine biofilms were investigated. The studied biofilms were associated with media of a moving bed biofilter in marine aquaculture recirculating system. The system was stocked with Japanese flounder (Paralichthys olivaceus). Numbers of heterotrophic bacteria were determined by plate counts and metabolic activities were measured oxygen uptake rate (OUR) determination during eight hours incubation. Numbers of ammonifiers, AOB and NOB involved in N metabolism were evaluated by the most probable numbers-test (MPN) method, Their metabolic activities were estimated by calculating the increase in NH4+-N concentration, the decrease in NH4+-N and NO2—N concentrations during 24 h incubation, Results showed that the numbers and activities of the four physiological groups of bacteria kept relatively stable after biofilm maturation. The numbers of heterotrophic bacteria expressed as colony-forming units per square meter of media and the MPN of ammonifiers, AOB and NOB per square meter of media were 107~108, 107~108, 105~106 and 105~106, respectively. In batch culture, the OURs of heterotrophic bacteria, the ammonification rates of ammonifiers, the ammonia oxidizing rates of AOB and the nitrite oxidizing rates of NOB ranged from 0.591~0.738 g (O2) ▪ m-2 ▪ d-1、0.081~0.135 g (NH4+-N) ▪ m-2 ▪ d-1、0.017~0.031 g (NH4+-N) ▪ m-2 ▪ d-1and 0.020~0.038 g (NO2—N) ▪ m-2 ▪ d-1, respectively. The oxygen uptake rates of heterotrophic bacteria, the ammonification rates of ammonifiers and the ammonia oxidizing rates of AOB were correlated with the numbers of heterotrophic bacteria, ammonifiers and AOB. The mean ammonia and nitrite removal rates of the moving bed biofilter were (0.121±0.076) g (NH4+-N) ▪ m-2 ▪ d-1 and (0.139±0.181) g (NO2—N) ▪ m-2 ▪ d-1 calculated according to the difference between NH4+-N, NO2—N inlet biofilter concentrations, Furthermore, influences of substrate concentration and PH on metabolic activities of ammonifiers and nitrifiers (AOB and NOB) were detected,. Results showed that ammonification rate, ammonia- and nitrite oxidizing rates were linearly correlated with substrate concentrations (peptone, NH4+-N or NO2—N), and at pH 8.0 higher ammonification and nitrogen conversion rates were got than those of pH 6.5 and pH 9.5.

【语种】中文
【第一作者】马悦欣
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【题目】茶树冷诱导基因的 AFLP 筛选及其表达分析
【中文关键词】茶树; 冷诱导; cDNA-AFLP; qRT-PCR
【英文关键词】Camellia sinensis ; cold stress; cDNA-AFLP; qRT-PCR
【中文摘要】以中小叶茶树良种舒茶早和云南大叶种73-11为材料,于4°C低温处理4 d后,采用AFLP技术筛选出冷诱导下茶树差异表达基因并进行分析.结果显示,实验共获得41个差异片段(TDFs),其中舒茶早产生19条差异条带,73-11产生38条差异条带,两品种共有条带16条.所获得的差异片段按功能可划分为4类,即信号传导蛋白、转录因子、基础代谢相关蛋白、抗逆蛋白质,此外还有一些假设蛋白质以及未知蛋白.利用qRT-PCR对Kh1、Kh3和Kh11差异片段进行验证,结果显示这3个片段均被低温诱导,表达量上升.研究表明,茶树在低温胁迫下的逆境反应非常复杂,涉及多种代谢过程中的众多基因,而且大叶种比中小叶种对低温反应更为敏感.
【英文摘要】无
【语种】中文

【第一作者】陈林波
【通讯作者】江昌俊
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【题目】牙鲆养殖循环系统中固体废物的粒径分布与沉降特征
【中文关键词】牙鲆;循环养殖系统;颗粒物;固体废物去除
【英文关键词】Japanese flounder;recirculating aquaculture system(RAS);particles;solids removal
【中文摘要】沉淀槽是收集系统中固体废物的最简单装置,其设计参数与其沉淀的颗粒物特性有关。通过研究牙鲆(Paralichthys olivaceus)养殖循环系统产生固体废物的粒径分布和沉降特征,得到了牙鲆养殖固体废物去除的沉淀槽设计参数——溢流率与颗粒物去除效率间的关系,可作为设计沉淀槽时参考。结果表明:系统产生固体废物量为0.13—0.27 kg TSS/kg饲料,平均为(O.22±0.06)kg TSS/kg饲料。沉淀槽中固体废物主要为粒径<200 m的颗粒,占51.5%,其粒径分布符合双曲线型分布。在给定溢流率的情况下,沉淀槽的固体废物理论去除效率可采用颗粒物的沉降曲线估算。溢流率为1/16 m3/(m2·s)时计算的颗粒物理论去除效率为8l%。
【英文摘要】The settling basin is simplest equipment for capturing solids waste from recirculating aquaculture system.Knowledge of particle properties is essential to the design of effective solids removal systems.The particle size distribution and settling characteristics of solids from recirculating aquaculture system for Japanese flounder(Paralichthys olivaceus)culture were investigated.The relationship between design parameter overflow rates and removal efficiencies of sedimentation basin for removal of solids waste was obtained.The results show that the contents of solids waste generated from per kg of food per day at three different feed levels was 0.22±0.06 kg of dry weight ranging from 0.13 to 0.27 kg of dry weight.In the particles settled in sedimentation basin,the majority of the particles were found to be in the size less than 200 μ m.percentage is 51.5%.The particle size distribution settled in the sedimentation basin could be described using hyperbolic function.. The theoretical removal efficiencies were estimated according to settling curve of particles at given overflow rates(OFR)for the reference of sedimentation design.
【语种】中文
【第一作者】刘长发
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【题目】牙鲆养殖循环系统中3种硝化作用滤器性能的比较
【中文关键词】牙鲆;养殖循环系统;硝化滤器;载体;氮去除
【英文关键词】Paralichthys olivaceus;recirculating system;nitrification filter;medium;nitrogen removal
【中文摘要】摘通过测定牙鲆Paralichthys olivaceus养殖循环水中总氨氮、亚硝酸态氮和硝酸态氮的含量,了解以塑料环、火山石和牡蛎壳为载体的3种硝化滤器生物膜的熟化情况;调节循环水流量,使硝化滤器水力停留时间分别为5、15、20、30、60 min,比较氨氮去除率,得到实验条件下3种载体硝化滤器的最佳水力停留时间,并在此条件下,投加NH4C1,使循环养殖水中总氨氮浓度分别为1、3、5 mg/L,测定水中总氨氮随时间的变化,研究氨氮去除动力学规律,计算硝化滤器的去除效率。结果表明:附着于3种载体上生物膜的熟化时间约为25 d;塑料环上异养菌和硝化菌数量均为最高,氧化还原反应最活跃,火山石次之,牡蛎壳最低;3种载体硝化滤器的最佳水力停留时间为2O~30 min。氨氮负载为1 mg/L时,12 h内氨氮去除为 0级反应;氨氮负载分别为3 mg/L和5 mg/L条件下,24 h内氨氮去除为0级反应。氨氮负载越大,氨氮去除速率就越大。在氨氮负载为1、3、5 mg/L时,3种载体的氨氮去除效率分别为17.5l~16.39、36.39 ~33.04、58.96—53.25 g/(m3·d)。
【英文摘要】The growth and nitrification performances of plastic ring,volcano stone and oyster shell biofiher media were studied in a water recirculation system for Japanese flounder Paralichthys olivaceus culture by determination of the nitrogen concentrations of ammonia, nitrite and nitrate. Ammonia removal was compared in the same filter media 5,15,20,30,and 60 min after hydraulic retention. The nitrification kinetics and ammonia removal rate were studied by ammonia concentrations decreasing with time at different initial

ammonia—N concentrations of 1,3,and 5 mg/L. The maturation time of the three types of filter media was found to be about 25 d. The maximal heterotrophic bacteria and the nitrite bacteria and the maximal active oxidation-reduction reaction were observed on the plastic ring among three types filter media, followed by on the volcano stone, then on the oyster shel1.The optimum hydraulic retention period of the three types of filter media was found to be 20—30 min. The biodegradation of ammonia—N followed the zero—order kinetics in 12 h at the nitrogen load of 1 mg/L,and in 24 h at the nitrogen load of3 mg/L or5 mg/L. The ammonia removal rate by the three types of nitrification filter was 17.51—16.39,36.39—33.04,and 58.96—53.25 g/(m3 · d)at nitrogen load of 1,3,5 mg/L.
【语种】中文
【第一作者】何洁
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【题目】三种大型海藻吸收营养盐的动力学研究
【中文关键词】孔石莼;条浒苔;巨角叉菜;营养盐;吸收动力学
【英文关键词】Ulva pertusa;Enteromorpha clathrata;Chondrus nipponicus;nutrient;kinetics of nutrient uptake
【中文摘要】研究大型海藻孔石莼(Ulva pertusa)、条浒苔(Enteromorpha clathrata)和巨角叉菜(Chondrus nipponicus)对氨氮、硝酸态氮和磷酸盐磷的静态吸收动力学。三种海藻对氨氮的吸收可用一级动力学方程描述,孔石莼、条浒苔和巨角叉菜的吸收速率常数分别为:0.244、h(R 2=0.992)、0.124/h (R2=0.962)、0.096/h(R 2= 0.951)。孔石莼和条浒苔对氨氮的吸收分快速、平稳和缓慢吸收3个阶段,而巨角叉菜对氨氮的吸收开始较慢,随后加快,最后缓慢;三种海藻吸收硝酸态氮规律相似,可用一级动力学方程描述。巨角叉菜对硝酸态氮吸收最好,条浒苔则吸收不理想。三种海藻对硝酸态氮的吸收速率远低于氨氮。孔石莼和巨角叉菜对磷酸盐磷有吸收,孔石莼的吸收速率高于巨角叉菜,条浒苔对磷酸盐磷吸收不明显。
【英文摘要】The ammonium,nitrate and phosphate uptake kinetics of Ulva pertusa,Enteromorpha clathrata and Chondrus nipponicus were studied in this paper.The ammonium uptake of three macro-algae followed the first-order dynamics and velocity constant were: U.pertusa,0.244/h(R2=0.992),E.clathrata 0.124/h(R 2= 0.962)and C.nipponicus 0.096/h(R2=0.951),respectively.Three distinct phases of ammonium uptake of U.pertusa and E.clathrata were apparent:surge uptake,internally controlled uptake and externally controlled uptake. C. nipponicus followed the different rules.The nitrate uptake of three macro—alga also followed the first-order dynamics.With comparing,the velocity constant of C.nipponicu was highest and of E.clathrata was lowest in three kinds of alga.The ammonium uptake rate is much faster than the nitrate.The phosphate uptake of U.pertusa was better than of C.nipponicus.the uptake rule of E.clathrata was not apparent under selected condition.
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【题目】Neuroendocrine responses to cold stress in Chinese indigenous breeds from different latitude
【中文关键词】无。
【英文关键词】adrenal axis,thyroid axis,chinese indigenous breed,cold stress,china
【中文摘要】无。
【英文摘要】It is well established that stress is related to neurochemical and hormonal changes including alterations in adrenal and thyroid hormone levels. In the present study, thyroid axis and hypothalamic-pituitary-adrenal axis related hormomal, Triiodothyronine (T3), Thyroxine (T4), Thyroid-Stimulating Hormone (TSH), Adreno-Cortico-Tropic-Hormone (ACTH) and Thyroid Releasing Hormone (TRH) mRNA, ACTH mRNA changes during cold stress with different intensities were recorded in two Chinese indigenous breeds from different latitude. The results showed that Huainan partridge chicken from central China, showed obvious conversion in

T3 and T4 under severe cold stress. Plasma TSH and pituitary TRH mRNA highly expressed over 12-24 h long time severe cold exposure. However, mild cold did not obviously affect those hormones mentioned above. In the Wenchang chicken which from south of China, severe and mild cold stress showed the same affection on the thyroid axis but not obvious on the adrenal axis. The results would further help the revealing of the mechanism of injury caused by cold stress and provide better controls for chicken from loss of cold stress in different areas.

【语种】英文
【第一作者】陈兴勇
【通讯作者】耿照玉
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【题目】茶树抗逆相关基因 ERF 的克隆与表达特性分析
【中文关键词】茶树;ERF 基因;基因克隆;qRT-PCR;表达分析
【英文关键词】Camellia sinensis, ERF Transcription Factor, gene clone, qRT-PCR, expression analysis
【中文摘要】对利用cDNA-AFLP技术所获得的茶树低温诱导差异表达片段TDF,通过RACE方法获得含完整编码区序列的茶树ERF基因cDNA克隆,其开放阅读框编码212个氨基酸,包含一个保守的结构域AP2/ERF,与多种植物ERF蛋白具有高度同源性。qRT-PCR分析表明,茶树ERF基因受低温、乙烯、脱水、NaCl等上调表达,最大表达量分别是诱导前的121.1、22.6、2.6和2.2倍。在不同组织器官中,茶树ERF基因在转录水平上存在显著差异,成熟叶片中表达最高,其次是芽,而根和茎中表达量较低且相当,花和种子中表达极低。推测该基因在茶树响应非生物胁迫中发挥重要作用以及在组织中的表达受到严格控制。
【英文摘要】无
【语种】中文
【第一作者】陈林波
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【题目】低温胁迫对茶树叶片 SOD、可溶性蛋白和可溶性糖含量的影响
【中文关键词】茶树; 低温胁迫; 超氧化物歧化酶(SOD); 可溶性蛋白; 可溶性糖;
【英文关键词】Camellia sinensis; low temperature stress; SOD; soluble protein; soluble sugar;
【中文摘要】以舒茶早和乌牛早2个茶树品种为材料,研究低温胁迫下茶树叶片超氧化物歧化酶(SOD)、可溶性蛋白含量和可溶性糖含量的变化。结果表明,随着低温胁迫时间的延长,2个茶树品种叶片内SOD活性均呈现先下降后上升而后又下降的趋势;可溶性蛋白含量先下降后上升,处理到第10天时均超过了原始水平(处理前),说明低温可能诱导新蛋白的产生;可溶性糖含量随低温胁迫时间的延长一直呈增加趋势,处理到第10天时,舒茶早相对原始水平增加了约12.8倍,乌牛早增加了约2.8倍,说明低温胁迫可以促进糖类的合成。根据上述生理指标的分析,以期了解这种生理变化与抗寒性的关系。
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【第一作者】朱政
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【学科分类】园艺学

【题目】安徽地方茶树种质资源调查
【中文关键词】茶树; 地方种质资源; 特性;
【英文关键词】tea plant; local germplasm; characteristics;
【中文摘要】茶树种质资源是茶叶生产最基本、最重要的生产资料,也是茶叶可持续发展和茶叶产业化的基础。安徽茶区主要分布在地处长江南北的皖南黄山地区和皖西大别山地区,是国内少有的兼具南北气候带特点的产茶省,自然造就了丰富的茶树种质资源,拥有国家级良种10个,省级良种18个。重点介绍安徽地方茶树种质资源的适制性、开采期、成茶品质、抗逆性和栽培管理技术等,供茶叶生产参考利用。
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【中文关键词】活性炭滤芯;微波;再生
【英文关键词】activated carbon filter;microwave;regeneration
【中文摘要】以亚甲基兰为污染物污染活性炭滤芯,利用微波辐照的方法对失效的活性炭滤芯进行再生,通过实验分别测出新的、失效的活性炭滤芯的碘值,通过碘值计算出活性炭的性能恢复率、损耗率、综合恢复率等性能指标,并分析影响上述性能指标的单一因素:辐照功率、时间和活性炭用量。设计正交试验,找到微波再生活性炭滤芯的最佳再生条件:微波功率600W,辐照时间90s,辐照活性炭质量2g。经过再生的活性炭的综合恢复率达到94.30%。
【英文摘要】Methylene blue was employed as a pollutant to contaminate activated carbon filters and then microwave irradiation was used for regeneration of the activated carbon.Iodine amount in the activated carbon before and after was tested respectively.The recovery rate and attrition rate and the total recovery rate and other indexes of the activated carbon are calculated by the iodine amount.The irradiation power and time and dosage of activated carb0n as single factor that affects the above indexes are analyzed.The orthogonal experiment is designed to explore the optimal regeneration condition.The total recovery rate of regenerated activated carbon can reach 94.30% when microwave power is 600W,and irradiation time is 90s with 2g of quantity of activated carbon.
【语种】中文
【第一作者】刘靖
【通讯作者】刘靖
【期刊名称、卷期、页码】环境科学导刊,2010,29(2):1-4
【论文发表时间】2010-04-01 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】环境科学技术基础学科

【题目】茶树逆境生理及其分子生物学研究进展
【中文关键词】茶树;逆境生理
【英文关键词】tea plant ; stress physiology
【中文摘要】就国内外有关茶树逆境生理及其分子生物学研究作一概述。主要介绍茶树对强光、干旱、低温和重金属等非生物逆境和病虫害生物逆境的生理适应机制及其相关分子生物学研究所取得的进展。并提出和讨论该领域需进一步探讨的问题。
【英文摘要】无
【语种】中文

【第一作者】韦朝领
【通讯作者】江昌俊
【期刊名称、卷期、页码】安徽农业大学学报 , 2009, 36 (3) : 335-339
【论文发表时间】2009-03-03 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】园艺学

【题目】几种防冻剂在茶树上的应用研究
【中文关键词】茶树; 抗寒性; 受冻率; 防冻剂; 酶活性;
【英文关键词】tea plant; frost resistance; freezing rate; antifreeze; enzyme activity;
【中文摘要】研究了通微、柳州、标典3种防冻剂对茶树抗寒能力和品质的影响,结果表明:①选用合适的防冻剂,能增强茶树抗寒能力;②防冻剂对茶树生长势、茶叶品质有一定的促进作用;③因地制宜,正确施用防冻剂;④综合防冻剂对茶树的抗冻效果和对茶叶产量、品质的影响,三种防冻剂当中以标典最好。
【英文摘要】无
【语种】中文
【第一作者】黄建琴
【通讯作者】黄建琴
【期刊名称、卷期、页码】中国农学通报 2010,26(01):210-214
【论文发表时间】2010-01-09 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】园艺学

【题目】山地茶园防冻技术研究
【中文关键词】抗寒性; 酶活性; 受冻率; 防冻剂; 风冻效应;
【英文关键词】frost resistance; enzyme activity; freezing rate; antifreeze; wind-chill;
【中文摘要】研究了修剪、铺草、覆膜、喷灌防冻剂等6项技术措施对山地茶园茶树的抗寒性影响及SOD、POD酶活性与受冻率之间的关系,结果表明:①各处理随着受冻率的增加,在一定范围内SOD酶活性也相应增加,这与茶树自身的修复功能有关;②对于山地茶园,受风冻影响,直接应用于茶树树冠的技术措施要比应用于环境及土壤的技术措施效果好。6种处理效果为:覆膜>铺草>对照>未修剪>灌根>喷冠;③秋天进行适当的修剪,对降低茶树冻害有利。
【英文摘要】无
【语种】中文
【第一作者】王烨军
【通讯作者】黄建琴
【期刊名称、卷期、页码】中国农学通报 2009,25(15):165-168
【论文发表时间】2009-05-14 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农艺学

【题目】pH吸附法纯化乳酸乳球菌素Lacticin LLC518的研究
【中文关键词】乳酸乳球菌素LLC518;细菌素;pH吸附;纯化
【英文关键词】The adsorption rate of Lacticin LLC518 to Lactococcus lactis subsp.lactis 518 at different pH conditions was studied. At pH 6.0 the adsorption rate was 100%, while at pH 2.0, Lacticin LLC518 was not adsorbed at all. By changing pH several times, Lacticin
【中文摘要】论文研究了不同pH条件下乳酸乳球菌素LLC518吸附于乳酸乳球菌LLC518的规律,并利用这一规律进行了细菌素的分离,其效果良好。
【英文摘要】The adsorption rate of Lacticin LLC518 to Lactococcus lactis subsp.lactis 518 at different pH conditions was studied. At pH 6.0 the adsorption rate was 100%, while at pH 2.0, Lacticin LLC518 was not adsorbed at all. By changing pH several times, Lacticin

LLC518 was adsorbed at pH 6.0 and released at pH 2.0 to achieve better effect of purification. As ammonium sulfate precipitation samples as controls, the specific activity of Lacticin LLC518 was increased 83.02 fold with a yield of 20 % using chromatogram contrast analysis methods of preparation of separation bacteriocins. It is simple and effective, could be used as commercial preparations for food industry.
【语种】中文
【第一作者】方佳琪
【通讯作者】张明
【期刊名称、卷期、页码】食品与发酵工业
【论文发表时间】2011-10-30 00:00:00
【引文索引类型】其他
【引文索引号】0253-990X
【学科分类】食品科学技术其他学科

【题目】戊糖乳杆菌素pentocin LPEM818的初步纯化及特性研究
【中文关键词】戊糖乳杆菌;细菌素;纯化;特性
【英文关键词】Lactobacillus pentosus; bacteriocin; purification; characterization
【中文摘要】对戊糖乳杆菌(Lactobacillus pentosus) LPEM818所产戊糖乳杆菌素(pentocin) LPEM818进行了初步纯化,并对其生物学特性进行了研究。结果表明该细菌素具有良好的应用性能,具有作为食品生物防腐剂的潜在应用价值。
【英文摘要】The partial purification and characterization of pentocin LPEM818 produced by Lactobacillus pentosus LPEM818 were studied. Pentocin LPEM818 was purified by 80 % ammonium sulfate precipitation and Sephadex G-25 column chromatography. The results showed that an 11.09 fold purification and 4.6 % yield were obtained. Pentocin LPEM818 exhibited strong heat stability (remained 84.52 % of the antibacterial activity after 15 min at 121 ° C) and pH stability (pH 2.0-8.0). The activity of pentocin LPEM818 was destroyed after treatment with proteinase K and trypsin. The mode of action of pentocin LPEM818 was bactericidal. Pentocin LPEM818 exhibited inhibitory activity against part of the Gram-positive bacteria and Gram-negative bacteria. The identified properties of pentocin LPEM818 indicate that it is a novel bacteriocin with potential application as a bio-preservative to improve the safety of food products.
【语种】中文
【第一作者】于雷雷
【通讯作者】张明
【期刊名称、卷期、页码】食品与发酵工业
【论文发表时间】2012-01-30 00:00:00
【引文索引类型】其他
【引文索引号】0253-990X
【学科分类】食品科学技术其他学科

【题目】具广谱抑菌活性乳酸菌的筛选及抑菌物质的初步分析
【中文关键词】乳酸菌;抑菌;有机酸
【英文关键词】Lactic acid bacteria; inhibition; organic acid
【中文摘要】采用双层平板法从食用小米中分离出一株对革兰氏阳性菌、阴性菌和霉菌有明显抑制作用的菌株,通过生理生化特性和16S rRNA基因序列同源性分析,确定该菌株为戊糖乳杆菌(Lactobacillus pentosus)。经气相色谱-质谱联用仪和高效液相色谱初步分析该菌株发酵上清液中含有乳酸、乙酸、琥珀酸、柠檬酸、棕榈酸、油酸、硬脂酸和亚油酸等多种抑菌成份。
【英文摘要】A strain with strong inhibitory activity against Gram-positive bacteria, Gram-negative bacteria and mold was isolated by the overlay method from Millet. The strain was identified by both phenotypical and physiological test and the 16S rRNA sequence analysis as Lactobacillus pentosus. In the cell-free supernatant of culture, some antimircrobial substances including lactic acid, acetic acid, succinic acid, citric acid, palmitic acid, oleic acid, stearic acid and linoleic acid were found by GC-MS and HPLC analysis.
【语种】中文
【第一作者】马妙莲
【通讯作者】张明

【期刊名称、卷期、页码】食品科学
【论文发表时间】2012-01-15 00:00:00
【引文索引类型】其他
【引文索引号】1002-6630
【学科分类】食品科学技术其他学科

【题目】细菌素的制备及其应用
【中文关键词】细菌素;制备;应用
【英文关键词】Bacteriocin; Preparation; Application
【中文摘要】论文概述了细菌素的制备方法以及其在诸多领域中的应用。
【英文摘要】In recent years, bacteriocins that can inhibit or kill the growth of some bacteria have a wide range of practical application in food preservation, disease treatment and many other related aspects were found, and the preparation methods of bacteriocin were widely reported. This article outlines the preparation methods of bacteriocins and its application in many fields.
【语种】中文
【第一作者】方佳琪
【通讯作者】张明
【期刊名称、卷期、页码】中国微生态学杂志
【论文发表时间】2011-08-30 00:00:00
【引文索引类型】其他
【引文索引号】1005-376X
【学科分类】微生物学

【题目】植物乳杆菌细菌素的研究与应用
【中文关键词】植物乳杆菌;细菌素;分类;应用
【英文关键词】Lactobacillus plantarum; Bacteriocin, types; Application
【中文摘要】本文对植物乳杆菌细菌素的种类、分子结构、抑菌机制及遗传控制做了较为详尽的介绍,并简要介绍了植物乳杆菌细菌素在食品、医药、饲料中的应用,为进一步研究植物乳杆菌细菌素提供了参考。
【英文摘要】Just because the variety of bacteriocins from Lactobacillus plantarum and beneficial effects produced during ferment, it became popular to do research on bacteriocins from L. plantarum. In this paper, with the purpose to provide a reference for further studies of bacteriocins from L. plantarum, the characters were introduced elaborately, including types, molecule structures, inhibition truth and inherit control. Also, the applications of bacteriocins from L. plantarum in food preservative, medicine industry, and agriculture were simply summed up.
【语种】中文
【第一作者】陈一然
【通讯作者】张明
【期刊名称、卷期、页码】中国微生态学杂志
【论文发表时间】2011-09-30 00:00:00
【引文索引类型】其他
【引文索引号】1005-376X
【学科分类】微生物学

【题目】清酒乳杆菌细菌素研究的现状及展望
【中文关键词】清酒乳杆菌,细菌素,种类,应用
【英文关键词】Lactobacillus sakei; Bacteriocin; Types; Application
【中文摘要】清酒乳杆菌不仅可作为发酵香肠的发酵剂赋予香肠良好的风味和品质,而且绝大多数清酒乳杆菌细菌素对食源性致病菌单核增生李斯特菌具有较强的抑制作用。清酒乳杆菌细菌素种类多,性质各异。本文分别从清酒乳杆菌细菌素的种类,肉制品环境对清酒乳杆菌和细菌素稳定性的影响以及清酒乳杆菌细菌素在食品中的应用研究进行了概述,为寻找新的具有良好性能的清酒乳杆菌细菌素提供了参考。
【英文摘要】In addition to using the strains of Lactobacillus sakei as the starter cultures to develop the flavor and quality of sausage, most of the bacteriocins from L.sakei have strong inhibitory effects on pathogenic Listeria monocytogenes. There are various

bacteriocins produced by L.sakei, and these bacteriocins have different properties. In this paper, the types of bacteriocins from L.sakei, the effect of meat products storage conditions (or meat production condition) on the stability of L.sakei and bacteriocins, as well as application of bacteriocins from L.sakei as the food preservation were reviewed. This review is aimed at providing a reference for discovering new bacteriocins from L.sakei.

【语种】中文
【第一作者】姜洁
【通讯作者】张明
【期刊名称、卷期、页码】中国微生态学杂志
【论文发表时间】2011-03-30 00:00:00
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【学科分类】微生物学

【题目】离子交换色谱在细菌素分离纯化中的应用
【中文关键词】离子交换色谱;细菌素;分离纯化
【英文关键词】IEC; bacteriocin; purification
【中文摘要】本文阐述了离子交换色谱原理,分析了影响离子交换色谱分离纯化细菌素的各种因素,探讨了细菌素分离纯化中离子交换色谱条件的选择。
【英文摘要】During the last few decades, lactic acid bacteria bacteriocins have been widely explored and investigated as food preservatives and pharmaceuticals. And the homogeneity bacteriocins are necessary for the studies of biochemical and genetic characterization. Ion Exchange Chromatography (IEC) is probably the most frequently used chromatographic technique for the purification of bacteriocins. In this paper, the principles of IEC, the effects of the various factors on the ion exchange process, and the experimental design of IEC for the purification of bacteriocins were reviewed.
【语种】中文
【第一作者】陆泉
【通讯作者】张明
【期刊名称、卷期、页码】中国微生态学杂志
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【引文索引号】1005-376X
【学科分类】微生物学

【题目】抑黄曲霉乳酸菌的筛选及菌种鉴定
【中文关键词】黄曲霉;乳酸菌;16S rRNA
【英文关键词】Aspergillus flavus;Lactic acid bacteria;16S Rrna
【中文摘要】筛选具有抑制黄曲霉(Aspergillus flavus)生长的乳酸菌。对筛选出的菌株进行生理生化及16S rRNA分子生物学鉴定。结果 分离得到756株乳酸菌,其中有6株菌株对黄曲霉的生长有明显的抑制作用。结论 实验获得的6株产酸菌,3株为植物乳杆菌(Lactobacillus plantarum),2株为消化乳杆菌(L.alimentarius),1株为亚利桑那乳杆菌(L.arizonenensis)。
【英文摘要】Objective To obtain strains of lactic acid bacteria with inhibitory activity against Aspergillus flavus. Method Strains of lactic acid bacteria isolated from many sorts of pickles, bean dregs, chicken and pig intestines were screened for antifungal activity in the agar-well diffusion assay. The isolates were identified with physiological and biochemical characteristics and 16SrRNA sequencing. Result Among of the 756 strains isolated, 6 strains showed strong inhibitory activity against A.flavus. Conclusion The results show that 3 strains are Lactobacillus plantarum, 2 strains are L. alimentarius and 1 strain is L. arizonenensis.
【语种】中文
【第一作者】郭艳萍
【通讯作者】张明
【期刊名称、卷期、页码】中国微生态学杂志
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【引文索引类型】其他

【引文索引号】1005-376X
【学科分类】微生物学

【题目】传统泡菜中乳酸菌多样性的分析
【中文关键词】泡菜;乳酸菌;16S rRNA基因序列
【英文关键词】the traditional fermented vegetable;Lactic Acid Bacteria;16S rRNA gene sequences
【中文摘要】论文 采用生理生化学特性和16S rRNA基因序列同源性分析相结合的方法,对传统泡菜中筛得的46株菌进行鉴定。结果表明菌株分布于乳杆菌属、肠球菌属、葡萄球菌属和片球菌属4个属的9个种,更为重要的是在泡菜中发现有Lactobacillus namurensis和巴氏葡萄球菌的存在。
【英文摘要】Objective To analyse the biodiversity of LAB from the traditional fermented vegetable.Method The 46 LAB strains isolated from the traditional fermented vegetable were identified with physiological and biochemical characteristics and 16S rRNA gene sequencing.Result The LAB isolates belonged to 4 genera and 9 species,including Lactobacillus,Enterococcus,Staphylococcus and Pediococcus.Moreover,Lactobacillus namurensis and Staphylococcus pasteuri have been found in these traditional fermented vegetable.Conclusion There was a high level of biodiversity among LAB in the traditional fermented vegetable.
【语种】中文
【第一作者】盛海圆
【通讯作者】张明
【期刊名称、卷期、页码】中国微生态学杂志
【论文发表时间】2010-07-30 00:00:00
【引文索引类型】其他
【引文索引号】1005-376X
【学科分类】微生物学

【题目】一种使用酶标仪快速测定细菌素效价的方法
【中文关键词】酶标仪; 细菌素; 效价
【英文关键词】Enzyme micro-plate reader; Bacteriocin; Titer
【中文摘要】论文 以Nisin为参照物,利用酶标仪测定指示菌吸光值。确定了在指示菌接种量为10%和细菌素作用时间为8h两个测定参数条件下,样品效价检测值的相对标准偏差在5%以下。建立了快速、准确,适合检测菌所产细菌素的研究。
【英文摘要】Objective To develop a rapid method for detection the titer of bacteriocin. Methods The absorbancy of bacteria was measured with enzyme micro-plate reader when Nisin was as referent. Results The RSD of samples is less than 5% when the inoculation amount of indicative bacteria is 10% and the reaction time is 8 h. Conclusion This method could be used in the studies on this bacteriocin because of its rapidity and accuracy.
【语种】中文
【第一作者】孟庆龙
【通讯作者】张明
【期刊名称、卷期、页码】中国微生态学杂志
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【引文索引类型】其他
【引文索引号】1005-376X
【学科分类】微生物学

【题目】Characterization of a novel bacteriocin produced by Lactobacillus sakei LSJ618 isolated from traditional Chinese fermented radish
【中文关键词】细菌素;清酒乳杆菌;请酒乳杆菌素;生物防腐剂
【英文关键词】Bacteriocin; Lactobacillus sakei; Sakacin; Biopreservative
【中文摘要】论文研究了一株产细菌素的清酒乳杆菌所产清酒乳杆菌素的性质,为进一步的应用奠定了基础。
【英文摘要】A novel bacteriocin, sakacin LSJ618, produced by the strain Lactobacillus sakei LSJ618 isolated fromtraditional Chinese fermented radish, was studied. L. sakei LSJ618 was identi fi ed by both phenotypicaland physiological tests combined with 16S rDNA sequence analysis. Sakacin LSJ618 is sensitive tohydrolytic enzymes including lipase, is stable between pH 2e8, and is heat resistant (30 min at 121 C).Sakacin LSJ618 exhibits inhibitory activity against food-spoiling bacteria and food-borne pathogens,including the

Gram-positive Listeria monocytogenes, Staphylococcus aureus, Sarcina sp., Micrococcusluteus, and the Gram-negative Proteus sp. and Escherichia coli, but not against most of the lactic acidbacteria tested. Maximal production of bacteriocin was reached in the late stationary phase, andinhibitory activity declined within 26 h. The mode of action of sakacin LSJ618 was determined to bebactericidal, as evidenced by its action upon Micrococcus tetragenus. After partial puri fi cation byammonium sulfate precipitation and Sephadex G-25 chromatography, the molecular weight of sakacinLSJ618 was determined to be 5.2 kDa by Tricine-SDS-PAGE. The identi fi ed properties of sakacin LSJ618indicate that it is a novel bacteriocin with potential application as a biopreservative in the food industry.

【语种】英文

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【学科分类】食品科学技术其他学科

【题目】Optimization of medium composition for production of lacticin LLC518 by Lactococcus lactis subsp. lactis LLC518 using response surface methodology

【中文关键词】优化,细菌素,乳酸球菌,乳酸菌素,相应面

【英文关键词】Optimization, bacteriocin, Lactococcus lactis, lacticin, response surface methodology.

【中文摘要】论文采用响应面的方法研究了乳酸乳球菌惨细菌素的发酵条件,优化后细菌素产量较原始条件提高了86.3%,研究结果为该细菌素的进一步研究奠定了基础。

【英文摘要】Response surface methodology (RSM) was applied for the optimization of lacticin LLC518 production, which was produced by Lactococcus lactis subsp. lactis LLC518. Tryptone, KH2PO4 and MgSO4 had signicant effects on lacticin LLC518 biosynthesis by a Plackett-Burman design (PBD). After steepest ascent design (SAD) and central composite design (CCD), the optimum medium compositions were obtained as follows (g/l): sucrose 20, yeast extract 5, tryptone 8.18, beef extract 10, MgSO4 · 7H2 O 0.82, K2HPO4 2.8, (NH4)2HC6H5O7 5.0, CH3COONa 5.0, MnSO4 0.25 and Tween 80 5 ml. An 86.3% increase in bacteriocin production (180.13 IU/ml) was achieved under this condition compared within unoptimized medium (96.72 IU/ml). Under these optimized conditions, the production of Lacticin LLC518 began at 4 h, peaked at 14 h.

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【学科分类】微生物学

【题目】Cytopathic Effect of Classical Swine Fever Virus NS3 Protein on PK-15 Cells.

【中文关键词】无

【英文关键词】classical swine fever virus; cytopathic effect; apoptosis

【中文摘要】无

【英文摘要】In order to further research the relationship between classical swine fever virus' (CSFV) NS3 protein and the cytopathic effect (CPE) in cells infected with the CSFV, and to reveal the effect of protein NS3 on the host cells, the NS3 of CSFV Shimen strain amplified by RT-PCR was subcloned into the pEGFP-C1, named pEGFP-C1-NS3. The insert position, the size and the reading frame were correct for restriction enzyme digestion and sequence analysis. The pEGFP-C1-NS3 and pEGFP-C1 were transfected into PK-15 cells by liposome, and positive cell clones were gained by G418. The NS3-EGFP fusion protein expressed in pEGFP-C1-NS3 cells was observed by inverted fluorescence microscopy and identified by Western blot. The CPE appeared in positive pEGFP-C1NS3 cells 72 h after passaging, apoptosis detection was also performed on positive pEGFP-C1-NS3 cells and pEGFP-C1 cells 72 h after passaging by TUNEL assay. The apoptosis rates in the positive pEGFP-C1-NS3 and pEGFP-C1 cells were 43.4 and 13.1%, respectively ($p < 0.05$). The results suggest that the CPE in positive pEGFP-C1-NS3 cells was induced by apoptosis and there is a relationship between the

expression of NS3 and apoptosis. Copyright (c) 2008 S. Karger AG, Basel.
【语种】英文
【第一作者】徐浩
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【学科分类】畜牧、兽医科学基础学科

【题目】Recent Advances in the Derivation of Germ Cells from the Embryonic Stem Cells
【中文关键词】无
【英文关键词】IN-VITRO; BONE-MARROW; SEXUAL-DIFFERENTIATION; OVARIAN STRUCTURES; C-KIT; MOUSE; EXPRESSION; MICE; GENE; PROTEIN
【中文摘要】无
【英文摘要】: In recent years, considerable progress has been made in the establishment and differentiation of human embryonic stem (ES) cell lines. The primordial germ cells (PGCs) and embryonic germ (EG) cells derived from them share many of their properties with ES cells. ES cell lines have now been derived from different stages of germ cell development and they have differentiated into gametes and shown embryonic development in mice, including the production of live pups. Conversely, germ cells can also be derived from ES cells. It has been demonstrated that murine (m) ES cells can differentiate into PGCs and subsequently into early gametes (oocytes and sperms) and blastocysts. Recently, immature sperm cells derived from mES cells in culture have produced live offspring. Preliminary research has indicated that human (h) ES cells probably have the potential to differentiate into germ cells. Adult stem cells have been reported to differentiate into mature germ cells in vitro. Therefore, stem cells may offer a valuable in vitro model for the investigation of germ cell development and the early stages of human gametogenesis, including epigenetic modifications of the germ line. This review discusses recent developments in the derivation and specification of mammalian germ cells from ES cells and describes some of the mechanisms of germ cell development.
【语种】英文
【第一作者】华进联
【通讯作者】Sidhu, Kuldip
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【学科分类】医学细胞生物学

【题目】Increased pre-implantation development of cloned bovine embryos treated with 5-aza-2 ′ -deoxycytidine and trichostatin A.
【中文关键词】无
【英文关键词】cloned embryo; pre-implantation development; blastocyst quality; 5-aza-2 '-deoxycytidine; trichostatin A
【中文摘要】无
【英文摘要】Limited success of somatic cell nuclear transfer is attributed to incomplete reprogramming of transferred nuclei. The objective was to determine if 5-aza-2'-deoxycytidine (5-aza-dC) and trichostatin A (TSA) promoted reprogramming and improved development. Relative to untreated controls, treatment of donor cells, cloned embryos, and continuous treatment of both donor cells and cloned embryos with a combination of 0.01 mu M 5-aza-dC and 0.05 mu M TSA significantly increased the blastocyst rate (11.9% vs 31.7%, 12.4% vs 25.6%, and 13.3% vs 38.4%, respectively) and total cell number (73.2 vs 91.1, 75.2 vs 93.7, and 74.6 vs 96.7). Moreover, blastocyst rate and inner cell mass (ICM) cell number of embryos continuously exposed to both reagents were significantly higher than that of a TSA-treated group (38.4% vs 23.9% and 27.4 vs 18.2). The DNA methylation level of 2-cell embryos was decreased significantly, whereas the histone acetylation level increased dramatically after donor cell treatment and continuous treatment with both reagents. However, these epigenetic features of cloned blastocysts were not significantly different than the untreated control group. Following embryo treatment. DNA methylation and histone acetylation levels of cloned blastocysts were unchanged, except for

the group given 0.5 mu M TSA (acetylation level was significantly increased, but development potential was reduced). In conclusion, development of cloned bovine embryos was enhanced by 5-aza-dC and TSA; furthermore, the combination was more effective than either one alone. (c) 2008 Elsevier Inc. All rights reserved.
【语种】英文
【第一作者】丁向彬
【通讯作者】张涌
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【题目】6 种大豆粒形性状的 QTL 定位
【中文关键词】大豆; 粒形性状; QTL
【英文关键词】soybean,seed shape,QTL
【中文摘要】摘要: 利用晋豆23 和灰布支杂交构建的F13 代大豆重组自交系群体的474 个家系为作图群体, 构建了一个含有231 个SSR 标记的SSR 图谱。通过一年两点的随机区组田间试验和分子标记分析,研究了大豆粒长、粒宽、粒厚、长宽比、长厚比和宽厚比6 个重要粒形性状。相关分析表明, 同一性状两地点间呈极显著正相关, 粒长与粒宽、粒宽与粒厚、长宽比与长厚比、长厚比与宽厚比之间呈极显著正相关, 粒长与长宽比和粒长与长厚比呈显著正相关, 粒厚与长厚比和粒厚与宽厚比呈极显著负相关、粒厚与长宽比呈显著或极显著负相关。采用复合区间作图法, 通过500 次排列测验分别确定各性状的LOD 阈值, 在汾阳和郑州2 种环境条件下共定位了33 个QT Ls , 其中粒长共检测到7个QT Ls, 粒宽共检测到3 个QT Ls, 粒厚共检测到3 个QT Ls, 长宽比共检测到6 个QT Ls, 长厚比共检测到9 个QT Ls, 宽厚比共检测到5 个Q TLs。这些QTLs 在染色体上分布不均匀, 具有集中分布的特点, 分别位于A1, B1, B2, D1a, D2, F_2, G, I, J_2 和O 染色体上。研究表明, 大豆粒形性状间的表型相关可能源于控制数量性状的QT Ls 位点间的相关。
【英文摘要】无
【语种】中文
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【题目】设施养殖条件下不同因素对拟穴青蟹幼蟹存活率的影响
【中文关键词】拟穴青蟹;幼蟹; 中间培育;设施养殖; 存活率
【英文关键词】无
【中文摘要】在水温 25. 2 1 、连续充气和 pH 7. 8~ 8. 3 条件下, 以蚊帐布和筛绢网制成网笼作为养殖设施,以 7 个盐度梯度、 6 种养殖密度和 2 种网衣材质的 3 因素多水平实验设计进行幼蟹养殖试验. 结果表明: 幼蟹存活率均在盐度 25 时最高,分别为 C1 95. 0%, C2 90. 5%, 盐度高于或低于 25 均有下降趋势, C1 和 C2 在各盐度梯度组累计存活率均差异显著(p< 0. 01) ,而在同一盐度梯度下差异不显著(p > 0. 05) ; C1 至 C2 和 C2 至 C3 在盐度 5、 30、 35 时发育时间为 120 2 h, 而在盐度 10、 15、 20、 25 时为 96 2 h,同时在盐度 10、 15、 20、 25 组中幼蟹蜕皮的同步性优于盐度 5、 30、 35 组.在不同密度条件下,幼蟹均在密度为 637 ind/ m2时存活率最高, 且 C1 的平均存活率(89. 6%)比 C2 (84. 5%) 高, C1 和 C2 在同一密度梯度下的存活率差异极显著(p < 0. 01) . 在蚊帐布和筛绢网 2 种材质养殖容器中, C1 的平均存活率分别为 90. 4% 和88. 7%, 差异不显著(p> 0. 05) , 而 C2 的平均存活率分别为 86. 6%和 82. 6%, 差异极显著(p< 0. 01) , 表明 C1 对养殖容器材质的选择性不强.综上所述,在盐度为 25,养殖密度为 637 ind/ m2,蚊帐布为网衣材质的实验条件下,幼蟹生长最好,存活率可达到最高值.
【英文摘要】Under the condition of water temperature(25. 2± 1℃) , continuous aeration and pH 7.8~ 8. 3, a 3 factor multilevel juvenile crab culture experient were implemented with 7 salinity levels, 6 cultural density and 2 rearing container textiles. The result showed that the juvenile crab had the highest survival rate (C1 95. 0%, C2 90. 5%) at 25 salinity. There was a decreased trend at the

salinity either lower or higher 25. The survival rate of C1 and C2 had significant differences among all salinity levels groups (p< 0. 01), but no significant differences (p > 0. 05) in the same salinity level. The intermolt period of C1 to C2 and C2 to C3 at 5, 30, 35 salinity was 120±2 h, while at 10, 15, 20, 25 salinity, it was 96±2 h, the extent of metamorphism synchronization was more higher at 10, 15,20, 25 g ro ups than those of which at 5, 30, 35. Among all cultural densities , 637 ind/ m2 had the highest survival rate (90. 00%) . The average survival rate of C1 (89. 6%) was higher than C2(89. 6%) , and significant differences (p < 0. 01) of survival rate between C1 and C2 were found at the same cultural density. The survival rate of juvenile crab C1 in mosquito net and bolting silk container were 88. 50% and 85. 65% respectively , the survival rate of mosquito net (90. 4%) and bolting silk(88. 7%) had no significant differences(p> 0. 05) , while the survival rate of C2 in mosquito net (86. 6%) and bolting - silk(82. 6%) had significant differences(p < 0. 01) ,which suggested that C1 was not much selective to the textile of container. In conclusion, the optimum condition was 25 salinity, 637ind/ m2and mosquito net container.
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【第一作者】张黎黎
【通讯作者】林琼武
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【题目】锯缘青蟹可溶性蛋白与可溶性糖的季节变化
【中文关键词】锯缘青蟹; 可溶性蛋白;可溶性糖;季节变化
【英文关键词】Scylla serrata; soluble proteins; soluble saccharide; seasonal changes
【中文摘要】锯缘青蟹(Scy lla ser rata) 是生活在河口海区的一种经济甲壳动物, 环境温度对其生化组成具有重要影响,而其环境温度是随季节变化而不断变化.本研究采用生物化学方法对锯缘青蟹鳃、 肝胰腺和肌肉等 3 种器官组中可溶性蛋白和可溶性糖含量的季节变化进行研究. 结果显示锯缘青蟹 3种不同器官、 组织中可溶性蛋白含量, 均是夏季最低,冬季最高, 春秋季介于 2 者之间. 3 者的变化趋势一致, 春季后降低, 夏季降至最低,然后秋季和冬季依次升高. 3 种不同器官、 组织中可溶性糖含量均是春季最高,夏季最低, 秋冬季介于 2 者之间. 其变化趋势是春季后降低,夏季降至最低, 然后秋季和冬季升高(肝胰腺) 或依次升高(鳃和肌肉) . 本实验结论为锯缘青蟹鳃、 肝胰腺和肌肉中可溶性蛋白的季节变化基本一致;不同器官组织中可溶性糖的季节变化也较为一致. 但可溶性蛋白和可溶性糖之间的季节变化有差异,说明不同器官组织中同一生化成分的季节变化较为相似
【英文摘要】 Mud crab(Scylla serrata) is an important economic crustacea,living in estuary waters.Great impact on biochemistry composition in tissues always is exerted by environment temperature,which usually fluctuates with seasonal changes.In this work,biochemistry methods were used to measure seasonal soluble proteins and soluble saccharide in gill,hepatopancreas and muscle of S.serrata.The results show that soluble proteins in organs and tissues are the lowest in summer and the highest in winter.The change trends are conformable in different organs or tissues,namely,soluble proteins decrease after spring,get to the lowest in summer and increase in autumn and winter in order of precedence.Soluble saccharide in different organs and tissues are the highest in spring,and the lowest in summer.The change appear to be that soluble saccharide decrease after spring,get to the lowest in summer,then increase in autumn and winter(Hepatopancreas) or gradually increase in order(Gill and Muscle).The above results suggest that seasonal changes of soluble proteins are almost conformable in gill,hepatopancreas and muscle;seasonal changes of soluble saccharide are almost resemble in different organs and tissues,but there are some seasonal differences between the two components.
【语种】中文
【第一作者】孔祥会
【通讯作者】王桂忠
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【题目】拟穴青蟹大眼幼体和第I期仔蟹底质选择的研究
【中文关键词】海洋生物学; 拟穴青蟹; 大眼幼体; 第　　期仔蟹; 底质; 生境选择
【英文关键词】　marine biology;　S.paramamosain;　megalopae;　juvenile;　substrata;　habitat preference
【中文摘要】拟穴青蟹大眼幼体和仔蟹对海泥和泥沙底质的选择性显著高于各种粒径的沙底(粒度 0 . 06~2 . 00mm) .其原因可能与海泥和泥沙底质在流动海水中物理稳定性高于沙砾有关.通过以埋栖选择性和相对埋栖率为指标考察了大眼幼体和仔蟹的栖息方式,发现白昼大眼幼体埋栖在底质中的比例显著高于夜间,也高于仔蟹;夜间大眼幼体栖息方式与仔蟹差别不明显; 并发现大眼幼体栖息方式存在着昼夜差异和昼夜节律性.这揭示了拟穴青蟹大眼幼体对底质的选择性和在底质上栖息的方式表现出对 FTT机制的适应.
【英文摘要】　The settlement mode of the mud crab(Scylla paramamosain) megalopa and juveniles were studied by observing the frequency of burrowing-in or settling-on the surface of substrata.It shows that the mud crab preferred to habitat the mud or mud/sand substratum much than the sand substrata of 3 granular sizes(0.06~2.00mm).The difference is possibly due to the physical stability of mud or mud/sand substratum rather than the unstable sand by the current.The burrowing-in preference and relative burrowing rate of the crab megalopae show that the burrowing-in frequency is significantly higher during daytime than nighttime.It is also higher than that of juvenile.No significant difference exists between the megalopae and the juvenile in their preferences for burrowing-in substrata during nighttime.The settlement mode of megalopae displays day-night difference and day-night rhythm.It reveals that the substratum selection and utilization of the megalopae are an adaptation to the FTT(flood-tide transport) mechanism.
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【第一作者】陈学雷
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【题目】拟穴青蟹大眼幼体和第I期仔蟹对隐蔽物的选择。
【中文关键词】青蟹; 大眼幼体;第　期仔蟹; 隐蔽物选择
【英文关键词】　Scylla paramamosain;　megalopae;　first juvenile;　shelter preference;
【中文摘要】采用实验生态方法,以攀附率为指标, 研究了青蟹大眼幼体和第　期仔蟹对不同材质(棉布、 尼龙筛绢、 PVC 和竹木) 、 放置方式(水平或垂直) 和构型(3 种结构　3 种规格) 隐蔽物的选择性.结果表明: 大眼幼体和仔蟹对各种隐蔽物材质选择差异不显著(p > 0. 05) ,对垂直放置隐蔽物的选择性显著高于水平放置者(p< 0. 01) , 对不同结构(草丛型、 洞穴型和折角型)和不同规格(5, 7和 10 mm) 隐蔽物选择差异均极显著(p< 0. 01) . 其中, 对草丛型、 洞穴型和折角型隐蔽物的选择性依次降低,对 5, 7 和 10 mm 隐蔽物的选择性也依次降低.随着规格增大, 大眼幼体和仔蟹对草丛型隐蔽物的选择性下降幅度最大,对 5 mm 草丛型隐蔽物的攀附率为 30. 92%和 25. 9%,对 10 mm 草丛型的仅为 0. 46% 和 1. 4%. 综上所述,在研制或使用青蟹大眼幼体和仔蟹的隐蔽物时, 材质选择主要应考虑耐腐蚀、 对水质无不良影响、 不易钩挂幼体和仔蟹附肢等因素. 隐蔽物的结构以草丛型为佳, 当其亚结构的最小空隙接近大眼幼体或仔蟹全长时, 应可达到最好的使用效果.
【英文摘要】There are two important stages in the development process of mud crab Scylla paramamosain:megalopae and first juveniles.In the present study,the two stages of S.paramamosain were collected to investigate their preferences of different materials(cloth,net,PVC and bamboo sheet),layouts and conformations(3 structures × 3 sizes) shelters by employing experimental ecological methods based on the index of sheltering rates.The results showed that there was no obvious preference of different materials for megalopae and first juveniles(p > 0.05),however,horizontal shelters attracted both megalopae and first juveniles more than vertical ones(p< 0.01),shelter structures(grassy type,cavity type and knuckling type) and sizes(5,7,10 mm) had significant effects on the preferences of them(p< 0.01).Structure preferences of megalopae and first juveniles decreased consequently among grassy type,cavity type,knuckling type shelters and also decreased with increasing sizes(5,7,10 mm).Meanwhile,the decreasing extent of the preference of grassy type shelters was the greatest:30.92% & 25.9% respectively for 5 mm sized ones and 0.46% & 1.4% for the 10 mm sized ones.Therefore,materials with corrosion resistance,without harmful effects to water quality or appendage of the megalopae and first juveniles should be mainly considered when developing or using shelters.A better effect may be gained when grassy type shelters were used,especially when the smallest inter-space of the sub-structure of the shelters approximates to the total length of megalopae and first juveniles.
【语种】中文

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【题目】三疣梭子蟹抗乳化病相关基因的初步研究
【中文关键词】三疣梭子蟹; 抗乳化病相关基因; RAPD
【英文关键词】Portunu strituberculatu; resistance to emulsification disease related gene; RAPD;
【中文摘要】在梭子蟹疾病高发季节, 从宁波市梅山岛养殖场分别采集了三疣梭子蟹幼蟹得乳化病即将死亡个体10只和健康个体8只, 用RAPD技术对此18个个体的进行了检测。从20个随机引物中筛选出6个, 对每只梭子蟹的DNA 进行扩增。结果表明, 每个引物扩增出2~ 8条清晰可辨且重复性强的条带, 并在引物S96 对2组蟹的检测结果中, 从得病组里得到了1条分子量在847bp左右的特异性条带, 进而推测此条带应与抗乳化病能力的强弱有关
【英文摘要】This article gathered 18 individuals cheeper of Portunu strituberculatu,including 8 healthe and 10 dying individuals caused by emulsification disease,from Ningbo Meishan.Researching these individuals by RAPD.We filter 6 random primes from 20 ones and amplicate every individual.The result indicated that,each primer used for the detection could produce 2~8 molecular markers and the reproducible fingerprints.And from the result of the detecting of prime S96 we get a differential segment about 847bp in the sick group,therefore,We conclude that segment is related to ability of the resistance to emulsification disease
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【题目】三疣梭子蟹胚胎发育过程中肝胰腺的发生与卵黄物质利用的关系
【中文关键词】三疣梭子蟹;胚胎发育;卵黄囊;肝胰腺;卵黄利用;组织学
【英文关键词】Portunus trituberculatus; Embryonic development; Yolk sac; Hepatopancreas; Yolk utilization; Histology
【中文摘要】通过对三疣梭子蟹胚胎进行连续采样和组织切片,系统研究了三疣梭子蟹胚胎发育过程中卵黄囊和肝胰腺的发生与卵黄物质利用的关系。结果表明:(1)三疣梭子蟹胚胎的卵黄岛和卵黄囊结构分别出现在原肠期和无节幼体期,胚胎从原肠期至卵内第一期溞状幼体期,始终存在卵黄岛结构,且卵黄岛中的卵黄物质不断被分解和利用. (2)卵内第二期溞状幼体后,卵黄囊分为两个区域,卵黄囊壁中出现肝胰腺细胞(柱状上皮细胞),此时肝胰腺前体已开始形成,卵黄岛开始融合. (3)卵内第三期溞状幼体阶段,卵黄囊发育成一双肝胰腺,由于肝胰腺中的卵黄物质互相融合,卵黄岛结构消失。此阶段胚胎对卵黄物质的利用加快, 卵黄物质中存在许多空泡状结构;(4)胚胎发育进入孵化前期后,肝胰腺腔内的卵黄物质极少,而初孵溞状幼体肝胰腺腔内卵黄物质已完全消失,肝胰腺为一对囊状结构。这些结果表明在三疣梭子蟹胚胎发育从原肠期到孵化前的过程中,卵黄岛和肝胰腺细胞对于卵黄物质分解和利用起着十分重要的作用。
【英文摘要】By serial histological sections, embryos at different development stages were sampled and fixed to investigate the relationship between the organogenesis of yolk sac, hepatopancreas and the yolk utilization during the embryonic development of swimming crab, Portunus trituberculatus. The results showed that: (1) the formation of yolk island and yolk sac were in gastrula stage and egg nauplius stage, respectively, while the yolk islands could be found in the yolk sac from egg gastrula to egg Zoea Ⅰ stage. (2) From egg Zoea Ⅱ stage, the yolk sac was divided into two parts because of further development of the midgut while the hepatopancreatic cells (columnar epithelium) were appearing in the inner of yolk sac membrane. This indicated the starting formation of hepatopancreas. (3) At egg Zoea Ⅲ stage, the yolk sac had been developed into a pair of hepatopancreas while the yolk from different yolk islands were combined, then all yolk islands disappeared from this stage. Due to yolk utilization, many vacuoles could be found in the hepatopancreatic lumen. (4) When the embryo developed into pre-hatching stage, the yolk in the lumen of hepatopancreas had been nearly depleted while for newly-hatched Zoea Ⅰ, the yolk had been completely utilized and

hepatopancreasseemed to be a pair of saccate structure. These results indicated that both the yolk islands and hepatopancreatic cells play important roles for the disintegration and utilization of egg yolk from gastrula stage to pre-hatching stage in P. trituberculatus.
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【题目】东海三疣梭子蟹第一次卵巢发育规律的研究
【中文关键词】三疣梭子蟹; 卵巢发育; 卵巢指数; 卵母细胞
【英文关键词】Portunus trituberculatus; ovarian development; gonadosomatic index(GSI); oocyte
【中文摘要】2004 年7 月至2005 年4 月在舟山海区定点连续采样, 系统研究了东海三疣梭子蟹卵巢发育期间的卵巢指数(GSI) 、肝胰腺指数(H SI) 、卵巢外部特征、卵巢发育分期及其组织学的变化. 结果表明:东海三疣梭子蟹生殖蜕壳和交配主要发生在9~ 10 月, 产卵主要在3~ 4 月, 卵巢发育早期不同个体间的GSI 差异较大, 后期则趋于同步; 三疣梭子蟹卵巢发育期间, GSI 显著增加, H SI 呈现先上升后下降的趋势, GSI 和H SI 呈负相关性; 根据GSI 、卵巢形态特征和组织学变化等, 三疣梭子蟹卵巢发育可以分为6 期,Ñ期卵巢呈透明细带状, 雌体尚未生殖蜕壳, 卵巢中主要为卵原细胞(OG) 和卵黄合成前的卵母细胞(PR) ; Ò期卵巢呈乳白色, 主要为卵黄合成前的卵母细胞(PR) 和内源性卵黄合成期的卵母细胞(EN) ; Ó期卵巢为淡黄色或橘黄色, 主要为外源性卵黄合成期的卵母细胞(EX) ; Ô期卵巢呈橘红色, 主要为近成熟的卵母细胞(NO) , 卵径为200~ 300 Lm; Õ期卵巢发育成熟, 主要为成熟期的卵母细胞(MO) ; Ö 期卵巢呈淡橘红色, 已排卵, 卵巢中主要为排卵后剩余的基膜和滤泡核.
【英文摘要】By the continuous sampling in Zhoushan sea area from July 2004 to April 2005,the study was conducted to investigate the change of gonadosomatic index(GSI),hepatosomatic index(HSI),external features of ovary(size,morphology,color,etc),ovarian histology and its stages during the first reproductive cycle of Portunus trituberculatus.The results indicated that,the reproductive molt of Portunus trituberculatus occurs from September to October,while it spawns from March to April.During the ovarian development,the GSI increases significantly,while the HSI rises slightly,then declines gradually.The negative correlation could be found between GSI and HSI during the period.Based on GSI,HSI,external features of ovary,and histological configuration,the process of ovarian development could be divided into six stages, Ⅰ the ovary is ribbonlike and transparent,the main cells in the ovary are oogonia(oo) and previtellogenic oocyte(PR) before reproductive molt; Ⅱ the ovary is milk white,the main cells in the ovary are endogenous vitellogeic oocyte(EN) and PR;Ⅲ the ovary is buff and orange,the main cell type in the ovary is exogenous vitellogenic oocyte(EX);Ⅳ the ovary is deep orange,the main cell types are EX and nearly-mature oocyte(NO) in the ovary; Ⅴ the ovary is ripe,the main cell type is mature oocyte(MO);Ⅵ the crab has spawned,the ovary is light orange, the basal laminas(BL) and follicular cells(FC) could be found in the ovary.
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【题目】三疣梭子蟹的第二次卵巢发育规律
【中文关键词】三疣梭子蟹; 第二次卵巢发育; 组织学; 卵巢指数; 卵母细胞
【英文关键词】Portunus trituberculatus; Second ovarian development; Histological; Gonadosomatic index; Oocyte
【中文摘要】2005 年3) 5 月, 在室内养殖条件下对第二次卵巢发育的三疣梭子蟹进行连续采样, 系统研究了其第二次卵巢发育期间的卵巢指数(GSI) 、肝胰腺指数(HSI) 、卵巢外部特征、卵巢发育分期及其组织学变化。结果表明: [1] 三疣梭子蟹第二次卵巢发育过程可以分为4 期, Ñ 期卵巢为乳白色或者淡黄色细带状, 卵巢中主要为卵黄合成期的卵母细胞和内源

性卵黄合成前卵母细胞; Ò 期为淡黄色或橘黄色, 主要为外源性卵黄合成期的卵母细胞; Ó 期卵巢为橘红色, 主要为外源性卵黄合成期的卵母细胞和近成熟期的卵母细胞; Ô 期卵巢发育基本成熟, 肉眼可见卵粒, 主要为成熟期的卵母细胞; º 三疣梭子蟹第二次卵巢发育期间, GSI 显著增加,HSI 变化不显著, GSI 和发育天数呈显著正相关性, HSI 和GSI 的变化没有显著的相关性。

【英文摘要】During March to May of 2005, mature female swimming crabs were held in captive conditions and fed with fresh clam, Sinonovacula constricta. The spawned crabs were sampled and dissected to investigate the changes to the gonadosomatic index (GSI), hepatosomatic index (HSI), external features of ovary, ovarian histology and its stages during the second ovarian development of Portunus trituberculatus. The results demonstrated that: (1) the process of the second ovarian development could be divided into four stages: stage Ⅰ ovary was ribbonlike and milk white or buff, the main cells in the ovary were endogenous vitellogenic oocytes (EN) and previtellogenic oocytes (PR); stage Ⅱ ovary was buff and orange, the main cells were exogenous vitellogenic oocytes(EX); stage Ⅲ ovary was deep orange, the main cell types were ex and nearly-mature oocytes (NO); stage Ⅳ ovary was ripe, the main cell type was mature oocytes(MO); (2) During the period, the GSI increased significantly, while the HSI did not show a significant difference. A positive correlation could be found between GSI and ovarian development, days after spawning, however there was no significant correlation between GSI and HSI

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【题目】三疣梭子蟹雌性化育苗技术的研究
【中文关键词】三疣梭子蟹 雌性化 育苗
【英文关键词】Portunus trituberculatus Feminization Breed
【中文摘要】采用热休克法和冷休克法分别对胚胎处于第1 极体、第2 极体外排期、膜内无节幼体期及膜内蚤状幼体期的三疣梭子蟹亲蟹处理后进行室外水泥池育苗, 幼体发育至Ó期仔蟹(CÓ) 时每池随机取样3 次, 每次取样200 只, 在解剖镜下辨别雌、雄生殖孔的位置来确定雌性比例。结果显示, 膜内无节幼体期热、冷休克处理和膜内蚤状幼体期热、冷休克处理的亲蟹成活率分别为80%、60%、8 0% 和100% , 幼体雌性比例分别为(57 ? 01 5)%、(64 ? 01 5)%、(561 5 ? 01 5) %和(65 ? 01 5)%

【英文摘要】Studies on feminization breeding of Portunus trituberculatus were carried out using heat chock and cold shock. Heat shock(39.0~40.5°C,15min, 10.02mg/L, 31.0) and cold shock (3.5~4.5°C, 1min, 9.73 mg/L, 30.0) were applied to the crab ova twice(30~50min and 1~1.5h) after fertilization.Nauplius in membrane and zoea in membrane were also treated with heat and cold shock. After that,the crabs were bred in the outdoor concrete ponds.200 larvae were sampled randomly from each ponds for three times, then the larvae were observed through stereoscope at the stage of CIII,and the female rate was calculated. The results were: the survival rate of the heat and cold shocked crabs (nauplius in membrane and Zoea in membrane) was 87%、80%、80% and 100%,respectively,while the female larval rate was (57±0.5%)、(64±0.5%)、(65±0.5%) and (65±0.5%),respectively.
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【题目】三疣梭子蟹第一次卵巢发育过程中卵母细胞和卵泡细胞超微结构的观察
【中文关键词】三疣梭子蟹; 卵黄发生; 卵母细胞; 卵泡细胞; 超微结构

【英文关键词】Portunus trituberculatus; vitellogenesis; oocytes; follicular cells; ultrastructure

【中文摘要】通过透射电镜技术研究了东海三疣梭子蟹初产卵巢发育过程中卵巢的超微结构的变化. 1) 三疣梭子蟹初产卵巢发育过程中卵黄发生期可分为初期和后期; 2) 卵黄发生初期在7~ 9 月间, 此阶段卵黄生成以内源性合成为主, 卵母细胞核物质外输明显, 胞浆内大量的粗面内质网正在进行卵黄物质的内源性合成; 3) 卵黄发生后期在10 月至第二年4 月间, 卵泡细胞与卵母细胞的结合阶段, 卵母细胞借助卵泡细胞进行外源性卵黄物质合成,卵母细胞与卵泡细胞间的界线逐渐消失, 部分卵泡细胞由于胞质大量输出仅见胞核, 此时内源性卵黄合成仍然存在; 4) 排卵后, 由于大量成熟卵细胞的排出, 卵巢组织存在大量的基膜, 残留成熟卵母细胞中的卵黄物质已经解体, 卵黄颗粒自中央向边缘逐渐松散.

【英文摘要】The study was conducted to investigate the ultrastructure of Portunus trituberculatus ovary during the first ovary development by transmission microscopy.The results showed that:(1) Vitellogenesis in the Portunus trituberculatus can be divided in two stages: primary and secondary stages.(2) In primary stage(in Jul-Sep),vitelline was formed mainly by intro-oocytic yolk formation.A few of nucleolus-liked substance released from nucleolus of oocytes.Many vesicles of the endoplamic reticulum with vitellogenesis in ooplasm were observed.(3) In secondary stage(in Oct-next year Apr),many follicular cells have combined with oocytes,then the substances of yolk from extro-oocytic were transported into ootytes by follicular cells.Meanwhile,intro-oocytic yolk accumulation still existed.Many rough endoplamic reticulumes with vitellogenesis were found in ooplasm.(4)Many basal membranes were observed easily after mature oocytes releasing from ovary.The yolk substance of residual mature oocytes disaggregated,the outside substance of yolk distributed loosely in degenerate oocytes.

【语种】中文

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【题目】线粒体基因片段在梭子蟹系统发育及物种鉴定中的应用

【中文关键词】线粒体基因; 梭子蟹; 系统发育; 分子分类

【英文关键词】mitochondrial DNA; portunid crab; phylogeny; barcode;

【中文摘要】测定三疣梭子蟹(P or tunus tr ituber cul atus) 9 个个体COI 基因部分序列467 bp, 7 个个体16S rR NA 基因部分序列519 bp, 同时测定样品蟹1 个个体COI 基因部分序列468 bp。结合GenBank 中收集的梭子蟹科COI , 16S rR NA 两个基因所有同源序列信息, 使用Kimur a 双参数模型采用邻接法(NJ) 、最大简约法(M P)构建梭子蟹科分子系统发育树; 将样品蟹测得的COI 基因序列和已知属的其他蟹同源序列(429 bp) 进行比对分析。结果分析表明: 两个基因片段序列平均碱基AT 数量分数都明显高于GC 数量分数; 梭子蟹属与美青蟹属关系最近, 属应为区别于梭子蟹属、美青蟹属、青蟹属的另一支, 支持属应划分在短浆蟹亚科的观点; 根据遗传距离以及转换/ 颠换(R) 值分析, 判定出样品为锐齿。本试验运用线粒体基因片段探讨了梭子蟹类的系统发育关系以及样品蟹的种类鉴定, 为线粒体基因片段在梭子蟹的物种鉴定和系统发育重建中的开发和利用提供重要参考。

【英文摘要】The partial sequences of COI and 16S genes were determined from Portunus trituberculatus,and partial sequences of COI was determined from sampled specimen.All homologous partial sequences of COI and 16S in Portunidae were collected from GenBank and aligned with the homologous sequences of P.trituberculatus.The NJ tree and MP tree were constructed using Kimura 2-parameter model.Homologous sequences(429 bp) of sampled specimen and genus Charybdis were aligned.The results show that the average content of AT is obviously higher than that of GC in both genes.Charybdis is a different group which separated from Portunus,Callinectes and Scylla.Charybdis should be included in subfamily Thalamitinae but not in subfamily Portuninae.Sampled specimen is identified as Charybdis acuta for its genetic distance and R value.This experiment researched on the phylogenetic relationships of portunid crab and identification of sampled specimen,and it provides important information for the phylogeny reconstruction and species identification of portunid crab.

【语种】中文

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【题目】应用微卫星标记分析野生中国明对虾的亲权关系
【中文关键词】微卫星; 中国明对虾(Fenneropenaeus chinensis) ; 亲权分析
【英文关键词】Microsatellite; Fenneropenaeus chinensis; Kinship analysis;
【中文摘要】利用5 个高度多态性的微卫星座位(Fc04、Fc06 、Fc18 、Fc24 、Fc27) , 分析了不同年份中建立的10 个野生中国明对虾家系中的雌性亲虾及其后代基因型分离的情况, 表明每个家系中只有一个雄性野生中国明对虾对子代的遗传有贡献。从其中3 个家系的雌性亲虾纳精囊中提取了雄虾精子DNA, 微卫星标记显示各家系的子代个体均有一个等位基因与雄性亲虾的基因型相符, 且符合孟德尔遗传规律, 这为野生中国明对虾雌虾在繁殖季节一对一的繁殖行为提供了遗传学的证据。用UPMGA 的方法随机对3 个家系的40 尾子代个体进行聚类分析, 每个家系都能被单独聚成一类。上述工作表明微卫星标记在对虾育种中作为一种有效的亲子关系分析工具, 在种群的遗传结构、亲缘关系、繁殖行为等方面具有广阔的应用前景。
【英文摘要】The mating mode of Chinese shrimp (F. chinensis) is supposed to be pair mat ing from observation of their mating habits.However, this suggestion has not been confirmed genetically yet. In this study, fivemicrosatellite loci (Fc04, Fc06, Fc18, Fc24 and Fc27) were used to survey the mating mode of the wild Chinese shrimp in ten families which were built in different years. The male?? s genotypes could be determined from those of a female and her offspring at every locus.Only one combination of male genotypes was observed in each family. Farther, the sperm DNA ofwild male was extracted from copulatedwild female thelycum in three families of the ten. The result of microsatellite markers showed that the sperm DNA of wild males were not contam-I nated by female genome DNA. At each locus, every progeny had one allele found in the male genotype. The distributions of genotypes in offspring of the ten families were consistent with the Mendelian segregation.All of these suggested that one female copulated to one male and supported that the mating mode of this prawn is pair-mating. The cluster analysis based on UPMGA (unweighted pair-group method using arithmetic averages) between individual within/ among families was also examined and showed that each family formed single cluster, respect ively.Microsatellitemarkers as an effective tool for kinship analysis could be widely used to reveal the population structure, mating mode, etc. in breeding programs.
【语种】中文
【第一作者】王鸿霞
【通讯作者】相建海
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【学科分类】水产养殖学

【题目】微卫星用于凡纳滨对虾育种过程中亲权分析及遗传多样性的变化监测
【中文关键词】凡纳滨对虾; 微卫星; 亲权分析; 遗传监测
【英文关键词】:Litopenaeus vannamei microsatellite kinship analysis genetic monitoring
【中文摘要】利用7个微卫星标记分析了6个凡纳滨对虾家系的亲本(G0)及其后代(G1)的基因型分离情况, 同时对G0 和G1 的所有座位期望杂合度进行配对比较分析, 并且通过对G 1 群体每个位点的F statist ics分析检验群体的遗传分化, 以期对凡纳滨对虾育种进行遗传监测。结果表明: 共检测到44个等位基因。G0 和G1 的平均每个座位的等位基因数目分别为6. 14和6. 27,平均期望杂合度为0. 786和0. 733, 平均多态性信息含量为0. 709和0. 695。7个微卫星座位的累计排除概率为0. 99, 并且在有亲本存在的情况下, 能够将6个家系分开。G0 与G1 的所有座位期望杂合度的配对比较分析结果表明G0 平均期望杂合度要显著高于G1 (P < 0. 01)。G1 各座位的遗传分化指数F ST在0. 270 3~ 0. 465 4, 平均分化系数为0. 358 4。说明亚群间属于高度遗传分化。最后, 根据6个家系的遗传距离, 利用U PGMA 法对G1 个体聚类分析, 结果表明亲缘关系较近的家系A 和B 以及C 和D 的相似系数很高分别各聚为一类, E 和F分别聚为一类。
【英文摘要】Genotype segregation of parents livestocks (G0 generation)and their offspring (G1 generation)of 6 Litopenaeus vannamei families was analyzed on basis of 7 microsatellite DNA markers.In addition, heterogeneity analysis for pairwise comparisons of expected heterozygosities (He) of all loci between G0 and G1 was carried out and genetic differentiation through F-statistics at each locus in G1 population was expected to monitor genetic variation in Litopenaeus vannamei breeding. The results showed that 44 alleles

were detected in total across 7 loci assayed,mean number per locus,mean expected heterozygosity and mean polymorphism information content of G0 generation were 6.14, 0.786 and 0.709 respectively, and those of G1 generation were 6.27, 0.733 and 0.695 respectively. The combined exclusion probability of 7 microsatellite markers arrived at 0.99 and could seperate all 6 families with known parent. Heterogeneity analysis for pairwise comparisons of expected He of all loci between G0 and G1 indicated that He of G0 was significantly higher than G1(P<0.01). FST of G1 per locus ranged from 0.270 3 to 0.465 4 and average was 0.358 4 which meant that genetic differentiation in its sub population was high. The UPGMA analysis based on six families genetic distances showed all individuals of G1 generation could be classified into 4 categories.Similarly to families C and D, families A and B sharing father had high similarity coefficient and clustered together, family E and F were assigned into another group respectively.
【语种】中文
【第一作者】王霞
【通讯作者】相建海
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【题目】大豆异黄酮与脂肪、蛋白质含量基因定位分析
【中文关键词】大豆;SSR;QTL;品质;异黄酮
【英文关键词】soybean; SSR; QTL; quality; isoflavone
【中文摘要】摘要:【目的】研究大豆异黄酮与脂肪、蛋白质含量基因定位及相关性,为大豆品质改良、分子育种及基因克隆等应用提供理论依据。【方法】利用SSR 技术,对晋豆23 号和灰布支杂交构建的F13 代大豆重组自交系群体的474 个家系进行了连锁图谱的构建。在此基础上,利用 WinQTLCart2.0 软件分析了影响大豆异黄酮含量、脂肪含量和蛋白质含量3 个重要品质性状的QTL,通过复合区间作图分析,检测QTL;同时,对异黄酮与脂肪、蛋白质的含量相关性分析。【结果】检测到23 个QTL,其中控制异黄酮含量QTL 有6 个,分别定位在J、N、D2 和G 染色体的连锁群上;控制脂肪含量的QTL 有11 个,分别定位在第A1、A2、B2、C2 和D2 染色体的连锁群上;控制蛋白质含量的QTL 有6 个,分别定位在B2、C2、G 和H1 染色体的连锁群上。相关性分析结果表明:异黄酮与蛋白质含量呈极显著负相关;蛋白质和脂肪含量呈极显著负相关;蛋白质和蛋白质脂肪总量呈极显著正相关。【结论】3 个重要品质性状的部分基因定位结果与其相关性分析是一致的,其结果对大豆品质育种应用有重要利用价值。
【英文摘要】无
【语种】中文
【第一作者】梁慧珍
【通讯作者】梁慧珍
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【学科分类】农业基础学科

【题目】农杆菌介导大豆遗传转化研究进展及转基因作物现状
【中文关键词】大豆; 农杆菌; 遗传转化; 转基因作物
【英文关键词】Soybean; Agrobacter ium tum efac iens; Genetic transform ation; Genetica lly mod ified c rop
【中文摘要】利用转基因技术将目的基因导入植物受体细胞, 使目的基因在植物受体中表达, 从而获得优良性状的植株, 达到快速培育植物新品种的目的。将植物基因工程技术与常规育种技术相结合, 在培育优质、高产和抗逆植物新品种中具有巨大潜力。目前, 在各种转基因物种中, 大豆仍是难转化的作物之一, 建立有效的转化系统是改良大豆品质性状和研究大豆功能基因的先决条件。综述农杆菌介导大豆遗传转化分子机理, 影响大豆遗传转化因素,提高大豆转化效率的最新研究进展及转基因大豆生产现状。
【英文摘要】无
【语种】中文

【第一作者】练云
【通讯作者】梁慧珍
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【题目】应用SSR分析5个三疣梭子蟹野生群体的遗传多样性
【中文关键词】三疣梭子蟹; 野生群体; 遗传多样性; 微卫星
【英文关键词】Portunus trituberculatus; wild populations; genetic diversity; microsatellite marker
【中文摘要】利用本实验室筛选的8 个微卫星分子标记, 对中国舟山(ZS)、海州湾(HZ)、青岛会场(HC)、莱州湾(LZ)和鸭绿江口(YL)5 个三疣梭子蟹(Portunus trituberculatus)野生群体共计120 个个体进行了遗传多样性分析。结果显示, 8个位点共扩增到72 个等位基因, 平均等位基因数为9.0, 平均有效等位基因数为5.467 7; 平均多态信息含量为0.696 7; 平均期望杂合度(He)为0.750 8。5 个群体的期望杂合度由高到低依次为LZ(0.770 4)、HC(0.758 8)、YL(0.755 2)、HZ(0.741 5)、ZS(0.728 3)。卡方检验可知, 34 个群体位点组合符合Hardy-Weinberg 平衡, 占总数的85%。5 个群体间的遗传距离在0.245 1~0.517 9 之间, HC 和HZ 的遗传距离最小, LZ 和ZS 的遗传距离最大; 通过构建UPGMA聚类树, 发现5 个群体聚为南北两大支, HC 和HZ 两个群体遗传距离最近先聚到一起, 再与ZS 群体相聚, 形成南方群体; YL 与LZ 群体相聚形成北方群体, 最后南北两大群体聚为一支。分析群体间的Fst 值可知, 两两群体间的Fst 值在0.054 8~0.108 3 (0.05<Fst<0.15)之间, 群体间产生了极显著的遗传分化。
【英文摘要】We evaluated genetic diversity and differentiation among five wild populations of the swimming crab (Portunus trituberculatus) using eight polymorphic microsatellite loci. We collected crabs from Zhoushan (ZS), Haizhou Bay (HZ), Huichang (HC), Laizhou Bay (LZ), and the mouth of the Yalu River (YL). We isolated 72 alleles from eight loci among the five populations. The number of alleles ranged from 6 to 12 and the average number of alleles (A) and effective numbers of alleles (Ne) were 9.0 and 5.467 7, respectively. The mean PIC value for the eight microsatellite loci was 0.696 7. The expected heterozygosity (He) of each population was as follows: LZ (0.770 4), HC (0.758 8), YL (0.755 2), HZ (0.741 5), and ZS (0.728 3). The observed heterozygosity (Ho) was between 0.648 1 and 0.760 4. Six loci deviated significantly or very significantly from Hardy-Weinberg equilibrium. The genetic distances among populations ranged from 0.245 1 to 0.517 9. The UPGMA tree suggested that there were two different groups: one being composed of YL and LZ, and the other of HC, HZ and ZS. The Fst values ranged from 0.054 8 to 0.108 3, suggesting that the degree of differentiation was moderate among the five wild populations (0.05<Fst<0.15).
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【第一作者】李晓萍
【通讯作者】刘萍
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【学科分类】水产养殖学

【题目】三疣梭子蟹4个野生群体肥满度的初步研究与比较分析
【中文关键词】三疣梭子蟹　肥满度　LeCren相对状态指数Kn
【英文关键词】Portunus trituberculatus;relative fatness;Le Cren　s relative fatness
【中文摘要】采用Le Cren相对状态指数Kn,比较4个野生群体(鸭绿江口、莱州湾、海州湾、舟山)三疣梭子蟹的肥满度情况,发现鸭绿江口>莱州湾>海州湾>舟山,其中10月中旬鸭绿江口群体与舟山群体肥满度存在极显著差异(P<0.01);4个野生群体雄性个体肥满度均大于雌性个体,但无显著差异(P>0.05)。三疣梭子蟹选育品系在养殖过程中肥满度为120日龄>100日龄>80日龄,但差异不显著(P>0.05)。
【英文摘要】Based on carapace length and body weight of four wild populations of Portunus trituberculatus (Yalujiangkou,YL;Laizhouwan,LZ;Haizhouwan,HZ;Zhoushan,ZS),their relative fatnesses(Le Cren　s relative condition index,Kn)were comparatively analyzed in this study.The relative fatnesses of these four populations were YL>LZ>HZ>ZS.The relative fatness had the significant difference between YL population and ZS population in October(P<0.01),but no significant difference

between maleand female of four populations(P>0.05).In addition,the relative fatness was not related to the different stages of cultured Portunus trituberculatus.
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【第一作者】高保全
【通讯作者】刘萍
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【题目】黄芩苷增强中国对虾组织免疫和解毒代谢能力
【中文关键词】中国对虾　黄芩苷　酸性磷酸酶　过氧化氢酶　一氧化氮合酶　溶菌酶　超氧化物歧化酶　鳗弧菌
【英文关键词】Fenneropenaeus chinensis; baicalin; ACP; CAT; INOS; LZA; SOD
【中文摘要】用含不同浓度梯度(0、50、100、150 mg/ kg) 黄芩苷的饲料连续投喂健康的中国对虾F ennerop enaeus chinensis , 于给药第1、3、5/7/9、11 天采集实验对虾的血淋巴、肝胰腺、肌肉组织, 测定不同组织的酸性磷酸酶(ACP) 、过氧化氢酶(CAT) 、一氧化氮合酶(INOS) 、溶菌酶(LSZ) 、超氧化物歧化酶(SOD) 活性的变化, 研究黄芩苷对中国对虾非特异性免疫酶活指标和解毒代谢能力的影响。实验结果表明, 中、高浓度处理组血淋巴、肝胰腺、肌肉组织的A CP、INOS、SOD 在第3 天后呈上升趋势, 分别达到峰值后趋于稳定状态, 与同期对照组相比差异显著(P < 01 05) ; 低浓度黄芩苷处理组各种酶活性与同期对照组相比差异不显著(P > 01 05) , 而低、中、高浓度处理组血淋巴LSZ 酶活性与同期对照组相比差异极显著(P< 01 01) 。各种酶活亦存在组织差异性, 其中ACP、CAT 在肝胰腺中活性最高, 肌肉和血淋巴次之; 而INOS、LSZ、S OD 活性, 血淋巴中最高, 肌肉和肝胰腺次之。同时攻毒试验表明, 黄芩苷能有效地降低试验组中国对虾的死亡率, 提高免疫保护率。其中, 中浓度处理组的保护效果最佳。
【英文摘要】The aim of the study was to research the baicalin on immune enzymes of shrimp Fenneropenaeus chinensis. Four treatments were designed with different concentrations of baicalin (0g · kg-1, 50mg · kg-1, 100mg · kg-1, 150mg · kg-1) mixed with the raw diet, and the diets were orally fed to healthy Fenneropenaeus chinensis. The activities of acid phosphatase (ACP), catalase (CAT), nitric oxide synthase (INOS), lysozyme (LZA), superoxide dismutase (SOD) in haemolymph, hepatopancreas and muscle were assayed on days 1, 3, 5, 7, 9 and 11. The results showed that the enzyme activities in lower group had no significant difference compared to the control. However, the enzyme activities including ACP, CAT, INOS, LSZ and SOD were higher significantly both in middle level group and high level group (P<0.05) than in the control, respectively. The activities of ACP and CAT changed most greatly in hepatopancreas, followed by muscle and hemolymph; and the activities of INOS, LZA, SOD changed most greatly in hemolymph followed by muscle and hepatopancreas, and all of them reduced significantly (P<0.05) below the control level. The result showed that baicalin could regulate the immune system of F. chinensis significantly, and enhance non-specific immune function and antibacterial effects. All these results would provide a theoretical basis for preparation of compound Chinese herbal medicine.
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【通讯作者】李健
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【学科分类】水产养殖学

【题目】Capsular and slime-polysaccharide production by Lactobacillus rhamnosus JAAS8
【中文关键词】乳酸菌,鼠李糖乳杆菌,胞外多糖,黏液多糖,酸菜
【英文关键词】Lactic acid bacteria; Lactobacillus rhamnosus ; Exopolysaccharides; Capsular polysaccharide; Chinese sauerkraut
【中文摘要】乳酸菌产生的胞外多糖可以显著提高发酵乳制品的物理特性。从中国传统酸菜中分离到鼠李糖乳杆菌JAAS8,在MRS培养基或以葡萄糖作为碳源的半组合培养基中可以产生2种形式的胞外多糖。通过光学显微镜和透射电镜观察到胞外多糖围绕在JAAS8的表面。该菌在对数生长期分泌黏液多糖,发酵过程中产生荚膜多糖。对多糖样品的单糖分析结果显示,荚膜多糖由半乳糖和N-乙酰氨基葡萄糖组成,摩尔比5:1。黏液多糖由半乳糖,葡萄糖和N-乙酰氨基葡萄糖组成

,摩尔比4:1:1。鼠李糖乳杆菌JAAS8可以用于乳制品工业,通过增加持水力和粘度来提高发酵乳制品的流变学特性。

【英文摘要】Exopolysaccharides (EPSs) produced by lactic acid bacteria (LAB) play an important role in the improvement of the physical properties of fermented dairy products. To find EPS-p roducing LAB strains with poten tial industrial applications , a Lactobacillus rhamnosus strain, L. rhamnosus JAAS8, that is capable of producing two forms of EPS when grown in MRS broth or semi-define d medium with glucose as a carbon source was isolated and identified from Chinese sauerk raut. The capsu lar-polysaccharide (CPS) present surrounding the bacterial surface of L. rhamnosus JAAS8 was observed by both optical microscopy and tran smission electron microscopy. The slime-polysacch aride (SPS) present in the growth medium was produced mainly during the exponen tial growth phase, while the CPS was produced only in fermentatio n. Monosaccharide analysis of the purified polysaccharide sampl es showed that the CPS was composed of galactose and N-acet ylglucosamine in a molar ratio of 5:1, and the SPS was composed of galactose, glucose and N -acetylglucosamine in a molar ratio of 4:1:1. The use of L. rhamnosus JAAS8 could be considered for potential applications in the dairy industry to improve the rheological properties of fermented milk products by increasin g their water-hold ing capacity and viscosity.

【语种】英文

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【题目】Growth and Exopolysaccharide Production by Lactobacillus fermentum F6 in Skim Milk

【中文关键词】乳酸菌,发酵乳杆菌,胞外多糖

【英文关键词】Lactic acid bacteria, Lactobacillus fermentum, exopolysaccharides.

【中文摘要】从中国内蒙古传统乳制品中分离出1株发酵乳杆菌F6,研究不同培养条件下发酵乳杆菌F6在10%脱脂乳中的生长特性及产胞外多糖能力。结果显示最适培养温度为37 ° C,pH值为6.5,此时胞外多糖产量也较高。在10%脱脂乳中添加不同碳源(葡萄糖、乳糖、半乳糖和果糖)可以增加胞外多糖的产量,其中葡萄糖效果最好。添加0.5%的乳清蛋白浓缩物可以使胞外多糖产量提高2倍。脱脂乳中添加2%葡萄糖和0.5%乳清蛋白浓缩物,培养温度为37 ° C,pH值为6.5时,发酵乳杆菌F6胞外多糖产量达到最大,为44.49 mg/l。单糖分析显示发酵乳杆菌F6产胞外多糖由葡萄糖和半乳糖组成,摩尔比为4:3。胞外多糖的分子量为3.54 × 106 Da,1%的胞外多糖水溶液具有很高的粘度,显示出这种胞外多糖可以在食品生产中作为增稠剂使用。

【英文摘要】Growth and exopolysaccharide (EPS) production by Lactobacillus fermentum F6 isolated from traditional dairy products in Inner Mongolia of China were studied when the strain was grown in 10% (w/v) reconstituted skim milk under different culture conditions. The results showed that culturing of L. fermentum F6 at a temperature (37 ° C) and pH (6.5) optimal for growth was also favorable for EPS production. Supplementation in 10% (w/v) skim milk with different carbon sources (glucose, lactose, galactose and fructose) increased EPS production; glucose being more effective than other sugars. Supplementation with whey protein concentrate (WPC) at 0.5% (w/v) resulted in about two-fold increase in EPS production. A maximum of 44.49 mg/l of EPS was produced by L. fermentum F6 in the skim milk medium supplemented with 2% (w/v) glucose and 0.5% (w/v) WPC at 37 ° C and at initial pH 6.5. Monosaccharide analysis showed that the EPS of L. fermentum F6 was composed of glucose and galactose in a molar ratio of 4:3. The molecular mass of the EPS was determined to be 3.54 × 106 Da. A 1% (w/v) aqueous solution of the EPS showed relatively high viscosity, indicating the potential of this EPS to be used as a viscosifying agent in food products.

【语种】英文

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【学科分类】食品科学技术基础学科

【题目】Stucture of the Complex between Mucor pusillus pepsin and the Key Domain of κ-casein for Site-directed Mutagenesis: A combined Molecular Modeling and Docking Approach
【中文关键词】κ-酪蛋白,分子建模,微小毛霉,突变,蛋白次级水解
【英文关键词】κ-casein, Molecular docking, Mucorpusillus, Mutagenesis, Secondary proteolysis
【中文摘要】本研究首先构建并优化了κ-酪蛋白肽段CSD(His102 Leu103 Ser104 Phe105 Met106 Ala107 Ile108)三维结构;通过比对MPP(微小毛霉凝乳酶)与Chymosin(牛凝乳酶)和凝乳酶抑制剂CP-113972复合物的三维结构,初步确定了MPP的活性中心及其与CSD对接的初始条件;进而采用计算机模拟了MPP与CSD的反应,提出了其催化反应的机理;最后通过比对Chymosin与MPP和CSD复合物的三维结构,结合能量分析和空间结构分析,给出了在不改变凝乳活力的前提下,可改变水解活力的建议突变位点-Glu13和Leu11。实验结果表明,相对于改造前,突变体Glu13Pro的水解活力降低了17%,在干酪生产领域具有较大的产业化应用前景。
【英文摘要】In the structural-based mutagenesis of Mucorpusillus pepsin (MPP), understanding how κ-casein interacts with MPP is a great challenge for us to explore. Chymosin-sensitive peptide is the key domain of κ-casein that regulates milk clotting through the specific proteolytic cleavage of its peptide bond (Phe105-Met106) by MPP to produce insolublepara-κ-casein. Here, we built the model of this large peptide using molecular modeling technique. Docking study showed that MPP can accommodate the designed model with afavorable binding energy and the docked complex has proven to locally resemble the inhibitor-chymosin complex. The catalytic mechanism for the peptide model binding withMPP was explored in terms of substrate-enzyme interaction and property of contacting surface. Some critical amino acid residues in the substrate binding cleft have been identified as an important guide for further site-directed mutagenesis. Glu13 and Leu11 in the S3 region of MPP, predicted as the special mutation sites, were confirmed to retain clotting activity and decrease the proteolytic activity. These novel mutants may provide a promising application for improving cheese flavor.
【语种】英文
【第一作者】李铁柱
【通讯作者】杨贞耐
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【学科分类】食品科学技术基础学科

【题目】旱地冬小麦自然降水机械化高效生产技术研究
【中文关键词】旱地冬小麦自然降水高效利用农业机械化渭北高原
【英文关键词】dry land winter wheat;rainfall high efficiency utiliza1;farm mechanization;Wei bei Plateau
【中文摘要】为了寻求黄土台原旱地冬小麦的适宜耕作栽培技术,以传统耕作方式为对照,比较了留茬覆盖深松膜侧沟播技术与留茬免耕秸秆全程覆盖技术和留茬深松秸秆全程覆盖技术的蓄水增产效果。结果表明,在参试的各技术模式中,其农田效应增产效果和水分利用效率均以留茬覆盖深松膜侧沟播技术最好其次是留茬深松秸秆全程覆盖技术和留茬免耕秸秆全程覆盖技术留茬覆盖深松膜侧沟播技术能融深松深层贮水效应 秸秆覆盖保水增肥效应和起垄覆膜沟播聚水保水增温透光效应于一身可显著改善旱地麦田水肥气热环境条件与传统耕作比较该模式在夏闲期可多贮水 蓄水率提高 小麦生育期水分利用效率达到增产是陕西渭北及同类地区旱地小麦高效利用自然降水实现高产稳产的最佳模式选择
【英文摘要】In order to find a suitable integrated dry land farming technology for winter wheat in losess plateau,the crop yield and water utilization efficiency of three farming technology systems,no-tillage high stubble mulching,stubble-mulching and deep loosing,and plastic mulching and film side planting,were compared.The results showed that the integrated farming technology,combining leaving higher stubble in the field ,deep loosing and cultivation. plastic mulching and film side planting together, has greatest potential in improving farmland condition, crop yield and water utilization efficiency,followed by the integrated farming technology combining leaving higher stubble in the field,deep loosing and straw mulching and the technology combining leaving higher stubble in the field,no tillage and straw mulching. The integrated farming technology combining leaving higher stubble in the field,deep loosing and straw mulching has comprehensive functions to improve the ability of water storage,moisture conservation and fertility and temperature of soil。 It can improve water,fertilizer,air,and heat condition of farmland greatly。Compared with the traditional technology,this one can increase the water storing ability,by 84.4mm and the water storage by 18.2%,The water utilization efficiency of wheat can reach 15.56kg/(mm.hm2),and the yield may increase by 40.6%. this integrated farming technology is the best choice to

improve rainfall mechanical utilization efficiency and wheat yield for Shaanxi Weibei dryland area and other regions of this kind。
【语种】中文
【第一作者】薛少平
【通讯作者】朱瑞祥
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【学科分类】农学其他学科

【题目】Sprinkler Irrigation Uniformity Evaluation Based on Continuous Variable-rate Theory
【中文关键词】sprinkler irrigation, uniformity, evaluation, cubic splines, double interpolation
【英文关键词】sprinkler irrigation, uniformity, evaluation, cubic splines, double interpolation
【中文摘要】An evaluation method, with accompanying software, was developed to precisely calculate uniformityfrom catch-can test data, assuming sprinkler distribution data to be a continuous variable. This has value in assessingapplication uniformity of sprinkler irrigation designs. Two interpolation steps are required to compute unknownwater application depths at grid distribution points from radial distribution of catch-cans ’ data: using both radial andperipheral interpolations. Interpolation by cubic splines was used to give accurately interpolated values. In theory,this method has higher accuracy compared with conventional methods to analyze catch-can data. Water applicationdepths were calculated at each grid point and uniformity coefficients were computed from the grid distribution mapsof water application depths.
【英文摘要】An evaluation method, with accompanying software, was developed to precisely calculate uniformityfrom catch-can test data, assuming sprinkler distribution data to be a continuous variable. This has value in assessingapplication uniformity of sprinkler irrigation designs. Two interpolation steps are required to compute unknownwater application depths at grid distribution points from radial distribution of catch-cans ’ data: using both radial andperipheral interpolations. Interpolation by cubic splines was used to give accurately interpolated values. In theory,this method has higher accuracy compared with conventional methods to analyze catch-can data. Water applicationdepths were calculated at each grid point and uniformity coefficients were computed from the grid distribution mapsof water application depths.
【语种】英文
【第一作者】Han Wenting
【通讯作者】Wu Pute
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【学科分类】农学其他学科

【题目】Variable-Rate Contour-Controlled Sprinklers for Precision Irrigation
【中文关键词】variable-rate sprinkler; precision irrigation; contour-controlled wetted area; irrigation uniformity; square
【英文关键词】variable-rate sprinkler; precision irrigation; contour-controlled wetted area; irrigation uniformity; square wetted area sprinkler
【中文摘要】The theoretical relationship between several hydraulic performance parameters of variable-rate contour-controlled sprinklers for high uniformity precision irrigation was researched. The operational equation that describes the internal connection of flow rate, rotating speed and throw distance of the variable-rate contour-controlled sprinkler was derived using mathematical theory of limitation and double integral. The derived operational equation indicates that the flow rate of the variable-rate contour-controlled sprinkler is proportional to the product of rotating speed and square throw distance. The square wetted area sprinklers were used to illustrate the application of the operational equation of the variable-rate contour-controlled sprinkler. The theoretical throw distance equation for the square wetted area sprinkler was built. With the operational equation and theoretical throw distance equation, the theoretical flow rate and rotating speed equations of the square wetted area sprinkler were derived. The results of this research provide fundamental principles for the design of variable-rate contour-controlled sprinklers and square wetted area sprinklers.

【英文摘要】The theoretical relationship between several hydraulic performance parameters of variable-rate contour-controlled sprinklers for high uniformity precision irrigation was researched. The operational equation that describes the internal connection of flow rate, rotating speed and throw distance of the variable-rate contour-controlled sprinkler was derived using mathematical theory of limitation and double integral. The derived operational equation indicates that the flow rate of the variable-rate contour-controlled sprinkler is proportional to the product of rotating speed and square throw distance. The square wetted area sprinklers were used to illustrate the application of the operational equation of the variable-rate contour-controlled sprinkler. The theoretical throw distance equation for the square wetted area sprinkler was built. With the operational equation and theoretical throw distance equation, the theoretical flow rate and rotating speed equations of the square wetted area sprinkler were derived. The results of this research provide fundamental principles for the design of variable-rate contour-controlled sprinklers and square wetted area sprinklers.
【语种】英文
【第一作者】Han Wenting
【通讯作者】Wu Pute
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【题目】冬季桃树生理生态指标变化规律研究
【中文关键词】冬季桃树;土壤水势;土壤温度;茎干变化
【英文关键词】winter peach;soil water potential;soil temperature;trunk diameter variation
【中文摘要】分析空气温度、土壤水势以及土壤温度生态因子变化的基础上,研究了桃树茎干日变化规律以及冬季桃树的茎干变化。得出冬季土壤水势随时间逐渐减小,并受土壤温度变化影响.分析了冬季桃树地5、15和30 cm深度的土壤温度变化规律。并对曲线进行拟合,发现冬季土壤温度以二次函数规律变化,并且相关系数都在O.9以上。桃树茎干有明显的日变化规律。日最大收缩量受土壤水分状况影响较大,土壤水势高的处理,桃树茎干日最大收缩量大,相反水势较低的最大日收缩量变化较小。在2006年11月~2007年1月桃树茎干随时间不断收缩,但是收缩幅度与土壤水势有关,土壤水势高的收缩幅度较小,水势低的,收缩幅度较大.
【英文摘要】The peach winter irrigation has a direct influence on the peach growth and production next year. So we will seek a goal that is an index for making decision irrigation the peach in winter.Based on the analysis of change of soil water potential(SWP)and soil temperature(ST),we researched the daily trunk diameter variation(DTDV)and trunk diameter variation(TDV)of peach in winter.Drawing a conclusionis the SWP graduaUy decreasing with the time and affected by changing of soil temperature. We analyzed change law of ST below 5 cm,15 cm and 30 cm in winter and got a conclusion that the change of soil temperature is quite the Quadratic Function and the correlation coefficient is all aboVe O.9.The law of change of the trunk of peach is very obvious.SWP wiU affect maximum daily shrinkage(MDS)of the trunk diameter of peach. SWP is high then MDS is high and vice versa. The trunk diameter of peach has diminished gradually from November 2006 to January 2007.The shrinkage of trunk diameter(STD)of peach is reIated to SWP,SWP is high then STD is less and vice versa.
【语种】中文
【第一作者】贺军奇
【通讯作者】吴普特
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【学科分类】农艺学

【题目】固定管道式喷灌系统支管的布设方法
【中文关键词】喷灌;支管;布设方法;投资成本
【英文关键词】sprinkle irrigation;lateral pipe;layout method;investment cost
【中文摘要】传统固定管道式喷灌系统中的支管一般为最末一级管道,一般为单管顺长布置,支管上不再分支,喷头全部均匀分布在各条支管上,其缺陷是喷灌支管布设密度高,增加固定管道式喷灌系统的投资成本。为降低管道布设密度和投资

成本,提出了一种新型支管布设方法,即在传统支管布设的基础上间隔去掉一半原有支管,保留原支管上的喷头位置不变。在保留支管上每间隔一个喷头增设一个垂直于支管的短管,向被去掉支管上的喷头供水。从支管布设密度和管材用量两个方面对新型和传统两种布设方法进行了对比分析。结果表明,新型布设方法降低了支管的布设密度,当喷头为正三角形布置时,支管布设密度降低率为7%。当喷头为等腰三角形布置,且喷头间距为支管间距的两倍时,支管布设密度降低率为25%。新型布设方法增加了支管管材用量,管材用量增加率始终大于141.4%,需要通过变管径的设计方法降低管材用量增加率。研究结果为固定管道式喷灌系统的支管布设提供了一种新的方法,为降低喷灌系统管道投资成本提供了一种新的思路。

【英文摘要】Conventionallayout method of lateral pipe may result in high pipe line density and investment cOSt for set sprinkler systerns.in which sprinklers are distributed on lateral pipes equidistantly and directly.In order tO reduce the lateral pipe line density and investment cost,a layout method for lateral pipe of set sprinkler system,in which half lateral pipes were alternatively removed and additional short pipes were installed on reserved half lateral pipes perpendicularly tO deliver water tO original sprinklers on removed lateral pipe lines,was put forward in this paper.The new and conventional layout methods were analyzed and compared from the aspects of lateral pipe line density and quantity of lateral pipe materials.The results showed that the new method could reduce the distribution density of lateral pipe lines by 7%with equiangular triangle spacing of sprinklers or 25%when sprinklers were spaced in isosceles triangle and the sprinitler space was twice as the lateral space.The results also showed that the new method improved the quantity of lateral pipe by more than 141.4%.This problem could be resolved by using design method with variational lateral pipe diameter.The results of this paper provided a new design method for lateral pipe line layout and a new way to reduce lateral pipe line density and investment cost of set sprinkler systems

【语种】中文
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【题目】喷灌分布均匀系数研究.
【中文关键词】喷灌;均匀性;分布均匀系数;几何平均数;算术平均数
【英文关键词】sprinkle irrigation;uniformity;distribution uniformity parameter;geometHc average;arithmetical average
【中文摘要】突出局部灌溉不足或灌溉过量对均匀性的影响程度,提出了基于几何平均数分布均匀系数的概念,将其定义为部分测点水深几何平均值与所有测点算术平均值的比值。并根据部分测点水深数据的提取方法不同,分为1/4低值、1/4高值、1/2低值和1/2高值分布均匀系数。用MATLAB和VC川语言编制了可以实现上述分布均匀系数计算的软件“SIUEWl.0”。结果初步证明:基于几何平均数的乘法模型要比基于算术平均数的加法模型更加突出了部分低(或高)于平均值的测点水深数据对均匀系数的影响程度,因此更适用于对局部灌溉不足或过量灌溉有严格控制要求地块的灌溉均匀性评价;无论高值和低值,取点数越少,均匀性的评价结果越差。

【英文摘要】In order to emphasize the influence of over—irrigation or insufficient irrigation on irrigation unifofruity,this paper put forward the concept of distribution uniformity coefficient based on geometric average,which is defined as the ratio between geometric average of the depth of partial measuring points and arithmetic average of all points.According tO the different method for gaining the depth of partial measuring points,the distribution uniformity coefficient is defined as four categories。i.e.Low Quarter Distribution Uniformity,High Quarter Distribution Uniformity,Low Half Distribution Uniformity,and High Half Distribution Uniformity. The SIUEWl.0 software for the calculation of above coefficients is programmed through using VC++ and MATALAB software. Taking the water quantity distribution data of single RAINBIRD 30PSH sprinkler under the windy condition and 300kPa work pressure as example,which is measured through six rain gauges with spokewise layout,the distribution uniformity coefficients based on geometric average and arithmetical average under the condition that the sprinklers are foursquare or equilateral triangular layout and the layout coefficient is 1.oo~1.40,are calculated.The results show that the multiplication model based on geometric average amphasizes the influence of partial data,which are lower than the average value.on the unifortuity coefficients more than the addition model based on arithmetical average.So it is more suitable for the uniformity evaluation of irrigation systems,in which over irrigation and insufficient irrigation are prevented strictly.No matter the value is high or low,less the quantity of measuring point is, worse the result of uniformity evaluation is.

【语种】中文
【第一作者】韩文霆
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【题目】基于GPRS 的作物水分信息远程传输与监测系统设计
【中文关键词】传感器;GPRS;无线数据传输
【英文关键词】Sensor;GPRS;Wireless data transmission
【中文摘要】为了解决作物水分信息的快速获取和无线远程传输问题。本文以PTM-48M作为数据采集和监测系统,基于GPRS 无线传输技术,通过系统集成,提出了的作物水分信息无线远程传输与监测系统。该系统具有实时测定和远程传输功能。阐述了系统的整体结构。并从软硬件两方面描述了系统的设计。
【英文摘要】For obtaining the moisture of the crop quickly and achieving wireless remote data transmitting,through system integration this article put forward the wireless remote transmitting and monitoring system of the crop moisture taking PTM-48 as data acquisition and the monitor system and based on GPRS wireless data transmission.The system has the function of real time monitoring and remote transmitting.This paper elaborated the whole structure of the system,and described how to design the system on the 80flMare and hardware
【语种】中文
【第一作者】徐更琪
【通讯作者】吴普特
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【题目】喷灌均匀系数的三次样条两次插值计算方法研究
【中文关键词】喷灌均匀系数三次样条插值
【英文关键词】Sprinkler irrigation, Uniformity, Cubic splines, Double interpolation
【中文摘要】为提高喷灌水量分布均匀性评价的准确性,当雨量筒径向布置时,为考虑所有测点数据对插值点降水深的影响,采用径向和周向两次的三次样条插值计算出未知点的降水深。从而计算喷灌均匀系数。以美国雨鸟30PSH型喷头雨量筒间隔为lm和2m的喷洒试验数据,计算网格点取lm和0.25 m,分别采用三次样条两次插值法和邻近四点距离线性插值法计算了克里斯琴森均匀系数。结果表明,均匀系数由高至低的顺序依次为采样间隔为2m的线性插值、采样间隔为2m的三次样条两次插值、采样间隔为lm的线性插值和采样间隔为lm的三次样条两次插值。采样间隔2m比lm计算出的均匀系数总体高3-4个百分点,三次样条两次插值法比邻近点距离线性插值法略低1个百分点,2种计算网格点间距下的均匀系数差值小于1个百分点。结果证明,采样间距、插值方法、计算网格间距对均匀系数的影响依次降低,三次样条两次插值法可以用来评价喷灌组合均匀系数。
【英文摘要】A new evaluation method, with accompanying software SIUEWl.0, was developed to precisely calculate uniformity from catch-can test data. Water application depths of a rain-bird sprinkler 30PSH were calculated at each grid point. The Christiansen uniformity (CU) for four sprinklers in square and triangular spaced were computed with 1 m and 2 m spaces, and with 1 m and 0.25 m grid spaces. The results showed that the sequence of CUs from high to low is 2 m sampling spaces by linear interpolation, 2 m sampling spaces by cubic spline interpolation, 1 m sampling spaces by linear interpolation and lm sampling spaces by cubic spline interpolation. CUs computed from 2 m space catch-can data are greater than that from 1 m space catch-can data by 3%一4%.CUs computed with cubic spline twice interpolation are less than that with linear interpolation by using nearest four points by 1.0%.The deviation between CUs computed from grid points with 1 m space and 0.25 m separately are less than 1. 0 %.It could be concluded from these results that the influence of sampling space, interpolation method, and grid space on CU is less and less in turn.

【语种】中文
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【题目】10种保水剂基本特性对比研究
【中文关键词】保水剂;吸水倍数;吸水速率;保水率
【英文关键词】super-absorbent-polymer;water absorption capaclty;water absorption rate;moisture-preserving capacity
【中文摘要】文通过室内实验,比较分析了N1,Nj,H1.B,S。Hm,K,Ph,J,地等10种农用保水剂在纯水及不同肥料溶液中的吸水倍数、吸水速事、保水事及反复吸水次数。结果表明:所有保水剩在纯水中都有较高的吸水倍数,但不同浓度的不同肥料溶液对所有保水剂吸水倍数有着不同的影响,在相同浓度条件下.保水剂B、K和Hs相对其他保水剂其吸水倍数较高;就吸水速率看,B、K、J、和Hs保水剂都能较快地吸水;各种保水剂在土壤中和加热蒸发条件下的保水率B、S、K、I-Is四种保水剂的保水能力要好于其他保水剂;在经过25次反复吸水一烘干后.N2、S、Hm、Ph四种保水剂其吸水倍率仍能达到150倍以上;综合粒径对四种特性的影响可以看出.粒径只对保水剂吸水速率有较大的影响,而对吸水倍率、保水能力和反复吸水次数影响均不大。
【英文摘要】According to indoor expefimenm,water absorbent capacity,water absorption rate.moisture-pre—serving capacity and times of re-absortency of Nl,N2……etc 10 kinds of agricultural super absorbent polymers are compared between distilled water and different fertilizer solution with different concentration.The results in.dicate:all the super-absorbent-polymers have a higher water absorption capacity in distilled water,however。water absorbent capacity of each super absorbent polymer is impacted diversely on different concentrations of dif.ferent fertilizer solution.Under the same concentration condition,water absorption capacity of B,K and Hs au.per absorbent polymers is higher than others。while water absorption rate of B,K,J and Hs super absorbent polymers is faster than others.The moisture-preserving capacity of B,S,K and Hs super absorbent polymers is better than others under soil and heatead evaporation conditions.After 25 times of recurrent absortency.drying,water absorption capacity of N2,S and Ph super absorbent polymers reached more than 150 times.Among water absorbent capacity,water absorption rate,moisture-preserving capacity and times of reLabsortency。water ab.sorption rate is impacted significantly by particle sizes and effects on other three kinds of characteristics are little.
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【题目】水分胁迫下小麦S-腺苷甲硫氨酸合成酶基因的半定量表达模式分析
【中文关键词】小麦;S-腺苷甲硫氨酸合成酶(SAMS);水分胁迫;基因表达
【英文关键词】Wheat;S-adenosylmethionine synthetase(SAMS);Water stress;Gene expression
【中文摘要】为了解小麦S腺苷甲硫氨酸合成酶(S-adenosylmethionine synthetase,SAMS)基因(SAMS)在抗旱节水中的功能,以小麦品种陕229为材料,以本实验室克隆的普通小麦SAMS基因的序列设计引物,利用半定量RTPCR方法,对小麦叶片中SAMS基因在正常供水及PEG 6000模拟水分胁迫12、24、48、60、78 h以及复水3、6、12 h时的表达模式进行分析。结果表明,小麦SAMS基因在正常生长情况下有一定量的表达,在水分胁迫早期(PEG6000胁迫12、24、48 h)诱导上调表达,水分胁迫程度严重时(PEG 6000胁迫60、78 h)表达受到抑制,表达量低于对照,复水后(3、6 h)上调表达,复水18 h后表达量下调至对照水平。说明小麦SAMS基因的表达受水分胁迫及水分胁迫后复水诱导,是小麦抗旱节水的关键基因。
【英文摘要】To study the functions of wheat S-adenosylmethionine synthetase(SAMS)gene in drought tolerance and water use efficiency,the semi—quantitative RT—PCR was used to investigate the expression patterns of SAMS gene in the leaves of wheat

seedling of Shaan 229 during PEG-simulated water stress and re-watering after serious water stress.The results showed that the expressions of SAMS were up—regulated at 1 2,24 and 48 h of 0.5 Mpa PEG 6000 simulated water stress,then were down—regulated at 60 and 78 h of 0.5 Mpa PEG 6000 simulated water stress to less than normal level,and were up—regulated again at 3 and 6 h of rewatering,decreased again after 1 8 h of re-watering to the normal level.The expression patterns of wheat SAMS during water stress and re-watering after serious water stress suggested that this gene might be involved in the regulations of wheat to water stress and recovery,and was one of the key genes for the improvement for water use efficiency in wheat.

【语种】中文

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【学科分类】农学其他学科

【题目】赤霉素敏感性不同矮秆基因对小麦胚芽鞘长度和株高的效应

【中文关键词】普通小麦;矮秆基因;Rht-B1b;Rht-D1b;Rht8;胚芽鞘长度;株高

【英文关键词】bread wheat; dwarfing genes; Rht-B1b; Rht-D1b; Rht8; coleoptile length; plant height

【中文摘要】明确赤霉素敏感性不同的矮秆基因对小麦株高和胚芽鞘长度的效应,促进小麦不同矮秆基因的合理利用.[方法]利用分子标记和系谱分析相结合,对中国小麦主产区部分小麦品种及品系中所含的矮秆基因Rht-B1b、Rht-D1b和Rht8进行分类,结合田间株高和室内胚芽鞘长度调查,比较赤霉素(GA_3)敏感性不同的矮秆基因对胚芽鞘长度和株高的效应. [结果]分子标记检测结合系谱分析对129份供试品种进行分类,含有矮秆基因Rht-B1b的小麦品种58份,含有Rht-D1b的24份,含有Rht8的73份.其中35份品种含有2个矮秆基因Rht-B1b和Rht8,16份品种含有Rht-D1b和Rht8.赤霉素敏感性检测发现含有矮秆基因Rht-B1b或Rht-D1b的小麦品种多对赤霉素反应不敏感,含有矮秆基因Rht8的小麦品种多对赤霉素反应敏感,而同时含有2个矮秆基因Rht-B1b+Rht8或Rht-D1b+Rht8的小麦品种绝大多数对赤霉素反应不敏感.赤霉素不敏感的矮秆基因Rht-B1b和Rht-D1b以及同时含有赤霉素不敏感和赤霉素敏感2个矮秆基因的小麦品种(Rht-B1b+Rht8和Rht-D1b+Rht8)降低株高的效应较大,分别为24.6%、30.4%、28.2%和32.2%,而赤霉素敏感的矮秆基因Rht8降低株高的效应为14.3%.赤霉素不敏感的矮秆基因Rht-B1b、Rht-D1b以及Rht-B1b+Rht8和Rht-D1b+Rht8在降低株高的同时,也缩短了胚芽鞘长度,其效应分别为25.4%,31.3%、28.4%和31.3%,而赤霉素敏感的矮秆基因Rht8缩短胚芽鞘长度的效应较小,仅为6.0%.[结论]以上分析结果表明,赤霉素不敏感的矮秆基因Rht-B1b和Rht-D1b在降低株高的同时也限制了胚芽鞘的伸长,不适于旱地小麦改良利用,而赤霉素敏感的矮秆基因Rht8既降低了株高又不影响胚芽鞘长度,是旱地小麦改良中比较理想的矮秆基因.

【英文摘要】Understanding the effects of wheat dwarfing genes on coleoptile length and plant height is crucial for the proper utilization of dwarfing genes in yield improvement of wheat. [Method] Molecular markers analysis combined with pedigree information were used to classify wheat cultivars widely used in the major wheat growing regions of China into different categories based on the dwarfing genes carried, then the effects of dwarfing genes with different response to Gibberellins (GA_3) on coleoptile length and plant height were analyzed based on plant height data from the field and coleoptile length data from the lab. [Result] The screening of 129 cultivars with molecular markers revealed that 58 genotypes contained the dwarfing gene Rht-B1b, 24 genotypos had Rht-D1b, and 73 genotypes possessed Rht8, and among them there were 35 genotypes with two dwarfing genes Rht-B1b+RhtS, and 16 genotypes with two dwarfing genes Rht-D1b+RhtS. Test on response to GA_3 of these cultivars revealed that wheat cultivars with the dwarfing genes Rht-B1b or Rht-D1b were insensitive to GA_3, and those with the dwarfing gene Rht8 were responsive to GA_3. Genotypes with Rht-B1b+Rht8 and Rht-D1b+Rht8 were also insensitive to GA_3. The height reducing effects of GA_3 insensitive dwarfing genes Rht-B1b, Rht-D1b, Rht-B1b+Rht8, and Rht-D1b+Rht8 were as 24.6%, 30.4%, 28.2% and 32.2%, respectively, while that of GA_3-responsive dwarfing gene Rht8 was 14.3%. The GA_3 insensitive dwarfing genes Rht-B1b, Rht-D1b, Rht-B1b+Rht8, and Rht-D1b+Rht8 also shortened the coleoptile length by 25.4%, 31.3%, 28.4%, and 31.3%, respectively, whereas the GA_3-responsive dwarfing gene Rht8 only shortened the coleoptile length by 6.2%. [Conclusion] To summarize, the GA_3 insensitive dwarfing genes Rht-B1b and Rht-D1b shorten the eoleoptile length largely as well as reducing plant height and are not suitable to wheat improvement for dryland, while the GA_3-respoasive dwarfing gene Rht8 has much less effects on shortening eoleoptile length and also could reduce plant height to some extent, it is the right dwarfing gene for wheat improvement of dry land.

【语种】中文

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【题目】小麦品种小偃22干旱诱导基因及其表达分析
【中文关键词】小麦;干旱胁迫;抑制消减杂交(SSH);表达序列标签(EST);RT.PCR
【英文关键词】wheat;drought stress;suppression subtraction hybridization(SSH);expression sequence tag(EsT);RT-PCR
【中文摘要】利用抑制消减杂交(SSH)技术构建了小麦(Triticum aestivum)品种小偃22干旱胁迫诱导基因表达的SSH-cDNA文库,从文库中随机挑选插入片段大于400 bp的阳性克隆60个进行测序,去除冗余序列和嵌合序列后,获得了31条高质量表达序列标签(EST)序列(GenBank登录号:ES466737~Es466766,ES466799)。进一步采用RT.PCR对其中的胚胎形成晚期富集蛋白基因(LEA)和△1.吡咯啉.5一羧基合成酶基因(P5CS)的表达模式进行了分析。结果表明,获得的EST序列中的26条EST序列具有功能已知的同源基因,这些基因多数不仅与植物的非生物胁迫相关,也与植物的生物胁迫反应相关,表明植物在胁迫反应中有明显的交叉适应性,其中与小麦表达序列高度同源的EST占58%。24条EST序列与功能已知蛋白的同源性较高,主要涉及植物的信号传导、能量代谢、转录调控及防卫反应等。表达模式分析表明,LEA家族蛋白D9在土壤绝对含水量达到4.8%时上调表达,在萎蔫后复水2 h时表达量最高,随着复水时间延长表达量降低并趋于稳定;PSCS基因D16在渍水条件下、严重干旱胁迫下均上调表达,而在可维持生长的水分条件下和严重干旱后复水4 h后表达量急剧下降。序列分析表明,LEA蛋白基因D9与PSCS基闪D16均是部分同源基因,暂命名为TaLEA-D9和TaP5CS-D16。
【英文摘要】A forward subtractive cDNA library of wheat(Triticum aestivuml)Xiaoyan22 under drought stress was constructed by mRNA from drought stressed leaves used as tester and normal watered leaves used as driver using SSH(suppression subtraction hybridization) technique.A total of 60 positive clones with insertion over 400 bp were randomly picked from the library and sequenced.The redundancy and false sequences were removed after sequence alignment,3 1 high quality EST(expression sequence tag)sequences (GenBank accession No.ES466737-ES466766,ES466799)were obtained.The expressions of 2 homological genes to LEA(1ate-em—bryogenesis—abundant like protein)and PSCS(pyrroline-5-carboxylate synthetase)under drought and recovery after serious drought were further determined by RT-PCR analysis.Sequence homologous comparison and function querying showed that 26 EST ofthe 31EST sequences were highly homologous with known ESTs.Most of those genes were not only related to abiotic stresses,but also related to biotic stresses in plants,suggesting the interactions in response to different stresses in plants,and 58%of the ESTs were homologous with wheat ESTs.BlastX analysis revealed that 24 EST sequences were similar to known proteins,the functions of those proteins mainly involved in signal transmission。energy metabolism,transeription regulation,protein processing and defense response.Expressions of the LEA protein homological gene D9 showed that this LEA protein gene was up—regulated at wither stage of serious drought stress,reached to its peaK at 2 h after recovered water, then decreased and maintained stabilization.Expressions of the P5CS homological gene D16 showed that this PSCS gene was up-rvgulated at water logging(33.4%of soil absolute water content)and serious drought stresses(4.8%of soil absolute water content),and decreased steeply under no-water stress conditions and at 4 h after re-watering.Sequence analysis showed that those 2 genes were partial homologous genes with genes cloned in wheat.and were desigmated as TaLEA-D9 and TaP5CS-D16,respectively.
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【题目】The Effects of Dwarfing Genes with Different Sensitivity to GA_3 on the Coleoptile Length and Plant Height of Wheat
【中文关键词】bread wheat, dwarfing genes, Rht-B1b, Rht-D1b, Rht8, coleoptile length, plant height
【英文关键词】bread wheat, dwarfing genes, Rht-B1b, Rht-D1b, Rht8, coleoptile length, plant height

【中文摘要】Understanding the effects of wheat dwarfing genes on the coleoptile length and plant height is crucial for the properutilization of dwarfing genes in the improvement of wheat yield. Molecular marker analysis combined with pedigreeinformation were used to classify wheat cultivars widely planted in major wheat growing regions in China into differentcategories based on the dwarfing genes they carried. The effects of the dwarfing genes with different sensitivity togibberellins (GA3) on the coleoptile length and plant height were analyzed. Screening of 129 cultivars by molecular markeranalysis revealed that 58 genotypes of wheat contained the dwarfing gene Rht-B1b, 24 genotypes of wheat containedRht-D1b gene and 73 genotypes of wheat possessed Rht8 gene. In addition, among these 129 cultivars, 35 genotypes ofwheat cultivars contained both Rht-B1b and Rht8 genes and 16 genotypes of wheat cultivars contained both Rht-D1band Rht8 genes. Wheat cultivars with the dwarfing genes Rht-B1b or Rht-D1b were insensitive to GA3, while the cultivarswith the dwarfing gene Rht8 were sensitive to GA3. Most of the wheat genotypes containing combination of Rht8 genewith either Rht-B1b or Rht-D1b gene were insensitive to GA3. The plant height was reduced by 24.6, 30.4, 28.2, and 32.2%,respectively, for the wheat cultivars containing Rht-B1b, Rht-D1b, Rht-B1b + Rht8, and Rht-D1b + Rht8 genes. The plantheight was reduced by 14.3% for the wheat cultivar containing GA3-sensitive gene Rht8. The coleoptile length wasshortened by 25.4, 31.3, 28.4 and 31.3%, respectively, in the wheat cultivars containing Rht-B1b, Rht-D1b, Rht-B1b+ Rht8and Rht-D1b +Rht8 genes, while the coleoptile length was shortened only by 6.2% for the wheat cultivar containing Rht8gene. We conclude that GA3-insensitive dwarfing genes (Rht-B1b and Rht-D1b) are not suitable for the wheat improvementin dryland because these two genes have effect on reducing both plant height and coleoptile length. In contrast, GA3-sensitive dwarfing gene (Rht8) is a relatively ideal candidate for the wheat improvement since it significantly reduces theplant height of wheat, but has less effect on the coleoptile length

【英文摘要】Understanding the effects of wheat dwarfing genes on the coleoptile length and plant height is crucial for the properutilization of dwarfing genes in the improvement of wheat yield. Molecular marker analysis combined with pedigreeinformation were used to classify wheat cultivars widely planted in major wheat growing regions in China into differentcategories based on the dwarfing genes they carried. The effects of the dwarfing genes with different sensitivity togibberellins (GA3) on the coleoptile length and plant height were analyzed. Screening of 129 cultivars by molecular markeranalysis revealed that 58 genotypes of wheat contained the dwarfing gene Rht-B1b, 24 genotypes of wheat containedRht-D1b gene and 73 genotypes of wheat possessed Rht8 gene. In addition, among these 129 cultivars, 35 genotypes ofwheat cultivars contained both Rht-B1b and Rht8 genes and 16 genotypes of wheat cultivars contained both Rht-D1band Rht8 genes. Wheat cultivars with the dwarfing genes Rht-B1b or Rht-D1b were insensitive to GA3, while the cultivarswith the dwarfing gene Rht8 were sensitive to GA3. Most of the wheat genotypes containing combination of Rht8 genewith either Rht-B1b or Rht-D1b gene were insensitive to GA3. The plant height was reduced by 24.6, 30.4, 28.2, and 32.2%,respectively, for the wheat cultivars containing Rht-B1b, Rht-D1b, Rht-B1b + Rht8, and Rht-D1b + Rht8 genes. The plantheight was reduced by 14.3% for the wheat cultivar containing GA3-sensitive gene Rht8. The coleoptile length wasshortened by 25.4, 31.3, 28.4 and 31.3%, respectively, in the wheat cultivars containing Rht-B1b, Rht-D1b, Rht-B1b+ Rht8and Rht-D1b +Rht8 genes, while the coleoptile length was shortened only by 6.2% for the wheat cultivar containing Rht8gene. We conclude that GA3-insensitive dwarfing genes (Rht-B1b and Rht-D1b) are not suitable for the wheat improvementin dryland because these two genes have effect on reducing both plant height and coleoptile length. In contrast, GA3-sensitive dwarfing gene (Rht8) is a relatively ideal candidate for the wheat improvement since it significantly reduces theplant height of wheat, but has less effect on the coleoptile length

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【题目】谷子抗旱相关性状的主成分与模糊聚类分析
【中文关键词】谷子;抗旱性;主成分分析;模糊聚类;综合评价
【英文关键词】foxtail millet; drought tolerance; principal component analysis; fuzzy clustering; comprehensive evaluation

【中文摘要】【目的】探讨作物抗旱性分析评判的方法,对谷子主要农艺性状和部分生理指标与抗旱性之间的关系进行综合评价。【方法】采用主成分分析(Principal Components Analysis,PCA)和模糊聚类(Fuzzy Clustering,FC)分析,根据16 个谷子品种在干旱胁迫和自然降水条件下的抗旱相关性状对其抗旱性进行综合评价。【结果】主成分分析结果表明,6 个综合主成分可代表谷子抗旱性90.71%的原始数据信息量。利用抗旱性度量值进行模糊聚类,可将16 个谷子品种的抗旱性划分为3类,聚类结果可以较好地反映这些谷子品种的选育和种植区域的干旱特点,其中冀谷18 和豫谷1 号抗旱性强且稳定性好。【

结论】利用主成分分析,结合模糊聚类的方法进行谷子的抗旱性综合评价,不仅可以避免单一指标的片面性和不稳定性,而且可以较好地揭示谷子抗旱相关性状与其抗旱性的关系。
【英文摘要】【Objective】 The main purpose of this paper was to explore the methods of drought tolerance evaluation, and to evaluate the relationships between some agronomic traits and physiological indicators with drought-tolerance in foxtail millet (Setaria italica). 【Method】 Principal Component Analysis (PCA) and Fuzzy Clustering (FC) were used to evaluate the drought tolerance of 16 foxtail millet cultivars based on their performance under the conditions of rainfed and water limited cultivation under rainout shelter. 【Result】 The result of Principal Component Analysis indicated that 6 principal components could present 90.71% information of the raw data of the traits related to drought tolerance of foxtail millet. The 16 cultivars used in this study could be divided into 3 clusters by Fuzzy Clustering based on their Drought-tolerance Value (DV), which could reflect the drought characteristics of the origins and planting areas of those cultivars. Among those cultivars,the drought tolerance of Jigu18 and Yugu1 were better and more stable. 【Concussion】 It is an effective way to comprehensively evaluate the drought tolerance of foxtail millet by Principal Component Analysis and Fuzzy Clustering,which not only could avoid the bias and the instability of single factor analysis, but also reflect the relationship between different drought tolerance related traits and drought tolerance in foxtail millet better.
【语种】中文
【第一作者】孟庆立
【通讯作者】胡银岗
【期刊名称、卷期、页码】中国农业科学,2009,42(8): 2667~2675
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【引文索引号】0578-1752.2009.08.005
【学科分类】农学其他学科

【题目】模拟干旱胁迫下冬小麦胚芽鞘长度变化及与抗旱性的关系研究
【中文关键词】小麦;干旱胁迫;胚芽鞘长度;抗旱指数;抗旱性
【英文关键词】wheat;drought stress;coleoptile length;drought index;drought resistance capacity
【中文摘要】以6个抗旱性不同的冬小麦品种(系)为材料,通过不同浓度的PEG一6000渗透溶液模拟干旱胁迫处理,研究了小麦苗期的胚芽鞘长度、苗高、主胚根长等性状,并与其在大田及防雨棚控水条件下的产量构成和抗旱性的关系进行分析。结果表明,在不同浓度的PEG一6000渗透溶液干旱胁迫处理下,小麦苗期胚芽鞘长度在品种间差异显著;产量的抗旱指数与苗期不同干旱胁迫处理下的胚芽鞘长度的相关性分析表明,小麦的胚芽鞘长度与其抗旱指数呈极显著正相关(相关系数为0.9600),抗旱性强的品种胚芽鞘较长,抗旱性弱的品种胚芽鞘较短。在不同程度的干旱胁迫处理下,各品种的胚芽鞘长度变化趋势大致相同,因此利用胚芽鞘长度可以在早期对小麦的抗旱性进行鉴选。
【英文摘要】6 winter wheat varieties (or lines)were used as materials,their coleoptile length,seedling length and main radicle length of wheat seedlings were investigated under different concentrations of PEG—-6000 osmotic solution simulated drought stress,and their relations with the yield components and drought tolerance under different and rainout shelters were further analyzed.Under different concentrations PEG一6000 osmotic solution simulated drought stress.significant differences were observed among different wheat varieties.The correlation analysis on their coleoptile length in seedlings under different treatments with their yield drought tolerance index revealed significant and positive association with correlation coefficient of 0.9600.The longer the coleoptile length of the variety is,the higher the drought tolerance index is.Coleoptile length were observed in different varieties.and the differences among varieties were consistent under different simulated drought stresses,therefore,coleoptile length could be used in the evaluation of drought in wheat at the early stage.
【语种】中文
【第一作者】关周博
【通讯作者】胡银岗
【期刊名称、卷期、页码】干旱地区农业研究, 2009,27(2):125~130
【论文发表时间】2009-02-01 00:00:00
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【学科分类】农业基础学科

【题目】基于蓝牙的温室温度检控系统研究
【中文关键词】蓝牙 AT89S51 电流型温度传感器 温室
【英文关键词】Bluetooth AT89S51 currentmode temperature sensor greenhouse
【中文摘要】介绍了基于蓝牙的温室温度检控系统的设计。该系统以AT89S51系列单片机为控制单元,选用电流型温度传感器AD590采集测温点的温度信号,监控的温度范围为- 55~150°C。蓝牙技术的使用省去了通信线路的铺设,使检控系统的初期建设周期短、投资小。该系统通过键盘设定温度的上、下限,将温室温度控制在适合作物生长的最适宜温度区,使作物快速、高效生长,确保温室经济效益。
【英文摘要】This paperpresent the design of check and control system for greenhouse temperature based on Bluetooth. In this system, a AT89S51 single-chip is applied as a control unit and current mode temperature sens or AD590 is applied to collect the temperature on measuring temperature point. The system temperature can be controlled in a range of - 55~150°C. The application of Bluetooth technology leave out communication circuit and shorten the initial building period and reduce the investment of the check and control system. The upper and lower limit value of temperature can be set by keyboard. The temperature of greenhouse is controlled in the most suitable temperature area for crop growth, which urge crop fast and efficiently growth, insure greenhouse economy benefit.
【语种】中文
【第一作者】贾海政
【通讯作者】陈 军
【期刊名称、卷期、页码】农机化研究,2009(5):111~114
【论文发表时间】2009-05-01 00:00:00
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【学科分类】电子与通信技术其他学科

【题目】作物需水信息无线传输方式现状及研究进展
【中文关键词】作物需水信息 无线传输 GPRS 蓝牙 ZigBee
【英文关键词】crop water demand information;wireless transmission; GPRS; Bluetooth; ZigBee
【中文摘要】综述了国内外作物需水信息无线传输方式的现状和发展趋势。无线通信方式可分为长距离通信(GSM和GPRS等)与短距离通信(蓝牙和ZigBee等) 。GSM和GPRS借助于移动通讯网络,实现了作物需水信息远程采集与设备远程监控;蓝牙和ZigBee在温室作物需水信息采集与监控等方面显示出巨大潜力。未来作物需水信息系统的发展趋势将是各种无线传输方式的结合与融合,从而构建超级的传输网络。
【英文摘要】The progress of wireless data transmission and communication technology on crop water demand information was reviewed. Wireless communication techniques are divided into two types. Long distance communication mode (GSM, GPRS and so on) and short distance communication mode (Bluetooth, Zigbee and so on). GSM and GPRS can perform remote crop water demand information collection and remote control by mobile communication network. Bluetooth, Zigbee show enormous potentiality for monitoring environment of greenhouse. In the future, the trend of the wireless data transmission and communication technology is suggested to be combination and convergence of all kinds of wireless transmission, thus to construct the super- transmission network..
【语种】中文
【第一作者】徐更琪
【通讯作者】吴普特
【期刊名称、卷期、页码】农机化研究,2009(4):1~4
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【学科分类】电子与通信技术其他学科

【题目】SOil Moisture Conserving irrigation in Winter Wheat Field
【中文关键词】墒灌溉;冬小麦;土壤水分;迁移转化
【英文关键词】Moisture conserving irriqation;Winter wheat:Soilwater:Migration and transformation
【中文摘要】[目的]为田间保墒灌溉提供理论依据。[方法]以小麦品种小燕6号为供试材料,对其进行3种不同的覆盖灌水处理(①秸秆覆盖;②地膜覆盖;③PAM化控调节覆盖),以非覆盖处理为对照,比较不同处理的蓄水保墒效果:[结果]不同保墒

措施下冬小麦的耗水量均表现出前期小、中期大、后期小的特点,与对照小麦的耗水规律基本一致,但不同处理冬小麦的耗水强度因灌溉时间及小麦生长状况的不同而有所差异;各保墒处理均可抑制冬小麦开花前土壤水分的无效蒸发;PAM处理0-20cm土层土壤含水量略低于对照,但20-50cm土层上壤含水量略高于对照;不同处理土壤水分的差异主要体现在0~50cm土层。[结论]秸秆覆盖和地膜覆盖的抑蒸效果较好。

【英文摘要】[Objective]The aim was to provide theoreticaI basis for fieId moisture conserving imgation.[Metllod]With Xiaoyan No.6 as tested materiaI,three different kinds of muIching irrigation treatmems were carrIed out(straw muIching;plastic muIching:PAM control adiustment mulching).With non-mulching treatmem as control,moisture conserving effect of different treatments were compared.[Result] The results showed that the water consumption of winter wheat under different soil moisture conservation treatments was low atearlier stage and later stage.But high at mid-stage,which was consistent with the water consumption law of control.There were some differences in terms of consumption inensity because of irngation schedule and growth condition;siol moisture conservation treatments could restrain ineffective evaporation of soil moisture before anthesis.We also found that the variation of soil moislure at depth of 0-20cm in PAM and control trealment was dramatic.The soil moisture of the former was lower than the Iatter at the depth of 0-20cm。But higher at the depth of 20-50cm.The difference of soil moisture at the depth of O-50cm was significant.[couclusion] Plastic mulching and straw mulching could restrain evaporation effectiveIy.

【语种】英文

【第一作者】贺军奇

【通讯作者】贺军奇

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【学科分类】农学其他学科

【题目】小麦碳同位素分辨率与叶片气孔相关指标的关系

【中文关键词】小麦; 碳同位素分辨率;替代指标; 气孔导度;叶面温度

【英文关键词】Carbon isotope discrimination; Substitution indexes; Stomatal conductance; Flag leaf temperature

【中文摘要】为了探讨气孔相关指标替代碳同位素分辨率(Δ)作为评价指标的可行性, 测定了56个小麦品种(系)的碳同位素分辨率(Δ), 并分析了灌浆期不同阶段气孔相关指标与Δ值的相关性。结果表明,小麦旗叶和籽粒的Δ值均具有较好的遗传稳定性;灌浆中后期小麦旗叶的气孔导度和叶面温度都与Δ值有较强的相关性。因此,在育种中,可以通过测定灌浆中后期小麦旗叶的气孔导度和叶温代替Δ值对材料的蒸腾速率进行初步选择。

【英文摘要】This paper aims at probing whether the stomatal indexes could be used as an substitution for carbon is otope discrimination(Δ) in breeding program. The stomatal conductance and surface temperature of flag leaf at 5 different grain-filling stages were measured in 56 wheat cultivars grown at no-irrigation conditions, and their relationship with carbon isotope discrimination were analyzed. The results showed that the measured from either flag leaf or grains had good stability and correlation analysis between the measured stomatal indexes and Δ indicated that there were significant correlations between stomatal conductance and surface temperature of flag leaf measured at middle-later period of grain-filling with Δ Therefore measuring the stomatal conductanceandtemperatureof flagleaf at middle later periodof grain filling couldbe used instead of carbon is otope discrimination for primary screening of transcription efficiency in breeding materials.

【语种】中文

【第一作者】逯芳芳

【通讯作者】胡银岗

【期刊名称、卷期、页码】麦类作物学报,2010,30 (4) :660~664

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【学科分类】农学其他学科

【题目】中国小麦地方品种春化基因的分布及其与冬春性的关系

【中文关键词】小麦 地方品种 春化基因 分布频率 冬春性

【英文关键词】wheat; landraces; vernalization genes; distribution frequency; winter hardness
【中文摘要】了解春化作用相关基因在中国小麦地方品种中的分布特点及其与小麦冬春性的关系,促进小麦地方品种的合理利用.[方法]采用小麦春化作用相关基因Vrn-A1、Vrn-B1、Vrn-D1和Vrn-B3的STS分子标记,对其在中国小麦十大生态栽培区的153份地方品种中的分布进行检测,并分析其与冬春性的关系.[结果](1)中国小麦地方品种中4个显性春化基因的分布频率依次为60.78%(Vrn-D1)、5.88%(Vrn-A1a)、5.2 3%(Vrn-B1)和0(Vrn-B3).(2)Vrn-A1a和Vrn-B1,在东北春麦区等春麦区地方品种中的分布频率较高,以东北春麦区最高,达5O%和33.33%,在大部分冬麦区未检测到这2个显性突变.10个麦区地方品种均检测到Vrn-D1,在青藏春冬麦区地方品种分布频率最高(83.33%),也是在中国冬麦区小麦地方品种中检测到的主要春化基因类型.(3)中国十大麦区地方品种的春化基因型与其对春化作用的要求基本吻合,除中部和南方冬麦区地方品种基因型与文献记载的冬春性的一致性指数较低外,其它麦区的冬春性一致性指数较高.[结论]通过分子标记检测,明确了中国小麦地方品种的春化基因类型及其分布特征,分子检测与田间观察相结合能够更准确地反映品种的冬春性.
【英文摘要】[Objective] The objective of this experiment is to understand the distribution of vernalization genes in Chinese wheat landraces and their relations with winter hardness so as to promote the reasona ble utilization of thos e landraces in wheat improvement. [Method] Using STS markers of wheat vernalization genes Vrn-A1 , Vrn-B1 , Vrn-D1 , and Vrn-B3 , the loci distribution of those genes among 153 Chinese wheat landraces from 10 major wheat ecological regions of China were detected, and their relationship with winter hardness was analyzed. [Result] The frequencies of the dominant loci of the four vernalization genes in Chinese wheat landraces were 60.78% (Vrn-D1), 5.88% (Vrn-A1a), 5.23% (Vrn-B1), and 0 (Vrn-B3), respectively. The higher frequencies of Vrn-A1a and Vrn-B1 were detected in spring wheat regions, with the highest in Northeastern China Spring Wheat Region with 50% and 33.33%, respectively, while in most winter wheat regions, thos e loci weren ’ t detected. Vrn-D1 was detected in all the 10 wheat ecological regions, which also was the main locus of vernalization genes in the landraces of winter wheat regions in China and the highest frequency was detected in Qinghai-Tibet Spring-Winter Wheat Region (83.33%). The genotypes of vernalization genes in wheat landraces from 10 major wheat ecological regions of China detected by molecular marker analysis we re largely consistent with their vernalization requirement, and the consistency index of genotypes detected with the winter hardness recorded from the field was higher in general, while the consistency index for the landraces from the winter wheat regions of central and southern China were lower. [Conclusion]The types and distribution characters of vernalization genes in Chinese wheat landraces were clarified, combining molecular detection of geno type and field investigation of phenotype could reflect the wint erhardness of wheat better.
【语种】中文
【第一作者】姜 莹
【通讯作者】黄林周
【期刊名称、卷期、页码】中国农业科学,2010,43(13):2619~2632
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【题目】保墒灌溉条件下冬小麦地土壤水分迁移转化规律研究
【中文关键词】灌溉;冬小麦;土壤水分;迁移转化
【英文关键词】Moisture
conserving
irrigation;Winter
wheat;Soil wamr;Migration
and transformation
【中文摘要】[目的]为田间保墒灌溉提供理论依据。[方法]以小麦品种小燕6号为供试材料,对其进行3种不同的覆盖灌水处理(①秸秆覆盖;②地膜覆盖;(DPAM化控调节覆盖),以非覆盖处理为对照,比较不同处理的蓄水保墒效果。[结果]不同保墒措施下冬小麦的耗水量均表现出前期小、中期大、后期小的特点,与对照小麦的耗水规律基本一致,但不同处理冬小麦的耗水强度因灌溉时间及小麦生长状况的不同而有所差异;各保墒处理均可抑制冬小麦开花前土壤水分的无效蒸发;PAM处理0~20cm土层土壤含水量略低于对照,但20—50cm土层土壤含水量略高于对照i不同处理土壤水分的差异主要体现在0~50enl土层。[结论]秸秆覆盖和地膜覆盖的抑蒸效果较好。
【英文摘要】[Objective]The aim want to provide theoretical basis forfield moisture conserving irrigation.[Method]with Xiaoyan No.6 as tested material。Three different kinds of mulching irrigation treatments were carried out(straw mulching;plastic mulching;PAM control adiustmentmulching).With non-mulching treatment as control,moisture conserving effect of different treatments were compared.【Result】The resuits showed that the water consumptionof winter wheat under different Soil moisture

conservation treatments was low at earlier stage and later stage.but high at mid-stage.Which was consistent wlth the water consumption law of control.There were some difference in terms of consumption intensity because of irrigation schedule and growth condition:soil moisture conservation treatments could restrain ineffective evaporation of soil moisture before anthesis.We also foundthat the variation of soil moistureat depth of 0-20cm in PAM and eontrol treatment was dramatic.The soll moisture of the former was lower than the latter at the depth of 0-20cm.but higher at the depth of 20-50cm.The difierence of soil moisture at the depth of 0-50cm was significant.[Conclusion]Plastic mulching and straw mulching could restrain evaporation effectively.

【语种】中文
【第一作者】贺军奇
【通讯作者】汪有科
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【学科分类】农学其他学科

【题目】转酿酒酵母HOG1基因拟南芥植株的获得与检测
【中文关键词】HOGJ基因;构建植物表达载体;拟南芥转化
【英文关键词】HOGl gene;Construction of plant expressionvector;Arabidopsis thalianatransformation
【中文摘要】HOGl(highosmolarityglycerol,HOGl)是酵母中参与耐高渗透压调控的重要基因。根据已发表的酿酒酵母序列,设计特异引物,扩增到完整的H()GJ基因;构建植物表达载体pBll21一HOGl,通过农杆菌介导转化拟南芥,获得转化植株种子。对收获的T。代种子进行卡那霉素抗性筛选,并通过PCR和RT-PCR对抗性苗进行检测。结果表明,构建的载体成功转化拟南芥,并获得了13份转HDGj基因苗。
【英文摘要】HOGl is an important regulatory factor which regulates response to high osmolarity in Yeast.In this paper,the full-length HOGl gene from the genomie DNA of Saccharomyces cerevisiae was isolated with PCR technique using primers designed according to the published sequence.To identify potential function of this gene in plant,expression vector pBll21一HOGl was constructed,and then transformed into Arabidopsis thaliana by Agrobacterium tumefaciens-mediated method.Totransgenic seeds were screened on MS plate containing Kanamycin.After PCR and RT-PCR,13 positive trans genie seedlings were identified,providingMaterial for further studies on the function ofHOGl gene and its interaction with other genes in plants.

【语种】中文
【第一作者】岳 华
【通讯作者】宋卫宁
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【学科分类】生物学其他学科

【题目】桃树茎干日变化与生态因子之间的关系研究
【中文关键词】桃树 茎干日变化 生态因子
【英文关键词】peachtree; trunkdaily variation; ecological factors
【中文摘要】采用SPSS软件分析了2007年5-10月桃树茎干日变化与生态因子之间的关系,建立了多元回归数学模型,各月份回归系数均在0.9以上.结果表明,不同生长阶段影响茎干日变化的主要因子不同,而且在一日内影响茎干变化的主要因子也在随时间的推移而变化.从整个生长过程来看,桃树茎干日变化与空气温度和空气相对湿度这2个因子之间的关系相对比较密切.研究不同土壤水势条件下桃树茎干日变化与生态因子之间的关系,可为桃树生长环境的调控提供科学依据.
【英文摘要】The relationship between daily variation of peach stem and ecology parameters during May and October in 2007 was analyzed by SPSS. Meanwhile, multiple regression mathematical model was built and the regression coefficient of each month was greater than 0. 9. The results showed that the key factor which influence stem daily variation was different indistinct growth period. Moreover, thekeyfactor was changed as time goes on in the same day. Close relation ships between stem daily variation and air temperature, air relative humidity were found during whole growth period. Investigating the relationship between stem daily variation

and ecology parameters can provide the scientific foundation for regulation and control of pear tree growing environment.
【语种】中文
【第一作者】贺军奇
【通讯作者】汪有科
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【学科分类】园艺学

【题目】30份引进大麦品种苗期耐盐性分析
【中文关键词】大麦品种(系);苗期;耐盐性;综合评价
【英文关键词】Hordeum
vulgare;salt tolerance;seedling stage;comprehensive
evaluation
【中文摘要】在不同浓度NaCl胁迫下,通过光合速率(Pn)、蒸腾速率(Tr)、气孔导度(Gs)、胞间C02浓度(Ci)、叶绿素(Chl)、丙二醛(MDA)、游离脯氨酸(Pro)、超氧化物歧化酶(SOD)和过氧化氢酶(CAT)的测定,运用主成分分析法和模糊隶属函数法对30份国外引进的大麦Hordeum vulgare品种(系)耐盐性进行综合分析。结果表明:随着NaCl浓度增大,引进大麦品种(系)除SOD、CAT和Pro外其他指标与对照相比均有所下降。根据综合评价值可知,其耐盐性由强到弱为:22-25>22-30>DH-116>Tabigha>Modaba>22-55>DH-55>22-28>Tarpgolbor>KoRv>KHEMUS>Steptoe>Harrington>Clipper>Jrbid>Cpyrus>DH-66>Prior>Morex>22-43>TObarley>Barbican>22-42>DH-40>Schooner>DH-127>Kerab>Sloop>Yahudiya>DH-126。
【英文摘要】MDA content,SOD activity,CAT activity,Procontent and chlorophyll content,photosynthesis rate,stomatal conductance and transpiration rate were measured underdifferent salt stress at seeding stage.Salt tolerancein 30 introduced materials of Hordeum vulgare was comprehensively analyzed by principal component analysis and subordinative function.The results showed that MDA content,chlorophyll content,photosynthesis rate,stomatal conductance and transpiration rate decreased with the increasing of NaCl concentration except SOD activity,CAT activity and Procontent.The sequenee of salt tolerance for 30 materials was 22-25>22-30>DH-116>Tabigha>Modaba>22-55>DH-55>22-28>Tarpgolbor>KoRv>KHEMUS>Steptoe>Harrington>Clipper>Jrbid>Cpyrus>DH-66>Prior>Morex>22-43>TObarley>Barbican>22-42>DH-40>Schooner>DH-127>Kerab>Sloop>Yahudiya>DH-126.
【语种】中文
【第一作者】解松峰
【通讯作者】宋卫宁
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【学科分类】农学其他学科

【题目】硬粒小麦和野生二粒小麦高分子量谷蛋白亚基的遗传多样性
【中文关键词】野生二粒小麦;硬粒小麦;高分子量谷蛋白亚基;遗传多样性
【英文关键词】Durumwheat;Wildemmer
wheat;High
molecular
weightglutenin;Genetic diversity
【中文摘要】为了解硬粒小麦和野生二粒小麦的高分子量谷蛋白亚基(HMW—GS)组成及优质亚基的分布特点,并对其多样性进行分析,利用SDS聚丙烯酰胺凝胶电泳(SDS-PAGE)对32份硬粒小麦和75份野生二粒小麦共107份材料的HMw—GS组成进行了分析。结果表明,Glu-1位点共有27种等位基因,其中Glu-A1位点4种。Glu-B1位点23种;亚基null和6+8在各自的位点上出现频率最高,分别达到38.84%和16.82%;其亚基组成类型共有47种,主要为l/6+8,频率达7.48%;同时筛选出33份含有l、2*,13+16、14+15,17+18等优质亚基的材料,可作为优质基因源。多样性分析结果表明,在Glu-A1和Glu-B1位点以及HM-

GS组成上,野生二粒小麦的多样性都大于硬粒小麦。另外,在材料GW-2、GW-4中发现未命名的新亚基。
【英文摘要】In order to know the genetic diversity of high molecular weight gluten,32durum wheat and 75 wild emmer wheat were analyzed by means of SDS-PAGE.There sult indicated that there were 27 alleles on Glu-1 loci,including4 alleles onGlu-A1 loci,23 alleles on Glu-B1 loci;Andnull,6+8 subunits oceurred with highest frequency on each loci,reaching 38.84% and 16.82%respectively.There were 47 types of subunit compositions and the predominant was 1/6+8 with a frequency of 7.48%.Materials conferred with elite subunits of l,2＊,13+16,14+15,17+18 were selected and could be a source of desirable genes.Results from the diversity analysis showed that the diversity of wild emmer wheat were greater than of durum wheat in the GIu-A1 and GIu-B1 loci,as well as HMW—GS composition.One newsubunit combinations type was found in wild emmerwheat materials GW-2andGW-4.
【语种】中文
【第一作者】金广慧
【通讯作者】宋卫宁
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【学科分类】农学其他学科

【题目】矮秆基因对小麦部分农艺性状的效应
【中文关键词】普通小麦;矮秆基因;Rht-B1b;Rht-D1b;Rht8;农艺性状
【英文关键词】Bread wheat ;dwarfing genes;Rht-B1b;Rht-D1b;Rht8; agronomic traits
【中文摘要】以中国主要麦区的124份小麦品种为材料,利用分子标记和系谱分析相结合,对其按照所含的矮秆基因Rht-B1b、Rht-D1b和Rht8进行分类,结合田间株高、旗叶长、小穗数和穗粒数以及室内苗期根系长度等农艺形状的调查,分析不同矮秆基因对小麦农艺性状的效应。结果显示: (1) 参试的124份小麦品种(系) 中23份含有Rht-B1b,7份含有Rht-D1b,22份含有Rht8基因,34份同时含有Rht-B1b和Rht8,16份同时含有Rht-D1b和Rht8,可分为6组。(2) Rht-B1b和Rht-D1b在降低株高的同时也缩短了旗叶的长度和苗期叶长,Rht8对株高的影响较弱,对旗叶和苗期叶长的影响也较小;3个矮秆基因对苗期根系长度、小穗数没有显著影响;Rht-D1b和Rht8显著增加穗粒数。研究表明,矮秆基因Rht8对小麦株高以及其他农艺性状的影响均较小,但能够显著增加穗粒数,是小麦矮化育种中比较理想的矮秆基因。
【英文摘要】To investigate the effects of dwarfing genes Rht-B1b, Rht-D1band Rht8 on agronomic traits of wheat ,we use molecular markers analysis combined with pedigree information,124 wheat cultivars widely used in Chinese major wheat production regions were classified into different categories based on the dwarf genes carried,then the effects of dwarf genes on plant height ,length of flag leaf ,spikes per individual and kernels per spike were analyzed based on these data from the field and root length data from the lab. Results indicated that (1) The screening of 124 varieties with molecular markers revealed that there were 23 geno types with dwarfing gene Rht-B1b,7genotypes with dwarfing gene Rht-D1b and 22 genotypes with dwarfing gene Rht8,and 34 genotypes with two dwarfing genes of Rht-B1b and Rht8,and 16 genotypes with two dwarfing genes of Rht-D1b and Rht8. (2) The effects of dwarfing genes Rht-B1b, Rht-D1b and Rht8 on agronomic traits of wheat showed that the strongest effect on reducing plant height was observed for dwarf genes Rht-D1b and Rht-B1b,and then Rht8,and no significant differences was observed in seedling root length;The length of flag leaf of wheat cultivars with Rht8 was significantly longer than that of other dwarfing genes;there were no significant differences observed in spikes per individual ;the kernels number per spike of wheat cultivars with dwarfing genes Rht-D1b and Rht8 were significantly higher than that with dwarf gene Rht-B1b. To summarize,the dwarfinggenes Rht-B1b and Rht-D1b shorten the flag leaf length largely while reducing plant height ,the dwarfing gene Rht8 had muchless negative effects on other agronomic traits and also could reduce plant height to some extent ,mean while increasing grain number per spike. Rht8 is an ideal dwarfing gene for wheat improvement.
【语种】中文
【第一作者】唐 娜
【通讯作者】胡银岗
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【题目】喷头水量分布仿真及组合优化软件系统研究
【中文关键词】喷灌; 水量分布仿真;组合优化;MATLAB; VC
【英文关键词】sprinkler irrigation; water distributionsimulation; spacing optimization; MATLAB; VC+ +
【中文摘要】喷灌以其适应性广、易于机械化作业等优点成为目前世界上广泛采用的节水灌溉技术之一。喷灌均匀度是衡量灌溉质量和喷头水力性能的重要指标, 是喷灌系统规划设计中的重要参数。通过接口软件MATCOME4. 5,结合MATLAB与Visual C+ +工具混合开发出喷头水量分布仿真及组合优化软件系统。该系统操作简单, 功能强大,能够脱离混合开发环境独立运行。用户只需输入雨量筒实测数据, 选择喷头组合方式, 插值方法及插值间距等指令,系统即可快速得出基于给定组合方式下的多种喷灌均匀度系数, 喷洒水量分布图, 或以某种均匀度数为评价指标的喷头组合间距优化结果。系统给喷灌质量或喷头性能的评价分析工作以及喷灌系统的规划设计工作带来了极大便利。
【英文摘要】As one of the water-saving irrigation technologies, sprinkler irrigationis widely used in the world due to its wide adapt ability, easy mechanized operation and other advantages. Sprinkler uniformity is an important index to evaluate irrigation quality and the performance of sprinkler, also a significant parameter to design a sprinkler irrigation system. Through the interface MATCOM4. 5,computer software for Sprinkler Water Distribution Dynamic Simulation and Spacing Optimization is developed based on MATLAB andVisual C+ + in this paper. This softw are with powerful function can be operated easily and run without installation of MATLAB.It can quickly computed most kinds of application uniformity coefficients, draw water distribution maps and determine the best sprinkler spacing and lateral spacing with a certain coefficient as evaluation index according to catch-cansdata, sprinkler combination, interpolation method and interpolation spacing. In conclusion, it brings great convenience to the evaluation of irrigation quality and sprinkler performance as well asthe designof a sprinkler irrigation system.
【语种】中文
【第一作者】劳东青
【通讯作者】韩文霆
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【学科分类】农学其他学科

【题目】作物需水信息实时监测与无线远程传输系统
【中文关键词】作物需水信息;传感器;GPRS ;无线数据传输
【英文关键词】crop water demand information;sensors;GPRS;wireless data transmission
【中文摘要】为了解决作物需水信息的快速获取和无线远程传输问题,提出并实现了一种作物需水信息无线远程传输与监测系统该系统由3部分组成,即PTW-48M 植物生理生态监测仪及所适配的传感器构成的数据采集与监测系统、GPRS DTU与 GPRS网络构成的无线数据传输系统以及数据存储和处理中心为此,阐述了系统的整体结构,并从软硬件两方面描述了系统的设计及实现结果实现GPRS DTU和PTM-48M 植物生理生态监测仪的成功连接,且PTM-48M 连接多个传感器可实时采集多个信息,进而实现了多通道作物需水信息的异地实时监测与无线远程传输实践证明,该系统使用灵活,数据传输可靠。
【英文摘要】For obtaining the water demand information of the crop quickly and achieving wireless remote data transmitting, put forward and carry out the system of the real time monitoring and wireless remote transmitting of the crop water demand information. The system is made up of three parts that PTM-48M Photosynthesis and Transpiration Monitor and the sensors to constitute the data collecting and monitoring, GPRS DTU and the GPRS network to constitute wireless remote transmitting, the data center of storing data and processing data. Elaborated the whole structure of the system, and describe how to design and carry out the system on the software and hardware. The results achieved connectivity of GPRS DTU and PTM-48M Photosynthesis and Transpiration Monitor, and PTM-48M linked to a number of sensors, can collect a number of real-time information. Proceed to achieve a multi-channel on crop water demand information real-time remote monitoring and remote wireless transmission. It is proved that the system is vivid and the data transmission is credible.
【语种】中文
【第一作者】徐更琪
【通讯作者】吴普特
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【题目】基于Web的农业环境信息实时发布系统研究
【中文关键词】Web; 实时; 农业环境
【英文关键词】Web; real- time; agricultural environment
【中文摘要】农业环境信息的远程动态管理对制定科学合理的生产措施具有重要意义。为此, 应用VB6. 0实现了实时读取农业环境传感器系统的DAT数据文件, 并将数据存储在网络数据库表中。同时, 应用ASP动态网页技术实现了信息发布。经验证, 系统可以实现农业环境信息的实时发布、历史数据查询以及分析等功能。系统充分利用数据库技术和Web技术的优势, 为农业生产的远程实时管理提供了可能。
【英文摘要】The remote and dynamic management of agricultural environment information is of critical significance for making scientific and reason able production measures. Based on VB6. 0, DATdata file of agricultural environment sensor system was read in real time, and then the data were stored in the table of network data base and released on web through ASP dynamic web technology in this paper. It is proved that the system can release agricultural environment information in real time, query and analyze historical data. Through this system which made full use of advantages of data base and web technology, it is possible to manage agriculture production in real time remotely.
【语种】中文
【第一作者】马巧红
【通讯作者】韩文霆
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【学科分类】农业基础学科

【题目】作物数字图像远程实时获取方法研究
【中文关键词】计算机视觉技术; 数字图像; 图像获取; 农业
【英文关键词】computer vision; digital image; image acquisition; agriculture
【中文摘要】作物图像获取方法是应用计算机视觉技术监测作物长势的首要问题。为此, 对作物数字图像远程实时获取方法进行了研究。研究的作物数字图像远程实时获取系统由图像获取设备、下位机、数据传输系统、Web服务器和客户端等部分组成, 包括用户管理与系统维护、数据库管理、图像获取与设备控制和数据处理与发布4个功能模块。系统利用带无线传输功能的数码相机和高清晰网络工业相机作为作物数字图像获取设备, 并给出了图像获取设备的5种安装形式: 移动车载、固定形式、滑动导轨、云台和综合形式; 系统在图像获取设备到下位机之间采用有线或微波无线的传输方式, 从下位机到Web服务器再到客户端采用Internet网络连接, 通过增加带宽可以显著提高图像信息的传输速率; 系统利用直接存取法建立作物图像数据库, 并利用Web信息系统实现了作物图像信息的实时发布。
【英文摘要】Image acquisition is asignificant step of there search of monitoring crop conditions using computer vision technology. The crops digital image remote realtime acquisition system was studied in this article, which was composed of image acquisition equipment, lower position computer, data transmission system, Web server and client and involved four function modules, including the user management and system maintenance, the data base administration, the image acquisition and device control the data processing and broad casting; the system used digital cameras with wireless transmission functions and the high clear net work industry cameras as the crops digital image acquisitionequipment, and 5 kinds of installation forms of the equipment were gave the vehicle type, the stationary type, the guide railway type, PTZ control type and comprehensive form; the system used wired or the microwave wirelessm ethods to transform images from the image acquisition equipment to the lower position computer, connect the lower position machine, the Webserver and the clients through Internet, and it may obviously enhance the transmission speed through increasing the band width; the system used direct access method to establish crops image database, and real- time broad casted the crops images using the Web information system.
【语种】中文

【第一作者】李 敏
【通讯作者】韩文霆
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【题目】牛凝乳酶基因的克隆与表达
【中文关键词】牛凝乳酶; 克隆; 表达;
【英文关键词】bovine chymosin; cloning; expression;
【中文摘要】为了获得大量高纯度高活性的凝乳酶制剂,采用基因工程方法,从犊牛皱胃黏膜细胞中克隆得到凝乳酶基因,然后将此基因插入原核表达载体pTWlN1中,使之与几丁质结合域(CBD)一内含肽(intein)融合,从而获得原核表达质粒pTWIN1/EchybF2。经转化大肠杆菌BL21(DE3)后,在IPTG诱导下进行凝乳酶的表达。SDS-PAGE电泳分析和酶活性实验结果显示,CBD-intein-EchybF2融合蛋白在BL21(DE3)中获得高效表达,在低温诱导时主要以可溶性蛋白的形式存在,并具有凝乳活性。
【英文摘要】Traditionally cheese is made mainly by the use of bovine chymosin,but the source of supply of this enzyme is limited due to decreasing number of calves.In order to obtain large quantities of pure and active enzyme,the gene of bovine chymosin was cloned from the mucosal cells of the abomasum of calf.The DNA fragment was then inserted into the prokaryotic expression vector pTWIN1,resulting in the expression plasmid pTWIN1/EchybF2,which was further transformed into E.coli BL21(DE3).Expression of the enzyme was performed at different temperatures with IPTG induction.SDS-PAGE and activity tests showed that chymosin was expressed in soluble form at a low temperature,and the recombinant protein had milk-clotting activities.
【语种】中文
【第一作者】王景会
【通讯作者】杨贞耐
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【题目】Cloning, Expression and Structural Modification of Milk-Clotting Enzymes.
【中文关键词】牛凝乳酶 天冬氨酸蛋白酶 干酪
【英文关键词】Milk-clotting enzymes Chymosin Aspartic proteinase Cheese
【中文摘要】凝乳酶是干酪生产过程中主要的凝乳剂。该酶主要来源于动植物及微生物,属于天冬氨酸蛋白酶。传统干酪的生产主要使用牛凝乳酶。而来源于梅褐毛霉(Mucor miehei)和微小毛霉(Mucor pusillus)的真菌天冬氨酸蛋白酶也广泛地用作凝乳剂。部分凝乳酶可以通过将其基因转入微生物中过量表达来获得,而且成本相对较低。但是有关凝乳酶生物工程技术还有很多方面需要进一步研究,如在不同的食品级微生物宿主中高效表达凝乳酶、改善凝乳酶的生产特性如凝乳活力、酶特异性及降低真菌凝乳酶的热稳定性等。本文就牛凝乳酶和真菌天冬氨酸蛋白酶的克隆与表达,以及酶的分子结构改造等方面进行了论述。
【英文摘要】Milk-clotting origins, are the primary milk enzymes, mainly belonging to aspartic pmteinases of animal, plant and microbial eoagulants in the manufacture of eheese. Bovine ehymosin is traditionally used for cheese processing. Fungal aspartic proteinases from Mucor miehei and Mucor pusillus have also been extensively used as milk-clotting agents. Although some of these enzymes have been produced by overexpression of their genes in microorganisms with relatively low costs, further work needs to be done to express the enzymes efficiently in different food-grade microbial hosts, to improve the technological properties such as milk-clotting activity, specific activity, and to decrease the thermostability of the enzymes. The present paper discussed the cloning and expression, and structural modifications of chymosin and fungal aspartic proteinases.
【语种】英文
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【学科分类】食品科学技术基础学科

【题目】Acceleration of Cheese Ripening
【中文关键词】干酪 加速成熟 乳酸菌 酶 蛋白水解
【英文关键词】Cheese Accelerated ripening Lactic acid bacteria Enzyme Proteolysis
【中文摘要】干酪的成熟是一个缓慢而且昂贵的过程,不能完全进行预测与控制。在保持干酪的风味与质构不受影响的情况下加速干酪成熟是很有意义的。加速干酪成熟的方法主要有:提高成熟温度、高压处理、添加外源酶、使用弱化的发酵剂、使用基因工程菌株、添加附属发酵剂与使用干酪浆。本文讨论了干酪快速成熟的最新研究进展,以及不同成熟方法的优点与不足。
【英文摘要】The ripening of cheese is a slow and consequently an expensive process that is not fully predictable or controllable. Accelerated ripening processes are primarily aimed at accelerated flavor formation, while maintaining a satisfactory texture. The accelerated ripening methods include elevation of ripening temperature, high-pressure processing, addition of enzymes, attenuated starter cultures, genetically modified strains, culture adjuncts and addition of slurry systems. The most recent developments on the acceleration of cheese ripening, as well as the advantages and limitations of these methods are discussed.
【语种】英文
【第一作者】张莉
【通讯作者】杨贞耐
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【引文索引号】null
【学科分类】食品科学技术基础学科

【题目】Cloning and expression of a chymosin gene from calf
【中文关键词】牛凝乳酶 克隆 表达
【英文关键词】Bovine chymosin Cloning Expression
【中文摘要】为了获得重组的凝乳酶,本研究首先提取了小牛皱胃总RNA,通过RT—PCR的方法得到了凝乳酶的cDNA。然后,构建了原核表达载体pTWIN1/chy,并将该质粒转化大肠杆菌BL21(DE3),在IPTG诱导下表达重组凝乳酶蛋白。SDS—PAGE电泳分析和酶活性实验结果显示,目的蛋白在BL21(DE3)中获得高效表达,并具有凝乳活性
【英文摘要】Total cellular RNA was extracted from the abomasum of calf ,and the cDNA containing the open-reading frame of chymosin gene was obtained by reverse transcription polymerase chain reaction (RT-PCR).The fragment was cloned into pMD18-T vector, identified by both restriction endonucleases and sequence analysis.The sequencing results showed that it shared 99.6% homology with the sequence published in GeneBank (NM-180994). Then, the fragment was inserted into a pTWINI expression vector to yield the expression plasmid pTWIN1/chy.The resulting recombinant plasmid was thansformed into E. coli BL21 (DE3) competent cells. SDS-PAGE results indicated that the fusion protein was expressed after IPTG induction. Milk clotting assay showed that the recombinant protein was biologically active.These experimental results implied that the bovine chymosin was cloned successfully and expressed efficiently.
【语种】英文
【第一作者】王景会
【通讯作者】杨贞耐
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【学科分类】食品科学技术基础学科

【题目】干酪加工专用凝乳酶及其基因工程酶的研究
【中文关键词】凝乳酶; 干酪; 基因工程;
【英文关键词】chymosin; cheese; genetic engineering;
【中文摘要】凝乳酶是干酪加工中必须用到的酶制剂。本文详细的介绍了凝乳酶的结构,凝乳酶的不同来源,凝乳机理以及影响凝乳酶活性的因素等内容,并阐述了基因工程凝乳酶的研究现状及凝乳酶的发展前景,为解决我国凝乳酶的短缺问题提供思路。
【英文摘要】chymosin,an aspartyl protease extracted from bomasums of suckling calves.Beside calves,chymosin can also be extracted from other animals,plant,microbial and genetic engineering.There are two stages in the manufacture of cheese: enzyme action and non-enzyme action.The factores of browning,pH and metalions could also influence the milk-clotting activity.Genetic engineering chymosion can be ex-pressed in Escherichia coli、 mould and yeast hosts.
【语种】中文
【第一作者】徐波
【通讯作者】杨贞耐
【期刊名称、卷期、页码】中国乳品工业,2009,37(4):46-50
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【学科分类】食品科学技术基础学科

【题目】牛凝乳酶基因在毕赤酵母中的重组表达
【中文关键词】牛凝乳酶; 分泌表达; 毕赤酵母;
【英文关键词】bovine chymosin; secretory expression; Pichia pastoris;
【中文摘要】通过PCR技术从克隆载体pMD18T-Prochy上扩增牛凝乳酶原基因,双酶切后定向插入到酵母表达载体pPICZaA中,构建表达质粒pPICZaA-Prochy,线性化后电转化毕赤酵母GS115,经PCR和测序鉴定凝乳酶原基因成功插入到毕赤酵母的基因组中。在甲醇诱导下进行凝乳酶的表达,SDS-PAGE分析证明重组凝乳酶的分子量约为37 kD,培养基上清液中凝乳酶的活性为12.2 SU/mL。本研究首次应用毕赤酵母表达牛凝乳酶,在培养基中获得分泌表达的重组凝乳酶,为干酪工业提供了新型及优良的凝乳酶来源。
【英文摘要】To express bovine chymosin in yeast,we amplified the prochymosin gene from the plasmid pMD18T-Prochy by PCR,and then cloned the gene into the expression vector pPICZaA,resulting in pPICZaA-Prochy.Pichia pastoris GS115 was used as host cells.Integration of the prochymosin cDNA into the Pichia pastoris genome was confirmed by PCR and sequencing analysis.Chymosin was expressed in Pichia pastoris successfully,and a strong band at about 37 kD was shown by SDS-PAGE.Activity tests showed that the chymosin activity of the culture supernatant was 12.2 SU/mL.This is the first report of successful expression of chymosin in Pichia pastoris.The recombinant Pichia pastoris strain obtained in this study could be further used to produce recombinant chymosin for cheese making
【语种】中文
【第一作者】张莉
【通讯作者】杨贞耐
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【学科分类】食品科学技术基础学科

【题目】Real-Time Micrography of Mouse Preimplantation Embryos in an Orbit Module on SJ-8 Satellite
【中文关键词】无
【英文关键词】Space-flight; Microgravity; Satellite; Real-time micrography; Image transmission; Embryonic development; Mouse
【中文摘要】无

【英文摘要】The developmental capacity of mouse embryos in the Chinese SJ-8 Satellite was observed by real time micrography and telecontrol image transmission. Frozen/thawed 4-cell embryos and blastocysts injected with mouse epidemical stem cells were placed in a specially sealed embryonic incubator, and then the incubator was loaded in a space embryonic culture box devised for space-flight. After the satellite launched and arrived at the anticipated orbit, the real time micrography device was opened based on the telecontrol operational technology. Real time micrographs of the mouse embryos were obtained and stored every 3 hours, then the data of images were transmitted at the suitable time. The experiment persisted for 72 hours. The results showed that during space-flight, most mouse embryos cultured in the sealed culture unit kept integrity and natural structure, their location had minor change, but the embryos did not develop. However, the experiment performed on the ground in the same device showed that 4-cell mouse embryos could develop to blastocysts and hatched blastocysts. It may be concluded that the space environment, especially the change of gravity was likely to harm development of the mouse embryo.
【语种】英文
【第一作者】马保华
【通讯作者】马保华
【期刊名称、卷期、页码】MICROGRAVITY SCIENCE AND TECHNOLOGY 卷: 20 期: 2 页: 127-136
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【引文索引号】363FB
【学科分类】畜牧、兽医科学基础学科

【题目】Modifications of chemically induced-enucleated nuclear transfer technique by reverse-order nuclear transfer in mouse
【中文关键词】无
【英文关键词】Demecolcine; Mouse; Oocytes; Preimplantation development
【中文摘要】无
【英文摘要】To improve the developmental potential of somatic cell cloned embryos derived from demecolcine (DC) induced-enucleated nuclear transfer (INT), we modified the INT procedures by transferring donor nuclei into recipient cytoplasts prior to the induced enucleation of the recipient cytoplasts, and we called this modified INT technique as reverse-order and induced-enucleated nuclear transfer (RINT). Standard nuclear transfer (SNT) and INT were performed as controls. The dynamic changes of maternal and transferred donor nuclei in the RINT oocytes were monitored to evaluate the feasibility of this new nuclear transfer (NT) technique by timed immunofluorescence. Timed immunofluorescence showed that RINT is feasible because none of the transferred donor nuclei were expelled with the second polar body (Pb) in the RINT oocytes, while 42.2% of the oocytes showed extrusion of all maternal chromosome and spindles with the second Pb at 60 min after activation and DC treatment. Although there was no difference in cleavage rate (86.6% vs. 82.1%), the rates of successful enucleation and blastocyst formation were significantly increased in RINT compared with INT (44.1% vs. 27.5%, and 43.3% vs. 12.8'%, respectively; $p < 0.01$). Compared with SNT, there was no difference in cleavage rate (86.6% vs. 78.4%), but the blastocyst developmental rate was significantly increased in the RlNT group (43.3% vs. 253%; $p < 0.01$). Blastocysts derived from RINT had a higher total cell number than those from SNT (45.1 +/- 3 vs. 37.6 +/- 4; $p < 0.05$). Our results provide evidence that RINT is feasible and may provide a more efficient and simple method for NT than INT.
【语种】英文
【第一作者】王勇胜
【通讯作者】张涌
【期刊名称、卷期、页码】无ZYGOTE 卷: 17 期: 3 页: 261-268
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【引文索引号】464YO
【学科分类】细胞生物学

【题目】Isolation and Culture of Bovine Mammary Epithelial Stem Cells.
【中文关键词】无
【英文关键词】bovine; cellular differentiation; mammary epithelial stem cells; suspension culture
【中文摘要】无

【英文摘要】Bovine mammary epithelial stem cells (MESCs) are very important in agricultural production and bioengineering. In the present study, we compared different isolation and Culture methods for MESCs and observed their growth and differentiation characteristics. MESCs have an extremely weak proliferation capacity, and it is very difficult to obtain and prolong subculture or a bovine mammary epithelial stem cell line. We obtained sonic multipotent MESC aggregates that looked like spherical colonies. These colonies were only derived from suspension Culture and were induced to differentiate into epithelial-like cells, myoepithelial-like cells and secretory cells and to establish a ductal-like structure. In contrast, MESCs cultured in adherent culture displayed low morphogenetic competence and only differentiated into epithelial-like cells, MESCs are often identified by testing their differentiation in vivo; however, herein, we have demonstrated the in vitro differentiation potential of bovine MESCs. in our Study, beta I-integrin and alpha 6-integrin which are expressed by human epidermal stem cells, were found in bovine, which shows that bovine MESCs share the same molecular signature as human MESCs.
【语种】英文
【第一作者】李吉霞
【通讯作者】张涌
【期刊名称、卷期、页码】JOURNAL OF VETERINARY MEDICAL SCIENCE 卷: 71 期: 1 页: 15-19
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【引文索引号】405CK
【学科分类】畜牧、兽医科学基础学科

【题目】Efficiency of human lactoferrin transgenic donor cell preparation for SCNT.
【中文关键词】无
【英文关键词】beta-Casein gene; Donor cells; EGFP; Human lactoferrin; Multiple PCR amplification
【中文摘要】无
【英文摘要】The combination of somatic cell nuclear transfer (SCNT) and transgenic technology leads to the production of transgenic cloned animals, wherein the preparation of competent transgenic donor cells is the pivotal upstream step. The purpose of this study was to establish an efficient procedure to prepare human lactoferrin (hLTF) transgenic donor cells for SCNT. Thus, two cell culture systems were employed: caprine mammary epithelial cells (for evaluation of the hTLF transgenic expression in vitro), and fetal-derived fibroblast cells (for identification of competent transgenic donor cells). Induced by hormonal signals, recombinant hLTF was detected in the supernatant of transfected mammary epithelial cells by Western blot. Reliable hLTF transgenic fibroblast cell clones were identified by screening with multiple PCR amplification, EGFP fluorescence, and chromosomal counting (32.5 +/- 2.3%). This study may provide an effective upstream system to prepare SCNT donor cells for the production of human recombinant pharmaceuticals from the milk of transgenic animals. (c) 2009 Elsevier Inc. All rights reserved.
【语种】英文
【第一作者】赵明涛
【通讯作者】张涌
【期刊名称、卷期、页码】THERIOGENOLOGY 卷: 71 期: 2 页: 376-384
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【引文索引号】391MJ
【学科分类】畜牧、兽医科学基础学科

【题目】Connexin37 mRNA expression in in vivo and in vitro mouse oocyte
【中文关键词】无
【英文关键词】Connexin; Follicle culture; Mouse; Oocyte development
【中文摘要】无
【英文摘要】To evaluate gene expression of Connexin37 (Cx37) in oocytes from in vitro follicles at different stages, mouse preantral follicles were isolated and cultured for 12 days in vitro. Compared with in vitro follicles, follicles grown in vivo were collected at day 14 (d14), d16, d18, d20, d22 and d24 with the same stages for gene expression of Cx37 in oocytes. Our results showed that Cx37 mRNA increased along with follicular development, reached the highest level at the onset of antrum cavity formation and decreased after antrum formation in both in vivo and in vitro mouse oocytes. However, Cx37 mRNA was significant higher ($p < 0.01$) in in vitro

cultured oocytes than in vivo oocytes. Moreover, significantly higher levels of Cx37 mRNA were found in oocytes from in vitro disrupted follicles ($p < 0.01$) and non-grown follicles ($p < 0.05$) than those from normal follicles with a similar size. These data determine temporal gene expression of Cx37 in oocytes from follicules at different stages and indicate that the gene expression level of Cx37 in oocytes could be evaluated as a criterion to the regulatory mechanism of Cx37 in an in vitro model.
【语种】英文
【第一作者】尹宝英
【通讯作者】张涌
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【学科分类】细胞生物学

【题目】An immortalized goat mammary epithelial cell line induced with human telomerase reverse transcriptase (hTERT) gene transfer
【中文关键词】无
【英文关键词】Immortalization; Goat mammary epithelial cells; hTERT; Somatic cell nuclear transfer; Donor cells
【中文摘要】无
【英文摘要】Although mammary epithelial cell lines can provide a rapid and reliable indicator of gene expression efficiency of transgenic animals, their short lifespan greatly limits this application. To provide stable and long lifespan cells, goat mammary epithelial cells (GMECs) were transduced with pLNCX2-hTERT by retrovirus-mediated gene transfer. Transduced GMECs were evaluated by reverse transcriptase polymerase chain reaction (RT-PCR), proliferation assays, karyotype analysis, telomerase activity assay, western blotting, soft agar assay, and injection into nude mice. Non-transduced GMECs were used as a control. The hTERT-GMECs had higher telomerase activity and extended proliferative lifespan compared to non-transfected GMECs; even after Passage 50, hTERT-GMECs had a near diploid complement of chromosomes. Furthermore, they did not gain the anchroage-independent growth property and were not associated with a malignant phenotype in vitro or in vitro. (C) 2009 Elsevier Inc. All rights reserved.
【语种】英文
【第一作者】何玉龙
【通讯作者】张涌
【期刊名称、卷期、页码】THERIOGENOLOGY 卷: 71 期: 9 页: 1417-1424
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【引文索引号】446SO
【学科分类】畜牧、兽医科学基础学科

【题目】大豆子粒棉子糖含量与生态因子的关系
【中文关键词】大豆; 棉子糖; 生态因子; 分期播种
【英文关键词】Soybean; Raffinose; Ecological factors; Seeding dates
【中文摘要】棉子糖是人与动物重要的营养成分。为了研究生态因子对大豆子粒中棉子糖含量的影响,2001—2002年在河南省夏大豆主产区的3个试点,以豫豆25为材料分13期播种,将78个样本子粒的棉子糖含量与气象、土壤养分和海拔等37个生态因子进行统计分析。诸样本棉子糖含量的变异范围为0.220%~0.869%。用逐步回归法筛选出8个生态因子与大豆棉子糖含量极显著正相关,各因子对于棉子糖含量影响的最大、最小值分别为0.392%和0.156%,按各因子的贡献大小依次为鼓粒成熟期昼夜温差、分枝期日照、土壤pH值、花荚期日照、土壤锰含量、花荚期降水、分枝期降水、出苗期降水。该结果对高棉子糖含量品种选育和配套栽培技术研究有参考价值。
【英文摘要】无
【语种】中文
【第一作者】李卫东
【通讯作者】李卫东
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【学科分类】农业基础学科

【题目】Reprogramming donor cells with oocyte extracts improves in vitro development of nuclear transfer embryos.
【中文关键词】无
【英文关键词】Oocyte extracts; Donor; Reprogramming; Bovine; Nuclear transfer
【中文摘要】无
【英文摘要】This study investigated the effects of donor cells pretreated with oocyte extracts on in vitro development of cloned embryos. Bovine fibroblasts were exposed to immature, mature and parthenogenetic oocyte extracts respectively before nuclear transfer. The detectable expression of Oct4 and global cleacetylation in the treated cells showed that extracts could reprogram fibroblasts. Although all three groups of extracts exhibited reprogramming capacity, embryo development was not compliant with reprogramming effect. Improved quality and development of blastocysts were observed only in the mature extract treated group. We demonstrated that pretreatment of donor cells with mature oocyte extract improved in vitro development of cloned embryos. Our results suggested that reprogramming donor nuclei to a state synchronized with recipient cytoplasm before nuclear transfer would be beneficial for the development of cloned embryos. (C) 2008 Elsevier B.V. All rights reserved.
【语种】英文
【第一作者】唐爽
【通讯作者】张涌
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【学科分类】畜牧、兽医科学基础学科

【题目】Methylation patterns in 5 ' terminal regions of pluripotency-related genes in bovine in vitro fertilized and cloned embryos
【中文关键词】无
【英文关键词】bovine; DNA methylation; Fgf4; Nanog; Oct4; Rex1; Sox2
【中文摘要】无
【英文摘要】: In order to investigate DNA methylation profiles of five pluripotency-related genes (Oct4, Sox2, Nanog, Rex1 and Fgf4) during bovine maternal to zygotic transition (MZT) in both in vitro fertilized (IVF) and nuclear transfer (NT) embryos, sodium bisulfite sequencing method was used to detect DNA methylation levels, accompanied by the statistical analysis of embryo developmental rates. The results showed that Oct4, Nanog, Rex1 and Fgf4 were respectively demethylated by 25.22% ($P < 0.01$), 3.84% ($P > 0.05$), 31.82% ($P < 0.01$) and 10% ($P > 0.05$) while Sox2 retained unmethylation during MZT in IVF embryos. By contrast, Oct4 and Rex1 respectively underwent demethylation by 23.04% ($P < 0.01$) and 6.02% ($P > 0.05$), and, reversely, Sox2, Nanog and Fgf4 respectively experienced remethylation by 0.84% ($P > 0.05$), 5.39% ($P > 0.05$) and 5.46% ($P > 0.05$) during MZT in NT embryos. Interestingly, the CpG 14 site of Sox2 was specifically methylated in both 8-cell and morula NT embryos. In addition, the development of blastocysts between IVF and NT embryos showed no significant difference. DNA methylation analysis showed that only Oct4 and Sox2 underwent the correct methylation reprogramming process, which may be responsible for the development of blastocysts of NT embryos to a certain extent. In conclusion, the five genes respectively experienced demethylation to different extents and incomplete DNA methylation reprogramming during bovine MZT in both IVF and NT embryos, suggesting that they may be used as indicators for bovine embryo developmental competence.
【语种】英文
【第一作者】兰杰
【通讯作者】张涌
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【学科分类】分子生物学

【题目】A hepatopancreas specific C-type lectin from the Chinese shrimp Fenneropenaeus chinensis exhibits antimicrobial activity.
【中文关键词】中国明对虾 c-型凝集素 模式识别蛋白 抗菌活性
【英文关键词】Chinese shrimp; Fleshy prawn; Fenneropenaeus chinensis; C-type lectin; Pattern recognition receptor; Antimicrobial activity
【中文摘要】凝集素在动物先天免疫中发挥重要作用,本文介绍了一种中国明对虾的c型凝集素,命名为Fc-hsl。Fc-hsl的cDNA编码蛋白全长为159氨基酸,Fc-hsl在肝胰腺组织中组成型表达,其表达量会因为受到细菌和病毒的刺激而上调。重组表达的Fc-hsl没有凝血活性,但是在Ca离子存在下,对革兰氏阳性菌和革兰氏阴性菌有凝集活性。
【英文摘要】Lectins play important roles in animal innate immune responses by serving as pattern recognition receptors, opsonins, or effector molecules. Here, we report a novel hepatopancreas-specific C-type lectin, designated Fc-hsL, from the hepatopancreas of the Chinese shrimp, Fenneropenaeus chinensis. The cDNA of Fc-hsL is 571 bp long with a 480 bp open reading frame that encodes a 159-residue protein. Fc-hsL contains a signal peptide and a single C-type lectin-like domain (CTLD) or carbohydrate recognition domain (CRD). It has an EPN(Glu-Pro-Asn) motif with a predicted ligand-binding site specific for mannose. Fc-hsL was constitutively expressed in the hepatopancreas of normal shrimp, and its expression was up-regulated following challenge of shrimp with bacteria or virus. Fc-hsL was not detected in other tissues but was induced in the stomach of immune-challenged shrimp. Fc-hsL protein was detected in both hemolymph and the hepatopancreas of bacteria- and virus-challenged shrimp. Recombinant mature Fc-hsL has no hemagglutinating activity, but calcium-dependent agglutinating activity against some Gram-positive and Gram-negative bacteria was detected. The rFc-hsL also has binding activity to some Gram-positive and Gram-negative bacteria and high antimicrobial activity against some bacteria and fungi. These in vitro functions of recombinant Fc-hsL were calcium-independent. Fc-hsL may act as a pattern recognition receptor in antibacterial defense and as an effector in innate immunity of Chinese shrimp.
【语种】英文
【第一作者】孙允东
【通讯作者】王金星
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【学科分类】水产养殖学

【题目】Effect of transporting donor or recipient does and their embryos on the outcome of fresh embryo transfer in Boer goats
【中文关键词】无
【英文关键词】Donor; Recipient; Embryo transfer; Boer goats; Transportation
【中文摘要】无
【英文摘要】Between-farm embryo transfer of livestock animals can potentially increase the spread of quality genetic material. However, the transporting of donor or recipient animals or their embryos has become a practical problem. The objective of this study was to compare the effect of transporting donor and recipient does and their embryos between various farms on inter-farm fresh embryo transfer in Boer goats. Results indicate the transportation of donor does within 4 h before embryo collection not to have a significant effect on embryo recovery number, embryo Survival rate and the subsequent pregnancy in recipient does. Also, the transportation of embryos at 36.5-38 degrees C within 2 h before embryo transfer did not significantly affect the embryo Survival rate and subsequent pregnancy rate, but the transportation of embryos at 20 degrees C resulted in a significant ($P<0.05$) lower survival rate (41.7%) and pregnancy rate (42.0%). The transportation of recipient does resulted in a significantly lower pregnancy rate (42.0%) and embryo survival rate (32.1%) than the transportation of donor does and embryos. Results suggest the transportation of donor does to be the best method for embryo transfer programs on the farm. Alternatively, the supply of fresh embryos kept at body temperature (36.5 degrees C) was also preferred for short or long distances between farms. (C) 2009 Elsevier B.V. All rights reserved.
【语种】英文
【第一作者】权富生
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【学科分类】畜牧、兽医科学基础学科

【题目】Molecular marker-assisted selection of the ae alleles in maize
【中文关键词】无
【英文关键词】Maize; Starch branching enzyme; High amylase;Marker-assisted selection
【中文摘要】无
【英文摘要】The ae (amylose extender) recessive mutant alleles in maize are an important genetic resource for the development of high-amylose cultivars. On the basis of ae allele sequences (from the National Center for Biotechnology Information), the ae mutant alleles were cloned from high-amylose maize and the allelic Ae gene from common maize luyuan92 inbred lines. Five pairs of primers were designed to screen for a molecular marker of ae alleles, yielding a dominant molecular marker, ae 474. We used 53 types of high-amylose maize and common maize inbred lines and their hybrid and backcross offspring for verification and analysis. The ae dominant molecular marker was effective in selecting for the ae alleles and for biological materials with a high-amylose genotype. Presence and absence of the marker in the offspring conformed to the expected Mendelian ratios. Using this marker, we were able to detect the ae alleles in a backcross and its second generation more efficiently (53.3 and 73.3%, respectively) than was possible without marker selection. These data indicate that the marker can be used as a tool to improve selection efficiency and accelerate the cultivation of new varieties of high-amylose maize.
【语种】英文
【第一作者】F.Chen
【通讯作者】程备久
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【学科分类】生物化学

【题目】中国转基因大豆的研究进展及其产业化
【中文关键词】转基因大豆; 再生体系; 遗传转化; 外源基因; 产业化
【英文关键词】Transgenicsoybean; Regenerationsystem; Genetictransformation; Exogenous gene; Commercialization
【中文摘要】大豆的转基因研究是国内外植物分子生物学研究的热点之一。转基因大豆已成为世界大豆主产国大豆产业发展的主要动力。我国应该借鉴国外转基因大豆发展经验,立足已有的技术、人才和材料储备,在农业转基因生物安全管理等相关法律、政策下,完善和健全我国转基因大豆技术及其产业化体系。大力发展我国转基因大豆,可以降低生产成本,提高种植效益,提升我国大豆产业的市场竞争力、保障国家粮食安全、促进农民增收。该文概述我国转基因大豆技术的研究进展及其产业化现状,并对其发展前景进行了探讨和展望。
【英文摘要】无
【语种】中文
【第一作者】余永亮
【通讯作者】梁慧珍
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【学科分类】农业基础学科

【题目】对生玉米互生玉米内源激素含量的差异分析
【中文关键词】对生玉米;互生玉米;ELISA;内源细胞分裂素;内源生长素

【英文关键词】opposite maize;alternative maize;ELISA;endogenous cytokine;endogenous auxin
【中文摘要】利用ELISA方法测定近等基因系玉米(Zeamays)对生、互生玉米的不同组织和不同生育期内源细胞分裂素ZRs (zeatin riboside group)、DHZRs(dehydro zeatin riboside group)、iPAs(isopentenyladenosine group)以及内源生长素IAA(indole acetic acid)含量差异。结果表明,不同叶序玉米在不同生育期幼胚、成熟花粉和成熟叶片的内源ZRs、DHZRs、iPAs和 A均无显著差异;不同生育期对生叶序玉米幼苗顶端分生组织和成熟苗顶端雄幼穗ZRs、DHZRs和iPAs含量显著高于同期近等基因系的互生玉米,IAA含量在两者之间无显著差异;对生叶序玉米幼苗顶端分生组织、成熟苗顶端雄幼穗CTK/IAA(CTK表示ZRs、DHZRs和iPAs含量相加)比值显著高于同期近等基因系互生叶序玉米,但在不同生育期幼胚、叶片及花粉内均无显著差异。对生叶序的形成与生长点组织细胞分裂素含量增加密切相关。
【英文摘要】The contents of endogenous cytokine including ZRs(zeatin riboside group),DHZRs(dehydro zeatin riboside group), iPAs(isopentenyladenosine group),and endogenous auxin(IAA)in opposite and alternative maizes were determined by the ELISA method using two sets of Zea mays near isogenic lines(8701d,8701D and H4d,H4D).The results showed that the maize with different phyllotary leaf had same level of endogenous cytokine and auxin in mature pollen,different development leaf and young embryo. However,the contents of above cytokine in immature male spikes and shoot apical meristem(SAM)from opposite maize were great higher than that in isogenic alternative maize.At the same time,there was no significant difference between them.Further analysis indicated that the value of CTK(total contents of ZRs,DHZRs and iPAs)/IAA in opposite maize was dominant hi曲er than that in alternative maize.Results suggested that there are close relativity between the opposite phenotype and the level of cytokines in SAM.
【语种】中文
【第一作者】马庆
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【学科分类】发育生物学

【题目】QTL Mapping of Isoflavone, Oil and Protein Content in Soybean
【中文关键词】大豆,SSR,QTL,质量,异黄酮
【英文关键词】soybean; SSR; QTL; quality; isoflavone
【中文摘要】:【目的】研究大豆异黄酮与脂肪、蛋白质含量基因定位及相关性,为大豆品质改良、分子育种及基因克隆等应用提供理论依据。【方法】利用SSR 技术,对晋豆23 号和灰布支杂交构建的F13 代大豆重组自交系群体的474 个家系进行了连锁图谱的构建。在此基础上,利用 WinQTLCart2.0 软件分析了影响大豆异黄酮含量、脂肪含量和蛋白质含量3 个重要品质性状的QTL,通过复合区间作图分析,检测QTL;同时,对异黄酮与脂肪、蛋白质的含量相关性分析。【结果】检测到23 个QTL,其中控制异黄酮含量QTL 有6 个,分别定位在J、N、D2 和G 染色体的连锁群上;控制脂肪含量的QTL 有11 个,分别定位在第A1、A2、B2、C2 和D2 染色体的连锁群上;控制蛋白质含量的QTL 有6 个,分别定位在B2、C2、G 和H1 染色体的连锁群上。相关性分析结果表明:异黄酮与蛋白质含量呈极显著负相关;蛋白质和脂肪含量呈极显著负相关;蛋白质和蛋白质脂肪总量呈极显著正相关。【结论】3 个重要品质性状的部分基因定位结果与其相关性分析是一致的,其结果对大豆品质育种应用有重要利用价值。
【英文摘要】Soybean (Glycine max L. Merr.) is the world's foremost source of edible plant oil and proteins, meantime, the biologically active secondary metabolites such as saponins and isoflavones are benefit to human health. The objective of this study was to identify quantitative trait loci (QTL) and epistatic interactions associated with isoflavone, protein, and oil contents in soybean seeds. An F13 recombinant inbred line (RIL) comprising 474 lines was derived from a cross between Jindou 23 and Huibuzhi cultivars. SSR technique was employed for mapping of the QTLs. The QTLs for isoflavone, protein, and oil contents were analyzed and 23 QTLs were detected based on the constructed linkage map. Six QTLs for isoflavone content were localized in linkage groups J, N, D2, and G, eleven QTLs for oil content were localized in the linkage groups A1, A2, B2, C2, and D2, and six QTLs for protein content were localized in linkage groups B2, C2, G, and H1. The correlative analysis demonstrated that the isoflavone content had significant correlation with protein content, while significantly negative correlations was existed between oil and protein content, and significantly positive correlations was existed between protein and oil content. All these findings have laid an important basis for the marker assisted breeding in soybean. The phenotypic correlations of quantitative traits may be resulted from the correlation of the QTL controlling those traits.
【语种】英文

【第一作者】梁慧珍
【通讯作者】梁慧珍
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【题目】DNA methyltransferases and methyl-binding proteins of mammals
【中文关键词】无
【英文关键词】DNA methylation; DNA methyltransferase; methyl-binding protein
【中文摘要】无
【英文摘要】In mammals, DNA methylation, characterized by the transfer of the methyl group from S-adenosylmethionines to a base (mainly referred to cytosine), acts as a major epigenetic modification. In parallel to DNA sequences arrangement, modification of methylation to DNA sequences has far-reaching influence on biological functions and activities, for it involves controlling gene transcription, regulating chromatin structure, sustaining genome stability and integrity, maintaining parental imprinting and X-chromosome inactivation, suppressing homologous recombination as well as limiting transposable elements, during which DNA methyltransferases (DNMTs) and methyl-binding proteins play important roles. Their aberrance can give rise to dysregulation of gene expression, cell maltransformation and so on. Hence, it is necessary to gain a good understanding of these two important kinds of proteins, which will help to better investigate the epigenetic mechanisms and manipulate the modifications according to our will based on its reversibility. Here we briefly review our current understanding of DNMTs and methyl-binding proteins in mammals.
【语种】英文
【第一作者】兰杰
【通讯作者】张涌
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【学科分类】分子生物学

【题目】Cloning and Sequence Analysis of the NAD-dependent Cytosolic Malate Dehyogenase Gene from Zea Mays.
【中文关键词】玉米;细胞质型苹果酸脱氢酶基因;克隆;序列分析
【英文关键词】mize;cytosolic malate dehydrogenase gene;cloning;sequence analysis
【中文摘要】苹果酸脱氢酶普遍存在于各种生物中,它负责催化草酰乙酸和苹果酸之间的相互转换。根据其辅酶的特异性和在细胞内的分布及其生理功能的不同,苹果酸脱氢酶在高等植物中可以区分出不同的类型,依赖于NAD的细胞质型苹果酸脱氢酶是其中研究较少的一类。根据已发表的其他高等植物的依赖于NAD的胞质型苹果酸脱氢酶基因的保守序列。运用SMARTRACERT.PCR技术,从玉米叶片中分离了cyMDH的l264bp全长cDNA序列,通过生物信息学分析发现,该序列含有一个999bp的完整的开放阅读框,其共编码332个氨基酸(GenBank登陆号EU625276)。序列联配与树状分析结果表明,该玉米cyMDH序列与多个物种的cyMDH基因具有高度的同源性。组织特异性表达分析显示MDH基因在玉米叶片中表达量最高,在茎、根中亦有低水平表达。本研究将为更深入的研究玉米cyMDH基因的分子调控机理奠定基础。
【英文摘要】Malate dehydrogenase(MDH) which catalyzes the reversible reaction from oxaloacetate to malate ubiquitously exists in nature.Higher plants contain multiple forms of MDHs that differ in co—enzyme specificity,subcellular localization and physiological function.The NAD • dependent cytosolic MDH(cyMDH) is one class of MDH that is still seldom investigated.On the basis of the conserved amino acid residues in the published cytosolic malate dehydrogenase protein sequences from other higher plant species,a full-length cDNA was amplified by SMART RACE RT-PCR from the total RNA of maize leaves.Bioinformatics analysis of the cDNA sequence indicates that the 264bp full length of the ta-get clone includes a 70bp 5 ’ UTR,an ORF of 999bp,and a 195bp 3 ’一 UTR(GenBank accession EU625276).This cDNA sequence codes 332amino acids residues with a predicted molecular mass of 35.6l68kD and an isoelectric point(p1)of 5.4.The deduced maize amino acids share high sequence homology with cyMDH from other species,such as 0.sative,M.crystaUinum,and G.max.Analysis of semiquantitive RT-PCR shows that the expression of cyMDH is higher in maize leaves than that in roots and stems.All of these results will provide a theoretical basis for further investigation of the cyMDH

gene in molecular regulation mechanism.
【语种】英文
【第一作者】汪结明
【通讯作者】程备久
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【题目】Detrimental effects of antibiotics on mouse embryos in chromatinintegrity, apoptosis and expression of zygotically activated genes
【中文关键词】无
【英文关键词】Antibiotics, Apoptosis, DNA damage, Embryo culture, Gene expression
【中文摘要】无
【英文摘要】The effects of specific components in culture medium on embryo physiology have been extensively investigated to optimize in vitro culture systems; however, little attention has been paid to antibiotics, the reagents used most commonly in culture systems to prevent contamination. To investigate the potential effects of routine use of antibiotics on cultured embryos, mouse zygotes were cultured with or without antibiotics. In both groups, the developmental rate and cell number of blastocysts appear to be normal. The proportion of embryos with blastomere fragmentation increased slightly when embryos were cultured with antibiotics. In contrast, the presence of antibiotics in the embryo culture system significantly disturbs expression of zygotically activated genes, damages chromatin integrity and increases apoptosis of cultured embryos. These results provide evidence that, when cultured with antibiotics, embryos with normal appearance may possess intrinsic physiological and genetic abnormalities. We demonstrate that the adverse effects of antibiotics on mammalian embryos are more severe than we previously presumed and that antibiotics are not essential for sterility of embryo culture system therefore abolishing antibiotic supplementation during embryo culture.
【语种】中文
【第一作者】刘军
【通讯作者】张涌
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【题目】Recombinant human activin A promotes development of bovine somatic cell nuclear transfer embryos matured in vitro
【中文关键词】无
【英文关键词】activin A; SCNT; embryo development; bovine
【中文摘要】无
【英文摘要】To improve the culture system of bovine somatic cell nuclear transfer (SCNT) embryos, we studied the effects of activin A on developmental competence of bovine SCNT embryos during the early development stage based on the traditional culture method, and analyzed the expression level of the genes related to blastocyst hatching (Na/K-ATPase, Glut-1) and related to activin A signalling pathway (ActRII and Smad2). We generated the bovine SCNT embryo using a Holstein cow oocyte as recipient cytoplasm and a foetal ear fibroblast (Holstein cow, 120 days) as donor cell. The embryos were cultured as follows: experiment 1, the addition of activin A at the concentrations of 0 (control), 20 (M1-20), 40 (M1-40) or 80 ng/ml (M1-80) to the media during the first three days and no addition during the subsequent 5 days; experiment 2, no addition of activin A to the media during the first 3 days and the addition of activin A at the concentrations of 0 (control), 20 (M2-20), 40 (M2-40) or 80 ng/ml (M2-80) during the subsequent 5 days. The results indicated that the blastocyst formation rate and hatching rate, and total blastomere numbers as well as ICM/TE obtained in experiment 1 were not significantly different from the control group ($P > 0.05$). In contrast, these values obtained in experiment 2 were significantly higher than in the control group ($P < 0.05$). In addition, the relative abundance (ratio to GAPDH mRNA) of each gene (Glut-1, ActR II and Smad2) was not significantly different among the treatments in the experiment. The expression levels of 4 genes (Na/K-ATPase,

Glut-1, ActR II and Smad2) in blastocysts obtained in experiment 2 were higher than those obtained in experiment 1. In conclusion, the present study suggests that the addition of activin A to the culture media from day 4 to day 8 can enhance the developmental competence of bovine SCNT embryos.
【语种】英文
【第一作者】华松
【通讯作者】华松
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【题目】Codeposition of dNTPs Detection for Rapid LAMP-based Sexing of Bovine Embryos
【中文关键词】无
【英文关键词】无
【中文摘要】无
【英文摘要】Loop-mediated isothermal amplification (LAMP) is a novel nucleic acid amplification method with high specificity and rapidity under isothermal conditions. According to the LAMP method, a rapid and simple detection system was established for bovine embryo sexing. Two sets of primers were designed by targeting the bovine male-specific sequence and bovine common sequence respectively. The reaction condition of the detection system was optimized within 60 min under isothermal conditions of 65 degrees C by detection of the reaction mixture on agarose gel. Especially, the primers F2 and B2 could replace the F3 and B3 as outer primers, making the primer design simpler and the amplification efficiency higher. Additionally, codeposition of dNTPs was firstly performed to detect the reaction products by addition of 1 mu l 0.1 mm CuSO(4), the visible ring-shaped deposit was found in the middle of the reaction tube with negative mixture. It could be employed as an alternative method in the detection of the reaction products in place of the time-consuming electrophoresis or the turbidity meter. Furthermore, the embryo sexing system was carried out in the embryo transfer and achieved 98% of efficiency and 99.5% of accuracy.
【语种】英文
【第一作者】张志平
【通讯作者】张涌
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【题目】A caprine chimera produced by injection of embryonic germ cells into a blastocyst.
【中文关键词】无
【英文关键词】EG cells; chimera; microsatellite DNA; SRY; goat
【中文摘要】无
【英文摘要】This report details a chimeric goat derived by injecting caprine embryonic germ (EG) cells into a host blastocyst. The EG cells, isolated from the primordial genital ridge of white Guanzhong goat fetuses (28-42 days of pregnancy), had alkaline phosphatase activity and several stem cell markers, including SSEA-1, c-kit, and Nanog. Ten to 20 EG cells were microinjected into the blastocoelic cavity of a host blastocyst collected from a black goat following natural service. Twenty-nine injected blastocysts were transferred into nine white surrogate goats. One of the recipients maintained pregnancy to term and gave birth to three kids: one male, one female, and a dead, malformed fetus of undetermined gender; all three fetuses were black, but the female and the malformed fetus each had a large white spot on their head. Based on PCR and microsatellite DNA assay, the female and the malformed fetus were monozygotic twins and chimeras. Microsatellite assay on various tissues from the dead fetus (including skin, blood, liver, placenta, lung, heart, spleen, muscle, and brain), revealed that these tissues and organs were chimeric and contained cells derived from EG cells. In conclusion, caprine EG cells differentiated into all three germ layers in vivo

【语种】英文
【第一作者】贾文文
【通讯作者】窦忠英
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【学科分类】畜牧、兽医科学基础学科

【题目】An improved method for whole protein extraction from yeast Saccharomyces cerevisiae Yeast
【中文关键词】醋酸锂;酵母;酿酒酵母;蛋白质提取
【英文关键词】LiAc; yeast; Saccharomyces cerevisiae; protein extraction
【中文摘要】本文描述了一种从酿酒酵母中提取总蛋白的新方法。该方法使用醋酸锂和氢氧化钠提高酵母细胞壁的渗透率,然后通过sds - page电泳获得检测酵母蛋白质。它是一种安全、高效的酵母蛋白质提取方法,且该方法提取的蛋白质能保留蛋白质的免疫反应性。
【英文摘要】A new method for protein extraction from yeast Saccharomyces cerevisiae cells isdescribed. This method involves the use of LiAc and NaOH to enhance the permeabilityof yeast cell wall prior to protein extraction with SDS-PAGE sample buffer. It wassafe and efficient compared to other methods reported so far in the literature. Theproteins extracted with this new method retained their immunoreactive propertiesand are suitable for most applications in molecular biology studies
【语种】英文
【第一作者】张婷婷
【通讯作者】张智英
【期刊名称、卷期、页码】Yeast 2011; 28: 795 – 798
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【引文索引类型】SCI
【引文索引号】10.1002/yea.1905
【学科分类】生物学其他学科

【题目】微小毛霉凝乳酶基因的克隆与表达
【中文关键词】微小毛霉; 克隆; 表达;
【英文关键词】mucor pusillus; cloning; expression;
【中文摘要】微小毛霉(Mucor pusillus)凝乳酶是微生物凝乳酶的主要来源之一,但与传统的牛凝乳酶比较具有一定的缺陷。为将其采用基因工程的方法进行改造获得理想的凝乳酶,本研究克隆到微小毛霉凝乳酶基因,将其插入原核表达载体pTWlN1中,使之与几丁质结合域(CBD)一内含肽(intein)融合,获得原核表达质粒pTWIN1/M。转化大肠杆菌BL21(DE3),后经IPTG诱导后进行SDS-PAGE电泳分析,获得了重组蛋白。
【英文摘要】The rennet from Mucor pusillus is one of the major sources of microbial rennet.but it hassome defects comparing with the bovine chy-mosin.In order to develop a rennet with suitable milk clotting properties,the gene of rennetwas cloned from Mucor pusillus,and the DNA frag-ment was inserted into the prokaryotic expression vector pTWIN1,forming pTWIN1/M with a fusion protein integrated with(CBD-intein).pTWIN1/M was further transformed into E.coli BL21(DE3).Expression of the enzyme was performed with IPTG induction.SDS-PAGE tests showed that the rennet from Mucor pusillus was expressed in E.coli BL21(DE3).
【语种】中文
【第一作者】姜媛媛
【通讯作者】杨贞耐
【期刊名称、卷期、页码】中国乳品工业,2010 ,38(2)7-9
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【学科分类】食品科学技术基础学科

【题目】Genome-wide analysis of cyclins in maize (Zea mays)
【中文关键词】无
【英文关键词】Cyclin; Gene duplication; Phylogenetic analysis; Zea mays
【中文摘要】无
【英文摘要】Cyclins are primary regulators of the activity of cyclin-dependent kinases and play crucial roles in cell cycle progression in eukaryotes. Although extensive studies have revealed the roles of some cyclins and underlying mechanisms in plants, relatively few cyclins have been functionally analyzed in maize. We identified 59 cyclins in the maize genome, distributed on 10 chromosomes; these were grouped into six types by phylogenetic analysis. The cyclin genes in the maize genome went through numerous tandem gene duplications on five chromosomes. However, no segmental duplications, which occur in rice, were found on maize chromosomes. This information allows us to assess the position of plant cyclin genes in terms of evolution and classification, which will be useful for functional studies of maize cyclins.
【语种】英文
【第一作者】Hu,Xiang
【通讯作者】项艳
【期刊名称、卷期、页码】Genet. Mol. Res. 9 (3): 1490-1503 (2010)
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【学科分类】发育生物学

【题目】微小毛霉凝乳酶基因在毕赤酵母中的诱导表达研究
【中文关键词】微小毛霉凝乳酶; 巴斯德毕赤酵母; 表达;
【英文关键词】Mucor pusillus rennin; Pichia pastoris; expression;
【中文摘要】目的:研究重组毕赤酵母GS115PJ5诱导表达微小毛霉凝乳酶过程中酵母生长、产酶及培养液总蛋白变化情况。方法:测定毕赤酵母生长曲线、凝乳酶凝乳活性、蛋白水解活性、培养基上清液总蛋白含量。结果:毕赤酵母在开始诱导24h后即进入稳定生长期,并保持到240h,然后进入衰亡期。SDS-PAGE显示在分子量约为47000处有目的凝乳酶条带,凝乳酶在培养144h后开始大量积累,酶活性迅速提高,192h时凝乳活性达到最大值300SU/mL,蛋白水解活性为10.75U/mL,凝乳活性与蛋白水解活性的比值(C/P)达到最大值27.9,上清液总蛋白含量为0.189mg/mL。结论:微小毛霉凝乳酶基因在毕赤酵母中得到了有效的表达。
【英文摘要】Objectives:To study the growth,enzyme-producing properties of the yeast and total protein of cultures during the induced expression of Mucor pusillus rennin in recombinant Pichia pastoris GS115PJ5.Method:Growth curve,milk-clotting activity,proteolytic activity,total protein content were determined.Results:The results showed that the yeast entered the stationary phase after incubation for 24h,and started to enter the decline phase after 240h.A strong band at about 47000 was shown by SDS-PAGE.Analysis of enzymatic activity showed that rennin accumulated rapidly after incubation for 144h and reached the maximum milk-clotting activity(300SU/mL)at 192h.Proteolytic activity,the ratio of milk-clotting activity and proteolytic activity(C/P)and total protein content were determined to be 10.75U/mL,27.9,0.189mg/mL,respectively.Conclusion:Mucor pusillus rennin was expressed effectively in Pichia pastoris.
【语种】中文
【第一作者】郑丽
【通讯作者】杨贞耐
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【学科分类】食品科学技术基础学科

【题目】重组微小毛霉凝乳酶的分离与纯化
【中文关键词】重组微小毛霉凝乳酶; 分离; 纯化;
【英文关键词】recombinant Mucor pusillus rennet; separation; purification;

【中文摘要】用硫酸铵分级沉淀分离提取重组微小毛霉凝乳酶(GS115/pPICZ α A-Mucor pusillus rennet),经过Sephadex G-75分子筛和DEAE-52离子交换2次柱层析纯化,酶的比活力由2078U/mg提高为10526U/mg,纯化倍数超过5倍,纯化的重组凝乳酶经SDS-PAGE电泳分析纯化的重组凝乳酶分子质量约为46kDa。

【英文摘要】Recombinant rennet expressed in Pichia pastoris(GS115/pPICZ α A-Mucor pusillus rennet) was partially purified and characterized.Recombinant rennet was obtained by fractional precipitation with ammonia sulfate,followed by the chromatography of DEAE-52 and Sephadex G-75.It was purified over five fold and the specific activity of the enzyme preparation increased from 2078 U/mg to 10526 U/mg.The purified enzyme had a molecular mass of 46 kDa as showed by SDS-PAGE.

【语种】中文

【第一作者】李玉秋

【通讯作者】杨贞耐

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【学科分类】食品科学技术基础学科

【题目】外源细胞分裂素对组培玉米叶原基分化的调控

【中文关键词】玉米; 6-BA; 叶原基分化; 组织培养

【英文关键词】Maize; 6-BA; Differentiation of leaf primordium; Tissue culture

【中文摘要】以互生玉米自交系H4d 、8701d 为材料, 取自交授粉12 d 的幼胚, 分别在含不同浓度6-BA 的脱分化培养基上诱导愈伤组织, 筛选II 型愈伤组织, 分别转入0~3 mg L - 1 6-BA 浓度梯度的分化培养基上诱导出芽。芽点出现时, 在解剖镜下剥离顶端分生组织, 电镜扫描观察叶原基形态, 并用ELISA 反应测定顶端分生组织细胞分裂素6-BA、ZRs 、DHZRs、iPAS 和生长素IAA 、NAA含量。结果表明, 外源细胞分裂素6-BA 可调控互生基因型玉米材料幼苗叶原基转换为对生甚至畸形叶原基类型, 6-BA 浓度越高、处理越早, 出现对生叶原基、畸形叶原基的频率越高。ELISA 反应显示, 生长点激素含量的改变是外源激素的吸收累积造成的, 内源细胞分裂素的含量并未明显改变, 在互生基因型下通过增加外源细胞分裂素6-BA 提高细胞分裂素/ 生长素值可导致叶原基分化类型向对生、畸形类型转换, 解除外源激素作用后, 生长点细胞分裂素/ 生长素值的恢复导致叶原基分化类型返回原始基因型类型。这进一步证实生长点细胞分裂素/ 生长素是决定玉米叶原基分化类型的关键因素。

【英文摘要】The 12-day immature embryos of 2 maize (Zea mays L.) inbred lines with alternativ e phyllotaxy, 8701d and H4d, were cultured on media with different contents of 6-BA for 14 d to produce calluses, which were furthe r subcultured twice on the sam e media. Type II calli were established on the differentiation mediums with 0 – 3 mg L - 1 of 6-BA content ladder to induce sprout formation. Sprouts in shoot tips were peeled off under a dissecting microscope and the im ages of the phyllotactic patterns of l eaf primordium were taken by scanning electr on microscope. The contents of 6-benzylaminopurine (6-BA), zeatin riboside group (ZRs), dehydro zeatin riboside group (DHZRs), isopentenyl adenosine group (iPAs), napthalene acetic acid (NAA), and in-dole-3-acetic acid (IAA) in shoot apical meristem were measured by ELISA meth od. Three phyllotactic patterns, namely opposite, misshapen, and alternate were observed in the leaf primordium. In H4d plants, exogenous application of the cytokinin 6-BA in-duced a change in the phyllotaxy of shoot apical meristem (S AM) from alternate to opposite and misshapen. Higher 6-BA content and earlier treatment led to higher proportions of SAM with missh apen leaf primordia and opposite leaf primordia. The cyto-kinin/auxin (CTK/AUX) ratio in SA M with misshapen leaf primordia was higher than that with decussate leaf primordia, which in turn, was higher than that with alternate leaf primordia. The ac cumulation of cytokinin 6-BA increased the levels of cytokinin in SAM, but did not change the levels of endogenous cytokinins (ZRs, DHZRs, and iPAs). The comeback of CTK/AUX ratio in tissue cultured immature seedlings could induce th e leaf primordium of them to come back to the original ph yllotactic patterns. The CTK/AUX ratio is the determinative factor that re gulates the differentiation of maize leaf primordium.

【语种】中文

【第一作者】马庆

【通讯作者】程备久

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【学科分类】发育生物学

【题目】15个紫花苜蓿品种抗旱性评价
【中文关键词】苜蓿; 抗旱性; 隶属函数;
【英文关键词】Alfalfa; Drought resistance; Membership function;
【中文摘要】研究15个紫花苜蓿品种抗旱性。[方法]通过室内试验,对15个苜蓿品种进行人工干旱胁迫,测定其干旱胁迫后植物体的相对膜透性、游离脯氨酸含量和水饱和亏缺3个抗旱指标。通过对不同苜蓿品种的抗旱隶属函数值进行计算,对不同苜蓿品种的综合抗旱适应性进行了评价。[结果]将15个苜蓿品种划分为3类,高抗旱苜蓿品种:敖汉、公农2号、宁苜1号、龙牧801;中抗旱苜蓿品种:公农1号、龙牧803、MagnumV-wet、农宝、竞争者、大叶、中苜1号;弱抗旱苜蓿品种:公农3号、WL-525、朝阳、胜利者。[结论]高抗旱苜蓿品种为敖汉、公农2号。
【英文摘要】The study aimed to research the characteristics of drought resistance of 15 Alfalfa Varieties.[Method] Artificial soil drought stress were carried out on 15 different alfalfa varieties in laboratory,and the drought resistance index of membrane relative permeability,proline content and leaf water saturation deficit were measured.A comprehensive evaluation on drought resistance of different alfalfa varieties was given based on subordinate function values analysis.By using the method of cluster analysis the alfalfa varieties were classified into three types.[Result] High drought resistant varieties: Medicago sativa L.cv. ’ Aohan ’ ,Medicago sativa L.cv. ’ Gongnong No.2 ’ ,Medicago sativa L.cv. ’ Ningxia No.1 ’ ,Medicago sativa L.cv. ’ Longmu No.801 ’ ;medium drought resistant varieties : Medicago sativa L.cv. ’ Gongnong No.1 ’ ,Medicago sativa L.cv. ’ Longmu No.803 ’ ,MagnumV-wet,Medicago sativa L.cv. ’ Farmers Treasure ’ ,Medicago sativa L.cv. ’ Runner ’ ,Medicago sativa L.cv. ’ Leafking ’ ,Medicago sativa L.cv. ’ Zhongmu No.1 ’ ;low drought resistant varieties: Medicago sativa L.cv. ’ Gongnong No.3 ’ ,WL-525,Medicago sativa L.cv. ’ Jacklin ’ ,Medicago sativa L.cv. ’ Vector ’ .[Conclusion] High drought resistant varieties: Medicago sativa L.cv. ’ Aohan ’ ,Medicago sativa L.cv. ’ Gongnong No.2 ’ .
【语种】中文
【第一作者】刘卓
【通讯作者】徐安凯
【期刊名称、卷期、页码】安徽农业科学.2009,37(35):17442—1744
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【学科分类】畜牧学

【题目】A Study on Starch Branching sbe II b Gene RNAi Fragments Transformation of Maize Inbred-Lines.
【中文关键词】玉米自交系;淀粉分支酶sbellb基因;遗传转化;RNAi表达载体
【英文关键词】maize elite inbred line; starch branching enzyme (sbeHb) gene; genetic transformation; RNAi expression vector
【中文摘要】玉米高直链淀粉育种是玉米分子育种的一个重要研究方向。本实验中,首先研究了不同诱导愈伤培养基对再生体系的影响,确定了LS+2,4・D2.0mg/L+L—pro700mg/L+CH500 mg/L+3%蔗糖为诱导培养基。同时,构建并验证了含有淀粉分支酶sbeHb基因双干涉片段载体和胚乳特异性启动子的表达载体pCAMBIA1301+Gh+1620,并转入根癌农杆菌EHAl05,以农杆菌转化法转化玉米自交系178。通过PCR检测,5株转化株表现阳性,初步证明了干涉片段已整合入玉米基因组中。
【英文摘要】High amylose maize(Zea mays L.) breeding is an important field of molecular maize breeding. In this study, through research of the effect of inducing culture, the optimal inducing culture was fixed as LS+2。4・D 2.0 me,/ L+L—pro 7000mg/L+CH 500 mg/L+3% sucrose. Then, we constructed and detected the expression vector pCAM. BIA 1 301+Glu+1 620whichcarries endosperm specific promoter (Ghpromoter from wheat glutenin)and twointeffe・ rentiai fragment of the 16 and 20 exon in maize starch branching sbellb gene, transferred into Agrobacterium tumefaciens strain EHAl05, and transformed the maize elite inbred line 178 with the Agrobacterium-protoc01. Five transgenic plants which were detected by PCR reaction showed positive signal, indicating that interferential fragment was transformed pre-liminarily into genome of maize.
【语种】英文
【第一作者】吴大强
【通讯作者】程备久
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【学科分类】生物化学

【题目】抗寒早生优质茶树新品种选育研究初报
【中文关键词】茶树;抗寒;品种;选育
【英文关键词】tea plant;cold-risistance;cultivar;brzeeding
【中文摘要】鉴于苗期扦插成活率、生长势、抗性及物候期综合考虑,得到优良单株7株,分别为2008005、2008015、2008021、2008024、2008026、20008027和2008048,并于2009年9月完成移栽,进行品系比较试验;其余作为原始育种材料保存,有待深入研究
【英文摘要】无
【语种】中文
【第一作者】王烨军
【通讯作者】王烨军
【期刊名称、卷期、页码】茶业通报.2010.32(3) :125-126
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【引文索引号】null
【学科分类】园艺学

【题目】genetic effects and QTL mapping of seed shapes in soybean
【中文关键词】大豆,籽粒形状,遗传效应,数量性状位点
【英文关键词】soybean, seed shapes, genetic effects, quantitative trait loci(QTL)
【中文摘要】By using the full genetic model including seed, cytoplasmic and maternal effects on diploid plant, the resutlsindicated that the seed shapes were controlled by seed direct genetic effects. The seed genetic effects of seed length and length/ width, length/ thickness, width/ thickness were mainly controlled by cytoplasmic effects, while the seed genetic effects of seed width, seed thickness were mainly controlled by maternal effects. The heritabilities of direct effects were intermediate for seed length and length/ width, width/ thickness, when the heritability of seed effects were high for seed width, seed thickness. Therefore, more attention should be paid to single seed selection and the single plant selection in late generations in hybrid offspring on the seed length and length/ width, width/ thickness, while in the case of the seed width and seed thickness, attention should be paid to the maternal single plant selection in early generations. So, soybean inbreds could be developed by those selection for these shapes. In the same time, total 7 QTLs of seed length, 3 QTLs of seed width, 3 QTLs of seed thickness, 6 QTLs of length/width, 9 QTLs of length/ thickness and 5 QTLs of width/ thickness were mapped on A1, B1, B2, D1a, D2, F_2, G, I, J_2 and O 10 chromosomes and trended to cluster together. According to analysis of this investigation, the phenotype correlations of quantitative traits may result from the correlations of QTLs controlling those traits. Those will be helpful to further understand genetic basis of seed shape in soybean.
【英文摘要】By using the full genetic model including seed, cytoplasmic and maternal effects on diploid plant, the resutlsindicated that the seed shapes were controlled by seed direct genetic effects. The seed genetic effects of seed length and length/ width, length/ thickness, width/ thickness were mainly controlled by cytoplasmic effects, while the seed genetic effects of seed width, seed thickness were mainly controlled by maternal effects. The heritabilities of direct effects were intermediate for seed length and length/ width, width/ thickness, when the heritability of seed effects were high for seed width, seed thickness. Therefore, more attention should be paid to single seed selection and the single plant selection in late generations in hybrid offspring on the seed length and length/ width, width/ thickness, while in the case of the seed width and seed thickness, attention should be paid to the maternal single plant selection in early generations. So, soybean inbreds could be developed by those selection for these shapes. In the same time, total 7 QTLs of seed length, 3 QTLs of seed width, 3 QTLs of seed thickness, 6 QTLs of length/width, 9 QTLs of length/ thickness and 5 QTLs of width/ thickness were mapped on A1, B1, B2, D1a, D2, F_2, G, I, J_2 and O 10 chromosomes and trended to cluster together. According to analysis of this investigation, the phenotype correlations of quantitative traits may result from the correlations of QTLs controlling those traits. Those will be helpful to further understand genetic basis of seed shape in soybean.
【语种】英文

【第一作者】梁慧珍
【通讯作者】梁慧珍
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【学科分类】农业基础学科

【题目】Molecular cloning, genomic organization and functional analysis of an anti-lipopolysaccharide factor from Chinese mitten crab Eriocheir sinensis
【中文关键词】中华绒螯蟹 抗脂多糖因子
【英文关键词】Eriocheir sinensis; Anti-lipopolysaccharide factor; Northern blot; Quantitative real-time PCR; Recombinant protein; Bactericidal activity
【中文摘要】中华绒螯蟹抗脂多糖因子的基因克隆和功能研究
【英文摘要】Anti-lipopolysaccharidefactor (ALF) represents one kind of basic proteins, which binds and neutralizes LPS and exhibits strong antibacterial activity against Gram-negative R-type bacteria. The ALF gene of ChinesemittencrabEriocheirsinensis (Milne Edwards, 1853) (denoted as EsALF) was identified from haemocytes by expressed sequence tag (EST) and PCR approaches. The full-length cDNA of EsALF consisted of 700 nucleotides with a canonical polyadenylation signal-sequence AATAAA, a polyA tail, and an open-reading frame of 363 bp encoding 120 amino acids. The high similarity of EsALF-deduced amino acid sequence shared with the ALFs from other species indicated that EsALF should be a member of ALF family. The mRNA expression of EsALF in the tissues of heart, gonad, gill, haemocytes, eyestalk and muscle was examined by Northern blot analysis and mRNA transcripts of EsALF were mainly detected in haemocytes, heart and gonad. The temporal expression of EsALF in haemocytes after Vibrio anguillarum challenge was recorded by quantitative real-time RT-PCR. The relative expression level of EsALF was up-regulated rapidly at 2 h post-injection and reached 3-fold to that in blank group. After a drastic decrease to the original level from 4 to 8 h, the expression level increased again and reached 4-fold to that in the blank group at 12 h post-injection. The genomic DNA sequence of EsALF gene consists of 1174 bp containing three exons and two introns. The coding sequence of the EsALF mature peptide was cloned and expressed in Escherichia coli BL21(DE3)-pLysS to further elucidate its biological functions. The purified recombinant product showed bactericidal activity against both Gram-positive (G+) and Gram-negative (G −) bacteria, which demonstrated that the rEsALF was a broad-spectrum antibacterial peptide. All these results indicated that EsALF was an acute-phase protein involved in the immune responses of Chinesemittencrab, and provided a potential therapeutic agent for disease control in aquaculture.
【语种】英文
【第一作者】李成华
【通讯作者】宋林生
【期刊名称、卷期、页码】Developmental & Comparative Immunology 2008,32:784-794
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【学科分类】水产养殖学

【题目】不同苜蓿品种种子萌发期耐盐性的研究
【中文关键词】苜蓿; 耐盐性; 发芽率; 苗高; 根长;
【英文关键词】alfalfa; salt tolerance; germination capacity; seeding height; root length;
【中文摘要】用0(CK),0.2%,0.4%,0.6%,0.8%和1.0%溶液分别对15个苜蓿品种种子进行处理,通过发芽势、发芽率、幼根长和幼苗高对各品种种子萌发期耐盐性进行了研究,其品种间存在显著性差异(P<0.05,P<0.01)。结果表明:用0.6%,0.8%或1.0%NaCl溶液进行苜蓿种子萌发期耐盐性鉴定较为合理。1.0%NaCl溶液处理苜蓿种子,其幼根长及其幼苗高可作为苜蓿品种种子耐盐性鉴定的指标。对15个苜蓿品种种子的发芽率、幼根长、幼苗高、半致死浓度和耐盐极限浓度5个鉴定指标进行综合分析,结果表明:宁苜1号、龙牧801号、WL-525耐盐性最强,其次是龙牧803号,耐盐性最弱的为MagnumV-wet。
【英文摘要】Salt to tolerance of 15 alfalfa varieties in geminating period was studied by measuring the germinating energy,germination rate,seedling height and root length under the treatments with 0(CK),0.2%,0.4%,0.6%,0.8% and 1.0% NaCl solution.There were significant differences in characteristics of growth and development(P<0.05,P<0.01).The results showed that

0.6%,0.8% and 1.0% NaCl solutions were appropriate to identify the salt tolerance of alfalfa in geminating period.The root length and seedling height were regarded as two adaptive salt-tolerant indexes under the treatment with 1.0% NaCl solution.By comprehensive analysis of germinating energy,seedling height,root length,medial lethal dose and medial lethal dose,the result showed that salt tolerance degrees of 15 alfalfa varieties were: ' Ningxia No.1 ', ' Longmu No.801 ' and ' WL-525 ' were strong, ' Longmu No.803 ' was medium,and MagnumV-wet was weak.

【语种】中文
【第一作者】刘卓
【通讯作者】徐安凯
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【学科分类】畜牧学

【题目】A lectin (Cflec-2) aggregating Staphylococcus haemolyticus from scallop Chlamys farreri
【中文关键词】栉孔扇贝 C型凝集素
【英文关键词】Chlamysfarreri; Lectin; Ca2+ independent; Staphylococcus haemolyticus
【中文摘要】栉孔扇贝C型凝集素-2(CfLec-2)基因的克隆和分析
【英文摘要】Lectins are a family of carbohydrate-recognition proteins which play crucial roles in innate immunity. In this study, a new lectin (CfLec-2) gene was cloned from Chlamysfarreri by EST and RACE approaches. The full-length cDNA of CfLec-2 was composed of 708 bp, encoding a typical long form carbohydrate-recognition domain of 130 residues. The deduced amino acid sequence showed high similarity to Brevican in Homo sapiens, C-type lectin-1 and lectin-2 in Anguilla japonica. The cDNA fragment encoding the mature peptide of CfLec-2 was recombined into plasmid pET-32a (+) and expressed in Escherichia coli Rosseta-Gami (DE3). The recombinant CfLec-2 (rCfLec-2) protein exhibited aggregative activity toward Staphylococcushaemolyticus, and the agglutination could be inhibited by d-mannose but not EDTA or d-galactose, indicating that CfLec-2 was a Ca2+ independent lectin. Moreover, rCfLec-2 could suppress the growth of E. coli TOP10F ' . These results suggested that CfLec-2 was perhaps involved in the recognition and clearance of bacterial pathogens in scallop.
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【第一作者】郑沛林
【通讯作者】宋林生
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【学科分类】水产养殖学

【题目】不同外源激素对羊草有性生殖数量性状调控作用的研究
【中文关键词】苜蓿; 耐盐性; 发芽率; 苗高; 根长;
【英文关键词】alfalfa; salt tolerance; germination capacity; seeding height; root length;
【中文摘要】在羊草小花分化期喷施GA3(赤霉素)I、AA(生长素)及KT(激动素),研究不同植物激素种类对羊草有性生殖数量性状的影响。结果表明,生长素对羊草抽穗数、抽穗率、每穗小穗数、每穗小花数、结实数、结实率和千粒重均无显著影响(P>0.05);激动素与赤霉素可显著地增加羊草的每穗小花数和结实数(P<0.05),且激动素的效果明显好于赤霉素;表明外源激动素和赤霉素对羊草的小花分化数量具有明显的促进作用,而生长素则对羊草所有有性生殖数量性状无显著影响。
【英文摘要】Leymus chinensis has low power of sexual reproduction and is dominant in vegetative reproduction.It has a poor seeds production,which restrain the using of it seviously.Plant hormones are key factors in controlling the reproductive growth of plants.A field experiment was conducted to evaluate the effects of hormones(GA3,IAA,KT) on the quantitative traits of sexual reproduction of L.chinensis.The results indicated that,IAA had no effect on heading number,heading percent,spikelets per spike,florets per spikelets,seeds number,seed percent and one thousand-seed weight(P > 0.05).GA3 and KT could increase the number of florets per spike,seeds number per spike significantly(P < 0.05),and then increase the weight of per spike,weight of seeds per spike and seed yield.The effect of KT on these indexes was higher than that of GA3.So it was concluded that GA3 and KT accelerated the florets

differentiation and IAA had no effect on the quantitative traits of sexual reproduction of L.chinensis.
【语种】中文
【第一作者】李晓宇
【通讯作者】穆春生
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【学科分类】生态学

【题目】Molecular Cloning and Analysis of Function of Nucleoside Diphosphate Kinase (NDPK) from the Scallop Chlamys farreri
【中文关键词】栉孔扇贝 Nucleoside Diphosphate Kinase (NDPK)
【英文关键词】scallop - Chlamys farreri nucleoside diphosphate kinase (NDPK) expression profile recombinant expression
【中文摘要】栉孔扇贝Nucleoside Diphosphate Kinase (NDPK)
【英文摘要】Nucleoside diphosphate kinase (NDPK) is a key metabolic enzyme that catalyzes the synthesis of non-adenine nucleoside triphosphate (NTP) by transferring the terminal phosphate between nucleoside diphosphate (NDP) and NTP. NDPK regulates a variety of eukaryotic cellular activities including cell proliferation, development, and differentiation. The ndpk cDNA was cloned from the hemocytes of the scallop Chlamys farreri and designated Cf-ndpk. The full-length sequence of Cf-ndpk consists of 715 bp encoding a polypeptide of 153 amino acids with a calculated molecular mass of 16927.52 daltons and pI of 7.64. The mRNA expression and distribution of Cf-ndpk in both bacterially challenged and unchallenged scallops were studied by Northern blotting and in situ hybridization. The results showed that Cf-ndpk transcripts were present in hemocytes, gill, adductor muscle, mantle, digestive gland, foot, and gonad, and the expression level increased in hemocytes after bacterial challenge. Recombinant Cf-NDPK expressed in Escherichia coli could transfer the terminal phosphate between UDP and ATP. The Cf-NDPK protein was present in all tested tissues including foot, adductor muscle, digestive gland, gonad, mantle, gill, and hemolymph. It was up-regulated in hemolymph after bacterial challenge. Taken together, these results suggest that NDPK may play roles in the innate immune response of scallop.
【语种】英文
【第一作者】shi xiuzhen
【通讯作者】王金星
【期刊名称、卷期、页码】Biochemistry (Moscow) 2008,73:686-692
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【学科分类】水产养殖学

【题目】不同诱变处理对苦荬菜M1代农艺性状和品质影响的初报
【中文关键词】苦荬菜; 空间飞行; 60Co-γ射线; 相关分析; 主成分分析
【英文关键词】Lactuca indica; aerospace flight; 60Co-γ rays; correlation analysis; principal component analysis;
【中文摘要】利用空间飞行(aerospace flight,AF)和60Co-γ射线分别处理苦荬菜干种子,比较分析其M1代与对照(CK)的7个主要农艺性状和品质构成因子。结果表明,发芽率、发芽势、株高、产量、粗纤维、粗蛋白存在显著差异(P<0.05),粗脂肪差异不显著。相关性分析发芽率、发芽势、产量三者之间存在极显著相关(P<0.01);株高、粗脂肪、粗蛋白存在显著相关(P<0.05);产量与粗脂肪呈极显著相关性(P<0.01)。主成分分析表明,苦荬菜M1代突变群体的变异主要通过产量因子、品质因子2主成分体现出来(累积贡献率达86.446 1%),选用空间飞行和60Co-γ射线20 Gy处理的后代作为育种材料最好。
【英文摘要】Dry seeds of Lactuca indica in aerospace flight(AF) were irradiated with different doses of 60Co-γ rays and were used to compare and analyze seven main feeding characters and quality traits in the M1 of L.indica.There were significant differences in the rate of germination,germination potential,height,yield,crude fiber,and crude protein(P<0.05) without crude fat.The rate of germination was significantly correlated with germination potential and yield(P<0.05).The height was significantly correlated with crude fat and crude protein(P<0.05).The yield was significantly correlated with crude fat(P<0.05).The results of principal component analysis showed that the cumulative ratio of contribution of 86.446 1% comes from plant yield factors and plant quality factors.The results showed that use of AF and 20 Gy of 60Co-γ rays treatment is important because it is a better way to cultivate new varieties.

【语种】中文
【第一作者】唐凤兰
【通讯作者】唐凤兰
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【学科分类】畜牧学

【题目】A single whey acidic protein domain (SWD)-containing peptide from fleshy prawn with antimicrobial and proteinase inhibitory activities
【中文关键词】中国明对虾 抗菌肽 Fc-SWD
【英文关键词】Fleshy prawn; Chinese shrimp; Fenneropenueus chinensis; Antimicrobial peptide; Fc-SWD; Innate immunity
【中文摘要】中国明对虾SWD抗菌肽基因的表达与功能研究
【英文摘要】With their inherent immune system, shrimps survive in marine environments despite the presence of different stressors, such as bacteria, fungi, and virus. In order to fight against and subsist even in the presence of such pathogens, the shrimps' ability to produce and release antimicrobial peptides are indeed important. in view of this, a new type of genetic material, an antimicrobial peptide containing a single whey acidic protein domain (SWD), was cloned from the haemocytes of fleshy prawns (Fenneropenaeus chinensis). Hence, this peptide is named Fc-SWD. The full-length cDNA of Fc-SWD was 399 bp, and it contained a single open reading frame (ORF) of 273 bp encoding an Fc-SWD of 90 amino acids, including a putative 24-amino acid signal peptide and a mature 66 residue peptide. Sequence comparison and phylogenetic analysis of SWDs and other whey acidic protein (WAP) domains containing proteins in crustaceans suggested that the crustacean WAP containing proteins can be divided into four classes: crustin I, crustin II, SWD, and carcinin and carcinin-like proteins. Apparently, the Fc-SWD is a new type in the SWD subgroup. Northern blot analysis demonstrated that Fc-SWD transcripts were constitutively expressed in the haemocytes of non-infected shrimps and increased in the haemocytes of infected shrimps. Meanwhile, Fc-SWD mRNA was not detected in the hearts, hepatopancreas, stomachs, gills, intestines, or ovaries of the non-infected shrimps nor the infected ones. Reverse transcription polymerase chain reaction (RT-PCR) experiments showed that the Fc-SWD signal was detected in the haemocytes, hearts, and gills of both the unchallenged and the challenged shrimps, and in the stomach of the challenged shrimps. Western blot analysis indicated that the Fc-SWD protein appeared to be synthesized in the haemocytes with a signal peptide and then secreted to the haemolymph as a mature peptide when the F chinensis was infected by pathogens. Thus, the Fc-SWD (for the full-length peptide including the signal peptide), the mFc-SWD (for the mature peptide), and the Fc-WAPD (for the single WAP domain) were manifested in the Escherichia coli, respectively. Further findings indicated that the purified recombinant Fc-SWD and the mFc-SWD have antimicrobial activities against Gram-positive (G(+)) and Gram-negative (G(-)) bacteria and fungi, as well as a strong inhibitory activity against subtilisin A and protein K. The Fc-WAPD has anti-protease activities and low antimicrobial activity. In view of the foregoing findings, it can be concluded that Fc-SWD is one of the factors that affect shrimps' immunity against various pathogens.
【语种】英文
【第一作者】贾玉萍
【通讯作者】王金星
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【学科分类】水产养殖学

【题目】高产广适抗寒小麦新品种花培5号的选育
【中文关键词】小麦; 花药培养; 新品种; 花培5 号
【英文关键词】wheat;anther culture; new variety; huapei 5 hao
【中文摘要】花培5 号是利用花药培养技术, 用豫麦18 号　　花4- 3 杂交组合F1 代, 诱导出单倍体花粉植株, 经染色体加倍选育而成, 属高产、稳产、抗寒、抗旱、抗病、适应性广的优质中筋专用小麦新品种。参加国家黄淮南片区试及生产试验产量均获第一; 区试混合样经农业部谷物品质监督检验测试中心(北京) 连续2 年测试, 品质指标均超过国审标准。

【英文摘要】无
【语种】中文
【第一作者】海燕
【通讯作者】海燕
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【学科分类】农艺学

【题目】Molecular cloning and expression analysis of chymotrypsin-like serine protease from the Chinese shrimp, Fenneropenaeus chinensis
【中文关键词】中国明对虾 先天免疫 胰凝乳蛋白酶
【英文关键词】Chinese shrimp; Fenneropenaeus chinensis; Chymotrypsin; Innate immunity; Quantitative real-time PCR
【中文摘要】中国明对虾胰凝乳蛋白酶基因的克隆与功能研究
【英文摘要】A new member of the serine protease (SP) chymotrypsin (designated Fc-chy) was isolated from the hepatopancreas of Chinese shrimp Fenneropenaeus chinensis. The full-length cDNA of Fc-chy contained 951 nucleotides with a polyadenylation sequence and a polyA tail. It encoded a peptide of 271 amino acids with a signal peptide of 17 amino acids and an activation peptide of 28 amino acids. The mature peptide concludes 226 amino acids. It contained the conserved catalytic triad (H, D, and S). Similarity analysis showed that Fc-chy shared high identity with chymotrypsins from the Pacific white shrimp, Litopenaeus vannamei. Northern blot, quantitative real-time PCR, in situ hybridization, and western blot analysis were carried out to analyze the expression pattern and distribution profiles of Fc-chy after bacteria and virus challenges. The results showed that Fc-chy transcription and Fc-chy protein levels were upregulated in the hepatopancreas after bacterial and viral infection. Fc-chy from the hepatopancreas was purified by affinity chromatography. It showed high hydrolytic activity toward the substrate N-succinyl-ala-ala-pro-phe p-nitroanilide (AAPF), and its activity was inhibited by Kazal-type SP inhibitor from Chinese shrimp. All of these may indicate that Fc-chy is involved in the innate immune reactions in Chinese shrimp.
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【第一作者】SHI XIUZHEN
【通讯作者】王金星
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【学科分类】水产养殖学

【题目】杜尔伯特扁穗冰草生产性能试验研究
【中文关键词】杜尔伯特扁穗冰草; 植物学特征; 生物学特性; 生产性能;
【英文关键词】Agropyron cristatum(L.) Gaertn.cv.Duerbote; Botanical characteristic; Biological characteristic; Productive performance;
【中文摘要】杜尔伯特扁穗冰草(Agropyron cristatum(L.)Gaertn.cv.Duerbote)是黑龙江省畜牧研究所1994-2008年引种驯化野生新品种。通过三年生产性能的试验研究,结果表明,该品种抗寒、耐旱,适应性强,生长速度快,饲草品质好,牧草产量和种子产量高,干草产量达4215.04 kg/hm2,比对照品种野生扁穗冰草(3271.92 kg/hm2)和细茎冰草(3771.78 kg/hm2)增产28.8%和11.7%。种子平均产量为576.29 kg/hm2,较野生扁穗冰草(428.95kg/hm2)和细茎冰草(557.07kg/hm2)增产34.3%和3.4%,是北方寒冷干旱区种植人工草地、改良天然草地的优质饲草饲料品种。
【英文摘要】Agropyron cristatum(L.) Gaertn.cv.Duerbote was a new variety which was introduced and domesticated by Heilongjiang Institute of Animal Science from 1994 to 2008.The results from a 3-year study on its productive performance show that Duerbote was characteristic of drought-resistance,cold-resistance,strong adaptability,fast growth rate,good herbage quality,and high forage yield.Its hay yield was 4215.04 kg · hm-2 which was 28.8% higher than that of wild A.cristatum(3271.92 kg · hm-2) and 11.7% higher than that of A.trachycaulum(Link) Malte ex H.F.Lewis(3771.78 kg · hm-2).Its seed yield was 576.29 kg · hm-2 which was 34.3% higher than that of wild A.cristatum(428.95 kg · hm-2) and 3.4% higher than that of A.trachycaulum(557.07 kg · hm-2).In

summary,Duerbote could be a good variety choice for artificial grassland planting and natural grassland improvement in cold and arid areas.
【语种】中文
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【题目】Molecular cloning, recombinant expression, and characterization of lysozyme from Chinese shrimp Fenneropenaeus chinensis
【中文关键词】中国明对虾; 溶菌酶; 先天免疫; 重组表达
【英文关键词】Chineseshrimp (Fenneropenaeuschinensis); lysozyme; innate immunity; recombinantexpression
【中文摘要】溶菌酶是机体先天免疫系统中一个重要的效应分子,参与机体多种免疫反应,在溶菌过程中形成一个水解体系,破坏和消除侵入体内的病原,从而实现机体的免疫防御。从中国明对虾中克隆得到了溶菌酶基因(称为FcLyz基因),该基因全长709bp,其完整的阅读框为477bp,编码158个氨基酸,前18个氨基酸(-1~-18)为信号肽,成熟肽由140个氨基酸组成(1-140aa),其分子量为16.2kD。经SMART分析,该基因具有1个溶菌酶1(LYZ1)结构域(19-130aa)。半定量RT-PCR分析结果表明溶菌酶虽在多种组织中有较低水平的组成性表达,但在细菌诱导的血细胞、心脏、肝胰腺和鳃等多种组织中表达上调。将中国明对虾溶菌酶基因的成熟肽亚克隆进原核表达载体pET-30a(+)中,转化大肠杆菌BL21(DE3),再进行诱导表达和亲和纯化,得到了纯化的重组溶菌酶,并进行了抑菌活性检测。结果表明,重组对虾溶菌酶对革兰氏阳性菌的抑菌能力较强,最小抑菌浓度达到3.43 μ mol/L,但对革兰氏阴性菌抑制作用较小。上述结果表明,该溶菌酶作为一种重要的免疫效应分子,参与了对虾的免疫防御反应。
【英文摘要】Lysozyme hydrolyses bacterial cell walls and acts as a nonspecific innate immunity molecule against the invasion of bacterial pathogens. We cloned the cDNA of lysozyme from Fenneropenaeus chinensis and named Fc-lysozyme (FcLyz in short). The full length of the gene was of 709 bp, and the open reading frame (477 bp) encoded 158 amino acids. The predicted protein had a signal peptide (-1--18 residue) and molecular weight of the mature protein (residue 1-140) was of 16.2 kD. A Lyz 1 domain (residue 1-130) in the lysozyme was found by SMART analysis. The results of semiquantity RT-PCR showed that FcLyz was constitutively expressed in tested tissues in a low level in normal shrimp, and up-regulated in hemocytes, heart, hepatopancreas and gill of bacterial challenged shrimp. The DNA fragment of mature Fc-Lys was subcloned to pET-30a (+) expression vector, the recombinant plasmid was transformed into Escherichia coli BL21 (DE3) and then induced by isopropylthio-beta-D-galactoside (IPTG). The antibacterial activity of the purified recombinant FcLys was analyzed and minimal inhibitory concentration (MIC) was assayed. The recombinant protein showed high antibacterial activity against some Gram-positive bacteria, and MIC reached 3.43 micromol/L, and relatively low activity against Gram-negative bacteria. All together, the Fc-Lys was regulated by pathogen infection and had antibacterial activity. This suggested that the FcLyz may be one of the important molecules against pathogens in innate immunity of the shrimp.
【语种】英文
【第一作者】卜兴江
【通讯作者】王金星
【期刊名称、卷期、页码】Chinese J. Biotechnol.(英文版)　2008,24:723-732.
【论文发表时间】2008-05-28 00:00:00
【引文索引类型】其他
【引文索引号】2.6156440002e+011
【学科分类】水产养殖学

【题目】A C-type lectin is involved in the innate immune response of Chinese white shrimp
【中文关键词】c型凝集素 先天免疫 中国明对虾
【英文关键词】C-type lectin; Innate immunity; Agglutination; Sugar specificity; Pull-down
【中文摘要】c型凝集素参与了中国明对虾的先天免疫反应

【英文摘要】C-type lectins may function as pattern-recognition receptors (PRRs) and play important roles in immuneresponses. In this work, a cDNA for a new C-typelectin, FcLec3, was obtained from ChinesewhiteshrimpFenneropenaeus chinensis using expressed sequence tag analysis and rapid amplification of the cDNA ends. FcLec3 contains an N-terminal signal peptide and a carbohydrate recognition domain (CRD). RT-PCR analysis showed that FcLec3 was mainly expressed in hepatopancreas and that the expression of FcLec3 was obviously up-regulated by Vibrio anguillarum or white spot syndrome virus (WSSV) challenge. Recombinant FcLec3 could agglutinate Gram-negative and -positive bacteria with the presence of calcium. A following agglutination inhibitory test indicated that FcLec3 could recognize muramic acid and peptidoglycan. Besides, pull-down assay showed that the recombinant protein could interact with VP28, one major envelope protein of WSSV. These results suggested that FcLec3 might function in the recognition of bacterial and viral pathogens in shrimp.
【语种】英文
【第一作者】WANG XIANWEI
【通讯作者】王金星
【期刊名称、卷期、页码】Fish Shellfish Immunol. 2009,27(4):556-562
【论文发表时间】2009-07-31 00:00:00
【引文索引类型】SCI
【引文索引号】2.704966e+011
【学科分类】水产养殖学

【题目】A novel C-type lectin (FcLec4) facilitates the clearance of Vibrio anguillarum in vivo in Chinese white shrimp
【中文关键词】c型凝集素 先天免疫 中国明对虾
【英文关键词】C-type lectin; Fenneropenaeus chinensis; Vibrio anguillarum; Bacteria clearance
【中文摘要】c型凝集素参与了中国明对虾的先天免疫反应
【英文摘要】C-type lectins play important roles in innate immunity of invertebrates. In the present study, we report a novel C-type lectin, named FcLec4, from the Chinese white shrimp Fenneropenaeus chinensis. FcLec4 contains a single carbohydrate recognition domain (CRD) with a putative signal peptide. Phylogenetic analysis indicated that FcLec4 was distant from most reported C-type lectins from shrimps. The expression of FcLec4 increased at both mRNA and protein level after stimulation of Vibrio anguillarum, Recombinant FcLec4 could agglutinate both Gram-positive and -negative bacteria in the presence of calcium. The recombinant protein could bind to peptidoglycan and selectively bind to microorganisms. Interestingly, the tight binding of recombinant FcLec4 to V. anguillarum might facilitate the subsequent clearance of the bacteria in vivo. To the best of our knowledge, this might be the first report that a C-type lectin was found to be directly involved in the anti-V. anguillarum response in shrimps.
【语种】英文
【第一作者】WANG XIANWEI
【通讯作者】王金星
【期刊名称、卷期、页码】Dev Comp Immunol 2009;33(9):1039-1047
【论文发表时间】2009-07-31 00:00:00
【引文索引类型】SCI
【引文索引号】2.6808880001e+011
【学科分类】水产养殖学

【题目】Study on the purification of polysaccharides from Noscoc flagelliforme with radial flow chromatography
【中文关键词】无
【英文关键词】radial flow chromatography,purificaiton,Noscoc flagelliforme,polysaccharide
【中文摘要】无
【英文摘要】The isolation and purification of polysaccharide from k ç ë Å ç Å=Ñ ä ~Ö É ä ä á Ñ ç ê ã É by radial flow chromatography were studied. Thecolumn (7.7 cm of bed length and 229.6 cm3of bed volume) was packed with DEAE-01 anion ion-exchange resin and gradienteluted with NaCl solutions. The content of the polysaccharide was determined with the phenol-sulfuric acid method.The effects of sampling weight, elution velocity, and elution concentration gradient on the separation efficiency were examinedand three isolated peaks were obtained. The optimal separation conditions are 10 mg of the sampling weight (samplingvolume is 20 mL), 1.0 mL/min of the elution velocity, and 1.00 mol/L2of NaCl gradient elution. The adjacent peak resolutionsamong the three main components (1, 2, and 3 according to their elution order) are 0.660 (o12) and 0.786 (o23),

respectively.It is deduced that 39.8 cm of the bed length is required for the fully separation of the three polysaccharides.
【语种】英文
【第一作者】Yu-Jie Dai
【通讯作者】Yu-Jie Dai
【期刊名称、卷期、页码】Biotechnology and Bioprocess Engineering 2009, 14: 377-382
【论文发表时间】2009-07-14 00:00:00
【引文索引类型】SCI
【引文索引号】470SV
【学科分类】生物工程

【题目】Molecular characterization and expression analysis of a chicken-type lysozyme gene from housefly Musca domestica
【中文关键词】家蝇 溶菌酶
【英文关键词】innate inununity; lysozyme; antibacterial activity; Musca domestica
【中文摘要】家蝇溶菌酶基因的克隆和功能
【英文摘要】Lysozymes can hydrolyze bacteria and play an important role in animal digestion and innate immunity. The cDNA of a chicken-type lysozyme gene (Mdlys) was cloned from housefly (Musca domestica). The 484 bp full-length cDNA contains a 426 bp open reading frame (ORF) that encodes MdLys of 141 amino acids. Phylogenetic analysis indicated that the MdLys was similar to chicken-type lysozymes. Spatio-temporal expression of Mdlys was analyzed by RT-PCR. The Mdlys transcript can be detected in both midgut and fat body and was expressed at a relatively lower level at the embryo stage. Mdlys mRNA was upregulated 2 h post bacterial challenge, maintained for 2 to 6 h, and slightly declined from 12 to 24 h post-injection. Western blot analysis showed that MdLys was highly expressed in midgut and was also detected in the hemolymph and fat body. MdLys expression was slightly increased in midgut after challenging with Escherichia coli or Staphylococcus aureus. Its expression was also slightly increased in the fat body after challenging with S. aureus, but no obvious change occurred after E. coli challenge. MdLys expression in the hemolymph was not affected by bacterial challenge. In the developmental stages, MdLys expression levels had no obvious change from the first instar to the pupae stage. There was also no variation under 24 h starvation stress. Recombinant MdLys displayed inhibitory activity against Gram-negative and Gram-positive bacteria. Together, these results suggest that MdLys may play an important role in the innate immunity of houseflies.
【语种】英文
【第一作者】任乾
【通讯作者】王金星
【期刊名称、卷期、页码】J Genet Genomics 2009,36:7-16
【论文发表时间】2009-01-06 00:00:00
【引文索引类型】其他
【引文索引号】2.6808880001e+011
【学科分类】免疫学

【题目】Study on the morphology,crystalline structure and thermal properties of yellow ginger starch acetates with different degrees of substitution
【中文关键词】无
【英文关键词】Yellowginger; Starchacetate; Degrees of substitution; Physicochemical properties
【中文摘要】无
【英文摘要】Yellowgingerstarchacetates with differentdegrees of substitution (DS) were prepared by reacting native starch with glacial acetic acid/acetic anhydride using sulfuric acid as catalyst. X-ray diffraction (XRD) of acetylated starch revealed that the crystal structure of native starch was disappeared and new crystalline regions were formed. Their formation was confirmed by the presence of the carbonyl signal around 1750 cm − 1, as well as the reduced hydroxyl groups, in the Fourier transform infrared spectroscopy (FT-IR). The scanning electron microscopy (SEM) suggested most of the starch granules disintegrated with many visible fragments along with the increasing DS. The thermal behavior of the native starch and starchacetate were investigated using thermogravimetric analysis (TGA) and differential thermal analysis (DTA), it was observed that the thermal stability of acetylated starch depends on the degree of substitution. Thermal stability of high DS acetylated starch is much better than that of the original starch when DS reached to 2.67.

【语种】英文
【第一作者】Liming Zhang
【通讯作者】Liming Zhang
【期刊名称、卷期、页码】Thermochimica Acta, 2009,49:557 – 62
【论文发表时间】2009-11-10 00:00:00
【引文索引类型】SCI
【引文索引号】521MR
【学科分类】生物工程

【题目】中国明对虾抗脂多糖因子基因克隆与表达研究
【中文关键词】中国明对虾; 抗脂多糖因子; cDNA克隆; 表达研究
【英文关键词】Fenneropeneas chinesis; anti-lipopolysaccharide factor; cDNA cloning; expression study
【中文摘要】从中国明对虾中成功克隆到抗脂多糖因子(ALF)的cDNA。该cDNA全长594bp,编码由123个氨基酸组成的蛋白质,该蛋白分子量为13694.02Da,等电点pI为10.24,有25个氨基酸的信号肽。RT-PCR研究表明,ALF基因在中国明对虾血细胞和鳃中有高水平的组成型表达,在细菌刺激后,ALF基因在各组织中的表达均增加,尤其在心脏和胃中表达上调明显。从表达模式可以推测,中国明对虾的抗脂多糖因子,作为一种抗菌肽类效应分子,在清除病原的防御反应中可能起着重要的作用。
【英文摘要】Anti-lipopolysaccharide factor(ALF) cDNA from Chinese shrimp Fenneropeneus chinensis was cloned and its expression profile was analyzed.The total length of the cDNA is 594 bp,the ORF(372 bp) encode 123 residues with the molecular weight of 13694.02 Da,and pI of 10.24.The first 25 residues is a signal peptide.The expression profile of ALF was analyzed by RT-PCR,and the result showed that the ALF gene was high-level constitutive expression in hemolymph and gills,and was up-regulated by bacterial challenge,especially in heart and stomach.This means that the ALF may have the important role in the innate immunity of the shrimp.
【语种】中文
【第一作者】周文杰
【通讯作者】王金星
【期刊名称、卷期、页码】四川动物　2008,27:771-773
【论文发表时间】2008-05-15 00:00:00
【引文索引类型】其他
【引文索引号】2.6808880001e+011
【学科分类】水产养殖学

【题目】A Toll receptor from Chinese shrimp Fenneropenaeus chinensis is responsive to Vibrio anguillarum infection
【中文关键词】Toll-like receptors (TLRs) 对虾 弧菌 先天免疫
【英文关键词】toll-tike receptor; shrimp; Vibrio anguillarum; WSSV; innate immunity; real-time PCR
【中文摘要】中国明对虾Toll-like receptors (TLRs)参与抵抗弧菌感染
【英文摘要】Toll-like receptors (TLRs) are an evolutionarily ancient family of pattern recognition receptors (PRRs), playing a crucial role in innate immune responses. Here we present a Toll homolog from Chinese shrimp Fenneropenaeus chinensis, designated FcToll. The full-length cDNA of FcToll is 4115 bp including a poly A-tail of 16 bp, encoding a putative protein of 931 amino acids. The predicted protein consists of an extracellular domain with a potential signal peptide, 16 leucine-rich repeats (LRR), two LRR-C-terminal (LRR-CT) motifs, and two LRR-N-terminal (LRR-NT) motifs, followed by a transmembrane segment of 23 amino acids, and a cytoplasmic Toll/Interteukin-IR (TIR) domain of 139 residues. Genomic structure of FcToll gene contains five exons and four introns. Phylogenetic analysis revealed that it belongs to insect-type invertebrate Toll family. Transcripts of FcToll gene were constitutively expressed in various tissues, with predominant level in lymphoid organ. Real-time PCR assays demonstrated that expression patterns of FcToll were distinctly modulated after bacterial or viral stimulation, with significant enhancement after 5 h post-Vibrio anguillorum challenge but markedly reduced levels immediately after white spot syndrome virus (WSSV) exposure. These results suggest that FcToll might be involved in innate host defense, especially against the pathogen V. anguillarum.
【语种】英文
【第一作者】杨昌健

【通讯作者】相建海
【期刊名称、卷期、页码】Fish Shellfish Immunol 2008,24:564-574
【论文发表时间】2008-01-10 00:00:00
【引文索引类型】SCI
【引文索引号】2.5567570001e+011
【学科分类】水产养殖学

【题目】Fractionation and characterization of ε-poly-l-lysine from Streptomyces albulus CGMCC 1986
【中文关键词】无
【英文关键词】ε-poly-l-lysine fractionation characterization antibacterial
【中文摘要】无
【英文摘要】ε-Poly-l-lysine (ε-PLL) produced by Streptomyces albulus CGMCC 1986 was fractionated using ultra-filtration technique with 2 and 5 kDa cut-offs of membrane. The number-average molecular weight of each fraction was determined by 1H nuclear magnetic resonance (NMR) method. The number-average molecular weights of the cutoffs of 5 and 2 kDa and the filtrate are 4,230.95, 3,687.80, and 1,900.82 Da, respectively. 1H NMR indicates the chemical shifts of α-H, β-H, γ-H, δ-H, and ε-H are very similar to all the fractions. Fourier transform-infrared (FTIR) spectra showed that the ε-PLL solid samples obtained by freeze-drying at pH 5 with molecular weights higher than 2 kDa take on a β-turn conformation, however, the fraction with molecular weight smaller than 2 kDa adopts random coil structure. The antibacterial test proved that the fraction between 2 and 5 kDa of membranes behaves the highest antibacterial activity than other fractions for the test strains of Staphylococcus aureus, Micrococcus luteus, Bacillus subtilis, Escherichia coli, and Shigella.
【语种】英文
【第一作者】Shiru Jia
【通讯作者】Shiru Jia
【期刊名称、卷期、页码】Food Science and Biotechnology Volume 19, Number 2 (2010), 361-366
【论文发表时间】2010-04-30 00:00:00
【引文索引类型】SCI
【引文索引号】10.1007/s10068-010-0051-9
【学科分类】生物工程

【题目】小麦品种花培5号适宜播期、播量试验
【中文关键词】小麦;花培5号;播期;播量
【英文关键词】wheat;huapei 5 hao;planting date; sowing rate
【中文摘要】为了探明小麦品种花培5号的最佳播期和适宜播量,进行了播期、播量复因子裂区试验,结果表明,以处理组合A2B3(10月15日播种,播量120 kg/hm2)产量最高,适宜播期为10月15-20日,适宜播量为97.5-120 kg/hm2。
【英文摘要】无
【语种】中文
【第一作者】马瑞
【通讯作者】海燕
【期刊名称、卷期、页码】河南农业科学 2009(10) 64-65
【论文发表时间】2009-10-15 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农艺学

【题目】中国明对虾过氧化物还原酶基因在大肠杆菌中的重组表达、产物纯化及活性测定
【中文关键词】中国明对虾;过氧化物还原酶;重组表达;纯化;活性
【英文关键词】Fenneropenaeus chinensis Peroxiredoxin Expression Purification Activity analysis
【中文摘要】采用RT-PCR扩增编码中国明对虾Prx成熟肽的基因,并克隆到大肠杆菌表达载体pCR T7/NT TOPO TA中进行体外重组表达。重组质粒转化大肠杆菌BL21(DE3)pLysS后,经IPTG诱导表达产生包涵体形式的目的蛋白。对重组蛋白进行LC-ESI-MS分析,结果表明融合蛋白的4个肽段与中国明对虾Prx相应肽段完全一致。将重组蛋白通过金属螯合柱进行

纯化,进而透析、复性,最后获得了具有较高过氧化物酶活性的重组Prx
【英文摘要】The cDNA encoding peroxiredoxin(Prx) of Fenneropenaeus chinensis protein was amplified by RT-PCR and cloned into prokaryotic expression vector pCR T7/NT TOPO TA. The recombinant peroxiredoxin gene was expressed in E.coli and the recombinant protein was expressed as inclusion body after IPTG induced. LC-ESI-MS analysis showed that four peptide fragments of the recombinant protein were identical to the corresponding sequence of F.chinensis Prx. The fusion protein was purified using the immobilized-metal affinity chromatography. After refolded, the purified recombinant protein was shown high reducibility of H2O2 in the presence of dithiothreitol.
【语种】中文
【第一作者】张庆利
【通讯作者】相建海
【期刊名称、卷期、页码】中国生物工程杂志 2008,28(2):47-52
【论文发表时间】2008-02-15 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】水产养殖学

【题目】根癌农杆菌介导的苜蓿遗传转化体系的建立
【中文关键词】苜蓿;基因型;遗传转化
【英文关键词】Alfalfa(Medicago sativa);Genotype;Genetic transformation
【中文摘要】苜蓿基因型是限制遗传转化的关键因素之一。从13份苜蓿材料中筛选出一份具有高频再生潜力的基因型一公农1号,并以该品种为受体转化Na+/H+逆向转运蛋白基因,优化了遗传转化条件,建立了农杆菌介导的苜蓿遗传转化系统,获得了大量的转基因植株,分子检测证实目的基因已经整合到苜蓿基因组中。
【英文摘要】Genotype is a key restrictive factor for genetic transformation in alfalfa.Gongnong No.1ofalfalfa owning high frequency——regeneration potential was screened from 13 cuhivars of alfalfa.We optimized the genetic transformation factors,and succeeded in establishing genetic transformation system using Agrobacterium—mediated in this cuhivar.Amount of transgenic plants were obtained,and molecular assay results indicated that gene of interest was integrated into genome of alfalfa.
【语种】中文
【第一作者】李望丰
【通讯作者】刘立侠
【期刊名称、卷期、页码】牧草与饲料,2008,2(1):29-32
【论文发表时间】2008-01-01 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】畜牧学

【题目】凡纳滨对虾溶菌酶在大肠杆菌中的重组表达和活性检测
【中文关键词】凡纳滨对虾(Litopenaeus vannamei); 溶菌酶基因; 原核表达; 溶菌活性
【英文关键词】Litopenaeus vannamei; lysozyme gene; prokaryocyte expression; lytic activities
【中文摘要】将凡纳滨对虾(Litopenaeus vannamei)血淋巴细胞中提取的总RNA,经RT-PCR扩增溶菌酶基因(LvLys基因)的开放阅读框,将其克隆至pMD18-T并测序。用限制性内切酶BamH Ⅰ和HindⅢ双酶切取目的基因并与表达载体pET-28a(+)连接,构建重组质粒pET-28(a+)/LvLys,转移到BL21(DE3)中诱导表达。经亲和纯化得到凡纳滨对虾重组溶菌酶。抑菌活性检测表明重组溶菌酶对大肠杆菌TOP10有一定抑制作用。
【英文摘要】The total RNA extracted from the hemocyte sample of Litopenaeus vanname(iL.Vannamei)was used to amplify the sequence encoding an open reading frame for lysozyme gene(called LvLys gene)by RT-PCR.The sequence was then cloned into pMD18-T vector and was sequenced .The recombinant plasmid was sequenced and digested by BamH Ⅰ and Hind Ⅲ.The target gene was subsequently connected to the pET-28a(+) vector, which was digested with the corresponding restriction endonuclease.The recombinant plasmid pET-28a(+)/LvLys was transformed into Escherichia coli BL21(DE3) and then induced by isopropylthio- β -D-galactoside(IPTG) and purified through chelating affinity,finally recombinant LvLys protein was analyzed and lytic activity was assayed.The recombinant protein showed a certain antibacterial activity against Escherichia TOP10.

【语种】中文
【第一作者】张海波
【通讯作者】谭洪新
【期刊名称、卷期、页码】海洋科学 2009 33(1):48-53
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【引文索引号】null
【学科分类】水产养殖学

【题目】三角褐指藻基因枪转化体系的建立
【中文关键词】三角褐指藻; 基因枪转化; GUS; 抗生素敏感性
【英文关键词】Phaeodactylum tricornutum Micro-particle bombardment GUS Antibiotic sensitivity
【中文摘要】三角褐指藻具有较高的脂肪酸含量,是一种很有潜力的生物柴油生产原料。此外,它是多不饱和脂肪酸尤其是二十碳五烯酸(EPA)重要的来源。合适转化体系的缺乏限制了通过基因工程手段对其进行改造。首次采用基因枪方法成功地将外源基因转入三角褐指藻,转化细胞经染色后呈现蓝色,表明外源报告基因β-糖苷酸酶(GUS)基因得到了成功的表达。同时还进行了转化参数等因素对转化效率影响的分析,优化了转化条件。结果显示最佳的转化条件为:每60μg钨粉包被1μg质粒DNA,样品室真空度为27英寸汞柱,可裂膜为1500psi,受体与阻挡网距离6cm。此外,转化载体采用了三角褐指藻内源基因fcp的启动子,实现了外源基因在细胞内的表达。通过5种基因工程中常用抗生素对三角褐指藻生长抑制的研究发现,三角褐指藻对卡那霉素、氨苄青霉素、链霉素和新霉素不敏感,500mg/L的卡那霉素、氨苄青霉素和新霉素,以及1000mg/L链霉素仍不能抑制其生长;三角褐指藻对氯霉素非常敏感,130mg/L的氯霉素可以完全抑制其生长,其半抑制浓度为60mg/L。这为基因工程手段改造三角褐指藻脂肪酸代谢相关途径奠定了基础。
【英文摘要】Phaeodactylum tricornutum is a potential source of biodiesel for its abundance in fatty acids.Moreover as its fatty acid composition contains much eicosapentaenoic acid(EPA,20:5D5,8,11,14,17),P.tricornutum represents an interesting alternative source for the industrial production.The absence of an adapted transformation system has been a serious limitation for its genetic manipulation.A novel transformation method was firstly established using micro-particle bombardment in P.tricornutum.The results showed that the GUS gene,a reporter gene,was successfully expressed.Transgenetic cells presented blue color under the microscope after stained.In addition,different factors which influenced transformation were optimized.The experiment indicated that the best parameters for P.tricornutu transformation:60 μg plasmid DNA was coated onto the tungsten particles,1500psi rupture-disc pressures was applied at a bombardment distances of 6cm.This new method overcame the obstacle of P.tricornutum rigid cell walls.The adoption of endogenetic fcp promoter facilitated the expression of foreign gene.The P.tricornutum was tested for sensitivity to 5 antibiotics:kananycin(Km),ampicillin(Amp),streptomycin(Str),neomycin(Nm)and chloramphenicol(Cm).The result of sensitivity test showed that P.tricornutum were not sensitive to Km,Amp,Str and Nm.Otherwise,P.tricornutum is highly sensitive to Cm,the half lethal concentration of Cm in liquid culture was 60 μg/ml.It suggests that Cm can be suitable to select regent for P.tricornutum genetic engineering.This method can be used as a potential tool in the research of P.tricornutu gene engineering and modification of its fatty acids synthesis pathway.
【语种】中文
【第一作者】路延笃
【通讯作者】秦松
【期刊名称、卷期、页码】中国生物工程杂志 2009. 29(6): 91-96.
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【引文索引号】null
【学科分类】分子生物学

【题目】Growth characteristics of the cyanobacterium Nostoc flagelliforme in photoautotrophic, mixotrophic and heterotrophic cultivation
【中文关键词】无
【英文关键词】Nostoc flagelliforme Growth characteristics Mixotrophic culture Heterotrophic culture
【中文摘要】无

【英文摘要】Nostoc flagelliforme is a terrestrial cyanobacterium with high economic value. Dissociated cells separated from a natural colony of N. flagelliforme were cultivated for 7 days under either phototrophic, mixotrophic or heterotrophic culture conditions. The highest biomass, 1.67 g L − 1 cell concentration, was obtained under mixotrophic culture, representing 4.98 and 2.28 times the biomass obtained in phototrophic and heterotrophic cultures, respectively. The biomass in mixotrophic culture was not the sum as that in photoautotrophic and heterotrophic cultures. During the first 4 days of culture, the cell concentration in mixotrophic culture was lower than the sum of those in photoautotrophic and heterotrophic cultures. However, from the 5th day, the cell concentration in mixotrophic culture surpassed the sum of those obtained from the other two trophic modes. Although the inhibitor of photosynthetic electron transport DCMU [3-(3,4-dichlorophenyl)-1,1-dimethylurea] efficiently inhibited autotrophic growth of N. flagelliforme cells, under mixotrophic culture they could grow by using glucose. The addition of glucose changed the response of N.flagelliforme cells to light. The maximal photosynthetic rate, dark respiration rate and light compensation point in mixotrophic culture were higher than those in photoautotrophic cultures. These results suggest that photoautotrophic(photosynthesis) and heterotrophic (oxidative metabolism of glucose) growth interact in mixotrophic growth of N.flagelliforme cells.
【语种】英文
【第一作者】Haifeng Yu
【通讯作者】Shiru Jia
【期刊名称、卷期、页码】J Appl Phycol, 2009, 21 (1):127-133
【论文发表时间】2008-05-23 00:00:00
【引文索引类型】SCI
【引文索引号】414PF
【学科分类】生物工程

【题目】Recombinant expression of rt-PA gene (encoding Reteplase) in gametophytes of the seaweed Laminaria japonica (Laminariales, Phaeophyta)
【中文关键词】海带 遗传转化 生物反应器
【英文关键词】Laminaria japonica; gametophyte; genetic engineering; Reteplase; rt-PA; bioreactor
【中文摘要】rt-PA 基因在海带配子体中的重组表达
【英文摘要】The life cycle of seaweed Laminaria japonica involves a generation alternation between diploid sporophyte and haploid gametophte. The expression of foreign genes in sporophte has been proved. In this research, the recombinant expression in gametophyte was investigated by particle bombardment with the rt-PA gene encoding the recombinant human tissue-type plasminogen activator (Reteplase), which is a thrombolytic agent for acute myocardial infarction (AMI). Transgenic gametophytes were selected by their resistance to herbicide phosphiothricin (PPT), and proliferated in an established bubble column photo-bioreactor. According to the results from quantitative ELISA, Southern blotting, and fibrin agarose plate assay (FAPA) for bioactivity, it was showed that the rt-PA gene had been inte-grated into the genome of gametophytes of L. japonica, and the expression product showed the ex-pected bioactivity, implying the proper post-transcript modification in haploid gametophyte
【语种】英文
【第一作者】张亦陈
【通讯作者】秦松
【期刊名称、卷期、页码】Science in China Series C: Life Sciences 2008,51(12):1116-1120
【论文发表时间】2008-12-17 00:00:00
【引文索引类型】SCI
【引文索引号】2.6183250001e+011
【学科分类】遗传学

【题目】Accumulation of Exopolysaccharides in 35 Liquid Susp-ension Culture of Nostoc flagelliforme Cells
【中文关键词】无
【英文关键词】Nostoc flagelliforme cells;Liquid suspension culture;Exopolysaccharides;Culture conditions
【中文摘要】无
【英文摘要】The liquid suspension culture of dissociated Nostoc flagelliforme cells was investigated. It was found that the growth rate of N. flagelliforme cells and the accumulation of exopolysaccharides (EPS) increased prominently when NaNO3 and KH2PO4 were added in the liquid BG-11culture medium though phosphate had little effect on EPS yield for specific mass of cells. N. flagelliforme cells

grew well at 25 ° C and neutral pH, however, a lower or higher temperature and weak alkaline can promote EPS accumulation. With the increase of the light intensity, the growth rate of N. flagelliforme cells and the EPS accumulation increase accordingly. When N. flagelliforme cells was cultured in BG-11 medium added with 2.5 g L − 1 of NaNO3 and 0.956 g L − 1 of KH2PO4 at 25 ° C with 60 μ mol photonm − 2 s − 1 of light intensity, 1.05 g L − 1 cell density and 89.9 mg L − 1 EPS yield were achieved respectively. Adopting the optimal conditions established in flask culture, the liquid culture of N. flagelliforme cells in 20-L photobioreactor for 16 days was conducted and a maximum biomass of 1.32 g L − 1 was achieved, which was about 17.6-fold of that in the initial inoculation. The yield of EPS was 228.56 mg L − 1and about 2.23-fold of that in flask culture. Moreover, the polysaccharides ' material was released into the culture medium during cell growth. These released polysaccharides (RPSs), which can be easily recovered from the medium, are favorable for industrial applications.

【语种】英文
【第一作者】Haifeng Yu
【通讯作者】Shiru Jia
【期刊名称、卷期、页码】Appl Biochem Biotechnol (2010) 160:552 – 560
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【引文索引类型】SCI
【引文索引号】548PI
【学科分类】生物工程

【题目】花培5号优化节水灌溉研究初报
【中文关键词】花培5号;灌水量;灌水时间;水分利用效率;耗水系数
【英文关键词】huapei 5 hao;irrigation volume; irrigation date; water use efficiency; Water consumption coefficient
【中文摘要】以高产小麦新品种花培5号为试验材料,研究了灌水量、灌水时间对麦田耗水量、水分生产率及小麦产量的影以高产小麦新品种花培5号为试验材料,研究了灌水量、灌水时间对麦田耗水量、水分生产率及小麦产量的影响。试验表明:花培5号产量与麦田耗水量存在密切相关关系,主要受拔节至挑旗、越冬至起身阶段耗水量的影响,不同灌溉模式的增产效果不同。拔节水可以大幅度提高单位面积穗数,而孕穗、扬花和灌浆水对小麦灌浆有明显的促进作用。为达到节水灌溉和提高水分利用率的目的,如果整个生长季节内只能浇1次水,以浇拔节水为宜;若能浇两次水,则以浇拔节水和孕穗水为最佳。
【英文摘要】无
【语种】中文
【第一作者】黄彦宗
【通讯作者】海燕
【期刊名称、卷期、页码】种业导刊 2009 (11) 21-23
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【引文索引号】null
【学科分类】农艺学

【题目】Molecular cloning and characterization of three crustins from the Chinese white shrimp, Fenneropenaeus chinensis
【中文关键词】中国明对虾 甲壳肽 抗菌肽
【英文关键词】Chinese white shrimp; Fenneropenaeus chinensis; Crustin; Antibacterial activity; Innate immunity
【中文摘要】中国明对虾甲壳肽的基因克隆和特征
【英文摘要】Antibacterial peptides crustins are the effector molecules of innate immunity in decapods. In this study, three crustin cDNA sequences (Fc-crus 1, Fc-crus 2, and Fc-crus 3) were cloned from the Chinese white shrimp Fenneropenaeus chinensis. The full-length cDNAs of Fc-crus 2 and 3 are 473 bp and 574 bp, respectively. The deduced peptides of Fc-crus 2 and 3 contain a signal peptide and a crustin domain at the C-terminal formed by twelve conserved cysteine residues. The partial sequence of Fc-cru 1 is 575 bp long and the deduced amino acids also contain a crustin domain. The expression profiles of these three crustins were studied with RT-PCR. Fc-crus 1 and Fc-crus 2 constitutively expressed in hemocytes with high levels, and the expression level is increased in the heart, stomach, intestine and ovaries when shrimp was challenged with Vibrio anguillarum, The expression of Fc-crus 1 and Fc-crus 2 was detected in each developmental stage. Fc-crus 3 was constitutively expressed in the ovaries and induced as an expression in the stomach. Unlike Fc-crus 1 and Fc-crus 2, the mRNA of Fc-crus 3 was not detected in the developmental stages extending from nauplii and mysis

to post-larvae. The recombinant proteins containing mature Fc-crus 2 and Fc-crus 3 were recombinantly expressed in Escherichia coli and respectively purified. The antibacterial assays revealed that the recombinant mFc-crus could inhibit the growth of Gram-positive bacteria in vitro

【语种】英文
【第一作者】孙晨
【通讯作者】王金星
【期刊名称、卷期、页码】Fish Shellfish Immunol 2010;28(4):517-24
【论文发表时间】2009-12-30 00:00:00
【引文索引类型】SCI
【引文索引号】2.769357e+011
【学科分类】水产养殖学

【题目】Desalination of the Nostoc flagelliforme polysaccharide with radial flow chromatography
【中文关键词】无
【英文关键词】Nostoc flagelliforme polysaccharide;radial flow chromatography
【中文摘要】无
【英文摘要】In recent years, the extracellular polysaccharides of Nostoc flagelliforme were found to have a remarkable anti-virus effect on many kinds of enveloped viruses (1). Their separation and purification are also attracted much attention. In this study, the coarse extracellular polysaccharides acquired from the mixed culture of N.flagelliforme free cells were first purified with ion exchange chromatography using NaCl gradient elution in a radial flow chromatography column (7.7 cm of bed length and 229.6 cm3 of bed volume) and three components were obtained. The isolated second polysaccharide component (containing NaCl eluent) was then selected as the sample to be desalinated with the same radial chromatography column filled with Sephadex G-100 gel resin to examine the desalination efficiency of the gel radial flow chromatography. The effects of sampling concentration, eluting rate on the desalination efficiency were examined and the optimized condition for the desalination with gel radial chromatography were 0.3 mg/mL of sampling concentration (8 mL of sampling volume) and 0.3 mL/min of eluting velocity. Under this condition, the NaCl content in the polysaccharide decreased to 2.36%.
【语种】英文
【第一作者】Yujie Dai
【通讯作者】Yujie Dai
【期刊名称、卷期、页码】Journal of bioscience and bioengineering 108(S1), 62, 2009-11
【论文发表时间】2012-10-25 00:00:00
【引文索引类型】SCI
【引文索引号】539IP
【学科分类】生物工程

【题目】Comparison of photobioreactors and optimal light regime for rapid vegetative propagation of transgenic Undaria pinnatifida gametophytes
【中文关键词】海带 转基因 增殖
【英文关键词】bubble-column bioreactor; airlift bioreactor; vegetative propagation; Undaria pinnatifida gametophytes; light; transgenic
【中文摘要】转基因海带配子体的制备与高效增殖
【英文摘要】BACKGROUND: Previously, tachyplesin gene (tac) has been successfully transferred into Undaria pinnatifida gametophytes using the method of microprojectile bombardment transformation. The objectives of this study were to compare and evaluate the performance of bubble-column and airlift bioreactors to determine a preferred configuration of bioreactor for vegetative propagation of transgenic U. pinnatifida gametophytes, and to then investigate the influence of light on vegetative propagation of these gametophytes, including incident light intensity, photoperiod and light quality to resolve the problems of rapid vegetative propagation within the selected bioreactor. RESULTS: Experimental results showed that final dry cell density in the airlift bioreactor was 12.7% higher than that in the bubble-column bioreactor under the optimal aeration rate of 1.2 L air min(-1) L(-1) culture. And a maximum final dry cell density of 2830 mg L(-1) was obtained within the airlift bioreactor using blue light at 40 mu mol m(-2) s(-1) with a light/dark cycle of 14/10 (h). Polymerase chain reaction (PCR) analysis indicated that genes (bar and tac) were not lost during rapid

vegetative propagation within the airlift bioreactor. CONCLUSION: The airlift bioreactor was shown to be much more suitable for rapid vegetative propagation of transgenic U. pinnatifida gametophytes than the bubble-column bioreactor in the laboratory. The use of blue light allows improvement of vegetative propagation of transgenic U. pinnatifida gametophytes.
【语种】英文
【第一作者】邓祥元
【通讯作者】秦松
【期刊名称、卷期、页码】Journal of Chemical Technology and Biotechnology 2009,(84):1486-1492
【论文发表时间】2009-04-20 00:00:00
【引文索引类型】SCI
【引文索引号】2.7040380001e+011
【学科分类】水产养殖学

【题目】不同DEAE离子交换树脂纯化发菜多糖的比较研究
【中文关键词】发菜 多糖 离子交换树脂 纯化
【英文关键词】Nostoc flagelliforme; polysaccharide; ion-exchange resins; purify
【中文摘要】用DEAE01 、DEAE52 、DEAE-Cellulose 、DEAE-SephroseCL-6B离子交换树脂对发菜粗多糖进行纯化,多糖含量采用苯酚-硫酸法测定,并用考马斯亮蓝染色法测定多糖中的蛋白含量。4种树脂纯化后多糖的含量分别为64.7% 、62.4% 、80.0%和60.8%,而蛋白分别为1.911g/mL、2.397g/mL、1.938g/mL和2.959μg/mL。实验结果表明:DEAE-Cellulose纯化后发菜多糖不仅蛋白含量较低,且多糖含量最高。因此4种树脂中DEAE-Cellulose纯化发菜多糖的效果最好。
【英文摘要】Effect of the four different DEAE ion-exchange resins, DEAE01, DEAE52, DEAE-cellulose and DEAE-SephroseCL-6B on the purification of extracellular polysaccharide from Noscoc flagelliforme were compared. The polysaccharide was determined with the phenol- sulfuric acid method and the content of protein was determined with coomassie brilliant blue method. The results showed that the purities of polysaccharides were 64.7%, 62.4%, 80.0% and 60.8%, respectively. The proten contents are 1.911, 2.397, 1.938, 2.959 μg/ml, respectively. It can be concluded that DEAE-Cellulose is the best ion-exchange resin for purifying polysaccharide fromNoscoc flagelliforme.
【语种】中文
【第一作者】戴玉杰
【通讯作者】戴玉杰
【期刊名称、卷期、页码】中国酿造,2009,212(11):83-85
【论文发表时间】2009-11-11 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】生物工程

【题目】Kinetic and thermodynamic behaviors of soil urease as affected by urease inhibitors
【中文关键词】无
【英文关键词】无
【中文摘要】无
【英文摘要】无
【语种】英文
【第一作者】隽英华
【通讯作者】陈利军
【期刊名称、卷期、页码】Journal of Soil Science and Plant Nutrition, 2010, 10(1): 1-11
【论文发表时间】2010-01-10 00:00:00
【引文索引类型】SCI
【引文索引号】无
【学科分类】地理学

【题目】Fate of applied urea 15N in a soil-maize system as affected by urease inhibitor and nitrification inhibitor

【中文关键词】无
【英文关键词】无
【中文摘要】无
【英文摘要】无
【语种】英文
【第一作者】张丽莉
【通讯作者】武志杰
【期刊名称、卷期、页码】Plant, Soil and Environment, 2010, 34(1): 345-348
【论文发表时间】2010-02-15 00:00:00
【引文索引类型】SCI
【引文索引号】无
【学科分类】地理学

【题目】Inhibitory effects of aromatic compounds on soil nitrification
【中文关键词】无
【英文关键词】无
【中文摘要】无
【英文摘要】无
【语种】英文
【第一作者】张丽莉
【通讯作者】武志杰
【期刊名称、卷期、页码】Pedosphere,2010, 20(3): 326-333
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【引文索引类型】SCI
【引文索引号】无
【学科分类】地理学

【题目】简易气升光生物反应器发状念珠藻培养研究
【中文关键词】发状念珠藻; 光生物反应器; 光衰减; 培养;
【英文关键词】Nostoc flagelliforme; photobioreactor; light attenuation; culture
【中文摘要】利用5L的玻璃抽滤瓶作为光生物反应器对发状念珠藻细胞进行开放及封闭式培养,考察了光强随细胞密度和光路长度的衰减变化。研究了光照强度、光照周期、pH、通气量对发状念珠藻细胞生长和胞外多糖产量的影响。结果表明,发状念珠藻生物量和胞外多糖产量均随着光照强度和通气量增加而提高。此光生物反应器能用于对发状念珠藻开放和封闭式培养,但封闭式培养更利于发状念珠藻生长及胞外多糖的产生。在光照强度60μmol·m-2·s-1,pH9.0,通气量0.7VVM的24h全光照条件下进行封闭式培养,生物量和多糖产量达到最高,分别为1.7g/L和89.32mg/L。本研究为采用低成本、易维护的简易装置进行发状念珠藻大规模培养提供了参考依据。
【英文摘要】Simple airlift photobioreactors were made using 5 L filtration bottles in which open and sealed cultures of Nostoc flagelliforme were conducted and the influences of illumination intensity, photoperiod, pH, and ventilation on cell density and extracellular polysaccharides(EPS) were studied.The result showed that 5 L simple air-lift photobioreactor can be used for the open and close-end culture and both the biomass and polysaccharide production were improved with the increase of light intensity and ventilation in the culture.For the sealed culture, the best conditions were as follows:0.7 VVM of ventilation, 60 μmol·m-2·s-1 of light intensity and constant illumination, under which the biomass and the polysaccharide production reached 1.7 g/L and 89.32 mg/L, respectively.This research provided some basic data for the large scale cultivation of Nostoc flagelliforme with low cost, simple and easy maintenance equipment.
【语种】中文
【第一作者】郭伟
【通讯作者】戴玉杰
【期刊名称、卷期、页码】现代食品科技. 2009, 25(11): 1305-1310
【论文发表时间】2009-07-28 00:00:00

【引文索引类型】其他
【引文索引号】null
【学科分类】生物工程

【题目】Catalytic potential of soil hydrolases in Northeast China under different soil moisture conditions
【中文关键词】无
【英文关键词】无
【中文摘要】无
【英文摘要】无
【语种】英文
【第一作者】张玉兰
【通讯作者】陈利军
【期刊名称、卷期、页码】Journal of Soil Science and Plant Nutrition, 2009, 9(2): 116-124
【论文发表时间】2010-06-15 00:00:00
【引文索引类型】SCI
【引文索引号】无
【学科分类】地理学

【题目】Molecular and cellular evidence for biased mitotic gene conversion in hybrid scallop
【中文关键词】无
【英文关键词】无
【中文摘要】Concerted evolution has been believed to account for homogenization of genes within multigene families. However, the exact mechanisms involved in the homogenization have been under debate. Use of interspecific hybrid system allows detection of greater level of sequence variation, and therefore, provide advantage for tracing the sequence changes. In this work, we have used an interspecific hybrid system of scallop to study the sequence homogenization processes of rRNA genes.
【英文摘要】Concerted evolution has been believed to account for homogenization of genes within multigene families. However, the exact mechanisms involved in the homogenization have been under debate. Use of interspecific hybrid system allows detection of greater level of sequence variation, and therefore, provide advantage for tracing the sequence changes. In this work, we have used an interspecific hybrid system of scallop to study the sequence homogenization processes of rRNA genes.
【语种】英文
【第一作者】Shi Wang
【通讯作者】Zhenmin Bao
【期刊名称、卷期、页码】BMC Evolutionary Biology,2010,10:6
【论文发表时间】2010-01-11 00:00:00
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【引文索引号】14712148106
【学科分类】分子生物学

【题目】Polymorphism of the superoxide dismutase gene family in the bay scallop (Argopecten irradians) and its association with resistance/susceptibility to Vibrio anguillarum
【中文关键词】SOD; SNP; Promoter; Argopectenirradians; Resistance; Susceptibility; Vibrio Anguillarum
【英文关键词】SOD; SNP; Promoter; Argopectenirradians; Resistance; Susceptibility; Vibrio Anguillarum
【中文摘要】The superoxide dismutases (SODs) are a family of enzymes that function as the first line of antioxidant defense against highly reactive superoxide radicals. The bayscallopArgopectenirradians contains three unique superoxide dismutases: Ai-icCuZnSOD, Ai-MnSOD and Ai-ecCuZnSOD, which were characterized in our previous studies. qRT-PCR was also performed to characterize the temporal expression of SODs in the hemocytes of bayscallops injected with the bacterium Vibrio anguillarum. To characterize the SOD family in A. irradians completely, we evaluated the polymorphism in the SOD genes and investigated the association of this polymorphism with resistance/susceptibility to V. anguillarum. Fifty-nine SNPs were identified in the promoter, exon and partial intron sequences of the three SOD genes. AiECSOD contained the most SNPs, as compared to AiCuZnSOD and AiMnSOD, and the majority of these were located in the promoter. Among them, the genotypes of −1739 T – C SNP in the AiCuZnSOD promoter and

alleles of the − 498 A – T and − 267 G – A SNPs in the AiECSOD promoter showed a significant association with resistance/susceptibility to V. angullarum (P < 0.05). The only non-synonymous SNP that was identified, E1-38 C – A in Ai-ecCuZnSOD, was a dimorphism caused by a C to A transition that resulted in a Thr to Lys substitution at position 13 in the signal peptide. The Thr allele was associated with increased susceptibility to V. anguillarum (P < 0.05). To confirm the presumption, another independent challenge experiment was performed, in which the cumulative mortality of Ai-icCuZnSOD Q − 1739 genotype TT was significantly lower than TC (P < 0.05). Ai-ecCuZnSOD Q − 498 genotype AA and AT were significantly lower than TT (P < 0.05), Ai-ecCuZnSOD E1-3 genotype AA was significantly higher than CA and CC (P < 0.05). The results suggested that these three polymorphic loci could be potential gene markers for the future molecular selection of strains that are resistant to diseases caused by V. anguillarum.

【英文摘要】The superoxide dismutases (SODs) are a family of enzymes that function as the first line of antioxidant defense against highly reactive superoxide radicals. The bayscallopArgopectenirradians contains three unique superoxide dismutases: Ai-icCuZnSOD, Ai-MnSOD and Ai-ecCuZnSOD, which were characterized in our previous studies. qRT-PCR was also performed to characterize the temporal expression of SODs in the hemocytes of bayscallops injected with the bacterium Vibrio anguillarum. To characterize the SOD family in A. irradians completely, we evaluated the polymorphism in the SOD genes and investigated the association of this polymorphism with resistance/susceptibility to V. anguillarum. Fifty-nine SNPs were identified in the promoter, exon and partial intron sequences of the three SOD genes. AiECSOD contained the most SNPs, as compared to AiCuZnSOD and AiMnSOD, and the majority of these were located in the promoter. Among them, the genotypes of − 1739 T – C SNP in the AiCuZnSOD promoter and alleles of the − 498 A – T and − 267 G – A SNPs in the AiECSOD promoter showed a significant association with resistance/susceptibility to V. angullarum (P < 0.05). The only non-synonymous SNP that was identified, E1-38 C – A in Ai-ecCuZnSOD, was a dimorphism caused by a C to A transition that resulted in a Thr to Lys substitution at position 13 in the signal peptide. The Thr allele was associated with increased susceptibility to V. anguillarum (P < 0.05). To confirm the presumption, another independent challenge experiment was performed, in which the cumulative mortality of Ai-icCuZnSOD Q − 1739 genotype TT was significantly lower than TC (P < 0.05). Ai-ecCuZnSOD Q − 498 genotype AA and AT were significantly lower than TT (P < 0.05), Ai-ecCuZnSOD E1-3 genotype AA was significantly higher than CA and CC (P < 0.05). The results suggested that these three polymorphic loci could be potential gene markers for the future molecular selection of strains that are resistant to diseases caused by V. anguillarum.

【语种】英文

【第一作者】Yongbo Bao

【通讯作者】Guofan Zhang

【期刊名称、卷期、页码】Dev. Comp. Immunol., 2010, 34(5): 553-561

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【学科分类】分子生物学

【题目】Isolation and identification of the main carotenoid pigment from the rare orange muscle of the Yesso scallop

【中文关键词】Patinopecten yessoensis; Muscle; Carotenoid; Pectenolone

【英文关键词】Patinopecten yessoensis; Muscle; Carotenoid; Pectenolone

【中文摘要】The Yessoscallop (Patinopecten yessoensis) is one of the most important aquacultural scallops in the north of China. We identified a rare colour variant that occurs in about 0.3% of the natural population. Orange variants have not been reported before in 샀 쁰 Ā蒐 살 샀 쁰 耀살 샀 쁰 耀살 샀 쁰 耀

【英文摘要】The Yessoscallop (Patinopecten yessoensis) is one of the most important aquacultural scallops in the north of China. We identified a rare colour variant that occurs in about 0.2% of the natural population. Orange variants have not been reported before in shellfish, including scallops. Identification of the molecular basis of this colour variation will provide guidance when developing a breeding plan for these scallops. The mainpigment was isolated from the muscle tissues of the variant Yessoscallop by silica gel column chromatography, and was characterised by mass spectrometry and 1H and 13C nuclear magnetic resonance methods. Its structure was identified as that of pectenolone (3,3′-dihydroxy-β,β-caroten-4–one). This is the first report of pectenolone, a type of carotenoid, in the muscle of the Yessoscallop.
【语种】英文
【第一作者】Ning Li
【通讯作者】Zhenmin Bao
【期刊名称、卷期、页码】Food Chemistry,2010,118(3):616-619
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【学科分类】分子生物学

【题目】Molecular Characterization of Myostatin Gene from Zhikong scallop Chlamys farreri (Jones et Preston 1904)
【中文关键词】Chlamys farreri, cloning, mapping, myostatin, quantitative expression
【英文关键词】Chlamys farreri, cloning, mapping, myostatin, quantitative expression
【中文摘要】The scallop is an economically important sea food prized for its large and delicious adductor muscle. Studying the molecular basis of scallop muscle growth is important for both scallop breeding and our understanding of muscle mass regulation in bivalve. Myostatin (MSTN) is a conserved negative regulator of muscle growth and development. Here we report the MSTN gene from Zhikong scallop (Chlamys farreri Jones et Preston 1904). The C. farreri MSTN consists of 11651 nucleotides encoding 457 amino acids. The gene has a 3-exon/2-intron structure that is conserved with vertebrate homologs. The exons are 586, 380 and 408 bp in length, respectively, and separated by introns of 5086 and 1518 bp. The protein sequence contains characteristic conserved residues including a cleavage motif of proteolysis (RXXR) and nine cysteines. Three transcription initiation sites were found at 62, 146, and 296 bp upstream of the translation start codon ATG. In silico analysis of the promoter region identified a TATA-box and several muscle-specific regulatory elements including COMP, MEF2s, MTBFs and E-boxes. Minisatellite DNA was found in intron 1. By fluorescence in situ hybridization (FISH), the gene was mapped to the long arm of a pair of middle subtelocentric chromosome. Quantitative analysis of MSTN transcripts in embryos/larvae indicated high expression level in gastrulae and limited expression at other stages. In adult scallops, MSTN is predominantly expressed in striated muscle, with different expression levels in other tissues. Our data provide valuable genomic and expression information which will aid the further study on scallop MSTN function and MSTN evolution.
【英文摘要】The scallop is an economically important sea food prized for its large and delicious adductor muscle. Studying the molecular basis of scallop muscle growth is important for both scallop breeding and our understanding of muscle mass regulation in bivalve. Myostatin (MSTN) is a conserved negative regulator of muscle growth and development. Here we report the MSTN gene from Zhikong scallop (Chlamys farreri Jones et Preston 1904). The C. farreri MSTN consists of 11651 nucleotides encoding 457 amino acids. The gene has a 3-exon/2-intron structure that is conserved with vertebrate homologs. The exons are 586, 380 and 408 bp in length, respectively, and separated by introns of 5086 and 1518 bp. The protein sequence contains characteristic conserved residues including a cleavage motif of proteolysis (RXXR) and nine cysteines. Three transcription initiation sites were found at 62, 146, and 296 bp upstream of the translation start codon ATG. In silico analysis of the promoter region identified a TATA-box and several muscle-specific regulatory elements including COMP, MEF2s, MTBFs and E-boxes. Minisatellite DNA was found in intron 1. By fluorescence in situ hybridization (FISH), the gene was mapped to the long arm of a pair of middle subtelocentric chromosome. Quantitative analysis of MSTN transcripts in embryos/larvae indicated high expression level in gastrulae and limited expression at other stages. In adult scallops, MSTN is predominantly expressed in striated muscle, with different expression levels in other tissues. Our data provide valuable genomic and expression information which will aid the further study on scallop MSTN function and MSTN evolution.
【语种】英文
【第一作者】Xiaoli Hu
【通讯作者】Zhenmin Bao
【期刊名称、卷期、页码】Genes Genet. Syst., 2010, 85(3): 207–218
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【引文索引号】10126685207
【学科分类】分子生物学

【题目】Intracellular copper/zinc superoxide dismutase from bay scallop Argopecten irradians: its gene structure, mRNA expression and recombinant protein
【中文关键词】Copper/zincsuperoxidedismutase; Gene organization; Promoter; qRT-PCR; Immune response; Enzyme assay
【英文关键词】Copper/zincsuperoxidedismutase; Gene organization; Promoter; qRT-PCR; Immune response; Enzyme assay
【中文摘要】Superoxide dismutases are an ubiquitous family of enzymes that function to efficiently catalyze the dismutation of superoxide anions. Two unique and highly compartmentalized bayscallopArgopecten irradianssuperoxide dismutases: MnSOD and ecCuZnSOD, have been molecularly characterized in our previous study. To complete characterize the SOD family in A. irradians, a novel intracellularcopper/zinc SOD from the A. irradians (Ai-icCuZnSOD) was obtained and characterized. The full-length cDNA of Ai-icCuZnSOD was 1047 bp with a 459 bp open reading frame encoding 152 amino acids. The genomic length of the Ai-icCuZnSOD gene was about 4279 bp containing 4 exons and 3 introns. The promoter region containing many putative transcription factor binding sites were analyzed. Furthermore, quantitative reverse transcriptase real-time PCR (qRT-PCR) analysis indicated that the highest expression of the Ai-icCuZnSOD was detected in gill and the expression profiles in hemocytes of bayscallops challenged with bacteria Vibrio anguillarum and lipopolysaccharide (LPS) were different. The result presented an increased expression after injection with LPS whereas no significant changes were observed after V. anguillarum injection. A fusion protein containing Ai-icCuZnSOD was produced in vitro. The rAi-icCuZnSOD is a stable enzyme, retaining more than 80% of its activity between 10 and 60 ° C and keeping above 88% of its activity at pH values between 5.8 and 9. Ai-icCuZnSOD is more stable under alkaline than acidic conditions.
【英文摘要】Superoxide dismutases are an ubiquitous family of enzymes that function to efficiently catalyze the dismutation of superoxide anions. Two unique and highly compartmentalized bayscallopArgopecten irradianssuperoxide dismutases: MnSOD and ecCuZnSOD, have been molecularly characterized in our previous study. To complete characterize the SOD family in A. irradians, a novel intracellularcopper/zinc SOD from the A. irradians (Ai-icCuZnSOD) was obtained and characterized. The full-length cDNA of Ai-icCuZnSOD was 1047 bp with a 459 bp open reading frame encoding 152 amino acids. The genomic length of the Ai-icCuZnSOD gene was about 4279 bp containing 4 exons and 3 introns. The promoter region containing many putative transcription factor binding sites were analyzed. Furthermore, quantitative reverse transcriptase real-time PCR (qRT-PCR) analysis indicated that the highest expression of the Ai-icCuZnSOD was detected in gill and the expression profiles in hemocytes of bayscallops challenged with bacteria Vibrio anguillarum and lipopolysaccharide (LPS) were different. The result presented an increased expression after injection with LPS whereas no significant changes were observed after V. anguillarum injection. A fusion protein containing Ai-icCuZnSOD was produced in vitro. The rAi-icCuZnSOD is a stable enzyme, retaining more than 80% of its activity between 10 and 60 ° C and keeping above 88% of its activity at pH values between 5.8 and 9. Ai-icCuZnSOD is more stable under alkaline than acidic conditions.
【语种】英文
【第一作者】Yongbo Bao
【通讯作者】Guofan Zhang
【期刊名称、卷期、页码】Fish and Shellfish Immunology,2009,27(2): 210-220
【论文发表时间】2009-08-01 00:00:00
【引文索引类型】SCI
【引文索引号】1.010162009e+014
【学科分类】分子生物学

【题目】Cloning and characterization of manganese superoxide dismutase (MnSOD) from bay scallop Argopecten irradians
【中文关键词】ECSOD; Gene organization; Promoter; qRT-PCR; mRNA expression; Immune response
【英文关键词】ECSOD; Gene organization; Promoter; qRT-PCR; mRNA expression; Immune response
【中文摘要】Extracellular superoxidedismutase (ECSOD) is a major extracellular antioxidant enzyme that protects organs from damage by reactive oxygen species (ROS). We cloned a novel ECSOD from the bayscallopArgopectenirradians (AiECSOD) by 3 ′ and 6 ′ RACE. The full-l
【英文摘要】Extracellular superoxidedismutase (ECSOD) is a major extracellular antioxidant enzyme that protects organs from damage by reactive oxygen species (ROS). We cloned a novel ECSOD from the bayscallopArgopectenirradians (AiECSOD) by 3 ′ and 5 ′ RACE. The full-length cDNA of AiECSOD was 893 bp with a 657 bp open reading frame encoding 218 amino acids. The

deduced amino acid sequence contained a putative signal peptide of 20 amino acids, and sequence comparison showed that AiECSOD had low degree of homology to ECSODs of other organisms. The genomic length of the AiECSOD gene was about 5276 bp containing five exons and six introns. The promoter region contained many putative transcription factor binding sites such as c-Myb, Oct-1, Sp1, Kruppel-like, c-ETS, NF κ B, GATA-1, AP-1, and Ubx binding sites. Furthermore, tissue-specific expressions of AiECSOD and temporal expressions of AiECSOD in haemocytes of bayscallops challenged with bacteria Vibrio anguillarum were quantified using qRT-PCR. High levels of expression were detected in haemocytes, but not in gonad and mantle. The expression of AiECSOD reached the highest level at 12 h post-injection with V. anguillarum and then returned to normal between 24 h and 48 h post-injection. These results indicated that AiECSOD was an inducible protein and that it may play an important role in the immune responses against V. anguillarum.

【语种】英文

【第一作者】Yongbo Bao

【通讯作者】Guofan Zhang

【期刊名称、卷期、页码】Fish and Shellfish Immunology,2009,27(1): 17-25

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【引文索引类型】SCI

【引文索引号】1.0101620081e+014

【学科分类】分子生物学

【题目】Fine-Scale Population Genetic Structure of Zhikong Scallop (Chlamys farreri): Do Local Marine Currents Drive Geographical Differentiation?

【中文关键词】Zhikong scallop Chlamys farreri . Geographical differentiation .Microsatellite DNA . Population structure . Marine gyre . Landscape genetics

【英文关键词】Zhikong scallop Chlamys farreri . Geographical differentiation .Microsatellite DNA . Population structure . Marine gyre . Landscape genetics

【中文摘要】Marine scallops, with extended planktonic larval stages which can potentially disperse over large distances when advected by marine currents, are expected to possess low geographical differentiation. However, the sessile lifestyle as adult tends to form discrete “ sea beds ” with unique population dynamics and structure. The narrow distribution of Zhikong scallop (Chlamys farreri), its long planktonic larval stage, and the extremely hydrographic complexity in its distribution range provide an interesting case to elucidate the impact of marine currents on geographical differentiation for marine bivalves at a fine geographical scale. In this study, we analyzed genetic variation at nine microsatellite DNA loci in six locations throughout the distribution of Zhikong scallop in the Northern China. Very high genetic diversity was present in all six populations. Two populations sampled from the same marine gyre had no detectable genetic differentiation (FST=0.0013); however, the remaining four populations collected from different marine gyres or separated by strong marine currents showed low but significant genetic differentiation (FST range 0.0184 – 0.0602). Genetic differentiation was further analyzed using the Monmonier algorithm to identify genetic barriers and using the assignment test conducted by software GeneClass2 to ascertain population membership of individuals. The genetic barriers fitting the orientation of marine gyres/currents were clearly identified, and the individual assignment analysis indicated that 95.6% of specimens were correctly allocated to one of the six populations sampled. The results support the hypothesis that significant population structure is present in Zhikong scallop at a fine geographical scale, and marine currents can be responsible for the genetic differentiation.

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scallop at a fine geographical scale, and marine currents can be responsible for the genetic differentiation.
【语种】英文
【第一作者】Aibin Zhan
【通讯作者】Zhenmin Bao
【期刊名称、卷期、页码】Marine Biotechnology,2009, 11(2):223-235
【论文发表时间】2008-09-03 00:00:00
【引文索引类型】SCI
【引文索引号】1.0126008914e+012
【学科分类】分子生物学

【题目】Construction of microsatellite-based linkage maps and identification of size-related quantitative trait loci for Zhikong scallop (Chlamys farreri)
【中文关键词】Chlamys farreri;linkage map;microsatellite;quantitative trait locus;size-related trait;Zhikong scallop
【英文关键词】Chlamys farreri;linkage map;microsatellite;quantitative trait locus;size-related trait;Zhikong scallop
【中文摘要】We constructed the microsatellite-based linkage maps using 318 markers typed in two F1 outbred families of Zhikong scallop (Chlamys farreri). The results showed an extremely high proportion (56.2%) of non-amplifying null alleles and a high ratio (31%) of
【英文摘要】We constructed the microsatellite-based linkage maps using 318 markers typed in two F1 outbred families of Zhikong scallop (Chlamys farreri). The results showed an extremely high proportion (56.2%) of non-amplifying null alleles and a high ratio (30%) of segregation distortion. By aligning different individual-based linkage maps, 19 linkage groups were identified, which are consistent with the haploid chromosome number of Zhikong scallop. The integrated linkage map contains 154 markers covering 1561.8 cM with an average intermarker spacing of 12.3 cM and 77.0% of genome coverage. We found that the heterogeneity in recombination rate was not determined by sexes but by different individuals on 18 linkage regions. The phenotypic marker of general shell colour was placed on LG4, which was flanked by microsatellite markers CFLD064 and CFBD055. Four size-related traits including shell length (SL), shell width (SW), shell height (SH) and gross weight (GW) were analysed to identify the putative quantitative trait loci (QTL). Under the half-sib model, using dam as common parent, three, two, two and one QTL affecting SL, SW, SH and GW exceeded the genome-wide thresholds respectively. While using sir as common parent, a larger number of QTL were detected for these four traits: four, five, three and two for SL, SW, SH and GW respectively. The single QTL explained 3.7 – 19.2% of the phenotypic variation. The linkage map and the QTL associated with economic traits will provide useful information for marker-assisted selection of Zhikong scallop.
【语种】英文
【第一作者】Aibin Zhan
【通讯作者】Zhenmin Bao
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【引文索引类型】SCI
【引文索引号】1.3652052201e+016
【学科分类】分子生物学

【题目】Isolation and characterization of new microsatellite markers from the Japanese scallop, Patinopecten yessoensis
【中文关键词】Japanese scallop,Microsatellite, Population structure, Twice hybridizations
【英文关键词】Japanese scallop,Microsatellite, Population structure, Twice hybridizations
【中文摘要】Twenty polymorphic microsatellite loci were isolated from the Japanese scallop (Patinopecten yessoensis) using a method of hybridizing twice. The genetic diversity was analyzed by these microsatellite markers in Þeld specimens from Zhangzidao Island in Liaoning Province, China. Observed heterozygosity (Ho), expected heterozygosity (He), number of effective alleles (Ne), and polymorphism information contents (PIC) were calculated. The heterozygote deÞciency or excess was detected by the Þxation index (Fis). The HardyÐWeinberg equilibrium was tested by possibilities (PHWE) using chi-square test. Results indicate that the average of allele numbers was 6.0. The mean values of the parametersHo, He, Ne, and PIC were 0.7921, 0.7076, 4.4347, and 0.6684, respectively. Only 4 of 20 microsatellite markers showed heterozygote deÞciency including loci FJ262370, FJ262381, FJ262384, and FJ262400. ThePHWE value indicates the wild population deviated somewhat from the HardyÐWeinberg equilibrium. These newly

isolated markers increase the available molecular resources of the Japanese scallop.

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【语种】英文

【第一作者】Meng Chen

【通讯作者】Xiaowen Sun

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【学科分类】分子生物学

【题目】The manganese superoxide dismutase gene in bay scallop Argopecten irradians: Cloning, 3D modelling and mRNA expression

【中文关键词】Manganesesuperoxidedismutase (MnSOD); Cloning; Argopecten irradians; 3Dmodelling; qRT-PCR; mRNAexpression; Immune response

【英文关键词】Manganesesuperoxidedismutase (MnSOD); Cloning; Argopecten irradians; 4Dmodelling; qRT-PCR; mRNAexpression; Immune response

【中文摘要】A novel manganesesuperoxidedismutase (MnSOD) was cloned from bayscallopArgopecten irradians by 3′ and 5′ rapid amplification of cDNA ends (RACE) PCR. The full-length cDNA of MnSOD was of 1207 bp with a 678 bp open reading frame encoding 227 amino acids. T

【英文摘要】A novel manganesesuperoxidedismutase (MnSOD) was cloned from bayscallopArgopecten irradians by 3′ and 5′ rapid amplification of cDNA ends (RACE) PCR. The full-length cDNA of MnSOD was of 1207 bp with a 678 bp open reading frame encoding 226 amino acids. The deduced amino acid sequence contained a putative signal peptide of 26 amino acids. Sequence comparison showed that the MnSOD of A. irradians shared high identity with MnSOD in invertebrates and vertebrates, such as MnSOD from abalone Haliotis discus discus (ABG88843) and frog Xenopus laevis (AAQ63483). Furthermore, the 3D structure of bayscallop MnSOD was predicted by SWISS-MODEL Protein Modelling Server and compared with those of other MnSODs. The overall structure of bayscallop MnSOD was similar to those of zebrafish Danio rerio, fruit fly Drosophila melanogaster, Chinese shrimp Fenneropenaeus chinensis, human Homo sapiens, and had the highest similarity to scallopMizuhopecten yessoensis and abalone H. discus discus. A quantitative real-time PCR (qRT-PCR) assay was developed to detect the mRNAexpression of MnSOD in different tissues and the temporal expression in haemocytes following challenge with the bacterium Vibrio anguillarum. A higher-level of mRNAexpression of MnSOD was detected in gill and mantle. The expression of MnSOD reached the highest level at 3 h post-injection with V. anguillarum and then slightly recovered from 6 to 48 h. The results indicated that bayscallop MnSOD was a constitutive and inducible protein and thus could play an important role in the immune responses against V. anguillarum infection.

【语种】英文

【第一作者】Yongbo Bao

【通讯作者】Guofan Zhang

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【学科分类】分子生物学

【题目】FISH Mapping and Identification of Zhikong Scallop(Chlamys farreri) Chromosomes
【中文关键词】Chlamys farreri, chromosome identi fi cation, FISH, fosmid, Zhikong scallop
【英文关键词】Chlamys farreri, chromosome identi fi cation, FISH, fosmid, Zhikong scallop
【中文摘要】Chromosome identi fi cation is the fi rst step in genomic research of a species, but it remains a challenge in scallops. In the present study, fl uorescence in situ hybridization (FISH) mapping of 19 fosmid clones was attempted and used for chromosome identi fi cation in Zhikong scallop Chlamysfarreri Jones et Preston, 1904). Data showed that 10 clones were successfully mapped, including 7 without and 3 with C0 t-1 DNA. Among them, 2 represented multiple signals and made no contribution to chromosome identi fi cation. Karyotypic analysis and cohybridization indicated that the remaining 8 clones realized the identi fi cation of 8 chromosomes. All 10 clones were sequenced at both ends, which could be developed as sequencetagged sites and used for the uni fi cation of the cytological and genetic linkage maps. This study shows that fosmid clones can bene fi t chromosome identi fi cation and will undoubtedly be useful for cytogenetic research in Zhikong scallop.
【英文摘要】Chromosome identi fi cation is the fi rst step in genomic research of a species, but it remains a challenge in scallops. In the present study, fl uorescence in situ hybridization (FISH) mapping of 19 fosmid clones was attempted and used for chromosome identi fi cation in Zhikong scallop Chlamysfarreri Jones et Preston, 1904). Data showed that 10 clones were successfully mapped, including 7 without and 3 with C0 t-1 DNA. Among them, 2 represented multiple signals and made no contribution to chromosome identi fi cation. Karyotypic analysis and cohybridization indicated that the remaining 8 clones realized the identi fi cation of 8 chromosomes. All 10 clones were sequenced at both ends, which could be developed as sequencetagged sites and used for the uni fi cation of the cytological and genetic linkage maps. This study shows that fosmid clones can bene fi t chromosome identi fi cation and will undoubtedly be useful for cytogenetic research in Zhikong scallop.
【语种】英文
【第一作者】Lingling Zhang
【通讯作者】Jingjie Hu
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【学科分类】分子生物学

【题目】Two novel elements (CFG1 and PYG1) of Mag lineage of Ty3/Gypsy retrotransposons from Zhikong scallop (Chlamys farreri) 5 and Japanese scallop (Patinopecten yessoensis)
【中文关键词】CFG1, Chlamys farreri, Methylation, Patinopecten yessoensis, PYG1, Retrotransposon, Scallop
【英文关键词】CFG1, Chlamys farreri, Methylation, Patinopecten yessoensis, PYG2, Retrotransposon, Scallop
【中文摘要】Two novel elements (CFG1 and PYG1) of Mag lineage of Ty3/Gypsy retrotransposons were cloned from Zhikong scallop (Chlamys farreri) and Japanese scallop (Patinopecten yessoensis). The total length of the CFG1 element is 4826 bp, including 5 0 -LTR (193 bp)
【英文摘要】Two novel elements (CFG1 and PYG1) of Mag lineage of Ty3/Gypsy retrotransposons were cloned from Zhikong scallop (Chlamys farreri) and Japanese scallop (Patinopecten yessoensis). The total length of the CFG1 element is 4826 bp, including 5 0 -LTR (192 bp), the entire ORF (4047 bp) and 3 0 -LTR (189 bp). The entire ORFs of both CFG1 and PYG1 elements are composed of 1348 aa and do not have any frameshifts. Their closest relative is Jule element from the poeciliid fi sh (Xiphophorus maculatus). On average, the diploid genome of C. farreri contains approximately 84 copies of CFG1 elements. We summarize the major features of CFG1, PYG1 and other elements of Mag lineage of the Ty3/Gypsy group. mRNA expression of CFG1 element in larvae increases gradually before the gastrulae stage and decreases gradually afterward, whereas in adductor such expression in adductor muscle and digestive gland are lower than those in other tissues. Overall, mRNA expression of CFG1 element in the early larvae is signi fi cantly higher than that in adult tissues. In muscle tissue, while the promoter and partial GAG domain of CFG1 element are unmethylated, the partial RT domain is highly methylated. These results suggest that CFG1 expression may be controlled by a post-transcriptional gene silencing mechanism that is associated with coding-region (RT domain) methylation.
【语种】英文
【第一作者】Shi Wang

【通讯作者】Zhenmin Bao
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【学科分类】分子生物学

【题目】Fast identification of scallop adductor muscles using species-specific microsatellite markers
【中文关键词】Scallop, Adductor muscle, Microsatellite, Species-speci Wc marker, Species identi Wcation, Food labeling
【英文关键词】Scallop, Adductor muscle, Microsatellite, Species-speci Wc marker, Species identi Wcation, Food labeling
【中文摘要】Scallop adductor muscles are very popular delicious seafood distributed in the international markets. IdentiWcation of commercial adductor muscles to the species level is an important issue to assure the correct labeling for their distribution. In the present study, we established the species-speci Wc microsatellite markers for four main economic scallop species to identify commercial adductor muscles. A total of 140 adductors derived from three di Verent food processes, the fro zen, the dried and the canned, were collected from markets and analyzed using the species-speciWc microsatellite markers. Although the DNA extracted from the commercial samples was highly degraded, all samples were well identi Wed using the method established in the present study. This method well demonstrated high precision and high sensitivity, and more competence in the identi Wcation of mixed commercial samples. Moreover, the results in this study gave the experimental evidences for the potential use of species-speci Wc microsatellite markers for species identi Wcation in the market management.
【英文摘要】Scallop adductor muscles are very popular delicious seafood distributed in the international markets. IdentiWcation of commercial adductor muscles to the species level is an important issue to assure the correct labeling for their distribution. In the present study, we established the species-speci Wc microsatellite markers for four main economic scallop species to identify commercial adductor muscles. A total of 140 adductors derived from three di Verent food processes, the fro zen, the dried and the canned, were collected from markets and analyzed using the species-speciWc microsatellite markers. Although the DNA extracted from the commercial samples was highly degraded, all samples were well identi Wed using the method established in the present study. This method well demonstrated high precision and high sensitivity, and more competence in the identi Wcation of mixed commercial samples. Moreover, the results in this study gave the experimental evidences for the potential use of species-speci Wc microsatellite markers for species identi Wcation in the market management.
【语种】英文
【第一作者】Aibin Zhan
【通讯作者】Zhenmin Bao
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【学科分类】分子生物学

【题目】Accurate methods of DNA extraction and PCR-based genotyping for single scallop embryos/larvae long preserved in ethanol
【中文关键词】conservation genetics;embryo;larva;microsatellite genotype;plankton;scallop
【英文关键词】conservation genetics;embryo;larva;microsatellite genotype;plankton;scallop
【中文摘要】Marine scallops are sessile as adult but have a long planktonic larval phase showing great possibility to migrate in marine realm lacking of obvious barriers. Genetic analysis of scallop embryos/larvae based on molecular markers is very essential to clarify the spatial and temporal gene flow and the unique population and community structure. However, the technical challenges, such as single embryos/larvae isolation and low quantity and poor quality of DNA extracted, make genotyping for a single embryo/larva long preserved in ethanol to be a really difficult task. In this study, we analysed the factors that might affect the DNA quantity and quality for simple sequence repeat-based genotyping for single embryos/larvae. Based on the factors analysed, we developed a LoTEPA buffer-based method, of which the accuracy, stability and reproducibility were evaluated by controlled inter- and intraspecies and self-fertilized scallop families. The genotyping results showed the high success rate of more than 90% in total for embryos/larvae preserved in ethanol for 1 – 5 years. Furthermore, the successful genotyping for the larvae sampled from a natural habitat well demonstrated the potential use of this method in practical ecological analysis.

【英文摘要】Marine scallops are sessile as adult but have a long planktonic larval phase showing great possibility to migrate in marine realm lacking of obvious barriers. Genetic analysis of scallop embryos/larvae based on molecular markers is very essential to clarify the spatial and temporal gene flow and the unique population and community structure. However, the technical challenges, such as single embryos/larvae isolation and low quantity and poor quality of DNA extracted, make genotyping for a single embryo/larva long preserved in ethanol to be a really difficult task. In this study, we analysed the factors that might affect the DNA quantity and quality for simple sequence repeat-based genotyping for single embryos/larvae. Based on the factors analysed, we developed a LoTEPA buffer-based method, of which the accuracy, stability and reproducibility were evaluated by controlled inter- and intraspecies and self-fertilized scallop families. The genotyping results showed the high success rate of more than 90% in total for embryos/larvae preserved in ethanol for 1 – 5 years. Furthermore, the successful genotyping for the larvae sampled from a natural habitat well demonstrated the potential use of this method in practical ecological analysis.
【语种】英文
【第一作者】Aibin Zhan
【通讯作者】Zhenmin Bao
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【学科分类】分子生物学

【题目】Initial analysis of tandemly repetitive sequences in the genome of Zhikong scallop (Chlamys farreri Jones et Preston)
【中文关键词】Tandemly repetitive sequences, Zhikong scallop, Chlamys farreri, tandem repeats finder (TRF)
【英文关键词】Tandemly repetitive sequences, Zhikong scallop, Chlamys farreri, tandem repeats finder (TRF)
【中文摘要】Tandemly repetitive sequences are widespread in all eukaryotic genomes, but data on tandem repeats are limited in Zhikong scallop (Chlamys farreri). In the present study, paired-end sequencing of 2016 individual fosmid clones resulted in 3646 sequences. A total of 2,286,986 bp of genomic sequences were generated, representing approximately 1.84‰ of the Zhikong scallop genome. Using tandem repeats finder (TRF) software, a total of 2500 tandem repeats were found, including 313 satellites, 1816 minisatellites and 371 microsatellites. The cumulative length of tandem repeats was 552,558 bp, accounting for 24.16% of total length. Specifically, the length of microsatellites, minisatellites and satellites was 9425, 336,001 and 207,132 bp, accounting for 1.71, 60.81 and 37.49% of the length of tandem repeats, and 0.41, 14.69 and 9.06% of total length, respectively. The detailed information on the characteristic of all repeat units was also represented, which will provide a useful resource for physical mapping and better utilization of the existing genomic information in Zhikong scallop.
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【语种】英文
【第一作者】Lingling Zhang
【通讯作者】Zhenmin Bao
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【学科分类】分子生物学

【题目】Characterization of 95 novel microsatellite markers for Zhikong scallop Chlamys farreri using FIASCO-colony hybridization and EST database mining
【中文关键词】colony hybridization;EST;FIASCO;microsatellite;polymorphism;Zhikong scallop;Chlamys farreri
【英文关键词】colony hybridization;EST;FIASCO;microsatellite;polymorphism;Zhikong scallop;Chlamys farreri
【中文摘要】In order to construct a simple sequence repeat (SSR)-based genetic linkage map and to promote molecular marker-assisted selection (MAS) in scallop breeding, the methods of Fast Isolation by AFLP of Sequences COntaining repeats (FIASCO)-colony hybridization and expressed sequence tag (EST) database mining were modified and used to develop 95 novel microsatellite markers for Zhikong scallop. The SSR-enriched library constructed by the FIASCO method consisted of 830 clones, and 295 (35.5%) positive clones were identified after colony hybridization. One hundred and fifty clones were randomly sequenced and the results showed all clones contained at least one microsatellite. Of 91 primer pairs designed, 72 were amplified scorable polymerase chain reaction (PCR) products and 70 were polymorphic with the allele number range of 3 – 16 alleles/locus (average 7.0 alleles/locus). When EST database mining was performed, 66 microsatellites containing ESTs were identified from 3467 sequences deposited in GenBank. Based on cluster analysis of length and GC content of the flanking regions, 47 primer pairs were designed and 23 scorable EST SSRs were obtained. Compared with genomic SSRs developed in this study, EST SSRs showed lower genetic variability with an average of 4.2 alleles/locus. The results in the present study demonstrate that modified FIASCO-colony hybridization is an efficient and low-cost method for the isolation of large numbers of microsatellite markers for scallop species.
【英文摘要】In order to construct a simple sequence repeat (SSR)-based genetic linkage map and to promote molecular marker-assisted selection (MAS) in scallop breeding, the methods of Fast Isolation by AFLP of Sequences COntaining repeats (FIASCO)-colony hybridization and expressed sequence tag (EST) database mining were modified and used to develop 95 novel microsatellite markers for Zhikong scallop. The SSR-enriched library constructed by the FIASCO method consisted of 830 clones, and 295 (35.5%) positive clones were identified after colony hybridization. One hundred and fifty clones were randomly sequenced and the results showed all clones contained at least one microsatellite. Of 91 primer pairs designed, 72 were amplified scorable polymerase chain reaction (PCR) products and 70 were polymorphic with the allele number range of 3 – 16 alleles/locus (average 7.0 alleles/locus). When EST database mining was performed, 66 microsatellites containing ESTs were identified from 3467 sequences deposited in GenBank. Based on cluster analysis of length and GC content of the flanking regions, 47 primer pairs were designed and 23 scorable EST SSRs were obtained. Compared with genomic SSRs developed in this study, EST SSRs showed lower genetic variability with an average of 4.2 alleles/locus. The results in the present study demonstrate that modified FIASCO-colony hybridization is an efficient and low-cost method for the isolation of large numbers of microsatellite markers for scallop species.
【语种】英文
【第一作者】Aibin Zhan
【通讯作者】Jingjie Hu
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【学科分类】分子生物学

【题目】Fosmid Library Construction and Initial Analysis of End Sequences in Zhikong Scallop (Chlamys farreri)
【中文关键词】Chlamysfarreri, fosmidendsequences, fosmid library, Zhikong scallop
【英文关键词】Chlamysfarreri, fosmidendsequences, fosmid library, Zhikong scallop
【中文摘要】Zhikong scallop (Chlamys farreri Jones et Preston, 1905) is one of the most commercially important bivalves in China, but research on its genome is underdeveloped. In this study, we constructed the fi rst Zhikong scallop fosmid library, and analyzed the fos
【英文摘要】Zhikong scallop (Chlamys farreri Jones et Preston, 1904) is one of the most commercially important bivalves in China, but research on its genome is underdeveloped. In this study, we constructed the fi rst Zhikong scallop fosmid library, and analyzed the fosmid end sequences to provide a preliminary assessment of the genome. The library consists of 133,851 clones with an average insert size of about 40 kb, amounting to 4.3 genome equivalents. Fosmid stability assays indicate that Zhikong scallop DNA was stable during propagation in the fosmid system. Library screening with two genes and seven microsatellite markers yielded between two and eight positive clones, and none of those tested was absent from the library. End-sequencing of 480 individual clones generated 828 sequences after trimming, with an average sequence length of 624 bp. BLASTN searches of the nr and EST databases of GenBank and BLASTX searches of the nr database resulted in 213 (25.72%) and 44 (5.31%) signi fi cant hits (E G e5), respectively. Repetitive sequences

analysis resulted in 375 repeats, accounting for 15.84% of total length, which were composed of interspersed repetitive sequences, tandem repeats, and low-complexity sequences. The fosmid library, in conjunction with the fosmid end sequences, will serve as a useful resource for physical mapping and positional cloning, and provide a better understanding of the Zhikong scallop genome.
【语种】英文
【第一作者】Lingling Zhang
【通讯作者】Zhenmin Bao
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【学科分类】分子生物学

【题目】Isolation and characterization of 150 novel microsatellite markers for Zhikong scallop (Chlamys farreri)
【中文关键词】Chlamys farreri;enrichment;microsatellite;polymorphic marker;Zhikong scallop
【英文关键词】Chlamys farreri;enrichment;microsatellite;polymorphic marker;Zhikong scallop
【中文摘要】We isolated and characterized 150 novel microsatellite markers of Zhikong scallop (Chlamys farreri) from three simple sequence repeat-enriched libraries constructed with (GA)15 and (CA)15. The polymorphism was assessed with 49 individuals, and the result
【英文摘要】We isolated and characterized 150 novel microsatellite markers of Zhikong scallop (Chlamys farreri) from three simple sequence repeat-enriched libraries constructed with (GA)15 and (CA)15. The polymorphism was assessed with 48 individuals, and the result showed the number of allele ranged from two to 30, with an average of 8.4 alleles/locus. The values of observed and expected heterozygosities ranged from 0.0791 to 0.9878 and from 0 to 1.0000, respectively. Sixty-five loci showed significant departure from Hardy – Weinberg equilibrium, and 14 locus pairs displayed linkage disequilibrium. These markers are therefore potentially useful for conservation studies, population structure assessment, ecological analyses and linkage map construction.
【语种】英文
【第一作者】Aibin Zhan
【通讯作者】Jingjie Hu
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【学科分类】分子生物学

【题目】Patterns of Concerted Evolution of an rDNA Family in a Natural Population of Zhikong Scallop, Chlamys farreri
【中文关键词】Concerted evolution, Internal transcribed spacer (ITS), Denaturing high-performance liquid chromatography (DHPLC), Chlamys farreri
【英文关键词】Concerted evolution, Internal transcribed spacer (ITS), Denaturing high-performance liquid chromatography (DHPLC), Chlamys farreri
【中文摘要】Using denaturing high-performance liquid chromatography (DHPLC), we screened the insertion/deletion (indel) polymorphism in the internal transcribed spacer (ITS) sequences of 41 individuals from a natural population of Zhikong scallop (Chlamys farreri). S
【英文摘要】Using denaturing high-performance liquid chromatography (DHPLC), we screened the insertion/deletion (indel) polymorphism in the internal transcribed spacer (ITS) sequences of 40 individuals from a natural population of Zhikong scallop (Chlamys farreri). Surprisingly, only 7.5% of individuals were homogeneous in ITS constitution, while the others (92.5%) were heterozygous. Based on different peak types in DHPLC analysis, seven individuals were randomly chosen to investigate indel polymorphism in the ITS sequences within individuals. Furthermore, indel polymorphism in the ITS sequences of single sperms was also investigated in more individuals belonging to different peak types. Based on these results, we concluded that rapid intrachromosomal recombination drove homogenization of rDNA arrays and interchromosomal recombination might contribute to form new variants, and that it may be less rare than previously thought although it was much less frequent than intrachromosomal recombination in the homogenization process. Further, we proposed an expanded model for concerted evolution of the rDNA family

in a natural population of C. farreri. A pathway in the new model which homogenizes a variant unit, beginning with two-peak type individuals and ends with two-peak type individuals, is a larruping pathway in the natural population of C. farreri. As the highest proportion in natural populations, two-peak individuals with equal peak areas can be viewed as being in a steady and balanced state which is maintained by rapid intrachromosomal recombination.

【语种】英文

【第一作者】Shi Wang

【通讯作者】Zhenmin Bao

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【学科分类】分子生物学

【题目】Mapping of ribosomal DNA and (TTAGGG)n telomeric sequence by FISH in bivalve Patinopecten yessoensis

【中文关键词】无

【英文关键词】无

【中文摘要】The chromosome set of Patinopecten yessoensis (Jay, 1857) was characterized using Giemsa staining, DAPI staining and fluorescence in situ hybridization (FISH) with three repetitive DNA probes [18S – 28S rDNA, 6S rDNA and telomeric (TTAGGG)n]. DAPI staining ダ ば ゴ ダ ば ゴ ダ ば ゴ ダ ば ゴ ダ ば ゴ ダ ば ゴ ダ ば Ÿ蔑 ゴ ダ ば Ÿ蔑 ゴ ダ ば ゴ ダ ば ゴ ダ ば ゴ ダ ば ゴ ダ ば ゐ ダ ば ゐ ダ ば ゐ ダ ば ゴ ダ ば ゴ ダ ば ゴ ダ ば ゴ ダ ば ゴ

【英文关键词】bivalve, Pectinidae, ribosomal DNA, ITS, phylogeny

【中文摘要】The ribosomal DNA internal transcribed spacer (ITS) region is a useful genomic region for understanding evolutionary and genetic relationships. In the current study, the molecular phylogenetic analysis of Pectinidae (Mollusca: Bivalvia) was performed using the nucleotide sequences of the nuclear ITS region in nine species of this family. The sequences were obtained from the scallop species Argopecten irradians, Mizuhopecten yessoensis, Amusium pleuronectes and Mimachlamys nobilis, and compared with the published sequences of Aequipecten opercularis, Chlamys farreri, C. distorta, M. varia, Pecten maximus, and an outgroup species Perna viridis. The molecular phylogenetic tree was constructed by the neighbor-joining and maximum parsimony methods. Phylogenetic analysis based on ITS1, ITS2, or their combination always yielded trees of similar topology. The results support the morphological classifications of bivalve and are nearly consistent with classification of two subfamilies (Chlamydinae and Pectininae) formulated by Waller. However, A. irradians, together with A. opercularis made up of genera Amusium, evidences that they may belong to the subfamily Pectinidae. The data are incompatible with the conclusion of Waller who placed them in Chlamydinae by morphological characteristics. These results provide new insights into the evolutionary relationships among scallop species and contribute to the improvement of existing classification systems.

【英文摘要】The ribosomal DNA internal transcribed spacer (ITS) region is a useful genomic region for understanding evolutionary and genetic relationships. In the current study, the molecular phylogenetic analysis of Pectinidae (Mollusca: Bivalvia) was performed using the nucleotide sequences of the nuclear ITS region in nine species of this family. The sequences were obtained from the scallop species Argopecten irradians, Mizuhopecten yessoensis, Amusium pleuronectes and Mimachlamys nobilis, and compared with the published sequences of Aequipecten opercularis, Chlamys farreri, C. distorta, M. varia, Pecten maximus, and an outgroup species Perna viridis. The molecular phylogenetic tree was constructed by the neighbor-joining and maximum parsimony methods. Phylogenetic analysis based on ITS1, ITS2, or their combination always yielded trees of similar topology. The results support the morphological classifications of bivalve and are nearly consistent with classification of two subfamilies (Chlamydinae and Pectininae) formulated by Waller. However, A. irradians, together with A. opercularis made up of genera Amusium, evidences that they may belong to the subfamily Pectinidae. The data are incompatible with the conclusion of Waller who placed them in Chlamydinae by morphological characteristics. These results provide new insights into the evolutionary relationships among scallop species and contribute to the improvement of existing classification systems.

【语种】英文

【第一作者】Xiaoting Huang

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【学科分类】分子生物学

【题目】Cytogenetic analysis in two scallop (Bivalvia: Pectinedae) by PRINS and PI binding

【中文关键词】primed in situ labeling, PI banding, Argopecten irradians, Patinopecten yessoensis

【英文关键词】primed in situ labeling, PI banding, Argopecten irradians, Patinopecten yessoensis

【中文摘要】Cytogenetic analysis was performed for the bay scallop(Argopecten irradians Lamarck 1819) and the Japanese scallop(Patinopecten yessoensis Jay 1858) by primed in situ labeling (PRINS) and propidium iodide (PI) banding techniques. The PRINS analysis reveal

【英文摘要】Cytogenetic analysis was performed for the bay scallop(Argopecten irradians Lamarck 1819) and the Japanese scallop(Patinopecten yessoensis Jay 1857) by primed in situ labeling (PRINS) and propidium iodide (PI) banding techniques. The PRINS analysis revealed that major rRNA genes were clustered in two loci on the telomeric regions of the short arms on two acrocentric chromosome pairs in A. irradians and on two submetacentric pairs in P. yessoensis. The histone H3 gene sites differed in number and location between these two species. The C-band-like patterns revealed by PI staining varied considerably between these two species. A. irradians displayed terminal bands at long arms on all chromosomes, centromeric bands on some pairs and interstitial bands on five pairs. P. yessoensis exhibited only centromeric bands on all chromosomes. These results would contribute to the better understanding of karyotype evolution in A. irradians and P. yessoensis.
【语种】英文
【第一作者】Lingling Zhang
【通讯作者】Zhenmin Bao
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【学科分类】分子生物学

【题目】异源精子诱导栉孔扇贝雌核发育后代的微卫星分析
【中文关键词】栉孔扇贝,异源精子,雌核发育,微卫星
【英文关键词】Chlamys farreri, heterologous sperm, gynogenesis, microsatellite
【中文摘要】采用紫外线遗传灭活的长牡蛎精子激活栉孔扇贝卵子,6-DMAP诱导染色体加倍的方法,获得第二极体抑制型雌核发育二倍体早期胚胎。通过优化PCR反应条件,在11对栉孔扇贝和10对长牡蛎微卫星引物中共筛选出3对引物,可以同时在长牡蛎和栉孔扇贝基因组中获得稳定性,多态性较好的特异性扩增条带,其中2对引物为栉孔扇贝引物。利用筛选出的3对通用微卫星引物对雌核发育后代进行检验及遗传分析。结果表明,雌核发育个体基因完全来自于母本,后代中没有父本基因的表达;部分雌核发育后代在4个座位上发生了纯合,部分个体发生了不同程度的基因
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【英文摘要】The Zhikong scallop Chlamys farreri plays an important role in the shellfish breeding in the north of China and the gynogenesis in this scallop has developed rapidly in recent years. In this study, the meiotic division of the eggs of C. farreri was activated by ultraviolet (UV)-irradiated heterogenous sperms of Pacific oyster Crassostrea gigas and the gynogenetic diploids were induced by blocking extrusion of the second polar body from fertilized eggs with 6-dimethylaminopurine (6-DMAP). To assess homogeneity and isogenedity between the progeny and their parents, microsatellite technique were used. Then 3 pairs of common microsatellite primers to be used for genetic analysis of offspring were screened from 21 pairs of microsatellite primers among which 11 pairs were indentified in C. farreri and 10 pairs in C. gigas by optimizing the condition of polymerase chain reaction(PCR). Under the optimal condition, PCR was performed for analyzing the genetic character of the gynogenetic offspring. It was found that the 3 loci could amplify clear fragments in these offspring. The results of genetic analys is showed that the gene of offspring without gene contamination of male parent C. gigas was completely inherited from fem ale pa rent C. farreri. Microsatellite locus and centromere recombined at the 3 polymorphic loci and the recombination rates were 40% , 55% , and 35% , respectively. This study confirmed that it was feasible to achieve diploid gynogenetic progeny of C. farreri by heterologous sperm ’ s inducement while it w as difficult to get an absolute homozygotic population once in manner of suppression of the meiosis2 II , because there was high heterozygosity in the first meiogynogenetic generation owing to crossover between the homologous chromosome during the meiosis-I.
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【学科分类】分子生物学

【题目】几种养殖扇贝微卫星标记的研究进展
【中文关键词】栉孔扇贝,华贵栉孔扇贝,虾夷扇贝,海湾扇贝,微卫星标记
【英文关键词】Chlamys farreri,Chlamys nobilis,Patinopecten yessoensis,Argopecten irradians,microsatellite markers
【中文摘要】无
【英文摘要】Scallops, comprise more than 300 species identified in worldwide oceans, occupy an economically important position in many coastal countries. Until now, more than 15 scallop species have been considered as valuable fishery or aquaculture resources. Scallop adductor muscles are being considered as one of the most flavorful sea foods in markets at home and abroad, mainly due to their delicious taste and abundant nutrition. Because of the potential values, the scallop aquaculture has made great progress during the past three decades in many countries, especially in China. For examples, the farmed tideland for scallop aquaculture has exceeded 1 million hectares (ha.) and the annual production is more than 11 million tons in 2007, which makes China the first rank not only in farmed acreage but also in annual production. However, with the blooming expansion of scallop aquaculture, some problems such as poor growth of some wild strains and large scale breakout of diseases have been arising during the past years. Further investigation and solution to these problems mainly depend on the availability of primary molecular genetic tools and the combination of efficient breeding programs with these molecular tools (i.e. molecular marker assisted selection, MAS). Microsatellite analysis based on polymerase chain reaction (PCR) offers the finest resolution for studying such genetic questions in aquacultural species. Based on the studies to date, microsatellite DNA marker has been one of the leading molecular markers for genetic analysis. Four scallops including Zhikong scallop Chlamys farreri, Noble scallop C. nobilis, Yesso scallop Patinopecten yessoensis and Bay scallop Argopecten irradians are the main species maricultured in China. In this study, we reviewed the progress in development of microsatellite DNA markers for these four scallops. We also summarized the applications of this robust molecular marker system in genetic analysis, such as genetic diversity analysis, pedigree reconstruction, genetic linkage map construction and species identification.
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【题目】虾夷扇贝体形性状对软体重和闭壳肌重的影响效果分析
【中文关键词】虾夷扇贝;体形性状;解剖性状;相关分析
【英文关键词】Patinopecten yessoensis; body shape traits; anatomical traits; correlation analysis
【中文摘要】利用虾夷扇贝表型性状资料,分析性状间的相关关系及其相关程度,建立相应的回归方程,为扇贝的选择育种奠定基础。试验随机抽取126只体形规则的3龄大连獐子岛海区底播增殖的虾夷扇贝,其中雌雄各63只,测定其壳长(X1)、壳高(X2)、壳宽(X3)、活体重(Y)、软体重(Z)和闭壳肌重(W),分别计算相关系数,采用通径分析方法计算了以体形性状为自变量对软体重和闭壳肌重作依变量的通径系数、决定系数及相关指数,定量的分析了体形性状对虾夷扇贝解剖性状的影响。结果表明虾夷扇贝壳长、壳宽、壳高与活体重、软体重和闭壳肌重的相关系数均达到极显著水平(P < 0.01);壳高、壳宽是影响雌性软体重的主要因素,壳长、壳宽是影响雄性软体重的主要因素,而混合组受3个壳尺性状的共同影响;影响虾夷扇贝闭壳肌重的主要因素是壳宽,壳长、壳高的作用不显著;决定系数分析结果与通径分析结果有一致的变化趋势;多元回归分析,剔除不显著因子,建立了壳长、壳高、壳宽对软体重、闭壳肌重的回归方程:(1)雌性Z = - 128.573 + 1.355X2 + 1.407 X3;W = - 8.216 + 0.869X3;(2)雄性Z =138.493 + 1.082 X1 + 2.524 X3;W = - 11.855 + 0.955 X3;(3)混合Z = - 133.939 + 0.606X1 + 0.679X2 + 1.709X3;W = - 9.525 + 0.896 X3。通过性状间的相关分析对两性状间的关系进行明确的定量,有利于制定合理的多性状选择方案,为虾夷扇贝选育提供理想的测度指标。
【英文摘要】This study is based on the material of Japanese scallop (Patinopecten yessoensis Jay) phenotypic characters, and the objective is to analyse correlation relationship, define degree of correlation among characters, establish the regression equation, and to lay a foundation of selective breeding. Data for this study were collected from 126 Japanese scallops at three years old in Zhangzidao Island of Dalian City. The shell length (X1) , shell height (X2) , shell width (X3) , live body weight (Y) , soft-tissue weight (Z) and adductor weight (W) of 63 m ale scallops and 63 female scallops were measured individually. The correlation coeff icient matrix was calculated respectively. Three body shape traits were used as independent variables, the soft-tissue weight and adductor weight were used as dependent variable for path analysis, and path coeff ic ients (Pi) , determination coefficients (di) and correlation index (R2) were calculated. The results show that correlation coefficients between each body shape trait and the live body weight (Y) , sof t-tissue

weight (Z) and adductor weight (W) are all significantly different (P < 0. 01) . Shell length (X1) and shell height (X2) give predominant direct effect and determinacy on the sof t-tissue weight of female scallops; it is the key effective factor. Shell length (X1) and shell width (X3) give predominant direct effect and determinacy on the soft-tissue weight of male scallops; it is the key effective factor. But the key effective factors of mixed scallops are shell length (X1) , shell height (X2) and shell width (X3) . The key effective factor on adductor weight (W) is only shell width (X3) , shell length (X1) and shell height (X2) give slightly direct effect and significant indirect effect through shellwidth (X3) , is the secondary factor. It was clear from the result of high correlation index that the path coefficient analysis could reveal the truthful relationship between the independent variables and the dependent variable. Eliminate inconspicuousness factor, the multiple regress ion equation obtained to estimate two anatomical traits as: 1) For fem a le Z = -128. 573 + 1. 355 X2 + 1. 407 X3 ; W = - 8. 216 + 0. 869 X3 ; 2) For m ale Z = - 138. 493 + 1. 082 X1 + 2. 524 X3 ; W = - 11. 855 + 0. 955 X3 ; 3) Form ixed Z = - 133. 939 + 0. 606 X1 + 0. 679 X2 + 1. 709 X3 ; W = - 9. 525 + 0. 896 X3. Efficient scheme of multiple trait selection will be made if we obtain definite quantitative relationship between each two characters. This s tudy provides theoretical evidence and perfect measure target for breeding of Japanese scallop.

【语种】中文
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【题目】扇贝异源四倍体诱导的初步研究
【中文关键词】栉孔扇贝,虾夷扇贝,异源四倍体,流式细胞术
【英文关键词】Chlamys farreri, Patinopecten yessoensis, allotetraploid, flow cytometry(FCM)
【中文摘要】栉孔扇贝和虾夷扇贝是我国北方两种重要的经济贝类, 两者的生态习性与外部形态差异明显] 。虾夷扇贝个体大, 经济价值高, 但适温低,只能在我国北方局部海域进行养殖。与栉孔扇贝相比,两者在性状方面具有一定的互补性,且两者染色体数目相同,都是38条。本实验室利用栉孔扇贝与虾夷扇贝进行杂交, 成功获得了可成活的杂交个体,且子代在生长和抗逆性方面已经初步显示出一定杂种优势。以上特点使诱导异源四倍体成为可能。本文通过62二甲氨基嘌呤(6-dimethylamino-purine, 6-DMA P)抑制栉孔扇贝♀×虾夷扇贝♂异源受精卵第一极体的释放诱导扇贝异源四倍体,对诱导的适宜条件进行了筛选,旨在为扇贝四倍体的诱导研究提供技术参考。
【英文摘要】The allotetraploid in cross-fertilized eggs of Chlamys farreri♀ × Patinopecten yessoensis ♂was induced in this paper. In order to find out the appropriate duration time of 6-DMAP treatment, ploidy status of induction offspring was analyzed by flow cytometry. The results showed that the optimal duration time of 6-DMAP treatment was to treat the fertilized eggs with 50 mg /L 6-DMAP for 15 min based on the integrated evaluation of the results of fertilization rate, survival rate of D-larvae, development status of larvae, and percentage of tetraploid. The results of flow cytometry showed that 17. 3% tetraploid was obtained which showed that allotetraploid could be gotten with this method. The causes of the problem sin the work were also discussed in this paper.
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【题目】扇贝异源三倍体诱导
【中文关键词】无
【英文关键词】scallop, allotriploid, GISH, chromosome conversion
【中文摘要】荧光显微观察表明,20 ℃水温下,栉孔扇贝(Chlamys farreri)的卵与海湾扇贝(Argopecten irradians)的精子可以正常受精和发育,具备人工诱导三倍体的可行性。亲贝充分促熟后,分开催产,以20 :1的精卵比授精;在50%的受精卵排出第1极

体时,以60 mg/L 6-二甲基氨基嘌呤(6-DMAP)处理受精卵10 — 25 min,可诱导75.23% — 92.14%的三倍体;6-DMAP处理15 min综合诱导效果最好,三倍体诱导率可达88.56%,孵化率可达53.52%。得到的三倍体幼虫经基因组原位杂交(Genomicin situ hybridization,GISH)验证,为含有2套栉孔扇贝染色体组和1套海湾扇贝染色体组的异源三倍体。孵化后诱导组与杂交对照组(未经6-DMAP处理)幼虫生长越来越缓慢,受精后14 d其幼虫存活率分别下降到0.000 67%和0.002 24%,没有幼虫度过附着变态期。GISH分析显示,栉孔扇贝与海湾扇贝不同倍性的杂种后代早在担轮幼虫阶段就出现母本偏向性染色体转变。

【英文摘要】Induction of triploidy is of great importance in mollusk breeding,and can be modified further with interspecific hybridization techniques to create allotriploids which may benefit both from triploidization and hybridization. Prior to the allotriploid induction,the feasibility of fertilization between Zhikong scallop Chlamys farreri eggs and Bay scallop Argopecten irradians sperm was verified by epifluorescence microscopy. Parental scallops were fully induced mature separately and induced spawning. Insemination was carried out with the ratio of sperms and eggs being 20 :1. Triploidy rates of D-stage larvae ranging from 75.23% to 92.14%,were obtained by inhibiting the second polar body with 60 mg/L 6-deimethylaminopurine(6-DMAP) for 10,15,20 and 25 min durations when 50% zygotes released the first polar body in 20 °C seawater. An optimum effect with triploidy rate of 88.56% and incubation rate of 53.52% was gained under 15 min duration. With genomic in situ hybridization(GISH)method,the consequent larvae were validated to be real interspecies hybrids from C. farreri × A. irradians cross with two C. farreri genome and one A. irradiams genome. Overall,allotriploid scallop can be readily produced,but no statistical advantages of growth or survival was found in triploid induction groups compared with controls during larvae development. Larva survival rate of triploid and diploid hybrids were 0.000 67% and 0.002 24%,at the 14 th day after insemination. All larvae died before metamorphism without forming eyespot or foot. Furthermore,maternal biased chromosome conversion was revealed by GISH in both triploid and diploid hybrids,as early as at trophore-larvae stage.

【语种】中文

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【学科分类】分子生物学

【题目】虾夷扇贝微卫星标记的分离及其养殖群体遗传结构的分析

【中文关键词】虾夷扇贝;微卫星;养殖群体;遗传结构

【英文关键词】Patinopecten yessoensis;microsatellites;cultured populations;genetic structure

【中文摘要】采用新型生物素-磁珠吸附微卫星与同位素杂交相结合的方法筛选出15对微卫星引物,并对大连地区3个虾夷扇贝(Patinopecten yessoensis)养殖群体(黑石礁海区、小长山岛海区、广鹿岛海区)的遗传结构进行分析。获得175个阳性克隆并测序,得到160个含微卫星的序列,其中完美型,非完美型和混合型分别占42.69% (73)、46.20% (79)和11.11%(19) ,经筛选得到15个微卫星标记。虾夷扇贝3个群体的有效等位基因数在1.000 0 ~ 8.857 3之间;期望杂合度在0.021 1 ~ 0.911 1之间;观测杂合度在0.000 0 ~ 0.877 8 之间。表明这几个群体遗传多样性水平较高。群体间遗传相似系数在0.929 1 ~ 0.962 4,相似性较高。聚类分析显示,黑石礁群体与小长山岛群体遗传距离最小,亲缘关系最近。基于Hardy-Weinberg平衡的卡方检验表明3个群体均在一定程度上偏离了平衡。本研究所获得的微卫星位点可以为虾夷扇贝的群体遗传多样性分析和遗传图谱的构建等研究提供参考,群体的遗传结构分析对虾夷扇贝的养殖和遗传育种具有一定的指导意义。

【英文摘要】Patinopecten yessoensis is one of the most important cultured scallops in the world. Samples of cultured Japanese scallops were collected from Heishijiao sea area,Xiaochangshan island and Guanglu island area. Each population has about 90 individuals. Microsatellite DNAs were isolated from the Japanese scallop genome with magnetic beads in the present work. One hundred and seventy-one microsatellites were obtainded from the 160 positive clones (from 175 clones),among which 42.39% were found to be perfect,46.24% imperfect,and the rest compound type (11.11%). 56 pairs of SSR-primers were synthesized,and 15 polymorphic microsatellite markers were screened out,which were applied to analyze the population diversity of the three populations. Amplification was performed in PCR reactor with the 15 microsatellite loci,tested by 8% polypropylene gel eletrophoresis and analyzed by gel analysis software. The observed(Ho) and expected(He) heterozygosity values,the polymorphic information content(PIC) and the number of effective alleles(Ne) were all calculated.We found the genetic diversity level was relatively high in all three populations. Seventy-five alleles were obtained,and the number of alleles of each locus was 1 to 12,ranging from 134 to 520 bp. The average Ne of HSJ population,XCS population and GL population was 3.454 8,3.788 7 and 3.5241,respectively. The average Ho was 0.5623,0.5761 and 0.6060,respectively. The average He was 0.6102,0.6198 and 0.6354,respectively. The data above indicated that genetic potential level

of GL population was higher than that of other the rest populations. The genetic similarity coefficient and Nei‘ S standard genetic distance were computed based on the allele frequencies. According to the data,HSJ population and XCS population were shortest in genetic distance among the three populations,followed by GL population. A dendrogram was constructed based on NJ methods using MEGA3.0 software package. The three populations were divided into two clusters,the HSJ population and XCS population were in one cluster,and GL population was another cluster. The Hardy-Weinberg equilibrium was checked by χ2 test. The P value test of Hardy-Weinberg equilibrium showed that each population departed from Hardy-Weinberg equilibrium to some certain extent. These microsatellite markers are useful for genetic structure analysis and genetic linkage mapping construction of Patinopecten yessoensis. The population structure results obtained in this work should be helpful to the breeding and culture of Japanese scallops.

【语种】中文

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【学科分类】分子生物学

【题目】利用ISSR技术研究虾夷扇贝不同地理种群的遗传多样性及其分化

【中文关键词】ISSR,虾夷扇贝,遗传多样性

【英文关键词】ISSR, Patinopecten yessoensi, genetic diversity

【中文摘要】利用10个ISSR引物对虾夷扇贝天然群体、人工养殖群体、象牙白群体、俄罗斯群体和日本群体进行遗传多样性分析,共获得134个多态位点,其比例分别为78136%、73188%、76187%、89155%、89155%; Shannon指数为015159,遗传多样性指数为013378.结果显示5个群体特异性位点16个, 占被检测位点总数的11194% ,这些特异位点可为种群的判别提供依据. 群体聚类结果显示:天然群体、人工养殖群体、象牙白群体首先聚为一类,尔后与日本群体聚在一起,俄罗斯群体单独聚为一类. 本研究还进行了个体聚类分析,个体聚类分析对虾夷扇贝育苗过程中的选种具有一定的指导意义.

【英文摘要】Natural population、Cultured population、White population、Russia population and Japanese population of Patinopecten yessoensi are analyzed using ISSR with 10 p rimers. 134 polymorphic loci are obtained, and the mean percentages of which are 78136% (Natural) , 73188% (Cultured) , 76187% (White) , 89155% (Russian) and 89155% (Japanese) , respectively. The Shannon’s information index and Nei’s gene diversities are 015159 and 013378, respectively. Sixteen specific loci accounting for 11194% in all loci are found in 5 populations, these specific loci can p rovide evidence of populations identification. It is shown that the Natural, the Cultured and theWhite assemble in one group, then assemble with Japanese population, and the Russian population does alone. Individuals phylogenetic analysis is also done, which may be helpful to breeding of Patinopecten yessoensi.

【语种】中文

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【学科分类】分子生物学

【题目】虾夷扇贝群体的遗传结构及微卫星标记与体尺、体重的相关性分析

【中文关键词】虾夷扇贝; 遗传结构; 相关分析; 微卫星

【英文关键词】Patinopecten yessoensis; genetic structure; correlation analysis;microsatellite

【中文摘要】选用39个虾夷扇贝Patinopecten yessoensis多态性微卫星分子标记对大连獐子岛海域虾夷扇贝一个家系群体(以獐子岛海域底播虾夷扇贝和日本产野生虾夷扇贝为父母本交配产生的F1代) 的有效等位基因数(Ne) 、观测杂合度(Ho) 、期望杂合度(He) 、多态信息含量(PIC) 等进行了检测, 以卡方检验估计群体Hardy - Weinberg平衡。结果表明: 在39个基因座位中共检测到105个等位基因, 每个座位检测到的等位基因数为2~4个不等, 等位基因片段大小为95~440 bp, 平均等位基因数为2170个, 平均有效等位基因数为2140个, 观测杂合度平均值016280, 期望杂合度平均值为015240, 平均多态信息含量为014556, 经卡方检验(P < 0101) 值显示多于半数的位点都发生了偏离。采用SAS 812 软件中的一般线性模型(GLM)对

39个微卫星标记与虾夷扇贝群体的生长性状进行连锁显著性检验。结果表明: 在39个微卫星座位中,HLJX202位点与体重、壳长、壳高、壳宽都显著相关, HLJX109、HLJX196位点与体重、壳长、壳高显著相关, HLJX183位点与壳长、壳高显著相关, 而HLJX128和HLJX236位点分别只与壳宽和体重显著连锁。

【英文摘要】The genetic structure of one breeding population of Japanese scallop (Patinopecten yessoensis) was analyzed using thirty - nine polymorphic microsatellite markers. The effective number of alleles (Ne) , observed heterozygosity (Ho) , expected heterozygosity (He) and polymorphism information content (PIC) were all determined.The Hardy - Weinberg equilibrium was checked by chi - square test. For each locus, 2 - 4 alleles were detected,with a total of 105 alleles for 39 loci. The average effective number of alleles and the mean polymorphism information content were 2. 40 and 0. 4556, respectively. Observed heterozygosity and expected heterozygositywere 0. 6280 and 0. 5240, respectively. The p robability value of chi - square test showed thatmore than half of the thirty – nine loci had significantly deviated from Hardy - Weinberg equilibrium (P < 0. 01). The SAS 8. 2 was used to analyze the effect of these 39 microsatellites on body weight, shell length,width and height. Results indicated that HLJX109, and HLJX196 had a significant impact on bodyweight and shell length ; HLJX128 and HLJX236 had a significant impact on shell width and body weight, respectively; HLJX183 had a significant on shell length and body weight. Several significantl diversity lociwere also analyzed by the multiple comparisons of Duncan.

【语种】中文

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【学科分类】分子生物学

【题目】两种壳色虾夷扇贝的RAPD分析

【中文关键词】虾夷扇贝,壳色,RAPD,遗传多样性,遗传距离

【英文关键词】Patinopecten yessoensis, Shell colors, RAPD, Genetic diversity, Genetic distance

【中文摘要】采用RAPD 技术对两种壳色虾夷扇贝Pat i nopecten yessoensis 的遗传多样性和遗传结构及其分化进行研究。用筛选出的22 个随机引物对白色贝和褐色贝各40 个个体进行RAPD 扩增,进行群体内及群体间的遗传学分析。白色贝共检测出128 个多态位点,多态位点的比例为79.5 % ,Shannon 遗传多样性指数为0.424 ;褐色贝共检测出127 个多态位点,多态位点的比例为78.9 % ,Shannon 遗传多样性指数为0.423 。白色贝和褐色贝之间的遗传相似性指数和遗传距离为0.961 和0.039 ,二者之间的遗传分化指数Gst 为0.052 ,遗传分化的程度较低。结果表明,白色贝和褐色贝之间的等位基因频率、多态位点的比例和遗传多样性等的差别不明显,遗传变异主要来自于群体内。S285-1 在褐色贝大部分个体中都能获得扩增片段,但在白色贝所有个体中均未见这个位点的扩增片段,推断S285-1 为白色贝的特异阴性片段。

【英文摘要】The genetic diver sity ,heredity st ructure and differentiation of two Patinopecten yessoensis populations of different shell colours (white and brown) were compared using RAPD method (Random Amplified Polymorphic DNA) . A total of 161 interpretable bands ranging f rom 100-3000 bp in each population were obtained by 22 arbitrary primer s. The numbers of polymorphic loci were 128 and 127 for white scallop s and brown scallops ,respectively wit h t he percentages of polymorphism 79.5 % and 78.9 % and Shannon information indices 0.424 and 0.423 ,respectively. The high similarity rate (0.961) and low genetic differentiation (Gst = 0.052) indicated t hat t here was no significant difference in genetic differentiation and genetic st ructure between t he two populations. According to t he Shannon information index ,the genetic diver sity was mainly due to individual differences in each population. The band at locus S285-1 appeared in 30 of 40 individual s of brown scallop s ,but it disappeared completely wit h no amplification in white scallops ; it is suggested t hat t his band is t he negative genetic marker in white scallop s.

【语种】中文

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【学科分类】分子生物学

【题目】6-DMAP诱导栉孔扇贝异源雌核发育二倍体
【中文关键词】6-DMAP,栉孔扇贝,雌核发育二倍体,异源精子
【英文关键词】6-DMAP, Chlamys farreri, Gynogentic diploids, Heterogenous sperm
【中文摘要】采用紫外线遗传灭活的长牡蛎精子激活栉孔扇贝卵子,运用L9 (34) 设计不同6-DMAP 的处理条件来诱导染色体加倍,获得第二极体抑制型栉孔扇贝雌核发育二倍体早期胚胎。以雌核发育担轮幼虫为材料,滴片法制备染色体并采用计数法统计倍性,分析不同6-DMAP 浓度、诱导时机和诱导持续时间对雌核发育二倍体诱导率的影响,并统计早期胚胎畸形率。结果表明,不同6-DMAP 浓度、诱导时机和诱导持续时间对异源精子诱导栉孔扇贝雌核发育二倍体的诱导率均有显著影响;早期胚胎畸形率与二倍体的诱导率呈负相关, y = 46.632 － 0.891 x (r = - 0.813 , P < 0.01) 。6-DMAP 诱导栉孔扇贝雌核发育二倍体的最佳处理条件为:20 %~25 %受精卵排放出第1 极体时,60 μg/ ml 的6-DMAP 持续处理25 min 可得到最高的诱导率为29.5 ±5.36 %。研究结果为6-DMAP 诱导栉孔扇贝雌核发育染色体加倍提供了一定的细胞学依据和技术参数
。
【英文摘要】The eggs of Chlamys farreri were activated by ultraviolet-irradiated heterogenous sperms of Pacific oyster Crassostrea gigas and t he pro-embryos were induced by inhibiting extrusion of t he second polar body from fertilized eggs with 6-DMAP. Those eggs were t reated with different parameters of 6-DMAP which were designed in the met hod of orthogonal experiment design L9 (34) . It was found that the occasion of starting time , t he length of the treatment time and t he concent ration of 6-DMAP were important factor s to affect the derivational rate of diploids. The statistic data of t he t rochop hores ’ chromosomes in t he nine groups was analysed with the software SPSS11.5. Results showed that all the three factors had prominent effect on the derivational rate of diploids ; the relationship between the rate of malformed embryos and the rate of diploids was negative correlation and t he equation was y = 461 632 - 01 891 x (r = -0.813 , P < 0.01) . Based on the relationship between derivational rate of diploids and t he rate of malformed embryos , in t he stated range , it was confirmed that the optimal inducing condition of 6-DMAP for gynogenesis in the C. farreri was that t he eggs were to be t reated with 6-DMAP at the concent ration of 60 μg per ml for 25 minutes when of the fertilized eggs expelling first polar body 20 % to 25 %. In this way , 29.5 ±5.36 % diploidinduction could be got . In this study , the states of poly ploidy yield in the treatment groups were also discussed.
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【题目】两种壳色虾夷扇贝的同工酶分析
【中文关键词】虾夷扇贝,同工酶,多态性,遗传变异,壳色
【英文关键词】Patinopecten yessoensis, Isozyme, Polymorphism, Genetic variability, Shell colors
【中文摘要】采用不连续聚丙烯酰胺凝胶垂直电泳技术对两种壳色虾夷扇贝的闭壳肌进行了同工酶检测分析与比较。8 种同工酶(MDH、ADH、ME、SOD、EST、GDH、SDH 和α-AMY) 共检测出17 个位点,其中白色贝有7 个多态位点,褐色贝有6 个多态位点,多态位点(P0199) 的比例分别为41.18 %和35.29 %,白色贝和褐色贝平均每个位点的等位基因有效数目(Ae) 分别为1.142 1 和1.104 0 ,预期杂合度分别(He) 为0.091 9 和0.067 4 ,实际杂合度(Ho) 分别为0.1275 和0.090 7 ,多态位点的遗传偏离指数表明,白色贝具有更高的遗传变异水平和多样性水平。位点Est-3 可以作为鉴定白色贝和褐色贝的特异性蛋白质分子标记。
【英文摘要】The electrophoretograms of isozymes from adductor muscle of Patinopecten yessoensis were analyzed by vertical polyactylamide gel elect rop horesis. Results showed that there were 17 loci by detecting 8 isozymes (MDH ,ADH ,ME ,SOD ,EST ,GDH ,SDH , α2AMY) in white scallops and brown scallops. Among t he recorded loci ,7 loci (S od-2 , s-M dh-1 , Est-2 ,Est-3 , Sdh-1 , α-A my-2 , α-A my-5) and 6 loci (Sod-2 , s-Mdh-1 , Est-2 , Sdh-1 , α-A my-2 , α-A my-5) were polymorphic in white and brown scallops , and the mean proportion of polymorphic loci (P) was 41.18 % and 35.29 %. The mean effective number of alleles per locus (Ae) was 1. 1421 and 1.1040 , the mean expected heterozygosity per locus (He) was 0.0919 and 0.0674 , and the mean observed heterozygosity (Ho) was 0.1275 and 0.0907. In the mean time , the deviation indexes from Hardy-Weinberg equilibrium (d) of the polymorphic loci were calculated ,both of them showed the absence of heterozygosity. The genetic variability of white scallops was

higher than those of brown scallops , which had a better growth potential during the further selection. We conclude that white scallops have batter potential a for further selection and breeding. At the same time , we found the dissimilarity of activity and polymorphism in Est-3 between white scallops and brown scallops , and it can be used as the genetic marker of variation.
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【题目】栉孔扇贝(♀)×虾夷扇贝(♂)子一代杂种优势的SRAP分析
【中文关键词】栉孔扇贝(Chlamys farreri) ; 虾夷扇贝(Patinopecten yessoensis) ; 杂种优势; SRAP
【英文关键词】Chlamys farreri, Patinopecten yessoensis, heterosis, SRAP
【中文摘要】采用新型的分子标记技术(Sequence-related amplified polymorphism ,简称SRAP) 对栉孔扇贝(Chlamys farreri) (♀) ×虾夷扇贝(Patinopecten yessoensis) (♂) 子一代及其双亲的遗传变异进行分析。从不同的引物组合中筛选出9 对条带清晰、多态性丰富的组合,9 对引物共产生了121 条扩增带,其中多态性条带107条,平均每对引物组合产生11. 89 条多态标记。Shannon 信息指数I 分别为0. 2999 、0. 2189 、0. 3343 ,Neips基因多样性指数h 分别是0. 196 4 、0. 141 1 、0. 218 9 ,栉孔扇贝与杂交后代的遗传距离是0. 107 4 ,虾夷扇贝与杂交后代的遗传距离是0. 228 7 ,聚类分析也显示了这一特点。从变异贡献率来看,3 个群体的总变异中,有37. 31 %的变异来源于群体间,62. 69 %的变异来源于个体间。
【英文摘要】Sequence-related amplified polymorphism(SRAP) markers were used to examine genetic variations of two parent s Chlamys farreri (♀) , Patinopecten yessoensis (♂) and t heir hybrids (F1) . 9 pair s of primer were selected f rom 64 pairs of primer and applied to 3 populations. A total of 121 bands were generated wit h 9 pair s of primers sets , among them 107 were polymorp hic. In average , each primer set detected 11. 89 polymorphic loci. Shannon information indexes were 0.2999 , 0.2189 , 0.3343 and Neips gene diversities were 0.1964 , 0.1411 , 0.2189. The genetic distance between C. f arreri and F1 was 0.1074 , between P. yessoensis and F1 was 0.2287.
【语种】中文
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【题目】栉孔扇贝Fosmid文库的构建及基因组结构特征分析
【中文关键词】栉孔扇贝; Chlamys farreri ; fosmid 文库构建; 序列分析
【英文关键词】Zhikong scallop ; Chlamys farreri ; fosmid library contruction ; sequence analysis
【中文摘要】研究构建第一个栉孔扇贝的fosmid 基因组文库,该文库包含133 851 个克隆,插入片断平均长度为40 kb ,覆盖栉孔扇贝基因组的4. 3 倍。栉孔扇贝DNA 在fosmid 传代中表现得较为稳定,没有发现插入片段的丢失或重排。所有的克隆进行了超级池和二级池的构建,并筛选了2 个基因和7 个微卫星,结果阳性克隆数介于2 到8 之间。由此可见,该文库可以很好的用于目的基因或标记的筛选,将有利于物理作图和基因的图位克隆研究。2 016 个克隆进行双末端测序,获得3 646 条序列。序列总长2 286 986 bp ,大约占栉孔扇贝基因组的1. 84 ‰。共得到2 500 条串连重复序列,其中微卫星序列371 条,小卫星序列1 816 条,卫星序列313 条。共得到317 条散布重复序列,总长97 412 bp ,占测序总长的4. 26 %。查找到的散布重复序列共有4 种类型:DNA 转座子、L TR 反转座子、L INE 反转座子和滚环转座子,其中L INE 反转座子的数目最多。BLAST比对共有1 383 条序列与数据库现有的序列有明显的相似性(E < e - 5) ,占测序总数的37. 93 %。BLASTN 比对有明显相似性的1 036 条序列中,与nr 数据库序列相似的有113 条,与EST 数据库序列相似的有923 条。BLASTX 比对有明显相似性的序列有347 条,占序列总数的9. 52 %。

【英文摘要】Zhikong scallop (Chlamys farreri) is one of the most commercially important bivalves in China ,but study on its genome is underdeveloped. The first Zhikong scallop fosmid library was const ructed in this study. It consist s of 133 851 clones with an average insert size of about 40 kb , amounting to 4.3 genome equivalent s. Fosmid stability assays indicate that Zhikong scallop DNA was stable during propagation in the fosmid system. Library screening with two genes and seven microsatellite markers yielded between 2 and 8 positive clones , and none of those tested was absent f rom the library. The fosmid library will serve as a useful resource for physical mapping and positional cloning , and provide a better understanding of Zhikong scallop genome. In the present study , 2 016 individual clones were sequenced , resulting in 3 646 sequences. A total of 2 286 986 bp of genomic sequences was generated , representing approximately 1. 84 ‰of the Zhikong scallop genome. Using Tandem Repeat s Finder (TRF) software to analyze the sequences , a total of 2 500 tandem repeat s were found , including 371 microsatellites , 1 ,816 minisatellites and 313 satellites , RepeatMasker analysis showed that a total of 317 interspersed repetitive sequences were found , which account for 4. 26 % of the total length. There are 4 types in these sequences : DNA t ransposons , L TR ret rot ransposons , L INE ret rot ransposons and rolling circles. Among them , L INE ret rot ransposons is the most f requent , followed by L TR ret rotransposons , DNA t ransposons and rolling circles. A total of 1 383 sequences were found to significantly hit to sequences in GenBank database using BLASTN and BLASTX(E < e - 5) . BLASTN searches on the nr and EST databases of GenBank and BLASTX searches on the nr database resulted 113 , 923 and 347 significant hit s , respectively.

【语种】中文

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【学科分类】分子生物学

【题目】海湾扇贝壳色与数量性状之间的关系

【中文关键词】海湾扇贝, 壳色, 多态性, 数量性状, 相关性

【英文关键词】Bay scallop, Argopecten irradians irradians, Shell color, Polymorphism, Quantitative trait, Correlativity

【中文摘要】海湾扇贝北部亚种Argopecten irradians irradians 的左右两枚贝壳均具有丰富多彩的颜色,它们不仅能够稳定地遗传, 而且还与生长、存活等数量性状有关。为了查清海湾扇贝壳色与数量性状之间的关系, 2005 年11 月中下旬, 作者对河北、山东、辽宁三省的海湾扇贝养殖群体的壳色种类、分布频率及其数量性状进行了统计、测量和分析。这些养殖群体来自于相同的基础群体, 均是1998—1999 年引种繁殖的后代。三个养殖区都有橙、棕、黑、紫、白等壳色的个体, 表明海湾扇贝的壳色具有多态性, 且不受环境的影响, 橙、棕、黑、紫、白等壳色的分布频率分别为17.8%、48.8%、32.5%、3.8%、1.1%。总重、闭壳肌重、出柱率、壳长、壳高、壳宽等数量性状间存在显著相关性, 相关系数最大值出现在壳长与壳高之间, 其次在全湿重与闭壳肌重之间, 最小值在出柱率与壳高之间;壳长、壳高和壳宽都能显著地影响总重和闭壳肌重。海湾扇贝的壳色与数量性状之间有密切关系, 棕色个体总重最大、紫色个体总是最轻最小。方差分析表明, 壳色(遗传因素)和养殖区(环境因素)均能够单独地对数量性状产生显著的影响, 而且它们的交互作用也是显著的。本研究结果对海湾扇贝遗传育种有重要意义。

【英文摘要】Argopecten irradians irradians ， subspecies of bay scallop, was studied on shell color on both sides. Many varieties in colors are shown, which are not only genetic but also relative to quantitative traits such as growth, and survival, in November 2005 for different hatchery populations cultured at three provinces of Hebei, Shandong, and Liaoning in China. Relationships between shell colors and quantitative traits in the bay scallop, types of shell color and their distribution frequency therefore were quantified in traits including total weight (Wt), abductor muscle weight (Wm), rate of muscle (Rm), shell length (SL), shell height (SH), and shell width (SW). These hatchery populations were originated from the same base population introduced from USA in 1998—1999. Shell colors including orange, brown, black, purple, and white were seen in all hatchery populations at 17.8%, 44.8%, 32.5%, 3.8%, and 1.1% in frequency, respectively, indicating that the shell color is of polymorphism and is not affected by environmental factors. The correlativity was significant for all six traits. The largest coefficient was found between SL and SH, then Wt and Wm, and between Rm and SH. Relationship between shell colors and quantitative traits in the bay scallop are close. For the same quantitative trait, brown scallop was always the largest, whereas purple scallop was always the smallest. Analyses in variance showed that both shell color (genetic factor) and aquaculture location (environmental factor) made significant impacts independently on quantitative traits, and their interaction was also significant. The present results are important for genetic breeding of the bay scallop in author ’ s view.

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【题目】海湾扇贝“中科红”品种与普通品种在不同温度下早期性状的比较
【中文关键词】“中科红”品种; 幼虫; 交配方式; 早期性状; 温度
【英文关键词】Argopecten irradians; “Zhong kehong” strain; larvae; mating type; larval traits ; temperature
【中文摘要】采用自交、杂交和混交等不同的交配方式分别获得海湾扇贝“中科红”品种和普通养殖群体(对照组) 的受精卵和幼虫, 在20℃、23℃和26℃三个温度条件下培养, 比较了两个群体在不同温度下的孵化率、10日龄幼虫存活率、1日龄和10日龄幼虫壳长。实验结果表明:“中科红”海湾扇贝自交系、杂交系和混交系的孵化率均大于对照组。自交系10日龄幼虫存活率显著高于对照组(P< 0. 05) , 而杂交系和混交系的10 日龄幼虫存活率小于对照组, 但差异不显著(P > 0. 05) 。“中科红”海湾扇贝自交系(P< 0. 05)和混交系幼虫的1日龄壳长大于对照组, 杂交系的显著小于对照组(P< 0. 05)。幼虫生长10日后,“中科红”海湾扇贝自交系、杂交系(P < 0. 05)和混交系幼虫壳长均比对照组大, 表现了较强的生长优势。温度对4个性状均有显著影响(P< 0. 05) 。“中科红”海湾扇贝对低温(20℃)和高温(26℃)的耐受性均高于对照组。
【英文摘要】Fertilized eggs and larvae of strain “Zhongkehong bay scallop (Argopecten irradians) and common cultured population (control) were separately produced by self-fertilization, hybridization,and mixed mating. The three types of off spring were hatched and cultured at 20℃, 23℃ and 26℃ respectively. Hatching r ate, ten-day larval survival, larval shell length on day 1 and day 10 were separately compared between two populations. Results showed that the hatching rate of fertilized eggs from “Zhong kehong” was higher than that from the common cultured population. Ten-day survival of self-fertilized larvae from “Zhongkehong” was significantly higher than that of the control (P < 0. 05) , while off spring from hybridization and mixed mating were insignificantly lower (P > 0. 05) . Shell length of self-fertilized larvae (P < 0. 05) and larvae of mixed mating from “Zhong kehong” were greater than their co unterpart s on day 1, but that of the hybrid larvae was significantly smaller than the common cultured population (P < 0. 05) . At age of 10 days, shell length of larvae produced by self-fertilization, hybridizat ion (P < 0. 05) and mixed mating from “Zhong kehong” exceeded that of the controls, indicating the growth advantage of “Zhongkehong” population. Temperature influenced the four larval traits significantly (P< 0. 05) and “Zhongkehong” population was more tolerant to 20℃ and 26℃ than the control.
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【题目】1龄虾夷扇贝形态性状对重量性状的影响效果分析
【中文关键词】虾夷扇贝;形态性状;重量性状;多元回归分析;通径分析
【英文关键词】Patinopecten yessoensis;body shape trait;weight trait;muhiple regression analysis;path analysis
【中文摘要】随机抽取浮筏养殖的97个体形规则的1龄虾夷扇贝Patinopecten yessoensis,测定其壳长(X1)、壳高(X2)、壳宽(X3)、活体重(Y)、软体重(z)和闭壳肌重(W),计算其相关系数,采用通径分析方法计算以贝壳形态性状为自变量对各重量性状作依变量的通径系数、决定系数及相关指数。结果表明:虾夷扇贝壳长、壳宽、壳高与活体总重、软体重和闭壳肌重的相关系数均达到极显著水平(P<0.01);壳长对各重量性状的直接影响最大,是影响重量性状的主要因素;壳高和壳宽与活体重的相关程度较大,但对活体重的直接影响较小,主要通过壳长间接影响,是影响活体重的次要因素,但二者对软体重和闭壳肌重直接影响都很小;决定系数分析结果与通径分析结果有一致的变化趋势。用多元回归分析法建立了壳长、壳宽、壳高对各重量性状的回归方程:Y=-16.4103+3.9683Xl+1.5254X2+2.7990 ,Z=-5.5523+2.0535X ,W=-1.5683+0.5480X 。该回归方程可以为虾夷扇贝遗传育种提供一定的理论依据。

【英文摘要】The shell length(X1),shell height(X2),shell width(X3),and live body weight(Y),body-tissue weight(Z)and adductor muscle weight(W)of 97 one-year old yessoseanop (Patinopecten yessoensis)were measured.and their correlation coeficients was calculated.The first 3 morphometrical traits were used as independent variables,and live body weight,body—tissue weight and adductor muscle weight were used as a dependent variable for path analysis,path coeficients(Pi),determination coeficients(di)and correlation index(Ri2) were calculated. The results showed that 3 correlation coeficients between morphometrical trait and live body weight。body—tissue weight and adductor muscle weight were all very significant difference(P<0.01).Shell length(X1)as a key efective factor had predominant direct effect and determinacy on weight traits.Shell height (X2)and shell width(X3)had slightly direct effect and significant indirect effect through shell height on weight traits,which is the secondary factor.But shell height(X2)and shell width(X3)showed very slightly direct effect on body-tissue weight and adductor muscle weight.It was inferred from the results of high corelation index that the path coeficient analysis revealed the truthful relationship between the independent variables and the dependent variable.Except the insignificant factor,the multiple regression equation obtained to estimate live body weight,body-tissue weight,and adductor muscle weight as one-year old:Y= -16.4103+3.9683X1+1.5254X2+2.7990X3,Z = -5.5523+2.0535 X1,W = -1.5683+0.5480X1.
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【题目】虾夷扇贝面盘幼虫细菌性疾病的病原研究
【中文关键词】虾夷扇贝;病原; 16S rRNA;药敏试验
【英文关键词】Patinopecten yessoensis; pathogen; 16S rRNA; drug sensitivity test
【中文摘要】从发生下沉死亡的虾夷扇贝面盘幼虫中分离到3株细菌X1, X2, X3,经过人工感染试验证实,3株细菌均对虾夷扇贝面盘幼虫具有致病性。应用PCR技术扩增16S rRNA基因的部分序列,并对其序列进行测定,同源性分析结果表明,这3株细菌分别与交替单胞菌属、冰居壶属和假交替单胞菌属的菌株具有较高的相似性,相似性均超过98%。10种抗生素的药敏试验结果表明, 3株细菌对菌必治均敏感。
【英文摘要】This paper reported the study of bacterial pathogeny in D-larva stage of scallop Patinopecten yessoensis Jay. Bacterial strains X1, X2 and X3 isolated from the diseased scallop D-larva stage in an aquarium were proved to be a pathogenic organism by artificial infection experiments. In order to investigate the phylogenetic position of the there pathogens, their 16S rRNA gene sequences were compared with those relatted strains. Molecular phylogenetic dendrogram was constructed based on the genetic distance analysis,which revealed that strains X1, X2 and X3 exhibitted the highest levels of 98% similarity with A lterom onas sp. , Glaciecola sp. , and Pseudoalterom onas sp. . Drugs sensitivity tests showed that the three pathogentic bacteria were sensitive to rocephin.
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【题目】栉孔扇贝♀和长牡蛎♂杂交受精及早期胚胎的细胞学研究
【中文关键词】栉孔扇贝,长牡蛎,远缘杂交,雌核发育
【英文关键词】Chlamys farreri,Crassostrea gigas,Distant hybridization,Gynogenesis
【中文摘要】以栉孔扇贝Chl amys f arreri为母本、长牡蛎Crassostrea gigas为父本进行人工杂交。采用Bouin氏液固定、石蜡切片和苏木精-伊红染色在光镜下对其受精和第1次卵裂过程中核相变化进行观察;运用压片法和热滴片法分别对4~8细胞期和担轮幼虫期胚胎进行染色体制片。结果表明,长牡蛎精子可以进入栉孔扇贝卵子,并激活卵子减数分裂使其释放第1极体(PB1) 和第2极体(PB2) ,能够形成雌、雄原核并融合为合子核,接着受精卵开始第1次卵裂;杂交胚胎发育过程中,囊胚期

很长、胚胎畸形严重,只能发育到担轮幼虫期;杂种胚胎染色体数目变化范围较大,在20~85之间,染色体不能平均分配到两个子细胞中是杂种胚胎死亡的主要原因。杂交胚胎不能存活保证了异源精子诱导栉孔扇贝雌核发育的可靠性。

【英文摘要】Fertilized eggs of hybrid Chlamys farreri (♀) ×Crassost rea gi gas (♂) were fixed in Bouin ' s fixative during fertilization and the first cleavage , before paraffin sections were made and stained by hematoxylineosin. Nuclear changes of these eggs were observed under an optical microscope. Squash met hod and air-dry method were al so used to observe the chromosomes of 4-8 cell stage and t rochop hore stage, respectively. The results showed that sperms of C. gigas could at tach to C. farreri eggs rapidly and be incorporated into it after insemination. The sperm activated the meiosis of C. farreri eggs , induced the fertilized eggs to release PB1 and PB2 , before the male and female pronuclei were formed. At last, the male and female pronuclei fused into zygotonuceus and the first cleavage then began. During the whole development process , the blastula stage was relatively long and the embryo was obviuouly abnormal , which could only reach trochophore stage and died before D-shaped larva stage. The number of chromosomes in the hybrid embryos varied greatly , which was between 20 and 85. The chromosome separated abnormally and could not distribute equally. It s unequal distribution into two daughter cell s was the main reason for the death of the embryo. Mass mortality of the hybrid embryos proved the reliability of gynogenesis of C. farreri induced by heterologous sperm.

【语种】中文

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【题目】异源精子诱导栉孔扇贝雌核发育二倍体的微管动态变化

【中文关键词】栉孔扇贝;异源精子;雌核发育;免疫荧光染色;微管;动态变化
【英文关键词】Chlamys farreri;gynogenesis;heterologous sperm;immunofluorescence staining;microtubule;dynamic status

【中文摘要】采用紫外线遗传灭活的长牡蛎(Crassostrea gigas) 精子激活栉孔扇贝(Chlamys farreri) 卵子,并用6-DMAP诱导染色体加倍的方法,获得第二极体抑制型雌核发育二倍体早期胚胎。多聚甲醛固定、免疫荧光染色后,运用荧光显微镜观察栉孔扇贝正常发育卵子和异源精子诱导的雌核发育卵子,对其受精过程中微管的动态变化过程进行观察和分析。结果表明:(1) 正常发育组受精卵内以微管为基础的纺锤体能够顺利地组装并引导卵细胞进行减数分裂和第一、第二极体的排放,以及雌、雄原核融合和第一次卵裂;(2) 异源精子诱导雌核发育的卵子经6-DMAP处理后,部分微管变得模糊或消失,纺锤体受到破坏导致染色体的分离无法进行,第二极体的形成受到抑制并使雌核染色体二倍化;去除6-DMAP作用后,微管重新组装,雌核分裂重新启动继而进行卵裂;精核保持固浓缩状态或轻微膨胀形成雄性原核,但卵裂后期则以致密的染色质体(DCB)形式存在于分裂沟上或进入一个卵裂球中。结果证实,长牡蛎精子经紫外线遗传灭活后可顺利进入并激活栉孔扇贝成熟卵子但不参与合子核的形成,6-DMAP也可有效抑制第二极体的排放而获得雌核发育二倍体胚胎。本实验结果为研究异源精子诱导栉孔扇贝雌核发育的可行性提供了细胞学依据。

【英文摘要】Artificial diploid gynogenesis techniques in shellfish have developed rapidly in recent years,however,few studies on the dynamic status of microtubule in this field were reported. This study depicted the microtubule status in early developmental stages of normal fertilized diploids and gynogenetic diploids of scallop Chlamys farreri,and,provided cytological bases for cytoengineering breeding and related researches. The meiotic division of the eggs of Chlamys farreri was activated by ultraviolet (UV)-irradiated heterogenous sperm of Pacific oyster Crassostrea gigas and the gynogenetic diploids were induced by blocking extrusion of the second polar body from fertilized eggs with 6-dimethylaminopurine (6-DMAP). The dynamic status of microtubule was studied by direct immunofluorescence with FITC-anti- α -tubulin. The results showed that the spindle assembled periodically towed the chromosomes to accomplish the extrusion of the first and second polar bodies,and the female and male pronuclei fused into zygotonucleus in normal fertilized eggs. However,the behavior of microtubule in eggs of gynogenetic diploids was considerably complicated. The microtubule in 6-DMAP treated eggs was destroyed badly and the spindle became anomalistic shape or disappeared,the microtubule became shorter and unconspicuous. The chromosomes arranged irregularly and couldn ' t move to form the second polar bodies. After relieving the treatment of 6-DMAP,the microtubule reassembled and conduced the diploid female pronuclei ' s movement to activate the first cleavage. In this process,the sperm nucleus of gynogenesis kept dense or expanded again to become a dense chromatin body (DCB) which didn ' t join into the karyokinesis. The results of this study suggested that the ultraviolet (UV)-irradiated sperms of Crassostrea gigas could enter into the eggs of Chlamys farreri and activate the eggs while they did not form the zygocyte. And the 6-DMAP could prohibit the excursion of the second polar body to produce diploids. The feasibility of gynogenesis in Chlamys farreri induced by

heterologous sperm was demonstrated.
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【题目】海湾扇贝正反交两个家系形态学指标比较分析
【中文关键词】海湾扇贝(Argopecten irradians irradians),正反交,形态学指标
【英文关键词】无
【中文摘要】以海湾扇贝(Argopecten irradians irradians)正反交两个F1代家系为材料,研究了壳长、壳宽、壳高、全湿质量、软体部质量和壳质量6个生长指标的分布特点。结果表明,各指标两两之间均显著相关,3个质量指标均完全符合正态分布(P0.05),3个长度指标略偏离正态分布(0.01P0.05)。相对于标准正态分布来讲,各形态学指标较小的个体略多。6个性状指标均呈连续分布状态,符合数量遗传学特点。6个指标在正反交后代中差异显著,但均显著高于自交群体。且在反交群体中各指标离散程度较高,初步说明同一扇贝产生雌雄配子时亲本效应不同。
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【题目】虾夷扇贝5个群体的遗传多样性
【中文关键词】虾夷扇贝,微卫星,遗传多样性
【英文关键词】Patinopecten yessoensis,microsatellites, genetic diversity
【中文摘要】:虾夷扇贝为20世纪80年代初从日本引入我国并逐渐开展养殖的双壳贝类,目前已在我国北方地区大面积养殖。实验采用微卫星分子遗传标记技术对大连獐子岛底播增殖放流群体(CC)、黄海北部海区采集的野生群体(HQ)、日本青森养殖群体(JX)、俄罗斯远东日本海沿岸养殖群体(RX)及大连大长山岛养殖上壳白化群体(ZB)等5个虾夷扇贝群体的遗传多样性进行研究。其中HQ群体为本课题组2005年在黄海北部采集的野生群体,本研究筛选出一个该群体的特异性遗传标记。用8个微卫星位点进行扩增,共获得45个等位基因,每个位点的等位基因数处于3~9之间,大小为100~340bp,平均有效等位基因数为3.1535,基因型数为3~21个,PIC(Polymorphism Information Content)值处于0.0322~0.5944之间。5个群体的平均观测杂合度分别为0.3292、0.3048、0.3167、0.2708、0.3042,平均期望杂合度分别为0.4595、0.4002、0.3838、0.3620、0.3885,群体间的多态性差异不显著。根据群体间遗传相似性系数、遗传距离及UPGMA聚类分析发现,CC和HQ群体亲缘关系最近,JX和RX群体的亲缘关系较近,ZB群体与JX和RX群体的亲缘关系较近。通过Hardy2Weinberg平衡及F2检验发现,5个群体都不同程度的偏离平衡,表明各群体基因频率和基因型频率的稳定性较低,且5个群体均处于不同程度的杂合子缺失状态,群体间的遗传分化程度较高,但遗传变异主要来自群体内的个体间。
【英文摘要】The Japanese scallop (Patinopecten yesoensis) was introduced from Japan to Dalian in the 1980ps. It has been cultured on large scale in this area. In this study genetic diversity of 5 cultured and natural populations of Japanese scallop were investigated by microsatellites. The 5 populations were the population in Zhangzidao island (CC), the natural population in north area of the Yellow Sea (HQ), Japanese cultured population (JX), Russian population (RX) and albino population collected in Dachangshan island (ZB). HQ is a natural population which has been collected in north area of Yellow Sea in 2005. A specific genetic markerwas found in this population. Thirty individuals from each population were analyzed. Amp lificationswere performed in a PCR reactorwith 8 microsatellite loci, tested by agarose gel eletrophoresis and analyzed by gel analysis software. In this study 45 alleleswere obtained. The number of alleles of each locus ranged from 3 to 9, and allele size ranged from 100 to 340bp. The mean number of effective alleles (ae)

was 3. 1535 and the number of genotypes ranged from 3 to 21 in each locus. PIC (Polymorphism Information Content) per locus ranged from 0. 0322 to 015944. The average observed heterozygosity (Ho) for the five populations was 0. 3292, 0. 3048, 0. 3167, 0. 2708 and 013042, respectively. The average expected heterozygosity (He) for the 5 populations was 0. 4595, 0. 4002, 0. 3838, 013620 and 0. 3885, respectively. The difference in genetic diversity among the 5 populations is not significant. According to their genetic similarity (I) and genetic distance (D) , we found that the genetic distance between CC and HQ was the least, followed by that of JX and RX. The distance between ZB to JX and RX were both closer than those of CC and HQ. The P value test of Hardy2Weinberg equilibrium showed that the populations departed from Hardy2Weinberg equilibrium in some loci. All 5 populations showed the absence of heterozygosity. The results of the F2test suggested high genetic differentiations among the 5 populations, and mainly due to individual difference.

【语种】中文
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【中文关键词】虾夷扇贝,繁殖期,幼虫分布,采苗技术
【英文关键词】Patinopecten yessoensis, Spawning period, Larvae distribution, Spat collection
【中文摘要】在调查了2005、2006年黄海北部大连海域虾夷扇贝的繁殖期、浮游幼虫的时空分布的基础上, 对虾夷扇贝海区天然采苗进行了研究。结果表2005、2006年该区域的樟子岛海域、大长山岛海域、广鹿岛海域养殖的虾夷扇贝的繁殖期在4月初至5月上旬, 盛期在4月15-25日。4月上旬至6月中旬, 在此区域均可发现大量的虾夷扇贝浮游面盘幼虫, 不同区域浮游幼虫密度变化很大。5月底至6月初是面盘幼虫集中的附着变态时期, 在海区投放附着袋可进行虾夷扇贝天然苗的采集。从各海区虾夷扇贝浮游幼虫的施网调查和采苗结果看, 在虾夷扇贝主要养殖区璋子岛、大长山岛海域和广鹿岛海域, 浮游幼虫在浮游的初始阶段能够形成较高的密度, 但在附着阶段密度极低, 不能采集到大量苗种, 但在远离灯夷扇贝养殖区的大李家湾和凌水湾, 浮游幼虫的出现比养殖区晚, 在幼虫附着期能达到较高密度, 能够采集到大量天然苗种。2005年在凌水湾的采苗数量达526±131个/袋(壳长0.6-1mm), 2006年在大李家湾的采苗数量达673±200个/袋(壳长0.6-1mm)。
【英文摘要】The technique for natural spat collection of introduced scallop Patinopecten yessoensis in the field was reported, based on assessments of spawning period and temporal-spatial distributions of larvae in Northern Yellow Sea in 2005 and 2006. Spawning period of the scallops started in early April and ended in early May around Zhangzi Island, Da Changshan Island and Guanglu Island, and peaked during April 15-25. From early April to mid June, pelagic larvae were found in these areas. Larvae densities varied greatly with locations. Late May and early June were the primary periods for settlement of scallops, when settlement mesh bags should be put out to sea for spat collection. Survey by dragnet sampling and seed collection showed that higher densities of early stage larvae appeared around the three islands, although the biomass of eyespot larvae was too low to support a viable spat collection. Far from the scallop cultivation areas, the pelagic larvae appeared later in the Bays of Lingshui and Da Lijia, where the peak density of eyespot larvae and spat settlement also occurred. In 2005, the highest density of spat collection was 526±131 ind./bag(shell length 0.6-1mm), found in Lingshui Bay; while in 2006, the highest density was 673±200 ind. /bag(shell length 0.6-1mm), found in Da Lijia Bay.
【语种】中文
【第一作者】常亚青
【通讯作者】常亚青
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【引文索引号】无
【学科分类】分子生物学

【题目】
Crosses between bay scallop Argopecten irradians subspecies and heterosis for yield traits at harvest

【中文关键词】bay scallop,heterosis,hybrid gain,subspecies,Argopecten irradians,shell colour,bay scallop,heterosis,hybrid gain,subspecies,Argopecten irradians,shell colour

【英文关键词】bay scallop,heterosis,hybrid gain,subspecies,Argopecten irradians,shell colour,bay scallop,heterosis,hybrid gain,subspecies,Argopecten irradians,shell colour

【中文摘要】In order to improve the yield of bay scallop Argopecten irradians by exploiting geographic subspecies heterosis, crosses between and within two subspecies, the northern A. i. irradians (Lamarck) and the southern A. i. concentricus (Say), were created and the offspring were cultured under the same environmental conditions. The two parental populations were collected from Bohai Bay in northern China and Beibu Bay in southern China, which were distinct in particular shell colours. The results indicated that the shell colour of bay scallop was inheritable and could be used as a morphological mark to distinguish hybrid and purebred individuals. At harvest, hybrid offspring always produced a significantly higher yield than purebred offspring. Positive heterosis was achieved for shell length, shell height, shell width, total weight and adductor weight, which was 5.02, 5.22, 3.88, 7.53 and 9.47 respectively. Hybrid gain was 10.86% for shell length, 10.48% for shell height, 9.77% for shell width, 34.90% for total weight and 41.69% for adductor weight, respectively, and all were significantly >5%. The present study reveals that it is effective for improving yield by hybridization between different geographic subspecies in the bay scallop.

【英文摘要】In order to improve the yield of bay scallop Argopecten irradians by exploiting geographic subspecies heterosis, crosses between and within two subspecies, the northern A. i. irradians (Lamarck) and the southern A. i. concentricus (Say), were created and the offspring were cultured under the same environmental conditions. The two parental populations were collected from Bohai Bay in northern China and Beibu Bay in southern China, which were distinct in particular shell colours. The results indicated that the shell colour of bay scallop was inheritable and could be used as a morphological mark to distinguish hybrid and purebred individuals. At harvest, hybrid offspring always produced a significantly higher yield than purebred offspring. Positive heterosis was achieved for shell length, shell height, shell width, total weight and adductor weight, which was 5.02, 5.22, 3.88, 7.53 and 9.47 respectively. Hybrid gain was 10.86% for shell length, 10.48% for shell height, 9.77% for shell width, 34.90% for total weight and 41.69% for adductor weight, respectively, and all were significantly >5%. The present study reveals that it is effective for improving yield by hybridization between different geographic subspecies in the bay scallop.

【语种】英文

【第一作者】Huaiping Zheng

【通讯作者】Guofan Zhang

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【引文索引号】1.3652109201e+016

【学科分类】分子生物学

【题目】扇贝精子与卵子的生物学特性

【中文关键词】扇贝,精子,卵子,卵水,顶体反应,皮层反应

【英文关键词】scallop, sperm, egg, egg water, acrosome reaction, cortical reaction

【中文摘要】采用扫描电子显微镜和普通光学显微镜观察方法,结合全光谱扫描分析方法,对栉孔扇贝和虾夷扇贝的精子及卵子的受精生物学特性进行了详细的观察,包括精卵产出后形态学变化、卵水的特性、精子顶体反应、卵子皮层反应以及精子分级分离组分对卵子的作用5个方面。结果表明,这两种扇贝精卵生物学特性没有本质的区别,扇贝精子排入海水中10min以内,外形没有太大的变化,但30min以后约有1/4的精子出现头部膨大变成圆球形的现象,受精能力明显下降;扇贝卵子产入海水中1h以内受精能力没有变化,但2h以后,约1/3的卵子出现卵裂现象,未见极体的排放,且卵裂多停止在2细胞期,少数达到4细胞期,基本属于均等卵裂,并失去受精能力;滴入卵水中的精子极易发生自溶解体,未解体的精子发生凝集,10min之后卵水中基本检测不到完整的精子,卵水和钙离子载体A23187均能诱导精子发生顶体反应;精子分级分离组分分别为精浆、精子头部和精子尾部,这三部分除了少数精子头部能够附着在卵子表面外,其他都不具备激活卵子的作用。对扇贝精子和卵子的生物学特性的研究将为解释不同种扇贝的精卵相互识别并受精的现象提供基础资料。

【英文摘要】The fertilization biology characteristics of eggs and sperms in two scallop species,Patinopecten yessoensis and Chlamys farreri,including m0rphological changes of gametes after release,egg water characteristics,sperm acrosome reaction,egg cortical reaction,and the effect of the sperm fractional separation components on the eggs,were observed using electronic microscopy,optical microscopy,and spectrum scanning analysis and insemination.The results showed that there were no significant difference in biological characteristics between P. yessoensis and C.farreri.No obvious appearance changes in the scallop sperms within 10min after release in the seawater.However,30 minutes later,25% of the sperms became head-enlarged to near spherical and the fertilization ability was

weakened.While the fertilization ability of the scallop eggs did not change within 1 hour after release in the seawater,and about 33% of the eggs became cleaved but without appearance of polar body in two hours. Most egg cleavage were equal cleavage terminated at the 2-cell stage and some at the 4-cell stage, and the fertilization ability of the eggs at this phase were lost.Most sperms dropped into the egg water were autolyzed,and other sperm agglutinated.No intact sperm individual was seen after being transferred into the egg water for 10 minutes.The sperm acrosome reaction was induced by the egg water or calcium ionophone A23187.Although a few sperm heads attached to the surface of the eggs,the components of sperm including seminal plasma,sperm head,and sperm tail,couldnot activate the eggs. This research on biological characteristics of eggs and sperms in scallop are expected to provide basic data for understanding why sperm and eggs from different species of scallops could recognize each other and fertilize.

【语种】中文

【第一作者】周丽青

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【学科分类】分子生物学

【题目】不同壳色虾夷扇贝家系F1代幼虫生长及遗传结构的比较分析

【中文关键词】虾夷扇贝;F1幼虫;生长性状;壳色;遗传结构;家系;遗传距离;成活率;孵化率;遗传差异

【英文关键词】Patinopecten yessoensis;F1 larva;growth;shell color;genetic diversity

【中文摘要】虾夷扇贝(Patinopecten yessoensis)群体存在2种壳色个体,简称白贝和褐贝。本研究通过近交和杂交方法建立了褐贝(♀)×褐贝(♂)、白贝(♀)×褐贝(♂)、褐贝(♀)×白贝(♂)和白贝(♀)×白贝(♂)4个家系,分别用1F、2F、3F和4F代表,每家系设3个平行,共12个家系。对各家系的卵径、幼虫的孵化率、成活率和生长性状等生物学参数进行了比较,建立了各个家系幼虫壳长、壳高的生长方程,并利用微卫星标记比较4个家系的遗传差异。结果表明,不同壳色家系间卵径大小、幼虫的孵化率、成活率差异不显著(P>0.05),家系4F幼虫期壳长和壳高日生长速率均高于1F、2F和3F,且差异显著(P<0.05),家系2F、3F和4F间幼虫期壳长和壳高日增长速率差异不显著(P>0.05)。家系1F的遗传多样性最低;遗传相似性系数(0.6351~0.9772)和遗传距离(0.0231~0.4540)分析表明,1F和4F之间遗传相似性(0.6351)最低,遗传距离(0.4540)最远;不同家系间存在着遗传差异,1F和4F差异最大。本研究结果初步说明虾夷扇贝群体内白贝个体和褐贝个体之间产生了遗传分化,这种遗传结构的差异造成了不同壳色家系在幼虫阶段生长性状上的不同。

【英文摘要】Fourdiferent colorlines ofPatinopectenyessoensisincluding 1F(brown*brown),2F(white*brown),3F(brown*white)and 4F(white*white)were established by inbreeding and crossing.Each line had three parallel groups.Biology parameters of egg size,hatching rate,juvenile ’s growth rate and survival rate were compared among different shell color lines.The four lines ’genetic diversity was mutually compared with microsatellite markers.Linear regression equations between shell length and culture time,and between shell height and culture time for all lines were obtained.Comparation of egg diameter,hatching rate of larvae and larval survival rate among1F, 2F, 3F and 4F lines showed no significant differences(P>0.05).But daily growth rates of shell length for 1F, 2F, 3F and 4F were significantly different(P<0.05),which were 4.349 um/d, 4.495 um/d,4.623 um/d and 6.365 um/d, respectively.Shell height daily growth rates for 1 F, 2F, 3F and 4F were also significantly different from each other(P<0.05), which were 4.464 um/d,4.644 um/d, 4.691 um/d and 6.365 um/d, respectively. The growth rates of larva ’s shell length and shell height of 4F were significantly higher than those of I F, 2F, 3F(P<0.05). The important genetic parameters of all lines such as allele number,expected heterozygosity and observed heterozygosity were analyzed by SSR.The results showed that 1 F had the lowest genetic diversity.In addition,Nei ’s genetic identity(0.6351-0.9772)and genetic distance(0.0231-0.4540) indicated that genetic identity between 1 F and 4F (0.6351)was the lowest and genetic distance between them was the farthest(0.454 0). The present results indicated genetic diferentiation exists between white and brown individuals within Patinopecten yessoensis populations, which caused different larval growth rates among four kinds of shell color lines of Patinopecten yessoensis.The present studyprovides basic data for selective breeding of different shell color Japanese scallop.

【语种】中文

【第一作者】程鹏

【通讯作者】杨爱国

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【学科分类】分子生物学

【题目】Study on the potential of suspended longline mariculture of scallop Chlamys farreri in offshore area
【中文关键词】scallop Chlamys farreri,suspended longline mariculture,offshore,Sungo Bay
【英文关键词】scallop Chlamys farreri,suspended longline mariculture,offshore,Sungo Bay
【中文摘要】The growth and survival of the scallop Chlamys farreri exposed to different initial densities were evaluated in culture systems from inshore and offshore areas of Sungo Bay, China, from May 2007 to March 2009. Water quality data (e.g. temperature, salinity, current speed, chlorophyll a and total particulate material) were measured concurrently. The C. farreri reached the market size after 10 months of cultivation. Average survival rates for the same initial densities were lower in the inshore area than those in the offshore area. Survival rates also were inversely proportional to the initial densities. Scallops in offshore area with initial densities of 20 and 30 individuals per disc resulted in significantly greater shell heights, soft tissue weights and muscle weight compared with the other experimental groups. Tissue weight increased rapidly from May to September. However, scallops in offshore area had a second growth peak during October to November. Scallops in the offshore area had higher growth and survival rates, which may be attributed to high water current speed resulting in increased food supplies. Results indicate that the scallop C. farreri has an aquaculture potential in offshore cultivation systems.
【英文摘要】The growth and survival of the scallop Chlamys farreri exposed to different initial densities were evaluated in culture systems from inshore and offshore areas of Sungo Bay, China, from May 2007 to March 2008. Water quality data (e.g. temperature, salinity, current speed, chlorophyll a and total particulate material) were measured concurrently. The C. farreri reached the market size after 10 months of cultivation. Average survival rates for the same initial densities were lower in the inshore area than those in the offshore area. Survival rates also were inversely proportional to the initial densities. Scallops in offshore area with initial densities of 20 and 30 individuals per disc resulted in significantly greater shell heights, soft tissue weights and muscle weight compared with the other experimental groups. Tissue weight increased rapidly from May to September. However, scallops in offshore area had a second growth peak during October to November. Scallops in the offshore area had higher growth and survival rates, which may be attributed to high water current speed resulting in increased food supplies. Results indicate that the scallop C. farreri has an aquaculture potential in offshore cultivation systems.
【语种】英文
【第一作者】Jihong Zhang
【通讯作者】Jihong Zhang
【期刊名称、卷期、页码】Aquaculture Research,2011,42(11):1664-1675
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【学科分类】分子生物学

【题目】Molecular characterization and expression analysis of chitinase (Fcchi-3) from Chinese shrimp, Fenneropenaeus chinensi
【中文关键词】中国明对虾 几丁质酶 重组表达
【英文关键词】Fenneropenaeus chinensis; Chitinase; Recombinant expression; LC-ESI-MS
【中文摘要】中国明对虾几丁质酶基因克隆、重组表达
【英文摘要】Complementary DNA (cDNA) and genomic DNA, including flanking regions of the chitinase gene (Fcchi-3) of Fenneropenaeus chinensis, were cloned and sequenced. Fcchi-3 was found to have 92.0 and 91.4% identity at the cDNA level to that of Litopenaeus vannamei and Marsupenaeus japonicus, respectively. The predicted amino acid sequence had an overall similarity with a comparable region of L. vannamei (96.8%) and M. japonicus (93.4%). Based on the cDNA sequence, the genomic structure of the gene was characterized. Sequence analysis revealed that the Fcchi-3 gene was composed of seven exons with 411, 252, 186, 132, 171, 117 and 135 bp and six introns with 232, 196, 121, 90, 159 and 157 bp. Analysis by RT-PCR revealed that Fcchi-3 was a hepatopancreas specific gene. Semi-quantitative RT-PCR analysis revealed that Fcchi-3 transcript was down-regulated significantly in response to the challenge of WSSV at 5 h post-injection and then came back to normal level at 37 h. A fusion protein containing Fcchi-3 was produced and the purified recombinant protein exhibited similar biological function. The result of identification through LC-ESI-MS showed that three peptide fragments (-MAADPVLR-, -ATIDPAYNVPELSK- and -AILAVGGWNEGSPK-) of the recombinant protein were identical

to the corresponding sequence of L. vannamei chitinase-3. The recombinant Fcchi-3 could degrade the colloid chitin confirming that the recombinant protein is actually the chitinase.
【语种】英文
【第一作者】张继泉
【通讯作者】相建海
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【引文索引号】2.7516170003e+011
【学科分类】水产养殖学

【题目】Molecular characterization and effect of RNA interference of retinoid X receptor (RXR)
【中文关键词】中国明对虾 蜕皮 Retinoid X receptor
【英文关键词】Retinoid X receptor; Molting; Fenneropenaeus chinensis
【中文摘要】中国明对虾Retinoid X receptor的分子特征以及与几丁质合成的关系
【英文摘要】Retinoid X receptor (RXR)/ultraspiracle (USP) is the heterodimeric partner of ecdysteroid receptor and is required for the molting process of arthropods. To better understand the molecular aspects governing the process of molting in shrimp, the full-length cDNA of two RXRs, named as FcRXR-1 and FcRXR-2 were obtained from Chinese shrimp Fenneropenaeus chinensis which were of 1715 and 1700 bp long, revealed a 1315 and 1300 bp open reading frame (ORF) respectively. Quantitative Real time PCR analysis showed a marked tissue-specific difference in the expression of FcRXR transcript, which revealed that the expression of FcRXR Could be regulated in a tissue-specific manner. Moreover, high expression of FcRXR mRNAs was observed in late pre-molt period (D3) and post molt stages (A-B) of shrimp. Among the two isoforms, FcRXR-2 appeared in a considerably high level in all the stages compared to the FcRXR-1. In addition, we examined the temporal expression of two chitinase genes: FcChitinase (FcChi) and FcChitinase-1 (FcChi-1) during the molt cycle of F chinensis. Both the FcChi and FcChi-1 transcripts were detected in all stages of molting, although considerable fluctuations observed through the molt cycle. Injection of double stranded RXR (dsRXR) into juvenile shrimp resulted in a maximum silencing effect at 48 h post injection. We analyzed the expression levels of FcChi, FcChi-1 and the ecdysone inducible gene E75 (FcE75) in samples of dsRXR injected shrimp. Significant reduction in levels of both FcE75, FcChi and FcChi-1 transcripts Occurred in the silenced shrimp. This correlation suggested that RXR might involve in the downstream regulation of E75 and chitinase gene transcription in the ecdysone signaling pathway of decapod crustaceans.
【语种】英文
【第一作者】Priya, TAJ
【通讯作者】相建海
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【学科分类】水产养殖学

【题目】Molecular characterization of an ecdysone inducible gene E75 of Chinese shrimp Fenneropenaeus chinensis and elucidation of its role in molting by RNA interference
【中文关键词】E75; 蜕皮 中国明对虾 RNAi
【英文关键词】E75; Molting; Fenneropenaeus chinensis; RNAi
【中文摘要】中国明对虾 E75 与蜕皮的关系
【英文摘要】Ecdysone inducible gene. E75 is a primary target of ecdysone receptor (EcR). and is found to play a critical role in the molting process of arthropods In this study, a cDNA encoding the E75 of Chinese shrimp Fenneropenaeus chinensis (FcE75) was cloned using RT-PCR and RACE techniques FcE75 cDNA was 3611 bp in length with an ORF of 2394 bp. The deduced amino acid sequence of FcE75 had the highest sequence identity to E75 from a land crab Gecarcinus lateral's and E75 of the shrimp Metapenaeus crisis Quantitative real-time PCR revealed a prominently high expression of FcE75 mRNA in the whole body RNA extract of late premolt period (D3) juvenile shrimp. The role of E75 in the process of shrimp molting was investigated using the RNA interference technique Long double-stranded RNA corresponding to the FcE75 (dsE75) efficiently silenced the FcE75 transcript levels in juvenile F.

chinensis. Further, injection with dsE75 completely arrested the molting process in experimental shrimp which eventually caused death Setogenic analysis of the uropods from molt-arrested shrimp, showed defective epidermal retraction, poor development of setae and new cuticle. These results indicate that E75 might be related to the molting process and is essential for proper molting and survival of shrimp This is the first report demonstrating the use of double stranded RNA to elucidate the possible role of E75 in the molting of decapod crustaceans

【语种】英文
【第一作者】Priya, TAJ
【通讯作者】相建海
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【学科分类】水产养殖学

【题目】日本囊对虾Kunitz型蛋白酶抑制剂在毕赤酵母中的表达纯化及活性研究
【中文关键词】日本囊对虾; Kunitz型蛋白酶抑制剂; 毕赤酵母; 胰蛋白酶
【英文关键词】Marsupenaeus japonicus; Kunitz-type protease inhibitor; Pichia pastoris; trypsin
【中文摘要】SKPI(shrimp Kunitz-type protease inhibitor)是日本囊对虾(Marsupenaeus japonicus)体内的一个小分子多肽,含有一个Kunitz型结构域,属于丝氨酸蛋白酶抑制剂。目前已知丝氨酸蛋白酶抑制剂在节肢动物免疫系统中起着非常重要的作用,为了了解SKPI在对虾天然免疫系统中的作用,首先对其进行了重组表达。从日本囊对虾肝胰腺中扩增skpi的cDNA片段,插入改造后的pPIC9K酵母表达载体,获得的重组质粒转化至毕赤酵母GS115进行表达。由于改造的pPIC9K载体加入了6-His标签,因此利用Ni Sepharose High Performance对SKPI进行了高效纯化。初步的活性研究表明,重组表达的SKPI能特异性地抑制胰蛋白酶的水解活性。
【英文摘要】SKPI(shrimp Kunitz-type protease inhibitor) from Marsupenaeus japonicus is a member of serine protease inhibitors which play an important role in the arthropod immunity.To fully understand its function in the innate immunity of shrimp,the skpi gene was cloned into a modified pPIC9K vector with a 6-His tag and expressed by Pichia pastoris GS115.The secretory SKPI was purified from the medium with high purity by using Ni Sepharose High Performance.This results also indicated that the purified SKPI could inhibit the activity of trypsin specifically
【语种】中文
【第一作者】陈丹丹
【通讯作者】陈丹丹
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【学科分类】水产养殖学

【题目】Identification of the immediate-early genes of white spot syndrome virus
【中文关键词】WSSV; IE genes; 对虾
【英文关键词】WSSV; IE genes; Cycloheximide; Crayfish; Primary Culture
【中文摘要】对虾白斑病毒早期反应基因的鉴定
【英文摘要】During viral infection, viral immediate-early (IE) genes encode regulatory proteins critical for the viral life cycle. Here we screened white spot syndrome virus (WSSV) IE genes with cycloheximide (CHX)-treated primary culture of crayfish hemocyte and a WSSV genome tiling microarray. Sixteen ORFs, including a known WSSV IE gene (ie1/wsv069), were identified and confirmed by RT-PCR and time course studies. The 16 identified IE proteins contain four proteins (WSV051. WSV069, WSV100, WSV079) with transcription activity, one (WSV083) with Ser/Thr kinase domain and one (WSV249) previously described to function as an ubiquitin E3 ligase. Furthermore, most of the identified WSSV IE genes cluster in a 14 kb genomic region (WSSV China isolate: 36,052 to 50,300 bp). This type of arrangement may facilitate the coordinate control and rapid expression of IE genes.
【语种】英文

【第一作者】李钫
【通讯作者】李钫
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【学科分类】水产养殖学

【题目】黑鲷CXC趋化性因子的体外表达及生物学活性
【中文关键词】黑鲷(Acanthopagrus schlegeli); ELR+CXC 趋化因子; 重组表达; 生物活性
【英文关键词】black bream(Acanthopagrus schlegeli); ELR~+CXC chemokines; recombination expression; biological activity
【中文摘要】采用 DNA 体外重组技术,将一个黑鲷 CXC 趋化因子基因亚克隆到 pQE30表达载体并转化到大肠杆菌(M15)中诱导表达后,利用 pn 递降的缓冲液从金属亲和柱洗脱含6xHis 标签蛋白的方法得以纯化,纯化产物的分子量约为8kDa,表达量约占蛋白总量的25%,以6xHis 单抗为一抗,采用 Western-blotting 方法鉴定获得的蛋白为目的蛋白。对表达产物进行生物活性鉴定表明,该蛋白具有显著的嗜中性粒细胞和巨噬细胞的趋化活性(P<0.01,P<0.05),它对嗜中性粒细胞和头肾巨噬细胞的趋化能力呈剂量依赖性,且对嗜中性粒细胞的趋化能力大于对头肾巨噬细胞的作用,还能诱导改变嗜中性粒细胞和巨噬细胞对细菌的吞噬活性,但对嗜中性粒细胞吞噬能力的改变小于巨噬细胞。该趋化性因子在结构和功能上属不完全 ELR+CXC 型趋化因子,兼具 ELR~+CXC 和 ELR~-CXC 趋化因子的活性,是一种不成熟 ELR+CXC 型趋化因子。
【英文摘要】With the method of DNA recombination in vitro,a black sea bream CXC (BSCXC) chemokine mature peptide coding sequence was sub cloned into expression vector pQE30 and expressed in E.Coli M15.About 8kDa expressed protein was purified by Ni-NTA chromatographic technology and identified by Western blotting using 6xHis tag antibodies.The bioactivity assay showed that the expressed protein had significantly chemotactic activities towards both leucocytes and macrophages in a dose dependent manner (P<0.01,P<0.05),and the BSCXC had stronger chemotaxis effects to leucocytes than that to macrophages.Furthermore,the BSCXC can significantly enhance the phagocytic activity of macrophages.The results indicate that the BSCXC is an incomplete ELR~+ CXC chemokine for it is structurally and func- tionally incomplete,and possesses ELR~+ CXC and ELR~- CXC chemokine activities.
【语种】中文
【第一作者】张勇
【通讯作者】蔡中华
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【学科分类】水产养殖学

【题目】Functional characterization of the ELR motif in piscine ELR+CXC like chemokine
【中文关键词】ELR+CXC 趋化因子; 重组表达; 生物活性
【英文关键词】ELR+CXC-like chemokine; Recombinant; Mutant; ELR motif; Chemotaxis
【中文摘要】ELR+CXC 趋化因子的重组表达和生物活性
【英文摘要】To elucidate the functional role of piscine incomplete ELR motif, the recombinant CXC and its mutants (mELR and mLoop) were produced in Escherichia coli M15 based on the predicted mature peptide coding sequence of the black sea bream CXC (BS CXC) chemokine. Assays showed that the BS rCXC proteins displayed strong ability to induce fish blood neutrophils and head kidney (HK) macrophage migration in a dose-independent manner (10 to 200 ng), both in black sea bream and common carp. Although the ELR motif and the N-terminal loop of ELR+CXC chemokines are essential for chemotactic activity and receptor binding in mammals, the mELR and mLoop mutants showed no significant difference in their induction of chemotaxis of fish blood neutrophils compared with the full-length rCXC at the same dose. Human recombinant IL-8 (hrIL-8) can clearly induce piscine blood neutrophil migration and has no effect on macrophages, whereas the BS rCXC cannot induce chemotaxis in higher vertebrates, such as rat blood neutrophils or macrophages, even if the incomplete ELR motif in rCXC was mutated to ELR. The BS CXC and its mutants can promote the phagocytosis ability of piscine blood neutrophils and HK macrophages both in black sea bream and common carp, but have no effect on rat neutrophils or macrophages. Results showed that the piscine ELR+CXC-like chemokine represents an ancient version of a CXC chemokine; the ELR motif still does not show the higher specific polarization of function as found in mammalian.

【语种】英文
【第一作者】蔡中华
【通讯作者】蔡中华
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【学科分类】水产养殖学

【题目】Preparation and PEGylation of exendin-4 peptide secreted from yeast Pichia pastoris
【中文关键词】Exendin-4; Pichia pastoris; PEGylation; Bioactivity; Histological
【英文关键词】Exendin-4; Pichia pastoris; PEGylation; Bioactivity; Histological
【中文摘要】Exendin-4; Pichia pastoris; PEGylation; Bioactivity; Histological
【英文摘要】Exendin-4, a peptide analogue of glucagon-like peptide (GLP-1), has been developed for treatment of type 2 diabetes. Herein, the secretive exendin-4 peptide, expressed by methanol induction in Pichia pastoris, was purified to near homogeneity by Ni-NTA agarose chromatography. 103.6 mg of protein was obtained from 1 L of the supernatant and its purity was 96.1%. Subsequently, the PEGylated exendin-4 was prepared. The bioactivity of exendin-4 was determined by examining the glucose-lowering and insulin-releasing ability in plasma. Then, a safety evaluation was performed by histological examination of the main organs (liver, kidney and pancreas). PEGylated exendin-4 displayed glucose-lowering and insulin-stimulating action in vivo without obvious damage to the above organs. The results suggest that the P. pastoris expression could be used to produce large quantities of exendin-4, and PEGylation is a useful tool to maintain and enhance bioactivity of the peptide.
【语种】英文
【第一作者】Zhou jin
【通讯作者】蔡中华
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【学科分类】水产养殖学

【题目】用于养殖环境调控的微生物制剂评价方法的研究
【中文关键词】微生物制剂; 水质污染降解; 评价方法
【英文关键词】microbial preparation; degradation of aquaculture pollution; evaluation method
【中文摘要】为尝试建立对不同微生物制剂产品的客观评价方法体系,选择5种商品化复合微生物制剂,进行了菌数和主要组成种类等测定,并利用天然或人工模拟的养殖污水进行了不同微生物制剂对氨氮、亚硝酸态氮、COD等降解效果的比较,以及微生物制剂活化增效后的效果比较等。结果表明,不同的商业化复合微生物制剂在有益菌含量和水质污染降解效果方面存在较大差异。另外,微生物制剂在海水和淡水中以及是否经过活化,效果也存在较大差异。
【英文摘要】In order to establish an external evaluation system,several kinds of commercial complex microbial preparations were chosen to determine their components and amounts,as well as to compare their degradation effects on ammoniac nitrogen,nitrite nitrogen and COD in natural or artificial aquaculture sewage.The results showed that there were great differences in the amounts of probiotics and degradation effects on water pollution for different preparations.It was also shown that the degradation effects had considerable differences in sea water and fresh water,as well as being activated or not
【语种】中文
【第一作者】王雷
【通讯作者】王雷
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【学科分类】水产养殖学

【题目】Purification and characterization of a natural lectin from the plasma of the shrimp Fenneropenaeus chinensis
【中文关键词】中国明对虾 凝集素 模式识别蛋白
【英文关键词】affinity chromatography; shrimp; lectin; invertebrate; pattern recognition protein
【中文摘要】中国明对虾凝集素的分离纯化和特征
【英文摘要】A natural lectin from the plasma of the shrimp Fenneropenaeus chinensis was purified by singlestep affinity chromatography using fetuin-coupled agarose. The purified plasma lectin showed a strong affinity for human A/B/O erythrocytes (RBC), mouse RBC and chicken RBC. The hemagglutinating (HA) activity of the lectin was dependent on Ca2+ and reversibly sensitive to EDTA. This lectin was named FC-L and its inactive form had a molecular mass estimate of 168 kDa. Fifteen N-terminal amino acid sequences of this protein were determined. We performed HA-inhibition assays with several carbohydrates and glycoproteins. FC-L showed a distinct and unique specificity to N-acetylated sugars, particularly sialic acid and sialoproteins. The FC-L also has binding activity to some Gram-negative bacteria which caused disease in shrimp and fish. The activity of FC-L was inhibited at temperatures greater than 75 degrees C and at a pH less than 7 or greater than 11. These results suggest that FC-L may play a role as pattern recognition proteins in the reorganization and clearance of invaders in shrimp F. chinensis.
【语种】英文
【第一作者】孙杰
【通讯作者】王雷
【期刊名称、卷期、页码】Fish Shellfish Immunol 2008,25:290-297
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【引文索引类型】SCI
【引文索引号】2.5975970001e+011
【学科分类】水产养殖学

【题目】有机碳源对发状念珠藻单体细胞生长和光合作用的影响
【中文关键词】发状念珠藻单体细胞;有机碳源;生长;光合作用
【英文关键词】Nostoc flagelliforme cells; organic carbon sources; growth; photosynthesis
【中文摘要】采用液体悬浮培养方法研究了有机碳源对发状念珠藻(Nostoc flagelliforme)单体细胞生长及光合作用的影响。结果表明发状念珠藻单体细胞具有利用有机碳源进行混合营养生长的能力,葡萄糖和蔗糖对其生长具有明显的促进作用,乳糖、木糖、乙酸钠和甘油也能促进其生长。在BG-11 培养基中添加浓度为3.98 g L－1 葡萄糖,培养7 d,细胞生物量(干重)达到1.77 g L－1,是同等培养条件下光合自养所得干重的4.81 倍。通过测定添加有机碳源初时和生长2 d 后发状念珠藻单体细胞的光合放氧速率的变化情况,发现在培养初时,低光照强度(低于50 μmol m－2s－1)有机碳源不能促进藻细胞的光合作用;在光饱和点(100 μmol m－2s－1)混合营养藻细胞的净光合放氧速率达到192.31 μmolO2 (mgChl) －1 h－1,是光合自养细胞的1.57 倍。进入对数期后,混合营养藻细胞的净光合作用降低,但是呼吸速率达到703.43 μmolO2 (mgChl) －1 h－1,是光合自养细胞的14.27 倍;真正光合作用(净光合作用和呼吸作用之和)提高。
【英文摘要】The effects of organic sources on the growth and photosynthesis of Nostoc flagelliforme cells in liquid suspension culture were studied. The results show that the glucose and sucrose in the medium can promote the growth of N. flagelliforme cells efficiently; in addition, lactose, xylose, acetate and glycerol can also promote the growth of N. flagelliforme cells. It indicates that the N. flagelliforme cells have the ability of utilizing the organic carbon sources to grow mixotrophically. In the BG-11 medium with glucose concentration of 3.98 g L－1 and after 7 d of cultivation, the cell density of N. flagelliforme can reach 1.77 g L－1, which is 4.81 folds of that obtained under autophototrophic condition. Through the determination of the photosynthetic rate variation of N. flagelliforme cells at its beginning and after 2 d cultivation of mixotrophic growth, it was found that, at the initial time after addition of organic carbon sources, the maximum net photosynthetic rate of N.flagelliforme cells is low when the light intensity of illumination is low (lower than 50 μmol m－2 s－1). However, the net photosynthetic rate of N.flagelliforme cells in mixotrophic culture reaches 192.31 μmolO2 (mgChl) －1 h－1 at light saturation point, which is 1.57 folds of that obtained under autophototrophic culture. After 2 d of cultivation, the net photosynthetic rate of N. flagelliforme cells in mixotrophic culture decreases, while their respiration rate increases to 703.43 μmolO2 (mgChl) －1 h－1, which is 14.27 folds of that in autophototrophic culture. Thus, the gross photosynthesis rate (net photosynthetic rate plus respiration rate) of N. flagelliforme cells increases.
【语种】中文

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【学科分类】生物工程

【题目】PCR-DGGE analysis of intestinal bacteria and effect of Bacillus spp. on intestinal microbial diversity in kuruma
【中文关键词】对虾 肠道微生物 PCR-DGGE
【英文关键词】intestinal microbial diversity; PCR-DGGE; Kuruma shrimp
【中文摘要】对虾肠道微生物的PCR-DGGE分析以及芽孢杆菌对其产生的影响
【英文摘要】In this study, the intestinal microbiota of kuruma shrimp (Marsupenaeus japonicus) was examined by molecular analysis of the 16S rDNA to identify the dominant intestinal bacteria and to investigate the effects of Bacillus spp. on intestinal microbial diversity. Samples of the intestines of kuruma shrimp fed normal feed and Bacillus spp. amended feed. PCR and denaturing gradient gel electrophoresis (DGGE) analyses were then performed on DNA extracted directly from the guts. Population fingerprints of the predominant organisms were generated by DGGE analysis of the universal V3 16S rDNA amplicons, and distinct bands in the gels were sequenced. The results suggested that the gut of kuruma shrimp was dominated by Vibrio sp. and uncultured gamma proteobacterium. Overall, the results of this study suggest that PCR-DGGE is a possible method of studying the intestinal microbial diversity of shrimp.
【语种】英文
【第一作者】刘淮德
【通讯作者】王雷
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【引文索引号】2.7929440001e+011
【学科分类】水产养殖学

【题目】中国对虾血蓝蛋白基因cDNA的克隆与序列分析
【中文关键词】中国对虾; 血蓝蛋白; 基因克隆; 序列分析
【英文关键词】Fenneropenaeus chinensis Hemocyanin Gene cloningSequence analysis
【中文摘要】利用3’和5’RACE技术从中国对虾Fenneropenaeus chinensis肝胰腺中克隆了1个血蓝蛋白基因FCHc,FCHc基因cDNA全长为2161bp。其中,开放阅读2 034bp,编码678个氨基酸,预测分子量为77.59 kDa。FCHc序列与凡纳滨对虾Litopenaeus vannamei血蓝蛋白同源性为82%,与日本囊虾Marsupenaeus japonicas同源性为85%。Real-timePCR实验结果表明,FCHc在肝胰腺中的相对表达量最高,在心脏和表皮中几乎不表达。该基因在鳗弧菌和对虾白斑综合征病毒(WSSV)感染后的对虾肝胰腺中的表达量显著增加,并具有不同的时空表达趋势,提示中国对虾FCHc基因在免疫反应中具有重要作用。
【英文摘要】A hemocyanin gene(FCHc) was cloned from hepatopancreas of Chinese shrimp Fenneropenaeus chinensis by Rapid Amplification Complementary DNA Ends(RACE) method.The full length cDNA of FCHc consists of 2 161bp with a 2 034 bp Open Reading Frame(ORF),which encoded 678 amino acids,and the predicted molecular mass was 77.59kDa.It showed 82% and 85% homology with those of Litopenaeus vannamei and Marsupenaeus japonicas.The real-time PCR results showed that the expression level of FCHc in hepatopancreas was the highest among seven studied tissues.Real-time PCR analysis showed that the expression of FCHc was up-regulated distinctly in the hepatopanereas of shrimp when they were challenged by Vibrio anguillarum and white spot syndrome virus(WSSV).FCHc showed different expression profiles in the hepatopancreas during V.anguillarum or WSSV virus infection.The results implied that FCHc might play an important role in shrimp immune system
【语种】中文
【第一作者】孙杰
【通讯作者】王雷
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【学科分类】水产养殖学

【题目】发菜多糖的提取、纯化鉴定及理化特性研究
【中文关键词】发菜多糖,提取,纯化
【英文关键词】无
【中文摘要】对发菜胞外多糖和发菜荚膜多糖分别进行提取研究,获得了2种多糖的理想提取工艺。分别将胞外粗多糖和荚膜粗多糖采用Sevag法脱蛋白,透析去除小分子杂质,DEAE　52柱层析分离纯化后,前者得到1种酸性糖(EPS),后者得到1种中性糖和2种酸性糖(CPSA、CPSB和CPSC),最后通过SephadexG-100柱层析和紫外扫描检测,EPS、CPSA和CPSB均为单一多糖。
【英文摘要】无
【语种】中文
【第一作者】陈雪峰
【通讯作者】贾士儒
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【学科分类】生物工程

【题目】发状念珠藻不同细胞破碎方法的研究
【中文关键词】藻蓝蛋白;细胞破碎;发状念珠藻
【英文关键词】C-phycocyanin; cell disruption; Nostoc flagelliforme
【中文摘要】为了获得野生发状念珠藻和液态培养发状念珠藻细胞破碎和提取藻蓝蛋白的最佳方法,进行了发状念珠藻细胞破碎方法的研究。采用液氮研磨、反复冻融,超声破碎,高压均质和玻璃珠破碎这几种方法对野生和液态培养发状念珠藻进行破碎研究。通过测定破碎率、藻蓝蛋白提取得率和纯度,对几种细胞破碎效果和藻蓝蛋白提取方法进行比较。结果表明,采用高压均质方法能获得最佳的破碎效果,当野生发状念珠藻和液态培养发状念珠藻细胞密度为10 mg/mL 时,破碎率分别达到96.45%97.06%。反复冻融法为提取液态培养发状念珠藻藻蓝蛋白最理想的方法,其藻蓝蛋白的纯度和提取得率分别为0.468 和1.28%;高压均质为提取藻蓝蛋白的最理想方法,其藻蓝蛋白纯度和提取得率分别为0.153 和1.43%。
【英文摘要】In order to get the best method for extraction of C-phycocyanin from Nostoc flagelliforme, the cell disruption of N.flagelliforme were investigated using five methods, including liquid nitrogen grounding, repeated freezing and melting, ultrasonic disruption, high-pressure homogenization, and glass beads-breaking treatment. And the five methods were compared by determination the breakage rate, extraction rate and purity of C-phycocyanin. Results showed that high-pressure homogenization was the most efficient method for cell disruption, with which the breakage rates of wild and liquid-cultured Nostoc flagelliforme reached 96.45% and 97.06%, respectively, when their cell density was 10 mg/mL. And repeated freezing and melting method was the most suitable method for extraction of C-phycocyanin from liquid-cultured Nostoc flagelliforme, with which the extraction rate and purity of C-phycocyanin were 1.28% and 0.468, respectively. For extraction of C-phycocyanin from wild Nostoc flagelliforme, high-pressure homogenization showed to be the best one. Using this method, the extraction rate and purity of C-phycocyanin were 1.43% and 0.153, respectively.
【语种】中文
【第一作者】丁文杰
【通讯作者】贾士儒
【期刊名称、卷期、页码】现代食品科技. 2009, 25(11):1243-1245,1261
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【引文索引号】null
【学科分类】生物工程

【题目】发菜及其提取物清除自由基的作用

【中文关键词】发菜细胞,胞外多糖,细胞提取液,氧自由基,抗氧化
【英文关键词】无
【中文摘要】采用NADH/ PMS 体系和H2O2 / Fe2 + 体系测定野生、自养和混养发菜及其提取物清除超氧阴离子自由基(O2- ·) 和羟自由基(·OH) 的能力。结果显示,在测试浓度范围内, (1) 野生、自养和混养发菜的细胞粉、胞外多糖、细胞提取液、细胞提取液残余物及粗藻蓝蛋白对O2- ·都具有一定的清除能力,其中细胞粉、胞外多糖、和提取液清除O2- ·的作用最为显著; (2) 发菜细胞粉和多糖对 ·OH 没有显著的清除能力,细胞提取液、获得细胞提取液后剩余的细胞粉及粗藻蓝蛋白能够清除 ·OH。发菜不同组分清除自由基的活性使其有望作为天然抗氧化剂和功能性食品得到开发。
【英文摘要】无
【语种】中文
【第一作者】姚瑾
【通讯作者】贾士儒
【期刊名称、卷期、页码】食品与发酵工业, 2009,35(3):45-48
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【学科分类】生物工程

【题目】发状念珠藻多糖和细胞培养液对葡萄糖浓度测定的影响
【中文关键词】发状念珠藻; 发菜多糖; 发酵液; 葡萄糖浓度
【英文关键词】Nostoc flagelliforme; nosoflan; cell cultures; glucose concentration
【中文摘要】采用生物传感仪测定法和DNS法, 对加入发菜多糖和发菜细胞培养发酵液的葡萄糖溶液进行了浓度测定, 研究了多糖和细胞培养液对葡萄糖浓度测定的影响作用。结果表明, 发菜多糖对葡萄糖浓度测定无影响。添加发菜混合营养培养液后测得葡萄糖浓度为标准葡萄糖溶液与发酵液中葡萄糖浓度之和。
【英文摘要】The e ffects of noso flan andNo stoc flagelliform e cell cultures on the determ ination of g lucose concentration were investigated by app ly ing biological sensor and 3, 5-d initrosa licy lic ac idm ethod (DNS). The resu lts show ed that adding nosoflan had no effect on the determ ina tion o f reducing sugar concentration. A fter add ing nostoc f lagelliform e ce ll cu ltures into the standard g lucose so lution, the g ross g luco se concentration m easured by the method of bio log ica l sensor and DNS was the sum o f g lucose in ce ll cu ltures and in standard solu tion.
【语种】中文
【第一作者】许鹏
【通讯作者】贾士儒
【期刊名称、卷期、页码】中国酿造,2009,206(5):144-146
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【引文索引类型】其他
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【学科分类】生物工程

【题目】发菜多糖的红外光谱分析与抗氧化活性的研究
【中文关键词】发菜,胞外多糖,荚膜多糖,抗氧化活性
【英文关键词】无
【中文摘要】对分离纯化的发菜胞外多糖EPS和荚膜多糖CPSA和CPSB纯化物,分别进行红外光谱检测,初步分析了多糖化学结构;通过自由基清除实验对胞外多糖EPS和荚膜多糖CPSB的抗氧化活性也进行了测定,结果表明,发菜胞外多糖EPS与荚膜多糖CPSB对羟自由基清除能力都很强,其中EPS对羟自由基的清除作用更强,EPS与CPSB对超氧阴离子自由基都有明显的清除能力,两者的清除能力基本相同; EPS与CPSB对DPPH的清除能力均较弱。
【英文摘要】无
【语种】中文
【第一作者】陈雪峰
【通讯作者】贾士儒
【期刊名称、卷期、页码】食品与发酵工业. 2009, 35(7): 133-137

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【学科分类】生物工程

【题目】中国明对虾组织蛋白酶L的原核重组表达及其组织分布
【中文关键词】中国明对虾; 组织蛋白酶L; 原核重组表达; 组织分布
【英文关键词】Fenneropenaeus chinensis; cathepsin L; recombinant expression; tissue distribution
【中文摘要】组织蛋白酶L属于半胱氨酸蛋白酶中的木瓜蛋白酶超家族,在哺乳动物中它与抗原提呈、肿瘤入侵和转移、骨质吸收、细胞凋亡等许多生命活动有关。但对其在无脊椎动物中的功能了解的不多。从中国明对虾(Fenneropenaeus chinensis)中克隆得到了组织蛋白酶L基因,为了进一步研究组织蛋白酶L的组织分布及其功能,对该基因进行了重组表达。将中国明对虾组织蛋白酶L基因的酶原片段亚克隆进原核表达载体pET30a中,转化大肠杆菌BL21(DE3),再进行诱导表达,表达产物经SDS-PAGE电泳检测,其分子量在40kD左右,与期望的中国明对虾组织蛋白酶L的分子量一致。表达产物形成包涵体,经过对包涵体变性和复性,并进行His-tag柱亲和纯化,得到了纯化的蛋白。利用重组蛋白制备了的兔抗血清。Western实验表明,组织蛋白酶L在中国明对虾的肝、胃、肠中有表达,而在卵巢中没有表达。
【英文摘要】Cathepsin L,a member of the papain superfamily of cysteine proteases,has been linked to tumor invasion and metastasis,antigen presentation,osteoclastic bone resorption and apoptosis in mammals,but the knowledge of cathepsin L from invertebrates remains underdeveloped.A cDNA of cathepsin L has been cloned from Fenneropenaeus chinensis (FCL).In order to analyze the function of FCL,it was recombinantly expressed in Escherichia coli.The fragment of FCL cDNA was subcloned into pET30a expression vector, and the recombinant plasmid was transformed into E.coli BL21 (DE3) and then induced by isopropylthio-b-D-galactoside(IPTG).SDS-PAGE analysis conf irmed the expression of FCL and the molecular mass was about 40 kDa,which was in accord with the expected.However,the expressed product formed complete inclusion bodies in the cells.After denature with 8 mol/L urea and refolding by dialysis in Tris-HCl buffer, the soluble target protein was obtained,which could be purifi ed by His Bind resin chromatography.The purif ied FCL was used as an antigen to immunize rabbits.After several injections,the polyclonal antiserum against FCL was obtained and used in immunoblotting experiments.Western blot analysis revealed that FCL was distributed in hepatopancreas, stomach and gut, but not in ovary.
【语种】中文
【第一作者】卜兴江
【通讯作者】王金星
【期刊名称、卷期、页码】中国水产科学 2008,15:910-916
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【学科分类】水产养殖学

【题目】不同型式和洗脱剂对离子交换树脂纯化发菜多糖的影响
【中文关键词】洗脱剂,离子交换,纯化,发菜,多糖
【英文关键词】elution regents;elution method;purification;Nostoc flagelliforme;polysaccharide
【中文摘要】采用离子交换色谱对发菜多糖进行分离纯化,对OH- 型和Cl- 型交换色谱对发菜多糖分离纯化效果进行初步的比较。离子交换色谱柱(Φ216 ×30) ,采用DEAE- Cellulose离子交换树脂和NaCl梯度洗脱对发菜多糖进行纯化。使用PeakFit 4112对色谱峰的峰高、峰宽、保留体积、对称因子各参数进行比较。选择一种分离纯化效果较好的离子交换色谱类型,使用上样浓度为1mg/mL (上样体积50mL) ,分别采用0~1mol/L NaCl、CH3 COONa、NH4 Cl溶液为洗脱剂,洗脱流速为110mL /min,比较三者洗脱效果,进而确定其最佳洗脱剂和洗脱浓度。结果表明,OH- 型离子交换色谱对发菜多糖有更好的分离纯化效果,NaCl的洗脱效果更好,最佳洗脱浓度为012mol/L。
【英文摘要】The isolation and purification of polysaccharide from Nostoc flagelliforme by ion-exchange chromatography with DEAE cellulose were studied. The column of ion-exchange chromatography (Φ2.6×30) was packed with DEAE-Cellulose anion ion-exchange resin and gradient eluted with NaCl solutions. The content of the polysaccharide was determined with the phenol - sulfuric acid method. The effects of different types of DEAE cellulose resin on the separation efficiency were examined with 0.0-1.00 mol/L of gradient elution. PeakFit 4.12 software was employed to collect the chromatographic peak data such as the height, width, retention volume and symmetry factor of the peaks. The elution velocity is 1.0 mL/min. The sampling rent elution regents such as NaCl,

CH3COONa and NH4Cl on separation efficiency were examined. It was found that the best separation efficiency can be obtained using OH- type of DEAE cellulose resin with NaCl as the elution regent. With this regent, the comparison of gradient elution with equivalent elution was conducted and the results showed that the separation efficiency of the equivalent elution is better than that of the gradient elution. The optimal elution concentration is 0.2 mol/L NaCl. The polysaccharide was further purified with gel chromatography.

【语种】中文
【第一作者】秦韶燕
【通讯作者】戴玉杰
【期刊名称、卷期、页码】食品工业科技,2010,(5):252-255
【论文发表时间】2009-10-12 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】生物工程

【题目】Statistical optimization of medium composition and culture condition for the production of recombinant anti-lipopolysaccharide factor of Eriocheir sinensis in Escherichia coli
【中文关键词】抗脂多糖因子 大肠杆菌 条件优化
【英文关键词】anti-lipopolysaccharide factor; optimization; medium composition; culture conditions; statistical methodology
【中文摘要】以响应面实验设计和分析方法优化了大肠杆菌表达抗脂多糖因子的表达条件
【英文摘要】Anti-lipopolysaccharide factors (ALFs) are important antimicrobial peptides that are isolated from some aquatic species. In a previous study, we isolated ALF genes from Chinese mitten crab, Eriocheir sinensis. In this study, we optimized the production of a recombinant ALF by expressing E. sinensis ALF genes in Escherichia coli maintained in shake-flasks. In particular, we focused on optimization of both the medium composition and the culture condition. Various medium components were analyzed by the Plackett-Burman design, and two significant screened factors, (NH(4))(2)SO(4) and KH(2)PO(4), were further optimized via the central composite design (CCD). Based on the CCD analysis, we investigated the induction start-up time, the isopropylthio-D-galactoside (IPTG) concentration, the post-induction time, and the temperature by response surface methodology. We found that the highest level of ALF fusion protein was achieved in the medium containing 1.89 g/L (NH(4))(2)SO(4) and 3.18 g/L KH(2)PO(4), with a cell optical density of 0.8 at 600 nm before induction, an IPTG concentration of 0.5 mmol/L, a post-induction temperature of 32.7 degrees C, and a post-induction time of 4 h. Applying the whole optimization strategy using all optimal factors improved the target protein content from 6.1% (without optimization) to 13.2%. We further applied the optimized medium and conditions in high cell density cultivation, and determined that the soluble target protein constituted 10.5% of the total protein. Our identification of the economic medium composition, optimal culture conditions, and details of the fermentation process should facilitate the potential application of ALF for further research.
【语种】英文
【第一作者】姜珊
【通讯作者】王雷
【期刊名称、卷期、页码】CHINESE JOURNAL OF OCEANOLOGY AND LIMNOLOGY 卷: 29 期: 6 页: 1249-1259
【论文发表时间】2011-11-15 00:00:00
【引文索引类型】SCI
【引文索引号】2.7929440001e+011
【学科分类】水产养殖学

【题目】饲料中添加重组抗菌肽对吉富罗非鱼生长性能及免疫力的影响
【中文关键词】重组抗菌肽; 吉富罗非鱼; 生长; 免疫; 攻毒实验
【英文关键词】recombinant antimicrobial peptide; tilapia; growth performance; index of immunity; protest test
【中文摘要】以吉富罗非鱼(genetically improved farmed tilapia,GIFT)幼鱼(体质量10.68 g±0.53 g)为研究对象,在实验饲料中分别添加0、5、10、20、50 mg/kg重组中国明对虾抗菌肽以及100 mg/kg氟苯尼考,并于实验结束时进行注射攻毒(嗜水气单胞菌)。通过8周的养殖实验,研究了饲料中添加抗菌肽对吉富罗非鱼幼鱼的生长性能、免疫指标以及攻毒实验的影响。结果显示,饲料中添加5~10 mg/kg抗菌肽可以显著提高罗非鱼的增重率、红细胞总数以及过氧化氢酶的活性,当添加量为5 mg/kg时,特定生长率最高;当添加量为50 mg/kg时,肝脏的超氧化物歧化酶与血清中溶菌酶活性较对照组显著降低

(P<0.05);添加100 mg/kg氟苯尼考组较对照组能显著提高红细胞总数;当添加量为5~20 mg/kg时,嗜水气单胞菌攻毒后的死亡率显著降低(P<0.05),以5 mg/kg组存活率最高,氟苯尼考组差异不显著。结论认为,饲料中添加适量重组抗菌肽对幼鱼有一定的促生长作用,并能提高部分免疫指标以及攻毒后的存活率,但过高剂量的抗菌肽对幼鱼的生长与部分酶指标有一定的负面影响,因此建议抗菌肽的添加量不超过20 mg/kg。本研究旨为对虾抗菌肽在罗非鱼饲料中的合理应用提供实验依据。

【英文摘要】Antimicrobial peptides have attracted considerable attention because of their potential use for therapy and prophylaxis.We evaluated the effects of dietary supplementation with recombinant antimicrobial peptide on growth,immunity,and performance in the protest test in tilapia(genetically improved farmed tilapia,GIFT)(ini-tial body weight 10.68 g±0.53 g).The fish were divided into six treatment groups and fed experimental diets con-taining 0,5,10,20,or 50 mg/kg recombinant antimicrobial peptide(RAP) derived from Fenneropenaeus chinensis or 100 mg/kg florfenicol for 56 d.Weight gain,red blood cell numbers,and catalase activity were significantly higher in the groups supplemented with 5 and 10 mg/kg compared with the control.The specific growth rate was highest in the group given 5 mg/kg RAP.Liver superoxide dismutase activity and serum lysozyme activity were significantly lower in the group given 50 mg/kg RAP than in the control.Supplementation with 100 mg/kg flor-fenicol increased the number of red blood cells,but had no effect on the other indexes.Following infection with Aeromonas hydrophila,the death rate was significantly lower in groups fed between 5 – 20 mg/kg RAP than in the control.The survival was highest in the group fed 5 mg/kg.Our results suggest that dietary supplementation with appropriate levels of antimicrobial peptide improves growth,immunity,and performance in the protest test in tila-pia.However,increasing the dose can lead to negative effects on growth and enzyme activity.Therefore,we rec-ommend that supplementation should not exceed 20 mg/kg.Our results provide insight into the proper application of recombinant antimicrobial peptides to tilapia.

【语种】中文
【第一作者】姜珊
【通讯作者】王雷
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【引文索引号】2.7929440001e+011
【学科分类】水产养殖学

【题目】Kinetics of soil urease affected by urease inhibitors at contrasting moisture regimes
【中文关键词】无
【英文关键词】无
【中文摘要】无
【英文摘要】无
【语种】英文
【第一作者】张玉兰
【通讯作者】陈利军
【期刊名称、卷期、页码】Journal of Soil Science and Plant Nutrition, 2009, 29(3): 781-785
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【引文索引号】无
【学科分类】地理学

【题目】生物条形码:一种新的痕量蛋白检测技术
【中文关键词】条形码; 检测技术; 检测灵敏度; 蛋白质; 探针
【英文关键词】bio-barcodes assay;detective technique;detective sensivity;protein;probe
【中文摘要】目前,蛋白质的痕量检测仍存在一定的困难,一个最主要的原因是缺乏像检测核酸的 PCR 那样高灵敏度的、可对目标蛋白进行扩增的技术[1-2]。2003 年,美国科学家 Mirkin领导的课题组首次报道了生物条形码检测技术(bio-barcodes assay,BCA)[3],可以对痕量蛋白进行检测。与临床上常规的 ELISA 法检测相比,其检测灵敏度可达它的106 倍。本文针对 BCA 检测系统的技术要点和发展前景进行了简要综述。
【英文摘要】无

【语种】中文
【第一作者】章金刚
【通讯作者】章金刚
【期刊名称、卷期、页码】中国医药生物技术 2008 年4 月第3 卷第2 期 Chin Med Biotechnol, April 2008, Vol. 3, No. 2
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【引文索引号】null
【学科分类】兽医学

【题目】同位素质谱法对土壤反硝化酶活性的测定研究
【中文关键词】无
【英文关键词】无
【中文摘要】无
【英文摘要】无
【语种】中文
【第一作者】张丽莉
【通讯作者】武志杰
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【学科分类】地理学

【题目】光谱法分析固沙工程对土壤腐殖质及组分的影响
【中文关键词】无
【英文关键词】无
【中文摘要】无
【英文摘要】无
【语种】中文
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【题目】NaCI盐胁迫对苗期燕麦的耐盐性鉴定及综合评价
【中文关键词】燕麦;耐盐性;NaCI胁迫;综合评价
【英文关键词】Arena sativa L.;Salt—tolerance;NaC1 stress;Comprehensive evaluation
【中文摘要】分别在0、0.2%、0.4%、0.6%、0.8%、1.0%、1.2%的NaCl浓度下胁迫坝莜1号、白燕2号、白燕6号、白燕7号4份种质材料,测定了在盐胁迫下苗期燕麦的存活率、株高、根长、根数,进而综合评价供试材料耐盐性的强弱。结果表明:苗期燕麦在NaC1浓度0.2% ~0.6%的胁迫下,均属中等耐盐牧草;各供试材料间耐盐性差异显著,其中自燕6号综合评价值为0.967 9,耐盐性最强;坝莜1号综合评价值分别为0.500 0,耐盐性最差。
【英文摘要】The survival nate,plant height,root length,root number were tested to determine theeffects of NaCI stress at 0,0.2% ,0.4% ,0.6% ,0.8% ,I.0% and 1.2% on BaYou No.1,BaiYan No.2,BaiYan No.6,BaiYan No.7,and then evaluated whether the salt—tolerance of the supplied materials were strong nor poor comprehensively. The results showed that A rrhenatherum elatius L. was middlesalt—tolerance forage that can resist the NaC1 stress at 0.2% ~0.6% and different test pieces beareddifferent degrees of salt concentration. By contrast with the change,BaiYan No.6 had the strongestsalt—tolerance in test pieces.it ’S synthetic evaluation value is O.967 9.BaYou No.1 was the most poorone.its synthetic evaluation value is 0.500 0.

【语种】中文
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【题目】群特异性蓝舌病病毒单克隆抗体的制备和鉴定
【中文关键词】蓝舌病病毒;单克隆抗体;细胞融合
【英文关键词】bluetongue virus; monoclonal antibody; cell fusion
【中文摘要】目的:制备群特异性抗蓝舌病病毒(BTV)单克隆抗体,并对其特性进行鉴定,为建立检测BTV 抗原及抗体的ELISA 方法奠定基础。方法:用纯化的BTV 颗粒为免疫抗原免疫BALB / c 鼠,以大肠杆菌表达的VP7 蛋白作为筛选抗原,用间接ELISA 法筛选杂交瘤细胞株;选取抗体效价最高的一株制备BTV 单克隆抗体,以抗体为捕获抗体与8 种不同血清型BTV 进行ELISA 反应,结果与细胞病变反应进行比对;以该抗体为竞争抗体,与12 种不同血清型绵羊BTV 抗血清进行竞争ELISA 反应,并将结果与参比c-ELISA 试剂盒结果进行比对。结果:筛选出5 株稳定分泌BTV 单克隆抗体的杂交瘤细胞株,并选其中一株(3E2)制备了高纯度的单克隆抗体;该单抗用于检测不同血清型BTV,与细胞病变反应结果完全相符;用于检测不同血清型绵羊BTV 抗血清,其结果与参比c-ELISA 试剂盒符合率为100%,与鹿流行性出血热病毒抗原和抗体均无交叉反应。结论:制备的BTV 单克隆抗体具有良好的群特异性,可用于检测不同血清型BTV 抗原及BTV 抗体。
【英文摘要】Objective: To prepare and characterize group specific monoclonal antibody (McAb) against bluetongue virus(BTV) for establishing ELISA detecting BTV antigen and antibodyMethodPurified BTV visions were used to immunizeBALB / c mice. The hybridoma culture supernatants were screened by indirect ELISA with bacterial expressed VP7 protein as coating antigen. The hybridoma clones with the highest antibody titer were selected and employed for preparation ofMcAb. Antigen capture ELISA was performed with this McAb to detect BTV of eight different groups. Competition ELISA was performed with this McAb to detect BTV antiserum of twelve different groups. Results: Five hybridoma clones that constitutively secrete McAb against BTV were screened. High purified McAb was prepared with 3E2 hybridoma clone. Theresult of antigen capture ELISA was consistent with cell pathological effect. The level of agreement between the McAb and the reference c-ELISA test was 100%. There is no cross-reaction with antibody to EHDV in sera. Conclusion: Group specific McAb against BTV has been prepared successfully. The McAb represents a convenienttool for detecting BTV antigen as well as antibody of different groups.
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【题目】微孔板荧光法对土壤糖酶活性的测定研究
【中文关键词】无
【英文关键词】无
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【题目】蓝舌病毒核酸检测技术研究进展
【中文关键词】蓝舌病毒; RT- PCR; 实时荧光定量PCR; 基因芯片
【英文关键词】bluetongue virus; RT- PCR;real- time fluorescent PCR ;gene chip
【中文摘要】蓝舌病毒(BTV) 血清型较多, 其核酸检测主要涉及通用型检测和分型检测, 寻求相应的适宜检测靶基因尤为重要。BTV 核酸检测技术是蓝舌病诊断的重要手段, 其发展过程主要经历了基因杂交探针技术、RT- PCR 检测技术、实时荧光定量PCR 检测技术及基因芯片检测技术等; 同时, 建立和完善高通量BTV 筛查技术成为迫切要求。
【英文摘要】There are 24 serotypes of bluetongue virus(BTV). The nucleic acid detecting techniques for BTV are involvedin universal detection for the BTV group and special detection for each serotype. Gene detection is important for BTV,and includes hybridization probe method, reverse transcription- polymerase chain reaction(RT- PCR) method, real- time fluorescent PCR technique, as well as gene chip. It is urgent to develop the reliable method for rapid and high throughputdetecting methods for BTV.
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【题目】广布野豌豆裂荚影响因素与裂荚日动态研究
【中文关键词】广布野豌豆;裂荚因素;裂荚时间
【英文关键词】Vicia cracca;factors of pod dehiscence;time of pod dehiscence
【中文摘要】为探明豆科牧草裂荚与环境条件的关系,以及每天的裂荚时间,以广布野豌豆为对象分别进行了晴天和阴天裂荚影响因素与裂荚日动态研究。研究结果表明,晴天时,相对裂荚率与气温、空气相对湿度、荚皮温度和荚皮含水量均呈极显著的相关关系(P%O.01),阴天时,除裂荚率与荚皮含水量相关关系未达到显著外,其余也均达到极显著或显著的相关水平(P<o.ol或P(O.05),相对裂荚率与风速无关(P>0.05);晴天的裂荚率明显大于阴天,每天裂荚高峰期发生在12:()[]一14:。0,而8:OO前和18:0O后不裂荚。上述结果得出,外界环境中的温度和湿度与裂荚率密切相关,选择8:。0前的清晨和18:OO后的傍晚,是避免种子损失,收获种子的最佳时间。
【英文摘要】Abstract:Factors influencing the daily dynamics of pod dehiscence in Vicia crncc& were investigated on both sunny and cloudy days to find when the pods dehiscence and the relationships between pod dehiscence and environmental conditions.The results showed that the pod dehiscence rate had a significant positive correlation with air temperature,humidity,pod wall temperature,and moisture content on SHDDy days (P < 0. O1). Oncloudy days,such factors,but not pod moisture content or wind speed,had a significant correlation (P< O. 05)with pod dehiscence.Peak pod dehiscence occurred at 1 2:O0 to 1 4:O0 and there was little dehiscence before8:O0 or after 18:00. More pods dehisced on sunny days than'on cloudy days. These resuIts indicate that D0ddehiscence rate is closely correlated with air temperature and hum idity. To reduce seed 1oss,the oDtimum har~vest tim e is in the morning before 8:00 or at dusk after l8:00.
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【第一作者】刘玉英
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【题目】蓝舌病毒血清5 型毒株S7 基因编码区的分子克隆与序列分析
【中文关键词】蓝舌病毒; S7 基因; 分子克隆; 序列分析
【英文关键词】bluetongue virus; S7 gene; molecular cloning;sequence analysis
【中文摘要】目的: 对蓝舌病毒(BTV) 血清5 型毒株(BTV- 5) 的S7 基因编码区(ORF) 进行克隆和序列分析。方法: 用TRIzol LS试剂提取病毒总RNA, 经反转录- 聚合酶链反应(RT- PCR) 扩增BTV- 5 型毒株S7 基因的编码区, 将扩增片段克隆到pGEM- T Easy 载体上, 对阳性克隆进行核苷酸序列测定; 采用DNAStar 和DNASIS v2.5 软件对环状病毒属不同种群的S7基因ORF 序列及其推导的氨基酸序列进行同源性及系统进化树分析。结果: 克隆的基因片段长1 050 bp, 为S7 基因开放性读码框的全长序列, 编码349 个氨基酸残基; 与环状病毒属不同血清型毒株比较, 核酸序列同源性范围为42.2%~96.6%,推导的氨基酸序列同源性范围为40.4%~99.7%。结论: 蓝舌病毒与非洲马瘟病毒、鹿流行性出血热病毒分属于不同种群, 群内不同血清型的S7 基因ORF 序列及其推导的氨基酸序列显示出很高的同源性, 而不同种群之间的同源性很低。
【英文摘要】Objective: To clone and sequence the S7- ORF of bluetongue virus serotype 5(BTV- 5). Methods: The RNA of BTV- 5 was isolated by treatment of the virus with TRIzol LS Reagent. The cDNA of the S7- ORF of BTV- 5 was amplified by reverse transcription- polymerase chain reaction(RT- PCR), cloned into pGEM- T Easy vector and sequenced. Phylogenetic trees based on homologies of the S7 - ORF and deduced amino acid of different orbivirus were performed by DNAStar and DNASIS v2.5 softs. Results: The complete length of the S7- ORF was 1 050 bp, which encoded 349 amino acids. Comparing to the different sequences of orbivirus serotypes, the homogeneity of cDNA sequence was 42.2%~96.6%,and the homogeneity of predicted amino acid sequence was 40.4%~99.7%. Conclusion: BTV, epizootic hemorrhagic disease virus(EHDV) and african horse sickness virus(AHSV) belong to different groups. The S7- ORF nucleotide sequences and predicted amino acid sequences of the orbivirus in one group exhibit high identity, while lowidentity exist in differentgroups.
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【题目】不同种植制度土壤氧化还原酶活性和动力学特征
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【英文关键词】无
【中文摘要】无
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【题目】利用生物条形码技术对蓝舌病毒VP7 蛋白进行微量检测
【中文关键词】蓝舌病毒; 生物条形码检测; VP7 蛋白
【英文关键词】bluetongue virus;bio- bar codes assay; VP7 protein
【中文摘要】目的: 建立高灵敏检测蓝舌病毒VP7 蛋白的生物条形码检测方法。方法: 制备VP7 蛋白的多抗及特异DNA 链标记的金纳米颗粒探针(NP) 和VP7 蛋白单抗标记的磁性微球探针(MMP) , 形成MMP- VP7 蛋白- NP 三明治复合物后, 再利用去杂交将NP 探针上标记的DNA 链释放出来, 通过PCR 或芯片检测方法鉴定释放的DNA 链, 确定VP7 蛋白的存在。结果: 建立了蓝舌病毒VP7 蛋白的生物条形码检测体系, 检测灵敏度可达10 fg/mL, 为常规ELISA 检测的106 倍。结论: 为发展高灵敏度的蓝舌病毒生物条形码检测试剂盒鉴定了基础。

【英文摘要】Objective: To establish a high sensitive bio- bar codes assay method for detecting bluetongue virus(BTV) VP7 protein. Methods: Nanoparticle(NP) probes encoded with DNA that wass unique to VP7 protein, polyclonal antibodies agaist VP7 protein and magnetic microparticle (MMP) probes with monoclonal antibodies that bind VP7 protein specifically were prepared. After forming MMP- VP7- NP sandwich complex, dehybridization of the oligonucleotides on the NP surface allows the determination of the presence of VP7 protein by identifying the oligonucleotide sequence released from the NP through PCR or chip- based detection. Results: The bio- bar codes assay system for detecting VP7 protein was established,and the sensitivity limit was about 10 fg/mL, comparable clinically accepted conventional ELISA assays for detecting the same targe, six orders of magnitude less sensitive than what was observed with this method. Conclusion: This study lays a foundation for establishing high sensitive BTV bio- bar codes assay kit.
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【题目】双氰胺与尿素共包被对NH4+硝化及NO3-淋溶的影响
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【题目】包膜与氢醌结合对尿素释放及水解的影响
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【题目】羊草种群各类地下芽的发生、输出与地上植株的形成、维持动态
【中文关键词】羊草;芽类型;母株和子株类型;密度和比例;季节动态;种群维持
【英文关键词】Leymus chinensis;bud types;parent and daughter shoot types;density and proportion;seasonal variations;maintenance of population

【中文摘要】羊草地下芽库中各类型芽及所形成子株和母株的季节动态变化研究结果表明,当年返青母株是由上一年母株形成的8O 的分蘖芽与分蘖芽子株,15%的根茎顶芽与根茎顶芽子株,以及5 根茎节芽和根茎节芽子株组成的,分蘖芽与分蘖芽子株是返青母株的主体。随着返青母株的生长,根茎顶芽是在5月20日早于分蘖芽和根茎节芽1个月发生,并首先呈水平生长方式远离母株,占据生态位;在6月2O日水平根茎顶芽开始向地面弯曲,输出子株的同时,分蘖芽和根茎节芽开始形成,并输出子株。羊草母株以产生低比例根茎芽和高比例分蘖芽的扩展和丛生联合生长方式,以年内和年间的芽、子株、母株之间的不断循环,年复一年地维持着种群的无性繁殖机制。高降水年份可显著地增加地下芽库各类型芽数量,从而使地上子株和母株密度增加。

【英文摘要】Seasonal variations of densities of all types of buds,parent and daughter shoots of Leymus chinensis were investigated.The origin of current year parent shoots was 80% from shoot buds and daughter axillaryshoots,1 5 from apical rhizome buds and daughter apical rhizome shoots,and 5 from axillary rhizome buds and daughter axillary rhizome shoots,from total buds and shoots formed during previous years.When parent shoots were growing,apical rhizome buds began to generate and spread horizontally to occupy niches during 20May,one month earlier than axillary shoot buds and axillary rhizome buds.By 20 June,the horizontal apicalrhizome buds started growing into vertical apical rhizome buds and finally into daughter rhizome shoots.Similarly,by 20 June,shoot buds and axillary rhizome buds occurred and finally developed into daughter shoots.Parent shoots of L.chinensis produced both a lower proportion of spreading shoots(i.e.apical rhizome buds and shoots,or axillary rhizome buds and shoots)and a higher proportion of clumping shoot(i.e.shoot budsand axillary shoots),resulting in a combined growth form.This enables L.chinensis to maintain an asexualpropagation mechanism through continuous growth of buds,daughter shoots and parent shoots between and within years.Higher precipitation can promote the density of all types of buds,leading to an increase in density of daughter and parent shoots

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【题目】A Pair of Novel Primers for Universal Detection of the NS 1 Gene from Various
【中文关键词】RT—PCR;蓝舌病毒(BTV);NS 1;通用检测
【英文关键词】RT—PCR;Bluetongue virus(BTV);NS 1;Universal detection
【中文摘要】通过生物信息学对BTV进行基因序列分析,设计通用引物,对BTV进行RT-PCR检测,获得对不同血清型BTV的通用检测方法。

【英文摘要】Twenty five serotypes of Bluetongue virus(BTV)have been identified worldwide.Rapid and reliable methods of virus universal detection are essential for fighting against bluetongue(BT).We have therefore developed and evaluated a pair of primers which can detect various serotypes of BTV by RT-PCR.Analysis of the viral protein 7(VP7)and the non—structural protein(NS 1)gene from different serotypes of BTV by DNAstar showed that the 5 ’end of the NS 1 gene is the most conserved region.The primer pairs(P1 and P2)were designed based on the highly conserved region of NS 1.The novel primers were evaluated by detecting BTV serotypes 1,3,5,8,10,1 1,2 1 and 22.The specificity of the primers was estimated by comparing to gene sequences of viruses published in GenBank.and further assessed by detecting BTV serotype 1—1 2 and Epizootic hemorrhagic disease virus(EHDV)serotype 1—4.The sensitivity and repeatability of PCR with the novel primers were evaluated by successfully detecting the recombinant plasmid pGEM—T1 2 1 containing the diagnosed nucleotide sequence.Our results suggest that these unique primers can be used in high throughout and universal detection of the NS 1 gene from various BTV serotypes

【语种】英文
【第一作者】章金刚
【通讯作者】章金刚
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【学科分类】兽医学

【题目】龙牧扁穗冰草的生态生物学特性和生产性能的研究
【中文关键词】龙牧扁穗冰草;植物学特征;生态生物学特性;生产性能
【英文关键词】A gropyron cristatum (Linn.)Gaertn.Longmu;Botanical;Eco-hi0l0gical;Produce performance
【中文摘要】对选育的龙牧扁穗冰草(Agropyron cristatum(Linn.)Gaertn.Longmu)连续3年进行植物学特征、生态生物学特性、生产性能等方面研究,结果表明:龙牧扁穗冰草须根发达,具有根茎,叶表皮被毛。不同生长年限的龙牧扁穗冰草物候期、分蘖能力、形成的枝条数量、草产量和种子产量存在差异。3年平均干草产量为4 022.4l kg/km2 ,种子产量为512.39 kg/km2。
【英文摘要】The studies on botanical, eco-biological, cytological characteristics and produceperformance of A gropyron cristatum (Linn.)Gaertn.Longmu were carried out during the three years.The results showed as follows:It has fibrous root—system,plants have rhizomes and leaf surface was covered with hair.It has great difference in phenological period,tillering ability and grass and seed yield of Agropyron cristatum (Linn.)Gaertn.Longmu at diferent years.The dry grass yields are 4 022.41 kg/ha and seed yields are 5 1 2.39 kg/ha on three years average.
【语种】中文
【第一作者】高海娟
【通讯作者】高海娟
【期刊名称、卷期、页码】牧草与饲料,2009,(1):39-42
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【学科分类】畜牧、兽医科学其他学科

【题目】8 个 紫花苜蓿品种比较试验
【中文关键词】紫花苜蓿;品种;生长特性;养分
【英文关键词】alfalfa;variety;growth feature;nutrient
【中文摘要】在吉林省农业科学院牧草试验地内对来自欧洲的8个苜蓿M c口g0 们品种进行了田间比较试验,对于不同紫花苜蓿品种的生长速率、自然高度、分枝数、干草生物量和其他生长发育特性进行了比较。分析结果表明:8个紫花苜蓿品种在生长发育特性上存在显著的差异,其中表现好的是蒂坦、罗佐马、伊鲁瑰斯、凯恩4个品种,他们的优势是返青早.生长速度快。蒂坦、罗佐马产草量高;蒂坦、凯恩粗蛋白含量高,营养价值较高。蒂坦、罗佐马、伊鲁瑰斯和凯恩适宜在吉林地区大面积推广和种植。
【英文摘要】A field com paratiVe test of l O al{a " a varieties introduced frOm Europe and domestic was carried out in Jilin Forage Experimental Station of Academy of Agricultural Sciences of Jilin Provience.The characteristics inc1uding grOwth rate,natural height,t订ler number,fresh yield were tested. The resuhs showed that there were significant differences in characteristics of growth and deveIopment among 8 varieties. The foreign varieties,including Titan, Luozuoma,Roquois and Kane had better performances and their yields were high. Meanwhile, they showed early regreenning and faster growth. In which,the yields of Titan and Luozuoma were higher. The crude protein content of Titan in the squaring stage was the highest and the second was Kane. It could be concluded that these 4 varieties were suitable for extension in Jilin Province.
【语种】中文
【第一作者】刘卓
【通讯作者】王志锋
【期刊名称、卷期、页码】草业科学,2009,26(8):118-121
【论文发表时间】2009-08-06 00:00:00
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【引文索引号】null
【学科分类】畜牧、兽医科学其他学科

【题目】紫花苜蓿新品系区域试验研究
【中文关键词】苜蓿;区域试验;抗逆性;产量

【英文关键词】Alfalfa;Regional trials;Cold resistance;Drought tolerance;Yield
【中文摘要】2006~2008年在黑龙江省3个不同生态区以肇东苜蓿为对照,对黑龙江省畜牧研究所选育的100号苜蓿新品系进行了区域试验。结果表明,100号苜蓿新品系适应性广、生长速度快、抗寒、抗旱、抗病虫性能显著,草质柔软,初花期蛋白质含量20.19%,饲草品质好。新品系平均干草产量为8210.06~10188.78kg/hm2,比对照(5680.92~6723.86kg/hm2)增产24.74%~27.50%;平均种子产量为225.39~325.97kg/hm2,比对照(215.17~289.50kg/hm2)增产6.56%~12.60%,是寒冷干旱地区建立人工苜蓿草地和良种生产的优良种质材料。
【英文摘要】During 2006 to 2008,a regional trial of new strain of alfalfa Longmu 100,bred by Heilongjiang Animal Husbandry Institute,was carried out in three different ecological zones in Heilongjiang Province,using Alfalfa Zhaodong as contr01.The results showed that alfalfa Longmu 100 grew fast,had wide adaptability,cold resistance,drought tolerance and pest resistance,the quality of the grass was soft,protein content was 20.1 9%at early flowering stage,forage quality was good.Average hay yield of alfalfa Longmu 100 was 8210.06~10188.78kg/hm2,increased by 27.50%~24.74%compared with control alfalfa Zhaodong(5680.92~6723.86kg/hm2);average seed yield was 225.39~325.97kg/hm2,increasedby 6.56%~12.60%compared with the control alfalfa Zhaodong(215.17~289.50kg/hm2).Longmu100 was an excellent alfalfa to establish artificial grassland and produce seed for fine varieties of alfalfa in cold and arid areas.
【语种】中文
【第一作者】李红
【通讯作者】李红
【期刊名称、卷期、页码】中国草地学报,2010,32(2):19-24
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【学科分类】畜牧、兽医科学其他学科

【题目】小麦新品种郑麦9694配粉特性的研究
【中文关键词】小麦;馒头;加工品质;配粉
【英文关键词】Wheat; Streamed bread; Processing quality; Flour blending
【中文摘要】用小麦新品种郑麦9694与优质强筋小麦郑麦9023进行配粉,测定粉质仪参数和馒头加工品质,结果表明,郑麦9694的馒头加工品质较好,随着郑麦9023添加比例的增加,可使馒头的比容、宽高比、内部结构、弹性、韧性、黏性和食味得分显著提高,总分有了一定的提高;但郑麦9023 的添加超过一定的比例后,馒头比容、内部结构和弹性得分则又下降了,表面色泽虽然没有变化,但表面结构得分则随着郑麦9023比例的增加呈下降趋势。最适宜的配粉比例为70∶30,即在郑麦9694中搭配30%的郑麦9023,其湿面筋含量、粉质仪参数等达到优质馒头粉标准,可显著改善馒头的加工和制作品质。
【英文摘要】Flour blending effects of Zhengmai 9694 on farinograph parameters and streamed bread-makingquality was analyzed by mixed with high-gluten wheat cultivar Zhengmai 9023. The results indicated that Zhengmai 9694 had preferable steamed bread-making quality. With the continuous increasement of Zhengmai 9023 , t he specific volumes , aspect ratios , internal st ructures , flexibilities , toughness , stickiness and taste scores of steamed bread made of the blends increased significantly while total scores just improved slightly. However, when the content of Zhengmai 9023 in the blends exceeded a certain proportion , not only t he bread specific volumes , internal structures and flexibility scores of steamed bread would dropped, but also the surface color kept unchangeable and the surface structures were declining. The most appropriate blending ratio of Zhengmai 9694 vs Zhengmai 9023 was 70∶30 , with main quality properties such as wet-gluten content and farinograph parameters achieved the national high-quality steam bread standards.
【语种】中文
【第一作者】王根松
【通讯作者】许为钢
【期刊名称、卷期、页码】麦类作物学报,2010,30(2):286-289
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【引文索引号】null
【学科分类】农业基础学科

【题目】Effects of saline and alkaline stresses on the germination, growth, photosynthesis, ionic balanceand anti-oxidant system in an alkali-tolerant leguminous forage Lathyrus quinquenervius

【中文关键词】无
【英文关键词】alkaline stress, ionic balance, Lathyrus quinquenervius, oxidative stress, saline stress.
【中文摘要】无
【英文摘要】We compared the effects of saline stress (9:1 molar ratio of NaCl : Na2SO4, pH 6.44 – 6.65) and alkaline stress(9:1 molar ratio of NaHCO3 : Na2CO3, pH 8.71 – 8.89) on the germination, growth, photosynthesis, ionic balance and activity of anti-oxidant enzymes of Lathyrus quinquenervius to elucidate the physiological adaptivemechanism of plants to alkaline stress (high pH). The results showed that, at a low stress intensity, the effects of saline stress and alkaline stress on L. quinquenervius were similar. Compared with saline stress, high alkaline stress intensity clearly inhibited germination, growth, photosynthesis and root system activity, and led to a sharpincrease in Na+ and an ion imbalance in the shoots, as well as enhanced H2O2 and malondialdehyde content,resulting in severe intracellular oxidative stress. The results indicated that the accumulation of organic acid wasa central adaptive mechanism by which L. quinquenervius maintained intracellular ionic balance under alkalinestress. Lathyrus quinquenervius may enhance organic acid synthesis to remedy the shortage of negative chargeresulting from the massive influx of Na+ and decreased inorganic anions. In addition, saline stress and low alkaline stress slightly enhanced the activities of superoxide dismutase (SOD) and ascorbate peroxidase (APX), but did not affect catalase (CAT) activity. However, strong alkaline stress significantly enhanced the activities ofSOD and APX, and reduced CAT activity. We propose that enhancing the activities of SOD and APX may be a vital mechanism by which L. quinquenervius resists oxidative stress caused by alkaline stress.
【语种】英文
【第一作者】Ji-Tao Zhang
【通讯作者】Chun-Sheng Mu
【期刊名称、卷期、页码】Soil Science and Plant Nutrition,2009,55(5), 685 – 697
【论文发表时间】2009-05-05 00:00:00
【引文索引类型】SCI
【引文索引号】doi: 10.1111/j.1747-0765.2009.00411.x
【学科分类】畜牧、兽医科学基础学科

【题目】大豆异黄酮遗传及育种技术研究
【中文关键词】大豆,异黄酮,遗传,育种
【英文关键词】soybean, isoflavone, genetics, breeding
【中文摘要】大豆是我国重要的经济作物,含有丰富的营养物质,对人们的健康起着重要作用。特别是,近年来随着人们对营养与健康的关注,国内外对大豆营养成分及加工技术有了更深入的研究。大豆异黄酮是近年来国内外高度重视的一类大豆功能活性物质,具有抗癌、抗雌激素、抗病原菌、抗氧化、抗溶血、治疗心血管病、降低胆固醇、调节人体代谢和提高免疫力及植物抗病虫害等功能。
【英文摘要】无
【语种】中文
【第一作者】梁慧珍
【通讯作者】梁慧珍
【期刊名称、卷期、页码】作物遗传育种研究特刊,经济作物,大豆卷;2008:22-25
【论文发表时间】2008-10-15 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农业基础学科

【题目】Physiological responses and adaptive strategies of wheat seedlings to salt and alkali stresses
【中文关键词】无
【英文关键词】alkali stress, salt stress, physiological mechanisms, wheat seedling.
【中文摘要】无
【英文摘要】Effects of salt (NaCl : Na2SO4) and alkali (NaHCO3 : Na2CO3) stresses on the contents of inorganic ions andorganic solutes in wheat shoots were compared to explore the physiological responses and adaptive strategies ofwheat to these stresses. Wheat significantly accumulated Na+ and simultaneously accumulated Cl), soluble sugars and proline to maintain osmotic and ionic balance under salt stress. Compared with salt stress, the high pHfrom alkali stress enhanced Na+ accumulation and affected the absorption of

inorganic anions. To maintainionic and osmotic balance, wheat accumulated organic acids, soluble sugars and proline. The accumulation ofCl) and organic acids was the main difference in the physiological responses and adaptive mechanisms to saltand alkali stresses, respectively.
【语种】英文
【第一作者】Xiaoyu LI
【通讯作者】Chunsheng MU
【期刊名称、卷期、页码】Soil Science and Plant Nutrition ,2009,55(5), 680 – 684
【论文发表时间】2009-05-11 00:00:00
【引文索引类型】SCI
【引文索引号】doi: 10.1111/j.1747-0765.2009.00408.x
【学科分类】畜牧、兽医科学其他学科

【题目】磷、钾、 硼肥料配施对紫花苜蓿种子产量和质量的影响
【中文关键词】苜蓿;施肥;种子产量;质量
【英文关键词】Alfalfa;Fertilization;Seed yield;Quality
【中文摘要】针对黑龙江省苜蓿良种繁育技术滞后、种子产量低、质量差等实际问题,通过研究施肥时期与磷、钾、硼肥不同处理组合对苜蓿种子产量和质量的影响,筛选出较优组合。试验结果表明:开花期各施肥组合处理的苜蓿种子产量和千粒重均高于现蕾期、分枝期各施肥组合,其中二铵60 kg/hm2 ,氯化钾90 kg/hm2:与硼砂2 kg/hm2 施肥组合是最佳组合,其苜蓿种子产量最高,比对照增产21.5%。
【英文摘要】In face of the problems of backward technology of alfalfa seed reproduction,low seedyield and low seed quality in Heilongjiang province,the efects of diferent treatment of applying phosphorus(P),potassium (K)and boron (B)combinined with fertilizing period on the seed yield andquality of alfalfa were gauged.The results showed that the treatment of fertilizers applied in flowering stage has higher seed yield and 1 000——grain weight than that of fertilizers applied in branching stage and squaring period.And in the lowering stage,the treament of aplying diammonium (60 kg/ha),potassium(90kg/ha)and chloride borax(2 kg/ha)has the highest seed yield,which is over control 21.5%.
【语种】中文
【第一作者】杨伟光
【通讯作者】杨伟光
【期刊名称、卷期、页码】牧草与饲料,2009,3(1):46-48,73
【论文发表时间】2009-01-07 00:00:00
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【引文索引号】null
【学科分类】畜牧、兽医科学其他学科

【题目】Study on flower traits' genetic effect of cultivated, semi-wild and wild soybean
【中文关键词】大豆,花器,野生豆
【英文关键词】soybean, flower trait, wild soybean
【中文摘要】利用两年实验数据对166个河南大豆栽培品种的7个花器性状和3个产量性状进行典型相关性和逐步回归分析,旨在揭示花器性状对产量性状的影响,为大豆育种产量水平突破提供深层理论依据。结果显示:花器性状间相关性显著,部分花器性状与产量性状相关性显著。其中,萼片、沟槽、花瓣外露对百粒重和单株总粒重的影响较大。逐步回归表明,萼片长度、花瓣外露和花柱长度对柱头的影响很大。
【英文摘要】This article is to discuss the relationship and genetic mechanism between soybean seed characters and its yield, and to locate QTLs that control its characters. The researchers grew 474 recombinant inbred lines (RIL) derived from Jinbean 23 as the female parent and semi-wild black bean Huibuzhi as the male parent. Based on the results of two repeated experiments in three years, the researchers used multi-year multi-locus joint analysis method to conduct heredity analysis and quantity character mapping of nine characters such as seed and yield. Related analysis results showed that: yield is significantly or highly significantly correlated to seed weight, seed length, seed weight per plant, two seeds per pod and three seeds per pod.
【语种】英文
【第一作者】梁慧珍

【通讯作者】梁慧珍
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【题目】诱变处理苜蓿愈伤组织抗碱性的研究
【中文关键词】NaN3;苜蓿;愈伤组织;抗碱性
【英文关键词】NaN3;alfalfa;callus;alkali resistance
【中文摘要】以苜蓿Medicago sativa茎段为试验材料,对其进行愈伤组织的诱导,采用紫外线和NaN 化学诱变处理苜蓿愈伤组织。对诱变处理和对照的愈伤组织先进行脯氨酸筛选,再进行NaHCO。和NazCO。碱性胁迫,并进行过氧化物酶(POD)、可溶性糖和脯氨酸含量等抗碱性生理指标鉴定。结果表明:诱变处理3种生理指标趋于一致.均比未经处理的高。紫外线辐射和NaN。化学诱变的方法均可用于提高苜蓿的抗碱性。其中紫外线诱变要比NaN 化学诱变更有利于提高苜蓿的抗碱性。
【英文摘要】The stem of alfalfa(M edicago sativa)was used as the experimental material,the inducementof callus was conducted,and the callus of alfafa was treated by ultraviolet ray and NaN .Callus inmutagenic treat and control were filtrated by proline and forced alkalinity stress by NaHC03 andNa2CO3,then they were appraised by the alkalinity resistance physiological indexes such as peroxidaseactivity,soluble protein content and proline content.It was shown that all these three indexes in thetreated callus were evidently higher than those in the contro1.So the method of ultraviolet ray andNaN3 could be used to improve the alkalinity resistance of alfalfa,and ultraviolet ray treatment had greater effect on the alkali resistance of alfalfa than NaN3 treatment.
【语种】中文
【第一作者】李红
【通讯作者】李波
【期刊名称、卷期、页码】草业科学,2009,29(7):32-35
【论文发表时间】2009-07-09 00:00:00
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【引文索引号】null
【学科分类】畜牧、兽医科学其他学科

【题目】不 同 栽植密度下紫花苜蓿叶生产量研究
【中文关键词】苜蓿;栽植密度;叶生产量
【英文关键词】Alfalfa(Medicago sativa):Planting density;Leaf yiel
【中文摘要】[目的]研究不同种植密度下苜蓿的叶生产量。[方法]以公农1号紫花苜蓿为试材,设5个种植密度处理,研究栽植密度对紫花苜蓿叶生产量的影响。[结果]在不同栽植密度下,紫花苜蓿单位面积分枝数、叶片数、茎重、叶重和干草产量5个性状在同一刈割时期及全年度各有不同程度的变化,且在某些密度处理间存在显著差异。苜蓿单位面积分枝数、叶片数、茎重、叶重和干草产量均以密度A处理(20 cm ×20 cm)最多或最高,分别为855枝/m2 、42 253叶/m2 以及698.88、464.55和l 163.43 g/m2 。相关分析表明,苜蓿的单位面积分枝数、叶片数、茎重和干草产量与单位面积叶重均呈线性正相关,对叶生产量的贡献大小依次为干草产量、茎重、叶片数和分枝数。[结论]5个栽植密度中,以密度A处理的叶生产量最高,其次为密度B处理(30 cm x 30 cm)
【英文摘要】[Objective]The aim was to study the leaf yields of alfalfa(Medicago sativa)with diferent planting densities.[Method]With alfalfa Gongnong l as tested material,the treatments wi th 5 planting densities were set up to study the efect of planting density on the leaf yieldof afafa.[Result]Under diferent planting densities,all the 5 characters of the branch number of unit area,leaf number,stem weight,leaf weight and hay yield of alfalfa changed to diferent extents in the same cutting stage and the whole year,and there was significant difference between some density treatments.The branch number of unit area。leaf number,stem weight,Ieaf weight and hay yield of alfalfa were all the maximum or the highest in treatment Density A (20 cm x 20 cm),which were 855 branches/m 2,42 253 leaves/m 2.698.88.464.55 andl 163.43 g/m2 resp.The correlative analysis showed that the branch number of unit area,leaf number,stem weight and hay yield of alfalfa all had a linear positive corelation with leaf weight of unit area。and the contribution size to the 1ear growth yield was followed by tlle order as:hay yield,stem weight,leaf number and branch number-[Conclusion]Among the 5 planting densities,the leaf yield was highest in the treatment with Density A.and the next was the treatment

with Density B (30 cm x 30 cm).
【语种】中文
【第一作者】王志锋
【通讯作者】王志锋
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【学科分类】畜牧、兽医科学其他学科

【题目】Oral administration of myostatin-specific whole recombinant yeast Saccharomyces cerevisiae vaccine increases body weight and muscle composition in mice
【中文关键词】酵母;酿酒酵母;疫苗;肌肉生成抑制素;胴体重
【英文关键词】Yeast;Saccharomyces cerevisiae;Vaccine;Myostatin;Body weight
【中文摘要】肌肉生成抑制素负向调节骨骼肌增长。这说明通过在小鼠体内接种肌肉生成抑制素的特异性疫苗,能产生疫苗抑制肌肉生成抑制素的功能,从而使小鼠体重增加和肌肉组成改变。然而,传统疫苗及其给药方式是昂贵和烦琐的。在本研究中,我们使用热灭活的特异性重组酵母载体疫苗来调节小鼠肌肉生长抑制素功能。从猪的基因组中通过PCR获得肌肉生长抑制素的CDS区序列并构建由硫酸铜诱导的酵母表达载体。肌肉生成抑制素的表达通过免疫印迹法检测。通过对口服免疫和皮下注射方式进行比较,我们发现,二者获得类似的免疫反应,都可以在小鼠体内检测到特异性抗体血清,这两种方式都可以增加小鼠体重。整个实验中小鼠都健康成长,说明,重组酵母疫苗是安全可靠的免疫载体。基于酵母天然的免疫特性,热灭活的重组肌肉生成抑制素特异性重组酵母为治疗人类肌肉萎缩症提供了研究思路。
【英文摘要】Myostatin negatively regulates skeletal muscle growth. It was found that active immunization with myostatin-specific vaccine blocked myostatin function in vivo, which resulted in increase of body weight and muscle composition in mice. However, traditional vaccine and its administration method are expensive and laborious. In this study, we investigated the possibility of using heat-killed whole recombinant yeast Saccharomyces cerevisiae vaccine to modulate myostatin function in mice. The CDS of myostatin was obtained from a pig genome by PCR and subcloned into a yeast expression vector, which was driven by a copper-inducible promoter. Expression of recombinant myostatin was induced by CuSO4 and confirmed by western blot. We vaccinated mice by oral feeding and subcutaneous injection as comparison.We found that oral feeding resulted in the similar effective immune response than injection, which was measured by the presence of myostatin-specific antibodies in mouse serum. Interestingly, animals vaccinated by both methods demonstrated enhanced growth performance compared to control. All animals were healthy looking throughout the course of experiment, suggesting that whole recombinant yeast vaccine is nontoxic and therefore safe to use. Given the simplicity of its nature, heat-killed myostatinspecific whole recombinant yeast vaccine holds a promise to treat human muscle-wasting diseases in the future.
【语种】英文
【第一作者】张婷婷
【通讯作者】张智英
【期刊名称、卷期、页码】Vaccine 29 (2011) 8412 – 8416
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【题目】苜蓿种子生物学研究概况
【中文关键词】苜蓿种子;生物学;研究概况
【英文关键词】alfalfa seed;biology;research survey
【中文摘要】综述了苜蓿种子的形态特点,营养组成,影响其生理变化的因素及种子产量与其他性状的关系。苜蓿为优良牧草,其种子营养价值丰富、均衡,具有很高的食用价值。苜蓿种子在贮藏中的活力与贮藏温度、种子含水量及种子携带真菌的严重程度呈负相关。产量与每株花序数、每花序小花数,每生殖枝荚果数、每荚种子数和千粒质量呈正相关。浓度分别为0.03% 的稀土、0.05 %的多效唑处理能有效提高种子产量。Cd2+,Zn2+,Cu2+,La3+ ,AI3+等重金属离子在较低浓度下能促进种子萌发,浓度较大时就产生严重的胁迫,离子间的交互作用明显。苜蓿种子的耐盐半致死浓度为0.6% ~1.0 %,阿魏

酸等化感物质对种子萌发有显著的抑制效应。
【英文摘要】The characters of seed shape,nutrition component,factors affecting the physiological variations of alfalfa seeds and the relationship between the yield of seeds and other characters of alfalfa are discussed in this paper.Alfalfa(Medicago sativa)is a forage grass of high quality.It's nutrition components in seeds are rich and in balance.The seed vigor of alfalfa is correlated negatively to temperature,seed moisture content and infectionof seed—borne fungi.However,the yield of seeds is correlated positively to the inflorescences per plant,flowers per inflorescence,pods per plant,seeds per pod and thousand—grain weight.Lanthanon solution of 0.03% and paclobutrazol solution of 0.05 applied to alfalfa through spraying on leaf surfaces for improving the effects onseed yield significantly.Heavy metal ions(Cd2+,Zn2+,Cu2+,La3+,A13 +,etc)have serious effects on the seed vigor,and there are obviously interactions among the ions.The germination of seed is deferred as the salt concentration level goes up,with the semicritical salt concentration being 0.6 %~1.0 %,allelochemicals could havesignificant allelopathic effects on seed germination.
【语种】中文
【第一作者】于洪柱
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【题目】13个苜蓿品种耐盐性的鉴定
【中文关键词】苜蓿;耐盐性;发芽率;发芽指数;活力指数
【英文关键词】alfalfa;salt tolerance;germ ination rate;germination index;vitality index
【中文摘要】通过对13个品种的苜蓿Medicago sativa种子在NaC1不同体积分数溶液处理下的种子萌发及幼苗进行耐盐性研究,观察其发芽率、苗高、根长,计算发芽势、耐盐极限量、耐盐半致死量。结果表明,这l3个苜蓿品种中,其耐盐能力最强的为宁苜l号,最弱的为朝阳苜蓿。耐盐性由强到弱的顺序是:宁苜l号、wL- 525、龙牧801号>胜利者>公农2号>龙牧803号>MagnumV-wet>朝阳苜蓿>公农3号、农宝、竞争者>公农l号>大叶苜蓿。同时供试苜蓿种子发芽率、发芽指数、苗高、活力指数与盐体积分数呈显著至极显著负相关性。
【英文摘要】A lfalfa seeds of 1 3 varieties were treated with different concentrations of NaCl solution andthe germination capacity,shoot length,root length,germination index,limiting concentration,halflethal concentration were m easured to determ ine the effect of salt stress on germination. The resultsshowed that Ningm u No.1 was the most salinity resistant,followed by W L一525,Longm u No.801,Victor,Gongnong No.2, Longmu No.803,M agnumV—wet,Jacklin, Gongnong No.3,FarmersTreasure,Runner,Gongnong No.1,Gongnong No.1 and Daye. Seed germinating rate,the germination index,shoot length,vitality index were significantly negatively correlated to salt concentration
【语种】中文
【第一作者】刘卓
【通讯作者】刘卓
【期刊名称、卷期、页码】草业科学,2008,25(6):51-55
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【题目】黑龙江白三叶(Mini—BL)坪用特性研究
【中文关键词】黑龙江白三叶;适应性;坪用特性
【英文关键词】Mini—BL;adaptability;turf characteristics
【中文摘要】采用田间试验和实验室分析,对黑龙江白三叶(Mini—BL)和2个引进白三叶品种瑞文德、考拉的坪用特性进行了比较,测定了3个品种的物候期、根冠比、越冬率和相对电导率等指标。结果表明:各品种坪用特性之间存在差异,Mini—BL返青早,叶片小,植株低矮,分枝快,观赏期长,能够安全越冬;在抗旱和抗寒性上,Mini—BL与2个引进品种的相对电导率差异显著(P<O.05),抵御逆境损伤的能力强,生态适应性和抗逆性优于引进品种。

【英文摘要】Abstract:Turf characteristics of Mini-BL and other two introduced varieties(Rivendel and Koala)of white clover were studied.Both botany and biological characteristics of them were observed.Their phenophase,root/shoot ratio,overwintering rate,relative conductivity rate were tested.The results showed there were significantly different turf characteristics between varieties.Mini—BL has many good turf characteristics with small leaves and lower height,more branches and long viewing period.M ini—BL can survive safely after winter and return togreen earlier than others,its cell membrane permeability is lower than other two. It indicates M ini—BL has a strong resistance to adverse environment,and its ecological adaptation is superior to Rivendel and Koala.
【语种】中文
【第一作者】齐孝辉
【通讯作者】陈雅君
【期刊名称、卷期、页码】草原与草坪,2009(4):14-17
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【学科分类】畜牧、兽医科学其他学科

【题目】白三叶品种组织结构与抗寒性的关系
【中文关键词】白三叶;叶绿体;木质部;韧皮部;抗寒性
【英文关键词】White clover;Chloroplast;Xylem ;Phloem ;Cold resistance
【中文摘要】:针对引进的白三叶(Trifolium repens L.)草坪品种在我国北方园林应用中存在的抗寒性问题,结合国产白三叶资源抗寒性优势,研究低温条件下,不同白三叶组织结构的变化特点和适应性。结果表明:叶肉栅栏细胞内叶绿体数和叶绿体面积与抗寒性有关;低温胁迫下,不同品种叶绿体结构变化最明显,抗寒性强的品种在一定低温范围内保持了较完整的结构;根结构中的木质部、韧皮部比率和导管直径也与抗寒性有关,木质部比率大,韧皮部小,导管直径小,品种抗寒性强。
【英文摘要】In view of the cold resistance problem of introduced white clover using in gardening in northern China and the cold resistance advantages of native white clover,the changes of tissue structure and the adaptabilities of different white clover cultivars were studied under controlled low temperature conditions.The results show that the num ber and area of chloroplasts in palisade cells were related to the cold resistance of cultivars: changes of chloroplast structure in different cultivars were evident under cold stress,strong cold resistant cultivars kept the structure well comparatively under a given cold tem perature range;the xylem ratio,phloem ratio,and vessel diameter in root were also associated with cold resistance of cultivars.Strong cold resistance cultivars had higher ratio of xylem ,lower ratio of phloem ,and narrow diameter of vesse1.
【语种】中文
【第一作者】赵伟
【通讯作者】陈雅君
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【学科分类】畜牧、兽医科学其他学科

【题目】低温对白三叶膜质过氧化及保护酶活性的影响
【中文关键词】白三叶;低温胁迫;抗寒性;膜质过氧化;保护酶
【英文关键词】white clover;low temperature stress;cold resistance;peroxidization of cytomembrane;protective enzyme
【中文摘要】对白三叶的3个品种海发(Haifa),黑龙江白三叶(Mini—BL)和瑞文德(Rivende1)进行低温胁迫,测定叶片中丙二醛(MDA)含量,超氧化物歧化酶(SOD)活性和过氧化物酶(POD)活性,结果表明:低温胁迫下,3个品种SOD和POD活性均表现出先降低再上升再下降的趋势,MDA含量呈上升趋势,且3个品种在5,0和一5℃处理时差异极显著(P<0.01),Mini-BL的MDA含量明显低于其他两个品种,Haifa最高,Rivendel居中。分析3个品种的MDA含量,SOD和POD的活性变化特点,Mini-BL抗寒性强于其他两个引进品种。
【英文摘要】Abstract:In view of the cold resistance problem of introduced white clover using in north China,we cornpared the performance of 3 cultivars Haifa,Rivendel and Mini—BL under lOW temperature stress.The malondiadehyde(MDA)content,superoxide dismatase(SOD),and peroxidases(POD)activity in Jeaves were measured.The results showed that the activities of protective enzymes(SOD,POD)decreased at the earlier treatment stage and increased then and decreased

finally.The content of M DA showed significance difference in the cultivars,Mini—BL was lower than other tWO,and Haifa is the highest.The cold resistance of Mini—BL is better thanthe introduced after analyzing the changing characteristics of these indexes in 3 cultivars.
【语种】中文
【第一作者】安 莹
【通讯作者】陈雅君
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【题目】辽宁省复种青贮玉米潜力分析与技术探讨
【中文关键词】青贮玉米;复种;潜力分析;种植技术
【英文关键词】silage corn;multiple sowing;potential analysis;planting technique
【中文摘要】摘分析了复种青贮玉米Zea mays对气候资源的利用特点、产量和品质优势以及市场需求.并根据田间试验结果提出了辽宁地区复种青 玉米生产的4项关键技术,即:辽宁地区复种青贮玉米适宜的品种为郑单958和高油青贮45l5;为保证产量和品质,选用郑单958和高油4515品种.播期最好不要超过7月l9日;在有机质中等偏上、氮含量中等、磷和钾缺乏的土壤条件下,经济合理的施氮量为250 kg/hm2.施磷量(PzOs)为l00 kg/hm2 ;采用穴播技术(一穴双株)可有效地提高产量。适宜的穴播密度为l0万株/hm2 。
【英文摘要】The climatic resources utilization characteristic,yield and quality advantage as well as market demand of multiple cropping silage corn were analyzed.Four key planting techniques were presented.The results of field experiment showed that Zhengdan958 and Gaoyou4515 fit for multiple cropping in Liaoning,their sowing date should not be later than J uly 19.Under the soil condition with more than middle level organic matter,middle nitrogen content,and lack phosphorus and potassium ,appropriate fertilization amount of nitrogen(N)was 250 kg/hm ,phosphorous(P2 Os)was i00kg/hm .Bunch planting technique(two plants per hole)could improve yield effectively,and the mostappropriate density was 1 00 000 plants per hectare.
【语种】中文
【第一作者】杜桂娟
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【题目】The critical role of myostatin in differentiation of sheep myoblasts
【中文关键词】肌肉生成抑制素;成肌细胞;shRNA;分化;绵羊
【英文关键词】Myostatin;Myoblast;shRNA;Differentiation;Sheep
【中文摘要】肌肉生长抑制素(MSTN),也称为生长分化因子8(GDF8),能抑制剂骨骼肌的生长。已有报道称阻断MSTN的抑制作用会导致小鼠肌肉的增加。然而,它在家畜成肌细胞分化中的作用尚未确定。在目前的研究中,我们试图确定MSTN在绵羊成肌细胞分化中的作用。我们发现过表达MSTN导致绵羊成肌细胞融合度降低,这表明它降低了成肌细胞的分化。使用shRNA沉默MSTN表达的细胞会发生表型变化。相比之下,使用shRNA沉默的内源性MSTN会导致肌原性的分化。更多的研究表明,通过沉默内源性或异位的MSTN,会导致MyoD和myogenin的上调,以及Smad3的下调。我们的结果表明,MSTN在绵羊成肌细胞分化中扮演关键的角色,类似于在老鼠体内的作用。这项研究还表明,shRNA沉默的MSTN可能是一个潜在实用的方法来促进绵羊肌肉的生长,提高羊肉生产量。
【英文摘要】Myostatin [MSTN, also known as growth differentiation factor 8 (GDF8)], is an inhibitor of skeletal muscle growth. Blockade of MSTN function has been reported to result in increased muscle mass in mice. However,its role in myoblast differentiation in farm animals has not been determined. In the present study,we sought to determine the role of MSTN in the differentiation of primary sheep myoblasts. We found that ectopic overexpression of MSTN resulted in lower fusion index in sheep myoblasts, which indicated the repression of myoblast differentiation. This phenotypic change was reversed by shRNA knockdown of the ectopically

expressed MSTN in the cells. In contrast, shRNA knockdown of the endogenous MSTNresulted in induction of myogenic differentiation. Additional studies revealed that the induction of differentiation by knocking down the ectopically or endogenously expressed MSTN was accompanied by up-regulation of MyoD and myogenin, and down-regulation of Smad3. Our results demonstrate that MSTN plays critical role in myoblast differentiation in sheep, analogous to that in mice. This study also suggests that shRNA knockdown of MSTN could be a potentially promising approach to improve sheep muscle growth, so as to increase meat productivity.

【语种】英文
【第一作者】刘晨曦
【通讯作者】刘明军
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【学科分类】动物学

【题目】10个紫花苜蓿品种产草量及营养价值比较分析
【中文关键词】紫花苜蓿;营养价值;产量
【英文关键词】Alfalfa;Nutrition value;Yield
【中文摘要】选取5个综合性状优良的国外紫花苜蓿品种与5个国内当家紫花苜蓿品种作以简要对比分析。结果表明,公农1号和2号紫花苜蓿产草量最高,营养价值较优;龙牧801、龙牧803紫花苜蓿产草量及营养价值均高于国外品种大叶苜蓿、Magna601、农宝、胜利者;美国杂交熊I号产草量最低,营养价值最高;霍普兰德干草产量较高,但其营养价值最低。
【英文摘要】Yield and nutrition value of about 5 overseas alfalfa species and 5 domestic alfalfa specieswas comparatively analyzed.The result showed that the yield of M.sativa L.CV.Gongnong No.1 andGongnong No.2 was highest and nutrition value was better;both yield and nutrition value of M.sativa L.CV.Longmu 80 1 and 803 were higher than ‘ Leafking ’, ‘ Magna 60 1 ’, ‘ Farmer ’ s Treasure ’ and ‘ Haygrazer ’ .Yield of ‘ Ningmu No.1 ’ was the lowest.but its nutrition value was the best.Yield of ’ Hopeland ’ was higher,but its nutrition value was the lowest.
【语种】中文
【第一作者】周艳春
【通讯作者】王志锋
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【题目】Safety assessment of sFat-1 transgenic pigs by detecting their co-habitant microbe in intestinal tract
【中文关键词】sFat-1;转基因猪;微生物菌群;遗传漂变;生物安全
【英文关键词】sFat-1; Transgenic pig ;Microbial fl ora ; Gene drift; Biosafety
【中文摘要】本课题组制备出肌肉中富含ω-3不饱和脂肪酸的sFat-1转基因猪,对改善人类的饮食健康具有重要的意义。虽然sFat-1转基因猪具有广泛的应用前景,但其生物安全性正日益成为人们关注的焦点。转基因动物体内微生物安全评价,本部分研究的目的主要是从转基因猪肠道内微生物菌群数量变化的角度去评估sFat-1基因的表达对转基因猪本身健康和生态环境安全的影响。为了监测sFat-1转基因猪不同段肠道和粪便中微生物菌群数量的改变,选取总需氧菌、总厌氧菌、特异有益菌和有害菌进行培养分析。结果表明,与对照组相比,sFat-1转基因猪不同段肠道和粪便中微生物菌群没有发生明显改变。此部分研究表明,外源基因sFat-1基因的表达对转基因猪肠道和粪便中的微生物菌群数量未产生明显影响。
【英文摘要】Transgenic pigs containing sFat-1 (synthesized fatty acid desaturase-1) gene were produced by DNA microinjection. The meat of these pigs contain x-3 unsaturated fatty acid which is bene fi cial to the health of human being. The aim of this study is to assess the effects of expression of sFat-1 in pig on the health of animal themselves and on the safety of environment from the angle of the changes in microbe population of pig intestinal tract. Four F1 male semisibling of sFat-1 transgenic pigs and four F1 female semi-sibling of sFat-1 transgenic pigs were used as experimental animals, together with their none transgenic siblings as control animals. For inspection of any change in populations of microbial fl ora in various parts of intestinal tract and feces of sFat-1 transgenic pigs

total aerobe, total anaerobe, main beneficial bacteria and main harmful bacteria were cultured and analyzed. At the same time foreign gene drift was assessed by PCR amplifying foreign fragment in samples of total aerobe and total anaerobe. Results indicated that in comparison with control pig microbe population of various species in different parts of intestinal tract and feces of sFat-1 transgenic pig remained unchanged and foreign gene sequence could not be detected in DNA of total aerobe and total anaerobe. In conclusion, the data of this study suggest that microbe population in intestinal tract and feces of transgenic pig was not influenced by the expression of transferred foreign gene sFat-1 and also foreign gene drifting from animal genome to microbial genome must be a rare incident.

【语种】英文

【第一作者】汤茂学

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【学科分类】畜牧学

【题目】猪MSTN基因双筛选标记打靶载体的构建及其功能鉴定

【中文关键词】同源重组;基因打靶;肌肉生长抑素基因;双筛选标记

【英文关键词】homologous recombination; gene targeting; MSTN gene; double-selection

【中文摘要】【目的】利用正负筛选策略,构建猪肌肉生长抑素(Myostatin,MSTN)基因的双筛选标记打靶载体。【方法】以猪胎儿成纤维细胞DNA为模板,PCR扩增MSTN基因同源长、短臂;采用PCR和Overlap PCR扩增打靶载体正筛选标记嘌呤霉素和绿色荧光蛋白基因和负筛选标记单纯疱疹病毒胸苷激酶基因。以pUC57载体为骨架载体,在其多克隆位点连接一段包括Frt序列在内的酶切位点的多克隆位点序列,在2个Frt序列之间连接正筛选标记嘌呤霉素基因和绿色荧光蛋白基因,在Frt序列两侧分别连接5.7 kb和1.9 kb的MSTN基因同源长、短臂;在同源短臂后连接负筛选标记基因单纯疱疹病毒胸苷激酶基因,将目的片段与载体定向连接克隆。用脂质体法将打靶载体转染猪肾细胞,用嘌呤霉素和丙氧鸟苷进行正负筛选,验证正负筛选标记基因功能。【结果】成功克隆了猪MSTN基因同源长、短臂及正筛选嘌呤霉素和绿色荧光蛋白基因和负筛选单纯疱疹病毒胸苷激酶基因,构建了猪MSTN基因双筛选标记打靶载体,打靶载体长度为14 kb。在PK15细胞正负筛选标记基因均有生物学活性。【结论】成功构建了猪MSTN基因双筛选标记打靶载体,为进一步开展猪MSTN基因打靶提供了平台。

【英文摘要】【Objective】A pig myostatin (MSTN) gene targeting vector containing double-selection markers was constructed based on the positive-negative selection strategy. 【Method】The MSTN gene homologous long arm and short arm were cloned in the genome of pig fetus fibroblasts cells by PCR method. The posistive selection cassette puromycin(Puro) and enhanced green fluorescent protein(EGFP) genes and the negative selection cassette thymidine kinase(TK) gene were cloned by PCR and overlap PCR. A set of cassettes and plasmids were used for creating the targeting vector. A positive selection marker cassette (PGK-Puro-EGFP) including the eukaryotic promoter to permit consecutive selection for recombination and allow positive selection of puromycin resistant transfectants in mammalian cells was flanked by two Frt sequences. EF1 α - herpes simplex virus thymidine kinase (TK) minigene was used as the negative selection marker. The homologous long arm with a length of 5.7 kb amplified from pig embryonic fibroblast cell genomic DNA was placed before the first Frt sequence. The homologous short arm with a length of 1.9 kb was cloned between the positive and negative selection cassettes. The plasmid was transfected into PK15 cells with X-tremeGene HP DNA transfection reagent to evaluate the positive and negative selection markers function. 【Result】 The homologous long arm and short arm together with the Puro and EGFP and TK gene were successfully cloned. The presence of the correct inserts in the targeting vector with the full length of 14 kb was verified by DNA sequencing. Meanwhile, the PK15 cells conferred resistance to puromycin(Puro) and ganciclovir(GAC), which suggested the positive and negative selection markers could expressed in the cells. 【Conclusion】 The gene targeting vector containing double-selection markers could be used for future pig MSTN gene targeting.

【语种】中文

【第一作者】王向鹏

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【学科分类】畜牧学

【题目】A touchdown multiplex PCR for porcine circovirus type 2 and pseudorabies virus
【中文关键词】猪圆环病毒2型;伪狂犬病毒;常规复合PCR;多重降落PCR
【英文关键词】porcine circovirus type 2; pseudorabies virus; conventional multiplex PCR; touchdown multiplex PCR
【中文摘要】多重聚合酶链反应(mPCR)是一个变化 - 的PCR,在相同的反应中通过多对引物多个目标序列可以被放大。相比单个PCR(sPCR),它使用更少的DNA模板,降低了成本,缩短了时间,可以用于快速鉴定。根据扩增产物大小的不同在同一样品中检测是否有多种病毒或细菌。
【英文摘要】Multiplex polymerase chain reaction (mPCR) is a variant of PCR in which more than one target sequence can be amplified by including more than one pair of primers in the same reaction (8, 12). In comparison with single PCR (sPCR), it uses less DNA template, reduces the extensive costs, time requirements, and allows for rapid identification. It is practically a reasonable choice for simultaneous identification and differentiation of multiple viruses or bacteria in a single sample on the basis of amplicon size (4, 7, 11).
【语种】中文
【第一作者】刘雪青
【通讯作者】张智英
【期刊名称、卷期、页码】Acta virologica 56: 163 – 165, 2012
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【学科分类】分子生物学

【题目】Efficient production of transgenic chickens based on piggyBac
【中文关键词】PiggyBac;转基因鸡;电穿孔;显微注射
【英文关键词】PiggyBac;Transgenic chicken;Electroporation;Microinjection
【中文摘要】转基因技术在鸡由于鸡独特的繁殖机制,致使转基因技术在鸡中的发展慢于其在其他哺乳动物中的研究程度。逆转录病毒的方法是在鸡中最成功的转基因技术。PiggyBac转座子有13bp的末端反向重复序列,能在动物在基因组中的TTAA位点进行插入和切离。因此,我们选择PB建立新的转基因鸡生产方法。我们构建了三个供体载体(ZGL-neo,ZGM-neo和ZGS-neo)表达绿色荧光蛋白标记基因和新霉素抗性基因。将供体载体与辅助载体(CAG-Pbase)共转染,发现ZGL-neo是最有效的PB供体载体。它能插入到DF1细胞的TTAA位点。将PB载体在鸡胚的空腔显微注射,电穿孔,然后进行5个循环的50毫秒和100毫秒与20-V脉冲。 GFP能在包括性腺的不同组织中表达。将22只转基因鸡胚孵化,我们筛选血液中73%(16/22)阳性率。13只发育到性成熟的鸡中,11只为雄性,40%的鸡胚精液成阳性,拷贝数从0.05到0.21不等。在G1代中没有整合型的PiggyBac转座子个体。我们推断PB转座子系统是在转基因鸡生产中高效的转基因工具。
【英文摘要】Transgenic techniques in chickens have been developed much more slowly than in mammals due to chickens ’ unique reproduction mechanism. Retroviral methods have been the most successful. piggyBac(PB) is a transposon that has a 13 bp perfect terminal invert repeat sequence. PB can be inserted into TTAA sites and can also be precisely excised in mammals. Therefore, we have selected PB as a candidate to establish a new method to produce transgenic chickens. We constructed three donor vectors (ZGl-neo, ZGm-neo and ZGs-neo) expressing a GFP marker-gene and a neomycin resistant gene based on PB. We co-transfected each donor vector with a helper vector (CAG-PBase). We found that ZGl-neo was the most efficient PB vector. This vector could insert into TTAA sites in DF-1 cells. PB vectors were microinjected into sub-germinal cavity of newly laid eggs, and electroporation was then performed with a 20-V pulse for 5 cycles of 50 ms on and 100 ms off. GFP was expressed in different tissues of the embryos, including the gonads. Twenty-two chickens hatched after microinjection with compounds ZGl-neo and CAG-PBase (3:1). When we screened the blood DNA, 73 % (16/22) of the individuals were positive. Thirteen of the chickens grew to adulthood, 11 of which were males. 40 % (4/10) of the individuals were semen positive, and their copy numbers ranged from 0.05 to 0.21 (0.11, 0.21, 0.05, 0.06). No G1 offspring containing the integrated transposon were produced. We conclude that the PB transposon system is a novel useful tool for the efficient production of transgenic chickens.Electronic supplementary material
【语种】英文
【第一作者】李宁

【通讯作者】李宁
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【学科分类】分子生物学

【题目】绵羊Follistatin 基因表达及其结构域的功能分析
【中文关键词】绵羊Follistatin 基因,原核表达,慢病毒,细胞生长曲线
【英文关键词】ovine Follistatin gene; prokaryotes expression; lentivirus; cell growth curve
【中文摘要】为研究羊Follistatin 基因的功能,提取了绵羊卵巢总RNA,通过RT-PCR 方法获得羊Follistatin cDNA 的完整开放阅读框 (1 038 bp)。去除信号肽序列后与原核表达载体pET41a 连接,构建重组表达质粒pFSsig －,经大肠杆菌诱导表达获得FS sig － 蛋白 (66 kDa)。通过RT-PCR 克隆了包含N 端和结构域1 的Follistatin 突变体 (FS N+D1),将FS N+D1片段插入慢病毒载体 (pLEX-MCS) 构建了pFS-N+D1 慢病毒重组表达质粒。在293T 细胞中进行慢病毒的包装,再感染绵羊肌肉原代细胞,得到稳定表达FS N+D1 的肌肉细胞系,通过细胞生长曲线结果显示稳定表达FS N+D1 的肌肉细胞明显比正常肌肉细胞增殖快,且差异极显著 (P<0.01),表明绵羊FS N+D1 结构域有促进肌肉细胞生长的功能。
【英文摘要】In order to study ovine follistatin function, we amplified the total of 1 038 base pair of ovine complete follistatin cDNA and cloned into pGEM-T vector by RT-PCR from ovine ovary RNA. After removal of the signal peptide it was subcloned into the pET41a to construct the prokaryotic expression vector, named pFSsig － . SDS-PAGE and Western blotting identified the 66 kDa product of the expression of follistatin cDNA. Based on the complete CDS sequence, we cloned follistatin N-terminal domain anddomain 1 with PCR and inserted into pLEX-MCS lentiviral vector, named pFS-N+D1. After package and passage of lentivirus in293T cells, and then infected sheep primary muscle cells (SPMC). The expression of FS N+D1 in SPMC was assayed by Westernblotting. The cell growth curve of the infected SPMC and noninfected control cells displayed that FS N+D1 stablly transfected SPMC proliferated significantly faster than the control cells (P<0.01). Our data inferred that ovine FS N+D1 domain had the function to stimulate sheep muscle cell growth.
【语种】中文
【第一作者】张宁
【通讯作者】刘明军
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【题目】绵羊MSTN 基因启动子区SNPs分析
【中文关键词】绵羊; MSTN; 启动子; PCR-RFLP; 多态性
【英文关键词】MSTN; Promoter; PCR-RFLP; Polymorphsim
【中文摘要】采用测序和PCR-RFLP 的方法,分析了MSTN 基因启动子区在7 个品种绵羊中的单核苷酸多态性,结果表明: 存在2 个SNP 位点(- 959T/C,- 784G/A) ,表现为6 种基因型(TT、TC、CC、GG、GA、AA) ,在- 959T/C 位点中,国外肉用绵羊品种陶赛特、德国肉用美利奴及我区的巴士拜羊,TT 为优势基因型,地方品种绵羊巴音布鲁克羊、多浪羊和阿勒泰羊在该位点中CC 为优势基因型,经χ2 检验,其群体的基因频率和基因型频率均处于Hardy-Weinberg 平衡状态,群体遗传多态性分析表明,这6 个绵羊品种中群体的多态信息含量(PIC) 均处于0. 25 ~ 0. 50 之间,为中度多态,特克赛尔羊在该位点未发生突变。在- 784G/A 位点中,除陶赛特与特克赛尔羊在该位点未发生突变,其他5个品种绵羊优势等位基因均为G 等位基因。经χ2 检验后,其群体的基因频率和基因型频率均处于Hardy-Weinberg 平衡状态,群体遗传多态性分析表明,多浪羊、巴士拜羊和巴音布鲁克羊的群体多态信息含量(PIC) 均处于0. 25 ~ 0. 50 之间,为中度多态,而阿勒泰羊和德国肉用美利奴的群体多态信息含量(PIC) 小于0. 25,为低度多态。
【英文摘要】Sequencing along with PCR-RFLP was applied to analyze the polymorphism of MSTN gene promoterin seven sheep breeds. Two SNPs at - 959(T /C) and - 784(G/A) including six genotype (TT,TC,CC,GG,GA,AA) respectively were detected in the promoter region,At - 959(T /C) , the predominant genotype of TT was identified in Dorset,German Merino and Bashibai sheep, the

CC in Bayinbuluke,Duolang and Aletai sheep. A chi-square analysis suggested that the allele frequencies and genotype frequencies of two polymorphisms were in Hardy-Weinbergequilibrium. Statistical analysis also revealed the variation of intermediate polymorphism information content (PIC) in six breeds (0. 25 < PIC < 0. 50) . At - 784(G/A) ,The G was predominant allele in all breeds,whereas the low polymorphism information content (PIC) was observed in German Meilin and Aletai populations (PIC <0. 25) and intermediate PIC in the Bayinbuluke,Duolang and Bashibai populations (0. 25 < PIC < 0. 50) .

【语种】中文
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【通讯作者】刘明军
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【题目】PiggyBac 转座子介导的诱导细胞永生化转基因载体的构建及其整合效率的检测
【中文关键词】小鼠; SV40 T; 转录激活域rtTA; PiggyBac转座子; 正负向筛选
【英文关键词】mice; SV40 T; transcription activation rtTA; PiggyBac transposon; positive and negative selection
【中文摘要】【目的】构建在小鼠水平上实现多个目的基因的表达以及标记基因安全删除的转基因载体。【方法】以载体为模板,分别扩增SV40P neo、IRES、tk-PloyA,通过overlap PCR连接,并在两端添加方向相同的LoxP序列,构建转基因基本载体PB-NIT;然后通过overlap PCR扩增获得Tet-CMV-SV40 T-T2A-p 53-PolyA基因表达盒,将其插入PB-NIT中,构建载体PB-NIT-STP;最后将转录因子激活域 rtTA 通过同尾酶连接插入PB-NIT-STP,构建载体PB-rtTA-NIT-STP。【结果】经酶切和测序等鉴定,以上载体均正确;经转座活性鉴定,共转染转座子载体PB-rtTA-NIT-STP和转座酶载体比只转染转座子载体获得的阳性克隆数提高了20倍。【结论】得到了基于PiggyBac转座子的可用于正负向筛选和诱导目的基因表达的转基因载体。
【英文摘要】【Objective】 The objective of the study is to construct a Piggybac transposon-based transgenic vector for multiple gene expression and selection of removable marker gene.【Method】 To construct positive and negative selection marker gene cassette based on pXL-BacII, the two marker genes, neo (with SV40 promoter) and tk, were PCR amplified from the corresponding vectors and connected with IRES sequence by an overlap PCR approach. Then LoxP sequence was added into the expression cassette ends and resulted in PB-NIT. The transgenes, SV40 large T and mouse p 53 linked with T2A sequence, were firstly cloned into an expression vector with an inducible promoters Tet-CMVP and SV40 Poly A. The transgene expression cassette was then inserted into the PB-NIT vector and resulted in PB-NIT (LoxP-SV40P neo-IRES-tk-PloyA-LoxP)-STP (Tet-CMV-SV40 T-T2A-p 53-PloyA). Finally, the rtTA gene expression cassette was cloned into the PB-NIT-STP vector and a final transgene vector, PB-rtTA-NIT-STP, was obtained. 【Result】 The final transgene vector was verified by both enzyme digestion and sequencing. The transgene vector transposon activity was examined by co-transfecting the transgene vector and PiggyBac transposase expression vector PB-transposase into mouse ES cells. The results demonstrated that the number of the positive colonies in ES cell transfected with PB-rtTA-NIT-STP and PB-transposase was 20 times more than that transfected with PB-rtTA-NIT-STP alone. 【Conclusion】 The PiggyBac transposon-based transgene vector constructed in this study could be used for inducible multiple gene expression and for selection of marker free transgene generation.
【语种】中文
【第一作者】张婷婷
【通讯作者】张智英
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【学科分类】分子生物学

【题目】Suitability of two seaweeds, Gracilaria lemaneiformis and Sargassum pallidum, as feed for the abalone Haliotis discus hannai Ino
【中文关键词】略

【英文关键词】Abalone;Haliotis discus hannai Ino;Seaweeds;Aquaculture;Feed and nutrition
【中文摘要】略
【英文摘要】The suitability of two algae species, Gracilaria lemaneiformis and Sargassum pallidum, for use as food sources for the abalone Haliotis discus hannai Ino was evaluated. Abalones were fed one of five experimental diets: 1)kelp Laminari japonica; 2) G. lemaneiformis; 3) S. pallidum; 4) a mixed diet of L. japonica and G. lemaneiformis (1:1); and 5) a mixed diet of L. japonica and S. pallidum (1:1) for a period of 4 months. The survival, growth (shell length and body weight), condition index (body weight/shell length), and feed utilization were measured. Survival was excellent (100%) in all groups. Growth rate (body weight) was highest in the abalone fed kelp exclusively, followed by the mixed diet of kelp and G. lemaneiformis. The abalone fed S. pallidum had the lowest increase in body weight and the lowest feed intake. The mixed diet of kelp and G. lemaneiformis yielded the biggest increase in shell length. There were no significant differences in the condition index among all the treatment groups. The mean daily feed intake of L. japonica was highest, followed by the mixed diets of kelp and G. lemaneiformis, and was lowest for S. pallidum. Abalone exhibited a preference for L. japonica. The feed conversion efficiency was highest for G. lemaneiformis. Results suggest that G. lemaneiformis can be used as a partial substitute for kelp in the diet of cultured abalone.
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【学科分类】水产养殖学

【题目】贝壳上污损生物的重量对栉孔扇贝生长和存活的影响
【中文关键词】栉孔扇贝;污损生物;桑沟湾;特定增长率;存活率
【英文关键词】Scallop Chlamys farreri; Fouling; Sanggou Bay; Specific growth rate(SGR); Survival
【中文摘要】对网笼养殖的栉孔扇贝壳上污损生物的数量进行了研究, 发现9~11月贝壳上污损生物的湿重分别为1.47、0.49 和2.09g, 与上壳重的比值分别为28.16%、10.24%和31.29% 。通过在栉孔扇贝上壳添加上壳干重0.5、1、2和3倍重的水泥, 用以模拟附着在扇贝壳上的污损生物, 设不添加水泥的对照组, 对贝壳上污损生物的重量对栉孔扇贝生长和存活的影响进行了研究。结果表明, 实验组扇贝壳长、闭壳肌和剩余软体组织的特定增长率及存活率与对照组均没有显著差异(P> 0.05) , 说明贝壳上的污损生物的重量没有影响扇贝的生长和存活。
【英文摘要】The quantity of fouling organism on scallop shell and the effects of the mass of artificial fouling on growt h and survival of C.farreri was studied. Sixty scallops were randomly sampled from Sept ember to November, 2007, at monthly intervals. Ar tificial fouling (cement) weighing 0. 5, 1, 2 and 3 times the mass of t he upper valve were fix ed to the upper valve of C.farreri Scallops with no art ificial fouling served as the controls. Survival and specific growth rate (SGR) of shell length, dry mass of muscle and remaining soft t issue were ex amined after 60d longline cult ivation in Sanggou Bay. From September to November , the amount of shell fouling decreased from 1.47 g to 0.49 g, and again increased to 2.09 g in November. T here were no significant differences in growth parameters and survival between the t reatment and control groups, indicating that ar tificial fouling did not detr imentally af fects the growth and survival of C.farreri. In Sanggou Bay, even in summer season when t he natural fouling was heaviest, the mass that developed on scallop shells was much lower t han the exper imental levels. T hus, it is unlikely that the mass of nat ural occur red fouling organisms on t he shell would negat ively affect the growth and survival of C.farreri.
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【学科分类】水产养殖学

【题目】不同处理方法对浒苔粉贮藏性状的影响
【中文关键词】浒苔; 热风干燥; 低温真空干燥; 叶绿素; TBA值
【英文关键词】Enteromorpha prolifera; Hot-air Drying; Low-temperature vacuum drying; Chlorophyl;TBA
【中文摘要】[目的]研究不同处理方法对水浒苔贮藏性状的影响。[方法]采用热风干燥、低温真空干燥、真空包装、普通包装等方法研究浒苔叶绿素含量和TBA值的变化情况。[结果]在贮藏的开始阶段, 热风干燥的样品叶绿素含量低于低温真空干燥的样品。在贮藏过程中经热烫的样品比未烫的样品叶绿素损失率高, TBA值高。真空包装贮藏的样品与密封贮藏的样品相比损失率低, TBA值较小, 且变化较缓慢。低温真空干燥的样品与热风干燥的样品相比, TBA值较小, 且TBA值变化缓慢。[结论]真空低温干燥是一种比较理想的方式。
【英文摘要】[Objective] The study amis to research the effects of different treatments on the storage properties of enteromorpha prolifera. [Method] The different treatm ents of hot-air drying, low-temperature vacuum drying, vacuum packaging, general packaging were used to study the content of chlorophyll and TBA of enterom orpha prolifera. [Result] The results showed that the chlorophy ll content of the sample under low-temperature vacuum dryingwas lower than hot-air drying. The loss rate of chlorophy ll and TBA of samplewhichw as blanchedw ere higher than un-blanched. The loss rate of chlorophy ll and the TBA of vacuum packaging samplew ere lower than sea led storage. The chlorophyll content decreased and TBA increased by the storage tmi e. The TBA o f the samplew as lower under low-temperature vacuum dry ing than hot-air dry ing and the change of TBA was slow. [Conclusion] The vacuum low-tempera ture dry ing was an ideal way for stor ing enteromorpha prolifera.
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【学科分类】水产养殖学

【题目】不同温度和接种密度下亚心形扁藻增殖的初步研究
【中文关键词】温度;接种密度;比生长速率;增殖模型
【英文关键词】Temperature;Inoculation density; Relative growth rate;Multiplication model
【中文摘要】在自然变温和水浴恒温的条件下,用3种接种密度培养亚心形扁藻Platyrnonas subcordiformis,以研究其增殖形式。结果表明,较高接种密度时,扁藻密度始终较高且较早进入平稳期;接种密度相同,恒温下较早进入平稳期。但就所能达到的最大密度而言,变温培养时更高;低密度接种的比生长速率最大,而中等接种密度下的比生长速率最稳定;培养时的比生长速率较高,且比较稳定;增殖模型所反映的和观测结果一致。随着接种密度增加,依赖于初始种群密度的参数a减少,环境容量增加而瞬时增殖速度下降。模型也反映出在相同接种密度条件下,变温培养的环境容量大于恒温培养;恒温时的微藻瞬时增长速度要大于变温时。就Nt/No而言,在变温下培养扁藻,各处理间的差异不具有统计学意义,而在恒温培养时各处理间的差异显著;低密度接种时,变温和恒温条件下的就Nt/No具有显著差异,而在中密度接种和高密度接种时,两种温度条件下的就Nt/No差异不显著。
【英文摘要】At a natural fluctuant temperature and a constant temperature,and starting from three inoculation densities,the multiflication 0f Platyrnonas subcordiformis was studied.Higher inoculation densities always resulted in higher subsequent concentrations of the microalgae,and an earlier setting in of the steady growth phase.When the initial density was the same,the microalgae reached steady growth phase earlier at a constant temperature than it did at a fluctuant temperature,although the latter treatment reached a much higher maximum density.At the same temperature,lower inoculation density resulted in the fastest relative growth rate,and medium inoculation density correlated with the most stable relative growth rate.And the microalgae cultivated at a fluctuant temperature showed higher and more stable relative growth rate.The multiplication models developed correlated well with the observations.As the inoculation density increased,the initial—density dependent parameter a also decreased,along with the increase of environmental capacity and the decrease of instantaneous multiplication speed.These models also reflected that,when the initial density was the same,the microalgae cultivated at a fluctuant temperature had higher environmental capacity than that cultured at a constant temperature.Furthermore,the microalgae showed higher instantaneous growth rate at a constant temperature.The ratios of Nt/No were not statistically different among treatments at the fluctuant temperature,while there was significant difference between treatments at the constant temperature.When the initial density was low, the ratio of Nt/No was significantly different between the constant and fluctuant temperature treatments,while medium and higher initial densities did not result in significant differences between the treatments of the different temperature regimes.

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【学科分类】水产养殖学

【题目】长牡蛎夏季死亡与养殖环境及自身体质关系的初步研究
【中文关键词】长牡蛎;夏季死亡;桑沟湾;养殖环境;SOD
【英文关键词】Pacif ic oyster;Summer mor tality;Sanggou Bay;Culture environment;SOD
【中文摘要】选取桑沟湾和爱连湾两个典型牡蛎养殖区为研究对象, 调查了两个海区高温季节牡蛎的死亡情况, 监测了不同养殖区的水温、盐度、pH 和DO 等环境指标, 并测定了牡蛎体内超氧化物歧化酶(SOD) 活性和生长指标的差异, 初步探讨了桑沟湾养殖长牡蛎夏季高温死亡的原因。结果表明, 实验期间(5~ 10月) 桑沟湾崖头养殖海区 (E122.498, N37.151) 长牡蛎夏季累积死亡率为37%, 最高死亡率出现在8 月17 日, 高达51% , 而爱连湾养殖海区(E122.582, N37.179) 的累积死亡率仅为2.5%, 最高死亡率出现在9 月28 日, 为4.5%。单因子方差分析(ANOVA) 表明死亡率与水温具有很强的正相关(R= 0.804, P<0.01) , 与溶氧呈明显负相关(R=-0.377, P<0.01) ; 死亡率与体重、软体湿重、性腺湿重等生长状况指标呈明显的负相关(R 分别为-0.690, -0.498, -0.358) , 与SOD活性呈正相关(R=0.21, P<0.05)。
【英文摘要】Pacific oyster Crassostrea gigas summer mortality frequently occurs in Sanggou Bay recent years, but the oyster appears low mortality rate in its neighboring region-Ailian bay. In this study, two typical Pacific oyster culture areas of these bays have been selected as exper imental sites. The environmental factors including water temperature, salinity, pH and DO, superoxide dismutase (SOD) activity and growth situation of oysters have been monitored, and the oyster summer mortalities of two sites have been researched. The reason of Pacific oyster summer mor tality in Sanggou bay has been analyzed. T he results show that: in experiment per iod (from May to October) , the total mortality rate was 37% in Yatou marine culture region of Sanggou bay (E122.498, N37.151) , the highest mortality rate that appeared on August 17 was 51%. The total mor tality rate was 2.5% in Ailian bay (E122.582, N37.179) , the highest mortality rate that appeared on September 28 was 4.5%. One-way ANOVA results show that: the mortality rate has significant positive correlation with water temperature (R= 0.804, P<0.01) , negative correlation with the dissolved oxygen (R=-0.377, P<0.01) , negative correlation with body weight, soft weight and gonad weight and so on (R=-0.690, -0.498, -0.358, respectively), positive correlation with superoxide dismutase activity (R=0.21, P<0.05).
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【题目】长牡蛎养殖技术及常见问题
【中文关键词】长牡蛎;养殖技术;常见问题;解决方法
【英文关键词】crassostrea gigas;aquaculture technique;common problems ;solutions
【中文摘要】介绍了长牡蛎养殖的主要技术环节,总结了其养殖中的常见问题及解决方法,以期对于指导海水贝类养殖健康发展具有重要意义。
【英文摘要】The main technical aspects of Crassostrea gigas culture were introduced,important problems and the solutions were summarized,which were of great significance value for healthy development of marine aquaculture.
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【学科分类】水产养殖学

【题目】充气在几种饵料单细胞藻二级培养中的应用
【中文关键词】单胞藻; 充气培养; 生长率
【英文关键词】microalgae; air-charging incubation; growth rate
【中文摘要】采用实验与生产结合的方法, 研究了充气条件下几种饵料单胞藻的生长特性。结果表明, 充气能大幅度提高4种饵料单胞藻的生长速度。在充气条件下, 新月菱形藻、金藻3011、3012 和扁藻的最大培养密度分别为2. 957×107,1.7×107, 2. 355×107和3. 5 ×106细胞/mL, 分别是对照组最大培养密度的3. 2倍, 6. 5倍, 4. 1倍和5倍; 实验组(充气)与对照组(不充气)在细胞数目、特定生长率(SGR) 、相对生长率(RGR)和绝对生长率(AGR) 等方面均有显著差异。二级充气培养的藻液可以直接扩种到大池进行生产培养, 能有效延长生长时间, 显著提高生产培养效率。
【英文摘要】Growth characteristics of 4 microalgae in bubble condition were studied using experiment combined with production method. The results showed that bubble incubation could improve the growth rate of 4 m icroalgae dram atically. Under bubble condition, the maximum cell density of N. closterium, I. galbana Parke 3011,I. galbana Parke 3012 and P.subcordiform is we re 2.957×107, 1.7×107, 2.355×107 and 3.5 ×106 cell per milliliter, and which was 3. 2, 6. 5, 4. 1 and 5 tim es of the control group under the same conditions respectively. The experiment group showed significant differencew ith the control one in cell number, special growth rate (SGR), re lative grow thrate (RGR) and absolute grow thrate (AGR). The a ir- charg ing incubation seed can be d irectly used for amplified culture. Air- charging incubation can effectively prolong the growth period of the algae ce l,l and remarkably enhance the production efficiency.
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【学科分类】水产养殖学

【题目】海水鱼类网箱养殖的环境效应及多营养层次的综合养殖
【中文关键词】海水网箱养殖; 富营养化; 有机污染; IMTA
【英文关键词】Marine fish cage aquaculture; Eutrophication; Organic waste; IMTA
【中文摘要】海水鱼类网箱养殖是世界主要渔业国家(如挪威、日本等) 广泛开展的一种高密度、集约化的养鱼方式,这种养殖方式在给广大从业者带来巨大经济、社会效益的同时,对环境也造成了不可忽视的负面影响。开展多营养层次的综合养殖(IMTA) 是缓解这一环境压力的有效途径,鱼类养殖过程中释放出的二氧化碳、氮、磷等物质,由无机提取单元(大型藻类) 来吸收,粪便和残饵等微小颗粒则成为有机提取单元(滤食性贝类) 的饵料,较大的颗粒物质沉到海底后,可以为腐食性单元(海参等) 提供食物,通过这种养殖模式,最大限度地实现系统内营养物质的高效利用,在减轻养殖对环境压力的同时,使系统具有较高的容纳量和食物产出能力。
【英文摘要】The cage aquaculture subsector has grown very rapidly during the past two decades and is presently undergoing rapid changes in response to pressures from globalization and a growing global demand for aquatic products. Following its rapid development,the nutrients of cage culture,mainly uneaten food,and faecal and urinary products,are released directly into the environment and result in many environmental problems. Integrating the fed aquaculture of finfish with the inorganic extractive components of seaweeds,the organic extractive components of shellfish and sea cucumber,has been advocated as an effective strategy to alleviate waste loadings and environmental impacts,the wastes of one resource user become a resource (fertilizer or food) for the others. Through Integrated Multi-Trophic Aquaculture (IMTA) ,some of the food and energy considered lost in finfish monoculture are recaptured and converted into crops of commercial value.
【语种】中文

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【题目】海洋酵母培育仿刺参Apostichopus japonicus浮游幼体研究
【中文关键词】海洋酵母; 仿刺参Ap ostichop us jap onicus; 幼体; 生长; 变态
【英文关键词】marine yeast; Apostichopus japonicus;auricularia; growth; metam orphosis
【中文摘要】采用海洋酵母(Rhodotorula sp.)作为单细胞藻类的替代饵料培育仿刺参(Apostichopus japonicus)浮游幼体。从生长速度(G) 、浮游期成活率(SRP)、变态成活率(SRM)、特定生长率(SGR)和40% 樽形幼体出现时间(T)等5个指标比较了海洋酵母组(Z9)与不同种类和比例单胞藻混合饵料组(8个组合, Z1~ Z8)的投喂效果; 并确定了不同发育阶段海洋酵母的最佳投喂组合。结果表明: 海洋酵母能够促进刺参幼体的正常发育和变态。ANOVA 分析表明, 不同饵料组间的生长和变态率等指标差异显著, Z2 和Z9两组间差异不显著, 但显著优于其他单胞藻混合组。投喂不同数量的海洋酵母对浮游幼体也有显著影响。
【英文摘要】Marine yeast (Rhodotorula sp.) was used as an alternative bait of sing le-cell microalgae to culture Apostichopus japonicus auricularia. By five indicators of grow thrate (G), the survival rate of plank ton ic period (SRP),surviva l rate o fm etamo rphosis (SRM), specific growth rate (SGR) and 40% bottle-shaped larvae time (T), the effect of feeding with marine yeast group (Z9) was compared with that of by different types and proportion of single cell microalgae mixed feed groups (altogether 8 combinations, from Z1 to Z8), and confirmed the optimum feeding combination in different grow th phases with marine yeast. The results show ed that ma rine yeast could promo te the normal development and metamorphos is of larvae ANOVA analysis indicated that there were significant differences in the targets for grow th and survival rate among different diet groups. There were no significant differences between groups Z2 and Z9, but the effect of these 2 groups were no tably better than the other single-cell microalgae mixed groups. Besides, different feeding quantities also had significant influences on auricularia.
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【题目】Molecular cloning and immune responsive expression of a novel C-type lectin gene from bay scallop Argopecten irradians
【中文关键词】略
【英文关键词】C-type lectin;CRD;Argopecten irradians;Tissue distribution;mRNA expression;Injury healing;Immune response
【中文摘要】略
【英文摘要】Abstract C-type lectins are Ca2+-dependent carbohydrate-recognition proteins that playcrucial roles in innate immunity. The cDNA of C-type lectin (AiCTL1) in the bay scallop Argopecten irradians was cloned by expressed sequence tag (EST) and RACE techniques. The full-length cDNA of AiCTL1 was 660 bp, consisting of a 50-terminal untranslated region (UTR) of 30 bp and a 30 UTR of 132 bp with a polyadenylation signal sequence AATAAA and a poly(A) tail. The AiCTL1 cDNA encoded a polypeptide of 166 amino acids with a putative signal peptide of 20 amino acid residues and a mature protein of 146 amino acids. The deduced amino acid sequence of AiCTL1 was highly similar to those of the C-type lectins from other animals and contained a typical carbohydrate-recognition domain (CRD) of 121 residues, which has four conserved disulfide-bonded cysteine residues that define the CRD and two additional cysteine residues at the amino terminus. AiCTL1 mRNA was dominantly expressed in the hemocytes of the bay scallop. The temporl expression of AiCTL1 mRNA in hemocytes was increased by 5.7- and 4.9-fold at 6 h after injury and 8 h after injection of bacteria, respectively. The structural features, high similarity and expression pattern of AiCTL1 indicate that the gene may be involved in injury healing and the immune response in A. irradians.

【语种】英文
【第一作者】朱玲
【通讯作者】钱培源
【期刊名称、卷期、页码】Fish & Shellfish Immunology
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【学科分类】水产养殖学

【题目】人端粒酶逆转录酶(hTERT)基因的腺病毒载体构建及包装
【中文关键词】人端粒酶逆转录酶(hTERT)基因;重组腺病毒;细胞永生化
【英文关键词】human telomerase reverse trancriptase(hTERT)gene;recombinant adenoviruses;immortalization
【中文摘要】[摘 要]【目的】获得含有人端粒酶逆转录酶(hTERT)基因的腺病毒。【方法】通过对PCI-neo-hTERT质粒进行改造,依次构建出JMB293-hTERT、pAdTrack-hTERT,将构建好的pAdTrack-hTERT经Pme I 线性化后与pAdEasy-1载体共转化到 BJ5183 细胞中在重组酶的作用下经氨苄青霉素抗性筛选获得重组腺病毒载体pAdEasy-hTERT载体。将pAdEasy-hTERT经Pac I 酶切线性化并回收后,转染 HEK293细胞,培养7 d 后,收集细胞并反复冻融,收集细胞裂解液;反复扩增3次后,获得高滴度的重组腺病毒,测定其病毒滴度。【结果】○1利用酶切连接的方法得到了穿梭载体pAdTrack-hTERT;○2通过同源重组将外源目的基因整合到腺病毒骨架载体中,得到重组质粒pAdEasy-hTERT;○3成功获得了滴度为6.73×1010 GFU/mL的高滴度腺病毒颗粒。【结论】含有hTERT基因的重组腺病毒颗粒包装成功,为后续获得永生化的家畜细胞系等相关研究做好准备工作。
【英文摘要】Abstract:【Objective】The study was to construct the recombination adenovirus vector containing human telomerase reverse trancriptase (hTERT) gene.【Method】We designed JMB293-hTERT/pAdTrack-hTERT/pAdEasy-hTERT vectors in turn through modified the PCI-neo-hTERT vector. The linear pAdEasy-hTERT vector was transfected into HEK 293 cells, and the recombination adenovirus was collected after 7 days. The linear pAdTrack-hTERT vector after linearization with PmeI enzyme was cotransformed into BJ5183 cells with pAdEasy-1, and the recombination adenovirus vector was obtained under the action of recombinat enzyme and ampicillin resistence screening. Then transfected the recombinant adenovirus vector into HEK 293 cell after linearization with PacI enzyme. The cells were frozen and thawed about 7 days after transfection, and the lysates were harvested. Transfection-culture-harvest was repeated three times to obtain high titer of the recombinant adenovirus and detected the titer of the recombinant adenovirus.【Result】① pAdTrack-hTERT vector was designed .② pAdEasy-hTERT vector was designed by recombinant the foreign hTERT gene into the adenovirus backbone vector.③ The titer of recombinant adenovirus was 6.73×1010 GFU/mL .【Conclusion】Successfully obtained the recombinant adenovirus which may has implications on the further research on immortalized cell lines of livestock.
【语种】中文
【第一作者】任充华
【通讯作者】张智英
【期刊名称、卷期、页码】西北农林科技大学学报(自然科学版)第40卷第7期;39-43
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【学科分类】生物化学

【题目】牛肌肉生长抑制素基因敲除打靶载体的构建
【中文关键词】牛; 生长抑制素基因; 基因敲除打靶载体; 胎儿成纤维细胞
【英文关键词】bovine; MSTN gene; knock-out vector; fetal fibroblast
【中文摘要】【目的】构建两套用于牛肌肉生长抑制素(myostation,MSTN)基因敲除的置换型打靶载体。【方法】设计并合成含有限制性内切酶酶切位点的引物,利用聚合酶链式反应(polymerase chain reaction,PCR)以牛耳皮肤组织基因组 DNA 为模板分别扩增出两套打靶载体的同源短臂和长臂,再分别插入到两套打靶专用基础载体pMCS-PLP和 PIII中,构建两套用于牛 MSTN 基因敲除的置换型打靶载体pPLP-MSTN和PIII-MSTN。【结果】经过PCR、T载体连接和DNA测序,证实载体pPLP-MSTN 包含 2.8 kb 同源短臂和4.0kb同源长臂,载体 PIII-MSTN 包含1.3kb同源短臂和6.8kb同源长臂;经过限制性内切酶酶切鉴定,证实两套载体的同源臂分别正确插入到基础载体内。【结论】两套牛MSTN基因敲除打靶载体pPLP-MSTN和

PIII-MSTN构建成功,载体pPLP-MSTN为不含负筛选标记的传统基因敲除打靶载体,载体 PIII-MSTN 为不含负筛选标记的荧光蛋白启动子捕获打靶载体。

【英文摘要】【Objective】The objective of this study is to construct two replacement targeting vectors for knocking-out bovine MSTN gene.【Method】 Primers with restricted endonucleases locus were designed and synthesized. The short arms and long arms for both vectors were isolated from the genomic DNA of cattle by polymerase chain reaction(PCR).Then, these fragments were cloned into basic targeting vectors pMCS-PLP an PIII to construct two replacement targeting vectors (pPLP-MSTN and PIII-MSTN), respectively.【Result】Two constructed gene targeting vectors were identified by PCR, T-vector ligation and DNA sequencing. The 2.8 kb short arm and the 4.0 kb long arm were detected in the targeting vector pPLP-MSTN, and the 1.3 kb short arm and the 6.8 kb long arm were detected in the targeting vector PIII-MSTN.【Conclusion】Two replacement targeting vectors for knocking-out bovine MSTN gene were successfully constructed. The targeting vector pPLP-MSTN is a traditional knock-out vector without a negative-selecting gene, and the targeting vector PIII-MSTN is a promoter trap vector with EGFP without a negative-selecting gene.

【语种】中文

【第一作者】赵丽华

【通讯作者】李荣凤

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【学科分类】畜牧学

【题目】PiggyBac转基因载体的构建及检测

【中文关键词】PiggyBac转座子;转基因动物

【英文关键词】PiggyBac transposon;transgenic mice

【中文摘要】嵌合体、基因串联表达以及安全性问题是目前动物转基因技术面临的重大问题。PiggyBac转座子属于II型转座子,最新研究结果显示PiggyBac介导的转基因效率在细胞水平上可以达到10%,转入的基因不形成串联多聚体,而且基因插入的位点多、特异性强,作为转基因的载体能够容纳高达14kb的外源基因。可以在转基因研究中的应用克服传统转基因技术引起的嵌合体、基因串联表达等问题。Cre-LoxP系统是安全删除标记基因及非靶基因序列的有效方法。本研究应用上述两种技术,以小鼠胚胎干细胞(ESC)为研究材料,制备转基因小鼠,研究在转基因过程中多基因表达及标记基因删除的可行性。

【英文摘要】Chimera, gene series expression and safety problem were the big problems for the animal transgenic . The latest research results show that ,PiggyBac transposons ,which belongs to type II transposons, could mediate transgenic efficiency reach to 10% at cell level.It has the propority of no forming series and mulity insert site and specificity and accommodated up to 14 KB exogenous genes. Cre - LoxP system is an effective methods for marker gene and the target gene safe deletion . This study applies the above two kinds of technology to mouse embryonic stem cells (ESC) to prepare the transgenic mice and investigate the possibility of mulity gene expression and maker gene deletion in transgenic process many .

【语种】中文

【第一作者】张婷婷

【通讯作者】张智英

【期刊名称、卷期、页码】第6次全国动物生物技术学术研讨会,2011.7:220.

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【学科分类】分子生物学

【题目】Alterations in mitochondrial function and spermatozoal motility in goat spermatozoa following incubation with a human lysozyme plasmid

【中文关键词】无

【英文关键词】Transgenic animal; Spermatozoa mediated gene transfer; Human lysozyme plasmid; Mitochondrial function; Spermatozoa motility

【中文摘要】无
【英文摘要】Spermatozoa mediated gene transfer has become a promising technology to generate transgenic animals with disease resistance. However, exogenous DNA invasion may cause changes in spermatozoon natural defense system which result in spermatozoon dysfunction. The objective of this study was to investigate the changes of mitochondrial function and motility in goat spermatozoa after pre-incubation and incubation with and without the human lysozyme plasmid pFLAG-hLY. The results demonstrated that human lysozme plasmid pFLAG-hLY could bind to the surface of the spermatozoon membrane at 186,000 copies/spermatozoa and incorporate to spermatozoon nucleus at 78 copies/spermatozoa after incubation. However, the treated spermatozoon samples showed a significant lower motility (29.7 +/- 2.2% vs. pre-incubation control 48.0 +/- 1.4% and incubation control 54.5 +/- 1.5%, P < 0.05). and percentage of rapid progressive motile spermatozoa (16.4 +/- 2.4% vs. pre-incubation control 31.4 +/- 0.6% and incubation control 37.0 +/- 0.5%, P < 0.01). Meanwhile, the incubation with plasmids caused significant reduction of mitochondrial membrane potential (31.44 +/- 2.17% vs. pre-incubation control 51.79 +/- 2.08% and incubation control 58.81 +/- 1.76%, P < 0.05). In addition, dichlorofluorescin relative fluorescence intensity (32.81 +/- 2.41%) and malondialdehyde levels (2.18 +/- 0.21 nM/10(8) spermatozoa), which represents mitochondrial function, showed a significant increase after incubation (P < 0.05). The cytochrome c release from the mitochondrial inner membrane space, and enzymatic activities of caspase-3 (0.086 +/- 0.024) and caspase-9 (0.083 +/- 0.019) (P < 0.05) also increased, in which resulted in spermatozoon dysfunction. In conclusion, this study confirmed that goat spermatozoa could capture human lysozyme plasmid pFLAG-hLY, but the incubation with the plasmids resulted in a decrease of spermatozoa motility and partial rupture of mitochondrial membrane, and further prompted the expression of cytochrome c, and generation of oxidative stress in vitro and finally led to spermatozoon dysfunction. (C) 2010 Elsevier B.V. All rights reserved.
【语种】英文
【第一作者】马会明
【通讯作者】张涌
【期刊名称、卷期、页码】ANIMAL REPRODUCTION SCIENCE 卷: 121 期: 1-2 页: 106-114
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【引文索引号】635LO
【学科分类】畜牧、兽医科学基础学科

【题目】大豆异黄酮与脂肪蛋白质含量基因定位分析
【中文关键词】大豆,SSR,QTL,品质,异黄酮
【英文关键词】soybean, SSR, QTL, quality, isoflavone
【中文摘要】【目的】研究大豆异黄酮与脂肪、蛋白质含量基因定位及相关性,为大豆品质改良、分子育种及基因克隆等应用提供理论依据。【方法】利用SSR 技术,对晋豆23 号和灰布支杂交构建的F13 代大豆重组自交系群体的474 个家系进行了连锁图谱的构建。在此基础上,利用 WinQTLCart2.0 软件分析了影响大豆异黄酮含量、脂肪含量和蛋白质含量3 个重要品质性状的QTL,通过复合区间作图分析,检测QTL;同时,对异黄酮与脂肪、蛋白质的含量相关性分析。【结果】检测到23 个QTL,其中控制异黄酮含量QTL 有6 个,分别定位在J、N、D2 和G 染色体的连锁群上;控制脂肪含量的QTL 有11 个,分别定位在第A1、A2、B2、C2 和D2 染色体的连锁群上;控制蛋白质含量的QTL 有6 个,分别定位在B2、C2、G 和H1 染色体的连锁群上。相关性分析结果表明:异黄酮与蛋白质含量呈极显著负相关;蛋白质和脂肪含量呈极显著负相关;蛋白质和蛋白质脂肪总量呈极显著正相关。【结论】3 个重要品质性状的部分基因定位结果与其相关性分析是一致的,其结果对大豆品质育种应用有重要利用价值。
【英文摘要】【Objective】 Dietary intake of isoflavones has been shown to reduce the risk of several major diseases in humans. Therefore, breeding soybean [Glycine max (L.) Merrill] seeds with desirable isoflavone content would be beneficial to the food and healthy industries, but the environmental sensitivity of the trait complicates phenotypic selection. The objective of this study was to identify quantitative trait loci (QTL) and epistatic interactions associated with isoflavone contents, protein contents, oil contents in soybean seeds. 【Method】 An F13 recombinant inbred line(RIL) comprising 474 lines was derived from a cross between Jindou23 and Huibuzhi. SSR technique was employed for mapping the QTLs. 【Result】 The QTLs for isoflavone content, protein content, oil content were analyzed and 23 QTLs were detected based on the constructed linkage map. Six QTLs for isoflavone content were localized in linkage groups J, N, D2, and G; Eleven QTLs for oil content were localized in the linkage groups A1, A2, B2, C2 and D2. Six QTLs for protein content were localized in linkage groups B2, C2, G and H1. The correlation analysis demonstrated that the content of isoflavone was in significant correlation with protein content. Significantly negative correlations were existed between oil content and protein content, and significantly positive correlations were existed between protein content and the content of total

protein and oil. 【Conclusion】 All these have laid an important basis for the marker assisted breeding of the soybean. According to analysis of this investigation, the phenotype correlations of quantitative traits may result from the correlations of QTL controlling those traits.
【语种】中文
【第一作者】梁慧珍
【通讯作者】梁慧珍
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【学科分类】农业基础学科

【题目】适用于全喂入联合收割机的1JS-34型秸秆粉碎机设计
【中文关键词】秸秆,联合收获机,设计,有限元分析,粉碎机,双轴
【英文关键词】无
【中文摘要】配套全喂入式联合收割机的秸秆粉碎机具目前缺乏。该文设计了一款适合于全喂入联合收割机的 1JHSX-34型双轴式秸秆粉碎机。文中详细介绍了整机结构和工作原理,重点针对粉碎刀轴转速、刀片和传动系统的设计进行了详细的阐述。通过对3 种不同倒伏率(90% ,50% ,0)的小麦田间试验显示:小于50mm 长度的秸秆粉碎平均合格率分别为91.3% 、92.9% 和94.4% 。试验结果表明,双轴式秸秆粉碎机性能良好。
【英文摘要】无
【语种】中文
【第一作者】陈黎卿
【通讯作者】王莉
【期刊名称、卷期、页码】农业工程学报Vol.27 No.9 28-32
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【引文索引号】null
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【题目】安徽沿淮地区春马铃薯品种引进比较试验
【中文关键词】江淮地区;马铃薯;品种引进;比较
【英文关键词】无
【中文摘要】为筛选出适宜江淮地区春季种植的优质高产马铃薯品种,本文对引进的 个马铃薯品种进行熟性 产量淀粉含量 抗病性进行观测 结果表明,鲜食品种中薯 号费乌瑞它;加工品种 ;特色品种紫薯,产量高商品性好 品质优,较适合在安徽大面积种植与推广。
【英文摘要】无
【语种】中文
【第一作者】廖华俊
【通讯作者】李卫文
【期刊名称、卷期、页码】中国马铃薯,第24卷,第6期
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【学科分类】农艺学

【题目】江淮地区秋马铃薯稻草覆盖栽培模式的优化
【中文关键词】二次回归正交旋转组合设计;秋马铃薯;栽培模式;江淮地区
【英文关键词】无
【中文摘要】优化江淮地区秋马铃薯稻草覆盖栽培模式。[方法]采用三因素二次回归正交旋转组合设计,研究播种密度、基肥施用量和播种期对江淮地区稻草覆盖秋马铃薯产量的影响,确定稻草覆盖秋马铃薯的最佳栽培模式。[结果]采用费乌

瑞它品种马铃薯获得产量高于16320. 52kg/hm2的农艺措施为: 播种密度6. 255万- 7. 050万株/hm2, 施用基肥(NBPBK含量45%的三元复合肥) 1025. 4-1211. 7kg/hm2,最适播种期8月17-21日。影响产量的主要因子是播种时期,其次是播种密度,最后是基肥用量。[结论]该研究可为江淮地区秋马铃薯生产提供理论参考。
【英文摘要】无
【语种】中文
【第一作者】廖华俊
【通讯作者】李卫文
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【引文索引号】null
【学科分类】农艺学

【题目】Coupled Effects of Soil Water and Nutrients on Growth and Yields of Maize Plants in a Semi-arid Region
【中文关键词】作物;灌溉;氮素;磷素
【英文关键词】crop irrigation nitrogen phosphorus
【中文摘要】土壤水分和养分之间的耦合作用在半干旱区可持续作物管理中扮演一个重要角色。该项研究分析了东北半干旱区灌溉和施肥条件下对玉米生长和产量的耦合效应。对作物产量而言,氮素有最显著的影响,其次是水和磷素的含量。通过水分和养分的耦合效应对玉米生长发育和产量的影响建立回归模拟方程。回归分析表明,除了合理灌溉,高水平的氮和磷素,可以大大提高效率的粮食生产。同样,优化的土壤养分条件可大大提高水的利用效率。研究结果表明灌溉和养分管理应该基于定量分析水和营养物质的相互作用,对可持续提高作物产量具有重要意义、特别是在干旱地区和半干旱地区。
【英文摘要】Interaction between soil water and nutrients plays an important role in sustainable crop management in semi-arid environments.The coupled effects of irrigation and fertilizers on maize growth and yield in a semi-arid region of northeastern China.In terms of plant productivity,nitrogen fertilizer had the most significant effect followed by irrigation and phosphate levels.The combined application of nutrients and irrigation exerted a synergistic effect on the grain yield of maize plants.Regression analysis indicated that optimal levels of nitrogen and phosphate,in addition to adequate irrigation,could greatly improve the efficiency of grain production.Similarly,optimization of soil nutrient availability substantially increased water use efficiency.These suggested that for the most efficient and sustainable crop production,irrigation and nutrient management should be based on a quantitative understanding of water/nutrients interaction,particularly in semi-arid and arid regions.
【语种】英文
【第一作者】孙占祥
【通讯作者】孙占祥
【期刊名称、卷期、页码】PEDOSPHERE,2009,19(5):673~680
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【学科分类】农艺学

【题目】不同区域与品种的海带中砷富集特征差异
【中文关键词】海带 总砷 无机砷 富集规律
【英文关键词】kelp total arsenic inorganic arsenic accumulation regularity
【中文摘要】通过分析不同养殖海域、不同品种海带中无机砷和总砷含量在养殖期间的变化,研究海带中总砷及无机砷的富集规律。结果显示,在生长期内海带对总砷的富集呈增长趋势,而无机砷含量则逐渐降低,其占总砷的比例由3月份1.36%~1.47%下降到7月份的0.41%~0.57%;同一海域、不同品种的海带对总砷和无机砷的富集具有差异性;同时期在不同养殖海域采收的同品种海带总砷和无机砷含量差异显著。基于监测数据对海带中的无机砷进行分析,所有海带样品中无机砷含量远低于现行食品卫生标准中的限量要求,不对食用安全性造成影响。
【英文摘要】The experiments aim to study the enrichment regularity of inorganic arsenic and total arsenic in kelp by analyzing the variation of inorganic and total arsenic in kelps which are from different maritime regions and different species during their growth.The content of inorganic arsenic is detected by HPLC-AFS,while the content of the total arsenic is examined by hydride atomic fluorescence

spectrophotometry in GB/T 5009.11-2003.The results show that the enrichment in kelps of total arsenic displays an increase trend in growing season,whereas the content of inorganic arsenic is decreasing.The percentage of inorganic arsenic in total arsenic decreased from 1.36%-1.47%(March)to 0.41%-0.57%(July).The enrichment of inorganic and total arsenic varies from kelp to kelp even they are cultivated in the same maritime region,meanwhile,the same types of kelps have dramatically different contents of inorganic and total arsenic,which depends on the variety of maritime regions.Judging from the data,the contents of inorganic arsenic in all examined kelps are far below the MRL and will have no negative effects on food safety.The study provides relevant theory foundation for food safety and processing.

【语种】中文

【第一作者】舒本胜

【通讯作者】翟毓秀

【期刊名称、卷期、页码】水产学报、9、1436-1440

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【引文索引号】null

【学科分类】水产品贮藏与加工

【题目】高效液相色谱氢化物发生原子荧光(HPLC-HG-AFS)联用技术检测海藻食品中无机砷

【中文关键词】高效液相色谱; 氢化物发生原子荧光; 海藻; 无机砷;

【英文关键词】high performance liquid chromatography(HPLC); HG-AFS; hydride generation atomic fluore-scence spectrometry; seaweed; inorganic arsenic

【中文摘要】海藻食品中无机砷的含量是水产品质量检验中主要的安全卫生指标。实验采用高效液相色谱氢化物发生原子荧光联用技术(HPLC-HG-AFS)对海藻食品中无机砷的检测进行了研究。通过实验优化了提取剂、提取时间及其仪器条件,建立了HPLC-HG-AFS联用技术检测海藻食品中无机砷含量的方法。用1.2mol/LHCl在70℃水浴下提取1h,用过氧化氢(H2O2)氧化;pH6.0的15mmol/L(NH4)2HPO4溶液为流动相,HPLC-HG-AFS上机分析。样品加标量在0.10mg/kg和1.00mg/kg时的平均回收率均在92%以上,相对标准偏差均低于4%,方法精密度较高。研究结果表明,该方法测定海藻中的无机砷较为准确、可靠,为制定农业行业标准海藻食品中无机砷的测定,提供技术支持。

【英文摘要】The inorganic arsenic(iAs) in seaweed food is an important safety index in seafood quality detection. High performance liquid chromatography-hydride generation-atomic fluorescence spectrometry(HPLC-HG-AFS) was used to determine the iAs in seaweed food. The concentration of extraction reagents,the extraction time and instrument conditions were optimized. A new method to determine the content of inorganic arsenic in seaweed food using HPLC-HG-AFS was obtained:firstly the seaweeds were extracted with 1.2 mol/L.

【语种】中文

【第一作者】尚德荣

【通讯作者】翟毓秀

【期刊名称、卷期、页码】水产学报、1、132-138

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【引文索引号】null

【学科分类】水产品贮藏与加工

【题目】水产品中不同形态砷化合物的毒性研究进展

【中文关键词】水产品, 砷, 毒性

【英文关键词】quaticfood,toxicity

【中文摘要】砷(As) 是一种毒性较高的污染元素, 其天然形态中无机砷(iAs) 具有较高的毒性, 有机砷则相对毒性较低。慢性砷暴露给人体健康带来的负面效应已引起研究者们的广泛关注。但这些关注主要集中在来自于污染的水源和工厂车间里的空气传播引起的砷中毒。相反, 对食物来源中砷的毒性效应的关注较少。近几年, 研究者通过反复抽样研究了不同食物种类及人们日常饮食中无机砷和有机砷化合物的个体含量水平, 表明人们日常饮食中大多数含有砷,其中大约90%的砷来自于水产品。

【英文摘要】无

【语种】中文
【第一作者】赵艳芳
【通讯作者】翟毓秀
【期刊名称、卷期、页码】海洋科学、9、92-96
【论文发表时间】2009-09-15 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】水产品贮藏与加工

【题目】鲜海带保存方式对褐藻胶含量及黏度影响
【中文关键词】海带碎片; 甲醛溶液; 褐藻胶; 黏度
【英文关键词】Pieces of kelp; Formaldehyde solution; Alginate; Viscosity
【中文摘要】延长化工用鲜海带使用周期,实现海带的规模化存贮。[方法]将不同尺寸的海带样品保存在浓度2%的甲醛溶液中,考察海带碎块大小以及化学物质的添加对海带中褐藻胶含量和黏度的影响。[结果]在浓度2%的甲醛溶液中,大块海带样品的褐藻胶得率和黏度要明显高于小块海带;化学物质的加入会加速海带中褐藻糖胶、褐藻淀粉等可溶性物质的溶出,化学试剂CaCl2的添加有助于提高保存海带中褐藻胶得率。[结论]建议在规模化海带保存过程中采用大块海带浸醛法(浓度2%甲醛溶液),以保证海带中褐藻胶的黏度和收率,达到理想的保存效果。
【英文摘要】The application cycle of the kelp in chemical industry would be prolonged based on the realization of its large scale storage.[Method]The pieces of kelp with different sizes were conserved in 2% formaldehyde solution in order to investigate the influence on the content and viscosity of alginate.[Results]In 2% formaldehyde solution,the content and viscosity of alginate in the large pieces of kelp were significantly higher than in the small pieces of one.The chemical reagent could accelerate the re...
【语种】中文
【第一作者】许洋
【通讯作者】翟毓秀
【期刊名称、卷期、页码】安徽农业科学、25、13820-13821
【论文发表时间】2010-06-17 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】水产品贮藏与加工

【题目】茶悬浮培养细胞玻璃化超低温保存研究
【中文关键词】茶; 悬浮培养细胞; 玻璃化法; 超低温保存;
【英文关键词】tea(Camellia sinensis); suspension culture cell; vitrification; cryoproservation;
【中文摘要】为保存具有稳定代谢能力的优良茶细胞系,本文对茶叶悬浮培养细胞玻璃化法超低温保存进行了初步研究。结果表明:预培养以4d最佳,60%PVS2冰浴装载以20min最好,100%PVS2冰浴脱水处理60min最优,40℃复温解冻细胞存活率最高,采用这些参数进行完整试验的细胞存活率达到76%,初步建立了茶悬浮培养细胞玻璃化超低温保存的冷冻程序。 更多还原
【英文摘要】To preserve eminent cell lines with stable metabolism,the cryopreservation of suspension culture cells by vitrification in Camellia sinensis has been preliminarily investigated in this article. It showed that the preculture for four days was best,loading with 60% PVS2 in freezing bath for 20 minutes was optimal. Treating with 100% PVS2 dehydration in freezing bath for 60 minutes was suggested. The cryopreservation of suspension culture cells warmed in 40°Cwater bath had the highest survival rate. The cells ’ survival rate was as high as 76% when these parameters were adopted through the whole trial. The procedure of cryopreservation of suspension culture cells by vitrification in Camellia sinensis was preliminarily established.
【语种】中文
【第一作者】刘亚军
【通讯作者】夏涛
【期刊名称、卷期、页码】茶叶科学 2009,29(2):120-126
【论文发表时间】2009-04-15 00:00:00
【引文索引类型】SSCI

【引文索引号】null
【学科分类】农业基础学科

【题目】类黄酮及茶儿茶素生物合成途径及其调控研究进展
【中文关键词】类黄酮; 茶; 儿茶素; 生物合成途径; 调控;
【英文关键词】flavonoids; tea; catechins; biosynthesis pathway; regulation;
【中文摘要】类黄酮化合物是植物的次生代谢产物,广泛分布于植物界且具有较强的生物活性。儿茶素是主要的类黄酮化合物之一,其含量占茶树鲜叶干重的12%~25%。作为茶叶的主要风味物质,儿茶素还具有抗氧化、抗诱变与防癌、抗心血管疾病、抗紫外线辐射等功能。本文从类黄酮及茶儿茶素的生物合成途径、组织化学定位、合成调控措施等方面,综述有关茶树儿茶素的生物合成代谢及其调控的研究进展,旨在为茶儿茶素生物合成的基因调控、代谢工程提供新的思路。 更多还原
【英文摘要】Flavonoids are the major secondary metabolites with diverse biological activities in high plant.As one of the main subgroups of flavonoids,catechins usually account for 12%-25% dry weight in fresh leaves of tea plant [Camellia sinensis(L.) O.Kuntze].Catechins are not only the most important components in tea flavor,but also possess a lot of physiological functions,such as antioxidant activity,antimutagenic and anticarcinogenic potential,anti-cardiovascular diseases,anti-ultraviolet radiation and so on.This paper reviewed the progresses in the flavonoids or tea catechins branch pathway and regulation,subcellular localization and organization of flavonoid enzymes,and may provide additional insights into regulating gene expression and engineering the catechins biosynthesis in tea plant.
【语种】中文
【第一作者】夏涛
【通讯作者】夏涛
【期刊名称、卷期、页码】中国农业科学 2009,42(8):2899-2908
【论文发表时间】2009-09-08 00:00:00
【引文索引类型】SSCI
【引文索引号】null
【学科分类】园艺学

【题目】茶树新梢中非酯型儿茶素及其合成酶的变化规律
【中文关键词】茶树; 非酯型儿茶素; 不同季节; 生物合成;
【英文关键词】tea plant [Camellia sinensis (L.) O. Kuntze]; non-galloylated catechins; different seasons; biosynthesis;
【中文摘要】对不同季节茶树新梢不同部位鲜叶中儿茶素组分和非酯型儿茶素合成酶的变化规律进行了研究。结果表明,在茶树新梢上,从芽到第四叶,四种非酯型儿茶素中除了GC外,C、EC和EGC含量均逐步增加;两种非酯型儿茶素合成酶中,DFR/LAR活性呈下降趋势,而ANR在第三叶中达到最高。相关分析进一步表明,不同部位鲜叶中儿茶素的总量变化与DFR/LAR活性变化呈显著正相关,而与ANR变化相关性不大。
【英文摘要】The changes of non-galloylated catechins and relative enzymes as well as the composition of catechins in different parts of tea shoots and in different seasons were investigated in this paper. The results showed that the contents of non-galloylated catechins except GC increased gradually from bud to the fourth leaf. Both of two synthetical enzymes related to non-galloylated cahechins, the activity of DFR/LAR declined gradually, but the activity of ANR was the highest in the third leaf. The result of correlation analysis showed that the contents of total catechins in different tea leaves presented a prominent positive correlation with the activity of DFR/LAR,but not with the activity of ANR.
【语种】中文
【第一作者】张宪林
【通讯作者】夏涛
【期刊名称、卷期、页码】茶叶科学2009,29(5):365~37
【论文发表时间】2009-10-10 00:00:00
【引文索引类型】SSCI
【引文索引号】null
【学科分类】园艺学

【题目】茶树不同儿茶素含量愈伤组织的蛋白差异分析
【中文关键词】茶树; 愈伤组织; 儿茶素; 蛋白质组学;
【英文关键词】tea plant; callus; catechins; proteomics;
【中文摘要】建立适合于茶树愈伤组织的蛋白质双向电泳技术,并比较不同愈伤组织间的蛋白表达差异,为深入开展茶树儿茶素生物合成的蛋白质组学研究奠定基础。【方法】在优化蛋白质提取技术的基础上,分别对“云茎63X”(儿茶素含量低)、“云茎63Y”(儿茶素含量较高)和光照诱导的“云茎63Y”(儿茶素含量最高)三类愈伤组织的蛋白质进行双向电泳分析,并对表达差异的蛋白质点进行质谱(LTQ-ESI-MS/MS)分析。【结果】通过对蛋白得率和SDS-PAGE单向电泳图谱的比较,发现TCA-丙酮法最适合茶树愈伤组织中蛋白质的提取;从三类愈伤组织的蛋白双向电泳图谱中,分析检测出14个差异较大的蛋白质;经质谱分析和数据库检索,14个蛋白中包括有谷胱甘肽S-转移酶、WD40蛋白、咖啡酸-O-转甲基酶、S-腺苷甲硫氨酸合成酶、果胶甲酯酶等。【结论】这些蛋白可能参与了苯丙烷及类黄酮途径的合成及其调控、乙烯合成、细胞壁代谢、糖酵解和信号转导等生理作用。
【英文摘要】【Objective】 To establish a two-dimensional electrophoresis (2-DE) of proteome suitable for tea callus and analyzethe differential protein expression patterns of tea callus with different catechins contents, which could provide a basis for the furtherstudy of proteomics of the catechins biosynthesis. 【Method】 Using the improved protein extraction, 2-DE and LTQ-ESI-MS/MSmethod, the differential protein expression profiling was investigated using the tea callus of “Yunjing63X” (with low catechinscontents), “Yunjing63Y” (with higher contents), and “Yunjing63Y” cultured under light (with the highest contents). 【Result】 Protein quantitative and SDS-PAGE electrophoresis results showed that TCA-acetone method was the best for extracting tea callusproteins. And 14 differential protein spots were identified by 2-DE electrophoresis, LTQ-ESI-MS/MS and database searching. Theglutathione S-transferase, WD40 family protein, catechol O-methyltransferase, S-adenosylmethionine synthetase, pectinmethylesterase and so on were identified among those differential protein spots. 【Conclusion】 The predicted function of thesepicked proteins were involved in many physiological reactions, such as phenylpropanoid and flavonoids biosynthesis, transport andregulation, ethylene biosynthesis, cell wall metabolism , glycolysis pathway, and signal transduction.
【语种】中文
【第一作者】张立明
【通讯作者】夏涛
【期刊名称、卷期、页码】中国农业科学 2010,43(19):4053-4062
【论文发表时间】2010-10-10 00:00:00
【引文索引类型】SSCI
【引文索引号】null
【学科分类】园艺学

【题目】Exploring polymorphisms and their effects on reproductive traits of the INHA and INHbA genes in three goat breed
【中文关键词】英文文章,详见英文关键词
【英文关键词】goat, INHA, INHbA, litter size, polymorphisms
【中文摘要】英文文章,详见英文摘要
【英文摘要】In this study, we report the analysis of INHA and INHbA gene polymorphisms in 786 goats of three breeds: Xinong Saanen (SN), Guanzhong (GZ) and Boer (BG). We identi fi ed three new allelic variants: P1 – C80G and/126G (GenBank accession no. HQ202573) in the three goat breeds and P2 – C936T (GenBank accession no. HQ202572) in SN and GZ goat breeds. At P1 locus, AA, AB and BB genotypes were found in the three goat breeds. At P2 locus, CC and CT genotypes were found in SN and GZ goat breeds. After comparing genotype distribution within the three goat breeds, BG had conspicuous differences from SN and GZ ($P < 0.001$) at P2 locus. The SNP locus was in Hardy – Weinberg disequilibrium at P1 locus in the three goat breeds ($P < 0.05$). At P2 locus, the SNP locus was in Hardy – Weinberg disequilibrium in SN and GZ goat breeds ($P < 0.05$). Association of polymorphisms with litter size was done at P1 locus in the three goat breeds. The result showed that AA genotype had remarkable litter size at P1 locus in the three goat breeds ($P < 0.05$). Therefore, these results suggest that INHA gene is a strong candidate gene that affects litter size in goats.
【语种】英文
【第一作者】侯金星
【通讯作者】曹斌云
【期刊名称、卷期、页码】Animal Science Journal (2012) 83, 273 – 278
【论文发表时间】2012-09-10 00:00:00
【引文索引类型】SCI

【引文索引号】doi: 10.1111/j.1740-0929.2011.00968.x
【学科分类】畜牧学

【题目】Study on polymerization effect of polyembryony genes by SSCP marker and family trees in Chinese goats
【中文关键词】英文文章,详见英文关键词
【英文关键词】SSCP; Family trees; Goat; Polymerization effect
【中文摘要】英文文章,详见英文摘要
【英文摘要】The aim of experiment was to analyze the polymerization effect of genotypes and genotype combinations of PRLR and LHb gene loci in Xinong Saanen goat by SSCP marker and family trees. The relationships of genotype combinations and litter size were compared in Xinong Saanen goat. The results indicate that there are genetic polymorphisms at the PRLR and LHb gene loci, and there are 4 positive genotypes (GG, CC, PP and LL) and 4 negative genotypes (HH, DD, QQ and MM) effects on litter size, respectively in Xinong Saanen goat. Compared with the other genotype combinations, the polymerization effect of GGCCPPLL markedly improved (P\0.05). The polymerization effect value of CC genotype was higher than that of CD genotype by 14.12%, and MM genotype was higher than that of LM genotype by 3.80%, and PP genotype was higher than that of QQ genotype by 15.67%, and LL genotype was higher than that of LM genotype by 11.48%, and PQ genotype was higher than that of QQ genotype by 11.02%, and CD genotype was higher than that of DD genotype by 10.69%, and PQ genotype was higher than that of PP genotype by 6.09%. There was significantly polymerization effect in the course of reproduction from parental generation (F0) to F1 generation. However, there was significantly gene isolation effect in the course of reproduction from F1 generation to F2 generation. This result can be used to guide the goat breeding in polyembryony trait.
【语种】英文
【第一作者】李广
【通讯作者】曹斌云
【期刊名称、卷期、页码】Mol Biol Rep (2011) 38:739 – 744
【论文发表时间】2010-04-07 00:00:00
【引文索引类型】SCI
【引文索引号】DOI 10.1007/s11033-010-0161-8
【学科分类】畜牧学

【题目】Investigation of the site-specific accumulation of catechins in the tea plant (Camellia sinensis (L.) O. Kuntze) via vanillin-HCl staining
【中文关键词】无
【英文关键词】Benzaldehydes/chemistry
Camellia sinensis/*chemistry/*metabolism
Catechin/*analysis/*metabolism
Chloroplasts/chemistry/metabolism
Hydrochloric Acid/chemistry
Staining and Labeling/*methods
【中文摘要】无
【英文摘要】Histochemical staining using vanillin-HCl is a potential tool to identify the site-specific accumulation of catechins in the tea plant (Camellia sinensis (L.) O. Kuntze). Using this technique revealed that catechins existed ubiquitously in all inspected tissues in young tea leaf, but the distribution was concentrated in the vascular bundle and palisade tissue, whereas the large parenchyma cells of the main vein contained lower amounts of catechins. At the subcellular level, catechins were located mainly in the chloroplasts of mesophyll cells and in the vessel wall. In young stems, catechins could be detected in most cells except the parenchyma cells of the pith and the cortex, whereas, in roots, catechins could be detected only in those cells surrounding the pericycle. Moreover, differing distributions of catechins were found in calluses cultivated in darkness and light. On the basis of HPLC analyses, six main types of catechins were present in tea leaves, stems, calluses, and chloroplasts; however, roots contained only epicatechin.
【语种】英文
【第一作者】刘亚军
【通讯作者】夏涛

【期刊名称、卷期、页码】J. Agric. Food Chem. 2009, 57, 10371 – 10376
【论文发表时间】2009-10-12 00:00:00
【引文索引类型】SCI
【引文索引号】DOI:10.1021/jf902614n
【学科分类】园艺学

【题目】Characterisation of anthocyanidin reductase from Shuchazao green tea
【中文关键词】无
【英文关键词】tea plant (Camellia sinensis (L.) O. Kuntze); tea flavan-3-ols; anthocyanidin reductase; enzyme assay
【中文摘要】无
【英文摘要】BACKGROUND: Flavan-3-ols, which account for approximately 700-800 g kg(-1) of tea polyphenols, exert many health-promoting effects. Anthocyanidin reductase (ANR) is an important enzyme involved in the biosynthesis of flavan-3-ols in the tea plant. The purpose of this study was to establish a suitable method for the determination of ANR activity. RESULTS: Thin layer chromatography (TLC), high-performance liquid chromatography (HPLC) and mass spectrometry (MS) analyses showed that cyanidin and delphinidin were converted into epicatechin and epigallocatechin respectively via ANR by using reduced nicotinamide adenine dinucleotide phosphate (NADPH) as a coenzyme in the tea plant. In order to measure ANR activity via NADPH concentration changes at 340 nm, several interference factors were studied. The interferences from the high background absorbance of substrate and coenzyme and the oxidation reaction of substrate and product were excluded by devising control experiments, decreasing substrate and coenzyme concentrations or adding antioxidants. The optimal pH and concentrations of substrate and NADPH were chosen such that the ANR assays were carried out at 45 degrees C for 25 min in a total volume of 1.5 mL of reaction mixture containing 0.1 mol L(-1) phosphate buffer (pH 6.5), 0.0667 mmol L(-1) cyanidin, 1 mmol L(-1) NADPH, 0.53 mmol L(-1) ascorbic acid and 150 microg total protein. Quantitative reverse transcriptase polymerase chain reaction (qRT-PCR) analysis showed that the trends in ANR gene expression corresponded with the enzyme activity in leaves at different development stages. CONCLUSION: The proposed method is simple, rapid, sensitive and suitable for the determination of ANR activity in the tea plant.
【语种】英文
【第一作者】张宪林
【通讯作者】夏涛
【期刊名称、卷期、页码】J Sci Food Agric (2012)
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【学科分类】园艺学

【题目】雨水资源化与现代节水农业
【中文关键词】雨水资源化;现代节水农业;雨水利用技术;雨水利用效率
【英文关键词】rainwater harvesting;modern water saving agriculture;technology of rainwater utilization;utilization efficiency of rainwater utilization
【中文摘要】在介绍雨水资源化与现代节水农业概念及其科学内涵的基础上,进一步论述了雨水资源化与现代节水农业的关系;指出雨水资源高效转化利用是现代节水农业发展的战略基础性生工作,也是现代节水农业技术体系的重要内容之一;最后从发展现代节水农业角度考虑提出了近中期雨水资源化的若干研发重点。
【英文摘要】Rainwater harvesting have played important roles in water resources sustainable utilization especially in dry farming agriculture areas jn China.Based on the scientific connotation of converting rainwater for resources and modern water saving agriculture.the paper analyzed the relationship belween the agriculture rainwater harvesting and modern water saving agriculture.and put forward and discussed that the agriculture rainwater harvesting is not only strategic basic job for developing modern water saving agriculture,but also one of imIportant research field for modern water saving agriculture technology system.At last,the paper suggested some resea rch and exploiting emphases for developing rainwater harvesting including fheoretic research of rainwater harvesting.
【语种】中文
【第一作者】吴普特
【通讯作者】吴普特

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【学科分类】农业工程

【题目】农业经济用水量与我国农业战略节水潜力
【中文关键词】农业经济用水量;节水潜力;灌溉水利用率;降水利用率;水分利用效率
【英文关键词】agricultural economic rational water consumption;water saving potential;irrigation water utilization efficiency;rainfall resources utilization efficiency;water utilization eficienc
【中文摘要】在分析我国农业水资源利用现状基础上,从保障粮食安全和最大用水综合效益出发,提出了“农业经济用水量”的概念,分析了其内涵,提出了基于宏观水资源合理配置的“农业经济用水量”研究的理论基础及其相应技术基础,并从战略层面对我国未来可实现的农业经济用水量及其节水潜力进行了初步分析,为缓解我国农业用水与工业用水、生态用水之间的矛盾提供了有益的探索。
【英文摘要】Abstract:On the basis of analyzing the present status of water resources utilization in agriculture,and starting from the view point of safeguarding grain security and assuring macro comprehensive efi ciency of water utilization,this paper puts forward the concept of agncultural economic rational water consumption,analyzes its connotation,raises itstheoretical basis and relevant technological foundation based on rational disposition of macroscopical water resource.It also makes a preliminary analyses on realizable agncultural economic rational water consumption and the water saving potential in the future,SO as to provide a beneficial exploration for relaxing the conflict between agnculture waterutilization,industrial water utilization and ecological water utilization.
【语种】中文
【第一作者】吴普特
【通讯作者】吴普特
【期刊名称、卷期、页码】中国农业科技导报,2007,9(6):13-17
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【学科分类】农业工程

【题目】现代节水农业发展趋势与未来研发重点
【中文关键词】生物节水技术;非常规水资源;节水灌溉技术;旱作高效用水;集成技术
【英文关键词】biological water-saving technique;inferior water resources; water-saving irrigation technique;dryland water high-efficient agriculture;technical innovation and integration
【中文摘要】在分析我国节水农业技术发展现状与趋势的基础上,结合现代节水农业技术发展与需求,提出未来我国现代节水农业技术研发重点和发展方向,即现代生物节水技术、非常规高效安全利用技术、节水灌溉技术与装备、旱作高效用水技术与新材料、区域高效节水农业综合技术。
【英文摘要】Base on analyzing research achievements and technical trend of modern water-saving agriculture in China, combining technical development and demand on modern water-saving agriculture, the author suggested five of technical research emphases on modern water-saving agriculture in the future, including the biological water-saving technique,inferior water resources development technique,water-saving irrigation technique and equipment, dryland water high-efficient agriculture, and the regional development mode of water saving in field for water-saving agriculture.
【语种】中文
【第一作者】吴普特
【通讯作者】吴普特
【期刊名称、卷期、页码】中国工程科学,2007,9(2):12-18
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【学科分类】水利工程其他学科

【题目】浅论黄土高原集雨补灌农业的地位与作用
【中文关键词】黄土高原;集雨补灌;水土保持;旱地农业
【英文关键词】Loess Plateau;rainwater catching for supplemental irrigation;soil and water conservation;
arid land farming
【中文摘要】干旱缺水与水土流失并存是制约黄土高原经济发展的两大瓶颈性因素.集雨补灌农业作为雨水利用的更高发展阶段,更加强调了从时间和空间2个方面对有限雨水资源实施主动调控与利用.大量研究与实践证明,集雨补灌农业不仅是黄土高原不可缺少的水资源开发利用形式,也是黄土高原水土保持工程技术体系的重要组成部分,更是黄土高原旱地农业持续发展的一种综合模式和战略性措施,是对旱地农业的进一步继承和发展.另外,具有工程化、科技化、规模化内涵的集雨补灌农业也已经成为现代节水农业技术体系的重要研究内容之一.黄土高原集雨补灌农业研究的深度和广度将会持续深入,其技术发展更加依赖于高新技术的支撑与应用.
【英文摘要】Drought and soil erosion are the two major obstacles to restrict economic development in the Loess Plateau of China.As a high stage for rainwater utilization,it emphasized the active regulation and utilization of rainwater in spatial 1ocation and time distribution.Rainwater catching for supplemental irrigation is not only an indispensable utilizing form of water resources,but also an important component of soil and water conservation technology system ;even the strategic m easure and com prehensive development model of sustainable arid land agriculture development in the Loess Plateau,and further inheritance and development of arid land agriculture.In addition,supplemental irrigation of catching rainwater for agriculture has a1so become one of important research field for modern water saving agriculture technology system.The depth and width of rainwater harvesting for supplemental irrigation will sustainably further;and its technological development will more depend on the support and application of high—technology.
【语种】中文
【第一作者】赵西宁
【通讯作者】赵西宁
【期刊名称、卷期、页码】武汉大学学报(工学版),2009,42(5):649-652
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【学科分类】农业工程

【题目】茶树花青素还原酶基因在大肠杆菌中的表达及优化
【中文关键词】茶树;花青素还原酶;原核表达;酶活性
【英文关键词】tea plant [Camellia sinensis (L.) O. Kuntze], anthocyanin reductase, prokaryotic expression, enzyme activity
【中文摘要】茶树花青素还原酶是催化非酯型儿茶素EC和EGC合成的关键酶。采用RT-PCR技术,获得了茶树花青素还原酶基因的开放阅读框,它编码含337个氨基酸的蛋白质,推测分子量为37 kD,等电点为6.54;成功地将该基因重组到表达载体pET32a(+)上,并在大肠杆菌rosetta中进行原核表达;优化了原核表达中诱导时间、诱导温度、IPTG浓度、氨苄青霉素浓度,纯化出目的蛋白。HPLC检测表明,目的蛋白具有ANR酶活性。
【英文摘要】Anthocyanin reductase is a key enzyme in the biosynthesis of EC and EGC in tea plant.The open reading frame of anthocyanin reductase gene(ANR),which encoding a 337 amino acids protein,was cloned from tea plant(Camellia sinensis(L.) O.Kuntze) by RT-PCR.The deduced protein molecular weight was 37 kD and its theoretical isoelectric point was 6.54.The gene was cloned into the expression vector pET32a(+) for expression in prokaryotic cells.The SDS-PAGE results showed that the anthocyanin reductase peoteins was expressed in Escherichia coli rosetta.The optimal inducing conditions including time,temperature,IPTG concentration,ampicillin concentration were studied.The deduced protein was purified and its activity was detected by HPLC.
【语种】中文
【第一作者】骆洋
【通讯作者】夏涛
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【题目】现代雨水利用技术研究进展与研发重点
【中文关键词】现代雨水利用技术;研究现状;发展趋势;研发重点
【英文关键词】modern rainwater harvesting technology;research current situation;development trend;R&D focus
【中文摘要】具有工程化、科技化、规模化内涵的现代雨水利用技术是现代节水农业技术的重要研究内容,已成为缓解干旱缺水,实现农业高效用水,降低常规农业用水量的有效措施。在分析现代雨水利用技术研究进展及其发展趋势基础上,指出现代雨水利用技术是传统雨水利用技术与新材料技术、现代生物技术、现代信息技术、现代灌溉工程技术等高新技术相结合的产物,具有多学科相互交叉、各单项技术相互渗透的明显特征。在此基础上,提出了近中期现代雨水利用技术研发的重点,即以重大前沿性技术研究为基础,研发与雨水利用相关的重要关键技术与产品,探索建立适宜的现代雨水高效利用技术体系。
【英文摘要】Modern rainwater harvesting technology has been endowed with scientific connotation of engineering and technicalization and scale by comparison with traditional rainwater harvesting.Modern rainwater harvesting technology is not only important research content for modern water saving agriculture,but also one of effective channel for relieving drought and water shortage,and reducing conventional agriculture water consumption in China.The paper summarized the research progress and development trend for modern rainwater harvesting technology,pointed out that the modern rainwater harvesting technology is the result of combing the traditional rainwater harvesting technology with modern material,biology,computer simulation technology,modern water saving irrigation technology ete.,technology with the characteristic of inter—overlap among many courses of study and inter—infiltration among each single technology.The focal point and contents for the study of the modern rainwater harvesting technology,namely basing on the study of significant technology,studying and development important and key technology related to rainwater harvesting,exploring and establishing a technical system of modern rainwater harvesting technology was put forward on the basis of that.
【语种】中文
【第一作者】赵西宁
【通讯作者】冯浩
【期刊名称、卷期、页码】灌溉排水学报
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【学科分类】农业工程

【题目】茶树幼苗发育过程中儿茶素合成与积累变化的研究
【中文关键词】茶树; 幼苗发育; 儿茶素合成; 基因表达差异;
【英文关键词】tea plant(Camellia sinensis); tea seedling development; catechins synthesis; differential gene expression;
【中文摘要】以茶树幼苗为材料,以HPLC、qRT-PCR为分析手段,分析了茶树幼苗发育过程中根茎叶的儿茶素含量变化及相关合成基因的表达差异。结果显示,在发育过程中,不同器官中儿茶素总量呈现不同的变化规律,在幼苗发育25 d、45 d、75 d和90 d时,茶树叶片的儿茶素含量(干重)呈下降趋势,分别为79.99、57.69、49.29和33.26 mg.g-1;茎中(干重)的为14.40、11.89、8.54和9.29 mg.g-1;根中的含量(干重)很低,分别为1.03、0.60、0.82和1.62 mg.g-1;在发育25 d的茶树幼苗茎叶中6种儿茶素单体均可以检测到;根中缺乏酯型儿茶素,但在发育10 d的根中却可以检测到。在茶树幼苗不同器官中,酚类物质合成相关基因表达有较大的差异性。 更多还原
【英文摘要】The tea seedlings at different development stages were taken as experimental materials,and the contents of catechins and the expressions of genes related to catechin synthesis in tea leaves,stems and roots of the tea seedlings at different development stages were analyzed using HPLC and qRT-PCR techniques.During the tea seedling development stages,we find that the content of catechins in different organs show different trends.The content of catechins in leaves(DW) were 79.99,57.69,49.29 and 33.26 mg.g-1 when the seedlings growing for 25 days,45 days,75 days and 90 days,showing a downtrend;while the content of catechins(DW) were 14.40,11.89,8.54 and 9.29 mg.g-1 in stems and the content of catechins(DW) were 1.03,0.60,0.82 and 1.62 mg.g-1 in roots.We can find six kinds of catechins in 25 day ’ s tea seedlings and can not found ester type catechins in tea roots except for in 10 day ’ s seedling.Expressions of the related genes involved in phenylpropanoid biosynthetic pathway showed remarkable difference in different organs at different growth stages. 更多

【语种】中文
【第一作者】单育
【通讯作者】夏涛
【期刊名称、卷期、页码】2011, 38(4): 600-605
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【学科分类】园艺学

【题目】茶树酯型儿茶素水解酶鉴定及其检测体系的建立
【中文关键词】茶树; 酯型儿茶素水解酶; 鉴定; 检测体系;
【英文关键词】tea plant(Camellia sinensis(L.) O.Kuntze); galloylated catechins hydrolase; identification; reaction assay;
【中文摘要】本试验利用体外酶学方法,结合薄层层析(TLC)、高效液相色谱(HPLC)和液相色谱-串联质谱(LC-MS/MS)分析,首次从茶树中检测到活性较高的酯型儿茶素水解酶(Galloylated Catechins Hydrolase,GCH)的存在。在酯型儿茶素水解酶催化下,酯型儿茶素发生水解反应,生成没食子酸(GA)和非酯型儿茶素。试验确立了酯型儿茶素水解酶的最适检测体系,在2.5 mL反应体系中包含0.2 mmol/L酯型儿茶素、2.4 mmol/L抗坏血酸、粗酶提取液若干(含0.1 mg酶蛋白)和0.1 mol/L磷酸缓冲液(pH6.5),在30℃下,反应30 min。此外,试验利用硫酸铵分级沉淀、阴离子交换层析和凝胶过滤层析对该酶进行了初步纯化。
【英文摘要】In this experiment,high activity of galloylated catechins hydrolase(GCH) was detected existing in tea plant(Camellia sinensis(L.) O.Kuntze) by enzymology analysis in vitro,combining thin layer chromatography(TLC),high performance liquid chromatography(HPLC),and liquid chromatography with tandem mass spectrometry(LC-MS/MS) analysis.The galloylated catechins could be hydrolyzed to ungalloylated catechins and gallic acid(GA) with the GCH action.The optimum reaction assay of GCH has been established.The 2.5 mL enzyme reaction assay included 0.1 mol/L phosphate buffer(pH 6.5),0.2 mmol/L EGCG,2.4 mmol/L sodium ascorbate,crude enzyme extract(0.1 mg total protein),and then it was incubated at 30℃ for 30 min.Besides,the crude enzyme extract was partially purified via ammonium sulfate fractionation,anion exchange chromatography on Q Sepharose Fast Flow column and gel filtration chromatography on superdex 200 sequentially.
【语种】中文
【第一作者】聂志银
【通讯作者】高丽萍
【期刊名称、卷期、页码】茶叶科学 2011,31(5):439~446
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【学科分类】园艺学

【题目】茶树叶片蛋白的SDS-PAGE分析
【中文关键词】茶树;幼苗发育;儿茶素合成; 基因表达差异
【英文关键词】tea plant (Camellia sinensis); tea seedling development; catechins synthesis; differential gene expression
【中文摘要】以茶树鲜叶为材料,对4种常用的蛋白提取方法(TCA沉淀法、冷丙酮沉淀法、TCA-丙酮沉淀法、Tris-丙酮沉淀法)、SDS-PAGE条件及影响蛋白定量的因素进行了比较研究。确定了一套优化的适用于茶树叶片蛋白提取、定量、凝胶制备、电泳和染色的方法。利用这一优化方法对茶树鲜叶蛋白和不同蔗糖浓度处理的愈伤组织蛋白进行了研究,找出了差异条带。
【英文摘要】The tea seedlings at different development stages were taken as experimental materials, and the contents of catechins and the expressions of genes related to catechin synthesis in tea leaves, stems and roots of the tea seedlings at different development stages were analyzed using HPLC and qRT-PCR techniques. During the tea seedling development stages, we find that the content of catechins in different organs show different trends. The content of catechins in leaves (DW) were 79.99, 57.69, 49.29 and 33.26 mg.g-1 when the seedlings growingfor 25 days, 45 days, 75 days and 90 days, showing a downtrend; while the content of catechins (DW) were 14.40,11.89, 8.54 and 9.29 mg.g-1 in stems and the content of catechins (DW) were 1.03, 0.60, 0.82 and 1.62 mg.g-1 in roots. We can find six kinds of catechins in 25 day's tea seedlings and can not found ester type catechins in tea roots except for in 10 day ’s seedling. Expressions of the related genes involved in phenylpropanoid biosynthetic pathway showed remarkable difference in different organs at

different growth stages.
【语种】中文
【第一作者】张立明
【通讯作者】高丽萍
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【题目】Differential gene expression in tea (Camellia sinensis L.) calli with different morphologies and catechin contents
【中文关键词】无
【英文关键词】Camellia sinensis
Catechin biosynthesis
Differential gene expression
Gene cloning
Tea calli
【中文摘要】无
【英文摘要】Tea (Camellia sinensis) is a commercially important crop that contains valuable secondary metabolites. To understand the molecular regulation of secondary metabolism in tea, we selected and analyzed two cell lines of tea callus (Yunjing63Y and Yunjing63X) that showed different morphological characteristics and catechin contents. Yunjing63Y callus was yellow and tight, while yunjing63X callus was white and loose. HPLC analyses showed that Yunjing63Y contained 3.71 times higher levels of catechins than Yunjing63X. Using cDNA amplified fragment-length polymorphism (cDNA-AFLP) we identified 68 genes that were differentially expressed between the two lines. Of the 68 differentially expressed ESTs, 40 showed higher expressions in Yunjing63Y and 28 showed higher expressions in Yunjing63X. BLASTX comparisons classified these ESTs into seven functional groups; phenylpropanoid metabolism (2.9%), UDPG-dependent glucosyl transferase (8.8%), transcription factors (11.8%), transporters (13.2%), signal transduction (19.1%), other metabolism (26.5%), and unknown (17.7%). We used qRT-PCR to validate the expression of genes and ESTs, and found that genes associated with flavan-3-ols biosynthesis and metabolism were expressed at higher levels in Yunjing63Y than in Yunjing63X. In addition, the expression of ESTs associated with flavonoid biosynthesis, regulation and transport were higher in Yunjing63Y than in Yunjing63X. The full-length cDNA of a EST coding for a putative MYB transcription factor was amplified using rapid amplification of cDNA ends (RACE). The resulting 1270bp long cDNA, named CsMYB1, contained a 933-bp ORF encoding a 310-amino acid protein with a predicted molecular weight of 105.27kDa and a predicted isoelectric point of 4.85 and showed highest homology to plant MYBs likely involved in stress signaling.
【语种】英文
【第一作者】杨冬青
【通讯作者】高丽萍
【期刊名称、卷期、页码】J Plant Physiol 169 2 163-75
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【引文索引类型】SCI
【引文索引号】10.1016/j.jplph.2011.08.015
【学科分类】园艺学

【题目】茶树不同器官组织总RNA提取方法的研究
【中文关键词】茶树; 总RNA; 器官; 提取方法; 简易CTAB-LiCl法;
【英文关键词】tea plant(Camellia sinensis(L.) O.Kuntze); total RNA; organs; extracting method; CTAB-LiCl method;
【中文摘要】从茶树组织中提取高质量的总RNA,是开展茶树基因组学、功能基因组学研究的重要前提,而RNase、多酚类物质严重干扰茶树总RNA的分离提取。鉴于茶树组织总RNA提取过程难易不一、总RNA提取质量良莠不齐的现状,现对材料用量、提取液、DNA和蛋白质抽提液、RNA沉淀试剂、多酚氧化抑制剂等进行了比较研究,建立了一种适合茶树各器官组织总RNA提取的简单高效的方法(简易CTAB-LiCl法),并与实验室常用的改良Tri-Reagent法、改良CTAB法进行了比较。核酸定量和琼脂糖凝胶电泳检测结果显示,简易CTAB-LiCl法从茶树各器官组织中提取到的总RNA质量高、得率高。

总RNA的得率是改良CTAB法的1.6-5倍。因此,简易CTAB-LiCl法具有效率高、适用范围广,且操作简单、实验成本低的特点。RT-PCR和cDNA-AFLP实验表明,提取的总RNA能够用于后续的分子生物学研究。

【英文摘要】Obtaining high quality total RNA is an important prerequisite for studying genomics and functional genomics of tea plant.It is hard to extract high quality total RNA from tea due to the interference of RNase,and polyphenols.Aiming at the drawbacks in extracting method for total RNA of tea plant,a comparative study was carried out to determine material dosage,extracting buffer,protein extracting solution,precipitating reagent for extracting total RNA,in this paper. The simple CTAB-LiCl method was established,which was a simple and effective method for extracting total RNA from different organs of tea plant.The differences among the improved Tri-Reagent method,the improved CTAB method and the simple CTAB-LiCl method were comparably investigated.The results of spectrophotometry testing and agarose gel electrophoresis showed that the simple CTAB-LiCl method was suitable for extracting high yield and high quality total RNA from tea organs.The intensity ratio of 28 S and 18 S rRNA bands was 2:1,the absorbanee ratios of A260 to A280 were about 2.0,the absorbanee ratios of A260 to A230 were up to 2.0,and the yield of total RNA ranged from 290.61 μg/g to 532.44 μg/g fresh weight.This method is good for extracting total RNA from different tea organs with its simple,efficient,high extracting rate and low cost.The results of RT-PCR and cDNA-AFLP analysis also revealed that the simple CTAB-LiCl method could obtain high quality total RNA from different tea organs.

【语种】中文

【第一作者】杨冬青

【通讯作者】夏涛

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【引文索引号】null

【学科分类】园艺学

【题目】茶树实时荧光定量PCR分析中内参基因的选择

【中文关键词】茶树, 实时荧光定量PCR, 内参基因

【英文关键词】Camellia sinensis, real-time fluorescence quantitative PCR, reference genes

【中文摘要】选择合适的内参基因是提高实时荧光定量PCR分析(qRT-PCR)准确性的先决条件。该文以茶树(Camellia sinensis)芽、叶、幼根、嫩茎、花瓣、种子和愈伤组织为材料, 应用实时荧光定量PCR技术, 分析了18S rRNA、GAPDH、β-actin和α-tubulin 4个常用内参基因在茶树不同器官组织中的表达情况。经GeNorm和NormFinder软件分析发现, 当利用荧光定量PCR分析比较茶树不同器官组织中的基因表达差异时, 可选择β-actin作为校正内参基因; 而比较不同成熟度的叶片和愈伤组织时, 可以选择GAPDH作为校正内参基因

【英文摘要】The selection of a suitable reference gene is an important prerequisite for successful gene expression analysisby real-time fluorescence quantitative PCR (qPCR). We investigated the expression stability of 4 endogenous candidategenes (18S rRNA, GAPDH, β-actin and α-tubulin) in qPCR experiments in different organs and tissues, including buds,leaves, young roots, stem, petals, seeds, and callus, of the tea plant Camellia sinensis (L.) O. Kuntze. The analysis withGeNorm and NormFinder algorithms revealed that β-actin could be used as a reference gene for organs and tissues andGAPDH for mature leaves and callus.

【语种】中文

【第一作者】孙美莲

【通讯作者】夏涛

【期刊名称、卷期、页码】植物学报 Chinese Bulletin of Botany 2010, 45 (5): 579 – 587

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【引文索引类型】SSCI

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【学科分类】园艺学

【题目】A preferable approach to clone hLIF cDNA from the genomic DNA

【中文关键词】英文文章,详见英文关键词

【英文关键词】cDNA cloning, hLIF, oral mucous membrane, overlap PCR

【中文摘要】英文文章,详见英文摘要

【英文摘要】Complementary DNA (cDNA) is valuable for investigating protein structure and function in the research of life science, but it is difficult to obtain by traditional reverse transcription. In this study, we employed a novel strategy to clone the human leukemia inhibitory factor (hLIF) gene cDNA from genomic DNA directly isolated from the mucous membrane of mouth. The hLIF sequence can be acquired within a few hours by means of amplification of each exon and splicing using overlap-PCR. Thus, the new approach developed in this study is simple, time- and cost-effective, and it is not limited to particular gene expression levels of each tissue.
【语种】英文
【第一作者】崔易虹
【通讯作者】曹斌云
【期刊名称、卷期、页码】Electronic Journal of Biotechnology
【论文发表时间】2011-05-15 00:00:00
【引文索引类型】SCI
【引文索引号】2.461161e+011
【学科分类】畜牧学

【题目】Analysis of Differentially Expressed Genes in Ovaries of Polytocous versus Monotocous Dairy Goats Using Suppressive Subtractive Hybridization
【中文关键词】英文文章,详见英文关键词
【英文关键词】SSH, EST, goat
【中文摘要】英文文章,详见英文摘要
【英文摘要】In this study, suppressive subtractive hybridization (SSH) was performed to screen differentially expressed genes in ovarian tissues between polytocous and monotocous goats. From the SSH cDNA library, we obtained 29 differentially expressed sequence tags (ESTs) that have high similarity with known genes in the public database, which were involved in signal transduction, transcriptional regulation, cellular molecular dynamics, cytoskeleton, metabolism and oxidation – reduction. In addition, one novel EST that has no similarity with known genes in the public database was obtained. Eight ESTs, TIMP1, NUCB1, OAZ1, CXXC5, CAPNS2, ATP5A1, Z and RPL5, were further examined for the reproducibility of the SSH data by the real-time quantitative PCR. The results con fi rmed an increased expression of respective mRNA in ovarian tissues of polytocous goats compared with those of monotocous goats. The study has identi fi ed several genes (known or unknown) that may have effect on follicular development, ovulation and egg activation in goats.
【语种】英文
【第一作者】安小鹏
【通讯作者】曹斌云
【期刊名称、卷期、页码】Reprod Dom Anim 47, 498 – 503 (2012)
【论文发表时间】2012-07-25 00:00:00
【引文索引类型】SCI
【引文索引号】3.0271500003e+011
【学科分类】畜牧学

【题目】Polymorphism identification in goat GNRH1 and GDF9 genes and their association analysis with litter size
【中文关键词】英文文章,详见英文关键词
【英文关键词】goat, linkage disequilibrium, litter size, SNP
【中文摘要】英文文章,详见英文摘要
【英文摘要】This study investigated the polymorphisms of GNRH1 and GDF9 genes in 641 goats of three breeds: Xinong Saanen, Guanzhong, and Boer. Two allelic variants were identified in the GNRH1 gene (JN645280:g.3548A>G and JN645281:g.3699G>A) and one allelic variant was found in the GDF9 gene (JN655693:g.4093G>A). Furthermore, g.4093G>A was a missense mutation (p.Val397Ile of GDF9). Results of an association analysis indicated that SNPs g.3548A>G and g.4093G>A had significant effects on litter size ($P < 0.05$). The combination genotypes of SNPs g.3548A>G, g.3699G>A, and g.4093G>A also affected litter size with C5 genotype having the highest litter size in the fi rst, third, fourth, and average parity. Hence, the biochemical and physiological functions, together with the results obtained in our investigation, suggest that the GNRH1 and GDF9 genes could serve as genetic markers for litter size in goat breeding.

【语种】英文
【第一作者】安小鹏
【通讯作者】曹斌云
【期刊名称、卷期、页码】Animal Genetics
【论文发表时间】2012-09-12 00:00:00
【引文索引类型】SCI
【引文索引号】0
【学科分类】畜牧学

【题目】GnRHR gene polymorphisms and their effects on reproductive performance in Chinese goats
【中文关键词】英文文章,详见英文关键词
【英文关键词】GnRHR, Polymorphisms, Litter size, Goat
【中文摘要】英文文章,详见英文摘要
【英文摘要】In this study, polymorphisms in the goat GnRHR gene exon 1 were detected by PCR-SSCP and DNA sequencing methods in 786 individuals from two different goat breeds. Two haplotypes (A and B), two observed genotypes (AA and AB), and two single nucleotide polymorphisms (SNPs) were detected, which resulted in five amino acid substitutions. The frequencies of haplotypes A and B in the two goat breeds were 0.78 – 0.83 and 0.17 – 0.22, respectively. The SNP locus was in Hardy – Weinberg disequilibrium in the two goat breeds ($P < 0.05$). Polymorphisms of the GnRHR gene were shown to be associated with litter size in the two goat breeds. The SNPs in the goat GnRHR gene had significant effects on litter size ($P < 0.05$). Therefore, these results suggest that the GnRHR gene is a strong candidate gene that affects litter size in goat.
【语种】英文
【第一作者】安小鹏
【通讯作者】曹斌云
【期刊名称、卷期、页码】Small Ruminant Research 85 (2009) 130 – 134
【论文发表时间】2009-09-24 00:00:00
【引文索引类型】SCI
【引文索引号】2.7191760001e+011
【学科分类】畜牧学

【题目】New genetic polymorphisms of KiSS-1 gene and their association with litter size in goats
【中文关键词】英文文章,详见英文关键词
【英文关键词】PCR-SSCP,Base deletions,SNP,Candidate gene
【中文摘要】英文文章,详见英文摘要
【英文摘要】In the present study, the polymorphisms of kisspeptin (KiSS-1) gene were analyzed in 652 individuals from three goat breeds: Xinong Saanen goats (SG), Guanzhong goats (GZ) and Boer goats (BG). Three alleles (T, C and G) and four genotypes (TT, TC, CC and TG) were detected in the intron 2 of KiSS-1 gene by PCR-SSCP analysis. In addition, two single nucleotide polymorphisms (SNPs) – T2643C and 8bp base deletions (2677AGTTCCCC) were identified by DNA sequencing. The SNPs loci were in Hardy – Weinberg disequilibrium in three goat breeds ($P < 0.05$). After comparing genotypic distribution within three goat breeds, BG had conspicuous differences from SG and GZ ($P < 0.001$). Association of polymorphism with litter size was done in SG and GZ breeds, which showed to be associated with litter size in both goat breeds. The SNP in goat KiSS-1 gene had significant effects on litter size ($P < 0.05$). Therefore, these results suggest that KiSS-1 gene is a strong candidate gene that affects litter size in goats.
【语种】英文
【第一作者】侯金星
【通讯作者】曹斌云
【期刊名称、卷期、页码】Small Ruminant Research 96 (2011) 106 – 110
【论文发表时间】2010-12-18 00:00:00
【引文索引类型】SCI
【引文索引号】2.9006520001e+011
【学科分类】畜牧学

【题目】Novel polymorphisms of goat growth hormone and growth hormone receptor genes and their effects on growth traits
【中文关键词】英文文章,详见英文关键词
【英文关键词】GH gene　GHR gene　Polymorphisms
【中文摘要】英文文章,详见英文摘要
【英文摘要】In this study, the polymorphisms of growth hormone (GH) gene 50 promoter region and intron 8, exons 4 and 10 of growth hormone receptor (GHR) gene were analyzed in Xinong Saanen goats (SG) and Boer goats (BG). Two alleles (A and B) and three genotypes (AA, AB and BB) were detected at P1 locus of GH gene, and two alleles (G and T) and two genotypes (GG and GT) were detected at P4 locus of GHR gene by PCR-SSCP analysis. In addition, two single nucleotide polymorphisms (SNPs)- A73C (P1 locus) and G114T (P4 locus), were identified by DNA sequencing. The frequencies of alleles A and B in the two goat breeds were 0.61 – 0.62, and 0.39 – 0.38, respectively, and the frequencies of alleles G and T in the two goat breeds were 0.82 – 0.86, and 0.18 – 0.14, respectively. The SNP loci were in Hardy – Weinberg disequilibrium in both goat breeds (P\0.05). Polymorphisms of GH and GHR genes were shown to be associated with growth traits in BG breed. AA and GG genotypes were associated with superior growth traits in 1-, 2- and 3-month old individuals. Hence, AA and GG genotypes are suggested to be a molecular marker for superior growth traits in BG breed.
【语种】英文
【第一作者】安小鹏
【通讯作者】曹斌云
【期刊名称、卷期、页码】Mol Biol Rep (2011) 38:4037 – 4043
【论文发表时间】2010-11-25 00:00:00
【引文索引类型】SCI
【引文索引号】2.9165680005e+011
【学科分类】畜牧学

【题目】Novel polymorphisms of the growth hormone gene and their effect on growth traits in Chinese goats
【中文关键词】英文文章,详见英文关键词
【英文关键词】GH, Polymorphisms, Growth traits ,Goat, Linkage disequilibrium
【中文摘要】英文文章,详见英文摘要
【英文摘要】The polymorphisms of the growth hormone (GH) gene were analyzed in 686 individuals from four goat populations, Three haplotypes (A, B and C) and three observed genotypes (AA, AB and AC) were detected at the P2 locus, and three haplotypes (E, F and G) and three observed genotypes (EE, EF and EG) were also detected at the P4 locus. In addition, five single nucleotide polymorphisms (SNPs)—A112G, C142T (GlyNSer), C214T (P2 locus), C266A (ProNHis) and C214T (P4 locus, ArgNTrp), were identified by GH gene sequencing and PCR-SSCP analysis. The SNPs loci were in Hardy – Weinberg disequilibrium in three goat populations (Pb0.05). Association of polymorphisms with growth traits was done in BG, F1 and F1 populations, which were shown to be associated with growth traits in three goat populations. The SNPs in the goat GH gene had significant effects on growth traits (Pb0.05). suggesting that the GH gene is a strong candidate gene that affects growth traits in goat.
【语种】英文
【第一作者】安小鹏
【通讯作者】曹斌云
【期刊名称、卷期、页码】Meat Science 86 (2010) 758 – 763
【论文发表时间】2010-06-15 00:00:00
【引文索引类型】SCI
【引文索引号】2.8595450003e+011
【学科分类】畜牧学

【题目】Polymorphism identification in goat DGAT2 gene and association analysis with milk yield and fat percentage
【中文关键词】英文文章,详见英文关键词
【英文关键词】Allelic variants, Linkage disequilibrium, SNP, PCR-SSCP
【中文摘要】英文文章,详见英文摘要

【英文摘要】In this study, we reported the analysis of DGAT2 gene polymorphisms in 468 goats of two breeds: Xinong Saanen (SN) and Guanzhong (GZ). We identified three new allelic variants: P2 (C234A), P4 (C182T) and P5 (G301T) in SN and GZ breeds. Furthermore, P2 locus was a missense mutation (Leu > Met) in both breeds. Three genotypes were found at P2 (CC, CDand DD) and P4 (AA, AB and BB) loci in SN and GZ breeds, respectively. At P5 locus, EE and EF genotypes were found in both breeds. The SNP loci were in Hardy – Weinberg disequilibrium at P2 and P5 loci in SN and GZ breeds ($P < 0.01$). The P4 locus was in Hardy – Weinberg equilibrium in both breeds ($P > 0.05$). Association of polymorphisms with milk yield and fat percentage was done in both breeds, which showed that genotypes CC, CD (P2 locus) and EE (P5 locus) had higher milk yield and fat percentage. Some of those with better performance could be used for the breeding of improved genotypes of goat. Therefore, these results suggest that DGAT2 gene is a strong candidate gene that affects milk yield and fat percentage in goat.
【语种】英文
【第一作者】安小鹏
【通讯作者】曹斌云
【期刊名称、卷期、页码】Small Ruminant Research 100 (2011) 107 – 112
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【引文索引类型】SCI
【引文索引号】2.9668990001e+011
【学科分类】畜牧学

【题目】Polymorphism identification in the goat KITLG gene and association analysis with litter size
【中文关键词】英文文章,详见英文关键词
【英文关键词】goat, haplotype, linkage disequilibrium, polymorphisms.
【中文摘要】英文文章,详见英文摘要
【英文摘要】This study reported the analysis of KIT ligand (KITLG) gene polymorphisms in 681 goats of three breeds: Xinong Saanen (SN), Guanzhong (GZ), and Boer (BG). In addition, the study identified three allelic variants: g.769T>C and g.817G>T in SN and GZ breeds, and g.9760G>C in the three goat breeds. The g.769T>C and g.817G>T loci were closely linked ($r2 > 0.33$). All the single nucleotide polymorphism loci were in Hardy – Weinberg disequilibrium ($P < 0.05$). Significant associations were found for litter size with all three loci. Therefore, these results suggest that the KITLG gene is a strong candidate gene affecting litter size in goats.
【语种】英文
【第一作者】安小鹏
【通讯作者】曹斌云
【期刊名称、卷期、页码】Animal Genetics, 43, 104 – 107
【论文发表时间】2011-03-03 00:00:00
【引文索引类型】SCI
【引文索引号】2.9887400002e+011
【学科分类】畜牧学

【题目】Polymorphism of Exon 2 of FSH β Gene and Its Relationship with Reproduction Performance in Two Goat Breeds
【中文关键词】英文文章,详见英文关键词
【英文关键词】goat, FSH β, polymorphism, litter size
【中文摘要】英文文章,详见英文摘要
【英文摘要】The objectives of the present study were to detect the polymorphism in follicle stimulating hormone beta (FSH â) gene and investigate the relationship between FSH â gene and high prolificacy in goats. According to the sequence of ovine FSH â gene, two pairs of primers were designed to detect single nucleotide polymorphism of exon 2 of FSH â gene in two goat breeds, Xinong Saanen dairy goat and Boer goat, by PCR-SSCP. The least square mean and genetic variance of different genotypes at polymorphic locus were analyzed, and the selection reaction was forecasted by genetic correlation between marker locus and genetic variance of litter size traits. There was one polymorphic locus occurring in exon 2 (P2) with three genotypes (EE, EF and FF). In Xinong Saanen dairy goat, EE genotype had significantly higher ($P < 0.05$) litter size than EF and FF genotype in the first to fourth parity and average parity; EF genotype had significantly higher ($P < 0.05$) litter size than FF genotype in the second and average parity. In Boer goat, EE genotype had significantly higher ($P < 0.01$) litter size than EF and FF genotype in the second to fourth parity and average parity; EF genotype had significantly higher ($P < 0.05$) litter size than FF genotype in average parity. In Xinong Saanen dairy and Boer goat, the heredity of

litter size was mainly influenced by genetic additive effect and the EE genotype is a favorable marker genotype for litter size in these two breeds.
【语种】英文
【第一作者】安小鹏
【通讯作者】曹斌云
【期刊名称、卷期、页码】Agricultural Sciences in China 2010, 9(6): 880-886
【论文发表时间】2010-06-01 00:00:00
【引文索引类型】SCI
【引文索引号】2.7869830001e+011
【学科分类】畜牧学

【题目】Polymorphism of PRLR and LH β genes by SSCP marker and theirassociation with litter size in Boer goats
【中文关键词】英文文章,详见英文关键词
【英文关键词】SSCP; Pedigrees; Boer goats; Polymerization effect
【中文摘要】英文文章,详见英文摘要
【英文摘要】In the study, the polymerization effect of genotypes and genotype combinations of prolactin receptor (PRLR) and luteinizing hormone beta (LH β) gene was analyzed in Boer goats by SSCP marker, DNA sequencing and pedigrees. The relationships of genotypes and genotype combinations with litter size were compared in Boer goats. The result indicated that there were genetic polymorphisms in PRLR and LH β genes. There were 4 positive genotypes (HH, CC, PQ and LL) and 4 negative genotypes (GG, DD, PP and MM) effects on litter size, respectively in Boer goats. Compared with the other genotype combinations, the polymerization effect of HHCCPQLL was markedly improved (Pb0.05). The polymerization effect value of CC genotype was higher than that of CD genotype by 6.55%, and HH genotype was higher than that of GH genotype by 9.47%, and HH genotype was higher than that of GG genotype by 10.55%, and PQ genotype was higher than that of PP genotype by 7.73% – 11.68%, and PQ genotype was higher than that of QQ genotype by 14.06%, and LL genotype was higher than that of LM genotype by 2.76%. This result can be used to guide goat breeding in polyembryony trait.
【语种】英文
【第一作者】安小鹏
【通讯作者】曹斌云
【期刊名称、卷期、页码】Livestock Science 136 (2011) 281 – 286
【论文发表时间】2010-08-24 00:00:00
【引文索引类型】SCI
【引文索引号】2.8883950003e+011
【学科分类】畜牧学

【题目】新型功能性低聚糖——磷酸寡糖的功能特性及应用
【中文关键词】功能性低聚糖,磷酸寡糖,开发前景
【英文关键词】functional oligosaccharides, phosphoryl oligosaccharides(POs), development
【中文摘要】磷酸寡糖(phosphoryl oligosaccharides,简称POs)是从马铃薯淀粉水解产物中提取的新型功能性低聚糖。文中阐述了磷酸寡糖的结构、功能以及制备方法的最近研究进展,并对其应用前景进行了展望。
【英文摘要】A new type of functional oligosaccharides2phosphoryl oligosaccharides(POs) was developedfrom potato starch hydrolysate. The structure, functional properties and preparation of Pos were introduced.And the development trends were included as well.
【语种】中文
【第一作者】朱培蕾
【通讯作者】杜先锋
【期刊名称、卷期、页码】食品与发酵工业,2007,33(7),107-111
【论文发表时间】2007-07-30 00:00:00
【引文索引类型】其他
【引文索引号】null

【学科分类】食品加工技术

【题目】马铃薯淀粉磷酸寡糖的全酶法制备及其分离
【中文关键词】马铃薯淀粉,全酶法,磷酸寡糖,柱层析,分离,制备
【英文关键词】potato starch, enzymatic, phosphoryl oligosaccharides, column chromatography, separation, preparation
【中文摘要】研究了制备低葡萄糖当量值(dextrose equivalent value,DE)麦芽低聚糖的工艺,以及从中分离制备磷酸寡糖(phosphoryl oligosaccharides, POs)的工艺条件。以马铃薯淀粉为原料,采用全酶法结合喷射液化工艺制备低DE值麦芽低聚糖,采用高效液相色谱法(high performance liquid chromatography, HPLC)测定样品糖分组成,柱层析法从中分离制备磷酸寡糖,并利用红外光谱进行定性分析。结果表明,麦芽低聚糖液化DE值为15%,糖化DE值36%,其中含有葡萄糖及麦芽二至七糖,以麦芽二至五糖居多,符合分离制备磷酸寡糖的要求。弱碱性阴离子交换树脂HJ-30分离磷酸寡糖的工艺条件:洗脱液NaCl浓度0·5 moL/L,洗脱速度1·2 mL/min。红外光谱分析结果显示,样品为结合有磷酸基团的糖类物质。
【英文摘要】The paper studied on the crafts to prepare maltooligosaccharides with low dextrose equivalent(DE) values and phosphoryl oligosaccharides (POs). Firstly, the low DE maltooligosaccharides was prepared from potato starch by enzymatic-jet liquefaction methodologies and was analyzed by high performance liquid chromatography (HPLC). Then, POs was separated from maltooligosaccharides by column chromatography and analyzed by infrared chromatography. The results showed that the DE values of liquefied and saccharified maltooligosaccharides were 15% and 36%, respectively. HPLC analysis showed that it mainly contained maltoolgosaccharide with DP 2 to 5. The optimal conditions to separate POs by HJ-30 column are as follows: the column was eluted with 0.5 mol/L NaCl at 1.2 mL/min. IR analysis of POs showed that it was sugar with phosphate groups.
【语种】中文
【第一作者】朱培蕾
【通讯作者】杜先锋
【期刊名称、卷期、页码】食品与发酵工业,2009,35(5),74-78
【论文发表时间】2009-05-30 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】食品加工技术

【题目】不同覆盖方式对辽西地区玉米土壤温度和产量的影响
【中文关键词】覆盖方式; 辽西地区; 土壤温度; 产量
【英文关键词】Cover way; Western Liaoning; Soil temperature; Yield
【中文摘要】在大田试验条件下,研究了不同覆盖方式对辽西地区土壤温度和玉米产量的影响。结果表明,不同覆盖处理均可以不同程度的增加旱地玉米土壤温度,渗水地膜覆盖、普通地膜覆盖分别比常规种植(CK) 高出5.4%、13.07%。其中,普通地膜的增温幅度最大,整个生育期内不同处理的土壤温度在 10 cm 和 20 cm 土层变化趋势基本一致; 不同覆盖方式均能增加玉米产量,其中以渗水地膜覆盖增产效果最为明显,比常规种植增产 219.19 kg/667m2,增产幅度达 32. 66%。说明渗水地膜覆盖方式是辽西地区提高土壤温度和玉米产量的最佳覆盖方式。
【英文摘要】In the field experiment conditions,the different soil covers means to western liaoning province to moderate the influence of maize yield. The results showed that different cover all can deal with different de-grees of increasing soil to mild maize yield,plastic film mulching,ordinary water plastic film mulching than conventional planting respectively (CK) higher than the 5. 4% ,13. 07% ,geothermal and straw mulching than conventional planting (CK) low 7. 4% 。 Among them,the largest amount when the ordinary film; The birth of the period,different treatment in 10 cm and geothermal 20 cm soil soil temperature change trend basic consistently; Different cover means all can increase the maize yield,among them with plastic film mulching ooze water effects of increasing,the most obvious than bare area increase 219. 19 kg /667m2,increase rate of32. 66% . Explain ooze water ways of plastic film mulching western liaoning province is to improve soil earth temperature and the best maize yield cover means.
【语种】中文
【第一作者】李开宇
【通讯作者】孙占祥
【期刊名称、卷期、页码】辽宁农业科学,2011(5) : 7 ~11
【论文发表时间】2011-09-10 00:00:00

【引文索引类型】其他
【引文索引号】null
【学科分类】农艺学

【题目】辽西地区土壤耕层及养分状况调查分析
【中文关键词】辽西地区;土壤耕层;犁底层;养分状况
【英文关键词】Western Liaoning, Soil plough layer, Plough pan, Soil nutrients
【中文摘要】目前,东北地区农田土壤耕层中明显存在的“浅、实、少”问题,已成为制约区域农业发展的主要限制因素。本文对辽西地区主要作物农田土壤耕层和养分状况进行了调查分析,结果表明:辽西地区的平均耕层为15.17 cm,比我国土壤平均耕层(16.5cm)低1.33cm。阜新、铁岭、朝阳、赤峰的有效耕层土壤量分别为2.27×106、1.97×106、1.95×106、1.79×106kg/hm2,均低于正常有效耕层土壤量(2.72×106kg/hm2),分别低16.5%、27.6%、28.3%、34.2%。但阜新、铁岭、朝阳、赤峰的土壤体积质量平均值分别为1.32、1.38、1.33、1.33 g/cm3,均高于作物生长适宜的土壤体积质量范围(1.1~1.3 g/cm3)。同时,辽西地区土壤养分状况也较为低下,其中速效P总变异趋势最大,pH值总变异趋势最小。
【英文摘要】At present soil plough layers of the farmland are obviously shallow, solid and little in the Northeast region of China, which have become into the main limiting factors for the development of regional agriculture. This paper studied soil plough layers and soil nutrients in western Liaoning. The results showed that the thickness of the mean plough layer in western Liaoning was 15.17 cm, which was 1.33 cm shallower than that of nationwide plough layer. Soil bulks of the effective plough layers in Fuxin, Tieling, Chaoyang and Chifeng were 2.27×106, 1.97×106, 1.95×106 and 1.79×106kg/hm2 respectively, which were 16.5%, 27.6%, 28.3% and 34.2% lower than that of the normal effective plough layer (2.72×106kg/hm2)respectively. The mean soil bulk densities in Fuxin, Tieling, Chaoyang and Chifeng were 1.32, 1.38, 1.33 and 1.33 g/cm3 respectively, all were higher than the suitable range (1.1 - 1.3 g/cm3) for crops normal growth. Meanwhile, soil nutrients in western Liaoning were low too. The general variation available phosphorus was maximum while that of pH was minimum.
【语种】中文
【第一作者】白伟
【通讯作者】孙占祥
【期刊名称、卷期、页码】土壤, 2011, 43 (5): 714~719
【论文发表时间】2011-10-01 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】土壤学

【题目】秸秆与氮肥配施对玉米生长及水分利用效率的影响
【中文关键词】秸秆还田;氮肥;玉米;生长发育;水分利用效率
【英文关键词】returning straw to soil; nitrogen fertilizer; maize; growth and development;water use efficiency
【中文摘要】针对辽西风沙半干旱区降水少、干旱频发、土壤瘠薄,玉米秸秆资源丰富的现状,重点研究了秸秆与氮肥配施对玉米生长发育及水分利用效率的影响。试验设4个秸秆还田量水平,2个施氮量水平。结果表明,秸秆还田配施氮肥对玉米生长前期和中后期的影响差别较大,对玉米早期生长有一定的负面作用,中后期秸秆还田正效应逐渐得到体现,玉米生长及水分利用效率以秸秆量9 000 kg·hm-2配施纯N 420 kg·hm-2和秸秆量6 000 kg·hm-2配施纯N 420 kg·hm-2效果较佳。
【英文摘要】In view of the current situation of rainless, poor soil and a large amount of maize strawin semi-arid area of western Liaoning Province, 4 levels of straw application rate plus 2 levels of nitrogen fertilizer were designed to study the effect of straw and nitrogen fertilizer on the growth,development and water use efficiency of maize. The results showed that the effect differenceof corn straw plus nitrogen fertilizer on the growth of maize between early stage and middle-and-late stages were great. At the early stage, it had some negative effects on the growth of maize, while at middle-and-later stages,some positive effects began to appear. To achieve the best effect of growth and water use efficiency ofmaize, maize-residue application treatment of 9 000 kg·hm-2 plus nitrogen (N) fertilizer of 420 kg·hm-2 and maize-residue application treatment of 6 000 kg·hm-2 plus nitrogen fertilizer (N) of 420 kg·hm-2 would be appropriate.
【语种】中文
【第一作者】高金虎

【通讯作者】孙占祥
【期刊名称、卷期、页码】东北农业大学学报,42(11): 116~120
【论文发表时间】2011-11-01 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】土壤学

【题目】施氮量对玉米产量、氮素利用效率和土壤硝态氮累积的影响
【中文关键词】玉米;施氮量;产量;土壤硝态氮;氮素利用率
【英文关键词】Maize;N application;Yield;Soil nitrate;Nitrogen utilization efficiency
【中文摘要】采用田间试验研究不同施氮量对两个玉米品种子粒产量、土壤硝态氮累积量及氮素利用率的影响。结果表明,玉米产量随施氮量增加显著提高,当施氮量高于200kg/hm2时玉米产量不再增加,高氮处理地上部分秸秆生物量出现下降趋势。0~100cm土层硝态氮累积量随氮素输入量的增加显著增加。不同玉米品种对氮素的吸收利用影响硝态氮在土壤中的累积,植株氮积累量存在差异。密植型玉米先玉335总吸氮量高于平展型玉米辽单28,土壤硝态氮的累积量也显著低于后者。不同氮肥水平的氮肥利用率为28.38%~35.33%,高氮处理氮肥利用率最低。本试验条件下,中氮处理水平基本能够满足作物生长的需求。综合产量、氮肥利用效率和土壤硝态氮累积情况,确定合理施氮量应控制在200kg/hm2左右。
【英文摘要】Field experiment was carried out to investigate N application on yield,soil nitrate accumula-tion,plant N uptake and utilization of two kinds of maize.The results showed that maize yield increased significantly with the increment of nitrate application rate,but the biomass of maize decreased and the yield of grain of maize didn ’ t increase when the nitrogen application rate was higher than 200kg/ha.Nitrogen application significantly increased nitrate content in all layers of soil profile and hyper-accumulation of ni-trate was found in 0-100cm soil layer in the treatment of 200kg/ha nitrogen application.There weredifferences in the yield and plant total amount of N absorption among 2types of maize.Total amount of N absorption and the content of soil nitrate in the high dose treatment which planted density-tolerance maize Xianyu 335were higher than density no-tolerance maize Liaodan 28.High nitrogen using efficiency was found in the treatment whose nitrogen fertilizer rate was 200kg/ha.Under the experimental conditions,with the consideration of yield,nitrogen utilization and soil nitrate accumulation,a reasonable amount of nitrogen application should be controlled at about N 200kg/ha.
【语种】中文
【第一作者】孙占祥
【通讯作者】孙占祥
【期刊名称、卷期、页码】玉米科学,2011,19(5)119-123
【论文发表时间】2011-10-04 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】土壤学

【题目】不同耕作方式对土壤水分及玉米生长发育的影响
【中文关键词】玉米;耕作方式;土壤水分
【英文关键词】Maize; Tillage management; Soil water content
【中文摘要】针对辽宁省中北部地区土壤耕层变浅、犁地层变硬等问题,以当地传统的耕作方式秋季旋耕为对照,设置秋季旋耕后翻耕25 cm、秋季旋耕后深松 30 cm、秋季旋耕后隔年深松 30 cm 3 种耕作方式,探讨不同耕作方式对土壤水分和玉米生长发育的影响。结果表明,翻耕或深松处理均有利于土壤含水量的提高,其中以秋季旋耕后深松30 cm 和秋季旋耕后翻耕 25 cm 的保墒效果最佳;翻耕或深松处理均增加了根冠比和产量,提高了玉米叶片酶活性,延缓了玉米生育后期叶片的衰老,其中以秋季旋耕后翻耕25 cm 效果最佳。秋季旋耕后翻耕 25 cm 的耕作方式较好。
【英文摘要】According to the characters of soil layer shoal and plow pan was hard in the middle and northern areas of Liaoning province, used plowing 25 cm, sub- soiling 30 cm and sub- soiling 30 cm in alternate years in autumn to study effects of different tillage managements on soil moisture and development of maize. The results showed that soil water contents of different tillage managements were all higher than CK. Among of which the sub- soiling 30 cm and the plowing 25 cm were the most significant. All the tillage managements increased the root/shoot ratio and yield. Increased the enzyme activity in leaves of maize, defer decrepitude effectively of leaves at latter growing stage, the plowing 25 cm in the fall was the best. The plowing 25 cm was the best, and obviously superior to that of other tillage managements.

【语种】中文
【第一作者】宫亮
【通讯作者】宫亮
【期刊名称、卷期、页码】玉米科学,2011,19(3):118~120,125
【论文发表时间】2011-05-03 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农艺学

【题目】半干旱区中耕深松对土壤水分和作物产量的影响
【中文关键词】半干旱区;深松;土壤水分;玉米;大豆;产量
【英文关键词】Semi- arid area; Subsoiling; Soil water; Maize; Soybean; Yield
【中文摘要】为了提高半干旱区旱作农田对天然降雨的利用率,打破犁底层,增加雨水入渗,达到蓄水保墒、提高作物产量的目的,2008 ~ 2009 年在朝阳半干旱区对旱地玉米和大豆进行中耕深松试验。研究表明,深松能打破犁底层,降低表层土壤容重和根系穿透阻力,提高土壤孔隙度。与对照相比,深松可以增加土壤含水量并可以提高水分入渗深度,深松区土壤水分入渗深度可达 80 cm左右,未深松区土壤水分入渗深度只有 40 cm左右。深松使玉米根干重增加幅度为 3.6% ~ 6.1%,使大豆根干重增加15.1%,并使大豆主根系入土深度增加 3 cm,玉米增产幅度 1.9% ~ 11.3%,在干旱年份增产效果明显,大豆增产 19.47%。
【英文摘要】In order to improve the utilization of natural rainfall in the dry farmland in the semi- arid area, break up plough pan, increase rainfall infiltration, achieve the purpose of water conservation and enhance the crop production,the subsoiling experiment on dryland corn and soybean made in the semi- arid area in Chaoyang in 2008 - 2009. The study shows that subsoiling can break up plough pan, decrease soil bulk density of surface layer and penetration resistence of the root system, increase soil porosity. Subsoiling can increase soil water content and enhance water infiltration depth to 80 cm compared with the control whose depth is only 40 cm. The root dry weight of maize is increased by 3.6% - 6.1%, and the root dry weight of soybean is increased by 15.1%, and the length of taproot is increased by 3.0 cm through subsoiling. Maize yield is increased by 1.9% - 11.3%, and stimulation effect is obvious in a dry year, and soybean yield is increased by 19.47%.
【语种】中文
【第一作者】肖继兵
【通讯作者】孙占祥
【期刊名称、卷期、页码】2011,42(3):709-714
【论文发表时间】2011-06-09 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农艺学

【题目】马铃薯淀粉磷酸寡糖研究进展
【中文关键词】马铃薯淀粉,磷酸寡糖,结构和功能,前景展望
【英文关键词】potato starch; phosphorytaled oligosaccharides; structure and function; prospect
【中文摘要】磷酸寡糖是指麦芽低聚糖中的某些葡萄糖残基与磷酸根共价连接的一种新型的功能性低聚糖类。除了具有一般低聚糖的生理功能外,还具有促进钙、铁等矿物质吸收的功能。本文对马铃薯淀粉磷酸寡糖的研究历程、结构和功能特性,以及目前存在的问题做了较为详细的阐述,并对磷酸寡糖的开发前景进行展望。
【英文摘要】Phosphorytaled oligosaccharides is a new kind of functional oligosaccharides which is made up of phosphate and glucose residues by covalent bonds · Besides the general function of oligosaccharide, it can also promote the absorption of calcium and iron · The structural and functional properties of the, the potato Phosphorylated oligosaccharides was described in detail · The existing problems and its history of the potato Phosphorylated oligosaccharides were introduced either · Its application prospects were discussed as well ·
【语种】中文
【第一作者】田晓敏
【通讯作者】蔡敬民

【期刊名称、卷期、页码】食品工业科技,2010,31(1),406-411
【论文发表时间】2010-01-31 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】食品加工技术

【题目】马铃薯淀粉制备磷酸寡糖的研究
【中文关键词】马铃薯淀粉 磷酸寡糖 分离 定性分析
【英文关键词】potato starch,phosphoryl oligosaccharides,separation,analysis
【中文摘要】以马铃薯淀粉为原料,采用全酶法并借以喷射液化工艺制备低 DE 值的麦芽低聚糖浆,采用高效阴离子交换色谱法测定所制备样品的糖分组成,离子树脂交换法从中分离制备磷酸寡糖,最后,采用薄层层析法和红外光谱法对其进行定性分析。结果表明: 制备液化 DE 值 16%,糖化 DE 值 35% 的糖液,其中,主要成分为麦芽二糖至麦芽七糖,以二糖至五糖居多。201 ×4 强碱性苯乙烯系阴离子交换树脂分离效果好,分离条件为: 洗脱液为 0. 4 mol/L NaCl,洗脱速度为 1. 4 mL/min。经红外光谱定性分析,结果显示样品为结合有磷酸基团的糖类物质。
【英文摘要】Malt - oligosaccharides with low dextrose equivalent (DE) was prepared from potato starch by using the fully enzymatic method and steam ejection liquefaction. Sample composition was detected using high performance anion - exchange chromatography,and phosphoryl oligosaccharides (POs) were separated from malt - oligosaccharides with the ion - exchange method. Finally,the POs were analyzed by thin - layer chromatography and infrared spectrum. Results: The DE values of the prepared liquefied and saccharified malt - oligosaccharides are 16% and 35% ,respectively,and a majority of the product is malt - oligosaccharides of disaccharide to pentose. The optimal conditions to separate POs are using 201 × 4 ion - exchange resin for separation,and eluting the column with 0. 4 mol / L NaCl at a speed of 1. 4 mL / min. IR analysis indicates the product is phosphate groups bound saccharides.
【语种】中文
【第一作者】杨文军
【通讯作者】杜先锋
【期刊名称、卷期、页码】中国粮油学报,2010,25(11),52-56
【论文发表时间】2010-11-30 00:00:00
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【学科分类】食品加工技术

【题目】发情期家兔输卵管上皮细胞和基质细胞的分离培养与鉴定
【中文关键词】输卵管;上皮细胞; 基质细胞;共培养; 免疫组化和免疫荧光;家兔
【英文关键词】oviduct; epithelial cells; stromal cells; coculture; immunocytochemistry andimmunofluores cence; rabbit
【中文摘要】目的 探讨输卵管上皮细胞和基质细胞的体外分离培养方法及在激素刺激下基质细胞对上皮细胞的作用。[1]方法 通过差速贴壁法体外分离纯化兔输卵管上皮细胞和基质细胞; 免疫组织化学染色和免疫荧光染色方法鉴定上皮细胞和基质细胞的类型和纯度;并在无胎牛血清DMEM/ F12培养液和含体积分数15%胎牛血清的DMEM/F12培养液中,分别添加不同浓度的雌激素(17E2)和孕激素(P4), 比较上皮细胞和基质细胞的增殖情况及其对上皮细胞/基质细胞共培养的影响。[1]结果 体外成功地分离到兔输卵管上皮细胞和基质细胞; 兔输卵管上皮细胞经鼠抗人细胞角蛋白单克隆抗体(antiCK18)免疫组织化学染色后呈阳性, 细胞质呈棕色,免疫荧光染色检测其纯度在98%以上;兔输卵管基质细胞经鼠抗人波形蛋白单克隆抗体(antiVimentin) 免疫组织化学染色后呈阳性, 细胞质呈棕色,免疫荧光染色检测其纯度在95%以上。17E2 和P4 均能促进兔输卵管上皮细胞和基质细胞的增殖, 使其数量明显增加。基质细胞与上皮细胞共培养,上皮细胞增殖较快。[1]结论 差速贴壁法能够获得纯度较高的输卵管上皮细胞和基质细胞,在17E2 和P4 共同作用下,少量基质细胞能促进上皮细胞生长。
【英文摘要】The research is to study methods for isolation and culture of epithelial cells and stromal cells fromr abbit oviduct, and stromal contributionto epithelial functions inthe stimulation of estrogen. Method Invitro rabbit oviductal epithelial cells andstromal cells were isolated and purified through differential attachment technique. Immunocytochemical staining and immunofluorescence staining were usedto identify typesof epithelial cellsandstromal cells and the purification. Different concentration of 17estrogen(17E2) andprogesterone (P4) were added respectively to the fetal bovine serum-free DMEM/ F12mediumandDMEM/ F12 mediun including the volume fraction 15% fetal bovineserum, compared with proliferation of epithelial cells and stromal cells, and whose effected on the cocultured epithelial cells stromal cessl. Result Rabbit oviduct epithelial cells and stromal cells, immunocytochemistry of rabbit

oviductal epithelial cells, thecytoplast showbrown(+) toanticytokeratin 18, the purification of epithelial cells reach over 98% through immunofluorescence staining; immunocytochemistry of rabbit oviductal stromal cells, thecytoplast show brown(+) to antivimentin, the purificationof stromal cells reachover 95% through immunofluorescence staining. 17E2 andP4 could accelerate the proliferation of rabbit oviductal epithelial cells and stromal cells, whose quantity distinctly increased. Epithelial cells were cocultured instromal cells, epithelial cellsproliferate quickly. Conclusion This study demonstrates that differential attachment technique can receive more highpurity of oviductal epithelial cellsandstromal cells. Uncler the combinedaction of 17E2 and P4, a small quantityof stromal cells could accelerate the growth of epithelial cells

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【题目】不同风味羊奶皮配方及加工工艺研究
【中文关键词】发酵剂 羊奶干酪 脂肪 降解
【英文关键词】ferments;goat cheese;fat degradation
【中文摘要】本试验旨在研究一种新型营养更全面的适合大众口味的奶皮子。在传统奶皮子加工的基础上,选用可可粉、草莓、桑椹、山羊奶和白砂糖为原料,采用对比试验和正交试验等方研究了不同风味羊奶皮的加.x-t艺和配方。其工艺流程为:山羊奶过滤_加热灭茵-+加白砂糖、可可粉或果汁一搅拌翻扬一保温叶冷却_取出奶皮一晾晒_成型;其产品配方为:(1)可可味奶皮最佳配方:20g可可粉,80g糖/5 kg奶;(2)草莓奶皮最佳配方:400mL草莓汁,50 g糖5kg奶;(3)桑椹奶皮最佳配方:400mL桑椹汁,60g糖/5 kg奶。研制的奶皮子的营养更加丰富,口感更加纯香,衍生产品更加多样,能满足更多消费者的需求。
【英文摘要】This study aimed to develop brand newcheesefoodwhich fitted to taste of most people.Basedontraditional processing Milkand sugar wereselected raWmaterials to studyprocessing technology and formulaofommuwithdifferent flavors using contrasting and orthogonal test method.Theresult indicated that processingprocedure.Filter goat mjJk_+sterilizemilk_add sugar,c0430a powder andfruit juice_+stir the mixed mnk_+heat preservation, take out theoromu— ’ dry—}shape.(1)Optimal formula of cocoa oromu:209 cocoa powder and 809sugar/5kg milk (2)Optimal formulaof straw-berry oromu:400raLstrawberry juice and 509sugar/5kgmilk (3)Optimal formula of mulberry o∞mu:400mLmulberry juice and 609sngar/5kg milk.In summary,more utritional,more delicious,moreexpandingproducts wereobtained andCanmeet demandsof loreconsumers.
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【第一作者】安小鹏
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【题目】蛋花羊奶皮子配方及加工工艺研究
【中文关键词】羊奶;鸡蛋;奶皮子;配方
【英文关键词】Goatmilk;egg;oromu;formula
【中文摘要】过改进传统奶皮的加x-x-艺,研究开发出一种营养价值更加全面,外观和风味更好,更易吸收的新型鸡蛋花羊乳奶皮子。本研究以新鲜山羊奶和鸡蛋为主要原料,通过正交试验筛选出了蛋花奶皮子的最佳制作工艺以及原料配方。试验得出:(1)蛋花奶皮子最佳制作工艺:原料乳-+过滤、灭茵_+均质-+加热翻扬搅拌(900C,2h)_+加入鸡蛋糊(2%)一轻搅混匀_保温(4—6h)_+停止加热使其自然冷却(约12h)_+从锅中倒出奶皮子_+干燥一冷藏。(2)蛋花奶皮子最佳原料配方:新鲜羊奶98%,鸡蛋添加量2%,新鲜羊奶I>3.5kg。研制的新型羊乳制品不仅含有人体所需的亚油酸和亚麻酸,而且还有丰富的DHA和卵磷脂,健脑益智,改善各个年龄组的记忆力,具有丰富的营养价值。

【英文摘要】A new goat milk OlrOlnUwith eggs that is mole nutrition,better presentation and flavor,easier to be absorbedWaft devel-opedby improving traditional processing technique ofOl"omu.Fresh goat milk and eggs were the main materials.Orthogonal test method was adopted to select optimal making technology and formula for the production of goat milk Ol"omu with eggs.The results showed that(1)The best productionprocessing-raw milk_+filterand sterilizeh ogeIliz-heatand stir(90℃,2h)+add eggs paste(2%)stir andmix lighdy-+heat insulation(4-6 h)stop heating andnatural cool(about 12 h) Ilr OlrOmu from the potry-+cold storage;(2)The best fol'i'nulll,98%fresh goat,2%eggs,theweight offresh goat≥3.5 kg.This new typegoat milk notonly containedlinoleie acid and linolenicacidneeded by human body,but also WaS rich in DHAand lecithin of brainand ClU'I improve memory in all age groups,it possesses abundantnutritive value.
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【题目】发酵型乳酸羊乳果味饮料加工工艺研究
【中文关键词】胡萝卜;草莓;五味子
【英文关键词】Thecarrot;The strawberryl The fruit ofChinese magnoliavine
【中文摘要】本试验选用草莓,胡萝卜,五味子,羊奶为主要原料,采用正交试验对发酵型乳酸菌羊乳饮料生产工艺进行了系统的研究,最终确定了该新型复合酸羊乳饮品的加工工艺、方法及最佳配方。结果表明:①乳酸羊乳果味饮料加工工艺为:鲜羊乳一过滤、消毒一加糖、果蔬汁、菌种发酵一冷藏一添加果汁与其它辅料调配一灌装一灭菌。②五味子的最佳提取工艺为:第一次加入5倍的水,保持温度在70~80℃之间30min,第二次加入3倍的水,温度与时间同第一次,第三次同第二次。③乳酸菌羊乳饮料的最佳配方为羊乳酸乳为40%、草莓2.5%、五味子6%、稳定剂0.5%。
【英文摘要】Thisexperiment selectedthe strawberry.The carrot.the fruit ofChinese magnoliavine and the goat milkas the mainraw material,used the orthogonalexperiment tOconductthe system researchtOthefermentation lactic acid fungusgoals milkdrink production craft,and finally determined this new duplicate complex acids goat ’s milk drink processing craft.The methodandthebestformula.The resultindicatedthat,(1)Thelactic acid goats milk drink fruit tastedrink processing craft wasl the fresh Goat's milk一>filters,thedisinfection一>sweetens,he fruits and vegetablesjuice,the mold mushroom spawn ferments一>therefrigeration一>increase fruit juice tO mix with other supplementary materials一>fills installs一m>the antiseptic.(2)fruit of Chinese magnoliavine besttOwithdrawthecraft was,firsttime joins 5 timeOfwatert themainte-nance temperaturebetween 70°Cand80°Cin30mi,thesecondtimejoins 3timesofwater,the temperature andthetime with the first,thethird time withthe8econd.(3)lactic acid fungus goat ’s drink best formula was the 80ur goals milk40%,the strawberry2.5%,thefruit of Chinese nmagnoliavine 6%.thestabilizer 0.5%.
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【题目】果蔬乳饼配方及加工工艺研究
【中文关键词】山羊奶乳饼;果蔬汁;工艺参数;配方
【英文关键词】Goatmilkcake;fruit and vegetablejuice;technical parameters;formula
【中文摘要】饼是云南少数民族地区的一种传统山羊奶制品,但产品单一,工艺陈旧,难以满足更多消费者需求。为了丰富乳品市场、开发新型山羊奶制品,本研究在传统乳饼加工的基础上,选用新鲜山羊奶和果蔬汁为原料。采用正交和单因素对比试验筛选果蔬乳饼配方以及加工工艺,结果表明:(1)果蔬乳饼的工艺流程:山羊乳_+过滤杀菌-+加热一添加CaCl2.+添

加果蔬汁一添加白醋-+充分搅拌_凝乳一静置一+排乳清_压榨_+成品;(2)乳饼制作工艺参数:凝乳温为80℃,CaCl添加量为0.025%,点酸水后的pH值为3.8;(3)黄瓜乳饼最佳配方为:羊奶80%,黄瓜汁18%g,糖2%;4)草莓乳饼最佳配方为:羊奶80%,草莓汁20%,糖适量西瓜乳饼最佳配方为:羊奶77%,西瓜汁23%,糖适量;(5)桑葚不适宜用于制作紫色乳饼。山羊奶乳饼;果蔬汁;工艺参数;配方

【英文摘要】Goat milk cake is a dairy product in Yunnan minority areas,but the product is unitary thecraft is obsolete.It is hard to meet moreconsumem,need.Toenrich dairy product market and development new type goat milk product,in the presentstudy,based ontraditional milkcake processingmethods,flesh goat milk andthefruits and vegetablesjnice were selected a8rawmaterial,theformulaand process technique offruit and vegetable milk cakewere investigated throughorthogonal and signal trims,Theresuhsin-dieated tha,(1)The process technique,goat milk-*filtering and sterilizing---*heating--÷adding CaCl2--,adding fruit and vegetable juiee---adding white vinegar--,ehum the compound y_cur;ding- tdillgexcludingwheypressing-product;(2)Technical pa-rametersofmilkcake making;the curdingtemperature is 80℃,the addition of CaCl2 is 0.025%.thepH valueafter addingvinegar is 3.8;(3)Optimum formula ofcucumbermilk cake:80%goatmilk,18%cucumberjnice,,eration of sugar,optimum formula ofwatermelon milk cake:80%goat milk,18%cucumberjnice moderation of sugar,(5)Mulberrys unsuitable for makingpurple milkcake.

【语种】中文

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【学科分类】畜牧学

【题目】混合果肉羊乳扣碗酪的加工工艺研究

【中文关键词】混合果肉;羊乳;扣碗酪;加工工艺

【英文关键词】Ixed pulp;goat milk;kouwan cheese;processing techique

【中文摘要】制全新的具有民族特色并且适合大多数人口味的奶酪食品。采用单因素多水平试验及正交试验方法,研究出混合果肉羊乳扣碗酪的加工工艺。白砂糖、琼脂熬汁过滤-杀菌添加到过滤杀菌的羊奶中调配.冷却加江米酒分装.冷凝叶纯化成品。产品配方为:新鲜山羊奶4009,8%桃果肉,8%梨果肉,9%葡萄干,果肉用30%的砂糖液煮制8min最佳,7.5%白砂糖,0.5%琼脂以及1.5%江米酒。该果内扣碗酪具有水果的保健功效,营养全面,丰富我国的乳品市场和促进羊奶产业的发展。

【英文摘要】This study aimedto develop brandnew cheesefood with national haracteristicswhichfitted to the taste ofmostpeople.Single factorand orthogonal test method were adopted in this study to study formulaand processingtechnique of kouwancheeseofmixed pulp and goat milk.Theresults showedthat theprocess echniquem,mixture of sugar and augorboiling_+lilter_+steIilize_add to goat milk andmixed-cool add rice wine--+fill--*coagulate--+purify—preduct.Product formula:4009 fresh goat milk,8%peach pulp. 8%pearpulp,9%raisin,pulp wasdealed with 30%syrup about8 min,0.5%agar,1.5%rice wine.Ha short,the IleW kouwan cheesehas fruit functionsfor human health,fully nutrition,which Call enrich dairy marketand promote the development of goat milk industry in China.

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【学科分类】畜牧学

【题目】橘枣山羊奶饮料加工工艺研究

【中文关键词】橘皮汁;枣汁;山羊酸乳;加工工艺

【英文关键词】Syrup of orangedujubejuice;Goat milk Yoghurt;Technics

【中文摘要】采用正交试验的方法研究山羊奶饮料的加工配方和稳定性,筛选了橘枣山羊奶的加工工艺配方。结果表明:①橘枣山羊奶的加工工艺:橘皮、大枣清洗浸泡水煮保温浸提过滤留汁添加过滤灭茵的有羊奶调配均质罐装灭茵成品

;②橘皮,大枣的固水比均为:1:3;③橘枣山羊奶最佳配方为:枣汁8%,橘皮汁8%,鲜羊奶40%,纯净水40%,白砂糖4%;④复合稳定荆的添加量是:羧甲基纤维素钠(CMC):0.04%,蔗糖酯O.12%,黄原胶0.08%;⑤复合酸味荆添加量0.5%。

【英文摘要】The processing formulaand the stability of the goat milk yoghurt with syrup of orange and jujube juice has been investigated through orthogonalexperiment.The processing techincs and the prescription ofsyrup of orange and jujube juice goat milkweredescribed with followingsteps,①Theprocessing technicsof syrup of orange and jujubejuice goatmilkwas,ce.Drate.jujube—clearl-soclpoach filtering syrup of orange.jujube juice-adding goat milkand mixing-homogenization-filling-sterilization-,-product.②eedrate.jujube and the waterall of1l3 l③The optimum formula of the syrup of orange and j ujubejuice goat mi composed of 8%jujubejuice.8%syrup of orange,40%goatmilk.40%cleanwater,4%sugar.(DThe stabilizer compound included0.04%CMC.0.12%sucrose nfatty acidesters.0. xanthan Gum.⑤The sour agent compound recruitment was0.5%.

【语种】中文

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【通讯作者】曹斌云

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【学科分类】畜牧学

【题目】枸杞锁阳山羊奶饮料加工工艺的研究

【中文关键词】山羊奶;枸杞;锁阳;加工工艺;配方

【英文关键词】Goat milk;Medlar;Cynomorium;ProcessinglFormulation

【中文摘要】采用山羊奶、枸杞、锁阳为主要原料,应用对比和正交试验方法,研制功能性山羊奶饮料。结果表明:①工艺流程为:枸杞、锁阳原料一浸提一过滤一添加羊奶调配一均质一灌装一灭菌一成品;②最佳配方为:50%纯净水、30%羊奶、6%白砂糖、7%枸杞汁、5%锁阳,l%酸味剂;③复合稳定剂的添加量为:0.12%蔗糖脂,O.08%CMC,0.08%黄原胶。工的饮料稳定性佳,口感细腻,酸甜适宜,具有羊奶的芳香和特殊口味。

【英文摘要】Use goat milk,medlar,and cynomorium aa the main material.Following the contrasting testing and orthogonal experiment,developing a kind offunctionaldairydrinks.The processing techincs was.①medlar.eynomorium.Extraction 4 filter add goat milk.homogenizationfilling+sterilization produetion.②the bestformula was.50%pure water.30%goat milk.6%sugar.7%medlarjuice.5%cynomoriumjuiee.l%acids.③the stabilizer compoundinclude 0.12% sucrose fatty acid esters.0.08%CMC.0.08%xanthangum.

【语种】中文

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【学科分类】畜牧学

【题目】玫瑰芦荟复合酸羊奶饮品加工工艺研究

【中文关键词】玫瑰汁;芦荟汁;酸羊奶,加工工艺

【英文关键词】Rose juice,Aloe juice,Acidsgoals milk,Process andcraftwork

【中文摘要】本研究选用玫瑰、芦荟和羊奶为原料,采用正交试验法研究了新型复合酸羊奶饮品及各原料的加工工艺、饮品最佳配方比例及稳定性,最终确定了该饮品的加工工艺和配方。结果表明:①玫瑰芦荟复合酸羊奶饮品的加工工艺为:鲜羊奶一过滤、消毒一加糖、茵种发酵一冷藏一添加玫瑰汁、芦荟汁、纯净水等一添加稳定剂,搅拌一灌装一灭茼一成品。②玫瑰汁的最佳提取工艺为用15倍的水在70℃提取1h。芦荟汁与水的最佳配比为1t4。③玫瑰芦荟复合酸羊奶饮品的最佳配方为:酸羊奶35%,玫瑰汁15%,芦荟汁10%,纯净水40%,白砂糖6%,稳定荆CMC—Na0.5%。关键词:玫瑰汁;芦荟汁;酸羊奶,加工工艺

【英文摘要】Thisresearch selected therose.the aloe and the goat’S milk as araw material and used the orthogonal testing methodtO study new complex acids goat's milk drinksand various raw materials processing craft and tOdetermine thedrinks bestformula

proportion and the stability.As shownin the study.(1)The rosealoe duplicate complex acids sheep'smilkdrinks processing craftwasI thefresh sheep's milk.filters.thedisinfection 4 sweetens.themoldmushroom spawn ferments+the refrigeration ’increase rose juice.the aloe juice · thepure water and SO on.theincreasestabilizer.stirs.fills installs. the antiseptic 4 en product.(2)Rosejuice extraction processed forthe best useofwater 15 times inonehourfro 70°C. Aloe juice andthe water best allocated proportion was 1 t 4.(3)Rosealoe duplicate complex acids goat's milkdrinksbeStfor-mulawasI The sour goat's milk 35%.the rose juice 15 the aloe juice 10%.the pure water40%.white granulated sugar 6%,stabilizer CMC—Na0.5%

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【学科分类】畜牧学

【题目】猕猴桃奶豆腐加工工艺及配方研究
【中文关键词】山羊奶;猕猴桃;奶豆腐;配方
【英文关键词】Goat;kiwi;milk curd;formula
【中文摘要】发一种新型的适合大众口味的高营养奶制品。以山羊奶为主要原料,以适量的猕猴桃汁和白砂糖等作为辅料,通过工艺改进和配方优化,加工一种新型山羊奶制品。得出猕猴桃奶豆腐的加工工艺为:原料乳(制作奶皮子后的脱脂乳)+杀茵_+添加发酵剂+自然凝乳+切割+排清+升温搅拌+保温搅拌_静置_排乳清-+切碎_压榨_成形_冷藏。配方为:鲜羊奶75%,猕猴桃汁17%,白砂糖8%,再加入少量的甜味剂和调味荆。研制的猕猴桃奶豆腐既有羊奶的乳香、猕猴桃的酸甜,同时更富于其更全面的营养物质。
【英文摘要】The present study aimed to develop akind of new typehigII nutritional milk product whichfitted to public tastes,Goat milkagthe mainraw material,kiwifruit juice and white sugaraccessories,a new type of goat milk products Was created by pro- cessing improvement and innovation formula,1eresults showed that processingtechnique,raw milk f the skim milkfromoromu production terilize add ferment natural curd-curd-discard whey-heat andstir.heat insulation and stir-place- car whey.chop,pres,shape,coldstorage.FornlulaI 75%fresh goatmilk,17%kiwifruitjuice,8%white sugar,an a small amountof sweetenerand flavoring agent.1he kiwifruit milk cur has both the frankincense of goat milkand kiwi sweet-sour.moreover.its nutrition is more comprehensive.
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【题目】新型复合酸羊乳饮品配方及工艺研究
【中文关键词】枸杞;核桃;杏仁;花生;酸羊奶;复合饮料
【英文关键词】Edlar;walnut;almond;peanut;yoghurt of goat milk;compound drink
【中文摘要】确定新型复合酸羊乳饮品的/w.工r艺、方法及最佳配方。研究选用枸杞、核桃、杏仁、花生和羊奶为原料。采用正交试验研究了新型复合酸羊乳饮品各原料的加工工艺、最佳配方比例、及饮品的稳定性。结果表明:采用枸杞浸提液中枸杞和水的比例为l:8,800C浸提3次,每次30min,磨浆后八层纱布过滤;核桃汁中核桃与水的比例是1:2.5,磨浆,八层纱布过滤,胶体磨均质;花生汁、杏仁汁中花生,杏仁和水的比例分别为1:2和1:4,磨浆,八层纱布过滤,胶体磨均质。同时参照酸牛奶的加工工艺,发酵期延长2h制作酸羊奶。得出新型复合酸羊乳最佳配方为:酸羊奶35%,核桃乳9%,枸杞汁3.5%,杏仁乳3%,花生乳10%,白砂糖5%,纯净水34%,稳定剂CMC—Na:0.5%。
【英文摘要】The objective of this study was to determine processing technique,method andformula of new type complex acid goat milk drink.Medlar,walnut,almond,peanuts andfermented Goat milkwere selected raw materials,processingtechnique,optimum

formularatio and stability of drinkwere studied using orthogonal test method,Theresults demonstratedtha medlarextract wasextrac,ted for30 minutesat 80°Candthe ratio between medlarandwaterwas 1:8,Repeated the process 3 times,filtered the compound with eight hyers after jordaning,the Ratioofwalnutand water,peanut and water.almond andwaterwag 1:2.5,1:2 and 1:4 respectiv ly.Meanwhile.referring to processing technology of yogurt.delayed fermentation period for 2hours to make yogurt of milk,The opti-mal formulaof new type complex acid goa milkdrinkwill8 35%goat milk.9%walnutmilk,3.5%medlarextract,3%almondmilk,10%peanut milk,5%white sugar,34%purified waterand0.5%stabilizerCMC-Na.

【语种】中文
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【题目】3种发酵剂在羊奶干酪生产中应用效果的研究
【中文关键词】羊奶干酪; 凝乳特性; 出品率; 品质
【英文关键词】ferment; goat cheese; curdcharacteristic; yield; quality
【中文摘要】以关中奶山羊奶为原料, 用嗜温发酵剂、嗜热发酵剂和混合发酵剂分别生产羊奶干酪, 探讨3种发酵剂对羊奶干酪产酸速率、凝乳特性、干酪出品率及成熟期间品质的影响。研究结果表明, 3种发酵剂对羊奶干酪生产中产酸速率、凝乳特性、干酪出品率和最终品质有较大影响,其中混合发酵剂处理产酸速度较快, 凝乳特性较好,干酪出品率和品质较高,适合在羊奶干酪生产中应用。

【英文摘要】The mesophilic ferment,thermophilic ferment andthemixture of bothwere applied ingoat cheesesproduction, respectively.inorder to study the applicationeffect of three fermentsonacidproducing,rate,curdcharacteristics,cheese,yieldandquality.Three fermentshadsignificant influence oncheesesproduction. Comparedwiththe other two ferments, themixed ferment treatment had faster acid producing rate, better curdcharacteristics,higher cheese yield and quality.Themixed fermentwas suitable for goat cheese production.

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【第一作者】任娟
【通讯作者】张富新
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【题目】红枣山羊乳乳扇配方及加工工艺研究
【中文关键词】乳扇;山羊乳;红枣;加工工艺
【英文关键词】Dairyfan;goatmilk;jujube;processingtechnique
【中文摘要】研究建立了红枣山羊乳乳扇的加工工艺,并对其配方及加工的工艺参数进行了优化。结果表明:(1)红枣山羊乳乳扇的加工工艺:加入食用白醋_加热至65℃一加入灭菌山羊乳-+迅速搅拌一形成絮状凝乳一揉搓成团_洗涤_加入白砂糖、大枣粉一混合均匀_+制成饼状_+入模成型-自然干燥24~48h_成品。(2)红枣山羊乳乳扇的配方为:食用白醋使用量占鲜羊乳的12%,大枣粉、白砂糖质量分别占凝乳块的10%,5%。

【英文摘要】This researchestablishedthe processing technique andformula ofjujube flavor goat milkDairyfan,m01%a.ovelr,the formulaand processparameters wel'e optimized.The results showed that(1)Processing procedure,add white vinegar in thecontainer-, heatto 65℃-addsterilized goat milk-chumthe compoundquicldy-appear curd-rub to be the agglomerate-,wash in the whey repeatedly-addsugar an jujubepowder-mixevemy-press to cake-put in the moId-natural drying for 24-48h-final product;(2)Formula,12%whitevinegar in the goat milk,10%jujube powder and 5%sugar were in the curdblock respectively.

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【第一作者】宋社果
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【题目】螯合剂对羊乳凝乳特性的影响
【中文关键词】羊乳, 螯合剂,凝乳时间
【英文关键词】goatmilk; sequestrants; coagulation tmi e
【中文摘要】研究了磷酸二氢钠、磷酸氢二钠、三聚磷酸钠、焦磷酸钠、柠檬酸钠、EDTA二钠六种螯合剂对羊乳凝乳的影响。结果表明:在浓度为01~10g/L范围内, 随着磷酸氢二钠、三聚磷酸钠、焦磷酸钠和柠檬酸钠浓度的增大, 羊乳的凝乳时间逐渐延长;随着磷酸二氢钠和EDTA二钠浓度的增大, 羊乳的凝乳时间逐渐缩短。同时, 磷酸氢二钠、三聚磷酸钠、焦磷酸钠和柠檬酸钠可使羊乳的pH升高,磷酸二氢钠和EDTA二钠可使羊乳的pH降低。
【英文摘要】Effects of several sequestrants including NaH2 PO4 , Na 2HPO4, sodiumpyrophosphate, sodiumcitrate, EDTANa 2 oncoagulating property of goatmilkwere studiedWithin01g /Lto 10g /L, the coagulation tm e of goat milkgradually increasedwhenNa 2HPO4,sodiumpyrophosphate, sodiumcitrate increased and gradually reduced whenNaH2 PO4 and EDTANa 2 decreasedThe adding ofNa 2HPO4 ,sodiumpyrophosphate and sodiumcitrate can increase pHofgoatmilk, while NaH2PO4 and EDTANa 2 candecrease pHof goatmilk
【语种】中文
【第一作者】李昌盛
【通讯作者】张富新
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【题目】莎能羊乳中乳过氧化物酶特性的研究
【中文关键词】羊乳, 乳过氧化物酶, 酶活
【英文关键词】goatmilk; lactoperoxidase(LP); lactoperoxidase activity
【中文摘要】以西农莎能羊乳为原料,对羊乳中乳过氧化物酶的最适温度、热稳定性、最适pH、pH稳定性和光稳定性进行系统的研究。结果表明, 乳过氧化物酶的最适温度为45~55[1] , 在较低温度20~50[1] 热稳定性较好; 乳过氧化物酶的最适pH为55~60,在pH30~80比较稳定; 光对乳过氧化物酶活性的影响较大, 光照处理3h后的乳过氧化物酶活性比避光处理降低了2400%。这些研究结果将为乳过氧化物酶体系对羊奶的保鲜提供依据。
【英文摘要】Using Xinong Saanengoatmilkasmateria,l characteristics of lactoperoxidasewas studiedThe influences of temperature, pH and light on the lactoperoxidase activity were investigatedThe results showed that lactoperoxidase hada highstability to heat and the optmi um temperature for lactoperoxidase was 45~55[1] ; the optmi umpHfor lactoperoxidasewas 55~60; lactoperoxidase activity lostmuchunder the ligh,t after light treatment for 3h, compared to without light the lactoperoxidase activity was shortened 2400% The results provided the scientific foundation for the preservationofgoatmilkby lactoperoxidase system
【语种】中文
【第一作者】王玮
【通讯作者】张富新
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【题目】羊奶干酪出品率的优化
【中文关键词】羊奶干酪, 出品率, 优化条件
【英文关键词】goatcheese; yield; optmi ization
【中文摘要】以关中奶山羊所产的鲜羊奶为原料, 采用二次回归正交旋转组合设计,对影响羊奶干酪出品率的凝乳酶添加量、酸化条件和氯化钙添加量进行优化,建立了各因子与羊奶干酪出品率关系的数学回归模型, 得出最佳的工艺条件为: 凝乳酶添加量7259SU, 原料乳酸化pH64, 氯化钙添加量003%,羊奶干酪出品率可达1047%。
【英文摘要】Three factors affecting yieldofgoat cheese, renne,t acidulated conditionandCaCl2, were investigatedby dual quadratic rotary reg ression orthogonal design expermi ent using Guan Zhong dairy goat milk, and amathematicalmodeldescribing the relationship between the yield ofgoatcheese and technology parameterswas developedThe optmi umparameters of cheese processing were rennet addition7259SU, acidulatedpH64and CaCl 2 addition003%, and the yieldwas 1047% in the optmi umconditions
【语种】中文
【第一作者】邹鲤岭
【通讯作者】张富新
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【题目】硫酸铵盐析羔羊皱胃酶条件的研究
【中文关键词】羔羊皱胃酶, 盐析效果, (NH4)2SO
【英文关键词】goat kid renne;t salting-outeffec;t (NH4)2SO4
【中文摘要】以羔羊皱胃为原料,研究了硫酸铵盐析法盐析羔羊皱胃酶的工艺条件, 系统分析了硫酸铵饱和度、pH、盐析温度以及盐析时间对羔羊皱胃酶盐析效果的影响。结果表明, 当硫酸铵饱和度为95%, 盐析pH为4160, 盐析温度为4e ,盐析时间为14h时, 羔羊皱胃酶盐析效果最好,酶活性回收率为92186%。
【英文摘要】Using goat kidabomasums asmateria,l the salting out conditions ofgoatkid rennetby (NH4) 2SO4 was investigated1The effects of(NH4)2SO4 saturation, salting-outpH, temperature, and salting-out tmi e onthe salting-outefficiencywere analyzed during salting out1The results showed thatwhen(NH4)2SO4 saturationwas 95%,salting-outpHwas 4160, temperaturewas 4e and salting-out14h, the effect of salting-out of kid rennetwas thebest the recoveredmilk-clotting activity of goatkid rennet reached92186%1
【语种】中文
【第一作者】吴海玥
【通讯作者】张富新
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【题目】无机盐对莎能羊羊奶热稳定性的影响
【中文关键词】羊奶;钙盐;磷酸盐;柠檬酸盐;热稳定性
【英文关键词】goat's milk;salt of calcium;phosphate;citrate;heat stabilit
【中文摘要】以西农莎能奶山羊羊奶为原料,通过测定羊奶的热凝固时间 (HCT),研究不同浓度钙盐 磷酸盐 柠檬酸盐对羊奶热稳定性的影响结果表明,当pH值为6.7 时,羊奶的热稳定性最好;羊奶的热稳定性随钙盐浓度的增大而减小;添加一定量的磷酸盐柠檬酸盐均对羊奶的热稳定性有改善作用
【英文摘要】This paper studied the influences of calcium,phosphate, citrate ions concentration on the heat stability of Saanen goat's milk by analysis the heat coagulation time of the milk. The results showed that the stability of goat's milk is best when the pH is 6.7,and the stability went up with increasing concentration of Ca 2+. The addition of a limit quantity phosphate,and citrate can increase the heat stability.

【语种】中文
【第一作者】晁海英
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【题目】干酪乳杆菌对羊奶酸奶发酵特性及品质的影响
【中文关键词】干酪乳杆菌; 羊奶酸奶; 发酵特性; 乳酸菌; 感官品质
【英文关键词】Lactobacillus casei; goat yogurt; fermentation properties; lactic acid bacteria;sensory quality
【中文摘要】以羊奶为原料, 在添加传统发酵剂的基础上研究了干酪乳杆菌对羊奶酸奶发酵特性及品质的影响. 结果表明: 干酪乳杆菌接种量大于3%时有利于羊奶酸奶中干酪乳杆菌的生长, 但会抑制酸奶中嗜热链球菌和保加利亚乳杆菌的生长, 进而影响羊奶酸奶的品质; 发酵温度高于39 时酸奶中干酪乳杆菌活菌数量显著减少(P<0. 05) , 不利于酸奶良好风味的形成; 当干酪乳杆菌的接种量为3%~5%、发酵温度为39时, 羊奶酸奶的品质最好.
【英文摘要】Using goat milk as raw material, influence of Lactobacillus casei on fermentationpropertiesandqualityof goat yogurt wasstudiedonthebasisof adding traditional yogurt starter.The results showed that it was beneficial to the growth of Lactobacillus casei when the inoculationof Lactobacillus casei was more than 3%, whereas the growth of Streptococcus thermophilus and Lactobacillus bulgaricus was inhibited and the quality of goat yogurt was effected. When the fermentation temperature was higher than 39, the viable counts of Lactobacillus casei declinedobviously(P< 0. 05) , which was not favorable for forming good flavour of yogurt. Highquality goat yogurt canbeobtainedwhenLactobacilluscasei inoculationwas 3%~5%andfermentationtemperaturewas39
【语种】中文
【第一作者】高微娟
【通讯作者】张富新
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【学科分类】畜牧学

【题目】保加利亚乳杆菌和嗜热链球菌在羊奶中的发酵特性研究
【中文关键词】乳酸菌; 羊奶酸奶; 发酵特性
【英文关键词】lacticacidbacteria; goatcsyoghurt; fermentationcharacteristics
【中文摘要】对从商业乳酸菌发酵剂分离纯化的8株乳酸菌在羊奶中的发酵特性进行了研究, 结果表明: L. b-300和L. b-800菌株的产酸能力较强, S. t-499菌株的产黏能力较强, L. b-300和S. t-800菌株的产香能力较强, 8株乳酸菌的后酸化能力均较弱. L. b-300和S. t-499菌株是适合发酵羊奶酸奶的乳酸菌.
【英文摘要】The fermentation characteristics of lactic acid bacteria from the commercial start culture were studied in goat milk. The results showed that L. b-300 and L. b-800 strains have stronger acid-production capacity, and S. t-499 strain has stronger visco-production capacity while L. b-300 and S. t-800 strains with stronger odor-production capacity. The post-acidification capacities of eight lactic acidbacteria strains were weak. The L. b-300 and S. t-499 strains were suitable for goat milk fermentation.
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【学科分类】畜牧学

【题目】红枣羊奶粉加工技术的研究
【中文关键词】红枣;羊奶粉;喷雾干燥
【英文关键词】jujube;goat milk powder;spray drying
【中文摘要】对红枣羊奶粉的加工技术进行了研究 结果表明,将红枣与水以 1 3 的比例混合, 在 90 提取 60 min 获得红枣汁,然后以 12%的添加量加入羊奶中,经 85 /5 min 杀菌浓缩后,进行喷雾干燥,可获得品质较好的红枣羊奶粉
【英文摘要】This paper studies on the processing of the jujube goat milk powder. The results show that jujube juice is extracted with the ratio of jujube and water 1 3, at 90 for 60 min. The mixture of jujube juice and goat milk is sterilized at 85 for 5 min, and concentrated.Then the mixture is dried by the spray drying. The good quality jujube goat milk is obtained.
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【题目】溶菌酶处理发酵剂加速干酪成熟的研究
【中文关键词】溶菌酶, 发酵剂,干酪成熟
【英文关键词】lysosyme; cheese starter; cheese ripening
【中文摘要】以pH、蛋白质降解、脂肪酸含量变化及干酪的感官特征为指标,研究了溶菌酶处理发酵剂对干酪成熟的影响。结果表明:实验组干酪的pH在整个成熟期处于对照组1(添加2%发酵剂)干酪和对照组2(添加25%发酵剂)的pH之间,表明通过溶菌酶处理发酵剂可明显抑制干酪成熟期间的产酸量; 添加溶菌酶处理发酵剂可加速干酪中蛋白质分解和乳脂肪的降解;感官评价结果表明,添加溶菌酶处理发酵剂可提高干酪风味, 在相同的成熟时间实验组干酪的质地也较对照组好。
【英文摘要】In this paper, starters modified by lysosyme were added to cheese to study its influence of cheese ripening, whichmainmarkswere catabolic levelofproteinand fa,t pHof cheese and sensory analysisThe results showed tha:t pHbetween control 1(adding 20% starter) and control 2(adding 25% starter) during cheese ripeningButcontentofWSN, TCA-SN, PTA-SNand free fatty acid inexpermi entalwere higher thancontrolg roup cheese during cheese ag ingThis indicate that to addmodified starter by lysosyme can obviously restrain lactic acidbacteria producing significant levels of lactic acid, but stillaccelerating catabolic reaction of proteinand fa,t whichbenefit to shortentmi e ofcheese ripeningThe results of sensory analysis showed tha:t adding themodified starter cheese had more flavor intensity and texture than control group, which indicated that adding modified starter by lysozyme could shortenpotently ripening tmie
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【题目】由马铃薯淀粉制得磷酸寡糖的定性定量测定
【中文关键词】磷酸寡糖;薄层层析法;高效阴离子交换色谱 - 脉冲安培检测;红外吸收光谱
【英文关键词】phosphorylated oligosaccharides;thin layer chromatography (TLC);high-performance anionic exchange chromatography-air pulsing ampere detectors (HPAEC-PAD);infrared spectroscopy (IR)
【中文摘要】对以马铃薯淀粉为原料、全酶法制得的磷酸寡糖进行定性定量分析。通过采用薄层层析法(thin layerchromatography,TLC)和高效阴离子交换色谱-脉冲安培检测(high-performance anionic exchange chromatography-air pulsing ampere detectors,HPAEC-PAD)对磷酸寡糖组分进行检测分析,同时利用红外吸收光谱(infrared spectroscopy,IR)对其进行结构分析。结果表明:磷酸寡糖是结合有磷酸基团的并且聚合度在 3~7 之间的麦芽低聚糖混合物,以麦芽三糖至麦芽

六糖组分居多。
【英文摘要】The current study was carried out to quantitatively and qualitatively analyze phosphorylated sligosaccharides prepared from potato starch by totally enzymatic method. The phosphorylated sligosaccharide composition was determined by thin layer chromatography (TLC) and high performance anionic exchange chromatography with pulsed amperometric detection (HPAEC-PAD). Infrared spectroscopy (IR) was used for structure elucidation. The analytes were identified as a mixture of maltooligosaccharides containing phosphate groups and having a degree of polymerization between 3 and 7, in which maltotriose,maltotetraose, maltopentaose and maltohexaose were the dominant components.
【语种】中文
【第一作者】杨丽
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【题目】基于磷酸寡糖生产的淀粉磷酸酯中结合磷含量的分析研究
【中文关键词】磷酸寡糖;淀粉磷酸酯;结合磷含量
【英文关键词】phosphoryl oligosaccharides; phosphates starch; binding-phosphorus content
【中文摘要】研究中分别通过分光光度法和感应耦合等离子体原子发射光谱(ICP-AES)法对不同淀粉磷酸酯中的结合磷含量进行了分析。结果表明,分光光度法较 ICP-AES 法更适于淀粉磷酸酯中磷含量的分析,测定波长为 825 nm;市售淀粉磷酸酯的结合磷含量均较低,不适于磷酸寡糖的制备研究,为高产率磷酸寡糖的生产奠定重要理论基础。
【英文摘要】The research herein provides valuable data with respect to the binding -phosphorus content ofdifferent phosphate starches using spectrophotometry and inductively coupled plasma emission spectrometry (ICP-AES). The result shows that, Spectrophotometry is more suitable for the analysis of phosphorus content in phosphate starch than ICP-AES, and the wavelength is 825 nm. Furthermore, commercial phosphate starches was not suitable for the preparation of phosphoryl oligosaccharides which have a low binding -phosphorus content. It has laid an important theoretical foundation for the high yield of phosphoryl oligosaccharides.
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【题目】离子色谱法测定超高麦芽糖浆中的麦芽糖
【中文关键词】超高麦芽糖浆;高效阴离子色谱;脉冲安培检测器
【英文关键词】extreme highmaltose syrup; high performance anion-exchange chromatography; pulsed amperometr
【中文摘要】该研究旨在建立一种采用高效阴离子色谱测定超高麦芽糖浆中的麦芽糖含量的方法。在CarboPacT-MPA200 3mm×250 mm(带CarboPacTMPA200 3 mm×50 mm保护柱)离子色谱柱上,用200 mmol·L-1氢氧化钠和100 mmol·L-1乙酸钠梯度洗脱,在Au工作电极和Ag/AgCl参比电极的脉冲安培检测器上测定超高麦芽糖浆中麦芽糖的含量。结果表明,标准溶液测定的保留时间和峰面积相对标准偏差为0·52%和0·13%。该方法用于测定超高麦芽糖浆中的麦芽糖含量,取得了满意的结果,加标回收率为85·4%~115·2%。
【英文摘要】In order to develop amethod for analysis ofmaltose in extreme highmaltose syrup using high performance anion-exchange chromatography,we used sodium hydroxide solution and sodium acetate solution as the mobile phase on CarboPacTMPA200 3 mm×250 mm column (with guard column CarboPacTMPA200 3mm×50mm) with anAuworking electrode and anAg/AgCl reference electrode to determine themaltose in extreme high maltose syrup.The results show that the relative standard deriation for retain time and peak area ofstandard solution were 0·52% and 0·13% respectively.A satisfied resultwasobtained foranalysisofmaltose in extreme highmaltose syrupwith the proposedmethod. The recoverieswere 85·4% -115·2%.

【语种】中文
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【题目】2个山羊品种多胎性状的微卫星标记研究
【中文关键词】微卫星标记;山羊;遗传多样性;产羔数
【英文关键词】microsatellite markers;goat;genetic polymorphism;litter size
【中文摘要】根据比较基因组学原理,选择与绵羊高繁殖力紧密关联的4个微卫星标记OarAEl01、OarHH55、BMl329、BMS2508,分析其在波尔山羊和西农莎能奶山羊中的多态性分布情况。结果表明,4个微卫星标记在波尔山羊中的多态信息含量(PIC)分别为0.834 0、0.722 2、0.802 1、0.685 5,有效等位基因数(Ne)分别为6.719、4.098、5.610、3.542;在莎能奶山羊中的PIC分别为0.765 5、0.738 7、0.670 1、0.682 0,Ne分别为4.849、4.360、3.520、3.609。4个微卫星基因座对波尔山羊和莎能奶山羊的产羔数效应分析表明,在波尔山羊群体中,OarAEl01基因座126 bp等位基因对产羔数具有正效应,而134 bp则呈负效应;OarHH55基因座120和124 bp等位基因对产羔数具有正效应,而130 bp/140 bp基因型则呈负效应;BMl329基因座185 bp等位基因对产羔数具有正效应,而176 bp等位基因和215 bp/240 bp基因型均呈负效应;BMS2508基因座118 bp等位基因对产羔数具有正效应,而122 bp/141 bp基因型和148bp等位基因均呈负效应。在西农莎能奶山羊群体中,OarAEl01基因座108 bp等位基因和114 bp/126 bp基因型对产羔数均呈正效应,而124 bp等位基因则呈负效应;OarHH55基因座120 bp等位基因对产羔数呈正效应,而150 bp/165 bp基因型呈负效应;BMl329基因座185 bp等位基因对产羔数呈正效应,而176 bp等位基因和215 bp/240 bp基因型则均呈负效应;BMS2508基因座118 bp等位基因对产羔数呈正效应,而141 bp等位基因和153 bp/160 bp基因型均呈负效应。
【英文摘要】According to comparative genomics,four microsatellite loci including OarAEl01,OarHH55.BMl329 and BM$2508 that linked to the fecundity gene FecB in the sheep chromosome 6 were analyzed for polymorphisms in Boer goat and Xinong Shaanen goat.The results indicate that there are genetic polymorphisms at these 4 microsatellite loci.The polymorphism information content(PIC)and number of effective alleles(NP)are 0.834 0,0.722 2,0.820 1,0.685 5 and 6.719,4.098,5.610,3.542 respectively in Boer goats;the PIC and Ne are 0.765 5,0.738 7,0.670 1,0.682 0 and 4.849,4.360,3.520,3.609,respectively in Xinong Shaanen goats.The resuit of the effect of the 4 microsatellite loci on the litter size of 2 goat breeds showed that the allele 126 bp at OarAEl01 has positive effects on the litter size in Boer goat but 1 34 bp has negative Effects on the allele 120 bp and 124 bp at OarHH55 have positive effects on the litter size in Boer goat,but 130 bp/140 bp has negative effects;the allele 185 bp at BMl329 has positive effects on the litter size in Boer goat but 176 bp,215 bp/240 bp have negative effects;the allele 118 bp at BMS2508 has positive effects on the litter size in Boer goat and 122 bp/141 bp,148 bp has negative effects;the allele 108 bp,1 14 bp/126 bp at OarAEl01 have positive effects on the litter size in Xinong Shaanen goat and 124 bp has negative effects;the allele 120 bp at OarHH55 has positive effects on the litter size in Xinong Shaanen goat and 150 bp/165 bp has negative effects;the allele 185 bp at BMl329 has positive effects on the litter size in Xinong Shaanen goat and 176 bp,215 bp/140 bp have negative effects;the allele 118 bp at BMS2508 has positive effects on the litter size in Xinong Shaanen goat and 141 bp,153 bp/160 bp have negative effects.
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【第一作者】宋宇轩
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【题目】FMDV2A介导的乳腺上皮细胞双基因表达载体构建及表达
【中文关键词】人白细胞介素2;EGFP,FMDV2A;双顺反子

【英文关键词】hlL-2;EGFP;FMDV 2A;bicistronic expression vector
【中文摘要】构建FMDV 2A介导的人白细胞介素2基因(hlL一2)和增强型绿色荧光蛋白(EGFP)基因双顺反子乳腺特异性表达载体,并验证其在乳腺上皮细胞中的表达。克隆奶山羊p酪蛋白启动子序列,将hlL一2基因序列置于启动子之后,然后利用口蹄疫病毒2A(FMDV 2A)自剪切序列连接EGFP基因,构建出乳腺特异性的双顺反子表达载体pFIENp,并利用脂质体转染山羊乳腺上皮细胞,然后用RT-PCR技术和Western blot检测hlL一2基因与EGFP基因的表达。重组质粒pFIENp经酶切鉴定后表明构建成功,转染质粒PFIEN|3和pEGFP-C1的细胞均观察到绿色荧光;从转染pFIENp的乳腺上皮细胞中扩增出hlL一2基因和EGFP基因,而转染pEGFP—C1的细胞中只扩增出EGFP基因;经Western blot检测,转染pFIEN|3的细胞中均表达了hlL-2和EGFP蛋白。结果表明山羊p酪蛋白启动子能同时启动hlL-2基因和EGFP基因在山羊乳腺上皮细胞中的表达,并且利用FMDV 2A元件实现了hlL-2基因和腼FP基因的非融合型表达。
【英文摘要】The aim of this study was to construct mammary gland specific bicistronic expression vector based on FMDV2A.and verify the expression of sequences of EGFP and human IL-2 in mammary epithelial cells.We utilized self-cleaving peptide 2A from foot-and-mouth disease virus(FMDV 2A)connecting hIL-2 and EGFP sequence,and cloned into goat pcasein regulatory sequence,then we got mammary gland specific bicistronic expression vector pFIENp,after transient transfection into goat mammary epithelial cells by LipofectamineTM 2000,we used RT_.PCR and Western blot to detect the expression of hILr2 and EGFP.Restriction analysis suggested that the recombinant plasmid pFIENp is correct.Then we found that the cells which were transfected with pFIEN|3 and pEGFP二C1 expressed EGFP bv observing with fluorescent microscope,and there is no green flourescence in which were untransfected,and we amplificating hll,2 and EGFP sequence in the cells transfected with pFIEN[3,and amplifieating EGFP sequence only in the cells transfected with pEGFP-C1;After detection by Western blot,the cells transfected with pFIEN|3 expressed both hIL,2 and DGFP.The results showed that goat p-casein regulatory sequence can trigger hIL.2 and EGFP expression in mammary epithelial cells.And FMDV2A facilitate expresson of hiL-2 and EGFP independently.
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【题目】FSH β 基因外显子2 的多态性及其与两个山羊品种繁殖性能的相关性研究
【中文关键词】山羊;卵泡刺激素 β 亚基;多态性;产羔数
【英文关键词】goat; FSH β ; polymorphism; litter size
【中文摘要】【目的】寻找与产羔数相关的遗传标记,为山羊高繁殖力标记辅助选择提供依据.【方法】根据绵羊FSH β 基因序列设计2 对引物,采用 PCR-SSCP 技术检测山羊FSH β 基因外显子2 的多态性,利用最小二乘均数法对其与产羔数的关系进行分析,同时对多态位点的遗传方差进行分析,通过标记位点与产羔性状的遗传相关预测选择反应.【结果】在引物(P2)扩增片段中检测到1个多态位点,出现3 种基因型(EE、EF 和FF).对于西农萨能奶山羊,在1~4 胎和平均产羔数中,EE 型个体产羔数显著高于EF 和FF 型个体(P<0.05),EF 型个体的第2胎和平均产羔数显著高于FF 型个体(P<0.05);对于波尔山羊,在2~3 胎和平均产羔数中,EE 型个体产羔数极显著高于EF 和FF 型个体(P<0.01),EF 型个体平均产羔数显著高于FF 型个体(P<0.05).在西农萨能奶山羊和波尔山羊两个群体中,产羔性状的遗传主要受基因加性效应的影响.【结论】对于西农萨能奶山羊和波尔山羊,多态位点EE 基因型可作为产羔性状上的标记基因型.
【英文摘要】【Objective】The objectives of the present study were to detect the polymorphism in follicle stimulating hormone beta (FSH β) and investigate the relationship between FSH β gene and high prolificacy in goats.【Method】According to the sequence of ovine FSH β gene,two pairs of primers were designed to detect single nucleotide polymorphism of exon 2 of FSH β gene in two goat breeds by PCR-SSCP. The least square mean and genetic variance of different genotypes at polymorphic loci were analyzed, and the selection reaction was forecasted by genetic correlation between marker locus and genetic variance of litter size traits. 【Result】There was one polymorphic locus occurring in exon2 (P2) with three genotypes (EE, EF and FF). In Xinong Saanen dairy goat, EE genotype had significantly higher (P<0.05) litter size than EF and FF genotype in the first to fourth parity and average parity; EF genotype had significantly higher (P<0.05) litter size than FF genotype in the second and average parity. In Boer goat, EE genotype had significantly higher (P<0.01) litter size than EF and FF genotype in the second to fourth parity and average parity; EF genotype had significantly higher (P<0.05) litter size than FF genotype in average parity. In Xinong Saanen dairy and Boer goat, the heredity of litter size was mainly influenced by genetic additive effect. 【Conclusion】 In Xinong Saanen dairy and Boer goat, the EE genotype is a favorable

marker genotype for litter size.
【语种】中文
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【题目】PRLR基因外显子10多态性与西农萨能奶山羊产奶性能的相关分析
【中文关键词】西农萨能奶山羊;PCR-SSCP;催乳素受体基因;产奶性能
【英文关键词】Xinong Saanen dairy goat;PCR-SSCP;PRLR gene;milk performance
【中文摘要】设计4对引物,采用PCR-SSCP技术检测催乳素受体(PRLR)基因外显子10在西农萨能奶山羊群上的单核苷酸多态性,同时研究该基因对其产奶性能的影响.结果表明:引物Pz、P.与P.扩增片段具有多态性,Pt的扩增片段不存在多态性.应用Pz扩增片段,在西农萨能奶山羊中仅检测到AA和AB基因型,纯化测序表明AA与AB基因型相比有2处突变,C27T的突变没有导致氨基酸变化,第189处的碱基缺失导致氨基酸由组氨酸变为酪氨酸和苏氨酸.AA和AB基因型之间产奶量的最dx--乘均值差异显著(P<0.05),AA基因型在各胎次产奶量和平均产奶量等指标上均高于AB基因型,其中第3胎的产奶量达到显著水平(P<0.05);应用P.扩增片段,在西农萨能奶山羊中检测到3种基因型(CC、CD、DD),纯化测序表明CC与DD基因型相比有2处突变(C103A和T106C),分别导致氨基酸由赖氨酸变为苏氨酸、苏氨酸变为异亮氨酸;3种基因型之间产奶量的最/b--乘均值差异不显著(P>0.05).应用P.扩增片段,在西农萨能奶山羊中也只检测到EE和EF基因型,纯化测序表明EE与EF基因型相比有1处突变(A114G),该突变导致氨基酸由蛋氨酸变为缬氨酸;EE和EF基因型之间产奶量差异显著(P<0.05).EE基因型的个体各胎次产奶量均比EF型高,其中在第3、4胎产奶量和前4胎平均产奶量3项指标上都达到显著水平(P<0.05).研究结果提示:PRLR基因对奶山羊产奶量有显著影响,因此认为PRLR基因外显子10位点可作为奶山羊高产奶量的标记辅助选择的有效分子标记.
【英文摘要】Prolactin receptor(PRLR)gene was studied as a candidate gene for the milk performance of in Xinong Saanen dairy goat.Four pairs of primers were designed to detect single nucleotide polymorphisms of exon 10 of PRLR gene by PCR-SSCP.The results showed that only the products amplified by primer P1 didn ’ t display polymorphisms.For primer P2,two genotypes(AA and AB)were detected in Saanen dairy goat.Sequencing revealed two mutations of PRLR gene in the genotype AA in comparison to the genotype AB,The mutation C27T did not cause any amino acid change,The deletion of 189th result in two amino acid changes of His · Tyr and Thr.The difference of the least squares means(LSM)for milk yield between AA and AB was significant(P<O.05)in Saanen dairy goat,the third lactation milk yield of individuals with gen一otype AA was higher than that with genotype AB(P<0.05).For primer P3,three genotypes (CC,CD,DD)was detected in Saanen dairy goat.Sequencing revealed tWO mutations(C103A and T106C)of PRLR gene in the genotype CC in comparison tO the genotype DD.The former mutation resulted in an amino acid change of Lys÷Thr,and the later mutation resulted in an anino acid change Thr-}Ile.The difference of LSM for milk yield among CC,CD and DD was non—significant (P>0.05).For primer P4,tWO genotypes(EE and EF)were detected in Saanen dairy goat.Sequencing revealed one mutation(A1 14G)of PRLR gene in the EE in comparison tO the genotype EF,and this mutation resulted in an amino acid change of Met-- ’ Val.The difference of the LSM for milk yield between EE and EF was significant(P<O.05)in Saanen dairy goat,The milk yield of individuals with genotype EE was higher than that with genotype EF in third,fourth lactation milk yield and average milk yield(P<O.05).Based on these results.it was indicated that PRLR gene had significant positive effects on milk performance of dairy goats.Additionally,The exon 10 of PRLR gene can be regarded as effective molecular markers on MAS program for milk performance of dairy goat.
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【题目】无抗性标记的人白血病抑制因子打靶载体的构建及表达
【中文关键词】人白血病抑制因子,山羊β-酪蛋白,同源重组,乳腺生物反应器
【英文关键词】Human leukemia inhibitory factor,Goat p-casein,Homologus recombination,Mammary gland bioreactor
【中文摘要】为了实现人白血病抑制因子基因(hLl-3在奶山羊乳腺上皮细胞中的稳定表达,本实验利用条件重组元件LoxP序列、山羊B-酪蛋白5’和3’同源臂、正负向筛选标记基因和M伊基因构建hLIF基冈打靶载体.脂质体法转染奶山羊(capra hircus)$L腺上皮细胞,进行遗传霉素(G418)和丙氧鸟苷(GANC)筛选获得|-源重组的阳性克隆,并通过PCR、实时定量PCR和Western blot检测阳性克隆中舰伊基冈的表达情况.酶切和测序分析结果显示,实验成功构建了M〃基因打靶载体pLoxP-NT53L.阳性克降经PCR、实时定量PCR和Westem blot均检测到了目的条带.表明打靶载体pLoxP-NT53L已经成功整合至山羊β-酪蛋白基冈座中,并能在奶L山羊乳腺上皮细胞中特异性表达hLIF蛋白.为无抗性标记的转hLW基因奶山羊生产提供了打靶载体.
【英文摘要】In order to realize the stable expression of human leukemia inhibitory factor in goat mammary cells,in this study,we used the recombination cassette LoxP sequence,goat p-casein 5’and 3’homologous arms,positive and negative selection marker cassette to get targeting vector of human leukemia inhibitory factor,and homologous recombination positive monoclonal was obtained by transfection of the vector into goat(Capra hircas)mammary cells with LipofectamineTM 2000 conferred resistance to geneticin(G4 1 81 and resistance to ganciclovir(GANC)in the cells、then we verify the hLiF expression by PCR,RT-PCR and Western blot.The restriction and sequencing analysis result showed that the targeting vector pLoxP-NT53L was constructed successfully,and the target band,demonstrated the targeting vector pLoxP-NT53L was integrated into the B-casein locus and the goat mammary cells could express protein specificity.The results indicate that the maker-free targeting vector of human leukemia inhibitory is very useful for produce marker-free dairy goat oftransfer hLIF gene.
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【题目】西农萨能奶山羊INHA基因启动子区多态性与产羔数和产奶量的相关分析
【中文关键词】抑制素亚基; PCR-SSCP; 遗传多态性; 西农萨能奶山羊
【英文关键词】inhibin gene; PCR-SSCP; genetic polymorphism; xinong shaaneng dairy go at
【中文摘要】采用PCR-SSCP 技术分析了INH A 基因的启动子区2个基因座位在西农萨能奶山羊群体中的遗传多态性,结果在P1 引物所扩增的目的片段发现遗传多态,有2种等位基因A 和B,有3 种基因型AA 型、AB 型、BB 型; 在P2 引物所扩增的目的片段未发现遗传多态.对多态片段的测序分析表明: AA 型与BB 型相比在DNA 序列的第506 bp 处插入了一个碱基G,在第446 bp 处碱基C y T.AB、BB 基因型个体的平均产羔数显著高于AA 型个体(P<0.05);AB、BB 基因型的个体各胎次产奶量均比AA 型高,其中在第2、3 胎产奶量和前4 胎平均产奶量都达到显著水平(P<0.05),AB 基因型的前4 胎平均产奶量和AA 型差异极显著(P<0.01) .结果表明INH A 基因对奶山羊产羔数和产奶量都有显著影响,因此认为INHA 基因的P1 位点可作为奶山羊的有效分子标记.
【英文摘要】Two pair s o f primer s w ere desig ned to detect sing le nucleotide po lymo rphisms(SNPs) o f INH A by PCRSSCP in xinong shaaneng da iry g oat.T he results show ed that o nly the product s amplified by primer P1 displayed po lymor phisms,called genotype AA,AB,BB,r espectiv ely.While fo r primer P2,there was no po lymor phism.Sequencing r evealed two SNPs,o f w hich the SNP1 w as G insert(506) and SNP2 was C/ T(446) .The av erag e little size wit h g eno type AB and BB w as significantly hig her than t hat o f genoty pe AB(P <0.05),and the av erag e milk pr oduction of x inong shaaneng dairy g oat w ith genot ype BB and AB w as hig her than AA,in which the milk pr oduction of seco nd and thir d litter wer e sig nificant ly hig her than that of genoty pe AA(P <0.05) and in w hich the averag e milk pro duction w as ex tremly significantly higher (P <0.01) .The r esult s showed that the different g eno types o f INH A gene can sig nificantly affect the litter size and milk pro ductio n.So INH A g ene can be consider ed as a candidate gene for selecting x inong shaaneng dairy goat .
【语种】中文

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【题目】西农莎能奶山羊和波尔山羊GDF9 基因多态性与产羔数的相关分析
【中文关键词】GDF9; PCR-SSCP; 遗传多态性; 西农萨能奶山羊; 波尔山羊
【英文关键词】GDF9; PCR-SSCP; g enetic polymo rphism; x inong shaaneng dairy goat; boer goat
【中文摘要】为了研究西农萨能奶山羊和波尔山羊生长分化因子9(GDF9) 基因遗传多态性及其与产羔数和生长体重的相关性.根据绵羊GDF9 基因序列设计4 对引物,采用PCR-SSCP 技术检测GDF9 基因的多态性,同时用最小二乘法研究了其多态性与产羔数和生长体重的关系.所研究的西农萨能奶山羊群体和波尔山羊群体P1 扩增片段存在多态性,分别定义为AA、AG 和GG 3 种基因型; P2、P3 和P4 扩增片段均不存在多态性,只出现一种带型.通过测序发现:GG 型与AA 型相比在外显子2 的792 bp 处有1 个G! A 的单碱基突变,结果导致第396 位氨基酸由缬氨酸变为异亮氨酸.在西农莎能奶山羊群体中,AA 基因型产羔数最小二乘均值均极显著高于AG 基因型和GG基因型; AG 基因型显著高于GG 基因型.此外,在西农莎能奶山羊中还发现AA 基因型的个体各个生长阶段的体重和GG 型和AG 型的相比差异均不显著.在波尔山羊群体中,AA 基因型产羔数最小二乘均值均极显著高于AG基因型和GG 基因型,AG 基因型的高于GG 型,但没达到显著水平.结果表明,GDF9 基因对西农莎能奶山羊和波尔山羊的产羔数均有显著影响,因此认为GDF9 基因外显子2 第792 bp 处G! A 的突变可作为西农莎能奶山羊和波尔山羊多胎性状的有效分子标记.
【英文摘要】In this st udy,we detected the relatio n betw een the g enet ic polymo rphisms of g row th differ ent iatio n factor 9(GDF9) and the litter size and g row th weight in x inong shaaneng dairy go at and in bo er g oat. 4 pairs primer s wer e desig ned to detect sing le nucleotide polymo rphism o f GDF9 g ene in both x ino ng shaaneng dair y go at breed and boer goat br eed by PCR-SSCP and,sequencing was applied to ana lyze t he genetic var iatio n,and meanwhile least squar e was applied to analy ze the r elation betw een different g eno types and the lit ter size and g row th w eig ht. The results show ed that o nly t he pr oducts amplified by pr imer 1 (P1) displayed polymo rphism,and three genoty pes (AA,AG and GG) wer e detected in bo th tw o go at breeds. w ith pr imer P2,P3 and P4,ther e w as no po lymor phism. T he sequencing results revealed there was only o ne sing le nucleot ide mutatio n (G792! A792) at ex on 2 of GDF9 g ene in g oats,and this mutat ion resulted in an am ino acid change:valine ! iso leucine. In xino ng shaaneng dair y g oat breed,the aver age litt le size with g eno type AA w as significantly higher than that of genoty pe AG(P < 0. 01) and that o f g eno type GG(P< 0. 01) as w ell as that the av erag e little size wit h g enot ype AG w as sig nificant ly hig her t han that o f g eno type GG(P< 0. 01) . In additio n,the gr ow th weig ht of each st ag e w ith genoty pe GG w ere not sig nificantly different compared whith that o f genoty pe AA and g eno type AG. In bo er go at br eed,t he aver age little size w ith genoty pe AA w as significantly hig her than that o f genoty pe AG(P< 0. 01) and that of g enot ype GG(P < 0. 01) ,and the aver age little size w ith g enot ype AG w as hig her than that of g enot ype GG. T he r esult s show ed that the differ ent g eno types o f GDF9 g ene can significantly affect the litter size in x inong shaaneng dairy go at breed and bo er go at breed. So GDF9 gene can be co nsidered as a candidat e g ene o f litter size for selecting x inong shaaneng dairy goat .
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【题目】西农莎能奶山羊和布尔山羊GnRH基因多态性与产羔数的相关分析
【中文关键词】GnRH;PRC-SSCP;遗传多态性;西农萨能奶山羊;布尔山羊
【英文关键词】GnRH, PCR-SSCP, genetic polymorphism, Xinong shaaneng dairy goat, Boer goat

【中文摘要】根据牛GnRH 基因序列设计4对引物,采用PCR-SSCP技术检测GnRH 基因的多态性,同时用最小二乘法研究了其多态性与产羔数和生长体质量的关系.所研究的西农莎能奶山羊和布尔山羊群体在P4扩增片段存在多态性,分别定义为CC、CT和TT 3种基因型;P1、P2和P3扩增片段均不存在多态性,只表现一种带型.通过测序发现CC型与GG型相比扩增片段的第185、336bp处同时有C→T的单碱基突变.在西农莎能奶山羊和布尔山羊群体中,CC和CT基因型产羔数最小二乘均值均极显著或显著高于TT基因型(P<0.05).研究结果表明,GnRH基因对西农莎能奶山羊和布尔山羊的产羔数均有显著影响,因此认为GnRH 基因P4扩增位点的突变可作为西农莎能奶山羊和布尔山羊多胎性状的有效分子标记.

【英文摘要】4 pairs primers were designed to detect single nucleotide polymorphism of GnRH gene in both Xinong shaaneng dairy goat breed and boer goat breed by PCR-SSCP and, sequencing was applied to analyze the genetic variation, and meanwhile least square was applied to analyze the relation between different genotypes and the little size and growth weight. The results showed that only the product amplified by primer 4(P4) displayed polymorphism, and three genotypes (CC, CT and TT) were detected in both two goat breeds. For primer P1, P2 and P3, there was no polymorphism. The sequencing results revealed there were two mutation (185bpC>A and 336bpC>A) at the product amplified by primer 4 in genotype CC compared with genotype TT in goat. The first, second, third birth litter size and the average litter size of individuals with genotype CC and CT were significant or extremely significant higher than those of genotype TT (P<0.05) in both breeds. The results showed that the different genotype of GnRH gene can significantly affect the litter size in the two breeds.

【语种】中文

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【题目】组织块再移法分离培养奶山羊乳腺上皮细胞

【中文关键词】山羊;乳腺上皮细胞;组织块再移法;生长曲线;群体倍增时间

【英文关键词】Goat, mammary epithelial cells, tissue re-shift method, growth curve, cell population doubling time

【中文摘要】通过比较组织块贴壁培养法、组织块再移法、胰蛋白酶消化法、胶原酶Ⅱ消化法和胶原酶消化配合组织块贴壁法分离、培养、纯化山羊乳腺上皮细胞,绘制细胞生长曲线并计算细胞群体倍增时间,研究乳腺上皮细胞培养效果.结果显示,利用胶原酶消化配合组织块贴壁法不能获得正常生长的乳腺上皮细胞;利用组织块贴壁培养法、组织块再移法和胶原酶Ⅱ消化法获得大量的乳腺上皮细胞,所得到的上皮细胞生长曲线呈典型的“S”型,符合细胞生长的一般规律.组织块再移法不仅可快速获得大量纯化的乳腺上皮细胞,而且所得到的细胞经传代后,细胞群体倍增时间最短、增殖能力最强,表明,该法是获得山羊乳腺上皮细胞最适宜的方法.

【英文摘要】In this study, in order to obtain a method to culture mammary epithelial cells with high purity in vitro efficiently,5 methods which include adherent tissue culture,tissue reshift method, trypsin digestion, collagenase Ⅱ digestion and the combination of collagenase digestion with tissue adherence were applied and compared. Goat mammary epithelial cells were isolated,cultured and purified in 5 methods and finally the cell growth curves were made and the cell population doubling time was calculated. The results indicated that the last method was barely efficient whereas adherent tissue culture, tissue re-shift method and collagenase Ⅱ digestion showed high efficiency to get large amount of mammary epithelial cells and the cell growth curve showed a typical "S" type. It was notable that tissue re-shift method showed high efficiency to get a large number of purified mammary epithelial cells, short cell population doubling time, strong proliferation after cells were obtained after passage, thus suggesting it is an appropriate method to obtain goat mammary epithelial cells.

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【中文关键词】微卫星基因座;西农萨能奶山羊;遗传多样性;产羔数;分子育种
【英文关键词】microsateffite markers;Xinong Saanen dairy goat;genetic polymm]hism,titter size;molecular breedng
【中文摘要】选择与羊高繁殖力紧密关联的微卫星基因座OarAl7,101、BMl329、OarHH55、BMl43、BMS2508和LSCV043,分析其在西农萨能奶山羊群体中的遗传多态性及与西农萨能奶山羊产羔数的关系.结果表明:6个微卫星基因座在西农萨能奶山羊中的有效等位基因数在6.571 3~8.992 5,多态信息含量在0.830 1~0.878 1,属于高度多态基因座.6个微卫星基因座对西农萨能奶山羊产羔数的效应分析表明:OarAEl01基因座的109 bp等位基因、OarHH55基因座的165和140 bp等位基因、BMS2508基因座的140 bp等位基因,BMl43基因座的124 bp等位基因、BMl329基因座的219 bp/185 bp基因型以及LSCV043基因座的140 bp/120 bp基因型,均对西农萨能奶山羊产羔数具有正效应.以上6个微卫星基因座可作为西农萨能奶山羊产羔性状候选基因的遗传标记.
【英文摘要】The study aimed at finding out the locus related to fecundity and providing some assistance for creating goat fecundity lines,early selection of parents.increasing selection accuracy and acceleration breeding.Six microsatellite markers OarAEl01,BMl329,OarHH55,BMl43,BMS2508 and LSCV043 closely associated with high reproduction in sheep and goats were analysed for polymorphisms in Xinong Saanen dairy goat.The results showed high genetic polymorphisms at the six microsatellite loci.The number Of effective alleles(Ne)at 6.571 3~8.992 5,pclymorphism information content(PIC)at 0.830 1~0.878 1 in Xinong Saanen dairy goat.The analysis of litter size effect of the six microsatellite loci in Xinong Saanen dairy goat indicated that the allele,109 bp at OarAEl01,165 and 140 bp at Oar- HH55,140 bp at BMS2508.124 bp at BMl43 as well as the genotype,219 bp/185 bp at BMl329 and 140 bp/120 bD at LSCV043,have positive effects 013 litter size.Microsatellite analysis showed that the 6 selected microsatellite lOCi can be used for marker assisted selection.
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【第一作者】朱广琴
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【题目】CSN1S2和CSN3基因表达量与西农萨能奶山羊产奶性状的关系
【中文关键词】西农萨能奶山羊; CSN1S2; CSN3; 实时定量PCR; 基因表达; 产奶量
【英文关键词】Xino ng Saanen Dairy Go at ; CSN 1S 2; CSN 3; rea-l t ime quant itative PCR; gene ex pression; milk y ield
【中文摘要】<目的> 研究酪蛋白中As2 酪蛋白(CSN1S2) 基因和K 酪蛋白(CSN3) 基因在西农萨能奶山羊乳腺组织中的表达量及其与产奶性状的关系.<方法> 根据山羊CS N1S2 和CSN3 的mRNA 序列(CSN 1S 2: AJ289716,CS N3: EF564258) 设计实时定量特异性引物, 采用实时荧光定量PCR 法, 对年均产奶量不同的3 组西农萨能奶山羊进行mRNA 转录水平上的相对定量分析, 并测定乳脂和乳蛋白的含量, 同时对扩增出的mRNA 片段进行克隆测序.<结果> CS N1S2 基因在第1 组15 只西农萨能奶山羊(年均产奶量为(1 100. 00 ? 15. 00) kg) 乳腺组织中的相对表达量是第2 组15 只奶山羊(年均产奶量为(600. 00 ? 12. 00) kg) 的2. 47 倍, 二者差异极显著(P < 0. 01) ; CS N3 基因在第1 组西农萨能奶山羊乳腺组织中的表达量是第2 组的3. 10 倍, 二者差异极显著(P< 0. 01) ; 测序后进行序列比对发现, 目的mRNA 片段与山羊CS N1S2 和CSN 3 基因的同源性均为100%; CS N1S2 基因在西农萨能奶山羊乳腺组织中的表达量与乳汁中蛋白质含量相关性不显著, 与脂肪含量呈显著负相关; CSN 3 基因的表达量与乳汁中蛋白质含量呈显著正相关, 与脂肪含量相关性不显著.<结论> CS N1S2 基因和CSN 3 基因在西农萨能奶山羊乳腺中的表达量对乳蛋白和产奶量有显著影响(P < 0. 05) , 可作为西农萨能奶山羊产奶性状选育的候选基因.
【英文摘要】<Object ive> The relatio nship betw een the milk product ion tr ait s and the expressio n lev els of CS N 1S2 gene and CS N 3 gene in the breast g land of Xinong Saanen Dairy Goat w as detected in this study.<Method> T w o pair s of Rea-l t ime quant itat ive specif ic primers w ere designed based on the mRNA sequenceof CSN 1S 2(AJ289716) gene and CSN 3(EF564258) gene, and SYBR Green r eaction system of rea-l t imefluorescent quant itat ive PCR w as used to detect the r elat ive quant itat iv e analysis on mRNA transcript ionlev el of CSN 1S2 gene and CS N 3 g ene in Xinong Saanen Dairy Goat . The amplified DNA segment s w ere cloned and sequenced. Meanw hile the milk fat and lactopr otein w as detected using fast milk composit ion analysis inst rument. <Result> T he result s show ed that the relat iv e average expression of CS N 1S2 gene inthe first gr oup including 15 goat s w hose milk production of one lactat ion period w as (1 100. 00 ? 15. 00) kg w as 2. 47 fo lds higher than that of the seco nd group, (600. 00 ? 12. 00)

kg, w hile the relat ive aver ag e expression of CS N 3 gene in the first g roup w as 3. 10 folds hig her than that of the seco nd gro up. When blasted the sequenced DNA, it show ed that the amplified DNA segment s shared 100% homolo gy w ith the target segment s. T he ex pression of CSN 1S2 gene in g oat mammary gland w as positively corr elated (P > 0. 05) w ith protein content , and negat iv elycorrelated (P< 0. 05) w ith fat content in g oat milk. T he ex pression of CS N 3 gene w as posit ively co rrelated w ith pr otein content (P < 0. 05) . <Conclusion> T he expressio n of CS N 1S2 g ene and CSN 3 gene in Xinong Saanen Dairy Goat mammary g land has a significant inf luence (P< 0. 05) on milk product ion, milk protein and milk fat , and can be used as breeding dairy go at milk production t rait s of the candidate genes.

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【题目】D101树脂固定中性蛋白酶的条件优化及酶学性质研究
【中文关键词】中性蛋白酶;固定化酶;D101 树脂;酪蛋白;游离酶
【英文关键词】neut ral proteinase ;immobilized enzyme ;resin D101 ;casein ; soluble enzyme
【中文摘要】【目的】提高中性蛋白酶的固定化效果,对D101 树脂固定中性蛋白酶的条件进行优化并对固定化酶的酶学性质进行研究.【方法】以D101 树脂吸附法固定中性蛋白酶,分别测定不同温度、时间和加酶量条件下固定化酶的固定化效果,并对固定化中性蛋白酶和游离中性蛋白酶的酶学性质进行比较研究.【结果】D101 树脂固定中性蛋白酶的最佳固定条件为:加酶量150 U/ g ,温度40 ℃,固定时间120 min ,此时固定化酶的酶活回收率最高(70 %) .固定化中性蛋白酶和游离中性蛋白酶的最适温度分别为46 和40 ℃,最适p H 值分别为7. 4 和7. 2 ,表观米氏常数Km分别为0. 22 和0. 20 mg/ mL ,最大酶促反应速度V max分别为0. 39 和0. 21 mL/ min.【结论】以D101 树脂固定中性蛋白酶后,固定化中性蛋白酶的活力、酶活回收率以及热稳定性和p H 稳定性显著提高.
【英文摘要】【Objective】To improve t he immobilization effect of neut ral proteinase , t he immobilization condition and enzyme properties of neut ral proteinase were st udied wit h resin D101. 【Met hod】The ab2 sorption method was used to detect immobilization effect under different temperat ures ,p H and enzyme con2 cent rations. The Km , thermal stability and p H stability of immobilized and soluble enzyme were studied. 【Result】The optimized result s were achieved wit h 150 U/ g of t he amount of neut ral proteinase to resin in weight ,coupling temperat ure at 40 ℃ and immobilizing time of 120 min. The maximum yield of immobi2lized enzyme was 70 %. The optimal temperat ure and optimal p H of immobilized and soluble enzyme were at 46 and 40 ℃,7. 4 and 7. 2 ,respectively. The Km and V max of immobilized and soluble enzyme were 0. 22 mg/ mL ,0. 39 mL/ min and 0. 20 mg/ mL ,0. 21 mL/ min ,respectively.【Conclusion】Compared wit h f ree enzyme ,t he enzyme activity ,enzyme recovery and stability of the immobilized enzyme were significantly increased.

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【题目】GHR基因exon 9和exon 10多态性与西农萨能奶山羊产奶性能的相关分析
【中文关键词】西农萨能奶山羊;PCR-SSCP;GHR基因;产奶性能;exon
【英文关键词】Saanen dairy goat;PCR-SSCP;G;milk performance;exon
【中文摘要】针对GHR基因exon 9和exon 10设计了2对引物,采用PCR-SSCP技术检测该基因这2个位点在西农萨能羊群上的单核苷酸多态性,同时研究其对产奶性能的影响.结果表明:exon 9具有多态,exon 10不存在多态性.Exon 9住点在西农萨能山羊中检测到NN型和NT型,纯化测序发现有1个SNP位点,NN型与NT型相比在该片段第241 bp处有1个G-T的突变;NN和

NT基因型之间产奶量的最小二乘均值差异显著(P<0.05):NN基因型在各胎次产奶量和平均产奶量等指标上均好于NT基因型,其中在第3胎的产奶量和第4胎产奶量2项指标上都达到显著水平(P<0.05).研究结果提示:GHR基因exon 9对奶山羊产奶量有显著影响,因此认为GHR基因exon 9位点可作为奶山羊高产奶量的标记辅助选择的有效分子标记.

【英文摘要】The GHR gene was studied as a candidate gene for milk performance in Xinong Saanen dairy goats.Two pairs of primers were designed to detect single nucleotide polymorphisms of exon 9 and 10 of GF佣gene by PCR-SSCP.The results showed that products amplified by exon 10 did not exhibit polymorphisms.For exon 9,two genotypes(NNand NT)were detected in Saanen dairy goats.Sequencing revealed one mutations of the Ggene in the genotype NN in comparison to the genotype NT;the difference in the least squares means(LSM)for milk yield between NN and NT was significant(P<0.05).The milk yield of individuals with genotype NN was higher than those with genotype NT in the third and fourth lactation periods(P<0.05).Based on these results,the GHR gene had significant positive effects On milk performance of dairy goats and the exon 9 of the Ggene may be regarded as an effective molecular markeron the MAS program for the milk performance Of dai ry goats.

【语种】中文

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【学科分类】畜牧学

【题目】促性腺激素释放激素受体基因(GnRHR)多态性及其与西农萨能奶山羊产羔性状关系的研究

【中文关键词】山羊; 促性腺激素释放激素受体基因(GnRHR) ; 繁殖力; PCR-SSCP

【英文关键词】g oa t; g ona do tropin rele asing ho rmone re ce ptor g ene (GnRHR) ; prolificac y ; PCR-SSCP

【中文摘要】在所选具有头3 胎产羔记录的西农萨能奶山羊和布尔山羊群中检测促性腺激素释放激素受体基因(GnRH R) 的多态性,根据检测结果分析GnR H R 基因对产羔性状的影响.设计7 对引物,采用单链构象多态(PCR-SSCP) 技术检测该基因第1 和第2 外显子在西农萨能奶山羊和布尔山羊中的单核苷酸多态性.结果发现: 引物P3 和P7 扩增片段具有多态性.P3 扩增片段,在西农萨能奶山羊和布尔山羊都检测到AA 和AB 基因型,A B型与AA 型相比在外显子1 有+ 714 缺失A 和+ 731 插入G 二个突变; P7 扩增片段,在布尔山羊中检测到CC 和CD 基因型,在西农萨能奶山羊中只检测到CC 基因型,CD 型与CC 型相比在外显子2 有+ 1440C A 一个突变.经过统计分析发现,西农萨能奶山羊AA 和A B 基因型频率分别为0. 86 和0. 14,杂合体AB 型平均产羔数比纯合体AA 型多0. 31 只(P < 0. 05) .推测,GnR H R 基因可能是控制山羊繁殖力的主效基因或是与之紧密遗传连锁的标记.

【英文摘要】De te cted po lymo rphism of GnRHR Ge ne in Sa anen Dairy Go at,a nd asce rta ined the rela tio nship be tw ee n po lymo rphism of GnRHR Ge ne and the litte r size trait. The g ona do tro pin rele asing hormo ne rece pto r g ene (GnRHR) s tudie d a s a ca ndida te ge ne fo r the pro lifica cy of Sa ane n Dairy Goa t. Se ve n pairs of prime rs w ere desig ned to de te ct sing le nucle otide polymorphisms o f ex on 1 and e xon 2 o f the GnRHR ge ne. Only the produc ts amplified by primers P3 a nd P7 dis pla yed polymorphisms. For prime r P3,two g enotypes (AA a nd AB) w ere detecte d in Sa ane n Dairy Go at and Boe r Go ats,re ve aled two muta tions (+ 714 point lo ss o f the base A a nd + 731 base G ins ertio n) of exo n 1 in g eno type AB compared w ith ge notype AA. For prime r P7,tw o g eno type s (CC and CD) were detecte d in Boer Goa ts,only one ge notype CC wa s de tected from Saa nen Dairy Go at,reve ale d one muta tio ns (+ 1305C G) of exo n 2 in g eno ty pe CD c ompa re d with g enotype CC . The Saanen Da iry Go at w ith homozyg ous g eno ty pe AA hav e 0. 31 (P< 0.05) kids less tha n tho se he te rozyg otes type AB .

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【中文关键词】人白介素- 2;β-酪蛋白;基因打靶;乳腺生物反应器
【英文关键词】human inte rleukin- 2; β- ca sein;g ene targe ting;mamma ry gla nd bio re ac to r
【中文摘要】为研究人白介素- 2 基因在奶山羊胎儿成纤维细胞中的表达, 构建人白介素-2 基因的山羊 - 酪蛋白位点打靶载体.以质粒pBC1 为模板扩增山羊 - 酪蛋白上游2. 5 kb 和下游3. 5 kb 的序列作为5 和3 同源臂, 将克隆得到的人白介素- 2 基因和neo 基因插入到2 个同源臂之间, 获得山羊 - 酪蛋白基因打靶载体pBNI53.利用脂质体将重组质粒转染奶山羊胎儿成纤维细胞进行G418 筛选, 并采用PCR 和实时定量PCR 方法对人白介素- 2 基因在稳定株中的表达进行验证.检测结果表明, 本试验构建的打靶载体pBNI53 成功转染奶山羊胎儿成纤维细胞, 将人白介素-2 基因成功整合至奶山羊胎儿成纤维细胞基因组中, 为通过体细胞核移植法制备人白介素- 2 基因乳腺生物反应器的研究奠定了基础.
【英文摘要】Ta rg e ting ve ctor fo r the huma n IL-2 g ene kno cking- in the g oa t β- c ase in loc us w as constructe d to study the expressio n o f the huma n IL-2 g ene in fibroblasts of the fe ta l da iry g oa t. Goa t - cas ein ge ne targ eting ve ctor pBNI53 was obta in by cloned go at - cas ein upstream 2. 5 kb and downstre am 3. 5 kb se quenc e as the 5 and 3 homo log ous arm using pBC1 as a template , with inserted huma n IL-2 ge ne and neo g ene . The plasmid wa s transie nt transfected into g oa t feta l fibro bla sts by lipo some, a nd the n the tra nsfe cted ce lls we re siev ed by G418, then in the stable line s the g ene expressio n wa s de tected by PCRa nd RT- PCR. After the de te ction by PCR and RT- PCR, the results sugg este d the targe t vec to r w as c onstructed suc cess fully, and the human IL-2 g ene suc cess fully integ rated into the da iry g oa t fibroblasts, which la y a g oo d founda tio n fo r the res ea rching o f pro ducing huma n interle ukin- 2 ge ne in mamma ry gla nd bio rea cto r by somatic ce ll nuclear transfer.
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【题目】山羊L H B基因多态性与产羔数的相关分析
【中文关键词】山羊; PCR- SSCP; L HB基因; 产羔数
【英文关键词】goat ; PCR-SSCP; LH Bg ene; litter number
【中文摘要】<目的> 研究布尔山羊和西农萨能奶山羊L H B基因多态性及其与产羔数的相关性.<方法> 采集布尔山羊和西农萨能奶山羊的血样, 针对L H B基因5c调控区及3 个外显子设计6 对引物, 利用PCR- SSCP 技术检测LH B基因在6 个位点上的多态性, 并用最小二乘法研究该基因多态性与产羔数的关系.<结果> 引物P1 与P5 扩增片段具有多态性, 引物P1 扩增产物有PP、PQ 和QQ 3 种基因型, P5 扩增产物有LL 和LM 2 种基因型, 其余4 对引物的扩增片段没有多态性.L HB基因P1 引物位点PP 与QQ 基因型相比, PP 型在第153 bp 处发生了C y A 突变; 引物P5 位点LL 与LM 基因型相比, LL 型在第64 bp 处发生了T y C 突变, 2 处突变均未导致氨基酸变化, 为沉默突变.在引物P1 位点, 布尔山羊PP 型个体第3, 4 胎产羔数均极显著高于PQ 型个体(P < 0. 01) , 西农萨能奶山羊PP型个体第4, 5 胎产羔数均显著高于PQ 型个体(P< 0. 05) ; 在引物P5 位点, 布尔山羊LL 型个体第4, 5 胎产羔数分别极显著(P< 0. 01) 和显著(P< 0. 05) 高于LM 型个体, 西农萨能奶山羊LL 型个体第5 胎产羔数极显著高于LM 型个体(P< 0. 01) .<结论> 引物P1 与P5 扩增片段具有多态性, 引物P1 和P5 位点可能对山羊的产羔数有影响.
【英文摘要】<Object iv e> T his exper iment studied the r elat ionship between the g enet ic polymorphisms of the L H Bgene and the litter number of Boer and Xinong Saneng dairy goat .<Metho d> Blood samples were col lected f rom Bo er go at and Xinong Saneng dairy g oat , PCR-SSCP and sequencing w ere applied to analy ze the ef fect of the genet ic var iat ion, and least squar e w as applied to analyze the cor relat ion of dif ferent genotypes and the litter number. <Result> Six pair s of primers w ere desig ned to detect single nucleo tide polymorphisms of L H Bgene by PCR-SSCP. T he results r evealed that there w ere three genotypes (PP, PQ and QQ) for P1 and tw o g enotypes(LL and LM) for P5 respect ively. T he mutat ions did not cause any amino acid chang e and w ere silence mutat io ns. Fo r primer 1, the differ ence o f the least squar es mean show ed that only the pr oduct s amplif ied by primer P1and P5 displayed polymorphisms. Sequencing (LSM) for lit ter size betw een PPand PQ w as sig nif icant(P< 0. 01) . T he lit ter number of individuals w ith genotype PP w as hig her than that w ith g enotype PQ in the third and the fo urth lit ter of Boer g oat and in the four th and f ifth litter of Xinong Saanen dairy go at . For pr imer P5, the lit ter number o f individuals w ith genoty pe LL w as hig her than that w ith g enotype LM in the fourth lit ter o f Boer goat and Xinong Saanen dairy go at . <Conclu-sion> T he result show ed that only the pro duct s amplified by primer P1 and P5 displayed polymorphisms, and had significant effect on go at lit ter number. T he L H Bg ene can be regarded as an ef fect iv e molecular marker on MAS prog ram for litter number o f goat .

【语种】中文
【第一作者】孙瑞萍
【通讯作者】曹斌云
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【题目】山羊级进杂交后代GH基因第4和第5外显子的多态性与体重性状的相关分析
【中文关键词】GH基因;PCR-ssCP;遗传多态性;山羊
【英文关键词】growth hormone gene;PCR-SSCP;genetic p01ymorphism;goat
【中文摘要】【目的】研究波尔山羊级进杂交后代GH基因第4、5外显子的遗传多态性及其与体重性状的相关性.【方法】采集波尔山羊及其与关中奶山羊级进杂交Fz、Fz和F3代羊的血样,利用PcR-SSCP技术分析其GH基因第4、5外显子的多态性,并用最小二乘法研究了第5外显子多态性与体重性状的关系.【结果】第4外显子在山羊群体中不存在多态性,而第5外显子在该群体存在多态性(有AA,AB,AC,AD 4种基因型);第5外显子发生了2处突变,AB基因型在237 bp位发生了C-T突变,AD基因型在第289 bp位发生了C-A突变,但突变均没有导致氨基酸的变化.波尔山羊及其Fl代群体中AD型个体的初生重极显著高于AC型(P<0.01);在F:代群体中,AB型个体的初生重和1月龄体重显著高于AA型(P<0.05);不同基因型个体的3月龄体重均差异不显著(P>0.05).【结论】第4外显子在山羊群体中不存在多态性,而第5外显子在该群体存在多态性.GH基因第5外显子可能对波尔山羊级进杂交后代体重性状有影响.
【英文摘要】【0bjective】The experiment studied the relation between the genetic polymorphisms and the weight traits of the fourth and fifth exon of GH gene of Boer and their progeny.【Method】Blood samples were collected from boar goat and their Fl,Fz and F3 generation.PCR—SSCP and sequencing were applied to analyze the effect of the genetic variation,and least square was applied to analyze the correlation of different genotypes and body weight in fifth exon of GH gene.【Result】There were no polymorphisms in the fourth exon and four genotypes of AA,AB,AC,AD in the fifth exon.Two polymorphisms were detected in the fifth exon AB genotype at 237 site(C-T)and AD genotype at 289 site(C-A),and two mutations occurred in the fifth exon.The association of the variation in the fifth exon of GH gene with the birth weight trait in the population were analyzed.The results showed that the birth weight of the individuals with a genotype AD was sjgnjficantly higher(P<0.01)than that with a genotype AC in the Boer and their Fj generation.But in the F2 generation the individuals with a genotype AB had a higher birth weight and one month weight than that with a genotype AA(P<0.05).【Conclusion】The result showed that there were no polymorphisms in the fourth exon and the p01ymorphism in the fifth exon of gGH gene had significant effect on weight traits.
【语种】中文
【第一作者】王利心
【通讯作者】曹斌云
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【学科分类】畜牧学

【题目】山羊乳过氧化物酶体系及其激活方案的研究
【中文关键词】乳过氧化物酶;羊奶;保鲜
【英文关键词】Lactoperoxidase;Goat milk;Preservation
【中文摘要】分析了8头西农萨能奶山羊乳中乳过氧化物酶活性和硫氰根含量,并测定了在25℃下不同激活剂浓度对羊乳24h滴定酸度的影响.结果表明,生鲜羊奶中乳过氧化物酶活性为(1.88士1.17)U/mL,硫氰根含量为(1.57_+0.35)mg/L.在25.C贮藏温度下激活乳过氧化物酶体系可以对羊乳起到保鲜效果.硫氰根添加13.5 mg/L,过氧化氢添加1.1倍硫氰根摩尔浓度时,可以较低的保鲜剂添加量,获得较好的保鲜效果,平均酸度为25.6.T.
【英文摘要】The activity of lactoperoxidase and the content of thiocyanate in Guanzhong Saanen goat milk have been detected.The titratable acidity of the goats 7 milk samples at the time of 24 hours were detected for evaluating the effects of different concentrations of the added reagents under the temperatures of 25℃.The results showed that the activity of lactoperoxidase in goat milk is(1.88±1.17)u/

m1.,and the content of thiocyanate is(1.57±0.35)mg/L.At the temperature of 25°C,when thiocyanate added at 13.5mg/L and hydrogen dioxide added at 1.1 times of thiocyanate molarity the milk samples have a longer shelf life.In this dose the average titration acid is 25.6.T.

【语种】中文
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【题目】山羊乳过氧化物酶体系及其延长保鲜期的研究
【中文关键词】乳过氧化物酶体系;羊奶;保鲜;关中奶山羊
【英文关键词】Lactoperoxidase system;goat milk;preservation;Guanzhong daiIVgoat
【中文摘要】分析了关中奶山羊羊奶中乳过氧化物酶活性和硫氰根质量浓度,对室温下应用化学法激活乳过氧化物酶体系保鲜羊奶进行研究.结果表明,羊奶中乳过氧化物酶活性为(1.88±1.17)U/mL,硫氰根质量浓度为(1.57+0.35)mg/L.均低于牛奶中的质量浓度.在25°C贮藏温度下,添加20 mg/L硫氰化钠添加20 mg/L比添加18.5 mg/L有明显优势.在添加20 mg/Lr,宽氰化钠20 mg/L的基础上添加过碳酸纳比过氧化氢有更好的效果.差异显著(P<0.05).在添加20 mg/L硫氰化钠20 mg/L的基础上添加58.2 rng/L过碳酸@58.2 mg/LiT以获得最佳保鲜效果,与空白对照相比差异显著(p<0.05).延长保鲜时间约6 h.
【英文摘要】Lactoperoxidase system has been recommended觼a safe method of preventing m/lk lOSSeS.But the dose added for raw milk isn ’ t elfective for goat milk.In this study,the activity of hctoperoxidase and the content of thiocyanate in Guanzhong7 goat milk have been detected.The effects of lactoperoxidase system on the preservation of the goat milk were studied under the temperatures of 25 oC.The results showed that the activity of lactoperoxidase in goat milk is 1.88±1.1 7 “ /mL,and the content of thiocyanate is 1.57+0.35 medL.Both of them as'e below the contents of raw milk.The milk samples have a longer fresh period in 20 mg/L than in 18.5 mg/L when sodium sulfocyanide added at the temperature of 25 oC.When sodium sulfocyanide added at 20 rng/L sodium percarbonate have a better result than hydrogen dioxide.When sodium sulfocyanide at 20 mg/L sodium percarbonate added S8.2 mg/L the milk sample has the longest shelf life.The shelf life of the milk sample Can be prolonged for about 6 hours than the con仃oUed sample.

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【题目】西农萨能奶山羊DGAT2 基因第5 内含子多态性与产奶性状的关联分析
【中文关键词】西农萨能奶山羊;二酰甘油酰基转移酶2 (DGA T2) ;PCR-SSCP;产奶性
【英文关键词】Xinong Saa nen dairy g oa t;dia cylg yce ro l acy ltransfe ra se 2 (DGAT2) ;PCR-SSCP;milk produc tio n tra its
【中文摘要】为确定二酰甘油酰基转移酶2(DGA T2) 基因与奶山羊产奶性状的关系, 采用PCR-SSCP 技术, 对197 只西农萨能奶山羊二酰甘油酰基转移酶2(DGA T2) 基因的第5 内含子进行多态性分析。在西农萨能奶山羊中检测的DGAT2 基因第5 内含子发现AA、AB 和BB 3 种基因型, 其频率分别为0. 228 4、0.406 1 和0. 365 5;不同基因型与西农萨能奶山羊的产奶量和乳脂率之间有显著的关联性(P< 0. 05),AA 和AB 基因型个体的产奶量和乳脂率显著高于BB 型(P< 0. 05),但对乳蛋白率和乳糖率影响不大, 未达到显著水平(P> 0. 05).结果提示DGAT 2 基因对奶山羊产奶性状有一定的影响。
【英文摘要】The a im was to inves tig ate the asso ciation betwe en DGAT2 g ene a nd milk pro duction in dairy goats. Po lymo rphism of the intro n 5 of DGAT2 ge ne w as detec te d by using PCR SSCP(Po lymerase Cha in Re action Sing le Strand Confo rmatio n Po lymorphism) in a popula tio n o f 197 Xinong Saanen da iry g oa ts. There we re three g eno ty pe s in intron 5 of DGAT2 g ene, i. e.AA, AB and BB, and the ir frequencies w ere 0. 228 4, 0. 406 1, 0. 365 5 respe ctiv ely. There was significa nt asso ciation betwe en diffe re nt g eno type s in milk yield and milk fa t percenta ge (P< 0. 05).Milk yield a nd milk fat percenta g e in go ats with g eno ty pe s

AA and AB was sig nific ant highe r than that in those w ith g eno type BB (P< 0. 05).No significa nt effect o f diffe rent g enotypes on their milk pro te in perce nta g e and milk suga r pe rc entag e was found. The result s ug ge ste d tha t DGAT2 g e ne has some e ffe ct on milk pro ductio n tra its.

【语种】中文

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【学科分类】畜牧学

【题目】西农萨能奶山羊多胎基因位点的遗传聚合效应分析

【中文关键词】西农萨能奶山羊;微卫星位点;群体系谱;聚合效应

【英文关键词】Xinong Saanen goat ;micro2satelite loci ;family t ree ;pyramiding effect

【中文摘要】【目的】分析西农萨能奶山羊不同微卫星基因位点的基因型和基因型组合在多胎性状形成中的贡献率,探索优良基因的遗传聚合效应.【方法】利用微卫星标记与群体系谱记录,以优秀多胎个体为研究起点,上溯亲代,跟踪子代,检测典型优秀母羊个体的基因型组合及其与产羔数的关系.【结果】在西农萨能奶山羊群体中找到A3A7 、B1B6 、C1C5 和D5D9 4 对产羔率具有正效应的标记,以及A1A5 、B4B9 、C2C6 和D4D8 4 对产羔率具有负效应的标记.基因型组A3A7B1B6C1C5D5D9 的聚合效应值最高(P < 0. 05) ;分析比较几个基因型对产羔数的聚合效应值可知,D5D9 较D4D9 高5. 11 % , A3A7 较A1A6 高15. 32 % , C1C5 较C2C6 高8. 11 % , B1B6 较B5B10 高8.50 % ,D7D10 较D4D9 高10. 09 % ,D5D9 较D1D5 高15. 62 % ,D4D9 较D1D5 高11. 08 % ,D2D6 较D1D5 高39. 64 %.【结论】在亲代到F1 代的基因传递过程中,基因型组合具有明显的聚合效应;在F1 代到F2 代的基因传递过程中,基因型组合出现了明显的分离现象.

【英文摘要】【Objective】The aim of t his experiment was to analyze t he pyramiding effect of genotype and genotype combination of microsatellite loci in t he polyembryony t rait of Xinong Saanen goat .【Method】The relationship of genotype combination and lit ter size were compared and revealed in excellent Xinong Saanen goat by micro2satelite marker and family t rees.【Result】The result s indicate t hat t here are genetic poly2 morp hisms at t hese four microsatellite loci , and t here are four positive genotypes (A3A7 ,B1B6 ,C1 C5 and D5D9) and negative ones (A1A5 ,B4B9 ,C2 C6 and D4D8) effect s on lit ter size ,respectively in Xinong Saanen goat . The pyramiding effect of A3A7B1B6 C1 C5D5D9 genotype combination markedly improved (P < 0. 05) compared wit h t he ot her s. The effect of D5D9 genotype on lit ter size was higher t han t hat of D4D9 by 5. 11 %,and A3A7 higher than A1A6 by 15. 32 % ,C1 C5 higher than C2 C6 by 8. 11 %,B1B6 higher t han B5B10 by 8. 50 % ,D7D10 higher than D4D9 by 10. 09 %,D5D9 higher t han D1D5 by 15. 62 % ,D4D9 higher than D1D5 by 11. 08 %,and D2D6 higher than D1D5 by 39. 64 %.【Conclusion】There was a significant pyramiding effect in t he cour se of reproduction between parental generation and F1 generation ; and t here was a significant gene isolation effect in the cour se of reproduction between F1 and F2 generation.

【语种】中文

【第一作者】李广

【通讯作者】曹斌云

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【学科分类】畜牧学

【题目】小鼠子宫内膜上皮细胞体外培养方法比较

【中文关键词】小鼠;子宫内膜上皮细胞;培养

【英文关键词】Mouse;Mouse endometrial epithelium;Culture

【中文摘要】探讨适用于小鼠子宫内膜上皮细胞的培养方法,对胰蛋白酶消化法、胰蛋白酶消化+刮取法、I型胶原酶消化法、I型胶原酶消化法+刮取法、子宫翻转组织块培养法5种方法进行了比较研究.结果表明,胰蛋白酶消化法获得的上皮细胞数量稀少,活力低,生长速度缓慢;刮取法+胰蛋白酶消化法、胶原酶消化法、刮取法+I型胶原酶消化法获得的细胞数量较单纯胰蛋白酶消化法多,但达不到研究所需的要求;子宫翻转组织块培养法获得的上皮细胞活力强,生长速度快,纯度高,比较

适宜小鼠子宫内膜上皮细胞的原代培养.

【英文摘要】To study the suitable method for mouse endometrial epithelial cell culture,five methods were compared:trypsin digestion,trypsin digestion+shaving,eollagenase I digestion,collagenase I digestion+shaving,turned over uterus tissue culture.The result indicated that cell is small,vigor is low and grows slowly by the method of trypsin digestion.By the method of trypsin digestion+ shaving,collagenase I digestion and collagenase I digestion+shaving,the number of cell is bigger than trypsin digestion,but they cann ' t reach the standard also.The last method of turned over Uterus tissue culture is best for mouse endometrial epithelial cell culture.By this method,the cell vigor is high,cell grows quickly and purely.

【语种】中文

【第一作者】董彬

【通讯作者】曹斌云

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【学科分类】畜牧学

【题目】Effects of molecular characteristics of on konjac glucomannan glass transitions of potato amylose, amylopection and their mixtures

【中文关键词】魔芋葡甘聚糖,直链淀粉,支链淀粉,玻璃化相变,分子特性

【英文关键词】konjac glucomannan (KGM); amylose; amylopectin; glass transition; molecular characteristics

【中文摘要】这项研究的目的是进一步探索魔芋葡甘聚糖(KGM)在淀粉基食品中所起的功能作用。实验研究的模型为直链淀粉/支链淀粉/KGM的混合体系。利用高速示差扫描量热仪(hyper-DSC),并辅以配备有多角度激光扫描(MALLS)和示差折光检测器(RI)的高效分子排阻色谱仪(HPSEC),X射线衍射仪(XRD)以及粘度仪等进行测试KGM在不同混合体系中的玻璃化相变温度(Tgs)。Hyper-DSC的检测结果显示,直链淀粉,支链淀粉以及混合体系的Tgs随着KGM浓度的增加而降低。基于KGM的分子特性,HPSEC-MALLS-RI,粘度仪以及XRD检测结果显示,KGM的摩尔质量为1023000-1329000g;均方根半径为110.5-129.6nm,且Mw/Mn为1.017。KGM在溶液中呈无定形状态的线性分子,无结晶相。以上研究结果表明KGM的添加可以起到塑化直链和支链淀粉结构的效果,从而增加直链和支链淀粉链的自由体积和分子流动性,并最终引起其Tgs的降低。

【英文摘要】BACKGROUND: The purpose of this study was to explore further the functions of konjac glucomannan (KGM) in starch-based foods. Experiments were carried out using the mixed amylose/amylopectin/KGM system as a model. High-speed differential scanning calorimetry (hyper-DSC) with the support of high-performance size exclusion chromatography (HPSEC) equipped with multi-angle laser light scattering (MALLS) and differential refractive index (RI), X-ray diffractometry (XRD) and viscosimetry was used to investigate the effects of KGM on glass transition temperatures (T(g)s) of mixtures with different amylose/amylopectin ratios. RESULTS: Hyper-DSC results showed that the T(g)s of amylase, amylopection and their mixtures decreased with increasing concentration of KGM. Based on the molecular characteristics of KGM, HPSEC-MALLS-RI, viscosimetry and XRD results showed that the molar masses of KGM ranged from 1.023 x 10(6) to 1.329 x 10(6) g mol(-1); the root mean square (RMS) radii were distributed from 110.5 to 129.6 nm, and M(w)/M(n) was 1.017. KGM was a linear molecule with random-coil conformation in solution and the crystallinity was 0.00%. CONCLUSION: It is suggested that the addition of KGM has plasticizing effects on the structures of amylase and amylopectin, which can increase free volume and molecular movement of amylase and amylopectin chains, resulting in a decrease in their T(g)s.

【语种】英文

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【学科分类】食品加工技术

【题目】不同微集水方式对玉米田耗水规律的影响
【中文关键词】土壤耗水量;作物需水量;作物系数;水分利用效率
【英文关键词】micro-catchment; soil water consumption; water requirement; crop coefficient; water use efficiency
【中文摘要】针对辽西地区水资源严重缺乏的突出问题,以传统种植模式为对照,研究了垄覆膜沟种植(T1)、垄覆膜沟覆膜种植(T2)和垄覆膜沟覆秸秆种植(T3)3种一元或二元覆盖微集水模式的效果。本试验条件下T2的保水效果最好,其次为T3,再次为T1,玉米生育期内分别比对照少耗水49.87,43.06,29.39 mm。同时,微集水模式可以降低作物的需水量,T2、T3和T1分别较对照生育期内需水量减少81.66,69.20,48.45 mm,生育期平均作物系数分别较传统模式降低0.12,0.16,0.09。集水种植各种栽培模式与传统种植相比都不同程度地增加玉米产量和水分利用效率,尤以T3和T2提高幅度最大。
【英文摘要】The experiment was conduced to study the effect of unary or binary coverage of three micro-catch-ment patterns in comparison with the traditional cropping pattern. The results indicated that T2(ridge and ditch mulched film) water conserved best, T3(ridge mulched film and ditch mulched straw) was the next-best pattern, and T1(ridge mulched film and ditch no-mulched) was the third. In compared with the control,the volume of soil water consumption of T2, T3and T1decreased by 49.87 mm, 43.06 mm and 29.39 mm.and the volume of water requirement of T2, T3and T1decreased by 81.66 mm, 69.20 mm and 48.45 mm,the average of crop coefficient decreased by 0.12, 0.16 and 0.09. Micro-catchment patterns can increase maize production and water use efficiency in varying degrees, especially T3and T2.
【语种】中文
【第一作者】冯良山
【通讯作者】孙占祥
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【引文索引号】null
【学科分类】农艺学

【题目】辽西地区微集水不同覆盖方式对玉米生长发育的影响
【中文关键词】微集水;玉米;生长发育;半干旱区
【英文关键词】micro-catchment; coverage; growth; maize
【中文摘要】以传统种植模式为对照,研究了垄覆膜沟种植、垄覆膜沟覆膜种植和垄覆膜沟覆秸秆种植三种一元或二元微集水覆盖方式对玉米生长发育的影响。结果表明,农田微集水技术能够提高玉米出苗率2.7~3.1个百分点,垄覆膜沟覆膜种植和垄覆膜沟种植能够缩短玉米的出苗时间1~3 d,垄覆膜沟覆秸秆种植会延长玉米出苗时间2 d。相对于传统种植模式,生育前期垄覆膜沟覆膜种植和垄覆膜沟种植能够促进玉米株高和叶面积增长,促进干物质积累,而垄覆膜沟覆秸秆种植生育前期生长缓慢,株高、叶面积和干物质积累量一直处于最低值,生育中后期生长速度加快。垄覆膜沟覆膜种植由于提前生育进程和高温等原因,出现了早熟或早衰迹象,叶面积和叶绿素含量下降迅速,而垄覆膜沟覆秸秆种植则能降低叶面积和叶绿素下降速度,延缓叶片衰老。微集水各种覆盖方式均不同程度的增加玉米产量,尤以垄覆膜沟覆膜种植和垄覆膜沟覆秸秆种植增产幅度最大,分别较对照提高35.38%和30.41%。
【英文摘要】With traditional cropping pattern as CK, the effects of unaryor binarymulchingof three micro-catchment patterns on maize growth were studied, and these patterns were ridge film mulching + furrow seeding, ridge film mulching + furrowfilmmulching, and ridge filmmulching + furrowstrawmulching. The results showthatthese micro-catchment patterns can enhance maize emergence rate by 2.7~3.1 percentage points, and the first two patterns reduce emergence time by 1~3 d, while the last one extends maize emergence time by 2 d. Compared to CK, ridge film mulching + furrowfilmmulching and ridge filmmulching + furrowseeding promote significantly the maize plant height and leaf area growth, increasing drymatter accumulation. And, atthe initial stages, ridge filmmulching + furrowstraw mulching slows down maize growth, and plant height, leaf area and dry matter accumulation are at low level, but the maize growth accelerates in the middle and late stages. Ridge film mulching + furrow film mulching makes the growth stages become earlier at higher temperature, there appear signs of premature and earlier aging, and leaf area and the chlorophyll content decrease significantly, but ridge filmmulching + furrowstrawmulching is just contrary to it. Micro-catchment patterns can increase maize production in varying degrees, especially ridge film mulching + furrow seeding and ridge filmmulching + furrowstrawmulching, whichmay increase the production by 35.38% and 30.41% respec-tively caompared with CK.
【语种】中文
【第一作者】冯良山
【通讯作者】孙占祥

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【学科分类】农业基础学科

【题目】玉米大豆间作对辽西地区作物生长和产量的影响
【中文关键词】In conditions of the field experiment, Investigated the effectofmaize and soybean interplanting on theirgrowth and yield inwestern Liaoning province. The result showed that intercropping had different influences on growth traits ofmaize and soybean, andma
【英文关键词】Maize; Soybean; Interplanting; Crops growth; Yield
【中文摘要】在大田试验条件下,研究了玉米+大豆间作对辽西地区作物生长和产量的影响。结果表明:间作对玉米、大豆各项生长指标均有不同程度的影响;间作模式玉米的产量及产量性状指标均高于单作模式,尤其边行1的优势更为明显;灌溉条件与雨养条件下对比发现,间作模式下玉米产量性状指标差异不显著,而单作模式下穗长、穗粒数和产量灌溉处理高于雨养处理,并达显著水平。间作种植的大豆产量较单作种植有所下降,灌溉处理的间作模式比单作模式减产15. 49%,雨养处理间作模式比单产模式减产29. 76%;间作模式在灌溉条件下水分利用效率高于单作模式;综合分析表明辽西地区玉米大豆间作4B4模式是提高产量和增加效益的适宜模式。
【英文摘要】玉米;大豆;间作;作物生长;产量
【语种】中文
【第一作者】刘洋
【通讯作者】孙占祥
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【学科分类】农艺学

【题目】风沙半干旱区果粮立体复合模式下土壤水分与微生物量碳变化特征及产量效益评价
【中文关键词】立体复合模式;土壤水分;微生物量碳;产量效益
【英文关键词】compound cultivation mode; soil moiture; microbial biomass carbon; output benefit
【中文摘要】选择科尔沁沙地南缘7种果粮立体复合模式(模式A1:大扁杏//花生/玉米/花生//大扁杏;模式A2:大扁杏//谷子/玉米/谷子//大扁杏;模式A3:大扁杏//大豆/玉米/大豆//大扁杏;模式B1:大扁杏//玉米//大扁杏;模式B2:大扁杏//花生//大扁杏;模式B3:大扁杏//谷子//大扁杏;模式B4:大扁杏//大豆//大扁杏),分析比较7种果粮立体复合模式土壤水分含量与微生物量碳的变化,评价不同模式区的经济效益。结果表明:果粮立体复合模式区玉米地在整个生长季(0~60 cm)平均含水量为:模式A1>模式A2>模式A3>模式B1,模式A1、A2、A3对矮棵作物0~20 cm土壤含水量影响不显著。不同立体复合模式区玉米地(0~20 cm)土壤微生物量碳的含量顺序为,模式A3>模式A1>模式B1>模式A2;矮棵作物(0~20 cm)土壤微生物量碳的含量状况为:模式A1、A3中的花生与大豆高于模式B2、B4,说明玉米与豆科作物带状间作模式可增加其微生物量碳的含量。不同立体复合模式玉米单位面积产量顺序为:模式A1>模式A3>模式A2>模式B1。模式A1、A2、A3的矮棵作物(花生、谷子、大豆)产量比模式B2、B3、B4略有减产,减产幅度均小于5%,差异不显著。从不同果粮立体复合模式的经济效益分析,模式A1与模式B2经济效益较高。因此,模式A1与模式B2在风沙半干旱区表现较好。
【英文摘要】Seven compound cultivation modes in south ofHorqin sandy land are chosen (A1: prunus armeniaca //peanut / corn / peanut // prunus armeniaca; A2: prunus armeniaca // grain / corn / grain // prunus armeniaca; A3:prunus armeniaca // bean / corn / bean // prunus armeniaca; B1: prunus armeniaca // corn // prunus armeniac; B2:prunus armeniaca // peanut // prunus armeniac; B3: prunus armeniaca // grain // prunus armeniac; B4: prunus ar-meniaca // bean // prunus armeniac) to study the variation of soil moiture and soil microbial biomass carbon in the sev-en modes and to evaluate the economic benefit in each mode. The results showed that the average water cotent of cornfield throughout the growing season (0~40 cm) in fruit and grain compound cultivationwas mode A1>mode A2>modeA3>mode B1, while the effect on dwarf plants (0~20 cm) on intercropping mode is insignificant. Soil microbial biomass carbonwasmodeA3>modeA1>mode B1>modeA2 on corn field; Soil microbial biomass carbon of intercrop-ping code is larger than that of the inteva-l cropping for peanuts and beans on dwarf plant field, so is the intercropping code of corn and bean. Yield per unit area of corns in different compound cultivation modes: mode A1>mode A3>mode A2>mode B1, production in

intercropping corns and dwarf plants (peanut, grain and bean) decreased by less than 5%, and the difference is insignificant. In terms of the economic benefits, both A1 and B2 exceed others. The conclusion is that A1 and B2 prove to be more productive modes on semiarid sandy and windy areas.

【语种】中文
【第一作者】王慧新
【通讯作者】孙占祥
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【题目】不同微集水方式在不同降水年型对玉米产量的影响
【中文关键词】微集水;玉米产量;降水年型;水分利用效率
【英文关键词】micro-catchment; maize yield; different precipitation years; water use efficiency
【中文摘要】针对辽西半干旱地区玉米产量低而不稳的问题,以传统种植模式为对照,研究了垄覆膜沟种植(T1)、垄覆膜沟覆膜种植(T2)和垄覆膜沟覆秸秆种植(T3)3 种一元或二元覆盖微集水模式在不同降水年型对玉米产量的影响。试验条件下,T2和T1均能缩短玉米出苗时间,提高玉米出苗率,T3能够延长玉米出苗时间,平水或干旱年型能够提高玉米出苗率,但丰水年型降低玉米出苗率。行粒数在不同降水年型几种微集水种植方式均要优于传统种植方式,而穗长和穗行数在不同降水年型几种种植方式间的差异均不显著,玉米穗粗仅在2009 年(干旱年型)要优于传统种植方式,百粒重在 2007 年(平水年型)和 2009 年(干旱年型)微集水种植要高于传统模式。集水种植各种栽培方式与传统种植相比都不同程度的增加玉米产量,并达到显著水平,尤以 T2和T3增产幅度大。在不同降水年型,微集水种植水分利用效率提高幅度不同,在丰水年型水分利用效率提高幅度要小些,在干旱或平水年型,水分利用效率提高幅度较大。
【英文摘要】This study focuses on the outstanding issues of the low and unsteadiness maize yield insemi-arid area of western Liaoning Province. Traditional cropping patterns as contrast, studied on the effectof unary or binary coverage of three micro-catchment patterns, which were ridge film mulching and furrowseeding (T1), groove ridgemulch film (T2), ridge ditch straw mulching cultivation (T3). T2 and T1could reducemaize emergence time and increase maize emergence, T3 extend the maize emergence time, increasing maize emergence in normal or dry years, reducing maize emergence in the wet year. The maize grain number of row in micro-catchment patterns was superior to the traditional pattern. However, the ear length and row number of ear in different treatments showed no significant difference. Maize ear diameter only in 2009 (dry year), maize row and 100-grain weight in 2007 (normal year) and 2009 (dry year) were significantly different level. Micro-catchment patterns could increase maize production in varying degrees,and significant levels, especially T2 and T3. Micro-catchment patterns could increase the rate of water use efficiency, margin in the wet year was smaller, in dry or normal year was big margin.

【语种】中文
【第一作者】冯良山
【通讯作者】孙占祥
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【题目】不同有机无机配比对玉米产量及土壤物理性质的影响
【中文关键词】有机无机肥;土壤培肥;玉米;物理性状;产量
【英文关键词】organic manure and chemical fertilizer; improving soil fertility; maize; physical property; yield
【中文摘要】土壤肥力下降、耕层变浅,是东北平原粮食高产的主要限制因子。因此,研究不同有机物与化肥配合施用对土壤物理性质及玉米产量的影响具有现实意义。在辽北棕壤土上,采用田间微区定位的方法研究,结果表明:有机无机配施不仅能够改善土壤的物理性质,还能够增加玉米产量;施用有机物料的各处理较无肥对照处理土壤容重下降了3.05%~9.92%,差异达到显著水平;与单施化肥处理相比,有机物料和化肥配合施用可增产1.64%~8.91%,同时能够增加田间持水量、毛管孔隙度和改善土壤微团聚体结构。在等碳量条件下,玉米秸秆对改善土壤理化性质的效果好于猪粪,化肥配施

高量猪粪增产效果最为明显。
【英文摘要】Decline of soil fertility and shoaling of topsoil are dominant limiting factors for high yield of cropproduction in northeast plain. So it has practical significance to study the effect of different ratios of organic manure and chemical fertilizer on soil physic properties and maize yield. Micro-plot positioning method was used on long-term located brown soil. The results showed that combined application of organic manure and chemical fertilizer improved soil physic properties and increased maize yield. Compared to CK treatment without fertilizer application, applying organic fertilizers could decrease bulk density by 3.05%-9.92% , and there was a significant difference between two treatments. Organic manure plus chemical fertilizer increased yield by 1.64%-8.91% than CK treatment that applied only chemical fertilizer, and increased field-moisture capacity and capillary porosity, decreased soil bulk density, and improved soil micro-aggregate structure. Provided the carbon contents were the same, maize straw was better than pig manure, and the treatment with chemical fertilizers plus high ratio of pig manure had significant effect on improving the yield of maize.
【语种】中文
【第一作者】孙文涛
【通讯作者】孙占祥
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【题目】风沙半干旱区风沙土防风蚀技术研究
【中文关键词】半干旱区;风沙土;防风蚀;水土保持
【英文关键词】Semiarid regions; Aeolian soils;W ind erosion resistance; Water and soil conservation
【中文摘要】针对风沙半干旱区风沙土易旱、易风蚀特性,开展了防风蚀技术研究。结果表明,农田防护林网主林带背风面距林缘1~6H处削弱风速约50%,随树高(H)倍数的增加效果递减;林网内扁杏//花生(间作)增强了花生裸茬抗风蚀能力,土壤防风蚀效果达90%;林网内玉米//花生(间作)玉米收获后秸秆站立(农田休闲期)玉米带完全不受风蚀,花生裸茬防风蚀效果达95%;林网内作物残体平伏覆盖防风蚀效果达120%,综合评价作物残体覆盖玉米秸秆站立的防风、保土和保水效果最佳。
【英文摘要】Ami ing at the characteristics ofdrough-tprone andwind erosion easily in aeolian soils semiarid regions, the study on ant-i erosion techniqueswas carried ou.t The results indicated thatwind speed reduced by 50%, which at the position of1-6H away frommain belt lee-ward between farmland shelterbeltnetwork and forestedge, and the effectdecreased graduallywith the increase of tree heigh.t Flatapricot//peanut(intercropping) within the forestnetwork enhanced thewind erosion resistance ability ofpeanutbare stubble, thereby, the erosion re-sistance effect reached 90%. Corn//peanut(intercropping) within the forestnetwork, after cornwere harvested, standing(field fallow)corn beltwere not subject towind erosion, the erosion resistance effectofpeanutbare stubblewas up to 95%; mulching crop residues reached to 120%. Finally, comprehensive evaluationwas carried out for the effectofant-iwind, soil andwater conservationwhen crop residues covered standing corn straw.
【语种】中文
【第一作者】颜景波
【通讯作者】孙占祥
【期刊名称、卷期、页码】安徽农业科学, 2011,39(5):2831-2833
【论文发表时间】2011-02-10 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农艺学

【题目】风沙半干旱区秸秆还田对间作花生土壤酶活性与产量的影响
【中文关键词】straw returning; soil enzyme activity; peanut yield
【英文关键词】秸秆还田;土壤酶活性;花生产量
【中文摘要】在风沙半干旱区间作(大扁杏)花生)大扁杏)条件下,以花生品种“ 阜花10号 ”为材料,研究了不同秸秆还田量对花生土壤酶活性和产量的影响。结果表明:秸秆覆盖还田能显著提高土壤脲酶、过氧化氢酶、蛋白酶的活性,处理III的土壤脲酶与蛋白酶活性较强,处理II过氧化氢酶活性略高于处理I与处理III。秸秆覆盖还田对花生产量和WUE的影响达到

显著水平。产量与WUE的高低顺序均为:处理Ⅱ>处理Ⅲ>处理Ⅰ>处理Ⅳ(CK)。因此,处理Ⅱ较适宜本地区。
【英文摘要】We studied the effect of straw returning amount on the yield of peanut variety Fuhua10and soil enzyme activity under intercropping system (prunus armeniaca-peanut-prunus armeniaca) in the sandy and windy sem-i drought area. The results showed: The activity of urease, catalase and pro-tease were increased significantly through straw returning. The urease and protease of treatmentIII were stronger than other treatments, and the catalase activity of II was higher than that of I and III. The effect of straw returning on peanut yield and WUE was at significant difference level. The peanut yield and WUE of different treat were II>III>I>IV(CK). So treat II was more suitable to the local area.
【语种】中文
【第一作者】王惠新
【通讯作者】王惠新
【期刊名称、卷期、页码】花生学报 2010,39 (4): 9~13
【论文发表时间】2010-08-11 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】土壤学

【题目】基于灰色关联度分析的辽宁阜新地区玉米品种评价
【中文关键词】灰色关联度分析;阜新地区;玉米品种;评价
【英文关键词】grey relational analysis; Fuxin; maize variety; evaluation
【中文摘要】品种是影响玉米高产的主要因素之一,不同区域选择适宜的品种对玉米高产有着重要意义。针对辽宁阜新地区品种混杂多样的特点,在2年试验数据的基础上,采用灰色关联度分析方法对该区域12个主栽玉米品种进行了评价。结果表明:辽单565、郑单958、沈玉21、金玉228、良玉11、世宾28、辽单632、沈农T19、东亚56、铁丰88、东单90、登海3686的关联度分别为0.8999,0.8520,0.8271,0.8257,0.7863,0.7761,0.7592,0.7584,0.7505,0.7490,0.7371,0.7136,说明适宜阜新地区的玉米品种为辽单565、良玉11、金玉228和郑单958。
【英文摘要】The variety is one of the main factors affecting maize yield, so choosing suitable variety is significant to the high yield in different areas. In view of the various characteristics of maize varieties in Fuxin, based on the two years' experiment data, this article evaluated twelve maize varieties using the grey relational analysis method. The results showed that the variety grey relational degrees of Liaodan565, Zhengdan958, Shenyu21, Jinyu228, Liangyu11, Shibin28, Liaodan632, ShennongT19, Dongya56, Tiefeng88, Dongdan90, Denghai3686 were 0.8999, 0.8520, 0.8271, 0.8257, 0.7863, 0.7761, 0.7592, 0.7584, 0.7505, 0.7490, 0.7371, 0.7136, respectively. The suitable maize varieties were Liaodan565, Liangyu21 and Jinyu228, Zhengdan958 in Fuxin.
【语种】中文
【第一作者】白伟
【通讯作者】孙占祥
【期刊名称、卷期、页码】沈阳农业大学学报,2010,41(6):649-653
【论文发表时间】2010-12-08 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】园艺学

【题目】基于灰色关联度分析的辽西地区典型种植模式评价
【中文关键词】灰色关联度分析;辽西地区;种植模式;模式评价
【英文关键词】grey relational analysis; western Liaoning Province; plantingmode; model evaluation.
【中文摘要】不同种植模式评价是当今种植制度研究中的热点之一,针对辽西地区自然特点和种植模式混杂多样的现状,在多年试验研究和专家问卷调查的基础上,采用灰色关联度分析方法对辽西地区6种典型种植模式进行了评价。结果表明:无论是在等权关联度下还是在侧重生态环境指标或经济指标的变权重下,南果梨+南瓜种植模式与参考模式的关联度均为最大,分别为01867、01920和01841,南果梨+花生种植模式次之,说明南果梨+南瓜+花生的林粮间作模式的生态和经济效益最好,是辽西地区发展种植业的最佳模式,玉米/大豆间作模式的关联度最小,分别为01848、01901和01821,这种模式的生态和经济效益最差。该研究结果对保护辽西地区生态环境,发展多熟立体农业,推动该区域的社会经济与环境的协调发展提供了理论依据。

【英文摘要】Evaluation ofdifferentplantingmodes is one of the hotspots in today.s cropping sys-tem research. In termsofwesternLiaoningProvince.snaturalcharacteristics and diverse planting modes, this paper evaluated six typical plantingmodes adopted in this region, based on experimental studies and expert questionnaire surveys and by the method of gray relational analysis. The results showed thatwhetherunderaverage orvariable correlation ofecological indices oreconomic indices, the plantingmode ofNanguo pearwith pumpkin wasmost closely related to reference pattern, with the correlation being 01867, 01920, and 01841, followed by the planting mode ofNanguo pearwith peanu,t the correlation being 01848, 01901, and 01821, indicating that the plantingmodes ofNanguo pearwith pumpkin orpeanuthad the bestecological and economic benefits, being the optimal planting modes in western Liaoning Province. The planting mode ofcorn intercroppedwith soybeanwas less related to referentialpattern, with the ecological and economic benefits being comparativelyworse. This studywould provide a theoretical support in protecting the ecological environmen,t developing the mult-i dimensional agriculture, and enhancing the sustainable development of regional society and economy in western Liaoning Province.
【语种】中文
【第一作者】张宝东
【通讯作者】孙占祥
【期刊名称、卷期、页码】生态学杂志,2010,29(12): 2452-2456
【论文发表时间】2010-12-15 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农业基础学科

【题目】辽西不同玉米_沙打旺间作模式的土壤水分和产量效应研究
【中文关键词】玉米;沙打旺;间作;土壤水分;产量
【英文关键词】maize; erect milkvetch; interplanting; soil moisture; yield
【中文摘要】以玉米清种、沙打旺清种、玉米/沙打旺间作(2B1)、玉米/沙打旺间作(4B2)、玉米/沙打旺间作(2B2)为例研究不同间作模式的土壤水分和产量效应。结果表明:玉米/沙打旺间作对土壤水分时空变化有一定的影响,土壤水分季节性变化趋势明显,从上到下,随土层深度增加,土壤含水量均表现出/先增大,后减小0的趋势。玉米/沙打旺间作对玉米株高的影响不显著,而对沙打旺的株高影响显著,同时株高的差异改变了玉米的通风透光状况。玉米、沙打旺间作(4B2)可以影响玉米干物质积累速率并延长峰值出现的时间,使其保持较长的快速增长期。玉米产量性状中,穗长、穗粗、行粒数、行数和轴粗各处理间差异不显著,而百粒重达到了显著性差异,产量也达到了极显著差异,以玉米清种最大,为15 567.50 kg/hm2,以玉米/沙打旺(2B1)的产量最低,为11 238.33 kg/hm2。综合来看,玉米/沙打旺间作(4B2)模式可以在辽西地区推广种植。
【英文摘要】An experimentwas conducted to study the effect of maize and erectmilkvetch interplanting on soil moisture and yield throuth pure maize planting, pure erect milkvetch planting, maize/erect milkvetch interplanting(2B1),maize/erect milkvetch interplanting(4B2), and maize/erect milkvetch interplanting(2B2). The results indicate: The maize/erect milkvetch interplanting has certain influence on spatial and temporal changes of soil moisture, and the seasonal change tendency of soil moisture is obvious, fromtop to bottom, increasing alongwith the soil layer depth, and the soil moisture content displays a tendencyof/increasing first and then decreasing0. The maize/erectmilkvetch interplanting dose not have remarkable influence on maize height, but has remarkable influence on the height of erect milkvetch, while the difference of plant height changes the maize.s aeration and photopenetration conditions. The maize/erect milkvetch interplanting(4B2) may affectthe drymatter accumulation speed ofmaize and prolongthe peaktime thusmaintain a longer period of fastgrowth. Forthe maize yield characters, the length and diameterof ears, grain number per row and row number are not much different under various treatments, but 100-grain weight is significantly different, and the yield achieves extremely remarkable difference, of which the greatest is pure maize planting, as much as 15 567.50kg/hm2, while that of maize/erect milkvetch interplanting(2B1) is the lowest, as low as 11 238.33 kg/hm2. As a whole, the pattern of the maize/erect milkvetch interplanting(4B2) may be extended in west Liaoning area.
【语种】中文
【第一作者】刘洋
【通讯作者】孙占祥
【期刊名称、卷期、页码】干旱地区农业研究,2010,28(6),147-152
【论文发表时间】2010-11-17 00:00:00
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【引文索引号】null

【学科分类】农艺学

【题目】不同覆盖方式对玉米产量和水分利用效率的影响
【中文关键词】玉米;土壤水分;水分利用效率;产量
【英文关键词】Maize; Soilmoisture; Water use efficiency; Yield
【中文摘要】在渗水地膜覆盖、普通地膜覆盖、普通地膜和渗水地膜交替覆盖、秸秆覆盖和裸地种植五种处理方式条件下,探讨了不同覆盖方式对辽西风沙半干旱地区玉米产量和水分利用效率的影响。结果表明,不同覆盖处理均可以不同程度的增加玉米产量和水分利用效率,其中渗水地膜覆盖能使玉米产量增加32. 66%,土壤水分利用效率提高41. 9%,说明渗水地膜覆盖是辽西风沙半干旱区提高玉米产量和水分利用效率的最佳方式。
【英文摘要】Five kinds ofmulchingmethods have been used to studymaize yield and water efficiency on the sem-i arid region of western Liaoning province, results show deferentkinds ofmulchingmethods all can increase yield andwateruse efficiency in de-ferent percent. The yield of water-permeability plastic membrane mulching increase 32. 66%. soil water efficiency increase 41.9%, water-permeability plasticmembrane is the bestwaywhich increase yield and water use efficiency on the sem-i arid region ofwestern Liaoning province.
【语种】中文
【第一作者】文凤
【通讯作者】孙占祥
【期刊名称、卷期、页码】辽宁农业科学,2010(5): 6~9
【论文发表时间】2010-10-11 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农艺学

【题目】辽西半干旱区玉米_大豆单间作田间耗水规律研究
【中文关键词】单作;间作;玉米;大豆;耗水规律
【英文关键词】monocropping; intercropping; corn; soybean; laws of water consumption
【中文摘要】采用FAO Penman-Monteith公式和水量平衡法对辽西半干旱区玉米、大豆单作和间作模式的耗水规律进行了研究。结果表明,全生育期玉米/大豆间作的农田实际蒸散量比玉米、大豆单作分别低15.37 mm和29mm,水分亏缺量分别比大豆、玉米单作低45.54 mm和5.68 mm,间作群体作物系数为0.82,介于单作玉米(0.81)和单作大豆(0.83)之间。此外间作模式作物需水量与降水量的吻合程度好于单作。
【英文摘要】The laws of water consumption of corn and soybean were studied through the FAO Penman-Monteith method and the water balance method on the semiarid region of western Liaoning Province. Compared with that in corn monocropping and soybeanmonocroppiing, the actual evapotranspiration in intercropping system is 15.37 mmand 29 mm lower respectively in the whole growth period, while the quantity of water deficit is 45.54 mm and 5.68 mm less. The crop coefficient of intercropping system lies between corn monocropping and soybean monocropping, in addition, its degree of agreement between water demand and level of precipitation is better.
【语种】中文
【第一作者】张莹
【通讯作者】孙占祥
【期刊名称、卷期、页码】干旱地区农业研究,28(5):43-46
【论文发表时间】2010-10-09 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农艺学

【题目】Study on Water Consumption and Use Efficiency of Major Crops in Southern Kerqin Sandy Land
【中文关键词】耗水规律;水分利用;主要作物
【英文关键词】Water consumption;Wateruse efficiency;Main crops
【中文摘要】采用FAO-PenmanMonteith公式法和水量平衡法对科尔沁沙地南缘地区玉米、花生和谷子等主要作物的耗水规律进行了研究。结果表明,玉米的日需水量、全生育期需水量和土壤水分亏缺量均最大,需水量与降水的吻合程度最差

,作物系数平均值较大;谷子的日需水量、土壤水分亏缺量和作物系数平均值较大,由于生育期相对较短,全生育期需水量最少,需水量与降水吻合程度较好;花生的日需水量和土壤水分亏缺量均最小,全生育期需水量较少,需水量与降水吻合程度最好,作物系数平均值较小,作物系数变化较为平稳,生育中前期需水量相对较小。从水分利用效率的角度,区域优先种植的作物应为玉米、谷子、花生。从水分经济效益的角度,区域优先种植的作物顺序为花生、玉米、谷子;优先灌溉的作物顺序为花生、谷子、玉米。

【英文摘要】The pattern of water consumption in corn, peanut and millet plots were studied using the FAO-Penman Monteith and the water balance methods. Among the three corps, the amount of day water demand, water demand for the whole growth period and soil water deficit were highest in the corn plot. However, the degree of agreement between water demand and level of precipitation in corn plot was the poorest. The amount of day water demand, soil water deficit and average crop coefficient were highest in the millet plot. Because of its short growth period, the water demand was the lowest, resulting in better degree of agreement between the water demand and level of precipitation in the millet plot. For peanuts, the water demand for the whole growth period was low but the degree of agreement between water demand and level of precipitation was reasonable. Also, the change in crop coefficient was relatively steady, and water demand during the early and middle period of crop growth was low. Based on water use efficiency, the crop order of regional priorities should be corn, millet, and peanuts but based on economic benefits of water use, the order should be peanuts, corn, and millet; the order of priority for irrigation should be peanuts, millet, and corn.

【语种】英文

【第一作者】冯良山

【通讯作者】孙占祥

【期刊名称、卷期、页码】Journal of Agriculture, Biotechnology and Ecology 2010,3(2):252-262

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【学科分类】农艺学

【题目】辽西参考作物潜在腾发量变化及其气象影响因子研究

【中文关键词】辽西地区;参考作物潜在腾发量;FAO Penman-Monteith公式;气象因子

【英文关键词】Western region of Liaoning; Reference crop evapotranspiration (ET0); Weather factors; Penman-Monteith equation

【中文摘要】根据辽西半干旱区阜新、朝阳站上世纪50年代至今的气象资料,采用FAO推荐的Penman-Monteith公式计算参考作物潜在腾发量(ET0) ,统计并分析生长季与非生长季辽西地区的ET0、气象因子变化与及其影响ET0变化的主要气象因子。结果表明:阜新地区ET0表现为随时间的增长趋势,而朝阳表现为随时间逐年减少趋势,80年代至今阜新、朝阳变化趋势显著。阜新、朝阳ET0与各气象因子的相关性大体一致。在辽西地区影响ET0显著的气象因子顺序为:风速>太阳辐射>最高温度>降水量,20世纪80年代至今风速的显著性变化是辽西半干旱区ET0之间差异的主要原因。

【英文摘要】Changes of reference crop evapotranspiration (ET0),meteorological factors and primarymeteoro logical factors affectingET0during growing seasons and non-growing seasonswere analyzed by the computed using Penman-Monteith equation which was recommended by FAO according to weather data after 1950 s ' in Fuxin and Chaoyang stations of sem-i arid area in western Liaoning. The results show that changesET0 based on increasing trendwith time in Fuxin station, and changesET0based on decreasing trendwith time in Chaoyang station.The trend after1980 s'is significantly. Correlation betweenMeteorologic Factors andET0 of Fuxin and Chaoyang is the similar.The influence capacity ofweather factors onET0is as follows:wind speed>solar radiation>maximum temperature>precipitation. The difference change trend ofET0ismainly caused by the significantly change ofwind speed after1980 s'in Fuxin and Chaoyang stations ofsem-i arid area inwesternLiaoning.

【语种】中文

【第一作者】王鹏飞

【通讯作者】孙占祥

【期刊名称、卷期、页码】辽宁农业科学,2010(3): 36~39

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【引文索引类型】其他

【引文索引号】null

【学科分类】农艺学

【题目】花期调亏灌溉对大豆生长发育及产量的影响
【中文关键词】大豆;调亏灌溉;水分利用效率;产量
【英文关键词】Soybean; RDI; WUE; Yield
【中文摘要】在盆栽条件下,研究了花期调亏灌溉对大豆生长发育和产量的影响。结果表明花期不同强度、不同时间调亏处理对株高、叶面积、根重、产量、根冠比等均有影响,且不同品种性状表现差异各异。耗水量随着控水强度加大、控水时间延长而降低,水分利用效率也变化明显,其中7 d 中度控水处理 WUE 最高。随着控水强度和控水时间的延长,经济系数有逐渐增大的趋势。综合上述研究,辽 51064 和辽 51095 均以 7 d 中度调亏处理(土壤含水量为 19% ~ 21%)为适宜。品种抗旱方面,辽 51095 的抗旱性优于辽 51064。
【英文摘要】The influence of regulated Deficit Irrigation (RDI) on the growth and yield was studied at the soybean flowering under the pot condition. The results indicated that the plant height, leaf area, ground and root weight, yield were effected under the different RDI treatments in flowering stage. Also the differences in performance of different varieties had different characters. The water consumption reduced with the water intensity and watering times, and WUE also changed obviously, the highest in the moderate control water treatment after 7 days. Along with the intensity and time of controlled water, the economical coefficients had the increased gradually tendency.
【语种】中文
【第一作者】白伟
【通讯作者】孙占祥
【期刊名称、卷期、页码】土壤通报,41(3):683-687
【论文发表时间】2010-06-14 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农艺学

【题目】辽西半干旱区大豆垄膜沟种微集水技术效果研究
【中文关键词】微集水;大豆;辽西半干旱区
【英文关键词】Micro-catchmen;t Soybean; Sem-i drought area ofwestern Liaoning province
【中文摘要】垄膜沟种微集水技术是提高农田降水资源利用率和水分满足率的有效途径,具有产流和较好的控制农田土壤水分蒸发的双重作用,可有效抑制农田水分的非目标性输出,促进大豆生长发育,对大豆增产显著,增产幅度达30.44%。
【英文摘要】Micro-catchment technique for laminating ridge and ditch planting is a effectiveway to improve the utilization of farmlandwater resources and the rate the rate ofwater tomeetcrops. Micro-catchment technique with a better control of runoff and soil evaporation; Controlling soilmoisture of the outputofnon-targe;t Promoting the growth and development of soybean; Increasing the soybean yield, and the yield rate can reach 30. 44%.
【语种】中文
【第一作者】李开宇
【通讯作者】孙占祥
【期刊名称、卷期、页码】辽宁农业科学 2010(2): 19~21
【论文发表时间】2010-03-25 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农艺学

【题目】玉米灌溉田土壤水分变化及其耗水规律研究
【中文关键词】玉米;土壤水分;耗水规律;灌溉田
【英文关键词】Corn; Soil moisture; Law of water consumption; Irrigated farmland
【中文摘要】以辽宁省主要旱地作物玉米为研究对象,研究了其灌溉田土壤水分变化及其耗水规律。在试验条件下,0~20 cm 土层水分含量最低,整个玉米生育期内水分变化幅度最大;30~50 cm 土层由于受长期耕作习惯等因素的影响土壤的黏滞度较高,保持较明显的水分梯度,并使 50~90 cm 土层水分变化与 0~20 cm 土层相比滞后 1~3d;90~120 cm 土层土壤水分受根系影响较小,变化不大。玉米生育前期农田实际蒸散量和参考蒸散量均趋于不断增大,生育中期个别时段内由于受阴雨气候影响蒸散量有所减弱;参考蒸散量最大值出现在玉米播种后第46 天左右,农田实际蒸散量最大值出现在玉米出苗后第96

天左右,玉米生育后期两者逐渐减弱。玉米生育前期表层土壤棵间蒸发量占实际蒸散量的比重较大,生育中期棵间蒸发量受降雨和灌溉等因素影响,变化幅度较大,生育后期相对较小。随着玉米叶面积增加,作物系数不断增加,在播种后第 81 天左右作物系数达最大值,之后作物系数逐渐下降。

【英文摘要】We had studied law changes of soil moisture and evapo- transpiration in irrigated farmland of corn which was the principal crop of dry farmland in Liaoning province. The results indicated that the minimum moisture content of soil was in the soil layer 0 - 20 cm where moisture fluctuation ranged the most widely in the whole crop growth and development period. In contrast, the change of moisture was modest in the soil layer 30 - 50 cm where the water content of the soil keeped a gradient clearly. The change of the moisture in the soil layer 50 - 90 cm lagged the layer 0 - 20 cm, though the change in the two soil layers were parallel. The actual measured evaporation and the reference evapotranspiration increased greatly in the earlier stage of crop growth and development period. The evaporation was weak sometimes in the intermediate stage of crop growth and development period for various reasons, especially for the overcast sky. The maximum of reference evapotranspiration at the 46th day after sowing and the maximum of actual measured evaporation at the 96th day after sowing. Both decreased gradually in the later stage of crop growth and development period. The proportion of plant interspace evaporation to actual measurement evaporation was higher in the earlier stage of crop growth and development period. The proportion was changed in evidence in the intermediate stage, because of the rainfall and irrigation. And the proportion was smaller in the later stage. The crop coefficient increase with leaves area. The maximum crop coefficient at the 81st day after sowing, and then it became weak gradually.

【语种】中文

【第一作者】孙占祥

【通讯作者】孙占祥

【期刊名称、卷期、页码】玉米科学,2010,18(1):99~102,107

【论文发表时间】2010-01-09 00:00:00

【引文索引类型】其他

【引文索引号】null

【学科分类】农艺学

【题目】不同覆盖方式对春玉米土壤水分及生长发育的影响

【中文关键词】旱地农业;春玉米;土壤水分;生长发育

【英文关键词】Agriculture in dryland; Springmaize; Soilmoisture; Growth and developmen

【中文摘要】采用渗水地膜覆盖、地膜覆盖、地膜和渗水地膜交替覆盖、秸秆覆盖、裸地五种种植方式探讨了对辽西风沙半干旱地区春玉米土壤水分及生长发育的影响,结果表明:不同覆盖处理可以不同程度的增加耕层土壤含水量,其中渗水地膜覆盖和秸秆覆盖效果最为明显;可以有效地促进了玉米的生长发育,使其生育进程合理,植株生长稳健,有效提高玉米产量,其中以渗水地膜覆盖效果最显著。

【英文摘要】Five kinds ofmulching methods have been used to study soilmoisture and maize growth on the sem-i arid region of western Liaoning province, results showed that soilmoisture ofwater-permeability plastic membranemulching and straw mulching increased obviously, maize yield ofwater-permeability plastic membrane mulching was the highest. Growth and yield of maize could be effectively promoted by some mulchingmethods, ofwhich water-permeability plastic membrane mulching effect was themost significant.

【语种】中文

【第一作者】李爽

【通讯作者】孙占祥

【期刊名称、卷期、页码】辽宁农业科学 2010(1): 1~4

【论文发表时间】2010-01-19 00:00:00

【引文索引类型】其他

【引文索引号】null

【学科分类】农艺学

【题目】Effect of bamboo (Phyllostachys pubescens) extract

【中文关键词】无

【英文关键词】Huainan partridge chicken, powdered bamboo extract, weight gain, serum enzymatic activity

【中文摘要】无
【英文摘要】The objective of the study was to establish whether powdered bamboo extract (BFRE) as a feedadditive for chickens was effective in maintaining body weight gain and serum enzymatic activity when birds are exposed to cold stress. Broiler Huainan partridge chickens (4 weeks old), fed a diet containing powdered BFRE (0.3 g/kg) for one week, showed significant weight gains compared to the control.Subsequently, the chickens were exposed to low temperatures (15 or 10 ° C) for one week with or without BFRE addition. After one week of exposure to 15 or 10 ° C, serum enzymatic activities were recorded.Chickens not receiving BFRE and exposed to 10 ° C showed a significant decrease in the body weight gain and in serum creatine kinase, lactic dehydrogenase L and alanine aminotransferase activities, whereas the activity of these enzymes changed to a lesser extent in chickens receiving BFRE. However, body weightgains were maintained within the normal range when the ambient temperature was 10 ° C. In conclusion,BFRE was an effective additive in preventing chickens from losing body weight during cold stress, and in fluctuations in serum enzymatic activity when exposed to cold stress. The results suggest that powdered BFRE is an effective additive in minimizing the negative effects of cold stress in broiler chickens.
【语种】英文
【第一作者】Xingyong Chen
【通讯作者】Zhaoyu Geng
【期刊名称、卷期、页码】South African Journal of Animal Science 2011, 41 (no 1)
【论文发表时间】2010-10-05 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农学其他学科

【题目】塔里木河流域农业用水现状调查与发展对策
【中文关键词】塔里木河流域;农业用水;参与式调查;发展对策
【英文关键词】Tarim watershed;agricultural water use;participatory investigation;developmental countermeasures
【中文摘要】以半结构访谈、问卷调查及现场勘察等参与式方法和工具对塔里木河流域资源环境、农业用水等方面进行了调查。利用调查获取的资料数据对流域水资源开发利用、灌溉工程及管理、土地利用、种植结构、土地沙漠化及盐碱化等状况进行了分析,针对调查分析发现的问题提出强化流域水资源统一管理和科学调度,多方位多渠道筹集水利建设资金,提高农业用水管理水平、加强无序开荒临控与监督,建立生态节水型种植结构,加大科技投入等解决对策。
【英文摘要】The resource and environment,agricuhural water use were investigated by the participatory methods including questionnaire survey,semi—structured interview and field survey in Tarim watershed. The existing conditions of water resources exploitation and use were analyzed according to the investigation results.Moreover,it was also discussed on irrigation project,irrigation management,land utilization,planting structure.Finally,the land suffered by desertification and salinization was studied based on the survey results.Countermeasures for dealing with the problems discovered by investigation were put forword which involving strengthening the water resources unified management and scientific dispatch.raising funds for water conservancy construction from multiaspects,increasing management level for irrigation,reinforcing disorder reclamation monitoring and supervising,establishing ecological and water—saving crop structure and increasing science and technology input.
【语种】中文
【第一作者】王玉宝
【通讯作者】吴普特
【期刊名称、卷期、页码】干旱区资源与环境,2010,24(10):144-149
【论文发表时间】2010-10-07 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农业工程

【题目】我国农业用水结构演变态势分析
【中文关键词】农业用水结构 农业用水效率 农业用水水平 农业结构型节水 农业经济用水量
【英文关键词】Agricultural water construction,Agriculture water efi ciency,Agricultural water level,Structural water-saving of agriculture,Economic agricultu ral water consumption

【中文摘要】农业用水结构对农业用水效率及效益有较大影响。采用1949-2006年农业用水资料分析了我国农业用水结构的演变历程,并根据农业用水结构的发展变化及灌溉农业的发展历史和未来发展方向,将1949一2050年我国农业用水水平分为初级利用、低效利用、合理利用及高效利用4个阶段。研究表明:我国农业用水结构日趋合理,农业用水比重持续减少,农、林、牧、渔用水及粮、经、饲作物用水比例协调程度不断提高。据此,提出了注重农业用水结构优化的农业经济用水量概念。华北地区的实例分析表明,在同时提高农业用水综合效益的情形下,依靠优化农业用水结构可年节水199.94亿m ;而有无用水结构优化的综合节水措施节水效果相差29.97亿m 。

【英文摘要】Agricultural water structure(AWS)influences the eficiency and potential benefits of water use.The evolution history of AWS in China was analyzed in this study using agricultural water consumption data in China for 1949-2006.Agricultural water use level for 1949-2050 was divided into four periods of primary use,low eficiency use.,reasonable use and high eficiency use in accordance with the evolution history and tendency of future AWS.The analysis shows that AWS in China is improving as the proportion of agricultural water consum ption to total water use is steadily decreasing.The level of water use is increasingly harmonized among agriculture,forestry,herding and fishing as well as water consum ption by grain crops,cash crops and grazing grass.The concept of economic agricultural water consumption is advanced,emphasizing water-saving via optimized AWS.A case study of North China illustrates that AW S optimization increases water use benefits an d saves 199.94x10 m3 water per year. Integrative water-saving measures along with optimized AW S saves an additional 29.97x 10 m3 water per year over water-saving measures alone.

【语种】中文

【第一作者】王玉宝

【通讯作者】吴普特

【期刊名称、卷期、页码】中国生态农业学报,2010,18(2):399-404

【论文发表时间】2012-03-15 00:00:00

【引文索引类型】其他

【引文索引号】null

【学科分类】农业工程

【题目】黑河流域大满灌区节水型种植业现状调查分析与对策

【中文关键词】大满灌区;问题矩阵;问题树;SWOT分析;节水型种植结构调整

【英文关键词】Daman irrigation district;problem matrix;problem tree;SW OT analysis;water—saving planting strue—ture adjustment

【中文摘要】采用问卷调查、半结构访谈、现场勘察等参与式调查方法,对黑河流域大满灌区种植业结构及相关问题进行了调查;利用问题矩阵、问题树及SWOT等参与式分析工具,对调查结果进行了分析;藉此发现目前灌区种植业中存在的问题,为未来种植业调整寻找决策依据。调查发现,灌区种植业主要存在土地结构不合理、经济作物销路差、资金投入供需差距大、新品种新技术难以推广应用、政府引导支持力度小、农户节水意识与生态意识淡薄等6个关键问题。针对以上问题,提出了加快土地流转、以销定产、保证资金信贷政策、加大科技投入、加强农业总体调控、改善农业灌溉设施等6项对策。

【英文摘要】Using participatory means such as questionnaire survey,semi—structure interview and scene investigation,we investigated the present planting structure situation and related problems of Daman irrigation distract in Heihe River Basin.Using participatory analysis tools as problem matrix,problem tree and SWOT,we analyzed the survey results.Based on these,we found the current planting problems in the irrigation district,which could be used for decision—making basis for future planting adjustment.According to the survey,six key problems were found,such as irrational land structure,poor sales of economic crops,large gap between supply and demand of capital investment,difi culty in promoting new varieties of plant and technology,weak force of government in guiding and supporting agriculture,and poor water-saving and eco-environment awareness among farmers.Then six countermeasures were put forward to solve these problems of crop planting in the irrigation district,including accelerating land circulation,strengthening intensive agriculturedevelopment,increasing ru ral credits,reinforcing general regulation and improving irrigation facilities,etc.

【语种】中文

【第一作者】王娟

【通讯作者】吴普特

【期刊名称、卷期、页码】干旱地区农业研究,2010,28(5):154-160,180

【论文发表时间】2010-09-09 00:00:00

【引文索引类型】其他

【引文索引号】null
【学科分类】农业工程

【题目】西北内陆县域气候变化及其对河川径流的影响
【中文关键词】县域;气候变化;河川径流;预测
【英文关键词】intra—county;climate change;rive runoff;prediction
【中文摘要】根据民乐县及祁连县气象站点1958—2008年气温、降水资料,结合民乐县历年水文数据,利用Mann—Ken—dall秩相关分析法等方法分析了民乐、祁连县1958-2008年气温、降水和民乐地表径流量的变化,在建立定量化关系的基础上研究了气候变化对民乐县地表径流的影响并对未来径流量做出预测。研究表明,气温的变化可分为基准期(1958—1986年)和增温期(1987—2008年),后者增温速率达0.62℃/lO a,且全年各季度整体增加;降水量总体上呈上升趋势,增幅为19.5 mm/10 a,突变年(1978年)后降水量的波动性增大;历年降水量有减少趋势,受气候变化影响,径流量的年际变化增大,气温与降水对径流变化的贡献相反。未来径流量还有减小的趋势,对此,提出了调整产业和种植结构、节水灌溉、综合利用水资源等措施以应对。
【英文摘要】Using the Mann-Kendall rank correlation analysis method to analyze the changes of temperature,rainfall and the runoff in Minle county,first,we established the quantitative relationships of the climate changing and the changes in surface runoff,and based on which we predict the runoff of the river in future.The results showed that:the climate changing time can be divided into two stages-the base period(1958—1986)and the warming period(1987-2008).The warming speeds of the latter periods is 0.62~C/10 a,and increased all over the year-round.The general trend of upward,the rate of increase is 19.5 mm/10 a,the volatility of the precipitation is increasing since the muration year(1978),there is a decrease trends in precipitation over the years,the annual changes in precipitation is increased,just owing to the climate changing.On the contrary,the contribution of the rainfall to the runoff was different.The trends of the runoff in future wilI be reduced.Moreover,we proposed severaI measures as the response to this matter,including make adj ustment to the industries and cropping pattern,use water saving irrigation,make full use of the water resources and so on.
【语种】中文
【第一作者】操信春
【通讯作者】吴普特
【期刊名称、卷期、页码】水土保持研究,2010,17(5):27-29,34
【论文发表时间】2010-10-12 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农业工程

【题目】土壤改良剂培肥增产效应研究综述
【中文关键词】土壤改良剂;改土培肥效应;作物增产效应;研究趋势
【英文关键词】Soil amendment,Effects on improving soil and cultivating fertilizer,Effects on increasing yield,Tendency of research
【中文摘要】土壤改良剂研究已是近年来国内外广泛关注的热点,在对土壤改良剂发展及其种类进行简要回顾的基础上,对土壤改良剂的改土培肥效应(物理结构、化学特性、生化特性)、作物增产效应及其施用技术进行了较为全面的分析和评述,并提出了目前存在的问题和展望了土壤改良剂的研究趋势。
【英文摘要】The research on soil amendment has long been a hot issue both at home and abroad.Based on abrief review on the soil amendment ’S development and sorts,this paper analyzed and reviewed its effects on improving soil(physical structure,chemical characteristics,biochemical properties),cultivating fertilizer,increasing yield and the application technique.Th e existent problems were pointed out and the tendency of research and develop of soil amendment were proposed.
【语种】中文
【第一作者】徐晓平
【通讯作者】冯浩
【期刊名称、卷期、页码】中国农学通报,2007,23(9):331-334
【论文发表时间】2007-09-10 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农业工程

【题目】黑河流域农业用水健康性及其评价方法研究
【中文关键词】黑河流域;农业用水;健康性评价
【英文关键词】the Heihe River basin; agricultural water consumption; health assessment
【中文摘要】定性评价了黑河流域农业用水健康性,并对其定量评价方法进行了初步探讨。在提出农业用水健康性科学内涵的基础上,分析探讨了农业用水健康性的评价标准、理论与技术基础。以协调性与效率性为标准,定性判断了黑河流域目前农业用水仍不健康。为进行定量评价,以资源利用效率、用水结构、用水效率和用水综合效益4个方面为准则,初步选择了20项指标作为农业用水健康评价的指标体系。
【英文摘要】This paper evaluates qualitatively the health for agriculture water use and discusses preliminarily the quantitative evaluation methods in the Heihe River basin. Rational agriculture water use is the key to solve the growing tension ofwater resources and continued deterioration of the ecological environment, and the health assessmentof agriculture water use is the basewhether reasonable for agriculturewater use. The paper analyses the conceptof the health of agriculture water use, explains the evaluation criteria and theoretical and technological base of health assessment for agriculture wateruse. Accordingto coordination and efficiencystandard, it can evaluate qualitativelythatthewateruse is not healthy. To the purpose of quantitative evaluation, the study takes resources use efficiency, water use structure, water use efficiency and benefit as regulation, selects initially twenty indexes as index system of health assessment for agriculture water use.
【语种】中文
【第一作者】孙琦伟
【通讯作者】吴普特
【期刊名称、卷期、页码】干旱地区农业研究,2010,28(3):232-235
【论文发表时间】2010-05-10 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农业工程

【题目】黑河中游区域农业用水现状调查与发展对策
【中文关键词】黑河中游区域; 农业用水; 参与式调查
【英文关键词】Heihe River Basin; water using for agriculture ; participato ryrural appraisal
【中文摘要】采用参与式调查的方法对黑河中游区域的农业用水现状进行了调查。近年来区域农业用水在水利工程建设、管理体制改革、作物种植结构调整、兼顾生态环境用水等方面取得了许多丰硕成果和宝贵经验。利用问题树方法结合半结构访谈结果对区域农业用水水平进行了分析研究, 认为流域目前还存在用水结构不合理, 用水管理体制不完善,种植结构不合理, 土地沙漠化、盐碱化及水污染问题严重等许多亟待解决的问题, 并针对区域存在的问题提出重视地面灌溉方式, 完善用水管理模式, 进一步调整种植结构, 发展综合农业节水技术体系, 重视雨水利用等解决对策。
【英文摘要】Current water using situation is being sur veyed by means of the participatory rural appraisal (PRA) in the Heihe Riv er Basin.The water using level for agriculture has been enhanced in many scopes in recent years. Great progress has been made in t he hydraulic construction, the administ ration organization reform, and the adjustment of planting structures. At the same time the water consumption for ecology has also been taken into acco unt when the water resources ar e dispat ched to ag rictur e. The w ater using level for ag r iculture is analy zed by combinning the problem tree with the results of sem-structure int er view . Then it is concluded that it still has many pr oblems concer ning water using , im perfect water using manag ement sy stem and unreasonable planting str uctures.The water is po llut ed severely and it also suffers ser io us deser tification and salinizatio n. Countermeasures fo r dealing w ith thesepr oblems are put forword.
【语种】中文
【第一作者】南纪琴
【通讯作者】王玉宝
【期刊名称、卷期、页码】中国农村水利水电,2010,(7):37-
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【学科分类】农业工程

【题目】农业经济用水量的决策层次与支持系统设计
【中文关键词】农业经济用水量; 决策层次; 决策支持系统
【英文关键词】economical agricultural w ater consumption; decision-making level; decision support system
【中文摘要】在分析“ 农业经济用水量 ”的概念及其内涵的基础上, 提出了农业经济用水量的决策层次: 宏观决策、中观决策和微观决策。着重分析了农业经济用水量决策系统的功能与框架, 系统具有数据管理、查询服务、分析统计、模型管理、决策支持、方案评估及系统帮助等功能。并进行了数据库和模型库的设计。在此基础上探讨了系统建立的途径。
【英文摘要】Economical agricultural w ater consumpt ion research has become important content of optimizing allocat ion of regional w ater resources and scient ific management . On the basis of analy zing the concept and connotation of economical agricultural water consumpt ion, decision-making levels of economical agricultural water consumption is put forw ard, they are macro decision-making, middle decision-making and micro decision- making. And the structure and funct ion of decision support system of economical agricultural water consumpt ion are emphatically elaborated, including seven funct ions: data management, inquiry service, analysis and stat istics,model management, decision support, st rategy evaluation and system help. It also designs the data base and model base and investigates the approach to establish the system.
【语种】中文
【第一作者】南纪琴
【通讯作者】赵西宁
【期刊名称、卷期、页码】干旱地区农业研究,2009,27(1):152-156
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【引文索引号】null
【学科分类】农业工程

【题目】安徽沿淮地区春马铃薯品种引进比较研究
【中文关键词】江淮地区;马铃薯;品种引进;比较
【英文关键词】JianghuaiRegion; Potato; Introducedspecies; Compare
【中文摘要】[目的]为筛选出适宜江淮地区春季种植的优质高产马铃薯品种。[方法]对引进的11个马铃薯品种熟性、产量、淀粉含量、抗病性进行观测。[结果]早熟鲜食品种中薯3号、费乌瑞它产量最高,产量分别达到61371、59859kg/hm2,商品性优; 加工品种LK99产量达到51516kg/hm2,还原糖含量0. 89%;特色品种紫薯,产量达到38502kg/hm2,商品性好,品质优。[结论]中薯3号、费乌瑞它、LK99、紫薯较适合在安徽春季大面积种植与推广。
【英文摘要】无
【语种】中文
【第一作者】廖华俊
【通讯作者】李卫文
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【学科分类】园艺学

【题目】塔里木河流域农业节水潜力综合评价体系研究
【中文关键词】农业节水潜力;指标体系;综合评价;塔里木河流域
【英文关键词】agricultural water-saving potential; indicator system ;comprehensive evaluation;analytic hierarchical process;Tarim River Basin
【中文摘要】以地处西北内陆干旱地区的塔里木河流域为研究单元,以流域系列统计资料和野外实际调研为研究基础,利用层次分析法原理,考虑到流域社会经济、水文水资源、农业水资源开发利用、农业节水水平及其生态环境对农业节水潜力的影响,构建了塔里木河流域农业节水潜力评价指标体系和相应评价模型,并利用评价模型对塔里木河流域的农业节水潜力实现水平进行了评价,其评价结果表明塔里木河流域农业节水潜力实现水平2003年比1996提高了49%,比2000年提高了17%,说明该流域随着农业节水措施的实施及节水水平的不断提高,农业节水取得了一定的成效且农业节水潜力实现水平将越来越高,目前尚存在较大节水潜力待进一步挖掘。

【英文摘要】Abstract:Based on statistical information and fieldwork investigation,applying analytic hierarchical process theory and taking the Tarim River Basin as a research unit,this paper established the mathematical model and indicator system for integrated evaluation of agricultural water-saving potentia1 .The indictor system includes five aspects such as socio-economic,hydrology and water resources,agricultural water use eficiency,and the extent of agricultural water-saving development and the ecological environment.The evaluating model an d the indicator system are applied to evaluate synthetically the agricultural water saving po tential in Tarim River Basin.Th e evaluation results showed that level of agricultural water-saving potential in 2003 increased by 49% compared to that in 1996.and by 17% compared to that of 2000 in the basin,indicating that with the implementation of the agricultural water-saving measures and continuous improvement of the level of water-saving,the efectiveness of agricultural water conservation has been obtained and the implementation level of agricultural water-saving measures is getting higher an d higher,and greater po tential leaves for further exploitation in the basin.

【语种】中文

【第一作者】马学明

【通讯作者】赵西宁

【期刊名称、卷期、页码】干旱地区农业研究,2009,27(3):113-118

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【学科分类】农业工程

【题目】春玉米控释氮肥施用技术研究

【中文关键词】春玉米;控释氮肥;普通氮肥;施肥技术

【英文关键词】Spring maize; Controlled release N; Common N; Application fertilizer technique

【中文摘要】不同控释氮肥田间试验结果表明,控释氮肥与普通氮肥相比不仅能提高春玉米子粒产量,而且能提高玉米子粒中粗脂肪含量。春玉米的适宜施 N量为 150 kg/hm2。控释氮肥与普通氮肥混合施用可显著提高春玉米产量,最佳混配比例为 50%控释尿素 +50%普通尿素。

【英文摘要】Field experiment showed that controlled release N fertilizer could not only increase spring maize yield but also increase its crude fat content, and the appropriate fertilization rate was N 150 kg/ha for spring maize. Mixed application of controlled release N and common N could increase maize yield obviously, and the optimum mixed pro-portion was 50% controlled release urea + 50% common urea.

【语种】中文

【第一作者】谢佳贵

【通讯作者】王立春

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【学科分类】农艺学

【题目】黄土丘陵区退耕还林工程对县域粮食安全的影响-以陕西省清涧、米脂、子洲、吴堡县为例

【中文关键词】退耕还林工程;耕地压力指数;粮食安全

【英文关键词】Grain for Green Project;land use pressure index:food security

【中文摘要】为了评估黄土丘陵区实施退耕还林工程对县域粮食安全的影响,选取研究区典型四县——米脂、清涧、子洲和吴堡,假设实施退耕还林工程粮食补贴全部以粮食实物兑现和不实施退耕还林工程退耕的坡耕地提供粮食生产为前提,运用修订的耕地压力指数模型来对比评估退耕还林丁程对县域粮食安全的影响。研究结果表明:退耕还林工程对米脂县和子洲县粮食安全影响较明显,对清涧县和吴堡县影响甚微。不同退耕规模对不同人口密度县域粮食安全的影响程度不同。研究结果对国家建立长期、稳定、有效的粮食补偿机制有一定参考意义。

【英文摘要】Since 1999,the government of China has carried out an awfully ambitious consmwationprogram for “ win—win ” objective of environment refinement and poverty reduction becoming self—sustainable.The program was famous Grain for Green Project,for which the government of China spent more than 4300 billion yuan and 27 million hm of slope cultivated land was converred to forest and more than 100 million farmers took part in the program from 1999 to 2008. So we adopted the revised

model of land use pressure index to the assessment of Grain for Green Proiect on the county—level food security from 1999 to 2008 based on case study in Mizhi, Qingjian,Zizhou and Wupu counties. Supposed food subsidies to compensation loss of farmers conversed of cropland to forest land in the form of grain for framers conversed of forest land to cropland, the results indicates that the effects of Grain for Green Project on Mizhi and Zizhou counties,whichhave a population density of 1 50—1 80 people per km and implementation conversion of 1. 44 —1.58 ten thousand hm of cropland to forest land,are obvious;but that of Qingjian County with a population density of l 1 0 —1 20 people per km and implementation conversion of 0.4 ten thou.sand hm of cropland to forest land and Wupu County with a population density of 170 —190 people per km2 and implementation conversion of 0.4 ten thousand hm of cropland to forest land, are little influenced. In a word,the effects on food safety for counties with different popu1ation densitv and different conversion scale are different in the Loess Plateau hilly region. The government will choose the results to establish long-term ,stable and effective food compensation mechanism, in order to consolidate gains of Grain for Green Project in the future.

【语种】中文
【第一作者】成六三
【通讯作者】吴普特
【期刊名称、卷期、页码】自然资源学报,2010,25(10):1690-1697
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【学科分类】农业工程

【题目】江淮地区莴苣品种引进及比较试验
【中文关键词】江淮地区 莴苣品种比较
【英文关键词】无
【中文摘要】通过对引进的个莴苣品种进行生物学特性调查产量和品质研究结果表明圆叶三绿松圆叶竹叶香和竹叶香精正全兴号种都号等品种产量高品质好抗寒抗病性强可以作为江淮地区冬春季主栽莴苣品种进行种植推广
【英文摘要】无
【语种】中文
【第一作者】廖华俊
【通讯作者】廖华俊
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【引文索引号】null
【学科分类】农艺学

【题目】坡面生物调控措施对土壤水分入渗的影响
【中文关键词】生物调控措施、土壤水分入渗、降雨强度、坡度、植被覆盖度
【英文关键词】biological regulated measures, soil water filtration, rainfall intensity, slope, vegetation coverage
【中文摘要】为了研究不同生物调控措施的植被覆盖度、降雨强度和坡度以及各因素间交互作用对土壤水分入渗的影响,本文通过室外人工模拟降雨试验,对不同生物调控措施坡面的土壤水分入渗规律进行了探索。结果表明:1、有生物调控措施坡面的土壤稳定入渗率较裸坡偏大,且差异极显著,但生物调控措施坡面之间的差异并不明显。2、降雨强度、坡度与土壤稳定入渗率间不是线性单值函数,均存在使土壤稳定入渗率最大的临界雨强与临界坡度。稳定入渗率随植被覆盖度增加的速率是非恒定的,存在着增速变化的临界植被覆盖度。临界植被覆盖度前,稳定入渗率的增加速率很快,之后,迅速降低并趋于稳定。3、坡面径流调控度随雨强增大而减小;相同雨强下不同措施坡面径流调控度排序为:黑麦草>春小麦>苜蓿>裸坡。4、采用SPSS软件通过逐步回归分析法提取了影响土壤稳定入渗率最显著的单因子交互作用项,建立了包含降雨强度、坡度和植被覆盖度在内的多因素非线性入渗模型,通过实测数据对其进行验证发现该模型精度较高。
【英文摘要】In order to research the impact of rainfall intensity, slope, vegetation coverage and the interaction between multiple factors on the soil infiltration, we in-depth systematically researched the soil infiltration law under different biological regulated measures thought the artificial simulated rainfall in the paper. The results indicated that, 1, The stable infiltration rate of Hillslope with biological regulated measures were big than those Hillslope without biological regulated measures. And the difference was extremely

significant; however, the difference was not obviously between those Hillslope with biological regulated measures. 2,It wasn’t a simple linear single-valued function between rainfall intensity, slope and the soil stable infiltration rate; there were critical rainfall intensity and critical slope to make the soil stable infiltration rate of the largest. The increasing speed of the stable infiltration rate with the increasing of vegetable coverage was not constantly, there was a critical vegetable coverage. Before the critical vegetation coverage, the increasing speed of the stable infiltration rate was very fast, after that, the increasing speed of the stable infiltration rate reduced quickly and tended to stabilization.3, Runoff regulating degree decreased with the increasing of rainfall intensity. The sequencing of runoff regulating degree under different control measures in same rainfall intensity as follow: ryegrass> wheat> alfalfa> Bare3, On that basis, by the stepwise regression analysis, we analysised the impact of each factor and the interaction between the various factors on the stable infiltration, used the t test to eliminate the item of independent variable insignificant, and established a multiple non-linear model including rainfall intensity, slope and vegetation coverage. Finally, we used the measured data to prove this model’s fitness and feasibility.

【语种】中文
【第一作者】黄俊
【通讯作者】吴普特
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【学科分类】土壤学

【题目】高油玉米花粉直感效应对普通玉米品质的影响
【中文关键词】高油玉米; 花粉直感效应; 产量; 品质; 经济效益
【英文关键词】High- oil maize; Pollination effect; Yield; Quality; Economic effect
【中文摘要】通过两个高油玉米品种与 5 个普通玉米品种混种, 利用高油玉米品种为普通玉米品种授粉, 研究高油玉米对普通玉米的花粉直感效应。两年的研究结果表明: 通过花粉直感效应, 增加了普通玉米的含油量和粗蛋白含量, 改变了淀粉含量。与通油 1 号玉米杂交的 5 个普通玉米产量均增加, 增加幅度最高的是吉单 180, 其经济效益也最大。与四油 199 玉米杂交的 5 个普通玉米, 除吉单 180 外, 产量均降低, 经济效益最高的是吉单 180。由此可见, 高油玉米通油 1 号比四油 199 更适合与普通玉米进行花粉直感效应, 而吉单 180 是与高油玉米进行花粉直感效应最为合适的普通玉米品种。
【英文摘要】Through the interbreeding between the high- oil maize and the five normal maize varieties, we made some research on the pollination effect of normal maize by high- oil maize. On the basis of the two years experiments,we drewthe conclusion that high-oil maize had a obvious pollination effect to normal maize which increased the crude fat and protein content, changed the starch content. Pollinated byTongyou No.1, the yield ofthe five normal maize va-rieties was all increased, and Jidan180 had the biggest yield and the largest benefit. Pollinated by Siyou199, except Jidan180, the yield of the other four maize varieties was all decreased, and Jidan180 had the largest benefit. From the above, we can tell that high oil maize of Tongyou No.1 is a better variety that interbreeds with normal maize variety than Siyou1

【语种】中文
【第一作者】王立春
【通讯作者】王立春
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【学科分类】农艺学

【题目】多参数非线性降雨产流阈值模型试验研究
【中文关键词】Rainfall-Runoff Threshold is the minimum rainfall producing surface runoff; and is an important parameter for the runoff and sediment yield law researches. In this paper, the field artificial rainfall simulated experiments were carried out, and using the
【英文关键词】rainfall-runoff threshold, vegetation cover, linear regression, runoff amount, rainfall amount
【中文摘要】降雨产流阈值是受雨下垫面能够产流的最小降雨量值,是产流产沙规律研究的重要参数。本文采用室外人工模拟降雨试验,用传统直线回归法推求了几种植被覆盖下坡面的降雨产流阈值,并综合其他因素对降雨产流阈值的影响,建立了一种多参数非线性降雨产流阈值模型。结果表明:传统直线回归法得到的四种不同调控措施下坡面的降雨产流阈值分

别为:裸坡9.4 mm、黑麦草23.6 mm、苜蓿15.8 mm和春小麦19.5 mm。结合直线回归法并充分考虑降雨强度、植被覆盖度和前期土壤含水量三个因素对降雨产流阈值的影响,通过多元回归分析建立了一种多参数非线性降雨产流阈值模型,由该模型得到的四种不同调控措施下坡面的降雨产流阈值分别为:裸坡13.4 mm、黑麦草23.7 mm、苜蓿18.8 mm和春小麦19.7 mm。用实测数据对模型进行检验,计算值与实测值吻合程度较高,证实了该多参数非线性模型的适合性与可行性。
【英文摘要】降雨产流阈值;植被覆盖;直线回归;径流量;降雨量
【语种】中文
【第一作者】黄俊
【通讯作者】吴普特
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【引文索引类型】其他
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【学科分类】土壤学

【题目】吉林省不同类型土壤玉米施肥效应研究
【中文关键词】土壤类型; 施肥模式; 施用效益; 吉林省
【英文关键词】Soil types; Fertilization mode; Application effect; Jilin province
【中文摘要】吉林省东、中、西不同类型土壤田间试验结果表明: 不同类型土壤的氮、磷、钾肥施用模式符合二次曲线Y=ax2+bx+c。利用该模式, 结合肥料和玉米价格进行综合分析, 明确了不同类型土壤上的氮、磷、钾施用效益, 即东部冲积土玉米最佳施肥量为 N192 kg/hm2、P2O556 kg/hm2、K2O33 kg/hm2; 中部黑土玉米最佳施肥量为 N 133 kg/hm2、P2O538 kg/hm2、K2O47 kg/hm2; 西部淡黑钙土玉米最佳施肥量为 N59 kg/hm2、P2O565 kg/hm2、K2O51 kg/hm2。
【英文摘要】Field experiment conducted on the different types of soil in the east, middle and west parts of Jilin province showed that the N, P and K application mode could be expessed by the quadratic equation Y=ax2+bx+c, andthrough this mode by the maize and fertilizer price, we made sure that the optimum fertilizer rates on the alluvium soil of the east part of Jilin province was N 192 kg/ha, P2O556 kg/ha and K2O 33 kg/ha respectively, and the optimum fertilizer rates on the black soil of the middle part of Jilin province was N 133 kg/ha, P2O538 kg/ha and K2O 47 kg/ha respectively, the optimum fertilizer rates on the light chemozem soil of the west part of Jilin province was N 59 kg/ha,P2O565 kg/ha and K2O51 kg/ha respectively.
【语种】中文
【第一作者】谢佳贵
【通讯作者】王立春
【期刊名称、卷期、页码】玉米科学,2008,16(4):167-171
【论文发表时间】2008-08-17 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】土壤学

【题目】保水剂对冬小麦不同生育阶段土壤水分及利用的影响
【中文关键词】作物,土壤水分,产量,冬小麦,保水剂,水分利用效率
【英文关键词】crops,soil moisture,production,winter wheat,WUE
【中文摘要】为探明保水剂施用后对冬小麦不同生育阶段水分利用的作用机理,在豫西丘陵旱作区,通过大田试验,研究了保水剂对冬小麦不同生育阶段的保水、作物的耗水特征、水分利用效率等的影响。结果表明:保水剂提高了冬小麦不同生育阶段0~100 cm土层的土壤含水量、促进了生物量的积累、降低了小麦耗水量、提高了小麦产量和水分利用效率。各处理中,60和90kg/hm 处理的土壤含水量及储水量均较其他处理高,而耗水量最低。播种一拔节期,保水剂用量越高干物质积累越显著;拔节一孕穗期及灌浆.收获期,60 kg/hm 处理较对照增加的干物质量最高;而孕穗.灌浆期,30 kg/hm干物质量增加最为显著。各生育阶段,除孕穗.灌浆期外,60 kg/hm2处理的水分利用效率均较高。最终,60 kg/hm2处理的产量和水分利用效率均最高,较对照增产47.4%,水分利用效率增加10.6 kg/(mm · hm)。
【英文摘要】In order to ascertain the mechanism of water—retaining agent on soil moisture and water use in diferent growth stage of winter wheat,a field experiment in hilly and drought fanning region of western Henan province was conducted to investigate the effects of water—retaining agent on holding moisture, characteristics of water consumption of crop,and water use eficiency(WUE)in different reproductive stage.The results indicated that soil moisture in 0—100 cm soil layer was increased,biomass accumulation Was

raised,water consum ption of winter wheat was decreased yield and WUE were all increased after applying water—retaining agent.While the soil moisture and storage capacity of treatment with 60 kg/hm2 and 90 kg/hm2 of water-retaining agent at each growth were higher than that with other treatments,but water consuption was lower.What's more,from sowing to jointing stage,the biomass of winter wheat increased with the increase of water—retaining agent.Jointing—booting and fillingharvest,the biomass of treatment 60 kg/hm2 of water-retaining agent had the most increasing compared with other treatments. But from booting to filling stage,the biomass of treatment 30 kg/hm~of water-retaining agent increased evidently compared with other treatments.At diferent growth stages,WUE of treatment with 60 kg/hm2 of water-retaining agent was me highest among diferent treatments except for booting-filling stage.It was concluded that yield and W UE of treatm ent with 60 kg/hm2 of water-retaining agent were the highest among diferent treatments,and compared to control,increased by 47.4% and 10.6 kg/(mm · hrn2)respectively.

【语种】中文
【第一作者】杨永辉
【通讯作者】吴普特
【期刊名称、卷期、页码】农业工程学报,2010,26(12):19-26
【论文发表时间】2010-12-13 00:00:00
【引文索引类型】EI
【引文索引号】2.0111013735e+013
【学科分类】农业工程

【题目】施氮对高淀粉玉米子粒产量形成的影响
【中文关键词】高淀粉玉米,氮肥,产量
【英文关键词】High starch maize; Nitrogen fertilizer; Yield
【中文摘要】采用田间试验、植株生理生化分析方法,研究了不同施氮量对高淀粉玉米吉单 535 和普通玉米军单 8号子粒产量形成的影响。结果表明,高淀粉玉米粒重的增长符合 Logistic 方程;营养体干重随时间的变化符合回归方程 Y=axebx;生物产量依子粒产量和营养体干重变化符合回归方程 Y=exp(a+b1x1+b2x2)。与普通玉米军单 8 号比较,高淀粉玉米吉单 535 营养体干重增长期较长,干重下降速率低,即由营养体干物质向子粒转运量较低。适宜的施氮量可有效地促进高淀粉玉米植株生育前期总生物量的积累以及生育后期干物质从营养体向子粒的转移,从而获得较高产量。高淀粉玉米吉单 535 的适宜施氮量为 200 kg/hm2。
【英文摘要】Field experiment and plant physi- biochemical analysis observation were used to investigate the effects of nitrogen application on yield and its formation of high starch maize of Jidan 535, as compared with the ordinary maize of Jundan 8. The results indicated that for two maize cultivars, the dynamic changes of total biomass and grain weight in maize could be described by Logistic equation, and that of vegetative mass by exponential equation asY=axebx. Biomass yield(Y) was a function of grain yield(x1) and vegetative mass(x2), as described by regression equation of Y=exp(a+b1x1+b2x2). As compared with Jundan 8, dry weight of vegetative in high starch maize of Jidan 535 in-creased with a longer duration, and then decreased with a lower rate, thus the translocation amount of dry matter from vegetative mass to grain is found to be lower. The appropriate N application rate is beneficial to biomass accumulation in vegetative growth stage and dry matter translocation from the vegetative to the grain, therefore higher grain yield was obtained in high starch maize. The proper application rate of nitrogen fertilizer is 200 kg/ha for high starch maize of Ji-dan 535.
【语种】中文
【第一作者】刘海龙
【通讯作者】何萍
【期刊名称、卷期、页码】玉米科学,2009,17(1):124-127
【论文发表时间】2009-02-17 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农艺学

【题目】沿淮地区秋冬季露地萝卜品种引进筛选试验
【中文关键词】沿淮地区 萝卜品种引进 筛选
【英文关键词】无

【中文摘要】对引进的个萝卜品种进行的生育期 生物学特性产量和品质研究结果表明 对照短叶号在个早熟品种中产量最高 综合性状优良可以作为沿淮地区洪水过后秋季补改种秋萝卜品种选用九 斤 王 迟 萝 卜 浙 大长合丰青大红袍等 个晚熟品种产量高 综合性状优良可以作为沿淮地区冬季萝卜品种优先选用
【英文摘要】无
【语种】中文
【第一作者】廖华俊
【通讯作者】廖华俊
【期刊名称、卷期、页码】中国瓜菜2011,24(4):34-36
【论文发表时间】2011-06-16 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农艺学

【题目】吉林省不同肥力黑土玉米平衡施肥研究
【中文关键词】玉米;黑土;平衡施肥;吉林省
【英文关键词】Maize; Black soil; Balanced fertilization; Jilin province
【中文摘要】在吉林省黑土区 3 种不同肥力土壤上研究平衡施肥效果。结果表明,平衡施肥对玉米具有较好的增产增收效果,其增产顺序为低肥力黑土>中肥力黑土>高肥力黑土。高肥力黑土施肥适宜用量分别为 N 145 kg/hm2、P2O546 kg/hm2、K2O 90 kg/hm2;中肥力黑土施肥适宜用量分别为 N 90 kg/hm2、P2O569 kg/hm2、K2O 60 kg/hm2;低肥力黑土施肥适宜用量分别为 N200 kg/hm2、P2O592 kg/hm2、K2O 30 kg/hm2。氮肥对玉米的增产增收效果最好,是玉米高产的主要限制因子。玉米子粒吸收的养分随施肥量的增加而增加,肥料利用率随施肥量的增加而降低。
【英文摘要】By the study on balanced fertilization for maize on the black soil of different fertility, the results showed that balanced fertilization had a good yield and income increasing effect whose yield and income increasing order was low fertility black soil > middle fertility black soil > high fertility black soil. The optimum application rate for N, P2O5and K2O was 145, 46, 90 kg/ha, respectively on the high fertility black soil. The optimum application rates for N, P2O5and K2O was 90, 69, 60 kg/ha, respectively on the middle fertility black soil. The optimum application rates for N, P2O5and K2O was 200, 92, 30 kg/ha, respectively on the low fertility black soil. N was the main high- yielding limiting factor due to its high yield and income increasing effect to maize. With the increment of fertilizer application, the nutrients requirement for producing 100 kg grain was increased, whereas fertilizer utilization rate was decreased.
【语种】中文
【第一作者】石玉海
【通讯作者】王立春
【期刊名称、卷期、页码】玉米科学,2010,18(5):108~113
【论文发表时间】2010-10-17 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农艺学

【题目】基于GIS和PCA的冬小麦需水量影响因子分析
【中文关键词】需水量; 空间分布;主导因子;主成分;冬小麦
【英文关键词】crop water requirements;spatial distribution;dominant factors;principal component anaIysis;winter wheat
【中文摘要】影响作物需水量的各因子之间由于存在相关性,不仅难以满足传统的回归分析方法对独立变量的要求, 而且会影响大尺度数据处理的运行效率.采用主成分分析方法和GIS技术,对影响作物需水的主导因子进行识别分析.结果表明:热力因子和水分因子相互作用共同构成影响作物需水量的第1主成分,其空间分布呈西北到东南逐渐升高趋势;第2主成分主要为动力因子,基本上是从西向东逐渐增高;热力因子的生育期平均最高温度为第3主成分,在石家庄、邢台等地出现一相对低值区区;而第4主成分坡向的空间分布没有明显规律,低值区与高值区相互交错,但都是在地形变化较大的地区,表明微地形也具有一定影响,但其贡献率仅为总信息量的6.64 ,不考虑其影响也能反映华北地区冬小麦需水量空间分布大的趋势.
【英文摘要】It is difficult to estimate winter wheat water requirem ents with classical regression analysis method because there is obvious correlation among the influencing factors of crop water req uirements. The principal components analysis method and the GIS technology are adopted to analyze the dominant factors influencing crop water requirement. The results indicate that the thermal factor and water factor ;oint1v form ed the first principal com ponent of affecting crop water requirement;the spatial distriI)ution of which

Increases gradually from northwest to southeast. As the second principal component,the dynamic factorincreases gradually from west to east.The third principal component(thermal factor), the m ean maxim umemperature during wheat growth period appears a relative low value area in Shijiazhuang,Xingtai,etc.The spatial distribution of slope direction,as being the fourth principal component, has n。obviously regularity;and the high value and low value of it staggers in the region with a great change of terrain. It is shown that he microtopography has some influences but its contribution rate occupies 6.64% of tota1 information amount. Winter wheat water requirements in North China represent a great spatia1 distribution even if the effect of terrain is not considered.

【语种】中文
【第一作者】王景雷
【通讯作者】王景雷
【期刊名称、卷期、页码】武汉大学学报(工学版),2009,42(5):640-643
【论文发表时间】2009-10-25 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农业工程

【题目】优质玉米喜肥特性与施肥效益研究
【中文关键词】优质玉米;营养;产量;效益
【英文关键词】High quality maize; Application; Yield; Benefit
【中文摘要】试验研究结果表明:高油玉米、高淀粉玉米和高蛋白玉米对氮磷钾的敏感顺序均为氮 > 钾 > 磷。在目前的肥料施用量及玉米和肥料价格情况下,高油玉米氮磷钾配施获得的经济效益为 341 元 /hm2,磷钾配施的经济效益为 120 元 /hm2,氮钾配施和氮磷配施的效益均为负值;高淀粉玉米施肥效益为负值;高蛋白玉米氮磷钾配施可获得 609 元 /hm2的效益。氮磷配施、氮钾配施及磷钾配施的效益均为负值。氮磷钾配施对高蛋白玉米的增产效益最大,对高淀粉玉米的增产效益最小。
【英文摘要】The experimental results showed that the order of high oil, high starch and high protein maize response to N,P and K were all N > K > P. Under the condition of the fertilizer application rates and the price of maize and fertilizer at present, the combined application of N,P and K for high oil maize can get the benefit of 341 Yuan/ha, the combined application of P and K for high-oil maize can get the benefit of 120 Yuan/ha, the combined application of Nand K as well as the combined application of N and P all got the negative benefit. The fertilization for high starch all got the negative benefit. The combined application of N,P and K for high protein maize can get the benefit of 609yuan/ha, the combined application for the any two of N,P and K were all got the negative benefit. The combined application of N, P and K got the highest and the lowest benefit for high protein maize and for high starch respectively.

【语种】中文
【第一作者】谢佳贵
【通讯作者】王立春
【期刊名称、卷期、页码】玉米科学,2006,14(6):131~133
【论文发表时间】2006-12-18 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农艺学

【题目】新型缓控释肥料的研制及其缓控释性能研究
【中文关键词】缓控释肥料; 包膜材料; 扫描电镜; 释放特性
【英文关键词】Slow- release and controlled release fertilizers; Coating materials; Scanning Electron Microscope; Release characteristics
【中文摘要】以水性聚氨酯和水性丙烯酸的不同浓度配比溶液为包膜材料, 添加粘结剂, 采用流化床包涂的方法制备了新型缓控释肥料。用扫描电镜研究了包膜肥料的截面形貌。用水浸泡法、土壤淋溶法研究了包膜肥料的释放特性。
【英文摘要】The solutions of different concentrations of water- based polyurethane and aqueous acrylic acid were used as coating materials, after adding cohesive agents into them and adopting fluidized- bed- coating methods, new type slow- release and controlled release fertilizers were prepared. Scanning Electron Microscope was used to study the sectional morphologies of the coated fertilizer granules. Water immersing method and soil leaching method were used to study the release characteristics of nutrients in coated fertilizers.

【语种】中文
【第一作者】秦裕波
【通讯作者】王立春
【期刊名称、卷期、页码】土壤通报,2008,39(4):854~857
【论文发表时间】2008-08-18 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农艺学

【题目】提高春玉米主产区玉米单产的技术途径
【中文关键词】春玉米; 单产; 技术途径
【英文关键词】Spring maize; Unit area maize yield; Technique way
【中文摘要】针对制约春玉米单产进一步提高的主要因素, 研究了发展耐密型玉米单交种, 推行“ 夏季深松、春季不翻动土壤直接播种 ”的保护性耕作技术, 坚持基肥、种肥与追肥相结合施肥原则, 增加钾肥用量, 将追肥期后移, 增加追肥深度, 改善与提高耕地质量等提高春玉米主产区玉米单产的主要技术途径。
【英文摘要】Aiming at restricting the main factors to increasing the unit area yield of spring maize further, through using compact maize, adopting conservation cultivation technique of soil deep loosening in summer and planting in the primary ridge in spring, basal fertilizer, seed fertilizer and top- dressing fertilizer applied combined, increasing potash fertilizer application amounts, top- dressing fertilizer was applied at late stage and fertilizer was deeply applied, we found that improving and increasing cultivated land quality are the main way to increase unit area maize yield in the main production area.
【语种】中文
【第一作者】王立春
【通讯作者】王立春
【期刊名称、卷期、页码】玉米科学,2007, 15(6): 133~134
【论文发表时间】2007-12-17 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农艺学

【题目】我国缓、控肥料发展现状及对策
【中文关键词】缓释肥料; 控释肥料; 发展现状; 对策
【英文关键词】Spring maize; Unit area maize yield; Technique way
【中文摘要】在分析我国化肥生产与应用现状及存在主要问题的基础上, 概述了国内外缓释、控释肥料发展状况, 阐明了我国缓释、控释肥料研究开发的目标和重点。
【英文摘要】Aiming at restricting the main factors to increasing the unit area yield of spring maize further, through using compact maize, adopting conservation cultivation technique of soil deep loosening in summer and planting in the primary ridge in spring, basal fertilizer, seed fertilizer and top- dressing fertilizer applied combined, increasing potash fertilizer application amounts, top- dressing fertilizer was applied at late stage and fertilizer was deeply applied, we found that improving and increasing cultivated land quality are the main way to increase unit area maize yield in the main production area.
【语种】中文
【第一作者】谢佳贵
【通讯作者】王立春
【期刊名称、卷期、页码】吉林农业科学,2006,31(4) : 50- 52
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【引文索引号】null
【学科分类】农艺学

【题目】我国主要棉区水资源状况及灌溉排水发展方向

【中文关键词】节水分区;降雨;可供水量;棉花需水量;灌排模式
【英文关键词】zoning of water-saving irrigation;precipitation;available water supply;water requirement of cotton;irrigation and drainage mode1
【中文摘要】根据我国主要棉区137个气象站点降雨量数据、全国灌溉试验数据以及近几年各省水资源公报数据,以GIS为主要工具系统分析了我国主要棉区棉花生育期降水、地表水资源、地下水资源以及水资源总量空间分布状况,根据我国主要棉区的棉花需水特点和降雨利用情况,估算了各分区的棉花净灌溉需水量。提出了各分区节水灌溉发展方向。
【英文摘要】Abstract:According to the data of precipitation of 137 meteorological stations of China ’S main cotton region,the national irrigation experimental data and the water bulletin data of different provinces in recent years.Using GIS for the main tools,the total space distribution of precipitation in whole growth period and surface water,groundwater,water resources of China ’S main cotton region were analyzed.According to the features of the water requirement and effective precipitation at various growth stages of cotton in the China main cotton region,the net irrigation water requirements of cotton were estimated main cotton region in China.Then,the development direction of water-saving irrigation of each cotton region was provided.
【语种】中文
【第一作者】王景雷
【通讯作者】孙景生
【期刊名称、卷期、页码】灌溉排水学报,2010,29(4):21-25
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【引文索引类型】其他
【引文索引号】null
【学科分类】水利工程其他学科

【题目】基于基尼系数的内陆河流域用水公平性评价
【中文关键词】用水公平性;水资源配置;石羊河流域;基尼系数
【英文关键词】fairness of warter use;water allocation;Shiyang river basin;Gini coefficient
【中文摘要】【目的】对水资源紧缺地区的用水公平性进行研究,为了解当地用水现状进而合理配置水资源提供参考。【方法】借鉴收入公平性评价指标基尼系数的基本概念,构建内陆河流域用水公平性的评价方法,即通过影响用水量的人口、国内生产总值、参考作物蒸发蒸腾量、降水量等主要指标,计算单项指标与用水量的基尼系数,并计算综合基尼系数,进而以石羊河流域为例,对其用水公平性进行了评价。【结果】利用本研究建立的评价方法,对石羊河流域用水公平性的评价表明,石羊河流域在现状超采地下水的情况下,代内用水较为公平,但代际用水并不公平。【结论】可以利用基尼系数客观地评价区域间社会经济用水的公平性。
【英文摘要】Study on the fairness of water use in water deficient areas can provide reference for identifying the status of water use and allocating water resources reasonably.According to the concept of Gini coeficient, an index for estimating equity of incom, a method for evaluating the fairness of water use in inland river basins was established. Through the key indicators of water use, such as the population,GDP,precipitation,reference crop evapotransporation(ET0),the Gini coefficient for each indicator and comprehensive Gini coefficient were calculated, then the method was applied to Shiyang river basin. The result showed that in the case of the status of over-extraction of groundwater, the water use in shiyang river basin was intra-generational fair, but the intergenerational use of water was not.The Gini coefficient can objectively evaluate the fairness of socio-economic water use in different regions.
【语种】中文
【第一作者】李建芳
【通讯作者】粟晓玲
【期刊名称、卷期、页码】西北农林科技大学学报.自然科学版,2010,38(8):217-222
【论文发表时间】2010-08-03 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农业工程

【题目】干旱区两种微气象学法测定农田蒸散发的比较研究
【中文关键词】波文比法;涡度相关法;蒸散发;大气稳定度
【英文关键词】Bowen ratio-energy balance method;Eddy covariance method;evapotranspiration;atmospheric

【中文摘要】利用涡度相关系统(EC)和波文比系统(BREB)监测干旱区农田蒸散发变化,从时间步长、天气条件、生育期以及灌溉的影响四方面入手,对比研究了两种方法在测定农田蒸散发方面的差异,并从仪器测量精度以及大气湍流稳定状况两个方面着重分析了引起这两种观测方法产生差异的原因。结果表明: R-G测定的不确定性及温湿度探头精度是引起两种方法测定差异的主要原因。受BREB传感器精度的限制,灌水后该法测定农田蒸散发偏低。受大气湍流稳定度的影响,晴天条件下两种方法测定蒸散发差异较小,阴天条件下差异较大。相对于EC而言,全生育期BREB高估总蒸散发约6.1%;在生育前期BREB测定蒸散发偏高,生育后期测定蒸散发偏低。

【英文摘要】Measuring field evapotranspiration (ET)accurately is of great importance in investigating the hydrologic process,developing hydrological models and improving the water use efficiency.Bowen ratio-energy balance method (BREB) and Eddy covariance method (EC)were used to monitor the process of field evapotranspiration in the oasis of Northwest China.Probably there is discrepancy between ET value evaluated by these two methods when time scale.weather condition and growth stages are different.This paper examined the effects of equipment resolution and atmospheric stability on the discrepancy.The results show that the uncertainty of R -G and the resolution of sensors have a strong effect on the discrepancy.Due to the limited resolution, BREB underestimated ET after irrigation. The discrepancy is higher during the cloudy days under stable atmospheric conditions than that during the sunny days under unstable atmospheric conditions.Compared with EC.the total ET estimated by BREB was 6.1% higher.BREB overestimated daily ET during the early growth stage,while underestimated it during the late growth stage.

【语种】中文

【第一作者】张鑫

【通讯作者】佟玲

【期刊名称、卷期、页码】水利学报,2011,42(12):1470-1478

【论文发表时间】2011-10-12 00:00:00

【引文索引类型】EI

【引文索引号】2.0120614748e+013

【学科分类】农业工程

【题目】玉米宽窄行种植模式下肥密互作效应的研究

【中文关键词】玉米;宽窄行;肥料;密度;互作效应

【英文关键词】Maize;Wide/narrow row alternation; Fertilizer; Density; Interactive effect

【中文摘要】通过研究在宽窄行种植条件下郑单958 的种植密度与施肥量的互作关系。结果表明,在高密度条件下,随着密度的增加对施肥量有更高的要求。在当地合理的种植密度为6 万株/hm2,产量在7 000 kg/hm2 左右,建议公顷施肥量纯N 200~275 kg、P 100~137.5 kg、K 80~110 kg。

【英文摘要】Results of research on interactive effects of density and fertilizer of planting technique with wide/narrow row for ‘ ZhengDan 958 ’ shows that in high density fertilizer was increased with density.In the local area, when proper planting density was 60000 plants/ha and yield was about 7 000 kg/ha,fertilizer of N 200- 275 kg, P 100- 137.5 kg, K 80- 110 kg was suggested.

【语种】中文

【第一作者】罗洋

【通讯作者】刘武仁

【期刊名称、卷期、页码】吉林农业科学,2009,3(5):12-13,7

【论文发表时间】2009-10-18 00:00:00

【引文索引类型】其他

【引文索引号】null

【学科分类】农艺学

【题目】灌区农业灌溉节水潜力估算理论与方法

【中文关键词】灌溉,指标,估算,节水潜力

【英文关键词】irrigation,indicators,estimation,water—saving potentia

【中文摘要】为了估算农业灌溉的节水潜力,提出了基于灌区尺度的农业节水潜力估算理论和方法,将不同节水措施实现的灌溉节水量分为“毛节水量”和“净节水量”,用于区分目前关于“工程节水量”和“真实节水量”的争论。毛节水量指由于提高灌溉效率,降低渗漏损失和田间蒸发等而少引的灌溉水量。净节水量指采取节水措施后减少的无效消耗水量和无效流失水量之和。案例分析在徒骇马颊河流域现有节水灌溉工程措施基础上分别估算了节水灌溉率提高20%和40%两种场景的节水量。估算结果表明,节水灌溉工程措施的节水潜力很大,但主要是毛节水量,即减少了从水源取用的水量,而净

节水量的节水潜力不大。这是由于大多数工程措施的主要作用是提高灌溉水的利用系数,减少渗漏损失,而减少的耗水量相对比较小。

【英文摘要】In order to estimate irrigation water—saving potential,this paper proposed a new theory and method based on irrigation district scale.According to this theory.the conception of “ gross water—saving ” and “ 'net water-Saving ” were introduced to avoid the argument of opinions between engineering—type water-saving and real water。 saving.Furthermore,the assessment indicators of irrigation water.saving was conducted and the calculating model of water—saving potential was proposed.To verify this theory and method,a case study on Tuhaimajiahe river basin was made to estimate water saving of irrigation engineering measures with tw o scenarios at 20% and 40% water-saving rate seperately.The estimate result showed that the water.saving irrigation projects had good effect on gross water—saving water than on net water—saving.

【语种】中文

【第一作者】雷波

【通讯作者】雷波

【期刊名称、卷期、页码】农业工程学报,2011,27(1):10-14

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【引文索引号】2.0111313882e+013

【学科分类】农业工程

【题目】玉米宽窄行交替休闲种植根系分布规律研究

【中文关键词】玉米;宽窄行;深松;根系分布

【英文关键词】Maize; Planted in wide/narrow row alternation;
Deep loosening; Root distribution

【中文摘要】通过根钻法研究了宽窄行种植模式下玉米根系干重和空间分布。结果表明:在不同生育时期宽窄行深松处理根系干重高于宽窄行未深松处理,且在吐丝期和乳熟期达到显著水平。

【英文摘要】The root dry weight and spatial distribution of maize with planting in wide/narrow row alternation were reached in this study. The drilling method was used in order to get complete root of maize. The results showed that root dry weight of maize of planting in wide/narrow row with loosening were higher no deep loosening, moreover, there was significance($p \geq 0.05$) at silking and milking stage.

【语种】中文

【第一作者】刘朝巍

【通讯作者】李少昆

【期刊名称、卷期、页码】玉米科学,2009,17(2):120~123

【论文发表时间】2009-04-17 00:00:00

【引文索引类型】其他

【引文索引号】null

【学科分类】农艺学

【题目】影响玉米子粒含水量的因素及低水分玉米生产技术

【中文关键词】玉米;含水量;降低;技术

【英文关键词】Maize; Water content; Decrease; Technology

【中文摘要】从玉米生产全过程的各环节分析了内、外因素对玉米子粒含水量的影响及玉米需水规律,提出了降低玉米含水量的配套实用技术。

【英文摘要】Physiological and environmental factors affecting water content of maize and water uptake pattern were analyzed in each process of maize production. Cultural practice for low water content maize was proposed in the paper.

【语种】中文

【第一作者】刘武仁

【通讯作者】刘武仁

【期刊名称、卷期、页码】吉林农业科学,2009,34(1):1-2,33

【论文发表时间】2009-02-17 00:00:00

【引文索引类型】其他
【引文索引号】null
【学科分类】农艺学

【题目】北京市水价改革研究
【中文关键词】水资源;水价;承受能力;北京市
【英文关键词】null
【中文摘要】回顾了北京水价调整历程,分析了北京市水价改革推动力及承受能力,指出水资源短缺、收入提高、南水北调工程的即将实现和既定的相关政策是北京水价改革的重要推动力,提出了水价改革的建议:推行阶梯水价,建立适合中国国情的水价承受能力标准体系和绿色水价体系。
【英文摘要】null
【语种】中文
【第一作者】姜文来
【通讯作者】姜文来
【期刊名称、卷期、页码】水利经济,2009,27(3):30-32
【论文发表时间】2009-05-19 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农业工程

【题目】基于ASP.NET的灌溉信息管理系统的设计与实现
【中文关键词】ASP.NET;B/S模式;灌溉;信息管理
【英文关键词】ASP.NET;B/S mode;irrigation;information management
【中文摘要】详细介绍了基于ASP.NET的灌溉信息管理系统的设计过程,该系统基于.NET平台开发,使用Microsoft SQL Server2005建立后台数据库,采用面向对象的程序设计语言C#进行编程。该系统采用B/S开发模式,针对不同的用户权限分别进行录入、查询、特异性分析、图表显示等模块的设计,在保证系统数据安全的同时,实现了各地灌溉试验资料的快速分析和标准化管理,对于我国灌溉试验资料的整编、归档和提供相关技术服务具有重要意义。
【英文摘要】The design progress Of the Irrigation Information Management System (IIMS)based on ASP.NET is introduced in detail in this paper.The IIMS is developed on.NET platform by using Microsoft SQI Server 2005 to establish the background database and programming with objeet—oriented programming language C #.According to the different user authorities,the B/S mode is used to design the modules of inputting,querying,specific analysis and charts display in this system.The IIMS can ensure the data security and realizes the rapid analysis and standardized management of irrigation experimental data.The development of IIMS is of great significance to reorganization and filing of irrigation experimental data and providing technical services to related fields in China.
【语种】中文
【第一作者】陈智芳
【通讯作者】王景雷
【期刊名称、卷期、页码】节水灌溉,2009,(10):50-52
【论文发表时间】2009-10-14 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农业工程

【题目】宽窄行与常规耕作方式下玉米种植密度的研究
【中文关键词】宽窄行;常规耕作;种植密度
【英文关键词】Wide/narrow row alternation; Traditional cultivation; Plant density
【中文摘要】2007、2008 年在吉林省公主岭市香山村玉米保护性耕作定位试验田,宽窄行和常规耕作方式下分别进行了密度试验。通过分析宽窄行条件下密度与产量关系以及两种耕法之间的对比研究。明确了吉林省中部地区玉米宽窄行条件下适宜种植密度。
【英文摘要】Studies on plant density of maize were carried out in 2007 and 2008 on the long term protective maize cultivation field in the Xiangshan village of Gongzhuling city, Jilin Province. The relationship between plant density and yield in wide/narrow row

alternation was studied and this cultivation method was compared with traditional planting. The optimum density of wide/narrow row alternation cultivation in the middle of Jilin Province were made clear.
【语种】中文
【第一作者】罗洋
【通讯作者】刘武仁
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【引文索引号】null
【学科分类】农艺学

【题目】气候变化对中国农业用水和粮食生产的影响
【中文关键词】气候变化,农业,水,粮食产量
【英文关键词】climate change,agriculture,water,grain production
【中文摘要】全球气候变暖作为一个不争的客观事实,不可避免地会对中国农业用水和粮食生产产生影响。该文分别采用Palmer干旱指数(PDSI)、单位灌溉面积用水量(GIO)、单位面积粮食产量(PHGO)作为气候变化、农业用水和粮食生产具体度量指标,分析了中国1949-2005年PDSI、GIQ、PHGO年际变化特征及其相关关系,发现在1949—1983年PHGO和1949—1990年GIQ均与PDSI具有较好线性相关关系,表明气候变化在上述时间段对农业用水和粮食生产影响显著,人为因素(技术进步、政策机制、生产投入等)影响相对较小。依据相关关系对1949-2005年G[Q和PHGO进行预测发现,1991-2005年GIQ和1984-2005年PHGO预测值与实际值拟合程度较差,表明人为因素(技术进步、政策机制、生产投入等)在农业用水和粮食生产中已逐渐占据主导地位,对农业节水平均影响率达27%以上,对粮食增产平均影响率达40%以上。通过技术创新、政策机制保障和生产投入增加等人为因素控制,可在一定程度上缓解气候变化对中国农业用水和粮食生产带来的负面影响。
【英文摘要】Global climate warming is an indisputable objective fact.and it inevitably impacts agricultural water use and grain security production in China.In this paper,the Palmer drought severity index(PDSI),the gross irrigation quota(GIQ)and the per-hectare grain output(PHGO)were used as specific indexes of climate change.agricultural water use and grain producfion to analyze inter-annual variation characteristics and correlation between PDSI,GIQ,PHGO in China from l949 to 2005.and a good linear correlation between PHGO during 1949.、983 and PDsI as well as GIQ during 1949-1990 was found which indicated that climate change significantly affected agricultural water use and grain production.while human factors (technological progress,policies mechanisms,production inputs,etc.) afected relatively small at above.mentioned stage.According to the correlation.the GIQ and PHGO during 1949—2005 were predicted.It was found that predicted values and actual ones ofthe GIQ during 1949—1990 and the PHGO during 1949 1983 had poor relationships.which indicated that human factors(technological progress,policies mechanisms,production inputs,etc.)gradually became the leading position,and their average impact rate on agricultural water-saving and grain yield reached over 27% and 40% ,respectively.The negative impact of climate chan ge on agricultural water use and gr ain production can be mitigated to some extent by controlling the human factors as techn ologicalinnovation.policy mechanisms protection as well as production inputs increment.
【语种】中文
【第一作者】吴普特
【通讯作者】吴普特
【期刊名称、卷期、页码】农业工程学报,2010,,26(2):1-6
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【引文索引号】2.0101512841e+013
【学科分类】农业工程

【题目】中国“农业北水南调虚拟工程”现状及思考
【中文关键词】粮食,生产,农业,水足迹,北水南调虚拟工程,虚拟水贸易
【英文关键词】grain,production,agriculture,water footprint,North-to-South water diversion virtual engineering,virtual watertrade
【中文摘要】基于中国南北方粮食调动的变化分析,结合农业水足迹与虚拟水理论,提出中国在实施南水北调实体工程建设的同时,自1990年已经形成并运行着一个“农业北水南调虚拟工程”。计算结果表明,该工程在1990-2008年期间年均调

运虚拟水量已超过200亿m ,远大于南水北调实体工程目前的调水规模;北水南调虚拟工程调水量总体上呈增加趋势,依靠现有南水北调实体工程难以支撑中国北方粮食生产,解决这一问题的唯一出路只能是依靠科学技术,大力发展现代节水农业,提高粮食生产的综合用水效率。考虑到中国南北方经济状况的现实差距,以及“ 农业北水南调虚拟工程 ”的长期运行,建议国家实施区域虚拟水贸易战略,同时,加强区域农业水足迹演变与控制研究,制定区域农业水足迹相关技术标准,为实施区域虚拟水贸易战略提供科学依据与政策支持。

【英文摘要】Based on the variable analysis of Chinese north and south grain transfer and combined agricultural water footprint theory,this paper puts forward that at the same time of implementing South.to-North water diversion entity engineering construction,the “ agricultural North—to—South water diversion virtual engineering ” has been formed and carried out since 1990.The calculating results showed that:this engineering has transferred over 20 billion cubic meters virtual water from 1990 to 2008.which was much more than transfer scale of South—to-North water diversion entity engineering.The water transfer amount of North.to—South water diversion virtual engineering showed an overall increasing tendency,it was hard to support food production in northem China only by South—to-North water diversion entity engineering,so it became a only solution for this problem to vigorously develop modem water-saving agriculture and improve the comprehensive water efi ciency of food production by using technology.Considering the realistic gap of economic condition between south and north China and the extended service of South.to-North agriculture water diversion,researchers suggested that,implementing regional virtual water trade strategy, at the same time,reinforcing the research of the evolution and management of regional agricultural water footprint,making relevant technical standards of regional agricultural water footprint.It will provide scientific basis and policy support for implementation of the regional virtual water trade.

【语种】中文

【第一作者】吴普特

【通讯作者】吴普特

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【学科分类】农业工程

【题目】基于GIS的区域雨水资源化潜力评价模型研究

【中文关键词】黄土高原;雨水资源化潜力;GIS;评价模型

【英文关键词】Loess Plateau; rainwater harvesting potential; GIS; assess

【中文摘要】区域雨水资源化潜力的定量评价对于雨水资源开发利用的宏观决策、规划设计具有十分重要的意义。该文以黄土高原地区为例,系统分析了影响区域雨水资源化潜力的各个因子,确定定量评价区域雨水资源化潜力的各项指标,并运用GIS技术,集成多种来源、多种比例尺和多种类型的数据,建立区域雨水资源化潜力定量评价模型。评价模型对于黄土高原地区雨水资源可持续利用及生态与环境保护具有重要作用。

【英文摘要】Quantitative assessment for regional rainwater harvesting potential is very significant for macro decision-making and comprehensive planning of regional rainwater harvesting. Taking the Loess Plateau as a sample region and rainwater resources as research object, the influence factors of regional rainwater harvesting potential were analyzed systematically. Quantitative assessment indices of regional rainwater harvesting potential were defined. And the data with different origins, different scale and different types were integrated using GIS technique. Quantitative assessment model for rainwater harvesting potential was established. The assessment model plays an important role for sustainable utilization of rainwater resources and eco-environmental protection in the Loess Plateau.

【语种】中文

【第一作者】赵西宁

【通讯作者】吴普特

【期刊名称、卷期、页码】农业工程学报,2007,,2(2):6-10

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【引文索引类型】EI

【引文索引号】2.0071510545e+013

【学科分类】农业工程

【题目】不同耕作方式对玉米产量及叶片某些生理机制的影响
【中文关键词】保护性耕作;玉米;生理特性;产量
【英文关键词】Conservation tillage;Maize; Physiological Traits; Yield
【中文摘要】以玉米品种郑单958为试验材料,分析不同耕作措施对玉米生产的影响,探讨不同耕作方式间玉米产量及叶片某些生理特性的差异。研究结果表明:宽窄行种植玉米的产量显著高于免耕、翻耕和常规耕法,免耕、翻耕和常规耕法间产量差异不显著,百粒重在耕法间也没有显著差异;宽窄行种植玉米冠层的光合特性好于免耕、翻耕和常规耕法,叶片的净光合速率提高,水分利用效率也显著提高;叶片中叶绿素含量、比叶重、可溶性糖和可溶性蛋白含量都明显高于免耕、翻耕和常规耕法;免耕条件下玉米叶片丙二醛的含量较高。不同的耕作措施影响产量与叶片某些生理指标的相关性。
【英文摘要】Cultivar of maize zhengdan958 was chose to work as experimental materials in this study. The results show that yield of maize under width lines(WL) were more about 15.87%, 16.54% and 9.87% than no tillage(NT),plough tillage(PT) and conventional tillage(CT), moreover, there was no significance about 100 seeds weight among different tillage methods). Photosynthetic traits of maize leaves under WL were more than other tillage methods, and net photosynthetic rate under WL was improved by 30.73%, 14.79% and 10.71% compared to NT, PT and CT. Meanwhile,water use efficiency of leaves was improved well under width lines. Chlorophyll content, specific weight, solublesugar and soluble of maize leaves were higher than other tillage methods significantly, MDA content of maize leaves under no tillage was most among different tillage methods ,meanwhile, relationship between yield and some physiological traits were effected by different tillage methods.
【语种】中文
【第一作者】刘武仁
【通讯作者】刘武仁
【期刊名称、卷期、页码】玉米科学,2009,17(2):112~115
【论文发表时间】2009-04-17 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农艺学

【题目】概述氮肥水平对玉米生理及产量性状的影响
【中文关键词】玉米; 氮肥; 生理性状; 产量
【英文关键词】Maize; N fertilizer; Physiological traits; Yield
【中文摘要】氮素水平影响玉米的产量和生理特性,合理施用氮素与获得较高产量和改善生理性状有密切关系。本研究从玉米植株形态、干物质积累、非结构碳水化合物、叶片光合特性、品质和产量等方面阐述氮素水平对玉米产量生理的影响。
【英文摘要】Previous studies showed that great change in yield and physiological traits,desired traits and high yield could be obtained through controlling level of N. This paper summarized the physiological changes,includeing growth of plant,dry matter accumulation,photosynthetic efficiency,non-structural carbohydrates,quality of seeds and yield could be caused by level of N.
【语种】中文
【第一作者】刘武仁
【通讯作者】刘武仁
【期刊名称、卷期、页码】华北农学报,2010,25 (增刊): 239 -242
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【引文索引类型】其他
【引文索引号】null
【学科分类】农艺学

【题目】不同耕作措施下土壤孔隙的多重分形特征
【中文关键词】土壤耕作; 多重分形; 土壤孔隙结构; 土壤切片
【英文关键词】Soil tillage; Multifracta;l Soil pore structure; Soil th in sect ion
【中文摘要】首先利用数字图像处理技术提取了东北黑土区长期免耕(no tillage, NT)和翻耕(m oldboardtillage, MT)制度下土壤切片中的孔隙信息, 然后应用矩方法研究了两种耕作制度下土壤孔隙结构的多重分形特征。结果表明, 免耕降低了表层(0~5 cm)大孔隙度(> 500 Lm), 但是提高了10~ 15 cm 和20~25 cm 深度的孔隙度和大孔隙度。土壤孔隙结构在64~1024像素尺度上具有多重分形特征。广义维(Dq) 和多重分形谱(f (A))及相关参数能够反映切片中孔隙结构的特征。表层

土壤孔隙多重分形谱明显右偏, 随深度增加趋于对称。在同一深度下, 免耕处理的$A(A- 10 - A10) 和$D (D - 10 - D10)均大于翻耕处理, 免耕处理增加了孔隙结构的复杂程度, 尤其是10~ 15 cm 和20~25 cm 深度下的孔隙结构。

【英文摘要】Soil pore system s under no tillage (NT) and moldboard tillage (MT) in the black soil zone of Northeast China were extracted from so il th in sections with digital mi age process techniques and the multifractal characteristics of soil pore structure were studied w ith m ethod of moment Results indicate tha NT decreased them acroporosity (> 500 m) in the surface layer (0~ 5 cm), but increased the total poros- ity and macroporosity at 10~ 15 and 20~ 25 cm depth1 Multifractal characteristics were observed at 64~ 1 024 pixel scales and generalized dmiensions (Dq), multifractal spectra (f (A)) and other related parameters reflected characteristics of the pore structure in the soil sect ions under NT and MT.The multifractal spectra of the pores in the surface layer apparently leaned toward the right side but approached tosymmetry with increasing depth1Compared to MT, NT increased the $A(A- 10 - A10) and $D (D- 10 - D10) of soil pore structure, and complexity of soil pore system, especially at 10~ 15 cm and 20~ 25 cm in depth.

【语种】中文

【第一作者】周 虎

【通讯作者】周 虎

【期刊名称、卷期、页码】土壤学报

【论文发表时间】2010-12-17 00:00:00

【引文索引类型】其他

【引文索引号】null

【学科分类】农艺学

【题目】保护性耕作模式对黑土有机碳含量和密度的影响

【中文关键词】土壤,有机碳,土壤测试,保护性耕作,活性碳,缓性碳,惰性碳,土壤有机碳密度

【英文关键词】soils, organic carbon, soil testing, conservation tillage, active organic carbon, slow organic carbon, passive organic carbon, soil organic carbon density

【中文摘要】以公主岭市长期(10 a)保护性耕作定位试验为研究对象,分析与传统耕作模式相比的几种保护性耕作模式对黑土固碳效应的影响。共设4 种耕作模式,即秋翻秋耙匀垄、秋灭茬匀垄、全面旋耕深松和宽窄行交替休闲(又叫松带、苗带交替休闲)(后3 种视为保护性耕作)。结果表明,经过10 a 的耕作试验,不同的耕作模式对土壤有机碳有显著的影响。表层0~20 cm 秋翻秋耙匀垄和秋灭茬匀垄模式的土壤有机碳含量最低,深层30~50 cm 全面旋耕深松模式的土壤有机碳质量分数显著低于其他耕作模式13.49%~25.14%;0~50 cm 耕层中宽窄行交替休闲的土壤有机碳质量分数高于其他耕作处理0~33.58%。宽窄行交替休闲模式下的宽窄行松带活性有机碳质量分数及缓性有机碳质量分数分别高于其他模式8.06%~48.87%和0~33.83%。全面旋耕深松模式与宽窄行交替休闲模式下的宽窄行苗带土壤有机碳密度分别低于和高于秋翻秋耙10.95%、17.13%;>20~50 cm 宽窄行苗带的活性有机碳密度及缓性有机碳密度分别高于其他耕作模式2.20%~18.85%和17.00%~29.19%,不同耕作模式的土壤惰性有机碳密度没有显著性差异。相对秋翻秋耙的传统模式,不同的保护性耕作模式能够增加土壤有机碳密度也能够降低土壤有机碳密度,宽窄行交替休闲主要通过增加土壤活性有机碳及缓性有机碳密度来增加其土壤有机碳密度,是东北地区固定土壤有机碳、提高土壤有机碳质量的有效耕作方式。

【英文摘要】Based on the long-term (10 years) conservational tillage experiment in Gongzhuling city, the effects of minimal tillage patterns (MTs) and conventional tillage pattern (CT) on soil sequestrated carbon were analyzed. Four tillage patterns were designed as follows: fall moldboard plowing and harrowing ridge (called as CT); fall stubbing ridge(called as MT1); deep loosing tillage (called as MT2); wide-narrow row alternation fallow (called as MT3), the last three minimal tillage patterns were regarded as conservation tillage patterns. Results showed that different tillage patterns had a significant effect on the soil organic carbon for a 10 years tillage experiment. CT and MT1 had the lowest soil organic carbon content in the surface layer (0 – 20 cm); organic carbon content of MT2 pattern was significantly 13.49% – 25.14%lower than that of other tillage patterns in deeper layer (30 – 50 cm); organic carbon content of MT3 was 0 – 33.58%higher than that of other tillage patterns. Active and slow organic carbon content of loosing belt of MT3 was8.06% – 48.87% and 0 – 33.83% higher than that of other patterns, respectively. Soil organic carbon density of MT2 pattern and seeding belt of MT3 pattern was 10.95% lower and 17.13% higher than that of CT; active and slow organic carbon density of seeding belt of MT3 in 20 – 50 cm was 2.20% – 18.85% and 17.00% – 29.19% higher than that of other tillage patterns; passive organic carbon density of different tillage patterns had no significant variance. In contrast to CT,different conservation tillage patterns could increase soil organic carbon density or reduce soil organic carbon density.MT3 pattern increases soil organic carbon density through the increasing of soil active and slow organic carbon density,which is the most beneficial tillage pattern for soil organic carbon sequestration and quality improvement of soil organic carbon in northeast region.

【语种】中文

【第一作者】吕贻忠
【通讯作者】赵红
【期刊名称、卷期、页码】农业工程学报,2010,26(11):163-169
【论文发表时间】2010-11-17 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农艺学

【题目】关于改进东北春玉米现行耕法的思考
【中文关键词】玉米;耕作;改进
【英文关键词】Maize; Tillage; Improvement
【中文摘要】分析以传统垄作为主的现行耕法在生产应用上存在的秸秆还田量不足、作业环节多、保水保土性能差、土壤结构恶化等问题,提出了改垄作为平作、改中耕为深松、改灭茬为留茬的技术思路,并建立了玉米宽窄行平作留高茬及均匀垄平作留高茬两种新耕作方式。
【英文摘要】There were lots of problems in traditional tillage method, such as less maize stubble returned into soil, more times of tillage needed, poor capacity of water storing and soil keeping, and destroy of soil structure, etc. For these reasons, ideas of converting tillage with pillage into no tillage and stubble crashed into stubble kept were suggested, and two new tillage methods were put forward in this study, one was wide narrow row with high stubble kept, another was even row with high stubble kept.
【语种】中文
【第一作者】郑金玉
【通讯作者】刘武仁
【期刊名称、卷期、页码】吉林农业科学,2010,35(4):1-5
【论文发表时间】2010-08-17 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农艺学

【题目】伽师瓜贮藏温度试验小结
【中文关键词】伽师瓜;温度;呼吸强度;冷害
【英文关键词】Jiashi Muskmelon; temperature; respiration rate; chilling injury
【中文摘要】【目的】试验以伽师瓜为研究对象,筛选其适宜的贮藏保鲜温度。【方法】温度设置为:1、2和3℃,从贮藏温度与伽师瓜采后呼吸强度、乙烯释放量、可溶性固形物含量、总糖含量、总酸含量、硬度、果肉细胞膜透性等关系方面,研究了伽师瓜采后生理活性和适宜贮藏温度。【结果】在贮藏过程中可溶性固形物和总糖均略有下降,中后期总酸含量下降明显;在1℃条件下能较好的保持伽师瓜的硬度、延缓呼吸高峰出现的时间、降低呼吸强度、维持较低的电导率、延缓细胞衰老和减少腐烂。【结论】在较低温度下伽师瓜表面凹陷能否作为伽师瓜冷害的重要指标,值得商榷。
【英文摘要】【Objective and Method】The present experimentwas carried out to screen the suitable temperature for Jiashi Muskmelon 1℃,2℃and 3℃to study the post-harvesting respiration tate ethylene production,soluble solids content,total sugar content,total acid content, hardness, pulp cell membrane permeability, etc.【Result】The result showed that in the storage process, soluble solids content and total sugar content of Jiashi Muskmelon had dropped slightly, total acid contenthad dropped obviously in the middle and late storage process; Under1℃,it can maintain hardness of Jiashi Muskmelon,delay the time of respiration peak,reduce respiration rate,last out the lower electrical conductivity,inhibit cell senescence and reduce decay.【Conclusion】Under lower temperature, it is of great importance to devote every effort to maintain the surface of Jiashi Melon.
【语种】中文
【第一作者】车凤斌
【通讯作者】车凤斌
【期刊名称、卷期、页码】新疆农业科学, 2010(01): 第98-103页.
【论文发表时间】2010-01-01 00:00:00
【引文索引类型】其他
【引文索引号】null

【学科分类】食品包装与储藏

【题目】1998~2007年吉林省种植玉米经济效益的变化
【中文关键词】吉林省;玉米;经济效益;变化
【英文关键词】Jilin province;maize;economic profit,;change
【中文摘要】将2007年吉林省中部玉米种植成本与10 a前进行了比较。结果表明:投入方面,物质投入和用工投入较10 a前成倍增加;产出方面,产量略有增加,玉米价格增加幅度较大;取消农业税及提留款,增加了良种补贴等,大大降低了生产成本,因此收益较10 年前增加。
【英文摘要】The value costs of maize planting in central Jilin Province from 1998 to 2007 were compared.The results showed that the input of materials and labour force increased several times in 2007,the output increased slightly,and the maize price increased significantly.After abolishing agricultural tax and fees paid by farmers for village reserve,the production cost of maize planting decreased,and the income increased in 2007 than that in the past ten years.
【语种】中文
【第一作者】刘志全
【通讯作者】路立平
【期刊名称、卷期、页码】河北农业科学,2008,12(11):90-91
【论文发表时间】2008-11-18 00:00:00
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【学科分类】农艺学

【题目】高密度栽培条件下玉米剪叶处理对产量构成的影响
【中文关键词】玉米;高密度种植;剪叶
【英文关键词】Maize; High plantting populaiton; Leaf cutting
【中文摘要】在抽雄期将密度为100 000株/hm2的玉米植株剪去部分穗位叶及穗位下部分叶片,将叶面积系数控制在4.5~7.0,研究剪叶处理对玉米产量的影响。结果表明:剪叶处理的产量都高于不剪叶处理(CK),剪叶后叶面积系数为5.5的处理产量最高,为14 211 kg/hm2。以叶面积系数5.5为中间值,叶面积系数距5.5越远,产量越低。收获穗数随叶面积减少而增加,穗粒数以叶面积系数5.5处理最多,百粒重变化不显著。
【英文摘要】Cutting central and lower parts of maize leaives to make the leaf area index(LAI) range among 4.5 to 7.0,to study the effects of leaf cutting treatment to maize yield under the high plant population cultivation condition.The results showed that all the yields of treatments were higher than CK,the highest yield was LAI 5.5 treatment.Put the LAI 5.5 as the model,the more the number of the LAI to the model,the lower the yield.The harvest ears was more along as the LAI was less.
【语种】中文
【第一作者】刘志全
【通讯作者】刘志全
【期刊名称、卷期、页码】玉米科学,2009,17(6):74-75,81
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【引文索引类型】其他
【引文索引号】null
【学科分类】农艺学

【题目】吉林省玉米高产田产量构成要素分析
【中文关键词】玉米; 产量; 构成要素; 吉林省;
【英文关键词】Maize; Yield; Component factors; Jilin province;
【中文摘要】通过对吉林省玉米不同产量水平地块产量构成要素的分析,探讨了公顷穗数、穗粒数、百粒重、公顷粒数对产量的贡献和产量由低向高转变过程中产量构成要素的变化。根据产量构成要素对产量的贡献大小将不同品种类型分为增穗增产型、增穗和穗粒数增产型、增穗粒数和百粒重增产型、全能增产型等。提高玉米产量应根据产量构成要素的变化和品种的增产类型,相应的采取不同措施。
【英文摘要】The analysis analyzed different maize production levels,discussed the distribution of every yield component factors to different production levels and the changes of yield component factors that changed along with different production levels.According

to the distribution of every component factors to yield production,maize varieties are divided into several yield-increased types such as the type of increasing ears to improve yield,increasing ears and kernels pre ear to improve yield,increasing k
【语种】中文
【第一作者】刘志全
【通讯作者】路立平
【期刊名称、卷期、页码】玉米科学,2006,14(6):167-170
【论文发表时间】2006-10-12 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农艺学

【题目】Combined stalk-stubble breaking and mulching machine
【中文关键词】无
【英文关键词】Maize Residue Soil Conservation tillage Implement
【中文摘要】无
【英文摘要】The stalk – stubble breaking and mulching process is a core technique for some conservation tillage system. Over the past 10 years, this technique has been widely adopted in the dry farming area of northern China. On the basis of analyzing the existing problems in stalk-breaking and stubble-breaking machines, we have developed a combined stalk – stubble breaking and mulching machine with two frames fixed together, the stalk and stubble-breaking blade rotors were mounted respectively on the frames. The machine can be used to break the maize (Zea maysL.) stalk and stubble and bury about one-third of the broken stalk and stubble in the soil, preventing them being blown away by wind. This paper describes the structural features of the machine, the design of main working parts, determination of the parameters of the central position of the two blade rotors, and presents the performance test results. Thetests showed that the machine had a stalk-breaking rate of 89% and the vegetation coverage rate reached 67.9%, which meets the agro-technical requirements in the dry farming area of northern China.
【语种】英文
【第一作者】贾洪雷
【通讯作者】贾洪雷
【期刊名称、卷期、页码】Soil &Tillage Research,107 (2010) 42 – 48
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【引文索引号】null
【学科分类】农学其他学科

【题目】PMPD模型预测中国土壤有效磷变化
【中文关键词】PMPD模型;中国土壤;有效磷
【英文关键词】无
【中文摘要】本研究采用北京昌平区潮褐土试验站的长期定位试验数据对土壤磷肥力预测(PMPD)模型的主要参数进行调整,并用河南郑州潮土试验站的数据对其进行模拟和验证。结果表明经参数调整后的模型对河南潮土土壤有效磷的预测值与实测值之间呈极显著相关关系,相关系数达到0.848,表明校正后的模型较适用于潮土及潮褐土区田块尺度土壤有效磷的模拟预测。
【英文摘要】This study was aimed at providing a model for the long-term changes in soil available P. Data from Eutric Cambisols of Beijing long-term experiments were used to adjustment parameters of PMPD model which have been developed to calculate the long-term change in soil P. The model calibrated in this way gave good fits to the data from Henan long-term experiment, and gave predictions of soil available P were in good agreement with measurements in calcaric fluvisols, the correlation coefficient is 0.848.
【语种】中文
【第一作者】曹宁
【通讯作者】杨振明
【期刊名称、卷期、页码】吉林农业大学学报,31(4):416-420
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【引文索引号】null
【学科分类】土壤学

【题目】应用肥料量级试验建立吉林省春玉米磷肥施用指标体系
【中文关键词】相对产量;磷肥力分级指标;磷肥推荐
【英文关键词】relative yield,phosphorus classification index,phosphorus recommendation
【中文摘要】应用“肥料量级”试验结果建立吉林省适宜春玉米生产体系的磷肥施肥技术指标体系。以相对产量75%,90%和95%为标准,=将吉林省土壤有效磷划分为低、中、高和极高4级;并用一元二次加平台模型对不同土壤养分分级范围内施肥量与产量关系进行模拟,计算最佳磷肥用量。结果表明:当吉林省土壤有效磷含量处于低等级(Olsen-P<5 mg/kg)时,磷肥(P2O5)用量应为83 kg/hm2;中等级(Olsen-P 5~21 mg/kg)时,磷肥用量为60 kg/hm2;高等级(Olsen-P 21~34 mg/kg)时,磷肥用量为45 kg/hm2;当土壤有效磷高于34 mg/kg时,短期内无需磷肥施用。
【英文摘要】Taking the spring maize "fertilizer rate" experiments in Jilin Province as an example, the process of establishing fertilization recommendation index was investigated. Soil Olsen-P were classified as low (<75% relative yield), medium (75%-90% relative yield), high (90%-95% relative yield) and very high (>95% relative yield) based on the relative yields. P fertilizer recommended rates were simulated by the models of one-factor for each "fertilizer rate" field experiment. The results indicated that phosphorus fertilizer rates (P2O5) were 83 kg/hm2, 60 kg/hm2, 45 kg/hm2 and 0 kg/hm2. When soil fertility were classified as low, medium, high and very high (Olsen-P<5 mg/kg, 5-21 mg/kg, 21-34 mg/kg,>34mg/kg), respectively.
【语种】中文
【第一作者】曹宁
【通讯作者】杨振明
【期刊名称、卷期、页码】中国农学通报,25(18):256-258
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【引文索引类型】其他
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【学科分类】农艺学

【题目】低温对玉米苗期根系生长及磷养分吸收的影响
【中文关键词】玉米;低温;根系生长;磷吸收
【英文关键词】Maize;low temperature;root gowth;phosphorus uptake
【中文摘要】利用盆栽试验研究了低温对春玉米苗期根系生长、根际和非根际土壤磷的有效性及玉米磷吸收的影响。结果表明,低温抑制了玉米根系的生长,降低了玉米对磷的吸收;同时,低温胁迫下玉米苗期根际和非根际土壤有效磷均低于对照,且根际土壤磷素与非根际土壤磷素没有明显差异。
【英文摘要】Root growth, P uptake and available P in rhizosphere and bulk soil of spring maize were investigated with a pot experiment under low temperature stress. The experiment results showed that low temperature restrained root growth and P uptake of maize. Under low temperature, soil available P were lower than under normal temperature and soil available P had no significant differenc in rhizosphere and bulk soil.
【语种】中文
【第一作者】曹宁
【通讯作者】杨振明
【期刊名称、卷期、页码】玉米科学,16(4):58-60
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【引文索引号】null
【学科分类】农艺学

【题目】超高产玉米籽粒的灌浆特性
【中文关键词】超高产玉米;灌浆速率;胚乳细胞;粒重
【英文关键词】Super high-yield maize; The rate of grain filling ; Endosperm cells; Grain weight

【中文摘要】以2个超高产玉米品种和2 个普通玉米品种为试材, 采用Richard 生长分析法和细胞计数法, 研究籽粒灌浆过程中籽粒增重与胚乳细胞增殖的关系以及灌浆持续期和灌浆速率与粒重的关系。结果表明:籽粒平均灌浆速率和最大灌浆速率是影响同一品种粒重的2个主要因素;其次,灌浆持续期长短是影响不同品种粒重的1个主要因素,而且胚乳细胞数与灌浆速率和灌浆持续期均呈极显著相关(r12 =0.9717**,r13 =0.9897**)。4个品种的胚乳细胞数目由高到低的总趋势为超高产先玉335 > 郑单958 > 普通品种长城799 > 通吉100,这表明胚乳细胞数的不同是引起粒重不同的主要因素。

【英文摘要】In this experiment, two super high-yield maizes and two common maizes were used. The relationships of the grain weig ht increase and endosperm cells proliferation, the duration of grain-filling,the rate of g rain-f illing and the grain weight were studied by the means of richard grow the quation and taking count of endosperm cells in the process of grain-filling. The result showed that the averagegrain-f illing rate and the max grain-filling rate were two main factors to affect the g rain weight of one cultivar,meanwhile the length of duration of grain-filling was one main factor to af fect the grain weight of different cultivars. And the number of endosperm cells had a high positive cor relation w ith the rate of g rain-filling and duration of grain-filling (r12 =0.9717**,r13 =0.9897**) . The rank about the number of endosperm cells in four cultivars was super high-yield maizes Xianyu335 > Zhengdan958 > common cultivars Chang cheng799 > Tong ji100 from higher to low er. It indicated that the difference of number of endosperm cells was the main reason for the difference of grain w eight .

【语种】中文

【第一作者】黄智鸿

【通讯作者】吴春胜

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【学科分类】农艺学

【题目】超高产玉米与普通玉米源库关系的比较研究

【中文关键词】超高产;玉米;产量;源库关系;叶面积指数;光合势;粒叶比

【英文关键词】super high yield;maize;yield;source-sink relationship;LAI:LAD;ratio of grain numbert0 leaf area

【中文摘要】以4个玉米品种为试验材料,比较研究了超高产玉米和普通玉米源库的协调关系。结果表明:群体条件下超高产品种“ 先玉335 ”和“ 郑单958 ”的叶面积指数和光合势均高于普通品种,而且花后光合势与产量之间存在极显著的正相关(r=0.988**);粒叶比先玉335>郑单958>长城799>通吉100,超高产品种“ 先玉335 ”与普通品种“ 通吉100 ”粒叶比差异极显著;茎鞘物质输出率与产量及其构成因素均呈负相关,但与产量的负相关性最明显,其中“ 先玉335 ”两者间呈极显著负相关(-0.7251**)。本试验条件下,超高产玉米品种“ 先玉335 ”和“ 郑单958 ”属较典型的源限制型,而普通品种“ 长城799 ”和“ 通吉100 ”属源库互作型。

【英文摘要】Source-sink relationship was studied on four cuhivars comparatively.The result indicated that LAI and LAD of super high-yield maizes xianyu 335 and zhengdan 958 were all higher than those of common cuhivars.There was significantly positive relationship between LAD and yield after anthesis(r=0.988“);The rank of ratio of grain number to leaf area offour varieties from high level to low level was xianyu 335>zhengdan 958>changcheng 799>tongji 100.The ratio of grain number to leaf area between xiauyu 335 and tongjil00 was significantly different;Negative correlation existed between output percentage of stem-sheath store matter and yield and yield compo nents;however,negative correlation between stem-sheath store matter and yield was especially obvious.Negative correlation at 0.05 level existing in xianyu 335 was significanfly positive(-0.7251**).It indicated that super high-yield xianyu 335 and zhengdan 958 belonged to soure-limited type,but changcheng 799 and tongji 100 belonged to source-sink interacted type.

【语种】中文

【第一作者】黄智鸿

【通讯作者】吴春胜

【期刊名称、卷期、页码】吉林农业大学学报

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【学科分类】农艺学

【题目】超高产玉米叶面积及地上部干物质积累与分配
【中文关键词】超高产玉米;叶面积;干物质积累
【英文关键词】Super high-yield maize;Leafarea;Dry matter accumulatio
【中文摘要】以超高产玉米先玉335及郑单958和普通玉米长城799为试验材料,在自然条件下,研究了不同生育时期叶面积及干物质积累与分配。结果表明,玉米植株干物质积累与生育进程的关系呈S型生长曲线;在群体干物质积累速率和最终积累量都表现出先玉335高于郑单958及长城799的趋势。苞叶和茎鞘中干物质向籽粒运转率较高,茎鞘中积累的干物质对玉米籽粒的贡献率最大。在功能上,高产玉米先玉335叶片长成以后叶片的光合作用和持续时间均高于长城799,长城799大,这对乳熟期获取较大的生物产量和提高籽粒产量有很大的作用。
【英文摘要】Leaf area and dry-matter accumulation and distribution of maize xianyu335,Zhengdan958 and Changcheng799)were studied under field condition.The results showed that biomass accumulation of maize plants accorded with the S-shaped curve as plan~ developed.And the tendency of dry matter accumulation rate and quantity of Xianyu335 was better than that of Zhengdan958 and Changcheng799.The rate of drymatter in maize bract an d stem sheath transported to seed was the highest.And dry matter in maize stem sheath had greatest contribution to seed.after growing up,hish-yield maize Xianyu335 had longer duration and higher efficiency in photosynthesis than Changcheng799,which was of great importance to obtain higher biomass accumulation and grain weight during milk stage.
【语种】中文
【第一作者】黄智鸿
【通讯作者】吴春胜
【期刊名称、卷期、页码】安徽农业科学,2007,35(8)、2227-2228,2230
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【引文索引号】null
【学科分类】农艺学

【题目】超高产玉米品种干物质积累与分配特点的研究
【中文关键词】玉米; 干物质积累与分配; 产量
【英文关键词】Maize; Drymatter accumulation and distribution; Yield
【中文摘要】以4个玉米品种为试验材料, 比较研究了超高产玉米干物质积累和分配的特点。结果表明: 高的生物产量是获得高产的物质基础; 高产和超高产品种的物质生产优势表现在生育中期和后期, 玉米植株个体干物质积累呈S形曲线变化; 玉米干物质在各器官的分配随生长中心的转移而发生变化, 小喇叭口以前干物质主要分配在叶片, 之后转为茎、叶; 散粉后, 各器官干物质开始向子粒转移, 高产品种子粒产量主要来源于生育后期叶片制造的光合产物即成为光合产物的分配中心,并与抽雄后具有较高的叶面积指数且持续时间较长密切相关。
【英文摘要】The properties of dry matter product of four different varieties were studied. The results indicated that more total dry matter accumulation was the basis of higher yield. The production superiority of high- yield and superhigh- yield maize was exhibited during the middle and the late growth stage. The CGR of high- yield and super high- yield varieties was obviously higher than that of low- yield variety during the middle and the late growth stage.The photosynthetic products made by leaves during the late growth stage was main sources of grain yield of high-yield varieties. This result was closely connected with higher LAI and longer duration after the full-heading stage.
【语种】中文
【第一作者】黄智鸿
【通讯作者】吴春胜
【期刊名称、卷期、页码】玉米科学,2007,15(3)、95-98
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【学科分类】农艺学

【题目】超高产玉米品种叶片保护酶活性及膜脂过氧化作用研究
【中文关键词】玉米; 超高产品种; 保护酶活性; 膜脂过氧化

【英文关键词】无
【中文摘要】以超高产玉米品种先玉335、郑单958为试验材料, 普通玉米品种长城799、通吉100为对照, 研究超高产品种在不同生育时期叶片保护酶活性及膜脂过氧化作用的变化及特点。结果表明: 随着叶片的衰老, 超高产品种的叶片中超氧化物歧化酶(SOD)、过氧化物酶(POD)、过氧化氢酶(CAT)活性呈现出先升高后降低的变化趋势, 峰值均出现在吐丝期, 随后逐渐降低。4个品种比较, 超高产品种先玉335和郑单958的保护酶活性显著高于对照品种, 而叶绿素(Chl)和丙二醛(MDA)含量显著低于对照品种。种植密度在7.1万株/hm2时产量达13716.3 kg /hm2。超高产玉米品种具有较高的清除活性氧的能力, 有利于延缓衰老, 促进干物质积累, 这是超高产玉米能够获得高产的重要生理基础。
【英文摘要】无
【语种】中文
【第一作者】黄智鸿
【通讯作者】吴春胜
【期刊名称、卷期、页码】江苏农业科学,2008,(2)、29-32
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【学科分类】农艺学

【题目】超高产玉米与普通玉米生理特性的比较研究
【中文关键词】高产玉米; 普通玉米; 生理特性
【英文关键词】Super high-yield maize;Common maize;Photosynthesis character
【中文摘要】以超高产玉米品种(先玉3 3 5和郑单9 5 8) 和普通玉米品种(长城7 9 9和通吉 1 0 0) 为试验材料 , 测定不同 生育时期叶片生理特性的变化。结果表明: 超高产玉米品种在高密度下和普通玉米品种叶绿素含量接近, 但果穗叶的叶肉细胞中三、四环以上的细胞所占比例较大;叶片中可溶性蛋白含量高、降解速度慢 、光合速率大、光合作用强;在后期过氧化物酶活性高, 丙二醛积累少, 叶片生育后期仍维持较高的生理功能。
【英文摘要】In this experiment,two super high-yield and two common cultivars were used.The variations of physi-ological character were studied in different growth stages under field condition.The results showed that the-chlorophyll content of super -high yield maize Xianyu335 and Zhengdan958 were near common maize.But the proportion of mes-ophyll cell of ear leaves was big. in three-four link. In leaf blade, dissolubility protein level was higher and degradation speed was slowly, photosynthetic rate was greater and photosynthesis was powerful, peroxides activity was higher at later stage ,the accumulate of malonaldehyde was fewer. This result showed the photosynthesis and the longer duration of leaf of high-yield maize, Xianyu335 was higher and longer photosynthesis time from shooting had important innuence on bigger biomass in milking and grain weight.
【语种】中文
【第一作者】宋红凯
【通讯作者】吴春胜
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【学科分类】农艺学

【题目】超高产玉米与普通玉米叶片生理生化特性变化比较
【中文关键词】超高产玉米;叶片;衰老;生理生化特性
【英文关键词】Super high-yield corns:Leaf;Senescence:Physiological and biochemicall characteirstics
【中文摘要】[目的] 为实现玉米超高产栽培研究提供理论依据。[方法] 将2个超高产玉米品种与2个普通玉米的生理生化指标进行比较,研究玉米不同生育时期功能叶片的生理生化特性的变化规律。[结果] 4个玉米品种SOD、 POD和CAT活性的变化趋势基本相同, 在吐丝期出现1个峰值之后均下降, 2个超高产品种的SOD、 POD和CAT活性显著高于个普通品种。而叶绿素MDA含量显著低于普通品 种。4个品种中,超高产品种先玉335的保护酶活性显著高于其它品种,并且在密度为7.1万株/hm2时获得的产量最高,达13716.3 kg/hm2。[结论] 超高产品种先玉335具有较高的清除活性氧的能力,能延缓衰老,促进干物质的积累,从而达到较高的产量。

【英文摘要】[Objective]The purpose was to provide the theoretical base for the cultivation research of realizing supe rhigh-yield in conrs. [Method]The physiological and biochemicall indexes of 2 super high-yield maize vaireites and 2 commonmaize varieties were compared to study the change trend of physiological and biochemical characteristics in maize function leaves in different growthstage.[Result] The SOD,POD and CAT activity in 4 maize vaireites had same change trend and they were all decreased after the peak appeared in silking stage.The SOD.POD and CAT activities in 2 super high yielding corns were obviously higher than that in 2 common corns and their contents of chloro-phyll and MDA were obviously lower than that in the common corns.Among 4 corn vaireites. The activity of protective enzyme in Xianyu335 was obviously higher than that in other vairetie- s. Meanwhile.when the planting density was7.1×10 plants/hm2.The yield of Xianyu335 was highest,reaching 13716.3kg/ hm.[Conclusion]The super high-yield cornvairety Xianyu335 had the higher ability of removing active oxygen.which could delay the senescence. promoted the accumulation of the dry material and obtain high-yield.
【语种】中文
【第一作者】申林
【通讯作者】吴春胜
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【学科分类】农艺学

【题目】超高产玉米灌浆速率与干物质积累特性研究
【中文关键词】超高产玉米; 灌浆速率; 干物质积累
【英文关键词】super high-yield maize; grain filling; dry matter accumulation
【中文摘要】以2个超高产玉米品种先玉335、郑单958为试材,以长城799和通吉100普通玉米品种为对照,测定不同生育时期灌浆速率、干物质积累与分配的变化。结果表明:超高产玉米品种的籽粒灌浆速率高值持续期显著高于对照品种;群体干物质积累速率和最终积累量都表现出先玉335高于郑单958高于长城799和通吉100;超高产玉米品种的苞叶和茎鞘中干物质向籽粒运转率较高,茎鞘中积累的干物质对玉米籽粒的贡献率最大。
【英文摘要】In this experiment,two super high-yield and two common cultivars of maize were used.The average grain filling and drymatter accumulation and distribution were studied in different growth stages under field condit ions1 The results showed that the duration of high-filling rate of kernel was higher in super high-yield maize than that in common maize1 And the dry matter accumulation rate and quantity showed that xianyu335 was higher than zhengdan958,changcheng799 or Tongji100 in plant groups; Furthermore, the rate of dry matter on maize bract and stem sheath transported to seed in super high-yield maize was higher with a comparison of the common maize1 The contribution of the dry matter of stem sheath to kernelwas the highest.
【语种】中文
【第一作者】吴春胜
【通讯作者】吴春胜
【期刊名称、卷期、页码】吉林农业大学 2008,30(4).382-385,400
【论文发表时间】2008-08-18 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农艺学

【题目】不同抗旱性玉米苗期叶片活性氧代谢对水分胁迫的响应
【中文关键词】玉米; 抗旱性; 水分胁迫; 活性氧代谢
【英文关键词】Corn; Drought-resistance; Water stress; Activated oxygen metabolism
【中文摘要】[目的]抗旱性玉米栽培和育种提供理论依据。[方法]以耐旱品种掖单13和不耐旱品种丹玉13为试材,通过盆栽试验研究了水分胁迫对玉米苗期叶片活性氧代谢水平的影响。[结果]与正常供水处理相比,水分胁迫下掖单13和丹玉13苗期叶片O2产生速率分别升高了28.9%、36.1%(WS 50%)和31.3%、41.9%(WS 35%),叶片H2O2含量分别升高了16.1%、25.4%(W S 50%)和23.7%、29.8%(W S 35%)。中度水分胁迫下掖单13和丹玉13的叶片SOD和POD活性分别比对照提高了22.8%、29.9%和22%、21.7%。与正常供水处理相比,丹玉13和掖单13的叶片MDA含量分别比对照增加了22.7%、14.5%(中度胁迫)和40.2%、15.6%(重度胁迫)。重度水分胁迫下掖单13和丹玉13的AsA和GSH含量分别比对照降低了12.6%、

14.2%和33.3%、44.1%。[结论]耐旱性较强的玉米品种在水分胁迫下维持活性氧代谢平衡的能力较强。
【英文摘要】Abstract and breeding of drough-resistant corn.[Method] With drought-resistant variety Yedan 13 and drought-susceptible variety Danyu 13 as tested materials,the influences of water stress on the activated oxygen metabolism level in corn leaves in seedling stage were studied through potting experiment. [Result]Compared with the treatment with normal water supp ly,under water stress,the p roduction rate of O2 in the leaves of Yedan 13 and Danyu 13 were enhanced by 28.9%,36.1% (WS50%)and 31.3%,41.9%(WS35%)resp. and their contents of H2O2 were enhanced by 16.1%,25.4%(WS50%)and 23.7%,29.8%(WS35%)resp.in seedling stage.Under moderate water stress,the activities of SOD and POD in the leaves of Yedan 13 and Danyu13 were enhanced by 22.8%,29.9%and 22%,21.7%resp.in comparison with CK.Compared with the treatment with normal water supply,the contents of MDA in the leaves of Danyu 13 and Yedan 13 were increased by 22.7%,14.5%(under moderate stress)and 40.2%,15.6%(under serious stress)resp.in comparison with CK.Under serious water stress,the contents of A sA and GSH in Yedan 13 and Danyu13 were decreased by 12.6%, 14.2% and 33.3%,44.1%resp.in comparison with CK. [Conclusion]The corn variety with stronger drought-resistance had stronger ability on maintaining activated oxygen metabolism balance under water stress.
【语种】中文
【第一作者】谷岩
【通讯作者】吴春胜
【期刊名称、卷期、页码】安徽农业科学 2009,37(29).14089-14091,
【论文发表时间】2009-10-19 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农艺学

【题目】基于决策树算法的土壤养分管理分区的研究
【中文关键词】ID3;土壤养分;管理分区;变量施肥
【英文关键词】ID3; soil nutrients; management partition; variable rate fertilization
【中文摘要】为了便于精细施肥的实际操作和管理。以吉林省德惠市的图斑数据中的有机质、全氮、速效磷和速效钾含量为对象,采用决策树ID3 算法进行农田土壤养分管理分区的研究。结果表明:得到的分区数目为6 个,分区内土壤养分含量相近或差异较小,分区间差异显著。说明基于ID3 算法的土壤养分管理分区方法可用于指导精细农业中的变量施肥,为土壤养分管理区提供了一种有效的划分方法。
【英文摘要】For more efficiently applying fertilization and management of precision agriculture, the decision trees arithmetic was used to establish model for management partition of soil nutrients, based upon the test data from Dehui in Jilin Province. Four evaluation indices, organic material, nitrogen, phosphorus and K were analysed. Six partitions were determined. Soil nutrient content was similar within partitions. The management partition of soil nutrients based on decision trees arithmetic could be used to guide variable fertilization in precision agriculture, and provided an effective classification method for management partition of soil nutrients.
【语种】中文
【第一作者】刘鹤
【通讯作者】陈桂芬
【期刊名称、卷期、页码】沈阳农业大学学报 2010-12,41(6):747-750
【论文发表时间】2010-12-15 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】土壤学

【题目】一种基于质量云的软件质量评估方法
【中文关键词】软件质量,云模型,质量评估,质量变化
【英文关键词】无
【中文摘要】软件质量评估是软件质量保证的关键技术,具有多属性、模糊性和不确定性的特点。基于云模型在非规范知识的定性、定量表示及其相互转换过程中的优良特征,提出了一种基于云模型的软件质量量化评估方法,该方法使用软件质量云的期望和超熵对软件质量进行定量评估,利用质量变化云刻划软件质量的变化情况,为进一步的质量评估提供依据,实验结果表明,该方法能够有效地支持软件质量评估决策过程,在有效性和精确度上有显著优势。

【英文摘要】无
【语种】中文
【第一作者】周伟良
【通讯作者】张友华
【期刊名称、卷期、页码】中国科学技术大学学报2011,41(4):370-376
【论文发表时间】2011-04-02 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】信息技术系统性应用

【题目】Research on Dynamic Simulati on System of Maize Growth
【中文关键词】玉米生长;虚拟现实技术;动态模拟仿真;计算机图形学
【英文关键词】Maize growth;Virtual reality technology;Dynamic smi ulation;Computergraphics
【中文摘要】为了加快提高玉米生产精准化作业的水平,利用玉米生理生态模型、形态结构模型、计算机和虚拟现实技术,研制开发了玉米生长动态模拟仿真系统,将计算机图形学算法、虚拟现实技术、动画设计技术以及信息集成技术应用到玉米生产领域。建立的生长动态模拟仿真系统有利于玉米精准化作业水平的提高,能够协助相关的生产研究和试验,达到降低成本、提高效率的目的。
【英文摘要】Dynamic smiulation system of maize growth was developed by the physiological and ecological mode,l morphological structure model computer science and virtual reality technology, tomiprove the level of precise operation of corn production. The computergraphics algorithms, virtualreality technology, anmi ation design and information integration technologywere applied tomaize production by this system. Establishment of dynamic smiulation system of maize growth was conducive to raise levelofprecise operation in corn production. The system also could assist the relevant production research and testing, to reduce costand miprove efficiency.
【语种】英文
【第一作者】朱春娆
【通讯作者】陈桂芬
【期刊名称、卷期、页码】Agricultural Science& Technology 2010, 11(11- 12): 202- 204
【论文发表时间】2010-11-15 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农学其他学科

【题目】本体演化研究进展1
【中文关键词】本体;本体演化;知识融合;本体演化技术;本体演化工具
【英文关键词】ontology; ontology evolution; knowledge fusion; ontology evolution technology; ontology evolution tools
【中文摘要】知识无时无刻不在变化着,为了使本体能够吸收和融合新的知识,就需要对本体中的知识进行及时的更正,这就涉及到了本体演化的问题。从本体演化的定义、原因、过程、技术、工具等几个方面对本体演化进行一次概述,重点介绍本体演化过程、关键技术以及支持本体演化的主要工具,为本体演化的进一步研究奠定理论和技术基础。
【英文摘要】The knowledge is constantly changing, so it needs a timely correction in order to absorb and integrate new knowledge, which involves the evolution of the ontology. The paper summarized from definition, cause, procedure, technology and evolution tools, and summed up the research of ontology evolution. The procedure of ontology evolution, the important technology at present and main evolution tools are mainly introduced and lay theory and technology foundation for further research on ontology evolution.
【语种】中文
【第一作者】刘金花
【通讯作者】朱 麟
【期刊名称、卷期、页码】计算机系统应用2011,20(7):239-243
【论文发表时间】2010-11-28 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】计算机科学技术其他学科

【题目】玉米精准施肥专家系统的研究
【中文关键词】精准施肥; 玉米精准施肥专家系统; ASP.NET; 人工智能
【英文关键词】precision fertilization; maize precision fertilizer expert system; ASP.NET; AI
【中文摘要】精准施肥是玉米精准作业系统中的重要组成部分,结合玉米生产的实际情况,综合信息技术、传统施肥技术和专家的经验知识,利用ASP.NET 技术和SQLSERVER2005 数据库平台,研制并开发了玉米精准施肥专家系统,该系统的开发为玉米精准作业提供了方便的操作平台;系统融合了人工智能等多项信息技术,构建了规范的数据库、模型库和知识库,避免了数据冗余,有利于施肥数据的规范化管理;高效的数据处理和推理机制,提高了精准施肥的准确性。玉米精准施肥专家系统的应用,给传统的玉米生产注入了新的生机和活力,降低肥料投入,减少环境污染,提高玉米产品质量和产量。
【英文摘要】Precision fertilization is an important component of corn precise operating system. Asp.net, Sqlserver2005,information technology, traditional fertilization techniques , experts knowledge of experience and the actual situation for maize production are applied in a study of maize precision fertilizer expert system. The system was developed for the precise operation of corn provides a convenient operating platform. AI has been integrated into the system. A standard database, model base andknowledge base was built in system. will inject a kind of new action and energy into maize fertilizer research..It decreased fertilizer investment and environment pollution,and increased the maize production and quality.
【语种】中文
【第一作者】苏恒强
【通讯作者】苏恒强
【期刊名称、卷期、页码】广东农业科学 2010 年第3期99-101
【论文发表时间】2010-06-16 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农学其他学科

【题目】基于用户检索和加权技术的领域本体演化研究
【中文关键词】本体演化 本体图 本体重用 检索度 加权
【英文关键词】无
【中文摘要】本体演化的目的就是对本体的逐步完善,以使本体可以实现最大范围的重用和共享;本文提出一种基于用户检索度和加权图的本体演化方法,该方法通过首先将本体转化成图模型,然后通过检索度和加权这两个因素来约束本体演化过程,通过设置检索度和权值的阈值,以达到近可能的保留本体中的重要信息,最大程度上实现了本体的完善。
【英文摘要】无
【语种】中文
【第一作者】刘金花
【通讯作者】谢 静
【期刊名称、卷期、页码】数字技术与应用2011(1):61-63
【论文发表时间】2011-01-01 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】应用数学

【题目】组合预测方法在玉米施肥预测中的应用
【中文关键词】组合预测;玉米施肥;预测模型;拉格朗日乘数法
【英文关键词】combination forecasting; corn fertilization; forecasting model; Lagrange multiplier method
【中文摘要】为提高玉米施肥量预测的精度,利用拉格朗日乘数法,基于预测误差平方和最小这一目标,对肥料效应函数、神经网络施肥预测方法这2种单一施肥量预测模型进行加权组合,建立了玉米施肥组合预测模型。预测结果显示:肥料效应函数、神经网络施肥预测方法和组合预测模型的预测误差平方和分别为2 789·40,653·79,421·72,说明玉米施肥组合预测模型优于单一施肥预测模型;采用组合预测方法对玉米施肥量进行预测,能够显著提高预测精度。
【英文摘要】A combination forecasting model was applied to forecast fertilizing amount for corn to improve the precision of the prediction. In order to achieve the least sum of square error, the weight of fertilizer effect function method and neural network forecasting model in combination forecasting model was objectively calculated withLagrange multipliermethod, and a combination

forecastingmodel for corn fertilizing amount was constructed. The results show that the error sum of squares of fertilizer effect function method, neural network forecasting model and combination forecasting model is 2 789 • 40, 653 • 79 and 421 • 72 , respectively. The result accounts for the fact that combination forecasting model is superior to single forecasting methods, and adopting combination forecasting model in corn fertilization can obviously improve forecasting accuracy.

【语种】中文
【第一作者】苏恒强
【通讯作者】苏恒强
【期刊名称、卷期、页码】吉林农业大学学报 2010,32(3):312~315
【论文发表时间】2010-06-15 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农学其他学科

【题目】熵权系数法在土壤环境质量评价中的应用
【中文关键词】熵权系数法;土壤环境评价;熵
【英文关键词】Entropyweight coefficientmethod; Environmental assessmentof soi;l Entropy
【中文摘要】根据信息论中熵的概念,分析土壤环境评价中各因素提供的信息,计算出各评价指标的权值,得到土壤环境评价的综合指标值,最终确定土壤环境评价的等级。熵的引入避免了主观因素的干扰,可看出与标准等级的接近程度;在同等条件下,与其他土壤环境评价方法相比,可看出熵权系数法的评定结果准确度较高。实例分析表明,该评价方法简单易行,评价结果符合实际情况。

【英文摘要】Entropyweight coefficientmethodwas applied to build evaluationmodel of soil environment to effectively reduce the influences of subjective factors to determine theweigh.t The influence of every factor in the environmentalassessmentofsoilwas analyzed by entropy, and the weightvalue of evaluation indexwasworked outand the environmental assessment ’ s comprehensive index valuewas obtained. Grade ofenvironmental assessmentof soil and the degree of closeness ofmeasured valuewere obtained by the analysis of comprehensive index value.Entropyweight coefficientmethod and the othersmethodswere compared. The results showed thatentropyweightcoefficientmethod had high accuracy. The above sample analysisdemonstrated thatthe evaluationmethodwas smi ple and feasible, and the evaluation resultswere in conformity with the actual situation.

【语种】中文
【第一作者】苏恒强
【通讯作者】陈桂芬
【期刊名称、卷期、页码】安徽农业科学 2010,38(25):13928-13930
【论文发表时间】2010-10-20 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】土壤学

【题目】玉米栽培技术专家系统的研究
【中文关键词】玉米;栽培技术;专家系统;人工智能
【英文关键词】corn; cultivation technique; expert system; artificial intelligent
【中文摘要】为了加快提高玉米栽培技术的水平,利用农业生产知识、计算机和人工智能技术,研制开发了玉米栽培技术专家系统,将数据库、人工智能、管理信息系统、决策支持系统、计算机技术以及信息集成技术应用到玉米生产领域。使用系统有利于玉米栽培技术的系统化、规范化管理,能够指导玉米生产,提高玉米生产的效率。

【英文摘要】The expert system of corn cultivation technique was developed by the knowledge of agricultural production, computer science and artificial intelligent technology to improve corn cultivation technique. The database, artificial intelligence,management information systems, decision support systems, computer technology and information integration technology were applied to maize production by this system. By the system the systematic and standardized management level of corn cultivation techniques was improved.

【语种】中文
【第一作者】苏恒强

【通讯作者】苏恒强
【期刊名称、卷期、页码】湖北农业科学 2010Vol.49 No.10:2545-2547
【论文发表时间】2010-10-18 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农艺学

【题目】基于本体的HACCP体系知识获取与知识表示
【中文关键词】HACCP,本体,知识表示
【英文关键词】无
【中文摘要】本文借助本体编辑工具Protege,研究了基于本体的知识获取与知识表示,将HACCP体系知识转化为改领域本体,用RDF/OWL的形式进行描述,并对其概念、属性关系以及工作流程进行表示,构建了一个HACCP本体知识库为领域知识服务,自然语言处理、案例推理提供技术支持和智能基础。
【英文摘要】无
【语种】中文
【第一作者】朱麟
【通讯作者】谢静
【期刊名称、卷期、页码】数字技术与应用2010(9):69-71
【论文发表时间】2010-01-01 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】应用数学

【题目】耕地管理信息系统图像库分析与建立
【中文关键词】耕地管理信息系统;图像库;Visual Studio .NET
【英文关键词】Farmland management information system; Picture database; Visual Studio .NET
【中文摘要】本文以Visual Studio .NET 软件为开发平台,利用.NET 中CHARTING 组件绘制图形,对耕地管理系统中需要的数据信息,进行编辑修饰,用图形的形式显示数据,摒弃报表的枯燥,可以达到简单清晰、一目了然的效果,使分析结果更加直观、便于记忆,有助于用户对分析结果的理解及对耕地情况宏观的印象,以便对土壤进行合理利用、合理开发,将计算机的应用同农业紧密联合在一起。
【英文摘要】This article uses Visual Studio .NET software for the development-platform, using CHARTING in .NET module to plan graph and edit the data of Farmland Management System. The data were showed with intuitionistic graph form but not the aridness report form, and can be understand by user easily, in order to the reasonable use and development of soil. This is the application of computer in agriculture.
【语种】中文
【第一作者】韩永奇
【通讯作者】姚玉霞
【期刊名称、卷期、页码】农业网络信息 2009年第1期23-25
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【学科分类】农艺学

【题目】基于本体推理的水稻虫害诊断系统研究
【中文关键词】本体推理;水稻虫害;诊断系统
【英文关键词】无
【中文摘要】针对江西省水稻虫害的特点和特征,采用 建立了专家知识本体库,基于本体推理方法实现了虫害诊断推理,并运用相似度算法解决了知识不确定性的诊断问题 开发的水稻虫害诊断系统集诊断 防治和查询多种功能于一体,对南方红壤丘陵区水稻虫害的诊断和防治具有很好的应用价值。

【英文摘要】无
【语种】中文
【第一作者】林 潇
【通讯作者】李绍稳
【期刊名称、卷期、页码】农业网络信息2011(1):17-20.
【论文发表时间】2011-01-01 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】信息技术系统性应用

【题目】采用改进canny算法提取苹果边缘轮廓
【中文关键词】canny算法　苹果　边缘检测　链长度
【英文关键词】无
【中文摘要】该文分析了canny算法的理论基础和实现原理,针对canny算法提取出的边缘存在过多细节信息的问题,结合苹果图像的特征,提出了改进的canny边缘检测算法。实验结果表明,该算法通过设定链长度的方法,可以有效地减少虚假边缘信息的产生,达到尽可能完整地提取连续闭合边缘的目的。
【英文摘要】无
【语种】中文
【第一作者】谢静
【通讯作者】胡艺峰
【期刊名称、卷期、页码】数字技术与应用2010(8):146-148
【论文发表时间】2010-01-01 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】信息技术系统性应用

【题目】基于XML 的农作物病虫害数据转换研究与实现
【中文关键词】XML,数据转换 关系数据库 水稻病虫害
【英文关键词】无
【中文摘要】重点讨论关系数据库与 数据的映射技术 针对当前只注意数据结构的无损转换,而忽略数据约束的保存问题,提出一种基于自定义模板映射的设计方案,并将该方案应用于水稻病虫害数据转换的实例中 首先根据水稻病虫害数据的特点设计数据模型,并结合数据模型设计转换模板,即最终要得到的 文档的结构形式,然后在 平台下运用 技术实现将水稻病虫害相关数据由关系数据库到 文档形式的转换 该工作对农业信息化建设具有一定的参考意义。
【英文摘要】无
【语种】中文
【第一作者】倪冬平
【通讯作者】叶 琼
【期刊名称、卷期、页码】计算机应用与软件2012,29(3):102-104,131
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【引文索引类型】其他
【引文索引号】null
【学科分类】信息技术系统性应用

【题目】基于本体的水稻病害诊断专家系统研究
【中文关键词】专家系统　本体推理　水稻病害
【英文关键词】无
【中文摘要】本研究将人工智能应用于水稻病害的诊断,利用本体在知识形式化描述和共享方面的优势,借助本体编辑工具Protégé和OWL语言,构建水稻病害知识模型;采用基于本体推理方法和相似度计算实现病害诊断推理,并运用权系数算法,提高系统诊断的准确性。系统提供了智能决策服务和查询服务,对水稻病害诊断和防治有较好的实用价值。

【英文摘要】无
【语种】中文
【第一作者】林潇
【通讯作者】倪冬平
【期刊名称、卷期、页码】数字技术与应用2010(11):109-111
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【引文索引类型】其他
【引文索引号】null
【学科分类】信息技术系统性应用

【题目】Molecular structure of starch from Pueraria lobata (Willd.) Ohwi relative to Kuzu starch
【中文关键词】野葛根淀粉,分子结构,直链淀粉,支链淀粉
【英文关键词】Pueraria lobata (Willd.) Ohwi starches; Molecular structure; Amylose;Amylopectin
【中文摘要】该文对野葛根(Pueraria lobata (Willd.) Ohwi)淀粉的分子结构进行了测定,并与其它块茎(根)类淀粉进行了比较。应用凝胶渗透色谱法对中国三个野葛根主产区新鲜采集的葛根块茎进行了测定,结果显示其支链淀粉的链分布状况与其它淀粉类似。对三种支链淀粉的研究发现,其相应的β-淀粉分解限值分别为55%,56%和58%,与葛粉(Kuzu)支链淀粉接近;支链淀粉的平均聚合度(DPn)为8700-9700,比甘薯(DPn =9900)和马铃薯(DPn =11200)支链淀粉低;每个直链淀粉分子的支链数量为5.0。葛根直链淀粉的平均链长与葛根(Kuzu,310),甘薯(310)以及木薯(340)淀粉接近,但比百合(475)和马铃薯(670)淀粉低。
【英文摘要】The molecular structures of starches from Pueraria lobata (Willd.) Ohwi were examined and compared with those of other tuberous and root starches. The fresh tubers were collected from three Chinese main Pueraria lobata (Willd.) Ohwi growing regions. The chain distributions of the amylopectins as determined by gel permeation chromatography were similar to those of the amylopectins of other starches. Among the three amylopectins studied, the respective beta-amylolysis limits were 55%, 56% and 58% which were similar to that of kuzu amylopectin. The number average degree of polymerization ((DP(n)) over bar) values of the amylopectins were 8.7-9.7 x 10(3), lower than those of sweet potato and potato amylopectins (9.9 X 10(3) and 11.2 X 10(3), respectively). The number of branch chains per amylose molecule was 5.0. The average chain length ((CL) over bar) of the Pueraria lobata (Willd.) Ohwi amyloses was similar to those of kuzu (310), sweet potato (310) and tapioca amyloses (340), but lower than those of lily (475) and potato (670).
【语种】英文
【第一作者】杜先锋
【通讯作者】杜先锋
【期刊名称、卷期、页码】Starch, 2007,59(12),609-613.
【论文发表时间】2007-12-31 00:00:00
【引文索引类型】SCI
【引文索引号】2.518229e+011
【学科分类】食品加工技术

【题目】垄膜沟种技术对辽西旱地春玉米土壤水分及产量的影响
【中文关键词】春玉米;垄膜沟种;土壤水分;旱地农业
【英文关键词】Spring corn; Ridge film mulching and furrow seeding; Soil water; Dry land Agriculture
【中文摘要】在辽西风沙半干旱雨养农业区采用垄膜沟种技术,可有效提高自然降水利用率,达到保水增墒、减少无效蒸发,提高玉米产量的作用。试验结果表明,垄膜沟种技术种植的春玉米全生育期内在同等降雨条件下土壤含水量比常规地膜覆盖增加0.75 个百分点,比裸地增加 3.32 个百分点。春玉米单株总叶面积比常规地膜覆盖和裸地种植分别增加了881.70 cm2和714.39 cm2,为春玉米增产提供了物质保障。垄膜沟种技术可提高玉米经济性状指标,增加产量,试验单产达11 847.39 kg/hm2,较裸地种植增加了2 681.62 kg/hm2,增产29.14%;比常规地膜覆盖种植增加了484.37 kg/hm2,增产4.25%。
【英文摘要】Using the technique of ridge film mulching and furrow seeding in western Liaoning can improve the utilization ratio of natural precipitation to prohibit soil water evaporation, conserver soil water and increase yield of corn. Experiment showed that the total leaf area per plant increased by 881.70 cm2and 714.39 cm2, and soil water content of spring corn increased by 0.75 and 3.32 percentage points using technique of ridge film mulching and furrow seeding, which provided material guarantee for the yield increase of spring corn, than plastic film mulching and bare land. Technique of ridge film mulching and furrow seeding could improve the

indexes of economic character, yield up to 11 847.39 kg/ha, 2 681.62 kg/ha more than a bare land increased by 29.14% and 484.37 kg/ha more than conventional plastic film mulching cultivation increased by 4.25%.
【语种】中文
【第一作者】李爽
【通讯作者】孙占祥
【期刊名称、卷期、页码】玉米科学,2009,17(5):121~123,129
【论文发表时间】2009-10-08 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农艺学

【题目】风沙半干旱区旱地玉米提高降水生产效率的栽培技术研究
【中文关键词】玉米;风沙半干旱区;降水生产效率;产量
【英文关键词】Corn; Sand semi- arid zones; Rainfall productivity; Yield
【中文摘要】研究垄膜沟种微集雨和全地面平铺覆膜栽培技术对提高旱地玉米天然降水利用率的影响。结果表明,田间沟垄微集雨结合覆盖有效地利用了垄膜的集雨和沟覆盖的蓄水保墒功能,改变了降雨的时空分布,使降雨集中在沟内,明显提高了降雨的利用率,特别是 5 mm左右微小降雨的利用率。全地面平铺覆盖栽培最大限度降低了土壤水分的无效蒸发,达到保墒的目的。田间沟垄微集雨技术和全地面平铺覆盖栽培技术能增加玉米产量,提高降水利用率。
【英文摘要】For improving of the rainfall use efficiency of dryland corn and achieving the goal of increasing the yield of corn further, a set of technology of ridge film mulching and furrow seeding and whole flat covering of dryland corn is designed. The on- field ridge and furrow rainwater harvesting and mulching combination system is built by shaping the soil surface with alternate ridges and furrows along the contour. The plastic- covered ridges serve as a rainfall harvesting zone and furrows as a planting zone. This system can significantly improve rainwater use efficiency by concentrate rainwater into the furrows through the plastic- covered ridge and particularly can make better utilization of 5㎜ small rain, and change the rainfall space and time distribution. Some materials are used to mulch the furrows to reduce soil evaporation. The whole flat covering cultivation can minimize the soil moisture invalid evaporation, achieving purpose of preserving soil moisture. The results indicate that the technology of ridge film mulching and furrow seeding and the whole flat covering can increase grain yields,and enhance the rainfall productivity.
【语种】中文
【第一作者】肖继兵
【通讯作者】孙占祥
【期刊名称、卷期、页码】玉米科学,2009,17(5):116~120
【论文发表时间】2010-10-08 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农艺学

【题目】辽西北半干旱区土壤深松对玉米生长发育及产量的影响
【中文关键词】半干旱地区;深松;玉米;生长发育;产量
【英文关键词】semi-arid region; deep tillage; maize; growth status; yield
【中文摘要】针对辽宁西北半干旱区耕层浅、犁底层厚,影响雨水下渗和玉米生长的实际,玉米苗期进行深松,并测定了深松部位土壤含水量、土壤容重及玉米生长发育状况和产量。 结果表明,深松与对照相比,耕层土壤含水量增加、土壤容重降低,玉米株高提高了6.3%,茎粗增加了 7.0%,穗长增加了 19.4%,穗径增加了:3.9%,产量提高了 10.5%。
【英文摘要】In the conditions of shallow topsoil layer and thick plow pan, influencing the rainfall infiltration and maize growth in the semi-arid region of northwest Liaoning, the deep tillage was carried out during the period of maize seedlings, and the soil moisture, soil bulk density, maize growth and yields were investigated. The results showed that the soil moisture increased, however, the soil bulk density decreased compared with the control. The maize height and stem diameter increased by 6.3% and 7.0%, respectively, compared with the control. The length, diameter and yield of maize increased by 19.4%, 3.9% and 10.5%, respectively.
【语种】中文
【第一作者】邹洪涛

【通讯作者】邹洪涛
【期刊名称、卷期、页码】沈阳农业大学学报,2009,40(4):475-477
【论文发表时间】2009-08-12 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农业基础学科

【题目】辽西地区节水农业发展现状及对策
【中文关键词】辽西;节水农业;现状调查
【英文关键词】liaoxi; water-saving agriculture; current situation; investigation
【中文摘要】为保障粮食安全,保障农业的可持续发展,必须大力发展节水农业。通过调查辽西地区的节水农业发展现状,得出目前节水农业在农村发展中存在的问题,并提出今后节水农业的工作重点和对策。对节水农业的更好更快发展具有一定的指导意义。
【英文摘要】In order to ensure food-security and the sustainable development of agriculture, water-saving agriculture must be developed. Through investigation of current development situation of water-saving agriculture in western region of Liaoning province, existing problems at present are found, and countermeasures and future work emphasis are put forward. This has certain significance in guiding the development of water-saving agriculture in the future.
【语种】中文
【第一作者】张莹
【通讯作者】孙占祥
【期刊名称、卷期、页码】节水灌溉,2009,(9):30-32,37
【论文发表时间】2009-09-17 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农艺学

【题目】玉米茬不同处理方式对土壤耕层水分的影响
【中文关键词】土壤水分;留茬;翻耕;留茬覆盖秸秆;翻耕覆盖秸秆;翻耕覆膜
【英文关键词】soil moisture; stubble remaining; tillage; stubble covered with straw; tillage plus straw covering; tillage plus film covering
【中文摘要】针对朝阳半干旱区春季十年九旱的实际情况,在秋后玉米地设置了玉米地留茬、留茬覆盖玉米秸秆、翻耕、翻耕后覆盖玉米秸秆和翻耕后覆盖地膜5种不同处理方式,探讨不同处理方式对春播前表层土壤水分的影响。测定结果表明,各处理春播前表层土壤水分含量大小顺序为翻耕后覆膜>翻耕后覆盖秸秆>留茬覆盖秸秆>翻耕无覆盖>留茬无覆盖,其中翻耕覆膜处理土壤含水率为17.03%,比留茬无覆盖处理高4.51%,比翻耕无覆盖处理高2.57%,比留茬覆盖秸秆处理高1.27%,比翻耕覆盖秸秆处理高0.66%。
【英文摘要】In viewof the characteristic of spring drought occurring in nine years in a decade in Chaoyang sem-i arid region, five differenttreatments on corn stubble after autumn, including stubble remainingwithout covering, stubble covered with straw, tillage without covering, tillage plus straw covering and tillage plus film covering, are designed to study the effect of each treatment on surface soil moisture before spring sowing. The results indicate that before spring sowing, the amount of soil moisture of surface layer in different treatments is in the order of tillage plus film covering > tillage plus straw covering > stubble covered with straw> tillage without covering> stubble remaining without covering, and the soilwater contentoftillage plus filmcovering is 17.03%, being4.51,2.57,1.27 and 0.66 percentage points higher than stubble remaining, tillagewithout covering, stubble plus strawcovering and tillage plus strawcovering respectively.
【语种】中文
【第一作者】肖继兵
【通讯作者】孙占祥
【期刊名称、卷期、页码】干旱地区农业研究,2009,27(5):65-70
【论文发表时间】2009-09-17 00:00:00
【引文索引类型】其他

【引文索引号】null
【学科分类】农艺学

【题目】花期水分胁迫对大豆器官平衡和产量的影响
【中文关键词】水分胁迫;大豆;器官平衡;产量
【英文关键词】water stress; soybean; organ equilibrium; yield
【中文摘要】水分亏缺是限制作物生长的最主要因素之一,研究水分胁迫下大豆生长发育规律,对于提高大豆产量具有重要意义。试验在盆栽条件下,研究了花期水分胁迫对大豆器官平衡和产量的影响。结果表明:花期在不同时间、不同强度水分胁迫下,不同时期大豆各器官的物质分配比例不同,且不同品种表现出各异差异。水分胁迫是通过影响各器官物质分配比例来影响大豆产量的。不同时间、不同强度的水分胁迫经济系数不同,不同品种间的经济系数也有差异。大豆花期水分胁迫影响产量形成, 14 d中度 、重度水分胁迫对产量影响显著;而7 d水分胁迫处理影响不显著。辽51064和辽51095均以7 d中度水分胁迫(土壤含水量为19% ~21%)为适宜,单株产量分别达到了18. 36 g、17. 53 g。
【英文摘要】The water deficithas been themain factor that limits the crops grow, it is important to improve the yield to research the growing law of soybean under the condition ofwater stress. Under the condition of pot, this article studies the influence on the organ equilibrium and yield ofsoybean by thewater stress at flowering. The result indicates tha:t the different time and different strength ofwater stress on the flowering leads to the differentdistribution proportion ofsoybean organ' material in differentperiod, and differentvarietieshad different characters. Thewaterstresswas through affected various organs material assignment proportion to affectthe soybean yield. The the different time and different strength water stress economical coefficientwas differen,tand differentvariety economical coefficientalso had the difference. the study indicated thatLiao51064 and Liao51095 took the 7 dmoderate accentprocessing (soilmoisture content as 19% ~21%) being suitable. The single yield has respectively achieved 18. 36 g, 17. 53 g.
【语种】中文
【第一作者】白伟
【通讯作者】孙占祥
【期刊名称、卷期、页码】杂粮作物,2009, 29(2): 89~92
【论文发表时间】2009-03-27 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农艺学

【题目】半干旱区南果梨秸秆覆盖蓄水保墒技术研究
【中文关键词】秸秆覆盖;蓄水保墒;南果梨;半干旱区
【英文关键词】Covering straw; Water conservation; Nanguo fruitpear; Sem-i arid area
【中文摘要】在辽西半干旱区,南果梨树盘覆盖秸秆能够提高土壤含水量和果树产量。随着秸秆覆盖厚度的增加土壤蓄水保墒能力逐渐增强,产量不断提高,但是厚度超过25 cm后,作用效果不再明显增强。在5个水平中,覆盖厚度为30 cm和25 cm与其它三个处理相比,增产显著,但二者之间的差异不显著。因此,南果梨覆盖栽培中适宜的秸秆覆盖厚度为25 cm左右。
【英文摘要】In sem-i arid area ofwestern Liaoning Province, theNanguo pear fruit can improve production and soilmoisture by covering straw. The retention capacity of soilwas gathering strength and the fruit production increased, with increase the thicknessofstrawmulch. Butthe rate of increase to become less, when the thickness to exceed 25 cm. In the five levels of coverage for the thickness of30 cm and 25 cm compared with the other treatmen,t significantly increase production, but the differencewas notsignificantbetween them. Therefore, the appropriate coverage thickness of strawmulch is around 25 cm inNanguo pear fruit cultivation.
【语种】中文
【第一作者】杨光
【通讯作者】孙占祥
【期刊名称、卷期、页码】辽宁农业科学,2009(1): 53~54
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【学科分类】农艺学

【题目】八五三农场玉米生产中存在的问题与对策
【中文关键词】八五三农场; 玉米生产; 问题; 对策
【英文关键词】853 farm; maize pr oductio n; pro blems; countermeasur es
【中文摘要】为了确保国家粮食安全, 粮食总产量需要不断增加, 而在增产中玉米的增产潜力最大, 且玉米是八五三农场的主要农作物之一, 因此, 分析了八五三农场玉米生产中存在的问题, 主要有: 品种选用不当, 生育期偏短; 品种退化; 种植密度偏高; 品种过于单一, 缺乏高产潜力品种; 环保施肥欠缺, 底肥中氮肥占比例过高, 钾肥用量比例较低, 总施肥量略显不足; 基本不施农家肥; 缺乏田间管理并对此提出应选择耐密半耐密高光效及稀植型高产品种; 采用适当的种植密度; 增施肥料, 配方施肥; 施用有机肥料促进玉米增产; 采用种衣剂拌种等技术防治病虫害, 加强田间管理; 加强农业科技培训; 建立玉米高产高效综合配套栽培技术模式进行推广等解决对策, 为玉米增产提供理论指导
【英文摘要】Fo r the sake of ensur ing the safe pro ductio n of g rain in the co untr y, it is need to continuously increasethe total gr ain y ield. w hile the y ield incr easing po tentialities of maize is the big gest, and maize is o ne of the maincr ops at 853 farm, therefo re, t he pro blems ex isting in the 853farm w ere analy zed. They w ere: impro per va rietyselect ion, shor t gr ow th per iod; var iety deg ener ation; hig her planting density ; lack of hig h yield potential va rieties;lack of enviro nmental pr otectio n fertilization, hig her pr opor tion o f nitr og en, low pro po rtio n of po tash, insufficienttota l fertilizer; little use of manur e; lack of field management. According to t he problems, the countermeasureswer e put forwar d to prov ide theor etical guidance for maize pr oductio n. They wer e as follow s: choosingvariety w ith dense planting o r half dense planting , high photo synthet ic rat e, sparse planting and high yield; adoptingappro pr iate planting density; incr easing applying fer tilizer s and fo rmula fert ilization; applying org anicfertilizers to increase maize y ield; using seed dr essing to prev ente and contr ol diseases and insect pests,st reng thening the field manag ement; str eng thening the ag ricult ur al science and technolog y training ; establishingand extending synthetical cult ivation technolog y mode of maize w ith hig h y ield and hig h efficiency .
【语种】中文
【第一作者】孙毅
【通讯作者】孙毅
【期刊名称、卷期、页码】黑龙江农业科学2011(10) : 139-142
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【题目】苗期水分胁迫对大豆器官平衡和产量的影响
【中文关键词】水分胁迫;大豆;器官平衡;产量
【英文关键词】Water stress; Soybean;Organ equilibrium;Yield
【中文摘要】在盆栽条件下,研究了苗期水分胁迫对大豆器官平衡和产量的影响。结果表明:在苗期不同强度水分胁迫下,不同时期大豆各器官的物质分配比例不同。中度水分胁迫下收获期的器官平衡为:籽粒>根>荚皮>叶片>茎秆>叶柄,两个品系辽51064和辽51095的叶片分别占16. 31%、15. 28%,籽粒分别占25. 83%、28. 92%,叶柄分别占6. 27%、4. 85%,说明大豆苗期适度水分胁迫可以改变大豆的/源-库0关系。中度水分胁迫下,辽51095生物产量和经济产量的相关系数最大(0. 9956)。就产量而言,正常供水与中度水分胁迫的差异并不显著,与重度水分胁迫则差异显著。
【英文摘要】The shortage ofwater has been themain factor that limits the yield of soybean.Understanding the growing law of soybean under the condition ofwater stress is of great importance to improve soybean yield. The effect ofwater stress at seedling on organ equilibrium and yield of soybean was studied under pot experimentwith two soybean sister lines Liao 51064 and Liao 51095. The proportion of dry matter distributed to each organ in different growth period varied with the strength ofwater stress.Undermedium water stress, the organ equilibrium in the harvesting timewas: seed>root>pod shell >leaf>stem>petiole, and the lea,f grain and petiole for the two sister lines ofLiao 51064 and Liao 51095 accounted for 16131% and 15. 28%, 25. 83% and 28. 92%, 6. 27% and 4. 85% of totalbiomass,which showed that itwas helpful to improve the balance between/the source and sink0.Undermedium water stress, the correlation coefficient of biological yield and economic yield was highest(0. 9956)forLiao 51059.The soybean yield under normalwater supply and medium water stress also significantly higher than that ofheavywater stress.
【语种】中文
【第一作者】白伟

【通讯作者】孙占祥
【期刊名称、卷期、页码】大豆科学,2009,28(1):59-62
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【学科分类】农艺学

【题目】辽西半干旱区旱地玉米微集水栽培技术研究
【中文关键词】旱地玉米;土壤水分;产量
【英文关键词】Dryland corn;Soil moisture;yield
【中文摘要】为了提高半干旱区旱地玉米对天然降水利用率,特别是提高5-10mm微小降雨的利用率,使其就地入渗,改善农田土壤水分供给状况,提高作物生长的水分满足率,进一步提高作物产量,对旱地玉米设计了几种不同的栽培模式,通过对玉米整个生育期土壤水分监测、经济性状及产量分析证明,旱地玉米双垄面全膜覆盖集雨沟播技术可充分接纳和利用天然降水,增产效果明显,较对照增产39.76%。
【英文摘要】无
【语种】中文
【第一作者】张景会
【通讯作者】孙占祥
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【引文索引号】null
【学科分类】农艺学

【题目】花生顶凌期地膜覆盖栽培试验研究
【中文关键词】半干旱区;顶凌期;地膜覆盖;蓄水保墒;花生增产
【英文关键词】semi-arid region;top run period;plastic film mulching;storage of soil moisture;Peanut production
【中文摘要】在风沙半干旱区顶凌期地膜覆盖试验研究结果表明,顶凌期地膜覆盖有很好的蓄水保墒效果,到播种时地膜覆盖的土壤水分含量比裸地提高了1% ~2%,保证了花生正常播种出苗。同时地膜覆盖改善了土壤的微环境,促进了植株的健康发育,花生产量比裸地增产42. 9%,增产效果十分显著。此法是风沙半干旱区/春墒春保0的一种有效措施。
【英文摘要】无
【语种】中文
【第一作者】颜景波
【通讯作者】孙占祥
【期刊名称、卷期、页码】辽宁农业科学,2009(3): 63~64
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【引文索引号】null
【学科分类】农艺学

【题目】不同种类肥料对大豆生理特性和品质的影响
【中文关键词】不同种类; 肥料; 大豆; 生理特性; 品质
【英文关键词】differ ent kinds; fert ilizer ; soy bean; physio lo gical char act eristics; qualit y
【中文摘要】为探讨肥料对大豆生理特性和品质的影响规律, 在大田条件下, 以大豆品种黑农48 为供试材料, 设不施肥常规施肥有机肥控释尿素和控释复合肥5 个处理, 对大豆叶绿素地上生物产量株高和品质的影响进行了研究结果表明: 有机肥对提高大豆株高影响最大, 控释肥次之; 控释复合肥对提高大豆叶绿素含量效果最好, 控释尿素次之成熟期各处理地上部生物量与对照相比差异达到显著水平不同肥料均可以提高大豆籽粒品质, 以有机肥对大豆籽粒蛋白质提高最大, 除控释尿素外, 与其它处理差异均达显著水平与 对照相比, 控释复合肥能显著提高大豆籽粒脂肪含量, 各肥料处理均能极显著提高大豆籽粒蛋脂总量

【英文摘要】To investig ate the influence law o f fert ilizer o n soybean physio log ical characterist ics and qualit y, under field condition, H einong 48 was used as material, the tr eatments as follows: no fer tilizer, convent ional fertilizer,org anic fert ilizer , contr olled release urea and contr olled release compound fer tilizers, the effects of so ybean chlorophyll, abo ve gr ound biomass, plant heig ht and quality w ere studied. The result show ed t hat or ganic fert ilizer had the mo st impor tant influence on impr ov ing soy bean heig ht , contr olled release fer tilizer to ok the second place. Contro lled r elease compo und fer tilizer had t he most import ant influence on raising soy bean chloro phy ll co ntent, follow ed by co nt rolled release urea. Abo ve gr ound biomass of maturity compared w ith no fer tilizer the differ ence r eached significant lev el. Different fertilizer co uld impr ove the quality o f so ybean seed, or ganic ferti-l izer made the most ra ising in pro tein of soybean seed, ex cept for co ntr olled release urea, the difference between it w ith other t reatment s r eached significant level. Contro lled r elease compo und fertilizer made the mo st raisingin fat co ntent of soy bean seed, compared with no fert ilizer the difference r eached significant lev el. Different fertilizer co uld impr ove to tal o f pr otein and fat of so ybean seed, compar ed w ith no fertilizer the difference reached ex tr emely significant lev el.

【语种】中文

【第一作者】朱宝国

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【题目】控释尿素和普通尿素混施对玉米生理特性和品质的影响

【中文关键词】控释尿素; 普通尿素; 玉米; 生理特性; 品质

【英文关键词】differ ent kinds; fert ilizer ; soy bean; physio lo gical char act eristics; qualit y

【中文摘要】通过对合玉21 玉米株高叶绿素地上部生物量及品质的测定分析, 研究了控释尿素(CRU) 和普通尿素(CU) 混施对玉米生理特性和品质的影响结果表明: 拔节期以后, 控释尿素和普通尿素混施对玉米株高叶绿素含量和地上部生物量提高有较大影响, 株高和叶绿素以处理CRU40%+ CU60%最佳; 地上部生物量以处理CRU100%最大控 释尿素和普通尿素混施均能提高蛋白质和脂肪含量, 且以处理CRU40% +CU60%提高最大与不施氮肥相比, 各处理蛋白质含量差异均达显著水平, 脂肪含量差异不显著

【英文摘要】Acco rding to the determination and analysis on plant height, chlo ro phy ll co ntent, abov egr ound bio mass of H eyu 21, the effect of contro lled r elease ur ea (CRU) and commo n urea (CU) combined applicat ion onphysiolo gica l characterist ics and quality of maize wer e studied. The results indicat ed: After joint ing stage, CRUand CU combined applicatio n had t he mo st impo rtant influence on improv ing maize heig ht , chlor ophyll contentand abo veg round biomass. CRU40%+ CU60% w as the best tr eat ment of chlo ro phy ll. CRU100% w as the besttreatment of abov eg r ound biomass. CRU and CU combined applicatio n could increase pro tein and fat content o fmaize seed, CRU40% + PU60% incr eases the max imum. Compared with the no fertilizer t reatment, pro teinco ntent difference of the other t reatment s r eached significant level, while fat content was not sig nificant.Acco rding to the determination and analysis on plant height, chlo ro phy ll co ntent, abov egr ound bio mass of H eyu 21, the effect of contro lled r elease ur ea (CRU) and commo n urea (CU) combined applicat ion onphysiolo gica l characterist ics and quality of maize wer e studied. The results indicat ed: After joint ing stage, CRUand CU combined applicatio n had t he mo st impo rtant influence on improv ing maize heig ht , chlor ophyll contentand abo veg round biomass. CRU40%+ CU60% w as the best tr eat ment of chlo ro phy ll. CRU100% w as the besttreatment of abov eg r ound biomass. CRU and CU combined applicatio n could increase pro tein and fat content o fmaize seed, CRU40% + PU60% incr eases the max imum. Compared with the no fertilizer t reatment, pro teinco ntent difference of the other t reatment s r eached significant level, while fat content was not sig nificant.Acco rding to the determination and analysis on plant height, chlo ro phy ll co ntent, abov egr ound bio mass of H eyu 21, the effect of contro lled r elease ur ea (CRU) and commo n urea (CU) combined applicat ion onphysiolo gica l characterist ics and quality of maize wer e studied. The results indicat ed: After joint ing stage, CRUand CU combined applicatio n had t he mo st impo rtant influence on improv ing maize heig ht , chlor ophyll contentand abo veg round biomass. CRU40%+ CU60% w as the best tr eat ment of chlo ro phy ll. CRU100% w as the besttreatment of abov eg r ound biomass. CRU and CU combined applicatio n could increase pro tein and fat content o fmaize seed, CRU40% + PU60% incr eases the max imum. Compared with the no fertilizer t reatment, pro teinco ntent difference of the other t reatment s r eached significant level, while fat content was not sig nificant.

【语种】中文

【第一作者】朱宝国
【通讯作者】朱宝国
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【引文索引号】null
【学科分类】农业基础学科

【题目】旱地玉米中耕深松对土壤水分和作物产量的影响研究
【中文关键词】半干旱区;土壤深松;玉米;土壤水分;产量
【英文关键词】semi-arid region;soil deep loosening;corn;soil moisture;yield
【中文摘要】通过对朝阳半干旱区旱地玉米中耕深松对土壤水分和作物生长的影响研究表明,深松减小了表层土壤容重,增加了土壤孔隙度,提高了土壤的蓄水能力,促进玉米生长发育,玉米增产5.7%。
【英文摘要】无
【语种】中文
【第一作者】肖继兵
【通讯作者】孙占祥
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【引文索引号】null
【学科分类】农艺学

【题目】实行保护性耕作技术_促进旱作农业可持续发展
【中文关键词】保护性耕作;旱作农业;可持续发展
【英文关键词】Conservation Tillage; dry farming; sustainable development
【中文摘要】保护性耕作是相对于传统铧式犁翻耕的一种新型耕作技术,可以保护土壤,增加土壤有机质,培肥地力,提高土壤蓄水保墒能力,减少水土流失、地表水分蒸发和地表沙尘漂移,且有效减少劳动力和机械投入,提高劳动生产率。本文重点对实行保护性耕作的必要性和重要作用进行了论述,并针对我国旱区农业降雨少、气温低、土壤贫瘠、自然条件恶劣的现实,提出适宜的保护性耕作措施有:倒秆覆盖技术、少耕留高茬覆盖技术和少耕碎秆覆盖技术。
【英文摘要】无
【语种】中文
【第一作者】刘洋
【通讯作者】孙占祥
【期刊名称、卷期、页码】辽宁农业科学 2009(3): 41~43
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【引文索引号】null
【学科分类】农艺学

【题目】半干旱区坐水播种条件下玉米高产栽培措施研究
【中文关键词】玉米;坐水播种;高产栽培;半干旱区
【英文关键词】maize; bed-irrigating sowing; high-yielding cultivation; semiarid area
【中文摘要】采用五因素(1/2)二次回归旋转组合设计,研究了坐水播种条件下,坐水量、氮肥、磷肥、钾肥和密度对玉米产量的影响,建立了产量模型。结果表明,各因素对产量的作用大小顺序为氮肥>坐水量U磷肥>钾肥>密度;在各因素编码水平为最低时,磷肥的起始增产速率最大,其次为氮肥,坐水量、钾肥和密度分列第三、四、五位;随着因素水平的提高,各因素的增产速率均下降,下降的快慢顺序为磷肥>密度U氮肥>坐水量>钾肥;当坐水量为46.25 t/hm2、氮肥(N)为327.68 kg/hm2、磷肥(P2O5)为149.10 kg/hm2、钾肥(K2O)为189.24 kg/hm2、密度为71 172.00株/hm2,产量可达14 059.62 kg/hm2;玉米产量大于10 560 kg/hm2的主要农艺措施为:坐水量为41~54 t/hm2,氮肥(N)用量为276~348 kg/hm2,磷肥(P2O5)用量为145~165 kg/hm2,钾肥(K2O)用量为166~217kg/hm2,种植密度为64 728~72 726株/hm2。

【英文摘要】The effects of water amount, nitrogenous fertilizer, phosphate fertilizer, potasium fertilizer anddensity in maize bed-irrigating sowing were studied through the design of 5-factor(1/2) orthogonal regression rotational combination. The weighing on effect of yield in different factors was nitrogenous fertilizer>water amountUphosphate fertilizer>potasium fertilizer>density. When all factors at low-level, the yield-increasing rate at beginning was phosphate fertilizer>nitrogenous fertilizer>water amount>potasium fertilizer>density. Along with the level of factors heightened, the yield-increasing rate was inching down, the velocity sequence was phosphate fertilizer>densityUnitrogenous fertilizer>water amount>potasium fertilizer. When the water amount was 46.25 t/hm2, the nitrogenous fertilizer(N) was 327.68 kg/hm2, the phosphate fertilizer(P2O5) was 149. 10 kg/hm2, the potasium fertilizer (K2O) was 189. 24 kg/hm2, the density was 71 172. 00 plants/hm2, the tiptop yield was 14 059.62 kg/hm2. The optimal cultivation measures for yield above 10 560 kg/hm2were as follows: the water amount of 41~54 t/hm2, the nitrogenous fertilizer(N) of 276~348 kg/hm2,the phosphate fertilizer(P2O5) of 145~165 kg/hm2, the potasium fertilizer(K2O) of 166~217 kg/hm2, the density of 64 728~72 726 plants/hm2.
【语种】中文
【第一作者】冯良山
【通讯作者】孙占祥
【期刊名称、卷期、页码】干旱地区农业研究,2009,27(1):73-77
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【学科分类】农艺学

【题目】风沙半干旱区秸秆覆盖微集水技术对玉米产量及土壤水分的影响
【中文关键词】风沙地;秸秆覆盖;玉米产量;土壤水分
【英文关键词】wind sandy land;Straw mulching;corn yield;soil moisture
【中文摘要】风沙半干旱区生态环境脆弱,耕作方式滞后,平均年降水量少且变率大。秸秆覆盖微集水技术是解决风沙半干旱区粮食产量不稳和土壤易干易旱的有效途径。试验结果表明,7.50t/hm2秸秆覆盖量的玉米穗粗和百粒重最高;覆盖玉米秸秆的玉米产量均高于不覆盖玉米秸秆,7.50t/hm2秸秆覆盖量的玉米产量最高。0~40cm 土层含水量呈递减趋势,10~20cm 中层不覆盖玉米秸秆蓄水能力较好;30~40cm深层土层含水量覆盖玉米秸秆高于不覆盖玉米秸秆 0.3~1.9 个百分点。
【英文摘要】无
【语种】中文
【第一作者】王慧新
【通讯作者】王慧新
【期刊名称、卷期、页码】现代农业科技,2008 ,(24):160-162
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【学科分类】农艺学

【题目】地下水硝态氮污染现状及研究进展
【中文关键词】硝态氮;地下水;化肥;污染;农田类型;评价标准
【英文关键词】Nitrate;Groundwater; Chemical fertilizer; Contamination; Type of farmland; Evaluation criteria
【中文摘要】地下水是重要的饮用水资源,与人民身体健康及生活质量密切相关。近年来,地下水硝态氮污染问题日益严重,逐渐引起全世界各国的关注,硝态氮成为进入地下水最频繁的污染物质,对此我国和欧美等国均进行了大量的监测调查。结果表明,化学氮肥的施用是造成地下水硝态氮污染的最主要原因。我国不同类型农田氮肥施用对种植区地下水硝态氮污染影响情况有所不同,蔬菜田氮肥施用量很大,其种植区地下水硝态氮污染情况最严重,超标率要明显高于粮田种植区和水稻田种植区。而近年由于氮肥施用过量及施肥方式不当等原因,粮田和稻田的地下水污染情况也不容忽视,即使现在没有发生污染,耕地土层中因降雨、灌溉水淋溶而积累的硝态氮仍是地下水体的潜在威胁。目前,我国对地下水硝态氮污染制定了明确的评价监测标准和检验方法标准,但仍缺乏完善的系统研究和行政管理,广大科学工作者仍需努力。
【英文摘要】Groundwater resource is limited, as an important resourcewhich is closely related to people.s health and the quality of life.Recently, the problem on groundwater nitrate contamination that is increasingly serious gradually arouses the concern of the

peoples of theworld, and NO3--N becomes themost frequently contamination into groundwater.Therefore, China, Europe, the United States and other countries allhave done a greatdeal survey andmonitoring on this. The results show that the application of chemical nitrogen fertilizer is themain reason that causes the nitrate pollution of groundwater. In China, application of chemical nitrogen fertilizer in different types of farmland reflectdifferent impact to the goundwaterofcrop-growing aeras.The vegetable field usesmore amount ofnitrogen fertilizer,which is usually several times and evenmore several times than the grain and rice fields. Hence, the groundwater polluted situation of shallow root vegetable crop-growing areas is themost serious, and the rate of exceeding nitrate content standard in groundwater is stillhigher than the other two types of farmland. Moreover, in recentyears, due to excessive application ofnitrogen fertilizer and improper fertilizationmethods, and so on, the groundwater pollution shuold not be ignored both in the grain-growing areas and the paddy cultivation areas.Even if there is no any pollution at themoment, the potential threat is stillexisting in the soilofarable land that the accumulation ofNO3--Nwould eluviate into groundwaterby theway of rainfall and irragation. At the present time,we have developed a serie ofunambiguous evaluation criteria and standards of test menthod on the governance ofnitrate contamination ofgroundwater.Although there are stillmany deficiencies, scientists areworking hard to improve the problem of drinkingwater nitrate polluted in rural areas.

【语种】中文
【第一作者】刘晓晨
【通讯作者】孙占祥
【期刊名称、卷期、页码】辽宁农业科学 2008(5): 41~45
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【引文索引号】null
【学科分类】农艺学

【题目】辽宁省三种类型作物产区饮用水硝态氮污染状况研究

【中文关键词】饮用水;地下水;硝态氮;污染;氮肥;农田类型;辽宁省
【英文关键词】drinking water; groundwater; nitrate; contamination; nitrogenous fertilizer; type of farmland; Liaoning province

【中文摘要】对辽宁省水稻、玉米、蔬菜3类作物产区189个地下水饮用水井的硝态氮含量进行调查分析。结果表明,辽宁省平原农区饮用水硝态氮含量平均为4.63 mg/L,其中10.6%的饮用水井硝态氮含量超标(硝态氮含量\10 mg/L),2.1%的饮用水井硝态氮含量严重超标(硝态氮含量\20 mg/L),超过国家Ó类饮用水质量标准。3种类型作物产区中,玉米产区饮用水硝态氮污染情况最轻,硝态氮平均含量为2.49 mg/L,超标率为4.2%,无严重超标率,87.5%采样点井水水质良好;蔬菜产区饮用水质量相对较差,硝态氮平均含量为4.48 mg/L,超标率和严重超标率分别为7.1%和1.8%,71.4%采样点井水水质良好;水稻产区饮用水硝态氮污染情况最为严重,20.8%采样水井硝态氮含量超标,3.8%水样严重超标。化学氮肥的施用对辽宁省不同作物产区饮用水中硝态氮含量有着直接且重要的影响,呈明显的正相关关系。由于氮肥施用量的增加,辽宁省水稻产区饮用水硝态氮污染呈恶化趋势,而蔬菜产区饮用水硝态氮含量在田间氮肥用量减少之后呈明显降低趋势,玉米产区饮用水硝态氮含量变化略有波动,但随着氮肥的增施已然出现了超标现象。

【英文摘要】Nitrate content of 189 groundwater samples in drinking water wells on rice, corn, vegetables, three types of crop-producing areas of Liaoning province were taken investigation and analysis. The results showed that the mean value of NO-3-N content in drinking water was 4.63 mg/L in plain area of Liaoning, 10.6 % of NO-3-N content in wells exceeded the MAC standard(nitrate content\10 mg/L), and 2.1% of NO-3-N content seriously exceeded the drinking water quality standards that the National Class Ó drinking water quality standards(nitrate content\20 mg/L). Of the three types of crop-producing areas, the pollution status in corn-producing areas was the lightest, the average nitrate content was of 2.49 mg/L, the rate over MAC standard was 4.2%, and there is none of the wells in which nitrate content was above 20 mg/L, 87.5% of the sampling of well water reflected good water quality; the quality of drinking water in vegetable-producing areas was relatively poor, the mean value of NO-3-N content was 4.48 mg/L, the rate over the standard of MAC and National Class Ó drinking water quality were 7.1% and 1.8%, the good rate of sampling points was 71.4%; the nitrate polluted situation in drinking water of rice-producing areas was the most serious, for which 20.8% sampling wells nitrate content was over the MAC standard and 3.8% seriously exceeded the drinking water quality standards. The application of chemical nitrogen fertilizer had a direct and significant impact on the nitrate content in drinking water of different crop-producing areas in Liaoning province, between the two there were a significant positive correlation. Due to the increased use of nitrogen fertilizer, nitrate contamination of drinking water in Liaoning rice-producing areas showed a trend of deteriorating, at the same time, the nitrate content of drinking water in vegetable-producing areas reflected a decreasing trend after reducing the amount of nitrogen fertilizer in field. The nitrate content of corn-producing areas performed a slight fluctuations change, but with the increased use of nitrogen fertilizer, the pollution in drinking water had already occurred.

【语种】中文
【第一作者】刘晓晨
【通讯作者】孙占祥
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【学科分类】农艺学

【题目】东北风沙半干旱区雨水资源跨时调控对玉米生长发育及产量的影响
【中文关键词】半干旱地区; 雨水资源跨时调控; 玉米
【英文关键词】Semiarid region; Seasonal control of rainwater resource; Maize
【中文摘要】针对东北风沙半干旱地区春旱严重、降雨资源年内分布不均的气候特点, 在秋收后、霜冻之前进行灭茬覆膜处理, 对旱地雨水资源跨时调节; 通过对翌年春季土壤含水量、玉米生长状况及产量的调查结果表明, 秋覆膜处理的耕层土壤含水量比未覆膜处理高出 65%, 播种 14 天后玉米出苗率达到 88%, 抽穗期玉米株高比未覆膜处理高 35cm、径粗增加0.43cm, 秋收时玉米穗重比未覆膜处理提高了 50.6%。
【英文摘要】A field experiment was conducted to re- distribute moisture from rainfall against Spring drought in semiarid region of western Liaoning Province. The treatments of stubbling and plastic film mulching after the Autumn harvest could keep rainwater to be used in next growth periods. By investigating the soil water content, the growth and yield of maize, the results showed that the soil water content in plastic film mulching treatment was more 65% than that of uncovered treatment. The seedling emergence ratio reached 88% averagely after seeding 14 days. In the maize heading stage, the plant height in plastic film mulching treatment wast more 33cm than that uncovered treatment, and stem diameter was increased by 0.42cm. After the Autumn harvest, the yield of maize in plastic film mulching treatment increased by 50.6%.
【语种】中文
【第一作者】邹洪涛
【通讯作者】邹洪涛
【期刊名称、卷期、页码】土壤通报,2008,39(4):852-85
【论文发表时间】2008-08-12 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】土壤学

【题目】旱作农田高粱垄膜沟种高产栽培技术研究
【中文关键词】垄膜沟种;土壤贮水量;产量;高粱
【英文关键词】Ridge membrane groove seed; soil pondage;yield; sorghum
【中文摘要】垄膜沟种技术在播前土壤墒情不足时,把地膜当做田间微集水面,使播种后的降雨汇聚到种子播种处或高粱根部,改变了降雨的时空分布,提高了自然降水利用率。特别是在春季干旱,土壤墒情差的条件下,可使5 mm左右的微量降水通过汇聚而变成能使作物种子发芽的有效水。研究表明,垄膜沟种技术可显著提高土壤贮水量,增加高粱产量,增产幅度为38. 24%。
【英文摘要】无
【语种】中文
【第一作者】肖继兵
【通讯作者】孙占祥
【期刊名称、卷期、页码】辽宁农业科学 2008(3): 30~32
【论文发表时间】2008-05-23 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农艺学

【题目】玉米苗期耐低钾能力比较
【中文关键词】玉米;低钾耐性;钾素作用指数;筛选指标
【英文关键词】Maize;Low potassium tolerance; Index ofpotassium effec;t Selection criterion
【中文摘要】选择玉米耐低钾自交系J6-1、较耐低钾自交系N40和不耐低钾自交系丹937,在5个不同钾素浓度水平下对其幼苗性状和钾素作用指数进行比较。结果表明,随着钾素水平的升高, 3个自交系的衰老叶片数、株高、叶面积、干重和叶绿素的钾素作用指数随之变化;变化最大的为丹937,其次为N40。这些性状指数在一定程度上反映了不同玉米的耐低钾能力,其中以干重、叶面积和株高的钾素作用指数最为明显,是较为理想的耐低钾筛选鉴定指标。
【英文摘要】Threemaize inbred lines J6-1, N40 andDan937 have different tolerance to low potassium1The results indicated that therewere significantdifference among the indices ofpotassium effecton the numberofyellowish leaves, plantheigh,t leafarea, dryweightand the contentof leafchlorophyll in differentpotassium treatments1The changes ofDan937 under low potassium weremostobvious1The indices of potassium effect tof the plant heigh, tleafarea and dryweightwere good selection criteria of low potassium tolerance.
【语种】中文
【第一作者】冯良山
【通讯作者】孙占祥
【期刊名称、卷期、页码】作物杂志,2008,(2):45-49
【论文发表时间】2008-03-04 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农艺学

【题目】辽西半干旱区水肥耦合对春玉米产量的影响
【中文关键词】春玉米;水肥耦合;产量效应
【英文关键词】spring corn; water and fertilizer coupling; yield effects
【中文摘要】采用311 B最优D饱和设计和旱棚微区试验的方法,于2003~2006年在辽西半干旱区开展了滴灌条件下水肥耦合对春玉米产量效应的试验研究。结果表明:氮肥对产量的作用最大,磷肥次之,水分最小;水肥耦合效应大小顺序为:磷水耦合>氮磷耦合>氮水耦合;获得最高产量14298.36 kg/hm2的施氮量为285.49 kg/hm2,施磷量为128.79 kg/hm2,灌水下限为田间持水量的69.29%。
【英文摘要】Using rain proof installations, with/311-B0D-saturation optimum design,during 2003~2006,field experiments of water and fertilizer coupling on spring corn yield were conducted in sem-i arid areas of western Liaoning province.Results show that nitrogen quantity was the chief factor to affect spring corn yield,phosphorus quantity was the second factor, irrigation quantity was the third factor.The effect order of interaction is:water and phosphorus coupling>nitrogen and phosphorus coupling>water and nitrogen coupling.Amounts for highest yield 14298.36 kg/hm2were nitrogen 285.49 kg/hm2, phosphorus 128.79 kg/hm2and with lower irrigation limit of 69.29% field capacity.
【语种】中文
【第一作者】王聪翔
【通讯作者】孙占祥
【期刊名称、卷期、页码】灌溉排水学报,2008,27(2):102-105
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【学科分类】土壤学

【题目】生物多样性影响农业生态系统功能及其机制研究进展
【中文关键词】生物多样性;生态系统功能;生态位构建;作用机制
【英文关键词】Biodiversity; Ecosystem functioning; Portfolio effect; Niche construction; Ecological dynamical
【中文摘要】根据生物多样性影响生态系统功能某些作用机制,对生物多样性现在或未来可能对农业生态系统生产力的某些促进机理进行探讨。基于生态位互补角度简述了农业生物多样性对环境资源(非生物因素)的互补利用;并借鉴经济学理论剖析农业生态系统中生物多样性/投资组合效应0的经济生态学意义;同时,结合最新的生态位构建理论与进化动力学模型,对生物多样性(生物因素)的生态动力学机制进行分析;而作为农业生态系统中扮演重要角色的人,更应注重农业生物多样

性保护与利用的关系。
【英文摘要】According to somemechanisms ofbiodiversity affecting ecosystem functioning, in this review, agro-ecosystem productivitywere promoted by somemechanisms ofbiodiversity in now or future. The firstwas niche complementarity scale, aiming atenv-ironmental resourceweremade use of complementarity of agro-biodiversity; and depending on economical theory, economical eco-logical significance of/Portfolio effect0ofbiodiversity in agro-ecosystem was thoroughly studied; at the same time, by using up-to-date niche construction theories and evolution dynamicalmodels, the ecological dynamicalmechanisms of biodiversity was ana-lyzed. In agro-ecosystem, themost importantpartwasman, should play a vital role and pay attention to the relationship between protection and application of agro-biodiversity.
【语种】中文
【第一作者】杨宁
【通讯作者】孙占祥
【期刊名称、卷期、页码】辽宁农业科学 2008(1): 27~31
【论文发表时间】2008-01-01 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农业基础学科

【题目】辽西风沙半干旱区旱作农田水资源研究
【中文关键词】The abundance and pinch of the rainfall alternate every two or three years in the Sand and Wind Semi- Drought Area of Liaoning province and the arid climate may last for 4 years sometimes. The dry condition became more and more severe after 1980. In the
【英文关键词】Water resources; Farmland; The sand and wind semi- drought area; Western Liaoning province
【中文摘要】辽西风沙半干旱区年降水量多为二、三年左右的丰枯交替, 并有持续 4 年以上的连续干旱, 尤其是 1980 年以后连续干旱的年份较多。区域内春旱严重, 夏季降水明显集中, 秋季水分收支基本平衡。以土壤水分季节变化情况可分为:冬季土壤水分凝聚、冻结、累积阶段, 春季解冻、返浆、土壤水分大量蒸散阶段, 夏季土壤水分大量累积阶段, 秋季土壤水分缓慢蒸发阶段。
【英文摘要】水资源; 农田; 风沙半干旱区; 辽西
【语种】中文
【第一作者】冯良山
【通讯作者】孙占祥
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【引文索引号】null
【学科分类】土壤学

【题目】阜新地区玉米新品种引选及抗旱性评价
【中文关键词】玉米;品种;抗旱性;阜新
【英文关键词】corn; variety; drought resistance;fuxin
【中文摘要】对引进阜新地区的玉米品种进行抗旱性评价试验,结果表明:相对于沈单16号,除了辽单43号外,其它品种产量均有不同程度提高,以辽单565号和丹玉86号最为明显,产量提高20. 99%和15. 95%。利用开雄花至抽丝的间隔时间、棒三叶均角、6 h叶片失水率、根冠比、水分利用效率等评判指标,采用隶属函数法计算出的各品种综合抗旱系数与产量呈正相关(R2=0. 8599**),初步认为在干旱年份可以作为玉米抗旱性的重要指标。对参试的玉米品种抗旱性进行综合评价表明,辽单565号、丹玉86号、沈玉21号三个玉米品种属高抗旱性品种,沈玉22号、丹玉57号和沈单16号属中抗旱性品种,辽单30号和辽单43号属不抗旱品种。
【英文摘要】无
【语种】中文
【第一作者】侯志研
【通讯作者】孙占祥

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【题目】不同抑制剂对花生生长发育和产量的影响
【中文关键词】花生; 抑制剂; 生长发育; 产量
【英文关键词】peanuts;inhibitor;growth and development;yield
【中文摘要】在辽西地区研究了不同抑制剂对花生生长发育和产量的影响。结果表明,抑制剂具有促进花生早熟,降低植株株高和增加分支,增加株荚数、百果重,从而增加产量,产量可以提高 4. 9% ~ 11. 1%,增产效果明显。其中以花多金的增产效果最好。
【英文摘要】无
【语种】中文
【第一作者】董俊
【通讯作者】董俊
【期刊名称、卷期、页码】辽宁农业科学 2011(1) : 75 ~76
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【引文索引号】null
【学科分类】农艺学

【题目】不同耕法对土壤含水量_玉米生长发育及产量的影响
【中文关键词】不同耕法;土壤含水量;玉米;生长发育;产量
【英文关键词】Different cultivationmethod; Soilmoisture; Growth; Yield
【中文摘要】土壤耕作能有效的改善土壤理化性质,提高土壤含水量和作物产量,该试验研究了辽西地区玉米连作不同耕作对土壤水分、玉米生长发育和产量的影响。结果表明:在不同时期不同耕法对土壤含水量的影响不同,在不同的耕法中,以一次全方位深松处理的效果最为明显,在20~30 cm的土壤有效耕作层中容重为1. 29 g/cm3。一次全方位深松、连年秋翻、连年沟垄交替深松能够增加玉米的株高和增大玉米的叶面积,单从产量来看,以一次全方位深松、连年秋翻和连年沟垄交替深松效果最为明显,分别比对照增加了13. 7%、10%、3%。
【英文摘要】The soil cultivation could the effective improvementsoilphysics and chemistry nature, enhance the soilmoisture contentand the crop yield, this article has studied theLiaoxi areamaize continuous cropping different cultivationmethod to the soilmoisture, themaize growth and the yield influence.The result indicated: influence ofdifferent cultivationmethod to be differentdifferently to the soilmoisture in the different time, in different cultivationmethod, ismostobviousby an omn-i directionaldeep pine processing effec,t in the 20~30 cm soil effective plow layer is 1. 29 g/cm3. An omn-i directional deep pine, successive years the fall turns, successive years the ditch ridge alternately deep pine to be able to increase themaize high and increases the maize the leaf area, the yield, by an omn-i directionaldeep pine, successive years the fall turnswith the ditch ridge alternately deep loose effect is successive yearsmostobvious, increased 13. 7% separately compared to the comparison, 10%, 3%.
【语种】中文
【第一作者】刘洋
【通讯作者】孙占祥
【期刊名称、卷期、页码】辽宁农业科学 2011(2): 10~14
【论文发表时间】2011-04-05 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农艺学

【题目】辽宁省花生发展演变规律及各区域生产现状
【中文关键词】辽宁省;花生 演变规律;区域

【英文关键词】Liaoning province;peanuts;evolvement rule; range
【中文摘要】辽宁是东北最大的花生生产和出口基地,种植的花生以不含或极少含黄曲霉菌污染著称,品质极佳,在全国的花生生产中具有重要的地位。本研究对辽宁省花生种植面积历年变化情况、花生产量历年变化情况、花生单产历年变化情况、不同区域产量变化情况和单产变化情况进行了分析,并针对目前花生产业存在主要问题,提出了一些克服花生连作障碍的有效措施。
【英文摘要】无
【语种】中文
【第一作者】董俊
【通讯作者】董俊
【期刊名称、卷期、页码】农业经济,2011,(11):12-13
【论文发表时间】2011-11-17 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农学其他学科

【题目】不同泌乳期奶山羊乳腺OPN 基因表达及其对MCF-7细胞生长的影响
【中文关键词】奶山羊,乳腺组织,骨桥蛋白基,因荧光定量PCR,细胞生长
【英文关键词】dairy goat; mammary gland; OPN gene; real-time PCR; cell proliferation
【中文摘要】为了研究骨桥蛋白基因(OPN)在奶山羊(Capra hircus)乳腺组织不同泌乳期的变化规律及其功能,采用SYBR Green染料建立该基因的实时荧光定量PCR(QPCR)分析方法,以β-actin基因为内参,对该基因在乳腺组织泌乳28d、60d、100d、190d、270d和330d的mRNA表达水平进行检测;同时将该基因片段克隆到真核表达载体pcDNA3.1,构建重组质粒pcDNA3.1-OPN,所获重组质粒经过酶切和测序鉴定后,转染MCF-7细胞,采用MTT(四唑盐,3-(4,5)-dimethylthiahiazo(-z-y1)-3,5-di-phenytetrazoliumromid)法检测OPN对MCF-7细胞的增殖差异,结果表明:OPN基因在泌乳初期(28d)和泌乳后期(190d)表达水平较高,干奶期最低,其表达水平总体呈现高-低-高-低的变化模式。MTT实验表明转染OPN基因的MCF-7细胞较未转染基因组细胞的生长具有显著差异(P0.05),说明OPN的表达具有促进MCF-7细胞生长的作用。
【英文摘要】To investigate the expression pattern and preliminary function of OPN gene in mammary gland of dairy goat dur-ing different lactation stages, using β-actin gene as the internal control, the SYBR Green quantitative real-time PCR (QPCR) analysis was conducted to determine the mRNA expression of OPN gene in mammary gland at the 28th, 60th, 100th, 190th, 270th and 330th day after kidding. Recombinant plasmid of pcDNA3.1-OPN was constructed by inserting the fragment of OPN gene into eukaryotic expression vector pcDNA3.1 and used to transfect the MCF-7 cell line following the restrictive en-donuclease cleavage and sequence identification of the target gene segment, the effect of OPN gene on MCF-7 cell prolifera-tion was assessed by MTT analysis. The results indicated that OPN gene exhibited the higher expression level in early (28 d) and late (190 d) lactation stages and the lowest level at dry stage (330 d), which demonstrated a high-low-high-low pattern. There was a significant difference ($P < 0.05$) in the proliferation between OPN gene transfected and non-transfected MCF-7 cells, which suggested that the expression of OPN gene could stimulate the proliferation of MCF-7 cells.
【语种】中文
【第一作者】孙杰
【通讯作者】罗军
【期刊名称、卷期、页码】遗传, 31(8): 825-830.
【论文发表时间】2009-08-31 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】畜牧学

【题目】西农萨能奶山羊泌乳中期和后期乳腺组织差异基因的筛选
【中文关键词】西农萨能羊;乳腺组织;抑制性削减杂交;差异表达基因;实时定量PCR
【英文关键词】Xinong Saanen Dairy goat; mammary gland; suppression subtractive hybridization; differentially expressed gene; real-time quantitative PCR
【中文摘要】旨在利用抑制性削减杂交(SSH)技术筛选西农萨能奶山羊泌乳中期和后期的差异表达基因,并用实时定量PCR(Q2PCR)分析差异基因的表达丰度,探讨奶山羊不同泌乳阶段乳腺组织的基因表达规律。本研究以西农萨能奶山羊泌

乳中期和后期乳腺组织的mRNA互为检测子(Tester)和驱动子(Driver)构建cDNA消减文库(M2L和L2M) ,随机挑选克隆测序,进行序列比对分析,并检测部分差异基因在乳腺组织中的表达丰度。结果,成功构建了泌乳中期和后期的cDNA文库,随机挑选30个克隆测序,得到M2L和L2M文库中与细胞凋亡、抗氧化、脂类代谢、能量代谢等生理过程相关的差异基因,对其中的6个基因进行实时定量分析,发现5个均为阳性克隆,表达水平增加了1.3~5.5倍不等。结果表明,利用SSH技术成功构建了泌乳中期和后期乳腺组织正反向消减cDNA文库,筛选出24个差异基因,为进一步研究奶山羊乳腺组织基因调控机理奠定了基础。

【英文摘要】The objective of this study was to use suppression subtractive hybridization (SSH) to screen the differentially expressed genes in mammary gland of Xinong Saanen Dairy goats at the middle and late lactation stages, and the expression abundance of several genes were analyzed by real-time quantitative PCR (Q-PCR) to explore the gene expression mechanism of mammary gland in the different lactation stages of dairy goats. The subtracted cDNA libraries (M-L and L-M) were constructed by using mRNA of mammary gland of Xinong Saanen Dairy goat at the mid-dle and late lactation stages as the Tester and/or Driver, clones were randomly selected and se-quenced for sequence alignment, the expression abundance of several genes in mammary gland was analyzed. 30 randomly selected clones from the constructed cDNA subtraction libraries of mammary gland at middle and late lactation stages were sequenced, and the differentially ex-pressed genes related with physiological process including cell apoptosis, anti-oxidation, lipid and energy metabolism etc. were obtained. Five positive clones were observed from 6 genes assayed by quantitative PCR, the expression levels of which were 1.3-5.5 folds higher in mammary gland of either middle or late lactation stage. The results showed that the forward and reverse subtrae-ted cDNA libraries of mammary gland at middle and late lactation stages were constructed using SSH, the screening of 24 differentially expressed genes laid the foundation for the further studies on gene regulation in the mammary gland of dairy goats.

【语种】中文

【第一作者】武会娟

【通讯作者】罗军

【期刊名称、卷期、页码】畜牧兽医学报, 41(1):16-21

【论文发表时间】2010-01-31 00:00:00

【引文索引类型】其他

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【学科分类】畜牧学

【题目】Sensitive and Rapid Detection of Genetic Modified Soybean (Roundup Ready) by Loop-Mediated Isothermal Amplification

【中文关键词】环介导的等温扩增技术(LAMP) 转基因大豆 检测

【英文关键词】loop-mediated isothermal amplification; Roundup Ready (RR) soybean; genetically modified organism (GMO) detection

【中文摘要】利用Loop-Mediated Isothermal Amplification技术检测转基因大豆

【英文摘要】Using the LAMP method, a highly specific and sensitive detection system for genetically modified soybean (Roundup Ready) was designed. In this detection system, a set of four primers was designed by targeting the exogenous 35S epsps gene. Target DNA was amplified and visualized on agarose gel within 45 min under isothermal conditions at 65 degrees C. Without gel electrophoresis, the LAMP amplicon was visualized directly in the reaction tube by the addition of SYBR Green I for naked-eye inspection. The detection sensitivity of LAMP was 10-fold higher than the nested PCR established in our laboratory. Moreover, the LAMP method was much quicker, taking only 70 min, as compared with 300 min for nested PCR to complete the analysis of the GM soybean. Compared with traditional PCR approaches, the LAMP procedure is faster and more sensitive, and there is no need for a special PCR machine or electrophoresis equipment. Hence, this method can be a very useful tool for GMO detection and is particularly convenient for fast screening.

【语种】英文

【第一作者】刘梅

【通讯作者】王雷

【期刊名称、卷期、页码】Bioscience Biotechnology, and Biochemistry 2009, 73 (11): 2365-2369

【论文发表时间】2009-11-07 00:00:00

【引文索引类型】SCI

【引文索引号】2.723199e+011

【学科分类】生物进化论

【题目】温室小气候环境模型的应用及综述1
【中文关键词】温室; 小气候模型; 系统识别; 自适应PID 控制
【英文关键词】无
【中文摘要】对国内外温室小气候环境建模方法的研究进行了综述 温室小气候环境建模的方法主要有两种: 一 是以能量平衡方程和质量平衡方程为理论依据研究温室的模型,另一种方法为基于输入输出数据的模型,包 括 线性 模 型非 线 性 模型 黑 箱 模 型 等 同 时,指出了目前温室小气候建模方法存在的问题,并对温室小气候环境建模方法的发展趋势进行了展望,并介绍了一种温室小气候建模方法在气候自适应 控 制 中 的 应 用。
【英文摘要】无
【语种】中文
【第一作者】周荣双
【通讯作者】张武
【期刊名称、卷期、页码】农业网络信息2010(11):40-43
【论文发表时间】2011-09-01 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】信息技术系统性应用

【题目】Detection of transgenic DNA in tilapias (Oreochromis niloticus, GIFT strain) fed genetically modified soybeans (Roundup Ready)
【中文关键词】罗非鱼 转基因大豆 检测
【英文关键词】aquatic feed; GM soybean; nested-PCR; Oreochromis niloticus; tissues; transfer
【中文摘要】利用PCR技术检测了食用转基因豆粕的罗非鱼体内转基因片段的残留
【英文摘要】We used nested-polymerase chain reaction (PCR) to detect Roundup Ready soybean in aquatic feeds and feeding tilapias. A template concentration of 10(-10) g mu L(-1) DNA solution could be detected with a dilute degree of 0.01%. Most (90.6%) of the aquatic feeds containing soybean byproduct included exogenous DNA segments. We also compared genetically modified (GM) soybean with non-GM soybean diets in feeding tilapias (Oreochromis niloticus, GIFT strain) and examined the residual fragments (254 bp) of GM soybeans. Tilapias receiving GM soybean diets had DNA fragments in different tissues and organs, indicating that exogenous GM genes were absorbed systemically and not completely degraded by the tilapia's alimentary canal.
【语种】英文
【第一作者】陶冉
【通讯作者】刘梅
【期刊名称、卷期、页码】Aquaculture Research 2009, 40: 1350-1357
【论文发表时间】2009-08-20 00:00:00
【引文索引类型】SCI
【引文索引号】2.690563e+011
【学科分类】分子生物学

【题目】云模型及应用综述1
【中文关键词】云模型; 应用; 数字特征; 不确定性; 模糊性
【英文关键词】cloudmodel; application; digital characteristic; uncertainty; fuzziness
【中文摘要】云模型对于日常生活中的不确定性概念有很好的表达能力。在简要介绍云模型基本理论的基础上,对云模型的3个数字特征和云发生器进行了研究,并对目前云模型应用活跃的几个领域进行了探讨,分析它在这些应用中的方法和优势以及不足,着重对云模型在预测领域的应用方法步骤进行了概括和提炼。分析了它在各领域今后的研究方向和重点,最后对其发展前景进行了展望。
【英文摘要】Cloudmodel hasexcellent expressionabilityfor theuncertaintyconceptsinour dailylife. After abrief introductionof thebasictheoryofcloudmodel, threedigitalcharacteristicsandcloudgeneratorarediscussed, aswellasseveral fieldsinwhichthecurrentapplicationsofcloudmodelareveryactive.
Andthenitsadvantagesandlimitationsandmethodsintheseapplicationsareanalyzed. Ap-plicationmethodsandstepsof cloudmodel inthepredictionfieldaresummarizedandrefined. Andalsoitsfutureresearchdirectionandfocusarepredicted. Finally,

welookforwardtothebright prospect for itsdevelopment.
【语种】中文
【第一作者】叶 琼
【通讯作者】李绍稳
【期刊名称、卷期、页码】计算机工程与设计2011,32(12):4198-4201
【论文发表时间】2012-03-18 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】信息技术系统性应用

【题目】PCR-DGGE analysis of intestinal bacteria and effect of Bacillus spp. on intestinal microbial diversity in kuruma shrimp (Marsupenaeus japonicus)
【中文关键词】日本对虾 肠道微生物 多样性
【英文关键词】intestinal microbial diversity; PCR-DGGE; Kuruma shrimp
【中文摘要】利用PCR-DGGE技术分析了日本对虾肠道微生物多样性
【英文摘要】In this study, the intestinal microbiota of kuruma shrimp (Marsupenaeus japonicus) was examined by molecular analysis of the 16S rDNA to identify the dominant intestinal bacteria and to investigate the effects of Bacillus spp. on intestinal microbial diversity. Samples of the intestines of kuruma shrimp fed normal feed and Bacillus spp. amended feed. PCR and denaturing gradient gel electrophoresis (DGGE) analyses were then performed on DNA extracted directly from the guts. Population fingerprints of the predominant organisms were generated by DGGE analysis of the universal V3 16S rDNA amplicons, and distinct bands in the gels were sequenced. The results suggested that the gut of kuruma shrimp was dominated by Vibrio sp. and uncultured gamma proteobacterium. Overall, the results of this study suggest that PCR-DGGE is a possible method of studying the intestinal microbial diversity of shrimp.
【语种】英文
【第一作者】刘淮德
【通讯作者】王雷
【期刊名称、卷期、页码】Chinese Journal of Oceanology and Limnology 2010, 28(4): 808-814
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【引文索引类型】SCI
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【学科分类】分子生物学

【题目】秸秆全量还田对冬小麦不同小穗位和粒位结实粒数和粒重的影响
【中文关键词】秸秆还田;冬小麦;结实粒数;粒重;小穗位;粒位
【英文关键词】straw returned to the field; winter wheat; fertile spikel et number; grain weight; spik elet position; grain position
【中文摘要】【目的】研究小麦玉米秸秆连续全量还田对小麦穗部不同小穗位和粒位结实粒数及粒重变化的影响。【方法】通过设置 3 年定位试验研究小麦玉米秸秆全量还田对小麦不同小穗位结实粒数、粒重的小穗位和粒位的影响效应。【结果】小麦玉米秸秆连续全量还田提高了小麦的公顷穗数、穗粒数、千粒重和产量。各处理小麦不同小穗位结实粒数、小穗重、小穗平均单粒重均呈现二次曲线变化趋势,不同粒位的粒重也随小穗位的变化呈二次曲线形式。结实小穗越多、各小穗结实粒数或单粒重差异越小,空间分布模拟曲线的弧度越平缓。秸秆还田提高了小麦主茎穗和分蘖穗的结实小穗数与小穗结实粒数,降低了不孕小穗数,且下部小穗的结实粒数增加幅度较大;秸秆还田还提高了小麦不同粒位的单粒重,以第 3、4 粒位提高幅度较大。【结论】小麦玉米秸秆连续全量还田提高了小麦不同小穗位的结实粒数和粒重,进而提高了籽粒产量。
【英文摘要】【Objective 】 The objectives of this study were to research th e change of gain number and grain weight of wheat with spikelet and grain position in main stem and tiller spike under the condition of straw returned to the field. 【Method】 A location field experiment was conducted from 2008 to 2010, single maize straw returned to the field, single wheat straw returned to the field, wheat and maize straw returned to the field were conducted to study the effects of straw returned to the field on grain number and grain weight at different spikelets and grain positions in winter wheat. 【Result】 Results showed that, the spike per hectare, grain number per spike, 1 000-grain weight and yiel d were increased in treatment of straw re turned to the field. The distribution of grain number, spikelet weight, and grai n weight with the spikelets posi tions showed parabolic changes, so as the grain weight at 1st, 2nd, 3rd in each treatment and 4th in treatment of straw returned to the field. The more fertile spikelet number and less difference in spikelet grain

number and single grain weig ht, the smoother the parabola was. The fertile spikelet number and spikelet grain nu mber in main stem and tiller spike were increased in treatment of straw returned to the field, the increase range of fertile spikele t number in the bottom spikelet were bigger. There were different increasing effects of straw returned to th e field on single grain weight at different grain positions, especially for at of 3rd and 4th grain position. 【Conclusion】 Therefore, under the condition of wheat and maize straw returned to the field, grain yield and yield components, spikelet grain number and grain weight at different spikel ets of wheat were enbanced.

【语种】中文
【第一作者】屈会娟
【通讯作者】李金才
【期刊名称、卷期、页码】中国农业科学2011,44(10):2176-2183.
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【引文索引号】null
【学科分类】农艺学

【题目】砂姜黑土区小麦玉米秸秆全量还田对玉米抗倒性能的影响
【中文关键词】夏玉米;砂姜黑土;秸秆还田;抗倒性能
【英文关键词】summer maize; lime concretion black soil; straw returned to the field; lodging-resistance
【中文摘要】【目的】探讨砂姜黑土区小麦玉米秸秆全量还田对夏玉米抗倒性能的影响。【方法】以夏玉米品种郑单958为材料,通过定位试验研究小麦玉米秸秆全量还田对玉米抗倒性能的影响。【结果】小麦或玉米秸秆全量还田均能提高玉米气生根条数、0—30 cm 土层根条数及根系干重,同时,玉米株高和单株鲜重均有所增加。秸秆还田后,在吐丝期和灌浆中期,玉米茎秆基部3—7节间的长度、直径、干重和单位茎长干物质重有增加的趋势,尤其是基部节间的茎秆压碎强度和穿刺强度显著提高。另外,玉米的根倒伏系数显著降低,而植株抗倒指数则显著升高。相关分析表明,根倒伏系数与根倒率显著正相关,而与单株鲜重、根系干重和基3节压碎强度显著负相关。玉米总倒折率与节间长度极显著正相关,而与节间干重、充实度、压碎强度和穿刺强度显著负相关。【结论】小麦玉米秸秆连续全量还田可以显著降低夏玉米的根倒率和茎折率,提高籽粒产量。
【英文摘要】【Objective 】 The objective of the experiment is to study the effects of straw returned to the field on lodging resistance of maize in lime concretion black soil region. 【Method】 Maize cultivar Zhengdan 958 was grown in this plot experiment to investigate the effects of straw returned to the field on lodging resistance of maize. 【Result】 The results showed that wheat or maize straw returned to the field could increase aerial root number, root number in 0- 30 cm soil layer and root weight, so as the plant height and fresh weight of maize. After straw returning, the length, diameter, dry weight and ratio of dry weight to length of internodes from bottom 3rd to 7th were increased especially the stalk crash strength and stalk rind penetrain strength of botto m internodes were significantly increased at silking and filling stage. In addition, the root lodging coefficients were a significantly decreased while the lodging resistance indexes were significantly increased. The correlation coefficient showed that there was significant positive correlation between root lodging coefficien t and root lodging percentage while there was a negative signif icant correlation among root lodging coefficient, fresh weight, root weight and stalk crash strength of bottom 3rd internode. The rel ation between total lodging percentage and internode length was a very significant post ive correlation while that among total lodging percentage and the dry weight, plumpness, crash strength and rind penetrain strength of internodes were a si gnificant negative correlation. 【Conclusion】Therefore, under the condition of wheat and maize straw returned to the field, the root lodging percentage and stalk breaking percentage of maize would be decreased while the grain yield would be increased.

【语种】中文
【第一作者】沈学善
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【学科分类】农艺学

【题目】氮肥运筹方式对孕穗期受渍冬小麦穗部结实特性与产量的影响
【中文关键词】渍害; 氮肥运筹方式; 冬小麦; 结实特性; 产量
【英文关键词】Waterlogging; Nitrogen fertilization; Winter wh eat; Seed-setting characteristics; Grain yield
【中文摘要】以小麦品种皖麦54为试验材料, 连续两个生长季进行了氮肥运筹方式对孕穗期渍水冬小麦不同小穗位、粒位的结实粒数和粒重影响的观测。结果表明, 不同氮肥运筹方式显著影响穗部结实特性, 主茎穗结实特性优于分蘖穗。全部基施的氮肥运筹方式较基肥50%+拔节肥50% 和基肥30%+拔节肥50%+孕穗肥20% 的运筹方式显著增加了不孕小穗数, 降低结实小穗数和结实粒数, 2008 —2010 两年度全部基肥运筹方式较基肥 30%+拔节肥50%+孕穗肥20% 氮肥运筹方式处理不孕小穗数分别增加25.5% 和29.8%, 结实小穗数均降低5.7%。孕穗期渍水逆境对分蘖穗结实特性影响大于主茎穗, 渍水逆境显著增加不孕小穗数, 较对照处理, 2008 —2010两年度, 不孕小穗数分别增加10.6%和4.6%; 结实小穗数分别降低2.8%和1.4%。孕穗期渍水降低主茎穗结实4 粒的小穗数比例和分蘖穗结实3 、4 粒小穗数的比例及第3 、第 4 粒位籽粒粒重和第3 、第 4 粒位粒重对单穗粒重的贡献率。氮肥后移运筹方式显著提高孕穗期受渍小麦主茎、分蘖穗结实小穗数和粒重, 增加主茎和分蘖穗结实3 、4 粒小穗的比例和结实小穗第3 、4 粒位的粒重, 提高第3 、4 粒位粒重对单穗粒重的贡献率, 减少不孕小穗数, 进而较氮肥前移处理显著提高经济产量。氮肥后移运筹方式有利于减轻孕穗期渍害对小麦穗部结实特性的影响。
【英文摘要】Waterlogging has great influence on yield reduction in wint er wheat production in some areas of China. Nitrogen (N) application is believed to be able to improve dry matter translocation in wheat, as a result to increase final yield. In a fiel d experi-ment across two growing seasons, we used winter wheat cultivar “ Wanmai 54 ” to investigate the effect of waterlogging at booting stage and N fertilizing strategy on number and weight of grain at different spikelet positions and grain positions. Under both wa-terlogging and control (normal watering) cond itions, we implemented four N application treatments with different N application ratios (total N amount of 240 kg ha 1 in all treatments) at land preparation, jointi ng, and booting stages (10:0:0 for N1, 7:3:0 for N2, 5:5:0 for N3, and 3:5:2 for N4). The results showed that seed-setting characteristics of main stem were superior to tiller spike. In the N1 treatment, the sterile spikelet per spike was significantly increased, and the grain number per spike was significant ly decreased. Compared with N4 treatment, sterile spikelet per spike of N1 treatment increased by 25.5% and 29.8% in 2008 – 2009 and 2009 – 2010 growing seasons, respectively. The grain number per sp ike of N1 treatment decreased by 5.7%. Waterlogging had greater effect on the tiller spike than the main stem spike. Waterlogging at booting stage sign ificantly increased sterile spikelet per spike by 10.6% and 4.5%, and the grain number per spike decreased by 2.8% and 1.4% in the two growing seasons, especially for spike with four grains on main stem and three grains per spike of tiller spike, the grain weight in the third and the fourth gr ain positions, the contribution rate of the third and the fourth grain weights to the grain weight per spike. With the delay of N f ertiliza-tion, spikelet per spike, single weight per spike increased significantly, the sterile spikelet per spike decreased compared to the prior N fertilization treatments. Postponed N fertilization could compensate the decrease of spike with three and four grains a nd increase the grain weight in third and the fourth grain positi ons under waterlogged environment at booting stage, increase the contribution rate of the third and the fourth grains weight to th e grain weight per spike. Therefore, with the postponed N fertili zation, grain yield and spikelet grain number and grain weight at different spikelet of wheat were enhanced. Results indicate that post-poned N fertilization alleviates the effect of waterlogging at booting stage on the seed-setting characterisitics of spike and single grain weight.
【语种】中文
【第一作者】武文明
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【学科分类】农艺学

【题目】进口转基因大豆(Roundup Ready)对吉富罗非鱼生长和生理的影响
【中文关键词】转基因大豆; 吉富罗非鱼; 生长; 血液指标
【英文关键词】Roundup Ready, tilapia
【中文摘要】利用进口转基因和国产非转基因豆粕制作饲料,喂养吉富罗非鱼,分别于饲喂4周、7周以后称量体重,取其血液,检测其血液常规生理生化指标,评价转基因豆粕对罗非鱼生长和生理的影响。结果显示投喂转基因饲料组与非转基因饲料组相比,罗非鱼的增重率没有显著差异(P>0.05)。投喂转基因饲料4周以后,罗非鱼的血液生理指标没有显著差异,7周以后,转基因组与非转基因饲料组相比,各项血清指标没有显著差异。全血指标中白细胞数目(P=0.001)、大血小板比率(P=0.002)、平均血小板体积(P=0.000)和血小板体积分布宽度(P=0.001)4项指标显著高于非转基因饲料组,而且差异达到极

显著水平(P<0.01)。由以上结果可见,进口转基因大豆与国产非转基因大豆相比,对罗非鱼的一些生理过程造成了一定的影响,但是并未对其生长造成可见的影响
【英文摘要】Effect of genetically modified soybean (Roundup Ready) on Growth and physiology of tilapia
【语种】中文
【第一作者】刘梅
【通讯作者】王雷
【期刊名称、卷期、页码】粮食与饲料工业 2009,2:43-45
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【引文索引号】2.7929440001e+011
【学科分类】水产养殖学

【题目】超高产冬小麦氮肥运筹技术的研究
【中文关键词】小麦;超高产;氮肥运筹技术;吸收积累
【英文关键词】wheat; superhigh-yield;nitrogenfertilizermanagementtechnique;uptakeandaccumulation
【中文摘要】选用多穗型烟农 19 、中穗型周麦 22 及大穗型矮早八小麦品种为材料,在高产水平下进行了3 种氮肥运筹方式试验。结果表明,在施 N 240 kg · hm-2条件下,前轻中重后补法与前重后轻法、各半法相比在小麦产量形成上具有明显优势与特点,表现出前期干物质积累、高峰苗较低;中后期干物质积累、叶面积指数较高,最终茎蘖成穗率、籽粒产量和籽粒蛋白质含量较高;同时,抽穗前积累在营养器官中的氮素转移率低,对籽粒的贡献率小,单位吸氮量生产力低,但单位施氮量生产力高。前重法与前中各半法的上述效应差异明显。前重中轻法前期与前重法差异不显著,中后期与前中各半法趋于一致。综合表明,前中各半法施肥法是较适合超高产的施肥方法。
【英文摘要】UsingYannong19 ofmulti-spikecultivar,medium-spikescultivarofZhoumai 23 andlarge-spikecultivarofAizao 8 astheexperimentalmaterials,threedifferentnitrogenfertilizertreatmentsweredesignedunderhighyieldlevel.Theresultsshowed,under 240kg · hm-2condition,lowerfertilizerintheearlystageandhigherinthemiddlestageandlighterinthelaterstagehasobviousadvantagesand features in the yield formation compared to the fertilization method of higher in the early stage, lower in the later stage and halffertilizerintheearlystage,halfinthemiddlestagestyle,showinglowerdrymatteraccumulationintheearlystageandpeakseedlings,while,drymatteraccumulationinthemiddleandlaterstageandLAIwereintheoppositetrend.Insumup,theresultsshowedhigherrate of tillers per plant, grain yield and protein content of grain. At the same time, the translocation amount of N stored in vegetativeorgans before heading stage was very lower, and had lower contribution to the grain, lower productivity of unit N uptake, but higherproductivityofunitNapplication.Astotheseeffects,higherfertilizerintheearlystagehadsignificantdifferencewiththehalffertilizerin the early stage and half in the middle stage. Higher fertilizer in the early stage and lighter in the middle stage had no significantdifferencewithhigherfertilizerintheearlystage,lowerfertilizerintheearlystagehadthesametrendwiththehalffertilizerintheearlystage and half in the middle stage style. All these indicated that, the half fertilizer in the early stage and half in the middle stagefertilizationmethodismoresuitableforsuperhigh-yieldproduction.
【语种】中文
【第一作者】李德福
【通讯作者】李玲玲
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【题目】中国明对虾TOR基因的克隆及精氨酸、亮氨酸对其表达的影响
【中文关键词】中国明对虾(Fenneropenaeus chinensiss); TOR; 精氨酸; 亮氨酸; 实时定量PCR;
【英文关键词】Fenneropenaeus chinensiss; TOR; arginine; leucine; real-time PCR;
【中文摘要】首次从中国明对虾(Fenneropenaeus chinensiss)肌肉组织中克隆得到TOR基因的cDNA,全长共7 638 bp,开放阅读框7 389 bp,编码2 462个氨基酸。氨基酸序列比对和结构域分析均证实其为目前已知的TOR激酶的同源蛋白。应用实时定量PCR的方法研究TOR在中国明对虾中的组织分布特异性,以及注射等浓度的亮氨酸和精氨酸后,肌肉组织中TOR mRNA表达水平在3,6,12,24 h的变化,探讨营养水平对TOR基因表达的影响。结果显示,注射亮氨酸和精氨酸24 h的对虾TOR

mRNA表达量是对照组的3~4倍,显著升高(P<0.05),证实氨基酸对TOR的表达具有调节作用。
【英文摘要】The full length cDNA of TOR(Target of Rapamycin) gene from the muscle of Fenneropenaeus chinensis was cloned for the first time.The cDNA was 7638 bp,containing the 7389 bp open reading frame,which encoded 2462 amino acids.The deduced TOR amino acid sequences of F.chinensis was compared with other known se-quences and domains.The results confirmed their homology.Real-time PCR was used to detect the tissue-specific expression of TOR in F.chinensis and response of TOR mRNA in muscle at 3,6,12,24h to injection of leucine or arginine.The results showed that TOR mRNA was 3~4 times that of the control 24 hours after the injection of leu-cine or arginine,indicating amino acids had a regulatory role in the expression of TOR.
【语种】中文
【第一作者】孙姝娟
【通讯作者】王雷
【期刊名称、卷期、页码】海洋科学　2010,34(6):71-80
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【引文索引号】2.7929440001e+011
【学科分类】水产养殖学

【题目】适于集约化水产养殖的固定化微生物技术的初步研究
【中文关键词】有益微生物制剂; 吸附; 固定化; 水质污染降解; 集约化水产养殖
【英文关键词】Microbial preparation; adsorption; immobilized-microbe; degradation of aquaculture pollution; intensive aquaculture
【中文摘要】采用生物强化技术尝试建立高效、价廉、实用性强的固定化微生物水质处理技术。根据水产养殖特点,选择了网片、波纹板、竹球等不同载体,对有益微生物制剂进行吸附后,比较其对人工模拟养殖废水处理的效果,最终确定竹球为理想的吸附载体材料;研究了最适母液浓度和吸附时间、水体中作用持续时间等;进行了对不同的商业化微生物制剂与单纯芽孢菌的降解效果比较,得到最佳制剂种类和优化的工艺参数。
【英文摘要】An effective,cheap and practical method to improve water quality was developed by bioaugmentation and immobilized-microbe.After the microbe was adsorbed by different materials including plastic net,ripple plate and bamboo ball,their degradation effects on artificial aquaculture sewage water were compared and bamboo ball was the ideal material.The optimum microbial preparation concentration and adsorption time as well as the duration in water were also investigated.Thus the suitable microbial preparations and the optimized technologic parameters were obtained.
【语种】中文
【第一作者】王雷
【通讯作者】王雷
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【学科分类】水产养殖学

【题目】不同播期对鲜食玉米干鲜重的影响
【中文关键词】鲜食玉米; 播期; 干重; 鲜重
【英文关键词】无
【中文摘要】对6个鲜食玉米品种分 4个播期(即7月15 日、7月25 日、8 月4日、8 月14 日) 进行研究,分别考察了播期与各处理鲜穗重量籽粒干重的关系,结果表明: 秋播鲜食玉米品种之间 播期之间及两因素互作效应之间均有显著性差异; 本地区秋播鲜食玉米适宜种植时期为7 月15 至8月4日,最佳播期为 8月4日,供试的6个材料中,宿糯1号最适宜秋播生产加工。
【英文摘要】无
【语种】中文
【第一作者】王 俊
【通讯作者】王 俊
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【学科分类】农艺学

【题目】7用于养殖环境调控的微生物制剂评价方法的研究
【中文关键词】微生物制剂; 水质污染降解; 评价方法
【英文关键词】microbial preparation; degradation of aquaculture pollution; evaluation method;
【中文摘要】为尝试建立对不同微生物制剂产品的客观评价方法体系,选择5种商品化复合微生物制剂,进行了菌数和主要组成种类等测定,并利用天然或人工模拟的养殖污水进行了不同微生物制剂对氨氮、亚硝酸态氮、COD等降解效果的比较,以及微生物制剂活化增效后的效果比较等。结果表明,不同的商业化复合微生物制剂在有益菌含量和水质污染降解效果方面存在较大差异。另外,微生物制剂在海水和淡水中以及是否经过活化,效果也存在较大差异。
【英文摘要】In order to establish an external evaluation system,several kinds of commercial complex microbial preparations were chosen to determine their components and amounts,as well as to compare their degradation effects on ammoniac nitrogen,nitrite nitrogen and COD in natural or artificial aquaculture sewage.The results showed that there were great differences in the amounts of probiotics and degradation effects on water pollution for different preparations.It was also shown that the degradation effects had considerable differences in sea water and fresh water,as well as being activated or not.
【语种】中文
【第一作者】王雷
【通讯作者】王雷
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【学科分类】水产养殖学

【题目】淮河流域夏玉米渍涝灾害及防御对策
【中文关键词】渍涝灾害; 防御对策; 淮河流域; 夏玉米
【英文关键词】无
【中文摘要】在综述玉米渍涝的类型和危害淮河流域夏玉米渍涝灾害发生规律的基础上,提出了淮河流域夏玉米渍涝灾害的防御措施。
【英文摘要】无
【语种】中文
【第一作者】陈洪俭
【通讯作者】王 俊
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【学科分类】植物保护学

【题目】中国明对虾(Fenneropenaeus chinensis)肠道微生物区系组成的分子分析
【中文关键词】Fenneropenaeus chinensis, microbial flora , gut
【英文关键词】中国明对虾; 肠道微生物区系; 区系组成; 养殖对虾; 微生态制剂; 水产动物; 微生物基因组; 水产养殖; 基因克隆; 阳性克隆
【中文摘要】中国明对虾主要分布在我国黄渤海和朝鲜西部沿海,南海部分海域也有少量存在,是我国重要的海水养殖对虾之一。中国明对虾是中国的特产,也是重要的出口水产品,无论是品质还是市场价格都远远高于其他养殖对虾品种,其最高养殖年产量曾达到近20万吨。而随其养殖规模的扩大,对虾疾病的发生越来越频繁,1993年爆发的病毒性流行病,使中国明对虾的养殖遭受毁灭性打击,此后始终未能全面恢复。

【英文摘要】Molecular analysis of Chinese shrimp (Fenneropenaeus chinensis) intestinal microbial flora
【语种】中文
【第一作者】刘淮德
【通讯作者】王雷
【期刊名称、卷期、页码】饲料工业　2010,31(4):55-57
【论文发表时间】2009-05-14 00:00:00
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【引文索引号】2.7929440001e+011
【学科分类】水产养殖学

【题目】TOR信号转导通路介导的翻译控制
【中文关键词】TOR; 4E-BP; S6K; eEF2; Sit4; 信号转导; 翻译控制
【英文关键词】TOR; 4E-BP; S6K; eEF2; Sit4; Signaling transduction; Translation control
【中文摘要】TOR(target of rapamycin)是真核生物中高度保守的一种大分子的Ser/Thr激酶,是免疫抑制剂雷帕霉素的在体内的靶物质。TOR能够对营养状况和生长因子等因素的变化做出应答反应,通过介导磷酸化反应调节蛋白激酶4E-BP1,S6K,eEF2和磷酸酶等的活性,控制下游翻译因子的磷酸化水平,调节核糖体发生,蛋白质合成等生理过程,在细胞的生长,增殖的综合调控中起到中枢作用。
【英文摘要】Target of rapamycin(TOR) is a high conserved large Ser/Thr protein kinase in Eukaryotic.TOR is able to respond to change of such factors as nutrition and growth factors.Through mediating phosphorylation of protein kinase,such as 4E-BP1,S6K,eEF2,and the phosphates,TOR signaling pathway controls the phosphorylation of downstream translation factor,regulates ribosome biogenesis and protein translation,and plays a central role in regulating and integrating signals controlling cell growth,proliferation
【语种】中文
【第一作者】孙姝娟
【通讯作者】王雷
【期刊名称、卷期、页码】生物技术通报 2009增刊,1-5
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【引文索引类型】其他
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【学科分类】水产养殖学

【题目】应用PCR-DGGE分析南美白对虾肠道微生物多样性
【中文关键词】南美白对虾; 肠道微生物多样性; PCR-DGGE
【英文关键词】intestinal microbial flora; PCR-DGGE; Litopenaeus vannamei
【中文摘要】从南美白对虾肠道中提取微生物基因组总DNA,以细菌16SrRNA基因通用引物341F/534R进行V3高变异区域PCR扩增,长约200bp的PCR产物纯化后经变性梯度凝胶电泳(DGGE)分离,获得微生物群落的特征DNA指纹图谱。通过DGGE图谱的半定量分析,发现样品的优势群落明显。结果表明,PCR-DGGE是研究水产动物肠道微生物多样性的可行方法。 更多还原
【英文摘要】The application of PCR-DGGE analysis of Litopenaeus vannamei intestinal microbial diversity
【语种】中文
【第一作者】刘淮德
【通讯作者】王雷
【期刊名称、卷期、页码】饲料工业　2008,29(20):55-58
【论文发表时间】2008-10-15 00:00:00
【引文索引类型】其他
【引文索引号】2.7929440001e+011
【学科分类】水产养殖学

【题目】热力烟雾机在玉米病虫害防治上的应用研究
【中文关键词】热力烟雾机;热雾粒; 玉米病虫害; 防治效果

【英文关键词】thermal fogger; depositiondensity; diseasesandpestsofmaize; control effect
【中文摘要】玉米病虫害的药剂防治主要在玉米生长的中后期进行,但由于株高叶茂,田间喷药困难。热力烟雾机采用一些油剂作为农药的载体,经输导管在高温点(350~400e) 时瞬间气化,形成热雾且分布均匀,可沿田埂施药。试验以机动弥雾机喷雾防治为对照,在玉米田进行了热力烟雾机热雾粒田间不同水平距离和垂直高度的药剂雾滴分布规律和对玉米南方锈病、纹枯病、蚜虫的防效试验。结果表明,使用热力烟雾机防治效果高于机动弥雾机喷雾防治效果,热力烟雾机防治有效距离为25m以上,热雾粒数量在田间不同水平距离(0~25m)、垂直高度(0~2m)范围内比较均匀,正面热雾粒附着量为150~300粒#cm- 2,背面热雾粒附着量为50~ 140 cm2粒。
【英文摘要】The chemical control of maizepestsanddiseaseswasmainly at the latter stageof corngrowth, butmaizegrewtoohighly tospray chemicals inthe fieldat thisstage in thispaper, some oilswasusedasapesticidecarrier inthermal fogger, whichbecamegasification ina flashand formedheat fog at thehightemperature point(350~400e) throughthe tube. Theheat fogwaswell distributed, so chemicalswere sprayedalong the ridge inmaizebyuse of thermal fogger. The droplet subsidencedistributionrule andthe control efficiency of chemicalsonmaizediseasesandpestsbymeansof thermal foggerwerestudiedincontrastwithelectricmist sprayer. The resultsshowedthat thecontrol effect of chemicalsonpestsby thermal foggerwashigher thanthat of electricmist sprayer.Theeffectivedistanceof spraying by thermal foggerwasmore than25m; thedroplet depositionwassymmetrical atthe level distance from0to25m, andvertical height from0to2m. Thedropletsof the foliarwereabout 150~300cm-2, 50~140cm-2onthebladebac
【语种】中文
【第一作者】陈 莉
【通讯作者】丁克坚
【期刊名称、卷期、页码】安徽农业大学学报2010,37(1):71-74
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【引文索引类型】其他
【引文索引号】null
【学科分类】植物保护学

【题目】摄食转基因大豆罗非鱼各组织中转基因成份的检测研究
【中文关键词】转基因大豆; 罗非鱼; 组织; 检测;
【英文关键词】Transgenic soybean; Tilapias; Tissues; Detection
【中文摘要】利用转基因豆粕制作的饲料,喂养吉富罗非鱼,分别于投喂1h、4h和8h以后取罗非鱼胃内容物、肠道内容物和粪便,并分别于4周、7周和继续饥饿2周后,取罗非鱼不同组织,提取DNA,检测转基因大豆中的外源基因在各种组织中的分布,结果显示在胃内容物、肠内容物、粪便、心脏、肝脏、肠、胃、卵巢、精巢、脑、鳃丝、脾脏、胆囊、肌肉等不同部位的DNA中都能检测到外源基因的存在,说明转基因大豆中的外源DNA并不能被罗非鱼的消化道完全降解,其DNA片段可能通过消化吸收进入鱼体的各种组织。
【英文摘要】Tilapias(Oreochromis niloticus)were fed using transgenic soybean diets and non-transgenic soybean diets.Gastric contents,intestinal contents and faeces were sampled respectively from tilapias at 1h,4h and 8h after feeding and different tissues of tilapias were collected at 4-,7-week and continued hunger 2-week.DNA was extracted from these samples and the distribution of exogenous gene in different tissues was detected by nested PCR.Exogenous gene fragments were detected in DNA samples extracted from gastric contents,intestinal contents,faeces,heart,liver,stomach,intestines,ovary,spermary,brain,branchia,spleen,cholecyst,muscle of tilapias receiving transgenic soybean diets.The results demonstrated that exogenous gene of transgenic soybean couldn’t be degraded by alimentary canal of tilapia totally,and the transgene DNA can transfer to different tissues of tilapias by digestive absorption.
【语种】中文
【第一作者】陶冉
【通讯作者】王雷
【期刊名称、卷期、页码】检验检疫科学 2009,19(2):22-25
【论文发表时间】2009-02-16 00:00:00
【引文索引类型】其他
【引文索引号】2.7929440001e+011
【学科分类】水产养殖学

【题目】沉降剂控制热雾机热雾滴扩散范围及防效的研究

【中文关键词】热雾机; 沉降剂; 雾滴; 分布; 农作物病害; 防治效果
【英文关键词】thermal fogger; sedimentationagent; droplet; distribution; cropdiseases; control efficiency
【中文摘要】热雾机一般以柴油为热雾剂承载农药, 形成的热雾喷出后随着喷口产生的动力和热雾的自身密度压差向前方自行推进,该施药技术由于效率高而广泛用于林业病虫害的防治。但由于热雾易飘移、难控制,造成农药污染的缺陷,在农作物生产中难以推广应用。本试验通过加入热雾沉降剂的方法, 加大了热雾机热雾滴的比重和沉降速度,在此基础上, 选择难以进入田间施药的玉米、油菜,进行了中、后期病害的防治试验, 结果表明: 加入热雾沉降剂后热雾滴的主体分布于田间水平距离(0~ 25m) 和垂直高度(0~ 2m) 范围内,分布密度为148.5~ 265.4粒/ cm2,同柴油对照相比,加入热雾沉降剂后,同等直径的热雾滴飘移的距离和高度明显降低。田间防治试验结果也表明,热雾机施药对油菜菌核病和玉米南方锈病的防治效果普遍高于机动弥雾机喷雾的防治效果, 加入热雾沉降剂后可提高有效防治范围内的防效。
【英文摘要】Thermal fogger formedheat fog by meansof diesel oil for dispersing pesticides. The fog movedforwardalong withthe power inthe spout andthe difference of density pressure, andsprayedaroundthe field. Since theefficiency of the spraying technique washigh, it waswidely usedto control the forest diseasesandpests. Howev-er, it wasdifficult to be usedincropsbecause of the drift potential of the fog droplet. Inthisstudy, throughin-creasing specific gravity and improving sedimentationrate by adding the sedimentation agents, the control eff-iciency of the technique for oilseedrape sclerotiumblight andmaize southernrust were tested. The resultsshowedthat the most droplet depositionwaswell distributedat the level distance from0to 25m, or vertical height from0to 2mafter adding the sedimentationagents, and the dropletswere about 148. 5- 265. 4per cm2. Under thesame diameter, the drift distance andheight of the thermal fog dropletsdroppedsignificantly by using sedimenta-tionagent. The control effect of chemicalsoncropdiseasesby thermal fogger washigher thanthat of electricmistsprayer. At the range of effective distance, sedimentationagentscouldimprove the control efficiency.
【语种】中文
【第一作者】陈 莉
【通讯作者】丁克坚
【期刊名称、卷期、页码】植物保护2011,37(3):157-160
【论文发表时间】2011-01-07 00:00:00
【引文索引类型】其他
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【学科分类】植物保护学

【题目】3WD-12(24)型农业喷雾机械设计与试验
【中文关键词】喷雾机械;喷头; 变量喷雾;智能控制
【英文关键词】spraymachine; nozzle; variablespray; intelligent control
【中文摘要】针对当前农业植保施药落后、农药使用量大、有效利用率低、现代施药装备缺乏等关键问题, 设计出一种可变雾滴直径农业喷雾机喷雾装置(发明专利申请号: 20081010812416),并设计出3WD-12(24)型采用可变雾滴直径农业喷雾机喷雾装置的农业喷雾机械。试验结果表明, 雾滴直径在13~ 90Lm之间变化, 喷雾的药液流量可在440~660mL#min- 1之间调节,比常规的喷雾机节约了1/3以上用药量; 实现植保机具一机多用, 既能喷雾又能喷烟, 且可实现对搭架式葡萄和果园等进行立体喷雾或喷烟, 配套可变地隙拖拉机植保作业;根据喷雾作业对象及生长状态的不同而改变喷雾方式,从而可以达到高效施药、保护环境的目的。
【英文摘要】Inorder toovercomethequestionssuchasthebehindhandpesticideapplicationinagricultural plantprotection, lower availabilityandlackof themodernspray equipments, anewtype spraymachine, 3WD-12(24),whichcanmakevariabledroplet diameterwasdesigned. The resultsdemonstratethat thesprayvolumecanbeadjus-tedfrom440to660mL#min-1whentherangeof droplet diameter changesfrom13Lmto90Lm, and thedrugsdose issavedbymoreone-thirdthantheconventional spraymachine. Theequipmentwiththe functionof simultane-ousspray andaerosol spray canbeusedformultipurposes, efficient pesticideapplicationandenvironmental protec-tion.
【语种】中文
【第一作者】王轲
【通讯作者】邵陆寿
【期刊名称、卷期、页码】安徽农业大学学报2010,37(2):234-237
【论文发表时间】2010-01-15 00:00:00
【引文索引类型】其他
【引文索引号】null

【学科分类】工程通用技术

【题目】Detection and quantitation of bluetongue virus serotypes by a TaqMan
【中文关键词】蓝舌病毒;血清型;实时定量RT-PCR;TaqMan 荧光探针
【英文关键词】Bluetongue virus;Serotypes;Real-time RT-PCR;TaqMan fluorescent probe
【中文摘要】分析蓝舌病24种血清型的核酸序列,设计TaqMan荧光探针,利用该探针和一对特异性引物通过荧光定量PCR技术对蓝舌病进行检测。对其特异性、灵敏度和交叉反应进行了测定分析。提出了蓝舌病通用检测的特异性方法。
【英文摘要】Twenty-four serotypes of bluetongue virus (BTV) have been recognized world wide. Reliable and quantitative assays of virus universal detection are essential for fighting against BT. A real-time reverse transcription-polymerase chain reaction (RT-PCR) with a TaqMan fluorescence probe has been developed for detection of the NS1 gene of different BTV serotypes. In BHK-21 cells, in the assay detectedBTV1-22 specifically, and had no cross-reactivity with the closely related epizootic hemorrhagic disease virus (EHDV) serotypes 1 – 5. The limit of sensitivity of the assay was 0.1 TCID50/ml for BTV-1 and 102 copies for the control R121/pGEM. Accurate quantitation can be achieved with samples containing between 102 and 106 copies. The coefficient of variation (CV) of intra-assay and inter-assay ranged from 2.17% to 5.60%. The developed real-time RT-PCR assay showed good coincident rate (99.2%) with duplex RT-PCR in 122 whole blood clinical samples from sheep. Therefore, the real-time RT-PCR can be a reliable method for detection of various serotypes of BTV.
【语种】英文
【第一作者】尹惠琼
【通讯作者】章金刚
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【引文索引号】ISSN:0166-0934
【学科分类】畜牧、兽医科学基础学科

【题目】基于镜头检测的成熟期水稻图像处理算法研究
【中文关键词】水稻密度;镜头检测;喂入量;联合收割机
【英文关键词】density of rice; shot detection; feeding volume; combine harvester
【中文摘要】快速处理视频信息,实时获取水稻生长密度,是实现水稻联合收割机喂入量实时控制的关键。采用模板算法,引入基于镜头检测的视频挖掘技术,提取视频信息中的关键帧作为水稻密度突变检测依据。结果表明,镜头检测技术的平均每帧检测时间是0.05 s ,比传统静态图像算法提取作物的密度特征速度快16倍;模板算法可有效消除田间作物品种、生长态势、光照等自然因素的影响,算法具有通用性。
【英文摘要】In order to realize real-time controlling of feed quantity, fast access is th e key to get large quanti-ties of image video information and rice growth density in real time. This paper adopted template algorithm and video mining technology based on shot detection. We extracted the key frames from video information as the basis of rice in density detection. The results indicated that real-time detection of rice crop growth density by using shot detection was realizable and the average detection time is 0.05s. The running time of the template algorithm was 16 times faster than that of the traditional algorithms of image. The template algorithm reduce or eliminate effect of natural factors such as the crop strains, growth situa tion and illumination,so the algorithm could be universality.
【语种】中文
【第一作者】王 轲
【通讯作者】邵陆寿
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【学科分类】工程通用技术

【题目】水产品中镉快速检测试纸研究
【中文关键词】镉; 镉试剂; 水产品; 快速检测; 试纸

【英文关键词】aquatic food, cadmium, test
【中文摘要】镉是最易在人体和水生动物体内蓄积的有毒重金属元素,具有残留时间长,可沿食物链转移,以及不可逆性等特点。随着社会工业化的发展,大量的镉随废水排放及地表径流进入水生生态环境,造成水生生物圈的污染,影响水生动物的安全,进而危及人类的健康[1]。目前已有的镉检测方法包括[2]:紫外可见分光光度法、原子吸收分光光度法、电位溶出法、电感耦合等离子体发射光谱法等,它们大多需要昂贵的仪器,并且操作复杂,需要专业的技术人员进行检测,不适于现场检测。本文研究的镉快速检测试纸可以进行定性或半定量检测,快速简便,易于携带,非常适合水产品的现场检测。
【英文摘要】Cadmium test strip study of aquatic food
【语种】中文
【第一作者】薛文静
【通讯作者】杨钊
【期刊名称、卷期、页码】中国卫生检验杂志 2010,20(7):1801
【论文发表时间】2010-07-15 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】无机化学

【题目】核桃外果皮棕色素的提取纯化及其稳定性研究
【中文关键词】核桃外果皮;棕色素;稳定性
【英文关键词】walnut outer peel, brown pigment, stability
【中文摘要】提取、纯化核桃外果皮棕色素,并研究其稳定性。采用溶剂提取法提取得到棕色素粗品,利用盐酸沉淀法和乙醇沉淀法纯化棕色素粗品,并且研究了pH、氧化剂、还原剂、温度、金属离子、食品添加剂对纯化色素稳定性的影响。结果表明,核桃外果皮棕色素的最佳提取溶剂为水,不溶于非极性溶剂,通过盐酸沉淀法和乙醇沉淀法纯化后分别制得色素Ⅰ和色素Ⅱ,色素Ⅰ提取率为6.2%;色素Ⅱ提取率为5.3%。色素Ⅰ和色素Ⅱ性质相近,最大吸收波长均为570 nm和670 nm,两种色素在酸性条件下均有沉淀产生,碱性条件下颜色加深。双氧水使其褪色,而亚硫酸钠不影响其稳定性;色素Ⅰ耐高温,色素Ⅱ在80℃下较稳定;金属离子Na+、Ca2+、Cu2+、Zn2+、Mg2+对色素色泽无明显影响,而Fe3+、Al3+、Pb2+对其稳定性影响较大;食品添加剂柠檬酸、维生素C、山梨酸钾、氯化钠、苯甲酸钠对色素无不良影响,而蔗糖会影响两种色素的稳定性。首次提取纯化制得核桃外果皮棕色素,并确定其最大吸收波长,因原料易得,生产工艺简单,并可用于工业化生产,所以核桃外果皮棕色素是一种很有推广价值的天然色素。
【英文摘要】To extract, purify and study the stability of the brown pigment in walnut outer peel. The brown pigment could be extracted by solvent extraction, and its purified pigment could be obtained with the method ofethanol-precipitation and hydrochloric acid- precipitation, and the influence to stability of the purified pigment by pH, oxidizing agent, reducing agent, temperature, metal ion, and food additive was studied. The resultsshowed that the pigment dissolved easily in water, but undissolved in noapolar solvent. Pigment Ⅰ and pigment Ⅱ could be obtained with the method of ethanol-precipitation and acid precipitation, the extracting rate of them was 6.2% and 5.3 respectively. The biggest absorption wave length was 570 nm and 670 nm. There were sediment when pH<6.0, and under alkaline conditions they became darker in color. Hydrogen peroxide bleached it, and the sodium didn't affect its stability. Pigment Ⅰ was also at a high temperature stability, pigment Ⅱ in a more stable below 80℃. Metalions Na+, Ca2+, Cu2+, Zn2+, Mg2+had no significant impact on the pigment color, and Fe3+, Al3+, Pb2+had a greater impact on its stability. Citric acid, vitamin C, potassium sorbate, sodium chloride, sodium benzoate had no adverse impact on the pigment, and the sugar will affect the stability of the two pigment. The author extracted and purified the brown pigment in walnut outer peel first time, and definited its maximum absorption wavelength. Owing to easy to get the raw materials, production technology is simple, can be used for industrial production, so the brown pigment of walnut epicarp is a great generalization val ue in the natural pigment.
【语种】中文
【第一作者】韩海霞
【通讯作者】傅力
【期刊名称、卷期、页码】中国农学通报, 2009, (22): 83-87
【论文发表时间】2009-12-01 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】食品加工技术

【题目】Mutations of MC4R gene and its association with economic traits in Qinchuan cattle
【中文关键词】MC4R基因,多态性,肉质,屠宰性状,秦川牛
【英文关键词】MC4R gene; Polymorphism; Meat quality; Carcass traits; Qinchuan cattle
【中文摘要】MC4R基因属于一个七次跨膜G-蛋白偶联受体,可以调节人体的组成和胰岛素的作用。许多在MC4R基因的突变与肥胖,能量消耗,在人类和动物的血清甘油三酯水平。在我们的研究中确定了六在MC4R基因的突变(293C> G,-193A> T,-192T> G,-129A> G-84T> C和1069 C> G)。显着相关的活重(LW)(P <0.05),AG和GG基因型有较高的LW比AA基因型牛与-129A> G。 1069 C> G的显着与LW(CW),胴体重,背膘厚和大理石纹评分(MS)。牛的GG基因型有较高的LW,CW和MS比CC基因型GG和CG有较高的MS比CC基因型的黄牛。结果表明-129A> G和1069C> G SNP的MC4R基因可能是有用的作为秦川牛胴体和肉质性状的遗传标记。
【英文摘要】MC4R belongs to a seven-transmembrane G-protein-coupled receptor which may regulate body composition and insulin action. Many mutations in the MC4R gene are associated with obesity, energy expenditure and serum triglyceride levels in human and animals. Six mutations in the MC4R gene were identified in our study (-293C > G, -193A > T, -192T > G, -129A > G, -84T > C and 1,069C > G). The -129A > G was significantly associated with live weight (LW) (P < 0.05), Cattle with the genotypes AG and GG had higher LW than genotype AA. The 1,069C > G was significantly associated with LW, carcass weight (CW), backfat thickness and marbling score (MS). Cattle with the genotype GG had higher LW, CW and MS than genotype CC; Cattle with the genotypes GG and CG had higher MS than CC. The results suggested that -129A > G and 1,069C > G SNP of the MC4R gene may be useful as a genetic marker for carcass and meat quality traits in Qinchuan cattle.
【语种】英文
【第一作者】刘洪瑜
【通讯作者】昝林森
【期刊名称、卷期、页码】MOLECULAR BIOLOGY REPORTS 卷: 37 期: 1 页: 535-540
【论文发表时间】2009-08-28 00:00:00
【引文索引类型】SCI
【引文索引号】10.1007/s11033-009-9706-0
【学科分类】畜牧学

【题目】水稻联合收割机喂入密度检测方法
【中文关键词】联合收割机,图像处理,密度测定,2R+G颜色特征,水稻
【英文关键词】无
【中文摘要】为了实现水稻联合收割机作业时适宜喂入量的控制,从而降低作业时谷物的破碎率和损失率,首先要解决实时获取喂入密度的问题。该文通过水稻冠层密度图像光谱分析,以2R+G颜色特征参数值作为收割机喂入密度特征,并与实际测得的喂入密度值进行拟合建立模型。结果表明:不同时期,不同品种水稻拟合的曲线均达到显著水平,决定系数达到0.88以上,能够实现喂入密度的检测。该研究为联合收割机喂入量控制提供了参考依据。
【英文摘要】无
【语种】中文
【第一作者】潘静
【通讯作者】邵陆寿
【期刊名称、卷期、页码】农业工程学报2010,26(8):113-116
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【引文索引类型】其他
【引文索引号】null
【学科分类】工程通用技术

【题目】远程农业监测信息系统设计与实现
【中文关键词】农业信息监测;无线传感器网络;中心站信息系统;农业物联网
【英文关键词】无
【中文摘要】针对农业信息远程监测服务需求和物联网农业应用背景,设计开发了农业信息远程监测和服务系统 系统将无线数据采集 远程数据传输和网络服务相结合,实现了远程 多目标 多参数的农业信息实时采集 显示 存储 查询和统计等功能 系统通用性和扩展性较强,在数字农业 农作物防灾减灾等领域具有良好的应用前景。

【英文摘要】无
【语种】中文
【第一作者】江朝晖
【通讯作者】李绍稳
【期刊名称、卷期、页码】农业网络信息2010(11):40-43
【论文发表时间】2010-10-22 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】信息技术系统性应用

【题目】Surface IgM on DT40 cells may be a component of the putative receptor
【中文关键词】cDNA 文库; 细胞结合; 噬菌体展示
【英文关键词】cDNA library; cell binding; phage display
【中文摘要】构建病毒核酸cDNA文库,利用噬菌体展示技术呈现病毒基因,通过亲和筛选和细胞结合试验,鉴定病毒与细胞结合的特异性受体。
【英文摘要】To investigate the host　pathogen interactions between infectious bursal disease virus (IBDV) and target Blymphocytic cells, a cDNAT7 phage display library from the chicken bursa of Fabricius was constructed and screened for virus binding. Surface immunoglobulin M (sIgM) was isolated as a putativecandidate binding site and its interactions with IBDV were further investigated using a chicken bursal lymphoma-derived cell line DT40. The results showed that the l light chain of sIgM specifically interacted with IBDV in a virulenceindependent manner in vitro, and most of the binding of IBDV to DT40 cells was inhibited by sIgM-specificmonoclonal antibodies. Further, the infectivity of IBDV in vitro was reduced by sIgM-specific monoclonal antibodies. Our data provided evidence that sIgM may participate as one of the putative membrane binding
【语种】英文
【第一作者】罗俊
【通讯作者】张改平
【期刊名称、卷期、页码】Avian Pathology (October 2010) 39(5), 359-365
【论文发表时间】2010-10-25 00:00:00
【引文索引类型】SCI
【引文索引号】ISSN 0307-9457
【学科分类】畜牧、兽医科学基础学科

【题目】超高效液相色谱-串联质谱法测定动物源产品中11种喹诺酮类药物残留
【中文关键词】超高效液相色谱-串联质谱法; 动物源产品; 喹诺酮类; 药物残留
【英文关键词】ultra performance liquid chromatography-tandem mass spectrometry(UPLC-MS/MS); animal products; quinolone; residuces
【中文摘要】目的:建立动物源产品中11种喹诺酮类药物残留的超高效液相色谱-质谱联用检测方法。方法:用酸性乙腈超声提取,正己烷脱脂、高速离心后通过C18色谱柱分离,采用电喷雾电离,正离子扫描,多反应监测模式进行串联质谱测定。结果:11种喹诺酮药物的检出限达到0.01μg.kg-1,方法的线性范围为0.4~40μg.kg-1,回收率为80%~102%,RSD为1.6%~9.9%。结论:本方法快速、简便,灵敏度高,重复性好,适用于动物源产品中的11种喹诺酮药物的确证和定量分析。
【英文摘要】Objective:To develop a method based on ultra performance liquid chromatography tandem mass spectrometry(UPLC-MS/MS)for the dertermination of 11 quinolone residuces in animal produces.Methods:The 11 quinolones were extracted with acidified acetonitrile,concentrated with rotary evaporator and degreased with hexane.Then the reconstituted sample solution was analyzed using UPLC-MS/MS in positive and multiple reaction monitoring(MRM)mode.Results:The limits of detection were 0.01 μg · kg-1 for 11 quinolones.The linear ranges were from 0.4-40 μg · kg-1,the recoveries were from 80% to 102% with the RSD of 1.6%-9.9%.Conclusion:This method is rapid,simple,sensitive and repetitive for both confirmation and quantification of 11 quinolone residuces in animal products.
【语种】中文
【第一作者】陈涛
【通讯作者】杨钊

【期刊名称、卷期、页码】药物分析杂志 2010,30(6):1087-1089
【论文发表时间】2010-06-17 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】无机化学

【题目】1-MCP处理对香梨采后生理效应的影响
【中文关键词】香梨;1-MCP;生理效应
【英文关键词】fragrant pear; 1-Methycyclopropene; physiological function
【中文摘要】以新疆库尔勒香梨为试材,研究了果实采后1-甲基环丙烯(1-MCP)对叶绿素含量变化、呼吸强度、乙烯产生、果胶酶的影响。结果表明:1-MCP对叶绿素的降解有一定的抑制作用。降低果实的呼吸强度,推迟呼吸高峰的出现,250 nL/L和500 nL/L 1-MCP处理使呼吸跃变延后24 d。1-MCP处理推迟或抑制了果实乙烯高峰的产生。250 nL/L和1 000 nL/L的1-MCP处理明显抑制了果胶酶的活性。
【英文摘要】Fragrant pear(PyrussinkiangensisYu) was used to investigate the effects of 1-MCP(1-methylcyclopropene) postharvest treatment on chlorophyll, respiration, ethylene production and pecticase. The results indicated that the degradation of chlorophyll was controlled with 1-MCP treatment. The respiration rate was decreased. The climacteric peak of respiration was postponed for 24 d by 1-MCP at concentration of 250 nL/L and 500 nL/L.The ethylene production of fruit was inhibited with 1-MCP at three concentrations. The pecticase of fruit treated with 1-MCP at concentration of 250 nL/L and 500 nL/L was inhibited.
【语种】中文
【第一作者】李学文
【通讯作者】李学文
【期刊名称、卷期、页码】新疆农业大学学报, 2006, (02): 30-32
【论文发表时间】2006-03-02 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】食品包装与储藏

【题目】海产品中无机砷快速检测方法研究
【中文关键词】无机砷; 海产品; 快速检测
【英文关键词】inorganic arsenic; marine products; rapid determination
【中文摘要】目的以试纸为载体,建立海产品中无机砷的快速检测方法。方法以硼氢化钾作为还原剂,将无机砷还原,形成砷化氢气体,与溴化汞试纸生成黄色至橙色的色斑。结果砷含量在0.0~10.0μg范围内显色呈良好的线性关系,本方法检出限为0.05 mg·kg-1。结论本方法建立的无机砷快速检测方法简便,灵敏度高,适用于海产品现场无机砷的快速检测。
【英文摘要】Objective To establish a method for the rapid determination of inorganic arsenic in marine products.Methods The trace arsenic was reduced into arsine by KBH4.then the arsine react with mercuric bromide on test paper to form yellow to brown arsenic stain.Results The results presented the excellent range of As between 0.0 to 10.0μg.The detection limit was 0.05 mg·kg-1.Conclusion The method was rapid,simple,sensitivity and suitable to the primary determination in spot of inorganic arsenic in marine products
【语种】中文
【第一作者】陈安珍
【通讯作者】杨钊
【期刊名称、卷期、页码】中国海洋药物杂志 2010,29(6):1-2
【论文发表时间】2010-06-17 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】无机化学

【题目】试纸法快速检测鲜活海产品中铅的研究
【中文关键词】试纸; 快速检测; 鲜活海产品; 铅
【英文关键词】Test paper; Rapid-detection; Fresh and lively seafood; Lead

【中文摘要】目的:研究并建立一种鲜活海产品中铅的快速试纸检测方法。方法:鲜活海产样品经微波消解处理,在pH0.65及0.176 mol/L的碘化钾和0.0044 mol/L抗坏血酸存在的情况下,可利用孔雀石绿试纸直接进行铅检测。结果:孔雀石绿试纸对鲜活海产品铅检测的估计添加回收率为80%~120%,最低检出浓度为0.5μg/ml。实验结果表明,孔雀石绿试纸在制备后至少5月~6月内性质稳定,而且,显色反应的日间重复性良好。结论:本方法简易、快速、灵敏、可用于鲜活海产品中重金属铅的快速检测。

【英文摘要】Objective:To study and establish a new approach for rapid-detection of lead in fresh and lively seafood by test paper.Methods: Under the condition of a pH of 0.65 and the existence of 0.176 mol/L of potassium iodide and 0.0044 mol/L of ascorbic acid,lead in seafood samples could be directly detected by the test paper malachite green,after a microwave digestion process.Results: The estimated spiked recovery for lead detection in fresh and lively seafood by test paper malachite green was within 80%~120%,and the minimum detect concentration was 0.5 μg/ml.Test paper malachite green was proved to be stable in at lest 5~6 months after preparation,and excellent inter-day reproducibility results were obtained for coloration reaction.Conclusion: The method is simple,rapid,sensitive and suitable for rapid detection of lead in fresh and lively seafood

【语种】中文

【第一作者】祝波

【通讯作者】杨钊

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【引文索引号】null

【学科分类】无机化学

【题目】1-MCP处理MA贮藏对采后香梨贮藏品质的影响

【中文关键词】1-MCP;MA贮藏;香梨;贮藏品质

【英文关键词】1-MCP;MA storage; fragrant pear; storage quality

【中文摘要】以新疆库尔勒香梨(Pyrus sinkiangensis Yu)为试材,研究1-甲基环丙烯(1-MCP)处理后MA贮藏对采后果实呼吸速率、乙烯产生、可溶性固形物(SSC)含量、硬度、果皮色调角变化的影响。结果表明:1-MCP结合MA贮藏明显降低了香梨果实的呼吸速率,显著抑制果实乙烯的产生,推迟乙烯高峰的出现;处理果实保持了较高的SSC,抑制果实硬度的下降,减缓果皮色调角的下降。在货架期,1-MCP明显抑制果皮色调角的下降,保持果实品质。

【英文摘要】Fragrant pear (Pyrus sinkiangensisYu) was used to investigate the effects of1-MCP(1-methylcyclopropene) postharvest treatment and MA storage on respiration,ethylene production,soluble solide content, firmness, and hue-angle of pear fruit during storage. The results indicated that 1-MCP andMAstorage fruit decreased the respiration rate, inhibited ethylene production and delayed the peak of ethylene production. The 1-MCP-treated fruit had higher SSC and inhitited decrease of fruit firmness,1-MCP prevented the decline of fruit coat during storage or shelf condition, maintained fruit quality.

【语种】中文

【第一作者】李学文

【通讯作者】张辉

【期刊名称、卷期、页码】新疆农业科学, 2009, (03): 605-609

【论文发表时间】2008-11-28 00:00:00

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【引文索引号】null

【学科分类】食品包装与储藏

【题目】HPLC-APCI(+)MS/MS内标法测定水产品中的三种硝基咪唑类药物残留量

【中文关键词】高效液相色谱-串联质谱; 大气压化学源(APCI); 内标法; 甲硝唑; 二甲硝唑; 洛硝哒唑; 残留; 水产品

【英文关键词】High performance liquid chromatography-tandem mass spectrometry Atmospheric pressure chemical ionisation(APCI) Internal standard methodMetronidazole Dimetridazole Ronidazole ResiduesAquatic products

【中文摘要】建立了水产品中3种硝基咪唑类残留量的HPLC-APCI(+)MS/MS测定方法。以氘代二甲硝唑(DMZ-D3)作为内标,以乙酸乙酯提取水产品中残留的硝基咪唑类药物,采用HPLC-MS/MS多反应监测(MRM)正离子模式测定,可一次对水产品中的MTZ、DMZ和RNZ进行定性和定量。该法简便快捷,适合大批量样品处理。方法简化了样品前处理过程,省去固相萃取步骤,具有操作简便和有机试剂消耗量少等优点。DMZ、MTZ和RNZ的检出低限均为0.5μg/kg,DMZ、MTZ和

RNZ的定量下限均为1.0μg/kg。

【英文摘要】The method for the determination of three nitroimidazole residues in aquatic products was developed by high performance liquid chromatography-tandem mass spectrometry(HPLC-MS/MS). Deuterated dimetridazole (DMZ-D3) was added to the sample as internal standard before extraction. The sample was extracted with ethyl acetate. The mass spectrometer was operated in the positive ion mode using multiple reaction monitoring for qualitative and quantitative analysis of MTZ,DMZ and RNZ at the same time. The preliminary treatment included predigestion,and no solid phase extraction(SPE) procedure was adopted. The advantage of the method was simple operation,less organic chemicals consumed,and shorter operation time. The limits of detection for DMZ,MTZ and RNZ were 0.5 μg/kg. The limits of quantitation for DMZ、 MTZ and RNZ were 1.0 μg/kg

【语种】中文

【第一作者】冷凯良

【通讯作者】冷凯良

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【引文索引类型】其他

【引文索引号】null

【学科分类】分析化学

【题目】高效液相色谱-串联质谱法测定水产品中的4种四环素类药物残留量

【中文关键词】高效液相色谱-串联质谱; 土霉素; 四环素; 金霉素; 强力霉素; 残留;

【英文关键词】high performance liquid chromatography-tandem mass spectrometry; tetracycline; oxytetracycline; chlortetracyline; doxycline; residues

【中文摘要】建立了水产品中四环素(Tetracycline)、土霉素(Oxytetracycline)、金霉素(Chlortetracyline)和强力霉素(Doxycycline)4种四环素类抗生素残留量的高效液相色谱-串联质谱(HPLC-MS/MS)测定方法。以MTC缓冲液提取水产品中的四环素类残留物,经HLB固相萃取柱净化,采用LC-MS/MS选择反应监测(SRM)正离子模式测定,可一次对水产品中的四环素、土霉素、金霉素和强力霉素进行定性和定量。4种物质定量下限均可达到2.0μg/kg。适用于水产品中四环素类抗生素多残留的同时确证检测。

【英文摘要】A method for determination of residues of TCs in the aquatic products by high performance liquid chromatography-tandem mass spectrometry(HPLC-MS/MS)was developed. TCs residues were extracted from the aquatic products using the McIlvaine buffer solution (pH 4.0),and then was cleaned up on the Oasis HLB solid phase column.The mass spectrometer was operated in the positive ion mode using multiple reaction monitoring for qualitative and quantitative analyses of CTC,OTC,DOC and TC at the same time. The limits of quantitation (LOQ) were 2.0 μg/kg for TCs. This method was specific,sensitive,and suitable for determination of the residual TCs in the aquatic products

【语种】中文

【第一作者】刘艳萍

【通讯作者】王清印

【期刊名称、卷期、页码】海洋科学 2009,33(4): 34-39

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【引文索引号】null

【学科分类】分析化学

【题目】高效液相色谱-电喷雾串联质谱法测定鳗鱼中三聚氰胺的残留

【中文关键词】鳗鱼(Anguilla japonica); 三聚氰胺; 液相色谱串联质谱仪; 残留; 测定

【英文关键词】eel; melamine; high performance liquid chromatography-electrospray ionization tandem mass spectrometry; residue; determination;

【中文摘要】建立了利用高效液相色谱-电喷雾串联质谱(LC-MS/MS)法测定鳗鱼(Anguilla japonica)中三聚氰胺残留的方法。采用乙腈和三氯乙酸溶液沉淀蛋白,MCX固相萃取柱净化,提取目标分析物,经SCX-C18均匀混合填装的反相色谱柱分离,选择反应监测(SRM)正离子模式测定。三聚氰胺的定量限为20μg/kg,在20~500μg/kg时,峰强度与质量浓度的线性关系良好(r>0.99)。方法的平均回收率为84.82%~91.42%。

【英文摘要】The method for the determination of melamine residue in eel using high performance liquid chromatography-electrospray ionization tandem mass spectrometry(LC-MS/MS) was developed.Acetonitril and 1% trichloracetic acid solution were used to precipitate proteins and to dissociate the target analyte from the sample matrix.Then it was degrased and depurated with Oasis MCX solid phase extraction cartridge.A SCX-C18 mixture filled RP-HPLC column was used for separation,and the mass spectrometer was operated in the positive ion mode using select reaction monitoring.The limit of detection was 20 μg/kg for LC-MS/MS.The correlation coefficient of linear calibration curve was over 0.99 within the melamine concentration range 20~500 μg/kg.The average recovery for melamine ranged between 84.82% and 91.42%

【语种】中文

【第一作者】邢丽红

【通讯作者】冷凯良

【期刊名称、卷期、页码】海洋科学　2009,33(8): 1-4

【论文发表时间】2009-08-12 00:00:00

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【引文索引号】null

【学科分类】分析化学

【题目】An in silico strategy identified the target gene candidates regulated by dehydration responsive element binding proteins (DREBs) in Arabidopsis genome.

【中文关键词】无

【英文关键词】Target genes prediction / Transcription factor binding site /DREBs /SVM /Arabidopsis

【中文摘要】无

【英文摘要】Identification of downstream target genes of stress-relating transcription factors (TFs) is desirable in understanding cellular responses to various environmental stimuli. However, this has long been a difficult work for both experimental and computational practices. In thisresearch, we presented a novel computational strategy which combined the analysis of the transcription factor binding site (TFBS) contexts and machine learning approach. Using this strategy, we conducted a genomewide investigation into novel direct target genes of dehydration responsive element binding proteins (DREBs), the members of AP2-EREBPs transcription factor super family which is reported to be responsive to various abioticstresses in Arabidopsis. The genome-wide searching yielded in total 474 target gene candidates. With reference to the microarray data for abiotic stresses-inducible geneexpression profile, 268 target gene candidates out of the total 474 genes predicted, were induced during the 24-h exposure to abiotic stresses. This takes about 57% of totalpredicted targets. Furthermore, GO annotations revealed that these target genes are likely involved in protein amino acid phosphorylation, protein binding and Endomembrane sorting system. The results suggested that the predicted target gene candidates were adequate to meet the essential biological principle of stress-resistance in plants.

【语种】英文

【第一作者】汪世臣

【通讯作者】郝东云

【期刊名称、卷期、页码】PLANT MOLECULAR BIOLOGY\69\167-168

【论文发表时间】2009-01-14 00:00:00

【引文索引类型】SCI

【引文索引号】376KE

【学科分类】分子生物学

【题目】LC-MS/MS内标法测定水产品中三聚氰胺残留量

【中文关键词】液相色谱串联质谱; 内标法; 水产品; 三聚氰胺;

【英文关键词】High performance liquid chromatography-electrospray ionization tandem mass spectrometry; Internal standard method; Aquatic products; Melamine

【中文摘要】建立了高效液相色谱-电喷雾串联质谱(LC-MS/MS)测定水产品中残留的三聚氰胺的方法。以13C,15N标记三聚氰胺为内标,样品经三氯乙酸溶液沉淀蛋白,提取目标分析物,经SCX-C18均匀混合填装的反相色谱柱分离,选择反应监测(SRM)正离子模式测定。LC-MS/MS的检测低限为10 μg/kg;在10.0~500 ng/mL时峰强度与质量浓度的线性关系良好(r>0.99)。方法的平均回收率为78%~118%。

【英文摘要】A method for the determination of melamine residue in aquatic products was developed using high performance liquid chromatography-electrospray ionization tandem mass spectrometry(LC-MS/MS).13C,15N-melamine used as an internal standard was added to the sample before extraction.Trichloroacetic acid solution was used to precipitate proteins and dissociate the target analyte from the sample matrix.A SCX-C18 mixture filled RP-HPLC column was used for separation,and the mass spectrometer was operated in the positive ion mode using selective reaction monitoring.The limit of detection was 10 μg/kg for LC-MS/MS.The correlation coefficient of linear calibration curve was over 0.99 within the melamine concentration range of 10.0~500 ng/mL.The average recoveries for melamine were between 78% and 118%.
【语种】中文
【第一作者】孙伟红
【通讯作者】冷凯良
【期刊名称、卷期、页码】分析实验室　2009,28(10): 59-62
【论文发表时间】2009-10-15 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】分析化学

【题目】Polymorphism identification in the goat MSTN gene and association analysis with growth traits
【中文关键词】英文文章,详见英文关键词
【英文关键词】MSTN gene; polymorphisms; growth traits; linkage disequilibrium
【中文摘要】英文文章,详见英文摘要
【英文摘要】The myostatin (MSTN) gene was studied as a candidate genetic marker for growth traits. We investigated polymorphisms of the MSTN gene in 664 individuals from four goat populations and applied PCR-SSCP and DNA sequencing analysis to reveal two single nucleotide polymorphisms (DQ167575: g.368A>C (p.Lys49Thr) and g.4911C>T. At g.368A>C locus, the frequencies of g.368A allele were 0.75 – 0.81, and the frequencies of g.368C allele were 0.19 – 0.25. At g.4911C>T locus, the frequencies of g.4911C allele were 0.76 – 0.82, and frequencies of g.4911T allele were 0.18 – 0.24. Compared to the female goats with AC genotype, those with AA genotype had superior body weight in Boer goats (15.69 ± 0.28 vs. 14.51 ± 0.31, P < 0.05) and F1 generation of Boer × Guanzhong dairy goats (19.39 ± 0.34 vs. 18.27 ± 0.33, P < 0.05). In addition, the female goats with AA genotype (45.80 ± 0.33 cm) had greater withers height than those with AC genotype (44.78 ± 0.36 cm) in F2 generation of Boer × Guanzhong dairy goats (P < 0.05). Hence, the biochemical and physiological functions along with the results obtained in our investigation suggest that the MSTN gene might play an important role in affecting the growth traits in goats.
【语种】英文
【第一作者】安小鹏
【通讯作者】曹斌云
【期刊名称、卷期、页码】Czech J. Anim. Sci., 56, 2011 (12): 529 – 535
【论文发表时间】2010-11-05 00:00:00
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【引文索引号】2.992698e+011
【学科分类】畜牧学

【题目】Polymorphism identification in the goat THRSP gene and association analysis with growth traits
【中文关键词】英文文章,详见英文关键词
【英文关键词】variant, Boer goat, THRSP, growth traits
【中文摘要】英文文章,详见英文摘要
【英文摘要】In this study, we reported the analysis of THRSP gene polymorphisms in 610 goats of three breeds: Xinong Saanen (SN), Guanzhong (GZ) and Boer (BG). We identified new allelic variant: P2-G39294A (GenBank acc. no. JN618075) in the three goat breeds. At P2 locus, GG, GA and AA genotypes were found in the three goat breeds. The frequencies of G allele were 0.54-0.55 and frequencies of A allele were 0.46-0.45, and the PIC was 0.37. The SNP locus was in Hardy Weinberg disequilibrium in Boer goat breed (P<0.05). Association of polymorphisms with growth traits was done at P2 locus in Boer goat breed. The result showed that AA genotype had remarkable growth traits at P2 locus (P<0.05). Therefore, these results suggest that THRSP gene is a strong candidate gene that affects growth traits in goat.

【语种】英文
【第一作者】安小鹏
【通讯作者】曹斌云
【期刊名称、卷期、页码】Arch Tierz 55 (2012) 1, 78-83
【论文发表时间】2011-12-11 00:00:00
【引文索引类型】SCI
【引文索引号】3.0182370001e+011
【学科分类】畜牧学

【题目】Screening of seven microsatellite markers for litter size in Xinong Saanen dairy goat
【中文关键词】英文文章,详见英文关键词
【英文关键词】Microsatellite markers, Xinong Saanen dairy goat, genetic polymorphism, litter size.
【中文摘要】英文文章,详见英文摘要
【英文摘要】Seven microsatellite markers OarAE101, BM1329, OarHH55, BM143, BMS2508, OarAE129 and OarFCB11 closely associated with high reproduction trait in sheep were analyzed for polymorphisms in Xinong Saanen dairy goat. The results indicated that there were high genetic polymorphisms at six microsatellite loci. The number of effective alleles (Ne), polymorphism information content (PIC) and average heterozygosity (He) were the highest at OarFCB11 and the lowest at OarAE129 in Xinong Saanen dairy goat. The analysis of the effect of the six polymorphisms microsatellite loci on the litter size of Xinong Saanen dairy goat indicated that these polymorphisms microsatellite loci had positive effect on the litter size.
【语种】英文
【第一作者】朱广勤
【通讯作者】曹斌云
【期刊名称、卷期、页码】African Journal of Biotechnology Vol. 10(42), pp. 8523-8528,
【论文发表时间】2011-06-10 00:00:00
【引文索引类型】SCI
【引文索引号】2.9476790005e+011
【学科分类】畜牧学

【题目】水产品中氯霉素、甲砜霉素和氟甲砜霉素残留量高效液相色谱-串联质谱内标测定方法的研究
【中文关键词】高效液相色谱-串联质谱; 内标法; 氯霉素; 甲砜霉素; 氟甲砜霉素; 残留;
【英文关键词】High performance liquid chromatography-tandem mass spectrometry Internal standard method Chloramphenicol Thiamphenicol Florfenicol Residues;
【中文摘要】建立了水产品中3种氯霉素类抗生素残留的高效液相色谱-串联质谱(HPLC-MS/MS)测定法。以氘代氯霉素(d5-CAP)为内标,样品在碱性条件下用乙酸乙酯提取,提取液氮气吹干,正己烷液液分配脱脂后,采用配有ESI源的LC-MS/MS选择反应监测(SRM)负离子模式测定,可同时对水产品中的氯霉素、甲砜霉素和氟甲砜霉素进行定性和定量测定。方法简化了样品前处理过程,省去固相萃取步骤,具有操作简便、有机试剂消耗量少、测定周期短和定量更准确等优点。方法的检出限:氯霉素为0.01μg/kg,甲砜霉素和氟甲砜霉素为0.03μg/kg。
【英文摘要】The method for the determination of three chloramphenicols including chloramphenicol(CAP),thiamphenicol(TAP)and florfenicol(FF)in aquatic products was developed by high performance liquid chromatography-tandem mass spectrometry(HPLC-MS/MS).Deuterium(d5-CAP)was used as internal standard instead of CAP,and was added to the sample before extraction with ethyl acetate.The sample was extracted with ethyl acetate to transfer CAP,TAP and FF into the organic phase.The extract liquid which consequently dried by blowing with nitrogen was dissolved with water and defatted with hexane.The mass spectrometer was operated in the negative ion mode using select reaction monitoring for qualitative and quantitative analysis of these compounds at the same time.The preliminary treatment was predigested,and no solid phase extraction(SPE)procedure was adopted.The advantages of the method are simple operation,less organic chemicals consumed,and shorter operation time.The limit of detection(LOD)for CAP was 0.01 μg/kg and 0.03 μg/kg for TAP and FF. 更多
【语种】中文
【第一作者】王志杰
【通讯作者】冷凯良

【期刊名称、卷期、页码】渔业科学进展 2009,30(2):115-119
【论文发表时间】2009-02-18 00:00:00
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【引文索引号】null
【学科分类】分析化学

【题目】高效液相色谱串联质谱法同时测定鳗鱼和虾中33种喹诺酮和磺胺类药物残留量
【中文关键词】高效液相色谱-串联质谱; 氘代试剂; 内标法; 喹诺酮类药物; 磺胺类药物; 多残留; 鳗鱼; 虾
【英文关键词】high performance liquid chromatography-tandem mass spectrometry(HPLC-MS/MS); deuterium substituted reagents; internal standard method; quinolones; sulfonamides; multi-residues; eels; shrimps
【中文摘要】建立了鳗鱼和虾中33种喹诺酮类(QNs)和磺胺类(SAs)药物残留量的高效液相色谱-串联质谱(HPLC-MS/MS)测定方法。以氘代试剂为内标,样品经酸性乙腈萃取后,用正己烷脱脂,旋转蒸发浓缩,采用LC-MS/MS选择反应监测(SRM)正离子模式测定,同时对鳗鱼和虾中的33种QNs和SAs进行定性和定量。33种QNs和SAs的检出限(S/N=3)为1.0μg/kg,定量限(S/N=10)为2.0μg/kg;在10.0~200.0μg/L时目标物的峰强度与质量浓度的线性关系良好(r>0.99);平均回收率为66%~123%。该法简便快捷,降低了分析成本,也在一定程度上实现了药物残留的快速检测。
【英文摘要】The method for the simultaneous determination of 33 quinolone(QN) and sulfonamide(SA) residues in eels and shrimps was developed by high performance liquid chromatography-tandem mass spectrometry(HPLC-MS/MS).The deuterium substituted reagents which were used as internal standards were added to the sample before the extraction.The sample was extracted with acidified acetonitrile,cleaned-up by hexane,and concentrated with a rotary evaporator.The mass spectrometer was operated in the positive ion mode using selected reaction monitoring for the qualitative and quantitative analysis of 33 SAs and QNs at the same time.The limits of detection for 33 SAs and QNs were 1.0 μg/kg(S/N=3),and the limits of quantification were 2.0 μg/kg(S/N=10).The correlation coefficients of linear calibration curves were over 0.99 in the concentration range of 10.0-200.0 μg/L.The average recoveries for 33 SAs and QNs were between 66% and 123%.The advantages of the method are simple operation and low cost.The method realized fast routine analysis.
【语种】中文
【第一作者】王志杰
【通讯作者】冷凯良
【期刊名称、卷期、页码】色谱 2009,27(2):138-143
【论文发表时间】2009-02-18 00:00:00
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【引文索引号】null
【学科分类】分析化学

【题目】不同成熟度香梨果实采后生理和品质的变化
【中文关键词】香梨;采后生理;品质
【英文关键词】fragrant pear;postharvest physiology;qualit
【中文摘要】以库尔勒香梨果实为试材,分三个不同的采收期,在室温(20~25°C)下贮藏,研究其生理和品质的变化。结果表明,三种不同采收期的香梨在贮藏过程中都出现呼吸高峰,呈现跃变型果实的特征,晚采收(9月17日)香梨果实的呼吸峰较低。随着采收期的延迟,果实硬度下降较大,果实硬度在采后贮藏过程中变化较小。果实叶绿素含量随采收期的推迟而下降,在室温下贮藏叶绿素分解很快。三个采收期的香梨果实可溶性固形物含量相近,在贮藏过程中呈下降趋势。
【英文摘要】The present studywas performed to investigate the postharvest changes in respiration rate, firmness, chlorophyll content, and soluble solids content of fragrant pear fruit with three different maturities at harvest.The research indicated that the fragrant pear harvested at three different date showed the climacteric peak of respiration during the storage process.Fruit firmness declined rapidly due to postponing harvest date. The declines of firmness were slow after harvest. Chlorophyll content of fragrant fruit reduced along with later pick date, and broke down swiftly during storage period at room temperature.There was little difference between soluble solids contents of fruit from three different harvest date.They decreased during storage.
【语种】中文
【第一作者】李学文
【通讯作者】李学文

【期刊名称、卷期、页码】新疆农业科学, 2007, (03): 264-267
【论文发表时间】2006-11-30 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】食品包装与储藏

【题目】1-MCP对库尔勒香梨采后活性氧相关代谢的影响
【中文关键词】香梨;1-甲基环丙烯;活性氧相关酶;丙二醛;超氧阴离子
【英文关键词】Fragrant pear;1-methylcyclopropene;active oxygen related enzymes; MDA;O2・-
【中文摘要】研究1-甲基环丙烯(1-Methylcyclopropene,1-MCP)处理延缓库尔勒香梨采后衰老的机理,为香梨保鲜提供理论依据。【方法】以库尔勒香梨(Pyrus sinkiangensisYu)为试材,研究1-甲基环丙烯处理对香梨果实贮藏期间活性氧代谢相关酶活性、超氧阴离子(O2.-)、丙二醛(MDA)、果皮色调角(h°)的影响。【结果】贮藏前期,1-MCP处理抑制了香梨果实超氧化物歧化酶(SOD)、过氧化物酶(POD)的活性,后期提高了POD的活性。整个贮藏期过氧化氢酶(CAT)活性低于对照;1-MCP处理果实丙二醛(MDA)含量低于对照果实;1-MCP处理在贮藏前期抑制超氧阴离子的产生,保持了较高的果实色调角。【结论】1-甲基环丙烯处理能够有效降低香梨活性氧产生速率,延缓果实衰老。
【英文摘要】【Objective】The mechanism of 1-methylcyclopropent treatment for delaying postharvest senescence of fragrant pear fruitwas studied in orderto supplythe basis for fresh storage of pear fruit.【Method】Kuerle fragrant pears(Pyrus sinkiangensisYu) were used to investigate the effect of 1-methylcyclopropene treatment on enzymes activity of active oxygen related metabolismof postharvest fragrant pear fruit. Fruitwere treatedwith 1μl/L1-MCP and stored in cold room. The enzymes related to active oxygen metabolism superoxide dismutase(SOD), peroxidase(POD),and catalase(CAT), superoxide radical(O2・-),malonaldehyde(MDA) and hue-angle in pulp were determined.【Result】Results showed that 1-MCP inhibited the raising of SOD and POD activity at prophase of storage, increased enzyme activity of POD at the end of the storage. 1-MCP treated fruit had lowerMDA content than that of the control. 1-MCP inhibited significantly the production rate of O2・-and maintained a higher hueangle of fruit pericarp atthe prophase of storage.【Conclusion】1-MCPtreatmentwas able to decline the productionrate of active oxygen and delayed the senescence of fruit during storage.
【语种】中文
【第一作者】李学文
【通讯作者】李学文
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【学科分类】食品包装与储藏

【题目】库尔勒香梨采后特征品质的研究
【中文关键词】库尔勒香梨;采后贮藏;特征品质
【英文关键词】fragrant pear; postharvest storage; characteristic quality
【中文摘要】库尔勒香梨贮藏在0、5、10、15、20℃,在相对湿度:90%~95%的环境中,测定香梨在贮藏过程中果实硬度、可溶性固形物含量及果皮色泽的变化,采用数值的极差及变异系数,研究采后库尔勒香梨的特征品质。结果表明:香梨采后贮藏于不同温度下,其硬度随着果实的成熟均呈现下降趋势,低温贮藏对硬度的下降有明显的抑制作用;可溶性固形物在不同贮藏温度下降不明显,特别是低温贮藏;果品色泽在各贮藏温度下,随着贮藏时间的延长,成熟度增加,有显著的变化。比较香梨果实硬度、可溶性固形物、色差在整个贮藏期间的变化差异,色差的数值变化最为明显,对香梨采后品质及衰老具有明显的指示作用,可作为评价香梨果实采后品质变化的特征指标及采后衰老的重要指标。
【英文摘要】Fragrant pear (Pyrus sinkiangensis Yu) was stored at refrigerator room with 0、5、10、15、20℃, relative humidity 90%-95% to determine the changes in firmness, soluble solid content(SSC) and hue of fragrant pear fruit during storage. The characteristic quality of postharvest fruit was studied from the range and coefficient of variation of firmness, SSC and hue. The results indicated that fruit firmness decreased at ageing of postharvest fruit during storage period. Lower temperature (0℃) inhibited significantly the decline of firmness of fruit. Fruit SSC had a little decrease during storage especial at low storage temperature. Hue of pericarp had a bigger change with ripening of fruit. The hue was regarded as characteristic quality of postharvest pear fruit because the hue ranges were visible compared with that of firmness and SSC during storage.

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【题目】A novel polymorphism of GDF5 gene and its association with body measurement traits in Bos taurus and Bos indicus breeds
【中文关键词】牛,GDF5基因,多态性,PCR-RFLP,体尺性状
【英文关键词】Cattle; GDF5 gene; SNP polymorphism; PCR-RFLP; Body measurement
【中文摘要】由基因和环境因素影响的体尺性状在生产率和经济性的价值评估中发挥了许多重要作用。参与骨和软骨生长和发育的增长分化因子5(GDF5),是利用分子标记辅助选择(MAS)体尺性状的一个重要的候选基因。在这项研究中,PCR-RFLP技术的基础上,我们发现和评估GDF5基因的单核苷酸多态性(SNP)与985牛,42头瘤牛和76头瘤牛杂交牛(BMY牛)体尺性状潜在的关联T586C外显子1)。普通牛与BMY牛的SNP标记与体长(BL)有显著差异(P <0.05)。普通牛群体,TT基因型的个体比TC和CC基因型个体有较低的与坐骨端宽(HW)平均价值(P <0.01)。以BMY群体中,TC基因型的个体比CC基因型有较低的体长(BL)平均值(P <0.05)。这些结果表明,GDF5基因的单核苷酸多态性可能是一个在牛的繁殖与育种中非常有用的体尺性状遗传标记。
【英文摘要】Body measurement traits, influenced by genes and environmental factors, play numerous important roles in the value assessment of productivity and economy. Growth differentiate factor 5 (GDF5), involved in the development and maintenance of bone and cartilage, is an important candidate gene for body measurement traits selection through marker-assisted selection (MAS). In this study, based on the PCR-RFLP technology, we discovered and evaluated the potential association of the single nucleotide polymorphism (SNP) (T586C in exon 1) of the bovine GDF5 gene with body measurement traits in 985 Bos taurus breed, 42 Bos indicus breed and 76 Bos indicus x Bos taurus individuals. As the SNP marker, there were the significant effects on the Body length (BL) in the Bos taurus (BT) and Bos indicus x Bos taurus (BMY) populations (P < 0.05). In BT population, animals with the genotype TT had lower mean values for BL and Hip width (HW) than these with the TC and CC genotype (P < 0.01). In BMY population, animals with the genotype TC had lower mean values for BL than these with the genotype CC (P < 0.05). These results suggest that the SNP of the GDF5 gene could be a very useful genetic marker for body measurement traits in the bovine reproduction and breeding.
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【题目】Four divergent Arabidopsis ERF domains bind to a target DNA motif with a universal CG step core recognition and different flanking bases preference.
【中文关键词】无
【英文关键词】CG step; DRE motif; ERF domain; homology; universal binding characteristic
【中文摘要】无
【英文摘要】The Arabidopsis ethylene-responsive element-binding factor (AtERF) family of transcription factors has 120 members, all of which possess a highly conserved ERF domain. AtERF1, AtERF4, AtEBP and CBF1 are members from different phylogenetic subgroups within the family.Electrophoretic mobility shift assay analyses revealed that the ERF domains of these four proteins were capable of binding specifically to either GCC or dehydration-responsive element (DRE) motifs. In vitro and in vivo binding assays of the four AtERFs with the DRE motif showed that the recognition of the CG step was indispensable in all four of the specific binding reactions, implying that there may be a universal binding characteristic of various ERF domains binding to a given consensus (e.g. the DRE motif). In addition, the core DNA-binding motifs preferred by the four AtERFs were identified, and all of

these motifscontained a conserved CG step core. Thus, conserved recognition of the CG step may be the foundation of the formation of the stable complex by the ERF domain with the DRE motif, which is probably determined by the highly conserved residues presented in the DNA contact surfaceamong the whole AtERF family members. The different preferences at flanking bases of individual ERF domains, which appear to be attributed to the subfamily- or subgroup-specific residues, may be essential discrimination of the target binding motif from various similar sequences by divergent AtERF domains.
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【题目】Genetic variation of calsarcin-1 gene and association with carcass traits in 3 Chinese indigenous cattle
【中文关键词】Calsarcin-1基因,屠宰性状,牛,snp
【英文关键词】Calsarcin-1 gene; carcass traits; cattle; SNP
【中文摘要】本研究旨在研究Calsarcin-1基因的多态性,并评估其对3个中国黄牛品种,(鲁西(LX),南阳(NY)和郏县红牛(JXR)品种429个样本的屠体性状的影响,,与320 bp的片段跨越Calsarcin-1基因的内含子2的一部分的,完整的外显子3和4的内含子的一部分的PCR产物进行扩增和测序。利用PCR-SSCP方法检测到calsarcin-1基因的外显子3区的突变(NW_001495138:g.16718C> A)。结果表明,A / C在LX,NY和IXR品种的等位基因频率分别为0.1116/0.8884,0.1591/0.8409和0.0947/0.9053,。最小二乘分析,揭示了AC和AA基因型相比CC基因型个体在背膘厚和嫩度有显著差异(P<0.05)。
【英文摘要】This study aimed to investigate polymorphisms of Calsarcin-1 gene and evaluate its effect on carcass traits in 429 samples of 3 Chinese indigenous cattle breeds, namely, Luxi (LX), Nanyang (NY) and Jiaxianred (JXR) breeds, PCR products with a 320 bp fragment of the Calsarcin-1 gene spanning over a part of intron 2, complete exon 3 and a part of intron 4 were amplified and sequenced. A synonymous alteration (NW_001495138: g. 16718C>A) in the exon 3 region of the calsarcin-1 gene was detected and PCR-SSCP method was then developed to genotype all of the individuals. The results showed that the allele frequencies of A/C in LX, NY and IXR breeds were 0.1116/0.8884, 0.1591/0.8409 and 0.0947/0.9053, respectively. Least squares analysis revealed a significant effect (P<0.05) of genotypes on backfat thickness and tenderness of the animals, with the AC and AA genotype being favourable compared to the CC genotype.
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【题目】超高产春玉米氮磷钾的吸收与分配
【中文关键词】超高产;春玉米;氮;磷;钾
【英文关键词】super-high yield;spring maize;nitrogen;phosphorus;potassium
【中文摘要】采用田间试验的方法,在供试玉米亩(667m2)产1029公斤的超高产水平下,对春玉米氮、磷、钾吸收、分配与转移规律进行了系统研究。结果表明:在灌浆期前,超高产春玉米对氮、磷、钾养分吸收规律变化较为相似,即阶段吸收量和日均吸收量随生育时期的推进逐渐增大;而灌浆期后,植株对氮、磷、钾养分吸收趋势出现显著差异,即氮、磷吸收持续增高,钾吸收迅速下降。养分在各器官体内的分配特点体现在氮、磷分配随生长中心的转移而发生变化,而钾向生长中心的转移变化不明显。
【英文摘要】This experiment systematically studied the regularity of absorption distribution and translocation of N、P、K in spring maize under 1029kg yield per mu level. The results showed that the rules of super-high yield spring maize absorbing kinds of nutrient were similar. Before the grain filling period, the absorption quantity of stage and the absorption quantity of day gradually increased with

the progress of the growth stage .After the grain filling period, there were some difference in the trend of absorbing nutrient. The absorption quantity of super-high yield spring maize absorbing N and P gradually increased, while the absorption quantity of K gradually decreased. The characteristics of different kinds of organs absorbing every nutrient showed that with the center of growth changing the absorption quantity of organs absorbing N and P were changed. but the change of the absorption quantity of K was not significant different .

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【题目】Association of MC4R gene variants with carcass and meat quality traits in Qinchuan cattle
【中文关键词】MC4R 基因,多态性,肉质,屠宰性状,秦川牛
【英文关键词】MC4R gene; polymorphism; meat quality; carcass traits; qinchuan cattle
【中文摘要】MC4R属于一个七次跨膜G-蛋白偶联受体,可以调节人体的组成和胰岛素的作用。许多在MC4R基因的突变与肥胖,能量消耗,在人类和动物的血清甘油三酯水平。在我们的研究中确定了六在MC4R基因的突变(-293 C> G,-193 A> T,-192 T> G,-129A> G-84T> C和1069C> G)。 -129A> G,明显与活重(LW)(P <0.05);牛与AG和GG基因型有较高的LW比AA基因型。 1069 C> G显着相关的活重(LW),胴体重(CW),背膘厚(BFT),大理石纹评分(MS)。有较高的LW,CW和MS比CC基因型GG和CG有较高的MS比CC基因型牛与牛的基因型GG。结果表明,-129 A> G和1069 C> G SNP的MC4R基因可能是有用的作为秦川牛胴体和肉质性状的遗传标记。
【英文摘要】MC4R belongs to a seven-transmembrane G-protein-coupled receptor which may regulate body composition and insulin action. Many mutations in the MC4R gene are associated with obesity, energy expenditure and serum triglyceride levels in human and animals. Six mutations in the MC4R gene were identified in our study (-293 C>G, -193 A>T, -192 T>G, -129A>G, -84T>C and 1069C>G). The -129A> G was significantly associated with live weight (LW) (P<0.05); cattle with the genotypes AG and GG had higher LW than genotype AA. The 1069 C>G was significantly associated with live weight (LW), carcass weight (CW), back fat thickness (BFT) and marbling score (MS). Cattle with the genotype GG had higher LW, CW and MS than genotype CC; cattle with the genotypes GG and CG had higher MS than CC. The results suggested that -129 A>G and 1069 C>G SNP of the MC4R gene may be useful as a genetic marker for carcass and meat quality traits in Qinchuan cattle.
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【题目】高产春玉米产量及其构成与氮磷钾施用量关系研究
【中文关键词】高产春玉米;产量;产量构成;氮磷钾施用量
【英文关键词】high yield spring maize;yield;yield component;NPK application
【中文摘要】在吉林省中部通过田间试验的方法,探讨了氮磷钾施用量对高产春玉米产量及其构成的影响,结果表明:在本试验条件下,施N 26.7~33.3kg/667m2、P2O5 13.3~20kg/667m2、K2O 13.3~20kg/667m2,产量均达到了900kg/667m2以上的高产水平,亩穗数、穗粒数和千粒重分别达4602穗、540粒和410g以上。其中施N 26.7kg/667m2,P2O5 13.3kg/667m2,K2O 13.3kg/667m2处理的产量、亩穗数、穗粒数和千粒重最高,平均值分别为973.5kg/667m2、4749.5穗/667m2、571.7粒/穗和437.2 g 。施氮处理对亩穗数的影响最大,施磷处理对穗粒数和千粒重的影响最大。
【英文摘要】The effect of NPK application on the yield and yield component factors of spring maize were investigated by the field experiment in the middle of Jilin province.The results showed that the yield of spring maize exceeded 900 kg/667m2,ear number of per

667m2 was over 4602,grain number of per ear was over 540 and thousand grain weight was over 410g,when the amounts of fertilizer application were 26.7~33.3 kg N /667m2,13.3~20 kg P2O5 /667m2 and 13.3~20 kg K2O /667m2.The yield、 ear number per 667m2、grain number per ear and thousand grain weight were the highest when the amounts of fertilizer application were 26.7 kg N /667m2、13.3 kg P2O5 /667m2、 13.3 kg K2O /667m2.Under the treatment,the yield of spring maize was 973.5 kg/667m2,ear number per 667m2 was 4749.5,grain number per ear was 571.7 and thousand grain weight was 437.2 g.The treatments of N application have the greatest effect on ear number per 667m2;on the contrary,P2O5 treatments have the greatest effect on the grain number per ear and thousand grain weight.

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【题目】不同钾素营养水平对春玉米碳代谢的影响
【中文关键词】钾素营养;春玉米;产量;碳代谢
【英文关键词】Potassium Nutrition; Spring Maize; Yield; Carbon Metabolism
【中文摘要】采用田间试验与生化分析等方法研究了不同钾素营养水平与春玉米产量及碳代谢的关系。结果表明,适宜的施钾量,可使春玉米叶片具有较高的叶绿素含量以及较强的RuBP羧化酶和PEP羧化酶活性,同时也获得了较高的产量。各处理在春玉米主要生育时期叶片中叶绿素含量及RuBP羧化酶、PEP羧化酶的活性均表现为K2> K3> K1> KO,这一规律与各处理对产量的影响一致。

【英文摘要】In this experiment, field trail and biochemistry analysis were used to study the the relations of the different potassium level and the spring maize yield and carbon metabolism.The result showed that applying proper amount of potassium fertilizer could keep relative higher content of chlorophyl and higher activity of carboxylase of RuBP and PEP in the leaf of spring maize, and cropping higher yield of maize. Every treatment showed K2>K3>K1>K0 on the content of chlorophyl and carboxylase activity of RuBP and PEP in the leaf of spring maize during main growing period, which regularity accord with the effect of every treatment on yield.

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【题目】超高产春玉米产量构成特性分析
【中文关键词】超高产;春玉米;产量构成
【英文关键词】super-high yield;spring maize;yield components
【中文摘要】通过2年的田间试验,对吉林省桦甸市金沙乡不同产量水平玉米的产量构成因素进行了通径分析。结果表明:低产处理直接通径系数大小依次为穗粒数>千粒重>公顷穗数,说明低产处理产量构成因素中对籽粒产量影响最大的是穗粒数,其次为千粒重,公顷穗数影响最小;高产处理直接通径系数大小依次为公顷穗数>千粒重>穗粒数,说明高产处理产量构成因素中对籽粒产量影响最大的是公顷穗数,千粒重次之,影响最小的是穗粒数;超高产处理直接通径系数大小依次为公顷穗数>穗粒数>千粒重,说明超高产处理各产量构成因素对籽粒产量的相对重要性以公顷穗数最大,其次是穗粒数,千粒重最小。

【英文摘要】Through 2 years of field experiments,we studied the path analysis of yield components in the maize at the different yield levels in JinSha Township of Huadian City, Jilin Province.The result shows that the sequence of direct path coefficient of low yield is spike number>1000-grain weight> grain number per hectare, which indicates that spike number in yield component factors of low-productive is the most important factor influencing the grain yield,followed by 1000-grain weight, and grain number per hectare has the

least influence.The sequence of direct path coefficient of high yield is grain number per hectare>1000-grain weight> spike number, which indicates that grain number per hectare in yield component factors of high-productive is the most important factor influencing the grain yield,followed by 1000-grain weight,and spike number has the least influence.And the sequence of direct path coefficient of super-high-yield is grain number per hectare>spike number>1000 -grain weight,which indicates that grain number per hectare in yield component factors of super-high-yield is the most important factor influencing the grain yield,followed by spike number,and 1000-grain weight has the least influence.

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【题目】氮、钾不同营养水平对春玉米氮代谢的影响
【中文关键词】春玉米;氮钾营养;氮代谢
【英文关键词】Spring maize; N and K nutrition; Nitrogen metabolism
【中文摘要】采用田间小区试验方法研究了氮、钾不同营养水平对春玉米氮代谢的影响。结果表明:氮代谢指标(可溶性蛋白、硝酸还原酶、谷氨酸脱氢酶)在整个生育时期内呈单峰曲线变化,即从苗期开始逐渐增加,达到高峰后又呈下降趋势,成熟期最低。可溶性蛋白含量在抽雄吐丝期达到最高峰,硝酸还原酶和谷氨酸脱氢酶活性在大喇叭口时期达到最高。各生育时期,氮代谢关键酶活性及可溶性蛋白含量均表现为随氮、钾营养水平的提高先增加后减少的趋势。表明适宜氮、钾肥用量可以增加叶片可溶性蛋白含量及提高硝酸还原酶和谷氨酸脱氢酶活性,过量施用氮、钾肥反而会使其含量或活性下降。
【英文摘要】Study on the effects of different N and K level on nitrogen metabolism of spring maize was carried out By field experiment. The result showed that the main indexes of N metabolism in maize leaves(content of soluble protein, NR and GDH) showed a single curve at the whole growth stage, and the peak value period of soluble protein was Present in the heading stage, the peak value period of NR and GDH was present in the large bell stage. The main indexes of N metabolism was increasing and then decreasing following the increasing apply of N and K. it was concluded that the moderate N%and K nutrition levels could keep relative higher content of soluble protein, NR, and GDH, but Overabundance could get the contrary result.
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【学科分类】农艺学

【题目】不同贮藏方式对新疆梨枣采后生理和贮藏效果的影响
【中文关键词】新疆梨枣;贮藏方式;生理指标;贮藏效果
【英文关键词】Xinjiang Lizao jujube (Zizyphus jujubaMill.); different storage manners; postharvest physiology; storage effectiveness
【中文摘要】【目的】鲜枣极不耐贮,研究不同贮藏方式对新疆梨枣(Zizyphus jujuba Mill.)采后生理和贮藏效果的影响,为其贮藏保鲜技术措施提供理论依据。【方法】设置7种不同贮藏方式的处理,分析了新疆梨枣贮期腐烂率、呼吸强度、乙烯释放量等10个生理和品质指标的变化。【结果】预冷和温度直接影响梨枣的贮藏效果:及时预冷处理和冷藏环境(0°C)能有效抑制梨枣的腐烂发生、呼吸、乙烯释放、总酸含量下降、SSC含量减少和转红速率,有利于维持果肉细胞膜透性、硬度和可食率,贮藏效果好;而其它的推迟预冷处理与常温环境的梨枣生理代谢水平活跃,品质下降较快,贮藏效果差。【结论】梨枣贮藏时首先应及时预冷,预冷后冷藏在较低的温度环境才能获得较好的贮藏效果。
【英文摘要】【Objective】It is usually not easy to store fresh jujube,so it needs to study on the effect of different storing methods on the post-harvest physiology and storage result of XinjiangLizao(ZizyphusjujubaMill).It hopes to provide theoretic basis for outline

some effective fresh-keeping storage measures.【Method】Seven different treatments of storage were used to analyzed the change of 10 physiological and quality indicators,such as rot rateduring storage,respiration inetnsity and ethylene production etc.【Result】It showed that precooling and temperature affected the storage effectiveness directly. Timely precooling and cold environment(0°C) could depress decaying, respiration, ethylene production, total acid content falling, SSC content falling and rubescence rate of Xinjiang Lizao jujube, which would be helpful for maintaining the membrane permeability of fruit cell, hardness and edible rate. So it had good storage effectiveness.While in other treatments of lag- cooling and storing at normal temperature,Lizao jujube furits had active postharvest physiological metabolism, which leads to fruit quality dropping and bad storage effectiveness.【Conclusion】For better storage effectiveness of Xinjiang Lizao jujube,it is important to have timely precooling and then store the fruits at lower temperature.
【语种】中文
【第一作者】潘俨
【通讯作者】车凤斌
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【学科分类】食品包装与储藏

【题目】耕作方式对黑土有机碳及有机无机复合状况的影响
【中文关键词】耕作方式;黑土;腐殖酸;有机无机复合度;腐殖质结合形态
【英文关键词】Cultivation pattern; Black soil; Humic acid;Degree of organo-mineral complexation;Forms of combined humus
【中文摘要】[目的]研究耕作方式对黑土有机碳数量的变化、有机无机复合度及腐殖质结合形态的影响。[方法]采用设置休闲、玉米连作和玉米—大豆轮作3种耕作方式进行长期定位试验。[结果]不同耕作方式对黑土有机无机复合状况有明显的影响。休闲、连作及轮作均能增加土壤有机碳及其各组分、重组有机碳含量以及原土复合量,提高土壤活性有机碳含量,降低土壤有机碳的氧化稳定性及原土复合度。连作和轮作增加黑土土壤追加复合量和追加复合度,以轮作效果最好。不同耕作方式中各种结合形态的腐殖质在绝对含量上均有明显提高,以松结合态腐殖质增加较多。[结论]轮作更有利于提高土壤HA/FA比值、HA的E4/E6比值、土壤松结合态腐殖质含量及土壤重组腐殖质碳的松/稳和松/紧比值。
【英文摘要】[Objective]The aimwastostudythe effectof cultivationpatternsonthe changeoforganic carbonamount, the degreeoforgano-mineral com-plexation and forms of combinedhumus inblacksoil. [Method]The long-termlocated experimentswere carriedoutbyusing3 kindsof cultivationpatternsincluding fallow, continuous cropping of maize and maize-soybean rotation cropping. [Result] The different cultivation patterns had obvious effects on organo-mineral complexation inblacksoil.The fallow, continuous croppingandrotation croppingall could increasetheorganic carbon contentand its com-ponents in soil, therecombinationorganic carbon contentandsoil complexamount, enhancethe activeorganic carbon content insoil andreducetheoxida-tion stability of soil organic carbonandsoil complexdegree.The continuous croppingandrotation croppingcould increasethe additional quantityandadditional degree of organo-mineral complexation, with the effect of rotation cropping being best. The absolute contents of various combined humus forms in different cultivation patternswere increased greatly and the increasing contents of loosely combined humus were more than the others.[Conclusion] The corn-soybean rotation were propitious to increase soilHA/FAratioandE4/E6ratioofHA,the contents of loosely combined humus and that of loosely to tightly combined humus in soil.
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【学科分类】农艺学

【题目】Insulin Inhibits the Expression of Adiponectin and AdipoR2 mRNA in Cultured Bovine Adipocytes
【中文关键词】胰岛素,脂联素,牛前脂肪细胞
【英文关键词】Insulin; Adiponectin; Adiponectin Receptors; PI3-Kinase; Bovine Adipocyte

【中文摘要】利用和AdipoR1和AdipoR2介导的脂质代谢。胰岛素如何影响脂联素基因的表达和分泌仍存在争议。该研究旨在确定胰岛素对牛脂肪细胞中脂联素,AdipRs和脂肪细胞分化过程中的PPAR-γ记忆的表达效果。牛前脂肪细胞开始积累脂肪三天后,增加脂联素,AdipoR2和PPAR-γ基因的表达诱导分化。胰岛素的表达降低的脂连蛋白mRNA表达的剂量和时间依赖的方式,和抑制检测到在胰岛素浓度低至10 nM的早2小时后加入100 nM胰岛素。胰岛素也抑制AdipoR2 mRNA的浓度从I至1,000 nM或24小时后,加入100 nM胰岛素的表达,但丝毫没有影响AdipoR1在牛脂肪细胞表达。与LY294002抑制PI3K逆转胰岛素抑制脂联素和AdipoR2 mRNA表达的。这些结果表明,胰岛素通过PI3K信号通路的至少部分地抑制脂联素与AdipoR2表达。

【英文摘要】utilization and lipid metabolism are mediated by AdipoR1 and AdipoR2. How insulin affects adiponectin gene expression and secretion is still controversial. This study was conducted to determine the expression of adiponectin, AdipRs; and PPAR-gamma during the differentiation of bovine preadipocytes and the effect of insulin on expression of these genes in bovine adipocytes. The bovine preadipocytes started to accumulate lipids three days after differentiation was induced, with increased expression of adiponectin, AdipoR2 and PPAR-gamma mRNAs. Insulin decreased the expression of adiponectin mRNA in a dose- and time-dependent fashion, and the inhibition was detectable at insulin concentrations as low as 10 nM and as early as 2 h after addition of 100 nM insulin. Insulin also inhibited the expression of AdipoR2 mRNA at concentrations from I to 1,000 nM or 24 h after addition of 100 nM insulin, but did not affect the expression of AdipoR1 in bovine adipocytes. Inhibition of PI3K with LY294002 reversed the inhibition of adiponectin and AdipoR2 mRNA expression by insulin. These results suggest that insulin suppresses the expression of adiponectin and AdipoR2 at least partially via the PI3K signal pathway.

【语种】英文

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【学科分类】畜牧学

【题目】不同CO_2和O_2比例对新疆梨枣采后生理和贮藏效果的影响

【中文关键词】新疆梨枣;CO2和O2比例;生理特性;贮藏效果

【英文关键词】Xinjiang Lizao jujube (Zizyphus jujubaMill.);CO2and O2ratios; physiological characteristic; storage effectiveness

【中文摘要】【目的】鲜枣极不耐贮,开展不同CO2和O2比例对新疆梨枣(Zizyphus jujuba Mill.)采后生理和贮藏效果影响的研究,为提出有效的贮藏保鲜技术措施提供理论依据。【方法】设置了7种不同CO2和O2比例处理,分析了新疆梨枣贮期腐烂率、呼吸强度、乙烯释放量等10个生理和品质指标的变化。【结果】气调可抑制梨枣贮期的呼吸跃变,延迟呼吸回升出现的时间,其中0%CO2+3%O2比例能有效降低梨枣的腐烂发生和呼吸水平,维持总酸和SSC含量在较高水平。【结论】梨枣及时预冷后放置0%CO2+3%O2比例冷藏,可获得相对较好的贮藏效果。

【英文摘要】【Objective】The hardness to maintain the quality of fresh jujube during storage requests the study of the effects of different storage methods on the postharvest physiology and the storage effectiveness of Xinjiang Lizao jujube(ZizyphusjujubaMill.) to offertheoretic references for feasible storage techniques.【Method】Ten physiology and quality indexes including putrid rate, respiration rate and ethylene production of Xinjiang Lizao jujube during storage were analyzed based on 7 treatments of different CO2and O2ratios control.【Result】Air condition control can inhibit respiration climacteric and delay the respiration recovery of Xinjiang Lizao jujube during storage. Ratio control of 0%CO2+3%O2can effectively decrease the occurrence of putridity and respiration level,which also maintains a higher level of total acid content and SSC content.【Conclusion】Relative good storage effectiveness of Xinjiang Lizao jujube can be achieved fromtimely precooling and a combination of 0%CO2+3%O2ratio control in cold storage.

【语种】中文

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【学科分类】食品包装与储藏

【题目】不同产量水平玉米干物质积累态势研究
【中文关键词】玉米;干物质积累;Logistic方程
【英文关键词】Corn; The dryweigh;t Logistic equation
【中文摘要】[目的]以玉米为研究对象,对不同产量水平玉米干物质积累规律进行全面、系统的研究。[方法]设计对照、平产处理和高产处理,其产量水平分别为7 051、9 681和11 803 kg/hm2。分别于8个生育期(苗期、拔节期、大喇叭口期、吐丝期、灌浆期、乳熟期、蜡熟期和成熟期)采样,用烘箱干燥法测定干物质积累量。[结果]不同产量水平玉米平均单株干物质积累量(Y)依出苗后各采样期的天数(X)的增长为不对称的S型曲线,可用Logistic方程Y=K/1+e(a-bX)加以描述,可根据该方程求得其最大增长速率及其出现日期。在玉米各器官干物质积累方面,不同产量水平玉米叶片、茎秆干物质积累速度均呈现出前期慢、中期快、后期慢的积累规律;而籽粒干物质积累速度呈现不断增加的趋势。不同处理玉米的叶片、茎秆和籽粒干物质积累量均是高产处理>平产处理>不施肥处理。[结论]该研究为指导吉林省玉米的高产生产奠定理论基础和提供实践经验。
【英文摘要】[Objective]The research systematically studied dryweight change law of corn in differentyield treatments. [Method]Three yield level treatments of7 051, 9 681 and 11 803 kg/hm2were designed, including contro,l normalyield treatmentand high yield treatmen.t Thesampleswere collected at8 growing stages, and theirorganism yieldwere determined by drying in oven. [Result]The results showed that thedryweightquantity(Y) ofaverage every plant corn in differentyield treatments on the basis of the days (X)ofeach sampling stage accordedto the equation ofLogisticY=K/1+e(a-bX), and the highestrate of increase and the day ofemerge could be calculate from the equation. On the dryweightof corn each componentaspec,t the dryweightaccumulative speed of leafand stalkin differentyield treatmentsallshowed the regular of earlier stage fas,t midterm slow and later stage fas,t but the dry weight accumulative speed of grain continuously raise. The dry weightquantity of lea,f stalk and grain in differentyield treatments allshowed high yield treatment>midterm yield treatment> non-fertilizer treatmen.t [Conclusion]The study can establish the theory basis of understanding themechanism of Jilin Province corn high yield and offer some practice experience.
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【第一作者】翟立普
【通讯作者】曹国军
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【学科分类】农艺学

【题目】不同施钾水平春玉米对钾的吸收·积累与分配
【中文关键词】高产;春玉米;钾
【英文关键词】High production; Springmaize; Potassium
【中文摘要】[目的]研究春玉米对钾素的吸收、积累与分配规律,为有效施用钾肥,促进产量增长提供理论依据。[方法]以先玉335为材料,设置K0(不施用钾肥)、K1(施用K2O 100 kg/hm2)、K2(施用K2O 200 kg/hm2)、K3(施用K2O 300 kg/hm2)4个处理,进行田间小区试验,研究钾素在春玉米不同生育时期的动态变化。[结果]不同施钾处理钾素吸收、积累与分配规律基本一致,春玉米生育前期钾素积累量为K3>K2>K1>K0,生育后期则为K2>K3>K1>K0。[结论]春玉米对钾素的吸收不随施钾量的增加而提高,过量施用钾肥不是提高玉米产量的有效途径。
【英文摘要】[Objective] The expermi ent ami ed to study the regularity of absorption, accumulation and distribution of potassium in spring maize underdifferent treatments ofK-fertilizerand provide theoretical foundation for effective application ofK-fertilizer to mi prove the produc-tion ofmaize. [Method]UsingXianyu335 asmateria,l four treatmentswere setup for field plottes,t includingK0(noK fertilizer),K1(apply-ing100kg/m2K2O, K2(applying200 kg/m2K2O), K3(applying300 kg/m2K2O). The dynamic changesofpotassium in springmaize under differentgrowth stageswere studied. [Result] Different treatments ofpotassium were almost the same in absorption, accumulation and distri-bution. The accumulation ofpotassium in springmaizewasK3>K2>K1>K0at early growth stage, whileK2>K3>K1>K0at late growth stage. [Conclusion] The absorption ofpotassium in springmaize didn’t grow with theincrease of K-fertilizer. ExcessiveK-fertilizerwasn’t the effectiveway to mi prove the production ofmaize.

【语种】中文
【第一作者】李可
【通讯作者】曹国军
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【学科分类】农艺学

【题目】新疆杏制干品种的筛选及制干工艺的初步研究
【中文关键词】制干工艺;杏;品种筛选
【英文关键词】dried technology; apricot; screen
【中文摘要】【目的】筛选适宜的杏制干品种并对其制干工艺进行研究。【方法】对大胡安娜、佳娜丽、库买提、赛买提等46个杏品种的鲜杏自然晾晒制干,通过对46个品种的杏干果肉的总糖、总酸、制干比等指标测定及感官评价,筛选出适宜的杏制干品种。以库买提为原料,通过采用促干剂、蒸汽漂烫、NaHSO3溶液浸泡、漂烫结合NaHSO3溶液浸泡等处理方法,经过自然晾晒得到杏干,并对杏干的总糖、总酸、制干比、水分、残留SO2量进行测定以确定最佳制干工艺。【结果】适宜的制干品种为大胡安娜、黑叶杏、库买提、佳娜丽等。最佳制干工艺条件为整果经90℃热水漂烫3 min,再浸泡于浓度为3.75 g/L的NaHSO3溶液中1 h后晾晒。【结论】采用该工艺提高了制干速率,制干时间缩短2 d,且杏干感官品质好。
【英文摘要】【Objective】Proper varieties of apricot for dring were selected and the drying technology was studed.【Method】46 cultivars such as Dahuanna, Jianali, Kumaiti were dried naturally,the proper dried variety of apricotwas selected by the total sugar, total acid and the ratio of dried apricot to fresh apricot. The optimal dried technologywas determined from a wide range of treatment such as apricot-specific drier, steam, blanching, NaHSO3treatment, infusion method then were naturally dried. After that, the total sugar, total acid ,the ratio of dried apricot to fresh apricot,water content ,residual sulfur content were also determined.【Result】The results showed that the optimal dried technologywas as follows: the whole fruit was blanched for 3 minutes in 90°C,then treated by NaHSO3solution (3.75 g/L)for 1 hour.【Conclusion】On this condition, the products have good color while the dried time is short.
【语种】中文
【第一作者】邱杰
【通讯作者】傅力
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【题目】Molecular characterization, polymorphism of bovine ZBTB38 gene and association with body measurement traits in native Chinese cattle breeds
【中文关键词】牛,ZBTB38基因,多态性,关联性,体尺性状
【英文关键词】Cattle; ZBTB38 gene; SNP polymorphism; Association analysis; Body measurement
【中文摘要】锌指含有BTB域38(ZBTB38),结合和抑制甲基化的DNA,是一个重要的候选基因,通过分子标记辅助选择(MAS)的体尺性状的选择。 ZBTB38基因在人类和动物的高度表达。8基因组结构分析表明,牛ZBTB38与人类ZBTB3十分相似。我们发现和评估722个牛个体ZBTB38基因的单核苷酸多态性与体尺性状之间的关系。最新的研究结果表明,外显子1 A841G SNP明显与体长(BL),腰高(HH)和胸围(HG)显著相关。此外,A841G SNP标记分析表明,在722个个体中与BL(P =0.0389)显著相关,在秦川改良的阉牛(QI)群体中显着影响HH(P =0.0173),HG(P =0.0147),以及显着影响在雪龙号(XL)WH(P= 0.0094)。这些结果清楚地表明,ZBTB38基因在牛繁殖与育种中可以作为的体尺性状的靶基因,从而为建立动物模型研究大动物体型提供数据。
【英文摘要】Zinc finger and BTB domain containing 38 (ZBTB38), binding to and repressing methylated DNA, is an important candidate gene for selection of body measurement traits through marker-assisted selection (MAS). The expression of ZBTB38 is regulated in human and animal height as well as other stature indexes. Genomic structural analysis shows that bovine ZBTB38 shares much similarity with human ZBTB38. We discovered and evaluated the potential association of the single nucleotide polymorphism

(SNP) of the bovine ZBTB38 gene with body measurement traits in 722 individuals. The latest findings demonstrate that the A841G SNP in exon 1 is significantly associated with Body Length (BL), Hip Height (HH) and Heart Girth (HG). Furthermore, the analysis of A841G SNP marker shows that there are significant effects on the BL (P = 0.0389) in 722 individuals, significant effects on the HH (P = 0.0173) and HG (P = 0.0147) in Qinchuan improvement steers (QI) population, as well as significant effects on the WH (P = 0.0094) in Xuelong (XL) population. These results clearly suggest that the ZBTB38 gene is among of target genes for body measurement traits in bovine reproduction and breeding, and thus provide data for establishment of an animal model using cattle to study big animal body type.

【语种】英文
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【题目】氮素营养水平对春玉米叶片碳代谢的影响
【中文关键词】氮素营养;春玉米;碳代谢
【英文关键词】Nitrogen nutrition; Springmaize; Carbonmetabolism
【中文摘要】[目的]研究供氮水平对春玉米叶片碳代谢的影响。[方法]采用田间试验和室内分析相结合的方法,按春玉米生育期采样,探讨不同供氮水平对春玉米叶片中叶绿素含量及RuBP羧化酶和PEP羧化酶活性的影响。[结果]适宜的供氮水平能使春玉米在各生育期叶片中叶绿素含量及RuBP羧化酶和PEP羧化酶活性均保持最高水平,供氮不足或过量(施N量大于400 kg/hm2)均对春玉米叶片碳代谢产生不良影响。[结论]该试验条件下,施N量300 kg/hm2,春玉米各生育期叶片中叶绿素含量及碳代谢关键酶的活性均最高,对增强叶片光合能力、促进产量形成、延缓叶片衰老具有重要意义。
【英文摘要】[Objective] To study the effectofsuppliesofnitrogen levelon springmaize leafblade carbonmetabolism. [Method]In this experi-men,t field trail and biochemistry analysiswere used to study the effectofthe difference-nitrogen levelon the contentofchlorophyland carbox-ylase activity ofRuBP andPEP in the leafofspringmaize duringmain growingperiod. [Result] ApplyingproperamountofN could keep rela-tive higher contentof chlorophyl and higher activity of carboxylase ofRuBP and PEP in the leafof springmaize, insufficientor excessive (N>400 kg/hm2) ofnitrogenous fertilizerhas the adverse effec.t [Conclusion] In this expermi en,t applying300 kg/hm2amountofN could keep relative higher contentof chlorophyl and higher activity ofcarboxylase ofRuBP and PEP in the leafofspringmaize duringmain growing peri-od. Itwas mi portant to strengthen leafblade photosynthesis ability, promote the yield formation and postpone the decline of leafblade.
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【第一作者】其其格
【通讯作者】曹国军
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【学科分类】农艺学

【题目】Inhibition on hepatitis B virus in vitro of lectin from Musca domestica pupa via the activation of NF-κB
【中文关键词】凝集素、家蝇、HBV、抗病毒蛋白、细胞因子、NF-κB
【英文关键词】Lectin, Musca domestica, HBV, Antiviral proteins, Cytokines,NF-κB
【中文摘要】据目前研究报道用家蝇凝集素(MPL)处理HepG2.2.15细胞后,HepG2.2.15细胞分泌的HBsAg和HBeAg会有很大程度的降低,而且细胞中HBV的DNA、cccDNA的复制以及胞外HBV的DNA的复制都受到抑制。MPL处理后IL-2、INF-γ和MxA的mRNA表达量都体现为上调作用,但是当NF-κB的通路被PDTC阻断时体现为下调作用。进一步的研究表明胞浆中的NF-κB抑制因子受到抑制且NF-κB转移到细胞核内。结果表明MPL处理激活NF-κB途径可以指导IL-2、INF-γ和MxA的表达,从而抑制HBV的复制。

【英文摘要】The present study reported that the secretions of HBsAg and HBeAg in HepG2.2.15 cells were significantly decreased under the treatment of lectin from Musca domestica pupa (MPL). Both the replication of hepatitis B virus (HBV) DNA and HBV cccDNA in cells, and the copies of extracellular HBV DNA were inhibited by MPL. The mRNA expressions of interleukin-2 (IL-2), gamma interferon (INF-) and MxA were up-regulated by MPL treatments, but down-regulated when nuclear factor- B (NF- B) signal pathway was blocked by pyrrolidine dithiocarbamate (PDTC). Subsequent investigation revealed that nuclear factor- B inhibitory B (I B) in endochylema was inhibited and NF- B was translocated into the nucleus. These findings indicate that MPL could inhibit HBV replication via the induction of the expression of IL-2, INF- and MxA through the activation of NF- B.
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【第一作者】曹小红
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【学科分类】食品科学技术基础学科

【题目】不同施钾水平对春玉米产量及钾素吸收积累的影响
【中文关键词】产量 不同施钾量 钾素积累量
【英文关键词】yield ,different amount of potassium,accumulation of potassium
【中文摘要】[目的]研究了不同施钾量对春玉米产量及植株和不同器官钾素吸收积累量的影响。[方法]通过田间试验,布置K0(不施钾肥)K1(K2O 75kg/hm2)K2(K2O 150kg/hm2)K3(K2O 225kg/hm2)K4(K2O 300kg/hm2)5个处理。[结果与结论]适量施用钾肥能明显提高春玉米的产量,当施钾(K2O)225kg/hm2时玉米产量最高,为15531.0 kg/hm2,与对照处理相比增产24.73%,产量差异达极显著水平;随生育时期的进展春玉米钾素积累量前期缓慢增长在灌浆期达到最大值,而后钾素积累量下降;春玉米各器官钾素积累量变化有所不同,叶片、叶鞘和穗部均呈单峰曲线,而茎秆钾素吸收规律呈“N”形曲线。不同施钾量各处理间产量、植株钾素积累量和不同器官钾素积累量均表现为K3>K4>K2>K1>K0。
【英文摘要】[Objective] This paper studied the different amount of potassium in the yield of spring maize,plants and accumulation in different organs of the impact of potassium absorption.[Method] The author arranged K0 (no potassium),K1 (K2O 75kg/hm2),K2 (K2O 150kg/hm2),K3 (K2O 225kg/hm2) and K4 (K2O 300kg/hm2) 5 treatments through the field experiment. [Results and Conclusion] The application of potassium fertilizer can significantly improved the yield of spring maize, when applying (K2O) 225kg/hm2 potassium,the yield of spring maize reach the highest level,which was 15531.0 kg/hm2, compared to the control treatment, increased by 24.73% and the yield differences were highly significant; with the stages of spring maize growth, the potassium accumulation increased slowly in the early period, then reached the maximum at the filling stage, after that began to decrease;different organs of spring maize had different potassium accumulation curve, the leaf, the leaf sheath and the panicle showed a single peak curve,however,the stems potassium absorption law was "N"-shaped curve. Different amount of potassium among the treatments, the yield,the plant potassium accumulation and potassium accumulation in different organs all appeared as K3> K4> K2> K1> K0.
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【题目】Purification and characterization of a new D-galactoses-pecific lectin from the housefly, Musca domestica, and its antiproliferative effect on human K562 and MCF-7 tumor cells
【中文关键词】原子力显微镜,糖蛋白
【英文关键词】atomic force microscopy, glycoprotein
【中文摘要】通过目前的研究工作,纯化出家蝇蛹内一种拥有新型N端序列的D-半乳糖凝集素。通过亲和层析、超滤、以及高效液相色谱分析进行纯化。通过D-半乳糖作用可以有效的抑制家蝇凝集素的血细胞凝集作用。当温度在65°C以上、

pH在4-8之间时这种凝集素的血细胞凝集作用是稳定的。盐类包括FeCl3和MnCl2对这一凝血过程是起到抑制作用的,而NaCl, KCl, CaCl2, MgCl2, ZnCl2和 AlCl3则不会有抑制作用。有或者没有β-疏基乙醇都能通过聚丙烯酰胺凝胶电泳纯化家蝇蛹凝集素能够得到分子质量为40kDa的条带,并且能被阿尔新蓝8GX染色。通过原子力显微镜观察纯化后的家蝇凝集素的形态:直径 8.27nm的球形糖蛋白有长1.41nm链状多聚糖。另外,家蝇凝集素对肿瘤细胞K562和MCF-7的抗细胞恶性增生作用通过用3-(4,5-二甲基噻唑-2-yl)-2,5-二苯基四唑溴化物进行比色测定,结果显示在IC505.7、6.7,24h;IC505.5、6.4,36h;IC505.2、6.5,48h条件下抗肿瘤作用是呈现时间剂量依赖性的。

【英文摘要】In the present work, a D-galactose-specific lectin with novel N-terminal sequence was purified from Musca domestica L. (Diptera: Muscidae) pupae. The purification was performed using affinity chromatography, ultra-filtration, and HPLC. The haemagglutinating activity of M.domestica lectin was specifically inhibited by D-galactose. The haemagglutinating activity of this lectin was stable at temperatures up to 65 ° C and in pH ranging from 4 to 8. Salts including FeCl3and MnCl2 inhibited the haemagglutinating process, whereas NaCl, KCl, CaCl2, MgCl2, ZnCl2, and AlCl3 did not. By SDS-PAGE, purified M. domestica pupae lectin yielded a single band with a molecular weight of 40 kDa, with or without reduction of β-mercaptoethanol, and it could be stained with Alcian Blue 8 GX. The morphology of purified lectin was observed by atomic force microscopy, which indicated that M. domestica lectin was an 8.27 nm high, globular shapedglycoprotein with a 1.41 nm high polysaccharide chain. In addition, antiproliferative activity of this lectin against tumor cells K562 and MCF-7 was determined with a colorimetric assay using 3-(4,5-dimethylthiazol-2-yl)-2,5-diphenyl tetrazolium bromide, which showed that the antiproliferative process was time- and dose-dependent with an IC50 of 5.7 and 6.7 at 24 h, 5.5 and 6.4 at 36 h, 5.2 and 6.5 μM at 48 h, respectively.

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【题目】施氮模式对冬小麦越冬期冻害和茎秆抗倒伏性能的影响
【中文关键词】冬小麦; 施氮模式; 冻害; 茎秆抗倒伏性能;
【英文关键词】winter wheat; nitrogenous fertilizer application pattern; freeze injury; culm resistance to lodging;
【中文摘要】以中筋高产小麦品种新麦18为试验材料,采用大田试验的方法,从土壤-小麦植株系统出发研究了3个梯度氮肥用量(180 kg/hm2、240 kg/hm2和300 kg/hm2)和3种基追比例(基肥∶拔节肥∶孕穗肥为3∶5∶2、基肥:拔节肥为5∶5和基肥∶拔节肥为7∶3)对冬小麦越冬期麦苗冻害和茎秆抗倒伏性能的影响。结果表明,施氮模式显著影响小麦抗冻能力和茎秆抗倒伏能力。基部第一、第二节间的节间长度和基部第二节间的含氮量均随施氮水平和基肥比例的增加而增加,基部第一、第二节间的节间粗度、秆壁厚度和节间充实度以及基部第二节间机械强度则表现相反。基部第二节间机械强度与其节间粗度、秆壁厚度、充实度呈极显著正相关,而与其氮含量呈极显著负相关。

【英文摘要】Xinmai 18(a high-yield and mid-gluten wheat cultivar)was used as material in the field experiment,to study the effects of nitrogenous fertilizer application pattern on freeze injury and culm lodging resistance of winter wheat.Nitrogen application rate treatment was set as 180 kg/hm2,240 kg/hm2 and 300 kg/hm2,ratios of base to topdressing as 3∶5∶2(base∶jointing∶booting),5∶5(base∶jointing),7∶3(base∶jointing).The results showed that nitrogenous fertilizer application pattern significantly influenced resistance to freeze and lodging of winter wheat.The length of the first and second internode as well as total nitrogen content of the second internode increased with increment of nitrogen fertilizer amount and ratios of base to topdressing,while the outside diameter,thickness and filling of the first and second internode as well as the culm mechanical strength of the second internode showed inverse effects.The culm mechanical strength of the second internode had a significantly positive correlation with the outside diameter,thickness and filling,but was significantly negative with total nitrogen content.

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【题目】Immunomodulation activity of lectin isolated from usca domestica (housefly) pupae
【中文关键词】家蝇、凝集素、免疫调剂作用、细胞因子
【英文关键词】Musca domestica; Lectin; Immunomodulation; activity; Cytokine
【中文摘要】作为中药中重要成分之一,从明清时期起家蝇幼虫就常用来治疗脓疮、骨髓炎、褥疮、营养不良症、淋巴疖肿等疾病。本文的目的是鉴定家蝇蛹凝集素的对巨噬细胞和脾细胞的免疫调节作用。通过半乳糖凝胶色谱法和超滤对小分子的IBS凝集素进行纯化,此凝集素对兔血细胞的凝集剂量为10μg/mL,家蝇凝集素的免疫调节作用通过NO、IL-6、IL-12以剂量依赖方式进行研究。当家蝇凝集素的剂量为5μg/mL时IL-6的分泌减少;当家蝇凝集素的剂量为15μg/mL时IL-12有明显的降低。体外淋巴细胞转化实验显示MPL可能是潜在的免疫调节因子。与对照组相比在家蝇凝集素剂量为10μg/mL时,增值指数显著增加。我们的实验表明家蝇凝集素有一部分的有效治疗作用,同时家蝇凝集素的不同使用浓度有不同的免疫调节能力。
【英文摘要】As one of important components in traditional Chinese medicines, Musca domestica larvae has been used to cure ecthyma, osteomyelitis, decubital necrosis, malnutritional stagnation and lip boil since the Ming/Qing Danysty. The objective of this study was to evaluate the immunomodulatory effects of the Musca domestica pupae lectin (MPL) on the activity of macrophages and splenocyte. The fraction of buffer insect solution (BIS) lectin was purified by affinity chromatography on galactose-Sepharose-4B and ultrafiltration. This lectin agglutinatin rabbit blood cells (RBC) at 10 μg/ml. The immunomodulatory of the MPL was studied by the production of nitric oxide (NO), IL-6 and IL-12 in a dose-dependent manner. The production of IL-6 was induced by MPL at 5 μg/ml; IL-12 was significantly induced at 15 μg/ml. Lymphocyte transformation test in vitro shown MPL potential as immunomodulator, splenoctye proliferation index was significant increased at 10 μg/ml comparing with the control . Our results suggested a portion of the beneficial therapeutic properties of lectin from Musca domestica, our results also supported the concept of using MPL as an immunostimulation adjuvant.
【语种】英文
【第一作者】曹小红
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【题目】Three novel SNPs in the coding region of PPARγ gene and their associations with meat quality traits in cattle
【中文关键词】PPARγ基因,SNP多态性,肉质,PCR-SSCP
【英文关键词】PPAR gamma gene; SNP polymorphism; Meat traits; PCR-SSCP
【中文摘要】过氧化物酶体增殖物激活受体γ(PPARγ)是一种核激素受体,调节脂肪细胞和其他许多生物过程。在本研究中,我们进行了PCR-SSCP和DNA测序分析,研究PPARγ基因的编码区单核苷酸多态性。对5个中国黄牛品种共660个体进行了基因分型。我们确定了三个SNP位点,它们与肉品质性状进行了分析,108秦川牛。两个错义突变和一个同义突变的研究发现:200 A> G(基因型AA,AB,BB)的导致在D7G变化,沉默的替代42895 C> T(基因型JJ和JI)和72472 G> T(基因型CC,DC DD)Q448H的变化。秦川牛,南阳牛,郏县红牛,鲁西牛,夏南牛群体PPARγ-A等位基因的频率分别为0.86,0.83,0.80,0.72和0.87。在5个群体中PPARγ-J等位基因的频率变化范围从0.87到0.96。 PPARγ-C等位基因的频率在72472 G> T位点,高于PPARγ-D等位基因,从0.58到0.82不等。最小二乘分析结果显示,在42895 C> T位点,有一个显着的影响18-20个月秦川牛嫩度(P <0.01),与DC的72472 G> T位点的基因型个体有较低的平均价值与CC基因型(P <0.01),背膘厚在18-20个月,基因型DD基因型CC和DC(P <0.01)有较低的平均价值比这些系水力在21至24个月龄(P<0.01)。我们已经确定的单核苷酸多态性可能建立一个更有效的选择方案改良中国黄牛的遗传特征。
【英文摘要】The peroxisome proliferator-activated receptor gamma (PPAR gamma) is a nuclear hormone receptor that regulates adipogenesis and many other biological processes. In the present study, we carried out PCR-SSCP and DNA sequencing analyses to examine SNPs in coding region of the PPAR gamma gene. A total of 660 individuals from five Chinese cattle breeds were genotyped. We identified three SNPs and their associations with meat quality traits were analyzed in 108 Qinchuan cattle. Two missense mutations and one synonymous mutation were found: 200 A > G (genotypes AA, AB and BB) resulting in D7G change, the silent substitution

42895 C > T (genotypes JJ and JI) and 72472 G > T (genotypes CC, DC and DD) producing Q448H change, respectively. The frequencies of PPAR gamma-A allele were 0.86, 0.83, 0.80, 0.72 and 0.87 for Qinchuan, Nanyang, Jiaxian, Luxi and Xianan populations, respectively. The frequencies of PPAR gamma-J allele varied from 0.87 to 0.96 in the five populations. In the 72472 G > T locus, the frequencies of PPAR gamma-C allele were higher than PPAR gamma-D allele in the five populations, and ranged from 0.58 to 0.82. Least squares analysis revealed that in 42895 C > T locus, there was a significant effect on tenderness in 18-20 months Qinchuan cattle ($P < 0.01$), and in the 72472 G > T locus, animals with the genotype DC had lower mean values than these with genotype CC ($P < 0.01$) for back fat thickness in 18-20 months, and animals with the genotype DD had lower mean values than these with genotypes CC and DC ($P < 0.01$) for water holding capacity in 21-24 months ($P < 0.01$). The SNPs we have identified may contribute to establishing a more efficient selection program for improving of genetic characteristics in indigenous Chinese cattle.

【语种】英文

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【学科分类】畜牧学

【题目】保护性耕作条件下玉米田土壤微生物区系变化与影响因素分析

【中文关键词】保护性耕作;土壤微生物区系;土壤环境

【英文关键词】Conservation tillage; Soil microflora; Soil environmental factors

【中文摘要】通过田间试验研究了吉林省中部地区黑土保护性耕作条件下,玉米不同生育期土壤微生物区系的空间变化规律,初步明确不同耕作方式细菌、真菌和放线菌的活动主要集中在0-30cm范围内,30cm以下数量很少;土壤微生物数量与土壤有机质、土壤全氮和全磷呈显著或极显著正相关,与速效养分相关性不明显;磷酸酶(酸性、碱性和中性)在播种前与土壤微生物数量均达到极显著相关,但在玉米生长后期没有表现有规律的相关性;保护性耕作对培育细菌型土壤、优化土壤环境有一定的积极作用。

【英文摘要】A long-term field experiment was carried out to study spatial distribution rule of soil microflora in maize different growth duration in the central regions of Jilin province under black soil planting technology of conservation tillage. The results showed that the activity of bacterium, Fungi, and Actinomycete mainly concentrate in the 0-30cm scope with different conservation Tillage modes, the quantity of soil microorganisms under 30cm are very few. But correlativity analysis indicates that the quantity of soil microorganisms has significant correlation or highly significant correlation with the organic matter of soil, the total phosphorus and nitrogen of soil, the correlation is not obvious with available nutrient; The phosphoric acid enzyme (acidity, alkalescence and neuter) before sowing has highly significant correlation with the quantity of soil microorganisms, but changes of the rule in the later growth duration of maize is not significant correlation, the conservation tillage has the certain positive role to cultivating bacterium type of soil and developing soil environment. The result of change of quantity of soil microorganisms in growth duration with different conservation tillage modes showed that the conservation tillage play active role to cultivating bacterium type of soil.

【语种】中文

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【学科分类】农艺学

【题目】东北黑土区不同耕作方式土壤养分与酶活性的时空变化

【中文关键词】黑土;耕作方式;土壤养分;土壤酶活性

【英文关键词】black soil, tillage form, soil nutrient, soil enzyme activity

【中文摘要】通过田间试验研究了东北黑土区玉米不同耕作方式的土壤养分与酶活性的时空变化规律。结果表明,整个生育期不同处理在各个土层均有较高的碱解氮含量,而在播种前常规耕作高于宽窄行,玉米生长中期则是宽窄行高于常规耕

作,收获后各处理含量水平基本一致。有效磷不同处理均表现出养分表聚现象,且宽窄行在各个生育期的不同土层内均高于常规耕作。速效钾含量随着土层的加深降低不十分明显,处理间没有表现出明显的差异,体现了钾素养分移动性大的特点。玉米生长关键期的全量氮、磷、钾变化幅度不大,处理间含量水平一致;有机质含量在2%~3%之间;PH值不同处理均有随着土层的加深逐渐升高的趋势,说明不同的耕作措施都有促进土壤表层酸化的现象。不同耕作方式土壤酶活性在整个生育期变化趋势相同,无明显差异。

【英文摘要】Field experiment was carried out in this study to investigate the effect of tillage form on the soil nutrient and enzyme activities of in the maize rhizosphere at black soil area of Northeast china. A factorial complete randomized microplot (40m2) was designed. The factors were two applications [Normal rows and wide-narrow rows] and replicated three times. In the normal rows, higher and lower NH4+-N was measured at before sowing and middle of cultivation, respectively. While, there was no significant differences after harvest. Throughout the study, assembled available phosphorus was found at both treatment and relatively higher available phosphorus was measured in the wide-narrows row at each soil layers compared to normal rows. For potassium content, a minor change was found at each layer in both applications and no significant differences were found between the two applications. As well as, there was minor changes were investigated in the total nitrogen, phosphorous and potassium during the main growth period at each application. Organic matter content of rhizosphere was maintained at 2~3% at each applications. However, pH value was positively correlated with the soil depth which demonstrates that both applications may contribute to soil acidification. Same trend was found in both applications and no significant differences were found between the applications. The results indicate the potential wide-narrow rows application in maize cultivation..

【语种】中文

【第一作者】吴海燕

【通讯作者】赵兰坡

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【引文索引类型】其他

【引文索引号】null

【学科分类】土壤学

【题目】Lectin purified from Musca domestica pupa up-regulates NO and iNOS production via TLR4/NF-κB signaling pathway in macrophages

【中文关键词】凝集素、家蝇蛹、NO、iNOS、NF-κB

【英文关键词】Lectin,Musca domestica pupa,NOiNOS,NF-κB

【中文摘要】目前研究报道称家蝇蛹中的凝集素反应对巨噬细胞中的NO有正调节作用并且没有细胞毒性。mRNA的表达和蛋白iNOS的分泌在使用MPL处理后急剧减小,进一步研究发现在使用MPL处理后胞浆中的NF-κB抑制因子受到抑制且NF-κB转移到核内,同时,IKKβ急剧减少,TLR4的产量被显著正调。此外,MPL能通过激活NF-κB通路减少iNOS 的表达增加NO的产量,而这也表明MPL可能在NF-κB通路的激活中起激活剂的作用。

【英文摘要】The present study reported that nitric oxide (NO) was up-regulated by the induction of lectin purified from Musca domestica pupa (MPL) in macrophages without cytotoxicity. The mRNA expression and protein secretion of inducible nitric oxide synthase (iNOS) were strongly induced by MPL treatments. Subsequent investigation revealed that the nuclear factor-κB (NF-κB) inhibitory κB (IκB) in endochylema was inhibited and NF-κB translocated into the nucleus after MPL treatment. Meanwhile, the IKKβ was strongly induced and the production of the toll-like receptor 4 (TLR4) was significantly up-regulated. Moreover, MPL increased NO production via inducing the expression of iNOS through the activation of NF-κB, which suggested that MPL probably acted as an activating agent of the NF-κB activation.

【语种】英文

【第一作者】曹小红

【通讯作者】王春玲

【期刊名称、卷期、页码】International Immunopharmacology. 2011, 11,399-405

【论文发表时间】2011-10-04 00:00:00

【引文索引类型】SCI

【引文索引号】null

【学科分类】食品科学技术基础学科

【题目】保护性耕作玉米不同生育期土壤生物肥力与化学肥力的相关性
【中文关键词】黑土;耕作方式;生物肥力;化学肥力
【英文关键词】black soil,tillage forms, biological fertility, chemical fertility.
【中文摘要】通过田间试验研究了吉林省中部黑土区玉米不同生育期土壤酶活与土壤养分以及微生物区系的相关性。结果表明,土壤脲酶在玉米收获后与土壤全氮、全磷极显著相关;在灌浆期以后与土壤PH极显著相关;在播种前、拔节期和收获后与土壤碱解氮含量显著相关;与土壤有效磷和速效钾没有表现出明显的相关性;在本试验条件下与土壤微生物数量没有表现出相关性。土壤磷酸酶(酸性、碱性和中性)在玉米关键生育期与土壤全氮和全磷显著或极显著相关;与有效磷、速效钾和PH值(负相关)除灌浆期以外均表现了较为明显的相关性,说明土壤磷酸酶活性受土壤养分状况及PH值的影响十分显著;磷酸酶在播种前与土壤微生物数量均达到极显著相关,但在玉米生长后期没有表现有规律的相关性。土壤酶活性与土壤有机质含量均表现了较好的相关性,与土壤全钾含量没有表现出明显的相关性。
【英文摘要】The correlations among soil enzyme activities, soil nutrient and variations of microflora was investigated at black soil are of central Jilin during different developmental stages of maize. Soil urease activity was significantly correlated with soil total N and total P contents ($p \leqq 0.01$) at post-harvest stage and pH ($p \leqq 0.01$) after filling stage. As well as, soil urease was significantly correlated with alkali-hydrolyzable N ($p \leqq 0.05$) at pre-planting, jointing and post-harvest stages. However, soil urease showed no significant correlations with available P, K contents and no correlations with the amount of soil microflora, respectively. Soil phosphatase (acid, alkaline and neutral) activities were significantly correlated with soil total N ($p \leqq 0.05$) and total P ($p \leqq 0.01$) during the main development stages of maize. As well as, soil phosphatase (acid, alkaline and neutral) activities showed relatively significant correlations with available P, K contents and pH (negative) except filling stage. It means that, activities of soil phosphatase were mostly infected by the distribution of soil nutrient and pH values. Soil phosphatase activities were significantly correlated with soil microflora ($p \leqq 0.01$) at pre-planting stages and no continuous regularity correlations were investigated at the end of maize growth. Soil enzyme activities showed relative significant correlation with soil organic matters. While no significant correlation was investigated with soil total K content.
【语种】中文
【第一作者】吴海燕
【通讯作者】赵兰坡
【期刊名称、卷期、页码】玉米科学 2010,18(6):90-93.
【论文发表时间】2010-12-16 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农艺学

【题目】东华北春玉米区玉米品种对主要病害和玉米螟的抗性评价
【中文关键词】春玉米;病害;玉米螟;抗性评价
【英文关键词】Spring corn; Diseases; Corn borer; Evaluation of resistance
【中文摘要】对东华北春玉米区 24 份玉米主栽品种进行玉米大斑病 弯孢菌叶斑病 灰斑病 丝黑穗病 茎腐病和玉米螟的抗性鉴定 高抗和抗大斑病品种 11 份,占参试品种的 45.83%;高抗和抗灰斑病品种 11 份,占参试品种的45.83%;高抗和抗玉米弯孢菌叶斑病品种16份,占参试品种的66.67%;高抗和抗丝黑穗病品种10份,占参试品种的41.67%;高抗和抗茎腐病品种18份,占参试品种的75.0%;高抗和抗玉米螟品种 6 份,占参试品种的 25.0% 综合抗性评价筛选出广谱抗性品种 9份,占所有参试品种的37.5%。
【英文摘要】Evaluated for resistance of corn leaf blight, curvularia leaf spot, gray leaf spot, stalk rot, head smut and Asia corn borer in the spring areas of northeast and north China. 11 corn varieties showed high- level resistance to northern corn leaf blight, 16 varieties to curvularia leaf spot with the frequency of 45.83%, 11 varieties to gray leaf spot with the frequency of 45.83%, 10 varieties to head smut with the frequency of 41.67%, 18 corn varieties to stalk rot with the frequency of 75.0%, 6 corn varieties to corn borer with the frequency of 25.0%, 9 corn varieties belong to broad- spectrumresistance with the frequency of 37.5% by systemevaluation and analysis.
【语种】中文
【第一作者】苏前富
【通讯作者】晋齐鸣
【期刊名称、卷期、页码】玉米科学 2009, 17(6): 121 123

【论文发表时间】2009-12-16 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】植物保护学

【题目】2007 年吉林省玉米主要病害调查及其发生趋势预测
【中文关键词】玉米病害;发生趋势;预测预报
【英文关键词】Corn diseases; Catastrophic tendency; Forecast
【中文摘要】2007 年8 9 月对吉林省的长春 四平 延边和白城等9 个地区25个市(县) 乡(镇)的生产田 吉林省区试和生试试验田玉米主要病害发生情况进行了调查和病样采集 结果表明,吉林省大部分玉米产区大斑病和灰斑病普遍发生,白城和松原地区部分玉米产区大斑病发病率高达 100%,灰斑病发病率高达 90%,未来几年可能成为吉林省主要玉米病害 2007 年许多地区玉米弯孢叶斑病 茎腐病 纹枯病 瘤黑粉病 小斑病和丝黑穗病等病害发生也较为普遍,甚至在某些玉米产区成为主要病害。
【英文摘要】The August to September 2007, researched and collected the stylebook of main corn diseases of the districts in Jilin province including Changchun, Siping, Yanbian, Baicheng etc. The research showed that northern corn leaf blight and gray leaf spot occurred in large in Jilin province. Partly corn production- areas of Baicheng andSongyuan district northern corn leaf blight occurrence reached 100%, and gray leaf spot reached 90%, and will probably grew up main corn diseases years in the future. Some areas eyespot, maize stalk rot, corn sheath blight, common smut, southern corn leaf blight, heat smut, etc, will occur also widely, and even grewup the main corn disease in some corn production- areas in this year.
【语种】中文
【第一作者】苏前富
【通讯作者】晋齐鸣
【期刊名称、卷期、页码】玉米科学 2008, 16(5): 135 137
【论文发表时间】2008-10-16 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】植物保护学

【题目】Surfactin induces apoptosis in human breast cancer MCF-7 cells through a ROS/JNK-mediated mitochondrial/caspase pathway
【中文关键词】surfactin,细胞凋亡,ROS,MAPK,线粒体
【英文关键词】Surfactin,Apoptosis, ROS, MAPK,Mitochondria
【中文摘要】Surfactin通过ROS/JNK介导的线粒体/caspase途径诱导人乳腺癌细胞MCF-7的凋亡众所周知,surfactin能够抑制肿瘤细胞增殖和诱导肿瘤细胞凋亡。但是,在诱导肿瘤凋亡的分子机制方面现在还是知之甚少。本论文主要阐述了surfactin诱导肿瘤细胞MCF-7凋亡当中所出现的信号通路。在本研究中,surfactin能够提高细胞内ROS的水平,并且surfactin诱导细胞凋亡能够被NAC和过氧化氢酶所抑制,这就表明ROS参与了surfactin诱导肿瘤细胞凋亡。Surfactin能够持续性的诱导细胞出现ERK1/2和JNK的磷酸化,但是不能够出现p38的磷酸化。Surfactin诱导细胞凋亡能够被PD98059(ERK1/2抑制剂)和SP600125(JNK抑制剂)所抑制,但是不能被SB203580所抑制。JNK的磷酸化能够被NAC/catalase所抑制,但是ERK1/2的磷酸化不能够被抑制。结果显示,surfactin诱导MCF-7凋亡通过了ERK1/2和JNK通路,但是不通过p38,且ERK1/2和JNK的活化是通过两个独立的信号通路机制。Surfactin触发了线粒体/caspase凋亡通路加强了Bax和Bcl-2,细胞色素C的释放和caspase的级联反应。NAC和SP600125能够抑制上述的通路。此外,caspase的抑制剂z-VAD-FMK能够抑制caspase-6的活性,抑制surfactin诱导MCF-7的凋亡。结果表明,Surfactin通过ROS/JNK介导的线粒体/caspase途径诱导人乳腺癌细胞MCF-7的凋亡。
【英文摘要】Surfactin has been known to inhibit proliferation and induce apoptosis in cancer cells. However, the molecular mechanisms involved in surfactin-induced apoptosis remain poorly understood. The present study was undertaken to elucidate the underlying network of signaling events in surfactin-induced apoptosis of human breast cancer MCF-7 cells. In this study, surfactin caused reactive oxygen species (ROS) generation and the surfactin-induced cell death was prevented by antioxidants N-acetylcysteine (NAC) and catalase, suggesting involvement of ROS generation in surfactin-induced cell death. Surfactin induced a sustained activation of the phosphorylation of ERK1/2 and JNK, but not p38. Moreover, surfactin-induced cell death was reversed by PD98059 (an inhibitor of ERK1/2) and SP600125 (an inhibitor of JNK), but not by SB203580 (an inhibitor of p38). However, the phosphorylation of

JNK rather than ERK1/2 activation by surfactin was blocked by NAC/catalase. These results suggest that the action of surfactin on MCF-7 cells was via ERK1/2 and JNK, but not via p38, and the ERK1/2 and JNK activation induce apoptosis through two independent signaling mechanisms. Surfactin triggered the mitochondrial/caspase apoptotic pathway indicated by enhanced Bax-to-Bcl-2 expression ratio, loss of mitochondrial membrane potential, cytochrome c release, and caspase cascade reaction. The NAC and SP600125 blocked these events induced by surfactin. Moreover, the general caspase inhibitor z-VAD-FMK inhibited the caspase-6 activity and exerted the protective effect against the surfactin-induced cell death. Taken together, these findings suggest that the surfactin induces apoptosis through a ROS/JNK-mediated mitochondrial/caspase pathway.

【语种】英文

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【期刊名称、卷期、页码】Chemico-Biological Interactions 2010,183, 357-362

【论文发表时间】2009-11-21 00:00:00

【引文索引类型】SCI

【引文索引号】559MH

【学科分类】食品科学技术基础学科

【题目】Surfactin Induces Apoptosis and G2/M Arrest in Human Breast Cancer MCF-7 Cells Through Cell Cycle Factor Regulation

【中文关键词】surfactin,Bacillus subtilis natto TK-1,抗肿瘤,细胞凋亡,AO/EB染色,TUNEL,Ca2+,细胞周期

【英文关键词】Surfactin Bacillus subtilis natto TK-1Anti-tumor Apoptosis AO/EB staining TUNEL [Ca2?]i Cell cycle

【中文摘要】Surfactin,提取纯化于Bacillus subtilis natto TK-1,抑制MCF-7的增殖,并且呈现剂量和时间效应,24、48、72 h的IC50分别是82.6、27.3和14.8 μM。通过典型的凋亡形态学研究,AO/EB染色和dUTP标记,显示了surfactin诱导肿瘤细胞的凋亡。Surfactin能够诱导胞内产生大量的钙离子释放。流式细胞术显示surfactin诱导MCF-7细胞凋亡主要出现在G2/M期。Western blot显示surfactin诱导肿瘤抑制蛋白p53和细胞周期调节蛋白p21的堆积,并且抑制G2酶和B1/p34。研究表明,surfactin通过诱导MCF-7的凋亡来抑制其增殖,且Ca2+在其中扮演者重要的角色。Surfactin导致G2/M期阻滞通过细胞周期因素。

【英文摘要】Surfactin, purified from Bacillus subtilis natto TK-1, inhibited proliferation of human breast cancer MCF-7 cells in a dose- and time-dependent manner, with IC50 at 24, 48, and 72 h of 82.6, 27.3, and 14.8 lM, respectively. Surfactin-induced cell death was considered to be apoptotic by observing the typical apoptotic morphological change by acridine orange/ethidium bromide staining and Transferase-mediated dUTP Nick End-labeling assay. [Ca]Imeasurement revealed that surfactin induced a sustained increase in concentration of intracellular [Ca]i. Flow cytometric analysis also demonstrated that surfactin caused time-dependent apoptosis of MCF-7 cells through cell arrest at G2/M phase. Western blot revealed that surfactin inducedaccumulation of the tumor suppressor p53 and cyclin kinase inhibitor p21waf1/cip1, and inhibited the activity of the G2-specific kinase, cyclin B1/p34cdc2. Based on our findings, surfactin inhibited proliferation in MCF-7 cells by inducing apoptosis and the elevation of [Ca]i may play an important role in the apoptosis. The mechanism which surfactin caused G2/M arrest seems to be through cell cycle factorregulation.

【语种】英文

【第一作者】曹小红

【通讯作者】曹小红

【期刊名称、卷期、页码】Cell Biochem. Biophys. 2009, 55, 163-171

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【引文索引类型】SCI

【引文索引号】515CP

【学科分类】食品科学技术基础学科

【题目】防治玉米丝黑穗病种衣剂的筛选试验

【中文关键词】种衣剂;玉米丝黑穗;防治效果

【英文关键词】Seed coating agents; Maize head smut; Control effect

【中文摘要】以高感玉米丝黑穗病品种吉单 209 为试验接菌寄主,从市售种衣剂中筛选出 17 个种衣剂,播种前对玉米子粒进行包衣,筛选出 6 个高效种衣剂,对玉米丝黑穗病防治效果达 90%以上,保苗效果达 95%以上

【英文摘要】Maize hybrids Jidan 209 was chosen as high susceptible to head smut and 17 seed coating agents were tested in this experiment. Maize seeds were packed by different seed coating agents before seeding. The results showed that 6 seed coating agents were selected which head smut controlling effects exceed 90% and seedling protect effects exceed 95%.
【语种】中文
【第一作者】苏前富
【通讯作者】晋齐鸣
【期刊名称、卷期、页码】吉林农业科学 2009,34(5):33-34
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【引文索引类型】其他
【引文索引号】null
【学科分类】植物保护学

【题目】家蝇蛹血淋巴及其提取物的免疫调节作用
【中文关键词】家蝇蛹;血淋巴;提取物;免疫调节;胞外信号调节激酶
【英文关键词】Musca domestica pupae;Hemolymph;Extract;Immtmomodulation;Extracellular signal—regulated kinase(ERK)
【中文摘要】目的:观察家蝇蛹血淋巴及其提取物对小鼠脾淋巴细胞增殖的影响。方法:以不同浓度血淋巴及其提取物与脾淋巴细胞、T细胞和B细胞共孵育72小时,采用MTI"法测定淋巴细胞的吸光度值,观察它们对淋巴细胞增殖的促进作用,采用免疫印迹法研究提取物对B淋巴细胞增殖的信号转导通路。结果:与对照组相比,血淋巴冻干粉、分子量在50 kD以上的冻于粉及其提取物对混合淋巴细胞和B细胞增殖有显著促进作用,然而对于T细胞的增殖却没有明显的促进作用。^,rrI ’实验和免疫印迹结果表明血淋巴提取物激活了B淋巴细胞的ERK通路,促进了B淋巴细胞的增殖。结论:家蝇蛹血淋巴及其提取物具有免疫调节作用,为天然免疫增强剂的开发提供了一定的参考依据。
【英文摘要】无
【语种】中文
【第一作者】曹小红
【通讯作者】曹小红
【期刊名称、卷期、页码】中国免疫学杂志, 2009, 25(9) 801-804
【论文发表时间】2009-10-12 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】食品科学技术基础学科

【题目】玉米杂交种对多种病害的抗性评价
【中文关键词】玉米杂交种;病害;抗性评价
【英文关键词】无
【中文摘要】对吉林省生产上广泛应用的 25份玉米杂交种进行大斑病、 弯孢菌叶斑病、 丝黑穗病和茎腐病的抗性鉴定。结果表明 ,中抗大斑病品种有 23份 ,占鉴定总数的 92% ,抗和中抗弯孢菌叶斑病品种有 23份 ,占鉴定总数的 92% ,高抗、抗、 中抗丝黑穗病品种有 21份 ,占鉴定总数的 84% ,高抗、 抗、 中抗茎腐病品种有 19份 ,占鉴定总数的 76%。综合抗性评价得出 ,具多抗性品种 14份 ,占鉴定总数的 56%。
【英文摘要】无
【语种】中文
【第一作者】李红
【通讯作者】晋齐鸣
【期刊名称、卷期、页码】杂粮作物 2010,30(3):238-239
【论文发表时间】2010-03-15 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农艺学

【题目】玉米弯孢病菌毒素的研究进展

【中文关键词】玉米弯孢病菌;培养条件;致病机理
【英文关键词】Curvularia lunata; Femetation condition; Pathogenic mechanism
【中文摘要】玉米弯孢菌毒素作为病原菌的致病因子之一,在玉米弯孢菌叶斑病病害的发生 发展过程中具有明显的致病作用,对其进行系统深入的研究可以更好地了解玉米弯孢菌叶斑病的致病机理,探索新的防治途径 本文对玉米弯孢病菌毒素的培养条件 理化性质 生物活性 致病机理的研究作了概述。
【英文摘要】Toxin produced by Curvularia lunata, which is one of pathogenic factors, has obviously the pathogenic action in the course of the occurrence and development of maize Curvularia leaf spot disease. It contributes to a better understanding for the plant disease of the mechanism and exploring newprevention means through in- depth study. So this paper simple reviewed the toxin on femetation condition, physical and chemical nature, bioassay and pathogenic mechanism.
【语种】中文
【第一作者】张欣芳
【通讯作者】晋齐鸣
【期刊名称、卷期、页码】玉米科学 2009, 17(6): 118 120, 123
【论文发表时间】2009-12-15 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】植物保护学

【题目】家蝇蛹凝集素的免疫调节作用
【中文关键词】家蝇蛹,凝集素,免疫调节,细胞因子
【英文关键词】Musca domestica, lectin, immunomodulation, cytokine
【中文摘要】从家蝇蛹体内分离一种凝集素,研究其免疫调节的性质。首先将收集的家蝇蛹在缓冲液中研磨,得到初提物,经亲和吸附、竞争洗脱等步骤得到纯品。电泳结果标明家蝇蛹凝集素分子量大约为55kD。通过实验说明家蝇蛹凝胶素具有免疫调节作用,为天然免疫增强剂的开发提供了一定的参考依据。
【英文摘要】无
【语种】中文
【第一作者】曹小红
【通讯作者】曹小红
【期刊名称、卷期、页码】天然产物研究与开发,2010,22(1) 20-23
【论文发表时间】2010-01-05 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】食品科学技术基础学科

【题目】种衣剂中不同浓度杀虫剂成分对玉米苗期生长的安全性评价
【中文关键词】克百威; 丙硫克百威; 丁硫克百威; 安全性
【英文关键词】carbofuran; benfuracarb; carbosulfan; safety
【中文摘要】选择克百威、 丙硫克百威和丁硫克百威 3 种杀虫剂作为种衣剂有效杀虫成分, 每种杀虫剂设置 1%、 2%、 3%、 …10%共 10 种浓度梯度, 春天播种期进行玉米包衣播种, 20 d 后调查苗期植株的根长、 根数、 叶数和株高,验证3 种杀虫剂不同浓度对玉米苗期的生长安全性。结果表明:在 10%浓度以下, 3 种杀虫剂进行种子包衣处理, 玉米苗期生长均未产生药害, 植株生长正常。
【英文摘要】The safety of carbofuran, benfuracarb and carbosulfan as active pesticide ingredients of seed coating agents to corn seedlings were tested at different concentrations. In spring, corn seeds were coated before seeding .The results showed that the concentration levels below 10% of the three pesticides were safe for corn se -edlings.
【语种】中文
【第一作者】苏前富
【通讯作者】晋齐鸣
【期刊名称、卷期、页码】植物保护 2011,37(1):161-163
【论文发表时间】2011-02-16 00:00:00

【引文索引类型】其他
【引文索引号】null
【学科分类】植物保护学

【题目】东北地区玉米弯孢菌的致病性分化与RAPD分析
【中文关键词】玉米弯孢菌;致病性分化; RAPDg
【英文关键词】curvularia lunata ;Pathogenicity differentiation; RAPD
【中文摘要】在东北三省 15 个地区采集分离 26 个玉米弯孢菌菌株,通过鉴别寄主技术与 RAPD分子标记技术进行致病性与遗传分化的研究 结果表明,东北地区玉米弯孢菌在致病性与遗传上都存在明显的变异,二者有一定的相关性,未发现变异程度与菌株地理来源有明显的直接关系 26个菌株的致病性分为 5 种类型,其中中等致病类型分布遍及东北三省,为优势致病类群;强致病类型分布在吉林省的白城市;弱致病类型主要分布在吉林省的白山和梨树 用 8 个引物对供试菌株进行RAPD扩增,共获得 77 个 RAPD标记,其中多态性标记 71 个,多态性比例92.2% 供试菌株在相似系数约0.71处共聚为4 组,大多数致病性较强的菌株聚在一起,而弱致病株在相似系数相对较低时和其他菌株聚在一起
【英文摘要】26 isolates of curvularia lunata, mainly isolated from corn curvularia leaf spot in 15 different geographic regions in Jilin, Liaoning and Heilongjiang province, which were characterized by differential host and randomamplified polymorphic DNA(RAPD). The results indicated that there was abundant genetic diversity and pathogenicitydifferentiation in these isolates. Two kinds of variation may have a certain correlation. No close correlation was found between genetic diversity and geographic orgins of isolates. The strains for test were identified as five pathogenic types by differential host which higher pathogenic types was distributed widely in Northeast, therefore that could be considered as the dominant pathogenic group. However highest pathogenic types was distributed in Baicheng in Jilin Province, weakly pathogenic types was mainly distributed in Baishan and Lishu in Jilin Province. Eight primers were employed for RAPD analyses of 26 isolates. Out of the 77 RAPD markers, 71 polymorphic markers (=92.2%) were obtain. All isolates were clustered into four distinct groups at similar level of 0.71. Most strains with highest and higher pathogenicity was clustered together, however strain with weak pathogenicity was clustered at lower similar level.
【语种】中文
【第一作者】张欣芳
【通讯作者】晋齐鸣
【期刊名称、卷期、页码】玉米科学 2010, 18(6): 122-126
【论文发表时间】2010-12-16 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】植物保护学

【题目】,Surfactin对人乳腺癌MCF-7细胞增殖、凋亡及细胞骨架的影响
【中文关键词】surfactin, 增殖, 凋亡, 细胞骨架
【英文关键词】surfactin, proliferation, apoptosis, cytoskeleton
【中文摘要】以体外培养的人乳腺癌细胞株MCF-7 为研究对象, 探讨surfactin 对肿瘤细胞增殖、凋亡及细胞骨架的影响。MTT 实验表明, surfactin 能抑制MCF-7 的增殖, 并且呈现出浓度和时间的依赖关系, 作用48 h 时的IC50 是27.3 mol/L。AO/EB 荧光染色法及流式细胞术检测发现, surfactin 可诱导MCF-7 发生典型的凋亡形态学改变和G2/M 期阻滞。免疫荧光和免疫印迹结果表明, surfactin 显著抑制了细胞内vimentin 的表达, 诱导了 -tubulin 的解聚和重排, 使细胞的骨架系统发生了剧烈的变化。可见, surfactin 具有抑制MCF-7 细胞增殖, 诱导细胞凋亡的作用, 其机制可能与细胞骨架蛋白的表达水平有关。
【英文摘要】无
【语种】中文
【第一作者】曹小红
【通讯作者】曹小红
【期刊名称、卷期、页码】生物工程学报,2009,25(11): 1705-1710
【论文发表时间】2009-10-22 00:00:00
【引文索引类型】其他
【引文索引号】null

【学科分类】食品科学技术基础学科

【题目】家蝇蛹凝集素对免疫低下小鼠免疫功能的影响
【中文关键词】家蝇蛹;凝集素;免疫低下
【英文关键词】Musca domestica pupae;lectin;immunomodulation activi
【中文摘要】将家蝇蛹凝集素(MPL)分别按400 lag/(kg·d)、800 lag/(kg·d)、1 200 lag/(kg·d)连续给小鼠灌胃10d,于第8d和第9d给阴性对照组和3个剂量组小鼠腹腔注射环磷酰胺,造成小鼠免疫功能低下.观察家蝇蛹凝集素对免疫低下小鼠免疫器官指数、巨噬细胞的吞噬能力、脾脏淋巴细胞增殖和血清溶血值HC n的影响.结果表明,家蝇蛹凝集素能显著拮抗环磷酰胺所致免疫功能低下小鼠的免疫器官指数下降,提高巨噬细胞的吞噬能力,明显促进脾脏淋巴细胞增殖,且能使血清溶血素含量显著增加.说明家蝇蛹凝集素对环磷酰胺所致小鼠免疫功能低下有较好的预防作用.
【英文摘要】无
【语种】中文
【第一作者】曹小红
【通讯作者】曹小红
【期刊名称、卷期、页码】天津科技大学学报,2009 24(6).1-4
【论文发表时间】2009-09-15 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】食品科学技术基础学科

【题目】一种新型家蝇蛹凝集素结构的初步探讨
【中文关键词】凝集素,糖蛋白,糖链,O-糖苷键,N-末端封闭
【英文关键词】Lectin, Glycoprotein, Oligosaccharidechain, O-glycosidebond, N-terminalblocke
【中文摘要】初步分析了分离出的一种分子量为55kDa,具有免疫活性的新型家蝇蛹D?半乳糖结合凝集素的结构,为深入研究其结构与功能之间的关系提供大量的信息。首先通过凝胶电泳染色确定此新型家蝇蛹凝集素具有糖链结构,借助蛋白质测序仪、分光光度计比色、β?消除反应、红外光谱以及原子力显微镜技术对其结构进行初步分析。此种家蝇蛹凝集素是一种蛋白和糖含量分别为97.36% 和2.1% 的球状单体,直径为75nm左右。肽链与糖链的连接方式为O?糖苷键型,肽链的N?末端封闭,糖环为吡喃型,为进一步分析其结构提供了可靠的依据。
【英文摘要】无
【语种】中文
【第一作者】曹小红
【通讯作者】曹小红
【期刊名称、卷期、页码】中国生物工程杂志,2009.29.(4),93-97
【论文发表时间】2009-10-10 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】食品科学技术基础学科

【题目】家蝇蛹凝集素的纯化及对巨噬细胞免疫活性的影响
【中文关键词】家蝇蛹;凝集素;纯化;巨噬细胞;免疫调节
【英文关键词】Musca domestica pupae;lectin;purification;immunomodulator;macrophage
【中文摘要】采用缓冲液浸提、亲和层析、超滤和离子交换4 种方法,从家蝇蛹中分离纯化出一种D – 半乳糖特异性结合的凝集素(MPL-1),该组分具有明显的凝血活性和免疫调节活性.聚丙烯酰胺凝胶电泳和高效液相色谱分析结果表明,MPL-1为单一成分的蛋白,其分子质量为80 ku.中性红吞噬实验结果显示,此种凝集素能提高巨噬细胞的吞噬活性,其作用效果具有时间和浓度依赖性. 扫描电镜(SEM)观察结果表明,MPL-1 作用后的巨噬细胞呈现明显的活化状态,证明MPL-1 对巨噬细胞具有明显的免疫调节作用.
【英文摘要】无
【语种】中文
【第一作者】曹小红

【通讯作者】曹小红
【期刊名称、卷期、页码】天津科技大学学报,2010,25(3):5-8
【论文发表时间】2010-06-08 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】食品科学技术基础学科

【题目】旱作节水技术是吉林省农业发展的需要
【中文关键词】干旱;农业;可持续发展;旱作节水
【英文关键词】无
【中文摘要】吉林省是我国商品粮生产大省,又是土壤水分蒸发量大、降雨量少、干旱缺水严重的省份。因此要促进吉林省农业的发展、减少干旱对农业生产的影响,提高水资源利用率、实现农业的可持续发展,实行旱作节水农业技术是一项重大措施。
【英文摘要】无
【语种】中文
【第一作者】张丽华
【通讯作者】边少锋
【期刊名称、卷期、页码】吉林农业科学 2006,31(3):32-34
【论文发表时间】2006-06-16 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农艺学

【题目】氮肥运筹模式对冬小麦氮素吸收利用的影响
【中文关键词】冬小麦; 施氮量; 追肥比例; 土壤氮素累积; 氮素吸收;
【英文关键词】Winter wheat; Nitrogen application amount; Ratio of base/topdressing fertilizer; Nitrogen absorption and utilization;
【中文摘要】为给小麦高产、高效、无污染及可持续生产提供合理的氮肥运筹技术和理论依据,以烟农19为材料,在大田条件下,研究了不同施氮量和基追比例对土壤-小麦系统氮素积累及分配的影响。结果表明,施氮可提高0~100 cm土体内的全氮含量。在小麦越冬前,0~40 cm土层中NO3--N含量随氮肥用量和基肥比例的增加显著增加;起身期到拔节期,施氮量为180和240 kg.hm-2且基肥∶拔节肥∶孕穗肥为3∶5∶2处理的0~40 cm土层内NO3--N含量下降,而施氮量为240 kg.hm-2且基肥∶拔节肥为7∶3和5∶5的处理及施氮量为300 kg.hm-2且基肥∶拔节肥为7∶3的处理则显著增加;拔节期到成熟期,随施氮量的增加,0~60 cm土层速效氮增加幅度有所提高。孕穗肥可明显提高灌浆期的植株全氮含量。因此,在240 kg.hm-2施氮水平、基肥∶拔节肥∶孕穗肥为3∶5∶2条件下,施氮既能减少土壤硝态氮累积量,又能有效降低土壤硝态氮污染地下水的可能性。
【英文摘要】The experiments were conducted from 2006 to 2008 at the farm of Anhui Agricultural University.Yannong 19 was used in this study.The effects of three nitrogen application amounts ranged from 180 to 300 kg · hm-2 and three ratios of base and topdressing on nitrogen assimilation and distribution in soil-plant system were investigoued.The main results were as follows: application of nitrogen fertilizer could increase total nitrogen content in 0~100 cm soil profile.The NO3——N content in 0~40 cm soil layer increased significantly with the increment of nitrogen fertilizer dosage and ratio of basal nitrogen fertilizer at the wheat over-winter stage.The NO3——N content in 0~40cm soil layer lowered for treatments L1,M1,while that of treatments M3,H2,H3 increased in 0~40 cm soil layer at middle growth stage.The NO3——N content of depth layer increased obviously in 0~60 cm soil layer for three ratios of base and topdressing at the same nitrogen fertilizer dosage during middle and latter growth stage,especially under the high nitrogen fertilizer level.The total nitrogen content of wheat plant before anthesis could be increased with the mount of basal nitrogen fertilizer increasing.In general,M1(basal N fertilizer: jointing N fertilizer: booting N fertilizer=3∶5∶2) was the optimum nitrogen application model for 240 kg N · hm-2,which only could decrease the possibility of nitrogen pollution to groundwater but also gained the best economy benefit.
【语种】中文
【第一作者】魏凤珍
【通讯作者】李金才

【期刊名称、卷期、页码】2010,30(1):123-128
【论文发表时间】2010-01-29 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农业基础学科

【题目】吉林省湿润冷凉区玉米吉单198丰产高效栽培技术体系研究
【中文关键词】湿润冷凉区;玉米;吉单198;技术体系
【英文关键词】略
【中文摘要】吉单198在吉林省湿润冷凉区桦甸市播种面积达到40%以上,为发挥其最高生产潜力,2006-2007年进行试验研究,得出该品种最适播种方法为播种器播种。
【英文摘要】略
【语种】中文
【第一作者】方向前
【通讯作者】边少锋
【期刊名称、卷期、页码】中国农学通报 2008.4
【论文发表时间】2008-04-15 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农艺学

【题目】吉林省湿润冷凉区应用扣半留茬播种玉米现状及对策
【中文关键词】扣板留茬;播种;玉米;湿润冷凉区;吉林省
【英文关键词】略
【中文摘要】分析了吉林省湿润冷凉区应用扣半留茬播种玉米存在的问题,并提出相应的解决对策,以期为玉米优质、高产、高效栽培提供技术参考。
【英文摘要】略
【语种】中文
【第一作者】方向前
【通讯作者】边少锋
【期刊名称、卷期、页码】现代农业科技 2010,2
【论文发表时间】2007-10-16 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农艺学

【题目】复合肥对玉米产量的影响
【中文关键词】复合肥;玉米;产量;影响
【英文关键词】无
【中文摘要】施用3种玉米专用复合肥对玉米产量的影响试验结果表明,玉米专用复合肥1对玉米产量影响最大,产量达到10264.5kg/hm2。因此,应该选择各种养分含量配比合理的玉米复合肥,以满足玉米生长发育的需要,为玉米优质、高产、节本、增效栽培提供技术保障。
【英文摘要】无
【语种】中文
【第一作者】方向前
【通讯作者】边少锋
【期刊名称、卷期、页码】现代农业科技,2009,23,31
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【学科分类】农艺学

【题目】Genome-scale identification of cell-wall related genes in Arabidopsis based on co-expression network analysis
【中文关键词】无
【英文关键词】Plant cell wall, Arabidopsis, Co-expression network analyses, Bi-clustering, Cis regulatory motifs
【中文摘要】无
【英文摘要】Here we present a computational study focused on identification of the novel PCW genes inArabidopsis based on the co-expression analyses of transcriptomic data collected under 351conditions, using a bi-clustering technique. Our analysis identified 217 highly co-expressedgene clusters (modules) under some experimental conditions, each containing at least onegene annotated as PCW related according to the Purdue Cell Wall Gene Families database.These co-expression modules cover 349 known/annotated PCW genes and 2,438 newcandidates. For each candidate gene, we annotated the specific PCW synthesis stages inwhich it is involved and predicted the detailed function. In addition, for the co-expressedgenes in each module, we predicted and analyzed their cis regulatory motifs in the promotersusing our motif discovery pipeline, providing strong evidence that the genes in each coexpression module are transcriptionally co-regulated. From the all co-expression modules, weinfer that 108 modules are related to four major PCW synthesis components, using three complementary methods.
【语种】英文
【第一作者】王杉
【通讯作者】郝东云
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【学科分类】生物化学

【题目】吉林省湿润冷凉区应用滚动式施肥播种器播种玉米的关键技术
【中文关键词】玉米;播种;滚动式施肥播种器;吉林省湿润冷凉区
【英文关键词】无
【中文摘要】介绍吉林省湿润冷凉区应用滚动式施肥播种器播种玉米的关键技术,主要包括整地与施肥、种子处理、播种量与肥料调试、合理种植、随起垄随镇压等内容。
【英文摘要】无
【语种】中文
【第一作者】方向前
【通讯作者】边少锋
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【学科分类】农艺学

【题目】欧洲葡萄品种‘无核白’不同营养系果实的酚类物质
【中文关键词】葡萄;无核白;酚类物质;多酚氧化酶;白藜芦醇
【英文关键词】grapevine; Thompson Seedless; phenolic compounds; polyphenol ox idase; resveratrol
【中文摘要】摘要:【目的】更有效地发挥欧洲葡萄品种‘无核白’不同营养系鲜食或制干的用途,筛选‘无核白’系列大粒与白藜芦醇含量较高的鲜食品系,酚类物质浓度与多酚氧化酶活性较低而适宜绿色葡萄干制备的制干品系。【方法】以‘无核白’葡萄为对照,以其性状上有变异的 10 个营养系成熟果实为材料,取样测定其果粒重,用折光仪测定可溶性固形物含量,HPLC 法测定果皮与全果白藜芦醇含量、酚类物质,比色法测定多酚氧化酶活性。【结果】大粒无核白和 W3 等营养系浆果单粒重为对照的 1.3286—1.4682 倍;W2、W8、长穗无核白和 W7 等营养系果实白藜芦醇含量为对照的 110.65%—128.41%;‘无核白’葡萄营养系果实中总酚含量具有明显差异,含量较低的有长粒无核白、W8、W3 和大粒无核

白等;不同营养系果皮中多酚氧化酶活性是全果的 1.06—13.19 倍。【结论】与对照相比,供试 10 个‘无核白’葡萄营养系中,单粒重、可溶性固形物含量、果皮与全果的白藜芦醇含量较高的有 W3、大粒无核白、长粒无核白和 W5 等;酚类物质总量较低的营养系有大粒无核白、长粒无核白、W3 等;多酚氧化酶活性较低的营养系有 W7、长穗无核白、W3、W8。本研究结果为‘无核白’系列无核葡萄品种选育提供了部分依据。

【英文摘要】Abstract: 【Objective】 This research was aimed to evaluate the clonal lines of V. v i n e f e r a cv. Thompson Seedless for breeding of new table grape varieties of higher resv eratrol concentration, or ne w raisin grape varieties of lower total phenolic compound (TPC) concentration and polyphenol oxidase (PPO) activity relatively. 【Method】 Using V. v i n e f e r a cv. Thompson Seedle ss and ten diverse lines of this variety as materials, fresh berry mass and soluble solid content (TSS), resveratrol ,TPCs and PPO activity were evaluated. 【Result】 The results indicated that the berry mass of Big-berry Thompson Seedless and W3 were 1.3286-1.4682 times of that of the control (Thompson Seedless). Resveratrol contents of W2 , W8, Long-bunch Thompson Seedless and W7 were 110.65%-128.41% of that of the control. TPC contents of each lines were significantly different, in which Long-berry Thompson Seedless, W8, W3, and Big-berry Thompson Seedless were with small amount TPCs. PPO activity of berry skin was 1.06-13.19 times of that of the whole berry.【Conclusion】Compared to the control, W3, Big-berry Thompson Seedless, Long-berry Thompson Seedless and W5 were superior for fresh table grape breeding based on berry mass, T SS, resveratrol content. TPCs of Big-berry Thompson Seedless,Long-berry Thompson Seedless and W3 were relatively lower th an other lines, and PPO activity of W7, Long-bunch Thompson Seedless, W3, W8 were relatively low among the materials tested. These results could pr ovide some indications for the prospecti ve breeding of new lines of Thompson Seedless variety.

【语种】中文
【第一作者】张宗勤
【通讯作者】王跃进
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【学科分类】园艺学

【题目】等离子体处理种子在农业上的应用
【中文关键词】等离子体;种子;应用
【英文关键词】无
【中文摘要】等离子体处理种子,可使作物增产且改变品质、增收效果明显,是我国农业生产的新技术、新方法,具有投资少、见效快、易操作、无环境污染等优点,有着广阔的市场前景和较高的应用价值。
【英文摘要】无
【语种】中文
【第一作者】方向前
【通讯作者】边少锋
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【题目】等离子体处理技术
【中文关键词】等离子体;应用技术
【英文关键词】无
【中文摘要】本文概述了等离子体处理机的来源、研究成果及应用前景,并介绍了等离子体处理机的操作技术。
【英文摘要】无
【语种】中文
【第一作者】方向前
【通讯作者】边少锋

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【题目】利用胚挽救技术创制葡萄多倍体种质的研究
【中文关键词】葡萄多倍体胚挽救流式细胞术 染色体计数 育种
【英文关键词】Grape ; Polyploid ; Embryo rescue ; Flow Cytometry ; Chromosome identification ; Breeding
【中文摘要】为培育三倍体无核葡萄新品种以二倍体欧洲葡萄无核品种红宝石无核 爱 莫 无 核黎明无核和欧山杂种北醇及四倍体欧美杂种藤稔 黑奥林为亲本进行了红宝石无核 藤稔黎 明 无 核藤 稔爱 莫 无 核黑 奥 林藤 稔北 醇黑奥林北醇 个组合的杂交通过胚挽救技术获得杂种幼苗 株 在此基础上利用流式细胞术 染色体计数的方法对所获得的杂种幼苗进行了早期倍性鉴定 结 果 表 明 有 株杂种为三倍体 株 为 四 倍 体 株 为 非 整 倍 体 其 余株为二倍体 这将为进一步选育出三倍体无核葡萄新品种和提供新的育种材料奠定基础
【英文摘要】For the purpose of breeding triploid grape , five cross combinations including Ruby Seedless (Vitis vinifera) × Fujiminori (V. vinifera × V. labrusca) , Dawn Seedless (V. vinifera) × Fujiminor (V. vinifera × V. labrusca) , Emerald Seedless (V. vinifera) × Black Olimpia (V. vinifera × V. labrusca) , Fujiminori × Beichun V. vinifera × V. amurensis and Black Olimpia × Beichun were performed and embryo rescue techniques were employed. As a result , 41 ybrid seedlings were obtained. Furthermore , the chromosome ploidy of these ybrids was measured by flow cytometry and chromosome identification. The results showed that the hybrids were made up of 10 triploid plants , 6 tetraploid plants , 4 aneuploid plants and 21 diploid plants. This study will provide a foundation for further breeding triploid varieties and new breeding materials in grape.
【语种】中文
【第一作者】石 艳
【通讯作者】王跃进
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【题目】‘ 无核白 ’葡萄及其营养变异系的光合作用与果实特性
【中文关键词】葡萄; 光合作用;芽变; 育种;-无核白. ; 吐鲁番
【英文关键词】grape; photosynthesis; budmutant; breeding; -ThompsonSeedless. ; Turpan
【中文摘要】以-无核白. 葡萄为对照, 以其自然营养变异系-长穗无核白. 、-长粒无核白. 、-大粒无核白. 、-W3. 与-W7.为材料,在新疆吐鲁番鄯善田间栽培条件下比较其果实及光合作用特性, 为-无核白. 系列葡萄优良品种选育提供依据。结果表明:(1)供试各营养系具有较高的光、热利用能力, 叶片日平均净光合速率(5. 5277~ 7.4123Lmol#m- 2#s- 1) 均大于对照(4.8797Lmol#m- 2#s- 1) ; 除-长穗无核白. 外, 其余营养系均无明显光合-午休. 现象。(2) 供试条件下净光合速率与田间空气温度、叶片温度、叶片表面蒸汽压差呈正相关; 而气孔导度、光照强度等因子是-无核白. 系列葡萄光合作用的非决定因素。(3)-长穗无核白. 的穗长(36. 43cm) 是对照(25.27cm)的1. 44倍;各营养系果粒均大于对照, 其中-W3. 、-大粒无核白. 、-长穗无核白. 、-长粒无核白. 果粒(2. 096 0、2. 202 7、2.0193、1. 4703g) 极显著大于对照(1.0577g)。(4)-长粒无核白. 果粒耐压力和果梗耐拉力均极显著优于对照,其他营养系与对照无显著差异; 果粒较大的-W3. 、-大粒无核白. 、-长粒无核白. 等可溶性固形物含量(22. 92%、23. 57%、23. 17%)与对照(23.85%)无差异。综合分析认为,供试营养系-W3. 、-W7. 和-长粒无核白. 相对较优良,宜进一步研究;研究证明果实与叶片光合作用特性指标可用于葡萄营养系选种。
【英文摘要】Abstract:For breeding advancedvarieties, we studiedtheeffect of meteorologyonthephotosyntheticcharacteristicsandfruit characteristicsof five-ThompsonSeedless. diverseclones(viz. , -Long-bunchThomp-sonSeedless. , -Long-berry ThompsonSeedless. , -Big-berry ThompsonSeedless. , -W3. and-W7.) invineyardof Shanshan, Turpan, China. Theresultswereasfollows. (1) Theaveragenet photosynthesisrates(Pn) of all fivevariants(5. 5277~7. 4123Lmol #m-2#s- 1) weresignificantlyhigher thanthat of control-ThompsonSeedless. (4. 8797Lmol #m-2#s-1) . There wasno midday depressionof photosynthesis ofthe materialsexcept -Long-bunchThompsonSeedless. . (2) ThePnswerecorrelatedpositivelywiththeairtemperature(Tair) , theleaf temperature (Tleaf) , vapor deficit at the leaf surface (VpdL) respectively. (3)Bunchlengthof -Long-bunchThompson

Seedless. (36. 43cm) was 1. 44times of that of the control(25. 27cm) . Berry massof eachvariantstestedwasheavier thanthat of the control, inwhich-W3. ,-Big-berry Thompson Seedless. , -Long-bunch Thompson Seedless. , -Long-berry Thompson Seedless.(2. 0960, 2. 2027, 2. 0193and1. 4703g) weresignificantly higher thanthat of control (1. 0577g) . (4)Theberry compressionresistance andberry detachment force of -Long-berry ThompsonSeedless. weresignificantly greater thanthat of control. There was no different statistically of soluble solidcontentsbe-tweenthe bigger berry variants (-W3. , -Big-berry Thompson Seedless. , -Long-berry ThompsonSeed-less.) relatively (22. 92%, 23. 57%, 23. 17%) andthecontrol (23. 85%) . These resultsindicatedthat thevariants-W3. ,-W7. and-Long-berry ThompsonSeedless. might be promising clones that shouldbein-vestigatedfurther.
Wecoulddeducedanewbreeding approachthat besides fruit characteristics, photosyn-theticresponse couldbeusedasmajor indicesfor breeding newvarietiesby clonemutationselection.

【语种】英文
【第一作者】张宗勤
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【题目】不同秸秆还田方式对夏玉米性状及水分利用效率的影响
【中文关键词】麦秸; 玉米; 出苗率; 抗倒性能; 水分利用效率;
【英文关键词】wheat straw; maize; emergence rate; lodging-resistance; water use efficiency;
【中文摘要】为探求适合淮北平原机播夏玉米的最佳麦秸还田方式,在大田条件下,研究了麦秸全量还田方式(粉碎抛撒、灭茬覆盖、直接覆盖)对机播夏玉米出苗率、抗倒性能和水分利用效率的影响。结果表明,粉碎抛撒处理的出苗率最高;灭茬覆盖处理的总倒伏率最低,而单株气生根数目,总根条数和根系干重最高,且其植株基部第3~7节间的直径、单位茎长干重和茎秆压碎强度、穿刺强度、抗倒指数、土壤含水率、产量及水分利用效率也高于粉碎抛撒和直接覆盖处理。灭茬覆盖和粉碎抛撒处理的产量和经济效益之间差异不显著,但均高于直接覆盖处理。因此,无论是从直接经济效益,还是长期的生态效益考虑,麦秸灭茬覆盖和粉碎抛撒覆盖都值得在生产中推广。
【英文摘要】The objective of this study was to investigate effects of different treatments of wheat straw such as grinding cover(GC),stubbing cover(SC) and direct cover(DC) on emergence rate,lodging-resistance and water use efficiency of summer maize sowed mechanically in Huaibei district.The results showed that GC-treated maize had the highest emergence number and rate,SC-treated one had the lowest total lodging percentage whereas the brace root number,total root number and root dry weight per plant were the highest.Among the three treatments,GC had the higher basal 3 to 7 internode diameter,the ratio of dry weight to length of internode,culm crashing strength and rind penetration strength,lodging-resistance index,soil water content,grain yield and water use efficiency.There is no significant difference of grain yield and economic benefit between GC and SC treatments,but all of them were higher than these of DC.Therefore,when taking both economic and long-term ecological benefits into consideration,treatment of mechanically-sowed summer maize with GC and SC will become a favorite practice for summer maize production in Huaibei district.
更多
【语种】中文
【第一作者】沈学善
【通讯作者】李金才
【期刊名称、卷期、页码】中国农业大学学报,2010,15(3:35-40)
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【学科分类】农业基础学科

【题目】超高产玉米品种不同密度光合特性的比较研究
【中文关键词】超高产玉米;穗部性状整齐度;产量;密度
【英文关键词】Super high-yieding corn; Ear characteristics uniformity;Yiled;Plant population

【中文摘要】对两个超高产玉米品种先玉335和郑单958在5个密度种植条件下的穗部性状整齐度及其与产量的关系研究表明,穗部各性状整齐度与产量均呈正相关,并且行粒数整齐度、穗粒数整齐度、穗位高整齐度均在7.5万株/公顷和9.0万株/公顷两个密度条件下最高;先玉335产量在9.0万株/公顷条件下最高,7.5万株/公顷时次之;郑单958产量在7.5万株/公顷密度下最为突出;两个品种的穗位高整齐度和行粒数整齐度均与产量的关系最为密切,因此,把行粒数整齐度和穗位高整齐度作为选择高产品种和采取适宜栽培措施的一项指标具有一定的可行性。
【英文摘要】The correlation between the ear uniformity and yield of two super high-yielding corn, Xianyu335 and Zhengdan958,was studied,the results showed that there were positively correlated between the ear characteristics uniformity and yield, and the value of seeds per row uniformity,seeds per ear uniformity and ear height uniformity was the highest by planting in plant populations of 75000 plants/hm2 and 90000 plants/hm2.Yield of Xianyu335 was the best by planting in 90000 plants/hm2 and the better in 75000 plants/hm2,yield of Zhengdan958 was the best by planting in 75000 plants/hm2.There was closed relationship between ear height uniformity,seeds per row uniformity and yield. So, the ear height uniformity and seed per row uniformity couled be used as a selection index for high-yielding corn cultivars and taking feasible cultural measure.
【语种】中文
【第一作者】边少锋
【通讯作者】边少锋
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【引文索引号】null
【学科分类】农艺学

【题目】袋控缓释肥对“ 克瑞森 ”葡萄产量和品质的影响
【中文关键词】施肥克瑞森无核产量品质
【英文关键词】grape
【中文摘要】摘 要以无核克瑞森葡萄为试材根据果树树体较大生长周期较长和新疆吐鲁番地区的土壤状况采用牛皮纸袋包装一定比例的混合肥料袋上打孔控制肥料养分释放速率 研究不同施肥处理对克瑞森葡萄叶绿素含量维生素 和可滴定酸等生理指标的影响 结果表明各处理均对克瑞森葡萄的产量和品质有所提高 其中用纸袋包装有机肥并叶面加喷 的处理表现最优较对照增产 达 可溶性固形物较对照提高 达
【英文摘要】无
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【第一作者】张乐
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【题目】秸秆全量还田对冬小麦不同小穗位和粒位结实粒数和粒重的影响*
【中文关键词】秸秆还田; 冬小麦; 结实粒数; 粒重; 小穗位; 粒位;
【英文关键词】straw returned to the field; winter wheat; fertile spikelet number; grain weight; spikelet position; grain position;
【中文摘要】【目的】研究小麦玉米秸秆连续全量还田对小麦穗部不同小穗位和粒位结实粒数及粒重变化的影响。【方法】通过设置3年定位试验研究小麦玉米秸秆全量还田对小麦不同小穗位结实粒数、粒重的小穗位和粒位的影响效应。【结果】小麦玉米秸秆连续全量还田提高了小麦的公顷穗数、穗粒数、千粒重和产量。各处理小麦不同小穗位结实粒数、小穗重、小穗平均单粒重均呈现二次曲线变化趋势,不同粒位的粒重也随小穗位的变化呈二次曲线形式。结实小穗越多、各小穗结实粒数或单粒重差异越小,空间分布模拟曲线的弧度越平缓。秸秆还田提高了小麦主茎穗和分蘖穗的结实小穗数与小穗结实粒数,降低了不孕小穗数,且下部小穗的结实粒数增加幅度较大;秸秆还田还提高了小麦不同粒位的单粒重,以第3、4粒位提高幅度较大。【结论】小麦玉米秸秆连续全量还田提高了小麦不同小穗位的结实粒数和粒重,进而提高了籽粒产量。

【英文摘要】【Objective】 The objectives of this study were to research the change of gain number and grain weight of wheat with spikelet and grain position in main stem and tiller spike under the condition of straw returned to the field.【Method】 A location field experiment was conducted from 2008 to 2010,single maize straw returned to the field,single wheat straw returned to the field,wheat and maize straw returned to the field were conducted to study the effects of straw returned to the field on grain number and grain weight at different spikelets and grain positions in winter wheat.【Result】Results showed that,the spike per hectare,grain number per spike,1 000-grain weight and yield were increased in treatment of straw returned to the field.The distribution of grain number,spikelet weight,and grain weight with the spikelets positions showed parabolic changes,so as the grain weight at 1st,2nd,3rd in each treatment and 4th in treatment of straw returned to the field.The more fertile spikelet number and less difference in spikelet grain number and single grain weight,the smoother the parabola was.The fertile spikelet number and spikelet grain number in main stem and tiller spike were increased in treatment of straw returned to the field,the increase range of fertile spikelet number in the bottom spikelet were bigger.There were different increasing effects of straw returned to the field on single grain weight at different grain positions,especially for at of 3rd and 4th grain position.【Conclusion】 Therefore,under the condition of wheat and maize straw returned to the field,grain yield and yield components,spikelet grain number and grain weight at different spikelets of wheat were enbanced.
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【题目】温宿红葡萄生物学特性及果实性状多样性研究
【中文关键词】葡萄;温宿红;多样性;物候期;新疆
【英文关键词】Wensuhong;grapevine;biodiversity;phenophase;Xinjiang
【中文摘要】摘要:【研究目的】温宿红是新疆温宿县地方优异葡萄品种,当地长期栽培中形成了丰富的葡萄种质资源多样性,该文通过对温宿红葡萄果实与形态性状多样性的研究,以期为筛选出适合当地条件的温宿红葡萄系列新品种(系)提供材料基础。【方法】通过田间观察,以果实特性为主要指标,植株形态特征为辅,研究温宿红葡萄品种多样性。【结果】温宿红葡萄植株生长势强,晚熟、丰产,果穗松紧适中、穗梗粗壮,果粒圆、大小一致,果肉硬脆,味甜,果皮红色鲜丽,符合人们的消费习惯,有一定的耐贮运性,是较为理想的鲜食品种。温宿红自然群体中存在诸多变异类型,初步筛选出的7 个形态与果实性状多样性植株在果穗、果粒形态,果实耐压力、耐拉力、可溶性固形物含量和种子数等方面均存在显著性差异。【结论】温宿红葡萄自然群体中存在变异类型,对该品种的深入研究及初选的多样性植株具有一定育种及利用价值。
【英文摘要】Abstract:【OBJECTIVE】Grapevine ‘ Wensuhong ’ is an elite grapevine variety native to Wensu County,Xinjiang. Some vegetative mutations might exist in the garden. The objective of this study is to evaluate thebiologicalcharacteristicsandbiodiversityofthefruitcharacteristicsofthevariety, 【METHOD】Thestudywasperformed on the variety through field investigation and vegetative mutant selection. 【RESULTS】The resultsindicated that the plants of this variety were vigorous growth, late maturation, productive. The grape bunchesweremoderateindegreeoftightness,strongonbunchstalk.Theberrywascircular,identical,sweet,somewhatfirm,crispyandwithlonger shelflife.Thegrapepeelwasattractivelyred.Soitisasuperiorcultivatedvarietyof table grape. There are many variations in the natural grapevine population. Seven diversity plants of thevariety based on the fruit characteristics were selected. They were significantly different in bunches, berrymorphology, press and pull resistance, soluble solid content and number of seeds in each grape.【CONCLUSION 】We could conclude that it
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【题目】砂姜黑土区小麦玉米秸秆全量还田对玉米抗倒性能的影响*
【中文关键词】夏玉米; 砂姜黑土; 秸秆还田; 抗倒性能;
【英文关键词】summer maize; lime concretion black soil; straw returned to the field; lodging-resistance;
【中文摘要】【目的】探讨砂姜黑土区小麦玉米秸秆全量还田对夏玉米抗倒性能的影响。【方法】以夏玉米品种郑单958为材料,通过定位试验研究小麦玉米秸秆全量还田对玉米抗倒性能的影响。【结果】小麦或玉米秸秆全量还田均能提高玉米气生根条数、0—30 cm土层根条数及根系干重,同时,玉米株高和单株鲜重均有所增加。秸秆还田后,在吐丝期和灌浆中期,玉米茎秆基部3—7节间的长度、直径、干重和单位茎长干物质重有增加的趋势,尤其是基部节间的茎秆压碎强度和穿刺强度显著提高。另外,玉米的根倒伏系数显著降低,而植株抗倒指数则显著升高。相关分析表明,根倒伏系数与根倒率显著正相关,而与单株鲜重、根系干重和基3节压碎强度显著负相关。玉米总倒折率与节间长度极显著正相关,而与节间干重、充实度、压碎强度和穿刺强度显著负相关。【结论】小麦玉米秸秆连续全量还田可以显著降低夏玉米的根倒率和茎折率,提高籽粒产量。
【英文摘要】【Objective】 The objective of the experiment is to study the effects of straw returned to the field on lodging resistance of maize in lime concretion black soil region.【Method】 Maize cultivar Zhengdan 958 was grown in this plot experiment to investigate the effects of straw returned to the field on lodging resistance of maize.【Result】 The results showed that wheat or maize straw returned to the field could increase aerial root number,root number in 0-30 cm soil layer and root weight,so as the plant height and fresh weight of maize.After straw returning,the length,diameter,dry weight and ratio of dry weight to length of internodes from bottom 3rd to 7th were increased especially the stalk crash strength and stalk rind penetrain strength of bottom internodes were significantly increased at silking and filling stage.In addition,the root lodging coefficients were a significantly decreased while the lodging resistance indexes were significantly increased.The correlation coefficient showed that there was significant positive correlation between root lodging coefficient and root lodging percentage while there was a negative significant correlation among root lodging coefficient,fresh weight,root weight and stalk crash strength of bottom 3rd internode.The relation between total lodging percentage and internode length was a very significant post ive correlation while that among total lodging percentage and the dry weight,plumpness,crash strength and rind penetrain strength of internodes were a significant negative correlation.【Conclusion】 Therefore,under the condition of wheat and maize straw returned to the field,the root lodging percentage and stalk breaking percentage of maize would be decreased while the grain yield would be increased.
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【题目】氮肥运筹方式对孕穗期受渍冬小麦穗部结实特性与产量的影响*
【中文关键词】渍害; 氮肥运筹方式; 冬小麦; 结实特性; 产量;
【英文关键词】Waterlogging; Nitrogen fertilization; Winter wheat; Seed-setting characteristics; Grain yield;
【中文摘要】以小麦品种皖麦54为试验材料,连续两个生长季进行了氮肥运筹方式对孕穗期渍水冬小麦不同小穗位、粒位的结实粒数和粒重影响的观测。结果表明,不同氮肥运筹方式显著影响穗部结实特性,主茎穗结实特性优于分蘖穗。全部基施的氮肥运筹方式较基肥50%+拔节肥50%和基肥30%+拔节肥50%+孕穗肥20%的运筹方式显著增加了不孕小穗数,降低结实小穗数和结实粒数,2008—2010两年度全部基肥运筹方式较基肥30%+拔节肥50%+孕穗肥20%氮肥运筹方式处理不孕小穗数分别增加25.5%和29.8%,结实小穗数均降低5.7%。孕穗期渍水逆境对分蘖穗结实特性影响大于主茎穗,渍水逆境显著增加不孕小穗数,较对照处理,2008—2010两年度,不孕小穗数分别增加10.6%和4.6%;结实小穗数分别降低2.8%和1.4%。孕穗期渍水降低主茎穗结实4粒的小穗数比例和分蘖穗结实3、4粒小穗数的比例及第3、第4粒位籽粒粒重和第3、第4粒位粒重对单穗粒重的贡献率。氮肥后移运筹方式显著提高孕穗期受渍小麦主茎、分蘖穗结实小穗数和粒重,增加主茎和分蘖穗结实3、4粒小穗的比例和结实小穗第3、4粒位的粒重,提高第3、4粒位粒重对单穗粒重的贡献率,减少不孕小穗数,进而较氮肥前移处理显著提高经济产量。氮肥后移运筹方式有利于减轻孕穗期渍害对小麦穗部结实特性的影响。
【英文摘要】Waterlogging has great influence on yield reduction in winter wheat production in some areas of China. Nitrogen (N) application is believed to be able to improve dry matter translocation in wheat, as a result to increase final yield. In a field experiment

across two growing seasons, we used winter wheat cultivar "Wanmai 54" to investigate the effect of waterlogging at booting stage and N fertilizing strategy on number and weight of grain at different spikelet positions and grain positions. Under both waterlogging and control (normal watering) conditions, we implemented four N application treatments with different N application ratios (total N amount of 240 kg ha 1 in all treatments) at land preparation, jointing, and booting stages (10:0:0 for N1, 7:3:0 for N2, 5:5:0 for N3, and 3:5:2 for N4). The results showed that seed-setting characteristics of main stem were superior to tiller spike. In the N1 treatment, the sterile spikelet per spike was significantly increased, and the grain number per spike was significantly decreased. Compared with N4 treatment, sterile spikelet per spike of N1 treatment increased by 25.5% and 29.8% in 2008-2009 and 2009-2010 growing seasons, respectively. The grain number per spike of N1 treatment decreased by 5.7%. Waterlogging had greater effect on the tiller spike than the main stem spike. Waterlogging at booting stage significantly increased sterile spikelet per spike by 10.6% and 4.5%, and the grain number per spike decreased by 2.8% and 1.4% in the two growing seasons, especially for spike with four grains on main stem and three grains per spike of tiller spike, the grain weight in the third and the fourth grain positions, the contribution rate of the third and the fourth grain weights to the grain weight per spike. With the delay of N fertilization, spikelet per spike, single weight per spike increased significantly, the sterile spikelet per spike decreased compared to the prior N fertilization treatments. Postponed N fertilization could compensate the decrease of spike with three and four grains and increase the grain weight in third and the fourth grain positions under waterlogged environment at booting stage, increase the contribution rate of the third and the fourth grains weight to the grain weight per spike. Therefore, with the postponed N fertilization, grain yield and spikelet grain number and grain weight at different spikelet of wheat were enhanced. Results indicate that postponed N fertilization alleviates the effect of waterlogging at booting stage on the seed-setting characterisitics of spike and single grain weight.

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【题目】新疆阿克苏地区木纳格葡萄果实性状多样性研究
【中文关键词】木纳格;果实性状;多样性;新疆阿克苏
【英文关键词】fruit characteristics; Munage; diversity; Akesu of Xinjiang
【中文摘要】摘　要:以新疆地方葡萄品种木纳格栽培资源为对象,以品种选育为目标,研究了果实性状多样性。初步结果表明,果穗性状(果穗长、穗宽、果穗梗长、果穗重),果粒性状(单粒重、果粒纵横径、果梗长),果实商品性状(果实耐压力、果梗耐拉力、可溶性固形物含量), 种子性状(种子数、种子鲜重)等指标,均获得了丰富的多样性,大部分多样性植株具有比对照木纳格更优良的特性,其中28、8、13和27号等株系综合性状较好,为进一步研究木纳格葡萄果实性状多样性植株的遗传稳定性及变异植株的生理、分子机理等奠定了材料基础。
【英文摘要】Abstract : The diversity of the fruit characteristics of Vitis vinifera cv. Munage, a traditional grapevine cultivar cultivated in southern Xinjiang Uygur Autonomous Region, was studied for breeding elite variety. A plenty of individual plants were evaluated, and they showed different the grape bunch characteristics, including bunch length and width, bunch stalk length, bunch weight; different grape berry characteristics, including single berry weight, berry length and width, length of berry stalk; different grape commodity characteristics, including pressure and pulling force of berry, and its soluble solid content; and different characteristics of seeds, including seed number per berry and seed weight. Most of the clones have one or more phenotypic traits superior to that of Munage used as the control, among which clone 8, 13, 27, and 28 were those with comprehensively advanced variants. The results suggested these plants could be used as materials for further studies on the hereditary stability, physiological, and some molecular mechanism of some important phenomena.

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【题目】砂姜黑土区秸秆还田对玉米生育及水分利用效率的影响
【中文关键词】砂姜黑土; 秸秆还田; 玉米; 出苗; 水分利用效率;
【英文关键词】lime concretion black soil; straw returned to the field; maize; emergence; water use efficiency;
【中文摘要】为了在淮北砂姜黑土区推广小麦玉米秸秆全量还田技术,采用大田定位试验,设置小麦玉米秸秆不还田、小麦玉米秸秆单季还田和小麦玉米秸秆两季还田4种秸秆还田方式,研究了小麦、玉米秸秆全量粉碎还田对机播夏玉米出苗、生育、产量和水分利用效率的影响。结果表明:小麦玉米秸秆两季还田处理2008和2009年玉米出苗数分别比对照高3.25%和11.98%;出苗均匀度、株高整齐度、幼苗素质和耕层土壤含水率均高于对照,最终2008和2009年玉米产量分别较对照提高了7.92%、9.51%,土壤水分利用效率分别提高了8.15%、9.48%。可见,砂姜黑土区小麦玉米秸秆两季全量还田有利于玉米生长发育,提高籽粒产量。
【英文摘要】The effects of straw returned to the field which including no straw returning(CK),wheat straw returning(T1),maize straw returning(T2) and wheat and maize straw returning(T3) on emergence,growth,yield and water use efficiency of maize under field location condition to generalize the techniques of total straw of wheat and maize returned to the filed in lime concretion black soil region of Huaibei plain.The results showed that to compared with CK,the maize emergence number of T3 were increased by 3.25% and 11.98% in 2008 and 2009,respectively.The emergence rate,emergence uniformity,evenness of plant height,seedling quality and soil water content of T3 were higher than that of CK,which created a good population growth condition for maize,thus the population leaf area index and dry matter accumulation of that were improved.Finally,be compared with CK,the yield of T3 were increased by 7.92% and 9.51% while water use efficiency of that were increased by 8.15% and 9.48% in 2008 and 2009,respectively.Therefore,under the condition of wheat/maize straw returned in two seasons,the growth and grain yield of maize could be improved.
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【题目】新疆喀什地区四个葡萄品种的引种分析
【中文关键词】新疆;喀什; 葡萄;果实性状
【英文关键词】Xinjiang; Kashi; Grapevine; Fruit introduction
【中文摘要】摘　要: 对新疆喀什引进栽培的红地球、黑大粒、巨峰及美人指葡萄的果实性状进行了测定分析。结果表明:4个供试品种在喀什地区都具有较强的适应性,果穗、果粒形态表现出了该品种应有的特性, 丰富了当地葡萄栽培品种。但供试各品种可溶性固形物含量偏低, 果粒偏小, 分析主要原因是当地有关葡萄生产、科研与技术推广相对薄弱的现状, 影响了品种的果实特性, 当地栽培管理技术水平亟待提高。
【英文摘要】Abstract:Fruit characteristicsof 4grapevinevarietiesof RedGlobe, Exotic, Kyoho,ManicureFinger, cultivatedinKashi,Xinjiangwereanalysized. Theresultsindicatedthat all the4varietiescouldbeculturedhere, but thefruitswerenot sogoodunder cultivationtechnologynowadays. Thesedemonstratedthat trainingthefarmersof theircultivationtechnologyfor grapeproductionwaspractically important.
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【题目】播种密度对冬小麦不同穗位与粒位结实粒数和粒重的影响
【中文关键词】冬小麦; 播种密度; 穗型; 小穗位; 粒位;
【英文关键词】Winter wheat; Plant density; Spike type; Spikelet position; Grain position;
【中文摘要】利用重穗型小麦品种兰考矮早八和中间型品种周麦18,研究了不同播种密度对结实粒数与粒重的小穗位和粒位效应的影响。结果表明,不同穗型冬小麦品种小穗位结实粒数、小穗重及不同粒位粒重均随着小穗位自基部至顶部呈先增后降的二次曲线变化;不同穗型冬小麦品种穗部籽粒的分布差异显著,主茎穗的结实特性及粒重均优于分蘖穗;随着播种密度的下降,穗部结实特性和粒重有优化的趋势,重穗型品种兰考矮早八对密度的反应更为敏感,中间型品种周麦18小穗位和粒位对播种密度的调节效应较强;不同部位小穗粒重因结实粒数的差异表现出不同的粒位效应,下部和中部小穗位的第2粒位粒重较大,而位于上部和顶部小穗位第1粒位粒重较大,第3粒位粒重次于第1和第2粒位,第4粒位粒重最小。在小麦栽培中,应在保证主茎穗的基础上适当增加分蘖穗的比例。并在保证结实粒数的基础上提高粒重,尤其是下部小穗的结实粒数和粒重。同时,在保证第1、2粒位粒重的前提下最大限度地发挥第3、4粒位的粒重潜力,可以使小麦实现高产稳产。
【英文摘要】Seed-setting traits and grain weight are influenced by either genetic factor or cultivation environment in wheat (Triticum aestivum L.), such as plant density. Due to the unbalanced development of a spike, grain number and grain weight at different spikelets and grain positions are largely different. Although their distributions have been described in earlier reports, the effect of plant density is not clear. This study focused on the effect of plant density on the grain number and grain weight of two wheat cultivars (Lankao Aizao 8 of large-spike type and Zhoumai 18 of medium-spike type) at different spikelets and grain positions. The grain number, spikelet weight, and grain weight with the spikelets positions from the bottom to the top increased first and then decreased. The differences of seed-setting traits between two cultivars were significant. Meanwhile, seed-setting traits of main sipke were superior than that of tillering spike. Under low sowing density, the seed setting characteristics and grain weight in Lankao Aizao 8 were more superior than those in Zhoumai 18, and those of main stem spike were more superior than those of tillering spike. The effects of spikelet and grain positions on the weight of individual grain varied with the grain number of spikelet. For the basal and middle spikelets, the grain weight was higher at second grain position than at the first one, whereas it was inverse for the upper and top spikelets. The grain weight was lower in the third grain position than in the first and second grain position, and the least in the fourth grain position. In conclusion, appropriate plant density is important for high yield of different spike-type cultivars, and in wheat production we should properly increase the proportion of tillering spike on the basis of ensuring main stem spike number; increase grain weight on the basis of ensuring fertile grain number especially for basal spikelet; and develop the potential of grain weight in the third and fourth grain positions on the basis of ensuring that in the first and second grain positions of spikelet.
【语种】中文
【第一作者】屈会娟
【通讯作者】李金才
【期刊名称、卷期、页码】作物学报,2009,35(10):1875-1883
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【学科分类】农业基础学科

【题目】环塔里木盆地葡萄生产研究现状与发展思考
【中文关键词】塔里木盆地;葡萄;品种;生产
【英文关键词】grape
【中文摘要】摘　要:在对环塔里木地区各葡萄主产区生产现状调查与分析的基础上,从生态气候条件、葡萄品种构成、栽培管理方式、管理水平、病虫害防治、采后处理与研究现状等方面,总结了环塔里木盆地葡萄发展现状。针对葡萄产业发展中存在的问题,提出了该地区葡萄产业近期发展的关键是加强科技示范和技术指导与培训,加快品种优选,优化品种结构与布局,完善产业链。
【英文摘要】grape
【语种】中文
【第一作者】支玉玺
【通讯作者】张宗勤
【期刊名称、卷期、页码】中外葡萄与葡萄酒,2008,(2):50-53

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【学科分类】园艺学

【题目】环塔里木地区葡萄科研推广现状
【中文关键词】新疆;塔里木盆地;葡萄
【英文关键词】Xinjiang; Tarim Basin; grapevine
【中文摘要】摘要:通过对新疆环塔里木盆地各主要葡萄产区实地考察与查阅相关研究文献资料,对该地区的葡萄科研与技术示范推广现状予以综述。主要内容包括当地葡萄基础与育种研究、引种试验、栽培技术研究、采后技术、加工、农机、科技推广和发展战略研究等;重点从10个方面(葡萄标准化生产技术、建园技术、水分管理、套袋技术、修剪技术、施肥、激素处理、套种与病虫草害及其防治)总结了栽培技术研究进展;分析该地区葡萄产业发展存在问题,提出了相应的对策与建议。以期对当地葡萄行业决策、产业发展、科研与技术推广及当地群众技术全面提升提供依据。
【英文摘要】Advances and current situation of grapevine R&D in the area around Tarim Basin in recent years were reviewed based on our field survey and literature related reading. The paper focused on researches of fundamental and breeding, introduction, cultivation, post-harvest and processing, agricultural machinery, and development strategy, and status of science and technology extension. The cultivation techniques of grapevines were summarized especially on some different technology aspects of standardization cultivation, water and fertilizer management, bagging, pruning, plant growth regulator application, inter-planting, plant diseases, insect pests, weed prevention and control. The countermeasures for dealing with existing problems of grapevine industry developments in this area were raised. The results could be references for the grapevine industry development, research and technology extension and training.
【语种】中文
【第一作者】张宗勤
【通讯作者】张宗勤
【期刊名称、卷期、页码】http://www.paper.edu.cn(中国科技论文在线),2009,10,16
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【学科分类】园艺学

【题目】BMY牛冷冻精液质量控制及影响因素研究
【中文关键词】BMY牛; 冷冻精液; 人工授精; 冷冻; 解冻
【英文关键词】BMY cattle; Frozen semen; Artificial insemination; Chill; T haw
【中文摘要】[目的] 为了加大BMY 牛的推广应用力度和提高人工授精受胎率, 开展了BMY 牛冷冻精液质量控制研究, 优选出冷冻稀释液及得出冷冻精液质量控制技术程序。[方法] 采用不同的初始冷冻温度、不同种类的稀释、不同的冷冻方法对BMY牛精液冷冻及解冻效果进行试验。[结果] 不同的初始冷冻温度、不同种类的稀释液、不同的冷冻方法, BMY 牛精液冷冻解冻效果各异。初始冷冻温度为-121~-140℃时, TRIS 液为基础稀释液添加糖类和氨基酸一步法稀释BMY 牛精液冷冻6~10 min BMY 牛冷冻精液解冻效果较好, 用程控冷冻仪冷冻BMY 牛精液, 同样获得良好的解冻效果, 解冻活力达到0.372±0.026。BMY 牛冷冻精液平均解冻活力可达0.357±0.029 以上, 精子解冻复苏率达50% 以上。精子畸形率平均为16.8% ±4.26%, BMY牛采精成功率为75.3%。[结论] 全放牧条件下BMY 牛电刺激采精法获得很好效果, 精液质量好, 更有利于种质资源的保存和利用。
【英文摘要】【Objective】The purpose was to enhance the extension and apply of BMY cattle, to select the good quality semen and get the quality control technical procedure.【Method【The frozen semen and thaw effect of BMY were tested by different initial frozen temper atures, different types of dilution liquid and different frozen methods. During the initial chill temperature was between -121 and-140°C, the thaw effect was the best by using adding and amino acid in TRIS dilution liquid and chilling 6 to 10 min. The frozen semen had the same effect with the above by using program mable freezing instrument, and the thaw activity was 0.372±0.026. The mean thaw activity of BMY frozen semen was more than 0.357±0.029, and the thaw recovery rate was above 50%. The mean rate of sperm deformity was 16.8±4.26% , and the success rate of semen was 75. 3% .【Conclusion】The sperm collection method by electrical stimulation had good effect under season long grazing , and the semen quality was high, which was better preserve and utlize the germplasm resources.

【语种】中文
【第一作者】毛翔光
【通讯作者】黄必志
【期刊名称、卷期、页码】中国牛业科学,2010,36(2):19-22
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【学科分类】畜牧学

【题目】贮藏温度对货架期香梨品质和生理活性的影响
【中文关键词】贮藏温度;货架期;香梨;品质;生理活性
【英文关键词】Storage temperature; shelf life; fragrant pear; quality; physiological activity
【中文摘要】以库尔勒香梨为试验材料,于0℃和5℃2种条件下贮藏60 d后,取出放在室温20℃左右的条件下,模拟货架期,分别对果实的失重率、硬度、可溶性固形物含量、可滴定酸含量、固酸比、Vc、叶绿素含量、呼吸速率、乙烯释放量、PPO活性、电解质渗透率进行测定,探讨不同贮藏温度对货架期香梨品质和生理活性的影响。结果表明:0℃香梨,在货架期间品质变化较5℃小,而5℃的香梨在货架前期生理活性均比0℃高,后期低于0℃。
【英文摘要】无
【语种】中文
【第一作者】王静
【通讯作者】张辉
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【学科分类】食品包装与储藏

【题目】不同贮藏温度对红提葡萄贮期品质及生理指标变化的影响
【中文关键词】红提葡萄;不同温度;品质指标;生理指标
【英文关键词】Red Globe grape;different temperature;quality;physiology
【中文摘要】【目的】研究和筛选红提葡萄采后适宜的贮藏温度。【方法】将红提葡萄分别贮藏于1、0、-1、-2和-3℃下,测定其贮期呼吸强度、乙烯释放量、硬度、可溶性固形物、相对电导率、丙二醛(MDA)含量等品质生理指标的变化。【结果】-1℃为红提葡萄较为适宜的贮藏温度,该温度下,果实的呼吸与乙烯变化趋势较为平缓,果实硬度保持较好,略高于其它温度处理,且能够较好的保持果实在贮藏期间果肉细胞的完整性,果实内丙二醛等有害物质的含量略低于其它处理,可溶性固形物含量略高于其它处理。【结论】-1℃能够较好的保持红提葡萄果实在贮藏期间果肉细胞的完整性。
【英文摘要】【Objective and Method】The study was conducted to determine the five different temperatures for Red Globe grape storage experiment and reveal the quality and physiological index of postharvest Red Globe grape, such as the changes of respiration、the production rate of C2H2,firmness,soluble solids content,cell membrane permeability,MDAcontentunderthe temperature of 1℃,0℃,-1℃,-2℃,-3℃.【Result and Conclusion】The result showed that -1℃is the best storage temperature for the Red Globe grape,in this temperature,the change tendency of respiration and the production rate of C2H2is gentle,the fruit was kept in suitable firmness.It was slightlybetterthan thatofothertemperature,MDAcontentwas lower and soluble solids contentwas higherthan other processing.
【语种】中文
【第一作者】吾尔尼沙·卡得尔
【通讯作者】车凤斌
【期刊名称、卷期、页码】新疆农业科学, 2010, (01): 82-86
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【学科分类】食品包装与储藏

【题目】响应面法优化水酶法提取核桃油的工艺条件
【中文关键词】水酶法;核桃油;响应面法;工艺条件
【英文关键词】aqueous enzymatic; walnut oil; response surface; technology conditions
【中文摘要】研究中性蛋白酶、碱性蛋白酶、纤维素酶、果胶酶、木瓜蛋白酶单独使用和复合使用对核桃油提取率的影响,采用单因素试验及响应面法对水酶法提取核桃油的工艺条件进行优化。结果表明,水酶法提取核桃油的最优工艺条件为料液比1∶5(m∶v)、酶解pH7.5、酶添加量1.55%、酶解温度45.41℃、酶解时间2.17h;复合酶采用果胶酶+纤维素酶+中性蛋白酶(1∶1∶1),对核桃提油率的工艺条件进行优化,核桃提油率可达54.2%。
【英文摘要】Studied the effects of single enzyme and complex enzyme on the rate of walnut oil were studied,These enzymes included neutral protease, alkaline protease, cellulase, pectinase, papain. Effects of these factors. Both Single factor test and response surface design method were applied to optimize the extraction conditions of walnut oil by aqueous enzymatic. The results showed that: the ratio of solid to liquid 1∶5,pH 7.5, enzyme amount 1.55%, digestion temperature 45.41℃,enzymolysis time 2.17 h. The extraction rate of walnut oil can reach 54.2%.
【语种】中文
【第一作者】徐效圣
【通讯作者】傅力
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【学科分类】食品加工技术

【题目】BMY牛细管冷冻精液生产工艺及稀释液的筛选
【中文关键词】BMY牛;细管冻精;稀释液筛选
【英文关键词】BMY cattle; Straw frozen semen; Dilution liquid selection
【中文摘要】[目的] 为了增加精液数量, 提高种公牛的利用率, 降低精液能量消耗, 补充适当营养和保护物质的活动延长精子的寿命, 有利于精子的冷冻和保存。[方法] 冷冻精液稀释液的筛选采用正交设计方法并使用L9(34) 正交表安排试验, 优选出冷冻保存效果最佳的稀释液配方,再用较好的稀释液进行比较试验, 得出最理想的冷冻稀释液。对要进行试验的稀释液, 试验时先将同一头BMY牛精液分成九等分, 依次标记为1~9号, 然后在精液中分别加入等量的对应编号的冷冻稀释液, 进行稀释冷冻效果的比较。[结果] B 糖不同水平之间的差异极显著(P< 0. 01) , B1与B3 的差异极显著, 与B2的差异不显著, B2与B3 的差异不明显; 最佳的组合是A2B1C1。添加不同种氨基酸和水平的稀释液BMY 牛精液冻精解冻效果均无明显差异(P >0. 05) , 添加不同氨基酸和水平的稀释液稀释BMY 牛原精的效果亦无明显差异。
【英文摘要】【Objective】In order to increase the semen quantity and the utilization rate of bull and decrease the energy drain of semen, the suitable nutrition and protection material was added to prolong the life span of semen, which benefited the frozen and preserve of semen. 【Method】The select ion of fr ozen semen dilution liquid was by Orthogonal Design L9(34)method to choose the best dilut ion formula, then use the dilution liquid to perform the comparative test , so get the best frozen dilution liquid. The semen from one BMY cattle was divided into nine aliquots, then marked from 1 to nine, then added frozen dilution liquid into the each nine aliquots to compare the frozen effects.【Result】The difference was significant between different levels of glucose, B1 and B3(P< 0.01) .The best combination was A2B1C1. The thaw effect of frozen semen from BMY cattle had no difference by adding different levels of amino acid (P >0. 05) , even the fresh semen.
【语种】中文
【第一作者】赵家才
【通讯作者】黄必志
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【学科分类】畜牧学

【题目】采用二次回归正交旋转组合设计对核桃渣磨浆工艺的条件优化
【中文关键词】核桃渣磨浆;磨浆工艺;正交旋转组合设计;条件优化
【英文关键词】walnutpomace;milled conditions; orthogonal rotation combination design; optmiization
【中文摘要】采用二次回归正交旋转组合设计对核桃渣磨浆工艺进行了优化,建立了水溶性蛋白质的得率(Y)对固液比(X1)、浸泡时间(X2)、温度(X3)及碳酸氢钠添加量(X4)四个实验因素的正交回归模型:Y=30.59497-0.08315X1+3.20393X2+1.79671X3+0.78024X4-3.40536X21+0.05604X22-0.10458X23-2.87313X24-0.33233X1X2+0.11190X1X3+0.64483X1X4+0.64483X2X3+0.11190X2X4-0.33233X3X4。从模型推知,当固液比为1∶8、磨浆温度为60℃、浸泡时间3h、碳酸氢钠浓度为0.6%时,可溶性蛋白质得率最大值达到39.01%,验证实验结果与模型值基本相符。为提高工作效率,在模型得出的最佳条件基础上,浸泡时间缩短为2.5h条件下,可溶性蛋白得率为37.02%。
【英文摘要】The milled conditions of walnut pomace were optmiized by quadratic regression orthogonal rotary tests.The quadratic orthogonal regression modelwas soluble proteins yield(Y) to four factors ofmaterial-liquid(X1), temperature(X2), tmi e(X3), the dosage of NaHCO3(X4) and established as Y=30.59497-0.08315X1+3.20393X2+1.79671X3+0.78024X4-3.40536X21+0.05604X22-0.10458X23-2.87313X24-0.33233X1X2+0.11190X1X3+0.64483X1X4+0.64483X2X3+0.11190X2X4-0.33233X3X4.It was concluded from the model that when material-liquid ratio, temperature, tmie, the dosage of NaHCO3 were1∶8, 60℃,3h and0.6%, the yield of soluble proteins(Y)was the maxmi al(39.01%) and consistent with the confirmatory expermient result.Based on model optmiize expert extraction tmie2.5h, the yield of soluble proteins was up to 37.02%.
【语种】中文
【第一作者】徐效圣
【通讯作者】傅力
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【题目】不同贮藏温度对阿克苏骏枣贮藏效果的研究
【中文关键词】阿克苏骏枣;贮藏温度;贮藏效果
【英文关键词】Akesu Junzao;storage temperature;storage effect
【中文摘要】【目的】筛选适宜阿克苏骏枣的贮藏温度。【方法】将阿克苏骏枣分别贮藏于0、-1和-2℃下,从贮藏温度与阿克苏骏枣采后硬度、可滴定酸、总糖含量、VC含量及果肉细胞膜透性等关系方面进行试验。【结果】阿克苏骏枣贮藏于-2℃条件下,其果实硬度、可滴定酸、总糖含量、VC含量及抑制组织相对电导率升高的效果均高于其它2个温度。【结论】-2℃贮藏温度使枣果果实在整个贮期失水率和转红率较低,好果率和脆果率较高。为了进一步探究阿克苏骏枣贮藏的临界温度,将继续降低温度,对其进行观察和研究。
【英文摘要】【Objective and Method】Set the temperature at 0,-1 and -2℃respectively for the storage temperature test of Akesu Junzao, study the relation between storage temperature and hardness ,soluble solids content,total sugar content,Vitamin C content and pulp cell membrane permeability of the post-harvest fruit.【Result】At the temperature of -2℃Akesu Junzao has greater hardness,soluble solids content,total sugar content, Vitamin C content and suppression organization relative conductivity than fruits stored under the other two temperatures.At the temperature of -2℃,water loss rate and turn red rate of Akesu Junzao ’s fruit are relatively lower and fine fruit rate and crisp fruit rate are relatively higher during storage.【Conclusion】In order to study the critical temperature for the storage of Akesu Junzao, the temperature will be continued to be decreased for further observation and study.
【语种】中文
【第一作者】许娟
【通讯作者】车凤斌
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【题目】保鲜剂对阿克苏灰枣贮藏效果的研究
【中文关键词】阿克苏灰枣;保鲜剂;贮藏效果
【英文关键词】Aksu Jujub;preservative agent;storage effect
【中文摘要】【目的】冷藏条件下不同保鲜剂对灰枣贮藏效果的影响,提高阿克苏灰枣的保鲜方法。【方法】试验设置贮藏温度为-1℃,采用A、B、壳聚糖、1-MCP、2,4-D等药剂对果实进行预处理,同时,结合塑料薄膜包装对阿克苏灰枣进行贮藏试验。【结果】采用A+2,4-D处理,可减缓阿克苏灰枣果实硬度、可滴定酸和总糖含量的下降、延缓果实VC的降解、抑制组织相对电导率的升高,这一处理使枣果果实在整个贮期转红率较低,较好的维持了果实贮藏期间的品质,延缓其衰老速度。【结论】壳聚糖+B处理的枣果果实脆腐果率较低,贮至108 d时,果实脆腐果率仅为0.19%,有效降低了枣果贮藏期间的发病率。
【英文摘要】【Objective and Method】Aksu Jujub fruits were treated with A,B,chitosan,1-MCP,2,4-D before itwas placed in plastic filmbags and stored at -1℃.【Result】The results showed thatthis treatmentofA+2,4-D could delay the decrease of Aksu Jujub fruit firmness ,titrable acidity content and total sugar content, postpone the degradation of Vitamin C in fruit,slow down the increase of relative electrical conductivity,keep the fruit to be lower change of red fruit rate during the storage,keep the quality of the Aksu Jujub better,delay its senescence.【Conclusion】This treatment of chitosan + B could keep the lower fragility rate and fruit rotten,and rotten rate fruit rate was only 0.19% after 108 days ’ s storge,control the disease of the postharvest Aksu Jujub during storage.
【语种】中文
【第一作者】张婷
【通讯作者】车凤斌
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【题目】BMY牛杂交利用的初步研究
【中文关键词】BMY牛; 杂交改良; 杂种优势率; 生长性能
【英文关键词】BMY cattle; Crossbreeding ; Heterosis Rate; Growth Performance
【中文摘要】[目的] 以BMY 牛为父本, 云南黄牛、西本杂、短本杂等为母本的多元肉牛杂交, 以期为云南省肉牛改良及其肉牛生产模式提供发展基础。[方法] 通过应用BMY 公牛及冻精与云南黄牛及其杂交母牛进行杂交改良中试。[结果] 截止2009 年底累计完成杂交改良14 734头, 产犊12 738 头, 产犊率86. 45%。进行了1 485 头次体重体尺测定, BMY 牛对云南黄牛及云南现有杂交组合的杂交后代初生体重为12.40 kg, 较云南黄牛(YY) 高1. 64 kg, 提高幅度较小(P > 0. 05) , 但6月龄体重为108. 96 kg , 较YY 高74. 99 kg , 有明显的改良效果(P >0. 01) , 估计的BMY 牛对云南黄牛改良后代的初生重与6 月龄体重杂种优势率分别是-8. 02% 和2. 91% 。[结论] 以BMY 牛为父本的杂交组合后代各生长性能都表现出较好的杂交优势, 初生重、6 月龄体重体尺有较大提高, 为云南省、南方肉牛改良及其肉牛生产模式的探索提供了坚实基础。
【英文摘要】Objective:The aim of the study was to explore some models for beef improvement, beef industry in Yunnan province and South China by BMY cattle as paternal crossing Yunnan Yellow cattle andthe crossing combinations including Simmental Yunnan Yellow, Shorthorn Yunnan Yellow and others.Method: The crossbreeding trial was carried by using BMY bull and frozen semen, BMY bull or f rozen semen crossed Yunnan Yellow cattle and its hybrids from different crossing combinations. Result: By the end of 2009, 14 734 cows were mated with BMY bull or frozen emen, 12 738 calves were born and the birth rate was 86. 45% . Body weight and body measurements were done to 1 485 times, of which the birth weight of BMY crossing Yunnan Yellow cattle and other hybrids from different crossing combinations was 12. 40 kg , that increased by 1. 64 kg, which was not significant compared to that of Yunnan Yellow cattle (P> 0. 05) . The body weight at the age of 6 months was 108. 96 kg, it was above 74. 99 kg, significantly higher than that of Yunnan Yellow cattle. The averag eheterosis rates were 8.02% and 2. 91% estimated from which BMY cattle crossed Yunnan Yellow cattle at the birth weight and 6 month, respectively.Conclusion: As BMY cattle paternal, the different growth performances show ed better hybridvigor of which body weight and body measurement could improve at the birth and 6 month to provide st rong foundations for beef improvement models and beef industrial models to Yunnan province and South China.
【语种】中文
【第一作者】杨国荣
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【题目】不同温度对阿克苏灰枣采后生理活性及贮藏效果的影响
【中文关键词】阿克苏灰枣;不同温度;生理活性;贮藏效果
【英文关键词】Aksu Jujube;different temperature;physiological activity;storage quality
【中文摘要】【目的】筛选适宜的阿克苏灰枣贮藏温度。【方法】设置0、-1和-2℃3个温度,从贮藏温度与阿克苏灰枣采后呼吸强度、乙烯释放量、硬度、可溶性固形物含量、VC含量及果肉细胞膜透性等关系进行试验。【结果】-2℃条件下贮藏阿克苏灰枣的果实硬度、可溶性固形物含量和VC含量均高于其它2个温度条件下的;且该温度条件下贮藏的灰枣果实相对电导率在整个贮期一直处于较低的水平,表明其细胞膜还未受到破坏;从贮藏效果看,-2℃条件下贮藏的灰枣果实在整个贮期失水率和转红率较低,好果率和脆果率较高。【结论】为了进一步探究阿克苏灰枣贮藏的临界温度,将继续降低温度对其进行观察和研究。
【英文摘要】【Objective and Method】This experiment was designed to select the appropriate temperature for storage of Aksu jujube.The three temperatures were set including 0,-1 and -2°Cto study the relations between storage temperature and the post-harvestAksu Jujube respiration rate,ethylene production,hardness ,soluble solids content,vitamin C content and pulp cell membrane permeability, etc.【Result】Under -2°Cthe hardness,soluble solids content and vitamin C content ofAksu Jujub fruit are higher than those under other two storage temperatures; and relative electrical conductivity has been kept lower level, cell membrane has not been destroyed; From quality during storage, under -2°C,water loss rate and turn red rate of Akesu Jujube fruit has been kept,fine fruit rate and crisp fruit rate has been kept greater during storage.【Conclusion】In order to study the critical temperature of Aksu Jujub the storage temperature should be reduced.
【语种】中文
【第一作者】张婷
【通讯作者】车凤斌
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【题目】CAPN1 基因遗传变异及其对牛肉质性状的效应分析
【中文关键词】钙蛋白酶1基因;群体遗传分析;肉质性状;SNP
【英文关键词】CAPN1 gene; analysis of population genetic variations; carcass traits; SNP
【中文摘要】【目的】探索钙蛋白酶1(CAPN1)基因在中国黄牛不同群体中的变异,以及CAPN1 基因作为影响牛肉质性状候选基因的可能性,寻找与牛肉质性状相关的分子标记。【方法】采用PCR-SSCP 技术对雷琼牛、云南高峰牛、BMY 牛与中国西门塔尔牛共367 个个体CAPN1 基因Exon11-Exon16 与Intron21 遗传变异检测,运用SPSS17.0软件中的GLM 模型分析检测到的遗传变异与中国西门塔尔牛部分肉质性状的关联性。【结果】发现了CAPN1 基因DNA 序列中的两个突变位点A4558G 和C4684T,分别检测到AA/AG/GG 和CC/CT/TT 3 种基因型。相关分析表明,A4558G位点GG 基因型个体剪切力和大理石花纹评分显著低于AG 和AA 型个体(P<0.05);C4684T 位点TT 基因型个体剪切力显著低于CT 型个体(P<0.05)。组合基因型分析表明,GGTT 组合剪切力显著低于CCAA、CTAG 和CTAA(P<0.05),大理石花纹评分显著低于其它基因型组合(P<0.05),脂肪颜色评分显著高于AGTT(P<0.05),其余指标间无显著差异(P<0.05)。【结论】初步推测CAPN1基因A4558G 和C4684T 的位点,可以作为牛肉嫩度和大理石花纹评分的遗传标记。
【英文摘要】【Objective】To explore the distribution of Calpain 1 gene (CAPN1) in Chinese south yellow cattle populations and north beef cattle populations, and to evaluate it as a candidate molecular marker associated with beef quality. 【Method】PCR-SSCP method was used to detect the polymorphism of CAPN1 in 367 heads from four cattle populations, including Leiqiong, Yunnan highpump, BMY and Chinese Simmental. The association between SNP locus and some meat straits were analyzed by general linear model (GLM) in SPSS program. 【Result】 Three enotypes, AA, AG, GG and CC, CT, TT, were detected at site A4558G and C4684T, respectively, with G as an advantageous gene at site A4558G, and A as an advantageous gene at site C4684T. Genotypic variance had significant association with shearing force strait and marbling score strait. The cattle with GG in site A4558G had lower

shearing force and marbling score than others (P<0.05), while the cattle with TT in site C4684T had lower shearing force than thatof CT (P<0.05) and individuals with TT had lower former PH after rowing of acid than that of CC (P<0.05). Combined-genotype analysis indicated that the cattle with GGTT had lower hearing force than that of AACC, AGCT and AACT (P<0.05) and lower score of marbling than that of the rest (P<0.05), while the score of fat color of these cattle were higher than others. But there were no significant associations between two sites and other straits. 【Conclusion】 Site C4684T and A4558G of CAPN1 gene could be used as genetic marks for beef tenderness and marbling score traits.

【语种】中文
【第一作者】武秀香
【通讯作者】杨章平
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【题目】气调指标对库尔勒香梨果实贮藏质量的影响
【中文关键词】库尔勒香梨;气调指标;贮藏质量
【英文关键词】Pyrus bretschneiderirehd; Controlled atmosphere index; Quality during storage
【中文摘要】[目的]探讨保持库尔勒香梨贮藏质量的气调贮藏条件。[方法]挑选大小一致、无病虫害、无机械伤的库尔勒香梨为试材,设置9个具有不同气体体积分数的气调处理(4%O2+2%CO2、5%O2+2%CO2、6%O2+2%CO2、4%O2+3%CO2、5%O2+3%CO2、6%O2+3%CO2、4%O2+4%CO2、5%O2+4%CO2、6%O2+4%CO2)和1个对照处理(21%O2+0%CO2),研究-1℃条件下,各处理对库尔勒香梨果实硬度、可滴定酸、呼吸强度、果皮叶绿素含量、果实维生素C含量及果肉组织中相对电导率的影响。[结果]适当降低O2浓度可以减缓库尔勒香梨果实硬度和可滴定酸含量的下降、降低果实的呼吸强度、延缓果皮叶绿素和果实维生素C的降解、抑制果肉组织中相对电导率的上升。适宜的贮藏参数是:气体成分为5%O2+4%CO2和4%O2+3%CO2,贮藏温度为-1℃;相对湿度为90%~95%。[结论]适当降低O2浓度对保持库尔勒香梨的贮藏质量比较有利。
【英文摘要】[Objective] The study ami ed to discuss the controlled atmosphere storage condition that could keep the fruit quality of Pyrus bretschneiderirehd during storage. [Method]P. bretschneideriwith consistentsize andwithoutdisease-insectandmachine harm were selected as the testedmaterials. 9 controlled atmosphere treatmentswith differentgas composition concn. (4%O2+2%CO2, 5%O2+2%CO2, 6%O2+2%CO2, 4%O2+3%CO2, 5%O2+3% CO2, 6%O2+3% CO2, 4%O2+4% CO2, 5%O2+4% CO2, 6%O2+4% CO2) and one CK(21%O2+0%CO2) were setup to study theireffectson the fruitfirmness, titratable acid, respiration intensity, chlorophyllcontent in peeland Vc content in frui,t relative electricalconductivity in the flesh ofP. bretschneiderifruitunder the condition of low temperature of-1℃. [Result] The suitable low-concn. ofO2could alleviate the reduction of firmness and titratable acid, decrease the respiratory intensity of frui,t stay the degradation ofchlorophyll content in peelandVc content in fruitand restrain the rising of the relative electrical conductivity in the flesh of P. bretschneiderifrui.t The appropriate storage parameterswere follows: gas compositions of5%O2+4% CO2and 4%O2+3% CO, storage temperature of-1℃and relative humidity of90% -95%. [Conclusion] Appropriately decreasingO2concn. wasmore favorable forkeeping the fruitquality ofP. bretschneideriduring storage.
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【第一作者】张婷
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【题目】CAPN3 基因在草原红牛不同组织中的表达差异
【中文关键词】草原红牛; CAPN 3; 实时荧光定量PCR; 表达水平
【英文关键词】Chinese Red Steppe; CAPN 3; real time PCR; expression level

【中文摘要】钙激活中性蛋白酶(CAPN3) 参与哺乳动物体内多种重要的生理生化过程, 但是有关它的确切生理功能和作用机制研究较少。本研究采用实时荧光定量PCR 技术检测CAPN3 基因在草原红牛多种组织中的表达水平差异情况。试验结果表明, CAPN3 基因在所检测草原红牛的心脏、肝脏、脾脏、肺脏、肾脏、十二指肠、瘤胃和背最长肌8 种组织中均有表达, 且在不同组织中的表达水平有所不同。草原红牛脾脏中的CAPN3 基因表达量显著高于其他组织, 十二指肠和瘤胃中的CAPN3 基因表达量显著高于心脏、肝脏、肺脏、肾脏和背最长肌。本试验为肉牛肉质性状的改良提供了分子遗传学依据, 并为深入研究草原红牛体内CAP N3 基因的生物学作用及作用机制奠定了基础。

【英文摘要】The present study was designed to detect the differences of the calpain 3 (CAPN3) gene expression level in varieties tissues of Chinese Red Steppe by real time RT PCR. The results show ed that CAPN3 mRNA was expressed in all of the eight tissues: heart, liver, spleen, lung , kidney , intestine, stomach and skelet al muscle; we also found that CAPN3 gene expression level was higher in spleen than in other tissues of Chinese Red Steppe (P<0.05) . The research provides the basis for the future studies of the biological function and the molecular mechanisms of CAPN3 gene.

【语种】中文

【第一作者】刘博洋

【通讯作者】杨润军

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【题目】不同能量与蛋白比对BMY公牛血液生化指标的影响

【中文关键词】能量; 蛋白; 血液; 生化指标

【英文关键词】Energy ; Protein; Blood; Biochemical Marker

【中文摘要】[目的] 为了测定血液葡萄糖、蛋白、脂肪含量变化。[方法] 利用三种不同能量蛋白比配合日粮对BMY公牛进行饲喂, 测定12月龄BMY公牛的血液生化指标。[结果] 表明, 低能量蛋白比日粮组的血清总脂比有所降低, 各试验组的其它指标, 如血清总蛋白、血清葡萄糖以及血清尿素氮的浓度都比采食试验日粮前有不同程度的升高, 但试验测定值均在文献报道的正常生理范围内。[结论] 说明不同能量蛋白比日粮对BMY 公牛生化指标有一定的影响。

【英文摘要】Objective:The purpose was to detect the change of the glucose, protein and fat contents in blood. Method:The BMY bulls were fed by the diets with 3 different ratio of energy and rotein, and the blood chemical markers at the age of 12 months were detected. Result:The results showed that the ratio of serum total lipid in low energy protein diet decreased than that of in basal dietary. Other markers, such as the concent rations of serum total protein, serum glucose and blood urea nitrogen, increased differently than that of before feeding experimental dietary, but the measured values were between the normal physiological range reported in the literature. Conclusion:The dietary with different ratio of energy and proteinhad a certain effect on the biochemical markers of BMY bulls.

【语种】中文

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【题目】桃及油桃贮藏保鲜技术

【中文关键词】油桃;贮藏;保鲜

【英文关键词】Nectarine; storage; storage environment

【中文摘要】桃和油桃两者均属核果类,由于它们成熟期都在高温季节,采后果肉变质快,因此贮藏性远不及仁果类的苹果及浆果类的葡萄。桃和油桃二者性质相近,每年成熟期集中上市,产后损失高达30%左右,它们在贮藏上的问题也类似,所以在贮藏保鲜方面更为果农所重视。

【英文摘要】无
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【第一作者】马燕翔
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【学科分类】食品包装与储藏

【题目】气调贮藏不同气体比例对哈密瓜86-1贮期品质及生理活性的影响
【中文关键词】哈密瓜;气调贮藏;采后生理
【英文关键词】melon;storage air condition;physiological activity
【中文摘要】【目的】筛选适宜的哈密瓜86-1贮藏保鲜条件。【方法】在3℃贮藏条件下,设置O2+CO2:3%+0%;O2+CO2:4%+1%;O2+CO2:5%+2%三种气体条件,研究不同贮藏气体条件对86-1采后呼吸强度、乙烯释放量、可溶性固形物含量、总糖含量、总酸含量、硬度、果肉细胞膜透性等生理指标的影响。【结果】在3℃的贮藏温度下,各气调处理并没有起到抑制果实呼吸强度、减少其乙烯释放量等作用。与冷藏相比,气调处理的果实糖酸等营养物质的消耗略低,对其品质及风味保持较好。【结论】相对而言,CO2含量较高的气体环境更利于瓜的贮藏,CO2/O2=2/5明显优于CO2/O2=0/3,究其原因还需进一步研究验证。
【英文摘要】【Objective and Method】The three kinds of storage air condition:O2+CO2:3%+0%;O2+CO2:4%+1%;O2+CO2:5%+2% were designed to study the effect of the different air condition on the respiration rate,ethylene production,soluble solids content,total sugar content,total acid content,hardness,pulp cell membrane permeability, etc of the 86-1 melon during storage for choosing a better storage condition.【Result】The results showed that under 3°C,different air condition can not control the 86-1 melon ’s respiration rate and reduce the ethylene production .Different air condition can keep the 86-1 melon ’s betterflavour and total sugar,acid content.【conclusion】More CO2contentwill be better forthe 86-1 melon ’s storage, such as CO2/O2=2/5 was better than CO2/O2=0/3,whose reason should be further discussed in the future.
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【第一作者】李萍
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【题目】不同牛群体间钙蛋白酶1基因第14内含子4685bp位点的多态性分析
【中文关键词】草原红牛; 延边黄牛; 杂交牛; CAPN1; PCR-SSCP
【英文关键词】Chinese Red cattle; Yanbian Yellow cattle; cross cattle; CAPN1; PCR-SSCP
【中文摘要】本研究采用PCR-RFLP 技术分析了钙蛋白酶1(CAPN1) 基因第14 内含子4685 bp 位点在东北地区特色养殖品种草原红牛、延边黄牛及不同二元杂交品种红安格斯牛×西门塔尔、利木赞×西门塔尔、德国黄牛×西门塔尔和夏洛莱×西门塔尔等群体间的多态性。结果表明, 4685 bp 位点无论是基因型频率还是等位基因频率, 在以上牛群体间均存在较大差异。延边黄牛中CT基因型作为优势基因型其频率达到0. 53, CC 及TT 基因型频率差异不大, 分别为0. 27 和0. 20; 德国黄牛×西门塔尔二元杂交牛中TT 、CT 基因型具有非常高的基因型频率, 分别达到0. 50 和0. 40, 而CC 基因型则只有0. 10, T 等位基因频率高达0. 70, C 等位基因频率仅为0. 30。其他二元杂交品种无论是基因型频率还是等位基因频率上均与延边黄牛相类似。本研究中最值得关注的是草原红牛中4685 bp 位点仅存在1 种基因型, 即为TT型, 未发现C 等位基因的存在。3 种牛群体间4685 bp 位点基因型频率的比较, 为进一步分析该位点与肉质嫩度的相关性奠定了基础。
【英文摘要】CAPN1 gene as the major gene which controls beef tenderization was concerned by researchers. In this study , we reported the 4685 bp loci genotype frequency and allele frequency in Chinese Red Steppe, Yanbian Yellow cattle, Red Angus×Simmental, Limo usin×Simmental,Germany Yellow cattle×Simmental and Charolais × Simmental cross. The results showed that genotype requency and allele frequency were significant different in these population. As the predominant genotype in

Yanbian Yellow cattle, the frequency of CT genotype was 0. 53, the frequency of CC and TT genotype just were 0. 27 and 0. 20 respectively . The TT and CT genotype had very high frequency in Germany Yellow cattle × Simment alcross, reached 0. 50 and0. 40 respectively , the CC genotype frequency only was 0.10, the T allele frequency reached 0. 70, and the Callele f requency only was 0. 30. The others cross cattle had similar genotype and allele frequency to Yanbian Yellow cattle. The most interesting result in this study was the genotype distribution in Chinese Red cattle, we only found one genotype TT which suggested C allele was not exist in Chinese Red cattle. The complement of genotype frequency test of 4685 bp loci in CAPN 1 gene in triple cattle laid a foundation to research the relationship of 4685 bp loci to meat tenderness.

【语种】中文
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【题目】草原红牛IGF-I基因5‘调控区序列的生物信息学分析
【中文关键词】草原红牛;IGF-I 基因; 5 ’调控区;生物信息学
【英文关键词】Red steppes;IGF-I gene; 5‘ UTR;Bioinformatics
【中文摘要】胰岛素样生长因子I(IGF-I) 基因为多启动子基因, 也是影响动物生长发育和肉用性状的重要候选基因。在克隆草原红牛IGF-I 基因5 ’调控区1954 bP的基因组序列基础上, 利用生物信息学软件, 分析了IGF-I 5‘ 调控区的启动子结构;预测出评分在95分以上的转录因子结合位点有71个; 分析结果没有发现CpG岛和TATA box。研究结果为进一步研究IGFI转录效率以及对草原红牛生长和肉用性状的影响奠定基础。
【英文摘要】As a multi-promoter gene, Insu lin-like growth factor I (IGF- I) gene is essential andidate gene for animal growth, development and meat quality trait The red steppes IGF -I gene 5 ’ UTR was cloned and sequenced, then a 1954 bp gene sequence was acquired. Bioinformatics tools were used to analyse the promoter regions, by which 71 transcriptional factors binding sites were predicted with scores higher than 95 But the CpG island and the TATA box was not found in the region The result could establish the basis for further research on IGF-I transcription efficiency and its effect on grow th and meat quality trait of red steppes.
【语种】中文
【第一作者】张金玉
【通讯作者】赵志辉
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【题目】草原红牛IGFBP3 基因多态性及与部分屠宰性状的相关性分析
【中文关键词】草原红牛; 胰岛素样生长因子结合蛋白3; PCR- SSCP; 屠体性状
【英文关键词】red steppe; insulin- like growth factor binding protein 3 (IGFBP3) ; PCR-SSCP; carcass trait
【中文摘要】以草原红牛为研究对象, 采用PCR-SSCP 方法检测IGFBP3 基因的多态性, 并将不同基因型与部分屠宰性状进行相关分析。结果表明在第2 内含子发现多态性位点, 有AA、AB 和BB 3 种基因型; 测序结果显示在8 069 bp处存在C/T 的碱基突变; 该位点的多态性对草原红牛的眼肌面积有显著影响(P< 0. 05) , AA 型显著高于BB 型(P< 0. 05) , 但与AB 型之间差异不显著(P> 0. 05) ; 其他屠宰性状在不同基因型间差异不显著。由此可以初步推断IGFBP3 基因可能是影响草原红牛肉质性状的一个主效基因或是一个与影响肉质性状的QTL 连锁的基因。
【英文摘要】This study was designed to investigate the single nucleotide polymorphism (SNP) of insulin- like growth facto r binding pro tein 3(IGFBP3) gene in red steppe by PCR-SSCP, and at the same time a correlation between the polymorphisms and several carcass traits. The results of cloning and sequencing indicated that polymorphism of intron 2 was dued to base mutation of C/T in position 8 069, and there were three geno types (AA, AB and BB) . The correlation analysis revealed that polymorphisms had asignificant effect on marbling, the AA genotype had higher marbling than the BB genoty pe in red steppe (P< 0. 05) , but there were

nosignificant differences between AA genotype and AB genotype(P> 0. 05) . Other carcass traits of red steppe was not significant in different genotypes (P >0. 05) . It could be preliminarily concluded that IGFBP3 gene was probably a major gene or a QTL linked gene whichassociated with meat quality traits in red steppe.
【语种】中文
【第一作者】张永宏
【通讯作者】赵志辉
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【题目】含胆酸高分子化合物的制备和特性
【中文关键词】胆酸;高分子材料;制备;特性
【英文关键词】cholic acid; polymer material; preparation; characterization
【中文摘要】胆酸是哺乳动物体内合成的一种天然化合物,具有特殊的分子结构和优良的生物适应性。由胆酸合成的高分子化合物保持了胆酸的部分性质,如双亲性、手性、侧基反应活性和自组装性能等。在化学和药学领域,含胆酸高分子材料具有重要的应用价值。本文从自由基聚合形成的含胆酸高分子化合物、胆酸修饰的高分子化合物和胆酸缩聚物等几个方面综述了含胆酸高分子化合物的制备和特性,并对胆酸在高分子材料方面的新用途作了展望。
【英文摘要】Cholic acid is a natural compound that is synthesized in the animal body, which has special chemical structure and good biocompatibility. Polymers prepared from cholic acid can preserve some properties of cholic acid, such as facial amphiphilicity, chirality, reactivity of the side groups and capacity of self-assembiling. In chemical and pharmaceutical fields, polymeric materials containing cholic acid can be used widely. This paper reviews the preparation and characterization of polymers containing cholic acid obtained by free radical polymerization, polymers modified with cholic acid and polycondensation of cholic acid, etc. The development of polymers containing cholic acid in the future is also forecasted.
【语种】中文
【第一作者】胡祥正
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【题目】草原红牛IGFBP-5 基因外显子多态性及对胴体性状的影响
【中文关键词】中国草原红牛; IGFBP-5; PCR- SSCP; PCR-RFLP; 胴体性状
【英文关键词】Chinese red steppes; IGFBP- 5; PCR- SSCP; PCR-RFLP; carcass weight
【中文摘要】为揭示草原红牛IGFBP- 5 基因外显子多态性与胴体性状的相关性, 采用PCR- SSCP 及PCR-RFLP 两种方法分别对58 头草原红牛群体该基因外显子多态性进行了检测, 并对检测到的突变位点用SPSS 软件分析其与胴体性状的相关性。结果表明: IGFBP- 5 基因第3 外显子在191 bp 处存在G(A) 突变, 该基因多态性与宰前活重、胴体重呈显著相关, BB 型显著高于AA 型(P> 0. 05) ; 对其他性状的影响差异不显著。通过研究IGFBP- 5 基因外显子的多态性, 为草原红牛的选种选育提供实验依据。
【英文摘要】This ex per iment was conducted to detecte SNP of IGFBP- 5 gene exons and the relationship with carcass weight in red steppes. The polymorphism of IGFBP- 5 exons in red steppes was detected by PCR-SSCP and PCRRFLP.And then the genetic correlations between genotypes and performances was obtained by SPSS. The results indicated that there was one single nucleotide mutation G(A) in the 191 bp of exon 3 of IGFBP- 5 gene; And the genetic polymorphisms ignificantly correlated with living weight. And living weight of BB genotype was higher than AA genotype(P< 0.05) . Other traits were not significantly affected. The research laid a foundation for the future studies of the biological function of IGFBP- 5 gene genetic in red steppes and a theoretical basis for breeding of red steppes.

【语种】中文
【第一作者】芦春燕
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【题目】酶法制备多肽铁及产物分析
【中文关键词】血红蛋白;酶解产物;多肽铁
【英文关键词】hemoglobin; enzymatic hydrolysate; polypeptide-Fe
【中文摘要】本文利用胰蛋白酶对猪血血红蛋白进行酶解,综合考虑酶添加量和酶解时间,选取酶添加量为1%,V(血红细胞):V(蒸馏水)=1:4,pH=8,温度为50 ℃,酶解5 h 血红蛋白可完全酶解。对酶解产物分级沉淀,收集沉淀产物,采用紫外光谱、葡聚糖凝胶层析、液相色谱法对酶解产物进行分析,证明沉淀产物的主要成分为多肽铁。
【英文摘要】Porcine hemoglobin was completely hydrolyzed by trypsinase under the following the optimum conditions: trypsinase dosage 1%, red blood cells-distilled water ratio 1:4(V:V), temperature 50 ℃, pH value 8.0, and hydrolysis time 5 h. The hydrolysate was precipitated and the precipitate was analyzed by UV spectrophotography, Sephadex-G25 chromatograph and HPLC. The results showed that the main component of the precipitate was polypeptide-Fe.
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【第一作者】刘安军
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【题目】牛骨酶解制备牛肉香精及气质联用分析
【中文关键词】牛骨;酶解;美拉德反应;气质联用
【英文关键词】beef bone; enzymatic hydrolysis; Maillard reaction; GC-MS
【中文摘要】以牛骨为原料,采用正交实验对复合蛋白酶和风味蛋白酶同步水解牛骨蛋白的工艺进行优化。再以水解动物蛋白(HAP)为基料,通过美拉德反应制备牛肉香精。结果表明,牛骨的最适酶解条件是用酶量5000 U/g,料液比1:3,酶解温度50 ℃,酶解时间6 h。美拉德反应的最佳时间为3 h,在不添加香料的条件下最好。采用固相微萃取技术(SPME)并结合气质联用(GC-MS)检测技术对牛骨美拉德反应液进行分析,共鉴定出68 种挥发性风味物质。
【英文摘要】The enzymatic hydrolysis of beef bone protein by protamex and flavorzyme were optimized by orthogonal experiment. Then the hydrolyzed animal protein (HAP) was used to prepare the beef flavors through Maillard reaction. The results showed that the best hydrolysis parameters were enzyme dosage 5000 U/g, substrate-liquid ratio 1:3, temperature 50 ℃, and time 6 h. The time of Maillard reaction without spice was 3 h. The products of Maillard reaction of bone were extracted by SPME and then analyzed by GC-MS. Sixty-eight kinds of volatile compounds were identified.
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【第一作者】郑捷
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【学科分类】食品加工的副产品加工与利用

【题目】草原红牛m-calpain基因的多态性及其与肉质性状的关系
【中文关键词】草原红牛; 遗传多态性; calpain基因; 肉质性状
【英文关键词】China red cattle; genetic polymorphisms; calpain gene; meat quality trait
【中文摘要】对草原红牛m-calpain的30 ku调节亚基的DNA序列通过PCR扩增得到1830 bp大小的产物, 这个产物序列包括从外显子4到外显子7的全部序列(包括它们之间的内含子序列)。利用限制性内切酶HhaI对PCR产物进行酶切, 并利用最小二乘线性模型初步探索了不同基因型与肉质性状间的关系。结果表明: 在31头草原红牛群体中检测到2个等位基因A 和B, 2个等位基因的频率分别为0. 355和0. 645; 检测到3 种基因型AA、BB 和AB, 3种基因型的频率分别为0.161, 0.452和0.387。草原红牛m-calpain基因中BB基因型对牛肉嫩度剪切力值有较大的影响(P<0.05) ; AA基因型对大理石花纹评分值有较大的影响(P<0.05)。
【英文摘要】The 1 830 bp fragment encoding for the regulatory subunit (30 ku) of China red cattle m-calpain gene, putatively including the sequences of exon 4 through exon 7, was amplified by PCR. Two alleles(A and B) of the China red cattle m-calpain regulatory submit gene were identified with PCR- RFLP analys is using endonu clease HhaI, which the frequency of alleles found was 0.355 for A and 0.645 for B. Three genotypes AA, BB and AB were identified among the 31 China red cattle breeds. The frequency of genotypes found was 0.161 for AA, 0. 452 for BB and 0. 387 for AB. The association between genotype markers and meattraits were analyzed by general linear model at the level of DNA. The result was the BB genotype of China red cattle m - calpa in gene showed a highly significant negative effect on shear force ofbeef tenderness traits (P < 0. 05) . The result was the AA genotype of China red cattle m - calpa in gene showed a highly significant positive effect on marbling score of beef enderness traits (P < 0. 05) .
【语种】中文
【第一作者】周国利
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【题目】水溶性血红素的制备及其抗贫血研究
【中文关键词】猪血;水溶性血红素;贫血
【英文关键词】porcine blood; water-soluble heme; anemia
【中文摘要】以抗凝的猪血为原料,粗分血红蛋白后用酸性丙酮抽提制备血红素,通过血红素与L-精氨酸或L-赖氨酸反应制得水溶性血红素,比较了血红素和水溶性血红素的性质。采用Wistar 大鼠喂以低铁饲料辅以少量放血建立贫血模型(IDA),各项指标发生明显变化,补充水溶性血红素后,大鼠的各项指标明显改善,贫血症状消失。
【英文摘要】Crude heme was extracted from porcine blood by acetone. Soluble heme was then prepared by the reaction of heme with L-Arginine (or L-Lysine). IDA model was successfully established by feeding Wistar rats with a low iron content diet and followed by bleeding. Results indicated that water-soluble heme supplementation could effectively improve the anemia of the rats.
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【第一作者】刘安军
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【题目】牛喉管软骨多糖的提取及其化学组成分析
【中文关键词】软骨多糖;提取;硫酸软骨素;化学组成
【英文关键词】Cartilage polysaccharide; extraction; chondroitin sulfate; chemical component
【中文摘要】采用双酶法从牛喉管软骨中提取软骨多糖,以35%、55%、80%乙醇浓度作为分级沉淀的终浓度,所得粗多糖分别命名为CS-35、CS-55、CS-80。分析比较三种粗多糖的含糖量、纯度及分子量变化,结果显示含糖量分别为24.1%,27.5%,38.9%,分子量呈逐渐降低。三种粗多糖经降解后进行薄层层析分析,结果表明,CS-80 单糖组成区别于CS-35 和

CS-55。通过酶解-高效液相色谱法,进一步证明CS-80 不是典型的硫酸软骨素结构。
【英文摘要】Cartilage polysaccharide was extracted from the bovine pipes bone by two enzymes. Three crud polysaccharides, were fractional precipitates by 35%, 55% and 80% ethanol. The sugar contents, purities and molecular weights of the three polysaccharides were compared. Results showed that their polysaccharide contents were 24.1%,27.5% and 38.9%, respectively. The molecular weights of the three polysaccharides were gradually reduced as following sequence: CS-35>CS-55 > CS-80. Thin layer chromatography analysis showed that the composition of CS-80 was different from those of CS-35 and CS-55. In addition, HPLC analysis of the enzyme-hydrolyzed CS-80 showed that CS-80 did not possessed the typical chondroitin sulfate structure.
【语种】中文
【第一作者】刘安军
【通讯作者】刘安军
【期刊名称、卷期、页码】现代食品科技,2009年,第25卷,第11期,1315-1319
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【引文索引类型】其他
【引文索引号】null
【学科分类】食品加工的副产品加工与利用

【题目】α-亚麻酸钙对高脂小鼠脂质代谢的调节作用
【中文关键词】α-亚麻酸钙;高血脂症;脂质代谢
【英文关键词】calcium α-linolenic acid; hyperlipidemia; lipid metabolism
【中文摘要】研究α-亚麻酸钙(Ca-ALA)的降血脂作用。将健康昆明种小鼠随机分为空白组、模型组、低级量组、中剂量组和高剂量组,模型组和剂量组饲喂高脂饲料造小鼠高脂模型;低、中、高剂量组的小鼠在建模7 d 后,向其高脂饲料中分别添加0.095%、0.190%、0.380%的α-亚麻酸钙粉剂。每周称体重,6 周后测定小鼠肝指数和血清中总胆固醇(TC)、甘油三酯(TG)、高密度脂蛋白胆固醇(HDL-C)和低密度脂蛋白胆固醇(LDL-C)的含量。结果表明,α-亚麻酸钙能明显降低高血脂小鼠的体重和肝指数,并显著降低高血脂症小鼠血清TC、TG 和LDL-C 水平。α-亚麻酸钙具有显著的调节小鼠脂质代谢的作用。
【英文摘要】The effect of calcium α-linolenic acid (Ca-ALA) on lipid metabolism of mice with hyperlipidemia was studied. The KunMing-strain male mice were divided into normal, model, low-dose, middle-dose and high-dose groups. The hyperlipidemia model was established by feeding mice with high fat feed. 7 Days later, the mice of the low-dose, middle-dose and high-dose groups were feed with high fat feeds containing 0.095%,0.190% and 0.380% of Ca-ALA, respectively. 6 Weeks later, the effects of Ca-ALA on weight, liver index and serum lipid were observed. The results showed that Ca-ALA could significantly reduce weight and liver index of the mice, significantly reduce serum TC, TG and LDL-C lever also. All these results indicated that Ca-ALA had significantly effect on regulation of lipid metabolism.
【语种】中文
【第一作者】刘安军
【通讯作者】刘安军
【期刊名称、卷期、页码】现代食品科技,2009年,第25卷,第10期,1144-1145,1173
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【学科分类】食品工程与粮油工程

【题目】草原红牛不同组织雄激素受体基因表达量检测及比较研究
【中文关键词】雄激素受体; 草原红牛; 实时荧光定量RT-PCR; 表达量
【英文关键词】androgen receptor(AR) ; red steppes; real time RT PCR; expression
【中文摘要】采用实时荧光定量RT-PCR 技术检测雄激素受体基因(Androgen receptor gene, AR) 在草原红牛公牛和母牛多种组织中的表达情况, 探讨该基因在草原红牛公牛和母牛不同组织中的表达差异。结果表明, AR 基因在所检测的公牛和母牛的心、肝、脾、肺、肾、肠、胃及睾丸(卵巢) 等8 种组织中均有表达, 且肝脏中的表达量高于其他组织;草原红牛公牛和母牛相同组织间比较结果显示: AR 基因在草原红牛公牛肝脏中表达量与母牛相比较差异不显著,其他不同组织间表达量均有显著差异(P < 0. 05) , 且公牛各组织中的表达量均高于母牛。本试验为深入研究AR基因的生物学功能及了解该基因对不同性别个体肉质性状的形成的作用机制奠定了基础。

【英文摘要】The present study was designed to detect the differences of androgen receptor (AR) gene expression level in varieties tissues of male and female Chinese red steppes by Real-time RT PCR. The results showed that AR mRNA was expressed in all of the eight tissues: heart,liver , spleen, lung, kidney, intestine, stomach and testis(ovary) ;We also found that AR gene expression level was higher in liver than in other tissues of male and female Chinese red steppes; The expression level of AR mRNA had significant differ ence in heart, liver, spleen, lung , kidney , intestine, stomach and testis(ovary) between the male and the female Chinese red steppes except liver (P< 0. 05) , and it was higher in male than that of in female. The research provides the basis for the future studies on the biological function and the molecular mechanisms of AR gene.
【语种】中文
【第一作者】秦立红
【通讯作者】赵志辉
【期刊名称、卷期、页码】中国兽医学报,2010,30 (4):544-549
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【学科分类】畜牧、兽医科学基础学科

【题目】牛肝醇提物体外抗氧化及对果蝇学习记忆行为的影响
【中文关键词】牛肝醇提物;抗氧化;果蝇;学习记忆
【英文关键词】ethanol extract from cattle liver; antioxidation; drosophila; learning and memory
【中文摘要】本文研究了牛肝醇提物对羟基自由基(·OH)、超氧阴离子(O2-)、1,1-二苯基-2-苦基肼自由基(DPPH·)的清除作用,结果表明牛肝醇提物具有明显的体外抗氧化活性。经果蝇的学习记忆性实验研究表明牛肝醇提物也具有增强果蝇学习记忆的功能。
【英文摘要】In this article, scavenging effects of ethanol extract from cattle liver on superoxide anion radical (O2-) , hydroxyl radicals (·OH) , and 1,1-diphenyl-2 -picrylhydrazyl (DPPH·) were studied. The result indicated that ethanol extract from cattle liver had high antioxidative activity. It was also found that this ethanol extract could improve the ability of learning and memory of drosophila.
【语种】中文
【第一作者】刘安军
【通讯作者】刘安军
【期刊名称、卷期、页码】现代食品科技,2009年,第25卷,第1期,24-26
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【学科分类】食品科学技术基础学科

【题目】草原红牛胰岛素样生长因子Ⅰ受体基因3’UTR 序列多态性分析
【中文关键词】草原红牛; IGF-ⅠR 基因; 3’UTR; 多态性分析
【英文关键词】red steppes; insulin- like growth factor recepto r(IGF-ⅠR) ; 3'UTR; single nucleotide polymorphism
【中文摘要】以58 头草原红牛为试验材料, 采用PCR- SSCP 技术对胰岛素样生长因子Ⅰ受体(IGF-ⅠR) 基因3‘UTR序列多态性进行了检测。结果表明, 在IGF-ⅠR 基因3’UTR中发现PCR-SSCP的多态位点, 有2种等位基因和3 种基因型。对所得基因型与生长和胴体性状的相关性分析结果发现, 在3‘UTR 中AB 型的胴体产肉率、肉骨比显著高于AA、BB 型(P < 0. 05) ;AA 型的脂肪覆盖率显著高于BB 型(P< 0. 05) , 与AB 型差异不显著(P > 0. 05) 。
【英文摘要】The 3'UTR polymorphism of IGF-ⅠR gene was detected by PCR- SSCP in 58 red steppes. The results showed that two allelomorphic gene, three genotype of IGF-ⅠR gene were detected. The associativity was analyzed between the polymorphism of slaughter and carcass traits. The results indicated that procured meat percentage and the ratio of meat in bone for AB genotype was higher than AA and BB geno types(P< 0. 05) , the rate of fatcover age for AA genotype was higher than BB genotype(P< 0. 05) , and was no significant difference with AB genotype(P> 0. 05) .
【语种】中文
【第一作者】张金玉

【通讯作者】赵志辉
【期刊名称、卷期、页码】中国畜牧兽医,2010 ,37(7):103-106
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【学科分类】畜牧、兽医科学基础学科

【题目】胶原蛋白多肽-铬(III)螯合物对小鼠的免疫调节作用
【中文关键词】胶原蛋白多肽-铬(III)螯合物;四氧嘧啶;免疫功能
【英文关键词】collagen peptide-chromium(III) complex; alloxan; immunologic function
【中文摘要】研究了四氧嘧啶对小鼠免疫功能的影响,并通过测定小鼠腹腔巨噬细胞吞噬功能、抗体形成细胞数、E 花环形成率等,检测胶原蛋白多肽-铬(III)螯合物对小鼠免疫力的调节作用。结果表明,胶原蛋白多肽-铬(III)螯合物能增强巨噬细胞吞噬能力,增加抗体形成细胞数,增加E 花环形成率,对四氧嘧啶造成的免疫损伤有一定的调节作用。
【英文摘要】The influence of alloxan on the immunologic function in mice was studied and the regulation of mice immunity by collagen peptide-Chromium(III) complex was also investigated by measuring the cytophagocytosis of macrophage in abdominal cavity,antibody formation cell and T-lymphocyte. It was found that collagen peptide-Chromium(III) complex could enhance the cytophagocytosis of macrophage, antibody producing cell count and E-rosette concentration, showing regulation effect on the immunologic damage induced by alloxan.
【语种】中文
【第一作者】刘安军
【通讯作者】刘安军
【期刊名称、卷期、页码】现代食品科技,2008年,第24卷,第5期,401-404,408
【论文发表时间】2007-11-19 00:00:00
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【引文索引号】null
【学科分类】食品加工的副产品加工与利用

【题目】控失肥在肥东县水稻生产上施肥量研究
【中文关键词】水稻;38%控失肥; 试验
【英文关键词】rice;38% of the control loss of fertilizer;experiment
【中文摘要】本试验设置控失肥和普通肥不同用量八个处理,结果显示:在所有处理中,基施935kg/667m2控失肥,分蘖肥追llOkg尿素为皋地区目前最佳施肥量。减量试验结果表明:控失肥21.5kg/667m2的施肥量能达到自配复合肥30kg/667m2的效果。
【英文摘要】This test set control lose fat and the eight ordinary Fertilizer treatment, results showed that: in all treatments, the base facilities 935kg/667m2 control loss of fertilizer, tillering the fertilizer chase llOkg urea Gao region is the best fertilizer. Decrement test results: the Fertilization control lose fat 21.5kg/667m2 can achieve the effect of the self-made fertilizer 30kg/667m2.
【语种】中文
【第一作者】郭粹锦
【通讯作者】郭粹锦
【期刊名称、卷期、页码】安徽农学通报第15卷第5期2009.15(5):120-121
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【引文索引号】null
【学科分类】农业基础学科

【题目】猪肉半干香肠发酵成熟过程中脂肪酸变化研究
【中文关键词】半干香肠;脂肪酸;成熟;气相色谱
【英文关键词】semi-dry sausage; fatty acid; fermentation; GC analysis
【中文摘要】采用混合型发酵剂生产猪肉半干香肠,实验分为A 组(发酵剂添加量0.1%)和B 组(发酵剂添加量0.01%),分别于0、2、4、6、8、10 d 取样,采用KOH-乙醇皂化、HCl-甲醇酯化的方法进行样品处理,利用气相色谱技术分析不同发酵成

熟时期脂肪酸组成及含量变化。结果表明,从发酵初期到成熟末期,A 组、B 组样品中,含量最高的脂肪酸均为油酸(C18:1),占脂肪酸总量的35%~61%,其次为棕榈酸(C16:0)16%~24%和亚油酸(C18:2)8%~17%。A 组脂肪酸种类及相对含量的变化均高于B 组,尤其是8~10 d 期间,A 组多不饱和脂肪酸的含量明显提高,以亚油酸(C18:2)、亚麻酸(C18:3)及花生四烯酸(C20:4)为最多。实验证明,猪肉半干香肠中微生物直接影响了产品中脂肪酸的组成及含量,另外成熟工艺(烟熏)对于脂肪酸的变化也具有一定影响。

【英文摘要】Mixed starter culture was used to produce semi-dry sausage in this research which was divided into two groups according to the addition of starter. The samples of 0 d, 2 d, 4 d, 6 d, 8 d and 10 d were saponified by using KOH -ethanol and esterified by HCl -methanol. The fatty acid composition and their changes were analyzed by means of GC. The results showed that the content of oleic acid (35%~61%) was the highest of fatty acid, the second one was palmitic acid(16%~24%) and the third one was linoleic acid(8%~17%). The changes of fatty acids of the group A were more than group B, especially in terms of fermentation and ripening. In that term, the content of unsaturated fatty acids especially the oleic acid, linolenic acid and arachidonic acid were increased significantly. The experiment showed that microorganism had effect on the constituents and contents of fatty acid and the mature technology had certain influence on the changes of fatty acid.

【语种】中文

【第一作者】刘安军

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【学科分类】食品科学技术基础学科

【题目】软骨多糖对荷瘤小鼠免疫功能影响的初步研究

【中文关键词】软骨多糖; 小鼠肉瘤S180; 脾细胞增殖; NK 细胞活性; E 花环

【英文关键词】Cartilage Polysaccharide; Sarcoma 180; Mouse; Lymphocyte proliferation assay ; Activity, NK cell; Erythrocyte rosette formation test

【中文摘要】研究软骨多糖对荷瘤小鼠的作用, 并探讨其对免疫功能的影响。方法:采用小鼠肉瘤S180细胞建立动物腹水瘤模型, 然后随机将小鼠分为生理盐水对照组和软骨多糖给药组, 连续腹腔注射生理盐水或软骨多糖, 分别测量ConA和LPS 刺激下小鼠脾细胞淋巴增殖情况、外周血NK细胞的活性, 及外周血单个核细胞E花环形成率。结果: 软骨多糖能刺激淋巴细胞增殖, 明显提高NK细胞的活性, 提高E 花环形成率。结论:软骨多糖能通过增强S180荷瘤小鼠的免疫功能而抑制肿瘤的生长。

【英文摘要】To investigate the influence of cartilage polysaccharide on immunel function in S180 sarcoma-bearing mice. Methods-S180 cells were used to generate the mouse tumor model. The mice were randomly divided into 3 groups: control, model and treated groups, which received either saline or cartilage polysaccharide i. p. injection, respectively. Lymphocyte proliferation stimulated by ConA and LPS, the activity of NK cells in peripheral blood from tumor-bearing mice and erythrocyte rosette formation test (ERFC) were assayed after treatment to detect the changes of immunological function. Results-The cartilage polysaccharide could significantly stimulate lymphocyte proliferation, promote the activity of NK cells in tumor-bearing mice, and enhance the rate of erythrocyte rose formation. Conclusion-The date suggested that cartilage polysaccharide can improve immunological function in tumor bearing mice.

【语种】中文

【第一作者】刘安军

【通讯作者】张国蓉

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【引文索引类型】其他

【引文索引号】null

【学科分类】食品加工的副产品加工与利用

【题目】控失复合肥在肥东小麦生产上的应用效果初探

【中文关键词】控失复合肥;小麦;应用效果
【英文关键词】Control loss of fertilizer;wheat;Application effect
【中文摘要】通过对控失复合肥在小麦上的试验表明:控失复合肥养分流失少肥效时间较长,同时又减少劳动量,能节约成本,产投比较高,具有比同等含量单质化学肥料增产的效果,有推广前景。
【英文摘要】Control loss of fertilizer in wheat trials show: control loss of fertilizer nutrient loss less fertilising time longer, while reducing the amount of labor cost savings, investment and production are relatively high, with the yield than the equivalent aggregate amount of elemental chemical fertilizersthe effect of promotion prospects.
【语种】中文
【第一作者】桑亚松
【通讯作者】桑亚松
【期刊名称、卷期、页码】安徽农学通报2009.15(5)第115-116
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【引文索引号】null
【学科分类】农业基础学科

【题目】猪脑中磷脂的提取及鉴定分析
【中文关键词】磷脂;提取;薄层色谱;红外光谱
【英文关键词】phospholipid; extraction; TLC; infrared spectroscopy
【中文摘要】本文以猪脑为原料,通过丙酮脱水,除去胆固醇和脂肪,以工业酒精提取磷脂,经正交试验确定最佳提取工艺条件为:料液比1:7(m/V),提取时间1 h,提取温度50 ℃,并通过薄层色谱和红外光谱法进行磷脂的鉴定分析。
【英文摘要】Phospholipid is extracted by the industrial alcohol from pig brain,which is pretreated by acetone for removing the water, cholesterol and fat. Through the orthogonal test, the optimum extraction conditions are determined as: the ratio of solid to liquid of 1:7, extraction time of 1 h, and extraction temperature of 50 ℃. Then the achieved phospholipid is characterized by TLC and infrared spectroscopy.
【语种】中文
【第一作者】刘安军
【通讯作者】刘安军
【期刊名称、卷期、页码】现代食品科技,2008年,第24卷,第10期,999-1001
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【引文索引类型】其他
【引文索引号】null
【学科分类】生物化学

【题目】白胡农场施用控失肥对水稻农艺性状及产量的影响
【中文关键词】控失肥;水稻; 产量;氮效益
【英文关键词】Loss control fertilizer; rice; yield; nitrogen efficiency
【中文摘要】与同等养分常用化肥相比,控失肥能够提高水稻群体的总粒数、成穗率和千粒重,提高氮素利用率16.6%;土壤化验结果分析表明, 控失肥对土壤中流动性较强的全氮和速效钾有明显的控失作用
【英文摘要】With the same nutrients commonly compared to chemical fertilizer, controlled-release fertilizer could improve rice population total grain number, panicle rate and 1000-grain weight, improve the utilization rate of nitrogen of soil in 16.6%;Soil test results show that, controlled-release fertilizer on soil liquidity in strong total nitrogen and available potassium had obvious loss control function.
【语种】中文
【第一作者】朱文谷
【通讯作者】朱文谷
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【题目】硒酸多糖抑制二乙基亚硝胺诱发小鼠肝癌的研究
【中文关键词】硒酸多糖;二乙基亚硝胺;肝肿瘤
【英文关键词】selenium-polysaccharide; diethylnitrosamine; hepatocarcinoma
【中文摘要】本论文研究硒酸多糖对二乙基亚硝胺(diethylnitrosamine,DEN) 致小鼠肝癌的预防作用。采用50 μL/kg DEN诱发小鼠肝癌,每周皮下注射1 次,连续8 周,同时对照组饮用灭菌水,低硒含量组和高硒含量组分别饮用含不同硒量的硒酸多糖(150 mg/kg)。实验结束后,处死小鼠,测定生化指标等,用比色分析法检测肝匀浆SOD、GSH-Px 的活性及MDA 含量的变化。病理学检查发现,对照组肝脏损坏严重,补硒组则较轻;2 个补硒组能显著提高SOD、GSH-Px 的活性,降低MDA 含量。硒酸多糖对DEN 致小鼠肝脏癌变有抑制作用。
【英文摘要】The inhibitory effect of selenium-polysaccharide on diethylnitrosamine (DEN) induced hepatocarcinoma in mice was investigated. Mice hepatocarcinoma was induced by subcutaneously injecting 50 μL/kg diethylnitrosamine (DEN) once a week for 8 weeks. Mice were fed with distilled water for control group and different dosages of selenium-polysaccharide for low selenium supplementation group and high selenium supplementation group. Then the biochemical indexes of the killed mice were measured. The activities of superoxide dismutase (SOD), glutathione peroxidase (GSH-Px) and the concentrations of malondialdehyde (MDA) were investigated by colorimetric method. It was found that selenium-polysaccharide significantly increased the activities of SOD,GSH-Px and decreased MDA content in liver cell homogenate. Pathology analysis also showed that damage of mice liver in control group was more serious than those in the selenium supplementation groups. Selenium-polysaccharide had inhibitory effect on DEN-induced hepatocarcinoma in mice.
【语种】中文
【第一作者】刘安军
【通讯作者】刘安军
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【学科分类】病理学

【题目】胶原蛋白多肽铬对四氧嘧啶损伤肝细胞的保护作用
【中文关键词】胶原蛋白多肽铬;HL-7702 人肝细胞;四氧嘧啶;抗氧化
【英文关键词】collagen polypeptide-chromium chelate; HL 7702 hepatocytes; alloxan; antioxidative effect
【中文摘要】研究了胶原蛋白多肽铬(CPCC)对四氧嘧啶损伤肝细胞HL-7702 的保护作用,并探讨其作用机理。方法是将肝细胞HL-7702分为正常对照组、四氧嘧啶组、胶原蛋白多肽铬组及四氧嘧啶+胶原蛋白多肽铬组,分别检测细胞存活率、细胞胞内活性氧(ROS)、胞外超氧阴离子(O2.-)含量及超氧化物歧化酶(SOD)、谷胱甘肽过氧化物酶(GSH-Px)活力、脂质过氧化物丙二醛(MDA)含量,并检测胶原蛋白多肽铬在过氧化氢(H2O2)模型组中的作用。结果表明胶原蛋白多肽铬处理使四氧嘧啶损伤肝细胞存活率增加,胞内ROS 生成减少,O2.-含量、SOD 与GSH-Px 低偿性升高及MDA 含量降低。结论是胶原蛋白多肽铬处理对四氧嘧啶损伤肝细胞具有一定的保护作用,其作用机制可能与三价铬抗氧化性能有关。
【英文摘要】To study the protective effect of collagen polypeptide-chromium chelate (CPCC) in HL 7702 hepatocytes treated by alloxan and the possible mechanism. Cells were divided into control group, alloxan-treated group, CPCC group and alloxan+CPCC group. Cell viability, contents of reactive oxygen species (ROS) and superoxide radical (O2.-) , activities of SOD and GSH-Px and MDA content were analyzed. The protective effect of CPCC in H2O2-treated hepatices was also determined. Results shows that Cell viability was significantly increased by CPCC, while the contents of ROS, O2.- and MDA and the activities of SOD and GSH-Px in alloxan-treated hepatocyte were decreased. CPCC had a protective effect in alloxan-treated HL 7702 hepatocytes, acting as an antioxidant.
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【第一作者】刘安军
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【学科分类】病理学

【题目】乳糖诱导溶栓药物瑞替普酶在大肠杆菌中的可溶性表达
【中文关键词】瑞替普酶; DsbC ;乳糖;大肠杆菌; 表达
【英文关键词】Reteplase;DsbC;lactose;E.coli;expression
【中文摘要】摘 要 : 目的 构建瑞替普酶 (rPA)大肠杆菌基因工程菌 , 优化乳糖诱导表达条件 , 并获得活性重组蛋白。方法 通过 PCR扩增得到 r P A编码基因, 将该基因片段克隆到载体 p E T 4 0 b中, 转化 E.c o l i BL 2 1 。优化确定乳糖诱导浓度 、 时间、 温度等参数 , 将 诱导表达后获得的茵体细胞通过超声破碎裂解后利用镍柱亲和色谱进行分离纯化 , 重组 目的蛋白经Xa因子切割去除DsbC融合标签后释放获得r P A产物, 最后利用纤维蛋白平板法对其溶栓活性进行检测。结果 r P A重组质粒构建成功, 利用终浓度3 0 mmo l /L的乳糖于3 0°C诱导 5 h可以获得很好的表达效果 ,重组蛋白的表达量 、可溶性及酶活与 I P T G诱导产物基本接近 ; 经纯化后的 r P A 目的蛋白可表现出明显的溶栓活性 。结 论 本研究为进一步利用大肠杆茵系统表达生产高活性重组 r P A提供了一定的参考依据。
【英文摘要】Purpose To establish the genetic E.coli for Reteplase,and to optimize the expression conditions induced by lactose.Methods The coding sequence of Reteplase(rPA) was amplified with PCR and then cloned into the pET40b vector.To achieve the high-level expression of soluble active reteplase,the induction expression conditions in E.coli strain BL21,including the concentration of inducer lactose,induction duration and temperature,were optimized.The thrombolytic activity of the recombinant K2S was finally determined using an indirect fibrin plate assay.Results The recombinant plasmid pET40b-rPA was constructed successfully.Lactose could be a satisfying inductor and it obtained nearly the same yield,soluble form and activity with the expression inducted by IPTG.The result of fibrinolysis fibrin plate assay showed that the purified target protein exhibited significant fibrinolysis activity in vitro.Conclusion These researches might establish a significant foundation for the following production of rPA.
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【第一作者】田文静
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【题目】古尼虫草多糖对衰老模型小鼠的影响
【中文关键词】D-半乳糖;古尼虫草多糖;抗衰老作用
【英文关键词】D-galactose; Cordyceps gunnii(Berk.)Berk. polysaccharide; anti-aging effect
【中文摘要】研究古尼虫草多糖的抗衰老作用。将健康小鼠随机分为空白组、模型组、低剂量组、中剂量组和高剂量组,将模型组、低剂量组、中剂量组和高剂量组用D-半乳糖造亚急性衰老小鼠模型;低剂量组、中剂量组和高剂量组的小鼠建模11 d 后每天灌胃50%古尼虫草多糖溶液,剂量分别为100 mg/kg、200 mg/kg 和400 mg/kg;45 d 后观察脑组织中以及血清中超氧化物歧化酶(SOD)和谷胱甘肽过氧化物酶(GSH-Px)活力,丙二醛(MDA)含量。结果表明,古尼虫草多糖可提高小鼠脑组织和血清中SOD(P<0.01)和GSH-Px(P<0.01)活力,明显抑制小鼠脑组织和血清中MDA(P<0.01)的形成。因此,古尼虫草多糖有很好的抗衰老作用。
【英文摘要】The anti-aging effect of Cordyceps gunnii(Berk.)Berk. polysaccharide(G-50) on the senescent mice was studied. D-galactose-induced senescent mice were divided into model, low-dose, middle-dose and high-dose groups. 11 Days later, the mice of the low-dose, middle-dose and high-dose groups were gastricly lavaged with 50 % polysaccharide with its dose being of 100, 200,and 400mg/kg, respectively. After 45 days, the activities of superoxide dismutase (SOD) and glutathione peroxidase (GSH-Px), and the MDA contents in serum and brains were observed. Results showed that Cordyceps gunnii(Berk.)Berk. polysaccharide improved SOD and GSH-Px activities and obviously inhibited the formation of MDA in serum and brains, indicating that the Cordyceps gunnii(Berk.)Berk. polysaccharide had good anti-aging effect.
【语种】中文

【第一作者】刘安军
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【题目】益生菌的分类、生理功能与有效性评价研究进展
【中文关键词】益生菌; 分类; 生理功能; 评价;
【英文关键词】probiotics ; classification ; physiological function ; evaluation
【中文摘要】摘 要: 益生菌是对宿主健康有益的活的微生物,大量研究结果表明益生菌在消化道、 免疫和心血管系统等诸多健康方面发挥了作用。综述了益生菌的分类与生物学特性,以及益生菌调节血脂、 降血压、 降血糖、 抗过敏和调节免疫功能的研究进展,并对其黏附或定植评价、 活性保护技术及代表性商业产品进行了介绍, 以期为开展益生菌相关研究开发工作提供一定的帮助。
【英文摘要】"Probiotics a re li vem icroorgan isms hea lt hy fo r ho st organ is m. Do zens o f st udies have sho w ed t hat prob i o ti csa re p l ay i ng i mportant ro les i n hum an hea lt h keep i ng for d i gesti ve trac t , i mm un ity and cardi ovascu l a r system, etc .Th i s pape r summ arizes the classificati on and b i o l og ical cha racte ristics o f prob i o ti cs and t he research prog ress on the irfuncti ons i n regu l a ting b l ood li p i ds , reduci ng b l ood pressure and blood sug ar , prev enti ng all e rgy and regu lati ngi mmunity . It a lso i ntroduces the eva l uation of prob i o ti cs capability to adhere and co lon ize i n d i gesti ve tract , itsb i oactiv i ty protection techno logy , and representati ve comm erc i a l products , hopi ng to prov ide certa i n helps fordevelopi ng re l evant research re l a ted t o prob i o ti cs"
【语种】中文
【第一作者】李军训
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【题目】High-Level Expression of the Antimicrobial Peptide Plectasin in Escherichia coli
【中文关键词】THIOREDOXIN REDUCTASE; RESISTANCE; PROTEINS; AGENTS
【英文关键词】THIOREDOXIN REDUCTASE; RESISTANCE; PROTEINS; AGENTS
【中文摘要】Plectasin is a defensin-like antimicrobial peptide isolated from a fungus, the saprophytic ascomycete Pseudoplectania nigrella. Plectasin showed marked antibacterial activity in vitro against Gram-positive bacteria, especially Streptococcus pneumoniae, including strains resistant to conventional antibiotics. Plectasin could kill the sensitive strain as efficaciously as vancomycin and penicillin and without cytotoxic effects on mammalian cell viability. In order to establish a bacterium-based plectasin production system, in the present study, the coding sequence of plectasin was optimized, and then cloned into pET32a (+) vector and expressed as a thioredoxin (Trx) fusion protein in Escherichia coli. The soluble fusion protein collected from the supernatant of the cell lysate was separated by Ni(2+)-chelating affinity chromatography. The purified protein was then cleaved by Factor Xa protease to release mature plectasin. Final purification was achieved by Ni(2+)-chelating chromatography again. The recombinant plectasin exhibited the same antimicrobial activity as reported previously. This is the first study to describe the expression of plectasin in E. coli expression system, and these works might provide a significant foundation for the following production or study of plectasin, and contribute to the development and evolution of novel antimicrobial drugs in clinical applications.
【英文摘要】Plectasin is a defensin-like antimicrobial peptide isolated from a fungus, the saprophytic ascomycete Pseudoplectania nigrella. Plectasin showed marked antibacterial activity in vitro against Gram-positive bacteria, especially Streptococcus pneumoniae, including strains resistant to conventional antibiotics. Plectasin could kill the sensitive strain as efficaciously as vancomycin and penicillin and without cytotoxic effects on mammalian cell viability. In order to establish a bacterium-based plectasin production system, in the present study, the coding sequence of plectasin was optimized, and then cloned into pET32a (+) vector and expressed as

a thioredoxin (Trx) fusion protein in Escherichia coli. The soluble fusion protein collected from the supernatant of the cell lysate was separated by Ni(2+)-chelating affinity chromatography. The purified protein was then cleaved by Factor Xa protease to release mature plectasin. Final purification was achieved by Ni(2+)-chelating chromatography again. The recombinant plectasin exhibited the same antimicrobial activity as reported previously. This is the first study to describe the expression of plectasin in E. coli expression system, and these works might provide a significant foundation for the following production or study of plectasin, and contribute to the development and evolution of novel antimicrobial drugs in clinical applications.

【语种】英文
【第一作者】井晓兰
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【学科分类】微生物学

【题目】The Role of Lactic Acid Adsorption by Ion Exchange Chromatography
【中文关键词】FERMENTATION; BIOREACTOR; RECOVERY; SORPTION; WASTE
【英文关键词】FERMENTATION; BIOREACTOR; RECOVERY; SORPTION; WASTE
【中文摘要】Background: The polyacrylic resin Amberlite IRA-67 is a promising adsorbent for lactic acid extraction from aqueous solution, but little systematic research has been devoted to the separation efficiency of lactic acid under different operating conditions. Methodology/Principal Findings: In this paper, we investigated the effects of temperature, resin dose and lactic acid loading concentration on the adsorption of lactic acid by Amberlite IRA-67 in batch kinetic experiments. The obtained kinetic data followed the pseudo-second order model well and both the equilibrium and ultimate adsorption slightly decreased with the increase of the temperature at 293-323K and 42.5 g/liter lactic acid loading concentration. The adsorption was a chemically heterogeneous process with a mean free energy value of 12.18 kJ/mol. According to the Boyd plot, the lactic acid uptake process was primarily found to be an intraparticle diffusion at a lower concentration (<50 g/liter) but a film diffusion at a higher concentration (>70 g/liter). The values of effective diffusion coefficient D-i increased with temperature. By using our Equation (21), the negative values of Delta G degrees and Delta H degrees revealed that the adsorption process was spontaneous and exothermic. Moreover, the negative value of Delta S degrees reflected the decrease of solid-liquid interface randomness at the solid-liquid interface when adsorbing lactic acid on IRA-67. Conclusions/Significance: With the weakly basic resin IRA-67, in situ product removal of lactic acid can be accomplished especially from an open and thermophilic fermentation system without sterilization.
【英文摘要】Background: The polyacrylic resin Amberlite IRA-67 is a promising adsorbent for lactic acid extraction from aqueous solution, but little systematic research has been devoted to the separation efficiency of lactic acid under different operating conditions. Methodology/Principal Findings: In this paper, we investigated the effects of temperature, resin dose and lactic acid loading concentration on the adsorption of lactic acid by Amberlite IRA-67 in batch kinetic experiments. The obtained kinetic data followed the pseudo-second order model well and both the equilibrium and ultimate adsorption slightly decreased with the increase of the temperature at 293-323K and 42.5 g/liter lactic acid loading concentration. The adsorption was a chemically heterogeneous process with a mean free energy value of 12.18 kJ/mol. According to the Boyd plot, the lactic acid uptake process was primarily found to be an intraparticle diffusion at a lower concentration (<50 g/liter) but a film diffusion at a higher concentration (>70 g/liter). The values of effective diffusion coefficient D-i increased with temperature. By using our Equation (21), the negative values of Delta G degrees and Delta H degrees revealed that the adsorption process was spontaneous and exothermic. Moreover, the negative value of Delta S degrees reflected the decrease of solid-liquid interface randomness at the solid-liquid interface when adsorbing lactic acid on IRA-67. Conclusions/Significance: With the weakly basic resin IRA-67, in situ product removal of lactic acid can be accomplished especially from an open and thermophilic fermentation system without sterilization.
【语种】英文
【第一作者】高强
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【题目】Soluble Expression of Active Recombinant Human Tissue Plasminogen Activator Derivative (K2S) in Escherichia coli
【中文关键词】Thrombolytic drug; disulfide isomerase; affinity chromatography
【英文关键词】Thrombolytic drug; disulfide isomerase; affinity chromatography
【中文摘要】Context: The kringle 2 plus serine protease domains (K2S) of human tissue plasminogen activator (tPA) is an efficacious thrombolytic drug, which has been used to treat heart attacks and strokes by breaking up the clots that cause them. It has nine disulfide bridges, which are needed for proper folding and be the bottleneck in improving the production in the Escherichia coli system. So far, few reports have described the production of soluble active K2S from E. coli. Objective: To achieve high-level expression of active K2S in the E. coli system. Materials and methods: The DNA fragment coding for K2S was fused with the E. coli disulfide isomerase DsbC. The constructed fusion protein was expressed in E. coli, and then purified with the Ni<SU2++</SU-chelating affinity chromatography. K2S was released by cleavage with Factor Xa protease, and the thrombolytic activity was determined using the fibrin plate assay. Results: The fusion protein DsbC-K2S was found in the culture supernatant of recombinant E. coli as a soluble form of similar to 40%. The result of fibrinolysis fibrin plate assay showed that the purified recombinant K2S exhibited significant fibrinolysis activity in vitro. Discussion and conclusion: These works provided a novel approach for the production of active K2S in E. coli without the requirements of in vitro refolding process, and might establish a significant foundation for the following production of K2S.
【英文摘要】Context: The kringle 2 plus serine protease domains (K2S) of human tissue plasminogen activator (tPA) is an efficacious thrombolytic drug, which has been used to treat heart attacks and strokes by breaking up the clots that cause them. It has nine disulfide bridges, which are needed for proper folding and be the bottleneck in improving the production in the Escherichia coli system. So far, few reports have described the production of soluble active K2S from E. coli. Objective: To achieve high-level expression of active K2S in the E. coli system. Materials and methods: The DNA fragment coding for K2S was fused with the E. coli disulfide isomerase DsbC. The constructed fusion protein was expressed in E. coli, and then purified with the Ni<SU2++</SU-chelating affinity chromatography. K2S was released by cleavage with Factor Xa protease, and the thrombolytic activity was determined using the fibrin plate assay. Results: The fusion protein DsbC-K2S was found in the culture supernatant of recombinant E. coli as a soluble form of similar to 40%. The result of fibrinolysis fibrin plate assay showed that the purified recombinant K2S exhibited significant fibrinolysis activity in vitro. Discussion and conclusion: These works provided a novel approach for the production of active K2S in E. coli without the requirements of in vitro refolding process, and might establish a significant foundation for the following production of K2S.
【语种】英文
【第一作者】罗学刚
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【期刊名称、卷期、页码】Pharm Biol
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【学科分类】微生物学

【题目】Cloning, characterization and application of the promoter region of the alkaline protease gene in Bacillus alcalophillus PB92
【中文关键词】promoter;alkaline protease;Bacillus alcalophillus
【英文关键词】promoter;alkaline protease;Bacillus alcalophillus
【中文摘要】Promoter fragment of alkaline protease gene was cloned from Bacillus alcalophillus PB92 genome by TAIL-PCR. The fragment was sequenced and analyzed, then submitted to GenBank (EU130686). The results showed that it contained several typical promoter charactered regions and two reverse translation frames located in - 538 to - 370 bp and - 275 to -128 bp region. Deletion analysis of the sequence indicated that 414 bp upstream of the TSS exhibited predominant promoter activity, while an 105bp length could serve as this function. Additionally, our data demonstrated that a representative Sectype signal peptide structure presented in PB92 alkaline protease signal peptide. The efficiency of PaprE- AprE signal peptide gene cassette was validated by its driving a plant sweet protein monellin gene highly expression in Bacillus subtilis 1A751.
【英文摘要】Promoter fragment of alkaline protease gene was cloned from Bacillus alcalophillus PB92 genome by TAIL-PCR. The fragment was sequenced and analyzed, then submitted to GenBank (EU130686). The results showed that it contained several typical promoter charactered regions and two reverse translation frames located in - 538 to - 370 bp and - 275 to -128 bp region. Deletion

analysis of the sequence indicated that 414 bp upstream of the TSS exhibited predominant promoter activity, while an 105bp length could serve as this function. Additionally, our data demonstrated that a representative Sectype signal peptide structure presented in PB92 alkaline protease signal peptide. The efficiency of PaprE- AprE signal peptide gene cassette was validated by its driving a plant sweet protein monellin gene highly expression in Bacillus subtilis 1A751.

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【学科分类】微生物学

【题目】Separation of Angiotensin-Converting Enzyme Inhibitors from Fermented Milk Prepared with Lactobacillus casei HZ1
【中文关键词】ACEI; Lactobacillus Casei
【英文关键词】ACEI; Lactobacillus Casei
【中文摘要】In this paper, a strain HZ1 which was isolated in our former works was classified as Lactobacillus Casei (L. Casei) by 16S rDNA sequence analysis. The results of angiotensin-converting enzyme (ACE) inhibitory assay showed that this novel stain was able to produce ACE inhibitory components when it was used to fermented milk. Applying the methods of membrane filtration and anion-exchange chromatography with fast protein liquid chromatography (FPLC) system, nine fractions with remarkable ACE inhibitory activity were obtained, and two bioactive fractions, recorded as ACEI-2 and ACEI-5, exhibited the highest ACE inhibitory rate of 60.55% and 71.71%, respectively. Furthermore, seven fractions proteins/polypeptides, which exhibited ACE inhibitory rate higher than 50% were separated from ACEI-2 and ACEI-5 by using sephadex gel filtration chromatography. These works might provide a foundation for the following study of L. Casei HZ1 and its probiotics functions, and contribute to the development of functional foods or drugs that provide health benefits to patients suffering from hypertension.
【英文摘要】In this paper, a strain HZ1 which was isolated in our former works was classified as Lactobacillus Casei (L. Casei) by 16S rDNA sequence analysis. The results of angiotensin-converting enzyme (ACE) inhibitory assay showed that this novel stain was able to produce ACE inhibitory components when it was used to fermented milk. Applying the methods of membrane filtration and anion-exchange chromatography with fast protein liquid chromatography (FPLC) system, nine fractions with remarkable ACE inhibitory activity were obtained, and two bioactive fractions, recorded as ACEI-2 and ACEI-5, exhibited the highest ACE inhibitory rate of 60.55% and 71.71%, respectively. Furthermore, seven fractions proteins/polypeptides, which exhibited ACE inhibitory rate higher than 50% were separated from ACEI-2 and ACEI-5 by using sephadex gel filtration chromatography. These works might provide a foundation for the following study of L. Casei HZ1 and its probiotics functions, and contribute to the development of functional foods or drugs that provide health benefits to patients suffering from hypertension.
【语种】英文
【第一作者】韩钊
【通讯作者】张同存
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【引文索引类型】EI
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【学科分类】微生物学

【题目】Identification and Characterization of Lactobacillus plantarum TH1
【中文关键词】Identification;Characterization;
Lactobacillus plantarum TH1
【英文关键词】Identification;Characterization;
Lactobacillus plantarum TH1
【中文摘要】Lactobacillus plantarum (L. plantarum) is a flexible and versatile microorganism that inhabits a variety of environmental niches, and some strains are marketed as probiotics. In this study, a strainTH1 which was isolated from silage in our former works was

classified asL. plantarum by 16S rDNA sequence analysis and phylogenetic tree. Then its potential abilities of bile tolerance, nitrate reduction and anti-hypertension were investigated. The results showed that L. plantarum TH1 had capacity to resistance to bile salt, directly deoxygenate nitrate to nitrogen or ammonia rather then nitrite, and produce ACE inhibitory components in fermented milk. These works indicated that this novel lactobacillus strain might be considered as candidates for probiotics strains using in the food or drug system to improve the health of patients suffering from hypertension or other chronic disease.

【英文摘要】Lactobacillus plantarum (L. plantarum) is a flexible and versatile microorganism that inhabits a variety of environmental niches, and some strains are marketed as probiotics. In this study, a strainTH1 which was isolated from silage in our former works was classified asL. plantarum by 16S rDNA sequence analysis and phylogenetic tree. Then its potential abilities of bile tolerance, nitrate reduction and anti-hypertension were investigated. The results showed that L. plantarum TH1 had capacity to resistance to bile salt, directly deoxygenate nitrate to nitrogen or ammonia rather then nitrite, and produce ACE inhibitory components in fermented milk. These works indicated that this novel lactobacillus strain might be considered as candidates for probiotics strains using in the food or drug system to improve the health of patients suffering from hypertension or other chronic disease.

【语种】英文

【第一作者】田华

【通讯作者】张同存

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【学科分类】微生物学

【题目】Indipendent and Tandem Expression of a novel antimicrobial peptides plectasin in Escherichia coli

【中文关键词】Expression;antimicrobial peptides plectasin

【英文关键词】Expression;antimicrobial peptides plectasin

【中文摘要】Plectasin, a novel antimicrobial peptide, is isolated from a saprophytic fungus Pseudoplectania nigrella. Plectasin showed potent antibacterial activity in vitro against Gram-positive, especially the Streptococcus pneumoniae and Streptococcus pneumoniae, including strains resistant to conventional antibiotics. In our previous study, plectasin had been expressed at a high yield as a thioredoxin (Trx) - fused protein in Escherichia coli. However, it couldn't exhibit the antimicrobial activity unless the Trx-tag had been cleaved, which made the producing process be complicated. Concerning that plectasin has no complex post-translational modification and toxicity on E. coli, on the basis of the former works, we further establish the independent and tandem expression system of plectasin in E. coli. In the present study, the coding sequence of plectasin was obtained from pET32a-PLEC with four primers to amplify the independent and tandem plectasin fragments by overlapping PCR-based gene synthesis, and then cloned into pET22b (+) vector. The recombinant protein was expressed successfully in E. coli with IPTG induction. These works might throw light on the production or study of plectasin, and contribute to the development of novel anti-infectious drugs in the future. © (2012) Trans Tech Publications, Switzerland.

【英文摘要】Plectasin, a novel antimicrobial peptide, is isolated from a saprophytic fungus Pseudoplectania nigrella. Plectasin showed potent antibacterial activity in vitro against Gram-positive, especially the Streptococcus pneumoniae and Streptococcus pneumoniae, including strains resistant to conventional antibiotics. In our previous study, plectasin had been expressed at a high yield as a thioredoxin (Trx) - fused protein in Escherichia coli. However, it couldn't exhibit the antimicrobial activity unless the Trx-tag had been cleaved, which made the producing process be complicated. Concerning that plectasin has no complex post-translational modification and toxicity on E. coli, on the basis of the former works, we further establish the independent and tandem expression system of plectasin in E. coli. In the present study, the coding sequence of plectasin was obtained from pET32a-PLEC with four primers to amplify the independent and tandem plectasin fragments by overlapping PCR-based gene synthesis, and then cloned into pET22b (+) vector. The recombinant protein was expressed successfully in E. coli with IPTG induction. These works might throw light on the production or study of plectasin, and contribute to the development of novel anti-infectious drugs in the future. © (2012) Trans Tech Publications, Switzerland.

【语种】英文

【第一作者】吕丽慧

【通讯作者】张同存

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【学科分类】微生物学

【题目】Functions of Bacillus Subtilis BS7.29 in Wasterwater Treatment
【中文关键词】Functions;Bacillus Subtilis BS7.29;Treatment
【英文关键词】Functions;Bacillus Subtilis BS7.29;Treatment
【中文摘要】Bacillus subtilis (B. subtilis) is a kind of Gram positive bacteria possessing multiple enzyme systems, which might be useful in wastewater treatment. In this paper, in order to confirm whether Bacillus subtilis BS7.29, a novel strain isolated from soil in our previous work, could be applied in the wastewater treatment, its effects on assimilation of ammonium, transformation of nitrite, and degradation of pectin were investigated. The results showed that the content of NH3-N and NO2-N in aquaculture water decreased with time increasing after being treated with B. subtilis BS7.29. Furthermore, when the secretion enzyme extracted from this bacterium was used to treat the paper-making white water, it could reduce CD and turbid it, decrease the size of colloidal substances and promote the deposition. These findings suggested that B. subtilis BS7.29 might be valuable in the wastewater treatment, and contribute to the development of biological purification of industrial effluents.
【英文摘要】Bacillus subtilis (B. subtilis) is a kind of Gram positive bacteria possessing multiple enzyme systems, which might be useful in wastewater treatment. In this paper, in order to confirm whether Bacillus subtilis BS7.29, a novel strain isolated from soil in our previous work, could be applied in the wastewater treatment, its effects on assimilation of ammonium, transformation of nitrite, and degradation of pectin were investigated. The results showed that the content of NH3-N and NO2-N in aquaculture water decreased with time increasing after being treated with B. subtilis BS7.29. Furthermore, when the secretion enzyme extracted from this bacterium was used to treat the paper-making white water, it could reduce CD and turbid it, decrease the size of colloidal substances and promote the deposition. These findings suggested that B. subtilis BS7.29 might be valuable in the wastewater treatment, and contribute to the development of biological purification of industrial effluents.
【语种】英文
【第一作者】李军训
【通讯作者】张同存
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【学科分类】微生物学

【题目】硒酸赖氨酸对四氧嘧啶诱发的小鼠肝损伤的防护作用
【中文关键词】硒酸赖氨酸,四氧嘧啶,肝损伤
【英文关键词】Seleno-lysine;Alloxan;Hepatic injury
【中文摘要】研究硒酸赖氨酸对四氧嘧啶诱发的小鼠肝损伤的防护作用。方法:选取昆明小鼠50只,雌雄各半,随机分成五组,即对照组、模型组、低剂量组、中剂量组、高剂量组。采用四氧嘧啶致急性肝损伤模型,检测各组小鼠血清中谷丙转氨酶(ALT)、谷草转氨酶(AST)、碱性磷酸酶(AKP)活性,并对各组小鼠肝脏进行组织病理学观察。结果:硒酸赖氨酸能降低小鼠血清中ALT、AST、AKP活性(P<0.05或P<0.01),,明显减轻四氧嘧啶致肝损伤小鼠肝细胞的病变及炎症反应。结论:硒酸赖氨酸具有对四氧嘧啶诱发小鼠肝损伤的保护作用。
【英文摘要】Objective: To investigate the protective effect of seleno-lysine on hepatic injury in mice induced by alloxan. Methods: 50 healthy Kunming mice were randomly divided into 5 groups-control group, model group, low dose group, middle dose group and high dose group. Hepatic injury mouse model was set up by alloxan. The levels of ALT,AST and AKP in serum were measured and com- pared, and the pathological changes of hepatic tissues were observed under the microscope. Results: Seleno-lysine could significantly lower the levels of AST, ALT and ALP in serum in hepatic injury mice, and reduce the pathological changes of hepatic tissues. Conclusion: Seleno-lysine can prevent hepatic injury in mice induced by alloxan.
【语种】中文
【第一作者】刘安军

【通讯作者】张国蓉
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【学科分类】病理学

【题目】多肽-Fe对小鼠急性肝损伤保护作用的研究
【中文关键词】多肽-Fe;四氯化碳;急性肝脏损伤;抗氧化
【英文关键词】polypeptide-Fe; carbon tetrachloride; acute hepatic injury; antioxidant ability
【中文摘要】目的:研究多肽-Fe 对四氯化碳(CCl4)引起的小鼠肝脏氧化损伤的保护作用。方法:用CCl4(50 mg/kg.d)灌胃造成小鼠急性肝脏损伤模型,将多肽-Fe 分为低、中、高剂量预防组,分别为67.5 mg/kg·d、675 mg/kg·d、2 025 mg/kg·d 喂饲小鼠30 d,观察其对血清ALT、AST 和ALP 及肝脏TG、TC、GSH、MDA 和SOD 的影响。结果:与模型组相比,多肽-Fe 可显著降低血清中ALT、AST、ALP 活性和肝脏中TG、TC、MDA 含量(P <0.01),提高肝脏中GSH 含量(P <0.05),以中剂量组最为有效。结论:多肽-Fe 对CCl4 引起的小鼠肝脏氧化损伤具有保护作用
【英文摘要】Objective: To study the protective effects of polypeptide-Fe on acute hepatic injury induced by CCl4 in mice. Method:Mice model of acute hepatic injury was set up by CCl4 ig (50mg/kg·d). and fed with polypeptide-Fe 67.5 mg/kg·d, 675 mg/kg·d and 2 025 mg/kg·d for 30 d respectively. The effects on serum ALT, AST, and ALP and liver TG, TC, GSH, MDA, and SOD avtivities were observed. Results: Polypeptide-Fe decreased the activities of ALT, AST, and ALP in serum and the levels of TG, TC, and MDA in liver, and increased the level of GSH in liver. Middle dosage group of polypeptide-Fe was the most effective one. Conclusion:Polypeptide-Fe showed significant antioxidant ability in protecting acute hepatic injury induced by CCl4 in mice.
【语种】中文
【第一作者】王丽霞
【通讯作者】王丽霞
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【学科分类】食品科学技术基础学科

【题目】Pollinator Effects on Genotypically Distinct Soybean Cytoplasmic Male Sterile Lines
【中文关键词】多样性分析,细胞质雄性不育
【英文关键词】ANOVA, analysis of variance; CMS, cytoplasmic male sterile
【中文摘要】本研究以网室作为隔离条件,以稳定的细胞质雄性不育系JLCMS9A、JLCMS82A、JLCMS89A为基本试材,通过五个处理设置,即①罩网后打杀虫剂,开花时放苜蓿切叶蜂;②罩网后打杀虫剂,开花时不放苜蓿切叶蜂;③罩网,不打杀虫剂,开花时放苜蓿切叶蜂;④罩网,不打杀虫剂,开花时不放苜蓿切叶蜂;⑤自然开放,不打农药,研究了切叶蜂的传粉效果、蓟马和天然昆虫群体在大豆传粉中的作用及不同基因型不育系在异交结实上存在的差异。研究结果表明,苜蓿切叶蜂是网室内为大豆传粉的最理想昆虫;不同基因型不育系的异交结荚率存在很大的差异,以JLCMS82A最高,JLCMS89A最低,JLCMS9A居中;蓟马等小昆虫的传粉作用可使上述三个不育系的结荚率分别达到1.33%、5.32%和0.48%,说明蓟马虽然在大豆传粉中有一定的作用,但并不是理想的传粉昆虫;在自然开放条件下,不育系JLCMS9A、JLCMS82A和JLCMS89A的平均结荚率分别为11.27%、25.2%和4.55%,说明天然昆虫群体在大豆异交结实中起着非常重要的作用。
【英文摘要】Poor seed-set limits potential for soybeanhybrid seed production. The objective of thisstudy was to evaluate effects of different pollinatorson the rate of seed set in three soybeancytoplasmic male sterile (CMS) lines, JLCMS9A,JLCMS82A, and JLCMS89A. The followingfi ve treatments were applied under net roomisolation-conditions: (i) insecticide applicationand release of alfalfa leafcutter bees (Megachilerotundata) during fl owering; (ii) insecticideapplication in the absence of leafcutter bees;(iii) release of alfalfa leafcutter bees during fl oweringwithout insecticide application; (iv) theabsence of insecticide or alfalfa leafcutter beesduring fl owering; (v) plants without a net coverand pesticide application. Results indicated thatthe rate of pod production and seed set differsignifi cantly between CMS lines and betweentreatments. Alfalfa leafcutter bees were aneffective pollinator as evidenced by increasesin pod-bearing rate and seed-set rate respectivelyfrom 21.35 to 53.22% and from 19.91 to58.77% in the three CMS lines. The

three CMSlines also showed signifi cant differences in seedset, with JLCMS82A exhibiting the highest ratein all fi ve treatments, followed by JLCMS9A andthen JLCMS89A. These results suggested thatthrips (Sericothrips variabilis) might have someeffect on soybean pollination, but did not elicita major infl uence based on the low increasesin seed production. The natural insect populationserved an important role in outcrossing andseed set in soybean.

【语种】英文
【第一作者】赵丽梅
【通讯作者】赵丽梅
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【学科分类】农业基础学科

【题目】DNA methylation polymorphism in annual wild soybean (Glysine soja Sieb. et Zucc.) and cultivated soybean (G. max L. Merr.)
【中文关键词】野生大豆,栽培大豆,DNA甲基化
【英文关键词】Annual wild soybean (Glycine soja), cultivated soybean (G. max), DNA methylation polymorphism
【中文摘要】本文采用20份一年生野生大豆和27份栽培大豆研究了DNA甲基化多样性和遗传多样性,这些材料来源于吉林省农科院。MSAP(Methylation Sensitive Amplified Polymorphism)分析用了27对引物,共产生了984条带。进一步将MSAP数据分为甲基化敏感多态性(Methylation-Sensitive Polymorphism,MSP)和甲基化不敏感多态性(Methylation-Insensitive Polymorphism,MISP)。一年生野生大豆和栽培大豆的MSP和MISP分别为34.65% vs. 47.05% 和34.76% vs. 47.15%。这些数据表明,无论是MSP还是MISP都是栽培大豆高于野生大豆,这一结果与AFLP的结果不相一致(AFLP表现为野生大豆的多样性高于栽培大豆的多样性)。这说明发生瓶颈效应的基因型可以产生多种多样的表观基因型。根据这三类分子标记做的聚类图都可以将这些材料分为两个明显的群体,而且每个群体都主要分别由野生大豆和栽培大豆组成。此外,MSAP聚类分析暗示存在物种特异的表观遗传多态性,并可稳定的遗传下去。但是由于野生大豆和栽培大豆之间的渐渗现象,使得聚类分析中有个别栽培大豆与野生大豆聚为一类。 将测序的MSP多样性条带进行了BLAST分析,结果显示12/24与已知功能基因或者推测蛋白质基因高度同源。相关性分析结果表明MSP和MISP以及MSP和AFLP之间没有相关性,暗示表观遗传多态与遗传多态形成和/或维持的机制是不相同的。本研究的结果暗示,大豆DNA甲基化多样性受自然选择和人工选择影响,也暗示表观遗传机制在大豆的起源进化与驯化过程中发挥了作用。
【英文摘要】To studyDNA methylation polymorphism in soybean, 20 and 27 lines of annual wild and cultivated soybeans, respectively, wereselected from previously established "Soybean Core Collections in China", and subjected to methylation-sensitive amplifiedpolymorphism (MSAP) analysis. Twenty-seven primer pairs generated 984 CG/CNG methylation sites across the 47 lines,and the data were dissected into methylation-sensitive (MS) and methylation-insensitive(MIS) polymorphisms. Thecalculated MSP vs. MISP for wild soybeans were 34.65 vs. 34.76%, while corresponding results for the cultivated soybeanswere 47.05 vs. 47.15%, indicating higher levels of MSP and MISP in cultivated than in wild soybeans. These results wereincongruent with the amplified fragment length polymorphism (AFLP) analysis of the same soybean lines, and suggestedenhanced DNA methylation polymorphism due to human selection. All three markers, MSP, MISP and AFLP, enabledclustering of the soybean lines into two distinct groups each predominantly containing wild or cultivated ones. Homologysearch indicated that 12 out of 24 sequenced MSPs had significant similarities to known-function or predicated genes,suggesting possible functional relevance of the methylation polymorphism. No significant association between MSP andMISP or MSP and AFLP was detected. Our results suggest thatDNAmethylation polymorphism in soybean has been underboth natural and human selections, implicating possible roles of this epigenetic modification in genome evolution anddomestication
【语种】英文
【第一作者】仲晓芳
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【学科分类】植物学

【题目】大豆细胞质COXⅡ基因的分离及序列分析
【中文关键词】大豆,细胞质雄性不育系,COXⅡ基因
【英文关键词】Soybean; Cytop lasmic male sterility(CMS) ; COXⅡ gene
【中文摘要】目前关于细胞质雄性不育的机理研究主要集中在植物线粒体上,通过参考大豆线粒体细胞色素氧化酶亚基Ⅱ(COXⅡ)基因序列,合成保守基因引物,从供试材料中克隆到了COX Ⅱ基因,对基因序列分析表明:该基因编码了一个有280个氨基酸组成的蛋白,推测其可能与大豆细胞质不育有关
【英文摘要】At p resent, the research about the mechanism of CMS are all focusing on mitochondrial genome analysis,A pair ofp rimerswas designed according to the soybean Mitochondrial cytochrome oxidase subunit Ⅱ sequence which published inGenBank. The gene was isolated and analysed from the CMS soybean. This gene codes a p rotein which consisting 280 aminoacids, and maybe assosiated with CMS.
【语种】中文
【第一作者】吴丽丽
【通讯作者】赵丽梅
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【题目】大豆细胞质雄性不育恢复基因的SSR标记
【中文关键词】大豆,细胞质雄性不育系,恢复基因,分子标记
【英文关键词】Soybean ;Cytoplasmic male sterile (CMS) ;Restorer gene ;Molecular marker
【中文摘要】大豆细胞质雄性不育系的获得,为大豆杂种优势利用奠定了基础。在确认RN 型大豆细胞质雄性不育系属单基因配子体不育,恢复性是由显性单基因控制的遗传模式的基础上,开展恢复基因的分子标记研究,旨在找到与恢复基因紧密连锁的分子标记,为进一步克隆恢复基因及恢复系的分子标记辅助育种奠定基础。研究选用412 对SSR 引物,利用RN 型不育系YA 与恢复系167 杂交的F2 分离群体,获得了与恢复基因连锁的两个标记Sat t414 和Sat t596 ,遗传距离分别为16. 4 和14. 6 cM。为了找到更近的分子标记,分析了Sat t414 和Sat t596 附近的所有SSR 引物,并利用两个遗传差异较大的亲本重新构建了分离群体, 从而获得了与恢复基因连锁比较紧密的标记Sat t547 ,遗传距离为7. 56 cM。根据Cregan 等构建的大豆分子遗传连锁图,将恢复基因定位于J连锁群上。
【英文摘要】The development of cytoplasmic male sterile (CMS) line has facilitated the utilization ofsoybean heterosis. It was confirmed that t he fertility restoration of t he RN type soybean CMS linewas cont rolled by a single dominant nuclear gene. Two SSR maker s ,Sat t414 and Sat t596 ,whichwere genetically linked to t he nuclear restorer gene ,were selected by screening of SSR markerswit h F2 segregation pop ulation f rom t he cross between sterile line YA and restorer line 167. Thegenetic distance between t he markers and t he restorer gene were 16. 4 and 14. 6 cM ,respectively.A segregating pop ulation developed f rom a cross between more diver sified parent s was used forscreening the closer SSR markers. SSR marker Sat t547 with genetic distance of 7. 56 cM to t herestorer gene was identified. The nuclear restorer gene was located in J linkage group accordingto Cregan ’s soybean genetic map
【语种】中文
【第一作者】赵丽梅
【通讯作者】董英山
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【引文索引号】123
【学科分类】农业基础学科

【题目】杂交大豆研究进展
【中文关键词】大豆;三系;杂交种;产业化
【英文关键词】soybean,three lines,hybrid soybean ,industrialization

【中文摘要】杂种优势利用是提高作物产量的最有效途径之一。吉林省农业科学院大豆杂种优势利用和技术开发的研究结果。世界上第一个大豆杂交种的育成及审定为杂交大豆产业化奠定了物质基础,制种技术的突破使制种产量达到了1 000 kgPhm2 ,是杂交大豆产业化的必要前提,杂交大豆生产和栽培技术要点的确定为杂交大豆产业化提供了技术保障。
【英文摘要】The research progress of soybean hybridAbstract: Heterosis utilization can significantly improve crops yields. The world ’s first soybean hybrid was bred and released by Jilin Academy of Agricultural Sciences, which laid the material foundation for the hybrid soybean industry. Necessary precondition for industrialization of soybean hybrid is that the seed production reached 1,000 kg/hm2. The indentions of production and cultivation techniques of soybean hybrid technical provide technical support to hybrid soybean industry.
【语种】中文
【第一作者】赵丽梅
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【题目】国内外大豆杂种优势利用研究概况
【中文关键词】大豆,不育系,杂优利用
【英文关键词】soybean ; CMS; utilization of heterosis
【中文摘要】文中从已授权的专利、不育系研究、杂种优势和传粉研究4 个方面阐述了国内外大豆杂种优势利用研究的现状。从现状分析中可以看出,我国大豆不育系研究虽然起步晚,但进展快,不仅首先发现了最有利用价值的细胞质雄性不育系,并很快转向实用化研究。同时,在制种技术等研究上获得突破。关键词: 大豆; 细胞质雄性不育; 杂种优势利用
【英文摘要】In this paper , a comprehensive review of the utilization of heterosis in soybean was presentedbased on the advances in the authorized patents associated with soybean heterosis , development of soy2bean sterile lines , researches of soybean heterosis and pollination1 It showed that despite its late begin2ning , China has made steadier and faster progress in research and utilization of soybean heterosis in recentyears , including discovery of the first utilizable soybean cytoplasm male2sterile line and its rapid applica2tion in practice , and breakthrough in technology of hybrid seed production1
【语种】中文
【第一作者】赵丽梅
【通讯作者】赵丽梅
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【引文索引号】123
【学科分类】农业基础学科

【题目】大豆骨干恢复系花和花粉数量的研究
【中文关键词】大豆;恢复系;授粉;花粉数量
【英文关键词】Soybean; Restorer line; Pollination;Number ofmicrospores
【中文摘要】制种产量低已成为制约杂交大豆产业化的瓶颈,父本恢复系花粉数量直接影响母本不育系的结实率,选育花粉数量多的恢复系对提高杂交大豆制种产量至关重要,花粉数量也是衡量一个恢复系授粉能力的一个指标。采用田间调查和显微镜镜检对已育成的12个骨干恢复系的开花持续时间、开花数量和花粉数量进行调查和统计。结果表明:不同基因型恢复系单株花的数量存在明显差异, 12个恢复系的单株花数量为74. 8~408. 9个,单株花数量最多的是恢复系JLR104,最少的是恢复系JLR75,而大多数的恢复系单株花数量为120~160个;大豆每朵花的花粉数量没有明显差异,为3400~4900个。单株花的数量决定了花粉的数量
【英文摘要】The low yield of soybean hybrid seed p roduction is the bottleneck of commercialization on hybrid soybean. The re2storer lineswithmore flowers andmicrospores possess better pollination ability, and it is one of important affecting factors forimp rovement of seed p roduction. In order to study the pollination ability of main fertility restorer lines with different geno2types, the duration of flowering stage, number of flowers and number of microspores of 12 restorer lines were investigated.The results indicated

that flower numbers per p lant of the restorer lineswith different genotypeswere statistically significantdifferent. Flower numbers per p lant of the 12 restorer lines ranged from 74. 8 to 408. 9, highest were from restorer lineJLR104 and lowestwere from JLR75,whereas, flower numbers per p lant of most restorer lines ranged from 120 to 160. Nosignificant difference was found in microspores per flower ranging from 3400 to 4900. It is inferred that flower number perp lant is a decisive affecting factor for totalmicrospores
【语种】中文
【第一作者】赵丽梅
【通讯作者】赵丽梅
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【学科分类】农业基础学科

【题目】中国大豆抗(耐)胞囊线虫病品种及其系谱分析
【中文关键词】大豆,胞囊线虫,抗病品种,抗病基因
【英文关键词】Soybean; Soybean cyst nematode; Resistant soybean cultivar; Resistant gene
【中文摘要】大豆胞囊线虫病是大豆生产上的重要病害,给大豆生产造成巨大损失。种植抗病品种是经济有效、环境友好型防治方法,国内外大豆抗胞囊线虫病育种取得了较大成绩。汇总我国自1978年以来所审定的大豆抗(耐)胞囊线虫病品种,系谱分析了其抗病基因来源,指出了我国抗病品种遗传基础狭窄,抗病品种抗性单一的问题,提出了利用新的抗源或新型抗病基因是拓宽抗病品种遗传基础的重要途径,并就未来研究从3个方面进行了探讨,以期能够对我国抗病育种提供参考
【英文摘要】Soybean cyst nematode (Heterodera glycines) is a seriously destructive pathogen in soybean p roduction worldwideand causes great loss. Planting resistant variety is an effective and environment2friendlymethod to decrease its damage. Thepaper summarized released soybean SCN resistant cultivars in China and analyzed derivation of their resistance genes ac2cording to pedigree of these resistant cultivars, then discussed the p roblem of narrow genetic base in the soybean SCN breed2ing and suggested 3 research emphases on the utilization of novel resistant germp lasm (or genes) to broaden the geneticbase.
【语种】中文
【第一作者】袁翠平
【通讯作者】董英山
【期刊名称、卷期、页码】大豆科学,2009,28(6):1051-1053
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【学科分类】农业基础学科

【题目】野生大豆Δ′2吡咯琳252羧酸合成酶(P5CS)基因的克隆与序列分析
【中文关键词】野生大豆;Δ′2吡咯琳252羧酸合成酶;耐盐
【英文关键词】Wild soybean;Δ′2 pyrroline252carboxylate synthetase; Salt resistance
【中文摘要】根据栽培大豆(Glycine m ax)Δ′2吡咯琳252羧酸合成酶基因的全长序列设计引物,通过RT2PCR直接扩增的方法从野生大豆中克隆到了野生大豆(Glycine soja)的同源基因,命名为GsP5CS。GsP5CS 最大开放阅读框为2148bp,编码含有716个氨基酸残基、分子量为77. 9 kDa的蛋白,预测等电点6. 21。亲疏水性分析显示, GsP5CS含有连续的亲水片断。序列分析显示, GsP5CS与栽培大豆(Glycine m ax) 、飞蛾豆(V igna aconitifolia) 、蒺藜苜蓿(M edicagotruncatula) 、紫花苜蓿(M edicago sativa) 、甘蓝型油菜(B rassica napus) 、拟南芥(A rabidopsis thaliana) 、水稻(O ryza sati2va) 、普通小麦(Triticum aestivum)等植物的Δ′2吡咯琳252羧酸合成酶基因高度同源,序列相似性分别为94%、87%、87%、86%; 75%、74%、72%。根据野生大豆与这8种植物的P5CS基因序列相似性所建立的进化树,显示与传统的分类地位基本一致
【英文摘要】GsP5CS , homologous with the Gm P5CS gene encoding aΔ′2 pyrroline 252carboxylate synthetase was cloned fromwild soybean (Glycine soja) by RT2PCR,with p rimers designed according to the sequence of Gm P5CS. The largest open read2ing frame of GsP5CS gene has 2148bp in length and encoded a p rotein of 716 amino acid residues. The estimated molecularweight and isoelectric points of the putative p rotein was 77. 9 kDa and 6. 21, respectively. Hydropathy p lot analysis indicatedthat the GsP5CS was hydrophilic. Blast result analysis showed that GsP5CS, Gm P5CS,M sP5CS,M tP5CS, A tP5CS, B nP5CS,OsP5CS, TaP5CS shared a cluster. The phylogenetic tree shows that the relationship based on the homology is consistentwith

the morphological and taxonomic results
【语种】中文
【第一作者】张春宝
【通讯作者】董英山
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【学科分类】农业基础学科

【题目】大豆线粒体细胞色素 b 基因的克隆及系统分析
【中文关键词】大豆;线粒体;细胞色素 b
【英文关键词】Soybean;Mitochondrial;Cytochromeb
【中文摘要】根据实验室测序的大豆线粒体基因组片段设计线粒体细胞色素 b(Cytochrome,cob)基因特异引物,PCR 扩增获得 1 173 bp 大豆(JLGM-1B)线粒体 cob 基因保守区序列。经序列分析,该基因编码 391 个氨基酸,A + T 含量58. 1%,G + C 含量 41. 9% 。Southern 杂交表明 cob 基因在栽培大豆线粒体基因组中至少有 2 个拷贝。氨基酸序列及系统进化树分析表明,大豆与其它植物的 cob 基因具有较高的同源性,与双子叶作物同源性高达 98%,其分类地位与传统系统分类地位相吻合,说明 cob 基因具有较高的保守性,可以作为分子系统分类学潜在的遗传分化标记
【英文摘要】In this study,mitochondrial DNA uncompleted sequence was used to design special prime of mitochondrial cyto-chrome b gene(cob)and obtained conservation domain of soybean cob gene by PCR amplification. The results showed that cobgene was consisted by 1 173 bp which encoded 391 amino acids,with 58. 1% A + T and 41. 9% G + C content. Southern blotanalysis revealed that more than 2 cob gene copies were found in G. max mitochondrial genome. Amino acid sequence and phy-logenetic analysis showed that cob was most similar to the dicotyledon,with 98% identity at the nucleotide level. In conclusion,cob gene is a potential hereditary marker for phyletic classification basing on its highly conservative property
【语种】中文
【第一作者】李玉秋
【通讯作者】董英山
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【学科分类】农业基础学科

【题目】八种植物线粒体基因组结构特征分析与比较
【中文关键词】单子叶植物 双子叶植物 线粒体 基因组
【英文关键词】Monocotyledon, Dicotyledon ,Mitochondria, Genome
【中文摘要】比较来源于 GenBank 中发表的 8 种植物(烟草、拟南芥、甜菜、油菜、高粱、水稻、小麦和玉米) 线粒体基因组(mtDNA) 。结果显示,它们共同的特点是编码 30 -40 个蛋白,3 个核糖体 RNA,15 -30 个 tRNA,G + C 含量在 40% -45% 之间; 各植物线粒体基因组的编码区约占 mtDNA 的 10% -20%。比较发现,虽然 8 种作物线粒体基因组大小存在较大差异,基因排列顺序不同,但它们都编码几乎相同的基因产物
【英文摘要】Mitochondrial genomes of eight plants,including tobacco,Arabidopsis,sugar beet,rape,sorghum,rice,wheat and cornpublished in GenBank (mtDNA) were analyzed comparatively. Result showed that they all encode 30 - 40 proteins,3 ribosomal RNAs,15 - 30 tRNAs,with G + C content 40% - 45% . The percent of coding region of mtDNA to whole genome is 10% - 20% . Comparisonrevealed that although the difference in size and gene order of mitochondrial genome between eight crops,they code almost the samegene product.
【语种】中文
【第一作者】李玉秋
【通讯作者】董英山
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【学科分类】农业基础学科

【题目】栽培大豆染色体改构复合体基因SNP5的克隆及序列分析
【中文关键词】栽培大豆 染色质改构复合体 SNP5基因 克隆
【英文关键词】Glycinemax,Chromatin remodeling complexe SNP5 gene, Cloning
【中文摘要】根据大豆耐盐基因表达芯片上提供的表达量下调的EST序列信息,借助了电子克隆方法,根据获得的假定序列设计引物,通过RT PCR,从栽培大豆克隆了染色体改构复合体SNP5类同源基因。其片段长度为812 bp,编码240个氨基酸的多肽,分子重量为27·4 kD,等电点pI为5·37。NCBI保守结构域分析表明,其属于SNF5超家族,因此我们将其命名为Gm SNP5 (GenBank登录号:HM068595)。Southern杂交表明,GmSNF5基因在栽培大豆基因中至少有一个拷贝。氨基酸序列及系统进化树分析表明,GmSNF5与其同科的豌豆PsSNF5有较高的同源性,氨基酸序列一致性高达92%。由于其部分EST序列在大豆耐盐芯片中表达量下调,因此推测此基因在功能上与栽培大豆的耐盐性相关
【英文摘要】Based on the down regulated EST sequence information in the salt tolerantgene expression chip, a SNF5 type Chroma tin remodeling complex genewas cloned fromGlycinemaxbyRT PCR, using primers designed according to the sequence in silico clo ning. It is 812 bp in length encoded anORF of240 amino acidswith a theoreticalmolecularweightof27·4 kD and isoelectric pointof5·37.The conserved domain analysis inNCBI showed that itbelongs to SNF5 superfamily, and named asGmSNP5(GenBankAccessionnumber:HM068595). Southern blotanalysis revealed that ithas at leastone copy inG.maxgenome.Amino acid sequence and phyloge netic analysis showed thatGmSNF5 ismost similar to thePisum sativumSNF5 protein with 92% identity at the amino acid leve.l Aspart of its EST sequenceswas down regulated in the tolerantsoybean chips, itsuggests that this gene is functionally related to salt toler ance inG.max
【语种】中文
【第一作者】张春宝
【通讯作者】董英山
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【引文索引类型】其他
【引文索引号】123
【学科分类】农业基础学科

【题目】大豆细胞质雄性不育系配套保持系线粒体基因组 BAC 文库的构建
【中文关键词】大豆; 细胞质雄性不育系; 保持系; 线粒体基因组; BAC 文库
【英文关键词】Soybean; Cytoplasmic Male Sterility; Maintainer; Mitochondrial Genome; BAC library
【中文摘要】以大豆细胞质雄性不育系配套保持系材料(JLCMS1) 的黄化苗为材料,纯化得到线粒体。低熔点琼脂糖包埋线粒体成胶块,消化裂解后用 HindⅢ部分酶切,通过脉冲场电泳回收 40 ~60 kb 酶切片段。将回收产物连接到载体 pIndigo-BAC 5,通过电击转化大肠杆菌 DH10B 感受态细胞,获得的 BAC 文库包含 2 000 个单克隆,平均插入片段大小约为 50 kb,约覆盖大豆线粒体基因组 250 倍以上。
【英文摘要】A soybean maintainer of the coytoplasmic male sterility soybean (JLCMS1) was used for mitochondria isolation withhigh purity. Purified mitochondria was embedded into plugs by low melt point agarose,then the plugs was lysed and partiallydigested by HindIII. The DNA fragments between 40 and 60 kb size were selected by pulsed field gel electrophoresis. Thesize-selection product was ligated to BAC vector pIndigo-BAC5 and then transformed into competent cell of DH10B by electro-peration. The constructed BAC library consist of 2 000 clones with an average 50 kb inserts and covered more than 250 timesof the soybean mitochondrial genome used in this research
【语种】中文
【第一作者】费晓艳
【通讯作者】董英山
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【题目】植物体细胞无性系变异研究进展
【中文关键词】遗传学基础, 鉴定方法, 品种改良, 体细胞无性系变异
【英文关键词】genetic bases, identification method, improvement of varieties, somaclonal variation
【中文摘要】植物体细胞无性系变异是植物组织培养中的普遍现象,泛指在植物细胞、组织和器官培养过程中, 培养细胞和再生植株中产生的遗传变异或表观遗传学变异。植物体细胞无性系变异的发生有其遗传学基础, 可从形态学、细胞学、生物化学和分子生物学等多个方面对其进行综合检测和鉴定。植物体细胞无性系变异是植物育种的有利资源, 但同时也是植物微繁和遗传转化工作中需要克服的一大难题,一直被众多研究者所关注。本文分别从细胞学和分子生物学两个层次综述了植物体细胞无性系变异的遗传学基础及其鉴定方法的研究进展,并就其在植物品质改良中的应用现状、存在的问题和应用前景进行了讨论
【英文摘要】The phenomenon‘ somaclonal variation ’ refers to genetic and/or epigenetic changes in cells or regeneration that arisethrough the culture of plant cells, tissues and organs. Some genetic bases underlye the plant somaclonal variation, which can beintegratively determined and identified at morphological, cytological, biochemical andmolecular biological levels. Plant somaclonalvariation is one of available resources in plant breeding, but it is an unwelcome puzzle to be won through in plant micropropagationin vitro and genetic transformation. This paper reviews the progress in study of the genesis and identification of plant somaclonalvariation at both cytological level andmolecular biological level, and discusses the problems and prospects of applying somaclonalvariation in breeding and improving plant varieties.
【语种】中文
【第一作者】李晓玲
【通讯作者】董英山
【期刊名称、卷期、页码】植物学通报,2008, 25 (1): 121-128,
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【学科分类】植物学

【题目】大额牛溶菌酶(LYZ) 基因序列测定和进化分析
【中文关键词】大额牛, 溶菌酶基因, 分子系统进化
【英文关键词】Mithum; Lysozyme gene; Molecular phylogenetic; evolution
【中文摘要】[目的] 为了对大额牛与其他物种间分子系统进化研究以及为大额牛群体遗传资源评价、保护与开发利用提供理论依据。[方法] 本研究依据普通牛溶菌酶(lysozyme, LYZ) 基因已知序列设计引物, 用PCR 的方法扩增并测定了大额牛LYZ 基因的编码区核苷酸序列(444bp) , 并与GenBank 上8 个物种相应基因编码区核苷酸序列进行比对分析。[结果] 大额牛与普通牛、人、猪、家鼠、沟鼠、猩猴、鸡、斑马鱼各物种在LYZ 基因编码区核苷酸序列上同源性大小分别为99. 3%、7 6. 6% 、79. 4%、81. 8%、71. 3%、68. 2%、5 8. 9%、50. 5%, 并分别采用邻接法(NJ) 和最大简约法(MP) 构建了大额牛与其他物种间分子进化树, 并得到了基本一致的拓扑结构。系统发育分析发现大额牛与普通牛首先聚为一类, 再与其他物种聚为一类。该系统聚类结果与动物学分类一致, 表明LYZ 基因适合于构建不同物种间系统进化树。[结论] 本研究为进一步探索大额牛与近缘物种间分子进化, 阐明大额牛的真正起源奠定一定实验基础。
【英文摘要】Objective:Inorder to study the molecular evolut ion betw een Mithum and o ther spieces, toprovide theoretical basis of evaluating, protecting and exploiting the Mithum population genetic resource.Method: Primers designed according to the sequences of Lysozyme gene were used to amplify the nucleotide sequence of coding region (444 bp) of Lysozyme gene in Mithum, and the corresponding nucleotide sequences of coding region of eight species retrieved from the GenBank were compared. Result:The Lysozyme gene homologies of the coding region between Mithum and cattle, pig, human, monkey , house,mouse, Norway rat, chicken and zebrafish were 99. 3% , 76. 6% , 79. 4% , 81. 8% , 71. 3% , 68. 2%, 58. 9%, 50. 5%respectively. The phylogenetic trees wer econst ructed by NJ and MP methods, respectively, and got almost the same topology . The phylogeny analysis showed that Mithum and cattle clustered first, then gathered with other species. The phylogenetic clustering result was identical to the zoological classificat ion system, indicating that the Lysozyme gene were also fit to construct molecular phylogenetic tree among different species. Conclusion:The study provided an experimental fo undation for further studying molecular evolution between Mithum and close relationship species and

interpreting really origin of Mithum.
【语种】中文
【第一作者】李锐
【通讯作者】杨章平
【期刊名称、卷期、页码】中国牛业科学,2009,35(6):1-6
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【学科分类】畜牧、兽医科学基础学科

【题目】Molecularly imprinted solid phase extraction coupled to high-performance
【中文关键词】敌敌畏
分子印迹
固相萃取
高效液相色谱
【英文关键词】Dichlorvos
Molecular imprinting
Solid phase extraction
High-performance liquid chromatography
【中文摘要】在本文中,我们使用室温离子液体介导的本体聚合技术制备一种具有高度选择性的分子印迹聚合物。选择敌敌畏为模板,甲基丙烯酸为功能单体,三羟甲基丙烷三甲基丙烯酸酯作为交联剂。利用傅里叶红外表征,静态和动态吸附试验的结果表明,该分子印迹吸附剂具有良好的识别和选择的能力,并提供快速敌敌畏的吸附和解吸的动力学。使用所制备的材料作为固相萃取的吸附剂,建立了一种新型的样品前处理技术和高校液相色谱联用测定食品中残留的微量敌敌畏。在最优条件下,敌敌畏的检出限(S / N = 3)为94.8ng/L,五次试验的精密度是4.41%。黄瓜和生菜中加入敌敌畏标品为0.005和0.02ug/g时,回收率的范围是82.1%-94.0%。
【英文摘要】In this paper, we prepared a highly selective imprinted polymer by a room temperature ionic liquid-med-iated bulk polymerization technique, using dichlorvos as the template, methacrylic acid as the functional monomers, and trimethylolpropane trimethacrylate as the cross-linker. This functionalized material was characterized by FT-IR, static and kinetic adsorption experiments, and the results showed that this imprinted sorbent exhibited good recognition and selective ability, and offered fast kinetics for the adsorption and desorption of dichlorvos. Using the prepared material as a solid phase extraction sorbent,a novel sample pre-treatment technique that can be coupled to high-performance liquid chromatography (HPLC) had been developed for determination of trace dichlorvos residues in foods. Under the selected experimental condition, the detection limit (S /N = 3) of dichlorvos was 94.8 ng/L , and the peak area pre-cision (RSD) for five replicate detections of 10l ng/Ldichlorvos was 4.41%. The blank samples of cucum-ber and lettuce spiked with dichlorvos at 0.005 and 0.02lug/g levels were determined with recoveries ranging from 82.1% to 94.0%.
【语种】英文
【第一作者】Zhixiang Xu
【通讯作者】Shuo Wang
【期刊名称、卷期、页码】Food Chemistry 119 (2010) 845 – 850
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【学科分类】食品科学技术基础学科

【题目】核心蛋白多糖基因(DCN) 的研究进展
【中文关键词】核心蛋白聚糖; 纤维化; 肿瘤; 肌肉生长
【英文关键词】DCN; Fibrosis; Antitumo r; Muscle growth
【中文摘要】核心蛋白聚糖是一种富含亮氨酸的小分子蛋白聚糖, 是细胞外基质的组成成分。该文综述了核心蛋白聚糖(Decorin, DCN) 的结构、功能以及其来源方式, 并且介绍了核心蛋白聚糖在抗纤维化、抗肿瘤及肌肉生长发育方面的研究现状。

【英文摘要】Decorin was a small leucine with rich proteoglycans, which was the composition of extracellular matrix . This paper reviewed the structure of decorin, as well as function and origin, and int roduced the present status of decorin in antifibrosis, antitumor and muscle growth and development.
【语种】中文
【第一作者】孙加节
【通讯作者】陈宏
【期刊名称、卷期、页码】中国牛业科学,2010, 36(2): 54-58
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【学科分类】畜牧、兽医科学基础学科

【题目】N-Methylimidazolium ionic liquid-functionalized silica as a sorbent for selective
【中文关键词】N咪唑离子液体,液体功能化,磺酰脲类除草剂,固相萃取,高效液相色谱
【英文关键词】N-Methylimidazolium ionic
liquid-functionalized silica
Sulfonylurea herbicides
Solid-phase extraction
High-performance liquid chromatography
【中文摘要】本文通过固载化法将N-甲基咪唑离子液体固定在硅胶上合成了一种新型的固相萃取填料。应用这种新型填料的固相萃取小柱成功的对水样和土壤样品中痕量的噻吩磺隆、甲磺隆、氯磺隆、甲嘧磺隆、玉嘧磺隆、胺苯磺隆、苯磺隆、苄嘧磺隆、氟磺隆、吡嘧磺隆、氯嘧磺隆与氟嘧磺隆进行了前处理。用高效液相色谱法能够在50分钟内对12种磺酰脲类除草剂进行很好的分离。本文考查了两个添加水平的三个水样和土壤样品的回收率,结果表明12种磺酰脲类除草剂的平均回收率在60.9-121.3%之间,RSD值均低于11.3%。与商业化的C18固相萃取小柱相比,这种新型的固相萃取填料对磺酰脲类除草剂有更好的选择性。
【英文摘要】A novel material for solid-phase extraction (SPE) was synthesized by chemical immobilization of a functionalized N-methylimidazolium ionic liquid on silica gel. Cartridges packed with the syn-thetic material were successfully applied to the pre-concentration of trace-level thifensulfuron-methyl,metsulfuron-methyl, chlorsulfuron, sulfometuron-methyl, rimsulfuron, ethametsulfuron, tribenuron-methyl, bensulfuron-methyl, prosulfuron, pyrazosulfuron, chlorimuron-ethyl and primisulfuron from environmental water and soil samples. The 12 sulfonylurea herbicides (SUs) obtained a good resolution in less than 50 min using HPLC with a UV detector. The recovery studies using the ionic liquid-functionalized silica as a sorbent were performed by three consecutive extractions of water and soil samples at two spiked levels. The average recovery for each analyte was in the range of 53.8 – 118.2% for the water samples and 60.9 – 121.3% for the soil sample, with RSDs lower than 11.3% in all cases. The ionic liquid-functionalized silica cartridges showed higher selectivity for the SUs than commercially available C18 cartridges did.
【语种】英文
【第一作者】Guozhen Fang
【通讯作者】Shuo Wang
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【学科分类】食品科学技术基础学科

【题目】鲁西黄牛群体遗传多样性的微卫星标记研究
【中文关键词】鲁西黄牛; 微卫星标记; 遗传多样性; 遗传变异
【英文关键词】Luxi cattle; microsatellitemarkers; genetic diversity; genetic variation
【中文摘要】本研究采用微卫星标记技术, 检测了鲁西黄牛群体的遗传多样性现状。从联合国粮农组织(FAO) 和国际动物遗传学会(ISAG) 推荐的30对微卫星引物中, 筛选出6对多态性丰富的微卫星位点, 对112个个体的DNA多样性进行了检测, 结果共检测到101个基因座, 每个座位的等位基因数范围为4 - 6 个。所有座位的平均等位基因数为4. 67,0. 82, 平均有效等位基因数为2. 54, 0. 64, 平均杂合度(H) 为0. 59, 0.09, 平均期望杂合度为0. 41,0. 09, 平均多态性信息含量(PIC) 为0. 53, 0.

09, 符合评价遗传多样性的要求。检测结果发现, 鲁西黄牛群体的遗传多样性较高。研究结果为鲁西黄牛的保种和合理开发利用提供了科学依据。

【英文摘要】Genetic diversity of Luxi cattle was evaluated by them icrosatellites markers. 6 pairs of primers out of 30 microsatellite loci were tested which were recommended by the UN Food and Agriculture (FAO) and the International Animal Genetics (ISAG) in 112 individualm icrosate llites, a total of 101 alleles were detected. The number of alleles per locus was from 4 to 6, the average allele number, effective allele number, observed heterozygosity, expected heterozygosity and polymorphism in formation content for the population sampled were 4.67 0. 82, 2. 54 0. 64, 0. 59 0. 09, 0. 41 0. 09 and 0. 53 0. 09, respectively. All Parameters had almost reached the rich standard of geneticd iversity. The results may provide a scientific basis for the study of characteristics of Luxi cattle breeds so as to preserve and utilize them.

【语种】中文

【第一作者】毕伟伟

【通讯作者】王慧

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【学科分类】畜牧、兽医科学基础学科

【题目】Preparation and application of a molecularly imprinted polymer for the determination of trace metolcarb in food matrices by high performance liquid chromatography

【中文关键词】食品基质,速灭威,分子印迹,固相萃取

【英文关键词】Food matrices / Metolcarb / Molecularly imprinted polymer / SPE

【中文摘要】本论文第一次以本体聚合的方法合成了检测速灭威的分子印迹聚合物,其中以速灭威为模版分子,甲基丙烯酸作为功能单体,三乙烯乙二醇作为交联剂。经傅里叶红外光谱、静态及动态吸附试验验证,该聚合物被成功合成并对速灭威具有良好的选择吸附能力。该聚合物作为固相萃取的吸附剂与高效液相色谱联用分离和检测三种食品样品中三个添加浓度的速灭威的痕量残留。在最优的条件下,甘蓝、黄瓜和梨三种样品的最低检出限(S/N=3)分别为7.622, 6.455 和13.52 mg/kg,回收率在68.80 – 101.31%之间,相对标准偏差都低于3.78%。为了进一步证明该聚合物的选择性,将其与商品化C18固相萃取柱对比,结果表明该聚合物对速灭威具有更好的选择性及较高的回收率。

【英文摘要】In this article, for the first time, a molecularly imprinted polymer (MIP) for the metolcarbwas prepared by bulk polymerization using metolcarb as the template, methacrylic acid asthe functional monomer and ethylene glycol dimethacrylate as the cross-linker. Theprepared polymer was characterized by FT-IR, static and kinetic adsorption experiments,and the results showed that it has been successfully synthesized and had good selectiveability for metolcarb. The MIP was applied as a sorbent in molecularly imprinted SPEcoupled with HPLC-UV for separation and determination of trace metolcarb in threekinds of food matrices at three concentration levels. Under the optimal conditions, theLODs (S/N 5 3) of cabbage, cucumber and pear were 7.622, 6.455 and 13.52 mg/kg,respectively, and recoveries were in the range of 68.80 – 101.31% with RSD (n 5 3) below3.78% in all cases. To demonstrate further the selectivity of the MIP obtained, acomparison with commercially available C18 SPE was performed. The results indicated that molecularly imprinted SPE showed better chromatography, better selectivity and higher recoveries for metolcarb than commercially available C18 SPE.

【语种】英文

【第一作者】Kun Qian

【通讯作者】shuowang

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【学科分类】食品科学技术基础学科

【题目】Isolation and characterization of a novel glycogen synthasekinase-3 gene, GmGSK, in Glycine max L. that enhancesabiotic stress tolerance in Saccharomyces cerevisiae

【中文关键词】非生物胁迫,耐旱,糖原合成酶激酶-3 耐盐,亚细胞定位
【英文关键词】Abiotic stress Drought tolerance
Glycogen synthase kinase-3 Salt tolerance
Subcellular localization
【中文摘要】通过电子克隆得到一条类似糖原合成酶激酶的cDNA序列,并通过RT-PCR的方法从栽培大豆中将其克隆,序列分析表明,此cDNA包含一条1230bp的完整开放阅读框,编码410个氨基酸,估计分子量为46.5kD,等电点PI为8.64。蛋白序列分析表明,其编码一个与GSK-3同源的蛋白,含有丝氨酸/苏氨酸蛋白激酶活性位点,命名为GmGSK(Genbank登录号:FJ460228)。 Southern杂交表明,GmGSK基因在栽培大豆基因组中至少有两个拷贝。Northern杂交表明,在栽培大豆的根、茎、叶和叶柄中均能表达GmGSK,但不同的组织器官中GmGSK基因的表达量不同,在根中分布较多。半定量RT-PCR分析结果显示, GmGSK基因的表达可以被NaCl、NaHCO3、干旱、ABA和低温所诱导,这表明GmGSK可能参与了大豆非生物胁迫的信号传导过程或对非生物胁迫的耐受。
【英文摘要】A novel glycogen synthase kinase-3 gene,GmGSK, was isolated from Glycine max. It is1,596 bp in length with one ORF of 410 amino acids.Southern blot analysis revealed that it has at leasttwo copies in the G. max genome. GmGSK, whentransiently expressed in Nicotiana tabacum leaves,was localized in both cell membrane and cytoplasm.Northern blot analysis indicated that GmGSK isexpressed in all tissues, with highest expression inthe root. GmGSK can be induced by various abioticstresses. When transformed with GmGSK, Saccharomycescerevisiae exhibited enhanced resistance to saltand drought stress.
【语种】英文
【第一作者】张春宝
【通讯作者】董英山
【期刊名称、卷期、页码】Biotechnol Lett (2010) 32:861 – 866
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【学科分类】农业基础学科

【题目】野生大豆核基因组Mb级DNA的制备与酶切
【中文关键词】野生大豆; M b级DNA; 脉冲电泳; 基因组可转化人工染色体(TAC) 文库
【英文关键词】Glycine soja; M egabase- size DNA; Pulsed fie ld ge l electropho res is; TAC Genom ic libra ry
【中文摘要】以野生大豆黄化幼苗为材料提取其细胞核DNA, 经LMP包埋并用蛋白酶K 裂解其中的核蛋白后, 采用脉冲电泳回收2M b左右细胞核DNA。用H indÓ 对回收细胞核DNA进行部分酶切并用脉冲电泳回收酶切后的DNA片段, 经电洗脱、浓缩和透析后DNA 溶液浓度可达10 ng# LL- 1。连接转化检测结果表明: 该DNA 可用于后续野生大豆基因组可转化人工染色体(TAC) 文库的构建和基因组分析。
【英文摘要】Nuclear DNA w as ex tracted from etio lated seedling s o f Glycine soja. Genera lly, the nucle i were embeded in lowmelting-point agaro se pulgs, dig ested w ith pro teinaseK and depurated w ith pulsed field ge l e lectropho resis to yie ld abou t two-M egabase- size DNA. The concentration o f DNA solution cou ld be up to 10 ng# LL- 1 after partial digestion byH indÓ , e lutionby pu lsed field ge l electropho res is, concen tra tion and dia lysis. The result o f exam ination by ligation and eletropo ra tionshowed that the DNA obta ined by them ethod w as su itab le for consequent construction o f genom ic library o fG lycine soja.K ey words: Glycine soja; M egabase- size DNA; Pulsed fie ld ge l electropho res is; TAC Genom ic libra ry
【语种】中文
【第一作者】李晓玲
【通讯作者】董英山
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【学科分类】农业基础学科

【题目】用SSR 标记进行野生大豆耐碱基因定位及QTL 分析
【中文关键词】耐碱基因;BSA;栽培大豆;SSR;野生大豆

【英文关键词】Alkali tolerant gene; BSA; Cultivated soybean; SSR;
【中文摘要】:以抗碱野生大豆Gs0001(♀)和碱敏感栽培大豆吉科豆1 号(♂)的F2群体作为基因定位群体,通过BSA 法(Bulked-segegant analysis,群分法),对大豆耐碱基因进行SSR 分子标记定位。在分布于大豆20 个连锁群的488 对SSR 引物中,筛选出7 对与耐碱基因紧密连锁的标记,这7 对标记位于G 连锁群相近的区域。利用Mapmaker/EXP3.0 分析,在最小似函数值LOD=14.0 时,将耐碱基因定位于Satt298 与Satt269 之间,距离两个标记的遗传距离分别为1.3 cm 和6.9 cm。此耐碱基因的贡献率是40.31%。
【英文摘要】Using F2 of alkali-tolerant wild soybean Gs0001 (♀) and alkaline-sensitive cultivatedsoybean ‘ 'Jikedou 1 ’ (♂) as gene targeting groups, SSR Molecular Markers of soybean alkali-resistantgenes were carried out by the BSA (Bulked-segegant analysis) method. In 488 pairs of SSR primersdistributed in 20 linkage groups, 7 pairs of markers closely linked with the alkali-resistant genes werescreened out, which was near to G linkage group regions. Using Mapmaker/EXP3.0 analysis, theminimum function value LOD = 14.0, alkali-resistant gene was between Satt298 and Satt269. Thegenetic distances between the two markers were 1.3 cM and 6.9 cM, respectively. The alkali-resistantgene's contribution rate was 40.31%.
【语种】中文
【第一作者】李小威
【通讯作者】董英山
【期刊名称、卷期、页码】吉林农业科学,2010,35(3):15-17,56
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【引文索引号】123
【学科分类】农业基础学科

【题目】Multiwalled Carbon Nanotubes as SPE Adsorbents for Simultaneous Determination of Seven Sulfonylurea Herbicides in Environmental Water by LC – MS – MS
【中文关键词】环境水,固相萃取,多壁残纳米管,磺酰脲类除草剂,液相色谱串联质谱法
【英文关键词】Environmental water
Solid-phase extraction
Multiwalled carbon nanotubes
Sulfonylurea herbicides
Column liquid chromatography – tandem mass spectrometry
【中文摘要】本文利用多壁碳纳米管作为固相萃取材料和高效液相色谱串联质谱成功的建立了一个高效快速的测定环境水样中七种磺酰脲类除草剂的方法,并对影响固相萃取效率的重要因素,例如上样pH、上样流速、洗脱溶剂种类和洗脱体积进行了优化。七种磺酰脲类除草剂在0.05-5000 ng/l浓度范围内有良好的线性关系(r2>0.99),九次测定200ng/l浓度标品的的RSD值为1.9-7.3%。检测限和定量限分别为0.02-0.20和0.05-1.00 ng/l。这个方法成功的用于自来水、泉水、地下水和井水四种样品中磺酰脲类除草剂的测定,这七种除草剂在三个加标浓度水平下的加标回收率为81.5-110.5%,RSD值为0.3-7.0%。结果表明该方法能够广泛应用于水样中磺酰脲类除草剂的痕量分析。
【英文摘要】An effective and rapid method was developed for simultaneous determination of sevensulfonylurea herbicides in environmental water using multiwalled carbon nanotubes as solid-phase extraction sorbent coupled with liquid chromatography – tandem mass spectrometry.Important parameters influencing the extraction efficiency such as pH of the sample solution,flow rate of sample loading, the eluent and its volume were optimized. Under optimumconditions, good linearity was obtained for all herbicides (r2>0.99) over the range of 0.05 – 5,000 ng L-1, and precisions (RSD) for nine replicate measurements of a standard mixture of 200 ng L- 1 were 1.9 – 7.4%. The limits of detection and quantification were 0.01 – 0.20 and 0.05 – 1.00 ng L-1, respectively. The proposed method was successfully applied to the analysis of tap water, spring water, ground water and well water, and mean recoveries for seven analytes at three spiked concentration levels were from 81.5 to 110.5% with RSDs between 0.3 and 7.0%. The results showed that the established method has wide application to analyze sulfonylurea herbicides at trace level in water.
【语种】英文
【第一作者】Guozhen Fang
【通讯作者】Shuo Wang
【期刊名称、卷期、页码】Chromatographia 2010, 72,403-409
【论文发表时间】2010-06-20 00:00:00
【引文索引类型】SCI

【引文索引号】10.1365/s10337-010-1687-6
【学科分类】食品科学技术基础学科

【题目】延边黄牛PRKAG3 基因第10 外显子单核苷酸多态性及其与肉质性状的相关分析
【中文关键词】PRKAG3 基因; 肉质性状; PCR-SSCP; 延边黄牛
【英文关键词】PRKAG3 gene; meat quality traits; PCRSSCP; Yanbian Yellow Cattle
【中文摘要】采用PCR SSCP 方法对120 头延边黄牛PR K AG3 基因的多态性进行检测, 结果发现第10 外显子存在C4738T 突变, 产生3 种基因型。不同基因型与肉质性状均值差异显著性检验结果发现, 基因型CT 与a*24 、b*24 、油酸存在一定的负相关(P< 0. 05) ; 与嫩度、谷氨酸、精氨酸、丙氨酸、缬氨酸和脯氨酸有一定的正相关(P< 0. 05) ; 基因型CC 与天冬氨酸存在一定的正相关(P< 0. 05) 。
【英文摘要】The polymorphisms of PRKAG3 gene were detected by PCRSSCP method in 120 Yanbian Yellow Cattles.C4738T mutation was founded at exon 10. significance test of meat trait means for different genetypes show ed: genotype CT was negatived correlation with a* 24 , b* 24 and oleic acid (P< 0. 05) ; and was positived correlation with tenderness, Glu, Ar g, Ala, Valand Pro(P< 0. 05) ; genotype CC was positived correlation with Asp(P< 0. 05) .
【语种】中文
【第一作者】李静
【通讯作者】金海国
【期刊名称、卷期、页码】中国畜牧兽医,2010,37(3):123-126
【论文发表时间】2010-03-01 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】畜牧、兽医科学基础学科

【题目】Preparation and characterization of molecularly imprinted silica monolith for screening sulfamethazine
【中文关键词】毛细管整体柱,离子液体,分子印迹,磺胺甲嘧啶
【英文关键词】Capillary monolith / Ionic liquid / Molecularly imprinted polymer / Sulfamethazine
【中文摘要】本文提供了一种两步法制备分子印迹膜-衍生硅胶整体柱材料的方法。首先以四甲氧基硅烷为前躯体,采用溶胶-凝胶法制备了硅胶整体柱。并采用三甲氧硅丙基甲基丙烯酸对硅胶整体柱进行接枝,连接上乙烯基。再次,以甲基丙烯酸为功能单体,二甲基丙烯酸乙二醇酯为交联剂,磺胺二甲基嘧啶为模板分子,离子液体为致孔剂制备分子印迹前聚合液,并将制备好的分子印迹前聚合液注入到乙烯基功能化的硅胶整体柱中反应一定时间使之在硅胶基质表面形成分子印迹膜。采用扫描电镜,红外光谱和固体反射紫外扫描对制备的硅胶整体柱进行表征。同时采用高效毛细管电色谱和高效液相色谱对制备的印迹材料进行评价。结果显示,制备的分子印迹膜-衍生硅胶整体柱材料表面有足够的识别位点将磺胺二甲基嘧啶从磺胺类药物混合物种选择性的分离。致孔剂离子液体能够改善分子印迹功能化硅胶整体柱的通透性和选择性。
【英文摘要】In this work, a novel approach of preparing molecularly imprinted film- derivatized silicamonolith materials was developed by a two-stepprocedure. The silica monolithic support wasfirst prepared by the sol – gel method with tetram ethoxysilane as the precursor. Subsequently,vinyl groups were introduced onto the surface of silica monolith by immobilization ofg-methacryloxypropyltrimethoxysilane. The prepolymerization mixt ures, consisting ofmethacrylic acid as a functional monomer, ethylene dimethacrylate as a crosslinker, sulfa-methazine as a template molecule and an ionic liquid as porogen, were injected into the silicamonolith immobilized vinyl groups to form the molecularly imprinted films on the surface ofthe vinyl functionalized silica monolith. The mo nolithic materials were characterized by SEM,Fourier transform IR and solid-state reflection UV spectra. The resulted imprinted materialswere evaluated under CEC and HPLC mode. The results indicated that there were enoughrecognition sites on the surface of the imprinted film-derivatized monolithic materials forselectively recognizing sulfamethazine from the sulfonamide mixture. Ionic liquids, whichwas utilized as the porogens, could improve the flow-through property and the imprintingeffect of the molecularly imprinted film-functionalized silica monolithic materials.
【语种】英文
【第一作者】Jin-Xing He
【通讯作者】Shuo Wang
【期刊名称、卷期、页码】J. Sep. Sci. 2010, 33, 3263 – 3271

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【学科分类】食品科学技术基础学科

【题目】Joint Multifractal Analysis of Scaling Relationships Between SoilWater-Retention Parameters and Soil Texture
【中文关键词】无
【英文关键词】clay content, multiple-scale analysis, sand content, silt content, van Genuchten parameters
【中文摘要】Wang, Z., Y., Shu, Q. S., Xie, L. Y., Liu, Z. X. and Si, B. C. 2011. Joint multifractal analysis of scalingrelationships between soil water-retention parameters and soil texture. Pedosphere. 21(3): 373{379.
【英文摘要】Soil water-retention characteristics at measurement scales are generally di ® erent from those at application scales, andthere is scale disparity between them and soil physical properties. The relationships between two water-retention parameters,the scaling parameter related to the inverse of the air-entry pressure (® vG, cm ¡ 1) and the curve shape factor related to soilpore-size distribution (n) of the van Genuchten water-retention equation, and soil texture (sand, silt, and clay contents)were examined at multiple scales. One hundred twenty-eight undisturbed soil samples were collected from a 640-m transectlocated in Fuxin, China. Soil water-retention curves were measured and the van Genuchten parameters were obtained bycurve ¯ tting. The relationships between the two parameters and soil texture at the observed scale and at multiple scaleswere evaluated using Pearson correlation and joint multifractal analyses, respectively. The results of Pearson correlationanalysis showed that the parameter ® vG was signi ¯ cantly correlated with sand, silt, and clay contents at the observedscale. Joint multifractal analyses, however, indicated that the parameter ® vG was not correlated with silt and sand contentsat multiple scales. The parameter n was positively correlated with clay content at multiple scales. Sand content wassigni ¯ cantly correlated with the parameter n at the observed scale but not at multiple scales. Clay contents were stronglycorrelated to both water-retention parameters because clay content was relatively low in the soil studied, indicating thatwater retention was dominated by clay content in the ¯ eld of this study at all scales. These suggested that multiple-scaleanalyses were necessary to fully grasp the spatial variability of soil water-retention characteristics.
【语种】英文
【第一作者】王振营
【通讯作者】舒乔生
【期刊名称、卷期、页码】Pedosphere 21(3): 373{379, 2011
【论文发表时间】2011-03-01 00:00:00
【引文索引类型】SSCI
【引文索引号】1002-0160/CN
【学科分类】农业基础学科

【题目】磷素活化剂对红壤磷形态及有效性影响的研究
【中文关键词】磷素活化剂;有效磷;无机磷
【英文关键词】phosphorus activator;available phosphorus;inorganic phosphorus
【中文摘要】在我国南方红壤中加入不同的磷活化剂进行培养试验,结果显示:磷活化剂提高了土壤有效磷含量,不同活化剂的活化能力不同。相关分析和通径分析结果表明,磷活化剂的活化能力大小顺序为:低分子有机酸钠钙盐>腐植酸>腐植酸钠>脲基甲酸乙酯;磷活化剂可以提高红壤中的Al-P、Ca-P和Fe-P等无机磷含量,其中Al-P和Ca-P与有效磷均达到极显著水平,而Fe-P作用效果不显著,可以通过影响Al-P和Ca-P来间接影响有效磷,磷活化剂会抑制土壤中O-P的生成。
【英文摘要】Different phosphorus activators(PA)were added into southern red soil of China to test their activation capability.The results showed that PA could improve available phosphorus contents in the soil effectively,and activations capability of different activators differed.Results of coeffcient analysis and path coefficient analysis showed that the activations capability order were as follows:Low-molecular weight organic acid>humic acid>sodium humate>ethyl allophanate.Meanwhile,PA could improve Al-P,Ca-P,Fe-P and other inorganic phosphorus contents effectively,Al-P and Ca-P was different from control significantly at 1%level,while available phosphorus and Fe-P were not different with control obviously.They still could affectactive phosphorus according to Al-P and Ca-P indirectly,PA played a negative role in O-P formation of soil
【语种】中文
【第一作者】李杰

【通讯作者】陈智文
【期刊名称、卷期、页码】水土保持学报
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【引文索引号】S158.2
【学科分类】农业基础学科

【题目】寒地水稻应用生物增温剂抗低温育苗研究
【中文关键词】水稻;生物增温;育苗
【英文关键词】Rice; Biochemical Calefacient; Culture of Seedling
【中文摘要】为探讨生物增温技术在水稻抗低温育苗中的应用效果,以‘空育131’为供试水稻品种,通过田间小区实验(苗床和水田2 个部分),研究了酿热物基础上施用不同剂量生物增温剂(一种微生物发酵复合菌群)对水稻苗床温度、秧苗素质以及栽后水稻的生育期和产量性状的影响。结果表明,较酿热物育苗相比,增施生物增温剂后可显著提高苗床温度,改善秧苗素质,促进水稻早熟,达到增产、增收的目的,其中以中等剂量(2.5 kg/100 m2)生物增温剂处理效果最好:可提高苗床温度3.0℃,增产8.8%,增收2110元/hm2。
【英文摘要】In cold regions such as Heilongjiang Province, low temperature is generally a limit factor to thegrowth of rice seedling. The effects of biochemical calefacien (a kind of microbial community) applicationcombined with rice straw were investigated on rice seedbed temperature, seedling quality, rice growing seasonsand yield characteristics after transplanting in such a region. The conducted field experiments includedseedbed and paddy field. Four treatments with the biochemical calefacien at the rates of 0, 1.25, 2.5 and 5.0kg/100 m2, were designed with three replicates. The application of biochemical calefacient could significantlyelevate the temperature of the rice seedbed, improve the seedling quality, promote the rice maturity andincrease the rice yield and profits. The best application rate was 2.5 kg/100 m2, with the highest temperatureincrease of rice seedbed of 3.0℃, the highest yield increase of 8.8%, and the highest economic benefitsincrease of 2110 yuan/hm2.
【语种】中文
【第一作者】王玲莉
【通讯作者】王玲莉
【期刊名称、卷期、页码】农学学报,2011(1):5-7
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【引文索引类型】SSCI
【引文索引号】S511
【学科分类】农业基础学科

【题目】不同P、K、Sill~对玉米苗期抗寒效果的研究
【中文关键词】玉米;硅肥;磷肥;钾肥;抗寒性
【英文关键词】corn;Silicon fertilizer;P fertilizer;K fertilizer;cold——resistant
【中文摘要】此文突破常规只重施N、P、K肥的情况,通过施用不同水平的P、K、Si肥在玉米苗期低温环境下进行盆栽试验,再通过室内分析方法进行初步研究,确定不同的肥料水平对玉米苗期各项抗寒指标的影响。结果表明,低温胁迫下并且氮肥含量固定时,施用P肥,使超氧化物歧化酶(S0D)的活性逐渐增强,可以减少细胞膜透性,增加干物重;施用K肥可以降低电解质的平均渗出率,提高可溶性糖含量;而Si肥能提高叶绿素含量,降低绝对电解质渗出量。从而得出不同用量的磷肥、钾肥和硅肥对玉米可以起到抗寒作用。
【英文摘要】This breakthrough was conventional only heavy use N,P,K fertilizer,through the effects of differentlevels of P,K,Si fertilizer in the corn seedling cryogenic environment pot experiment,again through thelaboratory analysis method was preliminarily studied,identified the different fertilizer levels on the coinseedling various cold—tolerance index effects.The results showed that low temperature stress and nitrogencontent,application of P fertilizer fixed,superoxide dismutase(SOD)activity gradually strengthened,whichcould reduce the membrane permeability,increased dry matter weight.Application of K fertilizer could reducethe average rate of electrolyte,improved oozy and content of soluble sugar.And Si fertilizer could improve thechlorophyll content and reduce absolute electrolyte leakage quantity.Thus at the different content of P and Kand Si fertilizer could play a role of corn cold-resistant.
【语种】中文

【第一作者】陈兵兵
【通讯作者】石元亮
【期刊名称、卷期、页码】中国农学通报2011,27(03):85—8
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【引文索引号】S3
【学科分类】农业基础学科

【题目】白浆土大豆不同群体结构对产量及其产量性状的影响
【中文关键词】白浆土大豆;群体结构;产量;产量性状
【英文关键词】soybeans in albic soil;population structure;yield;yield traits
【中文摘要】为了寻求白浆土大豆最佳群体结构,提高白浆土大豆单产水平,采用不同基因型品种、不同种植行距、不同种植密度3因素3水平正交试验(正交表采用L (3)),对白浆土大豆不同群体结构对大豆产量及其产量性状的影响进行研究。结果表明:品种(F=-43.63>Fo。 =18.oo)和密度(户18.03>Fo。 =l8.oo)均达到极显著水平,行~-(F=-9.28>Fo =6.94)达到显著水平,品种、密度和行距3个因素与产量关系密切,各因素以选用半矮秆品种‘合农6O’、密度55株/m 、行距17 cm组合群体产量最高,产量性状表现最佳。因此,采用矮秆品种,增加密度,缩小行距是目前提高大豆产量的重要途径。
【英文摘要】The study is aimed to search the best population structure of soybean in albic soil,and increase theyield of soybean in albic soil.So,effect of different population structure of soybean on soybean yield and yieldtraits were studied in different genotype varieties,row spacings,densities in albic soil with 3 factors and 3levels orthogonal test[using orthogonal table L9(34)].The results indicated that:variety(F-43.63>Foo:18.O0)and density(F=18.03>Foo1=18.00)were both reached very significant level,row spacings(F=9.28>Fo.05=6.94)reached significant leve1.The relationships between yield and the three each factors of varieties,densities androw spacings were very close.Among all these factor conbinations,the yield achieved the highest when thesemi—dwarf variety ‘Henong60’was used in density of 55 plants/m and row spacing of 17 cm.in which theperformance of yield traits was the best.Therefore,using dwarf varieties,increasing density,reducing rowspacing was an important way to improve soybean yield at the present time.
【语种】中文
【第一作者】赵桂范
【通讯作者】张敬涛
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【学科分类】农业基础学科

【题目】白浆土大豆需水耗水特征研究
【中文关键词】白浆土;大豆;耗水特征;耗水量
【英文关键词】albic soil;soybean;the characteristics of water consumption;water consumption
【中文摘要】为了探讨白浆土大豆需水特点,笔者在2009-2010年采用全土层白浆土盆栽试验,研究了在白浆土特定环境条件下,大豆的耗水特征。结果表明,随着不同处理给水量的增加,大豆株高、单株干重及叶面积增加,且随生育时期推进,增幅加大;光谱反射曲线在红光及近红外光内差异明显,以1200 mm值最高;光合速率和蒸腾速率也随给水量增加而呈明显的上升趋势。综合可知,大豆各项生理指标以800-1000 mln给水处理表现最佳。
【英文摘要】In order to investigate the water demand characteristics of soybean in albic soil,water consumptionof soybean in specific environment of albic soil was studied with pot experiment of entire ablic soil layers in2009-2010.The results indicated that:with the increase of water supply quantity of different water treatments,the soybean plant height,dry weight per plant and leaf area were all increased.Their increase ranges wereincreased with the development stages.The spectral reflectance cuiTes were significant differences in the redand near infrared light,which reached maximum value in 1200 mm.The photosynthetic rate,transpiration ratewere also showed an increase trend with the increase of water supply quantity.The 800-1000 mm watertreatment was the best in synthesized performance of soybean physiological indexes.
【语种】中文

【第一作者】赵桂范
【通讯作者】张敬涛
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【引文索引号】S359
【学科分类】农业基础学科

【题目】不同群体结构对白浆土大豆产量及生长发育的影响
【中文关键词】白浆土大豆;群体结构;生长发育
【英文关键词】soybean in albic soil;population structure;growth and development
【中文摘要】为了寻求白浆土大豆最佳群体结构,改善大豆生长发育动态,提高白浆土大豆单产水平,选用品种、密度、行距3因素3水平正交试验设计(正交表采用L9(3)),对不同群体结构对白浆土大豆产量及生长发育的影响进行研究。结果表明:品种(F=43.63>Fom=18.oo)和密度(F=18.03>Fom=18.00)均达到极显著水平,行~E(F=-9.28>Fo∞=6.94)达到显著水平,各因素以选用半矮秆品种‘ 合农60 ’、密度55株/m 、行距17 cm组合群体产量最高。群体株高和倒伏主要由品种基因型决定,,和干重主要受密度、品种遗传特性影响,其次是行距;‘ 合农60号 ’植株矮、节间短、秆强、抗倒伏,尽管个体性状较差,但群体性状较好。
【英文摘要】Three factors and three-level orthogonal experimental design was used in this test.The resultsindicated that:the plant height,LAl,dry weight per plant were all changed obviously along with the changes ofdifferent genotype varieties,densities,row spacing.Therefore,different population structures affected thesoybean growth and development very large.which were all reached 0.05 or 0.01 significant leve1.That was tosay,the population structure and soybean growth and development had very close relationship.Therefore,theuse of dwarf varieties,increase density,reduce the rOW spacing was an important way to increase soybean yield
【语种】中文
【第一作者】赵桂范
【通讯作者】张敬涛
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【学科分类】农业基础学科

【题目】尿素配施添加剂NAM 对三江平原白浆土氮素转化和玉米产量的影响
【中文关键词】肥料添加剂; 脲酶抑制剂; 硝化抑制剂; 土壤氮素转化; 氮肥利用率; 玉米产量
【英文关键词】fertilizer additive; urease inhibitor; nitrification inhibitor; soil N transformation; urea N recovery rate; corn yield
【中文摘要】通过田间小区试验,研究了尿素配施肥料添加剂NAM (由脲酶抑制剂和硝化抑制剂等成分组成) 对三江平原白浆土氮素转化、玉米产量以及氮肥利用率的影响,以期为肥料添加剂NAM 的进一步推广应用提供理论依据。研究结果表明,与常规施氮处理相比,等氮量配施NAM 处理使土壤NH+4 - N 在较长时间内维持较高的水平,并显著提高了作物后期的土壤总有效氮供应水平,从而使作物吸氮量增加了6. 8%,增产3. 1%; 减氮20%配施NAM 处理维持了土壤NH+4 - N 总体供应水平和作物后期的土壤总有效氮供应,从而使作物吸氮量及产量与常规施氮处理保持相当; 减氮40%配施NAM 处理由于过多降低了施氮水平,致使在作物生长前期土壤供氮量明显不足,进而降低了作物吸氮量及产量。尿素配施NAM 较单施尿素提高氮肥利用率4. 9 ~ 8. 0 个百分点。在等氮和适当减氮条件下,肥料添加剂NAM 适用于三江平原白浆土- 玉米体系,有利于农业可持续发展。
【英文摘要】NAM is a kind of fertilizer additive made of the urease inhibitor,nitrification inhibitor and other components.This paper reported the effects of urea combined with NAM on soil nitrogen (N) transformation and corn yield and fertilizerN use efficiency in Sanjiang Plain of China. Compared with the N1 treatment,the N1 + NAM treatment significantly increasedsoil NH+4 -N content across the corn growing season and total available N content at the corn later season,and thuselevated corn N uptake (6. 8%) and grain yield (3. 1%) ; the 80% N1 + NAM treatment remained constant soil NH+4 -Ncontent across the season and total available N content at the later season,and therefore resulted in unchanged corn N uptakeand grain yield; The 60%N1 + NAM treatment caused the

significant decline of soil N supply especially at the earlier seasondue to the over reduction of urea rate,and in turn decreased N uptake by corn and grain yield. Urea N recovery rate wassignificantly enhanced by 4. 9 to 8. 0 percentage point under the combination of urea and NAM than the urea alone. Ourfindings indicated that NAM application was an effective option for promoting agricultural sustainability in corn systems ofSanjiang Plain of China.

【语种】中文
【第一作者】王玲莉
【通讯作者】石元亮
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【学科分类】农业基础学科

【题目】“ 八五三 ”农场土壤开垦后有机质及土壤速效养分变化的研究
【中文关键词】八五三农场;有机质;速效养分
【英文关键词】“ Farm 853 ”; Soil organic matter; Available nutrients
【中文摘要】对黑龙江省“ 八五三 ”农场1973 ~ 2007 年间4 次土壤养分调查的数据进行分析,研究土壤有机质及速效养分变化情况。结果表明:“ 八五三 ”农场土壤有机质及速效养分含量均较高,但土壤有机质含量随开垦年限增加呈下降趋势,在开垦初期20 年内下降较快,之后变化缓慢;土壤中碱解氮、有效磷、有效钾整体水平提高,主要集中在1 ~ 3 级。
【英文摘要】Based on the tests for soil nutrients in “ Farm 853 ”, Heilongjiang Province, the soil organic matter andavailable nutrients were measured to assess the changes of soil nutrients from 1973 to 2007. Results indicated that thesoil organic matter and available nutrients of “ Farm 853 ” were relatively high. But the contents of soil organic matterdecreased with the increase of reclamation year(s) , and the decreasing rate was faster in the early 20 years and sloweddown thereafter. Soil available N, P and K contents were relatively high, which mainly ranged in the grades of 1 to 3.
【语种】中文
【第一作者】王淑敏
【通讯作者】汪景宽
【期刊名称、卷期、页码】土壤通报2012,43(2):343-346
【论文发表时间】2012-04-01 00:00:00
【引文索引类型】SSCI
【引文索引号】S158.2
【学科分类】农业基础学科

【题目】NAM添加剂对水稻减氮施肥的影响效果研究
【中文关键词】NAM添加剂;水稻;NH4
+- N;NO3
- - N;产量;氮肥利用率
【英文关键词】Additive NAM; Rice; NH4
+- N; NO3
-- N; Yield; Fertilizer- nitrogen use efficiency (FNUE)
【中文摘要】通过田间小区试验,研究NAM添加剂在水稻减氮施肥的情况下,对土壤NH4+- N、NO3- - N 含量、水稻产量以及氮肥利用率的影响,旨在验证利用NAM添加剂减少当地水稻施氮量的可行性。结果表明,施用NAM添加剂,在一定的时间内,使土壤NH4+- N 保持较高的水平,延缓土壤NH4+- N向NO3- - N 的转化,减少氮素损失,从而保证总有效氮能够满足作物后期的生长需要。NAM添加剂能够有效地增加水稻产量,常规施肥不添加NAM处理的产量为9676.93 kg hm- 2,与常规施肥添加NAM的处理差异显著,而与减氮20%添加NAM处理差异不显著。与常规施肥氮肥利用率33.94%相比,NAM添加剂能够将氮肥的利用率提高到40.58%,并且氮肥的利用率随着施氮量的减少而增加。研究试验表明,在欲节氮减肥的水稻生产中,NAM不失为一种理想的添加剂。
【英文摘要】A field experiment was carried out to study the effect of additive NAM on the soil NH4+- N and NO3-- Ncontent, rice yield, and fertilizer- nitrogen use efficiency (FNUE). The objective of this experiment was to find whetherthe additive NAMcould reduce the fertilizer nitrogen application rates while not the yield at the same time. The resultsshowed that the additive NAM could keep

the NH4+- N at a high level over a period of time and slow down itstransformation into NO3-- N. It could reduce the loss of nitrogen and make the total available nitrogen to meet thedemands of rice growth at the later stage. The additive NAM could increase rice yield greatly. The yield of thetreatment of traditional fertilizer without NAM reached 9676.93 kg hm- 2, while the yield of the treatment of traditionalfertilizer with NAM reached 9977.91 kg hm- 2. The treatment of traditional fertilizer without NAM and the treatmentwith 20% reduction of fertilizer- nitrogen plus NAMreached the same level of rice production. Compared to 33.94% ofFNUE in conventional treatment, FNUE in NAM treatments reached 40.58% and increased with the reduction offertilizer N application. The above results showed that NAMwas one of effective additives for the extension of reducingnitrogen fertilizer application in rice production.

【语种】中文
【第一作者】古慧娟
【通讯作者】石元亮
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【学科分类】农业基础学科

【题目】白浆土区水稻标准化生产技术规程
【中文关键词】白浆土区;水稻;标准化生产;规程
【英文关键词】无
【中文摘要】根据黑龙江省白浆土区的水稻生产特点和当地的积温条件,在多年示范推广的基础上,结合生产实际制定了白浆土区水稻标准化生产技术规程。选用生育期130~135 d的水稻品种以发挥品种的增产特性,采用育壮苗、控肥、适时插秧和节水灌溉等措施达到高产,为推进白浆土区的水稻种植提供技术保证。
【英文摘要】无
【语种】中文
【第一作者】王玲莉
【通讯作者】石元亮
【期刊名称、卷期、页码】北方水稻2011 41(5)49-56
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【引文索引类型】SSCI
【引文索引号】S318
【学科分类】农业基础学科

【题目】不同施肥处理对大豆根际土壤微生物及土壤肥力影响
【中文关键词】大豆; 肥料; 土壤微生物; 土壤肥力
【英文关键词】Soybean; Fertilizer; Soil microoganisms; Soil fertility
【中文摘要】为研究不同施肥方式对大豆根际土壤微生物数量及土壤肥力影响,采用无肥、常规肥、有机肥、常规施肥+生物肥 4 种肥料处理,分别于大豆播种前、苗期、花期、鼓粒期和成熟期对大豆根际土壤的细菌、真菌、放线菌进行测定。结果表明: 肥料的施用可提高土壤微生物的数目及土壤肥力,其中有机肥处理与常规肥 + 生物肥处理在大豆各生育时期可明显增加土壤中细菌、真菌及放线菌数目; 与无肥处理相比,常规肥、有机肥及常规肥 + 生物肥处理提高了土壤肥力。
【英文摘要】The objective of current study was to investigate the effects of different fertilizer treatments on rhizosphere soil mi-crooganisms and fertility of soybean. Four fertilizer treatments including no fertilizer,conventional fertilizer,organic fertilizerand conventional fertilizer + bio-fertilizer were adopted. The numbers of bacteria,fungi,actinomycetes of rhizosphere soil atdifferent growth stages were determined through colony counting method. The results showed that application of fertilizer couldincrease microoganisms and improve fertility of soil,both organic fertilizer and conventional fertilizer + bio-fertilizer could sig-nificantly increase the number of bacteria,fungi and actinomycetes in each growth stage of soybean,meanwhile,the treat-ments of conventional fertilizer,organic fertilizer and conventional fertilizer + bio-fertilizer improved the fertility of soil com-pared with no fertilizer.
【语种】中文

【第一作者】孟庆英
【通讯作者】孟庆英
【期刊名称、卷期、页码】大豆科学 2011 30(3):471-474
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【引文索引号】S565.1
【学科分类】农业基础学科

【题目】控释肥对大豆根际土壤微生物数目、肥力及大豆农艺性状的影响
【中文关键词】大豆;土壤微生物;土壤肥力;控释肥
【英文关键词】Soybean;Soil microoganisms;Soil fertility;Controlled-release fertilizer
【中文摘要】采用无肥、常规肥、控释尿素和控释复合肥4种肥料处理,于大豆播种前和成熟期对大豆根际土壤的细菌、真菌、放线菌采用平板计数法进行测定;并对大豆成熟期根际土壤微生物数量变化、土壤养分含量变化及大豆农艺性状及产量相关因素进行分析。结果表明:与无肥和常规肥比较,控释尿素和控释复合肥可明显增加土壤中细菌、真菌及放线菌数目,并且控释复合肥处理的细菌数目、土壤养分含量等项目优于控释尿素处理;在大豆农艺性状及产量相关因素方面,控释尿素及控释复合肥未表现出显著优势。与常规肥相比,施用控释肥可以增加土壤中微生物数量、提高供肥能力,从而提高肥料利用率,减少化肥对环境的污染。
【英文摘要】The objective of current study was to investigate the effects of controlled-release fertilizer treatments on rhizospheresoil microorganisms,soil fertility and agronomic characters of soybean. Four fertilizer treatments,including no fertilizer(CK),conventional fertilizer(CF),controlled-release urea(CRU) and controlled-release compound fertilizer(CRF)were adopted. Thenumbers of bacteria,fungi,actinomycetes of rhizosphere soil at pre-sowing and maturity were determined through colony countingmethod;the change of rhizosphere soil microorganisms,soil nutrient content,soybean agronomic characters as well as yieldcomponents were investigated. Compared with CK and CF,the numbers of bacteria,fungi,actinomycetes as well as soil fertilitywere obviously increased under CRU and CRF. The effect of CRF was better than CRU in terms of soil bacteria number andsoil fertility. CRU and CRF didn't show significant advantage for agronomic characters and yield components of soybean. Comparedwith conventional fertilizer,controlled-release fertilizer could increase the numbers of soil microoganisms,improve soilfertility and fertilizer efficiency,hence reduce fertilizer pollution on the environment.
【语种】中文
【第一作者】孟庆英
【通讯作者】孟庆英
【期刊名称、卷期、页码】大豆科学 2011 30(5):827-829
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【引文索引号】S565.1
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【题目】氮磷钾配施对三江平原玉米产量的影响
【中文关键词】3414;玉米;肥料效应;数学模拟
【英文关键词】无
【中文摘要】为研究适合黑龙江八五三农场地区玉米最佳施肥量,采用“3414”试验方案进行了肥效试验,拟合了肥料效应一元二次方程和三元二次方程。通过一元二次方程拟合分析得出,在该土壤条件下的最大的施氮量、施磷量和施钾量分别为147.96、85.635和44.205kg·hm-2,最佳的施氮量、施磷量和施钾量分别为76.245、52.98和32.4kg·hm-2。氮、磷、钾三者必须配合施用才能达到高产,任何一种营养元素受到胁迫都不利于高产。通过三元二次方程得出,在该土壤条件下,氮、磷、钾最高施肥量为N-P2O5-K2O=131.7-85.3-36.1(kg·hm-2),对应的最高产量为9 522.81kg·hm-2。最佳施肥量N-P2O5-K2O=82.7-54.1-33.6(kg·hm-2),其对应的产量为9 288.54kg·hm-2。
【英文摘要】无
【语种】中文
【第一作者】王玲莉
【通讯作者】石元亮

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【引文索引号】S143.35
【学科分类】农业基础学科

【题目】白浆土不同层次土壤含水量及微生物研究
【中文关键词】白浆土;土壤微生物;土壤含水量
【英文关键词】无
【中文摘要】为从微生物学角度探讨白浆土的改良,对白浆土不同层次间土壤水分含量及土壤微生物数量进行研究。结果表明:白浆土的白浆层(20~40 cm)土壤含水量低,分别比耕层(0~20 cm)和淀积层(40~6O cm)低18.67 和24.13 ;土壤不同层次微生物数量均表现为细菌>放线茵>真菌,其在土壤不同层次间分布趋势是耕层> 白浆层>淀积层,三大类微生物数量均表现随土壤深度的增加而减少。
【英文摘要】无
【语种】中文
【第一作者】孟庆英
【通讯作者】孟庆英
【期刊名称、卷期、页码】黑龙江农业科学2012(1):40-4
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【引文索引号】S155.2 6
【学科分类】农业基础学科

【题目】不同抑制剂用量的稳定性肥料对玉米产量的影响
【中文关键词】抑制剂;稳定性肥料;玉米;高产;高效;用量
【英文关键词】无
【中文摘要】玉米是八五三农场的主要农作物之一,为了增加玉米产量,提高经济效益,研究了不同抑制剂用量的稳定性肥料对玉米产量的影响。结果表明:光照充足、积温高、雨水调和的年份,玉米最高产量及最大效益肥料用量、抑制剂品种与用量组合为N-P2O5-K2O=228.0-103.5-84.0+NBPT+DMP(高);春季雨雪偏大,玉米生长季积温低、夏季偏干旱的年份,玉米最大效益肥料用量、抑制剂品种与用量组合为N-P2O5-K2O=180.0-82.8-60.0kg · hm-2+NBPT+DCD(高)。
【英文摘要】无
【语种】中文
【第一作者】孙 毅
【通讯作者】孙 毅
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【学科分类】农业基础学科

【题目】活化剂对黑土有效磷含量及玉米产量影响的研究
【中文关键词】磷素活化剂;有效磷;玉米产量;千粒重;抽穗期
【英文关键词】Phosphorus activator; Olsen-P; Corn yield; 1000-seed weight; Heading stage
【中文摘要】本试验研究了活化剂对玉米各生育时期土壤有效磷含量和玉米产量的影响,得出以下结果:施用活化剂能有效减缓土壤有效磷下降的趋势,提高玉米产量,其中以活化剂H2(450 kg/hm2)效果最好,其次为柠檬酸铵(15 kg/hm2)和腐植酸(150 kg/hm2),分别比对照(处理3)增产9.32%、5.99%和4.99%。活化剂主要通过增大千粒重和穗粒数来增加玉米产量。相关分析得出,玉米产量与抽穗期土壤有效磷含量的相关性最大,应掌握好抽穗期合理施肥。
【英文摘要】Effects of phosphorus activator (PA) on amount of Olsen- P and corn yield in black soilwere studied in order to conduct fertilizing rationally. The results showed that PA could slow the trend ofdecreasing of Olsen- P in black soil and enhance corn yield. H2 (450 kg/hm2) was the best PA which enhancedcorn yield 9.32% more than CK. Following was citrate (15 kg/hm2) and HA

(150 kg/hm2), whichenhanced corn yield 5.99% and 4.99% more than CK, separately. PA could enhance corn yield mainlythrough increasing 1000- seed weight and grain number per spike. Correlated analysis showed that correlationbetween corn yield and amount of Olsen- P at heading stage was best. It should be cautious to fertilizephosphates at heading stage.
【语种】中文
【第一作者】邱兰兰
【通讯作者】石元亮
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【学科分类】农业基础学科

【题目】基于GIS 的典型白浆土区八五三农场耕地地力的定量评价
【中文关键词】耕地地力;GIS;八五三农场
【英文关键词】cultivated land productivity; Geographic information system; 853 farm
【中文摘要】以黑龙江省典型白浆土区的853 农场为例,采集农田耕层(0~20cm)样品1695 个,以土地利用现状图的耕地图斑为评价单元,选取10 个指标,利用特尔菲法和层次分析法,结合GIS 技术,对853 农场耕地地力进行了定量化的分析和评价。评价结果表明八五三农场耕地地力整体水平为:三级地占总耕地面积的35.47%,其次为二级和四级,分别占27.53%和20.86%,比例最小的是一级和五级地,分别占6.83%和9.30%。分级结果较好的体现了地区特点,同时明确了不同等级耕地的面积、空间分布格局, 为探讨制定科学的培肥政策、提高作物产量和土壤基础地力, 保护生态环境提供了定量化的分析依据。
【英文摘要】The quantitative analysis and evaluation was conducted based on GIS,combined with Delphi model and AHP(Analytical HierarchyProgress) for typical Albic bleached soil region in the 853 farm in Heilongjiang Province.In the study,1295 soil samples with0 ~20cm layer were collected from the field,evaluation unit was extracted from land use actuality map,and ten essential factors wereselected as evaluation indices.The results showed that the percentage of the third grade reached maximum,was 35.47%,then the secondand fourth grade which were 27.53% and 20.86%,the minimum were the first and fifth with 6.83% and 9.30%,respectively.The researchresults could reflect regional characteristic,and has verified the area of cultivated land of different level and the space distributing pattern.So this research can provide scientific and quantification foundation for making scientific fertilizer policy,improving crop production andthe soil fundamental fertility,and protecting ecological environment.
【语种】中文
【第一作者】李双异
【通讯作者】汪景宽
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【题目】Multiwalled Carbon Nanotubes as Matrix Solid-Phase Dispersion Extraction Absorbents To Determine 31 Pesticides in Agriculture Samples by Gas Chromatography#Mass Spectrometry
【中文关键词】残留,农药,多壁残纳米管,基质固相分离,气质联用,农业样品
【英文关键词】Multiresidue; pesticides; multiwalled carbon nanotubes; matrix solid-phase dispersion extraction; gas chromatography-mass spectrometry; agriculture sample
【中文摘要】本文以多壁碳纳米管(MWCNTs)为吸附材料,以基质固相分散萃取(MSPDE)为前处理方法,建立了农产品中31种农药多残留的气质联用(GC/MS)分析方法。在所建立MSPD方法的基础上,比较了MWCNTs、C18和硅藻土三种吸附材料的吸附效果。结果显示,通过MWCNTs得到的提取物比通过C18和硅藻土得到的更加干净。以苹果和土豆为样品验证所建立方法的可行性,苹果样品中的回收率为74.2-104.2%,RSD为3.1-8.8%,检出限为0.1-3.1 μg kg-1 (S/N=3);土豆样品中的回收率为71.5-113.3%,RSD为3.2-9.7%,检出限为0.1-4.0 μg kg-1(S/N=3)。将建立的方法用于从当地市场获得的实际样品的检测,得到的结果与采用加速溶剂萃取(ASE)得到的结果相同,扑草净、水胺硫磷和杀扑磷的检测水平低于中国政府所允许的最大残留限量(MRLs)。

【英文摘要】A matrix solid-phase dispersion extraction (MSPDE) method was developed to extract 31 pesticides from agriculture samples using multiwalled carbon nanotubes (MWCNTs) as adsorbent prior to gas chromatography-mass spectrometry (GC-MS) determination. The comparisons of MWCNTs with C18 and diatomite were studied in the MSPD procedure. The results showed that the extracts obtained by using MWCNTs were cleaner than those obtained by using C18 and diatomite. Using the developed method, recoveries ranged from 74.2 to 104.2% with relative standard deviations (RSD) ranging from 3.1 to 8.8% for the apple matrix, and 71.5-113.3% with RSD ranging from 3.2 to 9.7% for the potato matrix. The limits of detection (LODs), calculated as 3 times the background noise, ranged from 0.1 to 3.1 μgkg-1 for the apple matrix and 0.1 to 4.0 μgkg-1 for the potato matrix. The proposed MSPDE method was used to analyze real samples obtained in a local market, the results were approximation to those obtained using accelerated solvent extraction (ASE) method, and prometryn, isocarbophos and methidathion were detected at levels below the maximum residue limits (MRLs) allowed by the Chinese Government.
【语种】英文
【第一作者】Guozhen Fang
【通讯作者】Shuo Wang
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【题目】Study on an on-line molecularly imprinted solid-phase extraction coupled to high-performance liquid chromatography for separation and determination of trace estrone in environment
【中文关键词】高效液相色谱;分子印迹技术;莱克多巴胺;溶胶-凝胶;在线固相萃取
【英文关键词】HPLC / Molecular imprinting / Ractopamine / Sol – gel / SPE
【中文摘要】在这项研究中,分子印迹功能聚合物用于选择性分离莱克多巴胺,是通过表面分子印迹和溶胶凝胶技术制备。用静态和动力学吸附和选择性吸附试验来评价聚合物。结果显示分子印迹聚合物有较高的吸附能力,较强的选择性和较快的传质速率。聚合物应用于在线固相萃取与液相色谱联用的痕量检测。样品富集速度2ml/min,增强因子在516.26,最低检出限(信噪比为3)达到4.6ng/l,标准曲线的线性范围在0.04~18mg/l,r2>0.99。在三个不同添加浓度(0.5 ng kg-1、1.0 ng kg-1和2.0 ng kg-1)下猪肉样品中莱克多巴胺的回收率为55.86%-67.28%之间。
【英文摘要】In this study, a molecularly imprinted functionalized polymer for the selective sep-aration of ractopamine (RAC) was prepared by combining a surface molecularimprinting technique with a sol – gel method process. The polymer was evaluated bystatic, kinetic adsorption, and selective experiments. Results indicated that themolecularly imprinted polymer had high adsorption capacity, selective ability, andfast mass transfer rate. The polymer was applied for the determination of trace RACthrough online SPE-HPLC. With a sample loading flow rate of 2 mL/min, theenhancement factor of 516.26 and the LOD (S/N = 3) of 4.6 ng/L were achieved,respectively, and the linear range of the calibration curve was 0.04 – 18 lg/L withr2>0.99. The RAC in pork was determined at three spiked levels (0.5, 1, and 2 ng/g)with recoveries ranging from 55.86 to 67.28%.
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【第一作者】Shuo Wang
【通讯作者】Shuo Wang
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【学科分类】食品科学技术基础学科

【题目】奶牛分子育种研究进展
【中文关键词】奶牛; 分子育种; 泌乳性状; 研究进展
【英文关键词】Dairy cattle; Molecular breeding; Milkt rait; Study progress
【中文摘要】本文概述了奶牛分子育种的研究进展, 介绍了开展分子育种的必要性, 分子育种研究的内容与特点、成就与现状、问题和展望。重点汇总了DNA 分子多态及其与生产性状关系研究的成就, 包括奶牛的泌乳性状、繁殖性状、抗病性方面候选功能基因的研究, 生产性能的微卫星标记等方面。指出了奶牛分子育种研究存在的问题, 据此提出了今后加快

奶牛分子育种研究的思路、措施和应用前景。
【英文摘要】The progress in dairy cattle molecular breeding was systematically reviewed in this paper. The necessity of cow molecular breeding were introduced. The scope, characteristics, achievement, problem and promise of molecular breeding were discussed. We comprehended the relationship between DNA polymorphisms and performance trait, which includes the candidate genes relating with milk traits, reproduction performance and immune capability . The achievements in the cloning and analy sis of functional gene, SSR marker for performance, comparative. The problem of dairy cattle molecular breeding was discussed. Base on above ment ioned, the route, strategy and promise were anticipated.
【语种】中文
【第一作者】陈丹霞
【通讯作者】陈宏
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【题目】Study on an on-line molecula rly imprinted solid-phase extraction couple d to high-performance liquid chromatography for separation and determination of trace estrone in environment
【中文关键词】雌酮,分子印迹,溶胶凝胶,在线固相萃取,高效液相色谱
【英文关键词】Estrone
Molecular imprinting.
Sol – gel
On-lin e soli d-phase extractio n
High-per form ance liquid chromatogr aphy
【中文摘要】雌酮是一种重要的潜在干扰内分泌机能的物质,因此需要建立一种灵敏、可靠的检测雌酮的分析方法来保障人类健康。本文以以雌酮作为模板分子,氨丙基三乙氧基硅烷为功能单体,四乙氧基硅烷为交联剂,以表面分子印迹与溶胶凝胶相结合的方法合成了一种高选择性分子印迹硅球。经傅里叶红外光谱和静态吸附试验表明该印迹聚合物对雌酮具有良好的识别和选择能力。本实验建立了一种新颖的结合固相萃取与高效液相色谱联用的的方法来分离和检测环境样品中雌酮的方法。在线固相萃取上样流速为2.6 mL min − 1,进样时间为9.6min, 富集倍数以进样量为10 μ L的标准溶液对比为1045. 最低检出限 (S/N=3) 为5.7 ng L − 1, 5.0 μ g L − 1浓度的九次重复进样的相对标准偏差低于10.0%。该方法应用于泉水和湖水样品中雌酮的检测来验证方法实用性,结果表明在添加量为0.5 and 1.0 μ gL − 1时回收率在86%到95%之间。
【英文摘要】Estrone is one of the important potential endocrine-disrupting compounds, and the sensitive and reliable analyt-ical methods for the determination of estrone are required forthe assurance of human health. In this paper, using estrone as template molecule, 3-aminopropyltriethoxysilane as function monomer, and tetraethoxysilicane as cross-linker, a highly selective molecularly imprinted microsphere was synthesized by surface molecular imprinting technique combined with a sol – gel process. The imprinted material was characterized by the Fourier transform infrared and static adsorption experi-ments, and the results showed that it exhibited good recognition and selective ability for estrone. A novel method for separation and determination of trace estrone in environ-mental sample was developed using on-line molecularly imprinted solid-phase extraction coupled to high-performance liquid chromatography. With a sample loading flow rate of 2.6 mL min − 1 for a 9.6-min extraction, the enrichment factor obtained by the slopes of the linear portion in comparison with the direct injection of 10 μ Lstandardsamplesolution was 1,045. The detection limit (S/N =3) was 5.7 ng L − 1,and the relative standard deviations for nine replicate extractionsf 5.0 μ gL − 1 estrone was less than 10.0%. This method was evaluated for quantitative determination of estrone in well and lake water samples spiked at two levels (0.5 and 1.0 μ gL − 1) with recoveries ranging from 86% to 95%.
【语种】英文
【第一作者】Zhixiang Xu
【通讯作者】Shuo Wang
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【学科分类】食品科学技术基础学科

【题目】Preparation of a novel molecul arly imprinted polymer by a sol-gel process for on-line solid-ph ase extraction coupled with high performance li quid chromatograp hy to detect trace enrofloxacin in fish and chicken samples
【中文关键词】恩诺沙星;分子印迹聚合物;溶胶一凝胶;在线固相萃取;高效液相色谱
【英文关键词】Enrofloxacin
Molecular imprinting.
Sol-gel
Solid -phase extra ction
High performanc e liquid
chrom atography
【中文摘要】恩诺沙星作为模版合成了一种分子印迹功能性溶胶凝胶化合物,3一氨基丙基三乙氧基硅烷(APTES)为功能单体,四乙氧基硅烷作为交联剂。这种恩诺沙星印迹聚合物用静态和动力学吸附和选择性吸附试验来评价。这种聚合物表现出良好选择性和快速的吸附和解吸能力,以此聚合物为微柱填料,建立了痕量恩诺沙星残留的在线固相萃取与高效液相色谱联用检测方法,尤其是在生物母体中。在上样流速为1.0mL/min、富集50mL条件下,标准溶液富集倍数达到566;最低检测限(信噪比为3)为8ng/L,相对标准偏差(最低检出限,九次重复测定0.1 μg /LENRO)是4.4%。恩诺沙星添加在鱼肉和鸡肉中有三个不同添加浓度,检测结果的回收率在70%到82%.
【英文摘要】A mol ecularly imp rinted functional ized sol-gel has been prepar ed by using enrofloxaci n (ENRO) as a templat e, 3-am inopr opyltriethox ysilane as the funct ional monomer, tetraethoxysilicane as a c ross-linker. This ENRO -imprin ted polymer was evalua ted by stat ic, kinetic adsorp tion and selective experiment s. The polym er displays good selectivi ty, and fast kinetics in terms o f adsorp tion and desorp tion. The material was applied as a sorben t for on-line deter minati on o f trace ENRO by high performance liquid chromatogr aphy, with a focus on biological mat rices.At a loading flow rate of 1.0 mL min-1 for samp ling 50 mL, the enrichment factor and limit of detect ion (LOD; at S/N =3) are 566 and 8 ng L-1, respec tively. The peak area precision (th e LOD for nine replicate detections of 0.1 μg L-1ENRO) is 4.4%. ENR O in fish and chicke n muscle was determined at t hree spiked levels with recover ies rangi ng from 70% to 82%.
【语种】英文
【第一作者】Wang Jun ping
【通讯作者】Shuo Wang
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【学科分类】食品科学技术基础学科

【题目】我国南方黄牛遗传资源及其利用探讨
【中文关键词】南方黄牛; 遗传资源; 开发利用
【英文关键词】Chinese cattle of South China; Genetic Resources; Development and Utilization
【中文摘要】深入分析了我国南方地区黄牛资源的重要性, 尤其是遗传资源的分布、良种特性、血统的独立性等特点; 在当前形势下所面临的主要问题, 包括对黄牛资源的保护问题认识不统一, 保护和开发利用的关系不明确, 特色效益难以发挥等。并针对性地提出了开发利用我国南方黄牛资源的可行性建议。
【英文摘要】The importance of cattle resources in South China were deeply analyzed, especially the distribution, breeds character and the independence of origin, the facing problems at current situation, including the understanding of non-uniform of the protective problems of yellow cattle resource, uncertainty relationship between protection and utilization, the featured benefits were different to play . The constructive proposals on the effective utilization of Chinese cattle in South China were provided contrapuntally.
【语种】中文
【第一作者】武秀香
【通讯作者】杨章平
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【题目】转基因生物的安全性
【中文关键词】转基因技术;生物安全;安全性评价
【英文关键词】transgenic technology, biosafety, biosafety assessments
【中文摘要】转基因技术出现以来一直备受争议,如何能够利用好这一技术?其安全性如何?科学家们已经做了大量研究,但还存在许多不尽人意的方面。笔者就转基因生物安全做一阐述,主要包括转基因生物安全性及安全性评价,详细讨论了转基因生物及对环境的安全性的影响,包括转基因对非靶标生物的影响,外源转基因逃逸及其可能带来的生态后果,转基因植物对生物多样性的影响等。并展望了转基因生物的发展前景,主要集中于抗性、营养和动物乳腺生物感应器三个热点研究。
【英文摘要】The transgenic technology is disputed drastically since it appearance. This article reviewed the biosafety and biosafety assessments of transgene. We discussed the impacts of transgenic technology on non-target organisms and biodiversity, transgenic escape and its related ecological consequences.
【语种】中文
【第一作者】施巧婷
【通讯作者】徐照学
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【学科分类】畜牧、兽医科学基础学科

【题目】中国草原红牛CAPN I基因的遗传多样性分析
【中文关键词】草原红牛; 钙蛋白酶基因; PCR-SSCP
【英文关键词】Red steppe cattle; CAPN; PCR-SSCP
【中文摘要】[目的]利用PCRSSCP技术研究中国草原红牛CAPN I 基因的多态性。[方法]以90头草原红牛的全血为试材,用酚/氯仿/异戊醇法提取基因组DNA, 采用PCRSSCP技术分析了钙蛋白酶I 基因(CAPN I)在草原红牛群体中的多态性。[结果]试验所设计的18对引物用于PCR扩增均获得良好的结果。经PCR SSCP分析, E7-1引物扩增的群体出现了AA、BB、AB和AC 4种基因型; E14-1引物扩增的群体出现了AA和BB 2种基因型, E14-5、E14-6和E20-2引物扩增的群体出现了AA、BB和AB 3种基因型。对不同基因型的测序表明, 在第14内含子4 685 bp处发生了C-T 的碱基突变,在第17内含子6 545 bp处发生了C-T 的碱基突变, 在第21内含子上8 462 bp处发生了G-A、8 561 bp处A-G、8 696 bp处A-T 的碱基突变。[结论]该研究为改善牛肉质性状的分子育种提供新的分子生物学基础数据。
【英文摘要】[Objective] The ami was to research the polymorphism of polymorphism of calpain I(CAPN I) gene in ChinaRed Steppe by using PCR-SSCP technique. [Method] With thewhole blood of 90 head ChinaRed Steppe as the testedmateria,l the genome DNA was extracted by using phenol/chlorofo rm / isoamyl alcoho lmethod and the CAPN I gene in the ChinaRed Steppe group by using PCR SSCP technique. [Result] The designed 18 pairs of prmiers used to PCR amplification all got the better results. Through PCR-SSCP analysis, the group of E7-1 prmier amplification appeared 4 kinds of genotypes of AA, BB, AB andAC; the group of E14-1 prmier amplification appeared 2 kinds of genotypes of AA and BB, the group of E14-5, E14-6, E20-2 prmier amplification appeared 2 kinds of genotypes of AA, BB andAB. The sequencing on different genotypes showed that the basem utation of C-T was happened at the 14th intron 4 685 bp, the basemutation of C-T was happened at the 17th intron 6 545 bp, the basemutation of G-A, A-G, A-T were happened at the 21th intron 8 462, 8 561 and 8 696 bp resp.[Conclusion] This research provided the basic data of molecular biology for the molecular breeding of miproving the beef quality characteristics.
【语种】中文
【第一作者】李赵志
【通讯作者】金海国
【期刊名称、卷期、页码】安徽农业科学, 2010, 38(3): 1171- 1172
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【引文索引号】null
【学科分类】畜牧、兽医科学基础学科

【题目】Agrobacterium rhizogenes-mediated transformation of a high oil-producing filamentous fungus Umbelopsis isabellina.
【中文关键词】发根农杆菌介导的转化,分生孢子,深黄伞形霉,接合菌
【英文关键词】Agrobacterium rhizogenes-mediated transformation, conidia, Umbelopsis isabellina, zygomycetes.
【中文摘要】将深黄伞形霉中的高油基因转入发根农杆菌中,通过southern检测,最佳条件下可得到71%的整合率。我们随机选择115个阳性转化的潮霉素抗性分析的总脂肪酸量的γ-亚麻酸(GLA)。6个转化体,产生较高量的总脂肪酸的比野生型菌株,和一个转化也比野生型菌株在气相色谱分析中产生了较高水平的GLA。
【英文摘要】The Agrobacterium rhizogenes-mediated transformation procedure was developed by using thehygromycin B phosphotransferase gene (hph) as a selective marker for the oil-producing fungus Umbelopsisisabellina. Different conditions were combined to increase the transformation efficiency. The highest efficiencywas obtained by using A. rhizogenes strain R105 and a vector with zygomycete promoter. Southern blot analysisdemonstrated that 71% of transformants contained random integrations of T-DNA sequences under optimal con-ditions. We randomly selected 115 positive transformants resistant to hygromycin to analyze the amount of totalfatty acid and gamma-linolenic acid (GLA). Six transformants produced a higher amount of total fatty acids thanthe wild strain, and one transformant also produced a higher level of GLA than the wild strain in gas chromatogra-phy analysis. This is the first report about using A. rhizogenes strain R105 and germinated conidia to transformsuccessfully the recalcitrant zygomycetes and to obtain transformants with a stable phenotype.
【语种】英文
【第一作者】魏东盛
【通讯作者】李明春
【期刊名称、卷期、页码】Journal of Applied Genetics,2010, 51(2): 225-232
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【引文索引号】2.42E+09
【学科分类】分子生物学

【题目】三角褐指藻Δ5-脂肪酸脱氢酶基因的克隆及在酿酒酵母中的表达
【中文关键词】花生四烯酸　酿酒酵母　功能验证
【英文关键词】arachidonic acid　Saccharomyces cerevisiae　functional identification
【中文摘要】 D5-脂肪酸脱氢酶是合成花生四烯酸的关键酶。根据已报道的D 5-脂肪酸脱氢酶基因设计引物, 分别从三角褐指藻基因组DNA和总cDNA中扩增得到1520 bp和1410 bp的特异片段, 序列分析结果显示, 结构基因中含有一个大小为110 bp的内含子, 这是国内外首次报道。将D5-脂肪酸脱氢酶基因亚克隆到大肠杆菌和酿酒酵母的穿梭表达载体pYES2.0中, 在大肠杆菌中筛选到含有目的片段的重组质粒pYPTD5, 用电击转化的方法将重组质粒pYPTD5转化到营养缺陷型酿酒酵母菌株INVSc1中, 在缺省培养基中筛选得到酿酒酵母转化菌株YPTD5。在合适的培养条件下, 添加外源底物双高g-亚麻酸和诱导物半乳糖, 培养并收集菌体。通过脂肪酸甲酯气相色谱分析, 表明三角褐指藻D5-脂肪酸脱氢酶基因在酿酒酵母中获得了高效的表达, 将双高g-亚麻酸转化为花生四烯酸, 其底物转化率达到了45.9%。
【英文摘要】 Δ5-fatty acid desaturase is the key enzyme in synthesis of arachidonic acid. Two specific fragment was cloned from genomic DNA and total cDNA of Phaeodactylum tricornutum through PCR with primer designed according to the reported sequences, respectively 1520 bp and 1410 bp. Comparison of the genomic and cDNA sequences revealed that the Δ5-fatty Acid Desaturase gene from genomic DNA had an 110 bp intron. The 1.4 kb was subcloned into the yeast-E. coli shuttle vector pYES2.0, then an expression recombinant plasmid pYPTD5 contatining target gene was constructed. The plasmid pYPTD5 was transformed into defective mutant INCSc1 of Saccharomyces cerevisiae for expression by electrotransformation method. Dihomo-g-linolenic acid was provided as an exogenous substrate to the yeast cultures, with galactose as inducer. By GC detecting, the recombinant S. cerecisiae had arachidonic acid. The results indicated that high level expression of Δ5-fatty acid desaturase, and the substrate conversion reached 45.9%.
【语种】中文
【第一作者】杨哲

【通讯作者】李明春
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【学科分类】分子生物学

【题目】小眼虫藻△8-脂肪酸脱氢酶基因的克隆及其在酿酒酵母中的表达
【中文关键词】△8-脂肪酸脱氢酶　　小眼虫藻　　多不饱和脂肪酸
【英文关键词】Δ8-fatty acid desaturase, Euglena gracilis, polyunsaturated fatty acids
【中文摘要】△8途径是合成多不饱和脂肪酸的替代途径,△8-脂肪酸脱氢酶是该途径的关键酶之一.根据已报道的△8-脂肪酸脱氢酶基因设计引物,分别从小眼虫藻基因组DNA和cDNA中扩增得到该基因片段,序列分析表明:结构基因长1 266 bp,编码421个氨基酸;该基因没有内含子,比已经报道的△8-脂肪酸脱氢酶基因长6bp,并且N末端序列也有所不同.利用酿酒酵母的载体pYES2.0构建△8-脂肪酸脱氢酶表达载体pYEFD,并转化到营养缺陷型酿酒酵母菌株INVSc1中,在选择培养基中筛选得到酿酒酵母转化菌株YD8.YD8在合适的培养条件下,添加外源底物二十碳二烯酸和二十碳三烯酸并诱导基因表达.脂肪酸甲酯气相色谱分析表明小眼虫藻△8-脂肪酸脱氢酶基因在酿酒酵母中获得了高效表达,将二十碳二烯酸和二十碳三烯酸分别转化成二高-γ-亚麻酸和二十碳四烯酸,其底物转化率分别达到了31.2%和46.3%
【英文摘要】Δ8 desaturase pathway, different from common Δ6 desaturase pathway, is an alternate pathway of polyunsaturated fatty sequence. Comparison of the genomic and cDNA sequences revealed that there wasn't intron in this Δ8-fatty acid desaturase gene.This gene has an open reading frame of 1 266 bp that encodes 421 amino acids. It is 6 bp longer than the reported gene sequence, andalso showed certain difference from the reported sequence in the N-terminal. The recombinant expression plasmid pYEFD bysubcloning Δ8-fatty acid desaturase gene into the yeast-E. coli shuttle vector pYES2.0 was constructed and was transformed into thedefective mutant INVSc1 of Saccharomyces cerevisiae by electrotransformation. The resulting strain YD8 harboring plasmid pYEFDwas selected and was cultured in the induction medium with exogenous substrates ω6-eicosadienoic acid and ω3-eicosatrienoic acidfor the expression of Δ8-fatty acid desaturase gene. The results indicated that high level expressed Δ8-fatty acid desaturase couldconvert ω6-eicosadienoic acid and ω3-eicosatrienoic acid to dihomo-γ-linolenic acid and eicosatetraenoic acid with substrateconversion ratio 31.2% and 46.3%, respectively.acids biosynthesis. Δ8-fatty acid desaturase is one of the key enzymes in Δ8 desaturase pathway. Two specific fragments were separately cloned from genomic DNA and cDNA of Euglena gracilis by PCR with the primers designed according to the reported。
【语种】中文
【第一作者】黎明
【通讯作者】李明春
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【学科分类】分子生物学

【题目】毕赤酵母Δ9-脂肪酸脱氢酶基因的克隆和表达
【中文关键词】毕赤酵母　Δ9-脂肪酸脱氢酶　cDNA末端扩增　酿酒酵母　表达
【英文关键词】Pichia pastoris　△A^9-desaurase　RACE　Saccharomyce scerevisiae　expression
【中文摘要】根据真菌Δ9-脂肪酸脱氢酶保守的氨基酸序列设计简并引物进行PCR,获得一个741 bp的毕赤酵母cDNA片段,再根据获得的部分序列设计基因特异性引物,通过cDNA末端扩增技术(RACE)获得该cDNA的3′和5′序列,从而得到全长为1 689 bp的cDNA序列.序列分析结果表明,该序列具有一个长度为1 194 b p、编码397个氨基酸的开放阅读框(PPD9).与报道的Δ9-脂肪酸脱氢酶一样,推测的氨基酸序列具有膜整合脂肪酸脱氢酶特异性的3个组氨酸保守区和疏水结构,在其氨基酸序列的C-末端具有类似于细胞色素b5的血红素结合区.该序列为一个新的编码Δ9-脂肪酸脱氢酶的基因,为了验证其功能,把开放阅读框序列PPD9亚克隆到表达载体pYES 2.0,构建重组表达载体pYPPD9,并转化到酿酒酵母的Δ9-脂肪酸脱氢酶缺陷型菌株DTY-11A中进行表达。通过平板互补实验结果表明,该序列在酿酒酵母中获得表达。所编码的蛋白具有Δ9-脂肪酸脱氢酶活性,能弥补DTY-11A中由于Δ9-脂肪酸脱氢酶的缺失而引起的致死性突变。

【英文摘要】A 741 bp DNA fragment was amplified from Pichia pastoris strain Gs115 with degenerate oligonucleotide primers designed based on the sequences information from fungal△^9 fatty acid desaturase genes by PCR and sequenced.Gene specific primers derived from this partial sequence were used for the amplification of the 3' and 5' ends of this cDNA by RACE(rapid amplification of cDNA ends) method,and this lead to a full length cDNA sequence with 1 689 bp.Sequence analysis showed this cDNA sequence had an open reading frame(ORF) of 1 194 bp coding 397 amino acids.The deduced amino acid sequence of the ORF showed similarity to those of the above△^9-fatty acid desaturaes which comprised the characteristics of membrane bound desaturases,including three conserved histidine rich boxes and hydropathy profile.A cytochrome b5 like domain was observed at the C-terminus.The full length cDNA sequence is a putative novel△^9-fatty acid desaturase gene.To elucidate the function of the protein,open reading frame of the gene was subcloned into the expression vector pYES2.0 to generate a recombinant plasmid pYPPD9,which was subsequently transformed into Saccharomyces cerevisiae△^9-fatty acid desaturase mutation strain DTY-11A for heterologous expression.The transforments can grow on the synthetic minimal medium plate with out oleic acid supplement,the pYPPD9 complement the mutation of DTY-11A and succesfully expressed.
【语种】中文
【第一作者】张昕欣
【通讯作者】李明春
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【学科分类】分子生物学

【题目】无选择标记转基因大豆表达载体的构建
【中文关键词】无标记,大豆
【英文关键词】marker-free,soybean
【中文摘要】通过对p952-GFP载体进行改造,构建了无选择标记转基因大豆表达载体
【英文摘要】construction of expression vector for the production of selectable marker-free transgenic soyberans
【语种】中文
【第一作者】黎明
【通讯作者】李明春
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【学科分类】分子生物学

【题目】大豆体细胞胚性愈伤悬浮培养体系的建立及超声介导遗传转化的研究
【中文关键词】大豆,胚性愈伤,悬浮培养
【英文关键词】soybean,Embryogenic Callus, Suspension culture
【中文摘要】本试验以大豆未成熟胚为试验材料,对基因型,诱导条件,胚性愈伤悬浮培养条件进行了研究,并探索了超声波辅助农杆菌浸染大豆幼胚转化的条件,初步建立了大豆体细胞胚性愈伤悬浮培养体系,得到了超声波辅助农杆菌浸染幼胚转化的抗性植株。
【英文摘要】The test of soybean immature embryo as experimental material, the genotype, inducing conditions, Embryogenic Callus Suspension culture conditions were studied, and the exploration of the ultrasonic assisted Agrobacterium infection of soybean embryogenic transformation condition, preliminary built soybean somatic embryogenic callus suspension culture system, obtained by ultrasonic assisted Agrobacterium infection of young germline transformation of resistant plants.
【语种】中文
【第一作者】钱雪艳
【通讯作者】赵桂兰
【期刊名称、卷期、页码】全国植物分子育种学术研讨会论文集,2009:153

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【学科分类】遗传学

【题目】Resistance of the Binary insect-resistant transgenic soybean to Heliothis viriplaca
【中文关键词】大豆食心虫;苜蓿夜蛾;抗虫;大豆
【英文关键词】Soybean pod borer, Heliothis viriplaca, Insect-resistance, Soybean
【中文摘要】大豆食心虫和苜蓿夜蛾是影响我国大豆产量和品质的重要害虫。抗虫品种的培育是害虫防治措施中最为经济、有效的途径。本研究利用农杆菌转化法将CpTI和人工合成GFMCryIA基因导入大豆栽培品种吉林27中。T1代转基因大豆抗大豆食心虫分析表明,转基因大豆株系R-150和R-190的虫食率比对照低~30%,抗虫能力显著提高。T2~T4连续三代田间接虫测定结果表明,转基因材料虫食率均显著低于对照非转基因材料,抗虫性状已获得稳定遗传;转基因大豆抗苜蓿夜蛾分析表明,转基因株系R-150和R-190的叶片损害程度明显减轻;同时,苜蓿夜蛾幼虫食叶量显著下降、存活天数缩短,发育变慢,蛹化数也显著降低,表明转基因大豆抗苜蓿夜蛾能力显著提高。本研究为抗食心虫和苜蓿夜蛾的大豆新品种的培育提供了依据。
【英文摘要】Soybean pod borer [Leguminivora glycinivorella(Mats)] and Heliothis viriplaca are two major insect pests affecting yields and qualities of soybean in China. Breeding insect-resistant soybean cultivars is considered as an economic and efficient strategy for control of the pests. In this paper, a binary vector harboring CpTI and modified GFMCryIA genes was transformed into a soybean cultivar Jilin 27 by the Agrobaterium-mediated transformation. The bioassay results showed that the pest infestation ratio of the T1 transgenic lines R-150 and R-195 were 30% lower than that of the non-transgenic ones under field conditions. Consecutive insect-resistant analysis on T2, T3, T4 transgenic lines also showed a lower pest infestation ratio and higher resistance to soybean pod borer than the non-transgenics; As for the resistance to H. viriplaca, the transgenic lines R-150 and R-195 showed a lower defoliation percentage than the non-transgenic ones. H.viriplaca larvae feeding on the leaves of those two transgenic lines exhibited less leaf consumption, greater larvae mortalities, slower development, and less pupation ratios, compared to those feeding on nontrangenic leaves. Taken together, our results indicated that the overexpression of CpTI and GFMCryIA in soybean can confer an effective resistance to both soybean pod borer and H.viriplaca.
【语种】英文
【第一作者】杨向东
【通讯作者】赵桂兰
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【题目】Inhibition of PEPCase by antisense RNA increases oil in soybean seeds
【中文关键词】大豆;PEPCase;反义RNA; 高油
【英文关键词】Soybean (Glycine Max L.), PEPCase, Antisense RNA, high-oil
【中文摘要】大豆是世界上食用蛋白和油脂的重要来源, 高含油量是大豆育种的重要目标之一。磷酸烯醇式丙酮酸羧化酶(PEPCase)是CAM和C4植物光合碳代谢的关键酶,不仅参与空气中CO2的固定,同时具有调控种子蛋白质/油脂含量比例的作用。为研究PEPCase表达水平的降低对大豆籽粒油分积累的影响,我们从大豆中分离了PEP基因,并利用反义RNA技术,通过农杆菌介导法将反义PEP片段导入栽培大豆品种。T1代转基因植株籽粒含油量分析表明,转基因大豆种子含油量比对照非转基因材料提高15%,含油量达到25.42%;连续多代(T2 ,T3, T4)籽粒含油量测定结果表明,转基因株系高含油量性状表现为稳定遗传。本研究表明利用反义RNA技术降低植物内源PEP水平可以有效促进大豆籽粒中油脂的合成和积累,并为高油大豆品种的培育提供了一条新的技术途径。
【英文摘要】As one of the most important sources of plant oil and proteins for the human, soybean with high-content oil is a major objective in many soybean breeding efforts. Phosphoenolpyruvate carboxylase (PEPCase) is a pivotal enzyme in the photosynthesis pathway of the CAM and C4 plants, involved in not only assimilation of CO2 in the air, but also regulation of oil/protein content ratios in oilseeds. To investigate the effects of the decreased PEPCase level on oil accumulation in soybean seeds, we isolated a PEP cDNA from soybean leaves and transformed a partial fragment of the cDNA in reverse direction driven the 35S promoter into a soybean

cultivar Jilin35 by the Agrobacterium-mediated transformation. Oil content analysis showed that the seed oil increased by 15% in the T1 transgenic plants compared to that of the non-transgenics, accounting for 25.52% of seed dry weight (22.1% for the non-transgenics). Consecutive analysis on seed oil content of T2 ,T3, T4 transgenic lines indicated that the high-oil trait of the transgenic lines can be transmitted stably through offspring generations. Taken together, our results demonstrate that the inhibition of PEPCase by antisense RNA can greatly increase oil in soybean seeds, therefore providing a new effective way for breeding high-oil soybean cultivars.
【语种】英文
【第一作者】郭东全
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【题目】植物叶绿体遗传转化及研究进展
【中文关键词】叶绿体;遗传转化;进展
【英文关键词】Chloroplast; Chloroplast transformation; Advances
【中文摘要】叶绿体遗传转化与传统的细胞核遗传转化相比具有许多独特的优点:包括外源基因表达效率高,可同时转化及表达多个基因,由于通过母性遗传,因此没有基因沉默现象及位置效应,也不会造成外源DNA的扩散。目前已经有超过40多个外源基因整合到烟草等作物的叶绿体基因组中,表现出理想的农艺性状或作为生物反应器表达高水平的生物疫苗。本文对植物叶绿体基因组转化技术的原理和优点,外源基因导入叶绿体基因组的方法,以及目前叶绿体转化研究的最新进展进行了综述,并对其应用进行了展望。
【英文摘要】Chloroplast genetic engineering offers a number of unique advantages, including high-level transgene expression, multigene engineering in a single transformation event, transgene containment via maternal inheritance, lack of gene silencing, position and pleiotropic effects and undesirable foreign DNA. More than 40 transgenes have been stably integrated and expressed via the tobacco chloroplast genome to confer desired agronomic traits or express high levels of vaccine antigens and biopharmaceuticals. In this paper, the principles and advantages of the chloroplast genetic engineering, the methods used for chloroplast transformation, and the recent advances in the field were illustrated and the application of the technology in future was also discussed.
【语种】中文
【第一作者】钱雪艳
【通讯作者】赵桂兰
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【题目】安全选择标记和无选择标记转基因技术研究进展
【中文关键词】安全标记;无选择标记;转基因植物
【英文关键词】Safe marker ; Marker2free ; Transgenic plants
【中文摘要】转基因植物中选择标记的存在是影响转基因植物安全的重要因素之一。目前主要从两个方面来解决转基因植物中选择标记的安全问题,一是选用安全的选择标记,二是构建无选择标记或标记删除转化系统。对目前几种重要的安全标记和无选择标记转基因技术的最新研究进展进行了综述,并对这些技术在转基因植物研究中的应用前景进行了展望。
【英文摘要】The safety of the transgenic plants would be ascribed to the selection marker genes present in their genomes to a great extent . Two strategies including utilization of the safe marker genes and marker-free techniques are usually exploited for the production of the transgenic plants. In this paper ,the advances in the recent research of the utilization of the safe marker genes and marker-free techniques were reviewed and the possible applications of these techniques were also discussed.
【语种】中文
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【题目】大豆体细胞胚胎发生系统组织学研究
【中文关键词】大豆; 体细胞胚胎发生; 组织学
【英文关键词】somatic embryogenesis, histology, soybean
【中文摘要】大豆体细胞可以诱导发生在形态和结构上类似胚结构的胚状体。利用大豆体细胞胚发生系统进行大豆遗传转化, 具有转化频率高、同步性好、转基因植株嵌合体少等诸多优点。对经根癌农杆菌侵染后, 在含卡那霉素筛选培养基上生长的大豆未成熟子叶胚性细胞的发生、分化及发育进行了组织学研究。结果表明, 体细胞胚以非芽体方式发生。胚性细胞可以从外植体表层或表层下1~2 层细胞开始发生,随着胚性细胞的分裂, 周围细胞开始退化解体, 并形成具有类似胚柄结构的胚状体。之后, 呈球形的胚状体突出于表皮之外, 并依次发育成心形胚、鱼雷形胚和子叶形胚。以期为利用大豆未成熟子叶诱导体细胞胚发生系统高效转化体系的建立提供理论依据。
【英文摘要】Embryoids with embryo- like structure can be induced from soybean somatic cells. Transformation of soybean through somatic embryogenesis possesses many advantages, such as higher efficiency, better synchronism, and lower chimerism, over other recipient systems. In this paper, we conducted histological investigations on initiation, differentiation and development of soybean embryogenic cells of the immature cotyledons cultured on the selection medium containing kanamycin after infection with Agrobacterium tumefaciens. The results showed that the somatic embryloids were generated through the non- shooting way. The embryogenic cells initiated at first from the cells of epidermis and 1~2 layers of subepidermis of the immature cotyledons. With division of these embryogenic cells, the cells around degraded and suspensor - like cells mass appeared. The globular embryoids eventually extruded out of the epidermis of the explants, and developed into heart - shaped, torpedo- shaped and cotyledon - shaped embryoids consequently. Our study might provide some insight into the mechanism for high- efficiency transformation through somatic embryogenesis of the immature cotyledons of soybean.
【语种】中文
【第一作者】赵桂兰
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【题目】奶牛体外成熟卵母细胞与X分离冻精体外受精及其胚胎发育
【中文关键词】X 分离冻精,体外受精,共培养,胚胎,奶牛
【英文关键词】X-sorted frozen-thawed sperm, In vitro fertilization, Co-culture, Embryo, Cattle
【中文摘要】比较了X 分离冻精和未分离冻精与牛卵母细胞进行体外受精后,受精卵的卵裂率和胚胎发育率。X分离冻精组受精卵的卵裂率(51.4%)和囊胚发育率(19.7%)显著低于未分离冻精组(67.9%, 29.9%, P< 0.05);微量上浮非离心法处理X 分离冻精和未分离冻精后,其受精卵的卵裂率(50.7%,65.5%)高于上浮离心法处理组(48.3%,63.8%),但两种处理方法之间无统计学差异(P>0.05);同一种精子采用微量上浮非离心法或上浮离心法处理后,其卵裂胚的桑葚胚发育率和囊胚发育率无统计学差异(P>0.05);X 分离冻精的受精卵与颗粒细胞和睾丸支持细胞共培养后,其卵裂率(50.0%,51.4%)与非共培养组(50.3%)无显著差异P> 0.05);两个共培养组的桑葚胚发育率(53.3%,54.6%)和囊胚发育率(21.1%,21.5%)均高于对照组52.2%,20.4%),但无统计学差异(P>0.05).
【英文摘要】The embryo developmental capacity after in vitro fertilization with the X-sorted frozen and unsorted frozen sperm were studied. The cleavage and blastocyst rate of embryos fertilized with X-sorted frozen sperm, were significantly lower than that of control group fertilized with unsorted frozen sperm (51.4% vs. 67.9%, P<0.05; 19.7% vs 29.9 %, P<0.05). After the two kinds of frozen sperm were treated with the micro epi-floating noncentrifugation and the epi-floating , the cleavage rate of the former was better than that of the latter, but there were not statistically significant difference (50.7% and 65.5% vs. 48.3% and 63.8%, P>0.05). Additionally, no

statistical differences were observed in morula rate and blastocyst rate of the cleavaged zygotes fertilized with the X-sorted frozen sperm and unsorted frozen sperm. After co-culturing with sertoli cells and granular cells respectively, the cleavage rate (50.0% and 51.4%) of sexed zygotes co-cultured with feeder cells were not statistically ignificant difference with that of control group (50.3%, P>0.05). And the morular rate(53.3% and 54.6%) and blastular rate (21.1% and 21.5%) of sexed embryo co-cultured with feeder cells were higher than that of control group (52.2% and 20.4%), but there were no statistically difference (P>0.05).

【语种】中文
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【题目】牛AMPK 家族基因的研究进展
【中文关键词】牛; AMPK 家族基因; 研究进展
【英文关键词】Bovine; AMPK family genes; Study progress
【中文摘要】AMP 激活的蛋白激酶(AMP activated prorein kinase, AMPK) 是一种能被腺苷一磷酸(AMP) 激活的蛋白激酶。在动物应激(生理、营养、环境和疾病等) 过程中起着重要作用。近年研究表明, AMPK 在细胞和全身组织器官能量代谢平衡中起着举足轻重的作用, 并且在调节物质代谢中起重要作用, 其调节代谢过程主要包括葡萄糖转换, 糖酵解和脂类代谢等。近年来在牛上已经进行了很多研究, 其中包括其染色体定位及结构的确定等。本文将简要介绍AMPK 的分子结构及功能, 并对AMPK 基因在牛上的研究进展进行综述。
【英文摘要】AMP activated protein kinase (AMPK) is a protein kinase that can be activated by AMP. Itplays a critical role in animal stress (physiology、nutrition、environment and disease, etc.) . The recent study indicated that AMPK functions as energy metabolism at both cell and whole body levels, play an important role in substance metabolism, it regulated many metabolic processes including glucose transport, glycolysis, and lipid metabolism, etc. AMPK had been recently widely studied in bovine, including chromosomal localization and the definition of its structure. The main purpose of this paper was to briefly introduce the molecular structure and function of AMPK gene, and to review the study progress of this genein bovine.
【语种】中文
【第一作者】石秀英
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【题目】牛AR 基因5‘ UTR SNP分析及与精液品质关系
【中文关键词】牛; 雄激素受体基因; 5 ’非翻译区; SNP分析; 精液品质
【英文关键词】bull; androgen receptor gene; 5'UTR; single nucleotide polymorphism; semen quality
【中文摘要】采用PCR- SSCP 方法对种公牛群体雄激素受体(AR) 基因5 ’非翻译区(5‘ UTR) 多态性进行检测。结果表明: AR 基因5 ’UTR 含有多态性位点; 测序结果显示5‘ UTR 的- 1575 处存在T/G 碱基突变; 用最小二乘方法对该基因型与生产性状相关分析显示遗传多态性与精子密度性状呈显著相关, AA 型显著高于AB 型(P = 0.025) , 对其他性状的影响差异不显著。试验为研究种公牛体内AR 基因的生物学作用奠定了基础, 为肉用种公牛的早期选种选育提供了候选基因和分子标记。
【英文摘要】The polymorphism of AR gene 5'UTR in bulls was detected by PCR- SSCP. The sequencing results indicated that there was one single nucleotide mutat ion (T to G) in the 5'UTR- 1575 of the ARgene; The genetic correlations were between genotypes and performances were obtained by the least square analysis, and the results showed that genetic polymorphisms significantly correlated with sperm count performance. And AA genotype was higher than AB genotype (P= 0.025) . Other traits were not significantly affected. The research laid the foundation for the future studies of the biological function of AR gene in bulls and theoretical basis for

breeding of meat bulls.
【语种】中文
【第一作者】秦立红
【通讯作者】赵志辉
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【题目】牛POMC 基因多态性及其与南阳牛生长性状的相关分析
【中文关键词】牛; POMC 基因; 单核苷酸多态性; 生长性状; 体重
【英文关键词】cattle; POMC gene; SNP; growth trait; body weight
【中文摘要】为研究阿片黑皮质素前体(POMC)在动物采食和能量平衡调控中发挥重要作用, 文章采用PCR-SSCP 结合DNA 测序方法, 对秦川牛、南阳牛、郏县红牛、晋南牛、鲁西牛、安格斯牛和荷斯坦奶牛共计480 头个体POMC 基因的多态性进行研究, 并分析了多态位点与南阳牛生长性状的相关性。结果表明, 牛POMC 基因3 个位点中, 在3′侧翼区P3 位点新发现3 个连锁存在的SNP(811845 C>T、811821 T>C 和811797 A>G, 与NW_928357 对照)。POMC 基因3′侧翼区多态位点与南阳牛6 月龄体重和0~6 月龄平均日增重显著相关, BB 型个体显著大于AA 型(P<0.05)。
【英文摘要】Pro-opiomelanocortin (POMC) plays an important role on animal ingestive behavior and energy homeostasis.Genetic variation of POMC was detected by PCR-SSCP and DNA sequencing techniques in 480 individuals from seven cattle breeds (i.e., Qinchuan, Nanyang, Jiaxian Red cattle, Jinnan, Luxi, Angus, and Chinese Holstein), and association analyses were carried out to evaluate the effects of genotypes of the candidate genes on growth traits in Nanyang cattle.Three SNPs (811845 C>T, 811821 T>C and 811797 A>G, ref. NW_928357) in linkage were detected in P3 locus, which were located at the 3 ’ flanking region of bovine POMC gene. The body weight at 6-month-old and the average daily gain of 0~6-month-old were higher in Nanyang cattle with the genotype BB than with the genotype AA (P<0.05).
【语种】中文
【第一作者】张春雷
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【学科分类】畜牧、兽医科学基础学科

【题目】牛催乳素受体基因遗传多态性及其与部分精液品质性状的关联分析
【中文关键词】种公牛; 催乳素受体; 生产性状
【英文关键词】bull; prolactin receptor; performance
【中文摘要】采用PCR- SSCP 方法对种公牛群体的催乳素受体基因(PRLR) 所有外显子及5'UTR 多态性进行检测。结果表明: 外显子1 及外显子8 分别检测到了2 种等位基因A、B 和C、D, 其中A、C 为群体中优势基因, 其他外显子及5'UTR 没有遗传多态性; 相关性分析表明, 第1 外显子位点AA 型鲜精顶体完整率显著高于AB 型(P = 0.012) , 第8 外显子位点CD 型冻精活力显著高于CC 型和DD 型(P = 0.004) 。初步推断PRLR 为影响种公牛繁殖性状的一个候选基因。
【英文摘要】The exons and 5'UTR polymorphisms of PRLR gene in bulls were detected in this reserch by PCR- SSCP. The result showed that alleles A, B in exon 1 and C, D in exon 8 were detected in this population, among which A and C dominated, and there was no polymorphism in other exons and 5'UTR; The relationship between genetypes and performances was analyzed, and the results ndicated that fresh acintegrity rate of genotype AA was higher than genotype AB in exon 1 and frozen semen energy of genotype CD was much higher than genotypes CC and CD in exon 8. It was initially concluded that PRLR is one of the candidate genes for breeding traits.
【语种】中文
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【题目】牛孕激素受体SNP分析及其与精液品质的关系
【中文关键词】种公牛; 孕激素受体; 精液品质
【英文关键词】bull; progesterone receptor; semen quality
【中文摘要】孕激素受体(PR) 对于正常雌性动物生殖功能的实现具有重要调节作用, 该基因在雄性动物中生物学作用尚不十分清楚。本研究通过PCR-SSCP方法对种公牛群体的PR基因所有外显子及5'UTR多态性进行检测。结果表明: PR基因外显子4、外显子8 及5'UTR均检测到了多态性位点, 其他外显子没有发现遗传多态性; 测序表明外显子4 发生了A20G 突变, 没有导致氨基酸的改变, 外显子8 发生G86T 和A207T 突变,其中G86T 突变导致所编码的G (甘氨酸) 变成V (缬氨酸) , A207T 突变导致所编码的Q (谷氨酰胺) 变成H (组氨酸) , 5'UTR 处存在G-1809A和C-1808G碱基突变。最后用最小二乘分析方法对其基因型和生产性状进行了相关性分析, 第4 及第8外显子的遗传多态性与部分精液品质性状呈显著相关。
【英文摘要】Progesterone receptor (PR) plays critical roles in the female, however, the biological effect of PR in the male is not clear. The exons and 5'UTR polymorphisms of PR gene in bulls were detected in the current project by PCR-SSCP. The result indicated that polymorphisms in exon 4, exon 8 and 5'UTR were detected in this population, there was nopolymorphism in other exons; sequencing result indicated that there was an A20G mutation in exon 4, no amino acid alteration by this mutation. There were two mutations in exon 8, G86T and A207T, and they led to Gly- to-Val and Gln- to-H is substitutions respectively. G-1809A and C-1808G mutations occurred in 5'UTR. The relationship between genetypes and performances was analyzed, the results indicated that genetic polymorphisms of exon 4 and exon 8 significantly correlated with partial sperm quality performances.
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【第一作者】宋永利
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【题目】秦川牛CEBPA 基因遗传变异对体尺和胴体性状的影响
【中文关键词】CEBPA 基因;PCR-RFLP;体尺性状;胴体性状;秦川牛
【英文关键词】CEBPA gene; PCR-RFLP; body measurement traits; carcass traits; Qinchuan cattle
【中文摘要】试验以CCAAT 增强子结合蛋白A(CEBPA)为候选基因,采用直接测序的方法寻找秦川牛CEBPA 基因SNP,筛查到一个新的多态位点T963G,该突变位于基因的编码区。运用PCR- RFLP 方法验证并分析该位点在215 头秦川牛群体中的多态性。结果表明:在秦川牛群体中分布A、B 2 个等位基因,处于中度多态。经过χ2 适合性检验,秦川牛群体在该位点达到Hardy- Weinberg 平衡状态(P > 0.05)。将该T963G 位点的基因型与体尺、胴体性状进行关联分析,表明该位点与胴体重显著相关(P < 0.05),BB 为有利基因型,B 等位基因为有利等位基因,提示该位点有可能作为秦川牛胴体性状标记辅助选择的标记之一。
【英文摘要】CCAAT enhancer binding protein A (CEBPA) gene was studied as a candidate gene for the body measurement and carcass traits of bovine. A new SNP T963G was detected by sequencing at CDS region. Different genotypes were determined in Qinchuan cattle by restriction fragment length polymorphism (RFLP) . The value of polymorphism information content indicated that it was a moderate polymorphism in Qinchuan cattle. The $\chi 2$ test indicated that the polymorphic locus in Qinchuan cattle did fit Hardy-Weinberg equilibrium (P > 0.05). T963G polymorphism ignificantly associated with carcass weight (P < 0.05),genotype BB was a predominant genotype and B was a predominant allele. It is suggested that T963G locus may be one of the marker-assisted selection used as carcass traits in Qinchuan cattle.
【语种】中文

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【题目】Purification of lectin from larvae of the fly, Musca domestica, and in vitro anti- tumor activity in MCF- 7 cells
【中文关键词】家蝇蛹,凝集素,细胞凋亡,抗肿瘤活性
【英文关键词】Musca domestica larvae, Lectin, Apoptosis, Anti-tumor activity
【中文摘要】一种新的家蝇凝集素从家蝇的蛹中提取出来,使用亲和层析和HPLC,38kDa,命名为MLL-2。对MLL-2的抑制MCF-7的增殖进行了研究,发现MLL-2对MCF-7的抑制增殖效果具有时间和剂量效应。AO染色显示MLL-2诱导了MCF-7的凋亡。使用TUNEL测定了MCF-7的DNA碎片。流式细胞术显示MLL-2对MCF-7的抑制有剂量效应,并且出现G2/M阻滞。MLL-2的刺激下,细胞中的游离钙离子有持续性的升高。Western显示,MLL-2诱导细胞凋亡出现许多相关蛋白的变化,通过线粒体途径。与正常细胞相比,MLL-2刺激细胞48h之后,caspase-3的活性明显增高。MLL2-诱导MCF-7细胞凋亡可能主要的通过线粒体通路。
【英文摘要】A new lectin was purified from larvae of the fly, Musca domestica L. (Diptera: Muscidae) (MLL-2, 38 kDa) using affinity chromatography and HPLC. Anti-tumor activity of MLL-2 was demonstrated by its inhibition of proliferation of human breast cancer (MCF-7) cells in a timeand dose-dependent manner. The results of acridine orange staining indicated that MLL-2 caused apoptosis in MCF-7 cells. DNA fragmentation in MCF-7 cells has been detected by TUNEL . Flow cytometric analysis also demonstrated that MLL-2 caused dose-dependent apoptosis of MCF-7 cells through cell arrest at G2/M phase. The MLL-2 induced a sustained increase in concentration of intracellular free calcium. Western blot revealed that MLL-2 induced apoptosis in MCF-7 cells was associated with typical apoptosis proteins in the mitochondrial pathway. In addition, the caspase-3 activity in MCF-7 cells treated with MLL-2 for 48 hours was significantly increased compared to controls (407.4 ± 3.0 vs. 1749.2 ± 6.0, P <0.01). Since MLL-2 induced apoptosis in MCF-7cells the mitochondrial pathway may be the main pathway of antitumor activity.
【语种】英文
【第一作者】曹小红
【通讯作者】曹小红
【期刊名称、卷期、页码】Journal of Insect Science. 2010, 10,164
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【引文索引类型】SCI
【引文索引号】659VS
【学科分类】食品科学技术基础学科

【题目】去乙酰化酶1基因对牛前体脂肪细胞凋亡影响的研究
【中文关键词】去乙酰化酶1(SIRT1),烟酰胺,牛,前体脂肪细胞,凋亡
【英文关键词】SIRT1, nicotinamide, bovine, preadipocytes, apoptosis
【中文摘要】去乙酰化酶1 (sirtuin type 1,SIRTl) 是一个新的脂肪细胞调控因子,通过与其靶基因叉头转录因子1 (the forkhead box O family 1,FoxO1) 相互作用,参与细胞增殖、分化、衰老、凋亡和代谢过程.利用吖啶橙(acridine orange,AO)染色、流式细胞仪、荧光定量PCR (quantitative real-time PCR,qPCR) 等技术方法,研究SIRT1 的抑制剂—— 烟酸胺(nicotinamide,NAM) 处理后对鲁西黄牛皮下前体脂肪细胞(bovine subcutaneous preadipocytes,BSP) 和肌内前体脂肪细胞(bovine intramuscular preadipocytes,BIP) 凋亡的影响.观察了BSP 和BIP 的凋亡形态;比较了SIRT1 基因抑制后,相关基因如FoxO1 等在两种细胞之间的表达差异.结果表明,NAM 对BSP 和BIP 细胞表现出相同的生长抑制作用,处理组的BSP 和BIP细胞的凋亡率均显著高于对照组,其作用可能通过抑制SIRT1,激活FoxO1 凋亡通路实现.SIRT1 及其相关基因对BSP和BIP 的调控存在不同途径.
【英文摘要】Sirtuin type 1 (SIRTl), a novel regulatory factor of adipocyte and myocyte, interacts with target the forkhead box O family 1 (FoxOl) to modulate cell proliferation and differentiation, aging, apotosis and metabolism. The effect of nicotinamide (NAM, inhibitor of SIRT1) on the apoptosis of bovine preadipocytes was investigated with Acridine Orange (AO) staining, the flow cytometry detection and quantitative real-time PCR (qPCR). The results showed that NAM inhibited the differentiation of bovine subcutaneous

preadipocytes (BSP) and bovine intramuscular preadipocytes (BIP), and their apoptosis rates were higher than control. SIRT1 influenced the apoptosis of bovine preadipocytes by regulating FoxO1 and adipocyte marker genes. The different mechanisms of SIRT1 and its related genes exist in BSP and BIP.
【语种】中文
【第一作者】刘晓牧
【通讯作者】万发春
【期刊名称、卷期、页码】生物化学与生物物理进展,2010,37(3): 297-303
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【引文索引类型】其他
【引文索引号】null
【学科分类】畜牧、兽医科学基础学科

【题目】油菜秸秆还田及肥料运筹对水稻生长的影响
【中文关键词】秸秆还田;肥料运筹;水稻产量
【英文关键词】Strawchopping andreturning to field; Fertilizermanagement; Riceyiel
【中文摘要】[目的] 研究油菜秸秆的不同用量与NPK肥料运筹对水稻产量及土壤肥力的影响。[方法] 采用完全随机区组设计,分别于2007和2008年在肥东和居巢进行试验。[结果] 在肥东试验中,与未施秸秆相比,秸秆还田水稻的有效穗数、结实率、千粒重和产量分别提高0. 3%、0. 3%、1. 9%和0. 7%;秸秆还田并减少磷、钾肥施用量25%水稻的有效穗数、实粒数、千粒重和产量分别下降2. 8%、1. 4%、0. 7%和3. 8%;秸秆还田并增加氮肥施用量使水稻增产3. 7%。在居巢试验中,与未施秸秆相比,秸秆还田水稻的有效穗数和成穗率下降0. 9%~2. 4%和1. 1%~1. 2%,实粒数和千粒重增加0. 6%~2. 9%和1. 0%~1. 7%; 秸秆还田并减少磷、钾肥施用量25%的水稻有效穗数和实粒数增加2. 1%~2. 8%和2. 5%~2. 8%,千粒重减少0. 7%~1. 0%。[结论] 适当减少磷、钾肥用量不会使油菜秸秆还田水稻显著减产。
【英文摘要】[Objective] Thepurposewastoresearchthe influencesofdifferentdosagesof rapestrawandmanagementofNPKfertilizer on rice yieldandsoilfertility. [Method] Thecompletely randomizedblockdesignwasusedtoperformexpermi entsinFeidong in2007andinJuchaoin2008. [Result] Inthe expermi entperformedinFeidong, comparedwithnon-applying straw, theavailablespikes, fruitingrate, 1000-seedweight andyieldof ricewithstrawchopping andreturning to fieldwere enhancedby0. 3%, 0. 3%, 1. 9%and0. 7%resp., the availablespikes, fullgrains, 1000-seedweight andyieldofricewithstrawchopping andreturning to fieldandreducing theapplicationamount ofphos-phorousandpotassiumfertilizersby 25%were decreasedby2. 8%, 1. 4%, 0. 7%and3. 8%resp. andthe combinationof strawchoppingandreturning to fieldandincreasing theapplicationamountofnitrogenfertilizer increasedrice yieldby3. 7%. Intheexpermi entperformedinJuchao, comparedwithnon-applying straw, the available spikesandspike rate of ricewithstrawchopping andreturning to fieldwere de-creasedby 0. 9%-2. 4%and1. 1%-1. 2%andtheir full grains and1000-seedweightswere increasedby0. 6%-2. 9%and1. 0%-117%; the available spikesandfullgrainsof ricewithstrawchoppingandreturning to fieldandreducing theapplicationamountof phosphor-ousandpotassiumfertilizersby25%were increasedby2. 1%-2. 8%and2. 5%-2. 8%andtheir 1000-seedweightswere decreasedby0. 7%-1. 0%. [Conclusion] The suitabledecrementof the applicationamount ofphosphorousandpotassiumfertilizerswouldnot leadto thesignificantyielddecrement of ricewithstrawchopping andreturning to field
【语种】中文
【第一作者】王允青
【通讯作者】王允青
【期刊名称、卷期、页码】安徽农业科学2009.37(11):4923-4924
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【引文索引号】null
【学科分类】农业基础学科

【题目】Musca domesticapupae lectin induces apoptosis in HepG2 cells through a NF-B/p65-mediated caspase pathway
【中文关键词】家蝇凝集素,NF-kB/p65,HepG2,FLIP,细胞凋亡,caspase
【英文关键词】Musca domestica pupae lectin, NF- B/p65,HepG2, FLIP, apoptosis, caspase
【中文摘要】一个新的家蝇凝集素(42kDa)抑制肿瘤细胞的增殖。本文中,流式细胞术显示MPL能够明显的抑制HepG2细胞的凋亡并且出现了S期阻滞。MPL抑制了IkB-α的降解和NF-kB/p65的入核。同时,FLIP,NF-kB的基因靶点出现下调,然后caspase-8和caspase-3出现活化,来诱导细胞凋亡。结果显示,MPL诱导caspase依赖的细胞凋亡通过NF-kB/p65途径在HepG2细

胞中。
【英文摘要】A new lectin (42 kDa) from Musca domestica pupae (MPL) has been known to inhibit proliferation in tumor cells. In this study, flow cytometry analysis showed that MPL induced HepG2 cells apoptosis significantly and the cells were arrested at S phase. MPL inhibited I_B-_ degradation and NF- _B/p65 translocation from cytoplasm into nucleus. Simultaneously, the expressions of FLIP, which is a target gene of NF-_B/p65 were down-regulated and the caspase-8 and caspase-3 were then activated to induce apoptosis. Taken together, these results showed that MPL induced a caspase-dependent apoptosis via NF- _B/p65 pathway in HepG2 cells.
【语种】英文
【第一作者】聂建增
【通讯作者】曹小红
【期刊名称、卷期、页码】Bulletin du Cancer. 2012.99(4):49-54
【论文发表时间】2012-02-21 00:00:00
【引文索引类型】SCI
【引文索引号】null
【学科分类】食品科学技术基础学科

【题目】保护性耕作和施用控释肥对小麦生长及产量的影响
【中文关键词】保护性耕作; 控释肥; 小麦; 农艺性状; 产量
【英文关键词】Conservation tillage; Controlled-releasefertilizers; Wheat; Agronomiccharacter; Yield
【中文摘要】研究了保护性耕作及施用控释肥对小麦生长和产量的影响。结果表明: 同在保护性耕作条件下, 施用较好的控释肥料能提高小麦产量913%~1216%。在肥力水平较高的居巢区, 免耕控释肥处理与平衡施肥翻耕处理小麦产量差异不明显。
【英文摘要】Abstract: Theeffects of conservation tillageand applicationof controlled-release fertilizers on thegrowth andyieldofwheatwerestudied1Theresults showedthat thewheat yieldcouldbeincreasedby913%-1216%throughapplingbettercontrolled-releasefertilizers under the same condition of conservation tillage1Therewas not significant difference in theyieldbetweenthetreatmentsof no-tillagewithcontrolled-releasefertilizersandplowingwithbalancedfertilizationinJuchaoDistrict inwhich thefertility levelwas higher1
【语种】中文
【第一作者】王允青
【通讯作者】王允青
【期刊名称、卷期、页码】河北农业科学2009.13(3):51-52
【论文发表时间】2009-03-10 00:00:00
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【引文索引号】null
【学科分类】农业基础学科

【题目】化肥控失技术创新及其应用
【中文关键词】控失剂;新型缓释肥料
【英文关键词】Loss control agent; slow-release fertilizer.
【中文摘要】研究表明:这种控失剂可以全面控制养分流失, 沙柱淋溶试验表明:氮化铁,尿素控失率分别为40.2%和31 .3% ,磷酸二氢铁控失率337% , 氮化钾控失率81 .4% ;氮磷钾三元复合肥中奴麟钾的控失率分别为57, 3% !74 .6% 和73.8% "单质化肥和复混肥中添加控失剂均有一致的趋势, 其中控失剂的钾肥的控失效果更加明显"2006~2008 年试验示范研究表明,控失型化肥可以提高氮素利用率6%一13 % , 增加产t 10 % 以上, 等养分成本增加3% 一5% , 是一种可以用于大田作物的新型缓释肥料。
【英文摘要】Research shows that: the loss control agent can fully control the nutrient loss, leaching test showed: iron nitride! Urea loss control rates were 40.2% and 31.3%, phosphoric acid two hydrogen iron loss control rate 337%, potassium nitride loss control rate of 81.4%; three yuan of nitrogen phosphorus and potassium in compound fertilizer Loss-control slave Lin K respectively 57, 3%! 74.6% and 73.8% " Elemental fertilizer and compound fertilizer lose control agent are added in the same trend, in which the loss control agent of potash fertilizer Loss-control effect more pronounced " 2006~2008 years of experiment and demonstration study on the show, controlled-release fertilizer can improve the utilization rate of nitrogen of 6% a 13% increase in production of 10% above, t, etc. nutrient costs increased by 3% to 5%, is a can be used for field crop of new slow release fertilizer.

【语种】中文
【第一作者】吴跃进
【通讯作者】吴跃进
【期刊名称、卷期、页码】科苑产学研 6 ,2009.24(4):106-108
【论文发表时间】2009-06-06 00:00:00
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【引文索引号】null
【学科分类】农业基础学科

【题目】基因枪法建立紫菜丝状体遗传转化模式
【中文关键词】张喆 姜鹏 杨锐 费修绠 唐学玺 秦松
【英文关键词】Porphyra concocelis particle delivery system lacZ reporter gene SV40 promoter
【中文摘要】以坛紫菜和条斑紫菜的自由丝状体为材料,利用基因枪法分别转化CaMV35S、SV40、FCP、Amt、Ubi5种启动子与报告基因组合,转化后48h进行原位组织化学染色检测,首次针对重要经济红藻紫菜的自由丝状体建立并优化遗传转化技术,为紫菜研究提供了新工具。结果显示,SV40启动子可以驱动laeZ报告基因(编码B一半乳糖苷酶)在紫菜丝状体中的瞬间表达,空白与阴性对照未检测到本底;其它4种启动子未检测到基因表达。进一步优化实验发现,在可裂膜650psi、轰击距离6cm下获得最高转化效率为8.0×10^-5,经定量检测与双因子方差分析,是最佳转化参数,提示基因枪参数对外源基因转化效率具显著影响。
【英文摘要】Using a biolistic PDS 1000/He system, free-living conchocelis of Porphyra haitanensis (Rhodophyta) and P. yezoensis are bombarded respectively to test five heterologous promoter-reporter gene cassettes under different biolistic parameters. According to the results of in situ histochemical staining 48 hours after transformation, this is the first report on optimization of Porphyra concocelis-mediated transformation. The established transient expression technique could serve as a new tool for Porphyra research in the concocelis stage, and be ready to set up a stable expression system. It is showed that only the SV40 promoter could drive the transient expression of lacZ reporter gene without background in either blank control or negative control, whereas CaMV35S, FCP, Amt and Ubi promoters all failed to be recognized effectively by Porphyra concocelis. The highest transformation efficiency of SV40-lacZ is obtained as 8.0×10^-5, suggesting that 650 psi rupture-disc pressure and 6cm of bombardment distance are optimal biolistic parameters for Porphyra concocelis, and it is also proved by quantitative determination to lacZ expression.[
【语种】中文
【第一作者】张喆
【通讯作者】秦松
【期刊名称、卷期、页码】高技术通讯,2010 2:204-07.
【论文发表时间】2010-02-01 00:00:00
【引文索引类型】EI
【引文索引号】2417130651
【学科分类】海洋科学

【题目】除草剂草丁膦抗性基因bar作为三角褐指藻基因工程选择标记的研究.
【中文关键词】卞曙光 姜鹏 崔玉琳 刘兆普 秦松
【英文关键词】Phaeodactylum tricornutum; phosphinothricin; bar gene; selective marker;
【中文摘要】研究了三角褐指藻(Phaeodactylum tricornutum)对氯霉素、卡那霉素、青霉素、链霉素、潮霉素5种抗生素和一种除草剂草丁膦的敏感性,发现三角褐指藻对草丁膦非常敏感,用统计学分析法得出了其72h半致死质量浓度为22mg/L。通过基因枪法将携带草丁膦抗性基因bar的载体pSVB导入三角褐指藻细胞中,通过草丁膦筛选成功获得了抗性藻细胞,PCR检测获得阳性结果,提示草丁膦更适合用于构建安全、高效、廉价的三角褐指藻表达系统。 更多还原
【英文摘要】Zeocin, a routine selective reagent in diatom genetic engineering, is not suitable for the construction of expression system of diatoms, due to its photosensitivity and mutagenicity. In order to find a suitable selective reagent for photobioreactor-based culture of transformed Phaeodactylum tricornutum. The sensitivity of P. tricornutum to five antibiotics (Chloramphenicol, Kanamycin, Penicillin, Streptomycin, and Hygromycin) and phosphi-nothricin (PPT) was tested. The results showed that P. tricornutum was sensitive to PPT, with a 72-h half death concentration of 22 mg/L. The expression vector pSVB, which contained PPT-resistant gene bar, was transformed into P. tricornutum cells by particle bombardment; and the resistant P. tricornutum was selected by PPT screening. It was perimentally confirmed that the transformed P. tricornutum was resistent to PPT. This research indicates that

phosphinothrin is suitable for constructing a safe, efficient, low cost expression system of P. tricornutum
【语种】中文
【第一作者】卞曙光
【通讯作者】秦松
【期刊名称、卷期、页码】海洋科学,2010. 34(5): 62-66, 78.
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【引文索引类型】其他
【引文索引号】2417130651
【学科分类】海洋科学

【题目】PCR-suppression effect: Kinetics analysis and application to representative or long-molecule biased PCR-based amplification of complex samples.
【中文关键词】Dai Zhong-Min,Zhu Xiao-Jing,Yang Wei-Jun
【英文关键词】PCR-suppression effect; annealing temperature; complex PCR; representation; full-length cDNA
【中文摘要】In the present study, we analyzed the kinetics of the PCR-suppression effect (PS-effect) and firstly demonstrate that lower annealing temperature enhances PS-effect. Furthermore, we controlled the average size of complex PCR products over a wide range, and simultaneously amplified targets from 0.25 to 10 kb by regulating the degree of suppression in a single-primer PCR. In addition, we describe an improved template-switching full-length cDNA synthesis method that greatly reduces truncated cDNA. This study provides a general guide for the design of PS-effect related PCR and is useful for representative or long-transcript enriched cDNA library construction, especially when only a small amount of total RNA is available. (c) 2006 Published by Elsevier B.V.
【英文摘要】In the present study, we analyzed the kinetics of the PCR-suppression effect (PS-effect) and firstly demonstrate that lower annealing temperature enhances PS-effect. Furthermore, we controlled the average size of complex PCR products over a wide range, and simultaneously amplified targets from 0.25 to 10 kb by regulating the degree of suppression in a single-primer PCR. In addition, we describe an improved template-switching full-length cDNA synthesis method that greatly reduces truncated cDNA. This study provides a general guide for the design of PS-effect related PCR and is useful for representative or long-transcript enriched cDNA library construction, especially when only a small amount of total RNA is available. (c) 2006 Published by Elsevier B.V.
【语种】英文
【第一作者】Dai Zhong-Min
【通讯作者】杨卫军
【期刊名称、卷期、页码】Journal of Biotechonlogy, 2007, 128: 435-433.
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【引文索引类型】SCI
【引文索引号】2.444044e+011
【学科分类】海洋科学

【题目】A male reproduction-related kazal-type peptidase inhibitor gene in the prawn, Macrobrachium rosenbergii: molecular characteriza- tion and expression patterns.
【中文关键词】Cao Jun-Xia,Dai Jie-Qiong,Dai Zhong-Min,Yin Guo-Li,Yang Wei-Jun
【英文关键词】Crustacean; male development; male reproductive tract; male-specific
【中文摘要】Peptidase inhibitors in the male reproductive tract are well known in mammals, in which they play roles in protecting the tract epithelium against proteolytic damage or in regulating the fertilization process. By screening the subtracted cDNA clones enriched for male reproductive tract-specific transcripts, one clone encoding a putative protein that showed significant similarity to Kazal-type peptidase inhibitor (KPI) was obtained. This is the first report of an invertebrate in which a male reproductive tract-specific KPI gene has been identified and characterized. The gene contains a 405-bp open reading frame (ORF), a 72 bp 5' untranslated region (UTR), and a 259 bp 3' UTR. The conceptually translated protein consisted of a 21-amino-acid signal peptide and a 113-amino-acid mature polypeptide with two Kazal-type domains (named after the discoverer). Significant levels of the mRNA were observed only in the male reproductive tract, while mRNA expression was not detected in any other tissues tested. The transcription of the gene remained constant during maturation, although not in the postlarval stage. In situ hybridization demonstrated the presence of the mRNA in the secretory epithelial cells of vas deferens and terminal ampullae.

【英文摘要】Peptidase inhibitors in the male reproductive tract are well known in mammals, in which they play roles in protecting the tract epithelium against proteolytic damage or in regulating the fertilization process. By screening the subtracted cDNA clones enriched for male reproductive tract-specific transcripts, one clone encoding a putative protein that showed significant similarity to Kazal-type peptidase inhibitor (KPI) was obtained. This is the first report of an invertebrate in which a male reproductive tract-specific KPI gene has been identified and characterized. The gene contains a 405-bp open reading frame (ORF), a 72 bp 5' untranslated region (UTR), and a 259 bp 3' UTR. The conceptually translated protein consisted of a 21-amino-acid signal peptide and a 113-amino-acid mature polypeptide with two Kazal-type domains (named after the discoverer). Significant levels of the mRNA were observed only in the male reproductive tract, while mRNA expression was not detected in any other tissues tested. The transcription of the gene remained constant during maturation, although not in the postlarval stage. In situ hybridization demonstrated the presence of the mRNA in the secretory epithelial cells of vas deferens and terminal ampullae.
【语种】英文
【第一作者】Cao Jun-Xia
【通讯作者】杨卫军
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【学科分类】海洋科学

【题目】DNA methyltransferase 2 gene in the prawn Macrobrachium rosenbergii: characteristics and expression patterns during ovary and embryo development.
【中文关键词】Feng Chen-Zhuo, Ding Xia, Li Ye, Chen S, Yang Fan, Yang Wei-Jun
【英文关键词】Dnmt2; DNA methylation; ovary; development; Macrobrachium rosenbergii
【中文摘要】DNA methylation plays important roles in eukaryotic development. However, studies of DNA methylation in Crustacea are very limited. In the present study, we isolated and identified a DNA methyltransferase 2 (Mar-Dnmt2) gene from the prawn Macrobrachium rosenbergii. The cDNA of Mar-Dnmt2 contained an 1,191-bp open reading frame that encoded a putative Dnmt2 protein of 396 amino acids with the ten motifs characteristic of DNA methyltransferases and exhibiting high identities with other known Dnmt2 homologs (30%-42%). By real-time PCR, an especially high level of Mar-Dnmt2 mRNA was found in the ovary, approximately 5-16 times higher than in other tissues. Moreover, Mar-Dnmt2 mRNA obviously decreased during embryonic development. On the other hand, DNA methylation was detected in this study; about 0.05% of cytosine residues were found to be methylated in the DNA of M. rosenbergii.
【英文摘要】DNA methylation plays important roles in eukaryotic development. However, studies of DNA methylation in Crustacea are very limited. In the present study, we isolated and identified a DNA methyltransferase 2 (Mar-Dnmt2) gene from the prawn Macrobrachium rosenbergii. The cDNA of Mar-Dnmt2 contained an 1,191-bp open reading frame that encoded a putative Dnmt2 protein of 396 amino acids with the ten motifs characteristic of DNA methyltransferases and exhibiting high identities with other known Dnmt2 homologs (30%-42%). By real-time PCR, an especially high level of Mar-Dnmt2 mRNA was found in the ovary, approximately 5-16 times higher than in other tissues. Moreover, Mar-Dnmt2 mRNA obviously decreased during embryonic development. On the other hand, DNA methylation was detected in this study; about 0.05% of cytosine residues were found to be methylated in the DNA of M. rosenbergii.
【语种】英文
【第一作者】Feng Chen-Zhuo
【通讯作者】杨卫军
【期刊名称、卷期、页码】Zoological Science, 2007, 24(11): 1059-1065.
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【学科分类】海洋科学

【题目】二维亲和电泳技术在玉米淀粉结合蛋白复合物分离中的应用

【中文关键词】二维亲和电泳技术 淀粉结合蛋白复合物 淀粉代谢没
【英文关键词】无
【中文摘要】最近的研究表明玉米淀粉代谢过程中,多个淀粉代谢酶类与其他蛋白能够在玉米胚乳发育中形成蛋白复合物继而发挥相应功能。本研究中我们将二维亲和电泳技术、酶谱分析技术以及液相色谱-质谱串联技术有效结合,建立了一套新的分离与鉴定淀粉结合蛋白(蛋白复合物)的研究体系,并利用该套研究体系对发育中的玉米胚乳进行了调查性研究。2-DAE研究中首先提取了总玉米胚乳蛋白粗提物,进行一维的非失活电泳分离。然后,将一维凝胶胶条水平转移到含有支链淀粉亲和底物的非失活的二维亲和电泳凝胶上呈现出明显的偏离对角线涌动迁移。而其他不与淀粉结合的蛋白质由于与淀粉代谢酶类相结合,在凝胶中叶城县涌动滞后的现象,并且与淀粉代谢酶一起存在相同的滞后点或条带中。我们的研究共发现8个明显电泳迁移滞后的蛋白点和一个蛋白条带。LC-MS/ms质谱鉴定结果表明其中6个蛋白点和仅有的一个蛋白条带为含有淀粉代谢酶的淀粉结合蛋白复合物。文献检索发现其中部分蛋白复合物为已报道蛋白复合物,表明二维亲和电泳分离技术结合LC-MS/MS的研究体系能够有效的分离并鉴定淀粉结合蛋白复合物。此外一些新的蛋白呗发现包含在可能的新淀粉结合蛋白复合物中,包括蔗糖代谢糖酵解、木质素合成、萜类合成、氨基酸合成等多种代谢关键调控酶类,预示着这些蛋白复合物在玉米胚乳发育过程中很可能发挥非常重要的作用。
【英文摘要】无
【语种】中文
【第一作者】刘相国
【通讯作者】郝东云
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【题目】控失型复合肥肥效试验
【中文关键词】控失型复合肥;玉米;小麦;水稻;肥效试验
【英文关键词】Controlled-release compound fertilizer; corn; wheat; rice; fertilizer effect experiment
【中文摘要】为研究控失型复合肥在安徽主要农作物上的肥效,在玉米 小麦 水稻上进行了田间试验, 结果表明:施用控失型复合肥与普通复合肥比较,玉米 小麦 水稻分别增产13.5%、13.6%、和16.8% ;施用控失型复合肥的壤碱解氮 、速效磷 、有机质均比施用其他试验肥料有所增加 控失型复合肥省工 增效 环保,值得推广应用。
【英文摘要】For the study of controlled-release compound fertilizer in Anhui on the main crops fertilizer, in wheat rice corn was carried out on the field experiment, results show that: application of controlled-release compound fertilizer and compound fertilizer, wheat rice corn were increased by 13.5%, 13.6%, and 16.8%; application of controlled-release compound fertilizer soil available nitrogen, available phosphorus, organic matter were compared with other test fertilizer increased controlled-release compound fertilizer and labor efficiency and environmental protection, it is worthy of popularization and application.
【语种】中文
【第一作者】束维正
【通讯作者】束维正
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【学科分类】农业基础学科

【题目】控失肥在沿江棉区施用的肥效和经济效益
【中文关键词】棉花;控失肥; 试验;示范
【英文关键词】Cotton; loss control fertilizer; test; demonstration
【中文摘要】摘 要: 在棉花上开展新型控失肥的肥效研究及经济效益分析, 结果表明: 分次施肥较一次施肥棉花产量有所增加,其中控失化肥(352kg/667平方米)较等养分的普通复合肥(338kg/667平方米)和习惯施肥(316kg/667平方米)分别增产4.11%和11.14%;控失化肥一次性基施(336kg/667平方米)产量较等养分的普通复合肥相当, 较习惯施肥增产6.13%。大田示范的趋势基本一致; 用肥、用工和产值综合经济效益分析显示, 使用控失化肥较普通化肥经济效益有所增加。本试验为控

失肥在沿江棉区棉花的应用和推广提供重要依据。
【英文摘要】Abstract: in cotton launched a new type of controlled-release fertilizer on growth and yield and economic benefit analysis, the results show that: fertilization is a fertilizing cotton yield increased, the controlled-release fertilizer (352kg/667 m2) more nutrient compound fertilizer (338kg/667 m2) and conventional fertilization (316kg/667 m2) respectively the yield increased by 4.11% and 11.14%; loss control fertilizer once base fertilizer (336kg/667 square meters) to yield a more nutrient compound fertilizer is a habit, yield increase of 6.13%. Field demonstration, the tendency is consistent; fertilizer use, labor and value analysis of comprehensive economic benefit show, the use of controlled-release fertilizer than ordinary fertilizer economic increase. The test for loss control fertilizer on the cotton in the application and promotion to provide important basis.
【语种】中文
【第一作者】欧百胜
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【题目】镁碱替代钠碱对杨木P-RC APMP 制浆废液的影响
【中文关键词】三倍体毛白杨;P-RC APMP;H2O2漂白;MgO;废液
【英文关键词】triploid poplar; P-RC APMP; H2O2 bleaching; effluent
【中文摘要】杨木P-RCAPMP制浆过程中,在二段化学预浸渍段和高浓停留段,采用不同量的MgO替代NaOH。结果表明,当二段化学预浸渍段和高浓停留段MgO替代NaOH的比例分别为25%和50%时,高浓停留段废液的CODCr、阳离子需求量和电导率比没有Mgo替代时分别降低r26.5%、30.3%和54.5%。
【英文摘要】During the hydrogen peroxide bleaching of Triploid Poplar P-RC APMP, different amounts of magnesium oxide were substituted for sodium hydroxide in the second impregnation stage and the high-consistency retention stage. The results showed that as the substitution ratios are 25% and 50% in the second impregnation stage and the high-consistency retention stage respectively, CODCr, cationic ions requirement and conductivity of the effluent from the high-consistency retention stage will reach to 758 mg/L, 0.492 mmol/L and 446 μS/cm and reduce 26.5%, 30.3% and 54.5% respectively compared to those without any magnesium oxide in both stages
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【第一作者】侯庆喜
【通讯作者】侯庆喜
【期刊名称、卷期、页码】中国造纸
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【学科分类】造纸技术

【题目】杨木CTMP及其碱性H2O2漂白浆中溶出的DCS的特性分析
【中文关键词】杨木;CTMP;溶解与胶体物质
【英文关键词】poplar; CTMP; dissolved and colloidal substances; characteristic
【中文摘要】采用多种分析手段对杨木CTMP及其碱性H2O2漂白后浆水体系中的溶解与胶体物质的特性进行了分析。结果表明,两种浆中的DS分别占各自DCS的80%和95.7%。DS的阳离子需求量分别占各自DCS阳离子需求量的84%和87%,而且BCTMP的DCS阳离子需求量约为CTMP的4.4倍。CTMP经碱性H202漂白后,有更多的木素溶出,BCTMP的DS中木素含量占其DCS中木素的87%。杨木CTMP的DCS中碳水化合物主要含有木糖、葡萄糖和半乳糖醛酸;碱性H2O2漂白导致较多的葡萄糖醛酸和甘露糖的溶出。DCS的MTBE抽出物中主要含有各种脂肪酸。[
【英文摘要】The characteristics of dissolved and colloidal substances released from Poplar CTMP and BCTMP were analyzed using different methods. The results showed that the contents of DS(dissolved substances) from CTMP and BCTMP account for about 80% and 95.7% of their DCS respectively. The cationic demands of DS account for about 84% and 87% of DCS respectively, and the cationic demand of BCT- MP DCS is 4.4 times higher than that of CTMP. The alkaline hydrogen peroxide bleaching leads to the

release of more dissolved lignin, glu- curonic acids and mannans. The extractives of DCS with methyl tert butyl ester (MTBE) mainly consist of different fatty acids.[

【语种】中文
【第一作者】苗庆显
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【期刊名称、卷期、页码】中国造纸学报
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【题目】Partially Substituting MgO for NaOH as the Alkali Source in the Second-stage Impregnation of Triploid Poplar P-RC APMP
【中文关键词】氢氧化镁,过氧化氢,机械浆,阔叶木
【英文关键词】MAGNESIUM-HYDROXIDE MG(OH)(2); HYDROGEN-PEROXIDE; MECHANICAL PULPS; HARDWOODS
【中文摘要】在传统的温和的化学预处理加盘磨化学处理的碱性过氧化氢机械制浆(P-RC APMP)中,NaOH被用作为漂白碱源。本文中MgO部分替代NaOH(替代率至50%)作为杨木P-RC APMP二段预浸渍的碱源,研究了预处理后漂白残液的pH、木片的得率及其化学组成、相应的成浆物理性能等的变化。研究结果表明:MgO部分替代NaOH后,导致漂白残液的pH降低,木片得率提高。此外,苯醇抽出物、木素、戊聚糖以及碳水化合物的溶出量均降低,所得的P-RC APMP具有较高的松厚度、不透明度和光散射系数,但是浆张强度和白度有所下降。
【英文摘要】In the conventional preconditioning followed by refiner chemical treatment, alkaline peroxide mechanicalpulping (P-RC APMP) process, sodium hydroxide (NaOH) is used as the alkali source. In this study, magnesiumoxide (MgO) was used to partially substitute for NaOH as the alkali source (substitution ratio of up to 50%)in the second-stage impregnation of the triploid poplar P-RC APMP process. The changes in pH values ofthe residual bleaching liquor, yields, and chemical components of the treated wood chips in the second-stageimpregnation and also the physical properties of the resultant P-RC APMP pulps with and without MgOsubstitution were investigated to explore the potential advantages of the process. The results showed that thepartial MgO substitution for NaOH resulted in a lower pH of residual bleaching liquor and a higher treatedwood chips yield than those of the NaOH-based process. In addition, the dissolution of benzene alcoholextractives, lignin, pentosans, and carbohydrates were all decreased. The resultantly yielded P-RC APMPpulp has a higher bulk, opacity, and light-scattering coefficient, but lower strength properties and a slightlylower brightness.
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【第一作者】侯庆喜
【通讯作者】侯庆喜
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【学科分类】造纸技术

【题目】杨木APMP制浆废液的污染特性
【中文关键词】杨木;APMP;制浆废液;超滤;GC—MS
【英文关键词】polar; APMP; pulping effluent; ultrafiltration; GC-MS
【中文摘要】高得率制浆废液具有组成比较复杂,色度高,化学需氧量高等特点.采用超滤分级方法初步考察杨木APMP制浆废液中污染物质的相对分子质量分布,并且采用GC—MS联用仪研究了废液中小分子有机污染物的组成.结果表明:相对分子质量较大的污染物是废液色度的主要来源,实际应用中,超滤技术可以有效地去除这些大分子发色物质:GC—MS检测到废液中的小分子有机污染物主要是脂肪酸类物质,约占检测物质的57.13%,树脂酸的含量很少.
【英文摘要】The high yield pulping effluent is composed of more complex, high color, high chemical oxygen demand. The molecular weight distribution of contamination of APMP pulping effluent was discussed through using ultrafiltration classification,and the composition of small-sized organic pollutants was also studied by using GC-MS. The results showed that larger molecular weight of pollutants in the effluent were the main source of color, in practical application, ultrafiltration can be an effectively method to remove

these colored pollutants. The small-sized organic pollutants which detected by GC-MS were mainly contained fatty acids, accounting for about 57.13 %, but only few resin acid.
【语种】中文
【第一作者】左昕
【通讯作者】李群
【期刊名称、卷期、页码】天津科技大学学报
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【学科分类】造纸技术

【题目】Improving flocculation effect in pre-treating high yield pulping effluents of cotton staff by using active sludge
【中文关键词】活性污泥;絮凝处理;高得率浆废液;棉秆
【英文关键词】active sludge; flocculation; high yield pulping effluent; cotton stalk.
【中文摘要】The flocculation effects of active sludge on pulping effluents of cotton stalk were studied in this paper. Subsequently, the semi-chemical pulping effluent of cotton stalk was treated by alum and cationic polyacrylamide. The results showed that the reduction rate of COD reached 82.4% through the optimization of the flocculant dosage, reaction time, reaction temperature and reaction pH. The improving flocculation effect of active sludge is remarkable.
【英文摘要】The flocculation effects of active sludge on pulping effluents of cotton stalk were studied in this paper. Subsequently, the semi-chemical pulping effluent of cotton stalk was treated by alum and cationic polyacrylamide. The results showed that the reduction rate of COD reached 82.4% through the optimization of the flocculant dosage, reaction time, reaction temperature and reaction pH. The improving flocculation effect of active sludge is remarkable.
【语种】英文
【第一作者】刘廷志
【通讯作者】刘廷志
【期刊名称、卷期、页码】2nd IPEC
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【题目】用活性污泥吸附助凝处理棉秆半化学浆废液
【中文关键词】活性污泥;絮凝处理;制浆废液;棉秆
【英文关键词】active sludge; flocculation; pulping effluent; cotton stalk
【中文摘要】用硫酸铝钾和阳离子聚丙烯酰胺对棉秆半化学浆制浆废液进行混凝处理实验,利用生物活性污泥对有机污染物的吸附作用,将好氧生物剩余活性污泥加入到棉秆半化学浆制浆废液中,可有效提高制浆废水的絮凝处理效果。对生物污泥的加入量、吸附反应时间、反应温度、反应pH值等影响因素进行了研究和优化。结果显示,COOCr去除率达到了82.5%,比不加生物污泥提高了约18个百分点,助凝效果显著。
【英文摘要】Using active sludge to enhance the flocculation effect was studied when the effluents from cotton stalk semi-chemical pulping was treated by KAI(SO4)2 and cationic polyacrylamide. Under the condition of active sludge dosage of 0.2%, retention time 30 min, pH 8.7, temperature at 35°C, stirring speed of 150 rpm, KAl(SO4)2 · 12H2O dosage of 150 mg/L, PAM 10 mg/L, the COD and SS removal rates approached to 82.5% and 96.7% respectively. The active sludge shows remarkable effect on improving flocculation.
【语种】中文
【第一作者】刘廷志
【通讯作者】刘廷志
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【学科分类】造纸技术

【题目】Adsorbent & Treatment for High Yield Pulp Effluents of Cotton Staff by Coke
【中文关键词】吸附处理;高得率浆;制浆废液;焦渣
【英文关键词】Adsorption; High Yield Pulp; Effluent ; Coke
【中文摘要】文章研究了双螺旋高得率制浆高浓废水的处理一种新的工艺,采用焦渣对废水进行吸附和絮凝处理,通过焦渣吸附絮凝处理后,再经过板框过滤,废液的COD和SS去除率可分别达到74.1%和98.9%,并且处理后的污泥脱水效率大大提高,固含量可达到32.68%,可直接用于锅炉进行燃烧处理。
【英文摘要】Twin-screw extruder(TSE) was used to produce high yield pulp by using cotton stalk as the raw material. The pollution loading of CODcr of the High Yield Pulp(HYP) effluents was 128450 mg/L, SS was 21670 mg/L, and the liquor was sticky. Treatment of the effluent by flocculation and precipitation process was very difficult, because the floc was too much to apart from the liquor. Clastic coke was used as filter aids & adsorbent to treat the liquor, while organic flocculant PAM and inorganic flocculant PFAS were used in flocculation treatment. Plate and frame filter was applied in separation of sludge from the treated liquor. Under the optimum experimental conditions, the reduction rate of COD is 74.1%, and the reduction rate of SS was 98.9%, the solid content of sludge increase to 32.68%. The improving flocculation effect of coke is remarkable. The treated Supernatant was recycled and reused in pulping preimpregnation, and the sludge which comprise of coke, fine fiber and SS was incineration treated in boiler. The treatment process will promote the popularization and application of high yield pulp of the cotton staff.
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【第一作者】刘廷志
【通讯作者】刘廷志
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【题目】Adsorption and Coagulation Tertiary Treatment of Pulp & Paper Mills wastewater
【中文关键词】PASiC; 吸附絮凝; 制浆造纸废水
【英文关键词】PASiC; Adsorption and coagulation; Wastewater; pulp and paper
【中文摘要】文章采用膨润土和聚硅氯化铝对制浆造纸废水进行吸附絮凝处理,在膨润土和聚硅氯化铝用量分别为400 mg/l and 450 mg/l,吸附温度30度、吸附时间30分钟,搅拌转速300rpm条件下,吸附絮凝处理COD和色度去除率分别为60.87%和41.33%,处理效果显著。
【英文摘要】The pulp & paper industry generates a considerable amount of wastewater in its manufacturing processes. Currently, the pulp and paper industry is facing more stringent standards for discharges of wastewater and associated permits. Biological processes such as activated sludge and aerated lagoons are conventionally used to treat pulp mill effluents. However, these processes have limited ability to provide effluents of high-quality conforming to stringent regulations, since large amounts of lignin and lignin-derived compounds remain in the wastewater. These compounds cannot be metabolized biologically because of their size and complex structure. The objective of this work was to improve the treatment performance of pulp & paper mill effluents, and hence the quality of treated wastewater. For this purpose, a combination of adsorption and coagulation treatment has been proposed. In this study, bentonite was used as adsorbent while PASiC (Polyaluminum Silicate Chloride) was used as coagulant. Respectively, 60.87% of COD removal and 41.38% of color removal can be obtained at the optimum conditions for coagulant dosage and adsorbent are 400 mg/L and 450 mg/L, and adsorption reaction temperature is 30 ° C, while stirring at the speed of 300rpm for 30min, and the pH value is nature.
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【第一作者】段希磊
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【学科分类】造纸技术

【题目】Combining Coagulation Process with Biological Pretreatment for APMP Effluents Treatment
【中文关键词】生物预处理,APMP废水,絮凝处理,黑曲霉
【英文关键词】Biological Pretreatment, APMP, Effluents, Coagulation, Flocculation, Aspergillus niger.
【中文摘要】一种新的APMP废水处理工艺在文章被研究和开发,工艺首先采用黑曲霉对模拟制浆废水进行生物预处理,然后采用絮凝处理的模式对废水进行处理,生物处阶段COD、木素和色度去除率达到了60.22%、60%和42.57%,并得到了7.12g/l的生物菌体。再经聚合铝和PAM处理絮凝处理后,废水色度去除率可达到83.80%。
【英文摘要】The moderate pollution load of APMP effluents provides a chance for a new treatment process--combination of biological pre-treatment and coagulation treatment. Biological pre-treatment can reduce the pollution load and produce biomass at the same time. The removal of COD was 60.22% and the yield of biomass was 7.12g/L at the optimized conditions treated by Aspergillus niger. And the removal of acid-soluble lignin and color were up to 60% and 42.57%. The coagulation treatment was applied after bio-treatment by using alum and PAM as coagulation agent. The conditions of coagulation were optimized in this article. The optimized conditions were: Dosages of alum and PAM were 1000-1200mg/L and 2mg/L, pH is 5, stirring time is 30S at 300rpm, the temperature is 50°C. The coagulation removals of COD, color and turbidity were 83.80%, 86.38% and 98.33%. The removals of color were characterized by absorbance of 465nm, 325nm, 275nm and 254nm.
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【学科分类】造纸技术

【题目】制浆造纸低浓废水的吸附絮凝法深度处理
【中文关键词】造纸废水;膨润土;聚硅氯化铝;吸附絮凝
【英文关键词】waste water of pulp & paper mill ; bentonite ; PASC ; flocculation and adsorption
【中文摘要】采用膨润土为吸附剂对制浆造纸企业低浓外排废水进行吸附絮凝处理。处理条件:絮凝剂聚硅氯化铝(PASC)用量为400mg/L,膨润土用量为500mg/L,反应温度30°C,搅拌速度300r/min,吸附20min。处理后废水CODCr从230mg/L下降到了90mg/L,CODCr去除率为60.9%,色度去除率达到了41.4%,在投入和运行成本都较低的情况下,废水排放达到了国家标准。
【英文摘要】In this paper, bentonite was used in treatment of low concentration waste water from pulp & paper mills. The bentonite was used as adsorption agent while the PASC was used as flocculation agent. At the optimum conditions: dosage of PASC 400 mg/L, dosage of bentonite 500 mg/L, reaction temperature 30°C, 300 rpm stirring and Absorption 20 min, CODCr decreases from 230 mg/L to 90 mg/L, the removal rate is 60.9%, the removal rate of chroma is 41.4%. Indicating that it meets the new discharge standards at a relatively low cost of investment and operation.
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【学科分类】造纸技术

【题目】聚合硫酸铝铁处理双螺旋挤压浆制浆废液的研究
【中文关键词】双螺旋制浆; 制浆废液; 混凝; 聚硫酸铝铁

【英文关键词】twin screw extrusion pulping; pulping effluent; coagulation; polymeric aluminum ferric sulphate (PAFS)

【中文摘要】研究了用聚硫酸铝铁(PAFS)和阳离子聚丙烯酰胺(PAM)为絮(助)凝剂,处理木材下脚料双螺旋制浆废液,在pH=10.5条件下,PAFS用量为200ppm、搅拌转速为300rpm、搅拌时间为6min、PAM用量为10ppm时废液中CODCr的去除率为60.8%,SS的去除率达95%以上,处理后的废液用于原料的预浸处理,经过运行证明,通过PAFS和PAM处理,可实现制浆废液的循环回用。

【英文摘要】The treatment of effluent from wood twin screw extrusion pulping with polyacrylamide (PAM) and polymeric aluminum ferric sulphate (PAFS) as coagulant aids was studied. The results showed that at pH value 10.5, with a PAFS amount of 200 ppm, stirring speed to 300 rpm, stirring time for 6 min, and PAM amount of 10 ppm, CODCr removal rate was 60.8%, and ss removal rate was more than 95% of waste water. The treated effluent was used to the presoaking treatment of raw materials.The operation result showed that with the treatment of PAFS and PAM, it can be realized of the recycled of pulping effluent.

【语种】中文

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【学科分类】造纸技术

【题目】超滤膜处理P-RC APMP 制浆废水

【中文关键词】超滤;P-RC APMP;制浆废水

【英文关键词】ultrafiltration;P-RC APMP;pulping effluent

【中文摘要】研究影响超滤膜处理预处理盘磨化学处理碱性过氧化氢机械浆(P-RC APMP)制浆废水的各种因素,得出截留分子质量(MWCO)为2万~5万超滤膜的最佳操作条件.在确定的条件下,MWCO 2万~5万的超滤膜浓缩1 m3废水,耗电量为12.88 kW.h,平均膜通量为7.23 L/(m2.h),CODCr去除率为29.01%,BOD5去除率为9.09%,截留率为15.17%,浓缩液最大总固形物含量为12.11%,体积浓缩比为40.0.超滤后P-RC APMP制浆废水的可生化性得到改善.

【英文摘要】Factors influencing ultra-filtration membrane treatment on P-RC APMP effluent were studieda,nd the process parameters of molecular weight cutoffs(MWCO)2×104-5×104 membrane were optimized.Under the optimal conditions,to treat each one cubic meter of wastewater with MWCO 2×104-5×104 membranet,he power consumption was 12.88 kW.ht,he membrane fluxr,emoval rate of CODCrr,emoval rate of BOD5r,ejectiont,otal solids content,volume concentration ratio were 7.23 L/(m2.h),29.01%,9.09%,15.17%1,2.11% and 40.0r,espectively.Based upon the test resultsi,t is concluded that biodegradability of P-RC APMP pulping effluent can be improved by ultrafiltration.

【语种】中文

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【学科分类】造纸技术

【题目】超滤膜处理化学机械法制浆废水(Ⅰ)超滤操作条件的确定.

【中文关键词】超滤;化学机械法制浆;废水;操作条件

【英文关键词】ultrafiltration; chemi-mechanical pulping; effluent; operating condition

【中文摘要】采用工业膜组件对超滤膜处理P-RCAPMP制浆废水的影响因素和效能进行了研究,确定了超滤膜的操作条件。截留相对分子量为20k~50k的UEOa2型超滤膜处理P-RCAPMP制浆废水的适宜操作条件为:进料流量700L/h,操作压力0.120MPa,料液温度40℃。

【英文摘要】Influencing factors and performance of ultra-filtration membrane treatment on P-RC APMP effluent were studied.Operating conditions of ultrafiltration membrane were determined.The optimal operating variables for the membrane with

MWCO of 20~50k are as follows:feed flow rate 700L/h,transmembrane pressure 0.120MPa and temperature 40°C.
【语种】中文
【第一作者】刘秋娟
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【题目】超滤膜处理化学机械法制浆废水(Ⅱ) 超滤处理效能
【中文关键词】超滤;化学机械法制浆;废水;效能
【英文关键词】ultra filtration; chemi-mechanical pulping; effluent; performance
【中文摘要】采用截留分子量10k的UEOa2型和截留分子量20k~50k的UPIS910型两种工业膜组件对超滤膜处理P-RCAPMP制浆废水的效能进行了研究,考察了膜通量、截留率、电耗、CODCr和BOD5的去除率等。
【英文摘要】P-RC APMP effluent was treated with ultra filtration membrane of molecular weight cutoff 10k and 20k-50k.The permeation flux,coefficient of retention,power consumption,removal efficiency for CODCr and BOD5 were tested.
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【第一作者】刘秋娟
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【学科分类】造纸技术

【题目】超滤膜处理化学机械法制浆废水的初步研究
【中文关键词】超滤;BCTMP;P-RC APMP;废水
【英文关键词】ultra filtration; BCTMP;P-RC APMP; effluent
【中文摘要】采用截留分子量为20k和6k的两种实验室小型超滤膜组件对P-RCAPMp和BCTMP生产过程中产生的废水进行了超滤试验,考察了超滤膜处理的效果。
【英文摘要】BCTMP and P-RC APMP effluent were treated with two small laboratory ultra filtration membrane
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【第一作者】刘秋娟
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【学科分类】造纸技术

【题目】造纸废水生物强化活性炭深度处理
【中文关键词】造纸废水; 脱色; 生物活性炭; 深度处理
【英文关键词】washing and bleaching effluent; decolorization; biologically activated carbon; advanced treatment
【中文摘要】以高效菌生物活性炭装置对某造纸集团污水处理厂出水进行深度处理中试试验。试验结果表明,在平均进水CODCr149.99mg/L、色度34.30倍时,CODCr、色度去除率均达到50%以上。经170d运行,证明生物活性炭工艺在造纸废水深度处理中能达到较好的处理效果。 更多还原
【英文摘要】The decolorization and advanced treatment of the washing and bleaching effluent of the pulp mill were carried out by integrative biological activated carbon device which cored on high-effective microorganisms. When influent CODCr was 149.99mg/L and colority was 34.30 times, enfluent CODCr was about 70mg/L and colority was about 15 times in pilot trial, both COD and colority

removal rates achieved higher than 50%. 170d running experience indicated that biological activated carbon process can be used effectively for advanced treatment and decolorization of washing and bleaching effluent of the pulp mill.
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【题目】造纸废水色度与CODCr关系初探
【中文关键词】造纸废水;色度;CODCr;浊度
【英文关键词】paper mill effluent; chroma; CODCr; turbidity
【中文摘要】利用大量CODCr、色度、浊度的监测数据,初步探讨了造纸废水中色度与CODCr的关系。结果表明,浊度较低(≤2NTU)时,具有发色基团的有机溶解性分子对COD贡献率较高,色度—CODCr公式可以较准确的估计CODCr值;随浊度升高(>2NTU),公式估计值的相对标准偏差呈现近似直线的上升态势,必须考虑色度和浊度两个影响因素。
【英文摘要】With a great deal of measuring data of CODCr, chroma and turbidity, the relationship between chroma and CODCr of paper mill effluent was preliminarily investigated. The results showed that when the turbidity was low (≤2NTU), the contribution rate of organic solu- bility molecular with chromophoric groups to COD was relatively high, and CODCr was positively correlated with chroma; when the turbidity was high (>2NTU), the rela- tive standard deviation of formula estimated value was in an increasing tendency approximate to straight-line, so chroma and turbidity influencing factors must be consid- ered simultaneously.
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【学科分类】造纸技术

【题目】Biocontrol Function of Bacillus Strain Transformation Using Poplar APMP Pulp Wastewater as Substrate
【中文关键词】生物防治;半化学机械浆废液,生物转化,拮抗作用
【英文关键词】biocontrol function; alkaline peroxide mechanical pulping (APMP) pulp wastewater; biotransformation; antagonism tests.
【中文摘要】制浆废水由于高色度和高化学需氧量(COD)而很难处理。但是,制浆造纸浓废液含有的营养元素适合于作为具有拮抗作用的枯草芽孢杆菌的培养基。本文研究了将废液进行生物转化的可行性和一些真菌病害的拮抗作用。种子发芽和作物实验结果表明:转化物安全无毒。同时,有利于植物的生长。这种方法是造纸废液处理的新途径。
【英文摘要】Pulp wastewater is hard to treat due to its high chrominance and high chemical oxygen demand (COD). However, pulp wastewater can be adopted as nutrient elements to produce Bacillus strain, which has a biocontrol function. In this paper, the feasibility of biotransformation using pulp wastewater is studied and antagonism tests for some fungal diseases are carried out. The seed germination and plant tests ’ results showed that the transformation is safe and nontoxic. Furthermore, the results showed a positive effect to promote plant growth. This novel approach of treating pulp wastewater could be a potential way for the wastewater treatment.
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【题目】The effect of bacillus subtilis SY1 and pseudomonas flurescens W1 in the ecological remediation of the soil
【中文关键词】土壤病害;农药残留;生体修复;可持续发展
【英文关键词】soil pathogens, pesticide residue, ecological remediation, sustainable development
【中文摘要】常年不合理耕作使土壤遭到严重破坏,土传病害和化学药物残留是土壤污染的主要原因,这也直接影响着农作物的品质和产量。土壤的生态修复是解决这些问题的主要途径,也是农业可持续发展的重要手段。本文研究了枯草芽孢杆菌SY1和假单胞细菌W1在土壤修复中的应用。
【英文摘要】As years of unreasonable farming practices in agriculture soil damaged seriously. The soil-borne disease and the chemical residue are two serious problems of soil pollution which affect the yield and quality of agricultural products. Ecological remediation of soil is an effective way to resolve these problems and maintain the sustainable development of agriculture. In this paper the agents Bacillus subtilis SY 1and Pseudomonas flurescens W1 were used to improve the ecosystem function and reduce the disease occurrence.
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【题目】杨木APMP废液的生物转化及应用
【中文关键词】APMP制浆废液; 枯草芽孢杆菌; 培养条件; 抑菌作用
【英文关键词】APMP pulping wastewater; Bacillus subtilis; Culture conditions; Bacteriostatic action
【中文摘要】[目的]研究杨木APMP废液培养枯草芽孢杆菌SY1菌株(Bacillus subtilis)的适宜条件和转化液对番茄病原菌的拮抗作用。[方法]通过单因素实验对培养条件进行了初步优化;利用平板扩散法测定转化液对番茄病原菌的抑制作用。[结果]杨木APMP废液培养SY1菌株较适宜的条件为:pH值8.0,装液量75/250 m l,接种量5%,温度35℃;在此培养条件下SY1菌株的活芽孢数达3.96×108CFU/m l,废液COD转化率达59.52%。同时发酵液对供试的4种病原菌均有较强的抑菌作用。[结论]该研究为利用杨木APMP废液培养枯草芽孢杆菌的工业深层发酵提供了依据。
【英文摘要】[Objective] The aim of the research was to study the suitable conditions of culturing SY-1 strain of Bacillus subtilis in poplar APMP wastewater and the antagonistic effect of transformation liquid on tomato pathogen.[Method] The culture conditions were preliminarily optimized through single factor test.The inhibition of transformation liquid to tomato pathogen was determined by using plate diffusion method.[Result] The optimum conditions for culturing SY1 strain in poplar APMP wastewater were as follow: pH 8.0,liquid volume was 75 ml in 250 ml flask,the inoculation amount was 5%,temperature was 35 ℃.Under these culture conditions,the viable spore number of SY1 strain reached 3.96×108 CFU/ ml.COD conversion rate reached 59.52%.At the same time,the fermentation liquid all had stronger bacteriostatic action on 4 kinds of test pathogens.[Conclusion] The research provided the basis for the industrial submerged fermentation of culturing Bacillus subtilis by poplar APMP wastewater.
【语种】中文
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【学科分类】造纸技术

【题目】杨木APMP废液及转化液对白菜种子萌发和幼苗生长的影响

【中文关键词】杨木APMP废液; 枯草芽孢杆菌; 转化液; 种子发芽; 幼苗生长
【英文关键词】poplar APMP wastewater; bacillus subtilis; fermented liquor; seed germination; seedling growth
【中文摘要】以不同稀释倍数的杨木APMP废液和转化液(经枯草芽孢杆菌SY-1菌株发酵后的废液)分别对白菜种子进行浸种处理,通过种子发芽实验和生长实验,研究原废液和转化液对白菜种子活力、幼苗早期发育、幼苗中叶绿素含量和保护酶活性的影响。结果表明,在适宜的稀释倍数下,原液和转化液可改善白菜种子发芽和幼苗生长;在相同的稀释倍数下,转化液的促进作用要明显优于原液组。综合比较,当转化液稀释25倍浓度时,较适合白菜种子的发芽和生长发育。
【英文摘要】The seeds of Chinese Cabbages were soaked with serially diluted raw APMP wastewater and its fermented liquor (after fermentation by bacterial strain SY-1). The effects of the raw APMP wastewater and its fermented liquor on seed development, early seedling development, content of chlorophyll and activity of protective enzyme of Chinese Cabbages were studied by seed germination test and growth test. The results showed that raw APMP wastewater and the fermented liquor, with suitable concentration, could improve seed germination and growth; with the same concentration, the effect of fermented liquor was obviously better than the raw wastewater; besides, the fermented liquor (25 times dilution) was superior to the others on seed germination and growth. The research offered the foundation for further study of the application of poplar APMP wastewater to crops growth.
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【题目】Effect of Bacillus Subtilis SY1 on antifungal activity and plant growth
【中文关键词】真菌病害;拮抗作用;生长促进;保护酶
【英文关键词】fungal pathogen, antagonism, growth promotion, protective enzymes
【中文摘要】由于常年不合理耕作使农田遭到严重破坏,土传病害是土壤污染的主要原因,直接影响了土壤和农产品的品质。对污染土壤进行生物修复是解决这些问题的有效方法。本文研究了使用枯草芽孢杆菌SY1 作为拮抗剂用于抑制茄子的几种常见病害。接种枯草芽孢杆菌SY1后,寄主植物的长势和病害的耐受力都有明显改善。在种子发芽试验中,发芽势、累计发芽率、发芽指数和活力指数分别增加24%、24%、35%和64%。接种枯草芽孢杆菌SY1后,还显著提高了种苗的茁壮程度和植株的株高、株重等参数。寄主植物被激发产生系统抗性后,植株叶片中抗氧化保护酶活性明显增强,有助于提高植株的抗病性。
【英文摘要】Agriculture soil in some areas of China is seriously damaged due to years of irrational farming practices. Soil-borne disease is a major problem of soil pollution, which affects yield and quality of agricultural products. Ecological remediation of soil is an effective way to solve this problem. In this study, Bacillus subtilis SY1 was successfully used to antagonist several normal fungal pathogens in eggplant. The growth and pathogenic tolerance of the host plant were improved after inoculation. In the seedling test, sprout tendency, accumulative germination percentage, sprout index, and vigour index of seeds increased 24%, 24%, 35%, and 64%, respectively. Inoculation also made the seedlings stronger and improved their plant-morphologic characters significantly. When infected by fungal pathogen, the activity of protective enzymes in inoculated seedlings improved, which helped lessening membrane damage by superoxideanion.
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【题目】造纸废水处理产生的剩余污泥的蛋白质提取工艺

【中文关键词】造纸污泥; 水解蛋白质; 提取
【英文关键词】waste sludge of papermaking; hydrolyzed protein; extraction
【中文摘要】酸法水解造纸废水生物处理剩余活性污泥提取蛋白质的试验结果表明,酸法水解的适宜工艺条件为:体系固液比1∶2,水解时间5h,水解温度121℃,pH1.5。在上述条件下,水解蛋白质的提取率达到27.53%,泡沫发泡性能良好,同时污泥削减率达到26.89%。
【英文摘要】The residual sludge from paper mill was hydrolyzed with the method of acid hydrolyzation to extract protein. The results showed the optimal process conditions for extraction of sludge protein by acid were as follows:temperature 121℃,reaction time 5h,pH 1.5 and ratio of solid to liquid 1 ∶2. Under these conditions,the protein extractive ratio was 27.53% ,and the foam stability and the high of the foam were both good. At the same time,the mass of sludge was reduced by 26.89%.
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【题目】用超滤膜法浓缩剩余污泥中蛋白提取液的实验研究
【中文关键词】剩余污泥; 蛋白质; 超滤膜; 浓缩
【英文关键词】residual activated sludge; protein; ultrafiltration membrane; concentration
【中文摘要】采用超滤膜法浓缩剩余污泥中的蛋白提取液,并对浓缩过程中的膜污染展开分析,在此基础上,确定了污染膜适宜的清洗工艺.研究证明,采用超滤膜法浓缩剩余污泥中的蛋白质提取液是可行的.在室温条件下,操作压力为0.10~0.18MPa时,压力的升高有利于膜通量的增加,但也会增加膜污染的速率;浓缩过程中适当的清洗,不仅可以提高工作效率,还有利于膜通量的恢复;采用清水、碱性清洗剂(0.3%的NaOH和0.1%的NaClO混合液)、酸性清洗剂(0.1%的盐酸溶液),以动静态混合的方式清洗后,膜通量恢复率(WFR)可达到90%以上.
【英文摘要】The Concentration of protein extracted from residual activated sludge using ultrafiltration membrane is investigated,and membrane fouling is analyzed and the appropriate membrane cleaning process is obtained.The experiment results indicate that it is feasible to concentrate protein extracted from residual activated sludge by ultrafiltration membrane.The permeate flux increased following the rising of operation pressure but resulted in more rapidly decrease of flux under pressure 0.10-0.18 MPa and at temperature 25 ℃;cleaning the membrane during the process of concentration not only increase the efficiency,but also is good for the recovery of membrane flux.The membrane flux recovery can be up to more than 90% after the cleaning procedures using water,alkaline cleaner (0.3% sodium hydroxide solution and 0.1% sodium hypochlorite solution),acidic cleaner(0.1% hydrochloric acid)with the way of the combination of static and dynamic.
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【题目】用混凝及污泥回流处理二沉池出水的研究
【中文关键词】二沉池出水; 聚合氯化铝; CODCr; 混凝污泥回流
【英文关键词】effluent from secondary sedimentation pool; PAC; CODCr; coagulation sludge return
【中文摘要】选择液体用聚合氯化铝(PAC)作为混凝剂,对二沉池出水进行了混凝及污泥回流实验,考察了pH值、PAC用量、污泥回流量等因素对处理效果的影响。结果表明,当废水pH值为6.5~8.2、PAC用量3mL/L、污泥回流率40%~60%时,处理效果明显优于传统混凝方式,CODCr由400mg/L降至100mg/L左右。

【英文摘要】The effluent form secondary sedimentation pool in paper mill ’s waste water treatment system was further treated by coagulation using PAC as flocculant and returning part of the sludge back to the system.The influences of pH value of wastewater,the adding amount of flocculent and return sludge flow were investigated.The results showed that the appropriate pH value is from 6.5 to 8.2,the adding amount of PAC is 3 mL/L,and the appropriate return sludge is from 40% to 60%.The effect of treatment is more significant than the traditional coagulation.The concentration of CODCr falls from 400 mg/L to 100mg/L after the treatment.
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【题目】杨木P-RC APMP废水的厌氧处理
【中文关键词】杨木P-RC APMP废水; 厌氧处理; 毒性
【英文关键词】P-RC APMP wastewater; anaerobic treatment; toxicity
【中文摘要】对杨木P-RC APMP废水性质进行了研究,同时应用生物鉴定技术对杨木P-RC APMP废水进行生物产甲烷势(BMP)及厌氧毒性鉴定(ATA)实验,并在35°C的中温条件下采用上流式厌氧污泥床反应器对杨木P-RC APMP废水进行连续厌氧处理实验。结果表明,杨木P-RC APMP废水中含有抑制产甲烷微生物活性的物质,且这种抑制是可逆的,通过一定时间的培养,产甲烷微生物活性可以得到恢复;杨木P-RC APMP废水具有较好的厌氧生物可处理性,在35°C下,CODCr和BOD5去除率分别可达64.2%和93.0%以上。
【英文摘要】Aspen P-RC APMP wastewater characteristic was studied in this paper,and its anaerobic biotreatability and methanogenic toxicity were evaluated by the means of biological methane potential (BMP) test and anaerobic toxicity assay (ATA) test. Continuous anaerobic treatment of the wastewater was carried out in a UASB reactor. The results showed that aspen P-RC APMP wastewater contains substances which inhibit methanogenic microorganism,but this harmful effect can be released after a period time of cultivation. Aspen P-RC APMP wastewater is fairly anaerobic biotreatable,and the CODCr and BOD5 removal reaches 64.2% and 93.0% respectively.
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【题目】杨木P-RC APMP制浆废液的超滤膜浓缩技术
【中文关键词】P-RC APMP废液; 聚醚砜超滤膜; 浓缩; 节能减排
【英文关键词】P-RC APMP effluent; polyethersulfone; ultrafiltration membrane; concentration; energy conservation and emission reduction
【中文摘要】用聚醚砜超滤膜对杨木P-RC APMP制浆废液进行预浓缩,旨在将浓缩液与化学法制浆黑液一并蒸发后进行碱回收处理。通过考察废液通量,总固形物、CODCr和BOD5截留率等指标,得出了废液浓缩的优化工艺:截留相对分子质量10000、压力0.3MPa、转速400r/min、温度50°C、透过比0.93。优化实验得出:废液通量为23.0L/(m2 · h),废液总固形物从14.1g/L浓缩到87.6g/L,蒸发站负荷可降低86.2%。若不考虑膜设备投资和运行成本,用聚醚砜超滤膜将杨木P-RC APMP制浆废液总固形物浓度从1.4%浓缩至8.7%时,蒸发站耗电量可降低约3007kWh/t浆,废水减排量约为16.8t/t浆。
【英文摘要】The polyethersulfone ultrafiltration membrane separation technique was used to concentrate aspen P-RC APMP effluent before sending to multi-effect evaporation in alkali recovery plant.Flux,retentions of total solid,CODCr and BOD5 were studied,then the filtration parameters were optimized as follows:relative molecular weight cut-off 10000,trans-membrane pressure 0.3 MPa,feed temperature 50°C,cross-flow velocity 400 r/min and permeate rate 0.93.The average permeate flux under these conditions was

23.0 L/(m2 · h),and the total solid content was increased from 14.1 g/L to 87.6 g/L,thus the evaporation amount could be reduced by 86.2%.Finally,energy conservation and emission reduction efficiencies of the technique were evaluated.
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【题目】分子世界的微生物生态学: 未来发展趋势
【中文关键词】微生物生态学,细菌,原生生物,生态基因组学,分子分类学
【英文关键词】Microbial ecology, bacteria , protists, ecogenomics, moleculartaxonomy
【中文摘要】过去几十年中,遗传学和免疫学方法的进步改变了医学和生物制药学的研究。人类和几种模式生物的基因组已全部完成测序,这一遗传学信息财富的初步开发已经开始引起对这几种生物的研究及由此产生的应用的革命。得益于生物医学领域的技术进步带来的巨大便利,对微生物(包括海洋微生物)生态学的理解也紧随其后。通过这些新方法、新技术的应用,海洋微生物生态学已经从二十世纪五、六十年代海洋生物学和生物海洋学的小脚注变成了我们对海洋的兴趣焦点。在过去的半个世纪中,关于海洋中微生物的丰度、分布和活性,我们学到了大量知识。由于认识到海洋微生物异常丰富的多样性、他们在全球生物地球化学过程中所起的主导作用以及天然和工程微生物产品给人类带来益处的潜力,它们已成为科研和公众关注的中心,而且人们对这些海洋中微小生物的迷恋也不会迅速消退。最新的研究表明我们对海洋生态系中微生物多样性广度的了解相当有限,而且,自然界中许多、或者说大多数海洋微生物的优势种还没有被引入实验室培养。因此,我们对这些物种的生化、生理和行为能力的认识还是懵懂的,并且,在可预见的未来,海洋微生物研究还将是海洋科学研究的主要焦点。随着很多领域的研究者转向这项工作,我们可以期待海洋微生物群落组成和功能方面将会有更多新的发现和更多的范例出现。
【英文摘要】Advances in genetic and immunological approaches during the last few decades have transformed medicine and biomedical research.The human genome and the genomes of numerous model organisms are now fully sequenced.Initial exploitation of this wealth of genetic information has begun tO revolutionize research on these species,and the applications derivedfrom it.Progress in understanding the ecology of microorganisms(including marine taxa)hasfollowed closely on the heels of these advances,owing tO the tremendous benefit afibrded bymajor technological advances in biomedicine.Through the application of these novel approachesand new technologies,marine microbial ecology has moved from a minor footnote within marinebiology and biological oceanography during the 1950s and ‘ 60s tO the focus of much of our present interest in the ocean.During the intervening half-century,we have learned a great deal regarding the overall abundances,distributions and activities of microorganisms in the sea.Recognition of the extraordinary diversity of marine microbes,the predominant role that they play in global biogeochemical processes,and the potential for natural or engineered microbial products to benefit humankind,has placed marine microbes in the spotlight of both scientific and popular attention.Our fascination with these minute denizens of the ocean is not likely to wane anytime soon.Recent studies have indicated that we still know relatively little about the breadth of microbial diversity in marine ecosystems.In addition,many(most)of the predominant marine microbial forms in nature have not yet been brought into laboratory culture.Thus,our knowledge is still rudimentary with respect tO the spectra of biochemical,physiological and behavioral abilities of these species,and the study of marine microbes will remain a major focus of investigations in marine science well into the foreseeable future.As a large cadre of researchers moves headlong into this work,we can expect many new discoveries and more paradigm shifts regarding tile composition and marine microbial communities.
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【题目】The Optimization for Crop Planning and Some Advances for water-ssving crop planning in the semiarid Loess Plateau of China
【中文关键词】中国;作物规划优化;干旱;研究进展;半干旱黄土高原节水;
【英文关键词】China; crop planning optimization; drought; research progress; semiarid Loess Plateau; water-saving
【中文摘要】建立节水型农业种植结构是中国黄土高原以及世界干旱半干旱地区节水农业发展的重要选择。节节水型农业种植结构是指种植结构,中心调整作物适应水,优化的时间和空间布局的庄稼,当地自然资源,营销资源,人力资源和资金投入,使区域或流域水资源有限的实现最大的经济,社会和生态效益种植业在一定技术经济。分析了节水型农业种植结构优化理论、目标机方法,以及宏观调控措施的研究进展后,指出目前缺少研究节水型农业种植结构的强有力理论依据,以及不够成熟的优化技术。未来的重要研究方向将集中在五个方面,如特殊优化理论体系的划分方法,通过研究流域单元和使用技术,优化模型的基础上多目标进化算法,基于公众参与的评价的合理性和宏观调控措施。
【英文摘要】The establishment of water-saving crop planning is an inevitable choice of the water-saving agriculture for the water-deficiency region in the arid and semiarid Loess Plateau of China and the world. The water-saving crop planning refers to the planting structure that centres the adjustment of the crop's adaptation to water, the optimization of temporal and spatial layout for crops, the local natural resources, marketing resources, human resources and financial input to enable region or basin with limited water resources to achieve the maximum economic, social and ecological benefits of planting industry under certain technology and economy. After the analysis on the research progress of optimization theory, optimization goals, optimization methods of water-saving cultivation structure and macro-control measures, it is pointed out that the main deficiencies of the current research of water-saving cultivation pattern optimization are lacking of a strong theoretical basis, and the immaturity of optimization technologies. The future crucial research direction will focus on five aspects such as the special optimization theory system, the division methods by studying the watershed unit and using 3S technology, optimization model based on multi-objective evolutionary algorithm, evaluation of rationality and macro-control measures on the basis of the public participation.
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【题目】Immunomodulatory effect of lectin from Musca domestic pupa on immunosuppressive mice Effect of lectin on immunosuppressive mice
【中文关键词】家蝇凝集素,免疫低下小鼠,脾脏,免疫调节
【英文关键词】lectin from Musca domestic pupa;
immunosuppressive mice; spleen; immunomodulation
【中文摘要】本文主要阐明家蝇凝集素体内的免疫调节作用。MPL(200,400,800μg/kg体重)对免疫器官的质量,脾淋巴细胞,巨噬细胞的吞噬活性,NK细胞活性,和炎性因子mRNA的表达在环磷酰胺刺激的小鼠。与免疫低下的小鼠相比,脾脏和胸腺的质量明显的升高,脾脏淋巴细胞的增殖明显,NK细胞的活性和巨噬细胞的吞噬活性也出现明显的升高。脾脏细胞中的IL-6,IL12和IFN-γ的mRNA表达量出现升高其呈现剂量效应。结果研究表明,MPL对免疫低下小鼠具有明显的提高免疫的作用,可以更深的研究MPL提高免疫的活性。
【英文摘要】The present study was conducted to elucidate the immunomodulatory effect of a lectin from Musca domestic pupa (MPL) in vivo. The effects of MPL (200, 400 and 800 μg/kg body wt.) on immune organ weight, mitogen-induced proliferation of spleen lymphocyte, phagocytosis activity of macrophages, NK cell activity, and the mRNA expression of immune factor in spleen like interleukin (IL) and interferon (IFN) were investigated in cyclophosphamide (CP) immunosuppressive mice. In comparison with that of immunosuppressive mice, the weight index of spleen and thymus were significantly increased ($p<0.05$), the proliferation of spleen lymphocyte was enhanced, NK cell activity and phagocytosis activity of macrophages had been improved ($p<0.01$) and the mRNA expression of IL-6, IL-12 and INF- in spleen were potentialized in a dose-dependent manner by MPL administration. These results demonstrated that MPL has a remarkable immunomodulatory effect on immunosuppressive mice, which suggested that MPL could be useful for further study as an immunomodulating agent.

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【学科分类】食品科学技术基础学科

【题目】Towards Development of Eco-Agriculture of Rainwater-Harvesting for Supplemental Irrigation in the Semi-Arid Loess Plateau of China
【中文关键词】中国;农业保护;生态农业;集水补灌;半干旱黄土高原径流农业;
【英文关键词】China; conservation agriculture; eco-agriculture; rainwater harvesting for supplemental irrigation; runoff agriculture; semi-arid Loess Plateau
【中文摘要】半干旱黄土高原是中国雨养农业的中心地带。干旱和土壤侵蚀是限制该区发展的两大瓶颈因素。传统的水保农业和径流农业经过几十年发展,不同程度的将少了该区水土流失、提高了雨水资源利用效率。然而,他们对雨水资源的调控能力仍然十分有限,并引起了诸多农业生产问题,比如严重的季节性干旱、较低的农业产量、脆弱的生态环境以及较低的投入产出比,并且这些仍在持续恶化。收集雨水进行集雨补灌是基于水保农业、径流农业理论的雨水资源调控利用的重要手段,不仅促进了不同空间位置雨水资源的收集利用,如水保农业、径流农业对雨水资源的调控,同时也是的雨水资源得到合理叠加利用并减少土壤无效蒸发。农业产量通过对雨水资源的收集补灌而得到极大提升。它不仅带来了一体化的生态重建与经济发展,而且还提供了一种新的方法对农业可持续发展和克服两家最大的障碍(干旱和水土流失),这一技术将成为一个战略措施综合模式和半干旱黄土高原中国。
【英文摘要】The semi-arid Loess Plateau is a central zone of Chinese rain-fed farming. Drought and soil erosion are the two major obstacles to restrict economic development in this semi-arid Loess Plateau. The traditional conservation agriculture and runoff agriculture have been developed for several decades, which have reduced water and soil loss and improved rainwater utilization efficiency to a certain extent. However, its regulative role in rainwater is very much limited, and problems of agriculture production, such as severe seasonal drought and water shortage, low agriculture productivity, fragile ecological environment, and low yield-invest ratio, are still going on. Supplemental irrigation of harvested rainwater is an important form of rainfall regulation and utilization on the basis of sophisticated technologies and theories of conservation agriculture and runoff agriculture, which not only promotes fulfilling rainfall harvesting in spatial location like the conservation agriculture and runoff agriculture measure but also gets at true rainfall harvesting in time distribution by principle of superposition and also decreases invalid evaporation for rainfall runoff. Agriculture productivity will be highly increased by using rainwater harvesting for supplemental irrigation. It not only brings about the integration of ecological reconstruction with economic development, but also provides a new approach to the agriculture sustainable development and overcomes two of the biggest obstacles (drought and soil erosion). It is suggested that this technology will become a strategic measure and comprehensive development model in semi-arid Loess Plateau of China.
【语种】英文
【第一作者】赵西宁
【通讯作者】吴普特
【期刊名称、卷期、页码】Journal Agronomy & Crop Science,2009, 195: 399-407
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【引文索引类型】SCI
【引文索引号】515KD
【学科分类】农业工程

【题目】Impact of climate change and irrigation technology advancement on agricultural water use in China
【中文关键词】null
【英文关键词】null
【中文摘要】本文分析了1949-1990年气候变化和灌溉技术发展中国对农业用水的影响。反映气候变化的Palmer干旱指数(PDSI)和毛灌溉定额(GIQ)用来建立中国农业用水与气候变化之间的关系。结果表明,1949-2005年间GIQ和PDSI之间有着良好的相关关系,并建立了他们之间的定量回归统计模型,通过该模型生成了系列GIQ数据。生成的GIQ数据与气象数据之

前关系遵循1949-1990年间实际GIQ变化规律。但1991年之后,实际的GIQ变得越来越小于生成的GIQ,这表明灌溉技术的发展成为影响中国农业用水强度的主要因素。

【英文摘要】The impact of climate change and irrigation technology advancement on agricultural water use in China is analyzed for the period of 1949-2005. The Palmer Drought Severity Index (PDSI) is adopted to characterize climate change, and the Gross Irrigation Quota (GIQ) is used to examine the relationship between agricultural water use and climate change in China. The results show that the GIQ correlates well with the PDSI in Chinese irrigated areas for the period of 1949-1990. A quantitative relationship between the GIQ and PDSI is statistically regressed; a new GIQ dataset is generated with the PDSI based on this relationship over the period 1949-2005. The generated GIQ data with climate-only information follow the pattern of the actual GIQ for the period 1949-1990. Since 1991, the actual GIQ becomes much smaller than the generated GIQ, indicating that irrigation technology advancement exerts a dominant impact on reducing agricultural water use intensity in China.

【语种】中文

【第一作者】吴普特

【通讯作者】吴普特

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【引文索引类型】SCI

【引文索引号】602AW

【学科分类】农业工程

【题目】An antitumor peptide from Musca domestica pupae (MATP) induces apoptosis in HepG2 cells through a JNK-mediated and Akt-mediated NF- j B pathway

【中文关键词】Akt,抗肿瘤肽,细胞凋亡,JNK,NF-kB

【英文关键词】Akt, antitumor peptide, apoptosis, c-Jun N-terminal kinase,
nuclear factor-jB

【中文摘要】An antitumor peptide from Musca domestica pupae (MATP) was seen to inhibit proliferation and induce apoptosis in cancer cells in our previous investigation. However, the molecular mechanisms involved in MATP-induced apoptosis are still uncharacterized in the human liver cancer cell line HepG2. The present study was undertaken to elucidate the signaling events in MATP-induced apoptosis of HepG2 cells. In this study, the sustained activation of phosphorylated c-Jun N-terminal kinase (JNK) and the obvious inactivation of phosphorylated AktSer473, which prevented IjBa from degeneration, were induced by MATP. Simultaneously, the apoptosis induced by MATP was reversed by SP600125 (a JNK inhibitor) whereas it was aggravated by LY294002 (an Akt inhibitor). These results proved that JNK and Akt independently participated in the apoptosis of HepG2 cells, which were treated with MATP. Moreover, the activation of phosphorylated JNK together with the inactivation of phosphorylated AktSer473 restrained nuclear factor-jB (NF-jB p65) from entering the nucleus. The apoptosis induced by MATP was increased by pyrrolidine dithiocarbamate (NF-jB p65 inhibitor) and the restriction of NF-jB p65 from entering the nucleus induced the decrease of Bcl-2. Simultaneously, MATP induced the increase of Bax, but this mechanism did not depend on the decrease of NF-jB p65 in the nucleus. The release of cytochrome c from the mitochondria, which intensified the expression of caspase-9 and caspase-3, was enhanced by the increase in Bax-to-Bcl-2 expression ratio. The apoptosis of HepG2 cells was induced ultimately by the increase in caspase-3. Taken together, these findings suggest that MATP-induced apoptosis through a JNK-mediated and Akt-mediated NF-jB pathway.

【英文摘要】我们研究发现,家蝇凝集素MATP能够抑制肿瘤细胞的增殖和诱导肿瘤细胞凋亡。但是对诱导HepG2细胞凋亡的机制目前还是不明了。本文章阐明MATP诱导HepG2肿瘤细胞凋亡的分子机制。本文中MATP诱导肿瘤细胞凋亡,出现了JNK和Akt的磷酸化。并且JNK的抑制剂SP600125和Akt的抑制剂LY294002能够抑制MATP诱导的肿瘤细胞凋亡。结果显示JNK和Akt是单独调节肿瘤细胞凋亡的。但是这两个蛋白的磷酸化都受制于NF-kB。加入PDTC之后,能够增加MATP对肿瘤细胞的诱导凋亡作用,限制NF-kB入核降低了Bcl-2的表达量。同时MATP诱导了Bax的增加,Bax与NF-kB不相关。Bax到Bcl-2的增加出现了细胞色素C的释放,然后出现了caspase-9和caspase-3的表达。结果显示,MATP诱导细胞凋亡通过JNK,Akt和NF-kB通路。

【语种】英文

【第一作者】张荣萍

【通讯作者】曹小红

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【引文索引类型】SCI
【引文索引号】0
【学科分类】食品科学技术基础学科

【题目】Effect of dietary betaine supplementation on LPL gene mRNA expression and promoter CpG methylation in laying hens
【中文关键词】甜菜碱,CpG甲基化,蛋鸡,脂蛋白酯酶基因,mRNA表达
【英文关键词】betaine, CpG methylation, laying hen, lipoprotein lipase gene, mRNA expression
【中文摘要】本研究开展了甜菜碱对蛋鸡脂肪沉积及相关基因表达的影响,探讨了甲基化影响其表达的机制。结果表明,180日龄蛋鸡LPL(lipoprotein lipase,脂蛋白脂酶) mRNA的表达量在添加0.08%的甜菜碱时显著低于对照组(P<0.01)。180日龄蛋鸡添加0、0.04%、0.06%和0.08%的甜菜碱时LPL启动子CpG甲基化比率分别为3.20%、4.31%、1.83%和3.65%,各组之间差异不显著(P>0.05),但随着添加的增加,出现CpG的甲基化由1到14位的迁移。
【英文摘要】In laying hens, dietary betaine supplementation is reported to reduce abdominal fat, however, the mechanism of which remains largely unknown. The present study investigated the e ect of dietary betaine supplementation on mRNA expression and the promoter CpG dinucleotide methylation profiles of chicken lipoprotein lipase (LPL) gene. The experiments were carried out with laying hens which were randomly allocated to four diets supplemented with ,0,0.04,0.06, and 0.08% betaine. The mRNA levels of LPL gene was investigated by using real-time RT-PCR. The CpG methylation profiles at LPL promoter region were analyzed by using bisulfite sequencing method. The results indicated that betaine supplementation at levels of 0.06 and 0.08% tend to decrease LPL mRNA expression in both 165-day-old and 180-day-old hens. In 180-day-old hens, two distinct CpG methylation profiles at the promoter region of chicken LPL gene were revealed: in control and 0.04% betaine groups, in which LPL mRNA expressions in abdominal adipose tissue were higher, CpG methylation occurs mainly 1st to 8th sites, the remaining sites were less methylated; whereas in 0.06 and 0.08% betaine groups, in which LPL mRNA expressions in abdominal adipose tissue were lower, methylation levels of 1st to 8th CpG sites were decreased, while those of the remaining sites increased.
【语种】英文
【第一作者】邢晋祎
【通讯作者】姜运良
【期刊名称、卷期、页码】Journal of Poultry Science,2009,46:224-228
【论文发表时间】2009-01-15 00:00:00
【引文索引类型】SCI
【引文索引号】doi:10.2141/jpsa 46.224
【学科分类】畜牧学

【题目】Optimization of fermentation and product collection process of the functional bacteria for bioremediation of shrimp culture environment
【中文关键词】无
【英文关键词】Aquaculture environment, Bioremediation, Functional bacteria, Fermentation
【中文摘要】无
【英文摘要】In order to implement industrial production of selected functional bacteria for ioremediation of shrimp culture environment, the fermentation conditions of the threefunctional bacteria,which have high ability in degrading organic pollutants at the bottom ofshrimp ponds,were studied. The results showed that the favorable fermentation medium (per L)was 25 g of peptone, 5 g of yeast extract, and 0.2 g of ferric phosphate, and the initial pH value of the medium was 8.0. The optimum fermentation time was 20 h. The optimum stirring waywas stirring one hour after one hour. Iso-electric point sedimentation collecting method was the most efficient and economic method to collect the bacteria cells after fermentation, with the optimum sediment pH of 3.67, 4.02, and 3.40 for the strains Lt7222, Gy7018 and Lt7511,respectively. It was also indicated that the survival and reproducing ability of the acterial cells were not affected by the sedimentation process.
【语种】英文
【第一作者】李秋芬
【通讯作者】李秋芬
【期刊名称、卷期、页码】Mar. Sci. Bul., 8(2): 40-45
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【引文索引类型】SSCI
【引文索引号】null
【学科分类】微生物学

【题目】A novel approach for the improvement of ethanol fermentation by Saccharomyces cerevisiae
【中文关键词】非整倍体,酒精,啤酒酵母菌株,高重力
【英文关键词】aneuploid, ethanol, Saccharomyces cerevisiae, very high gravity.
【中文摘要】酿酒酵母中,通过基因的控制发酵,来改变传统的发酵是比较困难的。这里,开发了一种新的基因工程方法,来改善300g/L葡萄糖做碳源高重力下提高酒精的发酵量。这个需要构建4倍体的菌株。构建这个菌株需要使用质粒YCplac33-GHK,这个质粒上包含HO基因编码,位点转移的内切核酸酶。非整倍体菌株WT4-M,被挑选了出来,当四倍体菌株被methyl benzimidazole-2-yl-carbamate作用之后,诱导了有丝分裂染色体的缺失。研究发现,非整倍体菌株WT4-M不仅能够提高酒精的产量,发酵的热量,并且能够提高糖乙醇的转化效率。与正常菌株相比,WT4-M提高了9.8%的酒精产量。结果显示,非整倍体菌株对发酵有很好的价值。
【英文摘要】Fermentation properties under the control of multiple genes are difficult to alter with traditional methods in Saccharomyces cerevisiae. Here, a novel genome engineering approach is developed to improve ethanol production in very high gravity fermentation with 300 g/L glucose as the carbon source. This strategy involved constructing aneuploid strains on the base of tetraploid cells. The tetraploid strain was constructed by using the plasmid YCplac33-GHK, which harbored the HO gene encoding the site-specific Ho endonucleases. The aneuploid strain, WT4-M, was selected and screened after the tetraploid cells were treated with methyl benzimidazole-2-yl-carbamate to induce loss of mitotic chromosomes. It was found that aneuploid strain WT4-M not only exhibited an increase in ethanol production and osmotic and thermal tolerance, but also an improvement in the sugar – ethanol conversion rate. Notably, WT4-M provided up to 9.8% improvement in ethanol production compared with the control strain. The results demonstrated that the strategy of aneuploidy was valuable for creating yeast strains with better fermentation characteristics.
【语种】英文
【第一作者】侯丽华
【通讯作者】侯丽华
【期刊名称、卷期、页码】Canadian Journal of Microbiology, 2010, 56: 1-6.
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【引文索引类型】SCI
【引文索引号】630OQ
【学科分类】食品科学技术基础学科

【题目】酵母双杂交筛选玉米淀粉合成酶SSI和SSIIb的互作蛋白因子
【中文关键词】酵母双杂交 玉米淀粉合成酶SSI SSIIB 蛋白质互作 代谢调控网络
【英文关键词】无
【中文摘要】玉米遗传学分析和体外的蛋白相互作用实验表明玉米胚乳发育中不但淀粉代谢酶类之间能够发生蛋白相互作用,而且还可以与其他蛋白发生相互作用。本研究中,我们成功提取玉米授粉后5-21天的玉米胚乳mRNA,进一步利用Clontech公司PCR cDNA library kit PGBKT7-SSI和PGBKT7-SSIIa的酵母双杂交系统诱饵蛋白表达载体,自激活和毒性试验表明没有自己或和毒性现象的产生。构建的诱饵蛋白表达载体进一步转化酵母Y187后与转化酵母AH 109的cDNA文库进行杂交筛选,SSI蛋白互作基因筛选共计获得68个阳性克隆,SSIIb蛋白互作因子筛选共计获得37个阳性克隆。回转化实验表明:alpha-zein protein, 20S proteaome alpha 4 subunit, 40S ribosomal protein SA, prolmin PPROL 17, 40S ribosomal protein S19以及一些hypothetical protein 等多个蛋白能够与SSI发生明显的蛋白质相互作用。Gibberllin-regulated protein 1, armadillo-repeat containing protein ,metal ion binding protein , cyanate hydratase等4个蛋白与SSIIa等发生明显的蛋白质相互作用。这些研究结果为进一步深入解析玉米淀粉代谢蛋白调控网络提供了很好的原始材料。
【英文摘要】无
【语种】中文
【第一作者】刘相国
【通讯作者】郝东云
【期刊名称、卷期、页码】2009年生命科学前沿研讨会论文集“ 组学 ”与生物技术 37页
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【引文索引号】null
【学科分类】分子生物学

【题目】Isolation and functional analysis of the Catharanthus roseus deacetylvindoline-4-O-acetyltransferase gene promoter.
【中文关键词】脱乙酰文多灵-4-O-乙酰转移酶,萜类吲哚生物碱,葡萄糖醛酸酶,甲基茉莉酸,4-丁酸-β-D-葡糖苷酸,4-丁酸
【英文关键词】Catharanthus roseus; Deacetylvindoline-4-O-acetyltransferase; GUS activity; Metyljasmonate; Promoter
【中文摘要】长春花含有多种有药用价值的萜类吲哚生物碱,如文多灵、长春质碱、长春碱和长春新碱。DAT是文多灵合成通路上下游关键酶。在这项研究中,DAT基因的启动子被克隆并分析,DAT基因的启动子含有近1773 bp。序列分析表明,DAT启动子包含了一些潜在调控元件,这些元件参与基因表达调控。为了研究它的功能,5’缺失和增益功能缺失的启动子片段与GUS报告基因融合,在长春花细胞悬浮液中瞬时表达并分析。荧光定量检测用来分析DAT启动子的启动活性。研究发现,DAT启动子中在808bp和1086bp之间的三个TGACG序列和一个倒置的CGTCA序列参与茉莉酸信号转导过程。
【英文摘要】Madagascar periwinkle (Catharanthus roseus) produces many therapeutically valuable terpenoid indole alkaloids (TIAs), such as vinblastine and vincristine derived from the monomers vindoline and catharanthine. Deacetylvindoline-4-O-acetyltransferase (DAT) is a key enzyme for the terminal step of vindoline biosynthesis. In this research, the DAT gene promoter was cloned, sequenced, and analyzed. An approximately 1,773 bp genomic DNA fragment of DAT promoter was obtained. Sequence analysis revealed that DAT promoter contained several potential regulatory elements which were involved in the regulation of gene expression. To investigate its function, the promoter fragments with 5' deletions and gain-of-function deletions were fused to GUS reporter gene, and their expressions were analyzed by transient expression in C. roseus cell suspensions. The regulatory activity of DAT promoter was identified with fluorescence quantitative assays. Three TGACG motifs and one inverted motif (CGTCA) between -808 and -1,086 bp in the DAT promoter were found to be involved in methyljasmonate signal transduction pathway.
【语种】英文
【第一作者】王荃
【通讯作者】唐克轩
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【引文索引类型】SCI
【引文索引号】545RU
【学科分类】植物学

【题目】Effect of Plant Growth Regulators on the Biosynthesis of Vinblastine, Vindoline and Catharanthine in Catharanthus roseus.
【中文关键词】长春花,植物生长调节剂,文多灵,长春质碱,长春碱,开花期
【英文关键词】Catharanthus roseus ;Plant growth regulators;Vinblastine ;Vindoline ;Catharanthine ;Blooming ;period
【中文摘要】长春花是一种重要的药用植物,它包含两种抗癌化合物:萜类吲哚生物碱长春碱和长春新碱。有大量的研究是对于次生代谢途径调节生物碱生物合成的机制。在本文中,不同的植物生长调节剂用来短期处理开花时期的长春花,从而研究它们在长春碱、文多灵和长春质碱的合成过程中的作用。水杨酸和乙烯(乙烯利)能够显著提高长春碱、文多灵和长春质碱的含量,而脱落酸和赤霉素降低这三种生物碱的含量。甲基茉莉酸对三种生物碱含量的变化没有显著影响。矮壮素提高了长春碱的含量,但降低了文多灵和长春质碱的含量。
【英文摘要】Catharanthuse roseus is a wellknown medicinal plant for its two valuable anticancer compounds: vinblastine and vincristine, which belongs to terpenoid indole alkaloids. Great efforts have been made to study the principles of its secondary metabolic pathways to regulate the alkaloids biosynthesis. In this article, different plant growthregulators were shortly applied to Catharanthus roseus plants during the blooming period to study their effects on the biosynthesis of vinblastine, vindoline and catharanthine. Salicylic acid and ethylene (ethephon) treatments resulted in a significant increase of vinblastine, vindoline and catharanthine while abscisic acid and gibberellic acid had a strongly negative influence on the accumulation of the three important alkaloids. Methyl jasmonate showed no great effect on the production of these valuable alkaloids. Chlormequat chloride highly enhanced the accumulation ofvinblastine but greatly decreased the contents of vindoline and catharanthine.
【语种】英文
【第一作者】潘琪芳
【通讯作者】唐克轩

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【论文发表时间】2010-05-01 00:00:00
【引文索引类型】SCI
【引文索引号】780WG
【学科分类】植物学

【题目】An efficient somatic embryogenesis based plant regeneration from the hypocotyl of Catharanthusroseus.
【中文关键词】长春花,多品系,下胚轴,胚性愈伤组织,植株再生
【英文关键词】Catharanthuse roseus is a wellknown medicinal plant for its two valuable anticancer compounds: vinblastine and vincristine, which belongs to terpenoid indole alkaloids. Great efforts have been made to study the principles of its secondary metabolic pathwa
【中文摘要】用长春花太平洋樱桃红、热浪系列和地中海玫瑰红这三种品种,研究出一种高效且快速的长春花下胚轴再生植株的方法。经过10天的培养,下胚轴愈伤组织(HPC)在诱导基质(MSCP1)上形成。在诱导基质(MSCP2)上诱导两周,长出胚性愈伤组织(EC)。然后,EC在植株诱导基质(MSCP3)上被筛选,每两周继代一次。六周后, EC发芽并长成幼嫩植株。水解酪蛋白和L-脯氨酸在长春花植株再生中最为氮源是有必要的,它们不仅缩短了培养时间,同时也增加了很多体细胞和派生苗。下胚轴转化为EC进而发育为再生苗的百分比远高于先前的报道。
【英文摘要】An efficient and rapid somatic embryogenesis based plant regeneration from hypocotyls of three Catharanthus roseus cultivars, Pacifica cherry red (PCR), Heatwave mix color (HWMC), and Mediterranean Rose Red (MRR) was standardized. Hypocotyl-derived primary calluses (HPC) were formed on callus induction medium (MSCP1) after 10 days of culture. Embryogenic calluses (EC) withsomatic embryos were induced from HPC on proliferation medium (MSCP2) within 2 weeks of culture.Later, EC were selected and maintained on plantlet formation medium (MSCP3) with periodic subculturing at an interval of 2 weeks. Somatic embryos were germinated well into plantlets on MSCP3 within 6 weeks of culture. As sources of nitrogen, casein hydrolysate (CH; acid free) and L-proline were necessary as standard addenda in the plant regeneration protocol of C. roseus. The promotive effects of CH and L-proline not only decreased the culturing time but also increased the number of somatic embryos and their derived plantlets. The percentage of EC and regenerated plant initiated from hypocotyls were higher than those previously reported.
【语种】英文
【第一作者】袁芳
【通讯作者】唐克轩
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【题目】根癌农杆菌介导的g10h基因遗传转化长春花初步研究
【中文关键词】长春花,根癌农杆菌EHA105,g10h基因,遗传转化
【英文关键词】Catharanthus roseus; Agrobacterium tumefaciens EHA105;g10h gene;genetic transformation
【中文摘要】以长春花下胚轴为基因转化的受体材料,利用根癌农杆菌EHA105介导,将g10h基因转化到3种品系的长春花中。结果表明,附加100 μ mol/L乙酰丁香酮的根癌农杆菌悬液在OD600=0.5~0.6时侵染效果较好;PCR分子检测转基因植株部分呈现阳性,证明g10h基因已整合到长春花基因组中,3种不同品系的长春花的再生率和阳性率存在差异;采用Real time PCR技术进一步检测g10h基因表达情况,结果表明转基因长春花植株中g10h mRNA表达量比非转基因对照高1.62~3.79倍。
【英文摘要】By using the hypocotyls of C.roseus as the gene transformation acceptor. The g10h gene was transferred into varieties of C.roseus mediated by Agrobacterium tumefaciens EHA105. The results that the best infected effect was determined when the suspension liquid medium of Agrobacterium tumefaciens contained 100 μ mol/L acetosyringone, and OD600=0.5~0.6. The PCR screening showed that some transgenic plants were positive, which indicated the g10h gene was seemed to integrate into genome of C.roseus. And the rate of regeneration and transformation of C.roseus were different in three genotypes. Following analysis of Real time RT-PCR results showed that the expression level of g10h mRNA in the transgenic C.roseus plants was 1.62~3.79 fold higher than that of control(non-transgenic C.roseus plants).
【语种】中文

【第一作者】袁芳
【通讯作者】唐克轩
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【学科分类】植物学

【题目】超声波辅助农杆菌介导的长春花遗传转化
【中文关键词】长春花,超声波,农杆菌介导,下胚轴,遗传转化
【英文关键词】Catharanthus roseus;SAAT;hypocotyl;Agrobacterium-mediated transformation
【中文摘要】研究以根癌农杆菌介导结合超声波处理和乙酰丁香酮诱导,通过对GUS基因瞬时表达来研究影响长春花转化效率的因素。对转化方法包括超声波处理的功率和时间、乙酰丁香酮的浓度、共培养时间进行了系统优化。结果表明:在添加AS 100 μ mol/L的1/2 MS培养液中,超声波处理功率80W,处理时间10min,共培养2d,根癌农杆菌介导的长春花下胚轴遗传转化能获得最佳的GUS基因瞬时表达率。本研究为进一步开展根癌农杆菌介导稳定转化长春花奠定了基础。
【英文摘要】The influencing factord of transformation of the hypocotyls of Catharanthus roseus using sonication-assisted, Agrobacterium-mediated method with Acetosyringone inducement were investigated. The results show that the optimal in 1/2 MS suspension containing 100 μ mol/L Acetosyringone and then co-cultured for 2 days. This study lays a foundation for the establishment of Agrobacterium-mediated stable transformation of C.roseus.
【语种】中文
【第一作者】王荃
【通讯作者】唐克轩
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【学科分类】植物学

【题目】浅海养殖环境原生态复合净化菌群的筛选及其影响因素研究
【中文关键词】养殖环境, 复合菌, 生物修复, 异养硝化菌
【英文关键词】Aquaculture environment, Eco-compound bacteria, Bioremediation, Heterotrophic nitrifying bacteria
【中文摘要】本研究由浅海网箱区富营养沉积物经多步富集和筛选获得高效复合生态净化菌群,对浅海养殖区的有机物、氨氮和亚硝酸氮有明显去除效果。研究了不同条件对复合菌液去除养殖水体中氨氮、亚硝酸氮和有机物能力的影响,并确定了最佳净化条件。结果表明,复合菌添加量、葡萄糖添加量,处理时间、温度、pH 和盐度对复合菌的去除效果均有影响,实验条件确定为复合菌的添加量为3 、处理时间为4d、温度为3O±2 ℃、pH 值为8.14-0.2、葡萄糖添加量为2g/L和盐度为(30±10)g/L时,去除效果达到最佳,此时氨氮、亚硝酸氮和溶解有机物的去除率可分别达到79.1 、85.2和88.7 。
【英文摘要】In this study,a group of compound heterotrophic and nitrifying bacteria was enriched and screened from inshore aquaculture environment.And several influencial factors for their purification ability were investigated.The experiment results showed that,the amount ofadded bacteria,glucose,temperature,pH and salinity all influenced their pollutant-removingrate.When the amount of added combination of bacteria was 3%,time of treatment was 4 days,at temperatures 30±2℃ ,pH 8.1±0.2,salinity of 30±10 g/L and 2 g/L glucose was added,the purification effect was the best,resulting in a removal rate of 79.1 for ammonia,85.2for nitrite and 88.7 9/6 for COD,respectively.This study provided a theoretical basis for bioremediation of inshore aquaculture environment by compound bacteria.
【语种】中文
【第一作者】李洪鹏
【通讯作者】李秋芬
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【题目】西农萨能羊FAS基因shRNA序列筛选及其腺病毒载体的构建
【中文关键词】西农萨能羊;乳腺脂肪酸合酶基因;shRNA;腺病毒载体
【英文关键词】Xinong Saanen goat;Mammary gland;Fatty acid synthasegene;shRNA;Adenovirus vector
【中文摘要】山羊脂肪酸合酶(Fatty acid synthase,FAS)是脂肪酸合成的关键酶,对乳腺短、中链脂肪酸合成起重要调控作用。设计了shRNA-5544、shRNA-5936s、hRNA-6132 3条针对FAS基因不同区域的小发夹RNA(Short hairpin RNA,shRNA)及一条阴性对照序列shRNA-NC,并构建表达这4条shRNA序列的入门载体及其靶基因与红色荧光蛋白基因的融合表达载体,二者共转染HEK 293细胞进行有效序列筛选,结果显示shRNA-5544和shRNA-5936序列具有明显的干扰效果。在LR Clonase-Ⅱ重组酶作用下,分别将pENTR/CMV-GFP/U6-shRNA-5544、pENTR/CMV-GFP/U6-shRNA-5936及pENTR/CMV-GFP/U6-shRNA-NC入门载体与腺病毒骨架载体pAd/PL-DEST进行LR重组,经氨苄青霉素及氯霉素抗性筛选后成功获得3个重组腺病毒载体,Sca Ⅰ酶切鉴定及测序分析证实所构建的重组腺病毒载体中插入序列与设计序列一致。重组腺病毒载体经Pac Ⅰ酶切线性化后,利用Lipofectamine 2000转染HEK 293细胞,10~12 d后收集病毒,在HEK 293细胞中反复扩增3次后,获得高滴度的重组腺病毒,利用TCID50法测定重组腺病毒滴度分别为6×108PFU/mL(表达shRNA-5544序列)、5×108PFU/mL(表达shRNA-5936序列)及6×108PFU/mL(表达shRNA-NC序列),为进一步在原代培养的山羊乳腺上皮细胞中进行FAS基因的RNA干扰研究奠定基础。
【英文摘要】Goat fatty acid synthase(FAS),a central multifunctional enzyme in charge of fatty acid synthesis in mammary gland,plays a significant role in regulation of short-and medium-chain fatty acid.This study designed three short hairpin RNA(shRNA) sequences shRNA-5544,shRNA-5936,and shRNA-6132 targeting different area of FAS gene and one negative control sequence,then constructed four entry vectors containing shRNA expression cassette as well as pDsRed1-C1 vector expressing target gene by cotransfecting HEK 293 cell.The result showed that entry vector expressing shRNA-5544 and shRNA-5936 sequences caused an obvious interference effect.Then ampicillin and chloramphenicol were successfully applied to identify three recombinant adenovirus vectors generated by LR recombination between entry vector(pENTR/CMV-GFP/U6-shRNA-5544,pENTR/CMV-GFP/U6-shRNA-5936,pENTR/CMV-GFP/U6-shRNA-NC) and backbone vector(pAd/PL-DEST).Sca Ⅰ digestion identification and sequencing analysis indicated that the sequence inserted into pAd/PL-DEST vector was the same with designed shRNA template.Recombinant adenovirus vector was transfected into HEK 293 Cell by Lipofectamine 2000 reagent after linearization by Pac Ⅰ digestion.The cell lysates harvested during 10 to 12 days post transfection were employed to perform virus amplification in HEK 293 cells for three times to generate high-titer virus.The titer of the adenoviral stock was determined by TCID50 method and respectively reaches 6×108 PFU/mL(Expressing shRNA-5544 sequence),5×108 PFU/mL(Expressing shRNA-5936 sequence),and 6×108 PFU/mL(Expressing shRNA-NC sequence),respectively.The attaining of recombinant virus lays a foundation for RNA interference research of FAS gene in primary goat mammary epithelial cells.
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【第一作者】王伟
【通讯作者】罗军
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【题目】Molecular characterization and chromosomal mapping of porcine brain and muscle arnt-like protein-1 gene
【中文关键词】猪,BMAL1,序列,表达,辐射杂交作图
【英文关键词】Pig, Brain and muscle Arnt-like protein-1 gene, Sequence, Expression,Radiation hybrid mapping
【中文摘要】BMAL1(brain and muscle Arnt-like protein-1)是调节生物钟的一种重要转录因子,其表达受乙酰化的调控,与CLOCK基因形成二聚体对包括脂肪沉积在内的多个性状进行表观遗传调控。本研究克隆了猪BMAL1基因1878bp的cDNA序列,与人、小鼠和大鼠对应序列的同源性分别为94.36%、89.85%和89.79%,氨基酸序列的同源性分别为99.20%,98.24% 和 97.92%。猪BMAL1在背膘、脾脏和小肠等大多数组织中表达。在长白猪的5种脂肪组织中均有表达,在肠系膜脂肪表达量最高,在花油表达量最低,但差异不显著(P>0.05)。在长白猪和莱芜猪背膘中发现了两个剪接变异体。pBMAL1 mRNA在成年莱芜猪14种组织均有表达,在背膘中表达最高,在眼肌中表达最低。用辐射杂种板把pBMAL1基因定位在SSC

2p11-q21。
【英文摘要】Abstract As a transcription factor regulating circadian rhythm, brain and muscle Arnt-like protein-1 (BMAL1)plays an important role in lipid homeostasis. The Chinese indigenous and western pig breeds show marked difference in fat deposition, the structure and function of porcine BMAL1 (pBMAL1) between them might be different. In present study, the molecular characteristics and chromo-somal location of pBMAL1 were analyzed. The results indicated that pBMAL1 cDNA had a coding region of 1,878 bp and shared 94.36, 89.85 and 89.79% identity with human, mouse and rat BMAL1, respectively, and the pBMAL1 protein had 99.20, 98.24 and 97.92% identity to those of human BMAL1b, mouse BMAL1b and rat BMAL1b, respectively. Compared with other mammals, pBMAL1 was more closely related to humanBMAL1. The expression of pBMAL1 was detected in kidney, stomach, spleen, bladder, gallbladder, lumbar spinal cord, meduoblongata, heart, longissimus dorsi muscle, liver, small intestine, large intestine, lung and backfat tissues. In adipose tissues, it was detected in mesentery fat, leaf fat, caul fat, backfat and cardiac fat, however, the expression level was not significantly different. Alternative usage of exon 2 was revealed to result in two pBMAL1 transcripts. Finally, by using a whole genome porcine radiation hybrid (RH) panel (IMpRH), the pBMAL1 gene was mapped to SSC 2p11-q21.
【语种】英文
【第一作者】邢晋祎
【通讯作者】姜运良
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【题目】西农萨能奶山羊脂肪酸合酶基因启动子的克隆及活性测定
【中文关键词】西农萨能奶山羊;FAS启动子;基因克隆;活性测定
【英文关键词】Xinong Saanen dairy goat; FAS promoter; gene cloning; activity determination
【中文摘要】克隆测定西农萨能奶山羊脂肪酸合酶基因(fatty acid synthase,FAS)启动子的全长序列,进行活性区域分析,为奶山羊FAS基因功能和表达调控机理研究提供依据。【方法】根据牛和人脂肪酸合酶基因启动子的同源序列以及西农萨能奶山羊脂肪酸合酶基因5′UTR区域,分别设计上、下游引物,以西农萨能奶山羊全血DNA为模板克隆启动子序列。依据生物信息学分析结果重设引物,将FAS启动子基因分段克隆并连接到荧光素酶表达载体PGL-3,与Psv-β-半乳糖苷酶对照载体共转染293、MCF-7细胞,进行荧光素酶活性检测和β-半乳糖苷酶的活性检测。【结果】FAS基因启动子序列全长2640bp,与牛、人FAS启动子序列同源性90%以上,包括数个潜在SP1、Ets、LSF等转录因子结合位点和CCAAT框、GC框。-1040—-340bp处可能包含启动子活性中心,通过启动子缺失片段试验将活性中心范围缩小至-721—-540bp之间。【结论】通过克隆FAS基因启动子区域,分析表明启动子前端存在负调控元件,找出了启动子最小活性中心。
【英文摘要】The fatty acid synthase (FAS) gene promoter of Xinong Saanen dairy goat was cloned and sequenced to analyze the active region, thus providing an evidence for function determination and expression regulation of FAS gene. [Method] According to the homologous sequences of bovine and homo, and to 5'UTR of Xinong Saanen dairy goat FAS gene, upstream and downstream primers were designed, respectively. Using genome DNA as the template, the FAS gene promoter was cloned. Primers were redesigned according to the results of bioinformatics analysis, the FAS gene promoter was cloned by segmenting and linking up with the PGL-3 expression vector, co-transfecting 293 and MCF-7 cells with the β-galactosidase control vector, and luciferase and β-galactosidase expression were detected. [Result] There are 2 640 bp in FAS gene promoter totally, the homology with bovine and homo is over 90%. The promoter contains several potential transcription factor bind sites such as SP1, Ets, LSF bind sites, several CCAAT boxes and a GC box. The core promoter sequences potentially locate in -1 040-340 bp, and reduced the range to -721--540 bp by promoter deletion experiment. [Conclusion] The full length of Xinong Saanen Dairy Goat FAS gene promoter was cloned, the potential negative control element was analyzed, and the core promoter sequences were found.
【语种】中文
【第一作者】张晓
【通讯作者】罗军
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【学科分类】畜牧学

【题目】Protective Effect of Selenoarginine against Oxidative Stress in D-Galactose-Induced Aging Mice
【中文关键词】硒酸精氨酸,D-半乳糖;氧化应激;保护作用
【英文关键词】selenoarginine; D-galactose; oxidative stress; protective effect
【中文摘要】硒酸精氨酸对耐氧化性的保护作用,研究了在D-半乳糖(D-半乳糖苷)诱导的衰老小鼠。小鼠随机分为四组(n=15):正常对照组,模型组,低剂量硒酸精氨酸组(8.35微克的硒/公斤体重/天),高剂量硒酸精氨酸组(硒16.78微克/千克体重/天)。诱导衰老模型南卡罗来纳注射D-半乳糖溶解在0.9%生理盐水的剂量为150毫克/公斤/天,共6周。正常对照组的小鼠接受皮下注射相同的剂量和频率在无菌生理盐水中的注射。结果表明,氧化应激在肝,肾和脑组织和D-半乳糖诱导的小鼠血清,但硒酸精氨酸对D-半乳糖致衰老模型小鼠有明显的保护作用。低剂量硒酸精氨酸表现优于高剂量硒酸精氨酸。硒酸精氨酸对D-半乳糖致衰老模型小鼠的保护作用,可以归因于海拔抗氧化酶的活性,增强抗氧化防御系统。
【英文摘要】The protective effect of selenoarginine against oxidation resistance was investigated in D-galactose (D-gal)-induced aging mice. The mice were divided into four groups (n=15): a normal group, a model group, a lowdose selenoarginine group (8.35 microg of Se/kg b.w./d), and a high dose selenoarginine group (16.78 microg of Se/kg b.w./d). The aging model was induced by s.c. injection D-galactose dissolved in 0.9% normal saline of a dose of 150 mg/kg/d for 6 weeks. The mice in the normal group received s.c. injection of sterile normal saline at the same dose and frequency. The results showed that oxidative stress in the liver, kidney, and brain tissues and the serum of the mice was induced by D-galactose, but selenoarginine had an obviously protective effect against D-galactose-induced aging mice. Lowdose selenoarginine performed better than high dose selenoarginine. The protective effect of selenoarginine on D-galactose-induced aging mice can be attributed to elevation of the activity of antioxidase and enhanced antioxidant defenses.
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【第一作者】刘安军
【通讯作者】朱振元
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【题目】奶山羊POU1F1基因CDs区的克隆、分析及原核表达
【中文关键词】关中奶山羊;POU1F1;克隆;生物信息学分析;原核表达
【英文关键词】Guanzhong dairy goat;POU1F1;cloning; biological information analysis; prokaryotic expression
【中文摘要】克隆奶山羊垂体特异性转录因子POU1F1基因CDs区,并对其进行生物信息学分析和原核表达。【方法】采集关中奶山羊垂体组织,提取其总RNA,根据绵羊POU1F1基因序列,利用反转录RT-PCR克隆POU1F1基因CDs区,对其进行生物信息学分析,并构建原核表达载体pET-32a-POU1F1,在大肠杆菌BL21(DE3)pLysS中进行表达。【结果】关中奶山羊POU1F1基因(GenBank登陆号:FJ547813)开放读码框由876个碱基组成,编码291个氨基酸,基中包含1个POU-specific结构域(从第124~198个氨基酸)和1个Homeobox结构域(从第214~276个氨基酸);奶山羊POU1F1基因CDs区核苷酸序列与绵羊(NM_001009350)、牛(NM_174579)、人(NM_000306)和小鼠(NM_008849)的同源性分别为98%,97%,91%和86%,其氨基酸序列与绵羊、牛、人和小鼠的同源性分别为98%,98%,96%和92%;成功构建了重组质粒pET-32a-POU1F1的原核表达系统,并在体外条件下诱导表达出融合蛋白His-POU1F1。【结论】POU1F1基因编码的共跟你过氨基酸在奶山羊、绵羊、牛、人和小鼠上高度保守,推测奶山羊POU1F1基因与其他物种的POU1F1基因具有相似的功能。
【英文摘要】The study cloned prokaryotic expression of the CDs of dairy goat pituitary-specific transcription factor POU1F1 gene and analyzed the biological information.【Method】 The CDs of goat pituitary-specific transcription factor POU1F1 gene was amplified and cloned from total RNA of goat pituitary by RT-PCR according to the corresponding sequence in sheep.The biological information analysis was performed with it.The prokaryotic expression vector pET-32a-POU1F1 was constructed and expressed in E.coli BL21(DE3)pLysS.【Result】 The gene POU1F1 CDs is cloned and registered in GenBank(GenBank accession No.FJ547813).The ORF of POU1F1 gene consisted of 876 nucleotides encoding 291 amino acids with a POU-specific(POUs) domain from 124-198 amino acids and a Homeobox domain from 214-276 amino acids.The nucleotide sequence homology of POU1F1 CDs of Guanzhong dairy goat was found to be 98%,97%,91% and 86% compared with that of sheep(NM_001009350),bovine(NM_174579),human(NM_000306) and mouse(NM_008849),while the amino acid sequence

homology was 98%,98%,96% and 92% respectively.The prokaryotic expression system of recombined vector pET-32a-POU1F1 was constructed successfully.The fusion protein His-POU1F1 was expressed by inducing in vitro.【Conclusion】 The functional amino acids coded by the gene POU1F1 are highly conserved in goat,sheep,cattle,human and mouse.It is implied that the gene POU1F1 in dairy goat shows the same function as it does in other species.

【语种】中文

【第一作者】李建华

【通讯作者】罗军

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【学科分类】畜牧学

【题目】添加营养物质提高商品水质净化菌剂净化能力的研究

【中文关键词】微生物制剂, 营养物, 养殖废水净化

【英文关键词】microorganism products, nutrients, aquaculture wastewater purification

【中文摘要】利用室内试验,研究了添加营养物质提高商品水质净化菌剂SYMCORE BZTTM的净化能力的方法。研究分两部分,第1 部分设1个对照组和2个试验组,研究了添加营养物质对水质净化菌剂的净化能力的影响;第2部分设1个对照组和15个试验组,研究了营养物质添加量配比与净化效果的关系。通过计算葡萄糖和磷酸盐的添加量对COD、NH3-N和NO2-N 去除率的影响,建立了相关模型。实验结果表明,添加葡萄糖和磷酸二氢钾能显著提高水质净化菌剂对养殖废水的净化能力。添加葡萄糖使COD、NH3-N和NO2-N 的去除率分别提高了21.92%、34.43%和57.41%; 添加磷酸盐使COD、NH3-N和NO2-N 的去除率分别提高了30.02%、53.45%和15.08%。当C∶N∶P = 62.5∶4.85∶1 时,水质净化菌剂对养殖废水中COD的净化效果最佳; 当C∶N∶P = 37.5∶4.51∶1 时,对氨氮的去除效果最好;当C∶N∶P = 25∶2.97∶1时,对亚硝酸氮的净化能力最高。葡萄糖与磷酸盐的添加量与3 种污染物去除率的关系可以用二项式曲线拟合。实验结果与拟合结果相符。为养殖废水的生物修复和微生物制剂的推广应用提供了理论和技术依据。

【英文摘要】The promoting effect of nutrient addition on aquacultural wastewater purification of microorganism products,SYMCORE BZTTM was investigated,and furthermore,the relationship between removal rates of chemical oxygen demand (COD),ammonia nitrogen (NH3-N) and nitrite nitrogen (NO2-N) and the ratio of C∶N∶P was studied. The experiments were composed of two parts. Part I consisted of one control group and two trial groups,promoting effect of nutrient addition on removal rate of microorganism was proved. Part II was made up of one control group and 15 trial groups to analyze the relationship between the mount of addednutrients and the removal rates of pollutants. Moreover,the relationship between the ratio of carbon,nitrogen and phosphorus and the removal rates of COD,NH3-N and NO2-N was calculated,and the mathematics models were set up. The results showed that the purification ability of microorganism products was significantly improved by adding suitable nutrients. The removal rates of COD,NH3-N and NO2-N of the treatment group increased 21.92%,34.43%,57.41% by adding glucose and 30.02%,53.45%,15.08% by adding phosphate compared with the control,respectively. At the same time,the amount of phosphate was found insufficient in control group. The removal rates for COD,NH3-N and NO2-N were the highest,97.07%,96.88% and 93.41%,when the ratio of C∶N∶P was 62.5∶4. 85∶1,37.5∶4.51∶1 and 25∶ 2.97∶1,respectively. The relationship of glucose and phosphate concentration with COD,NH3-N and NO2-N removal rates could be described by quadratic equations,V = aX2 + bX + c. The individual COD,NH3-N and NO2-N removal rates of the microorganism products are positively correlated with the concentration of glucose and phosphate in range of 0- 40 mg/L and 0-1600 mg/L,respectively. The process of microbial remediation could be featured as three sequential stages: Firstly,dissolved organic matter (DOM) was degraded; secondly ammonia was oxidized; and at last,nitrite was oxidized. From day 1 to day 7,DOM was directly utilized as the carbon and nitrogen sources of the heterotrophic bacteria. The removal rates of COD at this stage were significantly higher than those of the control. From day 7 to day 13,bacteria mainly utilized ammonium as nitrogen sources and produced nitrite. So the concentration of NH3-N reduced sharply,while NO2-N concentration increased suddenly. From day 13 to 19,NO2-N concentration decreased rapidly,because the nitrite was oxidized to nitrate. This paper supplied theoretical and technical foundation for the biopurification of aquaculture wastewater and the extending application of microbial products.

【语种】中文

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【通讯作者】李秋芬

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【学科分类】微生物学

【题目】Effects of Genistein on oxidative injury in Endothelial cells
【中文关键词】染料木黄酮,血管内皮细胞,细胞凋亡,抗氧化作用,体外
【英文关键词】genistein, vascular endothelial cell, apoptosis, antioxidation, in vitro
【中文摘要】本文的主要目的是研究染料木黄酮对血管内皮细胞动脉粥样硬化氧化脂蛋白的影响,通过诱导抗氧化酶的产生和阻止细胞凋亡。使用染料木黄铜(10-100μmol/L)作用人的脐带衍生细胞ECV304,清楚抗氧化剂VE(50μmol/L)或者是作用24h,然后使用ox-LDL额外的孵育24h。然后,测定细胞的抗氧化剂酶的活性,脂质过氧化反应,单核细胞的粘附能力,细胞的形态,生存和凋亡的指数。Ox-LDL降低了超氧化物歧化酶和谷胱甘肽过氧化物酶的活性,出现了脂质的过氧化反应,出现了单核细胞的粘附性增强和细胞形态学方面的损伤和凋亡。维生素E和染料木黄酮能够组着这样的作用,并且染料木黄酮呈现出剂量效应。除此之外,染料木黄酮能够保护抗氧化酶的活性,抑制脂质过氧化反应。
【英文摘要】The aim of this study was to test the hypothesis that genistein protects vascular endothelial cells against the pro-atherosclerotic stressor, oxidized low-density lipoprotein, by inducing antioxidant enzymes and preventing apoptosis. Human umbilical cor-derived endothelial cells were incubated with genistein, the radical scavenging antioxidant vitamin E,or vehicle for 24h and then were incubated with ox-LDL for an additional 24h.Subsequently, antioxidant apoptotic index were assessed. Further, this effect of genistein is associated with maintenance of antioxidant enzyme activities and inhibition of lipid peroxidation.
【语种】英文
【第一作者】黄国伟
【通讯作者】曹小红
【期刊名称、卷期、页码】J Nutr Sci Vitaminol, 2008,54,402-408
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【学科分类】食品科学技术基础学科

【题目】对虾养殖中后期虾塘沉积物的硝化与反硝化作用
【中文关键词】虾塘, 沉积物, 硝化, 反硝化, 氧化亚氮
【英文关键词】Shrimp pond, Sediment, Nitrification, Denitrification, Nitrous oxide
【中文摘要】2009年7~8月,通过使用乙炔抑制技术对对虾养殖池塘的投饵区和非投饵区沉积物硝化与反硝化速率进行了测定,并同时用气相色谱法测定了虾塘表层N2O浓度。结果表明,虾塘沉积物硝化、反硝化和硝酸盐还原速率分别为10.70~337.47 μmol/m·h、1.10~17.92 μmol/m·h、0.090~7.48 mmol/m2·h,虾塘表层N2O浓度为5.98~10.90 nmol/l ,海一气交换通量为1.76~3.89 μmol/m2·d。虾塘硝化与反硝化作用较为复杂,不仅存在着显著的区域性差异,而且呈现出明显的养殖季节变化特征,其中8月中旬硝化与反硝化速率达到最高值,而在整个养殖季节,投饵区硝化速率约为非投饵区的2~10倍,反硝化速率约为非投饵区的1~4倍。反硝化作用在虾塘生态系统的氮循环中扮演着重要角色,其日无机氮去除量为2.8Og/d,占虾塘无机氮总输入的2.34 ,占总输出的2.56 。
【英文摘要】The nitrification and denitrification non-feeding areas of the shrimp culture pond wererates in the sedim ents of the feeding and measured by applying acetylene inhibition technique,and the N2O concentration in the surface water was determined by GC-ECD duringJuly-August,2009.The results showed that the rates of nitrification,denitrification,and ni-trate reduction ranged between 10.70-337.47 μmol/m·h,1.10-17.92 μmol/m·h,0.09-7.48 mmol/m·h respectively.Concentrations of N2O in the surface water was 5.98-10.9nmol/L and the air water flux of N2O ranged between 1.76-3.89 μmol/m·d.Nitrification and denitrification process in the sediments of the shrimp pond showed both significant regionaldifferences and significant seasonal variations.In mid-August,nitrification and denitrification rates reached the highest values,and in the whole culture period,nitrification rates in the feed-ing area were 2-10 folds of the non feeding area and denitrification rates in the feeding area were 1-4 folds of the non-feeding area.Denitrification played an important role in the nitrogen cycle of the shrimp pond ecosystem,removing inorganic nitrogen at 2.80g/d,accounting for 2.34 of the total input of inorganic nitrogen and 2.5 6 of the total output in the shrimp pond.

【语种】中文
【第一作者】张立通
【通讯作者】孙耀
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【学科分类】水产学基础学科

【题目】应用竞争PCR方法检测亚硝化细菌的研究
【中文关键词】竞争PCR, 亚硝化细菌, 定量检测, 内标模板
【英文关键词】无
【中文摘要】选用竞争PCR 技术建立了亚硝化细菌的快速定贵检测方法。实验以实验室分离、鉴定的一株亚硝化细菌提取的DNA 为模板,设计特异性引物, 制备特异性内标模板, 进行竞争PCR 实验;同时采用传统的平板计数法和吖啶橙荧光显微镜计数法两种方法进行细菌计数, 与竞争PCR 结果比较分析, 建立了样品细菌数量与内标模板量的线性方程, 并将其应用于海水养殖环境中亚硝化细菌的检浏中。该方法具有简化检测过程、缩短细菌检测时间、无须昂贵仪器设备等优点, 并克服有些环境微生物难以培养的困难, 为将来有益菌在应用中实际存活和繁殖情况的监测提供了有力的技术支撑。
【英文摘要】无
【语种】中文
【第一作者】张艳
【通讯作者】李秋芬
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【学科分类】分子生物学

【题目】西农萨能奶山羊激素敏感脂酶基因CDS区的克隆与生物信息学分析
【中文关键词】西农萨能奶山羊;激素敏感脂酶;RT-PCR;序列分析
【英文关键词】Xinong Saanen dairy goat;Hormone-sensitive lipase;RT-PCR Sequence; analysis
【中文摘要】根据GenBank已收录的牛(Bos taurus)、人(Homo sapiens)和小鼠(Mus musculus)等物种激素敏感脂酶(HSL)基因序列的同源保守区域,设计特异性引物,利用RT-PCR技术,从西农萨能羊乳腺组织中克隆得到了山羊(Caprar hircus)HSL基因的CDS,并对其核苷酸序列和推导的氨基酸序列以及蛋白质结构进行了生物信息学分析。结果表明,山羊HSL基因CDS全长2271bp,编码756个氨基酸残基(GenBank登录号为:EU273879),与牛、人和小鼠的核苷酸序列同源性分别为96%、86%和79%;氨基酸序列的同源性分别为96%、85%和83%;其蛋白质的分子量为82583.7D,等电点为6.23,其氨基酸序列中存在较强的疏水区域,三级结构存在一个α/β水解酶折叠区域,该特征与牛、人及小鼠的HSL基本一致。
【英文摘要】According to the highly conservative region of Hormone-sensitive Lipase (HSL) gene sequences from bovine (Bos taurus), human (Homo sapiens) and mouse (Mus musculus) in the GenBank, the specific primers were designed to clone the CDS region of HSL gene in mammary gland of Xinong Saanen dairy goats using the RT-PCR method, the bioinformatic analyses of nucleotide sequence, the deduced amino acid sequence, and the prediction of protein structures of HSL gene were conducted. The results showed that the full length of CDS region of HSL gene was 2 271 bp encoding 756 amino acids (GenBank accession No. EU273879), homogeneities of CDS nucleotide sequence between goat and bovine, human and mouse were 96%, 86%, and 79%; that of amino acid sequence were 96%, 85%, and 83%, respectively, the predicted molecular weight and isoelectric point of HSL gene were 82 583.7 D and 6.23, there were a strong hydrophobic region in amino acid sequence and a α/β hydrolase fold region in the tertiary structure, which were similar with the structure of CDS region of HSL gene in bovine, human and mouse.
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【第一作者】刘俊霞
【通讯作者】罗军
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【题目】利用秀珍菇菇渣栽培双孢蘑菇的试验
【中文关键词】秀珍菇;菇渣;双孢蘑菇;生物学效率
【英文关键词】Oyster mushrooms; mushroom compost; bisporus; biological efficiency
【中文摘要】将秀珍菇菇渣处理后以不同比例用于栽培双孢蘑菇,结果表明:经过简单处理的菇渣栽培双孢蘑菇,与常规配方相比,具有菌丝生长快,产量高 成本低等优点,并且随着菌渣比例的增加菌丝生长速度有增加的趋势 其中在培养基培养料中加入30%秀珍菇菇渣栽培双孢蘑菇,生物学效率达到63% ,比常规栽培料高出10% ,说明菇渣用于双孢蘑菇生产是可行并有良好效果的.
【英文摘要】Different proportions for the cultivation of Agaricus mushrooms, oyster mushrooms, mushroom compost processing: after a simple processing mushroom residue cultivation of Agaricus bisporus mycelial growth of high-cost production and low, compared with conventional formulations,With the increase in the proportion of mushroom residue mycelial growth rate is on the increase, which in culture medium compound bisporus Add to 30% of oyster mushrooms, mushroom compost cultivation, biological efficiency reached 63% and 10% higher than the conventional cultivation materialmushroom compost for Agaricus mushroom production is viable and with good results.
【语种】中文
【第一作者】万水霞
【通讯作者】万水霞
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【题目】Protective Effect of Cartilage-selenium Polysaccharide on Diethylnitrosamine-Induced Liver Injury in Mice and Its Possible Mechanisms
【中文关键词】软骨硒多糖,肝损伤;二乙基亚硝胺(DEN);自由基,抗氧化能力; RT-PCR
【英文关键词】cartilage-selenium polysaccharide; Liver injury; diethylnitrosamine (DEN); free radical; antioxidant ability; RT-PCR
【中文摘要】为研究软骨硒多糖对肝损伤的保护作用及机制所造成的二乙基亚硝胺DEN在小鼠。在整个实验期间,肝脏的肝损伤指标进行分析,大大受伤DEN诱导和完全防止低和高的软骨硒多糖。 GSH-Px和SOD和GSH-Px和SOD的表达量分别为显着降低MDA含量和中心点OH和O(2)(-)中心点清除。软骨硒多糖型胶原量I和的α-SMA和HSP47的mRNA,通过RT-PCR检测到模型组相比明显降低。 ,软骨硒多糖DEN在诱导小鼠肝损伤的保护作用,其机制与清除自由基,提高SOD和GSH-Px活性,提高GSH-Px和SOD的mRNA的数量,型胶原的减少量我和mRNA表达的α-SMA和HSP47和抑制炎症介质的生产。
【英文摘要】To study the protective effects and mechanisms of cartilage-selenium polysaccharide on liver injury caused by diethylnitrosamine DEN in mice. During the entire experimental period, to analyze liver injury indexes, the liver was greatly injured by DEN induced and completely prevented by low and high cartilage-selenium polysaccharide. GSH-Px and SOD activities and quantity of mRNA of GSH-Px and SOD were significantly higher to decrease MDA content and center dot OH and O(2)(-)center dot scavenging. Cartilage-selenium polysaccharide was evidently reduced quantity of collagen type I and mRNA of alpha-SMA and HSP47 compared to model group by RT-PCT detecting. Cartilage-selenium polysaccharide had protective effect on liver injury induced by DEN in mice, and its mechanisms were related to free radical scavenging, increasing SOD and GSH-px activities, enhancing quantity of mRNA of GSH-Px and SOD, decreasing quantity of collagen type I and mRNA of alpha-SMA and HSP47 and inhibiting the production of proinflammatory mediators.
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【第一作者】朱明丽
【通讯作者】刘安军
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【题目】Phylogenetic analysis of bacterial communities in the shrimp and sea cucumber aquaculture environment in northern China by culturing and PCR – DGGE
【中文关键词】无
【英文关键词】Bacteria, Biodiversity, Aquaculture, Shrimp, Sea cucumber,Environment, DGGE
【中文摘要】无
【英文摘要】In this study, we investigated the bacterial communities in the shrimp and sea cucumber culture environment, including shrimp ponds (SP), sea cucumber ponds (SCP),mixed-culture ponds (MCP) and the effluent channel (EC) in Qingdao, China. Bacteria cultivation showed that the counts of heterotrophic, nitrate-reducing and sulfate-reducing bacteria in the sediment of SP were higher than that in the sediment of SCP and MCP, varying between 8.7 9 104 and 1.86 9 106, 2.1 9 104 and 1.1 9 105, and 9.3 9 101 and 1.1 9 104 CFU g-1,respectively. In contrast, the counts of ammonium-oxidizing and nitrifying bacteria in the sediment of SP was lower than that in the sediment of SCP and MCP. Denaturing gradient gel electrophoresis (DGGE) of 16S rDNA gene and dendrogram analyses showed that bacterial diversity in the mixed-culture environment was higher than that in the monocultures. The similarity of bacterial community between EC and SCP or MCP was higher than that between EC and SP. These results indicated that sea cucumber culture played a significant role in influencing the environmental bacterial communities that were composed mainly of Flavobacteriaceae (64.3%), Bacteriodetes (21%) and delta proteobacteria (14.7%), including the genera of Croceimarina, Lutibacter, Psychroserpens and so on. The results explained the benefit of sea cucumber culture in shrimp ponds at the level of microbial ecology.
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【学科分类】微生物学

【题目】Effects of soybean Isoflavone on the Notch signal pathway of the brain in rats with cerebral Ischemia
【中文关键词】大豆异黄酮 Notch 脑缺血 小鼠
【英文关键词】soybean isoflavone, Notch, cerebral ischemia, rat
【中文摘要】本文旨在测试灌胃大豆异黄酮在模拟中风实验过程中激活Notch 信号通路并阻止大脑皮层凋亡的假设。将SD鼠按每组十只随机分配成四组,分别是假手术加溶剂组(Sham),中间脑动脉闭塞加溶剂组(MCAO),Sham中小鼠加低剂量(10mg/(kg·d)大豆异黄酮组,MCAO中小鼠加高剂量(50mg/(kg·d)大豆异黄酮组。盐溶液(浓度,10ml/(kg·d))和大豆异黄酮在进行假手术和MCAO之前通过灌胃给予,先灌胃28天,随后再灌胃7天。尽管通常细胞凋零是通过TUNEL检测来进行,Notch信号系统(notch1和Hes5)混合物的信使RNA和蛋白表达程度通过原位杂交与分子印迹分别进行检测。实验结果表明MCAO组刺激Notch1和Hes5在信使RNA和蛋白层面的表达,并且促进细胞凋零。大豆异黄酮剂量依赖性地增强MCAO组在Notch1和Hes5表达程度上的刺激作用,但是降低了细胞凋零作用。这些结果表明可能存在一种机制关于大豆异黄酮对中风者神经保护的作用。
【英文摘要】The aim of this study was to test the hypothesis that gastric lavage with soybean isoflavone activates the Notch signaling pathway and prevents apoptosis in the cerebral cortex during experimental strokes. Sprague-dawley rats were randomly assigned to four groups of 10 rats each.The results identify a possible mechanism by which soybean isoflavone confers neuroprotection in strokes.
【语种】英文
【第一作者】黄国伟
【通讯作者】曹小红
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【学科分类】食品科学技术基础学科

【题目】西农萨能奶山羊甘油三酯水解酶(ATGL)基因的克隆与组织表达分析
【中文关键词】西农萨能奶山羊;甘油三酯水解酶;基因克隆;组织表达
【英文关键词】Xinong Saanen dairy goat; Adipose triglyceride lipase(ATGL); Gene cloning; Tissue expression
【中文摘要】甘油三酯水解酶(adipos etriglyceride lipase,ATGL)是水解甘油三酯的关键酶。本研究采用RT-PCR和RACE技术,分离并克隆了西农萨能奶山羊(Capra hircus)ATGL基因的cDNA序列,其全长2074bp(GenBank收录号为:GQ918145),包括5'UTR141bp,CDS1461bp,和3'UTR472bp,该基因编码486个氨基酸(GenBank收录号为:ADD25174)。经氨基酸序列分析发现,山羊与GenBank中牛(Bos taurus)、大鼠(Rattus norvegicus)、小鼠(Mus musculus)、猪(Sus scrofa)和人(Homo sapiens)的ATGL的相似性较高,均在85%以上。经蛋白质结构分析表明,其蛋白质的分子量为53243.4D,等电点为7.4,具有GXSXG(氨基乙酸-X-丝氨酸-X-氨基乙酸)脂肪酶活性特征结构和Patatin结构域及α/β水解酶折叠域,在N端存在跨膜螺旋结构,并且整个序列中不含信号肽。此外,本研究还通过实时荧光定量PCR(RT-qPCR)技术对ATGL基因进行了组织表达分析。结果表明,在所检测的12个组织或器官中均有ATGLmRNA存在,其中皮下脂肪组织中表达最丰富,并且远远高于其它组织或器官,肺、乳腺次之,心脏相对最少。ATGL基因在奶山羊的乳腺组织中具有较高的表达水平,为该基因的功能研究提供了实验依据。
【英文摘要】Adipose triglyceride lipase (ATGL) is a key enzyme in lipid lipolysis. In this experiment, the whole cDNA length ATGL gene with 2 074 bp (GenBank accession No. GQ918145) was isolated and cloned by RT-PCR and RACE (rapid amplification cDNA ends) from Xinong Saanen dairy goats (Capra hircus). ATGL gene contains 141 bp 5'UTR, 472 bp 3'UTR, and 1 461 bp coding sequences (CDS) which encode a protein of 486 amino acid residues (GenBank accession No. ADD25174). AA sequence alignment showed that the AA of goat ATGL had high score similarity, more than 85%, when compared with bovine (Bos taurus), rat (Rattus norvegicus), mouse (Mus musculus), pig (Sus scrofa), and human (Homo sapiens) in GenBank. The protein structure had a Patatin domain, α/β hydrolase folds and GXSXG (Gly-X-Ser-X-Gly) structure. A transmembrane helix was speculated in the N-terminal and no signal peptide found in the entire sequence. The protein molecular weight was 53 243.4 D and the isoelectric point was 7.4. Furthermore, the ATGL gene expressions in various organs and tissues were analyzed by real-time fluorescence quantitative-PCR. The results showed that the ATGL mRNA existed in all of the 12 detected organs and tissues. The most abundant expression was detected in subcutaneous adipose tissue, which was significantly higher than that of the other tissues, and the minimal expression was observed in heart tissue. The higher expression level of ATGL gene in the mammary gland of dairy goats provided the experimental evidence for its function analysis.
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【题目】Partial characterization and anti-tumor activity of an acidic polysaccharide from Gracilaria lemaneiformis
【中文关键词】龙须菜;多糖;抗肿瘤;免疫调节
【英文关键词】Gracilaria lemaneiformis; Polysaccharide; Anti-tumor; Immunomodulation
【中文摘要】龙须菜的酸性多糖(GLSPs)的分离与碳水化合物的含量为72.06%和6.13%的硫酸盐含量。 FTIR的GLSPs分析表明,两种典型的吸收出现在1259和804厘米-1被分配到SO和COS债券拉伸。高效凝胶渗透色谱表明分子量GLSPs主要分布在1.37×106沓。 GC分析表明GLSPs被主要由半乳糖,并含有少量的鼠李糖,阿拉伯糖,木糖和甘露糖。此外,ICR小鼠移植H22肝癌细胞中的抗肿瘤和免疫调节作用评价GLSPs的。它表明,GLSPs显着抑制肿瘤的生长,促进脾细胞增殖和巨噬细胞的吞噬能力,并增加了水平的IL-2和CD8 + T细胞的荷瘤小鼠血液中。结果表明,GLSPs显示的显着的抗肿瘤和免疫调节作用,并且它可以提供一个潜在的材料,健康食品和临床药物。
【英文摘要】An acidicpolysaccharide (GLSPs) with carbohydrate content of 72.06% and sulfate content of 6.13% was isolated from Gracilarialemaneiformis. FTIR analysis of GLSPs showed that two typical absorptions appeared at 1259 and 804 cm − 1 were assigned to

SO and COS bonds stretching respectively. HPGPC showed the molecular weight of GLSPs was mainly distributed at 1.37 × 106 Da. GC analysis showed GLSPs was chiefly composed of galactose, and contained a small amount of rhamnose, arabinose, xylose and mannose. Moreover, the anti-tumor and immunomodulatory effects of GLSPs were evaluated in ICR mice transplanted H22 hepatoma cells. It was shown that GLSPs significantly inhibited the growth of tumor, promoted splenocytes proliferation and macrophage phagocytosis, and increased the level of IL-2 and CD8+ T cells in blood of tumor-bearing mice. The results suggested that GLSPs displayed remarkable anti-tumor and immunomodulatory activities, and it may provide a potential material of healthy food and clinical medicines.

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【学科分类】食品科学技术基础学科

【题目】HRM技术在高直链淀粉基因ae筛选中的应用
【中文关键词】淀粉分支酶SBEIIb HRM技术 SNP基因发掘
【英文关键词】无
【中文摘要】操作简单并且成本较低的新型的单核苷酸多态性检测方法的不断创新和应用对于植物功能基因发掘非常重要。基于PCR反应和饱和荧光染料LC-Green发展起来的HRM技术是一种最新的遗传学分析手段。该项技术从2003年发明以来,主要应用于临床疾病的分子诊断和病人基因分型等研究中。本研究在国内率先将HRM技术引入到玉米SNP 筛查研究中。研究中针对高直链淀粉玉米关键基因sebIIb的22个外显子设计17个特异性筛选引物,利用LightScanner分析系统对已建立的Mo17玉米品种的EMS诱变的点突变种子资源库进行高通量筛选,研究从512份试验样本中共筛选获得69个点突变。进一步的生物信息学分析表明这些点突变大多数发生在外显子与内含子交界区域。只有7个点突变存在于外显子上。其中sebIIb第11个外显子的一个点突变导致淀粉分支酶SEBIIb第358位由谷氨酸变化为天冬氨酸。体外酶活实验和籽粒淀粉含量分析表明该突变能够导致淀粉分支酶SBEIIb活性发生变化,进而引起突变体重直链淀粉含量的明显变化。我们的研究结果表明HRM 技术作为一项新型的snp检测方法能够有效的在玉米SNP基因发掘中应用,所获得的ae基因突变体为高直链淀粉玉米的分子育种提供很好的材料来源。
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【语种】中文
【第一作者】刘相国
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【题目】奶山羊乳腺上皮细胞的分离、培养及鉴定
【中文关键词】奶山羊;乳腺上皮细胞;原代培养
【英文关键词】dairy goat; mammary gland epithelial cell; primary culture
【中文摘要】应用组织块培养法和高密度培养、连续传代法建立西农萨能奶山羊乳腺上皮细胞体外培养体系,通过生长曲线绘制、核型分析、免疫荧光染色(角蛋白、上皮膜抗原、波形蛋白、β-酪蛋白)、油红染色及β-酪蛋白基因的RT-PCR分析进行培养细胞鉴定。实验结果表明细胞生长曲线为典型的S型,染色体数目众数为60,细胞角蛋白、上皮膜抗原、波形蛋白、β-酪蛋白表达均呈阳性,油红染色后可见细胞质内的脂滴,且细胞表达酪蛋白mRNA。说明运用本方法培养的细胞为正常的乳腺上皮细胞,并具有一定的泌乳功能。
【英文摘要】Based on the in vitro culturing system developed for epithelial cells in mammary gland of Xinong Saanen dairy goats using tissue explant culture, high density cultivation, and continuous passaging, the cultured epithelial cells were evaluated by growth curve fitting, karyotype analysis, immunofluorescence staining (keratin, epithelial membrane antigen (EMA), vimentin, β-casein), oil

red staining and RT-PCR of β-casein gene. The results showed that the growth of epithelial cells with the model number of chromosome of 60 demonstrated a typical ‘S’ shape curve, the positive gene expression of keratin, EMA, vimentin and β-casein was detected, the cytoplasmic lipid droplets were observed following the oil red staining, the cultured cells expressed the mRNA of β-casein. In conclusion, the current in vitro culturing system can obtain the normal mammary gland epithelial cells with the function of secretion.

【语种】中文
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【通讯作者】罗军
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【题目】Identification and characterization of a novel L-arabinose isomerase from Anoxybacillus flavithermus useful in D-tagatose production
【中文关键词】D-塔格糖;L-阿拉伯糖异构酶; Anoxybacillus flavithermus;嗜热;嗜碱酶
【英文关键词】D-tagatose; L-arabinose isomerase; Anoxybacillus flavithermus; Thermophilic; Alkaliphilic enzyme
【中文摘要】D-塔格糖是一个功能很强的罕见的己酮糖,并且已作出了许多尝试,以D-半乳糖转换成D-塔格糖的宝贵使用L-阿拉伯糖异构酶(L-AI)。在这项研究中,高温型品种,拥有L-AI基因分离从温泉污泥,确定为Anoxybacillus flavithermus根据其生理生化特性及系统发育分析其16S rRNA基因。此外,该基因编码L-人工智能从A. flavithermus(AFAI)中克隆和表达在大肠杆菌BL21(DE3),在较高的水平。 L-AI的分子量为55,876沓,最适pH为10.5,温度为95℃。结果表明,转移到由D-半乳糖D-塔格糖的转化平衡,通过提高反应温度和添加硼酸。 A 60%的转化率,D-半乳糖,D-塔格糖的异构化温度为95℃下与硼酸观察。对于D-半乳糖与硼酸盐的催化效率(k(下猫)/ K(米))为9.47 mM的(-1)的分钟(-1)的两倍之多,无硼酸盐。我们的研究结果表明,AFAI是一种新型的超嗜热和嗜碱具有较高的催化效率为D-半乳糖异构酶,表明其用于生产D-塔格糖的巨大潜力。
【英文摘要】D-Tagatose is a highly functional rare ketohexose and many attempts have been made to convert D-galactose into the valuable D-tagatose using L-arabinose isomerase (L-AI). In this study, a thermophilic strain possessing L-AI gene was isolated from hot spring sludge and identified as Anoxybacillus flavithermus based on its physio-biochemical characterization and phylogenetic analysis of its 16s rRNA gene. Furthermore, the gene encoding L-AI from A. flavithermus (AFAI) was cloned and expressed at a high level in E. coli BL21(DE3). L-AI had a molecular weight of 55,876 Da, an optimum pH of 10.5 and temperature of 95 ° C. The results showed that the conversion equilibrium shifted to more D-tagatose from D-galactose by raising the reaction temperatures and adding borate. A 60% conversion of D-galactose to D-tagatose was observed at an isomerization temperature of 95 ° C with borate. The catalytic efficiency (k (cat) /K (m)) for D-galactose with borate was 9.47 mM(-1) min(-1), twice as much as that without borate. Our results indicate that AFAI is a novel hyperthermophilic and alkaliphilic isomerase with a higher catalytic efficiency for D-galactose, suggesting its great potential for producing D-tagatose.
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【题目】西农萨能奶山羊LXRα基因的克隆、序列分析及组织表达
【中文关键词】西农萨能奶山羊;LXRα;序列分析;组织表达
【英文关键词】Xinong Saanen Dairy Goat;LXRα;Sequence analysis;Tissue expression
【中文摘要】采集西农萨能奶山羊乳腺组织,利用RT-PCR和RACE技术分离并克隆LXRα基因的cDNA序列。其全长1 654 bp(GenBank收录号为GU332719),包括5′UTR150 bp,CDS1 344 bp和3′UTR160 bp,该基因编码447个氨基酸。经氨基酸序列

分析发现,山羊LXRα与GenBank中牛(Bos taurus)、小鼠(Mus muscu-lus)、褐鼠(Rattus norvegicus)、猪(Sus scrofa)和人(Homosapiens)的LXRα相似性较高,均在90%以上。蛋白质结构分析表明,其蛋白质分子量为50.35 ku,等电点为6.3。具有受体特征结构域:配体结合区域(Lig-and-binding Domain,LBD)、DNA结合区域(DNA-binding Domain,DBD)和锌指蛋白C4型区域(Zinc fingerC4 type,zf-C4)。整个序列具有较强的亲水性且不含信号肽与跨膜结构,该基因定位于细胞核。此外,还通过实时荧光定量PCR(RT-qPCR)技术对LXRα基因进行组织表达分析。在所检测的西农萨能奶山羊11个组织中均有LXRα基因的mRNA存在,其中小肠组织中表达最丰富,乳腺、肝脏、脾脏、皮脂次之,心脏相对最低。

【英文摘要】LXRα(Liver x receptor α)is a key sensor of lipid homeostasis.This experiment was conducted to clone LXRα gene cDNA sequence,to analyze the sequence by biology information analyzing software,and to study the gene expression in differences tissues.In this experiment,RT-PCR and RACE methods were used for the isolation and cloning of the whole cDNA in mammary gland.The length with 1 654 bp(GenBank accession No.GU332719) which contain 150 bp 5′ UTR,1 344 bp CDS and 160 bp 3′ UTR,encoding a protein of 477 amino acid residues.The amino acid of Capra hircus LXRα with high score similarity,more than 90%,compared to Bos taurus,Mus musculus,Rattus norvegicus,Sus scrofa and Homo sapiens in GenBank which was indicated by amino acid sequence alignment.The protein structure analysis showed that the protein molecular weight is 50.35 ku and the isoelectric point is 6.3.It has the characteristic of receptor domain: Ligand-binding Domain(LBD),DNA-binding Domain(DBD) and Zinc finger C4 type(zf-C4).The whole sequence has strong hydrophilic,does not have signal peptide and transmembrane structure,localized in the nucleus.In addition,we also analyzed the tissue expression of LXRα gene through the approach of real-time fluorescence quantitative-PCR(RT-qPCR).The results showed that the mRNA of LXRα gene existed in all the 11 detected organizations with the most abundant expression in small intestine tissue,followed by the mammary gland,liver,spleen and sebum,the minimal expression in heart was observed.

【语种】中文

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【学科分类】畜牧学

【题目】低蛋白日粮添加氨基酸对生长肥育猪生长性能和氮排泄的影响

【中文关键词】生长肥育猪;低蛋白日粮;必需氨基酸;生长性能;氮排泄

【英文关键词】Growing and finishing pigs; low protein diet; essential amino acids; growth performance; nitrogen excretion

【中文摘要】选用90头体重31KG左右的杜长大三元杂交猪根据体重和性别分成3组饲喂3种蛋白质水平日粮对照组试验Ⅰ组和试验Ⅱ组日粮蛋白水平生长猪阶段分别为17、14、15和肥育猪阶段分别为15、13、14和试验Ⅰ组和试验Ⅱ组日粮按照猪理想氨基酸模式配制结果表明猪各个阶段的日增重与料重比差异都不显著(P>0.05)生长肥育猪试验Ⅰ组Ⅱ组猪血清尿素氮都显著低于对照组(P<0.05)生长猪阶段猪舍内氨气质量浓度试验Ⅰ组Ⅱ组都显著低于对照组(P<0.05)肥育猪阶段猪舍内氨气质量浓度试验Ⅰ组显著低于对照组(P<0.05)各组各阶段猪舍内硫化氢质量浓度无显著差异(P>0.05)猪生长阶段与对照组相比氮排泄量试验Ⅰ组Ⅱ组分别显著降低15.7%(P<0.05)和11.4%(P<0.05)和肥育猪阶段与对照组相比氮排泄量试验Ⅰ组Ⅱ组分别降低15.2%(P<0.05)和8.9%(P>0.05).

【英文摘要】Selection of about 90 Weight 31KG Duroc crossbred pigs divided into three kinds of protein levels of the three groups were fed the diet control group test group Ⅰ and group Ⅱ dietary protein level in growing pigs stage according to body weight and gender were 17,14 , 15 and finishing pigs stage were the 15,13,14 and test group Ⅰ and group Ⅱ dietary preparation results show that the various stages of the pig daily gain and feed to gain ratio were not significantly different (P> 0.05 in accordance with the swine ideal amino acid pattern) growing and finishing pigs test group Ⅰ Ⅱ group pig serum urea nitrogen were significantly lower than the control group (P <0.05) in growing pigs stage mass concentration of ammonia in the barn test group Ⅰ Ⅱ group were significantly lower than those in the control group (P <0.05) the finishing pigs stages mass concentration of ammonia in the barn Test Ⅰ group was significantly lower than the control group (P <0.05) in each group each stage of the mass concentration of hydrogen sulfide in the barn was no significant difference (P> 0.05) the pig growth stage compared with the control group nitrogen excretion test group Ⅰ, group Ⅱ were significantly reduce 15.7% (P <0.05) and 11.4% (P <0.05) and the fattening the pig stage with the control group compared nitrogen excretion test group Ⅰ, Ⅱ group were reduced by 15.2% (P <0.05) and 8.9% (P> 0.05) .

【语种】中文

【第一作者】吴 东
【通讯作者】吴 东
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【题目】A novel C-type lectin (Cflec-3) from Chlamys farreri with three carbohydrate-recognition domains
【中文关键词】Wang, Lingling;Song, Linsheng;Zhao, Jianmin;Qiu, Limei;Zhang, Huan;Xu, Wei;Li, Honglei;Li, Chenhua;Wu, Longtao
【英文关键词】Chlamys farreri; C-type lectin; Innate immunity; Bacterial agglutination; Recombinant expression; Real-time RT-PCR
【中文摘要】 C-type lectins are a superfamily of carbohydrate-recognition proteins which play crucial roles in the innate immunity. In this study, the gene of a C-type lectin with multiple carbohydrate-recognition domains (CRDs) from scallop Chlamys farreri (designated as Cflec-3) was cloned by rapid amplification of cDNA ends (RACE) approach based on expression sequence tag (EST) analysis. The full-length cDNA of Cflec-3 was of 2256 bp. The open reading frame encoded a polypeptide of 516 amino acids, including a signal sequence and three CRDs. The deduced amino acid sequence of Cflec-3 showed high similarity to members of C-type lectin superfamily. By fluorescent quantitative real-time PCR, the Cflec-3 mRNA was mainly detected in hepatopancreas, adductor, mantle, and marginally in gill, gonad and hemocytes of healthy scallops. After scallops were challenged by Listonella anguillarum, the mRNA level of Cflec-3 in hemocytes was up-regulated and was significantly higher than that of blank at 8 h and 12 h post-challenge. The function of Cflec-3 was investigated by recombination and expression of the cDNA fragment encoding its mature peptide in Escherichia coli BL21 (DE3)-pLysS. The recombined Cflec-3 (rCflec-3) agglutinated Gram-negative bacteria Pseudomonas stutzeri. The agglutinating activity was calcium-dependent and could be inhibited by D-mannose. These results collectively suggested that Cflec-3 was involved in the immune response against microbe infection and contributed to nonself-recognition and clearance of bacterial pathogens in scallop. (C) 2009 Elsevier Ltd. All rights reserved.
【英文摘要】 C-type lectins are a superfamily of carbohydrate-recognition proteins which play crucial roles in the innate immunity. In this study, the gene of a C-type lectin with multiple carbohydrate-recognition domains (CRDs) from scallop Chlamys farreri (designated as Cflec-3) was cloned by rapid amplification of cDNA ends (RACE) approach based on expression sequence tag (EST) analysis. The full-length cDNA of Cflec-3 was of 2256 bp. The open reading frame encoded a polypeptide of 516 amino acids, including a signal sequence and three CRDs. The deduced amino acid sequence of Cflec-3 showed high similarity to members of C-type lectin superfamily. By fluorescent quantitative real-time PCR, the Cflec-3 mRNA was mainly detected in hepatopancreas, adductor, mantle, and marginally in gill, gonad and hemocytes of healthy scallops. After scallops were challenged by Listonella anguillarum, the mRNA level of Cflec-3 in hemocytes was up-regulated and was significantly higher than that of blank at 8 h and 12 h post-challenge. The function of Cflec-3 was investigated by recombination and expression of the cDNA fragment encoding its mature peptide in Escherichia coli BL21 (DE3)-pLysS. The recombined Cflec-3 (rCflec-3) agglutinated Gram-negative bacteria Pseudomonas stutzeri. The agglutinating activity was calcium-dependent and could be inhibited by D-mannose. These results collectively suggested that Cflec-3 was involved in the immune response against microbe infection and contributed to nonself-recognition and clearance of bacterial pathogens in scallop. (C) 2009 Elsevier Ltd. All rights reserved.
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【第一作者】 Zhang Huan
【通讯作者】Song Linsheng
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【学科分类】海洋科学

【题目】Expressed sequence tags from the zhikong scallop (Chlamys farreri): Discovery and annotation of host-defense genes

【中文关键词】Wang, Lingling;Song, Linsheng;Zhao, Jianmin;Qiu, Limei;Zhang, Huan
【英文关键词】Chlamys farreri; cDNA library; Expressed sequence tags; Bacteria challenge; Functional annotation; Host-defense genes
【中文摘要】A high-quality cDNA library was constructed from whole body tissues of the zhikong scallop, Chlamys farreri, challenged by Listonella anguillarum. A total of 5720 clones were sequenced, yielding 5123 expressed sequence tags (ESTs). Among the 3327 unique g
【英文摘要】A high-quality cDNA library was constructed from whole body tissues of the zhikong scallop, Chlamys farreri, challenged by Listonella anguillarum. A total of 5720 clones were sequenced, yielding 5123 expressed sequence tags (ESTs). Among the 3326 unique genes identified, 2289 (69%) genes had no significant (E-value < 1e-5) matches to known sequences in public databases and 194 (6%) matched proteins of unknown functions. The remaining 843 (25%) genes that exhibited homology with genes of known functions, showed broad involvement in metabolic processes (31%), cell structure and motility (20%), gene and protein expression (12%), cell signaling and cell communication (8%), cell division (4%), and notably, 25% of those genes were related to immune function. They included stress response genes, complement-like genes, proteinase and proteinase inhibitors, immune recognition receptors and immune effectors. The EST collection obtained in this study provides a useful resource for gene discovery and especially for the identification of host-defense genes and systems in scallops and other molluscs. (C) 2009 Elsevier Ltd. All rights reserved.
【语种】英文
【第一作者】Wang Lingling
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【学科分类】海洋科学

【题目】Polysaccharides from Lycium barbarum leaves Isolation, characterization and splenocyte proliferation activity
【中文关键词】枸杞叶; 多糖; 结构表征; 脾细胞增殖
【英文关键词】Lycium barbarum leaves; Polysaccharide; Structure characterization; Splenocyte proliferation
【中文摘要】在以前的出版物,枸杞多糖的成果已得到相当的重视,但多糖的叶子鲜有报道。在目前的工作中,水溶性多糖成分分离枸杞叶,枸杞多糖,枸杞多糖LBP-I-II-III和LBP-IV通过DEAE-葡聚糖凝胶A-25纯化。 LBP-II和LBP-IV分别显示一个对称峰HPGPC与均分子量为9.39×104 Da和4.18×105沓。两个组分的UV和IR分析表明结合的多肽或蛋白质的酸性多糖的特性。 GC分析表明,LBP-IV主要由鼠李糖,阿拉伯糖,木糖,半乳糖和葡萄糖的摩尔比为1.61:3.82:3.44:7.54:1.00,和糖醛酸的含量为47.68%(w / w的)由硫酸确定-咔方法。 1 H和13 C NMR谱的LBP-IV也表明,存在的羰基上的碳原子和5个异头碳原子的,并建议有可能是该馏分中的α-和β-端基异构体的配置。此外,脾细胞增殖活性检测表明,LBP-IV显着增强了ConA或LPS刺激的小鼠脾淋巴细胞的增殖,说明部分的有益的免疫刺激活性的影响。
【英文摘要】The polysaccharides from the fruits of Lycium barbarum have received considerable attention in previous publication, but the polysaccharides from the leaves were rarely reported. In the present work, four water-soluble polysaccharide fractions: LBP-I, LBP-II, LBP-III and LBP-IV isolated from L. barbarum leaves were purified through DEAE-Sephadex A-25. LBP-II and LBP-IV respectively showed one symmetrical peak on HPGPC with average molecular weight of 9.39×10^4 Da and 4.18×10^5 Da. UV and IR analysis of the two fractions showed the characteristics of acidic polysaccharides combined with polypeptides or proteins. GC analysis showed LBP-IV was mainly composed of rhamnose, arabinose, xylose, glucose and galactose with molar ratio of 1.61:3.82:3.44:7.54:1.00, and the uronic acid content was 47.68% (w/w) determined by sulfuric acid-carbazole method. ^{1}H and ^{13}C NMR spectra of LBP-IV also showed the presence of carboxyl carbon and five anomeric carbons, and suggested there may be both α- and β-anomeric configurations in this fraction. Moreover, splenocyte proliferation activity assay showed that LBP-IV significantly enhanced the proliferation of splenocyte stimulated by ConA or LPS, indicating the fraction has the beneficial effect on immunostimulating activity.
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【第一作者】刘慧慧
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【学科分类】食品科学技术基础学科

【题目】Up regulation of annexin A2 on murine H22 hepatocarcinoma cells induced by cartilage polysaccharide
【中文关键词】软骨多糖,H22肝癌细胞,肿瘤免疫,膜联蛋白A2
【英文关键词】Cartilage polysaccharide; H22 hepatocarcinoma cells; Tumor immunity; Annexin A2
【中文摘要】在这项研究中,我们研究了H22肝癌细胞诱导软骨多糖制备肿瘤疫苗的抗肿瘤作用。我们发现有从免疫小鼠血清中的抗原特异性抗体的结合的特异性抗原。免疫印迹分析结果显示,约36 kDa的特异性抗体的免疫小鼠的抗血清特异性抗体的出现,在诱导时间为48小时,而最佳的免疫效果变得清晰可见。二维电泳分析识别特定的抗原,这是一个糖基化蛋白,含有一个糖基化位点的发生,癌症的发展,侵袭和转移密切相关,膜联蛋白A2。蛋白质组学研究表明,无论是数量和构象改变软骨多糖诱导后,膜联蛋白A2。最后,我们发现,H22细胞诱导软骨多糖膜联蛋白A2基因有大幅增加。总之,我们的数据表明,膜联蛋白A2,一个特定的抗原发挥了关键作用,在抗肿瘤免疫反应,激活免疫系统。这将是一个潜在的类型的肿瘤疫苗,肿瘤免疫预防提供了新的思路。
【英文摘要】In this study, we investigated the antitumor effect of a tumor vaccine prepared from H22 hepatocarcinoma cells induced by cartilage polysaccharide. We found out there were specific antigens which combined with antigen-specific antibodies from immune murine serum. Results of western blot analysis showed that about 36 kDa make specific antibodies appeared specific antibodies in antiserum of immune mice, whereas the best immune effects became visible at the induction time of 48 h. Analyses of 2-dimensional electrophoresis identified the specific antigen was annexin A2, which was a glycosylated protein that contained a glycosylation site, closely related to oncogenesis, cancer development, invasion and metastasis. Proteomics indicated that both quantity and conformation of annexin A2 were changed after induced by cartilage polysaccharide. Lastly, we found there was a major increase of annexin A2 mRNA on H22 cells induced by cartilage polysaccharide. In summary, our data suggested that annexin A2, a specific antigen played a key role in antitumor immune response and activating the immune system. It would be a potential type of tumor vaccine which provided new ideas for tumor immunoprophylaxis.
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【第一作者】刘安军
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【学科分类】免疫学

【题目】A D-galactose-Binding Lectin with Mitogenic Activity from Musca domestica Pupae
【中文关键词】糖蛋白,凝集素,纯化,促有丝分裂,家蝇蛹
【英文关键词】glycoprotein, lectin, purification, mitogenic, Musca domestica pupae
【中文摘要】从家蝇中分离出一种具有促有丝分裂活性的凝集素,此凝集素分子质量为55kDa,纯化过程主要采用半乳糖凝胶-4B色谱层析法。家蝇凝集素使接受胰岛素治疗的兔血细胞发生凝集,实验发现D-半乳糖能够抑制凝集素的红血球凝集作用,此家蝇凝集素具有金属依赖性和温度依赖性,通过糖原染液检测得到此家蝇凝集素为一种糖含量为2.1%的糖蛋白。使用原子力显微镜观察得到:此凝集素是一个75nm大小的球型蛋白,表面具有几个糖链。它能引起小鼠的脾细胞的体外有丝分裂反应,当凝集素的浓度为20μg/mL时脾细胞的有丝分裂达到最大值。目前还没有相关此类家蝇蛹凝集素的报道,我们发现的这一凝集素在昆虫免疫以及免疫低下疾病方面将会有很重大的意义。
【英文摘要】A lectin with potent mitogenic activity was isolated from Musca domestica pupae. The lectin was a monomer with a molecular weight of 55 kDa. The purification procedure mainly involved affinity chromatography on galactose-Sepharose-4B. The lectin agglutinated trypsin-treated rabbit blood cells. D-galactose was detected to inhibit the lectin ’s hemagglutination activity. The lectin was metal independent and temperature dependent and was detected by the periodic acid-Shiff reaction to be a glycoprotein with a carbohydrate content of 2.1%. Observations with an atomic force microscope indicated that the lectin was a globular protein about 75 nm in size, with several carbohydrate chains linked to it. It elicited a mitogenic response from mouse splenocytes in vitro, with the maximal response at a concentration of 20 g/ml. No lectin has been reported before from Musca domestica pupae, and the lectin we discovered could be of great importance in insect immunity and hypoimmune diseases.

【语种】英文
【第一作者】曹小红
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【题目】Administration of Vitamin E prevents thymocyte apoptosis in murine sarcoma S180 tumor bearing mice
【中文关键词】维生素E,活性氧,S180荷瘤小鼠,胸腺退化,细胞凋亡
【英文关键词】Vitamin E, reactive oxygen species, S180 tumor bearing mice, thymic involution, apoptosis
【中文摘要】许多报道称,胸腺退化发生在肿瘤的宿主,而导致减少T细胞的增殖和免疫系统受损。在这项研究中,小鼠肉瘤(S180)的肿瘤细胞被用来建立肿瘤模型。 3周后肿瘤接种的S180荷瘤宿主胸腺细胞凋亡的不同。高水平活性氧的产生,检测在S180肿瘤承载胸腺。一种强力抗氧化剂,维生素E,S180荷瘤小鼠口服给药,以消除多余的ROS在主机和评估对胸腺细胞凋亡的影响。完整的胸腺结构和胸腺细胞凋亡的证明,VE治疗3周后在S180荷瘤小鼠的胸腺部分恢复。此外,VE治疗规范化的ROS水平,丙二醛(MDA)水平和超氧化物歧化酶(SOD)水平的S180肿瘤承载。因此,可以得出结论,VE治疗S180荷瘤小鼠的胸腺退化防止,主要是由于胸腺细胞凋亡的抑制和消除活性氧生产中的主机。
【英文摘要】Many reports claimed that thymic involution occurred in tumor bearing host, which led to a reduction of proliferation in T cells and an impaired immune system. In this study, murine sarcoma S180 tumor cells were used to establish tumor model. There was distinct apoptosis in thymus of the S180 tumor bearing host after 3-week tumor inoculation. High level reactive oxygen species generation was detected in thymocytes of S180 tumor bearers. Vitamin E, a potent antioxidant, was oral administrated to S180 tumor bearing mice in order to eliminate redundant ROS in the host and evaluate the effect against thymic apoptosis. Intact thymic structure and less apoptosis of thymocytes demonstrated that partial restoration of thymuses in S180 tumor bearing mice after 3-week VE treatment. Besides, VE treatment normalized ROS level, MDA level and SOD level of S180 tumor bearers. Thus, it could be concluded that thymic involution prevented by VE treatment in S180 tumor bearing mice was mainly due to inhibition of apoptosis in thymus and elimination of ROS over-production in the host.
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【题目】Superoxide Dismutase Induced G1-Phase Cell Cycle Arrest in Murine Sarcoma S180 Tumor Cells
【中文关键词】超氧化物歧化酶;超氧阴离子;S180肿瘤细胞;细胞周期阻滞;抗肿瘤
【英文关键词】superoxide dismutase; superoxide anion; S180 tumor cells; cell cycle arrest; antitumor
【中文摘要】作为一个高效率的活性氧物种的清除酶,超氧化物歧化酶(SOD)已经显示出抑制肿瘤的生长和癌细胞的运动和侵袭干扰。在这项研究中,细胞周期阻滞的分子机制时,S180肿瘤细胞暴露于高浓度的超氧化物歧化酶的影响。在这里,两种小鼠肉瘤S180肿瘤细胞和NIH-3T3小鼠成纤维细胞,分别用不同浓度的Cu / Zn-SOD为24,48和72 h,以确定最佳浓度为800 U / ml的SOD超氧化物歧化酶(SOD)的剂量,这是48小时。它的发现,超氧化物歧化酶诱导S180细胞周期停滞在G1期超生产水平下降,而SOD NIH-3T3细胞增殖的影响较小。此外,在S180肿瘤细胞的增殖细胞核抗原(PCNA)的表达率抑制超氧化物歧化酶治疗后,这表明抑制S180细胞的DNA合成。此外,有显着下降,法规的cyclin-E和CDK-2 S180细胞超氧化物歧化酶治疗后,造成的堵塞S180细胞周期G1/ S过渡。总之,我们的数据证实,SOD能显着抑制S180肿瘤细胞的增殖和诱导细胞周期停滞在G1相通过下调细胞周期蛋白E和CDK-2的表达。
【英文摘要】As an efficient reactive oxygen species-scavenging enzyme, superoxide dismutase (SOD) has been shown to inhibit tumor growth and interfere with motility and invasiveness of cancer cells. In this study, the molecular mechanisms of cell cycle arrest when S180 tumor cells were exposed to high levels of SOD were investigated. Here, both murine sarcoma S180 tumor cells and NIH-

3T3 mouse fibroblasts were respectively treated with varying concentrations of Cu/Zn-SOD for 24, 48 and 72 h to determine optimal dose of SOD, which was a concentration of 800 U/ml SOD for 48 h. It is found that SOD induced S180 cell cycle arrest at G1-phase with decreasing level of superoxide production, whereas SOD had less effect on proliferation of NIH-3T3 cells. Moreover, the expression rate of Proliferating Cell Nuclear Antigen (PCNA) in S180 tumor cells was suppressed after SOD treatment, which indicated the inhibition of DNA synthesis in S180 cells. Besides, there were significant down-regulations of cyclin-E and Cdk-2 in S180 cells after SOD treatment, which contributed to the blockage of G1/S transition in S180 cell cycle. Together, our data confirmed that SOD could notably inhibit proliferation of S180 tumor cell and induce cell cycle arrest at G1-phase by down-regulating expressions of cyclin-E and Cdk-2.

【语种】英文

【第一作者】刘东岳

【通讯作者】刘安军

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【学科分类】细胞生物学

【题目】氮肥运筹对雨养条件下春玉米农艺性状的影响

【中文关键词】春玉米;氮肥运筹;农艺性状

【英文关键词】略

【中文摘要】通过氮肥运筹对雨养条件下春玉米农艺性状的变化研究表明,适当加大氮肥吐丝期施用比例有利于增加生育后期单株叶面积和穗位以下叶片数,提高敏感节位的茎秆压碎强度,从而增加了光合面积,延缓了也衰老,延长了光合时间,提高了蜡熟期抗倒伏能力,有利于同化物的积累;氮肥运筹对株高影响规律不明显。

【英文摘要】略

【语种】中文

【第一作者】赵洪祥

【通讯作者】边少锋

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【引文索引号】null

【学科分类】农艺学

【题目】猪软骨多糖与H22鼠肝癌细胞共培养物对小鼠体液免疫保护作用的研究

【中文关键词】猪软骨多糖;免疫佐剂;体液免疫

【英文关键词】cartilage polysaccharide;immuno-adjuvant;humoral immunity

【中文摘要】本试验以猪软骨多糖与H22 鼠肝癌细胞的共同培养物(PS&H22)为研究对象,探讨其对小鼠体液免疫的影响。结果表明:PS&H22 组小鼠的生命延长率和存活率极显著高于模型组($P < 0.01$); 免疫荧光检测结果显示PS&H22 免疫小鼠血清可与H22 细胞发生特异性结合,说明免疫小鼠体内存在抗H22 细胞特异性抗体;ELISA 检测表明PS&H22 免疫小鼠抗体效价大于12800,进一步证明免疫小鼠血清中抗体含量高,且其抗肿瘤体液免疫得到增强。

【英文摘要】This experiment was conducted to study the effects of co-culture of cartilage polysaccharide and H22 cells by murine liver cancer immunoprophylaxis (PS&H22) on mice humoral immunity. The results showed that:the life span rate and survival rate of PS&H22 immunized group was significantly higher than the others($P < 0.01$);the specific binding of antiserum and antigen was found by immunofluorescent staining,which confirmed that the anti-H22 cell antibody existed in the immunized mice;the antibody titer of immunized mice serum was over 12800 detected by ELESA assay. The high antibody titer suggested that the humoral immunity on anticancer was strengthened.

【语种】中文

【第一作者】韩雪

【通讯作者】刘安军

【期刊名称、卷期、页码】中国饲料,2009年,第8期,26-28
【论文发表时间】2009-01-01 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】免疫学

【题目】猪软骨多糖作为免疫佐剂的肝癌疫苗激发抗肿瘤细胞免疫
【中文关键词】猪软骨多糖;免疫佐剂;肝癌疫苗;细胞免疫
【英文关键词】cartilage polysaccharide; immunoadjuvant; hepatocarcinoma vaccine; cell immunity
【中文摘要】探讨以猪软骨多糖作为免疫佐剂的肝癌疫苗对小鼠细胞免疫抗肿瘤的影响。以猪软骨多糖作为免疫佐剂,采用共同培养的方法制备小鼠肝癌H22 细胞全细胞肝癌疫苗,免疫小鼠后,分别以脾淋巴细胞、巨噬细胞为对象检测肝癌疫苗对小鼠机体细胞免疫的影响。结果表明,以猪软骨多糖为免疫佐剂的全细胞肝癌疫苗能明显刺激脾淋巴细胞活化、增强巨噬细胞的吞噬能力。以猪软骨多糖为免疫佐剂的肝癌疫苗能增强机体的细胞免疫,为软骨多糖用于肿瘤的免疫治疗和免疫预防提供了试验依据,为进一步的临床免疫治疗肿瘤奠定了基础。
【英文摘要】The anti-tumor cell-depended immunity response to hepatocarcinoma vaccine treated with cartilage polysaccharide as immunoadjuvant was investigated in this paper. H22 cells treated with cartilage polysaccharide were used as hepatocarcinoma vaccine to immunize KM mice. Lymphocyte and phagocytosis of macrophage were proliferated to test the cell immunity induced by the vaccine. Results showed that vaccine treated with cartilage polysaccharide can enhance lymphocyte and macrophage mediated immunity. The vaccine with cartilage polysaccharide as immunoadjuvant may play an important role in inducing anti-tumor cell immunity response, which provided a foundation for immuotherapy or immunoprophylaxis of tumor in clinic.
【语种】中文
【第一作者】韩雪
【通讯作者】刘安军
【期刊名称、卷期、页码】现代食品科技,2009年,第25卷,第7期,722-724,740
【论文发表时间】2009-03-03 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】免疫学

【题目】Molecular Characterization of multi-functional Acetyl Coenzyme A Carboxylase, Biotin Carboxylase and β-Carboxyltransferase from Arachis hypogaea L.
【中文关键词】无
【英文关键词】Arachis hypogaea; Acetyl-CoA carboxylase;
sequence analysis; phylogenetic analysis
【中文摘要】无
【英文摘要】Acetyl-CoA carboxylase (ACCase; EC6.4.1.2) catalyzes the synthesis of malonyl-CoA, thefirst intermediate in fatty acid synthesis. Genes formulti-functional acetyl-CoA carboxylase and twosubunits of multi-subunit acetyl-CoA carboxylase,biotin carboxylase and β-Carboxyltransferase,have been cloned from peanut. The ORF of thethree proteins are 6783bp, 1623bp, 1479 bp inlength, encoding 2260, 540, 492 amino acids,respectively. The predicted amino acid sequencesof the multi-functional AhACCase and AhBC frompeanut shared high sequence identity, 90.9% and88%, to the corresponding Glycine max proteins,respectively, while the amino acid sequence ofAhβCT gene showed 71.6% identity with that fromNothofagus gunnii. Phylogenetic analysis showedthat all of these three genes from peanut weregrouped into the big branch of proteins fromhigher plant. Moreover, observation of the treerevealed that multi-functional ACCase genes mayarise by independent gene duplication events ingreen algae and higher plants branches, and thebiotin carboxylase and β-Carboxyltransferasegenes from cyanobacteria may be the origin ofgenes from higher plants, mosses and eukaryoticalgae.
【语种】英文
【第一作者】迟晓元
【通讯作者】禹山林
【期刊名称、卷期、页码】2010,10.1109/ICBBE.2010.5516890

【论文发表时间】2010-10-11 00:00:00
【引文索引类型】EI
【引文索引号】20103613207768
【学科分类】分子生物学

【题目】Isolation, characterization and expression analysis of stearoyl-ACP desaturase gene from Kosteletzkya virginica
【中文关键词】无
【英文关键词】Stearoyl-ACP desaturase, gene isolation, sequence
analysis, expression analysis, Kosteletzkya virginica
【中文摘要】无
【英文摘要】Kosteletzkya virginica is a halophyte species which could be used for production of industrial raw material such as biodiesel and for developing ecologically sound saline agriculture as well as for tideland soil improving. Using Rapid Amplification of cDNA Ends (RACE) method, a 1610 bp cDNA of stearoyl-ACP desaturase (SAD) gene containing a 1188 bp complete open reading fragment (ORF) was firstly isolated from seeds of K. virginica. Sequence analysis revealed that the nucleotide sequence of K. virginica SAD had a high level of homology to SAD from Gossypium hirsutum, but had relative low identity to SAD from other pants. However, K. virginica SAD had a high level of amino acid sequence homology to SAD from other plants. Characteristics of the deduced protein were predicted and analyzed using bioinformatic methods. Expression analysis via real-time PCR indicated that expression levels of the SAD gene were markedly distinct in different K. virginica tissues and different development stage seeds. The results of the expression analysis in this study, combined with existing research, suggest that SAD may be involved in the regulation of plant seed growth and development. These results serve as a foundation for further studies of the mechanisms regulating SAD gene expression and could eventually lead to the development of higher quality K. virginica varieties.
【语种】英文
【第一作者】陈明娜
【通讯作者】杨庆利
【期刊名称、卷期、页码】2010,10.1109/ICBBE.2010.5517566
【论文发表时间】2010-10-11 00:00:00
【引文索引类型】EI
【引文索引号】20103613208157
【学科分类】分子生物学

【题目】Molecular cloning, characterization and expression analysis of b-ketoacyl-ACP synthetase II gene from peanut
【中文关键词】无
【英文关键词】β-ketoacyl-ACP synthetase II, RACE, sequence
analysis, expression analysis, peanut (Arachis hypogaea L.)
【中文摘要】无
【英文摘要】β-ketoacyl-ACP synthetase II (KAS II) which catalyzesthe elongation of 16:0-ACP to 18:0-ACP,determines theratio of palmitic acid (16:0) to stearic acid (18:0). UsingRapid Amplification of cDNA Ends (RACE) and a peanutcDNA library we had previously constructed, we isolated a1867bp cDNA of the KAS II gene containing a 1212bpcomplete open reading fragment (ORF). Sequence analysisrevealed that peanut KAS II had a high level of nucleotideand amino acid sequence homology to KAS II from otherplants. Phylogenetic analysis showed that KAS II fromplants, bacteria and virus were grouped into different cladesrespectively suggesting the independent evolution of KAS IIfrom different sources. Characteristics of the deducedprotein were predicted and analyzed using bioinformaticmethods. The protein was predicted as stable andhydrophobic with molecular weight of 43181.4 andtheoretical PI of 5.69. Expression analysis by real-time PCRindicated that expression levels of KAS II gene weremarkedly distinct in different peanut tissues and varieties.The expression analysis in this study combined with existingresearches suggested KAS II may be involved in theregulation of plant growth and development.
【语种】英文
【第一作者】禹山林
【通讯作者】张红生
【期刊名称、卷期、页码】2010, 10.1109/ICBBE.2010.5515302

【论文发表时间】2010-10-11 00:00:00
【引文索引类型】EI
【引文索引号】20103613206850
【学科分类】分子生物学

【题目】AhZFP1, a cDNA encoding C2H2-type zinc finger protein, induced by salt stress in peanut (Arachis hypogaea L.)
【中文关键词】无
【英文关键词】Peanut; C2H2-type zinc finger
protein; Gene cloning and expression; Salt stress
【中文摘要】无
【英文摘要】The plant C2H2-type zinc finger proteinsplay important roles in plant tolerance to abioticstresses. In this study, we isolated the full-lengthcDNA of a C2H2-type zinc finger protein geneAhZFP1 from peanut (Arachis hypogaea L.). AhZFP1encodes a 24.75kDa protein with two C2H2-type zincfinger domains. Phylogenetic analysis showed that theAhZFP1 was close to Arabidopsis zinc finger proteinAZF2. The semi-quantitative RT-PCR assay revealedthat the expression of AhZFP1 was induced by saltstress in peanut roots, stems and leaves. AhZFP1 wasthe first C2H2-type zinc finger protein gene reported inpeanut.
【语种】英文
【第一作者】潘丽娟
【通讯作者】禹山林
【期刊名称、卷期、页码】2010, 10.1109/ICBBE.2010.5515904
【论文发表时间】2010-10-11 00:00:00
【引文索引类型】EI
【引文索引号】20103613207147
【学科分类】分子生物学

【题目】Cloning, characterization and expression analysis of a stearoyl-ACP desaturase gene from Arachis hypogaea
【中文关键词】无
【英文关键词】Stearoyl-ACP desaturase, gene cloning, sequence
analysis, expression analysis,peanut (Arachis hypogaea L.)
【中文摘要】无
【英文摘要】Stearoyl-ACP desaturase (SAD), which catalyzes the first desaturation reaction of the most common pathway of unsaturated fatty acid synthesis in plants, plays a key role in determining the ratio of saturated to unsaturated fatty acids. Using rapid amplification of cDNA ends (RACE) and a peanut cDNA library we had previously constructed, we isolated a 1499 bp cDNA of the SAD gene containing a 1218 bp complete open reading fragment (ORF). Sequence analysis revealed that peanut SAD had a high level of nucleotide and amino acid sequence homology to SAD from other plants. Characteristics of the deduced protein were predicted and analyzed using bioinformatic methods. Phylogenetic analysis showed that three different types of delta-9 fatty acid desaturases form separate clades, indicating that the three isozymes may have evolved independently. Expression analysis via real-time PCR indicated that expression levels of the SAD gene were markedly distinct in different peanut tissues and varieties. The results of the expression analysis in this study, combined with existing research, suggest that SAD may be involved in the regulation of plant seed growth and development.
【语种】英文
【第一作者】禹山林
【通讯作者】张红生
【期刊名称、卷期、页码】2009, 10.1109/BMEI.2009.5305511
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【引文索引类型】EI
【引文索引号】20100312643874
【学科分类】分子生物学

【题目】Identification of AhAQ1 encoding a putative aquaporin whose expression is regulated by salt stress in peanut (Arachis hypogaea

【中文关键词】无
【英文关键词】Peanut; Aquaporin; Gene cloning; Expression analysis; Salt stress
【中文摘要】无
【英文摘要】The primary role of aquaporins is to control water transport in plants, which might function in plant response against salt stress. In this research, we obtained the full-length cDNA of an aquaporin gene AhAQ1 by RT-PCR approach from salt-stressed peanut leaves. AhAQ1 encodes a protein consisting of 287 amino acids with the calculated molecular mass of 30.57 KD and the isoelectric point of 9.04. Sequence analysis indicated that AhAQ1 contained six transmembrane domains and two NPA-boxes and phylogenetic analysis showed that the AhAQ1 clusters were the same with the PIP1 family. The expression pattern of AhAQ1 in peanut tissues under high-salt treatment was examined by semi-quantitative RT-PCR, The results showed that the accumulation of AhAQ1 transcripts was induced by salt stress . The combination of these results illustrate that AhAQ1 may play a role in peanut in response to salt stress.
【语种】英文
【第一作者】潘丽娟
【通讯作者】禹山林
【期刊名称、卷期、页码】Legume Genomics and Genetics,doi: 10.5376/lgg.2010.01.0005
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【引文索引类型】其他
【引文索引号】10.5376
【学科分类】分子生物学

【题目】Comparison of the Δ12 fatty acid desaturase gene between high-oleic and normal-oleic peanut genotypes
【中文关键词】无
【英文关键词】peanut; 12 fatty acid desaturase; oleic acid; yeast expression; function identification
【中文摘要】无
【英文摘要】12 fatty acid desaturase gene has been targeted as a logical candidate controlling the high oleate trait in peanut seeds. By RT-PCRmethod, the full-length cDNAs of 12 fatty acid desaturase gene were isolated from peanut (Arachis hypogaea L.) genotypes with normaland high ratio of oleic to linoleic acid, which were designated AhFAD2B and AhFAD2B', respectively. Sequence alignment of their codingregions revealed that an extra A was inserted at the position +442 bp of AhFAD2B' sequence of high oleic acid genotypes, which resultedin the shift of open reading frame and a truncated protein AhFAD2B', with the loss of one histidine box involved in metal ion complexrequired for the reduction of oxygen. Analysis of transcript level showed that the expression of 12 fatty acid desaturase gene in high oleicacid genotype was slightly lower than that in normal genotype. The enzyme activity experiment of yeast (Saccharomyces cerevisiae) celltransformed with AhFAD2B or AhFAD2B' proved that only AhFAD2B gene product showed significant 12 fatty acid desaturase activity,but AhFAD2B' gene product did not. These results suggested that the change of AhFAD2B' gene sequence resulted in lower activity ordeactivation of 12 fatty acid desaturase in high oleic acid genotype.
【语种】英文
【第一作者】禹山林
【通讯作者】张红生
【期刊名称、卷期、页码】J. Genet. Genomics 35 (2008) 679..685
【论文发表时间】2008-05-01 00:00:00
【引文索引类型】SCI
【引文索引号】0721-7714
【学科分类】分子生物学

【题目】花生种子总RNA提取的一种有效方法
【中文关键词】花生种子 RNA提取 方法
【英文关键词】peanut seed; RNA extraction; method
【中文摘要】从植物中提取RNA的方法有多种,由于花生种子富含脂肪、蛋白质、多糖和酚类化合物,有些方法并不适于花生种子RNA的提取。本文设计了一种从花生种子中分离高质量总RNA的方法,并提取了花生的根、茎、叶、种子等不同器官的RNA。结果证明,利用该方法提取的花生种子总RNA质量较高,完全能满足后续的分子生物学研究。同样也适于花生根、茎、叶总RNA的提取。

【英文摘要】Many methods for the extraction of RNA from plant tissues haven been developed at present.Because peanut seeds are rich in lipid, protein, poly saccharide and phenolic compounds, some methods that usually used are not appropriate for the extraction of RNA from peanut seeds. A highly efficient methodof total RNA extraction from peanut seeds was developed. We applied the method to isolate total RNA from seed,root, stem and leaf of peanut. The results showed that the RNA obtained from peanut seeds with this method had high quality andcouldbeusedinmolecular biological research. Themethodalsocouldbeusedintheiso lationof total RNAfromroot, stemandleaf.
【语种】中文
【第一作者】任增凯
【通讯作者】禹山林
【期刊名称、卷期、页码】花生学报,37(3):20-23
【论文发表时间】2008-07-02 00:00:00
【引文索引类型】其他
【引文索引号】S565.203
【学科分类】分子生物学

【题目】花生幼苗全长cDNA文库的构建
【中文关键词】花生 cDNA文库 SMART技术
【英文关键词】peanut cDNA library SMART method
【中文摘要】以花生品系E12幼苗为材料分离mRNA,利用SMART(Switching Mechanism at 5'end ofRNA Transcript)技术合成双链cDNA。经限制性内切酶Sfi Ⅰ酶切,将经过分级分离得到的cD-NA连接到改造的质粒载体pBluescript Ⅱ SK,构建了花生幼苗cDNA文库。经检测,所构建的文库的滴度为1.1×106cfu/mL,重组率为93.4%,插入片段大小为750-2000bp。
【英文摘要】In order to study the novel genes of peanut, a cDNA library from seedlings was constructed. Total RNA was extracted from E12 peanut seedlings and mRNA was purified. Double strand cDNA was synthesized by SMART method, the ds cDNA fragments were ligated into the pBluescript Ⅱ SK vector. The recombinant plasmids were transformed into the E. coli, a cDNA library of peanut seedlings was successfully constructed. The titer of the cDNA library was estimated as 1.1×10^6cfu/mL; the percentage of recombination was 93.4%. PCR results showed that the inserts varied from 0.75 to 2.0 kb.
【语种】中文
【第一作者】禹山林
【通讯作者】禹山林
【期刊名称、卷期、页码】花生学报,39(2):11-15
【论文发表时间】2008-05-05 00:00:00
【引文索引类型】其他
【引文索引号】S565.2
【学科分类】分子生物学

【题目】花生EST-SSR分子标记的开发
【中文关键词】花生 EST SSR 频率 特点
【英文关键词】Peanut EST SSR Frequency Characteristics
【中文摘要】利用NCBI的Genbank数据库中公布的花生53177条EST序列以及本实验室创造的花生栽培品种E12(Arachis hypogaea L.)所构建的Unigene文库中的4074条EST序列,对这些序列进行前期处理(去除冗余序列,对含有重叠区域的EST序列进行拼接),总共获得非冗余且拼接较长的序列11260条。通过软件分析发现两个EST库中共包含有1323个SSR位点,主要是2个和3个核苷酸重复,除此之外也有少量的4核苷酸重复以及复合重复。这些EST—SSR平均长度为18.88bp,平均每8.5条EST序列就包含有一个SSR位点。其中AG/TC、CTr/GAA重复出现的频率最大,分别占到2个核苷酸重复和3个核苷酸重复的39.3%和22.6%。
【英文摘要】53 177 ESTs from Genbank database in NCBI and 4 074 ESTs from Unigene library of El2 (Arachis hy- pogaea L.) in our laboratory are analysed. Totally 11 260 non-redundant ESTs contigs are detected. 1 323 SSR loci are searched by software analysis in NCBI database and Unigene library, mainly di-and tri-nucleotide repeat motif except of few tetra-nucleotide repeat motif and compound repeat. In these EST-SSR loci, average length is 18.88 bp and average 8.5 ESTs contain one SSR loci. The AG/TC and CTF/GAA motif are most frequent types, accounting for 39.3 % and 22.6% in dinucleotide and trinucletide repeats, respectively.

【语种】中文
【第一作者】王金彦
【通讯作者】禹山林
【期刊名称、卷期、页码】华北农学报,24(B08):42-45
【论文发表时间】2009-12-01 00:00:00
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【引文索引号】S565.03
【学科分类】分子生物学

【题目】花生种子含油量的遗传分析
【中文关键词】花生 含油量 遗传分析 主基因-多基因遗传模型 联合分离分析
【英文关键词】Peanut Oil content Genetic analysis Major gene plus polygenes genetic model Joint segregation analysis
【中文摘要】花生是重要的油料作物,对花生种子含油量进行遗传分析具有重要意义。本研究以高油花生新品种SPI056(P1)和低油花生新品种花育17(P2)及其杂交组合的F1、F2群体为材料,应用P1、P2、F1和F24个世代的数量性状主基因+多基因混合遗传模型联合分离分析方法,对种子含油量进行了遗传分析。结果表明:花生种子含油量由两对加性-显性-上位性主基因+加性-显性多基因共同控制,主基因遗传率为72.55%。
【英文摘要】Peanut is one of main oil crops. It is important to analyze the inheritance of oil content of peanut seeds. Therefore, Oil content of each plant of SPI056 with high oil content, HUAYU17 with low oil content, F1 and F2 populations derived from a cross between them were used as index, joint segregation analysis of Major-gene plus Polygenes genetic model of P1, F1, P2 and F2 populations was used to study the inheritance in this paper. The results indicated that the inheritance of oil contents of peanut seeds was controlled by two additive-dominant-epistatic major-genes plus additive-dominant polygenes, and the heritability major genes was 72.55 %.
【语种】中文
【第一作者】禹山林
【通讯作者】禹山林
【期刊名称、卷期、页码】植物遗传资源学报, 2009,10(3):453-456
【论文发表时间】2009-03-01 00:00:00
【引文索引类型】其他
【引文索引号】S565.403
【学科分类】分子生物学

【题目】花生PEPCase基因的克隆及其序列分析
【中文关键词】花生 磷酸烯醇式羧化酶基因 基因克隆 序列分析
【英文关键词】无
【中文摘要】磷酸烯醇式丙酮酸羧化酶是控制花生蛋白质/优质含量比例的一个关键酶。采用RT-PCR方法从花生种子种扩增出PEPCase基因cDNA片段(1331bp),其核苷酸序列与大豆登录号为AY563044核苷酸序列对应部分的同源性高达89%;与拟南芥核苷酸序列对应部分的同源性达79%;与拟南芥(登录号为AJ532902)核苷酸序列对应部分的同源性达78%;与碱蓬登录号为DQ538353核苷酸序列对应部分的同源性达78%;与油菜登录号为D13987核苷酸序列对应部分的同源性达77%。因此认为克隆分离到得该基因片段属于花生PEPCase基因的部分序列。
【英文摘要】无
【语种】中文
【第一作者】潘丽娟
【通讯作者】禹山林
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【学科分类】分子生物学

【题目】花生△12-脂肪酸脱氢酶基因的克隆及序列分析
【中文关键词】花生,脂肪酸脱氢酶,基因克隆,序列测序
【英文关键词】peanut, fatty acid desaturase, gene cloning, sequence analysis
【中文摘要】花生是重要的油料作物,富含优质蛋白和脂肪,是人们健身增寿的食疗保健佳品。花生仁中含脂肪50%左右,其中大约80%由油酸和亚油酸组成。油酸在人体的脂类代谢中发挥着特殊的作用,它可以降低有害胆固醇(低密度脂蛋白,LDL),但保持有益胆固醇(高密度脂蛋白,HDL)的水平,从而减缓动脉粥样硬化,有效预防冠心病等心血管疾病的发生[1,2]。而亚油酸为多不饱和脂肪酸,虽能降低有害胆固醇但也能降低有益胆固醇的含量,因而对健康不利[3,4]。而且油酸与亚油酸比值的高低决定了花生的品质性状。油酸与亚油酸的比值高,抗氧化能力就强,在夏季高温的情况下不易氧化酸败,货架周期较长,耐储能力也较强[8]。因此,油酸含量高的花生品种具有更好的商品性。提高油酸的相对含量,增加油酸/亚油酸(O/L)的比值,已成为目前油料作物品质改良育种的研究重点。脂肪酸脱氢酶在生物体内对脂肪酸代谢、维持膜结构和生物学功能方面起着重要作用[5]。植物在质体和内质网上都含有脂肪酸脱氢酶,这些脱氢酶具有位置特异性和底物特异性[6,7]。△12-脂肪酸脱氢酶是油酸脱氢形成亚油酸的关键酶,在油酸的△12位上加上一个双键形成亚油酸。
【英文摘要】To study the function of peanut△12-fatty acid dc}}tut"ase,the fatty一fenRh cC3 IA of AhF"AD was amplified 6y RAC1:: from peanut seed. Sequence analysis found that the open reading frame encodes a proteia with 379 amiac3 acids and the ntalecutar weight of deduced [trotein of AhFAf) wap 43 kI)a. C)ne highly conserved feature of ail snens6ranrbound de'aturxses was the prcsenee pf three histidine boxes, with the general sequence HXXXH. Z'he hydrophobicity analysis showed shat the sequrace of the encoded amino acids had two hydraphof,ic structures sharinq the characteristics of membranranchured protein, which totally crossed the membrane four times. These analyses revealed the obtained ser}vance was x712-fatty acid dc"saturase.
【语种】中文
【第一作者】潘丽娟
【通讯作者】禹山林
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【学科分类】分子生物学

【题目】Cr3+对盐藻生长的影响及其在细胞中的富集和分布
【中文关键词】盐藻;Cr3+;细胞形态;富集;分布
【英文关键词】Dunaliella salina, Cr3+; cell morphology; accumulation; distribution
【中文摘要】本文研究了Cr3+对盐藻生长和细胞形态的影响,并对其在盐藻中的富集和在盐藻主要大分子化合物中的分布进行了探索和分析。结果表明,低浓度的Cr3+促进盐藻的生长,而高浓度的Cr3+对其生长产生抑制作用,并对盐藻细胞形态产生不良影响。CrCl3·6H2O 浓度为2 mg/L 时,Cr3+对盐藻生长和Cr3+富集均产生促进作用,其富集量达到779.64 μg/g,富集率达到85.27%。实验结果还表明,铬跟盐藻中主要大分子化合物都有结合作用,而且主要与多糖结合。
【英文摘要】In this research, the effects of Cr3+ on the growth and morphology of Dunaliella salina was studied and the accumulation and distribution of Cr3+ in the macromolecular compounds within D. salina were also investigated. The results showed that low concentration of Cr3+ could promote the growth of D. salina. In contrast, the high concentration of Cr3+ not only inhibited the D. salina growth, but also had detrimental impacts on cell morphology. When the concentration of Cr3+ was 2 mg/L, both the D. salina growth and accumulation of Cr3+ were promoted, where the accumulation quantity and accumulation rate of Cr3+ reached 779.64 μg/g and 85.27%, respectively. It was also demonstrated that Cr3+ mainly combined with macromolecular compounds within D. salina, in particular polysaccharides.
【语种】中文
【第一作者】刘安军
【通讯作者】刘安军
【期刊名称、卷期、页码】现代食品科技,2010年,第26卷,第11期,1164-1168
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【学科分类】水产品贮藏与加工

【题目】ROS-Ca2+ is associated with mitochondria permeability transition pore involved in surfactin-induced MCF-7 cells apoptosis
【中文关键词】surfactin,MPTP,Ca2+,ROS
【英文关键词】Surfactin,MPTP,Ca2+,ROS
【中文摘要】Surfacin能够抑制肿瘤细胞增殖和诱导细胞凋亡。Surfactin能够通过线粒体途径诱导MCF-7的凋亡。但是这方面的分子机制需要探明。本文中,ROS和Ca2+在MTPT上的功能,还有surfactin诱导MCF-7凋亡的功能被研究了。Surfactin能够提高线粒体内的ROS水平,且ROS的抑制剂NAC能够抑制肿瘤细胞的凋亡。Surfactin诱导肿瘤细胞凋亡,胞内的钙离子水平出现了明显的升高,并且钙离子的抑制剂BAPTA-AM能够抑制肿瘤细胞的凋亡。然后我们研究了ROS和Ca2+之间的关系。结果显示,surfactin能够诱导了ROS水平,出现PT孔开放,出现线粒体膜电位的崩塌。线粒体的变化导致了钙离子的外流,这样的钙离子外流能够被BAPTA-MA所抑制。细胞色素C从线粒体中释放出来,激活caspase-9,诱导细胞凋亡。结果表明,surfactin能够抑制肿瘤细胞的凋亡,但是对正常细胞并没有毒性作用
【英文摘要】The surfactin can inhibit proliferation and induce apoptosis in cancer cells. Moreover, surfactin can induce cell death in human breast cancer MCF-7 cells through mitochondrial pathway. However, the molecular mechanism involved in this pathway remains to be elucidated. Here, the reactive oxygen species (ROS) and Ca2+ on mitochondria permeability transition pore (MPTP) activity, and MCF-7 cell apoptosis which induced by surfactin were investigated. It is found that surfactin evoked mitochondrial ROS generation, and the surfactin-induced cell death was prevented by N-acetylcysteine (NAC, an inhibitor of ROS). An increasing cytoplasmic Ca2+ concentration was detected in surfactin-induced MCF-7 apoptosis, which was inhibited by 1,2-bis (2-aminophenoxy) ethane-N,N,N_,N_-tetraacetic acid (BAPTA-AM, a chelator of calcium). In addition, the relationship between ROS generation and the increase of cytoplasm Ca2+ was determined. The results showed that surfactin initially induced the ROS formation, leading to the MPTP opening accompanied with the collapse of mitochondrial membrane potential (__m). Then the cytoplasmic Ca2+ concentration increased in virtue of the changes of mitochondrial permeability, which was prevented by BAPTA-AM. Besides, cytochrome c (cyt c) was released from mitochondria to cytoplasm through the MPTP and activated caspase-9, eventually induced apoptosis. In summary, surfactin has notable anti-tumor effect on MCF-7 cells, however, there was no obvious cytotoxicity on normal cells.
【语种】英文
【第一作者】曹小红
【通讯作者】曹小红
【期刊名称、卷期、页码】Chemico-Biological Interactions2011, 190(1):16-27
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【学科分类】食品科学技术基础学科

【题目】A lectin from Musca domesticapupae stimulates B cell proliferation and enhances IL-12 production via ERK1/2-NF-jB signaling pathways
【中文关键词】B细胞,IL-12,凝集素,家蝇蛹
【英文关键词】B cell, Interleukin-12, Lectin, Musca domestica pupa
【中文摘要】从家蝇中提取的D-半乳糖凝集素,大小40kDa,命名为MPL。MPL能够明显的提高B细胞的增殖,并且增强了IL-12的分泌,并且呈现剂量效应。MPL能够刺激IkB-α的降解,NF-kB的入核和ERK的磷酸化,ERK在NF-kB的上游在MPL刺激的B细胞中。此外,MPL能够通过ERK1/2-NF-kB信号通路来调节细胞增殖和诱导IL-12分泌。
【英文摘要】A D-galactose-specific lectin, MW = 40 kDa, had been purified from pupae of Musca domestica (MPL). MPL significantly promoted the proliferation of B cells and enhanced the production of IL-12 in a dose-dependent manner. MPL stimulated IjB-a degradation, NF-jB translocation and ERK1/2 phosphorylation which played an upstream role for NF-rB in MPL-induced B cells. Moreover, MPL regulated cell proliferation and induced IL-12 production through ERK1/2-NF-jB signaling pathway.
【语种】英文
【第一作者】曹小红
【通讯作者】曹小红
【期刊名称、卷期、页码】Biotechnol Lett. 2011, 33(8):1545-1550

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【学科分类】食品科学技术基础学科

【题目】古尼虫草多糖提取分离及初步分析
【中文关键词】古尼虫草;多糖;提取;纯化
【英文关键词】Cordyceps gunnii (Berk.) Berk.; Polysaccharide; extraction; purification
【中文摘要】本文用30%乙醇溶液作提取剂,从古尼虫草菌丝体中提取多糖,提取液经去脂、去蛋白、醇析后得两种粗多糖CPS-50,CPS-70。利用DEAE-Sephadex A-25柱色谱对两种粗多糖进行分离纯化,得纯多糖CPS-1,CPS-2。苯酚-硫酸法测定糖含量,紫外光谱分析证明其纯度,红外光谱显示其具有多糖类的特征吸收峰。多糖降解后经薄层分析表明,降解的虫草多糖由葡萄糖或(和)甘露糖组成。
【英文摘要】Two crude polysaccharides, CPS-50 and CPS-70, were extracted from the mycelium of Cordyceps gunnii (Berk.) Berk.using 30% ethanol. After remove of lipids (by ethyl acetate) and proteins (using sevage method), and precipitation (with 50% and 70% alcohol),the crude polysaccharides were further purified by DEAE-Sephadex A-25 column. The contents and purities of the obtained polysaccharides, named as CPS-1 and CPS-2, were determined using phenol-sulfuric acid method and UV spectrophotometric method, respectively.Their structures were analyzed by infrared spectrum (IR).In addition, thin layer chromatography analysis showed that the hydrolysis of the pure polysaccharides yielded two kinds of monosaccharides, glucose and/or mannose.
【语种】中文
【第一作者】刘安军
【通讯作者】刘安军
【期刊名称、卷期、页码】现代食品科技,2008年,第24卷,第1期,28-31
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【学科分类】生物化学

【题目】古尼虫草菌丝体维生素E的初步分析
【中文关键词】虫草;维生素E;分离提取;紫外分光光度法
【英文关键词】Cordyceps gunnii; vitamin E; extraction; UV-VIS spectrophotometry
【中文摘要】古尼虫草与传统名贵中药冬虫夏草类似,具有多种活性物质及广泛的药理作用,是一种重要的虫草属真菌。分别用30 %、50 %、80 %乙醇溶液和乙酸乙酯作为提取液,从古尼虫草菌丝体中提取维生素E,并用乙酸乙酯萃取的方法进行初步分离,硅胶薄层层析和紫外分光光度法分析粗产物中的维生素E。结果表明,提取物质的总量与提取液的乙醇含量有关,提取液的有机溶剂比例越高,提取到维生素E 量越高,但提取的维生素E 的纯度越低。初步确定乙酸乙酯为提取虫草维生素E 的最适溶剂。
【英文摘要】Cordyceps gunnii (Berk.) Berk. is one of the important species of Cordyceps spp, which has similar constituents and pharmacological activities to the traditional Chinese medicine Cordyceps sinensis. In the paper, the extraction and separation of vitamin E from Cordyceps gunnii (Berk.) Berk. were studied using 30%, 50%,80% ethanol solution and ethyl acetate. The content of the crude vitamin E was analyzed with thin layer chromatography (TLC) and UV spectrophotometer methods. The results showed that the higher the organic solvent content in the extracting solution, the higher the content of vitamin E and the lower the purity of the vitamin E. Besides, ethyl acetate was shown to be the best organic solvent for the extraction of vitamin E from Cordyceps gunnii.
【语种】中文
【第一作者】朱振元
【通讯作者】刘安军
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【学科分类】生物化学

【题目】褐藻酸的提取、降解及理化性质研究
【中文关键词】海带;褐藻酸;提取;降解;纯化;性质
【英文关键词】Laminaria japonica; alginic acid; extraction; degradation; purification; properties
【中文摘要】本文以市售海带为原料,通过单因素试验选取了试验的因素与水平,在单因素试验基础上,通过正交试验确定了褐藻酸提取的最佳工艺条件。并采用酸法降解褐藻酸得到降解多糖D-AGS。D-AGS经过DEAE-Sephadex A-25凝胶柱和Sephadex G-75凝胶柱分离纯化后,得到两个单一组分D-AGS-1A和D-AGS-2A,并对D-AGS-2A进行了理化性质研究。通过紫外光谱表明其不含有核酸和蛋白质,碘与碘化钾反应、斐林反应、塞式、考马斯亮蓝反应均呈阴性,咔唑-硫酸反应呈阳性。
【英文摘要】Taking Laminaria japonica as raw material, extraction of alginic acid was studied and optimized by L9 (34) orthogonal test. And D-AGS was obtained by the degradation of alginic acid, which was further purified by chromatography on DEAE-Sephadex A-25 and Sephadex G-75 columns, giving two pure polysaccharides (D-AGS-1A and D-AGS-2A). The result of UV spectrophotometric illustrated that D-AGS-2A does not contain protein and nucleic acid. And D-AGS-2A was assayed by means of iodine- potassium iodide , Fehling, Seliwanoff, coomassie brilliant blue G-250 and carbazole sulfuric acid reaction.
【语种】中文
【第一作者】刘安军
【通讯作者】刘安军
【期刊名称、卷期、页码】现代食品科技,2010年,第26卷,第12期,1322-1325,1374
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【学科分类】生物化学

【题目】鱿鱼肝脏鱼油成分及其体外抗氧化性的研究
【中文关键词】鱿鱼肝脏;鱼油;抗氧化;脂肪酸
【英文关键词】squid liver; oil; antioxidant; fatty acids
【中文摘要】以鱿鱼肝脏为原料提取鱼油,确定了直接水提法提取鱿鱼肝脏鱼油的加水量。用气相色谱-质谱法分析了鱿鱼肝脏鱼油中脂肪酸的组成,并对鱼油的体外抗氧化能力分别进行了DPPH自由基清除能力、超氧阴离子自由基清除作用、过氧化氢清除能力以及脂质过氧化抑制作用的测定。另外对鱿鱼肝脏鱼油进行了薄层分析及全波长扫描,确定了其中含有虾青素。为鱿鱼肝脏在食品、药品和饲料方面的应用提供了理论依据。
【英文摘要】In this study, squid liver oil was extracted by water and amount of water in the extraction was determined. The fatty acids of the oil were analyzed by gas chromatography-mass spectrometry. And its antioxidation effect in vitro was also determined, including DPPH free radical scavenging, superoxide anion radical scavenging, hydrogen peroxide scavenging capabilities and inhibition effect on lipid peroxidation. Besides, thin-layer analysis and full wavelength scanning analysis showed that the extracted crud squid liver oil contained astaxanthin. It provided a theoretical basis for the application of squid liver in food, medicines and feed.
【语种】中文
【第一作者】刘安军
【通讯作者】刘安军
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【学科分类】生物化学

【题目】牛关节软骨复合物对佐剂性关节炎的治疗作用
【中文关键词】牛关节软骨复合物;软骨多糖;佐剂性关节炎;超氧化物歧化酶;丙二醛;一氧化氮;白细胞介素IL-1β
【英文关键词】bovine articular cartilage; cartilage polysaccharide; adjuvant-induced arthritis; superoxide dismutase; malondialdehyde; nitric oxide; interleukin-1β

【中文摘要】本文系统考察了牛关节软骨复合物对类风湿性关节炎的治疗作用。采用弗氏完全佐剂皮下注射左后足跖建立小鼠佐剂性关节炎模型,主要考察了牛关节软骨复合物、牛关节软骨多糖及牛喉管骨软骨多糖对模型小鼠关节指数、肝指数、脾指数和胸腺指数的影响,并检测了小鼠血清中超氧化物歧化酶(SOD)、丙二醛(MDA)、一氧化氮(NO)和白细胞介素(IL-1β)含量的变化。实验结果表明,牛关节软骨复合物可有效缓解小鼠关节肿胀现象,显著降低小鼠肝指数,胸腺指数,MDA,NO(P<0.05)及IL-1β(P<0.01)的含量,对佐剂性关节炎具有明显的治疗作用,且治疗效果优于软骨多糖组。关节软骨复合物为治疗类风湿性关节炎提供了一种新的药物选择。

【英文摘要】The therapeutic effects of bovine articular cartilage on adjuvant-induced arthritis in Kunming mice were investigated in the present study. Animals were divided into control group, model group and treatment groups (bovine articular cartilage, polysaccharide from bovine articular cartilage, polysaccharide from bovine laryngeal cartilage; administered orally by gastric intubations, 180 mg/kg/d, for 20 days after induction). The arthritis model was induced by injection of Freund ' s complete adjuvant (FCA) into the left hind footpad. Arthritis index as well as the index of liver, spleen and thymus was analyzed. Corresponding kits were used in determining superoxide dismutase (SOD), malondialdehyde (MDA), nitric oxide (NO) and interleukin-1β (IL-1β) levels in serum. The results indicated that bovine articular cartilage could obviously attenuate the paw swelling response. Liver and thymus index, MDA and NO levels were significantly (P<0.05) lowered by bovine articular cartilage-treatment. The serum level of IL-1β was significantly (P<0.01) decreased by the treatment. Our results indicated that bovine articular cartilage had a therapeutic effect on adjuvant-induced arthritis and its efficacy was higher than those of polysaccharide groups. Bovine articular cartilage may be a viable therapeutic candidate for the treatment of rheumatoid arthritis.

【语种】中文
【第一作者】刘安军
【通讯作者】刘安军
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【引文索引号】null
【学科分类】细胞生物学

【题目】水肥耦合对玉米籽粒全氮含量的影响
【中文关键词】二次通用旋转组合设计; 水肥管理; 回归模型
【英文关键词】quadrat ic rotation design; w ater and fertilizerm anagemen;t reg ressivemode
【中文摘要】采用四因素五水平(1/2实施)二次通用旋转组合设计,选取灌水、施氮肥、施磷肥和秸秆覆盖四因素作为试验因素,在辽西半干旱区褐土农田进行了水肥耦合效应长期定位试验。按照二次通用旋转组合设计统计分析方法建立回归模型,分析了水肥耦合对玉米籽粒全氮含量的影响。结果表明:水肥单因子对籽粒全氮的含量有较明显的影响,影响顺序为施氮>秸秆覆盖>施磷>灌水;当灌水量为700m3.hm-2、施氮量为180kg.hm-2、施磷量为120kg.hm-2和秸秆覆盖量为7500kg.hm-2时,它们每个因素对玉米籽粒全氮含量的影响都集中11.7g · kg-1,此时籽粒蛋白质含量为73g · kg-1,产量为12000kg.hm-2,表明该处理组合下,玉米的经济效益和生态效益达到最佳,推荐生产上以此进行施肥。

【英文摘要】A long-term f ie ld experim entw ith four factors (irrigation, n itrogen and phosphorus applications, and straw mulch ing) and five levels w as conducted on a c innamon so il in sem -i aridarea ofw estern L iaoning to study the coup ling effects o fw ater and fertilizer on the n itrogen contentin ma ize g rain, w ith the regressive mode l bu ilt up by the quadratic rotat ion design statisticanalysis me thod. The results show ed that sing le factor had sign ificant effects on the nitrogen contentin ma ize g rain, and the sequencew as n itrogen app lication > straw mulch ing > phosphorusapp lication > irrigation. W hen the irrigat ion amount w as 700 m3 # hm- 2, n itrogen app licationratew as 180 kg# hm- 2, phosphorus applica tion rate w as 120 kg# hm- 2, and straw mu lchingw as 7500 kg# hm- 2, the maize grain had a h igh yie ld of 12000 kg# hm- 2, w ith the n itrogencontent being 1117 g# kg- 1 and the protein content being 73 g# kg- 1, suggest ing that such aw ater-fertilizer comb ination w as in optimum in bo th economy and eco logy, and thus, could be appliedin the pract icalm aize production in w estern L iaoning

【语种】中文
【第一作者】曲微
【通讯作者】刘作新
【期刊名称、卷期、页码】生态学杂志, 2010, 29(9)
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【学科分类】土壤学

【题目】自然降雨条件下秸秆还田对巢湖流域旱地氮磷流失的影响
【中文关键词】农业面源污染 秸秆覆盖 氮磷流失 径流 巢湖流域
【英文关键词】Agriculture non-point source pollution, Straw mulch, Nitrogen and phosphorus loss, Surface runoff, Chaohu Lake Region
【中文摘要】本文通过野外径流小区观测试验, 开展了自然降雨条件下秸秆覆盖对巢湖流域旱地地表径流、泥沙和氮磷流失影响的研究。试验结果表明, 秸秆覆盖能有效减少地表径流量、侵蚀产沙量以及因地表径流引起的土壤氮磷流失。在整个玉米生长期间, 秸秆覆盖小区的总产流量与产沙量比传统耕作小区分别减少30.47%和22.88%, 表现出显著的水土保持作用。与传统耕作小区相比, 秸秆覆盖小区随地表径流迁移的氮、磷流失总量分别降低27.42%和32.29%, 但秸秆覆盖对径流中氮磷浓度的影响却不明显。溶解态氮是氮素流失的主要形态, 颗粒态磷是磷素流失的主要形态。秸秆覆盖可以作为源头控制农业面源污染的较好措施之一加以推广。
【英文摘要】A field experiment was conducted in the Chaohu Lake Region to analyze the characteristics of nitrogen and phosphorus loss via runoff from farmlands under natural rainfall conditions. Tw o treatments of conventional tillage (CK) and straw mulch (TS) were set up in 3 replications. The results show that straw mulc h effectively reduces surface runoff, and sediment and nutrient loss from farmlands under natural rainfa ll conditions. During maize growth period, the amounts of runoff and sediments in TS decrease by 30.47% and 22.88%, respectively compared with CK. This imp lies that straw mulch has a signi ficant effect on soil and water conservation. Straw mulch respectively reduces total nitrogen (TN) and total phosphorus (TP) loss via surface runoff by 27.42% and 32.29%. However, straw mulch has an insignificant influence on TN and TP concentration of runoff. While dissolved nitrogen (DN) is predominant form of nitrogen loss, particle phosphorous (PP) is the main form of phosphorus loss. In order to control agricu lture non-point source pollution, straw mulch should be strongly promoted in the study area.
【语种】中文
【第一作者】王静
【通讯作者】王静
【期刊名称、卷期、页码】中国生态农业学报2010,18(3):492-495
【论文发表时间】2009-11-30 00:00:00
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【引文索引号】null
【学科分类】农业基础学科

【题目】秸秆覆盖与平衡施肥对巢湖流域农田磷素流失的影响研究
【中文关键词】磷素流失; 径流; 秸秆覆盖; 平衡施肥; 面源污染
【英文关键词】phosphorus loss; surface runof;f strawmulch; balancedfertilization; agriculture non-point source pollution
【中文摘要】通过野外径流小区观测试验, 研究了巢湖流域旱地秸秆覆盖与平衡施肥条件下的径流、泥沙和磷素流失特征。结果表明, 相对于当地传统耕作区, 秸秆覆盖区和平衡施肥区能分别减少30147%和21161%的径流量, 减少22188%和20159%的泥沙量, 表现出显著的水土保持作用。当地传统耕作区磷向水体迁移的负荷量为0147kg/hm- 2, 流失系数为0152, 其中颗粒态磷是磷迁移的主要形式, 其浓度占总磷流失浓度的74145%~ 90185%。秸秆覆盖与平衡施肥均能有效地降低径流磷流失量, 可分别降低32129%和29181%, 但其对径流磷浓度的影响却不明显。因此, 秸秆覆盖和平衡施肥是作为源头控制农田养分流失的较好措施。
【英文摘要】Abstract: A fieldexperimentwascarriedout inChaohuLakeRegionto study the characteristicsofphosphorus lossby runofffromfarmland1Three treatmentsof conventional tillage(T), strawmulch(TS) andbalancedfertilization(BF) were set upwith three replications1Total phosphorus (TP), dissolvedphosphorus (DP) andparticulate phosphorus (PP) weremeas-uredor calculatedfor thewater samples1The results showed that comparedwithT treatment, the runoff ofTSandBF de-creasedby 30147%and21161%respectively, andthe sediment decreasedby 22188%and20159%respectively, implyingsignificant effectsofbalancedfertilizationandstrawmulchonsoilandwater conservation1Thephosphorus loadingandcoeff-icient of surface runoff fromfarmland inT treatmentwas0147kg#hm- 2and0152respectively1Particle phosphorous (PP)wasthemainformofphosphorus fromsurface runof,f accounting for 74145%~90185%of totalphosphorus1Strawmulchandbalancedfertilizationcoulddecrease 32129% and29181% of phosphorus loss, but they hadno significant influences onphosphorus concentration1Therefore, strawmulch andbalanced fertilizationshouldbe popularized in this area in order tocontrol the agriculture non-point source pollution1

【语种】中文
【第一作者】王静
【通讯作者】王静
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【学科分类】土壤学

【题目】农田秸秆覆盖技术研究进展
【中文关键词】麦稻轮作;地表径流; 氮磷流失; 巢湖
【英文关键词】wheat-ricerotation; surfacerunoff; runoff of nitrogenandphosphorus; Chao Lakebasin
【中文摘要】摘要: 采用田间径流池法,在巢湖流域麦稻轮作种植条件下, 研究农田地表径流氮磷流失的特征。研究结果表明: 麦稻轮作农田径流总氮流失量为45.27~ 101.38kg/hm2,总磷流失量为0.302~ 0.612kg/hm2。总氮的66%以上是在麦季流失的,总磷的89%以上是在稻季流失的。常规施肥条件下麦稻轮作农田氮肥流失率在6%左右,磷肥流失率在0.45%左右。水稻和小麦氮肥减施30%和磷肥减施50%能够减少氮磷的径流流失量,分别减少总氮径流流失量2. 83kg/hm2,减少4.1%左右, 减少总磷径流流失量0.055kg/ hm2, 减少10.7%以上。氮肥减施30%对第一年的作物产量没有造成较大减产,可以实现减量不减产的目标。
【英文摘要】Abstract: Therunoff characteristicsof nitrogenandphosphorusinwheat-ricerotationfarmlandinChaoLakebasinwerestudiedwithbuilding runoff ponds infarmland. The results showedthat the meanannual dis-chargeof nitrogenandphosphoruswasdifferent greatly, total nitrogenwas45. 27~101. 38kg/ hm2, andto-tal phosphoruswas0. 302~ 0. 612kg / hm2. Morethan66%of total nitrogenwaslost inwheat season, andmore than89%of total phosphoruswaslost inriceseason. Intheconditionsof conventional fertilization, theloss percentageof nitrogenfertilizer wasabout 6%andphosphorusfertilizer was0. 45%inthewheat-ricero-tationfarmland. Reductionby 30%of nitrogenfertilizer andby50%of phosphorusfertilizer couldreducethedischargeof nitrogenandphosphorusinthewheat-ricerotationfarmland. Thedischarge amount of total n-itrogenandtotal phosphoruscouldreduce2. 83kg/ hm2and0. 055kg/ hm2, reduce4. 1%and10. 7%. Reduc-tionby30%of nitrogenfertilizer didnot reducethecropyield, soit ispossibletoreducetheamount of nitro-genfertilizewithout reductionof cropyieldinChao Lakebasin
【语种】中文
【第一作者】王桂苓
【通讯作者】马友华
【期刊名称、卷期、页码】安徽农业科学,2009,37(18):8343-8346
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【学科分类】土壤学

【题目】关于沟渠生态拦截氮磷的研究
【中文关键词】沟渠;生态拦截; 氮磷
【英文关键词】ditches; ecological interception; nitrogenandphosphorus
【中文摘要】摘要: 为研究沟渠拦截氮磷的效果, 在不同时间对沟渠不同断面水体进行了监测。结果显示, 河水自然净化和水生植物拦截净化作用,都会降低沟渠水中的氮磷含量, 并且全氮、全磷含量的降低幅度一般要高于铵态氮、硝态氮以及可溶磷的变化幅度;相对河水自然净化而言, 水生植物拦截净化能力明显更强, 几种形态养分含量的降低幅度在5.7%~ 32.9%之间,明显高于降低幅度在0. 30%~ 6. 6%之间的河水自然净化。结果还显示, 在降雨结束以后, 沟渠水中全氮、铵态氮含量都呈现先增加后降低的变化趋势,全磷、可溶磷、硝态氮含量总体呈现波动渐增的变化趋势。
【英文摘要】Abstract: Ditchwater of different sectionswasmonitoredat different timesto study the ecological effective-ness of ditch. The resultsshowedthat ditchandaquatic plant hadfunctionof interceptionandpurification water. Nitrogenandphosphorusconcentrationof water decreasedwhenwater flowthroughtheditch. Gen-erally reductionrange of total nitrogenandtotal phosphoruswashigher thanthat of ammonium, nitrateandsoluble phosphorus. The purification capacity of eco-ditch(with aquatic plant) was significantly strongerthanthat of natural ditch(without aquaticplant) . Thedeclinedratio of nitrogenandphosphorusineco-ditchwas5. 7%~ 32. 9%, whileinnatural ditchwasonly 0. 30%~ 6. 6%. Theresultsalso showthat after

rainsthecontent of total nitrogenandammoniumnitrogeninditchwater hadthe trendof increasing firstly and then declining, whilethecontent of total phosphorus, solublephosphorus, andnitratenitrogenhadthetrend of fluctuatedincremental.
【语种】中文
【第一作者】胡宏祥
【通讯作者】胡宏祥
【期刊名称、卷期、页码】水土保持学报,2010,24(2):141-145
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【引文索引号】null
【学科分类】农业基础学科

【题目】红肉桃果实总RNA提取方法的研究
【中文关键词】红肉桃; RNA提取; 改良SDS法
【英文关键词】blood flesh peach; RNA extraction; modified SDS method
【中文摘要】以红肉桃果实为材料, 采用Unizol总RNA提取试剂盒、CTAB法、冷酚法和改良SDS法4种方法分别提取果皮和果肉中总RNA, 以期获得提取红肉桃果肉中总RNA的最适方法。比较发现改良后的SDS法更适合于红肉桃果实总RNA的提取。此方法所得RNA完整性好, 纯度和浓度均较高, 可用于RT- PCR分析研究及后续实验。
【英文摘要】The methods of Unizol kit CTAB and cold phend, and modified SDS were compared to isolate total RNA from blood flesh peach fruit at different coloring stages. The results showed that the modified SDS method was more suitable for RNA extraction from both peel and flesh of blood flesh peach fruit, And the total RNA was proved to be intact and of high purity and concentration. And hence, the extracted RNA could be used for RT-PCR and further studies.
【语种】中文
【第一作者】刘莉
【通讯作者】原永兵
【期刊名称、卷期、页码】青岛农业大学学报 (自然科学版). 2010, 27 (3): 205-208
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【引文索引号】null
【学科分类】园艺学

【题目】Analysis on cDNA sequence, mRNA expression and imprinting status of Dlk1 gene in goats
【中文关键词】山羊,Dlk1,序列,表达,印记
【英文关键词】Goat, Dlk1, Sequence, Expression,Imprinting
【中文摘要】本研究克隆了山羊Dlk1的cDNA,分析了其表达特征,确定了存在两种转录本。在该基因的编码区找到一处多态性位点,通过对杂合子中表达的等位基因的分析,证明该基因为母系印记。
【英文摘要】Dlk1 (Delta-like homolog 1) is a cell surface transmembrane glycoprotein belonging to the epidermal growth factor like family of homeotic proteins and plays an important role in regulating fetal and postnatal develop-ment. Increased expression ofDlk1 is the primary cause of muscle hypertrophy in the callipyge sheep exhibiting overgrowth of fast-twitch muscles and reduced adiposity. However, the function of Dlk1 in goats remains unknown. In this study, a fragment of 864 bp of goat Dlk1 cDNA, encoding 287 amino acids, was amplified, which has a high homology both in nucleotide sequence and amino acid sequence with the corresponding region of pig, cattle and sheep Dlk1. The Dlk1 was found to be expressed in most tissues of goat fetuses, and in the adrenal gland, pancreas and thymus of adult goats. Two alternative transcripts of Dlk1 - C and Dlk1 - C2were expressed in both fetuses and adult goats. One C/T transition in the coding region of goat Dlk1 was identified and by genotyping one segregating goat family and the expressed allele in the tissues of the offspring, Dlk1 was found to be paternally expressed.
【语种】英文
【第一作者】曹贵玲
【通讯作者】姜运良
【期刊名称、卷期、页码】Mol Biol Rep (2010) 37:2259 – 2264
【论文发表时间】2009-08-18 00:00:00

【引文索引类型】SCI
【引文索引号】DOI 10.1007/s11033-009-9714-0
【学科分类】畜牧学

【题目】SSR标记分析国家北方花生区试品种的遗传多样性
【中文关键词】花生 遗传多样性 SSR标记 聚类分析
【英文关键词】Peanut Genetic diversity SSR marker Cluster analysis
【中文摘要】利用10对SSR引物对参加我国北方区域试验的27份花生品种进行PCR扩增分析,共扩增出57条带,其中45条呈现多态,多态性比率为78.95%。引物的多态性信息含量(PIC)变幅为0.417-0.857,平均值为0.688。27个品种间的遗传相似系数在0.311-0.962之间,平均为0.651。聚类分析结果表明,27个参试花生品种在遗传相似系数0.61处分为3个类群,同一类型的参试品种优先聚为一类,同一地区或同一育种单位提供的品种往往首先聚为一类。系谱分析表明亲本来源相近的品种优先聚在一起,利用农家品种和辐照诱变材料对于拓宽花生遗传基础发挥作用较明显。SSR分析结果基本上与系谱相吻合
【英文摘要】Peanut is an important oil and economic crop in China. Many peanut breeders have been paying attention and efforts to solve the problem of narrow genetic diversity in peanut. In order to broaden the genetic basis in peanut breeding, it is necessary to know the genetic diversity in the current peanuts. In this study, the genetic diversity of 27 peanut varieties under the Region Tests of North China were analyzed with SSR markers. Total 57 bands were generated with 10 SSR primers, of which 45 (78.95%) were polymorphic. The polymorphism information content (PIC) was varied from 0. 417 -0. 857, with an average of 0. 688. The genetic similarity (GS) among 27 peanut varieties were calculated based on the data from these SSR markers. The value of GS ranged from 0.311 to 0. 962, with an average of 0. 651. UPGMA cluster analysis showed that the 27 peanut varieties could be divided into three groups at similarities coefficient of 0.61. Most of the similar varieties were bred by the same breeders or belonged to the same type, which was in accordance with the pedigree information. It is no doubt that microsaterllites are very useful DNA markers to analyze genetic diversity in peanut varieties.
【语种】中文
【第一作者】陈静
【通讯作者】禹山林
【期刊名称、卷期、页码】植物遗传资源学报,2009,10(3):360-366
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【引文索引号】0
【学科分类】分子生物学

【题目】Isolation of a novel C18-D9 polyunsaturated fatty acid specific elongase gene from DHA-producing Isochrysis galbana H29 and its use for the reconstitution of the alternative D8 pathway in Saccharomyces cerevisiae
【中文关键词】无
【英文关键词】D8 desaturase, D9 elongase, Isochrysis galbana, Polyunsaturated fatty acids, The alternative D8 pathway
【中文摘要】无
【英文摘要】A novel gene (IgASE2) encoding a C18-D9 polyunsaturated fatty acids specific (C18-D9-PUFAs-specific) elongase was isolated and characterized from DHA-rich microalga, Isochrysis galbana H29. The IgASE2 gene was 1,653 bp in length, contained a 786 bp ORF encoding a protein of 261 amino acids that shared 87% identity with D9 elongase, IgASE1, and possessed a 44 bp 50-untranslated region (50-UTR) and a 823 bp 30-untranslated region (30-UTR). IgASE2, by its heterologous expressionin Saccharomyces cerevisiae, elongated linoleic acid (LA, 18:2n-6) and a-linolenic (ALA, 18:3n-3) to eicosadienoic acid (EDA, 20:2n-6) and eicosatrienoic acid (ETrA, 20:3n-3), respectively. The conversions of LA to EDA and ALA to ETrA were 57.6 and 56.1%, respectively. Co-expression of this elongase with D8 desaturase required for the synthesis of C20-polyunsaturated fatty acids resulted in the accumulation of dihomo-c-linolenic acid (20:3n-6) from LA and eicosatetraenoic acid (20:4n-6) from ALA. These results demonstrated that IgASE2 exhibited C18-D9-PUFAs-specific elongase activity and the alternative D8 pathway was reconstituted.
【语种】英文
【第一作者】黎明
【通讯作者】李明春
【期刊名称、卷期、页码】Biotechnol Lett (2011) 33:1823 – 1830

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【学科分类】分子生物学

【题目】Cloning and Identification of a Novel C18-Δ9 Polyunsaturated Fatty Acid Specific Elongase Gene from DHA-producing Isochrysis galbana H29
【中文关键词】无
【英文关键词】Δ9-elongase, polyunsaturated fatty acids, Isochrysisgalbana, arachidonic acid, eicosapentaenoic acid
【中文摘要】无
【英文摘要】Isochrysis galbana, a marine prymnesiophyte microalga, is able to produce a high level of long chain polyunsaturated fatty acids such as docosahexaenoic acid (DHA, C22:6n-3). In this article, a novel gene (IgASE2) that encoded a C18-Δ9 polyunsaturase fatty acids specific (C18-Δ9-PUFAs-specific) elongase was isolated and characterized from DHA-rich microalga, I. galbana H29. A full-length cDNA of 1653 bp was cloned by rapidamplification of cDNA ends (RACE) PCR techniques. The IgASE2 contained a 786 bp ORF encoding a protein of 261 amino acids that shared 87% identity with the reported Δ9-elongase IgASE1, a 44 bp 5' untranslated region and an 823 bp 3' untranslated region. The function of IgASE2 was demonstrated by its heterologous expression in Saccharomyces cerevisiae. In S. cerevisiae, IgASE2 elongated linoleic acid (LA, C18:2n-6), α-linolenic (ALA, C18:3n-3) to eicosadienoic acid (EDA, C20:2n-6) and eicosatrienoic acid (ETrA, C20:3n-3). The conversion ratios of LA to EDA and ALA to ETrA were 60.47 and 58.36%, respectively. However, IgASE2 could not catalyze the elongation reactions of oleic acid (OA, C18:1n-9) and other fatty acids. These results confirmed that IgASE2 had C18-Δ9-PUFAs-specific elongase activity.
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【题目】大豆杂种产量和品质性状早世代优势和亲本配合力分析
【中文关键词】大豆;杂种优势;自交衰退;配合力×世代互作
【英文关键词】soybean; heterosis; inbreeding depression; combining ability×generation interaction
【中文摘要】【目的】研究黄淮地区一组优良大豆亲本早世代(F1~F3)产量与品质性状的杂种优势和自交衰退表现,分析杂种早世代亲本产量与品质性状配合力的变化特点,为大豆杂种品种和家系品种选育的亲本选配和后代选择提供依据。【方法】以来自黄淮地区及美国的8个大豆重要亲本及其组配的28个双列杂交组合为材料,以中亲优势率、超亲优势率作为杂种优势的指标,以自交衰退率作为自交衰退的指标,采用DIALLEL-SAS05软件进行多世代数据的联合方差分析和配合力分析。【结果】(1)黄淮地区大豆亲本间产量性状普遍存在杂种优势和自交衰退现象,产量优势最大,单株荚数和单株粒数次之,百粒重无优势。F1杂种优势大的性状,其F2、F3自交衰退率一般也较大。生育期及品质性状(蛋白质和脂肪含量)杂种优势不明显,自交衰退也不明显。(2)大豆产量存在显著的一般配合力×世代和特殊配合力×世代的互作,杂种F1表现配合力高的亲本不一定在后代表现出高配合力。亲本品质性状的一般配合力×世代和特殊配合力×世代的互作效应不显著,由杂种一代的配合力预测杂种后代的可靠性较高。(3)亲本本身产量性状的的高低不能估计其一般配合力效应。但亲本本身蛋白质、脂肪含量的高低是估计其一般配合力效应的重要指标。【结论】黄淮地区大豆亲本间各性状中以产量的杂种优势最大,自交衰退率也较大,不宜直接利用杂种二代。杂种优势利用和杂种后代家系选育可能有不同的最佳亲本和组合。杂种早世代开始对籽粒蛋白质与脂肪含量进行定向选择,有利于及早提高后代的含量。
【英文摘要】【Objective】 The present study was aimed at evaluating the hybrid heterosis, inbreeding depression and combining ability performed in F1-F3 generations of 14 yield and quality traits among parental materials of soybean in Huang-Huai velleys so as to provide guidelines of parental selection and early generation selection in breeding of hybrid cultivars and inbred line cultivars.【Method】 A set of eight parental cultivars chosen from Huang-Huai valleys and the US along with their 28 diallel crosses were tested in 2005. The mid-parent heterosis and high-parent heterosis as well as inbreeding depression were evaluated for each of the 14 traits. DIALLEL-SAS05 was used to carry out the combined analysis of variance of combining ability of eight traits in F1, F2 and F3

generations. 【Result】 The obtained results were as follows: (1) There appeared hybrid heterosis and inbreeding depression foryield-related traits, among them, yield heterosis was the largest, that of number of pods per plant and seeds per plant the next, while no obvious heterosis for 100-seed-weight was observed. The traits with high F1 heterosis performed high inbreeding depression in F2 and F3, therefore, were not appropriate for utilization of heterosis in F1-derived generations. But there showed no obvious hybrid heterosis in maturity and quality (protein and oil contents) traits. (2) There existed significant GCA×Generation and SCA×Generation interaction in yield, therefore, the parental cultivars with high combining ability performed in F1 were not necessary with high combining ability in derived inbred generations, while no significant GCA×Generation and SCA×Generation interaction of quality traits were observed, therefore, the combining ability performed in F1 could predict that in derived inbredgenerations. (3) The yield of the parental materials per se could not be used as an indicator of its GCA, but the protein and oil contents of them per se could be used as an indicator of its GCA. 【Conclusion】 The heterosis of yield was the largest among the traits studied, but that in F1-derived generations declined and, therefore, not useful in production. There might be different superior parental materials and crosses in F1 hybrid cultivars and derived inbred line cultivars. In breeding for line cultivars, selection pressure can be put on early hybrid generations for the effective improvement of the quality traits.

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【题目】黄淮地区大豆重要亲本间产量的杂种优势、配合力及其遗传基础
【中文关键词】大豆; 产量; 杂种优势; 一般配合力; 特殊配合力; 亲本系数; SSR标记
【英文关键词】Soybean; Yield; Heterosis; General combining ability; Specific combining ability; Coefficient of parentage; SSR marker
【中文摘要】2003—2005年以选自黄淮地区及美国的8个大豆重要亲本品种(系)及其组配的28个双列杂交组合为材料, 分析大豆亲本间的产量杂种优势及其配合力, 探讨高优势组合的遗传基础, 包括杂种优势与亲本系数、SSR标记遗传距离的相关。结果表明: (1) 黄淮地区大豆亲本间存在产量超亲优势, 平均20.39%, 组合间差异甚大, 变幅为－5.34%~76.88%, 优选出豫豆22×晋豆27、淮豆4号×晋豆27、诱变30×蒙90-24, 超亲优势分别为76.88%、29.90%和34.42%, 超标率均在25.00%以上, 晋豆27和诱变30为优秀亲本材料。单株荚数及单株粒数的优势和产量优势相对一致。(2) 大豆亲本间产量杂种优势既与双亲一般配合力之和及特殊配合力有关, 又不完全相关。高优势高产组合的亲本产量配合力特点为亲本之一具有较高的一般配合力, 或双亲具有较高的一般配合力之和, 兼有较高的特殊配合力。单株荚数和单株粒数的情况和产量一致。(3) 按亲本系数聚类和按SSR标记遗传相似系数聚类揭示的8个亲本间的遗传关系相对一致, 均分为两组, 一组包含6个黄淮中、南部品种(系), 另一组包含1个山西和1个美国品种。要获得高优势高产组合, 亲本间必须具有一定的遗传距离, 但遗传距离大并不一定都高产高优势, 还有其他因素决定杂种优势。

【英文摘要】In recent years, breeding for hybrid cultivars of soybean [Glycine max (L.) Merr.] for utiliazation of heterosis has been paid great attention, but there are few reports on the fundamental aspects regarding the heterosis in soybeans.. In fact, for a real utilization of hybrid soybean, the important prerequisite is high heterosis. Therefore, a fundamental effort in hybrid breeding is the choice of parents and identification of superior hybrid combinations. In this paper, heterosis and combining ability were determined using eight key parental materials, including seven from Huang-Huai region and one from US as well as their 28 F1 diallel crosses in Huai ’an, Jiangsu, China from 2003 to 2005, and relationships between F1 performance and its pedigree-based and SSR-based genetic distances were investigated. The results showed that there were heterobeltiosis in yield among parents in Huang-Huai region with the average heterobeltiosis of 20.39%, and a large difference among hybridized combinations with a range from －5.34% to 76.88%. We screened combinations, among them, Yudou 22 × Jindou 27, Huaidou 4 × Jindou 27, and Youbian 30 × Meng 9024 had the heterobeltiosis in yield of 76.88%, 29.90%, and 34.42%, respectively. Among these parents used above, Youbian 30 and Jindou 27 were the elite. Heterosis of pods per plant and seeds per plant were relatively in accord with yield heterosis. Yield heterosis in parents was related to general combining ability (GCA) and specific combining ability(SCA). One of parents has high GCA or both have high GCA and high SCA in high-yield combinations. Parents-based cluster and SSR-based cluster analysis revealed that genetic relationships for eight parents were basically consistent, and eight parents were classified into two groups, one including six varieties from middle and south of Huang-Huai region, the other consisting of one from Shanxi and one from America. Therefore, certain genetic distance is

require for a cross with high heterosis and high yield, but genetic distance is not an only determinant factor for high-yield heterosis.
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【题目】杂交大豆制种技术体系的建立
【中文关键词】大豆; 杂交种; 制种技术
【英文关键词】Soybean; H yb rid o f soybean; Seed production techn ique
【中文摘要】阐述杂交大豆制种技术体系建立的依据, 介绍了该技术体系的核心内容和关键技术及环境、昆虫、作物3个因素在杂交大豆制种中的作用和相互关系, 并介绍了吉林省农科院在杂交大豆制种技术研究上的最新进展。实践表明: 通过综合调控这3个因素, 在开放大田不进行人工放蜂的情况下, 仅利用天然传粉昆虫, 不育系的结荚率可达到90%以上。
【英文摘要】In this paper, the basis fo restablishment of hybrid soybean seed production technology system were elucidated and the key techniques were described. The roles of environment, insec ts and crops in the hybrid soybean seed production and the relationships among the three factors were illustrated in detail. The recent progress in hybrid soybean seed productiontechnology system of Jilin Academy of Agricultural Sciences were introduced. Our results show ed that the pod set rate of sterile lines could reach up to 90%, without releasing leafcutter bees in the field, through natural pollinators and integrated control of the three factors.
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【题目】大豆RN不育胞质不育与恢复类型的研究.
【中文关键词】大豆; RN不育细胞质; 恢保类型
【英文关键词】Soybean; RN ste rile cytoplasm; Types of CM S A- lines and R- lines
【中文摘要】阐述了以RN不育细胞质为基础选育的细胞质雄性不育系和恢复系的类型。在大量测交以及预备试验的基础上, 选择具有代表性的9对不育系和相应的保持系以及10个恢复系, 进行不育系与所有保持系之间, 以及不育系与所有恢复系之间所有可能的杂交。对不育系与恢复系杂交的F1, 依据花粉败育率分为3类以表示恢复度, A类: 败育率0~ 10%, B类: 败育率11% ~ 60%, C类: 败育率61%以上。再依据这3类的分布情况和恢复谱, 对不育系和恢复系进行分类。结果表明: 任何一个保持系均可保持所有不育系, 保持不育性的遗传机制较为简单, 受隐性单基因控制。不育系分为极易被恢复, 易被恢复和不易被恢复3类。依据恢复谱和恢复度将恢复系分为: 强恢复,恢复和弱恢复3类。极易被恢复的不育系和强恢复系是大豆杂交种选育中的珍贵育种材料。由于育性的恢复比较复杂, 测交中最好同时用上述3类不同类型的不育系做测交母本。
【英文摘要】The classification of male-sterile lines with RN sterile cytoplasm and their restorers was described in this paper.Representative genetic stocks including 9 pairs of male-sterile lines and their maintainers and 10 restorers were selected as experimentalmaterials based on comprehensive test crosses and a preliminary experiment. All possible crosses were made between male-sterile lines and their maintainers, as well as the ir restorers. The F1s from crosses betw een ma le-sterile lines and the ir resto rers cou ld be div ided into three ca tegor ies of A (0~ 10%) , B (11% ~ 60%) and C (61%) to indicate the degree o f resto ra tion according to the percen tage o f ster ile pollen grains. Taking the d istr ibu tion of A, B and C and the restoration spectrum as basic cons idera tion them ale ste rile lines and the restorers were further class ified. The result showed that any maintainer could maintain the sterility of all male sterile lines. The genetics of ster ility m aintenance seems sim ple: single recessive gene control. Three types o fm a le ste rile lines of very easy to be restored, easy to be resto red and d ifficu lt to be restored were identified. The restorers could also be

divided into three types-strong restorers, normal restorers and weak restorers.The male sterile lines that are very easy to be restored and the strong restorers are very valuable in the use of heterosis breeding. It is suggested that all three types of male sterile lines should be included as female testers in test crosses since the sterility restoration is quite complicated.
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【题目】杂交大豆育种方法和制种技术的实践与研究.
【中文关键词】杂交大豆;三系;制种技术
【英文关键词】Hybrid soybean; Three-line; Seed production tech
nique
【中文摘要】本文详细阐述了杂交大豆“三系”选育、杂交种选育、制种技术等内容,“三系”的选育采用已育成的品种或品系与RN型稳定的大豆不育系进行测交和回交转育进行选育,大豆杂交种是利用不育系和恢复系进行大规模配制杂交组合,经过F1产量鉴定,筛选出强优势组合,而制种要求选择干旱少雨、日照充足、有灌溉条件、野生昆虫种类多、群体大的地区。
【英文摘要】This paper described the “ three-line ” breeding of hybrid soybeans, the hybrid breeding and seed production tecnniques. The “ three-line ” breeding was testcross and backcross breeding among species. Strains bred and RN stable sterile CMS line hybrid soybeans, which were bred through large-scale preparation combination between CMS Line and restorer line; meanwhile, through F1 yield test, it selected the strong heterosis combination, product hybrid seeds in the area where was drought and drier and had the strong sunshine; besides that, the area wasirrigated, various kinds and had large groups of wild insects.
【语种】中文
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【题目】大豆杂交种杂交豆3号选育报告
【中文关键词】大豆杂交种;杂交豆3 号;细胞质雄性不育系
【英文关键词】Hybrid soybean; HybSoy 3; CMS
【中文摘要】杂交豆3 号是利用“三系”法选育的大豆杂交种,不育系为JLCMS8A,恢复系为JLR9 。杂交豆3号的主要特点是高产、稳产,品质较好,抗病性强。预备试验平均公顷产3 691.9 kg,比对照增产20.2%;两年区试平均比对照增产6.4%。人工接种鉴定高抗大豆灰斑病,中感大豆花叶病毒病,田间自然诱发鉴定,高抗大豆花叶病毒病、大豆灰斑病、大豆霜霉病和大豆细菌性斑点病。籽粒脂肪含量20.84%,蛋白质含量40.54%,蛋脂合计61.38%。该品种适于吉林省和黑龙江省中早熟区种植。
【英文摘要】‘HybSoy 3’, developed from cross of JLCMS8A (CMS A line) × JLR9 (CMS R line), has the characteristics of high yield, good quality and high resistance to disease. The yield of ‘HybSoy 3’ was 3691.9 kg per hectare in the preparation experiment, increased 20.2% compared with the control. It significantly increased yield by 6.4% in regional test compared with the control cultivar. ‘HybSoy 3’ was middle resistant to soybean Mosaic Virus and to Cercospora sojina Hara by artificial inoculating test. The seed oil content and protein content of ‘HybSoy 3’ were 20.54% and 40.75% , respectively. The variety was suitable to be cultivated in Jilin province and early to middle mature zone in Heilongjiang province.
【语种】中文

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【题目】大豆细胞质雄性不育系MADS-bos基因的分离分析
【中文关键词】大豆; 细胞质雄性不育; cDNA-AFLP; MADS-box 转录因子
【英文关键词】Soybean; Cytoplasmic male sterility; cDNA-AFLP; MADS-box transcription factor
【中文摘要】采用cDNA-AFLP 差异显示技术对大豆细胞质雄性不育系NJCMS2A 与其保持系NJCMS2B 间基因差异表达进行研究, 结果从NJCMS2A 花蕾中分离到一个差异表达片段, 对该差异片段进行克隆、测序和序列比对分析, Blast检索结果显示它与大豆基因组中Gm13 上g29510.1 cDNA 片段的同源性达98.7%, 与大豆中一个MADS-box 基因的同源性达98%, 氨基酸序列比对结果表明它与大豆中一个MADS-box 蛋白有96%的同源性, 与豌豆中MADS-box M7蛋白有83%的同源性, 与苦瓜中MADS-box2 蛋白有88%的同源性, 与海岛棉典型的MADS-box 基因编码的AGAMOUS 蛋白保守区有83%的同源性, 进一步对其氨基酸序列进行结构和功能预测显示该差异片段具有MADS-box 转录因子的典型结构域K-box, 证明其编码蛋白为一MADS-box 转录因子, 半定量RT-PCR 分析结果显示其在NJCMS2A 花蕾中表达量很高, 而在NJCMS2B 花蕾中表达量很低, 推测该差异片段可能与大豆细胞质雄性不育有关。
【英文摘要】CMS (cytoplasmic male sterility) plays an important role in the utilization of crop heterosis. It is of important significance on theory and practice to study the genetic base and mechanism of CMS. To reveal the molecular mechanism of soybean cytoplasmic male sterility, we analyzed the gene differential expression between the soybean cytoplasmic male sterile line NJCMS2A and its maintainer line NJCMS2B by the cDNA-AFLP differential display method. A differentially expressed fragment from the flower buds of NJCMS2A was cloned and sequenced. The Blast results showed that the differentially expressed fragment shared 98.7% homology with g29510.1 cDNA fragment on Gm13 of soybean genome, and 98% homology with a MADS-box gene of soybean. The Blast results of the amino acid sequences indicated that the differentially expressed fragment shared 96% homology with a MADS-box protein of Glycine max, 83% homology with the MADS-box M7 protein of Pisum sativum, 88% homology with the MADS-box 2 protein of Momordica charantia, and 83% homology with AGAMOUS protein of Gossypium barbadense. The structure and function prediction of the amino acid sequence showed that the protein encoded by the differentially expressed fragment was the transcription factor of the MADS-box gene which contained a typical K-box domain. The results of semi-quantitative RT-PCR showed that the expression quantity of the differentially expressed fragment in the flower buds of NJCMS2A was much higher than that of NJCMS2B. According to the above results, it was inferred that the differentially expressed fragment was probably related to the soybean cytoplasmic male sterility.
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【题目】大豆细胞质雄性不育系与保持系atp6基因的RNA编辑比较研究
【中文关键词】大豆; 细胞质雄性不育; atp6 基因; RNA 编辑
【英文关键词】Soybean; Cytoplasmic male sterility(CMS) ; Atp6 gene; RNA editing
【中文摘要】对大豆细胞质雄性不育系NJCMS1A 与其保持系NJCMS1B 的atp6 基因的RNA 编辑进行比较研究。结果在不育系NJCMS1A 与保持系NJCMS1B 的atp6-3 基因保守区中均发现2 个编辑位点,但互不相同,并且导致了氨基酸的不同变化; mtDNA 序列分析显示,atp6-3 基因转录本保守区在不育系NJCMS1A 与保持系NJCMS1B间存在1 个碱基的差异; 另外还发现atp6-1、atp6-2 和atp6-3 的表达在不育系NJCMS1A 与保持系NJCMS1B 间存在明显差异。

【英文摘要】The atp6 gene is an important mitochondrial functional gene. The studies on some plant species showed that RNA editing of atp6 gene was related to the cytoplasmic male sterility. In this paper,the comparative studies of RNA editing of atp6 gene between the cytoplasmic male sterile line NJCMS1A and its maintainer line NJCMS1B in soybean (Glycine max L.Merr.) were conducted. The results showed that two editing sites were found on the conservative region of the atp6 gene of NJCMS1A and NJCMS1B,but the two editing sites of the atp6 gene of NJCMS1A were different from those of NJCMS1B,and led to the different changes of amino acid. The results of the mtDNA sequence comparision showed that one base difference was found in the conservative region of atp6-3 gene between NJCMS1A and NJCMS1B. In addition,the obvious difference was found on the expression of atp6-1,atp6-2 and atp6-3 between NJCMS1A and NJCMS1B.
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【题目】大豆杂种产量的主-微位点组遗传分析.
【中文关键词】大豆; 产量; 杂种优势; 主-微位点组; 加性效应; 显性效应
【英文关键词】Soybean; Yield; Heterosis; Major-minor locus groups; Additive effects; Dominance effects
【中文摘要】选用来源于中国黄淮和美国的熟期组II~IV 的8 个大豆品种, 按Griffing 方法II 设计, 配成36 个双列杂交组合(28 个杂种组合+8 个亲本)于2003—2005 年进行田间试验。应用基于数量性状主基因+多基因遗传模型的主-微位点组分析法, 解析8 个大豆亲本产量的主、微位点组遗传构成及其效应, 估计主、微位点组对产量杂种优势的贡献。结果表明, 8 个大豆亲本间产量由6 个主位点组加微位点组控制, 主位点组、微位点组分别解释表型变异的75.98%和10.81%。6 个主位点组加性效应(aJ)分别为140.10、259.65、1.95、151.35、 − 32.70 和45.00 kg hm − 2, 显性效应(dJ)分别为177.15、314.25、105.75、75.90、242.85 和171.00 kg hm − 2。杂种遗传构成包括主位点组杂合显性效应、主位点组纯合加性效应、微位点组杂合显性效应和微位点组纯合加性效应4 部分, 相对重要性依次递减, 以显性效应为主,加性效应为辅。亲本间主、微位点组及其遗传效应的解析阐释了各杂种组合的遗传特点, 还提供了进一步挖掘遗传潜力进行优势改良的基础。
【英文摘要】The analysis of major-minor locus groups of diallel crosses based on major gene plus polygene mixed inheritancemodel provides a way to explore the genetic structure of hybrids among a group of materials. Eight soybean parental materials,seven from Huang-Huai region in China and one from the US with maturity group II – IV were used to develop a set of 36 diallel crosses (including 28 F1 crosses and eight parents) according to the Griffing II pattern. The materials were tested in 2003 − 2005. From the analysis of major-minor locus groups of the 36 materials, the results showed that six major locus groups plus minor locus groups were detected to explain 75.98% and 10.81% of the phenotypic yield variation, respectively. This indicated that major locus groups were the major source of genetic variation among the materials with their additive effects (aJ) of 140.10, 259.65, 1.95, 151.35, − 32.70, and 45.00 kg ha − 1 and dominance effects (dJ) of 177.15, 314.25, 105.75, 75.90, 242.85, and 171.00 kg ha – 1, respectively, while the minor locus groups were a supplement source in the genetic system. The genetic constitutions of the hybrids were composed of heterozygous dominance effects of major locus groups, homozygous additive effects of major locus groups,heterozygous dominance effects of minor locus groups and homozygous additive effects of minor locus groups, with their relative importance in a descending order. The dissection of the relative importance of the genetic effects of major-minor locus groups helps to explain the genetic characteristics of the hybrids among the parents and provides the genetic basis for further mining the genetic potential of parental materials in the improvement of hybrids.
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【题目】大豆质核互作雄性不育系NJCMS3A双亲雄性育性基因的SSR标记
【中文关键词】大豆; 质核互作雄性不育; 雄性育性遗传; 基因定位
【英文关键词】Soybean; Cytoplasmic-nuclear male sterility; Fertility inheritance; Gene mapping
【中文摘要】利用大豆质核互作雄性不育系NJMCS3A 的质、核供体亲本N21566 和N21249 构建F2 和BC1F1 育性分离群体进行雄性育性的遗传分析与基因定位。结果表明, F1 正反交可育, F2 和BC1F1 的可育株与不育株分离比例经χ2 测分别符合3∶1 和1∶1, 表明NJCMS3A 供体亲本雄性育性由一对基因控制, 可育等位基因为显性。该基因可能是NJCMS3A的一个恢复基因。选用793 对SSR 引物对F2 和BC1F1 群体分别进行育性基因定位, 发现该育性基因位于O 连锁群上, 在Satt331 和Satt477 标记之间, 与Satt331、CSSR133 和Satt477 标记距离的次序一致, 分别为8.1~10.4、11.4~16.4 和13.3~19.2 cM。
【英文摘要】Utilization of the three lines [cytoplasmic-nuclear male-sterile (CMS) line, maintainer line, and restorer line] in producing hybrids with heterosis has been very successful in a number of crops including soybean. The soybean CMS line NJCMS3Awas developed through six consecutive backcross generations with N21566 as cytoplasm source and N21249 as nuclear donor. The objective of our study was to reveal the genetic mechanism and mapping the male fertility gene in the two parents of the CMS line NJCMS3A, i.e. N21566 and N21249. The male fertility of (N21566×N21249) F2 and BC1F1 showed that the segregation ratio of fertile to sterile plants fitted the expected ratios of 3:1 and 1:1, respectively, indicating one pair of gene conferring male fertility in the parents of NJCMS3A with dominance allele in N21249 being male fertile. This gene might be one of the restorer genes for the male sterility of NJCMS3A. The mapping results on BC1F1 and F2 showed that out of the 793 randomly selected SSR markers,Satt331, CSSR133 and Satt477 on linkage group O were linked to the male fertility gene Rf with their genetic distances of 8.1 − 10.4, 11.4 − 16.4, and 13.3 − 19.2 cM, respectively, in a same order and its location between Satt331 and Satt477.
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【题目】不同统计遗传模型QTL定位方法应用效果的模拟比较
【中文关键词】QTL 定位; 遗传模型; 定位程序; 定位方法与数据模型的适配性
【英文关键词】QTL mapping; Genetic model; Mapping procedure; Pertinence between mapping method and data model
【中文摘要】分子遗传和数量遗传的结合, 发展了QTL 定位研究。随着定位方法与软件的建立和完善, QTL 定位的研究越来越多。准确定位的QTL 可用于分子标记辅助选择和图位克隆, 而假阳性QTL 将误导定位信息的应用。本文分析了迄今主要定位方法(软件)对于各种遗传模型数据的适用性。应用计算机模拟4 类遗传模型不同的重组自交系群体(RIL), 第一类只包含加性QTL; 第二类包含加性和上位性互作QTL; 第三类包含加性QTL 和QTL 与环境互作效应; 第四类包含加性、上位性互作QTL 和QTL 与环境互作效应。每类按模拟QTL 个数不同设两种情况, 共分为8种数据模型(下称M-1~M-8)。选用WinQTLCart 2.5 的复合区间作图(下称CIM)、多区间作图前进搜索(MIMF)、多区间作图回归前进选择(MIMR)、IciMapping 2.0 的完备复合区间作图(ICIM)、MapQTL 5.0 的多QTL 模型(MQM)以及QTLnetwork 2.0 的区间作图(MCIM) 6 种程序对8 种不同遗传模型的RIL 进行QTL 检测。结果表明, 不同程序适用的遗传模型范围不同。CIM 和MQM 只适于检测第一类模型; MIMR、MIMF 和ICIM 只适于检测第一类和第二类模型; 只有MCIM 适于检测所有4 类遗传模型; 因而不同遗传模型数据的最适合检测程序不同。由于未知实际数据的遗传模型, 应采用在复杂模型程序, 如QTLnetwork 2.0, 扫描基础上的多模型QTL 定位策略, 对所获模型用相应模型软件进行验证。
【英文摘要】QTL mapping has emerged based on the development and integration of molecular genetics and quantitative genetics.Along with the establishment and improvement of QTL mapping procedures, a great number of studies of QTL mapping in various crop species have been carried out. QTLs detected with high accuracy can be used for marker-assisted selection and map-based cloning, while the false-positive QTLs are meaningless, even mislead their usefulness. In the present study, the recombinant inbred line (RIL) populations were simulated based on four kinds of genetic models, including Model I, additive QTL; Model II, additive and epistatic QTLs; Model III, additive QTL and QTL×environment interaction, and Model IV, additive, epistatic QTLs and QTL×environment interaction. Two sets of RIL data for each of the four models were obtained, in a total of eight sets of RIL data designated as M-1 to M-8. Six QTL mapping procedures, i.e. CIM (Composite interval mapping), MIMF (forward search of multiple

interval mapping) and MIMR (regression forward selection of multiple interval mapping) of WinQTLCartographer Version 2.5, ICIM (Inclusive composite interval mapping) of IciMapping Version 2.0, MQM (multiple-QTL model) of MapQTL Version 5.0, and MCIM (mixed model based CIM) of QTLnetwork Version 2.0 were used for detecting QTLs of the eight sets of RIL data. The results showed: (1) Different mapping procedures fit different genetic models. CIM and MQM were only suitable for Model I data. MIMR, MIMF, and ICIM were only suitable for Model I and Model II data. Only MCIM was suitable for all four models ’ data. Therefore, the data from different genetic models corresponded to different optimal QTL mapping procedures. (2) Since the genetic model of the practical experimental data was unknown, a multiple model mapping strategy should be taken, i.e., a full model scanning with complex model procedure, such as QTLnetwork 2.0, followed by verification with another procedure corresponding to the scanning results

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【题目】大豆不育系的恢复系筛选及其杂种优势利用研究
【中文关键词】大豆; 雄性不育系; 恢复系; 杂种优势
【英文关键词】Soybean; M ale sterile line; Restorer line; H eterosis
【中文摘要】以大豆质核互作雄性不育系S0105为母本, 与分别来自国内外不同纬度、不同生态区的280个品种测交, 根据测交一代的花粉育性和植株育性, 筛选出恢复株率达97% 以上的恢复系9个; 用这9个恢复系与不育系配制杂交组合, 对其F1籽粒产量进行测定。结果表明: 所有杂交组合的F1都有超亲和超标优势, 其中超亲和超标优势都达到25%以上的组合有4个。

【英文摘要】S0105, a soybean cytoplasmic nuclear male sterile line, was used as female parent to test cross with 280 cultivars from home and abroad in different latitudes and ecological zones. The results showed that when the fertilities rate of pollens were over 90 percent, the plant was fe rtile. Accord ing to both fertilities of pollens and plants of F1, 9 restorer lines (resto ring rate 97%) were selected. Crossed with the sterile line, superparen ts and superstandard heterosis appeared in all the 9 crosses by the seed yields of their F1. Furthermore, 4 crosses showed over 25% of both heterosis

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【题目】大豆杂交种杂种优势分析
【中文关键词】大豆;杂交种;杂种优势;分析
【英文关键词】soybean; hybrid strains; heterosis; analysis
【中文摘要】:分析了大豆杂交种杂种优势大小及其来源,为今后大豆杂交种亲本选配及后代选育提供理论依据。采用经过初次测产、一次测产表现优良的20 份杂交大豆品种作为试验材料,通过农艺性状调查及测产分析,研究大豆杂交种杂种优势及来源。结果表明,参试的20 份杂交大豆组合中比高产对照黑农38 号增产的组合19 个,增产幅度为2.39%~61.33%,其中增产15%以上的组合11 个,占参试组合的55%;增产2.39%~14.76%的组合8 个,占参试组合的40%;减产组合1 个(-11.4%),占参试组合的5%。不同产量性状变异程度不同。大豆杂交种在三粒荚数、四粒荚数、单株荚数、单株粒数、单株产量、分枝数等产量性状上明显优于对照品种。分析表明,大豆杂交种具有明显的杂种优势,可显著提高大豆的产量,杂种优势主要来源于三粒荚数、四粒荚数、单株荚数、单株粒数、分枝数等产量性状。

【英文摘要】To analyze the soybean hybrid heterosis and the source of soybean hybrids, provided the theoreticalb basis of the parents and the future generations selection for the future. This study used 20 hybrid soybean varieties which through the initial and first

yield testing as the test material, through agronomic traits investigation and yield analysis, to research the soybean hybrid heterosis and the sources. The results showed that the hybrid soybean variety had significant advantages in yield, the yield of 19 combinations increased than the high-yield control Heinong 38, the range of 2.39%-61.33%. Yield-related traits analysis showed thatdifferent traits have the different variation degrees. Soybean hybrid yield advantage mainly came from three pods, four pods, pods number, seed number per plant, yield per plant, number of branches and other production traits. The soybean hybrids had obvious heterosis, can significantly increased soybean yield, the heterosis mainly from the three pods, four pods, pods number, seed number per plant, and other production traits.

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【题目】光对红肉桃果肉红色形成的影响
【中文关键词】红肉桃;色素;果实套袋;红色形成;花青苷
【英文关键词】red-fleshed peach; pigments; bagging fruit; red color formation; anthocyanins
【中文摘要】为探讨光照是否影响红肉桃果实果肉着色,以青岛市地方红肉桃品种“大把撸”为材料,研究了不同套袋处理对红肉桃果肉糖酸和色素尤其是花青苷含量变化的影响。结果表明:套袋明显抑制了果肉红色的形成,套袋果果实成熟时a*值为10.32,仅为不套袋果的19.4%;但如果套袋果实在采收前15天摘袋,则见光后的果实果肉花青苷合成能力迅速恢复,采收时花青苷含量达到248.85 nmol/g,比不套袋果还高27.88 %。套袋也降低了红肉桃果肉可滴定酸、可溶性糖、叶绿素和类胡萝卜素含量。认为红肉桃果实果肉红色形成需要光照。
【英文摘要】Qingdao local red-fleshed peach variety“ Dabalu ”(Prunus persica cv Dabalu L.) was used to explore if the red color formation in the flesh of red-fleshed peach fruit needs sunlight directly. Anthocyanin content in red flesh and other fruit quality attributes were measured with bagged and exposed fruits. The results showed that the red color formation was inhibited greatly by bagging. At harvest the red color index a* of bagging fruit was 10.32 which just took 19.4% of that in the fruit without bagging. The ability of anthocyanins synthesis could restore rapidly after bag-moving 15 days before harvest, and the content of anthocyanin reached to 248.85nmol/g at harvest, which was 24.88% higher than that in exposed fruits. Bagging also reduced the content of acid, sugar, carotenoid and chlorophyll. It is proposed that red color formation in the flesh of red-fleshed peach requires sunlight in some ways.
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【题目】Effect of dietary betaine supplementation on lipogenesis gene expression and CpG methylation of lipoprotein lipase gene in broilers
【中文关键词】甜菜碱,肉鸡,脂蛋白酯酶,FAS,A-FABP,CpG甲基化
【英文关键词】Betaine, Broiler, Lipoprotein lipase gene,Fatty acid synthase gene, Adipocyte-type fatty acid binding protein gene, CpG methylation
【中文摘要】本研究开展了甜菜碱对肉鸡脂肪沉积及相关基因表达的影响,探讨了甲基化影响其表达的机制。添加甜菜碱提高了56和66日龄肉鸡的平均日增重并降低了腹脂。添加0.1%的甜菜碱使56日龄肉鸡腹脂中FAS(fatty acid synthase) 和A-FABP(adipose fatty acid binding protein,脂肪型脂肪酸结合蛋白) 的表达量显著降低(P<0.05),使66日龄肉鸡腹脂中LPL和FAS(fatty acid synthase) 的表达量显著降低(P<0.01))。 0.1%的甜菜碱使66日龄肉鸡腹脂中LPL基因启动子区CpG的甲基化分布型发生改变:第1、 6、 7、 8及第10~50的CpG的甲基化程度较低,但第2、5 和 9 位置的CpG甲基化较高。甜菜碱未使肉

鸡脂肪PPAR γ (peroxisome proliferator activated receptor,过氧化物酶体增殖物激活受体)基因启动子区CpG的甲基化程度发生明显改变(P>0.05)。

【英文摘要】Experiments were conducted to investigate the effect of betaine supplementation on mRNA expressionlevels of lipogenesis genes and CpG methylation of lipoprotein lipase gene (LPL) in broilers. From 22 days of age, 78 broilers were feed basal diet without betaine and basal diet supplemented with 0.1% betaine, respectively, and at 56 and 66 days of age, the traits of 15 chickens (7 males and 8 females) of each group were recorded and abdominal fat pads were collected. The mRNA expression levels ofseveral lipogenesis gene were analyzed by semi-quantitative RT-PCR and real-time quantitative RT-PCR (qPCR), respectively. The CpG methylation profile at the promoter region of LPL gene in 66-day-old broilers was determined by bisulfite sequencing. The average daily gain and percentabdominal fat traits were slightly improved in 56-day-old and 66-day-old broilers after dietary supplementation of betaine to diet. After adding 0.1% betaine to diet, the mRNA levels of fatty acid synthase (FAS) and adipocytetype fatty acid-binding protein genes in abdominal adipose were significantly decreased in 56-day-old broilers, and those of LPL and FAS genes in abdominal adipose were significantly decreased in 66-day-old broilers comparing with the control group (P\0.05 and P\0.001). Moreover, in 66-day-old broilers fed 0.1% betaine diet, a different CpG methylation pattern was observed: the CpG dinucleotides of 1st, 6th, 7th, 8th and from 10th to 50th were less methylated; however, those of 2nd, 5th and 9th were more heavily methylated. The results suggest that transcription of some lipogenesis genes was decreased by betaine supplementation and betaine may decrease LPL mRNA expression by altering CpG methylation pattern on LPL promoter region.

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【学科分类】畜牧学

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【中文关键词】猪,印记,NECD, SNRPN, UBE3A,基因

【英文关键词】Pig, Imprinting, NECD, SNRPN, UBE3A,Gene

【中文摘要】本研究克隆了猪NECD, SNRPN, UBE3A基因的cDNA序列,对其在物种间的保守性,组织表达谱进行了分析。分别在其编码区找到一处SNP。通过在杂合子中表达的等位基因的分析,证明,在初生仔猪骨骼肌中NECD, SNRPN呈母系印记, UBE3A未印记。

【英文摘要】Imprinted genes are expressed monoallelically depending on their parental origin, and play important roles in embryo survival and postnatal growth regulation. In this study, we characterized the porcine NECD (necdin), SNRPN (small nuclear ribonucleoprotein polypeptide N) and UBE3A (UBE3A ubiquitin protein ligase E3A) genes, analyzed their expression in nine tissues including liver, lung, small intestine, skeletal muscle, heart, kidney, spleen, inguinal lymph nodes and fat, and also examined their imprinting status in the skeletal muscle of neonate pigs. Results indicated that these three genes were highly homologous between pigs and cattle, being 95.02 % in nucleotide and 99.17 % in amino acid with the cattle SNRPN gene, and 96.46 % in nucleotide and 98.63 % in amino acid with the cattle UBE3A gene, respectively. The three genes were expressed in all the tissues investigated. Three single nucleotide polymorphisms (SNPs) in the coding region of these genes, i.e. g.263G[C, g.402T[C and g.340A[G for porcine NECD, SNRPN and UBE3A genes, respectively, were revealed; and imprinting analysis with which indicated that, in the skeletal muscle of neonate pigs, both NECD and SNRPN were maternally imprinted, while UBE3A was not imprinted.

【语种】英文

【第一作者】王猛

【通讯作者】姜运良

【期刊名称、卷期、页码】Mol Biol Rep (2012) 39:9415 – 9422

【论文发表时间】2012-06-09 00:00:00

【引文索引类型】SCI

【引文索引号】DOI 10.1007/s11033-012-1806-6

【学科分类】畜牧学

【题目】Effect of dietary betaine supplementation on mRNA level of lipogenesis genes and on promoter CpG methylation of fatty acid synthase (FAS) gene in laying hens

【中文关键词】甜菜碱,CpG甲基化,基因表达,蛋鸡,脂生成基因

【英文关键词】Betaine, CpG methylation, gene expression, laying hen, lipogenesis genes

【中文摘要】本研究对甜菜碱对蛋鸡脂生成相关基因表达的影响进行了分析,结果显示,腹脂中FAS基因的mRNA水平受到甜菜碱添加的影响,其启动子区部分位点的CpG也有变化。

【英文摘要】Our aims are to determine the effects of dietary betaine supplementation on growth performance,percentage of abdominal fat, ratio of liver to body weight, mRNA expression levels of acetyl-CoA carboxylase (ACC), fat acid synthase (FAS) and adipose differentiation-related protein (ADRP) genes in the abdominal fat of hens. In addition, promoter DNA methylation patterns of FAS gene were also analyzed by bisulfite sequencing. A total 120 of Hy-Line White laying hens were randomly divided into four diet groups with supplemented betaine of 0, 0.04, 0.06 and 0.08%, respectively. At 180 old days of age, the significant difference in egg production was observed between the control and 0.08% betaine diet group ($P < 0.05$). The FAS mRNA abundance was increased in the abdominal adipose of hens receiving 0.08% betaine compared to the hens receiving control diet with no betaine ($P < 0.05$).However, supplementation of betaine had no significant effect on FAS expression level in 165-day-old hens. The ACC and ADRP gene expression levels were not significantly affected by betaine at either 165 or 180-day-old hens ($P>0.05$). Furthermore, the overall GpG methylation patterns at the FAS gene promoter region ranging from −961 to −749 were not significantly different among all groups in 180-day-old hens ($P > 0.05$), CpG methylation mainly occur from 1st to 5th sites. This study suggests that betaine could regulate lipogenesis of laying chickens by affecting the transcription of FAS genes, and that DNA methylation at some CpG dinucleotides may play a role in regulating FAS gene expression.

【语种】英文

【第一作者】邢晋祎

【通讯作者】姜运良

【期刊名称、卷期、页码】African Journal of Biotechnology Vol. 11(24), pp. 6633-6640

【论文发表时间】2012-03-22 00:00:00

【引文索引类型】SCI

【引文索引号】DOI: 10.5897/AJB11.3197

【学科分类】畜牧学

【题目】菲律宾蛤仔摄食率与温度、壳长和饵料浓度的关系

【中文关键词】菲律宾蛤仔, 摄食率, 温度, 壳长, 饵料浓度

【英文关键词】Ruditapes philippinarum, Ingestion rate, Temperature, Shell length, Algae concentration

【中文摘要】以等边金藻3011为饵料,采用室内流水法,在12、2O和24°C3个温度和不同的壳长、饵料浓度下,测定并计算了温度、壳长和饵料浓度与菲律宾蛤仔摄食率的关系,并建立了相关数学模型。结果显示,在实验条件范围内,摄食率随着饵料浓度的增大而增大,且符合幂函数方程。摄食率可以用温度、壳长和饵料浓度的自然对数方程表示,其模型为:IR = 21.2LnT + 20.06LnL + 7.10LnC - 97.95,经协方差分析结果表明,其相关系数呈非常显著水平。

【英文摘要】The ingestion rates of Ruditapes philippinarum fed with Isochrysis galbana 3011 under simulated conditions were studied.M oreover,investigation of the relationship between feed ingestion and temperature(1 2°C 、 2o°C and 24°C),shell length and algae concentration was carried out,and some mathematic models about the factors were set up. It was found that the ingestion rate was positively correlated with the algae concentration,and the ingestionrate of Ruditapes philippinarum correlated with them by the allometric equations.The impact of temperature,shell length and algae concentration on ingestion rate could be describedby the following model:IR = 21.2LnT + 20.06LnL + 7.1OLnC - 97.95,and analysis of covariance showed that the coefficient of correlation of the model was significant($P< O.0 1$).

【语种】中文

【第一作者】江双林

【通讯作者】孙耀

【期刊名称、卷期、页码】渔业科学进展, 30(4): 78-83

【论文发表时间】2009-08-18 00:00:00

【引文索引类型】SSCI

【引文索引号】null
【学科分类】水产学基础学科

【题目】几种生物农药对水稻稻纵卷叶螟的田间药效试验
【中文关键词】生物农药;稻纵卷叶螟;防治效果
【英文关键词】biological insecticides;Cnaphalocrocis medinalis Guen6e;control efficacy
【中文摘要】摘要:5种生物农药防治稻纵卷叶螟低龄幼虫田间试验结果表明:0.5%藜芦碱WP 3 000 g/hm。、2.5%鱼藤酮EC 4500 mL/hm:、1. 8%阿维菌素EC 1 200 mL/hm:,2000 1U/gL苏云金杆菌(B.t.)sc 6000 mL/hm2,400亿孢子/g白 僵菌WP 2400 g/hmzf均为制剂用量)单独使用,药后7 d校正防效在90.30%~94.60%之间,药后15 dR叶效果在 70.45% 84.09%之间,与对照药剂48%毒死蜱Ec常规用量(750 mL/lam~)防效差异均不显著,但单用速效性较差。而 阿维菌素与B.t.之间.藜芦碱、鱼藤酮、阿维菌素,/3.t.、白僵菌分别与毒死蜱之间,以单用时常规剂量的一半混用,可 明显加快杀虫速度,药后3 d防效存84 00%~92.96%之间,药后7 d防效及药后15 dR叶效果与单用相当或更好。因 此,这5种生物农药可以部分替代高毒滴残留的化学农药来防治稻纵卷叶螟,从而显著减少化学农药的使用量。
【英文摘要】The efficacy of 5 biological insecticides against the lower instar larvae of Cnaphalocrocis medinalis were tested.The results showed that the control effects of veratridine 0.5%W rotenone 2.5%EC,abamectin 1.8%EC、Bacillus thmqngiensis 2 000 IU/pL SC,Beauveria bassiana 4.Ox l 0 spores/g WP respectively at 3 000 g/ha,4 500 mL/ha,1200 mL/ha, 6 000 mL/ha and 2 400 g/ha were between 90.30—94.60%in the seventh day after spraying the pesticides;and the effectsof protective leaves were between 70,45—84 09%in the fifleenth day.Compared with chlorpyrilos 48%EC at 750 mL/ha, the differences of the control effects were not notable,but these biological insecticides took effect more slower than the chemical insecticide chlorpyrifos.When mixing the two pesticides respectively at a half of the recommended dose that was sprayed alone,the control eficacy were significantly more quick than those of the insecticides they were sprayed respectively,the control effects were between 84.00.92.96%in the third day,the effects of controlling larvae in the seventh day and protective leaves in the fifteenth day were similar or better than those of spraying the single insecticide respectively. So the 5 biological insecticides can substitute partly for chemical insecticides to control 1ower instar larvae of e medinalis.
【语种】中文
【第一作者】李世广
【通讯作者】李世广
【期刊名称、卷期、页码】农药,2009,48(11):833-835
【论文发表时间】2009-11-30 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农业基础学科

【题目】栉孔扇贝的氮、磷排泄及其与温度、壳长之间的关系
【中文关键词】栉孔扇贝, 氮, 磷, 排泄
【英文关键词】Chlamys farreri, nitrogen, phosphorus, excretion
【中文摘要】通过天然饵料条件下的室内流水法, 测定并计算了栉孔扇贝氮、磷排泄物的排泄量及温度和壳长对其的影响, 建立了相关的数学模型, 并对栉孔扇贝排泄物中各种形态的N、P含量与组成进行了分析。结果显示: 在实验条件范围内, 扇贝排泄物中VDTN、VPTN的分布范围分别为14.94-248.28ug/h · ind、1.47-84.08 ug/h · ind, VD TP、VPTP的分布范围分别为0.007-42.54ug/h · ind、0.916-17.78ug/h · ind。DTN、PTN 占总氮排泄量的百分比分别为77.2% 、22.8%, 其中氨氮占50.8%; DTP、PTP占总磷排泄量的百分比分别为75.6%、24.4%。各形态N、P排泄速率均随着温度的升高而增加, 溶解、颗粒态N、P与温度之间的关系可以用二项式曲线描述, 而与壳长的关系可以用幂函数关系描述。溶解、颗粒态N、P均随温度和壳长的增加呈加速增大的趋势, 它们与温度和壳长之间的关系均可用对数曲线加以定量描述, 其交互作用模型分别为: VDTN = 131.13Lnt + 217.95LnL - 617.65, VPTN =67.41Lnt + 54.07LnL - 242.37, VDTP = 8.67Lnt + 65.82 LnL - 112.15 和 VPTP = 11.73Lnt + 1.14LnL - 43.74, 经协方差分析结果表明, 其相关系数均呈非常显著水平。
【英文摘要】The excretion features of farrer' scallop (Chlamy farreri) under simulated natural cond- itions were studied with the aim of learning the moda lity of nitrogen and phosphorus excretion, and their excretion rates. Moreover, the investigation of the relationship among water temperature, shell length and alga concentration was also carried out and some mathematics models about several factors were made. The results showed the excretion rates of DTN and PTN were 14.94ug/h · ind to 248.28 ug/h · ind and 1.47ug/h · ind to 84.08ug/h · ind and the excretion rates of DTP and PTP were 0.007ug/h · ind to 42.54 ug/h · ind and 0.916 ug/h · ind to 17. 78 ug/h · ind. The content of DTN and PTN were 77.2% and 22.8%, thereinto, the content of ammonia was 50.8%,

while the contents of DTP and PTP were 75.6% and 24.4% . The individual total nitrogen and phosphorus excretion rates of the scallop are positively correlated with the shell length and temperature in range of 9.2- 27.3 °C. After considering dissolution and particle excretion of nitrogen and phosphorus, the excretion rates of C. farreri were related to temperature by quadratic equations, and to shell length by the allometric equations. The interaction of temperature and shell length with DTN, PTN, DTP and PTP couldbe described by the models VDTN = 131.13Lnt + 217.95LnL - 617.65, VPTN = 67.41Lnt+ 54.07LnL -242.37, VDTP = 8.67Lnt+ 65.82LnL - 112.15 and VPTP = 11.73Lnt+ 11.14LnL - 43.74, furthermore, the results of analysis covariance of thosemodels were P < 0. 01.

【语种】中文

【第一作者】宋娴丽

【通讯作者】孙耀

【期刊名称、卷期、页码】水产学报, 31(1): 38-44

【论文发表时间】2007-01-16 00:00:00

【引文索引类型】SSCI

【引文索引号】null

【学科分类】水产学基础学科

【题目】A coding SNP of LHX4 gene is associated with body weight and body length in bovine

【中文关键词】无

【英文关键词】PCR – RFLP; LHX4 gene; Polymorphism;Growth traits

【中文摘要】无

【英文摘要】Heterozygous mutations in LHX4 are associated with combined pituitary hormone deficiency. In this study, the polymorphism of LHX4-HaeIII locus was revealed in 822 individuals from four Chinese cattle breeds. The PCR-RFLP analysis showed that there were three genotypes: GG, GA, AA. The frequencies of genotype GG ranged from 0.6620 to 0.9789 in analyzed populations. The genotypic frequencies of LHX4 locus in the four populations all agreed with Hardy-Weinberg equilibrium (P > 0.05). Distributions of genotypic frequencies of different breeds (QC, NY, JX, CH) at this locus were found to be significantly different based on a chi (2) test (P < 0.001). The genetic diversity analysis revealed the JX cattle possessed intermediate genetic diversity, and the other three Chinese cattle breeds belonged to poor genetic diversity. Correlation analysis with growth traits in the NY breed indicated that: the animals with genotype GA had greater body weight than those with genotype GG (P < 0.05); the animals with GA genotype owned significantly longer body length than the ones with GG genotype (P < 0.05) at 18 and 24 months.

【语种】英文

【第一作者】任刚

【通讯作者】陈宏

【期刊名称、卷期、页码】Molecular Biology Reports,2010,37(1):417-422

【论文发表时间】2010-01-01 00:00:00

【引文索引类型】SCI

【引文索引号】2.7331900006e+011

【学科分类】畜牧学

【题目】Two novel SNPs in the coding region of the bovine PRDM16 gene and its associations with growth traits

【中文关键词】无

【英文关键词】Bovine;PRDM16 gene;Forced PCR – RFLP;SNPs;Growth trait

【中文摘要】无

【英文摘要】As a zinc-finger protein, PR domain containing 16 (PRDM16) controls brown fat determination by stimulating brown fat-selective genes expression while suppressing the expression of genes selective for white fat cells, whose mutations were associated with myelodysplastic syndrome (MDS) and leukemogenesis in human and murine model of leukemia. To date, no polymorphisms of PRDM16 gene in bovine had been reported. Herein, PCR-SSCP and DNA sequencing methods were employed to screen the genetic variation within PRDM16 gene in 1031 Chinese indigenous bovine. The results revealed two novel silent mutations: XM_001788152: m.1641T > C (547aa), 1881G > A (627aa). Hence, we described the PvuII and HaeIII forced PCR-RFLP methods for detecting these mutations, respectively. In the forced PCR-RFLP analysis with PvuII, the frequencies of bovine PRDM16-C allele varied from 0.044 to 0.506 in four Chinese native breeds. In the forced PCR-RFLP analysis with HaeIII, the frequencies of bovine PRDM16-G allele were 0.474, 0.494, 0.576 and 0.906 for Jiaxian (JX), Nanyang (NY), Qinchuan (QC) and Chinese Holstein (CH) population. Significant

statistical differences between genotypic frequencies implied that both of the polymorphic loci were significantly associated with cattle breeds by the chi square test (chi(2) = 190.058, P < 0.001 and chi(2) = 118.239, P < 0.001 for PvuII; chi(2) = 209.842, P < 0.001 and chi(2) = 108.711, P < 0.001 for HaeIII). The associations of the PvuII and HaeIII forced PCR-RFLPs of bovine PRDM16 loci with growth traits were analyzed in Nanyang breed. The two SNPs were associated with body weight and average daily gain in Nanyang aged 12 months, individuals with genotype TT and AA showed significantly better body weight (P < 0.05) and average daily gain (P < 0.01) at 12 months, respectively.

【语种】英文

【第一作者】王璟

【通讯作者】陈宏

【期刊名称、卷期、页码】Molecular Biology Reports,2010,37(1):571-577

【论文发表时间】2010-01-01 00:00:00

【引文索引类型】SCI

【引文索引号】2.7331900009e+011

【学科分类】畜牧学

【题目】An efficient and rapid method for gene cloning from eukaryotic genomic DNA using overlap-PCR: With an example of cattle Ghrelin gene.

【中文关键词】无

【英文关键词】Megeprimer;Gene cloning;Genomic DNA;Gene splicing;Cattle Ghrelin gene

【中文摘要】无

【英文摘要】In this study, overlap-PCR, an efficient and rapid method, was used to clone cattle Ghrelin gene CDS (coding sequence) from genomic DNA. The procedure included seven primers and three-step PCRs. Cattle Ghrelin gene consists of four exons and the CDS contains 351 bps. In the first step three PCRs were performed to generate extended exon1, exon2, and exon3 that contained overlapped nucleotides and were used as the templates for second ligation PCR. Secondly, exon1 and exon2 were spliced together. And it was same with exon3 and exon4. Lastly, the four exons were linked together with outermost primers and the templates from the second step. Comparison analysis on the obtained CDS of Ghrelin gene and cDNA by RT-PCR showed that the two sequences were same. As an efficient and rapid method, overlap-PCR is feasible and acceptable for gene cloning from genomic DNA. (c) 2009 Elsevier Inc. All rights reserved.

【语种】英文

【第一作者】张爱玲

【通讯作者】陈宏

【期刊名称、卷期、页码】Biochemical and Biophysical Research Communications,2010,391:1490-1493.

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【引文索引类型】SCI

【引文索引号】2.7409780004e+011

【学科分类】畜牧学

【题目】Novel 12-bp deletion in the coding region of the bovine NPM1 gene affects growth traits

【中文关键词】无

【英文关键词】cattle, growth traits, deletion mutation, NPM1 gene.

【中文摘要】无

【英文摘要】The nucleophosmin 1 gene (NPM1) encodes a multifunctional nucleolar phosphoprotein that plays a crucial role in the control of various aspects of cell growth and homeostasis. In this study, the coding region of the NPM1 gene was screened in 1035 individuals of 4 Chinese cattle breeds by DNA sequencing and polyacrylamide gel electrophoresis. A novel 12-bp deletion mutation was identified in the coding region of the NPM1 gene. The PCR products of primer NPM1-P2 exhibited 3 genotypes and 2 alleles: 178 bp (denoted as W) and 166 bp (denoted as D). Genotype DD and allele D were predominant in the studied populations. Association analysis with growth traits in the Nanyang breed (N = 265) showed that the animals with genotype DD had significantly greater birth weight, body weight, body length, and heart girth than those with genotype WD (P < 0.01 or P < 0.05) at birth and after 6 months and 12 months, but not at 18 and 24 months of age. Results of this study suggest that the NPM1 gene is a candidate gene for growth traits in cattle.

【语种】英文
【第一作者】黄永震
【通讯作者】陈宏
【期刊名称、卷期、页码】JOURNAL OF APPLIED GENETICS, 51(2):199-202
【论文发表时间】2010-01-01 00:00:00
【引文索引类型】SCI
【引文索引号】2.7811570001e+011
【学科分类】畜牧学

【题目】MEF2A Gene Polymoephisms are Associations with growth traits in Chinese Indigenus Cattle Breeds
【中文关键词】无
【英文关键词】MEF2A gene; cattle; Single Nucleotide Polymorphisms (SNPs); growth traits; association; mutation
【中文摘要】无
【英文摘要】Myocyte enhancer factor 2A (MEF2A) gene encodes a member of the myocyte enhancer factor 2 (MEF2) protein family, which involves in vertebrate skeletal muscle development and differentiation. The important function of MEF2A implies this gene is a potential candidate gene for considering association analysis between polymorphism and growth trait. Sequencing and forced-PCR-RFLP were used to analyze the polymorphisms of the MEF2A gene in 1009 cattle from three Chinese indigenous breeds. Three SNPs (C1598T, G1641A and C1734T) were detected in the cattle MEF2A gene, leading to a missense (P420L) and two silent mutations (E434 E, P465P). The frequencies of 1598CC genotype and the frequencies of allele 1598C varied from 0.884-1.000 in the analyzed population (NY, QC and JX). The genotypic and allelic frequencies of G1641A and C1734T in. three populations were 0.034-1.000. The C1598T was associated with body length at 6 and 12 months of cattle. The G1641A was associated with average daily gain at 12 months of cattle. And the C1734T affected the average daily gain and body weight at 6 months of cattle. Those three mutations affected the early growth and development of cattle, which could be potential molecular makers in assistant selection of cattle breeding.
【语种】英文
【第一作者】陈付英
【通讯作者】陈宏
【期刊名称、卷期、页码】Journal of animal and veterinary advances, 2010,9(4):814-819
【论文发表时间】2010-04-01 00:00:00
【引文索引类型】SCI
【引文索引号】2.7598280003e+011
【学科分类】畜牧学

【题目】Analysis of the codon use frequency of AMPK family genes from different species.
【中文关键词】无
【英文关键词】AMP-activated protein kinase,Synonymous codon use,Correspondence analysis,Hierarchical cluster method,Gene function
【中文摘要】无
【英文摘要】In mammals, AMP-activated protein kinase (AMPK) is involved in the regulation of cellular energy homeostasis and, on the whole animal level, in regulating energy balance and food intake. In this paper, the relative synonymous codon use frequency of 40 AMPK family genes from seven mammal species (Bos taurus, Homo sapiens, Macaca mulatta, Mus musculus, Pan troglodytes, Rattus norvegicus, Sus scrofa) were analyzed using correspondence analysis and hierarchical cluster method. The result suggests that gene function is the dominant factor that determines codon usage bias in AMPK family genes, while species is a minor factor that determines further difference in codon usage bias for genes with similar functions.
【语种】英文
【第一作者】张琴
【通讯作者】陈宏
【期刊名称、卷期、页码】Molecular Biology Reports,2009,36:513 – 519
【论文发表时间】2010-01-01 00:00:00
【引文索引类型】SCI

【引文索引号】2.6350490001e+011
【学科分类】畜牧学

【题目】The novel 5bp deletion polymorphism in the promoter region of bovine ACRP30 gene
【中文关键词】无
【英文关键词】Cattle,ACRP30 (adiponectin) gene,Promoter Deletion mutation,Growth trait
【中文摘要】无
【英文摘要】ACRP30 gene was located nearby the QTL affecting the marbling, ribeye muscle area and fat thickness on the BAT1 in Angus. In this study, a 5bp deletion mutation within the bovine ACRP30 gene was firstly detected and confirmed in 991 cattle by PCR-SSCP, DNA sequencing and direct PCR amplification. The deletion mutation was appeared in Qinchuan, Nanyang, Jiaxian and Hasake, but was not found in Jinnan, Chinese Holsteins and Angus. The association of the deletion polymorphism with growth traits (including birth weight, body weight, average daily gain and body sizes in different growth periods (6/12/18/24 month-old)) was analyzed in 224 Nanyang cattle. No signification association of the deletion polymorphism with growth traits were observed (P > 0.05). The deletion was located in the promoter region and it resulted in a new putative CCAAT/enhancer binding protein-beta response element (C/EBP-RE).
【语种】英文
【第一作者】张良志
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【学科分类】畜牧学

【题目】Novel 35-bp insertion in visfatin gene in Chinese cattle.
【中文关键词】无
【英文关键词】Visfatin, insertion, mutation, cattle
【中文摘要】无
【英文摘要】Visfatin is a protein that is preferentially produced in visceral adipose tissue. Both its tissue expression and secreted plasma levels increase in parallel with obesity. Therefore, the present study is focused on detecting insertion in bovine visfatin gene and analyzing its effect on growth traits in four Chinese cattle breeds (Nangyang, Qinchuan, Jiaxian, and Chinese Holstein) using PCR-SSCP, DNA sequencing and agarose electrophoresis methods. For the first time, a 35-bp insertion was described in the gene and two alleles were revealed: W and I. The x (2)-test analysis demonstrated that all breeds were in agreement with Hardy-Weinberg equilibrium (P > 0.05). The associations of the novel 35 bp-insertion of visfatin gene with growth traits of Nanyang cattle at 6, 12, 18, and 24 months old were analyzed: 6 month-old cows with genotype WW had greater birth weight than cows with genotype II and WI (P < 0.01 or P < 0.05). These results suggest that the presence of 35 bpinsertion in visfatin gene may influence the birth weight and bodyweight in 6 month-old cows.
【语种】英文
【第一作者】王谋
【通讯作者】陈宏
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【引文索引号】2.693212e+011
【学科分类】畜牧学

【题目】Associations of a HinfI PCR-RFLP of POU1F1 Gene with Growth Traits in Qinchuan Cattle
【中文关键词】无
【英文关键词】Growth traits; PCR-RFLP; Polymorphism; POU1F1 gene; Qinchuan cattle

【中文摘要】无
【英文摘要】The objectives of the present study were to estimate the allele and genotype frequencies of the POU1F1/HinfI polymorphisms in beef cattle belonging to four different genetic groups and to determine the effects of these polymorphisms on growth traits in cattle. The 451-bp PCR products of POU1F1 gene digested with HinfI exhibited three genotypes and two alleles, which were at Hardy-Weinberg equilibrium (P0.05). Genotype BB was the predominant genotype and B the predominant allele in the studied populations. There was significant difference between LimousinQinchuan and Qinchuan in the distribution of genotypes (P0.0001). The association of the polymorphism of the POU1F1 gene with growth traits among Qinchuan, LimousinQinchuan, AngusQinchuan and Germany YellowQinchuan crosses was analyzed. Body weight and wither height of individuals with genotypes AB were higher (P0.05)than that of individuals with genotype BB in the Germany YellowQinchua cross, but were not in the other three populations (P0.05).
【语种】英文
【第一作者】张春雷
【通讯作者】陈宏
【期刊名称、卷期、页码】ANIMAL BIOTECHNOLOGY 卷: 20 期: 2 页: 71-74
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【引文索引类型】SCI
【引文索引号】2.652905e+011
【学科分类】畜牧学

【题目】A novel SNP of the Hesx1 gene in bovine and its associations with growth traits.
【中文关键词】无
【英文关键词】Cattle,Hesx1 gene,SNP,Average daily gain
【中文摘要】无
【英文摘要】As an essential repressor, the homeobox gene Hesx1/HESX1 is required within the anterior neural plate for normal forebrain development. Mutations within the Hesx1 gene have been associated with GH deficiency or combined pituitary hormone deficiency. We detected the polymorphism of Hesx1 gene by PCR-SSCP and DNA sequencing methods in 702 individuals from four Chinese cattle breeds. A novel single nucleotide polymorphism (SNP) (IVS1 + 382T > C) was detected. The frequencies of genotype TC in four breeds were 0.000-0.222. Polymorphism of the Hesx1 gene was shown to be associated with growth in the Nanyang breed. Individuals with genotype TC was significantly lower average daily gain than TT at 18 months ($P < 0.05$).
【语种】英文
【第一作者】赖新生
【通讯作者】陈宏
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【引文索引号】2.6849680001e+011
【学科分类】畜牧学

【题目】Association between variants in the 50-untranslated region of the bovine MC4R gene and two growth traits in Nanyang cattle.
【中文关键词】无
【英文关键词】MC4R,Polymorphisms,Bovine,Growth traits
【中文摘要】无
【英文摘要】Melanocortin-4 receptor (MC4R) is one of five G-protein-coupled receptors binding melanocortins that is implicated in the control of feeding behavior and energy homeostasis. Six cattle populations (n = 594), including four Chinese indigenous breeds, Chinese Holstein, and a meat type breed (Angus), were used to detect single nucleotide polymorphisms in 5'-untranslated region of MC4R gene by means of PCR-SSCP and DNA sequencing. Four linked SNPs (g.[-293C > G; -193A > T; -192T > G; -129A > G]) were identified. The g.-293C > G and g.-129A > G could be genotyped with a PCR-RFLP using TaiI in three combined genotypes (AA, AB and BB). The two linked SNPs were associated with body weight and daily gain in Nanyang aged 6 months ($P < 0.05$), but they had no significant effect on body weight and daily gain in Nanyang aged 24 months ($P > 0.05$).

【语种】英文
【第一作者】张春雷
【通讯作者】陈宏
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【学科分类】畜牧学

【题目】Associations of polymorphism within the GHSR gene with growth traits in Nanyang cattle
【中文关键词】无
【英文关键词】Cattle, GHSR gene, Polymorphism,SNP (single nucleotide polymorphism),Growth traits
【中文摘要】无
【英文摘要】GH secretagogue receptor (ghrelin receptor, GHSR) is known to be involved in the control of GH release by mediating the strong stimulatory effect of the endogenous ligand, ghrelin, on GH secretion. Associations between the GHSR gene polymorphism and the growth traits were revealed in Nanyang cattle. The mutations at nt456(G > A) and nt667(C > T) were complete linkage and located in exon 1 of the coding region of the GHSR gene. Least squares analysis revealed a significant statistical effect ($P < 0.05$) of the GHSR gene different genotypes on body weight and average daily gain at 6 months of age in Nanyang cattle. Individuals with GHSR-MM genotype showed higher body weight and average daily gain than individuals with GHSR-MN genotype.
【语种】英文
【第一作者】张宝
【通讯作者】陈宏
【期刊名称、卷期、页码】MOLECULAR BIOLOGY REPORTS 卷: 36 期: 8 页: 2259-2263
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【学科分类】畜牧学

【题目】Detecting a deletion in coding region of bovine bone morphogenetic protein 15 gene.
【中文关键词】无
【英文关键词】bovine, bone morphogenetic protein 15 (BMP15) gene, detection,mutation
【中文摘要】无
【英文摘要】The aim of this study was to detect polymorphism in the bovine bone morphogenetic protein 15 (BMP15) gene. On the basis of PCR-SSCP and DNA sequencing, a 4-bp deletion was identified in the coding region of the gene. Sequence analysis revealed that the deletion altered the reading frame and introduced a stop codon at position 264. Eight breeds (Luxi, Qinchuan, Nanyang, Jinnan, Bohai Black, Menggolian, Holstein, and Simmental) were genotyped by PCR-SSCP. No cows homozygous for this Mutation were observed in these breeds. Heterozygous cows were detected in Luxi, Qinchuan, Nanyang, Jinnan and Bohai Black cattle. Fecundity was not increased in heterozygous individuals.
【语种】英文
【第一作者】Zhang, LP
【通讯作者】许尚忠
【期刊名称、卷期、页码】JOURNAL OF APPLIED GENETICS 卷: 50 期: 2 页: 145-148
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【学科分类】畜牧学

【题目】Novel SNPs of the mtDNA ND5 Gene and their Associations with Several Growth Traits in Nanyang Cattle Breeds
【中文关键词】无

【英文关键词】Cattle, mtDNA, ND5 gene, Polymorphism, Single nucleotide polymorphism (SNP), Growth traits
【中文摘要】无
【英文摘要】Polymorphism of the mtDNA ND5 gene was detected by PCR-SSCP and DNA sequencing methods in 714 individuals from six Chinese cattle breeds. The results showed that at the P2 locus, two kinds of haplotypes, named A and B, with three SNPs (T12900C, A12923T, C12924T) were detected. The frequencies of haplotype A in six breeds were 0.041-0.167. Polymorphism of the ND5 gene was shown to be associated with growth in the Nanyang breed. Individuals with haplotype B had greater hucklebone width than those with haplotype A when 6 months old ($P < 0.01$), as well as better body height, body length, body weight, and average daily gain at 6 months ($P < 0.05$). Therefore, haplotype B of the ND5 gene was likely to have a positive effect on growth traits at 6 months in the Nanyang breed.
【语种】英文
【第一作者】张宝
【通讯作者】陈宏
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【引文索引号】2.5590070001e+011
【学科分类】畜牧学

【题目】A TaqI PCR-RFLP detecting a novel nucleotide sequence polymorphism in exon 2 of bovine POU1F1 gene
【中文关键词】无
【英文关键词】Growth traits, PCR-RFLP, Polymorphism, POU1F1 gene, Qinchuan cattle
【中文摘要】无
【英文摘要】PCR-SSCP and DNA sequencing methods were applied to reveal three novel single nucleotide polymorphisms (SNPs) in exon 2 of the POU1F1 gene in 963 Chinese cattle belonging to eight breeds. Among them, a silent SNP (NM_174579:c.545G > A) detected by TaqI endonuclease is described. Frequencies of the POU1F1-G allele varied from 0.685 to 1.000. The association of TaqI polymorphism with growth traits was analyzed in 251 Nanyang cattle. No significant associations of the TaqI polymorphism with body weight and average daily gain for different growth periods (6, 12, 18, and 24 months old) were observed ($P > 0.05$), as well as for body sizes ($P > 0.05$).
【语种】英文
【第一作者】潘传英
【通讯作者】陈宏
【期刊名称、卷期、页码】BIOCHEMICAL GENETICS 卷: 46 期: 7-8 页: 424-432
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【学科分类】畜牧学

【题目】A DdeI PCR-RFLP detecting a novel missense mutation of POU1F1 gene showed no effects on growth traits in cattle
【中文关键词】无
【英文关键词】bovine; POU1F1 gene; PCR-RFLP; growth traits
【中文摘要】无
【英文摘要】In this study, a novel missense (NM_174579:c.1201C>T) mutation in exon 6 at the bovine POU1F1 locus is reported, which results in p.S284F, namely, Ser (TCT) > Phe (TTT) at position 284 of the mature protein. A DdeI PCR-RFLP was used to determine the genotypes. The polymorphism was studied in eight Chinese cattle breeds (Nanyang, n = 251; Qinchuan, 149; Jiaxian Red, 144; Chinese Holstein, 61; Luxi, 57; Angus, 49; Jinnan, 60; Guyuan, 192). The frequencies of the POLU1F1 T allele in the analyzed populations ranged from 0.010 to 0.053. The relationships between the DdeI polymorphism and growth traits and body sizes were analyzed by adjusted linear model in 251 Nanyang cattle. Fixed effects of marker genotype, birth year, season of birth (spring vs. fall), age of dam, sire, farm and sex, and random effects of an animal were included. Statistical evaluation revealed no significant relationships between this polymorphism and birth weight, body weight and average daily gain for different growth periods (6-month old, 12-month old, 18-month old and 24-month old) body height, body length, heart girth and height at the hip cross for different growth periods ($P >$

0.05).
【语种】英文
【第一作者】潘传英
【通讯作者】陈宏
【期刊名称、卷期、页码】CZECH JOURNAL OF ANIMAL SCIENCE 卷: 53 期: 12 页: 523-527
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【引文索引号】2.625417e+011
【学科分类】畜牧学

【题目】The polymorphisms of bovine cocaine- and amphetamine-regulated transcripts and their associations with cattle (Bos taurus) growth traits
【中文关键词】无
【英文关键词】CART; cattle; growth traits; SNPs
【中文摘要】无
【英文摘要】We investigated the polymorphisms of bovine cocaine- and amphetamine-regulated transcripts (CART). The coding and regulating regions of CART were screened in 7 cattle breeds by the single-stranded conformation polymorphism (SSCP) technique. The four loci (C1, C2, C3 and C4) studied were all polymorphic. Polymerase chain reaction (PCR) products representing different SSCP variants were sequenced and a total of 9 single-nucleotide polymorphisms (SNPs) were found. The associations between polymorphic loci and the growth traits of Nanyang cattle were analysed. The results indicated that genotype A(1)A(1) of the C1 locus was associated with a higher body weight ($P < 0.05$) than heterozygous A(1)B(1) Genotype A(2)A(2) of the C2 locus was associated with lower body weight and average daily weight gain ($P <= 0.001$) than heterozygous A(2)B(2). C3 and C4 loci had no significant effect on Nanyang cattle growth traits ($P > 0.05$).
【语种】英文
【第一作者】张春雷
【通讯作者】陈宏
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【学科分类】畜牧学

【题目】Three novel single-nucleotide polymorphisms of the bovine LHX3 gene
【中文关键词】无
【英文关键词】Bovine; genetic variation; LHX3 gene; PCR-SSCP; single-nucleotide polymorphisms (SNPs)
【中文摘要】无
【英文摘要】The LHX3 gene encodes LIM homeodomain class transcription factors that have important roles to play in pituitary and nervous system development. On the one hand, mutations of LHX3 are associated with deficiencies of growth hormone (GH), prolactin (PRL), luteotrophic hormone (LH), follicle-stimulating hormone (FSH) and thyroid-stimulating hormone (TSH); on the other hand, mutations of LHX3 are also associated with combined pituitary hormone deficiency (CPHD) diseases in human and animal models. To date, few polymorphisms of the bovine LHX3 gene have been reported. In this study, polymerase chain reaction-single strand conformation polymorphism (PCR-SSCP) and DNA sequencing methods were employed to screen the genetic variations within the bovine LHX3 gene in 802 Chinese indigenous cattle. The results revealed three novel single-nucleotide polymorphisms (SNPs): AY923832: g.7553G > A, 7631C > T and 7668C > G. Among them, a synonymous mutation of exon II was identified: GAG (Glu) > GAA (Glu) at position 72 aa (AY923832:g.7553G > A) of LHX3 (403aa) in the four Chinese bovine breeds. Significant statistical differences in genotypic frequencies for exon 11 and its flanking region of the LHX3 gene implied that the polymorphic locus was significantly associated with cattle breeds by the chi(2)-test ($chi(2) = 68.975$, $df = 6$, $P < 0.001$). Hence, the three novel SNPs not only extend the spectrum of genetic variations of the bovine LHX3 gene, but could also possibly contribute to conducting association analysis and evaluating these as genetic markers in bovine breeding and genetics, and CPHD detection.

【语种】英文
【第一作者】靖永杰
【通讯作者】陈宏
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【引文索引号】2.6283370001e+011
【学科分类】畜牧学

【题目】Novel SNPs of the bovine LEPR gene and their associations with growth traits
【中文关键词】无
【英文关键词】Bovine; LEPR gene; PCR-SSCP; Growth trait
【中文摘要】无
【英文摘要】In this study, polymorphism in the bovine LEPR gene exon 4 was detected by PCR-SSCP and DNA sequencing methods in 653 individuals from five Chinese cattle breeds. Two haplotypes (M and N), three observed genotypes (MM, MN, and NN), and five single nucleotide polymorphisms (SNPs) (NC_007301:g.26767T > C, NC_007301:g.26805C > T, NC_007301:g.27050A > G, NC_007301:g.27063G > A, NC_007301:g.27079G > A) were detected. The frequencies of haplotypes M and N in the five breeds were 0.661-0.747 and 0.253-0.339, respectively. The SNP locus was in Hardy-Weinberg equilibrium in Nanyang, Jiaxian red, Angus, and Jinnan cattle (P > 0.05) and was in Hardy-Weinberg disequilibrium in Qinchuan cattle (P < 0.05). Polymorphism of the LEPR gene was shown to be associated with growth traits in the Nanyang breed. The SNP in the bovine LEPR gene had significant effects on body height, body length, body weight, heart girth, and average daily gain at 6 and 12 months old (P < 0.01 or P < 0.05). Therefore, these results suggest that the LEPR gene is a strong candidate gene that affects growth traits in cattle.
【语种】英文
【第一作者】郭义坤
【通讯作者】陈宏
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【学科分类】畜牧学

【题目】Five novel single nucleotide polymorphisms (SNPs) of the prophet of PIT1 (PROP1) gene in bovine
【中文关键词】无
【英文关键词】MILK-PRODUCTION TRAITS; BLACK-AND-WHITE; SHORT COMMUNICATION; ASSOCIATIONS; CATTLE
【中文摘要】无
【英文摘要】The prophet of Pit1 (PROP1) gene encodes a paired class homeodomain transcription factor of 226 amino acids and is organized of 3 exons. PROP1 is necessary for the specification, differentiation and proliferation of cells. Its function is essential for anterior pituitary organogenesis, and heritable mutations in this gene are associated with combined pituitary hormone deficiency (CPHD) in human patients and animals (SAVAGE et al., 2003; CARVALHO et al., 2006). To date, no polymorphisms of the bovine PROP1 gene were described. In the present experiment, the 5' flanking region, the coding region and partial introns of bovine PROP1 were scanned for single nucleotide polymorphism (SNPs) in Five cattle breeds of China.
【语种】英文
【第一作者】潘传英
【通讯作者】陈宏
【期刊名称、卷期、页码】ARCHIV FUR TIERZUCHT-ARCHIVES OF ANIMAL BREEDING 卷: 50 期: 4 页: 421-423
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【学科分类】畜牧学

【题目】Association between polymorphisms of MSTN and MYF5 genes and growth traits in three Chinese cattle breeds
【中文关键词】无
【英文关键词】cattle; MSTN; MYF5; growth traits
【中文摘要】无
【英文摘要】The objective of this study was to assess the association of polymorphisms in MSTN and MYF5 genes with growth traits in three Chinese cattle breeds. Only one homozygous animal with BB genotype at MSTN locus was observed in Jiaxian population which was at Hardy-Weinberg disequilibrium ($p < 0.05$). The frequencies of allele A at MSTN locus and allele B at MYF5 locus in the three Chinese breeds were 0.9550/0.9730/0.9720 and 0.8275/0.7581/0.7523, respectively. Allele A at MSTN locus and allele B at MYF5 locus were dominant in these three populations. No statistically significant differences in growth traits were observed between the genotypes of the Jiaxian breed at MSTN and MYF5 loci and the Nanyang breed at MYF5 locus. However, there were statistically significant differences between the genotypes at MSTN locus of the Nanyang breed for WH, HQ HGI and HGBLR ($p < 0.05$), and of the Qinchuan breed for BLI ($p < 0.05$). The SNP in MYF5 had significant effects on WH and HHC of Qinchuan animals ($p < 0.05$). These results suggest that MSTN and MYF5 are strong candidate genes that influence growth traits in cattle. Other SNPs of MSTN and MYF5 or other linked genes should also be studied, which could lead to the development of selection plans to improve the performance of Chinese cattle and also promote the breeding of genuine beef cattle in China.
【语种】英文
【第一作者】张润锋
【通讯作者】陈宏
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【学科分类】畜牧学

【题目】Single Nucleotide Conformation Polymorphisms of Leptin Gene in Chinese Cattle
【中文关键词】无
【英文关键词】Chinese indigenous cattle; leptin gene; PCR-SSCP; polymorphism; growth traits
【中文摘要】无
【英文摘要】PCR-SSCP was used to analyze the polymorphism of leptin gene in 539 samples of six cattle breeds, namely Nanyang (NY), Qinchuan (QC), Jiaxianred (JXR), Xizhen (XZ), Luxi (LX), and Holstein cow (HOL) breeds. PCR products with a 330 bp were amplified and sequenced. The results showed that the frequencies of alleles A/B of NY, QC, JXR, XZ, LX, and HOL breeds were 0.558/0.442, 0.492/0.508, 0.571/0.429, 0.658/0.342, 0.591/0.409, and 0.615/0.385, respectively. The association of variations of leptin gene with growth traits in NY, QC, JXR breeds was analyzed. Some indexes of the individuals with genotype BB were higher than that with genotype AA and AB in NY breed, such as the indexes of body length, heart length, body weight, hucklebone width, body height, and average day gain. The height at hip cross of the individuals with genotype BB was higher than that of those with genotype AA and AB in QC breed ($P < 0.05$). So leptin gene may be one of the candidate genes for growth traits with height at hip cross, but not for body weight, heart length, and body length trait. However, the height at hip cross and hucklebone width of the individuals with genotype AB and BB were higher than that of those with genotype AA in JXR breed ($P < 0.05$), but the difference was not statistically significant in body weight and body sizes (body height, body length, and heart length). And the polymorphisms in leptin gene were caused by G→T transversion at the 66th bp position, A→C transversion at the 67th bp position and G→T transversion at the 299th bp position. These results may be applied to marker-assisted selection of Chinese cattle breeds.
【语种】英文
【第一作者】杨东英
【通讯作者】陈宏
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【题目】The polymorphisms of bovine VEGF gene and their associations with growth traits in Chinese cattle
【中文关键词】无
【英文关键词】Vascular endothelial growth factor (VEGF) gene; Single nucleotide polymorphism (SNP); Chinese cattle
【中文摘要】无
【英文摘要】PCR-SSCP and DNA sequencing methods were employed to screen the genetic variation of VEGF gene in 671 individuals belonging to three Chinese indigenous cattle breeds including Nanyang, Jiaxian Red and Qinchuan. Three haplotypes (A, B and C), four observed genotypes (AA, AB, BB and AC) and three new SNPs (6765T > C ss130456744, 6860A > G ss130456745, 6893T > C ss130456746) were detected. The analysis suggested that one SNP (ss130456744) in the bovine VEGF gene had significant effects on birth weight, body weight and heart girth at 6 months old in the Nanyang breed ($P < 0.05$). The results showed that the SNP (ss130456744) in intron 2 of the VEGF gene is associated with early development and growth of Chinese cattle. These findings raise hope that this polymorphism can be a molecular breeding marker in breeding strategies through marker assisted selection (MAS) in Chinese domestic cattle.
【语种】英文
【第一作者】庞永红
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【题目】Polymorphism of DLK1 and CLPG gene and their association with phenotypic traits in Chinese cattle
【中文关键词】无
【英文关键词】Bovidae; DLK1 and CLPG; Phylogenetic; Polymorphism
【中文摘要】无
【英文摘要】DLK1 and CLPG were located in DLK1-GTL2 imprinted cluster. They all affected muscle growth and meat tenderness. The functional importance of DLK1 and CLPG imply that the variation of the genes could affect the growth traits of animal. PCR-SSCP and sequencing were used to analyze the four loci of DLK1 gene and CLPG gene in 1109 individuals, which belong to eight breeds/species of bovidae, including cattle, buffalo and yak. A synonymous mutation (C451T) was detected in exon 5 of DLK1 in Qinchuan cattle, but didn't change significantly with phenotypic traits. Three genotypes AA, AB and AC of CLPG were identified in Jiaxian cattle. The associations analyst of different genotypes showed that the individuals with genotypes AA and AC had a greater body weight and longer body length than those with genotype AB ($P < 0.05$ and $P < 0.01$, respectively); the AA individuals were different from those AB ($P < 0.05$) in the circumference of cannon bone. No polymorphism was observed in the other populations at other loci. These results were in agreement with the homology analysis: DLK1 and CLPG genes were in a highly conserved.
【语种】英文
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【题目】Polymorphisms of MRF4 and H-FABP genes association with growth traits in Qinchuan cattle and related hybrids

【中文关键词】无
【英文关键词】Qinchuan cattle; PCR-RFLP; MRF4 gene; H-FABP gene; Polymorphism; Growth traits
【中文摘要】无
【英文摘要】PCR-RFLP was applied to analyse polymorphisms within the MRF4 and heart fatty acid-binding protein (H-FABP) gene for correlation studies with growth traits in three-month-old Qinchuan (QQ), Qinchuan x Limousin (LQ) and Qinchuan x Red Angus (AQ) cattle. The results showed that 874 bp PCR products of MRF4 digested with XbaI and 2,075 bp PCR products of H-FABP digested with HaeIII were polymorphic in the three populations. Moreover, the frequencies of allele A at MRF4 locus and allele B at H-FABP locus in the QQ, AQ, and LQ populations were 0.8358/0.8888/0.8273 and 0.8358/0.7500/0.8195 respectively. Allele A at MRF4 locus and allele B at H-FABP locus were dominant in the three populations. No statistically significant differences in growth traits were observed among the genotypes of the all three populations at H-FABP locus. However, the association of MRF4 polymorphism with growth traits was then determined in all three populations. The body weight, withers height, heart girth and height at hip cross of individuals with genotype AA were higher than those with genotype AB or BB ($P < 0.05$). Therefore, we suggest that the MRF4 gene may function in the control or expression of growth traits, particularly body weight, withers height, heart girth and height at hip cross.
【语种】英文
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【学科分类】畜牧学

【题目】The polymorphisms of bovine melanocortin-3 receptor pseudogene
【中文关键词】无
【英文关键词】Melanocortin-3 receptor; Polymorphisms; Cattle
【中文摘要】无
【英文摘要】Mammalian melanocortin-3 receptor (MC3R) plays an important role in the central control of energy homeostasis, and several functional polymorphisms of mc3r have been detected. Interestingly, the bovine mc3r was a pseudogene, and its polymorphisms and function remain to be investigated. Single-strand conformation polymorphism (SSCP) showed 5, 2 and 3 genotypes in fragment F1, F2 and F3 of mc3r in seven cattle breeds, respectively. All genotypes revealed novel sequences. Three SNPs 657G > T, 756C > T, 822T > C were detected in fragment Fl, five SNPs 1091T > C, 1133T > C, 1144C > T, 1259T > C and 1319G > A were detected in fragment F2, and two SNPs 1687G > A. 1860C > T were detected in F3. The SNPs in fragment Fl and F2 were located at exon 2. The five SNPs in fragment F2 demonstrated a tight linkage disequilibrium status. Variation detected here might have an impact on the function of bovine mc3r pseudogene. (C) 2010 Published by Elsevier Ltd.
【语种】英文
【第一作者】张春雷
【通讯作者】陈宏
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【题目】Association analysis of thyroglobulin gene variants with carcass and meat quality traits in beef cattle
【中文关键词】无
【英文关键词】association analysis; beef cattle; SNP polymorphism; thyroglobulin gene
【中文摘要】无
【英文摘要】Thyroid hormones play an important role in regulating the metabolism and can affect the homeostasis of fat deposition. The gene encoding thyroglobulin (TG), producing the precursor for thyroid hormones, has been proposed as a positional and functional candidate gene for a QTL with an effect on fat deposition. In the present study, we identified 6 novel SNPs at the 3' flanking

region of the TG gene. The SNP marker association analysis indicated that the SNP markers G133C, G156A, C220T and A506C were significantly associated with marbling score ($P < 0.05$, N=271). Animals with the new homozygote genotype had higher marbling scores than those with the other genotypes. Besides, the linkage disequilibrium analysis indicated that these 4 SNPs were completely linked ($r(2) = 1$). Results of this study suggest that the TG-gene-specific SNP may be a useful marker for meat quality traits in future marker-assisted selection programmes in beef cattle.

【语种】英文
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【题目】Association of LXRA gene variants with carcass and meat quality traits in beef cattle
【中文关键词】无
【英文关键词】Cattle; LXRA gene; polymorphism; carcass; meat
【中文摘要】无
【英文摘要】LXRA is an important regulator of genes involved in lipid, fatty acid and glucose metabolism in liver, and adipose tissue as well as in skeletal muscle. In this study, we discovered and evaluated the association of two SNPs (T1891C in intron 2, and A2377G in exon 3) in the bovine LXRA gene with carcass and meat quality traits in beef cattle. The T1891C SNP was significantly associated with carcass weight (CW), dressing percentage (DP), meat percent (MP) and loin muscle area (LMA) ($P < 0.05$). Animals with the genotype TT had higher CW, DP, MP and LMA than the CT genotype. No significant associations were observed between the A2377G SNP and any traits analyzed in this study ($P > 0.05$). These results suggested that T1891C SNP of the LXRA gene may be useful as a genetic marker for carcass and meat quality traits in beef cattle.

【语种】英文
【第一作者】Gan, QF
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【题目】Novel SNPs of the bovine GAD1/gad67 gene and their association with growth traits in three native Chinese cattle breeds
【中文关键词】无
【英文关键词】Bovine; GAD1 gene; PCR-SSCP; Growth trait
【中文摘要】无
【英文摘要】In this study, polymorphismin the exon 1, 2, 3, 4 and 5 of bovineGAD1 genewas detected by PCR – SSCP and DNA sequencing methods in 726 individuals from three Chinese cattle breeds. Two haplotypes (T and C) and three observed genotypes (TT, TC, and CC) were detected. The result of DNA sequence showed one mutations (T12345C) by comparisons with NC_007300: g.12345T[C. The mutation was at the exon 3, and was identi fi ed a missense mutation Phe (TTT)[Leu (CTT) at position 51 (p.F51L). Polymorphism of the GAD1 gene was shown to be associated with growth traits in the Nanyang breed. The SNP in the bovine GAD1 gene had signi fi cant effects on body length, bodyweight, heart girth, and average daily gain at 24 months (P\0.05). Therefore, these results suggest that the GAD1 gene is a strong candidate gene that affects growth traits in cattle.

【语种】英文
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【学科分类】畜牧学

【题目】Novel SNPs of the bovine NUCB2 gene and their association with growth traits in three native Chinese cattle breeds
【中文关键词】无
【英文关键词】Bovine; NUCB2 gene; PCR-SSCP; Growth trait
【中文摘要】无
【英文摘要】In this study, polymorphism in the exon 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 and 11 of bovine NUCB2 gene was detected by PCR-SSCP and DNA sequencing methods in 686 individuals from three Chinese cattle breeds. Two haplotypes (M and N), three observed genotypes (MM, MN and NN) and two SNPs (NC_007313: g. 27451G > A, NC_007313: g. 27472T > C) were detected. The frequencies of haplotypes M and N in inland Chinese three breeds were 0.531-0.721 and 0.279-0.469 respectively. The studied showed that Nanyang, Jiaxian Red and Qinchuan cattle populations were in Hardy-Weinberg equilibrium at SNPs locus of NUCB2 gene ($P > 0.05$). Polymorphism of the NUCB2 gene was shown to be associated with growth traits in Qingchuan and Nanyang cattle breed. The linkage of two mutant sites in the bovine NUCB2 gene had significant effects on body length, body weight, heart girth, and average daily gain at 24 months ($P < 0.05$). Results of this study suggested that the NUCB2-gene-specific SNP may be a useful marker for growth traits in future marker-assisted selection programmes in inland Chinese cattle.
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【题目】Polymorphisms in the promoter region of bovine PRKAB1 gene
【中文关键词】无
【英文关键词】AMP-activated protein kinase beta 1 subunit gene; Promoter region; Single nucleotide polymorphism; Cattle
【中文摘要】无
【英文摘要】The AMP-activated protein kinase (AMPK) is an evolutionarily conserved sensor of cellular and systemic energy balance. PRKAB1, the gene that encodes the beta 1 regulatory subunit of AMPK, has been shown to be highly involved in the glycogen metabolism. To date, several mutations affecting function of human PRKAB1 have been identified, but few studies have shown a complete description of variability of the promoter region of PRKAB1. Therefore, the extent of genetic polymorphisms in the promoter region of PRKAB1 gene was investigated in a sample of 811 Chinese indigenous bovine individuals using a PCR-SSCP (single strand conformation polymorphism) strategy. Sequence analysis revealed 12 single nucleotide polymorphisms and one 10 bp insertion and one 4 bp deletion variations, which are within some important transcription factor binding sites: GC-Box factors SP1/GC, PAX-3 binding sites, zinc binding protein factors, nuclear respiratory factor 1, and serum response element binding factor. It is expected that these polymorphisms regulate PRKAB1 gene transcription and might have consequences at a regulatory level.
【语种】英文
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【题目】A new insight into cattle ’ s maternal origin in six Asian countries
【中文关键词】无
【英文关键词】cattle; D-loop; Asia; maternal origin; mtDNA
【中文摘要】无
【英文摘要】The domestication of cattle fuelled the development of agricultural society in the history of human being. The evolution and genetic relationship of cattle can be elucidated by investigating the variation of mitochondrial DNA (mtDNA) D-loop sequence. In this study, we built a cattle phylogeny with a pool of 856 individual D-loop sequences, of which 264 Chinese cattle D-loop sequences were obtained in this study (141 ones were first analyzed, and 123 were first submitted) and the rest sequences of cattle from six Asian countries (Japan, Korea, Mongolia, Nepal, India and China) were retrieved from GenBank. Our results indicated that cattle from six Asian countries fell into three clades, Bos taurus (taurine), Bos indicus (zebu) and yak. Four main haplogroups T1A, T2, T3 (including T3A and T3B) and T5 were found in taurine, and two haplogroups I1 and I2 in zebu. Furthermore, we found that I1 and I2 haplogroups were separated by four variable sites rather than five ones and four haplogroups or sub-haplogroups of T1A, T3A, T3B and T5 were found for the first time in these Asian cattle. These data brought us a new insight into cattle's genetic structure in these six Asian countries. The geographical distribution of haplogroups was also outlined to provide systematic information on cattle genetic resources.
【语种】英文
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【学科分类】畜牧学

【题目】TWO NOVEL CODING SNPs OF SREBP1c GENE ARE ASSOCIATED WITH BODY WEIGHT AND AVERAGE DAILY GAIN IN BOVINE
【中文关键词】无
【英文关键词】Cattle; Forced PCR-RFLP; Growth traits; SNP; SREBP1c gene
【中文摘要】无
【英文摘要】It is known that the SREBP1c gene is an important gene responsible for adipogenesis and regulation of the expression of genes controlling fatty acid biosynthesis. Its expression levels increase in parallel with obesity. Therefore, the present study focused on screening the genetic variation within bovine SREBP1c gene and analyzing its effect on growth traits in 1035 individuals belonging to four Chinese cattle breeds (QC, NY, JX, CH) using PCR-SSCP, DNA sequencing, and forced PCR-RFLP methods. The results revealed two novel mutations: NC_007317: g. 10781 CA (457aa), 10914 GA (502aa). Association analysis with growth traits in the Nangyang breed indicated that: The SNPs in the bovine SREBP1c gene had significant effects on body weight and average daily gain at birth, 6 and 12 months old (P0.05 or P0.01). Therefore, these results suggest that the SREBP1c gene is a strong candidate gene that affects growth traits in cattle.
【语种】英文
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【题目】SNP discovery and haplotype analysis in the bovine PRKAA2 gene
【中文关键词】无
【英文关键词】Cattle; PRKAA2; Haplotype; SNP; Phylogenetic tree

【中文摘要】无
【英文摘要】The evolutionarily conserved serine/threonine kinase, AMP-activated protein kinase (AMPK), functions as a cellular fuel gauge that regulates metabolic pathways in glucose and fatty acid metabolism and protein synthesis, and recent data demonstrate that it also plays a critical role in systemic energy balance. PRKAA2, the gene that encodes the alpha 2 catalytic subunit of AMPK, showed be involved in the glucose and lipid metabolism. To date, genetic variants in human PRKAA2 have been shown associations with type 2 diabetes (T2D) in several populations, but few studies show a complete description of the variability of bovine PRKAA2. In the present study, we reported the investigation of PRKAA2 genetic polymorphisms in three Chinese indigenous bovine breeds [Qinchuan (n = 328), Nanyang (n = 278), Jiaxian (n = 148)] and yak (n = 57). The screening of all exons including adjacent splice sites of the gene was performed using a PCR-SSCP strategy, and following sequence analysis revealed fifteen single nucleotide polymorphisms (SNPs). Five SNPs were identified in exons, which all generate synonymous mutations, and other identified variations were located in introns. Linkage disequilibrium (LD) coefficients and haplotype frequencies for some SNPs were investigated. In total, six haplotypes were found in the cattle breeds. Two LD blocks were found in Qinchuan cattle and three common haplotypes were identified based on four SNPs, with the most common haplotype (TGCT) occurring at a frequency of 53.7%; three of the four possible haplotypes were found in Nanyang cattle, with the most common haplotype (CT) occurring at a frequency of 56.3%; whereas, no suitable haplotypes were found in Jiaxian cattle and yak. Phylogenetic analysis showed that Qinchuan and Jiaxian were firstly clustered together, and then Nanyang was added to the branch. The yak (Poephagus grunniens) diverged strongly from the branch of the Bos Taurus. These data will provide a background for more extensive characterization of the bovine PRKAA2 gene, its diversity in different cattle breeds, and evolutionary information of Chinese cattle breeds.
【语种】英文
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【题目】Novel Mutation in TGA Stop[1]Codon of Bovine SIX6 Gene
【中文关键词】无
【英文关键词】SIX6 gene; stop-codon; mutation; ACRS-PCR; growth traits; cattle
【中文摘要】无
【英文摘要】As a transcriptional regulatory gene of the SIX family, SIX6 (also known as OPTX2, SIX9), probably affects pituitary development and secretion of hormones, suggesting that this gene is a potential candidate gene for studying association with growth trait in animals. Therefore, this study is first of all focused on detecting sequence variations in a bovine SIX6 gene and on its effects on growth traits in 1087 cattle from five Chinese cattle breeds using DNA sequencing and HhaI-ACRS-PCR methods. Herein, a novel mutation (NC_007308: g 2015T > C) in the TGA stop-codon of a bovine SIX6 gene was found, which leads to an ORF shift and extension of the encoded protein for four amino acids (Arg(223)-Gln(224)-Arg(225)-Val(226)). The frequency of allele "C" varied from 0.255 (Chinese Holsteins) to 0.614 (Hasake). They all were in the Hardy-Weinberg equilibrium except Jiaxian Red and Hasake cattle. Using amino acid sequence alignment and online prediction software, a new helix in the C-terminal domain of the mutated bovine SIX6 protein was revealed, which possibly affects pituitary development and hormone secretion. So, relationship analysis between this polymorphism and growth traits in the Nanyang breed was carried out based on a proper linear model. Although no statistically significant associations were observed (P > 0.05), the presented work preliminarily demonstrated a novel mutation in the TGA stop-codon which extends the spectrum of genetic variations of the bovine SIX6 gene and might be of interest in terms of its association with other biophysical and biochemical indexes.
【语种】英文
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【题目】牛pAcGFP-FADD融合蛋白真核表达载体构建及在CHO-K1细胞中的表达
【中文关键词】FADD; pAcGFP-Nl; 重组质粒; CHO-K1细胞;
【英文关键词】FADD; pAcGFP-Nl; recombinant plasmid; CHO-K1 cell;
【中文摘要】FADD是Fas/FasL系统的一个信号连接蛋白,通过传递凋亡信号,介导细胞凋亡。为了揭示FADD在牛卵泡发育过程中的调控作用,采用RT-PCR从牛卵巢组织中扩增FADD基因,将其cDNA终止密码子删除,采用定向克隆技术连接到带有水母绿色荧光蛋白(AcGFP)报告基因的真核表达载体pAcGFP-Nl中,构建融合蛋白重组质粒,经BglⅡ/EcoRⅠ酶切、测序鉴定后,用脂质体介导质粒转染CHO-K1细胞,观察有无荧光的表达及用RT-PCR和Western blotting方法检测基因转录、表达情况。结果表明,成功克隆牛FADD基因,通过PCR方法在FADD阅读框两端引入了BglⅡ和EcoRⅠ克隆位点,并于起始位点前加入Kozak序列,成功构建pAcGFP-bFADD融合蛋白真核表达载体,重组质粒转染CHO-K1 24 h后在荧光显微镜下观察到绿色荧光,转染效率可达65%,通过RT-PCR扩增出654 bp的转录产物,并用Western blotting检测到51.4 kD目的蛋白的表达。
【英文摘要】Fas-associated death domain(FADD) is a signal connection protein in Fas/FasL apoptotic path which might play a key role on apoptosis by transferring apoptotic signal.To reveal the intracellular signal transduction molecules involved in the procedure of follicular development in bovine ovary,we cloned FADD gene in bovine ovary tissue with RT-PCR,deleted the termination codon in its cDNA and directionally cloned the amplified FADD gene into eukaryotic expression vector pAcGFP-Nl including AcGFP,successfully c...
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【第一作者】杨润军
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【题目】黄牛Ghrelin基因的克隆、表达及生物学活性检测
【中文关键词】黄牛; RT-PCR; Ghrelin; 克隆; 基因表达;
【英文关键词】cattle; RT-PCR; Ghrelin; cloning; gene expression;
【中文摘要】本研究通过RT-PCR方法从秦川牛皱胃胃底腺mRNA扩增获得Ghrelin基因的cDNA序列,克隆至pGM-T载体获得重组质粒pGh-T1,并进行序列测定。将测序正确的cDNA序列定向克隆到pET32a(+),构建表达载体pGh-32,并转化BL21(DE3)大肠杆菌。IPTG诱导后SDS-PAGE分析表明秦川牛Ghrelin基因在大肠杆菌中获得高效表达,可溶性分析表明Ghrelin融合蛋白以可溶性和包涵体2种形式表达。Western blotting初步证实了所获的融合蛋白是特异的。镍柱亲和层析法分离纯化融合蛋白并皮下注射家兔后获得了融合蛋白的抗体血清,ELISA检测血清的稀释效价在1:12800。将获得的血清与黄牛下丘脑弓状核进行免疫组化试验,进一步印证了重组蛋白表达产物是有活性的,为进一步研究黄牛Ghrelin的功能及其对黄牛生长发育和脂肪沉积奠定了基础。
【英文摘要】The cDNA of cattle Ghrelin gene was amplified from abomasum fundic gland mRNA of Qinchuan Cattle by RT-PCR.PCR product was cloned into the T vector pGM-T to construct pGh-T1 for sequencing.Then the cDNA was subcloned into the prokaryotic expressing plasmid vector pET32a(+) and transformed into host Escherichia coli strain BL2l(DE3) for expression.The expression of pGh-32 mature Ghrelin protein was induced by IPTG and was identified by SDS-PAGE.The expression product was observed with soluble protein and inc...
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【第一作者】张爱玲
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【学科分类】畜牧学

【题目】南阳牛HCRTR1基因编码区单核苷酸多态性分析
【中文关键词】南阳牛; HCRTR1基因; 单核苷酸多态性; 单倍型;
【英文关键词】Nanyang cattle; HCRTR1 gene; Single nucleotide polymorphisms (SNPs); Haplotype;
【中文摘要】【目的】研究南阳牛HCRTR1基因编码区单核苷酸多态性,为利用遗传标记进行肉牛选育奠定基础。【方法】以122头南阳牛为试验动物,利用PCR-SSCP及测序方法研究了HCRTR1基因全部编码区序列的多态性,并对发现的SNP位点进行了遗传特性及单倍型分析。【结果】在该基因的编码区首次发现11个SNP位点,分别为G322A、G384C、T420C、C423T、T481A、C510A、T627C、C631T、G690A、G714A和C736T,其中在322、481、631和736bp处的突变都导致了氨基酸的改变,而其余7处均为同义突变。在322、510和736bp处的SNP表现为中度多态,PIC分别为0.3731、0.3190和0.2851,其余8处的SNP位点均呈现低度多态。对多态位点进行单倍型分析,发现在南阳牛122个个体中共检测到29种单倍型,其中有2种单倍型的频率超过了10%;7种单倍型的频率小于1%;其余20种单倍型的频率均在1%~10%。【结论】本研究测定了南阳牛122个个体的HCRTR1基因的多态性,在全部编码区检测到11个多态性单核酸变异,构成了29种单倍型。
【英文摘要】【Objective】To analyze the single nucleotide polymorphisms (SNPs) in hypocretin receptor 1 (HCRTR1) gene of Nanyang cattle. 【Method】 One hundred and twenty two Nanyang cattle were used for SNPs discovery in the complete coding region of HCRTR1 gene using PCR-SSCP and sequencing methods. Haplotypes and genotypes were reconstructed and analyzed. 【Result】Eleven SNPs at G322A, G384C, T420C, C423T, T481A, C510A, T627C, C631T, G690A, G714A and C736T were detected. The variations at 322, 481, 631 and 736 bp caused ...
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【第一作者】张丽
【通讯作者】陈宏
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【学科分类】畜牧学

【题目】郏县红牛CLPG基因的SNP及对生长发育性状的影响
【中文关键词】郏县红牛; CLPG基因; PCR-SSCP; 生长发育性状;
【英文关键词】Jiaxian Red cattle; CLPG gene; PCR-SSCP; growth and development traits;
【中文摘要】利用PCR-SSCP检测了113头郏县红牛CLPG基因的SNP,发现了AA、AB、AC 3种基因型,测序结果显示AA型在第150和419碱基处分别表现为C和T,为野生型;AB型在第419处发生碱基T→C突变;AC型在第150处发生碱基C→T突变。多态信息含量为0.226,属低度多态。分析了不同基因型与部分生长发育性状的相关性,结果显示,AA、AC基因型个体在体重、体长指标上显著(P<0.05)或极显著(P<0.01)大于AB型个体;在管围指标上,AA基因型个体优于AB基因型个体,差异显著(P<0.05);在坐骨端宽指标上,AA与AB基因型个体之间差异显著(P<0.05),AB与AC基因型个体间差异极显著(P<0.01)。
【英文摘要】The SNPs of CLPG gene in 113 Jiaxian Red cattle were detected by PCR-SSCP,and three genotypes(AA,AB and AC) were identified.The sequencing results showed that genotype AA was the wild type with C and T at the position 150 and 419,respectively,genotype AB and AC have mutations T419C,C150T,respectively.The polymorphism information contents(PIC) was 0.226,which indicated that the polymorphism of this population was relatively low.The associations of different genotypes with some of the growth and development t...
【语种】中文
【第一作者】陈付英
【通讯作者】陈宏
【期刊名称、卷期、页码】畜牧兽医学报,2007,38(12):1290-1293.
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【学科分类】畜牧学

【题目】3个黄牛品种的myostatin 5′调控区多态与生长性状的相关分析
【中文关键词】myostatin 5′调控区; 突变; 生长性状; 黄牛;
【英文关键词】myostatin 5′regulatory region; mutations; growth traits; cattle;
【中文摘要】用PCR-RFLPs方法对南阳牛、秦川牛、郏县红牛3个品种共411个个体的myostatin5′调控区的单核苷酸多态性(SNPs)进行分析。结果表明,3个品种在myostatin5′调控区T→A突变以等位基因T为主,仅在郏县红牛中发现1个AA型纯合体,郏县红牛品种显著偏离Hardy-Weinberg平衡状态(P<0.05),其它品种处于Hardy-Weinberg平衡状态(P>0.05)。对黄牛myostatin5′调控区T→A突变与南阳牛、秦川牛和郏县红牛生长性状进行相关分析,结果显示,TT型南阳牛6月龄的胸围和胸围指数显著低于TA型个体,TT型南阳牛18月龄的体高显著高于TA型个体(P<0.05),但基因型对秦川牛和郏县红牛生长性状的效应不显著(P>0.05)。提示在南阳牛的育种实践中应该综合考虑南阳牛生长阶段和所要选择的性状。
【英文摘要】Single nucleotide polymorphisms(SNPs) of myostatin 5′regulatory region in Nanyang,Qinchuan and Jiaxian Red cattle breeds were analyzed by PCR-RFLPs.The results showed that the allele T was dominant in the three breeds for the T→A mutation,and only one homozygous AA individual was detected in Jiaxian Red cattle which was at Hardy-Weinberg disequilibrium(P<0.05).The Nanyang and Qinchuan populations were at Hardy-Weinberg equilibrium(P>0.05).The effects of the T→A mutation on growth traits of the three b...
【语种】中文
【第一作者】张润峰
【通讯作者】陈宏
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【学科分类】畜牧学

【题目】Overlap-PCR克隆秦川牛HCRTR1基因及其在大肠杆菌中的表达
【中文关键词】重组PCR; 秦川牛; 增食欲素受体1(HCRTR1)基因; 原核表达;
【英文关键词】overlap-PCR; Qinchuan cattle; HCRTR1; prokaryote expression;
【中文摘要】通过Overlap-PCR方法克隆了秦川牛(Bos tarus)的增食欲素受体1(HCRTR1)基因编码区全长,获得1 278 bp编码区全长序列(GenBank登录号:DQ874350),将其克隆至pMD-18T载体上,经测序表明获得的cDNA序列与GenBank公布的序列同源性均为98%。阳性质粒经BamH Ⅰ和HindⅢ双酶切后,将目的片段定向克隆到pET32a(+)表达载体上,转化B121(DE3)感受态大肠杆菌(Escherichia coli),经鉴定正确后,用IPTG诱导目的蛋白的表达。SDS-PAGE表明,秦川牛HCRTR1基因在大肠杆菌中没有表达,进一步生物信息学分析表明,HCRTR1基因的表达产物为具有7个跨膜螺旋的G蛋白偶联受体,复杂的蛋白质结构使得其不能在原核表达系统中获得表达。
【英文摘要】A 1 278 bp coding sequences of hypocretin receptor 1(HCRTR1)gene(GenBank accession No.:DQ874350)in Qinchuan cattle(Bos tams)was obtained by the Overlap-PCR methods and cloned into pMD18-T vector,and the positive clone plasmid(pMD18T-HCRTR1)was sequenced.Results showed that the cloned fragments had 98% homology with the sequence of GenBank after being blasted.After digested the plasmid with BamH Ⅰ and HindⅢ,the fragment was ligated with the expression pET32 a(+)vector.The positive recombined plasmid(pET32 a(+)...
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【第一作者】张丽
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【学科分类】畜牧学

【题目】秦川牛GHR基因SNPs及其与生长性状关系的研究
【中文关键词】秦川牛; PCR-SSCP; 生长激素受体基因; 多态性;
【英文关键词】Qinchuan cattle; PCR-SSCP; GHR gene; polymorphism;

【中文摘要】利用PCR-SSCP技术研究了136头秦川牛GHR基因第10外显子多态性,所研究的秦川牛群体GHR基因该座位存在多态性,发现了A、B、C3个等位基因,其基因频率依次为0.5956、0.2905、0.1140,并且群体处于Hardy-Weinberg平衡状态。对纯合基因型个体进行测序,测序结果,该座位存在两个突变位点。通过构建最小二乘线性模型,分析了生长激素受体基因与生长性状的关系,表明生长激素受体基因的AB基因型效应在部分生长性状上高于其他基因型,差异达到显著水平,提示GHR基因有可能作为秦川牛生长性状的侯选基因。

【英文摘要】In this paper PCR-SSCP technique was used to analyze the polymorphisms of the tenth exon of GHR gene in Qinchuan cattle.The results showed that PCR products demonstrated polymorphisms in Qinchuan cattle and the population was at Hardy-Weinberg equilibrium(P > 0.05) .There were three allele gene A、B、C in this locus with the corresponding frequencies of 0.5956,0.2905 and 0.1140.The amplified fragments of homozygosis genotype were sequenced.The result showed that there were two mutation in these fragments.T...

【语种】中文

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【通讯作者】陈宏

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【学科分类】畜牧学

【题目】牛HTR1B基因的分子遗传特性研究

【中文关键词】HTR1B基因; PCR-SSCP; SNP; 牛;

【英文关键词】HTR1B gene; PCR-SSCP; SNPs; bovine;

【中文摘要】用PCR-SSCP技术研究了涉及肉牛和奶牛共计7品种HTR1B基因的编码区和3′侧翼区的多态性,以期为牛性情的标记辅助选择积累数据。扩增得到4个片段,有3个片段存在(SSCP)多态性。对不同的SSCP带型对应片段进行测序,共发现6个SNP多态位点(G205T、C507T、C546G、C744T、G816A和G942A)。各遗传群体内G205T、C744T、G816A和G942A位点均处于Hardy-Weinberg平衡,而C507T和C546G位点只有鲁西牛处于Hardy-Weinberg平衡。奶牛205T等位基因频率显著高于其他肉牛品种($\chi 2=6.87$)。奶牛G205T位点多态信息含量为0.25,其余各位点在不同群体内均小于0.10,说明牛HTR1B基因较保守。

【英文摘要】The aim of the present study was to identify and characterize polymorphisms within the coding region and the 3′ flanking region of the bovine serotonin receptor 1B gene among different cattle breeds. Four DNA fragments were am- plified by polymerase chain reaction and then used for polymorphism identification by SSCP. The fragments showing dif- ferent SSCP patterns were sequenced. And a total of six SNPs (G205T, C507T, C546G, C744T, G816A and G942A) were detected. The SNPs were at Hardy-Weinberg equilibrium...

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【第一作者】张春雷

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【学科分类】畜牧学

【题目】南阳牛DGAT2基因PCR-RFLP多态性及其与生长性状相关性研究

【中文关键词】DGAT2; 南阳牛; PCR-RFLP; 生长性状;

【英文关键词】DGAT2; Nanyang cattle; PCR-RELP; growth related traits;

【中文摘要】以131头纯种南阳牛为研究材料,利用PCR-RFLPs对二酰甘油酰基转移酶2(DGAT2)基因的第6内含子和第7内含子的多态性及其与生长发育的相关性进行了分析。结果表明:南阳牛在该位点分别检测到两种等位基因A/B和N/M,频率分别为0.875/0.125和0.971/0.029。A和N等位基因是群体中的优势等位基因。该基因内含子6对南阳牛6月龄的体高、2岁体重、6月龄到两岁的胸围和体斜长都有显著的影响,内含子6的AA基因型的6月龄的体高比杂合型高3.8%,两岁体重高3.9%,6月龄到两岁的胸围分别高3.8%、3.4%、3.7%、4.3%;6月龄到两岁的体斜长分别高3.8%、3.6%、3.8%、3.1%。内含子

7对18月龄和两岁的坐骨端宽有极显著的影响(P<0.01);对两岁的胸围有显著的影响(P<0.05)。
【英文摘要】The associations between SNPs in intron 6 and intron 7 of the bovine diacylglycerolacyltransferase (DGAT2) gene and growth traits in purebred Nanyang cattle (n=131) were reported in this study. Alleles detected in intron 6 were allele A and B with frequencies of 0.875 and 0.125,respectively; alleles detected in intron 7 were allele N and M with frequencies of 0.968 and 0.032,respectively. The animals with genotype AA in intron 6 showed 3.8% increases in body height(P < 0.01),3.9% increases in body weight...
【语种】中文
【第一作者】张争锋
【通讯作者】陈宏
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【学科分类】畜牧学

【题目】郏县红牛DGAT2基因多态性与生长性状的相关性分析
【中文关键词】郏县红牛; PCR-RFLP; DGAT2; 生长性能;
【英文关键词】Jiaxian red cattle; PCR-RFLP; DGAT2; growth traits;
【中文摘要】利用PCR-RFLP技术对随机抽取的92头郏县红牛的DGAT2基因进行多态性分析。结果表明,DGAT2基因第6内含子的PCR扩增产物被限制性酶Taq Ⅰ酶切消化后表现多态性。经电泳检测后,显出AA、AB两种不同基因型。该基因座处于Hardy-Weinberg平衡状态,通过对郏县红牛DGAT2基因多态性与体重及体尺指标的方差分析显示:郏县红牛DGAT2基因不同基因型对郏县红牛体重和体长有显著影响(P<0.05),而对其他体尺指标在统计学上无显著影响(P>0.05),且初步认为AB基因型对选择有正向效应。
【英文摘要】The polymorphisms of DGAT2 gene in 92 Jiaxian red cattle were analyzed using PCR-RFLP method. Results showed that the PCR products digested with TaqI demonstrated polymorphisms, and showed two kinds of genotype: AA and AB. This polymorphic locus of DGAT2 gene was at Hardy-Weinberg equilibrium (P>0.05). The results of general linear model analysis showed that polymorphisms of DGAT2 gene had significant association (P<0.05) with body weight and body length, while had no significant association with othe...
【语种】中文
【第一作者】毛海霞
【通讯作者】陈宏
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【学科分类】畜牧学

【题目】郏县红牛ZAG基因多态性与生长性状的相关性
【中文关键词】郏县红牛; ZAG基因; PCR-SSCP; 生长发育性状;
【英文关键词】Jiaxian red cattle; ZAG gene; PCR-SSCP; growth and development traits;
【中文摘要】ZAG基因的功能主要是促进脂肪分解,减少脂肪含量。文章利用PCR-SSCP和DNA测序技术研究了145头郏县红牛ZAG基因编码区4个位点(Z1、Z2、Z3、Z4)的多态性,发现Z1、Z3、Z4位点存在SSCP多态。对不同SSCP带型的对应片段进行了测序分析,共发现6个新的SNP多态位点(C115T、A3257G、A4013G、T4027C、C4032T、T4120C)。Z3位点处于Hardy-Weinberg平衡状态,Z1、Z4位点处于非平衡状态。不同基因型与生长发育性状的相关性分析显示,Z4位点上,AC基因型个体的体斜长、胸围、管围、体重指标显著(P<0.05)或极显著(P<0.01),大于AA、AB基因型个体,暗示该位点有可能作为郏县红牛生长性状标记辅助选择的标记之一。
【英文摘要】The main function of ZAG gene is to enable the decomposition of fat,and reduced fat content.In this study, polymorphisms of four loci(Z1,Z2,Z3,Z4)at the coding region of the bovine ZAG gene were detected in 145 Jiaxian red cattle,and polymorphisms were found on Z1,Z3,Z4 loci.The fragments showing different SSCP patterns were sequenced, nd a total of six SNPs(C115T,A3257G,A4013G,T4027C,C4032T,and T4120C)were found.The Z3 locus of ZAG gene was at Hardy-Weinberg

equilibrium,while Z1 and Z4 loci of ZAG gene wer...
【语种】中文
【第一作者】郭义坤
【通讯作者】陈宏
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【题目】牛POMC基因多态性及其与南阳牛生长性状的相关分析
【中文关键词】牛; POMC基因; 单核苷酸多态性; 生长性状; 体重;
【英文关键词】cattle; POMC gene; SNP; growth trait; body weight;
【中文摘要】为研究阿片黑皮质素前体(POMC)在动物采食和能量平衡调控中发挥重要作用,文章采用PCR-SSCP结合DNA测序方法,对秦川牛、南阳牛、郏县红牛、晋南牛、鲁西牛、安格斯牛和荷斯坦奶牛共计480头个体POMC基因的多态性进行研究,并分析了多态位点与南阳牛生长性状的相关性。结果表明,牛POMC基因3个位点中,在3′侧翼区P3位点新发现3个连锁存在的SNP(811845 C>T、811821 T>C和811797 A>G,与NW_928357对照)。POMC基因3′侧翼区多态位点与南阳牛6月龄体重和0~6月龄平均日增重显著相关,BB型个体显著大于AA型(P<0.05)。
【英文摘要】Pro-opiomelanocortin(POMC) plays an important role on animal ingestive behavior and energy homeostasis.Genetic variation of POMC was detected by PCR-SSCP and DNA sequencing techniques in 480 individuals from seven cattle breeds(i.e.,Qinchuan,Nanyang,Jiaxian Red cattle,Jinnan,Luxi,Angus,and Chinese Holstein),and association analyses were carried out to evaluate the effects of genotypes of the candidate genes on growth traits in Nanyang cattle.Three SNPs(811845 C>T,811821 T>C and 811797 A>G,ref.NW_92...
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【第一作者】张春雷
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【学科分类】畜牧学

【题目】中国地方牛CCK基因第1外显子的多态性及其与生产性状的相关性
【中文关键词】牛; SNPs; 胆囊收缩素基因; PCR-RFLP; 生产性状;
【英文关键词】cattle; SNPs; CCK; PCR-RFLP; growth traits;
【中文摘要】【目的】研究中国本地牛胆囊收缩素(Cholecystokinin,CCK)基因第1外显子的多态性及其与南阳牛生产性状的关系,为中国地方牛品种的选育提供参考。【方法】利用PCR-RFLP和DNA测序技术,研究了6个中国本地牛品种(南阳牛、秦川牛、郏县红牛、鲁西牛、草原红牛和荷斯坦奶牛)1390头个体CCK基因的多态性,并分析其多态性与南阳牛生产性状的相关性。【结果】DNA池测序结果发现,CCK基因第1外显子有2个新的SNP多态位点(1 224 T→C,1 275 G→C),其中1 275 G→C是一个错义突变,该突变导致1个内切酶PVUⅡ切割位点的消失,表现为GG、GC、CC 3种基因型。3种基因型在南阳牛、秦川牛、郏县红牛、鲁西牛、草原红牛和荷斯坦奶牛CCK基因第1外显子G等位基因的频率分别为0.744 0,0.947 0,0.888 5,0.956 3,0.756 3,0.957 0;C等位基因频率分别为0.256 0,0.053 0,0.111 5,0.043 7,0.243 7,0.043 0。不同基因型与南阳牛生产性状的相关分析表明,GC和CC基因型个体除了与初生质量和6月龄性状指标不相关外,与12,...
【英文摘要】【Objective】 The study was to study the polymorphism of the missense mutation in exon 1 of CCK gene and the association with the production traits in Nanyang cattle,in order to provide reference for the breeding of Chinese local cattle.【Method】 DNA sequencing and PCR-RFLP were applied to analyze the polymorphism of CCK gene in 1390 individuals that comprised six Chinese native cattle(Nanyang cattle,Qinchuan cattle,Jiaxian Red cattle,Luxi cattle,Caoyuan Red cattle and Holstien cow),and associated with the gro...
【语种】中文

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【题目】郏县红牛POU1F1基因第6外显子HinfⅠ、AluⅠ和PstⅠ位点遗传变异及其与生长发育的关系
【中文关键词】郏县红牛; POU1F1基因; HinfⅠ; AluⅠ; PstⅠ;
【英文关键词】Jiaxian Red cattle; POU1F1 gene; HinfⅠ; AluⅠ; PstⅠ;
【中文摘要】【目的】研究POU1F1基因第6外显子HinfⅠ、AluⅠ和PstⅠ酶切位点多态性对郏县红牛生长发育性状的遗传效应。【方法】以144头郏县红牛为研究材料,用PCR-RFLP方法检测POU1F1基因第6外显子HinfⅠ、AluⅠ和PstⅠ基因座多态性,并分析其基因型间遗传变异与生长发育的关系。【结果】451bp的POU1F1基因第6外显子片段被HinfⅠ酶切后表现多态;AA、AB和BB基因型频率分别为0.1875,0.3056和0.5069,A和B等位基因频率分别为0.3403和0.6597,处于Hardy-Weinberg不平衡状态;该位点纯合度为0.5510,杂合度为0.4490,有效等位基因数为1.8148,多态信息含量为0.3482,属中度多态,可作为该群体遗传资源评价的建议性指标。而POU1F1基因第6外显子AluⅠ和PstⅠ基因座均未检测到多态性,仅发现AA基因型,表明这些基因座比较保守。HinfⅠ多态性与郏县红牛生长发育性状的相关分析表明,不同基因型与郏县红牛体高、腰角宽、胸围、尻长、十字部高、管围、体质量等指标均无显著相关性(P>0.05);BB基因型个体体长显著高于AB和AA基因型个体(P<0...
【英文摘要】[Objective] The objective of the present study was to study the genetic effects of polymorphisms of HinfⅠ,AluⅠ and PstⅠ loci within POU1F1 gene exon 6 on Jianxian Red cattle growth traits. [Method] POU1F1 gene exon 6 polymorphic fragments were detected by PCR-RFLP technique using 144 Jianxian Red cattle.Association analysis of POU1F1 gene exon 6 polymorphism with growth traits was also conducted.[Result] The results showed that 451 bp PCR products digested with HinfⅠ demonstrated polymorphisms.Moreover,the ...
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【题目】固原本地黄牛及其利杂群体Pit-1基因多态性与育肥性状的关系
【中文关键词】固原本地黄牛; 利木赞牛杂交群体; Pit-1基因; PCR-RFLP; 育肥性状;
【英文关键词】Guyuan local cattle; crossbreed of Limousin×local cattle; Pit-1 gene; PCR-RFLP; fattening trait;
【中文摘要】为了分析固原本地黄牛及其利木赞牛杂交群体(简称利杂群体)Pit-1基因的多态性与育肥性状的关系,为固原本地黄牛下一步的杂交改良提供理论基础,利用PCR-RFLP技术研究了固原本地黄牛及其利杂群体共178个个体的Pit-1基因多态性,并分析了其与育肥个体育肥性状的相关性。结果表明,451 bp的PCR产物被限制性内切酶HinfⅠ消化后表现出多态性,固原本地黄牛及其利杂群体在该位点均处于Hardy-Weinberg平衡状态,等位基因A/B的频率分别为0.3039/0.6961和0.1614/0.8386。与部分育肥性状的相关分析表明,在育肥的初期阶段,BB型和AB型个体的精料料肉比均显著低于AA型个体(P<0.05);7月龄育肥牛BB型个体的胸深显著低于AA型,而胸宽显著高于AA型(P<0.05);育肥牛6~12月龄体长增长量也表现出BB型个体优于AB型的趋势(P<0.05)。初步认为,BB基因型与优良的育肥性能显著相关,对B等位基因的选择有利于优良性状的改良。
【英文摘要】PCR-RFLP was applied to analyze the polymorphisms of Pit-1 gene in 178 Guyuan local cattle and crossbreed of Limosin×local cattle,and then the association with fattening traits had been analyzed.The results showed that 451 bp PCR products digested with HinfⅠ demonstrated polymorphisms in Guyuan local cattle and crossbreed of Limosin×local cattle which were all at Hardy-Weinberg equilibrium,and the frequencies of allele A/B were 0.303 9/0.696 1 and 0.161 4/0.838 6,respectively.The association of polymorphism...

【语种】中文
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【学科分类】畜牧学

【题目】5种家畜IGFBP3基因遗传变异研究
【中文关键词】山羊; 绵羊; 水牛; 牦牛; 普通牛; IGFBP3基因;
【英文关键词】goat; sheep; buffalo; yak; bovine; IGFBP3 gene;
【中文摘要】利用PCR-RFLP技术对山羊(西农萨能奶山羊和关中奶山羊)、绵羊(小尾寒羊)、普通牛(南阳牛)、水牛(湖南彬洲水牛)和牦牛(青海牦牛)等5种家畜213份样品IGFBP3 Hae位点进行了遗传多样性研究,并对山羊、绵羊、普通牛和水牛IGFBP3基因序列进行了同源性分析。结果显示,5种家畜物种IGFBP3基因Hae酶切表现明显物种间多样性,在普通牛上表现多态性,而在山羊、绵羊和牦牛上未表现多态性;山羊IGFBP3基因序列与绵羊、普通牛和水牛的同源性分别为97%,93%,93%,绵羊IGFBP3基因序列与普通牛和水牛的同源性分别为93%和92%,而普通牛和水牛的IGFBP3基因序列同源性为96%;绵羊和山羊的亲缘关系最近,首先聚为一支,然后再与普通牛、水牛相聚。表明Hae酶切位点具有物种多样性,可用于物种间亲缘关系的分析。
【英文摘要】In this study,PCR-RFLP with endonuclease HaeIII was applied to detect polymorphisms of IGFBP3 in 213 ruminant samples from 5 domestic animal species.The results revealed polymorphisms among ruminant including goat(including Xinong Saanen dairy,Guangzhong),sheep(Small Tail Han),bovine(Nanyang),buffalos(Bingzhou) and yak(Qinghai) Homology analysis of ruminant IGFBP3 gene sequence showed as follows:comparing nucleotide sequence of goat with that of sheep,buffalo and bovine,the homological percentages were 97%,93...
【语种】中文
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【通讯作者】陈宏
【期刊名称、卷期、页码】西北农林科技大学学报(自然科学版),2007,35(3):34-37.
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【题目】牛FADD基因的克隆分析及其真核表达载体的构建
【中文关键词】FADD基因; pAcGFP-Nl载体; 融合蛋白; 重组质粒;
【英文关键词】FADD gene; pAcGFP-Nl vector; fusion protein; recombinant plasmid;
【中文摘要】【目的】克隆牛FADD基因并构建真核表达载体,以探讨其在牛卵泡发育过程中的调控作用。【方法】采用RT-PCR技术,从牛卵巢组织总RNA中反转录FADD cDNA,对编码区核苷酸序列分析后,将其全长cDNA删除终止密码子,采用定向克隆技术连接克隆到含有水母绿色荧光蛋白(AcGFP)报告基因的真核表达载体pAcGFP-Nl中,用BglⅡ、EcoRⅠ双酶切、测序进行鉴定,并进行了牛FADD mRNA的组织表达谱分析。【结果】克隆的牛FADD基因编码区全长序列与NCBI公布的序列完全一致,核苷酸和氨基酸序列与猪的同源性最高,与鸡的同源性最低,仅为42.5%和44%;通过PCR方法在FADD阅读框两端引入了BglⅡ和EcoRⅠ克隆位点,并于起始位点前加入Kozak序列,成功构建pAcGFP-N1-bFADD融合蛋白表达载体。组织表达谱分析表明,牛FADD mRNA高表达于肝脏、淋巴组织及睾丸、卵巢组织,在小肠、心、胰腺、肺、肾及肌肉中则弱表达或无表达。【结论】成功克隆了牛FADD基因,并构建pAcGFP-N1-bFADD融合蛋白表达载体,为FADD基因在牛卵母细胞发育调控中的基础研究提供了一种简便可靠的方法。
【英文摘要】【Objective】Cattle FADD gene was cloned and its eukaryotic expression vector was constructed to exploit the gene s regulation role in the procedure of follicular development in bovine ovary.【Method】The FADD gene was amplified in cattle ovary tissue by RT-PCR,the nucleotide sequence in the coding region was analyzed and the termination codon in its cDNA was deleted.The amplified FADD gene was directionally cloned into eukaryotic expression vector pAcGFP-Nl including AcGFP,then identifed by restrictive enzyme ...

【语种】中文
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【题目】牛RXRG基因cDNA的克隆及生物信息学分析
【中文关键词】牛; RXRG; RT-PCR; 生物信息学; 组织表达谱分析;
【英文关键词】bovine; RXRG; RT-PCR; bio-informatics; tissue expression analysis;
【中文摘要】【目的】扩增了牛RXRG基因的序列,并对其进行了生物信息学分析。【方法】提取牛肌肉组织总RNA,利用RT-PCR技术,对牛RXRG基因进行了克隆,将得到的2条片段分别重组到PMD19-T载体并进行了序列测定;利用DNAMAN软件拼接得到2条片段序列,并运用DNAMAN软件及在线工具对拼接所得到的序列进行了生物信息学分析。以牛肾脏、肝脏、睾丸、肺、脾脏、瘤胃、子宫、小肠、心脏、卵巢和肌肉等11个组织为材料,对牛RXRG基因在组织中的表达进行了分析。【结果】获得了长度为1 811 bp的牛RXRG基因cDNA,其由10个外显子组成,编码463个氨基酸;该基因与人、猪、猕猴、小鼠、大鼠在氨基酸序列上分别有89.5%,93.4%,87.2%,83.9%和85.2%的同源性。【结论】获得了牛RXRG基因长度为1 811 bp的cDNA序列,牛RXRG基因除在肌肉组织中高度表达外,在其他组织中均不表达。
【英文摘要】【Objective】 Tow cDNA sequences of the RXRG gene were obtained and analyzed in biological information.【Method】 The total RNA was extracted from cattle muscle tissue.This experiment cloned cattle RXRG gene cDNA by RT-PCR,and the products were cloned in PMD19-T vector and sequenced.These two sequences were connected by DNAMAN software,and the connected sequence was analyzed by the DNAMAN software and online tool in biological information.The mRNA content was tested in kidney,liver,testicle,lung,spleen,rumen,ut...
【语种】中文
【第一作者】黄萌
【通讯作者】许尚忠
【期刊名称、卷期、页码】西北农林科技大学学报(自然科学版),2008,36(11):1-5
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【题目】超声波技术在养牛业上的应用
【中文关键词】超声波技术; 牛; 生产应用;
【英文关键词】ultrasound technology; cattle; application;
【中文摘要】超声波是频率高于20000 Hz的声波,在传播过程中具有方向性好、功率大、穿透性强,会引起空化作用等特点。作者结合超声波原理及其在传播过程中的特性,着重分析探讨了超声波在现代养牛业仪器清洗、繁殖监控和疾病诊断、活体肉质性状检测中的应用,并对其在未来的发展进行了展望。
【英文摘要】The ultrasonic wave refers to the acoustic wave with the frequency of over 2000 Hz.In the process of transmission,it is well known for some of its feature such as good directivity,large power,strong penetrability,and easy for cavitations.Based on this,the present paper conducts a discussion on its application in equipment cleaning,live measure,breeding monitoring,and disease diagnosis.
【语种】中文
【第一作者】陈金宝,
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【学科分类】畜牧学

【题目】应用产奶指数和产肉指数对16个牛品种的聚类分析
【中文关键词】牛; 品种; MPI指数; BPI指数; 聚类;
【英文关键词】无
【中文摘要】牛的经济类型划分对牛品种选育有着重要意义。作者将产奶指数(MPI)与产肉指数(BPI)相结合对16个牛品种的经济类型进行了聚类分析,得到了这16个牛品种的经济类型二维分布图和聚类图。结果表明,综合应用这两个指数对牛品种进行划分的结果更具有意义。
【英文摘要】无
【语种】中文
【第一作者】陈金宝,
【通讯作者】许尚忠
【期刊名称、卷期、页码】中国畜牧兽医,2008,35(11):91-93
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【学科分类】畜牧学

【题目】牛对氧磷酶1基因和对氧磷酶2基因原核表达载体的构建及其表达分析
【中文关键词】对氧磷酶; 对氧磷酶1基因; 对氧磷酶2基因; 克隆; 原核表达;
【英文关键词】paraoxonases; PON1 gene; PON2 gene; clone; prokaryotic expression;
【中文摘要】为制备和纯化对氧磷酶(PON1和PON2)蛋白做准备,对牛的PON1和PON2基因进行克隆并在大肠杆菌中表达。从牛肝脏组织中用RT-PCR扩增PON1和PON2 cDNA的全长编码序列,连接到原核表达载体pET28a中,构建重组表达质粒并转化到大肠杆菌BL21(DE3)中,以IPTG诱导表达目的蛋白,SDS-PAGE分析表达情况。结果表明,成功克隆了PON1和PON2两个基因的cDNA的全长编码序列,酶切及测序鉴定证明,获得含有目的基因片段的重组质粒,表达的牛的PON1和PON2融合蛋白以可溶性的形式存在。这为进一步制备和纯化PON1和PON2蛋白,以及探索其在家畜使用寿命中的研究和提高犊牛初生重的作用等方面提供依据。
【英文摘要】To construct and express prokaryotic expression vector of bovine paraoxonase-1 and paraoxonase-2 (PON1 and PON2) and to obtained pure PON1 and PON2. Full length sequences of PON1 and PON2 genes were amplified from bovine liver by RT-PCR and were cloned into the expression vector--pET28a. PON1 and PON2 fusion proteins were expressed in BL21 under IPTG induction and the expressed fusion proteins were detected by SDS-PAGE. The recombinant plasmids containing the target genes were constructed successfully. The ...
【语种】中文
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【题目】牛MyoD1基因遗传变异及其对胴体性状的影响
【中文关键词】牛; MyoD1基因; 多态性; 基因效应;
【英文关键词】cattle; MyoD1 gene; polymorphism; genetic effect;
【中文摘要】运用DNA池快速测序法寻找牛MyoD1基因SNPs,筛查到1个新的多态位点C1867T,该位点C-T突变引起甘氨酸/丝氨酸的转变。运用PCR-RFLP法验证并分析该位点在不同群体间的多态性,并与相应牛群体的胴体性状进行关联分析。结果显示,中国西门塔尔牛、鲁西牛群体的C1867T位点的突变达到了Hardy-Weinberg平衡状态,而秦川牛未达到平衡状态。不同基因型对肉牛的背膘厚、大腿肉厚的影响差异极显著或显著($P<0.01$或$P<0.05$),对日增重、屠宰率、肌间脂肪、大理石花纹、嫩度的影响差异不显著。

【英文摘要】Based on gene pooling and sequencing,a new SNPs was found on the bovine MyoD1 gene,its transition C-T leads to a reaplacement of glicine with serine.Polymorphism and relationship with the carcass traits was analysised by PCR-RFLP in different populations.The transition of this locus fit in with Hardy-Weinberg equilibrium in Chinese-simmental cattle and Luxi cattle,but not in Qinchuan cattle.Statistical analysis revealed higher value in back fat and thickness of thigh(P<0.05),not in average daily growth,y...
【语种】中文
【第一作者】黄萌
【通讯作者】许尚忠
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【题目】牛Fas基因的组织表达分析及其功能预测
【中文关键词】Fas/APO-1/CD95; 基因克隆; 序列分析; 牛;
【英文关键词】Fas/APO-1/CD95; gene cloning; sequence analysis; cattle;
【中文摘要】采用RT-PCR技术从中国西门塔尔牛睾丸组织总RNA中反转录FascDNA,将其克隆于pMD19-Tvector后进行测序分析,并对其表达的蛋白结构功能进行预测、分析。结果表明:牛的FascDNA序列为1109bp,编码323个氨基酸残基,在氨基酸序列上与羊、猪、人、小鼠的相似性分别为90.5%、65.3%、56.7%和48.6%。Fas蛋白的胞外区有2个糖基化位点和3个富含半胱氨酸残基的结构亚域,对Fas蛋白的定位及凋亡信号识别有重要作用。牛与羊、猪、人、小鼠Fas的死亡结构域(Death domain,DD)氨基酸序列的相似性分别为94.3%、68.5%、59.6%和70.8%,体现了该结构在各物种间较强的保守性及接受凋亡信号诱导靶细胞凋亡的重要性。组织表达谱发现,Fas不仅表达于牛的淋巴、脾等淋巴系统,而且高表达于牛生殖系统的睾丸中,这对于进一步阐明Fas在公牛精子发生过程中的调控作用奠定基础。
【英文摘要】The Fas cDNA gene was amplified from the RNA of simmental cattle testis by polymerase chain reaction(PCR), the PCR products were cloned into PMD19-T vector and sequenced.The results showed that bovine Fas cDNA consisted of 1 109 bp and encoded 323 amino acid residues.The identities of the deduced amino acid sequence of the cattle Fas to sheep, pig, human and mouse were 90.5%,65.3%,56.7% and 48.6%, respectively.There were two N-linked glycosylation sites and three cysteine-rich domains(CRD)in the extracellul...
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【第一作者】杨润军
【通讯作者】许尚忠
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【题目】Mapping of Quantitative Trait Loci for Hematological Traits on Pig Chromosome 10
【中文关键词】无
【英文关键词】Pig; microsatellite; QTL mapping; chromosome; hematological traits; likelihood ratio
【中文摘要】无
【英文摘要】This study was aimed to identify Quantitative Trait Loci (QTL) for haematological traits in pig chromosome 10 and facilitate the cloning of candidate genes underlying the QTLs. Hematological traits are essential parameters for evaluating the health status of animals and play a extremely important role in disease resistance. In this study, three main components, leukocyte traits, erythrocyte traits and platelet traits were measured in a composite pig population consisting of 445 pigs of three breeds (Landrace, Large White and Songliao Black Pig) distributed in 16 boar families, before and after vaccination with modified live CSF (classical swine fever) vaccine. A partial genome scan for mapping Quantitative Trait Loci (QTL) for these traits was performed by genotyping 13 microsatellite markers on chromosome 10. Through a linear mixed model and the permutation for empirical threshold values, 4 significant QTLs on chromosome 10 were identified affecting hematocrit (HCT), hemoglobin (HGB), Mean Corpuscular Volume (MCV) and blood platelet counts (PLT) (p<0.05), respectively. Our results confirms that haematological traits variation differs between

the three pig breeds and variations of HCT, HGB, MCV, PLT are associated with the 81 similar to 133 cM region in chromosomal 10.
【语种】英文
【第一作者】蔡绍倩
【通讯作者】殷宗俊
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【学科分类】畜牧学

【题目】当归对冷应激断奶仔猪生理机能的影响
【中文关键词】当归;断奶仔猪;冷应激
【英文关键词】Angelica;weaning piglets;cold stress
【中文摘要】选取 25 日龄断奶的大约克仔猪 96 头,胎次相似,体重一致,随机分为 4 组,C 组为对照组,饲喂基础日粮,L、M、N 组在基础日粮基础上分别添加 0.5 %、1 %、1.5 %的中草药当归,对猪进行冷应激。 试验结果表明,各试验组猪只体重及平均日增重均高于对照组,NO 含量显著降低,GSH-Px 活性及白细胞和红细胞的数量明显升高,表明中草药当归对断奶仔猪有明显的抗冷应激及促生长作用。
【英文摘要】96 Yorkshire piglets with similar parity and body weight weaned at 25-day-old were selected and divided into 4 groups. Group C was control group and fed with basal diet,Group L,M,N were fed with basal diet supplemented with 0.5 %,1 %,1.5 % Angelica respectively.Piglets were suffered cold stress (12±1 ℃) for 14 d.The results showed that NO contents in the groups of Angelica significantly decreased compared with the control group,the body weight, average daily gain, GSH-Px activities, RBC and WBC amounts in the groups of Angelica increased.These results indicated that Angelica had significantly effects on growth-promotion and anti-cold stress in weaning piglets.
【语种】中文
【第一作者】周芬
【通讯作者】王重龙
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【题目】副猪嗜血杆菌安徽分离株的致病性与RELP基因型的相关性研究
【中文关键词】HPS;致病性;tbpA;RFLP基因型
【英文关键词】HPS;Pathogenicity;tbpA;RFLP genotypes
【中文摘要】为了研究PCR限制性酶切电泳长度多态性试验(PcR.RELP)-b副猪嗜血杆菌(HPS)对豚鼠的致病性,本研究采用PCR-RELP分析12株HPS安徽分离株的tbpA基因,并将12株HPS分为5种不同的RELP基因型 (AAA、BBB、BAB、BAC、CAB);12株HPS对豚鼠的致病性试验表明,致病性最强的RELP基因型为BAC,其次是AAA和CAB,无致病性的为BBB和BAB型。进一步分析12株HPS的tbpA基因序列系统进化关系发现,PIPS的RFLP基因型的不同,其致病性存在差异,表明tbpA是影响HPS致病性的重要因素。
【英文摘要】To investigate the relationship of PCR—restriction fragment length polymorphism (PCR—RELP)with the pathogenesis of Haemophilus parasuis(HPS)to guinea pig,the 12 HPS isolates from Anhui Province were classified into 5 diferent RELP genotypes(AAA、BBB、BAB、BAC、CAB)based on the nucleotide sequences of the tbpA gene.Phylogenetic analysis of tbpA gene was consistent with RFLP assay with closer evolution elationship.Guinea pigs regression test and RFLP demonstrated that tbpA gene of HPS isolates is closely related with the virulence of HPS.
【语种】中文
【第一作者】李郁
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【学科分类】兽医学

【题目】安徽PRSS发病猪副猪嗜血杆菌的分离鉴定及其耐药性分析
【中文关键词】副猪嗜血杆菌; 猪繁殖与呼吸综合征;继发感染;分离鉴定;耐药性
【英文关键词】Haemophilus parasuis; PRRS; Secondary infection; Isolation and identification; Antimicrobial-resistance
【中文摘要】目的 了解猪繁殖与呼吸综合征 (PRRS)发病猪继发感染副猪嗜血杆菌 (HPS)的情况及分离菌株的药物感受性。方法 应用细菌分离培养、 形态学检查、 生化试验和 PCR技术 ,对 2007年 1月至 2008年 12月从安徽不同地区采集的 146头份 PRRS发病猪的病料进行 HPS检测 ,并采用标准 K2 B纸片法对分离菌株进行 14种抗菌药物敏感试验。结果 分离鉴定出 12株 HPS ,检出率为 8 . 22% (12 /146) ; 12株 HPS对氯霉素 100%敏感 ,环丙沙星为 91 . 7% ,阿莫西林和新霉素为 83 . 3% ,对罗红霉素 100%耐药 ,阿米卡星为 83 . 3%。结论 安徽省不同地区PRRS感染猪群中均存在程度不同的 HPS感染 ,各地区 HPS分离株表现出形态上的变化特征和一致的生化特性 ,且有对临床常用抗菌药物耐药性增强的趋势。
【英文摘要】Objective To analyze the secondary infection and drug-susceptibility of HPS isolates from the pigs infected with PRRS . Method Based on the bacteria morphology, Gram ′ s staining results, bacteria growth requirements, colonial morphology, biochemical properties and PCR, 146 samples from the pigs infected with PRRS were examined for HPS during January 2007 and Decemeber 2008 in Anhui Province . Antibiotic sensitivity of the isolated strains were detected with fourteen kinds of antibiotics by K2 B method . Result Twelve strains of HPS were isolated from the pigs infected with PRRS .The total detection rate of HPS was 8 . 22% (12 /146) . The HPS isolates were resistant t o Roxithromycin (100%) and Amikacin (83 .3%) ,while they were still sensitive t o Chloramphenicol (100%) , Cip-rofloxacin and Amoxicillin (83 . 3%) . Conclusion The pigs infected with PRRS in Anhui Province was secondarily infected by HPS to some degrees . These HPS isolates had non-identicalmorphology and identical biochemical characteristics, and their antimicrobial-resistance tended to increase .
【语种】中文
【第一作者】李郁
【通讯作者】魏建忠
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【学科分类】兽医学

【题目】黄芪对冷应激断奶仔猪生理机能的影响
【中文关键词】黄芪;断奶仔猪;冷应激
【英文关键词】无
【中文摘要】慢性冷应激(14 d)的断奶仔猪饲粮中添加中草药黄芪。通过一氧化氮(NO)含量的测定、谷胱甘肽过氧化物酶(GSH—Px)活性的检测、白细胞和红细胞数量等指标探索中草药抗冷应激断奶仔猪的机制。试验应用中草药黄芪后,猪体增质量及平均日增质量均高于对照组,No含量明显降低,GSH—Px活性、白细胞和红细胞的数量明显升高,这表明,中草药黄芪对断奶仔猪有明显的抗冷应激和促生长作用。
【英文摘要】无
【语种】中文
【第一作者】周芬
【通讯作者】殷宗俊
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【题目】安徽省猪圆环病毒2型毒株的分离与鉴定
【中文关键词】猪圆环病毒2型; 安徽株; 分离; 鉴定
【英文关键词】Porcine circovirus type 2; Anhui strains; Isolation; Identification
【中文摘要】目的 从病原学角度了解安徽省猪群中PCV2的感染情况。方法 PCR检测临床疑似PCV2感染的病料, 阳性病料接种于PK15细胞中进行PCV2的分离和增殖, 再经PCR 检测、间接免疫荧光试验、电镜观察, 以及ORF2基因序列分析等鉴定。结果 9份临床病料中均扩增出630 bp 的PCV2特异性DNA片段, 分离鉴定获得5株PCV2, 分离毒株之间及其与27株国内外参考毒株之间的ORF2基因序列同源性在87. 3% ~ 99. 8%。结论 首次从病原学角度证实安徽省猪群中PCV2感染的普遍存在, 分离毒株与国内外参考毒株的同源性均较高。
【英文摘要】Objective To understand the infection of procine circovirus type 2 (PCV2) in Anhui province from etiological point of view. Method The clinical samples with suspected infection of PCV2 w ere detected by PCR. Positive samples were inoculated into PK15 cells to isolate and replica tePCV2. The isolated viruses were identified by PCR, indirect immunofluo rescence test(IFA), electron microscopy, sequence analysis of ORF2 gene and so on. Result The 630 bp specific DNA fragment of PCV2 w as amplified from 9 clinical samples, 5 PCV2 starins were isolated, and the sequence of ORF2 genes of the 5 PCV2 isolates w as com pa red with 27 reference strains registered in GenBank, and the homology were from 87. 3% to 99. 8%. Conclusion The infection of PCV2 exists widespreadly in pig s in Anhui province, and these strains are of high homology.
【语种】中文
【第一作者】苏金存
【通讯作者】李郁
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【学科分类】兽医学

【题目】安徽省猪圆环病毒2型感染的流行病学调查
【中文关键词】猪圆环病毒2型;流行病学;ELISA;PCR
【英文关键词】Porcine circovirus type 2;Epidemiology;ELISA;PCR
【中文摘要】目的 了解安徽地区猪群中猪圆环病毒2 型(PCV2) 的感染状况。方法 应用酶联免疫吸附试验(EL ISA) 对采自安徽省14个地(市)的468份血清样品进行PCV2抗体检测, 并运用PCR技术同步进行PCV2核酸检测。结果 PCV2抗体检测的平均阳性率为74. 36%, 且阳性率随猪的日龄增长而升高, 皖南地区的阳性检出率明显高于淮北和江淮两个地区, PCR与ELISA 检测结果的符合率为99. 37%。结论 安徽省猪群中普遍存在PCV2的感染, 病毒血症与抗体共存现象显著。
【英文摘要】Epidemiologic investigation on porcine circovirus type 2 in AnhuiObjective To understand the infection of porcine circovirus type 2 (PCV2) in Anhui province. Method 468 serum samples from 14 areas in Anhui were detected for antibodies against PCV2 by EL ISA and for PCV2 by PCR. Result Average positive ratio of antibodies against PCV2 in 468 serum samples were 74. 36%. The positive ratio of antibodies against PCV2 increased as pig grew in days. The positive ratio of antibodies against PCV2 in southern Anhui wassignificantly higher than that in areas north of the Huai River and in areas between Yangtze River and Huai River. There are 99. 37% conformity between PCR and ELISA. Conclusion The infection o f PCV2 exist widespreadly in pigs in Anhui There is the phenomenon o f co-existence between viremia and antibody against PCV2.
【语种】中文
【第一作者】李超
【通讯作者】李郁
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【学科分类】兽医学

【题目】PRRSV感染猪体内多杀性巴氏杆菌的分离与血清型鉴定
【中文关键词】猪繁殖与呼吸综合征; 多杀性巴氏杆菌; 分离; 血清型

【英文关键词】porcine reproductive and respiratory syndrome; Pasteurella multocida; is-olation; serotype
【中文摘要】应用常规方法和 PCR技术, 对来自安徽肥西、庐江、肥东、定远、桐城 5个地区猪场检测为猪繁殖与呼吸综合征病毒 (PRRSV) 阳性的肺脏进行多杀性巴氏杆菌 (Pm) 的分离及其血清型鉴定。结果显示, 49份病料中分离鉴定出 7株 Pm , 且均属于 A型, 分离率为 14.3%, 高于其他细菌 (副猪嗜血杆菌、猪链球菌) 的检出率。表明猪繁殖与呼吸综合征 (PRRS) 患猪继发或混合感染 Pm的比率较高, 而且 A型 Pm是安徽省感染猪群中的主要血清型。
【英文摘要】A total of 49 lung samp les were collected from the infected pigs with porcine reproductive and respirat ory syndrome virus(PRRS V) in the five districts of Anhui, including Feixi, Lujiang, Feidong, Dingyuan, Tongcheng . Seven strains of Pasteurella multocida were is olated from the samples and all identified t o be serotype A using conventional method and polymerase chain reaction . The detection rate was 1413% and higher than those of other bacteria (Haemophilus parasuis, Streptococcus suis) . The results indicated that there was a high infection of Pm ultocida in the pigs suffered from porcine reproductive and respiratory syndrome and serotype A was dominant in Anhui .
【语种】中文
【第一作者】陈申秒
【通讯作者】魏建忠
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【引文索引号】null
【学科分类】兽医学

【题目】安徽省屠宰生猪圆环病毒 2 型感染情况调查
【中文关键词】屠宰生猪;猪圆环病毒2型; PCR
【英文关键词】无
【中文摘要】采集安徽省4个地区(合肥、 宿州、 阜阳、 怀宁)定点屠宰场 120 头屠宰生猪的脾、 肺、 肾、 腹股沟浅淋巴结共计480份样品,应用PCR方法进行猪圆环病毒 2型(PCV2)检测。结果显示,怀宁屠宰场 PCV2 检出率最高、 达 23.3%,阜阳屠宰场为 10%,合肥和宿州 2 个屠宰场均为 6.7%; PCV2阳性屠宰生猪中,脾、 腹股沟浅淋巴结的PCV2检出率与肺差异显著,与肾差异极显著。结果表明,安徽省定点屠宰生猪中存在一定程度的PCV2感染,脾和淋巴结为检测PCV2的最佳组织器官。
【英文摘要】无
【语种】中文
【第一作者】李郁
【通讯作者】李郁
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【学科分类】兽医学

【题目】中草药对断奶仔猪抗冷应激机能的影响
【中文关键词】中草药;断奶仔猪;冷应激;抗氧化功能;生理机能
【英文关键词】Chinese herbal medicine; weanling piglets; cold stress; antioxidant ability; physiological functions
【中文摘要】选用黄芪、 红景天、 当归3味中草药,对33日龄断奶仔猪在(14±1) ℃条件下进行了慢性冷应激(5 d)试验,通过测试仔猪的血清中NO含量、 谷胱甘肽过氧化物酶(GSH-PX)活性、 红细胞和白细胞数量等指标来探索中草药对冷应激断奶仔猪抗氧化功能和生理机能的作用。 结果表明,与对照组相比, 1%当归组和1%红景天组断奶仔猪血清中NO含量、 GSH-Px 活性、 红细胞及白细胞数量变化差异不显著(p>0.05); 1%黄芪组断奶仔猪血清中 NO 含量极显著下降(p<0.01),而 GSH-Px 活性、 红细胞及白细胞数量极显著升高(p<0.01),说明黄芪可使冷应激引起的 NO 含量、 GSH-PX 活性明显发生变化,具有抗氧化功能和生理机能促进作用。
【英文摘要】To explore the effects of traditional Chinese medicines (Astragalus, Angelica and rhodiola) against cold stressof weanling piglets, the experiment of chronic (for 5 d) cold stress (14 ±1℃) was conducted to 33 day-old weanling piglets, and then, the NO content, the glutathione peroxidase (GSH-Px) activities, the red blood cell (RBC) amount and the white blood cell (WBC)

amount in serum of the weanling piglets were examined. The results showed that in comparison with control group, the changes of GSH -Px activities, RBC amount and WBC amount in serum of the weanling piglets in 1% of Angelica group and 1% of rhodiola group were not significant ($p>0.05$); the NO content in serum of the weanling piglets in 1% of Astragalus group decreased extremely significant ($p<0.01$), but the GSH-Px activities, RBC amount and WBC amount increased extremely significant ($p<0.01$), which means Astragalus can change the NO content and GSH-Px activities that caused by cold stress significantly. Therefore, Astragalus has antioxidant ability and promotion of physiological function.

【语种】中文
【第一作者】丁月云
【通讯作者】殷宗俊
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【学科分类】畜牧学

【题目】Molecular characterization and expression analysis of MHC class II α and ß genes in large yellow croaker (Pseudoaena crocea)

【中文关键词】Suhong Yu, Jingqun Ao, Xinhua Chen

【英文关键词】Large yellow croaker (Pseudosciaena crocea) – MHC class II α gene – MHC class II β gene – Inactivated trivalent bacterial vaccine – Polyinosinic polycytidylic acid – Expression modulation

【中文摘要】MHC class II molecules play an important role in the activation of CD4(+) T cells, which are the central orchestrating cells of an immune response. Here, we report the cloning of MHC class II alpha and beta cDNAs from large yellow croaker (Pscr-DAAs and Pscr-DAB) by expressed sequence tags analysis and RACE-PCR techniques. Three different class II alpha and two class II beta sequences were obtained from spleens of two individual fish. Each of the three class II alpha sequences encodes a polypeptide of 239 amino acids while the two class II beta cDNA sequences encode for a protein of 249 aa. All the characteristic features of MHC class II chain structure could be identified in the deduced proteins of three class II alpha and two class II beta sequences, including the leader peptide, alpha1/beta1 and alpha2/beta2 domains, connecting peptide and transmembrane and cytoplasmic regions, as well as conserved cysteines and N-glycosylation site. RT-PCR analysis showed that MHC class II alpha and beta mRNAs were broadly expressed in various tissues examined, although at different levels. Upon stimulation with inactivated trivalent bacterial vaccine or polyinosinic polycytidylic acid (poly(I:C)), the expression levels of both alpha and beta genes were obviously up-regulated in intestine, kidney and spleen. Real-time PCR analysis demonstrated that the expression levels of class II alpha and beta were quickly up-regulated in spleen, kidney, and intestine at 12 h after induction with poly(I:C), while their expression levels significantly increased at 48 h upon immunization with bacterial vaccine, indicating that the up-regulation of both class II alpha and beta expression was induced by bacterial vaccine or poly(I:C) at the early phase of induction, and that class II alpha and beta transcripts were quicker up-regulated by poly I:C than by bacterial vaccine.

【英文摘要】MHC class II molecules play an important role in the activation of CD4(+) T cells, which are the central orchestrating cells of an immune response. Here, we report the cloning of MHC class II alpha and beta cDNAs from large yellow croaker (Pscr-DAAs and Pscr-DAB) by expressed sequence tags analysis and RACE-PCR techniques. Three different class II alpha and two class II beta sequences were obtained from spleens of two individual fish. Each of the three class II alpha sequences encodes a polypeptide of 239 amino acids while the two class II beta cDNA sequences encode for a protein of 249 aa. All the characteristic features of MHC class II chain structure could be identified in the deduced proteins of three class II alpha and two class II beta sequences, including the leader peptide, alpha1/beta1 and alpha2/beta2 domains, connecting peptide and transmembrane and cytoplasmic regions, as well as conserved cysteines and N-glycosylation site. RT-PCR analysis showed that MHC class II alpha and beta mRNAs were broadly expressed in various tissues examined, although at different levels. Upon stimulation with inactivated trivalent bacterial vaccine or polyinosinic polycytidylic acid (poly(I:C)), the expression levels of both alpha and beta genes were obviously up-regulated in intestine, kidney and spleen. Real-time PCR analysis demonstrated that the expression levels of class II alpha and beta were quickly up-regulated in spleen, kidney, and intestine at 12 h after induction with poly(I:C), while their expression levels significantly increased at 48 h upon immunization with bacterial vaccine, indicating that the up-regulation of both class II alpha and beta expression was induced by bacterial vaccine or poly(I:C) at the early phase of induction, and that class II alpha and beta transcripts were quicker up-regulated by poly I:C than by bacterial vaccine.

【语种】英文
【第一作者】Su-Hong Yu
【通讯作者】Xin-Hua Chen
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【学科分类】海洋科学

【题目】The up-regulation of large yellow croaker secretory IgM heavy chain at early phase of immune response
【中文关键词】Chen Tian, Jingqun Ao, Xinhua Chen
【英文关键词】Large yellow croaker - Pseudosciaena crocea - Immunoglobulin M heavy chain - Poly (I: C) - Inactivated trivalent bacterial vaccine - Expression modulation
【中文摘要】An immunoglobulin M (IgM) heavy-chain gene homologue was isolated from the spleen cDNA library of the large yellow croaker Pseudosciaena crocea (LycIgH). The complete cDNA of LycIgH is 1,987 nucleotides long, encoding a protein of 585 amino acids with a putative molecular weight of 64.5 kDa. The deduced LycIgH possesses a typical secretory IgM heavy chain organization with a variable region (V(H)) connected to four constant regions (C(H1-4)) by a diversity segment (D(H)) and a joining segment (J(H)). Tissue expression profile analysis showed that LycIgH was constitutively expressed in gills, intestine, liver, kidney, heart, spleen, muscle, and blood, while at a higher level in spleen, kidney and intestine. Upon stimulation with poly (I: C), the LycIgH transcripts were quickly increased in spleen and kidney at 12 h post induction (with 5.87- and 5.48-fold mRNA increases, respectively), followed by a recovery to normal level at 24 h. The LycIgH transcripts in spleen and kidney induced by inactivated bacterial vaccine reached their peak levels at 48 h (14.53-fold) and 12 h (3.70-fold), respectively. These results indicated the up-regulation of LycIgH expression in spleen and kidney by poly (I: C) or bacterial vaccine occurred at the early phase of induction and was differentially modulated in the two tissues by different stimulations.
【英文摘要】An immunoglobulin M (IgM) heavy-chain gene homologue was isolated from the spleen cDNA library of the large yellow croaker Pseudosciaena crocea (LycIgH). The complete cDNA of LycIgH is 1,987 nucleotides long, encoding a protein of 585 amino acids with a putative molecular weight of 64.5 kDa. The deduced LycIgH possesses a typical secretory IgM heavy chain organization with a variable region (V(H)) connected to four constant regions (C(H1-4)) by a diversity segment (D(H)) and a joining segment (J(H)). Tissue expression profile analysis showed that LycIgH was constitutively expressed in gills, intestine, liver, kidney, heart, spleen, muscle, and blood, while at a higher level in spleen, kidney and intestine. Upon stimulation with poly (I: C), the LycIgH transcripts were quickly increased in spleen and kidney at 12 h post induction (with 5.87- and 5.48-fold mRNA increases, respectively), followed by a recovery to normal level at 24 h. The LycIgH transcripts in spleen and kidney induced by inactivated bacterial vaccine reached their peak levels at 48 h (14.53-fold) and 12 h (3.70-fold), respectively. These results indicated the up-regulation of LycIgH expression in spleen and kidney by poly (I: C) or bacterial vaccine occurred at the early phase of induction and was differentially modulated in the two tissues by different stimulations.
【语种】英文
【第一作者】Chen Tian
【通讯作者】Xin-Hua Chen
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【学科分类】海洋科学

【题目】春玉米穗位叶叶绿体超微结构对农田管理措施的响应
【中文关键词】春玉米;叶绿体;超微结构;管理措施
【英文关键词】Spring maize;Chloroplast;Ultrastructure;Managements
【中文摘要】以春玉米为研究对象,利用透射电镜(TEM)对灌水、有机培肥和氮肥施用作用下的穗位叶叶绿体超微结构进行了表征。结果显示,随着灌水量、有机培肥量及施氮量增加,叶绿体的超微结构逐渐完整,被膜逐渐清晰,基质片层增加且排列规则,基粒垛叠变丰富,且片层清晰,淀粉粒数量增加,嗜锇颗粒减少。与其他处理相比,灌水量每盆每天1 200mL、有机

培肥量每亩4 000kg和施氮量每亩23kgN处理的叶绿体超微结构显示出较大的优势。与一次追肥相比,二次追肥和控释一次深施的施氮方法更能使叶绿体呈现一个完整的膜系统结构。分析结果表明,叶绿体超微结构的正常与否可以作为判断植株细胞活性的一个重要指标;合理的农田管理措施能够使春玉米叶片叶绿体的超微结构更加稳定,有利于春玉米的高效生产。

【英文摘要】Spring maize was selected as research object,and the characteristics of chloroplast ultrastructure of ear leaves wereevaluated with scanning electron microscopy(SEM)as affected by irrigation,organic manure fertilization and nitrogen application.The results showed that with increasing irrigation amount,organic manure fertilization amount and nitrogen application amount,the chloroplast ultrastructure gradually became integrated,the membrane envelope of chloroplast became clear,the stroma lamellae increased and arranged regularly,the grana were clear and stacked increasingly,the starch particles increased andthe osmiophilic grains decreased.Compared with other treatments,irrigation,organic manure fertilization and nitrogen application at a rate of 1 200milliliter per pot and per day,4 000kilogram per mu and 23kilogram N per mu could make the chloroplastultrastructure show greater predominance.Compared with one topdressing,two topdressing and one deep application with control fertilizer made chloroplast become a more integrated membrane system.It was indicated that whether the chloroplast ultrastructure was normal was considered as an important index judging activities of plant cells,and reasonable field managementscould make chloroplast ultrastructure of spring maize more stable,which was advantaged for high-efficiency production of springmaize.

【语种】中文
【第一作者】汪仁
【通讯作者】汪仁
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【学科分类】土壤学

【题目】5种生物农药对水稻褐飞虱的防治效果
【中文关键词】关键词:生物农药;褐飞虱;防治效果
【英文关键词】biological insecticides;Nilaparvata lugens ; control effect

【中文摘要】为了明确5 种生物农药对水稻褐飞虱的控制效果,以喷雾施药法进行了防治五(3)代褐飞虱低龄若虫的田间试验,结果表明:单用7 天后,以0.5%藜芦碱WP 3000 mL/hm2和4.0×1010孢子/g 球孢白僵菌WP 1800 g/hm2制剂用量的杀虫效果较好,分别为78.6%和79.0%,与对照药剂2.5%噻嗪酮WP 600 mL/hm2的防效接近,但单用的速效性较差。而以单用的剂量减半两两混合使用,以球孢白僵菌+ 噻嗪酮防效最高,药后1 天达到65.0%,药后7 天达到87.6%。因此,球孢白僵菌和藜芦碱可以部分替代高毒、高残留的化学农药,用于防治褐飞虱低龄若虫。

【英文摘要】Abstract: To understand the control effects of 5 biological insecticides against the younger nymphae of Nilaparvata lugens , the field trials were made in rice through field spray. The results showed that, 7 days after single spray respectively at a dosage of 3000 mL/hm2 and 1800 g/hm2, the control effects of veratridine 0.5% WP andBeauveria bassiana 4.0×1010 spores/g WP were better, i.e. 78.6% and 79.0% respectively, and the efficacy of the two biological insecticides was similar to that of buprofezin 25% WP at a dosage of 600 g/hm2,but these biological insecticides took effect more slower than chemical insecticides. When the two pesticides were mixed at a half dosage of the recommended dosage for spraying alone, the control efficacy ofB. bassiana +buprofezin was the best, i.e. 65.0% in 1 day and 87.6% in 7 days after treatment. ThereforeB. bassiana and veratridine can substitute partly for chemical insecticides to control younger nymahae ofN. lugens.

【语种】中文
【第一作者】胡娟
【通讯作者】李世广
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【学科分类】农业基础学科

【题目】黑龙江省松嫩平原与三江平原土壤养分含量
【中文关键词】松嫩平原; 三江平原; 土壤养分状况; 空间分布
【英文关键词】Songnen plain; Sanjiang plain; status of soil nutrients; spatial distribution
【中文摘要】应用GPS 和GIS 定位技术, 对黑龙江省松嫩平原和三江平粮食主产区土壤按20 km@ 20 km 的网格进行取样,对土壤速效养分状况与分布特征进行了研究。结果表明, 黑龙江省松嫩平原和三江平原粮食主产区土壤缺氮面积占87. 9%, 缺磷面积占46. 1%, 缺钾面积占72. 4%, 缺硫面积占86. 1%, 缺锌面积占61. 3%, 缺硼面积占43. 6%。应采用松嫩平原地区重点补磷和锌, 三江平原地区重点补硼, 中南部地区重点补氮磷钾和全面补硫的施肥策略。
【英文摘要】Directed by information technolog y GIS and GPS, soil samples were collected on a 20 km @ 20 km grid inSongnen plain and Sanjiang plain in H eilongjiang province to study soil nutrients status and distribution. The resultshowed that nutr ients deficient acreage proportion of available N, P, K, S, Zn and B were 87. 9%, 46. 1%, 72. 4%, 86. 1%,61.3% and 43. 6%, respectively. So the strategy of fertilization should be laid on specially supplying P and Zn in Songnen plain, specially supplying B in Sanjiang plain, specially supplying N, P and K in the central and the South of the province, specially supplying S in the whole province.
【语种】中文
【第一作者】李玉影
【通讯作者】李玉影
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【学科分类】土壤学

【题目】不同浓度的钾处理对丝瓜幼苗抗寒性的影响
【中文关键词】丝瓜,钾,低温,抗寒性
【英文关键词】Towelgourd (Luffa cylindrica) ; potassium; low temperature; cold resistance
【中文摘要】摘要为探讨低温胁迫下不同浓度钾处理对丝瓜幼苗生理影响及其抗寒性的差异袁以野翡翠二号冶丝瓜为试验材料袁在人工气候培养箱内采用基质培育丝瓜幼苗袁并分别用不同K+浓度的营养液处理丝瓜幼苗袁研究低温(夜晚8益袁白天13益)条件下其对丝瓜幼苗叶片相对电导率尧冷害指数尧叶绿素含量尧丙二醛含量尧可溶性糖含量尧脯氨酸含量等指标的影响遥结果表明院随着K+处理浓度增加袁壮苗指数先升后降袁处理浓度为9.00 mmol/L壮苗指数显著高于对照曰随着低温处理时间的延长袁丝瓜幼苗的冷害指数上升尧叶绿素含量下降尧相对电导率上升尧MDA 含量增加尧可溶性糖和脯氨酸含量增加袁不同浓度K+处理间差异显著性和变化幅度不同遥综合各项生理指标袁低温下K+处理可显著降低丝瓜幼苗的冷害袁提高幼苗的抗寒性袁其适宜浓度为9.00mmol/L遥
【英文摘要】Effect of Potassium Treatment on Cold Resistance of Towelgourd (Luffa) SeedlingFANG Ji-jian袁PEI Xiao-bo(School of Horticulture袁Anhui Agricultural University袁Hefei袁230036)Abstract: In order to explore the effect of different potassium concentrations treatment under lowtemperature stress on the physiological response and cold resistance of towel gourd seedlings, a towel gourdvariety " FeiCui No.2" (Luffa cylindrica (Linn.) Roem.) was used in the artificial climate incubatorwith matrix culture methods袁and different concentration potassium solutions were treated with towel gourdseedlings at low temperature (night 8益/day 13益) . The relative conductivity, cold injury index,chlorophyll content, soluble sugar content, malondialdehyde (MDA) content袁 and proline content ofseedling leaf were tested. The result showed that seedling index first increased and then decreased with thetreatment concentration increase. The seedling index is significantly higher with the concentration of9.00mmol.L-1 when compared with the other treatments. The chilling injury index of towel gourd seedlingsraised, the content of chlorophyll declined, relative conductivity raised, MDA content, soluble sugar contentand proline content increased, and the differences as well as the variation degree between differentconcentrations of k+ were different. Considering the physiological index above, potassium treatment reducechilling injury significantly and improved cold resistance potential of towel gourd seedlings under lowtemperature, with optimal concentration about 9.00mmol.L-1.
【语种】中文
【第一作者】方基建
【通讯作者】裴孝伯
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【题目】沿巢湖地区设施番茄减量使用农药病虫防治技术规程
【中文关键词】面源污染; 农药; 设施番茄; 防治; 规程
【英文关键词】Key words: Non-po int source po llution; Pestic ides; Pro tected-cultivation tom atoes; Contro;l Regulation
【中文摘要】[目的]减少农业面源污染, 从农业生产的源头控制农药对巢湖水质的影响, 大力推进沿巢湖地区减量化使用农药标准化生产。[方法]应用病虫防治技术措施, 对设施番茄主要病虫害进行防治。[结果]通过农业措施、物理防治、生物防治、药剂防治等措施或组合措施, 可有效防治番茄灰霉病、立枯病、疫病、根腐病、病毒病、蚜虫、白粉虱等。[结论]该技术规程可使设施番茄生产达到减量使用农药、高产、优质的目的。
【英文摘要】Abstract [Objective] The research ami ed to reduce agr icultura l non-point source pollution, to control the influence o f pesticide po llution onthe water qua lity of Chaohu Lake from the source o f agricultura l production and to push the standardization production o f use reduction o f pest-icide a long Chaolu area. [Method] Thema jor diseases and insect pests were contro lled by the applictions of contro l techn iquesm easures. [Result]By the application o f agr icu ltura l practices, physical contro,l bio log ical contro,l chem ica l contro lm easures and their combina tions, thediseases and insect pests o f pro tected-cultivation tomatoes such as g ray mold, drooping, epidem ic disease, root ro,t v irus d isease, aph id,whitefly w ere effectively controlled. [Conclusion] Th is technica l regulation could reach the reduction of pesticide use, high yield and h igh qua-lity purposes o f protected-cultivation toma toes production.
【语种】中文
【第一作者】顾江涛
【通讯作者】顾江涛
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【题目】低浓度NaHS03处理对温室黄瓜光合作用的影响
【中文关键词】黄瓜;温室;光合作用;NaHS03
【英文关键词】cucumber;greenhouse;photosynthesis;Sodium bi—sulfite(NaHS03)
【中文摘要】摘要:为探讨低浓度亚硫酸盐对于黄瓜光合作用的影响及其机制,在温室栽培条件下,以黄瓜品种Deltastar为试材,采用低浓度的NaHSO,溶液喷施处理不同生育期的黄瓜叶片。结果表明:低浓度NaHSO,可以提高温室黄瓜叶片的光合速率。温室黄瓜NaHSO,处理的适宜浓度为2.0 mmol/L左右,在黄瓜苗期和开花结瓜期喷施低浓度NaHSO,溶液均可提高黄瓜叶片的光合速率,并能持续作用3 d左右。与对照(喷水)相比,2.0 mmol/L NaHSo,处理提高黄瓜功能叶片光合速率20%左右,且与已知的促进循环光合磷酸化的辅助因子PMS的作用类似,其增加了ATP的供应,而并非影响叶片叶绿素PsII的光化学效率。文章还对设施内光照不足情况下NaHSO,的应用进行了讨论。
【英文摘要】Abstract:To probe the influence and mechanism of lOW concentration of SUmte on photosynthesis of cucumber.one cu · cumber variety “ Deltastar ” wag chosen and sprayed with NaHS03 at leaves in low concentration at different stages,theresults indicated that the photosynthesis rate of leaves岫improved in greenhouse.ne optimal concentration of cucum—her was about 2.0 mmoL/L.The treatment was effective when cucumber at plantlet or at blooming&fruiting stage.withcontinuously effect maintained for about 3 days.Compared tO the control(spraying water),the photosynthesis rate ofcucumbet functional leaves w∞improved by 20%with 2.0 mmoVL NaHSOl treatment,in accord with Phenazine methosulfate(PMS)which is a cofactor of catalyzing cyeHc—photophosphroylation,raising the ATP content in the leaves.And the potential photochemical eflleieney of PS II WaS not affected by spraying low concentration of NaHSO,.Applica—tion of NaHSO,into protected culture under in8ufficient light condition W88 also discussed in the article.
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【第一作者】裴孝伯
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【学科分类】园艺学

【题目】4种生物农药及其与2种化学农药混配对稻飞虱混合种群的防治效果
【中文关键词】生物农药,褐飞虱,白背飞虱,防治效果
【英文关键词】biological insecticides,Nilaparvata lugens,Sogatella furcifera,control effect
【中文摘要】试验以喷雾法研究4 种生物农药及其与2 种化学农药组合混用对水稻褐飞虱Nilaparvatalugens (St l) 和白背飞虱Sogatella furcifera (Horvath) 混合种群的防治效果。结果表明:0. 36% 苦参碱AS、0. 5% 藜芦碱WP、1. 8% 阿维菌素EC、400 亿孢子/ 克白僵菌WP,分别以1 500 mL / hm2、3 000 g / hm2、900 mL / hm2、1 800 g / hm2 的制剂用量单独使用,只有阿维菌素效果较好,药后7、14 d 的防效分别达到了73. 3% 和82. 3% ,但与对照药剂48% 毒死蜱EC 1 500 mL / hm2 和25% 噻嗪酮WP 750 g /hm2 的防效差异极显著。而4 种生物农药与2 种化学农药分别以单用剂量减半混合使用的8 个处理中,① 苦参碱+ 毒死蜱、② 藜芦碱+ 毒死蜱、③ 阿维菌素+ 毒死蜱、④ 球孢白僵菌+ 毒死蜱、⑤ 苦参碱+噻嗪酮、⑥ 藜芦碱+ 噻嗪酮6 种组配,药后1 d 的校正防效为81. 8% ~ 89. 2% ,3 d 为88. 2% ~ 96. 5% ,7d 为95. 6% ~ 98. 1% ,14 d 为86. 0% ~ 97. 8% 。因此,以上生物农药与化学农药的6 种组合混用可以有效防治稻飞虱低龄若虫。
【英文摘要】Abstract The effectiveness of four biological and two man-made pesticides,and mixtures of these compounds,in controlling sympatric populations of Nilaparvata lugens (St l) and Sogatella furcifera (Horvath) ,was tested in rice fields. The results show that,of four biological pesticides tested; matrine (0. 36% AS 1 500 mL /hm2) ,veratridine (0. 5% WP 3 000 g / hm2) ,abamectin (1. 8% EC 900 mL / hm2) and Beauveria bassiana(4. 0 × 1010 spores / g WP 1 800 g / hm2) ,abamectin was the most effective with control efficiencies 7 and 14days after spraying of 73. 3% and 82. 3% respectively. These results were significantly higher than those achieved by the man-made pesticides; chlorpyrifos (48% EC at 1 500 mL / hm2) and buprofezin (25% WP at750 g / hm2) . The control efficiencies of six combinations of the above biological and chemical pesticides; ①matrine + chlorpyrifos,② veratridine + chlorpyrifos,③ avermectin + chlorpyrifos,④ Beauveria bassiana+ chlorpyrifos,⑤ matrine + buprofezin,⑥ veratridine + buprofezin,were 81. 8% - 89. 2% ,88. 2% -96. 5% ,95. 6% - 98. 1% ,and 86. 0% - 97. 8% ,respectively,1,3,7 and 14 days after application. Weconclude that these combinations of biological and man-made pesticides and dosages are more effective theirconstituents for controlling younger nymphs of N. lugens and S. furcifera.
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【学科分类】农业基础学科

【题目】外源物质对番茄幼苗抗冷效果的影响
【中文关键词】番茄;抗冷性;抗坏血酸;水杨酸;脱落酸
【英文关键词】Tomato seedlings; Cold stressed; Ascorbic acid; Salicylic acid; Abscisic Acid
【中文摘要】摘要:研究了通过喷施不同浓度的抗坏血酸(AsA) 、水杨酸(SA) 和脱落酸(ABA) 在低温胁迫条件下对番茄幼苗的冷害指数以及与抗冷性相关的部分生理生化指标的影响。结果表明: 不同浓度的抗坏血酸、水杨酸和脱落酸喷施番茄后,均可使番茄幼苗叶片中的相对电导率和丙二醛含量降低,POD 活性提高,脯氨酸含量升高,冷害指数降低。在所有处理中以10mmol /L 抗坏血酸处理的效果最好。
【英文摘要】Abstract: In this paper,the effects of different concentration of exogenous ascorbic acid (AsA) 、salicylic acid (SA) andAbscisic Acid (ABA) on cold damage index and some of physiological and biochemical indexes of tomato seedlings werestudied under the cold stressed by spraying on leaves. The results showed that spraying with different concentration of exogenousAsA、SA and ABA can reduced the relative conductance and the content of MDA,increased the content of praline,improvedthe activities of POD ,and decreased cold damage index. And the optimum concentration of AsA was 10mmol. L - 1forthe best alleviation of cold stressed plants.

【语种】中文
【第一作者】阮淑洁
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【学科分类】园艺学

【题目】Cflec-4, a multidomain C-type lectin involved in immune defense of Zhikong scallop Chlamys farreri
【中文关键词】Zhang, Huan;Wang, Hao;Wang, Lingling;Song, Linsheng;Song, Xiaoyan;Zhao, Jianmin;Li, Ling;Qiu, Limei
【英文关键词】Chlamys farreri; C-type lectin; Innate immunity; Gene cloning; Real-time PCR
【中文摘要】无
【英文摘要】C-type lectins are a superfamily of carbohydrate-recognition proteins which play crucial roles in the innate immunity. In this study, a novel multidomain C-type lectin gene from scallop Chlamys farreri (designated as Cflec-4) was cloned by RACE approach based on EST analysis. The full-length cDNA of Cflec-4 was of 2086 bp. The open reading frame was of 1830 bp and encoded a polypeptide of 609 amino acids, including a signal sequence and four dissimilar carbohydrate-recognition domains (CRDs). The deduced amino acid sequence of CflecA shared high similarities to other C-type lectin family members. The phylogenetic analysis revealed the divergence between the three N-terminal CRDs and the C-terminal one, suggesting that the four CRDs in Cflec-4 originated by repeated duplication of different primordial CRD. The potential tertiary structure of each CRD in Cflec-4 was typical double-loop structure with Ca(2+)-binding site 2 in the long loop region and two conserved disulfide bridges at the bases of the loops. The tissue distribution of Cflec-4 mRNA was examined by fluorescent quantitative real-time PCR. In the healthy scallops, the Cflec-4 transcripts could be only detected in gonad and hepatopancreas, whereas in the Listonella anguillarum challenged scallops, it could be also detected in hemocytes. These results collectively suggested that CflecA was involved in the immune defense of scallop against pathogen infection and provided new insight into the evolution of C-type lectin superfamily. (C) 2009 Elsevier Ltd. All rights reserved.
【语种】英文
【第一作者】 Zhang Huan
【通讯作者】Song Linsheng
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【学科分类】海洋科学

【题目】The polymorphism of lysozyme gene in Zhikong scallop (Chlamys farreri) and its association with susceptibility/resistance to Listonella anguillarum
【中文关键词】Li, Ling;Zhao, Jianmin;Wang, Lingling;Qiu, Limei;Zhang, Huan;Dong, Chaohua;Cong, Ming;Song, Linsheng
【英文关键词】 Goose type lysozyme; Chlamys farreri; Polymorphism; Disease resistance; Disease susceptibility; PCR-RFLP
【中文摘要】无
【英文摘要】 Lysozyme functions as a crucial biodefence effector against the infection of bacterial pathogens in innate immunity. The nucleotide sequence polymorphisms in promoter region of a nuclear goose type lysozyme gene from Zhikong scallop Chlamys farreri (designated as CFLysG) were investigated to explore their association with susceptibility/resistance to Listonella anguillarum infection. Eight sites of single nucleotide polymorphisms (SNPs) and two sites of insert-deletion (ins-del) polymorphisms were identified in the promoter region of CFLysG. Two of them, -753 TATCTCGATCAGG ins-del polymorphism and -391 A-G SNP were selected to analyze their distribution in the susceptible and resistant stocks, which were identified according to the survival time after L. anguillarum challenge. Using polymerase chain reaction-restriction fragment length polymorphism (PCR-RFLP), two genotypes were found at each site, which were ins/del and ins/ins at locus -753, and A/A and A/G at locus -391, respectively. The -753 ins/del genotype was more prevalent in the resistant stock than that in the susceptible stock, 30% vs 16.67% in frequency, but there was no significant difference in the frequency distribution between these two stocks (P=0.15). In contrast, the frequency of -391A/G genotype in the

resistant stock was significantly higher (30%) than that in the susceptible stock (7.14%) (P=0.007), indicating a significant association with the resistance of Zhikong scallop to L anguillarum. To confirm the presumption, another independent challenge experiment was performed, in which the cumulative mortality of scallops with -391 A/A genotype (96.8%) was significantly higher than those with -391 A/G genotype (64.5%) (P=0.001), which further validate the association between -391 A/G genotype and the resistance of Zhikong scallop to L anguillarum. These results suggested that the -391 A/G could be a potential marker applied in future selection of Zhikong scallop with enhanced resistance to L anguillarum. (C) 2008 Elsevier Ltd. All rights reserved.

【语种】英文

【第一作者】 Li Ling

【通讯作者】Song Linsheng

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【学科分类】海洋科学

【题目】The expression of peptidoglycan recognition protein-S1 gene in the scallop Chlamys farreri was enhanced after a second challenge by Listonella anguillarum

【中文关键词】Cong, Ming;Song, Linsheng;Qiu, Lime;Li, Chenghua;Wang, Bo;Zhang, Huan;Zhang, Lei

【英文关键词】: Listonella anguillarum; Zhikong scallop Chlamys farreri; Chlamys farreri peptidoglycan recognition protein-S1 (CfPGRP-S1); Immune priming; Immunological memory

【中文摘要】无

【英文摘要】A more rapid and powerful response against repeated exposure of same pathogen in vertebrates is usually considered as the reflection of immunological memory, but it is not well understood in invertebrates. In the present Study, the temporal expression profiles of Chlamys farreri peptidoglycan recognition protein-S1 (CfPGRP-S1) gene after two challenges of Listonella anguillarum were examined to evaluate priming response in scallops. The up-regulation of CFPGRP-S1 mRNA occurred 3 h earlier, and the expression level was significant higher ($P < 0.05$), after the second challenge than that after the first challenge. The preliminary results Provided new insights into invertebrate immunological memory, and they also would be helpful to develop strategies for disease control. (C) 2008 Elsevier Inc. All rights reserved.

【语种】英文

【第一作者】Cong Ming

【通讯作者】Song Linsheng

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【学科分类】海洋科学

【题目】A fibrinogen-related protein from bay scallop Argopecten irradians involved in innate immunity as pattern recognition receptor

【中文关键词】Zhang, Huan;Wang, Lingling;Song, Linsheng;Song, Xiaoyan;Wang, Bo;Mu, Changkao;Zhang, Ying

【英文关键词】Argopecten irradiant; Fibrinogen-related protein; Innate immunity; Pattern recognition receptor; Hemagglutinating activity; Bacterial agglutinating activity

【中文摘要】无

【英文摘要】The family of fibrinogen-related proteins (FREPs) is a group of proteins with fibrinogen-like domains. Many members of this family play important roles as pattern recognition receptors in innate immune responses. The cDNA of bay scallop Argopecten irradians FREP (designated as AiFREP) was cloned by rapid amplification of cDNA ends (RACE) method based on the expressed sequence tag (EST). The full-length cDNA of AiFREP was of 990 bp. The open reading frame encoded a polypeptide of 251 amino acids, including a signal sequence and a 213 amino acids fibrinogen-like domain. The fibrinogen-like domain of AiFREP was highly similar to those of mammalian ficolins and other FREPs. The temporal expression of AiFREP mRNA in hemolymph was examined by fluorescent quantitative real-time PCR. The mRNA level of scallops challenged by Listonella anguillarum was significantly up-regulated,

peaked to 9.39-fold at 9 h after stimulation, then dropped back to 4.37-fold at 12 h, while there was no significant change in the Micrococcus luteus challenged group in all periods of treatment. The function of AiFREP was investigated by recombination and expression of the cDNA fragment encoding its mature peptide in Escherichia coli Rosetta gami (DE3). The recombinant AiFREP (rAiFREP) agglutinated chicken erythrocytes and human A, B, O-type erythrocytes. The agglutinating activities were calcium-dependent and could be inhibited by acetyl group-containing carbohydrates. rAiFREP also agglutinated Gram-negative bacteria E. coli JM109, L anguillarum and Gram-positive bacteria M. luteus in the presence of calcium ions. These results collectively suggested that AiFREP functions as a pattern recognition receptor in the immune response of bay scallop and contributed to nonself recognition in invertebrates, which would also provide clues for elucidating the evolution of the lectin pathway of the complement system. (C) 2008 Elsevier Ltd. All rights reserved.

【语种】英文

【第一作者】Zhang Huan

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【学科分类】海洋科学

【题目】Identification and expression of TRAF6 (TNF receptor-associated factor 6) gene in Zhikong scallop Chlamys farreri

【中文关键词】Qiu, Lime;Song, Linsheng;Yu, Yundong;Zhao, Jianmin;Wang, Lingling;Zhang, Qingchun

【英文关键词】Chlamys farreri; TPAF6; Signal transduction; Immune response; Gene cloning; mRNA expression; Innate immunity

【中文摘要】无

【英文摘要】 Tumor necrosis factor receptor-associated factor 6 (TRAF6), a key signaling adaptor molecule common to the TNFR superfamily and IL-IR/TLR family, is important not only for a diverse array of physiological processes functions of the TNFR superfamily, but also is involved in adaptive immunity and innate immunity. In this report, the first bivalve TRAF6 (named as CfTRAF6) gene is identified and characterized from Zhikong scallop Chlamys farreri. The full-length cDNA of CfTRAF6 is of 2510 bp, consisting of a 5'-terminal untranslated region (UTR) of 337 bp, a 3'-terminal UTR of 208 bp with a canonical polyadenylation signal sequence AATAAA and a poly (A) tail, and an open reading frame (ORF) encoding a polypeptide of 655 amino acids. The predicted amino acid sequence of CfTRAF6 comprises characteristic motifs of the TRAF proteins, including a Zinc finger of RING-type, two Zinc fingers of TRAF-type, a coiled-coil region, and a MATH (the meprin and TRAF homology) domain. The overall amino acid sequence identity between CfTRAF6 and other TRAF6s is 28-68%. Phylogenetic analyses of CfTRAF6 sequence with TRAF sequences from other organisms indicate that CfTRAF6 is a true TRAF6 orthologue. The mRNA expression of CfTRAF6 in various tissues is measured by Real-time RT-PCR. The mRNA transcripts are constitutively expressed in tissues of haemocyte, muscle, mantle, heart, gonad and gill, but the highest expression is observed in the gonad. The temporal expressions of CfTRAF6 mRNA in the mixed primary cultured haemocytes are recorded after treatment with 20 mu g mL(-1) and 0.5 mu g mL(-1) peptido-glycan (PGN). The expression level of CfTRAF mRNA is down-regulated from 1.5 h to 3 h after the treatment with 0.5 mu g mL(-1) PGN, and then recovers to the original level. While the expression of CfTRAF6 is obviously decreased after treatment with 20 mu g mL(-1) PGN, and reach the lowest point (only about 1/9 times to control) at 3 h. The result Suggests that CfTRAF6 can be greatly regulated by PGN and it may be involved in signal transduction and immune response of scallop. (C) 2008 Published by Elsevier Ltd.

【语种】英文

【第一作者】Qiu Limei

【通讯作者】Song Linsheng

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【学科分类】海洋科学

【题目】A cyclophilin A inducible expressed in gonad of zhikong scallop Chlamys farreri

【中文关键词】Song, Xiaoyan;Wang, Lingling;Song, Linsheng;Zhao, Jianmi;Zhang, Huan;Zheng, Peilin;Qiu, Limei;Liu, Xiaolin;Wu, Longtao
【英文关键词】 Scallop Chlamys farreri; Cyclophilin A; mRNA expression; Quantitative real-time PCR; Bacteria challenge
【中文摘要】无
【英文摘要】Cyclophilin A (CypA), a receptor for the immunosuppressive agent cyclosporin A (CsA), is a cis-trans peptidyl-prolyl isomerase (PPIase) which accelerates the cis-trans isomerization of prolyl-peptide bonds, interacts with a variety of proteins and therefore regulates their activities. One CypA (designated CfCypA) cDNA was cloned from Chlamys farreri by expressed sequence tag (EST) and rapid amplification of cDNA ends (RACE) techniques. The full-length cDNA of CfCypA consisted of 1,248 nucleotides with a canonical polyadenylation signal sequence AATAAA, a poly (A) tail, and an open reading frame (ORF) of 495 nucleotides encoding a polypeptide of 164 amino acids. The deduced amino acid sequence shared high similarity with CypA from the other species, indicating that CfCypA should be a new member of the CypA family. Quantitative real-time (RT) PCR was employed to assess the mRNA expression of CfCypA in various tissues and its temporal expression in haemocytes and gonad of scallops challenged with Vibrio anguillarum. The mRNA transcripts of CfCypA could be detected in all the examined tissues with highest expression level in gonad. After bacterial challenge, the expression level of CfCypA was almost unchanged in haemocytes, but up-regulated in gonad and increased to the peak (22.59-fold; $P < 0.05$) at 4 h post-injection, and then dropped to the original level at 8 h post-injection. These results indicated that CfCypA was constitutive expressed in haemocytes, but could be induced in gonad, and perhaps played a critical role in response to the bacterial challenge in gonad.
【语种】英文
【第一作者】Qiu Limei
【通讯作者】Song Linsheng
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【学科分类】海洋科学

【题目】Molecular cloning, characterization and mRNA expression of peroxiredoxin in Zhikong scallop Chlamys farreri
【中文关键词】Cong, Ming;Ni, Duojiao;Song, Linsheng;Wang, Lingling;Zhao, Jianmin;Qiu, Limei;Li, Ling
【英文关键词】Chlamys farreri; Fluorescent real-time quantitative PCR; Immune response; Listonella anguillarum; Peroxiredoxin
【中文摘要】无
【英文摘要】Peroxiredoxin V (PRX V) is known as an atypical 2-cysteine peroxiredoxin that protects the organisms against various oxidative stresses and functions in signal transduction. The cDNA of a PRX V gene (designated as CfPRX) was cloned from scallop Chlamys farreri. The full-length sequence of CfPRX cDNA was of 2,179 bp with a 564 bp open reading frame encoding a peptide of 187 amino acids. Sequence comparison showed that CfPRX shared higher identities with PRX Vs than that with other isoforms of PRX, indicating CfPRX was a member of the PRX V family. Fluorescent real-time quantitative PCR analysis revealed the presence of CfPRX transcripts in gill filaments, adductor muscle, heart, gonad, kidney and hemocytes, and the stimulation of Listonella anguillarum significantly ($P < 0.01$) enhanced the mRNA expression of CfPRX in hemocyte. These results indicated that CfPRX was a constitutive and inducible acute-phase protein which was involved in the immune resistance to L. anguillarum stimulation.
【语种】英文
【第一作者】Cong Ming
【通讯作者】Song Linsheng
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【学科分类】海洋科学

【题目】Alteration of metallothionein mRNA in bay scallop Argopecten irradians under cadmium exposure and bacteria challenge.
【中文关键词】Wang, Lingling;Song, Linsheng;Ni, Duojiao;Zhang, Huan;Liu, Weiqing

【英文关键词】Argopecten irradians; Metallothionein; mRNA expression; Cadmium exposure; Bacteria challenge
【中文摘要】无
【英文摘要】Metallothionein (MT) is a superfamily of cysteine-rich proteins contributing to metal metabolism, detoxification of heavy metals, and immune response such as protecting against ionizing radiation and antioxidant defense. A metallothionein (designated AiMT2) gene was identified and cloned from bay scallop, Argopecten irradians. The full length cDNA of AiMT2 consisted of an open reading frame (ORF) of 333 bp encoding a protein of 110 amino acids. with nine characteristic Cys-X-Cys, five Cys-X-X-Cys, five Cys-X-X-X-Cys and two Cys-Cys motif arrangements and a conserved structural pattern Cys-x-Cys-x(3)-Cys-Tyr-x(3)Cys-x-Cys-x(3)-Cys-x-Cys-Arg at the C-terminus. The cloned ANT showed about 50% identity in the deduced amino acid sequence with previously published MT sequences of mussels and oysters. The conserved structural pattern and the close phylogenetic relationship of AiMT2 shared with MTs from other mollusc especially bivalves indicated that AiMT2 was a new member of molluscan MT family. The mRNA transcripts in hemolymph of AiMT2 under cadmium (Cd) exposure and bacteria challenge were examined by real-time RT-PCR. The mRNA expression of AiMT2 was up-regulated to 3.99-fold at 2 h after Listonella anguillarum challenge, and increased drastically to 66.12-fold and 126.96-fold at 16 and 32 h post-challenge respectively. Cadmium ion exposure could induce the expression of AiMT2, and the expression level increased 2.56-fold and 6.91-fold in hemolymph respectively after a 10-day exposure of 100 mu g L(-1) and 200 mu g L(-1) CdCl(2). The sensitivity of AiMT2 to bacteria challenge and cadmium stress indicated it was a new Cd-dependent MT in bay scallop and also regulated by an immune challenge. The changes in the expression of AiMT2 could be used as an indicator of exposure to metals in pollution monitoring programs and oxidative stress, and bay scallop as a potential sentinel organism for the cadmium contamination in aquatic environment. (C) 2008 Elsevier Inc. All rights reserved.
【语种】英文
【第一作者】Wang Lingling
【通讯作者】Song Linsheng
【期刊名称、卷期、页码】 COMPARATIVE BIOCHEMISTRY AND PHYSIOLOGY C-TOXICOLOGY & PHARMACOLOGY 卷: 149 期: 1 页: 50-57
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【引文索引号】2.6193620001e+011
【学科分类】海洋科学

【题目】Genetic Analysis of Porphyra yezoensis Using Microsatellite
【中文关键词】Kong, Fanna;Mao, Yunxiang;Yang, Hui; Qu, Haijun; Yan, Xinghong; Wang, Li
【英文关键词】Genetic analysis; Microsatellite markers; Microsatellite-enriched library; Porphyra yezoensis Ueda; Simple sequence repeats
【中文摘要】无
【英文摘要】Microsatellites are repetitive genomic elements that show high levels of variation and therefore are useful tools for studying genetic polymorphism and constructing genetic linkage maps of eukaryotic organisms. Porphyra yezoensis Ueda is an economically important seaweed that is being targeted for genetic improvement using marker-assisted breeding. Hence, in an attempt to develop microsatellite markers for P. yezoensis, a microsatellite (or simple sequence repeat)-enriched library was constructed to identify (GA)n and (CA)n motifs. A total of 71 perfect microsatellite clones were identified, of which 30 simple sequence repeat primer pairs were developed. Of these, 24 (80%) amplified polymerase chain reaction products of expected sizes. Twelve primer pairs amplified two to four bands, whereas another 12 primer pairs produced monomorphic banding patterns. Data for 12 loci were analyzed using POPGENE software version 1.32. A total of 29 alleles were produced at 12 loci, with an average of 2.42 alleles (Na) and 1.81 effective alleles (Ne) per locus. These markers were used to analyze the genetic diversity within 11 geographically different lines of P. yezoensis. Overall, these lines were clustered into two divisions with those from close geographic locations clustering together. Further cloning and sequencing of size variant alleles at two microsatellite loci revealed that the variable numbers of motif repeats in different alleles were major sources of polymorphisms.
【语种】英文
【第一作者】 Kong Fangna
【通讯作者】 Mao Yunxiang
【期刊名称、卷期、页码】PLANT MOLECULAR BIOLOGY REPORTER 卷: 27 期: 4 页: 496-502
【论文发表时间】2009-12-01 00:00:00

【引文索引类型】SCI
【引文索引号】2.7078090001e+011
【学科分类】海洋科学

【题目】Cloning and Analysis of Calmodulin Gene from Porphyra yezoensis Ueda (Bangiales, Rhodophyta)
【中文关键词】Wang Mengqiang; Mao Yunxiang; Zhuang Yunyun; Kong Fanna; Sui Zhenghong
【英文关键词】Computer Applications (Computational Biology); Molecular Genetics (Biochemistry and Molecular Biophysics)
【中文摘要】无
【英文摘要】 In order to understand the mechanisms of signal transduction and anti-desiccation mechanisms of Porphyra yezoensis, cDNA and its genomic sequence of Calmodulin gene (CaM) was cloned by the technique of polymerase chain reaction (PCR) based on the analysis of P. yezoensis ESTs from dbEST database. The result shows that the full-length cDNA of CaM consists of 603 bps including an ORF encoding for 151 amino acids and a terminate codon UGA, while the length of genomic sequence is 1231 bps including 2 exons and 1 intron. The average GC content of the coding region is 58.77%, while the GC content of the third position of this gene is as high as 82.23%. Four Ca2+ binding sites (EF-hand) are found in this gene. The predicted molecular mass of the deduced peptide is 16688.72 Da and the pI is 4.222. By aligning with known CaM genes, the similarity of CaM gene sequence with homologous genes in Chlamydomonas incerta and Chlamydomonas reinhardtii is 72.7% and 72.2% respectively, and the similarity of the deduced amino acid sequence of CaM gene with homologous genes in C. incerta and C. reinhardtii are both 71.5%. This is the first report on CaM from a species of Rhodophyta.
【语种】英文
【第一作者】Wang Mengqiang
【通讯作者】Sui Zhenghong
【期刊名称、卷期、页码】Journal of Ocean University of China 卷: 8 期: 3 页
【论文发表时间】2009-09-01 00:00:00
【引文索引类型】SCI
【引文索引号】PREV200900488203
【学科分类】海洋科学

【题目】条斑紫菜基因组FOSMID文库构建
【中文关键词】茅云翔; 崔菁菁; 孔凡娜
【英文关键词】Porphyra yezoensis; genomic Fosmid library; gene cloning; genomics;
【中文摘要】高分子量基因组文库是开展条斑紫菜基因组学研究的必备工具。构建了由23 040个Fosmid克隆组成的条斑紫菜孢子体无偏倚基因组文库。检测分析表明:文库克隆重组率为100%;插入DNA片段长度为28~40kb,平均长度为35kb,文库覆盖率约为条斑紫菜基因组的2.78倍;从超级池中筛查条斑紫菜18S rRNA、atpA、h2A、rbcL基因,至少能得到一个阳性克隆,印证了计算所推测的文库覆盖率;随机选取6个Fosmid克隆经100代传代后插入DNA片段未发生丢失或长度变化,表明克隆传代的稳定性。该文库的构建为开展条斑紫菜基因组特性分析和基因克隆奠定了基础。
【英文摘要】Genomic library with high-molecular weight inserts is an essential and powerful tool for genomic studies.An unbiased fosmid library of Porphyra yezoensis was constructed and characterized.The library comprised 23 040 clones with 100% recombination frequency.The range of insert size of most bulk of clones is from 28 kb to 40 kb and the average size is about 35 kb.Therefore,the library coverage is about 2.78 genome-equivalent.The theoretical coverage was verified by successfully screening out 4 randomly selected genes,18S rRNA,atpA,h2A and rbcL,once at least from the super pools which covered the whole library clones.No variations were observed by comparing the original clones with those of the hundredth generation cultivated successively,indicating the good fidelity and stability of the fosmid library.This study laid the foundations for gene cloning and genomic research in P.yezoensis. 更多
【语种】中文
【第一作者】MAO Yun-xiang,
【通讯作者】Mao Yunxiang,
【期刊名称、卷期、页码】水产学报 第 33卷 第 3期
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【引文索引号】2.7078090001e+011

【学科分类】海洋科学

【题目】坛紫菜 EST-SSR 筛选及其在遗传多样性分析中的实用性
【中文关键词】杨惠; 茅云翔; 孔凡娜; 王莉; 严兴洪
【英文关键词】Porphyra haitanensis; microsatellite sequence; EST-SSRs; polymorphism analysis;
【中文摘要】微卫星标记作为1种重要的分子标记,在分子标记辅助育种及遗传图谱构建中都起到重要的作用。EST文库搜索法是获得微卫星标记的途径之一,本研究对坛紫菜EST数据库中6035条序列进行搜索,发现340条EST包含SSR序列,其中三碱基重复最多,占总数45.95%;其次是两碱基重复,占总数的45.38%;再次是六碱基和五碱基,分别占总数的5.78%和2.02%;四碱基最少,仅占总数的0.87%。在两碱基中AG,GA,TC,CT类型数量最多,占所有两碱基SSR的82.8%;在三碱基中CCG,CGC,GCC,GGC,GCG,CGG类型数量最多,占所有三碱基SSR的52.83%;其它重复次数中,各种类型所占比例相差不大。进一步比较坛紫菜与条斑紫菜EST-SSR序列,发现2种紫菜SSR类型及比例存在明显差异。根据EST-SSR序列设计合成了10对引物,其中4个位点在8个不同来源坛紫菜叶状体间存在多态性,说明从坛紫菜EST中筛选的SSR标记可以用于进行坛紫菜遗传多样性分析。 更多还原
【英文摘要】Simple sequence repeats(SSRs) or microsatellites are important molecular markers, which have been applied to marker-assisted selection and construction of genetic mapping. Microsatellite markers can be developed from expressed sequence tag(EST) in public databases directly. In this paper we analyzed 6 035 EST sequences of the Porphyra haitanensis dbEST from NCBI database, in which 340 EST were found to contain SSRs. The length of repeat motifs ranged from 2 bp to 6 bp, among which trinucleotide and dinucleotide repeat motifs were most common with abundance of 45.95% and 45.38%, respectively; followed by hexanucleotide and pentanucleotide(respectively 5.81% and 2.03%) and tetranucleotide(0.87%). AG, GA, TC, CT units were found to be the most abundant in dinucleotide(82.8%), so did CCG, CGC, GCC, GGC, GCG, CGG units in trinucleotide(52.83%), however there were no significant differences among other types. Furthermore, EST-SSRs from P. yezoensis were compared to that of P. haitanensis and the difference existed not only in SSR types but also in quantity of repeat motifs. Ten EST-SSR primers were designed to analyze the genetic polymorphisms of eight different sources thallus and four loci showed polymorphisms, which indicated that SSRs from P. haitanensis dbEST are feasible in polymorphism analysis
【语种】中文
【第一作者】杨 惠
【通讯作者】茅云翔
【期刊名称、卷期、页码】中国海洋大学学报2009年02期
【论文发表时间】2009-03-01 00:00:00
【引文索引类型】其他
【引文索引号】2.7078090001e+011
【学科分类】海洋科学

【题目】Comparison of photobioreactors and optimal light regime for rapid vegetative propagation of transgenic Undaria pinnatifida gametophytes.
【中文关键词】Deng, Xiang-Yuan, Qin Song, Zhang Yi-Chen, Jiang Peng
【英文关键词】bubble-column bioreactor airlift bioreactor vegetative propagation Undaria pinnatifida gametophytes light transgenic
【中文摘要】无
【英文摘要】BACKGROUND: Previously, tachyplesin gene (tac) has been successfully transferred into Undaria pinnatifida gametophytes using the method of microprojectile bombardment transformation. The objectives of this study were to compare and evaluate the performance of bubble-column and airlift bioreactors to determine a preferred configuration of bioreactor for vegetative propagation of transgenic U. pinnatifida gametophytes, and to then investigate the influence of light on vegetative propagation of these gametophytes, including incident light intensity, photoperiod and light quality to resolve the problems of rapid vegetative propagation within the selected bioreactor.RESULTS: Experimental results showed that final dry cell density in the airlift bioreactor was 12.7% higher than that in the bubble-column bioreactor under the optimal aeration rate of 1.2 L air min(-1) L(-1) culture. And a maximum final dry cell density of 2830 mg L(-1) was obtained within the airlift bioreactor using blue light at 40 mu mol m(-2) s(-1) with a light/dark cycle of 14/10 (h). Polymerase chain reaction (PCR) analysis indicated that genes (bar and tac) were not lost during rapid vegetative propagation within the airlift bioreactor.CONCLUSION: The airlift bioreactor was shown to be much more suitable for rapid vegetative propagation of transgenic U. pinnatifida gametophytes than the bubble-column bioreactor in the laboratory. The use of blue light allows improvement of vegetative propagation of transgenic U. pinnatifida gametophytes.

【语种】英文
【第一作者】Deng, Xiang-Yuan
【通讯作者】秦松
【期刊名称、卷期、页码】Journal of Chemical Technology and Biotechnology, 2009. 84(10): 1486-1492
【论文发表时间】2009-10-01 00:00:00
【引文索引类型】SCI
【引文索引号】2.7040380001e+011
【学科分类】海洋科学

【题目】Microprojectile bombardment of Laminaria japonica gametophytes and rapid propagation of transgenic lines within a bubble-column bioreactor.
【中文关键词】Deng, Xiang-Yuan, Qin Song, Zhang Yi-Chen, Jiang Peng,Cui Yulin, Li Xiaokun
【英文关键词】Microprojectile bombardment; Bubble-column bioreactor; Laminaria japonica gametophytes; Human acidic fibroblast growth factor
【中文摘要】无
【英文摘要】A human acidic fibroblast growth factor gene, hafgf, was successfully transferred into Laminaria japonica (kelp) gametophytes via microprojectile bombardment using the biolistic PDS-1000/He gene gun. Following phosphinothricin screening, PCR detection and Southern blot analysis, transgenic L. japonica gametophytes were cultivated in an illuminated bubble-column bioreactor to optimize growth conditions. A maximal final dry cell density of 1,695 mg l(-1) was obtained in a batch culture having an initial dry cell density of 129.75 mg l(-1). This was achieved using an aeration rate of 1.08 l air min(-1) l(-1) culture in a medium containing 1.5 mM inorganic nitrate and 0.15 mM phosphate. In addition, the relationship between different nitrogen sources and growth of transgenic gametophytes indicated that both urea and sodium nitrate were effective nitrogen sources for cell growth, while ammonium ions inhibited growth of these gametophytes
【语种】英文
【第一作者】Deng, Xiang-Yuan
【通讯作者】秦松
【期刊名称、卷期、页码】Plant Cell, Tissue and Organ Culture, 2009. 97: 253-261.
【论文发表时间】2009-06-01 00:00:00
【引文索引类型】SCI
【引文索引号】2.659424e+011
【学科分类】海洋科学

【题目】Genetic transformation in Kappaphycus alvarezii using micro-particle bombardment: a potential strategy for germplasm improvement
【中文关键词】Wang Jin-Feng, Jiang Peng, Cui Yu-Lin, Deng, Xiang-Yuan, Li Fu-Chao, Liu Jianguo, Qin Song
【英文关键词】Genetic transformation; LacZ; Micro-particle bombardment; SV40 promoter; Kappaphycus alvarezii; Transgenic breeding
【中文摘要】无
【英文摘要】This study investigated the delivery of a SV40 promoter driving lacZ gene into cells of Kappaphycus alvarezii using particle bombardment. Thallus pieces 0.5-0.8 mm in diameter and 1 cm in length were prepared as gene recipients. Bombardment parameters of 450 psi (rupture pressures) x 6 cm (particle travel distances), 650 psi x 6 cm, 1,100 psi x 6 cm and 1,100 psi x 9 cm were used. A significant increase in transformation efficiency from about 33% under the rupture pressure of 450 psi to 87% at 650 psi was observed in transformed thalli. Most of the positive cells appeared in epidermal cells bombarded at 450 psi, whereas positive signals were seen in both epidermal and medullary cells at 650 psi. No positive transient expression was detected at a bombardment of 1,100 psi, or in negative or blank controls. For the conditions tested, the best parameter was obtained at 650 psi at a distance of 6 cm. Thus, the strategy of taking vegetative thalli as recipients, using particle bombardment, and combining this with micro-propagation, together with developing an in vivo selectable marker, is a viable way to produce stable transformants, to eliminate chimeric expression, and to achieve transgenic breeding in K. alvarezii.
【语种】英文

【第一作者】Wang Jin-Feng
【通讯作者】秦松
【期刊名称、卷期、页码】Aquaculture International, 2010.18(6): 1027-1034
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【引文索引号】2.8231670001e+011
【学科分类】海洋科学

【题目】Gene transfer into conchospores of Porphyra haitanensis (Bangiales, Rhodophyta) by glass bead agitation
【中文关键词】Wang Jin-Feng, Jiang Peng, Cui Yu-Lin, Guan, Xiang-Yu, Qin Song
【英文关键词】egfp; Genetic transformation; lacZ; Porphyra haitanensis; SV40 promoter
【中文摘要】无
【英文摘要】Genetic transformation by electroporation of protoplasts is a standard procedure for many plants. However, for the genus Porphyra, the method is not effective because of low viability of protoplasts and is a time-consuming and expensive procedure. Based on the life history of Porphyra, a spore-targeted strategy of genetic transformation was developed, that is, using fresh conchospores of Porphyra haitanensis Chang & Zheng transformed by agitation with glass beads. A SV40 promoter-driven lacZ reporter gene was expressed in conchospores 48 h after the agitation. More transformants were obtained by increasing the agitation time from 10 to 25 s. The maximum number of transformants was more than six out of 1 million agitated conchospores. Transfer of a SV40 promoter-driven egfp gene into conchospores resulted in significant green GFP fluorescence. The expression of lacZ and egfp revealed that this strategy of spore-targeted transformation using glass bead agitation is feasible in P. haitanensis and that the SV40 promoter is effective for monitoring expression of foreign genes in this red algal species.
【语种】英文
【第一作者】Wang Jin-Feng
【通讯作者】姜鹏
【期刊名称、卷期、页码】Phycologia,2010. 49(4): 355-360.
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【引文索引号】2.8023230001e+011
【学科分类】海洋科学

【题目】The integrative expression of GUS gene driven by using FCP promoter in the seaweed Laminaria japonica (Phaeophyta).
【中文关键词】Li, Fu-Chao, Qin Song,Jiang Peng, Wu Yun, Zhang Wei
【英文关键词】FCP; GUS; Integrative expression; Laminaria japonica; Promoter
【中文摘要】无
【英文摘要】In this study, the background activity of beta-glucuronidase (GUS) was analyzed histochemically and fluorometrically in the negative control of Laminaria japonica (Phaeophyta) thalli, showing low level of activity. GUS gene transformation without selectable gene in L. japonica was performed using four different promoters, i.e., Cauliflower mosaic virus 35S promoter (CaMV35S) from cauliflower mosaic virus, ubiquitin promoter (UBI) from maize, adenine-methyl transfer enzyme gene promoter (AMT) from virus in green alga Chlorella, and fucoxanthin chlorophyll a/c-binding protein gene promoter (FCP) from diatom Phaeodactylum tricornutum. The GUS transient activity was determined fluorometrically after bombarding sliced parthenogenetic sporophytes explants, and it was found that the activity resulting from CaMV35S and FCP promoters (in 114.3 and 80.6 pmol MU min(-1) (mg protein)(-1), respectively) was higher than for the other two promoters. The female gametophytes were bombarded and regenerated parthenogenetic sporophytes. FCP was the only promoter that resulted in detectable GUS chimeric expression activity during histochemical staining and polymerase chain reaction. Results of Southern blot showed that GUS gene was integrated with the L. japonica genome.
【语种】英文
【第一作者】Li Fu-Chao
【通讯作者】秦松
【期刊名称、卷期、页码】Journal of Applied Phycolog, 2009. 21: 287-293.

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【引文索引号】2.654986e+011
【学科分类】海洋科学

【题目】Naturally occurring antisense RNA of allatostatin gene in the prawn, Macrobrachium rosenbergii.
【中文关键词】Guo-Li Yin, Qi Chen, Wei-Jun Yang
【英文关键词】Allatostatin; Antisense transcript; RNA – RNA base pairing; Gene expression; Macrobrachium rosenbergii
【中文摘要】无
【英文摘要】Allatostatins are important regulatory neuropeptides which are widely distributed in invertebrates and execute their functions through either neural or Immoral routes. However, the regulatory mechanism of the gene expression is unclear. In this paper, we report a naturally occurring amisense transcript, named as asMacro-AST A, of the crustacean FGLamide allatostatin gene (Macro-AST A) from the prawn, Macrobrachium rosenbergii. The asMacro-ASTA contains an 843-bp sequence fully complementary to the 3'end of the Macro-ASTA. To our knowledge, this is the first report of a natural antisense transcript in crustacean and the first endogenous antisense transcript of all identified allatostatin genes. Northern blotting analysis demonstrated that the gene was expressed in the thoracic ganglia where the sense gene was also expressed. Furthermore, we have detected a RNA-RNA duplex between the sense-antisense complementary region by using RNasc protection analysis and RT-PCR. These results suggest that the antisense gene may play a role in the regulation of Macro-AST A gene expression. (c) 2006 Elsevier Inc. All rights reserved.
【语种】英文
【第一作者】Yin Guo-Li
【通讯作者】杨卫军
【期刊名称、卷期、页码】Comparative Biochemistry and Physiology, Part B, 2007, 146(1): 20-25.
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【引文索引类型】SCI
【引文索引号】2.446236e+011
【学科分类】海洋科学

【题目】Prawn lipocalin: characteristics and expressional pattern in subepidermal adipose tissue during reproductive molting cycle.
【中文关键词】Wang Mo-Ran, Zhu Xiao-Jing, Yang, Jin-Shu, Da Zhong-Min, Mahmood Khalid, YangFan, Yang Wei-Jun
【英文关键词】lipocalin; prawn; cDNA; maturation; molting cycle
【中文摘要】无
【英文摘要】In crustaceans, the fascinating processes of maturation, reproductive molting and carapace coloration are regulated by hydrophobic molecules. Interestingly, most of the molecules are ligands of lipocalin. To understand the role of lipocalin in the aforementioned processes at molecular level, we isolated a cDNA that belongs to the lipocalin family, from a central nervous system cDNA library of Macrobrachium rosenbergii. We monitored the spatial and temporal distributions of the mRNA by using Northern Blotting analysis. Our results demonstrated that this gene expresses abundantly in the subepidermal adipose tissue, while faintly in the hepatopancreas and central nervous system. However, no signal was detected in other tissues including muscle, gill and ovary. Its expression levels in subepidermal adipose tissue during various stages of maturation as well as through the whole molting cycle showed that prawn lipocalin is involved in sexual maturation, as the maximal level was observed just after molt. (C) 2007 Published by Elsevier Inc.
【语种】英文
【第一作者】Wang Mo-Ran
【通讯作者】杨卫军
【期刊名称、卷期、页码】Comparative Biochemistry and Physiology, Part B, 2007, 147(2): 222-229.
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【引文索引号】2.4654410001e+011
【学科分类】海洋科学

【题目】Inhibition of a novel sperm gelatinase in prawn sperm by the male reproduction-related kazal-type peptidase inhibitor.
【中文关键词】Li Ye, Ma Wen-Ming, Dai Jie-Qiong, Feng Chen-Zhuo, Yang, Fan, Ohir Tsuyoshi, Nagasaw Hiromich,Yang Wei-Jun
【英文关键词】kazal-type peptidase inhibitor; gelatinase; inhibition; sperm; vitelline coat
【中文摘要】无
【英文摘要】Previously, we have identified and characterized a male reproduction-related kazal-type peptidase inhibitor (MRPINK) gene from the prawn, Macrobrachium rosenbergii. In the present study, MRPINK was discovered to have an inhibitory effect on the gelatinolytic activity of M. rosenbergii sperm and immunofluorescence analysis revealed it bound specifically onto the base of sperm. The proteolytic activity of sperm extracts to vitelline coat components was also detected to be interfered by MRPINK. Furthermore, a novel gelatinase on sperm was found to be specifically inhibited by MRPINK and was named M. rosenbergii sperm gelatinase (MSG). MSG was then isolated and purified by reversed-phase high performance liquid chromatography combining with gelatinolytic assay. By amino-terminal amino acid sequence analysis and molecular cloning, the primary structure of MSG was determined. The data presented in this study provided evidence that MRPINK has an inhibitory effect on the gelatinolytic activity as well as proteolytic activity of prawn sperm and specifically blocks the activity of MSG.
【语种】英文
【第一作者】Li Ye
【通讯作者】杨卫军
【期刊名称、卷期、页码】Molecular Reproduction and Development, 2008, 75(8): 1327-1337.
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【学科分类】海洋科学

【题目】Response of metallothionein gene-1 to laboratory exposure to heavy metals and thermal stress in the freshwater prawn Macrobrachium rosenbergii.
【中文关键词】Mahmood Khalidang, Yang Jin-Shu, Chen Dian-Fu, Wang, Mo-Ran,Yang Fan, Yang Wei-Jun
【英文关键词】Metallothioneins; Biomarkers; Heavy metals; Environment; Biomonitring
【中文摘要】无
【英文摘要】Metallothioneins, metal-inducible proteins, are being characterized from different organisms and shown as potential biomarkers of exposure to pollution by certain heavy metals. Here we report the identification of a new metallothionein cDNA (433 bp) from the shrimp Macrobrachium rosenbergii, putatively encoding a 61 residue polypeptide. Tissue specific analysis indicated that Mar-MT-I (M. rosenbergii Metallothionein Gene-1) is expressed with the highest levels in the hepatopancreas and lowest in the thoracic ganglia, and none in the gills or muscles. In addition, our data showed that Mar-MT-I is differentially regulated in the hepatopancreas by certain heavy metals and thermal stress: Cd and Cu produce somewhat similar expression profile patterns, Zn has a reductional effect and thermal stress alone entirely stops its expression. These results show that Mar-MT-I mRNA levels can potentially be used as biomarkers for Cd. Cu or Zn pollution individually. However, in the case of combined metal treatment, different combinations of these metals have quite different effect on Mar-MT-I expression. Therefore, factors of such differential behaviors should be kept as a priority for further biomonitring studies. (C) 2009 Elsevier B.V. All rights reserved.
【语种】英文
【第一作者】Mahmood Khalidang
【通讯作者】杨卫军
【期刊名称、卷期、页码】Journal of Hazardous Materials, 2009, 167: 523-30.
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【引文索引号】2.6726700007e+011
【学科分类】海洋科学

【题目】CHH family peptides from an 'eyeless' deep-sea hydrothermal vent shrimp, Rimicaris kairei: characterization and sequence analysis.

【中文关键词】Qian, Ye-Qing, Dai Li, Yang Jin-Shu, Yang Fan, Chen Dian-Fu, Fujiwara Yoshihiro, Tsuchida Shinji, Nagasawa Hiromichi, Yang Wei-Jun
【英文关键词】Crustacean hyperglycemic hormone; Extreme environment; Isoform; Molecular cloning; Rimicaris kairei; Vitellogenesis-inhibiting hormone
【中文摘要】无
【英文摘要】The crustacean eyestalk synthesizes and secretes several structurally-related peptides belonging to the crustacean hyperglycemic hormone (CHH) family, which are considered major physiological regulators during the crustacean life cycle. However, it is intriguing that eyestalks of many hydrothermal vent crustaceans prove to have varying degrees of reduction. In the present study, we characterized full-length cDNAs encoding two important eyestalk hormones of the CHH family, CHH and VIH (vitellogenesis-inhibiting hormone), from the 'eyeless' hydrothermal vent shrimp Rimicaris kairei. The two isoforms of Chh cDNA were 1027 and 1877 bp in length, respectively, and the deduced preprohormones contained 137 and 138 aa, respectively. The Vih cDNA was 907 bp in length, encoding a putative preprohormone of 113 aa. When compared with other known protein sequences of CHHs and VIHs, these polypeptides from hydrothermal vents show high similarity with their non-vent counterparts. These results may provide evidence for the mechanisms of eyestalk reduction and vent-adapting evolution of crustaceans. The hydrothermal vent shrimp with reduced eyestalks may take a different evolutionary pathway than eyestalk-holding crustaceans, and the reduced eyestalks can be considered a good example for the investigation of the diversity of crustacean evolution in different environments. (C) 2009 Elsevier Inc. All rights reserved.
【语种】英文
【第一作者】Qian Ye-Qing
【通讯作者】杨卫军
【期刊名称、卷期、页码】Comparative Biochemistry and Physiology, Part B, 2009, 154(1): 37-47.
【论文发表时间】2009-09-01 00:00:00
【引文索引类型】SCI
【引文索引号】2.6862070001e+011
【学科分类】海洋科学

【题目】cDNA cloning, characterization and expression analysis of the antioxidant enzyme gene, catalase of Chinese shrimp Fenneropenaeus chinensis
【中文关键词】Zhang, Qingli; Li, Fuhua;Zhang, Xiaojun; Dong, Bo; Zhang, Jiquan;Xie, Yusu;Xiang, Jianhai
【英文关键词】catalase; cloning; WSSV; immune response; expression; Fenneropenaeus chinensis
【中文摘要】无
【英文摘要】Catalase is an important antioxidant protein that protects organisms against various oxidative stresses by eliminating hydrogen peroxide. The full-length catalase cDNA of Chinese shrimp Fenneropenaeus chinensis was cloned from the hepatopancreas using degenerate primers by the method of 3' and 5' rapid amplification of cDNA ends PCR. The cDNA sequence consists of 1892 bp with a 1560 bp open reading frame, encoding 520 amino acids with high identity to invertebrate, vertebrate and even bacterial catalases. The sequence includes the catalytic residues His71, Asn144, and Tyr354. The molecular mass of the predicted protein is 58824.04 Da with an estimated pl of 6.63. Sequence comparison showed that the deduced amino acid sequence of F. chinensis catalase shares 96%, 73%, 71% and 70% identity with that of Pacific white shrimp Litopenaeus vannamei, Abalone Haliotis discus hannai, Zhikong scallop Chlamys farreri and Human Homo sapiens, respectively. Catalase transcripts were detected in hepatopancreas, hemocytes, lymphoid organ, intestine, ovary, muscle and gill. by real-time PCR. The variation of catalase mRNA transcripts in hemocytes and hepatopancreas was also quantified by real-time PCR and the result indicated that the catalase showed up-regulated expression trends in hemocytes at 14 h and in hepatopancreas at 37 h after injection with white spot syndrome virus (WSSV). (c) 2008 Elsevier Ltd. All rights reserved.
【语种】英文
【第一作者】Zhang, Qingli
【通讯作者】Xiang, JH
【期刊名称、卷期、页码】Fish and Shellfish Immunology. 2008, 24, 584-591
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【引文索引类型】SCI
【引文索引号】2.5567570001e+011

【学科分类】海洋科学

【题目】Comparison of gene expression profiles of Fenneropenaeus chinensis challenged with WSSV and Vibrio.
【中文关键词】Wang, Bing; Li, Fuhua;Luan, Wei; Xie, Yusu; Zhang, Chengsong; Luo, Zhan; Gui, Lang; Yan, Hui; Xiang, Jianhai
【英文关键词】WSSV; Vibrio; cDNA microarray; Fenneropenaeus chinensis ;
【中文摘要】无
【英文摘要】Microarray technique was used to analyze the gene expression profiles of shrimp when they were challenged by WSSV and heat-inactivated Vibrio anguillarum, respectively. At 6 h post challenge (HPC), a total of 806 clones showed differential expression profile in WSSV-challenged samples, but not in Vibrio-challenged samples. The genes coding energy metabolism enzyme and structure protein were the most downregulated elements in 6 h post WSSV-challenged (HPC-WSSV) tissues. However, a total of 155 clones showed differential expression in the Vibrio-challenged samples, but not in WSSV-challenged samples. Serine-type endopeptidase and lysosome-related genes were the most upregulated elements in tissues 6 h post Vibrio challenge (HPC-Vibrio). Totally, 188 clones showed differential expression in both 6 and 12 HPC-WSSV and HPC-Vibrio samples. Most of the differentially expressed genes (185/188) were downregulated in the samples of 12 HPC-WSSV, whereas upregulated in the samples at 6 and 12 HPC-Vibrio and 6 HPC-WSSV. The expression profiles of three differentially expressed genes identified in microarray hybridization were analyzed in hemocytes, lymphoid organ, and hepatopancreas of shrimp challenged by WSSV or Vibrio through real-time PCR. The results further confirmed the microarray hybridization results. The data will provide great help for us in understanding the immune mechanism of shrimp responding to WSSV or Vibrio.
【语种】英文
【第一作者】Wang, Bing
【通讯作者】Xiang, JH
【期刊名称、卷期、页码】Marine Biotechnology.2008,10(6): 664-675
【论文发表时间】2008-11-01 00:00:00
【引文索引类型】SCI
【引文索引号】2.6083860001e+011
【学科分类】海洋科学

【题目】Inhibition mechanism and the effects of structure on activity of male reproduction-related peptidase inhibitor Kazal-type (MRPINK) of Macrobrachium rosenbergii
【中文关键词】Li, Ye; Qian, Ye-Qing; Ma, Wen-Ming; Yang, Wei-Jun
【英文关键词】Kazal-type peptidase inhibitor; Recombinant; Mutant; Domain; P(1) position
【中文摘要】无
【英文摘要】In our previous reports, a Kazal family serine protease inhibitor, male reproduction-related peptidase inhibitor Kazal-type (MRPINK) has been identified from the prawn, Macrobrachium rosenbergii, and discovered having an inhibitory effect on the sperm gelatinolytic activity. MRPINK was predicated to inhibit chymotrypsin since it contains leucine and proline at P(1) positions of the two domains, respectively. In this report, recombinant MRPINK was as expected found to specifically inhibit chymotrypsin, but no inhibition was detected against trypsin or thrombin. By the analysis of kinetic tests, the inhibition mechanism of MRPINK was determined to be typical competitive model with K(i) of 354 nM. To elucidate the effects of structure on activity of MRPINK, the mutants (domain-1 only, domain-2 only, MRPINK(P88I), MRPINK(L37K), MRPINK(L37A), and MRPINK(L37G)) were prepared and their inhibitory activities assayed. The results showed that domain-2 was the key contributor to the inhibition of chymotrypsin (K(i) of 416 nM) and P(1) Pro was crucial for the activity. Nevertheless, whether the P(1) amino acid residue was Leu, or even if it was replaced by Lys, Ala, or Gly, domain-1 was ineffective to the activity.
【语种】英文
【第一作者】Li, Ye
【通讯作者】Yang, WJ
【期刊名称、卷期、页码】Marine Biotechnology.2008, 11(2): 252-259
【论文发表时间】2009-04-01 00:00:00
【引文索引类型】SCI
【引文索引号】2.6470200001e+011

【学科分类】海洋科学

【题目】条斑紫菜光系统Ⅱ反应中心蛋白编码psbA和psbD的表达分析
【中文关键词】陈张帆,王广策
【英文关键词】条斑紫菜(Porphyrayezoensis Ueda) 不同发育阶段 psbA psbD 基因表达
【中文摘要】从条斑紫菜(Porphyra yezoensisUeda)的3个不同的生长阶段:壳孢子、孢子体和配子体中提取总RNA,并用相应基因的引物扩增序列,用荧光定量PCR技术检测条斑紫菜3个生长阶段中psbA和psbD的转录水平变化。结果表明,psbA和psbD的变化趋势不一致,并且,在壳孢子内基因表达量相对较高。这说明在细胞内,D1蛋白和D2蛋白并非同比例合成。壳孢子成熟发育成叶状体的过程要求光合作用提供更多的能量。
【英文摘要】Proteins D1 and D2, respectively encoded by psbA and psbD genes, comprise the PSⅡreaction center. The are correlative with PSⅡ activity, which is affected by light intensity and temperature. In this study, transcription changes of psbA and psbD genes in three different growth phases of Porphyrayezoen-sis-conchospores, sporophytes and gametophytes were determined with real-time PCR. The results showed that psbA expression changes were different from psbD expression changes, indicating the variation of D1 protein and D2 protein synthesis. Both of the gene expressions were relatively high inconchospores, which may be due to the higher requirement of energy provided by photosynthesis inconchospores than in gameto-phytes.
【语种】中文
【第一作者】陈张帆
【通讯作者】王广策
【期刊名称、卷期、页码】海洋科学.2008. 32(7):52-56
【论文发表时间】2008-04-25 00:00:00
【引文索引类型】其他
【引文索引号】2.6470200001e+011
【学科分类】海洋科学

【题目】Molecular cloning, tissue distribution and expression profiles of thyroid hormone receptors during embryogenesis in orange-spotted grouper (Epinephelus coioides).
【中文关键词】Tang, Xiaochen; Liu, Xiaochun;Zhang, Yong; Zhu, Pei;Lin, Haoran
【英文关键词】Thyroid hormone receptors; cDNA cloning; Tissue distribution; Embryogenesis; Orange-spotted grouper
【中文摘要】无
【英文摘要】Three distinct thyroid hormone receptor (TR) cDNAs (gTR alpha A, gTR alpha B and gTR beta) were cloned and sequenced in orange-spotted grouper (Epinephelus coioides). The cDNA of gTR alpha A consisted of 1555-bp and encoded a putative protein of 416 amino acids, while the cDNA of gTR alpha B consisted of 1459-bp and encoded 398 amino acids. The cDNA of gTR beta is 1470-bp in length and encoded 395 amino acids. The cDNAs of gTR alpha A and gTR alpha B had 68.7% identity in nucleotide sequence and 83.9% identity in deduced amino acid sequence, and shared 57.8%, 57.9% identity in nucleotide sequence and 76.5%, 76.6% in deduced amino acid sequence with gTRp, respectively. mRNA expression of gTR was determined by using real-time RT-PCR. The zygotic mRNA expression of gTR alpha A, gTR alpha B and gTRP was already presented at the blastula stage, and decreased by gastrulation and body segment appearance. Both gTR alpha A and gTR beta mRNAs dramatically increased by brain vesicle appearance and lens formation stages, whereas the magnitude of the increase of gTR beta was higher than that of gTR alpha A. However, gTR alpha B remained relatively constant. All three gTR mRNAs were detected in various tissues of adult fish, with considerable levels found in the pituitary and brain. The expression of gTR alpha A and gTR alpha B was ubiquitous, while the gTRP transcription in the pituitary was higher than other tissues. The results suggest that gTRs may be important in adult grouper brain function and that gTR alpha A and gTR alpha B may be important factors in metabolic regulation. In addition, gTRp may be the major TR isoform in the regulation of TSH activity by TH feedback in grouper
【语种】英文
【第一作者】Tang, Xiaochen
【通讯作者】Lin, HR
【期刊名称、卷期、页码】General and Comparative Endocrinology.2008 (159):117 – 124
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【引文索引类型】SCI

【引文索引号】2.613563e+011
【学科分类】海洋科学

【题目】Two alternatively spliced GPR39 transcripts in seabream: molecular cloning, genomic organization and regulation of gene expression by metabolic signals.
【中文关键词】Zhang, Yong; Liu, Yun; Huang, Xigui;Liu, Xiaochun; Jiao, Baowei; Meng, Zining; Zhu, Pei; Li, Shuisheng; Lin, Haoran; Cheng, Christopher H. K.
【英文关键词】GROWTH-HORMONE SECRETAGOGUE; PROTEIN-COUPLED RECEPTOR; TRUNCATED GHRELIN RECEPTOR; REAL-TIME PCR; CONSTITUTIVE ACTIVITY; MESSENGER-RNA; FOOD-INTAKE; OBESTATIN; VARIANT; IDENTIFICATION
【中文摘要】无
【英文摘要】Two GPR39 transcripts, designated as sbGPR39-1a and sbGPR39-1b, were identified in black seabream (Acanthopagrus schlegeli). The deduced amino acid (aa) sequence of sbGPR39-1a contains 423 residues with seven putative transmembrane (TM) domains. On the other hand, sbGPR39-1b contains 284 aa residues with only five putative TM domains. Northern blot analysis confirmed the presence of two GPR39 transcripts in the seabream intestine, stomach, and liver. Apart from seabream, the presence of two GPR39 transcripts was also found to exist in a number of teleosts (zebrafish and pufferfish) and mammals (human and mouse). Analysis of the CPR39 gene structure in different species suggests that the two GPR39 transcripts are generated by alternative splicing. When the seabream receptors were expressed in cultured HEK293 cells, Zn(2+) could trigger sbGPR39-1a signaling through the serum response element pathway, but no such functionality could be detected for the sbGPR39-1b receptor. The two receptors were found to be differentially expressed in seabream tissues. sbGPR39-1a is predominantly expressed in the gastrointestinal tract. On the other hand, sbGPR39-1b is widely expressed in most central and peripheral tissues except muscle and ovary. The expression of sbGPk39-1a in the intestine and the expression of sbGPR39-1b in the hypothalamus were decreased significantly during food deprivation in seabream. On the contrary, the expression of the GH secretagogue receptors (sbGHSR-1a and sbGHSR-1b) was significantly increased in the hypothalamus of the food-deprived seabream. The reciprocal regulatory patterns of expression of these two genes suggest that both of them are involved in controlling the physiological response of the organism during starvation
【语种】英文
【第一作者】Zhang, Yong
【通讯作者】Lin, HR
【期刊名称、卷期、页码】Journal of Endocrinology.2008 (199): 455-468
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【学科分类】海洋科学

【题目】用显微注射方法分析牙鲆肌肉发育调节基因MyoD,Myf5的启动子序列
【中文关键词】张玉青, 谭训刚, 张培军, 孙威, 徐芃, 徐永立
【英文关键词】肌肉发育;启动子;牙鲆(Paralichthysolivaceus)
【中文摘要】克隆了牙鲆(Paralichthysolivaceus)肌肉发育调节基因MyoD和Myf5的启动子序列,分别为608bp和1073bp。对序列进行分析发现MyoD和Myf5的启动子含有参与肌肉发育调控的基因的结合位点。将MyoD和Myf5的启动子连接到GFP载体上,构建了重组质粒MyoDP2GFP和Myf5P2GFP,并注射到一细胞或两细胞的斑马鱼胚胎中,对这两个基因的启动子进行了瞬时表达研究。结果表明,牙鲆MyoD和Myf5的启动子可以驱动绿色荧光蛋白特异地在斑马鱼肌肉纤维中表达,因此牙鲆608bpMyoD和1073bpMyf5的启动子包含着可以驱动MyoD和Myf5正常表达的必需元件,它们是肌肉特异的,并且可以跨物种行使其功能
【英文摘要】The promoter sequences of flounder muscle regulatory gene, MyoD and My f5, are cloned as 608 bp and 1 073 bp respectively. Many muscle regulatory gene binding sites are found in the promoters of MyoD and Myf g. The promoter sequences were ligated to GFP vector and constructed as MyoDP-GFP and Myf5 P-GFP. The result constructs were microinjected into one-cell or two-cell stage zebrafish embryos to make a transient expression analysis. The results showed that the 608 bp MyoD promoter and the 1 073 bp My f5 promoter can drive GFP specifically expressed in muscle fibers in zebrafish. It can be seen that the two promoters contain muscle specific regulatory elements, and they can function across species.

【语种】中文
【第一作者】张玉青
【通讯作者】谭训刚
【期刊名称、卷期、页码】海洋科学.2008,32(3):31-35
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【引文索引类型】其他
【引文索引号】2.6470200001e+011
【学科分类】海洋科学

【题目】Molecular cloning, characterization and distribution of two types of growth hormone receptor in orange-spotted grouper (Epinephelus coioides)
【中文关键词】Li, Yun;Liu, Xiaochun; Zhang, Yong; Zhu, Pei; Lin, Haoran
【英文关键词】growth hormone receptor; tissues expression; orange-spotted grouper
【中文摘要】无
【英文摘要】The cDNAs encoding two distinct growth hormone receptors (GHRs) were firstly cloned and sequenced from the liver of orange-spotted grouper (Epinephelus coioides). The cDNA of grouper GHR1 consisted of 2673-bp and encoded 658 amino acids, while the cDNA of grouper GHR2 consisted of 2989-bp and encoded 577 amino acids. The two cDNAs shared 78.6% identity in nucleotide sequence and 37.8% identity in deduced amino acid sequence. Northern blot analysis demonstrated a single GHR1 transcript of approximately 4.3 kb in liver and a single GHR2 transcript of approximately 3.9 kb in the liver and muscle. In the Real-time PCR assay, grouper GHR1 and GHR2 were expressed in all tissues tested. The expression of GHR2 was significantly higher than that of GHR1 in telencephalon, cerebellum, pituitary, heart and white muscle, whereas the expression of GHR1 was significantly higher in liver. These results indicated that there were two types of GHRs existing in orange-spotted grouper, and they had different structural features and tissues expression patterns. However, the functional differences between GHR1 and GHR2 in orange-spotted grouper remained further research
【语种】英文
【第一作者】Li, Yun
【通讯作者】Lin, HR
【期刊名称、卷期、页码】General and Comparative Endocrinology.2007,(152): 111 – 122
【论文发表时间】2007-05-15 00:00:00
【引文索引类型】SCI
【引文索引号】2.4645540001e+011
【学科分类】海洋科学

【题目】Fosmid Library Construction and Initial Analysis of End Sequences in Zhikong Scallop (Chlamys farreri)
【中文关键词】Zhang, Lingling; Bao, Zhenmin;Cheng, Jie; Li, Hui; Huang, Xiaoting; Wang, Shi; Zhang, Can; Hu, Jingjie
【英文关键词】Chlamys farreri; fosmid end sequences; fosmid library; zhikong scallop
【中文摘要】无
【英文摘要】Zhikong scallop (Chlamys farreri Jones et Preston, 1904) is one of the most commercially important bivalves in China, but research on its genome is underdeveloped. In this study, we constructed the first Zhikong scallop fosmid library, and analyzed the fosmid end sequences to provide a preliminary assessment of the genome. The library consists of 133,851 clones with an average insert size of about 40 kb, amounting to 4.3 genome equivalents. Fosmid stability assays indicate that Zhikong scallop DNA was stable during propagation in the fosmid system. Library screening with two genes and seven microsatellite markers yielded between two and eight positive clones, and none of those tested was absent from the library. End-sequencing of 480 individual clones generated 828 sequences after trimming, with an average sequence length of 624 bp. BLASTN searches of the nr and EST databases of GenBank and BLASTX searches of the nr database resulted in 213 (25.72%) and 44 (5.31%) significant hits (E < e(-5)), respectively. Repetitive sequences analysis resulted in 375 repeats, accounting for 15.84% of total length, which were composed of interspersed repetitive sequences, tandem repeats, and low-complexity sequences. The fosmid library, in conjunction with the fosmid end sequences, will serve as a useful resource for physical mapping and positional cloning, and provide a better understanding of the Zhikong scallop genome.
【语种】英文

【第一作者】Zhang, Lingling
【通讯作者】Bao, ZM
【期刊名称、卷期、页码】Mar. biotechnol.2007, 9(5):606-12
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【引文索引类型】SCI
【引文索引号】2.5020760001e+011
【学科分类】海洋科学

【题目】FISH Mapping and Identification of Zhikong Scallop (Chlamys farreri) Chromosomes
【中文关键词】Zhang, Lingling; Bao, Zhenmin; Wang, Shi; Hu, Xiaoli; Hu, Jingjie
【英文关键词】Chlamys farreri; chromosome identification; FISH; fosmid; Zhikong scallop
【中文摘要】无
【英文摘要】Chromosome identification is the first step in genomic research of a species, but it remains a challenge in scallops. In the present study, fluorescence in situ hybridization (FISH) mapping of 19 fosmid clones was attempted and used for chromosome identification in Zhikong scallop (Chlamys farreri Jones et Preston, 1904). Data showed that 10 clones were successfully mapped, including 7 without and 3 with C(0)t-1 DNA. Among them, 2 represented multiple signals and made no contribution to chromosome identification. Karyotypic analysis and cohybridization indicated that the remaining 8 clones realized the identification of 8 chromosomes. All 10 clones were sequenced at both ends, which could be developed as sequence-tagged sites and used for the unification of the cytological and genetic linkage maps. This study shows that fosmid clones can benefit chromosome identification and will undoubtedly be useful for cytogenetic research in Zhikong scallop.
【语种】英文
【第一作者】Zhang, Lingling
【通讯作者】Hu, JJ
【期刊名称、卷期、页码】Mar. Biotechnol.2008, 10(2):151-7
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【引文索引类型】SCI
【引文索引号】2.5375580001e+011
【学科分类】海洋科学

【题目】AMPK alpha subunit gene characterization in Artemia and expression during development and in response to stress.
【中文关键词】Zhu, Xiao-Jing; Feng, Chen-Zhuo; Dai, Zhong-Min;Zhang, Ruo-Chao; Yang, Wei-Jun
【英文关键词】AMPK alpha subunit; Artemia; brine shrimp; crustacean; development; diapause
【中文摘要】无
【英文摘要】AMP-activated protein kinase (AMPK) plays a central role in maintaining the energy balance of organisms under physiological and environmental stresses. Here two AMPK alpha subunit gene transcripts (named Afr-AMPKalpha1 and Afr-AMPKalpha2) from Artemia franciscana were isolated and gene expression was characterized by semiquantitive reverse transcription-polymerase chain reaction (RT-PCR). Afr-AMPKalpha1 was differentially expressed during Artemia developmental stages as well as in response to stresses, such as heat-shock, starvation and a hyperosmotic environment. Afr-AMPKalpha1 mRNA expression in adult Artemia decreased under heat shock, but not in a time- and temperature-dependent manner. By contrast, the transcript sharply decreased in heat-shocked cysts in a time-dependent manner. Under hyperosmotic stress, however, the mRNA level in adults first declined and then increased with prolonged exposure. In the case of starvation, the gene expression in adults decreased and was undetectable after day 9. In addition, Afr-AMPKalpha2 mRNA expression was too low to be detected without nested PCR. Southern blot analysis, moreover, indicated AMPK alpha subunit was present in multiple copies in the Artemia genome. Furthermore, our results demonstrate that the Afr-AMPKalpha1 mRNA level sharply decreases in Artemia carrying diapause-destined embryos and this indicates the possibility that Afr-AMPKalpha1 is involved in determining the reproductive mode in Artemia.
【语种】英文
【第一作者】Zhu, Xiao-Jing
【通讯作者】Yang, WJ
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【学科分类】海洋科学

【题目】cDNA cloning and mRNA expression of heat shock protein 90 gene in the haemocytes of Zhikong scallop Chlamys farreri
【中文关键词】Gao, Qiang; Song, Linsheng; Ni, Duojiao; Wu, Longtao; Zhang, Huan; Chang, Yaqing
【英文关键词】biomarker; cDNA cloning; expressed sequence tag; heat shock protein 90; heavy metal stress; mRNA expression; Zhikong scallop Chlamys farreri
【中文摘要】无
【英文摘要】Heat shock protein 90 (HSP90) is a highly conserved molecular chaperone contributing to the folding, maintenance of structural integrity and proper regulation of a subset of cytosolic proteins. The full-length cDNA of Zhikong scallop Chlamysfarreri HSP90 (designated CfHSP90) was cloned by EST and rapid RACE techniques. It was of 2710 bp, including an open reading frame (ORF) of 2181 bp encoding a polypeptide of 726 amino acids with all the five HSP90 family signatures. BLAST analysis revealed that the CfHSP90 gene shared high similarity with other known HSP90 genes. Fluorescent real-time quantitative RT-PCR was used to examine the expression pattern of CfHSP90 mRNA in haemocytes of scallops exposed to Cd2+, Pb2+ and Cu2+ for 10 and 20 days, respectively. All the three heavy metals could induce CfHSP90 expression. There was a clear dose-dependent expression pattern of CfHSP90 after heavy metals exposure for 10 days or 20 days. Different concentrations of the same metal resulted in different effects on CfHSP90 expression. The results indicated that CfHSP90 responded to various heavy metal stresses with a dose-dependent expression pattern as well as exposure time effect, and could be used as a molecular biomarker in a heavy metal polluted environment.
【语种】英文
【第一作者】Gao, Qiang
【通讯作者】Song, LS
【期刊名称、卷期、页码】Comparative Biochemistry and Physiology, Part B.(2007),147:704 – 715
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【引文索引号】2.4811060001e+011
【学科分类】海洋科学

【题目】Molecular and functional characterization of a cystatin analogue in large yellow craoker (Pseudoaena crocea)
【中文关键词】Largeyellow croaker (Pseudosciaena crocea); Cystatin; Immunomodulatory function; Tumor necrosis factor- α ; Interleukin-10; Poly(I:C); Inactivated trivalent bacterial vaccine
【英文关键词】Largeyellow croaker (Pseudosciaena crocea); Cystatin; Immunomodulatory function; Tumor necrosis factor- α ; Interleukin-10; Poly(I:C); Inactivated trivalent bacterial vaccine
【中文摘要】无
【英文摘要】The cDNA of a cystatinanalogue was isolated from the spleen Smart cDNA library of largeyellow croaker Pseudosciaena crocea (Lyccys). The open reading frame (ORF) of 354 nucleotides (nt) of Lyccys encodes a protein of 118 amino acids (aa), containing a 21-aa signal peptide and a 97-aa mature polypeptide. The deduced Lyccys possessed structural features of the Family II cystatins, including three evolutionally conserved motifs known to interact with the active sites of cysteine peptidases: Gly at the N-terminus (Gly25), Gln-X-Val-X-Gly motif (Q69LVAG73) and Pro-Try pair at the C-terminus (P106W107). Genomic analysis revealed that Lyccys gene, spanning 2297 nt, consisted of three exons and two introns. The Lyccys gene was constitutively expressed in all eight tissues examined although at different levels. Real-time PCR analysis revealed that Lyccys transcript in spleen and kidney was obviously up-regulated by poly(I:C) or inactivated trivalent bacterial vaccine, while in blood its expression was down-regulated. Immuno-electron microscopy showed that Lyccys was mainly localized to the rough endoplasmic reticulum (rER) or in the vesicular structures in spleen and kidney cells. Recombinant Lyccys protein fused with glutathione S-transferase (rLyccys) was shown to have remarkable protease-inhibitory activity and well affinity binding to papain (with a Ki of 1.3 × 10 − 13 M). An in vivo administration of rLyccys could significantly up-regulate the expression levels of largeyellow croaker tumor necrosis factor- α 2 (TNF- α 2) and interleukin-10 in spleen and kidney, but to a lesser extent increase TNF- α 1 expression. These results suggest that the Lyccys is a secreted inhibitor of cysteine proteinases, which may have an immunomodulatory function in inflammation response.

【语种】英文
【第一作者】Shuying Li
【通讯作者】敖敬群
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【题目】牙鲆肌肉生长抑素(MSTN)基因克隆
【中文关键词】牙鲆 肌肉生长抑素基因 MSTN GDF8
【英文关键词】Japanese flounder myostatin MSTN GDF8
【中文摘要】采用同源克隆及基因组步移的方法,分离克隆了牙鲆肌肉生长抑制素(MSTN)基因。经过序列分析及cDNA验证,牙鲆MSTN基因具有3个外显子和2个内含子,编码377个氨基酸。5′侧翼区含有8个TATA框,一个CAAT框,6个E框;3′侧翼区含有加尾信号。通过同源分析,牙鲆MSTN C末端含有9个保守半胱氨酸残基和一个RVRR蛋白酶酶切位点;通过进化树分析,牙鲆MSTN与鱼类MSTN基因聚为一支。RT-PCR分析表明,牙鲆MSTN在胚胎发育中不表达或表达量较低,说明MSTN在牙鲆胚胎发育中并不起重要作用;其在各组织中的表达,随个体和环境的不同而有差异,暗示MSTN的表达受外界因素调控。
【英文摘要】Myostatin (MSTN) gene was isolated from Japanese flounder(Paralichthys olivaceus) by homology cloning strategy and genome walking .By sequence analysis and verified in cDNA level, Japanese flounder MSTN gene included three exons and two introns, encoding a 374-amino-acid protein. Eight TATA box, one CAAT box and six E box located in 5` flanking region. A polyA signal existed in 3` flanking region. Nine conserved cysteine residues and an RXXR proteolytic cleavage domain were detected in the C terminal of protein. MSTN in Japanese flounder was high homologous with MSTN genes in fish via phylogeny analysis. The RT-PCR analysis demonstrated that MSTN was undetectable during embryo development and its transcription was influenced by environment factors in adult.
【语种】中文
【第一作者】徐建勇
【通讯作者】陈松林
【期刊名称、卷期、页码】水产学报,32(4): 497-506.
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【学科分类】海洋科学

【题目】日本牙鲆主要组织相容性复合体DAB等位基因的多态性
【中文关键词】牙鲆,主要组织相容性复合体,等位基因,多态性
【英文关键词】Japanese flounder,Paralichthys olivaceus,Major histocompatibility complex,Allele,Polymophism
【中文摘要】根据牙鲆(Paralichthys olivaceus)主要组织相容性复合体(MHC)DAB基因序列设计特异性引物,在日本牙鲆基因组中扩增了包括DAB基因完整外显子2和内含子1在内的长度为408bp的DNA片段。对该片段克隆测序后,发现了37个MHC-DAB等位基因,各等位基因的频次以及各主型中亚型数目分布都不平衡。在第二外显子273bp核苷酸序列中有50个位点发生变异,核苷酸多样性PI值为0.0618,在编码的氨基酸序列中存在多态变异位点30个,其中简约信息位点29个,单变异位点1个。非同义替代与同义替代的比率在抗原结合区(PBR)和非PBR编码区分别为10.0和1.62,分析表明正向选择机制可能是产生牙鲆MHC-DAB多态性的主要因素。估计的核苷酸的转换和颠换数随着遗传距离的增加而增加。各等位基因间的系统发生关系表明,19个主型分为两个群。对氨基酸组分和密码子的偏倚性以及分布频率的分析表明各同义密码子的使用频率不均衡。本研究为牙鲆MHC-DAB基因的遗传进化和分子标记辅助育种的研究提供了理论基础。
【英文摘要】Polymorphism of the major histocompatibility complex(MHC)DAB gene in Japanese flounder Paralichthys olivaceus was investigated using sequences analysis.In this study,24 individuals were selected to amplify partial exon1 and intron2,complete intron1 and exon2 of DAB gene.131 sequences were subsequently used to analyze genetic variation and revealed 31 different sequences,which presented 31 novel alleles belonging to 19 allele major types according to accepted nomenclature rules.Frequency of alleles and numbers of subtype were not distributed equally.There were 50 variable sites in exon2,the average number of nucleotide

diversity PI value of the whole sequences was 0.0618.The nucleotide sequence was corresponded with putative 91 amino acids peptide,32.97%(30 out of 91)of the amino acid were variable,of which 29 parsimony informative sites were observed.The rates of non-synonymous substitution(d_N)were 10.00 times and 1.62 times higher than the rate of synonymous substitution(d_S)in the peptide-binding regions(PBR)and non-PBR,respectively.The rate of d_N occurred at a significantly higher frequency than that of d_S in PBR,d_N in PBR was higher than that in non-PBR,but d_S in PBR was significantly lower than in non-PBR.In this study,the high ratio of d_N/d_S value and high allelic diversity observed in flounder suggested a balancing selection in the MHC-DAB gene,which explained the high polymorphism of MHC-DAB gene in Japanese flounder.The number of transitions and tranversions gradually increased with genetic distances,indicating that the MHC-DAB gene might discuss the genetic evolution.Phylogenetic tree was based using NJ method revealed a preliminary phylogeny among 19 MHC-DAB major type of alleles.Frequency of synonym codons were not distributed equally.These results provide molecular date for the study on genetic variation and marker-assisted selective breeding in Japanese flounder.

【语种】中文

【第一作者】徐田军

【通讯作者】陈松林

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【学科分类】海洋科学

【题目】牙鲆MHC-DAA 结构及其等位基因多态性

【中文关键词】牙鲆; DAA 基因结构; 等位基因; 多态性

【英文关键词】Japanese flounder (Paralichthys olivaceus); DAA genomic structure; allele; polymophism

【中文摘要】为了探讨牙鲆MHC-DAA 等位基因的多态性, 根据牙鲆 (Paralichthys olivaceus) MHC-DAA 的cDNA 序列设计特异引物, 扩增内含子序列。牙鲆DAA 基因由4 个外显子和3 个内含子组成, 与大西洋鲑 (Salmo salar)DAA 基因结构相同, 在内含子2 中存在一个高度多态的微卫星位点(GT)n。根据获得的MHC-DAA 基因组序列设计特异性引物, 在45 尾牙鲆中扩增了包括完整外显子2 和内含子2 的长度约670 bp 的DNA 片段, 克隆测序后共发现30 个MHC-DAA 等位基因, 各等位基因的频次及其各主型中亚型的数目都不均衡。在249 bp 的外显子2 序列中共有55 个位点发生变异, 核苷酸多样性指数为0.0887, 编码的氨基酸序列中多态变异位点31 个,其中简约信息位点30 个, 单变异位点1 个。非同义替代与同义替代的比率在PBR(Peptide binding region)和非PBR 结合区分别为3.30 和2.43, 分析证明平衡选择是牙鲆存在众多DAA 等位基因的发生机制。

【英文摘要】To investigate the allele polymorphism of MHC-DAA in Japanese flounder (Paralichthys olivaceus), specificprimers were designed based on the published DAA-cDNA sequence of P. olivaceus to amplify the entire introns fromflounder. Gene DAA consisted of four exons and three introns. The exon-intron structure was similar as that of Atlanticsalmon. A polymorphic microsatellite was detected in intron 2. Subsequently, specific primer was designed based on theDAA genomic sequences. The genetic polymorphism within exon 2 of MHC-DAA was investigated by means of sequenceanalysis. Forty-five individuals were selected to amplify exon 2 and intron 2. One hundred and twenty-nine fragments revealed30 novel alleles belonging to 18 allele major type. The frequency of alleles and the numbers of subtypes were notdistributed equally. There were 55 variable sites in exon 2. The diversity of nucleotide within the sequence of exon 2 was0.0887. The nucleotide sequence was corresponded with a putative peptide. Among the 83 amino acids in this peptide,37.80% were variable, and 30 parsimony informative sites were observed. The rates of non-synonymous substitution (dN)were 3.30 and 2.43 times higher than the rate of synonymous substitution (dS) in the peptide-binding regions (PBR) and non-PBR, respectively. In this study, the high ratio of dN/dS value and high allelic diversity observed in flounder suggested a balancing selection in the exon2 of the MHC class IIA gene, which explained the high polymorphism of MHC-DAA gene in Paralichthys olivaceus.

【语种】中文

【第一作者】徐田军

【通讯作者】陈松林

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【题目】大菱鲆脾脏cDNA文库构建、EST序列分析与免疫抗病相关基因的筛选
【中文关键词】大菱鲆 cDNA文库 表达序列标签 免疫相关基因
【英文关键词】turbot(Scophthalmus maximus) cDNA library expressed sequence tag (EST) immune related genes
【中文摘要】以大菱鲆脾脏为材料,构建cDNA文库,通过对文库克隆的序列测定和初步生物信息学分析,共获得3 656个大菱鲆脾脏表达序列标签(EST)。经与GenBank数据库的序列比对后发现,1 891个EST代表了149个已知基因,其余1 765个EST为未知序列。这149个基因大致可分为6类:9个为细胞结构类(6.0%);26个为代谢类(17.5%);45个为细胞防御/免疫类(30.2%);43个为基因/蛋白质表达类(28.9%);16个为细胞信号转导/细胞交流类(10.7%);10个无法明确分类(6.7%)。鉴定的与免疫抗病相关重要基因主要有:CC/CXC趋化因子;主要组织相容性复合体(MHC)class Ⅰα;C3补体;天然杀伤细胞增强因子(NKEF);胸腺素β-4/β-12;干扰素诱导蛋白Gig1;白介素8受体;STAT 4;热激蛋白70/90等。
【英文摘要】A cDNA library was constructed from turbot, Scophthalmus maximus, spleen by unidirectional cloning. A total of 3 656 ESTs from the library were sequenced and compared with sequences in the GenBank database. 1 765 clones (48.3%) appeared to be completely unknown and are likely to represent newly described genes, whereas 1 891 clones (51.7%) were identified based on matches to sequences in the database. These identified clones were derived from at least 149 genes which were categorized into six categories: 9 in cell structure/motility (6.0%), 26 in metabolism (17.5%), 45 in cell defense/immunity (30.2%), 43 in gene/protein expression (28.9%), 16 in cell signal transduction/communication (10.7%), and 10 genes lacking enough information to be classified (6.7%). Immune related cDNAs identified from the spleen were: CC/CXC chemokine, MHC class Iα, complement component C 1/C3, natural killer cell enhancing factor (NKEF), thymosin beta 4/ beta 12, interferon inducible protein Gig1, IL B4 receptor, STAT4, and hot shock protein 70/90.
【语种】中文
【第一作者】孟亮
【通讯作者】陈松林
【期刊名称、卷期、页码】水产学报,33(5): 713-718
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【学科分类】海洋科学

【题目】Cloning, characterization, and expression analysis of a CC chemokine gene from turbot (Scophthalmus maximus)
【中文关键词】Turbot - Scophthalmus maximus - cDNA - CC chemokine - Infection - RT-PCR - RACE
【英文关键词】Turbot - Scophthalmus maximus - cDNA - CC chemokine - Infection - RT-PCR - RACE
【中文摘要】无
【英文摘要】The chemokines are a superfamily of chemotactic cytokines playing an important role in leukocyte chemotaxis. Here, a turbot head kidney cDNA library was constructed in which KC70 was identified as a CC chemokine. Unknown 5′ and 3′ parts of the cDNA were amplified by 5′ and 3′ rapid amplification of cDNA ends (RACE). The complete cDNA of KC70 contains a 59-bp 5′ UTR, a 336-bp ORF, and a 152-bp 3′ UTR. Four exons and three introns were identified in KC70. Phylogenetic analysis showed that KC70 was similar to CCL19. In normal turbot KC70 was expressed in all tissues except brain and skin. Infection of turbot with pathogenic bacteria significantly increased expression of KC70 in the liver. Expression of KC70 in head kidney first increased and then decreased after bacterial challenge. No significant change was observed in the spleen after bacterial challenge. During embryonic development, KC70 was highly expressed after the gastrula stage. These results indicated KC70 plays important and multiple roles in turbot immune response.
【语种】英文
【第一作者】陈松林
【通讯作者】陈松林
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【题目】Patterns of Concerted Evolution of the rDNA Family in a Natural Population of Zhikong Scallop, Chlamys farreri
【中文关键词】Concerted evolution - Internal transcribed spacer (ITS) - Denaturing high-performance liquid chromatography (DHPLC) - Chlamys farreri
【英文关键词】Concerted evolution - Internal transcribed spacer (ITS) - Denaturing high-performance liquid chromatography (DHPLC) - Chlamys farreri
【中文摘要】无
【英文摘要】Using denaturing high-performance liquid chromatography (DHPLC), we screened the insertion/deletion (indel) polymorphism in the internal transcribed spacer (ITS) sequences of 40 individuals from a natural population of Zhikong scallop (Chlamys farreri). Surprisingly, only 7.5% of individuals were homogeneous in ITS constitution, while the others (92.5%) were heterozygous. Based on different peak types in DHPLC analysis, seven individuals were randomly chosen to investigate indel polymorphism in the ITS sequences within individuals. Furthermore, indel polymorphism in the ITS sequences of single sperms was also investigated in more individuals belonging to different peak types. Based on these results, we concluded that rapid intrachromosomal recombination drove homogenization of rDNA arrays and interchromosomal recombination might contribute to form new variants, and that it may be less rare than previously thought although it was much less frequent than intrachromosomal recombination in the homogenization process. Further, we proposed an expanded model for concerted evolution of the rDNA family in a natural population of C. farreri. A pathway in the new model which homogenizes a variant unit, beginning with two-peak type individuals and ends with two-peak type individuals, is a larruping pathway in the natural population of C. farreri. As the highest proportion in natural populations, two-peak individuals with equal peak areas can be viewed as being in a steady and balanced state which is maintained by rapid intrachromosomal recombination.
【语种】英文
【第一作者】王石
【通讯作者】包振民
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【引文索引号】2.518667e+011
【学科分类】海洋科学

【题目】Cytogenetic characterization of the bay scallop, Argopecten irradians irradians, by multiple staining techniques and fluorescence in situ hybridization.
【中文关键词】Argopecten irradians irradians, banding, FISH, rDNA, telomeric
【英文关键词】Argopecten irradians irradians, banding, FISH, rDNA, telomeric
【中文摘要】无
【英文摘要】The chromosomes of Argopecten irradians irradians were studied by various cytogenetic approaches. Conventional chromosome characterization built on C-banding, DAPI-staining, and silver staining was complemented by the physical mapping of ribosomal DNA and telomeric sequence (TTAGGG)n by FISH. Results showed that the constitutive heterochromatin revealed by C-banding was mainly distributed at telomeric and centromeric regions. However, interstitial C-bands were also observed. The pattern of DAPI banding was almost consistent with that of C-banding. Silver staining revealed that NORs were located on the short arms of chromosome 3 and 10, and this was further confirmed by FISH using 18S-28S rDNA. 5S rDNA was mapped as two distinguishable loci on the long arm of chromosome 11. 18S-28S and 5S rDNA were located on different chromosomes by sequential FISH. FISH also showed that the vertebrate telomeric sequence (TTAGGG)n was located on both ends of each chromosome and no interstitial signals were detected. Sequential 18S-28S rDNA and (TTAGGG)n FISH demonstrated that repeated units of the two multicopy families were closely associated on the same chromosome pair.
【语种】英文
【第一作者】黄晓婷
【通讯作者】包振民

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【题目】Two novel elements (CFG1 and PYG1) of Mag lineage of Ty3/Gypsy retrotransposons from Zhikong scallop (Chlamys farreri) and Japanese scallop (Patinopecten yessoensis)
【中文关键词】CFG1 - Chlamys farreri - Methylation - Patinopecten yessoensis - PYG1 - Retrotransposon - Scallop
【英文关键词】CFG1 - Chlamys farreri - Methylation - Patinopecten yessoensis - PYG1 - Retrotransposon - Scallop
【中文摘要】无
【英文摘要】Two novel elements (CFG1 and PYG1) of Mag lineage of Ty3/Gypsy retrotransposons were cloned from Zhikong scallop (Chlamys farreri) and Japanese scallop (Patinopecten yessoensis). The total length of the CFG1 element is 4826 bp, including 5′-LTR (192 bp), the entire ORF (4047 bp) and 3′-LTR (189 bp). The entire ORFs of both CFG1 and PYG1 elements are composed of 1348 aa and do not have any frameshifts. Their closest relative is Jule element from the poeciliid fish (Xiphophorus maculatus). On average, the diploid genome of C. farreri contains approximately 84 copies of CFG1 elements. We summarize the major features of CFG1, PYG1 and other elements of Mag lineage of the Ty3/Gypsy group. mRNA expression of CFG1 element in larvae increases gradually before the gastrulae stage and decreases gradually afterward, whereas in adductor such expression in adductor muscle and digestive gland are lower than those in other tissues. Overall, mRNA expression of CFG1 element in the early larvae is significantly higher than that in adult tissues. In muscle tissue, while the promoter and partial GAG domain of CFG1 element are unmethylated, the partial RT domain is highly methylated. These results suggest that CFG1 expression may be controlled by a post-transcriptional gene silencing mechanism that is associated with coding-region (RT domain) methylation.
【语种】英文
【第一作者】王石
【通讯作者】包振民
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【学科分类】海洋科学

【题目】Two specific causes of cell mortality in freeze-thaw cycle of young thalli of Porphyra yezoensis (Bangiales, Rhodophyta)
【中文关键词】absolute water content;cold-preservation time;frozen nets;imaging PAM;Porphyra yezoensis;thawing temperature
【英文关键词】absolute water content;cold-preservation time;frozen nets;imaging PAM;Porphyra yezoensis;thawing temperature
【中文摘要】无
【英文摘要】Porphyra yezoensis Ueda is an important marine aquaculture crop with single-layered gametophytic thalli. In this work, the influences of thallus dehydration level, cold-preservation (freezing) time, and thawing temperature on the photosynthetic recovery of young P. yezoensis thalli were investigated employing an imaging pulse-amplitude-modulation (PAM) fluorometer. The results showed that after 40 d of frozen storage when performing thallus thawing under 10 ° C, the water content of the thalli showed obvious effects on the photosynthetic recovery of the frozen thalli. The thalli with absolute water content (AWC) of 10% – 40% manifested obvious superiority compared to the thalli with other AWCs, while the thalli thawed at 20 ° C showed very high survival rate (93.10%) and no obvious correlation between thallus AWCs and thallus viabilities. These results indicated that inappropriate thallus water content contributed to the cell damage during the freeze-thaw cycle and that proper thawing temperature is very crucial. Therefore, AWC between 10% and 40% is the suitable thallus water content range for frozen storage, and the thawing process should be as short as possible. However, it is also shown that for short-term cold storage the Porphyra thallus water content also showed no obvious effect on the photosynthetic recovery of the thalli, and the survival rate was extremely high (100%). These results indicated that freezing time is also a paramount contributor of the cell damage during the freeze-thaw cycle. Therefore, the frozen nets should be used as soon as time permits
【语种】英文

【第一作者】林阿朋
【通讯作者】王广策
【期刊名称、卷期、页码】Journal of Phycology,46(4): 773-779
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【引文索引类型】SCI
【引文索引号】2.8064650002e+011
【学科分类】海洋科学

【题目】Photosynthetic parameters of sexually different parts of Porphyra katadai var. hemiphylla (Bangiales, Rhodophyta) during dehydration and re-hydration.
【中文关键词】Chlorophyll fluorescence - Desiccation-tolerant - Effective quantum yield - Electron transport rate - P700+ absorbance - Porphyra
【英文关键词】Chlorophyll fluorescence - Desiccation-tolerant - Effective quantum yield - Electron transport rate - P700+ absorbance - Porphyra
【中文摘要】无
【英文摘要】Physiological data from extreme habitat organisms during stresses are vital information for comprehending their survival. The intertidal seaweeds are exposed to a combination of environmental stresses, the most influential one being regular dehydration and re-hydration. Porphyra katadai var. hemiphylla is a unique intertidal macroalga species with two longitudinally separated, color distinct, sexually different parts. In this study, the photosynthetic performance of both PSI and PSII of the two sexually different parts of P. katadai thalli during dehydration and re-hydration was investigated. Under low-grade dehydration the variation of photosystems of male and female parts of P. katadai were similar. However, after the absolute water content reached 42%, the PSI of the female parts was nearly shut down while that of the male parts still coordinated well and worked properly with PSII. Furthermore, after re-hydration with a better conditioned PSI, the dehydrated male parts were able to restore photosynthesis within 1 h, while the female parts did not. It is concluded that in P. katadai the susceptibility of photosynthesis to dehydration depends on the accommodative ability of PSI. The relatively lower content of phycobiliprotein in male parts may be the cause for a stronger PSI after severe dehydration
【语种】英文
【第一作者】林阿朋
【通讯作者】王广策
【期刊名称、卷期、页码】Planta,229(4):803 – 810
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【引文索引号】2.6367480001e+011
【学科分类】海洋科学

【题目】Full-length normalization subtractive hybridization: a novel method for generating differentially expressed cDNAs
【中文关键词】Zhong-Min Dai, Xiao-Jing Zhu and Wei-Jun Yang
【英文关键词】Differentially expressed gene, Subtractive hybridization, Full-lenth cDNA, Normalization
【中文摘要】无
【英文摘要】Here we present a novel method termed full-length normalization subtractive hybridization (FNSH) for efficiently generating subtracted cDNA libraries with a high degree of productivity. This method has the ability to isolate full-length differentially expressed genes from target samples. Normalization and subtraction of FNSH are performed simultaneously with efficiency equal to or even higher than that of suppression subtractive hybridization. Using FNSH, we have isolated at least 40 unique cDNAs that are expressed in terminal ampullae but not in the ovaries of the prawn Macrobrachium rosenbergii from 120 randomly picked subtracted clones. Sequence analysis shows that 37 of the 40 cDNAs are full length.
【语种】英文
【第一作者】Zhong-Min Dai
【通讯作者】Wei-Jun Yang
【期刊名称、卷期、页码】Molecular Biotechnology. 2009 Nov;43(3):257-63.
【论文发表时间】2009-08-11 00:00:00

【引文索引类型】SCI
【引文索引号】2.7064890001e+011
【学科分类】海洋科学

【题目】A novel terminal ampullae peptide is involved in the proteolytic activity of sperm in the prawn, Macrobrachium rosenbergii
【中文关键词】Wen-Ming Ma, Ye-Qing Qian, Mo-Ran Wang, Fan Yang and Wei-Jun Yang
【英文关键词】terminal ampullae peptide, proteolytic activity, Macrobrachium rosenbergii
【中文摘要】无
【英文摘要】As the distal part of the crustacean male reproductive tract, terminal ampullae play important roles in sperm development and storage of mature spermatophores. In the present study, the novel gene terminal ampullae peptide (TAP) was cloned from terminal ampullae of the prawn, Macrobrachium rosenbergii. The cDNA sequence consists of 768 nucleotides, with an open-reading frame of 264 nucleotides which encodes a putative 88-amino acid precursor protein with a 17-amino acid residue signal peptide. Western blotting and immunohistochemical analysis revealed that TAP was distributed on terminal ampullae and sperm, and its expression was related to gonad development. To elucidate the functional role of TAP in vivo, we disrupted the TAP gene by RNA interference (RNAi) and evaluated the effect on fertility and several sperm parameters. Although there was no difference in fertility between RNAi-induced prawns and controls, RNAi treatment decreased the sperm gelatinolytic activity and blocked proteolytic activity on the vitelline coat. These data provide evidence that TAP participates in regulating sperm proteolytic activity, and performs a crucial role in sperm maturation and degradation of the vitelline coat during fertilization.
【语种】英文
【第一作者】Wen-Ming Ma
【通讯作者】Wei-Jun Yang
【期刊名称、卷期、页码】Reproduction. 2010 Aug;140(2):235-45.
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【引文索引类型】SCI
【引文索引号】2.8337780001e+011
【学科分类】海洋科学

【题目】The complete mitogenome of the hydrothermal vent crab Gandalfus yunohana (Crustacea: Decapoda: Brachyura): a link between the Bythograeoidea and Xanthoidea
【中文关键词】Jin-Shu Yang, Hiromichi Nagasawa, Yoshihiro Fujiwara, Shinji Tsuchida, Wei-Jun Yang
【英文关键词】mitogenome, Gandalfus yunohana
【中文摘要】无
【英文摘要】Metazoan mitochondrial genomes (mitogenomes) are often used for all-level phylogenetic analyses and evolution modelling. Although mitochondrial fragments facilitate studying the occurrence and dispersal of hydrothermal-vent species, few complete mitogenomes have been determined for comprehensive analyses. We determined the complete nucleotide sequence of the bythograeid crab Gandalfus yunohana. The G. yunohana mitogenome is 15 567 bp in length and with an AT content of 69.9%. A putative control region of 625 bp was identified due to its position (between rrnS and trnI) and AT richness (72.8%), which exhibits high similarity with that of the Australian giant crab Pseudocarcinus gigas. The mitochondrial gene order is identical to the typical brachyuran mode. Codon usage, nucleotide composition and bias are well conserved as the Brachyura. Phylogenetic analyses from protein-coding genes indicated its closest relationship with P. gigas. All the results support the close evolution distance between the Bythograeoidea and Xanthoidea, which might imply the possible origin that the only superfamily of vent crabs underwent. The G. yunohana mitogenome exhibits highly conserved characteristics with those of other decapods, especially its close relative brachyurans. A recent origin rather than the relic fauna was suggested. The present study will supply considerable data of use for both genomics and evolutionary research on hydrothermal vent ecosystems.
【语种】英文
【第一作者】Jin-Shu Yang
【通讯作者】Wei-Jun Yang
【期刊名称、卷期、页码】Zoologica Scripta, 2010 Nov; 39(6):621-30
【论文发表时间】2010-08-17 00:00:00

【引文索引类型】SCI
【引文索引号】2.8337780001e+011
【学科分类】海洋科学

【题目】Development and characterization of monoclonal antibodies to spring viraemia of carp virus. Veterinary
【中文关键词】Zhong-Yuan Chen, Hong Liu, Zheng-Qiu Li, Qi-Ya Zhang
【英文关键词】Monoclonal antibodies; Fish rhabdovirus; Spring viraemia of carp virus (SVCV0504); Flow cytometry
【中文摘要】无
【英文摘要】Five monoclonal antibodies (mAbs) against spring viraemia of carp (SVCV0504, isolated from common carp in China) were produced from mice immunized with purified virus preparations. The virion of SVCV contains five structural proteins, representing the nucleoprotein (N), phosphoprotein (P), matrix protein (M), glycoprotein (G) and RNA-dependent RNA polymerase (L). Western blotting analysis revealed that three mAbs (1H5, 1E10, and 1H7) recognized specifically to a single protein of 47kDa (N), the mAb 3G4 reacted with two SVCV0504 proteins of 69kDa (G) and 47kDa (N), while the mAb 1A9 reacted with three SVCV0504 proteins of 69kDa (G), 50kDa (P), and 47kDa (N). By indirect ELISA, two mAbs (1H5 and 1H7) showed cross-reactivity with pike fry rhabdovirus (PFRV), but no cross-reactions with the Siniperca chuatsi rhabdovirus (SCRV), Scophthalmus maximus rhabdovirus (SMRV), Paralichthys olivaceus rhabdovirus (PoRV) were demonstrated with the five mAbs. Indirect immunofluorescence showed intense fluorescence in the cytoplasm of the SVCV0504-infected epithelioma papulosum cyprini (EPC) cells in areas corresponding to the location of granular structures. The sucrose gradient-purified SVCV0504 particles could be detected successfully by these mAbs using immunodot blotting. mAb 1A9 could completely neutralize 100 TCID(50) (50% tissue culture infective dose) of SVCV0504 at a dilution of 1:8. This is the first report of development of the neutralizing mAbs against SVCV. The mAb 1A9 was analyzed further and could be used to successfully detect viral antigens in the infected-EPC cell cultures or in cryosections from experimentally infected crucian carp (Carassius auratus) by immunohistochemistry assay. Furthermore, a flow cytometry procedure for the detection and quantification of cytoplasmic SVCV0504 in cell cultures was developed with mAb 1A9. At 28h after inoculation with the virus (0.01PFU/cell), 10.12% of infected cells could be distinguished from the uninfected cells. These mAbs will be useful in diagnostic test development and pathogenesis studies for fish rhabdovirus.
【语种】英文
【第一作者】Zhong-Yuan Chen
【通讯作者】Qi-Ya Zhang
【期刊名称、卷期、页码】Veterinary Immunology and Immunopathology. 2008 Jun 15;123(3-4):266-76.
【论文发表时间】2008-03-10 00:00:00
【引文索引类型】SCI
【引文索引号】2.5674780001e+011
【学科分类】海洋科学

【题目】Rana grylio virus thymidine kinase gene: an early gene of iridovirus encoding for a cytoplasmic protein
【中文关键词】Zhe Zhao, Fei Ke, Yan Shi, Guang-Zhou Zhou, Jian-Fang Gui and Qi-Ya Zhang
【英文关键词】Rana grylio virus (RGV) - Iridovirus - Thymidine kinase - Early viral gene - Cytoplasmic protein
【中文摘要】无
【英文摘要】The presence of thymidine kinase (TK) is a feature of many large DNA viruses. Here, a TK gene homologue was cloned and characterized from Rana grylio virus (RGV), a member of family Iridoviridae. RGV TK encodes a protein of 195 aa with a predicted molecular mass of 22.1 kDa. Homologues of the protein were present in all the currently sequenced iridoviruses, and phylogenetic analysis showed that it was much close to cellular TK type 2 (TK2), deoxycytidine kinase (dCK) and deoxyguanosine kinase (dGK). Subsequently, Western blotting revealed TK expression increased with time from 6 h post-infection in RGV-infected cells. Using drug inhibition analysis by protein synthesis inhibitor (cycloheximide) and DNA replication inhibitor (cytosine arabinofuranoside), RGV TK was classified as the early expression gene during in vitro infection. Subcellular localization by TK-GFP fusion protein expression and immunofluorescence staining showed RGV TK was an exclusively cytoplasmic protein in fish cells. Collectively, current data indicate that RGV TK was an early gene of iridovirus which encoded a cytoplasmic protein in fish cells.
【语种】英文
【第一作者】Zhe Zhao

【通讯作者】Qi-Ya Zhang
【期刊名称、卷期、页码】Virus Genes. 2009 Apr;38(2):345-52.
【论文发表时间】2009-06-06 00:00:00
【引文索引类型】SCI
【引文索引号】2.6390050002e+011
【学科分类】海洋科学

【题目】Expression, Purification of Recombinant Flounder MRF4 protein in Escherichia coli and analysis of its polyclonal antibodies
【中文关键词】XU Peng, TAN Xun-Gang, ZHANG Pei-Jun, ZHANG Yu-Qing, WANG Bo
【英文关键词】flournder, expression, purification, MRF4 antibody
【中文摘要】无
【英文摘要】MRF4 is one of muscle regulatory factors and plays critical roles during skeletal muscle development. The muscle development is important for the fish growth which is an important economic factor for the fish culture. To analyze the function of MRF4 in fish, the founder MRF4 antibody was prepared. The flounder MRF4 was cloned, ligated into prokaryotic expression vector pET-30b and expressed in strain E. coli BL21 (DE3). The recombinant flounder MRF4 fusion protein was soluble and purified with cobalt IMAC resins. To prepare MRF4 polyclonal antibodies, rabbits were immunized with the soluble protein and the increasing level of antibodies was determined by Western blot. Also, the endogenous flounder MRF4 was recognized by the anti-serum. The result further proved the existence of the anti-MRF4 antibody in the anti-serum, which will be useful for studies on the function of flounder MRF4.
【语种】英文
【第一作者】Peng Xu
【通讯作者】Pei-Jun Zhang
【期刊名称、卷期、页码】Progress in biochemistry and biophysics, 2007; 34(11): 1160-74.
【论文发表时间】2007-05-08 00:00:00
【引文索引类型】SCI
【引文索引号】2.5102280001e+011
【学科分类】海洋科学

【题目】牙鲆myogenin蛋白在大肠杆菌中重组表达的研究
【中文关键词】徐芃 谭训刚 张培军 王先磊 张玉青
【英文关键词】Paralichthys olivaceus;recombinant protein expression;myogenin
【中文摘要】采用大肠杆菌表达系统及pProEX HTc表达载体对牙鲆肌肉发生调节因子myogenin基因进行了体外重组表达研究。通过对诱导时间、IPTG诱导浓度以及诱导温度的优化,确定了最佳诱导条件为:诱导温度31℃,IPTG终浓度0.6 mmol/L,诱导时间2 h。在该条件下,重组蛋白表达量最高且是可溶性的。Myogenin融合蛋白的成功表达为进一步深入研究其在牙鲆肌肉发育过程中的分子机制奠定了基础。
【英文摘要】The flounder myogenin was cloned,ligated into prokaryotic expression vector pProEXTMHTc andexpressed in strain E.coli BL2 1(DE3).To optimize induced conditions and obtain the soluble recombinantprotein,the effects of different induction times,IPTG concentrations and temperatures on the expression ofMyogenin recombinant protein were analyzed.SDS-PAGE analysis showed that the protein could be expressedat high levels when it was induced by 0.6 mmol/L IPTG for 2 h at 31℃ .And the recombinant protein wasproved to be soluble under these induction conditions.Myogenin recombinant protein will be useful for furtherstudies on the mechanism of flounder myogenesis
【语种】中文
【第一作者】徐芃
【通讯作者】张培军
【期刊名称、卷期、页码】中国海洋大学学报, 2007; 37(5): 754-8.
【论文发表时间】2007-05-14 00:00:00
【引文索引类型】其他
【引文索引号】2926825
【学科分类】海洋科学

【题目】牙鲆Follistatin cDNA的克隆与序列分析
【中文关键词】刘庆华 谭训刚 徐永立 张培军 徐破
【英文关键词】Paralichthys olivaceus; Follistatin; sequence analysis;
【中文摘要】为研究海水鱼中Follistatin基因的序列特征,从受精后67 h的牙鲆受精卵中克隆获得牙鲆Follistatin基因cDNA序列,并对其进行序列分析.结果表明,在牙鲆中并没有发现Follistatin基因的可变式剪切现象;牙鲆Follistatin基因cDNA序列全长963 bp.序列分析结果显示:牙鲆与Takifugurubripes的亲缘关系最近.Follistatin蛋白中高度保守的半胱氨酸和甘氨酸残基的生物学功能可能是维持蛋白空间结构的稳定.
【英文摘要】To study the DNA sequence features of Follistatin gene in marine fish, Paralichthys olivaceus Follistatin cDNA was isolated and analyzed from Paralichthys olivaceus embryos 67 h after fertilization.The results indicated that there was no evidence for alternative splicing of Follistain in Paralichthys olivaceus.The length of Paralichthys olivaceus Follistatin cDNA was 963 bp.Sequence analysis revealed that Paralichthys olivaceus Follistatin was more closely related to Takifugu rubripes.The biological function of the highly conserved cysteine and glycin in Paralichthys olivaceus Follistatin protein might be maintaining the stabilization of protein structure.
【语种】中文
【第一作者】刘庆华
【通讯作者】张培军
【期刊名称、卷期、页码】浙江大学学报(农业与生命科学版), 2007; 33(6): 621-25.
【论文发表时间】2006-10-08 00:00:00
【引文索引类型】其他
【引文索引号】3060479
【学科分类】海洋科学

【题目】牙鲆Follistatin基因启动子克隆与分析
【中文关键词】刘庆华 谭训刚 徐永立 张培军 张玉青
【英文关键词】Paralichthys olivaceus; Follistatin; promoter; cloning; development of muscle;
【中文摘要】为研究海水鱼中Follsitatin基因的组织表达特异性,利用PCR方法获得牙鲆Follistatin基因启动子并进行序列分析,用RT-PCR和显微注射方法研究Follistatin基因与肌肉发育的关系.结果表明,所获得的启动子含有USF、E47、MyoD、NF-Y等多种转录因子结合位点;在牙鲆成体组织中,Follistatin基因在体肾、肠、心脏、头肾、脾中有表达,而在肌肉和肝脏中没有表达;显微注射证明Follistatin基因参与了肌肉的早期发育.
【英文摘要】In order to study the tissue expression character of Follistatin gene in marine fish,the promoter of Paralichthys olivaceus Follistatin gene was isolated by PCR,and the sequence was analyzed;the function of Follistatin gene on the development of muscle was studied by RT-PCR and microinjection.The results indicated that the promoter had many transcription factor binding sites such as USF,E47,MyoD and NF-Y,et al;in Paralichthys olivaceus adult tissues,Follistatin expressed in body kidney,intestine,heart,head kidney and spleen,while did not express in muscle and liver;microinjection revealed that Follistatin gene played a role in the early development of muscle.
【语种】中文
【第一作者】刘庆华
【通讯作者】张培军
【期刊名称、卷期、页码】浙江大学学报(农业与生命科学版), 2007; 33(6): 616-20.
【论文发表时间】2006-10-08 00:00:00
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【引文索引号】3060478
【学科分类】海洋科学

【题目】Quantitative comparison of the expression of myogenic regulatory factors in flounder (Paralichthys olivaceus) embryos and adult tissues
【中文关键词】ZHANG Yuqing , TAN Xungang ,XU Peng , SUN Wei , XU Yongli ,ZHANG Peijun
【英文关键词】Paralichthys olivaceus; myogenic regulatory factors; myogenesis; muscle; quantitative RT-PCR

【中文摘要】无
【英文摘要】MyoD, Myf5, and myogenin are myogenic regulatory factors that play important roles during myogenesis. It is thought that MyoD and Myf5 are required for myogenic determination, while myogenin is important for terminal differentiation and lineage maintenance. To better understand the function of myogenic regulatory factors in muscle development of flounder, an important economic fish in Asia, real-time quantitative RT-PCR was used to characterize the expression patterns of MyoD, Myf5, and myogenin at early stages of embryo development, and in different tissues of the adult flounder. The results show that, Myf5 is the first gene to be expressed during the early stages of flounder development, followed by MyoD and myogenin. The expressions of Myf5, MyoD, and myogenin at the early stages have a common characteristic: expression gradually increased to a peak level, and then gradually decreased to an extremely low level. In the adult flounder, the expression of the three genes in muscle is much higher than that in other tissues, indicating that they are important for muscle growth and maintenance of grown fish. During embryonic stages, the expression level of MyoD might serve an important role in the balance between muscle cell differentiation and proliferation. When the MyoD expression is over 30% of its highest level, the muscle cells enter the differentiation stage.
【语种】英文
【第一作者】Yu-Qing Zhang
【通讯作者】Pei-Jun Zhang
【期刊名称、卷期、页码】Chinese Journal of Oceanology and Limnology, 2010; 28(2): 248-53.
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【引文索引类型】SCI
【引文索引号】2.7578140001e+011
【学科分类】海洋科学

【题目】Peroxiredoxin IV Regulates Pro-Inflammatory Responses in Large Yellow Croaker (Pseudoaena crocea) and Protects against Bacterial Challenge
【中文关键词】Suhong Yu, Yinnan Mu, Jingqun Ao, Xinhua Chen
【英文关键词】large yellow croaker (Pseudosciaena crocea) • proteomics • peroxiredoxin IV • NF-κB activation • pro-inflammatory response • antibacterilal immunity • siRNA
【中文摘要】无
【英文摘要】In this study, we applied a comparative proteomic approach to the analysis of differentially expressed proteins in the spleens of large yellow croaker following treatment with an inactivated trivalent bacterial vaccine. Twenty-four altered proteins were identified by MALDI-TOF or MALDI-TOF-TOF, including immune-related proteins, antioxidant proteins, signal transducers, protein biosynthesis and catabolism modulators, and carbonic anhydrases. Three Prx family members, namely, Prx I, Prx II, and Prx IV, were upregulated after treatment with the vaccine, indicating potentially important roles for these antioxidant proteins in the antibacterial immune response. Large yellow croaker Prx IV (LycPrxIV), which has thiol-dependent peroxidase activity, was constitutively expressed in all tissues examined. Immunoelectron microscopy showed that LycPrxIV was primarily localized to the rER or peroxisome in spleen cells of healthy fish, and its synthesis on the rER increased following treatment with bacterial vaccine. Suppression of LycPrxIV by siRNA resulted in an increase in NF-kappaB activity in spleen tissues, while in vivo administration of recombinant LycPrxIV (rLycPrxIV) caused a decrease in NF-kappaB activity, indicating that LycPrxIV negatively regulates NF-kappaB activation. Likewise, siRNA-mediated knockdown of LycPrxIV increased the expression of TNF-alpha and CC chemokine, and downregulated the expression of IL-10. However, injection of fish with rLycPrxIV induced the opposite expression pattern of these cytokines, suggesting a role for LycPrxIV in regulating pro-inflammatory responses. Bacterial challenge experiments showed that suppression of LycPrxIV expression by siRNA significantly increased fish mortality as compared to controls, whereas rLycPrxIV provided a protective effect. Together, our data suggest that LycPrxIV may regulate pro-inflammatory responses to protect large yellow croaker from bacterial challenge, revealing a novel antibacterial mechanism in fish.
【语种】英文
【第一作者】Su-Hong Yu
【通讯作者】Xin-Hua Chen
【期刊名称、卷期、页码】Journal of proteome research. 2010 Mar 5;9(3):1424-36.
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【引文索引号】2.7508810002e+011

【学科分类】海洋科学

【题目】温室内地温变化规律及与气温的相关性
【中文关键词】温室;地温;气温;相关性
【英文关键词】greenhouse; soil temperature; air temperature; relativity
【中文摘要】摘要:为了找出温室内地温变化特点及其与气温变化的相关性,为温室内作物栽培管理及温室结构优化设计提供理论依据。对不同类型温室大棚内地下5、10、15、20 cm 4 种不同深度浅层土壤温度及温室中地上20、50、150 cm 3 种不同高度空气温度进行多点同步观测分析研究。结果表明:随着土壤深度的增加,其温度最高或最低出现的时间逐渐延迟;同时,表层土壤温度变幅远大于深层,即随着土壤深度的增加,土温的变幅将迅速变小;地温与气温变化规律基本一致,但存在一定的滞后现象。
【英文摘要】Abstract: In order to find out the characteristics that the soil temperature changes in the greenhouse and therelativity with atmosphere temperature changes. For the farm crop cultivation and management and theglasshouse structure of excellent turn and design provide a theory basis. Following to carry on more orderingand synchronously prognosticate an analysis research in greenhouse. Observed the four kinds of different depthsoil temperatures at 5, 10, 15 and 20 cm in shallow layer and the three kinds of different high air temperaturesabove the ground 20, 50, 150 cm in different kinds of glasshouses. The results showed that the tallest soiltemperature or lowest soil temperature appear delayed gradually along with the increment of the soil depth. Atthe same time, the changes range of surface layer soil temperature was larger than deep soil temperature,namely the variety range of soil temperature will quickly diminish along with the increment of the soil depth.The change regulation of soil temperature and air temperature was unanimously basic. Butthe soiltemperaturevariety compared with air temperature variety to have to definitely delay a phenomenon.
【语种】中文
【第一作者】李仁杰
【通讯作者】朱世东
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【学科分类】园艺学

【题目】水稻旱育秧不同旱育秧方式的试验研究报告
【中文关键词】关键词:水稻;无盘抛秧剂;旱育抛秧
【英文关键词】Key words: rice, no-plate seed-coating material for dry-raised rice, dry-raised & cast-transplanted rice
【中文摘要】摘要:为探明水稻抛秧技术最佳旱育秧方式,通过在安徽江淮和沿江地区对中稻采取不同旱育秧方式的试验研究。结果表明,在同等条件下,采用无盘旱育秧,秧苗素质好,前期分蘖快,个体发育健壮,且群体发育协调,增产、节本效果显著。
【英文摘要】Abstract: Proved best the type of no-plate seed-coating material on dry-raised cast-transplanted rice, Experi ment on different types of no-plate dry-raised rice of tow main production region in Anhui. Compared with theconventional dry-raised rice and dry-raised rice with plastic plate, no-plated dry-raised rice, grew quickly atthe early stage and produced less tillers, less nutrition consumption, stronger individual growth and more coor dinating growth between the individual and colony. Production increasing in yield and saves the agriculturalmaterial effected remarkable.
【语种】中文
【第一作者】孔令娟
【通讯作者】孔令娟
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【学科分类】农业基础学科

【题目】风沙土玉米钾肥适宜用量的研究

【中文关键词】风沙土;钾肥;适宜用量
【英文关键词】Aeolian sandy soil; Potassium fertilizer; Optimum application amount
【中文摘要】田间试验结果表明:在吉林省西部风沙土上,施用钾肥对玉米有明显的增产效果。施用K2O 75kg/hm2,相对增产值为23.6%,化肥利用率达31.7%,千粒重和穗粒数最高,为最佳用量。
【英文摘要】The experiment results showed that application of potassium fertilizer significantly increasedmaize yield on aeolian sandy soil in west Jilin province. Application of 75 kg/hm2 K2O was the optimal amount, and relative increasing-yield value was 23.6%, fertilizer utilization rate was 31.7%, 1000-grain weight and grains number of per ear was the highest in all treatments.
【语种】中文
【第一作者】侯云鹏
【通讯作者】侯云鹏
【期刊名称、卷期、页码】吉林农业科学, 2008, 33(6)
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【学科分类】土壤学

【题目】油菜素内酯诱导番茄幼苗抗冷效果的研究
【中文关键词】油菜素内酯;番茄;抗冷性
【英文关键词】BR;tomato;resistance of chilling injur
【中文摘要】摘要:采用油菜素内酯(BR)诱导二叶一心期和五叶一心期番茄幼苗,研究BR诱导后低温胁迫对番茄幼苗抗冷性相关生理指标的影响。在5-10°C低温胁迫条件下,不同浓度BR处理,可降低幼苗叶片细胞膜透性,减少叶片中丙二醛的含量,可溶性糖和脯氨酸的含量明显升高,同时增加了幼苗的根系活力,提高幼苗抗冷性。研究表明,低温条件下,五叶一心期对番茄幼苗喷施0.1 mg/LBR,其冷害指数可比对照降低32.7%,电导率比对照降低58.4% ,丙二醛含量最少,仅为25.5649 nmoFg,溶性糖含量最高,达到137.27 1.maoFg,脯氨酸含量最高,为542.3 g/g,同时幼苗的根系活力变化较平稳,变化幅度仅为20.9%。
【英文摘要】Abstract:The seedlings of tomato at two or five leaves stage were treated with BR in this experiment.and theafects of low temperature stress on some physiological indexes were determined.The results showed that theseBR solutions of different concentrations reduced the cell membrane permeability,restrained the MDAproduction,increased the content of solubility sugar,proline and the vitality of root system,and improved thelow temperature stress resistance ability.Comprehensive analysis of various physiological indexes showed thatthe treating of 5 leaves old tomatoes by O.1 mg/L BR can lower 32.7% to CK in chilling injury index。58.4% toCK in EC,and the content of MDA was just 25.5649 nmol/g,the solubility sugar 137.27 pmol/g,the proline542.3 0gCg.And the vitality of root system had a stable change range which is 20.9%.
【语种】中文
【第一作者】袁凌云
【通讯作者】朱世东
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【学科分类】园艺学

【题目】山羊美臀突变基因(CLPG)的多态性鉴定及其与生产性能的关系
【中文关键词】山羊;CLPG ;多态性;生产性状
【英文关键词】goat; CLPG; polymorphism; productiontraits
【中文摘要】Callipyge绵羊的臀部肌肉明显肥大,呈极性超显性遗传。研究克隆了山羊美臀突变基因250bp的序列(GenBank登录号:EU753362),对其多态性及其与山羊生产性能的关系进行了分析。结果表明,所扩增片段与绵羊和猪相应片段的同源性分别为96.04%和88.65%。PCR-SSCP分析表明,在该DNA区段存在多态性。测序结果显示,在对应于绵羊的基因没有发现A→G的突变,但在该位点下游147bp处检测到一个A→C的颠换,记为SNP216。对波尔山羊(=63)、莱芜黑山羊(=70)、鲁波杂交山羊(=40)、鲁北白山羊(=29)和内蒙古阿拉善白绒山羊(=115)共5个群体的多态性进行了检测,结果表明:除鲁北白山羊以外,A等位基因均为优势等位基因;波尔山羊、莱芜黑山羊、鲁北白山羊和鲁波杂交山羊群体均处于Hardy-Weinberg平衡状态(p>0.05),而内蒙古阿拉善白绒山羊群体显著偏离Hardy-Weinberg平衡状态(p<0.01);不同基因型的

内蒙古阿拉善白绒山羊的初生重、从出生到断奶时的增重及产绒量的最小二乘均值差异不显著(p>0.5)。
【英文摘要】The Dorset ram with Callipy gephenotype shows muscular hypertrophy at buttock,and its inheritance is polar overdominance. A partial DNA fragment of 250bp in goat Callipyge mutation gene (GenBank Accession No.EU753362) was obtained, and had a 96.04% and 88.65%identity with the corresponding region of ovine and porcine , respectively. And apolymorphism in the DNA fragment was detected by PCR-SSCP. Sequencing results indicated that no A→Cmutation was corresponding to ovine ,whereas a A→C transversion located 147bp downstream from the site was identified. The polymorphism was named after its position as SNP216 was investigated in Boer(n =63), LaiwuBlack(n=70), Lubei White *Boer Hybrid(n=40), Lubei White(n =29) and Inner Mongolia Alashan white cashmere(=115) goat populations. The results indicated that allele A was predominant in the four goat populations of Boer, LaiwuBlack, Lubei White *Boer Hybrid and Inner Mongolia Alashan white cashmere, and except for the Inner Mongolia Alashan White cashmere goat, the other four populations were in the state of Hardy-Weinberg equilibrium(p>0.05). In Inner Mongolia Alashan white cashmere goats, least square means of birthweight, production of cashmere and body weight gain from birth to weaning between AA and AC were not significantly different(p >0.5).
【语种】中文
【第一作者】曹贵玲
【通讯作者】姜运良
【期刊名称、卷期、页码】农业生物技术学报 Journal of Agricultural Biotechnology 2009,17 (2): 224~228
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【学科分类】畜牧学

【题目】安徽中籼稻实地养分管理技术研究
【中文关键词】水稻; LCC值; 氮含量; 氮肥用量
【英文关键词】paddy; LCC va lue; n itrogen conten;t dosage o f app lied n itrogen
【中文摘要】以4个中晚熟水稻品种为材料, 研究不同时期不同氮肥管理措施下植株氮素含量与氮肥用量及LCC值之间的变化关系。结果表明, 植株氮素含量表现为分蘖期> 拔节期> 抽穗期, LCC 值为抽穗期> 拔节期> 分蘖期。植株含氮量、叶片LCC值与氮肥用量呈密切正相关, 氮素含量与LCC值含量显著正相关, 分蘖期、抽穗期水稻植株LCC值变化量与氮肥用量变化量显著正相关。依据最高产量处理确定适宜的LCC 值临界指标, 并计算不同LCC值下水稻所需氮肥追施用量。
【英文摘要】In th is paper, w e ana lyzed the relationsh ip betw een the n itrogen conten t and LCC value o f rice plant in d ifferent periods under differentmanagement fo r 4 k inds o fm idd le-maturing paddy rice. The result ind icates that the n itrogen content in rice at tillering stage is larger than that at jo int ing stage, and it is least at head ing stage. Butthe LCC value becomes larger from tillering stage, jo int ing stage to head ing stage. The rice p lant n itrogen content and LCC va lue of leaves have a closely posit ive correlation w ith the dosage of applied n itrogen at different stages.And the nitrogen content has a sign if icant positive correlat ion w ith the LCC value. The chang ing dosages of riceplant at tillering stage and head ing stage have a positive corre lation w ith the dosage o f applied nitrogen. The critica ltarget index is fixed according to the management of peak production, as w e ll as different requ irem ents of n itrogen fert ilizerw ith d ifferent LCC values.
【语种】中文
【第一作者】杨晓虎
【通讯作者】杨晓虎
【期刊名称、卷期、页码】安徽农业大学学报,2009,(36)1;149-154
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【引文索引号】null
【学科分类】农业基础学科

【题目】MHC polymorphism and disease resistance to Vibrio anguillarum in 12 selective Japanese flounder (Paralichthys olivaceus) families.
【中文关键词】Xu, Tian-jun;Chen, Song-lin;Ji, Xiang-shan;Tian, Yong-sheng
【英文关键词】 Paralichthys olivaceus; major histocompatibility complex; Vibrio anguillarum; disease resistance

【中文摘要】无
【英文摘要】Genetic variation in the major histocompatibility complex (MHC) class IIB was tested in Japanese flounder (Paralichthys olivaceus) for survival after challenge with bacterial infection. The material consisted of 6000 Japanese flounder from 60 families challenged with Vibrio anguillarum, which causes significantly different mortality in flounder families. Five individuals from each of six high-resistance (HR) and six low-resistance (LR) families were screened for their MHC class IIB genotypes using sequence analysis. High polymorphism of MHC IIB gene and at least three loci were discovered in Japanese flounder and the rate of d(N) occurred at a significantly higher frequency than that of d(S) in PBR. Among 60 individuals, 76 alleles were discovered and 15 alleles were used to study associations between alleles and resistance to disease. We found highly significant associations between resistance towards infectious disease caused by V. anguillarum and MHC class IIB polymorphism in Japanese flounder. Some alleles appeared in both HR and LR families, while some alleles were only discovered in HR or LR families. One allele, Paol-DAB*4301, was significantly more prevalent in HR families than in LR families (P = 0.023). Paol-DAB*0601, Paol-DAB*0801, Paol-DAB*2001, Paol-DAB*3803 were discovered in two HR families with high frequency. One allele, Paol-DAB*1601, was discovered in three LR families. The steady heredity of MHC class IIB alleles was observed, and the family having Paol-DAB*4301 alleles was confirmed with higher resistance to V. anguillarum. This study confirmed the association between alleles of MHC class IIB gene and disease resistance, and also detected some alleles which might be correlated with high bacterial infection resistance. The disease resistance-related MHC markers could be used for molecular marker-assisted selective breeding in the flounder.
【语种】英文
【第一作者】Xu, Tian-jun
【通讯作者】Chen, Song-lin
【期刊名称、卷期、页码】Fish and Shellfish Immunology 2008., 25(3): 213-221
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【引文索引类型】SCI
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【学科分类】海洋科学

【题目】A lectin (CfLec-2) aggregating Staphylococcus haemolyticus from scallop Chlamys farreri.
【中文关键词】Zheng, Peilin;Wang, Hao;Zhao, Jianmin;Song, Linsheng;Qiu, Limei;Dong, Chaohua
【英文关键词】Chlamys farreri; lectin; Ca2+ independent; Staphylococcus haemolyticus
【中文摘要】无
【英文摘要】Lectins are a family of carbohydrate-recognition proteins which play crucial roles in innate immunity. In this study, a new lectin (CfLec-2) gene was cloned from Chlamys farreri by EST and RACE approaches. The full-length cDNA of CfLec-2 was composed of 708 bp, encoding a typical Long form carbohydrate-recognition domain of 130 residues. The deduced amino acid sequence showed high similarity to Brevican in Homo sapiens, C-type lectin-1 and lectin-2 in Anguilla japonica. The cDNA fragment encoding the mature peptide of CfLec-2 was recombined into plasmid pET-32a (+) and expressed in Escherichia coli Rosseta-Gami (DE3). The recombinant CfLec-2 (rCfLec-2) protein exhibited aggregative activity toward Staphylococcus haemolyticus, and the agglutination could be inhibited by D-mannose but not EDTA or D-galactose, indicating that CfLec-2 was a Ca2+ independent lectin. Moreover, rCfLec-2 could suppress the growth of E. coli TOP10F'. These results suggested that CfLec-2 was perhaps involved in the recognition and clearance of bacterial. pathogens in scallop.
【语种】英文
【第一作者】Zheng, Peilin
【通讯作者】Song,LS
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【学科分类】海洋科学

【题目】A novel C1q-domain-containing protein from Zhikong scallop Chlamys farreri with lipopolysaccharide binding activity
【中文关键词】Zhang, Huan;Song, Linsheng

【英文关键词】Chlamys farreri; C1qDC protein; C1q; complement system; gene cloning; real-time PCR; recombinant protein; LPS-binding activity
【中文摘要】无
【英文摘要】 The C1q-domain-containing (C1qDC) proteins are a family of proteins characterized by a globular C1q (gC1q) domain in their C-terminus. They are involved in various processes of vertebrates and supposed to be an important pattern recognition receptor in innate immunity of invertebrates. In this study, a novel member of C1q-domain-containing protein family was identified from Zhikong scallop Chlamys farreri (designated as CfC1qDC) by expressed sequence tag (EST) and rapid amplification of cDNA ends (RACE) approaches. The full-length cDNA of CfC1qDC was of 777 bp, consisting of a T-terminal untranslated region (UTR) of 62 bp and a 3' UTR of 178 bp with a polyadenylation signal sequence AATAAA and a poly (A) tail. The CfC1qDC cDNA encoded a polypeptide of 178 amino acids, including a signal peptide and a C1q-domain of 158 amino acids with the theoretical isoelectric point of 5.19 and the predicted molecular weight of 17.2 kDa. The C1q-domain in CfC1qDC exhibited homology with those in sialic acid binding lectin from mollusks and C1qDC proteins from higher vertebrates. The typical 10 beta-strand jelly-roll folding topology structure of C1q-domain and the residues essential for effective packing of the hydrophobic core were well conserved in CfC1qDC. By fluorescent quantitative real-time PCR, mRNA transcripts of CfC1qDC were mainly detected in kidney, mantle, adductor muscle and gill, and also marginally detectable in hemocytes. In the bacterial challenge experiment, after the scallops were challenged by Listonella anguillarum, there was a significant up-regulation in the relative expression level of CfC1qDC and at 6 h post-injection, the mRNA expression reached the maximum level and was 4.55-fold higher than that of control scallops. Similarly, the expression of CfC1qDC mRNA in mixed primary cultures of hemocytes stimulated by lipopolysaccharides (LPS) was up-regulated and reached the maximum level at 6 h post-stimulation, and then dropped back to the original level gradually. In order to investigate its function, the cDNA fragment encoding the mature peptide of CfC1qDC was recombined and expressed in Escherichia coli BL21 (DE3). The recombinant CfC1qDC protein displayed a significantly strong activity to bind LIDS from E. coli, although no obvious antibacterial or agglutinating activity toward Gram-negative bacteria E. coli JM109, L. anguillarum and Gram-positive bacteria Micrococcus luteus was observed. These results suggested that CfC1qDC was absolutely a novel member of the C1qDC protein family and was involved in the recognition of invading microorganisms probably as a pattern recognition molecule in mollusk
【语种】英文
【第一作者】Zhang, Huan
【通讯作者】Song,LS
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【引文索引类型】SCI
【引文索引号】000259759700012'
【学科分类】海洋科学

【题目】cDNA cloning, characterization and mRNA expression of a pacifastin light chain gene from Eriocheir sinensis
【中文关键词】Gai, Yunchao;Wang, Lingling;Song, Linsheng
【英文关键词】 Pacifastin; Serine protease inhibitors (SPIs); Pacifastin light chain domain (PLD); Eriocheir sinensis; mRNA expression
【中文摘要】无
【英文摘要】The pacifastin family, characterized by several conserved arrays of six cysteine residues, is a newly identified serine protease inhibitor (SPI) family discovered uniquely in arthropods and plays important roles in multiple biological processes. In the present study, the full-length cDNA of a pacifastin light chain (designated ESPLC) was cloned from the Chinese mitten crab Eriocheir sinensis by expressed sequence tags (ESTs) and PCR techniques. The 1036 bp ESPLC cDNA contained an 831 bp open reading frame (ORF) encoding a putative pacifastin-related peptide of 276 amino acids, a 5'-untranslated region (UTR) of 67 bp, and a 3'-UTR of 138 bp. Six putative conserved domains sharing a characteristic cysteine array (Cys-Xaa(9-12)-Cys-Asn-Xaa-Cys-Xaa-Cys-Xaa(2-3)-Gly-Xaa(3-4)-Cys-Thr-Xaa(3)-Cys) were identified in the deduced amino acid sequence of ESPLC. The conservation of these PLDs (pacifastin light chain domains) and the relative higher similarity of ESPLC to other pacifastin-related precursors suggested that ESPLC was a member of pacifastin family. The mRNA transcripts of ESPLC were found to be higher expressed in hepatopancreas, gill and haemolymph than in gonad, muscle and heart, with the highest expression level in hepatopancreas. The ESPLC mRNA expression in haemolymph of Chinese mitten crab was up-regulated at 2 h and 12 h after challenged with Listonella anguillarum. The tissue distribution and temporal characteristics of ESPLC mRNA expression, similar to that of prophenoloxidase gene in E. sinensis, suggested that ESPLC was potentially involved in the response against invading bacteria, with the possibility that it functioned in the

prophenoloxidase system in E sinensis.
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【第一作者】Gai, Yunchao
【通讯作者】Song,LS
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【学科分类】海洋科学

【题目】A prophenoloxidase from the Chinese mitten crab Eriocheir sinensis: Gene cloning, expression and activity analysis.
【中文关键词】Gai, Yunchao;Zhao, Jianmi;Song, Linshen
【英文关键词】prophenoloxidase; Eriocheir sinensis; quantitative real-time PCR; innate immunity; enzyme specific activity; mRNA expression profile
【中文摘要】无
【英文摘要】 Prophenoloxidase (proPO) is a conserved copper-containing enzyme that plays important roles in immune response of crustaceans and insects. In the present study, the full-length cDNA of a prophenoloxidase (designated EsproPO) was cloned from haemocytes of Chinese mitten crab Eriocheir sinensis by expressed sequence tag (EST) and PCR techniques. The isolated 3549 bp full-length cDNA of EsproPO contained a 2040 bp open reading frame (ORF) encoding a putative proPO protein of 679 amino acids, a 5'-untranslated region (UTR) of 68 bp, and a long 3'-UTR of 1441 bp. Two putative copper-binding sites, a proteolytic activation site, and a complement-like motif (GCGWPQHM) were identified in the deduced amino acid sequence of EsproPO. Homology analysis revealed that EsproPO was highly similar to other proPOs from crustaceans with identities from 52% to 68%. The conserved domains and motifs, and higher similarity with other proPOs suggested that EsproPO was a member of the proPO family. The mRNA expression of EsproPO and PO specific activities in the tissues of hepatopancreas, gill, gonad, muscle, heart, eye and haemocytes were measured by quantitative real-time PCR and colorimetric assay, respectively. The mRNA transcripts of EsproPO and PO specific activities could be detected in all the examined tissues with the highest level both in hepatopancreas. Three peaks of EsproPO mRNA expression were recorded at 2 h, 12 h and 48 h in haemocytes of Chinese mitten crab post Vibrio anguillarum challenge, which was consistent with the temporal profile of PO specific activity. The mRNA expression pattern and the activity fluctuation of EsproPO post V. anguillarum stimulation indicated that it was potentially involved in the acute response against invading bacteria in Chinese mitten crab.
【语种】英文
【第一作者】Gai, Yunchao
【通讯作者】Song,LS
【期刊名称、卷期、页码】FISH & SHELLFISH IMMUNOLOGY 卷: 24 期: 2 页: 156-167
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【引文索引类型】SCI
【引文索引号】000253402200002'
【学科分类】海洋科学

【题目】Cloning and characterization of a novel C-type lectin gene from shrimp Litopenaeus vannamei
【中文关键词】Zhang, Ying;Qiu, Limei;Song, Linsheng
【英文关键词】 C-type lectin; Gene cloning; Recombinant expression; Bacteria agglutination; Litopenaeus vannamei
【中文摘要】无
【英文摘要】In invertebrates, C-type lectins play crucial roles in innate immunity responses by mediating the recognition of host cells to pathogens and clearing microinvaders, which interact with carbohydrates and function as pattern recognition receptors (PRRs). A novel C-type lectin gene (LvLec) cDNA was cloned from hemocytes of Litopenaeus vannamei by expressed sequence tag (EST) and rapid amplification of cDNA ends (RACE) PCR. The full-length cDNA of LvLec was of 618 bp, consisting of a 5'-terminal untranslated region (UTR) of 60 bp and a 3'-UTR of 87 bp with a poly (A) tail. The deduced amino acid sequence of LvLec possessed all conserved features critical for the fundamental structure, such as the four cysteine residues (Cys(53), Cys(128), Cys(144), Cys(152)) involved in the formation of disulfides bridges and the potential Ca(2+)/carbohydrate-binding sites. The high similarity and the close phylogenetic

relationship of LvLec shared with C-type lectins from vertebrates and invertebrates. The structural features of LvLec indicated that it was an invertebrate counterpart of the C-type lectin family. The cDNA fragment encoding the mature peptide of LvLec was recombined and expressed in Escherichia coli BL21(DE3)-pLysS. The recombinant protein (rLvLec) could agglutinate bacteria E. coli JM109 depending on Ca(2+), and the agglutination could be inhibited by mannose and EDTA. These results indicated that LvLec was a new member of C-type lectin family and involved in the immune defence response to Gram negative bacteria in Litopenaeus vannamei.
【语种】英文
【第一作者】Zhang, Ying
【通讯作者】Song,LS
【期刊名称、卷期、页码】FISH & SHELLFISH IMMUNOLOGY 卷: 26 期: 1 页: 183-192
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【引文索引类型】SCI
【引文索引号】000264015700023'
【学科分类】海洋科学

【题目】Molecular cloning and expression of a novel Kazal-type serine proteinase inhibitor gene from Zhikong scallop Chlamys farreri, and the inhibitory activity of its recombinant domain
【中文关键词】Wang, Bo;Zhao, Jianmin;Song, Linsheng
【英文关键词】Chlamys farreri; Kazal-type serine proteinase inhibitor; realtime RT-PCR; recombinant expression; inhibitory activity; inhibition constant (K-i)
【中文摘要】无
【英文摘要】Serine proteinase inhibitors (SPIs) play important roles in host physiological and immunological processes in all multicellular organisms. A novel Kazal-type SPI gene was cloned from the Zhikong scallop Chlamys farreri (designated as CfKZSPI) by expressed sequence tag (EST) and rapid amplification of cDNA ends (RACE) approaches. The full-length cDNA of CfKZSPI was of 1788 nucleotides with a canonical polyadenylation signal sequence AATAAA and a polyA tail, and an open reading frame (ORF) encoding a polypeptide of 509 amino acids with a putative signal peptide of 22 amino acids. The deduced amino acid sequence of CfKZSPI contained 12 tandem Kazal domains with high similarity to other Kazal-type SPIs. The temporal expression of CfKZSPI in hemocytes after Vibrio anguillorum challenge was recorded by quantitative real-time RT-PCR. The relative mRNA expression level of CfKZSPI was up-regulated and reached 43.6-fold at 3 h post-challenge. After a decrease at 6 h, the expression Level increased again and reached 207.8-fold at 12 h post-challenge. The 12th Kazal domain of CfKZSPI was recombined into pET-32a(+) and expressed in Escherichia coli Rosetta-gami (DE3) to investigate its inhibitory activity. The purified recombinant protein (rCf KZSPI-1 2) showed significant inhibitory activity against trypsin but no activity against thrombin. When the molar ratio of inhibitor to trypsin reached 1:1, almost 90% of the enzyme activity could be inhibited, which suggested that one molecule of rCfKZSPI-12 was able to inhibit one molecule of trypsin. Kinetics analysis with Dixon plot showed that the inhibition constant (K-i) of rCfKZSPI-12 to trypsin was 173 nmol L-1. These results indicated that CfKZSPI was a novel Kazal-type SPI with significant inhibitory activity against trypsin, and was suspected to be involved in scallop immune response.
【语种】英文
【第一作者】Wang, Bo
【通讯作者】Song,LS
【期刊名称、卷期、页码】FISH & SHELLFISH IMMUNOLOGY 卷: 24 期: 5 页: 629-637
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【引文索引类型】SCI
【引文索引号】000255675700016'
【学科分类】海洋科学

【题目】Molecular cloning and characterization of a catalase gene from Zhikong scallop Chlamys farreri
【中文关键词】Li, Chenghua;Ni, Duojiao;Song, Linsheng
【英文关键词】Chlamys farreri; catalase; gene cloning; quantitative real-time PCR
【中文摘要】无
【英文摘要】: Catalase is one of the central enzymes involved in scavenging the high level of reactive oxygen species (ROS) by degradation of hydrogen peroxide to oxygen and water. The full-length catalase cDNA of Zhikong scallop Chlamys farreri (denoted as

CfCAT) was identified from hemocytes by expressed sequence tag (EST) and rapid amplification of cDNA ends (RACE) approaches. The nucleotide sequence of CfCAT cDNA consisted of 3146 bp with a 5' UTR of 103 bp, an unusually long 31 UTR of 1519 bp with a canonical polyadenylation signal sequence AATAAA and a potyA tail, and an open reading frame (ORF) of 1521 bp encoding a polypeptide of 507 amino acids with predicted molecular weight of 57.5 kDa. The deduced amino acid sequence of CfCAT has significant homology to catalases from animals, plants and bacteria. Several highly conserved motifs including the proximal heme-ligand signature sequence RLFSYNDTH, the proximal active site signature FNRERIPERVVHAKGGGA, and the three catalytic amino acid residues of His(72), Asn(145) and Tyr(355) were identified in the deduced amino acid sequence of CfCAT. The CfCAT was demonstrated to be a peroxisomal glycoprotein with two potential glycosylation sites and a peroxisome targeting signal of ANL that was consistent with human, mouse and rat catalases. The time-course expression of CfCAT in hemocytes was measured by quantitative real-time PCR. The expression of CfCAT increased gradually and reached the highest point at 12 h post-Vibrio infection, then recovered to the original level at 24 h. All these results indicate that CfCAT, a constitutive and inducible protein, is a member of the catalase family and is involved in the process against ROS in scallop

【语种】英文

【第一作者】Li, Chenghua

【通讯作者】Song,LS

【期刊名称、卷期、页码】FISH & SHELLFISH IMMUNOLOGY　　卷: 24　　期: 1　　页: 26-34

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【引文索引类型】SCI

【引文索引号】000253306700004 ‘

【学科分类】海洋科学

【题目】Molecular cloning and responsive expression to injury stimulus of a defender against cell death 1 (DAD1) gene from bay scallops Argopecten irradians

【中文关键词】Zhu, Ling;Song, Linsheng

【英文关键词】Argopecten irradians; cDNA cloning; defender against apoptotic cell death (DAD1); phylogeny; tissue distribution; injury

【中文摘要】无

【英文摘要】Apoptosis is an active process of cell death, which is an integral part of growth and development in multicellular organisms. The defender against cell death 1 (DAD1), the regulatory protein to inhibit the apoptosis process, was first cloned from the bay scallop Argopecten irradians by randomly sequencing a whole tissue cDNA library and rapid amplification of cDNA end (RACE). The full-length cDNA of the A. irradians DAD1 was 607 bp, consist of a 5'-terminal untranslated region (UTR) of 63 bp, a 3'-terminal UTR of 205 bp with a canonical polyadenylation signal sequence AATAAA and a poly (A) tail, and an open reading frame of 339 bp. The deduced amino acid sequence of the A. irradians DAD1 showed 75.5% identity to Araneus ventricosus, 74.5% to Drosophila melanogaster, and 73.6% to Homo sapiens, Sus scrofa, Mesocricetus auratus, Rattus norvegicus and Mus musculus. Excluding the Saccharomyces cerevisiae DAD1 homologue, all animal DAD1 including A. irradians DAD1 homologue formed a subgroup and all plant DAD1 proteins formed another subgroup in the phylogenetic analysis. The A. irradians DAD1 was expressed in all examined tissues including adductor muscle, mantle, gills, digestive gland, gonad and hemolymph, suggesting that A. irradians DAD1 is expressed in most body tissues. Furthermore, the mRNA expression levels of A. irradians DAD1 gene of hemolymph were particularly high after injury, suggesting that the gene is responsive to injury stimuli.

【语种】英文

【第一作者】Zhu, Ling

【通讯作者】Song,LS

【期刊名称、卷期、页码】MOLECULAR BIOLOGY REPORTS　　卷: 35　　期: 2　　页: 125-132

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【引文索引类型】SCI

【引文索引号】000256082300007 ’

【学科分类】海洋科学

【题目】Molecular cloning, characterization and expression of heat shock protein 90 gene in the haemocytes of bay scallop Argopecten irradians

【中文关键词】Gao, Qiang ;Zhao, Jianmin;Song, Linsheng
【英文关键词】heat shock protein 90; gene cloning; bacterial challenge; mRNA expression; Argopecten irradians
【中文摘要】无
【英文摘要】 Heat shock protein 90 (HSP90) is a highly conserved molecular chaperone that plays key roles in the folding, maintenance of structural integrity and regulation of a subset of cytosolic proteins. In the present study, the cDNA of Argopecten irradians HSP90 (designated AiHSP90) was cloned by the combination of homology cloning and rapid amplification of cDNA ends (RACE) approaches. The full-length cDNA of AiHSP90 was of 2669 bp, including an open reading frame (ORF) of 2175 bp encoding a polypeptide of 724 amino acids with predicted molecular weight of 83.08 kDa and theoretical isoelectric point of 4.81. BLAST analysis revealed that AiHSP90 shared high similarity with other known HSP90s, and the five conserved amino acid blocks defined as HSP90 protein family signatures were also identified in AiHSP90, which indicated that AiHSP90 should be a cytosolic member of the HSP90 family. Fluorescent real-time quantitative PCR was employed to examine the expression pattern of AiHSP90 mRNA in haemocytes of scallops challenged by Gram-negative bacteria Vibrio anguillarum and Gram-positive bacteria Micrococcus luteus. In both bacterial challenged groups, the relative expression level of AiHSP90 transcript was up-regulated and reached maximal. level at 9 h after injection, and then dropped progressively to the original level at about 48 h post challenge. The results indicated that AiHSP90 was potentially involved in the immune responses against bacteria challenge in scallop A. irradian.
【语种】英文
【第一作者】Gao, Qiang
【通讯作者】Song,LS
【期刊名称、卷期、页码】 FISH & SHELLFISH IMMUNOLOGY 卷: 24 期: 4 页: 379-385
【论文发表时间】2008-04-01 00:00:00
【引文索引类型】SCI
【引文索引号】000254697200002 ‘
【学科分类】海洋科学

【题目】The enhanced immune protection of Zhikong scallop Chlamys farreri on the secondary encounter with Listonella anguillarum
【中文关键词】Cong, Ming;Song, Linsheng;Wang, Lingling
【英文关键词】cumulative mortality; enhanced immune protection; immune parameters; immune priming; Zhikong scallop Chlamys farreri
【中文摘要】无
【英文摘要】 It is well known that invertebrates are devoid of adaptive immune components and rely primarily on innate immunity to defend against pathogens, but recent studies have demonstrated the existence of enhanced secondary immune protection in some invertebrates. in the present study, the cumulative mortality of scallops received two successive Listonella anguillarum stimulations was recorded, and variations of immune parameters including phagocytosis (phagocytic rate and phagocytic index), phenoloxidase-like enzyme, acid phosphatase and superoxide dismutase activities were also examined. The scallops received a previous short-term L anguillarum stimulation were protected against a long-term stimulation of L. anguillarum. Significantly higher level of phagocytic activities and acid phosphatase activity were observed in the scallops received twice stimulations compared with those only received the secondary stimulation. These results indicated that a short-term immersion with L. anguillarum modulated the scallops' immune system and endowed the scallops with enhanced resistance to the secondary bacterial stimulation: phagocytosis and acid phosphatase were suspected to be involved in the protection.
【语种】英文
【第一作者】Cong, Ming
【通讯作者】Song,LS
【期刊名称、卷期、页码】COMPARATIVE BIOCHEMISTRY AND PHYSIOLOGY B-BIOCHEMISTRY & MOLECULAR BIOLOGY 卷: 151 期: 2 页: 191-196
【论文发表时间】2008-10-01 00:00:00
【引文索引类型】SCI
【引文索引号】000259750400008 ’
【学科分类】海洋科学

【题目】Molecular cloning and characterization of peroxiredoxin 6 from Chinese mitten crab Eriocheir sinensis
【中文关键词】Mu, Changkao;Zhao, Jianmin;Wang, Lingling;Song, Linsheng
【英文关键词】Eriocheir sinensis; Peroxiredoxin 6 (Prx6); Innate immunity; Gene cloning; mRNA expression; Bacteria challenge
【中文摘要】无
【英文摘要】Peroxiredoxin is a superfamily of antioxidative proteins that play important roles in protecting organisms against the toxicity of reactive oxygen species (ROS). In this study, the full-length cDNA encoding peroxiredoxin 6 (designated EsPrx6) was cloned from Chinese mitten crab Eriocheir sinensis by using rapid amplification of cDNA ends (RACE) approaches. The full-length cDNA of EsPrx6 was of 1076 bp, containing a 5' untranslated region (UTR) of 69 bp, a 3' UTR of 347 bp with a poly (A) tail, and an open reading frame (ORF) of 660 bp encoding a polypeptide of 219 amino acids with the predicted molecular weight of 24 kDa. The conserved Prx domain, AhpC domain and the signature of peroxidase catalytic center identified in EsPrx6 strongly suggested that EsPrx6 belonged to the 1-Cys Prx subgroup. Quantitative real-time RT-PCR was employed to assess the mRNA expression of EsPrx6 in various tissues and its temporal expression in haemocytes of crabs challenged with Listonella anguillarum. The mRNA transcript of EsPrx6 could be detected in all the examined tissues with highest expression level in hepatopancreas. The expression level of EsPrx6 in haemocytes was down-regulated after bacterial challenge and significantly decreased compared to the control group at 12 h. As time progressed, the expression level began to increase but did not recover to the original level during the experiment. The results suggested the involvement of EsPrx6 in responses against bacterial infection and further highlighted its functional importance in the immune system of E sinensis.
【语种】英文
【第一作者】Mu, Changkao
【通讯作者】Song,LS
【期刊名称、卷期、页码】 FISH & SHELLFISH IMMUNOLOGY 卷: 26 期: 6 页: 821-827
【论文发表时间】2009-06-01 00:00:00
【引文索引类型】SCI
【引文索引号】000266965900001‘
【学科分类】海洋科学

【题目】Interleukin-1β gene in orange-spotted grouper, Epinephelus coioides: Molecular cloning, expression, biological activities and signal transduction.
【中文关键词】Dan-Qi Lu, Jin-Xin Bei, Li-Na Feng, Yong Zhang, Xiao-Chun Liu
【英文关键词】IL-1 ; Orange-spotted grouper; Gene organization; Tissue distribution; Mitogen; Recombinant protein; Signal transduction
【中文摘要】无
【英文摘要】IL-1beta, a key mediator of inflammation, orchestrates a variety of immune responses by initiating gene expression. Herein, we have cloned and sequenced the IL-1beta in orange-spotted grouper (Epinephelus coioides), produced soluble mature recombinant IL-1beta in Escherichia coli, and characterized its biological properties and downstreamsignal transduction. The grouper IL-1beta cDNA was 1364bp in length, containing an open reading frame of 765bp. The predicted protein of 254 amino acids revealed the presence of the IL-1 family signature motif and the absence of a conventional ICE cut site. Phylogenetically, the grouper IL-1beta clustered closely with those of teleost belonging to Perciformes and apart from those of mammals. The grouper IL-1beta was constitutively expressed in almost all tissues examined, and was augmented in PBL after the addition of LPS or Poly I:C in vitro. The prokaryotically produced rIL-1beta significantly stimulated the proliferation of grouper head kidney cells, and activated gene expression of IL-1beta and COX-2. Moreover, the rIL-1beta-induced IL-1beta and COX-2 expression were reduced by p38 MAPK inhibitor (SB203580) and JNK inhibitor (SP600125), respectively. Taken together, the present study indicated that grouper IL-1beta may have an important role in grouper immune system and activate similar downstream cascades as its mammalian counterparts.
【语种】英文
【第一作者】Lu Danqi
【通讯作者】Lin, HR
【期刊名称、卷期、页码】Molecular Immunology2008 (45) 857 – 867.

【论文发表时间】2007-07-01 00:00:00
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【引文索引号】000266965631001 ‘
【学科分类】海洋科学

【题目】Cloning and expression of glucose regulated protein 78 (GRP78) in Fenneropenaeus chinensis
【中文关键词】Lei Wang b, Jie-Lin Chena, Hao-Ran Lin a,
【英文关键词】Glucose-regulated protein 78; Fenneropenaeus chinensis; Heat shock; WSSV challenge
【中文摘要】无
【英文摘要】GRP78 (78 kDa glucose-regulated protein), also known as BiP (immunoglobulin heavy-chain-binding protein), is an essential regulator of endoplasmic reticulum (ER) homeostasis because of its multiple functions in protein folding, ER calcium binding, and controlling of the activation of transmembrane ER stress sensors. In this report, we cloned the full length cDNA of GRP78 (FcGRP78) from Chinese shrimp Fenneropenaeus chinensis. This cDNA revealed a 2,325 bp with 1,968 bp open reading frame encoding 655 amino acids. This is the first reported GRP78 gene in Crustacea. The deduced amino acid sequence of FcGRP78 shared high identity with previously reported insect GRP78s: 86, 87 and 85% identity with GRP78s of Drosophila melanogaster, Aedes aegypti and Bombyx mori, respectively. Northern blot analysis shows that FcGRP78 is ubiquitously expressed in tissues of shrimp. Heat shock at 35A degrees C significantly enhanced the expression of FcGRP78 at the first hour, reached the maximum at 4 h post heat shock, dropped after that and resumed to the normal level until 48 h of post recovery at 25A degrees C. Additionally, differential expression of FcGRP78 was detected in haemocytes, hepatopancreas and lymphoid organ when shrimp were challenged by white spot syndrome virus (WSSV). We inferred that FcGRP78 may play important roles in chaperoning, protein folding and immune function of shrimp.
【语种】英文
【第一作者】Luan, Wei
【通讯作者】Xiang, JH
【期刊名称、卷期、页码】MOLECULAR BIOLOGY REPORTS 卷: 36 期: 2 页: 289-298
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【引文索引类型】SCI
【引文索引号】000262088300010 ’
【学科分类】海洋科学

【题目】Identification and characterization of a myeloid differentiation factor 88 (MyD88) cDNA from Zhikong scallop Chlamys farreri
【中文关键词】Qiu, LM ; Song, LS ; Yu, YD ; Xu, W; Ni, DJ ; Zhang, QC
【英文关键词】Chlamys farreri; innate immunity; Myd88; real-time RT-PCR
【中文摘要】无
【英文摘要】Myeloid differentiation factor 88 (MyD88) is a universal and essential adapter for the TLR/IL-1R family. In this report, the first mollusk Myd88 ortholog (named as CfMyd88) was cloned from Zhikong scallop (Chlamys farreri). The full-length cDNA of CfMyd88 was of 1554 bp, including a 5 '-terminal untranslated region (UTR) of 427 bp, a polyA tail, and an open reading frame (ORF) of 1104 bp encoding a polypeptide of 367 amino acids containing the typical TLR and IL-1R-related (TIR) domain and death domain (DD). Homology analysis revealed that the predicted amino acid sequence of CfMyd88 was homologous to a variety of previously identified Myd88s with more than 30% identity. The temporal expressions of CfMyd88 mRNA in the mixed primary cultured haemocytes stimulated by lipopolysaccharide (LPS) and peptidoglycans (PGN) were measured by real-time RT-PCR system. The mRNA expression of CfMyd88 decreased after stimulation with both LPS and PGN, and the lowest level was about 1/3 times (at 6 h) and 1/10 times (at 9 h) to that in the control group, respectively. The expression then recovered and was upregulated to two-fold at 9 h after LPS stimulation or to the original level at 12 It after PGN stimulation. The results suggest that the MyD88-dependent signaling pathway exists in scallop and was involved in the defense system.
【语种】英文
【第一作者】Qiu Limei
【通讯作者】Song Linsheng
【期刊名称、卷期、页码】Fish & Shellfish Immunology 2007,1-10

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【引文索引号】2.4850980001e+011
【学科分类】海洋科学

【题目】Loss of allele diversity in introduced populations of the hermaphroditic bay scallop Argopecten irradians
【中文关键词】Wang, LL; Zhang, H; Song, LS; Guo, XM
【英文关键词】Argopecten irradians; non-native species; hermaphrodite; microsatellite; genetic variation; founder population
【中文摘要】无
【英文摘要】The bay scallop Argopecten irradians is a hermaphroditic bivalve native to the Atlantic coast of the United States that was introduced to China for aquaculture production in 1982. It now supports a major aquaculture industry in China. Introduced species often start with limited genetic variability, which is problematic for the further selective breeding. Bay scallop aquaculture is exclusively hatchery based and as the initial introduction consisted of only 26 scallops, there have been concerns about inbreeding and inbreeding depression in cultured populations in China. In this study, eleven simple sequence repeat (SSR) markers were used to compare genetic variation in cultured populations from China with that in a natural population from the east coast of America. Although the difference in heterozygosity was small, the Chinese populations lost 9 of the 45 alleles (20%) found in the wild population. The reduced allele diversity suggests that the Chinese bay scallop populations experienced a bottleneck in genetic diversity that remains significant despite several recent introductions of new stocks aimed at expanding the gene pool. The loss of allele diversity may affect future efforts in selective breeding and domestication, and results of this study highlight the need for additional introductions, advanced breeding programs that minimize inbreeding and continued genetic monitoring.
【语种】英文
【第一作者】Wang Lingling
【通讯作者】Song Linsheng
【期刊名称、卷期、页码】Aquaculture 2007, 271(1-4) :252-259
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【引文索引号】2.4987460003e+011
【学科分类】海洋科学

【题目】Molecular cloning and characterization of a short type peptidoglycan recognition protein (CfPGRP-S1) cDNA from Zhikong scallop Chlamys farreri
【中文关键词】Su, JG; Ni, DJ; Song, LS; Zhao, HM; Qiu, LM
【英文关键词】Chlamys farreri; peptidoglyean recognition protem-S1 (PGRP-S1); pattern recognition receptors (PRRs); gene cloning; mRNA expression
【中文摘要】无
【英文摘要】Peptidoglycan recognition protein (PGRP) specifically binds to peptidoglycan and plays a crucial role in the innate immune responses as a pattern recognition receptor (PRR). The cDNA of a short type PGRP was cloned from scallop Chlamys farreri (named CfPGRP-SI) by homology cloning with degenerate primers, and confirmed by virtual Northern blots. The full length of CfPGRP-SI cDNA was 1073 bp in length, including a 5 ' untranslated region (UTR) of 59 bp, a 3 ' UTR of 255 bp, and an open reading frame (ORF) of 759 bp encoding a polypeptide of 252 amino acids with an estimated molecular mass of 27.88 kDa and a predicted isoelectric point of 8.69. BLAST analysis revealed that CfPGRP-S1 shared high identities with other known PGRPs. A conserved PGRP domain and three zinc-binding sites were present at its C-terminus. The temporal expression of QPGRP-S1 gene in healthy, Vibrio anguillarum-challenged and Micrococcus lysodeikticus-challenged scallops was measured by RT-PCR analysis. The expression of CfPGRP-S1 was upregulated initially in the first 12 h or 24 h either by M. lysodeikticus or V. anguillarum challenge and reached the maximum level at 24 h or 36 h, then dropped progressively, and recovered to the original level as the stimulation decreased at 72 h. There was no significant difference between V. anguillarum and M. lysodeikticus challenge. The results indicated that the CfPGRP-S1 was a constitutive and inducible acute-phase protein which was involved in the immune response against bacterial infection.
【语种】英文
【第一作者】Su Jianguo

【通讯作者】Song Linsheng
【期刊名称、卷期、页码】Fish & Shellfish Immunology 2007, 23(3):646-56
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【引文索引号】2.4850980002e+011
【学科分类】海洋科学

【题目】Molecular cloning and characterization of a thioester-containing protein from Zhikong scallop Chlamys farreri
【中文关键词】Zhang, H ; Song, LS ; Li, CH; Zhao, JM; Wang, H; Gao, Q; Xu, W
【英文关键词】Chlamys farreri; thioester-containing protein; gene cloning; complement evolution; RT-PCR
【中文摘要】无
【英文摘要】Thioester-containing proteins are a family of proteins characterized by the unique intrachain beta-cysteinyl-gamma-glutamyl thioester, which play important roles in innate immune responses. The cDNA of Zhikong scallop Chlamys farreri thioester-containing protein (designated as CfTEP) was cloned by expressed sequence tag (EST) and rapid amplification of cDNA ends (RACE) approaches. The full-length cDNA of CfTEP was of 4616 bp, consisting of a 5 '-terminal untranslated region (UTR) of 30 bp and a 3 ' UTR of 140 bp with a polyadenylation signal sequence AATAAA and a poly(A) tail. The CfTEP cDNA encoded a polypeptide of 1481 amino acids with the theoretical isoelectric point of 5.98 and the predicted molecular weight of 161.4 kDa. The deduced amino acid sequence of CfTEP contained the canonical thioester motif GCGEQ, nine potential N-glycosylation sites and a C-terminal distinctive cysteine signature. It also contained a presumed catalytic histidine and proteolytic cleavage sites that were similar to C3 molecules. The high similarity of CfTEP with the thioester-containing proteins in other organisms, such as the TEPs from insects, the complement component C3, C4, C5 and the protease inhibitor alpha(2)-macroglobulin indicated that CfTEP should be a member of TEP family. The phylogenetic analysis revealed that CfTEP was closely related to TEPs from mollusc, nematodes and insects, and they formed a separate branch apart from the branches of complements factors and alpha(2)-macroglobulins. The spatial expression of CfTEP transcripts in healthy and bacterial challenged scallops was examined by semi-quantitative RT-PCR. The CfTEP transcripts were mainly detected in the tissues of hepatopancreas and gonad, and remarkably up-regulated by Microbial challenge, which suggested that CfTEP was a constitutive and inducible acute-phase protein involved in immune defense. These results provided new insights into the role of CfTEP in scallop immune responses, as well as the evolutionary origin of this important, widespread and functionally diversified family of proteins.
【语种】英文
【第一作者】Zhang Huan
【通讯作者】Song Linsheng
【期刊名称、卷期、页码】Molecular Immunology 2007, (44): 3492 – 3500
【论文发表时间】2007-07-01 00:00:00
【引文索引类型】SCI
【引文索引号】2.4768330001e+011
【学科分类】海洋科学

【题目】Molecular cloning and characterization of a putative lipopolysaccharide-induced TNF-a factor (LITAF) gene homologue from Zhikong scallop Chlamys farreri
【中文关键词】Yu, YD; Qiu, LM; Song, LS; Zhao, JM; Ni, DJ; Zhang, Y; Xu, W
【英文关键词】Chlamys farreri; lipopolysaccharide-induced TNF-alpha factor (LITAF); lipopolysaccharide (LPS); real-time RT-PCR; innate immunity
【中文摘要】无
【英文摘要】LPS-induced TNF-alpha factor (LITAF) is a novel transcriptional factor that was first discovered in LPS-stimulated human macrophage cell line THP-1. LITAF can bind to TNF-a promoter to regulate its expression. The first scallop LITAF (named as CfLITAF) was cloned from Zhikong scallop Chlamys farreri by Expressed Sequence Tag (EST) and Polymerase Chain Reaction (PCR) techniques. The cDNA of CfLITAF was of 1240 bp and consisted of a 5' untranslated region (UTR) of 112 bp, a 3' UTR of 678 bp and an open reading frame (ORF) of 450 bp encoding a polypeptide of 149 amino acids with an estimated molecular mass of 16.08 kDa and theoretical isoelectric point of 6.77. A typical conserved LITAF-domain was identified in CfLITAF by SMART analysis. Homology analysis of the deduced amino acid sequence of CfLITAF with other known sequences by using the BLAST program revealed that

CfLITAF was homologous to the LITAF from human and rat (Identity = 46%), cattle, horse, mouse and chicken (Identity = 48%), western clawed frog (Identity = 42%), and zebrafish (Identity = 50%). The mRNA expression of CfLITAF in different tissues including haemocytes, muscle, mantle, heart, gill and gonad, and the temporal expression in haemocytes challenged by LPS or peptidoglycan (PGN) were measured by Real-time RT-PCR. CfLITAF mRNA transcripts could be detected in all tissues examined and be up-regulated in haemocytes after LPS challenge. No significant changes were observed after PGN stimulation. All these data indicated the existence of LITAF in scallop and also provided clue on the presence of TNF-alpha-like molecules in invertebrates.
【语种】英文
【第一作者】Yu, Yundong
【通讯作者】Song Linsheng
【期刊名称、卷期、页码】Fish & Shellfish Immunology 2007, (23): 419-429
【论文发表时间】2007-08-01 00:00:00
【引文索引类型】SCI
【引文索引号】2.4730930002e+011
【学科分类】海洋科学

【题目】The cDNA cloning and mRNA expression of cytoplasmic Cu, Zn superoxide dismutase (SOD) gene in scallop Chlamys farreri
【中文关键词】Ni, DJ ; Song, LS; Gao, Q; Wu, LT; Yu, YD; Zhao, JM; Qiu, LM; Zhang, H; Shi, FF
【英文关键词】scallop; Chlamys farreri; reactive oxygen species (ROS); superoxide dismutase (SOD); innate immunity; mRNA expression
【中文摘要】无
【英文摘要】Cu, Zn superoxide dismutases (SODs) are rnetalloenzymes that represent one important line of defence against reactive oxygen species (ROS). A cytoplasmic Cu. Zn SOD cDNA sequence was cloned from scallop Chlamys farreri by the homology-based cloning technique. The full-length cDNA of scallop cytoplasmic Cu, Zn SOD (designated CfSOD) was 1022 bp with a 459 bp open reading frame encoding a polypeptide of 153 amino acids. The predicted amino acid sequence of CfSOD shared high identity with cytoplasmic Cu. Zn SOD in molluscs, insects, mammals and other animals, such as cytoplasmic Cu, Zn SOD in oyster Crassostrea sostrea gigas (CAD42722), mosquito Aedes aegypti (ABF18094), and cow Bos taurus (XP_584414). A quantitative reverse transcriptase real-time PCR (qRT-PCR) assay was developed to assess the mRNA expression of CfSOD in different tissues and the temporal expression of CfSOD in scallop challenged with Listonella anguillarum, Micrococcus luteus and Candida lipolytica respectively. Higher-level mRNA expression of CfSOD was detected in the tissues of haemocytes, gill filaments and kidney. The expression of CfSOD dropped in the first 8-16 h and then recovered after challenge with L. anguillarum and M. litteus, but no change was induced by the C. lipolytica challenge. The results indicated that CfSOD was a constitutive and inducible acute-phase protein, and could play an important role in the immune responses against L. anguillarum and M. luteus infection.
【语种】英文
【第一作者】Ni Duojiao
【通讯作者】Song Linsheng
【期刊名称、卷期、页码】Fish & Shellfish Immunology 2007, 1-11
【论文发表时间】2007-11-01 00:00:00
【引文索引类型】SCI
【引文索引号】2.4998240001e+011
【学科分类】海洋科学

【题目】In Silico Screening for Microsatellite Markers from Expressed Sequence Tags of Porphyra yezoensis
【中文关键词】Wang MQ; Hu JJ; Zhuang YY; Zhang L; Liu W; Mao YX
【英文关键词】bioinformatics data mining; EST; microsatellites; Porphyra yezoensis
【中文摘要】无
【英文摘要】The genomic resources of Porphyra yezoensis expressed sequence tags (ESTs) were utilized to identify simple sequence repeats (SSRs), or microsatellites. This method took the advantag e of using ESTs and microsatel lites either for the establishme nt of gene identities or for the acquisition of hi gh polymorphism. The microsatel lites can be used as gene markers when microsatellites are tagged to genes. Revealed by bioinformatics analysis, 1 162 out of 21 954 ESTs contained microsatellites and cluster analysis indi-

cated that 984 of these ESTs fell into 112 contigs, while the other 178 ESTs were singletons. A total of 290 unique SSR-containing genes were identified. The AAC SSRs were the most populous type of microsatellites. GC-rich microsatellites were predominant among all the microsatellites.
【语种】英文
【第一作者】Wang Mengqiang
【通讯作者】Mao Yunxiang
【期刊名称、卷期、页码】Journal of Ocean University of China 2007, 6(2): 161-166
【论文发表时间】2007-03-08 00:00:00
【引文索引类型】SCI
【引文索引号】无
【学科分类】海洋科学

【题目】Two novel secreted ferritins involved in immune defense of Chinese mitten crab Eriocheir sinensis
【中文关键词】Kong, PF; Wang, LL; Zhang, H; Zhou, Z; Qiu, LM; Gai, YC; Song, LS
【英文关键词】Secreted ferritin; Iron-withholding strategy; Innate immunity; Metal binding site; Pathogen infection; Eriocheir sinensis
【中文摘要】无
【英文摘要】As a principal extracellular iron storage molecule, secreted ferritin plays an important role in the iron-withholding strategy of innate immunity. In this study, two novel secreted ferritins were identified from Chinese mitten crab Eriocheir sinensis (designated as EsFer-1 and EsFer-2) by rapid amplification of cDNA ends (RACE) approaches and expressed sequence tag (EST) analysis. The full-length cDNAs of EsFer-1 and EsFer-2 were of 1278 and 1595 bp, respectively, both containing a putative iron response element (IRE) in their 5' UTRs and multiple A + U-destabilizing elements (TATT or ATTTA) in their 3' UTRs. The ORFs of these two crab ferritin cDNAs were of 639 and 663 bp, respectively, encoding two peptides of 212 and 220 amino acid residues each with a signal peptide and typical structures of ferritins such as four long alpha-helices, one short alpha-helix and an L-loop. EsFer-2 exhibited higher similarity with the H-ferritins from both invertebrates and vertebrates, while EsFer-1 was closer matched to L-ferritins. The eight amino acid residues identified as metal binding sites in vertebrate H-ferritins were conserved in EsFer-2 (Glu53, Tyr60, Glu87, Glu88, His91, Glu146, Glu177 and Gln178), but none of them was observed in EsFer-1. By fluorescent quantitative real-time PCR, mRNA transcripts of EsFer-1 and EsFer-2 were mainly detected in muscle, hepatopancreas and gill, and also marginally detectable in gonad, heart and hemocytes. After the crabs were challenged by bacteria Listonella anguillarum, the transcriptional levels of both EsFer-1 and EsFer-2 in hemocytes were up-regulated twice. In the first up-regulation, the mRNA relative expression levels of both EsFer-1 and EsFer-2 reached peak at 3 h post-challenge, while in the second up-regulation, they did not reach the highest point within the experiment duration. After the fungi Pichia pastoris GS115 challenge, there was only one transcriptional level peak of both the two ferritins, appearing at 6 h post-challenge. These results suggest that secreted EsFer-1 and EsFer-2 are crucial proteins in the iron-withholding defense system, and play important roles in the innate immune responses in crabs.
【语种】英文
【第一作者】Kong Pengfei
【通讯作者】Song Linsheng
【期刊名称、卷期、页码】Fish Shellfish Immunol 2010,28, 604-612.
【论文发表时间】2010-04-01 00:00:00
【引文索引类型】SCI
【引文索引号】2.7693570001e+011
【学科分类】海洋科学

【题目】Protective immunity induced by CpG ODNs against white spot syndrome virus (WSSV) via intermediation of virus replication indirectly in Litopenaeus vannamei.
【中文关键词】Zhang, Y; Song, LS; Zhao, JM; Wang, LL; Kong, PF; Liu, L; Wang, MQ; Qiu, LM
【英文关键词】CpG; White spot syndrome virus; Dicer; Argonaute; Reactive oxygen species; STAT; Virus replication; Litopenaeus vannamei
【中文摘要】无

【英文摘要】The worldwide shrimp culture is beset with diseases mainly caused by white spot syndrome virus (WSSV) and suffered huge economic losses, which bring out an urgent need to develop the novel strategies to better protect shrimps against WSSV. In the present study, CpG-rich plasmid pUC57-CpG, plasmid pUC57 and PBS were employed to pretreat shrimps comparatively to evaluate the protective effects of CpG ODNs on shrimps against WSSV. The survival rates, WSSV copy numbers, and antiviral associated factors (Dicer, Argonaute, STAT and ROS) were detected in Litopenaeus vannamei. There were higher survival proportion, lower WSSV copy numbers, and higher mRNA expression of Dicer and STAT in pUC57-CpG-pretreatment shrimps than those in pUC57- and PBS-pretreatment shrimps after WSSV infection. The Argonaute mRNA expression in pUC57-CpG-, pUC57- and PBS-pretreatment shrimps after WSSV infection was significantly higher than that of shrimps post PBS stimulation on the first day. The ROS levels in pUC57-CpG-pretreatment shrimps post secondary stimulation of PBS were significantly higher than those post WSSV infection on the first day. These results together demonstrated that pUC57-CpG induced partial protective immunity in shrimps against WSSV via intermediation of virus replication indirectly and could be used as a potential candidate in the development of therapeutic agents for disease control of WSSV in L. vannamei.
【语种】英文
【第一作者】Zhang Ying
【通讯作者】Song Linsheng
【期刊名称、卷期、页码】Dev Comp Immunol 2010, 34(4): 418-424
【论文发表时间】2010-04-02 00:00:00
【引文索引类型】SCI
【引文索引号】2.7498800001e+011
【学科分类】海洋科学

【题目】An immune responsive multidomain galectin from bay scallop Agropectens irradians.
【中文关键词】Song XY; Zhang H; Zhao JM; Wang LL; Qiu LM; Mua CK; Liu XL; Qiu LH; Song LS
【英文关键词】Argopectens irradians; Galectin; mRNA expression; Quantitative real-time PCR; Bacteria and yeast challenge

Galectin;
mRNA expression;
Quantitative real-time PCR;
Bacteria and yeast challenge
【中文摘要】无
【英文摘要】Galectins are a family of β-galactoside-binding lectins which play crucial roles in innate immunity of vertebrates and invertebrates. In the present study, the cDNA of a galectin with multiple carbohydrate-recognition domains (CRDs) was cloned from bay scallop Argopectens irradians (designated AiGal1) by expressed sequence tag (EST) and rapid amplification of cDNA ends (RACE) techniques. The full-length cDNA of AiGal1 was of 2235 nucleotides, encoding a polypeptide of 549 amino acids. SMART program analysis revealed that AiGal1 contained four galectin CRDs, and all the CRDs contained the two consensus motifs essential for ligand-binding. Quantitative real-time PCR was employed to investigate the tissue distribution of AiGal1 mRNA and temporal expression in haemocytes of scallops challenged with Vibrio anguillarum, Micrococcus luteus and Pichia pastoris. The AiGal1 mRNA could be detected in all tested tissues with the highest expression level in hepatopancreas. After challenged by V. anguillarum and M. luteus, the expression level of AiGal1 mRNA was both up-regulated and reached the maximum level at 9 h (1.52 fold, $P < 0.05$) and 18 h (2.89 fold, $P < 0.01$) post challenge, respectively. However, there was no significant difference in the mRNA expression of AiGal1 in haemocytes after P. pastoris challenge ($P > 0.05$). These results collectively indicated that AiGal1 was a new member of the galectin family and involved in the immune responses against bacterial infection.
【语种】英文
【第一作者】Song Xiaoyan
【通讯作者】Song Linsheng
【期刊名称、卷期、页码】Fish Shellfish Immunol 2010, 28(2):326-332
【论文发表时间】2010-02-01 00:00:00
【引文索引类型】SCI
【引文索引号】无
【学科分类】海洋科学

【题目】The involvement of suppressors of cytokine signaling 2 (SOCS2) in immune defense responses of Chinese mitten crab Eriocheir sinensis

【中文关键词】Zhang, Y; Zhao, JM; Zhang, H; Gai, YC; Wang, LL; Li, FM; Yang, JL; Qiu, LM; Song, LS

【英文关键词】 Eriocheir sinensis; SOCS3; Listonella anguillarum; Micrococcus luteus; Immune defense responses

【中文摘要】无

【英文摘要】The suppressors of cytokine signaling 2 (SOCS2) has been identified as negative feedback inhibitors for various cytokines signaling via the JAK/STAT pathway.In the present studies, the cDNA of Eriocheir sinensis SOCS2 (designated as EsSOCS2) was cloned by expressed sequence tag (EST) and rapid amplification ofcDNA ends (RACE) approaches. The full-length cDNA of EsSOCS2 was of 2535 bp, consisting of an open reading frame (a ORF) of 1071 bp encoding a polypeptideof 357 amino acids. The deduced amino acid sequence of EsSOCS2 shared 55-62% similarity with other SOCS2 family members. There were three typical conserved SOCS family domains in EsSOCS2, including an N-terminal ESS formed from a single amphipathic helix, a central SH2 domain with a classic phosphotyrosine (pY) site and a C-terminal SOCS box. The sequence and structural similarity of EsSOCS2 with SOCS2 proteins from other organisms indicated that EsSOCS2 should be a new member of the SOCS2 family. Phylogenetic analysis revealed that EsSOCS2 was clustered with SOCS2 from the other invertebrates, and fell into the group of type 11 SOCS subfamily as a sister branch to CIS and SOCS2 from vertebrate, suggesting the great divergence of SOCS2 of vertebrate from invertebrate and complex evolution of SOCS2 family members. The mRNA transcript of EsSOCS2 could be detected by semi-quantitative RT-PCR in all examined tissues of healthy crabs, including haemocytes, hepatopancreas, gill, muscle, heart and gonad. The mRNA expression of EsSOCS2 in haemocytes was up-regulated to 3.5-fold at 8 h after Listonella anguillarum challenge, 3-fold and 3.5-fold at 4 and 6 h, respectively, after Micrococcus luteus challenge. These results collectively suggested that EsSOCS2 could be induced by bacteria challenge, and it was involved in the immune defense responses in E. sinensis.

【语种】英文

【第一作者】Zhang Ying

【通讯作者】Song Linsheng

【期刊名称、卷期、页码】Dev Comp Immunol 2010,34(1):42-48

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【引文索引号】2.7208850001e+011

【学科分类】海洋科学

【题目】A putative endocrine factor SIBD (single insulin binding domain protein) involved in immune response of Chinese mitten crab Eriocheir sinensis.

【中文关键词】Gai, YC; Wang, LL; Song, LS; Zhao, JM; Qiu, LM; Xing, KZ

【英文关键词】IGFBP; Insulin binding domain; Eriocheir sinensis; Arthropod endocrine; Innate immunity; mRNA expression profile

【中文摘要】无

【英文摘要】Insulin growth factor binding proteins (IGFBPs), characterized by the conserved insulin binding (IB) domains, are important components of endocrine system and play key roles in metabolism and growth. In the present study, the full-length cDNA of a single IB domain protein (designated EsSIBD) was identified from Chinese mitten crab Erlocheir sinensis based on expressed sequence tag (EST) sequence. The 1187 bp EsSIBD cDNA contained a 321 bp open reading frame (ORF) encoding a putative protein of 106 amino acids, a T-untranslated region (UTR) of 189 bp, and a 3'-UTR of 677 bp. Multiple sequence alignment presented ten conserved cysteine residues critical for the fundamental structure and function of IB domain. BLAST analysis revealed that EsSIBD shared high similarity with previously known IB domains of IGFBPs; with the identities ranging from 40% to 46%. The sequence similarity and domain conservation indicated that EsSIBD was a potential member of the IGFBP family. Phylogenic analysis presented that EsSIBD was closer to IGFBP7 than to the other 113 domain containing proteins, suggesting its functional similarity with the endocrine factor IFGBP7. The mRNA expression of EsSIBD in different tissues including hepatopancreas, gill, gonad, muscle, heart and haemocytes, and the temporal expression in haemocytes challenged by Listonella anguillarum were measured by real-time RT-1 CR. EsSIBD mRNA transcripts could be detected in all examined tissues with the highest expression level in gill. The EsSIBD mRNA

expression in haemocytes was sensitive to L anguillarum stimulation and it was up-regulated from 3 to 24 h after challenge. The structure conservation and functional similarity to IFGBPs, and its sensitivity to L anguillarum stimulation collectively implied that EsSIBD was probably involved in endocrine and immune systems of Chinese mitten crab, and provided insight into the cross-talk between the invertebrate endocrine and immune system.
【语种】英文
【第一作者】Gai Yunchao
【通讯作者】Song Linsheng
【期刊名称、卷期、页码】Fish Shellfish Immunol2010,28(1):10-17
【论文发表时间】2010-01-01 00:00:00
【引文索引类型】SCI
【引文索引号】2.742351e+011
【学科分类】海洋科学

【题目】Molecular characterization and expression of a crustin-like gene from Chinese mitten crab, Eriocheir sinensis.
【中文关键词】Mu, CK; Zheng, PL; Zhao, JM; Wang, LL; Zhang, H; Qiu, LM; Gai, YC; Song, LS
【英文关键词】Eriocheir sinensis; Crustin; WAP domain; Recombinant expression; Antibacterial activity; Minimal inhibitory concentration (MIC)
【中文摘要】无
【英文摘要】Crustin is a cysteine-rich antibacterial peptide which widely distributes within decapod crustaceans. In the present study, the cDNA encoding crustin-like peptide (designated CrusEs) was cloned from Chinese mitten crab Eriocheir sinensis by using rapid amplification of cDNA ends (RACE) approaches and expressed sequence tag analysis. The full-length cDNA of CrusEs was of 796 bp, containing a 5' untranslated region (UTR) of 214 bp, a 3' UTR of 267 bp with a poly(A) tail, and an open reading frame (ORF) of 315 bp encoding a polypeptide of 104 amino acids including a putative signal peptide of 21 amino acids. A WAP domain and the consensus framework existing in class I crustins were both identified in CrusEs, suggesting that CrusEs is a new member of type I crustins. Quantitative real-time RT-PCR was employed to examine the expression of CrusEs, and its mRNA transcript was mainly detected in haemocytes and gill. The CrusEs mRNA transcript in haemocytes was down-regulated after the challenge with Gram-positive bacteria Micrococcus luteus, while Gram-negative bacteria Listonella anguillarum did not induce significant variation of CrusEs mRNA. The mature peptide of CrusEs was cloned into pET-21a(+) with a C-terminal hexa-histidine tag fused in-frame, and expressed in Escherichia coil, and the recombinant CrusEs inhibited the growth of Gram-positive bacteria with low MIC. The results indicate that CrusEs is a potent antibacterial protein against Gram-positive bacteria infection, and it may play an important role in innate immune response of E. sinensis.
【语种】英文
【第一作者】Mu Changkao
【通讯作者】Song Linsheng
【期刊名称、卷期、页码】Dev Comp Immunol, 2010, 34, 734-740
【论文发表时间】2010-07-01 00:00:00
【引文索引类型】SCI
【引文索引号】2.7789160001e+011
【学科分类】海洋科学

【题目】A Dicer-1 gene from white shrimp Litopenaeus vannamei: expression pattern in the processes of immune response and larval development.
【中文关键词】Yao, XM; Wang, LL; Song, LS; Zhang, HA; Dong, CH; Zhang, Y; Qiu, LM; Shi, YH; Jianmin, ZM ; Bi, YK
【英文关键词】Litopenaeus vannamei; Dicer-2; mRNA expression; Immune response; Laval development
【中文摘要】无
【英文摘要】Dicer is a member of the RNAase III family which catalyzes the cleavage of double-stranded RNA to small interfering RNAs and micro RNAs, and then directs sequence-specific gene silencing. In this paper, the full-length cDNA of Dicer-1 was cloned from white shrimp Litopenaeus vannamei (designated as LvDcr1). It was of 7636 bp, including a poly A tail, a 5' UTR of 136 bp, a 3' UTR of 78 bp, and an open reading frame (ORF) of 7422 bp encoding a putative protein of 2473 amino acids. The predicted amino acid sequence comprised all recognized functional domains found in other Dicer-1 homologues and showed the highest (97.7%)

similarity to the Dicer-1 from tiger shrimp Penaeus mondon. Quantitative real-time PCR was employed to investigate the tissue distribution of LvDcr1 mRNA, and its expression in shrimps under virus challenge and larvae at different developmental stages. The LvDcr1 mRNA could be detected in all examined tissues with the highest expression level in hemocyte, and was up-regulated in hemocytes and gills after virus injection. These results indicated that LvDcr1 was involved in antiviral defense in adult shrimp. During the developmental stages from fertilized egg to postlarva VII, LvDcr1 was constitutively expressed at all examined development stages, but the expression level varied significantly. The highest expression level was observed in fertilized eggs and followed a decrease from fertilized egg to nauplius I stage. Then, the higher levels of expression were detected at nauplius V and postlarva stages. LvDcr1 expression regularly increased at the upper phase of nauplius, zoea and mysis stages than their prophase. The different expression of LvDcr1 in the larval stages could provide clues for understanding the early innate immunity in the process of shrimp larval development.
【语种】英文
【第一作者】Yao Xuemei
【通讯作者】Song Linsheng
【期刊名称、卷期、页码】Fish Shellfish Immunol 2010,9:1424-1436
【论文发表时间】2010-04-01 00:00:00
【引文索引类型】SCI
【引文索引号】2.815005e+011
【学科分类】海洋科学

【题目】The involvement of HSP22 from bay scallop Argopecten irradians in response to heavy metal stress
【中文关键词】Zhang, L; Wang, LL; Song, LS; Zhao, JM; Qiu, LM; Dong, CH; Li, FM; Zhang, H; Yang, GP
【英文关键词】HSP23; Argopecten irradians; Gene cloning; Biomarker; Heavy metals
【中文摘要】无
【英文摘要】Heat shock protein 22 (HSP22) is an important member of small heat shock protein (sHSP) subfamily which plays a key role in the process of protecting cells, facilitating the folding of nascent peptides, and responding to stress. In the present study, the cDNA of HSP22 was cloned from Argopecten irradians (designated as AiHSP22) by rapid amplification cDNA end (RACE) based on the expressed sequence tags (ESTs). The full-length cDNA of AiHSP22 was of 1,112 bp, with an open reading frame of 588 bp encoding a polypeptide of 195 amino acids. The deduced amino acid sequence of AiHSP22 showed high similarity to previously identified HSP22s. The expression patterns of AiHSP22 mRNA in different tissues and in haemocytes of scallops exposed to Cd(2+), Pb(2+) or Cu(2+) were investigated by real-time quantitative RT-PCR. The mRNA of AiHSP22 was constitutively expressed in all examined tissues, including haemocyte, muscle, kidney, gonad, gill and heart. The expression level in heart and muscle was higher than that in other tissues. The mRNA level of AiHSP22 in haemocytes was up-regulated after a 10 days exposure of scallops to Cu(2+), Pb(2+) and Cd(2+). However, the expression of AiHSP22 did not increase linearly along with the rise of heavy metal concentration. Different concentrations of the same metal resulted in different effects on AiHSP22 expression. The sensitive response of AiHSP22 to Cu(2+), Pb(2+) and Cd(2+) stress indicated that it could be developed as an indicator of exposure to heavy metals for the pollution monitoring programs in aquatic environment.
【语种】英文
【第一作者】Zhang Lei
【通讯作者】Wang Lingling
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【学科分类】海洋科学

【题目】Cloning and expression analysis of myogenin from flounder (Paralichthys olivaceus) and promoter analysis of muscle-specific expression
【中文关键词】Xu, P; Tan, XG; Zhang, YQ; Zhang, PJ; Xu, YL
【英文关键词】flounder; myogenin; myogenesis; somites; myogenin promoter; zebrafish

【中文摘要】无
【英文摘要】Myogenin is a bHLH transcription factor of the MyoD family. It plays a crucial role in myoblast differentiation and maturation. We report here the isolation of flounder myogenin gene and the characterization of its expression patterns. Sequence analysis indicated that flounder myogenin shared a similar structure and the conserved bHLH domain with other vertebrate myogenin genes. Flounder myogenin gene contains 3 exons and 2 introns. Sequence alignment and phylogenetic showed that flounder myogenin was more homologous with halibut (Hippoglossus hippoglossus) myogenin and striped bass (Morone saxatilis) myogenin. Whole-mount embryo in situ hybridization revealed that flounder myogenin was first detected in the medial region of somites that give rise to slow muscles, and expanded later to the lateral region of the somite that become fast muscles. The levels of myogenin transcripts dropped significantly in matured somites at the trunk region. Its expression could only be detected in the caudal somites, which was consistent with the timing of somite maturation. Transient expression analysis showed that the 546 bp flounder myogenin promoter was sufficient to direct muscle-specific GFP expression in zebrafish embryos.
【语种】英文
【第一作者】Xu Peng
【通讯作者】Tan Xungang
【期刊名称、卷期、页码】Comparative Biochemistry and Physiology, Part B 2007, 147:135-145.
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【学科分类】海洋科学

【题目】Transcriptome and expression profiling analysis revealed changes of multiple signaling pathways involved in immunity in the large yellow croaker during Aeromonas hydrophila infection.
【中文关键词】Mu, YN; Ding, F; Cui, P; Ao, JQ; Hu, SN; Chen, XH
【英文关键词】无
【中文摘要】无
【英文摘要】Background: The large yellow croaker (Pseudosciaena crocea) is an economically important marine fish in China suffering from severe outbreaks of infectious disease caused by marine bacteria such as Aeromonas hydrophila (A. hydrophila), resulting in great economic losses. However, the mechanisms involved in the immune response of this fish to bacterial infection are not fully understood. To understand the molecular mechanisms underlying the immune response to such pathogenic bacteria, we used high-throughput deep sequencing technology to investigate the transcriptome and comparative expression profiles of the large yellow croaker infected with A. hydrophila. Results: A total of 13,611,340 reads were obtained and assembled into 26,313 scaffolds in transcriptional responses of the A. hydrophila-infected large yellow croaker. Via annotation to the NCBI database, we obtained 8216 identified unigenes. In total, 5590 (68%) unigenes were classified into Gene Ontology, and 3094 unigenes were found in 20 KEGG categories. These genes included representatives from almost all functional categories. By using Solexa/Illumina's DeepSAGE, 1996 differentially expressed genes (P value < 0.05) were detected in comparative analysis of the expression profiles between A. hydrophila-infected fish and control fish, including 727 remarkably upregulated genes and 489 remarkably downregulated genes. Dramatic differences were observed in genes involved in the inflammatory response. Bacterial infection affected the gene expression of many components of signaling cascades, including the Toll-like receptor, JAK-STAT, and MAPK pathways. Genes encoding factors involved in T cell receptor (TCR) signaling were also revealed to be regulated by infection in these fish. Conclusion: Based on our results, we conclude that the inflammatory response may play an important role in the early stages of infection. The signaling cascades such as the Toll-like receptor, JAK-STAT, and MAPK pathways are regulated by A. hydrophila infection. Interestingly, genes encoding factors involved in TCR signaling were revealed to be downregulated by infection, indicating that TCR signaling was suppressed at this early period. These results revealed changes of multiple signaling pathways involved in immunity during A. hydrophila infection, which will facilitate our comprehensive understanding of the mechanisms involved in the immune response to bacterial infection in the large yellow croaker.
【语种】英文
【第一作者】Mu Yinnan
【通讯作者】Hu Songnian
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【学科分类】海洋科学

【题目】Molecular characterization and imprinting analysis of H19 gene in goats
【中文关键词】山羊,H19,序列,表达,印记
【英文关键词】goat,H19,squence,expression,imprinting
【中文摘要】本研究克隆了山羊H19的1139bp的cDNA序列,比较了其和其它物种的同源性。RT-PCR检测结果显示,H19在大多数组织中都表达。在该基因的外显子5找到一处多态性位点,通过在家系中的分析,表明山羊的H19为父系印记。
【英文摘要】In this study, the 1139 bp cDNA of goat H19 gene was obtained. Its homology to other species was investigated.RT-PCR revealed that it is expressed in most of the tissues investigated. A SNP was found in exon 5 of goat H19 gene. Analysis with a pedigree indicated that H19 was paternally imprinted in goat.
【语种】英文
【第一作者】曹贵玲
【通讯作者】姜运良
【期刊名称、卷期、页码】Animal Biotechnology Bulletin,2008, 11(1):488-494.
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【学科分类】畜牧学

【题目】解淀粉芽孢杆菌BI2 的鉴定及其对黄曲霉的抑制作用
【中文关键词】解淀粉芽孢杆菌;菌株鉴定;黄曲霉;抑菌活性
【英文关键词】Bacillus amyloliquefaciens ;strain identification; Aspergillus flavus ;antagonistic activity
【中文摘要】菌株BI2是从青贮玉米秸秆饲料中分离得到的一株革兰氏阳性芽孢杆菌。经16S rDNA 序列分析,发现该菌株与解淀粉芽孢杆菌 Bacillus amyloliquefaciens(NC_009725)的相似性达到 99.6%;进一步结合 Biolog 及生理生化分析,将该菌株鉴定为解淀粉芽孢杆菌。以番茄叶霉病菌、黄瓜枯萎病菌等12种植物病原菌及部分霉菌、酵母、食品乳酸菌和人类致病细菌为指示菌进行抑菌实验。结果表明:BI2 主要抑制丝状真菌,而对细菌无拮抗作用;BI2 菌株生长36 h的上清液能明显抑制黄曲霉孢子萌发及其菌丝生长,抑制率分别达到67.4%和74.8%;而且该上清液经120 ℃高温处理20 min 后对黄曲霉的抑制效果基本没有影响。
【英文摘要】The strain BI2 isolated from corn stalk of silage was G+ bacillus. By means of 16S rDNA sequence analysis,morphological observation, physiological examinatio and Biolog assay, BI2 was identified as Bacillus amyloliquefaciens . Its 16S rDNA sequence was 99.6% to B. amyloliquefaciens in similarity. Its antagonistic experiments were conducted with 12 plant pathogens including Fulvia fulva ,Fusarium oxysporum, yeasts, mold fungi, food lactobacilla and pathogenic bacteria.The results show that BI2 possessed evident inhibitory activity to filamentous fungi, but had no evident effect on bacteria. It was further found that the supernatant of its broth after 36 h fermentation significantly inhibited the conidial germination and hyphal growth of Aspergillus flavus with the inhibition ratios of 67.4% and 74.8% respectively. It was also found that its an-tagonistic activity of the supernatant was not decreased although it was treated even at 120 ℃ for 20 min.
【语种】中文
【第一作者】王德培
【通讯作者】王德培
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【学科分类】微生物学

【题目】Characterization of a novel bacteriocin produced by Lactobacillus sakei LSJ618
【中文关键词】细菌素
乳杆菌 sakei

西卡菌素
生物防腐剂
【英文关键词】Bacteriocin
Lactobacillus sakei
Biopreservative
【中文摘要】sakacin LSJ618是一种由中国传统萝卜发酵中分离出的乳杆菌菌株产生的被研究的新细菌。L. sakei LSJ618的两个表型和生理测试结合16SrD NA序列分析都已经被确定。sakacin lsj618敏感水解酶包括脂肪酶,在PH2-8之间稳定、耐热(30分钟,121 °C)。sakacin lsj618表现出对使食物变质的细菌和食物传染的病原体的抑制活性,包括革兰氏阳性单增李斯特菌,金黄色葡萄球菌,藤黄微球菌属,和革兰氏阴性菌大肠杆菌及变形杆菌。但大多数乳酸细菌检验呈阴性。细菌的大量表达是在后期固定相,抑制活性会在在26小时之内下降。sakacin lsj618被确定为杀菌,并证明其对四联球菌的杀菌作用。部分纯化后经硫酸铵沉淀和Se phadex G - 25层析, sakacinlsj618的分子量通过SDS-PAGE确定为5.2 k D。sakacin lsj618性质的确定表明它是一种新型有潜在的应用作为一种在食品工业中的生物防腐剂的细菌。
【英文摘要】A novel bacteriocin, sakacin LSJ618, produced by the strain Lactobacillus sakei LSJ618 isolated fromtraditional Chinese fermented radish, was studied. L. sakei LSJ618 was identified by both phenotypicaland physiological tests combined with 16S rDNA sequence analysis. Sakacin LSJ618 is sensitive tohydrolytic enzymes including lipase, is stable between pH 2e8, and is heat resistant (30 min at 121 C).Sakacin LSJ618 exhibits inhibitory activity against food-spoiling bacteria and food-borne pathogens,including the Gram-positive Listeria monocytogenes, Staphylococcus aureus, Sarcina sp., Micrococcusluteus, and the Gram-negative Proteus sp. and Escherichia coli, but not against most of the lactic acidbacteria tested. Maximal production of bacteriocin was reached in the late stationary phase, andinhibitory activity declined within 26 h. The mode of action of sakacin LSJ618 was determined to bebactericidal, as evidenced by its action upon Micrococcus tetragenus. After partial purification byammonium sulfate precipitation and Sephadex G-25 chromatography, the molecular weight of sakacinLSJ618 was determined to be 5.2 kDa by Tricine-SDS-PAGE. The identified properties of sakacin LSJ618indicate that it is a novel bacteriocin with potential application as a biopreservative in the food industry.
【语种】英文
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【通讯作者】张明
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【学科分类】兽医学

【题目】鸡β-防御素13对尼罗罗非鱼生长和疾病抗性的影响防御素13对尼罗罗非鱼生长和疾病抗性的影响
【中文关键词】鸡β-防御素13;抗黏附;生长促进;抗感染;罗非鱼
【英文关键词】gallinacin一1 3;anti—adhesion;growth promotion;anti—infection;Tilapia nilotica
【中文摘要】为探讨禽类 防御素13(gallinacin一13,Gal一13)作为鱼用抗生素替代品的可能性,将150尾同塘同规格尼罗罗非鱼鱼种随机等分为2组:对照组喂商品罗非鱼饵料;Gal一13组在该饵料中添加100 mg/kg的Gal一13。通过观测试验鱼的生长表现及其对凡隆气单胞菌BJCP一9株的抵抗力和黏附能力,并采用cell—ELISA 法体外测试Ga1—13对BJCP一9黏附罗非鱼肠上皮的影响。结果显示,罗非鱼饲料中添加100 mg/kgGal一13可显著提高其生长表现和抗BJCP一9感染能力(P<0.05);100/,g/mL的Gal一13并不能抑制BJCP一9生长,但能在体内外抑制BJCP 9对罗非鱼肠道上皮细胞的黏附。离体模拟黏附试验表明,Gal一13在25和2.5 I上g/mL的低浓度下有抗黏附作用(P<0.05),提示Gal一13的抗黏附作用可能是其促进动物生长和提高罗非鱼抗凡隆气单胞菌感染的机制之一,这种抗黏附作用同离子桥和/或配体一受体连接有关,同疏水性无关。
【英文摘要】To evaluate the feasibility of the gallinacin一1 3(Gal—l 3)as substitutes for antibiotics in fish,150 uniform TiM pia nilotica from the same pond were assigned randomly to two groups.The tilapias in control group were fed with a comm ercial tilapia diet,and the tilapias in experimental group were fed with the same commercial diet supplemented with Gal一13 at 100 mg/kg.After T.nilotica were fed for 21 days,growth.disease resistance。 and in vivo anti—adherence were determined by weight gain( ),relative percent survival and scanning electron microscope respectively.Furtherm ore,the inhibitory effect of Gal一1 3 on adhesion of Aeromonas veronii biovar.sobria(A.vbs)strain BJCP一9 to tilapia enteric epithelia in vitro was assessed by cell—EI ISA system.The Gal一13 supplemented at 100 mg/kg showed significant benefit to tilapia ’s growth and its disease resistance(P% 0.05),and the benefit may be correlated with their interfering in the contact of bacteria with host mucosal surface.Although the tested agent did not inhibit the growth of BJCP一9 in tryptic soy broth at 100 lag/mL,Gal一13 did inhibit the adhesion of A.vbs to tilapia enteric epithe lia in vivo and in vitro.In vitro mimic assays showed that Gal一13 at low concentrations of 25 t~g/mL and2.5/~g/mL had the reciprocal

dose—dependent anti—adherence effect.The results indicated that the antiadherence of the Gal一1 3 may be one of the mechanism s in prom oting tilapia ’S growth and disease resistance to A.vbs,and the inhibition of Gal一13 may be correlated with a cation bridging and/or receptor—ligand binding,but not with hydrophobicity.

【语种】中文
【第一作者】彭开松
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【期刊名称、卷期、页码】中国兽医科学2009,39(05):432-436
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【题目】鸡肠道抗菌肽的提取及活性研究
【中文关键词】鸡;肠黏膜;抗微生物肽;温度;pH 值
【英文关键词】chicken
intestinal mucosa
antimicrobial peptide
temperature
PH
【中文摘要】:取新鲜鸡肠黏膜超声波破碎,乙酸浸提,经Sephadex G-50 层析后,收集具有抑菌活性的组分进行超滤离心,抑菌实验表明滤过物具有抑菌活性。滤过物经SDS-PAGE 分析为一个条带,分子量约为6.078KD,得到电泳纯的鸡肠道抗微生物肽。该肽具有一定的耐热性,但经90°C以上热处理后活性下降较大;pH 值对其活性影响较大,在pH6~8 时活性最强。
【英文摘要】Abstract:After the intestinal mucous membranes of chicken were treated by ultrasonictreatment and acid extraction,an antimicrobial peptide was isolated from the intestine of chicken by Sephadex G -50 gel filtration chromatography and centrifugal ultrafiltration.The filtration material was analyzed by SDS-PAGE and the result showed that an antimicrobial peptide was purified and its molecule weight was about 6.078kD.The antimicrobial peptide was heat-resistant,but its activity descended obviously after heated at 90°C.The activity of the antimicrobial peptide was affected by pH and it was the strongest at pH6~8.
【语种】中文
【第一作者】谭淑樱
【通讯作者】祁克宗
【期刊名称、卷期、页码】家禽科学2009.7
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【引文索引类型】其他
【引文索引号】null
【学科分类】兽医学

【题目】鸭、鹅Gal-6的克隆与序列分析
【中文关键词】鸭;鹅;Gal一6;克隆;序列分析
【英文关键词】duck;goose;Gal-6;clone;sequence analysi
【中文摘要】:根据GenBank&布的鸡p一防御素Ga/一6基因序列设计2对引物,应用反转录一聚合酶链式反应技术,从鸭、鹅不同组织中扩增了B一防御素基因片段,大小为250 bp。选取鸭16个组织和鹅的肝脏检测其表达情况,结果表明,除在肾、皮肤、法氏囊外,其他组织均检测为阳性。经筛选获得重组质粒并测序,从重组质粒中扩增出成熟肽,大小约150bp。克隆的多肽由67个氨基酸组成,分别是20个氨基酸残基的信号肽、5个氨基酸的原片段、42个氨基酸的成熟肽。BLAST分析表明,鸭基因序列与基因库中已公布的序列相差1个碱基,鹅基因序列则完全相同。
【英文摘要】According to the similar gene sequence of birds in GenBank,two pairs of primers were designed.Then Gal-6 fragment was amplified by reverse transcription—polymerase chain reaction from different part of duck and goose.Results showed that the specific bands of 250 bp were f0und.Except kidney,skin and bursa of Fabricius,there was positive expression in other 14 samples of duck and liver of goose.The recombinant plasmid was sequenced.The mature peptide sequence was 150 bp.The results showed that the cDNA fragment coded 67 amino acid residues,which comprised of signal peptide with 20 amino acid residues,proprieee peptide with 5 amino acid residues,and mature peptide with 42 amino acid residues.BLAST analysis showed that there was a base difference in gene

sequence between duck and chicken,and the gene sequences of goose was completely h0mology to chicken.
【语种】中文
【第一作者】江龙海
【通讯作者】祁克宗
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【题目】鸡β-防御素-2基因
【中文关键词】鸡β-防御素-2; RT-PCR; 克隆; 表达载体
【英文关键词】Gallinacin-2(Gal-2); RT-PCR; clone; expression vector
【中文摘要】鸡β-防御素是一类广谱抗菌阳离子小肽的总称,一般具有3个分子内二硫键。防御素对细菌、真菌乃至某些被膜病毒具有广谱杀伤作用。试验根据已发表的Gal-2基因序列,设计并合成了一对引物。以骨髓中的总RNA为模板,利用RT-PCR技术扩增目的片段并克隆到pGEM-T Easy载体上,经筛选鉴定获得阳性重组子pGEM-T-Gal-2。再经EcoRI、XbaI双酶切,插入pMAL-c2x质粒构建表达载体。利用PCR技术和酶切反应筛选转化子成功获得pMAL-c2x-Gal-2重组质粒。
【英文摘要】Defensins,a family of small cationic peptide with three intramolecular cysteine disulfidebonds,have a broad spectrum of antimicrobial activity against bacterial,fungiand even some enveloped viruses.As multifunctional effector molecules of innate immunity,defensins are the key components in immune system.In this report, a pair of primers were designed and synthesized according to published Gal-2 nucleotide sequence.Total RNA was isolated from marrow.Then the target fragment was amplified by RT-PCR and cloned into pGEM-T Eazy vector between two restriction enzyme sites (EcoR I and Xba I). The sequence analysis showed the cloned fragment was Gal-2.Furthermore, the recombinant was digested by EcoRI and XbaI and inserted into pMAL-c2x expression vector.After screening by PCR and restriction analysis, we concluded pMAL-c2x-Gal-2 expression vector was constructed.
【语种】中文
【第一作者】王海英
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【题目】鸡β-防御素Gallinacin-8
【中文关键词】鸡;β 防御素;Gallinacin-8;克隆
【英文关键词】chicken;β-defensin; Gallinacin-8;cloning
【中文摘要】:本试验从鸡的肝脏中提取总RNA,根据GenBank公布的鸡β-防御素Gallinacin-8(简称gal-8)基因序列设计2对引物,运用RT-PCR技术扩增出大小为201bp的鸡β-防御素gal-8的基因片段。通过序列分析得知其由66个氨基酸组成,包括20个氨基酸残基的信号肽、5个氨基酸的原片肽及41个氨基酸的成熟肽。BLAST分析表明与GenBank中已公布的序列相比较缺失2个碱基,其同源性达到98%。将该基因克隆进pGEM-T Easy载体中,并转化大肠杆菌感受态DH5α,经筛选和测序鉴定获得了阳性重组质粒。从重组质粒中扩增出的成熟肽,大小约123 bp。试验为进一步构建重组核蛋白及表达具有广谱抗微生物活性的防御素提供了实验基础。
【英文摘要】In this study,the total cellular RNA was purified from chicken liver. According tothe similarity gene sequence of birds in GenBank,two pairs of primers were designed.Then a201bp chicken β-defensin-8(Gal-8) cDNA fragment was amplified by reverse transcriptionpolymerase chain reaction (RT-PCR).Analysis of the sequence data showed that the chicken β-defensin gene(the cDNA)fragment code 66 amino acids which comprised of signal peptide with 20 amino acid residues,original fragment with five amino acid and mature peptide with 41 amino acid residues. BLAST analysis showed that there was two bases difference in gene sequence of birds in GENBANK,the homogeneity of nucleotide was 99 %,The gene was ligated with plasmid pGEM-T Easy,Then the recombinant

plasmid was transformed into E.coli DH5α,, and the sequence was identified by T/A clone. The mature peptide which was amplified from recombinant plasmid is 123 bp.This study provide an experimental basis for constructing recombinant nuclear protein and expressing defensins with a wide range of antimicrobial activities in the future.
【语种】中文
【第一作者】杨涛
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【学科分类】兽医学

【题目】动物源防御素的功能研究进展
【中文关键词】防御素;功能;种类;分布;结构;表达
【英文关键词】defensins; function; classification; distribution; structure; exp ression
【中文摘要】:防御素是一类具有广谱抗菌、抗病毒、杀寄生虫、抗肿瘤等活性的内源肽,是抗菌肽家族的重要成员,而且在先天性免疫和获得性免疫中发挥着重要的作用。就动物源防御素的种类、分布、结构和表达调控等与功能间的关系及其作用进行了综述。
【英文摘要】The defensins are the endogene pep tides which have broad activities such as antibacteria role anti2virus, killing parasites and anti2tumor1 They are the importantmembers of the antimicrobial pep tides and p lay an important part in innate and a2 dap tive immunity1 The function and the relations of function to classification, distribution, structure and regulation of exp ression are briefly summarized1
【语种】中文
【第一作者】谭淑樱
【通讯作者】祁克宗
【期刊名称、卷期、页码】生物学杂志;第25卷第4期;1-3
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【学科分类】兽医学

【题目】安徽三黄鸡β-防御素Gal-6cDNA
【中文关键词】β-防御素; 鸡; Gal-6; 克隆
【英文关键词】β-defensin; Chicken; Gal-6; clone
【中文摘要】根据基因库中鸡β-防御素Gal-6cDNA 基因序列设计2 对引物, 应用反转录-聚合酶链式反应(RT-PCR) 技术, 从安徽三黄鸡白细胞RNA 中扩增了β-防御素Gal-6cDNA 基因片段。得到了大小为250bp 片段。将扩增产物纯化并克隆到PGEM-T-Easy 载体上, 转化感受态细胞DH-5α, 经筛选获得重组质粒并测序, 用P3/P4 引物从重组质粒中扩增出成熟肽, 大小约150 个bp。测序后Blast 分析表明, 安徽三黄鸡序列与基因库上已发表的序列相差一个碱基, Gal-6 多肽共有67 个氨基酸组成, 分别是20 个氨基酸残基的信号肽、5 个氨基酸的原片段、42 个氨基酸的成熟肽。
【英文摘要】According to the gene sequence of Gal-6 of chicken in Genebank,two pairs of primers weredesigned.Then the chicken Gal-6 cDNA fragment was amplified by reverse transcription-polymerase chain reaction (RT-PCR) from the leukocyte of three yellow chicken in Anhui.Results showed that the specific bands were found in 250bp.After gel purification,the RT-PCR products were inserted into pGEM-T-easy cloing vectors.Recombinant pGEM-T Gal-6 vector was transduced into cell DH-5α.Clones containing the DNA fragment of interest were screened,then the recombinant plasmid was sequenced.The mature peptide sequence,150bp,was amplified by the primers of P3/P4 from the recombinant plasmid.The result showed that only basic group mutated in three yellow chicken by the analysis of BLAST,the cDNA fragment code 67 amino acid residues ,comprise of signal peptide with amino acid residues, propriece peptide with 5 amino acid residues and mature peptide with 42 amino acid residues.
【语种】中文
【第一作者】江龙海

【通讯作者】祁克宗
【期刊名称、卷期、页码】家禽科学2007.10;12-15
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【学科分类】兽医学

【题目】Major forest types and the evolution of sustainable forestry in China.
【中文关键词】China ’ s forestry , China ’ s forest types,Sustainable forest management, China ’ s forest resource,Six key forestry programs Eco-construction
【英文关键词】China ’ s forestry , China ’ s forest types,Sustainable forest management, China ’ s forest resource,Six key forestry programs Eco-construction
【中文摘要】In this article, we introduce China ’ s majorforest types and discuss the historical development offorest management in China, including actions taken overthe last decade toward achieving SMF. Major challengesare identi fi ed, and a strategy for SFM implementation inChina is presented. China ’ s forests consist of a wide varietyof types with distinctive distributional patterns shaped bycomplex topography and multiple climate regimes. How tomanage this wide array of forest resources has challengedforest managers and policy-makers since the founding ofthe country. Excessive exploitation of China ’ s forestresources from the 1950s to the late 1990s contributed toenvironmental problems and calamities, such as fl oods, soilerosion, and deserti fi cation. At the start of the new millennium, the Chinese government decided to shift itsemphasis from timber production towards the achievementof sustainable forest management (SFM). With a series ofendeavors such as the implementation of the ‘ ‘ Six KeyForestry Projects ’ ’ and the reform of forest tenure policies,and the adoption of a classi fi cation system for China ’ sforests, a beginning has been made at reversing the trend ofenvironmental degradation that occurred throughout thelatter half of the last century. At the same time, hugechallenges remain to be tackled for the development offorestry in China.
【英文摘要】In this article, we introduce China ’ s majorforest types and discuss the historical development offorest management in China, including actions taken overthe last decade toward achieving SMF. Major challengesare identi fi ed, and a strategy for SFM implementation inChina is presented. China ’ s forests consist of a wide varietyof types with distinctive distributional patterns shaped bycomplex topography and multiple climate regimes. How tomanage this wide array of forest resources has challengedforest managers and policy-makers since the founding ofthe country. Excessive exploitation of China ’ s forestresources from the 1950s to the late 1990s contributed toenvironmental problems and calamities, such as fl oods, soilerosion, and deserti fi cation. At the start of the new millennium, the Chinese government decided to shift itsemphasis from timber production towards the achievementof sustainable forest management (SFM). With a series ofendeavors such as the implementation of the ‘ ‘ Six KeyForestry Projects ’ ’ and the reform of forest tenure policies,and the adoption of a classi fi cation system for China ’ sforests, a beginning has been made at reversing the trend ofenvironmental degradation that occurred throughout thelatter half of the last century. At the same time, hugechallenges remain to be tackled for the development offorestry in China.
【语种】英文
【第一作者】Limin Dai
【通讯作者】Dongkai Su
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【学科分类】生态学

【题目】Evaluating land-use suitability of an industrial city in northeast China
【中文关键词】Land-use suitability, sustainable land use, multi-criteria evaluation, Nanfen
【英文关键词】Land-use suitability, sustainable land use, multi-criteria evaluation, Nanfen
【中文摘要】Distribution of industrial land use has a crucial influence on the regional environment.Nanfen is a developing industrial city affiliated with Benxi City, northeastern China. Thesuitability of industrial land use in Nanfen was evaluated to provide a scientific basis forindustrial land-use planning and to minimise negative impacts on the local environment.Multi-criteria evaluation (MCE) within GIS was employed to derive a suitability map. Thesuitability map was compared with current industrial land use to identify areas

for reloca-tion of current industries. A total of 25.7% of the urban area in Nanfen was rated as suit-able, 28.1% as somewhat suitable, 37.9% as unsuitable and 8.2% as most unsuitable. About20.6% of the current industrial land was in suitable areas, 46.5% in somewhat suitableareas and 32.9% in unsuitable areas. We further verified the influence of selected factorson the suitability of industrial land use using a field survey. The results confirmed thatindustrial land-use relocation in Nanfen is required. This study uses ecological suitabilityevaluation as a basis for land-use planning and has implications for other industrial citiesin northeast China that have similar environmental and ecological problems.

【英文摘要】Distribution of industrial land use has a crucial influence on the regional environment.Nanfen is a developing industrial city affiliated with Benxi City, northeastern China. Thesuitability of industrial land use in Nanfen was evaluated to provide a scientific basis forindustrial land-use planning and to minimise negative impacts on the local environment.Multi-criteria evaluation (MCE) within GIS was employed to derive a suitability map. Thesuitability map was compared with current industrial land use to identify areas for reloca-tion of current industries. A total of 25.7% of the urban area in Nanfen was rated as suit-able, 28.1% as somewhat suitable, 37.9% as unsuitable and 8.2% as most unsuitable. About20.6% of the current industrial land was in suitable areas, 46.5% in somewhat suitableareas and 32.9% in unsuitable areas. We further verified the influence of selected factorson the suitability of industrial land use using a field survey. The results confirmed thatindustrial land-use relocation in Nanfen is required. This study uses ecological suitabilityevaluation as a basis for land-use planning and has implications for other industrial citiesin northeast China that have similar environmental and ecological problems.

【语种】英文

【第一作者】Limin Dai

【通讯作者】xiaofan zhao

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【学科分类】生态学

【题目】Current situation and development of Chinese urban forestry

【中文关键词】ECOSYSTEM SERVICES, PLANNING AND CONSTRUCTION, LANDSCAPE SPATIAL PATTERNS, GREEN GDP

【英文关键词】ECOSYSTEM SERVICES, PLANNING AND CONSTRUCTION, LANDSCAPE SPATIAL PATTERNS, GREEN GDP

【中文摘要】This paper introduces Chinese urban forestry research in terms of the concept, forest types, ecosystem services, spatial structure, planning and construction, assessment and management. Modern Chinese urban forest had a close relationship with traditional landscape architecture. Urban forest services had been quantified in some case cities, and determined by urban forest spatial patterns and internal structures. Based on landscape ecology and urban planning, urban forest spatial patterns have been analysed and planned rationally in some cities. However, studies on urban forestry generally lack long-term, continuous and systemic observations, as well as in-depth research on ecological processes and mechanisms. The development trends in urban forestry in China might include extensive application of '3S' technology, research on the relationship between urban forest landscape spatial patterns and their ecological effects, economic assessment, ecological and economic benefits and studies on the negative effects of pollutants.

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【语种】英文

【第一作者】Hongbin Deng

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【学科分类】生态学

【题目】Forest ecosystem services and eco-compensation mechanisms in China.
【中文关键词】Ecosystem services Eco-compensation Compensation fund system for forest ecological benefits Noncommercial forests China forestry
【英文关键词】Ecosystem services Eco-compensation Compensation fund system for forest ecological benefits Noncommercial forests China forestry
【中文摘要】Forests are a major terrestrial ecosystem providing multiple ecosystem services. However, the importance of forests is frequently underestimated from an economic perspective because of the externalities and public good properties of these services. Forest eco-compensation is a transfer mechanism that serves to internalize the externalities of forest ecosystem services by compensating individuals or companies for the losses or costs resulting from the provision of these services. China's current forest eco-compensation system is centered mainly on noncommercial forest. The primary measures associated with ecosystem services are (1) a charge on destructive activities, such as indiscriminate logging, and (2) compensation for individual or local activities and investments in forest conservation. The Compensation Fund System for Forest Ecological Benefits was first listed in the Forest Law of the People's Republic of China in 1998. In 2004, the Central Government Financial Compensation Fund, an important source for the Compensation Fund for Forest Ecological Benefits, was formally established. To improve the forest eco-compensation system, it is crucial to design and establish compensation criteria for noncommercial forests. These criteria should take both theoretical and practical concerns into account, and they should be based on the quantitative valuation of ecosystem services. Although some initial headway has been made on this task, the implementation of an effective forest eco-compensation system in China still has deficiencies and still faces problems. Implementing classification-based and dynamic management for key noncommercial forests and establishing an eco-compensation mechanism with multiple funding sources in the market economy are the key measures needed to conquer these problems and improve the forest eco-compensation system and China's forestry development in sequence.
【英文摘要】Forests are a major terrestrial ecosystem providing multiple ecosystem services. However, the importance of forests is frequently underestimated from an economic perspective because of the externalities and public good properties of these services. Forest eco-compensation is a transfer mechanism that serves to internalize the externalities of forest ecosystem services by compensating individuals or companies for the losses or costs resulting from the provision of these services. China's current forest eco-compensation system is centered mainly on noncommercial forest. The primary measures associated with ecosystem services are (1) a charge on destructive activities, such as indiscriminate logging, and (2) compensation for individual or local activities and investments in forest conservation. The Compensation Fund System for Forest Ecological Benefits was first listed in the Forest Law of the People's Republic of China in 1998. In 2004, the Central Government Financial Compensation Fund, an important source for the Compensation Fund for Forest Ecological Benefits, was formally established. To improve the forest eco-compensation system, it is crucial to design and establish compensation criteria for noncommercial forests. These criteria should take both theoretical and practical concerns into account, and they should be based on the quantitative valuation of ecosystem services. Although some initial headway has been made on this task, the implementation of an effective forest eco-compensation system in China still has deficiencies and still faces problems. Implementing classification-based and dynamic management for key noncommercial forests and establishing an eco-compensation mechanism with multiple funding sources in the market economy are the key measures needed to conquer these problems and improve the forest eco-compensation system and China's forestry development in sequence.
【语种】英文
【第一作者】Hongbin Deng
【通讯作者】Hongbin Deng
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【学科分类】生态学

【题目】Forestland prediction of China based on forest ecosystem services for the first half of 21st century.
【中文关键词】Forest resources;forest ecosystem services;forestland prediction;commercial forest;ecological forest;timber demand;eeological demand
【英文关键词】Forest resources;forest ecosystem services;forestland prediction;commercial forest;ecological forest;timber demand;eeological demand
【中文摘要】A new model was developedtopredict forestland demand ofChina during the years of201m_2050 in terms ofthe concept offor-est eeosystem services.On the basis of the relacionsIlip between forest ecosystem services and classified forest management.we hypothe-sized that theecological—forest provides ecological services,whereas commercial-forestsupplieswood and timber production,and the in-fluences ofthe growth ofpopulation,social-economic development target,forest management methods and the technology changes彻for-est resources were also taken into account.The prediction reveals that the demand oftotal forestland ofChina will be 244.8.261.2 and 362.2million haby the year 2010.2020 and 2050.respectively.The results demonstrated that China will be confronted with a shortage of forestresources,especiallywith lack ofecological-oriented forests,in the future.It issuggestedthat sustainable management of forest resourcesmust be reinforced and more attention should be drown no enhancing the service function offorest ecosystem.
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【语种】英文
【第一作者】DONG Ren-cai
【通讯作者】DONG Ren-cai
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【引文索引号】10.1007/s11676-008-0031-6
【学科分类】生态学

【题目】Short Communication Differences in the structure, species composition and diversity of primary and harvested forests on Changbai Mountain, Northeast China.
【中文关键词】broadleaved-Korean pine mixed forest; forest structure; species composition; species diversity
【英文关键词】broadleaved-Korean pine mixed forest; forest structure; species composition; species diversity
【中文摘要】Broadleaved-Korean pine (Pinus koraiensis) mixed forest is a typical vegetation type in the eastern Eurasian continent. We compared the structure, composition and diversity of a primary forest and a logged forest for effective management and regeneration of a mixed forest ecosystem on Changbai Mountain, Northeast China. The logged for-est was subjected to selective harvesting twenty years ago. The mean diameter and basal area for overall trees (≥ 2 cm dbh) were higher in the primary forest than in the logged forest, whereas overall tree density was significantly lower in the former (994 ± 34 trees · ha $^{-1}$) than in the logged forest (1921 ± 79 trees · ha $^{-1}$). The values of species richness and both Simpson ’ s and Shannon ’ s diversity indices for seedlings (< 2 cm dbh, ≥ 50 cm tall), saplings (2 − 9.9 cm dbh) and overall trees were greater in the primary forest. These results indicate that the selective logging had a lasting impact on the structural characteristics of the forest. There were major differences in species composition between the two forest sites, with the logged forest having more pioneer and mid-tolerant species than the primary forest. Diversity was more extensive in the logged forest due to the invasion of pioneer species. Twenty years is clearly an insufficient time for the logged forest to regain “ primary ” forest composition and structure. These two characteristics of the primary forest may serve as a reference for developing management plans for forest regeneration.
【英文摘要】Broadleaved-Korean pine (Pinus koraiensis) mixed forest is a typical vegetation type in the eastern Eurasian continent. We compared the structure, composition and diversity of a primary forest and a logged forest for effective management and regeneration of a mixed forest ecosystem on Changbai Mountain, Northeast China. The logged for-est was subjected to selective

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【语种】英文

【第一作者】DONGKAI SU

【通讯作者】DONGKAI SU

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【学科分类】生态学

【题目】Effects of Clear cutting on the Tree Species Composition, Structure, and Diversity of a Mixed Broadleaf-Korean Pine(Pinus koraiensis) Forest on Changbai mountain:Implications for Ecosystem Restoration.

【中文关键词】clearcutting, forest structure, tree species composition, species diversity, ecosystem restoration

【英文关键词】clearcutting, forest structure, tree species composition, species diversity, ecosystem restoration

【中文摘要】Large areas of primary mixed broadleaf-Korean pine forests on Changbai Mt., on the border between China and North Korean have been replaced by secondary forests through clearcuting since the 1950s. How clearcutting impacts the mixed forest ecosystem still remains unclear. We compared the tree species composition, structure, and diversity of a primary and a secondary forest that had suffered clearcutting, 30 yr. previously. Results showed that the mean basal area of trees (≥ 10 cm diameter at breast height (DBH)) was markedly lower in the secondary forest than in the primary forest, whereas the density of seedlings (< 2 cm DBH, ≥ 50 cm tall), saplings (2~9.9 cm DBH), and trees were all significantly higher in the former. Values for the species richness and both Simpson ' s and Shannon ' s diversity indices for seedlings and saplings were greater in the secondary forest than in the primary forest, but the values of these 3 indices for trees were significantly lower in the former. These results indicate that clearcutting altered the forest structure by significantly de -creasing the basal area of trees and increasing the numbers of seedlings and saplings. It also altered the species composition with the secondary forest having more pioneer species than the primary forest. The secondary forest has higher species diversity and abundant climax species of seedlings and saplings, and this potentially favorable situation offers an opportunity to develop restoration plans.

【英文摘要】Large areas of primary mixed broadleaf-Korean pine forests on Changbai Mt., on the border between China and North Korean have been replaced by secondary forests through clearcuting since the 1950s. How clearcutting impacts the mixed forest ecosystem still remains unclear. We compared the tree species composition, structure, and diversity of a primary and a secondary forest that had suffered clearcutting, 30 yr. previously. Results showed that the mean basal area of trees (≥ 10 cm diameter at breast height (DBH)) was markedly lower in the secondary forest than in the primary forest, whereas the density of seedlings (< 2 cm DBH, ≥ 50 cm tall), saplings (2~9.9 cm DBH), and trees were all significantly higher in the former. Values for the species richness and both Simpson ' s and Shannon ' s diversity indices for seedlings and saplings were greater in the secondary forest than in the primary forest, but the values of these 3 indices for trees were significantly lower in the former. These results indicate that clearcutting altered the forest structure by significantly de -creasing the basal area of trees and increasing the numbers of seedlings and saplings. It also altered the species composition with the secondary forest having more pioneer species than the primary forest. The secondary forest has higher species diversity and abundant climax species of seedlings and saplings, and this potentially favorable situation offers an opportunity to develop restoration plans.

【语种】英文

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【引文索引号】24(4):257-64
【学科分类】生态学

【题目】Structural and compositional responses to timber harvesting for an old-growth forest on Changbai Mountain, China - Short Communication
【中文关键词】forest harvesting; stand structure; species composition; northeast China; forest conservation; Pinus ko-raiensis
【英文关键词】forest harvesting; stand structure; species composition; northeast China; forest conservation; Pinus ko-raiensis
【中文摘要】Broadleaved-Korean pine (Pinus koraiensis) mixed forest is a dominant native vegetation type in the eastern Eurasian Continent. We intended to examine the implications of high-intensity timber harvesting (ca 70% of stand volume) for the sustainable management of a mixed forest ecosystem. We measured trees at three sites: control without cutting, older-cut site cut in 1987 and newer-cut site (cutting in 1997). There were significant differences in structure and composition between these three sites in 2003. There were 4,441 trees of 14 species with basal area 56 m 2 at control plot, 6,314 trees of 16 species with basal area 9 m 2 at newer-cut site and 8,438 trees of 21 species with basal area 31 m 2 at older-cut site (all on the area of 1 ha). The high-intensity timber harvesting system helped promote natural regeneration and the growth of small trees but it also allowed light-demanding tree species to invade into the forest. Dominant position and suitable diameter distribution of economically important species (Pinus koraiensis and Tilia amurensis) were maintained across the three sites. The existing timber harvesting appears to consider short-term economic values to a larger extent than long-term ecological values. To manage the broadleaved-Korean pine mixed forest for both timber production and biodiversity conservation, timber-harvesting intensity must be lowered.
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【语种】英文
【第一作者】Gu Huiyan
【通讯作者】Gu Huiyan
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【学科分类】生态学

【题目】State-led ecotourism development and nature conservation: a case study of the Changbai Mountain biosphere reserve, China
【中文关键词】Changbai Mountain Biosphere Reserve; conservation; ecotourism; local support
【英文关键词】Changbai Mountain Biosphere Reserve; conservation; ecotourism; local support
【中文摘要】Faced with fiscal constraints and enormous population pressures, 80% of Chinese naturereserves have employed ecotourism as a support and development strategy. Assessing the actual effects ofecotourism at a nature reserve that has a relatively long history of ecotourism development experience maybe instructive for other reserves. Therefore, we take Changbai Mountain Biosphere Reserve (CMBR) innortheastern China as a case study, for it is one of the pioneers in embracing ecotourism in China. Personalinterviews and informal group discussions were employed to understand local residents ’ attitudes towardconservation. Factors affecting their attitudes were then analyzed using logistic regression. Results indicatethat attitudes held by most farmers are not favorable toward the conservation of the CMBR. It is notecotourism but rather income from collection of forest products, household

crop lands, and migrant laborthat actually influences their attitudes. We found that the 1-day-sightseeing tour style, the limited tourismperiod, and the low level of education and extreme poverty of the local residents, together with existinginstitutions and lagging regulations make it very difficult for ecotourism to engender local residents ’ support.We concluded that institutional measures to guarantee local people ’s sharing in the revenue generated bythe reserve, as well as regulations to ensure involvement of the local community in the decision-makingprocess are preconditions for ecotourism to engender local support in China. Providing educationalopportunities for children and vocational training for young local residents can also contribute indirectlyto enhanced conservation.

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【语种】英文
【第一作者】Jianqiong Yuan
【通讯作者】Jianqiong Yuan
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【学科分类】生态学

【题目】Density dependence on tree survival in an old-growth temperate forest in northeastern China

【中文关键词】competition density-dependent mortality neighborhood effects spatial pattern analysis temperate forest
【英文关键词】competition density-dependent mortality neighborhood effects spatial pattern analysis temperate forest

【中文摘要】Density dependence is a major mechanism for shaping plant communities. However, its role inregulating diverse, mixed natural tree communities is less certain. • In this study we investigated density-dependent e ff ects in a large-scale (25 ha) old-growth temperateforest in northeastern China. Spatial patterns of neighborhood distribution in the plot were analyzedusing various methods for inferring competition, including (1) pair correlation function to determinespatial patterns of pre-mortality and post-mortality and (2) neighborhood analysis of individuals toexamine the extent to which tree survival is correlated with other covariates. • Results showed that, for common species, 3 of 5 canopy species and 3 of 8 midstory and understoryspecies were random in mortality. Negative density-dependent mortality was not found when treesreach 1 cm in DBH. There was no signi fi cant correlation for canopy species between tree survivaland conspeci fi c abundance, but largely positive correlations for midstory and understory species. Incontrast, tree survival was found to negatively correlate with conspeci fi c basal area for most species,indicating strong intraspeci fi c competition. No strong interspeci fi c density dependence was found inthe forest.

【英文摘要】Density dependence is a major mechanism for shaping plant communities. However, its role inregulating diverse, mixed natural tree communities is less certain. • In this study we investigated density-dependent e ff ects in a large-scale (25 ha) old-growth temperateforest in northeastern China. Spatial patterns of neighborhood distribution in the plot were analyzedusing various methods for inferring competition, including (1) pair correlation function to determinespatial patterns of pre-mortality and post-mortality and (2) neighborhood analysis of individuals toexamine the extent to which tree survival is correlated with other covariates. • Results showed that, for common species, 3 of 5 canopy species and 3 of 8 midstory and understoryspecies were random in mortality. Negative density-dependent mortality was not found when treesreach 1 cm in DBH. There was no signi fi cant correlation for canopy species between tree survivaland conspeci fi c abundance, but largely positive correlations for midstory and understory species. Incontrast, tree

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【语种】英文
【第一作者】Jian Zhang
【通讯作者】Zhanqing Hao
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【题目】Feasibility of implementing thinning in pure even-aged Larix olgensis plantations to establish uneven aged larch-broadleaved mixed forests.

【中文关键词】Broad leaved tree species Larix olgensis plantation Natural regeneration Thinning Uneven aged forest
【英文关键词】Broad leaved tree species Larix olgensis plantation Natural regeneration Thinning Uneven aged forest
【中文摘要】Thinning experiments were conducted in larch(Larix olgensis) plantations to assess the feasibility ofconverting even-aged plantation stands to uneven-agedforests with more complex stand structures. Stands estab-lished in 1965 and 1960 were thinned in 2004 (Regime A,for determining the effect of recent thinning on emergenceof seedlings) and 1994 (Regime B, for examining theeffects of the past thinning on establishments of recruit-ments), respectively, at two intensities each. Naturalregeneration, together with litter depth, canopy opennessand vegetation cover, was surveyed in the thinned plots.Results indicated that larch seedlings started to emerge inMay, reached a peak in June, decreased from June throughSeptember, and then disappeared in October. No larchseedlings exceeded 1 year old in the thinned plots becauseof the low levels of light and dense litter and vegetationcover. However, there were many naturally regeneratedseedlings (5 – 50 cm in height) and saplings (50 – 500 cm inheight) of broadleaved tree species such as Acer spp.,Fraxinus spp., Cornus controversa, Quercus mongolica,and even the climax tree species, Pinus koraiensis, in thethinned plots. The mean density of regenerated seedlingsreached 6.7 and 4.5 stems m-2in Regimes A and B,respectively, whilst the mean density of regenerated sap-lings reached 4,595 stems ha-1in Regime B. These resultssuggest that it is impractical to turn even-aged larchplantations to uneven-aged larch forests, but it may befeasible to develop uneven-aged larch-broadleaved forestsfrom even-aged larch plantations through thinning.
【英文摘要】Thinning experiments were conducted in larch(Larix olgensis) plantations to assess the feasibility ofconverting even-aged plantation stands to uneven-agedforests with more complex stand structures. Stands estab-lished in 1965 and 1960 were thinned in 2004 (Regime A,for determining the effect of recent thinning on emergenceof seedlings) and 1994 (Regime B, for examining theeffects of the past thinning on establishments of recruit-ments), respectively, at two intensities each. Naturalregeneration, together with litter depth, canopy opennessand vegetation cover, was surveyed in the thinned plots.Results indicated that larch seedlings started to emerge inMay, reached a peak in June, decreased from June throughSeptember, and then disappeared in October. No larchseedlings exceeded 1 year old in the thinned plots becauseof the low levels of light and dense litter and vegetationcover. However, there were many naturally regeneratedseedlings (5 – 50 cm in height) and saplings (50 – 500 cm inheight) of broadleaved tree species such as Acer spp.,Fraxinus spp., Cornus controversa, Quercus mongolica,and even the climax tree species, Pinus koraiensis, in thethinned plots. The mean density of regenerated seedlingsreached 6.7 and 4.5 stems m-2in Regimes A and B,respectively, whilst the mean density of regenerated sap-lings reached 4,595 stems ha-1in Regime B. These resultssuggest that it is impractical to turn even-aged larchplantations to uneven-aged larch forests, but it may befeasible to develop uneven-aged larch-broadleaved forestsfrom even-aged larch plantations through thinning.

【语种】英文
【第一作者】Jiaojun Zhu
【通讯作者】Jiaojun Zhu
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【学科分类】生态学

【题目】The role of environmental, root, and microbial biomass characteristics in soil respiration in temperate secondary forests of Northeast China.
【中文关键词】Microbial biomass carbon Microbial biomass nitrogen Phenology Soil temperature Soil water content
【英文关键词】Microbial biomass carbon Microbial biomass nitrogen Phenology Soil temperature Soil water content
【中文摘要】For secondary forests, the major forest resour-ces in China (accounting for more than 50% of the nationaltotal), soil respiration (R S) and the relationship between R Sand various biotic/abiotic factors are poorly understood.The objectives of the present study were to examine sea-sonal variations in soil respiration during the growingseason, and to explore the factors affecting the variation insoil respiration rates for three forest types (Mongolian oak,Manchurian walnut and mixed forests) of temperate sec-ondary forest in Northeast China. The results showed that(1) the maximum total R S rate occurred in July, following abell-shaped curve with season, (2) for all forest types, thetotal R S was signi fi cantly in fl uenced by soil temperature(P \ 0.01), and did not signi fi cantly correlate with soilmoisture, (3) compared with fi ne root biomass, coarse rootbiomass was more closely related with the root respirationin mixed forest (R2= 0.711, P = 0.017) and in Manchu-rian walnut forest (R2= 0.768, P = 0.010), and (4)microbial biomass carbon (MBC) and nitrogen were sig-ni fi cantly correlated with heterotrophic R S in Mongolianoak forest (R2= 0.664, P = 0.026; R2= 0.784, P = 0.008,respectively) and in mixed forest (R2= 0.918, P = 0.001;R2= 0.967, P = 0.001, respectively). We can concludethat in temperate secondary forests: (1) the R S rate and therelationships between R S and abiotic/biotic factors changegreatly with forest types, and (2) R S is strongly in fl uencedby soil temperature, MBC, microbial biomass nitrogen andcoarse root biomass in temperate secondary forests.
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【语种】英文
【第一作者】Jiaojun Zhu
【通讯作者】Qiaoling Yan
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【学科分类】生态学

【题目】Predicting the distributions of suitable habitat for three larch species under climate warming in Northeastern China.
【中文关键词】Dahurian larch; Korean larch; Prince Rupprecht larch; Random Forest; Potential distribution; CGCM3 climate change scenario; Northeastern China
【英文关键词】Dahurian larch; Korean larch; Prince Rupprecht larch; Random Forest; Potential distribution; CGCM3 climate change scenario; Northeastern China
【中文摘要】The larch (Larix) genus is the most important species group in the forest ecosystems in Northeastern China, occupying about 25% of the forestareas. The high tolerance to coldness and relatively fast growth rate make this genus the main species group for forestation. According to thepredictions of the global circulation model CGCM3, temperature could rise by 2 – 4 8C over the next 100 years. Few studies have been conducted onthe response of larch species to climate warming in Northeastern China. Such studies are becoming increasingly needed due to the economic andecological signi fi cance of this genus. This paper studies the potential distribution ranges of three larch species under the current and the warmingclimate conditions. A new classi fi cation and regression tree technique, Random Forest, was used to investigate the potential distributions of threelarch species, based on 18 environmental variables

which reflect the climate, topography and soil conditions of Northeastern China. The resultsshowed that the biological coldness index (BCI) is the most important factor for Dahurian larch, annual precipitation (AP) is the most importantfactor for Korean larch and elevation (DEM) is the most important factor for Prince Rupprecht larch.Under the current climate regime, in general, the prediction accuracy for the training dataset is much higher than that of testing dataset. Theprediction accuracy for Dahurian larch is much higher than that of other two larch species. Under three climate warming scenarios, the southeastboundary of suitable habitat of Dahurian Larch was modeled to retreat northwestward by 90 km (CGCM3-B1) via 105 km (CGCM3-A1B) to140 km (CGCM3-A2) scenario. The potential area would thus decrease from 25.5 million ha currently to 13, 9.5 and 7.2 million ha,correspondingly. The northwest boundary of suitable habitat for Korean larch was modeled move northwestward by 100 km (CGCM3-B1)via 125 km (CGCM3-A1B) to 340 km (CGCM3-A2), while the southern boundary may move northeastward 125 km via 170 – 200 km,respectively. The modeled potential area thus decreased from 14.6 million ha to 14.5, 12.6 and 9.7 million ha, correspondingly. The suitablehabitat of Prince Rupprecht Larch was modeled to disappear under each of the three scenarios.

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【语种】英文
【第一作者】Wenfang Leng
【通讯作者】Wenfang Leng
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【题目】China’s Classification-Based Forest Management: Procedures, Problems, and Prospects.

【中文关键词】China forestry Forest classification system Subsidies for ecological services Forest policy Ecological welfare forest
【英文关键词】China forestry Forest classification system Subsidies for ecological services Forest policy Ecological welfare forest

【中文摘要】China’s new Classification-Based Forest Man-agement (CFM) is a two-class system, includingCommodity Forest (CoF) and Ecological Welfare Forest(EWF) lands, so named according to differences in theirdistinct functions and services. The purposes of CFM are toimprove forestry economic systems, strengthen resourcemanagement in a market economy, ease the conflictsbetween wood demands and public welfare, and meet thediversified needs for forest services in China. The forma-tive process of China’s CFM has involved a series of trialsand revisions. China’s central government accelerated thereform of CFM in the year 2000 and completed the final version in 2003. CFM was implemented at the provinciallevel with the aid of subsidies from the central government.About a quarter of the forestland in China was approved asNational EWF lands by the State Forestry Administrationin 2006 and 2007. Logging is prohibited on National EWFlands, and their landowners or managers receive subsidiesof

about 70 RMB (US$10) per hectare from the centralgovernment. CFM represents a new forestry strategy inChina and its implementation inevitably faces challenges inpromoting the understanding of forest ecological services,generalizing nationwide criteria for identifying EWF andCoF lands, setting up forest-speci fi c compensation mech-anisms for ecological bene fi ts, enhancing the knowledge ofadministrators and the general public about CFM, andsustaining EWF lands under China ' s current forestlandtenure system. CFM does, however, offer a viable pathwaytoward sustainable forest management in China.

【英文摘要】China ' s new Classi fi cation-Based Forest Man-agement (CFM) is a two-class system, includingCommodity Forest (CoF) and Ecological Welfare Forest(EWF) lands, so named according to differences in theirdistinct functions and services. The purposes of CFM are toimprove forestry economic systems, strengthen resourcemanagement in a market economy, ease the con fl ictsbetween wood demands and public welfare, and meet thediversi fi ed needs for forest services in China. The forma-tive process of China ' s CFM has involved a series of trialsand revisions. China ' s central government accelerated thereform of CFM in the year 2000 and completed the fi nalversion in 2003. CFM was implemented at the provinciallevel with the aid of subsidies from the central government.About a quarter of the forestland in China was approved asNational EWF lands by the State Forestry Administrationin 2006 and 2007. Logging is prohibited on National EWFlands, and their landowners or managers receive subsidiesof about 70 RMB (US$10) per hectare from the centralgovernment. CFM represents a new forestry strategy inChina and its implementation inevitably faces challenges inpromoting the understanding of forest ecological services,generalizing nationwide criteria for identifying EWF andCoF lands, setting up forest-speci fi c compensation mech-anisms for ecological bene fi ts, enhancing the knowledge ofadministrators and the general public about CFM, andsustaining EWF lands under China ' s current forestlandtenure system. CFM does, however, offer a viable pathwaytoward sustainable forest management in China.

【语种】英文

【第一作者】Limin Dai
【通讯作者】Limin Dai

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【学科分类】生态学

【题目】Valuing eco-assets: A note on valuation methods.

【中文关键词】Valuation method, social development stage coefficient, Engel ' s coefficient
【英文关键词】Valuation method, social development stage coefficient, Engel ' s coefficient

【中文摘要】The valuation of eco-assets should take into account the perceptions and judgments of thepublic. However, the value of eco-assets based on conventional calculations has oftenbeen unreliable as a result of differing situations and individuals involved. Therefore, areasonable and efficient method for valuing eco-assets is needed. In this paper, a briefsummary of the history of valuing eco-assets is provided, followed by a summary of con-ventional methods of valuation. This summary of the currently used methods revealedthat they do not take into account the effect of the stage and development of the popula-tion determining the value of the eco-assets. Therefore, we have developed a socialdevelopment stage coefficient (l), based on Engel ' s coefficient. A new valuation methodwas then created by integrating the development stage coefficient (l) with a conventionalmodel. Finally, possible future strategies for valuing eco-assets are discussed.

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【语种】英文

【第一作者】Pengfei Song
【通讯作者】Zhanqing Hao

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【题目】Spatial distribution pattern of soil seed bank in canopy gaps of various sizes in temperate secondary forests, Northeast China.
【中文关键词】Early formation stage . Gap size . Seed invasion . Succession . Temperate secondary forests Vegetation restoration
【英文关键词】Early formation stage . Gap size . Seed invasion . Succession . Temperate secondary forests Vegetation restoration
【中文摘要】To promote the natural regeneration ofsecondary forests under gap disturbance is one ofimportant approaches for realizing their restorationand sustainable management. However, soil seedbank, one of regeneration strategies, is poorlyunderstood in gaps of secondary forests. Objectivesof the study were to evaluate the effects of sizes ofexperimentally created gaps on seed distribution insoil, and of seed banks on vegetation recovery at earlyformation stage of gaps in temperate secondaryforests, Northeast China. It was found that withincreasing gap size, species richness in the seed banksignificantly increased (r=0.691, P<0.05, n=10), butcorrespondence in species-composition of seed reser-voir between gaps and canopies adjacent to gapsdecreased (r= − 0.83, P<0.01, n=10). Gap size andsoil depth and their two-way interactions had signif-icant differences on the distribution of seed bankdensity (F=4.101, P<0.05; F=34.483, P<0.01; F=5.232, P<0.01, respectively). The Sokal and Sneathsimilarity indices in species-composition betweenextant and potential (seed bank) vegetation weregenerally low, ranging from 0.06 (interior of largegaps) to 0.24 (canopies adjacent to large gaps). Fromthe view of seed bank to restore temperate secondaryforests, establishment of medium-sized artificialgaps (i.e., gap size with 500 − 150 m2) could bemore feasible for seed invasion. To conclude, theregeneration potential out of soil seed banks islimited, and the restoration of gaps at early formationstage may be mostly dependent on other reproductivestrategies (e.g., vegetative propagation of species).
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【语种】英文
【第一作者】Qiaoling Yan
【通讯作者】Jiaojun Zhu
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【学科分类】生态学

【题目】Spatial pattern of diversity in an old-growth temperate forest in Northeastern China.
【中文关键词】Changbai Mountain Temperate forest Species diversity Spatial pattern
【英文关键词】Changbai Mountain Temperate forest Species diversity Spatial pattern
【中文摘要】Species diversity has attracted particular attention because of its signi fi cance for helpingdetermine present species performance and likely future community composition. Thespatial pattern of species diversity (species richness, abundance and Shannon diversity)in Changbai temperate forest in Northeastern China was studied to investigate the presentand likely causes for the formation of spatial patterns. To ful fi ll this goal, three aspects ofdiversity were addressed: 1) changes in the relationships of the diversity

variables, speciesrichness, abundance and Shannon diversity, to sampling area and sampling design. Thethree diversity variables were found to respond to sampling area in a dissimilar way.Sampling design had no signi fi cant effect on the diversity variable-area curves. The powerfunction, which was derived under the assumption that the forest was in equilibrium, didnot fi t the observed species-area curves, indicating that the Changbai temperate forest wasprobably not in equilibrium. 2) Variograms, used to examine the spatial structure of speciesdiversity, showed that the spatial structure of species diversity in the Changbai temperateforest was weakly anisotropic. 3) Partitioning the variation of species diversity into spatialand environmental factors indicated that the spatial pattern of the Changbai forestcommunity was unpredictable, probably because there were many undetermined pro-cesses controlling its development.

【英文摘要】Species diversity has attracted particular attention because of its signi fi cance for helpingdetermine present species performance and likely future community composition. Thespatial pattern of species diversity (species richness, abundance and Shannon diversity)in Changbai temperate forest in Northeastern China was studied to investigate the presentand likely causes for the formation of spatial patterns. To ful fi ll this goal, three aspects ofdiversity were addressed: 1) changes in the relationships of the diversity variables, speciesrichness, abundance and Shannon diversity, to sampling area and sampling design. Thethree diversity variables were found to respond to sampling area in a dissimilar way.Sampling design had no signi fi cant effect on the diversity variable-area curves. The powerfunction, which was derived under the assumption that the forest was in equilibrium, didnot fi t the observed species-area curves, indicating that the Changbai temperate forest wasprobably not in equilibrium. 2) Variograms, used to examine the spatial structure of speciesdiversity, showed that the spatial structure of species diversity in the Changbai temperateforest was weakly anisotropic. 3) Partitioning the variation of species diversity into spatialand environmental factors indicated that the spatial pattern of the Changbai forestcommunity was unpredictable, probably because there were many undetermined pro-cesses controlling its development.

【语种】英文

【第一作者】Xugao Wang

【通讯作者】Zhanqing Hao

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【学科分类】生态学

【题目】Spatial variation of species diversity across scales in an old-growth temperate forest of China.

【中文关键词】Changbai Mountains Temperate forest Spatial scale Species diversity

【英文关键词】Changbai Mountains Temperate forest Spatial scale Species diversity

【中文摘要】Species richness and abundance are the twomost important diversity variables. Species abundance isadditive when aggregated across spatial scale, whereasspecies richness is non-additive. This study analyzes thee ff ect of spatial scale and site on species abundance andrichness in a 25-ha temperate forest plot in the ChangbaiMountains, northeastern China. The result shows thatspecies abundance and richness are not only dependenton spatial scales, but also dependent on site. Speciesabundance responds linearly to changes of spatial scalewith no intersection in di ff erent sites of the study area.However, although species richness also increases withthe increase of spatial scale, there are some intersectionsfor the di ff erent sites, suggesting that a species-rich sitedoes not always have a high value if the spatial scale ischanged. In all, with respect to additive variables, it isrelatively easy to extrapolate them from one spatial scaleto another spatial scale, as they and the spatial scaleusually form a linear relationship. In contrast, non-additive variables are difficult to extrapolate acrossspatial scales, because they often respond nonlinearly tospatial scale changes. In order to extrapolate these non-additive variables across spatial scales, it is necessary toestimate the relationships between them and spatialscales. As a result, extrapolation of information amongspatial scales may be possible, but very difficult, espe-cially for non-additive variables. Because the 25-haChangbai plot is very small compared to the extent ofthe world temperate forests, and the vegetation is arelatively uniform type, more such studies in other eco-systems are needed before theories and generalizationabout scaling e ff ects can be formulated.

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【语种】英文

【第一作者】Xugao Wang

【通讯作者】Zhanqing Hao

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【引文索引类型】SCI

【引文索引号】10.1007/s11284-007-0430-8

【学科分类】生态学

【题目】Tree size distributions in an old-growth temperate forest.

【中文关键词】Changbai Mountains Temperate forest Spatial scale Species diversity

【英文关键词】Changbai Mountains Temperate forest Spatial scale Species diversity

【中文摘要】Despite the wide variation in the structural characteristics in natural forests, tree size distribution show fundamentalsimilarities that suggest general underlying principles. The metabolic ecology theory predicts the number of individualscales as the 2 power of tree diameter. The demographic equilibrium theory predicts tree size distribution starting fromthe relationship of size distributions with growth and mortality at demographic equilibrium. Several analytic predictionsfor tree size distributions are derived from the demographic equilibrium theory, based on different growth and mortalityfunctions. In addition, some purely phenomenological functions, such as polynomial function, have been used to describethe tree size distributions. In this paper, we use the metabolic ecology theory, the demographic equilibrium theory andthe polynomial function to predict the tree size distribution for both the whole community and each species in an old-growth temperate forest in northeastern China. The results show that metabolic ecology theory predictions for the scalingof tree abundance with diameter were unequivocally rejected in the studied forest. Although these predictions ofdemographic theory are the best models for most of the species in the temperate forest, the best models for some species(Tilia amurensis, Quercus mongolica and Fraxinus mandshurica) are compound curves (i.e. rotated sigmoid curves), bestpredicted by the polynomial function. Hence, the size distributions of natural forests were unlikely to be invariant and thepredictive ability of general models was limited. As a result, developing a more sophisticated theory to predict tree sizedistributions remains a complex, yet tantalizing, challenge.

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【语种】英文

【第一作者】Xugao Wang

【通讯作者】Zhanqing Hao

【期刊名称、卷期、页码】Oikos. 118:25-36.
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【引文索引号】10.1111/j.2008.0030-1299.16598.x,
【学科分类】生态学

【题目】Climatic controls in radial growth of major tree species on Changbai Mountain
【中文关键词】Climate response, Tree ring,Dendrochronology. Changbai Mountain, Northeast China
【英文关键词】Climate response, Tree ring,Dendrochronology. Changbai Mountain, Northeast China
【中文摘要】Introduction Information on spatial variability in treeradial growth is essential for improving predictions of forestecosystem responses to climate change. To date, researchershave designed models to simulate the potential distributionarea of major forest types under different climate changescenarios in Northeast China, but little is known about thespatial variability of tree growth in response to climate.& Materials and methods We used a dendroecologicaltechnique to examine the climate – growth relationship ofsix dominant tree species on seven sites varying in altitudeon Changbai Mountain in Northeast China, to explorewhether the spatial variability of tree growth is an indicatorof regional climatic forces, and whether simulation resultsgenerated by models can accurately reflect this in tree radialgrowth.& Results Fifteen site-specific species can be distinguishedspecies at or near their upper limit distribution from those atthe lower distributions. Species differences were moreimportant than altitude differences in influencing species ’ site-specific radial growth. Precipitation, temperature, andsoil moisture together constitute the major factors limitingtree radial growth.
【英文摘要】Introduction Information on spatial variability in treeradial growth is essential for improving predictions of forestecosystem responses to climate change. To date, researchershave designed models to simulate the potential distributionarea of major forest types under different climate changescenarios in Northeast China, but little is known about thespatial variability of tree growth in response to climate.& Materials and methods We used a dendroecologicaltechnique to examine the climate – growth relationship ofsix dominant tree species on seven sites varying in altitudeon Changbai Mountain in Northeast China, to explorewhether the spatial variability of tree growth is an indicatorof regional climatic forces, and whether simulation resultsgenerated by models can accurately reflect this in tree radialgrowth.& Results Fifteen site-specific species can be distinguishedspecies at or near their upper limit distribution from those atthe lower distributions. Species differences were moreimportant than altitude differences in influencing species ’ site-specific radial growth. Precipitation, temperature, andsoil moisture together constitute the major factors limitingtree radial growth.
【语种】英文
【第一作者】yu dapao
【通讯作者】yu dapao
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【学科分类】生态学

【题目】Forest Management in Northeast China: History, Problems and Prospects.
【中文关键词】Regional forest management Forest
【英文关键词】Regional forest management Forest
【中文摘要】Studies of the history and current status offorest resources in Northeast China have become importantin discussions of sustainable forest management in theregion. Prior to 1998, excessive logging and neglectedcultivation led to a series of problems that left exploitableforest reserves in the region almost exhausted. A sub-stantial decrease in the area of natural forests was accom-panied by severe disruption of stand structure and seriousdegradation of overall forest quality and function. In 1998,China shifted the primary focus of forest management inthe country from wood production to ecological sustain-ability, adopting ecological restoration and protection askey foci of management. In the process, China launchedthe Natural Forest Conversion Program and implemented anew system of Classi fi cation-based Forest Management.Since then, timber harvesting levels in Northeast Chinahave decreased, and forest area and stocking levels haveslowly increased. At present, the large area of low qualitysecondary forest lands, along with high levels of timberproduction, present researchers and government agenciesin China with major challenges in deciding on managementmodels and

strategies that will best protect, restore andmanage so large an area of secondary forest lands. Thispaper synthesizes information from a number of sources onforest area, stand characteristics and stocking levels, andforest policy changes in Northeastern China. Following abrief historical overview of forest harvesting and ecologi-cal research in Northeast China, the paper discusses thecurrent state of forest resources and related problems inforest management in the region, concluding with keychallenges in need of attention in order to meet thedemands for multi-purpose forest sustainability and man-agement in the future.

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【语种】英文

【第一作者】Dapao Yu

【通讯作者】周莉

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【引文索引类型】SCI

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【学科分类】生态学

【题目】Composition and seasonal dynamics of seed rain in broadleaved Korean pine (Pinus koraiensis) mixed forest in Changbai Mountain, China.

【中文关键词】seed rain; seed dispersal; broad-leaved Korean pine (Pinus koraiensis) mixed forest; Changbai Mountain

【英文关键词】seed rain; seed dispersal; broad-leaved Korean pine (Pinus koraiensis) mixed forest; Changbai Mountain

【中文摘要】To explore the composition and spatio-temporal dynamics of seed rain in broad-leaved Korean pine (Pinus koraiensis)mixed forest, 150 seed traps were set up in a 25 hm 2 plot in Changbai Mountain. Seeds, fruits, anthotaxy and others in seed traps were collected, identified and divided into 4 types. From 2005 to 2006, we collected 47 different types. Total number of seeds andfruits was 121291, including 23147 mature seeds and fruits (19.1% of the total). Tilia amurensis and Fraxinus mandshurica, with the most seeds and fruits, accounted for 90% of the total. The analysis on seasonal dynamics of seed rain showed that there were thelargest number of seeds and fruits between July and October, which were composed of immature seeds and fruits. In mid-October, mature seeds and fruits reached their peak, but immature seeds and fruits still accounted for high proportion. There were 91 traps that contained 100 – 200 mature seeds and fruits, and one trap without any mature seed or fruit. The largest number of species found in a trap was 7, and usually 3 or 4 species were found in most of the traps. There were obvious relationships between spatial patterns of mature seeds and fruits and their parent trees, indicating that their mature seeds and fruits were not dispersed far from their parent trees.

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【语种】中文
【第一作者】Zhang Jian
【通讯作者】Zhanqing Hao
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【引文索引号】1000-9333
【学科分类】生态学

【题目】Vertical structure and spatial associations of dominant tree species in an old-growth temperate forest.
【中文关键词】Spatial pattern; Point pattern analysis; Stand dynamics; Scale; Changbai Mountain
【英文关键词】Spatial pattern; Point pattern analysis; Stand dynamics; Scale; Changbai Mountain
【中文摘要】A 25-ha broad-leaved Korean pine (Pinus koraiensis) mixed forest plot was established on Changbai Mountain, PR China, in 2004 in order togain insights into the processes driving regeneration and succession of the forest. All trees at least 1 cm in diameter at breast height were mappedand identi fi ed to species. In this study, the spatial distribution patterns and spatial associations of four dominant tree species among different treeheight classes were analyzed by a point pattern analysis method, which was the O-ring statistic. We found that: (1) P. koraiensis was adiscontinuously regenerating population, while Tilia amurensis and Quercus mongolica were continuously regenerating populations, and Fraxinusmandshurica might be a declining population. (2) Intra- and interspecies spatial associations of varied with species, tree height, and scales. P.koraiensis and T. amurensis at the lower height classes showed positive association to most species at the upper height class at almost all scales,suggesting that they have broad niches and grow well under the canopy of other species. Q. mongolica at the lower height classes showed spatialindependence at smaller scales and negative association at larger scales to non-conspeci fi c adults, suggesting that spatial heterogeneity may beimportant to generate patterns. (3) Scale is an important factor for pattern formation, and different species showed different distribution patternsand spatial associations at different scales.
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【语种】英文
【第一作者】Zhanqing Hao
【通讯作者】Bosong
【期刊名称、卷期、页码】Forest Ecology and Management, 252:1-11
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【引文索引类型】SCI
【引文索引号】10.1016/j.foreco.2007.06.026
【学科分类】生态学

【题目】Tourism-induced deforestation outside Changbai Mountain Biosphere Reserve, northeast China
【中文关键词】Land use change.Deforestation.Urbanization .Spatial variation . Temporal change
【英文关键词】Land use change.Deforestation.Urbanization .Spatial variation . Temporal change

【中文摘要】Introduction Old-growth forests on Changbai Mountain are economically and ecologically important but have been fragmented outside Changbaimountain Biosphere Reserve.The trend of forest landscape degradation on ChangbaiMountain threatens forest sustainability and sityconservation in the region. Previous studies have focused mainly on the structure and function of protected forests but have oored managed forests outside the reserve border. • Objectives In this paper, deforestation processes are studied for two forestry enterprises, namely Baihe and Lushuihe Forestry Bureaus, with different tocioeconomic structure due to their differences in proximity to Changbai Mountain Biosphere Reserve, which attracts hundreds of thousands of tourists each year. Baihe ’ s income comes from both forestryand tourism whereas Lushuihe ’ s revenue is primarily from forest products. Land-use change was mapped using a time series of satellite images acquired in 1977, 1991, 1999 and 2007 for both forestry bureaus.

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【语种】英文

【第一作者】zhao jingzhu
【通讯作者】xu dong

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【学科分类】生态学

【题目】Current status and problems in certification of sustainable forest management in China.

【中文关键词】Forest management Forest certification Forest products Certification cost China forestry
【英文关键词】Forest management Forest certification Forest products Certification cost China forestry

【中文摘要】Forest certification is a mechanism involvingthe regulation of trade of forest products in order to protect forest resources and improve forest anagement. Although China had a late start in adopting this process, the country has made good progress in recent years. As of July 31, 2009,17 forest management enterprises and more than one million hectares of forests in China have been certified by the Forest Stewardship Council (FSC). Several major factors affect forest certification in China. The first set is institutional in nature. Forest management in China is based on centralized national plans and therefore lacks flexibility. A second factor is public awareness. The importance and value of forest certification are not widely nderstood and thus consumers do not make informed choices regarding certified forest products. The third major factor is the cost of certification. Together these factors have constrained the development of China ’ s forest certification efforts. However,the process does have great potential. According topreliminary calculations, if 50% of China ’ s commercialforests were certified, the economic cost of forest certification would range from US$0.66 – 86.63 million while the economic benefits for the forestry business sector could exceed US$150 million. With continuing progress in forest management practices and the development of international trade in forest products, it becomes important to improve the

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【语种】英文
【第一作者】zhao jingzhu
【通讯作者】Xie Dongming
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【学科分类】生态学

【题目】东北阔叶红松林群落类型划分及物种多样性.
【中文关键词】中国东北 阔叶红松林群落类型 物种多样性 二元指示种分析
【英文关键词】Northeast China;broadleaved—Korean pine mixed forest;community type;species diversity;TW INSPAN.
【中文摘要】运用TWINSPAN分类方法,对我国东北阔叶红松林群落类型进行划分,对乔木层树种进行聚类,并对东北地区长白山、大秃顶子山、平顶山和丰林保护区4个样点的物种多样性进行对比研究.结果表明:24个样地中共记录到维管束植物264种,隶属于64科147属.经过聚类,将阔叶红松林划分为3个群落类型组和7个群落类型;同时,将33个乔木树种间的关联性划分为8组.阔叶红松林群落的物种丰富度和多样性为草本层>灌木层>乔木层.在4个样点中,长白山的样地平均物种丰富度最高,为63.长白山和大秃顶子山乔木层和灌木层的物种多样性略高于平顶山和丰林保护区;丰林保护区草本层的物种多样性为2.83,高于其它3个样点.平顶山灌木层和长白山草本层的均匀度最低,分别为0.71和0.80
【英文摘要】In this paper.the community types of broadleaved—Korean pine mixed forest in Northeast China were identified.and the groups of tree relationship were established based on TW INSPAN. The species diversities at 4 locations in Northeast China,i.e.,Changbai Mountain, Datudingzi Mountian,Pingding Mountian and Fenglin Nature Reserve,were compared.The results showed that 264 species belonging to 147 genera in 64 families were recorded in 24 plots,and the 24 plots were identified into 7 community types and 3 groups.The 33 tree species were divided into 8 groups ac— cording to their relations.Herbaceous plants possessed the greatest species richness and diversity, followed by shrubs and trees. At the 4 locations, Changbai Mountain owned the highest average species richness of 63.The diversities of tree layer and shrub layer in Changbai Mountain and Datu— dingzi Mountain were higher than those in Pingding Mountain and Fenglin Nature Reserve.The di— versity of herb layer in Fenglin Nature Reserve was 2.83.being higher than that at other 3 loca— tions.The shru b layer in Pingding Mountain and the herb layer in Changbai Mountain had the low— est evenness of 0.71 and 0.80.
【语种】中文
【第一作者】曹 伟
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【学科分类】生态学

【题目】中国长白山植物区系的垂直分布格局
【中文关键词】长白山;植物区系;垂直分布
【英文关键词】Changbai Mountain;flora;vertical distribution
【中文摘要】:为了探讨长白山植物区系的垂直分化特征及其与周边地区植物区系的联系,通过对以往在该地区采集的标本进行分类学鉴定,统计得出长白山共有维管束植物134科517属1 323种。对这些植物从属、种两级进行统计分析,结果表明:长白山4个植被垂直带的植物区系具有明显的垂直分布格局;在整体上具有温带性质,包含有少量的热带成分,主要体现在阔叶红松林带;随海拔的升高,温带性质逐渐减弱,寒带亚寒带逐渐增强。植物区系的垂直变化反映了长白山低海拔植物区系与热带植物区系的联系,以及高海拔地段与北极成分之间的联系。
【英文摘要】To explore the vertical differentiation of flora from Changbai M ountain and its relationship with those of surrounding areas,by the taxonomic identification for the plant samples in this area,about 1 323 species,517 genera, 134 families of the vascular bundle plants in Changbai Mountain were acquired and analyzed at the level of genus and species.Major results are as follows:the flora

of the four vertical vegetational belts is obvious in vertical pattem .The flora in this area, especially in broad-leaved/Korean pine mixed forest zone is temperate nature and is composed of few tropical elements.rI1he temperate nature decreases and the frigid and subfrigid elements increase as altitude increasing.The vertical change of flora from Changbai Mountain reflects the relationship between the flora of low elevation and tropical flora, and the connection between Changbai Mountain and arctic components at the alpine zone.

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【第一作者】曹 伟
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【学科分类】生态学

【题目】生物多样性与森林生态系统健康的几个关键问题
【中文关键词】生物多样性 ;森林生态系统;生态系统健康
【英文关键词】biodiversity;forest ecosystem ;ecosystem health
【中文摘要】生物 多样性和生态系统健康 间的关 系,是生态学领域的一个 重大科学问题 ,近年 来 已成为关注的热点。首先 ,生物多样 性在复杂 的时空尺度上维持着生态系统过程的运 行,是生态系统功能得以维持 的生物基础 ;其次 ,生物多样性是生态系统抗干扰能力、恢复 能力及适应环境变化能力的物质基础。生态系统健康 的维持取决于系统的生物多样性、可 再生能力和生产力,维护生物多样性是 生态系统管理计划中不可缺少的部分;第三,对生态 系统健康程度 的评价,很 大程度上依赖 于对生态过程 的认 识,而生物 多样 性及其生态系统 功能又是认识和 了解生态过程的基础。本文通过对森林生态系统异质性、种间关系及关键 种 、外来物种入侵 、“ 绿色沙漠 ”等问题 的论述,阐述 了生物多样性与森林生态系统健康之间 的关系,提 出了我国所面临的问题和相应的对策。
【英文摘要】Ecosystem health in relation to biodiversity is a major subject in ecology.Firstly,it is biodiversity that makes ecological processes operating.Secondly,biodiversity is the material base of ecosystem for its ability in resisting disturbances and in adapting to environmental changes. The maintenance of ecosystem health relies on the biodiversity,productivity,and regeneration of the system.Thirdly,the assessment of ecosystem health depends on our knowledge in ecological processes,while the biodiversity and its function in ecosystem is the base of ecological processes. This paper summarized the relationships between biodiversity and forest ecosystem health in terms of the heterogeneity of forest ecosystem ,inter—species relationships and key species,invasion of exogenous species,and “ green desert ”,and discussed the related problems in China
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【第一作者】陈亮
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【学科分类】生态学

【题目】辽东山区生态土地分类中的植物群落数量分析.
【中文关键词】植物群落 数量分析 ;生态土地分类 ;环境 因子 ;辽东 山区
【英文关键词】qtlantitative classification and ordination; ecological land clas sification; environmental factors ; mountainous region in eastern Liaoning Province
【中文摘要】采用 TWINSPAN分类和 PCA、CCA排序的方法对辽 东山 区样 方数据进 行植物 群落数 量分析 。结果表 明 : 分类和排序是分析植 被与环境 关系的有效途径 。CCA指示 了植 物群落与环境 因子之 间的相关关 系 。MRPP检验表 明 ,特定 的植 物群落和环境因子的组合是客观存在 的 ,这种特 定 的组 合构 成 了特 定 的生 态系 统单元 。本研究 共得 到 6种群落类型 ,能够基本指示研究 区潜在 的植 被类 型 ,可用 于表征 生态 土地分 类 中分 类单元 的植被 类型 。制约 . 辽东山区森林群落类型 、植 物种分布格局的主要 因素是坡 向 、坡度 的变化 ,可将其作 为生态土地分类 的依据 。
【英文摘要】Quantitative classification and ordination aiming to realize muhifactor ecological land classification was developed for the mountainous region in eastern Liaoning Province.Data for ground flora and canopy trees species from selected stands were

summarized and subjecied to TWINSPAN classification and PCA,CCA ordination.CCA indicated that slope and aspect were hi.ghly correlated with the ground flora and canopy tree species.Pairwise MRPP tests indicated many significant differences(P < 0.05)among the vegetation groups and environmental factors.6 types of plant community,which can be used to indicate the vegetation type in ecological classification system , were based on cluster analysis of the six most environment factors . The vegetation of the mountainous region in eastern Liaoning Province was believed to be related a moisture and nutrient gradient which was mainly influenced by slope and aspe ct,which can be used as criterion in ecological land clas sification.

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【学科分类】生态学

【题目】东北地区花楸种子质量的种源变异研究.
【中文关键词】花楸 ;种子质量;种源变异
【英文关键词】Sorbus pohuashanensis;seed quality;provenan ce variation
【中文摘要】为 了探讨花楸种子质量 的变异规律 ,对我 国东北 自然分布 区7个种源地 的花楸种 子的种子千粒重、饱满度、含水量和生活力进行 了研究.结果表 明:花楸种子千粒重远远小于乔 木树种的平均水平 ,其 中白河种源的种子千粒重最大 ,带岭种源的最小.新采 收的未 经贮藏直 接播 种 的种 子生 活力最 高 ,其次 是低 温 干藏 ,而经 室温干 藏和低 温湿 藏的种 子 生 活力只 能达 到 20%左右 ;长 白种源 的种子无论哪种贮藏处理方式 ,其生活力都要 明显高于其他种源.花楸种 子从西南到东北有变轻、变小的趋势 ;饱满度与经纬度有关,海拔和年降水量也有一定影响;含 水量则主要与年均气温和无霜期有关 ;生活力 的变化主要受年均气温的影响.长 白种源的花楸 种子质量最佳 ,而汪清和带岭的种源则最差.
【英文摘要】To explore variation of seed quality,weight of one thousand seed,plumpress,water content and vi— talky of~orbus pohuashanensis seed which collected from 7 provenan ces were studied in the paper.The re— suit showed:the weight of one thousand seeds is smaller than that of average of the arbor seed,which that of Baihe provenan ce was the heaviest an d Dailing provenance was the lightest.Viability of fresh seed were most high than other treatment,dry storage in low-temperature for 5 months were secondly,but dry storage in house-temperature and wet storage of dry—temperature only have 20% or so,it WfS effected by mean an — nual temperature,an d seed viability of Changbai provenan ce was highest than other provenance every treat— ment.From northeast to southwest,it is a trend that seed weight of S .pohuashanensis is heavier an d hea v— ier.Plumpness of seeds was related with longitude an d latitude,and also Was influenced by altitude and rain— faU per year.Contain water capacity of seeds Was effected by mean an nual tempe rature an d frost—free period. Seed quality of Changbai provenance Was the best,and then W angqing an d Dailing provenances ’ Was the most bad.
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【学科分类】生态学

【题目】长白山西坡风灾区森林恢复情况.
【中文关键词】风灾干扰 摇 恢复状况 摇 多样性指数 摇 阔叶红松林 摇 云冷杉林 摇 岳桦林
【英文关键词】wind disturbance; recovery state; diversity index; broad-leaved Korean pine forest;spruce-fir forest; Erman's birch forest.
【中文摘要】以长白山西坡风灾迹地(阔叶红松林、云冷杉林、岳桦林)的样地调查资料为基础,研究了各林型森林群落遇灾 23 年后的恢复特征 . 结果显示: 3 种林型的恢复速度为阔叶红松林 > 云冷杉林 > 岳桦林,并且它们与各自对照的群落共有度指数分别为 0郾 49 、 0郾 44 、 0郾 33. 风灾对各林型的乔木组成和多样性的影响不同:阔叶红松林中,风灾显著增加了

乔木总数量,但对乔木种数和琢多样性指数没有显著影响(P >0郾05);云冷杉林中,风灾仅显著降低了 Shannon多样性指数和 Simpson 优势度指数;岳桦林中,除 Pielou 均匀度指数,其余多样性指数都因风灾而显著降低 . 各林型优势树种组成变化及更新情况对风灾的响应也与林型相关:阔叶红松林与对照区的优势树种组成显著不同,而云冷杉林及岳桦林受灾前后的优势树种组成差异均不大;阔叶红松林的幼树更新情况较好,云冷杉林有少量更新,岳桦林带几乎没有林木更新 . 表明风灾对森林群落的影响在 23 年后仍未消除,森林在风灾干扰后的恢复需要一个漫长的过程 .

【英文摘要】Based on the field investigation in windfall areas of Changbai Mountains, this paper stud鄄ied the community recovery characteristics of broad鄄leaved Korean pine forest (BKPF), spruce firforest (SFF), and Erman爷s birch forest (EBF) that were disturbed by wind disaster 23 years ago.The recovery rate of these three forest types was in the order of BKPF>SFF>EBF, and their totalcommunity index was 0郾49, 0郾44, and 0郾33, respectively. The effects of the wind disaster on theforest tree species composition and diversity were different. In BKPF, the total number of trees in鄄creased significantly, but the tree species number and 琢 diversity index had no significant change;in SFF, only the Shannon diversity index and Simpson dominance index decreased significantly;while in EBF, all diversity indices except Pielou evenness index had significant decrease. The re鄄sponses of dominance tree composition and regeneration to the wind disaster depended on foresttypes. Comparing with the plots not suffered from wind disaster, the BKPF under wind disaster dis鄄turbance had greatly different dominance tree compositions, but the difference in both SFF and EBFwas not significant. The BKPF爷s sapling regeneration was fairly good, while the SFF爷s was small,and EBF almost had no sapling regeneration. All the results suggested that the effects of wind disas鄄ter disturbance on the test forest ecosystems in study areas was not removed even after 23 years, andthe recovery of forest after wind disaster disturbance needs a relatively long time.

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【学科分类】生态学

【题目】长白山次生杨桦林样地(CBS): 群落组成与结构

【中文关键词】群落结构 生物多样性 天然次生林 森林动态监测样地 长白山

【英文关键词】无

【中文摘要】长白山次生杨桦林是该地区阔叶红松林经皆伐和火烧等破坏后恢复形成的主要次生林类型之一,是阔叶红松林次生演替系列中的重要阶段。参照巴拿马巴洛科罗拉多岛(Barro Colorado Island,BCI)50hm2热带雨林样地的技术规范,于2005年在长白山北坡的自然保护区内建立了一块5hm2的次生杨桦林长期监测样地,对样地内所有胸径≥1cm的木本植物进行了详细的定位调查。对样地的物种组成与群落结构的分析表明:次生杨桦林样地物种组成丰富,共包括16科28属44种;区系特征明显,北温带成分占主要部分;样地内被监测的树木个体数为20101,不包括分枝的独立个体数为16565;优势树种明显,从个体数、平均胸径、胸高断面积和重要值等分析来看,演替先锋树种白桦(Betula platyphylla)和山杨(Populus davidiana)在群落中占有绝对优势地位,但从径级结构来看,它们的更新却非常差,随着演替的进展,这些先锋树种将逐渐走向衰亡;阔叶红松林中的主要树种如红松(Pinusko-raiensis)和紫椴(Tilia amurensis)等已经在次生杨桦林中占有了一定的比例,林下更新良好,逐渐进入林冠层并最终取代杨桦等成为该森林的优势种;从物种的空间分布格局来看,演替先锋树种和阔叶红松林中的主要树种并没有表现出明显的聚集性分布格局,而其它的小乔木和灌木树种则表现出明显的聚集性分布格局,但与地形并没有表现出明显的相关性,相关结论还需要进一步分析。

【英文摘要】长白山次生杨桦林是该地区阔叶红松林经皆伐和火烧等破坏后恢复形成的主要次生林类型之一,是阔叶红松林次生演替系列中的重要阶段。参照巴拿马巴洛科罗拉多岛(Barro Colorado Island,BCI)50hm2热带雨林样地的技术规范,于2005年在长白山北坡的自然保护区内建立了一块5hm2的次生杨桦林长期监测样地,对样地内所有胸径≥1cm的木本植物进行了详细的定位调查。对样地的物种组成与群落结构的分析表明:次生杨桦林样地物种组成丰富,共包括16科28属44种;区系特征明显,北温带成分占主要部分;样地内被监测的树木个体数为20101,不包括分枝的独立个体数为16565;优势树种明显,从个体数、平均胸径、胸高断面积和重要值等分析来看,演替先锋树种白桦(Betula platyphylla)和山杨(Populus davidiana)在群落中占有绝对优势地位,但从径级结构来看,它们的更新却非常差,随着演替的进展,这些先锋树种将逐渐走向衰亡;阔叶红松林中的主要树种如红松(Pinusko-raiensis)和紫椴(Tilia amurensis)等已经在次生杨桦林中占有了一定的比例,林下更新良好,逐渐进入林冠层并最终取代杨桦等成为该森林的优势种;从物种的空间分布格局来看,演替先锋树种和阔叶红松林中的主要树种并没有表现出明显的聚集性分布格局,而其它的小乔木和灌木树种则表现出明显的聚集性分布格局,但与地形并没有表现出明显的相关性,相关结论还需要进一步分析。

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【第一作者】郝占庆
【通讯作者】郝占庆
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【题目】长白山次生杨桦林样地: 物种组成与群落结构.
【中文关键词】群落结构 生物多样性 天然次生林 森林动态监测样地 长白山
【英文关键词】community structure,biodiversity,natural secondary forest,forest dynamics plot(FDP),
【中文摘要】长白山次生杨桦林是该地区阔叶红松林经皆伐和火烧等破坏后恢复形成的主要次生林类型之一,是阔叶红松林次生演替系列中的重要阶段。参照巴拿马巴洛科罗拉多岛(Barro Colorado Island,BCI)50 hm2热带雨林样地 的技术规范,于2005年在长白山北坡的自然保护区内建立了一块5 hm2的次生杨桦林长期监测样地,对样地内所 有胸径≥1 cm的木本植物进行了详细的定位调查。对样地的物种组成与群落结构的分析表明:次生杨桦林样地物 种组成丰富,共包括16科28属44种;区系特征明显,北温带成分占主要部分;样地内被监测的树木个体数为20 101,不包括分枝的独立个体数为16 565;优势树种明显,从个体数、平均胸径、胸高断面积和重要值等分析来看,演替先锋树种白桦(Baulaplatyphyla)和山杨(Populus如 如尬)在群落中占有绝对优势地位,但从径级结构来看,它们的更新却非常差,随着演替的进展,这些先锋树种将逐渐走向衰亡;阔叶红松林中的主要树种如红松(Pinus koraiensis)和紫椴(z让 anmrensis)等已经在次生杨桦林中占有了一定的比例,林下更新良好,逐渐进入林冠层并最终 取代杨桦等成为该森林的优势种;从物种的空间分布格局来看,演替先锋树种和阔叶红松林中的主要树种并没有 表现出明显的聚集性分布格局,而其它的小乔木和灌木树种则表现出明显的聚集性分布格局,但与地形并没有表 现出明显的相关性,相关结论还需要进一步分析。
【英文摘要】Aims Natural secondary poplar-birch forest is one of main secondary forests in Changbai Mountain,which is formed by the restoration after clear-cutting or fire.And it is an important stage in the secondary succession of broad-leaved Korean pine(Pinus koraiensis)mixed forest.A 5 hm2 natural secondary poplar-birch forest plot was established in Changbai Mountain Natural Reserve in 2005 in order to gain insights into the processes driving regeneration and succession of the forest and its climax community—broad-leaved Korean pine mixed forest.This paper aims to give some basic information on the forest,including species composition and community structure.Methods In the plot,all free-standing trees at least 1 cm in diameter at breast height(DBH,1.3 m above ground)were mapped,tagged,and identified to species,and their geographic coordinates were recorded following a standard field protocol.A total survey station was used to determine the elevations of edge points.Important findings There are 16 565 genotype individuals(20 101 individuals with branch),belonging to 44 species,28 genera,and 16 families.Floristic characteristics of the community are very prominent.At the generic levels,North temperate areal-type is the main part of genus areal-types.The statistics of species abundance,basal area,mean DBH,and important value showed that pioneer species Betula platyphylla and Populus davidiana are obviously dominant species.However,the regeneration of the two species is very poor by the analysis of size-class distributions,which indicated that they will quit the stage along with the succession of the community.Some tree species,such as Korean pine and Tilia amurensis,which are main species in broad-leaved Korean pine mixed forest,account for a large proportion in the understory layer.Therefore,they will replace the pioneer species and dominate the overstory layer.Spatial distribution patterns of species were analyzed.For pioneer species and those species that are main species in broad-leaved Korean pine mixed forest,there is no obviously clumped pattern captured.For the midstory and understory species,there are obviously clumped patterns of many species by the observation.There is no obvious correlation between the clumped patterns and the topography.
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【学科分类】生态学

【题目】软枣猕猴桃光雾扦插育苗试验.
【中文关键词】光雾扦插;软枣猕猴桃;轻型基质;架空插床;生根率
【英文关键词】cuttage seedling of sunlight and spray;Actinidia arguta;lighter culture matrix;cutting beds without
【中文摘要】采用L9(3) 正交试验研究了在70%透光条件下,架空光雾苗床上轻型扦插基质、ABT浓度、处理时间对软 枣猕猴桃两种果型的结果期枝条生根率的影响.结果显示:扦插基质在 =0.05水平上差异显著,q检验表明基 质A:与A。,A3差异极显著;扦插基质以浮石30%、草炭土40%、枯叶粉碎物27.5%、木炭2.5%为最佳基质;扦 插组合为质量浓度200 ms/L ABT1生根粉处理0.5 h生根率最高.
【英文摘要】The effects of lighter cuttage culture matrix,ABT concentration and treatment time on rooting percentage of two types of fruits of Actinidia arguta with fruit period were analyzed in sunlight and spray seedlings beds without foundation by using orthogonal tests of L9(3)under the condition of 70%sunlight flux.The results showed that the diference was significant at the level of O/=0.05 for the cutting culture matrix,in which the diference between A2 and A l,A3 was significant known from further q-test.Thus it was clear that the cutting cuhure matrix composed of 30%of pumice,40%of turf soil,27.5%of clastic dead leaves and 2.5%of charcoal was the best culture matrix.The cutting combination was the ABT 1,mass fraction 200 mg/L and the treatment time was 0.5 hour.The rooting percentage could attain the highest.
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【第一作者】黄祥童
【通讯作者】黄祥童
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【学科分类】生态学

【题目】三维可视化软件在辽东山区森林生态系统管理中的应用
【中文关键词】三维可视化软件森林生态系统管理 封育 小面积皆伐择伐 二次渐伐
【英文关键词】三维可视化软件森林生态系统管理 封育 小面积皆伐择伐 二次渐伐
【中文摘要】利用三维可视化软件WCS6.O,结合林相图信息,构建了辽东山区普乐堡乡的虚拟森林景观,并模拟了4种经营管理方案(封育未成林幼抚、小面积皆伐、择伐和二次渐伐)下研究区林相的动态变化.结果表明:对幼龄林采取保育措施后,10—30龄长白落叶松的生长速度较快,大约以o-6m · a_1的速度生长,蒙古栎的生长速度稍慢,约为0.4m · a~;小面积皆伐对林分的影响较大,二次渐伐其次,低强度的择伐对林分的影响最小.wCS能够直观地显示各种森林经营管理方案的后果,可以为森林经营决策提供科学依据.
【英文摘要】By using 3D visualization software WCS 6.0,the virtual forest landscape of Pulepu Town in eastern Liaoning mountainous region was constructed,and the dynamic changes of forests under four different management scenarios,i.e.,enclosing undeveloped forest,small area clear-cutting,selective-logging,and two-step progressive logging,were modeled.The results showed that under enclosure,10-30 years old Larix olgensis var.changpaiensis grew faster(ca.0.6 m · a-1),while 10-30 years old Quercus mongolica grew slower(ca.0.4 m · a-1).Small area clear-cutting had the greatest effects on the forests,followed by two-step progressive logging,and low intensity selective-logging.The WCS software could visually display the outcomes of different scenarios,which would benefit the decision-making in forest management.
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【学科分类】生态学

【题目】长白山阔叶红松林草本植物多样性、季节动态及其空间分布格局.

【中文关键词】草本植物 物种多样性 季节动态 空间格局 阔叶红松林 长白山
【英文关键词】herbs;species diversity;seasonal dynamics;spatial pattern;broad.1eaved Korean
【中文摘要】基于长白山阔叶红松林25 hm 样地(CBS)一年内草本植物的4次调查数据,对样地 内草本植物多样性的季节动态及其空间分布格局进行了初步分析.结果表明:样地内草本植 物物种组成丰富,共有102种,隶属于4O科84属.Shannon多样性指数、Simpson多样性指数 和Pielou均匀度指数分别为3.52、0.96和0.75;物种组成的季节变化比较明显,以初夏物种 数最多;各季节的Shannon多样性指数、Simpson多样性指数和Pielou均匀度指数的变化较大,个体数量从早春到秋季逐渐减少;物种丰富度和多度的空间分布连续性较差,主要表现为斑 块性分布,说明草本植物对微环境有较强的依赖性;坡向是影响物种丰富度和多度的主要因素,在早春、夏末和秋季,不同坡向的物种丰富度和多度差异极显著(P<0.01),且早春阶段北坡和东坡的丰富度高于南坡和西坡,夏末和秋季则相反.
【英文摘要】In this paper,the species composition,seasonal dynamics,and spatial distribution patterns of herbs were examined in a 25 hm broadleaved Korean pine(Pinus koraiensis)mixed forest plot in Changbai Mountains.The results ’showed that the plot had a relatively high herbaceous richness,with 102 species belonging to 40 families and 84 genera,and the Shannon index,Simpson index.and Pielou index was 3.52.0.96 and 0.75,respectively.The three indices varied dramatically with growth season,whereas the species abundance decreased linearly from early spring to autumn.The species richness and abundance showed irregular distribution,indicating that herbaceous species were microenvironment-dependent.Slope aspect had significant effects on herbaceous species richness and abundance.Northern and eastern slopes had higher species richness and abundance in early spring than southern and western slopes,whereas it was in adverse in late summer and autumn.
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【第一作者】李步杭
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【学科分类】生态学

【题目】采伐对长白山阔叶红松林乔木群落的影响.
【中文关键词】采伐;长白山;重要值;生物多样性;群落结构
【英文关键词】harvest cutting;Changbai mountain;importance value;biodiversity;community structure
【中文摘要】选取了4种受不同强度采伐后的次生阔叶红松林乔木群落作为研究对象,利用重要值、多样性指数等指标定量的分析 其群落的外貌以及结构的变化,定量研究不同采伐强度对阔叶红松林乔木群落的影响。研究结果表明:采伐改变了群落中物种的优势地位,红松(Pinus koraiensis)的重要值排名随采伐强度的增加而降低,白(Betulaplatyphylla)的重要值排名随采伐强度 的增加而上升;采伐改变了阔叶红松林中主要树种的年龄结构。采伐30 a后,红松幼树(胸径<10 am)占种群数量的比例随采伐强度的增加而增加,白桦幼树在种群中的比例随采伐强度增加而减少。由于主要树种年龄结构的改变,群落的演替也受到一定的影响;采伐可以促进阔叶红松林中主要树种的更新。
【英文摘要】In order to quantitative study the influence of diferent cut intensities on arbor community of broad—leaved Korean pine forest,four secondary arbor communities of broad-leaved Korean pine forest,which were cut by diferent cutting intensities,were selected as study objects,and the changes of appearance and structure of community were quantitative analyzed by importance value,diversity index and other indexes.The results indicated that harvest cutting had changed the advantage positions of species in community:the ranking of importance value of Pinus koraiensis reduced with increased intensity of cut;the ranking of importance value of Betula platyphylla rose with increased intensity of cut.Harvest cutting also had changed the age structure of main species in broad-leaved Korean pine forest:after 30 years of harvest cutting,the proportion of Pinus koraiensis saplings(DBH<10 cm)account for population quantity increased with increased intensity of cut;the proportion of Betula platyphylla saplings account for population quantity decreased with increased intensity of cut.The succession of community was afected by the changes in the age structure of main tree species.Whereas the harvest cutting could accelerate natural regeneration of main tree species in broad-leaved korean pine forest.
【语种】中文
【第一作者】齐麟
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【学科分类】生态学

【题目】采伐对长白山阔叶红松林乔木竞争关系的影响.
【中文关键词】采伐;竞争强度;阔叶红松林;种间竞争;种内竞争
【英文关键词】Cutting; Competitionintensity; Broad2leavedKoreanpine forest; Interspecific competition; Intraspecific competition
【中文摘要】[目的]研究不同采伐方式与强度对阔叶红松林群落结构和功能的影响。[方法]通过调查乔木的胸径、树高以及在样方中的位置等指标,采用Hegyi单木竞争指数模型,对长白山地区受不同采伐方式以及强度干扰的阔叶红松林群落中乔木竞争强度进行定量分析。[结果]不同采伐方式和强度对阔叶红松林中乔木竞争强度有不同影响,低强度择伐后变化最小,皆伐后变化最大。不同林层间乔木竞争强度有明显差异,主林层<次林层<林下层。无论采伐方式与强度如何,红松的胸径与其竞争指数都严格服从CI=A(DBH)B的幂函数关系。采伐对红松种内竞争强度有重要影响,随着采伐强度的加大,红松种内竞争压力减小,红松幼树更新得到促进。[结论]采伐经营应保持17%以下的小强度择伐,而择伐时应选择那些胸径大且在竞争中占绝对优势的针、阔叶树种。
【英文摘要】[Objective] The purpose was to study the effect of different cutting modes and intensity on community structure and function of broad-leaved Korean pine forest.[Method] By investigating the indexes of DBH,tree height of trees and their position in quadrat etc.and using Hegyi ’s single tree competition index model,the quantitative analysis was conducted on competition intensity of trees in the community of broad-leaved Korean pine forest,which were under different cutting modes and intensity interference.[Result] The varied cutting modes and intensity had different influence on competition intensity of trees in the broad-leaved Korean pine forest;the change was the least after low intensity selective cutting,while the clear cutting had the most variation.The tree competition intensity among different forest layers had significant differences with the order of: overstory < sub-story < understory.No matter what the cutting modes and intensity were,the DBH of Korean pine and its competition index were strictly obeyed by power function relationship of CI=A(DBH)B.The cutting had important affection on intraspecific competition of Korean pine,the pressure of intraspecific competition of Korean pine was minished with the increase of cutting intensity,and the renewal of Korean pine saplings was advanced.[Conclusion] The cutting management should be kept in selective cutting of little intensity lower than 17%,and the coniferous and broad-leaved tree species with big DBH and absolute superiority in competition should be chosen in selective cutting.
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【第一作者】齐麟
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【学科分类】生态学

【题目】不同种源花楸幼苗气体交换特性.
【中文关键词】花楸幼苗;种源;气体交换
【英文关键词】Sorbus pohuashanensis;Provenances;Gas exchanges
【中文摘要】以吉林通化、长白、白河、汪清和黑龙江带岭、海林、牡丹江7种源的花楸幼苗为材料,对其叶片净光 合速率、蒸腾速率、气孔导度和胞间CO,体积分数进行了测定。结果表明:各种源花楸净光合速率和蒸腾速率日变化均为单峰曲线,净光合速率峰值在12:oo一14:oo,蒸腾速率峰值则出现在12:00,气孔导度为“ 一峰一谷 ”曲 线,而胞间CO,体积分数为“ 双谷 ”曲线;种源能够显著地影响花楸的气体交换参数。牡丹江和汪清种源光合作用 比较强,气孔导度和胞间CO:体积分数较低;各气体交换特性与环境因子都有一定相关性,其中,净光合速率主要 受光合有效辐射影响,蒸腾速率主要与气温和叶温有关,气孔导度与空气湿度相关性最高,胞间CO 体积分数则 对空气CO,体积分数的变化最为敏感。
【英文摘要】Net photosynthetic rate,transpiration rate,stomatal conductance,and intercellular CO2 concentration of Sorbus pohuashanensis seedlings from Tonghua,Changbai,Baihe,Wangqing,Dailing,Hailin and Mudanjiang were investigated. Results showed that the diurnal variation of net photosynthetic rate and transpiration rate could be described by a unimodal curve,and the peak value of net photosynthetic rates was between 12:00 and 14:00 and that of transpiration rates was at 12:00. The diurnal variation of stomatal conductance exhibited a curve with one peak and one dip,and that of intercellular CO2 concentration could be described by a two-

valley model. A significant difference in gas exchange parameters was found between different provenances of S. pohuashanensis. The photosynthesis of the seedlings from Mudanjiang and Wangqing was stronger,but their stomatal conductance and intercellular CO2 concentration were lower. The characteristics of gas exchange had certain correlation with environmental factors. The net photosynthetic rates was primarily affected by the photosynthetic active radiation,the transpiration rate was related with air and leaf temperature,the correlation was the highest between stomatal conductance and air humidity,and the intercellular CO2 concentration was the most sensitive to air CO2 concentration.

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【题目】生态资产评估的若干问题探讨.
【中文关键词】生态系统质量 生态系统压力 生态资产评估 指标
【英文关键词】ecosystem quality;ecosystem pressure;ecological assets assessment;indicator
【中文摘要】生态资产评估是构建和谐社会与落实科学发展观的重要组成部分.本文结合生态资 产评估的研究成果,重新审视了生态资产概念和研究范畴,概括了生态资产评估内容,认为生 态系统质量、生态系统压力和生态资产价值量3项内容可以作为生态资产评估的着眼点.以 森林生态资产评估为例给出了参考性指标和计算模型.最后提出了今后的研究方向.
【英文摘要】Ecological assets assessment is of great significance in building harmonious society and implementing scientific concept of development.Based on the achievements in ecological assets assessment research,the concept and scope of ecological assets were re-examined,and the contents of ecological assets assessment were summarized in this paper.It was considered that ecosystem quality,ecosystem pressure and ecological assets value should be the focus in assessing ecological assets.With the ecological assets assessment on forest ecosystem as an example,some referenced indicators and calculation models were given.By the end of the paper,some suggestions on the further study were presented.

【语种】中文
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【中文关键词】生态补偿;生态系统;中国实践;实践路径
【英文关键词】eco-compensation;ecosystem;China ’S practice;practice path.
【中文摘要】生态补偿是近年来学界及社会较为关心的重要议题,如何构建较完善的理论体系 和运行机制已成为当前迫切之需。本文从揭示“ 外部成本内部化 ”和“ 明晰产权界限 ”的生 态补偿本质切入,简要回顾了生态补偿的中国实践,在详细阐释补偿依据、补偿客体、补偿 主体、补偿标准和补偿方式5大核心要素的基础上,构建了生态补偿实践路径,提出了完善 生态补偿机制方面需要注意的关键问题是确定合理的实施方案、权衡适当的利益关系和准 确定位管理者角色。
【英文摘要】Eco-compensation is a hot topic in academic and social fields in recent years, and to construct a more complete theoretic system and an operating mechanism is a matter of great urgency. Beginning with the nature of eco-compensation, i.e., to internalize the externalities and to clarity the limits of property rights, the eco-compensation practice in China was briefly reviewed, and, based on the elaborate analyses on five core elements including account of compensation, compensation receivers, compensation payers, eco-compensation criteria, and forms of compensation, a practice path on eco-compensation was constructed. Finally, some critical issues on improving eco-compensation mechanism, i.e., determination of reasonable implementation program, appropriate balance between interests relations, and accurate positioning of managers roles, were put forward.

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【第一作者】宋鹏飞
【通讯作者】郝占庆
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【学科分类】生态学

【题目】长白山次生白桦林数量特征.
【中文关键词】长白山;次生白桦林;数量特征;径级结构;空间分布格局
【英文关键词】ChangbaiMountains; Secondarybirchforests; Quantitativecharacteristics; Sizeclassstructures; Spatial distributionpatterns
【中文摘要】对长白山1hm2次生白桦林样地的研究结果表明:样地内共有活立木2550株,分属于14科23种;从株密度、平均胸径及胸高断面积等分析看,白桦和落叶松在林分中占有绝对优势;样地内所有林木的径级分布为“S”型,白桦、落叶松和红松的径级分布近似于正态分布,水曲柳和春榆的径级分布近似于倒“J”型;从径级结构分析看,白桦和落叶松等先锋树种的小径级林木在林下分布很少,更新很差,而红松、水曲柳等寿命较长的树种在林下已经占有很大的比例,更新良好,随着演替的进展,它们将逐渐进入主林层;从主要树种的空间分布格局分析看,落叶松在样地中表现出了明显的聚集性分布格局,而白桦、水曲柳、红松和春榆没有表现出明显的聚集性分布格局。
【英文摘要】A plot with an area of 1 hectare was set up in a secondary birch forest in Changbai Mountains in 2007. All free-standing trees at least 1 cm in diameter at breast height (DBH) were measured,tagged,mapped and identified to species in the plot. Tree density,mean DBH,basal area at DBH,size class structure,and spatial distribution patterns of five tree species were analysed. Results show that there are 2550 living trees,belonging to 23 species and 14 families. The statistical results of tree density,mean DBH,and basal area at DBH show that Betula platyphylla and Larix olgensis are obviously dominant tree species. The curves of size class distribution of all the tree species are sigmoid. The size classes of B. platyphylla,L. olgensis and Pinus koraiensis exhibit approximately normal distribution,while Fraxinus mandshurica and Ulmus japonica exhibit approximately inverse J-shaped distribution. By the analysis of size class structure,the regeneration of B. platyphylla and L. olgensis is very poor,whereas some tree species such as F. mandshurica and P. koraiensis account for a large proportion in the understory layer,which will replace B. platyphylla and become the dominant ones. Among the five tree species,only L. olgensis shows obviously clumped distribution pattern.
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【第一作者】苏东凯
【通讯作者】代力民
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【学科分类】生态学

【题目】不同光环境对红松幼苗光合生理特征的影响.
【中文关键词】红松;光强;净光合速率;光合参数;暗呼吸速率
【英文关键词】Pinus koraiensis; light intensity; net photosynthetic rate; photosynthetic parameter; dark respiration rate.
【中文摘要】应用 便携式光合测定系统于生长季(8月)测定了 4种模拟光环境(100%、60% 、30% 和15% 自然光强,分别记为F1、I1、L1 和W1)下3个实际光环境(林窗、林下和林缘,分别记为G、U和E)下 3个苗龄红松针叶气体交换参数和净光合速率(p)的日变化,以及单位叶面积叶绿素(Chl)含量和比叶质量(LMA)的变化。结果表明:3年和 5年生红松在 I1和 L1处理间的p 基本一致,且均高于F1 的 ;7年生红松在F1处理下的 p高于其他处理的p ,各处理的p 峰值均出现在 13:00。3年和 5年生红松在 L1处理下的最大光合速率(Amax)和暗呼吸速率(Rd)均高于全光 F1处理。随光强降低,呈下降趋势,说明红松通过改变 的方式适应光环境的变化。年和 年生红松处理与 处理间的光合生理指标差异不显著(P>0.05),L1和 W1处理与 E处理间同样如此,说明光环境模拟很好地反映了实际的光环境。通过对红松针叶生理生态指标的可塑性分析,得出 3种不同苗龄红松可塑性的大小顺序为 3年 >5年>7 年。表明随树龄增大,红松的需光性增加;3年和 5年生红松在全光 条件下生长较好,7年生红松则是在全光下生长最好。

【英文摘要】Pinus koraiensis is an ecologically important tree species in Northeast China. To explore its light adaptation characteristics and related eco-physiological mechanisms, the 3-, 5-, and 7-year old P. koraiensis seedlings were transplanted under the conditions of 100%, 60%, 30%, and 15% of full sunlight (marked as FI, II, LI, and WI, respectively), and sampled from forest gap, understory, and edge (marked as G, U and E, respectively) under actual light. The study on the changes of net photosynthetic rate (Pn), chlorophyll (Chl) content per unit leaf area, and specific leaf mass (LMA) showed that the Pn of 3- and 5-year old P. koraiensis in treatments II and LI was similar, and higher than that in treatment FI. 7 years old P. koraiensis had the highest Pn in treatment FI. In all treatments, P. koraiensis had a mono-peak change of Pn, with the peak at 13:00. The dark respiration rate (Rd) and maximum photosynthetic rates (Amax) of 3- and 5-year old P. koraiensis were higher in treatment LI than in treatment FI. The LMA decreased with decreasing light intensity, suggesting that P. koraiensis could effectively adapt to the changes of light condition in this way. No significant differences were observed in the photosynthetic characteristics of 3- and 5-year old P. koraiensis between treatments II and U, and between treatments LI, WI, and E, which suggested that the simulated light conditions matched well with the actual one. The plasticity index of eco-physiological parameters of 3 years old P. koraiensis was the highest. It was concluded that 1) the light requirement of P. koraiensis increased with its increasing age, 2) the optimal light condition for 3- and 5-year old P. koraiensis was 30%-60% of full sunlight, and that for 7 years old P. koraiensis was full sunlight, and 3) the favorable age of P. koraiensis seedlings for transplanting was 3 years old.

【语种】中文

【第一作者】孙一荣

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【学科分类】生态学

【题目】不同光强下胡桃楸、水曲柳和黄波罗的光合生理特征.

【中文关键词】光强;净光合速率;光合参数;暗呼吸速率

【英文关键词】light intensity;net photosynthetic rate;photosynthetic parameters;dark respiration

【中文摘要】研究辽东山区次生林3种树种幼苗(核桃楸、水曲柳和黄菠萝)对生长光环境的适应性,在生长季测定4 种光强下(全光、60%透光、30%透光、15%透光,分别记为F1,II,u和WI)树种幼苗叶片气体交换参数、净光合速率、 单位叶面积叶绿素含量和比叶重(LMA)。结果表明:随着光强的减弱,3个树种的光补偿点(LCP)、光饱和点(LSP)、 最大光合速率(P)、暗呼吸速率(R)、类胡萝卜素(Car)、LMA、单位叶鲜质量(LFA)均呈下降趋势;全光下单位叶 面积的叶绿素Chl含量均低于弱光处理。本研究结果支持水曲柳在幼苗时期具有一定耐荫性的观点。树种生理生 态指标的可塑性分析表明:黄菠萝能适应更宽的光强幅度,且黄菠萝的需光性大于核桃楸。不同光环境下3个树 种的生理生态变化特征对解释森林生态系统内树种的共生和演替具有重要意义。

【英文摘要】The acclimation of seedlings of three secondary—forest tree species to light regimes was investigated during the growth season in 2007 in the Northeast of China.The seedlings of Juglans mandshurica.Fraxinus mandshurica and只heff0dendron amurense were cultivated under four light intensity regimes(100%,60%,30%and 15%of full light,which were termed as FI,II,LI and WI respectively).The photosynthetic characteristics,leaf mass per unit area,and chlorophyll content were determined during the growth season.The resuhs showed that light compensation point(LCP),light saturation point(LSP),dark respiration rate(Rd),maximum photosynthetic rate(P).The content of carotenoid,leaf dry mass per unit leaf avea (LMA)of al the three tree species decreased along with decreasing light intensities.And the contents of chlorophyll(Ch1)of full light treatment were lower than that of the others for all the tree species.The results suggested that Fraxinus mandshurica was moderately shade tolerant at the seedling stage.Analysis of the plasticity index of eco-physiological parameters,suggested that P.amurense had the ability of adapting to wider light intensity range;and the ability of shade-intolerance for P.amurense was greater than that of Juglans mandshurica.The different adapting characters of eco—physiology to light regimes played an important role in explaining the mechanism of co—existing and succession of diferent species in secondary forest ecosystem.

【语种】中文

【第一作者】孙一荣

【通讯作者】朱教君

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【学科分类】生态学

【题目】试论生态分类系统在我国数字林业建设中的应用.
【中文关键词】生态分类系统 数字林业 森林生态系统管理 森林资源调查方法
【英文关键词】ecological classificationsystem; digital forestry; forest ecosystemmanagement; forest inventorymethods
【中文摘要】我国传统森林区划中,二类小班和三类小班两类小班体系同时存在,二者在空间上不一致;即使是同一小班体系,先后两次调查结果也不相同,不利于应用数字技术制定长期的森林管理计划.本文以辽宁东部山区为例,建立生态分类系统(ecological classificationsystem,ECS),共得到5类生态土地类型(ecological landtype, ELT), 34类生态土地类型相(ecologicallandtypephase, ELTP). 以ELTP作为固定小班,设计了一致性森林资源调查方法,解决了我国数字林业建设中的基础技术问题.以生态分类系统和空间信息技术为依托的生态系统管理方法,加上计算机模型和辅助决策界面的支持,构成了数字林业的基本框架.
【英文摘要】In China ’s conventional forest management system,there are two types of sub-compartment,i.e.,the 2nd-and 3rd-level sub-compartments,which are concurrent but inconsistent in size and boundary locations.Even in the same type of sub-compartments,the inconsistency still existed at different time,which is unbeneficial to the long-term forest management planning by using digital technologies.With the mountainous region in eastern Liaoning Province as a case,this paper established an ecological classification system(ECS),which contained 5 ecological land types(ELTs) and 34 ecological land type phases(ELTPs).Based on the basic technical needs of China ’s digital forestry,the ELTPs could be used as a fixed sub-compartment system.A compatible forest inventory system was designed then.It was concluded that ecosystem management based on ECS and geospatial information technologies combined with computer models and decision-support systems would be the important component of digital forestry.
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【第一作者】唐立娜
【通讯作者】代力民
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【学科分类】生态学

【题目】辽宁东部山区林地生态分类系统.
【中文关键词】生态分类系统 生态土地类型 生态土地类型相 森林区划 辽宁东部山区
【英文关键词】Ecological Classification System(ECS);Ecological Land Type(ELT);Ecological Land Type Phase(ELTP);forest inventory unit;eastern mountainous region of Liaoning Province.
【中文摘要】以数字高程模型和SPOT一5遥感数据为数据源,通过地理信息系统的空间分析,在辽 宁东部山区有代表性实验区域内,完成了生态土地类型(ELT)和生态土地类型相(ELTP)两 个等级的分类和绘图,构成了生态分类系统(ECS)等级结构中最低的两个层次.实验区域内 共得到5种ELT和34种ELTP.ELT的划分以环境特征为基础,表征了植被分布的潜在状况 和森林生态系统潜在的生产力.ELTP是对ELT的再划分,是生态分类系统的最小单元,相当 于我国林业区划中的小班.ELTP既包含ELT中的环境信息又包含现存植被构成的信息,具有 空间精准、生态学含义明确的优点.在森林管理活动中,采用ELTP代替小班可以从景观尺度 科学地指导森林经营计划编制,调整森林管理方式,实现对森林生态系统的有效管理.
【英文摘要】Based on Digital Elevation Models(DEM)and satellite SPOT-5 data,and by using the spatial analysis function in Geographic Information System,a hierachical Ecological Classification System of forest landscape was developed for the eastern mountainous region of Liaoning Province,and the two lowest layers in the hierachical framework,Ecological Land Types(ELTs)and Ecological Land Type Phases(ELTPs),were mapped.The results indicated that there were 5 ELTs and 34 ELTPs.The boundaries of ELTs,which presented the potential vegetation distribution and potential forestry ecosystem productivity,were determined by environmental conditions quantified by DEM.ELTPs were classified by overlaying ELTs with forest vegetation data layers which were obtained from remotely sensed data,forest inventory data,and ground data.The ELTPs represented the divisions of land in terms of both natural and human-induced forest conditions,and therefore,were reliable units for forest inventories and management.ELTPs could

function as conventional forest inventory sub-compartments.By this means,forestry departments could adjust forest management planning and forest management measures from the viewpoint of forest landscape scale to realize forest ecosystem management.
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【第一作者】唐立娜
【通讯作者】代力民
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【学科分类】生态学

【题目】遮阴对黄波罗幼苗的光合特性及光能利用效率的影响.
【中文关键词】黄波罗　耐阴性　次生林　光合作用
【英文关键词】Phellodendron amurense, shade tolerance, secondary forest, photosynthesis
【中文摘要】一直以来黄波罗(Phellodendron amurense) 被认为是不耐阴树种, 然而引入美国纽约后, 发现它具有一定的耐阴性, 在全光和林下均能更新, 在纽约已经成为生物入侵种。为了探讨黄波罗的耐阴性问题, 通过设置自然光与遮阴(15%自然光) 两种光环境, 观测了三年生黄波罗幼苗(遮阴1 a后)光合生理参数、光能利用效率、叶绿素和比叶重的变化。结果表明, 与自然光处理相比, 遮阴处理的黄波罗幼苗最大光合速率、表观量子效率和暗呼吸速率略有下降, 但差异不显著(p >0.05), 光补偿点下降显著(p <0.05); 同时, 单位面积叶绿素含量无显著差异(p>0.05), 而单位干重叶绿素含量显著升高, 比叶重显著下降, 叶面积显著增大(p<0.05) 。上述结果说明: 遮阴的黄波罗幼苗通过降低光补偿点和暗呼吸速率利用环境中的弱光, 同时通过减小比叶重、增大叶面积和提高叶绿素b 相对含量来增强对光的捕获 , 使其在弱光时的光能利用效率提高。由此推断 , 黄波罗幼苗能适应一定程度的遮阴。
【英文摘要】Aims Although Phellodendron amurense is generally recognized as a shade-intolerant tree species, it has been reported to have some shade tolerance and be able to regenerate in both full sun-shine and shade in New York, USA, where it is invasive. Our objective was to investigate shade toler-ance of P. amurense . Methods We planted 2-year-old P. amurense seedlings in two plantation plots, one with full natural light and the other with 15% of full natural light. After one year we observed the parameters of gas ex-chang, including maximum net photosynthetic rate (P max), apparent quantum yield (AQY), dark respira-tion rate (Rd), light compensation point (LCP) and light use efficiency (LUE), using a Li-6400 (Li-Cor,USA). We also determined chlorophyll (Chl) contents per unit leaf area and per unit mass and specific leaf weight (SLW). Important findings There were no significant differences (p>0.05) between sun and shade treatments for P max, AQY and R d. However, plants in the shade treatment had significantly lower LCP and SLW , but higher Chl content per unit mass and leaf area. These results indicated that P. amurense seedlings effec-tively used weak light by decreasing LCP and R d, and enhanced the ability of capturing light by de-creasing SLW and increasing leaf area and relative content of chlorophyll b, which made LUE increase in weak light condition. Therefore, P. amurense seedlings are shade tolerant.
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【第一作者】王 凯
【通讯作者】朱教君
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【学科分类】生态学

【题目】光环境对胡桃楸幼苗生长与光合作用的影响.
【中文关键词】胡桃楸; 光适应; 季节动态; 可塑性; 次生林;
【英文关键词】Juglans mandshurica; light adaptation; seasonal dynamics; plasticity; secondary forest.;
【中文摘要】为了解胡桃楸幼苗对光的需求及适应规律,采用Li-6400便携式光合测定系统研究了不同光环境处理(100%、60%、30%和15%自然光)条件下3年生胡桃楸幼苗(适应1年后)叶片光合能力的季节变化及其对光强的响应.结果表明:在春季,胡桃楸幼苗对光反应不敏感,夏季和秋季随着光强的增加,叶片的最大光合速率、最大羧化速率和最大电子传递速率均显著增加(P<0.05).光饱和点随光强的下降而降低(P<0.05),表观量子效率、暗呼吸速率和光补偿点在不同光环境下未发现显著差异.100%和60%自然光处理的幼苗相对生长率差异不显著,但是随着光强下降,相对生长率显著下降(P<0.05),为

60%>30%>15%自然光处理.胡桃楸幼苗对不同的光环境表现出较强的适应性和可塑性;同时,通过降低光饱和点和减少碳积累,也能适应15%~30%自然光环境.

【英文摘要】In order to understand the light requirement and adaptability of Juglans mandshurica seedlings,two-year-old J.mandshurica seedlings were grown under four light regimes(100%,60%,30%,and 15% of natural irradiance).After 1-year adaptation,the seasonal variations of the seedlings photosynthetic variables were measured by a Li-6400 portable photosynthesis system.The J.mandshurica seedlings were insensitive to the changes of light environment in spring,but their maximum net photosynthetic rate,maximum carboxylation rate,and maximum electron transport rate increased significantly with increasing light intensity in summer and autumn(P<0.05).The light saturation point declined with decreasing light intensity(P<0.05),but the apparent quantum yield,dark respiration rate,and light compensation point under different light environments had no significant changes.The relative growth rate under 100% and 60% of natural irradiance had no significant difference(P>0.05),but declined significantly in the order of 60%>30%>15% of natural irradiance(P<0.05).These results indicated that J.mandshurica seedlings had the maximum relative growth rate under 100% and 60% of natural irradiances,and could tolerate 15%-30% of natural irradiance by reducing light saturation point and carbon accumulation,exhibiting strong adaptability and plasticity to light environment.

【语种】中文

【第一作者】王 凯

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【学科分类】生态学

【题目】长白山阔叶红松林物种多度和空间分布格局的关系

【中文关键词】长白山; 阔叶红松林; 多度; 随机分布; 聚集分布;

【英文关键词】Changbai Mountains; broad-leaved Korean pine mixed forest; abundance; random distribution; aggregated distribution;

【中文摘要】应用随机分布多度模型和聚集分布多度模型,探讨不同研究尺度下物种多度和空间分布格局的关系。结果表明,预测的物种多度不仅受物种分布面积大小的影响,还受其聚集程度的影响。物种多度和空间分布格局的关系存在着明显的尺度效应,即随着研究尺度的增加,无论是随机分布多度模型还是聚集分布多度模型,通过物种空间分布格局来预测物种多度的准确度都在下降。聚集分布多度模型预测物种多度的结果要好于随机分布多度模型,这表明该区大多数物种是聚集分布的。由于物种的空间分布格局不同,不同物种多度的预测值和真实值之间的差异也不同。因此,为了进一步提高模型预测的准确性,进一步考虑不同物种的生活史特性是必要的。

【英文摘要】By using random and aggregated distribution-abundance models,this paper studied the relationships between species abundance and distribution patterns of broad-leaved Korean pine(Pinus koraiensis)mixed forest in Changbai Mountains of China under different spatial scales.The results showed that both species distribution area and species aggregation degree affected the estimated species abundance.Spatial scale had profound effects on the distribution-abundance relationships.With the increase of spatial scale,the accuracy of species abundance estimation by the two models all declined.Aggregated distribution-abundance model could better estimate the species abundance than random distribution-abundance model,suggesting that most species were aggregately distributed.However,due to the different species distribution patterns under different spatial scales,the differences between estimated and observed data of species abundance varied greatly.Therefore,in order to further improve the estimation accuracy of the models,the life history of different species as well as the spatial scale and species aggregation should be considered.

【语种】中文

【第一作者】王绪高

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【学科分类】生态学

【题目】辽宁冰砬山两种类型林地土壤入渗特性比较研究.
【中文关键词】辽宁冰砬山;长白落叶松人工林;蒙古栎天然次生林;土壤入渗
【英文关键词】辽宁冰砬山;长白落叶松人工林;蒙古栎天然次生林;土壤入渗
【中文摘要】通过对辽宁冰砬山两种类型林地(长白落叶松人工林和蒙古栎天然次生林)土壤入渗特性 的研究得到,前者林地的3种入渗指标(初始入渗速率7.1lmm/min,平均入渗速率4.09ram/rain,稳定入渗速率3.48ram/rain)均显著低于后者(初始入渗速率为19.79ram/rain,平均入渗速率为 14.23ram/rain,稳定入渗速率为l1.74ram/rain),后者林地的入渗能力要强于前者。KostiakOV方程和 Horton方程能较好的模拟这两种森林林地土壤的水分入渗规律。长白落叶松人工林地的土壤入渗 速率减小快于蒙古栎天然次生林地。土壤孔隙度特征是影响入渗规律的一个重要因素,土壤质地、紧实度、石砾含量与砾径大小和植被的根系生长等与入渗规律有密切的关系。
【英文摘要】Aims Although Phellodendron amurense is generally recognized as a shade-intolerant tree species, it has been reported to have some shade tolerance and be able to regenerate in both full sun-shine and shade in New York, USA, where it is invasive. Our objective was to investigate shade toler-ance of P. amurense . Methods We planted 2-year-old P. amurense seedlings in two plantation plots, one with full natural light and the other with 15% of full natural light. After one year we observed the parameters of gas ex-chang, including maximum net photosynthetic rate (P max), apparent quantum yield (AQY), dark respira-tion rate (Rd), light compensation point (LCP) and light use efficiency (LUE), using a Li-6400 (Li-Cor,USA). We also determined chlorophyll (Chl) contents per unit leaf area and per unit mass and specific leaf weight (SLW). Important findings There were no significant differences (p>0.05) between sun and shade treatments for P max, AQY and R d. However, plants in the shade treatment had significantly lower LCP and SLW , but higher Chl content per unit mass and leaf area. These results indicated that P. amurense seedlings effec-tively used weak light by decreasing LCP and R d, and enhanced the ability of capturing light by de-creasing SLW and increasing leaf area and relative content of chlorophyll b, which made LUE increase in weak light condition. Therefore, P. amurense seedlings are shade tolerant.
【语种】中文
【第一作者】魏文俊
【通讯作者】魏文俊
【期刊名称、卷期、页码】辽宁林业科技,(5):22-24.
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【学科分类】生态学

【题目】长白山原始阔叶红松林径级结构研究.
【中文关键词】阔叶红松林; 径级结构; q值法则; Weibull分布; 负指数分布;
【英文关键词】broadleaf-Korean pine mixed forest; diameter distribution; constant ratio q; Weibull distribution; negative exponential distribution;
【中文摘要】以原始阔叶红松林为研究对象,设置了2块1hm2样地,利用Weibull分布函数、负指数函数和q值理论对其林分径级结构进行模拟。结果表明:2块样地林分的径级分布均呈倒"J"形,森林更新良好;Weibull分布函数和负指数函数都取得了较好的模拟效果,但Weibull分布函数更好地预测了大径阶株数,因此,Weibull分布函数比负指数函数更适合原始阔叶红松林径级结构的模拟;2块样地的q值偏小(分别为1.74和1.45),说明径级结构曲线较平缓,大径材数量多。q值法则对于阔叶红松林径阶株数密度的表达效果较好,可以被用于描述阔叶红松林的胸径分布。
【英文摘要】Two 1-ha plots were set up in an old-growth broadleaf-Korean pine mixed forest in Changbai Mountains, Northeast China, and the Weibull function, negative exponential function, and constant ratio q were used to model the diameter distribution. In the two plots, the diameter distribution of the trees all exhibited inverse J-shape, which meant that understory regeneration was relatively good. Both Weibull and negative exponential functions were suitable for modeling the diameter distribution in primary broadleaf-Korean pine mixed forest, but Weibull function could better predict the number of big trees, compared with negative exponential function. The diameter q values of the two plots were small, being 1.74 and 1.45, respectively, which meant that the slope of diameter distribution was quite mild and there were many big trees in the plots. The constant ratio q was better for expressing the diameter-density of broadleaf-Korean pine mixed forest, being possible to be used to describe the diameter distribution of broadleaf-Korean pine mixed forest.
【语种】中文

【第一作者】谢小魁
【通讯作者】代力民
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【学科分类】生态学

【题目】辽宁冰砬山长白落叶松林能量平衡和蒸散的研究.
【中文关键词】冰砬山; 长白落叶松林; 能量平衡; 森林蒸散量;
【英文关键词】Bingla Mountain; Larix olgensis forest; energy balance; evapotranspiration;
【中文摘要】利用辽宁冰砬山长白落叶松林内小气候梯度观测塔观测数据,采用波文比-能量平衡法(BREB),计算出冰砬山长白落叶松林的热量平衡各分量和蒸散量,研究生长季和非生长季能量平衡特征和蒸散量的差异。分析了冰砬山落叶松林的净辐射、潜热通量和湍流热交换通量日变化趋势及其形成原因。结果表明:生长季森林生态系统主要能量支出项为潜热通量(LE),平均占能量平衡的65.44%,非生长季主要能量支出项为感热通量(H),平均占能量平衡的64.94%;生长季森林蒸散量明显大于非生长季森林蒸散量,生长季平均日蒸散量(2.6mm)是非生长季平均日蒸散量(0.3mm)的8倍。冰砬山长白落叶松林全年蒸散量531.4mm,占同期降水量(707.9mm)的75.1%。
【英文摘要】Based on the observation data in the Larix olgensis forest in Bingla mountain,the authors calculated all the items of energy balance and the evapotranspiration utilizing the BREB,researched characteristics of energy balance and difference of evapotranspiration in growth season and non-growth season.The net radiation,latent heat flux and sensible heat flux changing in one day and its cause were analysed.The seasonal variation of energy balance components were also analysed.In growth season,the energy components were dominated by upward latent heat flux(LE),about 65.44% of Rn.This contrasted dramatically with non-growth season,when it was dominated by upward sensible heat flux(H),and nearly 64.94% of Rn.Evapotranspiration was obviously higher in the growth season than that in the non-growth season.The daily evapotranspiration was eight times in growing season(2.6mm) as that in non-growth season(0.3mm).The annual evapotranspiration amounted to 531.4mm accounting for 75.1% of the annual rainfall(707.9 mm).
【语种】中文
【第一作者】颜廷武
【通讯作者】颜廷武
【期刊名称、卷期、页码】沈阳农业大学学报,40(4):449-452.
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【学科分类】生态学

【题目】阔叶林下人工更新红松幼树光合作用研究.
【中文关键词】红松; 光合速率; 光能利用率; 水分利用率;
【英文关键词】Pinus koraiensis; photosynthesis rate; light utility efficiency; water utility efficiency;
【中文摘要】利用LI-6400便携式光合测定系统,对天然次生林下、林缘、林窗环境中红松幼树的净光合速率进行测定,同时记录光合生理因子和环境因子。分析了林下、林缘、林窗不同条件下红松幼树的净光合速率、蒸腾速率、光能利用率、水分利用率日进程及其差异。结果表明:日平均气温林下<林缘<林窗;空气相对湿度林下>林缘>林窗;林窗阳面叶光合有效辐射呈单峰型曲线,阳面叶光合有效辐射最大值林窗>林缘>林下;红松幼树净光合速率阳面叶大于阴面叶,林窗处阳面叶净光合速率日变化呈单峰型曲线,林缘呈双峰型曲线,林下呈多峰型曲线,净光合速率最大值林窗>林缘>林下;红松阳面叶的光能利用率林下>林缘>林窗;红松阳面叶蒸腾速率日变化呈单峰型曲线,且蒸腾速率林窗 > 林缘 > 林下,阳面叶 > 阴面叶;红松阳面叶水分利用率林下 > 林窗 > 林缘,阳面叶水分利用率 > 阴面叶水分利用率。
【英文摘要】Net photosynthesis rates(NPR) for young plants of Pinus koraiensis in natural secondary forests in such surroundings as in the forests,at the edge and canopy gaps of forests were determined by means of LI-6400 portable photosynthesis system,and physiological and environmental factors were recorded,the diurnal process and differences regarding NPR,transpiration rates(TR),light utility efficiency(LUE) and water utility efficiency(WUE) of young plants of Pinus koraiensis in above-mentioned conditions were analyzed.The results indicated that: daily average temperature was in the forest<at the edge<at canopy gaps,and air relative humidity

was in the forest>at the edge>at canopy gaps.The photosynthesis active radiation(PAR) of sunshine-side leaves at canopy gaps showed a single peak curve,and maximum PAR was at canopy gaps>at the edge>in the forest.NPR for sunshine-side leaf of young plants of Pinus koraiensis was greater than that of shade-side leaf,and NPR diurnal variation of NPR for sunshine-side leaf at canopy gaps,at the edges and in the forest showed a single peak curve,a double-peak curve and a multi-peak curve respectively,the maximum NPR was at canopy gaps>at the edge>in the forest.LUE for sunshine-side leaf of Pinus koraiensis was in the forest>at the edge>at canopy gaps.TR diurnal variation for sunshine-side leaf of Pinus koraiensis showed a single peak curve,and TR was at canopy gaps>at the edge>in the forest and sunshine-side leaf>shade-side leaf.WUE for sunshine-side leaf of Pinus koraiensis was in the forest>at canopy gaps>at the edge and sunshine-side leaf>shade-side leaf.

【语种】中文
【第一作者】颜廷武
【通讯作者】颜廷武
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【学科分类】生态学

【题目】外源腐殖酸对三种土壤磷吸附与解吸特性的影响.
【中文关键词】外源腐殖酸;无机磷组分;活化作用
【英文关键词】外源腐殖酸;无机磷组分;活化作用
【中文摘要】磷是植物生长所需的大量元素之一,然而磷肥的当季利用率一般只有10%~25%,75%~90%的磷肥以不同形态的磷酸盐积累在土壤中。因此,磷在土壤中的存在形态,以及施肥对磷素形态的影响一直受到人们的广泛关注。植物直接吸收利用的磷大部分为无机磷,已有研究表明,有机酸能明显提高土壤有效磷含量,而有效磷含量的增加与土壤中无机磷形态的变化密切相关。面对当前土壤中累积的大量磷元素,而植物可利用的磷却十分低的现象,
【英文摘要】An investigation from 2006 to 2007 was made on the Pinus koraiensis seed consumption by rodents and birds in the broad-leaved P.koraiensis mixed forest and birch forest at the same altitude in Changbai Mountains.The results showed that in broad-leaved P.koraiensis mixed forest,rodents consumed more pinecone seeds than birds;while in birch forest,birds did more than rodents.In the two forests,the total number of pinecone seeds consumed by rodents was significantly higher than that consumed by birds(P<0.01).In addition,rodents consumed more embedded seeds in broad-leaved P.koraiensis mixed forest than in birch forest,and the consumption amount in the two forests decreased with increasing embedded depth.

【语种】中文
【第一作者】杨 凯
【通讯作者】朱教君
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【学科分类】生态学

【题目】啮齿动物和鸟类对红松种子的消耗.
【中文关键词】红松; 啮齿动物; 鸟类; 种子消耗;
【英文关键词】Pinus koraiensis; rodents; birds; seed consumption;
【中文摘要】2006—2007年在长白山相同海拔的阔叶红松林和白桦林样地内研究了啮齿动物和鸟类对红松球果种子的消耗情况.结果表明:阔叶红松林中啮齿动物对红松球果种子的消耗量明显大于鸟类(P<0.01),而白桦林中鸟类的消耗量明显大于啮齿动物(P<0.01);两林型中啮齿动物的总消耗量明显大于鸟类,二者差异极显著(P<0.01).啮齿动物对阔叶红松林中埋藏种子的消耗量显著多于白桦林,两林型中啮齿动物对埋藏种子的消耗量均随埋藏深度的增加而减少.
【英文摘要】An investigation from 2006 to 2007 was made on the Pinus koraiensis seed consumption by rodents and birds in the broad-leaved P.koraiensis mixed forest and birch forest at the same altitude in Changbai Mountains.The results showed that in broad-leaved P.koraiensis mixed forest,rodents consumed more pinecone seeds than birds;while in birch forest,birds did more than rodents.In the two forests,the total number of pinecone seeds consumed by rodents was significantly higher than that consumed by

birds(P<0.01).In addition,rodents consumed more embedded seeds in broad-leaved P.koraiensis mixed forest than in birch forest,and the consumption amount in the two forests decreased with increasing embedded depth.
【语种】中文
【第一作者】姚晓琳
【通讯作者】郝占庆
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【学科分类】生态学

【题目】暖温带-中温带过渡区落叶松人工林土壤呼吸特征研究.
【中文关键词】土壤呼吸; 落叶松; 人工林
【英文关键词】土壤呼吸; 落叶松; 人工林
【中文摘要】用LI- COR- 8100测定并分析研究辽宁暖温带-中温带落叶松人工林生长季土壤呼吸速率的日变化特征及土壤呼吸与土壤水热因子的相关关系。结果表明:落叶松人工林土壤呼吸速率日变化呈单峰曲线;与5cm、10cm和15cm土壤的温度呈幂函数关系,且与10cm土壤温度的相关关系较高,相关关系为y =0. 9303e0. 0812x(R2=0. 8164);与10cm土壤湿度呈线性相关关系,相关关系为y= - 12. 398x+8. 0068(R2=0. 4243); 10cm土壤温度和土壤湿度可以分别解释土壤呼吸变化的81. 6%和42. 3%;该地区落叶松人工林土壤呼吸年平均速率约1. 57 μ mol · m- 2s- 1,土壤向大气年释放C约为598. 93gC · m- 2a- 1。本研究可为该地区的森林碳循环研究提供基础科学依据。
【英文摘要】Analysis on vegetation data regarding tussah forests and closing of tussah forests for 6 and 9 years were conducted.The results indicated that closing of tussah forests could promote such trees ’ growth and closure as Quercus mongolica,but the horizontal distribution of young trees mostly showed a plexiform pattern by gathering around the seed trees owing to sprouting.The coverage of shrubs and herbs decreased as light decreased after tussah forests were closed.The diversity index of trees,shrubs and herbs were all higher in closed tussah forests than that in tussah forests.Litter storage in closed tussah forests increased year by year,which would improve soil fertility and enhance the function for water conservation in forest lands as well.
【语种】中文
【第一作者】张慧东
【通讯作者】张慧东
【期刊名称、卷期、页码】内蒙古农业大学学报,30(3):24-28.
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【学科分类】生态学

【题目】长白山阔叶红松林中红松与紫椴的空间分布格局及其关联性.
【中文关键词】点格局分析 空间关联性 空间格局 阔叶红松林 长白山
【英文关键词】point pattern analysis; spatial association; spatial pattern; broad-leaved Korean pine (Pinus koraiensis) forest; Changbai Mountains;
【中文摘要】以长白山阔叶红松林25hm2样地调查数据为基础,采用点格局分析方法O-ring统计,分析了红松与紫椴两个优势树种在主林层、次林层和林下层的空间分布格局,以及各林层之间的种内和种间关联性.结果表明:在小尺度上,红松和紫椴总体上呈聚集性分布,但不同林层的分布格局各异.物种在较低的林层呈明显的聚集分布,而在较高的林层则呈随机或规则分布,聚集度随林层的增高而降低.主林层与次林层红松在<11m的尺度内呈明显的正相关.主林层与次林层、林下层紫椴之间呈负相关.红松和紫椴在整体上表现为正相关,但不同林层间的关联性各异.主林层红松与3个林层紫椴之间没有明显的关联性;次林层红松与次林层紫椴在>4m的尺度上呈负相关,而与林下层紫椴没有明显的关联性;主林层紫椴与次林层红松在0~100m尺度内都表现为显著正相关.
【英文摘要】Based on the investigation data from a 25 hm2 broadleaved Korean pine (Pinus koraiensis) mixed forest plot in Changbai Mountains of China, the dominant species Korean pine and Tilia amurensis were chosen as research objects. One point pattern analysis method, O-ring statistics, was used to analyze the spatial patterns of the species in three vertical layers, i.e., overstory, midstory and understory layers, and the spatial associations of intra- and inter-species between different vertical layers were studied. The

results showed that P. koraiensis and T. amurensis were clumped at smaller scales. Higher layers tended to be randomly or regularly distributed, while lower layers tended to be aggregated at smaller scales. The aggregation degree decreased with canopy height. P. koraiensis stems in overstory layer were significantly positively associated to the stems in midstory layer at scales <11 m, and T. amurensis in overstory layer showed negatively correlation with that in midstory and understory layers. There was generally a positive correlation between the two species, but the association varied among different layers. No significant correlation was observed between P. koraiensis stems in overstory layer and T. amurensis in three layers. P. koraiensis stems in midstory layer showed slightly negative correlation with T. amurensis in the same layer at scales >4 m, but no significant association to T. amurensis in understroy layer. T. amurensis in overstory layer was significantly positively associated to P. koraiensis in midstory layer at scales <100 m.

【语种】中文
【第一作者】张 健
【通讯作者】郝占庆
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【学科分类】生态学

【题目】柞蚕场封山育林对植被恢复的影响.
【中文关键词】柞蚕场; 封山育林; 多样性指数;
【英文关键词】tussah forests; closure of forest areas; diversity index;
【中文摘要】对柞蚕场、柞蚕场封山育林6a、9a的植被调查数据进行了分析,结果表明:柞蚕场封山育林可明显促进蒙古栎等乔木的生长和郁闭,但由于萌生,林木的水平分布多呈现聚集于母树的丛状分布;封育后由于林分郁闭,林内光照降低,灌木和草本植物的盖度有所减少;通过多样性指数测度,封育后乔木层、灌木层、草本层的多样性指数均高于柞蚕场;封育后由于森林凋落物的增加使枯落物存储量不断增加,可改善土壤肥力、提高林地涵养水分的功能。
【英文摘要】Analysis on vegetation data regarding tussah forests and closing of tussah forests for 6 and 9 years were conducted.The results indicated that closing of tussah forests could promote such trees ’ growth and closure as Quercus mongolica,but the horizontal distribution of young trees mostly showed a plexiform pattern by gathering around the seed trees owing to sprouting.The coverage of shrubs and herbs decreased as light decreased after tussah forests were closed.The diversity index of trees,shrubs and herbs were all higher in closed tussah forests than that in tussah forests.Litter storage in closed tussah forests increased year by year,which would improve soil fertility and enhance the function for water conservation in forest lands as well.

【语种】中文
【第一作者】赵 刚
【通讯作者】赵 刚
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【学科分类】生态学

【题目】退蚕还林对枯落物储量和持水性能的影响.
【中文关键词】柞蚕场; 封山育林; 枯落物; 最大持水量;
【英文关键词】tussah forest; closure of forest area; litter; maximum water-holding capacity;
【中文摘要】对柞蚕场和柞蚕场根刈后封山育林9年、12年、21年的4种类型柞林枯落物储量和持水性能进行了研究,结果表明:柞蚕场和封育9年、12年、21年的枯落物储量分别为3.69 t/hm2,7.92 t/hm2,8.41 t/hm2,8.74t/hm2,最大持水量分别为6.23 t/hm2,14.71 t/hm2,15.81 t/hm2,17.18 t/hm2;持水过程显示枯落物均1h持水量最大,8 h开始趋于饱和,枯落物吸水速率与浸水时间的关系可用S=Ktn来表达;柞蚕场和封育9年、12年、21年枯落物层有效拦蓄量分别为4.75 t/hm2,10.87 t/hm2,11.70 t/hm2,12.78 t/hm2,有效拦蓄降水深度分别比柞蚕场增加了0.60 mm,0.69 mm,0.80 mm。
【英文摘要】Studies on storage and water-holding properties of litter of Tussah forest,closure forests after root-clipping for 9 a,12 a and 21 a were conducted.The results showed that the total storage of litter layer for the tussah forest was 3.69 t/hm2,and closure forests after root-clipping for 9 a was 7.92 t/hm2,12 a was 8.41 t/hm2 and 21 a was 8.74 t/hm2.The maximum water capacity were

6.23t/hm2,14.71 t/hm2,15.81 t/hm2,17.18 t/hm2 respectively.In our experiment,it indicated that the water-holding capacity were the strongest in 1 h.The absorption rates were decreased while dipping in water.Water in there litter layer reached saturation in 8 h.The relationship between absorption rate and immersion time was S=Ktn.The modified interception amount of the four kinds of forests were 4.75 t/hm2,10.87 t/hm2,11.70 t/hm2,12.78 t/hm2 respectively,and they were commensurate with increase of precipitation depth about 0.60 mm,0.69 mm,0.80 mm.

【语种】中文
【第一作者】赵 刚
【通讯作者】赵 刚
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【学科分类】生态学

【题目】长白山北坡天然次生杨桦林群落演替状态分析.
【中文关键词】天然次生林; 演替指数; 立木级; 长白山
【英文关键词】Na tura l secondary fo rests; Succession index; S ize c lass; Changba iM ounta in
【中文摘要】采用演替指数法结合种群的年龄结构(立木级结构代替年龄结构),分析了长白山北坡天然次生杨桦林群落的演替状态。结果表明,在研究时段内,次生杨桦林处于接近演替中期阶段,白桦、山杨等优势种群处于中等成熟阶段,缺乏更新,种群成衰退型。红松等部分关键种主要以更新幼树或幼苗存在,种群数量不断扩大,种群结构合理,有利于实现次生林向阔叶红松林的定向演替。

【英文摘要】An investigation from 2006 to 2007 was made on the Pinus koraiensis seed consumption by rodents and birds in the broad-leaved P.koraiensis mixed forest and birch forest at the same altitude in Changbai Mountains.The results showed that in broad-leaved P.koraiensis mixed forest,rodents consumed more pinecone seeds than birds;while in birch forest,birds did more than rodents.In the two forests,the total number of pinecone seeds consumed by rodents was significantly higher than that consumed by birds($P<0.01$).In addition,rodents consumed more embedded seeds in broad-leaved P.koraiensis mixed forest than in birch forest,and the consumption amount in the two forests decreased with increasing embedded depth.

【语种】中文
【第一作者】赵伟
【通讯作者】赵伟
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【学科分类】生态学

【题目】辽东山区长白落叶松人工林天然更新障碍分析.
【中文关键词】辽东山区; 长白落叶松; 人工林; 天然更新; 间伐;
【英文关键词】montane regions of eastern Liaoning Province; Larix olgensis; plantation; natural regeneration; thinning.;
【中文摘要】通过对辽东山区不同间伐强度下长白落叶松林内种子库,种子萌发,幼苗出现、成活与生长的观测,分析了长白落叶松天然更新的主要影响因素.结果表明:40年生落叶松人工林的种子雨中,有30%的种子有活力,可以满足天然更新的需要;土壤种子库的种子主要分布在枯枝落叶层,4月下旬林内种子开始萌发,6月幼苗数量达到最大,幼苗累计出现率与间伐强度(光照)之间无显著相关,只受到地被物的影响;随间伐强度的增加,幼苗平均存活率提高,但林下幼苗生长缓慢,苗高均不超过6 cm;林内当年幼苗9月全部消失,没有超过1年生的幼苗,但皆伐迹地的更新幼苗存活较多、生长良好.初步确定地被物和光照是辽东山区长白落叶松天然更新的主要障碍因子.

【英文摘要】Based on the field investigations about the seed bank,seed germination,seedling emergence,and seedling survival and growth in the Larix olgensis plantations with different thinning intensities and various ground preparations in the montane regions of eastern Liaoning Province,the main factors affecting the natural regeneration of L.olgensis were analyzed in this paper.The results showed that in the seed rain of 40 years old L.olgensis plantation,30% of the seeds had viability,which could meet the needs of natural regeneration.The seeds in soil seed bank mainly distributed in litter layer,and the seedlings younger than one-year old emerged in April

and reached the peak in June.The accumulative emergence rate of the seedlings had no significant correlation with thinning intensities,but was affected by ground preparations.The average survival rate of appeared seedlings increased with increasing thinning intensities,but the seedling growth was generally slow in the plantation stands,e.g.,the seedling height was less than 6 cm,and most of the seedlings disappeared in September.In the plantation stands,it was difficult to find the L.olgensis seedlings elder than one-year;but in the clear-cut area with enough light and less ground cover,more seedlings could survive and grew well.Based on the above mentioned results,it was concluded that the main obstacles for the natural regeneration of L.olgensis plantations in montane regions of eastern Liaoning Province could be light intensity and ground cover.

【语种】中文

【第一作者】朱教君

【通讯作者】朱教君

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【学科分类】生态学

【题目】Development of primary shrimp hemocyte cultures of Penaeus chinensis to study white spot syndrome virus (WSSV) infection

【中文关键词】Jiang YS, Zhan WB,Wang SB,Xing J

【英文关键词】hemocytes; WSSV; infection; immunocytochemical tests

【中文摘要】Hemocytes were withdrawn from hearts of Penaeus chinensis, cultured with seven kinds of culture media, the hemocytes remained viable for about 20 days using Leibovitz's 2 x L-15 medium consisting of 20% fetal bovine serum, 20% GIT, and 2% glucose, adjusting osmolarity with sodium chloride, pH 7.2-7.4, and incubated at a temperature of 25 degrees C. Different concentrations of virus inoculum were inoculated into the primary cultured hemocytes, and diverse cytopathic effects were observed with an inverted phase-contrast microscope. WSSV infection was confirmed by immunocytochemical tests with monoclonal antibodies against the virus. These revealed that WSSV could infect hemocytes of P chinensis and propagate in the nuclei of infected cells. (C) 2005 Elsevier B.V. All rights reserved.

【英文摘要】Hemocytes were withdrawn from hearts of Penaeus chinensis, cultured with seven kinds of culture media, the hemocytes remained viable for about 20 days using Leibovitz's 2 x L-15 medium consisting of 20% fetal bovine serum, 20% GIT, and 2% glucose, adjusting osmolarity with sodium chloride, pH 7.2-7.4, and incubated at a temperature of 25 degrees C. Different concentrations of virus inoculum were inoculated into the primary cultured hemocytes, and diverse cytopathic effects were observed with an inverted phase-contrast microscope. WSSV infection was confirmed by immunocytochemical tests with monoclonal antibodies against the virus. These revealed that WSSV could infect hemocytes of P chinensis and propagate in the nuclei of infected cells. (C) 2005 Elsevier B.V. All rights reserved.

【语种】英文

【第一作者】Jiang YS

【通讯作者】Zhan WB

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【引文索引类型】SCI

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【学科分类】海洋科学

【题目】Development of an immuno- chromatographic test to detect White Spot Syndrome Virus of shrimp

【中文关键词】Wang XJ, Zhan WB

【英文关键词】shrimp; WSSV; MAbs; ICT

【中文摘要】A rapid, single step, sensitive and specific immunochromatographic test (ICT) is described for detecting white spot syndrome virus (WSSV) using anti-WSSV monoclonal antibodies (MAbs), 2E6 and 2A3, labeled with colloidal gold as a detection reagent and anti-WSSV MAb 1135 as a capture antibody immobilized on nitrocellulose membrane (NCM). The test process was completed within 10min without incubation or any other equipment. A reddish color at the site of immune reaction on NCM indicated

a positive result and 1 mu g/ml of WSSV could be detected. The assay sensitivity could be increased to 0.01 mu g/ml by silver enhancement. The sensitivity of ICT was similar to that of dot-blot nitrocellulose enzyme immunoassay (DB-NC-EIA). However, ICT is a method that is more convenient and can be quickly performed pond side without false positive results.

【英文摘要】A rapid, single step, sensitive and specific immunochromatographic test (ICT) is described for detecting white spot syndrome virus (WSSV) using anti-WSSV monoclonal antibodies (MAbs), 2E6 and 2A3, labeled with colloidal gold as a detection reagent and anti-WSSV MAb 1135 as a capture antibody immobilized on nitrocellulose membrane (NCM). The test process was completed within 10min without incubation or any other equipment. A reddish color at the site of immune reaction on NCM indicated a positive result and 1 mu g/ml of WSSV could be detected. The assay sensitivity could be increased to 0.01 mu g/ml by silver enhancement. The sensitivity of ICT was similar to that of dot-blot nitrocellulose enzyme immunoassay (DB-NC-EIA). However, ICT is a method that is more convenient and can be quickly performed pond side without false positive results.

【语种】英文

【第一作者】Wang XJ

【通讯作者】Zhan WB

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【学科分类】海洋科学

【题目】Development of dot-immunogold filtration assay to detect white spot syndrome virus of shrimp

【中文关键词】Wang XJ, Zhan WB,Xing J

【英文关键词】shrimp; WSSV; MAbs; DIGFA

【中文摘要】The dot-immunogold filtration assay (DIGFA) detects white spot syndrome virus (WSSV) by using a nitrocellulose membrane (NCM) as a support of WSSV and anti-WSSV monoclonal antibodies (MAbs) 1D5 and 6A4 labelled with red color colloidal gold. The principle of filtration for the rapid reaction of antigen and antibody is adopted in order for the test process to be completed within 3 min without incubation or any equipment. A reddish dot indicative of a positive result is present visibly. In comparison with dot-blot nitrocellulose enzyme immunoassay (DB-NC-EIA), the sensitivity of DIGFA is similar. However, DIGFA is a method that can be per-formed conveniently pond side providing a faster result without the production of false positive results.

【英文摘要】The dot-immunogold filtration assay (DIGFA) detects white spot syndrome virus (WSSV) by using a nitrocellulose membrane (NCM) as a support of WSSV and anti-WSSV monoclonal antibodies (MAbs) 1D5 and 6A4 labelled with red color colloidal gold. The principle of filtration for the rapid reaction of antigen and antibody is adopted in order for the test process to be completed within 3 min without incubation or any equipment. A reddish dot indicative of a positive result is present visibly. In comparison with dot-blot nitrocellulose enzyme immunoassay (DB-NC-EIA), the sensitivity of DIGFA is similar. However, DIGFA is a method that can be per-formed conveniently pond side providing a faster result without the production of false positive results.

【语种】英文

【第一作者】Wang XJ

【通讯作者】Zhan WB

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【学科分类】海洋科学

【题目】Molecular cloning and characterization of a putative lipopolysaccharide-induced TNF-a factor (LITAF) gene homologue from Zhikong scallop

【中文关键词】Yu, Yundong;Qiu, Limei;Song, Linsheng;Zhao, Jianmin;Ni, Duojiao;Zhang, Yin;Xu, Wei

【英文关键词】Chlamys farreri; lipopolysaccharide-induced TNF-alpha factor (LITAF); lipopolysaccharide (LPS); real-time RT-PCR; innate immunity

【中文摘要】LPS-induced TNF-alpha factor (LITAF) is a novel transcriptional factor that was first discovered in LPS-stimulated human macrophage cell line THP-1. LITAF can bind to TNF-a promoter to regulate its expression. The first scallop LITAF (named as

CfLITAF) was cloned from Zhikong scallop Chlamys farreri by Expressed Sequence Tag (EST) and Polymerase Chain Reaction (PCR) techniques. The cDNA of CfLITAF was of 1240 bp and consisted of a 5' untranslated region (UTR) of 112 bp, a 3' UTR of 678 bp and an open reading frame (ORF) of 450 bp encoding a polypeptide of 149 amino acids with an estimated molecular mass of 16.08 kDa and theoretical isoelectric point of 6.77. A typical conserved LITAF-domain was identified in CfLITAF by SMART analysis. Homology analysis of the deduced amino acid sequence of CfLITAF with other known sequences by using the BLAST program revealed that CfLITAF was homologous to the LITAF from human and rat (Identity = 46%), cattle, horse, mouse and chicken (Identity = 48%), western clawed frog (Identity = 42%), and zebrafish (Identity = 50%). The mRNA expression of CfLITAF in different tissues including haemocytes, muscle, mantle, heart, gill and gonad, and the temporal expression in haemocytes challenged by LPS or peptidoglycan (PGN) were measured by Real-time RT-PCR. CfLITAF mRNA transcripts could be detected in all tissues examined and be up-regulated in haemocytes after LPS challenge. No significant changes were observed after PGN stimulation. All these data indicated the existence of LITAF in scallop and also provided clue on the presence of TNF-alpha-like molecules in invertebrates.

【英文摘要】LPS-induced TNF-alpha factor (LITAF) is a novel transcriptional factor that was first discovered in LPS-stimulated human macrophage cell line THP-1. LITAF can bind to TNF-a promoter to regulate its expression. The first scallop LITAF (named as CfLITAF) was cloned from Zhikong scallop Chlamys farreri by Expressed Sequence Tag (EST) and Polymerase Chain Reaction (PCR) techniques. The cDNA of CfLITAF was of 1240 bp and consisted of a 5' untranslated region (UTR) of 112 bp, a 3' UTR of 678 bp and an open reading frame (ORF) of 450 bp encoding a polypeptide of 149 amino acids with an estimated molecular mass of 16.08 kDa and theoretical isoelectric point of 6.77. A typical conserved LITAF-domain was identified in CfLITAF by SMART analysis. Homology analysis of the deduced amino acid sequence of CfLITAF with other known sequences by using the BLAST program revealed that CfLITAF was homologous to the LITAF from human and rat (Identity = 46%), cattle, horse, mouse and chicken (Identity = 48%), western clawed frog (Identity = 42%), and zebrafish (Identity = 50%). The mRNA expression of CfLITAF in different tissues including haemocytes, muscle, mantle, heart, gill and gonad, and the temporal expression in haemocytes challenged by LPS or peptidoglycan (PGN) were measured by Real-time RT-PCR. CfLITAF mRNA transcripts could be detected in all tissues examined and be up-regulated in haemocytes after LPS challenge. No significant changes were observed after PGN stimulation. All these data indicated the existence of LITAF in scallop and also provided clue on the presence of TNF-alpha-like molecules in invertebrates.

【语种】英文
【第一作者】Yu Yundong
【通讯作者】Song Linsheng
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【学科分类】海洋科学

【题目】Molecular cloning and mRNA expression of peptidoglycan recognition protein (PGRP) gene in bay scallop (Argopecten irradians, Lamarck 1819)

【中文关键词】Ni, Duojiao; Song, Linsheng; Wu, Longtao, Chang, YQ (Chang, Yaqing); Yu, YD (Yu, Yundong); Qiu, LM (Qiu, Limei); Wang, LL (Wang, Lingling)
【英文关键词】Argopecten irradians; peptidoglycan recognition protein; expressed sequence tag; cDNA cloning; mRNA expression
【中文摘要】无

【英文摘要】 Peptidoglycan recognition proteins (PGRPs) are a type of pattern recognition molecules (PRM) that recognize the unique cell wall componentpeptidoglycan (PGN) of bacteria and are involved in innate immunity. The first bivalve PGRP cDNA sequence was cloned from bay scallop Argopectenirradians by expressed sequence tag (EST) and PCR technique. The full-length cDNA of bay scallop PGRP (designated AiPGRP) gene contained 10 18 bp with a 615-bp open reading frame that encoded a polypeptide of 205 amino acids. The predicted amino acid sequence of AiPGRP shared high identity with PGRP in other organisms, such as PGRP precursor in Trichoplusia ni and PGRP SC2 in Drosophila melanogaster. A quantitative reverse transcriptase Real-Time PCR (qRT-PCR) assay was developed to assess the mRNA expression of AiPGRP in different tissues and the temporalexpression of AiPGRP in the mixed primary cultured hemocytes challenged by microbial components lipopolyssacharide (LPS) from Escherichia coli and PGN from Micrococcus luteus. Higher-level mRNA expression of AiPGRP was detected in the tissues of hemocytes, gonad and kidney.

The expression ofAiPGRP in the mixed primary cultured hemocytes was up regulated after stimulated by PGN, while LPS from E. coli did not induce AiPGRP expression. The results indicated that AiPGRP was a constitutive and inducible expressed protein that was mainly induced by PGN and could be involved in scallopimmune response against Gram-positive bacteria infection. (c) 2006 Elsevier Ltd. All rights reserved.
【语种】英文
【第一作者】Ni Duojiao
【通讯作者】Song Linsheng
【期刊名称、卷期、页码】DEVELOPMENTAL AND COMPARATIVE IMMUNOLOGY, 31(6): 548-558
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【引文索引类型】SCI
【引文索引号】2.44761e+011
【学科分类】海洋科学

【题目】Molecular cloning, characterization and expression of a serine protease with clip-domain homologue from scallop
【中文关键词】Zhu L, Song LS, Zhao JM, Xu W, Chang YQ
【英文关键词】serine protease; clip domain; Chlamys farreri; tissue distribution; mRNAexpression; injury healing; immune response
【中文摘要】无
【英文摘要】Serine proteases play critical roles in a variety of invertebrate immune defense responses, including hemolymph coagulation, antimicrobial peptide synthesis, and melanization. The first mollusk serine protease with clip-domain (designated CFSP1) cDNA was obtained from the scallop Chlamys farreri challenged with Vibrio anguillarum by randomly sequencing a whole tissue cDNA library and rapid amplification of cDNA ends (RACE). The full-length cDNA of the C. farreri serine protease was 1211 bp, consisting of a 5-terminal untranslated region (UTR) of 72 bp, a 3'-terminal UTR of 77 bp with a canonical polyadenylation signal sequence AATAAA and a poly (A) tail, and an open reading frame of 1062 bp. The CFSP1 cDNA encoded a polypeptide of 354 amino acids with a putative signal peptide of 19 amino acids and a mature protein of 335 amino acids. The deduced amino acid sequence of CFSP1 contained an amino-terminal clip domain, a low complexity region, and a carboxyl-terminal serine protease domain. CFSP1 mRNA was mainly expressed constitutively in the hemocytes and was up-regulated and increased 2.9- and 1.9-fold at 16 h after injury and injection of bacteria. (c) 2006 Elsevier Ltd. All rights reserved.
【语种】英文
【第一作者】Zhu, L
【通讯作者】Song, LS
【期刊名称、卷期、页码】FISH & SHELLFISH IMMUNOLOGY, 22: 556-566
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【引文索引类型】SCI
【引文索引号】2.4520830001e+011
【学科分类】海洋科学

【题目】Molecular cloning and characterization of a lipopolysaccharide and beta-1,3-glucan binding protein from fleshy prawn (Fenneropenaeus chinensis)
【中文关键词】Du XJ, Zhao XF, Wang JX
【英文关键词】LGBP; fleshy prawn; Fenneropenaeus chinensis; pattern recognitionprotein; innate immunity
【中文摘要】无
【英文摘要】Pattern recognition proteins (PRPs), such as lipopolysaccharide and beta-1,3-glucan binding protein (LGBP), have been identified in many animals and play a crucial role in invertebrate defense systems. In the current study, an LGBP gene was cloned from fleshy prawn (Fenneropenaeus chinensis, Fc-LGBP) utilizing homology cloning and RACE methods. The full cDNA of the Fc-LGBP gene in fleshy prawn was 1253 bp in size with a deduced 366 amino acid protein that includes a glycosyl hydrolase domain. Northern blot and RT-PCR data suggested that Fc-LGBP mRNA was mostly synthesized in haemocytes and that the expression was down-regulated 24 It post-injection of bacteria. In situ hybridization demonstrated that Fc-LGBP mRNA was only detected in haemocyte cytoplasm, with no detection in other tissues. The molecular weight of the purified recombinantly expressed Fc-LGBP was approximately 46 kDa. Immunohistochemistry of haemocytes revealed that Fc-LGBP protein was localized on the membrane of most cells. Data from bacterial binding assays utilizing purified protein suggested that rFc-LGBP had strong binding activity to Gram-

negative bacteria. (c) 2006 Elsevier Ltd. All rights reserved.
【语种】英文
【第一作者】Du, XJ
【通讯作者】Wang, JX
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【引文索引号】2.429497e+011
【学科分类】海洋科学

【题目】cDNA cloning and mRNA expression of heat shock protein 90 gene in the haemocytes of Zhikong scallop
【中文关键词】Gao Q, Song LS, Ni DJ, Wu LT, Zhang H, Chang YQ
【英文关键词】biomarker; cDNA cloning; expressed sequence tag; heat shock protein 90;heavy metal stress; mRNA expression; Zhikong scallop Chlamys farreri
【中文摘要】无
【英文摘要】Heat shock protein 90 (HSP90) is a highly conserved molecular chaperone contributing to the folding, maintenance of structural integrity and proper regulation of a subset of cytosolic proteins. The full-length cDNA of Zhikong scallop Chlamysfarreri HSP90 (designated CfHSP90) was cloned by EST and rapid RACE techniques. It was of 2710 bp, including an open reading frame (ORF) of 2181 bp encoding a polypeptide of 726 amino acids with all the five HSP90 family signatures. BLAST analysis revealed that the CfHSP90 gene shared high similarity with other known HSP90 genes. Fluorescent real-time quantitative RT-PCR was used to examine the expression pattern of CfHSP90 mRNA in haemocytes of scallops exposed to Cd2+, Pb2+ and Cu2+ for 10 and 20 days, respectively. All the three heavy metals could induce CfHSP90 expression. There was a clear dose-dependent expression pattern of CfHSP90 after heavy metals exposure for 10 days or 20 days. Different concentrations of the same metal resulted in different effects on CfHSP90 expression. The results indicated that CfHSP90 responded to various heavy metal stresses with a dose-dependent expression pattern as well as exposure time effect, and could be used as a molecular biomarker in a heavy metal polluted environment. (c) 2007 Elsevier Inc. All rights reserved.
【语种】英文
【第一作者】Gao, Q
【通讯作者】Song, LS
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【学科分类】海洋科学

【题目】Neutralizing assay of monoclonal antibodies against white spot syndrome virus (WSSV)
【中文关键词】Jiang YS, Zhan WB, Sheng XZ
【英文关键词】white spot syndrome virus; monoclonal antibody; neutralization;haemocyte membranes
【中文摘要】无
【英文摘要】Monoclonal antibodies (Mabs) against white spot syndrome virus (WSSV) were tested for their ability to neutralize WSSV infectivity by immunodot-blot assay and enzyme-linked immunosorbent assay. It was proved that WSSV could bind to haemocyte membranes of Penaeus chinensis, moreover, the result showed that the Mab 2132 could reduce the binding of WSSV with haemocyte membranes of P. chinensis. The neutralization assay was further conducted in vitro with primary cultured haemocytes of P chinensis, and the cell culture assay showed that the two monoclonal antibodies, 2132 and 6134 could partially neutralize WSSV infection. (c) 2007 Elsevier B.V. All rights reserved.
【语种】英文
【第一作者】Jiang, YS
【通讯作者】Zhan, WB

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【引文索引类型】SCI
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【学科分类】海洋科学

【题目】Characterization and expression of a new subfamily member of penaeidin antimicrobial peptides (penaeidin 5) from Fenneropenaeus chinensis
【中文关键词】Kang CJ, Xue JF, Liu N, Zhao XF, Wang JX
【英文关键词】fleshy prawn; Fenneropenaeus chinensis; antimicrobial peptide;penaeidins; gene expression; Pichia pastoris
【中文摘要】无
【英文摘要】Penaeidins are members of a special family of antimicrobial peptides existing in penaeid shrimp and play an important role in the immunological defence of shrimp. Here, we report one penaeidin with a putative isotype newly cloned from fleshy prawn Fenneropenaeus chinensis. The penaeidin open reading frame encodes a 79 amino acid peptide while two exons and an intron were identified within the 1126 bp genomic sequence of Fenchi-penaeidin 5. Phylogenetic analysis and sequence comparison with other known penaeidins suggest the new gene belongs to a novel subfamily of penaeidins and the two isoforms were named Fenchi-penacidin 5-1 and 5-2, respectively. Fenchi-penaeidin 5 mRNA was examined in normal and microbial challenged shrimp and was found to be constitutively expressed in heamocytes, heart, gill, intestine and ovary. Bacterial challenge resulted in mRNA up-regulation, inducing expression in hepatopancreas and stomach. Fenchi-penaeidin 5-1 was also expressed in Pichia pastoris, and recombinant Fenchi-penaeidin 5-1 exhibited activities against Gram-positive and -negative bacteria and fungi. (c) 2006 Elsevier Ltd. All rights reserved.
【语种】英文
【第一作者】Kang, CJ
【通讯作者】Wang, JX
【期刊名称、卷期、页码】MOLECULAR IMMUNOLOGY, 44: 1535-1543
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【引文索引号】2.4375970001e+011
【学科分类】海洋科学

【题目】Production, characterisation and applicability of monoclonal antibodies to immunoglobulin of Japanese flounder (Paralichthys olivaceus)
【中文关键词】Li Q, Zhan WB, Xing J, Sheng XZ
【英文关键词】monoclonal antibodies; immunoglobulin; Japanese flounder; Paralichthysolivaceus
【中文摘要】无
【英文摘要】Immunoglobulin (Ig) of Japanese flounder (Paralichthys olivaceus) was purified by a combination of salting-out and DEAE Sepharose Column chromatography. The purified immunoglobulin had an apparent molecular weight of 74 kDa (heavy chain) and 24 kDa (light chain) in SDS-PAGE. Eighteen hybridomas secreting monoclonal antibodies (MAbs) against Japanese flounder 12 were obtained by immunisation of Balb/C mice with purified Ig preparations, which were selected on the basis of the double indirect enzyme-linked immunosorbent assay (D-ELISA). Two of them designated as 2D8 and 2H1 were cloned by limiting dilution and characterised with western blotting, indirect immunofluorescence assay test (IIFAT) and fluorescence-activated cell sorter (FACS) analysis. Under reducing conditions in western blotting, both MAb 2D8 and MAb 2H1 were specific for the heavy chain of Japanese flounder Ig MAb 2D8 was used to identify surface Ig-positive lymphocytes in the peripheral blood, spleen and pronephros of healthy Japanese flounder by flow cytornetry. FACS analysis revealed that 40.48% of lymphocytes in the peripheral blood, 17.32% in the spleen and 9.67% in the pronephros were reactive to 2D8. (C) 2007 Elsevier Ltd. All rights reserved.
【语种】英文
【第一作者】Li, Q
【通讯作者】Zhan, WB
【期刊名称、卷期、页码】FISH & SHELLFISH IMMUNOLOGY, 23: 982-990
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【引文索引类型】SCI
【引文索引号】2.4998240001e+011
【学科分类】海洋科学

【题目】Ontogenesis of haemocytes in shrimp (Fenneropenaeus chinensis) studied with probes of monoclonal antibody
【中文关键词】Lin YB, Zhan WB, Li Q, Zhang ZD, Wei XM, Sheng XZ
【英文关键词】shrimp; haemocyte; ontogenesis; monoclonal antibody
【中文摘要】无
【英文摘要】Monoclonal antibodies (Mabs) specifically against haemocytes of shrimp (Fenneropenaeus chinensis) were employed to study the ontogenesis of haemocytes by immunofluorescence assay technique (IFAT) with the aids of avidin-biotin complex method. Different developmental stages were identified by means of histochemical staining. Stages including blastula, gastrula, limb bud stage, embryonic-nauplius and nauplius were examined. With Mab 2A3 against both hyline, semi-granular and granular haemocytes, the first positive cells were detected at the limb bud stage of the embryos. Distinguishable positive haemocytes with a diameter of about 7 mu m appeared in ernbryonic-nauplius. Whereas, with Mab 1H11 specific to cytoplasmic granulars in haemocytes, the first positive granular haemocytes were observed at the stage of embryonic-nauplius. Increased number of both total and granular haemocytes at the stage of nauplius impressed a possible enhancement of the immune system as the embryogenesis progressed. (C) 2007 Elsevier Ltd. All rights reserved.
【语种】英文
【第一作者】Lin, YB
【通讯作者】Zhan, WB
【期刊名称、卷期、页码】DEVELOPMENTAL AND COMPARATIVE IMMUNOLOGY, 31: 1073-1081
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【引文索引类型】SCI
【引文索引号】2.510772e+011
【学科分类】海洋科学

【题目】A prophenoloxidase from the Chinese mitten crab Eriocheir sinensis: gene cloning, expression and activity analysis
【中文关键词】Gai YC, Zhao JM, Song LS, Li CH, Zheng PL, Qiu LM, Ni DJ
【英文关键词】prophenoloxidase; Eriocheir sinensis; quantitative real-time PCR; innateimmunity; enzyme specific activity; mRNA expression profile
【中文摘要】无
【英文摘要】Prophenoloxidase (proPO) is a conserved copper-containing enzyme that plays important roles in immune response of crustaceans and insects. In the present study, the full-length cDNA of a prophenoloxidase (designated EsproPO) was cloned from haemocytes of Chinese mitten crab Eriocheir sinensis by expressed sequence tag (EST) and PCR techniques. The isolated 3549 bp full-length cDNA of EsproPO contained a 2040 bp open reading frame (ORF) encoding a putative proPO protein of 679 amino acids, a 5'-untranslated region (UTR) of 68 bp, and a long 3'-UTR of 1441 bp. Two putative copper-binding sites, a proteolytic activation site, and a complement-like motif (GCGWPQHM) were identified in the deduced amino acid sequence of EsproPO. Homology analysis revealed that EsproPO was highly similar to other proPOs from crustaceans with identities from 52% to 68%. The conserved domains and motifs, and higher similarity with other proPOs suggested that EsproPO was a member of the proPO family. The mRNA expression of EsproPO and PO specific activities in the tissues of hepatopancreas, gill, gonad, muscle, heart, eye and haemocytes were measured by quantitative real-time PCR and colorimetric assay, respectively. The mRNA transcripts of EsproPO and PO specific activities could be detected in all the examined tissues with the highest level both in hepatopancreas. Three peaks of EsproPO mRNA expression were recorded at 2 h, 12 h and 48 h in haemocytes of Chinese mitten crab post Vibrio anguillarum challenge, which was consistent with the temporal profile of PO specific activity. The mRNA expression pattern and the activity fluctuation of EsproPO post V. anguillarum stimulation indicated that it was potentially involved in the acute response against invading bacteria in Chinese mitten crab. (c) 2007 Elsevier Ltd. All rights reserved.
【语种】英文
【第一作者】Gai, YC
【通讯作者】Song, LS

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【学科分类】海洋科学

【题目】Identification and characterization of a myeloid differentiation factor 88 (MyD88) cDNA from Zhikong scallop
【中文关键词】Qiu LM, Song LS, Yu YD, Xu W, Ni DJ, Zhang QC
【英文关键词】Chlamys farreri; innate immunity; Myd88; real-time RT-PCR
【中文摘要】无
【英文摘要】Myeloid differentiation factor 88 (MyD88) is a universal and essential adapter for the TLR/IL-1R family. In this report, the first mollusk Myd88 ortholog (named as CfMyd88) was cloned from Zhikong scallop (Chlamys farreri). The full-length cDNA of CfMyd88 was of 1554 bp, including a 5 '-terminal untranslated region (UTR) of 427 bp, a polyA tail, and an open reading frame (ORF) of 1104 bp encoding a polypeptide of 367 amino acids containing the typical TLR and IL-1R-related (TIR) domain and death domain (DD). Homology analysis revealed that the predicted amino acid sequence of CfMyd88 was homologous to a variety of previously identified Myd88s with more than 30% identity. The temporal expressions of CfMyd88 mRNA in the mixed primary cultured haemocytes stimulated by lipopolysaccharide (LPS) and peptidoglycans (PGN) were measured by real-time RT-PCR system. The mRNA expression of CfMyd88 decreased after stimulation with both LPS and PGN, and the lowest level was about 1/3 times (at 6 h) and 1/10 times (at 9 h) to that in the control group, respectively. The expression then recovered and was upregulated to two-fold at 9 h after LPS stimulation or to the original level at 12 It after PGN stimulation. The results suggest that the MyD88-dependent signaling pathway exists in scallop and was involved in the defense system. (c) 2007 Elsevier Ltd. All rights reserved.
【语种】英文
【第一作者】Qiu, LM
【通讯作者】Song, LS
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【学科分类】海洋科学

【题目】A novel serine protease with clip domain from scallop Chlamys farreri
【中文关键词】Zhu L, Song LS, Mao Y, Zhao JM, Li CH, Xu W
【英文关键词】Chlamys farreri; clip domain; immune response; mRNA expression; serineprotease; tissue distribution
【中文摘要】无
【英文摘要】Peroxiredoxin is a superfamily of antioxidative proteins that play important roles in protecting organisms against the toxicity of reactive oxygen species (ROS). In this study, the full-length cDNA encoding peroxiredoxin 6 (designated EsPrx6) was cloned from Chinese mitten crab Eriocheir sinensis by using rapid amplification of cDNA ends (RACE) approaches. The full-length cDNA of EsPrx6 was of 1076 bp, containing a 5' untranslated region (UTR) of 69 bp, a 3' UTR of 347 bp with a poly (A) tail, and an open reading frame (ORF) of 660 bp encoding a polypeptide of 219 amino acids with the predicted molecular weight of 24 kDa. The conserved Prx domain, AhpC domain and the signature of peroxidase catalytic center identified in EsPrx6 strongly suggested that EsPrx6 belonged to the 1-Cys Prx subgroup. Quantitative real-time RT-PCR was employed to assess the mRNA expression of EsPrx6 in various tissues and its temporal expression in haemocytes of crabs challenged with Listonella anguillarum. The mRNA transcript of EsPrx6 could be detected in all the examined tissues with highest expression level in hepatopancreas. The expression level of EsPrx6 in haemocytes was down-regulated after bacterial challenge and significantly decreased compared to the control group at 12 h. As time progressed, the expression level began to increase but did not recover to the original level during the experiment. The results suggested the involvement of EsPrx6 in responses against bacterial infection and further highlighted its functional importance in the immune system of E sinensis. (C) 2009 Elsevier Ltd. All rights reserved.
【语种】英文
【第一作者】Zhu, L

【通讯作者】Zhu, L
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【学科分类】海洋科学

【题目】Optimization of medium composition for production of lacticin LLC518 by Lactococcus lactis subsp lactis LLC518 using response of surface methodology
【中文关键词】优化,细菌、球菌lacticin、效应面方法
【英文关键词】Optimization, bacteriocin, Lactococcus lactis, lacticin, response surface methodology.
【中文摘要】LLC518生产乳酸链球菌素lacticin LLC518的产量。胰蛋白胨、磷酸氢二钾和硫酸镁在正交实验中对lacticin LLC518有一个显著的影响。通过最速上升法概率水平上显著因素的中心组合设计,得到最佳培养基成分(g/l):蔗糖20,酵母粉5,胰蛋白8.18,牛肉膏10,七水硫酸镁0.82,磷酸氢二钾2.8,草酸铵5.0,无水乙酸钠5.0,硫酸锰0.25和吐温-80 5ml。优化过培养基的细菌素产量(180.13 IU/ml)与未优化培养基细菌素产量(96.72 IU/ml)提高了86.3%。在优化条件下,在培养4小时开始产生乳酸链球菌LLC518,在14小时达到最大值。
【英文摘要】Response surface methodology (RSM) was applied for the optimization of lacticin LLC518 production, which was produced by Lactococcus lactis subsp. lactis LLC518. Tryptone, KH2PO4 and MgSO4 had signicant effects on lacticin LLC518 biosynthesis by a Plackett-Burman design (PBD). After steepest ascent design (SAD) and central composite design (CCD), the optimum medium compositions were obtained as follows (g/l): sucrose 20, yeast extract 5, tryptone 8.18, beef extract 10, MgSO4 · 7H2O 0.82, K2HPO4 2.8, (NH4)2HC6H5O7 5.0, CH3COONa 5.0, MnSO4 0.25 and Tween 80 5 ml. An 86.3% increase in bacteriocin production (180.13 IU/ml) was achieved under this condition compared within unoptimized medium (96.72 IU/ml). Under these optimized conditions, the production of Lacticin LLC518 began at 4 h, peaked at 14 h.
【语种】英文
【第一作者】孟庆龙
【通讯作者】张明
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【学科分类】兽医学

【题目】Tissue distribution, expression and antimicrobial activity of
【中文关键词】鸭、 AvBD、 重组蛋白、 合成肽抗菌剂
【英文关键词】duck, AvBD, recombinant protein, synthetic peptide, antimicrobial
36 activity
【中文摘要】在这项研究中,从巢湖麻鸭中分离出一种新型的禽β-防御素(AVBD)。该基因的全基因组序列包含一个204 bp的开放阅读框,编码67个氨基酸(AA),其中包括20个氨基酸的信号肽,5个氨基酸的前体蛋白的,42个氨基酸的成熟肽。AVBD与其它禽类基因的同源性和特征进行比较证实,鸭AvBD6与鸡,鹅,鸭的前体蛋白的AvBD6s 是高度保守的,氨基酸同源性为100%。在所研究的健康的5月龄鸭子组织中,除了皮肤,肾脏,和法氏囊外,AvBD6 mRNA在其他组织中广泛表达,在脾,肺,胃,舌头,和蛋黄中高表达,在骨髓和肝脏中适度表达,在气管,心脏,肠,肌肉,食道和睾丸中低表达。我们在大肠杆菌中表达和纯化重组AvBD6蛋白。将诱导温度从37°C降至30°C,包涵体可溶性GST-AvBD6的产量增加显着。正如预期的那样,GST-AvBD6的对嗜水气单胞菌表现出很强的杀菌性能。
【英文摘要】In this study, a novel avian β-defensin (AvBD) was isolated from Chaohu duck. The complete nucleotide sequence of the gene contained a 204 bp open reading frame encoding 67 amino acids (aa), which included a signal peptide of 20 aa,a propiece of 5 aa, and a mature peptide of 42 aa. Homology, characterization and comparison of the gene with AvBD from other avian species confirmed that it was duck AvBD6, and the preproprotein of AvBD6s from chicken, goose and duck are highly conserved with 100% amino acids homology. AvBD6 mRNA was widely expressed in the investigated healthy five-months-old duck tissues except the skin, kidney, and bursa; and highly expressed in the spleen, lung, stomach, tongue, and egg yolk successively; and moderately expressed in the bone marrow and liver; and lowly expressed in the trachea, heart, intestine, muscle, esophagus and testis. We produced and

purified recombinant AvBD6 by expressing the gene in Escherichia coli. The yield of soluble glutathione S-transferees (GST)-AvBD6 in the inclusion bodies increased significantly with incubation temperature decreased from 22 37°C to 30°C. As expected, the GST-AvBD6 exhibited strong bactericidal properties against Aeromonas veronii biovar sobria strain BJCP-5, E.coli, and Enterococcus faecalis (ATCC 29212)(MIC = 0.5~2 μM); and medium bactericidal properties against Staphylococcus aureus, Salmonella enteritidis, Pseudomonas aeruginosa (ATCC 27853) and Bacillus subtilis (CMCC 63501) (MIC = 4~8 μM), but less effective against Candida albicans (ATCC 10231) (MIC = 16 μM). Additionally, the antimicroble activity of GST-AvBD6 is same as synthetic AvBD6. The A. veronii biovar sobria strain BJCP-5cells treated with GST-AvBD6 showed pore-forming, shrinkage, and lysis underscanning electron microscopy, the mechanism in GST-AvBD6 mediated killing of A. veronii biovar sobria involved in cell lysis and no-lysis. Our results indicate an important role of AvBD6 in Chaohu duck innate immunity.

【语种】英文

【第一作者】K. Peng

【通讯作者】K. Qi

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【学科分类】兽医学

【题目】Cloning and expression of chicken AvBD8 mature peptide gene in Lactococcus lactis

【中文关键词】AvBD8 成熟肽基因克隆、 表达、 球菌

【英文关键词】AvBD8 mature peptide, Cloning, Expression, Lactococcus lactis

【中文摘要】鸡β防御素8(AvBD8)是一种抗菌肽,其在鸡体的先天性免疫中起重要作用。本研究目的是研究鸡AvBD8成熟肽基因在乳酸乳球菌的表达。从安徽三黄鸡肝脏组织中反转录出AvBD8成熟肽基因,然后将其克隆到表达载体pNZ8048中,通过PCR,双酶切鉴定及测序结果表明,重组体pNZ8048-AvBD8 构建成功且成功电转化到乳酸乳球菌NZ9000中。重组蛋白AvBD8的表达用Tricine-SDS-PAGE分析。研究表明,乳酸乳球菌可以作为β防御素的宿主菌,为进一步研究奠定基础。

【英文摘要】Chicken beta-defensin-8 (AvBD8) is an antibacterial peptide that plays significant roles in innate immunity. The aim of this study was to investigate the expression of Chicken avian AvBD8 mature peptide gene in Lactococcus lactis (L. lactis) system. In this study, the AvBD8 gene was cloned and sequenced from chicken liver by reverse transcriptase-polymerase chain reaction (RT-PCR). Then the AvBD8 mature peptide gene was amplified and cloned into the expression vector pNZ8048. The result showed that the recombinant vector pNZ8048-AvBD8 that verified by colony PCR, double digestion and DNA sequencing was transformed into the competent cell L. lactis NZ9000 by electroporation. The expression of the recombinant protein AvBD8 was confirmed by tricine-SDS-PAGE analysis. Our present findings suggest that L. lactis could act as a host for the production of avian beta-defensins for further study.

【语种】英文

【第一作者】祁克宗

【通讯作者】薛秀恒

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【引文索引号】无

【学科分类】兽医学

【题目】Protective immune responses in ducklings induced by a suicidal DNA

【中文关键词】“ 自杀性 ”DNA疫苗 ,鸭肝炎病毒 ,VP1基因,雏鸭

【英文关键词】Suicidal DNA vaccine

Duck hepatitis virus

VP1 gene

Ducklings

【中文摘要】SFV复制子真在被用来研制一种防治1型鸭病毒性肝炎的“ 自杀性 ”DNA疫苗。“ 自杀性 ”DNA疫苗的基础上森林脑炎病毒(SFV)复制评估疫苗对鸭肝炎病毒1型(DHV-1)的发展。 DHV-1的VP1基因的克隆和插入SFV pSCA1,基于DNA的复制子载体得到的质粒,pSCA/VP1,转染BHK-21细胞,用间接免疫荧光法和免疫印迹法检测证实表达的蛋白的抗

原性。雏鸭免疫原性研究。雏鸭肌肉注射与pSCA/VP1两次,在14天的时间间隔。反DHV-1抗体,通过ELISA法检测的淋巴细胞的增殖反应也测试了由3 - (4,5 - 二甲基-2 - 噻唑基)-2,5 - 二苯基-2H-四唑鎓溴化物的方法,中和抗体的测定由微量的测试。我们的研究结果表明,DHV-1特异性抗体,中和抗体和淋巴细胞增殖,诱导雏鸭。此外,所有的小鸭保护,以防止与野生DHV-1的挑战。总之,我们的自杀性DNA疫苗是一种很有前途的候选疫苗的预防鸭肝炎所造成的DHV-1提供便利。

【英文摘要】A suicidal DNA vaccine based on a Semliki Forest virus (SFV) replicon was evaluated for thedevelopment of a vaccine against duck hepatitis virus type 1 (DHV-1). The VP1 gene ofDHV-1 was cloned and inserted into pSCA1, an SFV DNA-based replicon vector. Theresultant plasmid, pSCA/VP1, was transfected into BHK-21 cells and the antigenicity of theexpressed protein was confirmed using an indirect immunofluorescence and western blotassay. Immunogenicity was studied in ducklings. Ducklings were injected intramuscularlytwo times with pSCA/VP1 at 14 days intervals. Anti-DHV-1 antibodies were detected byELISA, the lymphocyte proliferation response was also tested by the 3-(4,5-dimethyl-2-thiazolyl)-2,5-diphenyl-2H-tetrazolium bromide method and neutralizing antibodieswere measured by microneutralization tests. Our results showed that DHV-1-specificantibodies, neutralizing antibodies and lymphocyte proliferation were well induced inducklings. Furthermore, all the ducklings were protected against challenge with wildDHV-1. In conclusion, we demonstrate that the suicidal DNA vaccine is a promisingvaccine candidate facilitating the prevention of duck hepatitis caused by DHV-1.

【语种】英文

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【学科分类】兽医学

【题目】不同施肥措施对休宁土壤Cd形态的影响与蔬菜富集特性的研究

【中文关键词】关键词:施肥措施;土壤Cd形态;蔬菜;富集特性

【英文关键词】Keywords:Fertilization measurement;Cd fraction in soil;Vegetable;Enrichment capacity

【中文摘要】摘 要:[目的]研究不同施肥措施对休宁土壤Cd形态的影响与蔬菜富集特性.[方法]通过盆栽试验,研究了鸡粪、改良剂和外源Cd对休宁菜园土中重金属Cd形态的影响与蔬菜富集特性.[结果]结果表明,施入鸡粪可降低土壤中可交换态Cd和铁锰氧化态Cd的含量,增加了土壤中的碳酸盐态Cd和有机物结合态Cd含量.改良剂可提高土壤中可交换态Cd和碳酸盐态Cd的含量.外源Cd进入到土壤中主要以可交换态、碳酸盐态和铁锰氧化物结合态存在.萝卜、白菜和辣椒的可食用部分对土壤Cd的富集能力为:白菜>萝卜≈辣椒,转移系数为白菜>萝卜>辣椒.[结论]在农业生产上,可在土壤中添加有机肥和无机改良剂减少蔬菜对重金属Cd的吸收积累.在重金属Cd含量高的土壤中应避免种植富集能力极强的蔬菜品种.

【英文摘要】Abstract:[Objective]The effect of the different fertilization measure on the Cd fraction in soil in Xiuning County and its accumulation in vegetable were studied. [Method]The potted experiment in the effect of the chicken manure, additives and Cd addtion on the Cd fraction in soil and its accumulation in vegetable was carried out. [Results]The results showed that the application of chicken manure could decrease the content of exchangeable Cd and Fe-Mn oxide Cd;and increase the content of the carbonate Cd and organic Cd. The content of soil exchangeable Cd and Carbonate Cd could be increased under the condition of additives application. The Cd addition in soil could be mainly transformed into the exchangeable, carbonate and iron-manganese oxide. The order of Cd accumulation in the edible part of different vegetable species was cabbage > radish and pepper, and the transferring coefficient was cabbage > radish > pepper. [Conclusion]The application of organic manure and inorganic soil additives could decrease Cd accumulation by vegelables in farming practices. The vegetables with high enrich ment capacity of Cd should be avoided in soil with high content of Cd.

【语种】中文

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【通讯作者】孙满意

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【学科分类】农业基础学科

【题目】Cloning of a gene encoding thermostable cellobiohydrolase from the thermophilic fungus Chaetomium thermophilum and its expression in Pichia pastoris
【中文关键词】纤维素酶;嗜热毛壳菌;克隆;表达;毕赤酵母
【英文关键词】cDNA cloning;cellobiohydrolase;Chaetomium thermophilum;expression;Pichia pastoris
【中文摘要】无
【英文摘要】AIMS:A new cellobiohydrolase (CBH) gene (cbh3) from Chaetomium thermophilum was cloned, sequenced and expressed in Pichia pastoris.METHODS AND RESULTS:Using RACE-PCR, a new thermostable CBH gene (cbh3) was cloned from C. thermophilum. The cDNA of the CBH was 1607 bp and contained a 1356 bp open reading frame encoding a protein CBH precursor of 451 amino acid residues. The mature protein structure of C. thermophilum CBH3 only comprises a catalytic domain and lacks cellulose-binding domain and a hinge region. The gene was expressed in P.pastoris. The recombinant CBH purified was a glycoprotein with a size of about 48.0 kDa, and exhibited optimum catalytic activity at pH 5.0 and 60 degrees C. The enzyme was more resistant to high temperature. The CBH could hydrolyse microcrystalline cellulose and filter paper.CONCLUSIONS:A new thermostable CBH gene of C. thermophilum was cloned, sequenced and overexpressed in P. pastoris.SIGNIFICANCE AND IMPACT OF THE STUDY:This CBH offers an interesting potential in saccharification steps in both cellulose enzymatic conversion and alcohol production.
【语种】英文
【第一作者】李亚玲
【通讯作者】李多川
【期刊名称、卷期、页码】Journal of Applied Microbiology 106:1867-75
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【引文索引号】2.6589050001e+011
【学科分类】食品科学技术基础学科

【题目】Cloning, expression and characterization of the serine protease Gene from Chaetomium thermophilum
【中文关键词】嗜热毛壳菌;蛋白酶;克隆;表达;毕赤酵母
【英文关键词】Chaetomium thermophilum, expression, gene cloning, Pichia pastoris, protease.
【中文摘要】无
【英文摘要】AIMS:Microbial proteases play an essential role in scientific research and commercial applications. This study is to clone, sequence, and express a thermostable protease gene from the thermophilic fungi Chaetomium thermophilum and to generate yeast strains expressing C. thermophilum protease suitable for industrial applications.METHODS AND RESULTS:Degenerate primers were designed based on the conserved domain of other identified serine proteases and cDNA fragment of C. thermophilum gene pro was obtained through reverse transcriptase-polymerase chain reaction (RT-PCR). The full-length cDNA of 2007 bp was generated using RACE amplification. The cDNA contains an open reading frame of 1596 bp encoding 532 amino acids. Sequence analysis of the deduced amino acid sequence revealed high homology with the catalytic domains of the subtilisin serine proteases. The C. thermophilum gene pro was expressed in Escherichia coli BL21 (DE3) and Pichia pastoris, respectively and soluble protein was obtained in P. pastoris. The expressed protease was secreted into the culture medium by the yeast in a functional active form and the purified recombinant protease exhibits optimum catalytic activity at pH 8.0 and 60 degrees C. The enzyme is stable at 60 degrees C. The integration of gene pro into P. pastoris genome is stable after 10 generations and the yeast transformants showed a consistent protease expression.CONCLUSIONS:Gene pro encoding a serine protease from C. thermophilum was cloned, sequenced, and overexpressed successfully in P. pastoris. The expressed protease was purified and the properties of the recombinant protease are characterized.SIGNIFICANCE AND IMPACT OF THE STUDY:Chaetomium thermophilum is a soil-borne thermophilic fungus and the protease cloned from it is stable in a high temperature and a wide rage of pH. The overexpression of the enzyme in a mesophilic micro-organism offers a potential value for scientific research and commercial applications.
【语种】英文
【第一作者】李安娜
【通讯作者】李多川
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【学科分类】食品科学技术基础学科

【题目】Cloning, expression, and characterization of thermostable manganese superoxide dismutase from Thermoascus aurantiacus var. levisporus
【中文关键词】热稳定MnSOD; 克隆;表达;嗜热子囊菌
【英文关键词】thermostable MnSOD;cloning; expression; Thermoascus aurantiacus
【中文摘要】无
【英文摘要】A superoxide dismutase (SOD) gene of Thermoascus aurantiacus var. levisporus, a thermophilic fungus, was cloned, sequenced, and expressed in Pichia pastoris and its gene product was characterized. The coding sequence predicted a 231 residues protein with a unique 35 amino acids extension at the N-terminus indicating a mitochondrial-targeting sequence. The content of Mn was 2.46 μg/mg of protein and Fe was not detected in the purified enzyme. The enzyme was found to be inhibited by NaN3, but not by KCN or H2O2. These results suggested that the SOD in Thermoascus aurantiacus var. levisporus was the manganese superoxide dismutase type. In comparison with other MnSODs, all manganese-binding sites were also conserved in the sequence (H88, H136, D222, H226). The molecular mass of a single band of the enzyme was estimated to be 21.7 kDa. The protein was expressed in tetramer form with molecular weight of 68.0 kDa. The activity of purified protein was 2,324 U/mg. The optimum temperature of the enzyme was 55 ° C and it exhibited maximal activity at pH 7.5. The enzyme was thermostable at 50 and 60 ° C and the half-life at 80 ° C was approximately 40 min.
【语种】英文
【第一作者】宋宁宁
【通讯作者】李多川
【期刊名称、卷期、页码】J Microbiol 47:123-130
【论文发表时间】2009-02-01 00:00:00
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【引文索引号】2.6354710002e+011
【学科分类】食品科学技术基础学科

【题目】Two novel thermostable chitinase genes from thermophilic fungi: cloning, expression and characterization
【中文关键词】几丁质酶;热稳定;克隆;表达;嗜热真菌
【英文关键词】Chitinase; Thermophilic fungi; Cloning; Expression; Thermostability
【中文摘要】无
【英文摘要】Two chitinase genes, Tachit1 from Thermoascus aurantiacus var. levisporus and Ctchit1 from Chaetomium thermophilum were isolated. Tachit1 and Ctchit1 encode putative single-domain proteins (TaCHIT1 and CtCHIT1) of 399 and 402 amino acid residues, respectively. The catalytic domains of TaCHIT1 and CtCHIT1 are similar to those of other fungal chitinases in family 18 of glycosyl hydrolases. TaCHIT1 and CtCHIT1 have a molecular weight of about 48.4 and 47.3kDa, respectively when produced in recombinant Pichia pastoris. The enzymes exhibited optimum catalytic activity at pH 8.0 and 50 degrees C for TaCHIT1 and at pH 5.5 and 60 degrees C for CtCHIT1. TaCHIT1 retained 95.3% of its activity after 60 min at 50 degrees C. CtCHIT1 was stable at 50 degrees C and retained 96.7% of its activity after 60 min incubation at 60 degrees C. The TaCHIT1 and CtCHIT1 produced GlcNAc2 as the major product, when colloidal chitin was used as the substrate. The enzyme could not hydrolyze pNp-(GlcNAc), but hydrolyzed colloidal chitin, powdery chitin and chitosan. These features make these proteins potentially useful for applications requiring chitin hydrolysis at elevated temperatures.
【语种】英文
【第一作者】李安娜
【通讯作者】李多川
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【学科分类】食品科学技术基础学科

【题目】嗜热子囊菌光孢变种内切葡聚糖酶I基因在毕赤酵母中的表达及部分酶学性质
【中文关键词】纤维素酶; 内切葡聚糖酶; 嗜热子囊菌光孢变种; 嗜热真菌; 毕赤酵母
【英文关键词】cellulase; endo-1; 4-β-glucanase; Thermoascus aurantiacus var. levisporus; thermophilic fungus; Pichia pastoris
【中文摘要】嗜热子囊菌是一种嗜热真菌,可以产生具有很高工业价值的内切葡聚糖酶. 本研究成功表达了嗜热子囊菌内切葡聚糖酶Ⅰ基因,并获得热稳定的重组内切葡聚糖酶. 提取嗜热子囊菌光孢变种(Thermoascus aurantiacus var. levisporus)总RNA,通过RT-PCR方法克隆出内切-β-葡聚糖酶eg1基因的成熟肽编码序列. 采用基因重组的方法构建该基因的巴斯德毕赤酵母Pichia pastoris分泌型表达载体pPIC9K-eg1,经线性化后采用电穿孔法将其导入毕赤酵母GS115中,大量筛选后获得高效表达内切葡聚糖酶Ⅰ的毕赤酵母工程菌株GpN24. 该菌株采用甲醇诱导120 h后,内切葡聚糖酶Ⅰ的活力可达570.7 U/mL,最适温度为55 ℃,在90 ℃的条件下保温30 min后仍具有60%的酶活力;最适pH为5.0,在pH 3.0~5.0的条件下酶活力保持稳定.
【英文摘要】The thermophilic fungus Thermoascus aurantiacus var. levisporus was studied and it was found able to produce thermostable endo-1,4-β-glucanase with high industrial value. The thermostable endo-1,4-β-glucanase was obtained through Pichia pastoris expression. The eg1 gene was isolated from T. aurantiacus var. levisporus by RT-PCR. A DNA fragment coding for eg1 without signal sequence was cloned into P. pastoris expression vector pPIC9K for extracellular expression in P. pastoris. The resulted recombinant plasmid pPIC9K-eg1 was then linearized and transformed into P. pastoris GS115 by electroporation. The eg1 gene was integrated into the genome of P. pastoris through homologous recombination and a multi-copy expression strain, named GpN24, was obtained through high throughput screening with G418. The endo-1,4-β-glucanase secreted by GpN24 reached a final yield of 570.7 U/mL after methanol induction for 120 h. The optimum pH and temperature of the recombinant enzyme activity were 5.0 and 55 ℃, respectively. The recombinant enzyme remained 90% of its original activity after 30 min at 90 ℃.
【语种】中文
【第一作者】张亚波
【通讯作者】李多川
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【学科分类】食品科学技术基础学科

【题目】嗜热子囊菌光孢变种Thermoascus aurantiacus var.levisporus内切β-葡聚糖酶的分离纯化及特性
【中文关键词】嗜热子囊菌光孢变种 Thermoascusaurantiacusvar.levisporus 内切β-葡聚糖酶 纯化 特性
【英文关键词】thermophilic fungi Thermoascus aurantiacus var. levisporus endoglucanase purification characterization
【中文摘要】采用培养分离、室内测定等方法,对嗜热子囊菌光孢变种Thermoascus aurantiacus var. levisporus产生的内切β-葡聚糖酶进行了分离纯化及特性研究.粗酶液经硫酸铵沉淀、DEAE-Sepharose Fast Flow阴离子层析、Phenyl-Sepharose疏水层析等步骤获得了凝胶电泳均一的内切β-葡聚糖酶.结果表明,经12% SDS-PAGE测得酶的单亚基分子量约为31.5 kD,凝胶过滤层析测得酶的分子量约为34.5kD.该酶反应的最适温度为55℃,最适pH为2.5~3.0该酶在pH3.0条件下60℃较为稳定;80℃保温30 min有20%原酶活性.金属离子对内切β-葡聚糖酶活性影响较大, 其中K+、Ca2+、Mn2+对酶有激活作用;Ag+、Cu2+、Al3+ 对酶有显著抑制作用.该酶对羧甲基纤维素具有很强的底物特异性.
【英文摘要】Endoglucanase was purified from culture supernatant of Thermoascus aurantiacus var.levisporus to homogeneity, using ammonium sulfate fractionation, DEAE-Sepharose, Pheny1-Sepharos, and Sephacry1 S-100 fast-flow chromatography. The obtained endoglucanase ia a single subunit molecule about 31.5 kD or 34.5 kD as determined by 12% SDS-PAGE and gel filtration, respectively. The maximum endoglucanase activity was observed at pH 2.5~3.0 and 55 ℃. The endoglucanase appeared to be thermostable at 60 ℃, and exposure in 80 ℃ for 30 min resulted in 80% of activity loss. Metal ions like K+, Ca2+ and Mn2+ enhanced the endoglucanase activity, whereas Ag+,Cu2+ and Al3+ inhibited the activity significantly. The endoglucanase possessed a strong specificity to carboxymethyl cellulose.
【语种】中文
【第一作者】王冬梅

【通讯作者】李多川
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【学科分类】食品科学技术基础学科

【题目】嗜热子囊菌光孢变种β-葡萄糖苷酶的基因克隆、表达及酶学性质分析
【中文关键词】嗜热子囊菌光孢变种;表达;纯化;毕赤酵母;β-葡萄糖苷酶
【英文关键词】Thermoascus aurantiacus var. levisporus; expression; purification; Pichia pastoris; β-glucosidase
【中文摘要】从嗜热子囊菌光孢变种(Thermoascus aurantiacus var. levisporus) RNA中通过RT-PCR克隆出β-葡萄糖苷酶基因bglⅡ的全长序列,cDNA序列为2 672 bp,Genbank登录号为EU269025,将该片段插入巴斯德毕赤酵母Pichiapastoris分泌型表达载体pPIC9K中,获得重组质粒pPIC9K/bgl,经线性化后用电穿孔法导入毕赤酵母GS115中,在醇氧化酶AOX1基因启动子作用下,获得高效表达β-葡萄糖苷酶的毕赤酵母工程菌株. 经DEAE-Sepharose Fast Flow阴离子层析纯化了该重组表达蛋白. SDS-PAGE测得该重组蛋白相对分子质量(M)约为120×103. 经甲醇诱导,培养基中β-葡 r萄糖苷酶的活力可达1.2 U/mg,小规模发酵量达0.45 mg/mL. 该酶的最适反应温度为60 ° C,最适反应pH为5.0. 于70 ° C保温30 min仍保持80%的酶活力,具有较高的热稳定性,在pH 3.0~9.0的条件下酸碱耐受性强.
【英文摘要】 β-glucosidase bglIgene was isolated from thermophilic fungus Thermoascus aurantiacus var. levisporus RNA through RT-PCR. The length of the gene was 2 672 bp, which was registered in GenBank with accession number EU269025, and the gene was ligated with the Pichia pastoris expression vector pPIC9K, resulting in recombinant plasmid pPIC9K/bg1. pPIC9K/bg1 was then linearized and transformed into P. pastoris GS115 by electroporation, and highly efficient recombinant strains were obtained under control of the AOX1 promotor. The recombinant β-glucosidase was purified using DEAE- Sepharose Fast Flow chromatography. The molecular mass of the purified enzyme was 120×103 determined by SDS-PAGE. With methanol induction, the recombinant strain expressed and secreted β-glucosidase into the culture with activity of 1.2 U/mg, and the expression level was 0.45 mg/mL by small-scale culturing. The expression of β-glucosidase exhibited the optimum catalytic activity at 60 ° C and pH 5.0, remained 80% of its original activity after 30 min at 70 ° C, possessed high thermostability, and had high acid and alkali tolerance under the condition of pH 3.0~9.0.
【语种】中文
【第一作者】陈卫红
【通讯作者】李多川
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【学科分类】食品科学技术基础学科

【题目】嗜热真菌热稳定性β-葡萄糖苷酶的克隆表达、纯化及酶学性质
【中文关键词】嗜热子囊菌光孢变种; 表达; 纤维素酶; 毕赤酵母; 纯化
【英文关键词】Thermoascus aurantiacus var. levisporus; expression; cellulose; Pichia pastoris; purification
【中文摘要】从嗜热子囊菌光孢变种(Thermoascus aurantiacus var. levisporus)中克隆出β-葡萄糖 苷酶基因bgl II的全长序列, GenBank注册号为EU263992。将该基因插入巴斯德毕赤酵母Pichia pastoris分泌型表达载体pPIC9K中以获得重组质粒, 将重组质粒转导入毕赤酵母中, 大量筛选后获 得高效表达 β-葡萄糖苷酶的酵母工程菌株。经甲醇诱导 6 d, 培养基中 β-葡萄糖苷酶的活力可达 0.23 U/mg。该酶的最适反应pH为5.0,最适反应温度为6
【英文摘要】The β-glucosidase bg1II gene was cloned from thermophilic fungus Thermoascus aurantiacus var. levisporus. The accession number in GenBank is EU263992. The gene was ligated with the Pichia pastoris expression vector pPIC9K, resulting in the recombinant plasmid. The recombinant plasmid was transformed into P. pastoris. Highly efficient β-glucosidases from project strain were achieved through massive screening. The project strain was induced with methanol in 6 d. The β-glucosidase was expressed and secreated into the culture with activity of 0.23 U/mg. The β-glucosidase exhibited optimum catalytic activity at 50 ° C and pH 5.0. The recombinant β-glucosidase was purified by using DEAE-Sepharose Fast Flow chromatography. A molecular mass of the purified enzyme is 118 kDa determined by SDS-PAGE.

【语种】中文
【第一作者】陈卫红
【通讯作者】李多川
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【学科分类】食品科学技术基础学科

【题目】疏绵状嗜热丝孢菌糖化酶基因(gla)的克隆及在比赤酵母中的表达
【中文关键词】疏绵状嗜热丝孢菌, 糖化酶, 克隆, 毕赤酵母, 性质
【英文关键词】Thermomyces lanuginosus, Glucoamylase, Clone, Pichia pastoris, Characteristic
【中文摘要】本研究以疏绵状嗜热丝孢菌(Thermomyces lanuginosus) cDNA 为模板,克隆了糖化酶基因(gla),序列 分析表明 gla 的开放阅读框由 1 854 个核苷酸组成,编码 617 个氨基酸。根据氨基酸序列推算该酶的分子量 为 64 kD,属于糖苷水解酶第 15 家族,具有该家族催化保守区的典型特征。PCR 扩增 gla 的成熟蛋白编码基 因,构建表达载体,经线性化后电击转化导入巴斯德毕赤酵母(Pichia pastoris GS115),并成功进行了表达。重 组酶经摇瓶发酵后酶活可达 11.6 U/mL,经硫酸铵沉淀、DEAE-Sepharose Fast Flow 阴离子交换等步骤纯化 了该重组蛋白,SDS-PAGE 显示该重组蛋白大小约为 67 kD,比推测的蛋白分子量稍大,可能与该蛋白的糖 基化有关。该重组酶的最适反应温度和最适 pH 值分别为 60 ° C和 5.0,该酶具有较高的热稳定性,70 ° C保温 20 min 后剩余酶活为 54%。
【英文摘要】The glucoamylase gene gla was cloned by PCR from thermophilic fungus Thermomyces lanuginosus. Se- quence analysis revealed that gla had an open reading frame of 1 854 bp, which encodes a putative polypeptide of 617 amino acids and the theoretical molecular mass was 64 kD. The glucoamylase fall into glycoside hydrolase fam- ily 15. The fragment encoding mature glucoamylase was inserted into Pichia pastoris vector pPIC9K to construct re- combinant plasmid pPIC9K/gla. The pPIC9K/gla was then introduced into Pichia pastoris GS115, and the glu- coamylase was secreted into the culture medium by the yeast in a functionally active form and the activity reached 11.6 U/mL after fermatation by Erlenmeyer flask. The recombinant glucoamylase purified was a glycoprotein with a size of about 67 kD, and a little bigger than the deduced molecular mass, possibly related to the glycosylation site. The recombinant glucoamylase exhibited optimum catalytic activity at pH 5.0 and 60 ° C respectively. It was ther- mostable at 60 ° C and remained 54% of its original activity after 20 min at 70 ° C.
【语种】中文
【第一作者】徐荣燕
【通讯作者】李多川
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【题目】巢湖番茄防治蚜虫药剂筛选及施药技术研究
【中文关键词】番茄; 减量施肥; 保护地; 养分淋失
【英文关键词】tomato; reducing fertilizer application; plastichouse; nutrient leaching
【中文摘要】摘要: 田间试验研究了减量施肥对巢湖沿岸的保护地土壤养分淋失及番茄产量的影响。结果表明, 习惯施肥用量高, 氮、磷、钾施用量分别为番茄养分吸收量的6141、11101、3131倍, 导致土壤中一些中微量元素供应不足; 减量施肥能提高番茄产量,而添加硫、硼、锌的改进减量施肥技术增产效果较好, 分别比不施肥、习惯施肥、减量施肥增产2010%、1013%、819%。习惯施肥养分淋失明显, 20) 80 cm土层NO-3-N和有效磷含量分别比对照高49819、5214kg/hm2; 改进减量施肥技术可使土壤NO-3-N淋失量减少6517%, 有效磷并未向深层移动。因此,改进减量施肥技术是提高巢湖蔬菜生产基地的番茄产量, 增加收入, 减少氮、磷养分淋失, 防止面源污染的平衡施肥技术。
【英文摘要】Abstract: Afieldexperimentwasconductedtostudytheeffectsof thereducing fertilizerapplicationto the leachingof soil nutrientsandthetomatoyieldinplastichouse. The resultsshowedtha,t theamount of N, P, Kof thecon-ventional fertilizationwashigh, whichwas6141, 11101, 3131timeshigher thanthat of tomatonutrient uptake re-spectively. Reducedfertilizationincreasedthetomatoyieldcomparedtoconventional fertilization. Due

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【语种】中文
【第一作者】马友华
【通讯作者】马友华
【期刊名称、卷期、页码】农业面源污染防治国际学术论坛会议论文集,重庆,2010年1月7-10日
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【学科分类】农业基础学科

【题目】秸秆覆盖与平衡施肥对巢湖流域农田氮素流失的影响研究
【中文关键词】番茄; 减量施肥; 保护地; 养分淋失
【英文关键词】tomato; reducing fertilizer application; plastichouse; nutrient leaching
【中文摘要】摘要: 田间试验研究了减量施肥对巢湖沿岸的保护地土壤养分淋失及番茄产量的影响。结果表明, 习惯施肥用量高, 氮、磷、钾施用量分别为番茄养分吸收量的6141、11101、3131倍, 导致土壤中一些中微量元素供应不足; 减量施肥能提高番茄产量,而添加硫、硼、锌的改进减量施肥技术增产效果较好, 分别比不施肥、习惯施肥、减量施肥增产2010%、1013%、819%。习惯施肥养分淋失明显, 20) 80 cm土层NO-3-N和有效磷含量分别比对照高49819、5214kg/hm2; 改进减量施肥技术可使土壤NO-3-N淋失量减少6517%, 有效磷并未向深层移动。因此,改进减量施肥技术是提高巢湖蔬菜生产基地的番茄产量, 增加收入, 减少氮、磷养分淋失, 防止面源污染的平衡施肥技术。
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【第一作者】马友华
【通讯作者】马友华
【期刊名称、卷期、页码】农业面源污染防治国际学术论坛会议论文集,重庆,2010年1月7-10日
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【题目】保护性耕作及控释肥对水稻油菜生长及产量的影响
【中文关键词】番茄; 减量施肥; 保护地; 养分淋失
【英文关键词】tomato; reducing fertilizer application; plastichouse; nutrient leaching
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【语种】中文

【第一作者】马友华

【通讯作者】马友华

【期刊名称、卷期、页码】农业面源污染防治国际学术论坛会议论文集,重庆,2010年1月7-10日

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【题目】农林复合措施保土保肥试验分析

【中文关键词】番茄; 减量施肥; 保护地; 养分淋失

【英文关键词】tomato; reducing fertilizer application; plastichouse; nutrient leaching

【中文摘要】摘要: 田间试验研究了减量施肥对巢湖沿岸的保护地土壤养分淋失及番茄产量的影响。结果表明, 习惯施肥用量高, 氮、磷、钾施用量分别为番茄养分吸收量的6141、11101、3131倍, 导致土壤中一些中微量元素供应不足; 减量施肥能提高番茄产量,而添加硫、硼、锌的改进减量施肥技术增产效果较好, 分别比不施肥、习惯施肥、减量施肥增产2010%、1013%、819%。习惯施肥养分淋失明显, 20) 80 cm土层NO-3-N和有效磷含量分别比对照高49819、5214kg/hm2; 改进减量施肥技术可使土壤NO-3-N淋失量减少6517%, 有效磷并未向深层移动。因此,改进减量施肥技术是提高巢湖蔬菜生产基地的番茄产量, 增加收入, 减少氮、磷养分淋失, 防止面源污染的平衡施肥技术。

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【第一作者】马友华

【通讯作者】马友华

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【学科分类】农业基础学科

【题目】Inhibition of a novel sperm gelatinase in prawn sperm by the male reproduction—related kazal—type peptidase inhibitor
【中文关键词】Li Y, Ma WM, Dai JQ, Feng CZ, Yang F, Ohira T, Nagasawa H, Yang WJ
【英文关键词】kazal-type peptidase inhibitor; gelatinase; inhibition; sperm; vitellinecoat
【中文摘要】无
【英文摘要】A more rapid and powerful response against repeated exposure of same pathogen in vertebrates is usually considered as the reflection of immunological memory, but it is not well understood in invertebrates. In the present Study, the temporal expression profiles of Chlamys farreri peptidoglycan recognition protein-S1 (CfPGRP-S1) gene after two challenges of Listonella anguillarum were examined to evaluate priming response in scallops. The up-regulation of CFPGRP-S1 mRNA occurred 3 h earlier, and the expression level was significant higher ($P < 0.05$), after the second challenge than that after the first challenge. The preliminary results Provided new insights into invertebrate immunological memory, and they also would be helpful to develop strategies for disease control. (C) 2008 Elsevier Inc. All rights reserved.
【语种】英文
【第一作者】Li, Y
【通讯作者】Yang, WJ
【期刊名称、卷期、页码】MOLECULAR REPRODUCTION AND DEVELOPMENT, 75: 1327-1337
【论文发表时间】2008-08-01 00:00:00
【引文索引类型】SCI
【引文索引号】2.5716890001e+011
【学科分类】海洋科学

【题目】In vivo neutralization assays by monoclonal antibodies against white spot syndrome virus (WSSV) in crayfish (Cambarus proclarkii)
【中文关键词】Wang YN, Zhan WB, Xing J, Jiang YS
【英文关键词】crayfish; WSSV; monoclonal antibodies; in vivo neutralization
【中文摘要】无
【英文摘要】Five monoclonal antibodies (MAbs) (1A7, 1C6, 1E4, 1G8, 2C3) against haemocytes of Feneropenaeus chinensis (Osbeck, 1765) were produced by immunizing Balb/c mice, followed by indirect immunofluorescence assay tests (IIFAT). These showed specificity for more than one haemocyte type and for various haemocyte components of F.chinensis. Using Wright's staining and IIFAT with haemocyte monolayers prepared by sucrose gradient centrifugation, MAb 1A7, 1C6 reacted with membranes of hyalinocytes and the cytoplasm of semi-granulocytes, respectively; MAb 1E4 reacted with membranes and the cytoplasm of hyalinocytes, and with membranes of semi-granulocytes; MAb 1G8 reacted with haemocyte granules; and MAb 2C3 reacted with surface membranes of all haemocyte types. Western-blotting of haemocytes and haemocyte membrane analysis demonstrated that MAb 1G8 recognized an antigen of 96 kDa in haemocyte; that MAb 1E4 reacted with antigens of 88 kDa and 79 kDa in the haemocyte membrane; and that MAb 2C3 reacted specifically to a single membrane protein band with an approximate molecular weight of 153 kDa; however, there was no protein band detected by either MAbs 1A7, or 1C6.
【语种】英文
【第一作者】Wang, YN
【通讯作者】Zhan, WB
【期刊名称、卷期、页码】ACTA OCEANOLOGICA SINICA, 27: 126-132
【论文发表时间】2008-01-01 00:00:00
【引文索引类型】SCI
【引文索引号】2.5613190001e+011
【学科分类】海洋科学

【题目】A clip domain serine protease (cSP) from the Chinese mitten crab Eriocheir sinensis: cDNA characterization and mRNA expression
【中文关键词】Gai YC, Qu LM, Wang LL, Song LS, Mu CK, Zhao JM, Zhang Y, Li L
【英文关键词】Serine protease; Clip domain; Tryp_spc domain; Eriocheir sinensis; mRNAexpression profile; Real-time RT-PCR
【中文摘要】无

【英文摘要】Monoclonal antibodies (Mabs) specifically against haemocytes of shrimp (Fenneropenaeus chinensis) were employed to study the ontogenesis of haemocytes by immunofluorescence assay technique (IFAT) with the aids of avidin-biotin complex method. Different developmental stages were identified by means of histochemical staining. Stages including blastula, gastrula, limb bud stage, embryonic-nauplius and nauplius were examined. With Mab 2A3 against both hyline, semi-granular and granular haemocytes, the first positive cells were detected at the limb bud stage of the embryos. Distinguishable positive haemocytes with a diameter of about 7 mu m appeared in ernbryonic-nauplius. Whereas, with Mab 1H11 specific to cytoplasmic granulars in haemocytes, the first positive granular haemocytes were observed at the stage of embryonic-nauplius. Increased number of both total and granular haemocytes at the stage of nauplius impressed a possible enhancement of the immune system as the embryogenesis progressed. (C) 2007 Elsevier Ltd. All rights reserved.
【语种】英文
【第一作者】Gai, YC
【通讯作者】Song, LS
【期刊名称、卷期、页码】FISH & SHELLFISH IMMUNOLOGY, 27: 670-677
【论文发表时间】2009-12-01 00:00:00
【引文索引类型】SCI
【引文索引号】2.724922e+011
【学科分类】海洋科学

【题目】The antimicrobial peptides of the immune response of shrimp
【中文关键词】XF Zhao, JX Wang
【英文关键词】antimicrobial peptides; innate defense effectors; innate immunity; penaeid shrimp
【中文摘要】无
【英文摘要】The cultivation of penaeid shrimp is a worldwide economic activity which has the potential to contribute to increasing shrimp production. However, penaeid shrimps are susceptible to bacterial and viral diseases, and may thus cause significant losses to the aquaculture industry. In view of this, it is imperative to understand the immune response of shrimp against pathogens as this could help in devising efficient strategies to control, and eventually eradicate, shrimp diseases. At present, a considerable number of research studies on the identification and characterization of antimicrobial peptides/proteins (AMPs) in penaeid shrimps. Such research activities will contribute to finding solutions to shrimp diseases. AMPs are widespread in animals and plants, involved in their innate immunity, and considered as the front liners of host defense against pathogens. In penaeid shrimps, eight kinds of AMPs have been found. These are the penaeidins, whey acidic protein (WAP) domain containing proteins [crustins and single WAP domain containing peptides (SWD)], antilipopolysaccharide factors (ALFs), lysozymes, a C-type lectin, histones, anionic hemocyanins, and peritrophins. In this study, the structures, distributions, expression profiles, phylogenetic evolution, and functions of some AMPs are discussed, focusing on the WAP-domain containing peptides and ALF in penaeid shrimp.
【语种】英文
【第一作者】XF Zhao
【通讯作者】Jin-Xing Wang
【期刊名称、卷期、页码】Information systems journal,5: 162-179
【论文发表时间】2008-01-01 00:00:00
【引文索引类型】SCI
【引文索引号】NA
【学科分类】海洋科学

【题目】Hematological Changes in White Spot Syndrome Virus—Infected Shrimp, Fenneropenaeus chinensis (Osbeck)
【中文关键词】Feng, Shouming; Zhan, Wenbin; Xing, Jing; Li, Jun; Yang, Kai; Wang, Jing
【英文关键词】hemocyte - pathological changes - WSSV - Fenneropenaeus chinensis (Osbeck)
【中文摘要】无
【英文摘要】The pathological changes of hemocytes in the haemolymph and hepatopancreas were examined in experimentally and naturally WSSV (white spot syndrome virus) infected Fenneropenaeus chinensis. The results showed that the pathological manifestations of hemocytes were similar among moribund shrimps infected via injection, feeding and by nature. Firstly, the total hemocyte counts (THCs) in WSSV-infected shrimp were significantly lower than those in healthy shrimp. Secondly, necrotic, broken

and disintegrated cells were often observed, and a typical hematolysis was present in the haemolymph smear of WSSV-infected shrimp. Thirdly, necrosis and typical apoptosis of hemocytes were detected with TEM in the peripheral haemolymph of WSSV-infected shrimp. Hyalinocytes and semi-granulocytes with masses of WSSVs in their nuclei often appeared, whereas no granular hemocytes with WSSV were found in the hepatopancreas of moribund infected shrimps. All our results supported that hemocytes were the main target cells of WSSV, and hyalinocytes and semigranular hemocytes seemed to be more favorable for WSSV infection in F. chinensis.
【语种】英文
【第一作者】Shouming Feng
【通讯作者】 Wenbin Zhan
【期刊名称、卷期、页码】Journal of Ocean University of China, Volume 7, Issue 3, pp.287-293
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【引文索引号】NA
【学科分类】海洋科学

【题目】白斑综合征病毒卵黄抗体对凡纳滨对虾免疫相关酶活力和抗病毒能力的影响
【中文关键词】韦嵩 宋晓玲 李海兵 李赟
【英文关键词】无
【中文摘要】免疫活性物质可以调动或激活虾类自身的免疫系统,提高动物的免疫机能,增强动物的抗病毒能力.实验通过连续投喂的方法,用3个水平(1%、0.5%、0.1%)的Ig-Guard(shrimp)制成的试验饲料,同时以基础饲料为空白对照饲喂凡纳滨对虾(Litopenaeus vannamei) 20 d,分别测定了第5,10,15,20 天血淋巴的酚氧化酶(PO)、溶菌酶(UL)、酸性磷酸酶(ACP)及肌肉匀浆液的超氧化物歧化酶(SOD)等非特异性免疫因子活性,并对血清及肌肉匀浆液中蛋白进行定量.结果表明,免疫组的PO、UL、ACP、SOD活力均显著高于对照组(P<0.05).免疫20 d后,用白斑综合征病毒(WSSV)投喂感染.攻毒后第7 天各免疫组的相对免疫保护率分别为17.95%、23.08%、35.90%.实验结果说明,Ig-Guard(shrimp)能有效提高对虾免疫因子的活性,对于提高抗WSSV感染能力也有一定作用.将对虾免疫因子活性和累计死亡率协同分析,摄食低浓度Ig-Guard(shrimp)组较之高浓度组的酶活力高,其累计死亡率低,建议适当地投喂低浓度Ig-Guard(shrimp)更为合理.
【英文摘要】Immunoreactive substances can stimulate the immune system of shrimps, and enhance the immunocompetence of animal. The influence of egg yolk immunoglobulin on the immunity-related enzyme activities and WSSV resistance of shrimps has not been reported. In this research, we fed basic diets containing three levels (1% , 0. 5% , 0. 1%) (M/M) of Ig-Guard (shrimp) to Litopenaeus vannamei continuously for 20 days, and the basic diets as blank control. Then phenoloxidase(PO), acid phosphatase (ACP) and lysozyme(U_L) activities of the serum and superoxide dismutase(SOD) activity of the muscle, and protein concentration of the serum and the muscle were detected on days 5, 10, 15 and 20. All the immune parameters of the test groups measured were higher (P < 0. 05) than the control group. After 20 days, we fed white spot syndrome virus (WSSV) to shrimps, and recorded the mortalities of challenging test in seven days. The relative percent survival(RPS) value of the test groups was 17.95% , 23.08% , 35.90%. This experiment indicates that Ig-Guard (shrimp) can effectively enhance the shrimps' immunity-related enzyme activities, and it can also promote shrimps' WSSV resistance. Based on the results of immunity-related enzyme activities and cumulative mortality, the enzyme activities of the lower concentration group was higher than those of the higher concentration group, and its cumulative mortality was lower, so this paper suggests that to feed the lower concentration Ig-Guard (shrimp) properly is reasonable.
【语种】中文
【第一作者】韦嵩
【通讯作者】宋晓玲
【期刊名称、卷期、页码】水产学报, 33(1):112-8
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【学科分类】海洋科学

【题目】对虾白斑综合征病毒囊膜蛋白VP19的单克隆抗体制备及其定位.
【中文关键词】 姜有声; 战文斌; 程顺峰; 王世表
【英文关键词】 white spot syndrome virus; VP19; monoclonal antibody; location

【中文摘要】为了更好地研究对虾白斑综合征病毒(WSSV)蛋白VP19在WSSV感染过程中的作用,利用VP19的单克隆抗体直接对VP19进行了定位。从患白斑综合征的中国明对虾(Fenneropenaeus chinensis)鳃丝中提取WSSV,将提纯的WSSV经十二烷基磺酸钠-聚丙烯酰胺凝胶电泳(SDS-PAGE)分离,然后洗脱提纯其病毒蛋白VP19并免疫Balb/c小鼠,取免疫小鼠脾细胞和骨髓瘤细胞融合,用间接免疫荧光技术(IFAT)和Western-Blot技术筛选出1株阳性杂交瘤细胞,将检测出的阳性杂交瘤细胞经有限稀释法克隆,研制出抗VP19的单抗,再利用免疫胶体金技术对病毒蛋白VP19进行定位,结果显示,胶体金粒子位于WSSV病毒的囊膜上,说明病毒蛋白VP19位于WSSV囊膜上。

【英文摘要】White spot syndrome virus(WSSV)which emerged in 1993 has been a severe threaten to shrimp culture industry up to now.Therefore,WSSV has been extensively studied in the aspects of epidemiologt, gene and protein characteristics,etc.And some exciting research progresses have been abtained.For example, it is proved that virus envelop proteins(VPs)play important roles in virus infection.In order to investigate the infection mechanism of one of the WSSV envelop proteins-VP19,this study tried to locate VP19 on WSSV using the Mab of VP19.WSSV was isolated from tissues of WSSV-infected Fenneropenaeus chinensis and electroeluted by SDS-PAGE.A prominent 19KD protein(VP19)was electroeluted from the SDS-PAGE gels,dialyzed in PBS and concentrated by a vacuum evaporator.Then monoclonal antibodys(McAb)were produced against VP19.The 4-week-old Balb\c mice were immunized by WSSV and VP19.Spleen cells of the immunized mice were fused with P3-X63-Ag8U1 myeloma cell,and hybridoma were detected by Immunofluoresence assays(IFAs)and western blotting analysis,and then subcloned.One clone was eventually chosen that reacted in IFAs with WSSV and in western blotting analysis with the denatured viral protein VP19 of WSSV.The result suggests that this Mab against VP19 target linear epitopes.The location of VP19 was tested by Immuno-electron microscopy with gold- labelled antibody and Mabs against VP19,the result revealed that the gold particles were distributed in the outer envelope of WSSV virions and showed that VP 19 is a virus envelope protein.

【语种】中文

【第一作者】姜有声

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【学科分类】海洋科学

【题目】一种改进的对虾白斑综合征病毒提纯方法

【中文关键词】 姜有声; 战文斌; 程顺峰; 王世表

【英文关键词】 white spot syndrome virus; virus purification; intact virus

【中文摘要】对虾白斑综合征病毒(WSSV)的囊膜蛋白在提纯的过程中易脱落,用传统的密度梯度离心方法不易获得完整的病毒粒子,对传统的蔗糖密度梯度离心方法加以改进后,可以获得大量完整的病毒粒子。用患白斑综合征病毒病的中国对虾鳃制备WSSV粗提液,感染螯虾(Cambarus proclarkii),选取25%的蔗糖溶液用作病虾鳃的匀浆液,然后经蔗糖密度梯度离心,分取各带负染后电镜观察,大量完整的病毒位于46%~52%蔗糖梯度之间,病毒粒子末端带有很长的尾;而病毒裸露的核衣壳位于40%~46%蔗糖梯度之间;在57%~62%之间观察到较多完整病毒粒子和少量细菌。实验结果表明改进的病毒提纯方法较好,可得到大量完整的带囊膜的病毒颗

【英文摘要】The envelope proteins of white spot syndrome virus(WSSV) are easy to be destroyed during purification.It was difficult to obtain intact virions by routine sucrose gradient centrifugation.After modifying the sucrose gradient,we can obtain a large quantity of intact virions.WSSV inoculums were prepared from gills of heavily infected Fenneropenaeus chinensis,and infected crayfish(Cambarus proclarkii),WSSV was purified from the gills of infected crayfish,25% sucrose was selected as homogenate medium.After being centrifuged in sucrose gradient,each band was collected and examined by transmission electron microscope.Enveloped virus was located between 46%-52% sucrose gradient,and most viral particles had a long tail-like envelope extension at one extremity.The nucleocapsids were between 40%-46% sucrose gradient.Between 57%-62% sucrose gradient,there were some bacteria and intact virus.The result showed this modified technique is very efficient for virus purification.

【语种】中文

【第一作者】姜有声

【通讯作者】战文斌

【期刊名称、卷期、页码】上海海洋大学学报,18(3):372-375

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【引文索引号】NA
【学科分类】海洋科学

【题目】双歧杆菌肽聚糖结构及分子量的分析
【中文关键词】张悦　宋晓玲　黄倢
【英文关键词】Bifidobacterium thermophilum　Peptidoglycan　Structure　Molecular weight
【中文摘要】从双歧杆菌细胞壁中分离纯化肽聚糖,研究其化学成分、结构和分子量分析。经氨基酸、多糖和蛋白质含量分析和肽聚糖的溶解实验鉴定,所提取物质的主要成分为肽聚糖;经核磁共振和红外光谱分析,所提取肽聚糖的结构与已知的肽聚糖的结构相吻合,其糖链结构为由D型吡喃糖N-乙酰葡糖胺和N-乙酰胞壁酸以β-1,4-糖苷键连接而组成;经SDS-PAGE和多种染色方法结合,分析经溶菌酶水解后的肽聚糖,其分子量的分布呈弥散状,范围在97.6kD到14.4kD之间。
【英文摘要】PG derived from Bifidobacterium thermophilum was separated and purified from the cell wall, and involved in research and analysis of its chemical compositions, structure and molecular weight. The major component of the preparation was validated to be peptidoglycan by animo acid analysis, polysaccharides and protein determination, dissolution by lysozyme. NMR and Infrared spectrum substantiated the glycan chain of peptidoglycan was connected by D-pyranose N-acetylglucosamine and N-acetylmuramic acid through β - 1,4 glycosidic bond. SDS-PAGE and multistain suggested that the molecular weight of soluble peptidoglycan showed certain diffusibility, and its ranged from lower than 97.6 kD to higher than 14.4 kD.
【语种】中文
【第一作者】张悦
【通讯作者】宋晓玲
【期刊名称、卷期、页码】微生物学通报,2007,34(4):676-681
【论文发表时间】2007-08-15 00:00:00
【引文索引类型】其他
【引文索引号】NA
【学科分类】海洋科学

【题目】Molecular cloning, genomic organization and functional analysis of an anti—lipopolysaccharide factor from Chinese mitten crab Eriocheir sinensis
【中文关键词】　Li CH
【英文关键词】　Eriocheir sinensis; anti-lipopoly-saccharide factor; Northern blot; quantitative real-time PCR; recombinant protein; bactericidal activity
【中文摘要】无
【英文摘要】Anti-lipopolysaccharide factor (ALF) represents one kind of basic proteins, which binds and neutralizes LPS and exhibits strong antibacterial activity against Gram-negative R-type bacteria. The ALF gene of Chinese mitten crab Eriocheir sinensis (Milne Edwards, 1853) (denoted as EsALF) was identified from haemocytes by expressed sequence tag (EST) and PCR approaches. The full-length cDNA of EsALF consisted of 700 nucleotides with a canonical polyadenylation signal-sequence AATAAA, a polyA tail, and an open-reading frame of 363 bp encoding 120 amino acids. The high similarity of EsALF-deduced amino acid sequence shared with the ALFs from other species indicated that EsALF should be a member of ALF family. The mRNA expression of EsALF in the tissues of heart, gonad, gill, haemocytes, eyestalk and muscle was examined by Northern blot analysis and mRNA transcripts of EsALF were mainly detected in haemocytes, heart and gonad. The temporal expression of EsALF in haemocytes after Vibrio anguillarum challenge was recorded by quantitative real-time RT-PCR. The relative expression level of EsALF was up-regulated rapidly at 2 h post-injection and reached 3-fold to that in blank group. After a drastic decrease to the original level from 4 to 8h, the expression level increased again and reached 4-fold to that in the blank group at 12 h post-injection. The genomic DNA sequence of EsALF gene consists of 1174bp containing three exons and two introns. The coding sequence of the EsALF mature peptide was cloned and expressed in Escherichia coli BL21(DE3)-pLysS to further elucidate its biological functions. The purified recombinant product showed bactericidal activity against both Gram-positive (G(+)) and Gram-negative (G(-)) bacteria, which demonstrated that the rEsALF was a broad-spectrum antibacterial peptide. All these results indicated that EsALF was an acute-phase protein involved in the immune responses of Chinese mitten crab, and provided a potential therapeutic agent for disease control in aquaculture. (c) 2007 Elsevier Ltd. All rights reserved.

【语种】英文
【第一作者】 Li CH
【通讯作者】Song Linsheng
【期刊名称、卷期、页码】DEVELOPMENTAL AND COMPARATIVE IMMUNOLOGY
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【引文索引号】2.5515210001e+011
【学科分类】海洋科学

【题目】Preliminary study on a potential antibacterial peptide derived from histone H2A in hemocytes of scallop
【中文关键词】 Li CH
【英文关键词】Chlamys farreri; antibacterial peptide; histone H2A; recombinant product; antibacterial activity
【中文摘要】无
【英文摘要】 Histone H2A is reported to participate in host defense response through producing novel antimicrobial peptides (AMPs) from its N-terminus in vertebrates and invertebrates, while the AMPs derived from H2A have not to our knowledge been reported in mollusca. In the present study, gene cloning, mRNA expression of H2A from scallop Chlamys farreri, and the recombinant expression of its N-terminus were conducted to investigate whether a similar mechanism exists in mollusca. The full-length DNA of H2A was identified by the techniques of homology cloning and genomic DNA walking, The full-length DNA of the scallop H2A was 696 bp long, including a 5'-terminal untranslated region (UTR) of 90 bp, a 3'-terminal UTR of 228 bp with a stem-loop structure and a canonical polyadenylation signal sequence AATAAA, and an open reading frame of 375 bp encoding a polypeptide of 125 amino acids. The mRNA expression of H2A in the hemocytes of scallop challenged by microbe was measured by semi-quantitative RT-PCR. The expression of H2A was not upregulated after stimulation, suggesting that H2A did not participate in immunity response directly. The DNA fragment of 117 bp encoding 39 amino acids corresponding to the N-terminus of scallop H2A, which was homologous to buforin I in vertebrates, was cloned into Pichia pastoris GS115. The transformants (His(+) Mut(+)) containing multi-copy gene insertion were selected with increasing concentration of antibiotic G418. The peptide of 39 amino acids was expressed by induction of 0.5% methanol. The recombinant product exerted antibacterial activity against both Gram-positive (G(+)) and Gram-negative (G(-)) bacteria. The antibacterial activity toward G(+) bacteria was 2.5 times more than that against G(-) bacteria. The results elucidated that N-terminus of H2A was a potential AMP and provided a promising candidate for a new antibiotic screening. However, whether H2A is really involved in scallop immune response mechanisms needs to be further investigated. (C) 2006 Elsevier Ltd. All rights reserved.
【语种】英文
【第一作者】 Li CH
【通讯作者】Song Linsheng
【期刊名称、卷期、页码】FISH & SHELLFISH IMMUNOLOGY
【论文发表时间】2007-06-01 00:00:00
【引文索引类型】SCI
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【学科分类】海洋科学

【题目】The cDNA cloning and mRNA expression of cytoplasmic Cu, Zn superoxide dismutase (SOD) gene in scallop
【中文关键词】 Ni, DJ
【英文关键词】scallop; Chlamys farreri; reactive oxygen species (ROS); superoxide dismutase (SOD); innate immunity; mRNA expression
【中文摘要】无
【英文摘要】 Cu, Zn superoxide dismutases (SODs) are rnetalloenzymes that represent one important line of defence against reactive oxygen species (ROS). A cytoplasmic Cu. Zn SOD cDNA sequence was cloned from scallop Chlamys farreri by the homology-based cloning technique. The full-length cDNA of scallop cytoplasmic Cu, Zn SOD (designated CfSOD) was 1022 bp with a 459 bp open reading frame encoding a polypeptide of 153 amino acids. The predicted amino acid sequence of CfSOD shared high identity with cytoplasmic Cu. Zn SOD in molluscs, insects, mammals and other animals, such as cytoplasmic Cu, Zn SOD in oyster Crassostrea sostrea gigas (CAD42722), mosquito Aedes aegypti (ABF18094), and cow Bos taurus (XP_584414). A quantitative reverse transcriptase real-time PCR (qRT-PCR) assay was developed to assess the mRNA expression of CfSOD in different tissues and the

temporal expression of CfSOD in scallop challenged with Listonella anguillarum, Micrococcus luteus and Candida lipolytica respectively. Higher-level mRNA expression of CfSOD was detected in the tissues of haemocytes, gill filaments and kidney. The expression of CfSOD dropped in the first 8-16 h and then recovered after challenge with L. anguillarum and M. litteus, but no change was induced by the C. lipolytica challenge. The results indicated that CfSOD was a constitutive and inducible acute-phase protein, and could play an important role in the immune responses against L. anguillarum and M. luteus infection. (C) 2007 Elsevier Ltd. All rights reserved.

【语种】英文

【第一作者】 Ni, DJ

【通讯作者】Song Linsheng

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【学科分类】海洋科学

【题目】4株对虾肠道益生菌的筛选及鉴定

【中文关键词】李海兵

【英文关键词】Probiotic bacteria,Screening,Identification,Inhibitory activity,Safety test

【中文摘要】采用体外拮抗试验的方法,先从不同生长阶段的对虾肠道中分离的96株细菌中筛选出4株对病原菌(鳗弧菌、副溶血弧菌、哈维氏弧菌)有拮抗作用的细菌;进一步通过固体扩散法和液体混合法确定LV060806、LV060808的产物对鳗弧菌有明显抑制作用,Lv060806、LV060815的产物对副溶血弧菌有明显抑制作用,LV060810、LV060815的产物对哈维氏弧菌有明显抑制作用。溶血试验证实这些菌株不产生溶血素,不具有潜在的致病性;动物安全性实验证实菌株浓度在10^6 cfu/ml以下对实验对虾无明显的毒害作用。随后测定了其16S rRNA基因序列,分析了相关细菌相应序列的同源性,构建了系统发生树,结合菌株表型特征和生理生化特性最终鉴定结果为:LV060806、LV060808为Vibrio natriegens;LV060810、LV060815为V.alginolyticus。

【英文摘要】无

【语种】中文

【第一作者】李海兵

【通讯作者】宋晓玲

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【学科分类】海洋科学

【题目】免疫增强剂在对虾生产中的研究与应用现状

【中文关键词】兰萍 宋晓玲 张辉

【英文关键词】immunostimulant ; shrimp ; immune mechanism ; disease resistance

【中文摘要】免疫增强剂是指能够通过提高机体的非特异性免疫功能来增强其抗应激和对病原体的抵抗能力的物质。研究表明,对虾的酚氧化酶原激活系统可被免疫增强剂激活,在激活过程中产生一系列活性物质,通过多种形式参与宿主防御反应,在对虾的免疫识别、防卫及细胞信息传递中发挥着重要作用。免疫增强剂具有作用广泛、特性稳定、安全高效、适宜于作为饲料添加剂来替代抗生素等特点,目前在对虾广泛应用的免疫增强剂主要有免疫多糖类、益生菌、草药提取物、营养因子类物质和生物活性物质等五大种类,文章对它们的作用机理及其应用发展趋势进行了阐述

【英文摘要】Immunostimulants are valuable for the prevention and control of shrimp diseases and may be useful in shrimp culture, Immunostimulants can enhance the immunocompetence of shrimps,which can contribute to health of shrimps,making them more immune to many kinds of bacterial pathogens and to parasitic infections. These immunostimulants mainly facilitate the function of phagocytic cells and increase their bactericidal activities. Recent progress shows that the prophenoloxidase activating system can be activated by immunostimulants. Several components are produced during the activation and involved in host defence. The prophenoloxidase system plays an important role in the host recongnition,defence and cell-tocell communication. Therefore, immunostimulants can reduce the losses caused by disease in aquaculture. Immunostimulants,with characteristics of stability, security,

efficiency and other features,can be used as feed additives to replace antibiotics. Immune polysaccharides,probiotic bacteria, Chinese herb extracts,vitamins,bioactive microbial products were reported as primary immunostimulants in aquaculture . Several immunostimulants and their effective mechanisms were reviewed, and the future research tendency in immunostimulant application were described

【语种】中文

【第一作者】兰萍

【通讯作者】宋晓玲

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【学科分类】海洋科学

【题目】施用沼肥对茄子田节肢动物群落结构与茄子产量的影响

【中文关键词】茄子田 沼肥 节肢动物群落 群落结构 群落多样性 群落稳定性 茄子产量

【英文关键词】Eggplant field, Biogas manure, Arthropod community, Co mmunity structure, Community diversity, Community stability, Eggplant yield

【中文摘要】摘 要 在等氮、等磷、等钾施肥条件下, 对茄子田分别施用化肥、沼肥加化肥减半、沼肥加饼肥, 研究施用沼肥对茄田节肢动物群落结构及茄子产量的影响。结果表明: 在节肢动物种类与数量上, 沼肥加饼肥处理茄子田的害虫种类为3.67±0.88 种・4m－ 2, 显著低于化肥处理和沼肥加化肥减半处理, 且沼肥加化肥减半处理显著低于化肥处理; 害虫个体数量为64.67±4.06 头・4m－ 2, 目标害虫桃蚜的数量为31.67±0.56 头・4m－ 2、二十八星瓢虫个体数量为8.00±0.15 头・4m－ 2, 显著低于化肥处理, 且与沼肥加化肥减半处理差异不显著; 蜘蛛类的个体数量为12.67±1.76 头・4m－ 2, 优势种天敌大腹园蛛的个体数量为7.67±0.67头・4m－ 2, 显著高于化肥处理, 且与沼肥加化肥减半处理差异不显著。在节肢动物群落多样性上, 沼肥加饼肥处理茄子田的节肢动物群落多样性指数为1.68±0.04, 均匀度指数为0.53±0.003, 显著高于化肥处理和沼肥加化肥减半处理; 优势集中性指数为0.33±0.02, 显著低于化肥处理, 且与沼肥加化肥减半处理差异不显著。在节肢动物群落稳定性上, 沼肥加饼肥处理Ss / Si 指数为0.112 5±0.001 1, 显著高于化肥处理, 且与沼肥加化肥减半处理差异不显著; Sn/ Sp指数为1.650 0±0.005 5, 显著高于化肥处理和沼肥加化肥减半处理。沼肥加化肥减半、沼肥加饼肥处理的茄子产量与化肥处理相比无显著差异。

【英文摘要】Abstract Three fertilizer application treatments (chemical fertilizer, half chemical fertilizer and biogas manure, and biogas plus cake manure) were adopted under equal N, P (P2O5) and K (K2O) rates to study the effects of biogas manure on yield of eggplant and structure of arthropod community in eggplant fields. The results showed that the number of pest sp ecies under combined application of biogas and cake manure was 3.67±0.88 in 4 m2 in eggplant field, significantly less than that under application of chemical fertilizer or half chemical fertilizer and biogas manure. Pest species number under application of half chemical fertilizer and biogas manure was also significantly less than that under chemical fertilizer application. The individual number of pests and target pests Myzus per-sicae (Sulzer) and Henosepilachna vigintioctopunctata (Fabricius) under combined applic ation of biogas and cake manure was 64.67±4.06, 31.67±0.56 and 8.00±0.15 in 4 m2, respectively. This was significantly less than that under chemical fertilizer application, but not significantly different from that under half chemical fertilizer and biogas manure application. The individual number of spi-ders and dominant nature enemy Aranea ventricocus (Koch) under combined application of biogas and cake manure was 12.67±1.76 and 7.67±0.67 in 4 m2, respectively, significantly gr eater than that under chemical ferti lizer application, but no t significantly different from that under half chemical fertilizer and biogas manure application. Under combined application of biogas and cake manure, ar-thropod community diversity index was 1.68±0. 04 and evenness index was 0.53±0.003. This was significantly higher than those un-der applications of chemical fe rtilizer, and half chemical and biogas manure. The dominant concentration of arthropod community under combined application of biogas and cake manure was 0.33±0.02, also significantly less than that under chemi cal fertilizer ap-plication, but not significantly different fo rm that under half chemical fertilizer and biogas manure application. In terms of arthropod community stability, Ss/Si index was 0.112 5±0.001 1 under combined applicatio n of biogas and cake manure, significantly higher than that under chemical fertilizer application, but not significantly different from that under half chemical fertilizer and biogas ma-nure application. Sn/Sp index under combined application of biogas and cake manure was 1.650 0±0.005 5, which significantly ex-ceeded that under applications of chemical fertilizer, and half chemical fertilizer and biogas manure. Eggplant yield under the three fertilizer application treatments was not significantly different.

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【第一作者】杨琦
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【题目】猪粪堆肥过程中调理剂配比与养分变化研究
【中文关键词】茄子田 沼肥 节肢动物群落 群落结构 群落多样性 群落稳定性 茄子产量
【英文关键词】Eggplant field, Biogas manure, Arthropod community, Co mmunity structure, Community diversity, Community stability, Eggplant yield
【中文摘要】摘 要 在等氮、等磷、等钾施肥条件下, 对茄子田分别施用化肥、沼肥加化肥减半、沼肥加饼肥, 研究施用沼肥对茄田节肢动物群落结构及茄子产量的影响。结果表明: 在节肢动物种类与数量上, 沼肥加饼肥处理茄子田的害虫种类为3.67±0.88 种・4m－ 2, 显著低于化肥处理和沼肥加化肥减半处理, 且沼肥加化肥减半处理显著低于化肥处理; 害虫个体数量为64.67±4.06 头・4m－ 2, 目标害虫桃蚜的数量为31.67±0.56 头・4m－ 2、二十八星瓢虫个体数量为8.00±0.15 头・4m－ 2, 显著低于化肥处理, 且与沼肥加化肥减半处理差异不显著; 蜘蛛类的个体数量为12.67±1.76 头・4m－ 2, 优势种天敌大腹园蛛的个体数量为7.67±0.67头・4m－ 2, 显著高于化肥处理, 且与沼肥加化肥减半处理差异不显著。在节肢动物群落多样性上, 沼肥加饼肥处理茄子田的节肢动物群落多样性指数为1.68±0.04, 均匀度指数为0.53±0.003, 显著高于化肥处理和沼肥加化肥减半处理; 优势集中性指数为0.33±0.02, 显著低于化肥处理, 且与沼肥加化肥减半处理差异不显著。在节肢动物群落稳定性上, 沼肥加饼肥处理Ss / Si 指数为0.112 5±0.001 1, 显著高于化肥处理, 且与沼肥加化肥减半处理差异不显著; Sn/ Sp指数为1.650 0±0.005 5, 显著高于化肥处理和沼肥加化肥减半处理。沼肥加化肥减半、沼肥加饼肥处理的茄子产量与化肥处理相比无显著差异。
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【中文关键词】茄子田 沼肥 节肢动物群落 群落结构 群落多样性 群落稳定性 茄子产量
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【题目】巢湖流域麦稻轮作农田径流氮磷流失特征研究

【中文关键词】巢湖　农田 氮磷流失
【英文关键词】Eggplant field, Biogas manure, Arthropod community, Co mmunity structure, Community diversity, Community stability, Eggplant yield
【中文摘要】摘　要　在等氮、等磷、等钾施肥条件下，对茄子田分别施用化肥、沼肥加化肥减半、沼肥加饼肥，研究施用沼肥对茄田节肢动物群落结构及茄子产量的影响。结果表明：在节肢动物种类与数量上，沼肥加饼肥处理茄子田的害虫种类为3.67±0.88 种・4m－ 2，显著低于化肥处理和沼肥加化肥减半处理，且沼肥加化肥减半处理显著低于化肥处理；害虫个体数量为64.67±4.06 头・4m－ 2，目标害虫桃蚜的数量为31.67±0.56 头・4m－ 2、二十八星瓢虫个体数量为8.00±0.15 头・4m－ 2，显著低于化肥处理，且与沼肥加化肥减半处理差异不显著；蜘蛛类的个体数量为12.67±1.76 头・4m－ 2，优势种天敌大腹园蛛的个体数量为7.67±0.67头・4m－ 2，显著高于化肥处理，且与沼肥加化肥减半处理差异不显著。在节肢动物群落多样性上，沼肥加饼肥处理茄子田的节肢动物群落多样性指数为1.68±0.04，均匀度指数为0.53±0.003，显著高于化肥处理和沼肥加化肥减半处理；优势集中性指数为0.33±0.02，显著低于化肥处理，且与沼肥加化肥减半处理差异不显著。在节肢动物群落稳定性上，沼肥加饼肥处理Ss / Si 指数为0.112 5±0.001 1，显著高于化肥处理，且与沼肥加化肥减半处理差异不显著；Sn/ Sp指数为1.650 0±0.005 5，显著高于化肥处理和沼肥加化肥减半处理。沼肥加化肥减半、沼肥加饼肥处理的茄子产量与化肥处理相比无显著差异。
【英文摘要】Abstract　Three fertilizer application treatments (chemical fertilizer, half chemical fertilizer and biogas manure, and biogas plus cake manure) were adopted under equal N, P (P2O5) and K (K2O) rates to study the effects of biogas manure on yield of eggplant and structure of arthropod community in eggplant fields. The results showed that the number of pest sp ecies under combined application of biogas and cake manure was 3.67±0.88 in 4 m2 in eggplant field, significantly less than that under application of chemical fertilizer or half chemical fertilizer and biogas manure. Pest species number under application of half chemical fertilizer and biogas manure was also significantly less than that under chemical fertilizer application. The individual number of pests and target pests Myzus per-sicae (Sulzer) and Henosepilachna vigintioctopunctata (Fabricius) under combined applic ation of biogas and cake manure was 64.67±4.06, 31.67±0.56 and 8.00±0.15 in 4 m2, respectively. This was significantly less than that under chemical fertilizer application, but not significantly different from that under half chemical fertilizer and biogas manure application. The individual number of spi-ders and dominant nature enemy Aranea ventricocus (Koch) under combined application of biogas and cake manure was 12.67±1.76 and 7.67±0.67 in 4 m2, respectively, significantly gr eater than that under chemical ferti lizer application, but no t significantly different from that under half chemical fertilizer and biogas manure application. Under combined application of biogas and cake manure, ar-thropod community diversity index was 1.68±0. 04 and evenness index was 0.53±0.003. This was significantly higher than those un-der applications of chemical fe rtilizer, and half chemical and biogas manure. The dominant concentration of arthropod community under combined application of biogas and cake manure was 0.33±0.02, also significantly less than that under chemi cal fertilizer ap-plication, but not significantly different fo rm that under half chemical fertilizer and biogas manure application. In terms of arthropod community stability, Ss/Si index was 0.112 5±0.001 1 under combined applicatio n of biogas and cake manure, significantly higher than that under chemical fertilizer application, but not significantly different from that under half chemical fertilizer and biogas ma-nure application. Sn/Sp index under combined application of biogas and cake manure was 1.650 0±0.005 5, which significantly ex-ceeded that under applications of chemical fertilizer, and half chemical fertilizer and biogas manure. Eggplant yield under the three fertilizer application treatments was not significantly different.
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【题目】巢湖流域农业生活源污染现状与防治对策
【中文关键词】茄子田　沼肥　节肢动物群落　群落结构　群落多样性　群落稳定性　茄子产量
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【题目】保护性耕作与平衡施肥对巢湖流域稻田氮素径流损失及水稻产量的影响研究.
【中文关键词】茄子田 沼肥 节肢动物群落 群落结构 群落多样性 群落稳定性 茄子产量
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【题目】巢湖流域农业面源污染控制的生态补偿的补偿措施和政策思考

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【中文关键词】茄子田 沼肥 节肢动物群落 群落结构 群落多样性 群落稳定性 茄子产量
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【中文摘要】摘 要 在等氮、等磷、等钾施肥条件下, 对茄子田分别施用化肥、沼肥加化肥减半、沼肥加饼肥, 研究施用沼肥对茄田节肢动物群落结构及茄子产量的影响。结果表明: 在节肢动物种类与数量上, 沼肥加饼肥处理茄子田的害虫种类为3.67±0.88 种・4m－ 2, 显著低于化肥处理和沼肥加化肥减半处理, 且沼肥加化肥减半处理显著低于化肥处理; 害虫个体数量为64.67±4.06 头・4m－ 2, 目标害虫桃蚜的数量为31.67±0.56 头・4m－ 2、二十八星瓢虫个体数量为8.00±0.15 头・4m－ 2, 显著低于化肥处理, 且与沼肥加化肥减半处理差异不显著; 蜘蛛类的个体数量为12.67±1.76 头・4m－ 2, 优势种天敌大腹园蛛的个体数量为7.67±0.67头・4m－ 2, 显著高于化肥处理, 且与沼肥加化肥减半处理差异不显著。在节肢动物群落多样性上, 沼肥加饼肥处理茄子田的节肢动物群落多样性指数为1.68±0.04, 均匀度指数为0.53±0.003, 显著高于化肥处理和沼肥加化肥减半处理; 优势集中性指数为0.33±0.02, 显著低于化肥处理, 且与沼肥加化肥减半处理差异不显著。在节肢动物群落稳定性上, 沼肥加饼肥处理Ss / Si 指数为0.112 5±0.001 1, 显著高于化肥处理, 且与沼肥加化肥减半处理差异不显著; Sn/ Sp指数为1.650 0±0.005 5, 显著高于化肥处理和沼肥加化肥减半处理。沼肥加化肥减半、沼肥加饼肥处理的茄子产量与化肥处理相比无显著差异。
【英文摘要】Abstract Three fertilizer application treatments (chemical fertilizer, half chemical fertilizer and biogas manure, and biogas plus cake manure) were adopted under equal N, P (P2O5) and K (K2O) rates to study the effects of biogas manure on yield of eggplant and structure of arthropod community in eggplant fields. The results showed that the number of pest sp ecies under combined application of biogas and cake manure was 3.67±0.88 in 4 m2 in eggplant field, significantly less than that under application of chemical fertilizer or half chemical fertilizer and biogas manure. Pest species number under application of half chemical fertilizer and biogas manure was also significantly less than that under chemical fertilizer application. The individual number of pests and target pests Myzus per-sicae (Sulzer) and Henosepilachna vigintioctopunctata (Fabricius) under combined applic ation of biogas and cake manure was 64.67±4.06, 31.67±0.56 and 8.00±0.15 in 4 m2, respectively. This was significantly less than that under chemical fertilizer application, but not significantly different from that under half chemical fertilizer and biogas manure application. The individual number of spi-ders and dominant nature enemy Aranea ventricocus (Koch) under combined application of biogas and cake manure

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【中文关键词】农业 面源污染 巢湖 模型
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【中文关键词】微型浮游动物, 浮游植物, 摄食压力, 养殖中后期, 虾塘
【英文关键词】Microzooplankton, Phytoplankton, Grazing pressure, The middle and late shrimp culture period, Shrimp pond
【中文摘要】2008年8月底到10月初,用现场稀释法对虾塘中≤200、≤100 μm 和≤20 μm 3个粒级的微型浮游动物对浮游植物的摄食压力进行了研究。共进行了3次培养实验,结果表明:浮游植物的生长率为0.0834-0.4498/d,微型浮游动物的摄食率为0.1212-0.2998/d,微型浮游动物摄食率对浮游植物生长率比值(g:k)为0.4271-3.4901,占浮游植物现存量的11.41%-25.90%,对初级生产力的摄食压力为48.20%-314.69%。≤20 μm 微型浮游动物的摄食率、对浮游植物现存量和初级生产力的摄食压力,占微型浮游动物(≤200 μm) 的相关比例范围为73.85%-97.69%、76.67%-97.91%、78.87%-98.59%。这表明≤20 μm 微型浮游动物比≥20 μm的微型浮游动物在对虾养殖中后期虾塘能量流动和物质循环方面起到更重要的作用。
【英文摘要】Phytoplankton growth and microzooplankton herbivory studies in three size fractions (≤20 μm,≤100 μm,≤200 μm) were studied using the in situ dilution technique from the end of August to the beginning of October in 2008 in a shrimp pond in Tianjin, China. Waters used in the dilution incubations were mixed waters sampled from four points in the pond: the inlet, outlet and middle points of both sides of the square-shaped pond. The waters were filtered through meshes with aperture sizes of 20 μm,100 μm and 200 μm to make sized fractionated waters as ≤20 μm,≤100 μm and ≤200 μm. PFW (particle-free water) was used to dilute the size fractionated waters to four dilution series of 0%, 25%, 50%, 75%. The microzooplankton grazing rate and phytoplankton growth rate were estimated by the linear regression of AGR (apparent growth rate) versus d (dilution factor). Microzooplankton grazing impact on phytoplankton was estimated by calculating phytoplankton net growth rate, percentage of phytoplankton standing stock ingested, percentage of primary production ingested. The coupling between microzooplankton grazing rate (g) and phytoplankton growth rate (k) was demonstrated with the ratio g:k. Chlorophyll a concentrations varied widely (32.41-50.83 μg/L) in 31 August,19 September and 3 October. Smaller phytoplankton (≤20 μm) consistently dominated the phytoplankton communities in the whole culture time, contributing over 90% of chlorophyll a biomass of ≤200 μm. Phytoplankton growth rates of 3 dilution incubations were 0.0834 to 0.4498/d. Microzooplankton grazing rates changed from 0.1212 to 0.2998 /d. The ratio of g： k was 0.4271 to 3.4901.Microzooplankton grazing pressure on the phytoplankton initial stock and primary production varied from 11.41% to 25.90% and 48.20% to 314.69%,respectively. In the September, microzooplankton grazing rates reached the maximum value, followed by 19 microzooplankton grazing pressure on the phytoplankton initial stock and primary production. But microzooplankton grazing pressure on phytoplankton primary production was too high,and the ratio of g： k varied widely. This was because that phytoplankton may not adapt to the environment to grow slowly and even die, while the microzooplankton grazing rate showed the relatively higher value, with rainfall increasing but temperature decreasing in coming autumn. Compared with the other regions around the world, the microzooplankton grazing pressure in shrimp pond was in the middle of the ange of measurements elsewhere. The coupling between microzooplankton grazing and phytoplankton growth was good. In the same group, microzooplankton grazing rates and pressure on the phytoplankton initial stock and primary production changed slightly. ≤20 μm microzooplankton grazing rates and pressure on the phytoplankton initial stocks and primary production contributed 73.85%-97.69%,76.67%-97.91%,78.87%-98.59% of microzooplankton (≤200 μm), respectively. These results showed that small-celled microzooplankton (≤20 μm) was ubiquitous and played more important role in energy transmission and nutrients regeneration in the middle and late shrimp culture period of shrimp pond.
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【第一作者】张立通
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【题目】流式细胞术检测对虾白斑症病毒(WSSV)对克氏原螯虾血细胞的感染

【中文关键词】王轶南　战文斌　邢婧
【英文关键词】无
【中文摘要】用WSSV粗提液人工感染克氏原螯虾,感染后分别在6,12,18,24h采血分离血细胞,通过WSSV的混合单抗和FITC标记的羊抗鼠二抗的间接免疫荧光染色,应用流式细胞仪检测病毒对克氏原螯虾血细胞的感染并分析感染强度。结果表明:分离获得的血细胞形态完好,感染后血细胞内的病毒被标记上了绿色荧光;流式检测发现,随感染时间延长,被感染细胞的百分率及平均荧光强度均逐渐升高,反映血细胞的病毒感染程度逐渐加深;PCR检测同时证实人工感染后各采样点血细胞样品均为WSSV阳性。
【英文摘要】Crayfish(Cambarus proclarkii) were artificially infected with WSSV solution and the haemocytes were collected at 6 h, 12 h, 18 h and 24 h post-infection and stained with WSSV specific Mabs and secondary antibody conjugated with FITC, a flow cytometer was used to detect WSSV and analyse the infection degree of crayfish haemocytes. The results showed that the collected cells were intact in shape, the virus within the cells were stained with green fluorescence and could be detected by FCM. Furthermore, the percent and mean fluorescence intensity of infected cells increased from 6 h to 24 h post-infection, which indicated the deepening of virus infection in crayfish haemocytes. PCR confirmed the haemocytes samples after virus infection were WSSV positive.[
【语种】中文
【第一作者】王轶南
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【学科分类】海洋科学

【题目】白斑综合征病毒与中国对虾血细胞膜体外结合实验研究
【中文关键词】林颖博,战文斌,邢婧,唐小千,刘宝良.
【英文关键词】white spot syndrome virus　haemocyte plasma membrane　receptor　inhibitor
【中文摘要】　筛选小分子受体配基或抗受体蛋白的单克隆抗体作为阻断剂,是阻断病毒感染的有效途径。通过差速离心法提取海捕中国对虾血细胞膜,分别利用Dot-Blot和ELISA技术,将血细胞膜包被于硝酸纤维素(NC)膜或酶标板,使地高辛(Digoxigenin, DIG)标记的对虾白斑综合征病毒(WSSV-DIG)与之4 ℃结合4 h,并以碱性磷酸酶标记抗DIG抗体作为探针检测,实验结果皆为阳性,证明体外环境下WSSV能稳定地与血细胞膜结合。通过血细胞膜免疫Balb/c小鼠生产抗中国对虾血细胞多克隆抗体,以该多抗37℃孵育血细胞膜1 h,然后使WSSV-DIG与血细胞膜结合并检测。在Dot-Blot实验中,阻断组发色明显浅于未阻断组;在ELISA实验中,阻断组OD值比未阻断组降低69%。可以推断,多抗中抗血细胞受体的抗体与血细胞膜上的受体蛋白结合,占据了WSSV黏附蛋白的结合位点,从而显著得抑制了WSSV与血细胞膜的体外结合。实验所建立的WSSV与对虾血细胞膜体外结合技术可以应用于WSSV与血细胞受体蛋白的黏附特性的研究以及WSSV阻断剂的筛选,多抗阻断实验证明了本方法的可行性。
【英文摘要】Selecting small molecular ligands or monoclonal antibodies to cellular receptors as inhibitors is an effective approach to inhibit virus infection. In this research, haemocyte plasma membranes (HPM) of Chinese shrimp (Fenneropenaeus chinensis) were isolated employing differential centrifugation. Utilizing the techniques of Dot-Blot and ELISA, HPMs immobilized in microtiter plats or nitrocellulose (NC) membranes were incubated with Digoxingenin labeled white spot syndrome virus (WSSV-DIG) at 4°C for 4 h. Then alkaline phosphatase labeled antibodies against DIG was used as a sensitive probe to detect the　in vitro　combination of WSSV-DIG to HPM. Both ELISA and Dot-Blot combination showed positive reactions. In blocking experiment, polyclonal antibody against haemocytes of Chinese shrimp was allowed to bind to the HPM at 37°C for 1 h before the incubation with WSSV-DIG. In Dot-Blot assay, the blocked group showed a significantly lighter color compared with the unblocked group. In ELISA assay, OD value of the blocked group was 69% lower than the unblocked group. It can be deduced that some receptor antibodies, which were specifically against the WSSV receptors, existed in the polyclonal antibody. During incubation, these antibodies adhered to the receptors on the HPM and significantly blocked the combination of WSSV-DIG. The　in vitrocombining technology between WSSV and HPM developed in this research provide a strategy to characterization of WSSV receptors and selection inhibitor to WSSV. The blocking experiments carried out with polyclonal antibody have proved the feasibility.
【语种】中文
【第一作者】林颖博
【通讯作者】Zhan WB

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【学科分类】海洋科学

【题目】A lectin (CfLec—2) aggregating Staphylococcus haemolyticus from scallop Chlamys farreri
【中文关键词】 Zheng, Peilin; Wang, Hao; Zhao, Jianmin; 等.
【英文关键词】Chlamys farreri; lectin; Ca2+ independent; Staphylococcus haemolyticus
【中文摘要】无
【英文摘要】Lectins are a family of carbohydrate-recognition proteins which play crucial roles in innate immunity. In this study, a new lectin (CfLec-2) gene was cloned from Chlamys farreri by EST and RACE approaches. The full-length cDNA of CfLec-2 was composed of 708 bp, encoding a typical Long form carbohydrate-recognition domain of 130 residues. The deduced amino acid sequence showed high similarity to Brevican in Homo sapiens, C-type lectin-1 and lectin-2 in Anguilla japonica. The cDNA fragment encoding the mature peptide of CfLec-2 was recombined into plasmid pET-32a (+) and expressed in Escherichia coli Rosseta-Gami (DE3). The recombinant CfLec-2 (rCfLec-2) protein exhibited aggregative activity toward Staphylococcus haemolyticus, and the agglutination could be inhibited by D-mannose but not EDTA or D-galactose, indicating that CfLec-2 was a Ca2+ independent lectin. Moreover, rCfLec-2 could suppress the growth of E. coli TOP10F'. These results suggested that CfLec-2 was perhaps involved in the recognition and clearance of bacterial. pathogens in scallop.
【语种】英文
【第一作者】Zheng, Peilin
【通讯作者】Song Linsheng
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【学科分类】海洋科学

【题目】A novel C1q—domain—containing protein from Zhikong scallop Chlamys farreri with lipopolysaccharide binding activity
【中文关键词】Zhang, Huan; Song, Linsheng; Li, Chenghua; 等.
【英文关键词】Chlamys farreri; C1qDC protein; C1q; complement system; gene cloning; real-time PCR; recombinant protein; LPS-binding activity
【中文摘要】无
【英文摘要】The C1q-domain-containing (C1qDC) proteins are a family of proteins characterized by a globular C1q (gC1q) domain in their C-terminus. They are involved in various processes of vertebrates and supposed to be an important pattern recognition receptor in innate immunity of invertebrates. In this study, a novel member of C1q-domain-containing protein family was identified from Zhikong scallop Chlamys farreri (designated as CfC1qDC) by expressed sequence tag (EST) and rapid amplification of cDNA ends (RACE) approaches. The full-length cDNA of CfC1qDC was of 777 bp, consisting of a T-terminal untranslated region (UTR) of 62 bp and a 3' UTR of 178 bp with a polyadenylation signal sequence AATAAA and a poly (A) tail. The CfC1qDC cDNA encoded a polypeptide of 178 amino acids, including a signal peptide and a C1q-domain of 158 amino acids with the theoretical isoelectric point of 5.19 and the predicted molecular weight of 17.2 kDa. The C1q-domain in CfC1qDC exhibited homology with those in sialic acid binding lectin from mollusks and C1qDC proteins from higher vertebrates. The typical 10 beta-strand jelly-roll folding topology structure of C1q-domain and the residues essential for effective packing of the hydrophobic core were well conserved in CfC1qDC. By fluorescent quantitative real-time PCR, mRNA transcripts of CfC1qDC were mainly detected in kidney, mantle, adductor muscle and gill, and also marginally detectable in hemocytes. In the bacterial challenge experiment, after the scallops were challenged by Listonella anguillarum, there was a significant up-regulation in the relative expression level of CfC1qDC and at 6 h post-injection, the mRNA expression reached the maximum level and was 4.55-fold higher than that of control scallops. Similarly, the expression of CfC1qDC mRNA in mixed primary cultures of hemocytes stimulated by lipopolysaccharides (LPS) was up-regulated and reached the maximum level at 6 h post-stimulation, and then dropped back to the original level gradually. In order to investigate its function, the cDNA fragment encoding the mature peptide of CfC1qDC was recombined and expressed in Escherichia coli BL21 (DE3). The recombinant

CfC1qDC protein displayed a significantly strong activity to bind LIDS from E. coli, although no obvious antibacterial or agglutinating activity toward Gram-negative bacteria E. coli JM109, L. anguillarum and Gram-positive bacteria Micrococcus luteus was observed. These results suggested that CfC1qDC was absolutely a novel member of the C1qDC protein family and was involved in the recognition of invading microorganisms probably as a pattern recognition molecule in mollusk.
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【第一作者】zhang H
【通讯作者】Song Linsheng
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【学科分类】海洋科学

【题目】cDNA cloning, characterization and mRNA expression of a pacifastin light chain gene from the Chinese mitten crab
【中文关键词】Gai, Yunchao; Wang, Lingling; Song, Linsheng; 等.
【英文关键词】Pacifastin; Serine protease inhibitors (SPIs); Pacifastin light chain domain (PLD); Eriocheir sinensis; mRNA expression
【中文摘要】无
【英文摘要】The pacifastin family, characterized by several conserved arrays of six cysteine residues, is a newly identified serine protease inhibitor (SPI) family discovered uniquely in arthropods and plays important roles in multiple biological processes. In the present study, the full-length cDNA of a pacifastin light chain (designated ESPLC) was cloned from the Chinese mitten crab Eriocheir sinensis by expressed sequence tags (ESTs) and PCR techniques. The 1036 bp ESPLC cDNAcontained an 831 bp open reading frame (ORF) encoding a putative pacifastin-related peptide of 276 amino acids, a 5'-untranslated region (UTR) of 67 bp, and a 3'-UTR of 138 bp. Six putative conserved domains sharing a characteristic cysteine array (Cys-Xaa(9-12)-Cys-Asn-Xaa-Cys-Xaa-Cys-Xaa(2-3)-Gly-Xaa(3-4)-Cys-Thr-Xaa(3)-Cys) were identified in the deduced amino acid sequence of ESPLC. The conservation of these PLDs (pacifastin light chain domains) and the relative higher similarity of ESPLC to other pacifastin-related precursors suggested that ESPLC was a member of pacifastin family. The mRNA transcripts of ESPLC were found to be higher expressed in hepatopancreas, gill and haemolymph than in gonad, muscle and heart, with the highest expression level in hepatopancreas. The ESPLCmRNA expression in haemolymph of Chinese mitten crab was up-regulated at 2 h and 12 h after challenged with Listonella anguillarum. The tissue distribution and temporal characteristics of ESPLC mRNA expression, similar to that of prophenoloxidase gene in E. sinensis, suggested that ESPLC was potentially involved in theresponse against invading bacteria, with the possibility that it functioned in the prophenoloxidase system in E sinensis
【语种】英文
【第一作者】Gai, Yunchao
【通讯作者】Song Linsheng
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【学科分类】海洋科学

【题目】A novel C-type lectin (Cflec-3) from Chlamys farreri with three carbohydrate-recognition domains.
【中文关键词】Zhang, Huan; Wang, Hao; Wang, Lingling;Song, Xiaoyan; Zhao, Jianmin; Qiu, Limei; Li, Ling;Cong, Ming; Song, Linsheng
【英文关键词】Chlamys farreri; C-type lectin; Innate immunity; Bacterial agglutination; Recombinant expression; Real-time RT-PCR
【中文摘要】无

【英文摘要】C-type lectins are a superfamily of carbohydrate-recognition proteins which play crucial roles in the innate immunity. In this study, the gene of a C-type lectin with multiple carbohydrate-recognition domains (CRDs) from scallop Chlamys farreri (designated as Cflec-3) was cloned by rapid amplification of cDNA ends (RACE) approach based on expression sequence tag (EST) analysis. The full-length cDNA of Cflec-3 was of 2256 bp. The open reading frame encoded a polypeptide of 516 amino acids, including a signal sequence and three CRDs. The deduced amino acid sequence of Cflec-3 showed high similarity to members of C-type lectin superfamily. By fluorescent quantitative real-time PCR, the Cflec-3 mRNA was mainly detected in hepatopancreas, adductor, mantle, and marginally in gill, gonad and hemocytes of healthy scallops. After scallops were challenged by Listonella anguillarum, the mRNA level of Cflec-3 in hemocytes was up-regulated and was significantly higher than that of blank at 8 h and 12 h post-challenge. The function of Cflec-3 was investigated by recombination and expression of the cDNA fragment encoding its mature peptide in Escherichia coli BL21 (DE3)-pLysS. The recombined Cflec-3 (rCflec-3) agglutinated Gram-negative bacteria Pseudomonas stutzeri. The agglutinating activity was calcium-dependent and could be inhibited by D-mannose. These results collectively suggested that Cflec-3 was involved in the immune response against microbe infection and contributed to nonself-recognition and clearance of bacterial pathogens in scallop. (C) 2009 Elsevier Ltd. All rights reserved.
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【第一作者】Zhang H
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【学科分类】海洋科学

【题目】A putative endocrine factor SIBD (single insulin binding domain protein)
【中文关键词】Gai, Yunchao;Wang, Lingling;Song, Linsheng; Zhao, Jianmin;Qiu, Limei;Xing, Kezhi
【英文关键词】IGFBP; Insulin binding domain; Eriocheir sinensis; Arthropod endocrine; Innate immunity; mRNA expression profile
【中文摘要】无
【英文摘要】Insulin growth factor binding proteins (IGFBPs), characterized by the conserved insulin binding (IB) domains, are important components of endocrine system and play key roles in metabolism and growth. In the present study, the full-length cDNA of a single IB domain protein (designated EsSIBD) was identified from Chinese mitten crab Erlocheir sinensis based on expressed sequence tag (EST) sequence. The 1187 bp EsSIBD cDNA contained a 321 bp open reading frame (ORF) encoding a putative protein of 106 amino acids, a T-untranslated region (UTR) of 189 bp, and a 3'-UTR of 677 bp. Multiple sequence alignment presented ten conserved cysteine residues critical for the fundamental structure and function of IB domain. BLAST analysis revealed that EsSIBD shared high similarity with previously known IB domains of IGFBPs; with the identities ranging from 40% to 46%. The sequence similarity and domain conservation indicated that EsSIBD was a potential member of the IGFBP family. Phylogenic analysis presented that EsSIBD was closer to IGFBP7 than to the other 113 domain containing proteins, suggesting its functional similarity with the endocrine factor IFGBP7. The mRNA expression of EsSIBD in different tissues including hepatopancreas, gill, gonad, muscle, heart and haemocytes, and the temporal expression in haemocytes challenged by Listonella anguillarum were measured by real-time RT-1 CR. EsSIBD mRNA transcripts could be detected in all examined tissues with the highest expression level in gill. The EsSIBD mRNA expression in haemocytes was sensitive to L anguillarum stimulation and it was up-regulated from 3 to 24 h after challenge. The structure conservation and functional similarity to IFGBPs, and its sensitivity to L anguillarum stimulation collectively implied that EsSIBD was probably involved in endocrine and immune systems of Chinese mitten crab, and provided insight into the cross-talk between the invertebrate endocrine and immune system. (C) 2009 Elsevier Ltd. All rights reserved.
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【第一作者】Gai YC
【通讯作者】Song Linsheng
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【学科分类】海洋科学

【题目】A review of advances in research on marine molluscan antimicrobial peptides and their potential application in aquaculture
【中文关键词】Li Cheng-Hua; Zhao Jian-Min; Song Lin-Sheng
【英文关键词】Innate immunity; immunostimulation; oysters; scallops; mussels; abalone
【中文摘要】无
【英文摘要】Antimicrobial peptides (AMPs) are important components of the host innate immune response against microbial invasion. They are usually characterized by their small-size, heat-stability and broad range of antimicrobial activity. This review covers research advances on marine mollusc AMPs, specifically those isolated from mussels, scallops, oysters, venerid clams and abalone, which mainly include MGD, mytilin, myticin, mytimycin, big defensin, and RPD-1. Their structural characteristics, antibacterial activity, and expression pattern as well as peptide distribution and their release following microbial challenge are also discussed. In addition, the prospect of the application of AMPs as food additives or their use in immunostimulation to prevent diseases of aquatic animals, as well as their potential hazards, are also discussed.
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【第一作者】Li CH
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【题目】Protective immunity induced by CpG ODNs against white spot syndrome virus
【中文关键词】Zhang, Ying;Song, Linsheng;Zhao, Jianmin;Wang, Lingling;Kong, Pengfei;Liu, Lin;Wang, Mengqiang;Qiu, Limei
【英文关键词】CpG; White spot syndrome virus; Dicer; Argonaute; Reactive oxygen species; STAT; Virus replication; Litopenaeus vannamei
【中文摘要】无
【英文摘要】The worldwide shrimp culture is beset with diseases mainly caused by white spot syndrome virus (WSSV) and suffered huge economic losses, which bring out an urgent need to develop the novel strategies to better protect shrimps against WSSV. In the present study, CpG-rich plasmid pUC57-CpG, plasmid pUC57 and PBS were employed to pretreat shrimps comparatively to evaluate the protective effects of CpG ODNs on shrimps against WSSV. The survival rates, WSSV copy numbers, and antiviral associated factors (Dicer, Argonaute, STAT and ROS) were detected in Litopenaeus vannamei. There were higher survival proportion, lower WSSV copy numbers, and higher mRNA expression of Dicer and STAT in pUC57-CpG-pretreatment shrimps than those in pUC57- and PBS-pretreatment shrimps after WSSV infection. The Argonaute mRNA expression in pUC57-CpG-, pUC57- and PBS-pretreatment shrimps after WSSV infection was significantly higher than that of shrimps post PBS stimulation on the first day. The ROS levels in pUC57-CpG-pretreatment shrimps post secondary stimulation of PBS were significantly higher than those post WSSV infection on the first day. These results together demonstrated that pUC57-CpG induced partial protective immunity in shrimps against WSSV via intermediation of virus replication indirectly and could be used as a potential candidate in the development of therapeutic agents for disease control of WSSV in L. vannamei. (C) 2009 Elsevier Ltd. All rights reserved.
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【第一作者】Zhang Y
【通讯作者】Song Linsheng
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【学科分类】海洋科学

【题目】The construction of a cDNA library enriched for immune genes and the analysis

【中文关键词】Gai, Yunchao;Wang, Lingling;Zha, Jianmin;Qiu, Limei;Song, Linsheng;Li, Ling;Mu, Changkao;Wang, Wan;Wang, Mengqiang;Zhang, Ying;Yao, Xuemei;Yang, Jialong
【英文关键词】cDNA library; ESTs analysis; Eriocheir sinensis; Bacteria challenge; Innate immunity
【中文摘要】无
【英文摘要】Chinese mitten crab Eriocheir sinensis is one of the most important aquaculture crustacean species in China. A cDNA library was constructed from hemocytes of E. sinensis challenged with the mixture of Listonella anguillarum and Staphylococcus aureus, and randomly sequenced to collect genomic information and identify genes involved in immune defense response. Single-pass 5' sequencing of 10368 clones yielded 7535 high quality ESTs (Expressed Sequence Tags) and these ESTs were assembled into 2943 unigenes. BLAST analysis revealed that 1706 unigenes (58.0% of the total) or 4593 ESTs (61.0% of the total) were novel genes that had no significant matches to any protein sequences in the public databases. The rest 1237 unigenes; (42.0% of the total) were closely matched to the known genes or sequences deposited in public databases, which could be classed into 20 or 23 classifications according to "molecular function" or "biological process" respectively based on the Gene Ontology (GO). And 221 unigenes (7.5% of all 2943 unigenes, 17.9% of matched unigenes) or 969 ESTs (12.9% of all 7535 ESTs, 32.9% of matched ESTs) were identified to be immune genes. The relative higher proportion of immune-related genes in the present cDNA library than that in the normal library of E. sinensis and other crustaceans libraries, and the differences and changes in percentage and quantity of some key immune-related genes especially the immune inducible genes between two E. sinensis cDNA libraries may derive from the bacteria challenge to the Chinese mitten crab. The results provided a well-characterized EST resource for the genomics community, gene discovery especially for the identification of host-defense genes and pathways in crabs as well as other crustaceans. (C) 2009 Elsevier Ltd. All rights reserved.
【语种】英文
【第一作者】Gai YC
【通讯作者】Song Linsheng
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【学科分类】海洋科学

【题目】The immune responses in Chinese mitten crab Eriocheir sinensis challenged with double-stranded RNA
【中文关键词】Dong, Chaohua;Zhao, Jianmin;Song, Linsheng;Wang, Lingling;Qiu, Limei;Zheng, Peilin;Li, Ling;Gai, Yuncao;Yang, Guanpin
【英文关键词】Eriocheir sinensis; Double-stranded RNA; Immune response; EsALF; Superoxide dismutase; Malondialdehyde; Phenoloxidase; Acid phosphatase
【中文摘要】无
【英文摘要】Double-stranded RNA (dsRNA) is a virus-associated molecular pattern which induces antiviral innate immune responses and RNA interference (RNAi) in mammals. In invertebrates, RNAi phenomenon has been widely studied, but dsRNA-induced innate immune response is seldom reported. In the present study, two different dsRNAs specific for green fluorescent protein (GFP) and the putative D1 protein of photosystem II (NoPSD) from Nannochloropsis oculata, were employed to challenge Chinese mitten crab Eriocheir sinensis. The temporal changes of phenoloxidase (PO), acid phosphatase (ACP), superoxide dismutase (SOD) and malondialdehyde (MDA) content, as well as the mRNA expression of some immune-related genes were examined in order to estimate the effect of dsRNAs on the innate immunity of E. sinensis. The activities of PO, ACP and SOD significantly increased after dsRNA treatment, whereas malondialdehyde (MDA) content did not change significantly. Among the examined genes, only the mRNA expression of EsALF, an antibacterial peptide in E. sinensis, was significantly up-regulated (about 5 fold, $P < 0.05$) at 12 h after dsRNA treatment, while no significant expression changes were observed among the other immune genes. The increase of PO, ACP and SOD activities, and mRNA expression level of EsALF after dsRNA stimulation indicate that phenoloxidase, hydrolytic enzyme, antioxidation and EsALF were involved in dsRNA-induced innate immunity, suggesting that broad-spectrum immune responses could be induced by dsRNA in E. sinensis. (C) 2009 Elsevier Ltd. All rights reserved.
【语种】英文
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【学科分类】海洋科学

【题目】Two thymosin-repeated molecules with structural and functional diversity coexist in Chinese mitten crab Eriocheir sinensis
【中文关键词】Gai, Yunchao;Zhao, Jianmin;Song, Linsheng;Wang, Lingling;Qiu, Limei;Ning, Xuanxuan;Zheng, Xiangdong;Zhang, Yi;Mu, Changkao;Zhang, Ying;Li, Ling
【英文关键词】Eriocheir sinensis; Thymosin-repeated protein (TRP); Tumor growth; Wound healing; MTT assay; mRNA temporal expression profile
【中文摘要】无
【英文摘要】Recently, beta-thymosin-like proteins with multiple thymosin domains (defined as thymosin-repeated proteins) have been identified from invertebrate. In the present study, the cDNAs of two thymosin-repeated proteins (designated EsTRP1 and EsTRP2) were cloned from Chinese mitten crab by expressed sequence tags (EST) techniques. BLAST analysis presented three and two thymosin domains in EsTRP1 and EsTRP2, respectively, with the identities amongst the five domains varying from 47% to 100%. Both EsTRP1 and EsTRP2 shared high similarities with previously identified vertebrate beta-thynnosins and invertebrate thymosin-repeated proteins (TRPs) with the identities ranging from 43% to 78%, indicating that EsTRPs were new members of the beta-thymosin family. Real-time RT-PCR assay was adopted to determine the tissue distribution of EsTRPs and their temporal expression profile in hemocytes after pathogen stimulation and injury challenge. The expression of EsTRP1 transcript was predominantly detectable in the tissues of hemocytes, hepatopancreas and gonad with the highest expression in hemocytes, while the highest expression level of EsTRP2 was found in heart. EsTRP1 mRNA expression in hemocytes significantly increased at 3 and 48 h after Listonella anguillarum challenge, but there was no significant variation in EsTRP2 temporal expression profile. The injury challenge reduced the mRNA expression of EsTRPs, with the down-regulation of EsTRP2 expression occurred earlier than that of EsTRP1. The cDNA fragments encoding their mature peptides of EsTRP1 and EsTRP2 were recombined and expressed in Escherichia coli. The activities of recombinant proteins (rEsTRP1 and rEsTRP2) were examined by MTT (3-(4,5-dimethylthiazol-2-yl)-2, 5-diphenyltetrazoliumbromide) and lysoplate assay. rEsTRP2 could significantly accelerate the growth of human hepatocellular carcinoma cell line, but there was no significant effect of rEsTRP1 on the tumor cell proliferation. Both rEsTRP1 and rEsTRP2 did not possess the ability of killing Micrococcus luteus and L. anguillarum. The differences in the tissue distribution of mRNA transcripts, the response to pathogen stimulation and injury challenge, and the effect of recombinant proteins on human cell proliferation, indicated that there were functional diversity between the two structurally different molecules, EsTRP1 and EsTRP2. (C) 2009 Elsevier Ltd. All rights reserved.
【语种】英文
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【通讯作者】Song Linsheng
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【学科分类】海洋科学

【题目】A double WAP domain (DWD)-containing protein with proteinase inhibitory activity in Chinese white shrimp, Fenneropenaeus chinensis.
【中文关键词】Du, Zhi-Qiang;Ren, Qian;Zhao, Xiao-Fan;Wang, Jin-Xing
【英文关键词】Whey acidic protein; Chinese white shrimp; Fenneropenaeus chinensis; Proteinase inhibitory activity; Innate immunity
【中文摘要】无
【英文摘要】The whey major component, whey acidic protein (WAP), has one or more WAP domains characterized by a four-disulfide core (4-DSC) structure. These kinds of proteins are involved in multiple functions, including proteinase inhibitor activity, antimicrobial activity, ATPase inhibitor activity, and regulatory function in cell proliferation. Recent research indicates that WAP domain-containing proteins play an important role in the innate immunity of crustaceans. In this study, a novel double WAP domain (DWD)-containing protein named Fc-DWD was found for the first time in Chinese white shrimp, Fenneropenaeus chinensis. The

open reading frame of Fc-DWD encodes a protein of 117 amino acids, including a signal peptide of 16 amino acids and two WAP domains. The predicted molecular mass of the mature protein is 12.78 kDa with an estimated pI of 8.49. The first WAP domain, named WAP 1, composed of 49 amino acids locates in the amino-terminal of Fc-DWD, and the second WAP domain, named WAP 2, composed of 45 amino acids locates in the carboxy-terminal. Fc-DWD mRNA was upregulated in hemocytes, hepatopancreas, gills, and stomach of bacteria- and virus-challenged shrimp. Results of the binding assay showed that rFc-DWD could bind to both Gram-negative bacteria and Gram-positive bacteria. rWAP 1 could only bind to Gram-positive bacteria, but rWAP 2 could bind to both Gram-negative and positive bacteria. Moreover, rFc-DWD exhibited proteinase inhibitory activity against the secretory proteinase(s) from Bacillus subtilis and Pseudomonas aeruginosa. All of these findings suggest that Fc-DWD may play an important role in enabling the host defense to execute its proteinase inhibitory activity against pathogens. (C) 2009 Elsevier Inc. All rights reserved.
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【第一作者】Du ZQ
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【学科分类】海洋科学

【题目】Characterization, kinetics, and possible function of Kazal-type proteinase inhibitors of Chinese white shrimp, Fenneropenaeus chinensis.
【中文关键词】Wang, Zong-Heng;Zhao, Xiao-Fan;Wang, Jin-Xing
【英文关键词】Kazal serine proteinase inhibitor; Fenneropenaeus chinensis; Mixed-type inhibitor; Fast tight binding inhibitor; Innate immunity
【中文摘要】无
【英文摘要】Serine proteinase inhibitor plays an essential role in arthropods by restraining the activities of endogenic or exogenic serine proteinases. Four Kazal-type serine proteinase inhibitors, Fcspi-1-4, from the hepatopancreas of Chinese white shrimp, Fenneropenaeus chinensis, were cloned and identified. The open reading frames (ORFs) of Fcspis are 1389, 1236, 1080, and 939 base pairs, encode the pre-proteins of 462, 411, 359, and 312 amino acids and form the 9, 8, 7, and 6 typical Kazal domains, respectively. When analyzing the amino acid sequences of the four inhibitors, it was found that they might have been derived from the same transcript, which was subjected to alternative splicing, and none of the Kazal domains were identical within each inhibitor. Multiple alignments showed that the Kazal inhibitors were homologous with a conserved Motif of Cx(3)Cx(6)VCGSDGxTYx(3)CxLx(5)Cx(5)ITx(6)GC. The results from RT-PCR indicated that the expression of Fcspis as a whole was upregulated by bacterial challenge, no obvious change was noticed after viral challenge, and Fcspi-1 had a similar expression pattern with that of Fcspis. Recombinant FcSPIs were successfully expressed in bacteria and purified for further study. Recombinant FcSPI-1 was sensitive to DTT and had thermal stability. The inhibitory kinetics assay suggested that rFcSPI-1 was a mixed-type fast tight binding inhibitor with inhibitory activities against subtilisin A at a molar ratio of 1:1, 1:2 against proteinase K, and 2:1 against elastase. It can firmly bound to two Gram-positive and one Gram-negative bacteria but without anti-bacterial ability. In addition, it inhibited the activities of both bacteria I-secreted proteinases and natural chymotrypsin of Chinese white shrimp, suggesting that FcSPI-1 may participate in the immune defence response by inhibition of bacterial pathogen proteinases and possibly be involved in the regulation of shrimp proteinase activity. (C) 2009 Elsevier Ltd. All rights reserved.
【语种】英文
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【学科分类】海洋科学

【题目】Generation of the first BAC-based physical map of the common carp genome
【中文关键词】鲤鱼基因组;物理图谱;BAC
【英文关键词】common carp genome;physical map;BAC
【中文摘要】背景:鲤鱼属鲤亚科,是世界上第三大水产养殖物种,年产量约为340万吨,占世界淡水养殖产量的14%。显然,这一物种的基因资源用以研究其产量性状的研究。但是鲤鱼物理图谱还没有完成,本研究是使用荧光限制指纹构建BAC物理图谱结果:第一代鲤鱼物理图谱构建使用四色高信息含量指纹。总共分析了72158 BAC克隆产生67493个有效指纹。这些BAC克隆被组装成3696个平均长度为476 kb和688 kbN50长度的片段,代表大约1.76 Gb的鲤鱼基因组。有761个片段超过了N50,这些片段是有用的资源对于基因组全序列组装和连锁图的构建。可用的鲤鱼物理图谱在http://genomics.cafs.ac.cn/fpc/WebAGCoL/Carp/WebFPC/。结论:报告的鲤鱼物理图谱是鲤鱼基因组的第一个物理图谱,对于全基因组的装配和水产养殖的基因定位有促进作用。
【英文摘要】Background: Common carp (Cyprinus carpio), a member of Cyprinidae, is the third most important aquaculture species in the world with an annual global production of 3.4 million metric tons, accounting for nearly 14% of the all freshwater aquaculture production in the world. Apparently genomic resources are needed for this species in order to study its performance and production traits. In spite of much progress, no physical maps have beenavailable for common carp. The objective of this project was to generate a BAC-based physical map using fluorescent restriction fingerprinting.Result: The first generation of common carp physical map was constructed using four- color High Information Content Fingerprinting (HICF). A total of 72,158 BAC clones were analyzed that generated 67,493 valid fingerprints (5.5 × genome coverage). These BAC clones were assembled into 3,696 contigs with the average length of 476 kb and a N50 length of 688 kb, representing approximately 1.76 Gb of the common carp genome. The largest contig contained 171 BAC clones with the physical length of 3.12 Mb. There are 761 contigs longer than the N50, and these contigs should be the most useful resource for future integrations with linkage map and whole genome sequence assembly. The common carp physical map is available at http://genomics.cafs.ac.cn/fpc/WebAGCoL/Carp/WebFPC/.Conclusion: The reported common carp physical map is the first physical map of the common carp genome. It should be a valuable genome resource facilitating whole genome sequence assembly and characterization of position-based genes important for aquaculture traits.
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【学科分类】水产学基础学科

【题目】Cultivation of the brown alga Hizikia fusiformis(Harvey) Okamura:controlled fertilization and early development of seedlings in raceway tanks in ambient light and temperature
【中文关键词】-
【英文关键词】Hizikia fusiformis, seaweed cultivation, fertilization, egg release
【中文摘要】-
【英文摘要】Commercial cultivation of the dioecious brown macroalgaHizikia fusiformis(Harvey) Okamura in East Asia depends on the supply of young seedlings from regenerated holdfasts or from wild population. Recent development of synchronized release of male and female gametes in tumble culture provides a possibility of mass production of young seedlings via sexual reproduction. In this paper, we demonstrate that controlled fertilization can be efficiently realized in ambient light and temperature in a specially designed raceway tank in which the sperm-containing water has been recirculated. The effective fertilization time of eggs by sperm was found to be within six hours. Fast growth and development of the young seedlings relied on the presence of water currents. Velocity tests demonstrated that young seedlings of 2 – 3 mm in length could withstand a water current of 190 cm s − 1 without detachment. Culture experiments at 24 h postfertilization showed that elongation of both the seedlings and their rhizoids were not hampered by high irradiance up to 600 μ mol photons m − 2 s − 1. However, growth was slightly retarded if culturedat a temperature of 16 ◦ C compared to other culture temperatures of 22, 25 and 29 ◦ C. No seedling detachment was observed after transfer of the young seedlings to raft cultivation in the sea after one and 1.5 months post-fertilization,indicating the feasibility of obtaining large quantity of seedlings in such a system.

【语种】英文
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【学科分类】水产养殖学

【题目】The novel missense mutation of goat LHX4 gene
【中文关键词】山羊,错义突变,LHX4基因
【英文关键词】missense mutation;goat; LHX4
【中文摘要】新发现山羊LHX4基因的一个错义突变
【英文摘要】As a member of the LIM homeobox gene family, LHX4 gene plays a critical role in pituitary gland and nervous system development. Mutations in the LHX4 gene are associated with CPHD diseases in human and animal models. To date, no polymorphisms of LHX4 gene in goats have been reported. Herein, PCR-SSCP and DNA sequencing methods were employed to screen the genetic variation within goat LHX4 gene in 1275 Chinese indigenous goats. The results revealed a novel mutation: XM_613195.3:m.1053G>A, which identified a missense mutation at LHX4 locus: GTT (Val)>ATT (Ile) at position 280 aa of the LHX4 (390 aa). Moreover, frequencies of LHX4-A allele in the analyzed populations were 0.662, 0.553, 0.912, 0.957, 0.846, 0.693, 0.950 and 0.757 for Inner Mongolia white cashmere, Shaanbei white cashmere, Laoshan, Xinong Sarmen, Guanzhong, Boer, Haimen and Xuhuai populations, respectively. Gene homozygosity varied from 0.506 to 0.917. Significant statistical differences of genotypic frequencies for exon 6 of LHX4 locus implied that the V280I locus significantly associated with goat breeds by chi(2)-test (P < 0.001). (C) 2008 Elsevier B.V. All rights reserved.
【语种】英文
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【学科分类】畜牧学

【题目】Molecular characterization of CART, AgRP, and MC4R genes and their expression with fasting and re-feeding in common carp (Cyprinus carpio)
【中文关键词】鲤鱼;CART;AgRP;MC4R;硬骨鱼;基因表达
【英文关键词】Common carp;CART;AgRP;MC4R;Teleost;Gene expression
【中文摘要】CART,AgRP和MC4R基因可控制食欲,这些基因已经得到了克隆和表征,并且用鲤鱼做了研究。CARTI和CARTII分别包含117和120个残基。AgRP-1和AgRP-2基因分别包含128和136个残基。CARTI基因主要在脑,眼和卵巢中表达,而CARTII在脑中有较高的表达。AgRP-1在脑,肠,睾丸和眼中大量表达,而AgRP-2基因在鳃和眼中高量表达。MC4R基因包含326个氨基酸残基,主要在脑,精巢,垂体和眼中表达。系统分析表明CARTI/CARTII和AgRP-1/AgRP-2可能源自鲤鱼基因组进化中基因的重复。与正常进食的鲤鱼相比,CART,AgRP和MC4R基因在禁食后表达亮降低,在重新进食后又急剧增加。因此CART,AgRP和MC4R在调节鲤鱼食欲方面起作用。
【英文摘要】Cocaine and amphetamine-regulated transcript (CART), agouti-related proteins (AgRP) and Melanocortin 4 Receptor (MC4R) involves in the control of appetite. The genes were cloned and characterized, and their regulation was studied in common carp. The CARTI and CARTII genes encode 117- and 120-amino acids, respectively. The AgRP-1 and AgRP-2 genes encode 128- and 136-amino acids, respectively. CARTI was principally expressed in the brain, eye and ovary, while CARTII was highly expressed in the brain. AgRP-1 was strongly expressed in the brain, intestine, testis and eye, while AgRP-2 was highly expressed only in the gill and eye. The MC4R gene, encoding 326-amino acids, was mainly expressed in the brain testis, pituitary and eye. Phylogenetic analysis had been conducted which implied that both CARTI/CARTII and AgRP-1/AgRP-2 might derived from gene duplication events during genome evolution of common carp. CART, AgRP and MC4R gene expression in brain were decreased after fasting treatment and increased

sharply after refeeding comparing with normal fed controls, which suggested that CART, AgRP and MC4R are involved in appetite regulation in common carp.
【语种】英文
【第一作者】万玉梅
【通讯作者】徐鹏;孙效文
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【学科分类】水产学基础学科

【题目】The polymorphism of a novel 30 bp-deletion mutation at KAP9.2 locus in the cashmere goat
【中文关键词】绒山羊,KAP9.2基因,缺失突变
【英文关键词】Cashmere goat; KAP9.2 gene; Deletion mutation
【中文摘要】在绒山羊KAP9.2位点发现一种新的30bp的缺失突变
【英文摘要】The keratins and keratin-associated proteins (KAPs) are a large heterogeneous group of proteins that make up about 90% of the cashmere fiber. Keratin-associated proteins 9.2 gene (KAP9.2) is one of the ultra high Sulfur KAPs. which might play an important role in the bundling of intermediate filaments. In this study, the deletion/insertion mutation of KAP9.2 gene in 997 cashmere goat samples was firstly detected, at the same time, parts of these samples were sequenced. The results showed that two alleles were detected at this KAP9.2P1 locus, named allele W and D. The frequencies of the KAP9.2-W allele in Inner Mongolia White cashmere (n = 785) and Shaanbei White cashmere goat breeds (n = 212) were 0.878 and 0.790, respectively. The chi(2)-test showed that the genotype distributions in these two cashmere goat breeds were not in agreement with Hardy-Weinberg equilibrium. According to the classification of polymorphism information content (PIC), Shaanbei White cashmere goat was more polymorphic at this locus. Moreover a 30bp-deletion mutation was described at KAP9.2P2 locus for the first time and no deletion/insertion was described at KAP9.2P1 locus. The results possibly revealed that the size polymorphism existed in the two Chinese cashmere goat and the 30 bp-deletion mutation was possibly Caused by variations in the number of the decapeptide repeat structures. (C) 2008 Elsevier B.V. All rights reserved.
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【第一作者】于辉
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【学科分类】畜牧学

【题目】Cultivation of the intertidal brown alga Hizikiafusiformis (Harvey) Okamura: mass production of zygote-derived seedlings under commercial cultivation conditions, a case study experience
【中文关键词】-
【英文关键词】Seaweed cultivation; Hizikia fusiformis; seedling production; fertilization; mariculture
【中文摘要】-
【英文摘要】Mariculture of the brown alga Hizikia fusiformis (Harvey) Okamura as an export-oriented human food has been more than 20 years in China. It is now one of the five major farmed algal species along the Chinese coast. Stable and sufficient supply of young seedlings for scaling up the cultivation has been a problem throughout the farming history of this species due to the unique dioecious life cycle and relatively short time window of sexual reproduction. A key solution to this problem is to control the synchronization of the receptacle development and to realize simultaneous discharge of male and female gametes, such that fertilization rate could be greatly enhanced. Focusing on one of the farmed populations in this report, we present our results on mass production of seedlings by use of synchronization technique on large scale performed in 2007. Totally 5.5 hundred million embryos were obtained from 100 kg female sporophytes. The seedlings were raised up to 3.5 mm in length in greenhouse tanks over a month and were further grown up in open sea over 3 months at two experimental sites. The success of mass production of seedlings in this alga helped to lay the basis for

future trials in other species in the genus of Sargassum that have identical life cycle.
【语种】英文
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【学科分类】水产养殖学

【题目】PCR-SSCP and Hin6I PCR-RFLP detecting novel anonymous SNPs within ovine PROP1 gene (Brief report)
【中文关键词】PCR-单链构象多态性,PCR-限制性酶切长度多态性,PROP1基因,单核苷酸多态性
【英文关键词】PCR-SSCP, Hin6I PCR-RFLP,PROP1,SNPs
【中文摘要】通过PCR-SSCP和Hin6I的PCR-RFLP方法在绵羊PROP1基因中发现了新的SNP位点
【英文摘要】无
【语种】英文
【第一作者】蓝贤勇
【通讯作者】陈宏
【期刊名称、卷期、页码】Arch. Tierz,2008,51(6):622-623.
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【引文索引类型】SCI
【引文索引号】2.6144190001e+011
【学科分类】畜牧学

【题目】TRBP homologue interacts with Eukaryotic Initiation Factor 6 (eIF6) in Fenneropenaeus chinensis.
【中文关键词】Wang, Shuai;Liu, Ning;Chen, An-Jing;Zhao, Xiao-Fan;Wang, Jin-Xing
【英文关键词】RNA-BINDING-PROTEIN; DOUBLE-STRANDED-RNA; KINASE PKR; ANTIVIRAL IMMUNITY; MOLECULAR-CLONING; PENAEUS-MONODON; MARINE SHRIMP; HIV-1 TAR; IN-VITRO; VIRUS
【中文摘要】无
【英文摘要】The HIV transactivating response RNA-binding protein (TRBP) plays an important role in many biological processes. We have cloned three cDNAs from newly identified genes in the TRBP family from Fenneropenaeus chinensis. These genes have been designated Fc-TRBPI-3. Recombinant Fc-TRBP1, which was produced in Escherichia coli, was used for panning of a T7 phage display library of the Chinese shrimp hemocytes. From this panning, Fc-eukaryotic initiation factor 6 (Fc-eIF6) was isolated and sequenced. Fc-eIF6 was then cloned, recombinantly expressed, and shown to interact with Fc-TRBP by the performance of pull-down assays and Far Western blot analysis. Expression of Fc-TRBP was detected in many tissues, with elevated expression in the heart, gill, and intestine in the early stages of infection by the white spot syndrome virus (WSSV), and enhanced expression in most tissues following challenge with Vibrio anguillarum. Western blot studies confirmed the increased expression of Fc-TRBP in the gill after WSSV infection. The expression pattern of eIF6 was also analyzed and its expression was also up-regulated in intestine of WSSV-challenged shrimp. The replication of WSSV was reduced after injection of Fc-TRBP. These results indicate that Fc-TRBP and Fc-eIF6 may be components of the RNA-induced silencing complex (RISC), and thereby play a crucial role in the antiviral defense response of shrimp. The Journal of Immunology, 2009, 182: 5250-5258.
【语种】英文
【第一作者】Wang SA
【通讯作者】Wang JX
【期刊名称、卷期、页码】JOURNAL OF IMMUNOLOGY,182(9):5250-5258
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【引文索引号】2.7511920002e+011
【学科分类】海洋科学

【题目】CHH family peptides from an ‘ eyeless ‘ deep-sea hydrothermal vent shrimp, Rimicaris kairei: characterization and sequence analysis
【中文关键词】Qian, Ye-Qing;Dai, Li;Yang, Jin-Shu;Yang, Fan;Chen, Dian-Fu;Fujiwara, Yoshihiro;Tsuchida, Shinji;Nagasawa, Hiromichi;Yang, Wei-Jun
【英文关键词】Crustacean hyperglycemic hormone; Extreme environment; Isoform; Molecular cloning; Rimicaris kairei; Vitellogenesis-inhibiting hormone
【中文摘要】无
【英文摘要】The crustacean eyestalk synthesizes and secretes several structurally-related peptides belonging to the crustacean hyperglycemic hormone (CHH) family, which are considered major physiological regulators during the crustacean life cycle. However, it is intriguing that eyestalks of many hydrothermal vent crustaceans prove to have varying degrees of reduction. In the present study, we characterized full-length cDNAs encoding two important eyestalk hormones of the CHH family, CHH and VIH (vitellogenesis-inhibiting hormone), from the 'eyeless' hydrothermal vent shrimp Rimicaris kairei. The two isoforms of Chh cDNA were 1027 and 1877 bp in length, respectively, and the deduced preprohormones contained 137 and 138 aa, respectively. The Vih cDNA was 907 bp in length, encoding a putative preprohormone of 113 aa. When compared with other known protein sequences of CHHs and VIHs, these polypeptides from hydrothermal vents show high similarity with their non-vent counterparts. These results may provide evidence for the mechanisms of eyestalk reduction and vent-adapting evolution of crustaceans. The hydrothermal vent shrimp with reduced eyestalks may take a different evolutionary pathway than eyestalk-holding crustaceans, and the reduced eyestalks can be considered a good example for the investigation of the diversity of crustacean evolution in different environments. (C) 2009 Elsevier Inc. All rights reserved.
【语种】英文
【第一作者】Qian YQ
【通讯作者】Yang WJ
【期刊名称、卷期、页码】COMPARATIVE BIOCHEMISTRY AND PHYSIOLOGY B-BIOCHEMISTRY & MOLECULAR BIOLOGY,154(1):37-47
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【引文索引类型】SCI
【引文索引号】2.6862070001e+011
【学科分类】海洋科学

【题目】Response of metallothionein gene-1 to laboratory exposure to heavy metals and thermal stress in the freshwater prawn Macrobrachium rosenbergii
【中文关键词】Mahmood K, Yang JS, Chen DF, Wang MR, Yang F, Yang WJ
【英文关键词】Metallothioneins; Biomarkers; Heavy metals; Environment; Biomonitring
【中文摘要】无
【英文摘要】Metallothioneins, metal-inducible proteins, are being characterized from different organisms and shown as potential biomarkers of exposure to pollution by certain heavy metals. Here we report the identification of a new metallothionein cDNA (433 bp) from the shrimp Macrobrachium rosenbergii, putatively encoding a 61 residue polypeptide. Tissue specific analysis indicated that Mar-MT-I (M. rosenbergii Metallothionein Gene-1) is expressed with the highest levels in the hepatopancreas and lowest in the thoracic ganglia, and none in the gills or muscles. In addition, our data showed that Mar-MT-I is differentially regulated in the hepatopancreas by certain heavy metals and thermal stress: Cd and Cu produce somewhat similar expression profile patterns, Zn has a reductional effect and thermal stress alone entirely stops its expression. These results show that Mar-MT-I mRNA levels can potentially be used as biomarkers for Cd. Cu or Zn pollution individually. However, in the case of combined metal treatment, different combinations of these metals have quite different effect on Mar-MT-I expression. Therefore, factors of such differential behaviors should be kept as a priority for further biomonitring studies.
【语种】英文
【第一作者】Mahmood K
【通讯作者】Yang, WJ
【期刊名称、卷期、页码】JOURNAL OF HAZARDOUS MATERIALS, 167(1-3):523-530

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【引文索引号】2.6726700007e+011
【学科分类】海洋科学

【题目】美人鱼发光杆菌对凡纳滨对虾非特异性免疫功能及抗病力的影响
【中文关键词】兰萍, 宋晓玲, 张辉, 成君军
【英文关键词】Litopenaeus vanname Photobacterium damselae Non-specific immunityResistance to disease White Spot Syndrome Virus(WSSV);
【中文摘要】在基础饲料中分别添加0.1%和1%美人鱼发光杆菌灭活菌、0.1%美人鱼发光杆菌活菌配制成3种免疫实验饲料,以基础饲料为空白对照组饲料,每组设3个平行样。对个体质量为(4.83±0.36)g的凡纳滨对虾进行为期20 d的饲养实验,分别在0、5、10、15和20d进行取样,以血清中的酚氧化酶(PO)、酸性磷酸酶(ACP)、碱性磷酸酶(AKP)、超氧化物歧化酶(SOD)和溶菌酶(UL)活性为免疫指标,探讨了美人鱼发光杆菌作为免疫制剂对凡纳滨对虾非特异性免疫效应的影响;在投喂免疫饲料后的第22天,按0.004 2 kg/kg体重的剂量,直接投喂对虾白斑综合征病毒(WSSV)病料,并记录累积死亡率。结果表明,美人鱼发光杆菌免疫实验组对凡纳滨对虾血清中PO、ACP、AKP、UL和SOD活性影响明显高于对照组,并且在饲料中添加美人鱼发光杆菌后,明显提高了对虾抵御WSSV感染的能力。其中0.1%美人鱼发光杆菌活菌实验组的抗病毒感染能力最强,WSSV感染14d内累计死亡率为63.3%±5.8%;而对照组为96.7%±3.3%。研究表明,美人鱼发光杆菌添加在对虾饲料中能提高凡纳滨对虾非特异性免疫水平,增强抵抗疾病的能力,将其作为对虾免疫增强剂具有良好的应用前景。
【英文摘要】Litopenaeus vannamei at(4.83±0.36)g body weight were fed with 0.1% heat-killed,1% heat-killed and 0.1% living Photobacterium damselae for 21 days respectively.The serum was collected at 0,5,10,15 and 20 days post-immunization and Phenoloxidase(PO),acid phosphatase(ACP),alkaline phosphatase(AKP),superoxide dismutase(SOD) and lysozyme activity(UL) in the serum of L.vannamei were determined to evaluate the non-specific immune effect of P.damselae After 21 days,the shrimps were challenged by white spot syndrome virus(WSSV) and the mortalities of challenging test were recorded.The results showed that most PO,ACP,AKP,UL and SOD in the serum of L.vannamei of the test groups were significantly different(P<0.05 or P<0.01),and the resistance ability of shrimps to WSSV was also significantly enhanced by the diet supplemented with P.damselae The group fed with 10g heat-killed P.damselae per 1 kg shrimps exhibited the strongest resistance to WSSV in 14 days and its final cumulative mortality was 63.3%±5.8%,while the control was 96.7%±7.3%.The results indicated that P.damselae improved shrimp non-specific immunity and its resistance to WSSV,suggesting that it might be a promising diet supplement in shrimp farming
【语种】中文
【第一作者】兰萍
【通讯作者】宋晓玲
【期刊名称、卷期、页码】渔业科学进展 31(1), 65-73
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【引文索引号】无
【学科分类】海洋科学

【题目】兔抗对虾白斑症病毒(WSSV)独特型抗体的制备及其特性分析
【中文关键词】韦秀梅, 绳秀珍, 唐小千, 邢婧, 战文斌
【英文关键词】Idiotypic antibody; WSSV; ELISA; Dot-blot; IIFA; Western-blot;
【中文摘要】以前期已制备的抗WSSV囊膜蛋白单克隆抗体4G9(Ab1)杂交瘤细胞生产小鼠腹水,腹水经辛酸-硫酸铵法、ProteinG亲和层析法纯化后,用以制备兔抗血清,所得血清经纯化得到粗提的兔抗WSSV独特型抗体(Ab2)。采用竞争酶联免疫吸附实验、间接免疫荧光法、斑点免疫印迹和蛋白免疫印迹等实验方法分析了Ab2特性,结果表明:Ab2能识别Ab1并与WSSV竞争Ab1的抗原结合位点,是具有模拟WSSV特性的抗独特型抗体;Ab2能与中国对虾血细胞结合,并能部分阻断WSSV与血细胞膜的结合;其与中国对虾血细胞膜上结合的蛋白分子量分别为94.5、51.5和27.0kDa,由此推断,这三个蛋白为WSSV在中国对虾血细胞膜上的结合蛋白。本研究结果可为进一步研究WSSV侵染机理提供资料。
【英文摘要】During the past more than ten years since a white spot syndrome virus (WSSV) disease outbreak in 1993, many research papers have been published on the pathogen, pathology, detection and diagnostic methods of the disease. Recent works focused mainly on the infection mechanism and searching the strategies of prophylaxis and control of WSSV infection. The purpose of this work was to produce rabbit anti-idiotypic antibody of WSSV (Ab2), analyze its characteriza-tion, and find a new way to study WSSV infection

mechanism. Anti-WSSV envelope protein monoclonal antibody (Ab1), which was produced previously, was purified from ascitic fluid using caprylic acid-ammonium sulfate (CA-AS) and Pro-tein G agrose, then used to immunize rabbit, and finally Ab2 was purified from rabbit antiserum using CA-AS. The Ab2 was characterized by enzyme-linked immunosorbent assay (ELISA), indirect immunofluorescence assay (IIFA), Dot-blot and Western-blot. Results of competitive ELISA indicate that Ab2 could recognize Ab1 specifically and inhibit competi-tively the binding of WSSV with Ab1, implying that Ab2 could compete against the same paratope on Ab1 with WSSV, and represent an internal image of WSSV. In the meantime, IIFA proved that Ab2 could bind to the haemocyte membrane of Chinese shrimp (Fenneropenaeus chinensis). The results of both Dot-blot and ELISA blocking experiments show that Ab2 could block the binding of WSSV to haemocyte membrane. By Western-blot, three protein bands of 94.5, 51.5 and 27.0kDa were recognized specifically by Ab2, and they were considered to be WSSV binding protein on Chinese shrimp haemocyte membrane.
【语种】中文
【第一作者】韦秀梅
【通讯作者】战文斌
【期刊名称、卷期、页码】海洋与湖沼2010年02期
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【引文索引类型】其他
【引文索引号】无
【学科分类】海洋科学

【题目】A Dicer-1 gene from white shrimp Litopenaeus vannamei: Expression pattern
【中文关键词】Yao XM, Wang LL, Song LS, Zhang H, Dong CH, Zhang, Y, Qiu LM, Shi YH,Zhao JM, Bi YK
【英文关键词】Litopenaeus vannamei; Dicer-1; mRNA expression; Immune response; Laval development
【中文摘要】无
【英文摘要】Dicer is a member of the RNAase III family which catalyzes the cleavage of double-stranded RNA to small interfering RNAs and micro RNAs, and then directs sequence-specific gene silencing. In this paper, the full-length cDNA of Dicer-1 was cloned from white shrimp Litopenaeus vannamei (designated as LvDcr1). It was of 7636 bp, including a poly A tail, a 5' UTR of 136 bp, a 3' UTR of 78 bp, and an open reading frame (ORF) of 7422 bp encoding a putative protein of 2473 amino acids. The predicted amino acid sequence comprised all recognized functional domains found in other Dicer-1 homologues and showed the highest (97.7%) similarity to the Dicer-1 from tiger shrimp Penaeus mondon. Quantitative real-time PCR was employed to investigate the tissue distribution of LvDcr1 mRNA, and its expression in shrimps under virus challenge and larvae at different developmental stages. The LvDcr1 mRNA could be detected in all examined tissues with the highest expression level in hemocyte, and was up-regulated in hemocytes and gills after virus injection. These results indicated that LvDcr1 was involved in antiviral defense in adult shrimp. During the developmental stages from fertilized egg to postlarva VII, LvDcr1 was constitutively expressed at all examined development stages, but the expression level varied significantly. The highest expression level was observed in fertilized eggs and followed a decrease from fertilized egg to nauplius I stage. Then, the higher levels of expression were detected at nauplius V and postlarva stages. LvDcr1 expression regularly increased at the upper phase of nauplius, zoea and mysis stages than their prophase. The different expression of LvDcr1 in the larval stages could provide clues for understanding the early innate immunity in the process of shrimp larval development
【语种】英文
【第一作者】Yao XM
【通讯作者】Wang LL
【期刊名称、卷期、页码】FISH & SHELLFISH IMMUNOLOGY 29(4): 565-570
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【学科分类】海洋科学

【题目】cDNA cloning and mRNA expression of a selenium-dependent glutathione from Eriocheir sinensis
【中文关键词】Changkao Mu, Duojiao Ni, Jianmin Zhao, Lingling Wang, Linsheng Song , Ling Li, Huan Zhang,
【英文关键词】Chlamys farreri,Selenium-dependent glutathione peroxidase,Gene cloning,Expression profile
【中文摘要】无

【英文摘要】The glutathione peroxidases are essential enzymes of the cellular antioxidant defence system. In the presentstudy, the full-length cDNA sequence encoding an extracellular glutathione peroxidase (designated CfGPx3)was isolated from Zhikong scallop Chlamys farreri. The complete cDNA was of 1194 bp, containing a 5′ untranslated region (UTR) of 50 bp, a 3′ UTR of 490 bp and an open reading frame (ORF) of 654 bp encodinga polypeptide of 217 amino acids. CfGPx3 possessed all the conserved features critical for the fundamentalstructure and function of glutathione peroxidase, such as the selenocysteine encoded by stop codon UGA, theGPx signature motif (96LGVPCNQF103) and the active site motif (179WNFEKF184). The high similarity ofCfGPx3 with GPx from other organisms indicated that CfGPx3 should be a new member of the glutathioneperoxidase family. By fluorescent quantitative real-time PCR, the CfGPx3 mRNA was universally detected inthe tissues of haemocytes, gill, gonad, muscle and hepatopancreas with the highest expression inhepatopancreas. After scallops were challenged by Listonella anguillarum, the expression level of CfGPx3transcript in haemocytes was significantly up-regulated (Pb0.05) at 8 h post challenge. These resultssuggested that CfGPx3 was potentially involved in the immune response of scallops and perhaps contributedto the protective effects against oxidative stress.
【语种】英文
【第一作者】Mu CK
【通讯作者】Song Linsheng
【期刊名称、卷期、页码】Comparative Biochemistry and Physiology, Part B, 157:182-188
【论文发表时间】2010-06-18 00:00:00
【引文索引类型】SCI
【引文索引号】2.815005e+011
【学科分类】海洋科学

【题目】Identification and characterization of a Cystatin gene from Eriocheir sinensis
【中文关键词】Limei Qiu a, Ming Cong
【英文关键词】Cystatin; Eriocheir sinensis; mRNA expression; Immune response; Papain; Inhibitory activity
【中文摘要】无
【英文摘要】Cystatins are a superfamily of proteins as reversible inhibitor of cysteine proteinases which play essential roles in a spectrum of physiological and immunological processes In this study, a novel member of Cystatin superfamily was identified from Chinese mitten crab Enocheir sinensis (designated EsCystain) by expressed sequence tag (EST) analysis and rapid amplification of cDNA ends (RACE) approaches The full-length cDNA of EsCystatin was of 1486 bp, consisting of a 5'-terminal untranslated region (UTR) of 92 bp, a 3' UTR of 1034 bp with a polyadenylation signal sequence AATAAA and a polyA tail, and an open reading frame (ORF) of 360 bp encoded a polypeptide of 120 amino acids with the theoretical isoelectric point of 548 and the predicted molecular weight of 13 39 kDa. A signal Cystatin-like domain (Gly(25) to Lys(112)) was found in the putative amino acid sequences of EsCystatin Similar to other Cystatins, the conserved central Q(70)VVSG(74) motif was located in the Cystatin-like domain of EsCystatin But EsCystatin lacked of signal peptide and disulphide bond. The EsCystatin exhibited homology with the other known Cystatins from invertebrates and higher vertebrates, and it was clustered into Cystatin family 1 in the phylogenetic tree. The mRNA transcripts of EsCystain were mainly expressed in hemolymph, gill, hepatopancreas, gonad and muscle, and also marginally detectable in heart After Listonella anguillarum challenge, the relative expression level of EsCystatin in hemolymph was down-regulated to 0 6-fold ($P < 0.05$) at 3 h post-challenge. Subsequently, it was up-regulated to 3.0-fold ($P < 0.01$)at 24 h Afterwards. EsCystatin mRNA transcripts suddenly decreased to original level. After Pichia pastoris GS115 challenge, its mRNA expression level in hemolymph was up-regulated to the peak at 3 h (2 8-fold of that in blank ($P < 0$ 01)) The cDNA fragment encoding the mature peptide of EsCystatin was recombined and expressed in Escherichia coli Rosetta-gami (DE3). The recombinant EsCystatin displayed a promoter inhibitory activity against papain When the concentration of EsCystatin protein was of 300 mu g mL(-1), almost 89% of papain activity could be inhibited. These results collectively suggested that EsCystatin was a novel member of protein in Cystatin family, was a potent inhibitor of papain and involved in immune response versus invading microorganisms.
【语种】英文
【第一作者】Li FM
【通讯作者】Wang LL
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【学科分类】海洋科学

【题目】Molecular characterization and expression of a crustin-like gene from Chinese mitten crab Eriocheir sinensis
【中文关键词】Mu CK, Zheng PL, Zhao JM, Wang LL, Zhang H, Qiu LM, Gai YC, Song LS
【英文关键词】Eriocheir sinensis; Crustin; WAP domain; Recombinant expression; Antibacterial activity; Minimal inhibitory concentration (MIC)
【中文摘要】无
【英文摘要】Crustin is a cysteine-rich antibacterial peptide which widely distributes within decapod crustaceans. In the present study, the cDNA encoding crustin-like peptide (designated CrusEs) was cloned from Chinese mitten crab Eriocheir sinensis by using rapid amplification of cDNA ends (RACE) approaches and expressed sequence tag analysis. The full-length cDNA of CrusEs was of 796 bp, containing a 5' untranslated region (UTR) of 214 bp, a 3' UTR of 267 bp with a poly(A) tail, and an open reading frame (ORF) of 315 bp encoding a polypeptide of 104 amino acids including a putative signal peptide of 21 amino acids. A WAP domain and the consensus framework existing in class I crustins were both identified in CrusEs, suggesting that CrusEs is a new member of type I crustins. Quantitative real-time RT-PCR was employed to examine the expression of CrusEs, and its mRNA transcript was mainly detected in haemocytes and gill. The CrusEs mRNA transcript in haemocytes was down-regulated after the challenge with Gram-positive bacteria Micrococcus luteus, while Gram-negative bacteria Listonella anguillarum did not induce significant variation of CrusEs mRNA. The mature peptide of CrusEs was cloned into pET-21a(+) with a C-terminal hexa-histidine tag fused in-frame, and expressed in Escherichia coil, and the recombinant CrusEs inhibited the growth of Gram-positive bacteria with low MIC. The results indicate that CrusEs is a potent antibacterial protein against Gram-positive bacteria infection, and it may play an important role in innate immune response of E. sinensis.
【语种】英文
【第一作者】Mu CK
【通讯作者】Wang LL
【期刊名称、卷期、页码】DEVELOPMENTAL AND COMPARATIVE IMMUNOLOGY 34(7): 734-740
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【引文索引号】2.7789160001e+011
【学科分类】海洋科学

【题目】The second anti-lipopolysaccharide factor (EsALF-2) with antimicrobial activity in Eriocheir sinensis
【中文关键词】Zhang Y, Wang LL, Wang LL, Yang JL, Gai YC, Qiu LM, Song LS
【英文关键词】Eriocheir sinensis; Anti-lipopolysaccharide factor; Listonella anguillarum; Pichia pastoris; Antimicrobial activity
【中文摘要】无
【英文摘要】The anti-lipopolysaccharide factor CALF) is a small basic protein that can bind and neutralize lipopolysaccharide (LPS), mediating degranulation and activation of an intracellular coagulation cascade. In the present study, cDNA of the second Eriocheir sinensis ALF (designated as EsALF-2) was cloned and the full-length cDNA of EsALF-2 was of 724 bp, consisting of an open reading frame (ORF) of 363 bp encoding a polypeptide of 120 amino acids. The deduced amino acid of EsALF-2 shared 82% similarity with EsALF-1 from E. sinensis and about 53-65% similarity with ALFs from other crustaceans. The potential tertiary structures of EsALF-1 and EsALF-2 contained two highly conserved-cysteine residues to define the LPS binding site, but the N-terminal of EsALF-1 formed a single additional alpha-helix compared to EsALF-2, implying that EsALF-1 and EsALF-2 might represent different biological functions in E. sinensis. The mRNA transcript of EsALF-2 was detected in all examined tissues of healthy crabs, including haemocytes, hepatopancreas, gill, muscle, heart and gonad, which suggested that EsALF-2 could be a multifunctional molecule for the host immune defense responses and thereby provided systemic protection against pathogens. The mRNA expression of EsALF-2 was up-regulated after Listonelln anguillarum and Pichia pastoris challenge and the recombinant protein of EsALF-2 showed antimicrobial activity against L. anguillarum and P. pastoris. indicating that EsALF-2 was involved in the immune defense responses in Chinese mitten crab against L. anguillarum and P. pastoris. These results together indicated that there were abundant and diverse ALFs in E. sinensis with various biological functions and these ALFs would provide candidate promising therapeutic or prophylactic agents in health management and diseases control of crab aquaculture.
【语种】英文

【第一作者】Zhang Y
【通讯作者】Wang LL
【期刊名称、卷期、页码】DEVELOPMENTAL AND COMPARATIVE IMMUNOLOGY 34(9): 945-952
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【学科分类】海洋科学

【题目】Two novel secreted ferritins involved in immune defense of Eriocheir sinensis
【中文关键词】Kong PF, Wang LL, Zhang H, Zhou Z, Qiu LM, Gai YC, Song LS
【英文关键词】Secreted ferritin; Iron-withholding strategy; Innate immunity; Metal binding site; Pathogen infection; Eriocheir sinensis
【中文摘要】无
【英文摘要】As a principal extracellular iron storage molecule, secreted ferritin plays an important role in the iron-withholding strategy of innate immunity. In this study, two novel secreted ferritins were identified from Chinese mitten crab Eriocheir sinensis (designated as EsFer-1 and EsFer-2) by rapid amplification of cDNA ends (RACE) approaches and expressed sequence tag (EST) analysis. The full-length cDNAs of EsFer-1 and EsFer-2 were of 1278 and 1595 bp, respectively, both containing a putative iron response element (IRE) in their 5' UTRs and multiple A + U-destabilizing elements (TATT or ATTTA) in their 3' UTRs. The ORFs of these two crab ferritin cDNAs were of 639 and 663 bp, respectively, encoding two peptides of 212 and 220 amino acid residues each with a signal peptide and typical structures of ferritins such as four long alpha-helices, one short alpha-helix and an L-loop. EsFer-2 exhibited higher similarity with the H-ferritins from both invertebrates and vertebrates, while EsFer-1 was closer matched to L-ferritins. The eight amino acid residues identified as metal binding sites in vertebrate H-ferritins were conserved in EsFer-2 (Glu53, Tyr60, Glu87, Glu88, His91, Glu146, Glu177 and Gln178), but none of them was observed in EsFer-1. By fluorescent quantitative real-time PCR, mRNA transcripts of EsFer-1 and EsFer-2 were mainly detected in muscle, hepatopancreas and gill, and also marginally detectable in gonad, heart and hemocytes. After the crabs were challenged by bacteria Listonella anguillarum, the transcriptional levels of both EsFer-1 and EsFer-2 in hemocytes were up-regulated twice. In the first up-regulation, the mRNA relative expression levels of both EsFer-1 and EsFer-2 reached peak at 3 h post-challenge, while in the second up-regulation, they did not reach the highest point within the experiment duration. After the fungi Pichia pastoris GS115 challenge, there was only one transcriptional level peak of both the two ferritins, appearing at 6 h post-challenge. These results suggest that secreted EsFer-1 and EsFer-2 are crucial proteins in the iron-withholding defense system, and play important roles in the innate immune responses in crabs.
【语种】英文
【第一作者】Kong PF
【通讯作者】Wang LL
【期刊名称、卷期、页码】FISH & SHELLFISH IMMUNOLOGY 28(4): 604-612
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【引文索引号】2.7693570001e+011
【学科分类】海洋科学

【题目】甘蓝新品种豫生4号播期合密度试验
【中文关键词】甘蓝;豫生4号;播期;密度
【英文关键词】Cabbage; Yu-sheng4; sowing date; density
【中文摘要】通过对豫生4号甘蓝新品种的播期和密度试验,探讨出豫生4号甘蓝在豫中南地区适宜播期为7月3日左右;最佳密度为50cm*50cm。
【英文摘要】无
【语种】中文
【第一作者】李新建
【通讯作者】李新建
【期刊名称、卷期、页码】蔬菜 2011 07 48-49

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【引文索引类型】其他
【引文索引号】null
【学科分类】园艺学

【题目】Cultivation of the brown alga Sargassum horneri : sexual reproduction and seedling production in tank culture under reduced solar irradiance in ambient temperature
【中文关键词】-
【英文关键词】Sargassum horneri; Fertilization;Brown alga; Seaweed cultivation; Seedling production
【中文摘要】-
【英文摘要】As a larg e conspicuous intertidal brown alga,individuals of Sargassum horneri can reach a length of more than 7 m with a fresh weight of 3 kg along the coasts of the Eastern China Sea. The biomass of this alga as a vital component in coast al water eco logy has been well documented. In recent years, a stead y disappearance o f the algal biomass along the once densely populated coastal areas of the Eastern Chin a Sea has drawn attention in China. Efforts have been made to reconstruct the subtidal algal flora or even to grow the alga by use of long-lines. As part of the efforts to establish an efficient technique for producing seedlings of S. horneri, in this investigation a series of culture experiments were carried out in indoor raceway and rectangular tanks under reduced solar irradiance at ambient temperature in 2007 – 2008. The investigation demonstrated that : (1) sexual reproduction of S.horneri could be accelerated in elevated temperature and light climates, at least 3 months earlier than in the wild; (2)eggs of S. horneri had the potential to be fertilized up to 48 h, much longer than that of know n related species; (3)suspen sion and fixed cult ure met hods were both effective in growing the seedlings to the long-lin e cu ltivation stage; and (4) the life cycle of S. horneriin culture could b e short ened to 4.5 months, thus establis hing this alga as an appropr iate model for inves tigatin g sexual reprod ucti on in dieocious speci es of this genus.
【语种】英文
【第一作者】逄少军
【通讯作者】逄少军
【期刊名称、卷期、页码】J.Appl.Phycol. 21:413-422
【论文发表时间】2009-02-07 00:00:00
【引文索引类型】SCI
【引文索引号】DOI 10.1007/s10811-008-9386-5
【学科分类】水产养殖学

【题目】Novel SNP of the goat prolactin gene (PRL) associated with cashmere traits
【中文关键词】PRL基因,单核苷酸多态性
【英文关键词】PRL;SNP
【中文摘要】在PRL基因中发现了新的与产绒性状相关的SNP
【英文摘要】Concentrations of the single-chain polypeptide hormone prolactin (PRL) are associated with wool or cashmere traits, and its seasonal changes may determine patterns of enzymatic activity and may affect cashmere fibre growth and moult. So, the PRL gene is a potential candidate gene for cashmere traits in marker-assisted selection (MAS). In this paper, we report a novel missense single-nucleotide polymorphism (SNP) within the goat PRL gene in 1367 individuals by PCR-SSCP (polymerase chain reaction with single-strand conformation polymorphism) analysis and DNA sequencing. The novel X76049:g.576C>A mutation is confirmed by Eco24I PCR-RFLP (restriction fragment length polymorphism) analysis and causes a missense codon (Pro176Thr). The frequencies of allele C varied from 0.79 to 0.93 in 9 analysed goat populations. C allele was correlated with higher fibre length ($P = 0.014$).
【语种】英文
【第一作者】蓝贤勇
【通讯作者】陈宏
【期刊名称、卷期、页码】J Appl Genet, 2009, 50(1):51 – 54.
【论文发表时间】2008-12-12 00:00:00
【引文索引类型】SCI
【引文索引号】2.6366760001e+011
【学科分类】畜牧学

【题目】浙江洞头不同羊栖菜品系的形态特征及1 个代表性养殖群体的AFLP 分析
【中文关键词】羊栖菜;形态特征;AFLP;遗传多态性
【英文关键词】Hizikia fusiformis ;morphological characteristics;AFLP;genetic polymorphism
【中文摘要】2007 年对中国羊栖菜(Hizikia fusiformis) 主产区浙江省洞头县12 个羊栖菜养殖品系的重要形态特征和经济性状进行了比较研究,并利用AFLP 技术对1 个典型养殖群体的遗传多态性进行了分析。结果显示,这12 个品系在全长、全湿质量、侧枝长、侧枝湿质量、侧枝密度等方面存在显著或极显著差异(P<0.05 或P<0.01)。8 对AFLP 引物组合在这个典型羊栖菜养殖群体的27 个随机挑选的个体中扩增出198 个片段,其中多态性片段为166 个,多态位点比率为83.8%。平均每对引物扩增的片段为24.8 条。根据个体间的Nei 遗传距离,以UPGMA 法构建了个体间的系统树图,27 个羊栖菜个体聚为一枝,作为对照的铜藻为另一枝。本研究从形态与DNA 分子水平说明了浙江洞头羊栖菜养殖群体具有高度遗传多态性。
【英文摘要】The brown seaweed Hizikia fusiformis has been one of the five major farmed algae species along the Chinese coast. In recent years,mass production of zygote-derived seedlings by use of synchronization technique has been well established and successfully applied under commercial cultivation conditions. This techniqueadvance makes cultivation of this alga more sustainable and lays the foundation for future breeding work. Theprincipal cultivation ground of H. fusiformis in China is at Dongtou county,Zhejiang province. The farmedpopulation in that region is a mixture of different geographical populations collected along the Chinese coast. Up to now,there has been no report on fundamental biological information of this farmed population. Theprincipal goal of this investigation is to analyze morphological variations among different strains and assessgenetic polymorphism of a representative population. Totally 12 strains were collected and six characteristicswere measured including total length,total wet weight,branchlet length,branchlet wet weight,branchletdensity and the number of receptacles per branchlet. Meanwhile,twenty-seven individuals were randomlysampled from a representative population for genomic DNA isolation and AFLP analyses to assess geneticpolymorphism. Morphological analyses revealed significant differences among these 12 strains in terms of totallength,total wet weight,branchlet length,branchlet wet weight and branchlet density (P<0.05 or P<0.01). InAFLP analyses,by using eight pairs of primer combinations in the representative population including EcoRI-AAC/MseI-CAA,EcoRI-AAC/MseI-CAC,EcoRI-AAC/MseI-CCA,EcoRI-AAC/MseI-CCT,EcoRI-AAG/MseI-CAA,EcoRI-AAG/MseI-CAC,EcoRI-AAG/MseI-CAG,EcoRI-ACC/MseI-CAA,a total of 198 DNA fragmentswere amplified,of which 166 were polymorphic. The percentage of polymorphic fragments was 83.8% and the number of amplified fragments ranged from 15 to 38 with an average of 24.8 for each primer combination. Based on Nei ' s genetic distance individual-wise dendrogram was constructed by use of UPGMA cluster analysis,from which it was presented that 27 H. fusiformis individuals clustered into one clade and the individual of Sargassum horneri clustered into another one. The morphological characteristics selected in this study were closely related to commercial production and could be used as reference for future studies. The most important result of this study is the high polymorphism detected in the farmed population. High polymorphic parental resources provide valuable basic materials for breeding of new varieties.
【语种】中文
【第一作者】单体锋
【通讯作者】逄少军
【期刊名称、卷期、页码】中国水产科学 16(1):40-46
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【引文索引类型】其他
【引文索引号】null
【学科分类】水产养殖学

【题目】Cu 对鼠尾藻幼孢子体生长的影响
【中文关键词】鼠尾藻　Cu2+　孢子体
【英文关键词】Sargassumthunbergii　Copper　Sporophyte

【中文摘要】以鼠尾藻Sargassumthunbergii幼孢子体为材料, 研究了Cu2+对不同生长时期的鼠尾藻幼孢子体生长的影响。不同生长时期的鼠尾藻幼孢子体对微量Cu2+都是敏感的。对于早期的鼠尾藻幼孢子体, 5 g/ L以上浓度的Cu2+对其正常生长不利; 当Cu2+浓度达到或超过250 g/ L时, 该时期幼孢子体基本停止生长。对于后期的鼠尾藻幼孢子体, 10 g/ L以上浓度的Cu2+对其正常生长不利; 1 g/ L浓度的Cu2+对其生长有促进作用; 当Cu2+浓度达到或超过50 g/ L时, 该时期幼孢子体增长缓慢或基本停止生长。鼠尾藻幼孢子体的假根由于结构和功能特性, 对Cu2+的敏感程度不大,Cu2+处理初期依然表现出快速增长。

【英文摘要】Theeffect of Cu2+onthegrowthof Sargassumthunbergii youngsporophyteatdifferent growthstagewas investigated. It was foundthat duringboththeearlyandlatestagestheyoung sporophytewere very sensitiveto Cu2+treatment. Growth of S. thunbergii youngsporophyteduringtheearlystagewas seriouslyinhibitedbyCu2+at concentrations of 5 g/Landabove, andthegrowthwasalmost terminatedbyCu2+at 250 g/Landabove. For S. thun-bergii youngsporophyteat thelatestage, thegrowthwas seriouslyinhibitedbyCu2+at 10 g/Landabove. Thegrowthof youngsporophytes was acceleratedby1 g/LCu2+, but slower orevenceasedgrowthwas observedat morethan50 g/L Cu2+treatments. Dueto thespecialcharacteristics of structureandfunction, rhizoidof S. thunbergii youngsporophytewas foundtobeinsensitivetoCu2+. At thebeginningof Cu2+treatment, rhizoidstill presentedfast growth.

【语种】中文

【第一作者】梁洲瑞

【通讯作者】王飞久

【期刊名称、卷期、页码】渔业科学进展 31(6):116-121

【论文发表时间】2010-12-01 00:00:00

【引文索引类型】其他

【引文索引号】null

【学科分类】水产养殖学

【题目】超声波酶解法提取鼠尾藻多糖

【中文关键词】鼠尾藻 多糖 超声波 纤维素酶

【英文关键词】-

【中文摘要】采用超声波及纤维素酶解法提取鼠尾藻多糖探讨了功率酶量温度时间对鼠尾藻多糖制备的影响运用单因素设计正交试验 得出 种因素对鼠尾藻多糖提取的影响程度由大到小分别是时间温度超声波功率酶量优化得到最佳提取条件为超声波功率 酶 量 温 度 时间 并通过对比分析 得出添加纤维素酶比对照组提取率提高37.03%

【英文摘要】-

【语种】中文

【第一作者】丁昌玲

【通讯作者】王飞久

【期刊名称、卷期、页码】渔业科学进展 32(6):92-98

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【引文索引号】null

【学科分类】水产养殖学

【题目】Analysis of caprine pituitary specific transcription factor-1 gene polymorphism in indigenous Chinese goats

【中文关键词】山羊,多态性,垂体特异性转录因子1,

【英文关键词】Caprine Adiponectin Gene, Polymorphism

【中文摘要】山羊垂体特异性转录因子1在中国本土山羊中的多态性分析

【英文摘要】Since mutations on POU1F1 gene possibly resulted in deficiency of GH, PRL, TSH and POU1F1, this study revealed the polymorphism of goat POU1F1-AluI locus and analyzed the distribution of alleles on 13 indigenous Chinese goat breeds. The PCR-RFLP analysis showed the predominance of TT genotype and the frequencies of allele T varied from 0.757 to 0.976 in the analyzed populations (SBWC, Bo, XH and HM). Further study, distributions of genotypic and allelic frequencies at this locus were found to be significantly different among populations based on a chi(2)-test ($P < 0.001$), suggesting that the breed factor significantly affected the molecular genetic character of POU1F1 gene. The genetic diversity analysis revealed that Chinese indigenous populations had a wide spectrum of genetic diversity in goat POU1F1-AluI locus. However, the ANOVA analysis revealed no significant differences for gene

homozygosty, gene heterozygosty, effective allele numbers and PIC (polymorphism information content) among meat, dairy and cashmere utility types (P > 0.05), suggesting that goat utility types had no significant effect on the spectrum of genetic diversity.
【语种】英文
【第一作者】蓝贤勇
【通讯作者】雷初朝
【期刊名称、卷期、页码】Molecular Biology Reports, 2009, 36:705 – 709
【论文发表时间】2008-03-21 00:00:00
【引文索引类型】SCI
【引文索引号】2.6379840001e+011
【学科分类】畜牧学

【题目】光温对鼠尾藻卵子排放和幼孢子体生长的影响
【中文关键词】鼠尾藻 卵子 孢子体 温度 光 排放
【英文关键词】-
【中文摘要】以成熟的鼠尾藻生殖托为材料 研 究 了 不 同 温 度 光 照 度和光照周期 对鼠尾藻排卵及幼孢子体生长的影响 结 果 显 示温 度在 范围有利于鼠尾藻卵子的排放 在 范围内光照度越高越有利于鼠尾藻卵子的排放 光周期不是影响卵子排放的主要因素 光照度是鼠尾藻幼孢子体生长的重要因子温度是制约鼠尾藻幼孢子体生长的关键因子水温低于 时不利于幼孢子体的快速生长
【英文摘要】-
【语种】中文
【第一作者】梁洲瑞
【通讯作者】王飞久
【期刊名称、卷期、页码】渔业科学进展 33(1):109-113
【论文发表时间】2012-02-03 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】水产养殖学

【题目】环境因子对鼠尾藻幼苗叶绿素荧光参数的影响
【中文关键词】鼠尾藻; 温度; 盐度; 营养盐; 叶绿素荧光
【英文关键词】-
【中文摘要】为了揭示鼠尾藻幼苗的生态适应性,研究了温度 盐度 和营养盐等环境因子对鼠尾藻幼苗叶绿素荧光参数的影响 结果表明,氮浓度高于 或磷浓度高于 ,或温度高于 ,对鼠尾藻幼苗的光合作用均有显著影响; 短时间的 的低温胁迫或盐度胁迫 对鼠尾藻幼苗的 值影响不明显; 氮磷浓度分别为 和 ,且 的比值为 时,较利于鼠尾藻幼苗光合作用的进行
【英文摘要】-
【语种】中文
【第一作者】梁洲瑞
【通讯作者】梁洲瑞
【期刊名称、卷期、页码】水产学报 35(8):1225-1232
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【引文索引类型】其他
【引文索引号】null
【学科分类】水产饲料学

【题目】Novel Polymorphism at the 3 ′ UTR of the Caprine Adiponectin Gene
【中文关键词】脂联素,多态性
【英文关键词】Polymorphism; Caprine Adiponectin Gene
【中文摘要】发现脂联素基因3 ′ UTR新的多态性
【英文摘要】As an adipose-derived plasma protein, adiponectin (also called ADIPON, ACRP30),is an adipose tissue-speci fi c secretory protein that plays an important role in thedevelopment of metabolic and atherosclerotic disorders, such as obesity,

hypertension, type 2 diabetes, and cardiovascular disease, which can stimulate fatty acidoxidation, suppress hepatic gluconeogenesis, and inhibit in fl ammatory responses(D ı ´ ez and Iglesias 2003; Yang et al. 2004). It is signi fi cantly associated with obesityand weight loss. Moreover, it improves insulin sensitivity by stimulating glucoseutilization and fatty acid oxidation through the phosphorylation and activation ofAMPK in both skeletal muscle and liver (Yang et al. 2004). Numerous humangenetic studies on adiponectin and the metabolic syndrome strongly suggest thatadiponectin is one of the causative factors in its pathogenesis, providing signi fi cantinsights into the genetic makeup of the metabolic syndrome (Yang and Chuang2006).

【语种】英文
【第一作者】蓝贤勇
【通讯作者】陈宏
【期刊名称、卷期、页码】Biochem Genet,2009,47:251 – 256.
【论文发表时间】2009-02-03 00:00:00
【引文索引类型】SCI
【引文索引号】2.6426050001e+011
【学科分类】畜牧学

【题目】基于有性繁殖的鼠尾藻规模化繁育试验
【中文关键词】鼠尾藻　人工育苗　幼苗发育　附着基
【英文关键词】-
【中文摘要】2007~2009年间, 先后在威海小石岛开展了两次鼠尾藻的规模化人工育苗试验, 在威海周边和青岛开发区海域进行了3次保苗实验。两年育苗的试验规模均为10个育苗池(规格一致, 均为2m　5m) 和部分备用池。所用种菜主要在威海附近的多个海域采集, 其中以小石岛采集的种菜最为理想。通过6种常见附着基的对比试验, 附着基以竹帘附苗密度最高, 操作方便和附苗量结合理想的附着基是织带帘。平面基质上的附苗密度最大, 达到30株/ cm2。2007年出幼苗750　7万株, 平均苗长3　5mm; 2008年出幼苗3015　42万株, 平均苗长3　2mm。本试验发现, 鼠尾藻幼苗早期发育中, 幼苗附苗较均匀, 但生长到4mm后, 幼苗有大面积脱落的现象, 随着日后的生长, 苗种密度也逐渐下降, 到10mm时密度降低到0　2~ 10株/ cm2。
【英文摘要】-
【语种】中文
【第一作者】孙修涛
【通讯作者】王飞久
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【引文索引号】null
【学科分类】水产养殖学

【题目】A PCR-SSCP and DNA sequencing detecting two silent SNPs at KAP8.1 gene in the cashmere goat
【中文关键词】KAP8.1基因,多态性
【英文关键词】KAP8.1,Polymorphism
【中文摘要】使用PCR-SSCP和DNA测序发现绒山羊KAP8.1基因的2个沉默SNP
【英文摘要】Keratin-associated proteins 8.1 gene (KAP8.1) is a structural gene responsible for the cashmere. KAP8.1 protein contains high glycine and tyrosine, which concerns regulation and function of the matrix structure fiber. In this study, the polymorphism of KAP8.1 gene was detected by methods of aPCR-SSCP (asymmetric polymerase chain reaction single-strand conformation polymorphism) and DNA sequencing in 791 individuals from two breeds. The results showed that there were two mutations in this gene. The mutations were described as c.63 T > G and c.66 C > G, which would result in two synonymous mutations in KAP8.1 protein. The findings go against previous research, in which there was not polymorphism at KAP8.1 gene. The reasons might be that different cashmere breeds were detected in two studies. Further analysis of results leads us to believe that the polymorphism of KAP8.1 gene might be relevant to fiber diameter.
【语种】英文
【第一作者】赵苗

【通讯作者】陈宏
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【学科分类】畜牧学

【题目】利用叶绿素荧光技术揭示光照、温度和盐度对鼠尾藻嫩芽的影响
【中文关键词】鼠尾藻(Sargassum thunbergii); 胁迫条件; 叶绿素荧光参数
【英文关键词】-
【中文摘要】采用鼠尾藻嫩芽为实验材料, 研究了不同光强(25~220 μ mol/(m2 · s)) 、温度(5~34 °C) 和盐度(0~60)对其叶绿素荧光参数的影响。测定的叶绿素荧光参数包括光系统II 最大荧光产量(Fv/ Fm) 、最大潜在相对电子传递速率(RrET,max) 、快速光曲线的初始斜率等。结果表明: (1) 鼠尾藻嫩芽易受强光、高温胁迫, 在强光照射下, 其Fv/ Fm 值明显降低, 温度大于30°C时对其光合作用有显著影响; (2)5 °C低温处理1 h 或0~60盐度处理9 h 对光系统II 均有明显影响, 但24 h 恢复后, 除了盐度60组, 其他组的叶绿素荧光参数均可基本恢复正常。初步分析了鼠尾藻嫩芽的抗逆生理, 可为鼠尾藻的人工栽培提供参考
【英文摘要】-
【语种】中文
【第一作者】梁洲瑞
【通讯作者】王飞久
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【引文索引号】null
【学科分类】水产养殖学

【题目】鼠尾藻的有性繁殖过程和幼苗培育技术研究
【中文关键词】鼠尾藻　有性繁殖　幼苗培育
【英文关键词】-
【中文摘要】重点研究了鼠尾藻的有性繁殖特性和规律, 系统观察了鼠尾藻的成熟季节, 雌、雄生殖托的成熟、排卵、排精、受精卵的细胞分裂、假根的形成、幼孢子体的构建和生长特征。并在实验室进行采苗和苗种培育试验, 获得理想结果, 该培育技术可以应用到生产中。
【英文摘要】-
【语种】中文
【第一作者】王飞久
【通讯作者】王飞久
【期刊名称、卷期、页码】渔业科学进展 27(5):1-6
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【引文索引号】null
【学科分类】水产养殖学

【题目】鼠尾藻生殖托和气囊的形态结构观察
【中文关键词】鼠尾藻　生殖托　气囊　精子　卵子　构造　形态
【英文关键词】无
【中文摘要】鼠尾藻的生殖托气囊的构造和精、卵子的形态与放散是研究鼠尾藻有性繁殖过程的基础内容之一。本文以青岛太平角沿岸潮间带的性成熟野生鼠尾藻为对象, 采用活体切片、组织切片以及显微照相等方法对鼠尾藻生殖托的形态、内部结构以及挂卵现象进行了观察, 并对精子、卵子和气囊的形态做了观察描述, 特别是观察到了鼠尾藻精子的鞭毛、雌性生殖窝的结构、气囊的花纹与构造等重要现象

【英文摘要】无
【语种】中文
【第一作者】孙修涛
【通讯作者】王飞久
【期刊名称、卷期、页码】渔业科学进展 28(3):125-131
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【引文索引号】null
【学科分类】水产养殖学

【题目】鼠尾藻新生枝条的室内培养及条件优化
【中文关键词】鼠尾藻　新生枝条　生长　正交试验
【英文关键词】-
【中文摘要】在2004年冬季用正交试验法考察了温度、盐度、氮肥(硝酸钠) 浓度和光照强度4个因子的不同水平下对鼠尾藻Sargassumthunbergii 2~ 4cm新生枝条生存和生长速度的影响。结果表明,这些枝条能够在室内适宜条件下存活并生长,优化的条件组合是: 水温16 e、盐度20、氮肥15mg/ L和光照4000lx。光照在最高试验水平下得到高值, 预示着更高强度的光照会更有利于生长。温度对鼠尾藻有显著影响, 22e 即不能正常存活。极差(R) 排列顺序为: 温度> 光照> 误差> 盐度> 氮肥, 据此可以判定在试验取值范围内温度和光照影响较大, 而盐度和氮肥的影响小于误差, 为次要因素。
【英文摘要】-
【语种】中文
【第一作者】孙修涛
【通讯作者】王飞久
【期刊名称、卷期、页码】海洋水产研究 27(5):7-12
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【引文索引号】null
【学科分类】水产养殖学

【题目】A PstI polymorphism at 3′UTR of goat POU1F1 gene and its effect on cashmere production
【中文关键词】PstI内切酶,多态性,3′端非翻译区,产绒量
【英文关键词】PstI,polymorphism,3′UTR,cashmere production
【中文摘要】山羊POU1F1基因3′UTR的一个新的PstI酶切多态性以及对产绒形状的影响
【英文摘要】POU1F1 is a positive regulator for prolactin (PRL) whose metabolites may directly or indirectly affect some aspects of the hair growth cycle, therefore, POU1F1 gene is an important candidate gene for cashmere traits selection through marker-assisted selection (MAS). Hence, in this study, the PCR-RFLP method was applied to detect a T > C transition determining a PstI polymorphism at the 3'UTR of POU1F1 locus and evaluate its associations with cashmere traits in 847 Inner Mongolia White Cashmere goats. In the analyzed population, the allelic frequencies for the T and C alleles are 0.959 and 0.041, respectively and the genotypic frequencies are in Hardy-Weinberg equilibrium (P > 0.05). Moreover, significant statistical relationships between the PstI polymorphism of POU1F1 gene and goat cashmere yields were found (*P < 0.05). When compared with TC genotype, TT genotype was associated with superior cashmere yields in 2, 4, and 5 years old individuals, as well as with average cashmere yield. Hence, TT genotype is suggested to be a molecular marker for senior cashmere yield.
【语种】英文
【第一作者】蓝贤勇
【通讯作者】陈宏
【期刊名称、卷期、页码】Molecular Biology Reports, 2009,36:1371 – 1374
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【引文索引号】2.6645450002e+011
【学科分类】畜牧学

【题目】Photosynthetic acclimation to different light levels in the brown marine macroalga, Hizikia fusiformis (Sargassa ceae, Phaeophyta)
【中文关键词】无
【英文关键词】Hizikia fusiformis Inorganic carbon utilization Photosynthes is Photoacclimati on Marine macr oalgae
【中文摘要】无
【英文摘要】Hizikia fusiformis thalli experience dynamic incide nt ligh t condition s during the pe riod of grow th. The presen t study was designed to examine how changi ng photon irra diance affects the photos ynthes is both in the short and long terms by culturing H. fusifor misunder three different light levels: 35 μ mol photon s m-2s-1(low light,LL), 85 μ mol photons m-2s-1(interm ediate light, IL), and165 μ mol photon s m-2s-1(high light, HL). A sim ilarrelative grow th rate was o bserved be tween IL- and HL-grown algae, but the grow th rate was signi ficantly reducedin LL-grow n algae. The p hotosynthe tic rates (Pn) meas uredat thei r respec tive growth ligh t levels wer e found to belowest in the thal li grown at LL and highest at HL.However, LL-grow n algae exhibi ted much higherPn in compa rison with IL- and the HL-gr own thalli at the samemeas uring photosynth etic photon flux densi ty, indic atingth e p ho to syn th etic a cc lim a tion to lo w gr owt h lig ht in H. fusifor mis. The photoynth esis – ligh t curves showed thatLL-g rown algae had a highes t light-s aturating maxi mum Pn(Pmax) in compa riso n with IL- or HL-gr own algae when thephotos ynthetic rates wer e e xpressed on the biomass b asis.However, PMax was highes t in HL-gr own algae compa red to IL- or LL-grow n algae when the rates were norm alized to chlor ophyll a . The ph otosynthes is – inorganic carbon (Ci) respon se curves wer e also signifi cantly affected by the growth ligh t condition s. The highest value of apparen t photos ynthetic conduct ance occurr ed in LL-g rown algae while the lowest value in HL-grown algae. Additionall y, the activity of exter nal carbonic anh ydrase (CA) tended to incre ase whi le the tota l CA activity incl ined to decreas e in H. fusiformi sthalli when the grow th ligh t level alte red from 35 to 165 μ mol photon s per square meter per second. The e xt er na l CA in hi bi to rs sh ow ed a h igher inhibit ion i n HL-gr own algae compa red with LL-g rown algae. It was prop os ed that photosyn thetic acclimation to low light condit ion in H. fusifor miswas achiev ed throu gh an incre ase in the number of react ion centers and incre ased capaci ties of electron transport and of Ci trans port withi n cells. The ability of photos ynthetic accli mation to low light confer s H. fusiformi sthalli to overcom e the environmen tal low light condit ion as a result o f the attenuati on o f seaw ater or self-shadi ng throu gh enhanci ng its photos ynthet ic p erformance and carbon assi milation necess ary for growth.
【语种】英文
【第一作者】邹定辉
【通讯作者】邹定辉
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【学科分类】水产养殖学

【题目】Twelve novel SNPs of the goat POU1F1 gene and their associations with cashmere traits
【中文关键词】单核苷酸多态性,POU1F1基因
【英文关键词】SNPs,POU1F1
【中文摘要】山羊POU1F1基因12个SNP以及它们与产绒形状的关系
【英文摘要】As a member of the POU-domain family, pituitary-specific transcription factor 1 (POU1F1) is responsible for a phenotype of combined pituitary hormone deficiency (CPHD) involving growth hormone (GH), prolactin (PRL) and thyrotropin β subunit (TSH β). Owing to PRL concentrations associated with wool growth and wool traits, the POU1F1gene is a potential candidate gene for cashmeretraits selection and breeding through marker-assisted selection (MAS). We used PCR – SSCP and DNA sequencing to screen for genetic variations of the unreported exons 1 – 5 and 5 ′ -UTR within POU1F1gene in 452 Inner Mongolian white cashmeregoats. We report twelvenovelSNPs within the goatPOU1F1gene, namely, IVS + 10G > T, EX3_113G > T resulting in Glu109His, EX3_114G > T resulting in Glu110ter, IVS3 + 8C > T, IVS3 + 41T > G, IVS3 + 41_42insT, IVS3 + 175T > A, EX4_53delA causing a frame shift in 164 aa, IVS4 + 710T > A, EX5_14G > A resulting in Glu206Glu, EX5_34G > A resulting in Arg213Lys, EX5_59G > A resulting in Arg218Lys. We establish the relationship between four polymorphic fragments within POU1F1gene and two cashmeretraits (greasy fleece weight, fiber length). Association analysis shows that two genotypes of P4 fragment are significantly associated with fiber length in the analyzed population (P = 0.031). Moreover, significant statistical associations of two genotypes of P6

fragment with greasy fleece weight (P = 0.048) are also found. Therefore, the goatPOU1F1gene has significant effects on greasy fleece weight and fiber length, suggesting that this gene is an important candidate gene for these traits and will contribute to cashmeregoat breeding and genetics through MAS.
【语种】英文
【第一作者】蓝贤勇
【通讯作者】陈宏
【期刊名称、卷期、页码】Small Ruminant Res,2009, 85:116-121.
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【学科分类】畜牧学

【题目】不同光照周期对羊栖菜有性繁殖过程的影响
【中文关键词】羊栖菜; 有性繁殖;卵子; 合子;光照周期
【英文关键词】-
【中文摘要】对羊栖菜的生殖托在不同光照周期条件下进行离体培养, 观察卵细胞的释放与受精情况, 以及受精卵的发育情况,以探讨光照周期对其有性繁殖过程的影响。试验结果表明, 长光照周期可以明显促进卵子的排放,延长卵子的存活时间,提高卵子的受精效率, 有利于合子的发育与生长。在羊栖菜通过有性繁殖途径进行的苗种生产过程中, 较长的光照周期有利于提高苗种生产效率。
【英文摘要】-
【语种】中文
【第一作者】张鑫
【通讯作者】邹定辉
【期刊名称、卷期、页码】水产科学 27(9);452-454
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【引文索引号】null
【学科分类】水产养殖学

【题目】A novel missense (A79V) mutation of goat PROP1 gene and its association with production traits
【中文关键词】错义突变,PROP1基因
【英文关键词】missense mutation,PROP1
【中文摘要】一个山羊PROP1基因新的错义突变(A79V)及其与生产性状的关系
【英文摘要】As a paired class homeodomain transcription factor, mutations of PROP1 (Prophet of POU1F1) are responsible for deficiencies of GH, PRL, TSH, LH and FSH. Regarding mutations of GH, PRL, and POU1F1 genes significantly associating with different production traits, PROP1 gene is a novel important candidate gene for detecting genetic variation and association analysis in marked-assist selection (MAS) program. Therefore, the objective of this study is to detect goat PROP1 gene mutation and its association with production traits. Herein, a novel mutation (AF453512:g.1795C > T) within PROP1 gene is revealed by PCR-SSCP and DNA sequencing methods, and genotyped by Hin6I PCR-RFLP method in 1,344 individuals belonging to eight goat breeds. Only two genotypes (CC and CT) are revealed and the frequencies of allele C go from 0.9014 to 1.000 in analyzed populations. The genetic diversity analysis reveals that all PIC values are less than 0.1619, implying that the Hin6I locus within PROP1 gene possesses low genetic diversity in goat. Furthermore, nucleotide sequence analysis shows that AF453512:g.1795C > T results in a missense amino acid (A79V). But, association analysis demonstrates no significant differences between different genotypes and production traits (such as body weight, cashmere yield, fiber length and wool thickness) of Inner Mongolia White Cashmere goat (P > 0.05), as well as no significant relationship between different genotypes and average milk yield (P > 0.05). Although Hin6I polymorphism can not be used as a molecular marker for production traits in MAS, the present work presents preliminary novel missense mutation which extends the spectrum of genetic variations of goat PROP1 gene and may benefit for considering its association with other biophysical and biochemical indexes.
【语种】英文

【第一作者】蓝贤勇
【通讯作者】陈宏
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【学科分类】畜牧学

【题目】Relationships Between Polymorphisms of IGFBP-3 Gene and Cashmere Traits in Cashmere Goats
【中文关键词】绒山羊,IGFBP-3基因,多态性
【英文关键词】Cashmere Goats,IGFBP-3,Polymorphisms
【中文摘要】绒山羊IGFBP-3基因多态性和产绒性状之间的关系
【英文摘要】To analyze associations of polymorphisms of IGFBP-3 gene with cashmere traits in Inner Mongolia white Cashmere (IMWC) goat, significant statistical results are found in cashmere yields between individuals with H(1)H(1) and H(2)H(2) genotypes (P<0.05). The individuals with genotype H(1)H(1) had higher cashmere yield than that of genotype H(2)H(2) in three-year-old (P<0.05), but trend was reversed in five-year-old (P<0.05). Therefore, this study provided possible support for influence of IGFBP-3 gene on cashmere yield which might be at least partially dependent on age and circulating levels of PRL in Inner Mongolia white Cashmere goats.
【语种】英文
【第一作者】蓝贤勇
【通讯作者】陈宏
【期刊名称、卷期、页码】J. Appl. Anim. Res., 2009, 35: 29-32.
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【引文索引号】2.6519330001e+011
【学科分类】畜牧学

【题目】Effects of genetic variability of the carpine homeobox transcription factor HESX1 gene on performance traits
【中文关键词】山羊,同源盒转录因子,HESX1基因,单核苷酸多态性,生产性能
【英文关键词】Caprine; Homeobox transcription factor; HESX1 gene; Single nucleotide polymorphism (SNP); Performance traits
【中文摘要】山羊同源盒转录因子HESX1的遗传变异对生产性能的影响
【英文摘要】HESX1 plays a key role in the development of the forebrain and pituitary gland and produces potential effects on performance traits. The objective of this study was to detect and assess the associations of the possible polymorphisms of six loci within HESX1 gene with performance traits in Chinese 1,119 goats. Only one novel SNP (NM_001494116:g.307049A > G) locating on IVS1 + 348A > G was identified and detected by HaeIII forced-RFLP-PCR. The frequencies of allele "G" varied from 0.025 to 0.245 in analyzed populations with the Hardy-Weinberg equilibrium (P > 0.05). Genotypic and allelic frequencies were found to be significantly different in four breeds (chi(2) = 147.674, df = 6, P < 0.001; chi(2) = 157.250, df = 3, P < 0.001, respectively), implying that the distribution of genotypic and allelic frequencies of goat HESX1 gene was significantly associated with different goat utilities (cashmere, meat and dairy). Association analysis results revealed no significant effects of caprine HESX1 gene on body sizes in XNSN population (P > 0.05) and cashmere traits in IMWC population (P > 0.05). Significant statistical of HESX1 gene with body weight was found (*P < 0.05). The genotype AA showed significantly higher body weight than those of AG in 2-year-old age (*P < 0.05), while the AA genotype was senior to AG genotype in 4-year-old body weight trait (*P < 0.05). These suggestions indicated that the HESX1 gene has significant effect on goat body weight depending on ages, which is accordance with the function repressor of the HESX1.
【语种】英文
【第一作者】蓝贤勇
【通讯作者】陈宏
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【学科分类】畜牧学

【题目】Two novel cSNPs of weaver gene in Chinese indigenous goat and their associations with milk yield
【中文关键词】山羊,Weaver基因,产奶量,遗传变异
【英文关键词】Goat; Weaver gene; Milk yield; Genetic variation; Forced PCR-RFLP
【中文摘要】中国本土山羊weaver基因两个新的cSNPs及其与产奶量的关系
【英文摘要】Weaver gene plays an essential physiological role in the function of many organs, including brain, heart, kidney and endocrine cells, and also in the regulation of insulin secretion by glucose and/or neurotransmitters. Thus, weaver gene is an important potential candidate gene effecting on performance traits. The objective of this study was to detect the genetic variation of five loci within weaver gene by PCR-SSCP, DNA sequencing and forced PCR-RFLP methods in 1,019 Chinese indigenous goats. Two novel coding SNPs (XM_598993:m.864G > A; XM_598993:m.1224T > A) locating on P3 and P4 loci were identified and detected by MluI and AsuII forced PCR-RFLP, respectively. In the MluI analysis, the frequencies of goat MluI-A allele in the analyzed populations were 0.226, 0.248, 0.096 and 0.088 for XNSN, GZ, SBWC and XJWC, respectively. Genotypic frequencies were found to be significantly different in four breeds (chi(2) = 75.842, df = 6, P < 0.001); In the AsuII analysis, the frequencies of goat AsuII-A allele in the analyzed populations were 0.584, 0.441, 0.073 and 0.063 for XNSN, GZ, SBWC and XJWC, respectively. Genotypic frequencies were found to be significantly different among four breeds (chi(2) = 399.464, df = 6, P < 0.001). The frequencies of allele MluI-A and AsuII-A in XNSN and GZ populations were significantly higher than those of SBWC and XJWC goats. Association analysis with adjusted milk yield in the XNSN breed indicated that the animals with AsuII-AA genotype owned significantly higher adjusted milk yield than the ones with AsuII-TT genotype in the second lactation (P < 0.05). The observation suggested that the allele "AsuII-A" had the positive effects on adjusted milk yield in the second lactation.
【语种】英文
【第一作者】李转见
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【学科分类】畜牧学

【题目】Association of IGF-I gene polymorphisms with milk yield and body size in Chinese dairy goats
【中文关键词】IGF-I基因;奶山羊;产奶量;PCR-单链构象多态性
【英文关键词】IGF-I gene; dairy goat; milk yield; PCR- SSCP
【中文摘要】中国奶山羊IGF-I基因多态性与产奶量和体尺性状的关联
【英文摘要】The association of IGF-I gene polymorphisms with certain traits in 708 individuals of two Chinese dairy-goat breeds (Guanzhong and Xinong Saanen) was investigated. Polymerase chain reaction-single strand conformation polymorphism (PCR-SSCP) and DNA sequencing methods were employed in screening for genetic variation. Two novel mutations were detected in the 5'-flanking region and in intron 4 of IGF-I gene, viz., g.1617 G > A and g.5752 G > C (accession D26119.2), respectively. The associations of the g.1617 G > A mutation with milk yield and the body size were not significant (p > 0.05). However, in the case of g.5752 G > C, Xinong Saanen dairy goats with the CG genotype presented longer bodies (p < 0.05). Chest circumference (p < 0.05) was larger in Guanzhong goats with the GG genotype. In Xinong Saanen dairy goats with the CC genotype, milk yields were significantly higher during the first and second lactations (p < 0.05). Hence, the g.5752 G > C mutation could facilitate association analysis and serve as a genetic marker for Chinese dairy-goat breeding and genetics.
【语种】英文
【第一作者】邓婵娟
【通讯作者】雷初朝
【期刊名称、卷期、页码】Genetics and Molecular Biology, 2010,33, 2, 266-270
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【学科分类】畜牧学

【题目】A Novel SNP of α_Lactalbumin Gene in Chinese Dairy Goats
【中文关键词】奶山羊,α-乳糖蛋白基因,PCR-单链构象多态性,体尺性状,产奶性状
【英文关键词】dairy goat, α-lactalbumin gene,PCR-SSCP,SNP,body size traits,milk trait
【中文摘要】在中国奶山羊α_乳糖蛋白中发现了一个新的SNP
【英文摘要】The α-lactalbumin (α-LA) plays a key role in lactose synthesis in mammary glands of domestic animals. Mutations in the α-LA gene are associated with the milk traits in dairy cattle. In our study, a novel SNP: NO_X06366: g.875 C > T was detected in 708 dairy goat individuals—268 of the Xinong Saanen breed and 440 of Guanzhong breed, which revealed a synonymous mutation in the exon 1 of α-LA gene. The Polymerase Chain Reaction-Single Strand Conformation Polymorphism (PCR-SSCP) and sequencing techniques showed that there were three genotypes: CC, CT and TT. Moreover, the χ2-test showed that the genotype frequencies of the two breeds were in good agreement with the Hardy-Weinberg equilibrium (P > 0.05). The relationship of the polymorphism of dairy goat α-LA gene with the milk trait and the body size trait was revealed. Individuals with the CC genotype were significantly smaller at chest circumference than those with CT (P < 0.05) in both breeds. But the milk trait and other body size traits of the two dairy goat breeds had no significant association with genotypes studied.
【语种】英文
【第一作者】马荣暖
【通讯作者】雷初朝
【期刊名称、卷期、页码】Molecular Biology, 2010, Vol. 44, No. 4, pp. 536 – 540
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【学科分类】畜牧学

【题目】The Prophet of PIT1 Gene Variation and its Effect on Growth Traits in Chinese Indigeous Goat
【中文关键词】山羊,PROP1基因;单核苷酸多态性,PCR-单链构象多态性,标记辅助选择,基因型
【英文关键词】Goat; Prophet of PIT1 (PROP1) gene; Single Nucleotide Polymorphism (SNP); PCR-RFLP; Marker Assisted Selection (MAS); genotype
【中文摘要】中国本土山羊PROP1基因的变异及其对生长性状的作用
【英文摘要】Due to the significant influence of GH, PRL and PIT1 mutations on production traits, Prophet of PIT1 (PROP1) regulating them is considered as an important and potential candidate gene for goat growth traits by Marker Assisted Selection (MAS). Using Hin6I PCR-RFLP, this study verified the AF453512: g.1795C >T resulting in GCG (79Ala)>GTA (79Val) within PROP1 gene in Hainan Black Goat (HNBG). Three genotypes (CC, CT and TT) were observed and their frequencies were 0.310, 0.493 and 0.197, respectively. The allelic frequencies of allele C and T were 0.556 and 0.444, respectively in analyzed population with Hardy-weinberg equilibrium (p>0.05). Combining with the reported genotypic frequencies at Hin6I locus in cashmere goat breeds (IMWC and SBWC), dairy goat breeds (Sa, LS and GZ), genotypic frequency of HNBG population showed significant differences when compared with other goat breeds (p<0.001) as well as significant differences of allelic frequencies between HNBG and other breeds were revealed (p<0.001), implying that the allele T possibly was associated with the meat traits and growth traits. Association analysis showed significant relationships between Hin6I polymorphisms and Body Length (BL), Chest Circumferene (ChC), Chest Width (ChW) and Cannon Circumference Index (CaCI) ((p<0.05), suggesting that the PROP1 gene produced significant influences on growth trait. The individuals with genotype CT demonstrated better Body Length (BL), Chest Circumferene (ChC) and Cannon Circumference Index (CaCI) (p<0.05) when compared with those of individuals with genotype CC.
【语种】英文
【第一作者】徐铁山
【通讯作者】周洪亮
【期刊名称、卷期、页码】Journal of Animal and Veterinary Advances,2010,2940-2946.
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【学科分类】畜牧学

【题目】阳光紫外辐射对羊栖菜人工幼苗生长和光合电子传递速率的影响
【中文关键词】羊栖菜;阳光紫外辐射;生长; 光合作用
【英文关键词】Hizikia fusiformis; solar ultraviolet radiation; growth; photosynthesis
【中文摘要】为探讨经济褐藻羊栖菜人工幼苗对阳光紫外辐射变化的响应,在全波段阳光辐射省(PAB, 280 ~ 700 nm) 、去除UV-B辐射 (PA, 320 ~ 700 nm) 和光合有效辐射PAR (P, 400 ~ 700 nm) 三种辐射处理及不同辐射水平下培养羊栖菜幼苗,并测定了其生长与光合作用的变化。结果表明,无论在紫外辐射 (UVR) 存在情况下 (PA,PAB) 还是滤除UVR (PAR) 时,高辐射水平条件下 (55%),羊栖菜幼苗都具有较高的生长速率,而低辐射水平下羊栖菜的生长速率较低。在不同辐射处理之间,随着辐射水平的增高,UVR的抑制效应逐渐突显。UVR降低羊栖菜幼苗的光合电子传递速率。
【英文摘要】Effects of solar ultraviolet radiation (UVR) on the growth and photosynthesis of artificially raised young seedlings of Hizikia fusiformis were investigated while exposed to full spectrum solar radiation (PAB, 280-700 nm), solar radiation depleted of UV-B (PA, 320-700 nm) and solar radiation deprived of total UVR (P, 400-700 nm) in order to understand its responses to changes in solar UVR. It was found that the young seedlings showed higher relative growth rate at 55% of solar irradiance level, regardless of the treatments with UVR (PA, PAB) or without UVR (PAR). Lower solar irradiance level resulted in low relative growth rate. Among the different treatments, the inhibitory effects on growth were increased with the enhancement of solar irradiance level. In addition, photosynthetic electron transfer rate of young seedlings was significantly suppressed by UVR.
【语种】中文
【第一作者】赵越剑
【通讯作者】邹定辉
【期刊名称、卷期、页码】海洋学报 28(6):51-56
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【学科分类】水产养殖学

【题目】山羊重要基因的多态分析及与部分体尺性状的相关性
【中文关键词】山羊,多态分析,体尺性状
【英文关键词】Goats, polymorphism analysis, body size traits
【中文摘要】山羊重要基因的多态分析及与部分体尺性状的相关性
【英文摘要】利用PCR-SSCP和PCR-RFLP技术研究波尔山羊和徐淮白山羊2个群体共147个个体肌肉生长抑制素(MSTN)、生长激素受体(GHR)和IGF-IR 3个基因的单核苷酸多态性(single nucleotide polymorphism,SNP),并对山羊GHRH和INHβA2基因座不同基因型与2个山羊群体体尺性状做相关分析。结果表明:2个群体在这3个基因位点上均没有发现多态性。GHRH基因位点对波尔山羊的管围指数和体躯指数有显著影响(P〈0.05),对其他指标影响不显著(P〉0.05);INHBA基因位点的突变除对徐淮白山羊的胸围有影响外(P〈0.05),对其他指标影响不显著(P〉0.05),该研究对山羊生长性状的标记辅助选择具有一定的参考价值。
【语种】中文
【第一作者】刘凯
【通讯作者】陈宏
【期刊名称、卷期、页码】中国畜牧杂志,2010,46(2):13-15
【论文发表时间】2010-04-25 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】畜牧学

【题目】Polymorphisms of Bone Morphogenetic Protein 4 (BMP4) Gene in Goats
【中文关键词】山羊,BMP4基因,多态性,单核苷酸多态性,微卫星,中国
【英文关键词】Goat; BMP4 gene; polymorphism; Single Nucleotide Polymorphism (SNP); microsatellite; China

【中文摘要】山羊BMP4基因多态性

【英文摘要】Bone Morphogenetic Protein 4 (BMP4) plays a crucial role in development and productivity of mammalian. The aim of the present study was to identify and characterize polymorphisms within the coding region, the intron region and the 3'flanking region of the goat BMP4 gene in three different breeds. Three DNA fragments were amplified by Polymerase Chain Reaction (PCR) and then used for polymorphism identification by Single Stranded Conformation Polymorphism (SSCP). The fragments showing different SSCP patterns were sequenced. Clonal sequencing analysis indicated that it was a microsatellite of dinucleotide-repeated sequence. The lengths of repeated sequence dinucleotide CA were 24, 17, 14, respectively. The PIC (Polymorphism Information Content) values in three populations were 0.3656, 0.5792, 0.3103 for Xuhuai White goat, Boer goat and Haimen goat, respectively, which indicated this goat microsatellite locus had rich polymorphism.

【语种】英文

【第一作者】房兴堂

【通讯作者】陈宏

【期刊名称、卷期、页码】Journal of animal and veterinary advances, 2010,9(5):907-912

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【学科分类】畜牧学

【题目】Polymorphism of the VEGF gene and its association with growth traits in four goat breeds

【中文关键词】VEGF基因;山羊;单核苷酸多态性;遗传变异; PCR-单链构象多态性

【英文关键词】VEGF gene; caprine; single nucleotide polymorphism (SNP); genetic variation; PCR-SSCP

【中文摘要】血管内皮生长因子基因多态性及其与4个山羊品种的生长性状的关系

【英文摘要】The vascular endothelial growth factor (VEGF) is a regulator of angiogenesis which is an important physiological adaptation to increased metabolic demand. Thus, mutations of this gene may exert a significant influence on animal growth. We screened the exons of the caprine VEGF gene using PCR-SSCP and DNA sequencing methods in 459 individuals from four goat breeds to identify sequence variations that may have an effect on protein structure and function, and might be related to different phenotypes of growth traits. Two single nucleotide polymorphisms (SNPs) (GU014696:g.49 G>C and GU014696:g.270G>A) were identified in the P3 locus of the caprine VEGF gene. Significant associations were observed between the genotypes of the P3 locus and body length, body height and chest circumference. Individuals with genotype P3-B had a significantly longer body length and higher body height than individuals containing genotype P3-AB. Thus, animals of genotype P3-AB should be culled in a selection programme for fast growth. It is suggested that P3-B could be used as a molecular marker in marker-assisted selection (MAS).

【语种】英文

【第一作者】金奇江

【通讯作者】陈宏

【期刊名称、卷期、页码】South African Journal of Animal Science 2010, 40 (1):33-40

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【引文索引类型】SCI

【引文索引号】2.7811080001e+011

【学科分类】畜牧学

【题目】A novel SNP of the GHRL gene in goat and its association with growth traits

【中文关键词】GHRL基因;单核苷酸多态性; PCR-单链构象多态性;山羊

【英文关键词】GHRLgene; Single nucleotide polymorphism (SNP); PCR – SSCP; Goat

【中文摘要】山羊GHRL基因中发现的一个新的单核苷酸多态与生长性状的关联

【英文摘要】Ghrelin, an endogenous gland for growth hormone secretagogue receptor, has been shown to stimulate food intake and control energy homeostasis and lipid metabolism. So, ghrelin precursor (GHRL) gene is a potential candidate gene for caprine growthtraits. In this study, we detected the polymorphism of the caprine GHRLgene by PCR – SSCP and DNA sequencing methods in 459 individuals from four goat breeds. Anovel single nucleotide polymorphism (SNP) (IVS2 + 147G > A) was detected. Frequencies of IVS2 + 147G allele varied from 0.842 to 1.000. The association of IVS2 + 147G > A with growthtraits was analyzed and IVS2 + 147G > A was shown to be associated with growthtraits. Individuals with genotype AG were significantly higher than those of individuals with

genotype GG in circumference of chest and cannon and trunk index (P < 0.05 or P < 0.01). Moreover, there was a tendency that genotype AG individuals had better performance in other aspects such as body height and body length than genotype GG individuals although no significant differences appeared (P > 0.05). We suggested that IVS2 + 147G > A could be a perfect molecular marker in marker-assisted selection (MAS).
【语种】英文
【第一作者】金奇江
【通讯作者】陈宏
【期刊名称、卷期、页码】Small Ruminant Research,2010,90:150 – 152
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【学科分类】畜牧学

【题目】Stearoyl-CoA Desaturase (SCD) Gene Polymorphism in Goat Breeds
【中文关键词】硬脂酰CoA;脂质代谢;单核苷酸多态性;肉质;单链构象多态性
【英文关键词】Stearoyl CoA desaturase gene; Lipid metabolism; SNPs; Meat quality; SSCP
【中文摘要】硬脂酰CoA去饱和酶(SCD)基因在山羊中的多态性
【英文摘要】There is evidence that stearoyl-CoA desaturase (SCD) is a key enzyme for lipid metabolism. Changes in enzyme activity that depends on SCD gene polymorphism and regulation could cause variations of fatty acid composition of meat and milk. We investigated genetic variability in caprine SCD, analyzing 335 animals belonging to three goat breeds by single-strand conformation polymorphism and DNA sequencing. Six single nucleotide polymorphism were identified, in intron 3 (585T -> A and 601A -> G; Ref. AF422168), intron 4 (719T -> A; AF422169), and exon 6 (690 A -> G, 718 C -> G, and 802 A -> C; AF422171). The less polymorphic SNP 601A -> G displayed variability only in Xuhuai and Boer breeds. Across breeds, the average frequency for the least frequent alleles ranged from 0.1158 to 0.2532. The three SNPs in exon 6 resulted in variations of amino acids 313 tyr -> cys, 322 phe -> leu, and 350 arg -> ser. The allelic distribution in exon 6 of Xuhuai was significantly different from Boer and Haimen.
【语种】英文
【第一作者】张春雷
【通讯作者】陈宏
【期刊名称、卷期、页码】Biochemical Genetics, 2010, 48(9-10): 822-828
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【引文索引类型】SCI
【引文索引号】2.8167070001e+011
【学科分类】畜牧学

【题目】Novel single nucleotide polymorphisms of the caprine PC1 gene and association with growth traits
【中文关键词】生长性状;山羊; PC1基因; PCR-单链构象多态性;单核苷酸多态性
【英文关键词】Growth traits; Goat; PC1; PCR-SSCP; SNP
【中文摘要】山羊PC1基因中新发现的单核苷酸多态性及其与生长性状的关联
【英文摘要】Proprotein convertase 1 (PC1) is an endopeptidase involved in proteolytic processing of peptide hormone precursors in granules of the regulated secretory pathway in endocrine cells. Mutations in the PC1 gene are thought to cause obesity, and multiple alternatively spliced transcript variants have been described for this gene. In this study, based on PCR-SSCP and DNA sequencing methods, polymorphisms of the PC1 gene were detected in 447 individuals from three breeds. Only the P(1), P(2), P(3), P(9), and P(10) loci showed polymorphisms, and 12 SNPs in the PC1 gene were identified. Additionally, an association analysis between mutations in the 5'-UTR and four growth traits indicated that the polymorphisms were significantly associated with caprine body height (P < 0.05) and chest circumference (P < 0.01).
【语种】英文
【第一作者】孙加节
【通讯作者】陈宏
【期刊名称、卷期、页码】Biochemical Genetics,2010,48:779 – 788.

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【学科分类】畜牧学

【题目】Analysis of the polymorphisms in the caprine PRDM16, SHH and SF-1 genes and their association with production traits in goats
【中文关键词】PR结构域包含16个基因;单核苷酸多态性;PCR-单链构象多态性;山羊
【英文关键词】PR domain containing 16 gene; SNP; PCR-SSCP; Caprine
【中文摘要】山羊PRDM16,SHH和SF-1基因的多态性以及与山羊生产性状的关系分析
【英文摘要】Genes that regulate metabolism, development and energy partitioning have the potential to influence economically important traits in farm animals, as do polymorphisms within these genes. In the present study, polymorphisms of the caprine PRDM16. SHH and SF-1 genes were detected by PCR-SSCP and DNA sequencing methods in 560 individuals from three goat breeds. The results revealed two novel silent mutations (GU363953:1305 G > A and GU363953 :1641 A > G) in the caprine PRDM16 gene. The associations of the two SNPs with growth traits were analyzed in 313 Xuhuai goats. The results indicated that GU363953 :1641 A > G has remarkable effects on growth traits. Individuals with genotype GG and GA were significantly higher than individuals with genotype AA in body length, chest circumference and body weight ($P < 0.05$). Moreover, there was a tendency that GG and GA genotype individuals to have higher body height and thicker cannon circumference than AA genotype although no statistic differences presented ($P > 0.05$). So, we suggested that G1i363953:1641 A > G could be a molecular marker in marker-assisted section (MAS). As no mutations was detected in the exons of the caprine SHH and SF-1 genes, we can preliminary eliminate the significant role of the caprine SHH and SF-1 genes in the differences of caprine growth traits. (C) 2010 Elsevier B.V. All rights reserved.
【语种】英文
【第一作者】陈丹霞
【通讯作者】陈宏
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【引文索引类型】SCI
【引文索引号】2.8242160002e+011
【学科分类】畜牧学

【题目】Effects of genetic variability of the dairy goat growth hormone releasing hormone receptor (GHRHR) gene on growth traits
【中文关键词】奶山羊;GHRHR基因;单核苷酸多态性;生长性状
【英文关键词】Dairy goat; GHRHR gene; SNP; Growth traits
【中文摘要】奶山羊生长激素释放激素受体(GHRHR)基因的遗传变异对生长性状的影响
【英文摘要】Growth hormone-releasing hormone receptor (GHRHR) plays a critical role in growth hormone (GH) synthesis, release and regulation of pituitary somatotroph expansion in vertebrates. The objective of this study was to investigate variations in goat GHRHR gene and their associations with growth traits in 668 dairy goats. The results showed four novel single nucleotide polymorphisms (SNPs): NC_007302:g.5203C > T, 7307C > G, 9583G > A and 9668A > C. In detail, the novel SNP C > T in the 5203rd nucleotide identified a missense mutation: CCC (Pro)> TCC (Phe) at position 116aa of the goat GHRHR (423aa). Besides, 9583G > A and 9668A > C polymorphism were in complete linkage disequilibrium. The genetic diversity analysis revealed that the Guanzhong dairy goat possessed intermediate genetic diversity in P3 and P7 loci, and the Xinong Sannen dairy goat belonged to poor genetic diversity in P4 locus. Significant associations between the genotypes of P3 locus and body length, body height and chest circumference was observed in Guanzhong goat ($P < 0.05$). However, in Xinong saanen population, significant statistical difference was only found in body height and body length ($P < 0.05$). In P4 and P7 loci, no significant associations were detected between any variant sites and body length, body height and chest circumference, as well as for the milk traits ($P > 0.05$). These results strongly suggested that the goat GHRHR gene is a candidate gene that influences growth traits in dairy goat.
【语种】英文
【第一作者】刘艳丽
【通讯作者】陈宏

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【学科分类】畜牧学

【题目】Novel SNPs of butyrophilin (BTN1A1) and milk fat globule epidermal growth factor (EGF) 8 (MFG-E8) are associated with milk traits in dairy goat
【中文关键词】奶山羊t; BTN1A1基因; MFG-E8基因; 单核苷酸多态性;产奶性状
【英文关键词】Dairy goat; BTN1A1 gene; MFG-E8 gene; SNP; Milk traits
【中文摘要】BTN1A1与MFG-E8基因中新发现的SNP与奶山羊的产奶性状相关
【英文摘要】Butyrophilin (BTN1A1) and milk fat globule epidermal growth factor (EGF) 8 (MFG-E8) genes are both milk fat globule membrane proteins. BTN1A1 plays a key role in the secretion of milk lipid and production which has effects on performance traits, while the MFG-E8 is vital for the development of the mammary gland and phagocytic clearance of apoptotic cells. Therefore, BTN1A1 and MFG-E8 gene are candidate genes for quantitative traits in mammalian animals with respect to milk performance traits. The objective of this study is to investigate variations in goat BTN1A1 and MFG-E8 gene and analyze their associations with growth trait and milk performance. In this study, the goat BTN1A1 gene showed a novel single-nucleotide polymorphism (SNP): XM_001494179:g.8659C > T, resulting in a missense mutation: CTT (Leu)> TTT (Phe) at position 377 aa of the BTN1A1 (526 aa); the goat MFG-E8 gene showed four novel SNPs: NC_007319: g.843delA, 6417delC, 14892T > C and 14996A > C, only the 14892T > C result in a synonymous mutation. The associations between genotypes and production traits were analyzed. Significant statistical results implied that HinfI locus of BTN1A1 gene is associated with milk fat yield (P = 0.004), total solid (P = 0.002), solid-non fat (P = 0.018) and first milk yield (P = 0.030). The DA and EcoRV loci of MFG-E8 gene are associated with milk fat yield (DA locus: P = 0.000; EcoRV locus: P = 0.033) and total solid (DA locus: P = 0.002; EcoRV locus: P = 0.015) in the Xinong Saanen dairy goat.
【语种】英文
【第一作者】曲玉娇
【通讯作者】陈宏
【期刊名称、卷期、页码】Mol Biol Rep,2010,38:371 – 377
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【引文索引号】2.8489620005e+011
【学科分类】畜牧学

【题目】Novel SNPs in the caprine stearoyl-CoA desaturase (SCD) and decorin (DCN) genes that are associated with growth traits in Chinese goat breeds
【中文关键词】核心蛋白聚糖(DCN); 山羊;生长性状;硬脂酰辅酶A去饱和酶(SCD);单核苷酸多态性
【英文关键词】DCN; Goat; Growth trait; SCD; SNP
【中文摘要】硬脂酰辅酶A去饱和酶(SCD)和核心蛋白聚糖(DCN)基因中发现的新单核苷酸多态性与中国山羊品种的生长性状相关联
【英文摘要】Stearoyl-CoA desaturase (SCD) is an iron-containing enzyme involving in the biosynthesis of monounsaturated fatty acids (MUFA) in mammary gland and adipose tissue, while decorin (DCN) consists of a protein core and a single dermatan or chondroitin sulfate glycosaminoglycan chain, contributing multifunctionally to matrix assembly, modulation of the activity of growth factors and cell migration and proliferation. However, few studies have focused on the genetic variability of them in goat. Herein, five Chinese goat breeds (1229 animals) were analyzed. Based on DNA pooling and PCR-RFLP, three nucleotide substitutions, one of which caused a amino acid substitution, were detected in SCD gene and three haploids (A, B, C) were constructed. According to SSCP analysis and DNA sequencing methods, a 2-bp deletion and two other SNPs were found existing in another analyzed gene DCN, and three haploids (X, Y, Z) were built. Associations between the genotypes and the growth traits (body length, body height, chest circumference, cannon circumference) were also analyzed. For SCD gene, genotype CC individuals had significant greater body height in Guanzhong and body length in both Guanzhong and Xinong saanen than genotype BC individuals (P < 0.05). For DCN gene, individuals with genotype XX was obviously higher than that with genotype XY (P < 0.05). These results indicated that genotype CC of SCD gene and genotype XX of DCN gene could be used for the breeding of new breeds of goat in China.

【语种】英文
【第一作者】陈忠琦
【通讯作者】陈宏
【期刊名称、卷期、页码】Molecular Biology Reports,2011,38(5):3121-3127
【论文发表时间】2010-04-18 00:00:00
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【引文索引号】2.9010210004e+011
【学科分类】畜牧学

【题目】A novel EcoRII PCR-RFLP detecting genetic variation of goat NF1-C2 gene and its association with milk yield (Brief Report)
【中文关键词】乳腺上皮细胞;催乳素
【英文关键词】MAMMARY EPITHELIAL-CELLS; PROLACTIN
【中文摘要】一种新型的EcoRII PCR-RFLP方法检测山羊NF1-C2基因的遗传变异及其与产奶量的关系
【英文摘要】无
【语种】英文
【第一作者】王平
【通讯作者】陈宏
【期刊名称、卷期、页码】Archiv Tierzucht,2011,54(2):224-226
【论文发表时间】2010-11-03 00:00:00
【引文索引类型】SCI
【引文索引号】2.9294900001e+011
【学科分类】畜牧学

【题目】The CSN1S1 N and F alleles identified by PCR-SSCP and their associations with milk yield and composition in Chinese dairy goats
【中文关键词】CSN1S1基因;奶山羊;多态性;产奶量;乳成分
【英文关键词】CSN1S1; Dairy goat; Polymorphism; Milk yield; Milk composition
【中文摘要】通过PCR-SSCP的方法鉴定CSN1S1 N 和 F 两个等位基因,两个等位基因与中国奶山羊产奶量和乳成分的关系
【英文摘要】A method was depicted to identify null allele CSN1S1 N and low allele CSN1S1 F of the CSN1S1 gene of goat using PCR-SSCP (polymerase chain reaction-single strand conformation polymorphism). First, primer A was designed to amplify the exon 9 of CSN1S1 gene which produced three genotypes AA, AB, and BB. Among these three genotypes, only AA and AB individuals had a cytosine deletion at exon 9 after DNA sequencing, which cannot be used to identify the N and F alleles. Therefore, primer B was used to amplify intron 14 of CSN1S1 of described AA and AB individuals. Genotypes FF, FN and NN were detected within AA individuals and genotypes FO and NO were detected in the above AB individuals. The frequencies of F and N alleles in 708 samples from Xinong Saanen (XS) and Guanzhong (GZ) dairy goat breeds were 0.1139, 0.0927, and 0.2376, 0.1193, respectively. In 268 XS samples, the individuals with NN genotype contained a significant lower protein content than that of other genotypes ($P < 0.01$). Individuals of FF genotype had significant higher milk yield than that of NO genotype in the first milk lactation of 202 XS individuals ($P < 0.05$). Therefore, the variability at CSN1S1 locus contains enough genetic diversity to be potentially useful in improving the quality and production of milk in Chinese dairy goat breeds.
【语种】英文
【第一作者】乐祥鹏
【通讯作者】雷初朝
【期刊名称、卷期、页码】Mol Biol Rep,2011,38:2821 – 2825.
【论文发表时间】2010-11-18 00:00:00
【引文索引类型】SCI
【引文索引号】2.8925710008e+011
【学科分类】畜牧学

【题目】AGPAT6 polymorphism and its association with milk traits of dairy goats

【中文关键词】奶山羊; AGPAT6基因;多态性; PCR-限制性片段长度多态性;乳用性状
【英文关键词】Dairy goat; AGPAT6 gene; Polymorphism; PCR-RFLP; Milk traits
【中文摘要】奶山羊AGPAT6基因多态性及其与奶山羊的乳用性状的关系
【英文摘要】As one of the eight members in the 1-acylglycerol-3-phosphate-O-acyltransferase (AGPATs) family, AGPAT6 is a crucial enzyme for the biosynthesis of glycerolipids and triacylglycerol in eukaryotes, as well as catalyzing the conversion from lysophosphatidic acid to phosphatidic acid. AGPAT6 can be considered as a candidate gene for regulating milk composition. DNA sequencing and PCR-RFLP methods were applied to detect genetic variation in the AGPAT6 gene in 549 Chinese dairy goats. Four polymorphisms (NC_007328.3: g. 152G>C, 8124G>A, 9263C>G, 16436G>A) were detected in 5'UTR, intron 2, exon 4, and 3'UTR, respectively. For the KpnI locus, the frequencies of the AGPAT6-G allele were 0.955 and 0.936 for SN (Xinong Sannen) and GZ (Guanzhong) dairy goat breeds, respectively. In the PCR-RFLP analysis for Kpn., EcoRII, NcoI, and BglI, the frequencies of the G allele of AGPAT6 were 0.955 and 0.936, 0.694 and 0.819, 0.206 and 0.254, 0.729 and 0.623 for SN and GZ dairy goat breeds, respectively. The 9263C>G mutation revealed a synonymous genetic code of Thr (threonine). Associations between the four mutations and milk traits were analyzed in two dairy goat breeds. At the 9263C>G locus, genotype GG and CG individuals showed significantly better milk performance than genotype CC individuals ($P < 0.05$). Therefore, the G allele is suggested to be a molecular marker for milk production in dairy goats.
【语种】英文
【第一作者】何诚
【通讯作者】雷初朝
【期刊名称、卷期、页码】Genetics and molecular research, 2011,10((4): 2747-56.
【论文发表时间】2011-11-04 00:00:00
【引文索引类型】SCI
【引文索引号】3.0061760005e+011
【学科分类】畜牧学

【题目】A novel polymorphism of the lactoferrin gene and its association with milk composition and body traits in dairy goats
【中文关键词】山羊; 乳铁蛋白基因;单核苷酸多态性; PCR-SSCP(聚合酶链式反应-单链构象多态性); 乳成分;体尺性状
【英文关键词】Goat; LF gene; SNP; PCR-SSCP; Milk composition; Body measurement traits
【中文摘要】发现奶山羊乳铁蛋白基因的多态性及其与乳成分和体尺性状的关系
【英文摘要】Milk composition and body measurement traits, influenced by genes and environmental factors, play important roles in value assessments of efficiency and productivity in dairy goats. Lactoferrin (LF), involved in the efficient expression of protein in milk, is also an anabolic factor in skeletal tissue and a potent osteoblast survival factor. Therefore, it is an important candidate gene for milk composition and body measurement trait selection in marker-assisted selection. We employed PCR-SSCP and DNA sequencing to screen the genetic variations of the LF gene in 549 Chinese dairy goats. A novel single-nucleotide polymorphism (SNP) (G198A in exon II) of the LF gene was detected. The frequencies of the AA genotype were 0.0285 and 0.0261 in GZ and SN populations, respectively. Both populations were found to have low levels of polymorphism and were in Hardy-Weinberg disequilibrium ($P < 0.05$). We found significant ($P < 0.05$) associations of the SNP marker with milk protein and acidity in the total population; animals with the AA genotype had higher mean values for milk protein than those with the GA genotype. Animals with genotype AA had higher mean values for withers height than those with genotype GG ($P < 0.05$). We concluded that this SNP of the LF gene has potential as a genetic marker for milk composition and body traits in dairy goat breeding.
【语种】英文
【第一作者】郭本玲
【通讯作者】雷初朝
【期刊名称、卷期、页码】Genetics and Molecular Research, 2010, 9(4): 2199-2206.
【论文发表时间】2010-11-09 00:00:00
【引文索引类型】SCI
【引文索引号】2.8432440002e+011
【学科分类】畜牧学

【题目】Molecular characterization and polymorphisms of the caprine Somatostatin (SST) and SST Receptor 1 (SSTR1) genes that are linked with growth traits

【中文关键词】山羊;山羊生长抑素基因;山羊生长抑素受体1基因;单链构象多态性; 单核苷酸多态性;关联分析
【英文关键词】Goat; SST gene; SSTR1 gene; SSCP; SNP; Association analysis
【中文摘要】山羊生长抑素SST及其受体SSTR1的分子特征和多态性,它们与生长性状相关
【英文摘要】Somatostatin (SST) and its receptors (SSTR1-5) appear to be important in central regulation of many metabolic systems that affect growth, adiposity and nutrient absorption. In this study, we investigated polymorphisms within the caprine SST and SSTR1 genes and determined their relationship with growth traits. As there were no sequence information of the caprine SST and SSTR1 genes, we explored their DNA sequence and genomic organizations. The caprine SST gene is organized in two exons and is transcribed into an mRNA containing 351 bp of sequence coding for a protein of 116 amino acids. Its protein sequences showed substantial similarity (97-99%) to its respective orthologs from cattle, human and mouse. We also cloned and sequenced a 1.2 kb DNA fragment which contained the major part of the coding region and 3' UTR of the caprine SSTR1 gene. We then detected the polymorphisms in these determined sequences by PCR-SSCP and DNA sequencing methods in 459 goats from four breeds. Four SNPs (GU014693:g.647T > C, GU014693:g.844A > C, GU014693:g.970T > C, GU014693:g.1039T > A), segregating as two haplotypes (T-A-T-T and C-C-C-A), were identified in intron 1 of the caprine SST gene and showed the associations to body length and body height ($P < 0.05$). Two SNPs (GU014695:g.801 C > T, GU014695:g.948 C > T) were identified in the caprine SSTR1 gene. Significant associations between the three genotypes of GU014695:801 C > T and body length, body height, and chest circumference was observed ($P < 0.05$). These results suggest that the caprine SST and SSTR1 genes are strong candidate genes that influence growth traits in goat.
【语种】英文
【第一作者】金奇江
【通讯作者】陈宏
【期刊名称、卷期、页码】Molecular Biology Reports,2011,38(5): 3129-3135
【论文发表时间】2010-02-07 00:00:00
【引文索引类型】SCI
【引文索引号】2.9010210004e+011
【学科分类】畜牧学

【题目】山羊PROP1基因遗传变异及其与泌乳量的关系
【中文关键词】山羊,PROP1基因,多态性
【英文关键词】goat,PROP1,Polymorphism
【中文摘要】山羊PROP1基因遗传变异及其与泌乳量的关系
【英文摘要】无
【语种】中文
【第一作者】蓝贤勇
【通讯作者】陈宏
【期刊名称、卷期、页码】Animal Biotechnology Bulletin, 2008,11(1): 407-409.
【论文发表时间】2008-11-12 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】畜牧学

【题目】Polymorphisms in BMP-2 gene and their associations with growth traits in goats
【中文关键词】BMP-2基因;山羊;生长性状
【英文关键词】BMP-2 gene; Goat; Growth traits
【中文摘要】山羊BMP-2基因的多态性及与生长性状的关联
【英文摘要】BMPs plays an important role in skeletal development. In this study, PCR-SSCP and DNA sequencing methods were employed to screen the genetic variation of caprine BMP-2 gene in 299 goats from three breeds (Boer goat, Chinese Xuhuai white goat and Chinese Haimen goat). Three fragments of BMP-2 gene were investigated, only 3' flanking region of BMP-2 gene showed polymorphism. The alignment between nucleotide sequences of AY714781.1 in GenBank and the sequencing results of three PCR products with different patterns revealed that there was one mutation (AY714781.1: g.A172G) in 3' flanking region of BMP-2 gene, which constructed three genotypes (AA, AB, BB). The frequencies of allele A and genotype AA were dominant in all three breeds. Frequency of allele B in Haimen goat breed was significantly lower than that of the other two breeds. The genotype distributions were in

good agreement with Hardy-Weinberg equilibrium (P > 0.05) in each breed. The PIC (Polymorphism Information Content) values in three populations were 0.3261, 0.2558, 0.1663 for Boer goat, Xuhuai White goat and Haimen goat respectively. It was indicated that individuals of Boer goats with genotype BB were significantly higher than those of individuals with genotype AA in body trunk index (P < 0.01). No polymorphism was detected in the exon3.
【语种】英文
【第一作者】房兴堂
【通讯作者】陈宏
【期刊名称、卷期、页码】Genes & Genomics,2010,32: 29-35
【论文发表时间】2010-02-18 00:00:00
【引文索引类型】SCI
【引文索引号】2.7470600001e+011
【学科分类】畜牧学

【题目】盐酸阿苯达唑亚砜的合成
【中文关键词】阿苯达唑; 盐酸阿苯达唑亚砜; 合成
【英文关键词】albendazole; albendazole sulfoxide hydrochloride; synthesis
【中文摘要】以阿苯达唑为原料, 采用一锅合成法, 通过氧化、酸化反应得到目标产物盐酸阿苯达唑亚砜。以丙酮为反应溶剂, 当阿苯达唑和盐酸的投料比为30 g :13mL, 阿苯达唑和双氧水的投料比为1 :1.01(n:n), 反应时间为30 min时, 制备的盐酸阿苯达唑亚砜的收率为95.78% , 通过IR、1H-NMR、13C-NMR和ESI-MS分析对其产物结构进行了确证。
【英文摘要】A lbendazole su lfoxide hydrochloridew as synthesized with albendazole as raw materials by ox idat ion and acidification adopting one- step synthesis method. The yield of albendazole sulfoxide hydrochloride was 95.78% when the feed ratio o f albendazole to hydrochloride was 30 g:13 mL, the feed ratio of albendazole to hydrogen peroxide was 1:1.01, the reaction time was 30 min. The structure of target substance w as determined by IR, 1H － NMR, 13C - NMR and ESI- MS.
【语种】中文
【第一作者】刘志亮
【通讯作者】刘志亮
【期刊名称、卷期、页码】中国兽药杂志,2010,44(3):16-18
【论文发表时间】2010-05-31 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】兽医学

【题目】盐酸阿苯达唑亚砜化学结构分析
【中文关键词】盐酸阿苯达唑亚砜; 结构测定
【英文关键词】albendazole sulfoxide hydrochloride; determination of chemical structure
【中文摘要】建立了药物盐酸阿苯达唑亚砜的化学结构确证方法。通过高效液相色谱(HPLC) 测定盐酸阿苯达唑亚砜纯度,采用紫外光谱(UV) 、红外光谱(IR) 、核磁共振(NMR) 以及质谱(MS)等分析方法对盐酸阿苯达唑亚砜样品进行了结构测定。结果确证盐酸阿苯达唑亚砜的结构为[5 -(丙亚砜基) -1H-苯并咪唑-2-基]氨基甲酸甲酯盐酸。本方法测定结果准确全面,为盐酸阿苯达唑亚砜的生产和鉴定提供了较为全面的参考数据。
【英文摘要】A method for determination of the chemical structure of albendazole sulfoxide hydrochloride was established. High-performance liquid chromatography (HPLC), ultraviolet spectroscopy(UV), infrared fourier transform spectroscopy (FT-IR), nuclearmagnetic resonance (NMR), mass spectroscopy(MS) were adopted to analyze the chemical structure of albendazole sulfoxide hydrochloride. The results showed that the chemical structure was methyl 5-(propylsulfinyl)-2 -benzimidazole carbamate hydrochloric acid.The results of the method was accurate, general and can provide a comprehensive reference for production and identification of albendazole sulfoxide hydrochloride.
【语种】中文
【第一作者】刘志亮
【通讯作者】刘志亮
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【引文索引号】null
【学科分类】兽医学

【题目】硝唑尼特对四翼无刺线虫的驱虫效果
【中文关键词】硝唑尼特;四翼无刺线虫;小鼠
【英文关键词】无
【中文摘要】20只自然感染四翼无刺线虫的雌性昆明系小鼠,随机分成4组,每组5只,常规饲喂。第1~3组小鼠分别以200、400、800 mg/kg剂量的硝唑尼特灌胃,第4组设为空白对照组,每24 h一次,连续灌胃5 d。用虫卵减少率和粗计驱虫率作为评价药物效果的指标。结果显示,硝唑尼特对四翼无刺线虫的驱虫效果随药物剂量的增加而提高,以800 mg/kg剂量效果最好。
【英文摘要】无
【语种】中文
【第一作者】张西臣
【通讯作者】张西臣
【期刊名称、卷期、页码】中国畜牧兽医,2011,38(7):187-189
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【引文索引号】null
【学科分类】兽医学

【题目】An improved PCR method for direct identification of Porphyra (Bangiales, Rhodophyta) using conchocelis based on a RUBISCO intergenic spacer
【中文关键词】Wang Chao; Dong Dong;Wang Guangce; Zhang Baoyu;Peng Guang;Xu Pu;Tang Xiaorong
【英文关键词】Rhodophyta; Porphyra; RUBISCO intergenic spacer; DNA sequence; PCR
【中文摘要】无
【英文摘要】An improved method of PCR in which the small segment of conchocelis is amplified directly without DNA extraction was used to amplify a RUBISCO intergenic spacer DNA fragment from nine species of red algal genus Porphyra (Bangiales, Rhodophyta), including Porphyra yezoensis (Jiangsu, China), P. haitanensis (Fujian, China), P. oligospermatangia (Qingdao, China), P. katadai (Qingdao, China), P. tenera (Qingdao, China), P. suborboculata (Fujian, China), P. pseudolinearis (Kogendo, Korea), P. linearis (Devon, England), and P. fallax (Seattle, USA). Standard PCR and the method developed here were both conducted using primers specific for the RUBISCO spacer region, after which the two PCR products were sequenced. The sequencing data of the amplicons obtained using both methods were identical, suggesting that the improved PCR method was functional. These findings indicate that the method developed here may be useful for the rapid identification of species of Porphyra in a germplasm bank. In addition, a phylogenetic tree was constructed using the RUBISCO spacer and partial rbcS sequence, and the results were in concordant with possible alternative phylogenies based on traditional morphological taxonomic characteristics, indicating that the RUBISCO spacer is a useful region for phylogenetic studies.
【语种】英文
【第一作者】Wang Chao
【通讯作者】Wang Guangce
【期刊名称、卷期、页码】CHINESE JOURNAL OF OCEANOLOGY AND LIMNOLOGY,2009,27(3): 513-518
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【引文索引类型】SCI
【引文索引号】2.707420000 1e+011
【学科分类】海洋科学

【题目】Cloning and quantitative analysis of the carbonic anhydrase gene from Porphyra yezoensis UEDA.
【中文关键词】Zhang, Bao Yu;Yang, Fang;Wang, Guang Ce;Peng, Guang

【英文关键词】carbonic anhydrase gene; mRNA expression level; Porphyra yezoensis; qPCR; RACE
【中文摘要】无
【英文摘要】Carbonic anhydrase (CA), an enzyme that catalyzes the interconversion of CO(2) and HCO(3)-, has a critical role in inorganic carbon acquisition in many kingdoms, including animals, plants, and bacteria. In this study, the full-length cDNA of the CA gene from Porphyra yezoensis Ueda (denoted as PyCA) was cloned by using an expressed sequence tag (EST) and rapid amplification of cDNA ends (RACE). The nucleotide sequence of PyCA consists of 1,153 bp, including a 5' untranslated region (UTR) of 177 bp, a 3' UTR of 151 bp, and an open reading frame (ORF) of 825 bp that can be translated into a 274-amino-acid putative peptide with a molecular mass (M) of 29.8 kDa and putative isoelectric point (pI) of 8.51. The predicted polypeptide has significant homology to the beta-CA from bacteria and unicellular algae, such as Porphyridium purpureum. The mRNA in filamentous thalli, leafy thalli, and conchospores was examined, respectively, by real-time fluorescent quantitative PCR (qPCR), and the levels of PyCA are different at different stages of the life cycle. The lowest level of mRNA was observed in leafy thalli, and the level in filamentous thalli and in the conchospores was 4-fold higher and 10-fold higher, respectively.
【语种】英文
【第一作者】Zhang, Bao Yu
【通讯作者】Zhang, Bao Yu
【期刊名称、卷期、页码】JOURNAL OF PHYCOLOGY,2009,46(2): 290-296
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【学科分类】海洋科学

【题目】Induction and characterization of Green pigmentation mutant in Porphyra yezoensis Ueda
【中文关键词】Li, Ying Xia;Wang, Guang Ce;Xu, Pu;Fan, Xiao Lei;Niu, Jian Feng;Zhou, Bai Cheng
【英文关键词】Porphyra yezoensis Ueda; The green pigmentation mutant; Wild type; Conchocelis; Gametophytic blade
【中文摘要】无
【英文摘要】The free living conchocelis of Porphyra yezoensis Ueda was treated with N-methyl-N-nitro-N-nitrosoguanidine to induce pigmentation mutants. The artificial green pigmentation mutant of P. yezoensis conchocelis, which was composed entirely of green cells, was isolated through visualization with the unaided eye. The acquired green conchocelis was further developed into a green gametophytic blade. This mutant was relatively stable in color in both gametophytic blade and conchocelis phases. The gametophytic blade mutant was successively cultivated for commerce at some Porphyra farms in Rudong, China, and few wild type or sectorially variegated gametophytic blade occurred, indicating that the green mutant has commercial value. The green mutant was characterized as having lower phycoerythrin and higher phycocyanin content, and SDS-PAGE suggested that phycoerythrin was missing the gamma-subunit in comparison to the wild type. The wild type and the green mutant showed a clear difference in 02 evolution rates in white, green, yellow, and red light, which might be due to the qualitative and quantitative changes of phycoerythrin, and the quantitative difference of phycocyanin. (C) 2008 Elsevier B.V. All rights reserved.
【语种】英文
【第一作者】Li, Ying Xia
【通讯作者】Wang, Guang Ce
【期刊名称、卷期、页码】AQUACULTURE,2008,282(1-4): 117-123
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【引文索引类型】SCI
【引文索引号】2.6029200002e+011
【学科分类】海洋科学

【题目】Structural and functional multiplicity of the kisspeptin/GPR54 system in goldfish
【中文关键词】Li, Shuisheng;Zhang, Yong;Liu, Yun;Huang, Xigui;Huang, Weiren;Lu, Danqi;Zhu, Pei;Shi, Yu;Cheng, Christopher H. K.;Liu, Xiaochun;Lin, Haoran
【英文关键词】PROTEIN-COUPLED RECEPTOR; METASTASIS-SUPPRESSOR GENE; GONADOTROPIN-RELEASE; LUTEINIZING-HORMONE; HYPOGONADOTROPIC HYPOGONADISM; NEUROENDOCRINE REGULATION; SEQUENCE ALIGNMENT; GPR54; KISS-1; ACTIVATION

【中文摘要】无
【英文摘要】To ascertain the neuroendocrine function of the kisspeptin/GPR54 system in non-mammalian species, full-length cDNAs encoding for Kiss1 and Kiss2 as well as their putative cognate receptors GPR54a and GFR54b, were isolated from goldfish (Carassius auratus). The deduced protein sequences between Kiss1 and Kiss2 in goldfish share very low similarity, but their putative mature peptides (kisspeptin-10) are relatively conserved. RT-PCR analysis demonstrated that the goldfish kiss1 gene (gfkiss1) is highly expressed in the optic tectum-thalamus, intestine, kidney, and testis, while the goldfish kiss2 gene (gfkiss2) is mainly detected in the hypothalamus, telencephalon optic tectum thalamus, adipose tissue, kidney, heart, and gonads. The two receptor gene, (gfgpr54a and gfgpr54b) are highly expressed in the brain regions including telencephalon, optic tectum, thalamus, and hypothalamus. Both mature goldfish kisspeptin-10 peptides (gfKiss1-10 and gfKiss2-10),ire biologically active as they could functionally interact with the two goldfish receptors expressed in cultured eukaryotic cells to trigger the downstream signaling pathways with different potencies. The actions of gfKiss1-10 and gfKiss2-10 oil LH secretion were further investigated in vitro and fit vivo. Intraperitoneal administration of gfKiss1-10 to Sexually mature female goldfish could increase the serum LH levels. However, this peptide does not significantly influence LH release from goldfish pituitary cells in primary culture, indicating that the peptide does not exert its actions at the pituitary level. Oil the other hand, gfKiss2-10 appears to be a much less potent peptide is it exhibits no significant in vivo bioactivity and is also inactive oil the primary pituitary cells. journal of Endocrinology (2009) 201, 407-418
【语种】英文
【第一作者】Li, Shuisheng
【通讯作者】Liu, Xiaochun
【期刊名称、卷期、页码】JOURNAL OF ENDOCRINOLOGY,2009,201(3): 407-418
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【引文索引类型】SCI
【引文索引号】2.7262930001e+011
【学科分类】海洋科学

【题目】Discovery of a Novel Prolactin in Non-Mammalian Vertebrates: Evolutionary Perspectives and Its Involvement in Teleost Retina Development
【中文关键词】Huang, Xigui;Hui, Michelle N. Y.;Liu, Yun;Yuen, Don S. H.;Zhang, Yong; Chan, WY Chan, Wood Yee;Lin, Hao Ran;Cheng, Shuk Han;Cheng, Christopher H. K.
【英文关键词】RECOMBINANT GOLDFISH PROLACTIN; GROWTH-HORMONE; HOMEOBOX GENE; FISH; GENOME; IDENTIFICATION; DUPLICATION; EXPRESSION; SEQUENCES; BIPOLAR
【中文摘要】无
【英文摘要】Background: The three pituitary hormones, viz. prolactin (PRL), growth hormone (GH) and somatolactin (SL), together with the mammalian placental lactogen (PL), constitute a gene family of hormones with similar gene structure and encoded protein sequences. These hormones are believed to have evolved from a common ancestral gene through several rounds of gene duplication and subsequent divergence.Principal Findings: In this study, we have identified a new PRL-like gene in non-mammalian vertebrates through bioinformatics and molecular cloning means. Phylogenetic analyses showed that this novel protein is homologous to the previously identified PRL. A receptor transactivation assay further showed that this novel protein could bind to PRL receptor to trigger the downstream post-receptor event, indicating that it is biologically active. In view of its close phylogenetic relationship with PRL and also its ability to activate PRL receptor, we name it as PRL2 and the previously identified PRL as PRL1. All the newly discovered PRL2 sequences possess three conserved disulfide linkages with the exception of the shark PRL2 which has only two. In sharp contrast to the classical PRL1 which is predominantly expressed in the pituitary, PRL2 was found to be mainly expressed in the eye and brain of the zebrafish but not in the pituitary. A largely reduced inner nuclear layer of the retina was observed after morpholino knockdown of zebrafish PRL2, indicating its role on retina development in teleost.Significance: The discovery of this novel PRL has revitalized our understanding on the evolution of the GH/PRL/SL/PL gene family. Its unique expression and functions in the zebrafish eye also provide a new avenue of research on the neuroendocrine control of retina development in vertebrates.
【语种】英文
【第一作者】Huang, Xigui
【通讯作者】Huang, Xigui
【期刊名称、卷期、页码】PLOS ONE,2009,4(7): e6163 DOI: 10.137
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【学科分类】海洋科学

【题目】雄尼罗罗非鱼肝脏2 种生长激素受体基因表达的发育性变化
【中文关键词】马细兰,张勇,刘晓春,林浩然
【英文关键词】尼罗罗非鱼;生长激素受体;基因表达;实时定量PCR;发育性变化
【中文摘要】选取同一批30 日龄的尼罗罗非鱼(Oreochromis niloticus) 鱼苗置于水泥池中自然饲养,分别于30、60、80、110、140 日龄取样测定不同发育阶段雄鱼的特定生长率。用实时荧光定量PCR方法检测雄鱼肝脏中两种生长激素受体(GHR1和GHR2) 的mRNA丰度。结果表明,30 ~ 110 日龄,雄鱼特定生长率呈不断上升趋势,至80 ~ 110 日龄达到最高,之后开始下降;雄鱼肝脏中2 种GHR基因表达的发育性变化趋势不相同,30 ~ 110 日龄,GHR1 mRNA表达逐渐上升,110 日龄达到最高,随后开始下降,其发育性变化与特定生长率显著正相关(R=0.96,P<0.01);GHR2 mRNA表达在60 日龄达到最高,80 日龄急剧下降,之后又缓慢上升,其发育性变化与特定生长率无相关性。提示尼罗罗非鱼生长激素可能主要通过与肝脏中GHR1受体的结合启动其促生长机制,肝脏中GHR1 mRNA表达具有显著的年龄依赖性,其表达对尼罗罗非鱼的生长有重要影响。
【英文摘要】Growth hormone (GH) plays a central role as a pluripotent endocrine regulator of physiologicalfunctions in fish and higher vertebrates,working through specific growth hormone receptors (GHR) that triggera phosphorylation cascade for signaling and gene expression events. Two genomic contigs of putative growthhormone receptors (GHRs) were identified in fugu and zebrafish genomes by in silico analysis,suggesting thepresence of two GHR subtypes in a single teleost species. We have tested this hypothesis by cloning The full-lengthcDNA sequences of both GHR subtypes from Nile tilapia,Oreochromis niloticus,were cloned in present study.Phylogenetic analysis of known GHR sequences from various vertebrates revealed that fish GHRs cluster into twodistinct clades,viz. GHR1 and GHR2. One clade (GHR1),containing 6 to 7 extracellular cysteine residues,wasstructurally more akin to non-teleost GHRs. The other clade (GHR2),containing only 4 to 5 extracellular cysteineresidues,was unique to teleosts and was structurally more divergent from the non-teleost GHRs. To accuratelyanalyze the roles of two growth hormone receptors of GHR1 and GHR2 during development of Nile tilapiaOreochromis niloticus,methods of real-time quantitative PCR were established to examine GHR gene expression.Total RNA was extracted from male Nile tilapia liver tissue and the fragments of target gene were amplified by RTPCRwith special primers. PCR product was cloned via pGEM-T Easy vector and extracted plasmid. The success ofrecombinant plasmid was identified by PCR amplified and restriction enzyme analysis. Variation of mRNA levelsof GHR1 and GHR2 during development of male Nile tilapia was studied with real-time quantitative PCR. MaleNile tilapias from 30-day to 140-day old were used in the study to investigate the developmental changes of twoGHRs mRNA expressions in liver. Male Nile tilapias were sampled at days 30,60,80,110 and140 respectively. Thebody lengths and body weights were recorded to calculate specific growth rates (SGR) and the liver total RNA wasextracted to determine the abundance of GHR mRNA by real-time quantitative PCR. The SGR of male Nile tilapiaincreased from day 30 to day 110,and to the top at day 80-110 then decreased. Different expression of GHR1 andGHR2 was observed in male Nile tilapia liver. The GHR2 mRNA expressions was higher than that of GHR1 at day30 and day 60 (P<0.05),while from day 80 onward,the GHR1 mRNA expression was evidently higher than thatof GHR2 (P<0.05).The developmental tendency of two GHR mRNA expressions in liver of male Nile tilapia wasalso different. From day 30 to day 110 the GHR1 mRNA abundance increased with age,but from day 110 onward,the expression of GHR1 mRNA decreased. The ohange of GHR1 mRNA abundance was evidently correlatedwith SGR(R=0.96,P<0.01) of male Nile tilapia. GHR2 mRNA abundance increased from 30 to 60 day and with asharp decrease at 80 day,following a slow increase from 80 to 110 day,without correlation with SGR. The resultssuggest that actions of GH may be mostly mediated by GHR1 but not GHR2,and the liver GHR1 gene expressionis affected by age,playing an important role in male Nile tilapias development,while the biologic function of liverGHR2,as a new gene,is different from GHR1 and needs further study. The developmental changes of hepaticGHR1 mRNA expression in male Nile tilapia may be the key reason why male tilapia have different SGRs indifferent developmental stages
【语种】中文
【第一作者】马细兰
【通讯作者】Lin, Haoran
【期刊名称、卷期、页码】中国水产科学,2009,16(1):1-6
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【学科分类】海洋科学

【题目】脊椎动物雌雄生长差异的研究进展
【中文关键词】马细兰, 张 勇,周立斌,刘晓春,林浩然
【英文关键词】脊椎动物;雌雄生长差异
【中文摘要】综述了有关脊椎动物雌雄生长差异的研究, 分别从摄食消化、生长与生殖能量配置、物种遗传、基因型与表现型、类固醇激素水平和生长轴基因表达等几个方面分析了脊椎动物雌雄生长差异的原因。
【英文摘要】This paper reviewed the progress of studies on growth of sexual dimorphism in vertebrate. The reasons ofgrowth sexual dimorphism in vertebrate including feeding and digesting, energy allocation between growth andreproduction, species heredity , genotype and phenotype, steroid level, genes expressions of growth axis are analyzed.
【语种】中文
【第一作者】马细兰
【通讯作者】Lin, Haoran
【期刊名称、卷期、页码】动物学杂志,2009, 44(2) : 141~ 146
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【引文索引号】无
【学科分类】海洋科学

【题目】The second prolactin receptor in Nile tilapia (Oreochromis niloticus): molecular characterization, tissue distribution and gene expression
【中文关键词】Zhang, Yong;Long, Zijie;Li, Yangyuan;Yi, Shibai;Shi, Yu;Ma, Xilan;Huang, Weiren;Lu, Danqi;Zhu, Pei;Liu, Xiaochun;Meng, Zining;Huang, Xigui;Cheng, Christopher H. K.;Lin, Haoran
【英文关键词】Gene expression; Molecular characterization; Nile tilapia (Oreochromis niloticus); Prolactin receptor; Tissue distribution
【中文摘要】无
【英文摘要】Prolactin (PRL) is one of the most versatile hormones found in the pituitary of vertebrates and exerts its actions through binding to a specific PRL receptor (PRLR). Here we describe the cloning and characterization of a second prolactin receptor (ntPRLR2), isolated from the ovary of Nile tilapia (Oreochromis niloticus). The newly identified PRLR cDNA was 2011 bp in length and encoded 529 amino acids. It shared 31.6% identity in nucleotide sequence and 29.2% in deduced amino acid sequence with the first PRLR identified in Nile tilapia (ntPRLR1). Both of these ntPRLRs resemble the long form mammalian PRLRs. The nominated ntPRLR2 was further confirmed as a real prolactin receptor based on its competence to transactivate the beta-casein and c-fos promoters in the transiently ntPRLR2-transfected HEK293 cells. The ntPRLR2 gene also found to encode a 864-bp short form transcript in the ovary, which was confirmed by Northern blot analysis. A tissue distribution study by real-time PCR revealed that the mRNA of both receptors (ntPRLR1 and ntPRLR2) was widely expressed in different tissues, with an extremely high abundance in the osmoregulatory organs, including the gills, intestine and kidney. ntPRLR1 mRNA was more abundant than ntPRLR2 in the testis, while the reverse expression pattern was found in the ovary. In the ovary, ntPRLR2 mRNA demonstrated a distinct gonadal development-dependent expression profile, with significantly higher levels at a sexual mature stage than at sexual recrudescent and sexual regressed stages. When challenged with estradiol, ntPRLR2 mRNA expression was up-regulated by E(2), whereas E(2) had no significant effect on ntPRLR1.
【语种】英文
【第一作者】Zhang, Yong
【通讯作者】Lin, Haoran
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【学科分类】海洋科学

【题目】Cloning, characterization and expression analysis of extracellular copper/zinc superoxide dismutase gene from bay scallop Argopecten irradians

【中文关键词】Bao, Yongbo;Li, Li;Wu, Qi;Zhang, Guofan
【英文关键词】ECSOD; Gene organization; Promoter; qRT-PCR; mRNA expression; Immune response
【中文摘要】无
【英文摘要】Extracellular superoxide dismutase (ECSOD) is a major extracellular antioxidant enzyme that protects organs from damage by reactive oxygen species (ROS). We cloned a novel ECSOD from the bay scallop Argopecten irradians (AiECSOD) by 3' and 5' RACE. The full-length cDNA of AiECSOD was 893 bp with a 657 bp open reading frame encoding 218 amino acids. The deduced amino acid sequence contained a putative signal peptide of 20 amino acids, and sequence comparison showed that AiECSOD had low degree of homology to ECSODs of other organisms. The genomic length of the AiECSOD gene was about 5276 bp containing five exons and six introns. The promoter region contained many putative transcription factor binding sites such as c-Myb, Oct-1, Sp1, Kruppel-like, c-ETS, NF kappa B, GATA-1, AP-1, and Ubx binding sites. Furthermore, tissue-specific expressions of AiECSOD and temporal expressions of AiECSOD in haemocytes of bay scallops challenged with bacteria Vibrio anguillarum were quantified using qRT-PCR. High levels of expression were detected in haemocytes, but not in gonad and mantle. The expression of AiECSOD reached the highest level at 12 h post-injection with V. anguillarum and then returned to normal between 24 h and 48 h post-injection. These results indicated that AiECSOD was an inducible protein and that it may play an important role in the immune responses against V anguillarum. Crown Copyright (C) 2008 Published by Elsevier Ltd. All rights reserved.
【语种】英文
【第一作者】Bao, Yongbo
【通讯作者】Zhang,Guofan
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【学科分类】海洋科学

【题目】A Dorsal homolog (FcDorsal) in the Chinese shrimp Fenneropenaeus chinensis is responsive to both bacteria and WSSV challenge
【中文关键词】Li, Fuhua;Wang, Dongdong;Li, Shihao;Yan, Hui;Zhang, Jinkang;Wang, Bing;Zhang, Jiquan;Xiang, Jianhai
【英文关键词】Dorsal; Relish; Immunity; WSSV; Bacteria; Fenneropenaeus chinensis
【中文摘要】无
【英文摘要】Rel/NF kappa B is a family of transcription factors. In the present study, a Rel/NF kappa B family member, Dorsal homolog (FcDorsal) was cloned from the Chinese shrimp Fenneropenaeus chinensis. The full length cDNA of FcDorsal consists of 1627 bp, revealed a 1071 bp open reading frame encoding 357 aa. The predicted molecular weight (MW)of the deduced amino acid sequence of FcDorsal was 39.78 kDa, and its theoretical pl was 8.85. Amino acid sequence analysis showed that FcDorsal contains a Rel homolog domain (RHD) and an IPT/TIG (Ig-like, plexins and transcriptions factors) domain. The signature sequence of dorsal protein existed in the deduced amino acid sequence. Spatial expression profiles showed that FcDorsal had the highest expression level in the hemocytes and lymphoid organ (Oka). The expression profiles in the hemocytes and lymphoid organ were apparently modulated when shrimp were stimulated by bacteria or WSSV. Both Gram-positive (G(+)) bacteria (Micrococcus lysodeikticus) and Gram-negative (G(-)) bacteria (Vibrio anguillarium) injection to shrimp caused the up-regulation of FcDorsal at the transcription level. DsRNA approach was used to study the function of FcDorsal and the data showed that FcDorsal was related to the transcription of Penaeidin 5 in shrimp. The present data provide clues that FcDorsal might play potential important roles in the innate immunity of shrimp. Through comparison of the expression profiles between FcDorsal and another identified Rel/NF kappa B member (FcRelish) in shrimp responsive to WSSV challenge, we speculate that FcDorsal and FcRelish might play different roles in shrimp immunity. (C) 2010 Elsevier Ltd. All rights reserved.
【语种】英文
【第一作者】Li, Fuhua
【通讯作者】Li, Fuhua
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【引文索引号】2.790725000 1e+011

【学科分类】海洋科学

【题目】Cloning of cytoplasmic heat shock protein 90 (FcHSP90) from Fenneropenaeus chinensis and its expression response to heat shock and hypoxia
【中文关键词】Li, Fuhua;Luan, Wei;Zhang, Chengsong;Zhang, Jiquan;Wang, Bing;Xie, Yusu;Li, Shihao;Xiang, Jianhai
【英文关键词】Heat shock protein 90; Fenneropenaeus chinensis; Heat shock; Hypoxia
【中文摘要】无
【英文摘要】Heat shock protein 90 (HSP90) works as a multi-functional chaperone and is involved in the regulation of many essential cellular pathways. In this study, we have identified a full-length complementary DNA (cDNA) of HSP90 (FcHSP90) from Chinese shrimp Fenneropenaeus chinensis. FcHSP90 full-length cDNA comprised 2,552 bp, including a 2,181-bp open reading frame encoding 726 amino acids. Both homology analyses using alignment with previously identified HSP90 and a phylogeny tree indicated that FcHSP90 was a cytoplasmic HSP90. Real-time reverse transcription polymerase chain reaction analysis revealed that FcHSP90 was ubiquitously expressed in all the examined tissues but with highest levels in ovary of F. chinensis. FcHSP90 mRNA levels were sensitively induced by heat shock (from 25A degrees C to 35A degrees C) and reached the maximum at 6 h during heat shock treatment. Under hypoxia conditions, FcHSP90 mRNA levels, in both hemocytes and gill, were induced at 2 h and depressed at 8 h during hypoxia stress. The assessment of FcHSP90 mRNA levels under heat shock and hypoxia stresses indicated that the transcription of FcHSP90 was very sensitive to heat shock and hypoxia, so we deduced that FcHSP90 might play very important roles for shrimp to cope with environmental stress.
【语种】英文
【第一作者】Li, Fuhua
【通讯作者】Li, Fuhua
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【引文索引号】2.6335280001e+011
【学科分类】海洋科学

【题目】A serpin from Chinese shrimp Fenneropenaeus chinensis is responsive to bacteria and WSSV challenge
【中文关键词】Liu, Yichen;Li, Fuhua;Wang, Bing;Dong, Bo;Zhang, Xiaojun;Xiang, Jianhai
【英文关键词】Serpin; Cloning; Expression profile; Challenge; Fenneropenaeus chinensis
【中文摘要】无
【英文摘要】Arthropod defence responses (e.g. prophenoloxidase (proPO) activation and Toll pathway initiation) are mediated by serine proteinase cascades and regulated by serpins in haemolymph. A serpin (Fc-serpin) cDNA was cloned from the haemocytes of Fenneropenaeus chinensis by rapid amplification of cDNA ends (RACE) PCR and haemocyte cDNA library screening. The full-length cDNA consists of 1734 bp, encoding 411 amino acids with a calculated molecular mass of 46.55 kDa and a theoretical isoelectric point of 7.70. Fc-serpin contains a typical serpin-like homologue (serine proteinase inhibitors domain). The deduced protein contains a putative signal peptide of 19 amino acids and the serpin's signature sequence ((379)FHCNRPFLFLI(389)). Fc-serpin showed some identity with Pacifastacus leniusculus serpin (42%) and Manduca sexta serpin-6 (34%). The reactive centre loop (RCL) sequences of Fc-serpin, P leniusculus serpin, M. sexta serpin-6 and Bombyx mori serpin-2 are highly similar. An Arg at the PI position of the reactive site indicates that Fc-serpin may have inhibitory activity against prophenoloxidase activating proteinase (PAP) and clotting enzyme. Transcripts of Fc-serpin mRNA were mainly detected in haemocytes and the lymphoid organ by RT-PCR. The variation of the mRNA transcription level in haemocytes followed by artificial infection with bacteria OF white spot syndrome virus (WSSV) was quantified by SYBR Green real-time PCR analysis. Expression profiles of Fc-serpin greatly fluctuated after challenge. This work represents the first report Of a serpin in penaeid shrimp. The data provide clues that Fc-serpin might play potential roles in the innate immunity of shrimp. (C) 2008 Elsevier Ltd. All rights reserved
【语种】英文
【第一作者】Liu,Yichen
【通讯作者】Xiang, Jianhai
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【学科分类】海洋科学

【题目】Molecular characterization and effect of RNA interference of retinoid X receptor (RXR) on E75 and chitinase gene expression in Chinese shrimp Fenneropenaeus chinensis,
【中文关键词】Priya, T. A. Jose;Li, Fuhua;Zhang, Jiquan;Wang, Bing;Zhao, Cui;Xiang, Jianhai
【英文关键词】Retinoid X receptor; Molting; Fenneropenaeus chinensis
【中文摘要】无
【英文摘要】Retinoid X receptor (RXR)/ultraspiracle (USP) is the heterodimeric partner of ecdysteroid receptor and is required for the molting process of arthropods. To better understand the molecular aspects governing the process of molting in shrimp, the full-length cDNA of two RXRs, named as FcRXR-1 and FcRXR-2 were obtained from Chinese shrimp Fenneropenaeus chinensis which were of 1715 and 1700 bp long, revealed a 1315 and 1300 bp open reading frame (ORF) respectively. Quantitative Real time PCR analysis showed a marked tissue-specific difference in the expression of FcRXR transcript, which revealed that the expression of FcRXR Could be regulated in a tissue-specific manner. Moreover, high expression of FcRXR mRNAs was observed in late pre-molt period (D3) and post molt stages (A-B) of shrimp. Among the two isoforms, FcRXR-2 appeared in a considerably high level in all the stages compared to the FcRXR-1. In addition, we examined the temporal expression of two chitinase genes: FcChitinase (FcChi) and FcChitinase-1 (FcChi-1) during the molt cycle of F chinensis. Both the FcChi and FcChi-1 transcripts were detected in all stages of molting, although considerable fluctuations observed through the molt cycle. Injection of double stranded RXR (dsRXR) into juvenile shrimp resulted in a maximum silencing effect at 48 h post injection. We analyzed the expression levels of FcChi, FcChi-1 and the ecdysone inducible gene E75 (FcE75) in samples of dsRXR injected shrimp. Significant reduction in levels of both FcE75, FcChi and FcChi-1 transcripts Occurred in the silenced shrimp. This correlation suggested that RXR might involve in the downstream regulation of E75 and chitinase gene transcription in the ecdysone signaling pathway of decapod crustaceans. (C) 2009 Published by Elsevier Inc.
【语种】英文
【第一作者】Priya, T. A. Jose
【通讯作者】Xiang, Jianhai
【期刊名称、卷期、页码】COMPARATIVE BIOCHEMISTRY AND PHYSIOLOGY B-BIOCHEMISTRY & MOLECULAR BIOLOGY,2009,153(1): 121-129
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【引文索引号】2.6559120002e+011
【学科分类】海洋科学

【题目】Identification of a novel inducible cytosolic Hsp70 gene in Chinese shrimp Fenneropenaeus chinensis and comparison of its expression with the cognate Hsc70 under different stresses.
【中文关键词】Luan, Wei;Li, Fuhua;Zhang, Jiquan;Wen, Rong;Li, Yutao;Xiang, Jianhai
【英文关键词】Heat shock proteins . Hsp70 . Heat shock . Heavy metal . Stress . Fenneropenaeus chinensis
【中文摘要】无
【英文摘要】The heat shock protein 70 (Hsp70) family is widely expressed in eukaryotic cells as the major chaperone protein. In this study, the full-length complementary DNA (cDNA) of a novel inducible cytosolic Hsp70 family member (FcHsp70) was cloned from Fenneropenaeus chinensis. FcHsp70 full-length cDNA consists of 2,511 bp with a 1,890-bp open reading frame encoding 629 amino acids. Three Hsp70 protein family signatures, IDLGTTYS, IIDLGGGTFDVSIL, and IVLVGGSTRIPKVQK, were found in the predicted FcHsp70 amino acid sequence. Phylogenetic analysis showed that FcHsp70 was categorized together with the inducible HSP70s reported in other crustaceans. Compared to the previously identified cognate Hsp70 (FcHsc70) in F. chinensis, the expression of FcHsp70 showed quite different expression profiles when the shrimp were subjected to different stresses including heat shock and heavy metal treatments. Under heat shock treatment, the expression of FcHsp70 showed much higher up-regulation than FcHsc70. Copper treatment also induced higher up-regulation of FcHsp70 than FcHsc70. Cadmium treatment did not induce the expression of FcHsp70, but caused down-regulation of FcHsc70. The different expression profiles of FcHsp70 and FcHsc70 in shrimp may indicate their different reactions to different stresses. Therefore, Hsp70 or Hsc70 could be developed as a biomarker to indicate different stresses

in shrimp.
【语种】英文
【第一作者】Luan, Wen
【通讯作者】Xiang, Jianhai
【期刊名称、卷期、页码】CELL STRESS & CHAPERONES,2010,15(1): 83-93
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【引文索引号】2.7256730001e+011
【学科分类】海洋科学

【题目】First molluscan TNFR homologue in Zhikong scallop: Molecular characterization and expression analysis
【中文关键词】Li, Ling;Qiu, Limei;Song, Linsheng;Song, Xiaoyan;Zhao, Jianmin;Wang, Lingling;Mu, Changkao;Zhang, Huan
【英文关键词】Chlamys farreri,TNFR,mRNA expression,Innate immunity
【中文摘要】无
【英文摘要】Tumor necrosis factor receptors (TNFRs) are a superfamily of proteins characterized by the unique cysteine-rich domain (CRD) and their important roles in diverse physiological and pathological events such as inflammation, apoptosis, autoimmunity and organogenesis. The first member of the molluscan TNFR family, designated as CfTNFR, was identified from Zhikong scallop Chlamys farreri by expressed sequence tag (EST) and rapid amplification of cDNA ends (RACE) approaches. The full-length cDNA of CfTNFR was of 1334 bp, consisting of a 5' UTR of 17 bp, a 3'UTR of 69 by with a poly (A) tail, and an open reading frame (ORE) of 1248 by encoding a polypeptide of 415 amino acids with a theoretical isoelectric point of 8.33 and predicted molecular weight of 47.07 kDa. There were a signal peptide, a CRD, a transmembrane region and a death domain in the deduced amino acid sequence of CfTNFR, suggesting that it was a typical type 1 membrane protein. The high identities (22-40%) of CfTNFR with other TNFR superfamily members indicated that CfTNFR should be a member of TNFR superfamily, and moreover, it should be the first death domain-containing TNFR found in invertebrates. Phylogenetic analysis revealed that CfTNFR was closely related to TNFR-like proteins from Strongylocentrotus purpuratus, Drosophila melanogaster and Ciona intestinalis, and they formed a separate branch apart from vertebrate TNFRs. The spatial expression of CfTNFR transcripts in healthy and bacteria challenged scallops was examined by quantitative real-time PCR. CfTNFR transcripts could be detected in all tested tissues, including haemocytes, gonad, gill, mantle and hepatopancreas, and significantly up-regulated in the tissues of gonad, gill, mantle and hepatopancreas after Listonella anguillarum challenge, indicating that CfTNFR was constitutive and inducible acute-phase protein involved in immune defence. The present results suggested the existence of the TNFR-like molecules and TNF-TNFR system in low invertebrates, and provided new insights into the role of CfTNFR in scallop innate immune responses to invading microorganisms. (C) 2009 Elsevier Ltd. All rights reserved.
【语种】英文
【第一作者】Li,Ling
【通讯作者】Song,Linsheng
【期刊名称、卷期、页码】FISH & SHELLFISH IMMUNOLOGY,2009,27(5): 625-632
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【学科分类】海洋科学

【题目】The genomic structure, alternative splicing and immune response of Chlamys farreri thioester-containing protein
【中文关键词】Zhang, Huan;Wang, Lingling;Song, Linsheng;Zhao, Jianmin;Qiu, Limei;Gao, Yang;Song, Xiaoyan;Li, Ling;Zhang, Ying;Zhang, Lei
【英文关键词】Chlamis farreri; Thioester-containing protein (TEP); Gene structure; Alternative splicing; Nonsense mediated decay (NMD); Immune response
【中文摘要】无
【英文摘要】MEP is a member of thioester-containing protein (TEP) family found in Zhikong scallop Chlamys farreri and is involved in innate immunity against invading microbes. In the present study, the genomic DNA of CfTEP was cloned and characterized. The genomic DNA sequence of CfTEP consisted of 40 exons and 39 introns spanning 35 kb with all exon-intron junction sequences agreeing with the GT/AG consensus. The genomic organization of CfTEP was similar to human and mouse 0 rather

than ciona C3-1 and Drosophila dTEP2. By RT-PCR technique, seven different cDNA variants of CfTEP (designated as CfTEP-A-CfTEP-G) were cloned from scallop gonad. CfTEP-A-CfTEP-F were produced by alternative splicing of six mutually exclusive exons (exons 19-24), respectively, which encoded the highly variable central region. While in CfTEP-G, the deletion of all the six exons introduced a new translation stop site and might trigger nonsense mediated decay (NMD). The mRNA expression and the proportion of the seven CfTEP variant transcripts were examined in the gonad of scallops after bacterial challenge. The fragments containing the highly variable central region of UTEP were amplified by RT-PCR and a 100 positive clones were sequenced randomly. The expression profiles of the seven MEP variants were different and displayed the sex and bacteria dependent manner. In the blank, sea water and Listonella anguillarum challenged subgroups of male scallops, all the transcripts detected were CfTEP-G isoform. In the Micrococcus luteus challenged subgroup, the isoforms expressed and their proportions were CfTEP-F (54%), CfTEP-B (23%), CfTEP-A (10%), CfTEP-C (7%) and CfTEP-E (6%). However, in the gonad of female scallops, only CfTEP-A were found in blank and sea water challenged subgroups. After L anguillarum or M. luteus challenge, four and five isoforms were detected, respectively, with CfTEP-F isoform being the most one in the both subgroups. These results suggested that the evolution of TEP genes was very complex, and that the diverse CfTEP transcripts generated by alternative splicing played an important role as pattern recognition receptors in the innate immune defense of scallops. (C) 2009 Elsevier Ltd. All rights reserved.

【语种】英文
【第一作者】Zhang,Huan
【通讯作者】Song,Linsheng
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【学科分类】海洋科学

【题目】小麦遗传转化中优良受体基因型和L-PPT适宜浓度的筛选
【中文关键词】小麦; 遗传转化; 幼胚; 基因型; L-PPT
【英文关键词】Wheat ; Genetic transformation; Immature embryos; Genotypes; L-phosphinthricine
【中文摘要】为了筛选小麦遗传转化中的优良受体基因型和L-PPT适宜浓度,以16 份具有较大应用潜力的小麦品种(系) 幼胚为外植体, 研究了不同基因型间幼胚愈伤组织诱导、增殖、分化成苗的差异, 并对获得的转基因受体基因型进行L-PPT敏感性试验。结果表明, 16 份材料组织培养特性差异较大, 其中周19 和2000H1012-2-1-5 组织培养特性较好, 其诱导率、增殖率和绿苗分化率均较高, 可作为组织培养和转基因受体材料的良好基因型; 筛选剂L-PPT 为6 mg / L 时大部分愈伤组织分化受到抑制, L-PPT 为6 mg/ L 是周19 和2000H 1012-2-1-5 幼胚愈伤组织比较理想的分化筛选浓度。
【英文摘要】A mature genetic transformation system of w heat relies on high efficiency transformation system and high frequency regeneration system. In order to screen the optimal acceptor genotype and concentration of L-PPT in wheat transformation, immature embryo s o f 16 wheat genotypes w ere cultured to evaluate the culture efficiency by comparing the callus induct ion r ate, propagation rate, regeneration rate. Then the sensitivity to L-PPT of the optimal genotypes were studied on. The results indicated that Zhoumai 19 and 2000H1012-2-1-5 were optimal for t issue culture and genetic transformation because the indexes of the two genotypes were higher than others. When the concentration of L-PPT reached 6 mg/ L, most calluses w ere rest rained in the process of regeneration. Therefore, the concentration of L-PPT 6mg/ L was optimal for zhou19 and 2000H1012-2-1-5.
【语种】中文
【第一作者】李鹏
【通讯作者】许为钢
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【学科分类】农业基础学科

【题目】玉米磷酸烯醇式丙酮酸羧化酶基因高效表达载体构建及其导入小麦的研究
【中文关键词】小麦; 玉米磷酸烯醇式丙酮酸羧化酶(PEPC); 高效表达载体; 转基因; 拷贝数

【英文关键词】Wheat; Zea mays phosphoenolpyruvate carboxylase(PEPCase); High-efficient expression vector; Transgenic lines; Copy number
【中文摘要】为获得具有C4光合特征的高光效转基因小麦材料,利用从玉米中克隆的磷酸烯醇式丙酮酸羧化酶(PEPC)基因(pepc,GenBank接受号为FJ415327)构建高效双元表达载体,通过基因枪介导法将其导入小麦品种(系)中,利用Real-time PCR方法分析外源基因在转基因植株中的拷贝数。PCR和双酶切鉴定表明,玉米PEPCcDNA序列已插入双元表达载体pCAMBIA3301中,命名为p3301-pepc;对获得的抗性再生植株进行PCR扩增,其中有342株扩增出目的条带;在选取的15株转基因植株中7株拷贝数为1,3株拷贝数为2,2株拷贝数为3,拷贝数为5、8和17的分别为1株。初步证明玉米pepc基因已整合到小麦基因组中,且外源基因在转基因植株中既有单拷贝插入,也有多拷贝插入,这为进一步研究该基因在小麦基因组中的功能表达提供了试验材料。
【英文摘要】Transferring of key enzymes gene of C4 photosynthetic character is an important pathway to improve the photosynthesis efficiency and seed yield of C3 crop wheat.Phosphoenolpyruvate carboxylase(PEPC) plays an important role in C4 photosynthetic pathways.In order to obtain high photosynthetic efficiency transgenic wheat germplasm with C4 photosynthetic characteristics,a full-length cDNA sequence coding for maize PEPCase gene was cloned into the high-efficiency binary expression vector pCAMBIA3301,and was introduced into wheat by particle bombardment mediated transformation.The copy number of different transgenic lines were analyzed by real-time fluorescence quantitative PCR.PCR and double enzymes digestion determined that maize C4-specific PEPLase gene was cloned into the high-efficiency binary expression vector pCAMBIA3301,named as p3301-pepc;the expected 164 bp fragment was present in 342 of the 400 resistant plants;Among the fifteen positive transgenic lines,seven had one copy three had two copies,two had three copies,one had five copies,one had eight copies and one had seventeen copies.The results preliminary proofed that maize C4-specific PEPLase gene was integrated into wheat genome,and the copy number was different in transgenic lines,which would provide experimental materials for further function study of pepc gene in wheat genome.
【语种】中文
【第一作者】李艳
【通讯作者】许为钢
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【学科分类】农业基础学科

【题目】抗寄生虫新药硝唑尼特研究进展
【中文关键词】硝唑尼特;寄生虫;感染
【英文关键词】nitazoxanide;parasite;infection
【中文摘要】硝唑尼特是一种新的广谱、高效抗寄生虫和微生物药物,对多种原虫、吸虫、线虫、蠕虫感染和敏感肠道菌感染有特效。综述了硝唑尼特的理化性质、药理学特征和临床应用等方面的研究进展,以期推进该药早日在我国兽医临床得到应用。
【英文摘要】Nitazoxanide(NTZ)was a new broad spectrum parasiticides,molluscicidal and antimicrobial agent.It has activity against protozoa,trematode,nematode helminth infection and sensitive enter-bacterium infection.Physicochemical property,pharmacology characteristic,clinical application of NTZ were reviewed in the paper for popularization of this drug in our country.
【语种】中文
【第一作者】董靖
【通讯作者】邓旭明
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【学科分类】兽医学

【题目】玉米C4型全长pepc基因导入普通小麦的研究
【中文关键词】小麦; 玉米C4型pepc基因; 转基因; 光合速率; PEPC活性;

【英文关键词】Wheat(Triticum aestivum L.); Maize(Zea mays) C4-specific pepc gene; Transgenic wheat; Photosynthetic efficiency; PEPC enzyme activity;

【中文摘要】为了获得具有类似C4光合途径的转pepc(磷酸烯醇式丙酮酸羧化酶)基因小麦材料,采用基因枪法将玉米C4型全长pepc基因导入小麦材料01H186-20-24,经在含4 mg.L-1L-PPT(L-phosphinothricin,草丁膦)的培养基上筛选,获得抗性再生植株,经PCR检测获得118株T0代阳性植株;进一步利用PCR对T1代植株进行筛选,T2代在隔离条件下种植于大田,Southern blot、SDS-PAGE检测表明,外源pepc基因在小麦基因组中得以整合和表达。测定了40个转基因T2代植株和受体对照的净光合速率(Pn)、PEPC活性,结果表明,在大田自然条件下,82.5%的转基因小麦的Pn增加,最大提高18.57%,达到了28.1μmol CO2.m-2.s-1,转基因植株中PEPC活性为对照的1.5~1.98倍。

【英文摘要】Transformation and high efficiency expression of the C4-specific pepc(phosphoenolpyruvate carboxylase) gene in wheat is an important approach to improve wheat photosynthetic character and biomass yield.In order to obtain PEPC transgenic wheat with similar C4 photosynthetic pathways,recombination binary vector pPC46 carrying maize C4-specific full-length pepc gene was transformed into immature embryos of wheat line 01H186-20-24 by particle bombardment.A total of 118 contemporary transgenic wheat plants(T0) were obtained after selection on medium containing 4 mg · L-1 L-PPT(L-phosphinothricin,Basta) and confirmed by PCR analysis.Further,T1 transgenic wheat were tested by PCR;T2 planted in isolated field were tested by PCR,southern blotting and SDS-PAGE analysis,and showed the foreign pepc gene were integrated into the wheat genome and were expressed.PEPC enzyme activity and net photosynthetic rate(Pn) in 40 T2 transgenic plants and control plants were measured under quarantine areas in field.The results showed that Pn values in 82.5% of transgenic wheat plants increased,with a max increase of 18.57%,to 28.1 μmol CO2 · m-2 · s-1.Also,the activities of PEPC in leaves of all transgenic plants were as 1.5 to 1.98 times as the non-transgenic plants,indicating that photosynthetic characters of transgenic wheat plants with maize pepc gene were improved.The progress described above provided materials for further study on effects of pepc expression on wheat photosynthesis,biological yield and wheat breeding with high photosynthetic efficiency.

【语种】中文

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【学科分类】农业基础学科

【题目】海洋细菌S-12-86的产溶菌酶条件

【中文关键词】张瑗;王跃军;孙谧;王清印;刘均忠

【英文关键词】Strain S一12—86;lysozym e;ferm entation

【中文摘要】从中国东海海域底泥中筛选获得一株产溶菌酶的海洋细菌S-12—86,采用摇瓶发酵的方式,分别从培养基组分与发酵条件两个方面对海洋细菌S-12—86产酶的影响进行研究。结果表明,菌株S-12—86能够利用麦芽糖、淀粉、甘油和葡萄糖作为碳源,不能利用蔗糖与甘露醇;能够利用牛肉膏、酵母膏、蛋白胨和硫酸铵作为氮源,其中牛肉膏效果最佳,而硝酸钾、氯化铵和尿素几乎不能被利用;zn2 、Ma 2 、CU2 对菌株S-12—86的生长和产酶均有抑制作用;Fe2 对菌体生长无明显影响,但明显抑制菌体产酶;Na 、K 对菌体的生长和产酶无明显影响;ca2 对菌体生长有促进作用;M 对菌体生长和产酶均有促进作用。菌株S-12—86最适发酵条件为:培养温度3O℃、接种体积比4.0%、装液量体积比10.0%、产酶高峰在发酵开始后24h。与白色链霉菌G(Streptomyces albus G)、灰色链霉菌P一51(S.griseus P一51)、枯草芽孢杆菌77(Bacillus subtilis 77)等产溶菌酶微生物的产酶条件相比较,菌株S-12—86具有易培养、产酶量较高、生产成本较低等优点。因此,菌株S-12—86有较大的生产开发潜力

【英文摘要】Abstract:A marine strain S-12—86 was obtained from the sea mud sample collected from the East China Seawhich could produce lysozyme.M arine strain S-12—86 could utilize maltose,starch,glyceml and gluoDse ascarbon sources but couldn ’t use mannitol or sucrose;it also could utilize beef extract,yeast extract,tryptoneand ammonium sulfate as nitrogen sources,not potassium nitrate,ammonium chloride,or urea. Beef extractwas the best carbo n source.Zn2+,Mn2+and Cu2+inhibited the growth or enzyme prod uction of the strain.Fe2 had no effect on the growth of the strain,but inhibited the enzym e prod uction.Na and K had no ef—fect on the growth or enzym e prod uction.Ca2 had little effect on the enzym e prod uction but promoted thegrowth of the strain obviously.M had good effect on bo th growth and enzym e prod uction of the strain.The optimum fermentation conditions for S-12—86 strain were 24 h incubation,30℃ incubation,inoculum ’s level 4%(V/V),volum e ratio 10%(V/V)and initial pH 8.0.Comparing the culture conditions of strainS-12—86 with those of Streptomyces albus G,Streptomyces griseus P一51,Bacillus subtili

77,et al,strain Sl2.86was easily cultured with low prod uction cost.So,strain S-12—86 had the potential uSed at large scale inpractice。
【语种】中文
【第一作者】张瑗
【通讯作者】孙谧
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【题目】田间条件下转玉米C4型PEPC基因小麦的光合生理特性
【中文关键词】磷酸烯醇式丙酮酸羧化酶 转基因小麦 光合特性
【英文关键词】Phosphoenolpyruvate carboxylase; Transgenic wheat; Photosynthetic characteristics
【中文摘要】为了检验转PEPC基因小麦是否具有C4光合生理特性,以转PEPC基因小麦和对照周麦19为试验材料,分别于抽穗期、开花期、花后第7天和花后第15天测定其单株旗叶的气体交换参数日变化,对净光合速率日变化进行单位日光合总量分析,并且对净光合速率日变化与单株气孔导度、胞间CO2浓度、蒸腾速率日变化的相关性进行了分析;在花后第15天测定其单株叶绿素荧光参数,并在成熟期调查了单株产量性状。与对照相比,转基因株系在4个测定时期的旗叶净光合速率明显提高,尤其在花后第15天,单位日光合总量较对照提高29.1%和23.3%,气孔导度和蒸腾速率均明显增加,胞间CO2浓度降低;花后第15天12:00与8:00相比,转PEPC基因小麦的Fv/Fm、qP、NPQ、ΦPSII的变幅均小于对照;单茎重、千粒重、单穗重和收获指数较对照显著增加。以上结果表明,转PEPC基因小麦材料在田间条件下光合特性明显优于对照,且具有提高小麦产量水平的潜力。
【英文摘要】Transformation and high efficiency expression of key enzymes gene of C4 photosynthetic characteristics are the important approach to improve photosynthetic efficiency and seed yield for C3 crop wheat. Phosphoenolpyruvate carboxylase (PEPC) plays an important role in C4 pathway. The authors have obtained several transgenic wheat lines with maize C4 type PEPC gene. To explore the expression and functional characteristics of PEPC gene in transgenic wheat plants, PCR test, PEPC activity, gas exchange parameters, chlorophyll fluorescence parameters and yield related characteristics of transgenic wheat lines were determined, using untransformed wheat as the control, and the value of diurnal photosynthesis cumulative (VDPC) at the four stages and the correlations between net photosynthesis rate and stomata conductance, intercellular CO2 concentration and transpiration rate were analyzed. The results showed that in the four determination stages, net photosynthetic rate of transgenic wheat obviously increased. For instance VDPC was increased by 29.1% and 23.3% on the 15th day after anthesis. Stomatal conductance and transpiration rate in flag leaves of transgenic wheat obviously increased compared to the control, and intercellular CO2 concentration decreased. Net photosynthetic rate of transgenic wheat enhanced by 23.2%, and variation scope of Fv/Fm, qP, NPQ, and ΦPSII of transgenic wheat was smaller than that of the control from 8:00 to 12:00 on the 15th day after anthesis; the major yield characteristics, such as weight per stem, thousand grain weight, single spike weight and harvest index of transgenic wheat, were significantly higher than those of the control. The results described above indicated that the transgenic wheat expressing maize PEPC gene showed better photosynthetic characteristics than untransformed plant and has the potential to increase wheat yield.
【语种】中文
【第一作者】吴琼
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【题目】抗弓形虫药物研究进展
【中文关键词】弓形虫;抗弓形虫药物;治疗
【英文关键词】无
【中文摘要】刚地弓形虫(Toxoplasrna gondii)是一种呈世界范围分布的人兽共患寄生原虫,给人类生活和畜牧业生产带来极大的危害,然而至今仍没有理想的治疗弓形虫病的药物。近年来,研究人员主要从干扰弓形虫的叶酸代谢、检测抗其他

病原微生物和寄生虫药物的抗弓形虫活性,以及针对弓形虫独特的生理结构和生化反应路径进行药物设计,开展抗弓形虫药物的研究,取得了许多重要的成果。随着人们对弓形虫研究的不断深入,对其分子生物学特性会有更加全面的了解,将给新的药物靶标的发现和特效药物的研发提供重要的理论依据。
【英文摘要】无
【语种】中文
【第一作者】张瑞岩
【通讯作者】吴永魁
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【学科分类】兽医学

【题目】Interplant root competition leads to an overcrowding effect in maize
【中文关键词】11
【英文关键词】Escape strategy, Interplant root competition, Maize (Zea mays L.), Root discrimination
【中文摘要】11
【英文摘要】We conducted an experiment with two maize hybrids (Zea mays L.) to examine the effect of interplant root competition on root growth and evaluate the impact to total plant performance. Two maize hybrids (Jinhai 5 and Denghai 3719) were grown either with no root competition in their own plot (owners) or as individuals sharing twice the space and nutrients (sharers). Plants were sampled every other week after pollination to track changes in root and shoot biomass. The carbohydrate allocation was smaller in the roots of sharers compared to owners at the pro-phase of grain filling and shoot accumulation was slightly accelerated during this period. However, at the lag phase, the accumulation rate in the shoots of individual plants was distinctly lower than in owners, as a result of earlier root senescence. Overall, shoot mass was reduced by 8% in sharers of both hybrids while they showed a similar root to shoot ratio compared with the owners. Although the ‘ sharing ’ treatment was confounded by larger soil space, the effects of larger soil volume and interplant root competition were different and demonstrated that interplant root competition had an inhibitory effect on roots. Maize plants displayed an escape strategy by allocating more carbohydrate to the shoots at the expense of the roots when faced with interplant root competition.
【语种】英文
【第一作者】姜文顺
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【学科分类】农艺学

【题目】海洋侧孢短芽孢杆菌Lh-1抗菌活性物质的分离及特性研究
【中文关键词】海洋侧孢短芽孢杆菌Lh一1;抗菌活性物质;分离纯化;性质
【英文关键词】Brevibacillus laterosporus Lh一1;antimicrobial substance;purification;properties
【中文摘要】采用超滤、DEAE—Sephadex A25和CM—Sepharose FF离子交换层析及HPLC反相层析等步骤得到了海洋侧孢短芽孢杆菌(Brevibacillus laterosporus)Lh一1的抗菌活性物质,命名为R一1。HPLC纯化出的抗菌物质经质谱测定其分子量为1608.023 Da,BIO—RAD等电聚焦测得其pI为8.55,氨基酸分析表明该物质由Leu、Tyr、val、Ile、Lys、Gly、Met、Ser、Ala 9种氨基酸组成。该抗菌物质具有极强的耐热、耐酸碱特性,在pH 11.0~12.0条件下,121℃ 处理1h,其活力保持在75%以上。经3种蛋白酶(碱性蛋白酶、胰酶、胃蛋白酶)处理后,活性保持在80% 以上。茚三酮反应阳性。推测R一1可能是低分子量的脂肽。抑菌试验表明对食品腐败菌、致病性革兰氏阴性、阳性菌及少数真菌均有抑菌活性。
【英文摘要】An antimicrobial substance produced by Brevibacillus laterosporus isolated from the sea sediment was purifiedand characterized.The antimicrobial substance was purified by uhrafihration,DEAE-Sepharose Fast flow chromatography,CM-Sepharose Fast flow chromatography and HPLC reversed phase column chromatography,and after the final purification step,one active fraction was obtained,designated R-1.The molecular weight(MW)was accurately determined by MALDI-TOF-MS as 1608.023 Da. And its p1

was determ ined with Rotofor Cell BIO-RAD to be 8.55. Amino acid analysis of the purified R-1 showed that it was composed of Leu,Tyr,Val ,Ile,Lys,Gly,Met,Ser and Ala.Most of them were hydrophobic and neutral amino acid except Lys which was a basic amino acid.And this accorded with pI of R-1.R-1 remained active over a wide temperature range and it also was active over a broad pH rang.R-1 was insusceptible to pancreatin,pepsin and alkaline proteinase.Agar radial diffusion assay showed that R-1 had low minimun bactericidal concentration against Gram-Positive Bacteria such as Streptococcus mutans,Staphylococcus aureaus ,Clostridium and Gram—Negative Bacteria such as Escherichia coli,Pseudomonas putrefaciens.And R-1 had antibacterial activities against Candida albicans.

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【学科分类】微生物学

【题目】Hormonal change caused by the xenia effect during grain filling of normal corn and high corn crosses
【中文关键词】11
【英文关键词】Hormonal,Grain Filling,Normal Corn,High-Oil Corn,Crosses
【中文摘要】11
【英文摘要】The xenia effect results from the cross-fertiliza-tion of nonrelated lines of crops, which causes a grain to produce a germ or embryo that is much larger than average. It is a signii cant genetic component in TopCross grain production systems, which can affect grain yield and quality. This study measured hormone variations during grain i lling of normal corn (Zea mays L.) hybrids, and normal corn crossed with a high-oil corn. Two normal corn hybrids, Nongda 108 (ND108) and Liaoyu 20 (LY20), were used as the females. A high-oil corn hybrid, HOC115, was used as the male. Compared with self-fertilization, the cross between ND108 and HOC115 resulted in higher yield, while the cross of LY20 with HOC115 had lower yield. The changes in grain yield were mainly due to grain weight. Both hormone levels and endosperm cell division rates increased rapidly during the early stage of grain development, and then declined gradually until maturity. The levels of indole-3-acetic acid, gibberellin (GA3), zeatin riboside, and abscisic acid at an early developmental stage were closely related to the grain weight at maturity. Higher endosperm cell division rates and cell numbers were associated with lower levels of GA3, and higher i lling rates were associated with higher GA3. The xenia effect was mainly mediated through changes of hormone contents, which affected endosperm cell division, grain sink strength, and, therefore, changed grain weight and grain yield.

【语种】英文
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【题目】海洋微生物溶菌酶的发酵优化与中试生产
【中文关键词】:菌株s-12—86;海洋微生物溶菌酶;发酵优化
【英文关键词】strain S-12-86;marine microorganism lysozyme;ferm entation optimization
【中文摘要】以海洋细菌s-12-86为试验菌株,采用摇瓶发酵优化的方式,研究培养基组分(碳源、氮源、碳源与氮源的比例、金属离子)与发酵条件(培养温度、接种体积分数、装液体积分数、起始pH值、产酶周期)对海洋微生物溶菌酶产量的影响,并进行中试放大试验。结果表明:该菌产酶最佳培养基组分为:葡萄糖10g/L,蛋白胨5g/L,MgSO5 g/L,CaCI:2 g/L;最适发酵培养温度为30℃ ,接种体积分数为4.0% ,装液体积分数为10.0% ,起始pH值为8.0,发酵周期24 h。海洋细菌s-12.86发酵优化后的产酶量(25 636.8 U/mL)较优化前的产酶量(14 454.4 U/mL)提高了75.4% 。海洋微生物溶菌酶中试发酵的产酶量达26 697.87 U/mL。说明摇瓶发酵优化条件可以应用于海洋微生物溶菌酶中试生产上。

【英文摘要】The fermentation optimization of Marine strain S一12—86 was studied by shake flask.The effects of carbon source,nitrogen source, the ratio between carbon source and nitrogen source and metallic ion on marine microorganism lysozyme yield were investigated. The ferm entation conditions including incubation temperature,inoculum volume fraction,culture medium volume fraction,initial pH value and enzyme producing period of strain S-l2-86 were also analyzed. The pilot ferm entation experiment was carried out. The results indicate that the optimum culture medium is consisted of glucose 10 g/L,tryptone 5 g/L,MgSO4 5 g/L,CaC12 2 g/L.The optimum ferm entation conditions for S一12—86 strain include incubation temperature 30~C,inoculum volume fraction 4% ,culture medium volume fraction 10% ,initial pH value 8.0 and incubation period 24 h.The optimized enzyme yield(25 636.8U/mL)was increased by 75.4% compared with that of the original conditions(14 454.4 U/mL).The enzyme activity reached 26 697.87 U/mL after pilot ferm entation.It shows that the parameters screened by shake flask can be applied to marine microorganism lysozyme production in pilot scale directly.
【语种】中文
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【题目】灌浆期干旱胁迫对夏玉米叶片光系统活性的影响
【中文关键词】玉米; 干旱胁迫; 叶绿素荧光快速诱导动力学曲线; PSI最大氧化还原活性; 820nm光吸收
【英文关键词】Maize; Drought stress; Chlorophyll a fluorescence transient; Maximal oxidation-reduction activity of PS I; 820 nm light absorbance
【中文摘要】以高淀粉玉米品种郑单21为材料,借助叶绿素荧光快速诱导动力学曲线和820nm光吸收曲线,研究了灌浆期土壤干旱胁迫对玉米籽粒产量和叶片光系统I(PSI)及光系统II(PSII)活性的影响。两年的研究结果均表明,干旱胁迫显著降低叶片光合速率(P<0.05)和籽粒产量(P<0.05)。JIP-test分析发现干旱胁迫导致叶绿素荧光快速诱导动力学曲线中的K点和J点上升,表明PSII放氧复合体(OEC)和QA之后的电子传递链受到抑制,且PSII受体侧受抑制的程度大于供体侧。此外,干旱胁迫也显著地抑制PSI的最大氧化还原活性(ΔI/Io),阻碍光合电子从PSII向PSI的传递,破坏了PSI和PSII的协调性。我们认为干旱胁迫抑制PSI和PSII活性并破坏二者的协调性,是导致Pn和籽粒产量下降的重要原因之一。
【英文摘要】At grain filling stage, the effects of drought stress on photosynthetic acivities of photosystem I (PS I) and photosystem II (PS II) in leaves of maize (Zhengdan 21, a cultivar with high starch content) were studied by simultaneously analyzing chloro-phyll a fluorescence transient and light absorbance at 820 nm. The results, obtained from two years experiments, demonstrated that the drought stress significantly reduced photosynthesis (P<0.05) and grain yield (P<0.05) of the maize. The K and J steps at fluorescence transient were increased by drought stress, which indicated the inhibition of oxygen-evolving complex (OEC) and electron transport chain after QA in PS II. The acceptor side of PS II was damaged more severely than the donor side of PS II. Furthermore, the maximal oxidation-reduction activity of PS I (ΔI/Io) was also significantly decreased by the drought stress, which inhibited the photosynthetic electron tranport from the PS II to PS I, destructing the coordination between PS I and PS II. We suggest that the inhibition of PS I and PS II and the destruction of the coordination between PS I and PS II by the drought stress is one of the main reasons to cause the decrease in photosyntheis and grain yield of maize.
【语种】中文
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【题目】硝唑尼特的一般毒性和致突变性研究

【中文关键词】硝唑尼特;急性毒性;蓄积毒性;致突变性
【英文关键词】nitazoxanide;acute toxicity;accumulative toxicity;mutagenicity
【中文摘要】通过小鼠经12急性毒性试验、蓄积毒性和耐受性试验研究了硝唑尼特的一般毒性;通过Ames试验、小鼠骨髓细胞微核试验和小鼠精子畸形试验研究了硝唑尼特的致突变性。结果表明:硝唑尼特对小鼠口服LD50为6.295 g/kg,属实际无毒类物质;对小鼠20 d给药蓄积系数K>5.26,属弱蓄积或基本无蓄积毒性,未产生耐受性;对组氨酸缺陷型鼠伤寒沙门氏菌测试菌株无致突变性,对小鼠骨髓细胞微核率和小鼠精子形态无影响。
【英文摘要】The general toxicity of nitazoxanide was investigated by acute toxicty test,accumulative toxicity and tolerance test of mice;the mutagenicity of nitazoxanide wag evaluated by Ames test,marrow cell micronucleus test and sperm malformation test of mice. The results showed that mice acute oral LD50 of nitazoxanide was 6.295 g/kg, belonging to no toxic substance.The 20d administration accumulation coefficient was K>5.26 which demonstrated that nitazoxanide was low or not accumulated.Through the Ames test,micronucleus test and sperm malformation test,nitazoxanide was not found to have any mutagenicity.
【语种】中文
【第一作者】张德利
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【题目】海洋微生物溶菌酶体外抗菌抗病毒活性研究
【中文关键词】:海洋微生物溶菌酶S-12-86; 白色念珠球菌;伪狂犬病毒;细胞病变
【英文关键词】Marine microorganism lysozyme S-12-86;Candida albicans;Pseudo rabies virus;Cytopathic efect
【中文摘要】初步研究海洋微生物溶菌酶S-12-86(MMLS)体外抑菌与抗病毒活性。【方法】采用最小抑菌浓度(MIC)和最小杀菌浓度法(MBC)测定MMLS对部分模式菌的抑菌和杀菌作用;通过细胞病变抑制实验法(CPE),研究MMLS在猪肾细胞(PK-1 5)中对伪狂犬病毒(PRV)的抑制作用。【结果】MMLS对革兰氏阳性菌,革兰氏阴性菌及真菌均有抑菌作用,抑菌作用的浓度范围在0.25~4.00mg/ml 之间,杀菌作用的浓度范围一般在0.25~8.00 mg/ml之间。在电镜下,可见MMLS能够使大部分白色念珠球菌的细胞壁出现严重变形,细胞质出现不均匀,细菌胞质中的空腔增多。MMLS的Tc50为100.0 ug/ml,抑制伪狂犬病毒的半数有效浓度(Ec50)为0.46ug/ml,治疗指数(TI)为217;在病毒感染后的0、2、4、6和8 h添加MMLS,均有抑制伪狂犬病毒的作用。【结论】MMLS具有广谱的抑菌作用和抗伪狂犬病毒作用。
【英文摘要】[Objective]The in vitro antimicrobial and antiviral activities ofmarine microorganism lysozyme S-12-86(MMLS) were studied.[Method]The minimum inhibition concentration(MIC)and the minimum bactericidal concentration(MBC)were used to test the antimicrobial effects of MMLS.The inhibiting efects of MMLS on Pseudo rabies VirUS(PRV)in swine kidney cells (PK-15 cells)werejudged by cytopathogenic efect test(CPE).[Result]MMLS had a broad antimicrobial spectrum against several standard strains including G+、G-and fungi,et a1,Th e minimum inhibition concentration(MIC)was 0.25-4.oo mg/ml and the mi nimum bactericidal concentration (MBC)was 0.25-8.00 mg/ml,respectively.Observation under the transmi ssion electron mi croscope revealed mat the cell Wall of Candida albicans was seriously distortiona1.and the cytoplasm was asymmetrica1.There were many cavities in the cytoplasm.The median toxic concentration(TC50)of MMLS was 100.0 ug/ml,the median efectiveconcentration(EC50)of MMLS was 0.46 ug/ml,the selectivity index was 217.In time of addition experiment,MMLS inhibited PRv in PK-15 cell when it was added at 0,2,4,6,and 8 h after virus infection.[Conclusion] We could conclude that MMLS had broad antimi crobial spectrum and good inh ibiting efects on PRV.
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【题目】硝唑尼特对斑马鱼和赤子爱胜蚓的急性毒性试验
【中文关键词】硝唑尼特;斑马鱼;赤子爱胜蚓;急性毒性;生态毒性
【英文关键词】无
【中文摘要】通过对斑马鱼和赤子爱胜蚓的急性毒性试验,研究了硝唑尼特的生态毒性。结果表明,硝唑尼特在静水条件下对斑马鱼24 h LC50为2.312 mg/L、48 h和72 h LC50为2.033 mg/L、96 h LC50为1.968 mg/L,按鱼类急性毒性分级标准,硝唑尼特属高毒类物质;硝唑尼特滤纸法对赤子爱胜蚓24 h LC50为1.50ug/cm2、48 h LC50为0.81ug/cm2;自然土壤法对赤子爱胜蚓24 h LC50为119.44 mg/kg、48 h至第4天LC50为108.44 mg/kg、第7天LC50为98.45 mg/kg、第10天至第14天LC50为95.33 mg/kg,参照农药对蚯蚓毒性等级划分标准,属于低毒级。
【英文摘要】无
【语种】中文
【第一作者】张德利
【通讯作者】吴永魁
【期刊名称、卷期、页码】动物医学进展,2011,32(7):121-124,129
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【引文索引号】null
【学科分类】兽医学

【题目】遮荫对夏玉米产量和品质的影响
【中文关键词】夏玉米; 遮荫; 产量和品质
【英文关键词】Summer maize; Shading; Yield and quality
【中文摘要】研究在夏玉米不同生育时期遮荫对产量和品质的影响。结果表明:不同时期遮荫都显著降低玉米子粒产量,花粒期遮荫对玉米子粒产量影响最显著,农大108遮荫50%和90%的分别减产67.5%和79.4%,花粒期遮荫主要降低了千粒重;其次是穗期遮荫,农大108遮荫50%和90%的分别减产34.1%和55.3%,穗期遮荫主要减少了穗粒数;苗期遮荫对其影响相对较小,农大108遮荫50%减产16.9%。玉米子粒产量随着光照强度的减小而显著降低,不同时期遮荫对玉米子粒产量的影响显著大于不同遮荫程度(光照强度)的影响。苗期遮荫对玉米子粒品质没有显著影响;穗期和花粒期遮荫玉米子粒的粗蛋白和赖氨酸含量显著升高,粗脂肪、淀粉含量显著降低。随着光照强度的减小,对子粒品质的影响加剧。不同时期遮荫对玉米子粒品质的影响显著地大于不同遮荫程度的影响。
【英文摘要】Shading decreased significantly grains yield of maize. Different shading phases had different effects on grains yield of maize. The effects of shading from flowering to maturity stage on grains yield of maize were most significant, then were from joining to flowering stage and from seedling to joining stag. Shading from joining to flowering stage decreased grains number mostly, and shading from flowering to maturity stage decreased 1 000-kernels weight mostly. Grains yield of maize was decreased significant...
【语种】中文
【第一作者】张吉旺
【通讯作者】张吉旺
【期刊名称、卷期、页码】玉米科学,2009,17(5):124-129
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【引文索引号】null
【学科分类】农艺学

【题目】供氮水平对雄性不育玉米物质生产和氮代谢的影响
【中文关键词】玉米 细胞质雄性不育 氮素水平 物质生产 氮代谢
【英文关键词】11
【中文摘要】在池栽条件下,比较了不同供氮水平下玉米细胞质雄性不育系 及其同型可育系碳氮代谢的差异。结果表明,两种供氮水平下,玉米子粒产量和收获指数均高于其同型可育系,生物产量差异不显著,根量较多,根冠比高于其可育系。玉米保绿性好,净同化率高,果穗叶光合速率生育后期优势明显。果穗叶硝酸还原酶、谷氨酸胺合成酶 和谷氨酸脱氢酶 活性均具有较高活性,两种供氮水平下都表现出相对优势其叶片、茎秆和根中氮百分含量和氮积累量都表现出花后一较高,生育后期较低的特点。玉米的氮素转运多,贡献率和氮利用效率高,且不施氮水平下优势更为明显。说明雄性不育植株光合

碳生产和果穗叶氮代谢能力强,促进了植株对氮素的转运和利用,有利于子粒灌浆充实和产量提高。
【英文摘要】11
【语种】中文
【第一作者】李从峰
【通讯作者】董树亭
【期刊名称、卷期、页码】植物营养与肥料学报,2009,15(1):99-104
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【引文索引号】null
【学科分类】农艺学

【题目】海洋溶菌酶高产菌株发酵条件探讨及培养基优化
【中文关键词】海洋溶菌酶;发酵;培养基优化;二次回归正交设计
【英文关键词】marine lysozyme;fermentation;medium optimization;quadratic regression orthogonal design
【中文摘要】对海洋溶茵酶高产菌株R-J-101液体发酵的主要影响因子进行了单因素实验探讨,确定了最佳培养条件:初始pH为7.5,温度为30℃,转速为200r/min,接种量为6%。采用二次回归正交设计法优化发酵培养基各组分的配比,结果表明,最优培养基组合为:玉米粉0.200%、蛋白胨0.773%、牛肉膏0.132%、NaC1 0.320%、MgSO4 0.759×10-5 mo1/L。实验验证优化结果,所得发酵液酶活力为2965U/mg,比未优化前提高了64%。
【英文摘要】The fermentation of high marine lysozyme-producing strain R-J-101 was investigated through single-factor test.The optimized fermentation conditions were:incubation temperature 30oC,initial pH7.5,amount of inoculation 6%.rotate speed 200r/min.Quadratic reg ression orthogonal design was used in shaking flask to optimize the fermentation medium of strain R-J-101.The most suitable medium was identified as follows:corn flour 0.200%.peptone 0.773%,beef extract 0.132%,NaC1 0.320%,MgSO4 0.759x 10-5 mol/L.The optimized medium allowed the lysozyme activity to be increased from l808U/mg of the original to 2965U/mg.
【语种】中文
【第一作者】冯学珍
【通讯作者】孙谧
【期刊名称、卷期、页码】食品工业科技、29(11)、57~59
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【学科分类】食品科学技术其他学科

【题目】硝唑尼特对杜氏利什曼原虫体内药效活性研究
【中文关键词】硝唑尼特;杜氏利什曼原虫;黑热病;药效
【英文关键词】nitazoxanide;Leishmania donovani;Kala-azar;drug action
【中文摘要】为观察硝唑尼特对感染杜氏利什曼原虫小鼠的保护效果,将杜氏利什曼原虫前鞭毛体接种昆明小鼠,饲养30 d后每天灌服3个浓度(400,200,100 mg/kg)的硝唑尼特,并设阴性(玉米油)、阳性(两性霉素B)对照。连续给药10 d,治疗结束10 d后处死,分别以有限稀释法、荧光定量PCR法和肝组织HE染色检测药物治疗效果。结果显示.400 mg/(kg·d)的硝唑尼特能明显减少小鼠体内杜氏利什曼原虫数(P<0.05),有限稀释法和荧光定量PCR法显示其对肝、脾的抑虫率分别为91.54%、92.05%和90.97%、91.63%;200,100mg/(kg·d)药物组同样具有一定的抑虫效果。结果表明:硝唑尼特对体内杜氏利什曼原虫具有较好的药效活性,并具有剂量效应相关性。
【英文摘要】To observe the activity of nitazoxanide against Leishmania donovani in vivo. KM mice were inoculated with promastigotes, 5 groups were designed including 3 groups of different concentrations of nitazoxanide(400, 200, 100 mg/kg), the negative group(corn oil)and the positive group(amphotericin B), which were given corresponding agents orally for 10 days successively 30 days after inoculation,the mice were executed 10 days after the end of administration, the drug treatment effects were detected by limiting dilution assay, fluorescent quantization PCR method and HE staining of hepatic tissue,the results showed 400 mg/(kg·d)group of nitazoxanide could reduce the number of Leishmania donovani obviously(P< 0.05)and in the 200, 100 mg/(kg·d)groups certain inhibition effects could also be detected.Nitazox anide has a good activity against Leishmania donovani in vivo and a correlation between dosage and effeet.

【语种】中文
【第一作者】张瑞岩
【通讯作者】吴永魁
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【引文索引号】null
【学科分类】兽医学

【题目】海洋侧孢短芽孢杆菌Brevibacillus laterosporus Lh-1产抗菌肽R-1的培养条件优化
【中文关键词】Brevibacillus laterosporus Lh-1,抗菌肽R-1,Plackett-Burman(PB)设计,响应面分析(RSM)
【英文关键词】Brevibacillus laterosporus Lh-1,Antimicrobial peptide R-1,Plackett-Burman(PB)design,Response surface methodology(RSM)
【中文摘要】采用Plackett-Burman(PB)设计和响应面分析(RSM)方法,对一株海洋侧孢短芽孢杆菌Lh-1产抗菌肽R-1的发酵条件进行了优化。研究中数据的统计和分析均使用MINITAB 15.0。在研究中,首先使用了Plackett-Burman(PB)设计对影响Lh-1产抗菌肽的15个因素进行了筛选,得到了影响产量的显著因素为: 葡萄糖、蛋白胨和氯化钙。在此基础上采用响应面法对该3个显著因素的最佳水平范围进行研究,得到的最佳浓度为15.72 g/L葡萄糖、6.01 g/L蛋白胨和3.29 g/L CaC12,同时R-1的产量从82.15 kU/mL提高到了116.27 kU/mL。
【英文摘要】To improve and optimize marine antimicrobial peptide R-1 production by a newly isolated Brevibacillus laterosporus Lh-1,Plackett—Burman(PB)design and response surface methodology(RSM) using central composite design was adopted in culture conditions.MINITAB 15.0 was used for planning the experiments,data analysis,contour diagrams and response optimizations.In this study,PB design was undertaken to evaluate the effects of the fifteen factors.By the statistical regression analysis,thesignificant factors affecting the novel antimicrobial peptide R-1 in submerged fermentation by Br. 1aterosporus Lh-1 were determined as follows:glucose,peptone and CaC12.Then a RSM was used to optimize the above critical internal factors,and the optical concentration of the variables were determined as:15.72 g/L glucose.6.01 g/L peptone and 3.29 g/L CaC12.The content of R-1 was increased from 82.15 kU/mL to 116.27 kU/mL.
【语种】中文
【第一作者】郑媛
【通讯作者】孙谧
【期刊名称、卷期、页码】微生物学通报、36(3)、398-403
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【引文索引号】null
【学科分类】微生物学

【题目】Improvement of the photosynthetic characteristics of transgenic wheat plants by transformation with the maize C4 phosphoenolpyruvate carboxylase gene
【中文关键词】无
【英文关键词】Gene cloning; Photosynthesis; Transgenic wheat; Zea mays Phosphoenolpyruvate carboxylase
【中文摘要】无
【英文摘要】Attempts have been made to transform C3 crops with C4 genes to improve the photosynthetic rate of C3 plants. In our study, a full-length cDNA for phosphoenolpyruvate carboxylase gene (pepc) was isolated from Zea mays by PCR. The pepc gene was introduced into wheat plants (Triticum aestivum) by particle bombardment transformation. The integration, transcription and expression of the pepc gene were confirmed by, Southern blot, RT-PCR and Western blot analysis. Physiological studies showed that PEPCase activity in the transgenic plants was 140% higher than that of the untransformed plants. The highest rate of photosynthesis in the transgenic plants was 31.95 μmolCO2m-2s-1, which was 26% greater than the rate in untransformed plants. The light saturation point and carboxylation efficiency of pepc transgenic wheat were 20% and 22.57% higher, respectively, than those of untransformed wheat. As a result, the weight of seed per spike and thousand-grain weight were 0.23 g and 1.21 g higher than those of untransformed wheat. Our research will facilitate the further study of the function of the pepc gene in wheat plants.

【语种】英文
【第一作者】胡琳
【通讯作者】许为钢
【期刊名称、卷期、页码】Plant breeding,2012, 131(3): 386-391
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【学科分类】农业基础学科

【题目】Purification and properties of lysozyme from a marine strain
【中文关键词】海洋微生物,纯化,溶菌酶
【英文关键词】marine strain, purification, lysozyme
【中文摘要】从海泥中筛选到一株能分泌胞外溶菌酶的菌株。通过超滤、硫酸铵盐析、透析、Sephadex G-100分子筛、CM-Sephadex-50 离子交换色谱方法对该溶菌酶进行了纯化,纯化倍数达到65.28倍,得率为17.68%。该溶菌酶的分子量为16.0 kDa,最适温度为35°C,最适pH为8.0。锌离子和铜离子对该酶有激活作用,而锰离子则有抑制作用,EDTA对该酶酶活没有影响。该溶菌酶在几种增稠剂中稳定性良好,一些表面活性剂能增强酶活,对革兰氏阴性、阳性、真菌的抑菌效果明显,表明该溶菌酶具有广泛的应用前景。
【英文摘要】An extracellular lysozyme from a new strain which was screened from a sea mud sample was purified to homogeneity by ultrafiltration, followed by ammonium sulphate precipitation, dialysis, Sephadex G-100 chromatography and CM-Sephadex-50 ionexchange chromatography. This purification protocol resulted in a 65.28 fold purification of lysozyme with 17.68% final yield and the relative molecular weight of the enzyme was determined to be 16.0 kDa by SDS-PAGE. The kinetic characterisation of the purified enzyme exhibited maximum activity at 35 ° C and pH 8.0. The enzyme activity was promoted in the presence of Zn2+ and Cu2+, and inhibited by Mn2+. EDTA did not affect the enzyme activity. The enzyme was highly stable in the presence of several thickening agents. Some surfactants increased its activity. It had a broad antimicrobial spectrum against several Gram positive bacteria, Gram negative bacteria and fungi. The enzyme has broad potential application.
【语种】英文
【第一作者】张琇
【通讯作者】孙谧
【期刊名称、卷期、页码】Annals of Microbiology、58 (1)、89-94
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【引文索引号】null
【学科分类】微生物学

【题目】种植密度对夏玉米产量和源库特性的影响
【中文关键词】夏玉米 高产 种植密度 源库特性
【英文关键词】summer maize; high-yield; plant density; source-sink characteristics
【中文摘要】以耐密高产玉米品种郑单958(ZD 958)和登海661(DH 661)为试验材料,在4个不同生态区域(山东农业大学、汶口、兖州、莱州),设置22500株·hm-2、45000株·hm-2、67500株·hm-2、90000株·hm-2和112500株·hm-2 5个种植密度,研究了高产条件下种植密度对夏玉米产量及源库特性的影响。结果表明,两品种在112500株× hm-2密度条件下玉米籽粒产量和生物产量最高,分别为19132 kg×hm-2和36965 kg×hm-2,与密度22500株×hm-2和67500株×hm-2处理相比,籽粒产量分别增加了72%和48%,生物产量增加了152%和112%。叶面积指数随密度增大显著提高,两品种单株叶面积、最大花丝数、穗粒数和千粒重随密度增大而减少,但叶面积指数随密度增大而显著提高。收获指数与粒叶比变化趋势一致,随密度增大先显著减小,而当密度超过67500株×hm-2时差异不显著,表明当密度小于67500株×hm-2时,密度增加主要增加了源,而当密度大于67500株×hm-2时库相对增加,即高密度条件下通过增加群体库提高产量。
【英文摘要】It was studied that the effects of planting density on the yield and source-sink characteristics of summer maize under the of high-yield condition in four ecological regions: Shandong Agricultural University, Wenkou, Yanzhou and Laizhou. ZhengDan958 (ZD958) and DengHai661 (DH661) were used for experimental materials, and planted by five different densities which were 22500, 45000, 67500, 90000 and 112500 plant×ha-1. Results showed that the maximum yield and biomass were 19132 kg×ha-1 and 36965 kg×ha-1 under the condition of 112500 plant×ha-1, respectively. Compared with 22500 and 67500 plant×ha-1, the yield was

increased by 72% and 48%, and the biomass was increased by 152% and 112%, respectively. With the increment of plant density, leaf area index (LAI) was significantly increased, while the leaf area per plant (LA), the maximum number of filaments, the grains per spike and 1000-grain weight were all decreased. At the same time the harvest index was decreased with the increment of density, and the grain-leaf ratio was significantly decreased, while there was not significant difference when density was above 67500 plant×ha-1. The yield increased with the increasing of plant population. It showed that the higher plant density distinctly increased ear grain number per area, through improving the sink-capability of population, and obtained higher yield of summer maize.

【语种】中文
【第一作者】刘伟
【通讯作者】张吉旺
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【学科分类】农艺学

【题目】Expression analysis of maize gene encoding C4-pyruvate orthophosphate dikinase (PPDK) and C4-phosphoenolpyruvate Carboxylase (PEPC) in transgenic Arabidopsis
【中文关键词】无
【英文关键词】Expression PPDK PEPC Transgenic Arabidopsis
【中文摘要】无
【英文摘要】To improve the efficiency of CO2 fixation in C3 photosynthesis, C4-cycle genes were overexpressed in Arabidopsis plants. In this study, a full-length cDNA for pyruvate orthophosphate dikinase (PPDK) with 971 amino acids was isolated from Zea mays using LA-PCR. The PPDK gene (GenBank accession number GU363532) and the phosphoenolpyruvate carboxylase (PEPC) gene (GenBank accession number: FJ415327) derived from a previous study were introduced into wild-type Arabidopsis both individually and in combination. The vector pCAMBIA3301 (p3301) was introduced into Arabidopsis as a control using an Agrobacterium-mediated system. The integration, transcription, and translation of the PPDK and the PEPC genes were confirmed by Southern blot, quantitative real-time PCR, and Western blot analysis. The average enzyme activity of C4-PPDK and C4-PEPC peaked at 4.63- and 5.81-fold compared to that of controls, respectively. The insertion of PPDK was found to increase the activity of PEPCase and vice versa. The photosynthetic rates of C4-PPDK, C4-PEPC, and C4-PKC(PPDK+PEPC) transgenic lines increased to 123.3, 136.4, and 146.6 % compared to that of controls, respectively.
【语种】英文
【第一作者】王玉民
【通讯作者】许为钢
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【学科分类】农业基础学科

【题目】Marine lysozyme from a marine bacterium that inhibits
【中文关键词】海洋溶菌酶,抑制血管生成,抑制肿瘤
【英文关键词】Lysozyme . Antiangiogenesis . Endothelial cells .CAMassay . Antitumor . Marine lysozyme
【中文摘要】最新研究资料表明,鸡蛋中富含的溶菌酶具有抗癌作用。在本实验中,我们研究了一种新型海洋溶菌酶体内和体外的抗癌和抗血管生成作用。首先,我们发现,这种来自海洋的溶菌酶对内皮细胞(ECV304)的增殖有特异的抑制作用,无细胞毒性(IC50=3.64 μM)。其次,我们通过鸡胚绒毛尿囊膜实验发现,这种海洋溶菌酶能够直接抑制鸡胚的血管新生,第三,我们的研究证明,这种海洋溶菌酶能够显著抑制小鼠肉瘤180细胞和肝癌22细胞的生长。此外,相同剂量的蛋清溶菌酶对体外内皮细胞的增殖没有作用,也不能抑制鸡胚的血管新生及裸鼠体内肿瘤细胞的生长。综上所述,我们的研究清楚的表明,这种新发现的海洋溶菌酶是强有力的抗癌因子,它能抑制肿瘤细胞的生长和血管增生。我们相信,这种海洋溶菌酶在抗肿瘤药物的开发中具有重要意义。

【英文摘要】Recent studies suggest that lysozyme, rich in hen egg, has an antitumor function. In the present study, we investigated the antitumor and antiangiogenesis effects of a newly isolated marine lysozyme both in vitro and in vivo. First, we showed that this marine-derived lysozyme specifically inhibits the proliferation of endothelial cells (ECV304) in a dose-dependent manner with no cytotoxicity (IC50=3.64 μM). Second, we showed that this marine lysozyme directly suppresses neovascularization in chickenembryos using chorioallantoic membrane assay. Third, we demonstrated that this marine lysozyme markedly inhibits tumor growth in mice bearing either sarcoma 180 or hepatoma 22. Unexpectedly, hen egg lysozyme has no effects on the proliferation of endothelial cells in vitro or neovascularization in chicken embryos or tumor growth in nude mice at the same dosage range. Taken together, our studies clearly show that the newly identified marine lysozyme is a potent antitumor molecule, which may inhibit tumor growth and inhibit angiogenesis. We believe that this marine lysozyme may have a therapeutic value in antitumor drug development.
【语种】英文
【第一作者】Junli Ye
【通讯作者】Cunbo Wang
【期刊名称、卷期、页码】Appl Microbiol Biotechnol、 77、1261 – 1267
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【引文索引号】DOI 10.1007/s00253-007-1269-1
【学科分类】微生物学

【题目】Identification of protein latent periodicities using recurrent correlation analysis
【中文关键词】全β结构域,Pearson关联统计,序列, 三级结构
【英文关键词】Mainly beta class, Pearson correlation coefficient ,Sequence, Tertiary structure
【中文摘要】很多大的蛋白都是通过内部的复制和融合来完成进化。对于具有内部结构对称性的蛋白,这就意味着他们的序列中也应该具有与其一致的对称性,然而这些蛋白中的很多却仅能在结构水平上观察到这种对称性。我们提出了一种利用循环关联分析的方法直接从其序列入手来识别序列内部的对称性。结果表明,在6个能从结构中观察到对称性的全β结构域中,都能直接在序列水平上识别其对称性。
【英文摘要】Manylargeproteinshaveevolvedbyinternalduplicationandfusion.Forproteinswithinternalstructural symmetry,thismeansthattheirsequencesshouldbemadeupofidenticalrepeats.However,manyoftheserepeatsignalscanonlybeseenatthestructurallevelyet.Wesuggestedamethodofrecurrent correlationanalysistodetectthesequencerepeatsofproteinsdirectlyfromtheirsequences.Itshowed thattheinternalrepetitionsoftherepresentativeproteinsinsixfoldsofmainlybetaclasscouldbe identifieddirectlyatthesequencelevel.
【语种】英文
【第一作者】Xiaofeng Ji
【通讯作者】sunmi
【期刊名称、卷期、页码】Journal of Theoretical Biology、 255(3)、 316-319
【论文发表时间】2008-08-15 00:00:00
【引文索引类型】SCI
【引文索引号】2.6143020001e+011
【学科分类】生物物理学

【题目】阳光紫外辐射对褐藻羊栖菜生长和光合作用的影响
【中文关键词】阳光紫外辐射;羊栖菜; 生长;光合作用
【英文关键词】Solarultraviolet radiation; Hizikiafusiformis; Growth; Photosynthesis
【中文摘要】为探讨经济褐藻羊栖菜对阳光紫外辐射变化的响应, 我们在全波段阳光辐射(280) 700nm), 去除UV-B辐射(320) 700nm)以及光合有效辐射PAR(400) 700nm) 3种辐射条件下对其进行培养, 测定了其光合作用与生长的变化。羊栖菜的生长是通过每两天测量一次藻体的湿重来测定的,光合放氧是用Clark型氧电极测定的, 为了测定藻体叶绿素a和紫外吸收物质的含量, 从250nm到750nm对羊栖菜的甲醇提取液进行扫描, 叶绿素a的浓度用Porra的公式计算, 紫外吸收物质的计算是根据Dunlap的方法先计算紫外吸收物质和叶绿素a的比率, 然后乘以每单位藻体叶绿素a的含量。结果表明,当藻体接收较多的日辐射量时有较高的相对生长速率, 当滤除UVR后,较高的太阳辐射也导致了较高的光合放氧。然而太阳紫外辐射能够抑制藻体的光合放氧和生长速率, 降低叶绿素a的浓度, 并且这种抑制作用随着辐射水平的升高而增强。此外, 阳光紫外辐射也诱导产生了一定量的紫外吸收物质, 但并不足以抵抗紫外辐射对藻体的伤害作用

【英文摘要】Effectsof solarultraviolet radiation(UVR) onthegrowthandphotosynthesis of theeconomicbrownalgaHizikia fusiformiswere investigatedwhileexposedtofull spectrumsolarradiation(280) 700nm), solar radiationdepletedofUV-B(320) 700nm) andsolarradiationdeprivedof totalUVR(400) 700nm) inordertounderstanditsresponses tochan-ges insolarUVR. ThegrowthofH. fusiformiswasdeterminedbyweightingthefreshalgaeeverytwodays andthephoto-syntheticoxygenevolutionwas assayedbyaClark-typeoxygenelectrode. Todeterminethecontents of chlorophyll a andUV-absorbingcompounds (UVAC), methanol extracts fromH. fusiformiswerescannedfrom250to750nm. Theconcen-trationof chlorophyllawas calculatedusing theequationofPorraandthecontentsofUVACper freshmasswereestmi atedby determining theratioofUVACtochlorophyllaaccordingtoDunlapet al andmultiplyingtheratioof chlorophyllacon-tent tofreshweight of thesampleused. Itwas foundthat therelativegrowthratewashigherwhenalgaereceivedmoreda-ilydoses andhigher levels of solar irradiances depletedofUVRalso ledtohigherphotosyntheticoxygenevolution. Howev-er, solarUVRcould inhibit thephotosyntheticoxygenevolutionandgrowthrateanddecreasethecontent of chlorophyllaofH. fusiformis andhigher levels of solarUVRirradiances ordoses ledtohigher inhibitoryeffects. Althoughultraviolet-ab-sorbingcompoundswere inducedbysolarultraviolet radiation, they couldnot fullycounteract thedamagetoH. fusiformis inducedbyUVR.
【语种】中文
【第一作者】高光
【通讯作者】高坤山
【期刊名称、卷期、页码】水生生物学报 33(2):284-288
【论文发表时间】2009-03-07 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】水产养殖学

【题目】羊栖菜离体生殖托低温超低温的保存
【中文关键词】羊栖菜; 生殖托; 保存
【英文关键词】-
【中文摘要】对羊栖菜离体生殖托低温超低温保存技术进行了探讨 首先对离体生殖托进行有关预处理(包括保护剂的选择生殖托干出或浸没的状态以及温度降低的程序等) ,然后分别在超低温(-196度) 冰冻(-18度) 和低温(5度) 的条件下进行保存 结果表明,生殖托在超低温和冰冻条件下保存均不理想,但是处于干出状态(避免失水) 的生殖托在 下可以保存,其代谢活性细胞相对活力以及配子释放能力均较好,是一种简单而有效的生殖托保存方法 并讨论了羊栖菜生殖托低温保存技术在人工苗种生产上的可能应用
【英文摘要】-
【语种】中文
【第一作者】邹定辉
【通讯作者】邹定辉
【期刊名称、卷期、页码】水产学报 34(6):935-941
【论文发表时间】2010-06-05 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】水产养殖学

【题目】吉林省高寒山区玉米平衡施肥效果分析
【中文关键词】高山地区;玉米;平衡施肥;效果;
【英文关键词】Alpine areas;Corn; Balanced fertilization; Effect
【中文摘要】通过吉林省高寒山区玉米平衡施肥试验,结果表明处理13施用N、P2O、K2O的肥用量分别为100kg/hm2、80kg/hm2和50kg/hm2,其产量和纯收入最高,分别为7189.5Kg/hm2和8037.4元/hm2,所产生的经济效益最高。因此,得出处理13的施肥用量是该区域玉米最佳施肥用量,为吉林省高寒山区玉米高产高效栽培,提供技术支撑。
【英文摘要】The experiment of balanced fertilization on corn was done in alpine areas of Jilin province, the results as followed,the yield and net income of treatment 13 is optimal and its fertilizer quantity of N, P2O5,K2O is 100kg/hm2,80 kg/hm2,50 kg/hm2 repectively, the yield is 7189.5 kg/hm2 and the net income is 8037.4 yuan/hm2,the economic benefits is the highest among all the treatments. Accordingly, the fertilizer quantity of treatment 13 is the optimal in the areas, and it could be used as a technology support

for corn high yield cultivation in alpine areas of Jilin province.
【语种】中文
【第一作者】方向前
【通讯作者】边少锋
【期刊名称、卷期、页码】安徽农业科学 2009 第37卷(12)5428、5435
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【引文索引类型】其他
【引文索引号】null
【学科分类】农艺学

【题目】不同 N 水平条件下羊栖菜对阳光辐射的响应
【中文关键词】羊栖菜;紫外辐射;N;有效光化学效率;相对电子传递速率
【英文关键词】Hizikia fusiformis; UV radiation; N; the effective photosynthetic quantum yield; rETR
【中文摘要】探讨了太阳紫外辐射对两种 N 水平条件下羊栖菜藻体光化学特性的影响及其恢复。结果显示,在高的光辐射下羊栖菜藻体的有效光化学效率和相对电子传递速率急剧下降,两种 N 水平条件下藻体的光化学活性下降趋势一致;在全波长太阳辐射条件 (即高的光辐射和紫外辐射同时存在) 下它们的下降幅度更大,而 N 加富条件下羊栖菜藻体的相对电子传递速率要高于对照 N 水平下生长的藻体,表明 N 加富的生长条件使得藻体具有更高抵御紫外辐射的能力,这可能是与 N 加富生长条件下的藻体中含有较高含量的紫外吸收物质和类胡萝卜素有关。在低光恢复过程中,全波长辐射处理藻体的有效光化学效率比可见光辐射处理藻体的恢复要慢 (分别为 6 h 和 3 h 可恢复到起始水平) ;而相对电子传递速率的恢复能力则比有效光化学效率的恢复能力更弱,需要 24 h 或者更长的时间。
【英文摘要】Physiological properties of photosynthesis were investigated under solar radiation in the marine brown macroalga, Hizikia fusiformis, grown at two different N availabilities. The significant decrease of the effective photosynthetic quantum yield and rETR was found in the thalli when exposed to solar radiation, with the decrease fluctuation being more greater in the thalli treated with full solar radiation (PAB, i.e. PAR plus UV radiation) than those treated with solar photosynthetically active radiation (PAR). The decrease trend of the effective photosynthetic quantum yield was the same between the algae grown under normal N level and high N level when the thalli were exposed to PAR or PAB. However, when exposed to PAB, rETR of the thalli grown under high N level was higher than those grown under normal N level, indicating that the algae cultured in high N level exhibited higher capacity of defending UV radiation, whic h might be related with the high contents of UVAC and carotenoids. During the recover period, the effective photosynthetic quantum yields in the thalli treated with PAB recovered a little slowly compared with the thalli treated wi th PAR (they reached the initial levels after 6h and 3h, respectively). The rETR of the th alli recovered much more slowly (at least 24 h) than the effective photosynthetic quantum yields did.
【语种】中文
【第一作者】刘树霞
【通讯作者】邹定辉
【期刊名称、卷期、页码】海洋通报 27(6):45-51
【论文发表时间】2008-12-13 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】水产养殖学

【题目】便携式施肥播种器在吉林省东部半山区玉米生产上的应用效果
【中文关键词】吉林省东部;便携式播种器;播种;效果
【英文关键词】无
【中文摘要】在吉林省东部半山区耕地中,坡耕地占70%以上,小型机械不适宜在坡耕地上播种玉米,而使用便携式播种器可解决这一难题。
【英文摘要】无
【语种】中文
【第一作者】方向前
【通讯作者】边少锋

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【引文索引号】null
【学科分类】农艺学

【题目】硝唑尼特对利什曼原虫的体外药效试验
【中文关键词】硝唑尼特;杜氏利什曼原虫.;体外试验
【英文关键词】无
【中文摘要】为观察硝唑尼特在不同浓度、不同作用时间对离体杜氏利什曼原虫的药效作用,以6个不同浓度(6.25、12.5、25、50、100、200 ug/mL)的硝唑尼特分别作用体外培养的杜氏利什曼原虫前鞭毛体48 h和72 h。结果显示,随着浓度和作用时间的增加,药物对虫体的抑制率升高,显微镜下可见虫体变形,核和动基体不完整,细胞质内有空泡,鞭毛脱落,即硝唑尼特对杜氏利什曼原虫有较好的抑杀作用。
【英文摘要】无
【语种】中文
【第一作者】张瑞岩
【通讯作者】吴永魁
【期刊名称、卷期、页码】动物医学进展,2010,31(3):115-117
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【引文索引号】null
【学科分类】兽医学

【题目】人工养殖半滑舌鳎卵巢发育及其产卵类型研究
【中文关键词】半滑舌鳎(Cynoglossus semilaevis); 卵巢; 产卵类型
【英文关键词】Cynoglossus semilaevis
【中文摘要】研究了人工养殖半滑舌鳎(Cynoglossus semilaevis)卵巢发育组织学的季节变化及其与性成熟系数(gonadosomatic index, 简称GSI)和肝质量指数(hepatosomatic index, 简称HSI)的关系。结果表明, 半滑舌鳎成熟鱼卵巢发育经历Ⅱ期、Ⅲ期、Ⅳ期、Ⅴ期、Ⅵ期, 再到重复发育Ⅱ期; 人工养殖条件下, 3~5月份大部分鱼卵巢处于Ⅱ期, 从6 月份开始, 其卵母细胞内开始沉积卵黄颗粒, 9~11 月份, 卵母细胞内卵黄颗粒充盈整个胞质, 基本达到生长成熟, 排卵后至翌年2 月份, 卵巢进入了退化吸收Ⅵ期或重复发育Ⅱ期; 繁殖期GSI 达到最高峰; 产卵后或重复发育Ⅱ期, GSI 显著下降, 此时HSI 显著升高至全年最高峰; 半滑舌鳎在1 a 中只有1 个繁殖期, 进行分批产卵。
【英文摘要】无
【语种】中文
【第一作者】陈彩芳
【通讯作者】温海深
【期刊名称、卷期、页码】海洋科学 , 2010 ,34(8):29-34
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【引文索引号】null
【学科分类】水产养殖学

【题目】阿苯达唑亚砜盐酸盐对照品候选物纯度检测方法的建立
【中文关键词】阿苯达唑亚砜盐酸盐;薄层色谱法;高效液相色谱法;面积归一化
【英文关键词】albendazole sulfoxide hydrochloride;TLC;HPLC;area normalization method
【中文摘要】以盐酸阿苯达唑亚砜原料为基础,通过反复提纯,得到盐酸阿苯达唑亚砜对照品候选物,该候选物经过熔点,薄层色谱法(TLC)和高效液相色谱法检测,初步确认符合对照品的要求,经过高效液相色谱检测,采用面积归一化法计算其纯度不小于99.5%。该方法的建立为盐酸阿苯达唑对照品进一步研究提供了帮助。
【英文摘要】Albendazole sulfoxide hydrochloride candidate was obtained through repefitedly purify the base matedal—albendazole sulfoxide hydrochloride raw material. This control article was initially confirmed to the standard comply by detection of melting point,

thin-layer chromatography(TLC)and HPLC. Through detection of HPLC method and calculation of area normalization method,the content of this control article not less than 99.5%. The method provided help for further study of albendazole sulfoxide hydmehloride reference substance

【语种】中文
【第一作者】刘志亮
【通讯作者】刘志亮
【期刊名称、卷期、页码】中国兽药杂志,2010,44(7):13-15
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【引文索引号】null
【学科分类】兽医学

【题目】不同生长阶段仿刺参肠道内含物
【中文关键词】仿刺参; 温度; 肠道内含物; 消化酶
【英文关键词】无
【中文摘要】于2008年6月 2009年5月, 对不同生长阶段(体重分别为5、10、20、30、40 g) 仿刺参Ap os tichop us japonicus 肠道内含物和消化酶进行了跟踪观测。结果表明: 温度显著影响不同生长阶段仿刺参的肠道内含物和消化酶活性(P < 0 05) ; 相同温度下, 体重对肠道内含物和消化酶活性的影响也呈规律性。最小体重组(5 g 组) 仿刺参肠道内含物和淀粉酶、蛋白酶、纤维素酶的比活力, 在温度为12 7~ 16 2时, 分别在较低水平上平稳上升; 在16 2 ~ 22 1 时, 迅速上升, 在22 1 时达到最大值, 分别为33 13%、(1143! 16 95)、(1188 42 ! 34 13)、(118 06 ! 0 56) U /g; 在22 1~ 26 1 时, 在较高水平上平稳下降到24 39%、(934 57! 63 46)、(983 56 ! 23 58)、(116 11 ! 0 33) U /g。与之相反, 最大体重组(40g组) 仿刺参肠道内含物和淀粉酶、蛋白酶、纤维素酶比活力, 在温度为12 7~ 16 2 时, 在较高水平上平稳上升, 在16 2 时达到最大值, 分别为49 32%、(1 366 49 ! 45 02)、(1 556 32 ! 37 05) 、(121 23 !0 45) U /g; 在16 2~ 22 1 时, 迅速下降到较低水平; 在22 1~ 26 1 时, 在较低水平上平稳下降, 在26 1 时达到最小值, 分别为10 02%、(257 61 ! 34 39)、(603 28 ! 31 95)、(96 34 ! 0 86)U /g。
【英文摘要】无
【语种】中文
【第一作者】周玮
【通讯作者】周玮
【期刊名称、卷期、页码】大连水产学院学报,2010,25(5):460-464
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【学科分类】水产增殖学

【题目】副溶血弧菌感染日本蟳后对几种免疫活性酶的影响
【中文关键词】关键词: 日本蟳; 超氧化物歧化酶; 酸性磷酸酶; 碱性磷酸酶; 过氧化氢酶;
【英文关键词】无
【中文摘要】用副溶血弧菌悬液和生理盐水(对照) 注射感染日本蟳, 研究其血清超氧化物歧化酶(SOD) 、酸性磷酸酶(ACP) 、碱性磷酸酶(AKP) 、过氧化氢酶(CAT) 活性的变化, 并进行统计学分析。试验结果表明, 注射副溶血性弧菌悬液组12、2 4、48 h 后SOD 活性均高于对照组, 48 h 达到最高; 12、24 h CAT活性增加明显, 24 h 达最高; AKP 活性5、1 2、24 h 均有增加, 高于对照组, 24 h 最高; ACP 活性12 h 开始上升, 24 h 达最高。在人工感染副溶血性弧菌48 h 内, 日本蟳体内的免疫因子发生明显的变化, 血清中SOD、ACP 、AKP 、CAT 活性在不同时间段均有显著升高趋势, 高于对照组。
【英文摘要】无
【语种】中文
【第一作者】王洪斌
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【期刊名称、卷期、页码】水产科学,2010,29(11):653-656

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【学科分类】水产养殖学

【题目】科尔沁沙地乌兰敖都地区荒漠化动态监测
【中文关键词】荒漠化 动态监测 气温 植被 土壤侵蚀 科尔沁沙地
【英文关键词】无
【中文摘要】摘 要:利用科尔沁沙地乌兰敖都荒漠化试验站的监测资料,从植被、土壤、水分、气象和沙尘暴等方面分析了乌兰敖都地区的荒漠化发展动态。结果表明:近10年内气温有暖温化趋势,但灾害天气没有明显增加;流动沙丘侵蚀最严重,沙丘平均移动速率为2.2 m/a;人工植被发展良好,但原生草场的可持续发展能力有所下降;地下水位没有明显下降趋势。目前,科尔沁沙地乌兰敖都地区土地荒漠化呈逆转趋势,整体环境有所改善
【英文摘要】无
【语种】中文
【第一作者】蒋德明
【通讯作者】蒋德明
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【引文索引类型】其他
【引文索引号】null
【学科分类】林业工程

【题目】鲶爱德华氏菌间接酶联免疫快速检测法的建立
【中文关键词】鲶爱德华氏菌;酶联免疫吸附实验(ELISA);黄颡鱼;“ 红头病 ”;多克隆抗体
【英文关键词】无
【中文摘要】用鲶爱德华氏菌兔抗血清作为一抗,碱性磷酸酶(AP)标记的羊抗兔IgG 作为酶标二抗,建立黄颡鱼“ 红头病 ”病原菌—鲶爱德华氏菌的间接酶联免疫(ELISA)快速检测法,并优化检测条件。抗原最佳包被浓度为107 /mL,一抗工作的最佳稀释度为1∶211,病原菌的检测灵敏度为105 /mL,交叉反应实验证明该方法特异性强,与迟钝爱德华氏菌、弧菌等13 种标准菌株无交叉。应用上述技术对人工感染发病鱼中分离的优势菌进行检测,结果表明阳性检出率为80%;对自然发病黄颡鱼体内分离获得的20 株优势菌检测结果表明,12 株菌为鲶爱德华氏菌。
【英文摘要】无
【语种】中文
【第一作者】李重实
【通讯作者】李强
【期刊名称、卷期、页码】广东海洋大学学报,2010,30(4):17-21
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【引文索引类型】其他
【引文索引号】null
【学科分类】水产养殖学

【题目】抗鲶爱德华氏菌多克隆抗体的制备及特性分析
【中文关键词】黄颡鱼; 红头病; 鲶爱德华氏菌; 多克隆抗体
【英文关键词】无
【中文摘要】利用2 株黄颡鱼 红头病 病原菌!!!鲶爱德华氏菌的灭活疫苗作为免疫原, 免疫新西兰大白兔, 制备了高效价的多克隆抗体。通过间接酶联免疫、间接免疫荧光和免疫印迹等技术对多克隆抗体特性进行了分析。测定获得多抗效价分别为1∀ 215 和1 ∀ 214 , 2 株病原菌之间存在很强的交叉反应, 且2 种多抗均与鲶爱德华氏菌、迟钝爱德华氏菌、副溶血弧菌、鳗弧菌、溶藻弧菌、火神弧菌、河流弧菌、创伤弧菌标准菌株存在交叉反应, 与粪肠球菌、大肠杆菌、酿脓链球菌、海豚链球菌、杀鲑气单胞菌、嗜水气单胞菌、类产碱假单胞菌标准菌株均无交叉反应。免疫印迹实验结果表明, 2 株病原菌的主要抗原决定簇相同, 分子量分别为61. 1, 46. 6, 41. 3, 28. 8 和19 kDa。本实验得到了黄颡鱼 红头病 致病菌高效价的多克隆抗体, 可以作为初步筛选 红头病 病原菌的工具, 为建立快速有效的疾病监测方法和进一步的免疫学

防病研究提供了依据, 奠定了基础。
【英文摘要】无
【语种】中文
【第一作者】李　　华
【通讯作者】李　　华
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【引文索引号】null
【学科分类】水产养殖学

【题目】缢蛏致病性气单胞菌的分离鉴定及毒力研究
【中文关键词】缢蛏; 气单胞菌; 分离; 鉴定; 毒力
【英文关键词】S invnovacu la constricta; Aerom onas; isolation; id ent ification; toxicity
【中文摘要】对连云港市连云区2006 年7 月在养殖缢蛏中爆发的一次流行病进行了病原菌分离、培养、毒力试验和详细的生理生化测定, 确定点状气单胞菌为其病原菌; 并探讨了该菌在不同盐度波动(S0、S2、S4和S6分别代表盐度波动幅度为0、2、4和6)和不同水温(21　　、25　　、29　　和33　　)条件下对缢蛏存活率的影响, 结果表明: S0处理组缢蛏的存活率显著高于S2、S4和S6处理组, 而S6 处理组缢蛏的存活率显著低于其它处理, S2 和S4 处理组组间差异不显著; 在21　　和25　　温度处理组,缢蛏的存活率为100%, 显著高于29　　和33　　温度处理组, 而33　　温度处理组显著低于其它处理。
【英文摘要】An ep izoot ic in Ju.l 2006, in cu ltured S invnovacula con stricta at L ianyun Qu of L ianyungang, J iangsu Province, w as stud　　ied. A ccord ing to th e virulence tes ts and the b iochem ical characterist ics of th e b acterial isolates, the pathogen w as ass ign ed to Aero　　m ona s pun cta ta. Its toxicity under d ifferent sal in ity (con stant (S0) and f luctu at ing (S2, S4 and S6)) or tem peratu re (21　　, 25　　,29　　and 33　　) w as also stud ied. The resu lts show ed that (I) . At S0, specif ic grow th rate ofS. constricta w ere s ign if icant ly h igherthan at S2, S4 and S6, w hereas at S6, specif ic grow th rate ofS. constric ta w ere s ign ifican tly low er th an other treatm ents. N o sign ifi　　cant difference w as d etected betw een S2 and S4. (II) . A t 21　　and 25　　, th e su rvival rate ofS. con stricta w as 100%, w h ich w eres ign if ican tly h igher than th ose at29　　and 33　　, whereas at 33　　, th e su rvival rate ofS. constric ta w as sign ifican tly low er than other
【语种】中文
【第一作者】王兴强
【通讯作者】王兴强
【期刊名称、卷期、页码】海洋环境科学, 2010,
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【学科分类】水产养殖学

【题目】三疣梭子蟹病原副溶血弧菌的分离与鉴定
【中文关键词】三疣梭子蟹;副溶血弧菌;16S rRNA 基因;gyrB 基因
【英文关键词】Portunus trituberculatus L.; Vibrio parahaemolyticus; 16S rRNA gene; gyrB gene
【中文摘要】从养殖病死三疣梭子蟹肝胰脏及心脏血淋巴液中分离到大量优势生长的细菌,人工感染试验证明分离菌对三疣梭子蟹有较强的致病性;对分离菌进行了形态特征、理化特性、胞外酶及溶血素活性等表型生物学性状及16S rRNA 和gyrB 两种基因的分子鉴定。菌株(JGX080708-1)所扩增的16S rRNA 基因序列长度为1 453bp(GenBank 登录号:FJ824663),所扩增的gyrB 基因序列长度为1 191bp(GenBank 登录号:GQ372985);两种基因序列在NCBI 通过blast 检索,结果均与弧菌属细菌的基因序列自然聚类;根据分离菌的表型及分子特征,判定分离菌为弧菌属(Vibrio Pacini 1954)的副溶血弧菌[Vibrio parahaemolyticus(Fujino et al 1951)Sakazaki Nakamura and Takizawa 1963]。分离菌的药敏试验结果显示,对供试49 种抗菌药物中的安曲南等42 种药物高度敏感,对林可霉素敏感,对青霉素G 等6 种药物耐药。
【英文摘要】Dominant bacteria were isolated from diseased Portunus trituberculatus L., and have strong pathogenicity toPortunus trituberculatus L. by artificial challenge. The phenotypic biological characters were examined, includingmorphological characteristics, physiological and biochemical characteristics; and the activity of extracellulase andhemolysin. The molecular identification were also

conducted, and the 16S rRNA and gyrB genes were partiallysequenced and compared with sequences deposited in databases, moreover molecular phylogenetic trees wereconstructed. The sequenced 16S rRNA gene of strain JGX080708-1 (GenBank accession No. FJ824663) is 1,453bp inlength, and the sequenced gyrB gene of strain JGX080708-1 (GenBank accession No. GQ372985) is 1,191bp in length.Blasting of 16S rRNA and gyrB genes in NCBI showed high homogeneity between the isolates and Vibrio sp. fromGenBank database. The results showed that the identified strains belonged to Vibrio parahaemolyticus [(Fujino et al1951) Sakazaki Nakamura and Takizawa 1963] of Vibrio (Pacini 1954) based on their phenotypic and molecularcharacteristics. Drug resistance of isolates to 49 antimicrobial agents was detected, and the results showed that isolateswere high sensitive to 42 agents including aztreonam, and also sensitive to lincomycin, furthermore they were resistantto 6 agents including penicillin G.

【语种】中文
【第一作者】阎斌伦
【通讯作者】阎斌伦
【期刊名称、卷期、页码】海洋通报, 2010, 29(5):560-566
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【引文索引号】null
【学科分类】水产养殖学

【题目】科尔沁沙地人工固沙群落草本植物种群生态位特征
【中文关键词】科尔沁沙地 固沙群落 生态位宽度 生态位重叠
【英文关键词】无
【中文摘要】摘 要:运用Levins生态位宽度和Pianka生态位重叠公式,计测分析了科尔沁沙地流动沙丘以及山竹子Hedysarum fruticosum、柠条锦鸡儿Caragana korshinskii、黄柳Salix gordejevii和小叶锦鸡儿C.microphylla人工固沙群落内草本植物种群的生态位宽度和生态位重叠。研究结果表明:在不同的生境条件下物种的生态位宽度存在差异.沙蓬Agriophyllum squavrosum在流动沙丘上的生态位宽度最大.狗尾草Setaria viridis、毛马唐Digitaria ciliaris分别在山竹子群落和黄柳群落中的生态位宽度最大.烛台虫实Corispermum candelabrum在柠条锦鸡儿群落和小叶锦鸡儿群落中占据着最宽的生态位。各群落中生态位宽的物种对生态位重叠值较大,但有些较窄的生态位物种对之间也出现较大的生态位重叠,这种现象从另外的角度表明各群落内环境资源存在一定的空间异质性。不同固沙群落中相同物种的生态位宽度和生态位重叠的差异在一定程度上反映了各群落内不同的区域环境特征。
【英文摘要】无
【语种】中文
【第一作者】李明中
【通讯作者】李明中
【期刊名称、卷期、页码】《草业科学》2009年 第8期 7 页 10-16页
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【引文索引类型】其他
【引文索引号】null
【学科分类】林业工程

【题目】浒苔对4 种赤潮微藻生长的影响
【中文关键词】浒苔; 抑藻物质; 赤潮微藻
【英文关键词】Enter omorp ha p rol if era ; inhibitory substances; red t ide micro alg ae
【中文摘要】采用共培养方法, 研究了鲜浒苔及其培养水过滤液对前沟藻、中肋骨条藻、米氏凯伦藻和塔玛亚历山大藻4 种赤潮微藻生长的影响。在此基础上, 采用甲醇浸泡浒苔干粉末, 分析了浒苔干粉末的甲醇提取物对上述4 种赤潮微藻生长的抑藻作用。结果表明, 鲜浒苔能显著抑制4 种赤潮微藻的生长, 浒苔干粉末的甲醇提取物亦能显著抑制4 种赤潮微藻的生长, 当其浓度为2 g/ L 时, 第4d 就导致米氏凯伦藻和中肋骨条藻藻细胞完全死亡。
【英文摘要】The ef fect of fresh Enteromor p ha p rolif era on the growth of four species of red tide microal gae (A mp hidinium hoef leri , Skeletonema costatum, K arenia mikimitoi and A lex andr ium tamarense)was studied. Furthermore, the inhibitory activity against four species of red t ide microalgae of fresh E.p rol if er a culture filtrate was tested. The product s w ere extracted from the dry pow der of E. p rol if er awith methanol, and their inhibitory ef fect on the growth of those microalgae w as investigated. The re sult s showed that the fresh t issue of E. p rol if er a had a strong grow th inhibitory effect on A . hoef l er i,S. costatum, A. tamar ense and K .

mikimitoi. The grow th of all tested microalgae was restrained by themethanol extract s of E. p rol if era dry powder, and the growth of K . mikimitoi and S. costatum wascompletely inhibited at 2. 0 g/ L treatment on the 4th day.
【语种】中文
【第一作者】孙颖颖
【通讯作者】孙颖颖
【期刊名称、卷期、页码】淮海工学院学报(自然科学版), 2010,19(3):75-78
【论文发表时间】2010-09-01 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】水产养殖学

【题目】科尔沁沙地沙漠化过程中植被与土壤退化特征的研究
【中文关键词】科尔沁沙地 沙漠化 植被退化 土壤理化性质 土壤酶
【英文关键词】无
【中文摘要】摘 要:选择科尔沁沙地沙漠化严重地区相邻地段的固定沙丘、半固定沙丘、半流动沙丘和流动沙丘为对象,对土地沙漠化过程中植物种类消长、物种多样性、生活型结构及土壤理化性质和生物活性的变化特征进行了分析。结果表明:沙漠化过程是一个物种多样性衰减的过程,沙漠化导致大多数原生眭物种消失。从生活型来看,地面芽植物受沙漠化影响最大。沙漠化过程中土壤养分严重丧失,土壤微生物量C、N、P,以及土壤脲酶、蛋白酶、蔗糖酶、磷酸单酯酶、脱氢酶和硝酸还原酶的活性均随沙漠化程度的加剧而大幅度下降。土壤生物活性对土壤沙漠化比较敏感,在固定沙丘到半固定沙丘的转化过程中土壤生物活性和物种多样性下降最快。
【英文摘要】无
【语种】中文
【第一作者】蒋德明
【通讯作者】蒋德明
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【引文索引号】null
【学科分类】林业工程

【题目】塑料增塑剂对凡纳滨对虾存活、生长和免疫的影响
【中文关键词】凡纳滨对虾;塑料增塑剂;存活;生长;免疫
【英文关键词】Litopenaeus vannamei;plastic plasticizer; survival;growth;immune factors
【中文摘要】研究了塑料增塑剂邻苯二甲酸二甲酯(DMP)、邻苯二甲酸二乙酯(DEP)、邻苯二甲酸二丁酯(DBP)和邻苯二甲酸二辛酯(DOP)对凡纳滨对虾(Litopenaeus vannamei)存活、生长和免疫的影响. 96h 急性毒性实验表明,在助溶剂Tween 20 的安全浓度范围内,随着DMP、DEP、DBP 和DOP 水平的升高,凡纳滨对虾存活率呈下降趋势,24h、48h、72h 和96h 的LC50分别为40.33、35.29、25.48、19.14mg・L -1,30.52、23.45、16.96、15.38mg・L -1,7.51、6.97、6.57、6.06mg・L-1 和6.85、5.87、5.01、4.47mg・L-1;DMP、DEP、DBP 和DOP 对凡纳滨对虾的安全浓度随塑料增塑剂碳链的增加呈下降趋势,分别为8.11、4.15、1.80 和1.29mg・L-1. 90d 慢性毒性实验表明,凡纳滨对虾存活率、特定生长率、血清蛋白含量、血清酚氧化酶和超氧化物歧化酶活性均以对照组和0.0400mg・L-1 助溶剂Tween 20 处理组最高,而且显著高于1/100 倍DMP、DEP、DBP 和DOP 安全浓度处理组(p<0.05).
【英文摘要】The experiments were designed to determine the effects of plastic plasticizers on survival, growth and immunefactors of Litopenaeus vannamei. The four commonly used plasticizers were dimethyl phthalate (DMP), diethyl phthalate(DEP), di-n-butyl phthalate(DBP)and dioctyl phthalate(DOP). The result of acute toxicity test for 96h indicated that thesurvival rate of Litopenaeus vannamei exhibited decreased trend with increasing DMP, DEP, DBP and DOP levels withinthe safety concentration of co -solvent Tween 20, and LC50 at 24h, 48h, 72h and 96h were 40.33, 35.29, 25.48 and19.14mg・L-1; 30.52, 23.45, 16.96 and 15.38mg・L-1; 7.51, 6.97, 6.57 and 6.06mg・L-1; 6.85、5.87, 5.01 and 4.47mg・L-1, respectively. The safety concentration of DMP, DEP, DBP and DOP decreased with increasing carbon chain, and were8.11, 4.15, 1.80 and 1.29mg・L-1, respectively. The result of chronic toxicity test for 90d indicated that the survival rate,specific growth rate, serum protein content, polyphenol oxidase activity and superoxide dismutase activity were high in thecontrol and 0.0400mg・L -1 co -solvent Tween 20 treatment, which were significantly higher than the

treatments of 1/100safety concentration of DMP, DEP, DBP and DOP.
【语种】中文
【第一作者】王兴强
【通讯作者】王兴强
【期刊名称、卷期、页码】生态毒理学报,2010,5(1):69-75
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【引文索引号】null
【学科分类】水产养殖学

【题目】科尔沁沙地生物与工程结合的固沙措施与效果
【中文关键词】科尔沁沙地 固沙 草方格 土壤养分 植被
【英文关键词】Key words:Horqin sandy land;sand-stabilizing;straw check boards;soil nutrients;vegetation
【中文摘要】摘 要:应用生物与工程措施对科尔沁沙地西部流动沙丘进行植被恢复,并通过沙丘监测和植被调查来评价流沙固定和恢复效果。1.0×1.0m的草方格结合适宜的固沙植物,能达到最佳的防风固沙效果。流动沙丘经人工措施固定后,随固定年限的增加,土壤水源涵养能力逐步提高,土壤中的有效养分如全C、有效K、碱解N和有效P等指标显著提高,土壤化学性质得到明显改善。植被盖度明显提高,植物生态系统趋于相对稳定的状态。
【英文摘要】Abstract:Applying biology and engineering measures to restoring the vegetation of shifting sand in western region of Horqin sandy land, and sand-stabilizing and restore effect were assessed through sand monitoring and vegetation investigation. 1.0×1.0m size straw check boards with suited sand-stabilizing plants could achieve the best wind break and sand-stabilizing effect. As the time goes by after shifting sands were stabilized, soil water conservation capacity, and the available nutrients, total C, available K, N, and P were increased, soil chemical property was improved obviously. Vegetation coverage was increased and plant ecology system was inclined to reach stabilization condition relatively.
【语种】中文
【第一作者】蒋德明
【通讯作者】蒋德明
【期刊名称、卷期、页码】《辽宁工程技术大学学报:自然科学版》2008年 第1期 3 页 141-143页
【论文发表时间】2008-02-15 00:00:00
【引文索引类型】EI
【引文索引号】1008-0562(2008)01-0141-03
【学科分类】林业工程

【题目】雄性半滑舌鳎贮精囊形态结构与内分泌功能初步研究
【中文关键词】半滑舌鳎; 贮精囊; 雄激素受体; 雌激素受体形态学
【英文关键词】无
【中文摘要】半滑舌鳎(Cy nog lossus semilaev is) 是我国名贵海水养殖鱼类之一, 其独特的生殖生物学特性受到国内外学者关注。本文以山东半岛养殖半滑舌鳎为对象, 侧重研究贮精囊形态结构, 以及雌激素受体(ER) 和雄激素受体(AR) 在不同精巢发育期贮精囊中的免疫组织化学定位。结果表明: 精巢前端为贮精囊, 其长度与生精部几乎等长, 当精巢接近性成熟和性成熟时贮精囊非常饱满; 贮精囊由结缔组织隔膜分割成小室, 在生殖期间小室内有大量的成熟精子; AR 和ER 阳性反应部位主要发生在贮精囊小室间的结缔组织细胞和间质细胞内, 在精巢重复发育期和排精后, 贮精囊被膜和隔膜呈现强AR 和ER 阳性反应; 精子形成期和成熟期, 贮精囊被膜和隔膜呈弱AR 和ER 阳性反应。AR 和ER 可能介导半滑舌鳎贮精囊黏液、酶类、蛋白质合成与分泌作用。
【英文摘要】无
【语种】中文
【第一作者】温海深
【通讯作者】温海深
【期刊名称、卷期、页码】中国海洋大学学报, 2010, 40(9):33-38
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【引文索引号】null
【学科分类】水产养殖学

【题目】刺参杂交子代的微卫星和A F L P 分析
【中文关键词】刺参;杂交;A F LP 标记;微卫星标记
【英文关键词】无
【中文摘要】用微卫星和A FLP 标记分析了中国刺参(早)和日本红刺参(矛)杂交子一代的遗传特性!2 对微卫星标记对两亲本及其杂交子代的分析结果表明, 杂交子代的等位基因均来自两亲本, 为真正的杂交种!8 对A F LP 引物共扩增出375个位点,其中多态位点265 个, 多态位点比例69 .8% ;238 个位点在子代中发生分离,符合孟德尔分离规律的位点175 个,其中母本69 个,父本6 个;偏离孟德尔分离的位点43 个;异常分离位点20 个!子一代与母本间的遗传距离为0.0391,小于其与父本之间的遗传距离(0 .09)9 ,表明杂交子代在遗传上与母本较近 !
【英文摘要】无
【语种】中文
【第一作者】李莉
【通讯作者】李琪
【期刊名称、卷期、页码】中国海洋大学学报, 2010, 40:53-58
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【引文索引号】null
【学科分类】水产养殖学

【题目】不同盐度驯化方式对小鲜鲤(H u h u)(早) 只
【中文关键词】小鲜蝗; 盐度; 生长; 渗透生理
【英文关键词】无
【中文摘要】本研究以小鲜蝗幼鱼为研究对象,对比了不同驯化方式(即从淡水开始,盐度分别突变 , 5 , 10 和15 ,然后每天增加盐度1 ,分别表示为T0 T S T 10 和T 15)对其生长性能 血浆渗透压 鳃丝N a+ /K + -A T P 酶活性以及血糖 血清主要金属离子和氯离子浓度等的影响 从驯化至盐度28 得到的结果表明, 各处理小鲜鲤存活率差异不显著(P > o, 05);T0 和T S 处理的特定生长率差异不大,但显著高于T 15 和T 01 处理(尸< 0.05);各处理血浆渗透压显著高于驯化前,但相互之间差异不显著;各处理小好蝗鳃丝N a+ /K + 一A T P 酶活力均明显升高,但T 15 处理的鳃丝N a+ /K + -A T P 酶活力显著低于其它处理(尸< 0.05) ;各处理小鲜蝗血糖含量均低于驯化前水平,但相互之间差异不大(尸> 0.05) ;与在淡水中相比, 盐度突变幅度最大的处理(T 15)的小鲜蝗在驯化过程中血清N a+ K + C aZ十 M 扩+ 和Cl 一浓度显著上升 除N a+ 和Cl 一浓度变化趋势相同外,其它离子浓度的变化规律性不强 综合比较表明,小鲜蝗对较高的盐度及其突变耐受性较差,而从淡水向海水驯化时,盐度为5 的突变幅度可能对小鲜鲤比较适宜
【英文摘要】无
【语种】中文
【第一作者】田相利
【通讯作者】田相利
【期刊名称、卷期、页码】中国海洋大学学报, 2010, 40(7):29-35
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【引文索引号】null
【学科分类】水产养殖学

【题目】基于叶面积指数(LAI)的小麦变量施氮模型研究
【中文关键词】小麦;模型;变量施氮;精确农业
【英文关键词】wheat;model;variable fertilization;precise agriculture
【中文摘要】摘 要:为探讨基于叶面积指数变化的小麦变量施氮技术,依据养分平衡原理和“ 作物-土壤-环境-技术 ”整体原则,采用土壤空间信息数据与小麦需氮量和各生育阶段叶面积指数相结合的方法,设计了小麦播前施氮总量和播后精确追氮的数量模型。根据拔节期和抽穗期小麦的长势,对施氮量的初值进行订正,确定小麦的最适追氮量。在河南郑州市和鹤壁市两地的试验验证结果表明:小麦产量模拟值与实测值间的相关系数分别为0.7799和0.7169,达显著水平。与传统施肥

技术相比,在相同产量下,使用模型后每公顷施氮量减少43.5 kg。该研究提出的基于模型的变量施氮技术,可以兼顾天气、地力和作物长势三方面因素,最终实现小麦的精确施氮,对促进精确农业的发展具有重要意义。

【英文摘要】Abstract:In order to study the variable nitrogen fertilization techniques based on LAI , the model on total amount of N fertilization before sowing and precise N amount after sowing was designed following the theory of nutrient balance and the principle of “ crop-soil-environment-technology ”, taking spatial variability of soil nutrition, wheat N requirement and LAI in different development phrase into account. According to the growth status of elongation period and heading period of wheat, initial rate of N application was corrected, and optimum additional amount of N fertilizer was ensured. Field experiments of wheat with variable nitrogen fertilization model were respectively carried out at Henan Agricultural University Research Station and Agricultural Research Institute of Hebifrom 2004 to 2005. The results showed that the simulated value of yield was significant correlated with that of field survey, and the correlation coefficient was 0.7799 and 0.7169 respectively. Compared with traditional N fertilization system, the variable nitrogen fertilization model can save 43.5 kg N per hm 2 with the same yield. Variable nitrogen fertilization model based on this model can take weather, soil fertility and the growth status intoaccount, and realize precise nitrogen fertilization in small size field at last, which means a lot to develop precise agriculture.

【语种】中文

【第一作者】马新明

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【学科分类】农业基础学科

【题目】不同饲料蛋白水平对仿刺参生长的影响

【中文关键词】仿刺参; 蛋白水平; 能量收支

【英文关键词】无

【中文摘要】在水温为(14 0 5) 、盐度为31~ 31 5 的条件下, 研究了仿刺参幼参Ap ostichopus jap onicus 对蛋白水平为6%、13%、20%、27%、34% 的5种饲料(以鱼粉、鼠尾藻粉、玉米面粉、复合维生素和复合矿物质为原料) 的能量收支。结果表明: 当饲料蛋白水平为19 48%时, 幼参的特定生长率和饲料转化效率均达到最高水平, 分别为1 27% /d和5 58%, 此时饲料系数最低, 为1 134; 在该蛋白水平下, 仿刺参生长能的比例最大, 能量收支方程为100C = 5 28G + 27 24F + 4 22U+ 3 46R s + 59 80R。

【英文摘要】无

【语种】中文

【第一作者】周玮

【通讯作者】周玮

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【引文索引号】null

【学科分类】水产养殖学

【题目】阿苯达唑亚砜盐酸盐有关物质的HPLC检测

【中文关键词】阿苯达唑亚砜盐酸盐;HPLC;测定

【英文关键词】无

【中文摘要】为了建立阿苯达唑亚砜盐酸盐中有关物质的检测方法,本文采用高效液相色谱(HPLC)方法,通过系统适用性、专属性、检测限等试验,确定了阿苯达唑亚砜盐酸盐中有关物质的HPLC检测方法。色谱条件:采用C18色谱柱,流动相为乙腈一蒸馏水(40:60),检测波长为230nm。结果显示:阿苯达唑亚砜盐酸盐在1.25~40.0ug/mL浓度范围内线性关系良好,检测限为0.032ug/mL。在此条件下阿苯达唑亚砜盐酸盐与其合成原料阿苯达唑、合成中可能产生的阿苯达唑砜、降解产物分离情况良好。

【英文摘要】无

【语种】中文
【第一作者】刘志亮
【通讯作者】刘志亮
【期刊名称、卷期、页码】畜牧与兽医,2011,43(3):60-62
【论文发表时间】2011-09-08 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】兽医学

【题目】Individual Variation in Growth in Sea Cucumber Apostichopus
【中文关键词】无
【英文关键词】sea cucumber; Apostichopus japonicus; growth; coefficient of variation; individual
【中文摘要】无
【英文摘要】The exceptionally large individual growth variation has been previously recognized in several sea cucumber cohorts.However, there is a lack of information regarding the mechanism of such individual differences. In this study, the sea cucumberApostichopus japonicus (Selenka) was reared individually in order to eliminate possible effects of social interaction, stocking density,etc. The results showed that there were substantial differences in growth among the sea cucumber individuals during the 100-dayexperiment. The special growth rate of the sea cucumber individuals differed by up to three folds (from 0.40% to 1.01%), and thecoefficient of variation in body weight increased from 12.04% to 40.51%. The final wet body weight, food intake and food conversionefficiency for each sea cucumber were generally positively correlated with their initial wet body weight ($P<0.05$). Energy budgetof the animals showed that the food energy spent on respiration was much greater (about four folds) but energy deposited for growthwas much less for (initially) smaller than for larger A. japonicus. The present result implies that there are obvious genetic differencesamong the sea cucumber individuals, largely accounting for the individual growth variation of the cohort sea cucumber. These resultswill provide some basic data for promoting selective breeding and farming of the sea cucumber.
【语种】中文
【第一作者】董双林
【通讯作者】董双林
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【引文索引号】null
【学科分类】水产养殖学

【题目】有机无机肥配施对小麦冠层结构、产量和蛋白质含量的影响
【中文关键词】有机肥;豫麦34;冠层结构;产量;蛋白质含量
【英文关键词】Organic manure; Yumai34;Canopy archit ecture; Grain yield; Protein content
【中文摘要】摘要:【目的】揭示有机无机肥配施对豫麦 34 冠层光分布特征、产量和蛋白质含量的影响。【方法】采用大田切片法,研究了尿素、鸡粪及鸡粪和尿素配施方式下,强筋小麦品种豫麦34的冠层结构、产量构成及籽粒蛋白质含量的变化。【结果】施用鸡粪有利于提高豫麦34旗叶的叶绿素含量(SPAD值),促进群体光合有效辐射(PAR)的提高,增大小麦群体的平均叶倾角(MLA),降低群体的冠层开度(DIFN),提高光能利用效率和小麦群体的叶 面积指数(LAI),有利于经济系数和籽粒蛋白质含量的改善。【结论】综合考虑小麦产量、经济系数和籽粒蛋白质含量等因素,3 种肥料处理以鸡粪与尿素配施为最佳,配施处理的小麦冠层结构适宜、株型最佳、群体光分布合理。
【英文摘要】Abstract: 【Objective】 The study was conducted to reveal the effect s of organic manure and urea mixture on canopy architecture, grain yield and protein content of Yumai34. 【Method】 Field experiments with the conventional “ Layer upon layer cut method ” were carried out to study the dynamics of canopy architecture characters and changes of grain yield and protein content of strong gluten wheat Yumai34 after application of urea, urea and chicken manure mixture, and chicken manure alone. 【Result】 The results showed that chlorophyll content (SPAD value) in flag leaves, photo synthetically active radiation (PAR), mean leaf angle (MLA), and leaf area index (LAI) increased under chicken ma retreatment, while canopy openness (DIFN) behaved oppositely, and these were all helpful to improve the light utilized efficiency. The fact that kernel weight per spike and kernel protein content of Yumai34 increased at chicken manure and urea mixture treatment remarkably, has meliorated the grain yield and kernel quality

significantly. 【Conclusion】The mixed fertilizer treatment had a reasonable canopy architecture than others, which accounted for they had intercepted more solar radiation. The grain yield, eco no my coefficient and kernel protein content of mixed fertilizer treatment were higher than those of other treatments significantly or extremely significantly.
【语种】中文
【第一作者】李春明
【通讯作者】李春明
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【引文索引号】null
【学科分类】农业基础学科

【题目】中国海五种群三疣梭子蟹的形态差异分析
【中文关键词】中国海;三疣梭子蟹;形态差异;多元分析
【英文关键词】China Sea; Portunus trituberculatus; morphological variation; multi-variation analysis
【中文摘要】运用三种多元分析方法,即聚类分析、主成分分析和判别分析,通过测量三疣梭子蟹23 个形态学性状参数,对中国海大连海区、东营海区、连云港海区、舟山海区和湛江海区5 个种群三疣梭子蟹的形态差异进行了比较研究。聚类分析结果表明,连云港种群和东营种群形态最为相似(形态距离0.07),大连种群与东营种群、大连种群(dl)与舟山种群(zs)的趋异程度逐渐增加,形态距离分别为0.08和0.09,而湛江种群的趋异程度最大,与其余4 种群的形态距离达0.15 以上。主成分分析构建了3 个主成分,其贡献率:主成分1 为27.39%,主成分2 为15.23%,主成分3 为10.27%,累积贡献率为52.89%。在第1 主成分中,比例性状ICM/CL、BCW/CL、PWC/CL 和SW/CL的影响比较大。判别分析结果表明,5 个海区种群之间的形态差异极显著(P<0.01),通过建立5 个地理种群的判别函数,结果判别准确率P1 为63.64%~94.44%, P2 为67.74%~92.86%,综合判别率为82.24%,因此,该判别方程具有较高的判别效果。
【英文摘要】Based on 23 morphological characters of Portunus trituberculatus, three multivariation analysis methods(cluster analysis, principal component analysis and discriminant analysis) were used to comparably reveal themorphological variation among the five geographical populations from China Sea areas (Dalian, Dongying, Lianyungang, Zhoushan and Zhanjiang). The results of cluster analysis and principal component analysis indicated thatthe morphological characters were similar between Dongying and Lianyungang, but quite different from that ofZhanjiang. In the principal component analysis, three principal components were constructed, and the contributoryratio of the first principal component was 27.39%, the second was15.23%, and the third was 10.27%.The cumulativecontributory ratio was 52.89%.The results of discriminant analysis indicated that there were significant differencesamong the five populations (P<0.01). The identification accuracy was 63.64%~94.44%(P1) and 67.74%~92.86%(P2), and the total discriminant accuracy was 82.24%.
【语种】中文
【第一作者】董志国
【通讯作者】孙效文
【期刊名称、卷期、页码】海洋通报,2010,29(4):421-426
【论文发表时间】2010-08-01 00:00:00
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【引文索引号】null
【学科分类】水产养殖学

【题目】科尔沁沙地植被恢复及其对土壤的改良效应
【中文关键词】流动沙丘;草方格;小叶锦鸡儿;围封;人工固沙群落;植被恢复;土壤改良;科尔沁沙地
【英文关键词】mobile sand dune; straw checkboard; caragana microphylla; enclosure; artificial sand-fixed community; vegetation restoration; soil improvement; Horqin sandy land
【中文摘要】摘要:探讨了对科尔沁沙地乌兰敖都地区流动沙丘采取生物和工程措施建立起人工固沙植被的相关配套技术,并就植被恢复程度对土壤改良效应进行了对比研究。结果表明:在流动沙丘进行人工固沙时采用1.0 m×1.0 m草方格内播种小叶锦鸡儿(Caragana microphylla)种子的措施具有较好的固沙效果,一般经过2年可使沙丘表面得到固定。在围栏封育条件下实施适宜的植被恢复措施,一般可在2~3年获得明显的固沙效果。小叶锦鸡儿人工固沙群落内土壤养分随着群落的生长发育而发生变化,在0~30 cm土层中,有机质、速效钾、全氮、水解性氮、全磷、有效磷含量都表现为:11年生群落>6年生

群落>流动沙丘;小叶锦鸡儿人工群落的建立可大幅度提高土壤微生物生物量,并随着年龄的增加,微生物生物量C、N、P的含量均呈现增加趋势。

【英文摘要】Horqin sandy land, located in the transition zone of North-east plain and Inner Mongolian plateau, is the typical ecotone of farming and grazing in northeastern China. In this region, arid climate and unreasonable human activities leads to severe desertification, which is an important ecological problem in east region of Inner Mongolia. Here, we discussed the biological and engineering technologies that fixed the mobile and semi-mobile sand dunes. The responses of soil improvement to vegetation restoration in Horqin sandy land were also analysed. The results showed that: (1) Planting seeds of Caragana microphylla in 1.0 m×1.0 m size straw checkboards could achieve the better sand-stablizing effect and the mobile sand dune could be fixed in 2 years. (2) The restoration effects of artificial sand-fixed community after enclosure would be showed in 2 or 3 years. (3) The soil nutrients of artifical sand-fixed community increased with the development of Caragana microphylla community, the organic matter, available K, N, P and total N, P in soil depth (0~30 cm) showed the same tendency: fixed sand dune have been fixed for 11 years> fixed sand dune have been fixed for 6 years>mobile sand dune; the building of artificial community could improve the soil microbe biomass, and the content of microbe C, N, P increased with the development of caragana microphylla shrubs.

【语种】中文

【第一作者】蒋德明

【通讯作者】蒋德明

【期刊名称、卷期、页码】生态环境 2008, 17(3): 1135-1139

【论文发表时间】2008-05-18 00:00:00

【引文索引类型】其他

【引文索引号】null

【学科分类】林业工程

【题目】液质联用测定犬血浆中硝唑尼特主要活性代谢产物的试验

【中文关键词】替唑尼特; 药代动力学; 液质联用

【英文关键词】无

【中文摘要】为了研究硝唑尼特在Beagle犬体内的药代动力学特征,试验用液质联用方法检测硝唑尼特的主要代谢产物-替唑尼特。结果发现:替唑尼特在0.05~25 μg/mL范围内线性关系良好,r=0.999 9(n=7),该方法日内精密度<1.5%(n=3),日间精密度<3.0%(n=3)。说明该方法灵敏度高,操作简便,可以用于硝唑尼特在犬体内的药代动力学研究。

【英文摘要】无

【语种】中文

【第一作者】董靖

【通讯作者】邓旭明

【期刊名称、卷期、页码】黑龙江畜牧兽医. 2010(21):123-124

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【引文索引号】null

【学科分类】兽医学

【题目】盐度和温度对半滑舌鳎生长、渗透生理及能量收支的影响

【中文关键词】半滑舌鳎; 盐度; 温度; 生长性能; 渗透生理; 能量收支

【英文关键词】无

【中文摘要】研究了盐度和温度对半滑舌鳎(Cynoglossus semilaevis)幼鱼的生长、生化组成、渗透生理及能量收支的影响。实验鱼体质量(18.06±3.65) g,全长(15.45±2.77) cm。实验设置了3个盐度水平(22、26和30)和4个温度水平(18 ℃、21 ℃、24 ℃和27 ℃),每个处理设置4个重复。8周的生长实验结果表明,各处理半滑舌鳎特定生长率总体变动在1.00% ~ 1.34%。在本研究条件下,盐度对半滑舌鳎生长影响不显著(P > 0.05),而温度对其生长影响显著(P < 0.05)。在盐度22、26和30下,其最大生长率分别出现在21℃、24 ℃和18℃下,而在27℃下生长率最低。饲料转化率和消化率变化趋势与生长率相似。随温度的升高鱼体蛋白质含量有升高趋势,脂肪含量和能值降低,但受盐度影响不显著。渗透生理研究结果表明,盐度和温度对半滑舌鳎血浆渗透压和鳃丝Na+/K+-ATP酶活性影响均显著(P < 0.05)。随盐度的升高,血浆渗透压和鳃丝Na+/K+-ATP酶活性均有所升高。温度对不同盐度下半滑舌鳎血浆渗透压影响有所差异,但随温度的升高半滑舌鳎鳃丝Na+/K+-ATP酶活性显著降低。能量收支研究表明,生长能和呼吸能的变化主导着半滑舌鳎的能量收支模式,在本研究设置

的温度和盐度范围内,生长能占摄食能的比例以盐度18和温度21°C最高,而呼吸能的比例则总体随温度升高而逐渐升高。
【英文摘要】无
【语种】中文
【第一作者】田相利
【通讯作者】田相利
【期刊名称、卷期、页码】中国水产科学,2010, 17(4): 771-782
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【引文索引号】null
【学科分类】水产养殖学

【题目】绿鳍马面鲀重复发育雄性生殖腺结构与发育组织学观察
【中文关键词】绿鳍马面鲀; 性腺; 贮精囊; 生精部; 发育期
【英文关键词】无
【中文摘要】采用常规石蜡切片、H E 组织染色法研究了性成熟绿鳍马面鲀雄性生殖腺结构和发育组织学。结果表明,性成熟绿鳍马面鲀精巢从外形上明显分为上、下两段, 上段为生精部, 下段为贮精囊。生精部分为2 支, 呈黄色、长条状; 生精部为典型的小叶型结构; 精小叶间有间质(Ley dig) 细胞。其生精部的发育历程可分为重复发育　　期、精子形成 期、精子成熟!期和退化吸收∀ 期。贮精囊位于精巢的后方并通过壶腹与生精部相连, 贮精囊为椭圆形,白色不分支, 其组织结构与贮存精子功能相适应, 由许多被结缔组织分开的管状囊腔组成; 贮精囊组织学变化与生精部周期性的变化相关, 又有相对的独立性, 也有周期发育, 可分为恢复期、生殖期和退化期。
【英文摘要】无
【语种】中文
【第一作者】温海深
【通讯作者】温海深
【期刊名称、卷期、页码】海洋科学进展,2010,28(2):209-215
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【引文索引号】null
【学科分类】水产养殖学

【题目】对羟基苯甲酸对2种赤潮微藻生长的影响
【中文关键词】赤潮微藻; 酚酸; 抑制作用
【英文关键词】red tide microalgae;phenolic acid;growth inhibition
【中文摘要】:通过测定藻细胞密度和细胞体积,观察藻细胞形态,分析藻细胞内硝酸还原酶(NR)、过氧化物酶(POD)和超氧化物歧化酶(SOD)活性以及丙二醛(MDA)含量等生理指标的变化,研究了对羟基苯甲酸对2 种赤潮微藻-米氏凯伦藻和塔玛亚历山大藻生长的影响。结果表明,浓度>1.6 mmol/L 时,对羟基苯甲酸能明显地抑制这两种微藻的生长。同时发现,添加对羟基苯甲酸的藻细胞运动能力降低,藻细胞体积减小,并出现空洞、破碎以及部分抱团现象。进一步研究发现,对羟基苯甲酸明显降低了塔玛亚历山大藻NR 和SOD 活性,但对POD 活性无明显影响;其低浓度时能增大米氏凯伦藻NR、POD 和SOD 活性,高浓度时则明显降低此三种酶的活性;它显著提高了两种微藻细胞内的MDA 含量。
【英文摘要】Abstract:Effects of p-hydroxybenzoic acid on the growth of Karenia mikimitoi and Alexandrium tamarense were investigated.Based on the observation of algal morphology and measurement of algal density,cell size and contents of physiological indicatorsincluding NR,POD,SOD andMDA,results showed that when the concentrations ofp-hyroxybenzoic acid was over 1.6mmol · L-1,ithad obvious inhibitory effect on the two species of microalgae. And p-hydroxybenzoic acid decreased the athletic ability of the cellsand decreased the cell size of Karenia mikimitoi and Alexandrium tamarense,and caused cells into cavities and pieces and gofers oncells. The further investigation found that p-hydroxybenoic acid significant inhibited the activities of NR and SOD in the cells ofAlexandrium tamarense,while had no significant effect on POD activities. Activities of NR,POD and SOD in the cells of Kareniamikimitoi increased with increasing of p-hydroxybenzoic acid concentration when it was less than 0.4mmol · L-1,while these threeenzymes activities decreased significantly at higher concentration of p-hydroxybenzoic acid. p-hydroxybenzoic acid increasedsignificantly the contents ofMDA in the cells of all tested microalgae.

【语种】中文
【第一作者】孙颖颖
【通讯作者】孙颖颖
【期刊名称、卷期、页码】环境科学与技术,2010,33(7):36-39
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【引文索引号】null
【学科分类】水产养殖学

【题目】工厂化养殖条件下仿刺参不同生长阶段呼吸代谢的特征研究
【中文关键词】仿刺参; 温度; 耗氧率; 排氨率
【英文关键词】无
【中文摘要】于2008年6月 2009年5月对不同生长阶段仿刺参Apo stichopus jap onicus的代谢率进行了跟踪观测。结果表明, 温度对不同生长阶段仿刺参的耗氧率和排氨率均有显著影响(P < 0 05), 相同温度下, 体重对耗氧率和排氨率的影响也有规律性。A、B 组仿刺参(12 g以下) 在12 7~ 16 2 下, 耗氧率和排氨率缓慢上升; 在16 2~ 22 1 下迅速上升, 并在22 1 时达到最大值[(37 13 ! 1 33)、(35 38 ! 0 55) g / (g∀ h)和(0 55 ! 0 054)、(0 54 ! 0 053) g / (g∀ h)]; 在22 1 ~ 26 1 下缓慢下降。与之相反,其他3组仿刺参(18 g以上)在12 7~ 16 2 下其耗氧率和排氨率平稳上升, 在16 2 时达到最大值; 在16 2~ 22 1 下, 迅速下降到较低水平; 在22 1~ 26 1 下, 在较低水平上平稳下降, 26 1 时达到最低值。
【英文摘要】无
【语种】中文
【第一作者】周玮
【通讯作者】周玮
【期刊名称、卷期、页码】大连海洋大学学报,2010,25(3):281-284
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【引文索引类型】其他
【引文索引号】null
【学科分类】水产养殖学

【题目】硝唑尼特临床应用研究进展
【中文关键词】硝唑尼特; 临床应用; 综述
【英文关键词】Nitazoxanide; clinical use; review
【中文摘要】本文综述了硝唑尼特的作用机制、药动学过程、毒性作用以及临床研究进展, 为进一步研究硝唑尼特的临床应用价值提供了参考。
【英文摘要】This article reviews the mechanism of action, pharmacokinetics, toxic effect, and progress of clinical research on nitazoxanide in order to provide the foundations for the further study of its clinical use.
【语种】中文
【第一作者】张西臣
【通讯作者】张西臣
【期刊名称、卷期、页码】中国病原生物学杂志. 2010(02):146-148,152.
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【引文索引类型】其他
【引文索引号】null
【学科分类】兽医学

【题目】不同肥料处理对豫麦34冠层结构特征及产量的影响
【中文关键词】冬小麦;肥料类型;冠层结构;产量
【英文关键词】Winter wheat ;Fertilizer Types; Canopyarchitecture;Grainyield
【中文摘要】摘 要:为给小麦合理施肥提供依据,在等氮条件下,研究了尿素、鸡粪和尿素与鸡粪配施三种肥料处理对豫麦34冠层结构特性和产量的影响。结果表明,在小麦拔节期,尿素与鸡粪配施处理小麦平均叶倾角最小,为53.89°;叶面积指数

、群体透光率、消光系数依次为4.63、0.055和0.63,均处在鸡粪处理和尿素处理之间。在孕穗期到灌浆期,尿素与鸡粪配施使小麦平均叶倾角介于鸡粪和尿素处理之间,为51. 96°;叶面积指数、群体消光系数均最大,分别为5.80和0.66;群体透光率最小,为0. 028。尿素与鸡粪配施的小麦穗粒数、穗粒重、生物产量、经济产量均高于鸡粪处理和尿素处理。综合来看,配施处理的小麦冠层结构适宜,株型最佳,群体光分布合理。

【英文摘要】Abstract: At the same amount of nitrogen application, the effects of treatments of urea, chicken mature and mixed fertilizer on canopy architecture and grain yield of Yumai 34was studied, and the results showed as follows: during Jointing stage, average leaf angle of mixed fertilizer treatment was 53. 89°, this number was less than that of urea and chicken manure treatment, and its leaf area index, light trans mission rate and extinction coefficient was 4.63, 0.055 and 0.63, respectively, and in the middle of the three treatments. From booting stage to grain filling stage, the average leaf angle of mixed fertilizer treatment was 51. 96°, and in the middle of the three treatments; Leaf area index and extinction coefficient numbers was 5.80 and 0.66, respectively, and were the biggest among the three treatments. Light transmission rate was 0. 028, which was the least among the three treatments. Grains of per spike, spike weight, biomass yield, grain yield of the mixed fertilizer treatment were all higher than that of the other two treatments. In general, canopy architecture of Yumai34was the best , and sunlight distribution was reasonable in mixed fertilizer treatment.

【语种】中文

【第一作者】熊淑萍

【通讯作者】马新明

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【学科分类】农业基础学科

【题目】硝唑尼特体外抑杀阴道毛滴虫效果观察

【中文关键词】硝唑尼特; 阴道毛滴虫; 阴道毛滴虫携病毒株; 甲硝唑

【英文关键词】Nitazoxanide; Trichomonas vaginalis ; TVV; metronidazole

【中文摘要】目的观察硝唑尼特体外抑杀阴道毛滴虫效果。方法分别以2、1、0.5、0.25、0.125、0.062 5和0.031 25mg/ml,硝唑尼特作用于阴道毛滴虫携病毒株与无病毒株12和24 h,观察体外抑杀效果。实验以甲硝唑作为药物对照。结果随着药物浓度的增加和作用时间的延长,硝唑尼特对两种虫株的抑制率均增高,显微镜下可见滋养体活力下降,培养基底部有死亡虫体沉淀,染色后可见滋养体细胞质内有空泡,鞭毛脱落,虫体变形,细胞核变形,细胞膜破裂,细胞溶解。经统计学分析,硝唑尼特对阴道毛滴虫两种虫株的抑制率差异无统计学意义($\chi 2=0.12$,$P>0.05$)。在24 h时,甲硝唑对阴道毛滴虫无病毒株抑制率为81.06%,硝唑尼特(1 mg/ml)对阴道毛滴虫两种虫株的抑制率可达100%,硝唑尼特对阴道毛滴虫无病毒虫株的抑制率显著高于甲硝唑($\chi 2=4.43$,$P<0.01$)。结论硝唑尼特对阴道毛滴虫两种虫株均有较好的抑杀作用,其中对无毒株阴道毛滴虫的抑杀效果硝唑尼特优于甲硝唑。

【英文摘要】Objective To observed the inhibiting and killing effect of the Nitazoxanide on Trichomonas vaginalis in vitro.Methods Different concentrations at 2,1,0.5,0.25,0.125,0.062 5 and 0.031 25 mg/ml)and different times at 12 h and 24 h were selected to act on the two kinds of trophozoites(T.vaginalis infected with T.vaginalis virus(TVV) and T.vaginalis without TVV).Meanwhile Metronidazole as the drug control.Results With the concentrations and action time increased,the inhibition rates of Nitazoxanide on T.vaginalis were raised.Using microscope we observed the activity of the trophozoites has decreased and some precipitation of death trophozoites at the bottom of medium.The trophozoites looked disintegration with appearance of vacuoles in cytoplasm,exfoliation of flagella,distorted with nucleus and membrance rupture.The statistical analysis revealed that the inhibition rate of Nitazoxanide on the two kinds of trophozoites had no distinction($\chi 2=0.12$,$P>0.05$).However,there was a significant difference between Metronidazole and Nitazoxanide acted on T.vaginalis without TVV($\chi 2=4.43$,$P<0.01$).The inhibition rate of the Metronidazole and Nitazoxanide(1 mg/ml)was 81.06% and 100% at 24 h,respectively. Conclusion It was concluded that the Nitazoxanide has a good inhibiting and killing effect on T.vaginalis.In addition,the effectiveness of inhibition of Nitazoxanide on T.vaginalis without TVV may be superiorer than Metronidazole in vitro test.

【语种】中文

【第一作者】张西臣

【通讯作者】张西臣

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【引文索引号】null
【学科分类】兽医学

【题目】基于L-studio平台的作物模拟及可视化
【中文关键词】L- studio; L系统;作物模拟; 可视化
【英文关键词】L- studio; L- system; Plant simulation; Visualization
【中文摘要】介绍了作物生长模拟的研究动向, 论述了L-system、L-studio及其表达机制,利用计算机在L-studio平台上对单株作物进行了模拟实现和可视化,使得作物图像的效果更加逼真
【英文摘要】Abstract: The author introduced the research trend of crop growth simulation, elaborated L- system, L- studio and their expressive mechanism, and realized the simulation and visualization of single- plant crop by using the compute on L- studio platform, made the crop image effect be more lifelike
【语种】中文
【第一作者】闾素红
【通讯作者】闾素红
【期刊名称、卷期、页码】江西农业学报,2009, 21 (4): 79-81
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【引文索引类型】其他
【引文索引号】null
【学科分类】计算机应用

【题目】硝唑尼特治疗犬贾第虫病的研究
【中文关键词】犬;贾第虫病;硝唑尼特;治疗
【英文关键词】Dogs;Giardia canis;Nitazoxanide
【中文摘要】选择试验犬8只,将其随机分为4个小组,每组2只。连续6 d对8只试验犬分剐进行粪检,确定无贾第虫感染后,用体外纯培养的犬贾第虫滋养体接种试验犬,然后每天采集试验犬新鲜粪便40 g,用硫酸锌漂浮法进行粪检,当检测犬贾第虫感染呈阳性时,分别用1、2、4 mg/kg体质量剂量的硝唑尼特对1、2、3组试验犬进行灌服治疗,第4组试验犬不用药作为对照。用药后,每天以同样的方法检测贾第虫包囊,并计数。结果表明,以2、4 mg/kg体质量给药的试验犬1 d后粪检结果转为阴性,以1 mg/kg体质量给药的试验犬4 d后粪检结果转为阴性。结果表明以2、4 mg/kg体质量剂量的硝唑尼特对犬贾第虫痛有很好的疗效
【英文摘要】To observe the therapeutic effect of Nitazoxanide(NTZ)on dogs infected with Giardia canis trophozoites. Eight dogs were infected with Giardia canis trophozoites and divided into four groups rondomly,G1:2 dogs treated with Nitazoxanide at a single dose of 1 mg/kg body weight;G2:2 dogs treated with NTZ at asingle dose of 2 mg/kg;G3:2 dogs treated with NTZ at a single dose of 41 mg/kg;G4:2 dogs treated without drugs as control. All groups were examined for Giardia canis cysts by Zinc Sulfate Flotation.Each group was subjected to collect stool per day and counted cysts.The results of G2 and G3 were negative after 1th day.G1 were negative after 4th days.The results indicated that NTZ at adose of 2 mg/kg and 4 mg/kg in dogs had afaourable effect on the dogs infected with Giardia canis.
【语种】中文
【第一作者】梁晓英
【通讯作者】张西臣
【期刊名称、卷期、页码】中国兽医学报,2009,29(7):882-884
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【引文索引号】null
【学科分类】兽医学

【题目】超级小麦品种穗部性状间相关性分析及穗粒数改良途径的研究
【中文关键词】超级小麦;穗部性状;穗粒数;相关
【英文关键词】Super-Wheats,Ear trait,Kernel Number Per Spike,Relevance

【中文摘要】以10个超级小麦品种(系)为材料,对株高与穗部性状间进行了相关分析及穗粒数的改良途径分析,结果表明,穗粒数与株高呈负相关,而与穗长、分化小穗、结实小穗均呈显著或极显著的正相关;穗长和结实小穗数对小麦穗粒数的影响最大,均为极显著正相关;我国超级小麦的育种目标应是在一定群体的基础上通过增加穗粒数来提高小麦的单穗重。在穗粒数的改良过程中,应选育矮秆、大穗、结实小穗数多的品种。
【英文摘要】无
【语种】中文
【第一作者】范永胜
【通讯作者】范永胜
【期刊名称、卷期、页码】中国种业,2007,7:38-40
【论文发表时间】2007-07-01 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农业基础学科

【题目】高产多抗强筋小麦新品种新麦19号的优良特性和产量结构分析
【中文关键词】新麦19
【英文关键词】Xinmai19
【中文摘要】新麦19号是河南省新乡市农业科学院以(C5/新乡3577)F3d1为母本,新麦9号为父本杂交选育而成的优质强筋、高产稳产、早熟抗寒、抗病广适优质强筋小麦新品种。2006年9月通过河南省品种审定,2007年1月通过国家品种审定(审定证号分别为:豫审麦2006001、国审麦2006015)。新麦19 号遗传基础丰富,是法国V.P.M/moission品种的后代,有偏凸山羊草、波斯小麦、黑麦的多重抗病基因,能抗多种病害。亲本(C5/新乡3577)F3d1含有5+10优质麦谷蛋白亚基,品质指标好、稳定;亲本豫麦69号属半冬性大穗型中熟丰产品种,高抗条锈病,中抗纹枯和赤霉病。新麦19号具有双亲的优良特性。
【英文摘要】无
【语种】中文
【第一作者】蒋志凯
【通讯作者】蒋志凯
【期刊名称、卷期、页码】粮食作物,2007,11:60-61
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【引文索引类型】其他
【引文索引号】null
【学科分类】农业基础学科

【题目】栉江珧亲贝室内升温促熟培育技术的研究
【中文关键词】栉江珧;升温;促熟培育;产卵;排精
【英文关键词】无
【中文摘要】研究了栉江珧种贝在繁殖期之前提早入池培育,通过逐渐升温和强化营养等技术措施,促使栉江珧种贝提早成熟产卵排精。实验证表明,可以根据室内培养期间的肥满度变化,来决定诱导产卵排精时间,当肥满度达到50 %以上时,即可进行诱导产卵排精,其个体平均产卵量为800 万粒。闭壳肌指数的变化情况跟肥满度变化情况正好相反,但不如肥满度明显。
【英文摘要】无
【语种】中文
【第一作者】于瑞海
【通讯作者】于瑞海
【期刊名称、卷期、页码】海洋湖沼通报,2010年第1期:31-35
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【引文索引类型】其他
【引文索引号】null
【学科分类】水产养殖学

【题目】抗病、中早熟、超高产小麦新品种—中育10号
【中文关键词】中育10号
【英文关键词】Zhongyu 10
【中文摘要】中育10号(03中16)是中国农业科学院棉花研究所1996年用豫麦41号与宝丰94224进行杂交,1997年再与豫麦49进行复交,经6年选育而成的小麦新品种。该品种2007年9月通过河南省品种审定委员会审定(审定编号:豫审麦2007005),已申请新品种权保护(品种申请号:20050411.8)
【英文摘要】无
【语种】中文
【第一作者】杨兆生
【通讯作者】杨兆生
【期刊名称、卷期、页码】麦类作物学报,2008,28(1):175
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【引文索引号】null
【学科分类】农业基础学科

【题目】3 种酚酸对4 种水华微藻生长的影响
【中文关键词】酚酸;抑制作用;水华微藻
【英文关键词】p henolic acid ; inhibitory effect ; bloom microalgae
【中文摘要】通过测定藻细胞密度,分析邻苯二酚、没食子酸和焦性没食子酸的自氧化时间,研究了此3种酚酸对水华束丝藻、颤藻、实球藻和衣藻等4 种水华微藻生长的影响。结果表明,当酚酸质量浓度超过312 mg/ L 时,3 种酚酸对此4 种微藻的生长均有明显的抑制作用。其中,没食子酸和焦性没食子酸对4 种微藻的抑制作用比邻苯二酚更为显著。3 种酚酸的自氧化测定结果表明,没食子酸和焦性没食子酸在2 h 时完全消失;邻苯二酚的自氧化时间较长,约为8 d 。根据上述结果,推测此3 种酚酸对4 种水华微藻的抑制作用很可能与其自氧化能力有关。
【英文摘要】Based on the measurement of algae density , t he inhibitory activity of t hree kinds ofp henolic acids (o2dihydroxybenzene , gallic acid monohydrate , and pyrogallic acid) against fourspecies of bloom microalgae , i. e. A p hani z omenon f los2aquae , Osci l l atori a sp . , Pandori na mo2rum and Chl amy domonas sp . was tested. The autoxidation of t hree kinds of p henolic acids wasal so determined by high performance liquid chromatograp hy (HPLC) . The result s showed t hatt he growt h of t he four species of bloom microalgae was significantly inhibited by t he acids at t heconcent ration of 3. 2 mg/ L , and t he inhibitions of gallic acid monohydrate and pyrogallic acid weremore obvious t han t hat of o2dihydroxybenzene. HPLC showed t hat t he presence of a kind of p he2nolic acid was found to vanish over time (gallic acid monohydrate and pyrogallic acid , 2 h ; o2di2hydroxybenzene , 8 days) . Our researches showed t hat t he inhibiting of t hree kinds of p henolicacids over the growt h of t he four species of bloom microalgae might be related wit h autoxidation.
【语种】中文
【第一作者】孙颖颖
【通讯作者】阎斌伦
【期刊名称、卷期、页码】淮海工学院学报(自然科学版), 2010,19(1):71-75
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【引文索引号】null
【学科分类】水产养殖学

【题目】基于高斯概率模型的水稻重叠病斑分割算法
【中文关键词】水稻病斑重叠; 病斑分割; 像素概率模型;
【英文关键词】Rice lesion overlap; Rice lesion segmentation; Probabilistic model based on pixel;
【中文摘要】研究水稻病斑中的重叠病斑识别问题,针对诊断水稻图像信息和及早防治,传统的水稻病斑分割算法都是对病斑的像素进行直接的操作,容易造成像素信息的丢失,存在着识别准确性差问题,造成后期的识别率不高。为解决上述问题,提出了基于像素概率模型的水稻病斑分割方法。通过自适应病斑分割算法,用高斯混合模型描述每一像素的色彩分布情况,再以具有最大适应度值的子模型作为当前分布模型来描述每一病斑像素的特征,避免了对像素的直接操作。仿真结果表明,方法能够有效的分割大部分重叠水稻病斑特征,提高了识别准确性,取得了比较好的效果。

【英文摘要】Research the overlap of rice lesion segmentation.The traditional rice lesion segmentation algorithm directly processes the lesion pixels,which easily leads to the loss of pixel information,a bad segmentation,and low recognition rate.For this problem,we propose a probabilistic model based on pixel rice lesion segmentation.By adaptive lesions segmentation algorithm,Gaussian mixture model is used to describe the color distribution of each pixel,and the maximum fitness value is as the current distribution model to describe the characteristics of each lesion pixel, avoiding the pixel direct operation. Experiments show that this method can effectively separate most of the characteristics of overlapping lesion of rice and chieved better results
【语种】中文
【第一作者】任艳娜
【通讯作者】任艳娜
【期刊名称、卷期、页码】计算机仿真,2011.28(2):341-344
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【引文索引号】null
【学科分类】计算机应用

【题目】蓖麻毒素A 链基因的克隆表达、纯化及其活性
【中文关键词】蓖麻毒素;RTA ;RTB ; 融合表达;细胞杀伤
【英文关键词】ricin ,RTA ,RTB , f usion expression , cell killing
【中文摘要】为了实现蓖麻毒素A 链基因(rt a) 的克隆表达,制备有高生物活性的重组蓖麻毒素A 链蛋白(RTA) ,借助重组腺病毒介导表达的RTB 进入细胞,发挥RTA 的细胞毒作用,检测其活性。重组质粒p ET32a2His2RTA 能正确表达RTA 融合蛋白,相对分子质量约47 000 ,每升细菌培养物回收约50 mg 的纯化蛋白质, 在有RTB 表达的系列中,细胞死亡率明显上升,最高可达50 %~60 %。说明利用p ET32a 表达系统可以快速获得大量有高生物活性的可溶性RTA 融合蛋白质。以腺病毒为载体表达RTB 可以帮助RTA 进入细胞,对细胞发挥毒性作用。
【英文摘要】The target of t his st udy is to achieve t he cloning and expression of ricin A chain geneand produce the recombined ricin A chain protein (RTA) with high activity ane t hen assay itactivity by RTB mediated by recombined adenovirus t he RTA could enter cell s and exertcytotoxicity. For this , t he ricin A chain gene was amplified by PCR and cloned it into t he f usionexpression vector p ET32a to const ruct plasmid (p ET32a2His2RTA) , the plasmid was t ransferredinto E. col i BL21 and induced wit h low concent ration of IPTG (1 mmol/ L) at low temperature(20 ℃) . Purified RTA by Ni2N TA column and the p urified protein was identified by SDS2PA GEelect rop horesis and Western2blot . It was found that t he const ructed recombinant plasmid(p ET32a2His2RTA) was efficient expressed RTA f usion protein and about 50mg p urified protein(Mr 47 000) was obtained f rom 1 liter cult ure brot h. The cell deat h rate significantly increasedand t he highest being about 50260 percentage point in t he system containing RTB.
【语种】中文
【第一作者】王洪斌
【通讯作者】王洪斌
【期刊名称、卷期、页码】食品与生物技术学报,2010,29(1):145-149
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【引文索引号】null
【学科分类】水产养殖学

【题目】河南省地方小麦品种醇溶蛋白的遗传多样性分析
【中文关键词】小麦,地方品种,醇溶蛋白,遗传多样性
【英文关键词】Wheat,Landrace,Same name,Gliadin,Genetic diversity
【中文摘要】为给河南省小麦地方品种资源的利用提供科学依据,采用A-PAGE方法,对小麦地方品种白和尚头、白麦、白芒糙、出山豹等15种243份地方小麦品种进行了同质检验,对同质地方品种进行了同名品种间和非同名品种间醇溶蛋白构成分析,并将聚类结果与农艺性状相结合进行分析。结果表明,243份材料中有156 份同质,占总样品的64.2 %。这156份地方品种共产生72条谱带,其中α区21 条、 β区22 条、 γ区16 条、ω区13 条,共147 种构型;谱带分布频率范围为0. 6 %~100 % ,平均为25. 6 %;多样性指数为0. 957 ,其中α区0.801、 β区0.836、 γ区0.897、 ω区0.870。15 种同名品种产生谱带的范围为27~41条;品种间遗传距离最小为0,最大为2.033,平均遗传距离分布在0.330~0.574之间;遗传多样性指数分布在0.940~0.958 之间。将聚类结果与农艺性状进行比较,农艺性状相近的材料大都能在遗传距离为1.0 时被聚为一类。相同的带型在同名品

种间和非同名品种间都有出现,表明小麦地方品种间存在同名异种、同种异名的现象。
【英文摘要】In order to investigate special relationship and genetic diversity, the homogeneity of 243 wheat (Triticum aestivum L .) landraces of 15 species were tested by A-PAGE. Simultaneously, the gliadin composition of the homogeneous landraces were analyzed, and associated with their agronomiccharacters. The results were as follows: 156 (64.2%) were homogeneous in 243 wheat landraces. In total, 72 gliadin bands, which formed 147 gliadin patterns, were observed in all accessions. Among α 、 β 、 γ and ω zones, there were 21, 22, 16and 13 band combinations, respectively. And their frequencies appeared high variation ranging within 0.6 %~100% , with an average of 25.6%. The analysis of gliadin genetic diversity indexes showed that β region (0.836) contained t he most diverse gliadins , followed as α (0.801) , γ (0.897) and ω (0.870). In 15 homonymy landraces, the gliadin bands ranged from 27 to 41, and polymorphic information contents (PIC) fluctuate between 0.940 and 0.958. The genetic distance (GD) ranged from 0-2.033, had an average distribution between 0.330 and 0.574. Camparing the clustering analysis with agronomic traits showed that the landraces with similar agronomic traits could be classified into the same groups in GD1. 0, and the same pattern bands appeared in both homonymy and non-homonymy landraces. This indicated that gliadin A-PAGE can be used to reveal the relationships and genetic diver sity of Henan homonymy landraces, and some of them were not a specie and some landraces with different name were t he same species.
【语种】中文
【第一作者】李正玲
【通讯作者】胡琳
【期刊名称、卷期、页码】麦类作物学报,2008,28(4):582-587
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【学科分类】农业基础学科

【题目】半滑舌鳎促黄体激素受体基因片段的克隆及组织表达分析
【中文关键词】半滑舌鳎;促黄体激素受体;巢式RT—PCR;组织表达
【英文关键词】无
【中文摘要】采用巢式RT PCR法克隆了半滑舌鳎Cynoglossus semilaevis促黄体激素受体(Luteinizing Hormonene Recep—tor,LHR)基因部分序列,经过BLAST比对,认为该序列与庸鲽、牙鲆、黑鲷、尼罗罗非鱼、青鳝和红鳍东方纯的LHR基因同源性分别为97%,94 ,85 ,83 ,82 和8O 。该基因片段长度为614 bp,编码204个氨基酸,含有典型的跨膜螺旋结构区域(TM helix),属于糖蛋白激素受体(GHR)家族。组织表达分析表明,LHR基因在半滑舌鳎的卵巢、精巢、肝脏、胃、肠、鳃、心、脾、肾、头肾和脑中均有表达,表达量有所不同,以脾和肾中表达量最丰富。
【英文摘要】无
【语种】中文
【第一作者】陈晓燕
【通讯作者】温海深
【期刊名称、卷期、页码】中国海洋大学学报(自然科学版), 2010, 40(3):71-77
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【引文索引号】null
【学科分类】水产养殖学

【题目】强光高温同时作用下不同小麦品种的光合特性
【中文关键词】小麦,高光强高温,光合作用,叶绿素荧光
【英文关键词】Wheat,High temperature and high light intensity,Ph0tosynthesis,Chlorophyll fluorescence
【中文摘要】以小麦品种藁城8901、豫麦49、郑麦9405、周18为试材,用强光(1900μmol·m-2·s-1)、高温(35°C)同时处理材料3h,研究了高光强和高温共同合胁迫对小麦旗叶光合作用和叶绿素荧光特性的影响。结果表明,正常生长条件下,郑麦9405和周18的光饱和速率、饱和光强均高于藁城8901和豫麦49,郑麦9405的表观量子效率也最高。强光高温处理使藁城8901、豫麦49和周18的光合速率(Pn)、蒸腾速率(Tr)、气孔导度(Gs)、胞间CO2浓度(Ci)较对照大幅下降;郑麦9405的Pn、Gs也出现了下降,但降幅最小,Pn仍保持11.6μmol CO2 ·m-2·s-1,Tr较对照略有上升;4种基因型小麦的Ci未较对照明显变化;与对照相比,4个材料的最大光量子效率(Fv/Fm)、开放的光系统Ⅱ反应中心的激发能捕获效率(Fv’/Fm’)、作用光下光系统Ⅱ的实际量子效率(ΦPSII)、光化学猝灭系数(qP)均下降,而非光化学猝灭系数(NPQ)大幅上升:其中郑麦9405的各

项荧光参数均较高。研究表明,小麦旗叶对强光高温的适应性存在品种间差异,郑麦9405的耐强光高温特性优于其他3个品种;强光高温下较高的蒸腾速率和较大的NPQ可能是郑麦9405维持光合机构功能的重要原因。

【英文摘要】High light associated with high temperature has strong efects on photosynthesis in wheat(Triticum aestivum L.) and results in grain yield loss at maturity.To explore the photosynthetic responses of diferent wheat cultivars to high light and high temperature(HLHT).we measured the photosynthetic and chlorophyll fluorescence characteristics of flag leaves of four cultivars under the high light intensity of 1900 μmol·m-2·s-1 and high temperature of 35°C.Under natural growth condition(contro1), both photosynthetic rate under saturated light and saturated light intensity for photosynthesis in Zhengmai 9405 and Zhou 18 were higher than those in Gaocheng 8901 and Yumai 49, and the apparent quantum yield of Zhengmai 9405 was the maximal among the four cultivars.Compared with the control, after the HLHT treatment, the net photosynthetic rate(Pn), transpiration rate(Tr), stomatal conductance(Gs)in Gaocheng 8901, Yumai 49, and Zhou 18 were significantly reduced, whereas these parameters changed slightly in Zhengmai 9405 with a rather steady Pn value of 11.6 μmol CO2·m-2·s-1 in flag leaves.In the four cultivars, the intercellular CO2, concentration(Ci)showed no significant changes compared with the control,the maximum photochemical eficiency (Fv/Fm), the eficiency of open centers of photosystem II (Fv'/Fm'), the actual photochemical eficiency of photosystem II (ΦPSII), and the photochemical quenching(qP)decreased while nonphotochemical quenching(NPQ) increased significantly,and each of the five chlorophyll fluorescence parameters in Zhengmai 9405 was the highest.The results mentioned above indicated that diferent cultivars had notable differences in the adaptability to high light intensity and high temperature,Zhengmai 9405 was more adaptable than Gaocheng 8901, Yumai 49, and Zhou 18.The higher and NPQ of Zhengmai 9405 may be one of the reasons for its higher photosynthesis rate.

【语种】中文
【第一作者】齐学礼
【通讯作者】许为钢
【期刊名称、卷期、页码】作物学报,2008,34(12): 2196－2201
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【引文索引号】null
【学科分类】农业基础学科

【题目】荣成靖海湾海参养殖池塘初级生产力季节变化特征
【中文关键词】海参池塘; 浮游植物; 种类组成; 多样性; 粒级结构; 叶绿素; 脱镁叶绿素
【英文关键词】无
【中文摘要】2007年5月~2007年11月调查了山东荣成靖海湾海参养殖池塘水体中浮游植物种类组成、生物量、叶绿素含量变化以及底泥沉积物中叶绿素和脱镁叶绿素含量的变化。结果表明,海参养殖池塘水体中浮游植物共有7门,44属,62种,主要以硅藻为主。水体中浮游植物平均生物量1号池塘为17.52×104/L;2号池塘为18.30×104/L。水体叶绿素含量变化范围:1号池塘为1.38~5.00μg/L;2号池塘为0.98~5.45μg/L。池塘沉积物中叶绿素含量变化范围:1号池塘为0.66~1.67μg/g,2号池塘为0.56~1.34μg/g。池塘沉积物中脱镁叶绿素含量变化范围:1号池塘为2.97~5.63μg/g;2号池塘为2.90~6.36μg/g。1号池塘和2号池塘的浮游植物群落结构及叶绿素含量没有显著性差异(P>0.05)。叶绿素,脱镁叶绿素变化趋势较为一致。海参夏眠期间,沉积物中叶绿素及脱镁叶绿素含量最高,为海参结束夏眠进入摄食提供食物储备。研究结果表明,靖海湾海参养殖池塘浮游植物以硅藻为主,养殖池塘水体浮游植物生物量较低,多样性指数较高,增加浮游植物沉降速率,增加养殖系统初级生产力可为海参提供更多食物。
【英文摘要】无
【语种】中文
【第一作者】任贻超
【通讯作者】王芳
【期刊名称、卷期、页码】中国海洋大学学报(自然科学版), 2010, 40(3):24-28
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【学科分类】水产养殖学

【题目】三疣梭子蟹与凡纳滨对虾混养实验研究
【中文关键词】三疣梭子蟹; 凡纳滨对虾; 混养; 围隔
【英文关键词】无
【中文摘要】采用海水陆基围隔实验方法探讨三疣梭子蟹和凡纳滨对虾混养的适宜配比和水环境的变化,并比较其养殖效果。实验中对虾6 个放养密度分别为0 ,15 ,45 ,75 ,105 ,135 尾/ m2 ;三疣梭子蟹的密度为6 尾/ m2 。实验结果表明,经过60 d的养殖,混养组梭子蟹的成活率、规格和净产量均优于梭子蟹单养组,其中,混养对虾密度为45 尾/ m2 组(45. 71 % ,43. 22 g/ ind ,1 191 kg/ hm2) 最高,其次是75 尾/ m2 组(44. 58 % ,39. 13 g/ ind ,1 050 kg/ hm2) ,梭子蟹单养组(35. 13 % ,32. 87 g/ ind ,693 kg/ hm2) 最低。混养6 尾/ m2 密度梭子蟹条件下,对虾的养成规格和成活率与对虾密度呈负相关。实验后期各混养组水体中总氨氮、亚硝酸盐、硝酸盐和总氮含量均显著高于单养组,且随对虾放养密度增高显著上升。水体总氨氮含量各混养组在养殖50 d 后均超过500 μg/ L 。本实验表明:三疣梭子蟹与凡纳滨对虾混养的最佳配比为三疣梭子蟹6 尾/ m2 ,对虾45~75 尾/ m2 。
【英文摘要】无
【语种】中文
【第一作者】周演根
【通讯作者】马 甡
【期刊名称、卷期、页码】中国海洋大学学报(自然科学版), 2010, 40(3):11-16
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【学科分类】水产养殖学

【题目】鼠尾藻对重金属锌、镉富集及排放作用的研究
【中文关键词】鼠尾藻(S argassum thunbergi i) ; 重金属; 富集; 排放; 指示生物; 生物修复
【英文关键词】无
【中文摘要】将鼠尾藻(S argassum thunbergi i) 暴露在不同质量浓度锌和镉溶液里40 d ,以及暴露20 d 后,移入自然海水恢复20 d ,分析了藻体内金属离子含量的变化。富集实验结果表明,鼠尾藻积累金属离子的量和暴露溶液金属质量浓度正相关、与暴露时间具有线性关系;暴露3 d ,藻体的金属离子含量(除了暴露在Cd2 + 质量浓度为0. 1 mg/ L 处理组) 均显著增加;在Zn2 + 处理组,溶液里Zn2 + 质量浓度越大,线性关系越显著,而在Cd2 +处理组,Cd2 + 质量浓度5. 0 mg/ L 处理组藻体内Cd2 + 含量与暴露时间的线性关系则最低。排放试验结果表明,排放20 d 后与排放0 d 比较,藻体内的金属离子质量浓度均显著降低,但是均显著高于暴露前水平;在Zn2 + 溶液里,鼠尾藻暴露Zn2 + 质量浓度0. 1 mg/ L 和Zn2 + 质量浓度5. 0 mg/ L 20 d 后移入自然海水5 d 后,藻体内的Zn2 + 含量与排放0 d 相比显著降低,而在Cd2 + 溶液里,藻体排放5 d 后,藻体内的Cd2 + 含量与排放0 d 相比均显著降低。最终结果表明,鼠尾藻潜在地可作为一种指示生物,用于监测海洋环境重金属污染状况。同时,鼠尾藻对Zn2 + 和Cd2 + 具有较强的富集能力,可以利用鼠尾藻修复受重金属污染的海洋水体,尤其是锌的污染
【英文摘要】无
【语种】中文
【第一作者】吴海一
【通讯作者】李美真
【期刊名称、卷期、页码】海洋科学2010年第34卷第1期69-74
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【引文索引号】null
【学科分类】水产保护学

【题目】鼠尾藻研究与利用现状
【中文关键词】无
【英文关键词】无
【中文摘要】鼠尾藻(Sargassum thunbergii)隶属褐藻门,马尾藻科,马尾藻属,是北太平洋西部特有的暖温带性海藻,在我国北起辽东半岛,南至雷州半岛均有分布,是沿海常见野生海藻[1,2]。
【英文摘要】无

【语种】中文
【第一作者】吴海一
【通讯作者】吴海一
【期刊名称、卷期、页码】国土与自然科学研究2010年第1期95-96
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【引文索引号】null
【学科分类】水产养殖学

【题目】温度对半滑舌鳎的生长、生化组成和能量收支的影响
【中文关键词】半滑舌鳎; 温度; 生长; 体成分组成; 能量收支
【英文关键词】无
【中文摘要】研究了不同温度(16 ,19 ,22 ,25 ,28 和31 ℃) 对半滑舌鳎(Cy noglossus semi laevis G ü nther) 幼鱼的生长、体成分组成和能量收支的影响。结果表明,随温度的升高,半滑舌鳎幼鱼生长率总体呈现先升高后降低的趋势。其中,在19~25 ℃温度范围内,半滑舌鳎幼鱼的特定生长率相对较高,在16 和28 ℃下则有所降低,而在31 ℃下,半滑舌鳎幼鱼特定生长率则显著降低。本研究表明半滑舌鳎幼鱼特定生长率与温度符合二次曲线模型。半滑舌鳎摄食量随温度升高而逐渐增大,但在31 ℃时显著减小,饵料转化率则随温度的升高而降低。鱼体脂肪与能值均随温度升高而降低,蛋白质含量受温度影响不显著。温度对半滑舌鳎的能量收支影响显著,其中,生长能和代谢能主导半滑舌鳎的能量分配,生长能占摄食能比例则随温度的升高而降低,呼吸能占摄食能比例则随温度的升高而升高。本研究表明,半滑舌鳎幼鱼(13~37 g) 适宜生长温度范围为18~25 ℃,而不同温度导致的半滑舌鳎摄食量和能量收支的差异可能是温度影响其生长的主要生理生态学机制。
【英文摘要】无
【语种】中文
【第一作者】房景辉
【通讯作者】田相利
【期刊名称、卷期、页码】中国海洋大学学报, 2010,40(1):25-30,46
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【学科分类】水产养殖学

【题目】中国刺参与日本红刺参杂交子一代的早期生长比较
【中文关键词】刺参; 杂交; 生长; 杂种优势
【英文关键词】无
【中文摘要】研究以中国刺参和日本红刺参为材料,进行了4 个组合的杂交和自交实验,分析了各实验组受精率、孵化率、幼虫和稚参阶段的生长以及杂交子代的杂种优势。结果表明,杂交组的受精率、孵化率均低于自交组,但是经单因素方差分析表明没有显著性差异(P > 0. 05) ;日本红刺参♀×中国刺参♂杂交组(JC) 在幼虫期和稚参期的各生长性状平均值均大于其它3 组,并表现出显著性差异;日本红刺参♀×中国刺参♂组(JC) 的体长和体重的杂种优势率均较为明显,其幼虫体长和稚参体长、体重的杂种优势率分别在4. 60 %~6. 90 % ,8. 39 %~18. 85 %和23. 21 %~63. 74 %之间;中国刺参♀×日本红刺参♂组(CJ) 的杂种优势率在160 日龄后表现为正值。杂交子一代中存在正交和反交结果不同的现象可能与母性效应、性别连锁和细胞质遗传有关。
【英文摘要】无
【语种】中文
【第一作者】胡美燕
【通讯作者】李 琪
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【学科分类】水产养殖学

【题目】投饵与不投饵海参养殖池塘水质变化的初步研究
【中文关键词】海参池塘; 水质; 投饵与不投饵; 换水
【英文关键词】无
【中文摘要】初步调查了投饵和不投饵2 口海参养殖池塘水质的变化以及换水对池塘水质的影响。实验结果表明:在2 种养殖模式下,池塘水体的pH 呈逐渐增大的趋势,盐度则缓慢降低,两者皆在降雨期间波动剧烈;池塘的水温、NH+42N、NO-32N、NO-22N、NH32N 和SRP 在夏季偏高,春季和秋季较低,季节变化明显;池塘水体的TN 和TP 表现为春季> 夏季> 秋季;投饵池塘NO-22N 含量显著高于不投饵池塘(P < 0. 05) ,其它指标差异不显著(P < 0. 05) ;2 池塘水体皆属于磷限制中度营养化水。换水后,2 池塘水体的pH 和盐度波动趋于平稳; TN 含量差异不明显, TP 含量明显降低,差异显著(P < 0. 05) ;NH+42N、COD、NO-32N 含量明显升高,差异显著(P < 0. 05) ;NO-32N、NO-22N 含量换水后不投饵池塘降低,投饵池塘升高,两者差异显著(P < 0. 05) 。换水对池塘水质的影响可能与投饵和池塘的底质有关。
【英文摘要】无
【语种】中文
【第一作者】刘 峰
【通讯作者】王 芳
【期刊名称、卷期、页码】中国海洋大学学报(自然科学版),2009,39卷增刊:369-374
【论文发表时间】2009-09-01 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】水产养殖学

【题目】不同饵料对三疣梭子蟹生长和能量收支的影响
【中文关键词】虎鱼; 鹰爪虾; 杂色蛤; 三疣梭子蟹; 生长; 能量收支
【英文关键词】无
【中文摘要】研究虎鱼肉、鹰爪虾肌肉、杂色蛤肉3 种不同饵料投喂体重为(31. 01 1. 06) g 三疣梭子蟹(Por tunus trituber culatus) 的生长和能量收支。实验结果表明, 饵料种类对三疣梭子蟹的生长以及能量收支都有显著影响。投喂杂色蛤组获得最大特定生长率, 其湿重特定生长率、干重特定生长率、蛋白质特定生长率和能量特定生长率分别为2. 56%、2. 26%、3. 48%、0. 49%, 显著高于虎鱼组(P< 0. 05) , 摄食虎鱼、鹰爪虾和杂色蛤时的湿重、干重、蛋白质、能量转化效率均以摄食杂色蛤组为最高, 分别为39. 82% 2. 09%、30. 18% 1. 86%、33. 44% 2. 81%、3 3. 88% 3. 09%, 其中, 蛋白质和能量转化效率显著高于其它两组(P< 0. 05) 。方差分析表明饵料种类对三疣梭子蟹能量收支各个组分占摄食能的比例有显著影响(P < 0. 05) 。投喂杂色蛤组生长能占摄食能的比例为29. 8% 0. 9%, 显著高于投喂虎鱼组17. 93% 3. 5%、鹰爪虾组18. 21% 0. 5%(P < 0. 05) , 投喂杂色蛤组排泄能占摄食能比例为7. 32% 0. 33%, 显著低于投喂虎鱼组12. 17% 0. 63%、鹰爪虾组13. 6% 0. 18%(P < 0. 05) 。实验结果表明投喂杂色蛤比虎鱼、鹰爪虾更有利于三疣梭子蟹的生长。
【英文摘要】无
【语种】中文
【第一作者】徐 云
【通讯作者】马甡
【期刊名称、卷期、页码】中国海洋大学学报(自然科学版),2009,39卷增刊:353-358
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【引文索引类型】其他
【引文索引号】null
【学科分类】水产养殖学

【题目】岩牡蛎和长牡蛎杂交的受精细胞学观察
【中文关键词】长牡蛎; 岩牡蛎; 杂交; 细胞学观察
【英文关键词】无
【中文摘要】实验利用DAPI 染色观察了岩牡蛎和长牡蛎正反杂交的受精卵在受精过程,减数分裂和早期卵裂的核相变化。结果表明,长牡蛎精子进入岩牡蛎成熟卵子后,激活卵子完成2 次成熟分裂,同时,精核出现了2 次明显的体积膨大扩散过程。第一次为精子刚入卵时,精核由固缩状态略微膨大去浓缩成为圆球形;另一次为第2 次减数分裂之后,精核迅速扩散形成

雄性原核,几乎与雌性原核同时形成。在长牡蛎♀×岩牡蛎♂反交组中,受精卵内核行为的变化与正交组相同。正反交组的胚胎发育过程都具有明显的不同步现象,正交组的发育进程比反交组滞后。
【英文摘要】无
【语种】中文
【第一作者】滕爽爽
【通讯作者】李 琪
【期刊名称、卷期、页码】中国海洋大学学报(自然科学版),2009,39卷增刊:338-342
【论文发表时间】2009-09-01 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】水产养殖学

【题目】3种沉水植物对水华藻类生长的影响
【中文关键词】沉水植物;化感作用;水华藻类
【英文关键词】无
【中文摘要】研究了菹草、狐尾藻和金鱼藻等3种沉水植物及其新鲜组织的水浸出液、干粉末的蒸馏水和甲醇萃取物对取自太湖的水华藻类生长的影响。结果表明,在共生条件下,3种沉水植物明显抑制了水华藻类的生长。与金鱼藻相比,菹草和狐尾藻的抑制作用更强;当菹草、狐尾藻和金鱼藻的质量浓度分别为80、80和160 g/L (鲜重)时,其新鲜组织的水浸出液对水华藻类的生长都产生了抑制作用,第12天时其对水华藻类的生长抑制率分别为8615%、77. 4%和79. 6%; 3种沉水植物干粉末质量浓度达到20 g/L (干重)时的蒸馏水萃取物,第12天时对水华藻类的生长抑制率超过50%; 3 种沉水植物干粉末质量浓度达到1. 92 g/L (干重) 时的甲醇萃取物显著(P < 0. 05)抑制了水华藻类的生长,第12天时其对水华藻类的生长抑制率均超过80%。
【英文摘要】无
【语种】中文
【第一作者】浦寅芳
【通讯作者】浦寅芳
【期刊名称、卷期、页码】水生态学杂志,2009,2(6):46-50
【论文发表时间】2009-11-01 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】水产养殖学

【题目】程序化设计的简并引物克隆半滑舌鳎CYP17 基因
【中文关键词】半滑舌鳎; 简并引物; CYP17
【英文关键词】无
【中文摘要】采用1 种新的简并引物设计方法———CODEHOP 法来克隆半滑舌鳎CYP17 基因。该法结合NCBI、Blastp、BlockMaker 、CODEHOP 等生物信息学资源和DNAMAN、Oligo6. 0 等生物软件, 程序性设计半滑舌鳎CYP17 基因的CODEHOP 引物,从半滑舌鳎卵巢组织中成功克隆了CYP17 基因,该基因片段与其它物种的CYP17 家族具有较高的同源性,经鉴定,该基因属于整个脊椎动物的CYP17 基因群,尤其是鱼类亚群。实验结果表明,程序性设计的简并引物较传统简并引物特异性更高,假阳性率少,更有利于实验成功。
【英文摘要】无
【语种】中文
【第一作者】陈彩芳
【通讯作者】温海深
【期刊名称、卷期、页码】中国海洋大学学报(自然科学版), 2009, 39 (6):1213-1218.
【论文发表时间】2009-11-01 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】水产养殖学

【题目】刺参体液免疫因子研究进展
【中文关键词】无
【英文关键词】无
【中文摘要】无
【英文摘要】无
【语种】中文
【第一作者】樊英
【通讯作者】樊英
【期刊名称、卷期、页码】《从产量到质量—海水养殖业发展的必然趋势》,2009,海洋出版社,p549-554
【论文发表时间】2009-11-15 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】水产养殖学

【题目】刺参养殖池塘颗粒悬浮物结构及其沉积作用
【中文关键词】刺参养殖池塘;悬浮物结构;沉积物;沉积量;沉积速度
【英文关键词】Apostichopus japonicus; cultured pond; suspended particles; sedimentary flux; sediment; sinking velocity
【中文摘要】对不投饵刺参养殖池塘的颗粒悬浮物结构及其沉积量和沉积速度进行了研究。结果表明: (1)各池塘总颗粒悬浮物重量(TS)为(73. 1 ±20. 5)mg/L,变动于46. 0~132. 0mg/L之间;颗粒无机物(IS)含量为(50. 6 ±12. 6)mg/L,变动于28. 5~7615mg/L之间,占总颗粒悬浮物的69. 13%;浮游生物干重(PZ)为(0. 675 ±0. 706)mg/L,变动于0. 064~2. 814mg/L之间,其中浮游植物干重(DWP)为(0. 541 ±0. 622)mg/L,变动于0. 062~2. 582mg/L之间,浮游动物干重(DWZ) 为(0. 135 ±0. 200)mg/L,变动于0. 002~1. 160mg/L 之间;颗粒腐质为(21. 91 ±19. 59) mg/L,变动于4. 18 ~83. 86mg/L 之间,占总颗粒悬浮物的比例为29195%。(2)总颗粒物沉积量为(19. 44 ±16. 34) g · m- 2 · d- 1 ,变动于6. 33~91. 98g · m- 2 · d- 1之间,沉降速度为(0. 30 ±0. 30)m · d- 1 ,变动于0. 08~1. 63m · d- 1之间,新生态颗粒有机物沉积量为(5. 09 ±7. 30) g · m - 2 · d- 1 ,变化于0. 14~31. 27g · m - 2 · d- 1之间,总颗粒物沉积量和新生态颗粒物沉积量均是底层高于表层。
【英文摘要】The structure of suspended particles and the sedimentary flux and sinking velocity in sea cucumber, Apostichopusjaponicus Selenka ponds were studied. The results showed as follows: (1) The concentration of total suspended particularmatter (TS) varied from 43. 5 to 132. 0mg/L with an average of (73. 4 ±20. 4) mg/L; The concentration of inorganicparticular matter (IS) varied from 29. 5 to 76. 5mg/L with an average of (50. 8 ±12. 3)mg/L was 71. 74% in TS; The dryweight of p lankton (PZ) varied from 0. 07 to 3. 74mg/L with an average of 0. 68 ±0. 79mg/L was 0. 90% in TS. Ofwhich,the dry weight of phytop lankton (DWP) ranged from 0. 06 to 2. 58mg/L with an average of (0. 54 ±0. 62) mg/L was0171% in TS, and the dry weight of zoop lankton (DWZ) ranged from 0. 01 to 1. 16mg/L with an average of (0. 13 ±0120)mg/L was 0. 19% in TS. Particular debris and bacteria ranged from 4. 24 to 84. 15mg/L with an average of (21. 91±19. 58)mg/L accounted for 27. 36% of TS. (2) The sedimentary flux of total suspended particularmatterwas (19. 69 ±16. 66) g · m- 2 · d - 1 which varied from 6. 33 to 91. 98g · m- 2 · d - 1 ; Sinking velocity was 7. 56 11. 07m d- 1 which ranged from0. 19 to 23. 39g · m- 2 · d- 1. The sedimentary flux of nascent suspended particulate matter in the Apostichopus japonicusSelenka ponds was (2. 75 ±8. 21) g · m- 2 · d - 1 , which ranged from 0. 19 to 23. 39g · m- 2 · d- 1. Both the sedimentary flux oftotal and nascent suspended particulate matter in the bottom of ponds were higher than those in surface water.
【语种】中文
【第一作者】赵 文
【通讯作者】赵 文
【期刊名称、卷期、页码】生态学报,2009,29(11):5749-5757
【论文发表时间】2009-11-01 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】水产养殖学

【题目】刺参对温度适应的生理生态学研究进展

【中文关键词】海参; 刺参; 温度; 生理生态学; 生态适应
【英文关键词】无
【中文摘要】综述了近年来刺参对温度适应的生理生态学研究进展,概述了温度对刺参生长、发育、繁殖的影响以及刺参对极端温度的生理生化适应机制,重点分析了温度波动对刺参生长的影响及其相关机制;夏眠过程中刺参行为和生理变化;温度历史对刺参温度耐受性的影响及其生理机制等,并对今后刺参温度生理生态学研究的热点进行了初步分析。
【英文摘要】无
【语种】中文
【第一作者】董云伟
【通讯作者】董双林
【期刊名称、卷期、页码】中国海洋大学学报,2009,39(5):908-912.
【论文发表时间】2009-09-01 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】水产养殖学

【题目】北方海区鼠尾藻大规格苗种提前育成技术
【中文关键词】鼠尾藻 大规格苗种 提前采苗 种菜 促熟 规模化繁育
【英文关键词】Sar gassum thunbergi i Large size seedling Ear ly seed collection Broodstock thallus Maturation acceleration Large scale seedling production
【中文摘要】通过连续3 年的鼠尾藻生产性育苗试验, 证明在北方海区提前育苗技术可行。该技术克服了鼠尾藻种苗繁育过程中难以培育出大苗的难题, 通过提前50 d 采苗, 缩短室内培育周期, 采用种菜人工促熟方法, 结合室内及海上培育、管理的各种技术措施, 得到的种苗健壮、均匀, 整齐。共培育出鼠尾藻大规格苗种3 373. 7 万株, 经海上中间培育3 个多月后, 幼苗直立枝数量3~ 4 根、长度可达4~ 6 cm。
【英文摘要】A met hod for ear ly production of large size Sarg assum thunberg ii seedling innor th China was developed, which cons isted of procedures such as 50 d advancement of seedcollection, timesaving of indoor cult ivation and accelerated art ificial maturation of broodst ockthalli. T his method should be us ed in combinat ion with a set of off shore mar iculture and man agement t echniqes. I t is applicable in nor th China as proved by tr ials for three consecutiveyears. About 33. 737 million healthy seedlings with uniform size were bred with this met hod,which grew into ver tical young t halli (4~ 6 cm in lengt h) with 3~ 4 branches after being cul t ured off shore for over three months. T his method overcomes the difficulty of breeding large size seedlings met in previous S. thunber gii seedling production pract ice, and will cer tainly fa cilit ate the larg e scale seedling product ion and cultivation of S . thunbergii.
【语种】中文
【第一作者】李美真
【通讯作者】李美真
【期刊名称、卷期、页码】渔业科学进展2009,30(5):75-82
【论文发表时间】2009-10-01 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】水产养殖学

【题目】Research of Wheat Organ Configuration Data Management System
【中文关键词】器官构型;数据管理;小麦器官库
【英文关键词】wheat organ configuration; data management; wheat organ database
【中文摘要】摘 要:小麦器官数据库能够为有关小麦生长规律的各种研究提供后台数据支持及数据验证依据。本研究探讨了一种小麦器官构型数据建模的方法,在此基础上设计小麦器官构型数据管理系统。通过器官构型数据结构设计,构建出小麦器官库模型,通过数据管理子系统对小麦器官库进行初始化,建立小麦器官库结构;通过数据录入子系统录入器官数据;通过数据查询分析子系统为有关小麦实验提供依据和支持。
【英文摘要】Abstract—Wheat organs database provides background data support and data validation in various studies of wheat growth virtual visualization. This paper has discussed data modeling method of wheat organ configuration, on this foundation we have designed and realized the wheat organ configuration data management system. Through organ configuration data structure design,

wheat organ library model is built; through wheat organ data Initialization in the data management subsystem, the wheat organ database structure is established, wheat organ data is input in the data Input subsystem; and the data query and analysis subsystem provides the foundation and support for the related wheat experiments.
【语种】英文
【第一作者】汪强
【通讯作者】马新明
【期刊名称、卷期、页码】DBTA2010 ISBN:978-1-4244-6976-5:594 -598
【论文发表时间】2011-11-02 00:00:00
【引文索引类型】EI
【引文索引号】2.0110313585e+013
【学科分类】计算机应用

【题目】三疣梭子蟹溞状Ⅰ期幼体的饥饿实验
【中文关键词】三疣梭子蟹(Portunus t ri tuberculatus) ; 溞状I 期幼体; 饥饿; PRS ; PNR
【英文关键词】Portunus t ri tuberculatus; PRS ; PNR
【中文摘要】通过观察不同饥饿胁迫处理对三疣梭子蟹(Portunus t ri tuberculatus) 溞状Ⅰ期幼体变态和发育的影响,研究了其“营养储存饱和点”(the point of reserve saturation , PRS) 和“不可恢复点”(the point of no re2turn ,PNR) 现象的发生情况。结果表明:以轮虫为饵料,三疣梭子蟹溞状I 期幼体(Z Ⅰ) 在前期投喂后期饥饿的条件下,随着前期摄食时间的增加,幼体变态率和发育速度呈上升趋势,50 %营养储存饱和点(PRS50) 出现在47. 5 h ,100 %营养储存饱和点(PRS100) 出现在72 h ;在前期饥饿后期投喂的条件下,随着前期饥饿时间的增加,幼体变态率和发育速度呈下降趋势,50 %不可恢复点(PNR50) 出现在39 h ,100 %不可恢复点(PNR100) 出现在56 h。
【英文摘要】无
【语种】中文
【第一作者】崔阔鹏
【通讯作者】马甡
【期刊名称、卷期、页码】海洋科学,2009,33(8):40-43
【论文发表时间】2009-02-21 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】水产养殖学

【题目】水生生物的性选择
【中文关键词】水生生物;性选择;进化;性角色反转
【英文关键词】无
【中文摘要】性选择作为生物进化的原动力,在物种形成和进化过程中具有重要作用,也是动物行为学的研究热点之一。目前,水生生物中性选择相关的研究逐渐增多。水生生物复杂的性选择行为,不仅体现在交配前选择,还体现在配子水平上的选择,同时,鱼类还有性角色反转等现象。性选择依据一定的内在生理生化机制发生,相关研究显示,性选择行为与基因决定的遗传因素和环境等非遗传因素有关。这些非遗传因素包括了雌雄个体所处的时间和空间因素、人类活动和其它诸如捕食者和“偷情者”等生物因素等等。水生生物的性选择研究侧重点集中在鱼类上,还有待更多的研究发现来揭示水生生物复杂的性选择行为及其机制。
【英文摘要】无
【语种】中文
【第一作者】高 焕
【通讯作者】高 焕
【期刊名称、卷期、页码】水产学报,2009,33(4):704-712
【论文发表时间】2009-09-01 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】水产养殖学

【题目】球等鞭金藻生长抑制物对自身藻细胞的抑制效应
【中文关键词】球等鞭金藻;生长抑制物;抑制效应;分析
【英文关键词】无
【中文摘要】研究了生长抑制物1 - 羟基,丙二酸二乙酯- 十二烯酸异丙酯(HDMA)对自身藻细胞生长、叶绿素和丙二醛(MDA)含量、胞外可溶性蛋白质和多糖含量、硝酸还原酶(NR) 、超氧化物歧化酶(SOD)和过氧化物酶(POD)活性等生理指标的影响,分析HDMA 对球等鞭金藻的抑制效应。结果表明, HDMA 显著降低了细胞密度、叶绿素含量以及NR、SOD 和POD 活性,显著增大胞外可溶性蛋白质和多糖的比值, 并且还明显提高MDA 含量。因此, 认为HDMA能够影响微藻细胞的某些生理生化过程。其中包括降低叶绿素含量,影响光合作用;改变胞外可溶性蛋白质和多糖的比值,增强细胞的疏水性,促使细胞絮凝; 降低微藻硝酸还原酶和抗氧化体系酶的活性,影响细胞内营养平衡,并加速细胞体内活性氧的积累,导致细胞发生过氧化反应,从而影响微藻生长。
【英文摘要】无
【语种】中文
【第一作者】阎斌伦
【通讯作者】阎斌伦
【期刊名称、卷期、页码】水产学报,2009,33(3):456~461
【论文发表时间】2009-09-01 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】水产养殖学

【题目】The Study of Farmland Information Management System based on Wireless Sensor Networks
【中文关键词】无线传感器网络; 体系结构; 能量控制; 系统安全;
【英文关键词】Wireless Sensor Network; System structure; Energy control; System safety;
【中文摘要】为满足农产品优质高产的需求,提出了基于无线传感器网络的农田信息管理系统,着重分析了该系统的基本功能,建立应用系统体系结构和网络系统体系结构,实现系统的能量控制和安全性设计。该系统能够在实际生产过程中减少人力操作和人工测量的误差,降低农业生产成本,并可以最大程度地实现农业生产的自动化操作,为实现农产品的优质高产提供了一种有效的方法和手段,具有重要的现实意义。
【英文摘要】To satisfy the need of good quality and high yield primary production,the farmland information management system based on wireless Sensor Network has been proposed.We give priority to analyzing the basic function of the system,building the systematic structure of applied system and network system,and implementing the energy control and safety design of system.The system can reduce manpower operation and the error of manual measuration in the course of practical production,reduce the cost of agricultural
【语种】英文
【第一作者】余华
【通讯作者】余华
【期刊名称、卷期、页码】Agricultural Science & Technology,2010, 11(7): 183-185
【论文发表时间】2010-07-02 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】计算机应用

【题目】投饵与不投饵池塘刺参肠道异养菌区系比较
【中文关键词】异养菌; 肠道; 刺参
【英文关键词】Key words
H eterotroph ic bacter ial flora; Intestine; Apostichopus japonicus
【中文摘要】从2007年6月到2008年5月, 对威海市荣成不投饵刺参养殖池塘和青岛市胶南投饵刺参养殖池塘内的刺参肠道内的异养细菌总活菌数的周年变化进行了调查, 并分析了刺参肠道内异养细菌的区系组成。结果表明, 投饵与不投饵池塘中刺参肠道内活菌的数量随季节总体变化趋势相似, 均为春夏季较低, 秋冬季较高, 但不投饵池塘刺参肠道内活菌数量在0.01水平显著高于投饵池塘。通过对分离得到的菌株鉴定, 发现308株细菌分别属于20个属。在投饵和不投饵池塘中, 刺参肠

道内的优势菌均为弧菌、假单胞菌和芽孢杆菌, 但在投饵池塘中, 刺参肠道内的弧菌和芽孢杆菌的比例明显高于不投饵池塘, 假单胞菌和其他细菌的比例则明显低于不投饵池塘。不投饵池塘刺参肠道细菌Shannon W iener多样性指数在夏季明显高于投饵池塘, 其他季节差异不明显。从异养细菌的种类组成看, 色杆菌属、Endozoicimonas、瑰杆菌属、副球菌属、短杆菌属、Jeotgalicoccus、Glaciecola仅出现在不投饵池塘刺参肠道内, 而屈扰杆菌属、希瓦氏菌、八叠球菌属则仅出现在投饵池塘刺参肠道内。

【英文摘要】Seasona l variation o f heterotrophic bacteria l flora associated w ith the intestine o f sea cucumber (Apostichopus jap onicus) was inves tigated in the feed ing ponds in Jiaonan, Q ingdao and unfeeding ponds in Rongcheng, We iha.i Results showed that the to ta l v iab le counts(TVC) of bacteria in the intestine of sea cucumber in two types o f ponds exhibited smi ilar tendencyw ith seasons, wh ich was h igh in spring andsummer but low in autumn and w inter. However, TVC of bacteria in the intestine o f sea cucumber in the unfeeding ponds w as significantlyh igher than that in feeding ponds (P < 0. 05). Altogether, 20 generawere identified from the intestine o f sea cucumber. V ibrio, Pseudonom asand Bacillus were themost abundant species in both feeding and unfeeding ponds. However, the percentages o f both V ibrio and Bacillus to to tal heterotroph ic bacter ial species isolated from the intestine o f sea cucumber in the feeding ponds w ere significantly higher than those in theunfeed ing ponds (P < 0. 05). According to the calculation o f Shannon W iener diversity index, the diversity of heterotrophic bacterial flora inthe intestine o f sea cucumber in the unfeeding pondswas h igher than that in the feeding ponds. Additionally, the spec ies o fChrom obacterium,Endozoicimonas, Roseobacter, Paracoccus, Brachybacterium, Jeotgalicoccus, G laciecola w ere only found in the intestine o f sea cucumber in theunfeed ing ponds, and F lex ibacrer, Shewanella, Sporosarcina were only isolated from the intestine of sea cucumber in the feeding ponds.

【语种】中文
【第一作者】牛宇峰
【通讯作者】田相利
【期刊名称、卷期、页码】安徽农业科学,2009. 37(27):13113-13117
【论文发表时间】2009-05-15 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】水产养殖学

【题目】In vitro and in vivo antileishmanial efficacy of nitazoxanide
【中文关键词】无
【英文关键词】无
【中文摘要】无

【英文摘要】Control of Leishmania infection relies primarily on chemotherapy, and the current drug available for treating leishmaniasis is limited. Nitazoxanide (NTZ) is a broad spectrum antiparasitic agent with activity against protozoa, nematodes, cestodes, and trematodes. In the present study, the in vitro antileishmanial efficacy of NTZ was evaluated by incubation of Leishmania donovani promastigotes with NTZ, indicating that NTZ can affect the ultrastructure of parasite promastigote and efficiently inhibit the parasite growth. Moreover, 200 μg/ml NTZ inhibited >90% of promastigotes growth, showing similar activity of the reference drug amphotericin B (P>0.05). Therapeutic efficacy of NTZ against L. donovani-infected BALB/c mice demonstrated that oral NTZ produced a significant reduction of parasite burden in spleen and liver from L. donovani-infected mice, compared with the untreated mice (P<0.05). These results indicated NTZ may be a novel therapeutic drug for leishmaniasis.

【语种】英文
【第一作者】张瑞岩
【通讯作者】刘全
【期刊名称、卷期、页码】Parasitol Res Volume 107, Number 2 (2010), 475-479
【论文发表时间】2010-05-20 00:00:00
【引文索引类型】SCI
【引文索引号】621RC
【学科分类】兽医学

【题目】Optimization of Stocking Density for the Sea Cucumber,
【中文关键词】无

【英文关键词】sea cucumber; Apostichopus japonicus; stocking density; feed-supplement; non-feed-supplement; yield
【中文摘要】无
【英文摘要】Optimal stocking densities were investigated for the sea cucumber Apostichopus japonicus Selenka under feed-supplementand non-feed-supplement regimes in net enclosures for 333 d. Substantial weight loss occurred during the aestivation phase (AE).Decreased growth rates were also observed during the winter phase (WT). In contrast, sea cucumbers showed rapid growth duringthe spring (SP) and autumn (AU) phases. Feeding regimes considerably influenced the growth performance, i.e., sea cucumbers grewfaster under feed-supplement regime than under non-feed-supplement regime ($P < 0.05$). The average survival rates of sea cucumbersunder feed-supplement regime were higher than those under non-feed-supplement regime for both the autumn phase and spring phase,but the differences were only significant for the latter phase ($P < 0.05$). The fitted B-N curves showed that the optimal stocking densities,in terms of net production, were 22.3 ind. m-2 for feed-supplement regime and 14.1 ind. m-2 for non-feed-supplement regime.
【语种】英文
【第一作者】QIN Chuanxin
【通讯作者】DONG Shuanglin
【期刊名称、卷期、页码】J. Ocean Univ. China, 2009, 8 (3): 296-302
【论文发表时间】2009-06-30 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】水产养殖学

【题目】萱藻生活史中盘状体阶段生长特性
【中文关键词】萱藻;生活史;盘状体;丝状体;叶状体
【英文关键词】无
【中文摘要】:于2006年3- 5月在大连沿海萱藻[Scytosiphon lomentaria(Lyngbye) Link]的繁殖期内,采集具有多室配子囊的成熟萱藻,采用阴干刺激方法获得配子并在室内培育形成盘状体。观察结果显示,在20 ℃和15 ℃下,盘状体表面细胞生长出丝状体和叶状体。叶状体经生长后沿藻体纵轴裂开又形成了丝状体。丝状体上与基质接触的细胞进行放射状分裂形成盘状体,未与基质接触的细胞在继续分裂增加藻体长度的同时,在丝状体上形成了许多节状细胞团,节状细胞团与基质接触后向周边分裂又形成了盘状体。由丝状体形成的盘状体在15 ℃和10 ℃下培养2个月后形成了单室孢子囊。单室孢子囊成熟后经阴干刺激可放出游孢子,游孢子附着后萌发为直立管状萱藻幼苗。实验结果表明,在萱藻生活史中的盘状体阶段还存在盘状体→丝状体→盘状体与盘状体→叶状体→丝状体→盘状体2个循环。盘状体阶段这2个循环的存在,改变了从配子或合子获得盘状体的单一途径。利用丝状体游离培养生长速度快以及节状细胞团切碎后能在短时间内形成盘状体的特性,在室内进行人工增殖丝状体,当节状细胞团出现后将丝状体切碎,可以获得大量盘状体,通过室内培养使盘状体形成孢子囊并放出孢子,经孢子采苗后在室内培育出萱藻幼苗。本研究旨在为萱藻人工育苗探索一条新路。
【英文摘要】无
【语种】中文
【第一作者】张泽宇
【通讯作者】张泽宇
【期刊名称、卷期、页码】中国水产科学,2009,16(4):525~531
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【引文索引号】null
【学科分类】水产养殖学

【题目】仿刺参多种杂交方式下杂交效果的初步研究
【中文关键词】仿刺参; 杂交; 杂种优势
【英文关键词】无
【中文摘要】对仿刺参Ap ostichop us jap onicus 中国群体(C) 与俄罗斯群体(R) 杂交子一代F1 (C R) 亲参的发育情况及其与中国仿刺参群体多种杂交后代的早期生长情况进行了研究。结果表明: 杂交仿刺参子一代F1 (C R) 在渤海北部池塘可自然发育成熟, 或经人工促熟后发育成熟。3龄成熟子一代个体体重为(246 5 65 1) g, 体重为140~400 g, 性腺指数为(15 7 1 6)%, 卵径为130~ 160 m。通过人工催产获得成熟精卵, F1 (C R) 与C 回交,

在温度为(20 0 0 5) 、盐度为31、pH 为8 0、溶氧为7 4mg /L的条件下进行幼体培育, 并对其生长指标进行测量。结果表明: 各组杂交后代在体长、体重方面表现出一定的杂种优势。其中, 耳状幼体阶段各组仿刺参生长速度由高到低依次为F1 (C R) ! C∀ > C! F1 (C R) ∀ > F1 (C R) ! F1 (C R) ∀ > C! C∀ ; 4月龄时各组稚参、幼参体长日增长由高到低依次为F1 (C R) ! F1 (C R) ∀ > C! F1 (C R) ∀ > C! C∀ > F1 (C R) ! C∀ , 体重日增长由高到低依次为F1 (C R) ! F1 (C R) ∀ > F1 (C R) ! C∀ > C! F1 (C R) ∀ > C! C∀ 。
【英文摘要】无
【语种】中文
【第一作者】江曙光
【通讯作者】常亚青
【期刊名称、卷期、页码】大连水产学院学报,2009,24(3):247-250
【论文发表时间】2009-06-01 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】水产养殖学

【题目】仿刺参体腔细胞吞噬与凝集功能及其与温度的关系
【中文关键词】仿刺参; 体腔细胞; 吞噬; 凝集; 温度
【英文关键词】无
【中文摘要】采用光镜和电镜技术研究了仿刺参Apostichopus japonicus体腔细胞的吞噬和凝集功能及其与温度的关系。结果表明: 仿刺参体腔细胞中球形细胞和变形细胞具有较强的吞噬功能, 当异物的大小、性质不同时, 其吞噬过程和吞噬能力存在一定差异。当体腔细胞吞噬洋红颗粒时, 试验进行6 h其吞噬率最高(48101%) , 108 h时吞噬过程结束; 当体腔细胞吞噬酵母时, 试验进行4 h其吞噬率最高(35117%) , 且体腔细胞的凝集现象较多, 到96 h时吞噬过程结束。仿刺参体腔细胞的吞噬能力与温度关系密切, 18 ℃下吞噬百分率和吞噬指数最高, 12 ℃下次之, 4 ℃和25 ℃下最低。仿刺参离体的体腔细胞很快发生凝集反应, 且温度和异物刺激都会影响体腔细胞的凝集作用时间和强度。
【英文摘要】无
【语种】中文
【第一作者】李华
【通讯作者】朴守一
【期刊名称、卷期、页码】大连水产学院学报,2009,24(3):189-195
【论文发表时间】2009-06-01 00:00:00
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【引文索引号】null
【学科分类】水产养殖学

【题目】不同类型附着基对刺参生长和存活的影响
【中文关键词】刺参;附着基;成活率;生长
【英文关键词】无
【中文摘要】附着基是刺参(Apostichopusjaponicus,Selenka)池塘或围堰养殖水体中设置的专用养殖设施,其功能主要是为刺参提供避光场所和培养刺参的天然饵料。本实验比较研究了石头、瓦片、塑料管、空心砖和水泥管5种不同附着基处理对刺参(规格为5.0 g±2.0 g)生长和存活的影响。结果表明,不同附着基上异养菌含量差异显著,5月附着基上异养菌含量显著的低于11月;石头附着基刺参的成活率最高,但其生长速度较慢;空心砖刺参的生长速度最快,成活率略低于石头;空心砖和石头附着基处理刺参产量显著高于其他附着基,瓦片、塑料管和水泥管上海参产量之间差异不显著。仅从养殖效果上看,目前较为流行的5种刺参附着基以空心砖较好。
【英文摘要】无
【语种】中文
【第一作者】秦传新
【通讯作者】董双林
【期刊名称、卷期、页码】中国海洋大学学报,2009,39(3):392-396

【论文发表时间】2009-05-01 00:00:00
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【引文索引号】null
【学科分类】水产养殖学

【题目】雄性半滑舌鳎雄激素受体基因的克隆与表达分析
【中文关键词】半滑舌鳎;雄激素受体;克隆;表达
【英文关键词】无
【中文摘要】利用RT—PCR方法从半滑舌鳎(Cynoglossus sereilaevis)中克隆了雄激素受体(Androgen receptor,AR)基因cDNA的部分序列(434 bp),经BI AST 比对与狼鲈(Dicentrarchus labrax)、花溪鳟(Kryptolebias znarmoratus)、三斑海猪鱼(Hall—fhoeres trimaculnt " s)和三刺鱼(Ga tPr(J5tP " nc " leatM5)的雄激素受体同源性分别为84%,82%,82%和81%。组织表达分析表明,AR基因在半滑舌鳎的性腺、肝、胃、睥、肾、头肾、肠、鳃、心、脑和肌肉这l1种组织中均有表达,表达量有所差异。肾中表达量最丰富,鳃中最少。根据其他硬骨鱼类表达模式,推测半滑舌鳎可能只含有1种AR。
【英文摘要】无
【语种】中文
【第一作者】温海深
【通讯作者】温海深
【期刊名称、卷期、页码】中国海洋大学学报(自然科学版),2009,39(3):387-391
【论文发表时间】2009-05-01 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】水产养殖学

【题目】鼠尾藻的繁殖生物学及人工育苗的初步研究
【中文关键词】鼠尾藻;室内培养;人工育苗
【英文关键词】无
【中文摘要】:于2006年对大连沿海地区鼠尾藻Sargassum thunbergii的繁殖生物学进行了初步研究,并进行了鼠尾藻卵的采集及人工育苗试验。结果表明:鼠尾藻的繁殖期为6月中旬至8月下旬,水温为13—23 ,繁殖高峰期为7月中旬,水温为17 ,最大卵放散量可达300万粒/g;使用贝壳作为受精卵的附着基,在室内培育60 d后,鼠尾藻幼苗长度为2.5 mm左右;水温<22°C时,幼苗生长较快,水温>23°C时生长几乎停止。经过30 d海区暂养,幼苗的藻体长度达到7—8 mm。
【英文摘要】无
【语种】中文
【第一作者】张泽宇
【通讯作者】张泽宇
【期刊名称、卷期、页码】大连水产学院学报,2007.22(4):255~229
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【引文索引号】null
【学科分类】水产养殖学

【题目】三疣梭子蟹对饵料鱼和蛤摄食参数的研究
【中文关键词】三疣梭子蟹;摄食节率;饵料;底质;摄食量比值
【英文关键词】无
【中文摘要】研究体重为(9.2O±1.5O)g的三疣梭子蟹在分别投喂饵料鱼和兰蛤及有无沙底质条件下的昼夜摄食节律、摄食率和昼夜摄食量的差异。结果表明:投喂兰蛤组的三疣梭子蟹摄食高峰在2O:OO左右,投喂饵料鱼组三疣梭子蟹的摄食高峰在O2:OO左右;沙底质条件下三疣梭子蟹的夜晚摄食量占全天摄食量的94.34% ,而无底质组为75%,表明在潜底环境条件下三疣梭子蟹具有更明显的昼夜摄食节律;投喂兰蛤组三疣梭子蟹黑夜摄食量比值显著高于白天,分别为75 和25% ,而投喂鱼组黑夜摄食量比值仅略高于白天,分别为59.2l 和4O.79 。此外,投喂鱼组白昼摄食率可迭8O ,显著高于投喂兰蛤组的lO ,表明投喂鱼饵料有利于三疣梭子蟹的白昼进食。根据昼夜摄食量对比分析,建议采用白昼投喂占总投喂量2O% ~30 的鱼肉以降低蜕皮残食,夜晚投喂7O ~8O 的兰蛤的投喂策略促其生长,并减少梭子蟹的残食。

【英文摘要】无
【语种】中文
【第一作者】高磊
【通讯作者】马甡
【期刊名称、卷期、页码】海洋湖沼通报,2009,第2期:42-48
【论文发表时间】2008-03-12 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】水产养殖学

【题目】软泥底质池塘中两种养殖仿刺参方式的对比试验
【中文关键词】仿刺参; 养殖方式; 对比试验
【英文关键词】无
【中文摘要】于2006年10月—2008年11月在4个软泥底质的池塘中分别放入塑编网造礁和毛石造礁, 对仿刺参进行了两种养殖方式的对比试验。11月初放苗, 参苗平均规格为400~600 头/kg, 每种养殖方式中放苗1 200 kg (60万头) 。经过两年养殖, 于2008年11月收获, 放入塑编网造礁的池塘中共培育出规格为4~5头/kg的仿刺参19 200 kg (2516万头) , 成活率达4217% , 总重量增加了15倍; 放入毛石造礁的池塘中共培育出规格为7~8头/kg的仿刺参9 000 kg (6 300头) , 成活率达1015% , 总重量增加了615倍。
【英文摘要】无
【语种】中文
【第一作者】周玮
【通讯作者】周玮
【期刊名称、卷期、页码】大连水产学院学报,2009,24(增刊):153-156
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【学科分类】水产养殖学

【题目】刺参养殖池塘不同粒级浮游生物呼吸率和初级生产率的研究
【中文关键词】刺参养殖池塘; 不同粒级浮游生物; 呼吸率; 初级生产率; 叶绿素a
【英文关键词】无
【中文摘要】于2008年1 6月对大连壹桥海洋苗业股份有限公司4个刺参Apos tichopus jap onicus养殖池塘不同粒级浮游生物的呼吸率和初级生产率进行了测定。结果表明: (1) 小型、微型及超微型浮游生物的呼吸率平均值分别为0 31、0 63、0 80 m g / (L d) (以O2计, 下同), 分别占各粒级浮游生物总呼吸率的17 88%、36 10%和46 02%; 小型、微型及超微型浮游植物生产率平均值分别为0 27、0 59、0 64mg /(L d), 占各粒级浮游植物总生产率的18 18%、38 98%和42 84%; 小型、微型及超微型浮游生物呼吸率占相应粒级浮游植物生产率的比例分别为113 90%、107 24%、124 39%。(2) > 200 m、20 ~200 m、2~ 20 m 和< 2 m 的4个粒级浮游植物叶绿素a含量的平均值分别为0 75、0 65、3 08、1 26 g /L, 分别占总叶绿素a含量的13 15%、11 30%、53 63%和21 92%。
【英文摘要】无
【语种】中文
【第一作者】张义伟
【通讯作者】赵文
【期刊名称、卷期、页码】大连水产学院学报,2009,24(增刊):103-106
【论文发表时间】2009-05-01 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】水产养殖学

【题目】蛋白质限制后恢复投喂对牙鲆幼鱼代谢的影响
【中文关键词】牙鲆; 蛋白质限制; 代谢; 营养恢复
【英文关键词】无
【中文摘要】在(231 0 ? 01 5) e 条件下对牙鲆Paralichthy s o livaceus 幼鱼(体重621 33 g ? 9113 g) 进行了蛋白质限制后恢复投喂的代谢实验。实验用3种饲料P30、P40、P50, 粗蛋白质含量分别为271 95%、401 47%、501 00% (湿重), 处理组T30和T40继分别投喂P30和P40饲料15 d后恢复投喂P50饲料5 d; 对照组连续投喂P50饲料15 d。结果表明: 蛋白质限制期间, T30和T40组牙鲆幼鱼的代谢率均显著低于对照组(P <01 05), 恢复投喂1 d各处理组的代谢率恢复至对照组水平; 蛋白质限制期间各处理组牙鲆幼鱼的排氨率显著低于对照组(P < 0105), 恢复投喂1 d各处理组的排氨率仍显著低于对照组(P < 0105), 恢复投喂5 d后恢复至对照组水平。
【英文摘要】无
【语种】中文
【第一作者】刘瑜
【通讯作者】吴立新
【期刊名称、卷期、页码】大连水产学院学报,2009,24(增刊):98-102.
【论文发表时间】2009-05-01 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】水产养殖学

【题目】饥饿对仿刺参苗种生长及呼吸代谢的影响
【中文关键词】仿刺参; 生长; 呼吸代谢
【英文关键词】无
【中文摘要】在(14 1) 条件下, 研究了饥饿对体重为(2 5 0 25) g的仿刺参Ap ostichop us jap onicus生长及呼吸代谢的影响。结果表明: 以循环投喂和饥饿再投喂为激发机制的情况下, 均未出现补偿生长现象, 说明此规格的仿刺参不具有补偿生长能力; 饥饿使仿刺参苗种的耗氧率先降低后升高, 饥饿至第10 天时降到最低, 之后开始升高并最终稳定在较低水平; 排氨率的变化趋势是先升高, 后降低, 在饥饿第15天时升至最高, 这与体内营养物质的消耗有关。
【英文摘要】无
【语种】中文
【第一作者】周玮
【通讯作者】周玮
【期刊名称、卷期、页码】大连水产学院学报,2009,24(增刊):93-97
【论文发表时间】2009-05-01 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】水产养殖学

【题目】池塘养殖仿刺参生理状态周年变化研究
【中文关键词】仿刺参; 排氨率; 耗氧率; 酶活力; 周年变化
【英文关键词】无
【中文摘要】对池塘养殖仿刺参的呼吸代谢、肠道内含物含量及几种酶活性进行了周年监测。结果表明: 仿刺参的生理指标在一周年内多呈现出两个升降周期, 耗氧率的峰值出现在6月(010206 mg/ (kg · h))和10月(010162 mg/ (kg · h)) , 谷值则出现在2月(01003 mg/ (kg · h)) 和9月(010126 mg/ (kg · h)) ; 排氨率的峰值出现在6月(019706 μg/ (g · h)) 和10月(015740 μg/ (g · h)) , 谷值则出现在1月(010629 μg/ (g · h)) 和8月(012587 μg/ (g · h)) ; 肠道内含物量含量的峰值出现在4月和11月(均超过80%) ,其谷值出现在1月(10%) 及7月(0) ; 蛋白酶、淀粉酶及谷丙转氨酶活性的峰值出现在3月(16519、674、107161 U) 和10月(132、636、98 U) , 其谷值出现在12月(75、457、50 U) 和5、6月(68196、397144、53116 U) ; 肠道内酸性磷酸酶和碱性磷酸酶活性的峰值均出现在3月(177135、624127 U) 和10月(168137、666104 U) , 而其谷值则出现在1月(115167、493104 U) 和7、8月(85120、446116 U) 。
【英文摘要】无
【语种】中文

【第一作者】周玮
【通讯作者】周玮
【期刊名称、卷期、页码】大连水产学院学报,2009,24(增刊):30-34
【论文发表时间】2009-05-01 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】水产养殖学

【题目】仿刺参体腔细胞原代培养方法初探
【中文关键词】仿刺参;体腔细胞;原代培养
【英文关键词】无
【中文摘要】以仿刺参Apostichopusjaponicus体腔细胞为材料,分别用体腔液和MEM、L一15两种培养基进行原代培养,初步探讨了仿刺参体腔细胞培养的基本条件。结果表明:在18℃下封闭培养,体腔细胞在体腔液中直接培养能够贴壁、伸展,细胞呈球形和上皮样,但凝集现象严重;在合成培养基(MEM、L一15)中,体腔细胞凝集明显减少;与MEM培养基相比,体腔细胞在L一15培养基中贴壁时间长,伸展状态好,上皮样细胞较多,可培养至72 h;培养基中血清的添加量与细胞的培养状态和可培养时间关系不明显。
【英文摘要】无
【语种】中文
【第一作者】迟刚
【通讯作者】迟刚
【期刊名称、卷期、页码】大连水产学院学报,2009,24(2),181-185
【论文发表时间】2009-04-01 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】水产养殖学

【题目】Inheritance Pattern of Microsatellite Loci and Their Use for
【中文关键词】无
【英文关键词】Patinopecten yessoensis; larvae; allelic transmission; kinship; microsatellites
【中文摘要】无
【英文摘要】The inheritance mode of seven microsatellite markers was investigated in Patinopecten yessoensis larvae from four controlledcrosses, and the feasibility of using these markers for kinship estimation was also examined. All the seven microsatellite lociwere compatible with Mendelian inheritance. Neither sex-linked barriers to transmission nor major barriers to fertilization betweengametes from the parents were evident. Two of the seven loci showed the presence of null alleles in two families, suggesting the needto conduct comprehensive species-specific inheritance studies for microsatellite loci used in population genetic studies. However,even if the null allele heterozygotes were considered as homozygotes in the calculation of genetic distance, offspring from four familieswere all unambiguously discriminated in the neighbor-joining dendrogram. This result indicates that the microsatellite markersused may be capable of discriminating between related and unrelated scallop larvae in the absence of pedigree information, and ofinvestigating the effective number of parents contributing to the hatchery population of the Japanese scallop.
【语种】英文
【第一作者】XU Kefeng
【通讯作者】LI Qi
【期刊名称、卷期、页码】Journal of Ocean University of China ,2009 8 (2): 184-190
【论文发表时间】2009-03-06 00:00:00
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【引文索引号】null
【学科分类】水产养殖学

【题目】刺参不同养殖模式实验围隔内沉积物———水界面营养盐通量研究

【中文关键词】N、P 通量; 沉积物———水界面; 刺参; 底泥呼吸; 不同养殖模式
【英文关键词】无
【中文摘要】研究刺参(A postichopus japonicus) 养殖模式对池塘底质的影响,于2007 年5~11 月间从不同养殖模式实验围隔内采得底泥样并通过实验室培养的方法测定了底泥耗氧率(SOD) 及沉积物—水界面的N、P 等。结果表明,投饵对SOD影响不显著(P > 0. 05) ,说明本实验条件下投饵没有造成实验围隔底泥中的有机物积累;7 月份的SOD 与其它月份间存在显著差异(P < 0. 05) ;大部分模式中沉积物释放溶解性无机磷酸盐(DIP) 且不同月份之间的通量存在显著差异(P <0. 05) ,不同模式之间的变化较复杂;在硝酸盐(NO -3 + NO-2) 通量结果中,投饵模式下的平均通量为非投饵模式下通量值的2~3 倍,夏季的交换通量为冬季交换通量的2 倍;当养殖密度较大时,非投饵模式中沉积物吸收氨氮的通量大于投饵模式中的通量,其它密度下投饵模式中沉积物释放氨氮的通量大于非投饵模式中的通量,并且随着养殖密度的增加通量值降低。
【英文摘要】无
【语种】中文
【第一作者】郑忠明
【通讯作者】董双林
【期刊名称、卷期、页码】中国海洋大学学报,2009,39:209-214
【论文发表时间】2009-03-01 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】水产养殖学

【题目】仿刺参体腔细胞和血细胞类型及体腔细胞数量研究
【中文关键词】仿刺参; 体腔细胞; 血细胞; 类型; 数量
【英文关键词】无
【中文摘要】本文应用光镜、电镜技术研究了仿刺参(Apos tichopus jap onicus)体腔细胞和血窦中血细胞的形态、结构、周年体腔细胞总数及主要类型的细胞数量。研究结果表明, 仿刺参体腔细胞和血细胞形态结构相同, 作者将体腔细胞分为淋巴样细胞、球形细胞、变形细胞、透明细胞、纺锤细胞和结晶细胞, 其中球形细胞又分为 型、! 型、∀ 型。血窦中血细胞除未见结晶细胞外, 其余与体腔细胞相同。体腔细胞和血细胞均以淋巴样细胞、变形细胞、球形细胞为主, 透明细胞、纺锤细胞次之, 结晶细胞数量最少。从形态和结构分析, 作者认为仿刺参体腔细胞和血细胞来源可能相同。周年平均的体腔细胞总数为(3 85 # 0 21) ∃ 106 个/mL, 淋巴样细胞为(1 58 # 0 11) ∃ 106 个/mL, 占细胞总数的(41 # 1 47)%; 球形细胞为(1 16 # 0 13) ∃ 106 个/mL, 占细胞总数的(30 # 0 89)%; 变形细胞为(0 99 #0 07) ∃ 106 个/mL, 占总细胞数的(25 # 0 98)%, 三种主要类型细胞占细胞总数的(96 # 1 53)%。
【英文摘要】无
【语种】中文
【第一作者】李 华
【通讯作者】朴守一
【期刊名称、卷期、页码】水生生物学报,2009,33(2).-207-213
【论文发表时间】2009-03-01 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】水产养殖学

【题目】三疣梭子蟹与不同虾类混养技术研究
【中文关键词】三疣梭子蟹 虾类 混养
【英文关键词】无
【中文摘要】分别利用中国明对虾、凡纳滨对虾、日本囊对虾和脊尾白虾等虾类与三疣梭子蟹进行混养。结果表明:日本囊对虾与三疣梭子蟹混养组三疣梭子蟹养殖单产最高,平均产量1 678. 5 kg/ hm2 ,其次为凡纳滨对虾与三疣梭子蟹混养组,平均产量1 659 kg/ hm2 。对虾养殖单产以凡纳滨对虾与三疣梭子蟹混养组最高,平均产量990 kg/ hm2 ,其次为中国明对虾与三疣梭子蟹混养组,平均产量952. 5 kg/ hm2 。但考虑到日本囊对虾市场售价为其他混养虾类的两倍,因而日本囊对虾与三疣梭子蟹混养组养殖效益最高。
【英文摘要】无

【语种】中文
【第一作者】曹 梅
【通讯作者】曹 梅
【期刊名称、卷期、页码】河北渔业,2009,第3期:15-17
【论文发表时间】2009-03-01 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】水产养殖学

【题目】仿刺参耳状幼体和稚参阶段的体长遗传力估计
【中文关键词】仿刺参; 遗传力; 生长性状
【英文关键词】无
【中文摘要】采用不平衡巢式设计方法和人工授精技术, 为每个雄性仿刺参配3个雌性仿刺参, 每个雌性个体产生若干幼体, 建立了仿刺参Apostichopus japonicus 9个半同胞家系和27个全同胞家系。对仿刺参中耳幼体的27个全同胞和稚参阶段的23个全同胞幼仿刺参的体长分别进行了测量, 中耳幼体阶段共测量810个个体,稚参阶段共测量640个个体, 并用MTDFREML软件中的混合动物模型对其进行分析, 估计仿刺参早期生长发育的遗传力。结果表明, 仿刺参中耳幼体阶段的体长生长性状遗传力为0129, 稚参阶段的体长遗传力为0149。在仿刺参的不同发育阶段其体长生长性状的遗传力属于中度遗传力范围, 说明仿刺参的体长生长性状是在加性效应控制下, 对仿刺参进行选择育种具有较大的遗传改良潜力, 可以获得较好的选择效果。
【英文摘要】无
【语种】中文
【第一作者】李云峰
【通讯作者】常亚青
【期刊名称、卷期、页码】大连水产学院学报,2009,24(1):30-33
【论文发表时间】2009-02-01 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】水产养殖学

【题目】鹿角海萝的繁殖生物学及室内培养的研究
【中文关键词】鹿角海萝; 繁殖生物学; 室内培养
【英文关键词】无
【中文摘要】在鹿角海萝G loiop eltis tenax 藻体生育期内, 观察了大连沿海鹿角海萝的自然生态及藻体生长过程;在繁殖期内定期采集种藻进行孢子放散, 测定了藻体生长、孢子放散量与水温的关系; 使用培养皿、贝壳等附着基采集四分孢子和果孢子并在室内进行培养。结果表明: 1) 鹿角海萝在大连沿海的生育期为10 月至翌年7月, 藻体在4月下旬至5月上旬生长最快, 此阶段水温为6~ 9 。2) 鹿角海萝的繁殖期为4 月下旬至6月下旬(水温6~ 12) , 其中果孢子体在4月下旬至5月中旬(水温6~ 10) 放散, 放散高峰为5月上旬, 最高放散量为0 9 106个/g; 5月上旬至6月下旬(水温9~ 12) 四分孢子体开始放散,高峰期为6月上旬, 最高放散量为1 65 106个/ g。3) 四分孢子和果孢子附着后均可萌发形成盘状体, 盘状体直径达250 m 左右时形成直立枝, 盘状体和直立枝在每天上午和下午各干露2 h条件下, 生长速度明显快于对照组, 直立枝经在室内培养成为鹿角海萝幼苗。
【英文摘要】无
【语种】中文
【第一作者】张泽宇
【通讯作者】张泽宇
【期刊名称、卷期、页码】大连水产学院学报,2009,24(1):1-7
【论文发表时间】2009-02-01 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】水产养殖学

【题目】三疣梭子蟹综合养殖技术
【中文关键词】无
【英文关键词】无
【中文摘要】三疣梭子蟹(Por tunus tr ituber culatus) 属甲壳纲、十足目、梭子蟹科, 广泛分布于我国沿海, 是经济价值较高的大型海产蟹类
【英文摘要】无
【语种】中文
【第一作者】王兴强
【通讯作者】王兴强
【期刊名称、卷期、页码】水产科学,2009, 28(2):105-108
【论文发表时间】2009-02-01 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】水产养殖学

【题目】温度和光照强度对鼠尾藻生长和生化组成的影响
【中文关键词】鼠尾藻 温度 光照强度 生长 生化组成
【英文关键词】Sa rgassum thunberg ii; temperature; light intensity; growth; biochemical composition
【中文摘要】在实验室条件下,研究了温度(10、15、20、25 ℃) 和光照强度(20、60、100、140、180 μE · m- 2 · s- 1)对鼠尾藻生长和生化组成的影响. 结果表明,温度、光照强度及两者的交互作用对鼠尾藻生长均具有极显著影响. 鼠尾藻在15 ℃和20 ℃下生长速率较高,随着温度的升高,达到最大生长速率所需要的光照强度有上升趋势. 在10 ℃和15 ℃下,较高的光照强度对鼠尾藻生长产生了一定抑制作用,而在20 ℃和25 ℃下,其生长速率总体随光照强度的增加而增加. 温度和光照强度对鼠尾藻叶绿素a、墨角藻黄素的含量影响极显著,其中光照强度的影响大于温度. 总体上,叶绿素a和墨角藻黄素的含量均随着光照强度的升高而显著下降,随着温度的升高而升高. 鼠尾藻碳水化合物含量随着光照强度的升高而显著升高,而温度对碳水化合物含量影响不显著. 鼠尾藻蛋白质含量随着光照强度的增加而显著下降,在10 ℃和15 ℃下含量较高,随着温度的继续升高,蛋白质含量呈下降趋势. 光照强度和温度的变化可改变鼠尾藻的藻体成分含量,这种改变可能是鼠尾藻为了适应环境因子改变而做出的积极的生理调节,对其生长和生存具有重要的生态意义.
【英文摘要】A two2factorial experimentwas designed to study the effects of temperature (10, 15, 20,and 25 ℃) and light intensity (20, 60, 100, 140, and 180 μE · m- 2 · s- 1) on the growth andbiochemical composition of Sargassum thunberg ii. The results showed that temperature, light inten2sity, and their interactions had significant effects on the growth of S. thunbergii. A higher growthrate of S. thunberg iiwas observed at 15 ℃- 20 ℃, and, with the increase of temperature, the lightintensity for the maximum growth rate of S. thunbergii had an increasing trend. At 10 ℃ and15 ℃, higher light intensity had definite inhibition effect on the growth of S. thunbergii; while at20 ℃ and 25 ℃, the growth rate was generally increased with increasing light intensity. Both tem2perature and light intensity had significant effects on the chlorophyll a and fucoxanthin contents ofS. thunbergii, and the effects of light intensity was greater than those of temperature. In general,the chlorophyll a and fucoxanthin contents of S. thunbergii decreased significantly with increasinglight intensity but increased with increasing temperature. The carbohydrate content of S. thunbergiiincreased with increasing light intensity, while no significant difference was observed at differenttemperature. The p rotein content of S. thunberg ii decreased with increasing light intensity, and washigher at 10 ℃ and 15 ℃ but tented to decrease with increasing temperature. The variation of lightintensity and temperature induced the changes in the biochemical composition of S. thunberg ii, andthese changes could be an active physiological adjustment for the adap tation to the variation of envi2ronmental factors, which was of ecological significance to the growth and survival of S. thunbergii.
【语种】中文
【第一作者】姜宏波
【通讯作者】田相利
【期刊名称、卷期、页码】应用生态学报,2009. 20(1) : 185-189
【论文发表时间】2009-01-01 00:00:00
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【引文索引号】null

【学科分类】水产养殖学

【题目】鼠尾藻生长、藻体成分及其生境的初步研究
【中文关键词】鼠尾藻;生长;藻体成分;氮;磷
【英文关键词】无
【中文摘要】对威海小石岛附近海区鼠尾藻(Snrgnss姗 旃“ rg)的生长、藻体成分和水体中氮、磷等营养元素的月份变动情况进行了初步研究。结果表明,研究海区水体中硝酸氮的含量具有明显的月份变化,5~lO月含量较低,l1~4月含量较高;相对于硝酸态氮,氨氮的含量较低,随月份变动也较小;总无机氮的含量变化与硝酸氮含量变化趋于一致;总无机磷含量随月份的变动也较大,在2~ 6月含量较低,1l~1月含量较高。鼠尾藻生长有着明显的月份变化,4~5月生长最快,6~7月藻体达到最大长度;侧枝一般在4月开始出现,7月达到最长。对鼠尾藻体内的碳、氮、磷、碳水化合物以及色素进行测定的结果表明.鼠尾藻体内的碳含量变化较小,一般在25.6 ~33.O 之间;氮的含量变化较大,12~ 5月含量较高,超过3 ,7~ 11月含量较低,低于3 ;磷的含量也具有很大的波动,在1l~4月含量较高,5~ 1O月含量较低。色素含量具有明显的月份变化,l2~3月含量较高,7~1O月含量较低。碳水化舍物含量在4~7月时较高,最低出现在8~9月。
【英文摘要】无
【语种】中文
【第一作者】姜宏波
【通讯作者】田相利
【期刊名称、卷期、页码】海洋与湖沼通报,2009. 2: 59-66
【论文发表时间】2008-03-28 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】水产养殖学

【题目】半滑舌蝎幼鱼消化酶同功酶谱初步研究
【中文关键词】半滑舌绢同工酶蛋白酶淀粉酶脂肪酶
【英文关键词】苟翎〕Ψ 1+ Z Z + A 6 : 9 ϑ 二1Z & B X >56 8 78 B >6 ; A 6 Ω : < ϑ ; A 6 % 9 Y ; A 6 1 Z + 帅6
【中文摘要】以半滑舌编幼鱼为研究材料, 利用聚丙烯酞胺非变性电泳和同功酶活性染色对半滑舌蜗消化酶进行了初步分离。蛋白酶采用明胶原位消化法, 肝脏蛋白酶检测出/ 条酶带, 其中1 条强带, 条弱带0 后肠蛋白酶出现了 条酶带, 其中有1 条强带, 1 条弱带, 并且与肝脏蛋白酶的前 条酶带分别在同一分子量水平上0 前肠和中肠蛋白酶均只出现了1 条弱带, 且在同一分子量水平上。半滑舌娟肠道各部分的淀粉酶带都在相似分子量附近出现了一条弱酶带, 而肝脏在不同的分子量水平出现了1 条酶带。肝脏、前肠和后肠脂肪酶均出现了2 条酶带, 其中, 肝脏和前肠均分别有1 条强带, 1 条中强带, 条弱带0 后肠脂肪酶则有1 条中强带, / 条弱带0 中肠脂肪酶出现了/ 条弱带。肝脏和肠道各部分脂肪酶的第一条酶带都在同一分子量水平上, 而且活性相似。
【英文摘要】56 ≅ 9 E 6 A > 9 H 6 6 X I <: 6 A 9 X 9? H 6 X 9 ϑ 6 > B X 即6 一A B ϑ 6 Ξ 了切Ψ 1+ Z Z + A 6 : 9 ϑ ; 巴1 Z M 6 8 6 A 6 Y ; 8; >6 ≅ ; X ≅ ; X ; ϑ < I 6≅ >5 8 B ? E 5; 6 叮 ϑ ; : 9≅ 6 罗1 6 ϑ 6 6 >8 B Y 5 B 8 6 A 9 A ς − ϑ 3 & ϑ ? >9 X ≅ 9 E 6 A > 9 B X 9 X A 9> ? M ; A ; Y H ϑ 96 ≅ > B Y 8 B > 6 ; A 6 ς % 9 H 6 8 78 B >6 ; A 6 M ; A 6 B : Y B A 6 ≅ B Φ >586 6 Θ; X ≅ A , B X 6 Θ 89 E 5> Θ ; X ≅ ; X ≅ >M B ≅ 9: Θ ; X ≅ A ς P 9≅即> Y 8 B >6 ; A 6 ; X ≅ Φ B 86 E ? > Y 8 B >6 ; A 6 9 X 6 ϑ ? ≅ 6 ≅ B X 6 ≅ 9: Θ; X ≅ A , M 596 5 Y ;8; ϑ ϑ 6 ϑ 6 ≅ ϑ 9 H 6 8 Y 8 B >6 ; A 6 ’ Z ≅ 9: Θ ; X ≅ ς # 9 X ≅即> Y 8 B > 6 ; A 6 M ; A 6 B : Y B A 6 ≅ B Φ B X 6 Θ 89 E 5> Θ; X ≅ ; X ≅ B X 6 ≅ 9: Θ; X ≅ ; X ≅ >5 6 ≅ 9: >56 < 5 ; ≅ A 9: [9 ϑ ; 8 : B ϑ 6 6 ? ϑ ;8 M 6 9 E 5 > M9 > 5 >5 6 ϑ 9 H 6 8 Y 8 B >6 ; A 6 ς − 3 A B I <: 6 > 6 6 5 X B ϑ B 盯M ; A ; Y Y ϑ 96 ≅ > B ; : < ϑ ; A 6 ς N B 86 即> , : 9≅即> ; X ≅ 59 X ≅ , >; : < ϑ ; A 6 ; ϑ ϑ 5; ≅ B X 6 ≅ 9: Θ; X ≅ ς % 9 H 6 8 ; : < ϑ ; A 6 5; ≅ B X 6 ≅ 9: Θ ; X ≅ M 596 5 5; ≅ ≅ 9 Φ 6 8 6 X > : B ϑ 6 6 ? ϑ ;8 M 6 9 E 5 > M9 > 5 >56 9 X >6 A > 9 X 6 A ς − / 3 A B I <: 6 >6 6 5 X B ϑ B 群M ; A A >9 ϑ ϑ ? A 6 ≅ > B ϑ 9 Y ; A 6 ς N B ? 8 Θ; X ≅ A M 6 8 6 Φ B ? X ≅ Φ 8 B : Φ B 86 即> , 5 9 X ≅ , > ; X ≅ ϑ 9 H 6 8 ϑ 9 Y ; A 6 M 5 9 ϑ 6 >586 6 Θ; X ≅ A M 6 86 Φ B ? X ≅ Φ 8 B : : 9≅ 即> ς)5 6 98 Φ 9 8 A > Θ ; X ≅ A ; ϑ ϑ 5; ≅ A 9: 9 ϑ ; 8 : B ϑ 6 6 ? ϑ ; 8 M 6 9 E 5>
【语种】中文
【第一作者】田相利
【通讯作者】田相利

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【引文索引类型】其他
【引文索引号】null
【学科分类】水产养殖学

【题目】脊尾白虾养殖技术研究
【中文关键词】脊尾白虾 养殖技术 研究方向
【英文关键词】无
【中文摘要】综述了脊尾白虾池塘养殖、秋冬季养殖、混合养殖和低盐度养殖等各种模式的养殖技术以及对脊尾白虾营养生理的研究情况,指出了我国脊尾白虾养殖中存在的组要问题,并提供了以后的研究方向。
【英文摘要】无
【语种】中文
【第一作者】王兴强
【通讯作者】王兴强
【期刊名称、卷期、页码】水产科技情报,2008, 35(6):265-269
【论文发表时间】2008-11-08 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】水产养殖学

【题目】干出对潮间带不同垂直位置海藻的生长
【中文关键词】干出;海藻;生长;光合作用
【英文关键词】无
【中文摘要】研究了青岛潮间带地区的4 种海藻:叉枝藻(Gymnogong rus f label l i f ormis Harvey ,高潮带) 、孔石莼(Ul va pertusa kjellm ,中潮带) 、缘管浒苔(Enteromorpha l inz a (L.) J . Agar2dh ,中潮带) 和扁江蓠(Graci laria te x tori i (Suring) De Toni ,低潮带) 在干出状态下的脱水率及每天干出0 、0. 5 、1 、2 、4 和6h 下的生长和光合作用。结果表明:干出状态下缘管浒苔的脱水率最小,因为它具中空管状构造;其余3 种海藻的脱水率依次为扁江蓠> 孔石莼> 叉枝藻,但三者差异不大。与水中对照(0h) 相比,高潮带的叉枝藻在不同干出处理下的生长和光合作用速率下降(P < 0. 05) 。中潮带的孔石莼在一定干出时间内促进其生长和光合作用(P < 0.05) ,缘管浒苔则未见显著的促进作用。低潮带的扁江蓠在干出处理下几乎不能生长和存活。
【英文摘要】无
【语种】中文
【第一作者】郭赣林
【通讯作者】董双林
【期刊名称、卷期、页码】海洋湖沼通报,2008年第4期:78-84
【论文发表时间】2007-05-25 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】水产养殖学

【题目】仿刺参摄食砂砾粒度的选择性研究
【中文关键词】仿刺参; 摄食; 粒度选择
【英文关键词】无
【中文摘要】在对自然海区和池塘养殖的仿刺参消化道内含物中砂砾粒度调查的基础上, 选择不同粒度的砂砾作为试验材料, 对苗种培育阶段不同规格仿刺参的摄食行为进行了研究。结果表明: 仿刺参对摄食的砂砾粒度的选择性十分显著, 自然海区仿刺参依生存环境的差异, 其消化道内砂砾粒度组成比例略有差异, 但其60%粒度组成区间为010625~015 mm; 池塘养殖仿刺参消化道内砂砾粒度组成60%粒度区间为< 0125mm; 室内试验中, 在各粒级砂砾比例相同的条件下各试验组仿刺参均表现出一致的粒度选择性, 在其选择的砂砾颗粒粒度中, 60%以上的颗粒粒径为01125~015 mm。因此可认为仿刺参摄食砂砾粒度的选择范围为01125~0125 mm。

【英文摘要】无
【语种】中文
【第一作者】周 玮
【通讯作者】周 玮
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【论文发表时间】2008-12-01 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】水产养殖学

【题目】温度和盐度对半滑舌鳎幼鱼消化酶活性的影响
【中文关键词】半滑舌鳎; 蛋白酶; 淀粉酶; 脂肪酶; 盐度; 温度; 比活力
【英文关键词】无
【中文摘要】以半滑舌鳎(Cynoglossus semilaev is G nther) 幼鱼为实验对象, 分别设置3 个盐度水平(22、2 6 和30) 和4 个温度水平(18, 21, 24 和27) , 采用酶活性分析的方法比较研究了在不同温度和盐度的养殖环境下, 半滑舌鳎肝胰脏和肠道内不同部位蛋白酶、淀粉酶和脂肪酶3 种消化酶活性的差异。结果表明, 盐度和温度对半滑舌鳎消化酶活性影响均显著(P< 0. 05) 。不同温度和盐度组合下, 3 种消化酶活性变化有所差异。总体比较, 肝胰脏和肠道内3 种消化酶比活力均以盐度26、温度21 和24 组合下活性较高。在相同温度和盐度下, 肝胰脏和肠道的不同部位的3 种消化酶活性有所差异, 其中, 蛋白酶比活力以肝胰脏和后肠最高, 显著高于前肠和中肠(P< 0. 05) ; 淀粉酶比活力以肝胰脏内最高, 各肠段之间淀粉酶比活力差异不显著(P > 0. 05) ; 淀粉酶比活力也以肝胰脏内最高, 其次分别为前肠、后肠和中肠, 各部位脂肪酶比活力差异显著(P > 0. 05) 。本研究发现半滑舌鳎幼鱼体内淀粉酶比活力相对比较高, 说明半滑舌鳎幼鱼对淀粉具有较强的消化能力, 建议在配制半滑舌鳎幼鱼饲料时可适当提高淀粉比例, 以降低饲料成本。
【英文摘要】无
【语种】中文
【第一作者】田相利
【通讯作者】田相利
【期刊名称、卷期、页码】中国海洋大学学报(自然科学版),2008,38(6):895-901
【论文发表时间】2008-11-01 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】水产养殖学

【题目】日粮水平对周期性变温模式下刺参生长和能量收支的影响
【中文关键词】刺参; 周期性变温; 日粮水平; 能量收支
【英文关键词】无
【中文摘要】变温对不同水生生物生长的影响有所不同, 对部分种类具有明显的促进作用, 而由于种类或温度设置等差异, 研究结果各有差异。刺参(Ap ostichop us jap onicus) 在生长和生理水平上对一定程度上的符合自然水域温度波动曲线的周期性变温具有积极响应, 作者研究在2 个变温平均温度(均温15, 18) , 5 个日粮水平(饥饿; 0. 3%初始体重; 0. 6%初始体重; 0. 9%初始体重; 1. 4%初始体重) 下刺参幼参的生长、摄食和能量收支。结果表明, 在饱食条件下, 刺参在变温条件下生长率高于相应的恒温对照, (15 3) 下差异达到显著水平。在各日粮条件下, (15 3) 下刺参的生长率均高于(18 3) 下对应日粮组。随日粮水平的升高, 食物吸收率(FI) 和食物转化率(FCE) 显著升高。食物转化率变温组均大于恒温处理组, 且在均温15 下变温组显著高于恒温组(P< 0. 05) 。在能量分配模式中呼吸能占比例最大, 且随变温均温升高而显著增加, 是造成不同温度下刺参生长率变化的主要因素之一。在(15 3) 和(18 3) 下, 刺参以能量表示的维持日粮值分别为0. 39%和0. 51%, 与相关资料报道的恒温状态下维持日粮相比, 一定程度上的变温并不会提高刺参的维持代谢。
【英文摘要】无
【语种】中文
【第一作者】安振华
【通讯作者】董云伟

【期刊名称、卷期、页码】中国海洋大学学报(自然科学版),2008,38(5):739-743
【论文发表时间】2008-09-01 00:00:00
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【引文索引号】null
【学科分类】水产养殖学

【题目】缢蛏致病菌假单胞菌的分子生物学分析
【中文关键词】缢蛏;假单胞菌; 16SrDNA
【英文关键词】Sinvnovacula constricta; Pseudomonas sp; 16SrDNA
【中文摘要】从患病缢蛏(S invnovacula constricta)中分离到一株病原菌,命名为1#菌株。采用传统方法提取菌株DNA,PCR扩增其16SrDNA基因片段、测序,得到该菌基因片段序列长度为1438bp。用MegAlign软件进行比对5种不同种细菌基因序列,构建进化树。16SrDNA产物序列分析结果表明: 该菌株的16SrDNA的核苷酸序列与多株假单胞菌(Pseud2om onas sp)的同源性为99% ,在系统发育树上构成一个分支。在细菌系统发育分类学上,该菌株属于假单胞属,但与已定名的假单胞菌有一定的差异,与几种未定名的假单胞菌的亲缘关系最接近。对其分类地位的最后确定还需进一步的系统发育学分析。
【英文摘要】There was one pathogenic strain isolated from Sinvnovacula constricta, which was named 1#. The DNA was extrac2ted with the tradition method. The 16SrDNA fragment was amp lified from strain 1 # by PCR. Its gene fragments contains1438bp. Using the MegAlign software, the homologus sequences were compared and the molecular phylogenetic tree wasconstructed. The 16SrDNA sequence homology and phylogenetic analysis indicated that strain 1# shared 99% 16SrDNA se2quence homology with Pseudomonas sp and these sequences constituted a branch in phylogenetic tree. In the phylogeneticframework of bacterial classification, the strain 1# belongs to Pseudomonas sp. But the results showed that the strain 1# wasdifferentiated from any of the named Pseudomonas species. Based on the phylogenetic analysis, the strain 1# exhibited thehighest levels of similarity to Pseudomonas sp. Therefore, their taxonomic p lacement needs more informationon genes level.
【语种】中文
【第一作者】曹 梅
【通讯作者】曹 梅
【期刊名称、卷期、页码】安徽农学通报,2008,14(23):33-34,74
【论文发表时间】2008-10-07 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】水产养殖学

【题目】4 种海参16S rRNA 和COI 基因片段序列比较及系统学研究
【中文关键词】海参;16S rRNA 基因;COI 基因;序列比较;系统发育分析
【英文关键词】无
【中文摘要】采用PCR 技术对来自山东荣成、长岛、俄罗斯和日本的刺参(Apostichopus japonicus),来自澳大利亚的黄乳海参(Holothuria fuscogilva),来自冰岛的北大西洋瓜参(Cucumaria frondosa) 和来自福建的二色桌片参(Mensamaria intercedens)的16S rRNA 和COI 基因片段进行了扩增和测序,分别得到了长度约为500 bp 和540 bp 的片段。通过统计变异位点、平均核苷酸差异数和核苷酸多样性指数进行基因序列变异分析。结果表明,根据16S rRNA、COI 基因片段进行刺参种内差异比较时,长岛和荣成刺参序列差异最小,和日本刺参序列差异最大;刺参和其他科3 种海参种间的序列差异远远高于刺参种内差异。从GenBank 中选取7 条海参序列与本研究所测序列一同构建了NJ 和ME 系统树。根据2 种基因片段的系统学分析均表明,刺参属和拟刺参属亲缘关系很近,可能有共同的起源。而海参科未与同属于楯手目(Aspidochirolida)的刺参科聚类,而与枝手目瓜参科和沙子鸡科聚为一支,与形态学的分类不一致
【英文摘要】无
【语种】中文
【第一作者】陈丽梅
【通讯作者】李琪
【期刊名称、卷期、页码】中国水产科学,2008,15(6):935-942
【论文发表时间】2008-11-01 00:00:00
【引文索引类型】其他

【引文索引号】null
【学科分类】水产养殖学

【题目】海黍子室内人工育苗技术的研究
【中文关键词】海黍子; 室内培养; 人工育苗
【英文关键词】无
【中文摘要】于2007年6月以虾夷扇贝贝壳和尼龙绳作为附着基, 采集了浮筏栽培和自然海区中生长的海黍子Sargassum muticum 成熟种藻的受精卵, 观察了受精卵的萌发过程, 并对其进行了室内人工育苗的研究。结果表明, 在水温17~ 18 条件下, 海黍子受精卵放出2 h后开始萌发, 形成2个细胞, 1 d后形成4~ 6 个细胞的多细胞体, 2 d后生出假根, 藻体直立后成为幼苗。幼苗生长的适宜温度为 22 , 超过23 后幼苗生长停止; 幼苗生长的适宜光照为2 000~ 6000 lx; 适宜的NaNO3添加量为60~ 100 m g /L。经过近4个月的培养, 海黍子幼苗的平均长度为2 cm, 幼苗密度为7~ 20 棵/ cm2。
【英文摘要】无
【语种】中文
【第一作者】曹淑青
【通讯作者】曹淑青
【期刊名称、卷期、页码】大连水产学院学报,2008,23(5):359-363
【论文发表时间】2008-10-01 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】水产养殖学

【题目】北方沿海四角蛤蜊人工育苗技术的初步研究
【中文关键词】四角蛤蜊; 人工育苗; 北方沿海
【英文关键词】无
【中文摘要】于2004年和2006年对四角蛤蜊M actra vener iform is人工育苗技术进行了研究。2004年在4 个100 L塑料桶和30 m3水泥池中分别培育出2~ 3 mm 稚贝20万粒和3 000万粒, 2006年在2个100 L塑料桶中育出2~ 3 mm 稚贝12 万粒。结果表明: 室外土池中培育的亲贝(壳长33 97 mm 2 90 mm) 产卵量为(79 7 4 0) 万粒/个, 海区采集的亲贝(壳长为39 62 mm 2 78 mm) 产卵量为13 2万粒/个; 在水温为25 4 、盐度为24、pH 为8 0的条件下, 受精卵经过20 h 30 m in发育为D形幼虫; 四角蛤蜊的卵径、D形幼虫、后期面盘幼虫、变态规格、单水管、双水管稚贝的大小分别为(50 93 0 49) 、(70 96 0 92)、(164 00 3 54)、(186 00 4 22) 、(212 00 5 46) 、(496 00 9 87) m; 壳顶前期生长速度为(7 83~ 8 83) m /d, 壳顶中、后期为(11 38~ 14 99) m /d; 存活率为(80 34 1 86)%。稚贝期(10~ 45日龄) 四角蛤蜊壳长、壳高的比例接近成体; 10 ~ 15 日龄稚贝的生长速度为(32 15 ~ 36 82) m /d, 存活率近100%; 15~ 30日龄, 生长速度达(71 20 9 91) m / d, 存活率为(85 30 1 28)%;30~ 45日龄, 生长速度为(49 30 7 12) m / d, 存活率只有(14 10 1 61)%。
【英文摘要】无
【语种】中文
【第一作者】闫喜武
【通讯作者】闫喜武
【期刊名称、卷期、页码】大连水产学院学报,2008,23(5):348-352
【论文发表时间】2008-10-01 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】水产养殖学

【题目】三疣梭子蟹分子生物学研究进展
【中文关键词】三疣梭子蟹;分子生物学;分子标记技术;mtDNA
【英文关键词】无
【中文摘要】三疣梭子蟹作为重要的海洋经济动物,在基础生物学方面有较为全面的研究和总结,但在分子生物学方面的研究还处于起步阶段,相关研究主要集中在同工酶谱分析、RAPD分子标记研究和线粒体基因组序列分析等方面。本文对

三疣梭子蟹分子生物学,尤其是分子标记技术的应用研究取得的进展情况进行了阐述,探讨了三疣梭子蟹的研究发展方向,为今后更为系统地研究三疣梭子蟹提供理论依据。
【英文摘要】无
【语种】中文
【第一作者】迟大利
【通讯作者】迟大利
【期刊名称、卷期、页码】水产养殖,2008 年第4 期:11-15
【论文发表时间】2008-04-01 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】水产养殖学

【题目】薄片镜蛤人工育苗技术的初步研究
【中文关键词】薄片镜蛤; 附着基; 人工育苗
【英文关键词】无
【中文摘要】于2007年5月—9月, 对薄片镜蛤Dosinia lam inata的室内人工育苗技术进行了初步研究, 并成功培育出壳长112~115 mm的稚贝300万粒。平均壳长为(60190 ±2124) mm的雌性个体每次产卵量为200万粒; 在水温2415~2515 ℃、盐度27、pH 715的条件下, 受精卵约经过22 h 40 min发育为D形幼虫; 薄片镜蛤的卵径、D形幼虫、变态规格、单水管稚贝和双水管稚贝大小(壳长×壳高, 下同) 分别为(70133±1106) μm、(100133 ±1130) μm × (81107 ±1172) μm、(213133 ±8102) μm × (202100 ±5196) μm、(309117 ±9117) μm × (301167 ±10181) μm、(1158133 ±9131) μm × (1067150 ±10184) μm。浮游期间(0~10日龄) , 幼虫壳长、壳高的生长速度分别为(8128 ±0170) μm /d、(9119 ±0176) μm /d, 存活率为(3618 ±3178) %; 变态期间(10 ~14 d) , 幼虫壳长、壳高的生长速度分别为(8146 ±0142) μm、(8104 ±0145) μm, 变态率为(510 ±1125) % , 变态持续时间为4~5 d; 稚贝期间(14~40日龄) , 单水管、双水管稚贝的生长快于幼虫期, 单水管稚贝壳长、壳高生长速度分别为(32119 ±2106) μm /d、(28175 ±1197) μm /d, 双水管稚贝壳长、壳高生长速度分别为(53107 ±40143) μm /d、(47186 ±38122) μm /d, 存活率为(8112 ±3136) %。以海泥为附着基采苗效果较好。
【英文摘要】无
【语种】中文
【第一作者】闫喜武
【通讯作者】闫喜武
【期刊名称、卷期、页码】大连水产学院学报,2008,23(4):268-272
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【引文索引号】null
【学科分类】水产养殖学

【题目】饥饿对长牡蛎能量储存和配子发生的影响
【中文关键词】长牡蛎; 饥饿; 能量储存; 配子发生
【英文关键词】无
【中文摘要】海洋贝类的繁殖周期与能量储存、利用的季节变化和环境因素密切相关。为了弄清长牡蛎配子发生时的能量来源,自2005 年11 月~2006 年4 月,在限制食物条件下研究了饥饿对长牡蛎(Crassost rea gigas) 能量储存及配子发生的影响。结果显示,实验初期饥饿组长牡蛎性腺,闭壳肌和外套膜中的糖原含量即出现下降,随后闭壳肌和外套膜中的脂肪含量开始逐渐降低,而各组织中的蛋白质含量在整个实验过程中一直较稳定。这表明长牡蛎在食物限制的初始阶段主要利用糖原作为能量,当糖原消耗到一定程度时则开始利用脂肪作为代谢能源。实验期间,饥饿组长牡蛎的条件指数逐渐降低,水分和灰分含量逐渐升高,表明长牡蛎通过分解自身的贮能物质提供能量,使体内有机物含量减少,从而导致水分和灰分含量上升。饥饿组长牡蛎各组织中的RNA/ DNA 比值在实验过程中均呈下降趋势,表明其可作为1 个很好的生理指标用于评价长牡蛎的营养状况。组织学观察显示,对照组长牡蛎性腺在4 月开始进入增殖期,而饥饿组性腺则处于发育停滞状态,表明长牡蛎的性腺发育需要外界食物供应。
【英文摘要】无
【语种】中文

【第一作者】刘文广
【通讯作者】李 琪
【期刊名称、卷期、页码】中国海洋大学学报(自然科学版),2008,38(4):567-572
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【引文索引号】null
【学科分类】水产养殖学

【题目】重金属铅在刺参组织的蓄积、分配、排放规律研究
【中文关键词】铅; 刺参; 蓄积; 排放; 多糖
【英文关键词】lead; Apostichopus japonicus Liao; accumulation; elimination; amylase
【中文摘要】采用暴露实验方法, 研究了海水中铅在刺参内脏、纵肌、体壁组织内吸收、积累和排放规律。结果表明, 铅浓度为0.5 mg · L- 1时, 在不投喂的情况下, 各组织中铅蓄积量随暴露时间增加而增大, 第12 d 达到吸收平衡, 此时铅蓄积量(mg · kg- 1 干重) 为内脏(162.76) >纵肌(138.61) >体壁(71.14) 。蓄积速率为内脏团>纵肌>体壁, 这表明内脏是铅蓄积的主要部位。染毒18 d 后将刺参分为两组均移入清洁海水中, 分别在投喂普通饵料和投喂添加海藻多糖的普通饵料的条件下, 进行排放实验, 结果表明, 随排放时间增加各组织铅蓄积量明显下降, 第24 d 时各组织中铅大部分排出。未添加多糖一组排放率为纵肌(59.12%) >内脏团(52.02%) >体壁(47.86%) , 添加多糖组各组织铅排放率要高于未添加多糖组, 为内脏团(80.29%) >纵肌(67.85%) >体壁(51.41%) 。表明, 受铅污染的刺参在清洁海水暂养一段时间后, 各组织器官均能排放出一部分重金属, 其中可食用部分体壁可排出大约50%, 饵料中添加海藻多糖对重金属铅的排放有明显促进作用。
【英文摘要】With exposure experiment, this paper studied the accumulation and elimination of lead(Pb) in the viscera , longitudinal musclebands and body wall of Apostichopus japonicus Liao. It was demonstrated that when the lead concentration was 0.5 mg · L- 1, each tissue ’s leadaccumulation increased with the elapse of time, on the 12th day the tissues ’ lead accumulations reached equilibrium. At that time, the accumulationof lead in the tissues were in the sequences of viscera (162.76 mg · kg- 1) >longitudinal muscle bands (138.61 mg · kg- 1) >body wall(71.14 mg · kg- 1) . Uptake rates were in the sequences of viscera> longitudinal muscle bands> body wall, which meant that viscera was themain target for Pb accumulation. Then, remaining animals were transferred to clean seawater for the elimination phase of 24 days. These animalsmentioned above were divided into two groups. One group was fed with common diet, the other group was fed with common diet addingamylase. It was demonstrated that the Pb accumulations in the tissues decreased with the elapse of time. On the 24th day after moving, the Pbeliminations were nearly at the end. The elimination rates of the group adding amylase in the common diet were in the sequences of viscera(80.29%) > longitudinal muscle bands(67.85%) > viscera(51.41%) , and they were greater than the other group. It was suggested that addingamylose in the common die could accelerate the elimination rates of lead in the tissues of Apostichopus japonicus Liao.
【语种】中文
【第一作者】赵元凤
【通讯作者】赵元凤
【期刊名称、卷期、页码】农业环境科学学报2008,27(4):1677- 1680
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【学科分类】水产养殖学

【题目】饥饿和再投喂对青蛤(Cyclina sinensis)幼虫生长、存活及变态的影响
【中文关键词】饥饿; 青蛤幼虫; 补偿生长; 不可逆点; 存活; 变态
【英文关键词】starvat ion; Cyclina sinensis larvae; compensatory grow th; po int of no return; surviva;l m etam orphos is
【中文摘要】在温度18. 2~ 20. 6 , 盐度23~ 25, pH 7. 96~ 8. 14 的条件下, 研究了饥饿和再投喂对青蛤幼虫生长、存活及变态的影响。结果表明: 在饥饿状态下, 幼虫具有生长现象, 且随着饥饿时间的延长, 壳长逐渐接近一个常值而不再生长; 幼虫可以由面盘幼虫发育到足面盘幼虫。随饥饿时间延长存活率下降; 且足面盘幼虫及其变态规格、单水管稚贝规格随着饥饿时间延长而减小;幼虫的不可逆点(PNR)为12. 48d; 延迟变态时间长达12. 7d。饥饿后再投喂相同的时间, 幼虫能够恢复生长, 存活的幼虫能够变态; 稚贝表现出补偿生长现象, 以壳长作为衡量标准, 完全补偿生长能力依次为: S10 > S11 > S12 > S1 > S2 > S3; 超补偿生长能力依次为: S9 > S8 > S7 > S6 > S5 > S4。

【英文摘要】The mi pact of starvation and refeed ing on larval grow th, surviva,l and m etam orphosis o f clam Cyclina S inensisw as investigated at 18. 2- 20. 6 , salin ity 23- 25, and pH 7. 96- 8. 14. T he larvae w ere not fed for up to 13 days at 1 day intervals, followed by refeeding for the rem aining o f a 28 day period. The results show ed that unfed clam larvae grew forabout 7 days to 139. 5 m by us ing endogenous nutrients and then the shell length plateaued. T he larvae thatw ere not fedfor 13 days were able to develop from the umbo vellger to plantigrade larvae. How ever, as the starvation period pro longed,larval surv ival rate and the s ize of plant igrades, metamorphosed larvae, and s ingle s iphon juveniles decreased. T hecalculated po int of no return (the thresho ld during starvation after wh ich larvae can no longermetamorphose even if food isprovided) for the larvae was 12. 48 days, and the duration of delayed m etamorphos is reached 12. 7 days. During therefeeding phase follow ing various starvation periods, the larvae were able to recover grow th and metamorphos is, exhibitingthe compensatory grow th. Juveniles thatw ere not fed for 1, 2, 3, 10, 11, or 12 days during the larval stage w ere able tocatch up the size of juveniles that were fed daily during the 28 day period. How ever, juveniles thatw ere not fed for 4- 9days during the larval stage surpassed the size of juveniles that were fed daily. During the 4- 9 days of starvat ion, grow thrate of juveniles increased w ith increas ing days of starvation. These results indicate that Cyclina S inensis larvae andjuveniles have the capac ity to com plete ly compensate for loss of grow th and metamorphos is for up to 12 days (post hatch) ofstarvation. H ow ever, starvation during this early life stage dram atically dmi inishes surviva.l
【语种】中文
【第一作者】杨 凤
【通讯作者】闫喜武
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【学科分类】水产养殖学

【题目】硬骨鱼类雌激素受体及其在生殖调节中的作用研究
【中文关键词】雌激素受体; 激素; 生殖
【英文关键词】无
【中文摘要】在脊椎动物中,雌激素的生理作用是通过雌激素受体(ER) 介导的,这种转录因子属于类固醇激素核受体家族成员。从哺乳动物到硬骨鱼类,均存在2 种ER 类型,即ERα和ERβ。与高等脊椎动物不同的是,由于基因重复等原因,硬骨鱼类ERβ存在异型体结构,称为ERβ1 和β2 或者ERβ和γ,它们在鱼类胚胎发育和性腺发育过程中表现为不同的组织分布和表达类型。一般认为,雌激素主要调节雌性个体的生理功能。然而,鱼类的精巢也表现明显的雌激素受体活性,说明雌激素也参与调节硬骨鱼类精巢的生理功能。
【英文摘要】无
【语种】中文
【第一作者】温海深
【通讯作者】温海深
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【学科分类】水产养殖学

【题目】温度、盐度和光照强度对鼠尾藻氮、磷吸收的影响
【中文关键词】鼠尾藻,温度,盐度,光照强度,氮,磷,吸收速率
【英文关键词】无
【中文摘要】在实验室条件下,研究了不同的温度和盐度组合,温度和光照强度组合对鼠尾藻(Sargassum thunbergii) 氮、磷吸收速率的影响。结果表明,上述3 个环境因子对鼠尾藻氮、磷吸收速率均有显著影响。其中,温度和盐度对鼠尾藻氮、磷吸收速率有极显著影响(P<0.01),二者交互作用也极显著(P<0.01)。在盐度20、温度25°C条件下和盐度30、温度30°C条件下,鼠尾藻对氮有较高吸收速率,分别为11.26 μmol/[g(dw)·h] 和11.01 μmol/[g(dw)·h];在盐度40、温度15~30°C范围内对磷的吸收速率较大,达到1.5 μmol/[g(dw)·h] 以上。温度和光照对鼠尾藻氮、磷吸收速率均有极显著影响(P<0.01),二者交互作用极显著(P<0.01)。在温度15°C和光照强度140~180 μE/(m2·s) 以及温度20~25 °C和光照强度60~100 μE/(m2·s) 条件

下,鼠尾藻对氮有较高吸收速率,均在9.60 μmol/[g(dw)·h] 以上;在温度25 ℃和光照强度60 μE/(m2·s) 条件下,鼠尾藻对磷的吸收速率达到最大,为1.30 μmol/[g(dw)·h]。本研究结果表明,鼠尾藻总体上对水体中的氮、磷均具有较高的吸收速率,且能较好地同时吸收NH4+-N 和NO3--N,显示了它对海水环境中营养盐具有较强的吸收能力。
【英文摘要】无
【语种】中文
【第一作者】包杰
【通讯作者】田相利
【期刊名称、卷期、页码】中国水产科学,2008,15(2):293-300
【论文发表时间】2008-03-01 00:00:00
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【引文索引号】null
【学科分类】水产养殖学

【题目】鱼类内源性生长激素释放肽的研究进展
【中文关键词】鱼;生长激素释放肽;内分泌;生理功能
【英文关键词】无
【中文摘要】:生长激素释放肽(Ghrelin)是在哺乳动物中发现的第一个生长激素促分泌素受体的内源性配体,部分鱼类的Ghrelin 基因和肽链结构已经被确定。与哺乳动物相似,鱼类Ghrelin 的主要分泌部位也在消化道,但在脑、肾脏、鳃、心脏等组织中也有少量分泌。鱼类的Ghrelin 参与多种生理功能的调节,包括促进摄食以及调节脑垂体内多种激素的分泌,可促进脑垂体分泌LH 和GH,某些鱼类Ghrelin 可能具有促进脑垂体分泌PRL 的功能。本文综述了近年来鱼类Ghrelin 结构与生理功能研究概况,旨在为丰富鱼类内分泌生理学研究提供参考资料。
【英文摘要】无
【语种】中文
【第一作者】牟幸江
【通讯作者】温海深
【期刊名称、卷期、页码】中国水产科学2008,15(3):516-522
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【引文索引号】null
【学科分类】水产养殖学

【题目】仿刺参体腔细胞染色方法的研究
【中文关键词】仿刺参; 体腔细胞; 染色方法
【英文关键词】无
【中文摘要】通过改变固定时间、孵育时间、染色时间及温度、分色方式等染色条件, 研究不同染料、不同染色条件对仿刺参Ap ostichop us japonicus 体腔细胞的染色效果, 并以观察体腔细胞内的颗粒、细胞核、细胞质和伪足的着色情况和细胞整体轮廓清晰程度为标准, 筛选了适用于仿刺参体腔细胞的理想染色方法。结果表明: 25 室温下, 采用滴片制片法, 用湿盒孵育15~ 30 m in, 用甲醇固定1~ 2 m in, 用 (W r ight s) (G i em sa) = 1 1的混合液染色1~ 2 m in, 水洗, 用中性树胶封片, 在此条件下对仿刺参体腔细胞的染色效果最好。
【英文摘要】无
【语种】中文
【第一作者】陈 静
【通讯作者】李华
【期刊名称、卷期、页码】大连水产学院学报,2008(2):98-103
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【引文索引号】null
【学科分类】水产养殖学

【题目】低温对不同群体仿刺参幼参某些生理现象的影响
【中文关键词】仿刺参; 不同群体; 低温; 耐受能力
【英文关键词】无
【中文摘要】在实验室条件下研究了低温对仿刺参的中国群体(C ×C) 、俄罗斯群体(R ×R) 、中俄杂交群体(R ×C) 和韩国群体(K ×K) 幼参的影响。试验最低温度为- 2 ℃, 各试验组仿刺参幼参在0 ℃以下持续时间分别为48~57 d。试验期间, 溶解氧为715~1015 mg/L, pH为7130~8120。结果表明: 低温下不同群体仿刺参都出现排脏、皮肤溃烂(化皮) 和死亡等现象; 在118~110 ℃以下, 仿刺参幼参紧缩不动并停止摄食活动; 体重为(01813 ±01043) g的不同群体仿刺参, 低温下平均死亡率最高的是仿刺参的韩国群体(9518%) , 最低的是仿刺参中俄杂交群体(R♀ ×C♂) (2018%) , 对低温耐受能力的顺序是: R♀×C♂ >C♀ ×R♂ >R ×R >C ×C > K ×K; 平均体重为0121、0180、2100 g 3个规格仿刺参的中国群体,其平均死亡率分别为7315%、1617%和1010% , 说明大规格的仿刺参比小规格的耐低温能力强。低温过程以后, 当温度缓慢上升到1410 ℃时, 仿刺参恢复活力, 轻度溃烂的皮肤可再生、痊愈。
【英文摘要】无
【语种】中文
【第一作者】于明志
【通讯作者】常亚青
【期刊名称、卷期、页码】大连水产学院院报,2008,23(1):31-36
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【引文索引号】null
【学科分类】水产养殖学

【题目】pH 不同处理时间的周期性变动对凡纳滨对虾生长的影响
【中文关键词】pH; 周期性变化; 凡纳滨对虾; 生长
【英文关键词】无
【中文摘要】探讨不同的pH 变动模式对对虾生长的影响, 设计2 个独立的实验, 分别研究pH 值为8. 9 和4. 0 的不同时间的处理条件下, 酸碱度的周期性变化对凡纳滨对虾的生长的影响, 实验1 设置了2 个恒定pH 组(7. 9 0. 15 和4. 0 0. 10) 和5 个pH 周期性变动的处理: 对虾每2 天在pH = (4. 0 0. 10) 下分别处理0. 5, 1, 2, 4 或12 h, 其它时间处在正常pH= 7. 9 中。结果表明, 每2 天1 h 以上的pH= 4. 0 的处理就能显著阻碍对虾的生长, 而每2 天12 h 以上的pH = 4. 0 的处理就能显著影响对虾的成活率。实验2 设置了两个恒定pH 组(分别为7. 9 0. 15 和8. 9 0. 10) 和6 个pH 周期性变动的处理: 对虾每天在pH= 8. 9 0. 10 下分别处理0. 5, 1, 2, 4, 8 或12 h, 其它时间处在正常pH 中(7. 9) 。结果表明恒定的高pH(8. 9 0. 10) 显著抑制了对虾的生长, 而每天给予凡纳滨对虾2 h 和4 h 的pH= 8. 9 的刺激则能提高其摄食率和食物转化率, 并显著促进其生长。总之, pH 值周期性地向酸性环境方向波动会明显妨碍对虾的生长, 而向碱性环境方向的波动则会促进对虾的生长, 而且这一影响的强度与波动持续的时间长短有关。
【英文摘要】无
【语种】中文
【第一作者】郑振华
【通讯作者】董双林
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【引文索引号】null
【学科分类】水产养殖学

【题目】水生动物热休克蛋白研究进展
【中文关键词】水生动物; 热休克蛋白; 生态学
【英文关键词】无
【中文摘要】由于栖息环境的特殊性,水生动物热休克蛋白的诱导及其生态意义具有不同于陆生动物的特性。本文总结了近年来水生动物热休克蛋白方面的研究进展,介绍热休克蛋白的调节机制及其功能,归纳水生动物热休克蛋白对温度、环境污染和其他因子的反应,着重分析热休克蛋白表达在水生动物中热耐受性和交叉保护中的作用,及其对水生动物分布和适合度的影响。

【英文摘要】无
【语种】中文
【第一作者】董云伟
【通讯作者】董双林
【期刊名称、卷期、页码】中国海洋大学学报,2008,38(1):39-44
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【引文索引号】null
【学科分类】水产养殖学

【题目】三疣梭子蟹雌蟹在越冬和抱卵期间的卵巢发育
【中文关键词】三疣梭子蟹;卵巢发育;越冬;抱卵
【英文关键词】无
【中文摘要】采用组织学和生化方法对三疣梭子蟹亲蟹在越冬和抱卵期间的卵巢发育进行研究,对越冬和抱卵期间卵巢发育过程中脂肪和蛋白的积累情况进行分析和讨论。结果表明,亲蟹在越冬期间性腺指数没有显著变化(P>0.05),组织学观察表明越冬期间卵母细胞变化不显著(P>0.05),抱卵期间性腺指数显著增加(P<0.05),卵母细胞在很短的时间内经过小生长期、大生长期、近成熟期形成成熟卵母细胞。在越冬期间亲蟹卵巢的脂肪含量呈缓慢积累状态,抱卵期间显著增加(P<0.05),肝胰腺的脂肪含量与卵巢的脂肪含量呈负相关性。亲蟹卵巢的蛋白含量与其脂肪含量的变化趋势相同,但肝胰腺的蛋白含量与卵巢的蛋白含量相关性不大。
【英文摘要】无
【语种】中文
【第一作者】贾　　磊
【通讯作者】马甡
【期刊名称、卷期、页码】中国海洋大学学报,2007,37(增刊2):55-60
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【引文索引类型】其他
【引文索引号】null
【学科分类】水产养殖学

【题目】不同营养盐因子对鼠尾藻氮、磷吸收速率的影响
【中文关键词】鼠尾藻Λ 氮Λ 磷Λ 吸收速率
【英文关键词】无
【中文摘要】评估鼠尾藻作为净化海水水质的可行性,在实验室条件下,研究营养盐因子对鼠尾藻,? ≅ A B 。“ X Δ E “ Φ E Γ ≅ A H ∋氮、磷吸收速率的影响。结果表明7 ,<∋ 氮、磷浓度对鼠尾藻氮、磷吸收速率影响极显著,尸 I !6!8 ∋。鼠尾藻对氮、磷吸收速率随着溶液中的氮、磷浓度的升高而升高,在本研究条件下,未出现吸收饱和现象。在氮浓度为 ! 拌 X ϑ < ·　一 ‘ 时,氮吸收速率最大,为6 K : 拌 X ϑ < · A 一 ’ · E 一 ‘ Λ 在磷浓度为8　6　脚 ϑ < ·　一 ‘ 时,磷吸收速率最大,为!68 8 拌 X ϑ < · A 一 ‘ · E 一 ’。, ∋ 不同氮磷比、氮浓度对鼠尾藻氮、磷吸收均具有极显著的影响,尸 I !6!8 ∋,且二者对氮、磷吸收速率的交互作用极显著,尸 I !6!8 ∋。氮最大吸收速率发生在氮浓度为 ! ! 拌 X ϑ < ·　一 ‘ 、氮磷比为9 7 8 时,而磷的最大吸收速率发生在氮浓度为:! 拌 X ϑ < ·　一 ’ 、氮磷比为9 7 8 时。,　∋ 鼠尾藻对氨氮和硝酸氮两种化合态氮的吸收速率与其在培养液中所占总氮的比例成正相关,总氮吸收速率在氨氮7 硝酸氮为8! 7 8 时较低,其它处理的吸收速率无显著差
【英文摘要】无
【语种】中文
【第一作者】姜宏波
【通讯作者】田相利
【期刊名称、卷期、页码】中国海洋大学学报,2007,37(增刊1):175-180
【论文发表时间】2007-07-01 00:00:00
【引文索引类型】其他
【引文索引号】null

【学科分类】水产养殖学

【题目】几种虾、贝、藻混养模式能量收支及转化效率的研究
【中文关键词】能量收支; 能量转化效率; 生态效率; 混养
【英文关键词】无
【中文摘要】实验采用围隔实验方法, 对凡纳滨对虾(Litopenaeus vannamei) 、青蛤(Cyclina sinesis) 、菊花心江蓠(Gr acilar ialichevoides) 和活菌净水剂的不同单、混养生态系统的能量收支和转化效率进行了研究。实验结果表明, 实验期间系统接受的总太阳光辐射能为1 983. 2 MJ/ m2。浮游植物对光能的利用效率在各处理间无差异(0. 147? 0. 007) %, 混养江蓠显著地提高了总利用效率(0. 308? 0. 019)%。总能量的转化效率, 虾藻混养(28. 36%) 和江蓠单养(27. 65%) 最高, 其次是虾贝藻混养(26. 70%) , 对虾单养(12. 24%) 最低。单位净产量对饲料能的消耗, 对虾单养(21. 24 MJ/ kg) 最多, 虾菌、虾贝混养(18. 76~18. 97 MJ/ kg) 次之, 而虾藻、虾贝藻混养(2. 64~ 3. 24 MJ/ kg) 则显著地降低了饲料消耗量。实验中投喂组都有较多的能量沉积, 对虾单养沉积量达到1. 10 MJ/ m2, 虾贝混养(1. 30 MJ/ m2) 稍高, 而虾贝藻、虾菌、虾藻混养平均为0. 53 MJ/ m2, 显著地低于对照。结果表明, 混养青蛤和菊花心江蓠显著地提高了对虾养殖中的光能利用率和能量转化效率, 减少了能量沉积, 从而大大地提高了能量的利用效率。
【英文摘要】无
【语种】中文
【第一作者】董贯仓
【通讯作者】田相利
【期刊名称、卷期、页码】中国海洋大学学报,2007,37(6):899-909
【论文发表时间】2007-10-31 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】水产养殖学

【题目】盐度日节律性连续变化对孔石莼生长和生化组成的影响
【中文关键词】盐度变化; 孔石莼; 生长; 生化组成
【英文关键词】无
【中文摘要】利用实验生态学的方法, 探讨盐度日节律性连续变化对孔石莼(Ulva p ertusa) 生长和生化组成的影响, 旨在查明潮间带大型海藻对盐度日节律性连续变化的适应性。实验共设5 个盐度日节律变化处理(30 3, 30 6, 30 9, 30 12 和30 15) 和1 个恒盐(30 0) 对照处理。实验结果表明: 孔石莼能够耐受较大范围的盐度日节律性连续变化, 这种变化虽然对孔石莼的生长不利, 但是仍然能够使孔石莼的相对生长率保持在12%以上; 盐度变化幅度 3~ 15 与恒盐对照相比明显不利于孔石莼的生长, 盐度变化幅度越大, 孔石莼生长越缓慢。同恒盐处理相比, 盐度日节律连续变化对孔石莼叶绿素含量的影响不明显, 但叶绿素a 和叶绿素b 含量都有随着盐度变化幅度的增大而逐渐减少的趋势。盐度日节律性连续变化使孔石莼蛋白质和可溶性糖的相对含量显著增加(P< 0. 05) , 随着盐度变化幅度的增大, 蛋白质和可溶性糖增加的趋势越明显, 并且在盐度日节律性连续变化下, 蛋白质增加的速度比可溶性糖增加的速度要快。同时, 游离脯氨酸的相对含量随着盐度变化幅度的增加而增加, 但是在缓和的盐度日节律性连续变化下(30 3) 孔石莼游离脯氨酸的含量却显著小于恒盐对照组(P <0. 05) 。盐度日节律性连续变化同恒定盐度相比, 虽不利于孔石莼的生长, 却促进了孔石莼生化产物的合成, 是海藻干露时品质得以提高的原因之一。
【英文摘要】无
【语种】中文
【第一作者】王巧晗
【通讯作者】董双林
【期刊名称、卷期、页码】中国海洋大学学报,2007,37(6):911-915
【论文发表时间】2007-11-03 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】水产养殖学

【题目】奶牛体内性控胚胎生产的研究

【中文关键词】奶牛; 超数排卵; X 冻精; 性控胚胎; 可用胚
【英文关键词】Dairy cat t le; Superov ulat ion; X sorted sperm; Sexing embry os; U seful embry os
【中文摘要】摘要: 为探讨奶牛合理的超排方法,采用分离的X 冻精对17 头超数排卵的荷斯坦奶牛进行人工授精,生产体内性控胚胎。结果表明,处理 组在头均获卵数、 可用胚及退化胚几个方面都低于处理 组,但差异不显著(P> 0 05) ;头均黄体数和未受精数, 组高于 组(P> 0 05) ; 青年牛头均获卵数、 可用胚和退化胚方面都高于经产牛组, 但差异不显著(P> 0 05) ; 青年牛头均未受精卵数显著高于经产牛(P< 0 05) ,头均黄体数低于经产牛,但差异不显著(P> 0 05)。
【英文摘要】Abstract: In order to approach possible super ovulat ion metho d, 17 super ovulated holstein cat t lesw ere inseminated w ith X sorted sperm to product sex ing embryos in vi vo . T he r esult show ed thatthe average number of embr yos co llected per catt le, useful embryos and deg raded egg s o f t reat ment group is low er than that of group , but no significant dif ference w as o bserv ed(P> 0 05) T he number of corpus luteum and unfert ilizaed eg gs of t reatment gro up is higherthan that of gr oup (P> 0 05) . Fo r yo ung cat t les, the numbers of embry os, useful embr yos anddegraded egg s are hig her than that of mult iparaous cow s w ith no significant difference(P> 0 05) ,w hile the unfert ilizaed eg gs o f gr oup w as significant dif ferent fr om that of g roup (P<0 05) . Addit ionally , the cor pus luteum of young cat t les w as low er than that o f mult iparaous cow sw i th no significant differ ence (P> 0 05) .
【语种】中文
【第一作者】张宝龙
【通讯作者】王新庄
【期刊名称、卷期、页码】河南农业科学 2009,6,138~140
【论文发表时间】2009-06-15 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】畜牧学

【题目】虾类消化道菌群研究进展
【中文关键词】虾类; 消化道菌群; 影响因素; 作用
【英文关键词】无
【中文摘要】虾类消化道内生活着大量的细菌,它们成为虾体内不可或缺的重要组成部分,影响着机体的生长与健康。文章综述虾类消化道菌群的来源、组成以及作用。这些细菌主要来源于水体和食物中,常见的优势菌主要有发光杆菌属、弧菌属、气单胞菌属、假单胞菌属等。消化道菌群既可以为宿主提供营养、辅助消化,又能够拮抗病原、影响宿主的健康。它们的组成与变化既与虾类自身的种类、发育时期以及健康状况等因素有关,也受到包括水环境的盐度、温度、氧气浓度、饵料和药物等因素的影响。
【英文摘要】无
【语种】中文
【第一作者】马甡
【通讯作者】马甡
【期刊名称、卷期、页码】中国海洋大学学报,2007,37(6):889-893
【论文发表时间】2007-11-03 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】水产养殖学

【题目】河南省牛胚胎移植技术与应用进展
【中文关键词】河南省; 牛; 胚胎移植; 超数排卵; 活体采卵; MOET 育种技术
【英文关键词】无
【中文摘要】摘要: 从牛的超数排卵技术、 胚胎冷冻技术、 胚胎工厂化生产技术、 应用胚胎生物技术建立良种肉牛繁育体系等方面综述了河南省牛胚胎移植技术的研究与应用进展。
【英文摘要】无
【语种】中文
【第一作者】魏成斌

【通讯作者】徐照学
【期刊名称、卷期、页码】河南农业科学,2009,9:200-202
【论文发表时间】2009-09-15 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】畜牧学

【题目】南阳牛的选育及利用研究
【中文关键词】南阳牛; 选育; 杂交改良; 技术体系
【英文关键词】无
【中文摘要】摘要: 从南阳牛的育种、 杂交改良、 生产技术体系的建立及开发利用等方面总结了南阳牛的选育、利用研究进展和在此方面获得的成就。
【英文摘要】无
【语种】中文
【第一作者】魏成斌
【通讯作者】徐照学
【期刊名称、卷期、页码】河南农业科学,2009,9:200-202
【论文发表时间】2009-09-15 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】畜牧学

【题目】奶牛规模化健康养殖关键技术措施
【中文关键词】奶牛, 规模化, 健康养殖
【英文关键词】无
【中文摘要】健康养殖是一种带有以畜为本、动物福利观念的养殖概念,它把现代化畜牧业的四大支柱——遗传育种、动物营养、家畜环境工程和兽医防疫等最先进的养殖科学技术,与动物的生理、行为要求有机地结合在一起,体现了动物与自然的和谐。发展畜牧业不仅要保持动物的健康状态,更要追求畜产品的最佳生产状态,而健康养殖正是人类考虑到与动物和谐相处,以畜为本,在其最佳心理、生理状态下高效、优质生产畜产品的最佳模式。从引种繁育、疫病防治、动物营养、环境工程等方面实施奶牛的健康养殖技术,即保证牛群的健康,又减少对牛奶品质的影响。尽管健康养殖的观念刚刚提出,但它代表了畜牧业发展的趋势。在推动具有可持续性的生态标准化养殖方面发挥重要示范带动作用,能够推进我国集约化、规模化奶牛养殖业的健康发展,促进奶牛养殖业向数量与质量、效益与生态并重的方向转变,提高奶牛养殖业的综合效益。
【英文摘要】无
【语种】中文
【第一作者】魏成斌
【通讯作者】徐照学
【期刊名称、卷期、页码】中国奶牛,2010.9:46~48
【论文发表时间】2010-09-15 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】畜牧学

【题目】仿刺参稚参　　脱板病　　超微病理的研究
【中文关键词】刺参; 脱板病; 囊膜病毒; 超微结构
【英文关键词】无
【中文摘要】利用电镜负染技术对2006年夏季大连地区养殖场患脱板病的仿刺参Ap ostichopus jap onicus 稚参组织匀浆液进行了检测。结果发现, 提取液中存在大量病毒样粒子, 该病毒粒子近似球形, 具有囊膜。应用超薄切片电镜技术对患病刺参的超微病理进行研究, 并与正常组进行了对照观察, 结果发现: 在病变细胞内存在大量直径80~ 100 nm 的具有囊膜的球形病毒样粒子, 该病毒粒子以团聚或散落形式存在于细胞质内,并由质膜包被; 病变细胞内内质网肿胀, 部分核糖体脱落, 其

周围散落着大量明显呈六边形的病毒核心结构, 并出现大量溶酶体残余体形成的髓袢样结构; 高尔基体明显肿胀、膨大, 线粒体界限模糊, 出现嵴脱落; 在病变严重的细胞内, 可见细胞器崩解后形成的大量空泡结构。但未发现细菌和其他类可疑病原
【英文摘要】无
【语种】中文
【第一作者】宋　　坚
【通讯作者】宋坚
【期刊名称、卷期、页码】大连水产学院学报,2007,22(3):221-225
【论文发表时间】2007-06-01 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】水产养殖学

【题目】周期性饥饿—再投喂对牙鲆幼鱼生长
【中文关键词】周期性饥饿—再投喂; 牙鲆; 生长; 食物利用
【英文关键词】无
【中文摘要】于2003年5~6月, 在(18 ±1) ℃条件下对牙鲆Paralichthys olivaceus幼鱼(初始体重为4121 ±0128g) 分别进行了周期性饥饿- 再投喂的生长试验。对照组连续饱食投喂36 d, 处理组S2 F4、S3 F6、S4 F8分别周期性饥饿2 d再投喂4 d, 饥饿3 d再投喂6 d和饥饿4 d再投喂8 d。结果表明: S2 F4组牙鲆幼鱼的终末体重、特定生长率、摄食率和饲料转化率均显著高于对照组(P < 0105) ; S3 F6组牙鲆幼鱼的终末体重、特定生长率、摄食率和饲料转化率与对照组无显著差异(P > 0105) ; S4 F8组牙鲆幼鱼的终末体重、特定生长率和摄食率显著低于对照组(P < 0105) , 而饲料转化率与对照组无显著差异(P > 0105) 。试验结束时,各处理组鱼体生化组成与对照组没有显著差异(P > 0105) 。
【英文摘要】无
【语种】中文
【第一作者】姜海波
【通讯作者】姜海波
【期刊名称、卷期、页码】大连水产学院学报,2007,22(3):231-234
【论文发表时间】2007-06-01 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】水产养殖学

【题目】蜈蚣藻盘状体诱导丝状体及其采苗的初步研究
【中文关键词】蜈蚣藻; 盘状体; 丝状体; 诱导
【英文关键词】无
【中文摘要】采用盘状体剥离的方法获得蜈蚣藻Grateloupia f ilicim a丝状体, 在10、15、20 ℃条件下进行培养。结果表明: 丝状体在20 ℃下形成的最快, 数量最大, 在15 ℃下生长最快; 丝状体藻段与基质接触的细胞形成了盘状体, 20 ℃是盘状体形成的适宜温度; 丝状体藻段长度在50~250 μm内, 切段长度越小, 盘状体的形成率越高; 盘状体在20 ℃下生长速度最快, 直径达到200 μm左右时形成直立枝, 不同温度对直立枝形成的影响不明显。采用丝状体切断的方法进行采苗, 经过2个月的室内培养, 生长出蜈蚣藻幼苗
【英文摘要】无
【语种】中文
【第一作者】张泽宇
【通讯作者】张泽宇
【期刊名称、卷期、页码】大连水产学院学报,2007,22(3):164-169
【论文发表时间】2007-06-01 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】水产养殖学

【题目】鼠尾藻的繁殖生物学及人工育苗的 初步研究
【中文关键词】鼠尾藻; 室内培养; 人工育苗
【英文关键词】无
【中文摘要】于2006年对大连沿海地区鼠尾藻Sargassum thunbergii的繁殖生物学进行了初步研究, 并进行了鼠尾藻卵的采集及人工育苗试验。结果表明: 鼠尾藻的繁殖期为6月中旬至8月下旬, 水温为13~23 ℃, 繁殖高峰期为7月中旬, 水温为17 ℃, 最大卵放散量可达300万粒/g; 使用贝壳作为受精卵的附着基, 在室内培育60 d后, 鼠尾藻幼苗长度为215 mm左右; 水温< 22 ℃时, 幼苗生长较快, 水温> 23 ℃时生长几乎停止。经过30 d海区暂养, 幼苗的藻体长度达到7~8 mm。
【英文摘要】无
【语种】中文
【第一作者】张泽宇
【通讯作者】张泽宇
【期刊名称、卷期、页码】大连水产学院学报,2007,22(4):255-259
【论文发表时间】2007-08-01 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】水产养殖学

【题目】Effects of diel temperature fluctuations on growth, oxygenconsumption and proximate body composition in thesea cucumber Apostichopus japonicus Selenka
【中文关键词】无
【英文关键词】Sea cucumber; Apostichopus japonicus; Fluctuating temperature; Growth; Body composition; Oxygen consumption
【中文摘要】无
【英文摘要】We studied the effects of constant temperatures (12, 15, 18, 21 and 24 ° C) and diel fluctuating temperatures (15±2, 18±2 and21±2 ° C) on growth, proximate body composition and oxygen consumption of juvenile sea cucumbers (oxygen consumption wasnot measured at 12 and 24 ° C). Growth of juveniles varied at different constant temperatures (Pb0.05) and the maximum specificgrowth rate (SGR) was 1.48% day − 1 at 16 – 18 ° C. SGR was significantly decreased at 24 ° C in comparison with the other fourconstant temperatures. Compared to the corresponding constant temperatures, growth rate increased at the fluctuating temperatureswith mean temperature below the constant temperature optimum for growth (18 ° C) and decreased at the fluctuating temperatureswith mean temperature above 18 ° C. Body crude lipid content increased with the increase in final body weight, both at the constanttemperatures and fluctuating temperatures. Crude lipid contents under the fluctuating temperatures were lower than those under thecorresponding constant temperatures. Under fluctuating temperatures, oxygen consumption rates increased, but not significantly,compared to those in the corresponding constant temperatures. The fluctuating temperature mode, derived from this research, couldbe applied to the large-scale culture of sea cucumber
【语种】英文
【第一作者】Yunwei Dong
【通讯作者】Shuanglin Dong
【期刊名称、卷期、页码】Aquaculture, 2006. 255:514-521
【论文发表时间】2005-12-13 00:00:00
【引文索引类型】SCI
【引文索引号】无
【学科分类】水产养殖学

【题目】Growth and oxygen consumption of the juvenile seacucumber Apostichopus japonicus (Selenka) at constant and fluctuating water temperatures
【中文关键词】无
【英文关键词】Apostichopus japonicus, growth, oxygen
consumption, temperature £ uctuation, thermal
amplitude

【中文摘要】无
【英文摘要】The e ¡ ects of thermal amplitudes of diel £ uctuatingtemperature on growth and oxygen consumption ofthe juvenile sea cucumber Apostichopus japonicus(Selenka) were studied at the average temperaturesof 15 and 18 1C with three diel di ¡ erent £ uctuatingamplitudes of 2, 4 and 6 1C. The optimumthermal amplitudes for growth of the juvenile seacucumber at the sizes of this experiment, at averagetemperatures of 15 and 18 1C, were estimated to be 1.38 and 1.67 1C respectively. In the constanttemperature regimes, the growth rate at 15 1C washigher than that at 18 1C. However, the growth rateat 18 2 1C was higher than that at 15 2 1C. Theresults from this study suggested that £ uctuatingtemperatures enhanced the optimum temperaturefor the growth of sea cucumbers compared with thatat constant temperatures.Therefore, accurate predictionsof the optimum temperature of sea cucumbersin the natural environment, in whichwater temperatures £ uctuate daily and seasonally, should be madefrom data obtained at £ uctuating temperatures
【语种】英文
【第一作者】Yunwei Dong
【通讯作者】Shuanglin Dong
【期刊名称、卷期、页码】Aquaculture Research, 2006. 37: 1327-1333
【论文发表时间】2006-10-15 00:00:00
【引文索引类型】SCI
【引文索引号】无
【学科分类】水产养殖学

【题目】The effects of thermal amplitude on the growth of Chinese shrimp Fenneropenaeus chinensis (Osbeck, 1765)
【中文关键词】null
【英文关键词】Diel fluctuating temperature; Specific growth rate; Food consumption; Food conversion efficiency; Fenneropenaeus chinensis (Osbeck)
【中文摘要】无
【英文摘要】Effects of thermal amplitude of diel fluctuating temperature on the growth, food consumption, food conversion efficiencyand apparent digestibility coefficient of Chinese shrimp, Fenneropenaeus chinensis (Osbeck), with initial body weight of0.36F0.04 g were studied at average temperature 25, 28 and 31 8C from May to July, 2000. Among four diel differentfluctuation amplitudes of F1, F2, F3 and F48C, the growth rate of shrimp at 25F2, 25F3, 28F2 and 31F1 8C weresignificantly higher than those at corresponding constant temperatures of 25, 28 and 31 8C, respectively, while growth rate at31F4 8C was significantly lower than at 31 8C. There is a trend that the optimal thermal amplitude for shrimp growth decreasedwith the increase of average temperature in the present study. The growth rate of Chinese shrimp was a quadratic function of thethermal amplitude at the same average temperature. Such a growth model may be described byG ¼ b0 þ b1 ð TA Þ þ b2 ð TA Þ 2where G represents the specific growth rate on a 33-day basis, TA is thermal amplitude in degree Celsius, b0 is intercept on Gaxis, and b1 and b2 are the regression coefficients. The optimal thermal amplitude for the growth of shrimp at sizes of thisexperiment at average temperature of 25, 28 and 31 8C was estimated to be F2.0, F2.2 and F1.4 8C, respectively. The changesof food conversion efficiency were similar to the growth rate, while the trends of food consumption of shrimp betweenfluctuating temperature and constant temperature were variable at different average temperatures. There was no significantdifference in apparent digestibility coefficient between diel fluctuating temperatures and corresponding constant temperatures.Therefore, more food consumption, high food conversion efficiency and more energy partitioned into growth might account forthe enhancement in the growth of shrimp at the diel fluctuating temperatures in the present study.
【语种】英文
【第一作者】Xiangli Tian
【通讯作者】Shuanglin Dong
【期刊名称、卷期、页码】Aquaculture, 2006. 251:516-524
【论文发表时间】2005-05-27 00:00:00
【引文索引类型】SCI
【引文索引号】null
【学科分类】水产养殖学

【题目】Effects of seawater potassium concentration on the dietary potassium requirement of Litopenaeus vannamei

【中文关键词】null
【英文关键词】Potassium; Dietary requirement; Litopenaeus vannamei; Inland; Growth
【中文摘要】无
【英文摘要】Effects of seawater potassium concentration on the dietary potassium requirement of Litopenaeus vannamei were studied underthe condition of artificial seawater at salinity 30‰. Three potassium concentrations in the water were set: 332, 156 and 104 mg l − 1.And the potassium contents of the casein-gelatin-based experimental diets were 1.09%, 1.53%, 2.49% and 3.46%, respectively. Thefeeding trial lasted for 56 days. Growth, feeding, nutrient retention and feed conversion efficiency of the shrimp were significantlyaffected by the potassium concentration in the seawater (Pb0.05), but the dietary potassium levels showed little effect .The finalbody weight, specific growth rate, protein efficiency ratio and feed conversion efficiency of shrimp exposed to 104 mg l − 1 waterpotassium level were, respectively, more than 37%, 26%, 25% and 27.5% lower than of those exposed to higher water potassiumlevels (Pb0.05). No significant interaction effects were found between seawater potassium concentration and dietary potassiumlevel. Neither seawater potassium concentrations nor dietary potassium levels influenced the body potassium content. It indicatedthat L. vannamei may have poor ability of assimilating potassium from dietary sources efficiently at salinity 30‰, and dietarysupplementation of potassium had limited effect on improving growth of the shrimp while environmental potassium was sufficient
【语种】英文
【第一作者】Chang-Bo Zhu
【通讯作者】Shuang-Lin Dong
【期刊名称、卷期、页码】Aquaculture, 2006. 258: 543-550
【论文发表时间】2006-03-27 00:00:00
【引文索引类型】SCI
【引文索引号】null
【学科分类】水产养殖学

【题目】Functional characterization of a wheat plasma membrane Na+/H+ antiporter in yeast
【中文关键词】Na+/H+ 反转运蛋白,原生质膜,酿酒酵母,小麦
【英文关键词】Na+/H+ antiporter,Plasma membrane,Saccharomyces cerevisiae,Salt stress, Triticum aestivum
【中文摘要】TaSOS1,是来自小麦的盐转换因子,使用酿酒酵母作为异源表达系统对其进行进行功能分析。TaSOS1在根和叶重含量丰富,与来自拟南芥和水稻种的SOS1盐转换因子有显著的序列同源性,对其进行盐胁迫诱导处理。TaSOS1通过降低细胞中Na+含量提高K+含量从而抑制缺乏主要Na+输出系统的酵母菌株的盐敏感性。纯化后的酵母细胞质膜的Na+/H+ 转换活性高于对照空载体。以上结果表明TaSOS1有助于质膜中Na+/H+的转换。
【英文摘要】The functional analysis of the sodium exchanger SOS1 from wheat, TaSOS1, was undertaken using Saccharomyces cerevisiae as a heterologous expression system. The TaSOS1 protein, with significant sequence homology to SOS1 sodium exchangers from Arabidopsis and rice, is abundant in roots and leaves, and is induced by salt treatment. TaSOS1 suppressed the salt sensitivity of a yeast strain lacking the major Na+ efflux systems by decreasing the cellular Na+ content while increasing K+ content. Na+/H+ exchange activity of purified plasma membrane from yeast cells expressing TaSOS1 was higher than controls transformed with empty vector. These results demonstrate that TaSOS1 contributes to plasma membrane Na+/H+ exchange.
【语种】英文
【第一作者】许海霞
【通讯作者】崔党群
【期刊名称、卷期、页码】Archives of Biochemistry and Biophysics,2008,473(1)8-15
【论文发表时间】2008-02-23 00:00:00
【引文索引类型】SCI
【引文索引号】10.1016/j.abb.2008.02.018
【学科分类】农业基础学科

【题目】Genomic insight into the common carp (Cyprinus carpio) genome by sequencing analysis of BAC-end sequences
【中文关键词】细菌人工染色体;物理图谱;鲤鱼基因组
【英文关键词】BAC;physical map;common carp genome

【中文摘要】背景:鲤鱼是世界上一种重要的水产养殖鱼类,鲤鱼和其他与其亲缘关系较近的鲤科鱼类为全世界提供30%的水产养殖量,然而,鲤鱼基因组资源仍然相对薄弱。在BAC标记的发展,连锁图与物理图谱的构建,全基因序列的装配中BAC末端序列是基因研究的重要资源。结果:在鲤鱼中开发这种宝贵的资源,共有40224个BAC克隆用双末端测序测得,生产65720个平均长度为647bp的BES,代表了42522168bp或2.5%的鲤鱼基因。鲤鱼基因组的第一代测序采用生物信息学工具。鲤鱼基因组包含超过17.3%的GC重复序列,包含36.8%和518个开放阅读框转座子。鉴定和发掘BAC微卫星标记,从10355个BES中共检测到13581个微卫星。从9443个BES中的7453个BACs中,有7127个基因的编码区被公认,有1990个BACs两端都有基因。评估与斑马鱼密切相关基因的相似性,鲤鱼的BES与斑马鱼的完全不同。共有39335个鲤鱼的BES保存同系物在斑马鱼基因组中,就可证明斑马鱼与鲤鱼基因组有较高的同源性。一旦我们有了鲤鱼物理图谱,就可做鲤鱼与斑马鱼之间的比较。结论:对于鲤鱼第一代基因资源的广泛调查,BAC末端序列是宝贵的资源。鲤鱼基因组中大约有28%的重复DNA,包括较高复杂性的基因组。通过比较分析已有40000个BES映射到斑马鱼基因组,已经确定超过3100个微观共线性,覆盖了斑马鱼基因组的50%以上。鲤鱼的BES是比对两个亲缘关系较近的物种鲤鱼和斑马鱼,以及鲤鱼功能和结构的分析有重要作用。

【英文摘要】BackgroundCommon carp (Cyprinus carpio), a member of Cyprinidae, is the third most important aquaculture species in the world with an annual global production of 3.4 million metric tons, accounting for nearly 14% of the all freshwater aquaculture production in the world. Apparently genomic resources are needed for this species in order to study its performance and production traits. In spite of much progress, no physical maps have been available for common carp. The objective of this project was to generate a BAC-based physical map using fluorescent restriction fingerprinting. ResultThe first generation of common carp physical map was constructed using four- color High Information Content Fingerprinting (HICF). A total of 72,158 BAC clones were analyzed that generated 67,493 valid fingerprints (5.5 × genome coverage). These BAC clones were assembled into 3,696 contigs with the average length of 476 kb and a N50 length of 688 kb, representing approximately 1.76 Gb of the common carp genome. The largest contig contained 171 BAC clones with the physical length of 3.12 Mb. There are 761 contigs longer than the N50, and these contigs should be the most useful resource for future integrations with linkage map and whole genome sequence assembly. The common carp physical map is available at http://genomics.cafs.ac.cn/fpc/WebAGCoL/Carp/WebFPC/ webcite. ConclusionThe reported common carp physical map is the first physical map of the common carp genome. It should be a valuable genome resource facilitating whole genome sequence assembly and characterization of position-based genes important for aquaculture traits.

【语种】英文

【第一作者】徐鹏

【通讯作者】徐鹏;孙效文

【期刊名称、卷期、页码】BMC Genomics,12,

【论文发表时间】2011-04-14 00:00:00

【引文索引类型】SCI

【引文索引号】2.899714e+011

【学科分类】水产学基础学科

【题目】鲤鱼基因组中一个新的Tc1类转座子的发现和鉴定

【中文关键词】Tc1; 转座子; 鲤; 拷贝数; 重复序列

【英文关键词】Tc1;transposons;Cyprinus carpio;copy number;repetitive sequence

【中文摘要】在鲤(Cyprinus carpio)基因组中鉴别出一个新的具有潜在转座活性的Tc1 类转座子,并命名为CCTN 转座子(Cyprinus carpio Transposon, CCTN)。CCTN 转座子全长1 611 bp, 由两端约214 bp 的反向重复序列(Inverted Repeat, IR)和中间不间断的996 bp 的转座酶开放阅读框(Open Reading Frame, ORF)组成。CCTN 转座子推测的转座酶序列中存在完整的DD(34)E 结构域, 此结构域是Tc1 类转座酶作用的必需位点之一。采用实时荧光定量PCR 评估CCTN转座子在鲤基因组中的拷贝数约为2.28×103, 占全基因组的0.21%。分子系统学研究表明, CCTN 转座子是一个新的鱼类Tc1 类转座子, 其与斑马鱼(Danio rerio)Tzf-28 、大西洋鲑(Salmo salar)SALT1 和鲽(Pleuronectes platessa)PPTN2 等Tc1 类转座子亲缘关系较近。

【英文摘要】无

【语种】中文

【第一作者】王全乐

【通讯作者】徐鹏

【期刊名称、卷期、页码】中国水产科学;18(6);1392－1398

【论文发表时间】2011-03-17 00:00:00

【引文索引类型】其他

【引文索引号】null

【学科分类】水产学基础学科

【题目】Studies on the rotifer (.Brachionus urceus Linnaeus, 1758) as a vector in white spot syndrome virus (WSSV) transmission
【中文关键词】null
【英文关键词】White spot syndrome virus; Rotifer; Vector; Transmission; .Fenneropenaeus chinensis
【中文摘要】无
【英文摘要】The rotifer .Brachionus urceus (Linnaeus, 1758) was experimentally infected with the white spot syndrome virus (WSSV) bythe virus – phytoplankton adhesion route in order to assess the possibility of rotifer acting as a vector of WSSV to infect the shrimp.Fenneropenaeus chinensis (Osbeck, 1765) larvae at zoea stage III. The nested-PCR test revealed WSSV-positive results in therotifers exposed to WSSV by the virus – phytoplankton adhesion route. Among 10 replicates in the infection treatment, 40% of .F.chinensis larvae became WSSV-positive when fed with WSSV-positive rotifers, whereas all were WSSV-negative for.F. chinensiswhen fed with WSSV-free rotifers. Though the mortality of shrimp larvae in the infection treatment (39.47±15.44%) was higherthan that in the control treatment (34.67±15.11%), there was no significant difference in the mortality between them (.P.N0.05).These results indicated that the rotifer could serve as a vector in WSSV transmission when ingested.
【语种】英文
【第一作者】Jia-Song Zhang
【通讯作者】Shuang-Lin Dong
【期刊名称、卷期、页码】Aquaculture, 2006. 261:1181-1185
【论文发表时间】2006-09-03 00:00:00
【引文索引类型】SCI
【引文索引号】null
【学科分类】水产养殖学

【题目】小麦耐盐性研究进展
【中文关键词】Abstract: This paper summarizes the latest advances in the studies on salt stress of wheat through the effects of germination and emergence of wheat, the responses of agronomic traits of wheat, osmotic adjustment of accumulation, antioxidant enzyme activi
【英文关键词】salt stress, agronomic traits, osmotic adjustment ability, antioxidant enzyme activities, photoinhibition
【中文摘要】笔者从盐胁迫对种子萌发和出苗的影响、农艺性状对盐胁迫的反应、盐胁迫下渗透调节物质的积累、抗氧化酶活性、盐胁迫下小麦对K+、Na+吸收运输的选择性、多胺含量、质膜 NADPH 氧化酶活性、盐胁迫对小麦光合作用的影响等8个方面对近年来小麦耐盐性研究的成果进行了概述。
【英文摘要】盐胁迫;农艺性状;渗透调节;抗氧化酶活性;光合作用
【语种】中文
【第一作者】刘艳丽
【通讯作者】崔党群
【期刊名称、卷期、页码】中国农学通报,2008,24(11):202-207
【论文发表时间】2008-06-01 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农业基础学科

【题目】显微介导的远缘基因渐渗技术在鲤育种中的应用
【中文关键词】显微介导;远缘基因 ; 总DNA; 渐渗杂交; 中国明对虾; 鲤
【英文关键词】Microscopic mediated;Distant gene;total DNA;introgressive hybridization;Fenneropenaeus chinensis;Cyprinus carpio L.
【中文摘要】以中国明对虾(Fenneropenaeus chinensis)为外源DNA 供体, 运用显微介导的远缘杂交技术, 将中国明对虾总DNA 直接导入鲤(Cyprinus carpio L.)受精卵内, 创建鲤外源DNA 导入系, 并利用AFLP 分子标记技术和肌肉营养成分分析, 对显微介导中国明对虾基因鲤进行外源DNA 检测与蛋白质和氨基酸含量进行测定, 结果表明: (1)在30 对AFLP 引物中, 有8 对所扩增带, 其显微介导中国明对虾基因鲤亲本和子代中都有和中国明对虾基因相同而对照鲤没有的带。说明受体鱼中, 肯定有一段序列与目的基因序列一致, 研究证明了亲缘关系甚远的异源DNA 片段的超远缘杂交的可行性。(2)导入中国明

对虾总DNA 片段的显微介导中国明对虾基因鲤的蛋白质含量分别为18.37%、18.47%、17.99%, 均高于对照组(17.06%); 而氨基酸的总量分别为17.16%、17.56%、16.92%, 也高于对照组(16.13%), 其中天门冬氨酸、谷氨酸、甘氨酸、丙氨酸等4 种鲜味氨基酸含量明显超过对照组, 经数理统计分析, 均有显著差异(P<0.05)。说明直接导入中国明对虾总DNA 对显微介导中国明对虾基因鲤的营养成分和氨基酸含量均产生影响, 这可对鲤的品质改进, 丰富鲤的遗传基础, 为显微介导的超远缘杂交技术的应用提供思路。
【英文摘要】无
【语种】中文
【第一作者】闫学春
【通讯作者】孙效文
【期刊名称、卷期、页码】中国水产科学;18(2);275　282
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【引文索引号】null
【学科分类】水产学基础学科

【题目】White spot syndrome virus (WSSV) transmission from rotifer inoculum to crayWsh
【中文关键词】null
【英文关键词】Rotifer; Resting egg; White spot syndrome virus
【中文摘要】无
【英文摘要】To test the possibility that shrimp pond rotifer resting eggs and hatched rotifers could transmit white spot syndrome virus (WSSV) tocrayWsh (Procambarus clarkii), we injected crayWsh with rotifer and resting egg inocula that were WSSV-positive only by dot-blot analysisof PCR products. No crayWsh became WSSV-positive after challenge with the resting egg inoculum. However, 1/15 crayWsh becameWSSV-positive after challenge with the rotifer inoculum. The results demonstrated that rotifers constitute a potential risk for WSSVtransmission to crayWsh and other cultivated crustaceans. However, the actual quantitative risk of transmission in an aquaculture settingdepends on many variables that remain untested.
【语种】英文
【第一作者】Dong-Chun Yan
【通讯作者】Shuang-Lin Dong
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【学科分类】水产养殖学

【题目】干旱胁迫对小麦农艺性状的影响
【中文关键词】小麦,干旱胁迫,农艺性状,抗旱指数,通径分析
【英文关键词】wheat, drought stress, agronomic traits, drought index, path analysis
【中文摘要】了研究干旱胁迫对小麦主要性状的影响及其机理,选用8 个抗旱性不同的小麦品种,在干旱胁迫和正常灌溉两种水分环境下,进行随机区组试验,用方差分析、t测验、和通径分析等方法分析试验结果。结果表明:干旱胁迫导致小麦株高降低,单株产量和千粒重下降, 单株穗数、总小穗数和穗粒数减少,穗长缩短,不育小穗数增多;各性状对干旱胁迫敏感程度都存在显著的品种间差异;除千粒重外,各性状的环境间差异均达到极显著水平;千粒重和单株产量的品种与环境互作达显著或极显著水平;各品种的抗旱指数差异显著;通径分析表明,各性状对单株产量的直接影响: 穗粒数>单株穗数>千粒重>穗长>不育小穗数>总小穗数>株高。干旱胁迫对小麦主要性状的影响显著,晋麦47、新旱1号和洛旱3号对干旱胁迫的抗耐性较好。
【英文摘要】The effect of drought stress on wheat main agronomic traits were analyzed using eight wheat varieties which had different drought sensitivity. The experiment was conducted on drought and irrigated conditions using randomized complete block design. The data were analyzed by means of ANOVA analysis, t tests and path analysis. The result indicated that under drought stress condition most of yield traits were decreased including plant height, yield, weight of the grains, number of spikelet, number of heads per unit area, number of grains per spikelet and length of the spike. While the sterile spikelet was increased. Most of agronomic traits between varieties were significant different to drought sensitivity. The agronomic traits were significantly different on drought and

irrigated conditons except weight of the grains. There were interaction effect between varieties and environment at significant or significantly level. Each trait has the direct effect on yield by mean of path analysis and the effect was as following: number of grains per spikelet >number of spikelet>weight of the grains >length of the spike> number of sterile spikelet> number of heads per unit area>plant height. The drought stress has the significant influence on wheat main agronomic traits. The wheat varieties Jinmai 47, Xinhan 1 and Luohan 3 had the better performance on drought stress environment.
【语种】中文
【第一作者】许海霞
【通讯作者】崔党群
【期刊名称、卷期、页码】中国农学通报,2008,24(3):125-129
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【引文索引号】null
【学科分类】农业基础学科

【题目】两种鱼类远缘杂交回交子代染色体核型分析及比较
【中文关键词】鲤;德国镜鲤;远缘杂交;回交子代;染色体
【英文关键词】Cyprinus carpio L.; Germany mirror carp ;distant hybridization ;backcross progeny;chromosome
【中文摘要】采用PHA 和秋水仙素体内注射制备两种鲤鲫杂交回交子代鱼(鲤鲫杂交♀×德国镜鲤♂;鲤鲫杂交♀×鲤♂)的染色体。结果表明:两种鲤鲫杂交回交子代染色体组由150 条染色体组成,按着丝粒位置染色体组型可分为四组,每个染色体小组均由三条同源染色体组成。其中鲤鲫杂交♀×鲤♂回交的染色体数目为3n=150,染色体臂数NF =234,其核型公式为:3n =60m+ 24sm+ 36st+30t;鲤鲫杂交♀×德国镜鲤♂回交染色体数目为3n=150,染色体臂数NF=258,其核型公式为:3n=63m+45sm+12st+30t。
【英文摘要】无
【语种】中文
【第一作者】闫学春
【通讯作者】梁利群
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【学科分类】水产学基础学科

【题目】THE INTERACTION OF SALINITY AND NA/K RATIO IN SEAWATER ON GROWTH, NUTRIENT RETENTION AND FOOD CONVERSION OF JUVENILE LITOPENAEUS VANNAMEI
【中文关键词】null
【英文关键词】salinity, Na/K ratio, interaction, Litopenaeus vannamei, growth
【中文摘要】无
【英文摘要】The effects of salinity, Na/K ratio and their interaction on growth, molting, nutrient retention and food conversion ofLitopenaeus vannamei were investigated. The test shrimp were reared in artificial seawater and fed fresh polychaete worms, Neanthesjaponica (Izuka) for 30 days. Two salinities (30 and 15 ppt) and 5 Na/K ratios (25.6, 34.1, 47.3, 102.1 and 153.3, mmol/mmol) wereset, and each treatment had four replicates. During the feeding trial, the molting frequency (MF) was affected by neither salinity norinteraction effects, but Na/K ratio had an effect ($P < 0.05$). And there was a tendency that MF rose with the increment of Na/K ratioat both salinities. Final body weight, weight gain (WG) and specific growth rate (SGR) were significantly influenced by salinity, Na/Kratio and interaction effects ($P < 0.05$), whose mean values at salinity 15 ppt were significantly higher than those at 30 ppt. At 30 ppt,WGs and SGRs of shrimp exposed to Na/K ratio 34.1 and 47.3 were respectively more than 26% and 15% higher than of those exposedto the other ratios ($P < 0.05$), but no significant differences in growth were found among treatments at 15 ppt ($P > 0.05$). Na/K ratioand interaction effects significantly affected the nutrient retention (PR and ER), food conversion (FCE) and protein utility (PER) ofthe shrimp ($P < 0.05$), whereas salinity showed little impact. At 30 ppt, the PR and ER of shrimp exposed to Na/K ratio 153.3 weremore than 30% lower than of those exposed to the other 4 ratios ($P < 0.05$); the FCEs of shrimp exposed to Na/K ratio 34.1 and 47.3were more than 20% higher than of those exposed to Na/K ratio 25.6 and 102.1 ($P < 0.05$), and the FCE of shrimp exposed to

Na/Kratio 153.3 was even lower (P < 0.05). At 15 ppt, no significant differences in FCE among treatments were found (P > 0.05). PERshowed the similar tendency as FCE at both salinities. It was indicated that the shrimp were more adaptable to abnormal Na/K ratiosat low salinity than at higher salinities, and good growth could always be obtained within a Na/K range of 34.1 – 47.3 (mmol/mmol)regardless of salinity.
【语种】英文
【第一作者】CHANG-BO ZHU
【通讯作者】SHUANG-LIN DONG
【期刊名称、卷期、页码】J. Shellfish Research, 2006. 25 (1) : 107-112
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【引文索引号】null
【学科分类】水产养殖学

【题目】MicroRNAs对斑马鱼发育的调控
【中文关键词】microRNAs; 斑马鱼; 发育
【英文关键词】microRNAs;Danio rerio;development
【中文摘要】microRNAs(miRNAs)是一类长度约为22nt 的非编码小RNA, 从单细胞到多细胞真核生物中都广泛存在,在进化过程中高度保守, 对动物发育、生理功能及病理过程都具有重要调控作用。斑马鱼(Danio rerio)是现代生物学研究中广泛使用的模式动物, 以斑马鱼为模型研究miRNAs 可以揭示miRNAs 在脊椎动物中的功能。文章就miRNAs 整体缺失对斑马鱼胚胎发育的影响及一些miRNAs 在斑马鱼早期发育过程中的调控机制进行了综述, 从而为探索miRNAs 在脊椎动物中的功能及鱼类的生产育种提供理论基础。
【英文摘要】无
【语种】中文
【第一作者】丁雷
【通讯作者】滕春波
【期刊名称、卷期、页码】遗传;33(11);1179—1184
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【引文索引号】null
【学科分类】水产学基础学科

【题目】小麦白粉病抗病新基因PmHNK的遗传分析和分子标记定位
【中文关键词】小麦;白粉病;微卫星标记;周98165;基因定位
【英文关键词】common wheat; powdery mildew; microsatellite marker; Zhou 98165; gene mapping
【中文摘要】周98165对河南省当前流行白粉菌生理小种具有较好的抗性,并且综合农艺性状优良。明确其抗白粉病基因及遗传特性,筛选与其紧密连锁的分子标记,为抗白粉病育种提供抗源和理论支撑。【方法】将周98165与中国春杂交、自交、测交,对双亲及其杂交后代进行苗期鉴定,用小麦白粉病菌08B1进行遗传分析,利用SSR、EST-SSR技术对双亲及抗感池进行筛选和电泳分析,并结合中国春缺四体材料进行染色体定位。【结果】周98165对3个白粉菌高毒力小种抗性良好,其抗病性受1对显性核基因控制,将该基因暂命名为PmHNK。筛选了与PmHNK连锁的5个微卫星标记,在遗传图谱上的顺序为Xbarc77、Xgwm547、Xwmc326、Xgwm299、PmHNK、Xgwm108,Xgwm299和Xgwm108分别为PmHNK 两侧距离最近的标记,图距分别为4.2cM、5.6cM,最远标记Xbarc77与PmHNK图距为10.6cM,并将PmHNK定位于3BL。【结论】抗病鉴定、遗传分析结合分子标记分析结果表明,PmHNK 是一个白粉病抗病新基因。
【英文摘要】【Objective】 Powdery mildew is one of the most important diseases of wheat worldwide. Zhou 98165, a winter wheat provided by wheat research center of Henan Academy of Agricultural Sciences, is a novel line which has highly resistant, high yield and excellent comprehensive agricultural characteristics. Inheritance of powdery mildew resistance gene and mapping of that in Zhou 98165 with simple sequence repeat (SSR) markers were studied to formulate efficient resistance gene and strategies for breeding cultivars resistant to powdery mildew.【Method】F1, F2, BC1 populations were constructed on the basis of the hybridization between Zhou 98165 and a susceptible wheat variety Chinese Spring. Powdery mildew strains LY2-1, ZZ1-1 and 02B1 were used for the test the resistance and genetic analysis of those populations with the SSR and EST-SSR primers. The location of this gene onchromosome was confirmed by the materials of monosomic CS.【Result】Genetic analysis of Zhou 98165 indicated that the resistance to powdery

mildew race 08B1 was controlled by a single dominant karyon gene, temporarily designated as PmHNK. Five SSR markers , Xbarc77, Xgwm547, Xwmc 326,Xgwm299, and Xgwm108 were linked to PmHNK as they were all located on chromosome 3BL. PmHNK, located on 3BL,closely linked to Xgwm299 and Xgwm108 with genetic distances of 4.2 cM and 5.6 cM, respectively.The farthest marker Xbarc77 was 10.6 cM to PmHNK. 【Conclusion】Genetic analysis and resistance identification with powdery mildew isolates to Zhou98165 combined with SSR markers supports the conclusion that the highly resistance gene PmHNK is a novel gene for powdery mildew in wheat.

【语种】中文

【第一作者】李春鑫

【通讯作者】许为钢

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【学科分类】农业基础学科

【题目】The clam, Xishi tongue Coelomactra antiquata (Spengler) a promising new candidate for aquaculture in China

【中文关键词】null

【英文关键词】Xishi tongue Coelomactra antiquata (Spengler); Artificial reproduction; Nursery; Field cultivation

【中文摘要】无

【英文摘要】Methods and results of recent hatchery studies in rearing the clam, Xishi tongue, Coelomactra antiquata (Spengler) aredocumented in this paper. About 17 million juveniles were produced using hatchery methods, the largest production ever reported.A summary of its biological and ecological characteristics and techniques for hatchery rearing and growout are reported. Becauseof good growth rate, ease of artificial breeding and growout, this famous Chinese delicacy is a promising new candidate foraquaculture. This indigenous Chinese species has excellent potential for aquaculture; and due to its decline in natural abundance,hatchery rearing and growout may help the conservation of this species in the wild.

【语种】英文

【第一作者】Hui Liu

【通讯作者】Shuang Lin Dong

【期刊名称、卷期、页码】Aquaculture, 2006. 255: 402-409

【论文发表时间】2005-12-16 00:00:00

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【引文索引号】null

【学科分类】水产养殖学

【题目】Calcium carbonate supersaturation and precipitation in Chinese mitten crab (Eriocheir japonica sinensis) larval ponds in China: Mass mortality, crystal form analysis, and safety saturation index

【中文关键词】null

【英文关键词】Eriocheir japonica sinensis; Larvae; CaCO3 supersaturation and precipitation; CaCO3 crystal forms; Mortality

【中文摘要】无

【英文摘要】In recent years, mass mortalities of Chinese mitten crab (Eriocheir japonica sinensis) larvae have been reported in several crabculture regions in China and have resulted in great economic losses. The mass mortality usually occurs in seawater ponds in theafternoon of sunny days when water color suddenly changes from dark green or brown to cloudy white or light yellow, and mineralprecipitate occurs. Moribund and dead larvae are typically covered with debris. A series of experiments was conducted to examinethe cause of precipitation and mass mortality of crab larvae. Analysis of the precipitate from ponds with mass mortalities showedthat CaCO3 was the main component of the precipitate, accounting for 70.8% of the total weight. In an animal experiment,mortalities were observed within 48 h in all groups with CaCO3 precipitate, and generally increased as pH and CaCO3 saturationrates increased. Mortalities in groups with CaCO3 precipitate were greater than those in groups without CaCO3 precipitate($P \leq 0.05$). All larvae in groups with CaCO3 precipitate sank to the bottom of the beaker within 48 h. The animal experiment alsoshowed that increased pH (up to 9.4) alone without CaCO3 precipitate did not result in larval mortality within 48 h. Results fromthe present investigation indicate that mass mortalities of the crab larvae are caused by CaCO3 supersaturation and

rapidprecipitation possibly triggered by increased pH as a result of intensive photosynthesis of phytoplankton in the seawater ponds. Bycomparing mean Ca2+ and CO32 − ionic product obtained at the equilibrium with solubility product constants for various CaCO3crystal forms, it appears that CaCO3 · H2O is the main CaCO3 form. Based on the CaCO3 · H2O solubility product constant and ourfield investigations, we suggest that CaCO3 · H2O saturation indices of 2.5 and below be considered safe and 3.4 as warning signalfor CaCO3 precipitation. Since several factors may cause CaCO3 supersaturation and precipitation in crab larval ponds, preventivemeasures should be implemented to stabilize pH and reduce the CaCO3 saturation rate.

【语种】英文
【第一作者】Xiaodong Li
【通讯作者】Shuanglin Dong
【期刊名称、卷期、页码】Aquaculture, 2007, 272 (1-4): 361-369
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【引文索引号】null
【学科分类】水产养殖学

【题目】小麦低分子量谷蛋白亚基品质效应的研究
【中文关键词】小麦;低分子量谷蛋白亚基;品质效应
【英文关键词】Wheat;Quality effect;Low molecular weight glutenin subunit
【中文摘要】为了在小麦品质遗传改良中更好地利用低分子量麦谷蛋白亚基(LMW-GS)的品质效应,以35个小麦品种为材料,对17种LMW-GS的品质效应进行了研究。结果表明,在Glu-A3位点,对面筋数量的正向效应为A3c、A3b、A3d、A3e>A3a,对面筋强度的正向效应为A3c>A3b、A3d>A3a、A3e。在Glu-B3位点,对面筋数量的正向效应为B3i、B3d>B3f>B3e、B3h>B3g>B3j,对面筋强度的正向效应为B3d>B3h>B3j、B3e> B3i、B3f>B3g。在Glu-D3位点,对面筋数量的正向效应为D3e>D3c>D3d> D3b、D3a,对面筋强度的正向效应为D3a>D3c、D3e> D3b、D3d。综合各个亚基的品质效应,本研究提出了包含17种小麦LMW-GS的评分体系,品种品质类型与LMW-GS的对应分析结果验证了LMW-GS品质效应的分析结果。研究结果还表明,不同位点优异LMW-GS的品质效应具有累加作用。
【英文摘要】Effect of Low Molecular Weight Glutenin Subunits on Wheat QualitAbstract: Low molecular weight glutenin subunit(LMW-GS) plays an important role in wheat quality. Considerable attention has now been focused on identification of LMW-GS composition, while seldom application was performed in genetic improvement of wheat quality. In the current paper, quality effects of 17 LMW-GS from 35 wheat cultivars were studied. The positive effects of LMW-GSs on the quality traits were determined as: at Glu-A3, A3C, A3b, A3d and A3e>A3a for gluten quantity, and A3c>A3b and A3d>A3a and A3e for gluten strength. at Glu-B3, B3i and B3d>B3f>B3e and B3h> B3g>B3j for gluten quantity, and B3d>B3h>B3j and B3e>B3i and B3f>B3g for gluten strength;at Glu-D3, D3e>D3c>D3d>D3b and D3a for gluten quantity, and D3a>D3c and D3e>D3b and D3d for gluten strength.Based on the quality effects of glutenin subunit, the score system of l 7 LMW-GS was put forward,which was confirmed by quality traits of cultivars with different LMW-GSs. This study also indicated the accumulative effects of LMW-GS in different loci on quality traits.
【语种】中文
【第一作者】胡琳
【通讯作者】胡琳
【期刊名称、卷期、页码】麦类作物学报,2009,29(3):424-428
【论文发表时间】2009-03-15 00:00:00
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【引文索引号】null
【学科分类】农业基础学科

【题目】Temperature effects on growth-ration relationships of juvenile sea cucumber Apostichopus japonicus (Selenka)
【中文关键词】null
【英文关键词】Temperature; Ration; Apostichopus japonicus; Growth; Energy budget

1. Introduction

The sea cucumber Apostichopus japonicus Selenka, a holothurian believed

【中文摘要】无
【英文摘要】We studied the effects of temperature (16, 18, 20 and 22 ° C) and ration (0%, 0.3%, 0.6%and 1.4%body weight day − 1) on the growthof juvenile sea cucumber Apostichopus japonicus (mean body weight 5.4±0.1 g) over 35days. For any given ration, food intake (FI),specific growth rate (SGR) and food conversion efficiency (FCE) decreased with increasing temperature. The relationship among SGRw(in terms of weight), SGRe (in terms of energy), temperature (T), and ration (% body weight) could be described by the regressionequations: SGRw=0.132 − 0.024 T+0.284 R (r2=0.724, n=64), and SGRe= − 0.014 − 0.030 T+0.312 R (r2=0.654, n=64). Theseequations showthat the minimumand maximumamount of energy required for maintenance occurred at 16 ° Cand at 22 ° C, respectively.Furthermore, the energy requirements for maintenance at high temperatures exceeded the energy intake. The patterns of energy allocationrevealed that energy required for respiration increasedwith increasing temperature. The aestivation of sea cucumbers in summermight bein response to a shortfall in energy intake with respect to an increase of energy consumed in respiration at high temperature.
【语种】英文
【第一作者】Zhenhua An
【通讯作者】Zhenhua An
【期刊名称、卷期、页码】Aquaculture, 2007, 272 (1-4): 644-648
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【引文索引号】null
【学科分类】水产养殖学

【题目】The effect of stocking density of Chinese mitten crab Eriocheir sinensis on rice and crab seed yields in rice – crab culture systems
【中文关键词】null
【英文关键词】Eriocheir sinensis; Rice – crab culture; Stocking density
【中文摘要】无
【英文摘要】Normally Chinese mitten crab Eriocheir sinensis were cultured for 2 years, 1 year is cultured from crab larvae to seeds or buttonsized crab in ponds, tanks or rice fields, the another year is cultured from seeds to market size in ponds, reservoirs or other waters.The present study was conducted to determine the effect of stocking density (0, 3.75, 15, 30 and 60 inds. per m2, respectively) ofChinese mitten crab larvae on rice and crab seed yields in rice – crab culture systems using land-based enclosures (4 m × 7 m, withthree replicates for each stocking density) at the Panjin Guanghe Fisheries Co. Ltd, in the Liaohe Delta, China. Zoobenthosbiomass, production of crab and rice paddy, and economical profit among the treatments were determined. The experiment showedthat zoobenthos biomass in rice – crab culture systems was relatively variant and not significantly correlated to these stockingdensity. The biomass of aquatic plant declined significantly with increasing stocking density. Specific growth rates (SGR) andsurvival rates of the crab were significantly higher at the lower stocking density (Pb0.05); in addition, the ratio of precocious craband total crab significantly increased with the stocking density increasing (Pb0.05); There were not significant effect of presenceof crab on yields of rice straw and rice paddy (PN0.05). Net crab yield and net profit were the highest at the 15 treatment (Pb0.05),however, the net profits among 3.75, 15 and 30 treatments did not show significant difference (PN0.05) economically. Based onthe observations above, a stocking density of 3.75 to 30 inds. per m2 was considered reasonable in rice – crab culture system.
【语种】英文
【第一作者】Xiaodong Li
【通讯作者】Shuanglin Dong
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【学科分类】水产养殖学

【题目】几种不同提取方法对小麦叶片总蛋白双向电泳的影响
【中文关键词】小麦,叶片蛋白质,提取方法,双向电泳图谱

【英文关键词】Wheat; Leaf protein; Eextraction methods;2-DE map
【中文摘要】为探索小麦叶片蛋白质提取的最优方法,以普通小麦品种石4185的叶片为材料,研究了三氯乙酸/丙酮法、裂解液法、尿素/硫脲法、KCl-醋酸铵甲醇法等四种不同蛋白质提取方法对小麦叶片蛋白双向电泳图谱的影响。结果表明,三氯乙酸/丙酮法获得的蛋白点形状规则、清晰,且重复性好;裂解液法拖尾现象较轻,但蛋白点数少且欠清晰,重复性也不如前者;尿素/硫脲法的蛋白点数很少,也较为弥散,且有明显的拖尾现象;KCl-醋酸铵甲醇法使大量蛋白丢失,蛋白点数非常少,且上部竖纹干扰较重。因此,三氯乙酸/丙酮法是提取小麦叶片蛋白的较优方法。
【英文摘要】In order to study the effect of different protein extraction methods on two-dimensional electrophoresis(2-DE) and explore an optimal protein extraction method of wheat leaves, we compared the effect on 2-DE of 4 different protein extraction methods, including TCA/acetone method, lysis-buffer method, urea/thiourea method and KCl-ammonium acetate-methanol method, using leaves of wheat cultivar Shi4185. T he results indicated that the optimal method w as TCA/ acetone method, which had stable, clear and repeatable protein spots. The second was lysis-buffer method with slight tailing phenomena, and lower the repeatability and clarity . T he 2-DE of urea/thiourea method has fewer and dispersed protein spots.The KCl-ammonium acetate-methanol method was the worst with more impurities and less protein spots.The result s showed that the TCA/acetone method is the most suitable protein extraction method for wheat leaves .
【语种】中文
【第一作者】金艳
【通讯作者】崔党群
【期刊名称、卷期、页码】麦类作物学报,2009,29(6):1083-1087
【论文发表时间】2009-12-15 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农业基础学科

【题目】ENU-Induced Mutagenesis in Grass Carp (Ctenopharyngodon idellus) by Treating Mature Sperm
【中文关键词】ENU诱导;草鱼;成熟精子
【英文关键词】ENU-Induced;Grass Carp;Mature Sperm
【中文摘要】对于植物的遗传改良,ENU诱变是一种有效的方法,以及诱导功能突变体在动物模型包括老鼠和斑马鱼也为有效。在本研究中,草鱼成熟精子用一定浓度的ENU处理45分钟,然后与野生型卵细胞受精。结果表明在分裂期异常的形态与卵化期死亡的胚胎比例随ENU量的增加而增加直到10mM。选择一定剂量进行诱变,并且要有足够的鱼苗,利用1mM的ENU处理成熟精子并受精后有目的的筛选F1代。用ENU处理过的F1代在第一年出现了大量变种,正常个体很少。分析15条经过ENU处理过的FI代突变体的部分编码区域的igf-2a, igf-2b, mstn-1, mstn-2, fst-1和 fst-2基因座表明,许多ENU处理的点突变是GC被AT或AT被GC替代,同义突变和非同义突变导致其失去了意义。检测位点的平均突变频率是0.41%。这些结果表明在草鱼中用ENU处理成熟精子可以有效的诱发点突变,这可能是一个改良这些鱼的有用的方法。
【英文摘要】N-ethyl-N-nitrosourea (ENU) mutagenesis is a useful approach for genetic improvement of plants, as well as for inducing functional mutants in animal models including mice and zebrafish. In the present study, mature sperm of grass carp (Ctenopharyngodon idellus) were treated with a range of ENU concentrations for 45 min, and then wild-type eggs were fertilized. The results indicated that the proportion of embryos with morphological abnormalities at segmentation stage or dead fry at hatching stage increased with increasing ENU dose up to 10 mM. Choosing a dose that was mutagenic, but provided adequate numbers of viable fry, an F1 population was generated from 1 mM ENU-treated sperm for screening purposes. The ENU-treated F1 population showed large variations in growth during the first year. A few bigger mutants with morphologically normal were generated, as compared to the controls. Analysis of DNA from 15 F1 ENU-treated individuals for mutations in partial coding regions of igf-2a, igf-2b, mstn-1, mstn-2, fst-1and fst-2 loci revealed that most ENU-treated point mutations were GC to AT or AT to GC substitution, which led to nonsense, nonsynonymous and synonymous mutations. The average mutation rate at the examined loci was 0.41%. These results indicate that ENU treatment of mature sperm can efficiently induce point mutations in grass carp, which is a potentially useful approach for genetic improvement of these fish.
【语种】英文
【第一作者】蒋霞云
【通讯作者】邹曙明
【期刊名称、卷期、页码】PLOS ONE ;6(10);
【论文发表时间】2011-10-17 00:00:00

【引文索引类型】SCI
【引文索引号】2.9598440006e+011
【学科分类】水产学基础学科

【题目】EFFECTS OF INTERMITTENT FEEDING OF DIFFERENT DIETS ON GROWTH OF LITOPENAEUS VANNAMEI
【中文关键词】null
【英文关键词】ecology, feeding, Litopenaeus vannamei, penaeids
【中文摘要】无
【英文摘要】Seven diet models offering were designed to investigate their effects on growth of the shrimp Litopenaeus vannamei, with a mean bodyweight of 1.380 6 0.005 g (mean 6 SE) at a temperature of 25 6 0.58C. The shrimps under different treatments were periodically fedwith polychaete worm (PW, Neanthes japonicus) and commercial formulated diet (FD) with the ratio of 0:1, 1:4, 1:2, 1:1, 2:1, 4:1, and 1:0in feeding frequency of PW followed by FD, respectively. Only one kind of food was offered each time and all the shrimps were fed twicedaily. The result of the 45-day experiment showed that the specific growth (SGRd) of shrimps fed with PW exclusively was 65% higherthan those fed with FD only (P , 0.05); and the shrimps fed with the ratio of 4PW: 1FD, grew 15% faster than those fed with PW only interms of SGRd (P , 0.05). The shrimps fed with the ratio of 4PW: 1FD spent a greater percentage of energy deposited for growth (G)from the energy consumed in food (C) and less percentage of energy lost for respiration (R) from C than those of shrimps fed with PWonly. In contrast to feeding mixed diets, intermittent feeding of different diets can improve food conversion efficiency and avoid the wasteof food caused by shrimp ’s food selection behavior. Therefore, the pattern of intermittent feeding on different diets was more practical andvaluable in aquaculture.
【语种】英文
【第一作者】Zhen-Hua Zheng
【通讯作者】Shuang-Lin Dong
【期刊名称、卷期、页码】J. Crustacean Biol., 2008, 28(1): 21 – 26
【论文发表时间】2008-11-15 00:00:00
【引文索引类型】SCI
【引文索引号】null
【学科分类】水产养殖学

【题目】小麦条锈病抗性基因研究进展及分子标记辅助聚合育种
【中文关键词】小麦;条锈病;抗性基因;分子标记
【英文关键词】wheat, stripe rust, resistance genes, molecular marker
【中文摘要】概述了近年来已命名和暂命名的小麦条锈病抗性基因的来源、染色体定位、分子标记研究及基因克隆状况,回顾了我国抗性品种与生理小种对抗的演变,并从抗条锈病基因抗性表达的发育期、遗传方式、抗性状况、在生产中出现的频率及遗传研究方法几个方面对小麦抗条锈病基因加以评价,为小麦抗条锈基因的利用和研究提供参考。同时浅析了分子标记在小麦抗条锈基因聚合育种中的应用。
【英文摘要】Up to now, 40 gene loci (Yr1-Yr40) for resistance to stripe rust genes have been formally designated in wheat. And there are some resistance genes for stripe rust which have been temporarily designated.All there genes have been located on different chromosomes. Yr36 has been clone. The origin, chromosomal locationmolecular markers and gene clone of stripe rust resistance genes in wheat are summarized in this paper. The evolvement of resistance varieties and physiological race are reviewed. The stripe rust resistance genes are valued as the following: stripe rust resistance genes 's express time, heredity ways, resistance status, show the frequencies applied in wheat production and heredity studies methods. The results provide the references that The resistance to stripe rust genes have studies and utilizations. At the same time, the applications of molecular markers in wheat of resistance polymerize breeding are discussed.
【语种】中文
【第一作者】董淑静
【通讯作者】许为钢
【期刊名称、卷期、页码】中国农学通报,2009,25(13):190-196
【论文发表时间】2009-07-01 00:00:00
【引文索引类型】其他

【引文索引号】null
【学科分类】农业基础学科

【题目】Stress responses to rapid temperature changese of the juvenile sea cucumber (Apostichopus japonicus Selenka)
【中文关键词】null
【英文关键词】null
【中文摘要】无
【英文摘要】无
【语种】英文
【第一作者】Dong Yunwei
【通讯作者】Dong Shuanglin
【期刊名称、卷期、页码】J. of Ocean University of China, 2007. 6(3): 275-280
【论文发表时间】2007-01-05 00:00:00
【引文索引类型】SCI
【引文索引号】null
【学科分类】水产养殖学

【题目】环境因素对小麦蛋白质含量和品质的影响研究进展
【中文关键词】环境;小麦;蛋白质;品质
【英文关键词】environmental, wheat, protein, quality
【中文摘要】小麦蛋白质是人类所需蛋白的重要来源,小麦蛋白质的含量和品质不仅与基因型有关,也受环境的影响,且许多研究表明后者比前者更重要。此文综述了温度、光照、水分和土壤等环境因素对小麦蛋白质影响的部分研究结果及存在的主要问题。在此基础上展望了小麦蛋白质研究的发展方向。
【英文摘要】The protein of wheat is the important resource needed protein for human. The content and quality of wheat protein not only depends on genotypes,but also affected by environmental factors. A lot of research results confirmed that the latter is more important than the former. This paper summarized the main research results and some problems about environmental effect on wheat protein,and looks forward to the research trend of wheat protein.
【语种】中文
【第一作者】金艳
【通讯作者】崔党群
【期刊名称、卷期、页码】中国农学通报,2009,25(17):250-254
【论文发表时间】2009-09-01 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农业基础学科

【题目】Growth inhibition to three red tide microalgae by extracts of Ulva pertusa
【中文关键词】null
【英文关键词】growth inhibition, extracts, Ulva pertusa, Heterosigma akashiwo, Alexandrium tamarense, Prorocentrum micans
【中文摘要】无
【英文摘要】Growth inhibition effect of different concentration of distilled water extract and four polarorganic solvent (methanol, acetone, ether and chloroform) extracts of Ulva pertusa on three typical redtide microalgae (Heterosigma akashiwo, Alexandrium tamarense and Prorocentrum micans) were investigated.Liquid-liquid fractionation and HPLC amilysis for methanol extract of U. pertusa were carried out.Growth of the three microalgae was significantly inhibited by the distilled water extract of U. pertusa atrelatively higher concentration. However, the cells of the three microalgae did not die completely even athigh concentration. Methanol extract of U. pertusa showed the highest growth inhibition on the three microalgae,and all the cells of the three microalgae were killed at relatively high concentration. The otherthree organic solvent extracts of U. pertusa had no apparent effect on the three microalgae. The results ofbioassays and HPLC analysis suggested that the inhibitory substances in U. pertusa to the microalgalgrowth had relatively high polarities. H. akashiwo was the most sensitive one while A. tamarense was themost tolerant one to the growth inhibitory substances.

【语种】英文
【第一作者】JIN Qiu
【通讯作者】DONG Shuanglin
【期刊名称、卷期、页码】Chin. J. of Oceano. & Limnology, 2006. 24 (2): 147-153
【论文发表时间】2004-09-04 00:00:00
【引文索引类型】SCI
【引文索引号】null
【学科分类】水产养殖学

【题目】Genetic variation in Chinese hatchery populations of the Japanese scallop (Patinopecten yessoensis) inferred from microsatellite data
【中文关键词】null
【英文关键词】Genetic variation; Hatchery populations; Microsatellites; Patinopecten yessoensis
【中文摘要】无
【英文摘要】The Japanese scallop Patinopecten yessoensis was introduced to China about two decades ago from Japan. In aquaculture, thereare concerns as to whether genetic variability would have been lost in farmed populations during their subsequent hatcheryproduction. Using six microsatellite loci, three hatchery populations of P. yessoensis in China were compared with one another andwith two wild Japanese populations. The hatchery populations were substantially less variable than wild populations. For the hatcheryand wild populations, the average numbers of alleles per locus were 5.7 and 7.9, and the average expected heterozygosities were 0.582and 0.671, respectively. This loss of variation is attributable to about 20 years of isolation and genetic drift. Fst values showedsignificant genetic differentiation among the five populations. Genetic differences between the populations were also detected bypairwise comparison based on allelic distribution. The Neighbor-joining tree topology constructed on the basis of genetic distancesamong populations showed a clear division between the wild and hatchery populations. The information on the genetic variation anddifferentiation in cultured and wild populations of P. yessoensis obtained in this study is useful for setting up suitable guidelines forfounding and maintaining of cultured stocks, and for future genetic improvement by selective breeding.
【语种】英文
【第一作者】Qi Li
【通讯作者】Qi Li
【期刊名称、卷期、页码】Aquaculture, 2007, 269: 211-219
【论文发表时间】2007-04-13 00:00:00
【引文索引类型】SCI
【引文索引号】null
【学科分类】水产养殖学

【题目】超高产抗病小麦新品种04中36的选育
【中文关键词】小麦,新品种,04 中36, 栽培技术
【英文关键词】wheat,New varieties,04zhong36,Cultivation Techniques
【中文摘要】04中36是中国农业科学院棉花所育成的超高产抗病稳产中早熟小麦新品种。2004-2006年度参加河南省高肥春水组区试和河南省高肥春水Ⅱ组生产试验,25点次平均7303.5kg/hm2 ,比对照平均增产8.35% ,2组试验第1位,1组试验第2位。该品种产量三要素协调,群体自身调节能力强,适应性强,抗病抗倒。高产栽培要适时播种,合理施肥灌水,力争粒大粒饱、千粒重高,及时防治病虫害。
【英文摘要】无
【语种】中文
【第一作者】杨兆生
【通讯作者】杨兆生
【期刊名称、卷期、页码】河南农业科学,2008,8:52-54
【论文发表时间】2008-08-01 00:00:00
【引文索引类型】其他
【引文索引号】null

【学科分类】农业基础学科

【题目】超高产抗病稳产小麦新品种中育12
【中文关键词】中育12
【英文关键词】zhongyu12
【中文摘要】中育12号,2008年9月通过河南省审定(豫审麦2008003),已申请品种保护,品种申请号:20080360.9。中育12原名04中70,1998年利用改良的百农64矮败小麦为轮回选择群体,选择可育单株,采用改良系谱法经多代选择,于2004年育成。
【英文摘要】无
【语种】中文
【第一作者】杨兆生
【通讯作者】杨兆生
【期刊名称、卷期、页码】世界农业,2008,12:59
【论文发表时间】2008-12-01 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农业基础学科

【题目】Genetic variability of cultured populations of the Pacific abalone (Haliotis discus hannai Ino) in Chinabased on microsatellites
【中文关键词】null
【英文关键词】Haliotis discus hannai Ino, genetic variation,
cultured populations, microsatellite
【中文摘要】无
【英文摘要】The genetic diversity of cultured populations of thePaci ¢ c abalone (Haliotis discus hannai Ino) fromnorthern China was analysed using seven microsatellitemarkers. The microsatellite loci were polymorphicfor all the populations, with an average of8.7 alleles per locus (range 8.0^9.4). The mean observedand expected heterozygosities were 0.547(range 0.500^0.596) and 0.774 (range 0.754^0.787)respectively. The allelic diversity in terms of numberof alleles per locus was considerably lower than thatpreviously found in wild populations (range 21.8^23.0), indicating that bottleneck e ¡ ects occurredwhen each population was founded. Signi ¢ cant geneticdi ¡ erentiation among the ¢ ve cultured populationswas shown using Fst and Rst values, andpairwise comparison based on allelic distribution. Aneighbour-joining analysis of the genetic distancedid not show a consistent relationship between thegeographic and the genetic distances, suggesting theexistence of exchanges of breeds and eggs betweenthe hatcheries. The results obtained in this study areuseful for a number of areas of interest for ¢ sheriesmanagement and the aquaculture industry, espeespeciallywith regard to breeding programmes.
【语种】英文
【第一作者】Qi Li
【通讯作者】Qi Li
【期刊名称、卷期、页码】Aquaculture Research, 2007, 38: 981-990
【论文发表时间】2007-10-15 00:00:00
【引文索引类型】SCI
【引文索引号】null
【学科分类】水产养殖学

【题目】利用矮败小麦选育超高产小麦新品种
【中文关键词】矮败小麦,选育,新品种
【英文关键词】Dwarf male-sterile wheat,Breeding, New Variety
【中文摘要】矮败小麦是具有矮杆基因标记的显性核不育材料,是太谷核不育小麦的第二代产品,并且多方面优于太谷核不育小麦,在常规育种、轮回选择和基础研究中有很好的应用价值。利用矮败小麦群体与常规育种相结合,矮败小麦作为轮回选择的工具,是当前提高小麦育种效率,拓展越来越狭窄的遗传基础的一种行之有效的方法。同时也开辟了新的小麦育种途径。目前利用矮败小麦与我们的改良系谱法相结合,已经选育出了1个超高产新品种,中育12号,2008年通过河南省审定,中育740等参加河南省冬水区域试验。

【英文摘要】无
【语种】中文
【第一作者】杨兆生
【通讯作者】杨兆生
【期刊名称、卷期、页码】作物遗传育种研究麦类特刊,2008,11:94-96
【论文发表时间】2008-11-10 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农业基础学科

【题目】Identification and characterization of microsatellite markers derived from expressed sequence tags of the sea cucumber
【中文关键词】null
【英文关键词】EST, microsatellites, primer,
Stichopus japonicus
【中文摘要】无
【英文摘要】Eleven polymorphic microsatellite markers were identified in expressed sequence tagsgenerated fromStichopus japonicuscDNA libraries. The numbers of alleles ranged fromthree to 10, and the expected and observed heterozygosities ranged from 0.378 to 0.870 andfrom 0.077 to 0.690, respectively. Significant deviations from Hardy – Weinberg expectationswere observed at eight loci due to homozygote excess, suggesting the widespread occurrenceof null alleles. The microsatellite markers will be useful for examining genetic populationstructure, parentage analysis and mapping studies ofS. japonicus.
【语种】英文
【第一作者】LIMEI CHEN
【通讯作者】QI L I
【期刊名称、卷期、页码】Molecular Ecology Notes, 2007, 7: 1057-1059
【论文发表时间】2007-02-26 00:00:00
【引文索引类型】SCI
【引文索引号】null
【学科分类】水产养殖学

【题目】EST-SSR markers from the Pacific oyster,
【中文关键词】null
【英文关键词】Crassostrea gigas
, cross-species amplification, EST, microsatellites
【中文摘要】无
【英文摘要】Ten polymorphic microsatellite repeat markers were identified fromCrassostrea gigas,expressed sequence tags (EST) deposited in public sequence database. Number of alleles perlocus ranged from three to 18, expected and observed heterozygosities ranged from 0.071 to0.738 and from 0.306 to 0.913, respectively. Marker transferability was tested on other twoCrassostreaspecies and polymorphic products were detected at nine loci. EST-derived simplesequence repeats provide robust, informative and potentially transferable polymorphicmarkers suitable for population genetic, parentage, and mapping studies ofC. gigas.
【语种】英文
【第一作者】HONG YU
【通讯作者】QI L I
【期刊名称、卷期、页码】Molecular Ecology Notes, 2007, 7: 860-862.
【论文发表时间】2007-01-22 00:00:00
【引文索引类型】SCI
【引文索引号】null
【学科分类】水产养殖学

【题目】Genetic comparison of cultured and wild populations of the clam Coelomactra antiquata (Spengler) in China using AFLP markers

【中文关键词】null
【英文关键词】AFLP; Coelomactra antiquata; Cultured populations; Genetic diversity
【中文摘要】无
【英文摘要】AFLP markers were used to investigate levels of genetic diversity within cultured populations of the clam Coelomactraantiquata and to compare them with the wild source populations. Seven pairs of primers generated 365 loci among 125 individualsin three cultured and three wild populations. High polymorphism at the AFLP markers was found within both cultured and wild C.antiquata populations. Although not statistically significant, reductions in the expected heterozygosity and percentage ofpolymorphic loci were observed in the cultured populations (2.8% and 8.3% reduction, respectively), and higher frequency ofprivate alleles within the wild populations compared to the cultured populations indicated that rare alleles in some loci were lost inthe cultured populations. Significant genetic differentiation was observed between the cultured populations, and between thecultured and wild populations. Northern populations were genetically distinct from southern populations (FST=0.696 – 0.746). Theresults obtained in this study indicate that continued genetic monitoring of the cultured populations is warranted and the northernand southern populations of C. antiquata should be managed separately in hatchery practices for the preservation of geneticdiversity in wild populations.
【语种】英文
【第一作者】Lingfeng Kong
【通讯作者】Qi Li
【期刊名称、卷期、页码】Aquaculture, 2007, 271: 152-161.
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【引文索引类型】SCI
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【学科分类】水产养殖学

【题目】Genetic and morphological differentiation in the clam Coelomactra antiquata (Bivalvia: Veneroida) along the coast of China
【中文关键词】null
【英文关键词】Allozyme; Coelomactra antiquata; Conservation; Genetic variation; Morphology
【中文摘要】无
【英文摘要】Coelomactra antiquata is a commercially exploited bivalve, and its populations have been severely declining in the coast ofChina during the last two decades. In order to provide guidelines for conservation strategies and management programs, fourpopulations of C. antiquata, representing the most important populations in China, were analysed morphologically and geneticallyto reveal the genetic structure by using 7 polymorphic allozyme loci and 12 morphological variables. The mean allele richnessranged from 2.79 to 3.53, while the mean heterozygosity ranged from 0.326 to 0.519. All genetic distance metrics revealed highlevel of genetic differentiation between the three northern populations and one southern population. The marked geneticdifferentiation can be explained by the freshwater outflow of Yangtze River and upwelling of Zhejiang province. Themorphological analyses were in accordance with the allozyme data, which also disclosed a high degree of differentiation betweenthe northern and southern populations. The results obtained in this study indicate that the northern and southern populations inC. antiquata should be treated as separate units for conservation management
【语种】英文
【第一作者】Lingfeng Kong
【通讯作者】Qi Li
【期刊名称、卷期、页码】J. Experimental Marine Biology and Ecology, 2007, 343: 110-117
【论文发表时间】2006-12-07 00:00:00
【引文索引类型】SCI
【引文索引号】null
【学科分类】水产养殖学

【题目】Microsatellite Analysis of Japanese Sea Cucumber, Stichopus (Apostichopus) japonicus, Supports Reproductive Isolation in Color Variants
【中文关键词】null

【英文关键词】Color variation — genetic difference —
Holothuroidea — microsatellite — sea cucumber —
Stichopus japonicus
【中文摘要】无
【英文摘要】The genetic relationship among the three colorvariants (Red, Green, and Black) of the Japanesesea cucumber, S. japonicus, was investigated using11 microsatellite markers. Genetic differentiationtesting among the three sympatric color typesshowed the strong heterogeneity of Red (p G 0.001),while no significant difference was observed betweenGreen and Black (p = 0.301 to 0.961).UPGMA trees constructed from 10 sample lotsfrom 5 localities showed two distinct clusters, onefrom the Red types and the other from the Greenand Black types. In addition, the sympatric Greenand Black formed one subcluster with strong bootstrapsupport at each locality. These results indicatethe separate species status of Red and the othercolor types, and also support the population identityof sympatric Green and Black.
【语种】英文
【第一作者】Manami Kanno
【通讯作者】Manami Kanno
【期刊名称、卷期、页码】Marine Biotechnology, 2006, 8: 672-685
【论文发表时间】2006-10-17 00:00:00
【引文索引类型】SCI
【引文索引号】null
【学科分类】水产养殖学

【题目】3 种奶牛布鲁氏菌病血清学检测方法的贝叶斯评估
【中文关键词】布鲁氏菌病;虎红平板凝集试验;间接酶联免疫吸附试验;荧光偏振分析法;贝叶斯分析
【英文关键词】Brucellosis; RBT ; I-ELISA ; FPA ; Bayesian analysis
【中文摘要】在无“ 金标准 ”的情况下,为评估虎红平板凝集试验(RBT)、荧光偏振分析法(FPA)和间接酶联免疫吸附试验(I-ELISA)用于奶牛布鲁氏菌病的抗体检测能力,作者分别以RBT、FPA、I-ELISA3种方法对采自某奶牛场的血清样品进行检测,通过贝叶斯分析法对检测结果进行分析,研究3种方法检测奶牛布鲁氏菌血清抗体的敏感性(Se)和特异性(Sp)。结果显示,RBT、FPA、I2ELISA3种检测方法的敏感性(Se)分别为91.81%、95.92%和95.98%;特异性(Sp)分别为98.80%、86.54%和98.65%。本研究表明,3种血清学检测方法中以I-ELISA的检测能力最好。
【英文摘要】The objective of our study was to evaluate the diagnostic performance of three serological tests for brucellosis. Serological test result s were used to compare the performance of Ro se Bengal Test (RB T), indirect ELISA (I-EL ISA) and Fluorescence Polarisation Assay (FPA) in diagnosing brucellosis in cattle. Their performance was evaluated using Bayesian analysis which allows the sensitivity (Se) and specificity (Sp) to be estimated in the absence of a gold standard. The sensitivity of RB T, FPA and I-EL ISA were 91.81%, 95.92 % and 95.98%, respectively; and specificity of RBT, FPA and I-ELISA were 98.80 %, 86.54 % and 98.65 %, respectively. The results demonstrated that the I-ELISA performing well in diagnosing brucellosis in cattle.
【语种】中文
【第一作者】刘晓民
【通讯作者】王君伟
【期刊名称、卷期、页码】畜牧兽医学报、41(4)、449-453
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【引文索引类型】其他
【引文索引号】null
【学科分类】兽医学

【题目】Genetic variability assessed by microsatellites in cultured populations of the Pacific oyster (Crassostrea gigas) in China
【中文关键词】null
【英文关键词】Genetic variation; Cultured populations; Microsatellites; Crassostrea gigas
【中文摘要】无
【英文摘要】Five cultured populations of Pacific oyster, Crassostrea gigas, were examined at seven polymorphic microsatellite loci to assessthe levels of allelic diversity and heterozygosity within and differentiation among the populations. The genetic variability of the sevenloci was high for all the populations. The average numbers of alleles per locus ranged from 19.1 to 26.0, while the average

observedand expected heterozygosity ranged from 0.474 to 0.616, and from 0.916 to 0.949, respectively. Fst and Rst values showed significantgenetic differentiation among the five cultured populations. Genetic differences between the populations were also detected bypairwise comparison based on allelic distribution. The Neighbor-joining tree topology constructed on the basis of genetic distancesbetween populations showed a clear separation of the northern three populations and southern two populations, suggesting thatgeographically separated cultured populations of C. gigas could be genetically differentiated unless seeds are transplanted amongthem. The useful information on the genetic variation and differentiation in cultured populations obtained in this study can be appliedfor future genetic improvement by selective breeding, and to design suitable management guidelines for the Pacific oyster.
【语种】英文
【第一作者】Qi Li
【通讯作者】Qi Li
【期刊名称、卷期、页码】Aquaculture, 2006, , 259:95-102
【论文发表时间】2006-05-21 00:00:00
【引文索引类型】SCI
【引文索引号】null
【学科分类】水产养殖学

【题目】Genetic variation of Chinese and Japanese wild Pacific abalone (Haliotis discus hannai)measured by microsatellite DNA markers
【中文关键词】null
【英文关键词】Haliotis discus hannai,genetic variation,microsateIlite DNA
【中文摘要】无
【英文摘要】PopuIation differentiation and reIationships among three wiId popuIations of the Pacific abaIone Haliotis discus hannai coIIectedfrom coastaI seas around China and Japan were estimated using microsateIIite DNA anaIysis. The resuIts obtained with six microsateIIiteIoci showed a high genetic diversity for China and Japan popuIations. The mean number of aIIeIes per Iocus ranged from11. 7 to 23. 0,and the average of observed and expected heterozygosity ranged from 0. 656 to 0. 721,and from 0. 721 to 0. 793,respectiveIy. The observed genotype freguencies at each Iocus were mostIy in agreement with Hardy -Weinberg expectations withfive exceptions. Significant differences were detected between Chinese and Japanese H. discus hannai popuIations[Weir andCocker-ham ’s fixation index(Fst)range:0. 020 ~ 0. 023;SIatkin ’s fixation index(Rst)range:0. 016 ~ 0. 044],and no obviousdifference was detected between the sampIes of Japanese H. discus hannai popuIations(Fst = 0. 002;Rst = 0. 007). The IeveIof differentiation among popuIations is further evidenced by the nNeighbor-joining tree topoIogy on which the Japanese sampIeswere cIoseIy cIustered,and the Chinese popuIation formed a separate cIuster. These resuIts suggest that care shouId be taken infuture management of different popuIations.
【语种】英文
【第一作者】LI Oi
【通讯作者】LI Oi
【期刊名称、卷期、页码】Acta Oceanologica Sinica, 2006, 25:146-155
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【引文索引类型】SCI
【引文索引号】null
【学科分类】水产养殖学

【题目】Acute peristome edema disease in juvenile and adult sea cucumbers Apostichopus japonicus (Selenka) reared in North China
【中文关键词】null
【英文关键词】Ultra-pathology; Histopathology; Virus; APED
【中文摘要】无
【英文摘要】Acute peristome edema disease (APED) is a new disease that broke out in cultured sea cucumber along the Shangdong and Liaoningprovince coasts in China, PR, and has caused a great deal of death in Apostichopus japonicus (Selenka) since 2004. Here we report viruslikeparticles found in intestine epithelium of sea cucumbers reared in North China. It is the first time that sea cucumbers are reported tobe infected by virus. Histological examinations showed that the viral inclusion bodies existed in intestine epithelium cells.

Electron microscopicexaminations show that the virions were spherical, 80 – 100 nm in diameter, and composed of a helical nucleocapsid within an envelopewith surface projections. Detailed studies on the morphogenesis of these viruses found many characteristics previously described forcoronaviruses. Virus particles always congregated, and formed a virus vesicle with an encircling membrane. The most obvious cellularpathologic feature is large granular areas of cytoplasm, relatively devoid of organelles. Tubular structures within virus-containing vesicles,nucleocapsid inclusions, and double-membrane vesicles are also found in the cytopathic cells. No rickettsia, chlamydia, bacteria, orother parasitic organisms were found..

【语种】英文

【第一作者】Pinhong Wang

【通讯作者】Yaqing Chang

【期刊名称、卷期、页码】Journal of Invertebrate Pathology, .2007, 96: 11 – 17

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【引文索引类型】SCI

【引文索引号】null

【学科分类】水产养殖学

【题目】Electrochemical measurement of hydrogen peroxide in plasma: Evaluation of freshwater prawn (Macrobrachium rosenbergii) and crucian carp (Cyprinus carpio) phagocytes under natural conditions

【中文关键词】null

【英文关键词】Hydrogen peroxide; Phagocytes; Hydrogen peroxide electrode; Respiratory burst activity; Blood plasma

【中文摘要】无

【英文摘要】An electrochemical technique for the real-time detection of hydrogen peroxide (H2O2) was employed to describe respiratoryburst activity (RBA) of phagocytes in plasma which can be used to evaluate the ability of immune system and disease resistance.The method is based upon the electric current changes, by redox reaction on platinum electrode of extracellular hydrogen peroxide(H2O2) released from phagocytes stimulated by the zymosan at 680 mV direct current (d.c.). Compared with the control, activationof respiratory burst by zymosan particles results in a high amperometric response, and a current peak was obtained during the wholemonitoring process. The peak current was proved by addition of Cu2 þ and other controls, to be the result of intense release of H2O2from phagocytes. The peak area was calculated and used to evaluate the quantity of effective H2O2, which represents the quantity ofH2O2 beyond the clearance of related enzymes in plasma. According to Faraday ' s law, the phagocytes ' ability of prawns to generateeffective H2O2 was evaluated from 1.253 10 14 mol/cell to 6.146 10 14 mol/cell, and carp from 1.689 10 15 mol/cell to7.873 10 15 mol/cell. This method is an acute and quick detection of extracellular effective H2O2 in plasma and reflects the capacityof phagocytes under natural conditions, which could be applied for selecting species and parents with high immunity forbreeding in aquaculture.

【语种】英文

【第一作者】Wang Pinhong

【通讯作者】Chang Yaqing

【期刊名称、卷期、页码】Fish & Shellfish Immunology, 2007, 23 : 1231-1241

【论文发表时间】2006-06-22 00:00:00

【引文索引类型】SCI

【引文索引号】null

【学科分类】水产养殖学

【题目】Bioassay evidence for the transmission of WSSV by the harpacticoid copepod Nitocra sp

【中文关键词】null

【英文关键词】Harpacticoid copepod Nitocra sp.; WSSV; Vector; Transmission; Marsupenaeus japonicus

【中文摘要】无

【英文摘要】White Spot Syndrome Virus (WSSV) is now one of the most devastating and virulent viral agents threatening the penaeid shrimpculture industry and has been responsible for serious economic losses for shrimp farms worldwide. One remarkable characteristic ofWSSV is its wide reservoir range, which contributes to its wide geographical distribution. Among epizootiological surveys, there is substantialevidence for WSSV-positive copepods found in shrimp farming ponds. Therefore, copepods are suspected to be the vector ofWSSV. In the present study, nested-PCR analysis showed positive results in the harpacticoid copepod Nitocra sp.

exposed to WSSVby virus – phytoplankton adhesion route. Oral route and intramuscular injection were used to test the pathogenicity of WSSV isolatedfrom the WSSV-positive Nitocra sp. For the oral route of infection, Marsupenaeus japonicus postlarvae were fed with WSSV-positivecopepods. The shrimp postlarvae in the infected treatment became WSSV-positive and occurred 52.50 ± 5.00% mortality which was significanthigher ($P < 0.05$) than that in the control treatment (20.00 ± 0.00%) when postlarvae were fed with WSSV free copepods. In theintramuscular injection challenge, M. japonicus juveniles were injected with the copepods inoculum extracted from the WSSV-positiveNitocra sp., and showed 72.50 ± 9.57% mortality which was also significant higher ($P < 0.05$) than that in the control treatment(22.50 ± 5.00%) when juveniles were received mock injection of a tissue homogenate prepared from WSSV-negative Nitocra sp. Based on these laboratory challenge studies, it was confirmed that the copepods can serve as a vector in WSSV transmission

【语种】英文
【第一作者】Jia-Song Zhang
【通讯作者】Shuang-Lin Dong
【期刊名称、卷期、页码】J Invert Pathol, 2008. 97(1):33-39
【论文发表时间】2007-06-21 00:00:00
【引文索引类型】SCI
【引文索引号】null
【学科分类】水产养殖学

【题目】免疫单扩散法检测牛初乳IgG含量方法改良及牛初乳样品的检测
【中文关键词】琼脂免疫单扩散; 牛初乳; IgG
【英文关键词】Single immunediffusion; Bovine colostrums; IgG
【中文摘要】采用改良后的琼脂免疫单扩散法检测本地荷斯坦奶牛产后7d 的初乳样品中IgG 含量。结果表明, 母牛产犊后7d 内, 乳汁中IgG 含量变化很大, 变动范围为118.59~0.86mg/mL。每次挤乳IgG 含量下降都很快, 特别是前三次挤乳, 每次IgG 浓度下降率近50%; 到第8 次, 已经降到10mg/mL 以下。所以生产乳制品应以前7 次挤出的初乳为原料最佳, 若笼统地以3d、5d 或7d 内初乳为原料, 产品中IgG 含量不仅低, 而且每批次差异很大。
【英文摘要】Modified Single immunediffusion method was used to determine content of IgG in bovine colostrums of local holstein in seven days after parturition.The result showed that the content of IgG in bovine colostrums in seven day after parturition has large amounts changes.The content of IgG changed in the range of 118.59~0.86mg/mL. As the raw material of bovine colostrums products, the first 7 times milking after parturition is optimal. If the first 3d,5d or 7d milking after parturition were used as raw material of bovine colostrums products generally, the IgG content in products are low with great difference in different batch.
【语种】中文
【第一作者】李忠秋
【通讯作者】王君伟
【期刊名称、卷期、页码】中国奶牛、(3)、41-44
【论文发表时间】2008-03-03 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】兽医学

【题目】Effects of thermal and osmotic stress on growth, osmoregulation and Hsp70 in sea cucumber (Apostichopus japonicus Selenka)
【中文关键词】null
【英文关键词】Holothurian; Heat shock; Osmotic pressure; Na+/K+-ATPase; Heat shock protein
【中文摘要】无
【英文摘要】This study deals with the effect of thermal and osmotic stress on growth, osmoregulation and Hsp70 level in the sea cucumber Apostichopusjaponicus Selenka. Sea cucumbers were exposed to 30 ° C (Hs treatment) or 20 ° C (control) for 2 h, and then were challenged with osmotic shock,which was administered by transferring the sea cucumbers from natural seawater (about 32 ppt) to different salinities (20 ppt, 25 ppt, 30 ppt, and40 ppt). After a 30-day experiment, the specific growth rate (SGR) and survival rate of sea cucumbers were measured. To elucidate the underlyingphysiological mechanisms, osmotic pressure of the coelomic fluid, Na+/K+-ATPase and Hsp70 level of the sea cucumbers from Hs treatment andcontrol were measured at selected times (1 h, 2 h, 6 h, 24

h, and 48 h) after the osmotic shock. At the end of the 30-day experiment, SGR of Hs seacucumber was higher than that of the control at salinity of 20 ppt. However, SGR of Hs sea cucumber was lower than that of the control at salinityof 30 ppt, 40 ppt and natural seawater. At salinity of 20 ppt, the survival rate of A. japonicus was only 20%. These results indicted that a salinity of20 ppt exceeded the ecological tolerance for growth in juvenile A. japonicus. A prior heat shock could accelerate growth when the ambient salinitywas below the ecological tolerance for growth (salinity of 20 ppt); on the other hand, it could retard growth when the ambient salinity was withinthe ecological tolerance for growth (salinity of 25 ppt, 30 ppt, 40 ppt and natural seawater). The osmotic pressure of the coelomic fluid changedrapidly and stabilized by 6 h after the osmotic shock. The temporal change pattern of Na+/K+-ATPase activity increased initially and reached themaximum value within 6 h. These results indicated that A. japonicus was an osmotic conformer, and the activity of Na+/K+-ATPase had anadaptive response to the change of ambient salinity. Both thermal and osmotic stresses could induce the up-regulation of Hsp70, which mightpartly explain the differences in growth of sea cucumbers at different salinities.

【语种】英文
【第一作者】Yunwei Dong
【通讯作者】Yunwei Dong
【期刊名称、卷期、页码】Aquaculture, 2008. 276: 179-186
【论文发表时间】2008-01-18 00:00:00
【引文索引类型】SCI
【引文索引号】null
【学科分类】水产养殖学

【题目】The heat increment of feeding and heat loss relate to growth in Chinese shrimp, Fenneropenaeus chinensis (Osbeck 1765)
【中文关键词】null
【英文关键词】Chinese shrimp, heat increment of
feeding (HiE), energy budget, growth
【中文摘要】无
【英文摘要】Three experiments were designed to investigate theheat increment of feeding (HiE) in Chinese shrimp,Fenneropenaeus chinensis. (1) Four groups of shrimpwith di ¡ erent weight were fed at four rations to measureoxygen consumption in the following 24 h.(2) Four groups of shrimp with di ¡ erent weight werefedwith four rations for 28 days. (3) Fish £ esh, shrimp £ esh, clam foot, polychaette worm, formulated dietand mixed diet were provided to six groups of shrimpfor 30 days. The coe ⁄ cient of heat increment of feeding(CHiE) values within 24 h after ingesting1g digestibleprotein (DP) and1kJ digestible energy (DE) were18.57 kJ and 0.45. CHiE values of 1g DP and 1kJ DEachieved in the second experiment were 25.06 kJ and0.57. The energy cost of 1g wet weight gain, 1g proteingain and 1kJ recovered energy were 13.94, 32.16and 1.07 kJ. They accounted for 69.28%, 26.71% or40.23% of HiE of the meals needed for these growths.The present results indicated that HiE was a fundamentalproperty of the feed and the energy costof growth accounted for di ¡ erent fraction whendi ¡ erent feeds were ingested.

【语种】英文
【第一作者】Guoqiang Huang
【通讯作者】Shuanglin Dong
【期刊名称、卷期、页码】Aquaculture Research, 2008. 39, 934-944
【论文发表时间】2008-11-15 00:00:00
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【引文索引号】null
【学科分类】水产养殖学

【题目】Virus—phytoplankton adhesion:a new WSSV transmission route to zooplankton
【中文关键词】null
【英文关键词】virus—phytoplankton adhesion,WSSV,transmission route,zooplankton
【中文摘要】无
【英文摘要】The pathogenicity of white spot syndrome virus(WSSV)to zooplankton species,rotifer Brachionus urceus(Linnaeus),copepodAcartia clausi(Giesbrecht)and mysid shrimp Neomysis awatschensis(Brandt),was estimated by immersion challenge and virus—phytoplankton adhesion route to investigate apotential new transmission route of WSSV to zooplankton.WSSV succeeded in infectingthese zooplankton species and nested—PCR revealed positive results for the virus—phytoplankton adhesion

route,whereas WSSV can—not infect zooplankton by immersion challenge.These results indicated that virus—phytoplankton adhesion route is a successful newtransmission route of WSSV to zooplankton and also implied that phytoplankton could be a carrier in WSSV transmission.

【语种】英文
【第一作者】ZHANG Jiason91
【通讯作者】DONG Shuanglin
【期刊名称、卷期、页码】Acta Oceanologica Sinica, 2007. 26(6): 109-115
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【引文索引类型】SCI
【引文索引号】null
【学科分类】水产养殖学

【题目】Growth and physiological responses in the sea cucumber, Apostichopus japonicus Selenka: Aestivation and temperature
【中文关键词】null
【英文关键词】Aestivation
Temperature
Sea cucumber
Metabolism
Antioxidant enzyme
Heat shock protein
【中文摘要】无
【英文摘要】Aestivation is an adaptation of the sea cucumber Apostichopus japonicus Selenka to high temperature,however, the causations and physiological responses of aestivation are not well understood. This study dealswith the relationship between temperature and aestivation. Sea cucumbers were allocated into fourtreatments. In two treatments of temperature elevation, the ambient temperature gradually was increasedfrom 16 ° C to 26 ° C linearly (treatment FA) or by a fluctuating temperature profile (treatment FB). Two controltreatments maintained constant temperatures of 16 ° C and 26 ° C, and were designated as optimumtemperature of growth and threshold of aestivation, respectively. During the 40-day experiment, bodyweight, oxygen consumption, daily food intake, catalase (CAT) and superoxide dimutase (SOD) activities andheat shock protein 70 (Hsp70) levels were determined periodically. When the temperature graduallyincreased from 16 ° C to 26 ° C, the body weight of the tested sea cucumbers decreased gradually. After theambient temperature reached 26 ° C, the tested sea cucumbers in treatments of FA and FB were reared at26 ° C for an additional twenty days. During this period, symptoms of aestivation appeared in the tested seacucumbers. Activities of antioxidases and Hsp70 levels increased when the ambient temperature increasedfrom 16 ° C to 26 ° C, and decreased when the temperature was kept at 26 ° C. These results indicate thataestivation in A. japonicus is an adaptive strategy to reduce the production of reactive oxygen species (ROS)and denatured proteins which were induced at high temperature
【语种】英文
【第一作者】Tingting Ji
【通讯作者】Yunwei Dong
【期刊名称、卷期、页码】AQUACULTURE, 2008, 283: 180-187
【论文发表时间】2008-11-15 00:00:00
【引文索引类型】SCI
【引文索引号】null
【学科分类】水产养殖学

【题目】Microsatellite genetic variation in wild and hatchery populations of the sea cucumber (Apostichopus japonicus Selenka) from northern China
【中文关键词】null
【英文关键词】sea cucumber, Apostichopus japonicus,
genetic variation, hatchery stocks, microsatellites
【中文摘要】无

【英文摘要】Farming of the sea cucumber Apostichopus japonicus(Selenka) started 20 years ago and is still in rapid expansionin China. In order to assess the genetic statusof both wild and cultivated stocks of this species, weused eightmicrosatellitemarkers to estimate the levelof genetic diversity within ¢ ve hatchery stocks andtwo wild populations of A. japonicus, and comparedthe degree of genetic di ¡ erentiation between them.High levels of polymorphism were observed over allloci. The mean alleles and expected heterozygositiesover the seven stocks were10.4^12.3 and 0.735^0.783respectively. The results of the microsatellite surveyprovide no evidence to show that hatchery practiceof the sea cucumber in China to date has signi ¢ cantlya ¡ ected the genetic variability of the cultured stocks.Signi ¢ cant di ¡ erentiation was found between mostpairs of the hatchery stocks and wild populations(Fst range: 0.008^0.036), and no obvious di ¡ erencewas detected between the wild populations(Fst50.008). The information on the genetic variationand di ¡ erentiation obtained in this study can beapplied for future genetic monitoring of A. japonicusaquaculture stocks and will be useful for future geneticimprovement by selective breeding, and for designingsuitable management guidelines for these genetic materials
【语种】英文
【第一作者】Limei Chen
【通讯作者】Qi Li
【期刊名称、卷期、页码】AQUACULTURE RESEARCH, 2008, 39: 1541-1549
【论文发表时间】2008-11-15 00:00:00
【引文索引类型】SCI
【引文索引号】null
【学科分类】水产养殖学

【题目】Effects of dietary sea mud and yellow soil on growth and energy budget of the sea cucumber Apostichopus japonicus (Selenka)
【中文关键词】null
【英文关键词】Sea cucumber
Apostichopus japonicus
Sea mud
Yellow soil
Growth
Energy budget
【中文摘要】无
【英文摘要】The effects of dietary sea mud or yellow soil (0, 20, 40, 60 and 80%) on growth and energy budget of the seacucumber Apostichopus japonicus Selenka were studied. The results showed that there was no significantdifference among growth of sea cucumbers fed diets containing the same proportion of sea mud and yellowsoil. Sea cucumbers fed 20% sea mud or yellow soil obtained better growth than the other treatments(Pb0.05). The ingestion rate (IR), feces production rate (FPR) and apparent digestive ratio (ADR) showed adescending trend as the percent of dietary sea mud or yellow soil increased, however, the specific growthrate (SGR) decreased when diets contained more than or less than 20% sea mud or yellow soil. The averageenergy budget formula was: 100C=4.27G+55.44F+3.69U+36.60R. The energy deposited for growth was verylow, and the energy loss in feces and energy for respiration accounted for the majority of the ingested energy.From economic and environmental points of views, it is feasible to add 20% yellow soil instead of sea mud todiets of sea cucumbers. This information should be helpful in the development of more appropriate diets forculture of holothurians.
【语种】英文
【第一作者】Ying Liu
【通讯作者】Shuanglin Dong
【期刊名称、卷期、页码】Aquaculture, 2009. 286, 266-270
【论文发表时间】2008-09-22 00:00:00
【引文索引类型】SCI
【引文索引号】null
【学科分类】水产养殖学

【题目】Association of reproductive performance with SNPs of FOXL2 gene by SSCP in Japanese flounder (Paralichthys olivaceus)
【中文关键词】null
【英文关键词】Japanese flounder
FOXL2
SNPs
Diplotype
Reproductive performance
【中文摘要】无
【英文摘要】FOXL2 which is a putative winged helix/forkhead transcription factor gene and a sexually dimorphic markerof ovarian differentiation plays an important role in ovarian development, granulosa cell differentiation, andthus the proper maintenance of ovarian function. The aims of this study were to characterize polymorphismswithin the FOXL2 gene in a population of 52 female Japanese flounder and analyze the association of FOXL2polymorphisms with reproductive performance by polymerase chain reaction-single stranded conformationalpolymorphism (PCR-SSCP). Results indicated that five single nucleotide polymorphisms (SNPs), whichwere SNP1 [c.540ANC (p.Asn102His) and c.591ANG (p.Asn119Asp)], SNP2 [c.864GNA (p.Lys210Glu)andc.875GNA] and SNP3 (c.1169CNA), were identified in the FOXL2 gene. General Linear Model (GLM) analysisshowed that SNP1 in the forkhead domain was significantly associated with gonadosomatic index (GSI)(Pb0.05). SNP2 in the downstream of forkhead domainwas significantly associated with serum 17 β-estradiol(E2) level (Pb0.05). And SNP3 in the 3′-UTR was significantly associated with hepatosomatic index (HSI)(Pb0.05). Moreover, the evaluation of the genetic effects for both Testosterone (T) level of diplotype D3 andGSI of diplotype D5 suggested they were significantly higher than those of other four diplotypes (Pb0.05),respectively. These results implied that these SNPs could influence reproductive endocrinology of femaleJapanese flounder and be also used in marker-assisted selection (MAS) program to reproductive performancein female Japanese flounder in the future.
【语种】英文
【第一作者】Bao Shi
【通讯作者】Hai S. Wen
【期刊名称、卷期、页码】Comparative Physiology and Biochemistry Part B, 2009, 153:1-7
【论文发表时间】2008-10-29 00:00:00
【引文索引类型】SCI
【引文索引号】null
【学科分类】水产养殖学

【题目】A genetic linkage map of the sea cucumber, Apostichopus japonicus (Selenka), based on AFLP and microsatellite markers
【中文关键词】null
【英文关键词】amplified fragment length polymorphism, Apostichopus japonicus, linkage map,
microsatellites, sea cucumber.
Introduction
The sea cucumber Apostichopus japonicus is a common
benthic detritus feeder of coastal sea habitats of East Asia,
including China
【中文摘要】无
【英文摘要】We present the first genetic maps of the sea cucumber (Apostichopus japonicus), constructedwith an F1 pseudo-testcross strategy. The 37 amplified fragment length polymorphism(AFLP) primer combinations chosen identified 484 polymorphic markers. Of the 21microsatellite primer pairs tested, 16 identified heterozygous loci in one or other parent, andsix were fully informative, as they segregated in both parents. The female map comprised163 loci, spread over 20 linkage groups (which equals the haploid chromosome number),and spanned 1522.0 cM, with a mean marker density of 9.3 cM. The equivalent figures forthe male map were 162 loci, 21 linkage groups, 1276.9 and 7.9 cM. About 2.5% of theAFLP markers displayed segregation distortion and were not used for map construction.The estimated coverage of the genome was 84.8% for the female map and 83.4% for themale map. The maps generated will serve as a basis for the construction of a high-resolutiongenetic map and mapping of the functional genes and quantitative trait loci, which willthen ospecies.pen the way for the application of a marker-assisted selection breeding strategy in this
【语种】英文
【第一作者】Q. Li

【通讯作者】Q. Li
【期刊名称、卷期、页码】Animal Genetics, 2009, 40:678-685
【论文发表时间】2009-02-19 00:00:00
【引文索引类型】SCI
【引文索引号】null
【学科分类】水产养殖学

【题目】A first-generation genetic map of the Japanese scallop Patinopecten yessoensis-based AFLP andmicrosatellite markers
【中文关键词】null
【英文关键词】AFLP, linkage map, microsatellites,
Patinopecten yessoensis
【中文摘要】无
【英文摘要】We constructed genetic linkage maps of the Japanesescallop Patinopecten yessoensis using AFLP and microsatellitemarkers.With 32 AFLP primer combinations,a total of 413 markers (209 from the femaleparent and 204 from the male parent) segregated ina 1:1 ratio, corresponding to DNA polymorphismswhich were heterozygous in one parent and null inthe other. Among the six microsatellite markers weused, there were four polymorphic loci. Two segregatedin the female parent, and the other two segregatedin both parents. In the maternal parent, 161framework markers were mapped in 20 linkagegroups, with a total coverage of 2198.8 cM. In thepaternal parent, 166 framework markers establisheda map with 21 linkage groups, spanning a genomelength of 2137.6 cM. The AFLP markers on the mapswere randomly distributed with an average spacingbetween markers of14.7^15.6 cM. The estimated coveragefor the framework maps are 77.9% both for thefemale and the male. These are the ¢ rst linkage mapsfor P. yessoensis, which constitute a basis for furthergenome studies and provide a useful framework forconsensus map construction by adding orthologousanchor markers developed in P. yessoensis.
【语种】英文
【第一作者】Kefeng Xu
【通讯作者】Qi Li
【期刊名称、卷期、页码】Aquaculture Research, 2009, 40:35-43
【论文发表时间】2009-11-15 00:00:00
【引文索引类型】SCI
【引文索引号】null
【学科分类】水产养殖学

【题目】Thermal resistance in sea cucumbers (Apostichopus japonicus) with differing thermal history: The role of Hsp70
【中文关键词】null
【英文关键词】Sea cucumber
Thermal resistance
Heat shock protein 70
Temperature acclimation
【中文摘要】无
【英文摘要】Thermal history can affect organisms' thermal resistance, however, effects of thermal history on thermalresistance and roles of heat shock protein 70 (Hsp70) in sea cucumber Apostichopus japonicus are not wellunderstood. In the present study, the lethal thermal limits and expressions of Hsp70 of sea cucumbers thatwere acclimated at different temperatures (22 ° C or 12 ° C) for 30 days were studied. The upper lethaltemperatures (ULTs50) for sea cucumbers acclimated at 22 and 12 ° C were 31.8 ° C (31.5 – 32.1 ° C) and 30.9 ° C(30.6 – 31.3 ° C), respectively. In heat shock experiments, sea cucumbers acclimated at different temperatures(22 ° C or 12 ° C) were exposed to several high temperatures (25, 27, 29, 31 and 32 ° C) for 2 h, followed by 2 hrecovery at 17 ° C, and the levels of hsp70 were measured using semi-quantitative RT-PCR and westernblotting. The maximum induction temperatures for sea cucumbers in 22 ° C and 12 ° C acclimation treatmentswere 31 ° C and 29 ° C, respectively. These results showed that the temperature acclimation could affect seacucumbers' upper thermal limit, which was related to the changed expression pattern of Hsp70 in the seacucumber. In practice, sea cucumbers that overwinter in southern China could acquire higher thermalresistance than those reared in the north.

【语种】英文
【第一作者】Xian-liang Meng
【通讯作者】Yun-wei Dong
【期刊名称、卷期、页码】Aquaculture, 2009. 294:314-318
【论文发表时间】2009-06-09 00:00:00
【引文索引类型】SCI
【引文索引号】null
【学科分类】水产养殖学

【题目】Sediment-water Fluxes of Nutrients and Dissolved Organic Carbon in Extensive Sea Cucumber Culture Ponds
【中文关键词】null
【英文关键词】Nutrient fluxes; Pond sediment; Sea cucumber; Polyculture;
【中文摘要】无
【英文摘要】Sediment samples were collected from three seawater aquaculture ponds, and soilcharacteristics, sediment oxygen consumption (SOC), dissolved organic carbon (DOC)and nutrient fluxes were measured using chamber incubations at laboratory. Thethree ponds were each representing a specific monoculture or polyculture model ofsea cucumber. Total organic carbon (TOC) and total nitrogen (TN) contents in the drysediment ranged from 0.14 to 0.26% and 0.022 to 0.037%, respectively. Total phosphorus(TP) contents in the sediment were more spatially and temporally variable. SOCranged from 15.29 to 45.86 mmol m − 2 d − 1 and showed significant differences amongthe three ponds (p a 0.05). TOC, total carbon (TC) contents, and SOC of the sedimentin the pond polycultured with jellyfish increased with culture time, indicating thatjellyfish farming enhanced the accumulation of organic matter in the sediments tosome extent. Sediment showed net nitrate and ammonium uptake in most ponds andmonths, and significant differences were found among months (p a 0.05). Dissolvedinorganic phosphate (DIP) was released from the sediments in all ponds with low fluxrates. DOC was released from the sediment in all ponds and ranged from 0.67 to 1.74g DOC m − 2 d − 1. The results suggested that non-artificial-feeding sea cucumber cultureponds could not only yield valuable seafood products, but also effectively removenutrients from the aquaculture systems and consequently alleviate nutrient loadingsof the nearby coast.
【语种】英文
【第一作者】Zhongming Zheng
【通讯作者】Shuanglin Dong
【期刊名称、卷期、页码】CLEAN-SOIL AIR WATER,2009, 37: 218-224
【论文发表时间】2009-02-25 00:00:00
【引文索引类型】SCI
【引文索引号】null
【学科分类】水产养殖学

【题目】能值理论在我国北方刺参(Apos tichopus j a ponicus) 养殖池塘的环境可持续性分析中的应用
【中文关键词】能值; 刺参; 能值产生率; 环境负载率; 能值可持续发展指标
【英文关键词】null
【中文摘要】利用能值(emergy) 理论对我国北方刺参(A postichop us j aponicus) 养殖池塘的经济收益和环境可持续性进行分析. 利用能量系统模型符号构建了刺参池塘的能值图,并对刺参池塘能值的各部分分布进行了分析. 通过比较刺参养殖池塘和几种集约化鱼类养殖池塘的能值产生率(emergy yield ratio ,EYR) 、环境负载率(emergy load2ing ratio ,ELR) 和能值可持续发展指标(emergy sustainable index ,ESI) ,表明刺参养殖池塘单位能值投入的收益明显高于鱼类的集约化养殖模式,其可持续性和环境容纳量均较高.
【英文摘要】无
【语种】中文
【第一作者】秦传新
【通讯作者】董双林
【期刊名称、卷期、页码】武汉大学学报(理学版),2009,55(3):319~323
【论文发表时间】2009-06-01 00:00:00
【引文索引类型】其他

【引文索引号】null
【学科分类】水产养殖学

【题目】Single nucleotide polymorphisms within the estrogen receptor beta gene are linked with reproductive indices in Japanese flounder, Paralichthys olivaceus
【中文关键词】null
【英文关键词】Japanese flounder
Estrogen receptor β
SNPs
Diplotype
Reproductive indices
【中文摘要】无
【英文摘要】The objectives of this study were to characterize polymorphisms within the coding region of estrogenreceptor β (ER β) gene in a population of 57 female Japanese flounder (Paralichthys olivaceus) and to analyzethe association of ER β polymorphisms with reproductive indices by polymerase chain reaction single-strandconformation polymorphism (PCR-SSCP). Two single nucleotide polymorphisms (SNPs), SNP1 (c.577delC)and SNP2 [c.A891T (p.Gln114Leu)], were identified in the ER β gene. A one-way ANOVA revealed that SNP1was significantly associated with the gonadosomatic index (GSI) in female Japanese flounder (Pb0.05). AndSNP2 was significantly associated with the serum 17 β -estradiol (E2) level and GSI (Pb0.05). Individuals withgenotype AB of SNP2 had significantly higher serum E2 level and GSI than those of genotype AA (Pb0.05).Moreover, the hepatosomatic index (HSI), a marker for genetic effects, was significantly higher for diplotypeD2 compared with the other three diplotypes (Pb0.05). These results obtained in this study suggested thatSNP2 could influence reproductive endocrinology of female Japanese flounder and be useful as a potential candidate genetic marker for the selection of reproductive indices in female Japanese flounder
【语种】英文
【第一作者】Bao Shi
【通讯作者】Hai Shen Wen
【期刊名称、卷期、页码】COMPARATIVE BIOCHEMISTRY AND PHYSIOLOGY B-BIOCHEMISTRY & MOLECULAR BIOLOGY, 2010, 154: 62-67
【论文发表时间】2009-05-08 00:00:00
【引文索引类型】SCI
【引文索引号】null
【学科分类】水产养殖学

【题目】Polymorphisms within promoter of Japanese flounder (Paralichthys olivaceus) ovary cytochrome P450-c19 (CYP19a) gene associated with reproductive traits
【中文关键词】null
【英文关键词】Japanese flounder CYP19a gene
promoter SNPs Diplotype Reproductive traits
【中文摘要】无
【英文摘要】Cytochrome P450 aromatase, which isencoded by the CYP19a gene, converts androgens toestradiol. Considerable evidence suggests that estrogensplay an important role in fish reproductiveprocess. Therefore CYP19a is an excellent candidategene for reproductive traits. Variants in the promoter ofthe CYP19a gene might also be involved in the controlof aromatase expression and affect regulatory mechanismlinking cholesterol metabolism to the synthesisof sex steroids. In this study, nine single-nucleotidepolymorphisms (SNPs) were detected with polymerasechain reaction-single stranded conformational polymorphism(PCR-SSCP), namely A-680G, G-672A,AGTAGT-649 inserting or deleting, T-623C, C-410A,T7-454A, T-402C, TTTCCAGACTGA-345 insertingor deleting, and G-297C. Nine SNPs within thepromoter of the CYP19a gene were tested for associationwith four reproductive traits [serum testosterone(T), serum 17b-estradiol (E2), hepatosomatic index(HSI), and gonadosomatic index (GSI)] in a populationof 50 female Japanese flounder individuals.Alocus, P3(TTTCCAGACTGA-345 inserting or deleting, G-297C), was significantly associated with 17b-estradiol(E2) level (P\0.05) in female Japanese flounder. In addition, there was significant association between onediplotype based on nine SNPs and reproductive trait.The genetic effect for E2 level of diplotype D3 wassignificantly higher than those of other diplotypes(P\0.05). Results indicate that these genetic effectsof those variants on E2 level may help to explainCYP19a

gene status in the reproductive endocrinologyof Japanese flounder.
【语种】英文
【第一作者】Feng He
【通讯作者】Hai Shen Wen
【期刊名称、卷期、页码】FISH PHYSIOLOGY AND BIOCHEMISTRY, 2010, 35: 333-340
【论文发表时间】2008-06-07 00:00:00
【引文索引类型】SCI
【引文索引号】null
【学科分类】水产养殖学

【题目】Metabolic rates and biochemical compositions of Apostichopus japonicus (Selenka) tissue during periods of inactivity
【中文关键词】null
【英文关键词】Apostichopus japonicus; oxygen consumption rates; chemical composition; temperature,
periods of inactivity
【中文摘要】无
【英文摘要】Estivation, hibernation, and starvation are indispensable inactive states of sea cucumbersApostichopus japonicus in nature and in culture ponds. Generally, temperature is the principal factor thatinduces estivation or hibernation in the sea cucumber. The present study provided insight into thephysiological adaptations of A. japonicus during the three types of inactivity (hibernation, estivation, andstarvation) by measuring the oxygen consumption rates (Vo2) and biochemical compositions underlaboratory conditions of low (3 ° C), normal (17 ° C) and high (24 ° C) temperature. The results show that thecharacteristics of A. japonicus in dormancy (hibernation and estivation) states were quite different fromhigher animals, such as fishes, amphibians, reptiles, and mammals, but more closely resembled asemi-dormant state. It was observed that the shift in the A. japonicus physiological state from normal todormancy was a chronic rather than acute process, indicated by the gradual depression of metabolic rate.While metabolic rates declined 44.9% for the estivation group and 71.7% for the hibernation group,relative to initial rates, during the 36 d culture period, metabolic rates were not maintained at constantlevels during these states. The metabolic depression processes for sea cucumbers in hibernation andestivation appeared to be a passive and an active metabolic suppression, respectively. In contrast, themetabolic rates (128.90±11.70 μg/g h) of estivating sea cucumbers were notably higher(107.85±6.31 μg/g h) than in starving sea cucumbers at 17 ° C, which indicated that the dormancymechanism here, as a physiological inhibition, was not as efficient as in higher animals. Finally, theprinciple metabolic substrate or energy source of sea cucumbers in hibernation was lipid, whereas inestivation they mainly consumed protein in the early times and both protein and lipid thereafter.
【语种】英文
【第一作者】BAO Jie
【通讯作者】DONG Shuanglin
【期刊名称、卷期、页码】Chinese Journal of Oceanology and Limnology, 2010, 28(2): 218-223
【论文发表时间】2009-05-04 00:00:00
【引文索引类型】SCI
【引文索引号】null
【学科分类】水产养殖学

【题目】Seasonal Variations in Biochemical Composition and Reproductive Activity of Venus Clam Cyclina sinensis (Gmelin) from the Yellow River Delta in Northern China in Relation to Environmental Factors
【中文关键词】null
【英文关键词】Venus clam, Cyclina sinensis, biochemical composition, reproductive cycle, environmental factors
【中文摘要】无
【英文摘要】The seasonal variations in biochemical composition and reproductive activity of the venus clam Cyclina sinensis(Gmelin) from the Yellow River delta in China were investigated from April 2007 to March 2008 in relation to environmentalfactors. According to histological observations, gametogenesis began in January when the water temperature was low. Gametesmatured mainly in June and July when the condition index (CI) and mean oocyte diameter peaked. Spawning occurred primarilyin August when the temperature was highest, and coincided with phytoplankton bloom. The CI and oocyte diameter decreasedsharply after spawning occurred, as mostly larger, mature gametes have been released. In autumn, the plentiful

phytoplanktonand higher water temperature were fit for the larvae to grow. Biochemical analysis indicated that gametogenesis took place at theexpense of reserves accumulated in the various tissues previously during winter. A slight increase in lipid and protein content infemale gonad – visceral mass during sexual maturation was observed, demonstrating that lipid and protein would be accumulatedas vitellin in oocytes. Conversely, the lipid and protein content in the male gonad – visceral mass decreased during sexualmaturation. The biochemical compositions in the adductor muscle and mantle varied during the study period, suggesting that theycould support reproduction and growth. Seasonal variation in the RNA-to-DNA ratio suggests that it cannot reflect the situationof gonad development in this species.

【语种】英文
【第一作者】HONGWEI YAN
【通讯作者】QI LI
【期刊名称、卷期、页码】Journal of Shellfish Research, 2010, 29:91-99
【论文发表时间】2010-11-15 00:00:00
【引文索引类型】SCI
【引文索引号】null
【学科分类】水产养殖学

【题目】Effect of salinity and temperature on salinity tolerance of the sea cucumber Apostichopus japonicus
【中文关键词】null
【英文关键词】Apostichopus japonicus Salinity
Salinity tolerance Sea cucumber Temperature
【中文摘要】无
【英文摘要】Sea cucumber Apostichopus japonicus juvenilesacclimated to different environmental conditions (23,25, and 27 C combined with 25, 30, and 35 psu) wereassessed for tolerance to increasing and decreasing levelsof salinity at a rate of 2 psu h-1. They were also tested forthe LS50 (median lethal salinity) when transferred directlyinto a series of higher salinity (32 – 46 psu) and lowersalinity (9 – 25 psu). The CSMax (critical salinity maximum),CSMin (critical salinity minimum), USTL (uppersalinity tolerance limit), and LSTL (lower salinity tolerancelimit) were positively correlated to the acclimatedsalinity level but negatively correlated to temperature.The CSMax of A. japonicus was 6.2 – 10.0 psu higher thanthe USTL, and the CSMin was 5.5 – 8.5 psu lower than theLSTL, indicating that gradual changes in salinity resultedin the wide range of salinity tolerance that was observed,but that abrupt changes in salinity resulted in the narrowrange of tolerance. Two-way analysis of variance revealedthat salinity and temperature had a significant effect on50% CSMax, 50% CSMin, USTL, and LSTL (P\0.001).The information obtained in this study will be valuable forthe further development of the sea cucumber aquacultureindustry in China.
【语种】英文
【第一作者】Meiyan Hu
【通讯作者】Qi Li
【期刊名称、卷期、页码】Fisheries Science, 2010, 76:267-273
【论文发表时间】2010-02-04 00:00:00
【引文索引类型】SCI
【引文索引号】null
【学科分类】水产养殖学

【题目】The Effect of Different Substrates on Larvae Settlement in Sea
【中文关键词】null
【英文关键词】null
【中文摘要】无
【英文摘要】In this study, the effect of various substrata on the settlement of sea cucumber, Apostichopusjaponicus, was evaluated. The settlement of the larvae in the experiments with three differentsubstrata was compared and showed that a polyethylene plastic sheet attracted significantly morelarvae ($P < 0.05$) than plastic film and monofilament nylon. In addition, the highest setting rate wasachieved for the plastic sheet with diatom-based films, followed by effective microorganisms (EMs)-based films and natural microbial films, and the least recorded was on the plastic sheet withoutbiofilms. There was a significant difference ($P < 0.05$) in the mean setting rates of the treatments,except between the diatom-based films and the EM-based films. Plastic sheets also appeared attractiveto setting larvae when

coated with tissue extracts of the same species. The number of settled larvaeon substrates with tissue extracts was significantly greater ($P < 0.05$) than that on the control.
【语种】英文
【第一作者】Li Li
【通讯作者】Qi Li
【期刊名称、卷期、页码】Journal of the World Aquaculture Society, 2010, 41:123-130
【论文发表时间】2010-02-14 00:00:00
【引文索引类型】SCI
【引文索引号】null
【学科分类】水产养殖学

【题目】Seasonal changes in reproductive activity and biochemical composition of the razor clam Sinonovacula constricta (Lamarck 1818)
【中文关键词】null
【英文关键词】Biochemical composition, environmental factors, reproductive cycle, Sinonovacula constricta,seasonal variations
【中文摘要】无
【英文摘要】The reproductive cycle and seasonal variations in biochemical composition of the razor clam Sinonovacula constricta(Lamarck) from the Yellow River delta in China were investigated from April 2007 to March 2008 in relation toenvironmental factors. Histological analysis indicated that the gametogenesis of the S. constricta comprised two phases: aresting phase (February May) and gametogenesis, including ripeness and spawning, during the rest of the year.Gametogenesis of S. constricta began in June July and was completed during September October when food was abundant.A significant decrease in the glycogen content of all tissues both in the female and male during sexual maturation suggeststhat carbohydrates play the most important role in reproduction of this species. The protein and lipid content increased inassociation with the gametogenesis in the female gonads, indicating that they are the major organic component of oocytes.Conversely, the protein and lipid decreased in the male gonads and other tissues, demonstrating that they also supportreproduction after the glycogen is depleted. The RNA/DNA ratio is a valuable indicator of maturation both in the femaleand male. The results obtained in this study provide useful information for developing management strategies of S. constrictapopulations in this area, and for optimizing the hatchery-based seed production.
【语种】英文
【第一作者】Hongwei Yan
【通讯作者】Qi Li
【期刊名称、卷期、页码】Marine Biology Research, 2010, 6:78-88
【论文发表时间】2009-11-19 00:00:00
【引文索引类型】SCI
【引文索引号】null
【学科分类】水产养殖学

【题目】Effects of stocking density, temperature, and salinity on larval survival and growth of the red race of the sea cucumber Apostichopus japonicus (Selenka)
【中文关键词】null
【英文关键词】Sea cucumber Apostichopus japonicus Red race Larval rearing Stocking density Salinity Temperature
【中文摘要】无
【英文摘要】The red race of the sea cucumber Apostichopus japonicus was introduced intoChina from Japan for large-scale seed production because of its economic value. Thispaper reports the effects of stocking density, temperature, and salinity on survival andgrowth of early larvae before and after feeding, in order to establish conditions for optimallarval growth and production. To maximize the yield per unit of space, densities of 0.5 – 1larvae/ml are recommended for non-feeding larvae, while 0.1 – 0.2 larvae/ml are best forfeeding larvae. Higher survival and growth values were obtained for both non-feeding andfeeding larvae at temperature ranges from 21 to 24 C. Larvae reared at a salinity of 30%always showed maximum growth and survival. Based on results of this study, a temperaturerange from 21 to 24 C and a salinity of 30 are considered optimal for early developmentof the red A. japonicus.

【语种】英文
【第一作者】Li Li
【通讯作者】Qi Li
【期刊名称、卷期、页码】Aquaculture International, 2010, 18:447-460
【论文发表时间】2009-04-08 00:00:00
【引文索引类型】SCI
【引文索引号】null
【学科分类】水产养殖学

【题目】Metabolic rates and biochemical compositions of Apostichopus japonicus (Selenka) tissue during periods of inactivity
【中文关键词】null
【英文关键词】Apostichopus japonicus; oxygen consumption rates; chemical composition; temperature, periods of inactivity
【中文摘要】无
【英文摘要】Estivation, hibernation, and starvation are indispensable inactive states of sea cucumbersApostichopus japonicus in nature and in culture ponds. Generally, temperature is the principal factor thatinduces estivation or hibernation in the sea cucumber. The present study provided insight into thephysiological adaptations of A. japonicus during the three types of inactivity (hibernation, estivation, andstarvation) by measuring the oxygen consumption rates (Vo2) and biochemical compositions underlaboratory conditions of low (3 ° C), normal (17 ° C) and high (24 ° C) temperature. The results show that thecharacteristics of A. japonicus in dormancy (hibernation and estivation) states were quite different fromhigher animals, such as fishes, amphibians, reptiles, and mammals, but more closely resembled asemi-dormant state. It was observed that the shift in the A. japonicus physiological state from normal todormancy was a chronic rather than acute process, indicated by the gradual depression of metabolic rate.While metabolic rates declined 44.9% for the estivation group and 71.7% for the hibernation group,relative to initial rates, during the 36 d culture period, metabolic rates were not maintained at constantlevels during these states. The metabolic depression processes for sea cucumbers in hibernation andestivation appeared to be a passive and an active metabolic suppression, respectively. In contrast, themetabolic rates (128.90±11.70 μg/g h) of estivating sea cucumbers were notably higher(107.85±6.31 μg/g h) than in starving sea cucumbers at 17 ° C, which indicated that the dormancymechanism here, as a physiological inhibition, was not as efficient as in higher animals. Finally, theprinciple metabolic substrate or energy source of sea cucumbers in hibernation was lipid, whereas inestivation they mainly consumed protein in the early times and both protein and lipid thereafter.
【语种】英文
【第一作者】BAO Jie
【通讯作者】DONG Shuanglin
【期刊名称、卷期、页码】Chinese Journal of Oceanology and Limnology, 2010, 28(2): 218-223
【论文发表时间】2009-05-04 00:00:00
【引文索引类型】SCI
【引文索引号】null
【学科分类】水产养殖学

【题目】Effect of yeast polysaccharide on the immune function of juvenile sea cucumber, Apostichopus japonicus Selenka under pH stress
【中文关键词】null
【英文关键词】Apostichopus japonicus Yeast polysaccharide pH stress Immune function
【中文摘要】无
【英文摘要】In the present study, we evaluated the effect of yeast polysaccharide (YSP) onthe immune function of Apostichopus japonicus at different pH levels. Juvenile seacucumbers were fed artificial feed containing 0.5% YSP. Phagocytic activity and activityof lysozyme (LSZ), acid phosphatase (ACP) and alkaline phosphatase (ALP) were measuredunder pH stress after 24 h. The results showed that the phagocytic index, the activityof LSZ and ACP in the intestines increased at pH 10.0, and ACP activity in the body walldecreased. The phagocytic rate and ALP activity in the intestines were not different fromthe control group. The phagocytic index was also not different from the control group atpH 5.5. The activity of LSZ and ACP in the intestines and the activity of ALP

increased,while the activity of ACP in the body wall decreased. The phagocytic rate of YSP groupincreased and the phagocytic rate of control group decreased. Thus, this study indicatedthat YSP can modulate the non-specific immunity of A. japonicus, and the reasonable doseof YSP might be used as the immunostimulants in sea cucumbers farming under pH stress.
【语种】英文
【第一作者】Wen Zhao
【通讯作者】Wen Zhao
【期刊名称、卷期、页码】Aquaculture International,2010,18(5):777-786
【论文发表时间】2009-11-24 00:00:00
【引文索引类型】SCI
【引文索引号】null
【学科分类】水产养殖学

【题目】Role of animal pole protuberance and microtubules during meiosis in sea cucumber Apostichopus japonicus oocytes
【中文关键词】null
【英文关键词】Apostichopus japonicus; oocyte protuberance; oocyte maturation; microtubule organizing center; polar body formation
【中文摘要】无
【英文摘要】Fully grown oocytes of Apostichopus japonicus have a cytoplasmic protuberance where theoocyte attaches to the follicle. The protuberance and the oolamina located on the opposite side of theoocyte indicate the animal-vegetal axis. Two pre-meiotic centrosomes are anchored to the protuberance bymicrotubules between centrosomes and protuberance. After meiosis reinitiation induced by DTT solution,the germinal vesicle (GV) migrates towards the protuberance. The GV breaks down after it migrates to theoocyte membrane on the protuberance side. The protuberance then contracts back into the oocyte and thefirst polar body extrudes from the site of the former protuberance. The second polar body forms beneaththe first. Thus the oocyte protuberance indicates the presumptive animal pole well before maturation ofthe oocyte.
【语种】英文
【第一作者】PANG Zhenguo
【通讯作者】CHANG Yaqing
【期刊名称、卷期、页码】Chinese Journal of Oceanology and Limunology 2010,28(3): 533-541
【论文发表时间】2009-01-01 00:00:00
【引文索引类型】SCI
【引文索引号】null
【学科分类】水产养殖学

【题目】The influence of water temperature and ration on the growth, body composition and energy budget of tongue sole (Cynoglossus semilaevis)
【中文关键词】null
【英文关键词】Temperature
Ration
Growth
Body composition
Energy budget
Cynoglossus semilaevis
【中文摘要】无
【英文摘要】The influence ofwater temperatures (16, 22 and 28 ° C) and ration levels (0%, 25%, 50%, 75% and 100% of satiation)on the growth, body composition and energy budget in juvenile tongue sole (Cynoglossus semilaevis) wasinvestigated over 60 days. The specificgrowthratesof fish increased with increasing ration levels. Fish fed to 100%satiation at 22 ° C exhibited better growth than other treatments. The relationship among SGRw, SGRe,temperature (T) and ration (RLw, inweight and RLe, in energy) could be described by the regression equations:SGRw=20.778 log(RLw+5) − 0.0767T − 13.628, SGRe=11.016 log(RLe+5) − 0.152T − 6.730. The maintenanceration levels were 0.19%, 0.46% and 0.74% of body weight, while 1.79%, 3.21% and 4.94% of body energy at16, 22 and 28 ° C, respectively. Ration level from50% to 100% satiation did not influence food conversion efficiency.There is no significant

difference in apparent digestion rate between fish fed to 75% and 100% satiation. Thecontent of lipid in fish tended to increase with increasing ration levels, while tended to decreasewith increasingwater temperature. The crude protein content in fish tended to decrease with increasing ration levels at lowtemperature (16 ° C),while tended to increase at high temperature (22 and 28 ° C). The proportion of food energyassimilated in growth and the proportion consumed for respiration dominated the mode of the energy allocationof juvenile tongue sole. In the temperature range of this experiment, the proportion of food energy allocated togrowth decreased with increasing temperature, and was not affected significantly by ration level from 50% to100% satiation at the same temperature. The proportion of food energy consumed for respiration decreased withincreasing ration, while increased with increasing temperature. The maximum specific growth rate occurred infish fed to satiation at 22 ° C,which suggested that commercial farmers could feed juvenile tongue sole to satiationat 22 ° C to obtain higher growth rate.

【语种】英文
【第一作者】Jinghui Fang
【通讯作者】Xiangli Tian
【期刊名称、卷期、页码】Aquaculture, 2010, 299: 106-114
【论文发表时间】2009-11-29 00:00:00
【引文索引类型】SCI
【引文索引号】null
【学科分类】水产养殖学

【题目】Sedimentation and sediment characteristics in sea cucumber Apostichopus japonicus (Selenka) culture ponds
【中文关键词】null
【英文关键词】sea cucumber, ponds, sedimentation,
sediment, chlorophyll, pheophytin, POC, PON,TP
【中文摘要】无
【英文摘要】Annual sedimentation, re-suspension rates and contentsof particulate organic carbon (POC), particulateorganic nitrogen (PON) and total phosphorus (TP) inthe sediment were investigated in two sea cucumberculture ponds at Rongcheng, Shandong Province,China. The results showed that the average £ ux of totalparticulatematter inthe pondswas 22.1gm2 d 1.The average re-suspension rate of the sediment in theponds was 81.7%. The re-suspension rates in springand autumn were higher than those in summer andwinter.The mean contents of POC, PONandTP in thesediment of the ponds were 4.4,0.5 and 0.6 (mg g 1),respectively, and the mean contents of Chlorophyll a(Chl a) and pheophytin in the sediment were 8.1and12.1 mgg 1 respectively. The POC, PON and TP contentsin the sediment of the ponds increased duringthe period of sea cucumber aestivation (summer)and hibernation (winter), while they decreased duringthe feeding periods. The organic matter accumulationrate and the contents of POC, PON, TP, Chl aand pheophytin in the sediment were even lowerthan those in the pond without sea cucumber(Po0.05). The results demonstrated that sea cucumberculture can e ¡ ectively stop nutrient accumulationat the bottomof the cucumber culture ponds.
【语种】英文
【第一作者】Yichao Ren
【通讯作者】Shuanglin Dong
【期刊名称、卷期、页码】Aquaculture Research, 2010, 42: 14-21
【论文发表时间】2010-11-15 00:00:00
【引文索引类型】SCI
【引文索引号】null
【学科分类】水产养殖学

【题目】Intra-specific effects of sea cucumber (Apostichopus japonicus) with reference to stocking density and body size
【中文关键词】null
【英文关键词】sea cucumber, Apostichopus japonicus,
stocking density, body size, growth, energetics
【中文摘要】无
【英文摘要】The present studies deal with the intra-speci ¢ c e ¡ ectsof sea cucumber Apostichopus japonicus with unlimitedfood resources, especially the e ¡ ects of stockingdensity on growth variation of the animal and energeticchanges of small individuals under the stress oflarge individuals. The results showed that with theinitial body weight of 5.12 0.09^6.11 0.26 g ofsea cucumber among

the densities of 5,10, 20,30, 40and 50 ind./100 L, the density of 20 ind./100 L wasthe optimum stocking density because of its highestspeci ¢ c growth rate, crude protein content and crudelipid content in tissue. Individual growth variation ofA. japonicus increased with the increase of stockingdensities, whereas no signi ¢ cant di ¡ erences in variationwere found when the density was over 30 ind./100 L (P40.05). The low-weight individuals underthe stress of heavy-weight individuals exhibited obviouschanges in energetics, such as lower ingestionrate, lower energy deposited as growth but higher respirationand excretion.The coe ／ cient of variation ingrowth of the animals was over 70% due to the simultaneousaction of aggression and maybe a factorof chemical mediator, and led to signi ¢ cant changesin the energetics of small-sized individuals.

【语种】英文
【第一作者】Shuanglin Dong
【通讯作者】Shuanglin Dong
【期刊名称、卷期、页码】Aquaculture Research,
【论文发表时间】2009-11-15 00:00:00
【引文索引类型】SCI
【引文索引号】null
【学科分类】水产养殖学

【题目】Genetic variability analysis in five populations of the sea cucumber Stichopus (Apostichopus) japonicus from China, Russia, South Korea and Japan as revealed by microsatellite markers
【中文关键词】null
【英文关键词】Genetic structure; microsatellite; populations;
Stichopus japonicus
【中文摘要】无
【英文摘要】The genetic structure of populations of the sea cucumber Stichopus (Apostichopus)japonicus was investigated using 10 microsatellite markers. In all, 152individuals from five natural populations were collected from Aomori, Japan(JA and JR), Yosu, South Korea (KY), Dalian, China (CD) and Vladivostock,Russia (RV). A total of 145 alleles were found at 10 loci. The number of allelesper locus ranged from 9 at PSC03 to 20 at SCZ06, with an average of 14.5.Average Ho and He ranged from 0.260 (JR) to 0.434 (JA) and from 0.654(RV) to 0.778 (KY), respectively. No significant differences at A, Ho and Hewere found, indicating similar genetic diversity in the five populations. A singleallele was found at the PSC05 locus in the RV population. Of the 50 loci,42 significantly deviated from Hardy – Weinberg equilibrium, all showing heterozygotedeficiency. The genetic distances were all relatively great, rangingfrom 0.497 (between JA and KY) to 1.029 (between KY and JR). This suggeststhe five populations are genetically distinct. Cluster analysis indicated that JA,KY and CD form one branch and RV and JR another in the UPGMA tree. Ahypothesis is proposed for the evolution of the Japanese red sea cucumbersand the genetic relationship among the populations.
【语种】英文
【第一作者】Yaqing Chang
【通讯作者】Yaqing Chang
【期刊名称、卷期、页码】Marine Ecology
【论文发表时间】2009-03-04 00:00:00
【引文索引类型】SCI
【引文索引号】null
【学科分类】水产养殖学

【题目】Difference in Thermotolerance Between Green and Red Color Variants of the Japanese Sea Cucumber, Apostichopus japonicus Selenka: Hsp70 and Heat-Hardening Effect
【中文关键词】null
【英文关键词】null
【中文摘要】无
【英文摘要】We studied thermal tolerance limits, heat-hardening,and Hsp70 to elucidate the difference in thermotolerancebetween two color variants of the sea cucumberApostichopus japonicus. Green and Red variants occupydifferent habitats and have different aestivation responses tohigh temperature in summer. In the absence of heat-hardening,the variants showed no difference in the temperatureat which 50% of the individuals died: Green, 31.49 ° C; Red,31.39 ° C. However, Green specimens acquired higher

thermotolerancethan Red after a prior sublethal heat exposure.After 72 h of recovery from a heat-hardening treatment(30 ° C for 2 h), the survival of Green variants was more than50% and that of Red was less than 5% when they weretreated at 33 ° C for 2 h. Levels of mRNA and protein forHsp70 were significantly higher in Green than Red after theheat shock of 30 ° C, and the stability of hsp70 mRNA ofGreen was significantly higher than that of Red. Our findingssuggest that within the same species, different variantsthat have similar thermal limits in the absence of heathardeningcan acquire different thermotolerances after aprior sublethal heat shock. The difference in induced thermotolerancebetween Green and Red is closely related to theexpression pattern of Hsp70, which was partly governed bythe stability of hsp70 mRNA.

【语种】英文
【第一作者】YUN-WEI DONG
【通讯作者】YUN-WEI DONG
【期刊名称、卷期、页码】BIOLOGICAL BULLETIN, 2010, 218: 87-94
【论文发表时间】2009-10-21 00:00:00
【引文索引类型】SCI
【引文索引号】null
【学科分类】水产养殖学

【题目】Comparative mitochondrial genomics within sea cucumber (Apostichopus japonicus):Provide new insights into relationships among color variants
【中文关键词】null
【英文关键词】Apostichopus japonicus
Mitochondrial DNA
Color variants
Sea cucumber
【中文摘要】无
【英文摘要】To investigate genetic relationships among three color variants (Red, Green and Black) of sea cucumberApostichopus japonicus, complete mitochondrial (mt) genomes of two Red and one Green individuals of A.japonicus were sequenced and compared with those of other eight individuals (two Red, two Black and fourGreen) from GenBank. All the eleven A. japonicus mitogenomes share an identical gene complement,consisting of 13 protein-coding genes, 22 tRNA genes and 2 rRNA genes, arranged in the same order.Comparative genomic analyses reveal that non-coding intergenic regions have the highest mutation rate(7.36% of sites were variable), while tRNA genes have the lowest mutation rates (0.99%). Three hundred andeighty-six single-nucleotide polymorphism sites are observed in protein-coding genes across the eleven mtsequences. The overall mean genetic distance for the complete mtDNA of the eleven individuals is 0.76% (pdistance).For all protein-coding genes, the pairwise p-distances among the eleven A. japonicus range from0.04% to 1.55%. As the consequences of extremely low levels of divergence, they strongly support that the assertion that the three color variants of sea cucumber belong to a single species A. japonicus.
【语种】英文
【第一作者】Xiu-Jun Sun
【通讯作者】Qi Li
【期刊名称、卷期、页码】AQUACULTURE, 2010, 309: 280-285
【论文发表时间】2010-08-01 00:00:00
【引文索引类型】SCI
【引文索引号】null
【学科分类】水产养殖学

【题目】Effects of Environmental Factors on Larval Settlement of Sea Cucumber, Apostichopus japonicus (Selenka)
【中文关键词】null
【英文关键词】null
【中文摘要】无
【英文摘要】In this study, a series of experiments wereconducted to evaluate the influence of environmental factorson larval settlement of sea cucumber, Apostichopus japonicus(Selenka). These experiments examined the followingfactors: temperature (18, 21, 24, and 27 C), salinity (20,25, 30, and 35 ppt), and diet supply (micro-algae, macroalgae,sea mud, and a mixture of macro-algae and sea

mud).Results indicated that larval settlements were significantlydifferent among different temperatures, salinities, and dietsupplies (P <0.001). Lower temperature between 18 and21 C and a salinity of 30 ppt were the optimum for larvalsettlement of A. japonicus. The sediments (macro-algaeand sea mud) replaced micro-algae as a food source for thenewly settled juveniles with an increase in metamorphosisand early settlement.

【语种】英文

【第一作者】Li Li

【通讯作者】Qi Li

【期刊名称、卷期、页码】Journal of the World Aquaculture Society, 2010, in press.

【论文发表时间】2010-12-15 00:00:00

【引文索引类型】SCI

【引文索引号】null

【学科分类】水产养殖学

【题目】Biological characteristics and pathogenicity of a highly pathogenic Shewanella marisflavi infecting sea cucumber,Apostichopus japonicus

【中文关键词】null

【英文关键词】null

【中文摘要】无

【英文摘要】Shewanella marisflavi isolate AP629 is described as anovel pathogen of sea cucumber. The LD50 values(14 days) in sea cucumber, mice and swordtail fishwere 3.89 · 106, 6.80 · 104 and 4.85 · 104 CFUg)1 body weight, respectively. Studies on S. marisflaviwere conducted, including morphology,physiological and biochemical characteristics,haemolysis, whole-cell protein and 16S rDNA genesequence. Colonies of S. marisflavi appeared faintred on marine agar and green on thiosulphate – citrate – bile salt – sucrose media. Shewanella marisflavihad polar flagella. The cells were Gram-negative,oxidase- and catalase-positive and not sensitive to O/129. The bacterium exhibited b-haemolysis onsheep blood agar and produced H2S. Shewanellamarisflavi survived and grew at 4 – 35 C, pH 6.0 – 9.2 and in the presence of 0 – 8% NaCl. The wholecellproteins included 13 discrete bands, andproteins of molecular weight 87, 44 and 39 kDawere found in all five strains of Shewanella spp. Thedifference in 16S rDNA gene sequences in S. marisflaviwas at the 446 bp site: S. marisflavi (KCCM41822) – G, isolate AP629 – A. This is the firstreport that Shewanella is pathogenic to seacucumber.

【语种】中文

【第一作者】H Li

【通讯作者】H Li

【期刊名称、卷期、页码】Journal of Fish Disease, 2010, in press

【论文发表时间】2010-11-15 00:00:00

【引文索引类型】SCI

【引文索引号】null

【学科分类】水产养殖学

【题目】Phenotypic and genetic characterization of bacteria isolated from diseased cultured sea cucumber Apostichopus japonicus in northeastern China

【中文关键词】null

【英文关键词】Sea cucumber · Apostichopus japonicus · Bacterial pathogen · Vibrio splendidus · Shewanella sp. · Pseudoalteromonas tetraodonis

【中文摘要】无

【英文摘要】During the winter – spring from 2004 to 2006 in northeastern China cultured Japanesesea cucumber Apostichopus japonicus suffered from a serious disease. Clinical signs includedswollen mouth, skin ulceration and massive mortality. Clinical samples taken during this period werestudied. Thirty-one bacterial samples were isolated from diseased sea cucumbers and identifiedthrough biochemical tests, 16S rRNA gene sequence analysis and PCR amplification, followed bypathogenicity determination. The results showed that the 31 isolates belonged to the genera Vibrio(64.5%), Shewanella (12.9%), Serratia (12.9%), Pseudoalteromonas (6.4%) and Flavobacterium(3.2%). The 3 prominent strains were Vibrio splendidus (41.9%), Shewanella (12.9%) and Serratiaodorifera biogroup I (12.9%). Pathogenicity tests demonstrated that 13 out of 31 isolates were pathogenic,including 8 strains of V. splendidus, 3 strains of Shewanella sp. and 2 strains of Pseudoalteromonastetraodonis. The pathogenic V. splendidus showed the highest frequency of

appearance.Median lethal dose (LD50) values (14 d) of V. splendidus, Shewanella sp. and P. tetraodonis were 1.74× 107, 7.76 × 106, 7.24 × 107 CFU g − 1 body weight of sea cucumber, respectively. The virulences differedby species: Shewanella sp. > V. splendidus > P. tetraodonis. This is the first report of Shewanellasp. virulence in sea cucumber.
【语种】英文
【第一作者】Hua Li
【通讯作者】Soo-Il Park
【期刊名称、卷期、页码】Disease of Aquatic organisms, 2010, in press
【论文发表时间】2010-09-17 00:00:00
【引文索引类型】SCI
【引文索引号】null
【学科分类】水产养殖学

【题目】Production, characterization and application of monoclonal antibody to spherulocytes: A subpopulation of coelomocytes of Apostichopus japonicus
【中文关键词】null
【英文关键词】Apostichopus japonicus
Coelomocyte
Spherulocyte
Monoclonal antibody
【中文摘要】无
【英文摘要】One monoclonal antibody (mAb 3F6) against coelomocytes of sea cucumber Apostichopus japonicus wasdeveloped by immunization of Balb/C mice. Analyzed by indirect immunofluorescence assay test (IIFAT),immunocytochemical assay (ICA),Western blotting and fluorescenceactivated cell sorter (FACS), mAb 3F6showed specific for spherulocytes of A. japonicus. The mAb 3F6 recognized an antigen of molecular weight136 kDa in Western blotting. Isotype analysis revealed mAb 3F6 as IgG type. The flow cytometry assayconfirmed the microscopy observations and showed coelomocytes positive to mAb 3F6. The antigencity ofhaemocytes or coelomocytes of Hemicentrotus pulcherrimus, Scapharca subcrenata, Asterina pectinifera,Asterias rollestoni, Ruditapes philipinarum, Patinopecten yessoensis and Mytilus eduliswas compared and theresult showed that none of them was positive with mAb 3F6. Most of cells free in polian vesicle werepositive with mAb 3F6. The positive cells are in spherical shape, 5e7 mmin diameter, smaller than coelomicspherulocytes of A. japonicus. The result of immunofluorescent staining with cells in hemal vessel showedthat there were strong positive signals on cytoplasm of some spherical cells with diameter of 7e8 mm.Some other cells with higher nucelo-plasmic ratio, about 5e6 mm in diameter showed weak positivesignals on membrane. Immunohistochemistry assay revealed that positive signals were mostly observedin the lumen structure of rete mirabile and haemocoel of the respiratory tree. In addition, the outerepidermis of body wall and tentacle also showed positive
【语种】英文
【第一作者】Qiang Li
【通讯作者】Hua Li
【期刊名称、卷期、页码】Fish & Shellfish Immunology, 2010, in press
【论文发表时间】2010-07-24 00:00:00
【引文索引类型】SCI
【引文索引号】null
【学科分类】水产养殖学

【题目】Comparative study on thermotolerance of Artemia resting eggs from Qinghai – Xizang Plateau, China
【中文关键词】null
【英文关键词】Artemia resting eggs
Biochemical composition
Outer cuticular membrane (OCM)
Permeability
Thermotolerance
Water content

【中文摘要】无
【英文摘要】Artemia resting eggs are well-known to be extremely tolerant to harsh conditions. However, eggs from somehypersaline waters in Qinghai – Xizang Plateau (Q-XP) have recently been reported to be very sensitive tohigh temperatures. Thus, the thermotolerant capacity of Artemia eggs from four hypersaline waters [(Gai Hai(GH), Aqqikkol Hu (AQK), Xizang (XZ), Jingyu Hu (JYH)] in Q-XP were studied by comparing their structure,biochemical composition and physiology. Thermotolerance was markedly different among eggs of the foursites. GH eggs were found to be more thermotolerant than AQK eggs. Both eggs were much more tolerantthan those from JYH and XZ. Water content had significant effect on heat resistance of “ dry ” eggs. Rate ofwater loss of GH eggs was markedly slower than that of AQK eggs; the latter slower than XZ and JYH eggs.The water loss from inner embryo (and the first embryonic cuticle) appeared not to be related to the natureof the tertiary envelope. Volatile factor(s) releasing from (or/and entering into) the eggs might play crucialrole on the viability of encysted embryos under thermal stress. The thermotolerant capacity of Artemia eggsis likely to be negatively related to the permeability of egg shell/underlying membranes. The hypoplasticouter cuticular membrane (OCM) found in some eggs from Q-XP might be responsible for their thermalsensitivity.
【语种】英文
【第一作者】Su-Feng Wang
【通讯作者】Shi-Chun Sun
【期刊名称、卷期、页码】AQUACULTURE, 2010, 307: 141-149
【论文发表时间】2010-07-08 00:00:00
【引文索引类型】SCI
【引文索引号】null
【学科分类】水产养殖学

【题目】Effects of light intensity on daily activity rhythm of juvenile sea cucumber, Apostichopus japonicus (Selenka)
【中文关键词】null
【英文关键词】Apostichopus japonicus, daily behaviour,
light, sea cucumber
【中文摘要】无
【英文摘要】Eight light-intensity treatments (natural light, continuousdarkness, and 15, 30, 60,125, 250 and 500 lxunder LD12:12 cycle) were used to investigate the effectsof light intensity on the daily activity of30.27 3.08 g sea cucumber Apostichopus japonicus(Selenka). Cyclic nocturnal activity patterns of behaviourwere observed at di ¡ erent light intensities inthe range of 15^500 lx under LD 12:12 cycle. And anongoing nocturnal cycle persisted in DD cycle for upto 8 days, but longer feeding time and less markedrhythm occurred at continuous darkness. Underpoor light conditions (Io5.18 lx), the daily activityrhythm of A. japonicus was governed by an innatebiological clock and the e ¡ ect of light intensity wasnot signi ¢ cant among di ¡ erent treatments. Andmoreindividuals tended to retreat to shelters (from 56.04%to 91.83%) with the increase of light intensity withinthe weak light condition (from 5.18 to 278 lx). However,the daily behaviours of A. japonicus were in £ uencedunder strong light conditions (4278 lx). Lessthan 8.17% individuals kept actively feeding and theproportion was not decreased with the increase oflight intensity
【语种】英文
【第一作者】Guancang Dong
【通讯作者】Shuanglin Dong
【期刊名称、卷期、页码】AQUACULTURE RESEARCH, 2010, 41: 1640-1647
【论文发表时间】2010-11-15 00:00:00
【引文索引类型】SCI
【引文索引号】null
【学科分类】水产养殖学

【题目】Effects of starvation and recovery on the growth, metabolism and energy budget of juvenile tongue sole (Cynoglossus semilaevis)
【中文关键词】null
【英文关键词】Cynoglossus semilaevis
Growth
Body composition

Metabolism
Energy budget
【中文摘要】无
【英文摘要】The effects of starvation and re-feeding on compensatory growth, body composition, metabolism and energybudget were examined in juvenile tongue sole, Cynoglossus semilaevis, at 22 ° C for 64 days. Fish were dividedinto six groups including control group (continuously fed ad libitum group, C), starvation group (S0) and otherfour groups with food deprivation for 4 days (S1), 8 days (S2), 16 days (S3) and 32 days (S4), respectively.Fish in S1, S2, S3 and S4 resumed feeding after the corresponding starvation period. At the end of theexperiment, the weight of S1 fish was highest but not significantly different with that of the control fish(PN0.05), indicating complete compensatory growth occurred. Although the specific growth rate in S2, S3 andS4 fish was greater than that in the control fish after re-feeding, S2, S3 and S4 fish did not reach the same bodyweight of the control fish at the end. Food conversion efficiency of tongue sole was significantly higher in S1than that in the control fish (Pb0.05). The feeding rate and apparent digestion in S2, S3 and S4 fish weresignificantly higher than those in the control fish, while no significant difference was found between S1 andthe control fish. There was no significant difference among S1, S2 and C in the content of moisture, lipid,protein, ash and energy (PN0.05) at the end of the experiment. Upon re-feeding, metabolic rates of juveniletongue sole increased rapidly except a time lag in nitrogen excretion for the fish starved for 32 days, and thepeaks of these increases were directly proportional to the length of the starvation period. Estimated to energybudget during the period of the experiment, S1 fish exhibited significantly higher proportion of food energyassimilated in growth and lower proportion consumed for respiration than the control fish (Pb0.05). Based onthe results of the present study, the underlying mechanisms for complete compensatory growth in juveniletongue sole could be attributed to an improved energetic efficiency resulting from reduced metabolicexpenditure during the period of recovery.
【语种】英文
【第一作者】Xiangli Tian
【通讯作者】Xiangli Tian
【期刊名称、卷期、页码】AQUACULTURE, 2010, 310: 122-129
【论文发表时间】2010-10-13 00:00:00
【引文索引类型】SCI
【引文索引号】null
【学科分类】水产养殖学

【题目】Identification of the pathogens associated with skin ulceration and peristome tumescence in cultured sea cucumbers Apostichopus japonicus (Selenka)
【中文关键词】null
【英文关键词】Apostichopus japonicus
Bacterial isolation and identification
Virus
Experimental infection
【中文摘要】无
【英文摘要】The aquaculture of sea cucumbers Apostichopus japonicus (Selenka) has developed rapidly in China inrecent years, but is increasingly affected by diseases such as skin ulceration and peristome tumescence.Previous studies on the pathogens causing these diseases focused largely on bacterial causes. In December2008, we isolated four dominant bacterial species from lesions present in A. japonicus with the aforementioneddiseases, from a farm in Yangkou (Qingdao, China). With two of these bacterial species,experimental infection of healthy A. japonicus resulted in the same disease symptoms that occurred innaturally infected A. japonicus. These two species were identified as Pseudoalteromonas sp. and Pseudoalteromonastetraodonis. The early symptoms of infection for these bacterial species were ulcer spots on thedorsal skin and abdominal parapodia, followed by an increase in the number of ulcer spots or their merginginto larger spots. Additionally, we isolated a spherical virus 100 – 250 nm in diameter and with abilayer capsule, from A. japonicus with another disease from four different farms. By experimental infectionwith crude extracts of the virus, healthy laboratory-acclimatized A. japonicus developed the samesymptoms as in natural infected cases. The early symptoms of viral infection comprised a decrease in tentacleactivity, decay of dorsal papillate podia, peristome tumescence and abdominal ulceration. Our studydemonstrates that the bacteria and virus were both responsible for skin ulceration and peristome tumes tumescencein A. japonicus, but resulted in different early disease symptoms
【语种】英文

【第一作者】Hongzhan Liu
【通讯作者】Fengrong Zheng
【期刊名称、卷期、页码】Journal of Invertebrate Pathology,2010, in press
【论文发表时间】2010-06-01 00:00:00
【引文索引类型】SCI
【引文索引号】null
【学科分类】水产养殖学

【题目】粗缩病对夏玉米产量和植株性状的影响
【中文关键词】夏玉米; 种植方式; 粗缩病; 产量; 植株特性
【英文关键词】Summer maize; Planting method; Rough dwarf disease; Yield; Plant characteristics
【中文摘要】在山东省4个不同生态区域调查了玉米粗缩病发病率,并研究了粗缩病对玉米植株特性的影响。结果表明,适当推迟玉米播期(采用直播方式)可以有效降低粗缩病的发病率,4个生态区发病率平均降低84.1%。不同感病程度的玉米干物质积累显著减少,中等和严重感病玉米单株子粒产量分别降低了66.8%和100%。玉米植株感病后叶片叶绿素a、叶绿素b和类胡萝卜素含量显著降低,其中对叶绿素a和叶绿素b的影响更显著,科多4号、郑单958、超试1号和郑单21严重感病植株叶片的叶绿素a和叶绿素b的含量较正常植株分别降低了13.4%、58.4%、62.5%、27.8%和17.4%、72.2%、77.4%、41.4%;株高、叶面积显著降低,茎粗减小,比叶重无显著变化。
【英文摘要】An experiment was conducted to research the morbidity of maize rough dwarf disease in different planting methods and study the effects of maize rough dwarf disease on the plant physiological characteristics in four ecological regions of Shandong province.The results showed that it could decrease morbidity of maize rough dwarf disease efficiently to postpone seedling stage and adopt direct seeding.The morbidity decreased 84.1% on the average in four ecological regions.With different serious degree,plant dry ...
【语种】中文
【第一作者】吕鹏
【通讯作者】张吉旺
【期刊名称、卷期、页码】玉米科学,2010,18(2):113-116
【论文发表时间】2010-02-04 00:00:00
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【引文索引号】null
【学科分类】农艺学

【题目】高产玉米叶片冗余及其对产量和光合特性的影响
【中文关键词】高产玉米; 叶片冗余; 产量; 光合特性
【英文关键词】high-yielding maize; leaf redundancy; yield; photosynthesis
【中文摘要】为探明高产玉米群体是否存在叶片冗余现象,根据2007年15000株.hm-2密度下的产量结果,筛选出低密度条件下的冗余类型(超试1号)和非冗余类型(超试3号),2008年将两品种在各自最适密度的高产条件下进行开花期整株剪叶1/2(T1)和1/4(T2)处理,以其地上部干物质积累量和籽粒产量的变化来证实叶片冗余现象的存在;以Richards模型拟合籽粒灌浆过程;以穗位叶光合特征参数和叶绿素荧光参数来评价去除冗余叶片后光合生理特性的变化.结果表明:不同冗余类型的两个玉米品种,在最适密度的高产条件下都存在叶片冗余现象;适当去除玉米群体冗余叶片可以延长植株活跃灌浆时间,有利于获得较高籽粒产量;去除冗余叶片提高了玉米穗位叶净光合速率和光能利用效率.
【英文摘要】According to the maize yield at plant density of 15000 ind · hm-2 in 2007,the leaf-redundant type(cultivar Chaoshi 1)and non-redundant type(cultivar Chaoshi 3)at low plant density were selected,and the changes of their above-ground dry matter accumulation and grain yield after cutting all leaves to 1/2(T_1)and 1/4(T_2)at anthesis at the optimal density and under high-yielding condition were analyzed in 2008,aimed to approach whether the leaf redundancy exists in high-yielding maize colonies.The characters of ...
【语种】中文
【第一作者】郝梦波
【通讯作者】董树亭
【期刊名称、卷期、页码】应用生态学报,2010,21(2):344-350
【论文发表时间】2010-02-04 00:00:00

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【引文索引号】null
【学科分类】农艺学

【题目】减源对超高产夏玉米物质积累及氮素利用的影响
【中文关键词】减源; 夏玉米; 物质积累; 氮素利用
【英文关键词】Leaf-cutting; Summer maize; Matter accumulation; Nitrogen utilization
【中文摘要】通过不同减源处理,研究了在超高产条件下减源对夏玉米物质积累和氮素利用的影响。结果表明:在超高产条件下剪叶1/4和1/2后地上部生物量和籽粒产量未出现显著性下降;减源后玉米植株对氮素的积累量增加;超高产条件下剪叶1/4和1/2都可以提高氮素收获指数,且随剪叶程度加大,氮素收获指数呈现升高的趋势。选育高产条件下叶面积相对小的高产夏玉米品种,是解决高产条件下氮素利用率低的有效途径。
【英文摘要】The effects of different leaf-cutting treatments on the matter accumulation and nitrogen utilization of the super-high-yielding summer maize were studied.The results showed that under the condition of super high yield,the above-ground biomass and the grain yield did not reduce significantly after cutting 1/4 and 1/2 of the leaf.The nitrogen accumulation of maize plants increased after leaf-cutting.The treatments of cutting 1/4 or 1/2 leaf could improve the nitrogen harvest index;with the increase of leaf cu...
【语种】中文
【第一作者】郝梦波
【通讯作者】董树亭
【期刊名称、卷期、页码】山东农业科学,2009, 8: 34-36
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【引文索引号】null
【学科分类】农艺学

【题目】IGF binding protein 1 is correlated with hypoxia-induced growth reduce and developmental defects in grass carp (Ctenopharyngodon idellus) embryos
【中文关键词】草鱼;IGFBP1;高表达;低氧;胚胎发育
【英文关键词】Ctenopharyngodon idellus ;IGFBP1 ;Overexpression ;Hypoxia ;Embryo development
【中文摘要】在硬骨鱼中低氧的影响对于胚胎发育的细胞的分子机制报道很少,然而在斑马鱼中低氧对胚胎生长和发育已有报道。本研究中我们发现低氧对草鱼胚胎的增长和延迟有重要影响。将不同发育阶段的胚胎至于低氧条件下,诱导胰岛素生长因子结合蛋白1的mRNA强烈表达,一种抑制蛋白与IGF结合抑制其表达。进一步的功能分析结果为这个假设提供了支持,IGFBP1在调停低氧诱导的生长和发育缺陷方面起重要作用。IGFBP1的高表达在一定程度减少了类似缺氧的增长速度。此外,IGFBP1的高表达能够引起在中线形成、体节和后脑结构的缺陷在草鱼胚胎发生阶段。总的来说,我们认为在草鱼中调节低氧诱导的胚胎发育阶段和发育迟缓方面IGFBP1起到了重要作用。
【英文摘要】The effects of hypoxia on embryonic development and the underlying cellular and molecular mechanisms are poorly understood in teleost fish, although the hypoxic effects on embryonic growth and development have been reported in the zebrafish model. Here, we found that hypoxia caused significant developmental delay and growth retardation during grass carp embryogenesis. Placing the embryos in hypoxic conditions at different developmental stages strongly induced the mRNA expression of insulin-like growth factor-binding protein 1 (IGFBP1), an inhibitory protein that binds to IGF and inhibits its subsequent actions in vivo. Further gain-of function analysis results provided strong evidence to support the hypothesis that IGFBP1 plays an important role in mediating hypoxic-induced growth and developmental defects. Overexpression of IGFBP1 mRNA reduced the growth rate to a degree that was similar to hypoxia. Additionally, overexpression of IGFBP1 caused significant developmental defects in the formation of midline, somite and hindbrain structures during grass carp embryogenesis. Taken together, our studies suggest that IGFBP1 plays a key role in mediating these hypoxia-induced embryonic growth retardation and developmental delay in grass carp.
【语种】英文
【第一作者】孙成飞
【通讯作者】邹曙明
【期刊名称、卷期、页码】General and Comparative Endocrinology;172(3);409-415
【论文发表时间】2011-07-01 00:00:00

【引文索引类型】SCI
【引文索引号】2.9176200001e+011
【学科分类】水产学基础学科

【题目】HIF-1alpha and -2alpha genes in a hypoxia-sensitive teleost species Megalobrama amblycephala: cDNA cloning, expression and different responses to hypoxia
【中文关键词】武昌鱼;HIF-1α;HIF-2α;缺氧;基因表达
【英文关键词】Megalobrama amblycephala ; HIF-1α ; HIF-2α ; Hypoxia; Gene expression
【中文摘要】低氧转录应答主要由低氧诱导因子α介导,包括HIF-1α, -2α和-3α。在鱼类中HIF-α的分子结构,表达特性和低氧调节目前还不清楚,我们鉴定了低氧敏感武昌鱼的HIF-1α, HIF-2αcDNA全长,HIF-1αcDNA全长是3815 bp包含编码774个氨基酸残基开放的阅读框。HIF-2αcDNA全长是3121 bp包含编码835个氨基酸残基的开放阅读框。武昌鱼的HIF-1α和HIF-2α亚基在DNA在二级结构域有相似性,但是在反式激活结构域上不同。在成年鱼中,在含氧量正常的条件下HIF-1α和HIF-2α的mRNAs在各个组织中都能检测到。HIF-1α的mRNA在肝、鳃、精子中高量表达,HIF-2α的mRNA在武昌鱼的大部分组织中都表达丰富。HIF-1α和HIF-2α的mRNAs在胚胎的各个阶段都能检测到,显示出无处不在。与HIF-1α相比,HIF-2α的mRNA水平在不同时期上下波动,而且在受精后的8-、28-48、52-小时高量表达。在低氧处理期间,HIF-2α的mRNA显著上升,在肝内上升了910%,在肾内上升了320%,而在相应组织内HIF-1α的mRNA则无明显变化。结果表明武昌鱼的HIF-1α和HIF-2α参与不同的调节在低氧或缺氧条件下。
【英文摘要】Transcriptional responses to hypoxia are primarily mediated by hypoxia-inducible factor (HIF) α subunits, i.e. HIF-1α, -2α and -3α. In fish, the molecular constructions, expression characteristics and hypoxic regulation of HIF-α subunits are still not well known. In this study, we identified the HIF-1α and HIF-2α fulllength cDNAs in a hypoxia-sensitive fish species Wuchang bream, Megalobrama amblycephala. The whole length of HIF-1α cDNA was 3,815 bp, consisting of an open reading frame (ORF) encoding 774 amino acid (aa) residues. The HIF-2α cDNA totaled 3,121-bp including an 835-aa ORF. The Wuchang bream HIF-1α and HIF-2α subunits were structurally similar in the DNA-binding and dimerization domains, but differed in the transactivation domain. In adult fish, both HIF-1α and HIF-2α mRNAs were detected in different tissues under normoxic conditions. HIF-1α mRNA was highly expressed in the liver, gill and testis, whereas HIF-2α mRNA was abundantly expressed in most of the Wuchang bream tissues. Both HIF-1α and HIF-2α mRNAs were detected in all stages of embryogenesis and expressed in a ubiquitous pattern. In contrast to HIF-1α, the mRNA levels of HIF-2α fluctuated in different stages, with higher expression in the zygote, 8-, 28-, 48- and 52-hr post fertilization (hpf) embryos. During hypoxic treatment, the mRNA levels of HIF-2α were significantly (pb0.01) up-regulated to 910% in the liver and 320% in the kidney, whereas no significant changes of HIF-1α mRNA were observed in the corresponding tissues. These results suggest that the Wuchang bream HIF-1α and -2α would be involved in different physiological functions under normoxia and hypoxia situations.
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【第一作者】沈睿杰
【通讯作者】邹曙明
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【引文索引号】2.8238380001e+011
【学科分类】水产学基础学科

【题目】Identification, characterization and functional analysis of a GH-18 chitinase from Streptomyces roseolus
【中文关键词】几丁质酶;GH-18;链霉菌;杀菌活性
【英文关键词】Chitinase; GH-18; Streptomyces; Antifungal activity
【中文摘要】一种来自链霉菌的40 kDa的几丁质酶通过培养基精制提纯。N端序列是TPPPAKAVKLGYFTNWGVYG,有较高的同源性对于链霉菌糖苷水解酶18个保守区域并包含两个重要的色氨酸和酪氨酸位点。纯化酶在温度为60°C、pH值为6.0的条件下表现出良好的活力和pH稳定性。这种酶在胶体和几丁质中显示出严格的底物特异性。它可被Mg2+, Ba2+和Ca2+激活,可被Cu2+, Co2+, Mn2+抑制,Zn2+和乙二胺四乙酸显示出较小的抑制效果。通过扫描电子显微镜观察其形态学变化表明在几丁质酶的变化中其表面出现了常规空隙。此外,GH-18几丁质酶在真菌菌丝的扩展上有显著的抑制作用。因此,几丁质酶在几丁质的降解上有巨大的潜力。

【英文摘要】A 40 kDa chitinase from Streptomyces roseolus DH was purified to homogeneity from culture medium. The N-terminal sequence was TPPPAKAVKLGYFTNWGVYG, which was highly homologous to the glycoside hydrolase (GH) 18 conserved domain of Streptomyces chitinases and included the two crucial Trp and Tyr sites. The purified enzyme showed maximal activity at 60 ◦ C, pH 6.0 and exhibited good thermal and pH stabilities. The enzyme displayed strict substrate specificity on colloidal or glycol chitin, but not on chitosan derivatives. It was activated by Mg2+, Ba2+ and Ca2+, and inhibited by Cu2+, Co2+, Mn2+, whereas Zn2+ and ethylenediamine tetraacetic acid showed little inhibitory effects. Morphological changes observed by scanning electron microscopy revealed the occurrence of regular pores on the surface with the progress of enzymatic chitinolysis. Additionally, this GH-18 chitinase had a marked inhibitory effect on fungal hyphal extensions. In conclusion, this chitinase may have great potential for the enzymatic degradation of chitin.
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【第一作者】蒋霞云
【通讯作者】邹曙明
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【题目】Functional conservation and divergence of duplicated IGF-2 genes in grass carp (Ctenopharyngodon idellus)
【中文关键词】草鱼;igf2;基因复制;功能分析
【英文关键词】Ctenopharyngodon idellus ;igf2 ;Gene duplication ;Functional analysis
【中文摘要】在动物中胰岛素生长因子2(IGF2)是一个有效的促有丝分裂和调控生长、发育、与繁殖的因子。在哺乳动物中只存在一个IGF2基因。最近,在斑马鱼中鉴定出两个igf2基因,推测可能是基因复制所致。然而,复制出的ifg2序列信息和他们的功能作用在其他硬骨鱼中却未曾得知。本研究中,我们鉴定出两种igf2 cDNA在草鱼中。与人类同源的igf2相比,草鱼igf2a 和igf2b mRNAs 编码两个结构不同的IGF多肽。他们两个在胚胎发育的整个时期都能用RT-PCR检测到。在胚胎阶段igf2b mRNAs一直表达,igf2a mRNAs主要在脊索和脑中表达。在成年鱼中,igf2b mRNAs在多处组织中转录,igf2a mRNAs只在肝中发现。注射荷尔蒙后肝中igf2a 和igf2b的转录水平都上调。当禁食和在喂养后肝中igf2a 和igf2b转录水平都明显降低。我们认为复制的igf2基因是进化分歧造成,在调节草鱼生长和发育阶段起到了重叠的作用。
【英文摘要】Insulin-like growth factor 2 (IGF2) is a potent mitogenic and survival factor involved in the regulation of growth, development and reproduction in animals. Only one IGF2 gene exists in mammals. Recently, two igf2 genes have been identified in zebrafish, which presumably resulted from gene duplication. However, sequence information of duplicated igf2s and their functional regulation in other teleost fish is still unknown. Here, we report the identification of two igf2 cDNAs in grass carp, Ctenopharyngodon idellus. Like their human ortholog, grass carp igf2a and igf2b mRNAs encoded two structurally distinct mature IGF peptides. Both of them were detected by RT-PCR throughout embryogenesis. Ubiquitous expression of igf2b mRNAs was observed in embryos, whereas igf2a mRNAs were expressed mainly in the notochord and brain with in situ hybridization. In adult fish, igf2b mRNAs were transcribed in multiple tissues, whereas igf2a mRNAs were detected mainly in the liver. Hepatic levels of igf2a and igf2b transcripts were both up-regulated by growth hormone injection. Furthermore, the levels of hepatic igf2a and igf2b mRNAs decreased significantly during starvation and were rebounded rapidly after re-feeding. Our results suggest that duplicated igf2 genes have evolved divergent yet played an overlapping biological role in regulating grass carp growth and development.
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【第一作者】袁襄南
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【题目】金鱼hAT家族转座子Tgf2的克隆及其结构

【中文关键词】金鱼; hAT 家族; Tgf2 转座子; 转基因; 基因捕获
【英文关键词】Tgf2; goldfish; Carassius auratus; transposon
【中文摘要】hAT 家族转座子以果蝇hobo、玉米Ac 和金鱼草(Ceratophyllum demersum L.) Tam3 为代表, 以“ 剪切-粘帖 ”方式进行DNA 转座。1996 年, 日本学者首次在白化青鳉(Oryzias latipes)中发现具有天然活性的脊椎动物hAT 家族转座子, 即青鳉Tol2 转座子, 该转座子已在模式生物斑马鱼转基因、基因和启动子捕获方面进行了广泛应用。文章根据玉米Ac 与青鳉Tol2 转座子序列保守区设计一对引物, 在19 种不同鱼类物种或品系中进行PCR 筛选, 最后发现此类hAT 家族转座子在我国不同品系金鱼中存在, 命名为金鱼Tgf2 转座子。金鱼Tgf2 转座子全长4 720 bp, 由4 个阅读框组成, 与青鳉Tol2 转座子的相似度为97%。金鱼Tgf2 与青鳉Tol2 转座子在末端倒位重复和亚末端重复上存在一定差异, 此外, 金鱼Tgf2 转座子的中间反向重复序列(1 453 bp 到2 091 bp)可形成一种“ 十 ”字结构, 明显有别于青鳉Tol2 转座子形成的茎环结构, 这些区域与转座活性密切相关。文章预示金鱼Tgf2 转座子可能具有更高的天然转座活性, 构建高效金鱼Tgf2 转基因元件可供鱼类转基因和基因捕获研究。
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【语种】中文
【第一作者】邹曙明
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【题目】Speciation of polyploid Cyprinidae fish of common carp, crucian carp and silver crucian carp derived from duplicated Hox genes
【中文关键词】物种形成;鲤鱼;鲫鱼;银鲫;Hox
【英文关键词】Speciation;Common Carp;Common Carp;Silver Crucian Carp;Hox
【中文摘要】近代在比较基因组学上的研究表明许多特定鱼类的全基因组复制发生在226-316百万年前的鳍刺类鱼。基因组的复制,特别是在鲤科鱼,分歧可能发生在硬骨鱼,但是发生的具体时期不知。为了解决这个问题,我们测定了多倍体鲤科鱼分类单元的四种Hox基因,鲤鱼、鲫鱼、银鲫鱼。并把他们与已知序列的二倍体鲤科鱼作比较。我们的结果显示存在两种不同的Hox基因复制在鲤鱼与鲫鱼基因组中。有三个不同的Hox序列,一个是鲤鱼的直系同源Hox基因,另外两个是鲫鱼的直系同源Hox基因,但他们都与银鲫鱼隔离,表明银鲫鱼可能来自于鲤鱼与鲫鱼的杂种。鲤鱼和鲫鱼共同的祖先基因复制的结果发生在10.9-13.2百万年前。鲤鱼与鲫鱼、鲫鱼与银鲫鱼的物种进化分别发生在8.1-11.4和2.3-3.0百万年前。一些Hox基因编码区的点突变导致了非功能化。因此,结果指明了多样化的多倍体鱼与物种形成的进化模型。
【英文摘要】Recent studies on comparative genomics have suggested that a round of fish-specific whole genome duplication (3R) in ray-finned fishes might have occurred around 226 – 316Mya. Additional genome duplication, specifically in cyprinids, may have occurred more recently after the divergence of the teleosts. The timing of this event, however, is unknown. To address this question, we sequenced four Hox genes from taxa representing the polyploid Cyprinidae fish, common carp (Cyprinus carpio, 2n5100), crucian carp (Carassius auratus auratus, 2n5100), and silver crucian carp (C. auratus gibelio, 2n5156), and then compared them with known sequences from the diploid Cyprinidae fish, blunt snout bream (Megalobrama amblycephala, 2n548). Our results showed the presence of two distinct Hox duplicates in the genomes of common and crucian carp. Three distinct Hox sequences, one of them orthologous to a Hox gene in common carp and the other two orthologous to a Hox gene in crucian carp, were isolated in silver crucian carp, indicating a possible hybrid origin of silver crucian carp from crucian and common carp. The gene duplication resulting in the origin of the common ancestor of common and crucian carp likely occurred around 10.9 – 13.2Mya. The speciations of common vs. crucian carp and silver crucian vs. crucian carp likely occurred around 8.1 – 11.4 and 2.3 – 3.0 Mya, respectively. Finally, nonfunctionalization resulting from point mutations in the coding region is a probable fate for some Hox duplicates. Taken together, these results suggested an evolutionary model for polyploidization in speciation and diversificationof polyploid fish.
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【通讯作者】邹曙明
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【题目】草鱼两个肌肉生长抑制素cDNA 克隆、表达及过量表达对胚胎发育的影响
【中文关键词】草鱼;肌肉生长抑制素;克隆;过表达
【英文关键词】Grass crap; Myostatin(MSTN); Cloning ;Overexpression
【中文摘要】肌肉生长抑制素(MSTN) 是抑制肌肉生长和发育的重要生长调控因子。通过cDNA 末端快速扩增法(RACE) 克隆草鱼MSTN-1 型和MSTN-2 型全长cDNA。RT-PCR 分析结果表明,MSTN-1 在草鱼肌肉、脑和眼中的转录量较高,在肝胰脏、脾脏和心的转录量较低,在肠、腮、性腺和肾中无表达;MSTN-2 只在脑和肌肉中有表达。在草鱼胚胎发育的0 -36 hpf 期间,MSTN-1 的转录量较低; 在胚胎发育的36 -48 hpf 期间,其转录量呈逐渐升高的趋势;MSTN-2 各时相均无表达,可能因为该基因在草鱼胚胎发育过程中不起重要作用。通过分别显微注射MSTN-1 型和MSTN-2 型mRNA 至斑马鱼1 -2 细胞期胚胎。结果显示,注射MSTN-1 型mRNA 过表达可导致斑马鱼体节发生期胚胎的前- 后轴拉长,背- 腹轴变短,脊索轻微扭曲,以及体节发育受到强烈抑制而不分化等现象。注射MSTN-2 型mRNA 胚胎早期发育有所延迟并未发生明显变化,但发育至60 h 之后尾部明显发生严重弯曲。
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【语种】中文
【第一作者】濮剑威
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【题目】草鱼胰岛素样生长因子结合蛋白IGFBP-1基因的全长cDNA克隆及表达
【中文关键词】草鱼; 胰岛素样生长因子结合蛋白1; 全长cDNA; RTPCR
【英文关键词】Ctenopharyngodon idellus; IGFBP-1; full-length cDNA; RT-PCR
【中文摘要】克隆了草鱼(Ctenopharyngodon idellus)胰岛素样生长因子结合蛋白1(IGFBP-1)基因的全长cDNA,并对草鱼不同时期的胚胎和成鱼不同组织进行了RT-PCR 分析,以探索草鱼IGFBP-1 基因的生物学功能。结果显示:(1) 草鱼IGFBP-1 基因cDNA 全长为1 135bp,包含一个789 bp 阅读框,编码262 个氨基酸残基;草鱼与鲤、斑马鱼、沟鲶、大鳞大麻哈鱼、虹鳟、五条　、小鼠和人的IGFBP-1 氨基酸序列相似度分别为94%、93%、69%、60%、58%、56%、40% 和38%;草鱼IGFBP-1 蛋白的N 端和C 端序列负责与胰岛素样生长因子(IGF)结合,其保守性较高。(2)RT-PCR 分析结果表明,草鱼胚胎期IGFBP-1 mRNA 的表达水平很低,在受精后4hrs 和8 hrs 胚胎未能检测到转录本,受精12 hrs 后,仅能检测到微量表达;草鱼IGFBP-1mRNA 在肝脏、肾脏、肠和心脏组织中具有表达活性。鉴于IGFBP-1基因在IGF 信号通路中的重要作用,又是一个低氧诱导基因,上述结果可为进一步探索IGFBP-1 基因的功能奠定基础。
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【第一作者】陶洋
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【题目】外源性红色荧光蛋白基因在转基因唐鱼中的整合分析
【中文关键词】转基因鱼,唐鱼,红色荧光蛋白,整合,侧翼序列

【英文关键词】Transgenic fish, Tanichthys albonubes, Red fluorescent protein, Integration, Flanking sequence
【中文摘要】转红色荧光蛋白(red fluorescent protein, RFP)基因唐鱼(Tanichthys albonubes)的遗传符合孟德尔分离定律,为进一步了解RFP 基因在转基因唐鱼基因组上的整合特点,采用PCR 和Southern 印迹检测转植基因的拷贝数和连接方式。结果表明,转植基因是以单位点、多拷贝(2~3 个拷贝)、头尾相接(head-to-tail)的串联体形式整合。应用基因组步移技术分别克隆出1.0 和1.2 kb 的转植基因整合位点5' 和3' 侧翼区序列。序列分析表明,5' 侧翼区为宿主唐鱼基因组序列,在GenBank 数据库中经BLAST 分析后未发现有同源序列;3'侧翼序列与P1 噬菌体部分基因组序列同源性达到99%,非转基因唐鱼基因组中未检测到该侧翼序列。研究结果为转红色荧光蛋白基因唐鱼的遗传稳定提供了评价依据。
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【题目】Shoaling and mate choice of wild-type Tanichthys albonubes in the presence of the red fluorescent transgenic conspecifics
【中文关键词】体色;鲦鱼;蛋白;性行为
【英文关键词】body colouration; minnow; protein; sexual behaviour
【中文摘要】在实验室条件下,利用红色荧光的转基因同种个体检测白云山鲦鱼(唐鱼属)的浅水和性行为。野生型雌鱼没有显现出特殊的行为,然而野生型雄鱼更倾向于接近转基因鱼而不是野生型鱼。当被放置在一个潜在生殖的环境中,野生型雄鱼比转基因雄鱼的竞争力更大;野生型雌鱼则需要花费更多的时间在视觉介导的实验中,但是野生型雄鱼更倾向于向转基因雌鱼展现求偶的行为。这些结果表明了在野生型和转基因型的唐鱼属之间的浅水行为红体色不能干扰交流信号;转基因雄鱼比野生型雄鱼没有交配优势,但是红体色可能会影响野生型雄鱼的求偶选择。
【英文摘要】Shoaling and sexual behaviour of wild-type male and female white cloud mountain minnow Tanichthys albonubes were measured in the presence of the red fluorescent transgenic conspecifics under laboratory conditions. Wild-type female test fish showed no significant preference, whereas wild-type male test fish preferred to be near a shoal of red transgenic fish rather than wild-type fish. When placed in a potentially reproductive context, wild-type males had a higher competitive ability over transgenic males; wild-type females spent more time with wild-type males in visually mediated experiments, but wild-type males performed more courtship displays towards transgenic females. These results suggest that the red body colouration does not appear to disturb signal communication between wild-type and transgenic T. albonubes in shoaling behaviour; transgenic males have no mating advantage over wild-type males, but the red body colouration of transgenic females may affect mate choice of wild-type males.
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【题目】转红色荧光蛋白基因与野生型唐鱼耐温限度及窒息点的比较研究
【中文关键词】唐鱼; 转基因; 温度; 窒息点
【英文关键词】Tanichthys albonubes; Transgenic; Temperature; Asphyxiation point
【中文摘要】对转红色荧光蛋白基因唐鱼、野生型唐鱼Ⅰ和野生型唐鱼Ⅱ的耐温和耐氧能力进行比较研究。结果表明,在驯化温度为30℃,升温速率为1℃/h 时,3种唐鱼的半致死高温分别为(38.53 ± 0.08) ℃、(38.28 ± 0.29) ℃ 和(38.55 ± 0.09) ℃。在驯化温度为25℃,降温速率为2℃/d 时,3 种唐鱼的半致死低温分别为(1.13 ± 0.40) ℃、(1.26 ± 0.10) ℃ 和(1.21 ± 0.12) ℃;恒温25℃ 时,测定3 种唐鱼的窒息点分别为(0.66 ± 0.02) mg/L、(0.74 ±0.21) mg/L 和(0.51 ± 0.01) mg/L。差异显著性检验表明,3 种唐鱼对温度和溶氧的耐受力无显著性差异(P >0.05)。

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【题目】转红色荧光蛋白基因唐鱼外源基因拷贝数的测定
【中文关键词】唐鱼;实时荧光定量PCR;外源基因;拷贝数
【英文关键词】Tanichthys albonubes; quantitative real-time PCR; exogenous gene; copy number
【中文摘要】目的:测定转红色荧光蛋白基因唐鱼的外源基因拷贝数。方法:以杂合F5代和杂合F6代转红色荧光蛋白基因唐鱼为材料,以其外源插入片段(pDsRed-mylz2)与基因组插入位点5′侧翼区之间的边界序列作为特异性内参片段,同时以外源整合的红色荧光表达载体序列(pDsRed-mylz2)作为目的基因,采用实时荧光定量PCR 技术测定外源基因整合的拷贝数。结果:运用外源基因与特异内参在同批次实时荧光定量PCR 中的初始拷贝数比值,得到杂合F5代和杂合F6代转红色荧光蛋白基因唐鱼中插入的外源红色荧光表达载体序列pDsRed-mylz2 的拷贝数均值均为3。结论:转红色荧光蛋白基因唐鱼的外源基因拷贝数为3。
【英文摘要】无
【语种】中文
【第一作者】樊佳佳
【通讯作者】白俊杰
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【学科分类】水产学基础学科

【题目】食物供应量对转红色荧光蛋白基因唐鱼生存和生长的影响
【中文关键词】转基因鱼,唐鱼,红色荧光蛋白,整合,侧翼序列
【英文关键词】Transgenic fish, Tanichthys albonubes, Red fluorescent protein, Integration, Flanking sequence
【中文摘要】选取雄性杂合子转红色荧光蛋白基因唐鱼(Tanichthys albonubes)(简称:转基因唐鱼)与雌性非转基因唐鱼交配产卵,出膜7d后,在水温(25.0 ±2.0)℃条件下,选择健康仔鱼进行饱食(食物供应量高)、半饥饿(食物供应量中)和饥饿(食物供应量低)3种处理,结果显示:(1)出膜后7~72 d的唐鱼饱食组与半饥饿组死亡率无显著差异(P>0.05),但饥饿组唐鱼死亡率均显著高于饱食组和半饥饿组(P<0.01),表明食物供应量影响唐鱼的生存能力;(2)红色荧光蛋白基因在唐鱼体内表达,肉眼观察,最早出现在出膜后第30天.在出膜后的72 d,对3个处理组中没有表达红色荧光蛋白的唐鱼进行PCR验证,均没检测到沉默表达个体,此时3个处理组转基因唐鱼与非转基因唐鱼数量比均接近1:1,符合经典的孟德尔单显性基因遗传模式,说明食物供应量多寡对转基因唐鱼与非转基因唐鱼生存影响效应是一致的;(3)出膜后28、42、57和72 d,对3个不同处理组的唐鱼幼鱼体长进行比较,结果均是饱食组>半饥饿组>饥饿组,且组间差异显著或极显著(P<0.05或P<0.01).而对72 d唐鱼幼鱼3个处理组内转基因唐鱼和非转基因唐鱼体长进行统计分析表明,3个处理组内转基因唐鱼和非转基因唐鱼体长差异均不显著(P>0.05),表明食物供应量多寡对转基因唐鱼与非转基因唐鱼生长影响效应也是一致的.综上所述,食物供应量对唐鱼生存和生长是有影响的,但对转基因唐鱼和非转基因唐鱼影响效应是一致的,可见转基因唐鱼在食物供应量缺乏条件下并没有生存竞争优势。
【英文摘要】无
【语种】中文
【第一作者】樊佳佳
【通讯作者】白俊杰
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【题目】转红色荧光蛋白唐鱼和野生唐鱼肌肉营养成分比较
【中文关键词】唐鱼; 营养成分; 游离氨基酸; 脂肪酸
【英文关键词】Tanichthys albonubes; nutritional ingred ients; free am ino acid; fatty acid
【中文摘要】对含有外源基因的转红色荧光蛋白基因唐鱼(简称: 转基因唐鱼) 和同胞家系中不含有外源基因唐鱼(简称: 非转基因唐鱼)肌肉中的一般营养成分、游离氨基酸和脂肪酸的组成和含量进行分析和比较。结果表明: 转基因唐鱼肌肉水分、粗蛋白含量和粗灰分含量高于非转基因唐鱼, 粗脂肪含量低于非转基因唐鱼, 但差异均不显著(P > 0. 05) ; 转基因唐鱼和非转基因唐鱼肌肉游离氨基酸总量分别为262. 3 mg /100 g 和492m g /100 g, 其中必需氨基酸分别为161. 6 m g /100 g和314. 8 m g /100 g, 鲜味氨基酸分别为74. 3 mg /100 g 和127. 8 m g /100 g; 按照GC /M S面积归一化法检测转基因唐鱼和非转基因唐鱼肌肉脂肪酸组成及含量, 均检测到28种脂肪酸, 其中饱和脂肪酸分别为29.47%和31. 59%, 单不饱和脂肪酸分别为39. 14%和42. 45%, 多不饱和脂肪酸分别为31. 40%和25. 96%。可见外源红色荧光蛋白基因插入和表达对宿主唐鱼肌肉中一般营养成分、游离氨基酸和脂肪酸组成的影响均不大。
【英文摘要】无
【语种】中文
【第一作者】樊佳佳
【通讯作者】白俊杰
【期刊名称、卷期、页码】海洋渔业;33(1);15-19
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【引文索引号】null
【学科分类】水产学基础学科

【题目】转红色荧光蛋白基因唐鱼的繁育和养殖技术
【中文关键词】红色荧光蛋白;唐鱼;人工繁殖;日常管理
【英文关键词】red fluorescent protein; Tanichthys albonubes; artificial propagation; daily management
【中文摘要】转红色荧光蛋白基因唐鱼(转基因唐鱼)为2003 年中国水产科学研究院珠江水产研究所自主研发的转基因观赏鱼。结合养殖转基因唐鱼的经验,对转基因唐鱼水质条件、营养需求、人工繁殖、受精卵孵化、幼体培育以及日常管理等方面作了详细介绍,旨在为转基因唐鱼的人工繁育和大规模推广提供基础资料。
【英文摘要】无
【语种】中文
【第一作者】樊佳佳
【通讯作者】白俊杰
【期刊名称、卷期、页码】广东农业科学;8;100-115
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【学科分类】水产学基础学科

【题目】利用遥感技术监测水稻群体长势
【中文关键词】水稻;TM影像;抽穗期;长势;监测
【英文关键词】rice, TM image; growth condition; monitoring
【中文摘要】利用TM影像信息结合地面试验数据,分析了水稻抽穗期叶面积指数、生物量以及植株氮素含量三个群体质量指标与植被指数之间的关系,建立了基于归一化植被指数(NDVI)、比值植被指数(RVI)的水稻群体质量指标监测模型。结果表明,NDVI与叶面积指数呈现显著的非线性正相关关系(R2=0.8202),与植株氮素含量呈线性正相关关系(R2=0.6364)。RVI与地上部生物量呈线性正相关关系(R2=0.7676)。因此,在抽穗期可以利用NDVI对叶面积指数和植株氮素含量进行监测,对地上部生物量的监测则以利用RVI数据较好。

【英文摘要】Study on monitoring of rice population growth conditiong using land-sat TM image.
【语种】中文
【第一作者】李卫国
【通讯作者】李卫国
【期刊名称、卷期、页码】江苏农业科学,5: 288-289
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【引文索引号】0
【学科分类】农学其他学科

【题目】冬小麦花期生理形态指标与卫星遥感光谱特征的相关性分析
【中文关键词】冬小麦;花期;长势;生理形态指标;遥感信息;监测
【英文关键词】Winter wheat; Flowering stage; Growth condition; Eco-physiology index; Remote sensing; Monitoring
【中文摘要】为提高冬小麦花期长势遥感监测的精确性与普适性,在集丘陵地、河滩地及平原地为一体的冬小麦种植区域设计了田间试验,利用卫星影像信息结合地面GPS定点试验数据,在分析利用遥感技术监测冬小麦花期LAI和生物量两个主要群体长势指标可行的基础上,对卫星遥感光谱信息与冬小麦花期的主要生理生化指标(叶片叶绿素含量、叶片类胡萝卜素含量、叶片水分含量和叶片氮素含量)进行了综合分析。结果表明,NDVI与LAI、叶片氮素含量和叶片水分含量的相关性较好,RVI与生物量和叶片类胡萝卜素含量的相关性较好,GVI与叶片叶绿素含量的相关性较好,且均到达显著水平。说明NDVI、RVI及GVI是较为理想的可用于监测冬小麦花期生理形态指标的敏感遥感指数。进一步以这些敏感遥感指数作为因变量建立了冬小麦花期生理形态指标的遥感监测模型。利用本模型可以反演多个生理形态指标,便于对冬小麦花期的长势情况进行综合分析与判断。
【英文摘要】Flowering stage is the most impressible stage to soil water and air temperature, in which winter wheat growth condition may greatly affect the formation of grain number and grain weight. To achieve the objective of high yield and good quality, some management measures need to be framed and adopted depending on timely winter wheat growth condition information monitored by remote sensing technology in flowering stage. The field experiments were carried out in Mengzhou county of Henan province, where there are many land types such as upland, bottomland and plain. Using satellite remote sensing images and the experiment data of different sites decided by GPS, this study analyzed the relationships between LAI, plant biomass weight(PBW, kg/hm2) and remote sensing spectral information, confirmed the primary vegetation indexes NDVI and RVI which can be used to monitor dynamic change of LAI and PBW, respectively. In addition, analyzed the correlation between remote sensing spectral information and some eco-physiology indexes such as leaf chlorophyll(LChC, mg/gFW), leaf carotenoids(LCaC, mg/gFW), leaf nitrogen(LNC, %) and leaf water content(LWC, %) of winter wheat in flowering stage. The results indicated that the correlations of NDVI, RVI and GVI to LAI, LNC and LWC, to PBW and LCaC, and to LChC were significant, respectively. NDVI, RVI and GVI were better vegetation indexes used monitoring the eco-physiology indexes of winter wheat on the flowering period. Based on these vegetation indexes, the monitoring models were established for those eco-physiology indexes: LChC = 3.711GVI + 2.686, LCaC = 0.0451RVI + 0.1215, LNC = 5.3263NDVI + 0.3811, LWC = 21.902NDVI + 62.278. Yet, more remote sensing experimental data in different environments are required for wider the model testing.
【语种】中文
【第一作者】李卫国
【通讯作者】王纪华
【期刊名称、卷期、页码】麦类作物学报,29(1): 79-82
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【学科分类】农艺学

【题目】基于优化ISODATA法的冬小麦长势分级监测
【中文关键词】TM影像,非监督分类,长势分级
【英文关键词】TM image; unsuperised classfication; growth condition; winter wheat
【中文摘要】以江苏省姜堰市为例,利用TM卫星遥感技术,监测冬小麦的种植面积与长势情况。在利用GPS实地采样和建立解译标志的基础上,进行影像校正、非监督分类,人机交互式判读解译等操作,并将样点数据校验贯穿到整个分类过程中

,信息解译精度在90%以上。结合NDVI指数反演的叶面积指数,进行小麦长势分级分类,并制作了冬小麦长势分级专题图。
【英文摘要】In the use of GPS field survey and the establishment of sampling on the basis of interpretation of signs, through the image correction, non-supervised classification, human-computer interactive interpretation of interpretation and other operations, and data validation samples throughout the entire classification process, the message is interpreted accuracy above 90%. Vegetation index using remote sensing inversion of leaf area index, biomass, and so on are growing status information, right to conduct monitoring of winter wheat growth stages were growing, and monitoring of production of winter wheat crop is growing thematic map classification.
【语种】中文
【第一作者】李正金
【通讯作者】李卫国
【期刊名称、卷期、页码】江苏农业科学,2: 301-302
【论文发表时间】2009-04-15 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】农艺学

【题目】基于ISODATA法的冬小麦产量分级监测预报
【中文关键词】TM影像,非监督分类,冬小麦,产量分级
【英文关键词】TM image; unsupervised classification; winter wheat; yield classification
【中文摘要】以江苏省姜堰市为例,进行基于TM卫星遥感技术和小麦估产模型的冬小麦产量监测研究。在利用GPS实地采样调查和建立解译标志的基础上,通过影像校正、采用优化的ISODATA分类方法,结合人机交互式判读解译等操作,将样点的作物信息数据贯穿到整个校验分类过程中,信息解译精度在90%以上。利用分类提取的冬小麦数据,反演叶面积指数、生物量信息等,结合冬小麦估产模型,计算单点产量信息,经过线性转换,对整个区域的冬小麦产量进行监测预报,并制作了冬小麦产量分级专题图。
【英文摘要】The use of Land-sat TM satellite remote sensing technology and wheat yield estimation model to monitor the winter wheat planting area and estimate winter wheat yield in Jiangyan City, Jiangsu Province. In November 2008, 10 test sites and 4 test areas were distributed almost all over the county. The geographical position and some other information of these samples such as areas' shapes, had been measured by the hand-hold GPS machines. The GPS data and the interpretation mark are used to correct TM image, verify the unsupervised classification, assist human-computer interactive interpretation, and other operations. The test data had been participated the whole classification process. The accuracy of interpret information is more than 90%. The leaf area index (LAI) got from the Normalized Difference Vegetation Index (NDVI) inversion and the biomass from the Ratio Vegetation Index(RVI) inversion, combine with the wheat yield estimation model can be classified the winter wheat yield, and made a winter wheat crop production Grading thematic map.
【语种】中文
【第一作者】李正金
【通讯作者】李卫国
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【引文索引号】0
【学科分类】农艺学

【题目】基于生态因子的冬小麦产量遥感估测研究
【中文关键词】冬小麦;产量;预测;遥感;生态条件
【英文关键词】Winter wheat; Yield; Estimating; Remote sensing; Ecological condition
【中文摘要】为提高冬小麦遥感估产的精确性与适用性,在河南省的孟州市和沁阳市利用GPS定位布设田间试验,利用P-6卫星数据进行了冬小麦遥感估产研究。通过对遥感植被指数和冬小麦长势与产量GPS定位数据的综合分析,基于遥感影像信息获取的瞬时性和准确性,结合小麦灌浆期生态条件对小麦产量形成的影响,建立了利用开花期遥感影像归一化植被指数(NDVI)和灌浆期生态因子(气温、日照、氮素营养、土壤水分)的冬小麦产量遥感估测模型,并检验了模型的可靠性。结果表明,模型监测值与实测值较为一致,利用开花期遥感影像NDVI和灌浆期生态数据估测冬小麦产量的RMSE值为369.27 kg · ha-1,相对误差为6.45%。模型估测性能好,且具有一定解释性。

【英文摘要】To advance the accuracy and the applicability of estimating winter wheat yield by remote sensing technology, the field experiments were carried out in Mengzhou and Qinyang county of Henan province. The relationships between winter wheat yield and ecological factors including average temperature(T), solar radiation(S), nitrogen nutrition(N), and soil water(W)during grain filling period were analyzed, then the ecological factor-driven equations with TF, SF, NF and WF were established. By correcting the impacts of ecological factors on winter wheat yield formation, a monitoring model for winter wheat yield was developed as WYW=(WBW×HI) × , where HI is cultivar harvest index, and WBW is the aboveground biomass which was calculated with NDVI in early anthesis. The model was validated using the data sets of NDVI with the root mean square error (RMSE) of 369.27 kg · ha-1 for winter wheat yield. The results indicated that the model was accurate and applicable for estimating winter wheat yield under different conditions. Yet, more experiment data in different ecological condition are required for wide testing of the present model.
【语种】中文
【第一作者】李卫国
【通讯作者】王纪华
【期刊名称、卷期、页码】麦类作物学报,29(5): 906-909
【论文发表时间】2009-10-15 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】农艺学

【题目】基于Landsat TM遥感的冬小麦长势分级监测研究
【中文关键词】冬小麦, TM影像,非监督分类,长势分级监测
【英文关键词】TM image; unsupervised classification; growing hierarchical classification
【中文摘要】利用遥感技术对冬小麦长势进行分级监测预报,可为作物生产管理者或农业管理决策者提供及时、准确的农情数据信息,实现对冬小麦产量或品质目标调优的目的。论文以江苏省兴化市为例,利用TM卫星遥感影像,提取冬小麦的种植面积并分析了长势情况。在利用GPS实地取样调查和建立解译标志的基础上,进行TM影像校正,非监督分类,人机交互式判读解译等操作,并将GPS样点数据校验贯穿到整个分类过程中,信息解译精度在95%以上。结合NDVI指数反演的叶面积指数数据,进行小麦长势分级分类,并制作了兴化市冬小麦长势分级监测图。
【英文摘要】Monitoring winter wheat growth condition in different stages by remote sensing technology may obtain the growth information of winter wheat timely and widely, based on which many crop producers and agricultural managements can frame and adopt more management measures to achieve the objective of high yield and good quality. Using Land-sat TM image and extract the planting of winter wheat growing area and to analyze the growth condition in Xinghua city, Jiangsu province. In November 2008, 20 test sites were distributed almost all over the county. The geographical position and some other information of these samples such as areas' shapes had been measured by the handhold GPS machines. The GPS data and the interpretation mark are used to correct TM image, verify the unsupervised classification, assist human-computer interactive interpretation, and other operations. The test data had been participated the whole classification process. The accuracy of interpret information is more than 95%. And combined with NDVI index inversion of leaf area index data classification grading of wheat growth and made a winter wheat growing hierarchical classification Grading thematic map of Xinghua city.
【语种】中文
【第一作者】李卫国
【通讯作者】李卫国
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【学科分类】农艺学

【题目】基于CBERS遥感的冬小麦长势分级监测
【中文关键词】冬小麦; CBERS-02影像; 长势分级
【英文关键词】winter wheat; images of CBERS-02; Classification of growth situation
【中文摘要】应用遥感信息技术,实时对冬小麦长势进行分级监测预报,便于农业部门及时制定和实施相应的管理措施,达到目标化生产的目的。以江苏省姜堰市为例,进行了基于中巴资源卫星(CBERS-02)遥感的冬小麦拔节期长势分级监测研究

。经过计算机分类和人机交互式判读解译,结合GPS样点信息校验,冬小麦面积解译精度在90%以上。利用遥感植被指数反演叶面积指数(LAI)等长势信息,对整个区域的冬小麦长势状况进行分级监测。叠加样点的实测数据校验,监测精度达到85%以上,最终制作区域的冬小麦长势分级专题图,并对各长势状况进行了分析。结果说明,中巴资源卫星影像数据可以满足区域冬小麦长势监测要求,并可在实际生产中进行推广应用。

【英文摘要】In order to improve the winter wheat growth situation monitoring assessment of operational efficiency and low operating deficiencies and problems,a set of optimized growth condition of winter wheat classification and grading methods was established which based on the winter wheat growth model and computer classification techniques of remote sensing images. CBERS-02 satellite remote sensing technology and wheat growth monitoring model was used to monitor the winter wheat in Jiangyan City, Jiangsu Province. Sample point data had been measured by the hand-hold GPS involved in the whole classification process. The accuracy of interpret information is more than 90%. Used the remote sensing vegetation index(VI) and remote sensing model inversion of winter wheat growth monitoring, Leaf Area Index (LAI) can be derived, and then the whole region growth status of the winter wheat could be monitored. Compared with the Growth information data of sample sites and areas, the accuracy of the monitoring have been more than 85%. This method can be used to guide the actual agricultural production. The results show that CBERS image data can basically meet the winter wheat growth monitoring needs, be able to promote the use of actual production work.

【语种】中文

【第一作者】李卫国

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【引文索引号】0

【学科分类】农艺学

【题目】利用HJ-1A卫星遥感影像进行水稻产量分级监测预报研究

【中文关键词】水稻;产量;环境卫星;估产模型

【英文关键词】rice; yield; HJ-A satellite; estimation model

【中文摘要】对水稻产量进行遥感分级监测预报,有利于农业管理部门及时获取水稻区域产量信息,便于其制定有效的栽培管理措施,达到增产的目的。以江苏省盱眙县、金湖县和洪泽县为例,利用HJ-A/B卫星遥感影像,开展了水稻产量分级监测预报研究。在利用GPS实地取样调查和建立解译标志的基础上,进行HJ-1A卫星影像精校正,将GPS样点数据校验贯穿到整个水稻种植面积分类与解译过程中,面积信息解译精度在90%以上。分别利用水稻抽穗期归一化植被指数(NDVI)和比值植被指数(RVI)反演了叶面积指数(LAI)和生物量数据信息。结合水稻遥感估产模型进行产量估算,并叠加样点产量信息验证,估产精度达到85%以上;依据预测的水稻产量数据进行产量分级预报,制作了盱眙县、金湖县和洪泽县水稻产量遥感分级监测预报图。结果说明,环境减灾卫星影像基本能满足水稻种植面积提取和产量预报的需求,能够在实际生产中推广应用。

【英文摘要】Monitoring and forecasting rice yield by remote sensing technology is conducive to timely get information for agricultural management departments on rice production in the region and facilitate the development of effective cultivation and management measures and achieve the purpose of increasing production. Xuyi County, Jinhu County and Hongze County in Jiangsu Province, for example, using HJ-1A satellite remote sensing images, carried out monitoring and forecasting of rice production in classification research. The handhold GPS machines had measured the geographical position and some other information of these samples such as areas' shapes. The GPS data and the interpretation mark are used to correct HJ-A/B image, assist human-computer interactive interpretation, and other operations. The test data had been participated the whole classification process. The accuracy of interpreted information on rice planting area is more than 90%. The leaf area index (LAI) got from the Normalized Difference Vegetation Index (NDVI) inversion, and the biomass got from the Ratio Vegetation Index(RVI) inversion, combined with the rice yield estimation model and estimated the rice yield. Further the rice crop production Grading thematic map was made based on the rice yield data. Compared with the yield information data of sample sites and areas, the accuracy of the yield estimation have been more than 85%. The results show that HJ-A/B images can basically meet the rice growth monitoring and yield forecasting demand, can be widely applied in the actual production work.

【语种】中文

【第一作者】李卫国

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【引文索引类型】其他
【引文索引号】0
【学科分类】农艺学

【题目】新型光谱曲线特征参数与水稻叶绿素含量间的关系研究
【中文关键词】光谱曲线特征;变化速率;夹角;叶绿素含量
【英文关键词】characteristic parameter of spectral curve; velocities of change; angle; chlorophyll content
【中文摘要】利用高光谱信息检测作物叶绿素含量信息是田间作物长势诊断的重要研究内容。利用水稻光谱和叶绿素含量田间实测数据,从作物叶绿素含量不同,光谱曲线峰谷波形有“高矮胖瘦”形态变化的观点出发,提出光谱曲线峰谷波形中特征边的上升、下降速率以及组成峰谷波形两边的夹角等新型特征量,利用归一化光谱信息,分析了这些变量与水稻叶绿素含量间的相关关系。研究结果显示:(1)可见光波段范围520~740nm 之间的归一化光谱反射率与叶绿素含量间呈良好的负相关关系;(2)绿峰反射光谱曲线特征边的变化速率及绿峰两边的夹角等变量与水稻叶绿素含量具有较好的相关性,表明利用这些新型变量开展叶绿素含量高光谱无损监测成为可能,这将为利用高光谱信息开展作物长势与营养诊断提供新的思路和方法。
【英文摘要】It is of significance to monitor chlorophyll content with hyperspectral data for crop growth diagnosis in field. In the study, with the point of view that spectral curve shapes display "tall, low, fat and thin" morphological changes, we proposed some new characteristic parameter from spectral curve such as the ascensive or degressive velocities of segments composing peak or valley shapes in spectral curve, and angles formed by the lines fitting the segments of two sides of peak or valley curves, and used the normalized spectra to analyze correlation between these parameters and rice chlorophyll content. The result shows that (1) there is good negative correlation between rice chlorophyll content and normalized reflectance spectra for 520 - 740 nm; (2) characteristic parameters form green peak region of spectral curve display better correlation with rice chlorophyll content, which makes it possible to utilize the parameters to monitor crop chlorophyll content, and will provide new ideas and methods for carrying out crop growth diagnosis with hyperspectral data.
【语种】中文
【第一作者】徐新刚
【通讯作者】徐新刚
【期刊名称、卷期、页码】光谱学与光谱分析,31(1):188-191
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【学科分类】农艺学

【题目】干旱区成龄红枣微灌技术研究
【中文关键词】红枣;微灌;湿润比;生理性状;根系分布;土壤水分
【英文关键词】red jujube; micro-irrigation; wet ratio; physiological characters; root distribution;soil moisture
【中文摘要】针对干旱区红枣微灌技术发展需求,采用目前最常用的滴灌、涌泉灌、微喷灌三种微灌技术进行田间试验,从产量、品质、生理性状、根系分布及土壤水分状况分析表明,微喷是成龄红枣最适宜的微灌技术形式,其次为滴灌,涌泉灌的效益最差,其中微喷、滴灌三管、滴灌双管处理与地面灌相比,均能增产10%以上,减少灌溉定额40%以上。同时初步确定成龄红枣微灌适宜湿润比为40%~70%,微喷灌采用70%的湿润比,滴灌采用40%~50%的湿润比效果较佳。
【英文摘要】The experiment was conducted to apply the most effective method of micro- irrigation such as drip irrigation, gush-spring irrigation and micro jet were field test according to the development demand of micro-irrigation method for grown red jujube in drought area. From the yield, quality, physiological characters, root distribution and soil moisture etc regression analysis, it showed that micro jet was the optimum method of micro-irrigation for grown red jujube, and then drip irrigation, the worst was gush-spring irrigation. Compared with surface irrigation, the micro jet, three-drip irrigation and two-drip irrigation increased yield over ten percent and decreased irrigation quota over forty percent. And it was preliminarily identified that the optimal wet ratio irrigation of grown red jujube was forty to seventy percent, and the ratio of micro-irrigation was seventy percent and forty to fifty percent for drip irrigation.
【语种】中文

【第一作者】蒋岑
【通讯作者】谢香文
【期刊名称、卷期、页码】新疆农业科学
【论文发表时间】2009-02-01 00:00:00
【引文索引类型】其他
【引文索引号】2009,46(2):332-337
【学科分类】农业基础学科

【题目】微灌标准体系建立的探讨
【中文关键词】标准体系,微灌
【英文关键词】sdandard system, micro irrigation
【中文摘要】微灌技术是当今节水技术中节水效率最高的的技术。本文旨在通过对国内、国外微灌节水技术发展现状和发展趋势的调研了解,在系统分析研究国内外全部微灌标准后,构建一个层次分明、结构合理、内容完整、技术先进的微灌节水标准体系框架。规范微灌产品质量标准,制定一系列技术标准,提高微灌技术的标准化水平
【英文摘要】Micro-irrigation was one of the water saving irrigation technology which had highest efficiency in water saving. This article investigated development situation and tendency of micro-irrigation in domestic and abroad, after analysis all the micro-irrigation technology standards both in domestic and overseas systematically, we put forward the framework of micro-irrigation technology standards which was well arranged, rational construction, complete contents and advanced technology. Standard of micro-irrigation product quality standard, set of technical standard, improve the level of standardization of micro-irrigation technique.
【语种】中文
【第一作者】李明
【通讯作者】李明
【期刊名称、卷期、页码】中国农标准化
【论文发表时间】2009-02-01 00:00:00
【引文索引类型】其他
【引文索引号】2009,(9):120-123
【学科分类】农业基础学科

【题目】模糊数学在红枣微灌技术筛选的应用
【中文关键词】模糊数学;模糊矩阵;权重;红枣;微灌;相对优属度
【英文关键词】fuzzy-mathematics; fuzzy matrix; weight; red jujube; micro-irrigation; relative importance degree
【中文摘要】微灌节水灌溉的方式较多,实际应用中必然会遇到选择一种或几种节水灌溉方式的问题,而选择时必须综合考虑诸多因素的影响,模糊数学相对优属度综合评判法是解决这类问题较为有效的方法,它使选择的节水灌溉方式更为经济、合理。结合干旱区红枣微灌中可行的滴灌、涌泉灌、微喷灌等布置了7种方式,综合考虑了经济、技术和社会三大因素以及各大要素中的子因素,利用模糊数学方法综合评判初步得出微喷灌为干旱区红枣最适宜微灌方式。
【英文摘要】Water-saving irrigation is the development direction of future agricultural irrigation and micro-irrigation is the main form.Because micro-irrigation has a few modes, so it is inevitable to select one or more of them in actual application and many factors should be comprehensively taken into account. Fuzzy-mathematics relative importance degree comprehensive evaluation method is an effective way for this kind problem. The water saving irrigation mode selected through it is more economical and reasonable. In this paper, 7 irrigation modes suitable for red jujube in drought area, including drip irrigation, surge irrigation and micro sprinkler irrigation, are collocated. Through comprehensively considering three major factors, namely economy, technology and social and theirsub-factors, it is preliminarily concluded that the optimum micro-irrigation mode for red jujube in drought area is micro sprinkler irrigation by using fuzzy-mathematics method.
【语种】中文
【第一作者】蒋岑
【通讯作者】谢香文
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【题目】滴灌和喷灌对核桃耗水量、产量及坚果品质的影响
【中文关键词】核桃;滴灌和喷灌;耗水量;产量;品质
【英文关键词】walnut; irrigation methods; water consumption; yield; quality
【中文摘要】本文通过大田试验,采用相同的灌溉制度,对滴灌、微喷灌水方式下的成龄核桃(9年生)耗水规律、产量及品质进行了研究分析,通过一年试验结果表明:(1)2种灌溉方式中,3管与微喷的灌溉量一样,阶段耗水模数一致。(2)从产量和品质来看,3管的产量高于喷灌,水分利用效率也较高,可以在成龄核桃树灌溉中运用。
【英文摘要】The effect of different irrigation methods on water consumption, yields and quality of walnut in arid region were studied. In the field experiment, 4 irrigation methods(include 3 laterals under the trees、 2 laterals under the trees、 micro-sprinkle irrigation and irrigation with small tubes) were arranged. Through experiment in 2008.4 to 2008.10, get the results: (1) throughout the growth period, walnut's water consumption of 3 laterals under the trees is similar to that of micro-sprinkle irrigation. Compared with micro-sprinkle irrigation, 2 laterals under the trees and irrigation with small tubes saved water by 43.46% and 24.6% respectively. (2) The yields of 4 irrigation methods were analyzed, which is the highest 2 laterals under the trees and WUE is also higher. In conclusion, 2 laterals under the trees is a proper irrigation method for walnut trees in arid region.
【语种】中文
【第一作者】胡琼娟
【通讯作者】马英杰
【期刊名称、卷期、页码】水资源与水工程学报
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【引文索引类型】其他
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【学科分类】农业基础学科

【题目】西北地区微灌标准体系的意义和作用
【中文关键词】标准体系,微灌
【英文关键词】sdandard system, micro irrigation
【中文摘要】微灌技术是当今节水技术中节水效率最高的的技术。本文旨在通过对国内、国外微灌节水技术发展现状和发展趋势的调研了解,在系统分析研究国内外全部微灌标准后,构建一个层次分明、结构合理、内容完整、技术先进的微灌节水标准体系框架。规范微灌产品质量标准,制定一系列技术标准,提高微灌技术的标准化水平
【英文摘要】Micro-irrigation was one of the water saving irrigation technology which had highest efficiency in water saving. This article investigated development situation and tendency of micro-irrigation in domestic and abroad, after analysis all the micro-irrigation technology standards both in domestic and overseas systematically, we put forward the framework of micro-irrigation technology standards which was well arranged, rational construction, complete contents and advanced technology. Standard of micro-irrigation product quality standard, set of technical standard, improve the level of standardization of micro-irrigation technique.
【语种】中文
【第一作者】靳智
【通讯作者】靳智
【期刊名称、卷期、页码】节水灌溉
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【题目】微灌方式对成龄香梨生长效应的影响
【中文关键词】微灌, 香梨树, 耗水, 果实、枝条、根系
【英文关键词】Micro-irrigation, Fragrant pear, water consumption, fragrant pear fruit, shoot, root system
【中文摘要】随着水资源的短缺和人们对农业可持续发展的认识, 微灌技术成为研究的热点; 新疆库尔勒香梨一直沿用传统的地面灌溉, 具有很大的节水潜力。本文研究不同微灌方式对24年生成龄香梨树生长的影响及其耗水规律。田间试验

设置了3个处理: (l) 湿润比为40%地面滴灌; (2) 地下滴灌; (3)微喷灌。对照为当地果园传统的漫灌。在整个生育期内,3个处理均以美国A 级蒸发皿蒸发量的80 % 进行灌溉, 每周灌溉1次。利用石膏块水分传感器测量根区土壤水势变化, 并监测了果实生长, 枝条生长, 光合速率及产量等。试验结果表明, 各不同微灌方式的香梨果园耗水量为70~750mm,与地面漫灌相比,节约灌水量超过50%;而对香梨产量和品质并没有显著影响, 其中微喷灌处理的果实VC含量为0.24 mg/100g,超过对照和其他处理60 % 以上。因此, 对于长期利用传统漫灌的香梨树果园,改用节水的微灌形式, 是完全可行和必要的。

【英文摘要】Micro-irrigation technology is being the key research topics as People realized the serious situation of shortage of water resources and the importance of sustainable development of agriculture. Up to now, the Korla fragrant pear trees have been irrigated by traditional flood irrigation, which causes a lot of problems, such as waste of water resource, of orchard soil salinization, Pollution to the groundwater etc. So there is a great potential to save irrigation water there. The effects of micro-irrigation methods on the growth of shoots, fruits and root system of the mature Korla fragrant pear trees and the water consumption patterns were studied in this paper. There were three types of micro-irrigation methods used in the experiment, i.e. surface drip irrigation; subsurface drip irrigation; and micro-sprinkler irrigation. While the traditional flood irrigation was treated as control. All cases were fully irrigated to the 80% evaporation of US Class A pan, and irrigated once every week. The soi1 water Potential at different depth was monitored by Gypsum Block, and the fruit growth, shoot growth,photosynthesis,and yields were also measured in the experiment. The results show that the water consumption of Korla fragrant pear trees under different micro-irrigation methods is 700 to 750mm, which about 50% of water use is reduced compared with the flood irrigation. Mean while, the fruit yield and quality are not affec ted obviously by micro-irrigation patterns. The VC content of pear at micro- sprinkler treatment was 0.24mg/100g, which was 60% more than the other treatments and control. The shoot growth was inhibited under micro-irrigation Patterns compared with that under control. Thus, it is reasonable and necessary for changing the traditional flood irrigation to effieient irrigation patterns in the Korla fragrant pear tree orchards.

【语种】中文
【第一作者】宴清洪
【通讯作者】黄兴法
【期刊名称、卷期、页码】现代节水高效农业与生态灌区建设
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【学科分类】农业基础学科

【题目】滴灌灌溉制度对核桃产量及品质的影响研究
【中文关键词】滴灌;灌溉制度;核桃;果实品质
【英文关键词】igation; irrigation schedule; walnut; fruit quality
【中文摘要】通过田间试验,研究了滴灌灌溉制度对9年生成龄核桃产量及品质的影响规律。结果表明:①从对核桃产量影响分析的角度来看,土壤水分下限在果实膨大期对核桃产量影响最大,其次是硬核期,开花期影响最小。②从对核桃蛋白质含量影响分析的角度来看,土壤水分下限在开花期对核桃产量影响最大,其次是硬核期,果实膨大期影响最小。③从对核桃脂肪含量影响分析的角度来看,土壤水分下限在硬核期对核桃脂肪含量影响最大,其次是果实膨大期,开花期影响最小。

【英文摘要】Through field experiment, we have studied the influence to the walnut yield and fruit quality of 9-year's walnut trees by drip irrigation schedule. The results showed that: 1.soil moisture during fruit enlargement made the greatest impact on walnut yield, followed by the hard core of the flowering stage,and the least was the flowering stage;2.soil moisture in the flowering stage on the protein content of walnuts has greatest impact on walnut yield, followed by the hard core of the flowering stage,and the least was the fruit enlargement stage;3.soil moisture in the hard core of the walnut has the greatest impact on the walnut fat content, followed by the stage of fruit enlargement, flowering was the least.

【语种】中文
【第一作者】张娜
【通讯作者】马英杰
【期刊名称、卷期、页码】南水北调与水利科技
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【学科分类】农业基础学科

【题目】不同微灌灌水技术下成龄核桃耗水规律的研究
【中文关键词】红枣;坐果率;相对湿度;微喷灌
【英文关键词】walnut; drip irrigation; rule of water consume; water use efficiency;
【中文摘要】采用水量平衡原理,通过大田小区试验与理论分析,对十年生核桃耗水规律进行了研究。得出了不同生育期不同灌水技术下成龄核桃全生育期的耗水规律,从耗水角度研究发现,微灌条件下成龄核桃全生育期日均耗水量的变化与地面灌的单峰曲线不同,呈双峰曲线,分别出现在6月10日及8月20日左右;微灌各处理的累积耗水量在585.6mm~840.3mm间变化,较地面灌处理核桃的累积耗水量993.3mm减少15.4%~41.0%;微灌各处理核桃产量在4204.5kg/hm2~5743.5kg/hm2间变化,较地面灌的5550kg/hm2亩高-24.1%~3.4%,水分生产效率较地面灌高3.5%~28.6%,建议核桃微灌宜采用环灌和三管布置。
【英文摘要】Rule of ten years walnut water consume that irrigated by different micro-irrigation method was studied based on water balance principle and field experiment. As far as water consume was concerned that average daily water consume change rule of matured walnut which irrigated by micro-irrigation method is different from ones that irrigated by flood irrigation method. Bactrian curve in ones that irrigated by micro-irrigation and chieftain curve in ones that irrigated by flood irrigation can be seen obviously, Peak value of Bactrian curve appeared at 10th June and 20th August. Cumulated water consume of micro-irrigated ones ranged from 585.6mm to 840.3mm,which decreased by 5.4%~41.0% compare to 993.3mm of flood irrigated ones. Yield of micro-irrigated ones ranged from 4204.5kg/hm2 to 5743.5kg/hm2,which increased by -24.1%~1.0% compare to 5550kg/hm2 of flood irrigated ones. Water use efficiency (WUE) of micro-irrigated ones increased by 3.5%~28.6% compare with flood irrigated ones, suggest that circle and three laterals layout is appropriate in matured walnut irrigation under micro-irrigation condition.
【语种】中文
【第一作者】赵经华
【通讯作者】王长新
【期刊名称、卷期、页码】灌溉排水学报
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【学科分类】农业基础学科

【题目】干旱区提高幼龄红枣保花保果试验研究
【中文关键词】红枣;坐果率;相对湿度;喷水方式
【英文关键词】Chinese jujube; fruit-setting; relative humidity; spraying mode
【中文摘要】为研究花期喷水与微喷灌技术结合对枣树的坐果率、产量、品质的影响,为绿洲枣树节水灌溉提供依据。处理5、6的相对湿度比ck增加;②对处理5、6的坐果率比处理7、8、9、ck增加;③对产量的影响,处理6比处理7、8、9、ck差异极显著;④果实单果重与品质方面的可滴定总糖、可滴定酸及Vc含量各处理差异不显著。由以上得出:在干旱区对夜开型枣树,处理6即盛花期每天傍晚在树冠中部喷水40-60min可以显著提高坐果率、增加产量。
【英文摘要】In order to research the impact of the combination of spraying water at flowering stage and water-saving irrigation technique on fruit-setting and quality of Chinese jujube, the experiment with different height of water jet, including at the low, center, high parts of trees, and different spraying time, including 20min, 40min, 60min,is carried out. The results show that the relative humidity and fruit-setting ratio of the treatment with spraying in the center part of trees and 60min is remarkably superior than the comparative treatment, its yield is higher than that of comparative treatment by 80%. The differences of jujube quality among different treatments are not notable. It can be concluded that for the nyctanthous jujube, the treatment with spraying 40~60 min in the center part of trees at dusk of flowering stage can increase the fruit-setting and the yield of Chinese jujube.
【语种】中文
【第一作者】姚鹏亮
【通讯作者】董新光
【期刊名称、卷期、页码】节水灌溉
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【引文索引号】1007-4929(2010)09-0027-0
【学科分类】农业基础学科

【题目】干旱区枣园土壤水分运动及深层渗漏数值模拟
【中文关键词】枣树;HYDRUS-1D;土壤水;深层渗漏
【英文关键词】Jujube; HYDRUS-1D;soil water; deep seepage
【中文摘要】根据TRIME与Hydra土壤水分监测仪监测枣园土壤含水率、TRAC冠层仪测定叶面积指数、Vantagepro2气象站监测气象数据等资料,开展了枣园土壤水渗漏试验。借助HYDRUS-1D模型对枣园传统地面灌条件下的土壤水渗漏规律进行模拟,经检验,模型模拟土壤层20,40,60,80 cm时,土壤含水率模拟值与实测值相关系数分别为0.94,0.94,0.92,0.71。利用模型分析了研究区地面灌条件下的土壤水渗漏特征和田间灌溉水量的转化关系,改进灌溉模式可大幅减少灌溉水量,提高水分的利用效率。
【英文摘要】Based on the soil water content data measured by TRIME and Hydra system, the LAI data measured by TRAC, meteoro-logical factors data measured by Vantage pro2 automatic meteorological station and other data, do the experiment of deep percolation, the experiment on soil water seepage is conducted. The soil water seepage rule of a Jujube Orchard under traditional surface irrigation is simulated with the HYDRUS-1D model, and the results were verified by the measurement of soil water content. The result shows that the correlation coefficient is 0.94, 0.94, 0.92, 0.71, respectively, between the value of simulation and measurement of soil water content at 20, 40, 60,80cm in the soil profile. The characteristic of deep seepage and the distribution of irrigation water under the surface irrigation were analyzed, and the results show that the modified irrigation pattern can save irrigation water largely and improve the of water use efficiency.
【语种】中文
【第一作者】任玉忠
【通讯作者】董新光
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【学科分类】农业基础学科

【题目】干旱区幼龄红枣节水灌溉方式优选研究
【中文关键词】红枣;节水灌溉;优选
【英文关键词】Chinese Jujube; saving-water; optimal choice
【中文摘要】环塔里木盆地具有发展红枣种植的独特优势,也是对红枣节水灌溉技术需求大的地区。采用干旱区最常用的滴灌、低压软管灌、微喷灌、沟灌4种灌水技术进行田间试验,从红枣的叶温、地温、坐果率、产量、品质、气候特点和田间管理等几个方面进行了比较。结果表明滴灌在叶温、品质、适应气候、田间管理等主要的方面最优,微灌在坐果率和产量方面最优;干旱区幼龄红枣最适宜的灌溉技术是滴灌+花期微喷。
【英文摘要】Surrounding Tarim basin has particularly advantages of developing Chinese Jujube planting, where water saving irrigation technique is urgently needed too. Field test are conducted with drip irrigation, micro-sprinkler irrigation, low-pressure penstock irrigation and channel irrigation. The four irrigation modes are compared from the aspects of the leaf temperature, ground temperature, yield, fruit-setting, yield, fruit quality and climate, etc. The results showed that the drip irrigation mode is the best in the leaf temperature, fruit quality, climate adjustability and field management, etc. While the micro-sprinkler irrigation mode is the best in the fruit-setting, yield of sprinkle irrigation. The best irrigation mode is drip irrigation in the whole growth period and sprinkle irrigation in the florescence period.
【语种】中文
【第一作者】胡安焱
【通讯作者】胡安焱
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【学科分类】农业基础学科

【题目】滴灌条件下水肥耦合对干旱区红枣产量的影响
【中文关键词】红枣;滴灌;水肥耦合;产量
【英文关键词】Chinese Jujube; drip irrigation; coupling effects of water and fertilizer; yield
【中文摘要】在环塔里木盆地的阿克苏地区,采用随机区组布置方案,进行田间小区试验,研究了滴灌条件下水肥耦合对红枣产量的影响。试验结果表明,施肥量固定时,灌水量与产量相关性较好;灌水量固定时,施肥量与产量相关性较好。水对生育期红枣产量的效应大于肥料,水肥合理时,水肥为协同作用,交互效应使红枣产量明显增加。红枣生育期水肥耦合的最佳模式为“灌水量5 248 m3/hm2+施肥量1 572 kg/hm2”。滴灌与水肥耦合节水技术集成的最佳模式为“灌水量5 248 m3/hm2+施肥量1 048 kg/hm2”。
【英文摘要】Coupling effects of water and fertilizer on Chinese Jujube yield under drip irrigation were studied by field test, which based on design of random section in the Akesu area of Surround Tarim basin. The results showed that it have a better correlation between irrigation amount and yield under constant fertilizer, between fertilizer and yield under constant irrigation amount. Water effect is greater than fertilizer effect in the whole growth period. Coupling effects of water and fertilizer is synergistic effect when water and fertileizer is appropriate, can increasing Chinese Jujube yield. The best pattern is 5 248 m3/hm2of irrigation and 1 572 kg/hm2of fertilizer on coupling effects of water and fertilizer. The best pattern is 5 248 m3/hm2 of irrigation and 1 048 kg/hm2of fertilize on integration pattern of water and fertilizer, drip irrigation and saving-water.
【语种】中文
【第一作者】胡安炎
【通讯作者】胡安炎
【期刊名称、卷期、页码】灌溉排水学报
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【学科分类】农业基础学科

【题目】果农间作条件下滴灌大豆耗水规律试验研究
【中文关键词】果农间作;滴灌;大豆;耗水规律;叶绿素;
【英文关键词】fruit-crop intercropping; drip irrigation; soybean; rule of water consume; chlorophyll;
【中文摘要】采用水量平衡原理,通过大田小区试验与理论分析,对与十年生核桃间作的滴灌大豆耗水规律进行了研究。结果表明,果农间作的滴灌大豆花夹期、鼓粒期、鼓粒成熟期的平均日耗水强度分别为:3.2mm,3.3mm,2.3mm,累积耗水量为277.2mm,较非间作滴灌大豆各生育期的日均耗水量显著减小,总耗水量减小26.5%,日均耗水量变化也更为平缓;果农间作的滴灌大豆在观测生育期内的平均叶绿素含量较非间作大豆减少24.6%。
【英文摘要】Rule of soybean water consume that irrigated by drip irrigation method was studied based on water balance principle and field experiment. Result turned that under condition of experiment, daily water consume of soybean in flowering-poding phase, seed-filling phase and maturity phase are 3.2mm, 3.3mm, 2.3mm. Cumulated water consume of growth phase are 277.2mm. Obvious decrease of daily water consume can be seen, total water consume reduced by 26.5% and variation of daily water consume is more smooth compare with soybean under drip irrigation method and non-intercropping condition. 24.6% decrease of average chlorophyll content of soybean in growth phase can be seen compare to non-intercropping ones.
【语种】中文
【第一作者】洪明
【通讯作者】马英杰
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【学科分类】农业基础学科

【题目】软管灌条件下核桃树光合作用日变化及果实品质初步研究
【中文关键词】软管灌;地面灌;核桃树;光合作用;果实品质
【英文关键词】Abstract:Based on field experiment, the photosynthetic parameter daily variation of walnut trees during the stage of seeds development and oil transform under the condition of ground irrigation and surface irrigation is observed and compared by using

LI-6

【中文摘要】以大田试验为基础,在核桃树硬核及油脂转化期采用LI-6400便携式光合作用仪观测了软管灌和对照地面灌溉条件下核桃树光合作用参数的日变化,研究了软管灌对核桃树光合作用日变化及果实产量和品质的影响。结果表明:①与地面灌溉条件下相比,软管灌条件下核桃树的净光合速率、气孔导度、水分利用效率均增加,蒸腾速率除了在10：30~12：30时段与地面灌条件下较为接近,其他时段都比地面灌条件下的大。②在软管灌和地面灌条件下核桃的品质及单株产量均无显著性差异。

【英文摘要】Abstract:Based on field experiment, the photosynthetic parameter daily variation of walnut trees during the stage of seeds development and oil transform under the condition of ground irrigation and surface irrigation is observed and compared by using LI-6400 instrument, and the effects of hose irrigation on photosynthetic daily variation and fruit quality of walnut trees are studied in this paper. The results show that contrasting with ground irrigation, the net photosynthesis rate, stomata conductance and water use efficiency increase under hose irrigation, the transpiration rate is higher except for the period of 10：30 to 12：30, in which it is close to ground irrigation. The quality and yield of walnut have not obviously difference under the condition of ground irrigation and hose irrigation.

【语种】中文

【第一作者】郑冰

【通讯作者】马英杰

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【题目】新疆膜下滴灌技术发展过程及趋势分析

【中文关键词】膜下滴灌,推广,发展,新疆

【英文关键词】drip irrigation under film (DIUF); popularity; development; Xinjiang

【中文摘要】通过对各种节水灌溉技术的应用分析,提出膜下滴灌技术在新疆出现是一种必然结果。文中回顾了膜下滴灌技术的发展过程,并对滴灌技术的发展趋势进行了分析,减少投资,作物增产是滴灌技术迅速推广和持续发展的关键因素。

【英文摘要】All kinds of water saving irrigation technologies’ application were analyzed and the results showed that appearance of drip irrigation under film (DIUF) in Xinjiang is a necessity. The thesis reviews the development of DIUF and analyzes the developing trend of drip irrigation technology. Reducing the investment and increasing the yields are the key factors which can accelerate the popularity and sustain the development of drip irrigation technology.

【语种】中文

【第一作者】马英杰

【通讯作者】马英杰

【期刊名称、卷期、页码】节水灌溉

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【学科分类】农业基础学科

【题目】滴灌条件下成龄核桃树叶水势变化规律研究

【中文关键词】滴灌;核桃;叶水势;土壤含水量;气象因子

【英文关键词】drip irrigation; walnut; leaf water potential; soil moisture content ;meteorological factor;

【中文摘要】通过田间试验,研究了滴灌成龄核桃叶水势变化规律及其与气象因子间的关系,结果表明:滴灌成龄核桃叶水势日变化呈单峰曲线变化,在14:00-16:00达到一天中的最低值;试验条件下不同生育期核桃露点叶水势与土壤含水量的关系不尽相同,在果实膨大期、硬核期和油脂转化后期呈正相关关系,油脂转化前期呈负相关关系,通过回归分析建立了不同生育期二者的函数关系;滴灌成龄核桃叶水势日变化与太阳辐射和大气温度负相关,与相对湿度正相关,通径分析表明,影响核桃叶水势日变化的主要气象因子是大气温度,其次是大气相对湿度、太阳辐射;建立了滴灌成龄核桃叶水势日变化与气象因子之间的函数关系。

【英文摘要】Field experiment was carried to study the relationship between leaf water potential of matured walnut(LWPOMW) and meteorological factor under drip irrigation condition. Results showed that LWPOMW diurnal change which is a single peaked curve comes to the minimum value at14:00-16:00 PM. under experimental condition, the relationship of dew point LWPOMW and soil moisture content was different in different growth period. There ’s positive correlation between them in Fruit swollen period、Hardcore period and anaphase of fat conversion period, but negative correlation in Prophase of fat conversion period. After regression analysis established a regression equation of them in different growth period. There ’s negative correlation between LWPOMW and atmospheric temperature and solar radiation, positive correlation between LWPOMW and atmospheric relative humidity. Path analysis of them showed that Solar radiation is the key factor to LWPOMW diurnal change, followed by more important factor than atmospheric relative humidity and atmospheric temperature. established a regression equation between LWPOMW and meteorological factor under experimental condition as well.
【语种】中文
【第一作者】张清林
【通讯作者】马英杰
【期刊名称、卷期、页码】中国农村水利水电
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【学科分类】农业基础学科

【题目】滴灌湿润比对成龄库尔勒香梨生长及耗水规律的影响
【中文关键词】滴灌;湿润比;成龄库尔勒香梨;耗水规律;果实生长
【英文关键词】drip irrigation; wetted percent; mature Korla fragrant pear; water consumption pattern; fruit growth
【中文摘要】田间试验采用3种滴灌湿润比(20%、40%、60%),并以传统漫灌(土壤湿润比为100%)为对照,利用负压计和石膏块监测果树根区土壤水势,观测不同生育阶段内果树的生长指标;用水量平衡法计算不同处理梨树不同生育期的日均耗水量、作物系数与蒸发皿系数。试验结果表明,充分灌溉条件下,滴灌湿润比为20%、40%、60%的成龄香梨树生育期内的耗水量较漫灌分别减少了69.11%、63.91%、55.05%; 20%、40%和60%滴灌湿润比均对果树的枝条生长产生抑制作用,枝条最终生长量分别减少了9%、5%、3%;3种湿润比灌溉处理的果实均较漫灌的果实体积大,且果实品质得到一定程度的改善。成龄库尔勒香梨灌水方式由漫灌改为地表滴灌的初期,滴灌湿润比设计为40%比较合适。
【英文摘要】The wetted soil percentages included 3 levels (20%, 40% and 60%) and the traditional flood irrigation (100% of wetted percentage) was used as control. Soil water potential in the root zone was monitored by a tensionmeter and gypsum blocks. The growth indices of fruit trees were recorded at different growth stages. The daily water use, crop coefficients and pan coefficients under different drip irrigation treatments were estimated by water balance method. Theresults indicated that the tree water uses under wetted percentage of 20%, 40% and 60% decreased by 69.11%, 63.91% and 55.05% respectively as comparedwith that under flood irrigation, while the shoot growth reduced slightly, by 9%, 5% and 3%. Comparedwith flood irrigation, the fruit volumes under drip irrigation treatments of different wetted percentage were all bigger, with the largest under 40% treatment. Moreover, the fruit quality under drip irrigation treatments was improved to certain extent. It is suggested that at the transient stage of flood irrigation into drip irrigation, a wetted percentage of 40% should be used. This study should be meaningful to drip irrigation system design and management.
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【题目】滴灌湿润比对成龄库尔勒香梨树根系分布影响
【中文关键词】滴灌; 湿润比; 成龄库尔勒香梨; 吸水根; 分布; 根系密度
【英文关键词】drip irrigation; wetted percentage; mature Kolra fragrant pear; fine roots; root redistribution;root density

【中文摘要】在充分灌溉条件下采用3 种滴灌湿润比(20%、40%、6 0%) , 以漫灌为对照, 研究库尔勒成龄香梨吸水根(根直径1 mm) 在0~ 70 cm 土层内分布的变化, 探讨滴灌湿润比对根系分布的影响。结果表明, 漫灌成龄库尔勒香梨树吸水根水平方向上在距树体1~ 2 m 内从树行由内向外呈递增趋势; 垂直方向上根系随深度呈递增趋势。滴灌对成龄库尔勒香梨树根系分布具有显著的影响: 水平方向上吸水根有向滴灌湿润区集中的趋势, 并且湿润体内的根系密度随滴灌湿润比增大而递增; 非湿润体内, 吸水根系数量减少, 根系密度随滴灌湿润比增大呈递减趋势。垂直方向, 滴灌湿润区吸水根有向20~ 40 cm 土层集中的趋势, 其中湿润比20%趋势最明显, 湿润比60% 次之, 湿润比40%影响最小。成龄库尔勒香梨在由漫灌改为地表滴灌初期, 滴灌湿润比采用40%较合适。研究结果对库尔勒成龄香梨滴灌系统的设计和管理具有一定的指导意义

【英文摘要】The wetted percentage was an important parameter for drip irrigation design, for the purposes of improving water use efficiency while maintain normal tree growth. The distribution of fine roots (diameter66≤1 mm) of mature Kolra fragrant pear trees as affected by wetted percentage was investigated is studied under sufficient drip irrigation. The soil samples were taken from different soil layers to get root samples.The wetted percentages included 3 levels as 20%, 40% and 60% with flood as control. The results showed that, under flood irrigation, the fine roots increases with the distance from tree trunk within 1 to 2 m. In the vertical direction, the density of fine roots increased progressively with soil depth, with highest root density of 2.9 mm/cm3at 40~70 cm soil layer. Compared with that under flood irrigation (the control), the fine root distribution under drip irrigation treatments was readjusted. In the horizontal direction, the more fine roots were found in wetted zone under the drippers. This showed the absorption of roots to soil water. This indicates more water absorbed from the wetted zones which can reduce deep percolation of water and evaporation so as to improve water use efficiency. In the vertical direction, the fine roots concentrated in the 20 to 40 cm soil layer. Most obvious readjustment of root distribution was found under 20% treatment, followed by those under 60% and 40%. In conclusion, at the initial stage when the irrigation of mature Kolra fragrant pear trees is shifted from flood irrigation to drip irrigation in arid area, the wetted percent of 40% is more appropriate. The results had a certain significance to guide the drip irrigation system design and management for mature Kolar fragrant pear.

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【题目】滴灌施肥条件下核桃树早衰叶片矿质元素含量分析
【中文关键词】滴灌;核桃;早衰叶片;矿质元素
【英文关键词】drip irrigation; walnut; premature senescence leaves; mineral element
【中文摘要】通过对滴灌及地面畦灌核桃叶片矿质元素含量对比分析表明:滴灌成龄核桃早衰叶片除磷、钙、铁含量较地面灌正常叶高111.1%,9.6%、11.1%外,其他矿质元素均不同程度的低于地面灌正常叶片的含量,其中微量元素含量表现尤为明显;核桃叶片早衰主要是由于中微量元素中锌、锰、镁缺少所致,与其他微量元素的缺乏也有一定关系;滴灌灌溉方法对核桃养分吸收有一定的影响,建议核桃从地面灌改为滴灌后适当增加中微量元素的补给。

【英文摘要】Mineral element content of walnut leaves were comparatively analysised under the condition of drip irrigation and flood irrigation. The result showed that except content of Phosphorous, Calcium and Ferrum in premature senescence walnut leaves under the drip irrigation condition were 111.1%, 9.6% and 11.1% higher than that in normal walnut leaves under the flood irrigation condition, Content of others mineral elements were lower in varying degrees than that in normal walnut leaves under the flood irrigation condition, which were particularly so with content of microelements. Premature senescence of walnut leaves was caused by short of Zincum, Manganese and Magnesium mainly, It had certain relations with shorting of others microelements.Drip irrigation method has an effect to walnut trees ’s absorption of nourishment, Application amount of trace elements of walnut tree should be increased while irrigation method changed from flood irrigation to drip irrigation.

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【题目】滴灌条件下核桃树液流规律研究
【中文关键词】核桃树,液流,参考作物蒸发蒸腾量,气象因素
【英文关键词】Juglans rejia L. trees; sap flow; evapotranspiration; meteorological factors
【中文摘要】利用包裹式茎流仪(Dynagamax)监测核桃树的液流量,并用watchdog自动气象站和土壤水分观测仪(TRIME-IPH)对气象因素和土壤水分进行同步观测。分析了核桃树液流速率的日变化规律,及其与太阳辐射和大气温度的关系。分析核桃树液流Tr与参考作物蒸发蒸腾量的相似性,以及Tr/ETo和100cm平均土壤相对含水量AW的关系。运用SPSS软件建立了液流量Tr与气象因子的回归方程。
【英文摘要】Dynagamax was used to monitor sap flow of Juglans rejia L.trees. Meanwhile, watchdog Automatic Weather Station and TRIME-IPH were used to measure meteorology factors and soil water content. Daily variation regularity of sap flow of Juglans rejia L.trees, relationship between sap flow of Juglans rejia L. and solar radiation, relationship between sap flow of Juglans rejia L.and atmosphere temperature were analyzed. Similarity between evapotranspiration(ET0) and sap flow of Juglans rejia L. (Tr), relationship between Tr/ET0 and average relative water content of 100cm depth were analyzed as well. SPSS 13.0 was used to establish regression equation about sap flow of Juglans rejia L. and meteorology factors.
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【题目】运用投影寻踪法建立苹果树蒸腾量的预测模型
【中文关键词】苹果树;叶水势;气象因子;苹果树蒸腾量
【英文关键词】Apple trees;Leaf water potential;Meteorological factors;Apple tree transpiration
【中文摘要】运用投影寻踪回归分析法建立苹果树蒸腾量的预2009年5~9月气象站观测数据,对气温、相对湿度、风速、太阳辐归分析法建立了各气象因子与苹果树蒸腾量的预测模型。 温降低和湿度增加而增加。气温、净辐射与作物叶水势均呈抛物水势与土壤含水率关系可知,当土壤含水率减少时,苹果根系难以偏低,叶水势也随着下降。苹果叶水势随着土壤含水率的降低而量的预测模型,且预测精度较高
【英文摘要】The aim was to establish prediction model for apple tree transpiration by using projection pursuit method,and provide guidance for better predicting the transpiration. According to weather station observation data during May-Sep.2009,the temperature,relative humidity,wind speed,solar radiation,atmospheric pressure and soil temperature,leaf temperature,water evaporation were analyzed,the prediction model between each weather factor and apple tree transpiration was established by using projection pursuit regression analysis method. The meteorological data analysis showed that the air water potential decreased with the temperature increased,andincreased with temperature decrease and humidity increase.The temperature,crop water consumption increased,and the leaf water potential decreased.From the relationshipnet radiation andcrop leaves were in the water parabola relation.Along with the increase of the net radiation,thebetween leaf water potential and soil moisture content,it was known that when the soil moisturecontent is declined,apple root couldn ’ t absorb enough moisture,and meet the demand ofconsumption,which lead to leaf in low water content,water potential leaf blade declined.Apple leaf water potential decreased with the soil moisture content decrease.The prediction model of meteorological factor to apple tree transpiration was established by using projection pursuit method,and the prediction precision was high.
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【题目】滴灌条件下核桃树茎流变化规律研究
【中文关键词】滴灌;核桃;茎流速率;气象因子;叶水势
【英文关键词】drip irrigation; walnut; stem sap flow rate; meteorological factor; leaf water potential
【中文摘要】通过田间试验,利用热扩散探针法研究了滴灌条件下核桃树茎流速率变化规律及其与影响因子间的关系,结果表明:核桃树茎流速率在晴天条件下日变化呈单峰曲线变化,先增大后减小,阴天条件下核桃树茎流速率表现为多峰曲线变化趋势;核桃树茎流速率与太阳辐射、大气温度和风速呈正相关关系,与大气相对湿度呈负相关关系,通径分析结果表明:对核桃树茎流速率影响最大的是大气温度,其次是风速、大气相对湿度、太阳辐射,建立了核桃树茎流速率与气象因子之间的回归方程;对测定的核桃树茎流速率与叶水势进行回归分析,表明二者呈负相关关系,并建立了回归方程
【英文摘要】Through field experiment, using thermal diffusion probe method to study the drip conditions for stem sap flow rate change rule and the relationship between and impact factor, the result shows that the stem sap flow rate in the sunny weather under the condition of daily variation in the single-peak curve changes, first increases, then decreases, cloudy conditions for stem sap flow rate for peak performance curves changing trend; Walnut trees s stem sap flow rate and solar radiation, atmospheric temperature and wind speed are positively related, and atmospheric relative humidity is inversely related, path analysis results show that the walnut trees stem sap flow rate is the greatest impact atmospheric temperature, followed by wind speed, air relative humidity, solar radiation, establishes the walnut trees stem sap flow rate regression equation between meteorological factors, On the determination of walnut trees stem sap flow rate and leaf water potential, regression analysis showed that the two kinds of negatively related, and to establish a regression equation.
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【题目】干旱区不同水分指标下限对成龄红枣生长和产量的影响
【中文关键词】水分下限;日均耗水量;产量;红枣
【英文关键词】moisture limit; average dailywater consumption; yield; dates
【中文摘要】探明新疆成龄红枣主要生育期的适宜水分范围。通过控制土壤不同水分下限的田间正交试验,研究土壤不同水分下限对成龄红枣的生理生长及产量的影响。不同水分下限灌溉对成龄红枣的新梢增长量、叶宽等生理生长影响不明显,但随着土壤水分下限的提高果实膨大速度也随之提高。产量比较表明,处理1(土壤水分下限占田间持水量75%)产量明显高于其它两处理,而处理2、处理3产量之间差异不显著。总体来讲75%田间持水量处理对红枣的生理生长、产量及其它各生理指标都优于其它处理。依据合理的水分指标进行灌溉,可以有效提高红枣的产量。
【英文摘要】To verify the range of suitable water of mature red Jujube growth stage in Xinjiang.The soil moisture and lower limits of different orthogonal field experiment were controlled to study the effect of the lower limit of soil different moisture on the physiological growth and yield of mature jujube.The results obtained from the three kinds of soil moisture controlled irrigation experiment were as follows: the different water irrigation had little influence on mature dates limit the amount of shoot growth, leaf width and other physiological growth, but the speed of fruit expansion increased with the increase of lower limits of soil moisture. In comparison with the production, processing one (soil moisture accounted for75% of field capacity): production was significantly higher than that of other two treatments, while there were no significantly different yield between treatment two and treatment three .In brief, the physiological indexes of growth, yield and different physiological indeves of jujube were superior to those of other treatments by75%. Based on reasonable indicator for irrigation water, the red jujube yield can be effectively improved.
【语种】中文

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【题目】滴灌条件下核桃土壤水分时间变异性分析
【中文关键词】时间变异性;土壤含水率;滴灌;时间尺度
【英文关键词】temporal variability; soil moisture; drip irrigation; temporal scale
【中文摘要】利用地统计学方法,研究了核桃在滴灌条件下田间土壤水分的时间异质性规律,以便为核桃滴灌自动化灌溉系统中的墒情预测提供理论依据。结果表明,在不同的时间尺度上,实验区土壤水分表现出不同程度的时间异质性,15 d尺度总的时间相关性程度远小于1 d尺度。1 d尺度基本可以揭示土壤水分时间上的微观变化结构特征,而15 d尺度不能全面揭示更微观变化的结构特征。
【英文摘要】The article analyses the temporal variability of soil moisture under drip irrigation in walnut fields by geology-statistical methods to provide theoretical basis for the soil moisture forecast in walnut automation drip irrigation system. The results indicated that the soil moisture in the research area has different temporal variability to different extent. From the point of view of time, the time correlation in 15 day' s scale is farther than that in 1 day's scale. One day scale can basically show the structural characteristics of time micro-change in soil moistrue. But 15 days scale cannot show the structural characteristics with less micro-change.
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【题目】微灌灌水小区水力算法改进及算例分析
【中文关键词】微灌;灌水小区;流量偏差率;节点压力;详算法
【英文关键词】micro-irrigation; irrigation unit; flow deviation rate; node pressure; stepwise calculation method
【中文摘要】文中介绍一种对由支、毛管均为顺逆坡铺设时所构成的灌水小区的水力计算方法-详算法。通过一典型实例表明,灌水小区内灌水器流量的平均值,等于灌水器设计流量,流量偏差率小于允许流量偏差率,结果满足规范规定的设计要求。同时,该方法可为微灌灌水小区压力、流量的确定和设置压力(流量)控制设备提供设计参数依据。
【英文摘要】Stepwise calculation method of hydraulic calculation for micro-irrigation unit was introduced, which branch pipes and laterals were lay under positive and reverse slope condition. Typical case showed that emitters' average flow of irrigation unit equal to emitters' design flow, flow deviation rate less than that of permission, results satisfied the requirements of design regulation. Stepwise calculation method could be used as design basis for determining of micro-irrigation unit's pressure and flow as well as pressure (flow) control equipments.
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【题目】滴灌条件下核桃土壤水分空间变异性
【中文关键词】空间变异性;土壤含水率;滴灌;核桃
【英文关键词】spatial variability; soil moisture; drip irrigation; walnut
【中文摘要】在新疆阿克苏地区温宿县核桃林场30 m×60 m(一根支管控制)的范围内,布置土壤水分监测点共计435个。利用地统计学方法,研究了核桃在滴灌条件下田间土壤含水率在空间上的变异规律,以便为核桃滴灌自动化灌溉系统中墒情监测传感器的合理布设及墒情预测提供理论依据。结果表明,滴灌条件下的采样幅度一定时,增大采样间距对土壤水分变异系数没有影响;各采样间距的土壤水分具有中等程度的空间相关性,且随着采样间距的增大,空间相关度变化不大,说明滴灌条件微尺度上的空间变异性受采样间距的影响不太显著;沿滴灌带方向的空间相关度明显大于垂直滴灌带方向,即沿滴灌带方向由结构性因素引起的变异更大,具有强烈的空间带状结构。
【英文摘要】A total of 435 soil moisture monitoring points in 30 m×60 m (a branch controls) were layout in Walnut Forestry Centre of Aksu district of Xinjiang. The spatial variability of soil moisture under drip irrigation of walnut fields was analyzed by using geology-statistics method to provide guideline for the soil moisture monitoring program and soil moisture prediction. The results indicated that augmenting the sampling spacing made no difference with variance coefficient of soil moisture while sampling extent was invariable under drip irrigation. The field soil moisture was moderate spatial autocorrelation under different sampling spacing. As the sampling spacing was augmenting, spatial autocorrelation had few diversification. It indicated that the sampling spacing has inapparent influence to spatial variability on micro-scale of drip irrigation. The spatial autocorrelation under the direction of the capillary was obviously bigger than that of branch pipe. Namely the variety under the direction of the capillary caused by structural factor was more evidence and the variability had a strong spatial zonal structure.
【语种】中文
【第一作者】周世军
【通讯作者】雷晓云
【期刊名称、卷期、页码】节水灌溉
【论文发表时间】2011-06-01 00:00:00
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【学科分类】农业基础学科

【题目】滴灌条件下干旱区枣树根区的土壤水分动态模拟
【中文关键词】滴灌;枣树;HYDRUS模型;土壤水分动态;数值模拟
【英文关键词】drip irrigation; jujube; HYDRAUS model; Soil water dynamic; numerical simulation.
【中文摘要】探明干旱区滴灌条件下枣树根区土壤水分的动态变化规律。【方法】以根系分布和土壤水分动态资料为基础,用考虑二维根系吸水的HYDRUS模型对滴灌条件下枣树根区土壤水分动态进行模拟,用含水率的模拟值与实测值的均方根误差(RMSE)和相对均方误差(RMAE)检验模拟效果.(1)各层土壤水分90d内的动态模拟结果显示,RMSE小于0.024cm3/cm3,RMAE小于14.2%;(2)典型灌溉周期剖面含水率分布的模拟结果显示,RMSE小于0.016cm3/cm3,RMAE小于5.6%。模拟结果表明,试验灌溉定额(450m3/hm2)合理,灌溉周期需调整,说明该模型可以准确反映干旱区滴灌枣树土壤水分的动态分布,可为灌溉制度的制定提供理论依据。
【英文摘要】The study explores the soil water dynamic rules in jujube root zone under drip irrigation in the arid area. Based on data of jujube roots density and soil water content, HYDRUS model is chosen to simulate the soil water dynamics in the root zone considering the two-dimensional root water uptake. The goodness of fit between simulation and measurement is measured by using root-mean-square-error (RMSE) and root-mean-absolute-error(RMAE) for the simulation with measured volumetric soil water contens. The results show that the RMSE Values for simulating the 90 day ’s soil water dynamics at the section of soil layers apiece below drip tube are less than 0.024cm3/cm3,and the RMAE values are less than 14.2% as well. The RMSE values for simulating the distribution of soil moisture content in the section of root zone during the typical irrigation cycle are less than 0.016cm3/cm3, and RMAE value are less than 5.6%. The simulation of the soil water dynamics indicates that the irrigation ration of experimental is scientific, however the irrigation cycle should be adjusted. It proves that the model performs well in simulating soil water dynamic in jujube root zone under drip irrigation.
【语种】中文
【第一作者】姚鹏亮
【通讯作者】董新光
【期刊名称、卷期、页码】西北农林科技大学学报

【论文发表时间】2011-10-01 00:00:00
【引文索引类型】其他
【引文索引号】1671-9387(2011)10-0149-08
【学科分类】农业基础学科

【题目】调亏灌溉对滴灌成龄香梨果树生长及果实产量的影响
【中文关键词】灌溉,土壤水分,品质控制,调亏,水分利用效率,营养生长,果实生长
【英文关键词】irrigation, soil moisture, quality control, regulated deficit, water use efficiency, vegetative growth, fruitgrowth
【中文摘要】调亏灌溉对果树节水、提高果实产量和品质具有一定效果。2009-2010 年,在新疆库尔勒巴州农业科学研究所进行试验,研究滴灌调亏时间及土壤水分亏缺程度对树龄24 a 的成龄库尔勒香梨果树生长及产量的影响。果实细胞分裂期、果实缓慢膨大期、果实细胞分裂期至缓慢膨大期,分别进行中度土壤水分亏缺与重度土壤水分亏缺灌溉。中度土壤水分亏缺的灌水量为美国A 级蒸发皿蒸发量(Ep)的60%,重度土壤水分亏缺的灌水量为Ep 的40%。其它时段灌水量与对照相同,为Ep 的80%;对照处理整个生育期灌水量均为Ep 的80%。灌溉周期为7 d。结果表明,前2 个生长阶段的调亏灌溉均抑制了香梨树的营养生长,提高了香梨果实产量和灌溉水利用效率。各调亏处理的夏季修剪量比对照减小了8.4%~43.2%。2 a 内,细胞分裂期重度调亏处理,产量分别比对照增加了15.5%和19.2%,较对照节水9.7%和8.1%;果实缓慢膨大期中度调亏处理,产量分别比对照增加了14.0%和18.0%,较对照节水13.2%和11.3%;果实细胞分裂期及果实缓慢膨大期的重度调亏处理,产量分别比对照减少了15.4%和13.2%,较对照节水34.7%和28.4%。调亏灌溉对香梨果实品质无显著影响。结果对成龄库尔勒香梨灌溉管理具有指导意义。
【英文摘要】Regulated Deficit Irrigation (RDI) is known to have higher water use efficiency, and higher fruit yield with better quality. Field experiments were conducted during 2009 and 2010 in Korla city, Xinjiang autonomous region, to investigate the effects of RDI applied in different growth stages and with different levels of water deficit on vegetative, fruit growth and yield of mature fragrant pear trees of 24 years old. The experimental treatments involved moderate and severe water deficit, in either the cell division period or in the slow fruit growth period or in both periods. Trickle irrigation, with 2 driplines, one on each side of the trees was adopted. The moderate RDI used 60% and the severe used 40% replacement of US Class A pan evaporation, respectively. Irrigation amount during non-deficit stages was the same as in the control treatment. The control treatment was irrigated at 80% of pan evaporation during the whole growth season and all treatments were irrigated weekly. The results showed that the water deficit applied during both cell division and/or slow fruit enlargement stage inhibited the vegetative growth. Compared with the control, the summer pruning of the RDI treatments was reduced by 8.4%-43.2%. In both years, as compared with the control, the severe water deficit irrigation during cell division stage significantly increased yield by 15.5%-19.2%, and reduced the irrigation water by 9.7%-8.1%. The yield of moderated water deficit irrigation in slow fruit enlargement stage was increased by 14.0%-18.0%, and the irrigation water was reduced by 13.2%-11.3%. The yield of severe water deficit irrigation during both cell division and slow fruit enlargement stages was decreased by 15.4%-13.2%, and the irrigation water reduced by 34.7%-28.4%. Fruit quality had no significant differences among the treatments. The results are meaningful to guide the irrigation management of mature Korla fragrant pear trees.
【语种】中文
【第一作者】武阳
【通讯作者】王伟
【期刊名称、卷期、页码】农业工程学报
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【引文索引类型】EI
【引文索引号】1002-6819(2012)-11-0118-07
【学科分类】农业基础学科

【题目】调亏灌溉对库尔勒香梨光合速率及叶片水分利用效率的影响
【中文关键词】库尔勒香梨 调亏灌溉 蒸腾速率 气孔开度 水分利用效率
【英文关键词】Deficitirrigation,Dripirrigation,Waterstress,Fruitgrowth,Rootlengthdensit
【中文摘要】研究了亏缺灌溉对成龄库尔勒香梨树营养生长、果实生长与吸收根系分布的影响。香梨的生育中期,设计了4种土壤水分亏缺(灌前土壤水势下限):轻度胁迫(-100kPa)、中度胁迫(-200kPa)、重度胁迫(-300kPa)和对照(-50kPa)。灌溉系统为地表滴灌。试验结果表明,亏缺灌溉显著地减少了夏季剪枝量,提高了果实产量。充分灌溉条件下,香梨树根长密度从树行由内向外呈递减趋势,滴灌促进了湿润体内的吸收根系的发育;距树行0　5m,根长密度随着深度的增加而减少;距树行1m至1　5m,根长密度随着深度的增加而增加;距树行2m的非灌溉区,根长密度在垂直方向上变化不显著。为适应滴灌湿

润体内水分胁迫,香梨树在湿润体内及非灌溉区的吸收根系的分布均发生了显著的调整。适度水分胁迫下的根长密度增加对香梨产量有促进作用。
【英文摘要】Theexperimentincludedfourlevelsofthesoilwaterdeficit(thresholdofsoilwaterpotentialbeforeirrigation) applied in themiddleperiod offragrantpeargrowth: slight(-100kPa), moderate(-200kPa),severe(-300kPa)waterstressandthecontrol(-50kPa).Theirrigationsystem was surfacedripirrigation.Theresultsindicatedthatthewaterstressirrigationsignificantlyreducedthesummerpruningweight,improvedtheyield.Underfullirrigation,therootlengthdensity(RLD) decreasedwiththeincrementofdistancefrom thetreerow,androotdevelopmentinthewettedzoneof dripirrigatedpeartreewasenhanced.TheRLDat0 5m from thetreerowdecreasedwiththedepth; however,theRLDintherangefrom1mto1 5mfromthetreerowincreasedwiththedepth;inthenon irrigatedzoneat2mfromthetreerow,thedifferencesofRLDamongthedepthswerenotobvious.The RLDinthewettedandnon irrigatedzoneadjustedsignificantlyduetothewaterstressinthewettedzone,ascomparedtothecontrl.IncreaseofRLDduetothemoderatesoilwaterdeficitshowedsomepositiveeffectstotheyieldimprovement.
【语种】中文
【第一作者】武阳
【通讯作者】王伟
【期刊名称、卷期、页码】农业机械学报
【论文发表时间】2012-06-01 00:00:00
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【学科分类】农业基础学科

【题目】Yield and Water Use Efficiency of Pear Trees under Drip Irrigation with Different Surface Wetted Percentage
【中文关键词】微灌;营养生长;果实生长;蒸发皿系数;果实品质
【英文关键词】microirrigation vegetative growth, fruit growth, pan coefficient, fruit quality.
【中文摘要】通过在新疆库尔勒地区连续两年的田间试验,研究了香梨树在滴灌不同湿润比情况下反应。24年树龄的香梨树每周关一次,灌水量为美国A级蒸发皿水面蒸发量的80%。试验设置了三种不同的湿润比:16%,32%,和43%,对照处理为地面灌香梨,每月灌一次水,灌水定额300mm。所有滴灌处理均比对照处理少灌溉了约50%的水量。较地面灌,43%湿润比的产量产量最低(两年平均减产17%),其他两种湿润比处理的香梨产量没有明显下降。32%湿润比的处理灌溉水利用系数最高(两年的平均值为3.02Kg/m3)。对于滴灌处理在新梢生长量较地面灌处理有明显地减少。对于极端干旱的气候条件下,当成龄香梨由地面灌转为滴灌的初期32%的湿润比最适宜。
【英文摘要】Field studies were conducted for two consecutive years in Korla, XinJinag, China,to investigate the response of pear trees to different surface wetted percentages under drip irrigation on an oasis around Taklimakan desert. The 24-Years-old pear trees were weekly irrigated at a level to replace 80% of US Class A pan evaporation, with three different surface wetted percentages: 16%, 32% and 43%. A control (CK) was flood irrigated with a monthly applied amount 0f 300 mm. All drip irrigated treatments applied about 50% water less than control. A larger(43%)surface wetting had a significantly low yield(two year average 17% reduction) than the flood irrigation treatment, but there were no significant yield differences among the other treatments. Maximum irrigation water use efficiency was observed in 32% surface wetting (on an average 3.02Kg/m3).However, there was a significant reduction in the mass of new shoots with drip irrigation. Under the extremely arid climatic conditions of this study, during the initial period,32% surface wetted percentage proved optimal for mature pear trees that had been transferred from flood irrigation into drip irrigation
【语种】英文
【第一作者】赵智
【通讯作者】王伟
【期刊名称、卷期、页码】international journal of Agriculture & Biology,
【论文发表时间】2012-06-01 00:00:00
【引文索引类型】SCI
【引文索引号】1814-1596,12-162/20/x/000-00
【学科分类】农业基础学科

【题目】无刺水果型黄瓜杂交种“绿翠”的选育

【中文关键词】水果型黄瓜;绿翠;杂交种
【英文关键词】Mini-cucumber, Cuil ü , Hybrid F1
【中文摘要】黄瓜新品种“绿翠”是针对我国缺乏专用黄瓜品种而育成的一代杂种。母本是从华南型优良品种‘002261’经超低能离子束诱变后代中选育出的自交系P66,父本是以欧洲品种‘荷兰121’为材料经系统选育获得的优良自交系Z38。适合黄淮地区春秋保护地和春夏露地栽培。果实棒状, 瓜长19.0cm左右(冬季栽培15.0cm 左右),横径2.2cm,整齐度高,果皮墨绿色,无刺瘤,无瓜把,着色均匀,果面有光泽,清香味浓,口感好。单瓜质量100~120g, 心腔小于瓜粗的1 /2,维生素C 11.3 mg/100g, 可溶性糖1.76%,可溶性固形物含量3.54%。果实整齐、商品性好, 标准瓜率在85%以上。
【英文摘要】Based on shortage of cucumber varieties for special use, a new cucumber hybrid F1 “ Cuil ü ” was developed by crossing P66 as female with Z38 as male. Female P66 is an inbred line by mutating Hua ’ nan-type cucumber variety No. 002261 with low-energy ion beams. And male is also an inbred line developed from an European variety “ Netherlands No. 121 ”. “ Cuil ü ” is suitable for protected spring and autumn cultivation, and open field spring and summer cultivation in Huanghuai zone. The fruit is stick-like, spineless, without fruit end, orderly, deep green, tasty. It is about 19.0cm long (about 15.0cm long for winter fruits), 2.2cm wide, averagely 100-120g weighty, and has a small cavity less than 1.1cm, 11.3mg. (100g)-1 vitamin C, 1.76% soluble sugar, and 3.54% soluble solids. In addition, the standard fruits account for over 85%.
【语种】中文
【第一作者】史宣杰
【通讯作者】史宣杰
【期刊名称、卷期、页码】中国瓜菜.2007(6):28-30
【论文发表时间】2007-12-06 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】园艺学

【题目】无刺水果型小黄瓜绿翠生育特点及高产栽培技术
【中文关键词】水果型黄瓜 ;绿翠;生育特点 ;栽培技术
【英文关键词】Mini -cucumber;Ltvcui;Growth characteristic;Cultivating technology
【中文摘要】绿翠系河南省农业科学院园艺研究所最新选育的无刺水果型小黄瓜优良品种,连续6 a在省内外各地试种示范,表现出生长势强健、早熟性好、连续坐瓜性强、商品瓜率高、抗病性好、高产优质等优良特性。介绍了绿翠小黄瓜的生育特点,并从培育壮苗、定植前准备、整地定植、定植后管理、病虫害防治和采收等方面介绍了其高产保优栽培技术要点,以期为该品种的大面积推广种植提供技术指导。
【英文摘要】Based o n shortage of cucumber varieties for special use,a new cucumber hybrid FI Lvcui was developed by Institute of Horticulture,Henan Academy of Agricultural Sciences.The plant exDerimentally and demonstration for 6 years in Henan province and others shows that Lvcui is suitable for protected spring and autumn cultivation,a nd open field spring and summer cultivation in Huanghuai zone.The plant is strong,early-maturation,good fruit-set successively,high corn-modity rate,strong desease-resiatance,and high-yield and good-quality.The fruit is stick-like,stingless,without fruit end,orderly,dee p gree n,tasty.It is about 19.0 cm long(about 15.0 c m long for winter fruits),2.2 cm wide,averagely 100-120g weight,and has a small cavity less tha n 1.1cm.In addition,the standard fruits account for over 85.The high yield and good quality cultivating techniques of this mini-cucumber variety in Huanghuai were summaried,including preparition before cultivating strong seedling,pest and disease control,management after trans planting。 harvest at the right time to guide the extended production.
【语种】中文
【第一作者】师恭耀
【通讯作者】田保明
【期刊名称、卷期、页码】河南农业科学.2010(5):101-103
【论文发表时间】2010-05-16 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】园艺学

【题目】无刺水果型黄瓜品种绿翠及其高产杂交制种技术

【中文关键词】无刺水果型黄瓜;保优栽培技术体系;高产杂交制种体系
【英文关键词】Mini-cucumber ;lvcui;
【中文摘要】针对选育出的新一代无刺水果型黄瓜新品种绿翠。形成了一整套高产保优栽培技术体系和高产杂交制种体系,可向消费者提供无公害、高品质新产品,同时可替代进口品种,其成果应用和产业化前景广阔。
【英文摘要】无
【语种】中文
【第一作者】胡安杰
【通讯作者】史宣杰
【期刊名称、卷期、页码】中国瓜菜.2010(2):34-36
【论文发表时间】2010-04-06 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】园艺学

【题目】扶沟秋延后黄瓜高效栽培技术
【中文关键词】黄瓜;秋延后;高效栽培技术
【英文关键词】Cucumber;High efficient cultivation techniques
【中文摘要】针对秋延后黄瓜栽培中获得较高的经济效益,需要高效的栽培管理模式。通过在扶沟及周边各地的调查研究,总结出一套适合扶沟及相近地区秋延后黄瓜栽培的高效管理模式。
【英文摘要】无
【语种】中文
【第一作者】史宣杰
【通讯作者】史宣杰
【期刊名称、卷期、页码】河南农业科学.2010(1):108-109,118
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【引文索引类型】其他
【引文索引号】null
【学科分类】园艺学

【题目】河南省越冬温室黄瓜间作苦瓜无公害栽培技
【中文关键词】黄瓜;温室;无公害栽培技术
【英文关键词】Cucumber;Pollution-free;cultivation technique
【中文摘要】在各种模式保护地蔬菜种植中,越冬温室黄瓜间作苦瓜种植模式效益稳定且相对较高。结合当地常年种植经验,总结出了一套较为完善的越冬温室黄瓜间作苦瓜无公害栽培技术。
【英文摘要】无
【语种】中文
【第一作者】史宣杰
【通讯作者】程俊跃
【期刊名称、卷期、页码】中国瓜菜.2012,25(1):58-60
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【引文索引类型】其他
【引文索引号】null
【学科分类】园艺学

【题目】温室黄瓜根腐病的发生与综合 防治
【中文关键词】黄瓜;根腐病;发生规律;综合防治
【英文关键词】Cucumber; root rot; occurrence regularity; integrated control
【中文摘要】阐述了扶沟地区温室嫁接黄瓜根腐病的发病现状,介绍了根腐病的症状、病原菌、发病条件、发病规律以及综合防治方法。

【英文摘要】无
【语种】中文
【第一作者】史宣杰
【通讯作者】史宣杰
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【引文索引号】null
【学科分类】园艺学

【题目】不同生物肥在西瓜上的施用效果
【中文关键词】生物肥;西瓜;产量;品质
【英文关键词】无
【中文摘要】对不同生物肥甲壳胺、丰收精在西瓜上的施用效果进行了研究。结果表明,喷施2 种生物肥能提前西瓜的物候期。适宜浓度下,能明显改善西瓜品质,增加产量。甲壳胺1 000 倍液、丰收精500 倍液喷施可分别增产12. 68%、4. 59%。进一步的经济效益分析表明,每公顷可增加效益4933.8 元、1 788. 3 元,投入产出比分别为1 :7. 83、1 :3. 06。
【英文摘要】无
【语种】中文
【第一作者】李晓慧
【通讯作者】徐小利
【期刊名称、卷期、页码】河南农业科学,2009(12):119-120
【论文发表时间】2009-12-01 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】园艺学

【题目】不同砧木嫁接对西瓜生长发育及产量的影响
【中文关键词】西瓜;砧木;生长发育;产量
【英文关键词】无
【中文摘要】研究了豫园砧木王(Citrullus lanatus var. citroides cv. Yuyuanzhenmu)、超丰F1(Lagenaria sicerariacv. Chaofeng F1)、新土佐(Cucurbita maxima ×C. moschata,Sintozwa)3 个西瓜砧木嫁接对西瓜(Citrulluslanatus var. lanatus)生长发育、根系的分布及产量的影响。结果表明,3 种不同砧木西瓜嫁接苗与自根苗相比,根系发达,茎叶生长旺盛,且有增产作用。其中豫园砧木王和新土佐砧木的嫁接效果最好,其能明显增强嫁接苗的长势,可分别使西瓜增产21.4%和25.0%。因此,建议选择豫园砧木王和新土佐嫁接西瓜为好,以达到丰产的目的。
【英文摘要】无
【语种】中文
【第一作者】常高正
【通讯作者】徐小利
【期刊名称、卷期、页码】湖北农业科学,2009,48(10):2466-2468
【论文发表时间】2009-10-01 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】园艺学

【题目】不同砧木对西瓜嫁接的影响
【中文关键词】生物肥;西瓜;产量;品质
【英文关键词】watermelon; grafting; disease control effect;yield; quality
【中文摘要】以西瓜品种天骄为接穗,对3种不同类型的砧木的嫁接效果进行了研究。结果表明: 豫园砧木王嫁接西瓜具有较高的亲和性和防病效果,并且可以提高西瓜边糖和心糖的含量,降低果实的畸形率,其可增产21. 4%,仅次于新土佐砧木的增产效果。因此,建议选择豫园砧木王为砧木嫁接西瓜,以达到高产、抗病、改良品质的目的。

【英文摘要】The grafting effects of three rootstocks were studied with “ Tianjiao ” used as scion. The results showed that “ Yuyuanzhenmu ” had hinger compatibility and disease control effect, could raise soluble sugar content and decrease fruit malformation rate, and increased yield by 21.4% , which was next only to “ Xintushi ”. So “ Yuyuanzhenmu ” was recommended to graft watermelon, to reach the purpose of high yield, disease resistance, improved qualiy.
【语种】中文
【第一作者】赵卫星
【通讯作者】徐小利
【期刊名称、卷期、页码】河南农业科学,2009(12):119-120
【论文发表时间】2009-12-01 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】园艺学

【题目】西瓜“ 凯旋 ”的杂交制种技术规程
【中文关键词】西瓜;凯旋;制种
【英文关键词】无
【中文摘要】对西瓜新品种“ 凯旋 ”杂交制种过程中母本种植密度、授粉关键环节、采收、种子处理等技术制定了标准化操作规程。
【英文摘要】无
【语种】中文
【第一作者】常高正
【通讯作者】徐小利
【期刊名称、卷期、页码】吉林蔬菜,2009(3):24
【论文发表时间】2009-03-15 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】园艺学

【题目】西瓜新品种天骄特征特性及大棚高效栽培技术
【中文关键词】西瓜;天骄;大棚;栽培
【英文关键词】无
【中文摘要】阐述了天骄西瓜的特征特性及大棚栽培技术要点, 提出重视营养土的配制、苗床管理、培育壮苗、做好水肥及温度管理和病虫害等关键技术。
【英文摘要】无
【语种】中文
【第一作者】常高正
【通讯作者】徐小利
【期刊名称、卷期、页码】北方园艺,2009(10):169-170
【论文发表时间】2009-10-01 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】园艺学

【题目】海水养殖池塘浮游植物碳的计算机模拟
【中文关键词】养殖池塘; 浮游植物; 碳; 模型; 敏感性参数
【英文关键词】mariculture pond; phy to plankton; carbon; model; sensitivity parameter
【中文摘要】应用光学显微镜法对实验系统浮游植物进行了野外定量研究,测定了系统中浮游植物的种类组成和生物碳素变动,为模型有效性验证提供了野外数据;根据Ecopath能量平衡模型原理建立了海水养殖池塘浮游植物碳的计算机模型,初步确定了包括15个参数的浮游植物模块参数库,通过单因子分析法进行参数敏感性检验,确定了3个敏感性参数,并利用野外实际测定数据进行了模型验证。模拟结果表明本模型成功模拟了海水养殖系统浮游植物碳变动。在建模过程中,光限制因

子与水温为影响浮游植物碳的主要内源因素,浮游动物捕食作用为外源影响因素。
【英文摘要】The species and the carbon of phy toplankton are studied in the intensive shrimp culture eco-system with the use of the optical microscope, for provided the field data to the validation of the dynamical model of phytoplankton carbon. A computer model is built up according to the Ecopath model method. A module stock which consisted of 15 parameters is primarily established, and 3 sensitivity parameters are found by sensitivity analysis. The results show that the simulated data are inaccordance with the field data of phytoplankton carbon well. In simulation, the factors of light limit and water temperature are the interior factors of model building , and the predation of zooplankton is the exterior ones.
【语种】中文
【第一作者】苏跃朋
【通讯作者】苏跃朋
【期刊名称、卷期、页码】2008,7(4):453-457
【论文发表时间】2009-02-22 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】水产学基础学科

【题目】养殖水质在线监测采样方式对测定结果的影响
【中文关键词】水产养殖;水质;在线监测;采样;修正
【英文关键词】aquacuhure;water quality;online monitoring;sampling;corection
【中文摘要】为了节省昂贵的在线检测仪表使用数量,使用一组仪表轮流检测多组养殖水体是行之有效的方法之一。但由于相应的水样采取方式发生了变化,往往不符合仪表传感器的最佳采样方式,可能造成额外误差。通过分析常用水质在线检测仪表在多路取样条件下可能产生的误差,证明该方法对pH、氧化还原电位等化学性水质指标检测结果影响不显著,对温度、溶解氧等物理性水质指标检测结果有一定的影响。在此基础上.提出了实际应用该方法时需采取的修正措施。
【英文摘要】The aquaculture water quality online monitoring system,which mainly integrates multi-parameter water quality online detecting instrument,the industrial control elements and industrial control software that supports system work,provides real-time water quality monitoring means for intensive aquaculture.Relatively speaking,water quality online detecting instrument is very expensive,which limits the popularization and application of the system in aquaculture.One of the feasible and effective methods of reducing the number of the expensive online detecting instrument is making a group of instrument detect multiple aquaculture water bodies by turns.However,due to the change of the corresponding sampling method,the optimal sampling method of instrumentation sensor is generally can not be adopted,which may cause extra e~ors.The erors of common water quality online detecting instrument that may be caused under the condition of multi.channel sampling are ana1yzed in the paper.The experimental result shows that the method has no obvious influence on such chemical water quality index detection result as pH value and oxidation-reduction potential, and the influence on such physical water quality detection result as temperature and dissolved oxygen is obvious. In addition,corrective measures adopted for practical application of the method are put forward based on this.
【语种】中文
【第一作者】陈军
【通讯作者】陈军
【期刊名称、卷期、页码】渔业现代化,2008,35(5):1-4
【论文发表时间】2008-09-16 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】环境科学技术及资源科学技术其他学科

【题目】沙地土壤磷循环研究
【中文关键词】关键词 沙土; 土壤磷库; 土壤磷平衡; 土壤磷收支
【英文关键词】Key words:Horqin sandy land;sand-stabilizing;straw check boards;soil nutrients;vegetation
【中文摘要】摘 要 磷素是干旱半干旱地区沙地生态系统的限制性养分因子, 沙地土壤磷循环对沙地生态系统生产力维持至关重要,越来越受到人们的关注。本文根据国内外研究成果, 对沙地土壤磷的来源、 磷库容量、 磷循环途径和影响磷循环的因素等关键问题进行综述, 认为磷循环研究方向可归纳为以下几个方面: 1)影响沙地土壤磷循环各因素的作用机制; 2)不同磷循环途径的磷收支通量; 3)不同土壤利用状态下,磷平衡状况; 4)不同土壤利用状态下,土壤生产力的可持续性;

5)维持土壤磷平衡采用的生态恢复手段。上述研究,对于维持沙地生态系统稳定的生产力,解决人与资源和环境的矛盾均有指导作用。

【英文摘要】Abst ract : Phosphorus (P) is one o f l i m i ting nutrient e le m ents i n sandy land ecosyste m s o f ari dand se m - i arid areas , and t he so i l P cyc li ng on sandy lands is of great si gn i f icance inma i ntainingecosystem productiv i ty o f sandy land , being paidmore andmore attention by the people . In t h ispaper , the latest research advances at hom e and abroad on the sandy land so i l P sources , Ppoo ls , and P cycli ng pathw ays , and the factors affecting t he P cyclingw ere su mmarized , w it h thefollo w i ng f urther research aspects suggested : 1) the act i on mechan is ms of the factors affecting theP cycling , 2) theP budget fluxes i n d i fferen tP cyc l ing pathw ays , and 3) the status of so ilP ba- lance and t he susta i nabili ty of so il product i v i ty under dif ferent land use . The above research as -pects would g ive references to thema i n tenance o f sandy land ecosystem productiv i ty and them i t- iga ti on of the contrad icti ons bet w een hu m an be i ngs and natural resources and envir onmen. tKey words : sandy so i ; l so i l phospho r us poo; l soil phosphorus ba lance ; so i l phospho r us budge. tAbstract:Applying biology and engineering measures to restoring the vegetation of shifting sand in western region of Horqin sandy land, and sand-stabilizing and restore effect were assessed through sand monitoring and vegetation investigation. 1.0×1.0m size straw check boards with suited sand-stabilizing plants could achieve the best wind break and sand-stabilizing effect. As the time goes by after shifting sands were stabilized, soil water conservation capacity, and the available nutrients, total C, available K, N, and P were increased, soil chemical property was improved obviously. Vegetation coverage was increased and plant ecology system was inclined to reach stabilization condition relatively.

【语种】中文

【第一作者】周全来

【通讯作者】周全来

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【引文索引号】null

【学科分类】林业工程

【题目】A studies on the contribution of different food sources for shrimp growth in intensive fenneropenaeus Chinensis pond

【中文关键词】对虾池塘;营养利用;稳定同位素;作用;精养

【英文关键词】shrimp pond; nutrition utilization; stable isotope; contribution; intensive

【中文摘要】稳定同位素法可以用于准确可靠地研究水生生物的食物来源和捕猎对象。本研究利用碳、氮同位素研究了在中国明对虾精养池塘中,人工饲料(配合饲料和卤虫)和天然饵料分别对中国明对虾生长的相对贡献。结果表明饲料中氮和碳的转化率分别为33.18%和21.73%。稳定同位素研究结果表明,对象生长所需营养93.5%来自人工饲料,6.5%来自天然饵料。每公顷池塘收获对虾14.5吨,但其中只有0.94吨来源于投喂天然饵料,13.56吨来源于投喂人工饲料。因此单位面积产量可通过增加投喂天然饵料提高。

【英文摘要】Stable isotope methods can be used to determine the food sources and prey items of aquatic organisms accurately and reliably. This study examined the relative contribution of artificial foods (the formulated feed and Artemia) and natural foods to shrimp growth in an intensive Fenneropenaeus chinensis pond by using carbon and nitrogen stable isotopes. The results showed that the nutrition utilization efficiency of the harvested shrimp was low, only 33.18% of feed nitrogen and 21.73% of feed carbon being converted to shrimp flesh. Our stable isotope results showed that the shrimp obtained nutrition for maximum growth from artificial foods, whose contribution was 93.5%, with the remaining attributed to the natural foods. However, there was 0.94 t harvested shrimp derived from natural foods (the rest of 13.56 t harvested shrimp derived from artificial foods) in 1ha intensive pond with a shrimpproduction of 14.50 t ha-1. Therefore, unit area shrimp production can be increased by increasing the contribution proportion of natural foods in intensive shrimp farming.

【语种】英文

【第一作者】苏跃朋

【通讯作者】马甡

【期刊名称、卷期、页码】Journal of Ocean University of China, 2008,7(4):53-457

【论文发表时间】2008-04-17 00:00:00

【引文索引类型】其他

【引文索引号】null

【学科分类】水产养殖学

【题目】养殖水质在线监控的系统集成技术
【中文关键词】水产养殖;水质监控;传感器无线网络;FCS现场总线
【英文关键词】aquaculture;water quality monitoring;wireless sensor networks;FCS Fieldbus
【中文摘要】应用多参数水质传感器、PAC场控制器、IEEE 802.15.4无线传感器网络、CAN现场通信网络等技术进行系统设计,创建低成本、高效率、性能匀称、可扩充系统的水产养殖水质测试和水质调控的集成系统。认为推广普及规范化的水质监控手段,对促进水产养殖的科技进步和产业升级,实现水产养殖业增长方式转变有积极的意义。指出在现阶段发展我国的“数字化”养殖水质监控系统时,要注意现场设备的数字化、智能化、多功能化、网络化,开发低价位性能可靠的数字化水质传感器,提高信息的共享性和发挥养殖水质数据的应用价值。
【英文摘要】This paper proposes an aquaculture water quality testing and controlling integration system with low cost,high eficiency,equal performance and extensibility according to the low—level development in aquaculture water quality monitoring and control in china.The system is designed with the application of multi—parameter water quality sensors,PAC—site controller,IEEE 802.15.4 wireless sensor network,and CAN—site comlnunication network etc.It means a lot for the aquaculture technology advancement and industry upgrade in addition to the changes in aquaculture growth mode to promote and popularize standardized water quality monitoring and controlling measures.It indicates that more attention should be paid to make the on-site devices digital,intelligent,multi-functional in a network when developing digitalized aquaculture water quality monitoring and controlling system nowadays.Moreover,itg required to develop reliable and cheap digitalized water quality sensors and to improve sharing inform ation and realize the application value of aquaculture water quality data.
【语种】中文
【第一作者】王鹏祥
【通讯作者】王鹏祥
【期刊名称、卷期、页码】渔业现代化,2008,35(6):18-22
【论文发表时间】2008-10-26 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】计算机软件

【题目】中国明对虾精养池塘氮、磷和碳收支的研究
【中文关键词】营养盐收支;磷;氮;碳 沉积积累;中国明对虾
【英文关键词】nutrient budget ; phosphorus; nitrogen ; carbon ; sedimentation ; Fenneropenaeus chinensis
【中文摘要】系统化学收支的研究可以说明进入池塘生态系统各营养物质的归宿,文章应用营养盐收支法分析了池塘生态系统的物质流通。结果表明,对虾生产利用营养盐所占比例依次为氮(N),27.40%;磷(P),20.69%;碳(C),17.32%。在营养盐支出中,P的沉积作用明显,占总支出的52.04%;N在水体的悬浮和溶解较多,占61.06%;C在养殖系统的呼吸作用消耗最大,占40.86%。在封闭式池塘系统中,对虾养殖中营养盐的低利用效率为系统环境中营养盐积累的直接原因,除C通过呼吸作用得到有效释放外,大部分N、P污染元素滞留或沉积在池塘系统。
【英文摘要】Chemical budgets can be formulated to account for all sources of nutrient gains and losses in aquicolous ecosystem. Therefore, nutrient budget was used in this study to assess the material circulation in shrimp pond ecosystem. The results showed that the ratio of nutrient utilized by shrimp production ranked as follows: N (27.40%) , P (20. 69%) and C (17. 32%) ; as for the nutrient losses, most phosphorus was sediment to the pond bottom, occupying 52. 04% in gross P losses; maximum nitrogen suspended or dissolved in water, occupying 61.06% in gross N losses; carbon was consumed mostly by pond respiration, occupying 40. 86% in gross C losses. Thus, in closed pond ecosystem, shrimp production had so inefficient utilization to nutrition that N and P accumulated or subsided in shrimp pond, except that C released mostly by pond respiration.
【语种】中文
【第一作者】苏跃朋
【通讯作者】苏跃朋
【期刊名称、卷期、页码】南方水产,2009,5(6): 55-59
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【引文索引类型】其他
【引文索引号】null

【学科分类】水产养殖学

【题目】温度盐度交互作用对凡纳滨对虾耗氧和氨氮、磷排泄的影响
【中文关键词】凡纳滨对虾; 耗氧率; 氨氮; 磷; 排泄
【英文关键词】Litopenaeus vannamei; oxygen consumption rate; ammonian itrogen; phosphate; excretion
【中文摘要】以凡纳滨对虾(Litopenaeus vannamei)成虾为研究对象,设计了4个盐度梯度和4个温度梯度,采用正交试验,研究了温度、盐度及其交互作用对凡纳滨对虾耗氧率和氨氮、磷排泄率的影响。凡纳滨对虾在温度和盐度交互作用下耗氧率为0.266~0.582mg/(g.h),平均为0.419mg/(g.h);磷排泄率为0.935~2.279 μg/(g.h),平均为1.532 μg/(g.h);氨氮排泄率为1.222~2.656 μg/(g.h),平均为1.854 μg/(g.h)。统计分析显示,温度和盐度对耗氧率和氨氮、磷排泄率都有极为显著的影响(P0.01),且两者之间交互作用极其显著(P0.01)。
【英文摘要】Taking white pacific adult shrimp (Litopenaeus vannamei) as the research object,the orthogonal experiment between 4 salinity levels and 4 water temperature levels is designed in this paper. The interaction effect of water temperature and salinity on oxygen consumption rates, ammonia nitrogen excretion rates and phosphate excretion rates for white pacific shrimp (Litopenaeus vannamei) were studied. In the interaction effect of above mentioned factors, the rate of oxygen consumption varied from 0.266 to 0.582mg /(g. h) , the average value is 0.419mg /(g.h). And the rate of phosphorous excretion varied from 0.935 to 2.279g /(g.h) , the average value is 1.532g /(g.h). Meanwhile the rate of ammonia nitrogen excretion varied from 1.222 to 2.656g /(g.h) , the average value is 1.854g /(g.h) . The statistical analysis showed, the effect of temperature and salinity on oxygen consumption rates, ammonia nitrogen or phosphate excretion rates for white pacific shrimp (Litopenaeus vannam ei) are significant (P<0.01) , and the interaction effect is remarkable too (P<0. 01) .
【语种】中文
【第一作者】宋协法
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【期刊名称、卷期、页码】渔业现代化,2009,2(36):1-6
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【学科分类】水产养殖学

【题目】科尔沁沙地小叶锦鸡儿人工林防风固沙及改良土壤效应研究
【中文关键词】固沙林; 土壤养分; 土壤酶; 土壤微生物; 小叶锦鸡儿(Caragana microphylla); 科尔沁沙地;
【英文关键词】sand-fixation plantation; soil nutrient; soil enzyme; edaphon; Caragana microphylla.;
【中文摘要】【摘要】 为探讨小叶锦鸡儿防风固沙、改良土壤养分状况和生物活性的能力,选取6年和11年生小叶锦鸡儿人工固沙林为对象,以流动沙丘为对照,研究不同年龄固沙林降低风速和风沙流结构特征、土壤有机质和N,P含量、土壤酶的活性以及微生物生物量C,N,P含量的变化特征。结果表明:在小叶锦鸡儿灌木林内,各个高度风速和输沙量均显著低于流动沙丘,防风固沙效果明显。随着小叶锦鸡儿固沙群落发育时间的增长,其综合防风性能提高,土壤有机质、N,P,K含量和生物活性逐渐得到改善。O~30 cm土层中磷酸单酯酶、蛋白酶、脲酶、蔗糖酶、硝酸还原酶、多酚氧化酶、脱氢酶的活性和土壤微生物生物量C,N和P含量均大幅度提高,其中0~10 cm土层增幅最大。土壤酶中蔗糖酶的活性增加最为迅速,6年和11年生固沙林0~10 cm土层分别是流动沙丘的28.58倍和55.2l倍。小叶锦鸡儿不仅具有较好的防风固沙性能,而且表现出强大的改善土壤养分和生物活性的能力,可作为优良的固沙植物材料在科尔沁沙地大面积推广应用。
【英文摘要】Abstract】 In order to approach the effects of Caragana microphylla plantations in protection against wind, sand-fixation and improvement of soil nutrient conditions and biological activity, in this study the 6- and 11-year C. mi-crophylla plantations are selected to research the characteristics of the plantations in wind velocity reduction, sand-fixation and sand-driving wind and the change characteristics of edaphons, enzyme activity and contents of soil or-ganic matter, N, P and K at soil depths of 0-10, 10-20 and 20-30 cm. The results show that the effects ofprotection against wind and sand-fixation of C. microphylla plantations are obvious, such effects and the contents ofsoil organic matter, N, P and K are gradually increased with the growth of C. microphylla plantations. Moreover,the activities of phosphomonoesterase, saccharase, protease, urease, dehydrogenase, polyphenol oxidase and ni-trate reductase and the contents of edaphon C, N and P are significantly increased at soil depth of 0 ~ 30 cm, espe-cially at soil depth of 0-10 cm. In the enzyme activities, the increase of saccharase activity is the most significant,and the soil content at depth of 0-10 cm under the 6-and 11-year C. microphylla plantations are 28.58 and 55.21times of those on mobile dunes. Therefore, C. microphylla can be regarded as a fine plant species to plant for pro-tection against wind and sand-fixation in the Horqin Sandy Land.

【语种】中文
【第一作者】蒋德明
【通讯作者】蒋德明
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【学科分类】林业工程

【题目】养殖水体水质的神经网络预测模型研究
【中文关键词】神经网络;BP算法;水产养殖水体
【英文关键词】neural networks; BP algorithm; aquaculture water
【中文摘要】以池塘养殖水体常规水质指标作为训练样本,在分析传统水质预测模型的基础上,构建神经网络水质预测模型。运用改进的BP算法对在线监测的水质指标进行分析、分类和预测,确定水质指标与其影响因子间的非线性关系,研究养殖水体水质指数变化梯度和分布规律,同时对水质状况进行模糊判别,为养殖生产提供预警控制,并对不同情况下的输出结果做出了比较。结果表明:该网络具有较好的泛化能力,预测平均误差在3%以内,实现了水质指标的准确预测和判别,收敛速度快,具有较好的实用性和较高的预测精度,基本满足环境管理的需要。
【英文摘要】A novel neural network model for water quality prediction is constructed with aquaculture water quality indexes in ponds as the training samples for the network after analyzing classical water quality prediction models. The water quality indexes monitored online are analyzed, classified and predicted with improved BP algorithm so as to confirm the nonlinear relationship between the indexes and their impact factors. The movement gradient and distribution regulation of water quality index in aquaculture water is studied while the fuzzy differentiation for the water condition is done in the meantime in order to provide pre-warning for next step in aquaculture. The results in different conditions are compared, which shows that the network has great generalization capability and high convergent speed with accurate prediction and differentiation of water quality indexes, the average forecast error was less than 3 percent. Simulation results prove that the proposed approach has high precision, good practicability and extensive applicability for engineering application. The arisen problems and solutions in the process of realizing the algorithm are also discussed.
【语种】中文
【第一作者】苗雷
【通讯作者】苗雷
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【引文索引类型】其他
【引文索引号】null
【学科分类】计算机软件

【题目】科尔沁沙地灌丛改造的工程措施及效果
【中文关键词】沙地灌丛; 改造效果; 地上生物量;
【英文关键词】sand shrubs; transformation effects; aboveground biomass;
【中文摘要】【摘要】 为了发挥沙生灌木防风固沙和改善生态环境的更大的作用,采用了围封、平茬和补植等工程措施对沙生灌木进行了改造,其改造结果表明:围封2.5年后,所有灌木植物的地上生物量、平均株高和基径均有明显增加,以小黄柳(salix gordejevii)增长最大,围封是未围封的4倍;平茬当年生长量非常明显,地上生物量接近或超过未平茬的植株,未平茬的年生长高度均小于平茬;直播、植苗和扦插是增加灌木分布和覆盖面积的较好的方法,补植2~3年后,随着草本植物的入侵,沙面开始稳定。经过改造,可以增加植物覆盖度,提高灌木和草本生长量,达到改善生态环境的效果。 更多还原
【英文摘要】【Abstract】 Sand shrubs are the important plants for wind break.In order to have the effect on sand fixation and improvement of ecological environment,the engineering measures including sand dune enclosure,stump and replacement are taken to transform the sand shrubs.After 2.5 years of enclosure,the aboveground biomass,average plant height and basal diameter of all shrubs increase significantly.The aboveground biomass of salix gordejevii of enclosure is 4 times as much as that of unenclosure.The increments are obvious in current year after stump.The aboveground biomass of stump is close to or exceed that of unstump.The year growth height of unstump is less than that of stump;direct seeding,planting and cottage are the methods of increasing the distribution of shrubs and coverage area.After 2~3 years of replacement,the sand dune begin to become stable with the encroachment of herbs.It is

concluded that the engineering measures taken on the shrubs could increase plant coverage,improve the increment of shrubs and herbs and have significant effects on ecological environment

【语种】中文
【第一作者】蒋德明
【通讯作者】蒋德明
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【引文索引类型】EI
【引文索引号】1008-0562(2009)01-0131-03
【学科分类】林业工程

【题目】不同滤料加挂膜方式对养殖污水处理效果的研究
【中文关键词】生物滤料;养殖水处理;挂膜方式;挂膜时间
【英文关键词】biological filtermedia; aquaculture water treatment;membrane forming method; membrane forming time
【中文摘要】实验研究了填装不同滤料的4种生物滤池在3种挂膜方式下生物功能启动的情况。结果表明,相同挂膜方式下不同生物滤池中,氨氮浓度都随着系统运行时间的延长而逐渐下降,亚硝态氮浓度先上升达到峰值后下降,但悬浮球形滤料处理污水的效果明显优于其他滤料。悬浮球形滤料下不同挂膜方式,系统稳定时间不同,自然挂膜、活性污泥挂膜、优势菌挂膜三者依次约为39、30和21 d,但采用优势菌挂膜由于生物膜容易脱落,氨氮的处理效果较差。采用活性污泥法加入悬浮球形生物滤料是处理养殖污水行之有效的方法。系统运行27 d可使氨氮的浓度降低到0.033 mg/L,系统运行33 d,亚硝态氮浓度可下降到0.045 mg/L左右。
【英文摘要】This experiment studied different biological functions establishments of four kinds of biological filters, using three different methods of membrane forming. Results showed that the stability time of systems was different using different membrane forming methods: natural membrane forming needed about 39d, active sludge about 30d and predominant bacteria about 21d. However,the effect of NH+4-N treatment by predominant bacteriamembrane forming was the worst among the three, as the biological membrane shed easily. In the four kinds of biological filters, the NH+4-N concentration gradually decreased, while the NO2-N concentration increased to the peak at first and then declined. However, the NO2-N concentration using predominate bacteria membrane forming decreased faster than that using the other two methods. The filter packed with spherical suspension filter media by predominant bacteria membrane forming treated aquaculture water more effectively. Under this condition, the NH+4-N concentration decreased to 0.033mg /L after 27 d and the NO2-N concentration decreased to about 0.045mg /L after 33 d.
【语种】中文
【第一作者】宋协法
【通讯作者】宋协法
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【学科分类】环境工程学

【题目】放牧和封育条件下科尔沁沙地小叶锦鸡儿群落土壤种子库特征
【中文关键词】土壤种子库; 放牧; 封育; 物种多样性; 分布格局; 小叶锦鸡儿群落; 科尔沁沙地
【英文关键词】soil seed bank; grazing; enclosure; species diversity; distribution pattern; caragana microphylla community; Horqin sandy land.
【中文摘要】以科尔沁沙地小叶锦鸡儿群落为研究对象,对比分析了放牧干扰和不同封育年限下土壤种子库特征。结果表明:①放牧和封育样地土壤种子库均以一年生植物为主,物种丰富度没有明显差异;②放牧样地土壤种子库密度为(3 475±519)粒/m2,封育6年和封育12年样地土壤种子库密度分别为(20 241±1 714)粒/m2和(28 777±3 946)粒/m2,显著高于放牧样地;③Shannon-W iener多样性指数、S impson多样性指数和P ielou均匀度指数在放牧样地分别为1.36,0.68和0.56,并随着封育年限的增加而降低;④放牧和封育样地土壤种子库主要分布于0~2 cm的土壤表层,封育样地各层的种子库密度均显著高于放牧样地;⑤放牧和封育样地土壤种子库均为聚集分布,但放牧样地种子库的空间异质性高于封育样地。

【英文摘要】In this paper,the characteristics of soil seed bank of Caragana microphylla community under the grazing and enclosure conditions in Horqin Sandy Land,northeast Inner Mongolia,China were comparatively studied.The results are as follows:(1) The species of soil seed bank were dominated by the annual plants,and there was no significant difference in species richness between the grazed and fenced plots;(2) The seed density of soil seed bank in the grazing steppe was 3 475±519 seeds · m-2,it was 20 241±1 714 seeds · m-2 in the plots fenced for 6 years and 28 777±3 946 seeds · m-2 in the plots fenced for 12 years,and it was significantly higher in the fenced plots than that in the grazed plots;(3) The indexes of Shannon-Wiener and Simpson species diversity and Pielou evenness in the grazed plots were 1.36,0.68 and 0.56 respectively,and they were decreased with the increase of fenced time in the fenced plots;(4) Vertically,most seeds were found in topsoil of 0~2 cm in all plots,but the seed density of soil seed bank in all soil layers in fenced plots were significantly higher than that in the grazed plot;(5) The seeds were in an obvious aggregation distribution pattern in all plots,but the spatial heterogeneity of soil seed bank in the grazed plots was significant higher than that in the fenced plots.
【语种】中文
【第一作者】李明
【通讯作者】李明
【期刊名称、卷期、页码】干旱区研究 2009.26(5):714-719
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【引文索引号】null
【学科分类】农业基础学科

【题目】封育对科尔沁沙地小叶锦鸡儿群落植被特征及空间异质的影响
【中文关键词】科尔沁沙地; 封育; 物种多样性; 空间异质性
【英文关键词】Horqin Sandy Land ; enclosure ; spec ies diversity ; spatial heterogene i ty .
【中文摘要】摘 要 以科尔沁沙地小叶锦鸡儿群落为对象,分析了放牧和不同封育年限下小叶锦鸡儿群落的植被特征及植被分布的小尺度空间异质性。结果表明:放牧和封育样地内植被均以1年生草本植物为主,物种数没有明显差异;封育 6年、封育 12年样地的植株密度分别为(124146 ? 5122)株# m- 2和 (203105 ? 10138)株# m- 2, 显著高于放牧样地(P < 0105); 封育样地的 Shannon -W iener多样性指数、 S i mpson多样性指数、 Pie l ou均匀度指数均低于放牧样地,并随着封育年限的增加而减小; 封育样地植被分布的小尺度空间异质性小于放牧样地,并且封育年限越长,空间异质性越小。
【英文摘要】Abst ract : Th is paper stud ied the vegetation characteristics and s ma l- l scale spatia l heterogene i tyofCaragana m i rophy l la commun i ty inHo r q i n Sandy Land i n northeast I nnerM ongo li a of Chinaunder grazi ng and under 6 - and 12 years enclosure , ai med to assess the effects o f grazi ng andenclosure on vegetat i on restoration. I n t he sa mp li ng plots o f grazi ng and d i fferent years enclosure ,the species composi tion o fC. m i ro phy lla commun i ty all dom i nated by annual herbaceous plants .The species richness in g razed plot and in the plots enc l osed for 6 and 12 years w as 22 , 19 , and20, respecti ve l y , w i th no sign i ficant di fference . I n the p l o ts enc l osed for 6 and 12 years , theplant densi ty w as (124146 ? 5122) plants# m- 2and (203105 ? 10138) plants# m- 2, respec -t i ve l y , be i ng si gnificantl y higher than that i n g razed p l o , t w hich suggested that enclosure w as aneffective m et hod to acce l erate the vegetat i on restoration i n Sandy Land . The Shannon -W ieneri ndex , S i mpson spec ies d i versi ty , and P ielou evenness i n enclosed plotsw ere lo w er than those i ngrazed p lo, t and decreased w it h i ncreasi ng enclosure durat i on . The s mal- l sca le spat ial heteroge -ne i ty o f vegetat i on in enc l osed plotsw as s m aller t han that in grazed plo. t The longer the enclosureduration , the s ma l ler t he spat ial heterogene i ty w as .
【语种】中文
【第一作者】蒋德明
【通讯作者】蒋德明
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【引文索引号】null
【学科分类】土壤学

【题目】Soilchemical and microbiological properties alonga chronosequence of Caragana microphylla Lam. plantations in the Horqin sandy land of Northeast China

【中文关键词】无
【英文关键词】Soil properties; Plantation chronosequence; Soil enzyme; Microbial biomass; Desertified sandy land; Caragana microphylla Lam
【中文摘要】无
【英文摘要】AbstractCaragana microphylla Lam., a leguminous shrub, is a dominant native plant species widely planted to stabilize the moving and semi-moving sand dunes in the semi-arid Horqin sandy land of Northeast China. The objective of this study was to determine how C. microphylla plantations affected the physical, chemical and microbiological properties of a sandy soil. Soil samples at the depths of 0 – 10, 10 – 20, 20 – 30, 30 – 40, and 40 – 50 cm were collected from the C. microphylla plantations with an age sequence of 0, 5, 10, and 23 years. The results showed that shrub growth altered microclimate, increased litter input, and hence, improved soil water holding capacity, contents of total carbon, total N and microbial biomass C and N, electrical conductivity, and activities of urease, phosphomonoesterase, protease, dehydrogenase and polyphenol oxidase, and decreased soil bulk density. These trends increased with increasing plantation age but decreased with increasing soil depth. C. microphylla establishment could be an effective and applicable measure to restore vegetation and control desertification in the Horqin sandy land, and recommended for adoption in semi-arid sandy areas on a large scale.
【语种】英文
【第一作者】Chengyou Cao
【通讯作者】Chengyou Cao
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【引文索引号】10.1016/j.apsoil.2008.03.008
【学科分类】农业基础学科

【题目】不同年龄小叶锦鸡儿固沙群落土壤酶活性及微生物生物量的变化
【中文关键词】土壤生物活性; 微生物生物量; 土壤酶; 固沙群落; 小叶锦鸡儿(Caragana microphylla);
【英文关键词】soil biological activities; microbial biomass; soil enzyme; sand-fixation community; Caragana microphylla;
【中文摘要】小叶锦鸡儿(Caragana microphylla)是科尔沁沙地广为采用的豆科固沙植物。为探讨采用小叶锦鸡儿固定流沙后,土壤生物活性的变化特点和发展趋势,选取5、10、22年生小叶锦鸡儿人工固沙群落为对象,以半流动沙丘和天然群落为对照,研究了人工固沙群落发育过程中土壤磷酸单酯酶、蔗糖酶、蛋白酶、脲酶、脱氢酶的活性和微生物生物量C、N、P质量分数的变化特征。土壤按5层取样:0~10,10~20,20~30,30~40,40~50cm。结果表明,随着小叶锦鸡儿固沙群落发育时间的增长,群落内土壤生物活性逐渐改善,沙土中5种酶的活性和土壤微生物生物量C、N和P质量分数均大幅度提高,其中0~10cm土层增幅最大。土壤酶中蔗糖酶的活性增加最为迅速,5、10和22年生群落0~10cm土层中蔗糖酶的活性分别是半流动沙丘的76.80,167.27和261.63倍。22年生群落的土壤生物活性已接近于天然群落,处于相对稳定的状态。小叶锦鸡儿群落中土壤酶和微生物生物量之间存在极显著的正相关关系。以上表明,小叶锦鸡儿不仅具有较好的防风固沙性能,而且表现出强大的改善土壤生物活性的能力,可作为优良的固沙植物材料在本地区大面积推广应用。
【英文摘要】Caragana microphylla, a leguminous shrub, is widely used in stabilize moving and semi-moving sand dune in Horqin Sandy Land. The purpose of this study is to reveal the change characteristics of biological properties of sandy soil and its development trend under the establishment of C. microphylla plantations in flowing sand dune. With semi-moving sand dune and natural community as controls, the activities of phosphomonoesterase, saccharase, protease, urease, dehydrogenase and the contents of microbial biomass C, N, P of the soil in an age sequence (5-, 10-, 22-year) of C. microphylla plantations were studied. Soil samples were taken from each and every plant community at 5 depths (0~10, 10~20, 20~30, 30~40, 40~50 cm). The results showed that the soil biological activities in sand fixation plantation were all well improved with the age increasing; the activities of the 5 enzymes and the contents of microbial biomass C, N, P were gradually increased. Among the 5 enzymes, the increase of activity of saccharase was most significant, whose measurements in 0~10 cm soil of 5, 10 and 22 age plantations were 76.80, 167.27 and 261.63 times respectively of the semi-moving sand dune. The soil biological activities in 22-year plantation were already close to that in the natural community. There existed significant positive correlation between the soil enzyme activities and the microbial biomass contents. The C. microphylla thus shows the high abilities not only for sand-fixation and wind-protection, but also for the improvement of soil biological activities, and is available to be recommended for wide use in fixing moving sand dune in the semi-arid region
【语种】中文
【第一作者】滕晓慧

【通讯作者】曹成有
【期刊名称、卷期、页码】生态环境、2007,16(3)、1030-1034
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【学科分类】农业基础学科

【题目】压砂地土壤微生物群落功能多样性分析
【中文关键词】压砂地;Biolog;微生物群落;功能多样性
【英文关键词】Key words: Gravel-mulched field; Biolog; Microbial community; Functional diversity
【中文摘要】摘 要: 为了掌握荒地压砂对土壤微生物群落功能多样性及理化性质的影响, 对荒地及不同年限压砂地土壤进行了 Biolog微生物群落功能多样性和理化性质分析。Biolog 分析结果表明, 1 年压砂地微生物群落生理活性最高, 荒地微生物群落生理活性最低, 其它各年限压砂地微生物群落生理活性随压砂年限增加而缓慢下降。微生物群落功能多样性指数分析表明压砂对微生物群落功能结构影响并不显著。通过微生物群落利用碳源类型分析明确了荒地和各年限压砂地土壤微生物群落利用的主要碳源类型。土壤理化性质分析表明, 压砂第 1 年各项理化性质指标均有明显的下降; 此后随压砂年限增加, 有机质含量呈上升趋势, 速效氮、 速效磷和速效钾含量缓慢下降, 全盐、 全氮、 全磷、 全钾含量及土壤pH 值变化不大。
【英文摘要】Abstract: To confirm effect of mulching gravel on soil microbial community functional diversity and physical-chemicalproperties, the soil Biolog and physical-chemical properties were analyzed for wilderness and gravel-mulched field.The results of Biolog showed that physiological action of microbial community in1 year gravel-mulched field was thebest, others declined slowly with the increase of gravel-mulched years. The result of soil microbial communityfunctional diversity indices showed that the effects of gravel-mulched to soil microbial community functional wasindistinctive. The major carbon source used by microbial community of wilderness and gravel-mulched field had beenknown. The result of soil physical-chemical properties showed that all physical-chemical indices declined in 1 yeargravel-mulched field.
【语种】中文
【第一作者】陈宏灏
【通讯作者】张蓉
【期刊名称、卷期、页码】土壤通报,2011,42(1)
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【引文索引号】null
【学科分类】植物保护学

【题目】地衣芽孢杆菌制剂在不同土壤条件下对土壤微生物群落的影响.
【中文关键词】地衣芽孢杆菌; 土壤类型;土壤微生物
【英文关键词】Baci llus l icheni f ormi s ; Soil types; Soil microorg anism
【中文摘要】摘 要: 研究了地衣芽孢杆菌(Bacillus lichenif ormis)制剂在不同土壤类型中对土壤微生物群落的影响, 结果表明,该制剂在灰钙土中定殖效果明显高于灌淤土;在灰钙土中能有效抑制病原尖孢镰刀菌(Fus ar ium ox-y s p or um Schl.) ,但对细菌数量无明显影响, 而在灌淤土中对病原菌尖孢镰刀菌的抑制作用不明显, 但对细菌数量有增加的作用。在两种土壤类型条件下,地衣芽孢杆菌均对土壤放线菌有明显抑制作用。
【英文摘要】Abstract: Primary r esults on effect s of Bacil lus li chenif ormis formulat ion to soil microo rganism com-munity under the di f ferent so il conditions show ed that Bacil lus l icheni f ormi s formulat ion had highercolo nizat ion effect in sierozem than in irrig at ion -silted so i l. The formulat io n could inhabit Fusar iumox y sp orum Schl. effect ively, but had no effect o n soil bacter ia in sierozem. Whereas the formulat ionhad no sig nif icant promo ted ef fects on Fusarium ox y sp orum Schl. , but could st imulate soil bacteria inirrigat io n -silted soil. Under the condit io ns o f the tw o ty pes of soil, Bacil lus li chenif ormis could alsoinhabit the biomass of act inobacter ia.
【语种】中文
【第一作者】王芳
【通讯作者】张蓉

【期刊名称、卷期、页码】西北农业学报,2008,17(6):175~178
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【引文索引号】null
【学科分类】植物保护学

【题目】一种新型根用控释农药片剂防治瓜蚜技术研究
【中文关键词】关键词: 根用农药片剂; 瓜蚜; 防治效果
【英文关键词】Key words: Key words: control-releasing imidacloprid tablet of root using; Aphis gossypii Glover; control effect
【中文摘要】摘要: 介绍了一种对瓜蚜具有很好的控制作用的根用吡虫啉控释片剂。 2009年中宁大青山地区瓜蚜严重发生,7月6日瓜蔓上瓜蚜虫口数量为485.2头/株, 对西瓜造成较明显危害, 而根用控释农药片剂施药区的虫口数量仅为5.12头/株。 供试根用控释农药片剂对瓜蚜具有很好的控制作用, 每株1粒的施药量, 在播种时随种子施药, 对瓜蚜具有70 d以上的控制作用, 控制效果在95%以上, 且经检测对压砂瓜安全。
【英文摘要】Abstract: Abstract: A controlling technology of control-releasing imidacloprid tablet for root using against Aphis gossypii Glover was introduced. Aphis gossypii Glover occurred seriously in 2009 at daqing mountain of zhongning county. Amount of Aphis gossypii Glover in each tendril was 485.2, which caused obvious damage. While number of Aphis gossypii Glover was 5.12 in controlled area by control-releasing pesticide tablet. Control-releasing pesticide tablet for root using had good control effect against Aphis gossypii Glover. The dosage of Control-releasing imidacloprid tablet was one granule in an individual plant of watermelon and imposing it with seed down. The control time was over 70 days and the control effect was over 95%. These tablets were safe to watermelon.
【语种】中文
【第一作者】马建华
【通讯作者】张蓉
【期刊名称、卷期、页码】西北农业学报,2008,17(6):175~178
【论文发表时间】2009-10-01 00:00:00
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【引文索引号】null
【学科分类】植物保护学

【题目】基于GIS的瓜蚜种群空间结构和分布模拟
【中文关键词】瓜蚜 GIS 种群 空间结构 分布模拟
【英文关键词】Key words: Aphis gossipii Glover; GIS; population; spatial structure; distribution simulation.
【中文摘要】摘 要 运用地理信息系统(GIS) 和地统计学分析方法, 对2008 年宁夏环香山地区压砂西甜瓜瓜蚜种群空间结构进行分析, 并基于不同模型的普通 Kriging 插值法模拟了瓜蚜种群空间分布格局. 结果表明:研究区瓜蚜数量在不同发生时期(初发期 盛发期和盛末期) 均显示出明显不同的空间结构, 其半变异函数均为指数型或高斯型, 田间种群空间格局均呈聚集分布, 不同时期的聚集程度(1 -变异程度) 均大于45%, 空间相关范围在10. 37 ~ 29. 11 km, 空间变异主要受空间自相关影响; 空间分布模拟较好地从时间 空间两个角度直观地模拟不同时期瓜蚜种群的动态变化, 易于确定瓜蚜的发生范围和发生程度.
【英文摘要】Abstract: Based on geographic information system (GIS) and geostatistical analysis,this paperstudied the spatial structure of Aphis gossipii Glover population in Xiangshan District of ZhongweiCity,Ningxia Province,with the spatial distribution of the population simulated by ordinary Kriginginterpretation. The spatial structure of A. gossipii population varied with its occurrence stage (ini-tial,blossom,and final stage) . The semivariograms of A. gossipii could be described by exponen-tial or Gaussian model,indicating that A. gossipii had an aggregated spatial arrangement. The ag-gregation degrees at different occurrence stages were all beyond 45%,and the spatial correlationranged from 10. 37 km to 29. 11 km. The spatial variance was greatly affected by spatial autocorre-lation. The population dynamics of A. gossipii at its different occurrence stages could be easily ana-lyzed and intuitively simulated from the two aspects of time and space by spatial distribution simula-tion,and thus,the occurrence position and degree of A. gossipii could be easily determined.
【语种】中文
【第一作者】朱猛蒙

【通讯作者】张蓉
【期刊名称、卷期、页码】应用生态学报,2010,21(10)
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【学科分类】植物保护学

【题目】Determination of Chloramphenicol Residues in Milk by Enzyme-Linked Immunosorbent Assay: Improvement by Biotin-Streptavidin Amplified System
【中文关键词】扫描; ELISA;杀虫剂残留;果汁;蔬
【英文关键词】screening; ELISA; pesticide residues; fruit juices; vegetable
【中文摘要】本文建立了一种灵敏的生物素-链霉亲和素酶联免疫实验(BA-ELISA)来检测牛奶中氯霉素的残留。应用生物素-链霉亲和素系统加强反应的灵敏度。优化反应条件后,该方法的检出限为0.042 ±0.006 ng mL-1,这比传统的使用了相同的抗体和抗原的ELISA方法灵敏8倍。本文也讨论了生物素-链霉亲和素系统的扩大机制以及影响实验灵敏度的主要影响因素。该方法也成功应用于检测牛奶样品中氯霉素残留中,它有简单快速的操作程序以及好的回收率(85.66-109.67%)。这个结果表明,生物素-链霉亲和素系统是提高特定检测痕量兽药残留检测的很有价值的工具,且其能广泛应用于食品样品的常规检测。
【英文摘要】A sensitive biotin-streptavidin amplified enzyme-linked immunosorbent assay (BA-ELISA) method was developed for the determination of chloramphenicol residues in milk. The biotin-streptavidin system was applied to enhance the sensitivity. After optimization, the detection limit of the method was found to be 0.042 (0.006 ng mL-1), which is 8-fold more sensitive than the traditional competitive ELISA using the same antibody and coating antigen. The amplification mechanism of the biotin - streptavidin system and the major factors affecting the sensitivity of detection are discussed. This method was successfully applied to determine the chloramphenicol residues in milk samples with a simple and rapid extraction procedure, and good recoveries(85.66- 109.67%) were obtained. The result indicated that the biotin- streptavidin system may be a valuable tool to improve the specific detection of trace veterinary drug residues and could be widely used for routine monitoring of food samples.
【语种】英文
【第一作者】Li Wang
【通讯作者】王硕
【期刊名称、卷期、页码】2010,58,3265 – 3270
【论文发表时间】2010-03-01 00:00:00
【引文索引类型】SCI
【引文索引号】570XB
【学科分类】食品科学技术其他学科

【题目】西瓜田笼罩下多异瓢虫对瓜蚜控制作用
【中文关键词】多异瓢虫; 瓜蚜; 生物防治
【英文关键词】.Hippodamia variegata ; Aphi s goss ypii ; biological contro
【中文摘要】摘要: 本文对多异瓢虫Hippodamia variegata 成虫对瓜蚜Aphis goss ypii 的捕食功能反应和西瓜田笼罩条件下释放多异瓢虫对瓜蚜的防治效果进行了研究。结果表明, 多异瓢虫成虫对瓜蚜的捕食功能反应模型为: Na= 0 81228N / (1+ 0 013646N) ; 蛹/蚜为30/ 1000的处理释放后5d和11d 对瓜蚜的防效分别达到80 43%和98% ,卵/ 蚜为20/ 30 的处理释放后7d 和14d 对瓜蚜的防效分别达到72 22%和87 36%,均表现出较好的防效,为两虫态的最适释放量,蛹为最适释放虫态。
【英文摘要】.Abstract: The predatory functional response and cont rol effect of released Hippo damia variegata on watermelon aphid,Aphis gossypi i in fields were investigated. Predatory functional response was fi tted as N a = 0 81228N / (1+0 013646N) . The control efficacy reached 80 43% and 98%, respectively, on 5 d and 11 d after H . variegata wasreleased as pupa at a rate of pupa/ aphid = 30/ 1000, and was 72 22% and 87 36% , respectively, on 7 d and 14 daf ter H . variegata was released as egg at a rate of e gg/ aphid = 20/ 30 The results demons tra ted the optimal releaserates for H . variegata pupa and egg, and pupa was superior to e gg in release of H . variegata for control of the aphid.
【语种】中文
【第一作者】陈宏灏

【通讯作者】张蓉
【期刊名称、卷期、页码】中国生物防治,2010,26(4)
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【学科分类】植物保护学

【题目】镉、 铅对沙打旺种子萌发及早期生长发育的毒性效应
【中文关键词】Cd2+; Pb2+; 胁迫;发芽率;生理指标; 沙打旺
【英文关键词】无
【中文摘要】摘要: 采用溶液培养和盆栽实验研究了镉(Cd2+)和铅(Pb2+) 对沙打旺种子萌发、 幼苗生长、 幼苗叶绿体色素含量、脯氨酸含量、 抗氧化系统中的 2 种抗氧化酶(SOD、 CAT)活性的影响。Cd2+、 Pb2+实验梯度分别为: 0, 1, 2, 3, 10, 20和 0, 500, 1 000, 1 500 mg/ kg。结果表明, 随着 Cd2+浓度的增大, 种子发芽率、 发芽势、 发芽指数总体上呈先下降后上升的趋势; 随着 Pb2+浓度的增大, 种子发芽率、 发芽势、 发芽指数均呈下降趋势,种子发芽进程受到严重抑制。Cd2+和 Pb2+对沙打旺幼苗的株高、 根长、 根重和地上重产生明显的抑制作用。浓度越高, 植物生长受到的影响越大。在同一浓度下, Cd2+、 Pb2+对沙打旺胚根伸长抑制率大于对芽伸长的抑制率。随着 Cd2+、 Pb2+浓度的增大,叶绿素含量总体呈下降趋势但Pb2+对叶绿素的影响大于 Cd2+。脯氨酸含量、 SOD 和 CAT 的活性均出现低浓度(Cd2+浓度 1 mg/ kg , Pb2+浓度 500 mg / kg) 上升,高浓度(Cd2+浓度\10 mg/ kg , Pb2+浓度\1 000 mg / kg) 下降的趋势。
【英文摘要】无
【语种】中文
【第一作者】曾祥玲
【通讯作者】曾祥玲
【期刊名称、卷期、页码】草业学报 第17卷 第4期 71-77
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【引文索引号】null
【学科分类】农业基础学科

【题目】温室大棚水泥池高位养殖南北白对虾技术要点以及调控措施
【中文关键词】南美白对虾;温度大棚;养殖技术;要点
【英文关键词】Litopenaeus vannamei;greenhouse;cultivation techniques;key point
【中文摘要】目前,南美白对虾养殖已经广泛展开,在北方传统的室外养殖模式因为上市时间集中,导致高产不高效,采用温室大棚水泥池进行反季节养殖可以获得较高收益。根据采用该养殖模式的山东省胶州市宝荣水产科技有限公司、浙江省舟山市绿源水产养殖有限公司和舟山市定海区旭旺养殖场近两年的生产实践,将该养殖模式的技术要点以及调控措施总结如下。
【英文摘要】无
【语种】中文
【第一作者】崔阔鹏
【通讯作者】马甡
【期刊名称、卷期、页码】齐鲁渔业,2009,26(7):30-32
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【引文索引号】null
【学科分类】水产养殖学

【题目】国审小麦新品种花培5 号特征特性及高产配套栽培技术
【中文关键词】小麦;花培5号;栽培技术
【英文关键词】wheat,Huapei 5 hao,cultivation technology
【中文摘要】分析了花培5 号的特征特性,根据肥料试验和播期、播量试验以及大面积示范结果,提出了花培5 号的高产配套栽培技术。即合理化肥施用量为:尿素25~30 kg/667m2(底、追各半),过磷酸钙40~50 kg/667m2,氯化钾14~18 kg/667m2 左

右;最佳播期10 月15~20 日;最佳播量6.5~8 kg/667m2;合理运筹水肥,科学控制群体,防止病虫害和倒伏。
【英文摘要】无
【语种】中文
【第一作者】康明辉
【通讯作者】康明辉
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【题目】宁夏中部干旱带压砂西甜瓜田主要杂草的消长动态及生态位研究
【中文关键词】压砂地; 西瓜田;杂草; 生态位;宁夏中部
【英文关键词】Key words : Grave- l covering cultivat ion; Weed; Watermelon fields; Eco - niches; Arid area of central Ning xia
【中文摘要】摘 要: 对宁夏中部干旱带压砂西瓜田杂草进行系统调查, 计算该区域压砂地 37 种常见杂草的重要值, 研究 10 种主要杂草的消长动态, 并计测它们的生态位宽度和生态位重叠值。结果表明: 蒺藜、 打碗花、 银灰旋花、 碱蓬、 刺蓬、 灰绿藜、 地梢瓜、 山苦荬、 地锦草、 狗尾草等杂草的实际生态位宽度值均在 0. 5 以上, 它们是该地区草坪的主要杂草。这 10 种杂草间的生态位重叠值大, 说明它们对环境条件的要求也比较接近。
【英文摘要】Abstract: Based on the systemat ic investig at ion of w eed species in watermelon f ields in arid area ofcent ral Ning xia, the importance value, niche breadth and ov erlap of 37 species o f familiar w eeds w eremeasured and populat ion dynamics of 10 dominant w eeds w ere ex plored. T he results show ed that Ca-ly st egia heder acea Wall, Convolv ulus ammanni i Desr, S uaeda glauca (Bge) , S al sola p esti f er A.Nel son, Cy nanchum thesioides (Ereyn) K. Schum, L x eri s chinensis (T hunb) , E up hor bia humi f usaWilld Enum, and S etaria vi ridi s are the top ten w eeds w ith niche breadth of 0. 5 and o ver , and highniche o verlap betw een them, w hich inferred their similarit ies on environmental condit ions.
【语种】中文
【第一作者】张怡
【通讯作者】张蓉
【期刊名称、卷期、页码】西北农业学报,2010,22(4)
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【引文索引类型】其他
【引文索引号】null
【学科分类】植物保护学

【题目】山竹岩黄蓍固沙群落对土壤养分及生物活性的改良效应
【中文关键词】土壤生物活性; 土壤酶; 土壤微生物生物量; 土壤养分; 固沙群落; 山竹岩黄蓍;
【英文关键词】soil biological activity; soil enzyme; soil microbial biomass; soil nutrient; sand-fixing community; Hedysarum fruticosum;
【中文摘要】以半流动沙丘为对照,对5、10和22年生山竹岩黄蓍人工固沙群落不同层次(0~10、10~20和20~30cm)土壤的养分状况、微生物生物量和土壤酶活性进行了对比研究.结果表明:采用山竹岩黄蓍固定流沙后,随着群落年龄的增长,土壤中C、N、P、K含量及生物活性均明显提高.其中,0~10cm土层的增长幅度显著高于10~30cm土层.0~30cm土层中C/N由7.3增加到8.5;土壤微生物生物量碳、氮、磷含量以及土壤脲酶、磷酸单酯酶、蔗糖酶、蛋白酶、脱氢酶、硝酸还原酶和多酚氧化酶的活性均有所提高.其中,0~10cm土层中蔗糖酶的活性是对照的49.7~284.5倍.土壤微生物生物量碳、氮、磷分别与土壤有机碳、全氮、全磷以及微生物生物量与酶活性之间存在显著的正相关关系. 更多还原
【英文摘要】With adjacent semi-moving dune as the control, this paper studied the effects of 5-, 10-and 22-year old Hedysarum fruticosum plantations on the nutrient status, microbial biomass, and enzyme activities at the soil depths 0-10, 10-20 and 20-30 cm. The results showed that with the establishment of H. fruticosum plantation on moving dune, soil C, N, P and K contents and biological activities increased obviously with the increasing age of the plantation, and the increment was much higher at 0-10 cm than at 10-20 and 20-30 cm. At 0-30 cm, soil C/N increased from 7.3 to 8.5, and microbial biomass C, N and P as well as the activities of urease, protease, saccharase, phosphomonoesterase, dehydrogenase, polyphenol oxidase and nitrate reductase all increased. Among the test enzyme activities, saccharase activity had the most significant increase, with its value at 0-10 cm being 49.7-284.5 times of the control. There

were significant positive correlations between soil microbial biomass C, N and P and organic C, total N and total P, respectively, and between soil microbial biomass and enzyme activities.
【语种】中文
【第一作者】曹成有
【通讯作者】曹成有
【期刊名称、卷期、页码】应用生态学报 2007年 8月 第 18卷 第 8期 1739 - 1744
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【学科分类】农业基础学科

【题目】压砂地西瓜巨膜长蝽发生规律及防控
【中文关键词】西瓜;巨膜长蝽;生物学特性;危害机理;防治;荒漠草原;宁夏中部干旱带
【英文关键词】无
【中文摘要】摘 要: 2006-2008 年对巨膜长蝽生物学特性进行研究,初步掌握了巨膜长蝽的发生规律 生活史 发育历期等生物学特性,明确了在宁夏中部干旱带每年只发生1代,危害盛期在5 月上中旬,虫源来自周边荒漠草原区,危害途径是荒漠草原向瓜田迁飞,定殖扩散危害;并对不同种植方式的危害程度进行调查分析,提出了合理的种植模式,对巨膜长蝽的危害起到了很好的抑制作用,危害率降低70%左右;对 4 种无公害农药进行防效比较试验,其中 3 种药剂防治效果均在 85%左右
【英文摘要】无
【语种】中文
【第一作者】高立原
【通讯作者】张蓉
【期刊名称、卷期、页码】宁夏农林科技,2010.6
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【学科分类】植物保护学

【题目】铜、镉对三种豆科植物生长及氮磷钾含量的影响
【中文关键词】Cu2+; Cd2+; 生长; 氮磷钾含量; 豆科植物;
【英文关键词】Cu2+; Cd2+; growth; N, P and K contents; leguminous plant.;
【中文摘要】为了解豆科植物在Cu、Cd单一污染土壤中的生长状况及对土壤养分的吸收利用特点,采用盆栽实验研究了Cu2+、Cd2+单一污染下紫花苜蓿、红三叶、沙打旺3种豆科植物的株高、根长、生物量和叶、茎部N、P、K、Cu和Cd含量的变化情况。Cu2+、Cd2+处理浓度分别为:0、400、800、1200mg.kg-1和0、1、10、20mg.kg-1。结果表明,3种豆科植物对Cu和Cd均有较强的吸收能力,除红三叶叶片中Cu含量外,3种豆科植物根、茎、叶中Cd和Cu的含量均与土壤中重金属添加量呈显著正相关。3种豆科植物在严重Cd2+污染的土壤中均能正常生长。在Cu2+添加量≤1200mg.kg-1时,红三叶能正常生长,而紫花苜蓿的生长则受到显著抑制作用,沙打旺在Cu2+添加量≥800mg.kg-1时生长受到抑制。土壤Cu2+添加量≤1200mg.kg-1时,能促进紫花苜蓿对N、P、K的吸收;Cu2+添加量≤800mg.kg-1时,对红三叶N、P、K含量没有明显影响;Cu2+添加量≤400mg.kg-1时,可提高沙打旺中N、P、K含量,但当Cu2+添加量≥800mg.kg-1时则显著降低。土壤Cd2+添加量≤20mg.kg-1时,对紫花苜蓿和红三叶茎叶以及沙打旺茎部的N、P、K含量有促进作用,但对沙打旺叶片的N、P、K含量起抑制作用。总体来看,3种豆科植物对Cu2+和Cd2+均有一定的耐性,红三叶对Cu2+的耐性较好,紫花苜蓿对Cd2+的耐性较好。
【英文摘要】Aimed to understand the growth status and nutrient uptake of leguminous plants u nder soil copper- or cadmium contamination, a pot experiment with Medicago sa tiva, Trifolium pretense, and Astragalus adsurgens was conducted, with th eir plant height, root length, plant biomass, and N, P, K, Cu and Cd contents in leaf and stem measured. The application amounts of Cu2+ and Cd2+ we re 0, 400, 800, and 1200 mg · kg-1, and 0, 1, 10, and 20 mg · kg-1, re spectively. All the test three leguminous plants had strong capability of absorb ing Cu and Cd. The Cu and Cd contents in their roots, stems, and leaves, except the Cu content in T. pratense leaf, were significantly positively cor related with the application amounts of Cu2+ and Cd2+. Under the app lication of Cd2+, all the three leguminous plants grew normally. When the application amount of Cu2+ was ≤1200 mg · kg-1, T. pratense grew norma lly, while the growth of M. sativa was significantly inhibited. The growth o f A. adsurgens was inhibited when the application amount of

Cu 2+ was ≥ 800 mg · kg-1. An application amount of ≤1200 mg · kg-1 of Cu2+ promoted the N, P and K absorption of M. sativa, but applyi ng ≤ 800 mg · kg-1 of Cu2+ had little effects on the N, P and K abso rption of T. pretense. The N, P and K contents of A. adsurgens increased when the application amount of Cu2+ was ≤400 mg · kg-1, but decrea s ed significantly when the Cu2+ application amount was ≥800 mg · kg-1 . When the application amount of Cd2+ was ≤20 mg · kg-1, the N, P an d K contents in M. sativa and T. pratense stems and leaves and in A. a dsurgens stem increased, while those in A. adsurgens leaf decreased. As a whole, the three leguminous plants all had certain tolerance to Cu2+ and C d2+ stresses, especially T. pratense to Cu2+ and M. sativa t o Cd2+.
【语种】中文
【第一作者】韩晓姝
【通讯作者】韩晓姝
【期刊名称、卷期、页码】生态学杂志 2009 , 28(11): 2250 - 2256
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【引文索引号】null
【学科分类】土壤学

【题目】宁夏中部干旱带不同生境昆虫群落特征分析
【中文关键词】宁夏中部干旱带 昆虫 群落特征
【英文关键词】The drou g ht ri g ion of middle Nin g xia; Insect ; Chatacteristics of communit y
【中文摘要】摘 要 对宁夏中部干旱带压砂地 过渡带和荒漠草原3个生境昆虫种类 数量及植被情况进行调查研究 结果表明 3个生境昆虫群落在组成种类和结构上有着很大的差异 昆虫群落类型既不相同又相互关联 主要昆虫数量与植被种类之间存在着一定的相关性
【英文摘要】无
【语种】中文
【第一作者】高立原
【通讯作者】张蓉
【期刊名称、卷期、页码】农业科学研究32(3)
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【学科分类】植物保护学

【题目】农村信息化与农村经济发展分析
【中文关键词】农村信息化; 农业发展; 分析;
【英文关键词】Rural informatization;Agricultural development
【中文摘要】本文以经济学理论为依据分析了农村信息化对农业经济发展的影响。对农村信息化与农业经济发展的因果关系进行了检验。结果表明,我国农村社区信息化的发展对农村经济具有显著促进作用,农村信息化发展与农村经济发展互为因果关系,农业经济的发展会带动农村信息化的发展,农村社区信息化的推进有利于农业经济的发展。在此基础上提出了发展农村信息化的政策建议。
【英文摘要】无
【语种】中文
【第一作者】李治宇
【通讯作者】李治宇
【期刊名称、卷期、页码】农村经济问题 2010 增刊 122-127
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【学科分类】农业经济学

【题目】Effects of salinity fluctuation on the growth and energy budget of Juvenile Litopenaeus vannamei at different temperatures

【中文关键词】能量收支;食物摄取;生长;南美白对虾;盐度波动
【英文关键词】energy budget; food intake; growth; Litopenaeus vannamei; salinity fluctuation
【中文摘要】本文研究了在温度为20,25,30摄氏度,盐度控制在20gL(-1),波动振幅为+/-0, +/-5, +/-10, +/-15gL(-1)情况下,盐度波动对幼体南美白对虾生长,蜕皮,能量收支的影响。经过48天投喂,发现幼体南美白对虾在每个温度组盐度波动为 +/-15gL(-1)时的成活率最低;在温度为25和30摄氏度,盐度波动为 +/-5到+/-10gL(-1)时生长最快,盐度波动影响食物转化率而不影响对虾的摄食。在温度为25和30摄氏度,盐度波动为 +/-5到+/-10gL(-1)时,对虾大部分能量用于生长而少部分能量用于呼吸和排泄。因此,盐度为20+/-5到20+/-10gL(-1)时,幼体南美白对虾通过提高食物转化率,降低呼吸和排泄能量损失,从而获得比盐度为20gL(-1)时更高的生长率。
【英文摘要】The effects of salinity fluctuation on the growth, molting and energy budget of juvenile Litopenaeus vannamei was investigated at the temperatures of 20, 25, and 30 degrees C. Salinity fluctuation regimes were set in different amplitudes of +/-0, +/-5, +/-10 and +/-15 gL(-1) from a control salinity of 20 gL(-1). After a 48-day feeding trial, the lowest survival occurred at a salinity fluctuation of +/-15 gL(-1) for each temperature investigated. The best growth of shrimp was obtained at salinity amplitudes of +/-5-10 gL(-1) at 25 and 30 degrees C. The salinity fluctuation influenced food conversion efficiency but not food intake. The shrimp maintained at salinity amplitudes of +/-5-10 gL(-1) expended most of the energy for growth and spent less energy on respiration and excretion at 25 and 30 degrees C. Therefore, salinity fluctuating amplitudes of +/- 5-10 gL(-1) result in higher growth rates than constant salinity conditions (20 gL(-1)) through enhanced feed assimilation and reduced energy loss in respiration and excretion.
【语种】英文
【第一作者】苏跃朋
【通讯作者】马甡
【期刊名称、卷期、页码】Journal of Crustacean Biology 2010, 30(3):430-434
【论文发表时间】2009-12-21 00:00:00
【引文索引类型】SCI
【引文索引号】10.1651/09-3269.1
【学科分类】水产养殖学

【题目】铜对三种豆科植物萌发及早期生长发育的抑制效应
【中文关键词】铜; 豆科植物; 种子萌发; 植物生长; 抑制率; 土壤污染;
【英文关键词】copper; leguminous plant; seed germination; plant growth; inhibition rate; soil pollution;
【中文摘要】采用水培实验研究了Cu2+对种子萌发和胚根胚芽伸长的抑制效应;采用盆栽实验研究了土壤中不同含量Cu对植物地上、地下部分长度和质量以及叶绿素含量的影响.结果表明:质量浓度≥400mg.L-1的Cu2+水溶液对三种植物种子的萌发产生显著的抑制作用,质量浓度越高阻抑越明显,对紫花苜蓿的抑制效应小于红三叶和沙打旺;对胚根伸长的抑制作用大于芽.过量Cu2+可显著降低植物叶绿素的含量,并对地上部分的生长产生明显的抑制作用;对紫花苜蓿及红三叶根系长度和质量有明显的促进作用,而对沙打旺则有明显的抑制作用.总体来看,紫花苜蓿对Cu污染的耐受程度大于红三叶和沙打旺.
【英文摘要】The inhibition effects of Cu2+ on seed germination and radicle/germ elongation were studied via hydroponical experiment,and the effects of different Cu2+ contents in soil on the length,weight and chlorophyll content of above-ground and underground parts of plants were studied via pot culture experiment.The results revealed that the aqueous solution in which the Cu2+ mass concentration≥400 mg · L-1 obviously inhibits the seed germination of the three plants:Medicago sativa,Trifolium pratense and Astragalus adsurgens.The higher the Cu2+ mass concentration,the more obvious the inhibition effect,and the inhibition effect on the first one is lower than that on the other two.In addition,the inhibition effect on the elongation of radicle is higher than that on germ.Excessive Cu2+ content will lower the chlorophyll content in plants with obvious inhibition effect on the growth of above-ground parts of plants.However,the Cu2+ content clearly accelerates the growth of length and weight of the root system of M.sativa and T.pratense,but it inhibits that of A.adsurgens obviously.As a whole,the endurability of M.sativa to Cu pollution is higher than that of the other two plants
【语种】中文
【第一作者】曹成有
【通讯作者】曹成有
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【学科分类】农业基础学科

【题目】农村劳动力与粮食生产—基于黑龙江省和内蒙古自治区的调研
【中文关键词】劳动力 粮食生产
【英文关键词】labor;food production
【中文摘要】本文在黑龙江省和内蒙古自治区部分农业生产大县农村劳动力实地调研的基础上,研究分析了农业生产及农村劳动力从业现状、存在问题并提出了相应的政策措施。调研结果表明:在农业生产规模相对较大的地区,青壮年仍旧是劳动力的主体,机械化的普及减轻了劳动强度,当地采取的场县共建和农民合作等方式促进了农业生产效率的提高;但是仍旧存在农民就业不充分,生产规模较小和组织化程度较低的问题。在现状和问题分析的基础上,提出加大补贴力度、适度规模经营、加大农业保险支持、充分利用隐性失业资源和大力发展农业经济合作组织等政策建议。
【英文摘要】无
【语种】中文
【第一作者】郭晓燕
【通讯作者】胡志全
【期刊名称、卷期、页码】农业经济2011(4)64-65
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【引文索引号】null
【学科分类】农村经济学

【题目】关于山东省诸城市农村社区管理模式的调研报告
【中文关键词】诸城市,农村社区,管理模式
【英文关键词】rural community,management mode
【中文摘要】2007年诸城市创造性地提出了农村社区化管理的新机制,这一机制是实现城乡一体化、提高农民福利的有益探索。本课题组深入诸城市的三个街道四个社区,通过走访、座谈、问卷调查的方式进行调研,总结出诸城市农村社区管理模式的经验以及存在的问题,并提出进一步完善的建议。
【英文摘要】无
【语种】中文
【第一作者】曲颂
【通讯作者】曲颂
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【引文索引号】null
【学科分类】农村经济学

【题目】沙漠生物结皮对维管植物养分吸收的影响
【中文关键词】关键词: 生物结皮;库布齐沙漠; 养分吸收;维管植物
【英文关键词】biological crusts; nutrients content; vascular plants;
【中文摘要】生物结皮是沙地表面被固定的重要特征,并能够富集养分,通过降水淋溶作用改善沙丘土壤的性质。研究表明,生物结皮层覆盖对植物体的养分元素吸收具有促进作用, 但是, 由于不同植物养分生理特性的差异及其根系分布深度的不同, 不同植物吸收养分时对生物结皮层肥岛效应的敏感程度不同。
【英文摘要】Biological crusts was the main features of moving sanddune being fixed.Biological crusts in desert areas could accumulate nutrients in soil surface,and increase the soil nutrients in deep layer.The research results showed that nutrients levels of the vascular plants growing in the soil with biological crusts were higher compared to the plants growing on uncrusted sand dune soil.At the same time,because the different plants have different physiology features and differenct root growing depth,so different plants absorbing nutrients showed different reaction to the "fertility island" effection of biological crusts in Kubuqi Desert
【语种】中文

【第一作者】闫德仁
【通讯作者】闫德仁
【期刊名称、卷期、页码】干旱区资源与环境 第23卷 第10期 177-181
【论文发表时间】2009-10-15 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】土壤学

【题目】基于功能系统分析的现代农业园区规划方法研究
【中文关键词】农业园区;功能体系;规划内容;案例
【英文关键词】agricultural garden; functional system; planning content; case study
【中文摘要】立足于我国现代农业园区的发展现状,提出我国农业园区基本功能包括生态功能、生产功能、游憩功能和生产服务功能,在此基础上提出了具有中国特色的农业园区发展建设规划的逻辑构架。农业园区发展建设规划的具体内容包括前期研究、发展策略、空间规划和实施策略等4个方面。上述规划方法在新疆昌吉国家农业科技园区现代农业示范区发展建设规划中的应用取得了良好的社会、经济和生态效益。
【英文摘要】Based on the current development situation of the agricultural garden in China,the basicfunctions of the agricultural garden are put forward as ecological,productive,recreative and service func-tion.From that,the logic framework and the specific content of agricultural garden planning with Ch-inese characteristics is proposed.A development construction plan of the agricultural garden should in-clude the preliminary study,the development strategy,the spatial plan and the implementation strategy.The application of planning ideas mentioned above in the planning practice of the modern agriculturedemonstration area in Changji National Agricultural Science and Technology Garden,Xinjiang has ob-tained favorable social,economic and ecological effect.
【语种】中文
【第一作者】张云彬
【通讯作者】张云彬
【期刊名称、卷期、页码】华中农业大学学报 2010 (29) 587-591
【论文发表时间】2010-03-15 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】土木建筑工程测量

【题目】呼伦贝尔沙地治理战略布局探讨
【中文关键词】呼伦贝尔沙地; 战略规划; 类型区; 治理目标;
【英文关键词】Hulunbeier Sandy Land; strategic planning; type region; controlling target;
【中文摘要】根据呼伦贝尔沙地自然地理条件和生态建设工程的实际状况,将呼伦贝尔沙地治理规划成3大措施区、5大治理类型区,在每个类型区提出了相应的治理重点和主攻方向,并结合工程治理、休牧禁牧、生态移民实现沙地的全面保护和治理,消除沙害,使沙区生态环境根本好转,实现沙区经济社会可持续发展。
【英文摘要】Based on the natural geographical conditons and practical situations in Hulunbeier Sandy Land,Hulunbeier Sandy Land is divided into three measurement regions and five type regions for controlling,which the corresponding focal points of management and main direction have been put forward in each type region.Through comprehensive protection and management,the ecoenvironment in sandy land has improved,and the sustainable economic and social developemt have brought forth.
【语种】中文
【第一作者】杜敏
【通讯作者】杜敏
【期刊名称、卷期、页码】内蒙古林业科技 第 36卷 第 1期54-56
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【引文索引类型】其他
【引文索引号】null
【学科分类】土壤学

【题目】库布齐沙漠生物结皮层土壤理化特性的研究
【中文关键词】沙漠生物结皮; 养分富集; 保水能力; 水分蒸发;
【英文关键词】无
【中文摘要】本文对库布齐沙漠生物结皮层土壤的水分物理和化学特性进行了初步研究,结果表明,结皮层具有较高的养分含量和吸水能力,并且呈现出一定的垂直变化规律。室内水分蒸发试验表明,由于生物结皮层能够明显抑制水分蒸发的时间比裸露沙土滞后2~3天,从而使得沙漠生物结皮层累计蒸发损失的水量大于裸露的沙土。 更多还原
【英文摘要】无
【语种】中文
【第一作者】闫德仁
【通讯作者】闫德仁
【期刊名称、卷期、页码】土壤 2008, 40 (1): 145~148
【论文发表时间】2008-02-15 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】土壤学

【题目】区域农业园区体系规划的内容与评价体系—以昆明市域农业园区体系规划为例
【中文关键词】农业园区;区域规划;产业布局;空间结构;等级规模结构;职能结构;评价体系
【英文关键词】agriculture and size structure; park; regional planning; the functional structure; planning the industrial development; the spatial structure; evaluation system
【中文摘要】以昆明市域农业园区体系规划为例,提出了区域农业园区体系规划成果框架。区域农业园区体系规划应以规划背景与条件分析为基础,提出规划总则与发展目标。区域农业园区体系的规划布局主要包括农业园区的产业布局规划、空间结构规划、等级和规模结构规划、职能结构规划。区域内园区建设发展分类引导规划、农业园区基础设施规划和近期重点建设项目规划也是区域农业园区体系规划的重要内容。区域农业园区建设的体制创新、产业创新、制度创新、管理模式和运行机制创新,是建设现代农业园区的重要保障。区域农业园区评价体系建设的重点是建立科学合理的综合评价指标体系及其相应的评价程序与操作方法。
【英文摘要】无
【语种】中文
【第一作者】张云彬
【通讯作者】张云彬
【期刊名称、卷期、页码】华中农业大学学报 2012(2)187-192
【论文发表时间】2012-01-12 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】测绘科学技术其他学科

【题目】安徽省湿地的渔业功能、存在问题与保护对策研究
【中文关键词】安徽省; 湿地; 渔业功能; 保护对策
【英文关键词】anhui province Wetland Fishery function Protection Countermeasures
【中文摘要】重点介绍了安徽湿地面积、渔产变化以及湿地的产品供给、生物多样性保护、观光休闲、特色农业等功能,并指出了存在问题并提出了相应的保护对策。深化湿地生态系统的多功能性研究,可促进生态安徽建设与实现农业可持续发展。
【英文摘要】无
【语种】中文
【第一作者】杨虬然
【通讯作者】杨虬然
【期刊名称、卷期、页码】安徽农业科学 2011 (40)18634-18636
【论文发表时间】2011-05-20 00:00:00
【引文索引类型】其他

【引文索引号】null
【学科分类】园艺学

【题目】沙地樟子松天然林土壤肥力变化的研究
【中文关键词】呼伦贝尔沙地; 天然樟子松林; 养分变化; 腐殖质特征;
【英文关键词】Hulunbeier sandy land; Pinus sylvestris var.mongolica natural forest; change of nutrients; feature of humus;
【中文摘要】从土壤养分含量、颗粒组成和腐殖质特征方面研究了呼伦贝尔沙地樟子松天然林土壤肥力变化特征。结果表明,随着沙地樟子松天然林年龄的增加,土壤有机质含量、全氮、全磷和速效磷含量表现出明显的增加趋势,而土壤速效氮含量反而降低,土壤pH值则具有降低的规律。土壤颗粒组成主要集中在20~200 nm之间,平均含量为63.04%~93.49%。沙地樟子松天然林在生长过程中,对土壤腐殖质组成及其含量具有显著影响,并且随着林龄增加,有利于形成良好的土壤腐殖质结构,提高土壤的保肥能力。 更多还原
【英文摘要】The characteristics of change of soil fertility in Pinus sylvestris var.mongolica natural forest in Hulunbeier sandy land has been studied at some aspects such as soil nutrients content,particle composition and humus feature.The results showed: with the increase of age of Pinus sylvestris var.mongolica natural forest,soil organic matter content,total nitrogen content,total phosphate content and available phosphate content have increased,but soil available nitrogen content has decreased,and the soil pH value has decreased.Soil particle composition has mainly gathered from 20 nm to 200 nm,with average content at 63.04%~93.49%.During growth,Pinus sylvestris var.mongolica natural forest in Hulunbeier sandy land can obviously influence the soil humus composition,and with the increase of forest age,it ’s favorable to form good soil humus structure and improve the soil nutrient preserving capacity.
【语种】中文
【第一作者】闫德仁
【通讯作者】闫德仁
【期刊名称、卷期、页码】内蒙古林业科技 2009年第35卷第03期 1页-4页
【论文发表时间】2009-09-15 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】土壤学

【题目】沙地樟子松天然林野生苗特征研究
【中文关键词】樟子松; 天然更新; 年龄结构; 呼伦贝尔沙地;
【英文关键词】Pinus sylvestris var.mongolica; natural regeneration; age structure; Hulunbeier Sandy Land;
【中文摘要】选择不同密度母树、单株母树和火烧迹地等3种类型的样地,调查了樟子松天然更新苗特征。结果表明:母树密度不同,天然更新苗数量和年龄结构存在明显差异;樟子松天然更新苗年龄结构在时间上具有明显的不连续性,天然更新苗密度因林分类型的差异明显不同,并且和母树立地条件、树龄、空间分布等因素有关。
【英文摘要】The characteristics of natural regeneration seedlings of Pinus sylvestris var.mongolica have been investigated in the chosen sample area with seed trees at different density,single seed tree and burned area.The results show: because of the different density of seed trees,there is obvious difference at the quantity and age structure of natural regeneration seedlings.The age structure of natural regeneration seedling of Pinus sylvestris var.mongolica can ′t be continuous at the time.The density of natural regeneration seedling is different with the different types of forest stand,which is related with site condition,tree age and spatial distribution
【语种】中文
【第一作者】杜敏
【通讯作者】杜敏
【期刊名称、卷期、页码】内蒙古林业科技2008年第34卷04期 6-9
【论文发表时间】2008-12-15 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】土壤学

【题目】推进安徽现代农业发展的重要途径———发展多功能农业
【中文关键词】多功能农业; 农业现代化; 发展

【英文关键词】Multifunctional agriculture; Modernization of agriculture; Development
【中文摘要】农业的多功能性理念赋予了农业更丰富的内涵,显现了农业在现代社会发展中的独特地位和作用。通过对农业多功能性现状的研究,提出了新时期安徽农业的发展战略。
【英文摘要】无
【语种】中文
【第一作者】黄婷
【通讯作者】黄婷
【期刊名称、卷期、页码】安徽农业科学,2011,39(20):12476 -12479
【论文发表时间】2011-07-12 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农学其他学科

【题目】Development of chemiluminescence enzyme-linked immunosorbent assay for the screening of metolcarb and carbaryl in orange juice, cabbage and cucumber
【中文关键词】氯霉素;生物素-链亲和素放大系统;ELISA;牛奶
【英文关键词】Chloramphenicol; biotin-streptavidin-amplified system; ELISA; milk
【中文摘要】本文介绍了一种用化学发光加强信号的直接竞争酶联免疫实验(ELISA)同时检测农产品中速灭威和西维因的方法。考虑了包被抗体和酶示踪物的浓度,pH以及甲醇浓度的影响。在最适宜条件下,速灭威和西维因的IC50分别为4和0.3 ug kg-1。笔者用简单、快速和有效的方法检测了果汁和蔬菜中速灭威和西维因。样品中速灭威和西维因的回收率(n=3)分别为75 – 108%和74 – 98%。化学发光免疫实验的结果用高效液相色谱法进行了验证。用化学发光ELISA法和高效液相色谱法获得的数据的相关性(n=9)很好。因此,化学发光ELISA法可用于同时定量检测农产品中速灭威和西维因的残留。
【英文摘要】A direct competitive enzyme-linked immunosorbent assay (ELISA) with enhanced chemiluminescent detection for simultaneous detection of metolcarb and carbaryl in agricultural products is reported. The concentrations of coating antibodies and enzyme tracer, as well as the effects of pH and methanol concentrations, were investigated. Under optimum conditions, the IC50 of metolcarb and carbaryl were 4 and 0.3 mgkg-1, respectively. Detection of metolcarb and carbaryl in fruit juices and vegetables was accomplished using simple, rapid and efficient extraction methods. Recoveries (n ¼ 3) of spiked samples ranged 75 – 108% for metolcarb and 74 – 98% for carbaryl. Validation of the enhanced chemiluminescent immunosorbent assay was conducted by comparison of results with HPLC. The correlation between the data obtained using ELISA with enhanced chemiluminescent detection and HPLC was good (n ¼ 9). Therefore, the enhanced chemiluminescent ELISA was suitable for quantitative simultaneously determination of metolcarb and carbaryl residue in agricultural products
【语种】英文
【第一作者】Jingwei Sun
【通讯作者】王硕
【期刊名称、卷期、页码】2010, 27(3) :338 – 346
【论文发表时间】2009-10-10 00:00:00
【引文索引类型】SCI
【引文索引号】564EJ
【学科分类】食品科学技术其他学科

【题目】Development of enzyme linked immunoassay for the simultaneous detection of carbaryl and metolcarb in different agricultural products
【中文关键词】酶联免疫法吸附测定,同步测定,西维因,速灭威,基体效应,农产品
【英文关键词】Enzyme linked immunosorbent assay;Simultaneous determination;Carbaryl;Metolcarb;Matrix effects;Agricultural products
【中文摘要】本文介绍了一种多酶示踪剂直接竞争酶联免疫实验同时检测农产品中西维因和速灭威的实验方法。本文研究了包被抗体和酶示踪剂的浓度。在最优条件下,西维因和速灭威的检出限分别为0.15 ug L − 1和1.2 ug L − 1。用简单、快速、和高效的方法检测了果汁和蔬菜中的西维因和速灭威。样品的回收率超过了70%。免疫试实验的结果用高效液相色谱法进行了验证。用多酶示踪物的酶联免疫实验法和高效液相色谱法获得的数据的相关性很好。结果表明,这种新的酶联

免疫实验法可用于同时定量检测西维因和速灭威的残留。
【英文摘要】A direct competitive enzyme linked immunosorbent assay in multi-enzyme tracers format for the simultaneous analysis of carbaryl and metolcarb in agricultural products is described in this study. The concentrations of coating antibodies and enzyme tracer were studied. Under the optimum conditions, the limits of detection of carbaryl and metolcarb were 0.15 gL 1 and 1.2 gL 1, respectively. Determination of carbaryl and metolcarb in fruit juices and vegetables was accomplished by simple, rapid and efficient extraction methods. Recoveries of spiked samples were great than 70%. Validation of the immunosorbent assay was conducted by comparison of results from high performance liquid chromatography (HPLC). The correlations between the data obtained using multi-enzyme tracers enzyme linked immunosorbent assay and high performance liquid chromatography were good. Results indicated that the new strategy for developing immunoassay for simultaneous quantitative determination of carbaryl and metolcarb residues was suitable in this study.
【语种】英文
【第一作者】Jingwei Sun
【通讯作者】王硕
【期刊名称、卷期、页码】2010, 666, 76 – 82
【论文发表时间】2010-03-31 00:00:00
【引文索引类型】SCI
【引文索引号】604AW
【学科分类】食品科学技术其他学科

【题目】Development of an Enzyme-Linked Immunosorbent Assay To Detect Benzylpenicilloic Acid, a Degradation Product of Penicillin G in Adulterated Milk
【中文关键词】苄青霉噻唑酸;盘尼西林降解产物;抗体;ELISA
【英文关键词】Benzylenicilloic acid; degradation product of penicillin; antibody; ELISA
【中文摘要】为了避免检出青霉素G,一些生产商和商人非法将β-内酰胺酶添加到牛奶中来降低BPA。这种降解产物能引起人体内的变态反应。因此,是危害人类健康的潜在危害物。为了检测出牛奶中的BPA,我们建立了一种快速直接竞争酶联免疫实验(ELISA)。其IC50为0.32±0.01 ug L-1,检出限为0.030±0.002 ug L-1。牛奶样品中的基体效应可以通过离心和稀释消除。回收率为72.75-93.25%。为原料乳加热处理也不会影响BPA的检测。为了证实BPA-ELISA,牛奶样品用ELISA和LC-MS(液相色谱/质谱联用)的方法进行验证;结果表明有很强的相关性(r2 = 0.99)。用BPA-ELISA的方法检测了从天津进出口检疫检验局获得的样品。结果表明用天津进出口检疫检验局获得的结果有几乎100%的相关性(r2 = 0.99)。
【英文摘要】To avoid detection of penicillin G , some p roducer s/merchants illegally add β-lactama se to mil k to degrade it into benzyl penicilloic acid (BPA). Thi s degradation product can use allergic re action s i n h um a ns and, therefore, is a potential hazard to human health. To detect BPA in milk, we established a rapid direct competitive enzyme-linked immunosorbent assay (ELISA) with an IC50 of 0.32(0.0 1 μgL-1,and a detection limit of 0.030 (0.00 2 μgL-1. Matrix effects in t he milk samples were easily eliminated by centrifugation and dilution. Recoveries were 7 2.7 5 - 9 3.2 5%. Al so heat treatments of raw milk did not affect the detection of the BPA. To validate BPA -E LIS A, the spiked milk samples were analyzed by E LIS A and LC- MS ; the results showed a strong correlation(r2=0.99). Incurred samples obtained from Tianjin Entry- Exit Inspection and Quarantine Bureau (TJCIQ) we retested by BPA- ELISA . The results showed an almost 100% correlation (r2=0.99) with the results supplied by the TJCIQ.
【语种】英文
【第一作者】Yan Zhang
【通讯作者】王硕
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【引文索引号】627ED
【学科分类】食品科学技术其他学科

【题目】Antigens Synthesis and Antibodies Preparation for Furazolidone and Its Metabolite 3-amino-2-oxazolidinone
【中文关键词】呋喃唑酮;呋喃唑酮代谢物;抗体;ELISA
【英文关键词】Furzolidone; AOZ; Antigen; Antibody; ELISA

【中文摘要】合成了两种半抗原FZ-NH2和CPAOZ。对于FZ-NH2来说,通过戊二醛和重氮盐方法合成免疫原。对于CPAOZ来说,通过活化酯法和混合酸酐法合成免疫原。用戊二醛合成的FZ- NH2-OVA以及用活化酯法合成的CPAOZ-KLH,来建立间接竞争酶联免疫实验(ic-ELISA)。对于呋喃唑酮和它的代谢物AOZ(NPAOZ为代谢物)来说,灵敏度(IC50)为2.0 ug/L和2.5 ug/L检出限(IC15) 分别为0.09 ug/L和0.25 ug/L。我们建立了一种同时检测饲料中呋喃唑酮和它的代谢物AOZ的灵敏的实验方法。

【英文摘要】Two haptens of 3-[(5-amino-furan-2-ylmethylene)amino]oxazolidin-5-one(FZ-NH2) and 3-{[(4-carboxyphenyl)methylene]-amino}-2-oxazolidinone(CPAOZ) were synthesized. For FZ-NH2, immunogens were prepared by glutaraldehyde and diazo salt methods. For CPAOZ, immunogens were connected by the methods of the active ester and mixed acid anhydride. Compared with the combination, indirect competitive enzyme-linked immunosorbent assay (ic-ELISA) was developed with coating antigen of FZ-NH2-OVA via the glutaraldehyde method and immunogen of CPAOZ-KLH via active ester method. For furazolidone and its metabolite AOZ (NPAOZ as derivative), the sensitivities (IC50) were 2.0 mg/L and 2.5 mg/L, limits of detection (IC 15) were 0.09 mg/L and 0.25mg/L, respectively. A sensitive method was developed for the simultaneous determination of furazolidone in feed and its metabolite AOZ in tissue.

【语种】英文

【第一作者】Hua Ping Zhu

【通讯作者】王硕

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【学科分类】食品科学技术其他学科

【题目】Preparation, Characterization, and Application of A New Thiol-Functionalized Ionic Liquid for Highly Selective Extraction of Cd(II)

【中文关键词】提取;镉;原子吸收光谱

【英文关键词】Thiol-functionalized ionic liquid;Extraction ;Cadmium;Flame atomic absorption spectrometry

【中文摘要】一个高度选择性硫醇功能化离子液体(硫醇FIL)通过　FT-IR和ESI质谱合成。评价了硫醇功能化离子液体能提取Cd(II)、镍(II)、铬(iii)和Pb(II)能力。结果表明,硫醇功能化离子液体对Cd(II)具有高选择性,即确定用火焰原子吸收光谱法结合Cd(II)的方法,此法没有1000倍超额Na(I)、镁(II),Ca(II)、锰(II)、铁(III),Al(III)、铜(II)、锌(II)、镍(II)、铬(iii),Co(II),(III),Pb(II),和汞(II)的干扰。将萃取平衡时间定为1分钟,可得到了一个好的线性(r = 0.9998)和检测限为0.39 μ gL-1。精度(RSD)的测量1是重复测量11个10 μ gL-1 Cd的样品是结果为1.6%。该方法验证使用合格的参考资料。镉的添加回收率在添加的样本范围从97%到102%。

【英文摘要】A highly selective thiol-functionalized ionic liquid (thiol-FI L) was synthesized and characterized by FT-IR and ESI mass spectroscopy. The capability of thiol-FIL t o extract Cd(II), Ni(II), Cr(III) and Pb(II) wasevaluated. It is found that thiol-FIL possesses high selectivity for Cd(II), and this has led to a method for determination of Cd(II) by flame atomic absorption spectrometry that is free of interferences by up to a 1,000-fold excess of Na(I), Mg(I I), Ca(II), Mn(II), Fe(III), Al (III), Cu(II), Zn(II), Ni(II) , Cr(III), Co(II), As(III), Pb(II), and Hg(II). With extraction equilibrium time of 1 min , a good linearity (r = 0.9998) and a detection limit of 0.39¼ gL　1 were obtained. The precision (RSD) fo r 11 replicatemeasurements of 10 ¼ gL　1 Cd was 1.6%. The method was validated using certified reference materials. The recoveries of cadmium in spiked real samples ranged from 97% to 102%

【语种】英文

【第一作者】Guozhen Fang

【通讯作者】王硕

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【学科分类】食品科学技术其他学科

【题目】Development of a sensitivity-improved immunoassay for the determination of carbaryl in food samples

【中文关键词】免疫分析、灵敏度、西维因、食品样品、预处理
【英文关键词】immunoassay; sensitivity; carbaryl; food sample; pre-treatment
【中文摘要】背景:为了建立一种检测西维因的高灵敏度免疫实验,用一种更安全实用的方法合成与西维因高度相似的半抗原。当其连接到辣根过氧化物酶(HRP)后,优化和表征了直接竞争酶联免疫实验(CD-ELISA),详细地评价了实验的性能条件。在初步研究中,也应用了增强的化学放光ELISA(ECL-ELISA)实验方法。结果:实验得到的IC50(抑制率为50%时的浓度)为2 ug kg－1,这比之前相似的CD-ELISA实验得到的结果灵敏12倍。在ECL-ELISA中,the IC50减小了10倍,到达了0.2 ug kg－1。CD-ELISA建立了一种更加广泛的实验条件,经过更加方简单的前处理可以应用到多种食品样品中。平均回收率在88.3－101.7%。结果与高效液相色谱法得到的结果有很好的相关性(R2 = 0.989)。结论:ELISA方法对于检测西维因做出了很大的提高,这表明,免疫实验是一种快速、有效地方法,可以应用于食品中西维因的快速定量或者定性检测。
【英文摘要】BACKGROUND: With the aim of developing a highly sensitive immunoassay for carbaryl, a hapten which had high similarity to carbaryl was synthesised using a safer and more practical approach. After it was conjugated to horseradish peroxidase, direct competitive heterologous enzyme-linked immunosorbent assay (CD-ELISA) was optimised and characterised. The assay performance conditions were investigated in details. Enhanced chemiluminescence ELISA (ECL-ELISA) was also used in preliminary studies.RESULTS: The assay obtained an IC 50 value (the concentration causing 50% inhibition) of 2 μgkg－1, which was 12-fold more sensitive than previous results of homologous CD-ELISA. In ECL-ELISA, the IC 50 was further decreased 10-fold to 0.2 μgkg－1The CD-ELISA developed was applicable for broad conditions, and could be applied on various food samples with a more convenient pre-treatment. Average recoveries were in a range of 88.3 － 101.7%. The results correlated well with those obtained using high-performance liquid chromatography (HPLC) analysis (R2= 0 .989).CONCLUSION: The ELISA developed was a great improvement in thedetermination of carbaryl, showing that the immunoassay developed was a simple, rapid and efficient method that was re liable for the detection of carbaryl and suitable for rapid quantitative or qualitative determination in food samples.
【语种】英文
【第一作者】Tingting Dong
【通讯作者】王硕
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【学科分类】食品科学技术其他学科

【题目】Preparation of Iminodiacetic Acid Functionalized Multi-walled Carbon Nanotubes and its Application as Sorbent for Separation and Preconcentration of Heavy Metal Ions
【中文关键词】多壁碳纳米管;ICP-MS;在线固相萃取;金属离子分析;ICP-MS
【英文关键词】Functionalized multi-walled carbon;Nanotubes;On-line solid-phase extraction;Metalions analysis
【中文摘要】这篇论文主要讲述用亚氨基二乙酸(IDA)和通过傅立叶变换红外光谱表征制备多壁碳纳米管(MWC-NTs)的一种新型的材料。等温线和吸附动力学进行了研究和实验数据非常好地拟合了朗缪尔模型和伪二阶方程。一个联机法同时测定微量V (V), Cr (VI), Pb (II), Cd (II), Co (II), Cu (II) and As (III),生物样品使用了这种材料作为吸附剂加上电感耦合等离子体质谱(icp - ms)。研究了一系列的实验参数,包括样品的pH值、样品流速和加载时间、淋洗的解决方案所产生的影响和干扰离子。在最佳实验条件下,浓缩因素对以上金属离子是介于66至101。检测极限(3 s)分别达到了1.3,1.2,0.70,0.40,2.5,3.4,0.79 ng L-1。在1.0 gL-1条件下,11个平行样品的精密度(RSD,%)是1.0到4.0。添加的生物样品的添加回收率(n = 3)在90 - 110%的范围。这些结果已经证明,所提出的方法具有良好的精度,可以应用于分析生物样品中的痕量金属离子。
【英文摘要】In this paper, a novel material was prepared with functionalizing multi-walled carbon nanotubes (MWC-NTs) using iminodiacetic acid (IDA) and characterized by FT-IR. Isotherm and kinetics of adsorption were studied and the experimental data fitted the Langmuir model and pseudo-second-order equation very well. An on-line method for simultaneous determination of trace V (V), Cr (VI), Pb (II), Cd (II), Co (II), Cu (II) and As (III) in biological samples was developed using this material as sorbent coupled with inductively coupled plasma mass spectrometry (ICP-MS). A series of experimental parameters, including sample pH, sample flow rate and loading time, eluting solution and the effect of interfering ions have been investigated systematically. Under the optimum experimental conditions, the enrichment factors for above metal ions were ranged from 66 to 101. Detection limit (3 s) was achieved at 1.3, 1.2, 0.70, 0.40, 2.5, 3.4, 0.79 ng L－1, respectively. At the 1.0 gL－1 level, the precision (RSD, %) for 11 replicate measurements was from 1.0 to 4.0. In spiked biological samples, good recoveries (n = 3) were obtained in the range of 90 – 110%. These results had proved that the proposed method was with good accuracy and could be applied to the analysis of trace metal ions in biological samples.

【语种】英文
【第一作者】Junping Wang
【通讯作者】王硕
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【学科分类】食品科学技术其他学科

【题目】A Sensitivity-improved Enzyme-linked Immunosorbent Assay for Fenvalerate: A New Approach for Hapten Synthesis and Application to Tea Samples
【中文关键词】氰戊菊酯;多克隆抗体;ELISA;基体效应;交叉反应性
【英文关键词】fenvalerate; polyclonal antibody; ELISA; matrix effect; cross-reactivity
【中文摘要】背景:氰戊菊酯广泛应用于杀虫剂中,但是在一些农作物中发现了其残留物。中国式茶产品出口的大国,因此,控制茶产品中的杀虫剂残留已经变得越来越重要。本文建立了一种快速检测茶样品中氰戊菊酯的直接竞争酶联免疫实验方法(CD-ELISA)。结果:氰戊菊酯(FEN)多克隆抗体是由FEN半抗原特有的部分产生的。在酸化后,用2-(4 - 氯苯基)-3 - 甲基 – 丁酸和氨基乙酸甲酯合成半抗原。建立的CD-ELISA方法的检测灵敏度很高:IC50为9 ug L − 1,IC15为0.5 ug L − 1。氰戊菊酯用0.5mmol L − 1 NaOH-甲醇异构化来提高它的溶解度。在茶样品中,氰戊菊酯的检出限为0.16 mg L − 1,回收率为76.67 – 91.43%. CD-ELISA的可靠性比气象色谱分析的更好(R2 = 0.9968)。结论:本文建立了一种简单有效地免疫实验方法。该方法同样适用于快速检测茶样品中氰戊菊酯的残留。
【英文摘要】BACKGROUND: Fenvalerate has been widely used for t he control of m any common pests, but residues of this pesticide have been found in some agricultural crops. China is a large exporter of tea products; thus monitoring of pesticide residues in tea products has become increasingly important. In this study, a method of competitive direct enzyme-linked immunosorbent assay (CD-ELISA) for the rapid detection of fenvalerate in tea s ample was developed.RESULTS: A polyclonal antibody against fenvalerate (FEN) was produced by t he hapten with the charact eristic moiety of fenvalerate. After acidification, the hapten was synthesized from 2 -(4-chloro-phenyl)-3-methyl-butyric a cid a nd aminocaproic acid methylester. The CD-ELISA method developed has a high sensitivity of detection: 9 μ gL − 1 for I C 50 and 0 .5 μ gL − 1 for IC15. Fenvalerate was treated with 0.5 mmolL − 1 NaOH – methanol solution to improve its solubility by isomerization. In the tea sample, the detection limit of fenvalerate was 0.16 mg L − 1. A recovery rate of 76.67 – 91.43% was obtained from spiked tea. The reliability of t he CD-ELISA method is better in comparison with t he gas chromatographic method (R2= 0 .9968).CONCLUSION: In this study, a simple and efficient immunoassay method was developed. It is preferable for the rapid determination of fenvalerate residues in tea samples.
【语种】英文
【第一作者】Yang Song
【通讯作者】王硕
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【学科分类】食品科学技术其他学科

【题目】Applications and recent developments of multi-analyte simultaneous analysis by enzyme-linked immunosorbent assays
【中文关键词】酶联免疫;基因抗体;半抗原;分子模拟;综述;同时分析
【英文关键词】Enzyme-linked immunosorbent assay (ELISA);Generic antibody;Hapten
Molecular modeling;Review;Simultaneous analysis
【中文摘要】在此回顾了用ELISAs方法建立同时检测多种有机化合物的方法。本文详细介绍了基于同类抗体的多种分析物ELISAs方法,或者基于用多种抗体宝贝或者多种示踪物标记的特定抗体的实验方法。重点讨论了半抗原合成的设计、将抗原连接到载体蛋白的方法、抗体的类型和特征以及ELISAs实验步骤的设计。希望这个全面的介绍可以为今后用ELISA方法同时检测多种分析物提供有用的帮助。
【英文摘要】The recent developmen t and application of multi-analyte simultaneous analysis by enzyme-linked immunos orbent assays (ELISAs) of many kinds of organic compounds are reviewed herein. Multi-analyte ELISAs based on generic antibod ies directly,

or on specific antibodies by multi-antibody co-coating or multi-tracer co-marking are described in detail. Special attention was placed on the design and synthesis of a generic hapten, the manner of linking the hapten to a carrier protein, type and character of the antibody and format of the ELISAs. It is hoped that this comprehensi ve review can be considered as a useful reference for further investigation of multi-analyte simultaneous analysis by ELISAs

【语种】英文
【第一作者】Hongyan Zhang
【通讯作者】王硕
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【学科分类】食品科学技术其他学科

【题目】Enzyme-linked immunosorbent assay and colloidal gold-based immunochromatographic assay for several (fluoro)quinolones in milk
【中文关键词】酶联免疫;基因抗体;半抗原;分子模拟;综述;同时分析
【英文关键词】Enzyme-linked immunosorbent assay (ELISA);Generic antibody;Hapten;Molecular modeling;Review;Simultaneous analysis
【中文摘要】本文建立了一种直接竞争酶联免疫实验(ELISA)以及科室的胶体金为基础的免疫色谱层析实验(CGIA),用多克隆抗体同时检测牛奶中氧氟沙星、麻保沙星、氟罗沙星残留。氧氟沙星、麻保沙星、氟罗沙星的IC50和IC15值分别为0.20和0.53 ng mL－1以及0.02和0.05 ng mL－1。平均回收率为78% 至113%,批内和批间的变异系数分别为2~11%, 3~19%。牛奶中的氧氟沙星、麻保沙星、氟罗沙星的检出限在3.5~8.9 ng mL－1之间。优化好的CGIA牛奶中的的最小可视检出限为2 ng mL－1。检测过程可以在10min内完成。可以在4 ° C中贮藏8周而不会失活。对样品分析的结果显示CGIA能应用于初步、快速的检测牛奶样品。ELISA和CGIA的实验方法有着快速、灵敏、低成本的优点,可以应用于检测牛奶样品中(氟代)喹诺酮残留。
【英文摘要】We have developed a heterologous direct competitive enzyme-linked immunosorbent assay (ELI SA) and a visual c olloidal gol d-based immunochromatographic assay (CGIA) for simult aneous deter minati on of ofloxacin, marbofloxacin, and fleroxacin resid ues i n m ilk usingpolycl onal antibodies . The half- maximum inhibit ion concentrations (IC50) of ofloxacin, marbofloxacin, fleroxacin , and limits of detection (L ODs; calculated a s IC15 values)are between 0.20 and 0.53 ng mL 1, and between 0.02 and0.05 ng mL 1, respectively. The average recoveries range from of 78% to 113%, and the coefficients of variation of intra- and inte r-assays are between 2 and 11%, and 3 to 19%, respectively. The LODs for ofloxacin, marbofloxacin, fleroxacin in milk are between 3.5 and 8.9 ng mL 1.The visua l min detection limit of the op timized CGIA is 2ngmL 1 for milk samples. The detection process can be completed with in 10 min . The strips can be stored at 4 ° C for 8 weeks without significant loss of activity. The results of the analysis of spiked samples showed that the CGIA can be applied to preliminary, fast, and on-site screening of milk samp les. The ELISA and CGIA allow for a rapid ,sensiti ve, and low-cost determination of (fluoro) quinolones residues in milk samples.
【语种】英文
【第一作者】Hongyan Zhang
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【学科分类】食品科学技术其他学科

【题目】Development of an Enzyme-Linked Immunosorbent Assay Based a Monoclonal Antibody for the Detection of Pyrethroids with Phenoxybenzene Multiresidue in River Water
【中文关键词】拟除虫菊酯,二苯醚官能团,ELISA,河水
【英文关键词】pyrethroid,,phenoxybenzene group, monoclonal antibody, ELISA, river water
【中文摘要】本文建立了一种利用单克隆抗体灵敏有选择性的直接竞争酶联免疫实验方法(ELISA)来检测含有苯氧基的拟除虫菊酯。得到了一种单克隆抗体2G2E7。在BALB/c小鼠的骨髓瘤细胞和脾细胞融合后,2G2E7抗体得到了表征。实验

优化了含有苯氧基的一类拟除虫菊酯的选择性。实验优化后的IC50值分别为溴氰菊酯:1.8 ug L-1,氯氰菊酯:1.5 ug L-1,氟胺氰菊酯和氰戊菊酯:1.5 ug L-1,苯醚菊酯:2.2 ug L-1,氟氰戊菊酯:2.4 ug L-1,甲氰菊酯:3.0 ug L-1,百灭宁:5.0 ug L-1。用ELISA来分析检测用拟除虫菊酯强化的河水样本来评价实验的准确性。河水样本中拟除虫菊酯的回收率为74~108%。结果表明ELISA课准确地同时检测水样品中含有苯氧基的拟除虫菊酯。

【英文摘要】A sensitive and bro ad class selective direct competitive enzyme -linked immunosorbent assay (ELIS A) using monoclonal anti body (McAb) has been described for the detection of pyrethroids with phenoxybenzene group. One monoclonal antibody, 2G2E7, was obtained and characterize d after fusion of myeloma cells with spleen cells isolated from BA LB/c mice . The assay with the most selectivity for the family pyrethroids with phenoxybenzene group was optimized . The IC50 value s of the optimized immuno assay were 1.8 μgL-1 for deltamethrin, 1.5 μgL-1 for cypermethrin, 2.0 μgL-1 for fluvalinate and fenvalerate ,2.2 μgL-1 for phenothrin, 2.4 μgL-1 for flucythrinate, 3.0 μgL-1 for fenpropathrin, and 5.0 μgL-1 for permethrin. River water samples fortified with pyrethroids were analyzed with the ELISA to evaluate the accurancy of the as say. The recoveries of pyrethroids in spiked water samples ranged from 74 to 108%. The results indicate the ELISA developed can accurately simultaneously determine pyrethroids with phenoxybenzene group in water samples

【语种】英文

【第一作者】Junping Wang

【通讯作者】王硕

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【学科分类】食品科学技术其他学科

【题目】呼伦贝尔沙地研究综述

【中文关键词】呼伦贝尔沙地; 沙漠化; 防治对策; 综述

【英文关键词】Hulunbeier Sandy Land; summary

【中文摘要】从呼伦贝尔沙地形成、演化、沙物质来源以及现代沙漠化特征和植被恢复技术等方面综合论述了呼伦贝尔沙地研究的现状及其治理对策等问题,认为实现呼伦贝尔沙地的逆转还需要相当长的时间和努力。 更多还原

【英文摘要】Some problems,such as present situation of research and countermeasures of controlling Hulunbeier Sandy Land,are comprehensively discussed in such aspects as form,evolution,source of sand,characteristics of modern desertification,and recovery of vegetation,etc.It ′ s thought that the inversion of Hulunbeier Sandy Land needs a long time and efforts.

【语种】中文

【第一作者】闫德仁

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【学科分类】土壤学

【题目】沙漠地区生物土壤结皮层腐殖质特征

【中文关键词】生物结皮; 腐殖质; 人工固沙林; 区域性特征

【英文关键词】soil bio-crust; humus; artificial dune-fixing forest; regional feature;

【中文摘要】沙漠地区生物土壤结皮层具有明显的养分富集现象,并对风沙土具有改良作用。选择鄂尔多斯沙区不同地点不同时间飞播建立的人工固沙林,研究了生物结皮层(苔藓类)土壤腐殖质组成含量及变化趋势。结果表明,生物结皮层腐殖质组成含量明显高于对照沙土,但不同地点之间差异不显著。随着沙地飞播造林固沙时间的延长,研究区生物结皮层腐殖质组成含量的变化总体呈增加的趋势,但不显著。不同气候区生物结皮层腐殖质组成和结构特征具有区域性特征,并在风沙土的成土过程中有所表现。

【英文摘要】The soil bio-crust(bryophyte layer) in desert area accumulates abundant nutrients,playing an important role in the amelioration of aeolian sandy soil.This paper studied the contents of various humus components and their changing tendency in soil bio-crust in the artificial dune-fixing forests established by fly-seeding at different years in Erdos desert areas.The results showed that the

contents of various humus components in the crust were higher than the control,and increased with increasing year of the establishment of the forests.The humus composition and structure in the crust had their regional feature,which reflected in some extent the forming process of aeolian sandy soil. 更多

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【题目】水产基因组学技术
【中文关键词】硬骨鱼;基因组
【英文关键词】Osteichthyes;genome
【中文摘要】本书目的是为将来的水产养殖和渔业科学家介绍基因组技术,也为农业科学专业的学生提供合适的参考书。写这本书,有这样几个紧迫的原因。首先,你很容易找到有关基因组学的书籍,但很难发现非常详尽介绍基因组学技术概念和基本原理的书籍。本人的学术背景是农业,但我近年来主要从事基础基因组学的研究,本人的经验,加上为研究生讲授农业基因组学课程的经历,使我能有效地抓住基因组学的关键问题,即对基因组技术的理解是必需的,假如能对基因组技术的基本原理有非常清楚的解释,将会更加有帮助,因为许多学生没有系统地学习过分子生物学、遗传学、生物化学、生物信息学等。其次,大多数基因组学书籍利用经典的模式动物来介绍纯粹的基因组学方法,没有考虑到基因组技术在某些实际情况下潜在的应用前景,在如何把基础的基因组学运用到人类健康研究之外的领域方面,亦存在严重的不足;本书详尽介绍了基因组技术以及这些技术在水产养殖和渔业上的应用。最后,水产养殖和渔捞对象有其独特的生物学特性,目前的基因组技术需要适当的改进和调整以后才能更好地运用。尽管本书没有任何章节是有关起源于水产养殖或渔捞对象的全新的基因组技术,但几乎每一章节都是介绍基因组技术在水产养殖和渔业或农业上的具体运用。
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【题目】沙漠人工生物结皮层理化特性研究
【中文关键词】库布齐沙漠; 人工生物结皮; 养分含量; 颗粒物质组成
【英文关键词】Kubuqi Desert; artificial biological soil crusts; nutrients content; particle matter composition
【中文摘要】在库布齐沙漠测定了人工生物结皮层的养分含量和颗粒物质的组成,结果表明:采取人工接种技术形成的生物结皮层同样具有养分富集的特征,速效氮、全氮、速效磷、全磷和有机质含量分别比固定沙地增加5.5%、70.0%、59.4%、53.96%和48.9%。与天然形成的生物结皮层养分含量相比,人工生物结皮层各养分(速效磷除外)含量较低,颗粒组成含量和天然形成的生物结皮层颗粒组成含量几乎一致,说明人工接种技术形成的生物结皮层颗粒物质组成和天然生物结皮相同。 更多还原
【英文摘要】The nutrients content and particle matter composition of artificial biological soil crusts were studied in Kubuqi desert.The results showed that artificial biological soil crusts had nutrients content accumulation phenomenon.Compared with the fixed sand soil,available nitrogen content in artificial biological soil crusts was increased by 5.5%,total nitrogen content was increased by 70.0%,available phosphate content was increased by 59.4%,total phosphate content was increased by 53.96%,organic matter content was increased by 48.9%,respectively.But nutrients content(available phosphate) in artificial biological soil crusts was lower than natural biological crusts,and particle matter composition content in artificial biological soil crusts layer was the same as nature biological soil crusts,which showed that source of particle matter was same in artificial inoculating technology of biological soil crusts and natural

formation biological soil crusts
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【学科分类】土壤学

【题目】Enzyme-linked immunosorbent assay for detection of organophosphorylated butyrylcholinesterase: A biomarker of exposure to organophosphate agents
【中文关键词】夹心酶联免疫吸附分析;磷酸化丁酰胆碱酯酶;丁酰胆碱酯酶;有机磷杀虫剂及神经毒剂
【英文关键词】Sandwich ELISA, organophosphorylated butyrylcholinesterase, Butyrylcholinesterase, organophosphate insecticides and nerve agent
【中文摘要】丁酰胆碱酯酶(BChE)作为一种潜在的生物标记来检测人受有机磷杀虫剂及神经毒剂的危害程度,在本文中利用夹心式酶联免疫分析方法(sELISA)对检测磷酸化的BChE进行检测。通过系统筛选一系列不同源头的抗-丁酰胆碱酯酶抗体,得到一对能特异性结合磷酸化的丁酰胆碱酯酶抗体(抗-BChE)和特异性结合磷酸化的丝氨酸的抗体(抗-Pser)。筛选出的抗-BChE抗体可识别磷酸化及非磷酸化BChE,因此可用于捕获样本中的BChE及OP-BChE。抗-Pser抗体(作为检测抗体)被用来识别OP-BChE复合物。同时使用这两种抗体,优化一些关键成分(例如抗-BChE抗体、抗-Pser抗体和封闭液浓度),可以提高sELISA的灵敏度和选择性。在优化条件下,sELISA有 0.03nM-30nM的线性范围,检测限可达0.03nM。此外,sELISA成功地应用于OP-BChE的体外生物样品检测,例如对大鼠含OP-BChE的血浆具有很好的检测效果(z>99%)。这些结果表明这种新方法展示了酶联免疫试纸盒良好的应用前景,并提供了一种预防和评估有机磷杀虫剂和神经毒剂的简单、廉价的工具。
【英文摘要】A sandwich enzyme-linked immunosorbent assay (sELISA) has been developed for detection of organophosphorylated butyrylcholinesterase (OP-BChE), a potential biomarker for human exposure to organophosphate insecticides and nerve agents. A pair of antibodies specific to OP-BChE adduct were identified through systematic screening of several anti BChE antibodies (anti-BChE) and antiphosphoserine antibodies (anti-Pser) from different sources. The selected anti-BChE (set as capture antibody) antibodies recognize both phosphorylated and nonphosphorylated BChE. These antibodies can therefore be used to capture both BChE and OP-BChE from the sample matrices. The anti-Pser (set as detecting antibody) was used to recognize the OP moiety of OP-BChE adducts. With the combination of the selected antibody pair, several key parameters (such as the concentration of anti-BChE and anti-Pser, and the blocking agent) were optimized to enhance the sensitivity and selectivity of the sELISA. Under the optimal conditions, the sELISA has shown a wide linear range from 0.03nMto 30 nM, with a detectionlimit of 0.03 nM. Furthermore, the sELISA was successfully applied to detect OP-BChE using in vitro biological samples such as rat plasma spiked with OP-BChE with excellent adduct recovery (z > 99%). These results demonstrate that this novel approach holds great promise to develop an ELISA kit and offers a simple and cost-effective tool for screening/evaluating exposure to organophosphate insecticides and nerve agents.
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【题目】直播生物沙障固沙成效研究
【中文关键词】呼伦贝尔沙地; 生物活沙障; 植物生长; 肥力状况
【英文关键词】Hulunbeier Sandy Land; biological living sandy barrier; plant growth; fertility situation;
【中文摘要】在呼伦贝尔沙地采用网格状生物活沙障直播技术具有明显的固沙效果。跟踪调查表明:直播3年植物盖度为55%,杨柴平均高度增加到78.3 cm,沙障网格中心平均风蚀下降到0.2 cm。并且随着沙障生长时间的延长,能够迅速形成不同

类型的结皮,形成"结皮肥岛效应
【英文摘要】The effects of fixing sand with grid biological living sandy barrier by direct seeding are obvious in Hulunbeier Sandy Land.The investigation show that after direct seeding for 3 years,the vegetation coverage is 55 percent,the average height of Hedysarum fruticosum var.mongolicum Turcz has increased to 78.3 cm,and the average wind erosion in the middle of grid sandy barrier has decreased to 0.2 cm.As the sandy barriers grow,different types of crust can be formed rapidly,and the effect of curst fertile island can be formed
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【题目】A novel immunochromatographic electrochemical biosensor for highly sensitive and selective detection of trichloropyridinol, a biomarker of exposure to chlorpyrifos
【中文关键词】免疫层析电化学传感器;生物标记;有机磷杀虫剂;三氯吡啶醇;竞争免疫反应
【英文关键词】Immunochromatographic electrochemical biosensor; Biomarker; Organophosphorus insecticides; Trichloropyridinol; Competitive immunoreaction
【中文摘要】本文提出了一种新颖的便携式免疫层析电化学传感器(IEB)用于简单、快速、灵敏地检测三氯吡啶醇(TCP),TCP是有机磷杀虫剂的一种代谢性生物标记物。这种新方法利用免疫层析试纸条来完成快速竞争免疫反应,捕获的HRP标记物通过一次性丝网印刷碳电极用电化学手段来完成快速、灵敏检测。一些关键的实验参数(例如免疫反应时间,标记TCP的HRP的量,电化学检测的底物浓度以及硝酸纤维素膜的封闭物)都经过优化以提高灵敏度、选择性和稳定性。在最佳优化条件下,IEB有一个较宽的线性范围(0.1-100ng/ml),检测限达0.1ng/ml TCP。此外,IEB已被成功应用于生物监测接触过有机磷杀虫剂如毒死蜱(CPF-oxon)的老鼠血浆样品中的TCP。因此,IEB为设计能简单、快速、应用于临床定量检测TCP的工具提供了新思路,同时,为人类接触有机磷杀虫剂后筛选代谢生物标记如TCP预示了良好的前景。
【英文摘要】We present a novel portable immunochromatographic electrochemical biosensor (IEB) for simple, rapid, and sensitive biomonitoring of trichloropyridinol (TCP), a metabolite biomarker of exposure to organophosphorus insecticides. Our new approach takes the advantage of immunochromatographic test strip for a rapid competitive immunoreaction and a disposable screen-printed carbon electrode for a rapid and sensitive electrochemical analysis of captured HRP labeling. Several key experimental parameters (e.g. immunoreaction time, the amount of HRP labeled TCP, concentration of the substrate for electrochemical measurements, and the blocking agents for the nitrocellulose membrane) were optimized to achieve a high sensitivity, selectivity and stability. Under optimal conditions, the IEB has demonstrated a wide linear range (0.1 – 100 ng/ml) with a detection limit as low as 0.1 ng/ml TCP. Furthermore, the IEB has been successfully applied for biomonitoring of TCP in the rat plasma samples with in vivo exposure to organophosphorus insecticides like Chlorpyrifos-oxon (CPF-oxon). The IEB thus opens up new pathways for designing a simple, rapid, clinically accurate, and quantitative tool for TCP detection, as well as holds a great promise for in-field screening of metabolite biomarkers, e.g., TCP, for humans exposed to organophosphorus insecticides.
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【题目】Development of an immunochromatographic assay for the rapid detection of chlorpyrifos-methyl in water samples
【中文关键词】甲基毒死蜱;胶体金免疫层析;胶体金一步性试纸条检测;农药残留

【英文关键词】Chlorpyrifos-methyl;Gold immunochromatographic assay;Colloidal gold One-step strip test;Pesticide residue
【中文摘要】一种用胶体金-抗体复合物探针快速(少于10分钟)、定性和半定量免疫层析技术被成功地开发并应用于检测水样中的甲基毒死蜱(一种广谱型有机磷农药)。用免疫层析的方法定性检测甲基毒死蜱的浓度为0.6g/ml。在半定量实验中,检测甲基毒死蜱的结果用读条仪读数,然后得到代表扫描数据平均数的检测曲线。经转换后,我们观察到在50-12150ng/ml范围内,图上logit(B/B0)和甲基毒死蜱的对数浓度有线性关系,获得线性方程(y= − 2.5229x + 7.5951, R2 = 0.9889)和IC50值(1024.39 ng/ml)。同时,通过B0-2SD外推法算出检测限为132.91ng/ml。此外,用类似复合物检测发现交叉反应率小于1%,可以忽略不计。向水样中加标准甲基毒死蜱,其检出率为102.5-107.6%。总之,据我们所知,这是第一次报道用免疫层析法定性及半定量检测甲基毒死蜱。
【英文摘要】A rapid (less than 10 min), qualitative and semi-quantitative immunochromatography using colloidal gold-antibody probe was successfully developed and applied in determination of chlorpyrifos-methyl (a wide-spectrum organophosphorus pesticide) in water samples. The qualitative detection limit of chlorpyrifos-methyl was determined as 0.6_gml − 1 by using immunochromatography. In the semiquantitative experiment, the detection results of chlorpyrifos-methyl were scanned by a membrane strip reader, and a detection curve representing the scanned data average was obtained. After conversion, it was observed that in the range of 50 – 12,150 ng ml − 1, the graph between logit(B/B0) and logarithm of concentration of chlorpyrifos-methyl was linear, from which, the regression equation (y = − 2.5229x + 7.5951, R2 = 0.9889) and IC50 value (1024.39 ng ml − 1) was obtained, respectively. Meanwhile, the detection limit was calculated as 132.91 ng ml − 1 by the extrapolation of B0 − 2SD. In addition, the cross-reactivities were less than 1% with tested analog compounds and regarded as negligible. The recoveries obtained by standard chlorpyrifos-methyl addition to water samples were 102.5 – 107.6%. Overall, to our knowledge, this is the first report of qualitative and semi-quantitative detection of chlorpyrifos-methyl by immunochromatography.
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【题目】Development of a specific enzyme-linked immunosorbent assay (ELISA) for the analysis of the organophosphorous pesticide fenthion in real samples based on monoclonal antibody
【中文关键词】抗体;包被-半抗原复合物;交叉反应;酶联免疫吸附反应;单克隆抗体
【英文关键词】Antibody;coating-hapten combination; Cross reactivity; ELISA; Monoclonal antibody
【中文摘要】根据之前的研究,我们获得了一种新的特异性针对有机磷农药——倍硫磷的单克隆抗体。基于新的免疫/包被半抗原复合物,我们研发了一种灵敏地、特异性针对倍硫磷酶联免疫吸附反应。在本研究中,裸露芳香烃环的H1与牛血清蛋白(BSA)偶联成免疫原。所有的半抗原都与卵清蛋白(OVA)偶联成包被原。筛选出有效价的抗体/包被原复合物,并优化ELISA条件。在优化条件下,IC50值为5.8ng/ml,检测限IC20值为0.028ng/ml。与其他监测点农药的交叉反应率小于0.5%。此外,该系统还可检测实际样品如土壤、水、水稻和大白菜中的倍硫磷。
【英文摘要】A new specific monoclonal antibody against the organophosphorous pesticide fenthion was produced based on our previous study. A sensitive and specific Enzyme-Linked Immunosorbent Assay (ELISA) for fenthion based on the new immunizing/coating hapten combination was developed. In this study, the H1 which attempts to expose the aromatic ring group was conjugated with bovine serum albumin (BSA) for the immunogen. All of the haptens that have been synthesized were conjugated with ovalbumin (OVA) for the coating antigen. The efficient antibody/coating conjugated combinations were selected, and the optimized ELISA was developed. In the optimized system, the IC50 value was 5.8 ng _mL_1 with the detection limit (IC20) of 0.028 ng _mL_1. The cross reactivity with all of the tested pesticides was lower than the 0.5%. Also, the system can detect the fenthion addition to the real samples such as soil, water, rice, and Chinese cabbages.
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【题目】Selective sample cleanup by immunoaffinity chromatography for determination of fenvalerate in vegetables
【中文关键词】免疫亲和色谱;氰戊菊酯;蔬菜;气相色谱
【英文关键词】Immunoaffinity chromatography;Fenvalerate;Vegetables;Gas chromatography (GC)
【中文摘要】本文建立了一种选择性捕获蔬菜样品中氰戊菊酯的免疫亲和色谱。该免疫亲和色谱柱采用溴化氰活化的琼脂糖凝胶4B和氰戊菊酯单克隆抗体共价偶联并填入柱中制成。提取条件优化包括上样、淋洗和洗脱缓冲液。该色谱柱采用优化条件最大柱容量可达4000ng,平均回收率94.5%,6支免疫亲和柱分别在6天测定,其RSD值为8.8%。该免疫亲和柱和和气相色谱-电子捕获器方式联用,检测添加了4种不同浓度的3种蔬菜样品,提取回收率和RSD分别为74.7-96.5%和2.5-5.2%,整个方法经计算检测限为0.008-0.012 ng g − 1。
【英文摘要】This paper describes the establishment of an immunoaffinity chromatography (IAC) for selective extraction of fenvalerate from vegetable samples. The IAC column was constructed by covalently coupling monoclonal antibody (mAb) against fenvalerate to CNBr-activated Sepharose 4B and packed into a cartridge. The extraction conditions were carefully optimized, including loading, washing and eluting solutions. Under the optimal conditions, the IAC column was able to capture fenvalerate with the maximum capacity of 4000 ng. An average recovery of 94.5% and a RSD of 8.8% were obtained with six IAC columns prepared on six different days. Three vegetable samples spiked with fenvalerate at four different concentrations were extracted with IAC column and determined by gas chromatography with electron capture detection (GC – ECD). Chromatograms of final extracts were clean and fenvalerate could be easily detected without the interferences. The extraction recoveries and RSD were 74.7 – 96.5% and 2.5 – 5.2%, respectively, and the calculated limit of detection of the whole method was 0.008 – 0.012 ng g − 1.
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【学科分类】食品科学技术其他学科

【题目】Development of a Monoclonal Antibody-Based Enzyme Immunoassay for the Pyrethroid Insecticide Deltamethrin
【中文关键词】拟除虫菊酯类农残;溴氰菊酯;半抗原;单克隆抗体;酶免疫分析
【英文关键词】Pyrethroid insecticide; deltamethrin; hapten; monoclonal antibody; enzyme immunoassay (EIA)
【中文摘要】采用选择性半固体干细胞培养基,筛选出了4株阳性单克隆杂交瘤细胞株2B12, 2C1, 2F1, 和3D4,并制备出相应的抗拟除虫菊酯杀虫剂溴氰菊酯的单克隆抗体。这些单克隆抗体的I50值在17-94 ng mL-1范围内,并选择其中I50值最小的抗体2B12优化建立了ELISA方法。建立的ELISA法I50为17.0±3.3 ng mL-1,检测限为1.2 ± 1.3 ng mL-1,与其他供试拟除虫菊酯及其代谢物的无交叉反应或交叉反应很小。为了验证该分析方法,采用该ELISA方法和GC方法同时测定了添加了溴氰菊酯的环境水样品,ELISA法回收率为82-117%,接近GC方法(94-103%)。这些结果表明,基于单克隆抗体2B12建立的ELISA方法可满足环境水样品中溴氰菊酯的快速灵敏的检测。
【英文摘要】With a screening hemisolid stem-cell culture, four positive hybridomas 2B12, 2C1, 2F1, and 3D4 were screened and used to prepare four correspondent monoclonal antibodies (McAbs) against the pyrethroid insecticide deltamethrin. These McAbs showed I50 values in a range of 17-94 ng mL-1, from among which the antibody 2B12 with the lowest I50 value was selected to develop an optimized enzyme-linked immunosorbent assay (ELISA). In the developed ELISA, the I50 of deltamethrin was 17.0±3.3 ng mL-1 and the limit of detection (LOD) was 1.2 ± 1.3 ng mL-1. There seemed to be little or no cross-reactivity with other tested pyrethroids and their metabolites. For validation of the assay method, environmental water samples fortified with deltamethrin were analyzed with the ELISA and gas chromatography (GC) methods. The recoveries of the developed ELISA ranged from 82 to 117%, which were close to those of the GC method (94-103%). These results suggested that the developed ELISA based on the McAb 2B12 could be used for the rapid and sensitive determination of deltamethrin in environmental water.
【语种】英文

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【题目】Development of indirect competitive immunoassay for highly sensitive determination of ractopamine in pork liver samples based on surface plasmonresonance sensor
【中文关键词】表面等离子体共振,莱克多巴胺,免疫传感器,间接竞争分析,条件优化
【英文关键词】Surface plasmon resonance Ractopamine Immunosensor Indirect competitive assay Condition optimization
【中文摘要】在这项工作中,我们展示了发展的一个高灵敏度和高选择性的表面等离激元传感器检测猪肝样品莱克多巴胺(RCT),灵敏度低至0.12 ppb。RCT是一种肾上腺素能受体激动剂,它带有N-烷基苯基的取代基,开发的高性能检测方法RCT是一个关键的问题,因为RCT在人体代谢的重要作用。为了构建免疫传感器的系统,在生物传感器的表面形成由固定的莱克多巴胺 - 卵清蛋白(RCT-OVA)共轭体结合 上的Au-硫醇盐的自组装的SPR传感器芯片,通过共价酰胺结合途径,并基于间接竞争抑制原进行检测。优化的条件可影响免疫敏感性,包括固定缓冲液,免疫结合缓冲,RCT-OVA浓度,抗体浓度,活化时间,再生缓冲液等方式,以确定最佳的抗体浓度,并与其他报告的研究进行比较。在最佳条件下,该传感器具有线性检测范围为0.28-4.29ng/ml,检测限为0.12ng/mL,IC50为1.17ng/ml。与其他的研究报告相比,它进一步提高了SPR检测RCT灵敏性。
【英文摘要】In this work, we demonstrate the development of a highly sensitive and selective surface plasmon res-onance (SPR) immunosensor for label-free detection of ractopamine (RCT) as low as 0.12 ppb (ng mL − 1) direct from pork liver samples. RCT is a kind of the -adrenergic agonist with N-alkylphenyl substituent,and the development of high performance sensing methods for RCT is a critical issue because of its vital role in human metabolism. To construct the immunosensor system, the biosensor surface was formed by immobilization of ractopamine – ovalbumin (RCT – OVA) conjugate onto an Au-thiolate self-assembled SPR sensor chip by covalent amide binding, and the detection of RCT was performed based on indirect competitive inhibition principle. Detailed works were arried out focusing on optimizing the conditions that affect immunosensitivity, including immobilization buffer, immunobinding buffer, RCT – OVA concentration, antibody concentration, activation time, regeneration buffer, etc. A preferable way to determine the optimal antibody concentration was performed comparing with that used in most other reported researches. Under the optimal conditions, the biosensor exhibits a linear detection range of 0.28 – 4.29 ng mL − 1, LOD of 0.12 ng mL − 1 and IC50 of 1.17 ng mL − 1. It improved that the developed SPR immunosensor is more sensitive for detection of RCT against other reported ones.
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【题目】中国草原生态旅游资源及可持续开发利用
【中文关键词】草原; 生态旅游; 生态旅游资源; 开发原则; 管理对策;
【英文关键词】Grassland; Ecotourism; Ecotourism resources; Exploring principles; Management
【中文摘要】从草原生态旅游本质与内涵出发,论述了草原开展生态旅游的可行性和必要性,分析了草原生态旅游开发的资源基础、开发现状及存在问题;从草原生态旅游资源开发的特点出发,提出了促进保护与发展目标相统一的生态旅游资源开发原则和管理措施
【英文摘要】The nature and connotation of ecotourism in grassland were explained.Then,the feasibility and necessity of ecotourism in grassland were discussed.The resources base,situation and problem existed in developing ecotourism in Chinese grassland were analyzed.The development principles and management measures of grassland ecotourism resources to promote protection and

development were put forward based on the development characters of grassland tourism resources
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【第一作者】艾琳
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【题目】Simultaneous detection of five antibiotics in milk by high-throughput suspension array technology
【中文关键词】悬浮阵列,xMAP,抗生素,牛奶
【英文关键词】Suspension array xMAP Antibiotics Milk
【中文摘要】同时定量测定抗生素泰乐菌素,四环素,庆大霉素,链霉素,氯霉素牛奶中提出了一个新的悬浮阵列技术。一种新颖的处理牛奶样品用二乙醚的悬浮阵列进行,这大大降低了干扰组分在牛奶上的反应结果,检测灵敏度没有明显影响。相比,使用生物素标记的单克隆抗体,使用二次抗体 - 生物素使检测灵敏度进一步提高。泰乐菌素,四环素,庆大霉素,链霉素,和氯霉素的样品中,最低检测浓度分别为0.3, 1.5 , 4 , 20 ,和25毫微克/毫升,分别和样品的工作范围分别为6-400 , 7-300 ,8 -200, 90-3000和70-8000 ng / ml时,分别。平均回收率为89.38-113.73 % , 6.62% ,标准差之内。的悬浮液测定技术是强大的多抗生素残留的牛奶中的快速定量分析。
【英文摘要】A new suspension array technology is proposed for the simultaneous quantitative determination of five antibiotics—tylosin, tetracycline, gentamicin, streptomycin, and chloramphenicol in milk. A novel treatment of milk samples for suspension array with diethyl ether was performed which greatly reduced the interference of the disturbing components in milk on the reaction results with no significant effecton detection sensitivity. Compared with using biotin labeled monoclonal antibody, using of secondary antibody – biotin make the detection sensitivity further improved. The minimum detectable concentration in samples of tylosin, tetracycline, gentamicin, streptomycin, and chloramphenicol were 0.3, 1.5, 4, 20,and 25 ng/ml, respectively, and the working ranges of samples were 6 – 400, 7 – 300, 8 – 200, 90 – 3000 and 70 – 8000 ng/ml, respectively. The mean recovery was 89.38 – 113.73% with a standard deviation within 6.62%. The suspension assay technology is powerful for the fast quantitative analysis of multi-antibiotics residue in milk.
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【题目】不同施肥措施对豫中小麦一玉米轮作体系土壤微生物生物量碳、 氮的影响
【中文关键词】施肥; 冬小麦; 夏玉米;轮作 ; 微生物量碳;微生物量氮
【英文关键词】无
【中文摘要】为探讨豫中高产农田生态系统中化肥和秸秆还田等培肥措施对土壤肥力的影响, 在豫中小麦一玉米轮作 农田上进行了定位试验。试验设 5个处理, 分别是: (1) 对照; (2) N P K(氮、 磷 、 钾化肥) ; (3) N P K+ 半量秸秆还田(冬 小麦、 玉米秸秆各半量) ; (4) N P K+全量秸秆(冬小麦、 玉米秸秆各全量) ; (5) N P K+倍半量秸秆(冬小麦、 玉米秸秆各倍半量) 。试验结果表明: 土壤微生物量碳在冬小麦拔节期到灌浆期、 玉米大喇叭口期到成熟均呈增加趋势; 土壤微 生物氮变化的总体趋势与微生物量碳相同, 但冬小麦季微生物量氮的最低值出现在抽穗期; 单施 N P K肥使土壤微生 物量碳、 氮有增加趋势, N P K+秸秆对土壤微生物碳和氮有进一步提升的趋势, 并能缓解化肥施用后对土壤微生物的 抑制作用; 从冬小麦一夏玉米轮作周期看, 不同秸秆用量对微生物量碳 、 氮的影响趋势是: N P K+全量秸秆 >N P K+倍 半 量秸秆 >NP K+半量秸秆。
【英文摘要】无

【语种】中文
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【题目】Simultaneous Detection of Eight Food Allergens Using Optical Thin-Film Biosensor Chips
【中文关键词】食品过敏源,可是薄膜生物传感器芯片,PCR,检测
【英文关键词】food allergen, optical thin-film biosensor chip, PCR, detection
【中文摘要】如今,食物过敏是重要的食品安全问题。为保证过敏的人的安全,许多国家要求食品贴标签注明并且要求可靠和有效的检测方法。本文报道了一种新的方法,通过使用硅为基础的光学薄膜与生物传感器芯片可感知颜色的变化的结果,没有任何额外设备的情况下通过肉眼对食物过敏的快速鉴定。整个系统可以同时检测到8个食物过敏原包括大豆,小麦,花生,腰果,虾,鱼,牛肉和鸡肉。这种方法检出的腰果DNA的绝对检出限为0.5 pg,实际检出限是0.001%。生物传感器芯片在PCR扩增后检测时间约30分钟,这种分析方法作为一种敏感,特异,随时可以应用的工具用来检测8种过敏原是否存在。
【英文摘要】Food allergies are important food safety issues nowadays. To maintain the safety of people who experience allergic reactions, labeling is required in many countries and efficient and reliable detection methods are necessary. This paper reports a novel method for the rapid identification of food allergens through the use of a silicon-based optical thin-film biosensor chip with which color change results can be perceived by the naked eye without any extra equipment. The whole system can detect eight food allergens including soybean, wheat, peanut, cashew, shrimp, fish, beef, and chicken simultaneously. Sensitive and specific detection of the absolute detection limit of this method was 0.5 pg of cashew DNA, and the practical detection limit of 0.001%. The biosensor chip detection time was about 30 min after PCR amplification. The assay is proposed as a sensitive, specific, high-throughput, and ready-to-use analytical tool to detect the presence or confirm the absence of eight food allergens.
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【题目】超高产夏玉米养分限制因子及养分吸收积累规律研究
【中文关键词】超高产; 夏玉米; 养分限制因子; 养分积累; 养分回收率
【英文关键词】super 2high2yield; summer maize; nutrient res trictive factor; yield; nutrient accumulation; nut rient recovery rate
【中文摘要】2007年和 2008年通过大田试验研究了超高产夏玉米养分限制因子和植株养分吸收积累规律。结果表明:用 ASI法推荐的氮、 磷、 钾平衡施肥产量最高, 分别达到 12051 12 kg/ hm2和 13246 13 kg/ hm2, 施用氮肥平均增产8 192%,钾肥平均增产 7 114%,增产效果显著,氮和钾为超高产夏玉米养分主要限制因子。超高产夏玉米植株体内氮、 磷、 钾的积累量均随生育期的延长而增加,到成熟期达到最大值,养分积累量的大小顺序为氮> 钾> 磷,每生产100 kg 经济产量吸收养分比例 NBP2O5BK2O为 2 1 40B1B2 173。拔节期至吐丝期是养分吸收的关键时期,养分吸收速率大, 积累量高,吐丝后植株仍能吸收较多的氮、 磷。从出苗到吐丝期, 叶片是氮、 磷的分配中心, 生育后期茎叶中氮、 磷的转运率较高, 而钾转移比例较小。超高产夏玉米整个生育期能持续吸收养分,吐丝后适当追肥保证灌浆期养分充足供应对夏玉米超高产至关重要。
【英文摘要】A field experiment was conducted to study soi l nutrient res trictive factors and plant nutrient uptake and accu2mulation of super2high2yield summer maize in 2007 and 20081 The resul ts show that the maize yields are highes t underthe OPT treatment (B y ASI) , 1205112 kg/ ha and 1324613 kg/ ha in 2007 and 2008 respect ively. The ni trogen andpotas sium fertilization could evidently increase the yields by 8192% and 7114% , which indicates N and K are main nu2trient res trictive factors. The accumulations of ni trogen, phosphorus and potassium of super2high2yield summer maizeplants are increasedwith the e xtension of the bearing period, and

the nutrient accumulation amounts are ma ximum at thematuri ty sta ge. The order of nutrient accumulations is K2O> N> P2O5, and the absorbed nut rient ratiowi th 100 kilogrammaize of N, P2O5 and K2O are 2140B 1B21731 The key period of nutrient absorpt ion is from the jointing stage to silkingstage, and the absorbed nutrient rates are the highest. After the silking stage, maize plant absorbs more ni trogen andphosphorus. Leaf is distribut ion center of nitrogen and phosphorus from the seeding s tage to silking stage, and the transferef ficiency of ni trogen and phosphorus are higher in stems and leaves at the late stages, whi le the trans fer proportion ofpotas sium is smal l. Nutrients are absorbed continuously at the whole growth period of super 2high 2yield summer maize, i tis essent ial to super 2high2yield topdressing after the silking stage that ensure adequate nutrients at the grain fi lling s tage.

【语种】中文
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【题目】完工地区不同沙化等级草地优势群落空间分布格局的数字动态研究
【中文关键词】沙化草地; 空间结构分布因素; 群落分布格局强度; 物种;
【英文关键词】无
【中文摘要】通过对处于轻度沙化草地、中度沙化草地沙地和重度沙化草地等不同恢复演替阶段的群落的取样调查,研究了完工地区不同沙化等级草地植被群落优势种群的空间分布格局及其动态变化。运用扩散系数、聚集指数、平均拥挤度、聚块性指数、G reen指数、聚集强度等项指标,对群落优势种群分布格局的研究结果基本一致,大多数物种的空间分布呈显著的聚集分布。在演替进程中种群格局强度的变化和群落总体聚集程度的变化与种群动态和群落结构的空间异质性相对应,较高的聚集程度是种群分布斑块化和群落结构的空间异质性的反映,随着过渡进展,优势种的种群数量扩展,但种群分布的聚集强度下降,群落结构的空间异质性降低
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【题目】Optical thin-film biochips for multiplex detection of eight allergens in food
【中文关键词】食物过敏源,可视薄膜生物传感器芯片,PCR,检测
【英文关键词】food allergen, optical thin-film biosensor chip, PCR, detection
【中文摘要】一个创新的食物过敏原的快速检测方法被开发和验证。在这里,我们报道了在两个四聚体基础上同时检测8种食物过敏原,包括芹菜,杏仁,燕麦,芝麻,芥末,羽扇豆,核桃和榛子这种基于硅的光学的薄膜生物芯片技术的发展。生物芯片检测时间在PCR扩后增约30分钟。简要地说,光学薄膜生物芯片检测的PCR片段的目标的存在下,通过酶促转化形成的核酸杂交分子薄膜。由薄膜提供的质量改变的生物芯片表面上的光的干涉形状,从而导致在芯片的表面上的一个可见的颜色变化。因此,这种方法可以敏感、特异的检测食品中的过敏原。
【英文摘要】An innovative method for the rapid detection of food allergens is developed and validated. Here we reported the development of silicon-based optical thin-film biochip technology that simultaneously permits visible detection of eight food allergens including celery, almond, oat, sesame, mustard, lupine, walnut and hazelnut on the basis of two tetraplex PCR systems. The biochip detection time was about 30 min after PCR amplification. Briefly, the optical thin-film biochip detects the presence of PCR fragment targets by enzymatically converting the formation of nucleic acid hybrids to molecular thin films. The mass contributed by the thin film alters the interference pattern of light on the biochip surface, resulting in a visible color change on the chip surface. Therefore, this assay permits sensitive, specific and high-throughput detection of allergens in food samples.

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【学科分类】食品科学技术其他学科

【题目】呼伦贝尔森林—草原交错区景观持续性分析
【中文关键词】森林-草原交错区; 景观格局; 多样性指数; 持续性;
【英文关键词】Forest-Steppe ecotone; landscape pattern; fragmentation; sustainability
【中文摘要】以1988、1995、2000和2004年4期的TM遥感影像数据为信息源,利用GIS图像、数据处理功能,获取了呼伦贝尔森林-草原交错区的景观格局空间分布信息,并在此基础上,通过不同尺度下的景观格局特征指数的持续性分析,揭示了该区景观格局动态变化的趋势。研究结果表明:景观尺度下,景观多样性指数与分维数指数的持续性增加,而优势度的持续性降低,说明研究区景观格局正在朝着更为破碎化、复杂化的方向发展;类型尺度下,景观斑块分维数、形状指数、分离度的持续性在以林地、草地、耕地、未利用土地为代表的景观类型中均增幅明显,各类型都呈现出景观斑块形状越来越不规则,分布越来越分散的特征。 更多还原
【英文摘要】Based on the TM date of 1988,1995,2000 and 2004,the information of landscape pattern in Hulunbeir forest-steppe ecotone was obtained by using the integrated techniques of Remote Sensing(RS) and Geographic Information System(GIS).Aimed at measuring the spatial-temporal dynamics of landscape pattern in the study area,this paper analyzed the changes of sustainability index of landscape characters on different temporal scales.The results showed that the sustainability index of landscape diversity and fractal dimension increased,meanwhile,the sustainability index of landscape dominance decreased on the landscape scale.The landscape at Hulunbeir Forest-Steppe ecotone tended to be more fragmented and complicated.And,on the type scale,the sustainability index of patch fractal dimension,shape and division has increased obviously in forest,grassland,cultivated land and unused land.The patch of main landscape types tended to be more anomalous and dispersed
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【学科分类】土壤学

【题目】Development of Gold Nanoparticle-Based Rapid Detection Kit for Melamine in Milk Products
【中文关键词】三聚氰胺,金纳米粒,快速检测
【英文关键词】melamine (Mel), gold nanoparticles (Au NPs), rapid detection kit
【中文摘要】一个可靠的和敏感的三聚氰胺(MEL)的快速检测试剂盒的开发。该套件基于纳米金(金NP)探针,并包括一个标准比色卡。金奈米粒子的制备硼氢化钠减少和其特征在于通过透射电子显微镜,它揭示了粒径约5nm 。聚集动力学,交叉反应性,抗干扰性,和样品预处理方面的试剂盒的性能进行了研究。该标准比色卡制作了一系列的标准梅尔加标牛奶的5纳米金粒子发生反应的色差。该试剂盒的工作范围是1 120 mg / L时,其性能是明显更快速和可靠的比较,与标准比色卡。为1 mg / L的梅尔牛奶中,只有大约10分钟,包括样品前处理中的分析,可确定。该试剂盒可在室温下贮存一年。样品检测试剂盒,得到高性能液相色谱/质谱法通过以下方式获得的结果接近。因此,该工具包是适用于定性和半定量的现场检测,以及不借助任何仪器仪表肉眼检查。
【英文摘要】A reliable and sensitive kit for the rapid detection of melamine (Mel) was developed. The kit is based on gold nanoparticle (Au NP) probe and includes a standard colorimetric card. The Au NPs were prepared by sodium borohydridereduction and characterized by transmission electron microscopy, which revealed particle sizes of approximately 5 nm. The performance of the kit in terms of aggregation kinetics, cross-reactivity, anti-interference, and sample pretreatment was investigated. The standard colorimetric card was then fabricated by chromatic aberration of a series of standard Mel-spiked milk reacts with the 5 nm Au NPs. The

working range of the kit is 1 120 mg/L, and its performance is visibly more rapid and reliable by comparisonwith the standard colorimetric card. As low as 1 mg/L of Mel levels in milk can be determined, with the assay taking only about 10 min, including sample pretreatment. The kit can be stored for a year at room temperature. Samples were also detected by the kit, yielding results close to those obtained by high-performance liquid chromatography/mass spectrometry. Thus, the kit is applicable to qualitative and semiquantitative fi eld detection, as well as naked-eye screening without the aid of any instrumentation.

【语种】英文
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【学科分类】食品科学技术其他学科

【题目】氮肥基追比对高产冬小麦产量及氮素吸收利用的影响
【中文关键词】冬小麦;产量;氮肥 回收率;氮素 吸收效率;氮素收获指数;土壤氮素依存率
【英文关键词】Winter wheat;Yield;Nitrogen recovery rate;Nitrogen absorption efficiency;Nitrogen harves/index:
Soil nitrogen dependence rat
【中文摘要】为确定 高产冬小麦生产过程 中氮肥 的合理施用 时期及 比例,实现氮肥 资源高效 利用。采用 田间试验方法,研究 了豫北超高产 田总施 氮量 240 kg/hm。条件 下,不 同氮肥运筹 模式对 冬小麦产量 、 地 上部氮 素吸收 与积累及 氮素 效率 的影响。结果表 明,同一施氮量下,与氮肥 全部基 施处理相 比,氮肥 分次施用 可增加冬 小麦产量 、 氮素积累量,提 高氮素 回收率 、 农 学效率 、 吸收效率 和收获指数,降低土壤氮素依存率,其 中 N3处理最佳 。冬小麦返青期前对 氮的积 累量约 占总积累量 的 9.4%~11.2%,返青期后 对氮的需求量 大,返青至 灌浆期 可吸 收氮素 63.3%~66.6%,灌浆 期 后可吸收氮素 23.5%~25.9%;N 3处理植株 各生育阶段氮积 累量 较高 。氮肥 1/3底 施 +1/3返青期追施 +1/3拔 节 期追施是本试验条件下兼顾小麦产量及 氮素效率 的最佳运筹方式 。
【英文摘要】The objectives of this study were to determine the reasonable nitrogen applying regimes for profitable yields and high efficient nitrogen utilization in high yield winter wheat production. Field experiments were conducted to investigate the effects of nitrogen application at different stages and rates on grain yield, nitrogen accumulate and nitrogen efficiency of winter wheat in north Henan super high yield field with the total pure N 240 kg/ha. The results showed that compared with the total nitrogen fertilizer basal dressing, grain yield of winter wheat, the amount of nitro- gen accumulation, nitrogen recovery rate, nitrogen agronomic efficiency, nitrogen absorption efficiency, nitrogen harvest index of nitrogen fertilizer were increased with mult-application of nitrogen fertilizer at the same amount of nitrogen, but soil nitrogen dependence rate was decreased. Percentage of nitrogen accumulation in winter wheat plants until greening stage to total nitrogen accumulation in whole growth stage was 9.4%一1 1.2%. After greening stage winter wheat demanded more nitrogen, nitrogen absorbed by plant from greening to filling stage and after filling stage aceoun— ted for 63.3%一66.6% and 23.5%一25.9%. respectively. Under the condition of this experiment. as far as grain yield, nitrogen fertilizer use efficiency and the amount of nitrogen accumulation in plant were concerned, 1/3 nitrogen fertilizer basal dressing, 1/3 nitrogen fertilizer top dressing at greening stage and 1/3 nitrogen fertilizer top dressing at jointing stage was the best nitrogen application mode1

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【题目】草原生态旅游非物质文化遗产资源的保护性开发研究
【中文关键词】非物质文化遗产; 草原; 生态旅游; 资源; 保护; 开发;
【英文关键词】Intangible Cultural Heritage; grassland; ecotourism; resources; protection; exploring;
【中文摘要】非物质文化遗产是十分重要的草原生态旅游资源。发挥非物质文化遗产资源优势,将草原生态旅游做出特色,是草原地区尤其是西部地区各级党委、政府着力探索与实践的重要课题。草原生态旅游开发对非物质文化遗产保护既有积极作用,也有消极影响。如何实现非物质文化遗产保护和旅游开发的双赢成为社会关注的热点。从分析非物质文化遗产资源对发展草原生态旅游的可行性、必要性入手,论述了保护性开发利用非物质文化遗产资源对提升草原生态旅游的积极意义及开发策略。 更多还原
【英文摘要】Intangible Cultural Heritage is abundant in China,especially in the minority area,which also is a kind of very important grassland ecotourism resource.It is an essential research project for the Western Governments of China to take advantage of the Minority Intangible Cultural Heritage and build grassland tourism stronger and more characteristic.The development of grassland tourism and Intangible Cultural Heritage protection are the major task in modern society,but the two of them are opposite and uniform in some measure.Tourism development not only has positive effects but also negative effects on Intangible Cultural Heritage.The government and society should pay attention to this problem,enhance understanding and manage in a scientific way,so that Intangible Cultural Heritage conservation and tourism development achieve a double-win situation.Based on the necessity and feasibility of the Intangible Cultural Heritage for grassland tourism developing,We discussed the positive significance and approach to increase grassland tourism by protective developing and utilizing the Intangible Cultural Heritage resources.
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【题目】呼伦贝尔沙化草地人工固沙植物种间生态位关系研究
【中文关键词】呼伦贝尔; 人工固沙植物; 生态位;
【英文关键词】Hulunbeir; Artificial sand-fixation plants; Niche;
【中文摘要】采用样方法对呼伦贝尔地区沙化草地不同恢复年限人工播种固沙区进行调查,并计算其主要植物的重要值、生态位体积及生态位重叠值,以研究呼伦贝尔沙化草地人工固沙植物群落特征及演替状况。结果表明:人工固沙植物冰草(Agropyron pectinatum(Bieb.)Beauv.)的平均生态位体积在时间尺度上,呈持续增加趋势,是改良沙化草地的优良草种;小麦(Triticum aestivumL.)与小叶锦鸡儿(Caragana microphyllaLam.)、冰草与羊柴(Hedysa-rum laeveMaxim)生态位重叠值为0.9213和0.7512,在演替过程中具较强的竞争作用。自然恢复植物与人工播种植物间,多数生态位重叠值不高。自然恢复多年生植物大针茅(Stipa grandisP.Smirn.)、糙隐子草(C1eistogenessquarrosa(Trin.)Keng)等逐渐出现,表明该地区植被群落结构向稳定共存的人工-天然植被群落结构方向发展。 更多还原
【英文摘要】It is necessary to study on plant community condition and its succession in artificial sand-fixation plants in order to restore grassland productivity and maintain sustained and steady development of artificial vegetation community in Hulunbeir desertification grassland.The method adopted in this paper was to survey the artificial sand-fixing areas of Hulunbeir desertification grasslands with different recovery periods(1,3,4,and 5 years) and the important value,ecological volume,and niche overlap of main plant species were calculated.The results show that Agropyron pectinatum(Bieb.) Beauv.was the dominance species for the improvement of desertification grassland in this area and its average niche volume presented a continually increasing trend along with temporal scale.The niche overlap value was 0.9213 between Triticum aestivum L.and Caragana microphylla Lam.and 0.7512 between A.pectinatum and Hedysarum laeve Maxim indicating they had strong competitive capacities in community succession.But the niche overlap values between the nature resume plants and artificially seeded plants were not high.The gradual appearances of C1eistogenes squarrosa(Trin.) Keng and Stipa grandis P.Smirn.indicate the community of this area was stably developing to a coexisted artificial-natural state

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【学科分类】土壤学

【题目】温度变化下两种冰草种子萌发的动态特征
【中文关键词】种子萌发格局; 发芽率; 发芽指数;
【英文关键词】seed germination; germination rate; germination index;
【中文摘要】种子萌发行为在沙漠植物的持续存在与种群动态中具有关键作用。本研究以沙地广布种米氏冰草和冰草为研究对象,分析温度变化对种子萌发格局的影响。结果表明,米氏冰草和冰草的发芽率均在25°C时最高,且呈单峰连续曲线。在25°C及以上时,米氏冰草的发芽率高于冰草,25°C以下则相反。发芽指数均随培养时间的延长呈降低趋势,米氏冰草萌发持续25 d,冰草持续8~21 d,且发芽指数的格局变化为:前期,冰草显著高于米氏冰草;中期,米氏冰草显著高于冰草;后期,无显著差异;米氏冰草的累积发芽率随培养时间延长呈缓慢增长趋势,冰草的累积发芽率则在萌发初期迅速增长,然后趋于平稳状态。二者的日发芽率高峰都出现在第3天,但米氏冰草的发芽率远远低于冰草。 更多还原
【英文摘要】The germination of seeds is crucial for protecting sandy plant and population dynamics.The research used the wild Agropyron michnoi and cultivated Agropyron cristatum widely distributed in sandy land as research object to study the Dynamic Characteristics of Seed Germination in changing temperature condition.The results indicated that both A.michnoi and A.cristatum had the highest germination rate at 25 °C and an Arabian continuous curve.Over 25 °C,the germination rate of A.michnoi was higher than that of A.cristatum,when it was below 25 °C,the outcome was different.Their germination index was all decreased step by step with the extension of incubation period.Seed germination of A.michnoi extended 25 days,while that of A.cristatum was nearly 22days.Changes of germination index pattern was clearly,in the first-phase A.cristatum was distinctly higher than A.michnoi,when in the mid-time,A.michnoi was significantly greater than A.cristatum,but in the late states,there was no marked difference between the two.Accumulating germination rate of A.michnoi was slowly increasing with the extension of incubation period,while that of A.cristatum was growing fast during the initial period of germination,then stable state was reached.The germination rate for both of them approached a climax at the third day,yet the germination rate of A.michnoi was much lower than that of A.cristatum.
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【题目】Sensitive detection of glucose based on gold nanoparticles assisted silver mirror reaction
【中文关键词】葡萄糖,纳米金,银镜反应
【英文关键词】glucose, gold nanoparticles, silver mirror reaction
【中文摘要】我们开发了一个简单的,非酶纳米金(金源)辅助银镜的反应(AuSMR)比色检测葡萄糖。的葡萄糖浓度的线性范围是从0.04毫米至1毫米,并且,可以通过肉眼区分的最低浓度是10纳米。这种方法已被成功地用于检测血清中的葡萄糖。
【英文摘要】We developed a simple, non-enzymatic approach for the colorimetric detection of glucose based on a gold nanoparticles (Au NPs) assisted silver mirror reaction (AuSMR). The linear range of the concentration of glucose is from 0.04 mM to 1 mM, and the lowest concentration that can be distinguished by the naked eye is 10 nM. This approach has been successfully used for detecting glucose in serum.
【语种】英文

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【题目】Determination of deoxynivalenol in cereals by immunoaf fi nity clean-up and ultra-high performance liquid chromatography tandem mass spectrometry
【中文关键词】脱氧雪腐镰刀菌烯醇,免疫亲和柱,UPLC-MS/MS,谷物
【英文关键词】Deoxynivalenol Immunoaf fi nity column UPLC-MS/MS Cereals
【中文摘要】制备了一种具有新的脱氧雪腐镰刀菌烯醇(DON)单克隆抗体的免疫亲和柱,被用作在分析超高效液相色谱 - 串联质谱(UPLC-MS/MS)DON的谷物之前的清洁工具。发达的IAC清理方法表现出较高的回收率对DON。它们的范围从61%到103%,小麦,大米和小米的日内和日间变化分别低于19 %和17%。柱容量为2.86 lg DON 每毫升凝胶,它维持在高于0.68 lg /毫升的凝胶,使用10次后,在2天的时间间隔。检测限(LOD)和定量限(LOQ)分别为0.3和0.8 lg /公斤。40种中的21种商业谷物样品呈阳性,DON浓度从7到534 lg /公斤。
【英文摘要】An immunoaf fi nity column (IAC) was prepared with a new deoxynivalenol (DON) monoclonal antibody and used as a clean-up tool before ultra-high performance liquid chromatography tandem mass spec-trometry (UPLC-MS/MS) analysis of DON in cereals. The developed IAC clean-up method showed high recoveries for DON. They ranged from 61% to 103% in wheat, rice, and millet with intra-day and inter-day variations below 19% and 17%, respectively. The column capacity was 2.86 lg DON per mL of gel,and it maintained above 0.68 lg/mL of gel after 10 cycles of usage at 2 days intervals. The limit of detection (LOD) and limit of quanti fi cation (LOQ) were 0.3 and 0.8 lg/kg, respectively. Twenty-one out of 40analyzed commercial cereal samples were positive at DON concentrations from 7 to 534 lg/kg
【语种】英文
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【题目】Simultaneous detection of multiple chemical residues in milk using broad-specificity antibodies in a hybrid immunosorbent assay
【中文关键词】ELIS,FLISA,三聚氰胺,量子点,喹诺酮类,磺胺类
【英文关键词】ELISA, FLISA, Melamine, Quantum dots, Quinolones, Sulfonamides
【中文摘要】在这项研究中,一种新的免疫测定法,同时使用2种类型的传感器(量子点和一种酶),用于检测牛奶中的多个结构不同的分子。荧光酶联免疫吸附测定(吸光度)使用QD605 QD655作为探针,使用辣根过氧化物酶(HRP)标记的第二抗体的酶联免疫吸附试验(ELISA) 。吸光度,用于同时检测6磺胺类药物和11种喹诺酮类药物产生抗 - 磺酰胺和喹诺酮抗广泛的特异性单克隆抗体(MAbs) 。结合的吸光度,用于从相同的奶粉样品中三聚氰胺检测的酶联免疫吸附试验。单克隆抗体的交叉反应性被保留约束力的量子点时,通过使用抗生物素蛋白和二次抗体的桥梁。使用这种混合的免疫测定法,检测限(LOD),喹诺酮类(0.18 ngmL -1) ,磺胺二甲异嘧啶(0.17 ngmL -1)和三聚氰胺(7.5 ngmL -1)分别检测到的牛奶样品。结果表明的综合方法的检出限得比要求的更好,简化了样品的前处理过程。所开发的免疫测定法是适合于高通量筛选的低分子量的污染物。
【英文摘要】In this study, a novel immunoassay using 2 types of sensors (QDs and an enzyme) were simultaneously used for detecting multiple structurally different molecules in milk. The method integrates the fluorescence-linked immunosorbent assay (FLISA) using QD605 and QD655 as probes and an enzymelinked immunosorbent assay (ELISA) using horseradish peroxidase (HRP) labeled secondary antibody. The FLISA was produced by anti-sulfonamide and anti-quinolone broad-specificity monoclonal antibodies (MAbs) for simultaneously detecting 6 sulfonamides and 11 quinolones. Combined with the FLISA, an ELISA was utilized

for detecting melamine from the same milk samples. The cross-reactivity of the MAbs was retained while binding the QDs by using avidin and a secondary antibody as bridges. Milk samples were detected using this hybrid immunoassay, with limits of detection (LOD) of the quinolones (0.18 ngmL − 1), sulfonamides (0.17 ngmL − 1) and melamine (7.5 ngmL − 1), respectively. The results demonstrated that the detection limits of the integrated methods were better than required and simplified the sample pretreatment process. The developed immunoassay is suitable for high-throughput screening of low-molecular weight contaminants.
【语种】英文
【第一作者】朱奎
【通讯作者】沈建忠
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【学科分类】食品科学技术其他学科

【题目】Enzyme-linked immunosorbent assay and immunochromatographic strip for rapid detectionof atrazine in water samples
【中文关键词】阿特拉津,ELISA,胶体金,试纸条,水样
【英文关键词】Atrazine . ELISA . Colloidal gold . ICG strip .Water sample
【中文摘要】本研究建立了一种异源直接竞争酶联免疫吸附分析法和一种胶体金免疫层析试纸条法,用来检测水中的阿特拉津除草剂。Elisa法的IC50值为0.12ng/mL,检测限为0.01ng/mL。标品添加在水样品中的平均回收率为96.5%。使用这种ELISA方法检测出的数据与使用高效液相色谱法检测出的数据有很好的对应关系(r2=0.996)。胶体金免疫层析试纸条法的视觉检测限为2ng/mL。检测所需时间为10min,且不需要进行预处理。胶体金免疫层析试纸条法特异性高、灵敏度强、所需时间短,使它很适合水样品中阿特拉津的现场检测。上述两种检测方法都能够以较经济的方式对大量的水样品进行快速检测。
【英文摘要】We have developed a heterologous direct competitiveenzyme-linked immunosorbent assay (ELISA) and a colloidal gold-based immuno- chromatographic (ICG) strip for the determination of the herbicide atrazine in water samples. The ELISA had a half-maximum inhibition concentration(IC50) of 0.12 ng mL − 1 and a limit of detection (LOD,calculated as the IC15 value) of 0.01 ng mL − 1. The average of recoveries for all spiked water samples was 96.5%. There wasa good correlation between the data determined by this ELISA and those obtained by high performance liquid chromatography(HPLC) (r200.996). The visual LOD of the ICG strip assay was 2 ng mL − 1. The assay process only took 10 min, and no sample pretreatment was required. Its high specificity, sensitivity and fast detection made the strip well suited for on-site screening of atrazine in water samples. Both the ELISA and the ICG strip assay are useful for rapid analysis of a large number of water samples at low cost.
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【第一作者】那宇
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【题目】A Biotin – Streptavidin Amplified Enzyme-Linked Immunosorbent Assay with Improved Sensitivity for Rapid Detection of Ractopamine in muscular tissue
【中文关键词】莱克多巴胺,生物素-链霉素亲和素ELISA,非特异性吸附
【英文关键词】Ractopamine.Biotin – streptavidin amplified ELISA . Nonspecific adsorption
【中文摘要】本研究优化并表征了一种生物素-链霉亲和素放大酶联免疫吸附分析法,用来对肌肉组织中残留的莱克多巴胺进行快速检测。使用protein A-Sepharose 4B而后再用BSA-Sepharose 4B亲和层析柱对莱克多巴胺抗体进行纯化后,抗体的敏感性有所提高而背景吸附有所下降。使用0.5%的脱脂乳粉封闭并且用0.5%的BSA/PBS溶液稀释链霉亲和素-辣根过氧化物酶偶联物能够有效地消除生物素-链霉亲和素放大酶联免疫吸附分析法系统中的非特异性吸附。实验所建立的检测方法其IC50值为0.3±0.02 ng/mL,检测限为0.02±0.003 ng/mL,优于之前文献的报道。板间和板内变异系数都小于7%。猪肌肉组织中残留的莱克多巴胺在进行完5倍提取和2倍稀释后,可以在消除基质影响的前提下定量化。猪肌肉组织中的莱克多巴

胺回收率范围为75%到82.75%。结果还与高效液相色谱法进行了对比,并得到了很好的相关性(r2=0.9822)。各项表征显示所建立的生物素-链霉亲和素放大酶联免疫吸附分析法在动物性食品中的莱克多巴胺的快速检测中有很大的应用潜力。
【英文摘要】An effective biotin – streptavidin amplified enzyme-linked immunosorbent assay(BA-ELISA) was optimized and characterized for the rapid detection of Ractopamine(RAC) residue in muscular tissue. Purification of the RAC antiserum by protein A-Sepharose 4B followed with bovine serum albumin (BSA)-Sepharose 4B affinity chromatography enhanced the sensitivity and reduce the background adsorption. Blocking with 0.5% skimmed milk power and diluting streptavidin – HRP conjugates with 0.5% BSA / phosphate-buffered saline (PBS) effectively removethe nonspecific adsorption in biotin – streptavidin amplified ELISA system. The established method allowed RAC determination with an IC50 value of 0.3±0.02 ng ml − 1 and alimit of detection of 0.02±0.003 ng ml − 1, more sensitive than the other reported methods. The variation coefficients of intraassay and inter-assay were all below 7%. RAC residue in pig muscular tissue could be quantified without matrix effects after a 5-fold extraction and 2-fold dilution with PBS. Recoveries of RAC in pig muscular tissue ranged from 75% to 82.75%. The results were also compared with those from HPLC and a good correlation was obtained (r200.9822).The characters show that the established biotin – streptavidin amplified ELISA could be potentially useful in rapid detection of RAC in animal - derived foods.
【语种】英文
【第一作者】张燕
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【学科分类】食品科学技术其他学科

【题目】半滑舌鳎促滤泡激素受体基因克隆及其在雌鱼生殖周期中的表达
【中文关键词】半滑舌鳎; 促滤泡激素受体; 基因克隆; mRNA 表达; 雌二醇
【英文关键词】null
【中文摘要】通过简并引物扩增及RACE 技术,首次克隆了半滑舌鳎促滤泡激素受体(FSHR) 基因cDNA 全长序列。该基因全长3 105 bp,编码704 个氨基酸,含有典型的跨膜螺旋结构区域(TM helix) ,属于糖蛋白激素受体(GHR) 家族。该基因编码区共有19 个Ser,4 个Thr 和5个Tyr 磷酸化位点; 3 个潜在的N 基端糖基化位点,分别是62NISS,226NGIK 和356NSTS; 441 T为潜在的PKC 位点。基酸序列比对结果表明,半滑舌鳎FSHR 含有GpHR 家族的特殊信号序列,如82CCAF,481ERW,594FTD 和667NPFLY,含有10 个LRRs(LRR1-10) 。组织表达分析表明,FSHR 表达广泛,除在性腺中大量表达外,其他非性腺组织也有表达,尤其以脾、肾、头肾表达最较高。采用125 I 标记放射免疫分析法(RIA) 测定雌鱼血清中E2含量的季节变化,发现4 月时E2含量最低,10 月时含量最高。卵巢中FSHR mRNA 在10 月表达量最高,1 月最低。
【英文摘要】无
【语种】中文
【第一作者】陈晓燕
【通讯作者】温海深
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【学科分类】水产养殖学

【题目】四环素人工抗原的制备与鉴定
【中文关键词】四环素;酸化;活化酯;抗原合成
【英文关键词】tetracycline;acidification;active ester;hapten synthesis
【中文摘要】根据四环素的化学结构特点,四环素与对氨基苯甲酸通过重氮法合成半抗原.经过酸化,乙酸乙酯萃取提纯,半抗原通过质谱鉴定.通过活化酯法,半抗原分别与BSA 和OVA 连接制备人工免疫原和包被原,抗血清的效价分别为1：70.000和1：32.000,为制备四环素人工抗原提供一种更为有效的途径,进而建立酶联免疫快速检测方法,为最终实现四环素检测试剂盒的研发奠定基础.

【英文摘要】A new synthesis way of hapten for tetracycline base on the formation of its diazo derivatives with acidification,extraction by ethyl acetate. Then,happen TC was covalently attached through its carboxylic acid moiety to the carrier protein(BSA,OVA)by means of the active ester method for preparing immungens and coating antigen,the titer of serum were 1：70 000 and 1：32 000,respectively. The purpose of this artificial is to provide an effective way to preparate haptens for tetracycline. This study laid a well foundation for the control for the control of tetracycline by ELISA method.
【语种】中文
【第一作者】李晓龙
【通讯作者】王硕
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【学科分类】食品科学技术其他学科

【题目】增强化学发光酶免疫法对猪肉中盐酸克伦特罗的检测
【中文关键词】直接竞争; 化学发光酶免疫法; 克伦特罗; 猪肉
【英文关键词】direct competitive; chem ilum inescent enzym e immunoassay; clenbu tero;l pork
【中文摘要】建立了猪肉中克伦特罗(CLB)的直接竞争化学发光酶免疫检测(dc- CLEIA)方法。通过优化离子强度、pH值确立了化学发光酶免疫法的标准曲线, 优化后dc- CLE IA的检出限可达0.. 02 ..g /L。猪肉中的盐酸克伦特罗用高氯酸提取、SPE净化后绘制基质曲线, 基质曲线与标准曲线吻合, 说明基质影响基本消除。测定0.. 10、1..0、5..0 .. g /kg 3个水平的添加回收率, 平均回收率为83% ~ 98% , 批内与批间的相对标准偏差均小于15% 。进一步研究了dc- CLE IA 与H PLC两种方法测定猪肉样品的相关性, 结果显示两者测定结果相关性良好, r= 0.. 964 7, 说明所建立的直接化学发光酶免疫方法可用于实际样品的检测, 结果准确可靠。
【英文摘要】A direct competitive enhanced chem ilum inescent enzyme immunoassay (dc-CLEIA) method for determ ination o f clenbutero l (CLB) residues in pork w as developed. The opt imal concentration o f phosphate bu ffer so lution and its pH va lue w ere investiga ted. The opt imal concentration of phosphate bu ffer so lution w as 2 mo l/L and its pH w as 7.4. Under the optim ized cond ition, the lim it of detection(LOD) of the assay w as0.02g /L, w ith IC50 value of the assay w as 0.25g /L. M atrix interferences w ith the sensitivity o f the assay w as systemat ica lly studied. The resu lt ind icated that them atrix effects could be e lim inated when po rk samp les w ere extracted w ith perch lor ic acid solut ion , and the ex tractw as centrifuged at 5 000 r /m in for 30m in at 4 fo llow ed by clean- up by so lid phase extraction (SPE). The mean recover ies of CLB from pork samples at three spiked concentration levels o f 0 10, 1 0 and 5 0 g /kg were betw een 83% and 98% , and the re lat ive standard dev iations(RSDs) of intra and inter assay w ere less than 15% . In add it ion, the developed assay w as va lidated by high performance liqu id chromatog raphy (HPLC) and the result obtained by two methods show ed better relat iv ity w ith correlat ion coefficient of 0.964 7. Therefore, the proposed method w as simple, accura te and w as suitab le fo r the rap id determ inat ion of CLB in real sample.
【语种】中文
【第一作者】杨泽林
【通讯作者】王硕
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【学科分类】食品科学技术其他学科

【题目】拟除虫菊酯类农药通用人工抗原的合成与鉴定
【中文关键词】拟除虫菊酯;通用人工抗原;合成;鉴定
【英文关键词】pyrethroid insecticide; generic artificial antigen; synthesis; identification
【中文摘要】根据拟除虫菊酯公共结构设计合成一种拟除虫菊酯通用半抗原,所有中间体及半抗原经电喷雾电离质谱(ESI-MS)、红外光谱(IR)和核磁共振(1H NMR)鉴定确定结构。通过活化酯法将通用半抗原与钥孔血蓝蛋白(KLH)偶联制备出免疫原,紫外吸收法鉴定表明免疫原偶联成功,研究为建立拟除虫菊酯多残留免疫分析方法奠定了基础。

【英文摘要】A generic hapten was synthesized based on the common structure of pyrethroid insecticides. All intermediates and hapten were verified by ESI-MS, IR, and 1H NMR spectrometry. By active ester method, the hapten was conjugated with KLH to prepare the immunogen. From the UV ansorption spectroscopy the conjugate were successfully prepared. It is a base for development of multi-residue immunoassay for pyrethroid insecticides detection.
【语种】中文
【第一作者】王俊平
【通讯作者】王硕
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【学科分类】食品科学技术其他学科

【题目】双抗体夹心ELISA 定量检测牛乳中酪蛋白方法的建立
【中文关键词】夹心ELISA;多克隆抗体;单克隆抗体;酪蛋白
【英文关键词】sandwich ELISA; polyclonal antibody; monoclonal antibody; casein
【中文摘要】实验使用酪蛋白标品为抗原,免疫新西兰大白兔制备抗酪蛋白的多克隆抗体,并免疫BALB/C 小鼠制备抗酪蛋白单克隆抗体,以单克隆抗体包被,HRP 标记多抗,成功地建立了检测牛乳中酪蛋白的双抗体夹心ELISA 法,标准曲线在6~1666 ng/mL 范围内线性良好,r2=0.9949,最低检出限为7 ng/mL,具有很好的特异性。通过建立双抗体夹心ELISA 法测定酪蛋白含量,可为牛乳掺假和食物过敏原的检测及标签管理提供理论及技术基础。
【英文摘要】Casein was used as the antigen to immune the New Zealand rabbits and BALB/C mice respectively in the experiment. The anti -casein polyclonal antibodies and monoclonal antibodies were prepared. The monoclonal antibody was used as the coating antibody, and HRP -polyclonal antibody was retained. The sandwich ELISA to detect the casein of milk was developed successfully, which had a standard curve in the 6~1666 ng/mL range of good linearity with r2=0.9949. The detection limit of the method was 7 ng/mL. The method could be use as a theory and technological base of casein detection of milk adulteration and food allergen test.
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【学科分类】食品科学技术其他学科

【题目】脱氧雪腐镰刀菌烯醇人工抗原和多克隆抗体的制备
【中文关键词】脱氧雪腐镰刀菌烯醇;人工抗原;多克隆抗体;效价;特异性
【英文关键词】deoxynivalenol ; artificial antigen ; polyclonal antibodies ;titer ; specificity
【中文摘要】对脱氧雪腐镰刀菌烯醇(DON) 的两种半抗原合成方法进行对比研究,合成半抗原,并采用活化酯法将半抗原与牛血清白蛋白偶联制备得到免疫原,通过特定程序免疫日本大耳白兔获得了多克隆抗体。抗血清效价为1 ∶32 000 , protein A sepharose 4B 亲和层析纯化的DON 抗体与DON、32AC2 DON(32乙酰氧基脱氧雪腐镰刀菌烯醇) 、152AC2DON (152乙酰氧基脱氧雪腐镰刀菌烯醇) 、T22 毒素、OTA (赭曲霉A) 、ZEN (玉米赤霉烯酮) 的交叉反应率分别为:100 %、500 %、2. 50 %、0. 10 %、0. 01 %、0. 01 % ,表明了所制备DON 抗体的高特异性。
【英文摘要】Deoxnivalenol hapten was synt hesized successfully followed by studying of t he two kinds of hapten synt hesis met hod. The immunogen was prepared following a scheme t hat employs active ester method for the conjugation of the haptens to BSA (bovine serum abumin) , with which polyclonal antibodies against deoxynivalenol were raised in rabbit s after immunization. The antiserum titer was 1 ∶32 000 , and t he antiserum was purified by protein A sepharose 4B immunity affinity chromatography. The antibody specificity was checked on t he basis of t he 50 %inhibition levels , relative cross reactivities with DON , 32AC2DON , 152AC2DON , T22 , OTA and ZENwere found to be 100 % , 500 % , 2. 50 %, 0. 10 %, 0. 01 % , 0. 01 %.
【语种】中文

【第一作者】张燕
【通讯作者】王硕
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【题目】阿维菌素特异性半抗原合成及多克隆抗体的制备
【中文关键词】阿维菌素;半抗原;多克隆抗体
【英文关键词】avermectin ; hapten ; polyclonal antibody
【中文摘要】合成具有阿维菌素特征结构的半抗原,采用活化酯法与载体蛋白BSA 偶联制备人工抗原。通过免疫新西兰大白兔成功制备阿维菌素多克隆抗体,抗体效价达1 ：20 000 , 用此抗体建立的阿维菌素间接竞争酶联免疫标准曲线IC50 为1. 92 ng/ mL , IC15为0. 13 ng/ mL。
【英文摘要】The hapten of avermectin which has t he special structure was prepared. The carrier protein BSA was conjugated with hapten to obtain t he artificial antigen by t he active ester met hod. The anti 2AVM antibody was obtained after immunized to New Zealand white rabbits. Antibody titer reached 1 ： 20000. The standard curve of in direct competitive enzyme linked immunoassay was developed with IC50 of 1. 92 ng/ mL and IC15 of 0. 13 ng/ mL.
【语种】中文
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【学科分类】食品科学技术其他学科

【题目】克百威分子印迹聚合物的合成及其性能评价
【中文关键词】克百威; 分子印迹聚合物; 固相萃取; 吸附性能
【英文关键词】carbofuran; molecularly imprinted polymer(MIP); solid phase extraction(SPE);absorption feature
【中文摘要】以克百威为模板分子, 甲基丙烯酸(MAA)为功能单体, 二甲基丙烯酸乙二醇酯(EGDMA) 为交联剂, 采用沉淀聚合的方法制备了克百威分子印迹聚合物。通过红外光谱分析得到模板和功能单体的最佳配比为n(ca rbo furan) :n(MAA) = 1 :6。印迹聚合物的红外光谱测定结果表明, 聚合物中存在与模板分子相互作用的特征基团; 从印迹聚合物的扫描电镜图观察到分子印迹聚合物(M IP)与空白聚合物(NIP)的表面形态不同, 可推论M IP存在与模板分子相互识别的结合位点。通过静态平衡结合法研究了模板分子聚合物的吸附能力、结合动力学和选择特性。结果表明, 与非印迹聚合物相比, 印迹聚合物对克百威具有较强的吸附特性和很好的专一选择性, 3 h后基本达到最大吸附量。采用固相萃取柱预处理样品, 用高效液相色谱法测定自来水中10、50、100 mg /L克百威的加标回收率为94% ~ 117% , 相对标准偏差(n = 3)为2 5% ~ 4 7% 。
【英文摘要】A mo lecu larly imprinted po lymer (M IP) w ith spec ial molecu le recogn ition propert ies for carbo furan w as prepared by prec ipitation po lymerizat ion using carbofuran as temp latemo lecu le, meth-acry lic ac id(MAA) as funct iona lmonomer and ethy lene g lyco ld imethacry late(EGDMA) as the cross-linker. The optim ized ratio w as obtained to be n (carbo furan) n (MAA) = 1 6 by the analysis of in frared spectroscopy. The infrared spectrum of the po lymer a lso ind icated tha t therew ere some char-acteristic groups in theM IP wh ich cou ld interactw ith the template. The SEM graph o f imprinted po l-ymer show ed that the bind ing sites recognized w ith templatemo lecules ex isted in the surface of poly-mer. The template polymer adsorption capacity, b ind ing k inetics and se lectiv ity o fM IP w ere investi-gated by equ ilibrium bind ing experimen.t The resu lts show ed that compared w ith non imprinted poly-mer, imprinted polymer carbo furan show ed strong absorption features and good spec ific ity, and could get themaxmi um adsorpt ive capac ity in 3 h. Thew ater samples spiked at three concentration levels o f10, 50 and 100mg /L carbofuran w ere prepared by so lid phase ex tract ion (SPE) column and determ ined by HPLC w ith recoveries of 94% - 117% and relative standard dev iat ions(n= 3) of 2.5% - 4.7% .

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【题目】抗吡虫啉单克隆抗体的制备及鉴定
【中文关键词】吡虫啉,分子模拟,单克隆抗体,酶联免疫吸附法
【英文关键词】imidacloprid, molecular modeling, monoclonal antibodies, ELISA
【中文摘要】为制备灵敏度高,特异性强的抗吡虫啉单克隆抗体,建立经济、快速、准确的吡虫啉残留免疫学分析方法,采用分子模拟技术分析吡虫啉及其类似农药的电荷分布后,选择1-[6-(2-羧乙硫基-3-吡啶)甲基]-N-硝基-2-咪唑啉亚胺(H1)作为免疫半抗原,1-(6-氯-3-吡啶甲基)-3-羧丙基-N-硝基-2-咪唑啉亚胺 (H2) 作为包被半抗原,利用NHS 酯法将H1 和H2 分别与牛血清蛋白 (BSA) 和卵清蛋白 (OVA) 偶联合成免疫原与包被原。免疫BALB/c 小鼠后,采用常规杂交瘤技术共获得2 株稳定分泌抗吡虫啉单克隆抗体的细胞株2F11/A9 和2G6/G12,其分泌的抗体类型分别为IgG3 和IgG1,两细胞株的腹水抗体效价均达到了1∶128 000,IC50 分别为5.3 ng/mL 和28.3 ng/mL,检测限分别为1.1 ng/mL和7.7 ng/mL,两种抗体与6 种吡虫啉的结构类似物均无明显的交叉反应。抗吡虫啉单抗的制备为吡虫啉残留免疫学检测方法的建立及免疫检测产品的研发奠定了基础。
【英文摘要】To produce high-affinity monoclonal antibodies against pesticide imidacloprid, we synthesized the haptens 1-[(6-Carboxylethylthio-3-pyridinyl) methyl] -N-nitro-imidazolidinimine (named as H1) and 1-[(6-Chloro-3-pyridinyl) methyl]-3-carboxylpropyl-N-nitro-2-imidazolidinimine (termed as H2). And then the haptens were coupled to bovine serum albumin (BSA) and ovalbumin (OVA) for immunogen (H1-BSA) and coating antigen (H2-OVA) respectively by NHS ester method. BALB/c mice were immunized with H1-BSA conjugate. We obtained two hybridoma cell lines 2F11/A9 and 2G6/G12 secreting antibody specific for imidacloprid from the conventional hybridoma technology. The result showed that the subtypes of obtained monoclonal antibodies were IgG3 and IgG1, respectively, and the titers of ascites were up to 1:128 000. The indirect competitive ELISA indicated the IC50 values of 5.3 and 28.3 ng/mL with detection limits of 1.1 ng/mL and 7.7 ng/mL, respectively. Two monoclonal antibodies had no apparent cross reactivity with six analogous compounds. Thus, two prepared monoclonal antibodies had a very high affinity and specificity, and it could be used to develop ELISA for rapid determination of imidacloprid residue and laid a solid foundation for research and development of products for immunoassay.
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【题目】芥末等8种食物过敏原的多重PCR检测技术
【中文关键词】多重PCR,食物过敏原,检测
【英文关键词】multiplex PCR;food allergens;detection
【中文摘要】依据芥末Sina I 基因、羽扇豆核糖体内转录间隔区(ITS)基因、胡桃Jugr 2基因、榛果Oleosin 基因、芹菜Mtd基因、杏仁Prudu1基因、燕麦Avenin基因和芝麻2S albumin mRNA基因设计的特异性引物序列,在普通PCR方法的基础上,通过2组4重PCR扩增,建立了同时检测芹菜、杏仁、燕麦、芝麻、芥末、羽扇豆、胡桃和榛果等8种食物过敏原的方法。该方法特异性强,灵敏性高,可应用于食品中多种食物过敏原的快速检测和监控。
【英文摘要】Eight pairs of primers were selected according to the sequence of Sin a I gene from mustard,ITS(18S~ 26S) gene from lupine,Jug r 2 gene from walnut,Oleosin gene from hazelnut,Mtd gene from celery,Pru du 1 gene from almond,Avenin gene from oat and 2S albumin mRNA gene from sesame. Two tetraplex PCR assays for simultaneously detection of

celery,almond,oat,sesame,mustard,lupine,walnut and hazelnut were established on the basis of conventional PCR. It could be demonstrated to be a highly sensitive,specific method,which can be applied for rapid detection and monitoring of many kinds of food allergens.

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【题目】多重PCR同时检测常见8种食物过敏原
【中文关键词】多重PCR;食物过敏原;检测
【英文关键词】multiplex PCR;food allergens;detection
【中文摘要】依据大豆Lectin基因,小麦Gliadin基因,花生Arah3基因,腰果Anao3基因,鱼和虾16S rRNA,牛和鸡线粒体DNA设计特异性引物序列。在单一PCR方法基础上,建立2种4重PCR 方法检测8种食物过敏原的技术。该方法检测周期短,具有较好的特异性和灵敏性,可用于对食品中多种食物过敏原的检测和监控。
【英文摘要】ight pairs of primers were selected according to the sequence of Lectin gene from soybean, Gliadin gene from wheat, Ara h 3 gene from peanut, Ana o3 gene from cashew, 16S rRNA from shrimp and fish, mitochondrial DNA from bovine and chicken respectively, and a multiplex PCR assay for food allergen detection was established on the basis of simple PCR technique. Eight food allergens could be detected rapid, specific and sensitive with 2 multiplex PCR assays at the same time. It could be used for detection and surveillance of many allergens in food.
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【题目】食品中腰果过敏原成分PCR检测方法建立
【中文关键词】腰果过敏原;PCR;检测;致敏蛋白AnaO
【英文关键词】cashew allergen;PCR;detection;allergen ic protein AnaO
【中文摘要】目的 建立食品中腰果过敏原成分的PCR检测方法。方法 采用溴化十六烷三甲基胺(CTAB) 法和磁珠法提取的坚果DNA,根据GenBank中腰果3种主要致敏蛋白AnaO1、AnaO2、AnaO3的基因序列,设计9对引物;通过扩增效果和特异性,筛选腰果最佳扩增引物对;采用腰果特异性引物对AnaO3 F3R3和植物通用引物对Plant 159,对腰果、杏仁、开心果等13种坚果成分进行双重PCR 扩增,确定方法特异性;通过腰果DNA 梯度稀释确定该检测方法灵敏度;通过样品添加试验模拟食品中腰果过敏原成分的检测。结果 采用CTAB法提取坚果DNA 的A260/A280比值普遍<1.8,说明存在蛋白质污染,采用磁珠法提取DNA的比值>1.8,说明去除蛋白质较干净;9 对引物中,引物对AnaO3 F3R3特异性最好,其最佳退火温度为55. 4 °C;采用该引物与植物通用引物对Plan t 159,对腰果、杏仁、开心果等13种坚果DNA 进行双重PCR,只有腰果样品能扩增出312 bp的特异性条带;采用该PCR法检测腰果过敏原成分的灵敏度为0.1 pg / μ L;可以检出食品中>0. 001% 的腰果成分。结论 建立了一种食品中腰果过敏原成分的双重PCR检测方法,该方法特异性好,灵敏度高,与其他12种坚果不存在交叉反应。
【英文摘要】To develop a PCR method for detection o f cashew allergen in food. M ethods Nut DNA was extracted with alkyltrimethyl ammonium bromide(CTAB) and magnetic microspheres. Nine pairs of primers were designed according to cashew allergenic protein gene sequences from NCB IG enBank and a pair of specific primers was screened out by am plifying results. Thirteen nut samples were determined using double PCR with the cashew specific primer pair AnaO3F3R3 and plant universal primer pair Plant159. The sensitivity of the PCR metho d wa s detected by DNA g radient dilution experiment and the detection of cashew allergen in food was simulated by stimulated sample experiment Results A260 /A280of DNA extracted by CTAB method was lower than 1.8, w

hich meant there was protein contamination. While A260 /A280 of DNA extracted by magntic bead method was higher than 1.8, which meant the protein was cleaned. The specificity of primer pair AnaO3F3R3 was best among the 9 primer pairs and the best anneal temperature was 55.4°C. Double PCR method was established to detect cashew and the other 12 kind s of nuts with primer plant 159 and AnaO3F3R3. Only for cashew the312bp specific band was amplified. The sensitivity of the method was 0.1pg /ul And 0.001% cashew allergen in food could be detected. Conclusion A PCR method for detection of cashew allergen was developed and the method can be used to detect cashew allergen effectively, rapidly, differentially, and sensitively.

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【题目】食品中过敏原胡桃蛋白间接竞争ELISA检测方法研究
【中文关键词】过敏原;胡桃总蛋白;ELISA;检测
【英文关键词】Allergen;walnut protein;ELISA;detection
【中文摘要】胡桃是坚果类食品中引起过敏反应的首要食品。采用胡桃总蛋白产生的多克隆抗体,建立检测胡桃成分的间接竞争ELISA方法,并通过特异性试验和样品回收试验对该方法进行验证。结果表明:该方法对胡桃蛋白的定量检测限(LOQ,相当于IC80)为94 ng/mL;在特异性试验中,只有美洲山核桃出现交叉反应,其它植物样品均未出现交叉反应;将50-1000 ng/mL〔相当于10-200 μg/g〕的胡桃蛋白添加到小麦蛋白中,胡桃蛋白的回收率在78%~93%之间。
【英文摘要】Walnut is one of the most common allergenic foods in nuts. In this article, a indirect competitive ELISA was developed to detect walnut protein by using polyclonal antibodies generated against a protein extract of walnut. The method was verified by specific experiments and recovery experiments. The results showed only one cross-reactivity was observed in tests against Pecan and no cross-reactivity was observed in tests against the other plant samples; Walnut protein standard solutions at 94 ng/mL〔inhibition concentration(IC80) of the competitive test were clearly identified by the ELISA; recovery results were generated with blank matrixes spiked at 4 levels from 50 to 1 000 ng/mL (according to 10~200 μg/g) walnut protein, walnut proteins were recovered at 78%~93% from wheat proteins.

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【题目】食物过敏原检测方法研究进展
【中文关键词】食物过敏;过敏原检测;进展
【英文关键词】Food Allergy;Allergen Detection;Advance
【中文摘要】食物过敏作为食源性疾病,日益引起公众的普遍关注。本文对目前有关食物过敏原的免疫学检测方法和核酸检测方法进行了较为全面的综述,分析了常用检测方法的准确性、灵敏性、限制性等问题,展望了未来过敏原检测技术的发展方向。
【英文摘要】As a food- borne disease, food allergy has increasingly caused wide public concern. This paper gives a comprehensive overview of the immunologic and nucleic acid based methods for food allergen by the comparison of the analysis accuracy, sensitivity and limitations etc. Moreover, the trend of allergen detection technologyw as prospected.

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【题目】固相萃取-全二维气相色谱/飞行时间质谱同步快速检测蔬菜中64 种农药残留
【中文关键词】全二维气相色谱-飞行时间质谱; 农药残留; 蔬菜
【英文关键词】Comprehensive two-dimensional gas chromatography-time-of-flight mass spectrometry; Multiple pesticide residues; Vegetable
【中文摘要】建立了蔬菜中64 种农药残留固相萃取-全二维气相色谱-飞行时间质谱(GC × GC-TOF-MS) 的测定方法。用乙腈提取样品,NH2-SPE 固相萃取柱净化,甲醇-二氯甲烷溶液(5： 95,V/V) 洗脱,氮气吹扫浓缩,丙酮定容,全二维气相色谱(HP-5MS 柱和DB17ht 柱) -飞行时间质谱检测,基质曲线外标法定量。本方法的检出限(S /N = 3) 和定量限(S /N = 10) 范围分别为0. 010 ~ 6. 032 !g /kg 和0. 035 ~ 20. 107 !g /kg。64 种农药在油菜薹、黄瓜、茄子、四季豆和辣椒中的回收率范围为68. 3% ~ 117. 8%,相对标准偏差为0. 6% ~ 9. 1%。采用本方法检测市场中样品,发现2 例样品中含乙酰甲胺磷和氯氰菊酯残留,测定值分别为0. 036 和0. 107 mg /kg。
【英文摘要】A solid phase extraction-comprehensive two-dimensional gas chromatography coupled with time-offlight mass Spectrometric (GC × GC-TOF-MS) method for analysis of 64 pesticides in vegetables wasdeveloped and validated. After extracting with acetonitrile,cleaning-up with NH2-SPE cartridge and concentrating with nitrogen,the pesticide residues were redissolved in the acetone and analyzed by GC × GC-TOF-MS coupled with HP-5MS and column DB-17 column. Sample matrix-matched calibration was used to determine the residue contents by external standard. The method was validated by the real samples,such as Brassica campestris,cucumber,eggplant,kidney bean and capsicum. The limits of detection (S /N = 3) and the limits of quantification (S /N = 10) were from 0. 010 to 6. 032 !g /kg and from 0.035 to 20. 107 !g /kg,respectively.The overall recoveries ranged from 68.3% to 117. 8% with the relative standard deviations (RSD) of 0.6% - 9.1%.Two positive samples,polluted by acephate and cypermethrin with a residual concentration of 0.036 and 0.107 mg /kg,were screened by the developed method as detecting markets samples.
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【题目】己烯雌酚阳离子牛血清白蛋白免疫原的合成及鉴定
【中文关键词】己烯雌酚; 阳离子BSA; 合成; 鉴定
【英文关键词】diethylstilbestrol; cationized BSA; synthesis; identification
【中文摘要】合成免疫原(DES-HS-BSA 和DES-HS-cBSA) , 采用SDS-PAGE 电泳和质谱法对其鉴定, 经动物免疫制备多克隆抗体, ELISA 测定抗体效价和抗体灵敏度。结果成功合成己烯雌酚免疫原, 4 次免疫后, DES-HS-cBSA 组小鼠血清中针对DES-HS的抗体效价(1:12 000) 明显高于DES-HS-BSA 组小鼠(1:4000) ,表明cBSA 能增加与小分子结合时的偶联比, 作为免疫原的载体蛋白能明显提高抗体效价。
【英文摘要】To synthesize cationized bovine serum albumin(cBSA) and to prepare polyclonal ant-ibody, so as to provide technical support for rapid detection of animal food safety.Methods Diethylstilbestrol hemisuccinate(DES-HS) was reconstructed, and immunogen (DES-HS-BSA and DES-HS-cBSA) was synthesized by EDC method. The results were ident ified by mass spectrography and SDS-PAGE, and quant itated by Bradford kit . The polyclonal ant ibody was obtained by animal immunization. ELISA was used to characterize the antibody. Results The immunogens of DES were synthesized successfully. The t itre of DES-HS-cBSA group (1 12 000) was obviously higher than that of DES-HS-BSA group(1:4000) after four times of immunization. Conclusion The conjugation rat io can be increased when cBSA binding to hapten, instead of BSA.The titre of antibody can be improved as cBSA is the carrier protein of immunogen.

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【题目】抗噻菌灵单克隆抗体的制备及异源IC-ELISA 检测方法的建立
【中文关键词】噻菌灵; 单克隆抗体; IC-ELISA; HPLC
【英文关键词】thiabendazole; monoclonal antibodies; IC-ELISA; HPLC
【中文摘要】为建立噻菌灵酶免疫检测方法,制备3 种噻菌灵的半抗原(H1、H2 和H3) 。利用活泼酯法制备免疫抗原H1-BSA、H3-BSA 和包被抗原H1-OVA、H2-OVA、H3-OVA。采用杂交瘤细胞融合方法获得4 株稳定分泌抗噻菌灵单克隆抗体的细胞株,分别命名为1-4G9、1-6D3、3-1F9 和3-5D4。采用间接竞争酶联免疫法(IC-ELISA) ,将上述4 株抗体分别与3 种包被抗原进行组合,从中选择出一个最优组合: H3-OVA/1-6D3。据此建立的异源IC-ELISA 检测方法对噻菌灵的IC50为10. 9 μg·L-1,检测限(IC10) 为2. 2 μg·L-1 ,与3 种噻菌灵类似物的交叉反应率均小于0. 1%; 在自来水、苹果、梨的添加回收试验中, ICELISA法测定的回收率依次为95. 9% ~ 118. 1%、90. 0% ~ 117. 6%、74. 9% ~ 95. 6%; HPLC 法测定的回收率依次为92. 7% ~97. 6%、98. 9% ~ 100. 9%、91. 6% ~ 105. 4%,IC-ELISA 法与HPLC 法测定结果基本一致。上述结果表明: 抗噻菌灵单克隆抗体酶免疫检测具有很强的特异性和准确性。
【英文摘要】In order to establish the immunoassay method of thiabendazole,three haptens had been prepared(H1,H2,H3) . The immunogen haptens(H1-BSA,H3-BSA) and coating antigens(H1-OVA,H2-OVA,H3-OVA) were prepared by using the active ester method.Four hybridoma cell lines which secreted monoclonal antibody(McAb) were obtained by cell fusion method. They were designated as 1-4G9,1-6D3,3-1F9 and 3-5D4,respectively. H1-OVA,H2-OVA,H3-OVA as coating antigens were combined with the mentioned four hybridoma cell lines by indirect competitive enzyme-linked immunosorbent assay(IC-ELISA) . Among the combinations,the best one was selected for detailed study: H3-OVA/1-6D3. Based on it,a heterologous IC-ELISA was developed for the determination of thiabendazole,and the detection limits(IC10) and IC50 of thiabendazole were 2.2 μg·L-1 and 10.9 μg·L-1, respectively.The cross-reactivities (CRs) were all less than 0.1% with some analogues of thiabendazole. In recovery test of tap water,apple and pear,the results of ICELISA were in the range of 95. 9%-118. 1%,90. 0%-117. 6%,74. 9%-95. 6%,respectively; the results of HPLC,in the range of 92.7%-97. 6%,98. 9%-100. 9%,91. 6%-105. 4%,respectively. The results of IC-ELISA and HPLC had good consistency. The results showed that the immunoassay of thiabendazole had strong accuracy and specificity.
【语种】中文
【第一作者】王玉燕
【通讯作者】刘凤权
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【学科分类】食品科学技术其他学科

【题目】基于R语言的中国柑橘主要病虫害空间分布图
【中文关键词】R语言;柑橘;病虫害;空间分布图;地理信息系统
【英文关键词】R—language; Citrus; Disease and pests; Spatial distribution; GIS
【中文摘要】运用R语言的GIS功能包生成了中国柑橘主要病虫害的空间分布图,结果发现:中国柑橘主要病虫害呈现出各种不同的空间分布规律,其形成的原因除了病虫害本身的生物学特性外,还与气候因子的空间规律有关;R语言生成的病虫害空间分布图直观明显,作图质量较佳。
【英文摘要】The spatial distribution maps of the main disease and pest insects on citrus in China were made with GIS packages in R-language. The results indicated that different diseases and pests showed different spatial distribution patterns not only due to their biological characteristics, but also due to the spatial laws of climate factors. R-language-based GIS maps were visually distinct their quality was comparable to that of commercial GIS software.

【语种】中文
【第一作者】戴小华
【通讯作者】戴小华
【期刊名称、卷期、页码】江西农业学报 2009,21(4):76-78
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【学科分类】植物保护学

【题目】醚型菊酯类农药通用抗原的合成及鉴定
【中文关键词】醚型菊酯类农药;通用抗原;酶联免疫吸附法
【英文关键词】Etherpyrethroidpesticides;Genericantigen;Enzyme-linkedimmunosorbentassay
【中文摘要】以 2 - (4 - 乙氧基苯基) - 2 - 甲基丙醇和氯乙酸钠为原料, 合成了醚型菊酯类农药通用半抗原 Hapten Ⅰ,经1H - NMR 及13C - NMR 鉴定后, 分别与牛血清蛋白(BSA) 和卵清白蛋白(OVA) 偶联, 制得免疫原和包被原, 经紫外光谱分析法计算得其偶联比分别为 14 ∶1 和 35 ∶1, 说明人工抗原合成成功。免疫Balb/c 小鼠制备多克隆抗体, 效价达 1.28×105, 用半抗原经间接竞争 ELISA 检测人工抗原的免疫原性,IC50和 IC10值分别为 0.2653 和0.0012 mg/L, 证明人工抗原具有较好的免疫原性。交叉反应表明此多克隆抗体具有良好的特异性。
【英文摘要】2-(4-Ethoxyphenyl)-2-methyl propanol can rect with sodium chloroacetate by nuclephilic substitution reaction.Hapten Ⅰ,as the product of the above reaction identified by1H-NMR and 13C-NMR,wa sconjugated to bovine serumal bumin(BSA) and ovalbumin (OVA) by the active esterMethod to get artificial immune antigen and coating antigen,respectively.The binding ratio of artificial antigens was detected by UV spectroscopy as14∶1and 35∶1.Balb/cmice were immunized with Immunogen to prepare antiserum whose titer reached 1.28×105.The icELISA was conducted with the antiserum ,and the IC50 was 0.2653 mg/L and the IC10 was 0.0012 mg/L.
【语种】中文
【第一作者】潘家荣
【通讯作者】潘家荣
【期刊名称、卷期、页码】2012年8月,第49卷,第8期,1274~1278
【论文发表时间】2013-02-08 00:00:00
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【引文索引号】DOI:10.3724/SP.J.1096.2012.11096
【学科分类】食品科学技术其他学科

【题目】基于问卷调查的脐橙食品安全及产业生态健康分析
【中文关键词】生态健康;食品安全意识;问卷调查
【英文关键词】Ecological health; food safety; question research
【中文摘要】对江西地区水果产业的品牌赣南脐橙食品安全和产业生态健康做问卷调查。调查包含:一般消费者对脐橙食品安全问题的认识和关注程度;不同性别、不同年龄人群的认知差异;脐橙食品安全和产业生态健康所存在的主要问题。最后,根据调查结果对脐橙产业生态健康和持续发展提出了一些建议。
【英文摘要】无
【语种】中文
【第一作者】戴小华
【通讯作者】戴小华
【期刊名称、卷期、页码】北方园艺 2010,(1):234-237
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【题目】影响捕食螨防治柑橘害螨效果的主要因素与对策

【中文关键词】捕食螨;防治;柑橘害螨;主要因素;对策
【英文关键词】0
【中文摘要】由于过渡依赖化学农药防治柑橘病虫害,诱发柑橘害螨猖獗,为害程度加剧。为提高害螨综合防控效果,推广以螨治螨技术,本文对影响捕食螨防治柑橘害螨田间效果的果园生态系统、释放时机、田间管理与化学防控等主要因子进行了分析,同时提出了应对策略。
【英文摘要】0
【语种】中文
【第一作者】谢金招
【通讯作者】陈慈相
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【学科分类】植物保护学

【题目】滴灌和微喷对核桃耗水量_产量及坚果品质的影响
【中文关键词】核桃;滴灌和微喷;耗水量;产量;品质
【英文关键词】walnut; drip irrigation and micro-sprinkler irrigation; water consumption; yield;quality
【中文摘要】通过大田试验, 采用相同的灌溉制度, 研究了滴灌和微喷两种灌溉方式对成龄核桃树耗水量、产量及坚果品质的影响。试验结果表明:滴灌条件下核桃树在萌芽及开花期、果实膨大期、硬核期及成熟期的平均日耗水强度分别为2. 9 mm、3. 97mm、5. 55mm 及3. 39mm,微喷核桃树的耗水规律与滴灌略有不同,果实膨大期及成熟期稍大; 两者的累积耗水量相同。滴灌的平均水分利用效率比微喷高, 滴灌的产量比微喷高15%。两种灌溉方式下, 滴灌核桃蛋白质含量、出仁率均较微喷高, 其他指标无明显差异。
【英文摘要】Field experiment was conducted to study the effect of drip irrigation and micro- sprinkler irrigation on Water Consumption, Yields and Quality of aged Walnut trees, which used the same irrigation schedule. The experiment results showed: [1] Under the condition of drip irrigation , the average of daily water consumption in blooming stage, fruit accelerated growth stage crust stage and maturity stage were 2.9 mm,3.97mm,5.55mm and 3.39mm respectively. Water consumption of micro-sprinkler irrigation w as different from drip irrigation, but in fruit accelerated growth stage and maturity stage the cumulation of water consumption of both irrigations had no difference. The water use efficiency of drip irrigation w as about 15% higher than micro-sprinkler irrigation. The yield of drip irrigation was higher than that of sprinkler irrigation .Under the condition of two Irrigation methods, the content of protein of drip irrigation w as higher than micro-sprinkler irrigation and a same as the ratio of bared kernel. Other indexes made no difference.
【语种】中文
【第一作者】胡琼娟
【通讯作者】马英杰
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【学科分类】农学其他学科

【题目】干旱区幼龄枣树滴灌耗水规律研究
【中文关键词】滴灌; 耗水规律; 幼龄红枣树; 干旱区; 环塔里木盆地
【英文关键词】drip irrigation; consumption law; young jujube trees; arid region; Circum-Tarim Basin
【中文摘要】结合环塔里木盆地干旱区的气象条件, 采用525、450、375 m3/hm2 共三种试验灌水定额, 研究了幼龄红枣树生育期的耗水规律, 并对不同耗水量的枣树产量和水分生产率进行了比较。结果表明: 525、450、375 m3/hm2 三种灌水定额下的耗水量分别为596、503、435 mm。不同处理的耗水量和耗水强度均呈现出盛花期> 幼果期> 初花期> 果实膨大期>成熟期> 萌芽期的耗水规律。耗水量503 mm 处理的产量为506 kg/hm2、水分生产率为1.67kg/m3,均为最优,因此该区适宜的灌水定额为450m3/hm2。
【英文摘要】The paper studies the consumption law of young jujube trees during growing period and compares the output o f jujube trees with different consumption and water productivity by using three irrigation quotas of 525, 450 and 375 m3 /hm2 for test and

considering the meteorological l conditions of arid area of Circum-Ta rim Basin. The outcomes show that the consumption under the above three irrigation quotas is 596, 503 and 435 mm respectively. The water consumption and consumption rate with different treatment show the consumption law of full bloom stage > young fruit stage > initial bloom stag e > expanding period > mature period > germination stage. The output of 503 mm consumption is 506 kg /hm2 and water productivity 1. 67 kg /m3, showing the best.Thus, the suitable irrigation quota of the region is 450m3 /hm2.

【语种】中文
【第一作者】胡安焱
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【期刊名称、卷期、页码】人民黄河、第33卷第6期、95-100
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【学科分类】农学其他学科

【题目】基于灰色关联分析的参考作物腾发量影响因素分析
【中文关键词】灰色关联度;参考作物腾发量;气象因子
【英文关键词】grey relational analysis; evapotranspiration; meteorological factor
【中文摘要】根据新疆阿克苏地区试验林场Vantage pro2 型自动气象站参考作物腾发量及相关影响气象因子观测资料,利用灰色关联度分析法分析了各气象因子对参考作物腾发量的影响程度,结果表明各气象因子对参考作物腾发量的影响程度从大到小的排列顺序依次为太阳辐射量,平均温度,最大温度,最小温度,平均风速及平均相对湿度。建议在设施农业中,可通过对影响参考作物腾发量的主要气象因子进行调控,来间接降低作物需水量,从而达到节约水资源的目的
【英文摘要】This paper analyzed the evapotranspiration and related Influential meteorological factors data of Vantage pro2 mini automatic meteorological station of Aksu zone in Xinjiang, it analyzed the impact of each meteorological factor to the evapotranspiration by the grey relational grade analysis method,the results indicated the arrangement of impact extent from strong to weak was the energy of solar radiation, average temperature, highest temperature, lowest temperature, average wind speed, average relative humidity. From these results, in the facility agriculture field,the crop water requirement could be reduced indirectly by controlling the main influential meteorological factors of evapotranspiration in order to achieve the goal of saving the water resources.
【语种】中文
【第一作者】任玉忠
【通讯作者】董新光
【期刊名称、卷期、页码】中国农学通报、2010,26(12)、376-379
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【学科分类】农学其他学科

【题目】基于模糊_动态聚类法的新疆节水区划探讨
【中文关键词】节水区划;模糊-动态聚类;喷灌区;微灌区
【英文关键词】water-saving district programming ; fuzzy-dynamic clustering; sprinkler irrigat ion area; micro-irrigation area
【中文摘要】农业节水区划是农业水资源高效利用规划和实施的重要依据。根据新疆地理位置、地貌形态、气候特征、缺水程度、灌区类型等指标组成农业节水区划的分区指标体系。采用模糊- 动态聚类法进行节水灌溉分区, 将新疆的节水灌溉工程划分为两级区,4个一级区和10个二级区,作为指导各个灌区节水灌溉实施的参考。
【英文摘要】Agricultural water saving district programming is the important basis for the planning and implementation of high efficient use of water resources. Based on natural and social situation of Xinjiang autonomous region, an index system is built in this paper,which includes location, topography patterns, climatic characteristics, the degree of water shortage, irrigation district type, and so on. The fuzzy-dynamic clustering method is adopted for the water-saving district programming of Xinjiang auto nomous region, which is divided to two grades districts , including 4 grade iv districts and 10 grade districts. These results can be a reference to guide the implementation of water-saving irrigation in each irrigation district.
【语种】中文

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【通讯作者】董新光
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【学科分类】水利管理

【题目】基于区域水盐平衡的阿瓦提灌区水土资源优化配置研究
【中文关键词】优化配置; 水土资源; 供需平衡; 水盐平衡模型; 阿瓦提灌区
【英文关键词】optimal allocation; water- soil resources; supply and demand balance; water - salt balance mo del; Awati irrigation area
【中文摘要】为了探讨限额配水条件下阿瓦提灌区水土资源的可持续利用, 根据灌区的现状和规划, 设置了4个方案结合RS、GI S 技术应用水盐平衡模型从区域的四个水平衡(地表水平衡、地下水平衡、供需水平衡、耗水平衡) 和盐平衡等多个角度分析了各个子灌区的水土资源平衡, 并提出优化配置建议。分析表明: 保持现有耕地的情况下, 必须在灌区内因地制宜合理开发利用地下水资源, 与地表水统一调配才能满足该灌区新的水土资源平衡。而且, 还需改善排水, 最好是结合暗管或竖井排水, 才能达到合理的灌排比, 从而满足盐渍化严重农区的排盐要求。由此, 从社会发展和环境保护的角度进一步提出, 恢复弃耕地, 逐年分阶段开发利用已开垦的未耕地, 调整种植结构错开用水高峰, 推广节水灌溉方式降低灌溉定额, 地下水与地表水统一调配、统一管理、统一水价、实施"井灌井排" 措施的干旱内陆区农业水土管理模式。
【英文摘要】In order to explore the sustainable utilization of water - soil resources in Aw at iirrigation area on condition of limited surface water diversion from Akesu river, w e analyzed water- soil resources balance o f sub- irrigation- area from multi- angles of regional four - water- balance (Surface water balance, Ground water balance, Supply and demand water balance, Consumptions water balance) and salt balance. And then, some suggest ions of optimal allocation of water - soil resources w ere put forward.Four projects were set up according to present situation and long- term planning of Aw at iirrigation area.Integrating with RS and GIS, it forecasted the situation of water- salt balance using water- salt balance model. In case of keeping the current situation of farmland, it must exploit and utilize reasonably ground water resources according to local conditions. And, only unified allocation of g round water and surface water can satisfy the new water - soil resources balance in Aw at irrigation area. In order to reach the reasonable ratio of irrigation and drainage to satisfy the requisition of desalination in the farming region of serious soil salinization, it must improve the system of drainage. It is drainage by subsurface pipe or shaf t w ell that is the best measure. And then, considering the social development and the environmental protection, w e carried out some suggest ions of agricultural water- soil resources utilization. There are as follow s: (1) the abandoned farmland must be restored. The uncultivated land which have been reclaimed can be exploited and utilized stage by stage and year by year. (2) It must be adjusted the regional planting structure and popularized easy- operated irrigation technology of water - saving.(3) It realizes that ground water and surface water must be unified- allocation, unified- management, unified- water- price, and so on. And, it adopts the measure of well irrigation and drainage.
【语种】中文
【第一作者】钟瑞森
【通讯作者】董新光
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【题目】棉花智能化膜下滴灌技术示范经济效果分析
【中文关键词】棉花膜下滴灌;水肥耦合;经济效果
【英文关键词】无
【中文摘要】以项目中节水灌溉示范技术为评价对象, 根据项目课题组在示范区的试验数据以及农户调查数据, 从经济效果上进行了考察与评价, 研究的方法是综合指标对比分析法和方差分析法。分析表明棉花膜下滴灌水肥耦合示范技术具有明显的增产、节水和节肥效果, 尤其是增产效果显著。

【英文摘要】无
【语种】中文
【第一作者】朱美玲
【通讯作者】董新光
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【学科分类】农学其他学科

【题目】膜下滴灌下土壤水盐动态对棉花根系时空分布特征的影响
【中文关键词】膜下滴灌;根长密度;水盐动态
【英文关键词】mulch drip irrigation; root length density; water salt dynamics
【中文摘要】为讨论在膜滴灌条件下水分和盐分的运移对棉花根系时空分布的影响, 选择淡水和咸水2 个处理, 在其3个不同生育期(蕾期、花铃期和吐絮期) 采集距滴头不同距离和深度上的根系, 并监测各剖面的水分、盐分及地上植株的农艺性状。对其根长密度与地上部分、水分和盐分的运移进行分析, 研究表明根系对水分和盐分的胁迫表现明显, 当土壤体积含水率在20%以上, 电导率在2 000 LS/ cm 以下时可以满足根系的正常生长发育, 根系在这个范围内集中向水分高且盐分低的区域发育。
【英文摘要】To discuss the effect of the movement of water- salt under t he mulch drip irrigation condition on the temporal and spatial distribute of cotton root, two treatments irrigated with fresh water and saline water are chose, and cotton roots in different length and depth in different growing stage (the flower bud stage, flower boll stage and catkin stage) are collected, at the same time, the water content, salt content and agriculture of the cotton are monitored. The result of analysis o f the relations among the root length density, the ground part, the water and salt content shows that the stress of water and salt plays a leading role on the root development, When the volumetric water content of soil is larger than 20% and the electric conductivity is smaller than 2000 Ls/ cm, the root can grow and develop normally, and the root fastens to the concentrate filed with high rate of water and low rate of saltt in this scope.
【语种】中文
【第一作者】刘 磊
【通讯作者】董新光
【期刊名称、卷期、页码】节水灌溉 、第1期、1-9
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【引文索引号】1007- 4929
【学科分类】农学其他学科

【题目】农田明渠排水条件下土壤水盐运移规律研究
【中文关键词】水盐运移; 水盐监测; 农田排水
【英文关键词】water salt transportin soil; water salt monitoring ; drainage canal
【中文摘要】土壤水分、盐分、地下水埋深是表征当地土壤质量的重要状态变量, 研究其动态变化过程是研究土壤质量演变规律和赖以防治土壤盐渍化的重要方面。在农田明渠排水条件下, 土壤中发生的各种物理、化学和生物过程尤为复杂。因此通过对农田土壤盐分的定点实时监测, 能够定量表征农田生态环境状况优劣; 地下水位埋深变化, 可警示农田盐渍化的演变, 对调整灌溉定额采取预防措施有指导意义。同时通过实验计算确定了农田斗排的合理间距。
【英文摘要】Soil moisture, salinity, groundwater depth are the important state variable of symptom local soil quality and studying its development change course is mainly concentrated in soil quality changes and its prevention of soil salinization. In farmland drainage condition, the various physical, chemical and biological courses that occur in soil are particularly complex. Therefore, the fixed point and real time monitoring can be able to quantitative characterization of the merits of farmland ecological environment. Groundwater fluctuation can warn development of agricultural field salinization. It can help leader adjust irrigation quota and adopt preventing measures. At the same time, we find the proper interval of drainage canal based on experiment.
【语种】中文
【第一作者】曹伟

【通讯作者】董新光
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【引文索引类型】其他
【引文索引号】1005- 3409
【学科分类】农学其他学科

【题目】无核白葡萄叶面积及一年生枝条干物质质量简易测定方法研究
【中文关键词】无核白葡萄; 叶面积; 干物质质量; 测定方法
【英文关键词】Thompson seedless grape; leaf area; the mass of dry matter; measuring technique
【中文摘要】葡萄叶面积及地上一年生枝条干物质质量是研究葡萄生长发育状况的重要指标, 但在测定中工作量大而且精度难以保证, 研究旨在取得一种简便、快速、正确估算的简易测定方法。方法利用数理统计与数字成像技术, 对葡萄叶片与枝条进行回归分析, 建立估算的数学方程。 结果 无核白葡萄叶面积与叶长、叶宽、长宽乘积都存在高度的正相关; 一年生枝条干物质质量与枝条长度、叶片数及枝条叶面积也存在较好的相关关系。结论:考虑野外生产实际中测量操作的便利性, 在科研及生产实践中建议采用叶面积与叶脉长的乘幂方程。同时可利用叶面积的累积量代替葡萄树一年生地上枝条干物质量, 可大大简化研究工作量。
【英文摘要】Grape leaf area and the mass of dry matter of one- year branch above the ground are important indexes to study the growth of grape. The problem is that it is hard to guarantee the accuracy of them in the process of measurement due to large quantity of workload. This paper is aimed at finding out an easy, quick and correct way to measure the above mentioned two indexes. Method Mathematical statistics and digital imaging technology have been utilized to conduct regression analysis on grape leaves and branches and establish mathematical estimation formula. Result The research shows that there is high positive correlation between single leaf area and other variables such as leaf length, leaf width and product of length- breadth, and that there is fairly positive correlation between the variables of the mass of dry matter in one- year branch and of branch length, the number of leaves as well as leaf area. Conclusion Considering the operational convenience in field, it is suggested that power equation model between leaf area and the length of leaf veins should be adopted in research and production practice. At the same time, workload will be greatly reduced with the accumulation of leaf area to replace the mass of dry matter from one- year branch above the ground.
【语种】中文
【第一作者】白云岗
【通讯作者】董新光
【期刊名称、卷期、页码】新疆农业科学、2010, 47(9)
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【引文索引号】1744-1748
【学科分类】农学其他学科

【题目】新疆干旱区农业高效节水灌溉技术经济评价指标体系构建初探
【中文关键词】节水灌溉技术;指标体系;评价方法
【英文关键词】无
【中文摘要】从微观的农户受益角度出发,尝试性的构建了干旱区农业节水灌溉技术经济评价的指标体系,并提出相应的评价方法,以期为科学地评价干旱区各种高效农业节水灌溉技术的经济效果提供依据和参考。
【英文摘要】无
【语种】中文
【第一作者】李晓渊
【通讯作者】董新光
【期刊名称、卷期、页码】农村经济与科技、第21卷第04期、62-63
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【引文索引号】无
【学科分类】农学其他学科

【题目】SUSTAINABLE WATER SAVING: NEW CONCEPT OF MODERNAGRICULTURAL WATER SAVING, STARTING FROM DEVELOPMENT OF XINJIANG ' S AGRICULTURAL IRRIGATION OVER THE LAST 50 YEARSy
【中文关键词】无
【英文关键词】sustainable water saving; modern agriculture; water-saving irrigation; water and land exploitation; eco-environment
【中文摘要】无
【英文摘要】This paper analyses first the state of water land exploitation and water saving irrigation in Xinjiang over the last 50 years. A fairly severe situation of water resources utilization exists in Xinjiang, and so agricultural water saving provides an important way of solving the problem. Taking a comprehensive view of development of agricultural irrigation in Xinjiang over the last 50 years, surface irrigation and new high water-saving technologies have both been present. Despite these two kinds of irrigation technologies, it is difficult to realize the effect of water saving and increasing production using the former, which is an engineering water-saving mode using a canal anti-seepage technique. To some degree, it inhibits ecological water use. The latter, which is an agronomic water-saving mode laying emphasis on crop growth mechanisms, can realize the effect of water saving and increasing production. But, on the other hand, it is unable to improve soil characteristics. On the contrary, it might even aggravate soil salinization. Therefore, both engineering water saving and agronomic water saving must reconsider the sustainability of water saving. Can it realize reasonable water resources allocation of the whole watershed? Can it realize sustainable utilization of water resources in the whole watershed? This paper advances a new concept of modern agricultural water saving – sustainable water saving – which is different from real water saving.
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【语种】英文
【第一作者】钟瑞森
【通讯作者】董新光
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【引文索引类型】EI
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【学科分类】农学其他学科

【题目】彭曼-蒙太斯法制定阿克苏红枣根渗灌灌溉制度
【中文关键词】彭曼-蒙太斯; 红枣; 根渗灌; 灌溉制度;
【英文关键词】Penman-Monteith; red-jujube; root-irrigation by infilitration; irrigation schedule
【中文摘要】【目的】为控制土壤水分、提高水分生产率和实现节水与高效提供科学依据。【方法】利用彭曼-蒙太斯法对2年的气象资料间接计算出阿克苏地区全生育期红枣日平均耗水量,并分析其变化规律。【结果】试验区红枣树耗水规律:3月初~5月中旬日耗水量保持在2~4 mm,从5月下旬~8月下旬日耗水量增加到4~6mm,从8月下旬~10月中旬日耗水量又下降到2~3 mm。【结论】确定根渗灌红枣适宜的灌溉制度为:灌溉定额5 865 m3/hm2,灌水定额为255 m3/hm2,整个生育期灌水21次。
【英文摘要】【Objective】To provide a scientific basis for controlling soil moisture content,improving moisture content efficiency,and realizing water-saving and high-efficiency.【Method】In this paper,the evaporation of red-jujube in the Akesu irrigation area was indirectly gained from weather information of two years based on the equation of Penman-Monteith,and the laws of change has been analysed.【Result】The water consumption pattern of the red jujube trees in the test area was obtained from the analysis:from the beginning of March till mid-May the daily consumption amount of water maintains between 2-4 mm,from the end of May till the end of August the daily consumption amount of water increased 4-6 mm,from the end of August till mid-October the daily consumption amount of water descended to 2-3 mm.【Conclusion】For root-irrigation by infiltration,the suitable irrigation schedule is the follwing:the irrigation quota is 5 865 m3/hm2,the irrigation water quota is 255 m3/hm2,and 23 times of irrigation during the whole growth period.
【语种】中文
【第一作者】王则玉
【通讯作者】冯耀祖
【期刊名称、卷期、页码】新疆农业科学、2010,47(11)、2189-2194
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【学科分类】园艺学

【题目】2008年青岛奥运会帆船比赛食品安全保障体系的建立与管理
【中文关键词】食品安全 保障体系 管理
【英文关键词】食品安全 保障体系 管理
【中文摘要】依据国家颁布的各项食品安全、卫生法律法规,积极探索各种重夫活动的食品安全保障和重大公共卫生事件应急处置;相关专家参与过国家科技部抗震救灾专家组食品安全与营养的保障工作¨。同时组织公共卫生专家和监督一线的骨干力量,以食物中毒高风险餐饮业实施危害分析及关键控制点管理系统(HACCP)管理、制订餐饮业科学监管模式为主线,通过对2008年北京奥运会青岛奥帆赛食品安全保障体系的建立与管理,完善和健全了该体系,在“奥帆基地、接待单位、城市运行”3个层面上形成“三位一体”的一整套的青岛市奥帆赛食品卫生监督立体保障模式。
【英文摘要】依据国家颁布的各项食品安全、卫生法律法规,积极探索各种重夫活动的食品安全保障和重大公共卫生事件应急处置;相关专家参与过国家科技部抗震救灾专家组食品安全与营养的保障工作¨。同时组织公共卫生专家和监督一线的骨干力量,以食物中毒高风险餐饮业实施危害分析及关键控制点管理系统(HACCP)管理、制订餐饮业科学监管模式为主线,通过对2008年北京奥运会青岛奥帆赛食品安全保障体系的建立与管理,完善和健全了该体系,在“奥帆基地、接待单位、城市运行”3个层面上形成“三位一体”的一整套的青岛市奥帆赛食品卫生监督立体保障模式。
【语种】中文
【第一作者】靳晓梅
【通讯作者】刘楠
【期刊名称、卷期、页码】2010年10月第44卷第10期,943-945
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【引文索引类型】SCI
【引文索引号】0
【学科分类】食品科学技术其他学科

【题目】Preparation and evaluation of molecularly imprinted ionic liquids polymer as sorbent for on-line solid-phase extraction of chlorsulfuron in environmental water samples
【中文关键词】离子液体,分子印迹聚合物,氯磺隆,固相萃取,高效液相色谱柱
【英文关键词】Vinylimidazolium ionic liquid,Molecularly imprinted polymer Chlorsulfuron,On-line solid-phase extraction,High performance liquid chromatography
【中文摘要】本文首先研究了vinylimidazolium离子液体作为功能单体制备氯磺隆分子印迹聚合物。该印记材料具有对CS的高灵敏性,5min内达到吸附动力学平衡。这些材料协同HPLC富集已经用来进一步检测水样中痕量的CS,对于痕量CS固相萃取,该吸附剂具有良好的线性(0.005 – 30 μg L − 1, r2 > 0.99)。在最佳适用实验条件下,水样中CS的回收率在81.0 – 110.1%,且RSDs在1.2 - 7.6%范围内。
【英文摘要】In this report, vinylimidazolium ionic liquid as a functional monomer for preparation of chlorsulfuron(CS) imprinted polymers were first studied. The imprinted materials showed high selectivity for CS, and fast kinetics so that adsorption equilibrium was achieved within 5 min. These materials have been further employed to detect trace CS from water samples by online preconcentration coupled with HPLC.The sorbent offered good linearity (0.005 – 30 μg L − 1, r2 > 0.99) for on-line solid-phase extraction of trace chlorsulfuron. Under the optimal experimental conditions, the recovery for chlorsulfuron was in the range of 81.0 – 110.1% for the water samples, with RSDs ranging from 1.2 to 7.6%.
【语种】英文
【第一作者】Lu Guo
【通讯作者】王硕
【期刊名称、卷期、页码】2011, 1218, 6271 – 6277
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【引文索引号】823HR
【学科分类】食品科学技术其他学科

【题目】巴里坤草场不同草地类型MODIS-NDVI的时空变化
【中文关键词】巴里坤;草地;MODIS;NDVI
【英文关键词】Barkol;Grassland;MODIS;NDVI
【中文摘要】利用ESO/MODIS卫星遥感数据,以2005、2006年4-10月的NDVI月度变化和野外实测样方数据为例,分析了巴里坤草场高寒草原类、温性草原类、温性草原化荒漠类、温性荒漠草原类和低平地草甸类等5种草地类型的植被指数(NAVI)在各个生长阶段的变化. 结果表明,5种草地类型在生长季(4-10月) 的NDVI数值由大到小依次为:低平地草甸、高寒草原、温性草原、温性草原化荒漠和温性荒漠草原;低平地草甸、高寒草原、温性草原和温性荒漠草原的全年最大值出现在7月,温性草原化荒漠年最大值出现时间不稳定。
【英文摘要】Taking monthly change from April to October in 2005 and 2006 as the example , the NDVI (Normalized Difference Vegetation Index) for five typical grasslands of alpine steppe,temperate meadow,temperate steppe-desert,temperate desert-eteppe and low-land meadow were analyzed in growth stages by using of remote sensing data of MODIS,which reflected its growth status and characteristics.The results showed that the NDVI values of the five typical grasslands from max to min were:low-land meadow,alpine steppe,temperate meadow,temperate steppe-desert,temperate desert-steppe.The date of the maximum NDVI for low-land meadow,alpine steppe,temperate meadow,temperate desert-steppe and low-land meadow were all existed in July,the date of the maximum NDVI for temperate steppe-desert was unsteadiness.
【语种】中文
【第一作者】姚艳丽
【通讯作者】姚艳丽
【期刊名称、卷期、页码】中国农业气象 2009,30(增1):144-147
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【引文索引号】null
【学科分类】农业基础学科

【题目】氮硅配施对夏玉米抗倒性和产量的影响
【中文关键词】夏玉米;氮硅配施;抗倒性;产量
【英文关键词】Summer corn; Nitrogen application combined with silicon; Lodging- resistance; Yield
【中文摘要】试验采用 N、 Si(3×2)完全均衡方案和田间裂区设计,氮肥设 120 kg/hm2(N1)、 180 kg/hm2(N2)、 240 kg/hm2(N3)3 个水平,硅(SiO2)设 0、 75 kg/hm2两个水平,研究氮硅配施对夏玉米抗倒性和产量的影响。结果表明,施氮量为 120~240 kg/hm2,玉米平均株高、 茎粗、 茎皮厚、 室内横折强度、 田间抗拉弯强度、 穗长、 穗粗、 穗粒数、 百粒重、 理论产量和实际产量均随施氮量的增加而提高,不同施氮水平间上述各指标均达极显著差异(P<0.01)。氮硅配施对玉米茎粗、 茎皮厚、 室内横折强度和田间抗拉弯强度影响的交互效应达显著水平(P<0.05), N1、 N2 水平下,施硅与不施硅处理相比茎粗、 茎皮厚、 室内横折强度、 田间抗拉弯强度差异达显著水平; N3 水平下,除室内横折强度达显著水平外,其他各指标差异均不显著。氮硅配施对玉米穗长、 穗粗、 穗粒数、 百粒重、 理论产量和实际产量影响的交互效应亦达显著或极显著水平, N1、 N2 水平下,施硅与不施硅处理相比穗长、 穗粒数、 理论产量、 实际产量差异达显著水平; N3 水平下,各指标差异不显著。
【英文摘要】Field experiment was conducted under three nitrogen levels of 120 kg/ha(N1), 180 kg/ha(N2) and 240kg/ha(N3), two silicon(SiO2) levels of 0 kg/ha and 75 kg/ha and with split- plot design to investigate the effect of nitro-gen application combined with silicon on lodging- resistance and yield of summer corn. The results showed that withthe increase of nitrogen application rate from 120 to 240 kg/ha, the plant height, stem diameter, bark thickness,cross- breaking strength and tensile strength, spike length, spike diameter, kernel number, 100- grain weight, theoreticyield and actual yield increased significantly(P<0.01). The interactive effects of nitrogen and silicon on the stem diam-eter, bark thickness, cross- breaking strength and tensile strength were significant(P<0.05), the indexes above showsignificant difference(P<0.05) between +Si and - Si treat under N1 and N2 levels but not under N3. The interactive ef-fects of nitrogen and silicon on the spike length, spike diameter, kernel number, 100- grain weight, theoretic yield andactual yield were also notable(P<0.05 or P<0.01), the indexes above show significant difference(P<0.05) between +Siand - Si treat under N1 and N2 levels but not under N3.
【语种】中文
【第一作者】张月玲

【通讯作者】韩燕来
【期刊名称、卷期、页码】玉 米 科 学 2012, 20(4): 122~125
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【学科分类】农业基础学科

【题目】氮磷钾配比对高产夏玉米产量、 养分吸收积累的影响
【中文关键词】夏玉米; 产量; 超高产; 养分限制因素; 养分积累; 养分回收率
【英文关键词】Summer maize;Yield;Super-high yield;Nutrient limiting factor;Nutrient accumulation;Nutrient
recovery
【中文摘要】通过大田试验研究了高产夏玉米土壤养分限制因素及植株养分吸收积累规律。结果表明: 各施肥处理 均比不施肥显著增产, 增产 7.3%~15.9%, 氮磷钾推荐施R~(OPT)处理产量最高, 达到12 051.2 kg/hm2, 增产1 651.2 k m ; 施用氮肥、 钾肥能显著提高夏玉米的产量, N、 K是高产夏玉米主要养分限制因素。高产夏玉米植株体内氮、磷、 钾的积累量均随生育期的延长而增加, 养分积累量的大小顺序为N > K > P, 从拔节期至大喇叭E1期是氮素、 磷素和钾素吸收量和吸收速率最大的时期, 整个生育期, 高产夏玉米能持续吸收N、 P、 K养分。 N当季回收率为18.05%, D5为14.55%, K20为18.34%, 每生产100 kg经济产量需吸收的N、 P2O 、 K2O的量分别为1.62、 0.69、 1.83 kg。
【英文摘要】A field experiment was conducted to study the soil nutrient limiting factors and plant nutrient uptake and accumulation.The results showed that the yield of the treatment with fertilizers were increased observably,the in- crease rate was from 7.3%to 15.9%.The OPT treatment got the highest yield with 12 051.2 ks/ha.with yield in- creased 1 65 1.2 kg/ha.The nitrogen and potassium fertilizer could increase yield of high-yield summer maize evi-dently;N and K were chief soil nutrient limiting factors.The accumulations of nitrogen,phosphorus and potassium of hi 一yield maize plants were increased with the extended of bearing period.The order of nutrients accumulation WasN>K>P.It Was the greatest period of nitrogen, phosphorus and potassium absorption amount and d rate from jointing stage to the large bugle stage,the N,P and K nutrients were absorbed at the whole stage.Under the conditions of rec— ommended fertilization(OPT),the increasing yield per kg nutrient of N,P2O5,K2O were 3.73,5.20,6.76 kg,the recov— ery rate of N,P205,K2O were 1 8.05%,14.55%,1 8.34%,and the absorbed nutrient with 100 kilogram maize of N, P2O5,K20 were 1.62 kilogram,0.69 kilogram and 1.83 kilogram.
【语种】中文
【第一作者】王宜伦
【通讯作者】谭金芳
【期刊名称、卷期、页码】玉米科学 2009, 17(6):88—92
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【学科分类】农业基础学科

【题目】数字土壤信息采集技术应用探讨
【中文关键词】信息采集; “ 3S ” 技术
【英文关键词】Information is gathered; " 3S " technology
【中文摘要】本文是国家科技支撑计划项目 “ 西部地区村镇信息化技术集成与示范 ” 课题的部分工作内容(课题编号:2006BAJ09B09),探讨利用计算机、 “ 3S ” 和自动化控制技术等进行农业土壤信息采集,并将获得的土壤和作物信息资料整理分析,作为属性数据,与量化地图数据一起制成具有实效性和可操作性的田间管理信息系统。达到减少浪费、增加收入和保护农业资源和环境质量的目的。

【英文摘要】This text probes into and utilizes computer, " 3S " and automatic control technology, etc. to carry on agricultural soil information to gather, and put soil and crop information material in order and analyze, as the attribute data, make into having substantial results and effective the management information system of field together with quantization map data. Achieve the goal of reducing the waste, increasing incomes and protecting the agricultural resource and environmental quality.
【语种】中文
【第一作者】梁锦秀
【通讯作者】周涛
【期刊名称、卷期、页码】情报杂志、2007年图书情报科学研究年刊、9-11页
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【引文索引类型】其他
【引文索引号】null
【学科分类】农业工程

【题目】西部地区村镇数字化的现状及发展对策
【中文关键词】西部地区;村镇信息化;问题;对策
【英文关键词】The west; Informationization of villages and small towns; Current situation; Development countermeasure
【中文摘要】本文是国家科技支撑计划项目“村镇‘户联’技术产品研发与应用”课题(编号:2006BAJ09B09)和“西部特色农产品生产与流通耦合系统研发与应用”课题(编号:2007BAD33B02)的部分内容,文章结合课题任务,分析西部地区村镇信息化的发展现状,指出西部地区村镇信息化发展中存在的问题,同时,根据西部地区信息化的发展现状和需求,提出相应的对策措施。
【英文摘要】Combine one of the project of national science and technology support and plan——“ Information-based technology integration and demonstration of villages and small towns of the western region ”,analyze the current situation of the informationization of western villages and small towns, point out the problem existing in the information-based development of villages and small towns, and according to our department's regional information demand trend, put forward corresponding measure and countermeasure.
【语种】中文
【第一作者】梁锦秀
【通讯作者】周涛
【期刊名称、卷期、页码】情报杂志、2008年增刊、187-188页
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【引文索引类型】其他
【引文索引号】null
【学科分类】农业工程

【题目】基于J2EE的农作物病虫害诊断系统设计与实现
【中文关键词】J2EE;农作物;病虫害;诊断
【英文关键词】J2EE;Crops;diseases and pests;diagnose
【中文摘要】农作物病虫害诊断系统主要由前台内容展示和后台业务管理两部分组成 前台展示主要包括农作物简介病害信息查询虫害信息查询病虫害智能诊断和专家指导等功能;后台管理包括农作物病害虫害诊断规则等数据的维护以及系统的管理等功能其中诊断规则采用植株危害症状和害虫形态特征分类描述,附加图片对比的方式,提高了病虫害诊断的准确性.
【英文摘要】Crops diseases and pests diagnose system is composed with proscenium content shows and back-stage business management.The proscenium content shows consists of crops brief introduction,Information is inquired about diseases and pests,plant diseases and pests intelligence diagnose,guides of expert and so on;Back-stage business management consists of the data upkeeps such as crops,disease,pests,diagnose regulations and system administration.Among them,the diagnose regulations adopted the classify and describe of plant disease symptoms and vermin form characteristics,photograph contrast way is appended.It raised the accuracy of plant diseases and pests diagnosing.
【语种】中文
【第一作者】吴霞

【通讯作者】周涛
【期刊名称、卷期、页码】农业网络信息、2009年第12期、25-27页
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【引文索引号】null
【学科分类】农业工程

【题目】宁夏主要作物病虫害诊断系统的设计与推理规则决策
【中文关键词】作物病虫害 诊断 专家系统 推理规则 决策
【英文关键词】Crops; Diseases and pests
【中文摘要】宁夏主要作物病虫害诊断专家系统采用B/S架构、Java开发平台以及Oracle数据管理技术,以症状描述结合图象对比,对特色作物主要病虫害进行智能诊断并给出相应的防治决策。作物病虫害诊断专家系统推理规则以对作物不同部位受害症状和害虫形态特征的分类描述为主,结合图片对比进行分析推理,已经建立了枸杞、葡萄、水稻、玉米、小麦等13种特色农作物主要病虫害诊断与防治推理规则库,包括了61种主要作物常见病害、51种常见虫害的诊断推理。
【英文摘要】Design and Intelligent Illative Decision-making on Expert System for Diagnosis and Control of Crops Pest in Ningxia
【语种】中文
【第一作者】梁锦秀
【通讯作者】周涛
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【引文索引号】null
【学科分类】农业工程

【题目】宁夏农业信息化发展现状及模式
【中文关键词】宁夏 农业信息化 发展模式
【英文关键词】Informationization of villages and small towns; Current situation; Development countermeasure
【中文摘要】农业信息化是当代农业现代化的关键和标志,它主导着未来一个时期农业现代化的方向。加快推进农业信息化,有利于逐步改善城乡二元结构,提高现代科技在农村的普及和推广应用水平,促进农村经济社会实现又好又快发展。用信息技术装备农业,对于加速改造传统农业具有重要意义。
【英文摘要】analyze the current situation of the informationization of western villages and small towns, point out the problem existing in the information-based development of villages and small towns, and according to our department's regional information demand trend, put forward corresponding measure and countermeasure.
【语种】中文
【第一作者】梁锦秀
【通讯作者】周涛
【期刊名称、卷期、页码】现代农业科技、2009年第18期、348~349页
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【引文索引号】null
【学科分类】农业工程

【题目】宁夏数字化农业构建模式初探
【中文关键词】宁夏 农业信息化 发展模式
【英文关键词】Informationization of villages and small towns
【中文摘要】从宁夏农业信息化发展现状着手,分析宁夏农业信息化现有发展模式和存在问题,探讨了其未来发展方向和完善模式。
【英文摘要】according to our department's regional information demand trend, put forward corresponding measure and countermeasure.

【语种】中文
【第一作者】梁锦秀
【通讯作者】周涛
【期刊名称、卷期、页码】情报杂志、2009年12月第28卷、64~65页
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【引文索引号】null
【学科分类】农业工程

【题目】西部地区村镇数字化发展中的问题与对策分析
【中文关键词】西部地区;村镇信息化;问题;对策
【英文关键词】The west; Informationization of villages and small towns; Current situation; Development countermeasure
【中文摘要】本文是国家科技支撑计划项目“村镇‘户联’技术产品研发与应用”课题(编号:2006BAJ09B09)和“西部特色农产品生产与流通耦合系统研发与应用”课题(编号:2007BAD33B02)的部分内容,文章结合课题任务,分析西部地区村镇信息化的发展现状,指出西部地区村镇信息化发展中存在的问题,同时,根据西部地区信息化的发展现状和需求,提出相应的对策措施。
【英文摘要】Combine one of the project of national science and technology support and plan——“Information-based technology integration and demonstration of villages and small towns of the western region”,analyze the current situation of the informationization of western villages and small towns, point out the problem existing in the information-based development of villages and small towns, and according to our department's regional information demand trend, put forward corresponding measure and countermeasure.
【语种】中文
【第一作者】梁锦秀
【通讯作者】周涛
【期刊名称、卷期、页码】农业网络信息、2009年第1期、4~6页
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【引文索引类型】其他
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【学科分类】农业工程

【题目】施钾时期对豫北沙薄地冬小麦旗叶叶绿素荧光特性及产量的影响
【中文关键词】冬小麦;施钾时期; 叶绿素荧光特性; MDA; 产量
【英文关键词】w i nter w hea; t potassi um fertilizer app licat i on t i me ; ch lor ophy ll fluorescence parameters ;MDA; y ield
【中文摘要】以不施钾为对照, 在施钾 (K2O) 120 kg hm- 2水平下,采用钾肥全部基施以及 1 /2基施 + 1 /2拔节期追施 2处理, 研究了施钾时期对豫北沙薄地冬小麦产量及相关生理指标的影响. 结果表明,与钾肥全部基施相比, 钾肥1 /2基施 + 1 /2拔节期追施处理能显著地提高旗叶的 Ps 原初光化学效率 (F v /Fm) , Ps 量子效率 (PS)和光化学猝灭系数 (qP) ,降低非光化学猝灭系数 (NPQ)、 延缓了叶片可溶性蛋白和叶绿素 SPAD值的下降, 提高了叶片 SOD酶的活性, 降低了叶片 MDA 的含量,从而有利于增加小麦穗粒数、 千粒重和单位面积产量。
【英文摘要】W i th the treat men t of no potassi um fert i lizer applicat i on as CK, 120 kg h m- 2potassi umfert i lizer (K2O) to tal basal dressi ng and 120 kg hm- 2potassi um fertilizer (K2O) 1 /2 basaldressi ng+ 1 /2 top dressing w ere used to study the effect o f potassi um fertiliza ti on application t i me onw interw heat yie l d and reli t i ve phsiolog ical para me ters i n northern Henan sandy land . The resu l tssho w ed that the treat ment o f po tassium fertilizer 1 /2 basa l dressing + 1 /2 top dressi ng w as better thanthat of potassi um fert i lizer to tal basal dressi ng at i ncreasi ng Fv /Fm, PS and qP and reduc i ng NPQ,the for merw as a lso bet ter at i ncreasi ng soluble prote i n conten t and chlorophy l l SPAD va l ue , i mpr ov i ngthe SOD activ i ty and reduc i ngMDA l evels in leaf t han the latter . Thene f o re the treat ment of potassi umfert i lizer 1 /2 basa l dressi ng + 1 /2 top dressi ngw as better at i ncreasi ng the gra i ns per sp i ke , the 1 000 grain w eight and the y ield.
【语种】中文
【第一作者】赵惠萍
【通讯作者】谭金芳

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【学科分类】农业基础学科

【题目】外源 NO 对干旱胁迫下小麦幼苗抗氧化酶活性的影响
【中文关键词】一氧化氮;干旱胁迫;抗氧化酶;小麦
【英文关键词】Nitricoxide;Drought stress;Wheat seedling;A nt i—oxi dative enzymes
【中文摘要】研究干旱胁迫下外源一氧化氮(N O)供体硝普钠(SN P)处理对小麦幼苗叶片抗氧化酶活性的影响。结果表明,低浓度N O 可显著提高干旱胁迫下小麦幼苗叶片SOD、POD和CAT活性,缓解膜脂过氧化程度。随着浓度的提高,其缓解作用逐渐降低甚至加剧膜透性增加,NO调控作用具有二元性.且NO的适宜浓度存在品种差异,洛旱6号的适宜浓度为0.1 mmol /L SNP。郑麦9023则为0.5 m mol /L SN P,即抗旱性强的适宜浓度低于抗旱性弱的小麦品种。
【英文摘要】T he e ff e ct s ofexogenousni t r i c oxi de(N O) donor sodi um ni t ropr us s i de(SNP) on t he a ct ivi t i es of ant i—oxi dat i ve en-zym es in w heat seedl i ng l eaves under dr ought s t re s s w er e st ud i ed.The r ∞ul t s i ndi cat ed t hat l ow concent r at i on of N Ocoul d s igni f i c ant lyi ncr eas e t he a ct ivi t i es of super oxi de di sm ut as e(SO D),per oxi das e(PO D)and cat al ase(C AT),and al l eviat e l ipi d per oxidat i on inw heats eed l i ng l eaves under dr ough t s t r es s.A l o ng wi t h t he i ncr eas i ng of t he concentr at i on of N O.i “ al l evi at i on f unct i on onl i pid per-oxi dat i on decr e ased gr adual l y,and it even accel er at ed t he r is i ng of m em br ane perm eabi l i t y.So N Ohad du ' , di s t i c r eg ul at o r y eff ” ct s onw heats eedl i ng under dr ough t s t r es s.The s u i t able concent r at i on of SNP for “ L uoha n 6 ” was 0.1 m m ol/1.,and t hat f or “ zhen印1ai9023 ” w 舸0.5 m m ol /L.s uggest i ng t hat t he s ui t ab l e concentr at i on of SNP for w he at cul t i var s wi t h s t rong dr 01.19ht r es i s t am ‘ e w a 8 l ow ert han t hat f or w heat cuhi var s wi t h weak dr ough t r esi s t an ce under dr ought st r ess.
【语种】中文
【第一作者】李慧
【通讯作者】谭金芳
【期刊名称、卷期、页码】江西农业学报 2010,22(12):1-3
【论文发表时间】2010-11-20 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农业基础学科

【题目】外源腐胺对干旱胁迫下冬小麦幼苗叶片膜脂过氧化的调节效应
【中文关键词】冬小麦; 干旱胁迫; 外源腐胺; 膜脂过氧化 ; 抗氧化酶活性
【英文关键词】Ex o ge no us p ut r e s c i ne ;W i n t e r wh e a t ;Dr o ug ht s t r e s s ;M e mb r a ne l i p i d pe r ox i d a t i on ;An t i o x i —d a nt e nz y me a c t i v i t y
【中文摘要】为了研究外源物质对小麦抗旱性的诱导作用, 水培条件下研究了外源腐胺对干旱胁迫(15% PEG - 6000) 条件下冬小麦幼苗叶片膜脂过 氧化及抗氧化酶活性的影响 。结果表明, 干旱胁迫 48h 后冬小麦幼苗叶水量下降了 27.43,O的产生速率 、 丙二醛 (MDA) 和 H2O2 含量随 时间的推移 均呈增加 的趋势 , S0D、 POD、 CAT活性分别下降 了 23、 37 、 7O 。外源腐胺 处理 下叶片含水 量仅 下降 了 7 . 6 2 ; 叶 片 MDA含量 降低 8 O %左右 , H2O2 的含 量 下降 50% 左右 , O的产 生速率 降低 了 1 / 3, 而 叶片 SOD、 POD、 CAT分 别提 高 了 41%、 165.8%、 246%。 因此 认 为, 外源 腐胺 可通过抑 制活性氧 (0, H202) 的产 生 , 降低 MDA 含 量, 提 高抗氧化酶 (SOD、 POD、 CAT) 的活性, 缓解干旱胁迫造成的冬 小麦幼苗叶片细胞膜脂过氧化损伤 , 提 高冬小麦的抗旱性。
【英文摘要】冬小麦; 干旱胁迫; 外源腐胺; 膜脂过氧化 ; 抗氧化酶活性
【语种】中文
【第一作者】李慧
【通讯作者】谭金芳
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【学科分类】农业基础学科

【题目】潮土区氮肥不同基追比和种类对玉米产量和氮肥利用率的影响
【中文关键词】玉米; 氮肥类型; 氮肥基追比; 产量; 氮肥利用率
【英文关键词】The ex periment of differ ent rat io o f base N to dressed N and ty pe of nit rog en fert ilizer on maize y ield and nit rog en use ef ficiency w as conducted. The result s show ed that the best t reat ment w as N33. 3% + N33. 3% + N33. 3% (N33. 3% as
【中文摘要】研究了氮肥不同基追比和种类对玉米产量和氮肥利用率的影响。结果表明: 33. 3%普通尿素基施+ 33. 3%大喇叭口期追施+ 33. 3%抽雄期追施处理表现最佳, 产量最高, 达8 668kg/ hm2。氮素用量减至 80% 的控释尿素基施处理和控释 BB 肥基施处理产量分别为 8 390kg / hm2和8512kg/ hm2,控释BB 肥基施处理产量高于控释尿素基施处理, 与33. 3%普通尿素基施+ 33. 3%大喇叭口期追施+ 33. 3%抽雄期追施处理产量均没有达到1%极显著水平。在施用普通尿素的各个处理中, 33. 3%基施+ 33. 3%大喇叭口期追施+ 33. 3%抽雄期追施处理的氮肥利用率最高,为39. 1%,可见适当的施肥方式能提高氮肥的利用率。控释尿素基施处理和控释 BB 肥基施处理的氮肥利用率分别为46. 8%和 49. 5%, 均高于施用普通尿素的各个处理, 控释BB 肥基施处理的氮肥利用率高于控释尿素基施处理。
【英文摘要】Maize; Type of nit rog en fert ilizer; Rat io of base N to dressed N; Yield; Nit rog en useef ficiency
【语种】中文
【第一作者】李丙奇
【通讯作者】孙克刚
【期刊名称、卷期、页码】河南农业科学 2009(10):83-85 124
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【题目】控释尿素对小麦品种郑麦366 产量及氮肥利用率的影响
【中文关键词】控释尿素; 普通尿素; 小麦; 氮肥利用率; 增产效果
【英文关键词】无
【中文摘要】以控释尿素和普通尿素为供试肥料,在驻马店市驿城区水屯镇新坡村和驻马店市农科所进行优质小麦品种郑麦 366 肥效试验。结果表明: 100% 控释尿素处理产量最高, 分别为8173kg/ hm2、 8 264kg/ hm2, 较同等氮素用量的普通尿素处理增产 877kg/ hm2、 837kg/ hm2, 增幅12. 02%、 11. 27%,达极显著水平; 控释 BB 肥处理产量位居第2。控释尿素用量为 70% ~ 100%时,小麦产量随氮肥用量的增加而增加, 普通尿素也呈同样趋势。70%控释尿素处理与100%普通尿素处理产量差异不显著,说明施用控释尿素可以比普通尿素减少1/ 3 的纯氮用量。100%控释尿素处理的氮肥利用率最高,其次为 70%控释尿素处理, 控释BB 肥第3, 控释肥处理氮肥利用率均高于普通尿素和复合肥处理。
【英文摘要】无
【语种】中文
【第一作者】孙克刚
【通讯作者】孙克刚
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【题目】控释尿素与普通尿素掺混不同比例对夏玉米产量及经济性状的影响
【中文关键词】控释尿素;普通尿素; 掺混比例;夏玉米;产量
【英文关键词】control released urea ; conventional urea ; b lend ratio ; yield
【中文摘要】试验安排在驻马店市的新坡村与驻马店市农科所, 研究了控释尿素与普通尿素不同比例对夏玉米产量及经济性状的影响. 两地的夏玉米试验结果表明, 控释尿素与普通尿素掺混处理的产量均以控释尿素 70% + 普通尿素 30 %处理最好. 新坡村与驻马店市农科所的产量分别为 8 699 kg! hm - 2, 9 008 kg! hm- 2,比 100%控释尿素处理增产 6 . 1%, 6 . 4 % ,比

100 %普通尿素处理增产 16 . 2%, 16 . 2%, 比对照增产 55 . 8 %, 56 . 2%, 它们之间的差异达 1%显著水平. 该试验对玉米经济性状的影响主要在穗粒数和百粒重方面, 对穗长、 穗粗影响不大。

【英文摘要】The experi m ents of d i fferent blend rations bet w een the con t ro ll ed re l eased urea and conven t i ona l urea w ere conducted i n X i npoV i llage and I nstit u te o fA gricultural Sc ience o f zhumad i an, respec t i ve l y . The resu l ts sho w ed tha, t t he yie l ds of the blend ration bet w een 70 % cont ro lled re leased ureaand 30 % convent i ona l urea were the bes, t wh ich w ere 8 699 kg! h m- 2and 9 008 kg! hm- 2, forX i n po V illage and Insti tute of agricu l tura l science of zhumadian respect i ve l y . It i ncreased by 6 . 1 % and6 . 4 % compared w i th the 100 % release contr o lled urea tes, t and 16 . 2 % and 16 . 2 % compared w i ththe 100 % conventional urea tes, t and 55. 8% and 56 . 2 % compared w it h the contrasting tes. t Thesi gnifican t d i fference bet w een these tests amoun ts to 1%. The experi ments produced lit t le i nfluence onear length , earw idt h and stock height o f cor n, but b i gger i n fl uence on the number o f kerne ls and 100-kernel weigh.

【语种】中文
【第一作者】孙克刚
【通讯作者】孙克刚
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【题目】砂姜黑土区麦田土壤有效钾施肥指标及小麦施钾研究
【中文关键词】小麦; ASI土壤分析方法;土壤有效钾;丰缺指标
【英文关键词】Whea; t ASI ; Potas si um; Abundance and deficiency indices
【中文摘要】为砂姜黑土区小麦测土配方施肥技术的推广提供技术支撑。 2004- 2008年连续 4年在砂姜黑土区进行小麦肥料效应田间试验, 并利用土壤样品分析方法 (ASI方法)对土壤样品进行测试分析,同时以施氮磷肥处理区 (即缺钾素区 NP)冬小麦产量占推荐施氮磷钾肥区 (NPK)冬小麦产量的相对产量百分数, 划分为 4个梯度: < 50%、 50% ~75%、 75% ~ 95%和 > 95%,将小麦产量的相对产量百分数所对应的用 AS I方法分析的土壤有效钾测试值分成 极低 、 低 、 中 和 高 4级, 两者建立相关性。砂姜黑土区麦田土壤运用 AS I方法测定的土壤有效钾测试值与小麦相对产量百分数呈显著正相关关系。根据小麦相对产量百分数的划分区间, 对应土壤有效钾测试值分级指标, 可以得出, 砂姜黑土区麦田土壤有效钾测试值 极低 指标范围为 < 67 4 mg /L, 低 指标范围为 67 4 ~ 97 1 m g /L , 中 指标范围为 97 1~ 130 0 mg /L , 高 指标范围为 > 130 0 m g /L。在上述 4级指标下, 小麦推荐施钾量依次为: 150 , 120 ,90 , 45 kg /hm2。砂姜黑土区麦田土壤运用 ASI方法测定的土壤有效钾测试值与小麦相对产量百分数呈显著正相关关系。根据此分析方法建立的麦田土壤养分丰缺指标, 完全可以指导砂姜黑土区小麦生产中的测土配方施肥实践。

【英文摘要】To prov ide theoret ic support forWheat Production o f For mula Fert i lization by so i l testi ng in ShajiangB lac k So ilAreas . F ield Experi ments on Fertilizer E fficiency of w interwheat w ere carried i n Shajiang B lack So ilAre as . Th is st udy used AS I(Agro Services I n ter nati ona l)method to test so il samples and ca li brate ASI so il test accordingto the typica l response categories (50 % , 75 %, 95 % of relat i ve y ield to so i l nutrient values) to estab lish the a bundanceand deficiency i nd ices o f soil ava i lab leK forwheat in Shajiang B lac k So i lA reas based on ASI so il test i ng and fert i liz er recomm e ndation . The very lo w, l o w, med i um, and h i gh index for so i l available K were< 67 4 mg /L , 67 4 - 97 1mg /L , 97 1- 130 0 mg /L , and> 130 0mg /L , respective l y . Th is experi ment suggested that the recommended fert i lizerquantity were 150 , 120 , 90 , and 45 kg /ha.

【语种】中文
【第一作者】孙克刚
【通讯作者】孙克刚
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【学科分类】农业基础学科

【题目】根渗灌条件下施肥对红枣产量构成因素的影响

【中文关键词】灰枣; 施肥; 形态指标; 产量
【英文关键词】red jujubes; fertilizer; morphological indexes; output
【中文摘要】【目的】研究施肥对红枣花、果及产量的影响,探讨适宜成龄红枣的施肥量和追肥次数。【方法】在根渗灌条件下通过不同施肥量和不同追肥次数的试验,研究施肥对红枣花、果及产量的影响。【结果】增加施肥量和追肥次数均可以有效提高灰枣平均单个枣吊开花数量和结果数量,同时可以增加灰枣果实体积,进而提高了红枣产量;但追肥次数少时,需要在红枣关键期施肥,否则容易造成红枣关键需肥期供肥不足,导致花果数量减少,影响产量;追肥总量较高时,适当调整氮肥追肥配比,少量多次追肥效果最好。【结论】增加施肥量和追肥次数均可以有效提高灰枣平均单个枣吊开花数量、结果数量、果径和产量。 更多还原
【英文摘要】[Objective]This study was carried out to reveal the effect of fertilizer on flower,fruit and yield of red jujubes,and determine the appropriate fertilizer and topdressing frequency.[Method]Under the conditions of infiltrating irrigation around root,a field experiment was carried out to study the relation between fertilizer and yield formation factors of jujubes;[Result]Increasing fertilizer and topdressing frequency both can effectively increase quantity of blossom and bear fruit of average single hanging jujubes,also can increase the fruit volume,therefore,increase the yield of red jujube;but when frequency of topdressing fertilizer were reduced,red jujube need to be fertilized in the key period.Otherwise it will be easier to cause red jujube to be short of fertilizer during the key growth period and to reduce quantity of blossom and bear fruit,and yield.When total of topdressing is higher,the formulated fertilization should be properly adjusted.[Conclusion]Adding fertilizer and topdressing frequency can increase quantity of blossom,bear fruit,the fruit volume,and yields.
【语种】中文
【第一作者】王治国
【通讯作者】钟新才
【期刊名称、卷期、页码】新疆农业科学、 2010, 47(8)、1590- 1595
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【学科分类】园艺学

【题目】砂姜黑土区麦田土壤有效磷丰缺指标及推荐施磷量研究
【中文关键词】砂姜黑土区; 麦田;土壤有效磷; 丰缺指标
【英文关键词】wheat ; ASI; phosphorus; abundance and deficiency indices
【中文摘要】2004~ 2008 连续 4 年在砂姜黑土区布置小麦肥料效应田间试验。用 ASI土壤分析方法对试验田基础土壤样品进行测试分析,并以缺磷素区(NK)比推荐施肥区(NPK) 冬小麦相对产量< 50%, 50%~ 65%, 65%~ 75%,75%~ 95%和> 95%为标准,分别将对应的土壤有效磷分成 极低、 低、 中、 较高 和 高 5 级。结果显示: 砂姜黑土区土壤有效磷极低 指标为< 7 mg/ L, 低 指标为7~ 12 mg/ L, 中 指标为12~ 18 mg/ L, 较高 指标为 18~ 38mg/ L, 高 指标为> 38 mg/ L。在上述五级指标下,推荐施磷量依次为: 135、 10 5、 90、 75 k g/ hm2及不施或者微施磷肥。
【英文摘要】To provide theoretic support for formula fert i lizat ion in wheat production by soi l testing in Shajiang blacksoi l areas, field e xperiments on fertil izer efficiency of winter wheat were carried out . The study used ASI (Agro ServicesInternational) method to tes t soil samples and calibrate ASI soi l test according to the typical response categories (50%,65% , 75% and 95% of relative yield to soil nutrient values) to establish the abundance and def iciency indices of soi lavai lable P for wheat in Shajiang black soil areas based on ASI soi l testing and fertil izer recommendation. The very low,low, medium, high and very high indices for soil avai lable P were < 7 mg/L, 7~ 12 mg/L, 12~ 18 mg/L, 18~ 38mg/L, and > 38 mg/ L, respectively. This e xperiment sugges ted that the recommended ferti lizat ion rates were 135kg/ hm2, 105 kg/ hm2, 90 kg/ hm2and 75 kg/ hm2. When soi l avai lable P was> 38 mg/ L, the fertilization rate can bevery lit tle or even not applied.
【语种】中文
【第一作者】孙克刚
【通讯作者】孙克刚
【期刊名称、卷期、页码】干旱地区农业研究 2010,28(2):159-161 182
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【题目】大豆分离蛋白和变性淀粉对猪肉糜保水性的影响
【中文关键词】大豆分离蛋白;变性淀粉;猪肉糜;保水性
【英文关键词】Isolated soybean protein ; Modified starch ; Ground pork meat ; Water holding capacity
【中文摘要】研究添加大豆分离蛋白和变性淀粉后对猪里脊和猪后腿肉糜保水性的影响。结果表明,随着大豆分离蛋白和变性淀粉添加浓度的增加,解冻损失、蒸煮损失、离心损失不断降低,添加6 %大豆分离蛋白或添加1. 0 %变性淀粉猪肉糜的解冻损失、蒸煮损失、离心损失率最低,保水性最好;可提高肉制品的出品率,且变性淀粉对猪里脊肉糜及其制品保水性的影响比猪后腿肉显著。
【英文摘要】The effects of adding isolated soybean protein and modified starch on the water holding capacity of pork longissium dorsi and pork hind leg were studied. The results showed that thawing loss ,centrifugal loss and cooking loss declined gradually with the increase of addition amount of isolated soybean protein and modified starch , Adding 6 % isolated soybean protein or 1. 0 %modified starch ,thawing loss , centrifugal loss and cooking loss was the lowest and the water holding capacity was the best . While meat productivity increased continually and longissium dorsi of pork land its products of adding modified starch has more significant influence than pork hind leg.
【语种】中文
【第一作者】柳艳霞
【通讯作者】赵改名
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【学科分类】食品加工技术

【题目】两种不同包膜材料控释肥料在玉米上的增产效果
【中文关键词】包膜控释肥料;尿素;夏玉米;肥效试验
【英文关键词】coated controlled—release urea;urea;summer corn:fertilizer effect test
【中文摘要】采用田间试验研究了硫黄加树脂包膜尿素(SPCU)、树脂包膜尿素(PCU)在玉米上的施用效果。结果表明:氮素同等用量时控释尿素增产效果显著,分别比相对应的等氮量普通尿素(PU100%)增产7_3%、5.9%,N用量减少30%的SPCU 70%、PCU 70%处理产量分别比相对应的等氮量普通尿素(PU70%处理)增产10.2%、9.1%; 控释尿素氮素用量比普通尿素氮素用量减少30%,不影响夏玉米产量。
【英文摘要】Based on the field test,the effects of SPCUand PCU on summer corn are studied.The results showthat:in the same Nnutrient conditions,the applying effect of controlled-release urea is significant,it increases. 7_3%and 5.9%compared with the 100%conventional urea test(PU 100%).the yields of eom for SPCU 70%and PCU70%are increased 10.2%and 9.1%compared witIl the 70%conventionalurea test(PU70%).Compared with conventional urea.controlled—release urea iS decreased by 30%。however the yield is same.
【语种】中文
【第一作者】孙克刚
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【题目】苜蓿粒复合灌肠的研制
【中文关键词】灌肠;苜蓿;质构;响应曲面法
【英文关键词】sausage; alfalfa; texture; response surface methodology
【中文摘要】选取大豆组织蛋白、苜蓿粒、变性淀粉三因素进行响应曲面(Response Surface Methodology, RSM)试验设计,研究了不同添加量对苜蓿粒灌肠出品率和质构特性的影响,并优化了添加量。结果显示,产品的出品率为97%~121%;灌肠

的黏着性受苜蓿粒和大豆组织蛋白的影响(P<0.05),大豆组织蛋白和变性淀粉的二次模型形式对黏着性产生影响(P<0.01);苜蓿粒和变性淀粉都与大豆组织蛋白交互作用于灌肠的黏着性(P<0.01);灌肠的凝聚性受大豆组织蛋白的影响(P<0.05);优化后的最佳添加量为苜蓿粒8%、大豆组织蛋白3%、淀粉2%。

【英文摘要】Effects of soy protein, alfalfa and modified starchon yield and texture characteristics ofcompoundalfalfa sausage were studied, andthe content of the three materials were optimizedusing RSM(Response Surface Methodology). Percentage of sausage yield were 97%- 121%. Sausage adhesiveness was affected by alfalfa (P<0.05), soy protein and modified starch (P<0.01), in which there were interaction between alfalfa and soy protein(P<0.01), or between modified starch and soy protein(P<0.05). Therefore, theoptimal content of sausage was composed of 8% alfalfa, 3% soy protein and 2% modified starch.

【语种】中文

【第一作者】柳艳霞

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【学科分类】食品加工技术

【题目】土壤水分在根渗灌条件下的动态变化规律研究

【中文关键词】根渗灌; 土壤水分动态; 土壤水分再分布

【英文关键词】root-irrigation; soil moisture dynamic state; soil water redistribution

【中文摘要】对根渗灌新型节水灌溉技术水分动态变化进行研究,利用Watch Dog 2800水分测试仪的水分传感器SM100进行监测,材料采用直径25 cm的根渗管。分析灌水过程中和停灌后土壤水分动态变化和规律。通过大田试验,结果表明:在根渗灌条件下,水分是以线源入渗土壤,在渗灌速率为87.86 L/(h.m),灌水时间为100 min时湿润锋径向移动速率远小于垂向移动速率,移动过程呈椭圆形分布扩散。根据不同模型拟合的土壤湿润锋的动态变化,认为二次多项式模型的拟合程度较好。

【英文摘要】Study on soil water dynamic state was conducted with a new type of water-saving root-irrigation,adopting soil moisture testing instrument Watch Dog 2800 and its transducer SM100 and root-irrigation pipe which has a diameter of 25 centimeters.And the dynamic change and laws of soil water during infiltration period and after Irrigation were analysed.The results of the field irrigation experiment showed that the water permeate soil by a line infiltration under the state of root-irrigation.The speed of wetting front radial movement wasmuch less than that of vertical movement when root-irrigation speed reached 87.86 L/(h · m) and irrigation time was 100 min and wetting front was distributed by elliptoid shape.Based on the dynamic transformation of soil moisture under different models of root-irrigation.The fitting function of the secondary multinomial model was found to be the most satisfactory.Thus,it provides theoretical foundation for root-irrigation system.

【语种】中文

【第一作者】王则玉

【通讯作者】冯耀祖

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【学科分类】农业基础学科

【题目】同步滴灌施肥条件下根际土壤水氮分布试验研究*

【中文关键词】滴灌; 同步施肥; 根际土壤; 硝态氮

【英文关键词】drip-irrigation; fertilization; rhizosphere soil; nitrate

【中文摘要】通过室内土槽试验,探讨了停灌后不同时间,同步施肥滴灌对土壤水分及土壤硝态氮在土壤剖面分布的影响。结果表明:停灌后,各处理土壤水分以滴头为中心沿径向向四周扩散;由于水分在横向及纵向运动,上下层土壤水势梯度随径向距离增加而逐渐减少。停灌后,氮浓度3、2 g/L处理硝态氮的含量与径向距离及土层深度成反比;氮浓度0 g/L处理硝态氮的含量随径向距离及土层深度增加先增大后减小,氮浓度0 g/L处理硝态氮在深度分布表现为"上低中高下稳定"抛物线分布。 更多还原

【英文摘要】Drip fertigation is a promising irrigation method to improve the effective use of water and nutrients by plant roots,and in this paper we investigated the redistribution of water and nitrate after the cease of irrigation.The experiment was conducted in a tank filled with sandy soil,and we measured the change of water content and nitrate concentration under various treatments after the irrigations was stopped.The results indicted that for treatments with nitrate concentrations of 2 g/L and 3 g/L,the nitrate concentration in soil decreases with distance in all the directions from the emitter;while for the treatment of 0 g/L concentration,the nitrate concentration in soil first increases with the distance from the emitter and then decreases after reaching a peak value.For all the treatments,water was found to move radially with preference in the vertical direction

【语种】中文

【第一作者】吕谋超

【通讯作者】吕谋超

【期刊名称、卷期、页码】灌溉排水学报第27 卷第3 期、24~27

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【引文索引号】null

【学科分类】农学其他学科

【题目】蓄流分离式灌溉新技术研究

【中文关键词】节水农业; 蓄流分离灌溉; 蓄流灌水器

【英文关键词】null

【中文摘要】蓄流分离式灌溉, 是我国近年基于果树类作物需水特性和要求, 自主创新研究的一项节水灌溉新技术, 在探索研究农业节水增产、节能降耗、定额用水、提升水温及灌溉均匀性等关键问题上取得了新进展, 为我国节水灌溉领域拓展了新空间. 本文阐述分析了蓄流分离式灌溉技术方法的新理念, 灌溉模式以及综合技术效应, 并指出今后的研究方向.

【英文摘要】无

【语种】中文

【第一作者】周和平

【通讯作者】张胜江

【期刊名称、卷期、页码】中国科学 E 辑: 技术科学 2009 年 第39 卷 第4 期、 814 ~ 820

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【学科分类】农学其他学科

【题目】不同氮肥运筹对小麦产量及氮肥利用率的影响

【中文关键词】氮肥运筹;小麦; 氮肥利用率

【英文关键词】N i t rogen applicat i on technique ; Whea; t N i tr ogen use efficiency

【中文摘要】在山东褐土传统农业种植区, 研究不同氮肥运筹对小麦增产效益及氮素利用率的影响。结果表明, 在施氮量相等条件下,以氮肥分 3次均施增产效果最好,施肥比例为 1:3:2的处理增产效果次之, 氮肥不做基施、 只追施两次的处理小麦产量最低。从产值和纯收益分析结果可见, 施氮量为 180 kg /hm2分 3次均施处理的最高, 其次为施氮量 120 kg /hm2分 3次均施处理,不施氮肥处理的产值和纯收益最低。分析各施氮处理的氮肥利用率可知,氮肥分 3次施用高于氮肥分 2次施用的处理, 施用比例为 1:1:1的处理高于施用比例为 1:3:2的处理。

【英文摘要】The yie l d and nit rogen (N) use e f f iciency o fw inter wheat w i th d i fferen tN app lication techniques were studied in Shandong c i nnamon so il areas . The results w ere as fo llow s . With the equal N application rate , the yield increasing effect was the best when N was applied in three equal installments , it was followed by the treatment with the appl ication ratio of 1:3:2 ; the treat ment o f on l y dressing for t w ice w i thou tbase app licat i on had the lo w est effec. t The output va l ue and net i ncome demonstrated that the trea t ment of 180kg /hm2N in t hree equa l install m ents had the best e f fec; t nex tw as t he t reat ment of 120 kg /hm2i n three equa li nstall ments ; t he treat ment of no N applicati on w as the lo w es. t TheN use efficiency w hen applied in t hree in stall ments w as h i gher than that i n t w o install m ents , and that the treat men tw i th the app lication ratio of 1:1:1 w as higher than t hat w ith the ratio of 1:3:2.

【语种】中文

【第一作者】魏建林
【通讯作者】崔荣宗
【期刊名称、卷期、页码】山东农业科学,2010(9): 53-55 , 59
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【学科分类】农业基础学科

【题目】低脂低钠肉类制品的研究进展
【中文关键词】脂肪替代物, 钠盐替代物, 肉类制品
【英文关键词】fat subst itution, sod ium salt subst itution, processed meat products
【中文摘要】综述了脂肪、钠盐替代物的种类、特点和最新研究进展, 论述了脂肪、钠盐替代品应用在低脂、低钠肉制品中对制品外观、质构、口感和风味等的影响作用, 以期为低脂、低钠肉制品研究开发提供参考。
【英文摘要】A comprehensive review was made on the kinds, characteristics and research developmen t of low-fat sodium-reduced processed meat products . The impact of appearance, texture, taste and flavor of the meat was discussed. This can be the references to the research and development of low-fat sodium-reduced processed meat products
【语种】中文
【第一作者】郝洪涛
【通讯作者】赵改名
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【引文索引号】null
【学科分类】食品加工技术

【题目】长期施钾对玉米连作土壤 - 作物系统钾素特征的影响
【中文关键词】长期施钾;玉米;土壤- 作物系统;钾素
【英文关键词】Long - term application of K fertilizer; Maize; Soil- crop system; Potassium
【中文摘要】通过在东北三省代表型土壤上连续 13 年的长期钾肥定位试验,研究施钾对大田玉米和耕层土壤钾素系统特征的影响。 结果表明:施钾可明显增加玉米植株各部分含钾量,对秸秆钾含量的提高尤其明显。 施用钾肥可显著提高玉米籽粒产量,施钾量增加籽粒产量没有进一步提高从而使钾肥效益降低。各定位点 NP和 NPK1 处理的土壤钾素显现出一定的表观亏缺,年均亏缺量在4.7~135.5 kg K2O hm- 2, NPK2 处理则表观盈余。 施钾可提高土壤速效钾含量,施钾量增加速效钾含量升高,相比 NP处理施钾总体增加了土壤缓效钾和全钾的含量;施钾增加速效钾和缓效钾在全钾中的比例,降低矿物钾的比例。与1993年定位时相比: NP处理速效钾含量下降,其余施钾处理含量表现上升;各处理缓效钾含量略有增加;全钾含量则有不同幅度的下降,东北三省的土壤表现一致。可考虑玉米秸秆还田来缓解农田土壤钾素的逐年下降。
【英文摘要】Based on long- term application of K fertilizer on selected soils of three provinces in northeastern China forcontinuous 13 years, effect of K fertilizer on status of field maize and soil potassium system in the plough layer werestudied. Results showed that K fertilizer could increase potassium content of different organs in plant distinctly,especially in straw. Application of K fertilizer could increase yield of grain but yield didn't increase with K fertilizerquantity's increasing and then K fertilizer's efficiency decreased. Soil potassium appeared apparent wane in thetreatment of NP and NPK1, and potassium deficit rate ranged from 4.7 to 135.5 kg K2O hm2annually, however therewas a surplus in NPK2 treatment. Application of K fertilizer could increase content of available potassium and itscontent increased with K fertilizer quantity's increasing, K fertilizer application increased content of slowly available Kand total K collectively compared to NP. Application of K fertilizer improved proportion of available K and slowlyavailable K and reduced proportion of mineral K. Compared to 1993, content of available K in treatment of NPdecreased, however others showed a rise, and content of slowly available K in each treatment increased a little, butcontent of total K decreased. It behaved consistent in three sites. In order to postpone soil potassium's decline, theapplication of maize straw's returning should be considered.
【语种】中文
【第一作者】谭德水
【通讯作者】金继运

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【学科分类】农业基础学科

【题目】利用硬度、脆性和黏着性对火腿肠等级的判别分析
【中文关键词】感官评定;质构分析;硬度;脆性;黏着性;判别分析
【英文关键词】sensory evaluation; texture profile analysis; hardness; fracturability; adhesiveness; discriminant analysis
【中文摘要】研究利用质构指标代替感官评分在火腿肠等级验证判别方面应用的可行性。【方法】利用质构分析(texture profile analysis, TPA)和感官评分法对不同等级火腿肠的硬度、黏着性和脆性进行评定,并用判别分析方法研究以感官评分和质构数据建立的判别函数判断火腿肠等级的能力。【结果】利用硬度、脆性和黏着性的感官评分和质构数据建立的火腿肠等级判别函数,对火腿肠等级的判别正确率分别为92.2%和100.0%;以进入模型的硬度感官得分(X1)、脆性感官得分(X2)和黏着性感官得分(X3)为基础,建立的特级(Y1)、优级(Y2)和普通级(Y3)火腿肠的Fisher 线性判别函数为:Y1=6.548 X1+ 3.498 X2+ 7.525 X3 – 68.989,Y2=4.608X1+ 2.652 X2+ 6.457 X3 – 44.049,Y3=3.162 X1+ 1.392 X2+ 3.459 X3 – 15.176;以进入模型的硬度值(X4)、脆性值(X5)和黏着性值(X6)为基础,建立的3 个等级火腿肠的Fisher 线性判别函数为:Y1=1.009 X4-0.255 X5-10.866X6-3377.048, Y2=0.867 X4-0.233 X5-9.026 X6-2671.609, Y3=0.976 X4-0.244 X5-10.799 X6-3582.754,将待测样品的质构特性代入对应方程,根据分值大小判断其所属类别,哪个分值大就属于哪一类。【结论】仅从火腿肠的物理特性考虑,在判别火腿肠的等级时可以用质构指标取代感官评定。
【英文摘要】The possibility of the application of texture profile analysis in distinguishing the grades of ham sausages replacing sensory evaluation was discussed. 【Method】 The hardness, fracturability and adhesiveness of ham sausages of different grades were measured using sensory evaluation and instrumental measurement (texture profile analysis, TPA), and thecapability of discriminating the grades of ham sausages by using discriminat functions established on data of the fracturability and adhesiveness was studied. 【Result】 The results showed that the discriminant accuracies of the established discriminant functions byhardness,fracturability and adhesiveness were 92.2% and 100.0%, respectively. The Fisher linear functions of premium, excellent and general class ham sausages founded were Y1=6.548 X1+ 3.498 X2+ 7.525 X3-68.989, Y2=4.608 X1+ 2.652 X2+ 6.457 X3-44.049,Y3=3.162 X1+ 1.392 X2+ 3.459 X3-15.176, respectively, based on sensory evaluation of hardness, fracturability and adhesiveness,and the Fisher linear functions based on hardness, fracturability and adhesiveness values were Y1=1.009 X4-0.255 X5-10.866X6-3377.048, Y2=0.867 X4-0.233 X5-9.026 X6-2671.609, Y3=0.976 X4-0.244 X5-10.799 X6-3582.754. The grade distinguished as follows: the texture characteristics of sample were put into the functions , the grade was determined by the Y value,the biggest valuerepresented the grade of sample. 【Conclusion】 It is suggested that the current sensory evaluation methods could be replaced by instrumental measurement in distinguishing the grades of ham sausages, when considered physical properties only.
【语种】中文
【第一作者】郝洪涛
【通讯作者】赵改名
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【学科分类】食品加工技术

【题目】压缩比对火腿肠制品质构特性的影响
【中文关键词】火腿肠;质构;压缩比
【英文关键词】ham sausage;texture;compression ratio
【中文摘要】为在测定火腿肠质构特性时选择合理压缩比,研究30%~80%范围压缩比对不同等级火腿肠质构特性的影响。结果表明:脆性指标检出与否是确定压缩比的重要参考依据;在火腿肠制品的凝胶系统达到一定强度时,采用的压缩比趋于一致。
【英文摘要】To explore textural characteristics of ham sausage, the effect of compression ratio within the range of 30% to 80% on textural characteristics of ham sausage was investigated. Results indicated that fracturability property provided an important reference to compression ratio. Compression ratios tended to be consistent when an appropriate strength of gelatin system for ham sausage

preparation was reached.
【语种】中文
【第一作者】郝红涛
【通讯作者】赵改名
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【学科分类】食品加工技术

【题目】接种秸秆降解真菌对玉米苗期生长的影响
【中文关键词】玉米幼苗; 丝状真菌; 发芽率; 促生菌;
【英文关键词】Maize seedlings; Filamentous fungi; Germination rate; Promoting bacteria
【中文摘要】利用盆栽试验接种44株可降解秸秆的丝状真菌,研究真菌对玉米发芽和苗期生长的影响。结果表明:8株真菌(F6、F7、F9、F11、F16、F17、F18和F36)可显著降低玉米发芽率(P<0.05),其中极显著两株为F6和F36,分别降低45.0%和32.5%;真菌F36同时也显著降低单株生物量,降低率为48.0%;两株真菌F5和F45可显著提高玉米苗期单株生物量(P<0.05),分别提高35.0%和48.0%。真菌F5和F45经初步鉴定分别为Fusarium sp.和Trichoderma sp.,两种真菌显著促进玉米苗期生长。
【英文摘要】Pot experiment effects of degradation fungi inoculated with each of the 44 filamentous fungi on maize germination and seedling growth were investigated.The results indicated that germination rate of the maize significantly(P<0.05) reduced by inoculating with 8 straws of fungi(F6,F7,F9,F11,F16,F17,F18 and F36),including the two most significantly treatments inoculated with F6 and F36,which 45.0% and 32.5% decreased.The seedling biomass were also reduced 48.0% by inoculating with fungus F36,the seedling biomass of maize prominently increased by inoculating with two straws F5 and F45,which 35.0% and 48.0% increased.The fungi F5 and F45 were identified as Fusarium sp.and Trichoderma sp.In conclusion,the seedling growth of maize were significantly promoted by inoculating with two fungi that could degrade straws.
【语种】中文
【第一作者】刘保平
【通讯作者】刘保平
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【学科分类】农学其他学科

【题目】一种降解秸秆的丝状真菌的分离和定性方法
【中文关键词】秸秆降解; 丝状真菌; 分离方法; 定性方法;
【英文关键词】stalk degradation; filamentous fungi; method of isolation; method of determination;
【中文摘要】建立了一种新的简单的分离秸秆降解丝状真菌的方法,用此方法从东北寒地黑土中分离出真菌56株,其中丝状真菌46株。这种分离方法简述为:先用土壤或者堆肥浸渍秸秆至接近腐烂,再用酒精对接近腐烂秸秆进行表面灭菌,最后用土豆葡萄糖琼脂培养基培养并分离秸秆中微生物,这样分离的微生物大多为产丝真菌。用添加或者不添加硝酸铵、酵母粉和黑土浸液等辅助物的秸秆粉制成不同培养基,这些培养基用来比较其对分离的微生物的生长的影响。结果表明,同一微生物在不同培养基中生长区别很小,同一培养基不同微生物生长区别较大。选择了只含秸秆粉而不添加辅助物的培养基作为微生物是否降解秸秆的定性培养基,对分离的56株真菌以水稻、大豆和玉米3种秸秆进行降解定性鉴定,结果显示:该方法筛选的46株丝状真菌都能降解3种供试秸秆。
【英文摘要】A new simple method to isolate filamentous fungi that could degrade stalks were built.Fifty-six strains of fungi include 46 strains of filamentous fungi were isolated from the black soil in the northeast frigid zone in China by the method.The isolation method could be summarized as:Stalks were nearly rotten after being covered with soil or compost suspension for a few days, ethanol were used to disinfect the surface of the stalks, the culture medium(Potato Dextrose Agar,PDA)were used to isolate the microorganisms in the stalks, most of the microorganisms isolated by the method are filamentous fungi.Three dry stalks include straw, soybean stalk and corn stalk are collected to be pulverized to made stalk powder.Stalk powder added with different matter(NH4NO3, yeast abstract, black soil solution)or not were recruited to made solid culture media to compare the growth of the microorganisms isolated.Results showed

that there are little differences between the growth of the same strain on different media but varified differences between the growth of the different strains on the same medium.The simple medium made by stalk powder without any of the adding matters were chosen to determine whether the three stalks were degraded by the 56 strains of fungi.Results showed that all of the 46 strains of filamentous fungi isolated by the method could degrade the three stalks.

【语种】中文
【第一作者】刘保平
【通讯作者】刘保平
【期刊名称、卷期、页码】农业环境科学学报 2009.28(3):559-563
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【学科分类】农学其他学科

【题目】灌淤土区长期施钾对作物产量与养分及土壤钾素的长期效应研究
【中文关键词】长期施钾;秸秆还田;作物产量;作物养分;土壤钾素;灌淤土
【英文关键词】Long-term K fertilizer application, Wheat straw return to soil, Crop yield, Crop nutrition, Soil potassium, Irrigated soi
【中文摘要】通过在宁夏灌淤土区长达 14 年的连续施钾和小麦秸秆还田试验, 研究钾素投入对作物产量、养分和土壤钾素状况的影响。 结果表明:小麦秸秆还田和长期施用钾肥均可不同程度提高小麦和玉米的经济产量, 其中施钾年平均增产小麦 244 kg · hm − 2, 玉米 397 kg · hm − 2, 处理之间产量表现为氮磷钾肥配合秸秆还田>施用氮磷钾肥>氮磷肥配合秸秆还田>只施用氮磷肥。 定位后8~10年施钾肥开始显著有效, 玉米显效时间早于小麦;秸秆还田和钾肥的投入均可提高籽粒和秸秆的钾素吸收量, 秸秆含钾丰富, 籽粒钾含量仅占植株钾总量的13%~17%;施用钾肥可提高作物籽粒大中微量元素含量而降低秸秆中、微量元素含量, 促进籽粒对大部分元素的吸收; 长期不施钾肥处理(NP 和 NP+St)0~20 cm 土层土壤速效钾和缓效钾含量较定位开始时下降; 所有处理土壤全钾含量均表现下降, 下降幅度为 0.8~1.2 g · kg − 1。
【英文摘要】An experiment on the long-term application of potassium (K) fertilizer and wheat straw in irrigated soils of Ningxia, northwestern China began in 1993. The objective of the experiment was to determine the effect of K fertilizer application and wheat straw return to soil on crop nutrient content and yield and the status of soil K in plowed soil layers. The results show that K fertilizer and wheat straw increase yield of wheat and maize. K fertilizer treatments increase wheat yield by 244 kg · hm − 2 and maize yield by 397 kg · hm − 2 annually. The order of all treatments effect on yield is as follows: NPK+straw > NPK > NP+straw > NP. K fertilizer has a significant effect on crop yield when it is continuously applied for 8~10 years. Significant response of yield to K application occurs earlier in maize than in wheat. Furthermore, K fertilizer and wheat straw return to soil increase potassium content in the kernel and straw of the crops. There is a higher potassium content in straw, while it in kernels accounts for only 13%~17% of the total potassium content of plant. Furthermore, K fertilizer enhances the elements contents of kernels and accelerates element absorption by kernels. However, K fertilizer reduces trace- and micro-elements in straw. The content of 0~20 cm soil available K and slowly available K in non-potassium (NP and NP+Straw) treatments for long-term application decrease. Total K content in all treatment declines at a rate of 0.8~1.2 g · kg − 1.
【语种】中文
【第一作者】谭德水
【通讯作者】金继运
【期刊名称、卷期、页码】中国生态农业学报 2009,17(4):625 − 629
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【学科分类】农业基础学科

【题目】肉糜类制品质地的感官评定方法
【中文关键词】肉糜类制品; 质地特性; 感官评定; 感官评定方法
【英文关键词】mincedmeat products; texture characteristics; sensoryevaluation; criterion for sensory analysis
【中文摘要】为了提高肉糜类制品质地感官评定的准确性,采用强制定义和间接反映质地特性的方法制订适合肉糜类制品质地感官评定标准,通过大量试验得到了代表肉糜类制品硬度、脆性和黏着性的不同梯度的参照样品,确立了直观反映弹

性的对折程度、表征咀嚼性的咀嚼次数以及形象描述内聚性的方法。以火腿肠为试验材料,利用相关性分析和判别分析验证所建立的质地感官评分标准在感官评定时的准确度。结果表明:硬度、脆性、黏着性、弹咀嚼性和内聚性的感官评分与质构值间的相关系数分别为0.981、0.990、0.938、0.855、0.835和0.534(P<0.01) ,对火腿肠等级的判别正确率为100%。所建立的感官评定标准能很好的区分肉糜类制品的质地特性。

【英文摘要】Inorder to improve the accuracy of sensory evaluation, the methods for compulsory definition and indirect texture characteristics were adopted to establish a set of sensory evaluation methods suited for minced meat products.Through a great deal of experiments, the reference products those represent different hardness, fracturability and adhesiveness properties were found, the folding degree that intuition is ticly reflected springiness, the chewing frequency that indicated chewiness were established, and the description method that signified cohesiveness were established.Ham sausages were selectedas materials, the accuracyof sensory evaluation criteria formulated in this article were tested by correlation analysis and discriminant analysis, the texture characteristics correlation coefficient of hardness,fracturability, adhesiveness, springiness, cohesiveness and chewiness between the sensory evaluation and objective measurements were 0.981,0.990,0.938,0.855,0.835 and 0.534 (P<0.01) , respectively, and the discriminant.accuracy of the established discriminant functions basedonthe sensoryvalues of texture characteristics was 100.0%.Inconclusion, the criteriafor sensory analysis formulated in this article could distinguish the texture characteristics of minced meat products accurately.

【语种】中文

【第一作者】赵改名

【通讯作者】赵改名

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【学科分类】食品加工技术

【题目】秸秆内丝状真菌阻止外源真菌入侵

【中文关键词】秸秆; 降解; 玉米芯; 丝状真菌; 循环抑制;

【英文关键词】stalk; degradation; maize core; filamentous fungi; inhibition cycle;

【中文摘要】选取降解秸秆较快且形态差异较大的10株丝状真菌,以玉米秆芯为材料,研究其降解秸秆的协同性。结果表明:供试10株丝状真菌在侵入秸秆内部后都具有排斥其他丝状真菌侵入的倾向。利用平板对峙法研究这10株丝状真菌在培养基PDA上生长的相互影响,结果表明供试10株丝状真菌也普遍具有相互竞争和抑制的作用,没有发现促进生长现象。根据菌落形态、菌丝和孢子形态对10株丝状真菌进行了鉴定。在这10株真菌中,有3株(F1、F7、F10)是循环抑制,分类学上分别归属于Mucor lamprosporus lender,Neurospora sitophila Sh.Et dodge和Phytophthora cactorum(L.etC.)Schrot.。结论:侵入秸秆内10株丝状真菌阻止外源真菌入侵。 更多还原

【英文摘要】Cooperate in the degradation procedure in the core of the maize stalks between each 2 strains among 10 strains of filamentous fungi that could most effectively degrade stalks and colony morphologically different were studied.Results showed that each of the 10 filamentous fungi have the tendency to prevent other fungi penetrating into the space it already occupied.The method of two fungi grow on the medium of one plate were recruited in the study of the effects between each two strains among the 10 strains of fungi on the PDA medium.Results showed that competition and antagonism were seen between most of the 10 fungi,no growth acceleration were showed.The 10 strains of fungi were identified according the morphology of the colonies,the mycelium and the spores.Three(F1、F7、F10) of the 10 strains of fungi form an inhibition cycle,the three fungi taxonomically belong to Mucor lamprosporus lender,Neurospora sitophila Sh.Et dodge and Phytophthora cactorum(L.et C.) Schrot..In conclusion,the 10 filamentous fungi in the stalks prevent other fungi penetrating.

【语种】中文

【第一作者】刘保平

【通讯作者】刘保平

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【学科分类】生物学其他学科

【题目】减数分裂期高温对水稻颖花结实率影响的定量分析
【中文关键词】水稻; 高温; 减数分裂期; 结实率; 定量分析
【英文关键词】Rice; High temperature; Seed setting rate; Meiosis stage; Quantitative analysis
【中文摘要】以华粳1号和特优559为材料, 于减数分裂期, 设置高温(31℃、33℃、35℃、37℃、39℃、41℃)及历期(1 d、3 d、5 d)处理, 每日高温持续时间5 h (8:40—13:40), 另设自然环境对照, 分析了高温及其持续期对水稻颖花相对结实率的影响。结果表明, 33℃以下的温度对两供试材料的结实率无明显影响, 此后随温度及持续天数的增加结实率将逐步降低; 高温下日相对颖花结实率与温度的关系可用二次方程描述, 而减数分裂期高温对颖花结实率的总影响为逐日相对颖花结实率的乘积。进一步结合温度日变化规律, 讨论了温度日变化下日相对颖花结实率的定量方法。
【英文摘要】High temperature, especially happened at flowering stage and meiosis stage, would cause sterility of rice florets and became one of restricting factors of rice yield. With the global warming, the high temperature events will increase during crop growth process. In order to evaluate the effect of high temperature on yield quantitatively, it is important to quantify the relationship between temperature and seed-setting rate. Previous studies have focused on the above relationship during flowering stage, but litter discussed the relationship during meiosis stage. In this study a controlled experiment during meiosis stage was conducted at Jiangsu Academy of Agricultural Sciences, China with two cultivars, TY559 and HJ1 under six temperature levels (31, 33, 35, 37, 39, and 41°C) and three durations (1, 3, and 5 d). High temperature lasted five hours from 8:40 to 13:40 each day, and natural environment was set as CK. The effect of high temperature on seed setting rate and the quantitative relationship between seed setting rate and temperature were analyzed. The results showed that temperature below 33°C had no significant effect on seed setting rate, but with the increase of temperature and its duration the seed setting rate decreased gradually. The daily relative seed setting rate could be expressed in terms of temperature with a quadratic equation, and the total effect of high temperature during meiosis stage on relative seed setting rate could be expressed in the product of daily relative seed setting rates. Further, combining the diurnal change of temperature, the quantitative effect factor under the nature diurnal change pattern of temperature was dis-cussed. This study provided a quantitative method for calculating the effect of high temperature at meiosis stage on seed setting rate of rice, and would help to improve high temperature-induced sterility model in rice.
【语种】中文
【第一作者】石春林
【通讯作者】石春林
【期刊名称、卷期、页码】作物学报,34(4):627-631
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【学科分类】农业基础学科

【题目】农肥和化肥对东北黑土土壤氮素转化作用的研究
【中文关键词】氮循环; 反硝化损失; 氨挥发; NO3--N淋失;
【英文关键词】nitrogen cycling; denitrification loss; ammonia volatilization; nitrate leaching;
【中文摘要】在不同施肥处理条件下,分别定量测定了玉米田土壤氮素自生固氮作用、氨化作用、硝化作用、反硝化损失、氨挥发、NO3--N淋溶损失等氮素循环转化途径。研究结果表明,不施肥的土壤生态系统每年土壤全氮将减少-110.5kg/hm2。施肥能够有效地提高土壤氮素转化能力,农肥的氮素转化作用明显高于化肥的氮素转化作用。各处理反硝化损失的氮量为7.26~21.66kg/hm2,淋溶损失量为0.09~0.21kg/hm2,氨挥发损失的氮量为0~15.23kg/hm2。玉米田施肥处理总的氮素平衡处于盈余状态,不施肥处理的氮素平衡处于亏缺状态。单施农肥的盈余量高于单施化肥及农肥化肥配比处理的盈余量,低量施肥模式土壤中氮素的输入和输出基本处于平衡状态,高量施肥模式土壤中氮素处于盈余状态,虽有利于培肥地力,但却造成了肥料的浪费。 更多还原
【英文摘要】The main nitrogen cycling pathways,such as autogenic nitrogen fixation,ammonification,nitrification,denitrification,ammonia(NH3) volatilization,nitrate (NO-3-N) leaching and N uptake by crops,were monitored under different fertilizer treatments in maize field. The main results showed that total nitrogen annually in soil ecosystem without fertilizers was decreased 110.5 kg/hm2. Fertilizers application could advance the nitrogen transformation and the nitrogen transformation of manure fertilizer treatments was better than that of chemical fertilizer treatments. The annual denitrification loss of different treatments was 7.26~21.66 kg/hm2,NO-3-N leaching loss of different treatments was 0.09~0.21 kg/hm2,NH3 volatilization loss was 0~15.23 kg/hm2. Nitrogen of fertilizers treatments in maize field was oversupplied,but the nitrogen balance

without fertilizer treatment was wane. The surplus quantities of only manure fertilizers were higher than those of chemical fertilizers. The N of input and output of low fertilizer pattern was in balance,but the N of high fertilizer pattern was oversupplied. Although this was benefit to increasing the soil nutrients,the superfluous fertilizers were wasted.
【语种】中文
【第一作者】赵伟
【通讯作者】赵伟
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【学科分类】土壤学

【题目】鲁西北潮土区小麦养分限制因子及农学效率研究
【中文关键词】小麦; 潮土; 产量; 养分限制因子; 农学效率
【英文关键词】无
【中文摘要】在当地潮土土壤条件下,在小麦生产上研究 ASI 方法推荐施肥对小麦的产量、养分的农学效率、养分回收率的影响。结果表明,氮素为当地小麦生产的主要限制因子,其次是磷素,钾素对小麦增产影响最小。N、P、K 减素处理较推荐施肥 (OPT) 处理减产均达到显著性水平,分别减产 22. 4%、14. 4%、13. 4%。农民习惯施肥(FP) 、60% OPT N 和 OPT 处理间小麦产量没有明显差异。在本研究中,氮、磷、钾的农学效率分别为 N 6. 3 kg /kg、P2 O5 12. 9 kg /kg、K2 O 10 kg /kg。氮、磷、钾肥料的当季回收率分别为16. 41%、17. 27%、27. 27%。
【英文摘要】无
【语种】中文
【第一作者】魏建林
【通讯作者】崔荣宗
【期刊名称、卷期、页码】中国土壤与肥料 2011(6):90-93
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【引文索引号】null
【学科分类】农业基础学科

【题目】Effect of High Temperature at Meiosis Stage on Seed-Setting Rate in Rice
【中文关键词】无
【英文关键词】rice; high temperature; seed-setting rate; meiosis stage; fitting equation
【中文摘要】无
【英文摘要】High temperature, especially at flowering stage and meiosis stage, causes sterility of florets and yield reduction in rice (Oryza sativa L.). To evaluate the effect of high temperature at meiosis stage on rice yield quantitatively, 2 rice cultivars, Huajing 1 (japonica) and Teyou 559 (indica hybrid) were treated with ladder temperatures (31, 33, 35, 37, 39, and 41 ° C) for 1, 3, and 5 d at meiosis stage in Artificial Climate incubators. The high temperature stress was conducted for 5 h (8:40 – 13:40) at each treatment day. The natural temperature treatment was set as the control. The seed-setting rates of both cultivars were slightly affected (P>0.05) when temperature was lower than 33 ° C. But with the increase of temperature and its duration, seed-setting rate decreased gradually. The relationship between daily relative seed-setting rate (RSS) and temperature was fitting with a quadratic equation. The total effect of high temperature at meiosis stage on relative RSS was described with the products of daily RSS.
【语种】英文
【第一作者】石春林
【通讯作者】石春林
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【学科分类】农业基础学科

【题目】农肥和化肥对黑土农田生态系统氮素循环与平衡影响的研究
【中文关键词】氮循环; 反硝化损失; 氨挥发; NO3--N淋失;
【英文关键词】nitrogen cycling; denitrification loss; ammonia volatilization; nitrate leaching;
【中文摘要】在不同施肥处理条件下,分别定量测定了玉米田土壤氮素自生固氮作用、氨化作用、硝化作用、反硝化损失、氨挥发、NO3--N淋溶损失等氮素循环转化途径。研究结果表明,不施肥的土壤生态系统每年土壤全氮将减少-110.5kg/hm2。施肥能够有效地提高土壤氮素转化能力,农肥的氮素转化作用明显高于化肥的氮素转化作用。各处理反硝化损失的氮量为7.26~21.66kg/hm2,淋溶损失量为0.09~0.21kg/hm2,氨挥发损失的氮量为0~15.23kg/hm2。玉米田施肥处理总的氮素平衡处于盈余状态,不施肥处理的氮素平衡处于亏缺状态。单施农肥的盈余量高于单施化肥及农肥化肥配比处理的盈余量,低量施肥模式土壤中氮素的输入和输出基本处于平衡状态,高量施肥模式土壤中氮素处于盈余状态,虽有利于培肥地力,但却造成了肥料的浪费。
【英文摘要】The main nitrogen cycling pathways,such as autogenic nitrogen fixation,ammonification,nitrification,denitrification,ammonia(NH3) volatilization,nitrate (NO-3-N) leaching and N uptake by crops,were monitored under different fertilizer treatments in maize field. The main results showed that total nitrogen annually in soil ecosystem without fertilizers was decreased 110.5 kg/hm2. Fertilizers application could advance the nitrogen transformation and the nitrogen transformation of manure fertilizer treatments was better than that of chemical fertilizer treatments. The annual denitrification loss of different treatments was 7.26~21.66 kg/hm2,NO-3-N leaching loss of different treatments was 0.09~0.21 kg/hm2,NH3 volatilization loss was 0~15.23 kg/hm2. Nitrogen of fertilizers treatments in maize field was oversupplied,but the nitrogen balance without fertilizer treatment was wane. The surplus quantities of only manure fertilizers were higher than those of chemical fertilizers. The N of input and output of low fertilizer pattern was in balance,but the N of high fertilizer pattern was oversupplied. Although this was benefit to increasing the soil nutrients,the superfluous fertilizers were wasted.
【语种】中文
【第一作者】赵伟
【通讯作者】赵伟
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【学科分类】土壤学

【题目】水稻逐日开花量与结实率的估算方法
【中文关键词】水稻;逐日开花量,结实率,估算
【英文关键词】Rice; daily flowering amount; daily seed-setting; estimation
【中文摘要】根据稻穗开花习性、结实率动态变化规律,结合稻田逐日始花穗数及其平均穗粒数和结实率等特征,提出了稻田逐日开花量和结实率的估算方法。并以华粳1号为试验材料,观察了其稻穗逐日开花量百分率及稻田逐日始花穗数、总颖花数和结实率,估算了稻田逐日开花量及结实率。结果表明:华粳1号稻田开花量呈左偏态分布,开花高峰期出现在始花后的4-9天,日均开花量占总颖花的15%以上;而颖花结实率随花后天数呈衰减变化。
【英文摘要】According to flowering habit of rice panicle and daily panicle number of first flowering and its mean grain number and seed-setting, a calculation method on daily flowering amount and its seed-setting of rice filed was proposed. Then HG1 as experiment material, the flowering habit of its panicle and daily panicle number of first flowering and its mean grain number and seed-setting were observed, and the daily flowering amount and seed-setting was estimated. The results showed the daily flowering number of HG1 could be expressed in left-distribution, and the highest stage appeared at 4-9 days after the starting flower and the daily flowering amount was up 15%. The seed-setting of florets declined with the days generally.
【语种】中文
【第一作者】石春林
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【学科分类】农业基础学科

【题目】利用DGGE-cloning技术分析农肥和化肥施用对黑土细菌多样性的影响
【中文关键词】农肥; 化肥; 黑土; 细菌多样性; DGGE-cloning;
【英文关键词】manure fertilizer; chemical fertilizer; Black Soil; bacterial diversity; DGGE-cloning;
【中文摘要】本试验以东北黑土为研究对象,采用DGGE-cloning测序技术,研究了不同施肥制度和肥料用量对黑土土壤细菌多样性的影响。本实验共设六个处理,分别为:对照,施用农肥低量,施用农肥高量,施用化肥低量,施用化肥高量和农肥和化肥1:1的处理。试验得出的DGGE图谱分析表明,施用较高量的农肥处理中土壤细菌16SrDNA条带数、多样性指数及均匀度指数均要高于其他处理,聚类分析显示,施用化肥的土壤与其他处理相比土壤细菌群落结构差异较大,相似性只有53%,说明施用化肥与施用农肥比较,可以显著的改变土壤细菌的群落结构。从DGGE凝胶上切取9条带进行DGGE-cloning测序,结果表明,施用农肥和化肥均可对土壤的细菌群落结构产生影响,且施肥制度对细菌群落结果的影响要大于施肥量,施用农肥可以提高细菌多样性。
【英文摘要】The DGGE-cloning sequencing method was used to study the bacteria diversity under different fertilization treatments in Black Soil in Songnen Plain.DGGE fingerprint indicated that the number of bands of bacterial 16SrDNA,the bacterial diversity indexes and homogeneous degrees indexes in the treatment of higher application amount of manure fertilizer were all higher than those of other treatments.Cluster analysis demonstrated that fingerprint of application of chemical fertilizer were different from others with similarity being only 53%,which indicated that chemical fertilizer is better than manure fertilizer in changing the bacterial communities in the soil.The nine bands are selected from DGGE gel and DGGE-cloning sequenced,the results showed that application of manure and chemical fertilizer both have effect on the community structure of soil bacteria,and fertilization systems more than fertilization rate.And application of manure fertilizer could increase the diversity of bacteria in the Black Soil.
【语种】中文
【第一作者】廖莎
【通讯作者】廖莎
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【学科分类】农学其他学科

【题目】漫岗丘陵区黑土村级农田土壤养分空间变异研究
【中文关键词】农田黑土; 土壤养分; 空间变异; 地统计学; GIS
【英文关键词】Black soil; Soil nutrients; Spatial heterogeneity; Geostatistics; GIS;
【中文摘要】基于地理信息系统(GIS)和地统计学方法,对黑龙江省漫岗丘陵区的拜泉县富业村农田黑土耕层采集的180个样本的有机质、碱解氮、速效磷和速效钾四种养分要素的空间变异规律进行了分析和探讨。研究表明,有机质变异函数曲线的理论模型符合高斯模型,碱解氮、速效磷和速效钾的理论模型表现为指数模型。碱解氮、速效磷和速效钾属于中度空间相关,受结构性因子和随机因子的影响,但程度有所差异。有机质属于高度空间相关,其变化主要受结构性因子的影响。碱解氮的相关距离最大为4405 m,有机质的相关距离最小为234 m,速效磷和速效钾的相关距离分别为543 m和1128 m。施肥是导致该村土壤养分空间变异性的主要原因。基于土壤养分状况和空间分布特征,目前需要考虑对该村土壤氮、磷、钾进行分区管理。利用地统计学分析的方法,对合理利用土地、综合治理水土流失的以及指导当地合理施肥等都有重要的意义。
【英文摘要】Geostatistics combined with geographical information system(GIS) were applied to treatment and analyze the spatial variability of 180 samples of soil nutrients in topsoil in Fuye village of Heilongjiang Province.Soil nutrient data in this study included organic matter,available N,P and K.The results indicated that the semivariograms of organic matter were best described by the Gaussian model,available N,P and K were best described by exponential model.The spatial variability of available N,P and K were moderately dependent and affected by both structural and random factors.However,their spatial heterogeneity degree was different.The spatial correlation of organic matter was highly dependent therefore,changes in organic matter mainly affected by structural factors.AvailableN had the longest correlation range(4405 m),and organic matter had the shortest(234 m),whereas available P was 543 m and available K was 1128 m.Spatial variability of soil nutrients could be contributed to the unbalance fertilization in this area.Based on the p resent

situation and spatial distribution characteristics of soil nutrients,the elements in nutrient management were N、K and P in the study village.The analysis was useful to inform strategic planning of using farmland,to guide fertilizer application and to control soil erosion land degradation of Blacksoil in in the locality. 更多

【语种】中文
【第一作者】吴晓磊
【通讯作者】吴晓磊
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【学科分类】土壤学

【题目】砂姜黑土区控释尿素与普通尿素掺混对小麦-玉米轮作定位产量及氮肥利用率的影响
【中文关键词】控释尿素;普通尿素;掺混比例;小麦;玉米;产量;定位试验
【英文关键词】controlled-release urea;conventional urea;blend ratio;wheat;corn;yield;location test
【中文摘要】在驻马店新坡村进行了小麦-玉米轮作制下的控释尿素与普通尿素掺混比例定位试验研究。结果表明:控释尿素与普通尿素掺混处理的小麦、玉米产量均以70%控释尿素+30%普通尿素处理最好,第1年和第2年的小麦产量分别比100%普通尿素处理增产17.0%和21.1%,玉米产量分别比普通尿素处理增产16.2%和16.2%;氮肥利用率与产量结果一致,均以70%控释尿素+30%普通尿素处理最高,分别为53.9%和54.5%。
【英文摘要】The location tests of different blend ratio between controlled-release urea and conventional ureain wheat-corn crop rotation system in Xinpo Village Zhumadian city are studied. The results show that: theyield with the blend ratio between 70% controlled-release urea and 30% conventional urea is the best. Inthe first and second year,the yields of wheat increase 17.0% and 21.1% compared with the 100%conventional urea test, the yields of corn increase 16.2% and 16.2% compared with the conventionalurea test. The same results of nitrogen utilization efficiency and yield are the highest on 70% controlled-release urea and 30% conventional urea treatment, respectively, 53.9% and 54.5%.
【语种】中文
【第一作者】孙克刚
【通讯作者】孙克刚
【期刊名称、卷期、页码】磷肥与复肥 2010,25(2):63-64
【论文发表时间】2010-03-20 00:00:00
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【学科分类】农业基础学科

【题目】一株琼脂粉降解细菌的分离
【中文关键词】细菌; 活菌数; 琼脂粉; 降解;
【英文关键词】bacterium; alive bacteria consentration; agar; degradation;
【中文摘要】用画线接种的方法把58株从堆肥中分离的细菌接种于只含琼脂粉和水分的平皿上,室温培养数天后发现有1株细菌(BR5-1)能明显长出菌落。用这株细菌接种于含琼脂粉(2、8g·L-1)的无菌水悬液以及对照生理盐水和LB中,摇床培养48h后稀释倒平皿测活菌数。结果表明,活菌浓度在含琼脂粉的液体中(6.5×103、6.0×103cfu·mL-1)明显比在对照处理生理盐水(6.1×102cfu·mL-1)中高,但是明显比在对照处理LB培养基(1.1×108cfu·mL-1)中低。试验表明这株菌能够降解琼脂粉。
【英文摘要】One among 58 strains of bacteria isolated from compost showed clear colonies after a few days of growth on the plates containing medium made of only agar and water.Water suspention contained only agar(2,8 g·L-1) with the two controls(normal saline,LB medium) was inoculated with the bacteria(BR5-1) to see whether there were increasement of the alive bacteria consentration after 48 h of growth.Results showed that there were clear increasement of the alive bacteria concentration in the agar suspention(6.5×103,6.0×103 cfu·mL-1) compared to that in the normal saline control(6.1×102 cfu·mL-1),and far lower than that in LB control(1.1×108 cfu·mL-1).In conclusion,the bacteria strain(BR5-1) could degrade agar.
【语种】中文

【第一作者】刘保平
【通讯作者】刘保平
【期刊名称、卷期、页码】东北农业大学学报 2009年04期 第40 卷42~44
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【学科分类】微生物学

【题目】不同施氮运筹对夏玉米产量、 净收益及氮肥利用率的影响
【中文关键词】夏玉米; 氮肥运筹; 产量; 净收益; 氮肥利用率
【英文关键词】Summer maize; Nitrogen distribution; Yield; Net return; Nitrgen use efficiency
【中文摘要】氮肥管理是农业可持续发展面临的重大挑战。在测土提出合理施肥量OPT(N 210,P O 90,K20 60 k加mz)的前提下,在襄汾县通过田间试验研究了5种氮肥运筹方式对夏玉米产量、 净收益及氮肥利用率的 影响,结果表明,与对照(OPT-N)相比,不同氮肥运筹均明显提高夏玉米产量、 净收益,提高玉米籽粒和秸秆 的含氮量及玉米的吸氮量;OPT3处理可以获得10 102 kg/hm 的产量,较不施氮肥增产23.4%,每千克纯氮 可以生产9.1 kg的籽粒,净收益可达15 319元/hm ,较对照增收19.3%,同时肥料利用率可达47.O%,是最 适宜的氮肥运筹方式;OPT1也可获得较高的产量和净收益,分别为9 897 k m 和14971元/hm ,氮肥的农 学效率为8.2 kg,产量较对照增产20.9%,净收益较对照增收16.6%,但氮肥的利用率相对较低,为38.6%,也 是可以接受的氮肥运筹方式。该研究成果可为山西省夏玉米生产提供理论支撑和实践指导。
【英文摘要】Nitrogen management remains one of the most challenrng tasks for sustainable agriculture.Based on soil analysis and fertilizer recommendation OPT(N 210,P105 90,K20 60 kg/hm),field experiment was conducted in a randomized design with six treatments and three replicates to study the influence of the distribution of nitrogen application on summer maize yield,net re- turn,and agronomic efficiency of nitrogen application as well as nitrogen use efficiency.The results showed that the distribution of nitrogen application had a significant effect on summer maize yield,net return,the nitrogen content of grain and stalk as well as ni- trogen uptake.The treatment of OPT3(1/2 N applied at V 5-6 stage and 1/2 N as topdressing at jointing stage of maize growth) produced the highest yield and net return by 10 102 kg/hm。and 15 3 19 yuan/hm ,respectively.Comparing with the treatment of without ni~ogen application(OPT—N),yield and net return increased by 23.4%and 19-3%,respectively.At mean time,agronomic efficiency of nitrogen and nitrogen use efficiency were 9.1 kg and 47.0%.respectively.This indicated that OPT3 was optimummanner of nitrogen distribution.The treatment of OPT1(N applied at jointing stage of maize growth)helped produce better yield(9 897 kg/hm)and net return(14 971yuan/hm).Compared with OPT—N,yield and net return increased by 20.9%and 16.6%,re— spectively.But ni~ogen agronomic efficiency(8.2 kg)and nitrogen use efficiency(38.6%)were lower than OPT3.OPT1 also was an option manner.These results will provide theoretic and practice guide for rational fertilization of summer maize in southern region of Shanxi province.
【语种】中文
【第一作者】王宏庭
【通讯作者】王宏庭
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【题目】氮肥用量对夏玉米产量、 收益、 农学效率及氮肥利用率的影响
【中文关键词】夏玉米; 氮肥; 产量; 净收益; 氮肥利用率

【英文关键词】Summer maize;Nitrogen fertilizer;Yield;Net return;Nitrogen use recovery
【中文摘要】对氮肥的有效管理是农业可持续发展面临的重大挑战。通过田间小区试验,在山西襄汾研究了不同氮肥用量对夏玉米产量、收益、农学效率及氮肥利用率的影响。结果表明:在施氮(N)0~350 kg/hm:的范围内,氮肥显著增加了夏玉米生物量、产量和净收益;施用氮肥210 kg/hmz获得了最高产量(9 897 kg/hm)和最高的净收益(14 970元/hm),较不施氮肥处理增产1 712 kg/hm ,增产率达20.9%,增收2 132元/hm ,氮肥的农学效率为8.2 kg/kg,同时氮肥利用率可达到38.6%。产量和施氮量的关系、纯收益和施氮量的关系均符合二次函数曲线,求得最高产量施肥量为235 kg/hm。,最佳经济施肥量为194 kg/hm 。这将为山西省南部夏玉米的合理施肥提供理论依据和实践指导。
【英文摘要】Effective nitrogen management remains one of the most challenging tasks for sustainable agrl ’ culture.This field ex- pefiment was conducted in a randomized design with three replicates to study the influence of nitrogen application rate on summer maize yield,net return,and agronomic efficiency of nitrogen application as well as nitrogen use recovery.The results showed that nitrogen application increased significantly biomass,grain yield and net return of summer maize in the range of 0~350 kg/hmNapplied.The highest yield(9 897 kg/hm)and net return(14 790 yuan]hmwere obtained by the N treatment of 210 kghm (N210). Compared with the treatment of no niffogen application(N0),yield increased by 1 712 kg/hm or 20.9%with N agronomic effieien— cy of 8.2 kg/kg,net return increased by 2 1 32 yuan/hm , and nitrogen use recovery was obtained by 38.6%at mean time.The rela—tion of nitrogen application rate and yield,net return was fit by the quadratic function,and the highest rate and optimum rate of ni— trogen application were calculated by 235 and 194 kg/hm ,respectively. This will provide theoretic and practice guide for rational fertilization for summer maize in southern region of Shanxi province.
【语种】中文
【第一作者】赵萍萍
【通讯作者】赵萍萍
【期刊名称、卷期、页码】山西农业科学2010,38(11):43—46,80
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【题目】冬小麦氮养分高效利用技术集成研究
【中文关键词】冬小麦;产量;施肥;氮肥利用率
【英文关键词】winter wheat;yield;fertilization;N use efficiency
【中文摘要】有效的氮肥管理是农业可持续发展面临的重大挑战。通过田间试验,研究优化施肥结合秸秆还田能否达到降低氮肥施用量、提高肥料利用率的效果。结果表明,施肥仍是提高冬小麦产量的重要措施;与当地施肥推荐量比较,优化施肥结合秸秆还田措施及施用生物腐熟剂可以达到提高产量、增加收益、减少1/4氮投入的效果,同时氮肥利用率提高17.1百分点。
【英文摘要】:Effective nitrogen management is one of the most challenging tasks for sustainable agriculture.This field experi- menl was conducted in a randomized design with four replicates to study the effect of optimizing fertilizer application and stalk re- utilization in the fields of winter wheat.The results showed that ferlilizer application was still an important measure to improve yield.Comparing to local fertilizer recommendations,the treatment of optimizing fertilization and stalk reutilization in the fields could increase the yield and profit and decrease N input by 1/4.At the mean time,the rocovery of nitrogen use incma~d percent- age by 17.1.
【语种】中文
【第一作者】马志远
【通讯作者】马志远
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【学科分类】农业基础学科

【题目】Design and validation of a low cost surface plasmon resonance bioanalyzer using microprocessors and a touch-screen monitor
【中文关键词】无
【英文关键词】Bioanalyzer
Surface plasmon resonance
Micro-flow cell
Touch-screen monitor
【中文摘要】无
【英文摘要】An economical and high-performance bioanalyzer, with no use of laptop computer, based on the use ofTSPR1k23 biosensorswas systematically designed, and validated experimentally for its high performance.The analyzer is composed of a micro-flow cell, a thermoelectric cooler (TEC), a clamp, a touch-screenmonitor, and an electronic control unit (ECU) incorporated with photoelectric conversion device. Themicro-flow cell is made of stainless steel with high thermal conductivity, and the micro-flow system isbased on PID temperature-controlled algorithm to keep the constant temperature (25 ◦ C) of the liquidsample via thermal exchange with the clamp. With a peristaltic pump implemented by an injection loopflowsystem, the bioanalyzer allows the core sensor tobecompletely exposedtosamples. The touch-screenmonitor displays the normalized response signal values updated every 0.25 s, with a typical noise levelless than 5 RU (response unit) within 2 h. The bioanalyzer was validated using hepatitis B surface antigen(HBsAg) as an example. Anti-HBsAg monoclonal antibody is adhered to the surface of the sensor chip by abifunctional cross-linker with the technology of self-assembly. The duration of the HBsAg measurementonly lasts 5 min with a dilution factor ranging from 200 to 1200, optimized with a R-squared value 0.998.The results suggested that the bioanalyzer has higher selectivity, lower cost, expanded detection limit,and shorter measuring time as compared with the HBsAg ELISA kit, especially for low concentrations ofanalyte.
【语种】英文
【第一作者】胡建东
【通讯作者】胡建东
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【学科分类】分子生物学

【题目】Novel design of a data acquisition and analysis system for surface plasmon resonance bioanalyzer using labview virtual instrument
【中文关键词】无
【英文关键词】Virtual Instrument; LabVIEW; bioanalyzer;
single chip
【中文摘要】无
【英文摘要】A novel data acquisition and analysis system hasbeen developed for a surface plasmon resonance (SPR)bioanalyzer, which is based on the use of TSPR1k23 biosensorand composed of a microflow cell, a clamp, and aphotoelectronic conversion device. A virtual instrumentconsists of a computer-based platform that is equipped withpowerful application software and cost-effective hardware,which outperform the functions of the instrument for obtainingdata from the biosensor. In this system, ThePIC24HJ32GP302 microprocessor interfacing with a 16bitADS8326 analog-to-digital converter is used to transform thephotoelectronic signals from the CCD photodetector and thecommunication between the microprocessor and the computeris achieved through the USB-RS232C serial port converteradapter designed by CP2102 chip. The system software fordescribing the biomolecular interaction and sampleconcentration is programmed with LabVIEW graphicprogramming environment, which be mainly introduced in thispaper. The software modules reveal important information forsensor golden surface that SPR signal can be identified aswell and the values of response unit (RU), refractive index (RI)and sample concentration can be computed correspondingly.Because it is based on computer, the system ’ s function isflexibly defined and meets user ’ s requirement easily. This dataacquisition and analysis system is more

directviewing,economical , high efficient, friendly in comparison with otherdata acquisition and analysis system based on VB language orassemble language. Some biochemistry experimental resultsshow that it is a highly performance data acquisition andanalysis system.
【语种】英文
【第一作者】胡敬芳
【通讯作者】胡建东
【期刊名称、卷期、页码】Electronic Measurement & Instruments 2009,16-19:1031-1035
【论文发表时间】2009-08-01 00:00:00
【引文索引类型】SCI
【引文索引号】无
【学科分类】分子生物学

【题目】Novel plating solution for electroless deposition of gold film onto glass surface.
【中文关键词】无
【英文关键词】Electroless plating; Gold film; HAuCl4/H2O2
【中文摘要】无
【英文摘要】In this paper, a simple and environmentally friendly electroless plating solution of chloroauric acid (HAuCl4) and hydrogen peroxide (H2O2)for depositing gold film onto (3-aminopropyl)-trimethoxysilane (APTMS) -coated glass surface has been developed. APTMS as an adhesivereagent was used to attach the gold nanoparticles (AuNPs) onto the glass substrate. These AuNPs could be regarded as the preferential nucleationor catalytic sites for gold electroless reduction, which accelerated the reduction of Au3+ on the glass surface and effectively prevented theformation of gold metal in the bulk solution. During the gold plating process, H2O2 as the reducing agent was thermodynamically capable ofreducing Au3+ ions from the HAuCl4 precursor to gold atoms, which deposited onto the glass surface and finally formed the continuous gold film.The resulting gold film was characterized with X-ray diffraction (XRD), X-ray photoelectron spectroscopy (XPS), scanning electron microscope(SEM) and atomic force microscope (AFM), respectively
【语种】英文
【第一作者】胡建东
【通讯作者】胡建东
【期刊名称、卷期、页码】Surface & Coatings Technology2008,202:2922-2926
【论文发表时间】2007-10-01 00:00:00
【引文索引类型】SCI
【引文索引号】2.5476360002e+011
【学科分类】分子生物学

【题目】Retrocyclin 2: a new therapy against H5N1 virus in vivo and vitro
【中文关键词】无
【英文关键词】Avian influenza virus Chicken embryos H5N1 virus Influenza virus MDCK cells Retrocyclin 2
【中文摘要】无
【英文摘要】We tested the ability of retrocyclin 2, atype of h defensin, to protect cells and chickenembryos from infection by H5N1 highly pathogenicavian influenza virus. A gene fragment of retrocyclin2 was designed based on the protein sequence ofretrocyclin 2 and cloned into the eukaryotic expressionvector pcDNA4.01 (HismaxA), named pcDNA4-RC2. The expression vector pcDNA4-RC2 protectedMDCK cells and chicken embryos from infection bythe H5N1 virus through inhibition of virus replicationand viral mRNA transcription. Retrocyclin 2 istherefore effective in preventing H5N1 virus infectionin vivo and in vitro and could be considered as anew therapy for H5N1 influenza and other diseases
【语种】英文
【第一作者】梁庆龙 周凯
【通讯作者】何宏轩
【期刊名称、卷期、页码】Biotechnology Letters2010,32: 387 – 392
【论文发表时间】2009-11-01 00:00:00
【引文索引类型】SCI

【引文索引号】2.7454260001e+011
【学科分类】兽医学

【题目】Development and validation of a recombinant capsid protein-based ELISA for detection of antibody to porcine circovirus type 2
【中文关键词】无
【英文关键词】Porcine circovirus type 2; Nuclear localization signal-truncated capsid protein; ELISA; Antibody detection
【中文摘要】无
【英文摘要】Porcine circovirus type 2 (PCV2) has been recently associated with a number of disease syndromes, especially postweaning multisystemicwasting disease (PMWS). Herein, an alternative indirect enzyme-linked immunosorbent assay (ELISA) for detection of PCV2 antibodywas developed using nuclear localization signal-truncated capsid protein of PCV2 produced in Escherichia coli (CAP ELISA). Thisassay was validated by comparison with an indirect immunofluorescence assay (IIF) and a PCV2-based ELISA. The diagnostic sensitivity(DSN), specificity (DSP) and accuracy of the CAP ELISA were 95.3%, 93.9% and 95.1%, compared with IIF on 1080 field serumsamples, and 93.3%, 84.2% and 91.1%, compared with the PCV2-based ELISA on 79 field sera, respectively. Cross-reactivity assayshowed that this assay was PCV2-specific. Repeatability tests revealed that the coefficients of variation of positive sera within andbetween runs were less than 15%. This ELISA is simpler to produce and perform, time-saving and suitable for large scale surveys ofPCV2 infection at low cost and the evaluation of the efficiency of various vaccines against PCV2.
【语种】英文
【第一作者】商绍彬
【通讯作者】周继勇
【期刊名称、卷期、页码】Res Vet Sci.2008,84(1):150-157
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【引文索引类型】SCI
【引文索引号】2.5193500002e+011
【学科分类】兽医学

【题目】A multiplex PCR for rapid and simultaneous detection of porcine circovirus type 2, porcine parvovirus, porcine pseudorabies virus, and porcine reproductive and respiratory syndrome virus in clinical specimens
【中文关键词】无
【英文关键词】Multiplex PCR (mPCR) Porcine circovirus type2 (PCV2) Porcine parvovirus (PPV) Porcine pseudorabies virus (PRV) Porcine reproductive and respiratory syndrome virus (PRRSV)
【中文摘要】无
【英文摘要】A multiplex PCR (mPCR) assay was developedand evaluated for its ability to simultaneously detect multipleviral infections of swine. Specific primers were designed foreach of the following four DNA or RNA viruses: porcinecircovirus type 2 (PCV2), porcine parvovirus (PPV), pseudorabiesvirus (PRV), and porcine reproductive andrespiratory syndrome virus (PRRSV). Each target produceda specific amplicon with a size of 353 bp (PCV2), 271 bp(PPV), 194 bp (PRV), or 434 bp (PRRSV). The assay wassensitive and specific in detecting each target agent incomposite cell cultures and clinical specimens. Results frommPCR were confirmed by PCR for individual viruses and byvirus isolation. In conclusion, the mPCR has the potential tobe useful for routine molecular diagnosis and epidemiology
【语种】英文
【第一作者】岳丰雄
【通讯作者】崔尚金
【期刊名称、卷期、页码】Virus Genes2009,38: 392-397
【论文发表时间】2009-02-01 00:00:00
【引文索引类型】SCI
【引文索引号】2.6524790001e+011
【学科分类】兽医学

【题目】Development and validation of reverse transcription loopmediated isothermal amplification for detection of PRRSV
【中文关键词】无
【英文关键词】Porcine reproductive and respiratory
syndrome virus Reverse-transcription loop-mediated
isothermal amplification
【中文摘要】无
【英文摘要】To establish a reverse-transcription loop-mediatedisothermal amplification (RT-LAMP) method for rapiddetection of porcine reproductive and respiratory syndromevirus (PRRSV), four primers specific to six regions of the Ngene were designed. After amplification in an isothermalwater bath for 1 h, samples containing PRRSV generatedthe expected ladder-like products while porcine parvovirus,porcine circovirus, classic swine fever virus, pseudorabiesvirus, and swine testis cells generated no product. Thesensitivity and specificity of the RT-LAMP assay wereevaluated by comparison with reverse-transcription polymerasechain reaction (RT-PCR) and real-time PCR.Because it is specific and simple, the RT-LAMP assay willbe useful for the diagnosis of PRRSV infection.
【语种】英文
【第一作者】陈长木
【通讯作者】崔尚金
【期刊名称、卷期、页码】Virus Genes2010,40: 76-83
【论文发表时间】2009-11-01 00:00:00
【引文索引类型】SCI
【引文索引号】无
【学科分类】兽医学

【题目】Development and validation of an immunogold chromatographic test for on-farm detection of PRRSV
【中文关键词】无
【英文关键词】Immunochromatographic test strip
Porcine reproductive and respiratory
syndrome virus
【中文摘要】无
【英文摘要】An immunochromatographic test strip was developed to detect porcine reproductive and respiratorysyndrome virus (PRRSV). The test uses two gold-labeled monoclonal antibodies: D5 against recombinantnucleocapsid protein (rN) and E9 against recombinantMprotein (rM). In the test, PRRSVbinds to a mixtureof D5 and E9 labeled with colloidal gold; the complexes move through a membrane and are captured byrabbit anti-rM and anti-rN antibodies at a test line, producing a reddish-purple band because of theincreased concentration of gold. Unbound monoclonal antibodies move past the test line to be capturedby goat anti-mouse antibodies, producing a band at a control line. In samples without PRRSV or withlow virus concentration, a band appears only at the control line. A crossover-trial demonstrated that thetest strip was highly specific for PRRSV. The test strip detection limit was between 7.8×103 and 1.6×104TCID50/ml. Analysis of 100 clinical samples indicated that the sensitivity, specificity, and accuracy of theimmunochromatographic test strip relative to reverse transcription polymerase chain reaction (RT-PCR)were 97.0, 93.9, and 96.0%, respectively. Because the test is simple and rapid, it can be used by an unskilledperson to detect PRRSV in the field.
【语种】英文
【第一作者】周胜华
【通讯作者】崔尚金
【期刊名称、卷期、页码】Journal of Virologlcal Merhods2009,160:178-184
【论文发表时间】2009-05-01 00:00:00
【引文索引类型】SCI
【引文索引号】2.6812160003e+011
【学科分类】兽医学

【题目】Development of an immunochromatographic strip for the detection of antibodies against foot-and-mouth disease virus serotype O.

【中文关键词】无
【英文关键词】Foot-and-mouth disease
ELISA
Immunochromatographic strip
【中文摘要】无
【英文摘要】An immunochromatographic strip was developed for the serological detection of type O foot-and-mouthdisease (FMD) in swine. In the strip, the expressed protein of VP1, the main protective antigen of FMDV,labeled with colloidal gold was used as the detector, the staphylococcal protein A (SPA) and swine antifoot-and-mouth disease virus (FMDV) antibody were blotted on the nitrocellulose membrane for the testand control lines, respectively. 296 swine serum samples were collected to evaluate the characteristics ofthe strip in comparison with existing commercial liquid-phage blocking ELISA (LPB ELISA) kit and peptideELISA kit. The strip was shown to be of high specificity and sensitivity. Furthermore, the dipstick assaybased on the strip is rapid (5 min) and easy to perform with no requirement of professional skills, reagentsnor equipment. This suggests that the immunochromatographic strip is an acceptable alternative for usein clinical laboratories lacking specialized equipment and for field diagnosis.
【语种】英文
【第一作者】杨苏珍
【通讯作者】张改平
【期刊名称、卷期、页码】Journal of Virological Methods2010,165:139-144
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【引文索引类型】SCI
【引文索引号】2.777637e+011
【学科分类】兽医学

【题目】Development of a peptide-based immunochromatographic strip for differentiation of serotype O Foot-and-mouth disease virus – infected pigs from vaccinated pigs
【中文关键词】无
【英文关键词】Foot-and-mouth disease; immunochromatographic strip; nonstructural protein; peptide
【中文摘要】无
【英文摘要】An immunochromatographic strip for discriminating Foot-and-mouth disease virus (FMDV)infected from vaccinated pigs was developed based on synthetic peptide. Five peptides designed from theamino acid sequences of nonstructural proteins (NSP) of FMDV were synthesized, and pep5 located in NSP3B reacted strongly with serum from FMDV-infected pigs but did not react with serum samples from healthyvaccinated pigs. An immunochromatographic strip was developed by using colloidal gold labeled with pep5 asthe detector. Staphylococcal protein A and rabbit against peptide-conjugated ovalbumin antibodyimmunoglobulin G were blotted on the nitrocellulose membrane for the test and control lines. In comparisonwith 2 commercial NSP enzyme-linked immunosorbent assays, the peptide-based strip showed good specificityand sensitivity. The apparent agreements of this new assay with CeditestH ELISA and UBIH ELISA were98.59% and 96.63%, respectively. These results indicate that the strip can be adequately used to discriminateFMDV-infected animals from vaccinated animals.
【语种】英文
【第一作者】杨苏珍
【通讯作者】张改平
【期刊名称、卷期、页码】J Vet Diagn Invest 2010,22:412-415
【论文发表时间】2010-11-01 00:00:00
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【学科分类】兽医学

【题目】Expression, purification, and characterization of recombinant NS-1,the porcine parvovirus non-structural protein
【中文关键词】无
【英文关键词】Expression
NS-1 protein
Porcine parvovirus

Purification
Differentiation
【中文摘要】无
【英文摘要】The non-structural protein NS-1 of porcine parvovirus (PPV) could be a useful antigen for differentiatingpigs infected with PPV from those vaccinated with inactivated whole virus. NS-1 was expressed inEscherichia coli using the pET-32a (+) vector. The fusion protein, which was expressed at a high level, wassimilar antigenically to the native NS-1 protein as determined by Western blot assay using polyclonalantibodies from pigs vaccinated with alive PPV vaccine. A simple procedurewas used to purify the fusionprotein.This research lays the foundation for using the NS-1 protein for clinical diagnosis of pigs infectedwith PPV vs. those vaccinated with inactivated whole virus vaccine.
【语种】英文
【第一作者】戚亭
【通讯作者】崔尚金
【期刊名称、卷期、页码】Journal of Virologlcal Merhods2009,155: 122-125
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【引文索引类型】SCI
【引文索引号】2.6466700001e+011
【学科分类】兽医学

【题目】Expression of porcine parvovirus VP2 gene requires codon optimized E. coli cells
【中文关键词】无
【英文关键词】Expression Porcine parvovirus
Purification VP2 protein
【中文摘要】无
【英文摘要】Porcine parvovirus (PPV) is a widespreadinfectious virus that causes serious reproductive diseases ofswine and death of piglets. The gene coding for the capsidprotein VP2 of PPV was amplified and inserted into theplasmid pET-32a (?), which was then used to transformEscherichia coli Rosetta, the capsid protein of PPV wasfused to a polyhistidine tag, and the position of the affinitytag is in N-terminus. VP2 was expressed using differentexpression host bacteria, including E. coli BL21, andRosetta, and different plasmid vectors, including pET-30a(?), pET-32a (?), and pGEX-6p-1. After selection, only thefusion protein inserted into pET-32a (?) was expressed wellin E. coli Rosetta. The recombinant bacterium producedhigh quantities of the fusion protein VP2, about 8% in total.The expressed VP2 was antigenically similar to the nativecapsid protein according to a Western blot assay performedwith polyclonal antibodies obtained from pigs vaccinatedwith PPV. A simple, easily commercialized procedure wasused to purify this protein. This study provides a foundationfor the application of VP2 protein in the clinical diagnosis ofPPV and in the vaccination against PPV.
【语种】英文
【第一作者】戚亭
【通讯作者】崔尚金
【期刊名称、卷期、页码】Virus Genes2009, 39:217-222
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【引文索引号】2.7196380001e+011
【学科分类】兽医学

【题目】Development of an immunochromatographic strip for rapid detection of antibodies against classical swine fever virus
【中文关键词】无
【英文关键词】Classical swine fever virus
Immunochromatographic strip
Chimeric protein
Rapid antibody detection
【中文摘要】无
【英文摘要】The genes encoding the Erns and E2 antigen epitopes of classical swine fever virus (CSFV) were expressedas a chimeric protein in Escherichia coli BL21 by pET expression system. The antigenicity of the expressedprotein CnC2 was identified by indirect

enzyme-linked immunoabsorbant assay (ELISA) and immunoblotwith anti-CSFV antibodies. Based on the CnC2 protein, an immunochromatographic strip was developedto evaluate the antibody titer of serum samples from swine vaccinated with CSFV vaccine rapidly. Thechimeric protein used as a detector was labeled with colloidal gold. Staphylococcal protein A (SPA) andanti-CnC2 monoclonal antibodies (mAbs) were blotted onto the nitrocellulose membrane as the test andcontrol lines, respectively. The strip assay could be performed within 5 min, which did not require anyspecial equipment or skills. Through testing sera against various strains of CSFV, the sensitivity of thestrip was determined to be 97.0% (65/67) and the specificity was 100% (98/98). The strip results wereconsistent with those of the existing commercial ELISA kit, and their correlation coefficient was 0.935. Inconclusion, the immunochromatographic strip was an acceptable method for surveying CSFV-antibodytiters in pigs.

【语种】英文
【第一作者】李学伍
【通讯作者】李学伍
【期刊名称、卷期、页码】Journal of Virological Methods180(2012):32-37
【论文发表时间】2012-03-01 00:00:00
【引文索引类型】SCI
【引文索引号】3.0188420001e+011
【学科分类】兽医学

【题目】10株猪圆环病毒2型(PCV2)河南株全基因组的克隆与序列分析
【中文关键词】猪圆环病毒2型;全基因组克隆;序列分析
【英文关键词】porcine circovirus type 2(PCV2);complete genome cloning;sequence analysis
【中文摘要】:为了解猪圆环病毒2型(PCV2)河南株的起源及遗传变异,从河南省不同临床表现的病猪中克隆了1O椿PCV2的全基因组,并对其进行了序列测定及分析。结果表明,河南株之间以及与中国其他地区PCV2流行株之间同源性均很高;河南株均处于欧洲分支中,提示PCV2河南株可能起源于欧洲株;河南省不同年份的PCV2中确实存在一定的基1N差异,但PCV2全基因组从总体上来说遗传进化相对稳定;河南省猪群中与PCV相关的疾病不是由PCV2变异毒株引起的。
【英文摘要】To understand the genetic heterogeneity and the origin of PCV2 strains in Henan provine,complete ge—nomes of 10 PCV2 strains were cloned and analysed from the swines with Various clinieal mani{estation in Henanprovince. The result indicated that the PCV2 strains in Henan wre closely related tO each other,but also tO PCV2strains from other areas of China.The PCV2 strains in H enan were included in the Europe cluster.It would be con—clued that the PCV2 strains in Henan may originate from Europe PCV2.Although minor genetic differences amongPCV2 strains in different years,the genome of PCV2 strains in Henan province exhibited a quite stable genetic horn—ogeneity.The porcine circovirus—associated disease in H enan province is most likely not due to the emergence of anew genotype of PCV2.

【语种】中文
【第一作者】陈陆
【通讯作者】王川庆
【期刊名称、卷期、页码】中国兽医学报2010,2:166-173
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【引文索引类型】其他
【引文索引号】无
【学科分类】兽医学

【题目】以合成肽为抗原建立口蹄疫病毒非结构蛋白抗体检测ELISA 试剂盒
【中文关键词】:FMDV;ELISA;合成肽
【英文关键词】FMDV; ELISA; Synthetic peptide
【中文摘要】【目的】建立合成多肽抗原检测FMD NSP 抗体的 ELISA 方法。【方法】固相法合成特异性FMDV NSP B细胞表位肽,将其偶联在BSA 载体蛋白上,作为抗原包被在ELISA 板上,制备检测抗FMDV NSP 抗体的ELISA 试剂盒,并对该试剂盒进行方法考核。【结果】抗原包被浓度选择2.5 μg · mL-1; 检测199 份血清标本,与美国UBI商品试剂盒符合率达到96.48%,与国产3ABC ELISA 比较,符合率为97.48%,显示极好的一致性。【结论】该合成肽ELISA 试剂盒可以用以检测NSP抗体,从而鉴别FMD 的自然感染与疫苗免疫,试剂盒特异性强,重复性好、稳定性高,操作简便。
【英文摘要】【Objective】 Developing an ELISA based on a synthetic peptide detecting foot-and-mouth disease virus(FMDV)nonstructural proteins (NSPs) antibody. 【Method】 A specific peptide according to FMDV NSPs B-cell epitopes was

synthesized bya solid-phase method, and was conjugated with carrier protein BSA. An ELISA for detecting FMDV NSPs antibody was developedby using the conjugating protein as the coating antigen. 【Result】 The optimal coating concentration of the antigen was determinedas 2.5 μg · mL-1; The results of comparison of the assay with UBI NSP ELISA kit and national commercial 3ABC ELISA kit indetection of 199 serum samples showed that they were very coincident, and the agreement rate of them reached 96.48% and 97.48,respectively. 【Conclusion】 The developed ELISA using the synthetic peptide as coating antigen is specific, reproducible, stable andeasy, and can be used to differentiate FMDV infected animals from immunized animals.
【语种】中文
【第一作者】杨继飞
【通讯作者】张改平
【期刊名称、卷期、页码】中国农业科学2010,6:1242-1247
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【引文索引类型】其他
【引文索引号】无
【学科分类】兽医学

【题目】猪瘟病毒C株Erns /E2嵌合基因表达蛋白单克隆抗体的制备及其生物学特性的鉴定
【中文关键词】猪瘟病毒; CSFV Erns /E2; 嵌合基因; 融合蛋白;
单克隆杂交瘤细胞系
【英文关键词】无
【中文摘要】目的: 制备抗猪瘟病毒(CSFV) C株Erns /E2嵌合基因表达蛋白的单克隆抗体(mAb) , 探讨Erns /E2蛋白的分子结构和生物学功能。方法: 在大肠杆菌RosettaTM 2 (DE3)中表达了猪瘟病毒(CSFV) C株Erns、E2蛋白主要抗原域的嵌合基因CSFV Erns /E2蛋白; 以纯化复性后的CSFV Erns /E2为免疫原,按常规方法免疫BALB / c小鼠, 应用淋巴细胞杂交瘤技术制备抗CSFV Erns /E2 mAb; 利用间接EL ISA 、Western blot、Dotblot方法鉴定mAb生物学特性。结果: 获得了1株稳定分泌抗CSFV Erns /E2融合蛋白的单克隆杂交瘤细胞系C8株, 该株mAb的细胞培养上清效价为1 ：6 400, 小鼠腹水效价1：2 ×105。其免疫球蛋白亚类为IgG1。间接EL ISA和Westernblot结果显示该株mAb不与猪瘟C株细胞毒、pET232a标签蛋白反应, 仅与融合表达的CSFVErns /E2蛋白存在特异性反应。Dot blot结果表明其识别的抗原表位为E2蛋白的RSGL2CPFDTSPV氨基酸序列。结论: 获得了一株能特异识别E2蛋白抗原表位的mAb, 为进一步研究CSFV 的分子结构及功能奠定了物质基础。
【英文摘要】无
【语种】中文
【第一作者】王丽
【通讯作者】张改平
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【题目】猪圆环病毒2型(PCV2)河南分离株进化分析及ORF2基因的表达
【中文关键词】猪圆环病毒2 型(PVC2);ORF2 基因;序列分析;表达
【英文关键词】Porcine circovirus 2(PCV2);ORF2; sequence analysis; gene expression
【中文摘要】根据GenBank 中猪圆环病毒2 型(Porcine circovirus 2,PCV2)的核苷酸序列设计2 对引物,使用扩增全基因的引物对来源于河南省焦作、开封和滑县的3 株PCV 2 型JZ 株、KF 株和HX 株的ORF2 基因进行扩增,扩增片段克隆到pMD18 T 上,获得重组质粒pMD18-T-ORF2,并对其进行测序,测序结果登录在GenBank 上,登录号分别为EF028202、EF064149 和EF467928。序列分析表明,PCV2 河南分离株ORF2 基因与其它PCV2ORF2 基因核苷酸序列同源性为92.4%~99.6%,氨基酸序列同源性为90.6%~97.9%,进化分析表明,河南分离株处于同一分支,与欧洲株亲缘关系较近。应用另一对引物从重组质粒pMD18-T-ORF2 中PCR 扩增出587 bp 不包含核定位信号序列的ORF2 基因,克隆到表达载体pET-32a,成功构建了重组质粒pET-32a-ORF2,经IPTG 诱导表达了ORF2 基因编码的结构蛋白,经SDS-PAGE 和Western blotting 检测,表达的重组蛋白分子量约为40 kD,可被PCV2 阳性血清识别,说明PCV2ORF2 基因得到成功表达
【英文摘要】Two pairs of primers were designed according to the published ORF2 gene sequence of Porcine circovirus 2(PCV2),and ORF2 genes was amplified from PCV2 strain JZ, KF and HX isolated from Henan Province. The PCR products were

cloned intopMD18 T easy vector and the recombinant plasmids named pMD18-T-ORF2 were obtained and sequenced. The sequences had beensubmitted to GenBank databases and the accession numbers were EF028202, EF064149 and EF467928, respectively. The sequenceswere analyzed and compared. The results indicated that the ORF2 gene of PCV2 Henan isolates had similarities ranging from 92.4% to99.6% at nucleotides level and 90.6% to 97.9% at amino acids level with other PCV2 isolates in GenBank. 587 bp truncated ORF2gene without nuclear localization signal (NLS) sequence was amplified by PCR from pMD18-T-ORF2 of PCV2 JZ strain andsubcloned into pET-32a vector. The recombinant plasmid pET-32a-ORF2 was successfully expressed in Escherichia coli BL21 byinduction of IPTG. SDS-PAGE and Western blotting analysis indicated that the fusion protein was approximately 40 kD in molecularweight and could be recognized by antiserum against PCV2.

【语种】中文
【第一作者】陈陆
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【题目】猪Ⅱ型圆环病毒河南株分离鉴定及其ORF2基因序列分析
【中文关键词】无
【英文关键词】无
【中文摘要】本试验从河南分离鉴定了两株PCV2 ,同时对ORF2 基因进行了扩增、克隆及序列分析。从而为该基因的表达及PCV2 在河南地区的分子流行病学、遗传变异及防治奠定了基础
【英文摘要】无
【语种】中文
【第一作者】王江辉
【通讯作者】王川庆
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【题目】禽流感与猪流感病毒:跨越物种传播的新认识
【中文关键词】禽流感,猪流感,基因重排,种间屏障
【英文关键词】avian influenza,swine influenza,gene recombine,species barrie
【中文摘要】今年在墨西哥暴发的流感疫情来源于一种新的流感病毒:甲型H1N1病毒.这种病毒包括人源,禽源和猪源等甲型流感病毒基因片段,为混合毒株.比较了禽、猪和人的流感病毒在其天然宿主中的致病机理,主要目的是评估猪和禽的流感病毒成为人兽共患病的可能性,同时还评估猪在禽流感病毒传入人的过程中可能起到的作用.禽流感和猪流感作为人畜共患疾病,在流感病毒从动物到人的传播过程中起到关键的作用.猪作为流感病毒的中间宿主,具有混合器作用,人、猪、禽流感病毒可在其体内进行基因重排产生新病毒,并可能跨越种间屏障感染人类.但是流感病毒本身的跨越种间障碍传播不足以引起人流感的大暴发,动物流感病毒必须经过显著的遗传变异后才能使其在人群中长期存在.
【英文摘要】This year an outbreak of influenza in Mexico comes from a new epidemic of influenza viruses:A/H1N1 influenza virus.This virus is a kind of virus mixture,including human,avian and swine influenza virusgene fragments.The pathogenic mechanism of avian,swine and human influenz a virus in its natural host werecompared.The main purpose is to assess the risk of which pigs and poultry has the possibility to become one ofzoonotic disease and to assess the possible role in process of avian flu transmission from pigs to people.Aszoonotic disease,avian influenza and swine influenza virus have the key role in the process of human infection.But the influenza virus spread of crossing species barrier is not sufi cient to cause a large outbreak of humaninfluenz a.Animal influenz a viruses must have a significant genetic variation before they could live for a long termin the crowd
【语种】中文

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【题目】高致病性猪繁殖与呼吸综合征病毒JXA1株Nsp2基因分段克隆表达及其单克隆抗体的制备
【中文关键词】PRRSV J XA1 ;Nsp2 ;单克隆抗体
【英文关键词】PRRSV J XA1 ; Nsp2 ; McAb
【中文摘要】分析猪繁殖与呼吸综合征病毒(porcine reproductive and respiratory syndrome virus , PRRSV) 非结构蛋白Nsp2 ,扩增和克隆J XA1 株Ns p2 基因的4 个片段,并将它们分别插入p GEX26P21 表达载体构建重组表达质粒,经IPTG 诱导表达得到蛋白,纯化后进行活性鉴定。以分段表达的蛋白为抗原,建立间接EL ISA 方法用于杂交瘤细胞株的筛选。用PRRSVNVDC2J XA1 株灭活疫苗对BALB/ c 小鼠进行常规免疫,最后一次用活毒加强免疫,取其脾细胞与SP2/ 0 细胞在聚乙二醇作用下融合,经过选择性培养、有限稀释筛选到1 株针对Nsp2 的杂交瘤细胞株6B8 。鉴定结果表明,该株杂交瘤细胞仅与4 个蛋白片段中的Nsp2F1 有反应,细胞经长期体外培养和冻存后复苏能稳定分泌抗体,上清效价达1 ：210 ,腹水效价达1 ：106 。本研究成功表达了4 个PRRSV J XA1 株的非结构蛋白Nsp2 的片段,以其为抗原建立筛选方法,得到1 株针对Nsp2 的单克隆抗体,为研究Nsp2 功能和建立相关诊断方法奠定物质基础。
【英文摘要】Analyzing PRRSV gene Ns p2 by biological sof tware , four gene f ragment s of Ns p2 were successfully amplifiedby RT2PCR and cloned f rom the PRRSV J XA1 st rain. Their expressing plasmids were const ructed by inserting the target genef ragment s into p GEX26P21 vector and were induced with IPTG. Subsequently , the collecting and purifying proteins were identi2fied. Using these proteins , we established an indirect EL ISA for bolting McAbs. We immunized the BALB/ c mice withPRRSV vaccine. After the final immunization with virus , spleen cells of mice fused with myeloma cells SP2/ 0 were filtered byculturing selectively , diluting finitely. As a result , an anti2Nsp2 protein McAb was obtained and named as 6B8. It is only withreaction to Nsp2F1. The EL ISA titers of 6B8 supernatant s and ascites were 210 and 106 respectively. In this study , firstly wesuccessfully cloned and expressed Ns p2 gene f ragment s of PRRSV J XA1 , secondly an anti2Nsp2 protein McAb was obtained.It is a basic research for analyzing the function of Nsp2 and establishing related diagnosis method.
【语种】中文
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【题目】O型口蹄疫病毒VP1蛋白的原核表达及功能鉴定
【中文关键词】口蹄疫病毒; VP1 基因; 原核表达; 蛋白复性
【英文关键词】FMDV; VP1 gene;Prokaryotic expression; Protein renaturation
【中文摘要】为获得具有免疫原性的FMDV VP1 蛋白, 以O 型FMDV 重组质粒PMD18T VP1 为模板, 利用PCR 技术扩增得到O 型FMDV VP1 基因片段, 将此基因片段与原核表达载体pET32a 连接, 构建重组表达载体, 命名为pET VP1, 经PCR和测序鉴定后, 用IPTG 诱导表达, 收集诱导的菌液进行SDS PAGE 电泳和Western Blot 分析。结果显示, 在分子量约为45 ku 处有1 条明显的蛋白条带, 且能被口蹄疫阳性血清识别, 表达产物通过包涵体纯化后用透析法复性; ELISA 检测结果显示, 所复性的蛋白具有较高的活性。结果表明, FMDV VP1 蛋白在大肠杆菌中得到高效表达, 为开发诊断制剂和疫苗的研制打下基础。
【英文摘要】The objective of this research is to get the FMDV VP1 protein which be of antigenancy activity.The re combinant expression vector pET VP1 was constructed by cloning VP1 gene of FMDV into the prokaryotic expressionplasmid pET32a from PMD18T VP1.After the recombinant plasmid was verified by PCR and sequenced analysis, the re sult showed that VP1 gene was successfully cloned into expression plasmid pET32a,The protein corresponding to the VP1gene was expressed after induct ion with

IPTG. SDS PAGE and Western blot with the product of bacterial culture in differ ent time showed that the molecular mass of the protein was approximately 45 ku, which was identif ied by positive sera ofFMDV; The protein was refolded by dialysis method, and was assayed by ELISA, the result showed that it demonstrateshigh activity. So we can say that VP1 protein was expressed efficiently in E . coli , and the renaturat ion VP1 protein can bedeveloped as diagnosis antigen or vaccine.
【语种】中文
【第一作者】杨苏珍
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【学科分类】兽医学

【题目】插入式地下滴水器的研制与水力性能试验分析
【中文关键词】插入式; 地下滴灌; 移动滴灌; 滴水器; 流量均匀性
【英文关键词】inserted; subsurface drip irrigation; movable drip irrigation; emitter; uniformity coefficient of discharge flow
【中文摘要】在对现有滴头、滴箭等产品结构改进与优化设计的基础上,研制开发出一种具有快速装拆、移动灵活、抗堵塞功能的插入式地下滴水器产品,通过产品的具体结构组成与工作原理分析,进行了其流量均匀性、压力-流量关系的试验研究,结果表明:插入式地下滴水器所需起始工作压力低,额定流量小,具有较稳定的水力性能,适合用于对缺水区非密植作物的补充性抗旱灌溉,起到提高设备利用率、有效降低灌溉系统投资的作用,且能成功地把地表滴灌转化为地下滴灌的应用模式。
【英文摘要】Based on structure improvement and optimization design of existing emitter,such as drip arrow and drip production,a new kind of insertion subsurface emitter is researched and developed,which has the advantages of assembling and disassembling quickly,moving easily,anti-jamming.Through analysis of concrete structure and work principle of the insertion subsurface emitter,the uniformity coefficient of discharge flow and the relation between pressure and discharge are tested.The results show that the insertion subsurface emitter has more stable hydraulic characteristics,its rated flow is small and the needed beginning pressure is low.So the emitter is suitable for the compensatory irrigation of the non-close planting crops to resist drought in areas of water-lacking,and will play an active role in improving the equipment utilization and reducing the total investment of irrigation system.It also successfully transformed the application pattern from surface drip irrigation to subsurface drip irrigation
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【第一作者】冯俊杰
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【题目】晋南冬小麦一夏玉米轮作体系的氮肥运筹
【中文关键词】冬小麦—夏玉米轮作; 氮肥; 产量; 氮肥利用率
【英文关键词】Key words:the rotation of winter wheat and summer maize;nitrogen fertilizer;yield;nitrogen fertilizer use recovery
【中文摘要】冬小麦一夏玉米轮作是晋南的主要种植制度。 通过田间小区试验, 研究了冬小麦一夏玉米轮作体系 内氮肥分配(控制氮肥总量 420 kg/hm2) 对作物产量、 农学效率和纯收益及肥料利用率的影响。结果表明, 冬 小麦一夏玉米轮作体系内氮肥分配量及比例显著影响作物产量、纯收益和氮肥的效率 ,冬小麦季施总氮 55%(231 kg/hm2) 、 夏玉米季施总氮 45%(189 kg/hm2) 时, 可获得最高的轮作总产量(13 026 kg/hm2) 和最大的 净收益(22 146元/hm2) , 氮肥的农学效率和利用率较其他分配方式均有提高, 是晋南地区冬小麦一夏玉米 轮作氮肥分配的适宜比例。 值得指出的是, 由于作物生长期间受春寒和夏旱的影响, 冬小麦一夏玉米轮作体 系内的氮农学效率和氮肥利用率均较低, 仅分别为 4.6 kg/kg和20.8%。

【英文摘要】The rotation of winter wheat and summer maize is a major planting system in southern Shanxi.This field experiment was conducted in a randomized design with four replicates to study the influence of nitrogen distribution on yield,net return,nitrogen agronomic efficiency and nitrogen use recovery in rotation of winter wheat and summer maize based on the amount of nitrogen controlled(420kg/hm2).The results showed that the proportion of nitrogen distribution significantly affected the yield, net return and nitrogen use efficiency in the rotation.Under the condition of 420 kg/hm2nitrogen fertilization,the proportion of 55%(23 1 kg/hm2)applied on winter wheat and 45%(1 89 kg/hm2)for summer maize could help obtain the highest production (13 026 kg/hm2)and net retum(22 146 /hm2),and the agronomic efficiency and recovery of nitrogen fertilizer was increased. This indicated that the proportion of nitrogen distribution in the rotation was feasible for southern Shanxi province.It was important to point out that as crop suffered from adverse weather at growth stage,it led low nitrogen agronomic efficiency and nitrogen use recovery with the average value only 4.6 kg/kg and 20.8%.respectively.

【语种】中文

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【学科分类】农业基础学科

【题目】山西褐土长期施钾和秸秆还田对冬小麦产量和钾素平衡的影响

【中文关键词】钾肥; 褐土; 秸秆还田; 产量; 土壤钾素平衡

【英文关键词】potassium fertilizer; cinnamon soil; straw return to soil; yield; soil potassium balance

【中文摘要】在山西石灰性褐土一年一作条件下,通过 16年的田间定位试验, 研究了长期施钾和秸秆还田对小麦产量和土壤钾素平衡的影响。结果表明,只施用氮、 磷肥, 冬小麦年平均产量 5.5 t/hm2,土壤钾素养分严重亏缺, 年平均亏缺 104.3 kg /hm2,与试验前的初始值比较,土壤速效钾和缓效钾含量分别下降 23.6%和 14.3 %。在施用氮、 磷肥的基础上每年施用钾肥 (K2O 150 kg /hm2) ,平均增产 10.2%以上; 小麦秸秆还田平均增产 6.6%以上, 二者配合平均增产 17.6 %, 年平均吸钾量提高 32.0 kg /hm2。与试验初始值比较, 土壤速效钾、 缓效钾分别提高 38.6% 和11.0%。在施用氮、 磷肥的基础上,长期施用钾肥和秸秆还田在显著增加冬小麦的经济产量、 生物产量和吸钾量的同时,也减少年度间因气候因素等影响引起的产量变异,提高年度间产量和植物吸钾量的稳定性。

【英文摘要】Under the cond i t i on ofw heat fallo w ro tation on a calcareous cinna mon so i l in Shanx i prov i nce , a l ong ter m field experi ment w as conducted for 16 years to st udy the e f fects of l ong term po tassiu m (K) app lication andwheat stra w retur n on wheat y ields and so ilK stat us . The resu l ts sho w that applicati on o f n i t rogen(N) and phos phate(P) fertil izer only w i thoutK add i tion to the system(NP treat ment) results i n an average y ield of 5 5 t /ha andan average annual defic i t of 104 3 kg /ha , w hich indicates there is a seri ous deficit of soil po tassiu m. Comparedw i th the i r i n i tia l values , contents of so il ava ilable K and slo w l y availab leK are decreased by 23 6 % and 14 3 % ,respectively . Compared w i th the NP treat men, t the averagew heat y i e l d is increased by 10 2 % under the app lica tion o fK fertil izer(NP K treat ment) at the rate o f K2O 150 kg /ha annua ll y , and is i ncreased by 6 6 % under thest ra w return treat ment(NP+ St t reat ment). The combinat i on ofw heat st ra w retur n to so il and K app licat i on(NP K +St trea t ment) can i ncreasewheat y i e l d by 17 6 %, and K uptake byw heat plants is i ncreased by 32 0 kg /ha . Com pared w it h thei r i n i t i a l values , contents o f so il ava ilable K and slo w l y availab le K are increased by 38 6 % and11 0 % , respectively . On the base o fN and P fertilizer application , w heat g rain y ield , b iomas s y ield and K uptakeby w heat plants are sign i f i cantly i ncreased under the long ter m K applicat i on orwheat st ra w retur n , and the stabili tyo f y ield and plant K uptake are i mproved and the y ield variati on among the 16 crop seasons is reduced as w e l . l

【语种】中文

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【题目】Study on the Effect of Water-Storage Irrigation Technology in Korla Fragrant Pear Planting
【中文关键词】null
【英文关键词】Water-Storage Irrigation; Korla Fragrant Pear;
Growing characteristics; Yield and quality
【中文摘要】无
【英文摘要】Applying the system of water storage irrigation to Korlafragrant pear yielding according to it ’ s principle, we studied thechange of soil water in field, growth characters of tree and the effectof yield and fruit quality under water storage irrigation andconventional flood irrigation. The results showed that the soil watercontent of the root zone of fragrant pear was notably increased inthe way of water storage irrigation especially in 0 60cm layers, inwhich higher than flood irrigation in whole growing stages.Capacity of tree absorbing water from soil enhanced with soil watercontent increased, so chlorophyll content and leaf water contentwere notably increased and appeared positive linear correlationbetween them. Growing stage of tree advanced and nutritionalcharacters markedly improved under water storage irrigation, fruitsetting percentages and single fruit weight were increased, also fruitshape index is improved. The first order fruit rate increased by17.19% compared to flood irrigation, yield is increased 16.37%, andWUE increased by 45.26%. Fruit sugar acid ratio is promoted underwater storage irrigation, and fruit hardness was decreased, soimproved the fruit savor.
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【第一作者】邓忠
【通讯作者】冯俊杰
【期刊名称、卷期、页码】现代节水高效农业与生态灌区建设(上)、381~389
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【学科分类】园艺学

【题目】商品有机肥和氮肥配施对冬小麦产量及氮肥利用率的影响
【中文关键词】冬小麦; 氮肥 ; 有机肥 ; 产量; 氮肥利用率
【英文关键词】winter wheat;nitrogen;organic fertilizer;yield;nitrogen use efficiency
【中文摘要】施肥是保证作物增产的重要措施。 通过田间试验, 研究了商品有机肥与不同施用量氮肥配施对冬小 麦产量及氮肥利用率的影响, 结果表明, 有机肥和氮肥配合施用会影响冬小麦的生物量、 产量和氮养分吸收 及氮肥的利用率, 且以每公顷600 kg商品有机肥与120 kg纯氮的配施效果最好。
【英文摘要】Fertilization is an important measure to ensure the crop yield.This study researched the effects of the combination application of commercial organic manure and nitrogen fertilizer in the field.The results showed that the combined application of organic manure and nitrogen fertilizer had influence on biomass grain yield,nitrogen fertilizer use efficiency of winter wheat.An admire effect was obtained with combination application ofcommercial manure 600 kg/hm2and N 120 kg/hm2.
【语种】中文
【第一作者】要娟娟
【通讯作者】王宏庭
【期刊名称、卷期、页码】山西农业科学2012,40(4):353—356
【论文发表时间】2012-04-16 00:00:00
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【引文索引号】null
【学科分类】农业基础学科

【题目】施氮与灌水对夏玉米土壤硝态氮积累、 氮素平衡及其利用率的影响
【中文关键词】夏玉米; 施氮量; 灌水量; 硝态氮积累; 氮素平衡; 氮素利用率
【英文关键词】summermaize ; n i trogen rate ; i rr i gation rate ; n i trate accumulation ; n i trogen balance ; nit rogen use effic iency
【中文摘要】通过田间裂区试验研究了不同施氮量 (N 0、 150、 210和 270 kg /hm2)和灌水量 (900、 1200、 和 1500 m3/hm2)对夏玉米土壤硝态氮分布累积、 氮素平衡以及氮肥利用率的影响。结果表明, 夏玉米收获期各处理土壤硝态氮在表层 (0-20 c m)含量最高,在 0-200 cm剖面均呈现先减少后增加再减少的变化趋势; 土壤剖面 NO-3 -N累积量随施氮量的增加而增加, 且施氮处理硝态氮积累量显著高于不施氮处理。作物吸氮量、 氮素表观损失量均与施氮量和总氮输入量呈显著相关,氮素输入量每增加 1 kg , 作物吸氮量仅增加 0.301 kg , 而表观损失量增加 0 .546 kg ,是作物吸氮量的 1.8倍左右。随施氮量的增加土壤剖面中 NO-3 -N的损失量逐渐减少。夏玉米子粒吸氮量和收获指数随施氮量的增加有增加的趋势; 氮肥回收效率和氮肥农学效率均以处理 W1500N150最高, 分别为 46.15% 和 12.98kg /kg; 氮肥生理效率以处理 W1200N150最大 , 为 34.49 kg /kg。本试验条件下, 以水氮处理 W1500N150的土壤硝态氮残留量、 表观损失量较低,夏玉米氮肥回收效率和农学效率较高。
【英文摘要】The fie l d experi men twas carried out to investigate the effects of d i fferent ni trogen and irri gat i on levels onsoil n i trate accumu lation , n i trogen balance and use effic iency i n summerma ize using the spli t plot design. Therew ere three i rri gat i on levels , 900 (W900) , 1200 (W1200), and 1500m3/ha (W15 00) i n main p l o ts and four n i trogenlevels , 0 (N0), 150 (N150) , 210 (N2 10), and 270 kg /ha (N270) in sub p l o ts . The results sho w tha, t the h i ghestsoil NO-3 -N content is observed at 0- 20 cm soil layers at the har vest stage of summ erma ize . So ilNO-3 -N conten tsfl uctuatew it h the increase o f depth i n 0- 200 cm so il profiles . There is sign i ficant correlation bet w een NO-3 -Naccumulat i on amounts i n the so i l prof i le and the n i tr ogen app lication amounts , the NO -3 - N accumulations of theni trogen treat ments are sign i f i cantly (P < 0.05) higher t han t hose of t he non n i tr ogen treat ments . The crop n i trogenuptakes and n i trogen apparent l osses are positive ly correlated w i th the nit rogen app l ication rates . A s the total nit ro gen i nput i ncreased by 1 kg , the cr op ni trogen uptake and n i trogen apparent losses are increased by 0.301 and0.546 kg , respect i ve l y . The n i tr ogen apparent losses in the so il profile are decreased w i th the i ncrease o f the nit rogen applicat i on . The n i trogen harvest index and gra i n N absorption of summ erma ize are increased w ith the increaseof the nit rogen applicati on . The h i ghest n i tr ogen recovery effic i ency and agronom ic use effic i ency are obtained i n thet reat m ent ofW1500N150 , about 46.15 % and 12.98 kg /kg , respective l y , and the highest physiological use efficiencyis observed i n the treat men t ofW1200N150 , about 34.49 kg /kg . I n our experi men, t the opt i mal combinat i on o f nit ro gen and i rrigati on is W1500N150 for the lo w er amount of so ilNO-3- N residua l and nit rogen apparent los ses , and thehighest n i trogen recovery e f f iciency and agronom ic use efficiency .
【语种】中文
【第一作者】栗丽
【通讯作者】洪坚平
【期刊名称、卷期、页码】植物营养与肥料学报 2010 , 16(6): 1358- 1365
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【引文索引号】null
【学科分类】农业基础学科

【题目】施肥与种植密度对春玉米 SP AD值的影响
【中文关键词】玉米; S P A D值; 有机肥; 密度; 氮肥
【英文关键词】c o r n ;S PAD v a l u e ; o r g a n i c f e r t i l i z e r ; , d e n s i t y ; n i t r o g e n f e r t i l i z e r
【中文摘要】有效的氮肥管理一直是农业可持续发展面临的重大挑战。通过田间试验, 采用裂区 一裂区设计 , 研 究了不同密度、 不同氮肥用量和有机肥施用的不同措施对春玉米抽雄期穗位叶叶绿素含量(SP A D值) 的影 响。结果表明: 种植密度(6 0 0 0 0 , 9 0 0 0 0株 / h m2) 、 氮肥施用量(N0, N225, N300) 及有机肥的施用与否均显著影响 玉米抽雄期的S P A D值; 施用有机肥有助于提高玉米S P A D值; 种植密度增加, 玉米S P AD值呈下降趋势; 施 氮量对玉米 S P A D值的影响, 在不施有机肥情况下呈直线型, 而在施有机肥条件下呈抛物线型。
【英文摘要】Effective nitrogen management is major challenges to sustainable growth in agr iculture,this split plot—split plot field experimentwas designedto studythe effectsofplanting density,nitrogenand organicfertilizer onthe SPAD valueofearleaf at tasseling stage.The results

showed that,planting densities of 60 000 plant/hm2 or 90 000 plant/hm2, nitrogen fertilizer of No ,N 225and N300 and organic fertilizer all affected the SPAD value of corn at tasseling period .Organic fertilizer helped to enhance the SPAD value,while planting density increasing mad e the SPAD value decline.Fertilizer quantity of nitrogen affected the SPAD val- He ofcorn,a nd the.shape ofSPAD value is oflinear type in non-organic fertilization,but parabolic type in t he organic fertilization.

【语种】中文

【第一作者】要娟娟

【通讯作者】王宏庭

【期刊名称、卷期、页码】山西农业科学2011,39(10):1060—1063

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【学科分类】农业基础学科

【题目】温度对牙鲆幼鱼消化率日变化和生长的影响

【中文关键词】牙鲆; 温度; 消化率; 日变化; 生长

【英文关键词】null

【中文摘要】研究了不同温度(18、23、28 e) 对牙鲆Paralichthy s o livaceus 幼鱼(4125 g ? 01 19 g) 消化率日变化和生长的影响。结果表明: (1) 摄食率随温度的升高有增加的趋势, 但各组之间的差异均不显著(P >01 05); 特定生长率随温度上升显著提高(P < 01 05), 饲料转化率和蛋白质效率均先增大后减小, 但各组之间的差异均不显著(P > 0105) ; (2) 18 e 组、23 e 组和28 e 组牙鲆幼鱼的干物质表观消化率(Ddm)日变化分别为64191% ~ 80184%、621 05% ~ 821 78%和691 76% ~ 811 69%, 日变化表现为1~ 2 d的高消化率, 之后有1~ 2 d的低消化率; (3) 18 e 组、23 e 组和28 e 组牙鲆幼鱼的蛋白质表观消化率(Dp) 日变化分别为89138% ~ 93139%、871 86% ~ 93182% 和88125% ~ 93134% , 日变化表现为1~ 3 d的高消化率, 之后有1~ 3 d的低消化率; (4) 随温度的升高, 牙鲆幼鱼的平均干物质表观消化率与平均蛋白质表观消化率均没有显著变化(P > 0105) ; (5) 随着温度的升高, 牙鲆幼鱼体水分含量显著下降(P < 0105),粗脂肪含量显著提高(P < 0105) , 粗蛋白和灰分含量均无明显差异(P > 01 05)。

【英文摘要】无

【语种】中文

【第一作者】王万连

【通讯作者】吴立新

【期刊名称、卷期、页码】大连水产学院学报,2009,24(增刊):93-97

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【引文索引号】null

【学科分类】水产养殖学

【题目】新疆灌区灌溉水利用系数影响因素研究

【中文关键词】灌溉水利用系数; 影响因素; 节水灌溉; 新疆灌区

【英文关键词】water transport index in canal system; influence factor; water saving irrigation; irrigation area in Xinjiang

【中文摘要】新疆地区各灌区灌溉水利用系数的影响因素有灌区渠系防渗长度、高效节水灌溉面积、井灌排面积、渠道建设长度、总灌溉面积、渠道防渗率等。基于柯布-道格拉斯模型方法,分析计算了各灌区主要因素对灌溉水利用系数的影响效应,并对其发展预期进行了评估。结果表明:节水灌溉面积、渠道防渗长度和井灌排面积三个生产要素,对新疆绝大多数灌区灌溉水利用系数产生正效应,即边际收益大于边际投入;新疆2015年、2020年规划灌溉水利用系数分别为0.520和0.570,已超过国家大型灌区灌溉水利用系数不应低于0.50的要求。

【英文摘要】There are many influence factors to water transport index in canal system in many irrigation area in Xinjiang,such as the length of channels with concrete lining,area with high and new irrigation technology,area of field irrigated with well water,length of channels,total irrigation area,rate of concrete lining for channels,etc.Based on the model of Cobb-Doug,the influential effect to water transport index caused by the main influence factors is analyzed and also the expectation development of the effect is accessed.As a conclusion,the three variable factors that include area of water-saving irrigation field,length of channels with concrete lining and area of

field irrigated with well water,will give positive-effect to the water transport index in canal system in most of the irrigation area in Xinjiang.That is to say,the margin profit is greater than the marginal input.The water transport indexes in canal system in Xinjiang irrigation area are respectively 0.52 and 0.57 in 2015 and 2020 respectively.The data meet the governmental request of not less than 0.50 in large irrigation area.

【语种】中文
【第一作者】吴旭春
【通讯作者】周和平
【期刊名称、卷期、页码】人民黄河、第33 卷第9 期、93~97
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【引文索引号】null
【学科分类】农学其他学科

【题目】蓄流分离式灌溉模式研究与实践
【中文关键词】节水农业; 蓄流分离式灌溉模式; 创新研究; 实践
【英文关键词】water-saving agriculture; gathers flows the separation irrigation pattern; innovation research; practice
【中文摘要】蓄流分离式灌溉是基于稀植性果树园艺类经济作物需水特性和要求,近年创新提出并实施技术试验与实践的节水灌溉新模式。综述了蓄流分离式灌溉模式基本理念;阐述了蓄流灌溉系统关键技术——蓄流分离式灌水器;分析了蓄流灌溉模式的节水增产、节能降耗、提升灌溉水温以及解决低水头条件下的灌溉均匀性等综合技术效应,指出今后蓄流灌溉模式应着力研究的主要问题。 更多还原
【英文摘要】Gathers flows the separation formula irrigation is a new water-saving irrigation pattern,which is based on the characteristic and request that thinly plants the fruit-growing class industrial crop needs water and is proposed on the basis of innovation technical experiment and practice in recent years.This paper summarized the basic idea of gathers flows the separation formula irrigation pattern,elaborated the key technologies of gathers flows the irrigation system,and that is gathers flows the separation formula douche,analyzed the comprehensive technical effect of gathers flows the separation formula irrigation pattern,including saving water to increase production,conserving energy and consumption,raising irrigation water temperature and solving the problem of irrigation unlevelness in low head conditions and pointed out the main problems which should be focused in future.
【语种】中文
【第一作者】张江辉
【通讯作者】张江辉
【期刊名称、卷期、页码】中国工程科学、2008年第10卷第9期、25~30
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【引文索引号】null
【学科分类】农学其他学科

【题目】蓄流灌水器灌水均匀度试验分析
【中文关键词】蓄流灌溉; 灌水器; 灌水均匀度
【英文关键词】storing irrigation; irrigation emitter; irrigation uniformity
【中文摘要】蓄流灌水器水头压力、管径、灌水器长度、孔径、孔数是影响滴灌灌水均匀度的重要参数。室内试验研究结果表明,低压条件下压力水头的变化对灌水均匀度的影响并不明显,只要管径选择适宜,降低压力并不会对灌水均匀度产生很大影响;灌水器管径的变化对灌水均匀度的影响较为明显,灌水均匀度随着管径的增大而增大,但当管径增大到一定程度后,灌水均匀度随管径增大反而呈现减小趋势;灌水均匀度随着灌水器长度的增大呈降低趋势;灌水器孔径越大,灌水均匀度越好;灌水均匀度随着灌水器孔数的增加反而减小。
【英文摘要】The flow pressure,pipe diameter,irrigation emitter length,diameter of hole,and quantity of hole are important influencing parameters for the irrigation uniformity.The indoor experimental research results show that the influence of pressure change on irrigation uniformity is inconspicuous under low pressure condition.If appropriate pipe diameter is selected,the decrease of pressure has little influence on irrigation uniformity,while the change of pipe diameter of emitter has obvious influence on irrigation uniformity.The irrigation uniformity increases with the increase of pipe diameter,but decreases with the increase of pipe diameter when the pipe diameter reaches certain degree.It decreases with the increase of irrigation emitter length.The larger the diameter of hole is,the

better the irrigation uniformity is.It also decreases with the increase of quantity of hole.
【语种】中文
【第一作者】莫俊明
【通讯作者】岳春芳
【期刊名称、卷期、页码】节水灌溉、 2010 年第8 期、14~18
【论文发表时间】2010-08-05 00:00:00
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【引文索引号】null
【学科分类】农学其他学科

【题目】蓄流灌溉水袋高度和储水量关系研究
【中文关键词】蓄流灌溉; 蓄水袋; 灌水器
【英文关键词】Keep the irrigation of water; Retain water bag; Infuse the machine of water
【中文摘要】在蓄流灌溉试验蓄水袋放水过程中,由于蓄水袋放出水量大小和放水时间不同,袋中储存的水量和水袋的高度呈现一定的规律,该规律在蓄水灌溉推广过程中也可以实际运用,这种规律可以用相应的数学公式来进行表达,从而在试验过程中通过测量水袋的高度即可知道袋中储存的水量,节省大量的人力、物力、时间,并为蓄水袋的开发提供参考价值,具有重要的实际意义
【英文摘要】In keep irrigation of water experiment retain water bag turn on water process,because of retain water the bag lets out the water to have great capacity small and turn on water time dissimilarity,the water quantity and bag of waters of the storage in bag present the certain regulation highly,that regulation can also make use of physically in retain water irrigate expand process,this kind of regulation can carry on the expression with the homologous mathematical formula,thus passing the water quantity that the height of measure the bag of water knows the storage in bag namely in experiment process,saving a great deal of manpower,material resources,time,and for retain water bag of development provide the reference value,have the important and actual meaning.
【语种】中文
【第一作者】林屹峰
【通讯作者】周和平
【期刊名称、卷期、页码】吉林水利、第6期(总第337期)、9~12
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【学科分类】农学其他学科

【题目】基于数据挖掘的决策树算法应用研究
【中文关键词】数据数据挖掘;决策树;C4.5
【英文关键词】Data mining; Decision tree; C4.5 algorithm
【中文摘要】"数据挖掘是一种发现大量数据中潜在信息的数据分析方法和技术,已经成为关注的热点。决策树方法因其简单、直观、准确率高等特点,在数据挖掘及数据分析中得到了广泛的应用。本文使用数据挖掘的C4.5 算法对UCI 数据库中的蘑菇数据构建决策树模型,给出了蘑菇可食用或有毒的决策"
【英文摘要】The data mining that attracts people ’s eyes is a data analysis method and the technology which find latent information in mass data, the decision tree method is widely applied in data mining and data analysis because of its simple, direct-viewing and high accuracy rate. This article used C4.5 algorithm of data mining analysising the data mushroom data of UCI database and building the decision tree model. In the end, we give a decision-making that whether the mushroom be edible or virulent.
【语种】中文
【第一作者】马丽
【通讯作者】陈桂芬
【期刊名称、卷期、页码】《农业网络信息》2008 年第11 期 45-47页
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【学科分类】人工智能

【题目】基于用户等级的协同过滤推荐算法
【中文关键词】协同过滤; 用户等级; 推荐算法;
【英文关键词】"collaborative filtering; user grade; recommendation algorithm;
"
【中文摘要】"提出一种基于用户等级的协同过滤推荐算法,解决了传统协同过滤推荐算法的扩展性问题.该算法首先定义用户等级函数,依据用户所评价的项目数确定用户等级;并通过仅在用户等级的邻域内查找近邻的方法,提高协同过滤推荐的效率.实验结果表明,该算法与传统协同过滤推荐算法相比,在不影响推荐质量的前提下,极大地提高了推荐效率.
【英文摘要】A user grade-based collaborative filtering recommendation algorithm is presented in this paper.It solves the scalability problem of traditional collaborative filtering algorithm.It defines a user grade function firstly,which determines users ’ grade according to the number of their rating items,and by means of finding neighbors for a target user,it only considers the candidates in his near grade,so the efficiency increases.Both theory and experimental results show that this algorithm improves recommendation efficiency greatly compared with traditional collaborative filtering,and at the same time the recommendation quality does not decrease
【语种】中文
【第一作者】高滢
【通讯作者】刘大有
【期刊名称、卷期、页码】吉林大学学报(理学版), 2008, 46(3) : 489-493
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【引文索引号】null
【学科分类】计算机应用

【题目】加权空间模糊动态聚类算法在土壤肥力评价中的应用
【中文关键词】空间模糊聚类;精准农业;土壤肥力评价;属性加权
【英文关键词】space fuzzy clustering algorithm; precision agriculture; evaluation of soil fertility; attribute weights
【中文摘要】"摘要:【目的】改进和提高空间模糊聚类算法。【方法】首先利用层次分析法得到各属性的权值,然后将权值与空间模糊动态聚类法相结合,最后利用概率统计中的F 分布来确定最佳分类,以提高空间模糊聚类算法的智能性。【结果】加权空间模糊动态聚类算法与基于模糊等价关系的传递闭包方法进行比较表明,当λ取0.993 时,F值最大,分类效果最好。此时,加权的F 值为4.898,未加权的F 值为2.957,说明加权的类间的差距比未加权的明显,即该算法聚类准确率要明显高于未加权的模糊聚类算法。【结论】将其改进的算法运用到精准农业的土壤肥力评价中,试验结果与实际情况相符,证明了该算法的有效性。"
【英文摘要】"【Objective】 As a traditional fuzzy clustering algorithm has its shortages, an improved algorithm was presented inthe paper. 【Method】 First, access to the weighted value of each attribute using AHP, and then add weighted value to the spatialfuzzy dynamic clustering algorithm, finally, use F- distribution of probability statistics to determine the best classification number inorder to improve the algorithm intelligence. 【Result】 The weighted spaces fuzzy dynamic cluster algorithm was compared with thefuzzy equivalent relations transitive closure algorithm, the result shows that F-value is the largest and the classification results is bestwhen λ=0.993. This time, the weighted F- value is 4.898, unweighted F- value is 2.957, that shows the weighted gap between classare more obvious that unweighted one, that is, the accuracy of the clustering algorithm is significantly higher than unweighted fuzzyclustering algorithm. 【Conclusion】 Tests show that the clustering algorithm ’ s accurate rate is higher than the unweighted fuzzyclustering algorithm."
【语种】中文
【第一作者】陈桂芬
【通讯作者】王国伟
【期刊名称、卷期、页码】中国农业科学 2009年10期42卷 3559-3563页
【论文发表时间】2009-10-10 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】计算机应用

【题目】人参生产专家系统的研究与应用
【中文关键词】人参; 专家系统; 农业知识; 信息技术
【英文关键词】Panax ginseng C1A1Mey1; expert system; agriculture p recision; information technology
【中文摘要】"为提高人参产品质量和产量, 利用人参生产知识、计算机和网络技术, 研制开发了人参生产专家系统。该系统将数据库、人工智能、管理信息系统、决策支持系统、网络技术以及信息集成技术应用到人参生产领域, 给传统的人参栽培管理注入了新的生机和活力, 降低成本投入, 减少环境污染, 在吉林省靖宇西洋参集团、吉林省抚松参场、吉林省敦化市黄泥河参场等进行示范面积1 735 900 m2 , 增加收入4 96316万元。"
【英文摘要】"The effective system was developed by utilizing the knowledge of Panax ginsengC1A1Mey1p roduction, computer science and internet technology. The key technology like robot, artificial intel2ligentmanagement information system, decision support system and are app lied in the field of Panax ginsengC1A1Mey1 p roduction. Itwill bring new vigor and energy into traditionalmain p roduction reduce cost, decreaseenvironment pollution and increased the quantity and quality of Panax ginseng C1A1Mey1 The in come has in2crease by about 491636 million by app lying the system in the model regions."
【语种】中文
【第一作者】姚玉霞
【通讯作者】陈桂芬
【期刊名称、卷期、页码】吉林大学学报(信息科学版) 2008年7月第4期26卷
【论文发表时间】2008-03-16 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】人工智能

【题目】统计关系学习研究进展
【中文关键词】统计关系学习; 似然逻辑学习; 多关系数据挖掘; 统计学习; 关系学习
【英文关键词】"statistical relational learning ; p robabilistic logic learning ; multi2relational data mining ; statistical learning ; relational learning"
【中文摘要】"统计关系学习是人工智能领域的一个新研究热点,它将关系表示、似然性理论和机器学习相结合,能更好地解决现实世界中复杂的关系数据问题,在生物信息学、Web 导航、社会网、地理信息系统和自然语言理解等领域有着重要的应用. 首先对统计关系学习的研究内容以及研究任务进行了介绍和总结,然后根据概率表示和推理机制的不同,对当前的统计关系学习方法进行了分类,并对各类方法进行了详细介绍,最后讨论了当前统计关系学习存在的问题,并指出了今后研究和发展的方向."
【英文摘要】"Interest in statistical relational learning (SRL) has grown rapidly in recent years. SRL integrates t he relational or logical representations , probabilistic reasoning mechanisms wit h machine learning , and it can solve many complicated relational problems in real world. It has important applications in many fields such as World Wide Web , social networks , comp utational biology , information ext raction , comp uter vision , speech recognition etc. In t he past few years , SRL hasreceived a lot of at tention and a rich variety of approaches have been developed by many researcher s , and they have different relational or logical representations , probabilistic reasoning mechanisms ormachine learning p rinciples. The goal of t his paper is to provide an int roduction to and an overview of these works. First t he research fields and different tasks of SRL are int roduced and summarized. Andthen an int roductory survey and overview of t he SRL approaches is provided , and t he approaches are classified into four families , which are t he approaches based on Bayesian networks , stochasticgrammars , Markov networks , and (hidden) Markov model s , according to probabilistic representations and reasoning mechanisms. For each approach family , t he probabilistic logical model s , parameter estimation and st ruct ure learning , and the states2of2t he2art are int roduced. Finally , t he current problems in SRL are discussed and f ut ure research directions are pointed out ."
【语种】中文
【第一作者】刘大有
【通讯作者】于鹏
【期刊名称、卷期、页码】计算机研究与发展 ISSN 100021239PCN 1121777PTP
【论文发表时间】2008-09-19 00:00:00
【引文索引类型】EI

【引文索引号】2.0090711906e+013
【学科分类】人工智能

【题目】基于蓝牙技术的变量施肥机速度采集系统设计
【中文关键词】精确农业 变量施肥 速度采集 蓝牙 ARM
【英文关键词】Precision agriculture , Variable rate fertilization , Speed collecting , Bluetooth , ARM
【中文摘要】" 设计了基于蓝牙技术的变量施肥机速度信号采集系统。该系统以光电编码器为测速传感器,ARM微处理器接收测速脉冲并计算出速度值,通过KC111 适配器以蓝牙(无线) 方式传送,蓝牙USB 适配器接收速度信号后传送给变量施肥控制器,完成施肥机速度信号采集。试验结果表明该系统最大误差为2192 % ,能够满足变量施肥精度要求,可以应用到变量施肥机测速系统中。"
【英文摘要】"Measuring the ground speed is important for a variable rate fertilizer machine. Since the workingenvironment is hard , the reliability and anti2jamming capability of the ground speed collecting systemis poor. A ground speed collecting system for a variable rate fertilizer machine is developed based onBluetooth. The ground speed sensor of the system is a photoelect ric encoder , which is set on one of thewheels of the machine. An ARM microprocessor is used to receive input signals f rom the ground speedsensor , and calculate the working speed. And then the working speed signals are t ransformed into theBluetooth signal format , and t ransmitted to variable rate fertilizer cont roller by the KC111 adapters.The maximum error of the test is 2192 %. It shows that the developed system is practical."
【语种】中文
【第一作者】齐江涛
【通讯作者】张书慧
【期刊名称、卷期、页码】农业机械学报第40 卷第12 期
【论文发表时间】2009-12-01 00:00:00
【引文索引类型】EI
【引文索引号】2.0100312649e+013
【学科分类】计算机应用

【题目】PRECISION CORN FERTILIZER MODEL BASED ON COMBINATION FORECASTING METHOD
【中文关键词】组合预测方法;熵值法;肥度的预测;
【英文关键词】combination forecasting method; entropy method; fertilizer forecast; matlab7.0;
【中文摘要】精准施肥的核心内容是在精确农业。然而,现有精密施肥模型是不稳定的和严格的环境条件要求。
【英文摘要】"Measuring the ground speed is important for a variable rate fertilizer machine. Since the workingenvironment is hard , the reliability and anti2jamming capability of the ground speed collecting systemis poor. A ground speed collecting system for a variable rate fertilizer machine is developed based onBluetooth. The ground speed sensor of the system is a photoelect ric encoder , which is set on one of thewheels of the machine. An ARM microprocessor is used to receive input signals f rom the ground speedsensor , and calculate the working speed. And then the working speed signals are t ransformed into theBluetooth signal format , and t ransmitted to variable rate fertilizer cont roller by the KC111 adapters.The maximum error of the test is 2192 %. It shows that the developed system is practical."
【语种】英文
【第一作者】GUIFEN CHEN
【通讯作者】苏恒强
【期刊名称、卷期、页码】"Proceedings of the Joint International Agricultural Conference2009,3(5):60-66
【论文发表时间】2009-10-14 00:00:00
【引文索引类型】SCI
【引文索引号】2.0090112603e+013
【学科分类】计算机应用

【题目】变量施肥对改善土壤养分空间差异性的综合评价
【中文关键词】模糊聚类; 土壤; 养分; 变量施肥; 空间差异;
【英文关键词】"fuzzy clustering; soil; nutrients; variable rate fertilization; spatial difference;

"

【中文摘要】"精准农业中一个非常重要的环节就是变量施肥,其核心思想是根据土壤中养分含量的多少来决定施肥量,以达到土壤养分平衡。目前通常对土壤养分情况评价的做法是分别考察每种土壤养分的变异情况,不能综合分析。因此,该文提出利用一种加权模糊聚类算法,综合评价经过变量施肥作业后土壤养分空间差异性的变化情况。通过对榆树市弓棚镇十三号村3号地未变量施肥、连续变量施肥2年和连续变量施肥5年的土壤养分进行综合分析比较,可知经过连续变量作业后土壤养分空间差异明显减小。

【英文摘要】Variable rate fertilization is very important part of precision agriculture.Its core idea is based on that according nutrient content in soil to determine fertilizer amount,so as to achieve balance of soil nutrients.Now the conventional method for evaluating the soil nutrients is based on inspecting variations of each kind of soil nutrient separately,and this method can not comprehensive analysis.Therefore,the soil nutrients spatial difference after the variable rate fertilization was comprehensive evaluated by using a weighted fuzzy clustering algorithm.In 3rd field of 13th village in Gongpeng Town of YuShu city,comprehensive comparing of the soil nutrients of the field with no variable rate fertilization,with continuous variable fertilization for two years or five years was conducted.Result showed that the soil nutrients spatial difference was reduced obviously after continuous variable rate fertilization.

【语种】中文

【第一作者】王国伟

【通讯作者】陈桂芬

【期刊名称、卷期、页码】农业工程学报,第25卷,第10期,2009.10, 82-86

【论文发表时间】2009-10-31 00:00:00

【引文索引类型】EI

【引文索引号】2.0095012535e+013

【学科分类】计算机应用

【题目】基于ARM的变量喷药控制系统设计

【中文关键词】"喷药; 微处理器芯片; 控制系统; 精确农业; ARM;

【英文关键词】" spraying; microprocessor chips; control systems; precision agriculture; advanced RISC machines(ARM);

"

【中文摘要】"为提高农药利用率,设计一套具有手动控制、自动控制和试验标定3种工作模式的变量喷药控制系统。该系统以ARM7系列的S3C44B0X微处理器为核心,在UCOS-Ⅱ操作系统环境下,使用C语言编程实现机具作业位置、行进速度、喷头入口压力以及喷头喷药量信息的采集与处理、网格识别和电动调节阀控制。喷头喷药量控制误差田间试验结果表明:喷药机以4.2km/h(Ⅱ档中油门)速度工作,喷药处方量在465~600kg/hm2范围内变化时,采用本系统完成变量喷药作业,系统喷头喷药量最大控制误差≤5%,满足变量喷药作业要求。

【英文摘要】In order to improve pesticide efficiency,a variable spraying control system was designed with three working modes:a manual control,an automatic control and a calibration mode.The variable spraying control system took the S3C44B0X microprocessor of ARM7 series as its core control part and programmed with C language in the UCOS-Ⅱ environment.The system was able to fulfill the data acquisition and processing of the position and the speed about the sprayer,the pressure and the flow about nozzles,and recognize the plot and then adjust the electrical control valve to realize variable spraying.The test results in the field showed that the error of the variable spraying was less than 5% when the spray dosage was 465-600 kg/hm2at speed of 4.2 km/h,the system can meet the requirements of variable spraying.

【语种】中文

【第一作者】王利霞

【通讯作者】王利霞

【期刊名称、卷期、页码】农业工程学报, 2010 ,30 (4) : 113-118

【论文发表时间】2010-04-30 00:00:00

【引文索引类型】EI

【引文索引号】2.0102413004e+013

【学科分类】计算机应用

【题目】一种简单凹形区域间拓扑关系的表示模型

【中文关键词】拓扑关系; 简单凹形区域; 凸壳; RCC23; 9-交集;

【英文关键词】"topological relation; simple concave region; convex hull; RCC23; 9-intersection;
"
【中文摘要】通过研究El-Geresy提出的一种空间推理方法,扩展了经典9-交集矩阵,得到16-交集矩阵,基于16-交集矩阵对RCC23的基本关系进行细化,定义了两个简单凹形区域间的62种拓扑关系,得到RCC62并给出其概念邻域图和最近拓扑关系图.RCC62比RCC23新增了39种拓扑关系,表达力更强.将RCC62模型应用于空间查询领域不仅能增加查询的准确度,而且也提高了查询效率
【英文摘要】Based on El-Geresy ’s general approach in spatial reasoning, 9-intersection matrix is extended to 16-intersection matrix. With 16-intersection matrix as a representation structure, the relations in RCC23 are refined to 62 topological relations between two simple concave regions, thus derived RCC62. RCC62 is more expressive than RCC23, since it has 39 more topological relations than RCC23. By applying RCC62 to practical field of spatial query, both the accuracy and efficiency of querying operation are improved. In order to further research the reasoning and composition table of RCC62, the conceptual neighborhood graph and the closest topological relation graph of RCC62 are given
【语种】中文
【第一作者】欧阳继红
【通讯作者】刘大有
【期刊名称、卷期、页码】吉林大学学报(理学版), 2007, 45(3) : 427-431
【论文发表时间】2007-05-26 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】计算机应用

【题目】"A neural network ensemble method for precision fertilization modeling
【中文关键词】神经网络集成;精准施肥;聚类算法;拉格朗日乘数法;
【英文关键词】Neural network ensemble; Precision fertilization; Clustering algorithm; Lagrange multiplier method;
【中文摘要】存在之间的非线性关系,化肥投入及土壤养分水平。计算受精率更精确地说,一个新的神经网络集成方法已经被提出
【英文摘要】There exists a nonlinear relationship between fertilizer input and soil nutrient level.To calculate the fertilization rate more precisely,a novel neural network ensemble method has been proposed
【语种】英文
【第一作者】HELONG YU
【通讯作者】dayou liu
【期刊名称、卷期、页码】Mathematical and Computer Modelling, 2009,51(6) :1375-1382
【论文发表时间】2009-10-14 00:00:00
【引文索引类型】SCI
【引文索引号】585JH
【学科分类】计算机应用

【题目】"吉林玉米带现行耕作制度对黑土肥力退化的影响
【中文关键词】退化; 环境影响; 土壤条件; 肥力; 耕作制度; 吉林玉米带; 黑土;
【英文关键词】"degradation; environmental impact; soil conditions; fertility; farming system; corn belt of Jilin Province; black soil;

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【中文摘要】" 该文从""体质""和""体型""两个方面探讨了吉林玉米带现行耕作制度对土壤肥力退化的影响。结果表明,现行的耕作制度下,土壤剖面中耕层与犁底层的界面为""波浪型"",而每年进行秋翻的玉米田,其耕层与梨底层的界面为""平面型""。""波浪型""犁底层的土壤容重、三相组成与""平面型""剖面相比有明显差异,而耕层中有机无机复合体及其有机碳分布特征无明显差异,与底层土壤有较大差异。但由于""平面型""剖面耕层的有效土量是""波浪型""有效土量的2倍,因此,在生产上""平面型""剖面土壤保水性能、玉米产量等多方面都普遍优于""波浪型""土壤。吉林玉米带黑土肥力退化的主要原因是耕层有效土量过少。
【英文摘要】Through the study on physical fitness and type,this paper discussed the influence of present farming system of corn belt on fertility degradation in Jilin Province.The results showed that the interface of the middle plough layer and plough sole under the

present farming system was wavy type,while the interface of the plough layer and plough sole of the corn field under the cropping system of annual autumn plowing was flat type.Soil bulk density and composition of three phases of wavy plough sole were different significantly with those of plough sole.The organo-mineral complex and organic carbon content of the plough layer between two types had no significant difference,but had significant difference in bottom soil.The valid soil quantity of flat type was two times more than that of wavy type.Therefore,the water retention property and corn yield of flat soil profile were better than those of wavy soil profile.Little valid soil quantity is the main cause of fertility degradation of black soil in corn belt of Jilin Province
【语种】中文
【第一作者】王鸿斌
【通讯作者】陈丽梅
【期刊名称、卷期、页码】农业工程学报, 2009 ,30 (9) : 301-305
【论文发表时间】2009-09-30 00:00:00
【引文索引类型】EI
【引文索引号】2.0094512438e+012
【学科分类】人工智能

【题目】基于加权模糊聚类的农田养分管理区划分
【中文关键词】"精细农业; 农田养分; 加权模糊聚类; 管理分区; 主成分分析; 变异系数;

"
【英文关键词】"Precision agriculture; Soil nutrient; Weighted fuzzy clustering; Management zones; Principal component analysis; Coefficient of variation;

"
【中文摘要】"将加权模糊聚类算法应用于管理区划分,权值的确定分别采用主成分分析法和变异系数法。在吉林省榆树市精细农业试验田获取土壤氮、磷、钾数据,应用本文提出的加权模糊聚类算法进行管理区划分,确定了试验区的管理分区数目,并与传统的模糊聚类方法进行了比较。结果表明,基于加权模糊聚类的管理分区更合理、更符合实际情况,该方法可用于指导精准施肥。
【英文摘要】Weighted fuzzy clustering algorithm is proposed and applied in management zones of soil nutrients.In the algorithm,the determination of the weight of different soil nutrients is a key step.Two methods are used to determine the weight.One is the principal component analysis(PCA).The other is coefficient of variation(C.V).To verify above methods,soil nutrients of N,P,K were sampled at the experimental site,a field in Yushu City of Jilin Province,and then the weighted fuzzy clustering algorithm was used and the number of the management zones was determined.The effectiveness of the weighted fuzzy clustering method was validated by comparing with the traditional fuzzy clustering method.The results show that the weighted fuzzy clustering method is more reasonable and more practical and can be used to support precision fertilization
【语种】中文
【第一作者】于和龙
【通讯作者】陈桂芬
【期刊名称、卷期、页码】农业机械学报, 2009, 40(增刊)
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【引文索引类型】EI
【引文索引号】2.009461245e+013
【学科分类】计算机应用

【题目】基于传感器的变量施肥机定位方法
【中文关键词】"变量施肥机; 传感器; 定位;

"
【英文关键词】" Variable rate fertilizer applicator; Sensor; Positioning;

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【中文摘要】"简述了一种应用传感器代替GPS的变量施肥机定位方法。控制器读取传感器的脉冲信号,计算施肥机的行走距离,由自动网格识别算法实现施肥机自动网格识别。本文给出了传感器测距累积误差校正方法以提高定位精度。对于垄长为40m的网格,要使定位误差小于6%,累积误差应小于2.4m。实验结果表明,经过校正,拖拉机行走距离为250 m的时候,光电编码器和接近开关传感器测距累积误差分别为2.32 m和2.34 m(定位误差小于6%)。如果在此定位误差条件下,增加操作单元垄长方向划分的距离,可满足更长地块作业的定位要求。

【英文摘要】A positioning method of a variable rate fertilizer applicator with sensors is introduced,to replace GPS in precision agriculture.In the positioning system,the controller receives pulse signals from the sensor and calculates the working distance of the variable rate fertilizer applicator,thus the grid in which the fertilizer applicator is working is identified by the algorithm of automatic grid recognition. The accumulative error of the system from the sensor is corrected by the error revising algorithm,and the correction results were tested in field.The experiment results showed that the accumulative errors for the photoelectric encoder and the proximity transducer are 2.32 m and 2.34 m,within 250 m of working distance,respectively,i.e.the positioning errors is less than 6%.Under the above conditions,a variable rate fertilizer applicator can be applied in a larger working field if the working grid is divided longer.

【语种】中文

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【学科分类】计算机应用

【题目】吉林省黑土区玉米精准施肥技术研究与应用

【中文关键词】黑土区; 玉米; 精准施肥; 空间变异; 专家系统; 变量施肥机;

【英文关键词】black soil; maize; precision fertilization; spatial variability; expert system; variable rate fertilizer;

【中文摘要】应用地统计学、专家系统、地理信息系统和智能农机等技术,研究了吉林省黑土区土壤养分变异规律,提出了适于黑土区的玉米精准施肥模型,开发了玉米精准施肥专家系统,并通过变量施肥机进行了精准施肥的应用。与传统施肥方案相比,精准施肥使玉米增产10%以上,节肥率达到15%。

【英文摘要】Geo-statistics,expert system,geographical information system and intelligent agricultural machinery are applied in the article.By the above methods and technology,spatial variability of soil nutrient is studied,precision fertilization model of maze is introduced,expert system of maize precision fertilization is developed.Finally,the precision fertilization is implemented by the variable rate fertilizer.Compared with the traditional fertilization,the precision fertilization made the maize production increase by 10% and made the fertilization amount decrease by 15%.

【语种】中文

【第一作者】于合龙

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【学科分类】计算机应用

【题目】一种基于遗传算法的无线传感器网络路由算法

【中文关键词】" 无线传感器网络(WSNs); 移动Agent; 路由问题; 遗传算法;

【英文关键词】"less sensor networks(WSNs); mobile Agent; routing problem; genetic algorithm;

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【中文摘要】" 针对传感器节点在能量储备、计算能力、通信能力方面制约性强等问题,采用进化算法理论,提出一种适用于无线传感器网络的移动Agent路由选择算法.该算法能为移动Agent探测具有最小能耗的路径,同时保证信息收集的完整性.实验结果表明,该算法自适应性强,可减少传感器节点的能量消耗,满足无线传感器网络在实际应用中对移动Agent路由算法的需求.

【英文摘要】The authors analyzed the constraint conditions and the objective function of the mobile Agent routing problem in WSNs. We employed the theory of evolutionary algorithm to propose a new method of genetic operation in connection of the constraints of the energy reserves,computing power,and the communicating ability of the sensor node,i.e.,a routing selecting algorithm for mobile Agent in WSNs. This algorithm can detect the path with the minimal energy consumption for mobile Agent,and also ensure the integrity of information-gathering. The experimental results show that this algorithm has the better adaptability,and can reduce the energy consumption of sensor node,which better meets the WSNs demand of mobile Agent routing algorithm in the real world
【语种】中文
【第一作者】张重毅
【通讯作者】刘大有
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【学科分类】计算机应用

【题目】东北黑土有机无机复合体组成及有机碳空间分布特征
【中文关键词】"黑土; 有机无机复合体; 有机碳;

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【英文关键词】"black soil; organic mineral complexes; organic carbon;

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【中文摘要】"以东北典型黑土区为研究对象,测定土壤不同粒级有机无机复合体、矿物颗粒和有机碳含量,探讨土壤有机无机复合体组成及其空间分布特征,分析土壤对有机碳的复合机制。结果表明:东北黑土有机无机复合体组成主要以细砂粒复合体为主,黏、粉粒复合体次之,其含量均随剖面发生层向下呈减少趋势,南北区域上,也呈降低趋势。有机碳在各级复合体中及土壤中的含量均随着复合体的粒径增大而减少。各级复合体有机碳在土壤中均呈随剖面发生层向下由A层呈指数函数下降,在区域上,因东北黑土剖面有机碳含量及南北温度差异有机无机复合体含量曲线随区域差异有所不同。同时也说明东北黑土黏粒仍有较大的碳库容量。从其组成和组分间的相关分析,黏粒是形成和增加粉粒复合体的基础,从而利于增加土壤有机碳储量和改善土壤团聚结构。
【英文摘要】The black soil of northeast China was selected in a case study to analyze composition and spatial distribution of soil organic mineral complex,and to explain complexion mechanism of organic and mineral on soil by measuring contents of organic mineral complexes,mineral particles organic character of different size. Results showed that organic mineral complexes in black soil primarily compose by the fine sand organic mineral complex,next clay ’s and silt ’s. Each of their contents decreasing with profile development layer forward down,in the black soil region show low trendy from south to north. Content of organic carbon in each fraction complexes and soil decrease with size of complexes increasing. Organic carbon of every complex decrease by exponential function with profile development layer of black soil forward down. In spatial distribution,content plot of organic mineral complex are different with different region for different content of organic carbon in soil profiles and temperature at south and north,therefore it suggest that the clays still to have bigger capacity of carbon pool in the black soil of northeast China. By correlation analysis of fractions and components of complex,clay is basis of forming and increasing slit complex,and is good for increasing content of soil organic carbon and improving soil aggregation structure
【语种】中文
【第一作者】郑庆福
【通讯作者】赵兰坡
【期刊名称、卷期、页码】水土保持学报, 2010,24 (1) : 243-248
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【学科分类】计算机应用

【题目】改进SPRINT算法及其在分布式环境下的研究
【中文关键词】" 决策树; SPRINT算法; 分布式环境;

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【英文关键词】"sion tree; SPRINT algorithm; distributed environmen;

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【中文摘要】通过引入一种动态数据结构,解决了SPRINT算法使用多个属性列表存储数据、占用过多系统资源、需创建哈希表对属性列表进行分割以及节点分割处理相对复杂的问题,并探讨了改进算法在分布式环境下的工作过程.实验结果表明,改进的算法减少了属性列表占用的存储空间以及分割节点操作所需的时间.
【英文摘要】The SPRINT was improved by introducing a dynamic data structure so as to resolve the problems that SPRINT makes use of multiple attribute lists to store data which occupies system resources,splits were carried out by way of establishing hash table,and the node splitting process is relatively complex.The example result shows that both the spatial complexity in attribute lists and the temporal complexity in the manipulation of split node have been decreased by the improved SPRINT.Finally,SPRINT ’ s working process was discussed under distributed environment.
【语种】中文
【第一作者】于蕾
【通讯作者】田野
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【学科分类】计算机应用

【题目】松辽平原玉米带黑土肥力演化特点及培育技术
【中文关键词】松辽平原玉米带; 黑土; 肥力演化; 肥力培育技术;
【英文关键词】corn belt of the Songliao plain; black soil; fertility evolution; fertilizing technology;
【中文摘要】"通过调查研究,提出了松辽平原玉米带粮食生产中存在的5方面问题。根据最近的一些研究结果,从土壤剖面构型、有效态养分平衡、有机无机复合体组成及土壤酸化趋势加剧等方面揭示了玉米带黑土肥力演化的特点,分析了驱动土壤肥力演化的原因。简要介绍了前期工作中提出的""三三(全)耕作制""对土壤肥力的培育效果,目的是为松辽平原玉米带土壤肥力退化的防治和定向培育提供理论和技术支撑。 更多还原"
【英文摘要】In this paper,five aspects of problems about crop production in the Songliao plain corn belt through the investigation and study were discussed.According to the recent research results,characteristics of fertility evolution of black soil were revelated from soil profile configuration,available nutrient balance,composition of organo-mineral complexs and acidified tendency aggravating.The reasons to control soil fertility evolution were analyzed."Three-three-cultivation system" proposed in initial work and its effects of fertilizing soil were also introduced briefly.The goal was to provide theoretical and technical support for fertility degradation prevention and to direct fertilization of black soil in the corn belt of the Songliao Plain.
【语种】中文
【第一作者】赵兰坡
【通讯作者】王鸿斌
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【学科分类】人工智能

【题目】改进的语义相似度计算模型及应用
【中文关键词】"人工智能; 语义相似度; 语义检索; 本体;

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【英文关键词】"artificial intelligence; semantic similarity; semantic search; ontology;
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【中文摘要】" 在语义检索中,语义相似度计算模型对信息查全率和查准率至关重要,通过改进传统语义相似度计算模型的不足,提出了新的语义相似度计算模型PHSS,它综合考虑概念的属性约束和层次结构,较之传统模型更能精确描述概念间语义距离。在此基础上,构建了一个玉米病虫害防治语义检索系统CDPPIRS,能依据查询信息和知识库进行语义推理,可针对用户多种查询方式提供给用户全面准确的文献信息,满足不同层次农业工作者的查询需求。在CD-PPIRS中的测试结果表明,PHSS在查全率和查准率方面均优于传统模型。
【英文摘要】In the semantic searching,the semantic similarity calculation model is crucial to ensure the searching results being all-sided and exact.A new semantic similarity calculation model,PHSS,was proposed based on improving the traditional models.Both the hierarchy and the property restrictions of the concepts were taken into consideration in this new model.The semantic distance between two concepts was described more accurately.Based on this model,a semantic search system,CDPPIRS,for preventing and curing plant disease and insect pests of corn was also constructed.This system can carry out semantic reasoning based on query information and the repository,and provide accurate bibliographies to the users according to their different kinds of enquiries.This system satisfies the enquiries of different level agricultural professionals.Experiment results in CDPPIRS show that the PHSS model is better than traditional models
【语种】中文
【第一作者】刘春辰
【通讯作者】刘大有
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【学科分类】计算机应用

【题目】 基于框架表示的玉米病虫草害诊治专家系统的构建及实现
【中文关键词】玉米; 专家系统; 农业信息技术;
【英文关键词】"Maize; Expert system; Agricultural information technology;

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【中文摘要】"由于农业生产的复杂性,玉米病虫草害的诊断对于农业技术人员经验的依赖很大。而玉米病虫草害诊断专家系统可以将这一复杂的工作变得更有成效。针对传统专家系统知识获取的""瓶颈""问题,在对玉米病虫草害症状框架描述的基础上,利用知识工程方法和技术,结合不确定性推理、匹配冲突消解策略和多媒体技术,实现了基于框架表示的玉米病虫草害诊治专家系统,用于模仿该领域专家思维,补充或代替农业专家指导玉米生产。本文主要阐述该系统的总体结构、知识表示、推理机制和系统实现与应用等方面问题。"
【英文摘要】The diagnosis and treatment of corn ’s diseases,pests and weeds depend on the experience of agricultural technicians greatly because of complexity of agricultural production.While the diagnosis and treatment of corn ’s diseases,pests and weeds is able to make it complex task more effective,so it has been regarded to an expert stayed in rural areas.This paper in the view of the ’bottle neck ’problem based on the frame description of symptom of corn ’s diseases,pests and weeds,this paper took advantage of knowledge project ’s method and technology,and combined uncertainty inference and dispelling strategy of matching conflict and technology of multimedia to realize the expert system of corn ’s diseases,pests and weeds which expressed on the basis of frame,and this system was used to imitate domain expert ’s thinking and supplement or substitute for agricultural experts to guide production.This paper emphatically expounded the questions which were the totality structure of system,knowledge express,inference mechanism,the realization and apply system and so on
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【学科分类】计算机应用

【题目】自组织分治求解分布式约束优化问题
【中文关键词】"分布式约束优化问题; 多Agent系统; 自组织; 分散式算法; 分治法;

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【英文关键词】" distributed constraint optimization problem DCOP; multi-agent system; self-organization; decentralized algorithm; divide and conquer;

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【中文摘要】"分布式约束优化问题(DCOP)是在大规模、开放、动态网络环境中的优化问题,在计算网格、多媒体网络、电子商务、企业资源规划等领域中都有广泛应用.除了具有传统优化问题的非线性、约束性等特点,DCOP还具有动态演化、信息区域化、控制局部化、网络状态异步更新等特点.寻求一种解决DCOP的大规模、并行、具有智能特征的求解方法已成为一个具有挑战性的研究课题.目前已提出多种求解DCOP的算法,但大多不是完全分散的算法,存在集中环节,需要网络的全局结构作为输入,不适合处理由规模巨大、地理分布、控制分散等因素导致的全局结构难以获取的分布式网络.针对该问题,提出一个基于自组织行为的分治策略求解DCOP.在不具有全局网络知识的情况下,分布在网络中的多个自治Agent基于局部感知信息、采用自组织的方式协作求解.与已有算法相比,它是一个完全分散式算法,并在求解效率和求解质量方面都展现出很好的性能.
【英文摘要】Distributed constraint optimization problem (DCOP) is a kind of optimization problem oriented to large-scale, open and dynamic network environments, which has been widely applied in many fields such as computational grid, multimedia networks, e-business, enterprise resource planning and so on. Besides the features such as non-linear and constraint-satisfaction which the traditional optimization problems have, DCOP has its distinct features including dynamic evolution, regional information, localized control and asynchronous updating of network states. It has become a challenge for computer scientists to find out a large-scale, parallel and intelligent solution for DCOP. So far, there have been a lot of methods for solving this problem. However, most of them are not completely decentralized and require prior knowledge such as the global structures of networks as their inputs. Unfortunately, for many applications the assumption that the global views of networks can not be obtained beforehand is not true due to their huge sizes, geographical distributions or decentralized controls. To solve this problem, a self-organizing behavior based divide and conquer algorithm is presented, in which multiple autonomous agents distributed in networks work together to solve the DCOP through a proposed self-organization mechanism. Compared with existing methods, this algorithm is completely decentralized and demonstrates good performance in both efficiency and effectiveness
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【第一作者】黄晶
【通讯作者】刘大有
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【题目】混合维拓扑和尺寸关系的定性空间推理
【中文关键词】"定性空间推理; 混合维空间关系; 约束满足问题; 区域连接演算; 结合空间关系;

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【英文关键词】"qualitative spatial reasoning; multi-dimensional spatial relation; constraint satisfaction problem; region connection calculus; integrated spatial relation;
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【中文摘要】"定性空间推理(QSR)研究空间关系,多数工作集中在单维空间关系,但在地理信息系统(GIS)中多维对象很常见.混合维对象空间关系是指点、线和区域3类对象出现在同一场景的情况,该类问题对定性空间推理研究有着重要的理论意义和应用价值,但这方面的研究工作还比较少.在已有的混合维区域连接演算的基础上进行完善,提出了MRCC5混合维拓扑模型,并研究了其上约束满足推理问题的复杂度.对定性尺寸关系进行了混合维扩展,给出了MDS模型,进而研究了其推理

问题.在以上工作基础上,提出了RCC5和MDS的结合模型,给出并分析了结合模型的推理算法.将定性空间推理相关研究推广到混合维领域,深入研究了混合维拓扑关系推理,提出了混合维尺寸以及混合维拓扑尺寸结合模型.

【英文摘要】Qualitative spatial reasoning(QSR) studies the spatial relations of objects in the space.Most QSR research work aims at the spatial relations between single dimensional objects(i.e.region-region relation or line-line relation).Spatial relation of multi-dimensional objects is the situation that point,line and region objects appear in one scene at the same time.Spatial relation of multi-dimensional objects is very common in geographical information systems(GIS).Qualitative spatial relation of multi-dimensional objects has very important theoretical meaning and practical value,but very few work in QSR was focused on it before.By improving the previous research on multi-dimensional region connection calculus model,a multi-dimensional topological model(i.e.MRCC5) is given,and the complexity of its constraints satisfaction problem is studied.The multi-dimensional extension of qualitative size relation called MDS model is proposed,its reasoning problem is also investigated.Based on the above work,a model which combines RCC5 and MDS is proposed,so does its reasoning algorithm.This work extends the related work in qualitative spatial reasoning to the multi-dimensional field.The reasoning of multi-dimensional topological relation is improved.It is the first time that multi-dimensional size relation model and relation model integrating topology and size are studied.

【语种】中文

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【学科分类】计算机应用

【题目】基于缓冲区的扩展拓扑关系模型及应用

【中文关键词】" 定性空间推理; 区域连接演算; 缓冲区; 约束满足问题; 结合空间关系;

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【英文关键词】"qualitative spatial reasoning; region connection calculus; buffer; constraint satisfaction problem; integrated spatial relation;

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【中文摘要】" 定性空间推理在人工智能等领域有着广阔的应用前景,但目前单方面空间关系研究较多,多方面结合研究较少,这与实际应用需求不符.由于各类空间关系具有独立性,需要找到适当的理论将它们融合,目前对于拓扑、距离结合模型的研究还不够充分.针对缺乏基本关系可处理且易于在GIS系统中实现的模型等情况,提出了一种扩展拓扑关系模型BERCC.BERCC源于RCC理论,其主要思想是通过考虑缓存区之间的拓扑关系来提高模型表达能力,同时能表达一定程度的距离信息.推导了BERCC的弱复合表,证明了BERCC基本关系是可处理的,给出了一个包括全集关系和基本关系的可处理子集,在此基础上实现了约束满足推理算法.最后,基于该理论和方法实现了一个实验系统,进一步验证了模型及算法的正确性和实用性.

【英文摘要】Qualitative spatial reasoning (QSR) is promising for applications in artificial intelligence and other fields. Much research work bas been done on single spatial relation aspect,while little research focused on integration of two or more aspects. This does not accord with the real world applications,where several aspects are usually involved together. Since different aspects of space are often dependent,it is needed to establish more elaborate formalisms that combine different types of information. The researches on combining topology and distance are not sufficient now. And the model which is tractable in basic relations and easy to implement in GIS is lacking. An extensional topology relation model,BERCC,is proposed based on RCC theories. Its main idea is to improve express ability by using the topological relation of buffers. Some distant information is included in the model. The weak composition table of BERCC is deduced. The basic relations of BERCC are proved to be tractable. The tractable subset of BERCC including basic and full relations is given. A constraint satisfaction reasoning algorithm of BERCC is implemented. Finally,an experimental system is developed with the above theories and methods. The correctness and practicability of the model and the algorithm are validated by the system.

【语种】中文

【第一作者】王生生

【通讯作者】刘杰

【期刊名称、卷期、页码】计算机研究与发展, 2009, 46(11) : 1900-1906
【论文发表时间】2009-11-15 00:00:00
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【引文索引号】2.0095112567e+013
【学科分类】计算机应用

【题目】不同施钾量对玉米钾素吸收利用的影响研究
【中文关键词】玉米; 不同施钾量; 钾素吸收;
【英文关键词】Maize; Different potassium rates; Potassium absorption;
【中文摘要】采用田间试验研究了不同施钾量对玉米钾素吸收利用的影响。结果表明:玉米产量随钾肥用量提高呈缓慢上升趋势。当钾肥用量达156kg/hm2时玉米产量最高,为11177kg/hm2,与不施钾肥处理相比增产20.53%,产量差异达显著水平;不同施钾处理玉米收获后土壤速效钾含量比播种前有所降低,土壤缓效钾随钾肥施用量的增加而明显提高,土壤全钾含量变化不大;不同施钾处理,随着钾肥的施用量提高,玉米从土壤中带走钾量明显增加,当钾肥施用量在117kg/hm2以下时,土壤中的钾素亏损,不能保持土壤中钾素平衡;各处理玉米子粒中钾素含量均比其茎秆钾素含量低,随着钾肥施入量的增加,子粒茎秆中钾素含量也相应增加;不同施钾处理,钾素的利用率随钾肥的施用量的增加而减少。
【英文摘要】"This paper used the method of field experiment, analysis and different application of potassium fertilizer for black soil region of middle of Jilin to study the effects of use of nitrogen from maize. The results showed that the output increased slowly with the dosage of potash fertilizer through different ways. When the dosage of potash fertilizer was 156kg/ha, the output of maize was highest. The highest output was 11 177 kg/ha. Compared with NPK0 disposing, the output was increasing by 20.53%, and production volume variance reached significance level. Cultivated land soil available potassium content was lower than pre-sowing, with the increasing of potassium application rate, the slowly available potassium was increasing obviously, but there was little change of soil total potassium content. Different treatment of potassium, along with the application of potassium, maize absorb more potassium from soil when application of potassium blow 117 kg/ha, the potassium status in soil lost so that it could not keep soil potassium balanced. Determination of potassium element in maize kernel was lower than its straw. Along with the application of potassium, potassium element in maize kernel also increased. Different treatment of potassium fertilizer, recovery of potassium fertilizer decreased along with the increasing of potassium application rate. "
【语种】中文
【第一作者】刘淑霞
【通讯作者】赵兰坡
【期刊名称、卷期、页码】玉米科学, 2008, 16(4) : 172-175
【论文发表时间】2008-08-15 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】计算机应用

【题目】玉米精准施肥数据库建模研究
【中文关键词】玉米; 实体-关系模型; 精准施肥; 数据库设计;
【英文关键词】"Maize; Entity-relation model; Precision fertilization; Database design;
"
【中文摘要】"精准施肥是玉米精准作业系统中的关键环节,玉米精准施肥数据库的创建是建立玉米精准施肥决策支持系统的基础。针对吉林省玉米精准作业示范区的实际情况和当前玉米精准施肥数据库设计中存在的不规范性等问题,基于软件工程方法设计与实现了玉米精准施肥数据库。该数据库的创建避免了数据冗余,有利于施肥数据的规范化管理,能够提高玉米精准施肥软件系统的开发效率。
【英文摘要】The construction of maize precision fertilization database is the base for building precision fertilization system of maize. In this article, according to the fact of maize precision production region in Jilin province and the problem existing in the building of precision fertilization database, maize production database was designed and implemented based on software engineering technology. The construction of this database avoided data redundancy, was beneficial to standardization of data management and increases the developing efficiency of maize precision fertilization software system.
【语种】中文

【第一作者】于合龙
【通讯作者】陈桂芬
【期刊名称、卷期、页码】"玉米科学, 2008, 16(4) : 184-188
【论文发表时间】2008-08-15 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】人工智能

【题目】基于贝叶斯网的专家系统平台的开发与应用
【中文关键词】贝叶斯网; 构建; 推理; 专家系统;
【英文关键词】Bayesian network; construction; reasoning; expert system;
【中文摘要】针对基于贝叶斯网建立专家系统所涉及的关键问题,采用分离技术、"噪音或"技术和转换现有的确定性因子知识库等技术简化贝叶斯网的构造,利用变量消去算法实现了贝叶斯网的精确推理,开发了贝叶斯网建网组件和推理组件,并应用这两个组件建立了简单的奶牛疾病诊断专家系统和蔬菜种植专家系统。实际运行表明,所开发的贝叶斯网建网组件和推理组件在表示与处理不确定性知识时是非常有效的。
【英文摘要】The construction of maize precision fertilization database is the base for building precision fertilization system of maize. In this article, according to the fact of maize precision production region in Jilin province and the problem existing in the building of precision fertilization database, maize production database was designed and implemented based on software engineering technology. The construction of this database avoided data redundancy, was beneficial to standardization of data management and increases the developing efficiency of maize precision fertilization software system.
【语种】中文
【第一作者】于合龙
【通讯作者】陈桂芬
【期刊名称、卷期、页码】黑龙江大学自然科学学报, 2008, 25(4) : 492-497
【论文发表时间】2008-08-25 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】人工智能

【题目】数据挖掘在精准农业中的应用现状及发展趋势
【中文关键词】" 精准农业; 数据挖掘; 空间数据库; 聚类分析; 决策树;
"
【英文关键词】precision agriculture; data mining; spatial database; cluster analysis; decision tree;
【中文摘要】"随着与计算机相关的信息技术在精准农业上的广泛应用,积累了大量与精准农业生产过程密切相关的属性数据和空间数据,使得数据挖掘技术在其领域中显示出越来越重要的作用。文中结合农业领域的特点,系统综述了聚类分析、决策树、关联规则、粗糙集等主要数据挖掘技术在精准农业中的应用现状及应用前景。
【英文摘要】With the extensive application of information technology related with computer in agriculture,massive attribute data and spatial data related with precision agriculture were accumulated,in which data mining technology becomes more and more important.Combined with the characteristics of agriculture systematically,this paper summarizes the application status and application prospect of data mining technology in precision agriculture.These technologies contain cluster analysis,decision trees,association rules,rough sets,etc.
【语种】中文
【第一作者】陈桂芬
【通讯作者】曹丽英
【期刊名称、卷期、页码】吉林农业大学学报, 2008,30 (4) : 621-626
【论文发表时间】2008-08-15 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】人工智能

【题目】一种特征加权的聚类算法框架
【中文关键词】聚类算法框架; 特征加权; 基于距离的聚类; 基于密度的聚类;
【英文关键词】Clustering algorithm framework; Feature weighted; Distance-based clustering; Density-based clustering;
【中文摘要】"为了考虑数据各维特征对聚类的不同贡献,并把有监督特征评价方法应用到无监督分类问题中,提出一种特征加权的聚类算法框架。该框架首先通过某种聚类算法对数据聚类,然后,根据聚类结果,采用有监督特征评价方法学习各维特征的权值,再根据特征权值重新聚类,之后再次学习特征权值,该过程反复迭代,直至算法收敛或达到指定的迭代次数。欧几里德空间内基于距离、基于密度的聚类算法均适用于本框架。基于本框架,采用模糊C均值聚类算法(FCM)、密度聚类算法(DBSCAN),并通过信息增益特征评价、ReliefF特征评价方法,对多个UCI数据集进行了实验,验证了该框架的有效性
。
【英文摘要】To consider the particular contributions of different features and apply supervised feature ranking methods to unsupervised classification,a framework of feature weighted clustering algorithm was proposed,which executes a clustering algorithm firstly,and then according to the results of clustering,learns feature weights using supervised feature ranking methods,and according the new feature weights executes the clustering algorithm again,this procedure iterates until convergence or maximum iteration times.Distance-based and density-based clustering algorithms in Euclidean space can be used in this framework.Based on this framework,fuzzy C-means clustering(FCM)and density-based spatial clustering of applications with noise(DBSCAN),and information gained and reliefF feature ranking algorithms are used to the experiments on several UCI machine learning databases,and validate the effectiveness of the framework.
【语种】中文
【第一作者】高滢
【通讯作者】刘大有
【期刊名称、卷期、页码】计算机科学, 2008,35 (10) : 152-154
【论文发表时间】2008-10-28 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】计算机应用

【题目】基于ARM 的变量施肥控制系统的研究
【中文关键词】"ARM; 变量施肥; 控制;
"
【英文关键词】ARM; variable rate fertilization; control;
【中文摘要】"介绍了一种新的精确农业变量施肥控制系统。该系统接收施肥和速度传感器输入信号,经过ARM嵌入式内核处理后,输出控制步进电机的脉冲信号,控制施肥机上排肥轴的转速,实现精确农业变量施肥。实践证明,该控制系统工作稳定,达到了精确农业变量施肥的要求。
【英文摘要】A new kind of control system for the variable rate fertilizer applicator in precision agriculture is introduced.This system receives signals of fertilization rate and speed sensor dealed with the embedded micro processor of ARM,it outputs pulse signal which controls the rotational velocity of the stepping motor,then the system could control the rotational velocity of the fertilizer shaft and work automatically.Results showed that the system simple,cheap and worked stable
【语种】中文
【第一作者】于英杰
【通讯作者】张书慧
【期刊名称、卷期、页码】农机化研究, 2008,11期 : 47-50
【论文发表时间】2008-11-01 00:00:00
【引文索引类型】EI
【引文索引号】2.0102413004e+013
【学科分类】计算机应用

【题目】冬小麦-夏玉米复种连作中定位水氮组合对籽粒灌浆特性及产量的影响
【中文关键词】Field experiment was conducted during 2008-2009, effects of water and nitrogen on the kernel filling process of maize and wheat were observed and analyzed in order to provide framework for reasonable irrigation and fertilization, based on a 2-3 years

loca
【英文关键词】Water and nitrogen location study; Summer maize; Winter wheat; Grain filling characteristics; Yield
【中文摘要】为提高水氮高效利用, 在2 ~ 3 年定位水氮处理基础上于2008 - 2009 年对玉米 -小麦灌浆过程及产量形成进行了研究。结果表明, 籽粒灌浆过程可较好的用 Logistic 函数描述。玉米粒重随施氮量增加呈抛物线变化, 灌开花水高施氮量处理条件下粒重下降。小麦粒重随施氮量增加呈下降趋势, 灌开花水显著提高粒重。灌浆持续时间和平均灌浆速率与粒重呈正相关, 但灌浆持续时间和平均灌浆速率呈极显著负相关(R = - 0. 966 7) 。玉米产量以1 水条件下施氮480 kg /hm2最高, 小麦产量以3 水条件下施氮480 kg /hm2最高。
【英文摘要】定位水氮; 夏玉米; 冬小麦; 灌浆特性; 产量
【语种】中文
【第一作者】郭丽
【通讯作者】张凤路
【期刊名称、卷期、页码】华北农学报 2 0 1 0, 2 5 (3) : 1 59 - 1 6 4
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【引文索引类型】其他
【引文索引号】null
【学科分类】农业基础学科

【题目】一种加权的空间模糊动态聚类算法
【中文关键词】层次分析法; 模糊等价关系; 加权空间模糊动态聚类; 最佳分类;
【英文关键词】"analytic hierarchy process; fuzzy equivalence relations; weighted spatial fuzzy dynamic clustering; the best classification;
"
【中文摘要】"一般空间模糊聚类算法没有区分各属性之间的不平衡性和讨论分类数何时为最佳,针对这一问题,提出了一种加权空间模糊动态聚类算法。该算法首先利用层次分析法得到各属性的权值;然后将权值与空间模糊动态聚类法相结合;最后利用概率统计中的F-分布来确定最佳分类,以提高空间模糊聚类算法的智能性。将文中算法与基于模糊等价关系的传递闭包方法进行比较,试验表明,该算法聚类准确率要明显高于未加权的模糊聚类算法。
【英文摘要】Generally the spatial fuzzy clustering algorithm has not differentiated the imbalance between the various attributes and discussed the best classification number.In response to this problem,this paper uses a spatially weighted fuzzy dynamic clustering algorithm.First,the weight of each attribute is accessed using AHP;and then weight is added to the spatial fuzzy dynamic clustering algorithm;finally,the F-distribution of probability statistics is used to determine the best classification number,in order to improve the algorithm ’s intelligence.This algorithm is compared with the transitive closure algorithm based on fuzzy equivalent relations.Tests show that the clustering algorithm ’s accurate rate is higher than not weighted fuzzy clustering algorithm.
【语种】中文
【第一作者】王国伟
【通讯作者】陈桂芬
【期刊名称、卷期、页码】计算机工程与应用.2010,46(17):146-149.
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【引文索引号】null
【学科分类】计算机应用

【题目】基于服务组链的Web服务组合方法
【中文关键词】计算机应用; Web服务; 服务组; 服务组链; 服务组合;
【英文关键词】computer application; Web service; service community; service community chain; service composition;
【中文摘要】针对带有分支和汇合结构的并发服务组合问题,提出了一种Web服务组(WSC)模型。WSC模型除了能够描述多个前驱服务或多个后继服务同时需要被组合的并发组合关系和顺序组合关系外,还能保证被组合服务的可执行性。在此基础上,扩展基于服务链组合方法,提出一种基于服务组链的服务组合方法。该方法能够采用统一的方式处理顺序服务组合问题和并发服务组合问题。最后通过实验和实例证明了本文方法的有效性。
【英文摘要】A Web service community(WSC) model to deal with the simultaneously occurred service composition problem with branching and merging structures. The WSC model can not only describe the parallel and the sequential composition relations where

the multiple forerun and follow-up services need to be combined but also guarantee the implementation of each combined service. Moreover,spreading the service community chain based composition approach,a Web service composition approach was proposed based on the service community chain. The approach can deal with the sequential and the parallel service composition problems in a unified way. The proposed approach was verified by experiments and case studies

【语种】中文
【第一作者】刘思培
【通讯作者】刘大有
【期刊名称、卷期、页码】吉林大学学报(工学版), 2010,40 (1) : 148-154
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【引文索引号】null
【学科分类】计算机应用

【题目】磷对不同基因型玉米生长及氮磷钾吸收的影响
【中文关键词】磷; 玉米; 生长; 氮磷钾吸收
【英文关键词】phosphorus ; maize ; growth ; uptake of N, P and K
【中文摘要】采用田间试验法, 在高磷和低磷土壤上分别设置施磷和不施磷处理, 研究磷对 9个玉米基因型生物量、产量、氮磷钾养分吸收量的影响及其各基因型间的异同, 为磷肥合理施用提供科学依据。结果表明, 在高磷土壤上, 不施磷对各玉米基因型的生物量、产量、产量构成因素和多数玉米基因型的氮磷钾吸收量影响不大; 在低磷土壤上, 不施磷降低各玉米基因型的生物量、穗粒数、产量及氮磷钾吸收量。两个磷水平下, 均以鑫玉 16的生物量和产量最大, 冀单 28最小, 这与前者具有较多的养分吸收量有关。不同玉米基因型间有明显差异, 在玉米生产中应该因地制宜合理施用磷肥。
【英文摘要】On the higher and lower available P soils , treatments o f P fertilize r application we re designed in the field condition. Effects of P fertilizer application on the plant biomass , y ield , nutrient uptake o f N, P and K in nine maize cultivars , and their differences were studied . This provided the scientific basis for P fertilizer reasonable application . The results showed that on the higher available P soil, P fertilizer applicati on hardly infl uenced the maize biomass , yield and its constitute , and nutrient uptake of N, P and K. On t he lower available P soil, without P fertilizer application decreased maize biomass , seed numbe r per ear , yield , and uptake of N, P and K. Because of the higher nutrient uptake , liyu16 had higher biomass and yield under the condition o f two P levels . Nine maizecultivars had significant difference . Therefore , according to soil available P content , reasonable P fertilizer application should be suggested in the maize produce.
【语种】中文
【第一作者】袁硕
【通讯作者】彭正萍
【期刊名称、卷期、页码】中国土壤与肥料 2010(1):25-28,80
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【引文索引号】null
【学科分类】农业基础学科

【题目】用增稳系数评价钾肥配合秸秆还田对作物的增产稳定性效应
【中文关键词】增产稳定性;增产稳定性系数;钾肥配合秸秆还田;小麦;玉米
【英文关键词】stability of durative yield increasing;yield increase stability coefficient(YSIC);potassium(K)fertil-ization and straw recycling;wheat;corn
【中文摘要】据长期定位试验结果,提出增产稳定性系数(增稳系数)指标,据此研究化学钾肥和秸秆配合施用对小麦玉米产量的持续增产稳定性效应,以期更合理评价钾肥配合秸秆还田这一施肥方式对作物增产稳定性的影响。试验共设4个处理,分别为:(1)只施氮磷肥的对照(NP);(2)在对照基础上加施秸秆(NPst);(3)在对照基础上加施钾肥(NPK);(4)在对照基础上加施秸秆和钾肥(NPKSt)。结果表明:增稳系数可以作为评价施肥方案对作物产量长期持续增产效应的综合指标;不同施肥方案的长期持续增产效应定量分析表明,钾肥配合秸秆还田方案不但促进作物增产,还能提高增产的持续稳定性。
【英文摘要】ording to long-term sited fertilization experiment,this paper put forward yield increase stability eoeffi · cient(YISC)index,in order to study and quantitative analyze stability of durative yield-increasing effect of potassium(K)fertilization and straw recycling on wheat and cornyields.The experiment includes 4 treatments鸹:(1)CK,onlyproviding

N and P fertilizer;(2)CK+wheat straw recycling;(3)Optimum rate of N,P and K fertilizer;(4)N,Pand K fertilization+wheat straw recycling.The results show that YISC is available for evaluating stable yield-increasingeffect of the fertilization design.By quantitative analysis for long-termyield-increasing effect of different fertilization de-signs we know that long-term K fertilization and straw recycling can both increase grain yield and stability of durative yieldincreasing.

【语种】中文
【第一作者】邢素丽
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【题目】长期施肥潮土在玉米季施肥初期的有机碳矿化过程研究
【中文关键词】长期不同施肥;土壤呼吸;土壤潜在可矿化有机碳;易矿化性有机碳量
【英文关键词】Long-term different fertilization, Soil organic carbon mineralization, Potentially mineralized C, Easily mineralized C
【中文摘要】以黄淮海平原长期定位试验地2007 年玉米播种期土壤为研究对象,通过室内37 天的培养实验并选择4 个应用比较广泛的方程对土壤有机碳矿化过程进行拟合,其目的主要是为了比较研究长期不同施肥土壤在玉米季施肥初期有机碳矿化过程及主要矿化参数的差异, 并评估矿化参数和主要土壤性质之间的相关关系。 结果表明, 37 天培养期内各施肥处理土壤CO2-C累积释放量与土壤有机碳、全氮含量和微生物活度均呈显著正相关,大小依次为OM>1/2OM+1/2NPK>NPK>NP>PK>CK>NK,有机碳矿化过程均呈曲线形式,与 Jones(1984)改进的一级动力学方程拟合效果最好。拟合所得土壤潜在可矿化有机碳量(C0) 、易矿化有机碳量(C1)和初始潜在矿化速率(C0k)均表现出有机肥处理高于化肥处理,施肥处理高于不施肥处理(NK处理除外) ,与土壤有机碳、全氮和土壤微生物活度均呈显著正相关;有机碳矿化速率(k)和土壤潜在可矿化有机碳占土壤总有机碳的比例在处理间差异均不显著,除 k 与有机碳呈显著负相关外,其他与土壤性质均无显著相关性。因此,我们推测有机肥和化肥的平衡施用均能显著增强土壤有机碳的矿化作用,有利于土壤无机养分的释放,同时使部分有机碳在土壤中积累。
【英文摘要】In a 37-day laboratory incubation study soil organic C mineralization was determined in soil samples obtained from initial stage of maize growth in an 18 year long-term field experiment which was carried out to evaluate nutrition equilibrium in a fluvo-aquic soil under different fertilization treatments. During the incubation time, cumulative CO2-C released from soil was positively correlated to soil organic carbon, total nitrogen and microbial activity, which with a general decrease order of OM>1/2OM+1/2NPK>NPK>NP>PK>CK>NK. A modified first-order model best described C mineralization in the soil. Potentially mineralized C (C0), easily mineralized C (C1) and the initial potential rate of C mineralization (C0k) were significantly different among the treatments with a general decline order of organic manure treatments>mineral fertilizer treatments>control, which were positively correlated to soil organic carbon, total nitrogen and microbial activity. Mineralization rate (k) and potentially mineralized C divided by organic C (C0:Organic C) were not significantly different among treatments, which were not correlated to soil organic carbon, total nitrogen and microbial activity except k was negatively correlated to organic carbon. Consequently, we conferred that long-term application of both organic manure (OM or 1/2OM+1/2NPK) and mineral fertilizers (except NK) to soil could significantly increase the mineralization of soil organic carbon, reflecting the differences in soil properties, thus increase the availability of soil mineral nutrients to crops and soil organic carbon content.
【语种】中文
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【通讯作者】赵炳梓
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【题目】长期施肥处理对玉米生长期潮土微生物生物量和活度的影响

【中文关键词】施肥处理;微生物生物量碳;微生物生物量氮; 微生物活度
【英文关键词】Fertilization treatment ; Microbial biomass carbon ; Microbial biomass nitrogen ; Microbial activity
【中文摘要】以1989年建立的中国科学院封丘农田生态系统国家试验站的长期定位试验为平台, 研究经18a连续不同施肥处理后玉米季土壤微生物生物量碳氮和微生物活度的动态变化及其与土壤有机碳之间的相互关系,并探讨施肥措施对土壤微生物及其活性的影响。施肥处理包括: (1)有机肥 (OM); (2) 1 /2化肥和1 /2有机肥 (1 /2OM+ 1 /2NPK); (3)氮磷钾肥 (NPK) ; (4)氮磷肥 (NP); (5)磷钾肥 (PK); (6)氮钾肥 (NK);(7)不施肥,即对照 (CK) 7个处理。结果表明,微生物生物量碳氮和微生物活度在玉米生长期内均有明显的时间变异性,其中微生物生物量碳与微生物活度的动态变化比较一致, 其间的极显著相关关系表明潮土微生物生物量碳的变化可以在很大程度上代表土壤微生物活度的变化。施肥制度显著影响微生物生物量碳氮和微生物活度的变化,总体趋势为 OM> 1 /2OM+ 1 /2NPK > NPK > NP> PK > NK > C K,表明 OM 有利于保持土壤的生物化学环境及促进土壤的生物学活性; 与 OM处理相比,化学肥料的长期施用有降低土壤微生物生物量和微生物活度的趋势,尤其是缺素处理的表现更为明显, 其中以缺磷处理的表现最为严重。土壤微生物生物量碳氮、 微生物活度与土壤有机碳变化均呈极显著正相关。
【英文摘要】Based on a long2ter m fiel d experm i ent ini tiated in 1989 and c onducte d i n the Nati onalAgro2 Ecologi ca lExperm i ent Station located in Fengqi u County , H e na n P r ovi nce , China , dyna m ic changes ofmicrob i al b i o mass C and N ,and micr ob i a l acti vi ty duri ng the gr o wth peri od of su mmerma iz e as related to d iff erent c ont i nuous f erti lizat i on manage me ntwere invest i gated i n 2007 . A t t he sa me tm i e , eff ect of long2ter m f erti lizat i on onm icrobial bi o mass and act i vi ty a nd their re 2l ationshi p w i th soi l organic carbon contentwas also disc ussed . The experm i entwas des i gned to have 7 treatme nts , . i e . or 2ganicmanure (OM), half or ganicmanure plus ha lf f ertiliz erN (1/2OM+ 1 /2NPK), f ertil izer NPK (NPK), f ertiliz erNP (NP), fert i lizerNK (NK), f ertiliz er PK (PK) and control (CK). Resul ts sho w that temporal vari at i on of soi lm i cr o2b i al b i o mass C and N, and micr ob i al activi ty was s i gn ificant duri ng the gro wth peri od of su mmermaize . The dynamics ofm icrobial bio mass C a nd m icrobial activitywere consiste nt , a nd the ir extremel y pos i tive correlati on suggests thatmicr ob i a lb i o mass C ca n be used as an i ndicator ofmicr ob i a l act i vi ty . Fertiliz ation s i gn ificantl y af fected soi lm icrobial bi o mass andm icrobial act i vi ty . The 7 treat ments generall y sho wed a decreas i ng order ofOM > 1 /2OM+ 1 /2NPK > NPK > NP >PK > NK > CK i ndicati ng that or ganicmat terwas beneficial to soil bi oche m ical envir onme nt and soi lmicr ob i al acti vi ty .Co mpared w i th Treatme nt OM, the other chem i ca l treat ments revealed a tre nd of decreas i ng soi l micr ob i a l b i o mass andweakeningmicr ob i al acti vi ty . Itwas particul arl y s i gn ificant i n treat ments unbalanced i n nutrient , wi th TreatmentNK sho w2i ng t heworst eff ect , pr oba b l y because eleme nt P is an m i portant ele ment f ormaki ng up cellwall and me mbrane f ormostbacteria . Pos i tive rel ationshi p ofmicr ob i a l bi o mass and e nz y me act i vi tyw i th soi l organ i c C was also observed .
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【题目】Immunomodulation of RAW264.7 macrophages by GLIS, a proteo ¬ polysaccharide from Ganoderma lucidum
【中文关键词】无
【英文关键词】cytokines; Ganoderma lucidum (GL); immunoactivation
【中文摘要】无
【英文摘要】The immunomodulatory effect of Ganoderma lucidum immunomodulating substance (GLIS) on macrophages has been investigated as part of on-going research into the anti-cancer properties of Ganoderma lucidum. Proliferation of bone marrow macrophages (BMMs) was enhanced by GLIS in a dose-dependent manner. Microscopic examination revealed that numerous GLIS-treated RAW264.7 macrophages were enlarged and formed pseudopodia. Exposure of RAW264.7 macrophages to GLIS resulted in significant increases in NO production, induction of cellular respiratory burst activity, and increased levels of IL-1 beta, IL-12p35 and IL-12p40 gene expression. Our data indicate that GLIS activates the immune system by modulating cytokine production
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【题目】诱导性多潜能干细胞的研究进展
【中文关键词】诱导性多潜能干细胞;哺乳动物;研究进展
【英文关键词】induced pluripotent stem cells, mammal, research progress
【中文摘要】作为生命科学界一大热点领域的干细胞研究一直备受关注,而诱导性多潜能干细胞(,简称iPSC或iPS细胞)的产生具有里程碑的意义。从2006、2007年日本美国科学家先后发表对小鼠与人诱导性多潜能干细胞的研究成果至今,短短三年时间,iPS细胞的研究领域以惊人的速度和影响范围发展,又有了很多新的进展与突破,并荣登2007年 Natuer Science times 年度十大科学成果突破榜及2008年Science 年度十大科学成果突破榜榜首。本文概述了诱导性多潜能干细胞的研究背景、研究方法和进展、在哺乳动物中的研究范围和应用现状,最后提出了展望和有待解决的问题,以期为诱导性多潜能干细胞研究者进行更深入的研究提供一定的借鉴。
【英文摘要】the recent success on induced pluripotent stem cells (iPSC,iPS cells)is a significant landmark for Stem Cell research, which has been a hot topic in life science field. Japanese and American scientists successfully established mouse and human iPS cell lines in 2006 and 2007 respectively and only three years later, iPS cells research has been developed at tremendous rapid and numerous relative improvements and breakthroughs have been achieved in both of basic and application fields. iPS cells ranked number 1 of top 10 science stories in Nature Science times (2007) and Science(2008). This review summarizes the background of iPS cells research, the different strategies used to generate iPS cells and their developments, application status on mammals and the prospects and problems of current iPS cells techniques. This review might be helpful for related scientists to furgher investigate iPS cells.
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【题目】风干土保存时间和湿土培育时间对黄淮海平原潮土酶活性的影响
【中文关键词】风干土保存时间;湿土培育时间;土壤酶活性
【英文关键词】Storage time,Air-drying soil,Incubation time,Rewetted soil,Soilenzyme activity
【中文摘要】摘要: 以经历18年不同施肥管理的土壤为研究对象,阐明它们经过4个不同时间保存或处理后的土壤脲酶、转化酶、脱氢酶、及FDA酶活性的动态变化.处理包括:风干保存30天或鲜土状态、风干保存210天、风干土湿润至田间持水量(25℃)条件下分别培育15天和5l天;同时评估这些酶活性的变化程度与土壤本身有机碳含量之间的关系。结果表明,风干土保存时间和风干土湿润后短期培育均对脲酶活性影响很小,但风干土湿润培养5l天后其活性则显著降低;随风干土保存时间延长,转化酶活性显著降低;与鲜土相比,风干土湿润培养15天后,脱氢酶活性显著提高,但继续湿润培养至5l天后,其活性又降至与鲜土相当,因此风干土湿润培育一定时间后测定的脱氢酶活性可用来代表其田间自然湿度时的状态:FDA酶活性的变异程度最大,与其从鲜土状态至风干状态的活性急剧下降有关.土壤本身有机碳含量与脲酶和脱氢酶的活性变化程度成显著负相关关系.说明土壤有机碳含量是决定它们随环境条件改变而变化的主要因素之一.另外,土壤NH,.-N、N03'-N和可溶性有机碳含量对上述4种处理的响应程度也存在差异.其中风干状态土壤经湿润培育处理后,NH.+-N含量呈先降后升趋势.正好与脲酶活性变化趋势相反;而N03"-N含量整体上呈上升趋势,可溶性有机碳含量则正好相反.
【英文摘要】Soil samples that have exposed to different fertilizationmanagement practices for 18 years were used to examine the variations ofvarious enzyme activities,including urea.invertase,dehydrogenase activity,and fluorescein diacemte hydrolysis,with storage time of air-dryingsoil and incubation period after rewetting.Soil enzyme activities were determined,respectively,on fresh samples or samples that have air-dried andstored for 30 d.samples that have air-dried and stored for 210 d,and on rewetted samples that have incubated for 15 or 51 d at feld capacity(25°C).Relationship between the content of soil organic curbon and the change in enzyme activities after storageand incubation was also evaluated.Theresults showed that urease activity was relatively stable during the storage

time of air-drying soiland subsequent 15d incubation at field capacity,while the activity significantly shifted down 51 d after rewetting.A considerable decline in invertase activity Was observed during the storage time ofair-drying soil.Relative to the fresh soil,dehydmgenase activit was significantly shifted up 15 d after rewetting,however,the activity shifted downagain and was comparable to the fresh soil when the incubation time expanded to 51 d,indicating that dehydrogenase activities determined in the laterconditions were representative of fresh soil values.Among the four determined enzyme activities,FDA showed largest fluctuations during theexperimental period,pmbably because of its greater decline when the soil changed from fresh sgatc to air-dried state.The significantly negativerelationship between the content of soil organic carbon and the variation coefficient of Oreasc or dehydrogenase activity suggested that soilorganiccarbon Was one of the most important factors in controlling their fluctuations with environment.Inaddition,the responses of soil NH4+-N,N03--Nand DOC contents to four kinds oftreatments were different.During the incubation period ofsoil rewetted after drying,the fiend of NH4+-N contentdescendcd first and then ascended,which was opposite to urease activity,and NO3--N content ascended during the wholeincubation.which wasopposite to DOC content.

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【题目】主成分分析方法在长期施肥土壤质量评价中的应用
【中文关键词】长期不同施肥;土壤质量;主成分分析
【英文关键词】Long-term different fertilization, Soil organic carbon mineralization, Potentially mineralized C, Easily mineralized C
【中文摘要】以长期定位试验玉米季成熟期6 种土壤微生物活性和9 种土壤化学性质指标组成的土壤生物肥力性质为评价指标对不同施肥条件下的土壤质量水平进行主成分分析。结果表明,经18年连续不同施肥处理后,各土壤性质在处理间均产生显著差异,但各土壤性质在处理间的变化趋势并不完全一致。上述15 个土壤性质指标最终可以用两个主成分来综合表征土壤质量,其中有机C、全N、碱解N、pH 值、微生物生物量C、微生物生物量N、脲酶、转化酶、FDA 酶和脱氢酶活性等10 个土壤性质在第一主成分(PC1)上有较高因子负荷;全P、全K、速效N 和速效P在第二主成分(PC2)上有较高的因子负荷。同时各施肥土壤质量水平在主成分1上的分异程度大于主成分2。根据两个主成分的综合得分结果显示,长期不同施肥土壤质量水平高低依次表现为OM>1/2OM>NPK>NP>PK>NK>CK。
【英文摘要】In a 37-day laboratory incubation study soil organic C mineralization was determined in soil samples obtained from initial stage of maize growth in an 18 year long-term field experiment which was carried out to evaluate nutrition equilibrium in a fluvo-aquic soil under different fertilization treatments. During the incubation time, cumulative CO2-C released from soil was positively correlated to soil organic carbon, total nitrogen and microbial activity, which with a general decrease order of OM>1/2OM+1/2NPK>NPK>NP>PK>CK>NK. A modified first-order model best described C mineralization in the soil. Potentially mineralized C (C0), easily mineralized C (C1) and the initial potential rate of C mineralization (C0k) were significantly different among the treatments with a general decline order of organic manure treatments>mineral fertilizer treatments>control, which were positively correlated to soil organic carbon, total nitrogen and microbial activity. Mineralization rate (k) and potentially mineralized C divided by organic C (C0:Organic C) were not significantly different among treatments, which were not correlated to soil organic carbon, total nitrogen and microbial activity except k was negatively correlated to organic carbon. Consequently, we conferred that long-term application of both organic manure (OM or 1/2OM+1/2NPK) and mineral fertilizers (except NK) to soil could significantly increase the mineralization of soil organic carbon, reflecting the differences in soil properties, thus increase the availability of soil mineral nutrients to crops and soil organic carbon content.

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【题目】定位水氮组合对冀5265小麦叶片硝酸还原酶、可溶性蛋白及产量的影响
【中文关键词】小麦;水氮定位;硝酸还原酶活性;可溶性蛋白;产量
【英文关键词】Winterwheat ;Water and nitr ogen l ocati on study;NRA; Soluble protein; Yield
【中文摘要】为生产中水氮高效利用提供依据,在3年定位水氮处理的基础上,于2008 - 2009年在大田条件下研究水氮组合对小麦叶片硝酸还原酶活性(NRA)、叶片可溶性蛋白含量及产量的影响。结果表明,在同一施氮水平上,开花期灌水显著提高NRA、可溶性蛋白含量和产量。灌1水条件下,随施氮量的增加叶片NRA、可溶性蛋白含量呈线性增长,在水分较适宜的2水灌溉条件下,叶片NR活性、可溶性蛋白含量均呈抛物线趋势,NRA在全年施氮240 kg/hm2时最高、可溶性蛋白含量在施氮480 kg/hm2最高,增加施氮量呈下降趋势。在灌2水全年施氮480 kg/hm2时产量最高,说明增加灌水有利于氮素增产效应的发挥。
【英文摘要】Field experi mentwas conducted during 2008 - 2009, the effects of water and nitr ogen on leave nitratereductase activity(NRA) , s oluble protein content and yield of winter wheat Jimai 5265 were studied in order to provide the framework for reas onable irrigati on and fertilizati on, based on a 3 years location study. The result indicated that the NRA, content of soluble protein of the flag leaves and grain yield were remakably improved by the anthesis irrigati on under the same nitr ogen amount. The NRA and the content of soluble protein showed an increasing trend withnitrogen amount,when it was irrigated one time in winter wheat . Under the two times irrigatation conditi ons with approp riate moisture content,NRA and the content of soluble protein all showed a parabola type with the highest NRAand the content of soluble protein appeared in nitrogen amount of 240 kg/ha and 480 kg/ha, respectively, and decreased when t oo much nitrogen applied . It had the highest yield when it was irrigated two times and fertilized 480kg/ha in the whole year . The result indicated that increasing irrigation showed a good effect on nitrogen effectivenessin high yielding wheat production .
【语种】中文
【第一作者】郭丽
【通讯作者】张凤路
【期刊名称、卷期、页码】华北农学报 2010,25(1):180-184
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【引文索引号】null
【学科分类】农业基础学科

【题目】Fingerprint analysis of Lingzhi (Ganoderma) strains by high-performance liquid chromatography coupled with chemometric methods
【中文关键词】暂无
【英文关键词】chromatographic fingerprint; discriminant analysis; Ganoderma spp; Hierarchical cluster analysis; Lingzhi
【中文摘要】暂无
【英文摘要】A high-performance liquid chromatography (HPLC)-based system has been developed for generating chemical fingerprints of Lingzhi (Ganoderma). Data were evaluated statistically using hierarchical cluster analysis (HCA) and discriminant analysis (DA) in order to classify the samples and to identify key categorizing parameters. Fifteen representative Lingzhi strains (13 Ganoderma lucidum strains and one strain each of G. sinense and G. resinaceum), were separated into three groups using HCA at a rescaled distance of 10, thereby confirming divisions based on morphological characteristics. Furthermore, the 13 G. lucidum strains were separated into three groups at a rescaled distance of 5, which was consistent with previous results based on antagonism tests. Two types of discriminant functions were generated using six selected predictor variables. To our knowledge, this is the first demonstration of the feasibility and advantages of employing chromatographic fingerprinting, combined with HCA and DA, for the accurate identification and validation of feedstock strains used in the production of Lingzhi-based health foods and supplements.
【语种】英文
【第一作者】Shi, Xian-Min
【通讯作者】Zhang, JS
【期刊名称、卷期、页码】WORLD JOURNAL OF MICROBIOLOGY & BIOTECHNOLOGY,24,2443-2450
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【引文索引号】351RV
【学科分类】微生物学

【题目】Structural elucidation of the polysaccharide moiety of a glycopeptide (GLPCW-II) from Ganoderma lucidum fruiting bodies
【中文关键词】暂无
【英文关键词】Ganoderma lucidum; glycopeptide; NMR spectroscopy; polysaccharide moiety; structural analysis
【中文摘要】暂无
【英文摘要】A water-soluble glycopeptide (GLPCW-II) was isolated from the fruiting bodies of Ganoderma lucidum by DEAE-Sepharose Fast-Flow and Sephacryl S-300 High Resolution Chromatography. The glycopeptide had a molecular weight of 1.2 x 10(4) Da (determined by HPLC), and consisted of similar to 90% carbohydrate and similar to 8% protein as determined using the phenol-sulfuric acid method and the BCA (TM) protein assay reagent kit, respectively. The polysaccharide moiety was composed mainly of D-Glc, L-Fuc, and D-Gal in the ratio of 1.00:1.09:4.09. To facilitate structure-activity studies, the structure of the GLPCW-II polysaccharide moiety was elucidated using H-1 and C-13 NMR spectroscopy including COSY, TOCSY, HMBC, HSQC, and ROESY, combined with GC-MS of methylated derivatives, and shown to consist of repeating units with the following structure
【语种】英文
【第一作者】Ye, LiBin
【通讯作者】Zhang, JS
【期刊名称、卷期、页码】CARBOHYDRATE RESEARCH,343,746-752
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【引文索引类型】SCI
【引文索引号】284QL
【学科分类】生物化学

【题目】木糖发酵产乙醇微生物研究进展
【中文关键词】木糖发酵; 乙醇; 丝状真菌;
【英文关键词】Xyose fermentation; ethanol; filamentous fungi;
【中文摘要】简述了木糖发酵产生乙醇的菌种,有细菌、酵母、丝状真菌和基因工程菌,其中丝状真菌具有良好的应用前景。
【英文摘要】The bacteria and fungi related to ethanol-production through xylose fermentation were briefly summarized,including bacteria,yeast,filamentous fungi and strains obtained from gene engineering process.Among which the filamentous fungi possessed good application prosperity.
【语种】中文
【第一作者】范金霞
【通讯作者】范金霞
【期刊名称、卷期、页码】西南林学院学报2009.29(5)
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【引文索引号】null
【学科分类】微生物学

【题目】利用Century 模型模拟不同农业经营模式下黑土农田土壤有机碳的演变
【中文关键词】Century模型; 黑土; 土壤有机碳; 农业经营模式; 预测;
【英文关键词】Century Model; black soil; soil organic carbon; farming systems; prediction.;
【中文摘要】Century模型是用来预测土壤有机碳趋势的重要模型之一,近20年来在农林生态系统上得到广泛应用。本文运用该模型对不同农业经营模式下的黑土农田土壤有机碳变化进行了比较与预测。结果表明:Century模型可以预测黑土农田土壤有机碳的演变;100年内(2006—2105年)土壤有机碳含量,在移耕农业模式下呈下降趋势,预计年均下降0.063g · kg-1;有机农业模式下呈缓慢下降趋势,预计年均下降0.027c;"石油农业"模式下亦呈下降趋势,预计年均下降0.045g · kg-1;有机-无机结合农业模式下降趋势得到控制,土壤有机碳含量维持在34.00g · kg-1左右,基本处于平衡状态。

【英文摘要】Century model is one of the main models in predicting the changing trend of soil organic carbon(SOC),and has been used extensively for agricultural and forest ecosystems in recent two decades.In this paper,this model was used to predict the changing trend of organic carbon in black soil under different farming systems.The results showed that Century model was available in predicting the changing trend of organic carbon in farmland black soil.According to the prediction,the annual decrement of SOC content in 2006-2015 would be 0.063 g · kg-1 under shift farming,0.027 g · kg-1 under organic farming,and 0.045 g · kg-1 under ’petroleum’ farming.The decreasing trend of the SOC content could be controlled when a combined ’petroleum’-organic farming system was implemented,under which,the SOC content could be maintained at a level of around 34.00 g · kg-1,being in a balance status.
【语种】中文
【第一作者】高崇升
【通讯作者】高崇升
【期刊名称、卷期、页码】生态学杂志2008.27(6):911-915
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【引文索引号】null
【学科分类】土壤学

【题目】Purification, NMR Study and Immunostimulating Property of a Fucogalactan from the Fruiting Bodies of Ganoderma lucidum
【中文关键词】暂无
【英文关键词】Ganoderma lucidum; Ganodermataceae; polysaccharide; fucogalactan; NMR; immunostimulating property
【中文摘要】暂无
【英文摘要】A water-soluble polysaccharide (LZ-D-1) was isolated from Ganoderma lucidum fruiting bodies by DEAE-Sepharose Fast Flow and Sephacryl S-300 high-resolution chromatography. The polysaccharide had a molecular weight of 2.8 x 10(4) Da and was mainly composed Of (L)-Fuc, (D)-Glc and (D)-Gal in a molar ratio of ca.1 : 1 : 5. LZ-D-1 had a sugar content of 98.7% as measured using the phenol-sulfuric acid method. On the basis of methylation analysis, FT-IR spectrum and NMR experiments, the Structure of the repeating unit of the polysaccharide was established. LZ-D-1 had a backbone composed of 1,6-disubstituted alpha-D-galactopyranosyl, 1,2,6-trisubstituted alpha-D-galactopyranosyl and had a branch composed of fucose attached to 0-2 of a 1,2,6-trisubstituted (x-L)-galactopyranosyl residue. At the same time, the polysaccharide contained some 1,6-disubstituted glucopyranosyl residues and 1,3-disubstituted glucopyranosyl residues. An immunostimulating experiment in vitro indicated that D-1 stimulated proliferation of mouse spleen lymphocytes
【语种】英文
【第一作者】Ye, Libin
【通讯作者】Zhang, JS
【期刊名称、卷期、页码】PLANTA MEDICA,74,1-5
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【引文索引号】381ZD
【学科分类】生物化学

【题目】Preparation of a novel sulfated glycopeptide complex and inhibiting L1210 cell lines property in vitro
【中文关键词】暂无
【英文关键词】Ganoderma lucidum; Glycopeptide; Sulfated derivative; Composition; Anti-tumour
【中文摘要】暂无
【英文摘要】A native glycopeptide, LZ-D-4, was purified from the fruiting bodies of Ganoderma lucidum, and its derivative, LZ-D-9, was prepared using sulfated agent (CSA: Pyr = 1:6). HPLC experiment showed that both of them were homogeneity and had molecular weights of 1.56 x 10(4) and 1.30 x 10(4) Da, respectively. Some properties including amino acid and monosaccharide compositions were investigated for the two compounds, along with anti-tumour bioactivity in vitro. The results indicated that two monosaccharides (Xyl and Ara) were completely destroyed and most of amino acids in LZ-D-4 were broken during sulfated process. Anti-tumour test in vitro showed that both complexes have properties to inhibit growth of L1210 cell lines and have similar bioactivities, but might have different mechanism

【语种】英文
【第一作者】Ye, LiBin
【通讯作者】Zhang, JS
【期刊名称、卷期、页码】Carbohydrate Polymers,77(2), 276-279
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【引文索引类型】SCI
【引文索引号】448TE
【学科分类】生物化学

【题目】定位培肥对黑土农田生态系统中土壤微生物活性的影响
【中文关键词】农肥; 化肥; 微生物活性; 黑土;
【英文关键词】manure; chemical fertilizers; microbial activity; black soil;
【中文摘要】通过定位培肥试验对不同培肥方式下黑土生态系统中的土壤微生物活性进行了研究。研究结果表明,不同培肥处理均提高了土壤细菌、富营养菌和寡营养菌的数量,且农肥处理优于化肥处理,单施化肥处理土壤的富营养菌数量苗期最高,而农肥处理和农肥化肥等量处理为先升高后降低,至鼓粒期土壤中的富营养菌数量降至最低。施肥处理土壤微生物量的含量高于对照,农肥处理和农肥化肥等量处理的土壤中微生物量碳、氮含量高于单施化肥处理。不同培肥处理均提高了土壤脲酶的活性,施肥处理土壤脲酶的活性的变化范围为79.56~139.90mg/100g土,农肥低量和农肥高量处理土壤过氧化氢酶之间差异不显著,但显著高于对照,农肥处理土壤过氧化氢酶的含量始终是最高的,平均为0.41ml KMnO4/g干土,农肥化肥等量处理、化肥低量处理和化肥高量处理之间差异不显著,土壤过氧化氢酶含量平均为0.37ml KMnO4/g干土。因此,施用农肥是增加土壤微生物活性的有效途径,有利于提高退化土壤的质量。
【英文摘要】In this study,we researched the effects of location fertilization on microbial activity in black soil ecosystem.The main results showed that numbers of bacteria,copiotrophic bacteria and oligotrophic bacteria were improved and the numbers of bacteria,copiotrophic bacteria and oligotrophic bacteria of manure fertilizer treatments were higher than those of chemical fertilizer treatments.Numbers of copiotrophic bacteria of chemical fertilizer treatments were the highest in seedling stage.But numbers of copiotrophic bacteria of manure fertilizer treatments and manure and chemical fertilizers in equal ratio treatment first rose,then fell down and were the lowest till seed expanding period.Microbial biomass contents of fertilizers treatments were higher than those of CK and microbial biomass contents of manure fertilizer treatments and manure and chemical fertilizers in equal ratio were higher compared to chemical fertilizers treatments.The urease activities of soil were advanced by fertilizers.The urease activities of different fertilizer treatments ranged from 79.56 mg/100 g dry soil to 139.90 mg/100 g dry soil.ANOVA showed no differences of catalase activities in soil between low manure fertilizer treatment and high manure treatment,but higher compared to CK.The catalase activities of manure fertilizers treatments were 0.41 ml KMnO4/g dry soil and always the highest.ANOVA showed no differences of catalase activities in soil among manure and chemical fertilizers in equal ratio treatment,low chemical fertilizer treatment and high chemical fertilizer treatment and the average catalase activity was 0.37 ml KMnO4/g dry soil.Thus manure fertilizers application is a valid pathway to improve soil microbial activity and useful to advance qualities of degenerate soil.
【语种】中文
【第一作者】赵伟
【通讯作者】赵伟
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【学科分类】土壤学

【题目】Structural characterisation of a heteropolysaccharide by NMR spectra
【中文关键词】暂无
【英文关键词】Ganoderma lucidum; Polysaccharide; Structural elucidation; NMR
【中文摘要】暂无
【英文摘要】An undocumented water-soluble polysaccharide, LZ-C-1, was isolated from the fruiting bodies of the fungus, Ganoderma lucidum. The polysaccharide had a molecular weight of 7 x 10(3) Da, and was mainly composed of L-Fuc, D-Glc and D-Gal. LZ-C-1 had a sugar content of similar to 96.4% as measured using the phenol-sulphuric acid method. As a precondition to

understand the bioactivity, structural features of LZ-C-1 were investigated by a combination of total hydrolysis, methylation analysis, FT-IR and NMR studies. The results indicated that LZ-C-1 had a backbone of 1,6-disubstituted-alpha-galactopyranosyl, 1,2,6-trisubstituted-oc-galactopyranosyl, 1,3-disubstituted-beta-glucopyranosyl and 1,4.6-trisubstituted-beta-glucopyranosyl residues. The branches were mainly composed of 1-substituted-beta-glucopyranosyl and 1-substituted-alpha-fucopyranosyl residues.
【语种】英文
【第一作者】Ye, LiBin
【通讯作者】Zhang, JS
【期刊名称、卷期、页码】Food Chemistry,112:962 – 966
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【学科分类】生物化学

【题目】农肥和化肥对黑土氮素淋溶的影响
【中文关键词】氮素; 淋溶; 农肥; 化肥; 黑土;
【英文关键词】nitrogen; leaching; manure fertilizer; chemicalfertilizer; black soil;
【中文摘要】采用树脂袋法,研究了培肥措施对黑土氮素淋溶的影响。结果表明,①2006年和2007年施化肥的3个处理土壤NO3--N淋失量显著高于施农肥处理,其中2006年化肥高量、化肥低量和农化1:1的3个处理分别是对照的36.88、28.91和27.06倍,是农肥高量处理的8.29、6.49和6.08倍;2007年不同培肥处理总体表现为化肥高量>化肥低量>农肥高量>农化1:1>农肥低量>对照,各处理60 cm土层NO3--N淋溶量均大于30 cm土层NO3--N淋溶量;②不施肥处理比施肥处理土壤NO3--N淋溶量低,在施用等量氮素条件下,农肥施用处理的淋失率要远远小于化肥施用处理,玉米氮的平均淋失损失占所施氮肥的1.4%~13.6%,单施用农肥NO3--N淋失率才只有1.4%~5.2%,而使用化肥的处理NO3--N淋失率则高达12.5%~15%;大豆氮的平均淋失损失占所施氮肥的0.5%~4.3%,单施用农肥NO3--N淋失率只有0.5%~0.81%,而使用化肥的处理NO3--N淋失率则高达2.97%~4.3%;③土壤pH与土壤NO3--N淋失量呈负相关;④土壤NO3--N含量与土壤NO3--N淋溶量呈正相关,随着土层的加深,土壤NO3--N含量降低,深层土壤NO3--N含量对土壤NO3--N淋溶影响更显著;⑤土壤NO3--N淋溶量随土壤硝化强度的增强而增加,硝化作用强度是影响土壤NO3--N淋溶主要因素。
【英文摘要】The effects of manure and chemical fertilizers application on nitrogen leaching in Black soil were studied by using the resin bags method.The main results were as follows: ① NO3--N leaching contents of three chemical fertilizers treatments in 2006 and 2007 were much higher than those of manure treatments.In 2006,the high chemical fertilizer treatment,the low chemical fertilizer treatment and the manure and chemical fertilizers in equal ratio treatment were higher than those of CK which were 36.88,28.91 and 27.06 times and the same higher than the high manure treatment were 8.29,6.49 and 6.08 times.In 2007,different fertilizer treatments were the high chemical fertilizer>low chemical fertilizer>high manure fertilizer>manure and chemical fertilizers in equal ratio>low manure fertilizer>CK.② NO3--N leaching contents of CK were lower than those of fertilizers treatments.The manure fertilizer rate of NO3--N leaching loss was much lower than that of the chemical fertilizer in the same nitrogen content conditions.The average rate of NO3--N leaching loss of maize was from 1.4% to 13.6%.The rate of NO3--N leaching loss with single manure fertilizer was only from 1.4% to 5.2%,but the rate of NO3--N leaching loss with chemical fertilizer was from 12.5% to15%.And this was the same as that of the soybean.The average rate of NO3--N leaching loss of soybean wasfrom 0.5% to 4.3%.The rate of NO3--N leaching loss with single manure fertilizer was only from 0.5% to 0.81%,but the rate of NO3--N leaching loss with chemical fertilizer was from 2.97% to 4.3%.③ A negative correlation was found between pH and NO3--N leaching contents.④ The correlations between NO3--N contents and NO3--N leaching contents were positive.The deeper soil layers,the lower NO3--N contents.The impacts of NO3--N contents of deep soil layers on NO3--N leaching contents were more remarkable.⑤ NO3--N leaching contents of soil were increased with the improvements of nitrifying capacity.The main factors to influenceNO3--N leaching contents was the nitrifying capacity.
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【第一作者】赵伟
【通讯作者】赵伟
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【学科分类】土壤学

【题目】农肥和化肥对黑土土壤氮素转化功能菌的动态影响
【中文关键词】农肥; 化肥; 氮素转化; 黑土;
【英文关键词】manure; chemical fertilizer; nitrogen transformation; black soil;
【中文摘要】通过3年定位试验对不同培肥方式下黑土土壤中与氮素转化有关的功能菌动态变化进行了研究。结果表明,农肥处理和农肥化肥等量配比处理提高了土壤中好气性自生固氮菌数量,单施化肥的处理抑制了好气性自生固氮菌生长;农肥高量处理土壤中氨化细菌数量最高,是对照的108.87%,化肥低量处理氨化细菌数量最低,平均比对照高43.79%;农肥处理土壤亚硝酸盐细菌数量显著高于化肥处理,纯化肥处理土壤中反硝化细菌数量高于农肥处理,因此长期合理地施用农肥对降低土壤的反硝化作用,从而减少黑土氮素的损失有良好的作用。
【英文摘要】Orientation experiments for three years were conducted to study the effects of manure and chemical fertilizers on the amounts of edaphon related with nitrogen transformation in black soil ecosystem.The main results were as follows: the numbers of aerobic nitrogen-fixing bacteria of manure fertilizer treatment and manure and chemical fertilizers in equal ratio treatment were improved.Only chemical fertilizers could reduce the numbers of aerobic nitrogen-fixing bacteria.The numbers of ammonifying bacteria of high manure fertilizer treatment were 108.87% higher than those of CK,which was the highest.The numbers of ammonifying bacteria of low chemical fertilizer treatment were the lowest,which were 43.79% higher than those of CK.The numbers of nitrite bacteria of manure fertilizer treatments were higher than those of chemical fertilizer treatments.The numbers of denitrifying bacteria of chemical fertilizer treatments were higher than those of manure fertilizer treatments.Thus,years of manure fertilizer applications could reduce the denitrification in soil and be benefit to the decrease of nitrogen losses in black soil.
【语种】中文
【第一作者】赵伟
【通讯作者】赵伟
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【引文索引号】null
【学科分类】土壤学

【题目】利用大孔树脂对低分子量灵芝多糖脱色的研究
【中文关键词】低分子量灵芝多糖 脱色 树脂
【英文关键词】暂无
【中文摘要】比较了7种树脂对低分子量灵芝多糖脱色的效果,从中筛选出D354-FD、AB-8和HPD400 3种树脂,并通过单因素实验和正交实验对脱色条件进行优化,结果表明:采用AB-8树脂,在pH=4.0,温度60°C时,对低分子量灵芝多糖脱色率可达到87.38%,多糖保留率为89.24%,蛋白质去除率为77.11%.
【英文摘要】暂无
【语种】中文
【第一作者】袁红波
【通讯作者】张劲松
【期刊名称、卷期、页码】食品工业科技,3,204-206
【论文发表时间】2009-11-08 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】生物化学

【题目】降解秸秆的细菌和放线菌的分离与筛选
【中文关键词】秸秆; 降解; 细菌; 放线菌; 富集; 分离;
【英文关键词】stalk; degradation; bacterium; actinomycete; enrichment; isolation;
【中文摘要】用秸秆粉部分代替LB、高氏培养基中的碳源,通过延长培养时间从土样中分别富集降解秸秆的细菌、放线菌,用稀释倒平皿挑取单菌落法通过菌落形态差异分离出细菌29株、放线菌29株。用秸秆粉培养基定性鉴别法鉴别出其中有8株细菌、10株放线菌能降解秸秆。测试了硝酸铵、酵母粉和土壤浸液等添加物对能降解秸秆的细菌和放线菌在秸秆粉培养基上生长的影响。结果表明,酵母粉对细菌的生长具有明显促进作用,其他添加物对供试菌的生长影响较小。

【英文摘要】Total 29 strains of bateria and 29 strains of actinomycetes,judging by the colonies differences on the plates,were isolated from the soil by conventional dilution-plating method,Gaose ′ s medium and LB medium in which carbon component partly replaced by the stalk powder were used and the cultural time were prolonged to enrich the contents of the bacteria and actinomycetes that could degrade stalks.Eight strains of bacteria and 10 strains of actinomycetes could degrade stalks tested by the determination method from the growth of the microorganisms on the medium made of the mixture powder of three stalks.Stalk powder added with different matter(NH4NO3,yeast abstract and black soil solution) or not were recruited to make solid culture media to compare the growth of the bacteria and actinomycetes that could degrade stalks.The results showed that yeast abstract promoted the growth of the bacteria on the stalk powder and the other addings had few effects on the growth of corresponding strains.
【语种】中文
【第一作者】刘保平
【通讯作者】刘保平
【期刊名称、卷期、页码】东北农业大学学报41(2): 49~54
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【引文索引类型】其他
【引文索引号】null
【学科分类】微生物学

【题目】Inoculation with phosphate-solubilizing fungi diversifies the bacterial community in Rhizospheres of maize and soybean
【中文关键词】bacterial community; diversity; PCR-DGGE; phosphate-solubilizing fungus; rhizosphere;
【英文关键词】bacterial community; diversity; PCR-DGGE; phosphate-solubilizing fungus; rhizosphere;
【中文摘要】Application of phosphate-solubilizing microorganisms (PSMs) has been reported to increase P uptake and plant growth. However, no information is available regarding the ecological consequences of the inoculation with PSMs. The effect of inoculation with phosphate-solubilizing fungal (PSF) isolates Aspergillus niger P39 and Penicillium oxalicum P66 on the bacterial communities in the rhizospheres of maize (Zea mays L. ’Haiyu 6’) and soybean (Glycine max Merr. ’Heinong 35’) was examined using culture-dependent methods as well as a culture-independent method, polymerase chain reaction-denaturing gradient gel electrophoresis (PCR-DGGE). Compared with the control, the number of culturable microbes for soybean was significantly greater with P39, whereas for maize, the same was significantly greater with P66. In addition, a greater number of microbes were found in the rhizosphere of maize compared with soybean. The fingerprint of DGGE for 16S rDNA indicated that inoculation with PSF also increased bacterial communities, with the P66 treatment having higher numbers of DGGE bands and a higher Shannon-Weaver diversity index compared with P39; the composition of the microbial community was also more complex with the P66 treatment. Overall, complex interactions between plant species and exotic PSMs affected the structure of the bacterial community in the rhizosphere, but plant species were more important in determining the bacterial community structure than the introduction of exotic microorganisms.
【英文摘要】Application of phosphate-solubilizing microorganisms (PSMs) has been reported to increase P uptake and plant growth. However, no information is available regarding the ecological consequences of the inoculation with PSMs. The effect of inoculation with phosphate-solubilizing fungal (PSF) isolates Aspergillus niger P39 and Penicillium oxalicum P66 on the bacterial communities in the rhizospheres of maize (Zea mays L. ’Haiyu 6’) and soybean (Glycine max Merr. ’Heinong 35’) was examined using culture-dependent methods as well as a culture-independent method, polymerase chain reaction-denaturing gradient gel electrophoresis (PCR-DGGE). Compared with the control, the number of culturable microbes for soybean was significantly greater with P39, whereas for maize, the same was significantly greater with P66. In addition, a greater number of microbes were found in the rhizosphere of maize compared with soybean. The fingerprint of DGGE for 16S rDNA indicated that inoculation with PSF also increased bacterial communities, with the P66 treatment having higher numbers of DGGE bands and a higher Shannon-Weaver diversity index compared with P39; the composition of the microbial community was also more complex with the P66 treatment. Overall, complex interactions between plant species and exotic PSMs affected the structure of the bacterial community in the rhizosphere, but plant species were more important in determining the bacterial community structure than the introduction of exotic microorganisms.
【语种】英文
【第一作者】王光华
【通讯作者】王光华
【期刊名称、卷期、页码】Pedosphere2007.17(2):191-199

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【引文索引类型】其他
【引文索引号】null
【学科分类】农学其他学科

【题目】NMR characterization for polysaccharide moiety of a glycopeptide
【中文关键词】暂无
【英文关键词】Ganoderma lucidum; Polysaccharide; NMR; Structural analysis
【中文摘要】暂无
【英文摘要】Ganoderma lucidum is a traditional medicinal herb used to treat various diseases in China and Southeast Asia for thousands of years. An aqueous glycopeptide, LZ-B-1, was prepared by successive chromatography and exhibited an immunostimulating potential. To better understand the mechanism of bioactivity for this compound, the polysaccharide moiety of glycopeptide LZ-B-1 was studied by NMR spectroscopy. The results indicated that the polysaccharide moiety had a backbone of 1,6-disubstituted-alpha-galactopyranosyl, 1,2,6-trisubstituted-alpha-galactopyranosyl, 1,3-disubstituted-beta-glucopyranosyl and 1,4,6-trisubstituted-beta-glucopyranosyl residues. The branches were mainly composed of 1-substituted-beta-glucopyranosyl and 1-substituted-alpha-fucopyranosyl residues.
【语种】英文
【第一作者】Ye, Libin
【通讯作者】Zhang, JS
【期刊名称、卷期、页码】Fitoterapia,81(2),93-96
【论文发表时间】2010-03-08 00:00:00
【引文索引类型】SCI
【引文索引号】556CF
【学科分类】生物化学

【题目】Composition Analysis and Immunomodulatory Capacity of Peptidoglycan from Ling Zhi or Reishi Medicinal Mushroom, Ganoderma lucidum (W. Curt.: Fr.) P. Karst. Strain 119 (Aphyllophoromycetideae)
【中文关键词】暂无
【英文关键词】medicinal mushrooms; Ling Zhi; Reishi mushroom; Ganoderma lucidum; composition analysis; water-soluble peptidoglycan; immunomodulatory activity; gas chromatography-mass spectrum
【中文摘要】暂无
【英文摘要】LZ-B-1, a water-soluble peptidoglycan, was prepared from the fruiting bodies of Ling Zhi or Reishi medicinal mushroom, Ganoderma lucidum, by ultrafiltration, DEAE-Sepharose Fast-Flow column, and Sepharose CL-6B column. To develop functional food or pharmaceuticals using LZ-B-1 and to investigate the relationship between the structure and bioactivity of LZ-B-1, the composition and immunomodulatory capacity of LZ-B-1 were studied herein. The peptidoglycan had a relative molecular weight of 1.12 x 10(4) Da, and total carbohydrate and peptide percentages were determined to be similar to 94.2% and similar to 5.4%, respectively. The carbohydrate moiety was mainly composed of L-fucose, D-galatose, and D-glucose in a molar ratio of approximately 1:5:2, together with small amounts of L-arabinose and D-mannose. The peptide moiety mainly contained arginine, threonine, glycine, serine, and aspartic acid in a molar ratio of approximately 1:1:2:2:1. Methylation reaction and GC-MS analysis indicated that the carbohydrate moiety mainly consisted of 1,6-disubstituted-galactopyranosyl, 1,2,6-trisubstituted-galactopyranosyl, 1-substituted-fucopyranosyl, 1,3-disubstituted- glucopyranosyl, 1,4,6-trisubstituted-glucopyranosyl, and 1-substituted-glucopyranosyl. Mouse spleen cell proliferation assay in vitro showed that a concentration of 200 mu g/mL of LZ-B-1 was the optimum concentration to promote the proliferation of mouse spleen lymphocytes (MSLs). In general, the higher the mouse spleen cell proliferation rate, the stronger the immunomodulatory activity. How the peptidoglycan stimulates the proliferation of MSLs and the bioactivity-structure relationship requires more research.
【语种】英文
【第一作者】Ye, Libin
【通讯作者】Zhang, JS
【期刊名称、卷期、页码】INTERNATIONAL JOURNAL OF MEDICINAL MUSHROOMS ,12(2),157-165

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【引文索引类型】SCI
【引文索引号】606IP
【学科分类】微生物学

【题目】拮抗化疗药物体外免疫抑制模型的建立及活性成分筛选
【中文关键词】免疫抑制 化疗药物 多糖
【英文关键词】Immunosuppression, chemotherapeutic agent, polysaccharide
【中文摘要】以小鼠脾淋巴细胞为试验材料,将有丝分裂原刀豆蛋白A(ConA)或细菌脂多糖(LPS)与化疗药物5-氟尿嘧啶(5-Fu)联合使用建立了体外免疫抑制模型,并比较了多糖样品对5-Fu抑制淋巴细胞增殖的拮抗作用。结果表明,在供试样品中,F1-1[龙须菜(Gracilaria lemaneiformis)中分离多糖]和BW[沪农灵芝1号(Ganoderma lucidum)子实体中分离]对5-Fu产生的轻度抑制有完全拮抗作用,19号[沪农灵芝1号(G.lucidum)子实体中分离]样品刺激淋巴细胞增殖活性最好,但对5-Fu产生的抑制基本无拮抗作用,表明样品刺激淋巴细胞增殖的活性与拮抗化疗药物抑制淋巴细胞增殖的活性无正相关性。
【英文摘要】National Research Center for Edible Fungi Biotechnology and Engineering; Key Laboratory of Applied Mycological Resources and Utilization,Ministry of Agriculture,the People's Republic of China; Key Laboratory of Agricultural Genetics and Breeding of Shanghai; Research Center of Natural Medicinal Resources,Institute of Edible Fungi,Shanghai Academy of Agricultural Sciences,Shanghai 201106,ChinaWe have developed an in vitro immunosuppression model based on the cell proliferation enhancing effects of the mitogens concanavalin A and lipopolysaccharide combined with the 5-fluorouracil (5-Fu)-induced inhibitory effect on mouse spleen lymphocyte proliferation. The model was used to compare the antagonistic effects of different polysaccharide preparations on 5-Fu-induced suppression of mouse spleen lymphocyte and mixed lymphocyte proliferation. Polysaccharide preparations F1-1 (from Gracilaria lemaneiformis) and BW (from Ganoderma lucidum) completely neutralized the mild inhibition of lymphocyte proliferation induced by 0.02 μg/mL 5-Fu. However,no positive correlation was found between the stimulating effect of a given polysaccharide on lymphocyte proliferation and the antagonistic effect of that polysaccharide on 5-Fu-induced suppression of lymphocyte proliferation. Thus,polysaccharide 19 (from G. lucidum) was most effective in stimulating lymphocyte proliferation but had no antagonistic effect on 5-Fu-induced suppression of lymphocyte proliferation
【语种】中文
【第一作者】刘艳芳
【通讯作者】张劲松
【期刊名称、卷期、页码】食用菌学报
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【引文索引类型】其他
【引文索引号】null
【学科分类】生物化学

【题目】Biochemical characterization of a proteoglycan complex from an edible mushroom Ganoderma lucidum fruiting bodies and its immunoregulatory activity
【中文关键词】暂无
【英文关键词】Ganoderma lucidum; Proteoglycan; Immunomodulation; B cells
【中文摘要】暂无
【英文摘要】A fraction, LZ-D-7, was isolated from the fruiting body of the edible mushroom Ganoderma lucidum using a series of chromatographic steps. Biochemical experiments showed that the complex is a proteoglycan and has a carbohydrate percentage of 95.3%, along with a protein percentage of 33%. Methylation analysis showed the polysaccharide moiety of LZ-D-7 had a backbone of 1,4-disubsituted-glucopyranosyl and 1,2,6-trisubstituted-glucopyranosyl residues. The branches were mainly composed of 1-substituted-glucopyranosyl residue, which was attached to 1,2,6-trisubstituted-glucopyranosyl residue via 2 or 6 position. Investigation of modulation of LZ-D-7 on BALB/c mouse spleen lymphocytes cells resulted in a three to four-fold increase of MSLs percentage. Analysis of activation and proliferation of MSLs indicated that LZ-D-7 activating most of the activated cells were B cells. The B cells were enlarged, expressed CD(71+) and CD(25+) on the cell surface. Crown Copyright (C) 2010 Published by Elsevier Ltd. All rights reserved
【语种】英文

【第一作者】Ye, LiBin
【通讯作者】Ye, LiBin
【期刊名称、卷期、页码】FOOD RESEARCH INTERNATIONAL,44(1):367-372
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【引文索引号】734AZ
【学科分类】生物化学

【题目】国内外可食性与全降解食品包装材料发展现状与趋势
【中文关键词】食品包装; 生物降解; 现状; 趋势
【英文关键词】food packaging; biodegradable; status; trend
【中文摘要】食品包装业是包装工业的重要组成部分,它带来的环境污染问题也日益严重。本文就国内外可食性与全降解食品包装材料的研发与生产现状进行了综述。分析了石油基塑料包装带来的社会问题和国内外全降解食品包装材料研发现状与趋势,指出了大力发展全降解食品包装材料的必要性和紧迫性。
【英文摘要】Food packaging is one of the most important parts in packaging industry,which leads to increasingly serious environment pollution.This paper reviewed the global development status and trend of edible and biodegradable food packaging materials.It analyzed the social problems resulted from petrochemical-based plastic packaging and research status and trend in developing biodegradable food packing materials.It also pointed out the necessity and urgency for energetically developing full biodegradable food packaging materials.
【语种】中文
【第一作者】侯汉学
【通讯作者】董海洲
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【引文索引类型】其他
【引文索引号】null
【学科分类】食品包装与储藏

【题目】普鲁兰多糖对挤压流延法制备淀粉膜性能的影响
【中文关键词】普鲁兰多糖,挤压流延法,淀粉膜,性能
【英文关键词】pullulan,extrusion casting,starch films,properties
【中文摘要】对普鲁兰多糖改善淀粉基可食性膜的性能进行研究,并用光学显微镜对膜表面进行观察。结果表明:添加普鲁兰多糖后有效的改善了淀粉膜的拉伸性能;随着普鲁兰多糖添加量的增加,降低了淀粉膜的水溶解时间和O2透过率;当普鲁兰多糖添加量在5%~9%时,淀粉膜具有较低的透湿性,且淀粉膜的白度较高,黄色值较低。光学显微分析膜表面,当普鲁兰多糖添加量为9%时,普鲁兰多糖与淀粉能较好的融合。综合膜的各项性能得出,普鲁兰多糖的添加量不宜超过9%。
【英文摘要】The property improvement of starch-based edible film by pullulan was studied.The surface of the film was observed with the optical microscope.The result showed that the tensile strength of the starch film was improved effectively by adding pullulan;water dissolution time was shortened and oxygen permeability of the starch film was reduced.When pollulan was 5%~9% in the solution,water permeability was also decreased;the whiteness value of the film was increased and the yellowness value was lower.
【语种】中文
【第一作者】刘鹏飞
【通讯作者】董海洲
【期刊名称、卷期、页码】食品与发酵工业,2011(2):37-40
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【引文索引类型】其他
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【学科分类】食品包装与储藏

【题目】GLIS, a bioactive proteoglycan fraction from Ganoderma lucidum, displays anti-tumour activity by increasing both humoral and cellular immune response

【中文关键词】暂无
【英文关键词】Ganoderma lucidum (G. lucidum); Traditional Chinese medicine (TCM); B lymphocytes; Macrophages; Anti-tumour; Proteoglycan
【中文摘要】暂无
【英文摘要】Aims: Ganoderma lucidum, a traditional Chinese medicine, is well known as a modulator of functions of the immune system as well as an anti-tumour agent. However, its active compounds and their molecular mechanisms of action are not well established. GLIS, a proteoglycan isolated from the fruiting body of G. lucidum, stimulates directly the activation of B lymphocytes. In this work, the immunoactivation capacities of GLIS as well as its anti-tumour effect were investigated in vitro and in vivo. Main methods: Tumour-bearing mice were prepared by inoculation of mouse sarcoma S180 cells into BALB/c mice. Lymphocytes and bone marrow-derived macrophages were isolated from spleen and tibia/femurs, respectively. After stimulation with GLIS different immune responses of these cells were analysed. Antitumour effect of GLIS was determined. Key findings: After treatment with GLIS, spleen-derived B lymphocytes from tumour-bearing mice became activated, proliferated and produced large amounts of immunoglobulins. Bone marrow-derived macrophages from tumour-bearing mice also became activated after exposure to GLIS, and they produced important immunomodulatory substances, such as IL-1 beta, TNF-alpha and reactive nitrogen intermediates, like NO. GLIS markedly increased phagocytosis of macrophages, and very importantly, it markedly raised the macrophage-mediated tumour cytotoxicity. Treatment of mice with GLIS caused an inhibition of mouse sarcoma S180 tumour growth by 60% in vivo. Significance: These results indicate that GLIS exhibits a capacity to increase remarkably both humoral and cellular immune activities of tumour-bearing mice and inhibits tumour growth significantly. The anti-tumour effect of GLIS results from its capacity to increase the host's immune activity
【语种】英文
【第一作者】Zhang, Jingsong
【通讯作者】Fan, H
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【引文索引号】677BI
【学科分类】生物化学

【题目】海藻酸钠复合涂膜对鲜切胡萝卜白变的影响
【中文关键词】鲜切胡萝卜, 涂膜, 白变, Box　　Behnken试验设计
【英文关键词】fresh cut carro,t coating, wh ite b lush, Box　　Behnken experimental design
【中文摘要】以鲜切胡萝卜为原料,以海藻酸钠、明胶、硬脂酸钠组成复合涂膜,在单因素试验的基础上,采用De-sign-Expert软件中的Box-Behnken中心组合设计,考察海藻酸钠复合涂膜不同浓度组成对鲜切胡萝卜白变的影响。结果表明:曲面回归方程拟合性好,抑制鲜切胡萝卜白变的适宜可食性膜组合为:海藻酸钠浓度10.28g/L、明胶浓度4.98g/L、硬脂酸钠浓度2.55g/L,在此涂膜组合条件下,鲜切胡萝卜的白度值为30.64。所建立的数学模型能较准确预测鲜切胡萝卜的白度值。
【英文摘要】Based on the single factor experiments,effects of alginate complex coating on white blush of fresh-cut carrot were studied by using fresh-cut carrot as material.The mathematic model were built by Central Composite Design in Design Expert software.The result showed that the regression equation fit well,the optimal complex coating compositions for controlling the white blush were: alginate 10.28 g/L,gelatin 4.98 g/L,sodium stearate 2.55 g/L.Under these conditions,white index of fresh-cut carrot was 30.64.
【语种】中文
【第一作者】范腾
【通讯作者】董海洲
【期刊名称、卷期、页码】食品与发酵工业,2011,37(1):206-211
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【引文索引类型】其他
【引文索引号】null
【学科分类】食品包装与储藏

【题目】挤压吹塑法制备淀粉基可食膜及其性能表征

【中文关键词】甘油, 挤压吹塑, 流变性
【英文关键词】g lycero,l extrusion b low mo lding, rheo log ica l behav iour
【中文摘要】以甘油为增塑剂,普兰多糖为黏合增强剂,采用熔融共混挤出技术制备热塑性淀粉,再挤出吹塑制备淀粉基可食膜。研究甘油对热塑性淀粉流变性、玻璃化转变温度、相变焓和微观形貌的影响;并研究了湿度环境对可食膜力学性能的影响及甘油对淀粉可食膜力学性能及热稳定性的影响。结果表明:甘油能有效的改善了热塑性淀粉的流变性和微观结构,降低热塑性淀粉的玻璃化转变温度,使淀粉结晶熔融焓变减小。实验制备的热塑性淀粉膜适宜在湿度40%的环境下使用;且在该湿度条件下,甘油添加量28%时,淀粉可食膜的纵向拉伸强度为5.26 MPa,断裂伸长率达到137.9%,横向拉伸强度为4.92 MPa,断裂伸长率为118.0%。
【英文摘要】Based on the single factor experiments,effects of alginate complex coating on white blush of A thermoplastic starch was prepared by melting processing method using glycerol as a plasticizer and pullulan as an adhesion reinforcing agent.Edible film was prepared by using extrusion blow molding.The effect of glycerol on rheological behavior,glass-transition temperature,enthalpy of phase change and microstructure was investigated.The effect of ambient humidity on mechanical property and thermal stability were studied.The result showed that glycerol can improve the rheological behavior and microstructure.
【语种】中文
【第一作者】孙万海
【通讯作者】董海洲
【期刊名称、卷期、页码】食品与发酵工业,2011,37(1):78-81
【论文发表时间】2011-02-10 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】食品包装与储藏

【题目】熔融挤出法制备热塑性羟丙基交联淀粉可食膜的研究
【中文关键词】羟丙基交联淀粉,熔融挤出,响应面,膨胀率,可食膜
【英文关键词】ghydroxypropylated cross-linked starch,melt-extrusion,response surface,expansion ration
【中文摘要】以羟丙基交联淀粉为原料、甘油为增塑剂,采用双螺杆熔融挤出共混技术制备热塑性淀粉。在单因素试验的基础上,利用响应面分析法对影响热塑性淀粉挤出膨胀率的因素进行优化。结果表明:在甘油添加量30.7%,熔融区温度136.6℃,螺杆转动频率16.4Hz的工艺条件下制得热塑性淀粉的离模膨胀率为172.4%;同时,对制备的热塑性淀粉吹塑成膜,将其置于50%的湿度环境平衡24h后,测得膜的抗张强度10.1 MPa,断裂伸长率107.4%。
【英文摘要】Thermoplastic starch was prepared with cross-linked hydroxypropyl starch by double screw extruder,glycerol was used as plasticizer.The factors that affected extrusion swell of thermoplastic starch were optimized by response surface based on the single factor experiment.The results showed that the best condition was : glycerol 30.7%,extruder temperatures 136.6°C and rotational frequency 16.4Hz.under the above conditions,the expansion ration was 172.4%.Meanwhile,the thermoplastic starch was used in blowing models.
【语种】中文
【第一作者】孙万海
【通讯作者】董海洲
【期刊名称、卷期、页码】食品与发酵工业,2011,36(11):53-57
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【引文索引类型】其他
【引文索引号】null
【学科分类】食品包装与储藏

【题目】不同粉碎程度对灵芝多糖和三萜提取的影响
【中文关键词】灵芝多糖 三萜 提取 超细粉碎
【英文关键词】暂无
【中文摘要】以3个品种的灵芝(Ganoderma lucidum)子实体为材料,比较了不同粉碎程度对灵芝多糖与三萜提取效果的影响,结果表明,超细粉碎工艺能够有效地破碎灵芝子实体中的菌丝细胞,显著提高灵芝多糖的提取率,但对三萜的提取结果没有影响。

【英文摘要】暂无
【语种】中文
【第一作者】周帅
【通讯作者】唐庆九
【期刊名称、卷期、页码】食用菌学报,18(3):63-66
【论文发表时间】2011-11-08 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】微生物学

【题目】灵芝多糖树脂法脱色工艺优化
【中文关键词】灵芝 多糖 脱色 树脂
【英文关键词】暂无
【中文摘要】利用大孔树脂对灵芝多糖进行脱色。比较10种大孔树脂在脱色方面的性能,以灵芝多糖的脱色率和多糖保留率为考察指标,结果发现D303树脂的脱色效果最佳,通过单因素试验和正交试验对D303树脂的灵芝多糖脱色各种工艺参数进行优化,得到D303树脂静态脱色的最佳参数为在样品上样质量浓度15mg/mL、pH6、脱色温度50℃、脱色时间7h条件下,灵芝多糖溶液的脱色率可达91.89%,多糖保留率75.28%;D303树脂动态脱色的最佳参数为上样流速3BV/h、每毫升树脂上样量150mg,此条件下灵芝多糖溶液的脱色率可达92.01%,多糖保留率71.85%。研究表明D303树脂适合应用于灵芝多糖的脱色工艺。
【英文摘要】暂无
【语种】中文
【第一作者】罗玺
【通讯作者】唐庆九
【期刊名称、卷期、页码】食品科学,32(6):5-10
【论文发表时间】2011-11-08 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】微生物学

【题目】壳聚糖在蒜米涂膜保鲜中的应用研究
【中文关键词】壳聚糖; 涂膜; 保鲜; 蒜米
【英文关键词】chitosan; coating; preservation; garlic clovesq
【中文摘要】以壳聚糖为主剂,加入不同助剂配制成涂膜液,于常温下对蒜米进行涂膜保鲜试验,研究壳聚糖涂膜对蒜米贮藏效果的影响。试验结果表明:配制壳聚糖涂膜液的最适助剂为乙酸1.0%、甘油0.5%、吐温20 0.2%。壳聚糖涂膜处理可降低蒜米贮藏期间的失重率,抑制呼吸、发芽、MDA 的生成,降低总糖的消耗,延长蒜米的贮藏期,保鲜效果以1.5%的壳聚糖为最好。
【英文摘要】Influences on storage effect of garlic cloves with chitosan coating were studied by the test of coating preservation at ambient temperature, with the coating solution auxiliary that prepared by main agent of chitosan and other different auxiliary agent. The results showed that the optimal agent concentrations of chitosan coating solution were acetic acid 1.0%, glycerol 0.5%and tween 200.2%. With the chitosan coating, the weight loss rate of garlic cloves during storage was decreased, respiration, germination MDA production and total sugar consumption were inhibited, storage life of garli stoves was prolonged, and the optimal concentration of chitosan was 1.5%.
【语种】中文
【第一作者】王兆升
【通讯作者】董海洲
【期刊名称、卷期、页码】中国食品学报
【论文发表时间】2010-06-13 00:00:00
【引文索引类型】其他
【引文索引号】null

【学科分类】食品包装与储藏

【题目】木薯淀粉对改善可食性羧甲基纤维素膜性能的研究
【中文关键词】羧甲基纤维素, 木薯淀粉, 复合膜, 性能
【英文关键词】carboxym ethyl cellu lose, cassava starch, composite f ilm s, properties
【中文摘要】文中对木薯淀粉改善可食性羧甲基纤维素膜的性能进行研究。结果表明:随着木薯淀粉添加量的增多,羧甲基纤维素膜的抗拉强度和水溶性逐渐减小,而断裂伸长率和透明度逐渐增大,透油率变化不大。当木薯淀粉的添加质量在0%-15%内,随着木薯淀粉添加量的增大,膜的水蒸气迁移率逐渐减小,当添加量超过15%时,膜的水蒸气迁移率逐渐增大。综合膜的各项性能得出,木薯淀粉的添加量不宜超过15%。
【英文摘要】The research on cassava starch improving properties of carboxymethyl cellulose films was studied.The results showed that the TS and water solubility of the composite films decreased gradually,while E and the transparency of the composite films increased gradually with the addition of cassava starch.Addition of cassava starch kept the pure films' little oil permeation rate.The WVTR of composite films decreased gradually with the addition of cassava starch in the range of 0-15% and it gradually increased
【语种】中文
【第一作者】王晓玲
【通讯作者】董海洲
【期刊名称、卷期、页码】食品发酵与工业,2010,2:63-66
【论文发表时间】2011-02-14 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】食品包装与储藏

【题目】可食性羧甲基纤维素膜制备及性能研究
【中文关键词】:羧甲基纤维素;可食性膜;食品包装材料
【英文关键词】words:carboxymethyl cellulose;edible film; food packing material
【中文摘要】该试验主要以羧甲基纤维素(CMC)为膜原料,研究影响膜性能的各种因素,并通过正交试验确定制备CMC可食性膜最佳工艺参数;最后通过验证试验得出制备可食性羧甲基纤维素膜最佳工艺条件为:CMC浓度为2%,甘油添加量为30%,倒膜量为11 g,烘烤温度为50°C;在此条件下制得膜综合评分为87.18分。
【英文摘要】The Edible films were prepared from carboxymethyl cellulose.In this experiment,the factors that influence the properties of edible film had been discussed and the best process parameters of preparing carboxymethyl cellulose films had been determined through orthogonal experiments.At last the verification test was done and the best process parameters of preparing carboxymethyl cellulose films had been determined.The best process parameters were:2% CMC,30% addition of glycerol,11 g poured amount and 50°C.
【语种】中文
【第一作者】王晓玲
【通讯作者】董海洲
【期刊名称、卷期、页码】粮食与油脂,2009,7:13-17
【论文发表时间】2008-07-20 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】食品包装与储藏

【题目】pH和AOT添加物对大豆分离蛋白基生物可降解膜机械性能的影响
【中文关键词】生物可降解膜, 响应面分析法, 大豆分离蛋白, 琥珀酸二异辛酯磺酸钠
【英文关键词】bio degradable f ilm, response surface methodolog y, soy protein isolate, AOT
【中文摘要】运用响应面分析法分析了pH和AOT(琥珀酸二异辛酯磺酸钠)添加物对大豆分离蛋白(SPI)基生物可降解膜机械性质的影响,确定了影响该种膜机械性能的最优工艺参数。测试的膜的机械性质包括抗拉强度、穿刺强度、断裂伸长率。分析结果表明,在pH为8.795,AOT的添加量为13.00%时,膜的综合机械性能达到最优。
【英文摘要】Response surface methodology(RSM)was used to investigate pH and AOT effects on the mechanical properties of films formed from soy protein isolate.Test films were evaluated for tensile strength(TS),puncture strength(PT),and percentage elongation on

break point(E).the results showed that the optimal condition was at pH(8.95)and AOT level(13.00% w/w).
【语种】中文
【第一作者】王晓玲
【通讯作者】董海洲
【期刊名称、卷期、页码】食品与发酵工业,2008,8:75-79
【论文发表时间】2008-08-19 00:00:00
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【引文索引号】null
【学科分类】食品包装与储藏

【题目】利用SSR和EST-SSR技术研究不同秋眠级苜蓿遗传多样性
【中文关键词】SSR; EST-SSR; 苜蓿; 遗传多样性;
【英文关键词】SSR; EST-SSR; Alfalfa; Genetic diversity;
【中文摘要】用SSR和EST-SSR两种分子标记方法相结合,对25份不同秋眠等级苜蓿材料进行遗传多样性分析。结果表明:筛选出的7对SSR引物和10对EST-SSR引物经PCR扩增后获得175条多态性带,在此基础上构建了25份苜蓿材料的SSR和EST-SSR DNA指纹图谱;采用类平均法(UPGMA)Nei氏遗传距离进行聚类,将25份材料聚成4个复合组,表明供试苜蓿材料具有较高的异质性和较丰富的遗传背景。
【英文摘要】SSR and EST-SSR markers were used to investigate the genetic diversities of different fall dormancy alfalfa.25 alfalfa accessions with different fall dormancy level were analyzed.The results showed that 175 polymorpic bands were amplified with screened 7 SSR primers and 10 EST-SSR primers,the DNA fingerprints of 25 alfalfa accessions were constructed.The UPGMA of Nei’s genetic distance showed that 25 accessions can be clustered into 4 groups,which indicated that there was a definite difference among alfalfa accessions in genetic background.
【语种】中文
【第一作者】于林清
【通讯作者】于林清
【期刊名称、卷期、页码】中国草地学报,2009,No.6,52-58
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【引文索引类型】其他
【引文索引号】null
【学科分类】畜牧、兽医科学基础学科

【题目】生物降解材料——玉米醇溶蛋白提取工艺的优化研究
【中文关键词】玉米蛋白粉; 玉米醇溶蛋白; 提取; 中心组合设计
【英文关键词】corn gluten meal; zein; extraction; central composite design
【中文摘要】玉米醇溶蛋白膜是一种绿色包装,它具有良好的阻气性、阻油性、保香性、防湿性和防紫外线性。可食性及生物降解薄膜或包装材料的制造能增加它的商业价值,使其在食品、化工、医药和生物降解包装材料等方面有着诱人的应用前景。本研究从玉米蛋白粉中提取醇溶蛋白,并建立了玉米醇溶蛋白提取量的快速检测方法,在单因素的基础上采用中心组合设计方法,确定了玉米醇溶蛋白的最佳提取工艺条件:乙醇浓度80%,提取温度57.9℃,液料比(ml/g)9.25,浸提时间122min。
【英文摘要】Zein film is a green packing material,it possesses many functional properties,such as gas-resisting,oil-resisting,fragrance-holding,humidity-preventing and ultraviolet radiation-preventing.The manufacture of edible/biodegradable films or coatings can potentially add value to zein.Applications of zein in special food,pharmaceutical and biodegradable materials have a potential prospect.The process of extracting zein from CGM was studied.The results showed that the rate of first extraction was 89.96%.
【语种】中文
【第一作者】王强
【通讯作者】董海洲
【期刊名称、卷期、页码】包装与食品机械,2008,8:75-79
【论文发表时间】2008-03-12 00:00:00
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【引文索引号】null
【学科分类】食品包装与储藏

【题目】利用RAPD标记对不同秋眠级苜蓿种质的聚类和评价
【中文关键词】RAPD; 秋眠级; 苜蓿; 聚类分析;
【英文关键词】RAPD; Fall dormancy level; Alfalfa; Clustering analysis;
【中文摘要】利用RAPD标记对25份不同秋眠等级的苜蓿材料进行分析,构建了25份苜蓿材料的DNA指纹图谱,用两种方法(特异的谱带类型和不同引物谱带类型的组合)可以有效的鉴别苜蓿单株,说明RAPD标记是鉴定苜蓿的一种有效方法。通过计算25份苜蓿材料的遗传距离,进行聚类分析,探讨它们之间的亲缘关系。结果如下:25份苜蓿材料间的遗传距离介于4.69-8.14之间,说明材料间的遗传距离较大,亲缘关系较远,遗传基础较宽;从50条RAPD引物中筛选出19条引物,总共扩增出144条带,其中134条呈多态性,占93.05%,10条为单态性带,占6.94%;遗传距离为7.39时,试验材料可以分为差异明显的4类,苜蓿材料间有较大的遗传差异,这为苜蓿引种、亲本选配,分子标记辅助选择育种提供良好的理论基础和科学依据。
【英文摘要】RAPD technology was employed to analyze the 25 alfalfa accessions with different fall dormancy levels and the RAPD fingerprinting were constructed.Two independent and effective ways,including unique band types and combination of the band types of different primers,in identification of the alfalfa individuals were proved,which indicates that RAPD is very effective to identify alfalfa germplasms.The genetic distance in tested alfalfa materials was between 4.69 and 8.14,which suggested that the genetic diversity of alfalfa was high and the genetic base was wide.Totally 144 bands were generated with 19 RAPD primers,of which 134(93.05%) were polymorphic,10(6.94%) were monomorphic.The cluster analysis based on RAPD markers revealed that the tested materials belonged to four groups by λCD=7.39.There was a wide genetic difference among the tested materials,which would provide the theoretical base for genetic improvement and selection of cross-bred parents in alfalfa.
【语种】中文
【第一作者】刘荣霞
【通讯作者】于林清
【期刊名称、卷期、页码】草地学报,2010,No.1,108-114
【论文发表时间】2010-01-08 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】畜牧、兽医科学基础学科

【题目】苜蓿秋眠标准对照品种的幼苗形态与秋眠性、越冬率的关系
【中文关键词】苜蓿; 秋眠标准对照品种; 越冬率; 子叶到第1真叶节间距; 第1~2真叶节间距;
【英文关键词】Alfalfa; Fall dormancy standard checks varieties; Winter-survival rate; The distance between cotyledon to the 1st leaf; The distance of 1st-2nd leaf;
【中文摘要】为了寻找快速测定苜蓿秋眠性的方法,利用来自美国的11个苜蓿秋眠标准对照品种,分析了不同品种的幼苗子叶到第1真叶、第1、2真叶间距离与苜蓿的秋眠性、抗寒性的关系,发现苜蓿的秋眠级与子叶到第1真叶节间距极显著正相关,与第1~2真叶节间距也极显著正相关(P<0.01),与越冬率也极显著正相关;子叶到第1真叶节间距与越冬率极显著负相关(P<0.01),第1~2真叶节间距也与越冬率极显著负相关(P<0.01);以子叶到第1真叶节间距、第1~2真叶节间距可评价苜蓿品种的秋眠性与抗寒性。苜蓿不同秋眠类别组之间的子叶到第1真叶节间距、第1~2真叶节间距存在显著差异,可以用子叶到第1真叶节间距、第1~2真叶节间距大致测定苜蓿的秋眠类别,但是不同秋眠类别组内子叶到第1真叶节间距、第1~2真叶节间距在不同品种间多不存在显著差异,说明以子叶到第1真叶节间距、第1~2真叶节间距不能精确测定苜蓿的秋眠级。
【英文摘要】For searching rapid testing alfalfa fall dormancy method,11 fall-dormancy standard checks of alfalfa varieties were measured in the distance of cotyledon to the first leaf,the distance between 1st-2nd leaf,and winter-survival rate in seedlings stage in this paper.The results showed there were extremely significant positive correlation not only between fall-dormancy and the distance of cotyledon to the first leaf,but also extremely significant(P<0.01)positive correlation between fall-dormancy and the distance of 1st-2nd leaf;which showed there were relationship between fall dormancy and the distance of cotyledon to the 1st leaf,the distance of 1st-2nd leaf.The correlation of distance of cotyledon to the 1st leaf and the winter-survival rate was extremely significant negative,the distance of 1st-2nd leaf and the winter-survival rate was also extremely significant negative also;which suggest the distance of cotyledon to the 1st leaf and the distance of 1st-2nd leaf could be indexes to estimate alfalfa winter survival rate.Although there were significant differences between different fall dormancy groups,but there were no significant differences in alfalfa cultivars among fall dormancy groups;some varieties with higher fall dormancy,but with lower the 1st leaf to cotyledon distance and the distance of 1st-2nd leaf;which suggested that

the 1st leaf to cotyledon distance and the distance of 1st-2nd leaf could be used as index to estimate alfalfa fall-dormancy in which group,but could not be used as index to measue fall dormancy accurately.
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【题目】紫花苜蓿抗旱性研究进展
【中文关键词】紫花苜蓿 抗旱性
【英文关键词】Alfalfa (Medicago sativa); Drought resistance;
【中文摘要】苜蓿是一种高蛋白的优良豆科牧草,由于水分不足的影响,会导致苜蓿体内的生理变化和形态学上的变化以及生物产量的下降,甚至会导致死亡。就苜蓿的抗旱性国内外的研究进展、形态学、生产性能、生理学、抗旱评价、提高苜蓿抗旱性等方面的研究进展进行了苜蓿的抗旱性综合综述和讨论。
【英文摘要】Alfalfa is a drought resistant and more protein legume forage .Alfalfa growth and development is often impeded due to drought stress, which leads to a change in agronomic characteristics and physiology characteristics, and reduces in grass and seed yield, even lead to die. In this paper discuss and summarize the position of studied all over the world、 morphologic、 production、 physiology、 evaluation and improve drought resistant methods used by alfalfa.
【语种】中文
【第一作者】徐向南
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【题目】野生黄花苜蓿冷诱导基因克隆及序列分析
【中文关键词】黄花苜蓿; 冷诱导基因; 克隆; 序列分析;
【英文关键词】Medicago falcata Cold resistance gene Clone Sequence analysis;
【中文摘要】根据紫花苜蓿抗寒基因cas15B(登录号:L12462)的cDNA序列,设计1对特异引物,以经过低温胁迫的黄花苜蓿总RNA为模板,采用RT-PCR方法克隆获得了550bp的cDNA片段。测序和序列分析结果表明,扩增片段长度为550bp,编码159个氨基酸。主要由Gly(甘氨酸)、Glu(谷氨酸)、His(组氨酸)、Lys(赖氨酸)这4种氨基酸组成,占总量的70%。含1个重复了5次的10肽基序,其序列为Lys-Gly-Glu-Gln-His-Gly-His(Phe)-Val(Leu)-Gly-Gly。经序列比较分析,该片段与紫花苜蓿冷诱导基因CAS15B的核苷酸、氨基酸的同源性均为90%,命名为MfCAS15-1。亚细胞结构定位分析结果显示,MfCAS15-1是一种定向到核的蛋白,在调节或维持核的结构与功能方面起作用。本研究在黄花苜蓿中成功获得了抗寒基因同源序列,为最终克隆黄花苜蓿MfCAS15-1抗寒基因全长奠定了基础。
【英文摘要】According to cDNA sequence of cas15B (Accession number:L12462) of Medicago sativa,a pair of specific primers were designed,by which a new cDNA fragment of 550 bp was amplified by RT-PCR from total RNA of Medicago falcate that suffered from cold stress.Sequencing result and sequence analysis showed that this amplified fragment encoded 159 amino acids,four of which were Gly,Glu,His and Lys,accounting for 70% predicted.The polypeptide contains a decapeptide motif repeated five times at regular intervals with the following consensus sequence Lys-Gly-Glu-Gln-His-Gly-His(Phe)-Val(Leu)-Gly-Gly.The amplified fragment which of the homology of nucleotide sequences and deduced amino acids sequences were both 90% with the cold-induced gene cas15B of Medicago sativa,was named as Mf CAS15-1,and the encoded protein was directed to the nuclear due to the subcellular location analysis.Mf CAS15-1 may play an important roles in gene regulation and the stabilization of nuclear structure and function in the process of cold acclimation.In this study,homologous sequences of cold resistance gene were received from Medicago falcata,which could provide the foundation for cloning the full length of cold resistance gene(Mf CAS15-1) of Medicago falcata.

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【题目】Properties and antimicrobial activities of starch – sodium alginate composite films incorporated with sodium dehydroacetate or rosemary extract
【中文关键词】antimicrobial films;starch;FTIR;sodium dehydroacetate;rosemary extract
【英文关键词】antimicrobial films;starch;FTIR;sodium dehydroacetate;rosemary extract
【中文摘要】随着脱氢醋酸钠添加量的增加,膜对大肠杆菌与黑曲霉的抑制效果增加,最大的抑菌圈面积分别为46.21 mm2和986.79 mm2。添加迷迭香提取物和葡萄籽提取物的膜只能抑制大肠杆菌,最大的抑菌圈面积分别为74.77 mm2和39.51 mm2。随着抗菌剂添加量的增加,膜的机械性能均有不同程度的降低。添加脱氢醋酸钠的膜,抗拉强度从3.66 MPa 降到0.66 MPa,断裂伸长率从56.42%降到33.62%。添加迷迭香提取物的膜抗拉强度从3.66 MPa降到1.33 MPa,断裂伸长率从56.42%降到 43.47%,葡萄籽提取物对膜机械性能影响不大。
【英文摘要】Antimicrobial films were prepared with oxidized and acetylated corn starch – sodium alginate by incorporating sodium dehydroacetate or rosemary extract. Films incorporated with sodium dehydroacetate ≥ 0.1% or rosemary extract ≥ 0.3% had an anti-Escherichia coli effect. Aspergillus niger could be effectively inhibited by the incorporation of sodium dehydroacetate ≥ 0.3%. Rosemary extract showed no inhibitory effect on Aspergillus niger. Sodium dehydroacetate and rosemary extract reduced the tensile strength and elongation at break, and increased the water vapor permeability of the films. Sodium dehydroacetate made the films more greenish – yellow with the increase of sodium dehydroacetate concentration. The color of the films became darker and more reddish – yellow as rosemary extract was increased. Fourier transform infrared (FTIR) spectra analysis revealed that sodium dehydroacetate and rosemary extract reduced starch crystallinity. The surface of the films became rougher as a result of an addition of sodium dehydroacetate and rosemary extract. These findings had potential applications in prolonging food shelf life based on different needs.
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【第一作者】Qianqian Yan
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【题目】不同品系扁蓿豆种子蛋白指纹图谱研究
【中文关键词】扁蓿豆; 不同品系; 种子贮藏蛋白; 指纹图谱;
【英文关键词】Melilotoides ruthenica; Different strains; Seed storage proteins; Fingerprints;
【中文摘要】采用10%SDS-聚丙烯酰胺凝胶电泳,对扁蓿豆4个品系的种子可溶性蛋白和盐溶蛋白进行了研究,结果表明:扁蓿豆4个品系种子可溶性蛋白和盐溶蛋白总带数分别为62和31;相对迁移率分别在11.3%~92.6%和7.4%~92%之间;谱带分子量分别在5.90~107.62KD和14.64~107.38KD之间。4个品系在种子可溶性蛋白电泳图谱上都具有自己的特征带,品系之间在谱带数目、位置、宽窄和颜色深浅方面存在不同程度的差异。盐溶蛋白指纹图谱谱带数目相对较多,但依据带的出现、缺失、宽窄和颜色深浅差异,同样可以鉴定扁蓿豆不同品系。可溶性蛋白和盐溶蛋白指纹图谱一致表明,品系90-36具有较高的品系特异性。
【英文摘要】Using 10% gel SDS-PAGE,the seed dissoluble proteins and seed salt soluble proteins of four Melilotoides ruthenica strains were studied.The results showed that the total dissoluble protein bands and total salt soluble protein bands of the strains were 62 and 31,respectively;the relatively mobile rates were 11.3%~92.6% and 7.4%~92%,respectively;and the molecular weight of bands were 5.90~107.62KD and 14.64~107.38KD,respectively.All of the four strains have its own characteristic bands of seed dissoluble

proteins.Bands were different in number,distribution,width,and concentration among strains.The band number of the seed salt soluble proteins were less than the seed dissoluble proteins,while the four strains could also be identified based on the appearance,lose,width and concentration of the bands.Both the seed dissoluble proteins and seed salt soluble proteins showed that the strain 90-36 was more distinctive.

【语种】中文
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【题目】Effects of extrusion and glycerol content on properties of oxidized and acetylated
【中文关键词】Oxidized and acetylated corn starch,Biodegradable film, Extrusion, Properties
【英文关键词】Oxidized and acetylated corn starch,Biodegradable film, Extrusion, Properties
【中文摘要】熔融挤出处理的膜与未处理的膜相比,抗拉强度减小,断裂伸长率增大,水蒸气透过系数、透油系数及透光率增大,热封性能下降,综合所有性能可得,未熔融挤出处理的淀粉膜性能优于熔融挤出处理的膜。随着甘油添加量的增大,膜的抗拉强度减小,断裂伸长率增大,水蒸汽透过系数和透油系数增大,热封性能下降。
【英文摘要】Oxidized and acetylated corn starch-based films were prepared by casting with glycerol as a plasticizer.The present study investigated the effects of extrusion prior to film-making and glycerol content on the properties of starch films. The films with extrusion exhibited lower tensile strength, higher elongation at break, higher water vapor permeability and higher oil permeability than those without extrusion. Extrusion reduced heat sealability of the films. With the increase of glycerol content, the films became more flexible with higher elongation at break and lower tensile strength. Water vapor permeability, oil permeability and the range between the onset temperature and the melt peak temperature rose as glycerol content ncreased. The thermograms indicated that plasticizers and biopolymers were compatible. Theseresults suggested that extrusion did no good to starch films while glycerol content had apparent effect on the mechanical and barrier properties of the films.
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【第一作者】Qianqian Yan
【通讯作者】Haizhou Dong
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【题目】扁蓿豆不同品系ISSR标记遗传差异和遗传多样性
【中文关键词】扁蓿豆; 品系; ISSR; 遗传差异; 遗传多样性;
【英文关键词】Melilotoides ruthenica; Srtains; ISSR; Genetic difference; Genetic diversity;
【中文摘要】采用ISSR分子标记技术对扁蓿豆4个品系的遗传多样性、遗传差异和遗传结构进行了研究。用7个有效引物对4个品系进行PCR扩增,共获得73个等位基因位点,每条引物平均检测出10.4个位点,其中多态性位点69个,多态位点百分率为94.5%。各品系的Nei’s遗传多样性为0.2569,Shannon’s信息指数为0.4046。Nei’s指数估算和分子方差分析均表明,扁蓿豆4个品系的遗传多样性主要存在于品系内,4个品系间亦出现了较大的遗传分化(Gst=0.1324)。品系00-61、90-36、00-81和93-21的多态位点百分率分别为73.97%、79.45%、82.19%和83.56%;Nei’s遗传多样性(H)分别为0.2050、0.2153、0.2264和0.2474;Shannon’s信息指数(I)分别为0.3222、0.3396、0.3538和0.3821。各品系的遗传参数大小排序均为品系93-21>品系00-81>品系90-36>品系00-61。采用系统聚类和主坐标分析(PCA)两种方法所获得的聚类结果一致,即品系00-61和00-81遗传差异相对较小,其次是品系90-36,品系93-21与各品系的遗传差异较大。
【英文摘要】The genetic diversity,genetic difference and genetic structure of four strains of Melilotoides ruthenica were investigated with ISSR marker.Seven ISSR primers generated highly reproducible and stable DNA fragments.69 of 73 loci were polymorphic(PPB=94.5%).The results of Popgen32 analysis indicated that Nei’s gene diversity(H) was 0.2569,Shannon information

index(I) was 0.4046.Nei ’ s analysis and AMOVA analysis both indicated that the majority genetic variation of M.ruthenica strains occurred within strains,higher variations also occurred among the strains(Gst=0.1324).The PPB of strains 00-61,90-36,00-81 and 93-21 was 73.97%,79.45%,82.19% and 83.56%,respectively;Nei ’ s gene diversity(H) was 0.2050,0.2153,0.2264 and 0.2474,respectively;Shannon information index(I) was 0.3222,0.3396,0.3538 and 0.3821,respectively.The sequence of all genetic index above was 93-21>00-81>90-36>00-61.The results of cluster analysis and principal coordinate analysis(PCA) were similar.The genetic difference between strain 00-61 and 00-81 was relatively lower,second was strain 90-36,and strain 93-21 had higher genetic difference from other strains.

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【题目】Effects of clays with various hydrophilicities on properties of starch – clay
【中文关键词】Oxidized and acetylated corn starch,Biodegradable film, Extrusion, Properties
【英文关键词】Clays,Hydrophilicity,Extrusion blowing,Nanocomposite film,Physical and mechanical properties,Hydroxypropyl distarch phosphate
【中文摘要】不同亲水性有机改性蒙脱土均不同程度的增大了淀粉膜的拉伸强度,提高了阻水性能。其中淀粉-DK3复合膜的拉伸强度达2.47MPa,水蒸气透湿系数4.31×10-10g.m/m2.s.Pa。XRD和TEM分析显示淀粉分子进入有机改性蒙脱土片层之间形成插层结构; FTIR分析表明有机改性蒙脱土的添加抑制了淀粉和甘油之间的塑化作用;DSC分析表明有机改性蒙脱土的添加降低了淀粉膜的玻璃化转变温度(Tg);SEM分析显示有机改性蒙脱土有利于淀粉膜微观形貌的均匀化。中等亲水性有机改性蒙脱土DK3(Cloisite Na+)更适合与羟丙基交联淀粉复合制膜。
【英文摘要】Effects of clays with various hydrophilicities on the physical and mechanical properties of hydroxypropyl distarch phosphate – nanoclay composite films by extrusion blowing were investigated. Five kinds of organically modified clays with different hydrophilic properties were used in the preparation of starch nanocomposite films. X-ray diffraction (XRD) and transmission electron microscopy (TEM) showed the formation of intercalated nanostructure to a certain extent. With the addition of clays, significantly greater tensile strength (TS, 2.51 MPa) and lower water vapor permeability (WVP, 3.69×10 − 10 gm/(m2 s Pa)) were obtained. Starch – clay composite films exhibited a lower glass transition temperature (Tg, − 23.8 ◦ C)and better heat endurance with differential scanning calorimetry (DSC). The addition of clays to starch had a negative effect on the interaction between starch and plasticizer by FTIR spectra. Organically modified clays were helpful in the melting and fracturing of starch granules in the extrusion revealed by a scanning electronic microscope (SEM). The clay with medium hydrophilic property was more suitable for the production of hydroxypropyl distarch phosphate – clay nanocomposite films as an intensifier among the five clays.
【语种】英文
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【通讯作者】Haizhou Dong
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【学科分类】食品包装与储藏

【题目】Properties of cast films of vicilin-rich protein isolates from Phaseolus legumes:
【中文关键词】Cast film, Vicilin,Phaseolus legume,Heat treatment,Mechanical property
【英文关键词】Cast film, Vicilin,Phaseolus legume,Heat treatment,Mechanical property
【中文摘要】The mechanical, hydrophobic and thermal properties of cast films of vicilin-rich protein isolates from three Phaseolus legumes were investigated and compared to that of soy protein isolate (SPI). The influence of heat curing at 85 C on the properties of these films was characterized. The films of vicilinrich protein isolates exhibited much less mechanical strength (TS) and elongation at

break (EB) and similar film surface hydrophobicity, as compared with those of the SPI film. The heating remarkably improved the TS of these films, and the extent of the improvement much higher than that of the SPI film, while the EB was only slightly affected. The thermal properties of these protein isolate films were variable, and much distinctly affected by the heating of the films, to a various extent, depending on the type of protein isolates. Protein solubility analyses indicated strengthened hydrogen and hydrophobic bondings of these films by the heating. The results suggest that those vicilin-rich protein isolates have good potential to form cast films with mechanical strength comparable to that of SPI film.

【英文摘要】The mechanical, hydrophobic and thermal properties of cast films of vicilin-rich protein isolates from three Phaseolus legumes were investigated and compared to that of soy protein isolate (SPI). The influence of heat curing at 85 C on the properties of these films was characterized. The films of vicilinrich protein isolates exhibited much less mechanical strength (TS) and elongation at break (EB) and similar film surface hydrophobicity, as compared with those of the SPI film. The heating remarkably improved the TS of these films, and the extent of the improvement much higher than that of the SPI film, while the EB was only slightly affected. The thermal properties of these protein isolate films were variable, and much distinctly affected by the heating of the films, to a various extent, depending on the type of protein isolates. Protein solubility analyses indicated strengthened hydrogen and hydrophobic bondings of these films by the heating. The results suggest that those vicilin-rich protein isolates have good potential to form cast films with mechanical strength comparable to that of SPI film.

【语种】英文

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【中文关键词】Starch,Microstructure,Phase transition,CLSM
【英文关键词】Starch,Microstructure,Phase transition,CLSM

【中文摘要】The internal structures of corn starch granules with different amylose/amylopectin contents were studied using different microscopic techniques. The gelatinization phase transitions of the various starches were investigated by hot-stage confocal laser scanning microscopy (CLSM) and scanning electron microscopy (SEM). The influence of the amylose/amylopectin ratio on the internal structures and morphologies could be revealed by these techniques. Sharp growth ring structures could be clearly identified for highamylopectin starches by CLSM and SEM following acid treatment. CLSM allowed the visualization of cross-sections of starch granules without the need for sectioning techniques that lead to destruction of the microstructure of sample, allowing exploration of the gelatinization mechanism. Three-dimensional images of starch granules during gelatinization could be constructed to further explore phase transitionmechanisms. It was found that the granules of waxy maize and normal maize starch subsequently break through at their cavity and channels, when the granules became swollen during gelatinization, whilst the granules of G50 and G80 remain granular and break down to smaller pieces.

【英文摘要】The internal structures of corn starch granules with different amylose/amylopectin contents were studied using different microscopic techniques. The gelatinization phase transitions of the various starches were investigated by hot-stage confocal laser scanning microscopy (CLSM) and scanning electron microscopy (SEM). The influence of the amylose/amylopectin ratio on the internal structures and morphologies could be revealed by these techniques. Sharp growth ring structures could be clearly identified for highamylopectin starches by CLSM and SEM following acid treatment. CLSM allowed the visualization of cross-sections of starch granules without the need for sectioning techniques that lead to destruction of the microstructure of sample, allowing exploration of the gelatinization mechanism. Three-dimensional images of starch granules during gelatinization could be constructed to further explore phase transitionmechanisms. It was found that the granules of waxy maize and normal maize starch subsequently break through at their cavity and channels, when the granules became swollen during gelatinization, whilst the granules of G50 and G80 remain granular and break down to smaller pieces.

【语种】英文

【第一作者】Pei Chen
【通讯作者】Long Yu

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【题目】Effects of annealing on gelatinization and microstructures of corn starches with different amylose/amylopectin ratios
【中文关键词】Annealing,Gelatinization, Morphology,Corn starch,Different scanning calorimeter,Amylose Amylopectin
【英文关键词】Annealing,Gelatinization, Morphology,Corn starch,Different scanning calorimeter,Amylose Amylopectin
【中文摘要】Corn starches with different amylose/amylopectin ratios (waxy 0/100, normal corn 23/77, Gelose 50 50/50, Gelose 80 80/20) were annealed at below their gelatinization temperatures in excess water. The effects of annealing on the gelatinization and microstructures of the starches were studied using DSC, XRD and a microscope equipped with both normal and polarized light. In addition, a high-pressure DSC pan was used to study the effects of high-temperature annealing on the multiphase transitions of starches with different water contents. The granular size of the starches increased after the annealing process, but the size variation rates were different, with higher amylopectin contents resulting in a higher diameter growth rates and final accretion ratios. DSC results showed that annealing increased the gelatinization enthalpy of the amylose-rich starches. The increased enthalpy was mainly attributed to endotherm G – there were no significant changes to endotherms M1, M2 or Z – indicating that annealing mainly affected the helical length of shorter or sub-optional amylopectins, in particular the amylopectin in amylose-rich starches. The XRD traces of all starches after annealing remained unchanged.
【英文摘要】Corn starches with different amylose/amylopectin ratios (waxy 0/100, normal corn 23/77, Gelose 50 50/50, Gelose 80 80/20) were annealed at below their gelatinization temperatures in excess water. The effects of annealing on the gelatinization and microstructures of the starches were studied using DSC, XRD and a microscope equipped with both normal and polarized light. In addition, a high-pressure DSC pan was used to study the effects of high-temperature annealing on the multiphase transitions of starches with different water contents. The granular size of the starches increased after the annealing process, but the size variation rates were different, with higher amylopectin contents resulting in a higher diameter growth rates and final accretion ratios. DSC results showed that annealing increased the gelatinization enthalpy of the amylose-rich starches. The increased enthalpy was mainly attributed to endotherm G – there were no significant changes to endotherms M1, M2 or Z – indicating that annealing mainly affected the helical length of shorter or sub-optional amylopectins, in particular the amylopectin in amylose-rich starches. The XRD traces of all starches after annealing remained unchanged.
【语种】英文
【第一作者】Pei Chen
【通讯作者】Long Yu
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【学科分类】食品包装与储藏

【题目】木糖发酵产乙醇丝状真菌的鉴定及发酵特性
【中文关键词】木糖; 乙醇; 丝状真菌; 发酵
【英文关键词】Xylose; ethanol; filamentous fungus; fermentation
【中文摘要】针对目前对丝状真菌的木糖发酵研究较少的现状,应用杜氏管发酵法初筛和发酵测定法复筛对不同环境的土壤样品进行菌株的筛选,并采用显微镜观察和18S rRNA 序列扩增分析对菌种进行鉴定; 用重铬酸钾法对菌株的发酵特性进行研究. 结果表明: 筛选到一株能发酵木糖的丝状真菌,命名为cs - 28; 经形态学和生物学鉴定为尖孢镰刀菌(Fusarium oxysporum) ; 它不仅能发酵木糖,同时也能利用葡萄糖、蔗糖和玉米秸秆等多种发酵碳源; 其最适氮源为酵母提取物; 在温度为30 ℃、初始pH 值为6. 0、初始木糖质量浓度为20 g · L - 1时乙醇产率最高. 该研究结果为木质纤维素原料的生物转化提供新的菌种资源和工艺参数.

【英文摘要】At present,yeast is the main microorganism involved in ethanol production using xylose as carbon source. The filamentous fungi have been less studied compared to yeast. Duchenne tube and ethanol yield assay methods were applied to screen different microbes for xylose fermentation. The microorganism producing the highest amount of ethanol was identified by microscopy and 18s rRNA amplification and analysis. Fermentation assays of this microorganism were studied by the Potassium dichromate method. The screening results showed that the organism code named cs - 28 was Fusarium oxysporum. It was found that this fungus couldferment xylose,glucose,sucrose and corn stalk to produce ethanol. The optimal nitrogen source was yeast extract. The ethanol production rate was highest at initial pH 6. 0 and 30 °C,when initial xylose concentration was 20 g · L - 1 . Thus,cs - 28 can be used as a new strain for transformation of cellulose materials to ethanol.Moreover,characterization of cs - 28 on xylose fermentation can be applied in technological advancement.
【语种】中文
【第一作者】范金霞
【通讯作者】范金霞
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【学科分类】微生物学

【题目】产生生物表面活性剂的耐冷菌的筛选及发酵条件优化
【中文关键词】耐冷菌;生物表面活性剂;筛选
【英文关键词】psychrotrophic bacteria; biosurfactant; screening
【中文摘要】从常年堆积的秸秆堆下面的土样和牛场的堆肥中,筛选出13 株能产生生物表面活性剂的细菌。其中有6 株菌株为耐冷菌,其发酵液在低温环境下(0~10 °C)仍具有较低的表面张力,且均属于假单胞菌属(Pseudomonas),其余属于土壤杆菌属(Agrobacterium)。对一株耐冷菌G3-6 进行最佳发酵培养基组成和发酵条件进行了研究。经鉴定,其代谢产物是糖脂类。同时也对生物表面活性剂在作物生长中的作用进行了初步的研究。
【英文摘要】Thirteen biosurfactant-producing micro-organisms were isolated from the soil of cattlefarm and the soil under the heap of straw for all the years. Six strains were psychrotrophic bacteria in the thirteen, the fermentation liquid still had lower surface tension in low temperature (0-10 °C), and they all belonged to the Pseudomonas , the rest seven strains were Agrobacterium. In addition, the optimization forthe best fermented medium conditions of strain G3-6 was studied. The metabolites of G3-6 was proved as glycolipid. And also the article studied the role of biosurfactant in the plant growth.
【语种】中文
【第一作者】任焕
【通讯作者】任焕
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【题目】Multi-residue determination of pesticides in water using multi-walled Q1 carbon nanotubes solid-phase extraction and gas chromatography-mass spectrometry.
【中文关键词】多残留; 农药; 碳纳米管; 固相萃取; 气相色谱-质谱
【英文关键词】Multi-residue; Pesticides; Multi-walled carbon nanotubes; Solid-phase extraction; Gas chromatography – mass spectrometry
【中文摘要】开发了一种可靠的多残留检测方法,它是基于以多壁碳纳米管(MWCNTs)作为吸附剂的固相萃取(SPE)通过气相色谱 - 质谱法(GC-MS)来测定和定量分析地表水中12种农药(呋喃丹,异稻瘟净,甲基对硫磷,扑草净,杀螟硫磷,乙基对硫磷,水胺硫磷,稻丰散,杀扑磷,异狄氏剂,乙硫磷,甲氧滴滴涕)。参数可能会影响提取效率,例如洗脱剂的体积、样品的流速以及样品装载量都要进行优化。实验结果表明,12种农药在超过0.04-4 μgL-1范围时有良好的线性(R2>0.99),在最佳条件下的精度(RSD)为3.1-15.1%。该方法的检出限基于基线噪音(S / N= 3)的比色谱信号可达到0.01-0.03 μgL-1。加标水样取得良好的回收率在82.0-103.7%的范围内。结果表明,多壁碳纳米管在对12中农药的测试中具有良好的吸附性。因具有较低的成本

,较少的分析时间和较少的溶剂耗12的农药,这种多残留检测方法可以用来同时检测水中的杀虫剂。
【英文摘要】A reliable multi-residue method which was based on solid-phase extraction (SPE) with multi-walled carbon nanotubes (MWCNTs) as adsorbent was developed for determination and quantitation of 12 pesticides (carbofuran, iprobenfos, parathionmethyl, prometryn,fenitrothion,parathionethyl,isocarbofos, phenthoate, methidathion, endrin, ethion, methoxychlor) in surface water by gas chromatography-mass spectrometry (GC – MS).Parameters that might influence the extraction efficiency such as the eluent volume, the sample flow rate and the sample loading volume were optimized. The experimental results showed the excellent linearity of 12 pesticides (R2>0.99) over the range of 0.04 – 4 μ gL − 1,and the precisions(RSD) were 3.1-15.1% under the optimal conditions. The detection limits of proposed method could reach 0.01 – 0.03 μ gL − 1 based on the ratio chromatographic signal to base line noise(S/N=3). Good recoveries achieved with spiked water samples were in the range of 82.0-103.7%.The results indicated that MWCNTs have good adsorbability to the 12 pesticides tested in this study. With less cost, less analytical time and less solvent-consuming, the developed multi-residue method could be used to determine multi-class pesticides in water simultaneously.
【语种】英文
【第一作者】赵鹏
【通讯作者】王硕
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【题目】甲胺磷人工抗原的合成及光谱表征
【中文关键词】甲胺磷; 半抗原; 人工抗原; 红外光谱法
【英文关键词】methamidophos; hapten; artificial antigen; infrared spectroscopy
【中文摘要】通过化学方法合成了一种甲胺磷的半抗原62(O ,O2二甲基硫代磷酰基) 氨基己酸(MC) , MC 与N2羟基琥珀酰亚胺(NHS) 反应得到62(O ,O2二甲基硫代磷酰基) 氨基己酸活化酯(MCE) , 活化酯(MCE) 与匙孔血兰蛋白(KL H) 偶联得到第一种人工抗原(MC2KL H) ;直接用甲胺磷作为半抗原用重氮化法与牛血清蛋白(BSA) 偶联得到第二种人工抗原(M2BSA) 。通过质谱、红外和核磁表征, 证明所合成的半抗原是设计的目标产物; 并且对两种人工抗原进行了外光谱分析, 结果表明, 人工抗原1 的红外光谱中既有酰胺结构单元又有半抗原中的甲氧结构单元; 半抗原2 中不但具有酰胺结构单元又有甲胺磷的甲氧基和硫氧基结构单元,以此判断半抗原和蛋白偶合成功, 为红外光谱法用于人工抗原合成与否的鉴定研究提供了依据。
【英文摘要】A methamidophos hapten 62 (O, O2 dimethyl phosphoroamidothioate acyl) aminocaproic acid (MC) was synthesize by chemical methods. 62 (O,The O2 two methyl thiophosphoryl) amino-hexanoic acid activated ester (MCE) by MC reacting with N2 hydroxysuccinimide (NHS), then the first artificial antigen (MC2KL H) obtained by using the activated ester (MCE) couple with keyhole limpet ceruloplasmin (KL H); directly using methylaminephosphorus as a hapten coupled with bovine serum albumin (BSA) by diazotization method to get the second artificial antigen (M2BSA). Characterized by mass spectrometry , infrared and nuclear magnetic, the result proved synthetic hapten is the target product of the design and the two artificial antigen was analyzed by external spectrum. The results showed that both an amide structural unit and the hapten methoxy structural unit in first artificial antigen 1. In hapten 2 there not only has a structural unit of an amide structural unit but also have an methamidophos methoxy and sulfur oxy unit. Using these methods to judge the success of hapten and protein coupled and provides the basis for applying to the identification studies of the artificial antigen synthesis or not by infrared spectroscopy.
【语种】中文
【第一作者】王向红
【通讯作者】王硕
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【学科分类】食品科学技术其他学科

【题目】Enzyme-linked immunosorbent assay and colloidal gold immunoassay for ochratoxin A: investigation of analytical conditions and sample matrix on assay performance.
【中文关键词】赭曲霉毒素;多克隆抗体;ELISA ;胶体金免疫;基质效应
【英文关键词】Ochratoxin A . Polyclonal antibody. ELISA .Colloidal gold immunoassay . Matrix effect
【中文摘要】利用OTA-BSA偶联物免疫家兔产生抗赭曲霉毒素A(OTA)的多克隆抗体,开发了一种快速检测各种食品基质中OTA的直接竞争酶联免疫吸附方法(cdELISA)和通过导流形式测定的膜的胶体金免疫分析法。在cdELISA中,引起50%抑制率的浓度为0.07ngmL-1,并对不同的化学条件(离子强度,pH值,和有机溶剂)产生的影响进行了研究。该法的测定灵敏度高于以前所报道的。本研究开发了一种简单、快速、有效的提取方法,可获得74-110%的标品回收率。某些食品样品如大麦,小麦,燕麦,玉米,大米,葡萄干,其百分之五十的甲醇提取物可以在PBS中稀释后直接通过免疫测定法进行分析;葡萄果汁,啤酒样品用PBS稀释后可以直接分析;对于咖啡样品,需要一种复杂的方法来去有效的消除基质影响。基于膜的胶体金免疫测定法对OTA在检测时间在10min内的视觉检测限为10ngmL-1。用高效液谱分析法分析样品来验证的cdELISA法和基于膜的胶体金免疫检测法。利用微孔法和高效液相色谱法分析数据得到的相关性很好(R2 =0.984)。本法研究的免疫分析方法,适用于食品中赭曲霉毒素的快速定量或定性测定。
【英文摘要】A polyclonal antibody against ochratoxin A(OTA) was produced from rabbits immunized with the OTA – BSA conjugate. A competitive direct enzyme-linked immunosorbent assay (cdELISA) and a membrane-base colloidal gold immunoassay in flow-through format were developed for the rapid detection of OTA in various food matrices. In the cdELISA, the concentration causing 50% inhibition was 0.07 ng mL.1, and the effects of different chemical conditions (ionic strength, pH value, and organic solvent) were studied. The sensitivity of the assay was higher than those previously reported. A simple, rapid, andefficient extraction method was developed and 74 – 110% recoveries of spiked samples were obtained. Fifty percent me thanol extracts of some food samples such as barley,wheat, oat, corn, rice, and raisins could be analyzed directly by immunoassay after dilution in PBS; grape juice and beer samples could be analyzed directly after dilution with PBS;for coffee samples, a more complex method was used to remove the matrix effect effectively. Membrane-basedcolloidal gold immunoassays had a visual detection limit of 1.0 ng mL.1 for OTA with a detection time of less than 10 min. For the validation of the cdELISA and membranebased colloidal gold immunoassay, samples were analyzed by high-performance liquid chromatography. The correlationbetween data obtained using the microwell assay and HPLC was good (R2=0.984). The developed immunoassay methods are suitable for the rapid quantitative or qualitative determination of OTA in food samples.
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【第一作者】王向红
【通讯作者】王硕
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【题目】Multi-walled carbon nanotubes as solid-phase extraction adsorbents for determination of atrazine and its principal metabolites in water and soil samples by gas chromatography-mass spectrometry.
【中文关键词】莠去津;代谢物;固相萃取;碳纳米管;气相色谱;光谱
【英文关键词】Atrazine;Metabolites;Solid-phase extraction;Multi-walled carbon nanotubes;Gas chromatography-mass;spectrometry
【中文摘要】发明了一种新的,简单,具有成本效益并且灵敏的方法,它是利用多壁碳纳米管作为固相萃取吸附剂结合气相-色谱质谱法来测定水及土壤样品中的阿特拉津及其主要代谢产物脱异丙基莠去津(DIA)和脱乙基莠去津(DEA)。研究对某些条件参数,如样品装载流速,洗脱液和洗脱体积,萃取剂和样品的提取溶剂比进行了优化,以得到分析物的提取和洗脱的高的灵敏度和精确度。用甲醇/水的溶液(50%,体积/体积),从土壤中提取阿特拉津,DIA和DEA。提取物以4 mL min-1的流速通过SPE柱(用多壁碳纳米管包裹)后,再用4mL乙酸乙酯在真空泵中以1mLmin-1流速洗脱。此法测定阿特拉津的检测限(S / N= 3)在水中为0.02 μg kg-1,在土壤中为0.3 μg kg-1。脱异丙基莠去津(DIA)的检出限在水中为0.04 μg kg-1,在土壤中为.0 μg kg-1。脱乙基莠去津(DEA)的检出限在水中为0.05 μg kg-1,在土壤中为0.8 μg kg-1。此法的平均回收率在72.27-109.68%范围内,并在最佳条件下被接受的可重复性为(RSD B13%)。此方法用于确测定实际环境样品,阿特拉津的浓度为0.77-10.83 μg kg-1时,DEA和DIA则未检测到。
【英文摘要】"A novel, simple, cost-effective, and sensitive method was developed for the determination of atrazine and its principalmetabolites namely deisopropyl-atrazine (DIA) and deethyl-atrazine (DEA) in water and soil samples using multi-walled

carbon nanotubes as solid-phase extraction (SPE) adsorbents coupled with gas chromatography-mass spectrometry (GC-MS). Several condition parameters, such as sample loading flow-rate, eluent and elution volume, extractant and ratio of extraction solvent to sample,were optimized to achieve good sensitivity and precision for the extraction and elution of analytes. A methanol/water solution (50%, v/v) was used to extract atrazine, DIA and DEA from soil. After the extracts went through SPE cartridges (packed with multi-walled carbon nanotubes) at a flow-rate of 4 mL min.1, the analyteswere eluted by 4mL ethyl acetate at the rate of 1mLmin.1 under a vacuumpump.The limit of detection (S/N=3) of the proposed method was 0.02 μg kg.1 for atrazine in water and 0.3 μg kg.1 in soil; 0.04 μg kg.1 for DIA in water and 1.0 μg kg.1 in soil; 0.05 μg kg.1 for DEA in water and 0.8 μg kg.1 in soil. Mean recoveries were in the range of 72.27 – 109.68%, and the reproducibility was accepted (RSD b13%) under the optimum conditions. This developedmethod was applied to determine the analytes in real environmental samples, and the concentrations of atrazine were 0.77 – 10.83 μg kg.1, while DEA and DIA were not detected."

【语种】英文
【第一作者】闵光
【通讯作者】王硕
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【题目】Development of Flow-through and Dip-stick Immunoassay for Screening of Sulfonamide Residues.
【中文关键词】磺胺; 导流; ELISA 浸渍 ;ELISA 试纸条条技术
【英文关键词】Sulfonamide; Flow-through; ELISA Dip-stick ;ELISA Strip assay
【中文摘要】本实验研究了两种形式的膜基竞争酶免疫分析法(导流和浸渍)来筛选猪肌肉和牛奶中磺胺类药物的残留。膜上涂布抗-磺酰胺的抗体和用D2-辣根过氧化物酶偶合物(HRP)标记的磺酰胺半抗原用于竞争性测定的磺胺类药物。7种磺胺类药物在缓冲液中通过导流和浸渍测定的视觉检出限范围分别为1-5 μg L − 1或1-10 μg L-1。此分析方法用加单磺酰胺的标品进行验证,标品用本实验研究的试纸条分析检测,其结果与用高效液相色谱仪(HPLC)方法验证得到的结果进行比较。结果表明,两种试纸条的检测结果分别与HPLC的检测结果的相关性良好。对于导流式的方法和浸渍式的方法分别用5min和15min的分析时间,那么这些快速检测方法可以提供简单,快速,经济,有效的现场快速测试工具来检测猪肉中磺胺类药物。
【英文摘要】"Two formats of membrane-based competitive enzyme immunoassays (flow-through and dipstick) have been developed for the screening of sulfonamide residues in pig muscle and milk. Membrane was coated with anti-sulfonamide antibody and a sulfonamide hapten D2-horseradish peroxidase (HRP) conjugant was used as the labeled antigen for competitive assay of sulfonamides. Visual detection limits of the flow-through or dip-stick assay were 1 – 5 μg L − 1 or 1 – 10 μg L − 1 in buffer for seven sulfonamides, respectively. Assay validation was performed using samples spiked with single sulfonamide, spiked samples were tested using the developed strip assays and results were compared with those obtained by a validated highperformance liquid chromatograph (HPLC) method. Results showed that the two strip assays were correlated well with HPLC, respectively. With assay times of 5 min (flow-through) and 15 min (dip-stick), these rapid tests could offer simple, rapid and cost-effective on-sitescreening tools to detect sulfonamides in pig muscle(flow-through or dip-stick) or milk(only dip-stick)."
【语种】英文
【第一作者】张鸿雁
【通讯作者】王硕
【期刊名称、卷期、页码】Journal of Immunological Methods.2008, 337: 1-6.
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【学科分类】食品科学技术其他学科

【题目】Validation and Comparative Studies of Four Sulfonamide Immunoassays Based on the Same Generic Polyclonal Antibody
【中文关键词】磺胺;免疫技术; 多克隆抗体;高效液相色谱法; 动物源食品

【英文关键词】Sulfonamide . Immunoassay . Generic polyclonal antibody .High performance liquid chromatography . Animal-derived food

【中文摘要】本研究通过高效液相色谱法对基于相同的通用多克隆抗体的四种不同的免疫测定法分别进行了验证。同时这四种方法也针对食物样本中的磺酰胺残留的定量和筛选在灵敏度,精确度和准确度方面进行了相互的比较。相关研究表明,免疫分析和液相色谱数据之间有良好的相关性。传统的试剂盒法有更好的精度并且其提高化学发光性使之具有较高的灵敏度。这两种方法都可以用作大量的样品的定量方法并作为实验室常规分析方法的补充。导流式的试纸条检测法具有较高的灵敏度,浸渍式的试纸条检测法的基质影响较小。这两种方法都可以用来作为动物源性食品样品中磺胺类药物残留的现场快速检测的有价值的工具。

【英文摘要】Four different immunoassays based on the same generic polyclonal antibody were validated by high performance liquid chromatography, respectively. They also were compared with each other in terms of sensitivity, precision, and accuracy for the quantification or screening of sulfonamide residues in food samples. Correlation studies showed that there was a good correlation between the immunoassays and liquid chromatography data. The conventional plate assay has better precision and the plateenhanced chemiluminescent assay has higher sensitivity. These two methods all could be used as quantification methods for large numbers of samples and complements of the conventional analytical methods in laboratory. The flow-through strip assay has higher sensitivity and the dip-stick strip assay was less affected by matrix effect. These two methods all could be used as valuable tools for the rapid on-site screening of sulfonamide residues in animal-derived food samples.

【语种】英文

【第一作者】张鸿雁

【通讯作者】王硕

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【引文索引类型】SCI

【引文索引号】0273-2289

【学科分类】食品科学技术其他学科

【题目】Development of Enzyme-linked Immunosorbent Assay (ELISA) for the Detection of Neomycin Residues in Pig Muscle, Chicken Muscle, Egg, Fish, Milk and Kidney

【中文关键词】新霉素; 多克隆抗体;直接竞争ELISA; 动物源食品;残留;

【英文关键词】neomycin; polyclonal antibody; competitive direct ELISA; animal-derived food products;residues;

【中文摘要】通过使用多克隆抗体技术,比色度直接竞争酶联免疫吸附法在检测动物器官中残留的新霉素的技术得到了发展。并且与其他的抗生素产生的抗体无交叉反应。这种方法的检出限为0.1 μg/kg。新霉素的回收率范围从75%到105%,建立了一个简单而且有效的样品提取方法。检出限在猪肉、鸡肉、鱼和牛奶中是5 μg/kg(L), 在肾脏中10 μg/kg,在鸡蛋中20 μg/kg。为了检测猪肉和鸡肉中新霉素的残留量,使用了化学发光方法。这种方法的检出限是0.015 μg/kg,在猪肉中的检出限是1.5 μg/kg,在鸡肉中的检出限是6 μg/kg。而且,该方法通过了高效液相色谱的验证,并且两种结果的相关性高达0.9。

【英文摘要】A colorimetric competitive direct enzyme-linked immunosorbent assay (ELISA) method was developed using polyclonal antibody to determine neomycin residues in food of animal origin. No cross-reactivity of the antibody was observed with other aminoglycosides. The limit of detectionof the method was 0.1 μg/kg. A simple and efficient sample extraction method was established with recoveries of neomycin ranged from 75 % to 105 %. The detection limits were 5 μg/kg(L) in pig muscle, chicken muscle, fish and milk, 10 μg/kg in kidney and 20 μg/kg in egg, respectively.Chemiluminescence assay was developed for detecting neomycin residues in pig muscle andchicken muscle. The limit of detection of the method was 0.015 μg/kg, and the detection limits were 1.5 μg/kg in pig muscle and 6 μg/kg in chicken muscle. The ELISA tests were validated by HPLC ,and the results showed a good correlation (r2) which was greater than 0.9.

【语种】英文

【第一作者】王硕

【通讯作者】王硕

【期刊名称、卷期、页码】Meat Science 2009, 82(1): 53-58.

【论文发表时间】2009-05-01 00:00:00

【引文索引类型】SCI

【引文索引号】0309-1740

【学科分类】食品科学技术其他学科

【题目】Development of a Capillary Electrophoresis-Based Immunoassay with Laser-Induced Fluorescence for the Detection of Carbaryl in Rice Samples

【中文关键词】基于免疫的毛细管电泳; 激光感生荧光;西维因; 荧光标记西维因

【英文关键词】Capillary electrophoresis-based immunoassay; laser-induced fluorescence; carbaryl; fluorescently labeled carbaryl tracer

【中文摘要】本实验建立了一种通过毛细管电泳竞争免疫吸附和激光诱导荧光检测器连用来检测农药中西维因的方法。该方法是基于荧光标记甲萘胺示踪剂(Ag *)和有少量抗甲萘胺抗体自由甲萘胺(Ag)之间的竞争反应,并且分离两者,通过毛细管电泳连接一个激光诱导荧光检测器进行检测。使用CEIA,达到平衡时间是30分钟,并且分析结果在8分钟中就能获得。甲萘胺的线性范围和检出限分别是0.16-50 ng/mL和0.05 ng/mL。用相同的免疫试剂,连用LIF 的检测器CEIA的检测方法比普通ELISA方法提高了近14倍。这种方法只需要快速和简单的样品前处理,就能够应用于分析大米中的甲萘胺含量。因此人们认为这种方法是一种快速灵敏的检测甲萘胺方法。

【英文摘要】A capillary electrophoresis-based competitive immunoassay (CEIA) with a laser-induced fluorescence (LIF) detector for the determination of carbaryl was developed. The method was based on the competitive reactions between fluorescently labeled carbaryl tracer (Ag*) and free carbaryl (Ag) with a limited amount of anticarbaryl antibody (Ab), and the relative amounts of each were separated and determined by capillary electrophoresis (CE) with an LIF detector. Using CEIA, equilibrium was reached in 30 min, and the analytical results were obtained within a further 8 min. The linear range and the detection limit for carbaryl were 0.16-50 ng/mL and 0.05 ng/mL, respectively. The sensitivity of this CEIA with an LIF detector was almost 14 times greater than that of ELISA, which used the same immuno-reagents. The method was also applied to the analysis of carbaryl in rice with rapid and simple sample pretreatment. The method is thus proposed as a fast and sensitive assay for the detection of carbaryl.

【语种】英文

【第一作者】张灿

【通讯作者】王硕

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【引文索引类型】SCI

【引文索引号】0021-8561

【学科分类】食品科学技术其他学科

【题目】Effect of hapten structure on specific and sensitive enzyme-linked immunosorbent assays for N-methylcarbamate insecticide metocarb.

【中文关键词】半抗原;多克隆抗体;酶联免疫技术;氨基甲酸酯类杀虫剂;速灭威

【英文关键词】Hapten;Polyclonal antibody;Enzyme-linked immunosorbent assay;N-Methylcarbamate insecticide;Metolcarb

【中文摘要】实验设计与合成了五种不同的氨基甲酸酯类杀虫剂半抗原。所有的半抗原都结合上OVA 作为包被原,一种包含了这种杀虫剂的所有结构的半抗原结合上BSA作为免疫原。制备2种BSA结合物多克隆抗体抗,并且选择10种抗体结合物来研究这种杀虫剂试验灵敏性和特异性。通过对除了抗蚜威之外的7种氨基甲酸酯类杀虫剂的测定,试验的I50值从0.64 gmL − 1 到 20.98 gmL − 1 ,证明了其具有特异性。考虑到抗血清效价,I50和所有抗体\包被原结合物的相关性,我们建立了一种间接竞争酶联免疫吸附法,其检出限可达到1.4 ngmL − 1。竞争ELISAs方法的结果表明,包被原的结构能够显著影响试验的灵敏性和特异性

【英文摘要】Five different haptens of the N-methylcarbamate insecticide metolcarb were designed and synthesized. All of the haptens were conjugated with ovalbumin (OVA) for the coating antigen,and one hapten containing all of the structure of metolcarb was conjugated with bovine serum albumin (BSA) for the immunogen. Two polyclonal antisera were raised against the BSA conjugate, and ten antibody/coating conjugate combinations were selected for studies of assay sensitivity and specificity for metolcarb. A class-specific combination was found, with the I50 of the assay ranged from 0.64 to 20.98 gmL − 1 for seven tested N-methylcarbamate insecticides except for pirimicarb. Considering titer, I50 and cross-reactivity of all combinations of antibody/coating conjugate, a competitive indirect enzyme-linkedimmunosorbent assay (ELISA) in a homologous system, whose limit of detection (LoD) reached 1.4 ngmL − 1, was presented. The results of competitive ELISAs indicated that coating hapten structure can significantly affect not only assay sensitivity but also its specificity.

【语种】英文

【第一作者】张奇
【通讯作者】刘凤权
【期刊名称、卷期、页码】Anal. Chim. Acta. 2008, 625, 87-94.
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【引文索引类型】SCI
【引文索引号】0003-2670
【学科分类】食品科学技术其他学科

【题目】Competitive immunoassay by capillary electrophoresis with laser-induced fluorescence for the trace detection of chloramphenicol in animal-derived foods
【中文关键词】动物源食品 ;毛细管电泳-激光感生荧光 ;氯霉素;酶联免疫技术
【英文关键词】Animal-derived foods ;Capillary electrophoresis immunoassay-laser-induced fluorescence ;Chloramphenicol;Enzyme-linked immunosorbent assay
【中文摘要】为了检测氯霉素,建立了一种CE和LIF检测器连用的竞争性免疫方法。这种方法是基于荧光标记的CAP和自由CAP之间的竞争反应,使用了很少量的抗CAP抗体。在分离缓冲液中加入聚(N-异丙基丙烯酰胺)水凝胶,能够作为减少吸附的动力助动剂并借能够增强重现性。CAP的线性范围和LOD分别是0.008 – 5 mg/L和0.0016 mg/L。使用了同样免疫方法的ELISA方法同样在分析CAP的应用中得到了发展,LOD是0.03 mg/L。这种方法的灵敏度要比普通的ELISA方法提高20倍。使用CEIA-LIF方法,平均时间是15分钟,并且通过CE分离,在5分钟内我们就能获得分析结果。CEIALIF样本的准备不耗时,而且基质影响很容易消除。在食品基质中的LOD很容易达到0.1 mg/kg CAP。因此把该方法作为一种快速和灵敏的检测动物性食品的CAP残留量的方法。
【英文摘要】A competitive immunoassay using CE with an LIF detector was developed for the detection of chloramphenicol (CAP). The method was based on the competitive reactions between fluorescently labeled CAP hapten and free CAP, with a limited amount of anti-CAP antibody. The poly(N isopropylacrylamide) (pNIPA) hydrogel was added in the separation buffer as a dynamic modifier to reduce adsorption and enhance reproducibility. The linear range and LOD for CAP were 0.008 – 5 mg/L and 0.0016 mg/L, respectively. An ELISA using the same immuno-reagents was also developed for the analysis of CAP, with an LOD of 0.03 mg/L. The sensitivity of this CE immunoassay (CEIA)-LIF was almost 20 times greater than that of the ELISA. Using CEIA-LIF, equilibrium was reached in 15 min and the analytical results were obtained within 5 min by CE separation. Sample preparation for CEIALIF was not time-consuming and the matrix effect was easy to remove. An LOD of 0.1 mg/kg CAP in food matrices was easily achieved. This method is thus proposed as a fast and sensitive means of detecting trace amounts of CAP residues in animal-derived foods.
【语种】英文
【第一作者】张灿
【通讯作者】王硕
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【学科分类】食品科学技术其他学科

【题目】Hapten Synthesis and Enzyme-Linked Immunosorbent Assay for Phosmet Residues: Assay Optimization and Investigation of Matrix Effects from Different Food Samples
【中文关键词】亚胺硫磷 ; ELISA ; 多克隆抗体;基质效应;交叉反应
【英文关键词】Phosmet ; ELISA ; Polyclonal antibody;Matrix effect ; Cross-reactivity
【中文摘要】在这项研究中,合成半抗原获得免疫偶联物,合成其他几种半抗原是为了标示不同的偶联物。获得了一个对有机磷杀虫剂具有高灵敏度的多抗,从而建立了一种针对杀虫剂的cd-ELISA方法。在这种方法中,检出限IC15是0.6 μg kg − 1,IC50是20 μg kg − 1。也对该方法在桃子、苹果、桔子汁、苹果汁中的农药检测适用性进行了研究。结果表明,平均回收率为78%和102.3%的,平局变异系数低于13.63%,具有较好的准确度和精确度。我们通过高效液相色谱法验证了这种ELISA方法。通过使用微孔试验和高效液相色谱法得到的数据相关性很好。这种先进的免疫方法很实用于快速定量和定性检测食品样本中的亚胺硫磷。
【英文摘要】In this study, a panel of haptens was synthesized for immunoconjugate preparation, and several haptens for heterologous tracer conjugates were also prepared. A highly sensitive polyclonal antibody against the organophosphorus insecticide

phosmet was obtained and competitive direct enzyme-linked immunosorbent assays (cd-ELISA) for this pesticide were developed. In the cd-ELISA, the limit of detection (IC15) was 0.6 μg kg − 1 and the sensitivity (IC50) was 20 μg kg − 1. The suitability of the ELISA for pesticide quantification in peach, apple, orange juice, and apple juice was also studied. Good accuracy and precision were obtained with mean recoveries between 78% and 102.3% and mean coefficients of variation below 13.63%. Validation of the ELISA was conducted by high-performance liquid chromatography.The correlation between the data obtained using the microwell assay and the high-performance liquid chromatography was good (R2=0.9849). The developed immunoassay methods were suitable for the rapid quantitative or qualitative determination of phosmet in food samples.

【语种】英文

【第一作者】宋洋

【通讯作者】王硕

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【引文索引号】1618-2642

【学科分类】食品科学技术其他学科

【题目】Current status and management of chemical residues in food and ingredients in China.

【中文关键词】食品安全控制系统;化学毒物;监控系统;对策

【英文关键词】the food safety control system ;Chemical poisoning;monitoring programs;countermeasures

【中文摘要】从二十世纪八十年代开始,中国的食品工业迅速发展。但是各种食物传染性疾病的频频发生,可以看到中国的食品安全控制系统还不完善。化学毒物对食品安全性的危害处于第二位,仅次于致病微生物所产生的食物传染性疾病。这一观点旨在重新审视中国的立法、管理、检查、食品安全、风险预警和风险评估系统,而且描述了一个对食品和原料中的化学残留的监控系统的实施。另外,这个观点讨论了在中国,食品中化学残留管理涉及到的问题及正在采取的对策。

【英文摘要】China ’s food industry has grownrapidly since the 1980s. Frequent outbreaks of foodborne illnesses are evidence that the food safety control system in China has deficiencies. Chemical poisoning is secondonly topathogenicmicroorganisms as foodsafetyhazards causing foodborne illnesses. This reviewprovides an overviewon the statutes, management, inspection, safety, risk alert, and risk evaluationsystems of China along with a description of the implementation of monitoring programs for chemical residues in foods and ingredients. In addition, this review discusses the problems involved and the countermeasures being undertaken in the management of chemical residues in food products in China.

【语种】英文

【第一作者】朱华平

【通讯作者】王硕

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【引文索引类型】SCI

【引文索引号】0924-2244

【学科分类】食品科学技术其他学科

【题目】Development of an Enzyme Linked Immunoassay for Metolcarb Residue Analysis and Investigation of Matrix Effects from Different Agricultural Products.

【中文关键词】速灭威;酶联免疫技术;多克隆抗体;基质影响

【英文关键词】Metolcarb ; Enzyme-linked immunosorbent assay ; Polyclonal antibodies .;Matrix effects

【中文摘要】建立了一种基于多抗的检测氨基甲酸酯类杀虫剂的直接酶联免疫方法。我们设计和合成了两种新的杀虫剂半抗原。这两种半抗原都结合上匙孔蛋白形成免疫原。我们免疫四只兔子,来得到抗速灭威杀虫剂的多克隆抗体。用非竞争间接酶联免疫方法测定相同包被原的抗血清效价。使用高效价的抗血清用于直接竞争酶联免疫方法来检测速灭威杀虫剂。对速灭威杀虫剂高选择性的抗原抗体结合被充分的利用,而且我们还考察其耐受性受化学条件(离子强度、pH值、有机溶剂)的影响。在最佳条件下,其灵敏度和检测限分别是22 μg L − 1和1.2 μg L − 1。通过简单、快速和有效的提取方法,我们能够监测在果汁和蔬菜中速灭威杀虫剂的含量。添加回收率范围是从80.5%到109.5%。这种新的免疫检测的方法通过与高效液相色谱所得结果的对比而被验证。使用这个新的免疫吸附方法和高效液相色谱法这两者有很高的相关性(R2=0.9884).。因此,试验建立的免疫吸附方法非常适合快速定量的检测农产品中速灭威杀虫剂的含量。

【英文摘要】The development of a direct competitive enzymelinked immunosorbent assay based on polyclonal antibodies for N-methylcarbamate insecticide metolcarb is described. Two new haptens for the metolcarb were designed and synthesized. Both haptens were conjugated with keyhole limpet hemocyanin to form the immunogens. Four rabbits were immunized with the immunogens for production of polyclonal antibodies against metolcarb. Antisera titers were tested on the homologous coating antigens using a noncompetitive indirect enzyme-linked immunosorbent assay. The high titer antisera were used to develop the direct competitive enzyme-linked immunosorbent assay for the detection of metolcarb. The antibody – antigen combination with the highest selectivity for metolcarb was further optimized and its tolerance to changes in chemical conditions (ionic strength, pH value, and organic solvent) was studied. Under optimum conditions, the sensitivity and the limit of detection were determined to be 22 μg L − 1 and 1.2 μg L − 1 respectively. Determination of metolcarb in fruit juices and vegetables was accomplished by simple, rapid, and efficient extraction methods. Recoveries of metolcarb from spiked samples ranged from 80.5% to 109.5%. Validation of the developed immunosorbent assay was conducted by comparison of results from high-performance liquid chromatography. The correlation between the data obtained using developed immunosorbent assay and high-performance liquid chromatography was high (R2=0.9884). Therefore, the developed immunosorbent assay in this study was suitable for the rapid quantitative determination of metolcarb in agricultural products.

【语种】英文

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【学科分类】食品科学技术其他学科

【题目】Review on enzyme-linked immunosorbent assays for sulfonamide residues in edible animal products

【中文关键词】磺胺;ELISA;可食用动物食品;光谱特异性抗体

【英文关键词】Sulfonamide;ELISA;Edible animal products;Broad specificity antibody

【中文摘要】目前状态下,可以通过酶联免疫技术检测可食用的动物体内磺胺类药物的含量。注意力主要集中在半抗原的设计与合成,半抗原与载体蛋白的偶联,抗体的制备,同源与异源抗体的应用,及半抗原与磺胺药物的分子模型。研究表明,磺胺似乎可以特别抵抗产生特异性的光谱类特异性抗体。通过对可用的磺胺类ELISA的研究的总结,希望它可以成为进一步研究发展最有效检测方法的基础。

【英文摘要】The current status of enzyme-linked immunosorbent assays (ELISAs) for sulfonamides in edible animal products is reviewed. The attention was focused on the design and synthesis of haptens,conjugation to carrier protein, production of antibody, application of homologous and heterologous systems, as well as the molecular modeling of the haptens and sulfonamides.Researches have shown that sulfonamides seem to be particularly resistant to attempts to produce broad specificity antibodies. By summarizing the available research on sulfonamide ELISAs, it is hoped that it can be considered as a basis for further investigation aimed at developing the most efficient approaches for detection.

【语种】英文

【第一作者】张鸿雁

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【引文索引类型】SCI

【引文索引号】0022-1759

【学科分类】食品科学技术其他学科

【题目】A rapid and Sensitive Chemiluminescence Enzyme Linked Immunosorbent Assay for the Determination of Metolcarb Residue in Agricultural Products.

【中文关键词】酶联免疫技术; 增强化学发光; 食品

【英文关键词】Enzyme linked immunosorbent assay; Enhanced chemiluminescence; food

【中文摘要】一种用增强的化学发光底物检测食品中的速灭威并以多克隆抗体为基础的酶联免疫吸附测定法正在逐渐发展起来.酶示踪稀释和包被抗体的浓缩已经进行了研究。在最适宜的条件下,实验测定的IC50值与IC15值分别是5ng/ml,0.2ng/ml.橙汁和蔬菜中的速灭威的检测可以通过简便迅速有效的萃取法来完成。标准样品中速灭威的回收率范围从79%到99%。通过与HPLC检测结果的比较,ECL-ELISA被证实是有效的。用ECL-ELISA和HPLC检测所得数据之间的相关性很高。因此,所研究的ECL-ELISA适用于快速定量分析农产品中的速灭威。

【英文摘要】An enzyme linked immunosorbent assay based on polyclonal antibodies with enhanced chemiluminescent (ECL) detection for metolcarb in food is developed. Enzyme tracer dilution and concentration of coating antibody were studied. Under the optimum conditions, the IC50 value and IC15 value of assay were determined to be 5 ng mL − 1 and 0.2 ng mL − 1 respectively. Determination of metolcarb in orange juice and vegetables was accomplished by simple, rapid and efficient extraction methods. Recoveries of metolcarb from spiked samples ranged from79% to 99%. Validation of the ECL-ELISA was conducted by comparison of results from high performance liquid chromatography (HPLC). The correlation between the data obtained using ECL-ELISA and HPLC was high. Therefore, the ECL-ELISA in this study was suitable for the rapid quantitative determination of metolcarb in agricultural products.

【语种】英文

【第一作者】孙晶玮

【通讯作者】王硕

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【论文发表时间】2009-09-01 00:00:00

【引文索引类型】EI

【引文索引号】0

【学科分类】食品科学技术其他学科

【题目】Development of General Immunoassays for Pyrethroids:A new approach for Hapten Synthesis using Pyrethroid Metabolite Analogue and Application to Different Food Samples.

【中文关键词】ELISA, 合成除虫菊酯类, 免疫技术,绿茶, 云台属油菜., 桃

【英文关键词】ELISA, pyrethroids, immunoassay, green tea, Brassica campestris L., peach

【中文摘要】这项研究描述了用免疫化学的方法检测拟除虫菊酯。这项研究的目的是为了发展一种用于检测这一类拟除虫菊酯的通用ELISA法,这种新方法用于半抗原的制备,这种半抗原的3碳间隔臂上连接了拟除虫菊酯的底物类似物即3-苯氧基苯甲酸。酶联免疫吸附测定法用于拟除虫菊酯类的检测,包括溴氰菊酯、氯氰菊酯、氟胺氰菊酯,氰戊菊酯和甲氰菊酯。检测显示溴氰菊酯、氯氰菊酯、氟胺氰菊酯,氰戊菊酯和甲氰菊酯的IC50值分别为20 μg/L, 16 μg/L, 11 μg/L, 15 μg/L and 20 μg/L。对油菜,桃子和绿茶当中的拟除虫菊酯的峰值与回收率也进行了研究。高精度获得了良好的回收率。用免疫化学方法与GC/ECD检测绿茶所得到的数据相关性很好(R2=0.9968)。因此,已经开展的免疫化学检测方法适用于快速定量分析食品样品中的拟除虫菊酯。

【英文摘要】This study describes immunochemical approach for the detection of pyrethroids. With the aim of developing a generic ELISA for the class of pyrethroids, a new approach was used for the hapten preparation in which the 3-carbon spacer arm was attached to the pyrethroids metabolite analogue, 3-phenoxybenzoic acid. Enzyme-linked immunosorbent assay was developed for the detection of the class of pyrethroids, including deltamethrin, cypermethrin, fluvalinate, fenvalerate and fenpropathrin. It was showed that IC50s were 20 μg/L for deltamethrin, 16 μg/L for cypermethrin, 11 μg/L for fluvalinate, 15 μg/L for fenvalerate and 20 μg/L for fenpropathrin respectively. Spike and recovery for pyrethroids in Brassica campestris L., peach and the green tea were also studied. The high precision was obtained with good recoveries. The correlations between immunoassay and GC/ECD data in the green tea were good (R2=0.9968). Therefore, the developed immunoassay method was suitable for the rapid quantitative determination of pyrethroids in food samples.

【语种】英文

【第一作者】陆阳

【通讯作者】王硕

【期刊名称、卷期、页码】Food and Agricultural Immunology.March 2010, 27 45

【论文发表时间】2009-10-09 00:00:00

【引文索引类型】SCI

【引文索引号】0954-0105

【学科分类】食品科学技术其他学科

【题目】Construction and quality examination of murine naive T7 phage display antibody library.
【中文关键词】鼠类,单链抗体, T7, 噬菌体展示, 自然抗体图书馆
【英文关键词】Murine, scFv, T7, phage display, naive antibody library
【中文摘要】BALB/c老鼠的单链抗体库由T7噬菌体构建并且质量已被检验。五十五种引物被用来克隆非免疫小鼠的抗体基因轻链和重链的可变区域。经过重叠延伸PCR单链抗体片段获得820bp.达到1.74×107pfu滴度的初级抗体库是在包装之后构建的。经过扩增以后滴度达到了1.78×1011 pfu/ml.十个随机的克隆被扩增以及五个克隆被测序用来测定这个抗体库的质量。随机的扩增显示90%噬菌体含有我们所需的片段。这五个被测序的单链抗体片段的显著差异表明这个抗体库的质量很好。共轭亚胺硫磷与载体蛋白作为配体用来筛选抗体库和可能被孤立的特异性斑块。这些结果表明抗体库能够作为有效地平台在某些分子上来筛选特异性抗体。
【英文摘要】A naive scFv antibody library of BALB/c mouse was constructed using T7 phage and the quality was examined. Fifty-five primers were designed to clone variable regions of light (440bp) and heavy (450bp) chains of antibody genes from non-immune mice. After overlap extension PCR scFv fragments about 820 bp were obtained. Primary antibody library which titer reached 1.74 × 107 pfu was constructed after package. After amplification the titer reached 1.78×1011 pfu/mL. Ten random clones were amplified and five clones were sequenced to determine the quality of the library. Random PCR indicated that 90% phages contained desired fragments. Distinct difference among the five sequenced scFv fragments indicated good quality of the library. Phosmet conjugated with carrier protein was used as ligand to screen the library and specific plaques could be isolated. These results demonstrated that the library could be used as an effective platform to screen specific antibodies against certain molecules.
【语种】英文
【第一作者】杜欣军
【通讯作者】王硕
【期刊名称、卷期、页码】Food and Agricultural Immunology.2009,2-20
【论文发表时间】2009-03-28 00:00:00
【引文索引类型】SCI
【引文索引号】0954-0105
【学科分类】食品科学技术其他学科

【题目】Immunoassay development for the class-specific assay for types I and II pyrethroid insecticides in water samples
【中文关键词】抗体; 特异性抗体; 灵敏度;免疫技术; 拟除虫菊酯
【英文关键词】hapten; class-specific antibody; sensitivity; immunoassay; pyrethoid
【中文摘要】设计和合成了拟除虫菊酯杀虫剂的五个泛用半抗原,它被分为三种类型:第一,半抗原1是第一种类型没有氰基;第二,半抗原2和XQ是第二种类型有一个氰基:第三,半抗原4和5这两种没有酯基。半抗原的结构由MS和1H-NMR确认。半抗原1,2分别与BSA结合,并且半抗原1-5分别与OVA结合。与BSA共轭相对的四种多克隆抗血清选出用来研究拟除虫菊酯的灵敏度与特异性,其包括一种混合共轭结合和二十种抗体或包被共轭结合。这项研究发现了最佳组合,这个组合对这两种类型的拟除虫菊酯有同样高水平的灵敏度。这个免疫试验表明,针对一批杀虫剂,连接了混合物的多克隆抗体可以用来做多残留试验测定。
【英文摘要】"Five generic haptens of pyrethoid insecticides, which were classified as three types, were designed and synthesized: the first (hapten 1) is for type I pyrethroids without a cyano group, the second (hapten 2 and XQ) for type II pyrethroids with a cyano group,and the third (hapten 4 and 5) for both types of pyrethroids with loss of the ester group. The hapten structures were confirmed by MS and 1H-NMR. Hapten 1 and 2 were conjugated with BSA respectively and haptens 1-5 were conjugated with OVA. Four polyclonal antisera were raised against BSA conjugates including a mixture conjugate, and twenty antibody/coating conjugate combinations were selected for studies of assay sensitivity and specificity for pyrethroids. The study revealed the best combination, which showed equal high sensitivities (I50 is around 0.02 μg mL-1) to both types of pyrethroids. The immunity results suggest that, with a mixture conjugates, a polyclonal antibody against a group of insecticides can be prepared for multi-residue assays."
【语种】英文
【第一作者】张奇
【通讯作者】李培武
【期刊名称、卷期、页码】Molecules 2009.2010, 15,164-177
【论文发表时间】2010-01-04 00:00:00

【引文索引类型】SCI
【引文索引号】1420-3049
【学科分类】食品科学技术其他学科

【题目】Preparation, characterization and preliminary application of monoclonalantibody against the pyrethroid insecticide fenvalerate
【中文关键词】杀虫菊酯, 拟除虫菊酯,半抗原, 单克隆抗体,酶联免疫技术
【英文关键词】Fenvalerate, pyrethroid insecticide, hapten, monoclonal antibody,enzyme-linked immunosorbent assay (ELISA)
【中文摘要】针对拟除虫菊酯杀虫剂23氰戊菊酯的单抗已经产生,认定并且应用于环境用水的检测。小鼠被连接BSA的新型半抗原免疫。三个阳性单抗通过细胞融合和杂交瘤细胞的筛选获得,其中单抗-2对氰戊菊酯显示了高度的活性。它的IC50值是94.5ng/ml,此外,表明它与其他的拟除虫菊酯例如联苯菊酯,胺菊酯,溴氰菊酯和高效氯氰菊酯的交叉反应程度低。酶联免疫吸附测定法的优化已进行了研究。这个实验的检测限值是8.8ng/ml并且检测范围是0.017-27.33μg/ml.对于它的初步应用是在水样的加标回收试验中进行的。三种样品的回收率从90.6%到108.7%不等以及变异系数从0.5%到5.3%。这个结果表明单抗-2可以被用于环境用水中氰戊菊酯的测定。
【英文摘要】"Monoclonal antibodies (MAbs) against pyrethroid insecticide 23 fenvalerate were achieved, identified and applied in environmental water. Mice were immunized with a novel synthesized hapten conjugated with bovine serum albumin (BSA). Three positive clones of MAbs were obtained after cell fusion and hybridoma selection, among them MAb-2 (5B10) showed the highest activity toward fenvalerate. The IC50 of MAb-2 was 94.5 ng mL-1, moreover, it showed lower cross-reactivity with other pyrethroids such as bifenthrin, tetramethrin, deltamethrin and beta-cypermethrin. Optimization of enzyme-linked immunosorbent assay (ELISA) was studied. The limitof detection(LOD) of the assay was 8.8 ng mL-1 and the detection range was 0.017-27.33 μg mL-1. For preliminary application, spiked recovery experiments in water samples were performed. The mean recoveries of three kinds of samples variedfrom 90.6% to 108.7% and the coefficients of variation ranged from 0.5% to 5.3%.The results showed that MAb-2 could be used for the detection of fenvaleratecontamination in environmental water."
【语种】英文
【第一作者】张娟
【通讯作者】李培武
【期刊名称、卷期、页码】Analytical Letters.43: 2773 – 2789, 2010
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【学科分类】食品科学技术其他学科

【题目】氨基甲酸酯类农药速灭威人工抗原的合成与鉴定
【中文关键词】速灭威,半抗原, 特性, 抗原,鉴别
【英文关键词】metolcarb, haptens, characterization, antigens, identification
【中文摘要】通过化学方法合成了两种完全突出氨基甲酸酯类农药速灭威特征结构的半抗原,并采用活化酯法与载体蛋白偶联制备成完全抗原。经动物试验鉴定合成的人工抗原可制备出高效价的抗速灭威抗体,结果表明速灭威人工抗原已成功合成,为建立速灭威残留免疫分析方法奠定了基础。
【英文摘要】Two haptens for N-methylcarbamate insecticide metolcarb were designed and synthesized. Both haptens were conjugated to the carrier proteins (KLH or OVA) by the active ester method. Haptens were conjugated with KLH for use as immunogens and coupled to OVA for use as coating antigens. The conjugates were identified could produce high titer antisera for metolcarb. The results showed the successful synthesis of artificial antigens for metolcarb was useful for the development of immunosorbent assay of metolcarb
【语种】中文
【第一作者】孙晶玮
【通讯作者】王硕
【期刊名称、卷期、页码】现代食品科技. 2009, 25(10).
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【学科分类】食品科学技术其他学科

【题目】溴氰菊酯人工抗原合成及鉴定
【中文关键词】溴氰菊酯,半抗原,人工抗原,合成
【英文关键词】dehamethrin,hapten,artificial antigen,synthesize
【中文摘要】以二溴菊酸和3一【(4 硝基苯)氧基】苯甲醛为原料经4步反应合成了溴氰菊酯半抗原1一氰基【3.(4一氨基苯)苯基1甲基一2,2一二甲基3一(2,2一二溴乙烯基)环丙烷羧酸酯;用重氮化法将溴氰菊酯半抗原分别与牛血清白蛋白(BSA)和卵清白蛋白(OVA)相偶联制备免疫抗原和包被抗原,紫外吸收法估算偶联比分别为1l:1和8:1:以BSA偶联物作免疫抗原免疫日本大耳白兔制备溴氰菊酯多克隆抗体,间接非竞争ELISA法测定2个抗血清效价分别为100000和80000。间接竞争ELISA 法初步测定农药浓度501xg/ml时抑制率达到80%以上,为研究建立溴氰菊酯农残免疫快速测定方法奠定了基础。
【英文摘要】"The hapten of dehamethrin was synthesized by chemistry method,the results of the 1 H-NMR indicated that the hapten was synthesized successfully.Hapten was conjugated to bovine serum albumin(BSA) and ovalbumin (OVA)by diazotization method,two artificial antigens were used as antigen and coating antigen.Antigens were confirmed by ultraviolet spectrum.The coupling ratio was 1 h l and 8:1.Two rabbits wereimmunized,the antiserum was examined by indirect ELISA and indirect competitive ELISA experiments,the titer of the two rabbits was 1 00000 and 80000 separately,the inhibition ratio was more than 80% when the concentration of the dehamethrin was 50txg/m1.The results showed that the artificial antigen was synthesizedsuccessfully"
【语种】中文
【第一作者】张献忠
【通讯作者】李培武
【期刊名称、卷期、页码】中国农学通报.2008, 24,45-49.
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【引文索引类型】其他
【引文索引号】null
【学科分类】食品科学技术其他学科

【题目】溴氰菊酯人工抗原及多克隆抗体制备
【中文关键词】溴氰菊酯;半抗原; 人工抗原;多克隆抗体
【英文关键词】deltamethrin; hapten; artificial antigen; polyclonal antibody
【中文摘要】以二溴菊酸和4-[(4-硝基苯)氧基]苯甲醛为原料经4步反应合成了溴氰菊酯半抗原1-氰基[4-(4-氨基苯)苯基]甲基-2,2-二甲基3-(2',2'-二溴乙烯基)环丙烷羧酸酯;用重氮化法将溴氰菊酯半抗原分别与牛血清白蛋白(BSA)和卵清白蛋白(OVA)相偶联制备免疫抗原和包被抗原,紫外吸收法估算偶联比分别为11∶1和8∶1;以BSA偶联物作免疫抗原免疫日本大耳白兔制备溴氰菊酯多克隆抗体,间接非竞争ELISA法测定两个抗血清效价分别为100 000和80 000,间接竞争ELISA法测定抗体特异性结果表明所制备的抗体测定溴氰菊酯的IC50值为0.16 mg/L,与其他供试农药的交叉反应率均≤1%。 制备的溴氰菊酯人工抗原和多克隆抗体为研究建立溴氰菊酯农残免疫快速测定方法奠定了基础。
【英文摘要】The hapten of deltamethrin, (3-(3-aminophenoxy)phenyl)(cyano)methyl 3-(2,2-dibromovinyl)-2,2-dimethylcyclopropanecarboxylate, was synthesized. The structure of which was identified by 1H NMR. Hapten was conjugated to bovine serum albumin (BSA) and ovalbumin (OVA) by diazotization method, two artificial antigens were used as antigen and coating antigen. Antigens were confirmed by ultraviolet spectrum. The coupling ratio were 11:1 and 8:1. Two rabbits were immunized, the antiserum was examined by indirect ELISA and indirect competitive ELISA experiments, the titer of the two rabbits was 100000 and 80000 separately. Results of a competitive indirect ELISA showed that the IC50 value of deltamethrin was 0.16 mg/L, and that there was less than 1% cross-reactivity with other tested pesticides. Therefore, the artificial antigen and its polyclonal antibody paved way for development of fast immunoassay methods for deltamethrin residue.
【语种】中文
【第一作者】张献忠
【通讯作者】李培武
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【学科分类】食品科学技术其他学科

【题目】基质固相分散—气相色谱法测定植物油中多种拟除虫菊酯类及有机磷类农药残留
【中文关键词】MSPD;气相色谱;植物油;拟除虫菊酯;有机磷;农药残留
【英文关键词】Matrix solid phrase dispersion(MSPD);Gas chromatography(GC);Vegetableoil;Pyrethroid;Organophosphorus;Pesticide residue
【中文摘要】通过对基质固相分散吸附剂、淋洗剂、样品填料比等处理条件的优化研究,建立了植物油中22种农药残留分析方法,即基质固相分散一气相色谱法,实现对植物油中8种拟除虫菊酯类和14种有机磷类农药残留的同时测定。加标实验结果表明,22种农药回收率均在80.6% ~110.3%之间,相对标准偏差均小于4.9% ;8种拟除虫菊酯类农药检出限为0.000 5 m/kg~0.015 m/kg,14种有机磷类农药检出限达到0.01 m/kg一0.05mg/,kg。本方法操作简便,成本低,回收率高,精密度好。
【英文摘要】Absorbent eluent and proportion of sample and filling were investigated.With the optimization of pretreatment,a method was developed based on matrix solid—phase dispersion combined with GC for the multiresi—due analysis of 22 pesticides in vegetable oil.It could detect and quantify 8 pyrethmid and 14 organophosphorus pesticides residue in vegetable oil.Spiked experiments for the test of recoveries,the mean recoveries were found in the range of 80.6% to 110.3% with relative standard deviation under 4.9% .The detection of the 8 pyrethroid pesticides were in the range of 0.000 5 mg/k9 to 0.015 mg/k9 and the 14 organophosphorus pesticides were in the range of 0.01 Il1g/kg to 0.05 mg/k9.This method had precision and was simple and easy to appl
【语种】中文
【第一作者】程景
【通讯作者】李培武
【期刊名称、卷期、页码】中国油料作物学报.2008, 30, 322-326.
【论文发表时间】2008-01-14 00:00:00
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【学科分类】食品科学技术其他学科

【题目】溴氰菊酯抗体制备及特性研究
【中文关键词】溴氰菊酯;半抗原;人工抗原;抗体
【英文关键词】Deltamethrin;Hapten;Artificial antigen;antibody
【中文摘要】The hapten of deltamethrin, (3-(3-aminophenoxy)phenyl)(cyano)methyl 3-(2,2-dibromovinyl)-2,2-dimethylcyclopropanecarboxylate, was synthesized.Hapten was conjugated to bovine serum albumin (BSA)and OVA by diazotization method.Two artificial antigens were used as antigen and coating antigen.Antigens were confiremed by ultravoilet spectrum.The coupling ratio competitive ELISA experiments.The titer of the two rabbits was 100000 and 80000 respectively.Results of a competitive indict ELISA showed that the IC50 value of deltamethrin was 0.16mg/l,and there was less than 1% cross-reactivity with other tested pesticides.Therefor,the prepared antibodies paved way for development of fast immunooassay methods for deltamethrin residue.
【英文摘要】The hapten of deltamethrin, (3-(3-aminophenoxy)phenyl)(cyano)methyl 3-(2,2-dibromovinyl)-2,2-dimethylcyclopropanecarboxylate, was synthesized.Hapten was conjugated to bovine serum albumin (BSA)and OVA by diazotization method.Two artificial antigens were used as antigen and coating antigen.Antigens were confiremed by ultravoilet spectrum.The coupling ratio competitive ELISA experiments.The titer of the two rabbits was 100000 and 80000 respectively.Results of a competitive indict ELISA showed that the IC50 value of deltamethrin was 0.16mg/l,and there was less than 1% cross-reactivity with other tested pesticides.Therefor,the prepared antibodies paved way for development of fast immunooassay methods for deltamethrin residue.
【语种】中文
【第一作者】张奇
【通讯作者】李培武
【期刊名称、卷期、页码】中国油料作物学报. 2008, 10, 446-449.
【论文发表时间】2008-07-08 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】食品科学技术其他学科

【题目】一种新型溴氰菊酯农药半抗原的合成及应用效果
【中文关键词】溴氰菊酯;半抗原;人工抗原;合成;抗血清
【英文关键词】decamethrin;hapten; artificial antigen;synthesis;antiserum
【中文摘要】利用化学方法合成了一种溴氰菊酯新型半抗原,并通过核磁共振鉴定;用活泼酯法和EDC 法将溴氰菊酯半抗原分别与牛血清白蛋白(BSA) 和卵清白蛋白(OVA) 偶联制备免疫抗原和包被抗原,紫外吸收法鉴定表明吸收峰出现在305nm ,发生了红移,计算偶联比分别为7∶1 和6∶1 ;免疫小鼠后获得抗体的效价为64 000 , IC50为0116 μg/ mL。研究为研制溴氰菊酯农药残留免疫速测试剂,建立免疫速测技术奠定了基础。
【英文摘要】A new decamethrin hapten was synthesize by chemical methods;and identified by nuclear magnetic resonance; deltamethrin hapten with ova of bovine serum albumin BSA and egg albumin preparation of coupling immune antigen and coating antigen,with lively Ester and EDC methods ,Ultraviolet spectrometric identificate that absorption appears in 305nm,red shift happened,alculation of coupling proportion is 7:1 and 6:1;Get the titer of antibody is 64 000 after the immunization of mice,IC50is 0116 μg/ mL。The study developed the deltamethrin immunity of pesticide residues testing agent,and establishment the foundation technology for immune fast testing.
【语种】中文
【第一作者】孔畔
【通讯作者】李培武
【期刊名称、卷期、页码】化学试剂.2009, 31, 245-249.
【论文发表时间】2008-11-07 00:00:00
【引文索引类型】其他
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【学科分类】食品科学技术其他学科

【题目】色谱及免疫分析在氰戊菊酯残留检测中的应用
【中文关键词】氰戊菊酯, 检测
【英文关键词】fenva le ra te; de te rm ina tion
【中文摘要】介绍了气相色谱、毛细管气相色谱、气质联用、液相色谱、免疫分析等方法在氰戊菊酯残留检测中的应用。
【英文摘要】The methods of gas chromatography, capillary column gas chromatography, gas chromatography- masss pectrometry, liquid chromatography and enzyme- linked mimunosorbent assay were reviewed for determ ination of fenvalerate1.
【语种】中文
【第一作者】徐娜
【通讯作者】王硕
【期刊名称、卷期、页码】食品工业科技.2009,342-343,347
【论文发表时间】2009-02-12 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】食品科学技术其他学科

【题目】溴氰菊酯检测方法的研究与开发
【中文关键词】溴氰菊酯; 残留分析; 农药
【英文关键词】deltamethrin ; residue analysis ; pesticide
【中文摘要】对国内外最新的有关溴氰菊酯农药残留分析方法和研究进展进行总结。分别叙述了样品处理和检测方法两个方面的最新研究进展。对溴氰菊酯分析方法发展趋势进行探讨。
【英文摘要】The phosmet structure was modified,interval arm of six- carbon were linked,and the hapten compound of dialiforand phosmet were prepared and meanwhile the optimum reaction time were determined in this paper. The reaction was real- time monitor by TLC and MC. The results showed that the best reaction time was 16 days. And dialifor and posemet artificial antigen were successfully prepared with ECD method.
【语种】中文

【第一作者】陆旸
【通讯作者】王硕
【期刊名称、卷期、页码】农产品加工.学刊.2009,137-141
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【学科分类】食品科学技术其他学科

【题目】基于核密度估计的饮用水安全风险评价
【中文关键词】饮用水; 核密度估计; 风险评价
【英文关键词】Drinking water; kernel density estimation; Risk Assessment
【中文摘要】运用MATLAB7.0 统计分析软件,采用核密度非参数估计,对饮用水安全风险进行评价,旨在为我国饮用水安全评价提供科学的评价方法,为水资源规划、利用和开发提供科学依据。
【英文摘要】With MATLAB7.0 statistical analysis software, non-parametric kernel density estimation, evaluate the security risks of drinking water, designed to provide a scientific evaluation methods for our drinking water safety evaluation for water resource planning, utilization and development to provide a scientific basis.
【语种】中文
【第一作者】朱华平
【通讯作者】王硕
【期刊名称、卷期、页码】中国食品学报.2009(9),207-211
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【学科分类】食品科学技术其他学科

【题目】有机磷农药氯亚磷亚胺硫磷半抗原的合成与人工抗原制备
【中文关键词】氯亚磷;亚胺硫磷;半抗原;人工抗原
【英文关键词】dialifor;phosmet;hapten;artificial antigen
【中文摘要】对氯亚磷结构进行修饰,连接一个六碳的间隔臂,制得亚胺硫磷、氯亚磷的半抗原,确定最佳反应条件。利用薄层层析和质谱法,对反应进行实时监控,确定最佳反应时间为16 d。通过EDC 法成功制备亚胺硫磷和氯亚磷人工抗原。
【英文摘要】The phosmet structure was modified,interval arm of six- carbon were linked,and the hapten compound of dialifor and phosmet were prepared and meanwhile the optimum reaction time were determined in this paper. The reaction wasreal- time monitor by TLC and MC. The results showed that the best reaction time was 16 days. And dialifor and posemet artificial antigen were successfully prepared with ECD method.
【语种】中文
【第一作者】葛玉
【通讯作者】王硕
【期刊名称、卷期、页码】农产品加工.学刊.2009(12),4-6
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【引文索引号】null
【学科分类】食品科学技术其他学科

【题目】有机磷农药半抗原及人工抗原合成方法研究进展
【中文关键词】有机磷农药;半抗原;人工抗原;免疫检测
【英文关键词】organophosphorus pesticide; hapten; artificial antigen; immunoassay
【中文摘要】半抗原及人工抗原的合成是免疫检测方法的关键所在。本文综述了近年来免疫检测中有机磷农药半抗原及人工抗原的合成设计方法。为今后有机磷农药人工抗原设计合成提供基本思路。
【英文摘要】real- time monitor by TLC and MC. The results showed that the best reaction time was 16 days. And dialifor and posemet

【语种】中文
【第一作者】刘冰
【通讯作者】王硕
【期刊名称、卷期、页码】农产品加工学刊.2009(10),25-27
【论文发表时间】2009-10-01 00:00:00
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【引文索引号】null
【学科分类】食品科学技术其他学科

【题目】不同酶解条件对普通红豆草子叶原生质体分离的影响
【中文关键词】普通红豆草; 子叶; 原生质体; 分离条件;
【英文关键词】common sainfoin; cotyledon; protoplast; the condition of dissociation;
【中文摘要】以普通红豆草子叶为材料,研究了预处理、酶液组合和渗透压浓度等因子对其原生质体分离效果的影响。结果表明,子叶在含有0.70 mol/L甘露醇的CPW溶液中预处理60 min,获得的原生质体产量、存活率均高于其他预处理;酶液组合为1.0%纤维素酶+0.8%果胶酶+0.5%离析酶,25℃黑暗条件下酶解6 h可获得大量有较高活力的原生质体;酶解液中添加浓度为0.55 mol/L的甘露醇较适合原生质体分离。
【英文摘要】Using cotyledons of common sainfoin as test materials,the various influencing factors on protoplast dissociation,such as pretreatment,concentration and combination of enzyme,mannitol concentration were studied.The results showed that when cotyledon were pretreated for 60 min in CPW solution containing 0.70 mol/L mannitol,the yield of protoplast and its survival rate were higher than those of other pretreatments.The enzyme concentration was 1.0% cellulase+0.8% pectinase+0.5% macerozyme,isolate ezyme.A large amount of high-active protoplast could be obtained by enzymolysis for 6 h at 25 ℃ under dark conditions.The minstra of 0.55 mol/L were suitable for protoplast dissociation.
【语种】中文
【第一作者】陈爱萍
【通讯作者】张博
【期刊名称、卷期、页码】新疆农业大学学报,2010,33(2):116-119
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【学科分类】畜牧、兽医科学基础学科

【题目】黄花苜蓿MfNHX基因和MfP5 CS基因的克隆和序列分析
【中文关键词】黄花苜蓿; MfNHX; MfP5 CS; 克隆; 序列分析;
【英文关键词】Medicago falcata L.; MfNHX; MfP5 CS; clone; sequence analysis;
【中文摘要】【目的】获得黄花苜蓿(Medicago falcata L.)的MfNHX基因和MfP5CS基因,并对这两个基因进行序列分析。【方法】利用Trizol总RNA提取试剂盒提取了新疆野生黄花苜蓿的总RNA,并用特异引物对其进行RT-PCR扩增,将得到的cDNA片段连接到pMD19-T载体上,最后将该载体转化大肠杆菌DH5α,并对阳性克隆进行了序列分析。【结果】MfNHX基因全长1 626 bp,Genbank登录号为GU265772;MfP5CS基因全长2 148 bp,Genbank登录号为GU180149。它们与紫花苜蓿核苷酸序列的同源性分别为99.63%和97.63%,与新牧1号杂花苜蓿核苷酸序列的同源性分别为99.45%和98.84%。【结论】研究已经获得MfNHX基因和MfP5CS基因,为进一步进行苜蓿抗逆境胁迫的研究奠定了基础。
【英文摘要】【Objective】To obtain MfNHX and MfP5CS genes in Medicago falcata L.and analyze their sequences.【Method】The total RNA of wild Medicago falcata L.in Xinjiang was extracted with Trizol Total RNA Extracting Reagent Kit and amplified to cDNA by RT-PCR using special primer.The pMD19-T vector linked with the cDNA fragment was transformed into Escherichia coli DH5α,and the positive clone was sequenced.【Result】The MfNHX(GenBank accession number: GU265772) is 1 626 bp,the MfP5CS(GenBank accession number: GU180149) is 2 148 bp.Compared with Medicago.sativa on NCBI,the MfNHX homology of nucleotide sequence is 99.63%,and the MfP5CS is 97.63%.Compared with Medicago.varia.Xinmu No.1 on NCBI,the MfNHX homology of nucleotide sequence is 99.45%,and the MfP5CS is 98.84%.【Conclusion】The MfNHX and MfP5CS genes have been obtained,which lays the foundation for further research on stress tolerance in alfalfa.
【语种】中文

【第一作者】曾光
【通讯作者】张桦
【期刊名称、卷期、页码】新疆农业科学,2010,47(6):1231-1235
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【学科分类】畜牧、兽医科学基础学科

【题目】扁蓿豆育成品系遗传多样性的RAPD研究
【中文关键词】扁蓿豆; RAPD; 遗传多样性; 聚类分析; 主坐标分析;
【英文关键词】Medicago ruthenica; RAPD; genetic diversity; cluster analysis; principal coordinate analysis;
【中文摘要】用RAPD分子标记对4个扁蓿豆育成品系进行遗传多样性分析。结果表明:筛选的12条多态性RAPD引物共检测出126个等位基因位点,平均每条引物检测到10.5个位点,多态位点比率占94.4%。扁蓿豆品系的Nei’s遗传多样性指数(H)为0.266 2,Shannon多样性指数(I)为0.414 5。Nei’s指数估算和分子方差分析(AMO-VA)均证实扁蓿豆品系的遗传多样性主要存在于品系内,品系间有一定的基因交流(基因流为2.756 7)。聚类结果表明,品系00-61和00-81遗传差异相对较小,品系90-36与前两者之间的遗传差异较大,品系93-21与各品系的遗传差异最大。
【英文摘要】Four Medicago ruthenica breeding strains were studied for the analysis of genetic diversity by RAPD markers.Twelve effective primers were screened and totally 126 alleles were detected.The average number of alleles amplified by per primer was 10.5,and the polymorphism percentage was 94.4%.The result indicated that Nei’s gene diversity(H) was 0.266 2,Shannon information index(I) was 0.414 5.Nei’s analysis and AMOVA analysis both indicated that the majority genetic variation of M.ruthenica strains occurred within strains.Gene flow among strains(Nm) was 2.756 7,which proved that there was some gene intercommunion among M.ruthenica strains.The result of cluster analysis indicated that the genetic difference between strain 00-61 and 00-81 was relatively lower,second was strain 00-61 and 00-81 with strain 90-36,and strain 93-21 has high genetic difference with other strains.
【语种】中文
【第一作者】赵丽丽
【通讯作者】王照兰
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【学科分类】畜牧、兽医科学基础学科

【题目】草原类型自然保护区现状及其生态旅游发展
【中文关键词】草原自然保护区; 生态旅游; 必要性; 条件; 原则;
【英文关键词】grassland nature reserve; ecotourism; necessity; condition; principle;
【中文摘要】中国草原类型自然保护区的数量、面积以及保护区内资源有效利用的现状与全国其他行业所属自然保护区相比明显滞后。依托草原自然保护区生态旅游资源数量大、类型多、市场条件佳等优势,分析其发展生态旅游的必要性以及应该遵循的5个原则,即保护优先、科技先行、生态旅游与草原文化相结合、自然保护区和周边社区共同受益及可持续发展原则。
【英文摘要】Compared with the national nature reserves of other sectors,the number,area and effective utilization of grassland nature reserve were obviously poor.Based on the advantages in terms of large quantity,diverse types and promising market conditions of grassland nature reserve,the necessary of developing ecotourism were analyzed and 5 principles were offered for guiding the construction and management of grassland nature reserve. 更多还原
【语种】中文
【第一作者】艾琳
【通讯作者】卢欣石
【期刊名称、卷期、页码】草业科学,27(4):15-19
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【引文索引类型】其他

【引文索引号】null
【学科分类】畜牧、兽医科学基础学科

【题目】根蘖型苜蓿根部RNA提取方法的比较
【中文关键词】根蘖型苜蓿; 总RNA; 提取方法;
【英文关键词】creeeping-rooted alfalfa; total RNA; extract methods;
【中文摘要】以根蘖型苜蓿Medicago sativa的根、茎、叶为材料,利用紫外分光光度计和凝胶电泳法比较了改良CTAB法和TRNzol试剂盒法等4种方法提取的苜蓿总RNA的产率和纯度。结果表明:改良CTAB法提取的RNA的OD260nm/OD230nm大于2.0,并且OD260nm/OD280nm接近1.8,具有较高的纯度。凝胶电泳结果表明,改良CTAB法有28S rRNA和18S rRNA 2条清晰的条带,且很少有降解;TRNzol试剂盒法获得的RNA品质也较好,但存在降解和弥散现象;其他2种方法提取效果较差。这证明改良CTAB法提取的总RNA具有很高的纯度,可以满足进一步分子生物学研究的要求;TRNzol试剂盒法也可以满足实验的下一步要求,但需要进一步纯化。
【英文摘要】Total RNA from root,stem and leaf of Creeeping-rooted alfalfa were extracted with four methods,including a modified CTAB method,TRNzol method and other two methods,and its quality and quantity were compared.The results indicated that the modified CTAB method was better than the original method since the value of OD260 nm/OD230 nm and OD260 nm/OD280 nm were 2.0 and 1.8,the purities were great higher,the bands of 28S and 18S rRNA on Gel eletro pH oresis were very clear and did not degradated.Comparably,TRNzol method was not very good as the first method because RNA was easy degraded and dispersed although the value is higher,and other two methods were not fit the requirement of RNA extraction. 更多
【语种】中文
【第一作者】李岩
【通讯作者】卢欣石
【期刊名称、卷期、页码】草业科学,27(5):67-72
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【学科分类】畜牧、兽医科学基础学科

【题目】自组装海藻酸钠纳米粒在正常小鼠体内分布的研究
【中文关键词】海藻酸钠纳米粒;荧光标记;体内分布;FITC;维生素D3
【英文关键词】Sodium alginate nanoparticles; fluorescent marker biodistribution; FITC; vitamin D3
【中文摘要】目的:研究自组装海藻酸纳米粒(sSAN)在小鼠的体内分布情况,探讨sSAN 作为维生素D3 药物载体的可行性。方法:用异硫氰基荧光素(FITC)标记sSAN 和负载维生素D3 的海藻酸纳米粒(sSAN-VD3),将两种标记好的纳米粒分别给予小鼠灌胃,在不同的时间将小鼠处死,分别取血清和肝、肺、肾、脾,各脏器经匀浆后,用荧光分光光度计测定其荧光强度,计算血清和各组织中sSAN 和sSAN-VD3 的含量。结果:经灌胃给药后在小鼠血清、肝、肾、肺中均检测到上述药物,而脾中没有检测到。给药后0.5h 和1h,sSAN-VD3-FITC 及sSAN-FITC 在肝、肺和血清中的含量持续增加,以1h 时达峰值浓度,给药2h、4h 后,两种制剂的浓度逐渐降低。在肾脏中的含量随着时间的延长逐渐增加,于2h 时达峰值浓度,随后逐渐降低。结论:sSAN 及sSAN-VD3 经小鼠灌胃给药后均可吸收入血,而且口服吸收后在肝、肺、肾和血清中均有一定的分布。
【英文摘要】Abstract Objective:To study on the distribution of self-assembled sodium alginate nanoparticles in mice,to discuss the possibility of sSAN being drug carrier of Vitamin D3. Method:sSAN and sSAN-VD3 were labeled with FITC. The rats were intragastric administeredby sSAN-FITC and sSAN-VD3-FITC and were executed at different times, and serum, liver, kidney, spleen, lung were made into tissue homogenates, determined fluorescence intensity of serum and tissue homogenates. Results:sSAN and sSAN-VD3 could be detected inserum, live, kidney and lung at different times, but not in spleen. sSAN-VD3-FITC and sSAN-FITC increased continuously in liver lungand serum after administered and reached max concentration at 1h. sSAN-VD3-FITC and sSAN-FITC increased gradually in kidney, and reached max concentration at 2h, then decrease gradually. Conclusions:Both of sSAN and sSAN-VD3 could be absorbed into the blood after intragastric administration, and could distribute in the liver, lung, kidney and serum.
【语种】中文
【第一作者】修梅红
【通讯作者】刘赛
【期刊名称、卷期、页码】现代生物医学进展 2010,10(3): 418-420

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【引文索引号】null
【学科分类】药理学

【题目】人结肠癌Caco-2细胞对自组装海藻酸钠纳米粒摄取的体外研究
【中文关键词】Caco-2 细胞;自组装海藻酸钠纳米粒;摄取
【英文关键词】Caco-2 cell ; Self-assembled sodium alginate nanoparticles; Uptake
【中文摘要】摘要目的: 研究人结肠癌Caco-2 细胞对异硫氰基荧光素(FITC) 标记的自组装海藻酸钠纳米粒(sSAN-FITC)的摄取及影响因素。方法:Caco-2 细胞加入sSAN-FITC 孵育后采用荧光显微镜检测细胞对sSAN-FITC 的摄取情况;通过采用荧光酶标仪检测细胞内FITC的荧光强度,观察sSAN 浓度、作用时间、环境pH值对细胞摄入sSAN 的影响,并与空白对照组比较。结果:sSAN 可以被Caco-2细胞摄入;与空白对照组比较,3种影响因素中,随着sSAN 浓度升高及作用时间延长,荧光强度增强(P<0.01),当pH 值低于或高于7.0 时,荧光强度均增强(P<0.01或P<0.05)。结论:sSAN 可被Caco-2 细胞摄取,且呈浓度、时间依赖性,并受pH值的影响。
【英文摘要】ABSTRACT OBJECTIVE: To investigate the uptake of self-assembled sodium alginate(SA)nanoparticles labeled by FITC(sSAN - FITC)in Caco-2 cells and the influencing factors. METHODS: Fluorescence microscope was utilized to exam the uptake of sSAN-FITC in Caco-2 cells. Multifunction continuous spectrum enzyme-linked immunosorbent assay system wasused for the detection of the fluorescence intensity of FITC in the cells and quantitative assay of the effect of sSAN concentration,it s action time and pH on the uptake of sSAN-FITC in Caco-2 cells, with blank group as control. RESULTS:Pictures of Caco-2 cells taken by fluorescence microscope showed uptake of sSAN-FITC by Caco-2 cells. As compared withblank control group, among the 3 factors, the fluorescence intensity increased with the increase of the sSAN concentration and the prolonging of the action time(P<0.01).And the fluorescence intensity increased in cells when pH was noted her higher or lower than 7.0(P< 0.01 or P<0.05). CONCLUSIONS:Uptake of sSAN by Caco-2 cells was noted in a concentrationand time dependent manner, and the uptake is also influenced by the pH of the culture solution.
【语种】中文
【第一作者】高艳丽
【通讯作者】刘赛
【期刊名称、卷期、页码】中国药房2009 年第20 卷第1 期
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【学科分类】药理学

【题目】A set of new microsatellite loci isolated from Chinese mitten crab, Eriocheir sinensis
【中文关键词】中华绒螯蟹;微卫星;磁珠富集
【英文关键词】Chinese mitten crab, enriched library, germplasm resource, microsatellite loci
【中文摘要】中华绒螯蟹在中国作为食物较其他物种具有较高的商业价值。分子标记的开发对其种质资源保护、评估生态环境对其影响,分析种群结构特点,并确定亲缘关系等是非常必要的。我们新开发了18个中华绒螯蟹的微卫星标记,观察等位基因数介于8到30,观察杂合度范围从0.140到0.900。这些增加分子可为分析中华绒螯蟹的群体结构提供新的资源。
【英文摘要】Eriocheir sinensis has higher commercial value as food source than any other species of,Eriocheir in China. To protect its germplasm resources and evaluate impact on local ecology,molecular tools to characterize the population structure and identify kinships from different water systems are highly needed. We have newly identified a set of 18 microsatellite markers with the observed number of alleles at each locus ranges from 8 to 30, the observed heterozygosity ranges from 0.140 to 0.900. These newly isolated markers increase the available molecular resources that can be used to analyse population structure of Chinese mitten crab.
【语种】英文
【第一作者】常玉梅
【通讯作者】孙效文
【期刊名称、卷期、页码】Molecular Ecology Notes,2006;6:1237-1239
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【学科分类】水产学基础学科

【题目】红鳍东方鲀微卫星DNA多态性初步分析
【中文关键词】红鳍东方鲀;微卫星;多态性;DNA
【英文关键词】--
【中文摘要】用红鳍东方鲀(Takifugu rubripes)微卫星标记对两个不同群体红鳍东方鲀的DNA多态性进行分析。经20对引物的扩增,得到每个个体的微卫星片段,其中16对引物能扩增出较好的谱带。用2%的琼脂糖凝胶电泳检测微卫星标记的PCR扩增产物,并对扩增结果进行了统计分析。计算得到两个群体的平均等位基因数分别为1.8750和2.4375;多态信息含量(PIC)平均值分别为0.2751和0.3794;平均杂合度观测值分别为O.025和0.200。统计结果初步表明两个不同群体平均杂合度较低,遗传多态性不高。
【英文摘要】Two populations of Takifugu domesticated in different places were analyzed with the Takifugu microsatellite marker and the pattern of each samp le was obtained.Altogether 20 primers were used in this experiment,of which 1 6 primers were assessed for genetic diversity for 10 individual s.The PCR products were eleetrophoresed by 2% agarose ge1.and the data like allelie frequencies and analyzed by statistic method.The result s indicated:mean number of alleles were 1.875 0 and 2.437 5,PIC value(polymorphism information content)were 0.275 1 and 0.379 4 and the ob served hetemzygosity values over all loci were 0.025 and 0.200.All of these indices indicated that genetic diversity of Takifugu rubes was n ot inspiring.
【语种】中文
【第一作者】郝君
【通讯作者】孙效文
【期刊名称、卷期、页码】上海水产大学学报,2006;15(1):21-24
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【学科分类】水产学基础学科

【题目】Applications of microsatellite markers on studies of genetics and breeding of fishes
【中文关键词】--
【英文关键词】breeding; fish; genetic diversity; microsatellite
【中文摘要】--
【英文摘要】The microsatellite, or short sequence repeat (SSR), is a powerful genetic marker, useful in many areas of fish genetics and breeding. Polymorph ic microsatellite loci have been frequently applied to the analysis of genetic diversity, population genetic structure, and genomic mapping. Th ese co-dominant markers have also been applied to the classification and systematics, parentage identification, germplasm conservation, and bre eding programme of food fish.
【语种】英文
【第一作者】Zhang Xiao Gu
【通讯作者】童金苟
【期刊名称、卷期、页码】Chinese Journal of Agricultural Biotechnology,2006;3:83-87
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【学科分类】水产学基础学科

【题目】微卫星评价牙鲆雌核发育二倍体纯合性
【中文关键词】牙鲆;雌核发育;纯合性;微卫星
【英文关键词】Japanese flounder; Gynogenesis; Homozygosity; Microsatellite marker
【中文摘要】采用8个微卫星座位分别对牙鲆减数雌核发育二倍体家系和卵裂雌核发育二倍体家系的纯合性进行检验。卵裂雌核发育二倍体在所有检测座位全部纯合。减数雌核发育二倍体在部分座位发生纯合,但未发现在所有座位全部纯合的个体,在 Poli23TUF、Poli9-8TUF、Poli11TUF、Poli13TUF、Poli23TUF、Poli30TUF、Poli123TUF和Poli130TUF座位,、杂

合子比例分别为1·0000、1·0000、0·1944、0·9459、0·8611、1·0000、0·7778和0·8000,平均杂合子比例为0·8224。由此表明,牙鲆除了Poli11TUF外,在其余7个座位均具有很高的重组率。研究结果显示,牙鲆卵裂雌核发育二倍体一代即可形成纯合子;而减数雌核发育二倍体由于具有较高的重组率,使其与母本的遗传同质性较高。

【英文摘要】Gynogenesis was thought to be a useful method to generate inbred lines in fish. In this study,analysis of 5-8 heterozygous loci in Japanese flo under (Paralichthy s olivaceus) was used to measure the increment of homozygosity in meiogynogenetic diplo id (Meiotic-A & Meiotic-B) and mit ogynogenetic diploid (Mitotic-A) . The result showe d all homozygosity in Mitotic-G1, while a high percentage of heterozygosity in Meio sis-A and Meiosis-B except Poli11TUF. The rate of heterozygosity in meiogynogenetic progenies at the locus of Poli9TUF, Poli9-8TUF,Poli11TUF, Poli13 TUF, Poli23TUF,Poli30TUF, Poli123TUF and Poli130TUF were 1.00 00,1.0000,0.1944,0.9459,0.8611,1.0000,0.7778 and0.8000,respectively.The average recombination rate of these eight loci is 0.8224. The high proportion of heterozygotes for seven loci demonstrates that it is not a practical method for producing homozygous inbred lines in the gynogenetic fish produced by retention the second polar body,and treatments of suppressing the first cell division were more promising for this purpose.

【语种】中文

【第一作者】朱晓琛

【通讯作者】孙效文

【期刊名称、卷期、页码】动物研究,2006;27:63-67

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【引文索引号】--

【学科分类】水产学基础学科

【题目】Genetic diversity of common carp from two largest Chinese lakes and the Yangtze River revealed by microsatellite markers

【中文关键词】--

【英文关键词】common carp (Cyprinus carpio L.), the Yangtze River, microsatellites, genetic diversity, heterozygosity,population genetic structure

【中文摘要】--

【英文摘要】Six polymorphic microsatellites (eight loci) were used to study the genetic diversity and population structure of common carp from Dongting Lake (DTC), Poyang Lake (PYC), and the Yangtze River (YZC) in China. The gene diversity was high among populations with values close to 1. The number of alleles per locus ranged from 2 to 11, and the average number of alleles among 3 populations ranged from 6.5 to 7.9. The mean observed (Ho) and expected (He) heterozygosity ranged from 0.4888 to 0.5162 and from 0.7679 to 0.7708, respectively. Significant deviations from Hardy-Weinb erg Equilibrium expectation were found at majority of the loci and in all three populations in which heterozygote deficits were apparent. The a nalysis of molecular variance (AMOVA) indicated that the percent of variance among populations and within populations were 3.03 and 96.97, resp ectively. The Fst values between populations indicated that there were significant genetic differentiations for the common carp populations from the Yangtze River and two largest Chinese freshwater lakes. The factors that may result in genetic divergence and significant reduction of the observed heterozygosity were discussed.

【语种】英文

【第一作者】Xiaolin Liao

【通讯作者】童金苟

【期刊名称、卷期、页码】Hydrobiologia,2006;568:445-453

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【学科分类】水产学基础学科

【题目】Genetic Polymorphism of Microsatellite DNA in Two Populations of Northern Sheatfish (Silurus soldatovi)

【中文关键词】--

【英文关键词】Silurus soldatovi; microsatelliteDNA; geneticpolymorphism

【中文摘要】--

【英文摘要】In this article, population variations and genetic structures of twopopulations of northernsheatfish (Silurus soldatovi) were analyzed using 24 microsatellite loci enriched from southern catfish (S. meriaionalis Chen) by magnetic beads. Gene frequency (P), observed heterozygosity (Ho), expected heterozygosity (He), polymorphism information contents (PIC), and number of effective alleles (Ne) were determined. One population was wild, ripe individuals collected from Heilongjiang River (HNS); the other was cultured fry collected from Songhuajiang River (SNS). The Hardy-Weinberg equilibrium (HWE) was tested by the genetic departure index (d). The coefficient of gene differentiation GST and ΦST by AMOVA (Analysis of Molecular Variety) was imputed using Arlequin software in this study. In addition, a phylogenetic tree was constructed by UPGMA method based on the pairwise Nei's standard distances using PHYLIP. A total of 1 357 fragments with sizes ranging between 102 bp and 385 bp were acquired by PCR amplifications. The average number of alleles of the twopopulations was 8.875. Results indicated that these microsatellite loci were highly polymorphic and could be used as genetic markers. The mean values of the parameters P, Ho, He, PIC, and Ne were 0.165, 0.435, 0.758, 0.742, and 5.019 for HNS and 0.147, 0.299, 0.847, 0.764, and 5.944 for SNS, respectively. Although there were differences, there were no significant diff erentiations except for the locus HLJcf37. These populations to a certain extent deviated from HWE, such as excessive and deficient heterozygote numbers. The value of GST was 0.078 and above 98% of the variation were differences among individuals within the population, so the variation between populations was insignificant. Cluster analysis also showed that the relationships among individuals were very close. In conclusion, the microsatellite markers that were developed through this study are useful for genetic analysis and the genetic culture that was proposed in this study has no significant impact on S. soldatovi.
【语种】英文
【第一作者】全迎春
【通讯作者】孙效文
【期刊名称、卷期、页码】Acta Genetica Sinica,2006;33(10):908-916
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【学科分类】水产学基础学科

【题目】Isolation and characterization of microsatellite markers from Fangzheng silver crucian carp(Carassius auratus gibelio (Bloch)) and cross-amplification in the closely related species crucian carp(C. auratus auratus(Linnaeus))
【中文关键词】--
【英文关键词】Crucian carp;microsatellites;primers
【中文摘要】--
【英文摘要】We report the development of 20 microsatellite markers for Fangzheng silver crucian carp,Carassius auratus gibelio(Bloch). Nineteen out of 20 showed polymorphism with alleles ranging from two to 14. These loci were screened to amplify the closely related species crucian carp,Carassius auratus auratus(Linnaeus) and all of them can amplify DNA with the size similar to the former. The origin of silver crucian carp is in issue and the population genetic structure is still unclear. Microsatellite markers isolated from the silver crucian carp and their utility in the crucian carp will be useful for these researches.
【语种】英文
【第一作者】贾智英
【通讯作者】孙效文
【期刊名称、卷期、页码】Molecular Ecology Notes,2006;6:1141-1143
【论文发表时间】2006-06-01 00:00:00
【引文索引类型】SCI
【引文索引号】--
【学科分类】水产学基础学科

【题目】Isolation and characterization of microsatellite markers from pacific white shrimp(Litopenaeus vannamei)
【中文关键词】--
【英文关键词】Litopenaeus vannamei;microsatellites;primers;white shrimp
【中文摘要】--
【英文摘要】We report the development of 11 polymorphic microsatellite loci in pacific white shrimp (Litopenaeus vannamei) using an unenriched genomic lib rary. The number of the alleles ranged from two to 18 and observed hererozygosity ranged from 0.0286 to

0.9429, indicating that these markers will be useful for population studies and mapping in pacific white shrimp. Seven loci were detected deviated from Hardy – Weinberg, caused by deficiency of heterozygote, suggesting population genetic structure across the sampled population. No evidence for linkage disequilibrium was found.

【语种】英文
【第一作者】贾智英
【通讯作者】孙效文
【期刊名称、卷期、页码】Molecular Ecology Notes,2006;6:1282-1284
【论文发表时间】2006-06-01 00:00:00
【引文索引类型】SCI
【引文索引号】2.421933001e+011
【学科分类】水产学基础学科

【题目】Sox genes in grass carp (Ctenopharyngodon idella) with their implications for genome duplication and evolution
【中文关键词】--
【英文关键词】grass carp (Ctenopharyngodon idella) , Sox ,genome duplication , co-ortholog , molecular clock
【中文摘要】--
【英文摘要】The Sox gene family is found in a broad range of animal taxa and encodes important gene regulatory proteins involved in a variety of developmen tal processes. We have obtained clones representing the HMG boxes of twelve Sox genes from grass carp (Ctenopharyngodonidella), one of the four major domestic carps in China. The cloned Sox genes belong to group B1,B2 and C. Our analyses show that whereas the human genome contains a sing le copy of Sox4,Sox11 and Sox14, each of these genes has two co-orthologs in grass carp, and the duplication of Sox4 and Sox11 occurred before the divergence of grass carp and zebra fi sh, which support the " fi sh-speci fi c whole-genome duplication " theory. An estimation for the origin of gr ass carp based on the molecular clock using Sox1, Sox3 and Sox11 genes as markers indicates that grass carp (subfamily Leuciscinae) and zebrafi sh (subfamily Danioninae) diverged approximately 60 million years ago. The potential uses of Sox genes as markers in revealing the evolutionary history of grass carp are discussed.

【语种】英文
【第一作者】Lei Zhong
【通讯作者】童金苟
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【学科分类】水产学基础学科

【题目】柏氏鲤与荷包红鲤抗寒品系杂交子二代的RAPD分析
【中文关键词】荷包红鲤抗寒品系;柏氏鲤;随机扩增多态性DNA;亲子鉴定
【英文关键词】frigid-resistance strain of red purse carp;boshi carp;random amplified polymorphic DNA(RAPD);parentage identification
【中文摘要】采用随机扩增多态性DNA(RAPD)分子标记技术,对荷包红鲤抗寒品系与柏氏鲤进行杂交所获得的F2代个体进行亲子鉴定分析。从180个随机引物中筛选出5个多态性较丰富的引物,并对其产生的多态性DNA片段进行统计分析,结果显示:双亲的RAPD谱带全部在F2代中表现出来,而子代中产生的所有谱带在双亲中的表现率在AB02、AB05、AC20、AI1O、AI13几个引物中分别为87.0%、100.0%、92.1%、 82 .8%、92.6%。这也表明RAPD技术在对鲤的亲子鉴定中具有很强的可行性。
【英文摘要】Parentage identification of the second filial generation, which derived from Boshi carp and frigid—resistance strain of red purse carp,was ca rried out with RAPD techniques.Totally 5 out of 180 RAPD primer with fine polymorphisms were screened to represent high polymorphisms. Statist ical analysis of the polymorphisms showed that the RAPD bands in parents were totally found in their offspring.The bands of filial generat ions appeared 87.0%,100.0%,92.1%,82.8% and 92.6% in parents from primers AB02,AB05,AC20,AI10 and AI13,respectively.It indicates that it is feasible to identify parents of the colnmon carp with RAPD techniques.

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【题目】斑马鱼微卫星分子标记检测鲤鱼种间多态性
【中文关键词】微卫星;斑马鱼;鲤鱼;种间多态性;分子标记
【英文关键词】microsatellite;Danio rerio;common carp;interspecies variation;molecular marker
【中文摘要】用6072对斑马鱼(Danio rerio)微卫星引物对黑龙江鲤(Cyprinus carpio haematopterus Temminck et Schlege1)、荷包红鲤(Cyprinus carpio var.wuyuanensis)和柏氏鲤(Cyprinus pellegrini Tchang)进行种问遗传差异分析,共发现563个斑马鱼微卫星标记在鲤鱼种间表现出多态性。从中随机抽选25个标记,对斑马鱼和3种鲤伍的遗传多样性进行分析,使用Phylip3.63软件按照Nei氏标准遗传距离计算种间遗传距离,再用MEGA3.0软件绘制NJ系统发生树,并进行1000次bootstrap检验系统树。结果显示,黑龙江鲤与荷包红鲤首先聚类,然后是柏氏鲤、斑马鱼。这些具有多态性的斑马鱼微卫星标记可用于鲤鱼种间种质鉴定,同时,借用模式生物斑马鱼的丰富遗传标记资源,增加同科的鲤鱼遗传连锁图谱上遗传标记的密度,必将对鲤鱼遗传育种进入分子育种时代起到促进作用。
【英文摘要】Using 6072 pairs of zebrafish(Danio rerio)microsatellite primers to analyze the genetic variances between three species of common carp collected from the Heilongjiang River (Cyprinus carpio haematopterus Temminck et Schlegel,Cyprinus carpio var. wuyuanensis)and Yunnan province(Cyprinus pellegrini Tchang),totally 563 zebrafish microsatellites reveal inheritance polymo rphism,which could be used in genotyping of these common carp.25 pairs of zebrafish microsatellite primers were randomly selected from these 563 primers to identify the genetic diversities.The Nei genetic distances were computed by the software package of Phylip3.63,and the evolutionary tree based on Neighbor-Joining method of Saitou and Nei(1987) were drawn by the software of MEGA3.0.Also l000 times of bootstrapping were tested using the maximum likelihood method,the UPGMA method and NJ method.The results show that Cyprinus carpio haematopterus Temminck et Schlegel and Cyprinus carpio var.wuyuanensis cluster first and then Cyprinus pellegrini Tchang and Danio rerio.The polymorphic microsatellites can be used as genetic markers of these species,so as to increase the molecular markers of the carp genetic linkage map.Screening interspecies microsatellite primers, especially from a model organism can advance the relative research rapidly.Then we can compare genetic data convenie ntly,in order to breed carps at a molecular level more quickly.
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【题目】磁珠富集法筛选虾夷扇贝微卫星序列
【中文关键词】磁珠富集;虾夷扇贝;微卫星
【英文关键词】enrichment by magnetic beads;Japanese scallop;microsatellite
【中文摘要】采用生物素-磁珠吸附微卫星富集法,筛选虾夷扇贝(Patinopecten yessoensis)微卫星分子标记,并用同位素法进行二次筛选。结果在筛选的192个菌落中获得136个阳性克隆,经测序分析,获得微卫星序列179个,其中完美型占50.8% ,非完美型43.0%,混合型占6.1%。除探针中使用的CA重复外,还得到TC、AG、ACA、CTAT的重复序列。用引物设计软件PrimerPremier5.0设计引物85对,挑选其中的40对合成并进行筛选。
【英文摘要】Japanese scallop(Patinopecten yessoensis)is one of the most important cultured seashells in the world.It is distributed widely over the cold seas along the coastline of the northern islands of Japan,the northern part of the Korean Peninsula,Sakhalin,and the Kuril Islands,and was introduced to China from Japan more than 20 years ago.Along with nearly 20 years ’ artificial cultu re.available

DNA markers are needed for its genetic research.Microsatellites recently have become an extremely popular marker in a wide variety of genetic investigations.In this resea rch.genomic DNA was extracted from muscle of Japanese scallop by norma1 methods and digested with restriction enzyme Sau3AI.Fragments of 400- 900 bp were iso1ated and then ligated short linkers(20 bp).They were to create a " whole genome PCR library ".Microsatellite isolated from gen omic DNA was hybridized with a biotin-labeled SRS(simple repeat sequence)probe(CA)15,and the hybrid mixture was incubated with magnetic beads coated with streptavidin.After washing to remove the non-SRS fragments.the eluted single-stranded DNA contains the selected microsatell ite DNA.The selected DNA are then amplified using primers designed complementary to the linkers.cloned into the pGEM—T vect or and transforrn into competent E.coli DH5a.Then the genomic library was second-screened for microsatellite DNA using(CA)15 probes labeled with r32P—ATP at 5 ' end the probes hybridized with bacterial colonies.As a result,136 positive clones were identified from 192 clones,and 179 microsatellites we re found.Among the 179 microsatellites,50.8% were perfect,43.0% were imperfect and the rest were compound type(6.1%).Except the biotin-labeled SRS probes CA,there were TC,AG,ACA and CATA in the microsatellites Finally,85 microsatellite primers were designed by software Prem ier Primer5.0,and 40 pairs were screene d,34 pairs were amplified.They made positive contribution to exploring genomes,and developing gen etic linkage maps,as well as made possible the systematic search for quantitative trait loci(QTL)of the Japanese scallop.

【语种】中文
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【题目】磁珠富集法制备大口鲶的微卫星标记

【中文关键词】大口鲶;微卫星;磁珠富集
【英文关键词】Silurus meriaionalis ;microsateUite;enrichment by magnetic bead

【中文摘要】通过磁珠富集的方法分离大口鲶(Silurus meriaionalis)的微卫星分子标记。将基因组DNA酶切,梯度离心收集4OO~900 bp片段并纯化,连接Brown接头,用生物素标记的寡核苷酸(CA)15作探针与其杂交,杂交复合物结合到包被有链霉亲和素的磁珠上,然后将这些片段洗脱,PCR扩增,进行克隆构建" 基因组文库 ",再通过同位素标记的探针(CA)15进行2次杂交筛选,所得到的阳性克隆测序。从所获得593个阳性克隆中选取178个经测序,97.19%(173个)含有微卫星序列,90.60%重复数在l0以上,75.98%为完美型。除探针中使用的CA重复单元外,还观察到CT、GA、ATG的重复序列。设计获得120对微卫星引物,合成40对经PCR筛选,结果3l对引物扩增出多态性条带。显示出,磁珠富集法是获得微卫星分子标记的一种有效的方法,可成为今后发展该标记的主要方法。同时,制备出的微卫星标记可为今后研究大口鲶的分子遗传育种提供有用的遗传标记。

【英文摘要】Microsatellite enrichment by magnetic beads is a fast and efficient method for isolating this molecular genetic marker.Some microsatellite mark ers of Silurus meriaionalis were obtained by using the method.First.the genomic DNA was cut by the enzyme of Sau3AI targeted segments were col lected with the size of 400—900 base pairs by centrifugation of sucrose density gradi ent.Then the segments were purified in a low melting ag arose gel and ligated with a short linkers(20bp),from which,the " gen omic PCR library " was created.These genomic DNA fragments were hybridiz ed with a biotin-labeled SRS(simple repeat sequence) probe(CA)15.The hybrid mixture was incubated with magnetic beads coated with streptavidin .After washing to remove the non-SRS fragments,the eluted single-stranded DNA contained the selected microsatellite DNA.The selected DNAs were then amplified using primers designed complementary to the linkers,cloned into the pMD18一T vector and transformed into competent E.coli DH5a. In this experiment,we performed the second screening with a radio labeled(CA)l5 probe and obtained 178 positive clones.From these clones,173 microsatellite sequences(about 97.19%)were isolated,among which 90.60% microsatellites repeated more than l0 times and 75.98% microsatell ites were perfect repeats.This allowed us to design 120 pairs of primers with the software Primer Premier5.0.In addition,40 pairs of primers were composed and screened.38 pairs were used successfully to amplify special fragments,among which 31 pairs were polymorphism within species .These show microsatellite enrichment by magnetic beads is a suitable method to acquire microsatellite and it should become a main way to devel op this molecular maker.At the same time,the microsatellite obtained can offer useful genetic markers for studying Silurus meriaionalis in the future.

【语种】中文

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【题目】大黄鱼微卫星标记的富集与筛选
【中文关键词】大黄鱼;微卫星;磁珠;生物素
【英文关键词】large yellow croaker;microsatellite;magnetic beads;biotin
【中文摘要】根据生物素与链霉亲和素的亲和原理,采用生物素-磁珠富集微卫星,与传统放射性同位素杂交法相结合,构建筛选大黄鱼的微卫星文库。用生物素-微卫星捕捉单链限制性酶切片段(含有接头和大黄鱼微卫星序列),经PCR扩增单链目的片段形成双链,然后连接至T载体上,转化感受态细胞。将移至硝酸纤维素膜的重组菌用 32P标记的放射性同位素探针5'[r—32P]ATP(CA)15筛选出阳性克隆菌。测序结果发现,阳性克隆率71.9%,105个微卫星位点。其中选取设计合成30对并筛选出22对可用引物。说明所建大黄鱼微卫星文库是一个高质量的文库,可为大黄鱼基因组结构分析、大黄鱼精密微卫星连锁图谱构建、分子进化和系统发育研究、分子标记辅助育种以及经济性状的QTL定位提供大量的微卫星标记。
【英文摘要】Microsatellite,as a kind of molecular markers,have many advantages in construction of genetic linkage map,QTLs analysis,kin ship identificati on and so on.This study reports the isolation and characterization of 22 microsatellite markers from large yellow croaker.Construction the fir st microsatellite enriched library of large yellow croaker according to the strong affinity between biotin and streptavidin was carried out.A b iotin-labelled(CA)15 oligonucleotide probe was used to enrich for homolog ous sequences.The library was screened for microsatellite repeats wit h 5-[r-32P]ATP(CA)15 using standard hybridization and wash conditions.Of 146 positive clones identified,105 were sequenced.Among 105 clones co ntaining microsatellite arrays,30 unique clones with sequences of suitable length of flanking regions were selected for primer design.Among 30 primer pairs designed,8 failed to amplify and 22 yielded scorable am plification products.The results showed that this method is very efficient to isolate microsatellite markers.
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【题目】方正银鲫微卫星序列的筛选及PCR扩增产物的初步检测
【中文关键词】雌核发育;银鲫;微卫星DNA
【英文关键词】gynogenetic;Carassius auratus gibelio;microsatellite DNA
【中文摘要】采用小片段克隆法构建了方正银鲫[Carassius auratus gibelio(Block)]部分基因组文库,并采用非影印的方法将转化子转移到硝酸纤维素滤膜上。用人工合成、并经放射性同位素[γ-32P] ATP标记的(CA)l5探针对构建的基因组文库进行筛选,获得137个阳性克隆,经测序得到微卫星序列130个,其中完美型、非完美型、混合型分别占64.3%、16.9%和18.8%。应用引物设计软件Primer Primer5.0进行引物设计,得到引物103对。合成30对引物,随机选取其中5对进行PCR扩增。结果表明,这5对引物均可以稳定扩增,并且观测杂合度均较高。
【英文摘要】The partial genome library of the silver crucian carp was constructed by method of small fragments DNA cloning and transferred to filter membra ne by nonphotocopy method.The probe(CA)15 was synthesized and labeled with[r-32P]ATP,and was used to screen the library.One hundzed and thirt y-Seven positive clones were obtained.After sequencing,there are 130 microsatellite sequenc es and perfect,imperfect and compound ones take up 64.3%,16.9% and 18.8%,respectively.One hundred and three pairs of primer were designed with Primer Premier5.0 software and 30 pairs of them were synthesized. Five primers were selected randomly and amplified.The results show they can give good bands an d the observed heterozyg osity is high.
【语种】中文

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【题目】虹鳟6个养殖群体的遗传多态性的微卫星分析
【中文关键词】虹鳟;养殖群体;遗传多样性;微卫星
【英文关键词】Oncorhynchus mykiss ; cultured population ; genetic diversity ; microsatellite
【中文摘要】利用14 对微卫星分子标记对虹鳟的6个养殖群体进行遗传多样性分析。结果表明:6个群体的平均等位基因数A为2.89~4. 22 ,平均有效等位基因数Ne 为2.15~2.78 ,平均观察杂合度H0为0.4801~0. 6786 ,平均期望杂合度He为0.5052~0. 6211 ,平均多态信息含量PIC 为0.4298~0.5762;其中渤海站群体的等位基因数最多、多态信息含量最高,有效种群最大,通过基因型的P值发现6个群体只在位点AF375034 符合Hardy-Weinberg 平衡,在其他位点都不同程度的偏离平衡,同时对6个群体的遗传距离进行了估算,聚类分析发现挪威群体与其他群体遗传距离最远。
【英文摘要】Rainbow trout are cultured widely throughout the world for supplementation in natural ecosystems and for commercial aquaculture .In 1959 it was firstly introduced to China from Korea. After introduction from America and other countries such as Norway,Den mark,and so on,rainbow trout were now cultured in about 20 provinces in China. In this study , microsatellite DNA was employed to assess the genetic variations between 6 cultured populations of rainbow trout (American golden trout , American Donaldsons , Norway,Denmark,Finland,and Bohaizhan).The results showed that in the se 6 cultured populations the average number of allele (A) was 2.89 to 4.22;average number of effective allele (Ne) was 2.15 to 2.78;the value of average observed heterozygosity(Ho) in six populations was 0.4802to0.6786;the value of average excepted heterozygosity (He) was 0.5052 to 0.6 211;and the value of average polymorphism information content (PIC) was 0.4298 to 0.5762. Hardy-Weinberg equilibrium analysis revealed that all of these 6 populations showed a remarkable genetic disequilibrium at loci AY039634,AY039638,AY0396466. Only at locus AF375034 all of 6 populati ons showed equilibrium. The genetic distance of six cultured populations wa s calculated and cluster analysis was also carried out.
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【题目】精子膜蛋白在精子雌核发育银鲫中的作用
【中文关键词】银鲫;精子膜蛋白;异精雌核发育;雄核发育
【英文关键词】Carassius auratus gibelio;sperm memb rane protein;allogynogenesis;androgenesi
【中文摘要】通过对雄性银鲫的新鲜精液进行分级抽提得到精子的不同组份,包括精浆、精头的膜、鞭毛和脱膜精头等,在荷包红鲤和雌性银鲫杂交时加入其中的可溶性精头膜蛋白组分,研究精子膜蛋白在雌核发育银鲫异源受精中的作用。研究发现,加入同源精子膜蛋白后的雌核发育银鲫异源受精卵的孵化率比对照组低很多,并且在子代培育过程中,发现了生长速度快、表型和父本相似、基因型基本和父本基因型相同的特殊子代。在某种程度上表明:精子膜蛋白可能是雌核发育银鲫卵子进行雄核发育的关键因素。
【英文摘要】The sperm proteins were extracted from the fresh spermatic fluid of male gynogenefic silver crucian carp(Carassius auratus gibelio),and various fractions were collected,the fractions include sperm plasma,sperm head membrane,flagella,and dememb ranated sperm head,etc.in order to reveal the roles of the homologous sperm head membrane proteins to allogenetic fertilization in gynogenetic silver crucian carp.The soluble protein co mponents of the sperm head memb rane were,mixed with sperms of purice red carp(Cyprinus carpio var vuyuanensis)and then this cocktail was ferti lized to eggs of silver crllcian carp.The obtained results show that the hatching ratio of the experimental group is lower than that of the con trol group.Furthermore during the filial generation breeding

,two special individuals which grow faster were found,the special individuals ha ve the similar phenotype and genotype to their father.To a certain degree, sperm head memb rane ma ybe is the key factor to the androgenesis of the gynogenetic silver Crllcian carp eggs.

【语种】中文
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【题目】利用17个微卫星标记分析鳙鱼的遗传多样性
【中文关键词】微卫星标记;鳙鱼;遗传多样性;等位基因频率
【英文关键词】microsatellite marker;Aristichthys nobilis;genetic diversity;allele frequency
【中文摘要】选用实验室克隆的17个鳙鱼微卫星分子标记分析四川泸州和江西鄱阳湖的两个种群鳙鱼的遗传多样性及种质特性,计算和统计了杂合度、多态信息含量(PIC)、有效等位基因数、等位基因频率、遗传距离、遗传相似系数、Hardy-Weinberg平衡偏离指数等方面内容。结果表明:选择使用17个微卫星标记,其中有4个为单态标记,13个为多态标记。江西和四川鳙鱼群体每个微卫星位点的平均等位基因数分别为3.325及3.882,平均有效等位基因数分别为3.531及2.676,多态位点百分率分别为82.4及70.5,17个微卫星标记共有等位基因71个,多态微卫星位点的PIC在0.077 -0.960之间变动,平均为0.417,两群体位点平均观测杂合度为0.385和0.360,平均期望杂合度为0.452和0.422,两个群体间的遗传相似系数为0.897,群体间的遗传距离为0.109。
【英文摘要】Seventeen microsatellite markers of Aristichthys nobilis previously discovered by our lab were selected to analyze the genetic diversity and cha racteristics of two populations of Aristichthys nobilis from Jiangxi and Sichuan provinces.The following parameters were calculated:heterozyg osity,polymorphism information content(PIC),valid allele number,allele frequency,genetic distance,genetic similarity coeficient,Hardy-Weinbe rg balance deflection index and so on.Results show that there are four monomorphic and 13 polymorphic markers among the 17 selected microsatel lite markers.The average of allele number in each microsatellite locus of the Jiangxi population and Sichuan populations is 3.325 and 3.882,r espectively;the average valid allele number is 3.531 and 2.676,respectivey:and the number of total alleles of the se 17 microsatellite loci is 71.The PIC of polymorphic loci varies between 0.077~0.960,and the average PIC is 0.417.The average observed heterozygosity(Ho)of two popula tions is 0.385 and 0.360,respectivelyand the average expected heterzygosity(He)is 0.452 and 0.422,respectively.The genetic simi1arity coefici ent of two population s of Aristichthys nobilis is 0.897 and the genetic distance of these populaions is 0.109.
【语种】中文
【第一作者】耿波
【通讯作者】孙效文
【期刊名称、卷期、页码】遗传,2006;28(6):683-688
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【学科分类】水产学基础学科

【题目】同源雌核发育银鲫子代微卫星杂合位点的分离
【中文关键词】雌核发育;银鲫;杂合位点
【英文关键词】Carassius auratus gibelio;heterozygous loci;segregation
【中文摘要】使用14对银鲫 (Carassius autatus gibelio Bloch)微卫星引物对同源雌核发育的银鲫子代及其亲本进行多态性研究,探讨雌核发育银鲫的母本微卫星杂合位点 在同源传代中是否有分离的情况发生。在所选用的14对微卫星引物中,有8对在父母本间检测出不同的多态性,在所检测的第1组银鲫自交的子代中,只有1个个体在所检测的8个微卫星位点均存在变异,有明显的父本特异性条带出现,表现出了大量父本遗传信息,出现率为4.55%;在第2组检测到1个个体只在SCM13位点出现母本部分特异性条带的缺失、弱化,而在其他位点上没有发现变异,出现率为1.52%。此结果表明,雌核发育银鲫卵子大部分在配子发生过程中没有发生减数分裂,即使用同源精子刺激,也行雌核发育生殖;但是,有极少数卵子在配子发生过程中,可能发

生了部分减数分裂,具有部分融合同源精子的能力,从而在子代中检测到父本以及在融合过程中重组来的特异条带,用微卫星分于标记证实了银鲫两种牛殖方式的存在,即雌核发育生殖和两性融合生殖

【英文摘要】The silver crucian carp(Carassius auratus gibelio Bloch)is a triploidy gynogenetic species,which provides a unique model system for understand ing evolutionary genetics and for elucidating the regulatory mechanisms underlying diverse reproduction modes in vertebrates.In this study,PCR was performed on homologous gynogenetic parents and its offspring by 14 pairs of microsate llite primers,which was expeered to disclose the segregation Of maternal heterozygous loci in generation passage.There were two groups of parents and its offspring to test in this study.Eight microsatellite loci showed different polymorphism between father and mother in selected 14 loci.In group I,only one individual,that occupied 4.55% of the population,was detected to show the obvious specific bands of paternal in each of the 8 loci,which showed abundant paternal gen etic information.Meanwh ile,an individual represented the deletion and weakening of partly maternal specific bands in microsatellite locus SCM13 in group II,which occupied 1.25% of the population.It was concluded that meiosis did not happen during the most process of gametgenesis in gynogenetic silver crucian carp eggs,even when they were stimulated by homologous sperms.However,minority eggs maybe complete meiosis partly at gametogenesis that can lead to fusing the homologous sperm s partly.In this csse,the specific bands from pater and recombination during the fusion can be detected in filial generation.It is confirm ed that there exist two reproduction modes in silver crucian carp including gynogen esis and amphimixis by microsatellite molecular markers.

【语种】中文

【第一作者】鲁翠云

【通讯作者】孙效文

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【学科分类】水产学基础学科

【题目】团头鲂微卫星标记的快速制备

【中文关键词】团头鲂;微卫星;磁珠富集

【英文关键词】Megalobrama amblcycephala;microsatellite;magneticbeads enrichment

【中文摘要】采用磁珠富集法与放射性杂交相结合开发团头鲂(Megalobrama amblycephala)基因组微卫星资源。以团头鲂基因组DNA为材料,经Sau 3AI限制性内切酶消化后,选取400~900 bp的片段进行PCR全基因组扩增,并利用生物素标记的(CA)l5探针进行微卫星片段的富集。将得到的片段与T载体连接后转入DH5α大肠杆菌中,然后利用γ-32p标记的放射性同位素探针进行第二轮杂交。结果表明,共获得微卫星基因组文库2000个菌,杂交前菌落PCR榆测阳性克隆率为50%;杂交后得到的阳性克隆为230个,占11.5%。从得到的230个阳性克隆中挑出120个进行测序,有94个克隆含有重复次数大于5次的微卫星序列,其中46个(48.94%)有随机侧翼区,可以设计引物;14个缺乏足够的侧翼序列。在得到的微卫星序列中,重复单元除CA/GT外,还观察到CT、AG、CG、CAA、CTCA等重复单元。在单一型标记中,完美占53.15%,非完美型为37.84%;混合型标记占9.01%。另外,微卫星蕈复次数主要集中在5-30次,占75.68%。本研究旨在对团头鲂基因组资源的开发利用起到一定的促进作用,并为团头鲂养殖品系的优化、遗传多样性的检测及遗传谱的构建等奠定基础。

【英文摘要】The CA DNA sequnces in Bluntnose black bream (Megalobrama arnblycephala)were isolated through combining biotin capture method and radioactive labeling hybridization,and the characteristics of the microsatellites were analyzed.DNA was extracted from a Bluntnose black bream,and diges ted with Sau3AI,and 400—900 bp fragments were selected and ligated to different adaptors(Brown and Whitney).Then the purified ligated-DNA was hybridized with biotin-labeled simple sequence repeats(SSR) probes(CA)l5. After capture of target fragments by magnetic beads and PCR amplif ication,a microsatellite genomic library containing 2000 col onies was constructed.Two hundred and thirty positive colonies(11.5%)were obtaine d through twice screens by radioactive r-32P- ATP labeling hybridization.Sequencing of 120 positive colonies confirmed that 94 contained 11l mi crosatellite 1oci(number of repeats>5).Of the 94 sequences,only 10 contained compound repeat motifs(9.01%),and of the remaining sequences,59 perfect (53.15%)and 42 imperfect(37.84%)repeat motifs were included.Fourty-six(48.94%)pairs of PCR primers were designed through software pa ckage,while the remaining sequences were not chosen because of their insufficient flanking sequences.Besides the motif of CA/GT contained in t he colonies,there were also CT/AG,CG,CAA and CTCA repeat motifs.In addition,the microsate llites with repeat times at 5-30 were more abunda nt than others.This research makes a positive contribution to explore genomes of B1untnose black bream.offer genetic tools to check the genetic variations and construct genetic linkage map.

【语种】中文

【第一作者】李绍戊
【通讯作者】孙效文
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【学科分类】水产学基础学科

【题目】微卫星DNA标记探讨镜鲤的种群结构与遗传变异
【中文关键词】微卫星;群体多样性;镜鲤;分子标记
【英文关键词】microsatellite;population variety;genetic structure;mirror carp
【中文摘要】采用30个微卫星分子标记,对5个镜鲤群体的观测杂合度(H0)、期望杂合度(He)、多态信息含量(PIC)和有效等位基因数(Ae)等进行了遗传检测,根据基因频率计算遗传相似系数和Nei氏标准遗传距离,以χ2检验估计Hardy—Weinberg平衡,以近交系数(FST)和基因流(Nm)分析群体的遗传分化。同时,使用PHYLIP3.63软件绘制基于Nei氏标准遗传距离的UPGMA聚类图,并进行bootstrap自举检验验证进化树的可靠性。在德国镜鲤选育系(Scattered Cyprinus carpio L.)和来自4个不同养殖场(松浦、东岗、奉城和辽中)的德国镜鲤群体中共检测到7083个扩增片段,长度在102~446 bp之间,在群体内扩增出等位基因1~16个不等,共计356个等位基因。结果表明:(1)5个群体检测的有效等位基因数在1.07~12.30个不等,平均多态信息含量为0.74、0.74、0.69、0.75和0.75,无偏期望杂合度的平均值为0.74 、0.78 、0.70、0.76和0.78,说明这几个群体属于高度多态,遗传多样性水平较高。(2)群体间相似系数在0.52以上,相似性较高。聚类分析显示,东岗、奉城和辽中3个养殖场的德国镜鲤群体聚类成一个分支,而德国镜鲤选育系与松浦群体聚类成另一分支。聚类的先后与它们在地理分布上距离远近有一定的相关性。(3)在与功能基因相关的多个微卫星基因座位上,扩增产物呈现不同程度的缺失现象,这些无效等位基因的产生可能与结构基因在育种中受到人工选择的影响较大有关。
【英文摘要】In this paper,population genetic variability and genetic structure of five populations of an important cultivation species,mirror carp(Cypri nus carpio L.)were analyzed using 30 microsatelllte loci.The observed(Ho)and expected(He) heter ozygosity values,polymorphic information cont ent(PIC) and number of effective alleles(Ae)were all determined.The genetic similarity coefficient and Nei ’ s standard genetic distance were co mputed based on the allele frequencies.The Hardy-Weinberg equilibrium was checked by x2 test.Genetic diferentiation and hierarchical partition of genetic diversity were evaluated by Fst and Nm,A dendrogram was constructed based on UPGMA methods using PHYLIP software package supposed by a bootstrap value of 91.0%.Totally 7083 fragments were procured.Their lengths were from 1O2 bp to 446 bp.For each locus,1-16 alleles were am plified,adding up to 356 alleles in all the 5 populations.We found the genetic variability level was relatively high in all five populations. a s shown by Aa=1.07-2.30,Ho=0.70一O.78 and PIC=O.69-0.75.respectively.The genetic similarity coefficients were all above 0.52,indicating thei r close genetic relationships.The UPGMA phylogenetic tree showed mirror carps sampled from Donggang,Fengcheng and Liaozhong were clustered int o one group and the other two populations,both collected from Songpu,were grouped together.There were obvious relations between genetic distan ces and geographical distributions of the five populations.No fragments were amplified from some loci of EST—SSRs.which may suggest the loss of these loci in mirror carp genome or seque nce divergence at the primer binding sites.These null alleles may result from selection because fun ctional genes are under more selection pressure than non-encoding loci.Overall,population genetic variation is high for each of the five mirr or carp,and the diferentiations are also significant among populations.
【语种】中文
【第一作者】全迎春
【通讯作者】孙效文
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【学科分类】水产学基础学科

【题目】虾夷扇贝的多态性微卫星座位
【中文关键词】虾夷扇贝; 微卫星

【英文关键词】Japanese scallop,Patinopecten yessoensis,Microsatellite
【中文摘要】--
【英文摘要】Japanese scallop is one of the most important cultured seashells in the world. Following about 20 years ’ artificial culture, we need DNA mark ers for genetic research. Microsatellites recently have become popular markers in a variety of genetic investigations. In this research, we isol ated microsatellite DNAs from the Japanese scallop Patinopecten yessoensis genome with magnetic beads. As a result, 136 positive clones were ide ntified from 192 clones,and 179 microsatellites were found. Among the 179 microsatellites, 50.8% were perfect, 43.0% were imperfect and the rest were compound type (6.1%). Finally, 85 microsatellite primers were designed by software Primer Premier 5.0, and 40 pairs were screened; 15 loci showed polymorphism. In these microsatellite loci, genetic diversity was analysed in 2 cultured populations. The average number of allele (A) ra nged from 3.27 to 3.40; the average heterozygosity (Ho) in 2 populations was 0.447 to 0.540; average excepted heterozygosity (He) was 0.468 to 0.493; and average polymorphism information content (PIC) was 0.443 to 0.463. The genetic distance was 0.1155 and genetic identity was 0.8909. Thirteen microsatellite loci except HLJX-028 and HJLX-031 could be used for genetic analysis .
【语种】中文
【第一作者】赵莹莹
【通讯作者】孙效文
【期刊名称、卷期、页码】动物学报,2006;52(1):229-233
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【学科分类】水产学基础学科

【题目】皱纹盘鲍微卫星DNA的筛选与引物设计
【中文关键词】皱纹盘鲍;微卫星;引物设计
【英文关键词】Haliotis discus hannai;microsatellite;primer designing
【中文摘要】--
【英文摘要】--
【语种】中文
【第一作者】曹洁
【通讯作者】孙效文
【期刊名称、卷期、页码】农业生物技术学报,2006;14(3):448-449
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【引文索引号】--
【学科分类】水产学基础学科

【题目】Characterization of novel microsatellite loci in rare minnow (Gobiocypris rarus) and amplification in closely-related species in Gobioninae
【中文关键词】--
【英文关键词】Gobiocypris rarus,Microsatellite,Genetic diversity,Cross-species amplification,Conservation genetics
【中文摘要】--
【英文摘要】Rare minnow (Gobiocypris rarus) is an endangered small fish endemic to upper reach of the Yangtze River. From a (GT)n enriched genomic library, 32 microsatellites were isolated and characterized. Nineteen of these loci were polymorphic in a test population with alleles ranging from 2-7, and observed and expected heterozygosities from zero to 0.8438, and 0.2679 to 0.8264, respectively. In the cross-species amplifications, 13 out of 19 polymorphic loci were found to be also polymorphic in at least one of the 7 closely related species of the subfamily Gobioninae. These pol ymorphic microsatellite loci should provide sufficient level of genetic diversity to evaluate the fine-scale population structure in rare minnow and its closely related species for the conservation purpose.
【语种】英文
【第一作者】Xiaolin Liao
【通讯作者】童金苟

【期刊名称、卷期、页码】Conservation Genetics,2007;8:1003-1007
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【引文索引类型】SCI
【引文索引号】2.4830030003e+011
【学科分类】水产学基础学科

【题目】Development of EST-SSRs by an efficient FIASCO-based strategy: a case study in rare minnow (Gobiocypris rarus)
【中文关键词】--
【英文关键词】cDNA library; Expressed sequence tag; FIASCO; Fish; Microsatellite
【中文摘要】--
【英文摘要】Type I markers are useful for comparative mapping and other genetic analyses, but relatively difficult to develop. In the present study a micros atellite (SSR)-enriched cDNA library was constructed for the first time using the fast isolation by AFLP of sequences containing repeats (FIA SCO) method in a small fish, Chinese rare minnow (Gobiocypris rarus). A total of 97.4% of the expressed sequence tags (ESTs) contained targeted CA-repeats, in which 29 unique EST-SSRs were identified. Ten out of the 28 loci for which primer pairs were designed were polymorphic with alle les ranging from three to seven (mean 4.50). Some of these EST-SSRs can be amplified in other species. These results proved that cDNA-FIASCO is an efficient way to isolate novel EST-SSRs in a fish.
【语种】英文
【第一作者】L. Cheng
【通讯作者】童金苟
【期刊名称、卷期、页码】Animal Biotechnology,2007;18(3):1月10日
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【引文索引类型】SCI
【引文索引号】2.477625e+011
【学科分类】水产学基础学科

【题目】Development of novel EST-SSR markers from common carp by data mining from public EST sequences
【中文关键词】--
【英文关键词】Expressed sequence tag (EST); Datamining; EST-SSRs; Polymorphism; Cross-species amplification; Cyprinus carpio
【中文摘要】--
【英文摘要】Expressed sequence tags (ESTs) are a source for microsatellite development. In the present study, EST-derived microsatelltes (EST-SSRs) were ge nerated and characterized in the common carp (Cyprinus carpio) by data mining from updated public EST databases and by subsequent testing for po lymorphism. About 5.5% (555) of 10,088 ESTs contain repeat motifs of various types and lengths with CA being the most abundant dinucleotide one. Out of the 60 EST-SSRs for which PCR primers were designed, 25 loci showed polymorphism in a common carp population with the alleles per locus ranging from 3 to 17 (mean 7). The observed (H-O) and expected (HE) heterozygosities of these EST-SSRs were 0.13-1.00 and 0.12-0.91, respective ly. Six EST-SSR loci significantly deviated from the Hardy-Weinberg equilibrium (HWE) expectation, and the remaining 19 loci were in HWE. Of the 60 primer sets, the rates of polymorphic EST-SSRs were 42% in common carp, 17% in crucian carp (Carassius auratus), and 5% in silver carp (Hypop hthalmichthys molitrix), respectively. These new EST-SSR markers would provide sufficient polymorphism for population genetic studies and genome mapping of the common carp and its closely related fishes.
【语种】英文
【第一作者】wang dan
【通讯作者】童金苟
【期刊名称、卷期、页码】Aquaculture,2007;271:558-574
【论文发表时间】2007-04-04 00:00:00
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【引文索引号】2.4987460006e+011
【学科分类】水产学基础学科

【题目】Isolation and characterization of polymorphic microsatellite loci in Wuchang bream (Megalobrama amblycephala)

【中文关键词】--
【英文关键词】cross-species amplification, genomic library, Megalobrama amblycephala, microsatellite,Parabramis pekinensis, polym orphism
【中文摘要】--
【英文摘要】Wuchang bream (Megalobrama amblycephala) is an economically important fish in China. From a (GT)(13)-enriched genomic library, 20microsatellites were developed. Nine of these 20 loci were polymorphic in a test population with allele numbers ranging from two to four, and the observed and expected heterozygosities ranging from 0.2609 to 0.7826 and from 0.3739 to 0.7546, respectively. In the cross-species amplifications, six of these nine loci were also polymorphic in white amur bream (Parabramis pekinensis). These polymorphic microsatellite loci are potentially useful for population genetics of Wuchang bream and its closely related species.
【语种】英文
【第一作者】W. T. Li
【通讯作者】童金苟
【期刊名称、卷期、页码】Molecular Ecology Notes,2007;7:771-773
【论文发表时间】2007-05-05 00:00:00
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【引文索引号】2.4919300001e+011
【学科分类】水产学基础学科

【题目】Isolation and characterization of polymorphic microsatellites in a sex reversal fish, rice field eel (Monopterus albus)
【中文关键词】--
【英文关键词】genomic library, microsatellites, Monopterus albus, polymorphism
【中文摘要】--
【英文摘要】The rice field eel (Monopterus albus) is a fish of economic importance in China and some Asian countries. From a (GT)(n)-enriched genomic librar y, 30 microsatellites were developed by employing the fast isolation by AFLP of sequences containing repeats (FIASCO) protocol. Thirteen loci exhibited polymorphism with two to 13 alleles (mean 7.9 alleles/locus) in a test population and observed heterozygosity ranged from 0.3125 to 0.9688 (mean 0.7140). These loci should provide sufficient level of genetic variation to study the fine-scale population structure and reproduc tive ecology of the species.
【语种】英文
【第一作者】W. T. Li
【通讯作者】童金苟
【期刊名称、卷期、页码】Molecular Ecology Notes,2007;7:705-707
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【引文索引号】2.4775810005e+011
【学科分类】水产学基础学科

【题目】Microsatellite diversity and population genetic structure of redfin culter (Culter erythropterus) in fragmented lakes of the Yangtze River
【中文关键词】--
【英文关键词】Genetic diversity , Habitat fragmentation , Microsatellites , Population structure , Redfin culter (Culter erythropterus)
【中文摘要】--
【英文摘要】Redfin culter (Culter erythropterus) is a small lethic freshwater fish and widely distributed in the adjacent lakes of the Yangtze River of Chi na. Five microsatellite loci were applied to investigate the genetic variation and population structure of redfin culter from seven lakes in the middle-and-lower reaches of the Yangtze River. The gene diversity was high among the populations (H > 0.9), the average number of alleles among seven populations was low with a range from 2.00 to 3.87. The mean observed (H O) and expected (H E) heterozygosity ranged from 0.111 to 0.419 and from 0.162 to 0.750, respectively. Significant deviations from Hardy-Weinberg Equilibrium expectation were found in 50% of the total locus-population combination tests in which heterozygote deficits were apparent. The analysis of molecular variance (AMOVA) indicated that the percen tage of variance among and within these populations were 6.18 and 93.82, respectively. The Fst values (0.062, P<0.001) among studied populations indicated that there were

significant genetic differentiations among redfin culture populations from the scattered lakes with different connect ions to the Yangtze River. These results are useful for the evaluation and conservation of small freshwater fishes. The factors that may be invo lved in low intra-population polymorphism and the pattern of the population genetic structure of redfin culter from the Yangtze River were discu ssed.

【语种】英文
【第一作者】Wang chunyan
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【学科分类】水产学基础学科

【题目】Microsatellite DNA Maker Analysis of Genetic Diversity in Wild Common Carp (Cyprinus carpio L.) Populations
【中文关键词】--
【英文关键词】molecular marker; microsatellite; population variety; common carp
【中文摘要】--
【英文摘要】Thirty microsatellite loci were used for analyzing six wild populations of common carp (Cyprinus carpio L.). Observed(Ho) and expected (He) het erozygosity values, polymorphic information content (PIC), and number of effective alleles (Ae) were all detected. Genetic similarity index and genetic distance were computed based on the allele frequency. The Hardy-Weinberg Equilibrium was checked according to the test of χ 2. Geneti c differentiation and hierarchical partition of genetic diversity were evaluated by FST and Nm. A clustering dendrogram was made based on the res ults of UPGMA methods using the PHYLIP software package(version 3.63). There were totally 8,136 fragments ranging from 125 bp to 414 bp in leng th. Three to thirteen alleles were amplified in 30 loci and 210 alleles in all six populations. The average number of alleles in each locus was seven. The result showed that 1)the level of genetic variability was moderate in the six populations. Polymorphic information contents of the six wild common carp populations were 0.44, 0.52, 0.53, 0.57, 0.63, and 0.64 respectively. Effective alleles were from 1.04 to 4.72, the average numbers in each population were 2.19, 2.60, 2.42, 2.43, 2.45, and 2.33. The average expected heterozygosity values were 0.50,0.59,0.56,0.56,0.5 7,and 0.54 respectively; 2) the highest genetic similarity index that came from the populations of BR and ZL was 0.8511 and the lowest index was 0.6688, and it came from the populations of BR and HN. There was a correlation between the clustering result and the geographical distribution.

【语种】英文
【第一作者】Dayu Li
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【学科分类】水产学基础学科

【题目】Microsatellite variations among fore populations of Eriocheir sinensis
【中文关键词】中华绒螯蟹;微卫星;群体多样性
【英文关键词】Eriocheir sinensis;Microsatellite;Population polymorphism
【中文摘要】利用本实验室克隆的16个和国际上发表的8个微卫星标记,对4个中华绒螯蟹群体(江苏、安徽、辽宁、天津)的遗传多样性进行检测。所检测到的扩增片段长度为8O一4_45 bp,在群体间扩增出2— 1O个等位基因,共计155个等位基因,平均等位基因6.458个。4个中华绒螯蟹群体的平均有效等位基因数(IVe)为4.349l—4.7234,平均观察杂合度(o)为0.569o_ .6722,平均期望杂合度(He)为0.7238—O.7546,并通过基因型的P值,确定了7个座位处于Hardy—Weinberg平衡;同时对4个群体的遗传距离进行了估算,聚类分析结果表明,安徽、江苏、天津聚为一支,属于长江河蟹类型,辽河种群单独聚为一支。
【英文摘要】Using microsatellite markers,we analysed genetic polymorphism in four populations of Eriocheir sinensis,sampled from Jiangsu,Anhui,Liaoning and Tianjin.Twenty—four pairs of primers were used to amplify the target frag • ments ranging from 80 bp to 445 bp,which included 16 pairs designed in our laboratory and eight pairs published interna—tionally.Two to 10 alleles per locus in

four populations were amplified,and there were 155 alleles in all populations.The average number of alleles per locus was 6.458.The average number of effective alleles per locus(Ne)was 4.349 1 to 4.7234;the average observed heterozygosity(Ho)Was 0.5690 to 0.6722;and the average expected heterozygosity(He)Was 0.7238 to 0.7546.Hardy—Weinberg equilibrium analysis(test,P<0.05)revealed that seven loci in the four populations were in equilibrium .Th e genetic distan ces between the four po pulations were calculated and revealed that the Anhui,Jiangsu and Tianjin crabs belong to a Yangtse River population,while the Liaohe crabs fo13TI another branch.

【语种】英文

【第一作者】马海涛

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【学科分类】水产学基础学科

【题目】polymorphic Microsatellite loci for population studies of the Japanese scallop (Patinopecten yessoensis)

【中文关键词】--

【英文关键词】genetic diversity, Japanese scallop, microsatellite

【中文摘要】--

【英文摘要】Fifteen microsatellite loci were developed to examine the population structure of Japanese scallop,Patinopecten yessoensis. These markers were tested in samples from two geographically distant populations: the Sakhalin Island (Russia) and Dalian City (China). The mean numbers of allel es, observed and expected heterozygosities between the two populations were summarized by locus, but none of them show significant divergence be tween the two populations. Most loci conformed to Hardy – Weinberg expectation with the exception of loci HLJX-06, HLJX-12, HLJX-13 and HLJX-28, which had heterozygote deficits.

【语种】英文

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【学科分类】水产学基础学科

【题目】Polymorphic microsatellites in largemouth bronze gudgeon (Coreius guichenoti) developed from repeat-enriched libraries and cross-species amplifications

【中文关键词】--

【英文关键词】Coreius guichenoti;Yangtze River;microsatellite;cross-species amplification

【中文摘要】--

【英文摘要】Largemouth bronze gudgeon (Coreius guichenoti) is a medium-sized fish endemic from the upper Yangtze River of China and its survival is threaten ed by the construction of the Three Gorges Dam. This study reports 20 new polymorphic microsatellites from a repeat-enriched genomic library wi th a mean number allele of 5.2, and observed and expected heterozygosities ranging from 0.035 to 1, and from 0.13 to 0.917, respectively. In a cross-species amplification test, nine of the 37 tested loci were found to be also polymorphic in a congeneric species, brass gudgeon (C.hetero don). In addition, other four loci from common carp (Cyprinus carpio) were also polymorphic in C. guichenoti. Out of these 24 polymorphic micr osatellites, only three loci significantly deviated from Hardy – Weinberg equilibrium in the sampled population (P<0.0025),and all pairwise test s for linkage disequilibrium among loci were nonsignificant after applying sequential Bonferroni correction (P>0.0026).These novel microsate llites provide sufficient levels of polymorphism for studies on population genetics and conservation in C. guichenoti and its related species.

【语种】英文

【第一作者】Xiaolin Liao

【通讯作者】童金苟
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【学科分类】水产学基础学科

【题目】草鱼基因组中微卫星分子标记的制备及筛选
【中文关键词】草鱼;生物素;磁珠;微卫星
【英文关键词】grass carp(Ctenopharyngodon idella);biotin;magnetic beads;microsatelli
【中文摘要】采用新型的生物素-磁珠吸附微卫星富集法与传统的放射性同位素杂交法相结合的方式,研究了草鱼(Ctenopharyngodon idella)基因组中存在的微卫星资源。结果,从1000个细菌中,挑出90个阳性克隆,把其中45个进行测序分析,在这些序列中共含有68个微卫星核心序列,有55个含有重复次数大于5次的微卫星核心序列.其中,单一型标记49个,占72%,包括CA重复单元共22个,GT重复单元共18个,其他重复单元为9个;在72%的单一型标记中,完美单一型微卫星标记为44个,占65%.另外,混合型标记共19个,13为完美混合型;在所有微卫星标记中,CA重复类型最普遍,依次为GT、GA等.在68个微卫星标记中,有15个依据引物设计原理设计了引物。
【英文摘要】Enrichment by magnetic beads is a kind of method for isolation of microsatellite DNAs.Microsatellite DNAs were isolated from grass carp (Cten opharyngodon idella)genome with the method.In this experiment,partial microsatellite genomic library containing 1000 colonies was constructe d.About 90 positive colonies were obtained.Sequencing of 45 positive colonies confirmed that it contained 68 microsatellite loci(number of rep eats>5 times).From these sequences,49 repeat motifs(about 72%)were unique,including 22 CA,18 GT and 9 other kinds of repeat motifs,while 44 sequences(about 65%)were perfect repeat motifs.The remaining 19 sequences are compound repeat motifs containing 19%perfect repeat motifs.Among all the microsatell ites,CA repeat motifs is the widest,and then GT,GA.15 pairs of primem were designed with the software Primer 3.0.
【语种】中文
【第一作者】马海涛
【通讯作者】孙效文
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【学科分类】水产学基础学科

【题目】雌核发育银鲫子代中微卫星特异序列分析
【中文关键词】银鲫;同源;特异序列
【英文关键词】Silver crucian carp, Carassius autalus gibelio Bloch,Homologous,Specific seauence
【中文摘要】雌核发育个体的基因型基本上完全与母本相同,这是源于卵子发生过程中没有经过减数分裂。父本的遗传物质是在随机水平、亚基因组水平或基因组水平参与到子代的遗传重组过程,从而对长期突变积累的雌核发育生物基因组进行补偿,一直是遗传学家关注的问题。本文对雌核发育银鲫特异个体及父母本5个微卫星位点的扩增条带进行了克隆测序,相似性比对结果显示,特异个体所表现的父本特异DNA条带,序列结果与父本完全相同或相似(SCM4、SCM9、YJ5),并在某些位点上保留了母本的特异条带(YJ5),而个体本身特异的DNA条带与父母本的相似性均较高(SCM13)。同时,所检测到的个体经越冬后查验为雌性个体,进一步进行同源繁育,研究变异条带在繁殖中的命运。连续2代的繁育检测结果表明,融合了父本特异性条带的银鲫个体在繁殖过程中仍行雌核发育的生殖方式,变异来的条带能够传递给子代,进一步证实同源雌核发育银鲫通过小概率两性融合事件丰富银鲫种群的遗传多样性。
【英文摘要】The genomes of offspring of homologous gynogenetic silver crucian carp (Carassius autalus belio Bloch)were screened using micro satellite marke rs.As a result,a specific individual(F1,No.5)showed much genomic information similar to the paternal fish.For tunately.this special fish was a female which became sexually mature and produced offspring successfullv in the following year.Subsequently,the genotypes of this fish.its paren ts and offspring were analyzed continually via five microsatellite markers.Meanwhile,the PCR products were cloned and sequenced. A variety of new genomic information was uncovered through DNA sequence alignments.This unique fish showed more genomic similarities with its father as reve aled by loci SCM4,SCM9 and YJ5.Likewise,it also inherited some allelic genes from its mother as shown by locus YJ5.Finaily it possesses some new genes neither

inherited from its father nor its mother as revealed by locus SCM13.In order to detect the stability of alleles characterized to this fish,offspring of two succesive generations were rescreened using the same microsatellite markers.The results revealed that the individ uals inherited some paternal alleles still produce descendants with gynogenesis mode,and the variant bands can transfer to offspring steadily. All above indicated silver crucian carp can enrich genetic diversitv by amphi mixis of small probability event.
【语种】中文
【第一作者】鲁翠云
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【学科分类】水产学基础学科

【题目】凡纳滨对虾微卫星DNA的筛选及其特性的研究
【中文关键词】凡纳滨对虾;微卫星DNA;重复序列;克隆
【英文关键词】Litopenaeus vannamei;microsatellite DNA;repeat sequences;clone
【中文摘要】采用小片段克隆法构建凡纳滨对虾的部分基因文库,用放射性同位素[γ-32P]ATP标记的(cA)15、(AT)12、(AG)l2、(AAT)8、(AAG)8做探针筛选阳性克隆。共获得微卫星序列152个,其中二核苷酸为核心的微卫星序列:(AG)n>(AC)n>(AT)n,三核苷酸为核心的微卫星序列:(AAT)n>(CAT)n>(AAG)n。应用引物设计软件primer3.0设计引物1O5对。选择合成10对理论上易出现影子带的引物,筛选后用31个凡纳滨对虾个体对这些引物进行了评估,结果10对引物中有8对引物能扩增出谱带,其中1对扩增产物出现影子带,1对扩增产物为单态,有6对扩增产物出现多态。
【英文摘要】The partial genome library of Litopenaeus vannamei was constructed by method of small fragments DNA cloning and the positive clones were scree ned with the probes(CA)15,(AT)l2,(AG)12,(AAT)8 and(AAG)8 labeled with[r-32P]ATP.152 sequences containing microsatellites were obtained.The din ucleotide repeats were(AG)n>(AC)n>(AT)n and the trinucleotide repeats were(AAT)n>(CAT)n >(AAG)n respectively.105 sets of primers were designed with the software primer 3.0.10 primers that the stutter bands easily occur in theory were synthesized and 31 samples were tested with them.E ight loci can give bands and six had a degree of polymorphisms,one was monomorphic and one had stutter bands.
【语种】中文
【第一作者】贾智英
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【题目】红鳍东方鲀BAC数据库和ESTs数据库中微卫星的筛选与应用
【中文关键词】红鳍东方鲀;微卫星标记;BAC—SSRs;EST—SSRs
【英文关键词】Takifugu rubripes;microsatelite;BAC-SSRs;EST—SSRs
【中文摘要】利用Tandem Repeats Finder软件在红鳍东方纯Takifugu rubriper BAC数据库和ESTs数据库中查找微卫星标记。选取其中22个序列(11个BAC-SSRs序列、11个EST—SSRs序列)设计引物,并将22对引物用于庄河、河北I和河北II 3个群体,均能扩增出产物,其中EST-SSRs有2对引物扩增产物比预期扩增产物偏大,可能是相应基因组中有内含子导致。研究结果表明,EST—SSRs标记要比BAC-SSRs标记的多态性低,其中11个BAC—SSRs和9个EST—SSRs标记有很好的多态性,可以用于红鳍东方鱼屯的遗传多样性分析和重要经济性状筛选等方面的研究。
【英文摘要】Microsatellites as a new kind of molecular marker are extremely important markers.and have more advantages over the traditiona l genomic-derived simple sequence repeats(SSRs).Twenty-two new microsatelites were identified from rediin pufer(Takifugu rubri pes)BAC and EST library found in UK MRC HGMP—RC(the Fugu Genomics Project)by using bioinformatics software of Tandem Repeats Finder.Twenty-two pairs of micrsatelite primer were designed and applied to investigate the polymorphism in the populations of redfin puffer from Zhuanghe,Hebei I and Hebei II.All pairs of primer generated PCR amplification products,and 9 out of 11(expressed sequence tags)EST-SSRs primers yielded products of expected size while 20 pairs of primer containing

polymorphisms. There was lower allele number in the microsatellites located in ESTs than those isolated from a BAC library.These novel microsa tellites will be very useful for population genetic and reproductive strategies studies,as well as for screening economic char acter of redfin pufer.
【语种】中文
【第一作者】郝君
【通讯作者】孙效文
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【题目】呼玛河哲罗鱼遗传多样性的AFLP分析
【中文关键词】哲罗鱼;AFLP;遗传多样性
【英文关键词】Hucho taimen Pallas;AFLP;genetic diversity
【中文摘要】2002年4月在黑龙江水系呼玛河塔河河段100km范围内,用三刺网捕获索饵洄游哲罗鱼(Hucho taimen Pallas)个体20尾,用12对引物对其进行AFLP分析,每对引物组合扩增的位点在39-53之间,共扩增出了565个位点,多态性位点为477个,多态性比例为84.43%,平均Nei氏基因多样性指数H为0.3867,平均Shannon氏指数I为0.5102,个体间平均遗传距离为0.4552,UPGMA聚类结果显示呼玛河水系哲罗鱼群体内有严重的近亲交配现象。研究结果表明,呼玛河水系哲罗鱼具有适度的遗传多样性,这对呼玛河水系哲罗鱼资源量的恢复有着至关重要的作用。
【英文摘要】Hucho taimen is the biggest salmonid species and endemic to cold water systems around China,especially widely distributed in Amur Basin and water systems in Xinjiang Autonomous Region in 1960s.In the recent decades,the census size of the whole populations has dramatically decreased and its habitat has become narrow,resulting from habitat damage,overfishing and climate change as well as its propagating characteristics of later maturity and weak fecundity.In order to protect this precious species,Hucho tainmen has been listed in Red Book as endangered fish species n China since 1998.Additionally.some researchers not only evaluated the current status of its habitats but made some progresses on evolution,genetic diversity and population structure using biological methods.Huma River,a branch of Amur River,was authorized to nature protection region for Hucho taimen.However,documents about population structure and genetic diversity of H.taimen in Huma River are very limit ed.Amplified fragment length polymorphism of DNA (AFLP)is a kind of molecular markers famous for its higher sensitivity and capability.In our study,we use 12 primer pairs to amplify genomic DNA samples from 20 wild individuals captured in Huma River with AFLP method.As a result,a total number of loci detected are 565 with 39—53 loci per primer pair.Of the 565 loci,477 loci are polymorphic and the percentage of polymorphisms is 84.43%.The mean Nei ’ s genic diversity index(H)is 0.3867,the mean Shannon ’ s information index(I)is 0.5102,showing a relative higher genetic polymorphism.The mean genetic distance among individuals is 0.4552.UPGMA dendrogram shows that 20 individuals are divided into two groups.It is noteworthy that the phylegenetic tree also demonstrates that there is serious inbreeding within taimen population.which is a disadvantageous factor for stock enhancement.Although the genetic diversity of taimen in Huma River is moderate based on our results,the inbreeding degeneration cannot be ignored.And further more it is necessary to investigate the habitat and spawning sites of H .taiman in detail.In this case,the chances of propagation for individuals from different genetic backgrounds will be increas ed by human ’ s intervention,which will play a vital role for population recovering.
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【第一作者】匡友谊
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【题目】镜鲤两个繁殖群体的遗传结构和几种性状的基因型分析
【中文关键词】镜鲤;繁殖群体;遗传结构;基因型

【英文关键词】mirror carp;breeding population;genetic structure;genotype
【中文摘要】利用扩增效果好、在群体中具有多态性的28个微卫星标记,检测国家换新良种场的镜鲤繁殖群体和黑龙江水产研究所松浦实验场的镜鲤繁殖群体的遗传组成,计算了两个群体的有效等位基因数,期望杂合度和多态信息含量等遗传参数,换新与松浦两个群体的有效等位基因数分别为2.874和3.102,期望杂合度分别是0.565和0.603,多态信息含量分别是0.534和0.568;遗传结构分析研究结果表明这两个群体的多样性较高,信息含量丰富,具有进一步筛选出优良品种的遗传基础。但连锁不平衡分析表明这两个群体在较大的选择压力下,已严重偏离Hardy—Weniberg平衡,要保持群体的优良性状相关的遗传基础,应该在进一步的选种中注意增加群体的遗传多样性。也用28个基因座的不同基因型与换新208个亲本的体重值进行了连锁分析,得到12个与镜鲤体重相关的基因型,其中紧密相关的基因型3个;分析了一些严重偏离平衡的基因型,并分析了出现这种现象的可能原因,同时探讨了一些基因型与胚胎期致死或易感病基因连锁的可能性。为描述基因型偏离程度,创造了基因型偏离指数,并用其对群体中一些基因型出现的偏离现象进行了探讨。
【英文摘要】The genetic composition of populations for a species is mainly collection of its diferent genotypes in all loci.In this paper, 26 microsatellite markers which had been identified with amplification reaction very well and with polymorphism were used.Two breeding population of mirror carp that one is in National Level Tianjin Huanxin Quality Fish Farm another one is in Songpu Fis hery Station of Heilongjiang Fishery Institute were analyzed by those markers.Gene frequency(P),observed heterozygosity(Ho), expected heterozygosity(He),polymorphism information contents(PIC),and number of effective alleles(Ne)were determined.The link age analysis was done between 26 loci and data from body weight of 208 individuals of Huanxin population,and 12 loci seems associated with body weight.Of those 12 loci,3 are high significant linkage.Some significant deviate genotypes were also anal yzed,and discuss the cause of this kind of deviation.It was discussed that whether those significant deviate genotypes linked with is a major determinant of fatal or near-fatal gene in early development of embryo of mirror carp,and that the possibili ty of those markers link ed with genes sensitive to some diseaSes.For describe the content of those genotype deviation,an index named genotype deviate index WaS made. Few phenomenon of some genotypes deviation were studied using this new index.
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【题目】鲤鱼体长性状的QTL定位及其遗传效应分析
【中文关键词】鲤鱼;微卫星;体长;数量性状定位(QTL)
【英文关键词】common carp;microsatellites;body size;quantitative trait location.
【中文摘要】以大头鲤,荷包红鲤抗寒品系的重组自交系群体及其遗传连锁图谱,利用Windows Map Manager 2.0的标记回归法进行QTL单标记定位分析和复合区间作图法进行QTL区间检测,通过置换实验(1000次重复)确定连锁群显著性水平阈值。在体长性状的标记回归研究中, 共7个标记达到显著水平(P<0.01),对性状的贡献率为14.00% ~27.00%,其中3个标记达到极显著水平(P<0.001)。HLJ534,HLJ319,HLJ370座位可能与影响鲤鱼体长性状的主效基因连锁。在体长性状的QTL区间定位研究中, 共6个QTL达到连锁群显著水平(P=0.05),对性状的贡献率为11.33% ~23.12%,其中2个达到连锁群极显著性水平(P=0.01),它们的加性效应方向并不一致。HLJ190-HLJ497区间和HLJ479-HLJ483区间是影响鲤鱼体长性状的主效QTL区间。
【英文摘要】The common carp recombinant inbred lines(RIL)derived from the cross Barbless carp×Hebao-cold tolerance red carp were used as experimental materials in this study.Based on the linkage map constructed with simple sequence repeat(SSR)markers using this RIL population,marker regression and complexity interval mapping were analyzed by Windows Map Manager2.0 software.A P-value of 0.01 was the threshold value of single-marker.A linkage group-wide permutation test(1000 replicates)determined the signif icance of the maximum LOD value over the various intervals analyzed for each linkage group.The results are as follows:1)For maker regression,a total of 7 makers related body size,were at l% significant leve1.of which 3 were at 0.1% significant leve1.The variance explained by these loci,ran ged 14.00% to27.00%.Loci HLJ534,HLJ319,and HLJ370 at 0.1% significant level closely linked to the gene related to body size of comon carp;2)six significant QTLs related to body size were at the 5% linkage group-wide level on these linkage groups,and two of them were at 1%leve1.The variances explained by these QTLs ranged from 11.33% to 23.12% and their additive efects were not identical.HLJ190-HLJ497 and HLJ479-HLJ483 were major QTLs associated to body size of common carp.

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【学科分类】水产学基础学科

【题目】利用30个微卫星标记分析长江中下游鲢群体的遗传多样性
【中文关键词】鲢;微卫星;野生群体;遗传多样性
【英文关键词】silver carp;microsatellite;wild population;genetic diversity
【中文摘要】利用30对微卫星分子标记对长江中下游5个鲢群体进行了遗传多样性分析。结果表明:在30个基因座中,共检测到144个等位基因,每个座位检测到的等位基因数为1~l0个,其中有25个座位具有多态性,多态位点百分率为83.335个群体的平均等位基因数A为4.0/4.1,平均有效等位基因数Ne为2.4445~2.6332,平均观察杂合度H0为0.3233-0.3511,平均期望杂合度He为0.421-0.4704,平均多态信息含量PIC为0.4068—0.4286。对数据进行F-检验,Fst值表明群体间的遗传分化程度中等,并对基因型进行了基于Hardy-Weinberg平衡的卡方检验,所得P值说明5个群体均一定程度上偏离了平衡。5个群体间的遗传相似系数为0.8466~0.9146,遗传距离为0.0893~0.1665,并根据Nei氏标准遗传距离用UPGMA方法对5个鲢群体进行亲缘关系聚类。
【英文摘要】Thirty microsatellite markers were used to analyze the genetic diversity of five Silver carp populations in the middle and lowe r reaches of the Yangtze River.A total of 144 diferent alleles were found and the number of alleles in each locus ranged from 1 to 10.Twenty-five 1oci(83.33%)were polymorphic.In the five populations,the average number of alleles was 4.0to4.1,the number of mean valid alleles was 2.4445 to 2.6332,the value of average observed and expected heterozygosity ranged from 0.3233 to 0.3511 and 0.421 to 0.4704,and the mean PIC was 0.4068 to 0.4286.Fst value indicated that the populations were moderately diferentiated .Chi-square test was used to analyze the genotypes based on Hardy-Weinberg equilibrium,the P value denoted that the five populations deviated equilibrium partially.The genetic simi1arity coeficient of the five populations was 0.8466 to 0.9146 ,and the genetic distance of the populations was 0.0893 to0.1665.A UPGMA dendrogram was constructed based on Nei ’s standard genetic distance for the five Silver carp populations.
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【题目】三个虹鳟养殖群体遗传结构的微卫星分析
【中文关键词】虹鳟;微卫星;遗传多样性
【英文关键词】Rainbow Trout (Oncorhynchus mykiss) ; Microsatellite ; Genetic diversity
【中文摘要】利用20个微卫星标记对3个虹鳟(Oncorhynchus mykiss) 养殖群体进行遗传结构分析。结果表明:(1) 3个群体检测的平均等位基因数为3.6~4.1 ,平均观测杂合度为0.5224~0.6328 ,平均期望杂合度为0.4736~0.5522 ,平均多态信息含量为0.4354~0.5084 ,说明这几个群体多态性属于偏高水平,遗传多样性高。通过d值,确定了Hard-Weinberg 平衡的偏离情况,发现AY039638、AY039646 在3个群体中都表现为不平衡。对3个群体的遗传距离进行了估算,并进行聚类分析,本溪的两个群体先聚为一支,再与渤海群体相聚,显示出明显的地理特征。(2) 本溪虹鳟群体在位点AF352770出现部分等位基因消失的现象;AF352754 在本溪群体中表现为位点消失,可作为区分本溪群体和渤海群体的分子标记。(3) 综合评价3个群体,渤海站虹鳟群体的遗传多样性最高,与前人研究结果一致。
【英文摘要】By using 20 microsatellite markers we determined polymorphism of three cultured Rainbow Trout(Oncorhynchus mykiss)populations. The average number of alleles was 3.85;the value of average observed heterozygosity (H) was 0.5224 - 0.6328;the value of avera ge expected heterozygosity (He) was 0.4736-0.5522;and the value of average polymorphism information content (PIC)

was 0.4354 -0.5084.Hardy-weinberg equilibrium (d test) analysis revealed that the locus of AY039638 and AY039646 were lopsided in three populations.The genetic distance among the three cultured populations was calculated and the cluster analysis was also carried out. The phylogenetic tree showed that the two populations of Benxi had close relationship. In Benxi populations,the locus AF352754 and some alleles on AF352770 were lost. Benxi populations and Bohai population could be distinguished by locus AF3527 54.The Bohai population had the highest genetic diversity.

【语种】中文
【第一作者】于冬梅
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【学科分类】水产学基础学科

【题目】微卫星DNA标记分析德国镜鲤的遗传潜力
【中文关键词】德国镜鲤;经济性状;遗传标记;遗传潜力
【英文关键词】Germany mirror carp;economic characters;genetic markers;genetic potential
【中文摘要】结合体重、体长、体高等数量性状,用30个微卫星分子标记,评估了3个德国镜鲤群体的遗传潜力,共检测到287个等位基因,559种基因型,片段长度109~400 bp,有效等位基因数1.1014~6.4665,观察杂合度0.0968~0.9892,期望杂合度0.0926~0.8554,位点多态信息含量0.08787~0.8559,其中中度多态(0.25≤PIC≤ 0.5)l3个,高度多态(PIC≥0.5)13个。统计结果显示:3个群体的遗传潜力处于中度水平,双来养殖群体的遗传潜力比换新和松浦繁殖群体低。同时,用30个基因座的不同等位基因和基因型与双来群体的体重、体长、体高进行了连锁分析,得到2个与镜鲤体长相关的微卫星分子标记(HLJ319,HLJ693)和1个与体高相关的位点(HLJ677),与体长相关的1个位点(HLJ693)还与体重连锁。将此遗传标记在鲤鱼重组自交系中验证,结果显示:主要经济性状相连锁的3个遗传标记中HLJ319与鲤鱼体长性状的QTL定位结果基本一致。
【英文摘要】Using 30 microsatellite markers and combining quantity characters such as body weight,body size and body width,we evaluated the genetic pot ential of 3 Germany mirror carp populations.Number of efective alleles (Ae),observed(Ho)and expected(He) heterozygosity values and polymorphic inform ation contents(PIC) were all caculated.287 alleles and 559 genotypes were detected .The DNA fragment length was 109-400 bp.The Hardy-Weinberg Equilibrium was checked and phenomenon of some disequil ibrium were studied according to the test of x2.The result showed that the level of genetic variability was moderate,but genetic potential of Shuanglai population was much lower than that Huan xin and Songpu breeding populations.Polymorphic Information Contents(P10 of the 3 populations of Germany miror carp were between 0.08787 and 0.5377.both of highly and moderately polymorphic markers were 13.The number of effective alleles(Ae)were between 1.1014 and 6.4665.The observed (Ho)and expected(He) heterozygosity values were 0.0968-0.9892 and 0.0926-0.8554 respectively.The linkage corelation was analyzed using data of body weight,body size and body width and 30 loci.The result shown that there existed 2 loci.HLJ319 and HLJ693 associated with body size.The HLJ693 locus significantly correlated with body weight character.The HLJ677 locus linked with body width.And then the result were verified in Recombinant Inbred Lines(RIL)of common carp.It shown that the HLJ319locus was significantly linked with body size,the same as the result of common carp QTL location.

【语种】中文
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【学科分类】水产学基础学科

【题目】用鲤鱼EST-SSRs分子标记分析长江黑龙江鲤种群结构
【中文关键词】鲤鱼EST-SSRs;微卫星;遗传多样性
【英文关键词】EST—SSRs of common carp;microsatellite;genetic diversity

【中文摘要】从鲤鱼(Cyprinus carpio)ESTs的数据库(10 691个)中进行微卫星序列筛选,共发现微卫星序列127个,占整个ESTs数据库的1.19%;另外从本研究室构建的鲤鱼脑组织cDNA文库中筛选到微卫星序列20个。根据筛选得到的微卫星序列设计引物68对,合成引物40对,其中27对引物能够获得预期的目的片段,20对引物在所检测的群体内及群体间表现出多态性。用此20对引物标记的多态性分析了长江鲤(Cyprinus carpio)和黑龙江鲤(C.carpio var haematopaerus.Temminck et Schlegel)的群体遗传结构,结果表明:长江鲤和黑龙江鲤在多数位点表现出较高的遗传多样性,20个位点的平均有效等位基因数分别为3.9135和3.4820;平均观察杂合度为0.6067和0.5667;平均期望杂合度为0.6737和0.6194;平均多态信息含量为0.6308和0.5714。长江鲤的遗传结构好于黑龙江鲤,两个群体的Hardy—Weinberg偏离指数较小,群体基本保持平衡,群体结构较合理;其中HLJE1和HLJE10位点在长江鲤和黑龙江鲤的扩增结果相差较大,长江鲤的多态性明显高于黑龙江鲤,位点多态信息含量相差1倍以上,可用于群体的鉴别。

【英文摘要】One hundred and twenty seven microsatellite sequences were found from ESTs database(10691 item)of common carp(Cyprinus carpio),which occupied 1.19% of ESTs database.In addition,20 microsatellite sequences were isolated from constructed cDNA library for common carp,According to these microsatellite sequences,68 pairs of primers were designed with Primer Premier 5.0.Twenty seven primer pairs obtained expected product, and 20 of which showed polymorphism among populations in synthesized 40 primers.These 20 polymorphic markers were used for analyzing genetic structure of two geography populati ons,Yangtze River(C.carprio)and Heilongjiang River(C.carpio var.haematopaems Temminck et Schlege1).The results showed that the average efect alleles numbers were 3.9135 and 3.4820;the average observed heterozygosity was 0.6067 and 0.5667;the average expected heterozygosity was 0.6737 and 0.6194;the average polymorphism information content was 0.6308 and 0.5714, respectively. Population structure of Yangtze River was better than that of Heilongjiang River.Hardy—Weinberg deviation index of the two populations were small,indicating that the populations were equilibrium.Amplified results in HLJE1 and HLJE 10 were very diferent between Yangtze River and Heilongjiang River,and polymorphism in Yangtze River was much higher than that in Heilongjiang River.The two loci can be used for common carp population identification of Yangtze River and Heilongjiang River.

【语种】中文

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【学科分类】水产学基础学科

【题目】Development of 10 tri- and tetranucleotide microsatellite loci for population studies in the common carp

【中文关键词】--

【英文关键词】common carp, Cyprinus carpio L., Cyprinus carpio var. xingguonensis, Cyprinus carpio var.wananensis, genetic potential, microsatellites

【中文摘要】--

【英文摘要】Ten tri- and tetranucleotide microsatellite DNA markers were isolated and characterized from common carp (Cyprinus carpio L.) to estimate genet ic potential. These markers were tested in the samples from two closely related carp populations (Cyprinus carpio var. Xing-guonensis and Cypr inus carpio var. wananensis). The number of the alleles ranged fromthree to nine, and observed and expected hererozygosities varied from 0.207 to 1.000 and from 0.499 to 0.900 in each population, respectively. No evidence for linkage disequilibrium was found, indicating that these mar kers will be useful for population studies.

【语种】英文

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【学科分类】水产学基础学科

【题目】Genome Evolution Trend of Common Carp (Cyprinus carpio L.) as Revealed by the Analysis of Microsatellite Loci in a Gynogentic Family
【中文关键词】--
【英文关键词】common carp; genome duplication; genome diploidization
【中文摘要】--
【英文摘要】Genome evolution arises from two main ways of duplication and reduction. Fish specific genome duplication (FSGD) may have occurred before the radiation of the teleosts. Common carp (Cyprinus carpio L.) has been considered to be a tetraploid species, because of its chromosome numbers (2n=100) and its high DNA content. Using 69 microsatellite primer pairs, the variations were studied to better understand the genome evolution (genome duplication and diploidization) of common carp from a gynogenetic family. About 48% of primer pairs were estimated to amplify duplicates based on the number of PCR amplification per individual. Segregation patterns in the family suggested a partially duplicated genome structure and disomic inheritance. This indicates that the common carp is tetraploid and polyploidy occurred by allotetraploidy. Two primer pairs (HLJ021 and HLJ332) were estimated to amplify reduction based on the number of PCR amplification per individual. One allele in HLJ002 locus and HLJ332 locus was clearly lost in the gynogenetic family and the same as in six wild populations. Segregation patterns in the family suggested a parti ally diplodization genome structure. A hypothesis transition (dynamic) and equilibrium (static) were proposed to explain the common carp genome evolution between genome duplication and diploidization.
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【学科分类】水产学基础学科

【题目】Inheritance of microsatellite DNA in bisexual gynogenesis complex of Fangzheng silver crucian carp, Carassius auratus gibelio (Bloch)
【中文关键词】--
【英文关键词】genetic exchange; gynogenesis; microsatellite DNA; sex ratio; silver crucian carp.
【中文摘要】--
【英文摘要】Five gynogenetic progeny groups of silver crucian carp Carassius auratus gibelio were produced and sex ratios (males:total progeny) of each of the progeny groups were analysed. About 110 males and 366 females were genotyped at 15 microsatellite loci for comparison with their parents to (1) verify the gynogenesis status of Fangzheng C. auratus gibelio, (2) detect the incorporation of paternal genetic material into the offspring and (3) study the possible association of genetic exchange at microsatellite loci with the existence of sex. The sex ratios in progenies of five groups were highly variable, but all had significant female bias. The sex ratio ranged from 0 to 0.37. Significant differences in the sex ratio within and between groups were also found. Microsatellite genotyping at 15 loci showed that 100 and 97% of the progeny shared the same genotype with the mother in four groups and in one group, respectively, confirming that gynogenesis is the general mechanism of reproduction in C. auratus gibelio. However,0.63% of all offspring did show incorporation of paternal genetic material. No single loci tested were associated with the occurrence of male progeny, indicating unknown genetic mechanisms for sex determination in C. auratus gibelio.
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【题目】Microsatellite diversity in cultured populations of rainbow trout Oncorhynchus mykiss in China
【中文关键词】--
【英文关键词】cultured populations;freshwater fish;genetic diversity;salmonids
【中文摘要】--
【英文摘要】Twenty microsatellite loci were examined to assess genetic variation among six cultured populations of rainbow trout introduced to China. Fourt een polymorphic loci showed moderate levels of diversity within and between populations.
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【第一作者】赵莹莹
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【学科分类】水产学基础学科

【题目】Searching for Protein-coding Genes Using Microsatellites in Common Carp by Comparing to Zebrafish EST Database
【中文关键词】--
【英文关键词】Cyprinus carpio;In silico;Microsatellites;Blast
【中文摘要】--
【英文摘要】In this study, an in silico approach was utilized to identify homologies existing between common carp microsatellite sequences and GenBank database using Blastn and Blastx searches. About 875 microsatellite sites with flanking sequences over 50 bp of common carp were first compared to the zebrafish EST database. The results showed that 121 homologies were found using Blastn. Subsequent Blastx searches confirmed 94 sites recorded in the protein database. Except for 33 hypothetical proteins and three unknown proteins, seven out of 58 characterized proteins have been mapped to two linkage maps. In addition, two polymorphic STS markers were developed using matched zebrafish EST sequences by PCR-SSCP method, of which one marker HLJZe33 was mapped successfully. This study was a pilot for comparative studies between common carp and zebrafish, and the results demonstrated that more genetic and genomic resources of zebrafish can be used for the genome research of common carp.
【语种】英文
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【学科分类】水产学基础学科

【题目】Sixteen polymorphic microsatellites in bighead carp (Aristichthys nobilis), and cross-amplification in silver carp
【中文关键词】--
【英文关键词】Aristichthys nobilis;cross-species amplification;genomic library;Hypophthalmichthys molitrix;microsatellite
【中文摘要】--
【英文摘要】A (GT)n enriched partial genomic library of bighead carp (Aristichthys nobilis) was constructed by employing the (fast isolation by AFLP of sequences containing repeats) FIASCO protocol. Sixteen loci exhibited polymorphism with two to seven alleles/locus (mean 3.263) in a test population and the observed heterozygosity ranging from 0.100 to 0.690 (mean 0.392). Eleven of the 16 bighead carp microsatellites were found to be also polymorphic in silver carp. These polymorphic loci should provide sufficient level of genetic diversity to evaluate population structure of bighead carp.
【语种】英文
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【题目】镜鲤繁殖群体的遗传结构及微卫星标记与经济性状的相关性分析
【中文关键词】镜鲤;遗传结构;相关分析;微卫星
【英文关键词】mirror carp;genetic structure;correlation analysis;microsatellite
【中文摘要】选用35个多态性微卫星分子标记对天津换新良种场镜鲤一个繁殖群体的有效等位基因数(Ae)、观测杂合度(Ho)、期望杂合度(He)、多态信息含量(PIC)等进行了检测,以卡方检验估计群体Hardy-Weinberg平衡。结果表明:在35个基因座共检测到118个等位基因,平均等位基因数为3.37个,每个座位检测到的等位基因数2~7个不等,平均有效等位基因数为2.16,观测杂合度平均值0.431,无偏期望杂合度的平均值为0.4736,平均多态信息含量0.42,说明这个群体属于中度多态,遗传多样性水平不高。卡方检验的P值显示多于半数的位点都发生了偏离。并将35个基因座的不同基因型与个体的体重、体长值进行了连锁分析,得到了4个与体重、体长连锁的基因型,并将所得结果与鲤鱼体长性状QTL定位结果进行对比,其中HLJ319标记与QTL定位结果基本一致。分析了几个严重偏离平衡的基因型,并讨论出现这种现象的可能原因。
【英文摘要】The genetic structure of one breeding population of mirror carp(Cyprinus carpio L.)was analysed using thirty-five polymorphic microsatellite markers.The effective number of alleles(Ae),observed heterozygosity(Ho),expected heterozygosity(He)and polymorphism information content (PIC)were all determined.The Hardy-Weinberg equilibrium was checked by chi-square test.For each locus,2-7 alleles were detected,with a total of 118 alleles for 35 loci.The value of Ae,Ho,He and PIC showed that the genetic variation of the population was not high.The average effective number of alleles and the mean polymorphism information content were 2.16 and 0.42.respectively,and the observed and expected heterozygosity were 0.431 and 0.4736,respectively.The probability value of chi-square test showed that more than half of the thirty-five loci have significa ntly(P<0.01)deviated from Hardy—Weinberg equilibrium.The correlation of genotype of each locus and individual phenotype data was analysed ,and 4 loci seemed associated with body weight and body size.When compared with the result of QTL mapping of common carp,HLJ319 locus was consistent with the mapping result approximately,which was significantly correlated with body size.Several significantly dev iated loci were also analysed,and the possible cause of the kind of deviation was discussed.
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【题目】鲤和牙鲆的两种雌核发育子代的基因型分析
【中文关键词】养殖鱼类;基因型分析;雌核发育
【英文关键词】aquatic fish species;genotyping;gynogenetic technique
【中文摘要】研究调查了鲤和牙鲆经两种雌核发育操作获得的子代的基因型纯合情况。结果显示,多数子代在母本杂合基因座上的纯合速率并不快,如鲤抑制第一次卵裂的44尾子代平均纯合化程度为30.2% ,纯合化程度最高的个体为53.3%,纯合化程度最低的仅有13.3%,没有得到纯合个体;牙鲆抑制第一次卵裂22个子代中有3个纯合个体;而抑制第二极体的牙鲆4个家系中纯合化最高的个体是C家系的第18号子代为56%,平均纯合度为19%,14个子代的纯合化速率为零。结合鲤抑制第二极体和牙鲆抑制第一次卵裂的实验结果对两种雌核发育产生的纯化作用进行了分析和评价;并针对育种过程中的雌核发育技术进行了讨论。
【英文摘要】Some fishes have the genetic characteristic of gynogenesis.Copying natural gynogenesity of fish and making use of the supe riority of fertilization and hatching out of body for fishes,two artificial gynogenetic techniques have been developed 40 years ago,meanwhile these two gynogenetic techniques were used in fish breeding researches.In this paper,we investigated the increas ing of homozygosity of progenies from the inhibition of first mitosis in common carp(Cyprinus carpio L.),and also investigated the homozygosity of progenies from the inhibition of the second meiotic division in Chinese flounder(Paralichthys olivaceus). The results showed that the increasing of homozygosity of progenies is not quick in most heterozygous loci,for example,from 44 progenies of

mitogynogenesis of common carp,mean homozygosity is 30.2%and the highest homozygosity is 53.3%.the lowest homozygosity is 13.3%.none of homozygous progenies were found;19 progenies were gotten from mitogynogenesis of Chinese flounder,and only 3 are homozygous;4 families of progenies of the meiogynogenesis of Chinese flounder,the mean homozygosity is 19%,the highest homozygosity is 56%,the 14 progenies have 0 homozygosity.Meanwhile,the function of two kind of gynogenetic technoques in fish breeding was discussed recombinant among our other results including the progenies from carp homozygosity and flounder homozygosity. This paper also discusses and compares the results on similar experiments from other investigator.

【语种】中文

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【学科分类】水产学基础学科

【题目】鲤鱼多态性EST标记的筛选与特性分析

【中文关键词】鲤鱼;EST标记;遗传图谱;单链构象多态性(SSCP)

【英文关键词】Common carp(Cyprinus carpio L.); Genome mapping; Expressed sequence tag(EST); Single-strand conformation polymorphism(SSCP)

【中文摘要】表达序列标签(Expressed sequence tag,EST)标记在基因组作图和分子标记辅助育种研究中具有重要价值。筛选和开发可用于遗传作图的鲤鱼多态性EST标记,对研究鲤鱼的基因组结构、遗传多样性研究和遗传育种有重要意义。本研究根据GenBank数据库中鲤鱼EST序列设计了67对EST引物,有47对在鲤鱼基因组DNA中成功扩增得到稳定的特异性条带,经单链构象多态性(SSCP)分析,12对(25.5%)引物扩增的EST在1个鲤鱼回交家系中具有多态性,其中6个为鲤鱼功能基因,5个与斑马鱼(Daniorerio)功能基因具较高相似性,1个与斑点叉尾鮰(1ctalurus punctatus)功能基因具较高相似性。这些多态性的EST在鲤鱼二倍体家系和单倍体群体中的等位基因分离均符合孟德尔规律(1:1或3:1),单倍体中的SSCP条带数目为二倍体的二分之一。选用其中4对多态性的EST引物对洞庭湖鲤鱼进行初步群体遗传分析,结果显示基因多样性(H)为0.437,远低于微卫星标记所揭示的该群体基因多样性(接近于1)。结果表明,多态性的EST-SSCP标记尽管遗传变异性较低,但是作为来源于编码区的Ⅰ型遗传标记,在遗传作图和种群遗传适应性等研究中有较好的应用潜力。

【英文摘要】Expressed sequence tags(ESTs) are of high value in genome mapping and marker-assisted selection(MAS).This study aims to develop EST markers for genome mapping and other studies of common carp(Cyprinus carpio L).A total of 7381 EST sequences(400-3500bp) were downloaded from the EST data base of the GenBank as the source data of the present analyses.Sixty-seven pairs of primers(designated as HB1-67) were designed in the 3′ untra nslated region(UTR) of the common carp ESTs,47 of which can successfully amplify specific products from genomic DNA.Twelve polymorphic EST markers were identified in a backcross mapping family of common carp by single-strand conformation polymorphism(SSCP) analysis.Six of the 12 polymorphic EST markers were derived from common carp genes of known function,and the rest were from common carp ESTs homologous to putative genes in zebrafish(Danio rerio) or channel catfish(Ictalurus punctatus).Allele distribution of these polymorphic EST markers was found to follow the Mendelian segregation(1∶1 or 3∶1) in both the backcross family and gynogenetic haploids,and the number of SSCP bands in haploid population was half of that in diploid family.The gene diversity(H=0.437) of Dongting Lake population of common carp revealed by 4 polymorphic EST markers is much lower than that by previous microsatellite analysis(close to 1).The results of present study indicated that EST-SSCP markers,with codominant inheritance,can be used as a powerful tool in the genetics of not only diploid but also haploid common carp.As Type I marker derived from coding region with relatively lower genetic variability,EST-SSCP markers are still of high potentials in such studies as genome mappi ng(including genetic linkage maps and gene maps,as well as comparative mapping),genetic structure,and genetic adaptability of fish populations.

【语种】中文

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【学科分类】水产学基础学科

【题目】鲤鱼微卫星标记与体重、体长和体高性状的相关分析
【中文关键词】鲤鱼;微卫星;体重;体长:体高;相关分析
【英文关键词】common carp;microsatellite marker;body weight;length;body height;body correlation analysis
【中文摘要】利用47个鲤鱼微卫星标记,对柏氏鲤和荷包红鲤抗寒品系自交F2代的92个个体基因组DNA进行检测,得到162个等位基因,各座位等位基因数2-6个,片段长度100~444 bp,有效等位基因数1.3069~4.2288,杂合度0.2361~0.7677,位点多态信息含量0.5368。利用统计软件SPSS的GLM程序对47个微卫星标记与鲤鱼体重、体长和体高相关性进行了分析,结果表明HLJ695、HLJ716、HLJ739、HLJ759、HLJ774、K16与体重、体长和体高相关,HLJ776与体高相关。对同一标记不同基因型间进行多重比较,找到与3种性状相关的基因型。
【英文摘要】Forty-seven microsatellite markers were selected to analyze the genomic DNA of 92 progenies derived from the recombinant inbred lines(RIL)of common carp.which came from the cross between Barbless carp and Hebao-cold tolerance red carp.The results showed that a total of 162 diferent alleles were found,and the number of alleles in each was 2to6.The DNA fragment length was 100 bp to 444bp,and the number of mean valid alleles was 1.3069 to 4.2288.The value of heterozygosity was 0.2361 to 0.7677.and the me an polymorphism information content(PIC)was 0.5368.AGLM procedure was used to analyze the efects of these 47 microsatellites on body weight,length and height.Results uncovered HLJ 695 ,HLJ716,HLI739,HLJ759,HLJ774 and K16 had a significan t impact on body weight,length and heighL and HLJ776 had a significan t impact on height.In addition,the genotypes of these correlative loci were determined.
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【学科分类】水产学基础学科

【题目】水产生物微卫星标记技术研究进展及其应用
【中文关键词】水产生物;微卫星标记
【英文关键词】aquatic animal;microsatellite markers
【中文摘要】微卫星标记的发展和利用极大地扩展了DNA分子标记应用的深度和广度,使探索生物性状遗传本质的研究发生了革命性变化。本文简要介绍了微卫星标记技术的发展及其在水产遗传与育种研究中的应用。首先回顾了微卫星克隆技术的发展,尤其是水产生物微卫星标记及技术的发展过程,以及水产生物微卫星序列的主要来源,并对微卫星标记与其他DNA分子标记在使用范围、难易程度等方面做了比较;其次探讨了微卫星标记在遗传连锁图谱的制备、性状分析及QTL定位、群体遗传学、进化遗传、种质鉴定与亲权分析、品种培育等6个研究领域的应用;本文还对几种DNA分子标记在操作上的难易程度、多态性程度、重复性与可比性等方面进行了比较,同时还分别阐述了微卫星和其他DNA分子标记应用于水产生物研究中的适用性,并对微卫星标记的应用前景做了展望。本文旨在为微卫星标记技术在水产生物中的有效应用提供理论依据。
【英文摘要】The development and application of microsatellite markers largely expands the depth and breadth of DNA markers application in the aquatic industry,and brings about a revolutionary change to researches on the genetic nature of biological traits.In this paper,the progress of microsatellite markers and their application in aquatic species genetics and breeding were introduced. The development course of the microsatellite markers cloning was presented.In particular,the technology of cloning microsate llite sequences in aquatic species was introduced,and the main resources of microsatellite markers in aquatic species were als o reviewed.A comparison was conducted between microsatellite markers and other DNA molecular markers including AFLP,RFLP,RAP D and SNP in diferent aspects such as application scope and degree of difi culty in use.The application of microsatellite markers in aquatic researches were also presented,including making genetic linkage maps,studying biological traits and quantitative trait loci(QTL),population genetics,germplasm identification,evolutionary genetics,fish breeding etc.Another comparison was conducted by using some tables and figures to show the degree of dificulty in application,polymorphism infor mation contents(PIC),repeatability and communication etc.between microsatellite markers and other DNA molecular markers. Con sequently,suitability of diferent DNA markers used in aquatic researches were shown.Finally,future prospects on using microsatellite markers in fish breeding,germplasm

identification and evaluation were presented.
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【题目】微卫星分子标记对德国镜鲤两家系遗传多样性的比较分析
【中文关键词】镜鲤;微卫星;遗传多样性;遗传不平衡
【英文关键词】mirror carp;microsatellite;genetic variety;genetic disequilibuium
【中文摘要】利用35个微卫星分子标记对黑龙江松浦实验站2个家系德国镜鲤的观测杂合度(Ho)、期望杂合度(He)、多态信息含量(PIC)和有效等位基因数(Ae)等进行遗传检测,根据基因频率计算遗传相似系数和Nei氏标准遗传距离,χ2检验估计Hardy—Weinberg平衡,并与其亲本的各项遗传指标进行比较。2个家系共检测到108个等位基因,平均每个基因座扩增得到3.085 7个等位基因,片段长度在136~383 bp之间。结果显示,2个家系的多态性指标均适中,多态信息含量分别为0.437 6、0.325 4,多态性扩增的基因座的有效等位基因数在1.033 9-4.699 7个不等,平均有效等位基因数依次为2.270 6、1.843 2,无偏期望杂合度在0.183 1~0.800 6之间,平均值分别为0.512 3、0.388 1。但连锁不平衡分析表明,这2个家系在较大的选择压力下,已偏离Hardy—Weinberg平衡,讨论了出现这种现象的可能原因。
【英文摘要】Thirty five microsatellite loci were used for analyzing two families of mirror carp(Cyprinus carpio L.),namely,SX,YX.Observed (Ho)and expected(He)heterozygosity values,polymorphic information content(PIC)and number of effective alleles(Ae)were all cal culated,the Hardy—Weinberg Equilibrium was checked according to the test of X2,and genetic indices with their parents were compared.Totally 108 alleles were procured.The lengths are between 136 bp and 383 bp.The number of alleles in each locus is 3.0857 on an average.The result shows that the level of genetic variability is moderate in two families.Polymorphic informati on contents(PIC)of the two miror carp families are 0.437 6 and 0.325 4,respectively.Effective alleles(Ae)are from 1.0339 to4.6997,number on average in each family are 2.2706 and 1.8432.The average expected heterozygosity values(He)are 0.5123 and 0.3881,respectively.The analysis of linkage disequilibrium indicated that the two families have deviated from Hardy—Weinberg Equilibrium,and the cause of this kind of deviation phenomenon was discussed.
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【题目】微卫星分子标记辅助镜鲤家系选育
【中文关键词】微卫星;镜鲤;家系选育
【英文关键词】microsatellite;miror carp(Cyprinus carpio L.);family selection
【中文摘要】用微卫星标记辅助进行镜鲤(Cyprinus carpio L.)家系的建立及选育,通过对亲本遗传结构及遗传差异的分析,预测产生优良家系的最佳配组。用28个微卫星分子标记评估松浦镜鲤亲本群体的遗传潜力,结果显示,群体的多态信息含量(PIC)达到0.5627,处于高度的遗传多样性水平,具备进一步繁育筛选优良群体的潜质。用χ2检验和遗传偏离指数(d)估计Hardy-Weinberg平衡,结果表明群体处于平衡状态,但在16个位点表现出杂合子缺失,这可能跟长期的人工选择有关。依据个体间的遗传距离,连续2年共建立1对1亲本的繁育家系70个,用网箱分别养殖,2月龄家系体长均值为7.24~10.60 cm,体质量均值为14.02-40.63 g,方差分析显示家系间体长、体质量差异均极显著;对其中4个家系1龄鱼种生长情况及遗传结构分析也表明家系间的遗传分化较大,近交系数(Fst)达到0.1537,家系的多态信息含量在0.305 6-0.4077之间,保持中度多态水平。由子代家系的生长和遗传结构两方面的实验结果证实了微卫星在辅助家系建立尤其是亲本选配方面具有较好的预测性,所获得的家系差异较大,具备进一步选育优良家系的潜力,从而证实了用此方法对现有镜鲤种质进行遗传改良是可行的。

【英文摘要】Superior family can be established and selected from optimum breeding pairs by means of microsatellite markers to analyze genetic structure of reproductive population.In this study,twenty-eight markers were used to evaluate the genetic potential of reproductive population including 1 3 1 samples(76 females and 55 males)of mirror carp(Cyprinus carpio L.).Totally 146 alleles were detected ranging from 108 bp to 400 bp. Several genetic parameters were used to evaluate the parental population. The average number of alleles was 5.2143 and the efective alleles mean was 3.0585.The value of mean observed heterozygosity was 0.572 2 and the value of mean expected heterozygosity was O.5972.The mean value of polymorphic information content was 0.5627,which indicates that the genetic variability was relatively high and selection of excellent population is possible.The population accorded with Hardy-Weinberg equilibrium checking by x test and genetic departure index,but heterozyg ote deficit of sixteen loci occurred such as HLJ049,HLJ057 and HLJ343 after a long time's artificial sele ction.A total of seventy families were established based on genetic distance of breeding pairs after two consecutive years.The offspri ng of each family were cultured separately in net-cage.The body length of the two months old family ranged from 7.24cm tol0.60cm and body weight were from 14.02 g to 40.63 g.The differences of body length and body weight were significant among families.The later study results of growth and genetic structure to the four families of one year old from 2006 indicated that there were signifi cant genetic diferentiation and the t Fst value was 0.1537.The PIC ranged from 0.3056 to 0.4077,which revealed that the four families were detected in medimn diversit y.These results demonstrated that microsa tellite could be used for assisting families selection due to its capacity to predict growth superiority of offsprings.It was feasible to use this method for genetic improvement ofthe miror carp.

【语种】中文

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【学科分类】水产学基础学科

【题目】样本容量对养殖群体主要遗传结构分析参数的影响

【中文关键词】样本容量;养殖群体;遗传结构;参数

【英文关键词】sample size;culture population;genetic structure;parameter

【中文摘要】用微卫星标记评估养殖群体的遗传结构,设置8个取样量梯度,5个标记量梯度,统计分析了各遗传参数的变化。结果:群体等位基因数(A)随样本量的增加而呈现上升趋势,但上升幅度由0.6667~0.9615(10<n<30)下降到0.2308~0.3333(30<n<50);46.15%的位点出现高频率等位基因即等位基因纯合化趋势,这可能与养殖群体长期受选择压力的影响有关。等位基因纯合化使多数位点的有效等位基因数(Ae)、期望杂合度(Ho)及多态信息含量(PIC)在样本量大于40时,在多个标记量梯度其变动范围均变小,并出现平台现象。样本量、微卫星标记的数量和多态性水平对群体遗传结构均有较大的影响,建议在用微卫星进行群体遗传评估时,标记的数量在20个以上,样本容量大小在40~50之间较为适合。

【英文摘要】This study examines the effects of sample size on various genetic structure parameters.The population genetic structure of cultured mirror carp (Cyprinus carpio) was estimated using microsatellite markers.8 different sample sizes and 5 marker numbers were set uP tO ana1vze most genetic parameters including population alleles distribution,allele numbers(A),effect allele numbers(Ae),observed heterozygosity (Ho),expected hete rozygosity (He)and polymorphism information content(PIC).As a result,population allele numbers rise dramatically along with sample sizes from 10 to 40 and then held a steady increase trends.Meanwhile 46.15% of loci showed high freauency allele.The results indicate that cultured popu lation show predominant alleles in most loci because of selection pressure. Due to many homozygosity, the change of effect allele numbers, expected heterozygosity and polymorphism information content are iittle when the sample size is more than 40.In addition,the number of micr osatellite markers and polymorphism level also have a little effect on the estimation of population genetic structure. So,we suggested that the numbers of markers is more than 20 and sample size is 40 to 50 when using microsatellite markers to estimate population genetic structure.

【语种】中文

【第一作者】鲁翠云

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【学科分类】水产学基础学科

【题目】Development and characterization of new microsatellite loci from Chinese mitten crab (Eriocheir sinensis)
【中文关键词】--
【英文关键词】Microsatellites; Germplasm resource; Chinese mitten crab;Primers
【中文摘要】--
【英文摘要】A set of new microsatellite loci were isolated from Chinese mitten crab and characterized in two Chinese mitten crab populations. The number of the alleles ranged from 3 to 8 and observed and expected heterozygosity varied from 0.0870 to 0.9565 and 0.3092 to 0.8367 in each population, respectively. Loci HLJEsin1, HLJEsin4, HLJEsin30 in CLN population and HLJEsin6 in CJS population presented significant deviation from Hardy – Weinberg equilibrium (PHWE < 0.001). These markers will be useful for population studies.
【语种】英文
【第一作者】Rui X. Mao
【通讯作者】孙效文
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【学科分类】水产学基础学科

【题目】草鱼种群SSR分析中样本量以及标记数量对遗传多度的影响
【中文关键词】样本容量;标记量;草鱼;自然群体;遗传多样性;微卫星分子标记
【英文关键词】Sample size; Loci number; Grass carp; Wild population; Genetic diversity; Microsatellite DNA marker
【中文摘要】利用45 对微卫星分子标记(SSR),以草鱼(Ctenopharyngodon idellus)自然群体为实验材料,探讨野生群体遗传多样性研究中所需的最适样本量与标记量。实验设置6个样本量梯度,9 个标记量梯度。对等位基因数(Na)、有效等位基因数(Ne)、观察杂合度(Ho)、期望杂合度(He)等遗传多样性指标的变化趋势进行统计分析。结果表明,样本量、微卫星标记的数量和多态性水平对群体遗传多样性均有较大的影响,其中等位基因数与样本量大小呈显著正相关,而杂合度随标记量的增多而剧烈波动。当取样量大于40,标记量大于25 时,各遗传参数值趋于稳定。因此,在应用微卫星标记对水产动物自然群体的遗传学研究中,要根据所研究种类的特点,尽可能采样40 尾以上,采用25个以上标记,避免由人为选择的偏差对群体遗传多样性水平的正确评估所造成的影响。同时根据上述研究结果,对陕西草鱼自然群体进行了遗传多样性的评估,结果显示该群体平均等位基因数(MNA)、平均有效等位基因数、平均观测杂合度、平均期望杂合度分7.26、4.21、0.73、0.68,认为该群体具有较高的遗传多样性。
【英文摘要】Sample collection and marker selection are of primary importance in population genetic studies,and can greatly influence the analysis and interpretation of the data obtained. Microsatellite DNA sequences are the most revealing DNA markers available so far for inferring population structure and have been widely employed in genetic studies of populations.Nevertheless,few studies have specifically examined the effects of sample size and loci number on various genetic diversity measures in population genetic work using these markers.Here,we examined this issue using experimental data from an analysis of genetic diversity of wild populations of grass carp at 45 polymorphic microsatellite loci.The following genetic diversity measures were studied: number of alleles per locus (Na), effective number of allele per loci (Ne),observed hererozygosity (Ho) and expected heterozygosity (He).We also tried to infer the theoretical minimum sample size and loci number needed for population genetic studies with microsatellite loci. The results are as follows: (1) Na and Mean number of allele over loci (MNA) are significantly affected by sample size. It increase according to the raise of the sample size, only when the sample size exceeds 40 it tends to be stable. The significant correlation between sample size and Na was observed and the correlation curve is Y=3.8403+0.6376,r2=0.967.However, there is no significant correlation between the mean value of Ne, Ho, He and the sample size. Mean value of Ho,,He fluctuate with the raise of the sample size, only when the sample size exceeds 40 it manifest a stable trend. (2) Evaluating of different genetic parameters with the makers of different polymorphism information content, a significantly different result were acquired. When PIC>0.5, Na, Ne, Ho, He were 3.6, 1.5934, 0.2824, 0.3540, While PIC<0.5, Na, Ne, Ho, He were 9.5,5.9209, 0.8497, 0.8242 respectively. Accordingly, marker selecting strategy has much greater impact on evaluation of genetic diversity. (3) According to the rise of loci number, the value of genetic parameter could be divided into threestages: ① Descending stage: loci number between 0 − 5, values of Na, Ne, Ho, He indicated descending trend. ② Loci number

between 5 − 10, values of Na, Ne, Ho, He demonstrate ascending trend. ③ When loci number exceeded 15 values of Na, Ne, He tend to be stable, while only when loci number exceeded 25 the value of Ho tend to be stable. Analysis above proved that not only the sample size and loci number but also the polymorphism information of microsatellite markers have significant effect on the estimation of population genetic diversity. So, we suggested that when microsatellite markers were used to estimate genetic diversity of population the minimum loci number and sample size are needed to exceed 25 and 40, respectively. Moreover, the conclusion above has been used to evaluate the genetic diversity of wild population of grass carp, values of the parameter were Na=7.26、Ne =4.21、Ho=0.73、He=0.68, which demonstrated that has a relatively high diversity, a totally different conclusion from the former studies. Therefore, further researches arenecessary for the evaluation of genetic diversity of geographically different population of grass carp.

【语种】中文
【第一作者】李鸥
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【学科分类】水产学基础学科

【题目】长江、珠江、黑龙江水系野生鲢遗传多样性的微卫星分析
【中文关键词】鲢; 微卫星; 遗传多样性
【英文关键词】Hypophthalm ichthys molitrix; microsatellite; genetic diversity
【中文摘要】采用34个微卫星分子标记,对长江(湘江、监利、枞阳) 、珠江、黑龙江(抚远)鲢共5个群体的观测杂合度(Ho) 、期望杂合度(He) 、多态信息含量(PIC)和有效等位基因数(Ne)等进行了遗传检测,根据基因频率计算遗传相似系数和N e i氏标准遗传距离,以卡方检验估计Ha rdy-Weinbe rg平衡,以近交系数(FST)和基因流(Nm)分析群体的遗传分化。同时,基于N e i氏标准遗传距离获得NJ聚类图。共检测出154个等位基因,其中有80个共有基因。位点等位基因1~9个不等,平均等位基因4. 666 7,平均有效等位基因2. 948 9。5群体平均观测杂合度为0. 329 5~0. 461 9,平均期望杂合度为0. 500 2~0. 552 9,平均多态信息含量为0. 443 5~0. 493 0。表明5群体为中度多态,遗传多样性较低,且长江不同地理群体的遗传多样性也有差异,但差异不显著。通过群体间遗传相似性和遗传距离比较显示:长江3个群体间遗传相似系数最大,遗传距离最小;黑龙江与长江鲢群体间相似系数较大(平均0. 871 8) ,遗传距离较小(平均0. 137 4) 表明二者遗传分化亦最小; 珠江鲢与长江鲢间的相似系数最小(平均0. 831 0) ,遗传距离最大(平均0. 185 2) ,其遗传分化差异较大,结果未显现出群体间遗传差异的大小与其地理距离远近呈正相关。
【英文摘要】In this paper,genetic diversity of five wild silver carp (Hypophthalm ichthys molitrix) populations,collected from the Yangtze River, Pearl River and Heilong jiang River was analyzed using 34 microsatellite markers.The observed (Ho) and expected heterozygosity(He),polymorphism information content (PIC) and number of effective alleles (Ae) were all de termined.The genetic similarity coefficient and Nei'S standard genetic distance were computed based on the allele frequencies. The Hardy-Weinberg equilibrium was checked by X2 test.Genetic differenti ation and hierarchical partition of genetic diversity were evaluated by Fst and Nm.A dendrogram was constructed based on NJ method using M EGA3 software package.For each locus, 1-9 alleles were amplified with an average of 4.6667, adding up to 154 alleles in all five populat ions, of which the mean valid alleles were 2.9489. We found the genetic variability level was moderate in the five populations, as show n by Ho (0.3295-0.4619),He (0.5002-0.5529) and PIC (0.4435-0.4930),respectively. Based on the genetic sim ilarity coefficients and genetic dis tance, the genetic diversity between the two groups of Yangtze and Pearl Rivers (Ds=0.1852) was higher than that of the two populations of Heilongjiang and Pearl Rivers (Ds=0.1558).There were no obvious relations between genetic distance and geographical distribution of the five populations.
【语种】中文
【第一作者】姬长虹
【通讯作者】孙效文
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【学科分类】水产学基础学科

【题目】镜鲤体重相关分子标记与优良子代的筛选和培育
【中文关键词】镜鲤;生长;分子标记;筛选;培育
【英文关键词】mirror carp; growth; molecular markers; selection
【中文摘要】根据性状相关分子标记的Q TL 分析结果进行品种培育是分子标记用于水产育种研究的重要方向之一。利用镜鲤与体重相关的3个基因座(HLJ302, HLJ338, HLJ343)作为快速生长的标记,筛选出一批镜鲤亲本进行繁殖,对得到的子代进行基因分型,并将基因分型结果与检测的最大10尾个体与最小10尾个体进行比较。结果表明,最大10尾具有优势基因型为每尾1. 7个,最小10尾具有优势基因型为每尾0. 7个,生长速度快群体与生长速度慢群体在体重相关基因型的富集上呈现显著性差异。同时选出具有富集体重相关优势基因型的子代且生长速度快的群体一个, 2008年生产出子二代。综合性状好生长速度更快的镜鲤新品系正在培育之中。
【英文摘要】It is the one of main directions for aquaculture breeding using molecular markers that stocks were selected by the results of quantitative tra its loci of economic traits. The main goal of our long term project is to get a good variety with most economic traits in high quality by m arker-assisted selection. We have identified 6 microsatellite loci linked with body weight at high explained variation, and also found three of these 6 loci are homozygous in experimental population in our previous works.In this paper, using other three loci (HLJ302,HLJ338 , HLJ343) which associated with body weight of mirror carp in breeding population, a group of mature mirror carp were selected and their p rogenies were also gotten. When the progenies grow up,the genotypes of those progenies were analyzed with these three loci.This paper co mpared the genotypes between 10 biggest fish and 10 smallest fish,the results showed that there are significant difference on dominant genotype linked body weight between fast-growth population and slow-growth population.The results showed that 10 biggest fish have the mean positive genotypes 1.7 for body weight. Meanwhile,which p roved these m arkers are effect for breeding again. A big population w ith these positive dom inant genotypes has been selected (also selected by good phenotypes such as good color, good body figure etc),and a big group of progenies of second generation has been produced. A new strain of fast-grow ing and good-quality mirror carp has been raised.
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【第一作者】孙效文
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【题目】鲤雌核发育子代基因的杂合度分析
【中文关键词】鲤;雌核发育;杂合位点;微卫星
【英文关键词】common carp;gynogenesis;heterozygosis locus;microsatellite
【中文摘要】通过热休克法抑制第一次有丝分裂(抑制第一次卵裂) 和减数分裂(抑制第二极体排除),分别获得鲤(Cyprinus carpio L.) 的2 个雌核发育家系。利用13 对具有高多态性的微卫星分子标记,分别对2 个雌核发育家系的观测杂合度(Ho)、期望杂合度(He)、等位基因频率(P) 和有效等位基因数(Ne) 等进行遗传背景调查。结果表明,抑制第一次有丝分裂家系的等位基因频率为0.063 ~ 1.000,平均观测杂合度为0.22,平均期望杂合度为0.24,平均有效等位基因数为1.41,该家系在6 个微卫星座位上表现为纯合子,在7 个微卫星座位上表现为杂合子,其中位点MFW4完全表现为杂合子;抑制减数分裂的等位基因频率为0.056 ~ 0.889,观测杂合度的平均值为0.37,期望杂合度的平均值为0.47,平均有效等位基因数为1.93,该家系中没有得到完全纯合的个体,其中在2 个位点上全部表现为杂合子。在所分析的鲤雌核发育群体中,有3个基因座位(HLJ034、HLJ044和HLJ071) 有重组现象,重组率为20.00%。综合上述结果推断,鲤2 个雌核发育家系在个体和群体上都具有一定的基因杂合性。
【英文摘要】Gynogenesis is a developmental manipulation facilitating the inheritance of maternal genetic material alone,which has been accomplished in several fish species. This powerful technique is often employed to obtain homozygosis,which is essential to eliminate the load of deleterious or recessive alleles in the genetic pool of a domesticated stock from cultured species.Recently in China,mito-gynogenesis and meio-gynogenetic have also been well applied in aquaculture breeding,which were generated by suppression of the first mitotic division in haploid embryos and inhibition of exclusion of the second polar bodies respectively.However,it is difficult to identify the homozygosis by techniques of phenotype and chromosome. So in this study,thirteen polymorphic microsatellite markers were used to investigate homozygosity of two gynogenetic lines. Allelie frequencies,Ho,He and

effective number of alleles showed in the mito-gynogenetic line,,was0.063-1.000,0.2 2,0.24 and 1.41respectively.Only six loci were homozygosis and the others were still heterozygosis. Moreover,locus MFW4 was homozygosisty in all the individuals of mito-gynogenetic line. Homozygosity of this line was 78%. In the meio-gynogenetic line,allelie frequencies ranged 0.056-0.889,Ho,He and effective number of alleles was 0.37,0.47and1.93 separately. No complete homozygosis individual in this line was found and a total of two loci,HLJ030 and MFW23,were complete heterozygosity. Homozygosity of meio-gynogenetic line was only 63%.Recom bination was observed among these loci with rate of 20.00%. All the results demonstrated that the two gynogenetic lines of common carp were heterozygosis to some extend. The individuals from mito-gynogenetic line could be used in building homozygosis line through selecting complete homozygosis animals revealed by with more microsatellite markers. However,meio-gynogenetic line with higher heterozygosity was not appropriate to construct homozygosis line.

【语种】中文

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【题目】鲤生长性状相关的EST-SSRs标记筛选

【中文关键词】鲤;EST-SSRs;生长性状;BLAST;冷诱导基因RNA结合蛋白;DAZ相关蛋白1;核糖体蛋白L6

【英文关键词】common carp;EST-SSRs;growth traits;BLAST;cold-inducible RNA binding protein;DAZ associated protein 1;ribosomal protein L6

【中文摘要】以大头鲤(Cyprinus pellegrini Tchang)(母本) 与荷包红鲤(Cyprinus carpio wuyuanensis) 抗寒品系(父本) 杂交产生的F1 作为亲本,以其自交F2 作为分离群体,结合“ 拟测交 ”策略,用EST-SSRs 标记对其中92 个个体进行基因型检测。利用Windows Map Manager 2.0 的标记回归法对符合拟测交分离的70 个EST-SSRs 标记进行单标记回归分析,检测出8 个与鲤体长、体高、体厚性状相关的标记。对同一标记不同基因型个体间生长性状进行显著性比较,通过t检验,找到与生长性状相关的基因型。将上述8 个EST序列与GenBank 数据库进行BLAST比对,有3 条EST序列与蛋白库中已知功能的序列高度同源。其中HLJE225 与编码斑马鱼(Denio rerio) 冷诱导基因RNA结合蛋白的基因同源性水平高达97%,HLJE222 与编码斑马鱼DAZ相关蛋白1 基因同源性水平也高达97%,HLJE599 与编码斑点叉尾鮰(Ictalurus punctatus) 核糖体蛋白L6 基因的同源水平为87%。本研究鉴定的与鲤生长性状相关的功能基因及有利用价值的基因型,为鲤重要生长性状的QTL(数量性状基因座) 定位和分子标记辅助育种提供了一定的依据。

【英文摘要】Common carp (Cyprinus carpio L.) is one of the most economically important fish species all over the world,whose economical traits are mostly quantitatively controlled by polygene. Screening of the genes and markers which control the quantitative traits has strong practical value. Expressed sequence tags (ESTs) are parts of complementary DNAs (cDNAs) with certain gene function. It provides us more information than other neutral markers. The association of EST markers with phenotypes can increase our understanding of the biochemical pathways and mechanisms affecting economically important traits. Thus,traditional marker assisted selection(MAS) can be replaced by direct gene selection for targeted traits. In this study,EST-SSRs were used to analyze the genomic DNA of 92 progenies which derived from F2 of the cross Barbless carp×Hebao-cold tolerance red carp by using “ Pseudo Testcross ” strategy. F1 were used as the parents of the 92 full-sib progeny. A total of 8 ESTSSRs markers were found from the 70 polymorphic EST-SSRs to be closely related to growth traits of common carp by single marker regression in Windows Map Manager 2.0 software. Results uncovered HLJE203,HLJE335 and HLJE222 had a significant impact on body length HLJE225,HLJE231,HLJE599,HLJE 203 and HLJE222 had a significant impact on body height,and HLJE339,HLJE225,HLJE269 and HLJE599 significantly correlated with body width. The variance explained by these loci,ranged 4.00% to 12.00%. HLJE222 and HLJE225 at 0.1%significant level closely linked to the gene related to body height and width of common carp. The number of alleles and genotypes in each locus were 2-3 and 2-4 respectively. In addition,the geno types of these correlative loci were determined by t-test.The result showed that there existed some genotypes at each locus which had positivecorrelation with growth traits and some had negative correlation with growth traits. The significantly positive correlation genotypes of each locus may be preferred in carp molecular marker assistant breeding selection and the negative correlation genotypes of each locus may be eliminated through selection. This provided us valuable information for carp molecular marker assistant breeding selection. The homology identity of the 8 correlative ESTs was determined by GenBank of NCBI blast programmer on the amino acid levels. It was found,through BLAST analysis,that 3 ESTs with significant similarity to the known functional sequences in GenBank. was highly homologous to the known coldinducible

RNA binding protein of Danio rerio with an identity of 97%.HLJE222 was highly homologous to the known DAZ associated protein 1 of Danio rerio with an identity of 97%.HLJE599 was highly homologous to the known ribosomal protein L6 of Ictalurus punctatus with an identity of 87%. The other 5 ESTs were not significantly homologous to any of the known functional genes from GenBank.It was reported that cold-inducible RNA-binding proteins (CIRP) as well as CBF (c-repeat-binding factor) could increase the freezing tolerance,meanwhile they had negative impact on the growth. It's also presumed that the genes coding DAZ associated protein 1 and ribosomal protein L6 were associated with growth traits of common carp. These functional genes and genotypes might be used for the QTL mapping and marker assisted selection for important growth traits.

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【题目】鲤鱼(Cyprinus carpio L.)头长、眼径、眼间距QTL的定位
【中文关键词】鲤鱼; 头长; 眼径; 眼间距; QTL
【英文关键词】--
【中文摘要】用 265 个AFLP 标记、127 个微卫星分子标记、37 个EST-SSR 标记和16 个RAPD 标记对大头鲤/荷包红鲤抗寒品系的F2 雌核发育群体44 个个体进行基因型检测, 构建鲤鱼遗传连锁图谱。利用软件WinQTLCart2.5采用复合区间作图法对头长、眼径、眼间距3 个性状进行了QTL 分析。结果显示, 共检测到5 个与头长性状相关的QTL, 分别定位于鲤鱼连锁图谱的LG2(qHS-2-1)、LG3 (qHS-3-1)、LG40(qHS-40-1)和LG4 (qHS-4-2 和qHS-4-3) 上。其中qHS-40-1 拥有最大的 LOD 值, 为7.94, 可解释的表型变异为 34.29%。qHS-4-2 的LOD 值最小, 为5.03, 可解释的表型变异为11.52%。5个与头长性状相关的QTL 加性效应值均为负值。检测到两个与眼径性状相关的QTL, 分别定位于鲤鱼连锁图谱的LG39 连锁群(qED-39-1)和LG40 连锁群(qED-40-1)上, 其中qED-40-1 的LOD 值比较大, 为2.76, 其加性效应值为负值, 可以解释5.62%的表型变异; qED-39-1 的LOD值为2.72, 加性效应值为正值, 可以解释9.77%的表型变异。检测到两个与眼间距性状相关的QTL, 分别定位到鲤鱼连锁图谱的LG20 连锁群(qEC-20-1)和LG28 连锁群(qEC-28-1)上。其中qEC-20-1 的LOD 值比较大, 为3.77, 加性效应值为正值, 可以解释8.29%的表型变异; qEC-28-1 的LOD 值为2.79, 对应的加性效应值为负值,可以解释8.88%的表型变异。
【英文摘要】A common carp gynogenetic line including 44 individuals derived from the cross Barbless carp×Hebao-cold tolerance red carp was used to construct a linkage map using 445 markers (265 AFLP markers,127 SSR markers, 37 EST-SSR markers and 16 RAPD markers).Then quantitative traits loci (QTLs)associated with body weight, full size were identified by the composite interval mapping of the software Cartgrapher V.2.0.Two QTLs were identified for body weight on the linkage groups 24 and 20, which explained 7.98% and 20.05% of the total variation of the body weight, respectively. Both of the additive effects were negative.Two QTLs were identified for full size on the linkage groups 2 and 20, explaining 5.69% and 12.69% of the total variation of the full size, respectively. The additive effects were negative values.
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【题目】鲤鱼乳酸脱氢酶活性的QTL检测
【中文关键词】鲤鱼; 标记回归分析; 乳酸脱氢酶; 拟测交策略; EST-SSR
【英文关键词】common carp(Cyprinus carpio); marker regression; lactate dehydrogenase; double pseudo-testcross strategy;EST-SSR

【中文摘要】利用SSR 分子标记结合“ 拟测交 ”策略, 以荷包红鲤抗寒品系和柏氏鲤远缘杂交所产生F1代为亲本及其F2代为作图群体, 应用Windows Map Manager 2.0 软件的标记回归法进行乳酸脱氢酶(Lactate dehydrogenase,LDH)活性数量性状基因座单标记定位分析。在乳酸脱氢酶性状的标记回归研究中, 共发现12 个标记与LDH 性状关联, 对性状的贡献率为4.00%~10.00%, 其中HLJE222 达到极显著水平(P<0.01)。为了进一步验证, 利用已有的生物信息学工具, 将与性状连锁的EST序列与公共数据库中的核酸序列进行同源搜索分析, 发现标记HLJE222 的EST 序列与斑马鱼DAZ associated protein 1 的mRNA 序列相匹配(相似性为94%), 与公共数据库中的已知蛋白序列进行相似性比较, 同样发现HLJE222 的EST 与斑马鱼DAZ associated protein 1 相匹配(相似性为97%)。结果表明HLJE222 位点与影响乳酸脱氢酶活性相关的基因连锁
【英文摘要】Microsatellite markers were used to make marker regression analysis on activity of lactate dehydrogenase based on double pseudo-testcross stra tegy using Windows Map Manager2.0 software. The parents that came from the cross between progenies of Hebao-cold tolerance red carp and Barbless carp and F2 progenies were used as segregating populations.For maker regression, a total of 12 markers associated with activity of lactate deh ydrogenase were significant atP<0.05 and HLJE222 was significant at P<0.01. The variance explained by these loci, ranged from 4.00% to 10.00%. Locus HLJE222 was closely linked to the gene related to activity of lactate dehydrogenase of common carp. For further identification,EST-SSR markers were used to screen the protein and nucleotide database using bioinformatics tools in order to find the homologies. High sequen ce similarities of HLJE222 marker were observed with the nucleotide sequence of DAZ associated protein 1mRNA of zebrafish(94%), and protein se quence of DAZ associated protein 1(97%). DAZ protein is on eof the short chain dehydrogenases, which is an important enzyme in the process of glucose metabolism in the organisms.This family contains a wide variety of dehydrogenases. This indicates that locus HLJE222 was closely linked to the gene associated with activity of lactate dehydrogenase of common carp.
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【题目】利用EST-SSR分子标记研究鲤的饲料转化率性状
【中文关键词】鲤; EST-SSR;饲料转化率;标记回归分析
【英文关键词】common carp; EST-SSR; feed conversion efficiency; marker regression
【中文摘要】饲料转化率是重要的经济性状,通过QTL定位获得的紧密连锁标记以及相关基因,是遗传育种的重要工具。本文利用70个鲤的EST-SSR,对鲤全同胞家系92个体的基因组DNA进行扫描,得到符合1∶1孟德尔分离类型的位点48个,3∶1孟德尔分离类型的位点22个。采用拟回交策略对符合1 ∶1 分离的标记与鲤饲料转化率性状进行单标记回归分析。结果表明:HLJE335、HLJE253、HL E547、HLJE92、HLJE203、HLJE231等6个标记与饲料转化率性状相关(P < 0. 05) 。其中, HLJE547 和HLJE203 两个标记与饲料转化率相关性达极显著水平(P <0. 001) ,分别解释了表型变异的11. 00%、11. 00%。应用NCB I数据库,分别对与性状极显著相关的2 个EST-SSR 标记进行同源性比对, 发现标记HLJE547 与斑马鱼基因组中编码A TPase, H + transporting, lysosom al的核酸序列同源(同源性为74%) , 与斑马鱼编码的A TPase, H + transporting, lysosom al的蛋白序列同源(同源性为92%) 。推测A TPase可能通过影响鲤消化与吸收等生物学机制,从而影响鲤的饲料转化效率。
【英文摘要】Feed conversion ratio is very important economic traits. The improvement of it can not only save the feed, reduce the cost, but can also imp rove the ecomonic efficiency.There were a great deal of studies relating to feed conversion ratio of QTL in the field of farming. But few w ere reported on fish, especially on common carp.The linked markers and genes from the analys is of QTL are very important tools for fish bre eding. Seventy EST-SSR markers were selected to analyze the genomic DNA of ninety-two progenies derived from the common carp (Cyprinus carpio L.) full-sib family,which come from the cross between progenies of Barbless carp and Hebao-cold tolerance red carp. 70 makers segregate according to Mendel's Law, of which 48 segregate in 1∶1 model and other 22 in 3∶1 model.Makers of “ 1∶1 ” segregation model were used to m ade marker regre ssion analysis based on pseudo-testcross strategy using Windows Map Manager2.0. Six loci were discovered that had impact on feed conversion efficiency(HLJE335, HLJE25,HLJE547, HLJE92, HLJE203, HLJE231) and two of them had a significant impact on this traitEST-SSR markers were used to screen the nuc leotide and protein database in the National Center for Biotechnology.Information (NCBI) in order to find the homologies. High sequence homologies of HLJE547 marker were observed with the nucleotide sequence of ATPase,H + transporting,lysos omal gene of zebra fish and protein sequence of zebra fish A TPase, H + transporting, lysosomal protein. Homologous were 74% , 94%respect ively. A TPase, H + transporting, lysosomal protein is a component of vacuolar A TPase (V-A TPase) , which were detected in

iontransporting epithe lium of the a blow fly rectum .In addition, there were a great deal of lysosome in epithelium of the Tachypleus tridentatus Leach rectum. Fish as the first key link of craniota may have some similar function with invertebrate. This indica tes that V-A TPase may affect the function of digestive system through affecting the H+ transporting on lysosomal, which needs to be proved for further study.

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【题目】两个镜鲤半同胞家系的遗传多样性及经济性状分析
【中文关键词】微卫星标记;镜鲤;遗传多样性;经济性状;相关分析
【英文关键词】Microsatellite marker; Mirror carp; Genetic diversity; Economic characters; Correlation analysis
【中文摘要】在两个镜鲤半同胞家系中,各随机选取47尾作为实验鱼,测量体重、体长、全长等数量性状,利用24个微卫星分子标记对其进行遗传检测,共检测到57个等位基因,每个基因座的等位基因数为1-6个不等,平均等位基因3.21个,片段长度在134—371bp之间,有效等位基因数N e为1.00—2.89, 平均观察杂合度Ho为0.00—0.83,平均期望杂合度He为0.00—0.66,平均多态信息含量PIC为0.00—0.58。结果表明: 2个家系的遗传多样性处于中度水平,但连锁不平衡分析表明这两个家系在较大的选择压力下,已严重偏离Hardy-Wenberg平衡。利用SPSS程序下的GLM过程对24个微卫星位点与主要经济性状的相关性进行分析,结果发现: HLJ519、HLJ848、HLJ855、HLJE84个微卫星位点对镜鲤体重显著影响(p < 0.05) ,其中,位点HLJ519、HLJ848、HLJ855还对体长和全长存在显著影响(p < 0.05) 。对这些位点基因型所对应的表型均值进行了多重比较,找到了一些对主要经济性状有利的基因型。
【英文摘要】Mirror carp (Cyprinus carpio L.) is one of the most important traditional domestic freshwater aquaculture fish in China. The seeding of mirror carp for aquaculture has come from the Heilongjiang River because germplasm resource of mirror carp is superior to those from other rivers and lakes. But advanced biological characteristic for aquaculture germplasm of mirror carp was obviously decreased during past years after multigene rations artificial propagation.The growth became slowly and the ability of antidisease reduced.Therefore,it is necessary to analyze and study genetic diversity and correlation analysis of microsatellite DNA markers with economic characters in mirror carp. In the p resent study,the genetic diversity and population structure of mirror carp from Heilongjiang River system were investigated using microsatel lite DNA markes.The genetic examination on 24 microsatellite markers and combined quantity characters such as the body weight, body length and full length was carried out among the random samples in two semi-sib families of mirror carp, a total of 57 different alleles were found and the number in each locus ranged from 1 to 6.The average number of alleles was 3.21.The DNA fragment lengths were from 134 bp to 371 bp. In the two semi-sib families, the number of mean valid alleles (Ne)was 1.00 to 2.89, the value of average observed (Ho) and expected heteroz ygosity (He) ranged from 0.00 to 0.83 and0.00 to 0.66, respectively, and the mean PIC was 0.00 to 0.58.The result showed that the level of genetic variability was moderate. Chi-square test was used to analyze the genotypes based on Hardy-Weinberg equilibrium, the P value denoted that the 2 families deviated equilibrium partially.A GLM procedure was used to analyze the effects of these 24 microsatellites on economic characters. Results uncovered that there existed 4 loci, HLJ519, HLJ848, HLJ855 and HLJE8, which had a significant impact on body weight (p< 0.05).The HLJ519, HLJ848 and HLJ855 loci correlated with length and full length character significantly (p<0.05).Genotypes of that favora bly affect economic characters were determined. Multiple comparisons of economic characters among microsatellite loci genotypes showed that allele 281 in locus HLJ519, allele 279 in locus HLJ848, allele 209 in locus HLJ855 and allele 189 in locus HLJE8 closely linked to the major gene related to body weight, body size and whole size of economic characters in mirror carp.

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【题目】中华绒螯蟹部分基因组文库构建和微卫星位点的筛选
【中文关键词】中华绒螯蟹;微卫星;磁珠富集
【英文关键词】Chinese mitten crab (Eriocheir sinensis) ; microsatellite; enrichment by magnetic beads
【中文摘要】利用磁珠富集和放射性杂交相结合构建了中华绒螯蟹基因组微卫星文库。并利用生物素标记的(GA) 12探针进行微卫星片段的富集。将得到的片段与pGEM-T载体连接后转入DH5α大肠杆菌中,然后利用γ- 32 P同位素标记的(GA) 12探针进行第二次筛选。结果共获得微卫星基因组文库1500个菌,杂交前菌落PCR检测阳性克隆率为62. 5 %;杂交后得到的阳性克隆为447个,占29. 8%。经测序,有248个克隆含有重复次数大于5次的微卫星序列。在得到的微卫星序列中,重复单元除GA /CT外,还观察到三碱基、四碱基重复单元。根据侧翼序列设计引物164对,选择合成50对,通过优化PCR反应条件,结果有21对引物可扩增出清晰可重复的目的条带, 15对具有多态性。本研究对中华绒螯蟹基因组资源的开发利用提供了相关资料。
【英文摘要】In this experiment, microsatellite DNAs were isolated from Chinese mitten crab (Eriocheir sinensis)genome by combining biotin capture meth od and radioactive labeling hybridization.The purified ligated-DNA was hybridized with biotin-labeled simple sequence repeats(SSR) probes(GA)12 ,and the mixture was incubated with strep tavidin-coated magnetic beads.The selected single-strand microsatellite DNA was obtained by removing the SSR-uncombined fragments.After capture of target fragments by magnetic beads and PCR amplification, the PCR products were ligated to T ve ctor and transformed to E.coli competent cells. A microsatellite genomic library 1500 colonies was constructed. 447 positive colonies (29.8%) were obtained through twice screens by radioactive γ- 32 P labeling hybridization.Sequencing of 447 positive colonies co nfirmed that 248 contai ned 266 microsatellite loci. Besides the motif of GA /CT contained in the colonies,there were also CCT, TCC and AAGG, TTCC repeat motifs. 164 pairs of primers were designed with the software primer premier 3.0. In addition,50 pairs of primers were composed and screened. 21 pairs were used successfully to amplify special fragments, among which 15 pairs were polymorphism within species. This research offers relevant data to explore genomes of Chinese mitten crab Eriocheir sinensis.
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【题目】A linkage map of common carp (Cyprinus carpio) based on AFLP and microsatellite markers
【中文关键词】--
【英文关键词】AFLP;common carp (Cyprinus carpio);haploids;linkage map;microsatellite (SSR)
【中文摘要】--
【英文摘要】Common carp (Cyprinus carpio) is an important fish for aquaculture, but genomics of this species is still in its infancy. In this study, a lin kage map of common carp based on Amplified Fragment Length Polymorphism (AFLP) and microsatellite (SSR) markers has been generated using gynoge netic haploids. Of 926 markers genotyped, 151 (149 AFLPs, two SSRs) were distorted and eliminated from the linkage analyses. A total of 699 AFLP and 20 microsatellite (SSR) markers were assigned to the map, which comprised 64 linkage groups and covered 5506.9 cM Kosambi, with an average interval distance of 7.66 cM Kosambi. The normality tests on interval map distances showed a non-normal marker distribution. Visual inspection of the map distance distribution histogram showed a cluster of interval map distances on the left side of the chart, which suggested the occu rrence of AFLP marker clusters. On the other hand, the lack of an obvious cluster on the right side showed that there were a few big gaps which need more markers to bridge. The correlation analysis showed a highly significant relatedness between the length of linkage group and the number of markers, indicating that the AFLP markers in this map were randomly distributed among different linkage groups. This study is helpful for research into the common carp genome and for further studies of genetics and marker-assisted breeding in this species.
【语种】英文

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【题目】植物生长调节剂在香梨滴灌上的应用研究
【中文关键词】滴灌;植物生长调节剂;香梨品质
【英文关键词】drip irrigation;plant growth hormone;quality of fragrant pear
【中文摘要】通过对库尔勒香梨进行叶面喷施多效唑和黄腐酸制剂,研究了两种植物生长调节剂对树体生长发育的抑制和促进作用,以及对果实品质影响,结果表明:多效唑与黄腐酸制剂混合叶面喷施,对香梨新梢伸长的抑制效应和香梨新梢横向生长的促进效应显著于单独喷施多效唑的效应,但对叶面积生长的抑制效应却小于单独喷施多效唑的效应。喷施黄腐酸制剂有助于叶片含水量和叶绿素含量的提高,在同一生长期,叶绿素含量与叶片含水量成正相关关系。多效唑与黄腐酸制剂混合喷施,更好地改善了果实品质,提高了果形指数。
【英文摘要】This paper studied the accelerate and inhibit effect of Korla fragrant pear growth and fruit quality through spray PP333 and yellow humic acid on leaf, the experimental results indicated that the inhibit and accelerate effect of branch strench and thicken through mixed spray PP333 and yellow humic acid on leaf superior to spry PP333 alone, but it contrast to the effect of leaf area growth. Yellow humic acid incrased the leaf water content and chloroptyll content and they positive correlation at same growth stage. Fruit quality well improved and fruit shape index increased through mixed spray PP333 and yellow humic acid on leaf.
【语种】中文
【第一作者】邓忠
【通讯作者】邓忠
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【学科分类】农学其他学科

【题目】不同栽培条件对膜下滴灌棉花叶面积指数及品质和产量的影响
【中文关键词】膜下滴灌;栽培条件;叶面积指数;纤维品质;棉花产量
【英文关键词】plastic mulching by drip irrigation;cultivation condition;LAI;fiber quality;
cotton Yield
【中文摘要】在不同的栽培条件下,对新疆库尔勒市膜下滴灌棉花生育期间叶面积指数动态变化和品质及产量进行了系统的研究。结果表明,棉花全生育期叶面积指数呈单峰曲线变化,峰值在盛铃期。通过深翻耕有机肥促进了叶面积指数和株高的增大,但缺少一定的化控等措施,造成后期植株的凸长,导致有效光合面积减小,产量有所下降。而在生育期随水滴施多效唑适当地降低了株高和减小了叶面积指数,优化了株型,在没有降低单铃重的情况下增加了铃数,产量分别较深翻耕和常规漫灌提高了5.5%和30.6%,衣分率达到了44.70%,增产效益显著。叶面喷施缩节胺和随水滴施多效唑在品质上具有互补效应。
【英文摘要】The dynamic change of cotton plastic mulching by drip irrigation LAI and quality and yield was studed under different cultivation conditions during growth in Korla city. The results showed that LAI of cotton changed as a curve and its peak emerged at fool-boll stage. LAI and height are increased through deep tillage fertilixation but because without chemistry control measures lead to plant rapidly growth in late stage and effective photosynthetic decreased so yield is decreased slightly. While height and LAI are decreased properly and the plant shape is optimized through drip paclobutrazol(PP333)follow water measures in growth stages, single boll weight is not decreased but boll number per plant is increased. Yield is increased 2.4%、5.5% and 30.6% compared with spraying DPC on leaf and deep tillage and conventional flood irrigation respectively, lint button percent comes to 44.70%..So the yield effect of drip paclobutrazol(PP333)follow water is superior to spraying DPC on leaf, but they have mutual complementary quality effect.
【语种】中文

【第一作者】邓 忠
【通讯作者】邓 忠
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【题目】大田地下滴灌土壤水分分布均匀度评价方法
【中文关键词】地下滴灌;土壤水分;大田;取样数目;均匀度
【英文关键词】subsurface drip irrigation; soil moisture; field; sampling number; uniformity
【中文摘要】灌水均匀度是评价灌水质量的一个重要指标,灌水后的土壤水分布均匀度是灌水均匀与否的最终体现,选择最佳的土壤水分取样点数是进行经济、准确评价灌水后土壤水分分布均匀度的基础。在新疆地下滴灌棉花田中,在灌水后2天土壤水分达到相对稳定后进行取样,实测田间土壤水分分布,抽样分析样本数与土壤水分分布特征及均匀度之间的关系。结果表明,随样本数的增加,对应的土壤水分布均匀系数(克里斯琴森均匀系数Cu)的变幅缩小,并向其均值位置集中。从样本数量上分析,样本数在15到60之间,其Cu的均值变化并不明显;Cu和配水均匀度(Du)之间存在较好的相关性,但用实测结果拟合得出的系数与相关手册的推荐值间存在一定的偏差,在互算时应加以考虑;在试验条件下,进行大田土壤水分监测评价时,均匀分布的取样点个数应不少于25个。采用均匀25点取样,对大田棉花地下滴灌的土壤水分分布均匀度进行了评价,结果表明,地下滴灌条件下,毛管附近的土层土壤含水量变幅最大;与上、下土层相比,灌水前毛管附近(20~40 cm)处的土壤水分均匀度较低,灌水后其均匀度大幅提高。
【英文摘要】Uniformity is one of the important indicators for the evaluation of irrigation quality. Selection of optimal sampling point is the base for economical and accurate evaluation of the irrigation quality. Soil moisture distribution for 120 points were measured in cotton field under subsurface drip irrigation in XinJiang Uygur Autonomous Region. Relations between sampling number and soil moisture distribution characteristics, and its uniformity of the selected sample were analyzed. The results show that the coefficient Cu of soil water distribution closed to its mean value with the increasing of samples number. From the quantitative analysis of samples, the mean of Cu did not significantly change as sample number increase from 15 to 60. There is a high relevance between Cu and the distribution uniformity (Du). But there is a certain deviation between the coefficients derived from the measured data and that recommended by the United States Department of Agriculture. And it should be taken into account when such formula is used. Under the condition of experiment, the desirable number of sampling points should more than 25 in field soil moisture monitoring and evaluation. Using uniform 25-point sampling method, soil water distribution uniformity of subsurface drip irrigation on cotton fields was evaluated. Results show that under the conditions of subsurface drip irrigation, compared with the upper and lower layers, soil moisture uniformity vicinity of drip line (20 ~ 40 cm) are lower before irrigation, even after irrigation it has a substantial increase. So in the layers near the drip line, soil moisture variation is the largest.
【语种】中文
【第一作者】宰松海
【通讯作者】仵峰
【期刊名称、卷期、页码】农业工程学报 2009年第25卷第12期 51-56
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【题目】纳米粒载体研究进展
【中文关键词】纳米粒载体;制备;应用;研究进展
【英文关键词】Nanoparticle carrier; Preparation; Application; Research progress
【中文摘要】摘要 目的:介绍纳米粒载体的制备、优点和应用进展,为纳米粒在新的领域的应用提供依据。方法:以纳米粒制备方法和基质材料的不断发展以及各个领域的应用为线索来综述。结果:纳米粒的制备方法有离子交换法、乳化法和自组装法,基质材料有蛋白质和多糖等,纳米粒本身无毒性,能增加所载物的溶解度和生物利用度,提高靶向性及效率,在抗肿瘤治疗、神经系统治疗和药物检测等多方面有广泛的应用。结论:纳米粒作为一种载体,在药物临床研究、药理研究和生物分析等方面都得到了广泛应用,并有可能开发为其他领域的运送体系,有广阔的应用前景

【英文摘要】ABSTRCT Objective:To recommend the application advances, advantages and preparation methods of Nan particles, so as to provide reference for further research on application in new fields. Methods:The summary was obtained in terms of analysis on the preparation methods, base materials and application. Results:The preparation methods of Nan particles were numerous, the base materials were various and advantages of nanoparticles were obvious. The preparation methods included ion exchange methods, the emulsification methods, the self-assembly methods. Protein and polysaccharides were the most commonly used base materials. Nanoparticle itself was not poisonous, but it can increase the dissolvability of the object that it carried, and enhance bioavailability, targeting property and efficiency. It has been widely used in many areas, such as anti-tumor therapy, nervous system therapy and drug resting. Conclusion: Nanoparticles as a kind of carrier has been widely used in drug clinical research, pharmacology research, bioassay and so on, showing a wide application prospect.
【语种】中文
【第一作者】高艳丽
【通讯作者】刘赛
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【学科分类】药理学

【题目】Tomato and cowpea evapotranspiration in an unheated greenhouse
【中文关键词】crop evapotranspiration; pan evaporation; unheated greenhouse; tomato; cowpea
【英文关键词】crop evapotranspiration; pan evaporation; unheated greenhouse; tomato; cowpea
【中文摘要】With the development of protected cultivation of vegetables in China, it is necessary to study thewater requirements of crops in greenhouses. Lysimeter experiments were carried out to investigate tomato(2001) and cowpea (2004) crop evapotranspiration (ETc) in an unheated greenhouse in Eastern China. Resultsshowed remarkably reduced crop evapotranspiration inside the greenhouse as compared with that outside. ETcincreased with the growth of the crops, and varied in accordance with the temperature inside the greenhouse and20-cm pan evaporation outside, reaching its maximum value at the stage when plants ’ growth was most active.Differences between the variation of crop evapotranspiration and pan evaporation inside the greenhouse werecaused by shading of the pan in the later period when the crops were taller than the location where the pan wasinstalled, 70 cm above ground. The ratio of crop evapotranspiration to pan evaporation was not constant asreported in previous studies, and the variation of the inside ratio α inlagged behind that of the outside ratio α out.Simulation of crop evapotranspiration based on 20-cm pan evaporation inside the greenhouse is morereasonable than that based on 20-cm pan evaporation outside, although pan evaporation outside is moreconsistent with ETcthan that inside. The value of α in, calculated based on air temperature, relative humidity, andground temperature inside, plays a dominant role in the calculation of ETc. As the crop height increases, alteringthe location of the inside pan and placing it above the canopy, out of the shade, would help to achieve morereasonable values of crop evapotranspiration.
【英文摘要】With the development of protected cultivation of vegetables in China, it is necessary to study thewater requirements of crops in greenhouses. Lysimeter experiments were carried out to investigate tomato(2001) and cowpea (2004) crop evapotranspiration (ETc) in an unheated greenhouse in Eastern China. Resultsshowed remarkably reduced crop evapotranspiration inside the greenhouse as compared with that outside. ETcincreased with the growth of the crops, and varied in accordance with the temperature inside the greenhouse and20-cm pan evaporation outside, reaching its maximum value at the stage when plants ’ growth was most active.Differences between the variation of crop evapotranspiration and pan evaporation inside the greenhouse werecaused by shading of the pan in the later period when the crops were taller than the location where the pan wasinstalled, 70 cm above ground. The ratio of crop evapotranspiration to pan evaporation was not constant asreported in previous studies, and the variation of the inside ratio α inlagged behind that of the outside ratio α out.Simulation of crop evapotranspiration based on 20-cm pan evaporation inside the greenhouse is morereasonable than that based on 20-cm pan evaporation outside, although pan evaporation outside is moreconsistent with ETcthan that inside. The value of α in, calculated based on air temperature, relative humidity, andground temperature inside, plays a dominant role in the calculation of ETc. As the crop height increases, alteringthe location of the inside pan and placing it above the canopy, out of the shade, would help to achieve morereasonable values of crop evapotranspiration.
【语种】英文
【第一作者】Xu Junzeng
【通讯作者】Peng Shizhang

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【学科分类】农业工程

【题目】Trade-Offs between the Metabolic Rate and Population Density of Plants
【中文关键词】Trade-Offs ; the Metabolic Rate ; Population Density of Plants
【英文关键词】Trade-Offs ; the Metabolic Rate ; Population Density of Plants
【中文摘要】The energetic equivalence rule, which is based on a combination of metabolic theory and the self-thinning rule, is one ofthe fundamental laws of nature. However, there is a progressively increasing body of evidence that scaling relationships ofmetabolic rate vs. body mass and population density vs. body mass are variable and deviate from their respectivetheoretical values of 3/4 and 23/4 or 22/3. These findings questioned the previous hypotheses of energetic equivalencerule in plants. Here we examined the allometric relationships between photosynthetic mass (Mp) or leaf mass (ML) vs. bodymass (b); population density vs. body mass (d); and leaf mass vs. population density, for desert shrubs, trees, and herbaceousplants, respectively. As expected, the allometric relationships for both photosynthetic mass (i.e. metabolic rate) andpopulation density varied with the environmental conditions. However, the ratio between the two exponents was 21 (i.e.b/d = 21) and followed the trade-off principle when local resources were limited. Our results demonstrate for the first timethat the energetic equivalence rule of plants is based on trade-offs between the variable metabolic rate and populationdensity rather than their constant allometric exponents.
【英文摘要】The energetic equivalence rule, which is based on a combination of metabolic theory and the self-thinning rule, is one ofthe fundamental laws of nature. However, there is a progressively increasing body of evidence that scaling relationships ofmetabolic rate vs. body mass and population density vs. body mass are variable and deviate from their respectivetheoretical values of 3/4 and 23/4 or 22/3. These findings questioned the previous hypotheses of energetic equivalencerule in plants. Here we examined the allometric relationships between photosynthetic mass (Mp) or leaf mass (ML) vs. bodymass (b); population density vs. body mass (d); and leaf mass vs. population density, for desert shrubs, trees, and herbaceousplants, respectively. As expected, the allometric relationships for both photosynthetic mass (i.e. metabolic rate) andpopulation density varied with the environmental conditions. However, the ratio between the two exponents was 21 (i.e.b/d = 21) and followed the trade-off principle when local resources were limited. Our results demonstrate for the first timethat the energetic equivalence rule of plants is based on trade-offs between the variable metabolic rate and populationdensity rather than their constant allometric exponents.
【语种】英文
【第一作者】Jian-Ming Deng
【通讯作者】Gen-Xuan Wang
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【学科分类】农业工程

【题目】Determinants of the geographical extent of invasive plants in China: effects of biogeographical origin, life cycle and time since introduction
【中文关键词】China Biogeographical origin Geographical distribution
【英文关键词】China Biogeographical origin Geographical distribution
【中文摘要】Plant invasions cause serious impacts to environment and human economy, andlots of researches have been paid to examine factors that determine the geographical extentof plant invaders. Many intrinsic species attributes, external environmental factors, andtime since introduction have all been proposed to explain invasive success. Data oninvasive plants distribution in province regions in China were collected, and speciesattributes and historical factors such as biogeographical origin, life cycle, and time sinceintroduction were determined. While some annuals may eventually occupy the wholecountry area, perennials are unlikely to do so, particularly those from Central and SouthAmerica. Time since introduction is significantly related to the number of provincesoccupied by an invader; nevertheless after control of certain residence time, annuals are notlikely to more provinces than the perennial herbs. High-impact invaders tend to spreadfaster than other invaders, but only when their life cycle is taken into account.

Thissuggests that other plant traits, instead of life cycle, along with extrinsic factors, greatlycontribute to invasive success and distribution area. Invasive plants in China are mainlydistributed in human-made habitats, and their long-distance dispersal is primarily associatedwith human activities. Future studies need to consider interactions between speciestraits, environmental conditions, and human activities for further insights in researchesalike.

【英文摘要】Plant invasions cause serious impacts to environment and human economy, andlots of researches have been paid to examine factors that determine the geographical extentof plant invaders. Many intrinsic species attributes, external environmental factors, andtime since introduction have all been proposed to explain invasive success. Data oninvasive plants distribution in province regions in China were collected, and speciesattributes and historical factors such as biogeographical origin, life cycle, and time sinceintroduction were determined. While some annuals may eventually occupy the wholecountry area, perennials are unlikely to do so, particularly those from Central and SouthAmerica. Time since introduction is significantly related to the number of provincesoccupied by an invader; nevertheless after control of certain residence time, annuals are notlikely to more provinces than the perennial herbs. High-impact invaders tend to spreadfaster than other invaders, but only when their life cycle is taken into account. Thissuggests that other plant traits, instead of life cycle, along with extrinsic factors, greatlycontribute to invasive success and distribution area. Invasive plants in China are mainlydistributed in human-made habitats, and their long-distance dispersal is primarily associatedwith human activities. Future studies need to consider interactions between speciestraits, environmental conditions, and human activities for further insights in researchesalike.

【语种】英文

【第一作者】Qiao Q. Huang
【通讯作者】G. X. Wang

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【学科分类】农业工程

【题目】Reproductive Allocation Patterns in Different Density Populations of Spring Wheat

【中文关键词】competition; density; reproductive allocation
【英文关键词】competition; density; reproductive allocation

【中文摘要】The effects of increased intraspecific competition on size hierarchies (size inequality) and reproductive allocation wereinvestigated in populations of the annual plant, spring wheat (Triticum aestivum). A series of densities (100, 300, 1 000,3 001 and

㉦ 꼝 뚯 嫻 듖 悶 貶 翰 욹 月 炼 紗 標 曇 誠 璫 从 髐 苒 姆 齶 蛨 삫 廈 삧 蛱 楑 盵 蛹 慳 椿 â 贙 摩 頊 쨌 쀭 ㈜ û 噓 琛 蠝 映 穢 츤 坍 숨 鐩 株 쏗 稞 穖 0 듡 僧 琵 렵 퀵 舷 렷 揣 硝 硝 뫔 툽 賁 所 穀 鉀 쉀 摧 剁 椰 船 驁 뉁 쩰 敏 纂 婂 牀 謝 멂 듗 ʙ ㈜ 毗 扁 褣 鈇 쉃 摠 剄 橄 船 驄 뉄 쩼 梅 籟 媩 À 쁨 À 梅 À 骾 À 了 À À 艙 À 淩 À 颇 À À 磬 À 塵 À 캈 À 溉 À 麉 À ∪ À 낊 À À 犋 À 昧 À 벎 À À 媎 À À 劃 À 迫 À 숡 À À À À 蔽 À 劓 À 楹 À 誓 À À 몓 À 튓 À À À À 羨 À 建 À À À 塽 À 炘 À 茫 栋 舀 섀 蜀 씀 屠 櫺 椋 锁 嫸 쁲 稕 밀 눊 댊 穭 洌 渌 潼 餟 숀 輀 樋 젌 줌 쨌 쫰 찌 촌 출 켌 큄 턄 툌 파 롼 臍 蔦 蠽 謙 플 헔 휌 蹍 醞 霏 飉
【英文摘要】The effects of increased intraspecific competition on size hierarchies (size inequality) and reproductive allocation wereinvestigated in populations of the annual plant, spring wheat (Triticum aestivum). A series of densities (100, 300, 1 000,3 000 and 10 000 plants/m2) along a gradient of competition intensity were designed in this experiment. The results showedthat average shoot biomass decreased with increased density. Reproductive allocation was negatively correlated to Ginicoefficient (R2 =0.927), which suggested that reproductive allocation is inclined to decrease as size inequality increases.These results suggest that both vegetative and reproductive structures were significantly affected by intensive competition.However, results also indicated that there were different relationships between plant size and reproductive allocationpattern in different densities. In the lowest density population, lacking competition (100 plants/m2), individual reproductiveallocation was size independent but, in high density populations (300, 1 000, 3 000 and 10 000 plants/m2), where competitionoccurred, individual reproductive allocation was size dependent: the small proportion of larger individuals were winnersin competition and got higher reproductive allocation (lower marginal reproductive allocation; MRA), and the largerproportion of smaller individuals were suppressed and got lower reproductive allocation (higher MRA). In conclusion,our results support the prediction that elevated intraspecific competition would result in higher levels of size inequalityand decreased reproductive allocation (with a negative relationship between them). However, deeper analysis indicatedthat these frequency- and size-dependent reproductive strategies were not evolutionarily stable strategies.

【语种】英文
【第一作者】Jing Liu
【通讯作者】Gen-Xuan Wang
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【题目】Identifying the most noxious invasive plants in China: role of geographical origin, life form and means of introduction
【中文关键词】China Geographical origin Impact Invasive plants Life form
【英文关键词】China Geographical origin Impact Invasive plants Life form
【中文摘要】In a heterogenous world, invasive plants often differ in noxiousness and natureof impacts, and there is a difference between strong and weak invaders. That knowingwhich invaders are most noxious and their nature of impacts is of great value to invasiveecology and management. Here we show that in China the most notorious invasive plantsare with a perennial life cycle, clonal growth ability and from the American continent.They often form monocultural populations in land and water, replacing almost all otherplants, and are mainly distributed in Central and South China. Following are some accidentallyintroduced annuals. Annuals from the American continent are often common,dominant or in monocultural populations in ruderal and agricultural habitats whereas thosefrom Eurasia are highly noxious only in agricultural habitats. Annuals are not restricted indistribution and could spread fast to all of the country. There are also two perennial grassesfrom Europe and Mediterranean area and four intentionally introduced annuals from SouthAmerica that were identified in this study. Factors that may account for these patternsinclude relatedness between invasives and natives, vegetative propagation, and plantstrategies. The invasive plants identified in this study have caused significant negativeimpacts to native biodiversity, environment, economics and agriculture, with differentgroups being different in their extent and nature of impacts.
【英文摘要】In a heterogenous world, invasive plants often differ in noxiousness and natureof impacts, and there is a difference between strong and weak invaders. That knowingwhich invaders are most noxious and their nature of impacts is of great value to invasiveecology and management. Here we show that in China the most notorious invasive plantsare with a perennial life cycle, clonal growth ability and from the American continent.They often form monocultural populations in land and water, replacing almost all

otherplants, and are mainly distributed in Central and South China. Following are some accidentallyintroduced annuals. Annuals from the American continent are often common,dominant or in monocultural populations in ruderal and agricultural habitats whereas thosefrom Eurasia are highly noxious only in agricultural habitats. Annuals are not restricted indistribution and could spread fast to all of the country. There are also two perennial grassesfrom Europe and Mediterranean area and four intentionally introduced annuals from SouthAmerica that were identified in this study. Factors that may account for these patternsinclude relatedness between invasives and natives, vegetative propagation, and plantstrategies. The invasive plants identified in this study have caused significant negativeimpacts to native biodiversity, environment, economics and agriculture, with differentgroups being different in their extent and nature of impacts.

【语种】英文
【第一作者】Qiao Q. Huang
【通讯作者】G. X. Wang
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【引文索引号】1002-6819(2009)-10-0045-05
【学科分类】农业工程

【题目】Plant height-crown radius and canopy coverage-density relationships determine aboveground biomass-density relationship in stressful environments
【中文关键词】abiotic stress; allometric growth;
aridity gradient; geometric model; self-thinning
【英文关键词】abiotic stress; allometric growth;
aridity gradient; geometric model; self-thinning
【中文摘要】Debate continues in theoretical ecology overwhether and why the scaling exponent ofbiomass – density (M – N) relationship variesalong environmental gradients. By developing anovel geometric model with assumptions ofallometric growth at the individual level andopen canopy at the stand level, we propose thatplant height – crown radius and canopy coverage – density relationships determine the above-groundM – N relationship in stressful environments.Results from field investigation along an aridity gradient (fromeasterntowesternChina) confirmedour model prediction and showed that the aboveground M – N scaling exponent increased withdrought stress. Therefore, the ‘ universal ’ scalingexponents (23/2 or 24/3) of the M – N relationshippredicted by previous models may not hold forabove-ground parts in stressful environments.
【英文摘要】Debate continues in theoretical ecology overwhether and why the scaling exponent ofbiomass – density (M – N) relationship variesalong environmental gradients. By developing anovel geometric model with assumptions ofallometric growth at the individual level andopen canopy at the stand level, we propose thatplant height – crown radius and canopy coverage – density relationships determine the above-groundM – N relationship in stressful environments.Results from field investigation along an aridity gradient (fromeasterntowesternChina) confirmedour model prediction and showed that the aboveground M – N scaling exponent increased withdrought stress. Therefore, the ‘ universal ’ scalingexponents (23/2 or 24/3) of the M – N relationshippredicted by previous models may not hold forabove-ground parts in stressful environments.
【语种】英文
【第一作者】Xinfeng Dai
【通讯作者】Genxuan Wang
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【学科分类】农业工程

【题目】Spatial Distribution of Leaf form and the Self-thinning Exponent are Affected by the Sensitivity of the Response to Abscisic acid in an Arabidopsis thaliana Population
【中文关键词】ABA, abscisic acicl, ,Arabidopsis, fractal dimel~sion, self-thinning rule spatial distribution of [CCI: folnl

【英文关键词】ABA, abscisic acicl, ,Arabidopsis, fractal dimel~sion, self-thinning rule spatial distribution of [CCI: folnl

【中文摘要】The s~patial distribution of leaves is related to the expone~t of the self-thinning relationship in plant populations. In this study,we evaluated the fractal dimension of rosette leaves of wild-type (WT) Arabidopsis thalia~a and of ar~ abscisic acid (ABA) - insensitive mutant (abi2-1) to lest a model of the spatial distribution of leaf form in an Ara~,idopsis population based on subdivisi,~n of a cube surrounding the leaf into uniform boxes and to investigate ABA's affect en this model of the leaf. The valuesof the self.thinning exponent were -1.31 and -1.45 for WT and abi2-1. The mean dimensicms of the box used to m~del thespatial distribution of leaf form, estimated using our model,, were 2.08 and 2.03, respe,(tively. By assuming that the boxdimension equals the fractal dimension within tlSe populations, the predicted seif-thinni~g exponent equaled -1.40 for WTand -,I .49 for abi2-~. When exogenous ABA was applied to both genotypes, the self-thinning exponent became -1.26 and -1.43for WT and abi2-1, and the exponents predicted using the dimensions of the box were .1.37 and -1.46, respectively~ Theempirically predicted exponent equaled that predided using the dimensions of the box (fl~% confidence interval). Empiricalpredictien of the spatial pattern using the two genotypes with and without ABA showed t|~at ABA influenced the spatial formof the rosette leaves. Therefore, sensitivity to ABA can affect self-thinning through geneticalll}, determined changes in leaf formand its spatial distribution.

【英文摘要】The s~patial distribution of leaves is related to the expone~t of the self-thinning relationship in plant populations. In this study,we evaluated the fractal dimension of rosette leaves of wild-type (WT) Arabidopsis thalia~a and of ar~ abscisic acid (ABA) - insensitive mutant (abi2-1) to lest a model of the spatial distribution of leaf form in an Ara~,idopsis population based on subdivisi,~n of a cube surrounding the leaf into uniform boxes and to investigate ABA's affect en this model of the leaf. The valuesof the self.thinning exponent were -1.31 and -1.45 for WT and abi2-1. The mean dimensicms of the box used to m~del thespatial distribution of leaf form, estimated using our model,, were 2.08 and 2.03, respe,(tively. By assuming that the boxdimension equals the fractal dimension within tlSe populations, the predicted seif-thinni~g exponent equaled -1.40 for WTand -,I .49 for abi2-~. When exogenous ABA was applied to both genotypes, the self-thinning exponent became -1.26 and -1.43for WT and abi2-1, and the exponents predicted using the dimensions of the box were .1.37 and -1.46, respectively~ Theempirically predicted exponent equaled that predided using the dimensions of the box (fl~% confidence interval). Empiricalpredictien of the spatial pattern using the two genotypes with and without ABA showed t|~at ABA influenced the spatial formof the rosette leaves. Therefore, sensitivity to ABA can affect self-thinning through geneticalll}, determined changes in leaf formand its spatial distribution.

【语种】英文

【第一作者】Yun Wang
【通讯作者】Gen-Xuan Wang

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【学科分类】农业工程

【题目】恒定水头井入渗Green-Ampt模型的改进与验证
【中文关键词】恒定水头井;模型;验证
【英文关键词】Constant-head well permeameter; Model; verification;

【中文摘要】在假定恒定水头井入渗近似为以井内积水表面积为入渗面的一维入渗基础上,用湿润体内平均体积含水率增量代替Green-Ampt活塞模型中的饱和含水率与初始含水率差值。用入渗率和累积入渗量倒数的线性关系间接推求Green-Ampt模型中的参数,用湿润锋平均基质吸力和土壤饱和导水率。从而建立了适用于恒定水头井入渗的Green-Ampt模型。同时根据体积等效原理,定义了三维入渗中难以直接测定的概化湿润锋深度。经3种类型土壤的室内试验检验,表明该模型具有较好的精度,能精确地计算不同累积入渗量时的湿润体体积。

【英文摘要】Based on the hypothesis that the parameter of three dimensional infiltration in constanthead well is similar to one dimensional infiltration,an improved Green-Ampt model,in which the ponded surface is adopted as the infiltration surfarce,is proposed.The increment of the average volumetric water content is used as the substitution for D-value between saturated water content and initial water content,and the linear relationship between infiltration rate and the reciprocal of cumulative infiltration water amount is used to calculate the average matric potential suction of the wetting front and general saturated hydraulic conductivity.In the meantime,the general wetting depth,which was difficult to measure directly in three dimensional infiltrations,was defined according to the volumetric equivalent principle.The precision of the model is verified by laboratory tests with three types of soil.This model can be used to calculate the soil wetted volume accurately according to the cumulative infiltration water amount.

【语种】中文
【第一作者】赵伟霞
【通讯作者】蔡焕杰
【期刊名称、卷期、页码】水利学报 ,2010,04:0464-0470
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【学科分类】农业工程

【题目】以水面蒸发量为参考推求土壤实际蒸发量的数学模型
【中文关键词】水面蒸发; 土壤实际蒸发; 土壤温度; 地表水循环;
【英文关键词】water surface evaporation; soil evaporation; soil temperature; surface water cycle;
【中文摘要】为了准确估算土壤在实际条件下的蒸发量,该文以水面蒸发量为参考,结合能量平衡方程及微气象学方法,推导计算土壤实际蒸发量的数学模型。结果表明所建模型所需参数为水面及蒸发土壤表面的日最高温度和日平均温度、水面日蒸发量、风速等。模型的验证结果表明计算的土壤蒸发量与实测蒸发量比较吻合(R2=0.90)。模型所引入的参考蒸发面使其避开了土壤蒸发复杂的物理本质,从而使得对土壤蒸发的计算变得简单易行。
【英文摘要】A mathematic model of soil evaporation based on water surface evaporation by using the method of energy balance equation and microclimatology was established to precisely estimate the soil evaporation.The results show the parameters such as the diurnal maximum and average temperature in the water surface and drying soil surface,diurnal water surface evaporation,and wind speed are involved in the model.The verified results of the model indicate that the theoretical values fit well with measured ones(R2=0.90).The complex physical process of soil evaporation is avoided in the model for the introduction of reference evaporation surface,which makes the soil evaporation be easy to be calculated.
【语种】中文
【第一作者】李红星
【通讯作者】蔡焕杰
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【引文索引号】1002-6819(2008)-3-0001-04
【学科分类】农业工程

【题目】日光温室西瓜产量影响因素通径分析及水分生产函数
【中文关键词】日光温室; 效率; 水分处理; 水分利用效率; 水分生产函数; 西瓜;
【英文关键词】greenhouse; efficiency; water treatments; water use efficiency; water production function; watermelon;
【中文摘要】该文以温室小型西瓜为试材,采用日光温室内E601型蒸发器蒸发量值控制灌溉水量,在西瓜的不同生育阶段设置4个灌水水平,研究不同生长阶段不同土壤水分条件对产量的影响,得出产量与水分之间的函数关系;以株高、茎粗、叶面积指数(LAI)、地上部干质量和根干质量为产量影响因素,通过通径分析方法,计算它们与产量之间的直接通径系数和间接通径系数。结果表明:温室西瓜在滴灌条件下总产量与总耗水量之间呈二次函数关系,最佳灌水量为107mm;水分敏感指数在果实膨大期最大,开花坐果期次之,苗期和成熟期水分敏感指数较低;产量与茎粗、LAI和根干质量之间的单相关系数均达到显著和极显著水平,而茎粗和根系干质量可作为评价小型西瓜高产的单个因素。
【英文摘要】With irrigation water amount controlled by E601 type evaporator,the authors studied the effects of different water supply conditions in different growth stages on water production function of mini-watermelon,and calculation directly path coefficient and indirectly path coefficient among plant height,stem diameter,leaf area index(LAI),shoot dry weight,root dry weight and yield by path analysis method.The experiments included four levers of water supply at different growing stages of mini-watermelon.The results indicated that the relationship between total yield and the total amount of water consumption was quadratic parabola,and the optimal irrigation amount was 107 mm.Water sensitivity index went down successively from fruit spreading growth stage,blossoming and bearing fruits stage,fruit maturing stage and seeding stage.The correlation coefficient between stem diameter and yield,LAI and root dry weight reached significant level and extremely significant level.The stem diameter and root dry weight can be used as evaluation indexes.
【语种】中文

【第一作者】郑健
【通讯作者】蔡焕杰
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【引文索引号】1002-6819(2009)-10-0030-05
【学科分类】农业工程

【题目】无压地下灌溉对番茄根系分布特征的调控效应
【中文关键词】无压地下灌溉; 调控; 根系; 番茄;
【英文关键词】non-pressure subirrigation; regulating effect; root distribution; tomato;
【中文摘要】为了制定合理的番茄无压地下灌溉制度,指导大田生产实践,利用2 a温室大棚无压地下灌溉技术的番茄种植试验,研究了番茄根系分布特性和地上部分生物量的调控效应。试验设计了12个处理和1个沟灌对照处理,在番茄各生育期和收获期取根样分析,并采用DPS分析软件对数据进行了显著性分析。结果表明,番茄不同生育期的根系密集层、根系体积和最长根变化受供水压力和灌水器埋深深度的影响。番茄的主根长度、根冠比、壮苗指数随着供水压力的增大而减少,而总生物量随着供水压力的增大而增加;根冠比、生物量和果实干质量占生物量的比例无压地下灌溉处理均大于沟灌处理,且差异显著。在番茄成熟期,果实中的干物质分配比例随着灌水器的埋深而增加,而茎和叶中的干物质分配比例呈下降趋势。
【英文摘要】Aims to provide for optimal irrigation scheduling of tomato and to guide field management practices in areas under non-pressure subirrigation(NPSI).Characteristics of tomato(Lycopersicon esculentum L.)root distribution and regulating effects of biomass of aerial part were studied with two years investigating in greenhouse experiments.The experiment comprised of twelve non-pressure subirrigation treatments and one furrow irrigation(FI)as the control.Root samplings for root length and biomass at different growth periods and at harvest were determined using ascanner and Delta-T software.The results showed that root dense layer,root volume and primary root at different growth periods were influenced significantly by the water supply pressure and buried depth of emitter.The primary root length, root-shoot ratio and seedling index decreased significantly with water supply pressure increased at different growth periods,but total biomass showed the opposite trend.The root-shoot ratio,biomass and proportion of fruit dry weight to biomass were significantly higher with non-pressure subirrigation than that with furrow irrigation.However,the distribution proportion of dry matter of fruits increased with increasing of buried depth of emitter at maturation period, and the distribution proportion of dry matter of leaves and stems showed the opposite trend.
【语种】中文
【第一作者】陈新明
【通讯作者】蔡焕杰
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【题目】不同覆盖度下盆栽小白菜蒸散与水分利用效率
【中文关键词】蒸散量; 吸水率; 作物; 覆盖度; 日均光照强度; 水分利用效率; 小白菜;
【英文关键词】evapotranspiration; water absorption; crops; coverage degree; average light intensity; water use efficiency(WUE); pakchoi;
【中文摘要】通过盆栽试验,研究了不同覆盖度条件下小白菜所处小环境的温湿度动态,以及作物蒸腾和盆栽基质蒸发的耗水规律。结果表明:植株生长点的温湿度随覆盖度的增大而增加。昼夜蒸散量随覆盖度的增大而减小,白天蒸散量变化显著,无覆盖处理白天蒸散量为最大,1/2圆覆盖处理仅次于无覆盖处理,15/16圆覆盖处理最小。小白菜从出苗到收获总的耗水量随覆盖度增大而减小,1/2圆覆盖、3/4圆覆盖、15/16圆覆盖处理的总耗水量分别为无覆盖处理的91.34%、69.03%和40.74%。无覆盖、1/2圆覆盖、3/4圆覆盖、15/16圆覆盖处理的地上部干物质质量的平均值分别为5.551、6.536、5.143、3.345g,其水分利用效率的平均值分别为1.53、1.97、2.05、2.25kg/m3。试验总结表明盆栽小白菜的水分利用效率随着覆盖度的增加而增加,15/16圆覆盖处理最高。

【英文摘要】Through pot experiment,dynamic changes of temperature and humity in micro-environment at growth period of pakechoi,and water consumption rules of crop transpiration and planting substrate evaporation were studied under different coverage degrees.The results showed that the air temperature and humidity increased with the coverage degrees increasing at growth point.During day and night,evapotranspiration decreased with increasing of coverage degrees.The variation of daytime evapotranspiration was significant,the order of evapotranspiration was the no-coverage treatment >1/2 coverage treatment >15/16 circle coverage.The total water consumptions tended to decrease with coverage degrees increasing during pakchoi growth period.Water consumption of 1/2 circle coverage,3/4 circle coverage,and 15/16 circle coverage were 91.34%,69.03% and 40.74% of the none coverage treatment,respectively.To none coverage,1/2 circle coverage,3/4 circle,and 15/16 circle,and their corresponding average dry weights of the aerial parts were 5.551,6.536,5.143,3.345 g,and their corresponding water use efficiency were 1.53,1.97,2.05,2.25 kg/m3.The above results indicated that the water use efficiency of pakchoi increased with the increasing of coverage degrees,the maximum value of water use effiieny appeared at 15/16 circle coverage treatment.
【语种】中文
【第一作者】李霞
【通讯作者】薛绪掌
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【题目】控制灌溉条件下寒区水稻茎秆抗倒伏力学评价及成因分析
【中文关键词】控制灌溉; 力学性质; 茎秆系数; 抗倒伏; 水稻茎秆;
【英文关键词】controlled irrigation; mechanical properties; stem coefficient; lodging resistance; rice stem;
【中文摘要】为了评价控制灌溉处理与常规灌溉处理下水稻抗倒伏能力的差异,寻求有利于水稻茎秆抗倒伏的灌溉处理方式,以水稻茎秆为研究对象,研究了不同灌溉条件下水稻茎秆抗倒伏性能。引入茎秆系数,对水稻茎秆进行力学分析,比较了2种控制灌溉和常规灌溉3种水分处理下水稻茎秆抗倒伏能力的差异。结果表明,控制灌溉(KI、KII)处理下的水稻节间充实度高于常规灌溉(CK),KI、KII处理的水稻茎秆壁厚分别比CK高出0.15mm和0.35mm;控制灌溉处理下的水稻茎秆系数显然低于常规灌溉处理,大小顺序为:CK>KI>KII;临界力的大小依次为:KII>KI>CK,因此控制灌溉处理的水稻茎秆更具抗倒伏性。
【英文摘要】In order to evaluate the differences of rice-stem lodging resistance between controlled irrigation and regular irrigation,and seek irrigation treatment which was beneficial to rice stem lodging resistance,rice-stem was taken as the research object,and the performance of rice-stem lodging resistance was studied under different irrigation treatments. Stem coefficient was introduced,and the mechanical analysis of rice-stem was carried out.The differences of lodging resistance ability under two kinds of controlled irrigations and one kind of regular irrigation were compared.The result showed that the values of internode plumpness of rice stem under controlled irrigations were bigger than that under regular irrigation,and the values of wall thickness of rice stem under KI and KII were much superior to that under regular irrigation by 0.15 mm and 0.35 mm.It also pointed out the values of rice stem coefficient under controlled irrigations were lower than that under regular irrigation,the order was CK>KI>KII,while the order of critical force was KII>KI>CK.Therefore,the rice stem under controlled irrigation is much better at lodging resistance.
【语种】中文
【第一作者】彭世彰
【通讯作者】彭世彰
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【学科分类】农业工程

【题目】节水灌溉条件下水稻气孔导度模型的改进
【中文关键词】节水灌溉; 气孔导度模型; 叶气温差; 水稻;

【英文关键词】water saving irrigation; stomatal conductance model; leaf-air temperature difference; rice;
【中文摘要】为了研究节水灌溉条件下水稻叶片气孔导度与相关因子的响应关系模型,于2006年在河海大学国家重点实验室昆山试验研究基地进行了田间试验。根据实测资料分析了水稻气孔导度与各影响因子的响应关系,引入了水稻叶片叶气温差改进了气孔导度模型,并对两类气孔导度改进模型进行了比较。结果表明:改进的气孔导度模型在节水灌溉条件下具有更高的模拟解释能力;基于Jarvis模型改进的气孔导度模型比Leuning-Ball改进模型具有更好的模拟效果。推荐Jarvis改进气孔导度模型作为节水灌溉条件下的水稻叶片气孔导度响应模型。 更多还原
【英文摘要】In order to investigate the response relation model of stomatal conductance of rice leaves and related factors under water saving irrigation treatment,the field experiment was conducted in Kunshan experimental station of the State Key Laboratory of Hohai University in 2006. According to the observed data,the response relation of different factors and stomatal conductance of rice was analyzed. Leaf-air temperature difference was introduced to improve the original models,and two types of representative models were compared as well. The results indicated that the improved model taken into account of leaf-air temperature difference under the water saving irrigation condition had superior interpretive simulation ability than the original one. The improved stomatal conductance model by Jarvis had better simulation results than the one improved by Leuning-Ball. The improved Jarvis stomatal conductance model is recommended under water saving irrigation treatment.
【语种】中文
【第一作者】彭世彰
【通讯作者】彭世彰
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【题目】基于支持向量回归机的参考作物腾发量实时预报模型
【中文关键词】蒸发蒸腾量; 学习算法; 预报; 支持向量机; 增噪处理; 泛化能力; 实时预报;
【英文关键词】evapotranspiration; learning algorithm; forecasting; support vector regression machines; by noise; generalizability; real-time forecasting;
【中文摘要】为了实现高精度的实时预报作物需水量,利用结构风险最小化准则的思想以及核函数的非线性变换把空间变换到高维寻求全局最优解的方法,以最高温度、最低温度、日平均温度、天气阴晴指数和风力等级为输入因子,建立基于支持向量回归机的参考作物腾发量实时预报模型。以江苏南京站2003至2005年的日气象资料进行模型训练和预测,并将各输入因子进行±20%增噪后建立的支持向量回归机模型与传统BP网络模型作为对照。结果表明,支持向量回归机实时预报模型不仅精度高(有效性指数87.93%,平均误差0.2609,合格率87.4%),较传统BP网络模型(有效性指数78.91%,平均误差0.3526,合格率76.8%)有更优的泛化能力,且泛化能力不会因为增噪处理而降低,有较强的适应性及参数可移植性。
【英文摘要】A support vector regression machines model for real-time forecasting of reference evapotranspiration was developed,based on the ideas of structural risk minimization of support vector machines,as well as the global optimum capacity via the nonlinear mapping to the high-dimensional space of the kernel function.The model input included maximum,minimum and average daily temperatures,weather index and wind scale.The observation data during the period from 2003 to 2005 at Nanjing,Jiangsu Province were used as training and validating data set.A support vector regression model and an add noised support vector regression model by noise were presented,and were compared with a BP neural network model.The results showed that the proposed model had high accuracy(effectiveness index is 87.93%,the average error is 0.2609,the passing rate is 87.4%),compared with the BP neural model(effectiveness index was 78.91%,the average error was 0.2609,the passing rate was 76.8%),it has superior generalization capacity,the generalization ability will not reduce by noise,it has a strong adaptability and portability parameters.
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【第一作者】彭世彰
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【题目】基于CERES-Maize模型的华北平原春玉米生产潜力的估算与分析
【中文关键词】CERES-Maize; 春玉米; 华北平原; 产量潜力; 播期;
【英文关键词】CERES-Maize; spring maize; North China Plain; potential productivity; sowing date;
【中文摘要】在对DSSAT4.0中CERES-Maize模型进行参数校正和验证的基础上,进一步利用华北地区具有代表性的10个气象站30年(1976~2005年)的气象资料以及华北地区典型的土壤数据展开模拟。结果表明,在一年一季的生产条件下,华北平原各地区玉米多年平均光温生产潜力为13.53~22.56t/hm2;各地区玉米产量在4月下旬至6月中旬的播期范围内均呈随播期的延迟而增加的趋势,对这一趋势和各气象指标进行相关分析表明,在华北北部主要驱动因子是灌浆期平均日辐射量,而华北中南部主要驱动因子是灌浆期的温度。华北平原自北向南,优化播期呈逐渐推迟的趋势:北部怀来地区5月上旬播种较为适宜,北京、乐亭和天津地区以5月下旬至6月初播种产量最高;中南部以6月中上旬播种(夏播)较适宜。 更多还原
【英文摘要】A field experiment with three nitrogen managements was conducted from 2005 to 2006 in Beijing Dongbeiwang experimental station to calibrate CERES-Maize model in DSSAT 4.0. Another two field experiments regarding irrigation amounts and sowing dates were conducted in 2006 to validate CERES-Maize model. After model validation, normal maize production and photothermal potential productivity were simulated by using 30 years weather data from 10 weather stations in the North China Plain (NCP). The results show that average photothermal potential productivity is in the range of 13.53 to 22.56 t/hm2 in the NCP under the condition of one crop one year. Maize photothermal potential yield increased by delaying sowing date in range of the end of April to middle of June, and the main driving factor of this trend was average daily radiation during grain filling stage in the north NCP, while that in the south and middle NCP was on daily temperature condition. There was a delaying trend about optimized sowing dates from north to south in the NCP. In the north NCP, optimized sowing date was around early May in Huailai region (40.23 oN Latitude), while it was late May in region of Beijing, Tianjin and Laoting (39.05oN~39.48oN Latitude). And in the south and middle NCP (35.34 oN~38.20 oN Latitude), maize sowed in early June could reach the maximum yield.
【语种】中文
【第一作者】戴明宏
【通讯作者】王璞
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【题目】日光温室内光合有效辐射基本特征分析
【中文关键词】温室; 光合有效辐射; 水面蒸发; 光合速率; 利用率;
【英文关键词】Greenhouse; Photosynthetic active radiation; Water surface evaporation; Photosynthetic rate; Utilization ration;
【中文摘要】基于日光温室内观测的辐射资料,对光合有效辐射特征及对作物的影响进行研究分析。结果表明:温室内日光合有效辐射累计值与日水面蒸发量呈较好的线性关系,相关系数为0.797 4;日光温室内作物光合速率随光合有效辐射上升到一定程度后,将不随光合有效辐射的增加而增加;叶片细胞液质量分数与光合有效辐射日变化均呈单峰型曲线,叶片细胞液质量分数相对于光合有效辐射有明显的滞后现象;日光温室内冬、春季晴天及阴天的太阳总辐射Q和光合有效辐射(PAR)日变化均为单峰型曲线,晴天和阴天太阳总辐射和光合有效辐射日变化趋势一致,阴天比晴天小;2007年秋季和2008年春季日光温室内小型西瓜的光合有效辐射利用率分别为6.38%和6.31%,高于大田作物的光合有效辐射利用率值。 更多还原
【英文摘要】The characteristics and effects of photosynthetic active radiation(PAR) on crops were analyzed on the basis of the observed radiation data from greenhouse.The results showed that a linear relationship between PAR and water surface evaporation exists,with the correlation coefficient of 0.797 4.The photosynthesis rate(Pn) increases with the PAR increasing,but when the PAR reached a certain number,the photosynthesis rate stopped increasing.The cell sap concentration of leaf(CSC) shows a single peak curve with the PAR,but has a certain delay phenomenon relative to the PAR.The daily variation trends of the total solar radiation(Q) and PAR presents a single peak curve in sunny day or overcast day during winter or spring,Furthermore,the values in sunny day are higher than in overcast day.The utilization ratio of PAR for mini-watermelon in the autumn of 2007 and the spring of 2008 are 6.38% and 6.31% respectively,above the result of field crop.
【语种】中文
【第一作者】郑健

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【题目】加权马尔可夫模型在区域干旱指标预测中的应用
【中文关键词】参考作物腾发量; 降雨量; 干旱指数; 加权马尔可夫链; 预测;
【英文关键词】reference evapotranspiration; annual rainfall; drought index; weighted Markov chain; prediction;
【中文摘要】利用资料序列的均方差建立干旱指数的分级标准,针对干旱指数为相依随机变量的特点,采取以规范化的各阶自相关系数为权重,应用加权马尔可夫链模型来预测和分析未来的状态.以南京市1959-2004年共46年的干旱指数为实例对该方法进行了具体应用,取得较为满意的结果,为干旱指数γ的预测分析提供了新的途径. 更多还原
【英文摘要】The drought index is an important indicator of regional drought condition.The standard deviation of information series was applied to set up the classification of drought index.Since the drought index is dependent random variables,Weighted Markov chain was introduced to predict the future drought index, weighted by the standardized self-coefficients.Drought index of Nanjing City from the year 1959 to 2004 were a specific application with this method and satisfactory results were obtained.Therefore the weighted Markov method provides a new way to predict future drought condition.
【语种】中文
【第一作者】彭世彰
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【题目】污水灌溉后土壤重金属汞和砷积累变化规律及对番茄的影响
【中文关键词】污水灌溉; 重金属; 积累; 番茄;
【英文关键词】Sewage irrigation; Heavy metal; Accumulation; Tomato;
【中文摘要】污水灌溉对土壤、作物的影响日益受到人们的关注。通过日光温室内的污水滴灌试验,分析了污水灌溉后重金属Hg、As在土壤中的集聚分布规律和污水灌溉对番茄生长、产量与品质的影响,同时探讨了在番茄果实中的残留状况。结果表明,污水灌溉后重金属Hg、As在不同土层集聚差异较大,Hg、As在根区10~30 cm土层出现了富集现象,且二者具有很好的相关性,说明土壤受灌溉外源污染影响较大;污水灌溉对番茄的果实产量和品质有一定的影响,与清水处理相比番茄的产量减少7.68%,果实中的可溶性固形物提高了46.2%、VC含量增加76.76%,酸度和可溶性总糖含量基本持平,蛋白质降低了55.84%;番茄果实检测表明,与清水处理相比,Hg的残留量增加了28%,As增加了112%,但含量均未超标。 更多还原
【英文摘要】Sewage irrigation has been paid more attention due to its adverse effects on soil and crops.An experiment was carried out in a greenhouse equipped with a drip irrigation system to investigate the distribution patterns of heavy metals(Hg and As) and tomato development,yield and fruit quality under sewage irrigation.Results showed that significant spatial variation of heavy metal contents was observed in soil profiles.Hg and As were enriched in the 10~30 cm layer,showing close correlation between them,which indicated that the soil environment was seriously affected by external pollutants.Generally,sewage irrigation influenced growth of tomato fruits and its quality,as shown by a lower growth rate,7.68% lower yield,46.2% higher soluble solid content,76.76% higher Vc content,55.84% lower protein content and similar contents of the acidity and total soluble sugar than with freshwater irrigation.Sewage irrigation also increased Hg content by 28% and As by 112%,but not above the food safety criteria.
【语种】中文
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【题目】节水栽培冬小麦光合器官遮光对籽粒蛋白质形成的影响
【中文关键词】冬小麦; 遮光; 粒重; 蛋白质及其组分;
【英文关键词】Winter wheat; Darkening photosynthetic organ; Grain weight; Protein and its components;
【中文摘要】为明确冬小麦光合器官与籽粒蛋白质形成的关系,通过大田试验和遮光的方法,研究了节水栽培条件下冬小麦石家庄8号不同光合器官对籽粒粒重、蛋白质及其组分含量的影响。结果表明,节水栽培条件下,穗遮光对粒重的降低效应最大,旗叶遮光次之,倒二叶遮光降低粒重的效应最小,且三者的降低效应均不同程度地受施氮量的影响。与不遮光相比,光合器官遮光增加了籽粒蛋白质含量,而降低了单穗蛋白质总量,遮光的调节效应也因器官和施氮水平而有差异。与不遮光相比,光合器官遮光增加了籽粒清蛋白、球蛋白含量,降低了麦谷蛋白含量,而穗遮光降低了籽粒醇溶蛋白含量,旗叶和倒二叶遮光增加了醇溶蛋白含量。可见,不同光合器官对籽粒蛋白质及其组分含量的影响是不同的。
【英文摘要】Many papers have reported that nitrogen fertilizer has significant effect on photosynthetic rate,the metabolism of C and N in leaf and non-leaf organ of winter wheat and nitrogen fertilizer or other factors may improve the nutrition quality and processing quality of grain.In order to define the relationship between grain protein development and photosynthetic organ,the effect of different organ on grain weight,concentration and components of protein of Shijiazhuang 8(a winter wheat cultivar with high yield) was investigated with the technique of darkening under water-saving cultivation.It indicated that negative effect of darkening ear on grain weight was higher than that of darkening flag leaf and the second leaf,and the negative effect of darkening different photosynthetic organ was affected by rate of nitrogen application under water-saving cultivation.Compared with no darkening,the protein concentration of grain increased but the protein content of ear decreased with darkening photosynthetic organs,and the effect was different at different nitrogen application rates.The concentration of albumin and globulin of grain increased and that of glutenin reduced while darkening photosynthetic organs.The concentration of gliadin of grain increased with darkening ear and decreased with darkening flag leaf or the second leaf.It was obvious that darkening different photosynthetic organs had different effect on grain weight and grain protein under water-saving cultivation.
【语种】中文
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【题目】调亏灌溉对温室小型西瓜水分利用效率及品质的影响
【中文关键词】调亏灌溉; 小型西瓜; 水分利用效率; 果实品质;
【英文关键词】regulated deficit irrigation; mini-watermelon; water use efficiency; fruit quality;
【中文摘要】以小型西瓜为试材,在日光温室内采用E601型蒸发器蒸发量值控制灌溉水量,在西瓜的不同生育阶段水分设置3个调亏水平。研究表明:在整个生育阶段,土壤含水率呈下降趋势,在果实膨大期低水分处理对植株的生长发育构成了严重的水分胁迫;不同生育阶段调亏处理,光合日变化及单叶水分利用效率变化趋势相同,低水分处理使气孔阻力增大,CO2扩散受阻,光合速率最低,但单叶水分利用效率最高;苗期采用低水分处理在一定程度上刺激了根系的生长,减少了植物的营养生长,有利于开花坐果期复水后植株的加速生长,而在果实膨大期和果实成熟期采用低水分处理不利于其产量和品质的形成。果实膨大期采用低水量的2个处理(0.5Ep)比对照处理(1.0Ep)可溶性总糖含量分别提高了19.68%和17.79%,但产量仅分别为对照的76.72%和72.43%。说明调亏灌溉能够调整作物营养生长与生殖生长的关系,减少作物生长冗余,调节光合产物在根冠间的分配,同时有利于改善果实品质、提高作物水分利用效率。 更多还原
【英文摘要】With controlled irrigation water by E-601 type evaporator,experiment included three levels of water supply at different growing stages of mini-watermelon in greenhouse was carried out.The results indicated that the soil water content declined gradually during the whole growing period.The serious water deficit(0.5Ep) had a great influence on plant growth during fruit spreading growth stage.Diurnal changes of photosynthesis rate and leaf water use efficiency were similar under regulated deficit irrigation at different growing stages of tested mini-watermelon.The soil water content was reduced,stomata resistance and leaf diffusion resistance

increased,leaf photosynthesis rate was the lowest because of hindered CO2 diffusion,but leaf water use efficiency reached the highest under low water content treatment.The serious water deficit in seedling stage was propitious to promote root growth and accelerate plant growth in blossoming and bearing fruit stage,but serious water deficit during fruit spreading stage and fruit maturing stage will decrease yield and quality of fruit.The total sugar in the two serious water deficit treatments increased 19.68% and 19.79% compared to control,but their yield reduced 23.28% and 27.57% respectively.The results indicated that the regulated deficit irrigation could regulate the distribution of photosynthesis products and ratio between root and shoot,and balance the relationship between vegetative and reproductive growing of plant.

【语种】中文

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【学科分类】农业工程

【题目】供水吸力对温室黄瓜产量与水分利用效率的影响

【中文关键词】黄瓜; 负水头控水; 产量; 水分利用效率; 光合速率;

【英文关键词】cucumber; negative pressure water control; yield; water use efficiency; photosynthetic rate;

【中文摘要】【目的】研究不同供水吸力即不同土壤水分对温室黄瓜(CucumissativusL.)生长发育的影响,确定黄瓜不同生育期对水分的需求,为温室黄瓜灌溉决策提供理论依据。【方法】采用负水头供水控水盆栽装置,通过设定装置不同的供水吸力(WST)来持续稳定控制不同的土壤含水率,分析各供水吸力处理的黄瓜叶片光合、产量与水分利用效率的差异。【结果】负水头供水控水盆栽装置能通过调节供水吸力持续稳定控制土壤不同含水率;黄瓜植株在3—5kPa供水吸力范围内产量与商品瓜率最高,叶片净光合速率、干物质积累量也较高;3—13kPa处理范围内的黄瓜水分利用效率差异不明显,最高为7kPa处理的36.57,1kPa处理的黄瓜水分利用效率最低,与其它处理差异显著,表明对黄瓜各生育期进行分期水分调控才能显著提高水分利用效率;试验结果还表明,黄瓜随着生育进程需水量越来越大,供水不足会导致生长点枯死而停止生长,影响黄瓜产量与商品瓜率,黄瓜采收后期适当加大水分供应可以增加采收后期产量。【结论】3—5kPa的供水吸力较适合温室黄瓜的生长,此时土壤相对含水量为67%—81%;适当降低黄瓜苗期土壤水分、控制花期土壤水分和增加结果期土壤水分能进一步提高产量与水分利用效率。

【英文摘要】【Objective】 The effects of different water supply tension(WST) that is different soil moisture on the growth and development of greenhouse cucumber (Cucumis sativus L.) were studied. The demand of water at different growth stages of greenhouse cucumber was determined to provide a theoretical basis for the irrigation decision-making. 【Method】 A negative pressure water supplying and controlling pot device was used to control different soil water contents by setting the WST of the device at different values. The differences in photosynthetic rate,yield and water use efficiency(WUE) of cucumber under different WST were analyzed. 【Result】 The results showed that the negative pressure water supplying and controlling pot device can maintain soil water content in a enactment state by setting the WST. The leaf photosynthetic rate,biomass accumulation as well as yield and marketable fruit rate of cucumber were much higher at 3-5 kPa WST treatments,the highest WUE 36.57 appeared in WST of 7 kPa and a significant lower WUE was observed in WST of 1 kPa,differences in WUE for other 6 WST were not significant. The result shows that WUE can only by improved by control water supply at different growth stages of cucumber. The result also indicates that the water demand increase with the growing process. The growth will be restricted and yield will be reduced with the shortage of water supply,increase the yield at terminal fruiting stage can be obtained by increasing soil water content at fruiting stage of cucumber. 【Conclusion】 The above results indicate that the range of WST from 3-5 kPa are more suitable for greenhouse cucumbergrowth when the relative soil water content ranges from 67% to 81%. Reduce water supply at seedling stage,control water supply at flowering stage and increase water supply at fruiting stage of cucumber can increase yield and WUE.

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【学科分类】农业工程

【题目】无压灌溉日光温室番茄作物-皿系数研究
【中文关键词】无压灌溉; 作物—皿系数; 产量; 品质; 灌溉水利用效率;
【英文关键词】non-pressure irrigation; crop-pan coefficient; yield; quality; irrigation water use efficiency;
【中文摘要】以-25 kPa作为土壤水势临界值,将作物—皿系数(Kcp)设为0.2,0.4,0.6,0.8,1.0,1.2六个处理,研究了不同灌溉水量时的番茄产量、品质和灌溉水利用效率。通过经济效益评价,研究了杨凌地区无压灌溉温室番茄获得最高经济效益时的作物—皿系数。通过张力计读数变化规律,研究了利用张力计测量无压灌溉湿润体内土壤水势的特点。研究结果表明,Kcp为0.2~0.8时,灌溉水量的增加对番茄产量影响不大;Kcp为1.0~1.2时,灌溉水量的增加能显著提高番茄产量和果实大小;Kcp为0.2时的灌溉水量能极显著提高番茄的灌溉水利用效率。在综合考虑了杨凌地区水价、番茄使用目的和市场价格波动规律后,Kcp取值1.2能获得最高的经济效益。作物—皿系数法计算灌溉水量时的滞后性特点和张力计埋设位置,是判断利用张力计监测土壤水势临界值方法有效性的两个重要因素。 更多还原
【英文摘要】Crop-pan coefficientis the ratio between crop water consumption and pan evaporation.Using-25 kPa as the soil water potential threshold,and designing six treatments for crop-pan coefficient Kcp=0.2,0.4,0.6,0.8,1.0,1.2,study was made on tomato yield,quality and irrigation water use efficiency under different irrigation water amount.The crop-pan coefficient which acquired highest economic effectiveness was studied through the economic effectiveness analysis,while the measurement character of soil water potential using tensiometers was studied through the tensiometer reading.The results indicated that when Kcp values was from 0.2 to 0.8,the irrigation water amount had no influence on tomato yield,but when Kcp values was from 1.0 to 1.2,the irrigation water amount had significant effect on tomato yield.When Kcp value was 0.2,the irrigation water use efficiency was improved significantly.After considering water price,tomato using aim and market price in Yangling district,there was the highest economic effectiveness when Kcp was 1.2.The hysteresis quality of irrigation water amount calculation using crop-pan coefficient and the buried position of tensiometer were main factors to estimate the validity of tensiometer measuring the soil water potential threshold.
【语种】中文
【第一作者】赵伟霞
【通讯作者】蔡焕杰
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【题目】榆林市参考作物蒸发蒸腾量随时间序列变化的规律
【中文关键词】榆林市; FAO-Penman-Monteith公式; 参考作物蒸发蒸腾量; 时间序列;
【英文关键词】Yulin; FAO-Penman-Monteith method; reference crop evaporation; time series;
【中文摘要】根据选取的榆林市5个代表气象站1985~2006年22年的气象资料,应用FAO-Penman-Monteith公式计算了各站历年各月的参考作物蒸发蒸腾量(ETo),并分析了ETo随时间序列变化的规律。结果表明:榆林市5个代表站5、67、月份的ETo之和占全年的比例最大;各代表站的ETo主要在1996年以后随时间呈极显著增加趋势,在1985~1996年,定边、横山的ETo随时间呈极显著减少的趋势,绥德、榆阳、神木的ETo随时间呈极显著增加的趋势,但是增加的趋势线斜率均小于1996年以后的趋势线斜率;榆林市的ETo与平均气温、日照时数、风速呈极显著的正相关,与相对湿度呈极显著的负相关;ETo与最高气温呈显著正相关,与最低气温除了定边站呈极显著正相关外,与其它各站均呈极显著负相关;平均气温是影响榆林市ETo变化的主要气象因子。
【英文摘要】According to 22-year weather data from 1985 to 2006 from five selective weather stations in Yulin,FAO-Penman-Monteith method was adopted to calculate the monthly reference crop evaporation(ETo) in every station,and to analyze the law of ETo ′s variation with time series.It can be drawn that the sum of ETo in May,June and July in the five stations accounted for the largest proportion of the whole year.After 1996,the ETo in every station showed a trend of increase,which was very significant.From 1985 to 1996,the ETo in Dingbian and Hengshan stations showed a significant decreasing trend with time;and the ETo in Suide,Yuyang and Shenmu stations showed a significant increasing trend,however,the slope of the increase trend line was less than the slop of trend line after 1996.In Yulin,the ETo had a significant positive correlation with the average temperature,sunshine hours and wind speed,while the relative humidity had a significant negative correlation.ETo and high temperature were in positive correlation;Apart from Dingbian,in

other stations the minimum temperature had a significant negative correlation with ETo.The average temperature is the main reason for ETo ′s change in Yulin from 1985 to 2006. 更多
【语种】中文
【第一作者】赵璐
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【学科分类】农业工程

【题目】基于CROPWAT模型的非充分灌溉研究
【中文关键词】非充分灌溉; CROPWAT模型; 模拟;
【英文关键词】deficit irrigation; CROPWAT model; simulation;
【中文摘要】为验证FAO的CROPWAT模型在非充分灌溉中的适用性和精确性,将民勤棉花和春小麦非充分灌溉的试验方案及当地气象资料输入模型,分析CROPWAT模型在模拟作物蒸发蒸腾量和非充分灌溉对产量影响的模拟效果。结果显示,棉花各生育期日平均蒸发蒸腾量的模拟值和实测值表现出相同的分布规律,但模拟值整体高于实测值0.15~1 mm;模拟非充分灌溉对棉花和春小麦产量的影响时,模拟值和实测值显示出一致的变化规律,将结果进行统计分析,棉花和春小麦的RMSE、EF、CRM分别为20.62%和10.35%、0.98和0.856、-0.00051和-0.0155,说明CROPWAT模型总体模拟效果较好,但模型的执行值较实测值偏高。模拟结果表明,模型在非充分灌溉的研究中有着较好的适用性,但为了使模拟结果更准确,使用前需根据当地实测资料对Kc、Ky等参数进行校正。
【英文摘要】In order to verify the applicability and accuracy of FAO CROPWAT model in deficit irrigation study,both the deficit irrigation experimental scheme of cotton and spring wheat and the local meteorological data were input into the model.Then,analysis was made of the simulation effect of the application of CROPWAT model study in crop evapotranspiration and the impact of deficit irrigation on crop yield.The results showed that the simulated values and measured values of cotton ′s daily evapotranspiration showed the same distribution regulation,but the simulated values were 0.15~1 mm higher than the measured ones as a whole;the simulation of the impact of deficit irrigation on cotton and spring wheat yield indicated that the simulated values and measured values showed the same tendency,and the statistical analysis of the results showed that the RMSE、EF and CRM of cotton and spring wheat were 20.62% and 10.35%;0.98 and 0.856;-0.00051 and-0.0155 respectively,it meant that the simulated effect of CROPWAT model was preferably well,but the stimulated values were higher than measured values in general.Simulation results show that the model is applicable in deficit irrigation study,however,in order to obtain more accurate simulation results,it is necessary to correct the Kc and Ky parameters before using the model.
【语种】中文
【第一作者】孙世坤
【通讯作者】蔡焕杰
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【题目】小麦花后土壤水分状况与籽粒灌浆过程关系分析
【中文关键词】冬小麦; 灌浆速率; 土壤水分; 产量;
【英文关键词】winter wheat; grain filling rate; soil moisture; yield;
【中文摘要】于2005~2006年在大田高产条件下研究了冬小麦水分运筹对籽粒灌浆过程及产量的效应,并重点分析了不同灌浆时段土壤水分状况与籽粒灌浆过程的关系。结果表明,花后0~14 d 土壤含水量偏高抑制该时段粒重的增加,品种间反应一致;花后14~28 d 石麦12品种对土壤水分需求旺盛,高土壤水分含量显著促进其灌浆速率的增高;石新733此时段对土壤水分适宜范围广;28d 至成熟适中的土壤水分对后期粒重增加有利水分过高严重抑制后期粒重的增加,品种间反应相似;灌浆水虽促进了石麦12灌水后14d内的灌浆速率,却抑制了其花后28d至成熟阶段的粒重增长,最终粒重和产量呈下降趋势。灌浆水对石新733灌后14d内灌浆速率促进作用微弱,但是却促进了其花后28d至成熟阶段的籽粒灌浆,最终千粒重和产量均

较高。初步总结了不同灌浆时段对小麦籽粒灌浆适宜的0-100cm土壤水分含量范围指标。
【英文摘要】The effcets of irrigation management on grain filling and yield were annalyzed in field study in 2005~2006 for high-yielding winter wheat, focusing on the relations between grain developing course and concurrent soil moisure status. The results showed that high soil moisure hindered grain growth during 0~14 days after anthesis. The two cultivars investigated responded similarly. During 14~28d, the cultivar SM12 required sufficient water supply for greater grain filling rate. However, the cultivar SX733 was relatively insensitive to variations in soil water conditions. At late grain filling stage between 28d and maturity, intermediate soil moisture facilitated grain-filling in both cultivars. Irrigation at 15~17d promoted greatly the grain filling rate within 14d after irrigation in SM12, but decreased significantly that of 28d to maturity, which resulted in decrease in final grain weight and yield. In contrast, irrigation at mid grain filling stage had little effect on SX733 within 14d after irrigation, but increased that of 28d to maturity, leading to higher grain weight and yield. Soil water moisture ranges favorable for grain filling at various grain filling periods were proposed based on the above results.
【语种】中文
【第一作者】贾秀领
【通讯作者】马瑞昆
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【题目】污水灌溉对番茄生理特性及土壤环境的影响
【中文关键词】污水灌溉; 番茄; 春茬; 秋茬;
【英文关键词】sewage irrigation; tomato; plant in spring; plant in autumn;
【中文摘要】采用日光温室研究了污水灌溉对番茄的生长发育、产量及品质的影响,探讨了Hg和As在表层土壤和番茄果实中的积累。结果表明,污水灌溉能显著促进番茄植株生物量的增加。随着时间的推移,番茄根系的密集层和根系体积有逐渐加深加大的趋势。番茄果实中各品质指标间存在显著差异,生育后期,可溶性总糖含量均比前期高。污水灌溉后土壤中Hg和As含量在不同土层差异较大,其累积顺序为As>Hg。污水灌溉条件下土壤中Hg和As含量都大于清水灌区,但污灌后果实中没有出现重金属显著偏高的现象,而且番茄果实对As吸收的选择性高于Hg。 更多还原
【英文摘要】Greenhouse was used to study the effect of sewage irrigation on growth and development,yield and quality of potato.And the accumulation of Hg and As in surface soil and tomato fruit.It showed that plant biomass of potato was increased by sewage irrigation.And root dense layer became deeper and root volume became bigger with time going.There are significant differences between every quality indexes of potato fruit.The total soluble sugar content is higher in later growing stage than earlier stage.There is greater difference between the content of Hg and As in different soil layer after sewage irrigation,and the order is As>Hg.The content of Hg and As in soil by sewage irrigation is greater than clean water treatment.But the content of heavy metal did not increase remarkably in potato fruit after sewage irrigation.The selective absorption of potato fruit to As is higher than Hg. 更多
【语种】中文
【第一作者】吕谋超
【通讯作者】吕谋超
【期刊名称、卷期、页码】灌溉排水学报,2007,26(6):26-29
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【题目】沙漠边缘地区春小麦前期调亏灌溉试验研究
【中文关键词】春小麦; 调亏灌溉; 灌水时间; 灌水定额; SAS;
【英文关键词】spring wheat; regulated deficit irrigation; water consumption; water use efficiency;
【中文摘要】依据2004年试验资料,采用SAS统计分析软件,研究了在不同灌水量、灌水时间处理下,春小麦生长前期生长状况、干物质积累、最终产量及其组成、春小麦田的耗水量和水分利用率。结果显示:分蘖拔节期适当减少灌水量并推迟灌水时间,能抑制春小麦地上部分的生长,促进根系生长,减少总耗水量,提高水分利用率。

【英文摘要】Based on the data getting from field experiment in 2004,the SAS software is used to analyses the growth of plants and root,yield and its composition,water consumption and water use efficiency under different quantity of irrigation water and irrigation time in prophase.Results show that the growth of plants is limited,growth of root is enhanced,water consumption is reduced,water use efficiency increase apparently,yield has little reduce when reducing irrigation water and detaining irrigation time properly.
【语种】中文
【第一作者】孟毅
【通讯作者】蔡焕杰
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【学科分类】农业工程

【题目】遮光、密闭环境对番茄植株蒸腾的影响
【中文关键词】番茄; 茎流; 蒸腾速率; 环境因子; 气孔导度;
【英文关键词】tomato; sap flow; transpiration rate; environmental factors; stomatal conductance;
【中文摘要】在茎热平衡技术测定植株茎流的原理基础上,结合温室内气象数据采集仪器,通过对小温室做遮光、密闭处理,探讨番茄茎流的变化规律。结果表明,密闭温室处理后晴天番茄茎流变化趋势不变,但白天茎流明显减小,此时影响茎流的环境参数除光照外,温室内的大气温度、空气相对湿度以及CO2浓度等都不能忽略。人为改变光照,使茎流随之发生改变,变化规律与光照强度的变化规律相似,所不同的是茎流变化曲线稍稍滞后于光照的变化曲线;茎流随光照的降低而逐渐减小,在时间上有一个延迟。当白天遮光变温室为"黑暗"状态时,茎流缓慢减小,但此时茎流却远远大于夜晚茎流,而且白天温室内"黑暗"状态处理的不同时间段茎流减小的快慢是不一样的。 更多还原
【英文摘要】On the basis of the stem heat balance principle to measure the plant transpiration,with the instruments to collect meteorological data in greenhouse,we studied the variation rules of tomato sap flow under different environmental treatments through shading and obturating environment.The results showed the trend of tomato sunny sap flow was invariable in the obturated greenhouse,but sap flow was obviously diminished.Besides illuminance,temperature,humidity and CO2 concentration were necessary environmental parameters to affect tomato sap flow in greenhouse.Under the treatment of changing illuminance artificially,transpiration rate was changed with illuminance changed,they had similar rules.But the sap flow curve was lagged to the illuminance curve,sap flow was gradually diminished following the illuminance reduced,and had a time delay.When the greenhouse became dark in the daytime,sap flow was gradually diminished,but sap flow value was far bigger than sap flow value at night.When the greenhouse was in the dark in the different time section,the diminished speed of tomato sap flow was different. 更多
【语种】中文
【第一作者】李霞
【通讯作者】薛绪掌
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【题目】苗期土壤水分亏缺后玉米光合生理的恢复
【中文关键词】玉米; 土壤水分亏缺; 光合生理; 恢复;
【英文关键词】Maize; Water deficit of soil; Photosynthetic physiological; Recovery;
【中文摘要】通过模拟土壤水分亏缺试验,研究了玉米在土壤水分亏缺后光合生理的恢复机制。结果表明:不同处理玉米光合生理在复水后30 d内均可以恢复正常生长。轻度亏缺处理玉米叶片气孔导度和蒸腾强度在复水后0~10 d可恢复正常,光合速率和胞间CO2浓度在复水后10~20 d恢复正常,但叶绿素荧光参数(Fv/Fm、Fv/Fo、qP、qN)和叶片光合色素含量的恢复相对较为缓慢。重度水分亏缺处理玉米光合生理指标恢复滞后于轻度亏缺处理。轻度亏缺处理复水后玉米净光合速率的恢复主要受气孔因素影响,重度水分亏缺处理玉米净光合速率的恢复在复水0~10 d主要受非气孔因素影响,复水10 d后主要受气孔因素影响。

【英文摘要】A pot experiment was conducted to study the recovery mechanism of maize photosynthetic after water deficit during seedling stage.The results indicated that,maize leaves in different water deficit treatments could restore to normal growth within 30 d after re-water.Under mild water deficit,10 days was need to restore to normal stomatal conductance(Gs)and transpiration rate(Tr),20 days was need to restore to normal net photosynthetic rate(Pn)and intercellular CO2 concentration(Ci),longer duration was need to restore to normal chlorophyll fluorescence parameters of PS II (Fv/Fm,Fv/Fo,qP,qN)and photosynthetic pigment content.The recovery of different physiological indexesunder serious water deficit waslogged behind that under mild water deficit.Under mild water stress,the recovery of net photosynthetic rate mainly depends on stomatal factors.Under serious water deficit,the recovery of net photosynthetic rate mainly depends on non-stomatal factors within 10 days after re-water,while 10 days later stomatal factors still became main determinants.
【语种】中文
【第一作者】梁哲军
【通讯作者】王璞
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【题目】水分运筹对不同冬小麦品种旗叶叶绿素含量的影响
【中文关键词】冬小麦; 土壤水分; 叶绿素含量;
【英文关键词】Winter wheat; Soil moisture; Chlorophyll content;
【中文摘要】在大田高产条件下,研究了水分运筹对6个冬小麦品种花后旗叶叶绿素含量的影响。结果表明,0~1 m土层较低的土壤水分(40%<RSWC<60%)对花后0~14 d旗叶叶绿素影响较小,但加速灌浆后期叶绿素降解;持续过高的土壤水分(RSWC>70%)(春季灌4水处理)降低多数品种灌浆中期旗叶叶绿素含量和Chla/b,叶绿素含量峰值提前,延缓灌浆后期叶绿素降解;适宜的土壤水分(60%<RSWC<70%)有利于花后旗叶叶绿素含量始终维持较高水平。石新733、石新703、石麦15、和石麦12旗叶叶绿素含量对灌水的反应较敏感,冀5579和石家庄8号不敏感。不同灌水处理之间花后旗叶叶绿素含量均值与籽粒产量相关性不显著,但花后28 d旗叶叶绿素含量与籽粒产量相关性较强。 更多还原
【英文摘要】The effects of irrigation management on chlorophyll(Chl)content of flag leaf were analyzed in a field study for six high-yielding winter wheat cultivars.The results showed that soil water deficit(0-100 cm,RSWC 40%-60%)had little effect on Chl content of flag leaf during 0-14 d after anthesis,but accelerated Chl degradation at late grain filling stage.RSWC higher than 70% of the 4-time-irrigation decreased Chl content and Chla/b,and slowed the degradation rate of Chl,which treatment resulted in earlier Chl content peak compared with the other treatments.RSWC range of 60%-70% was favorable for higher Chl content.Cultivars of SX733,SX703,SM15 and SM12 were sensitive to irrigation in terns of Chl content,but JM5579 and SJZ8 responded reversely.No significant correlation was found between mean post-anthesis Chl content of flag leaves and grain yield among different irrigation treatments.Stronger positive correlation relations were,however,revealed between 28 d Chl content of flag leaves and grain yield.
【语种】中文
【第一作者】姚艳荣
【通讯作者】马瑞昆
【期刊名称、卷期、页码】华北农学报,2008,23(4):135-139
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【学科分类】农业工程

【题目】不同冬小麦品种籽粒灌浆特性参数对供水的反应
【中文关键词】冬小麦品种; 灌水; 灌浆特性;
【英文关键词】Winter wheat cultivar; Irrigation; Grain-filling parameter;
【中文摘要】以8个冬小麦品种为材料,在不同的供水条件下,研究了冬小麦籽粒灌浆特性参数对供水的反应。结果表明,不同的灌水处理下籽粒千粒重差异显著,旱区和灌2水的节水区的籽粒最大灌浆速率、平均灌浆速率和灌浆中期灌浆速率等均高于灌4水区,从而千粒重高于灌4水区。不同品种籽粒灌浆的不同特性参数对供水反应不同,但灌浆阶段的前期、中期

和后期粒重积累量的比例大体一致,约为0.21,0.61和0.18。说明参试品种的前中后期籽粒积累与灌水无直接关系。 更多还原

【英文摘要】Responses of grain-filling parameters to irrigations of 8 winter wheat cultivars were studied.The results indicated that grain weight was significantly different among irrigations.The maximum grain-filling rate(Rmax),mean grain-filling rate(Rmean),and grain-filling rate of metaphase of treatments of no irrigation and water-saving with only two irrigations given were obviously higher than that of four irrigation treatment,leading to higher final grain weight than four irrigation treatment.Different grain-filling parameters of different cultivars responded differently to water regimes.However,the proportion of cumulated amount in grain during prophase,metaphase and anaphase was about 0.21,0.61 and 0.18 for all irrigation treatments,revealing there was no direct relation of periodical proportion of grain filling to water supply for the cultivars used.

【语种】中文

【第一作者】赵洪亮

【通讯作者】马瑞昆

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【学科分类】农业工程

【题目】不同冬小麦品种的立体叶片失水速率差异及对供水的反应

【中文关键词】冬小麦; 品种; 离体叶片失水速率; 灌水; 生育时期;

【英文关键词】Winter wheat; Cultivars; Excised-leaf water loss rate; Irrigation; Development stages;

【中文摘要】较低的离体叶片失水速率(RWL)与抗旱性有关已经得到很多研究者的认同。选取8个冬小麦品种为试材,设置干旱(0水)、节水(2水)和足水(4水)的水分条件,研究不同冬小麦品种对供水条件的反应和生育时期的RWL变化特征。结果表明:不同品种间的RWL差异不显著。RWL随着灌水次数的增加而增高。0水处理的衡7228 RWL最低,冀5579和石麦16也较低。2水处理的石麦16最低,石麦14和冀5579也较低。4水处理下,石新618的RWL最低,石麦14和衡7228较低,综合3种灌水结果,石麦16、冀5579和石麦14抗旱节水性较好。RWL随着生育进程而变化,拔节期较低,逐渐增加,至抽穗期达到峰值,此后明显下降,直至成熟。前期控水对降低小麦离体叶片失水速率,提高抗旱节水性有利。 更多还原

【英文摘要】It is accepted that low excised-leaf water loss rate(RWL) is related to drought resistence.Responses and characteristics of RWL to water regimes of 8 winter wheat cultivars at different growth stages were studied under conditions of drought(no irrigation),water-saving(2 irrigations) and well water(4 irrigations).The results showed that there was no remakable difference in RWL among cultivars.RWL of Heng7228 showed best under drought,also Ji5579 and Shimai16.The lowest RWL was Shimai16 for 2 irrigation treatment followed by Ji5579 and Shimai14.Under 4 irrigation,RWL of Shixin618 was lowest,and Shimai14 and Heng7228 was followed.Thus,Shimai 16,Ji5579 and Shimai14 performed good water saving by lower RWL under irrigation condition.RWL was lower at jointing stage of winter wheat,reached highest at heading stage,and then fell sharply until maturity.It was profitable to bring down RWL of wheat by early water stress to raise traits of drought resistance and water saving of winter wheat

【语种】中文

【第一作者】赵洪亮

【通讯作者】马瑞昆

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【引文索引号】1000- 7091(2009) 06- 0153- 05

【学科分类】农业工程

【题目】2种熟型玉米子粒灌浆特性及其与产量关系的比较研究

【中文关键词】玉米; 产量; 灌浆速率; 籽粒水分;

【英文关键词】Maize; Yield; Grain filling rate; Grain water;

【中文摘要】为了明确不同熟型玉米籽粒灌浆特性及其对产量的影响,比较研究了中晚熟品种农大108和中早熟品种石玉7号籽粒灌浆动态与产量表现,并对籽粒灌浆特性与籽粒水分的关系进行了分析。结果表明,石玉7号与农大108产量差异显著,百粒重是两品种产量差异的主要原因;石玉7号具有籽粒发育速度快、体积大等特点,前中期(0~45d)灌浆速率始终快于

农大108,生育后期(45 d以后)急剧下降。农大108后期灌浆速率则下降缓慢。籽粒发育速度快,灌浆盛期灌浆速度快、强度大是石玉7号百粒重高的主要原因;籽粒水分状况与籽粒灌浆速率关系密切。回归分析表明,籽粒含水百分率在59.47%左右时,石玉7号灌浆速率达到最大值,为9.28 mg/(粒.d);农大108则在57.92%左右时,灌浆速率达到最大值,为8.23 mg/(粒.d)。当籽粒含水百分率下降到某一临界值时,籽粒灌浆停止。两品种收获时,籽粒含水百分率尚远在籽粒灌浆终止临界值以上。

【英文摘要】A field experiment was conducted at Wuqiao research station of china agricultural university in 2006.The relationship between characteristics of grain filling and yield of two types of maturity in maize was studied;moreover,the relationship between characteristics of grain filling and grain water was further analyses.The main results were as fallows.In comparison with the hybrid cv.Nongda108,yield of the hybrid cv Shiyu7 was higher and significant at 0.05 level.100-kernel weight was the reason of the different yield.In comparison with Nongda108,it was found that Shiyu7 had faster grain development,higher grain filling rate.Grain filling rate of Shiyu7 was higher than Nongda108 in 45 da after pollination,later it was declining faster and becoming lower than that of Nongda108.The faster grain development and the higher grain filling rate is the reason of the larger 100-kernel weight of Shiyu7.There are close corrections between percentage of grain water and grain filling rate.By regression analysis it was known that when the percentage of grain water of Shiyu7 reached about 59.47%,its grain filling rate reached the maximum(9.28 mg(/kernel.d));but for Nongda108 it was about 57.92%,the maximum value was 8.23 mg/(kernel.d).The biomass accumulation stopped when the percentage of grain water decreased to a critical value,but the percentage of grain water was still far above the critical value at harvest for the two hybrid cultivars.

【语种】中文

【第一作者】冯汉宇

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【引文索引类型】其他

【引文索引号】1000- 7091(2007) 增刊- 0135- 05

【学科分类】农业工程

【题目】ET_0的主因子和主成分神经网络模型比较

【中文关键词】ET0;主成分分析;偏相关分析;神经网络

【英文关键词】principal component analysis; partial correlation analysis; neural network

【中文摘要】为了简化BP神经网络预测ET0的模型,将气象因子包括最高、最低和日平均温度、日照时数、相对湿度和风速进行主成分分析和偏相关分析,提取主成分和主因子,分别建立了基于主成分和主因子的三层BP神经网络模型,并对两种模型的训练和预测结果进行比较。选取湟水流域的乐都气象站2003年到2006年5月逐日的气象资料,采用Matlab神经网络工具箱进行模型训练与预测。结果表明主成分神经网络训练和预测模型的精度都优于主因子神经网络模型。主要是由于两种模型选取输入层的因子不同造成的。

【英文摘要】In order to simplify neural network model for the prediction ofET0, principal component analysis and partial correlation a-nalysis are applied to the weather data, including the maximum, minimum and average daily temperature, sunshine, relative humid-ity and wind velocity. And a three-layer BP(back-propagation)neural network model is constructed based on the principal componentsand principal factors, respectively. The training and prediction results are compared. Based on daily meteorological dates of Mayfrom 2003 to 2006 in LeDu Station in Huang river basin, the two models were trained and predicted with Matlab neural network too-lbox. The results show that the principa-l component-based BP network model is superior to the principa-l factor-based BP networkmodel in the training and prediction ofET0.The main reason is the different factors of input layer in two models.

【语种】中文

【第一作者】赵 璐

【通讯作者】蔡焕杰

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【论文发表时间】2008-07-27 00:00:00

【引文索引类型】其他

【引文索引号】1007 4929(2010) 03　　0023　　03

【学科分类】农业工程

【题目】土壤水分胁迫下冬小麦籽粒灌浆特性的研究
【中文关键词】水分胁迫;冬小麦;灌浆特性
【英文关键词】water stress; winter wheat; grain filling characteristic
【中文摘要】利用2008-2009年度田间小区冬小麦灌溉试验资料,研究了不同水分胁迫程度、不同水分胁迫时期对冬小麦籽粒灌浆进程以及籽粒产量的影响。研究结果表明:在不同水分调控条件下,冬小麦籽粒灌浆规律符合“慢-快-慢”的“S”型生长曲线,可以用Logistic曲线拟合;且水分调控对籽粒灌浆参数有不同程度地影响,进而对粒重有重大影响。随着水分胁迫的加剧,冬小麦灌浆起步时间愈早,达到峰值的时间愈快。而在孕穗、抽穗和灌浆期任一期内缺水处理都会缩短小麦灌浆持续时间,减少穗粒数,也降低粒重,最终影响产量。因此在冬小麦拔节期可允许轻度的水分胁迫,而灌浆期则应尽量避免任何程度的水分胁迫。
【英文摘要】Through using experimental data of grain filling of winter wheat planted in field plot in 2008 to 2009, the effects of different degree and period of water stress on the grain filling process of winter wheat and grain yield were studied. The results indicatedthat the grain filling regulation accorded with “S” type of growth curve of “slow-fast-slow” under the conditions of different watercontrol, which could be simulated by Logistic curve; water controlling brings different effect on grouting parameter, and has greateffect on grain weight. The less water, the earlier the winter wheat filling commence ,the quicker the filling reach peak value. In thebooting, heading and filling stage, to deal with any water shortage during the grain filling of wheat will not only shorten the durationand reduce the number of grains per spike, but also reduce the weight, and ultimately affect the output. Therefore, mild water stresscan be allowed in the jointing stage of winter wheat, but any degree of water stress should be avoided in grain-filling stage.
【语种】中文
【第一作者】刘培
【通讯作者】蔡焕杰
【期刊名称、卷期、页码】节水灌溉,2010,1:1-4
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【学科分类】农业工程

【题目】日光温室负压自动灌溉下番茄蒸腾规律研究
【中文关键词】负压;自动灌溉;茎流;番茄;蒸腾速率
【英文关键词】negative pressure; automatic irrigation; stem-flow; tomato; transpiration rate
【中文摘要】针对农业生产中蔬菜栽培灌溉费水费时的现状,采用一种自制负压自动灌溉系统,将供水压力设定在负值,利用土壤自动吸水的特性,达到自动灌溉和节水的效果。在此系统灌溉下采用茎热平衡技术测定番茄植株的茎流规律,分析了茎流变化规律与环境因子之间的关系,同时分析了番茄植株不同部位茎流差异以及剪叶对番茄植株茎流的影响。结果表明,在设定灌溉系统负压为60 hPa下,温室土壤含水量基本控制在阴天20.19%、晴天18.75%左右;茎流数据表明番茄植株蒸腾与太阳辐射值呈显著正相关,适当遮阴降温可以减少植株蒸腾。实验也进一步证明了叶片是植株蒸腾的主要器官,植株底层叶片蒸腾速率相对较微弱。
【英文摘要】Aiming at the problem of wasting water and time in the vegetable irrigation, an automatic negative pressure irrigation sys-tem, in which the water-supply pressure was set at negative pressure and the effect of automatic irrigation and water-saving was a-chieved based on the characteristic of auto-water-absorbing of soil, was designed in this paper. Under the irrigation of this system,the stem-flow law of tomato plant was measured through the stem heat balance technology, the relationship between stem-flow andenvironment factors, the difference of stem-flow in different stem section, and the influence of leaf-cutting on stem-flow of tomatoplant were analyzed. The results showed that the soil water content value was controlled at about 20.19% in cloudy weather and 18.75% in sunny weather when the negative pressure was set at 60hPa. The stem-flow data showed that the transpiration had signif-icant positive correlation to the solar radiation values and proper shading could reduce the transpiration of tomato plant. The exper-iment result also further proved that leaves were the main transpiration place of the plant and the transpiration of bottom leaves of theplant was relatively weak.
【语种】中文
【第一作者】李邵
【通讯作者】李邵

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【学科分类】农业工程

【题目】不同覆盖度下盆栽苋菜蒸腾规律的研究
【中文关键词】苋菜;覆盖度;蒸腾量;白天平均光照;干物质;水分利用效率
【英文关键词】amaranth; coverage degree; transpiration; daily mean illumination; dry matter; water use efficiency (WUE)
【中文摘要】通过盆栽试验,研究了不同覆盖度下苋菜所处小环境的温湿度变化以及苋菜的蒸腾耗水规律。结果表明:植株生长点的温湿度随覆盖度的增大而增加,蒸腾速率和昼夜蒸腾量随覆盖度的增大而减小。通过逐步回归分析,给出了不同覆盖处理下盆栽苋菜的蒸腾速率、白天蒸腾量与气象因子的相关关系。不同覆盖处理对温室盆栽苋菜的根冠比、叶绿素相对含量、蒸腾耗水量、干物质积累量以及水分利用效率均有极显著的影响,除了水分利用效率随覆盖度的增大而增加,其他均随覆盖度的增加而减小。15/16圆覆盖、3/4圆覆盖、1/2圆覆盖、无圆覆盖处理的蒸腾耗水量分别为对照处理的32.65%、54.64%、63.36%和69.98%。可见密封一部分空间,抑制了植株蒸腾耗水,同时也提高了水分利用效率,为设施农业水资源的节约利用提供依据。
【英文摘要】Through pot experiment, change rule of air temperature and humidity at growth point of amaranth and its transpiration ruleunder different surface coverage degree are studied in this paper. The results show that the air temperature and humidity increasewith the increase of the coverage degree, while the transpiration rate and quantity decrease with the increase of the coverage degree.The correlation among transpiration rate, daytime transpiration quantity and meteorological parameters under different surface cover-age degree is obtained through stepwise regression analysis. The effects of different surface coverage degree on root-top ratio, chlo-rophyll content, transpiration consumption, dry matter accumulation and water use efficiency of potted amaranth are extremely sig-nificant. Except that water use efficiency increases with the increase of the coverage degree, others all decrease with the increase ofthe coverage degree. Transpiration quantity of 15/16 circle coverage, 3/4 circle coverage, 1/2 circle coverage and non-circle coveragetreatment are 32.65%, 54.64%, 63.36% and 69.98% of the comparison treatment, respectively. It is indicated that transpirationcan be bated and water use efficiency can be enhanced at the same time through sealing the part of space. This study will provide abasis for the water-saving of facilities agriculture.
【语种】中文
【第一作者】李 霞
【通讯作者】薛绪掌
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【学科分类】农业工程

【题目】不同水肥模式的水稻叶面积修正系数试验研究
【中文关键词】水稻;叶面积修正系数;控制灌溉;控释肥;实地施肥;叶片长宽比
【英文关键词】paddy rice; leaf area correction coefficient; controlled irrigation; controlled-release fertilizer; site-specific nutrient man-agement; blade aspect ratio
【中文摘要】叶面积修正系数直接决定着长宽修正系数法测量叶面积的精确程度。为探讨水肥模式对水稻叶面积修正系数的影响,基于水稻实测叶面积及叶片长、宽数据计算叶面积修正系数,并分析其变化规律。结果表明,各处理生育前期水稻叶面积修正系数接近或超过经验值0.75,中期较小,抽穗开花期略有上升并稳定至0.7左右。常规灌溉处理上层叶片叶面积修正系数较控制灌溉大,叶片更加细长。不同肥料处理中,控释肥处理叶面积修正系数普遍偏低;常规肥及实地肥处理在生育前期可以采用经验值进行叶面积计算;抽穗开花及以后各生育期,各处理均可采用相同的叶面积修正系数;生育中期各处理叶面积修正系数较低。
【英文摘要】The leaf area correcting coefficient is the key parameter of the length-width method for rice leaf area measurement. Theleaf area correcting coefficients were calculated based on the measurement of rice leaf area, leaf length and width to explore the im-pact of water and fertilizer management for them. The upper leaf area correction coefficients of controlled irrigation managementswere lower than the ones of the traditional irrigation. Correcting coefficients went down with the continuation of the growth period.They

were focused on 0.7 at the heading and flowering stage, lower than the accustomed 0.75. Correcting coefficients of controlled-release fertilizer management were lower than the others. The accustomed correcting coefficients(0.75) could be used in the pro-phase of rice for the farmers ′ fertilization and site-specific nutrient management. In the heading and flowering stage ,the same correc-ting coefficients could be used to calculate the rice leaf area for different managements. The correcting coefficients were the lowest inthe middle term of the rice growth-period.

【语种】中文
【第一作者】韩金旭
【通讯作者】彭世彰
【期刊名称、卷期、页码】节水灌溉,2009,12:5-7
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【学科分类】农业工程

【题目】调亏灌溉下小麦产量与品质协调统一的可能性分析
【中文关键词】调亏灌溉;籽粒产量;小麦品质;协调统一
【英文关键词】Regulated deficit irrigation;Grain yield;Wheat quality;Harmony
【中文摘要】调亏灌溉在影响产量的同时,也会对收获物的品质产生影响。笔者在讨论小麦品质及形成规律的基础上,重点分析调亏灌溉情况下小麦籽粒产量和品质的协调统一,实现小麦稳产(甚至高产)、优质的可能性,并提出了相应的土壤水分管理措施。
【英文摘要】The regulated deficit irrigation canaffectbothwheatgrainyieldand quality.Inthisarticle,basedonthe discussionaboutthewheatgrainqua-lity and its formationpattern,the possibilityofthewheatgrainyield and quality improvement,and constantproduction(evenhighyield) andhigh qualitys-imultaneously under regulated deficit irrigationwas analyzed,and the correspondingmanagementmeasures of soil water conditionwere given.
【语种】中文
【第一作者】柴红敏
【通讯作者】蔡焕杰
【期刊名称、卷期、页码】安徽农业科学,Journal ofAnhui Agri. Sci.2008,36(12):4915-4917
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【学科分类】农业工程

【题目】亏缺灌溉中土壤含水量的试验控制
【中文关键词】亏缺灌溉;土壤含水量;试验控制
【英文关键词】Deficit irrigation; Soil water; Experimental control
【中文摘要】[目的]分析不同亏缺灌溉中保持土壤含水量方法的优劣,为亏缺灌溉提供理论依据。[方法]收集亏缺灌溉常用的试验方法,分析它们的适用条件。[结果]垂直土柱吸渗法是根据土壤水吸力是随高度变化来控制土壤水分含量。分层供水法在保证水分均匀分布的同时,也遇到了土壤通气、封层的泄漏问题,以及根系的不均匀分布的问题等。薄层土壤种植箱法可把土壤维持在低于田间持水量的恒定水势条件下。氯化钠、硝酸钾、蔗糖和甘露糖醇等溶质可以模拟水分胁迫。聚乙二醇是最好溶质。表面灌水法采用的方式主要有不同灌水定额法和推迟灌溉法,现在后者利用较多。[结论]在亏缺灌溉中,应根据不同的试验目的与条件,选择适宜的灌溉方法。
【英文摘要】[Objective]Thestudywastoanalyzethegoodandbadofthemethodtokeepingsoilwatercontent indifferentdeficit irrigationandprovidethethe-oretical basis for deficit irrigation. [Method] The usual experimentmethods of deficit irrigationwere collected and their applicable conditionswere analyzed.[Result] The suctionandosmoticmethodbyvertical soil column capillary could control soilwater contentbythevariationofsoilmoisture suction changedwiththe height. The layered supplyingwatermethod could guarantee the uniformdistribution ofwater, while it alsomet the questions such as soil aeration, sealcoat leakage and the inhomogeneous distribution of root.Themethod of thin layer soil plantingbox could sustained the soil at the stablewater potential lowerthan field capacity.The solute such asNaCl, KNO3, sucrose andmannitol could simulate thewater stress.The polyethylene glycolwas the best solute.Themainsurface irrigationmethods usually usedwere 2 types such as different irrigation quota method and delaying irrigation

method. Nowthe latter was usedmore. [Conclusion] In deficit irrigation, it should select optimum irrigationmethod by the aimand conditions of different experiments.

【语种】中文
【第一作者】柴红敏
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【期刊名称、卷期、页码】安徽农业科学,Journal ofAnhui Agri.Sci.2008,36(34):15081-15082
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【学科分类】农业工程

【题目】不同小麦品种产量构成和水分利用效率差异分析
【中文关键词】小麦;品种;灌水;产量和产量构成;水分利用效率
【英文关键词】Wheat; Cultivars; Irrigation; Yield and components; Wateruse efficiency
【中文摘要】为了筛选节水高产小麦品种,试验采用随机区组设计,对8个小麦品种的水分利用效率、产量及其构成进行了比较。结果表明:灌水对穗粒数影响差异不显著;而千粒重,灌2水处理显著高于灌1水处理,灌3水较灌2水略有下降但差异不显著。品种间穗粒数差异较大,且千粒重差异明显。品种间产量和水分利用效率差异显著,其中以冀5265的产量和水分利用效率最高。随灌水次数增加,产量显著提高而水分利用效率显著降低。综合认为,冀5265为广适性节水高产品种,石家庄8为较强节水品种,石新616为中度节水品种。
【英文摘要】In order to selecthigh yielding andwater-savingwheatcultivars, an expermi entby randomized designwas car-ried out to study genotypic variation onwateruse efficiency (WUE), yield and its componentsbyusing eightwheatcult-ivars · The resultshowed that irrigation had no significanteffecton totalgrain numberperhectare, but the grainweightof2irrigation treatmentwas remarkably higher than 1 irrigation, and that of 3 irrigation was lowered a little than 2 irriga-tion · More variations in grain numberperhectare and grainweightexisted among cultivars · Therewas significantdifferenceofyield andWUE among varieties, with Ji5265 the highest in yield andWUE · On the overallaverage, with increased ir-rigation yield increased, whileWUE declined · In conclusion, Ji5265 waswater saving and high yield withwide-adapta-tion to irrigation, ShijiazhuangNO · 8 was betterwater-saving one, and Shixin 616 wasmoderatewater-saving one ·
【语种】中文
【第一作者】张丽华
【通讯作者】马瑞昆
【期刊名称、卷期、页码】河北农业科学, 2008, 12 (1): 1-3
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【引文索引号】1008-1631 (2008) 01-0001-03
【学科分类】农业工程

【题目】冬小麦辣椒间套作对光合有效辐射和地温的影响
【中文关键词】间套作; 冬小麦; 辣椒; 光合有效辐射; 地温
【英文关键词】int ercro pping; w inter w heat; pepper; photo synthet ically activ e radiatio n; soil temper ature
【中文摘要】种植模式影响到农作物生存的微环境, 通过对单作和间套作种植模式下作物冠层入射和透射的光合有效辐射及地温的观测, 分析了冬小麦辣椒不同配置方式下冠层光合有效辐射截获量的日变化规律、冬小麦对预留行的遮阴作用以及共生期间地温的动态变化。间作条件下, 由于小麦的遮挡作用, 使得预留行接受的太阳辐射减少, 地温较裸地低,且单作与间作种植模式的光合有效辐射(PAR)和地温具有各自的时空变化; 在小麦间套作辣椒的不同配置方式中, 小麦行间地上 10 cm 的光合有效辐射强度是 3- 2式> 4- 2 式> 5- 2 式> 小麦单作; 地温表现为小麦行间与辣椒行间均是辣椒单作> 3- 2 式> 4- 2 式> 5- 2式, 即地温随着预留行的变窄而降低。
【英文摘要】Cro pping patter ns have effect on the micr o- environment o f the surv ival o f cr ops. T hr ough the o bserv atio n of soil tempera-tur e during the perio d of ex per iment s and the photosy nthetically active r adiatio n of top incidence and transmission in mo no culture andintercro pping patter ns, this paper inv estigates the diurnal chang ing rules of wheat and pepper's top photo synthet ically active radiationintercept ion amount in differ ent cr opping pat terns, the shading influence o f winter wheat on reserv ed ro w, and the dy namic chang esof soil temperature during the inter gr ow th time of w inter wheat and pepper. Due t o t he shading effect of w heat, in

intercr opping pat-ter ns the so lar radiatio n w hich the reserved r ow accepted reduced and the so il temperature is low er than monocultur e, and t he pho to-sy nthetically active radiatio n and soil temperature had separ ate temporal and spatial var iation in monocultur e and inter cr opping pat-ter ns. In differ ent intercr opping patter ns of w int er wheat and pepper , the o rder of pho tosynthetically active radiatio n intensity o fwheat is: 3- 2 t ype> 4- 2 ty pe > 5- 2 ty pe > wheat monocultur e; the order of so il temperature is: pepper mo no culture > 3- 2 type> 4- 2type > 5- 2 type, w hich means that the so il t em perat ur e decreases with t he w idth of reserv ed r ow .

【语种】中文
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【期刊名称、卷期、页码】中国农村水利水电,2010, 1:14-19
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【学科分类】农业工程

【题目】不同降水年型节水小麦产量构成与效益分析
【中文关键词】小麦;节水;抗旱品种;综合效益
【英文关键词】wheat, water-saving, drought resistant variety, integrated efficiency
【中文摘要】为筛选适宜北京地区小麦抗旱品种,同时为北京小麦节水栽培推广决策提供参考,2003—2006年间 3 个不同降水年型,在大兴区以 28 个小麦品种为材料,采用只浇冻水的节水措施,比较品种间产量构成因素和农艺性状等方面的差异性,并与常规灌溉管理进行比较分析。结果表明:(1)以产量水平为指标,参试品种间抗旱性存在显著差异。“ 中麦 326 ”和“ 京农 02-2 ”在平水年表现出较好的抗旱性;“ 北农9580 ”、“ 中麦 12 ”、“ 京农 04-133 ”和“ 京冬 8 ”在枯水年表现出较好的抗旱性。(2)干旱条件下,小麦分蘖成穗过程受影响最大,分蘖成穗率可以作为小麦抗旱性筛选鉴定的较早期指标。(3)枯水年采取节水栽培比正常灌溉产量降低 48.89%以上。 效益综合分析结果认为,应用抗旱品种,即使在枯水年,北京地区小麦实施只浇冻水一水的节水栽培措施,也能取得明显的增效。
【英文摘要】To screen out proper drought resistant wheat varieties for Beijing area and provide references formaking extension decisions on water saving cultivation techniques for winter wheat in Beijing, the yield andagronomic characteristics of 28 wheat varieties under only one winter irrigation were compared with thoseunder normal traditional irrigations in three different precipitation years from 2003 to 2006. The results are:(1) The tested wheat varieties had significantly different resistance to drought according to the yield level. “ Zhongmai 326 ” and “ Jingnong 02-2 ” showed good drought resistance in normal precipitation years, where-as “ Beinong 9580 ” , “ Zhongmai 12 ” , “ Jingnong 04-133 ” and “ Jingdong 8 ” demonstrated good drought resis-tance in low precipitation. (2) Under drought stress, the formation of wheat spike from the tillers was influ-enced most, which could be used as the early appraisal and screening index for drought resistant wheat culti-vars. (3) In drought years, wheat yield under only one winter irrigation decreased more than 48.89% com-pared to normal irrigation even if water sving cultivation measures were adopted. Integrated efficiency analy-sis showed significant benefits of water saving cultivation techniques under only one winter irrigation.
【语种】中文
【第一作者】刘彦泉
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【期刊名称、卷期、页码】中国农学通报,2008 ,24(12) :463-468
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【引文索引号】1009 - 0568 (2008) 03 - 0056 - 06
【学科分类】农业工程

【题目】硅藻土基质配方对盆栽观赏辣椒生长的影响
【中文关键词】硅藻土; 基质; 观赏辣椒; 负水头; 精确控水盆栽;
【英文关键词】Diatomite; Medium; Capsicum annuum; Negative pressure; Precise water control potted plant;
【中文摘要】研究了五彩椒在硅藻土、草炭、蛭石、珍珠岩4种组分按不同比例配成的5种混合基质下的生长差异,试验采用了一种自制的自动连续精确控水盆栽装置,并为所有处理设置了相同的供水吸力,用于分析5种不同基质的吸水能力。结果表明:硅藻土是一种优良的基质添加成分,其吸水、保水性能均优于蛭石和珍珠岩;试验同时得出:50%草炭+25%蛭石

+25%硅藻土、40%草炭+20%蛭石+20%珍珠岩+20%硅藻土2种基质配方比其它基质配方更理想,相对于其它3种基质配方,这2种配方基质理化性质更好,吸水、保水、保肥能力都强于其它基质量配方,栽培下的五彩椒生理指标和形态指标更优,值得进一步研究与推广。

【英文摘要】The effects of diatomite medium proportion on vegetative growth of pot Capsicum annuum was studied in this paper;In order to testing the suck water capability of the five difference medium,a new sort of precise water control potted plant device was taken for this experiment with the same water supply tension.The results were indicated as follows:the diatomite was a good medium accession,the capability of sucking and holding water was better than vermiculite and perlite medium;the two kinds of medium proportion(50% turf+25% vermiculite+25% diatomite and 40% turf+20% vermiculite+20% perlite +20% diatomite) could significantly promote the shape and physiology growth of Capsicum annuum;the physicochemical characteristics of them were better than the other three medium proportion,the two kinds of medium proportion had an excellent holding water and nutrition and could be used in the gardening.

【语种】中文

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【学科分类】农业工程

【题目】水肥亏缺下水稻叶片气孔导度与光合速率耦合模型

【中文关键词】水分亏缺; 氮素亏缺; 气孔导度-光合速率耦合模型; 叶气温差; 叶绿素相对含量;

【英文关键词】water deficit; nitrogen deficit; coupled photosynthesis-stomatal conductance model; leaf temperature difference; chlorophyll relative content;

【中文摘要】叶片气孔导度-光合速率的耦合模型是作物生理模拟的关键,是估算作物生长及水分利用动态的基础.采用盆栽试验实测资料,建立Leuning-Ball气孔导度模型及其耦合模型,考虑水肥因子对气孔导度、光合速率的影响,引入水稻叶片叶气温差、叶绿素相对含量修正气孔导度模型,并进行比较.结果表明,考虑叶气温差、叶绿素相对含量的气孔导度-光合速率耦合模型具有针对水肥限制条件下更高的模拟验证解释能力,针对气孔导度,最大相对误差由125.5%、128.8%分别降至98.2%和126.6%,针对光合速率,平均相对误差由32.3%、74.3%降至20.5%和39.3%,最大相对误差则由331.5%、327.9%降至177.1%和113.4%.

【英文摘要】A leaf-scale coupled approach to photosynthesis-stomatal conductance modeling is a key element in predicting physiology of crop,estimating crop growth and water use.In order to consider the effect of moisture and nitrogen deficit of soil on stomatal conductance and photosynthesis,the leaf-air temperature and chlorophyll relative content were introduced to regulate coupled Leuning-Ball photosynthesis-stomatal conductance model.Field data of a pot experiment were used to validate the model.The results show that the improved coupled model yields reasonable interpretation and the best photosynthesis interpretation ability under soil moisture and nitrogen deficit.For stomatal conductance,the maximum relative errors were reduced from 125.5% and 128.8% to 98.2% and 126.6%.For photosynthetic rate,the average relative errors were reduced from 32.3%,74.3% to 20.5% and 39.3%,and the maximum relative errors from 331.5% and 327.9% down to 113.4% and 177.1%,respectively.The coupled model can reflect the water and energy situation considering the limiting water and nitrogen more reasonably.

【语种】中文

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【学科分类】农业工程

【题目】水稻苗期水分亏缺产生补偿节水效应的亏缺阈值研究

【中文关键词】水稻; 水分亏缺; 补偿效应;
【英文关键词】rice; water deficit; compensatory effect;
【中文摘要】为探讨调亏灌溉对水稻苗期的光合产物分配及氮素积累的影响,采用人工气候室内盆栽实验,在水稻三叶一心期至分蘖前期为止设计持续干旱0 d、3 d、6 d、9 d和12 d五个处理组。结果表明:1)在水分胁迫条件下,光合速率和蒸腾速率均下降,前者下降略为缓慢使得水分利用效率得到提高。同化产物在叶片中的含量高于茎鞘,但叶片中的氮素含量低于茎鞘。2)恢复灌溉后,受到胁迫的处理组的光合速率、蒸腾速率都迅速升高,干旱3 d和6 d的处理组光合水平超过对照,然后又有所下降,水分利用效率因为蒸腾速率的骤然升高而降低,之后有所恢复。干旱处理组的叶片中积累的同化产物转移至茎鞘和其他部位供其生长,使得叶片占总干重的比例下降。所有干旱组的茎鞘含氮量都在复水后增加明显且均高于对照组。3)各亏水处理组均表现出一定的补偿生长,包括根系的吸收补偿和光合系统的生理补偿。其中干旱3~6 d的水稻苗期亏水阈值产生的补偿效应明显。苗期水稻干旱引起光合产物的分配和氮素的积累的改变,从而发生复水后的补偿效应,提高植株的素质,提高水稻的分蘖能力和结实能力。 更多还原
【英文摘要】In order to investigate the effect of regulated deficit irrigation on the distribution of assimilation products and the accumulation of nitrogen,we planted rice in buckets in Microclimate room and imposed five different water regimes were imposed on seedling rice.The results show:1)Both net photosynthetic rate and evaporation rate were decreased un-der water deficit groups,water use efficiency was increased because of slower decreasing of photosynthetic rate.More assimilation products were stored in sheathes than those in leaves.2)After rewaterring,net photosynthetic rate and evaporation rate came back quickly,especially D3 and D6 groups whose two photosynthetic indexes were higher than that of control group and then droped back to normal in serveral days.Water use efficiency was reduced for the enhancement of evaporation rate and got back to normal standard after 3 days.Nitrogen transferred from leaves to sheaths and stems so as to enhance the growth of these organs.3)Compensatory effect was found in every water deficit group,including assimilating compensatory in roots and physiological compensatory in photosynthetic system.This kind of effect in both D3 and D6 was more obvious than others.We can conclude that imposing drought on rice at late seedling stage may change the distribution of assimilation products and the accumulation of nitrogen and then induce compensatory effect happening.
【语种】中文
【第一作者】康燕
【通讯作者】王根轩
【期刊名称、卷期、页码】科技通报,2009,25(6):784-791
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【学科分类】农业工程

【题目】气孔免疫的研究和利用,农业分子生态学新热点
【中文关键词】叶际微生物; 气孔振荡; 气孔免疫; 农业节水增产技术;
【英文关键词】phyllosphere microbes; stomata oscillation; stomata-based immunity; crop water-saving and product-increasing tech- nique;
【中文摘要】叶际微生物的定居、组成及其对宿主植物的益生和拮抗作用受到越来越多的关注。气孔不再被认为是微生物侵入植物的被动通道,而是植物先天免疫的一个重要组成部分,对植物气孔与微生物的免疫互作的分子机制研究也越来越详尽。本文综述了叶际微生物与植物的免疫互作机制,结合环境因素影响的气孔开闭振荡及其对作物的水分利用效率的影响研究,提出可利用植物气孔免疫过程中的气孔振荡行为来发展农业节水增产技术的观点。植物气孔-微生物免疫互作将成为分子生态与农业生态的交叉点和新焦点。 更多还原
【英文摘要】Phyllosphere microbes have received much attention. More and more studies have been conducted to know about the microbes species and how they colonize and interact with plants. Stomata were considered as passive portal of entry for plant pathogenic bacteria. However, recent studies suggest that stomata can play an active role in restricting bacterial invasion as one part of the plant innate immune system. The paper has summarized recent developments in molecular ecology on stomata-based immunity. And on the base of reports on the relationship between stomata closure and plant water use efficiency, studies to develop crop water-saving and product- increasing technique by making use of the stomata-based defense are feasible. Plant stomata-pathogen interaction will become the next focus of molecular ecology and agricultural ecology.
【语种】中文
【第一作者】周海莲
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【期刊名称、卷期、页码】生命科学仪器,2008,6(5):10-14
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【引文索引类型】其他
【引文索引号】1000O1980 (2007) 06O0633O05
【学科分类】农业工程

【题目】负水头供水控水盆栽装置及浇灌系统的研究与应用
【中文关键词】负水头灌溉; 控水; 盆栽; 自动供水;
【英文关键词】negative pressure irrigation; water controlling; pot device; automatic irrigation;
【中文摘要】如何持续精确控制土壤水分一直是国内外研究的重点,目前控制盆栽与大田水分的方法都会使部分水分达到过饱和,而影响试验效果。基于负压控制原理研制出的负水头供水控水盆栽装置和负水头灌溉系统解决了这一难题,试验证明负水头供水控水盆栽装置可将土壤含水量持续维持在理想状态。可以实现土壤含水量的持续稳定控制与日蒸散量监测,结合天平的使用获得盆栽植株的鲜重增长动态;负水头灌溉系统能使灌溉下的土壤含水量呈非饱和状态,抑制土表湿润导致的无效蒸发和地下渗漏导致的无效灌溉和养分流失,也不会破坏土壤结构,节省了大量人力、物力,提高了水分利用率,增加了作物产量提高的潜力。负水头供水控水盆栽装置及灌溉系统在设施栽培中及科学研究中,具有很大的推广价值。更多还原
【英文摘要】How to control soil moisture continued and precisely has been the focus of the research at home and abroad,part of the soil will be reach saturation under current water controlling methods,and the result of the experiment will not be so imprecise.Based on the principle of negative pressure,the negative pressure water supplying,controlling pot device and negative pressure irrigation system de- signed for solve this problem,the experiment result showed that the negative pressure water supplying,controlling pot device can maintain soil moisture of pot equipment in the enactment state,it has the function of sustained,stably controlling soil moisture and reading the val- ue of evapotranspiration,with a balance we can obtain the value of plant fresh weight growth;negative pressure irrigation can leading the soil moist to a Non-saturation status,restrain the surface soil invalid evaporation and nutrient loss caused by underground water leakage, and also will not damage the soil structure,saving a lot of manpower,resources,and improve water use efficiency,increasing the potential of increasing of crop yields,the negative pressure water supplying,controlling pot device and negative pressure irrigation system have a great generally value in the plant facilities cultivation and scientific research.
【语种】中文
【第一作者】李邵
【通讯作者】李邵
【期刊名称、卷期、页码】上海交通大学学报(农业科学版),2008,26(5):478-482
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【学科分类】农业工程

【题目】生育中期水分亏缺复水对水稻根冠及水肥利用效率的补偿影响
【中文关键词】根冠关系; 水分亏缺; 复水; 水肥利用率; 补偿效应; 水稻;
【英文关键词】root and shoot relation; water deficit; rewatering; water and fertilizer utilization efficiency; compensation effect; rice;
【中文摘要】为明确水分亏缺复水补偿效应,通过盆栽试验研究了不同施氮水平和不同生育阶段水分控制下限对水稻生长特性的影响.结果表明:不同水氮条件下,水稻根冠干物质累积、根冠异速性生长关系、产量构成因子和水肥利用效率均随胁迫阶段的推进差异显著.分蘖末期水分胁迫复水后能够产生明显的补偿效应,该阶段高氮施肥水平(300kg/hm2)下,重度水分亏缺(40%土壤饱和体积含水率)复水后能够较少影响水稻生长,可以看做是合理的水稻调亏控制指标. 更多还原
【英文摘要】In order to determine the compensation effects of rewatering of the water deficit,pot experiments were carried out to study the influences of the lower limit of soil moisture of around rice with different nitrogen levels at different bearing periods on growing characteristics. The results show that,with different nitrogen levels,the dry matter production of roots and shoots,allometric growth between roots and shoots,rice yield,and water and fertilizer utilization efficiency exhibit significant differences with the water stress stage. Rewatering of the water deficit at the late tillering stage results in significant compensation effects. The rewatering of severe water deficit (saturated water content of 40%) has lesser influence on the rice growth at the late tillering stage with a high nitrogen fertilization level (300 kg/hm2),and it may be regarded as a reasonable control index for rice.

【语种】中文
【第一作者】魏征
【通讯作者】薛绪掌
【期刊名称、卷期、页码】河海大学学报(自然科学版),2010,38(3):322-326
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【引文索引号】1000　1980(2010) 03　0322　05
【学科分类】农业工程

【题目】南方气候区草坪需水规律试验研究
【中文关键词】参考作物蒸发蒸腾量; Penman-Monteith方法; Priestley-Taylor方法; 作物系数; 草坪草;
【英文关键词】reference crop evapotranspiriation; Penman-Monteith equation; Priestley-Taylor approach; crop coefficient; turfgrass;
【中文摘要】根据蒸渗仪试验实测资料,分别利用Penman-Monteith方法和Priestley-Taylor方法计算了参考作物蒸发蒸腾量,并利用农田水量平衡方程计算了草坪草实际蒸发蒸腾量,由此计算了草坪草作物系数,分析了草坪草作物系数的变化规律,构建了作物系数与观测期旬序数之间的回归关系模型.结果表明:利用Penman-Monteith方法和Priestley-Taylor方法计算的参考作物蒸发蒸腾量结果无显著差异,在气象资料缺少情况下,推荐使用Priestley-Taylor方法;基于Priestley-Taylor方法计算的草坪草作物系数在观测期内呈现先升后降的变化趋势;作物系数与观测期旬序数表现出较好的三次多项式关系,Priestley-Taylor方法可作为粗略推算草坪草作物系数的简便方法. 更多还原
【英文摘要】Based on field test data generated by use of lysimeters,the reference crop evapotranspiration was calculated with the Penman-Monteith equation and the PriestleyTaylor approach,and the actual evapotranspiration from turfgrass was determined with the water balance equation for agricultural land.On this basis,the crop coefficient of turfgrass was calculated.The variation laws of the crop coefficient were analyzed,and a regression model of the relationship between the crop coefficient and time was established as well.The results show that the reference crop evapotranspiration calculated with Priestley-Taylor approach has no significant difference from that calculated with the Penman-Monteith equation.The former is recommended when there is a shortage of meteorological data.The crop coefficient of turfgrass calculated with Priestley-Taylor approach shows a low-high-low trend.There is a good cubic multinomial relationship between the crop coefficient and time.The Priestley-Taylor approach can be employed to calculate the crop coefficient of turfgrass.
【语种】中文
【第一作者】庞桂斌
【通讯作者】庞桂斌
【期刊名称、卷期、页码】河海大学学报(自然科学版),2009,37(2):143-146
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【引文索引类型】其他
【引文索引号】1000　1980(2009) 02　0143　04
【学科分类】农业工程

【题目】基于温度资料的参考作物蒸发蒸腾量计算方法
【中文关键词】参考作物蒸发蒸腾量; 温度法; BP人工神经网络预测模型; 湿润气候区;
【英文关键词】reference crop evaportranspiration; temperature-based method; BP artificial neural network model; humid area;
【中文摘要】针对利用FAO56-PM法计算参考作物蒸发蒸腾量ET0时气象资料需求往往不易满足的问题,研究了温度法及基于温度资料的BP人工神经网络预测模型.以FAO56-PM法ET0计算值为标准,比较分析了Hargreaves法、改进的Thornthwaite法、简化的FAO56-PM法以及Mc cloud法在我国湿润气候区的应用效果,评价了校正后的温度法以及基于温度资料的BP人工神经网络预测模型在该气候区的适用性.结果表明,在ET0较小时,Hargreaves法、改进的Thornthwaite法和简化的FAO56-PM法计算值较FAO56-PM法偏大,在ET0较大时较FAO56-PM法偏小;改进后的Thornthwaite法与FAO56-PM法最为接近,Mc cloud法与FAO56-PM法的计算结果差异最大;除Mc cloud法外,校正后的温度法检验合格率较高,具有较好的地区适用性;基于温度资料的BP人工神经网络预测模型具有较高的预测精度,结果好于校正后的Thornthwaite法和Mc cloud法,可应用于只有温度资料时湿润气候区ET0的预测. 更多还原
【英文摘要】FAO56 Penman-Monteith equation(FAO56-PM) is the standard method for estimating reference crop evapotranspiration(ET0).However,the meteorological data required by FAO56?PM method are not always available at a given

station.In consideration of the above fact,the temperature-based methods were analyzed and the temperature data-based BP artificial neural network model was established. According to the result of FAO56-PM,the performances of four temperature-based methods,i.e.the Hargreaves method,the improved Thornthwaite method,the simplified FAO56-PM method,and the Mc cloud method,used in humid areas in China were compared,and the suitability of the improved temperature-based methods and the BP artificial neural network model to humid areas was evaluated.The result shows that,for relatively low ET0,the calculated results ET0 of the Hargreaves method,the improved Thornthwaite method and the simplified FAO56-PM method are greater than that of the FAO56-PM method;however the calculated results ET0 of the FAO56-PM method is relative large for high ET0.Moreover,the calculated result of the improved Thornthwaite method is the closest to that of the FAO56-PM method,and the difference between the calculated results of the Mc cloud method and FAO56-PM method is the greatest;except for the Mc cloud method,the improved temperature-based methods are of high suitability to humid climate with low error.The temperature data-based BP artificial neural network model is of high precision of prediction,and the predicted result of the model is superior to those of the improved Thorthwaite method and the Mc cloud method.Therefore,it can be used for prediction of ET0 for humid areas only with temperature data

【语种】中文
【第一作者】丁加丽
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【学科分类】农业工程

【题目】不同灌溉方式下水稻产量构成因素投影寻踪评价方法研究
【中文关键词】水稻产量; 灌溉方式; 投影寻踪;
【英文关键词】rice yield; irrigation pattern; projection pursuit;
【中文摘要】为寻找出对水稻产量具有突出贡献的因子,采用投影寻踪技术,选择产量构成因素作为评价指标,提出了水稻产量构成因素投影寻踪评价方法,并用该方法对黑龙江6个试验站2004~2006年试验数据进行了分析.分析结果表明,常规灌溉条件下对水稻产量影响较大的产量构成因素是穗粒数和结实率,控制灌溉条件下则为穗粒数和单位面积成穗数.
【英文摘要】In order to find the factors with prominent contribution to the rice yield,an evaluation method for component factors of rice yield based on projection pursuit classification model was put forward by use of the projection pursuit techniques and selecting the component factors as the evaluation indices.The proposed method was adopted to analyze the test data of 6 irrigation stations in Heilongjiang Province from 2004 to 2005.The case studies show that the kernel number per spike and the rice seed rate play more important role in the rice yield under the conventional irrigation,while the kernel number per spike and the spike number per 667 m2 play more important role in the rice yield under the controlled irrigation.
【语种】中文
【第一作者】张正良
【通讯作者】彭世彰
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【学科分类】农业工程

【题目】不同灌水方式下番茄产量构成因素分析及耗水规律研究
【中文关键词】番茄; 通径分析; 产量; 水分利用效率; 耗水规律;
【英文关键词】tomato; path analysis; yield; water use efficiency; water consumption pattern;
【中文摘要】本文以东圣一号番茄为试验材料,在日光温室内进行了无压灌、滴灌和沟灌的灌溉试验,研究了不同灌水方式对作物根区土壤水分含量、作物产量、水分利用效率以及耗水量的影响,得出了相应的变化规律;同时,以株高、茎粗、地上部干重、LAI-叶面积指数和根干重为产量构成因素,通过通径分析方法,计算它们与产量之间的直接通径系数和间接通径系数。结果表明:番茄产量和水分利用效率均呈无压灌>滴灌>沟灌的趋势,无压灌和滴灌的水分利用效率与沟灌相比较分别提高了126.1%和63.4%;不同灌水方式下耗水强度在开花结果期与结果盛期比较大,苗期与结果末期比较小;产量与茎

粗、地上部干重和根干重之间均达到显著和极显著水平,在不同的灌水方式下均可以采用茎粗和根干重作为评价番茄高产的单项指标。

【英文摘要】With the materials of No.1 DongSheng tomato,we did the non-pressure subirrigation,drip irrigation and furrow irrigation experiments in greenhouse.We meant to study the effects of different irrigation methods on some indexes of tomato,including soil water status around crop rootzone,yield,water use efficiency(WUE),water consumption,and calculate directly path coefficient and indirectly path coefficient among plant height,stem diameter,LAI,shoot dry weight,root dry weight and yield by path analysis method.The results indicated that the yield and WUE displayed a trade of non-pressure subirrigation>drip irrigation> furrow irrigation.Compared to furrow irrigation,the WUE of non-pressure irrigation and drip irrigation respectively increased 126.1% and 63.4%.The water consuming intensity in flowering stage and fruit-setting stage were larger than that in seeding stage and the last growing stage.The correlation coefficient between stem diameter and yield,LAI and root dry weight reached significant level and extremely significant level.The stem diameter and root dry weight can be used as evaluation index.

【语种】中文

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【学科分类】农业工程

【题目】Haloterrigena daqingensissp. nov., an extremely haloalkaliphilic archaeon isolated from asaline – alkaline soil

【中文关键词】应变;生化特征;革兰氏变量

【英文关键词】strain;biochemical features;Gram-variable

【中文摘要】一种菌株从黑龙江省大庆市市盐碱土壤中分离出来。其形态特征,其生化特征和rRNA基因序列进行了表达.

【英文摘要】A haloalkaliphilic archaeon strain .TX313T was isolated from tYie salT-alkaline soil from Daqing, Heilongjiang Province in China. Its morphological, Fly siological and biochemical features and l6S rRNA gene sequence were characterized.

【语种】英文

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【学科分类】土壤学

【题目】负载维生素D3 的海藻酸纳米粒抗佝偻病作用研究

【中文关键词】海藻酸纳米粒;维生素D3;药物载体;佝偻病

【英文关键词】Sodium alginate nanoparticles; Vitamin D3; Medicine carrier; Rickets

【中文摘要】摘要 目的:观察负载维生素D3 海藻酸纳米粒和维生素D3 的抗佝偻病作用。方法:36 只SD 大鼠随机分组为正常对照组、佝偻病模型组、负载VD3 的自组装海藻酸钠纳米粒(sSAN-VD3)低剂量组(1.70 mg · kg-1 · d-1 含VD315.0 μg)、sSAN-VD3 高剂量组(4.2mg · kg-1 · d-1 含VD337.5 μg)、VD3 低剂量组(15.0 μg · kg-1 · d-1)、VD3 高剂量组(37.5 μg · kg-1 · d-1)6 组,每组6只。正常对照组大鼠在通光条件下用正常饲料饲养,其余各组大鼠置于暗室中,并喂养缺乏维生素D3 的饲料,同时各预防给药组按剂量连续灌胃给药35 天。观察记录大鼠的体重变化,检测大鼠血清中25 羟基维生素D3(25-(OH) VD3)、血清骨碱性磷酸酶(Bone Alkaline Phosphatase,BAP)活性及股骨骨密度(Bone Mineral Density BMD)。结果佝偻病模型组大鼠喂养5 周后体重明显低于正常对照组,血清BAP活性明显增高,血清25-(OH) VD3 含量及股骨BMD 则显著降低(P<0.05);与佝偻病模型组大鼠比较,各预防给药组大鼠体重及股骨BMD 均有所增加,sSAN-VD3 高、低剂量组和VD3 高剂量组大鼠血清BAP活性降低,25-(OH) VD3 水平明显升高,与模型组差异显(P<0.05);与同剂量的VD3 低剂量组比较,sSAN-VD3 低剂量组大鼠的血清BAP、25-(OH) VD3 及股骨BMD 等三项指标均显示出更明显的抗佝偻病作用(P<0.05)。结论:负载维生素D3 海藻酸纳米粒和维生素D3 均具有良好的抗佝偻病作用,以前者作用较强。

【英文摘要】ABSTRACT Objective: To observe Vitamin D3 imbedded by sodium alginate nanoparticles and Vitamin D3 's prevention effect on rats rickets. Method: 36 rats were randomly divided into control group rickets、model group、sSAN-VD3 high dose group (4.2mg · kg-1 · d-1 included VD337.5 μg)、sSAN-VD3 low dose group (1.70 mg · kg-1 · d-1 included VD315.0 μg)、VD3 high dose group (37.5 μg · kg-1 · d-1)、VD3 low dose group (15.0 μg · kg-1 · d-1). Control group rats were bred with control diet and sunlight, but the other groups were bred with Vitamin D3 deficiency diet and the room kept from sunlight. The rats in prevented groups were administered by Vitamin D3 imbed by sodium alginate nanoparticles and Vitamin D3 by stomach perfusion with each dose. Body weight, 25- (OH) VD3, BAP in serum and thighbone's density of each groups were determined. Results: The weight, 25-(OH) VD3 of serum and thighbone's BMD of rats in normal group, sSAN-VD3 high and low dose groups and Vitamin D3 high dose group were significantly decreased but BAP of serum was elevated as compared with rickets model group($p<0.05$). The rats in sSAN-VD3 low dose group were prevented from rickets significantlyin the results of BAP、25- (OH) VD3 of serum and thighbone's BMD ($p<0.05$) as compared with VD3 low dose group in the same dose of VD3. Conclusions: Vitamin D3 imbedded by sodium alginate nanoparticles and Vitamin D3 were both effectively prevented the form ofrickets, but Vitamin D3 imbed by sodium alginate nanoparticles had better effect.
【语种】中文
【第一作者】王科科
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【题目】纳米技术在食品科学中的应用研究进展
【中文关键词】纳米技术;食品;纳米粒
【英文关键词】nanotechnology; food; nanoparticle
【中文摘要】摘 要:纳米技术是一门研究纳米材料的特性及其应用的新学科,已经迅速发展成为21世纪三大支柱科学领域之一。纳米技术具备促进包括食品行业在内的传统工业快速发展的巨大潜力。综述了纳米技术在食品应用领域中的若干研究热点;着重介绍了其在食品包装材料与营养物运送体系方面的应用,前者包括不可降解性、可生物降解性与可食性纳米复合材料等食品包装材料,后者包括纳米乳剂、脂质体与聚合物纳米粒等营养物运送体系;最后提出了该新领域亟待研究的重要问题和今后的发展方向。
【英文摘要】Abstract:Nanotechnology, the science and technology that focuses on special properties and applications of material which emerge from nanometer size, is regarded as one of the three most promising technologies of the 21st century.Nanotechnology will accelerate the development of traditional industries including the food industry. This paper expounded several research focuses on nanotechnology used in food, of which, food packaging materials and nutriment delivery systems were introduced emphatically. The former included non-degradable, biodegradable and edible nanocomposites, and the latter included nanoemulsions, liposomes, biopolymeric nanoparticles et al. . Finally, important problems and future perspective for this new research area were put forward.
【语种】中文
【第一作者】李倩
【通讯作者】刘晨光
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【学科分类】农产品贮藏与加工

【题目】Effect of linoleic-acid modified carboxymethyl chitosan on bromelain immobilization onto self-assembled nanoparticles
【中文关键词】菠萝蛋白酶;固定化;纳米粒
【英文关键词】bromelain;immobilization; nanoparticles
【中文摘要】亚油酸(LA)改性羧甲基壳聚糖(CMCS)在超声条件下,可以制备出水凝胶型纳米粒子。菠萝蛋白酶可以加载到纳米粒上。对固定化酶的活性的影响因素,包括温度,储存等,进行了研究。结果表明,菠萝蛋白酶的热和存储的稳定性在

固定到纳米粒子后提高。固定化酶米氏常数小于游离酶,表明固定化可以促进酶同底物的亲和性。
【英文摘要】Hydrogel nanoparticles could be prepared by using linoleic acid (LA) modified carboxymethyl chitosan (CMCS) after sonication. Bromelain could be loaded onto nanoparticles of LA-CMCS. Factors affecting the activity of the immobilized enzyme, including temperature, storage etc., were investigated in this study. The results showed that the stability of bromelain for heat and storage was improved after immobilization on nanoparticles. The Michaelis constant (K m) of the immobilized enzyme was smaller than that of free enzyme, indicating that the immobilization could promote the stability of the enzyme and strengthen the affinity of the enzyme for the substrate.
【语种】英文
【第一作者】谭玉龙
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【学科分类】生物化学

【题目】The Evolution of Organic Carbon in Chinese Mollisol Under Different Farming
【中文关键词】您是不是要找: Soil ;organic carbon; Agroecology

土壤 有机碳;农业生态
【英文关键词】Soil ;organic carbon; Agro-Ecology
【中文摘要】土壤有机碳(SOC)是土壤退化过程中的一个重要指标。在这项研究中,长期田纳西州的中国黑土农田土壤有机碳的演变进行了数值模拟和预测的验证,分析,处理和assorting conceming数据,澄清,Century模型需要的参数的基础上,结合田间管理记录数据的最佳使用,观察数据翁长期的实验,气候,土壤,生物,海伦农业生态试验站,中国科学研究院和取得的成果。结果表明:在此之前的填海工程,土壤有机碳含量大约为-J58.00克公斤。早年,土壤有机碳含量迅速下降,然后缓慢下降填海后。土壤有机碳含量大约是34.00克kg'i之前建立了长期的实验Ø减少,每年平均增长率为8.91%。经过长期的实验,SOC将根据不同的耕作制度。按住Shift键养殖系统改变如下:20年的模型模拟,土壤有机碳含量从34.03下降到wiffi30.19克kg.i,每年平均增长率为5.97%O;厕所年的模型模拟,土壤有机碳含量下降到24.31克公斤我,每年平均增长率为3.36%O。有机农业系统改变如下:20年的模型模拟,土壤有机碳含量呈缓慢下降趋势从34.03至33.39克的kg'i,每年平均增长率为0.959oo,5o/oo小于转变农业系统; IOO年模型模拟,土壤有机碳含量下降到32.21克kg.i,每年平均增长率为0.55%O。“石油”农业系统的改变如下:20年的模型模拟,土壤有机碳含量从34.03下降到32.88克kg.i,每年平均增长率为1.72%O,更比有机农业系统的厕所年模型模拟,土壤有机碳含量下降到30.89克kg.i,每年平均增长率为0.96%O。结合“石油”有机农业系统改变如下:20年的模型模拟,土壤有机碳含量略有上升;厕所年的模型模拟,SOC含量从34.03上升到34.41克kg'i的,每年平均增长率为0.11%O。上述结果提供了一个最佳的方式,为维护中国黑土农田土壤有机碳,尽可能地在农业生态系统,增加土壤 有机质,如作物残茬,croplitter返回。农作物秸秆或秸秆,粪便,除了应用化学氮,磷,,增加systemproductivity和保持土壤有机碳含量。此外,结果提供了一种有价值的方法为研究ofC02封存容量和目标生育率在中国黑土测定。关键词:Century模型,中国黑土农田土壤有机碳,各种养殖系统,预测。

【英文摘要】Soil organic carbon (SOC) is an important indicator of soil degradation process. In this study, the long-tenn SOC evolution in Chinese mollisol farmland was simulated and predicted by validating, analyzing, processing and assorting conceming data, based on clarifying parameters of Century model need, combined with best use of recorded data of field management, observed data of Iong-term experiments, climate, soil, and biology, and achieved results from Hailun Agro-Ecological Experimental Station, Chinese Academy of Sciences. The results were showed as follows: Before reclamation, SOC content was around 58.00 g kg-J. SOC content dropped quickly in early years, and then decreased slowly after reclamation. SOC content was around 34.00 g kg'i with a yearly average rate of 8.91%o decrease before long-term experiments was established. After a long-term experiment, SOC would change under different farming systems. Shift farming system changed as follows: By 20-year model simulation, SOC content decreased from 34.03 to 30.19 g kg.i, wiffi a yearly average rate of 5.97%o; by lOO-year model simulation, SOC content decreased to 24.31 g kg.i, with a yearly average rate of 3.36%o. Organic farming system changed as follows: By 20-year model simulation, SOC content decreased slowly from 34.03 to 33.39 g kg'i, with a yearly average rate of 0.959oo, 5o/oo less than that of shift farming system; by IOO-year model simulation, SOC content decreased to 32.21 g kg.i, with a yearly average rate of 0.55%o. "Petroleum" farming system changed as follows: By 20-year model simulation, SOC content decreased from 34.03 to 32.88 g kg.i, with a yearly average rate of 1.72%o, much more than that of organic farming system; by lOO-year model simulation, SOC content decreased to 30.89 g kg.i, with a yearly average rate of 0.96%o. Combined "petroleum"-organic farming system changed as follows: By 20-year model simulation, SOC content was increased slightly; by lOO-year model simulation, SOC content increased from 34.03 to 34.41g kg'i, with a yearly average rate of 0.11%o. The above results provided an optimal way for maintaining SOC in Chinese mollisol farmland: To increase, as much as possible within agro-ecosystem, soil organic matter returns such as crop stubble, croplitter. crop straw or stalk, and manure, besides applying chemical nitrogen and phosphorous, which increased systemproductivity and maintained SOC content as well. Also, the results provided a valuable methodology both for a study ofC02 sequestration capacity and for a target fertility determination in Chinese mollisol. Key words: Century model, Chinese mollisol farmland, soil organic carbon, various farming systems, prediction.
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【题目】RT_PCR鉴别小反刍兽疫病毒疫苗株与强毒株方法的建立
【中文关键词】RT-PCR; 鉴别;小反刍兽疫病毒
【英文关键词】无
【中文摘要】根据GenBank中公布的小反刍兽疫病毒的H基因或全基因序列,利用软件Primer Premier 5. 0 设计引物,扩增片段长度为477 bp,建立区分小反刍兽疫疫苗毒与基因4系野毒的RT-PCR检测方法,并用于临床检测。结果表明,建立的RT-PCR鉴别诊断方法能特异性区分疫苗株Nigeria 75/1与基因4系PPRV,与基因3系、牛瘟病毒、犬瘟热病毒等同属病毒无交叉反应;最低可以检测到浓度为7.7×10-5ng/ uL 的RNA模板;该方法操作简单,耗时短,可以初步用于临床鉴别诊断。
【英文摘要】无
【语种】中文
【第一作者】张玲
【通讯作者】王志亮
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【题目】非洲猪瘟病毒K205R蛋白基因原核表达的研究
【中文关键词】非洲猪瘟病毒;K205R蛋白;原核表达

【英文关键词】African swine fever virus;K205R protein;Prokaryotic expression
【中文摘要】本研究合成非洲猪瘟的K205R基因,将K205R基因克隆至pET-30c(+)质粒,构建重组原核表达质粒pET30C-K205R。该重组质粒的阅读框架正确,表达的融合蛋白的N 端和C 端均带6×组氨酸。pET30C-K205R-BL21菌株经培养和诱导表达后,可生产K205R可溶性蛋白,K205R可溶性蛋白可用Ni柱纯化。纯化表达K205R蛋白的ELISA试验证明,表达的K205R蛋白与猪阳性非洲猪瘟血清具有较好的特异性反应。
【英文摘要】K205R gene of AFSV was synthesized and cloned to the plasmid pET30C to construct the recombinant prokaryotic expressed plasmid pET30C-K205R with correct reading frame and with 6×histamine both on N and C terminals of the expressed fusion protein. The recombinant plasmid pET30C-K205R was then transformed into E.coli DH5α and then into BL21 and the pET30C-K205R-BL21 strain was obtained and expressed by induction with IPTG,resulting in soluable protein K205R. ELISA with the purified K205R protein showed that the expressed K205R protein demonstrated very good specific reaction with positive ASFV serum.
【语种】中文
【第一作者】龚振华
【通讯作者】王志亮
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【题目】MS-222和丁香酚对中华鲟幼鱼耗氧率与排氨率的影响
【中文关键词】中华鲟;麻醉;麻醉剂浓度;温度;代谢
【英文关键词】Chinese sturgeon;immobilization;anesthetic concentration;temperature;metabolize
【中文摘要】研究了麻醉剂MS-222和丁香酚对中华鲟(Acipenser sinensis Gray)幼鱼呼吸与排泄的影响。结果表明,2种麻醉剂对中华鲟幼鱼的耗氧率和排氨率都有显著影响(P<0.05)。随着麻醉剂浓度的升高,中华鲟幼鱼的耗氧率和排氨率均先升高后降低。MS-222质量浓度为16 mg/L或丁香酚质量浓度为12 mg/L时均可以显著降低中华鲟幼鱼的耗氧量和氨氮的排放;随着2种麻醉剂浓度的进一步升高,耗氧率和氨氮的排放没有显著的降低。在2种麻醉剂的作用下,中华鲟幼鱼的耗氧率和排氨率随温度升高而增大,其回归关系可用指数函数表示,相关系数R2均大于0.9。方差分析表明,不同实验组4个温度梯度间的耗氧率和排氨率都有极显著差异(P<0.01)。在10-25 ℃的温度范围内,中华鲟幼鱼的O :N比值范围为12.37-23.21,表明在适宜的温度范围内,中华鲟幼鱼的代谢产物以蛋白质为主,脂肪和碳水化合物次之。结论认为,MS-222质量浓度为16 mg/L或丁香酚质量浓度为12 mg/L时可以使中华鲟幼鱼进入麻醉Ⅱ期,满足活鱼运输的要求,可以推荐为中华鲟幼鱼运输时的麻醉剂量,且运输时应以低温为宜。
【英文摘要】Abstract:MS-222 and clove oil are widely used for fish immobilization. Effects of MS-222 and clove oil on oxygenconsumption rate and ammonia excretion rate of juvenile Chinese sturgeon Acipenser sinensis were investigated in this paper. Experimental results showed that both MS-222 and clove oil significantly affected oxygen consumption rateand ammonia excretion rate of juvenile Chinese sturgeon(P<0.05). With increase of anesthetic concentration,oxygenconsumption rate and ammonia excretion rate firstly went up,and then went down. When concentrations of MS-222and clove oil reached 16 mg/L and 12 mg/L,respectively,oxygen consumption rate and ammonia excretion rate began to decrease significantly. If anesthetic concentration continued to increase,oxygen consumption rate and ammoniaexcretion rate did not significantly increase any more. Under treatment of MS-222 and clove oil,oxygen consumption rate and ammonia excretion rate increased with the increase of water temperature. Regression could be described by using exponential function with R2>0.9. Using variance analysis,it was showed that the oxygen consumption rate and ammonia excretion rate were extremely differrent(P<0.01) among four water temperiature treatment groups. Withinwater temperature range of 10 ℃ and 25 ℃,O :N rates of juvenile Chinese sturgeon were from 12.37 to 23.21. It might be infered that under appropriate water temperatures,metabolites of juvenile Chinese sturgeon were more of protein,and less of fat or saccharide. In conclusion,recommended concentrations of MS-222 and clove oil for immobilizationof juvenile Chinese sturgeon were 16 mg/L and 12 mg/L,respectively. Appropriate lower water temperature condition would be better when fish were immobilized for long distance transportation
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【题目】非洲猪瘟病毒环介导等温扩增诊断方法的建立
【中文关键词】非洲猪瘟病毒;环介导等温扩增反应;诊断
【英文关键词】African swine fever virus;LAMP;diagnosis
【中文摘要】通过对GenBank中登录的非洲猪瘟病毒(ASFV)p72蛋白基因序列进行分析,根据p72保守区序列设计合成了内(FIP,BIP)、外(F3,B3)2对引物,其中外引物扩增片段的大小为184bp。通过对反应条件进行优化,建立了非洲猪瘟LAMP检测方法。结果显示,该方法在62℃保温60min即可完成,最低可检测到1×101 copies/μL的病毒DNA,与常规PCR方法相比灵敏度高100倍。对ASFV、猪圆环病毒2型、猪细小病毒、猪伪狂犬病病毒基因组DNA同时检测,结果仅有ASFV出现条带,而其他均未出现目的条带。表明,建立的ASFV-LAMP诊断方法具有较好的特异性和敏感性。
【英文摘要】According to p72 gene sequence of African swine fever virus(ASFV)in GenBank,two pairs of primers(external primers F3 and B3,and internal primers FIP and BIP)w ere designed and synthesized.The amplified fragment was 184 bp in size using th e external primers.After optimization of the reaction system,a loop-mediated is othermal amplification(LAMP)method for specific detection of ASFV was establish ed.It was carried out at 62 ℃ for 60 min,and its sensitivity was 1×101 copies/ μ L DNA,which was 100 times more than the traditional PCR method.The de tection of porcine circovirus-2,pseudorabies virus,porcine parvovirus by the de veloped LAMP was negative.These results showed that the developed assay was high ly specific and sensitive for the detection of ASFV.
【语种】中文
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【题目】不同开口饵料对西伯利亚鲟仔鱼生长、存活和体成分的影响
【中文关键词】西伯利亚鲟　仔鱼　开口饵料　生长
【英文关键词】Siberian sturgeon; larvae; initial feeding; growth.
【中文摘要】分别采用水丝蚓(L imnodrilus sp.)、卤虫无节幼体(Artem ia naup lii)、枝角类(Moinasp.)和人工饲料饲养西伯利亚鲟仔鱼30 d, 研究不同开口饵料对西伯利亚鲟仔鱼生长、存活率和体成分的影响. 结果表明: 卤虫无节幼体为西伯利亚鲟最适开口饵料, 仔鱼的存活率最高(96　67%); 投喂水丝蚓组生长速度最快; 而人工饲料组生长速度明显低于其他组, 且成活率最低. 不同开口饵料组间仔鱼体成分差异显著, 人工饲料组水分含量最高, 且粗蛋白和粗灰分含量最低. 采用卤虫无节幼体为西伯利亚鲟仔鱼开口饵料, 然后采用水丝蚓进行强化培育, 能获得较好的生长速度和存活率.
【英文摘要】S iberian sturgeon (Acipenser baerii) larvae w ere raised w ith L imnodrilus sp. , A rtem ianaup lii, Moina sp. , and artif icial commercia l diet for 30 days to invest igate the e ffects o f d ifferent initial feeding d iets on the grow th, surviva,l and body b iochem ica l composit ion o f the larvae. The results show ed thatA. naup lii w as the best in itia l feeding d ie,t w ith the surv iva l rate o fA. baerii larvae being sign if icant higher (96　67%) than the o thers. Feeding w ith L imnodrilus sp. gave the highest grow th rate ofA. baerii larvae, wh ile feeding w ith artif icial comm ercial diet gave the low esteff iciency on the grow th rate and surv iva l rate of the larvae. The larvae ra ised w ith different diets had sign ificantly different body b iochem ica l composit ion. A fter fed w ith artif ic ial commerc ial die,the larvae had the h ighest mo isture content but the low est crude pro tein and crude ash contents.Tak ing A. naup lii as the in itia l feed ing d iet and then feeding w ith L imnodrilus sp. cou ld gave the ideal grow th and survival rates of A. baerii larvae.
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【第一作者】张涛
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【题目】中国小反刍兽疫病毒分离株China_Tib_07全基因组序列测定与分析
【中文关键词】小反刍兽疫病毒;麻疹病毒属;编码区;全基因组;核酸序列
【英文关键词】Peste des petits ruminants virus;morbillivirus;coding region;complete genome;nucleotide sequence
【中文摘要】小反刍兽疫病毒属于副黏病毒科麻疹病毒属成员。本研究对我国首次分离的小反刍兽疫病毒株China/Tibet/07进行了全基因组序列测定及分子生物学特征分析。根据GenBank公布的小反刍兽疫病毒基因组序列设计引物通过RT-PCR扩增病毒基因组内部序列,通过3′和5′-RACE获得病毒基因组末端序列。序列测定与分析的结果表明,China/Tib/07株全长15948bp,预测编码6种结构蛋白和2种非结构蛋白,与已发表小反刍兽疫病毒基因组的长度和结构相似;在系统进化上与西南亚流行毒株有很高的同源性(91.6%~98.1%);与麻疹病毒属的其它成员相比,与牛瘟病毒的同源性最高(64.3%)。
【英文摘要】Peste des petits ruminants virus is a member of Morbillivirus Paramyxoviridae.The complete genome of a Peste des petits ruminants virus(PPRV)isolate,China/Tib/07 was sequenced and molecular characteristics was analyzed.The internal sequences of the virus genome were amplified by RT-PCR with primers designed according to the published data in GenBank,while the sequences of the 3’ and 5’ ends of the genome were determined by RACE.Amplification products were directly sequenced,assembled and analyzed with DNAStar4.0.Results showed that China/Tib/07 genome consisted of 15 948 nucleotides in length,encoding six structural proteins and two non-structural proteins just like other known PPRV genomes.Phylogenetically,the virus genome shared homology of 91.6%~98.1% with Southwest Asian isolates among PPRV strains and the highest homology of 64.3% with rinderpest virus among morbillivirus members.
【语种】中文
【第一作者】刘文华
【通讯作者】王志亮
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【题目】Development of chemiluminescence enzyme-linked immunosorbent assay for the screening of metolcarb and carbaryl in orange juice, cabbage and cucumber
【中文关键词】筛选; ELISA;农药残留物;果汁; 蔬菜
【英文关键词】screening; ELISA; pesticide residues; fruit juices; vegetables
【中文摘要】本文建立了一种直接竞争酶联免疫法和的增强的化学发光检测法同时检测农产品中的速灭威和胺甲萘。包被抗体和酶示踪的浓缩以及PH值与甲醇浓度的影响也进行了研究。在最佳条件下,速灭威和胺甲萘的IC50值分别是4mg/kg,0.3mg/kg.果汁和蔬菜中速灭威和胺甲萘的检测可以通过简便快速有效的萃取方法。加标样品的回收率,速灭威是75%-108%,胺甲萘的是74%-98%。与HPLC的实验结果相比较,增强的化学发光免疫吸附法被证实是有效地。用ELISA和增强的化学发光免疫吸附法检测所得数据之间的相关性好(n¼9)。因此,增强的化学发光免疫吸附法适用于同时检测农产品中的速灭威和胺甲萘。
【英文摘要】A direct competitive enzyme-linked immunosorbent assay (ELISA) with enhanced chemiluminescent detection for simultaneous detection of metolcarb and carbaryl in agricultural products is reported. The concentrations of coating antibodies and enzyme tracer, as well as the effects of pH and methanol concentrations, were investigated. Under optimum conditions, the IC50 of metolcarb and carbaryl were 4 and 0.3 mgkg 1, respectively.Detection of metolcarb and carbaryl in fruit juices and vegetables was accomplished using simple, rapid andefficient extraction methods. Recoveries (n¼3) of spiked samples ranged 75 – 108% for metolcarb and 74 – 98% for carbaryl. Validation of the enhanced chemiluminescent immunosorbent assay was conducted by comparison of results with HPLC. The correlation between the data obtained using ELISA with enhanced chemiluminescent detection and HPLC was good (n¼9). Therefore, the enhanced chemiluminescent ELISA was suitable for quantitative simultaneously determination of metolcarb and carbaryl residue in agricultural products.
【语种】英文

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【题目】长江口纹缟虾虎鱼的繁殖生物学特征
【中文关键词】纹缟虾虎鱼; 形态学; 产卵期; 繁殖习性; 受精卵; 胚胎发育
【英文关键词】Trid entig er trigonocephalus; morphological traits; r eproductive biology; spawn; oosperm; embryonic development
【中文摘要】研究了长江口水域纹缟虾虎鱼的繁殖生物学。结果如下: (1) 纹缟虾虎鱼雌雄亲鱼间形态学特征具有差异, 肥满度分别为31 47? 01 36 与21 17? 01 52, 体长/ 体高、体长/ 头长、头长/ 眼径、头长/ 眼间距等比值存在极显著差异; (2) 纹缟虾虎鱼产卵期为3~ 7 月份, 盛产期为4~ 6 月份。绝对生殖力平均为12 6891 2 粒, 体长相对生殖力平均为2061 9 粒/ mm; (3) 纹缟虾虎鱼成熟的卵为球形, 卵径01 482~ 01 606 mm, 卵中油球数量10~ 200 个, 精子较小, 由圆形头部和细长尾部(鞭毛) 两个部分组成; (4) 纹缟虾虎鱼产卵受精一般在洞穴内进行, 而且雄鱼具有护卵习性; (5) 纹缟虾虎鱼受精卵呈梨形或者梭形, 卵膜端具有由粘丝组成的附着盘, 动物极靠近附着盘。纹缟虾虎鱼人工催产与自然繁殖时的受精率分别为781 58%与831 84%。在17~ 25e 范围内, 纹缟虾虎鱼胚胎均能孵出仔鱼,随着水温上升发育速度加快, 温度与孵化时间呈正相关关系, 有效积温为3 1281 3 h # e 。长江口水域生态环境变动可能对纹缟虾虎鱼繁殖及其资源量产生一定影响。
【英文摘要】Char acteristics of r eproductive biology of Tr identiger trigonocephalus at the Yangtze estuary were studied. T he results show as follows: (1) Morphological traits between male and female T. tr igono2 cep ha lus are different. Relative fatnesses of male and female T . tr igonocephalus are 31 47 ? 01 36 and 21 17 01 52, respectively. The ratio value of body length and body height, body length and head length, head length and eye diameter, head length and eye distance have significantly different between male and female.(2)T . trigonocephalus spawns in the summer from March to July, and main from April to June. T he individual absolute fecundity is 12 6891 2 eggs and body length relative fecundity is 2061 9 eggs/ mm. (3) The egg is circular and its diameter ranges from 01 482 to 01 606 mm. T he sperm consists of r ound head with 01 98 01 12 Lm of the long diameter and 71 28 ? 11 06 Lm flagellum. (4) T . tr igonocep ha lus spawns in bur2r ows and the nest will be protected by male fish. (5) The shape of fertilized eggs looks like a pear or a shut2tle and there is an adhesive filament disc on the external egg2membrane of the animal pole. Fertilization rate under artificial and natural condition are 781 58% and 831 84% , respectively. Normally, embryo can de2 velop under the temperature condition from 17 to 25 e and hatch time depending on water temperature. In theory the sum of effective temperature of embr yonic development is 3 1281 3 h # e . Reproductive biology and abundance of T . tr igonocep ha lus may be affected by environment change of the Yangtze River estuary.
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【第一作者】冯广朋
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【题目】长江口纹缟虾虎鱼胚胎发育及早期仔鱼生长与盐度的关系
【中文关键词】纹缟虾虎鱼; 早期发育; 生态因子; 生存活力指数
【英文关键词】T ridentiger trigonocephalus; Early life stages; Ecolog ical factor; Survival activity index
【中文摘要】研究了长江口纹缟虾虎鱼(Tridentiger trigonocephalus)胚胎发育及早期仔鱼生长与盐度的相关性。纹缟虾虎鱼胚胎发育时,盐度4与6试验组效果较好,受精率分别达(76.28±2.73)%与(74.63±5.49)%,孵化率分别达(66.95±2.99)%与(62.15±2.18)%,出膜时间分别为(228.8±5.9)h与(221.5±5.2)h,器官发育特征较明显,畸形率较低。纹缟虾虎鱼仔鱼发育时,初孵仔鱼全长(2.534±0.078)mm,卵黄囊长径(0.421±0.047)mm,短径(0.369±0.038)mm,5日龄时卵黄囊基本消失,初步形成消化器官、循环器官和运动器官等。盐度8与10水体孵育的仔鱼畸形率达5%-20%,其他试验组略低。盐度4与6试验组仔鱼的器官发育速度快于其他3个试验组。盐度0-6试验组纹缟虾虎鱼仔鱼生存活力指数(SAI)为41.83-46.83,仔鱼活力较好,而盐度8-

10试验组SAI值为23.43-29.13,活力较差。综合各项指标表明,在盐度0-10范围内,长江口纹缟虾虎鱼胚胎发育的适宜盐度为4-6,早期仔鱼生长的适宜盐度为2-4。

【英文摘要】Tridentiger trigonocephalus w idely ex ists in coast o f the Pac ificOcean1There are very few reports about the character of their early life1F ish was sens itive to the change of env ironm ental factors in the early life1So embryo and larva can indicate the environm ental change1Salin ity is one of themost mi portant eco log icalfactors in the embryon ic and pre- larval development ofT1trigonocephalus1The construction of the ThreeGorges P ro ject on them ainstream m ay act on the environment not only in the reservo ir, them iddle and low reaches of the river, but also in the estuary1It is necessary to study the relationship between salin ity and fish early life1By observing the morpho log ical character of embryonic and pre- larval development ofT 1trigonocephalus w ith N ikon m icroscope, the total developm ent tmi e o f every deve lopment stage w as noted and calculated1T he characteristic mi ages were taken byN ikon cam era1The characters of early life stages and effects of salinityon the early developm ent ofT1trigonocephalus were studied1The expermi entation groups included salinities of 0, 2, 4,6, 8 and 10, respectively1Every group was put into 100 oosperm or 10 pre-larva under the water of temperature (18.0 ?015e) , deliquescent oxygen 616) 812 m g /L, pH 712) 7181The results showed fecundation rate and hatching rate w erethe highest at salinities of4 and 61F ecundat ion rate was (76128 ? 2173)% and (74163 ? 5149)%, and hatching ratew as(66195 ? 2199)% and (62115 ? 2118)%, respectively1Hatch ing tmi e w as the shortest and em bryon ic developm entw as them ost quickly at salinit ies of 4 and 61H atching tmi e was 22818 ? 519h and 22115 ? 512h, respectively1 It spent longertmi e from heart beat ing stage to hatch ing stage, 56 percent of the total tmi e1M eanwhile, pectoral fin, sw mi -bladder, k idney and bladder cam e into being before pre-stage of hatching stage1The deform ity rateswere from 5% to 20% at salin ities of8and 10 and the other salinities were low er1The larva w as (21534 ? 01078)mm in body leng th1T he long and short diameter of yo lk sac w ere (01421 ? 01047)mm and (01369 ? 01038)mm, respectively1The yo lk sac disappeared and organs beg in to form after five days1The organ developm ent o f larvalT 1trigonocephalus wasmore quickly at salinities of4 and 6 than theothers1The range of survival activ ity index w as from 41183 to 46183 and pre-larva vigor was high w ith water salinity from 0 to 61The range of survival activity index was from 23143 to 29113 and pre-larva v igor was low at salinity of8 and 101At low salinity range, the suitab le sa linity for hatching was from salinity 4 to 6 and for pre- larvae survival and grow th was from salinity of 2 to 4, respectively1

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【学科分类】水产学基础学科

【题目】长江口中华鲟幼鱼趋光行为及其对摄食的影响

【中文关键词】中华鲟; 趋光行为; 栖息地; 光照强度; 摄食

【英文关键词】Acipenser sinensis; pho to tactic behav iour; habita;t illum ina tion intensity; feed ing

【中文摘要】研究了长江口中华鲟幼鱼对光照强度的选择及其对摄食的影响, 结果表明: 个体实验时,中华鲟幼鱼选择暗区(1~-2 lx)、过渡区(10- 12 lx)和亮区(200- 209 lx)的时间百分比分别是(1.32%±3.50%) 、(7.17%±13.5%)和(91.52% ± 14.9%) ; 群体实验时, 中华鲟幼鱼选择暗区、过渡区和亮区的数量百分比分别为(6.42% ± 4.13%)、(14. 20%±7.45%) 和(82. 38% ±15. 2%) , 个体实验的时间百分比和群体实验的数量百分比在3个不同亮度区内均存在显著差异(P < 0. 05) , 中华鲟幼鱼具有明显的趋光行为。幼鱼在亮区围绕光源作圆周运动, 其行为模式符合鱼类趋光的 信号适应 机制假说。中华鲟幼鱼猎食活体子陵吻虾虎鱼的摄食量(F c)、摄食强度(F i)、摄食率(F r) , 在光照(206 lx)条件下, 分别为(9. 67±2. 08)(尾/10尾・4 h)、(0. 97±0. 21) (尾/尾・ 4 h)、(0. 24 ±0. 05) (尾/尾・h) ; 黑暗条件下(0 lx) , 分别为(10. 67 ± 2. 31) (尾/10尾・ 4 h)、(1. 07 ±0. 23) (尾/尾・ 4 h)、(0. 27 ± 0. 06)(尾/尾・ h)。处理间(光照和黑暗之间), 3项指标均无显著差异(P > 0. 05)。这一结果表明,中华鲟幼鱼的猎食效率与光照强度无关, 即幼鱼不依靠视觉捕食, 属非视觉摄食类型鱼类, 因此, 认为中华鲟幼鱼趋光行为中, 光线的信号意义大于利用视觉捕食的意义, 幼鱼以光线作为信号来寻找食物丰富的栖息地。

【英文摘要】Hab itat preference p lay s an im po rtant ro le in the life o f f ish. Illum ina tion intensity preference and its ef fects on feed ing ef f ic iency o f juven ile C hinese sturg eon, Acipenser sinensis w ere studied by S ing le Factor Experiments. The result shows that the percentage of time spent by Juv enile Chinese sturgeon in dark area(1. 4 - 2. 2 lx) , transition area (10. 4 - 12. 3 lx) and illum inated area (200. 2 - 209. 1 lx) are(1. 32% ± 3. 50%) , (7. 17% ±13. 5%) and (91. 52%±14. 9%) re spectively; and the number percentag e o f the f ish in three area s are (6. 42%±4. 13%), (14. 2% ±7. 45%) and (82. 38%±15. 2%).Juven ile C hinese sturgeon s are pho topo sitive signif icant ly (K ruskal W allis T es,t P < 0. 05) . The typ ica lbehav io r o f juven ile Ch inese sturgeon in the

illum inated area is c ircling m ovem ent around the ligh t so urce.The behavior type is co inc ident w ith the m echan ism o f f ish pho to tax is of & signa l adap tion hypo the sis% .When prov ided 206 lx illum ination intensity, the feeding consum ption (Fc), feed ing in tensity (F i) and feed ing rate(F r) o f juvenileC h ine se sturgeon on Rhinogobius g iurinus w ere (9. 67±2. 08) , (0. 97±0. 21) and (0.24 ±0. 05). W hen illum ination intensity w ere 0 lx, the v alue o f F c, F i and F r w ere (10. 67 ±2. 31), (1. 07± 0. 23) and (0. 27 ±0. 06) . The feed ing ef f iciency o f juvenile sturgeons w ere not sign if icantly d ifferent betw een tw o illum inat ion cond it ions(P > 0. 05, M ann W hitney Test) . The re sult show s that feed ing behav io r o f juven ile C hine se sturg eonm ight no t be dependent on vision.

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【题目】A Novel Hydrolytic Dehalogenase for the Chlorinated Aromatic Compound Chlorothalonil
【中文关键词】百菌清,水解脱卤酶
【英文关键词】Chlorothalonil,Hydrolytic Dehalogenase
【中文摘要】脱卤酶在卤代芳烃类化合物的脱毒中起关键作用,有趣的是到目前为止只有一个卤代芳烃的水解脱卤酶的报道,为4-氯苯甲酰胺辅酶A脱卤酶。在苯文中,我们从百菌清降解菌株Pseudomonas sp. CTN-3中鉴定到另外一个全新的百菌清水解脱氯酶Chd。通过反向色谱、串联质谱和核磁共振技术首次用确切的证据证明百菌清水解脱氯酶Chd能将百菌清的4-位氯原子被脱氯生成4-羟基百菌清。Chd能在好氧和厌氧下对百菌清进行脱氯,而且不需要CoA和ATP的参与。Chd包含一个metallo-β-lactamase超家族的保守区域,和金属水解酶的最高同源性只有24-29%。Chd是一个单聚体(36kDa)、等电点为4.13。Chd对百菌清Km为0.112 mM,kcat值为 207 s-1。Chd能被1,10-邻菲二罗啉、diethyl pyrocarbonate和N-bromosuccinic acid完全抑制。点突变结果显示His128和157、Asp45、130和184、Trp241为Chd的催化功能所必需。Chd在氨基酸序列同源性和催化机制方面不同于以前报道的所有水解脱卤酶,该水解脱氯酶Chd是国际上第一个报道的不依赖于CoA和ATP的氯代芳香族化合物的水解脱氯酶。该研究为卤代芳烃化合物的水解脱卤的催化机制研究提供了一个非常好的材料。
【英文摘要】Dehalogenases play key roles in the detoxification of halogenated aromatics. Interestingly, only one hydrolytic dehalogenase for halogenated aromatics, 4-chlorobenzoyl – coenzyme A (CoA) dehalogenase, has been reported. Here, we characterize another novel hydrolytic dehalogenase for a halogenated aromatic compound from the 2,4,5,6-tetrachloroisophthalonitrile (chlorothalonil)-degrading strain of Pseudomonas sp. CTN-3, which we have named Chd. Chd catalyzes a hydroxyl substitution at the 4-chlorine atom of chlorothalonil. The metabolite of the Chd dehalogenation, 4-hydroxy-trichloroisophthalonitrile, was identified by reverse-phase high-performance liquid chromatography (HPLC), tandem mass spectrometry (MS/MS), and nuclear magnetic resonance (NMR). Chd dehalogenates chlorothalonil under anaerobic and aerobic conditions and does not require the presence of cofactors such as CoA and ATP. Chd contains a putative conserved domain of the metallo- -lactamase superfamily and shows the highest identity with several metallohydrolases (24 to 29%). Chd is a monomer (36 kDa), and the isoelectric point (pI) of Chd is estimated to be 4.13. Chd has a dissociation constant (Km) of 0.112 mM and an overall catalytic rate(kcat) of 207 s 1 for chlorothalonil. Chd is completely inhibited by 1,10-phenanthroline, diethyl pyrocarbonate,and N-bromosuccinic acid. Site-directed mutagenesis of Chd revealed that histidines 128 and 157, serine 126, aspartates 45, 130 and 184, and tryptophan 241 were essential for the dehalogenase activity. Chd differs from other reported hydrolytic dehalogenases based on the analysis of amino acid sequences and catalytic mechanisms. This study provides an excellent dehalogenase candidate for mechanistic study of hydrolytic dehalogenation of halogenated aromatic compound.
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【第一作者】王光利
【通讯作者】蒋建东
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【学科分类】微生物学

【题目】Random transposon vectors pUTTns for the markerless integration of exogenous genes into gram-negative eubacteria chromosomes
【中文关键词】革兰氏阴性,多拷贝整合,随机整合载体
【英文关键词】Gram-negative, Multiple integration,Random transposon vector,sacB,Markerless integration
【中文摘要】开发了一套随机整合载体可以实现在革兰氏阴性细菌染色体上无标记随机整合外源基因。
【英文摘要】A set of random transposon vectors pUTTns that facilitates the markerless integration of new functions into the chromosome of gram-negative bacteria has been developed. The vectors, which are derived from mini-Tn5 transposons, are located on a R6K-based suicide delivery plasmid that provides the IS50R transposase tnp gene in cis, but they are external to the mobile element. The vectors' conjugal transfer to recipients is mediated by RP4 mobilization functions in the donor. Internal to the mini-Tn5 element is a cassette that contains a selectable antibiotic resistance marker (kanamycin, chloramphenicol, or tetracycline resistance gene), a counter-selectable marker (sacB), a 430-bp repeat of the sacB gene 3 ′ end acted as the directly-repeated (DR) sequence, and modified multiple cloning sites (MCS). After two total rounds of transposon integration and recombination between the two DRs, only the exogenous DNA inserted into theMCS (passenger genes) and a single 430-bp scarsacBDR fragment remained in the chromosome after excision. The utility of these vectors was demonstrated by integrating the organophosphorus insecticide hydrolase gene (mpd) into the chromosome of Escherichia, Pseudomonas, Sphingomonas, andParacoccus species. Sequential integration of another organophosphorus insecticide hydrolase gene (oph) into the previously engineered bacteria, without bringing any selectablemarkers,was also successful. These engineered bacteria were relatively stable. Cell viability and original degrading characteristics were not affected comparedwith the original recipients. This shows that the developed systemis very useful for the markerless integration of exogenous genes into the chromosome of gram-negative eubacteria.
【语种】英文
【第一作者】李荣
【通讯作者】蒋建东
【期刊名称、卷期、页码】Journal of Microbiological Methods, 2009, 79: 220-226
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【引文索引号】10.1016/j.mimet.2009.09.011
【学科分类】微生物学

【题目】马铃薯生长后期叶片对产量的影响
【中文关键词】马铃薯; 叶片; 去叶; 产量
【英文关键词】Potato; Leaves; Defoliation; Yield
【中文摘要】[目的]研究马铃薯生长后期叶片对产量的影响。[方法]通过不同时期去叶处理方法,对马铃薯生长后期叶片对马铃薯结薯数、大薯率及产量的影响进行了探讨。[结果]马铃薯终花期后叶片对结薯数影响不大,而对大薯率和最终的产量影响较大。[结论]马铃薯终花期前马铃薯植株结薯数量已经确定,而大薯数及最终产量的形成与后期叶片仍有一定的关系。在生产上应综合利用各种措施,调控植株后期叶片生长, 延长叶片的功能期,为马铃薯丰产奠定基础。
【英文摘要】[Objective] The aim was to survey the effects of leaves on the yield of potato in late growing period. [Method] The tuber number, large tuber number and the yield of potato in late growing period were discussed. [Result] The effect of leaves on the tuber numberw as not significan, while that on the large tuber number and yield of potato in late growing period were significan. [Conclusion] The tuber number of potato had been confirmed before the late flowering, and the large tuber number and the yield of potato were related to leaves. In practical production, applying various measures to regulate the growth of leaves could prolong the functional period of leaves, which would provide basis for the high yield of potato.
【语种】中文
【第一作者】张华普
【通讯作者】沈瑞清
【期刊名称、卷期、页码】安徽农业科学,2010,38(29):16182-16183
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【学科分类】植物保护学

【题目】体外转录法制备西尼罗河热病毒RNA片段
【中文关键词】西尼罗河热病毒;T7 启动子;体外转录
【英文关键词】West Nile virus ;T7 promoter;transcription in vitro
【中文摘要】目的 通过体外转录获得西尼罗河热病毒保守区基因的RNA 片段,为核酸快速检测方法的建立和改进提供阳性定量标准品。方法 设计西尼罗河热病毒基因保守区克隆引物,PCR 从合成的基因DNA 获得相应片段,连接至质粒PGEM-T-easy 上并筛选阳性重组质粒,测序鉴定后酶切线性化,用T7 RNA 聚合酶进行体外转录,得到固定长度的RNA 片段,DNase 酶处理后测定浓度,梯度稀释后用RT-PCR 验证。结果 获得含西尼罗河热病毒靶基因序列的准确定量拷贝数的RNA 片段,质量浓度分别为352.6 ng/μL,RT-PCR 验证均扩增出相应目的条带。结论 获得的RNA 片段可作为西尼罗河热病毒核酸快速检测方法的阳性定量标准品。
【英文摘要】Objective To prepare the positive standard substance containing the specifi c gene of West Nile virus (WNV) by in vitro transcription for the development and further improvement of the nucleic acid detection method of WNV. Methods Primers targeting the conservative segment of WNV were designed. The target gene was amplifi ed by PCR and connected into the pGEM-T-easy vector. The plasmids were sequenced and the correct positive plasmid was selected then cutted into lined plasmid by restriction enzyme used as in vitro transcription template. After transcribed by T7 RNA polymerase and treated by DNase I,the fi xed length RNA was generated. The concentration of RNA was assayed. The RNA was diluted and verifi ed by RT-PCR. Results The RNA fragment containing WNV gene was obtained. The detection limit of RT-PCR was 5.0×102copies/μL. Conclusion The RNA transcribed in vitro could be used as positive control in the detection of West Nile virus.
【语种】中文
【第一作者】邹艳丽
【通讯作者】王志亮
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【引文索引号】null
【学科分类】兽医学

【题目】我国西藏小反刍兽疫病毒China/ Tib/ Gej/ 07-30 核衣壳蛋白基因和基因组启动子区的分子特征分析
【中文关键词】小反刍兽疫病毒;核衣壳蛋白;基因组启动子区;核苷酸序列
【英文关键词】Peste des petits ruminants virus;Nucleocapsid protein;Genome promoter region;Nucleotide sequence
【中文摘要】首次对我国西藏小反刍兽疫病毒China/Tib/Gej/07-30的核衣壳蛋白(N)基因和基因组启动子(GP)区进行序列测定和分子生物学特征分析。首先应用逆转录聚合酶链式反应从发病山羊病料中扩增出小反刍兽疫病毒N基因片段,用cDNA3′末端快速扩增方法获得基因组启动子区片段,对聚合酶链式反应产物进行直接测序,然后对测定的核苷酸和推测的氨基酸序列进行比较分析,绘制系统发生树。我国西藏小反刍兽疫病毒China/Tib/Gej/07-30的N基因由1689个核苷酸组成,编码525个氨基酸,与India/Jhansi/03等6个已知N基因全序列的PPRV毒株核苷酸和氨基酸序列同源性分别为91.7~97.6和94.9~98.5。小反刍兽疫病毒China/Tib/Gej/07-30N蛋白与磷蛋白作用的结构序列之一为495LFRLQAM501保守序列,N蛋白281-289位氨基酸含有一个T细胞表位,为281YPALGLHEF289保守序列。小反刍兽疫病毒China/Tib/Gej/07-30的GP区由107个核苷酸组成,与Tur-key2000等5株其他PPRV毒株同源性为91.8~98.2。N基因核苷酸序列和相应的氨基酸序列系统进化分析表明小反刍兽疫病毒China/Tib/Gej/07-30与亚洲国家分离株关系最近。
【英文摘要】The N gene and genome promoter nucleotide sequence of a Chinese Peste des petits rumiants virus(PPRV)("China/Tib/Gej/07-30") was firstly determined.The length of N gene was 1689 nucleotides with a single open reading frame(ORF).The nucleotide and deduced amino acid sequence was compared with the homologous region of other PPRV isolates.The nucleotide sequence of the "China/Tib/Gej/07-30" was 91.7%-97.6% identical to other PPRV isolates,while a homology of 94.9%-98.5% could be observed at the amino acids level.The N gene encoded a protein of 525 amino acids.Several sequence motifs were identified on the basis of conservation in the PPRVs and the morbilliviruses.The genome length of promoter region was 107 nucleotides with 91.8%-98.2% identity to other PPRV isolates.Phylogenetic analysis showed that the "China/Tib/Gej/07-30" belonged to the Asian lineage.

【语种】中文
【第一作者】包静月
【通讯作者】王志亮
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【学科分类】兽医学

【题目】西尼罗河病毒病竞争ELISA检测方法的初步建立及应用
【中文关键词】西尼罗河病毒;囊膜蛋白;单克隆抗体;竞争ELISA
【英文关键词】West Nile virus(WNV);Envelope protein;Monlclonal antibody;cELISA
【中文摘要】本研究用表达的西尼罗河病毒(WNV)囊膜蛋白E结构域III蛋白作为包被抗原,单抗8F4A4作为竞争检测抗体,初步建立了能够对乙型脑炎病毒(JEV)和WNV进行鉴别诊断的竞争ELISA方法。优化的最佳抗原包被浓度为530ng/mL,单抗的最佳稀释倍数为1:8000,待检血清的最佳稀释倍数为1:10。通过对56份阴性样品进行检测确定了该方法的临界值为30%,以此为判定标准对临床220份血清进行检测,结果均为阴性。此方法的建立弥补了商品化试剂盒不能区分JEV和WNV感染的缺陷,为我国西尼罗河病毒病的流行病学调查提供了一种有效的抗体检测方法。
【英文摘要】A cELISA for detection of WNV antibody was established using purified WNV E protein domain III as antigen coating the ELISA plate and monoclonal antibody 8F4A4 specific to WNV as competitive detection antibody.The results showed that the antigen coat concentration was 530 ng/mL,the best dilution of McAb 8F4A4 was 1:8000 and the best serum dilution was 1:10.A total of 56 clinically confirmed negative control sera were tested by the cELISA.Through analysis,it was concluded that the cut-off value was 30%.A set of 220 clinical serum samples were tested by the cELISA and all were negative.Contrast to the commercial kits,the method could differentiate the JEV and WNV antibody,providing an efficient antibody detection method for the West Nile virus disease epidemiology investigation in our country.
【语种】中文
【第一作者】常娓娓
【通讯作者】王志亮
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【学科分类】兽医学

【题目】小反刍兽疫H蛋白主要抗原表位的原核表达
【中文关键词】小反刍兽疫;H基因;表达;抗原位点
【英文关键词】peste des petits ruminants (PPRV);H gene;express;antigen epitope
【中文摘要】目的表达小反刍兽疫病毒H蛋白的主要抗原位点用于检测与预防。方法用DNAStar分析小反刍兽疫病毒H基因的主要抗原位点,采用逆转录聚合酶链式反应(RT-PCR)技术,从病羊组织中扩增PPRV的H基因的主要抗原位点并克隆到原核表达载体PET-28b中,最后用PCR、酶切和测序分析对重组质粒进行鉴定;将重组质粒转化到大肠杆菌Rosetta中,经不同浓度的IPTG诱导表达PPRVH基因的主要抗原位点;用SDS-PAGE和Western-blotting分析所有蛋白的表达。结果将RT-PCR产物电泳,得到与预期大小相符的特异性片段;对重组质粒PET-28b-H66-249和PET-28b-H281-550酶切后,均出现预期相符的片段;DNA测序表明插入片段的序列与小反刍兽疫H蛋白基因完全一致,其大小分别为569bp和831bp;将重组表达的蛋白经SDS-PAGE和Western-blotting检测,证明所有的蛋白均得到表达。结论成功表达了PPRVH基因的主要抗原蛋白,为日后的检测与预防工作奠定了基础。
【英文摘要】Objective: Peste des petits ruminants virus (PPRV) H protein antigen epitopes were expressed for the disease detection and prevention. Methods: Peste des petits ruminants H gene antigen epitoes were analysised by DNAStar and were amplified by reverse transcription-polymerase chain reaction (RT-PCR) technology from disease goat tissue and were inserted into the prokaryotic expression vector PET-28a, finally, the recombinant plasmid were analysised by PCR 、 endozyme digestion and sequencing; The recombinant plasmid were transformed into E.coli.Rosetta and were induced to express with different concentration of ITPG and analysised H protein expression in E.coli.Rosetta as by SDS-PAGE and Western-blotting. Results: electrophoresis of the RT—PCR

product and acquired specific fragment; By restriction enzyme digestion, the recombinant plasmids were digested into the fragments in line with expectations; The DNA sequence of the 569bp, 831bp fragments were identical with H gene in Genebank. Conclusion: The success of expression the PPRV H gene antigen epitope provided foundation for detection and prevention in the future.
【语种】中文
【第一作者】田晓灵
【通讯作者】王志亮
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【题目】小反刍兽疫病毒_PPRV_N蛋白的表达与ELISA检测方法的建立
【中文关键词】PPRV;N蛋白;表达;ELISA
【英文关键词】PPRV;Expression;ELISA
【中文摘要】通过对下载的16株小反刍兽疫病毒(PPRV)N基因片段进行序列分析,合成了PPRV N基因。用NP1和NP2引物扩增。纯化的PPRV N基因在T4DNA连接酶的作用下,和PET32-a载体进行连接反应构建重组质粒pET-a-PPRV-N。经诱导表达和纯化后,得到了大量的PPRV N蛋白。用PPRV N蛋白制备免疫血清,经国际标准血清标化后作为参考阳性血清,同时以PPRV N蛋白为抗原建立间接ELISA(I-ELISA)方法。对山东省的467份羊血清检测,使用S/P(样品值/阳性值)平均值加3倍标准差的方法,计算出其临界点为0.28。应用间接ELISA和针对H蛋白的单抗为基础的C-ELISA检测来自于疫区的69份血清,结果两者的符合率为79.7%。
【英文摘要】PPRV N gene was synthesized by analyzing 16 strains PPRV ′s N gene.Using primer NP1 and NP2 PPRV N gene was amplified.The purified PPRV-N gene and plasmid PET32-a were sequenced by T4 DNA polymerase to construct plasmid pET-a-PPRV-N.Abundant PPRV N protein is expressed by inducing.Using PPRV N protein prepares immuno-sera,and produce positive control sera by standardizing the immuno-sera by reference positive sera of IAH(institute of animal health).Indirect ELISA test was developed by using PPRV N protein as coating antigen.467 sera of sheep and goats of Shandong province were detected,and sample ′s S/P value(sample ′s OD450/reference positive serum ′s OD450) was calculated to acquire cut-off value by S/P ′s average adding 3 times standard deviation with the threshold value of 0.28.Using PPRV-N indirect ELISA and C-ELISA which based on PPRV-H protein ′s mono-antibody 69 sera of PPRV infected area were detected.With the accordance rate of 79.7% between I-ELISA and C-ELISA.
【语种】中文
【第一作者】张喜悦
【通讯作者】王志亮
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【学科分类】兽医学

【题目】小反刍兽疫病毒(PPRV)N基因体外转录与RT-PCR方法的研究
【中文关键词】PPRV;体外转录;RT-PCR
【英文关键词】PPRV;In vitro;Transcription RT-PCR
【中文摘要】小反刍兽疫(PPR)是由PPRV引起的主要是绵羊和山羊的一种热性病毒病。我们合成了PPRVN基因,连接到pGEM-T载体中,线性化处理后用T7转录酶启动体外转录,获取类PPRV的RNA作为阳性对照,参考国外文献设计一对合适的引物NP3和NP4,经PCR条件的优化,获得了预期的350bp目的片断,初步建立了检测PPRVN基因的反转录聚合酶链反应(RT-PCR)。
【英文摘要】Peste des petits ruminants virus (PPRV) N gene was synthesized and transformed into pGEM-T to construct the vector pGEM-T-PPRV-N. Then the lined PPRV N gene was transcribed by using T7 enzyme in vitro to acquire RNA of PPRV-N as positive control. A pair of primer NP3 and NP4 was designed in reference to the related literature, a 350bp fragment was amplified as anticipated after optimizing the factor of RT-PCR. A RT-PCR assay was developed preliminarily and it can be used to detect PPRV N gene.

【语种】中文
【第一作者】张喜悦
【通讯作者】王志亮
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【学科分类】兽医学

【题目】小反刍兽疫病毒F蛋白抗原位点的克隆与表达
【中文关键词】小反刍兽疫病毒;F基因;原核表达;抗原位点
【英文关键词】Peste des petits ruminants virus(PPRV);F gene;Prokaryotic expression;Antigen epitope
【中文摘要】目的表达小反刍兽疫F蛋白的抗原位点用于检测与预防。方法用DNAStar分析小反刍兽疫的抗原位点,采用逆转录聚合酶链式反应(RT-PCR)技术,从病羊组织中PPRV的F基因的抗原位点并克隆到原核表达载体PET-28b中,最后用PCR、酶切和测序分析对重组质粒进行鉴定;将重组质粒转化到大肠杆菌Rosetta中,经ITPG诱导表达PPRVF基因的抗原位点;用SDS-PAGE和Western-Blotting分析抗原位点蛋白的表达。结果将RT-PCR产物电泳,得到与预期大小相符的特异性片段;对重组质粒PET-28b-F35-111(pZLW013)、PET-28b-F143-485(pZLW014)和PET-28b-F323-485(pZLW015)酶切后,均出现与预期相符的片段;DNA测序表明插入的片段的序列与小反刍兽疫F基因的抗原位点序列分别完全一致,其大小分别为251bp、1053bp和514bp;将重组表达的蛋白经SDS-PAGE和West-ern-Blotting分析,证明小反刍兽疫抗原位点F35-111没有表达、抗原位点F143-485和F323-485得到表达。结论成功表达了PPRVF基因的两段抗原位点蛋白,为日后检测与预防工作奠定了基础。

【英文摘要】Objective:To clone and express Peste des petits ruminants virus(PPRV) F protein antigen epitope in prokaryotic expression vector for use in PPR detection and prevention.Methods:Peste des petits ruminants F gene antigen epitop were analysised by DNAStar and were amplified by reverse transcription-polymerase chain reaction(RT-PCR) technology from disease tissue and were inserted into the prokaryotic expression vector PET-28a,finally,the recombinant plasmid were analysised by PCR,enzyme digestion and sequencing;The recombinant plasmid were transformed into E.coli Rosetta and were induced to express with different concentrations of ITPG and the results of F protein expression in E.coli.Rosetta were analysised by SDS-PAGE and Western-blotting.Results:the RT-PCR product was subjected to electrophoresis and specific fragment was obtained;By restriction enzyme digestion,the recombinant plasmids were digested into the fragments in line with expectations;The DNA sequence of the 251bp,1053bp and 514bp fragments were identical with F gene in Genebank;By SDS-PAGE and Western-blotting One recombinant protein-pZLW13 can not be expressed but another recombinant protein were ex-pressed in E.coli Rosetta.Conclusion:The success ful expression of two PPRV F gene antigen epitopes provided foundation for detection and prevention in the future.
【语种】中文
【第一作者】赵永刚
【通讯作者】王志亮
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【学科分类】兽医学

【题目】小反刍兽疫病毒H、F基因及其植物表达载体相关序列克隆
【中文关键词】小反刍兽疫病毒;TA克隆;表达载体构建
【英文关键词】Peste des petits ruminants virus;T-A cloning;construction of expression vectors
【中文摘要】为了构建小反刍兽疫病毒(PPRV)植物表达载体,试验采用TA克隆的方法,从PPRV质粒中分别扩增出F、H基因,在H基因终止密码子前加入KDEL序列,形成H-KDEL,从烟草SR Ⅰ中扩增出促进外源基因表达的MAR12序列和MAR34序列,从pHL005质粒中扩增出报告基因——绿色荧光蛋白GFP基因,以上克隆载体均带有相应酶切位点。结果表明:所克隆的基因和序列大小均与理论值相符,说明各克隆载体均构建成功。

【英文摘要】To construct plant expression vectors of Peste des petits ruminants virus (PPRV),the genes of F and H were amplified from PPRV plasmid,H-KDEL through adding KDEL was formed into the gene H before its termination codon,two sequences MAR12

and MAR34 in Tobacco SR Ⅰ which enhance the expression of exogenous genes,as well as a reporter gene,green fluorescent protein gene from pHL005 plasmid was cloned by TA cloning.All the clones were with the enzyme site.The result showed that the clones size of all the genes and sequences were the same to the theories.The cloning vectors had been successfully constructed.

【语种】中文
【第一作者】刘霞
【通讯作者】王志亮
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【学科分类】兽医学

【题目】Development of an Enzyme-Linked Immunosorbent Assay for Seven Sulfonamide Residues and Investigation of Matrix Effects from Different Food Samples

【中文关键词】磺胺类药物 ELISA 检测残留量
【英文关键词】Sulfonamides ELISA detection residues
【中文摘要】本实验研究了直接竞争酶联免疫吸附测定(ELISA)检测不同基质中磺酰胺类药物的残留。采取简单、快速的样品提取法即仅用磷酸盐缓冲液(PBS)提取猪肉,鸡肉,鱼肉和蛋中的此类抗生素。将20ml提取物溶液添加到4 g的样品中,对于缓冲液稀释的样品提取物,直接用ELISA方法分析,通过用PBS 5倍稀释猪肉,鸡肉和鸡蛋提取物,以及用含有1%牛血清白蛋白(BSA)的缓冲液5稀释鱼肉提取物的方法,可消除基质影响。对肝脏样品,这种提取方法更复杂一些。将2g样品加入20ml乙醇中,混匀然后均质离心。除去10ml的上清液,残留物溶解于10ml的PBS中,然后过滤。滤液用0.5%的BSA-PBS液两倍稀释。这些方法能够检测硫代异唑等七个磺胺剂残留(如在猪肉、肝脏、鸡肉、蛋和鱼中的磺胺噻唑,长效磺胺, 磺胺嘧啶以及磺胺氯达嗪残留物)。此方法的检出限是100 ug/kg. 对各种提取方法进行实验表明,各基质的回收率一般在77.3%到123.7%之间。
【英文摘要】Direct competitive enzyme-linked immunosorbent assays (ELISA) were developed to detect a broad range of sulfonamides in various matrices. Screening for this class of antibiotics in pig muscle, chicken muscle, fish, and egg extracts was accomplished by simple, rapid extraction methods carried out with only phosphate-buffered saline (PBS) buffer. Twenty milliliters of extract solution was added to 4 g of sample to extract the sulfonamide residues, and sample extracts diluted with assay buffer were directly analyzed by ELISA; matrix effects could be avoided with 1:5 dilution of pig muscle, chicken muscle, and egg extracts with PBS and 1:5 dilution of fish extract with 1% bovine serum albumin (BSA)-PBS. For liver sample, the extraction method was a little more complicated; 2 g ofsample was added to 20 mL of ethanol, mixed, and then centrifuged. The solvent of 10 mL of the upper liquid was removed, and the residues were dissolved in 10 mL of PBS and then filtered; the filtrate was diluted two-fold with 0.5% BSA-PBS for ELISA. These common methods were able to detect seven sulfonamide residues such as sulfisozole, sulfathiazole, sufameter, sulfamethoxypyridazine,sulfapyridine, sulfamethizole, and sulfachlorpyridazine in pig muscle, liver, chicken muscle,egg, and fish. The assay ’s detection limits for these compounds were less than 100 í g kg-1. Various extraction methods were tested, and the average recovery (n) 3) of 100 í g kg-1 for the matrices was found to range from 77.3 to 123.7%.

【语种】英文
【第一作者】张鸿雁
【通讯作者】王硕
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【引文索引号】0021-8561
【学科分类】食品卫生学

【题目】Development of ELISA for the determination of transgenic Bt-cottons using antibodies against Cry1Ac protein from Bacillus thuringiensis HD-73

【中文关键词】生物技术 PCR 转基因植物
【英文关键词】Biotechnology PCR Transgenic plants

【中文摘要】在中国以及其他国家,携带有Cry1Ac基因的bt棉花种植面积逐年增加。为了评估因释放Bt(苏云金杆菌)技术而产生的对环境的潜在负面影响,试图开发一种能方便检测出Cry1Ac毒素的方法。本研究的目的是开发一种双抗夹心的elisa方法来检测在bt棉花组织中的Cry1Ac蛋白。特异性抗体来自接种了由Bt代谢物hd – 73派生的Cry1Ac蛋白质的兔子体内,联有HRP的二抗可与 Cry1Ac HRP Bt蛋白质特异性结合。检出限是5ng/mL, 且在Cry1Ab,Cry1C,Cry2A,Cry3Bb1和Cry9C之间没有交叉反应。用棉花叶中提取的蛋白质来评估试验的适用性。tris-硼酸缓冲液和碳酸钠缓冲液用于提取蛋白质,吸光度检测限分别为0.134和0.449,后者会产生更高的背景值。结果表明GK 12,GK 22,抗虫棉花、二价转基因棉花、石远321实验呈阳性,NON呈阴性。PCR方法一般用于研究已建立的检测方法的有效性。尽管两种方法都会获得同样的结果,但是ELISA所需仪器简单而且耗时较少。这种先进的免疫测定方法对于Bt Cry1Ac蛋白质的检测也是十分可靠的。

【英文摘要】The area cultivated with Bt-cottons expressing Cry1Ac gene increases year by year in China and other countries. To evaluate any otential adverse impacts on the environment from the release of Bt (Bacillus thuringiensis) technology, the development of a method for easily detecting the activity of the Cry1Ac toxins is of particular interest. The aim of this study was to develop sandwich-ELISA for the detection of Cry1Ac protein in Bt-cotton tissues. A specific antibody was obtained from rabbits inoculated with Cry1Ac protein derived from Bt strain HD-73 and a secondary antibody conjugated to HRP could combine the Bt Cry1Ac protein specifically. The limit of detection was 5 ng/mL and there were no crossreactions between the positive control of Cry1Ab/1Ac, Cry1C, Cry2A, Cry3Bb1 and Cry9C. Extracts of proteins from cotton leaves were used to evaluate the suitability of the assay. Tris-borate buffer and sodium carbonate buffer were employed for the extraction of protein, the limit absorbance of detection was 0.134 and 0.449, respectively, and the atter produced a higher background. The results showed that cultivars GK-12, GK-22, insect-resistant cotton, bivalent transgenic cotton and shiyuan 321 assayed positively and NON was the negative sample. The PCR method was used for the validation of the developed assay. Although both methods allowed the same results to be obtained, ELISA needed simple equipment and took less time. The developed immunoassay method is considered reliable for the detection of Bt Cry1Ac protein.

【语种】英文
【第一作者】王硕
【通讯作者】王硕
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【学科分类】食品科学技术基础学科

【题目】Kinetic spectrophotometric method for rapid determination of trace formaldehyde in foods
【中文关键词】甲醛 分光光度法 动力学测定 玫瑰红b
【英文关键词】Formaldehyde Spectrophotometric method Kinetic determination Rhodamine B
【中文摘要】简单且灵敏的动力学分光光度法应用于测定在食物样品中的超痕量甲醛残留。该方法基于在硫酸介质中(甲醛作为催化剂)溴酸钾氧化罗丹明B(拉昔胡申)的反应原理。通过测量染料6分钟后,在515 nm处吸光度的减少量来监测反应。这种方法可以准确精密地测定10 - 100 g/L范围内的甲醛残留量,检出限为2.90g/L。检测残留量为10g/L、60g/L的两种样本,相关水平偏差分别为3.0% 和1.9% (n = 10)。结果表明,这种方法具有灵敏性、可选择性,应用于食品中甲醛残留的检测会有令人满意的效果。

【英文摘要】A simple and sensitive kinetic-spectrophotometric method was developed for the determination of ultra trace amount of formaldehyde in food samples. The method was based on the oxidation of rhodamine B (RhB) by potassium bromate in sulfuric acid medium (formaldehyde as catalyst).The reaction was monitored by measuring the decrease in absorbance of the dye at 515 nm after 6 min. The developed method allowed the determination of formaldehyde in the range of 10 – 100 gL − 1 with good precision, accuracy and the detection limit was down to 2.90 gL − 1. The relative standard deviations for the determination of 10 and 60 gL − 1 of formaldehyde were 3.0% and 1.9% (n = 10), respectively. The method was found to be sensitive, selective and was applied to the determination of formaldehyde in foods with satisfactory results.

【语种】英文
【第一作者】崔小军
【通讯作者】王硕
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【学科分类】食品卫生学

【题目】Synthesis and characterization of a molecularly imprinted silica gel sorbent for the on-line determination of trace Sudan I in Chilli powder through high-performance liquid chromatography
【中文关键词】苏丹红 I 分子印迹 溶胶凝胶 在线固相萃取-HPLC
【英文关键词】Sudan I molecular imprinting sol-gel on-line solid-phase extraction high-performance liquid chromatography
【中文摘要】通过表面分子印迹技术结合溶胶-凝胶合成高度选择性印迹聚合物。通过傅立叶变换红外光谱和静、动态吸附实验,对印迹聚合物进行评估。结果表明,与未印迹的吸附剂相比,印迹吸附剂展现出更好的识别性和选择能力,并且提供更快的吸附和解析苏丹I的动力,饱和绑定能力(Qmax)达到33.47mg/g。采用固相萃取-高效液相色谱法(hplc -spe),可将配备好的吸附剂应用于微量苏丹I的测定。以1.5ml/min的加载流率取样50ml,可富集得到一个分子量为1266分子。检出限(S/N=3)为1.2ng/L,五组含量为0.01ug/L的苏丹I平行实验的峰区精确度为3.66%。实际数据显示,当地超市的辣椒粉末中检测出苏丹I 的含量为三个水平(0.25, 0.5, 1.0 ng/g),回收率在80.31%-94.02%的范围内。
【英文摘要】A highly selective imprinted polymer was synthesized by a surface molecular imprinting technique in combination with a sol-gel process. The imprinted polymer was evaluated by FT-IR and static and kinetic adsorption experiments. The results showed that the imprinted sorbent exhibited good recognition and selective ability, offered a faster kinetics for the adsorption and desorption of Sudan I than the non-imprinted sorbent, a saturated binding capacity (Qmax) that reached 33.47 mg g-1.The prepared sorbent was applied for the determination of trace Sudan I through on-line solid-phase coupled with high-performance liquid chromatography (SPE-HPLC). With a loading flow rate of 1.5 mL min-1 for sampling 50 mL, an enrichment factor of 1266 was achieved. The detection limit (S/N) 3) was 1.2 ng L-1, and the peak area precision (RSD) for five replicate detections of 0.01 í g L-1 Sudan I was 3.66%. The Sudan I in the chilli powder from the local market was determined at three levels (0.25, 0.5, and 1.0 ng g-1) with recoveries ranging from 80.31 to 94.02%.
【语种】英文
【第一作者】王硕
【通讯作者】王硕
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【学科分类】食品卫生学

【题目】Multi-residue determination of pesticides in water using multi-walled carbon nanotubes solid-phase extraction and gas chromatography – mass spectrometry
【中文关键词】农药多残留 多壁碳纳米管 固相萃取 GC-MS
【英文关键词】Multi-residue Pesticides Multi-walled carbon nanotubes Solid-phase extraction Gas chromatography – mass spectrometry
【中文摘要】本文研究了一种可行的检测地表水中的12种农药(克百威, 异稻瘟净、甲基对硫磷,扑草净,杀螟硫磷,对硫磷,水胺硫磷,稻丰散,甲巯咪唑、异狄氏剂,乙硫磷、甲氧氯)多残留的方法。即基于固相萃取(以多壁碳纳米管(热合)作为吸附剂)的气相色谱-质谱联用(GC – MS)的检测方法。一些参数对提取效率可能会有影响,诸如洗脱液量、示例流率和优化的样本装载量。实验结果显示,12种农药(R2 > 0.99)的最佳线性范围为在0.04-4g/L,并且在最佳条件下的精确度(RSD)为3.1 – 15.1%。根据基线噪声的色谱信号(S/N=3)的数率,检出限可达到0.01-0.03g/L。在水样品添加回收实验中,回收率为82.0 – 103.7%。结果表明,在研究中多壁碳纳米管对于12种农药有良好的吸附性。具备了成本小、耗时少以及溶剂消耗少的特点,先进的多残留检测方法可应用于同时检测水中多级农药的残留物。
【英文摘要】A reliable multi-residue method which was based on solid-phase extraction (SPE) with multi-walled carbon nanotubes (MWCNTs) as adsorbent was developed for determination and quantitation of 12 pesticides (carbofuran, iprobenfos, parathion-methyl, prometryn, fenitrothion, parathionethyl,isocarbofos, phenthoate, methidathion, endrin, ethion, methoxychlor) in surface water by gas chromatography – mass spectrometry (GC – MS).Parameters that might influence the extraction efficiency such as the eluent volume, the sample flow rate and the sample loading volume were optimized. The experimental results showed the excellent linearity of 12 pesticides (R2 > 0.99) over the range of 0.04 – 4 gL − 1, and the precisions (RSD) were 3.1 – 15.1% under the optimal conditions. The detection limits of proposed method could reach 0.01 – 0.03 gL − 1 based on the ratio of chromatographic signal to base line noise

(S/N = 3). Good recoveries achieved with spiked water samples were in the range of 82.0 – 103.7%. The results indicated that MWCNTs have good adsorbability to the 12 pesticides tested in this study. With less cost, less analytical time and less solvent-consuming, the developed multi-residue method could be used to determine multi-class pesticides in water simultaneously.
【语种】英文
【第一作者】王硕
【通讯作者】王硕
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【学科分类】食品卫生学

【题目】Enzyme-linked immunosorbent assay and colloidal gold immunoassay for ochratoxin A: investigation of analytical conditions and sample matrix on assay performance
【中文关键词】磺胺类药物 ELISA 化学发光检测 残留
【英文关键词】sulfonamides ELISA enhanced chemiluminescent detection residues
【中文摘要】背景:基于多克隆抗体的化学发光酶联免疫吸附检测法,在检测食品中磺胺类物质时具有更好的特异性。通过与16种磺酰胺类药物的交叉反应来评估检测的特异性。此研究的目的是发展一种高灵敏度检测磺酰胺类物质的方法。结果:荧光-酶联免疫吸附法比比色法-酶联免疫吸附法具有更好的灵敏度。检测五种磺酰胺类物质(硫代异唑,磺胺噻唑,长效磺胺和磺胺嘧啶)的灵敏度为0.73 -2.92 μg/L,检出限为0.10 – 0.43 μg/L。批间变异系数少于10%。鸡肉和猪肉的添加回收实验采用简单和快捷的提取方法。达到了良好的回收率(62.1 – 110.3%),并且结果与高效液相色谱法获得的分析结果一致。结论:此次研究提供了一种用于检测食品中残留物(硫代异唑,磺胺噻唑,长效磺胺和磺胺嘧啶)的一种高效分析技术,并具有很高的灵敏度。据作者所知,这是首篇有关荧光-酶联免疫吸附法检测磺酰胺类物质的文章。
【英文摘要】BACKGROUND: An enzyme-linked immunosorbent assay (ELISA) based on polyclonal antibodieswith enhanced chemiluminescent (ECL) detection of sulfonamides in food samples has been optimised and characterised. The specificity of the assay was assessed by determining cross-reactivities with a set of 16 sulfonamides. The aim of this study was to develop a method for determining sulfonamides with high sensitivity. RESULTS: The sensitivity of the developed ECL-ELISA was higher than that of colorimetric ELISA. The sensitivities of five of the sulfonamides (sulfisozole, sulfathiazole, sulfameter, sulfamethoxypyridazine and sulfapyridine) ranged from 0.73 to 2.92 μgL^{-1}, with limits of detection of 0.10 – 0.43 μgL^{-1}. The coefficients of variation of intra-assay and inter-assay studies carriedout over 5 days were mostly less than 10%. Recovery studies of chicken muscle and pig muscle were performed with simple and rapid extraction. Good recoveries (62.1 – 110.3%) were achieved and the results correlated well with those obtained using high-performance liquid chromatography analysis. CONCLUSION: This study has provided an effective analytical technique for the rapid and reliable determination of residues of sulfisozole, sulfathiazole, sulfameter, sulfamethoxypyridazine and sulfapyridine in food samples with high sensitivity. To the authors ’ knowledge, this is the first report on chemiluminescent ELISA for sulfonamide analysis.
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【第一作者】刘俊伟
【通讯作者】王硕
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【学科分类】食品卫生学

【题目】Optimization and validation of enzyme-linked immunosorbent assay for the determination of endosulfan residues in food samples
【中文关键词】硫丹 免疫分析 残留物 基质效应
【英文关键词】Endosulfan immunoassay residue matrix effect
【中文摘要】在该项研究中,采用优化的酶联免疫吸附技术检测蔬菜、干制水果、茶叶和肉等二十种不同的食品样品中硫丹的残留。硫丹的检出限为0.8 μgkg^{-1},灵敏度为5.3 μgkg^{-1}。本研究开发了三种简单的样品提取方法,包括在250 r

min − 1条件下将样品旋转震荡过夜,旋转振荡1h然后充分混合2min。采用甲醇作为抽提溶剂。萃取液用含有0.5%鱼皮明胶的PBS磷酸盐缓冲溶液稀释不同倍数,以消除基体干扰。对于卷心菜(紫色和绿色),芦笋,日本蔬菜,大白菜,青葱,茼蒿,菠菜和大蒜,萃取液稀释10倍;对于胡萝卜和茶叶,萃取液分别稀释15倍和900倍。芹菜,赤豆和栗子的萃取液稀释20倍,以避免基体干扰;生姜,黄豆和花生的萃取液稀释100倍;羊肉和鸡肉萃取液稀释10倍;鳗鱼萃取液稀释40倍。平均回收率为63.13-125.61%。通过气相色谱法(GC)和气相色谱 - 质谱法(GC-MS)进行验证。这项研究的结果将有益于采用ELISA法快速测定食品中的农药的广泛应用。

【英文摘要】In this study, an enzyme-linked immunosorbent assay (ELISA)was optimized and applied to the determination of endosulfan residuesin 20 different kinds of food commodities including vegetables, dry fruits, tea and meat. The limit of detection (IC15) was 0.8 μg kg − 1 and the sensitivity (IC50) was 5.3 μg kg − 1. Three simple extraction methods were developed, including shaking on the rotary shaker at 250 r min − 1 overnight, shaking on the rotary shaker for 1 h and thoroughly mixing for 2 min. Methanol was used as the extraction solvent in this study. The extracts were diluted in 0.5% fish skin gelatin (FG) in phosphate-buffered saline (PBS) at various dilutions in order to remove the matrix interference. For cabbage (purple and green), asparagus, Japanese green, Chinese cabbage, scallion,garland chrysanthemum, spinach and garlic, the extracts were diluted 10-fold; for carrots and tea, the extracts were diluted 15-fold and 900-fold, respectively. The extracts of celery, adzuki beans and chestnuts, were diluted 20-fold to avoid the matrix interference; ginger, vegetable soybean and peanut extracts were diluted 100-fold; mutton and chicken extracts were diluted 10-fold and for eel,the dilution was 40-fold. Average recoveries were 63.13 – 125.61%. Validation was conducted by gas chromatography (GC) and gas chromatography-mass spectrometry (GC-MS). The results of this study will be useful to the wide application of an ELISA for therapid determination of pesticides in food samples.

【语种】英文

【第一作者】张燕

【通讯作者】王硕

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【学科分类】食品卫生学

【题目】Multi-walled carbon nanotubes as solid-phase extraction adsorbents for determination of atrazine and its principal metabolites in water and soil samples by gas chromatography-mass spectrometry

【中文关键词】阿特拉津 代谢物 固相萃取 多壁碳纳米管 GC-MS

【英文关键词】Atrazine Metabolites Solid-phase extraction Multi-walled carbon nanotubes Gas chromatography-mass spectrometry

【中文摘要】本研究开发了一种新颖,简单,低成本且灵敏度高的方法检测水和土壤样品中的阿特拉津以及其重要的代谢物(DIA)和(DEA)。采用多壁碳纳米管作为固相萃取(SPE)吸附剂与气相色谱 - 质谱法(GC-MS)连用。优化条件参数,例如进样量、洗提液、洗脱体积和样品的提取剂和提取剂的比率来实现提取和洗脱的分析物的良好的灵敏度和精确度。采用甲醇/水溶液(50%, v/v)提取土壤中的阿特拉津以及DIA 和DEA。提取物先过SPE柱(填充多壁碳纳米管),流速为4 mL min-1,然后用4 mL乙酸乙酯洗脱,流速为1mLmin-1。采用推荐方法测得水中阿特拉津的检测限(S/N=3)为0.02 μg kg − 1,土壤中阿特拉津的检出限为0.3 μg kg − 1;水中DIA的检出限为0.04 μg kg − 1,土壤中DIA的检出限为1.0 μg kg − 1;水中DEA的检出限为0.05 μg kg − 1,土壤中DEA的检出限为0.8 μg kg − 1。平均回收率在72.27 – 109.68%范围内,在适宜的条件下重现性(RSD b13%)良好。这种改进的方法适用于检测真实环境中的待测物,阿特拉津的浓度为0.77 – 10.83 μg kg − 1,DEA和DIA未检测到。

【英文摘要】A novel, simple, cost-effective, and sensitive method was developed for the determination of atrazine and its principalmetabolites namely deisopropyl-atrazine (DIA) and deethyl-atrazine (DEA) in water and soil samples using multi-walled carbon nanotubes as solid-phase extraction (SPE) adsorbents coupled with gas chromatography-mass spectrometry (GC-MS).Several condition parameters, such as sample loading flow-rate, eluent and elution volume,extractant and ratio of extraction solvent to sample,were optimized to achieve good sensitivity and precision for the extraction and elution of analytes. A methanol/water solution (50%, v/v) was used to extract atrazine, DIA and DEA from soil. After the extracts went through SPE cartridges (packed with multi-walled carbon nanotubes) at a flow-rate of 4 mL min − 1, the analyteswere eluted by 4mL ethyl acetate at the rate of 1mLmin − 1 under a vacuumpump.The limit of detection (S/N=3) of the proposed method was 0.02 μg kg − 1 for atrazine in water and 0.3 μg kg − 1 in soil; 0.04 μg kg − 1 for DIA in water and 1.0 μg kg − 1 in soil; 0.05 μg kg − 1 for DEA in water and 0.8 μg kg − 1 in soil. Mean recoveries were in the range of 72.27 – 109.68%, and the reproducibility was accepted (RSD b13%) under the optimum conditions.

This developed method was applied to determine the analytes in real environmental samples, and the concentrations of atrazine were 0.77 – 10.83 μg kg − 1, while DEA and DIA were not detected.
【语种】英文
【第一作者】闵光
【通讯作者】王硕
【期刊名称、卷期、页码】Science of the Total Environment 2008, 396, 79 – 85.
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【学科分类】食品卫生学

【题目】Molecularly Imprinted Polymer Online Solid-Phase Extraction Coupled with High-Performance Liquid Chromatography-UV for the Determination of Three Sulfonamides in Pork and Chicken
【中文关键词】磺胺类药物 溶胶凝胶 分子印迹聚合物 固相萃取 高效液相色谱
【英文关键词】Sulfonamides sol – gel molecularly imprinted polymers solid-phase extraction highperformance liquid chromatography
【中文摘要】结合表面分子印迹技术与溶胶凝胶合成一种有选择性印迹的氨基功能化硅胶,将其用于HPLC在线固相萃取来测定猪肉与鸡肉中的三种微量的磺胺类药物。印迹的氨基功能化硅胶显示出高的选择性以及快速的吸附和解析磺胺类药物的能力。进样后以4 mL min-1流速运行12.5min成功获取了其增强因子和三磺酰胺(S / N)3)的检出限。9次重复实验,在线吸附剂提取5 μg L-1的磺胺类药物的标准差的精确度要小于4.5%。吸附剂在固相萃取微量磺胺类药物的过程中表现出良好的线性关系。该方法适用于猪肉和鸡肉的肌肉样品中磺胺类药物的测定。本实验吸附剂聚合物的制备是HPLC在线固相萃取猪肉和鸡肉样品中微量磺胺类药物的关键。
【英文摘要】A selective imprinted amino-functionalized silica gel sorbent was prepared by combining a surface molecular imprinting technique with a sol – gel process for online solid-phase extraction-HPLC determination of three trace sulfonamides in pork and chicken muscle. The imprinted functionalized silica gel sorbent exhibited selectivity and fast kinetics for the adsorption and desorption of sulfonamides. With a sample loading flow rate of 4 mL min-1 for 12.5 min, enhancement factors and detection limits for three sulfonamides (S/N) 3) were achieved. The precision (RSD) for nine replicate online sorbent extractions of 5 μg L-1 sulfonamides was less than 4.5%. The sorbent also offered good linearity (r2 > 0.99) for online solid-phase extraction of trace levels of sulfonamides. The method was applied to the determination of sulfonamides in pork and chicken muscle samples. The prepared polymer sorbent shows promise for online solid-phase extraction for HPLC determination of trace levels of sulfonamides in pork and chicken samples.
【语种】英文
【第一作者】何金兴
【通讯作者】王硕
【期刊名称、卷期、页码】Journal of Agricultural and Food Chemistry 2008, 56, 2919 – 2925
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【引文索引类型】SCI
【引文索引号】0021-8561
【学科分类】食品科学技术基础学科

【题目】Enzyme-linked immunosorbent assay and colloidal gold immunoassay for sulphamethazine residues in edible animal foods: investigation of the effects of the analytical conditions and the sample matrix on assay performance.
【中文关键词】磺胺二甲嘧啶 ELISA 胶体金免疫分析 食品基质影响
【英文关键词】Sulphamethazine ELISA Colloidal gold immunoassay Food Matrix effect
【中文摘要】本研究建立了直接竞争酶联免疫吸附技术和胶体金免疫分析方法来检测可食性动物食品(猪肉、鸡肉、鸡蛋、鱼、牛奶和内脏)中的磺胺二甲嘧啶(SMZ)残留。ELISA法和胶体金免疫分析法的检测限分别为0.02 和0.5 μg kg − 1。根据14种磺胺类药物的交叉实验结果表明,建立的检测SMZ的ELISA方法特异性高。为了获得更灵敏的免疫测定方法,在整个实验过程中优化缓冲溶液(30 mmol L − 1的磷酸盐缓冲液,含0.05%吐温20,pH 8.5)。建立了一种简单高效的用于快速监测食品中SMZ残留的提取方法,回收率为74 -117.5%。通过使用最佳缓冲溶液1:10倍稀释猪肉、鸡肉、鸡蛋、鱼、牛奶和内脏可以避免基体效应。内脏中SMZ的检出限为5 μg kg − 1,其他五种样品中的检出限为2 μg kg − 1。样品提取物同时采用ELISA方法和高效液相色谱法分析,以对ELISA方法进行验证。采用这两种方法得到的结果表现出很好的相关性(r2),相关值

大于0.9。该试验中提出的胶体金免疫分析方法可成功地应用于检测猪肉,牛奶和鱼中的SMZ低于或等于水平(20 μg kg − 1)的最大残留。

【英文摘要】To determine sulphamethazine (SMZ) residues in edible animal foods (pig muscle, chicken muscle, egg, fish,milk and liver), a competitive direct enzyme-linked immunosorbent assay (ELISA) and a colloidal gold immunoassay were established. The limits of detection of the ELISA and the colloidal gold immunoassay were 0.02 and 0.5 μg kg − 1,respectively. The specificity of the ELISA developed to the SMZ was high according to the results of cross-reactivity testing with 14 kinds of sulphonamides. To obtain a moresensitive immunoassay, buffer solution (30 mmol L − 1 phosphate-buffered saline with 0.05% Tween 20, pH 8.5) was optimized through the whole test procedure.A simple and efficient extraction method for the rapid detection of SMZ residues in foods was developed, with recoveries between 74 and 117.5%. Matrix effects can be avoided by 1:10 dilution of pig muscle, chicken muscle, egg, fish, milk and liver with optimal buffer. The detection limit of SMZ was 5 μg kg − 1 in liver and 2 μg kg − 1 in the other five samples. For thevalidation of the ELISA tests, sample extracts were analysed by ELISA and high-performance liquid chromatography. The results obtained by these two methods showed a good correlation (r2) which was greater than 0.9. The colloidal gold immunoassay presented in this assay was successfully applied to determine SMZ in pig muscle, milk and fish below or equal to the maximum residue level (20 μg kg − 1).

【语种】英文

【第一作者】王磊

【通讯作者】王硕

【期刊名称、卷期、页码】Analytical and Bioanalytical Chemistry 2008, 390: 6, 1619-1627.

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【引文索引号】1618-2642

【学科分类】食品卫生学

【题目】Development of Flow-through and Dip-stick Immunoassay for Screening of Sulfonamide Residues

【中文关键词】磺胺 流通 ELISA 测杆 ELISA 带分析

【英文关键词】Sulfonamide Flow-through ELISA Dip-stick ELISA Strip assay

【中文摘要】竞争酶联免疫法的两种基膜方式已能成熟检测猪肌肉和牛奶中磺胺类药物的残留。膜涂覆有抗 - 磺酰胺抗体,为了用于竞争检测磺胺类药物,而将磺酰胺半抗原D2-辣根过氧化物酶接合体用作标记的抗原。穿流或浸渍方法分别逐个检测缓冲液中的7种磺胺类药物,其相应的视觉检测范围分别是1-5 μg L − 1或1 – 10 μg L − 1。利用单磺酰胺标样进行含量校正,利用成熟的带检测方式对添加标样进行验证并将结果与校正过的高效液相色谱法进行比较。结果显示,两个带检测的结果分别与HPLC结果相符。由于分析时间为5min(穿流)和15min(浸渍),这些快速检测方法能够提供简单、迅速、经济的现场检测猪肌肉(利用穿流或浸渍的方法)或者牛奶中磺胺类药物(只能通过浸渍方法)。

【英文摘要】Two formats of membrane-based competitive enzyme immunoassays (flow-through and dipstick) have been developed for the screening of sulfonamide residues in pig muscle and milk. Membrane was coated with anti-sulfonamide antibody and a sulfonamide hapten D2-horseradish peroxidase (HRP) conjugant was used as the labeled antigen for competitive assay of sulfonamides. Visual detection limits of the flow-through or dip-stick assay were 1 – 5 μg L − 1 or 1 – 10 μg L − 1 in buffer for seven sulfonamides, respectively. Assay validation was performed using samples spiked with single sulfonamide, spiked samples were tested using the developed strip assays and results were compared with those obtained by a validated highperformance liquid chromatograph (HPLC) method. Results showed that the two strip assays were correlated well with HPLC, respectively. With assay times of 5 min (flow-through) and 15 min (dip-stick), these rapid tests could offer simple, rapid and cost-effective on-site screening tools to detect sulfonamides in pig muscle(flow-through or dip-stick) or milk(only dip-stick).

【语种】英文

【第一作者】张鸿雁

【通讯作者】王硕

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【学科分类】食品卫生学

【题目】Development of a Chemiluminescent Enzyme-linked Immunosorbent Assay for the Determination of Five Sulfonamides Residues in Chicken Muscle and Pig Muscle
【中文关键词】磺胺 ELISA 化学发光检测 残留
【英文关键词】sulfonamides ELISA enhanced chemiluminescent detection residues
【中文摘要】背景:本研究优化和描述了检测食品样品中磺胺类药物的酶联免疫吸附技术(ELISA)。该技术以强化化学发光(ECL)的多克隆抗体为基础。通过16中磺胺类药物的交叉反应实验来评定该方法的特异性。本研究的目的是建立一种高灵敏度检测磺胺类药物的方法。结果:化学发光酶联免疫吸附技术的灵敏度高于比色酶联免疫吸附技术。五种磺胺类药物(磺胺异恶唑,磺胺噻唑,氨基磺酸,磺胺甲氧嗪和磺胺嘧啶)的灵敏度在0.73 到2.92 μg L－1之间,检出限为0.10 – 0.43 μg L－1。5天后测定的批内和批间的变异系数基本上小于10%。采用简单快速的提取方法进行猪肉和鸡肉样品的回收试验。试验得到了良好的回收率(62.1 – 110.3%),并且结果和采用高效液相色谱法得到的结果相符。结论:本研究提供了一种高效的分析技术,可以快速可靠高灵敏度的检测样品中的磺胺异恶唑,磺胺噻唑,氨基磺酸,磺胺甲氧嗪和磺胺嘧啶。据作者所知,这是第一篇采用化学发光酶联免疫吸附技术检测磺胺类药物的报道。
【英文摘要】BACKGROUND: An enzyme-linked immunosorbent assay (ELISA) based on polyclonal antibodieswith enhanced chemiluminescent (ECL) detection of sulfonamides in food samples has been optimised and characterised. The specificity of the assay was assessed by determining cross-reactivities with a set of 16 sulfonamides. The aim of this study was to develop a method for determining sulfonamides with high sensitivity. RESULTS: The sensitivity of the developed ECL-ELISA was higher than that of colorimetric ELISA. The sensitivities of five of the sulfonamides (sulfisozole, sulfathiazole, sulfameter, sulfamethoxypyridazine and sulfapyridine) ranged from 0.73 to 2.92 μgL－1, with limits of detection of 0.10 – 0.43 μg L－1. The coefficients of variation of intra-assay and inter-assay studies carriedout over 5 days were mostly less than 10%. Recovery studies of chicken muscle and pig muscle were performed with simple and rapid extraction. Good recoveries (62.1 – 110.3%) were achieved and the results correlated well with those obtained using high-performance liquid chromatography analysis. CONCLUSION: This study has provided an effective analytical technique for the rapid and reliable determination of residues of sulfisozole, sulfathiazole, sulfameter, sulfamethoxypyridazine and sulfapyridine in food samples with high sensitivity. To the authors ’ knowledge, this is the first report on chemiluminescent ELISA for sulfonamide analysis.
【语种】英文
【第一作者】刘俊伟
【通讯作者】王硕
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【学科分类】食品卫生学

【题目】Determination of protein content in rice by the digital chromatic method
【中文关键词】数字色度测定 蛋白含量 大米
【英文关键词】digital chroma measurement protein content rice
【中文摘要】使用红,绿和蓝(RGB)的色度值,反映颜色变化的方法来对用数字色度测量确定在水稻的蛋白质含量的可行性进行了研究。大米样品中蛋白质的含量为5 g/100克至13 g/100克。大米中的蛋白含量和用缩二脲试剂处理相关的蛋白质溶液的色度值之间是一个显着的线性负相关(r <-0.98)。所有三色值,G值是反映蛋白质溶液的色度差异的最佳参数。和R或B值相比,G值有较高的相关系数(R <-0.99)并且对蛋白含量的微妙差异更敏感。具有相似的结构和相同的反应条件下,已知的蛋白质含量的大米样品被认为是更精确的校准物质。数字色度方法测定的结果与凯氏定氮法没有显着不同。作为精度高,操作方便,效率高的蛋白含量测定方法,该方法适用大米流通领域的质量评价和监督的做法。
【英文摘要】The feasibility of using digital chroma measurements to determine the protein content in rice was investigated using red, green and blue (RGB) chroma values to reflect color change. The protein content of rice samples ranged from 5 g/100 g to 13 g/100 g. There was a significant negative linear correlation (r < -0.98) between the protein content in rice and the chroma values of relevant protein solutions treated with biuret reagent. Of all the tricolor values, the G value was the optimal parameter to reflect the chromadifference of the protein solutions. It had a higher correlation coefficient (r < -0.99) and was more sensitive to subtle differences in protein content than R or B values. With a similar structure and the same reaction conditions, rice samples with known protein content were found to be more accurate calibrating substances. The results determined by the digital chromatic method are

notsignificantly different from that of the Kjeldahl method. With the advantages of high precision, easy operation and high efficiency, the method is suitable for applications in quality evaluation and supervising practice in the field of rice circulation.
【语种】英文
【第一作者】孙建平
【通讯作者】侯彩云
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【引文索引类型】SCI
【引文索引号】0146-9428
【学科分类】食品卫生学

【题目】Effect of protein on the rheological properties of rice flour
【中文关键词】流变性 大米粉 蛋白
【英文关键词】Rheological properties rice flour protein
【中文摘要】对在裱糊,冷却和再加热期间米粉的流变学特性进行了测定。在温度清扫过程中,蛋白质对流变学特性的影响也进行了研究。结果表明,与淀粉颗粒比较,在相同的时间,蛋白质开始糊化的温度下降,使得米粉糊化困难。在水稻中高蛋白质含量,是有利于提高耐热能力和保持温度被改变时,该凝胶的硬度和粘着性。推断温度变化时,和较低的蛋白质含量大米相比,具有高蛋白质含量的稻米需要更多的水,煮的米饭的硬度和粘着性更加稳定。
【英文摘要】The rheological properties of rice flour during pasting, cooling and reheating were measured. The effect of protein on the rheological characteristics during temperature sweeping was studied. The results indicated that protein decreased the temperature of the start of the pasting, at the same time making the pasting of the rice flour difficult through competition with starch granules. A high protein content in rice is helpful to increase heat-resistant capacity and keep the hardness and stickiness of the gel when the temperatureis changed. It was also deduced that rice with a high protein content needs more water to cook and the hardness and stickiness of the cooked rice were more stable than rice with a lower protein content when subjected to a change in temperature.
【语种】英文
【第一作者】孙建平
【通讯作者】侯彩云
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【学科分类】农产品贮藏与加工

【题目】Quantitative analysis of acrylamide in tea by liquid chromatography coupled with electrospray ionization tandem mass spectrometry
【中文关键词】丙烯酰胺 茶 LC – MS/MS 定量分析
【英文关键词】Acrylamide Tea Liquid chromatography – tandem mass spectrometry (LC – MS/MS) Quantitative analysis
【中文摘要】对一种有效的样品制备过程进行了优化。并开发了利用液相色谱 - 串联质谱法(LC-MS/MS)茶叶中的丙烯酰胺进行定量分析的方法。 [13C3] - 丙烯酰胺用作内部标准。丙烯酰胺在25°C下用10毫升水提取20分钟,然后由10毫升乙腈,然后在彻底搅拌下,向上述混合物中加入4克硫酸镁,0.5克氯化钠。为了增加丙烯酰胺的响应,将9毫升乙腈层浓缩至0.5ml。用Oasis MCX盒进行固相萃取。检测限(LOD)和定量限(LOQ)分别为1和5 ng/mL。提取过程中的回收效率在74%和79%之间不等。 30个茶叶样品中的丙烯酰胺含量均小于100 ng/mL。黑色,乌龙茶,白茶和黄茶样品中有非常低的丙烯酰胺含量(<20纳克/克)。在烤,烤,晒干的绿茶样本中丙烯酰胺含量较高(46-94纳克/克)。
【英文摘要】An effective sample preparation procedure was optimized and a liquid chromatography – tandem mass spectrometry (LC – MS/MS) was developed for the quantitative analysis of acrylamide in tea. [13C3]-acrylamide was used as internal standard. Acrylamide wasextracted at 25 C for 20 min by 10 ml water followed by 10 ml acetonitrile, and then 4 g of magnesium sulfate and 0.5 g of sodium chloride were added to the above mixture under stirring thoroughly. In order to increase the response of acrylamide, 9 ml acetonitrile layer was taken and concentrated to 0.5 ml. Solid-phase extraction with an Oasis MCX cartridge was carried out for clean-up. The limit of detection (LOD) and limit of quantification (LOQ) were 1 and 5 ng/ml, respectively. The recovery efficiency of the extraction procedure ranged between 74% and 79%. The levels of acrylamide in 30 tea samples were less than 100 ng/g. Black, oolong,

white and yellow tea samples had quite low acrylamide contents (<20 ng/g). Higher acrylamide levels occurred in baked, roasted, and one sun-dried green tea samples (46 – 94 ng/g).
【语种】英文
【第一作者】刘洁
【通讯作者】陈芳
【期刊名称、卷期、页码】Food Chemistry 2008, 108, 760 – 767
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【学科分类】农产品贮藏与加工

【题目】Column coated with cetyltrimethylammonium for simultaneous determination of nitrate and nitrite in pickles by ion chromatography
【中文关键词】硝酸盐 亚硝酸盐 发酵蔬菜 泡菜
【英文关键词】nitrate nitrite fermented vegetable pickles
【中文摘要】利用离子色谱法(IC)和紫外吸收检测法同时测定了中国传统泡菜中硝酸盐和亚硝酸盐的含量。使用涂敷十六烷基三甲基溴化铵(CTAB)的十八烷基键合的硅胶(ODS)柱分离阴离子。研究了涂布条件和流动相的性质对硝酸盐和亚硝酸盐分离效果的影响。分离硝酸盐和亚硝酸盐的最佳条件为:涂敷1mMCTAB的硅胶柱,涂敷温度25°C,缓冲液为pH =6.2的10mM的磷酸铵,流速为1毫升/分钟。硝酸盐和亚硝酸盐的检测限分别为5和10微克/ 升(S / N = 3)。重现性和回收率良好。
【英文摘要】A new application for simultaneous determination of nitrate and nitrite in Chinese traditional pickles with ion chromatography (IC) and UV absorbance detection was studied. The octadecyl-bonded silica (ODS) column coated with cetyltrimethylammonium bromide (CTAB) was used to separate anions. The effects of coating conditions and nature of mobile phase on the separation of nitrate and nitrite were investigated. The best separation of nitrate and nitrite was achieved in the optimized buffer with a column coating of 1 mM CTAB. The coating temperature was 25 degrees C. The optimized buffer was a 10 mM of ammonium phosphate with pH 6.2, and flow rate of 1 ml/min. The limits of detection for nitrate and nitrite were 5 and 10 mu g/l (S/N=3), respectively. Good reproducibility and recovery results were obtained.
【语种】英文
【第一作者】纪凤娣
【通讯作者】籍保平
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【学科分类】食品科学技术基础学科

【题目】Microbial changes during the salting process of traditional pickled Chinese cabbage
【中文关键词】腌制 白菜 微生物抑制
【英文关键词】salting cabbage microbial inhibition
【中文摘要】研究了腌制大白菜过程中微生物菌群的变化,尤其是盐浓度、腌制时间和温度的影响。总好氧菌、总芽孢菌、乳酸菌,肠道菌群和真菌作为控制参数。乳酸菌占总菌的0.1 – 1%。抑制不良微生物的最佳加工条件为:盐浓度8%(W / V),温度15°C,腌制时间8h。总好氧菌和肠道菌群在整个腌制过程中最高的密度超过105 cfu/g,90%的总耗氧菌被鉴定为革兰氏阴性。腌制12h后真菌、乳酸菌、总芽孢菌的密度分别在104, 103 and 102 cfu/g以下。
【英文摘要】Changes in microflora during salting Chinese cabbage were studied, with special attention given to the effects of salt concentration, time and temperature of the process. Total mesophilic aerobic bacteria (TMAB), bacterial endospores (B. endospores), lactic acid bacteria (LAB), Enterobacteriaceae and fungi were used as control parameters. LAB accounted for 0.1 – 1% of total bacteria. Best process conditions for highest undesirable microbial inhibition were: salt 8% (w/v), temperature 15 ° C, and salting time 8 h. High levels (105 cfu/g) of TMAB and Enterobacteriaceae were found in the whole salting time, and 90% of TMAB was identified as Gram negative. The levels of fungi, LAB and B. endospores after 12 h of the salting process were lower than 104, 103 and 102 cfu/g, respectively.

【语种】英文
【第一作者】纪凤娣
【通讯作者】籍保平
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【学科分类】食品科学技术基础学科

【题目】The application of direct orthogonal signal correction for linear and non-linear multivariate calibration
【中文关键词】直接正交信号校正 最小二乘支持向量机 偏最小二乘 非线性校正 近红外光谱
【英文关键词】Direct orthogonal signal correction (DOSC) Least square support vector machine (LSSVM) Partial least square (PLS) Non-linear calibration; Near
infrared (NIR) spectroscopy
【中文摘要】传统上,总是利用联合利用直接正交信号校正(DOSC)和潜变量的方法,如偏最小二乘(PLS)和主成分回归(PCR)等建立一个线性校正模型。本研究利用PLS和最小二乘支持向量机(LSSVM)分别研究光谱和组件之间的线性和非线性的关系。DOSC用于输入数据的预处理,研究了DOSC预处理对线性和非线性校正模型的效果。实验利用三个数据集完成。第一个是苹果的声光可调滤光器(AOTF-NIR)的近红外光谱,第二个是乙醇、水和2 - 丙醇的三元混合物的温度感应光谱,第三个是玉米的近红外光谱。对于所有的应用程序而言,通过DOSC预处理后都可以在谱图或评分图中清晰得到光谱和组件之间的关系。 DOSC改善了PLS模型的预测能力。然而,DOSC除去了相关组件有用的非线性的信息,因此,不能够提高LSSVM模型的性能。 DOSC预处理似乎并不适合非线性校正。
【英文摘要】Traditionally, the direct orthogonal signal correction (DOSC) is always used together with a latent variable method such as partial least square (PLS) or principal component regression (PCR), to build a linear calibration model. In this study, PLS and least square support vector machine (LSSVM) were used to develop the linear and non-linear relation between spectra and components, respectively. DOSC was used to preprocess the input data, and the effect of DOSC pretreatment on linear and non-linear calibration model was investigated. The experiment was performed with three data sets. The first one was the acousto-optic tunable filter near infrared (AOTF-NIR) spectra of apples, the second one was the temperatureinduced spectra of a ternary mixture of ethanol, water and 2-propanol, and the third one was the NIR spectra of corn. For all of the applications, the relation between spectra and components can be clearly observed in the spectra plot or the score plot after DOSC pretreatment. DOSC improved the predictive ability of PLS model. However, DOSC removed useful non-linear information that was related to components, thus, was not able to improve the performance of LSSVM model. DOSC pretreatment seems to be not suitable for non-linear calibration.
【语种】英文
【第一作者】朱大洲
【通讯作者】籍保平
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【学科分类】食品科学技术基础学科

【题目】Study on Genetic Algorithms-Based Nir Wavelength Selection for Determination of Soluble Solids Content in Fuji
【中文关键词】近红外光谱法 可溶性固形物含量 偏最小二乘法 苹果
【英文关键词】near infrared spectroscopy soluble solids content iPLS Apple
【中文摘要】采用近红外光谱法,利用声-光调谐滤波技术测定完整苹果的可溶性固形物含量(SSC)。采用基因算法(GAs)选择1,065到1,625 nm的波长范围。比较基于基因算法的偏最小二乘法回归(PLSR)模型与不可变选择模型。此外,大部分选定波长产生的结果基于糖键和低噪声的波普信号对波的吸收 。通过GAs方法,所述频谱点从88减少到17。获得低相对标准偏差预测(RSDP)(6.02%)和高校准系数(0.914)。结果表明,GAs与PLSR模型结合简化和优化校准模式,而且还提高了预测校准模型的效果。得出的结论是基于GAs的方法,从特殊的光谱区域提取与SSC有关的信息和及无用的频谱点。
【英文摘要】The determination of soluble solids content (SSC) in intact apples was analyzed by means of near-infrared spectroscopy using an acousto-optic tunable filter technology. Genetic algorithms (GAs) were performed to select wavelengths within the range from

1,065 to 1,625 nm. Partial least squares regression (PLSR) model based on GAs was compared with the nonvariable selection. Furthermore, the majority of selected wavelengths that brought on that result have been analyzed with regard to the typical absorption bands ofsugars and the low-noise spectral signals.With the GAs approach, the spectral points were reduced from 88 to 17, and the low relative standard deviation of prediction (RSDp) (6.02%) and high coefficient of calibration (0.914) were achieved. The results showed that PLSR combined with GAs not only simplified and optimized the calibration model, but also improved the prediction effect of the calibration model. It was concluded that the GAs-based method extracted relevant SSC information from special spectral regions and left out the useless spectral points simultaneously.

【语种】英文
【第一作者】史波林
【通讯作者】籍保平
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【学科分类】食品科学技术基础学科

【题目】Study of wavelet denoising in apple's charge-coupled devicenear-infrared spectroscopy
【中文关键词】苹果 近红外光谱 小波转变 消除噪音
【英文关键词】Apple CCD-NIR spectroscopy denoising
【中文摘要】使用离散小波变换消除苹果中近红外线光谱(CCD-NIR)的电荷耦合器件中的噪声。研究三个参数(小波函数,分解电平,和阈值)对的校准模型的预测能力影响。结果显示的DB,sym和bior效果良好,而coif,dmey,haar不能够有效滤除噪声。最好的分解水平为2。阈值默认情况下,Birge-Massart 和 Penalty具有良好的去噪效果,而SURE,Sqtwolog, Heuristic SURE,和 Minimax的细节系数为零,这是因为他们具有较高阈值。bior3.3小波函数,两个层次的分解,软阈值法,默认阈值选择规则组合可以得到的最好的去噪效果。构建最佳的测定可溶性固形物含量的模型。相对标准偏差从7.79至5.82%。
【英文摘要】Discrete wavelet transform was used to eliminate the noise in the charge-coupled device near-infrared (CCD-NIR) spectra of apple. The influence of three parameters (wavelet function, decomposition level, and threshold) on the predictive ability of the calibration model was investigated. The result showed that the db, sym, and bior wavelet families performed well, while the coif, dmey, and haarwavelets were not able to denoise effectively. The best decomposition level was 2. The threshold selection rules of the default, Birge-Massart, and Penalty had good denoising results, while SURE, Sqtwolog, Heuristic SURE, and Minimax set all detailed coefficients to zero due to their high threshold values. The best denoising result was obtained with the combination of the bior3.3 wavelet function,two levels of decomposition, default threshold selection rule, and the soft thresholding method. The optimal model of soluble solids content was constructed. The relative standard deviation of prediction decreased from 7.79 to 5.82% after wavelet denoising.
【语种】英文
【第一作者】朱大洲
【通讯作者】籍保平
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【学科分类】食品科学技术基础学科

【题目】The Performance of ν-support vector regression on determination of soluble solids content by acousto-optic tunable filter near-infrared spectroscopy
【中文关键词】支持向量机器 ν-支持向量回归 苹果 可溶性固形物含量 近红外光谱
【英文关键词】Support vector machine ν-Support vector regression Apple Soluble solids content Near-infrared spectroscopy
【中文摘要】ν-支持向量回归(ν-SVR)用于建立苹果可溶性固形物含量(SSC)与近红外线光谱(AOTF-NIR)声光可调谐滤波器之间的校正模型 ν-SVR效果与偏最小二乘回归(PLSR)和反向传播人工神经网络(BP-ANN)进行了比较。 研究SVR参数的对模型的预测能力的影响。结果表明,参数ν有一个相当宽的最佳面积(对于苹果数据在0.35和1之间)。因此,我们可以事先确定的参数ν值并且专注于其他SVR参数的选择。分析苹果的SSC显示,ν-SVR优于PLSR和BP-ANN,特别是在更少

的样品和处理的噪声污染的情况下。正确的光谱预处理方法,如缩放,平均中心,标准正态变量(SNV)和波长选择方法(逐步多元线性回归和基因算法PLS为目标函数),可以大大提高产品ν-SVR模型的质量。

【英文摘要】The ν-support vector regression (ν-SVR) was used to construct the calibration model between soluble solids content (SSC) of apples and acousto-optic tunable filter near-infrared (AOTF-NIR) spectra. The performance of ν-SVR was compared with methods, such as scaling,the partial least square regression(PLSR) and the back-propagation artificial neural networks (BP-ANN). The influence of SVR parameters on the predictive ability of model was investigated. The results indicated that the parameter ν had a rather wide optimal area (between 0.35 and 1 for the apple data). Therefore, we could determine the value of ν beforehand and focus on the selection of other SVR parameters. For analyzing SSC of apple, ν-SVR was superior to PLSRand BP-ANN, especially in the case of fewer samples and treating the noise polluted spectra. Proper spectra pretreatment genetic algorithm with mean center, standard normal variate (SNV) and the wavelength selection methods (stepwise multiple linear regression and PLS as its objective function), could improve the quality of ν-SVR model greatly.

【语种】英文

【第一作者】朱大洲

【通讯作者】籍保平

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【学科分类】食品科学技术基础学科

【题目】Effect of fermentation on the nitrate, nitrite and organic acid contents in pickled traditional Chinese cabbage

【中文关键词】泡菜 硝酸盐 亚硝酸盐 有机酸

【英文关键词】pickled Chinese cabbage nitrate nitrite organic acid

【中文摘要】本实验对中国泡菜和发酵液在发酵过程中硝酸盐、亚硝酸盐和有机酸含量进行检测。在自然发酵和接种发酵过程中,硝酸盐含量分别从1303.5mg/kg和1380.5mg/kg下降到245.7mg/kg和354.9mg/kg。在自然发酵的泡菜和发酵液中亚硝酸盐的含量达到最大值。在接种发酵的泡菜和发酵液中亚硝酸盐的含量较低。在7天的自然发酵过程中,乳酸含量从22.4mg/kg增加到3117.3mg/kg,醋酸含量从32.9mg/kg增加到254.6mg/kg,柠檬酸含量从8.3mg/kg增加到255.8mg/kg。在7天的接种发酵过程中,乳酸含量从27.9mg/kg增加到3559.9mg/kg,醋酸含量从40.5mg/kg增加到572.1mg/kg,柠檬酸含量从13.4mg/kg增加到268.0mg/kg。当发酵液的PH值低于4.5时,亚硝酸盐的最大值逐渐降低。

【英文摘要】The effect of fermentation on nitrate, nitrite and organic acid contents in pickled Chinese cabbage and brine was researched. The nitrate content in pickled Chinese cabbage decreased from 1,303.5 and 1,380.5 mg/kg to 245.7 and 354.9 mg/kg, respectively, during the natural and inoculated fermentation. The peak content of nitrite was formed in pickled vegetables and brine during the natural fermentation. The nitrite was at a low level in pickled Chinese cabbage and brine during the inoculated fermentation. During the7-day natural fermentation, lactic acid increased from 22.4 to 3,117.3 mg/kg, acetic acid increased from 32.9 to 254.6 mg/kg and citric acid increased from 8.3 to 255.8 mg/kg, and the responding results were 27.9 to 3,559.9 mg/kg, 40.5 to 572.1 mg/kg and 13.4 to 268.0 mg/kg, respectively, during the inoculated fermentation. When the pH of the brine was lower than 4.5, the peak content of nitrite gradually decreased.

【语种】英文

【第一作者】纪凤娣

【通讯作者】籍保平

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【引文索引号】0145-8892

【学科分类】农产品贮藏与加工

【题目】Predicting soluble solid content and firmness in apple fruit by means of laser light scattering images

【中文关键词】可溶性固形物 硬度 激光漫反射

【英文关键词】Soluble solids firmness laser light backscattering

【中文摘要】本文对激光漫反射检测苹果可溶性固形物含量(SSC)和果实硬度的可行性进行了研究。利用5种不同波段激光对Elstar’和‘Pinova’两种苹果进行表面激光图像采集。利用图像处理算法对不同形状的苹果进行修正。首次利用图像灰度频率对苹果SSC和硬度进行建模。对‘Elstar’苹果,经过对原始数据的灰度频率修正后,SSC预测回归系数r=0.89,标准差SECV=4。14,果实硬度预测回归系数r=0.90,标准差SECV=5.49。经过内部交叉验证,SSC和果实硬度模型的预测标准差SEP<13%。

【英文摘要】Laser-induced light backscattering imaging was studied regarding its potential for analyzing apple soluble solids content (SSC) andfruit flesh firmness. Images of the backscattering of light on the fruit surface were obtained from ‘Elstar’ and ‘Pinova’ apples using laser diodes emitting at five wavelength bands. Image processing algorithms were tested to correct for dissimilar equator and shape of fruit. Particularly the frequencies of gray scale intensities obtained for selected wavelengths were used for the first time to calibrate on the fruit firmness and SSC using partial least squares regression. Calibration with highest performance for predicting ‘Elstar’ SSC was based on the corrected intensity frequency of raw data set with correlation coefficient of r = 0.89 and standard error of cross validation %SECV = 4.14. For evaluating ‘Elstar’ flesh firmness, corrected frequency gave the highest r = 0.90, and %SECV = 5.49. An inter-cultivar test-set validation of the method resulted in SEP < 13% for SSC and firmness prediction.

【语种】英文

【第一作者】庆兆珅

【通讯作者】籍保平

【期刊名称、卷期、页码】Journal of Food Science and Technology 2008, 9/10

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【引文索引类型】SCI

【引文索引号】0260-8774

【学科分类】农产品贮藏与加工

【题目】Wavelength selection for predicting physico-chemical properties of apple fruit based on near infrared spectroscopy

【中文关键词】波长选择 物化形式 近红外光谱

【英文关键词】Wavelength selection physicochemical properties NEAR-infrared spectroscopy

【中文摘要】水果质量监测评估工具对生产和采后处理以及市场营销很重要。在本研究中,应用近红外光谱仪(600-1100 nm)研究果实的可溶性固形物含量(SSC),水果硬度和苹果的水分含量(品种“富士”)之间的相关性。遗传算法和相关系数(r)方法被用来选择最适宜的波长组合,偏最小二乘回归分析用于校准果实品质参数。基于特征波长的验证模型具有良好的预测效果,对SSC的预测,回归系数r=0.94,交叉验证标准差secv=0.89,果实硬度预测,回归系数r=0.89,交叉验证标准差secv=7.54,水分含量预测,回归系数r=0.96,交叉验证标准差secv=0.92.利用特征波长选择较少建模数据可以有效提高对水果品质的预测能力。

【英文摘要】Instrumental evaluation tools for fruit quality monitoring are important in the production and postharvest processes as well as in marketing. In the present study, near-infrared spectroscopy (600 – 1,100 nm) was applied to study the correlation with fruit soluble solid content (SSC), fruit flesh firmness and water content of apples (cv. “Fuji”). Genetic algorithm and correlationcoefficient (r) method were used to select the most sensitive wavelength combinations, and partial least squares regression analysis was applied to calibrate fruit quality parameter. The validation of models based on the most sensitive wavelengths gave good predictions with an r value of 0.94 and a standard error of cross validation (SECV) of 0.85 ° Brix for SSC; r = 0.89 and SECV = 7.54 N/cm2 for firmness; and r = 0.96 and SECV = 0.92% for water content. The reduced data set of sensitive wavelengths were found feasible for predicting internal fruit quality.

【语种】英文

【第一作者】庆兆珅

【通讯作者】籍保平

【期刊名称、卷期、页码】Journal of Food Engineering 2007, 82 (1): 58-67

【论文发表时间】2007-08-01 00:00:00

【引文索引类型】SCI

【引文索引号】0146-9428

【学科分类】农产品贮藏与加工

【题目】Nondestructive Detection of Brown Core in Chinese Pear‘Yali’by Transmission Visible-NIR Spectroscopy

【中文关键词】中国鸭梨 可见光 - 近红外光谱仪 无损检测 棕色核
【英文关键词】Chinese pear Yali Grading Visible – NIR spectroscopy Nondestructive detection Brown core
【中文摘要】棕色核是梨在控温储藏下常见的一种内部变质状态。这种症状在表面通过肉眼是识别不了的,只有切开水果后才能发现。开发一种非损检测梨棕色核的手段能使生产商、加工人员和包装人员受益。我们开发出一种利用波长在651-1282nm范围的无损检测技术来识别中国鸭梨的棕色核。基于这个波长范围,利用马氏距离分析仪的差别分析能够区分棕色核和正常核,同时能够将棕色核分成三个等级——轻微、中等和严重。实验中,没有出现将棕色核误检为正常核的情况,也没有将正常核误检为棕色核的情况。在对66个正常核棕色核梨的混合检测实验中,我们用穷举法寻找最适合的单波长组合。发现在713nm和743nm下,检测模型的准确度最高。在以713nm与743nm的光密度差别进行检测时,分辨正常核棕色核的正确率达95.4%,只有5.3%的正常梨被误检为棕色梨,4.3%的棕色梨被误检为正常梨。
【英文摘要】Brown core is an internal disorder sometimes seen in pears under controlled atmosphere (CA) storage. The symptoms are notexternally recognizable and visible only after cutting the fruit. Development of nondestructive measurements of brown core of pearswould benefit producers, processors, and packers. A technique using body transmittance in the 651 – 1282 nm region was evaluatedas a nondestructive technique for identifying the Chinese pear Yali with brown core. Based on the 651 – 1282 nm region, discriminantanalysis with Mahalanobis Distance (MD) analysis can discriminate between brown core and normal pears and grade the brown core pears to three classes—slight, moderate, and severe. None of the good pears was misclassified as brown core, and none of pears with brown core was misclassified as normal pears. Exhaustive searches of the best combination of individual chrematistic wavelengths were performed on a set of 66 pears from two categories – good and brown core. The best modeling classification occurred for precisely aligned pears using the difference at two wavelengths, 713 and 743 nm. When optical density (OD) difference between 713 and 743 nm was applied to a test set, the classification model correctly identified the good or brown core with 95.4% accuracy. Only 5.3% of the good pears were incorrectly classified, 4.3% error of pear with brown core were classified as good fruit.
【语种】英文
【第一作者】韩东海
【通讯作者】韩东海
【期刊名称、卷期、页码】Journal of Food Engineering. 2007, 30, 511-526
【论文发表时间】2005-03-14 00:00:00
【引文索引类型】SCI
【引文索引号】0146-9429
【学科分类】食品包装与储藏

【题目】Study on Genetic Algorithms-based NIR Wavelength Selection for Determination of Soluble Solids Content in Fuji Apples.
【中文关键词】苹果 可溶性固形物含量 超声波技术 拓扑学
【英文关键词】Apple soluble solids content Ultrasonic technology topology
【中文摘要】完整苹果中可溶性固形物含量可利用超声波技术预测。将主要成分的光谱数据分值输进网络,近似度可以阻止网络拟合的过度适配。网络的优化拓扑学用5组输入节点、3组隐藏节点、0.2的学习系数和0.8的动力系数来建立。最佳相应模型的相关系数为0.877,测试的相对标准偏差为7.59%,预测的相对标准偏差为8.38%。。建立一个模型,网络结构比网络参数要重要得多,其中,网络参数对网络没有明显的作用。与光谱预处理后的偏最小二乘回归相比(r=0.867, RSDC=7.86%, RSDP=8.76%),人工神经网络有一定的预测能力。结果显示,拓扑学在水果质量的内部检测方面有足够的精确度。
【英文摘要】The determination of soluble solids content (SSC) in intact apples was analyzed by means of near-infrared spectroscopy using an acousto-optic tunable filter technology. Genetic algorithms (GAs) were performed to select wavelengths within the range from 1,065 to 1,625 nm. Partial least squares regression (PLSR) model based on GAs was compared with the nonvariable selection. Furthermore, the majority of selected wavelengths that brought on that result have been analyzed with regard to the typical absorption bands ofsugars and the low-noise spectral signals.With the GAs approach, the spectral points were reduced from 88 to 17, and the low relative standard deviation of prediction (RSDp) (6.02%) and high coefficient of calibration (0.914) were achieved. The results showed that PLSR combined with GAs not only simplified and optimized the calibration model, but also improved the prediction effect of the calibration model. It was concluded that the GAs-based method extracted relevant SSC information from special spectral regions and left out the useless spectral points simultaneously.
【语种】英文
【第一作者】史波林
【通讯作者】籍保平
【期刊名称、卷期、页码】Journal of Food Quality 17, 8, 604-608

【论文发表时间】2007-08-06 00:00:00
【引文索引类型】SCI
【引文索引号】0146-9428
【学科分类】食品包装与储藏

【题目】Determination of Soluble Solids Content in Fuji Apples Based on AOTF-NIR and Artificial Neural Networks.
【中文关键词】苹果 近似程度 近红外 主成分 可溶性固形物含量
【英文关键词】Apple Artificial neural networks degree of approximation near infrared principal components soluble solids content
【中文摘要】完整苹果中的可溶性固形物含量可通过声光可调滤波技术的近红外光谱方法来确定。利用遗传算法在1065nm—1625nm区间选择波长。基于遗传算法的偏最小二乘法回归模型用来和不可变选择进行比较。然后,在对糖的特征吸收谱带和低噪音的前提下,在所选能得到结果的大部分波长中优化分析。通过遗传算法风,光谱点由88个减少到17个,同时得到了最低的相对标准偏差(6.02%)和最高的矫正相关系数(0.914)。结果显示,结合遗传算法的PLSR不仅能够简化和优化曲线模型,而且能够提高曲线模型的预测效果。最后,我们得出,基于遗传算法的方法可以从特定光谱区域提取相关SSC信息,同时能去除没用的光谱点。
【英文摘要】Soluble solids content of intact apples has been predicted by artificial neural networks from their near-infrared spectra using an acousto-optic tunable filter. The principal components scores of spectral data were used as network input. The degree of approximation was performed to prevent over-fitting during network training. The optimum network topology was established with five input nodes, three hidden nodes, a learning coefficient of 0.2 and a momentum of 0.8. The corresponding best model had a correlation coefficient (r) of 0.877, a relative standard deviation of training (RSDc) of 7.59% and a relative standard deviation of prediction (RS Dp) of 8.38%. In addition, the network structure was more important for establishing the model than the parameters which did not have significant effect on the network. Compared with partial least squares regression after spectral pre-treatment (r=0.867, RSDC=7.86%, RSDP=8.76%), artificial neural networks had a little better prediction ability. Results showed that the methodology was satisfactory for rapid analysis of internal fruit quality.
【语种】英文
【第一作者】史波林
【通讯作者】籍保平
【期刊名称、卷期、页码】Italian Journal of Food Science 2008, 31, 232 – 249
【论文发表时间】2008-09-04 00:00:00
【引文索引类型】SCI
【引文索引号】1120-1770
【学科分类】食品包装与储藏

【题目】三氮烯类试剂在镉光度分析中的应用
【中文关键词】镉 三氮烯 重氮氨基偶氮苯 食品 分光光度法 综述
【英文关键词】cadmium triazene diazoaminoazobenzene food spectrophotometry review
【中文摘要】综述了新三氮烯类试剂在镉光度分析中的应用, 对三氮烯类试剂结构与性能关系进行了总结, 叙述了常见基质干扰的掩蔽与消除方法, 介绍了此类试剂在光度分析中的新进展, 对分光光度法在食品中镉的分析应用前景进行了展望。
【英文摘要】Triazene reagents remain one of the most effective analytical reagents for spectrophotometric determination of cadmium. High sensitivity, selectivity as well as simplicity and speed make the methods indispensable in analysis of food samples. The review discusses the current state of application of triazene reagents in analytical chemistry, such as their structures, analytical characteristics, masking and eliminating of foreign ions. The most important trends for further research are also introduced.
【语种】中文
【第一作者】常彧
【通讯作者】王硕
【期刊名称、卷期、页码】食品研究与开发 2007, 28(12) 149-153
【论文发表时间】2007-12-01 00:00:00
【引文索引类型】其他

【引文索引号】1005-6521
【学科分类】食品科学技术其他学科

【题目】胶体金免疫渗滤法检测淡水鱼及牛乳中氯霉素残留
【中文关键词】胶体金 渗滤 氯霉素 淡水鱼 牛乳
【英文关键词】colloidal gold flow through chloramphenicol freshwater fish milk
【中文摘要】制备了平均粒径 20 nm 的胶体金,用以标记抗氯霉素多克隆抗体;将氯霉素半抗原与卵清蛋白的偶联物包被在硝酸纤维素膜上作为检测带,羊抗兔二抗作为质控带,依据免疫竞争法原理,建立通过免疫胶体金渗滤式试纸条检测六种淡水鱼及牛乳中氯霉素残留的方法。样品前处理方法简便,方法灵敏度为 1 μg/L,只需10~15 min 即可目测判断结果,可以作为淡水鱼及牛乳中氯霉素残留现场大量筛选的有效手段。
【英文摘要】An immunogold assay for detection of chloramphenicol (CAP) residue in freshwater fish and milk was established using the colloidal gold with the average diameter of 20 nm for labeling the anti- chloramphenicol (CAP) polyclonal antibody. CAP was conjugated to (OVA) and then they were dispersed on a nitrocellulose (NC) membrane forming the test zone. Goat anti-rabbit IgG was chose as control zone.The method was simple and fast (10-15 minutes) with the sensitivity of 1 μg/L, which could be widely used to detect the CAP residues in freshwater fish and milk.
【语种】中文
【第一作者】王玮
【通讯作者】王硕
【期刊名称、卷期、页码】现代食品科技 2008, 24(1), 72-75.
【论文发表时间】2007-10-01 00:00:00
【引文索引类型】其他
【引文索引号】1673-9078
【学科分类】食品科学技术其他学科

【题目】应用可视芯片技术检测食品中常见致病菌方法研究
【中文关键词】可视芯片 食源性致病菌 检测
【英文关键词】thin-film biosensor chip pat hogenic bacteria in food identification
【中文摘要】利用特异性引物进行PCR 扩增,并利用固定于可视芯片的特异探针与扩增产物进行杂交反应加以鉴定。利用可视芯片技术可以准确的检出沙门氏菌属和金黄色葡萄球、小肠结核肠炎耶尔森氏菌、单核细胞增生李斯特氏菌3 种食品中常见致病菌,检测灵敏度可达815 ×101 cfu/ mL 。利用可视芯片准确灵敏使用便捷的优点,建立了食品中常见致病菌鉴定方法,为食源性致病菌检测提供了一项快速有效的方法。
【英文摘要】To develop a detection system by using t he thin2film biosensor chip s to detect main pat hogenic bacteria in food. Design Probes and Primer s depend on t he comparing sequence of bacteria ’ s particular genes. Using thin2film biosensor chip s technology we accurately detected a total of Salmonel l a and ot her 3 kinds of pathogenic bacteria in food. Detection sensitivity was up to 85 cfu / mL. Discussion by taking advantages of thin-film biosensor chips , we established a fast and effective method of common food-borne pathogen detection.
【语种】中文
【第一作者】赵金毅
【通讯作者】陈颖
【期刊名称、卷期、页码】食品与发酵工业 2008 248 141-144
【论文发表时间】2008-07-01 00:00:00
【引文索引类型】其他
【引文索引号】0253-990X
【学科分类】食品科学技术其他学科

【题目】现代食品真伪检测鉴别技术
【中文关键词】食品 鉴别 体系
【英文关键词】food authenticity system
【中文摘要】简述了我国食品安全的重要性,分析了食品打假鉴伪问题的必要性和紧迫性,阐述了常规理化法、现代仪器法、指纹图谱法等食品检测鉴别技术的进展,提出了建立现代食品分子检测鉴别技术体系的建议。

【英文摘要】The importance of food safety as well as the necessity and urgency of preventing adulterate food was reviewed;the updated progress of food authenticity m ethods were summarized;and establishm ent of ad—vanced detection system for food authenticity was proposed.
【语种】中文
【第一作者】陈颖
【通讯作者】葛毅强
【期刊名称、卷期、页码】食品与发酵工业 2007 33(17) 102-106
【论文发表时间】2007-08-01 00:00:00
【引文索引类型】其他
【引文索引号】0253-990X
【学科分类】食品科学技术其他学科

【题目】食品安全现场快速检测技术研究进展及应用
【中文关键词】食品 快速检测 进展 应用 食品安全
【英文关键词】food fast detection development application food safet
【中文摘要】介绍了快速检测技术,包括:化学比色法、酶联免疫法、免疫胶体金试纸、生物芯片、生物传感器、便携式色谱质谱联用仪、生物化学发光检测仪等在食品现场快速检测中的研究进展及应用,探讨了食品快速检测的发展方向。
【英文摘要】Development and application of several fast detection techniques,including chemical chro · matometry,enzyme linked immunosorbent assay(ELISA),immune colloidal gold technique,biochip,biosensor and mobile chromatography—mass spectrometer for rapid detection of food were introduced.The prospect of fast detection of food was discussed.59 references were cited.
【语种】中文
【第一作者】周焕英
【通讯作者】高志贤
【期刊名称、卷期、页码】分析测试学报 2008 27 (7)788-794
【论文发表时间】2008-07-01 00:00:00
【引文索引类型】其他
【引文索引号】1004-4957
【学科分类】农产品贮藏与加工

【题目】NaFeEDTA对鲜切面色泽及PPO活性影响的研究
【中文关键词】小麦粉 鲜切面 色泽 PPO
【英文关键词】wheat flour wet noodles color PPO
【中文摘要】探讨了NaFeEDTA强化鲜切面色泽及PPO活性的变化规律。结果表明,小麦粉加工精度越低,储藏时间越长,铁强化量越高,鲜切面颜色越深;与未经铁强化的鲜切面相比,适量的强化铁可以改善其色泽。小麦粉加工精度越低,PPO活性变化越明显;小麦粉的PPO活性与铁强化量成正比,一定浓度的NaCl溶液对PPO活性有一定影响。
【英文摘要】The color characteristics of NaFeEDTA fortified wet noodles was studied.Results show that the color of wet noodles is darker with reduced milling grade of flour,prolonged shelf time,and increased addition dosage of Fe.Compar- ing with unfortified flour,proper addition of Fe improves the brighmess of noodles.The lower the flour milling grade,the more obvious the change of the PPO activity.The PPO activity of flour is correlative positively with the Fe addition dosage, and NaCl solution has an effect on restraining the PPO activity.
【语种】中文
【第一作者】王小伟
【通讯作者】侯彩云
【期刊名称、卷期、页码】中国粮油学报 2008 23(3),43-46
【论文发表时间】2008-05-01 00:00:00
【引文索引类型】其他
【引文索引号】1003-0174
【学科分类】食品科学技术其他学科

【题目】陈化稻米数字图像检测方法的研究
【中文关键词】稻米 数字图像 新陈度 检测
【英文关键词】rice digital image freshness determine
【中文摘要】结合计算机色度学原理,运用自行开发的RQS1.0分析系统,采用愈创木酚显色法,对稻米显色溶液的色度值与脂肪酸值的关系进行了分析,探讨了稻米新陈度的数字图像检测方法。
【英文摘要】Based on colorimetry theory, app lying our RQS1. 0 analyses system and using guaiacol for color dis-p lay, the correlation between chromatic values from rice samp les and rice fatty acid valueswas exp lored, and a digital image system for determining the freshness of aged rice was developed.
【语种】中文
【第一作者】侯彩云
【通讯作者】侯彩云
【期刊名称、卷期、页码】中国粮油学报 2008 23(4)590-691
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【学科分类】食品科学技术其他学科

【题目】小麦粉中过氧化苯甲酰数字色度检测方法的研究
【中文关键词】小麦粉 过氧化苯甲酰 检测
【英文关键词】Wheat flour benzoyl peroxide detection
【中文摘要】提出了一种基于计算机色度学的小麦粉中过氧化苯甲酰半定量检测方法。利用过氧化苯甲酰可使邻菲啰啉与Fe2+生成的橙红色络合物褪色的原理,用扫描仪获取褪色液的色度信息。研究结果表明,小麦粉中过氧化苯甲酰含量与褪色液的色度信息在一定范围内呈较好的线性相关关系。据此,可定性判定小麦粉中过氧化苯甲酰添加量是否超过国标,也可定量测定小麦粉中一定含量范围内的过氧化苯甲酰含量。该方法具有快速、简便、高效、成本低廉等优点,适合在基层质检单位推广使用。
【英文摘要】A semi-quantitative detection based on computer colorimetry were developed to detect benzoyl peroxide in wheat flour. The result was evaluated by scanner to get the chroma information of the fade-liquid based the special color reaction of benzoyl peroxide.The results shows good linearity between the contents of benzoyl peroxide in wheat flour and the chroma information of the fade liquid within a certain range.Therefore, it can be qualitatively determining whether the added amounts of benzoyl peroxide in wheat flour exceeds GB, the quantitatively determination of benzoyl peroxide content of the wheat flour coule be promising within a certain content range. With rapid, simple, efficient and less cost, the developed method could be promoted in grassroots quality control unit.
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【第一作者】石文贞
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【学科分类】农产品贮藏与加工

【题目】水果内部品质近红外光谱无损检测研究进展
【中文关键词】应用光学 近红外光谱 无损检测 化学计量学 光谱预处理 水果 内部品质
【英文关键词】applied optics near infrared spectroscopy nondestructive inspection chemometrics pretreatment fruit; interio r quality
【中文摘要】近红外(NIR) 光谱分级技术正越来越广泛地应用于水果的产后加工和质量评判中. 介绍了水果内部品质光学特性检测原理; 分析了规则反射、透射和漫反射3 种光特性测量方法在水果内部品质不同需求检测中的适用性;化学计量学方法是近红外光谱分析技术的一个重要部分, 对一些新的预处理方法和回归算法作了介绍; 探讨了水果状态对光谱影响及修正方法, 如温度补偿、大小修正等; 并阐述了水果的糖度、酸度、硬度等定量检测和褐变、黑心、水心、损伤等定性判别的国内外最新研究进展; 分析了近红外技术在水果品质检测和控制方面的应用前景.

【英文摘要】An overview of near infrared (NIR) spectroscopy for use in measuring quality attributes of horticultural produce is given. Nondestructive quality inspection and sorting technique based on NIR technique is widely used in post-harvest processing and quality control. Different spectrophotometer designs and measurement principles are compared, and novel techniques for the estimation of light absor pt ion and scatter ing pro per ties o f fruit tissue are reviewed. Chemometrics is an essential part of NIR spectroscopy, and some available preprocessing and regression techniques, including nonlinear ones, are discussed. The effects of orchard state on spectrum, and correction method, such as tem perature compensation, are addressed. Most applications of NIR spectroscopy have focused on the nondestructive measurement of soluble solids content of fruit where typically a root mean square error ofprediction of Brix can be achieved, and other applications involving texture, acidity or disorders of fruit have also been reported. Finally, the application prospects of this technology were analyzed.
【语种】中文
【第一作者】韩东海
【通讯作者】韩东海
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【题目】直接竞争酶联免疫法检测大麦中玉米赤霉烯酮
【中文关键词】玉米赤霉烯酮 直接竞争酶联免疫 大麦
【英文关键词】Zearalenone ELISA Barley
【中文摘要】建立一种大麦中玉米赤霉烯酮的快速检测方法。采用酶联免疫吸附法(ELISA) 对玉米赤霉烯酮进行测定。该方法的最低检出限(IC15) 约为0.01 ug /kg, 灵敏度(IC15) 约为0.08 ug /kg, 大麦样品加标回收率在73.3% ~ 96.7%之间,最低检出限为4 ug /kg。此方法特异性强, 灵敏度高, 样品处理过程较为简单, 适用于大量样品的快速检测。
【英文摘要】To develop a method to determine the zearalenone(ZEN) in barley samples, enzyme-linked immunosorbent assay (ELISA) was adopted. The limit of detection (IC15) was about 0.01 μg /kg, and the sensitivity (IC15) was about 0.08 μg /kg. A simple and efficient extraction method for the rapid detection of ZEN residues in barley was developed.The method was effective and sensitive and the recovering rate of zearalenone in standard barley sample could range from 73. 3% to 96.7%.The limit of detection was 4 μg /kg in barley. The sample preparation was simple and the method is specific, which suited for the rapid analys is of a large number of samples.
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【第一作者】刘涛
【通讯作者】王硕
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【学科分类】食品科学技术基础学科

【题目】基于遗传算法和间隔偏最小二乘的苹果硬度特征波长分析研究
【中文关键词】近红外光谱 硬度 遗传算法 间隔偏最小二乘法 苹果 果胶
【英文关键词】NIR Firmness GA iPLS Apple Pectics
【中文摘要】利用傅里叶近红外光谱(FT-NIRS)测定了苹果的硬度。通过使用几种基于遗传算法和间隔偏最小二乘法的特征波长选取方法,包括动态向后间隔偏最小二乘(dynamic backward version of interval PLS,dynamic biPLS)、动态向后间隔偏最小二乘结合遗传算法(dynamic biPLS & GA-PLS)和反复的遗传算法(iterative GA-PLS),分析了苹果硬度的特征波长。结果表明,运用遗传算法和间隔偏最小二乘选择特征波长后,不但可以降低模型的复杂度,同时能够达到提高模型预测精度的效果。在此基础上,研究分析了苹果硬度特征波长的物理化学意义。由于果胶是在苹果成熟过程中一种和硬度有很大关联的物质,通过比较苹果硬度的特征波长和果胶的特征吸收峰,发现两者具有有很好的一致性。因此,采用遗传算法和间隔偏最小二乘法得到的苹果硬度的特征波长能够反映果胶的吸收信息,从而解释了近红外技术检测苹果硬度的机理。

【英文摘要】In the present study,the fruit flesh firmness of apple was analyzed by near infrared(NIR)spectroscopy using an FT-NIR spectrometer.The sensitive spectral regions that provide the lowest prediction error were analyzed by different well-known variable selection methods,including dynamic backward interval partial least-squares(dynamic biPLS),sequential application of backward interval partial least-squares and genetic algorithm(dynamic biPLS & GA-PLS),and iterative genetic algorithm partial least-squares(iterative GA-PLS).Iterative GA-PLS,dynamic biPLS & GA-PLS led to a distinct reduction in the number of spectral data points with better predictive quality.Furthermore,the majority of selected wavelengths were content with the characteristic of the sorption bands of fruit flesh firmness.Pectin constituents,complex non-starch polysaccharides,which are related to texture change in apple,play an important role in their harvest maturity,ripening and storage.Comparing NIR characteristic wavelengths of apple flesh firmness and typical absorption bands for pectin,it was found that characteristic wavelengths of apple flesh firmness were consistent with the pectins relevant spectral regions.Therefore,the NIR characteristic wavelengths of apple firmness based on GA and iPLS reflected the chemical component of apple and the results were reasonable

【语种】中文

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【学科分类】食品科学技术基础学科

【题目】基于中波近红外光谱的苹果汁品种产地鉴别研究

【中文关键词】苹果汁 近红外光谱 漫透射

【英文关键词】Apple juice near-infrared spectroscopy diffuse transmission classification SI MCA

【中文摘要】收集五种新鲜苹果(红富士、嘎拉、美国青苹果、美国加利果、国产青苹果)并榨汁, 利用浸入式光纤, 采集其透反射近红外光谱, 对苹果汁进行定性分析. 结果表明, 在1 00 一1 380 nln 波段内, 应用SI M-CA 法建立的近红外光谱判别模型可准确鉴别苹果汁的品种及产地。红富士与其他苹果汁、国产青苹果与其他苹果汁的分类模型中, 预测集的识别率均为10 %, 嘎拉、美国加利果等的识别率也较好。SNV 预处理能够显著提高模型的识别能力, 经SN V 处理后, 各分类模型的识别率均在85 %以上。本研究表明, 基于中波近红外的透反射光谱, 结合化学计量学方法, 为苹果汁品质的定性分析提供了一种快速无损的检测方法。

【英文摘要】Fresh apple juices were extracted from five categories of apples,containing Fuji,Chinese Gala,American green apple,AmericaIl Gala,and Chinese green apple. In order to quantitatively amlyze the apple juices,the immerging fiber was used to conlect the transnectance near infrared spectra of the juices.Results showed that in the wavelength rarlge of 1 000—1 380 nm,the combination of soft independent modeling 0f class analogy(SlMCA)could be used to discmimte the categories and producing area of the apple juices. The classification accuracies of Fuji juices,Chinese green apple juices and other juices,were all 100%.The classification Results of Chinese Gala and American Gala were also acceptable pretreannent could improve the discrim-ination ability of the model. After SNV processing,the classification accuracies of all binary models were over 85%.The results indicated that the middle wavelength NIR spectroscopy,combined with chemometrics,provided a fast and non-destructive method forquantitatively analyzing the quality of apple juices.

【语种】中文

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【学科分类】农产品贮藏与加工

【题目】鸡蛋品质检测系统的图像处理的技术研究

【中文关键词】鸡蛋 图像处理 矢量中值滤波 边缘检测 阈值分割

【英文关键词】egg image processing vector median filtering edge detection threshold segmentation
【中文摘要】鸡蛋品质检测系统中的图像处理主要涉及图像平滑、边缘检测和图像分割三个方面。本研究采用矢量中值滤波的方法对鸡蛋的彩色图像进行平滑去噪,很好的保护了彩色图像色度信息。选用Prewitt算子检测图像边缘。经过反复试验,选取全局阈值进行图像分割,将目标鸡蛋图像从背景中分离出来。研究和实验结果表明,使用本实验的图像处理技术可以精确地提取鸡蛋品质检测的图像信息,为开发鸡蛋在线检测系统提供了技术基础
【英文摘要】The image processing in egg quality detection system mainly involves image smoothing,edge detection and image segmentation. In the present study,the vector median filtering method was applied to smooth the image to protect the information of the color image. The prewitt edge operator was used to detect the image edge. After repeated experiment,a overall image segmentation threshold was selected to separate the target egg image from the background. Results showed that the image processing technology presented in this study can be used to accurately extract image information of egg
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【学科分类】农产品贮藏与加工

【题目】近红外光谱法测定蜂蜜中主要成分的可行性研究
【中文关键词】蜂蜜 近红外光谱 水 果糖 葡萄糖
【英文关键词】Honey Near infrared spectroscopy Water Fructose Glucose
【中文摘要】以153个单植物源和混合植物源蜂蜜样品为研究对象,使用3种近红外光谱仪(FT型、CCD型、PDA型)采集蜂蜜的透反射和透射光谱,并应用近红外定量分析技术进行蜂蜜中主要成分(水分含量、果糖含量、葡萄糖含量)的检测研究。用偏最小二乘回归(partial least square repression,PLSR)方法分别建立了蜂蜜水分含量、果糖含量、葡萄糖含量的近红外定量分析模型。结果表明,水分含量、果糖含量、葡萄糖含量的相关系数(r)分别达到0.9785,0.9311和0.8907,预测误差均方根(RMSEP)分别为0.4108(%),1.9144(%)和2.5319(%)。研究表明基于近红外光谱的蜂蜜主要成分快速无损检测准确度高,具有很高的实用价值。
【英文摘要】The potential of near infrared spectroscopy(NIR)as a nondestructive method for determining the principle components of honeys was studied for 153 unifloral honeys and multifloralh honey samples.Fourier transform near-infrared spectroscopy(FT-NIR),CCD near-infrared spectroscopy and PDA near-infrared spectroscopy were evaluated to quantitatively determine water content,fructose content and glucose content in honey.On the basis of partial-least square(PLS)regression,the models of honey were compared.The best calibration model gives the correlation coefficients of 0.978 5,0.931 1 and 0.890 7 for water,fructose and glucose,respectively,with the root mean square error of prediction(RMSEP)of 0.410 8(%),1.914 48(%)and 2.531 9(%)respectively.The results demonstrated that near-infrared spectrometry is a valuable,rapid and nondestructive tool for the quantitative analysis of the principle components in honey.
【语种】中文
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【题目】小尾寒羊不同部位羊肉理化特性及肉用品质的比较
【中文关键词】小尾寒羊 理化特性 肉用品质 评价指标
【英文关键词】small-tail sheep physico-chemical properties meat quality index of evaluation
【中文摘要】以我国著名的优良品种小尾寒羊为研究对象,对其不同分割部位(脊背、腰窝、肋条、前腿、后腿、腱子)羊肉的理化特性进行测定,并对其熟制品(牙签肉)食用品质进行比较。结果表明,根据理化性质不同可将不同分割部位分成臀

腿部和躯干部两部分,肉品的脂肪含量、颜色、失水率、剪切力、肌纤维直径和密度有显著差异(p<0.05)。肌肉脂肪含量明显影响羊肉产品风味,可作为羊肉风味的评价指标。肌纤维的组织学特性和剪切力都可作为嫩度的评价指标。肋条和腰窝部位肌肉脂肪含量较高,肌肉肌纤维直径细、密度大,系水力较强,剪切力小,肉质较嫩,香气浓郁,因此具有较好的食用品质,是制作烧烤涮羊肉制品的最佳原料。

【英文摘要】The native breed small-tail han sheep was studied on composition,texture properties and meat quality in different parts of ovine carcass (back,lumbar,ribs,front legs,hind legs,and tendon). Sensory evaluation of the products processed by meat cuts was conducted. The results showed that the six anatomical parts can be classified to two groups: legs and trunk,according to physico-chemical properties and texture properties. Between two parts for legs and trunk,the fat content of meat,color,water-holding capacity,share force,muscle fiber diameter and density are significantly different (p<0.05). The fat content in muscle affects the flavor of mutton products,and it can be used as the main index for flavor evaluation. Shear force,muscle fiber diameter and density can be used as the main index for muscle tenderness evaluation. The parts of lumbar and ribs haves higher fat content and water-holding capacity,thinner muscle fiber diameter and smaller shear force,and they have good meat qualities such as intenderness and flavor. The parts of lumbar and ribs are the best raw materials for processing the products of barbeque or rinsed mutton.

【语种】中文

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【题目】砂梨糖度近红外光谱波段遗传算法优化

【中文关键词】近红外光谱 遗传算法 波段优化 糖度 砂梨 多品种模型

【英文关键词】FT-NIR spectroscopy Genetic algorithms Region optimization Soluble solid content (SSC) Pyrus pyrifolia Mixed model

【中文摘要】遗传算法不受搜索空间限制性假设的约束, 利用简单的编码技术和繁殖机制来解决复杂近红外光谱数据的优化问题。文章采用遗传算法的波段选择法(R-SGA) 对砂梨近红外光谱进行了波段优化, 得到丰水、圆黄、黄金三种梨的R-SGA最佳因子数分别为10, 12和16, 并分别建立了单一品种GA-PLS模型; 丰水梨和黄金梨的GA-PLS模型精度高于全谱PLS模型, 其模型的RMSEP分别为0.608 /0.632和0.524 /0.540;圆黄梨GA-PLS模型精度(RM SEP= 0.610) 与全谱PLS模型(RMSEP= 0.595)相当。经波段优化分析表明,使用552个数据点建立多品种砂梨混合模型, 具有较高稳健性和预测性(RMSEC= 0.627, RMSEP= 0.641)。结果表明: 基于遗传算法进行波段优化可以提高砂梨糖度模型精度, 提高建模效率, 同时说明建立多品种砂梨糖度通用模型是可行的。

【英文摘要】Genetic algorithm is widely used in NIRS data optimization, which is not limited by searching space. The region selecting by genetic algorithms(R-SGA) was applied in building calibration model of soluble solid content (SSC) of Pyrus pyrifolia, and the number of variables used to build calibration was further reduced from 2075 to 690 in all of 3 models. Studies were performed to build GA-PLS models by different R-SGA latent variables, and the optimal R-SGA latent variables of H osui, W onhwang and W hangkeumbae pear were 10, 12 and 16, respectively. The R-SGA procedure was found to perform well (RMSEP= 0.608 and 0.524 for H osui andW hangkeumbae pear respectively) , leading to ca libration models that significantly outperform those based on full-spectrum analyses (RM SEP =0.632, 0.540). The prediction precision of GA-PLS models was similar to FULL-PLS for W onhwang pear, with RMSEP of 0.610 /0.595. In addition, the selected regions from R-SGA methods were used to build mixed model of 3 Pyrus pyrifolia varieties. The results indicated that the prediction precision of GA-PLS model was close to that of the full spectrum model, with RMSEP of 0.641 and 0.645,respectively. This work proved that the R-SGA could find optimal values for several disparate variables associated with the calibration model and that the PLS procedure could be integrated into the objective function driving the optimization, and it was feasible to build a universal model of different Pyrus pyrifolia varieties.

【语种】中文

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【题目】芒果内部品质的CCD-NIR无损检测试验研究
【中文关键词】近红外 芒果 CCD 小波变换 内部品质
【英文关键词】The near infrared Mango wavelet transform internal quality
【中文摘要】以"台农"芒果为研究对象,使用CCD近红外光谱仪采集芒果的漫反射光谱信息,并应用近红外定量分析技术开展了芒果内部品质的检测研究。用偏最小二乘回归(partial least square repression,PLSR)方法在580~1000nm光谱范围内,分别建立了芒果可溶性固形物(糖度)和硬度的近红外定量分析模型。结果表明,糖度,硬度的相关系数(r)分别达到0.8629和0.8308,预测误差均方根(PMSEP)分别为1.3274(°Brix)和4.7757(N.cm -2).在此基础上,根据CCD光谱本身含噪声较大的特点,我们采用了小波变换来对谱图进行了去噪处理,以提高检测精度。通过分析haar,db,sym,bior,coif,dmey六族小波基,取不同的阶数,在不同分解尺度下,分别应用三种阈值(默认阈值、Birge-Massart阈值、Penalty阈值)进行去噪后,模型精度得到显著的提高。糖度,硬度的预测误差均方根(PMSEP)分别由1.3274(°Brix)和4.7757(N.cm -2)减少到1.2778(°Brix)和4.5284(N.cm -2).研究表明:可见/近红外漫反射技术可以应用于检测芒果的内部品质。
【英文摘要】The potential of near infrared spectroscopy (NIR) as a non-destructive method for determining the internal quality of mango fruits was studied.Quality of 108 mango fruits:soluble solids content (SSC),and firmness were determined. The spectra were obtained in the wavelength range from 580 to 1100 nm at two sites of each mango. On the basis of partial least square(PLS)regression,the models of SSC and fimmess of mango fruits were compared.The calibration model gave the correlation coefficients of 0.8629 and 0.8308 respectively,with the root mean square error of prediction(RMSEP)of 1.3274(°Brix)and 4.7757(N.cm-2)respectively.Discrete wavelet transfom Was used to eliminate the noise in the charge coupled device near-infrared((CCD-NIR)spectra of mango.The influence of three parameters(wavelet fuIlction,decomposition level,and threshold) on the predictive ability of calibration model was investigated.The RMSEP decreased from 1.3274 to1.2778 (°Brix)and 4.7757 to 4.5284(N.cm-2)respectively after wavelet denoisillg.NIR spectroscopy proved to be applicable to non-destructive determining the intemal quality attributes of mango fruits.
【语种】中文
【第一作者】屠振华
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【题目】氯苯类化合物测定方法的研究现状
【中文关键词】氯苯类化合物 测定 固相微萃取 气相色谱
【英文关键词】chlorobenzenes determination SPME GC
【中文摘要】介绍了生活环境中氯苯类化合物的来源、危害,并对环境水中氯苯类化合物检测的前处理方法以及测定方法进行了阐述,对于改进实验方法以及提高环境安全质量都有一定的借鉴作用.
【英文摘要】This article concentrates on introducing methods of pretreatment and determination of chlorobenzenes in water,as well as their sources and harm,which will be referred to improve determination method of chlorobenzenes and quality of environment.
【语种】中文
【第一作者】王硕
【通讯作者】王硕
【期刊名称、卷期、页码】天津科技大学学报 2008 23(1)207-210
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【题目】饮用水中45种农药残留检测方法的研究
【中文关键词】饮用水 农药残留 固相萃取 气质联用
【英文关键词】drinking water pesticide residues SPE GC-MS
【中文摘要】运用固相萃取技术,建立饮用水中多种农药的气相色谱-质谱法(GC-MS)检测方法,选取了2种内标物,在57min内可以很好的分离45种农药。
【英文摘要】Establishing method that detects different pesticides in drinking water by SPE-GC-MS with 2 kinds of internal standard material and enabling to separate 45 kinds of pesticide in 57 min.
【语种】中文
【第一作者】朱华平
【通讯作者】王硕
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【学科分类】食品科学技术其他学科

【题目】氯霉素免疫亲和柱的制备及在牛奶中痕量氯霉素残留分析中的应用
【中文关键词】免疫亲和柱 氯霉素 牛奶 高效液相
【英文关键词】immunoaffinity column chloramphenicol milk HPLC
【中文摘要】将氯霉素多克隆抗体与sepharose- 4B 偶联, 制备了对氯霉素有特异性吸附的免疫亲和柱。采用紫外扫描鉴定偶联反应, 利用直接竞争酶联免疫吸附法及高效液相色谱法对制备好的免疫亲合柱进行评价。通过纯化牛奶基质, 对该免疫亲和柱的纯化能力进行了研究。结果表明, 12.84 mg 抗体与sepharose-4B 的联接率为91.06 %。以2%甲醇/水溶液预洗涤杂质, 80 %甲醇/水溶液洗脱分析物, 可以消除牛奶基质对高效液相色谱分析氯霉素的影响。在牛奶中添加1.5 μg/L-5 μg/L 氯霉素标品, 测得其回收率为95.2%-105.9%, 相对标准偏差为1.19%-4.18%。该亲和柱可以明显消除基质影响, 提高检测的灵敏度。
【英文摘要】A immuoaffinity column was prepared by coupling anti-chloramphenicol multiclonal antibody withsepharose-4B. After determining the coupling rate by UV absorbance measurement, the coulumn has beenevaluated through direct-competetion ELISA and HPLC.Then the purification capacity of the IAC has been tested by using milk as a sample.12.84 mg antibody was coupled with sepharose-4B which produced a coupling rate of 91.06 %.Use of 2 % methanol/water buffer as washing buffer and 80 % methanol/water as elution buffer can eliminate the impact milk brings to the test by HPLC. The mean recoveries were in the range 95.2 %- 105.9 % and RSD was 1.19 %- 4.18% at levels of 1.5 μg/L- 5 μg/L.
【语种】中文
【第一作者】乔好
【通讯作者】王硕
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【题目】有机磷农药降解酶的基因克隆与重组表达
【中文关键词】有机磷 降解酶基因 克隆 重组表达
【英文关键词】Organophosphate Hydrolase gene Cloning Recombinant expression
【中文摘要】目的: 旨在从活性污泥中直接克隆有机磷农药降解酶基因, 使其在大肠杆菌中大量表达。方法: 利用土壤DNA提取技术从山东某农药厂活性污泥中提取DNA, 根据有机磷农药降解酶基因设计引物, 用巢式PCR 从活性污泥DNA中扩增特异性片段, 将该基因片段连接至表达载体pET- 30a(+)中, 并转化感受态细胞BL21(DE3), 经IPTG诱导表达重组蛋白, 并对诱导剂浓度和诱导时间进行优化。结果: 利用巢式PCR 从活性污泥DNA 中扩增出长度为1003 bp 的特异性片段, 将该片段测序并进行序列比对, 结果显示该片段与甲基对硫磷降解酶基因的同源性为99%, 且含有完整开放阅读框, 长度为993 bp; IPTG 诱导后获得分子量为411 7 kD 的重组表达蛋白; 经优化, IPTG 的最佳诱导浓度为01 1 mm o l/L, 最佳诱导时间

为5 h。结论: 成功克隆出有机磷农药降解基因并获得高效重组表达蛋白。
【英文摘要】Objective:To clone the organophosphate hydrolase gene (OPH) from activated sludge and express inE.coli.Methods: DNA was purified by soil DNA isolation kit from of a pesticide factory in Shandong Province.A DNA fragment was amplified by nested PCR with the primers designed according to organophosphate hydrolase genes.The open reading frame was subcloned into pET- 30a(+) plasmid and transferred into E.coli BL21 (DE3).After being induced by IPTG, a recombinant prote in protein was largely expressed in the cells, and recom binant expressing conditions (such as concentration of IPTG and inducing period) was studied and optimized.Results: A 1003 bp DNA fragment was amplified by nested PCR and sequencing result indicated that the fragment contained a 993 bp full open reading frame. Blast analys is showed that the homology between the fragment and methyl parathion hydrolase gene was high to 99% .After being induced by IPTG, a prote in with molecular weight of 4117 kD was largely expressed in the cells.The result of optimization of recombinant expressing conditions showed that the optimal concentration of IPTG was 0.1 mmol/L and the optimal inducing period was 5 hours.Conclusion: OPH has been successfully cloned and largely expressed in E.coli.
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【题目】小反刍兽疫病毒N、H和F蛋白的真核表达
【中文关键词】小反刍兽疫病毒;真核表达;重组质粒;转染
【英文关键词】Peste des petits ruminants virus;eukaryotic expression;recombinant plasmid, transfection
【中文摘要】目的构建小反刍兽疫病毒(PPRV)H、N、F、NF重组真核表达质粒并观察其在真核细胞内的表达情况。方法采用逆转录聚合酶链式反应(RT-PCR)技术,从病羊组织中扩增PPRV的N、H、F基因序列并克隆到真核表达载体pIRES1neo中,最后用PCR、酶切和序列分析对重组质粒进行鉴定;将重组质粒以磷酸钙介导法转染Vero细胞,用免疫荧光方法鉴定其在细胞中的表达。结果将RT-PCR产物电泳,得到与预期大小相符的特异性片段;重组质粒经pIRES1-N、pIRES1-H、pIRES1-F和pIRES1NF酶切后,均出现预期相符的片段;DNA测序表明插入片段的序列与小反刍兽疫病毒N、H、F蛋白基因序列完全一致,其大小分别为1575bp、1830bp和1641bp;将重组质粒感染真核细胞,经免疫荧光检测,证明所有蛋白均得到表达。结论成功构建了重组真核表达质粒pIRES1-N、pIRES1-H、pIRES1-F和pIRES1NF,为继续进行基因免疫研究奠定了基础。
【英文摘要】Objective To construct recombinant eukaryotic expression plasmids carrying peste des petits ruminants virus (PPRV) H、N、F、NF gene and analyze their expression in eukaryotic cell line. Methods The PRRV N、H、F gene sequences were amplified by reverse transcription-polymerase chain reaction (RT-PCR) technology from the sick goat tissue and cloned into eukaryotic expression vector pIRES1neo. The recombinant plasmids were verified by PCR、restriction enzyme digestion and DNA sequencing. The recombinant vector was transfected into vero cell line with calcium acid phosphate transfection reagent. The expression of N, H, F and NF gene were analyzed by immunofluorescence. Results the RT-PCR product was subjected to electrophoresis and specific fragment was acquired; the recombinant plasmids were digested resulting in expected by restriction enzyme fragments. The DNA sequence of the 1575bp, 1830bp, 1641bp fragments were identical with N, H, F and NF cDNA in Genebank. The immunofluorescence result shows that N, H, F and NF were expressed successfully in vero cell line. Conclusion The recombinant plasmids pIRES1neo-N、pIRES1neo-H、pIRES1neo-F and pIRES1neo-NF were constructed successfully, which will provide the foundation for further research on gene immune.
【语种】中文
【第一作者】赵永刚
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【题目】山东沿海缢蛏的繁殖生物学研究
【中文关键词】缢蛏; 繁殖周期; 环境因子
【英文关键词】null
【中文摘要】自2007 年4 月~ 2008 年3 月对山东省黄河三角洲缢蛏的繁殖周期及其与环境因子(温度、盐度和叶绿素a 含量) 的关系进行了研究。环境因子的分析结果显示温度和叶绿素a 含量存在明显的季节变化, 而盐度则无明显变化。组织学观察显示, 配子发生开始于6~ 7 月, 水温为22. 0~ 27. 8 e , 大部分个体在9 至10 月成熟, 10 月后大规模产卵, 此时水温和叶绿素a 含量开始下降。结果表明, 水温和叶绿素a 的含量影响缢蛏的配子发育。缢蛏的卵细胞直径成显著的周年变化(P < 0. 05) , 从6 月(22. 6 Lm) 开始增加, 11 月达最大值(66. 3 Lm) 。随着产卵的发生, 卵径急剧减小, 至1 月, 卵径降低至29. 7 Lm。卵径周年变化与发育周期具有明显的相关性, 表明卵径可以作为判断缢蛏性腺成熟度的1 个良好指标。
【英文摘要】无
【语种】中文
【第一作者】闫红伟
【通讯作者】李 琪
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【题目】Enrichment of a set of microRNAs during the cotton fiber development.
【中文关键词】棉花;miRNA;纤维
【英文关键词】cotton; miRNA; fiber
【中文摘要】Background: Cotton (Gossypium hirsutum) is one of the most important economic crops and provides excellent fibers for textile manufacture. In addition to its industrial and agricultural importance, the fiber cell (plant trichome) also is a biological model system for exploring gene expression and regulation. Small RNAs regulate many aspects of plant growth and development. However, whether small RNAs are involved in regulation of fiber cell development is unknown. Results: We adopted a deep sequencing approach developed by Solexa (Illumina Inc.) to investigate global expression and complexity of small RNAs during cotton fiber initiation and development. We constructed two small RNA libraries prepared from wild type (WT) and fuzz/lintless (fl Mutant in the WT background) cotton ovules, respectively. Each library was sequenced individually and generated more than 6-7 million short sequences, resulting in a total of over 13 million sequence reads. At least 22 conserved candidate miRNA families including 111 members were identified. Seven families make up the vast majority of expressed miRNAs in developing cotton ovules. In total 120 unique target genes were predicted for most of conserved miRNAs. In addition, we identified 2 cell-type-specific novel miRNA candidates in cotton ovules. Our study has demonstrated significant differences in expression abundance of miRNAs between the wild-type and mutant, and suggests that these differentially expressed miRNAs potentially regulate transcripts distinctly involved in cotton fiber development. Conclusion: The present study is the first to deep sequence the small RNA population of G. hirsutum ovules where cotton fibers initiate and develop. Millions of unique miRNA sequences ranging from 18~28 nt in length were detected. Our results support the importance of miRNAs in regulating the development of different cell types and indicate that identification of a comprehensive set of miRNAs in cotton fiber cells would facilitate our understanding of the regulatory mechanisms for fiber cell initiation and elongation.
【英文摘要】Background: Cotton (Gossypium hirsutum) is one of the most important economic crops and provides excellent fibers for textile manufacture. In addition to its industrial and agricultural importance, the fiber cell (plant trichome) also is a biological model system for exploring gene expression and regulation. Small RNAs regulate many aspects of plant growth and development. However, whether small RNAs are involved in regulation of fiber cell development is unknown. Results: We adopted a deep sequencing approach developed by Solexa (Illumina Inc.) to investigate global expression and complexity of small RNAs during cotton fiber initiation and development. We constructed two small RNA libraries prepared from wild type (WT) and fuzz/lintless (fl Mutant in the WT background) cotton ovules, respectively. Each library was sequenced individually and generated more than 6-7 million short sequences, resulting in a total of over 13 million sequence reads. At least 22 conserved candidate miRNA families including 111 members were identified. Seven families make up the vast majority of expressed miRNAs in developing cotton ovules. In total 120 unique target genes were predicted for most of conserved miRNAs. In addition, we identified 2 cell-type-specific novel miRNA candidates in cotton ovules. Our study has demonstrated significant differences in expression abundance of miRNAs between the wild-type and mutant, and

suggests that these differentially expressed miRNAs potentially regulate transcripts distinctly involved in cotton fiber development. Conclusion: The present study is the first to deep sequence the small RNA population of G. hirsutum ovules where cotton fibers initiate and develop. Millions of unique miRNA sequences ranging from 18~28 nt in length were detected. Our results support the importance of miRNAs in regulating the development of different cell types and indicate that identification of a comprehensive set of miRNAs in cotton fiber cells would facilitate our understanding of the regulatory mechanisms for fiber cell initiation and elongation.
【语种】英文
【第一作者】Pieter Bas Kwak
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【题目】Transcriptome profiling of early developing cotton fiber by deep-sequencing reveals significantly differential expression of genes in a fuzzless/lintless mutant
【中文关键词】棉花;转录本;miRNA
【英文关键词】cotton; transcriptome; miRNA
【中文摘要】棉花是重要的经济作物。棉花纤维是由胚珠外表皮细胞发育分化而成的一种单细胞结构,是研究植物表皮毛细胞分化和伸长的理想材料。但是棉纤维发育的基因表达调控机理进展缓慢。新兴的转录组表达谱测序技术成为研究纤维发育基因及其调控网络的有力工具。为了对棉纤维发育提供更多信息,本研究应用高通量的数字表达谱方法,利用陆地棉徐州142(野生型WT,Xu142)及其无绒无絮突变体(fuzzless/lintless: M),分析了棉纤维发育过程中基因的表达谱,从而为阐述棉纤维细胞初始发育和快速伸长的机理打下基础。分别构建4个基因表达文库,包括WT1(-2~1 DPA,days post anthesis)、WT2(2~8 DPA)、M1(突变体-2~1 DPA,)及M2(2~8 DPA)。对每个表达文库进行标签高通量测序(tag-sequencing或tag high throughput deep sequencing)。每个库测到3.5~3.8 M的总标签数,包含约0.7~1M的标签种类,去除低质量标签后分别得到2,973,104; 3,139,306; 2,943,654和3,392,103的序列数(WT1, WT2, M1和M2),包含357,852; 280,787; 372,952和382,503的标签种类数。将这些标签比对到TIGR数据库(http://www.tigr.org),约有15%的标签种类能够比对到参考基因库,31.4%的基因能够被测到。每个文库测到的基因数为:WT1: 23,854; WT2: 24,442; M1: 23,497; M2: 19,957。将上述比对得到的正义链基因在四个库中进行两两比对,寻找差异表达基因进行分析。从本实验数据上找到了以前已发表的27个纤维发育相关基因,并对其进行了表达谱分析。此外,本实验室2009年在棉胚珠及纤维中克隆到了111个保守miRNA并预测了99个靶基因,其中43个miRNA对应的62个靶基因在本次测序中被测到。在82对miRNA-潜在靶标中,有40对(~50%)存在负相关关系,包括33个基因,初步诠释了miRNA在该调控网络中的作用。
【英文摘要】Cotton fiber as a single-celled trichome is a biological model system for studying cell differentiation and elongation. However, the complexity of its gene expression and regulatory mechanism allows only marginal progress. Here, we report the high-throughput tag-sequencing (Tag-seq) analysis using Solexa Genome Analyzer platform on transcriptome of -2~1 (fiber initiation, stage I) and 2~8 (fiber elongation, stage II) days post anthesis (DPA) cotton (Gossypium hirsutum) ovules (wildtype: WT, Xuzhou 142 and its mutant: fuzzless/lintless or fl M, in the same background). To this end, we sequenced 3.5 to 3.8 million tags representing 0.7 to 1.0 million unique transcripts for each library (WT1, WT2, M1 and M2). After removal of low quality tags, we obtained a total of 2,973,104, 3,139,306, 2,943,654 and 3,392,103 clean sequences that corresponded to 357,852, 280,787, 372,952 and 382,503 distinct tags for WT1, WT2, M1 and M2, respectively. All clean tags were aligned to the publicly available cotton transcript database (TIGR, http://www.tigr.org). About 15% of the distinct tags were uniquely mapped to the reference genes and 31.4% of existing genes were matched by tags. The tag mapping to the database sequences generated 23,854, 24,442, 23,497 and 19,957 annotated genes for WT1, WT2, M1 and M2 libraries, respectively. Analyses of differentially expressed genes revealed the substantial changes in gene number and abundance between the wildtype and mutant libraries. Overall, our deep-sequencing analyses demonstrate the high degree of transcriptional complexity in early developing fibers and represent a major improvement over the microarrays for analyzing transcriptional changes on a large scale.
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【题目】小反刍兽疫病毒RT_LAMP检测方法的建立
【中文关键词】小反刍兽疫病毒;逆转录环介导等温核酸扩增;检测
【英文关键词】Peste des petits ruminants virus;Reverse-transcription loop-mediated isothermal amplification;detection
【中文摘要】利用逆转录环介导等温核酸扩增技术(RT-LAMP)建立了小反刍兽疫病毒快速检测方法,同时评价了该方法的灵敏性和特异性。结果表明,根据小反刍兽疫病毒N基因保守区域设计的LAMP引物能够在63°C恒温下,1小时内实现目的核酸的大量扩增,由于在检测前加入荧光指示试剂,检测结果可以直接用肉眼判断,避免了由于开盖检验带来的扩增产物污染导致的假阳性。该检测体系具有较高的特异性,只能特异性地检测目的病毒,与其他同属的病毒或类似病毒等无交叉反应;具有较高的检测灵敏度,比普通RT-PCR灵敏性高10倍,与荧光RT-PCR的灵敏度相当。
【英文摘要】A one-step,single tube,reverse-transcription loop-mediated isothermal amplification(RT-LAMP) assay was developed for the detection of Peste des petits ruminants virus(PPRV).A set of primers were designed based on the N gene reference sequences of the PPRV.The assay was optimized to amplify PPRV RNA by incubation at 63°C for 60 min.Without gel electrophoresis,the LAMP amplicon was visualized directly in the reaction tube by the addition of fluorescent detection regent for naked-eye inspection.The assay was specific for PPRV to detect different PPRV isolates,and there was no cross-reaction with other related viruses including Rinderpest virus,Canine distemper virus,and et al.The detection limit of the assay was similar to that of real-time RT-PCR and 10-fold higher than the conventional RT-PCR.This RT-LAMP assay has potential applications for clinical diagnosis as well as surveillance of PPR.
【语种】中文
【第一作者】李林
【通讯作者】王志亮
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【学科分类】兽医学

【题目】小反刍兽疫病毒分离株China/Tib/07辅助质粒及微型基因组的构建和鉴定
【中文关键词】小反刍兽疫病毒;微型基因组;eGFP;N蛋白;P蛋白;L蛋白
【英文关键词】Peste des petits ruminants virus;minigenome;eGFP; N protein;P protein;L protein
【中文摘要】本研究旨在构建小反刍兽疫病毒(PPRV)的辅助质粒和微型基因组并验证其功能,为建立PPRV反向遗传操作平台奠定基础。首先构建表达PPRV分离株China/Tib/07的N、P和L蛋白的辅助质粒pCI-N、pCI-P和pCI-L。通过间接免疫荧光试验验证3个辅助质粒转染细胞后的蛋白表达情况,并从mRNA水平上验证蛋白表达的正确性;扩增PPRV基因组两末端序列和eGFP报告基因,三者通过overlap-PCR连接并克隆至转录载体pOL-TV5中构建微型基因组。将构建的微型基因组分别与辅助病毒和3个辅助质粒进行共转染。经鉴定各辅助质粒完全正确,构建的微型基因组不论与辅助病毒还是与3个辅助质粒共转染,报告基因均表达。本试验成功构建了PPRV分离株的表达N、P和L蛋白的3个辅助质粒以及微型基因组,并用微型基因组验证了3个辅助质粒可以作为PPRV反向遗传操作的辅助质粒,为该病毒感染性克隆的构建奠定了基础。
【英文摘要】The research was conducted to construct and identify the support plasmids and minigenome of Peste des petits ruminants virus(PPRV) in order to lay a foundation for the establishment of a reverse genetic system for rescue of PPRV.Support plasmids of pCI-N,pCI-P and pCI-L according to the PPRV isolate,China/Tib/07,were constructed and functions were identified by IFA and RT-PCR after transfection.At the same time,the two end sequences of the genome of the PPRV isolate,along with the reporter gene of eGFP were amplified,then the 3 fragments were connected by overlap-PCR and cloned into the transcription vector,pOLTV5,the minigenome was constructed and then co-transfected with the support virus and the 3 support plasmids respectively.As a result,the 3 support plasmids were identified to be correct and the reporter gene of eGFP expressed when the minigenome transfected with either the support virus or the 3 support plasmids.In conclusion,support plasmids of the N,P and L genes and minigenome of the PPRV were constructed successfully.Furthermore,the 3 plasmids worked well with the minigenome,which indicated that the 3 plasmids can work as the support plasmids for the study of reverse genetic operations of China/Tib/07.

【语种】中文
【第一作者】刘文华
【通讯作者】王志亮
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【学科分类】兽医学

【题目】携带小反刍兽疫病毒H基因的重组山羊痘病毒构建和鉴定
【中文关键词】小反刍兽疫病毒;H基因;山羊痘病毒
【英文关键词】Peste des Petits Ruminants;H gene;Goatpox virus
【中文摘要】将小反刍兽疫病(PPRV)毒糖蛋白基因H插入到山羊痘病(GPV)毒通用转移载体PtkPgpt-egfpP启动子P7.5的下游,构建了重组山羊痘病毒转移载体PtkPgpt-egfpPpprv-H。该重组转移载体转染感染山羊痘病毒疫苗株的绵羊睾丸细胞中,通过同源重组获得小反刍兽疫病毒H基因重组山羊痘病毒,通过纯化和PCR鉴定,证明小反刍兽疫病毒H基因插入到山羊痘病毒基因组中。本研究为进一步研究PPRVH基因重组山羊痘病毒的免疫原性奠定了基础。
【英文摘要】To construct the recombinant goatpox virus transfer vector PtkPgpt-egfpPpprv-H,the PPRV-H gene was inserted into the downstream of promoter 7.5 of GPV vector PtkPgpt-egfpP.The recombinant virus was generated by transfection of PtkPgpt-egfpPpprv-H into LT cell that had been infected with goatpox virus vaccine strain.Rcombinant virus was successfully obtanined and identified by PCR.The study provided foundation for further study of immunogenicity of the recombinant goatpox.
【语种】中文
【第一作者】南文金
【通讯作者】王志亮
【期刊名称、卷期、页码】中国动物检疫,2011,28(7):33-35,39
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【题目】一步法实时定量RT-PCR检测小反刍兽疫病毒方法的建立
【中文关键词】小反刍兽疫病毒; 一步法实时定量RT-PCR; 检测
【英文关键词】peste des petits ruminants virus; one-step real-time quantitative reverse transcriptase PCR; detection
【中文摘要】建立了检测小反刍兽疫病毒的快速、特异的基于Taqman的一步法实时定量RT-PCR方法。通过对GenBank已公布的小反刍兽疫病毒N基因序列进行序列比较分析,设计了一对特异性引物和一条Taqman探针。利用这对引物和探针对来自不同疫源地的小反刍兽疫病毒RNA样本进行检测,都获得了特异性扩增,但是,不与牛瘟病毒、海豚麻疹病毒等其他种的麻疹病毒属病毒发生交叉反应。本方法具有高度灵敏性,最低可检测到810拷贝的RNA模板。在模板浓度为8.1×102到8.1×108拷贝范围内,都呈现良好的线性关系,而且无论是组内和或组间重复的变异系数都很低。
【英文摘要】In this study, a rapid and specific TaqMan-based, one-step real-time quantitative reverse transcriptase PCR (qRT-PCR) is developed for the detection of peste des petits ruminants virus (PPRV). Primers and probe were designed based on the nucleocapsid protein gene sequence. The specificity of the assay was assessed by detecting PPRV isolates of different lineage. The analytical sensitivity of the real-time qRT-PCR assay was achieved through the construction of in-house PPRV cRNA standard for generation of a standard curve. The real-time qRT-PCR assay is capable to detect all PPR viruses and none of the other morbilliviruses. The sensitivity of the assay was found to be 810 RNA copies per reaction. And the assay has a linear range from 8.1×102 to 8.1×108 copies as well as excellent intra-assay and interassay reproducibilities.
【语种】中文
【第一作者】包静月
【通讯作者】王志亮
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【题目】中国西藏小反刍兽疫病毒China/Tib/Gei/07-30磷蛋白基因的分子特征及其编码蛋白特性分析
【中文关键词】小反刍兽疫病毒; 磷蛋白; C蛋白; V蛋白; 核苷酸序列; 基因编辑
【英文关键词】peste des petits ruminants virus;phosphoprotein;C protein;V protein;nucleotide sequence
【中文摘要】对我国西藏小反刍兽疫病毒野生株China/Tib/Gej/07-30进行磷蛋白基因序列测定,并进行分子生物学特征分析。首先应用逆转录聚合酶链式反应扩增出病毒磷蛋白基因片段,对聚合酶链式反应产物进行直接测序,然后对测定的核苷酸和推测的氨基酸序列进行比较分析。小反刍兽疫病毒China/Tib/Gej/07-30磷蛋白基因由1 655个核苷酸组成,编码2个相互交叠的开放阅读框(ORF)。第一个ORF长度为1 530个核苷酸,编码的P蛋白长度为509个氨基酸。第二个ORF长度为534个核苷酸,编码的C蛋白长度为177个氨基酸。第一个ORF通过基因编辑在751位插入1个G核苷酸,转录生成第二个mRNA,长度为897个核苷酸,编码的V蛋白长度为298个氨基酸。小反刍兽疫病毒China/Tib/Gej/07-30的P蛋白与其他分离株氨基酸序列同源性为86.1%~97.3%,C蛋白氨基酸序列相似性为84.3%~94.9%,V蛋白为82.9%~96.3%。China/Tib/Gej/07-30的P蛋白第315~387位氨基酸是一段高度保守的七肽重复序列。
【英文摘要】The nucleotide sequences of P gene from a field strain of peste des petits ruminants virus(PPRV)("China/Tib/Gej/07-30") was firstly determined.The P gene is 1,655 nucleotides long with two overlapping open reading frames(ORFs).The first ORF is 1,530 nucleotides long and would produce P protein of 509 amino acid residues.The second ORF is 534 nucleotides long and would produce C protein of 177 amino acid residues.The first ORF produces a second mRNA transcript of 897 nucleotides long with an extra G nucleotide at position 751.Translation from this mRNA would produce V protein of 298 amino acid residues.The nucleotide and deduced amino acid sequence were compared with the homologous region of other PPRV isolates.At the amino acid level,the "China/Tib/Gej/07-30" shares homology of 86.1%-97.3%,84.3%-94.9%,and 82.9%-96.3% for P,C,and V proteins respectively.Several sequence motifs in the P genes were identified on the basis of conservation in the PPRVs and the morbilliviruses.
【语种】中文
【第一作者】包静月
【通讯作者】王志亮
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【学科分类】兽医学

【题目】中国西藏小反刍兽疫病毒野生株China-Tib-Gej-07-30基质蛋白基因和融合蛋白基因的分子特征分析
【中文关键词】小反刍兽疫病毒;野生株;基质蛋白;融合蛋白;非编码区;核苷酸序列
【英文关键词】peste des petits ruminants virus; field strain; matrix protein; fusion protein; untranslated region; nucleotide sequence
【中文摘要】对我国西藏小反刍兽疫病毒野生株China/Tib/Gej/07-30进行基质蛋白(M)和融合蛋白(F)基因序列测定,并进行分子生物学特征分析。首先应用逆转录聚合酶链式反应扩增出M和F基因片段,对聚合酶链式反应产物进行直接测序,然后对测定的核苷酸和推测的氨基酸序列进行比较分析。China/Tib/Gej/07-30的M基因由1483个核苷酸组成,编码335个氨基酸,与其他分离株核苷酸和氨基酸序列同源性分别为92.4%~97.7%和97.0%~98.2%。F基因由2411个核苷酸组成,编码546个氨基酸,与其他分离株核苷酸和氨基酸序列同源性分别为85.5%~96.1%和94.3%~98.2%。China/Tib/Gej/07-30的F蛋白含有信号肽序列和跨膜结构域,序列高度变异。F蛋白第104~108位和第109~133位氨基酸位点分别是高度保守的裂解位点和融合肽结构域。F蛋白还含有序列高度保守的三个七肽重复区。China/Tib/Gej/07-30的M基因3′端的非编码区(UTR)长度为443个核苷酸,GC含量高达68.4%,与其他PPRV毒株的同源性为82.4%~93.5%。China/Tib/Gej/07-30的F基因5′UTR区长度为634个核苷酸,GC含量高达70.0%,与其他PPRV毒株序列相似性为76.2%~91.7%。
【英文摘要】The nucleotide sequences of M and F genes from a field strain of peste des petits ruminants virus(PPRV)("China/Tib/Gej/07-30")was firstly determined.The M gene was 1 483 nucleotides in length with a single open reading frame(ORF),encoding a protein of 335 amino acids.The F gene was 2411 nucleotides in length,encoding a protein of 546 amino acids.The resulting nucleotide sequence and the deduced amino acid sequences were compared with the homologous regions of other PPRV isolates.The nucleotide sequences of M and F genes of the "China/Tib/Gej/07-30" was 92.4%-97.7% and 85.5%-96.1% identical to other PPRV isolates,respectively,while a homology of 97.0%-98.2% and 94.3%-98.2% could be observed at the amino acids level

respectively.Several sequence motifs in the M and F genes had been identified on the basis of conservation in the PPRVs and the morbilliviruses.The 3 ’ untranslated region of M gene was 443 nucleotides in length with 82.4%-93.5% identical to other PPRV isolates.The 5 ’ untranslated region of F gene was 634 nucleotides in length with 76.2%-91.7% identical to other PPRV isolates.
【语种】中文
【第一作者】包静月
【通讯作者】王志亮
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【学科分类】兽医学

【题目】抗尼帕病毒N蛋白单克隆抗体的制备与鉴定
【中文关键词】尼帕病毒; N蛋白; 单克隆抗体; 鉴定
【英文关键词】Nipah virus; N protein; monoclonal antibody; identification
【中文摘要】为制备抗尼帕病毒(NiV)的单克隆抗体(MAb),本研究以原核表达并纯化的NiV核蛋白(N蛋白)为免疫原,按常规方法免疫小鼠,取其脾细胞与SP2/0骨髓瘤细胞融合,对杂交瘤细胞进行筛选,阳性孔经两次有限稀释法克隆,最终获得两株稳定分泌抗N蛋白MAb的杂交瘤细胞株,分别命名为A6和C5。Western blot分析表明,所获得的两株MAb与N蛋白均呈阳性反应;腹水的ELISA效价均为1.024×105;两株MAb的抗体类型均为IgG1,轻链为κ链。抗N蛋白MAb的制备为NiV的监测及鉴别诊断奠定了基础。
【英文摘要】Two hybridoma cell lines secreting monoclonal antibody(MAb) against Protein N of Nipah virus(NiV) were prepared by fusing mouse myeloma cells(SP2/0) with spleen cells from BALB/c immunized with the purified recombinant protein N of NiV expressed E.coli.Western blot showed that the two MAbs could react with protein N of NiV;the ELISA titers of the two MAbs were about 1:1.024×105 and the immunoglobulin subtype of the MAbs were IgG1.These MAbs could be used to establish the monitoring and differential diagnosis method for NiV infection.
【语种】中文
【第一作者】蒋皓静
【通讯作者】单虎
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【学科分类】兽医学

【题目】基于最小二乘支持向量机的人民胜利渠灌区灌溉用水量预测
【中文关键词】灌区;需水量;最小二乘支持向量机;径向基函数;预测
【英文关键词】irrigation district; water demand; least squares support vector machine; radial basis function; forecast
【中文摘要】基于最小二乘支持向量机(LSSVM)良好的泛化能力和特点,以人民胜利渠灌区需水量为研究对象,选用径向基函数(RBF)作为核函数,建立了最小二乘支持向量机预测模型,对灌区需水量进行了模拟计算,用检验样本与灰色预测和基于RBF的神经网络模型的预测结果进行了比较,LSSVM预测的最大误差8.78%,平均误差4.90%。结果表明最小二乘支持向量机模型有较高的预测精度和较强的泛化能力,可为灌区水资源规划提供科学依据。
【英文摘要】Based on the good generalization ability of Support Vector Machine model, water consumption for the People's Victory Canal Irrigation district was studied. Radial basis function (RBF) was chosen as the kernel function, a least squares support vector machine (LSSVM) prediction model was set up. The irrigation water demands of the People ’ s Victory Canal Irrigation district for 8 years were simulated. The test samples were compared with the results of gray prediction and RBF-based neural network model. The maximum predicted error of SVM was 8.78%, and the average error of 4.90%. The results show that support vector machine model has higher prediction accuracy and stronger generalization ability. It can provide a scientific basis for irrigation water resources planning.
【语种】中文
【第一作者】宰松梅

【通讯作者】宰松梅
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【题目】玉米自交系B73全基因组NBS类型抗病基因分析*
【中文关键词】玉米;生物信息学;抗病基因;核苷酸结合位点(NBs);系统进化树
【英文关键词】ZeamaysL.:Bioinformatics;Disease
resistance
gene;Nucleotidebinding site:Phylogenetic
tree
【中文摘要】核苷酸结合位点(NBS)类型抗病基因是植物抗病基因中最大的一个类别,也是近年来植物抗病分子育种研究的一大热点。本研究对玉米自交系B73全基因组中含有NBS结构的候选抗病基因进行了基因总数、类型、系统进化关系等分析。在B73全基因组中含有165个NBS结构的基因,远远少于水稻中的同类基因,按照N.端结构和亮氨酸富集区(LRR)结构,将其分为153个标准结构和12个非标准结构NBS基因。其中,标准结构基因又分为CC.NBS.LRR、CC.NBS、NBS、NBS—NBS、NBS—LRR、NBS.NBS—LRR、NBS.X、X.NBS等8个类型。系统进化树分析表明,NBS类型抗病基因存在明显的两大分支,与水稻的星状发散型分布有很大差异。通过基因家族分析,还发现了玉米NBS类型基因的复制现象,但发生复制的基因比例低于水稻,可能足造成玉米NBS抗病基因数目较少的原因之一。
【英文摘要】Abstract:Nucleotide—bindingsite(NBS)diseaseresistancegeneis alargest categoryinplantdiseaseresistancegenes,whichiS afocusin recentstudiesonmolecularbreedingofplantdiseaseresistance.Usingmaize(ZeamaysL.)inbredlineB73,thecompleteset ofdiseaseresistancecandidategenesıı¡atencodeNBSwasidentifiedin thegenome.TheputativeNBSgeneswerecharacter-izedwithrespecttostructuraldiversity,phylogenetic relationshipsandSO on.0nehundredandsixty—five NBS—codingsequenceswereidentified intotwotypes:nonregular(12)andregularNBSgenes(153).TheamountofNBSgenesismuchsmallerin maizethaninjaponicarice(OryzasativaL.).The153regularNBSgeneswerecategorizedintoeightclasses,includingCC—NBS—LRR,CC.NBS, NBS,NBS—NBS,NBS.LRR,NBS—NBS—LRR,NBS—X,andX.NBS,accordingtoN—terrainal motifand leucine.richrepeat(LRR)domainsmotif.The 165NBSgenesshowedtwo remarkablebranchesin thephylogenetictree,differingfromtheradiation structure injaponicarice.Geneduplicationevent Was observedbased ongene family analysisof the NBSdis—ease.resistancegenesinmaize;howeveLtheratio ofgene duplicationWassmallerthan that in rice.Thismightbeoneoftherea-sonsfor less NBSdisease—resistancegenesin maizethanin rice.
【语种】中文
【第一作者】汪结明
【通讯作者】程备久
【期刊名称、卷期、页码】作物学报2009, 35(3):566-570
【论文发表时间】2009-04-01 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】遗传学

【题目】Expression of Methyl Parathion Hydrolase in Pichia pastoris
【中文关键词】甲基对硫磷水解酶,高效表达
【英文关键词】Methyl Parathion Hydrolase,Pichia pastoris
【中文摘要】12 拷贝的甲基对硫磷水解酶表达盒被整合到P. pastoris的染色体上,超过55mg/l的甲基对硫磷水解酶分泌表达。
【英文摘要】In the Pichia pastoris expression system, increasing the copy number of the expression cassette often has the effect of increasing the amount of protein expressed. To improve the expression level of methyl parathion hydrolase (MPH), we constructed two integration vectors with four and eight direct repeats of the expression cassette using an in vitro multimerization approach. After two successive integrations, at least 12 copies of the MPH expression cassette were integrated into the P. pastoris chromosome. Under

shake-flask conditions, over 55 mg active MPH/l was secreted into the medium by the multicopy clones. The extracellular enzyme activity was about 10-fold higher for the multicopy clones than for clones containing a single copy of the gene. Further investigations revealed that the multicopy MPH expression cassette could remain stably integrated and functional over five generations. Note that the expression vector pRF constructed in our study can be not only used to construct multiple copies of the expression cassette in vitro, but also integrated into the P. pastoris genome without introducing any antibiotic resistance gene, which is desirable for production of biotherapeutic proteins.

【语种】英文

【第一作者】Haojie Yu

【通讯作者】Shunpeng Li

【期刊名称、卷期、页码】Curr Microbiol, 2009, 59:573 – 578

【论文发表时间】2009-10-03 00:00:00

【引文索引类型】SCI

【引文索引号】10.1007/s00284-009-9484-x

【学科分类】微生物学

【题目】Comparison of in-situ biodegrading abilities of Pseudomonas putida mutants: leuB- auxotroph, fliC- non-motility, and cheA- non-chemotaxis

【中文关键词】甲基对硫磷,原位降解,营养缺陷型,非运动型,非趋化型

【英文关键词】Methyl parathion,leuB auxotroph,fliC non-motility,cheA non-chemotaxis,In-situ biodegradation

【中文摘要】比较了营养缺陷型、非运动型和非趋化型细菌在土壤原位中降解甲基对硫磷农药的能力。

【英文摘要】Bioremediation of pollutants in natural environments is affected by many factors, such as bacterial survival, motility, and chemotaxis. However, these roles in in-situ biodegradation of organophosphorus pesticides have not been examined extensively. In this paper, a highly effective methyl-parathion (MP) degrading strain, Pseudomonas putida DLL-1, which also demonstrates motile ability and chemotactic response toward MP, was selected as the research material. A leuB auxotroph mutant A3-27 and fliC non-motility mutant a4-8 were first constructed by random insertion of the kanamycin gene into the chromosome of P. putida DLL-1 with the mini-transposon system. Biodegradation of MP in liquid medium and soil microcosms by A3-27, a4-8 and a previously constructed cheA non-chemotaxis mutant P. putida DAK were compared. The kinetic parameters for MP degradation were all similar in the wellmixed liquid systems. However, in soil microcosms, all the three mutants had lower degrading rates compared with wild-type P. putida DLL-1. The auxotroph mutant A3-27 had the lowest degrading rate and could only degrade 25.7 – 34.2% MP in 5 days, and the non-motility mutant a4-8 and non-chemotaxis mutant DAK could only degrade 53.5 – 68.1% and 64.3 – 85.7% MP, respectively. This paper emphasizes, for the first time, the use of non-auxotroph bacteria for efficient removal of organophosphorus pesticides in contaminated sites, and also points out the importance of select microorganisms with specific motile or chemotactic affinities in optimizing pesticide bioremediation.

【语种】英文

【第一作者】Xinqiang Guo

【通讯作者】蒋建东

【期刊名称、卷期、页码】International Biodeterioration & Biodegradation, 2009, 63: 576-581

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【引文索引类型】SCI

【引文索引号】0.1016/j.ibiod.2009.01.008

【学科分类】微生物学

【题目】Isolation of an isocarbophos-degrading strain of Arthrobacter sp. scl-2 and identification of the degradation pathway

【中文关键词】水胺硫磷,降解,降解途径

【英文关键词】Isocarbophos, biodegradation, Arthrobacter sp.scl-2, degradation pathway

【中文摘要】分离筛选到一株水胺硫磷的降解菌株Arthrobacter sp.scl-2,并阐明了其代谢途径。

【英文摘要】Isocarbophos is a widely used organophosphorus insecticide that has caused environmental pollution in many areas. However, degradation of isocarbophos by pure cultureshas not been extensively studied, and the degradation pathway has not been determined. In this paper, a highly effective isocarbophos-degrading strain, scl-2, was isolatedfrom isocarbophos-polluted soil. The strain scl-2 was preliminarily identified as Arthrobacter sp. based on its morphological, physiological, and biochemical properties,as

well as 16S rDNA analysis. The strain scl-2 could utilize isocarbophos as its sole source of carbon and phosphorus for growth. One hundred mg/l isocarbophos could be degraded to a nondetectable level in 18 h by scl-2 in cell culture, and isofenphos-methyl, profenofos, and phosmet could also be degraded. During the degradation of isocarbophos, the metabolites isopropyl salicylate, salicylate, and gentisate were detected and identified based on MS/MSanalysis and their retention times in HPLC. Transformation of gentisate to pyruvate and fumarate via maleylpyruvate and fumarylpyruvate was detected by assaying for the activitiesof gentisate 1,2-dioxygenase (GDO) and maleylpyruvate isomerase. Therefore, we have identified the degradation pathway of isocarbophos in Arthrobacter sp. scl-2 for thefirst time. This study highlights an important potential use of the strain scl-2 for the cleanup of environmental contamination by isocarbophos and presents a mechanismof isocarbophos metabolism.

【语种】英文

【第一作者】李荣

【通讯作者】蒋建东

【期刊名称、卷期、页码】J. Microbiol. Biotechnol. (2009), 19(11), 1439 – 1446

【论文发表时间】2009-02-28 00:00:00

【引文索引类型】SCI

【引文索引号】10.4014/jmb.0811.0626

【学科分类】微生物学

【题目】Biochemical degradation pathway of dimethoate by Paracoccus sp. Lgjj-3 isolated from treatment wastewater

【中文关键词】乐果,降解途径

【英文关键词】Dimethoate,Degradation pathway,Biodegradation, Paracoccus sp. Lgjj-3, MS/MS, GC-MS

【中文摘要】分离筛选到一株乐果降解菌株Paracoccus sp. Lgjj-3,并阐明了其代谢途径。

【英文摘要】Dimethoate is a widely used organophosphorus insecticide often detected in the environment. A highly effective dimethoate-degrading Paracoccus sp. strain Lgjj-3 was isolated from treatment wastewater. Strain Lgjj-3 can utilize dimethoate as its sole carbon source for growth and degrade an initial concentration of 100 mg l 1 dimethoate to non-detectable levels within 6 h in liquid culture. During the degradation of dimethoate, seven metabolites, including dimethoate carboxylic acid, 2-(hydroxy(methoxy)phosphorylthio)acetic acid, O,O,S-trimethyl thiophosphorothioate, O-methyl O,S-dihydrogen phosphorothioate, phosphorothioic O,O,S-acid, O,O,S-trimethylphosphorothiate and O,O,O-trimethyl phosphoric ester, were successfully detected and identified based on MS/MS and GCeMS analysis. A biochemical degradation pathway of dimethoate by Paracoccus sp. Lgjj-3 is proposed for the first time. Dimethoate is first hydrolyzed by the scission of the amide bond to form dimethoate carboxylic acid, which is subsequently decarboxylated into O,O,S-trimethyl thiophosphorothioate. The produced O,O,S-trimethyl thiophosphorothioate is oxidized to form O,O,S-trimethylphosphorothiate and then further oxidized to form O,O,O-trimethyl phosphoric ester. O,O,S-trimethylphosphorothiate can also be hydrolyzed at the C-O bond to release a CH3 group and cleavaged at the SeC bond through a hydrolytic pathway to form O-methyl O,S-dihydrogen phosphorothioate. Dimethoate carboxylic acid can also be oxidated at the P]S bond to form the corresponding oxon derivative. Next, hydrolysis can occur at the C-O bond to form 2-(hydroxy(methoxy)phosphorylthio)acetic acid, which can be further hydrolyzed at the SeC bond to form O-methyl O,S-dihydrogen phosphorothioate. Phosphorothioic O,O,S-acid is finally formed by the hydrolysis of the CeO bond of O-methyl O,S-dihydrogen phosphorothioate to lose another CH3 group.

【语种】英文

【第一作者】李荣

【通讯作者】蒋建东

【期刊名称、卷期、页码】International Biodeterioration & Biodegradation 64 (2010) 51-57

【论文发表时间】2009-10-29 00:00:00

【引文索引类型】SCI

【引文索引号】10.1016/j.ibiod.2009.10.007

【学科分类】微生物学

【题目】Co-metabolism of DDT by the newly isolated bacterium, Pseudoxanthomonas sp. Wax

【中文关键词】DDT,共代谢,生物修复

【英文关键词】DDT, Co-metabolism, Bioremediation, Pseudoxanthomonas sp.

【中文摘要】分离筛选到一株DDT共代谢的菌株Pseudoxanthomonas sp.wax,并对其共代谢特性进行了研究。
【英文摘要】Microbial degradation of 1,1,1-trichloro-2,2-bis(p-chlorophenyl)ethane (DDT) is the most promising way to clean up DDT residues found in the environment. In this paper, a bacterium designated as wax, which was capable of co-metabolizing DDT with other carbon sources, was isolated from a long-term DDTcontaminated soil sample by an enrichment culture technique. The new isolate was identified as a member of the Pseudoxanthomonas sp., based on its morphological, physiological and biochemical properties, as well as by 16S rRNA gene analysis. In the presence of 100 mg l-1 glucose, the wax strain could degrade over 95% of the total DDT, at a concentration of 20 mg l-1, in 72 hours, and could degrade over 60% of the total DDT, at a concentration of 100 mg l-1, in 144 hours. The wax strain had the highest degradation efficiency among all of the documented DDT-degrading bacteria. The wax strain could efficiently degrade DDT at temperatures ranging from 20 to 37 ° C, and with initial pH values ranging from 7 to 9. The bacterium could also simultaneously co-metabolize 1,1-dichloro-2,2-bis(p-chlorophenyl)ethane (DDD), 2,2-bis(p-chlorophenyl)-1,1-dichlorethylene (DDE), and other organochlorine compounds. The wax strain could also completely remove 20 mg kg-1 of DDT from both sterile and non-sterile soils in 20 days. This study demonstrates the significant potential use of Pseudoxanthomonas sp. wax for the bioremediation of DDT in the environment.
【语种】英文
【第一作者】王光利
【通讯作者】蒋建东
【期刊名称、卷期、页码】Brazilian Journal of Microbiology (2010) 41: 431-438
【论文发表时间】2010-02-18 00:00:00
【引文索引类型】SCI
【引文索引号】201041431-438
【学科分类】微生物学

【题目】Jeotgalicoccus huakuii sp. nov., a halotolerant bacterium isolated from seaside soil
【中文关键词】新种
【英文关键词】Jeotgalicoccus huakuii sp. nov.
【中文摘要】鉴定了一株新种Jeotgalicoccus huakuii sp. nov.
【英文摘要】A Gram-stain-positive, oxidase- and catalase-positive, non-motile, non-spore-forming,halotolerant, coccoid bacterium, designated strain NY-2T, was isolated from a seaside soil sample from Shandong Province, China. Strain NY-2T was able to grow in the presence of 0 – 23% (w/v) NaCl and at pH 4.5 – 10.0 and 5 – 42 6C; optimum growth was observed with 3 – 8% (w/v) total salts and at pH 6.5 – 8.0 and 28 – 37 6C. Chemotaxonomic analyses, including fatty acid profiles, menaquinones and polar lipids, supported the affiliation of strain NY-2T to the genus Jeotgalicoccus. The predominant menaquinone of strain NY-2T was menaquinone 7 (MK-7)(100 %) and the major cellular fatty acids were iso-C15 : 0 (49.0 %) and anteiso-C15 : 0 (19.6 %). Cellular polar lipids were phosphatidylglycerol, diphosphatidylglycerol and several unidentified phospholipids. The DNA G+C content of strain NY-2T was 36.8 mol%. Based on 16S rRNA gene sequence analysis, strain NY-2T formed a coherent cluster with Jeotgalicoccus marinus JSM 076033T, Jeotgalicoccus halotolerans YKJ-101T and Jeotgalicoccus psychrophilus YKJ-115T. Phylogenetic analysis, DNA – DNA relatedness data, phenotypic characteristics andchemotaxonomic data indicated that strain NY-2T (5CCTCC AB 208288T 5JCM 15687T) should be classified as the type strain of a novel species of the genus Jeotgalicoccus, for which the name Jeotgalicoccus huakuii sp. nov. is proposed.
【语种】英文
【第一作者】郭新强
【通讯作者】蒋建东
【期刊名称、卷期、页码】International Journal of Systematic and Evolutionary Microbiology (2010), 60, 1307 – 1310
【论文发表时间】2010-06-15 00:00:00
【引文索引类型】SCI
【引文索引号】10.1099/ijs.0.013623-0
【学科分类】微生物学

【题目】Degradation of methamidophos by Hyphomicrobium species MAP-1 and the biochemical degradation pathway
【中文关键词】甲胺磷,降解途径

【英文关键词】Biodegradation pathway,Facultative methylotroph,Hyphomicrobium sp. MAP-1,Methamidophos
【中文摘要】分离筛选到一株甲胺磷的降解菌株Hyphomicrobium sp. MAP-1,并阐明了其降解途径。
【英文摘要】Methamidophos is one of the most widely used organophosphorus insecticides usually detectablein the environment. A facultative methylotroph, Hyphomicrobium sp. MAP-1, capable of high efficiently degrading methamidophos, was isolated from methamidophos-contaminated soil in China. It was found that the addition of methanol significantly promoted the growth of strain MAP-1 and enhanced its degradation of methamidophos. Further, this strain could utilize methamidophos as its sole carbon, nitrogen and phosphorus source for growth and couldcompletely degrade 3,000 mg l-1 methamidophos in 84 h under optimal conditions (pH 7.0, 30 C). The enzyme responsible for methamidophos degradation was mainly located on the cell inner membrane (90.4%). During methamidophos degradation, three metabolites were detected and identified based on tandem mass spectrometry (MS/MS) and gas chromatography-mass spectrometry (GC – MS) analysis. Using this information, a biochemical degradationpathway of methamidophos by Hyphomicrobium sp.MAP-1 was proposed for the first time. Methamidophos is first cleaved at the P – N bond to form O,S-dimethyl hydrogen thiophosphate and NH3. Subsequently, O,S-dimethyl hydrogen thiophosphate is hydrolyzed at the P – O bond to release – OCH3 and form S-methyl dihydrogen thiophosphate. O,S-dimethyl hydrogen thiophosphate can also be hydrolyzed at the P – S bond to release – SCH3 and form methyl dihydrogen and methyl dihydrogen phosphate are likely transformed into phosphoric acid.
【语种】英文
【第一作者】王莉
【通讯作者】蒋建东
【期刊名称、卷期、页码】Biodegradation (2010) 21:513 – 523
【论文发表时间】2009-12-04 00:00:00
【引文索引类型】SCI
【引文索引号】10.1007/s10532-009-9320-9
【学科分类】微生物学

【题目】Hydrolytic dechlorination of chlorothalonil by Ochrobactrum sp. CTN-11 isolated from a chlorothalonil-contaminated soil
【中文关键词】水解脱卤,百菌清
【英文关键词】Hydrolytic dechlorination,chlorothalonil,Ochrobactrum sp. CTN-11
【中文摘要】分离筛选到一株百菌清水解脱卤菌株Ochrobactrum sp. CTN-11,并研究了其在土壤降解百菌清的特性。
【英文摘要】A bacterial strain, designated as CTN-11, capable of degrading chlorothalonil (CTN), was isolated from a chlorothalonil-contaminated soil in China. Based on the morphological, biochemical characteristics and comparative analysis of the 16S rRNA genes, strain CTN-11was identified as Ochrobactrum sp. Strain CTN-11 could degrade 50 mg l-1 CTN to a non-detectable level within 48 h, and efficiently degrade CTN in a relatively broad range of temperatures from 20 to 40 C and initial pH values from 6.0 to 9.0. The new isolate differed from those previously reported CTN co-metabolic degraders by transforming CTN in the absence of other carbon sources. A glutathione S-transferase (GST) coding gene, which showed 88% sequence similarity with that from Ochrobactrum anthropi SH35B, was cloned from strain CTN-11.However, the gene was not functionally expressed in the presence of glutathione, indicating that CTN was not reductively dechlorinated by thiolytic substitution catalyzed by GST in strain CTN-11. The metabolite hydroxyltrichloroisophthalonitrile (CTN-OH) produced during CTNanaerobic degradation was identified based on tandem MS/MS, confirming that hydrolytic dechlorination was involved in the CTN degradation. The removal of CTN by strain CTN-11 in sterile and non-sterile soils was also studied. In both soil samples, 50 mg kg-1 CTN could bedegraded to an undetectable level within 3 days. This study highlights an important potential use of strain CTN-11 for the cleanup of CTN-contaminated sites and presents a hydrolytic dechlorination reaction of CTN by a pure culture.
【语种】英文
【第一作者】梁斌
【通讯作者】蒋建东
【期刊名称、卷期、页码】Curr Microbiol (2010) 61:226 – 233
【论文发表时间】2010-02-11 00:00:00
【引文索引类型】SCI
【引文索引号】10.1007/s00284-010-9603-8
【学科分类】微生物学

【题目】Lysobacter ruishenii sp. nov., a chlorothalonil-degrading bacterium isolated from a long-term chlorothalonil-contaminated soil in China
【中文关键词】新种Lysobacter ruishenii
【英文关键词】Lysobacter ruishenii sp. nov
【中文摘要】鉴定了一株新种sobacter ruishenii。
【英文摘要】An aerobic, Gram-negative bacterial strain, designated CTN-1T, capable of degradingchlorothalonil was isolated from a long-term chlorothalonil-contaminated soil in China, and was subjected to a polyphasic taxonomic investigation. Strain CTN-1T grew at 15 – 37 6C (optimum 28 – 30 6C) and at pH 6.0 – 9.0 (optimum pH 7.0 – 7.5). The G+C content of the total DNA was 67.1 mol%. Based on 16S rRNA gene sequence analysis, strain CTN-1T was related mostclosely to Lysobacter daejeonensis DSM 17634T (97.1% similarity), L. soli DCY21T (95.7 %),L. concretionis Ko07T (95.5 %), L. gummosus LMG 8763T (95.3 %) and L. niastensis DSM18481T (95.2 %). The novel strain showed less than 95.0% 16S rRNA gene sequence similarityto the type strains of other Lysobacter species. The major cellular fatty acids of strain CNT-1T were iso-C16 : 0 (23.0 %), iso-C15 : 0 (21.4 %) and iso-C17 : 1v9c (15.3 %). The major isoprenoid quinone was Q-8 (99 %), and the major polar lipids were diphosphatidylglycerol,phosphatidylethanolamine and phosphatidylglycerol. These chemotaxonomic data supported theaffiliation of strain CTN-1T to the genus Lysobacter. Levels of DNA – DNA relatedness betweenstrain CTN-1T and L. daejeonensis DSM 17634T were 34.6 – 36.1 %. Phylogenetic analysisbased on 16S rRNA gene sequences, DNA – DNA hybridization data and biochemical and physiological characteristics strongly supported the genotypic and phenotypic differentiation of strain CTN-1T from recognized species of the genus Lysobacter. Strain CTN-1T is thereforeconsidered to represent a novel species of the genus Lysobacter, for which the name Lysobacterruishenii sp. nov. is proposed. The type strain is CTN-1T (5DSM 22393T 5CGMCC 1.10136T).
【语种】英文
【第一作者】王光利
【通讯作者】蒋建东
【期刊名称、卷期、页码】International Journal of Systematic and Evolutionary Microbiology (2011), 61, 674 – 679
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【引文索引类型】SCI
【引文索引号】10.1099/ijs.0.020990-0
【学科分类】微生物学

【题目】Luteibacter jiangsuensis sp. nov.: a methamidohps-degrading bacterium isolated from a methamidophos-manufacturing factory.
【中文关键词】新种Luteibacter jiangsuensis sp. nov,甲胺磷降解
【英文关键词】Luteibacter jiangsuensis sp. nov,Methamidophos-Degrading
【中文摘要】分离筛选到一株甲胺磷降解菌株Luteibacter jiangsuensis sp. nov,并鉴定为新种。
【英文摘要】A Gram-stain-negative, non-motile, rod-shaped bacterial strain, JW-64-1T, capable of degrading methamidophos was isolated from a methamidophos-manufacturing factory in China, and was subjected to a polyphasic taxonomic investigation. Strain JW-64-1T produced circular,smooth, transparent, yellow-colored colonies (1.0 – 2.0 mm) on LB agar after 2 days incubation. It grew optimally at 25 – 30 Cand pH 7.0 without the presence of NaCl. TheG?Ccontent of the total DNA was 63.6 mol%. A phylogenetic analysis based on 16S rRNA gene sequences showed that strain JW-64-1T fell within the cluster comprising Luteibacterspecies. The 16S rRNA gene sequence of strain JW-64-1T was most closely related to Luteibacter rhizovicinusDSM 16549T (98.6%), followed by Luteibacter yeojuensis DSM17673T (98.4%) and L. anthropi CCUG 25036T (98.2%). The major cellular fatty acids of strain JW-64-1T were iso-C15:0 (24.1%), iso-C17:0 (20.2%) and summed feature 9 comprising iso-C17:1 x9c and/or C16:0 10-methyl (20.3%). The major isoprenoid quinine was Q-8 (98%), and the majorpolar lipids were diphosphatidylglycerol, phosphatidylglycerol, phosphoaminolipid, aminolipids-1, aminolipids-2, and phospholipids. The values for DNA – DNA relatednessbetween strain JW-64-1T and the closest phylogenetic relatives of L. rhizovicinus and Luteibacter yeojuensis were 34.8 ± 2.6 and 25.6 ± 3.1%, respectively. On the basis ofthe phenotypic, chemotaxonomic, DNA – DNA relatedness and phylogenetic analysis based on the 16S rRNA gene sequences, strain JW-64-1T represents a novel species of the genus Luteibacter, for which the name Luteibacter jiangsuensis sp. nov. is proposed. The type strain is JW-64-1T(=CGMCC 1.10133T = DSM 22396T).
【语种】英文

【第一作者】王莉
【通讯作者】蒋建东
【期刊名称、卷期、页码】Curr Microbiol (2011) 62:289 – 295
【论文发表时间】2010-07-14 00:00:00
【引文索引类型】SCI
【引文索引号】10.1007/s00284-010-9707-1
【学科分类】微生物学

【题目】Biodegradation of Pentachloronitrobenzene by Labrys portucalensis pcnb-21 Isolated from Pentachloronitrobenzene-polluted Soil
【中文关键词】五氯硝基苯,Labrys portucalensis pcnb-21
【英文关键词】Pentachloronitrobenzene, Labrys portucalensis pcnb-21
【中文摘要】分离筛选到一株五氯硝基苯的降解菌株Labrys portucalensis pcnb-21,并研究了其在土壤中降解五氯硝基苯的动态。
【英文摘要】A bacterial strain, pcnb-21, capable of degrading pentachloronitrobenzene (PCNB) under aerobic and anoxic conditions, was isolated from a long-term PCNB-polluted soil by an enrichment culture technique and identified as Labrys portucalensis based uponits morphological, physiological and biochemical properties, as well as 16S rRNA gene sequence analysis. Effects of different factors, such as temperature and pH, on PCNB biodegradation were studied. Strain pcnb-21 efficiently degraded PCNB at temperatures from20 to 30 ◦ C and initial pH values from 4 to 7, which might be the first time that a Labrys strain was found capable of efficiently degrading PCNB. The degradation of PCNB was affected by oxygen, and the degradation decreased with increasing aeration. Exogenous electrondonors such as glucose, lactic acid and succinic acid promoted the biodegradation of PCNB, while electron acceptors such as sodium nitrite, sodium sulfate, sodium nitrate and sodium sulfate inhibited PCNB biodegradation. The degradation of PCNB in sterile and non-sterile soils by a green fluorescent protein (GFP)-labeled strain, pcnb-21-gfp, was also studied. Cells of pcnb-21-gfp efficiently degraded 100 mg kg − 1 PCNB in sterile and non-sterile soils and could not be detected after 42 days. Strain pcnb-21 might be useful in bioremediating PCNB-polluted soils and environment.
【语种】英文
【第一作者】李荣
【通讯作者】蒋建东
【期刊名称、卷期、页码】Pedosphere 21(1): 31 – 36, 2011
【论文发表时间】2011-04-13 00:00:00
【引文索引类型】SCI
【引文索引号】21(1)31 – 36, 2011
【学科分类】微生物学

【题目】Diversity of chlorpyrifos-degrading bacteria isolated from chlorpyrifos contaminated samples
【中文关键词】毒死蜱,生物降解,多样性
【英文关键词】Chlorpyrifos,Biodegradation,Diversity,mpd gene
【中文摘要】从毒死蜱污染的土壤中分离筛选了7株毒死蜱降解菌株DSP-1—DSP-7,表明存在丰富的多样性。
【英文摘要】Chlorpyrifos as an agricultural insecticide has been widely used and caused great pollution. As the toxicity of chlorpyrifos in the environment, exploration of various chlorpyrifos-degrading bacteria to clean-up the pollutant is of immense importance. Seven chlorpyrifos-degrading bacteria, named Dsp-1 to Dsp-7, were isolated from organophosphate pesticide-contaminated soil and water using a culture method with chlorpyrifos as the sole carbon source. Comparative studies were performed to study their morphological, physiological and biochemical characteristics. Based on these analysis, strains Dsp-2, Dsp-4, Dsp-6 and Dsp-7 were identified as Sphingomonas sp., Stenotrophomonas sp., Bacillus sp. and Brevundimonas sp., respectively, while all other strains were members of Pseudomonas sp. ERIC (enterobacterial repetitive intergenic consensus)-PCR fingerprints were used to distinguish strains Dsp-1 and Dsp-3 which had only 1 bp difference in 16S rDNA sequences. Significant differences in the ability of the bacteria to degrade chlorpyrifos and other organophosphate pesticides were found. The organophosphate pesticide hydrolase gene mpd were cloned from strains Dsp-1 to Dsp-4 with the PCR technique. Differences in amino acid sequence of mpd gene from the four bacteria strains were compared. These results showed that there were diversities of chlorpyrifos-degrading strains in the contaminated environment, and the chlorpyrifos-degrading strains had the potential to clean up the organophosphate pesticide-contaminated

environment.
【语种】英文
【第一作者】李晓惠
【通讯作者】李顺鹏
【期刊名称、卷期、页码】International Biodeterioration & Biodegradation 62 (2008) 331 – 335
【论文发表时间】2008-06-20 00:00:00
【引文索引类型】SCI
【引文索引号】10.1016/j.ibiod.2008.03.001
【学科分类】微生物学

【题目】Facilitation of Bacterial Adaptation to Chlorothalonil-Contaminated Sites by Horizontal Transfer of the Chlorothalonil Hydrolytic Dehalogenase Gene
【中文关键词】Horizontal Transfer,Chlorothalonil Hydrolytic Dehalogenase Gene
【英文关键词】水平转移,百菌清水解脱卤酶基因
【中文摘要】百菌清水解脱卤酶基因的水平转移促进了百菌清降解菌株对污染环境的适应。
【英文摘要】Horizontal transfer of the chlorothalonil hydrolytic dehalogenase gene (chd) is proposed based on the high conservation of the chd gene and its close association with a novel insertion sequence, ISOcsp1, in 16 isolated chlorothalonil-dechlorinating strains belonging to eight different genera. The ecological role of horizontal gene transfer is assumed to facilitate bacterial adaptation to chlorothalonil-contaminated sites, through detoxificationof chlorothalonil to less toxic 2,4,5-trichloro-6-hydroxybenzene-1,3-dicarbonitrile.
【语种】英文
【第一作者】梁斌
【通讯作者】蒋建东
【期刊名称、卷期、页码】APPLIED AND ENVIRONMENTAL MICROBIOLOGY, 2011,77(12):4268 – 4272
【论文发表时间】2011-06-02 00:00:00
【引文索引类型】SCI
【引文索引号】doi:10.1128/AEM.02457-10
【学科分类】微生物学

【题目】An isofenphos-methyl hydrolase (Imh) capable of hydrolyzing the P – O – Z moiety of organophosphorus pesticides containing an aryl or heterocyclic group
【中文关键词】有机磷农药脱毒,甲基异柳磷水解酶,底物特异性
【英文关键词】Organophosphate detoxification,Organophosphorus pesticide hydrolase,Isofenphos-methyl hydrolase (imh),Substrate specificity
【中文摘要】从菌株Arthrobacter sp. scl-2中克隆了一个甲基异柳磷水解酶基因,对该酶的底物特异性进行了详细的研究。
【英文摘要】Organophosphorus pesticide (OP) hydrolases play key roles in the degradation and decontamination of agricultural and household OPs and in the detoxification of chemical warfare agents. In this study, an isofenphosmethyl hydrolase gene (imh) was cloned from theisocarbophos-degrading strain of Arthrobacter sp. scl-2 using the polymerase chain reaction method. Isofenphosmethyl hydrolase (Imh) showed 98% sequence identity with the isofenphos hydrolase from Arthrobacter sp. strain B-5. Imh was highly expressed in Escherichia coli BL21(DE3), and the His6-tagged Imh was purified (1.7 mg/ml) with a specific activity of 14.35 U/mg for the substrate isofenphos-methyl. The molecular mass of the denaturedImh is about 44 kDa, and the isoelectric point (pI) value was estimated to be 3.4. The optimal pH and temperature for hydrolysis of isofenphos-methyl were pH 8.0 and35 ° C, respectively. The secondary structure of Imh shows that Imh is a metallo-dependent hydrolase, and it was found that Imh was completely inhibited by the metalloproteaseinhibitor 1,10-phenanthroline (0.5 mM), and the catalytic activity was restored by the subsequent addition of Zn2+. Interestingly, Imh had a relatively broader substratespecificity and was capable of hydrolyzing 12 of the tested oxon and thion OPs with the P – O – Z moiety instead of the P – S(C) – Z moiety. Furthermore, it was found that the existence of an aryl or heterocyclic group in the leaving group (Z) is also important in determining the substrate specificity. Among all the substrates hydrolyzed by Imh, it was assumed that Imh preferred P – O – Z substrates still with a phosphamide bond (P – N), such as isofenphos-methyl,isofenphos, isocarbophos, and butamifos. The newly characterized Imh has a great potential for use in the decontamination and detoxification of agricultural and householdOPs and is a good candidate for the study of the catalytic mechanism

and substrate specificity of OP hydrolases.
【语种】英文
【第一作者】李荣
【通讯作者】蒋建东
【期刊名称、卷期、页码】Appl Microbiol Biotechnol (2012) 94:1553 – 1564
【论文发表时间】2012-05-15 00:00:00
【引文索引类型】SCI
【引文索引号】10.1007/s00253-011-3709-1
【学科分类】微生物学

【题目】Horizontal transfer of dehalogenase genes involved in the catalysis of chlorinated compounds: evidence and ecological role
【中文关键词】卤代化合物,脱卤酶,水平转移
【英文关键词】Chlorinated compounds, dehalogenase genes, horizontal gene transfer (HGT), mobile genetic elements (MGEs), community adaptation
【中文摘要】脱卤酶基因的水平转移在代谢途径进化和群落适应方面发挥关键作用。
【英文摘要】Horizontal gene transfer (HGT) of dehalogenase genes is considered an important mechanism of genomic evolution, the metabolic resilience of biotopes, and microbial community adaptation in chlorinated compound-contaminated ecosystems. In this review, we summarize the current evidence for the HGT of dehalogenase genes involved in the catalysis of various chlorinated compounds, such as chlorinated alkanes and alkanoic acids, chlorinated ethenes, chlorinated herbicide, and chlorinated aromatics. We also highlight the ecological role of HGT as it relates to the contribution to the diversification of dehalogenating microorganisms and the resulting facilitation of rapid microbial community adaptation to ecosystem contaminated with chlorinated compounds
【语种】英文
【第一作者】梁斌
【通讯作者】蒋建东
【期刊名称、卷期、页码】Critical Reviews in Microbiology, 2012; 38(2): 95 – 110
【论文发表时间】2012-05-15 00:00:00
【引文索引类型】SCI
【引文索引号】10.3109/1040841X.2011.618114
【学科分类】微生物学

【题目】Prediction of TVB-N content in eggs based on electronic nose. Food control
【中文关键词】鸡蛋、挥发性盐基氮、电子鼻
【英文关键词】E-nose, egg, TVB-N content
【中文摘要】研究了基于电子鼻检测鸡蛋挥发性盐基氮。
【英文摘要】Prediction of TVB-N content in eggs based on electronic nose
【语种】英文
【第一作者】刘鹏
【通讯作者】屠康
【期刊名称、卷期、页码】food control, 2012(23):177-183
【论文发表时间】2012-01-10 00:00:00
【引文索引类型】SCI
【引文索引号】j.foodcont.2011.07.006,
【学科分类】食品科学技术基础学科

【题目】Preparation and Characterization of Nanoparticles Based on Hydrophobic Alginate Derivative as Carriers for Sustained Release of Vitamin D3
【中文关键词】褐藻酸,油酰氯,纳米粒,胃肠道稳定性,维生素D3
【英文关键词】Alginate, oleoyl chloride, nanoparticles, gastrointestinal stability, vitamin D3
【中文摘要】在水相中通过海藻酸同油酰氯反应制备疏水性海藻酸衍生物。FT-IR和1 H NMR证明成功制备了油酰基化海藻酸钠酯(OAE)。 OAE的取代度(DS)由1H NMR,它介于0.84至3.85之间。在蒸馏水中,OAE形成自组装的纳米粒子。在

在低浓度水介质、模拟胃液(SGF),模拟肠液(SIF)纳米粒子保留它们的结构完整性。以维生素D3作为一种模型营养物质,对OAE纳米粒子载药量和释放特性进行了研究。随维生素D3的浓度的增加,负载能力(LC)增加,而包封率(LE)的下降。纳米粒子可在胃肠液中持续释放维生素D3。这些结果揭示了纳米粒可以作为持续释放维生素D3口服载体。

【英文摘要】ABSTRACT: Hydrophobic alginate derivative was prepared by modification of alginate by acid chloride reaction using oleoyl chloride without organic solvents. The conjugate of oleoyl alginate ester (OAE) was confirmed by FT-IR and 1H NMR. The degree of substitution (DS) of OAE was determined by 1H NMR, and it ranged from 0.84 to 3.85. In distilled water, OAE formed selfassembled nanoparticles at low concentrations in aqueous medium, and nanoparticles retained their structural integrity both in simulated gastric fluid (SGF) and simulated intestinal fluid (SIF). The loading and release characteristics of nanoparticles based on OAE were investigated using vitamin D3 as a model nutraceutical. As the concentration of vitamin D3 increased, the loading capacity (LC) increased, whereas the loading efficiency (LE) decreased. Nanoparticles could release vitamin D3 at a sustained rate in gastrointestinal fluid. These results revealed the potential of OAE nanoparticles as oral carriers for sustained release of vitamin D3.

【语种】英文

【第一作者】李倩

【通讯作者】刘晨光

【期刊名称、卷期、页码】J. Agric. Food Chem. 2011, 59, 1962 – 1967

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【引文索引类型】SCI

【引文索引号】UT WOS:000287824400060

【学科分类】食品科学技术基础学科

【题目】Preparation and Characterization of Self-Assembled Nanoparticles of Hyaluronic Acid-Deoxycholic Acid Conjugates.

【中文关键词】纳米,透明质酸-脱氧胆酸缀合物

【英文关键词】Nanoparticles,Hyaluronic Acid-Deoxycholic Acid Conjugates

【中文摘要】由1-乙基-3 -(3 -二甲基氨基丙基)碳化二亚胺介导的,以透明质酸(HA)作为亲水性链段和疏水性的脱氧胆酸(DOCA)的偶联反应合成新型两亲性生物聚合物。利用1H NMR研究了HA-DOCA结合物的结构特点。使用动态激光光散射,透射电子显微镜(TEM),和荧光光谱对制备的基于HA-DOCA缀合物自组装纳米粒的特性进行了研究。在蒸馏水中平均粒径为293.5nm呈单峰粒度分布。TEM照片表明,HA-DOCA自聚集体的形状为球形。临界聚集浓度(CAC)在0.025-0.056毫克/毫升的范围内。平衡常数(Kv值)的芘自-聚集体的溶液中的时间是从1.45×104到3.64×104。使用氯化十六烷基吡啶荧光猝灭法确定了每个疏水微区的DOCA聚集数组,其数量随取代度的增加而增加。

【英文摘要】Novel amphiphilic biopolymers were synthesized using hyaluronic acid (HA) as a hydrophilic segment and deoxycholic acid (DOCA) as a hydrophobic segment by a 1-ethyl-3-(3-dimethylaminopropyl) carbodiimide mediated coupling reaction. The structural characteristics of the HA-DOCA conjugates were investigated using 1H NMR. Self-assembled nanoparticles were prepared based on HA-DOCA conjugates, and its characteristics were investigated using dynamic laser light scattering,transmission electron microscopy (TEM), and fluorescence spectroscopy. The mean diameter was about 293.5 nm with unimodal size distribution in distilled water. The TEM images revealed that the shape of HA-DOCA self-aggregates was spherical. Thecritical aggregation concentration (CAC) was in the range of 0.025 – 0.056 mg/mL. The partition equilibrium constant (Kv) of pyrene in self-aggregates solution was from 1.45 × 104 to 3.64 × 104. The aggregation number of DOCA groups per hydrophobic microdomain, estimated by the fluorescence quenching method using cetylpyridinium chloride, increased with increasing degree of substitution.

【语种】英文

【第一作者】董学猛

【通讯作者】刘晨光

【期刊名称、卷期、页码】Journal of Nanomaterials

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【引文索引类型】SCI

【引文索引号】UT WOS:000279915500001

【学科分类】生物化学

【题目】Self-aggregated nanoparticles from linoleic acid modified carboxymethyl chitosan: Synthesis, characterization and application in vitro

【中文关键词】壳聚糖;亚油酸;自组装纳米粒
【英文关键词】Chitosan Linoleic acid Nanoparticles Self-aggregates
【中文摘要】本研究工作的目的是研究亚油酸(LA)对羧甲基壳聚糖(LCC)改性。另一个目的是评价亚油酸的取代度对形成的纳米粒ADR的载药量(LC)、包封率(LE)和体外释放的影响。通过超声可以亚油酸改性羧甲基壳聚糖(LACMCS)为原料制备的水凝胶型纳米粒。通过测量荧光探针芘的荧光强度测定LA改性CMCS(LCC)的临界聚集浓度(CAC)。结果显示:CAC值在0.061-0.081毫克/毫升的范围。随着疏水性的LA的增加自聚集的纳米粒的LC和LE增加,缓释下降。 负载ADR的LCC纳米粒相对于游离(非包裹在纳米粒)ADR在体外对HeLa细胞表现出良好的抗癌活性。
【英文摘要】The purpose of the present research work was to study the formation of linoleic acid (LA) modified carboxymethyl chitosan (LCC). Another objectivewas to evaluate effect of linoleic acid degree of substitution on loading capacity (LC), ADR loading efficiency (LE) and in vitro release profile of LCC nanoparticles. The hydrogel nanoparticles can be prepared using linoleic acid modified carboxymethyl chitosan (LACMCS) after the sonication. The critical aggregation concentration (CAC) of the self-aggregate of LA modified CMCS (LCC) was determined by measuring the fluorescence intensity of the pyrene as a fluorescent probe. The CAC values were in the range of 0.061 – 0.081 mg/mL. Self-aggregated nanoparticles exhibited an increased LC and LE, decreased sustained release with an increasing ratio of the hydrophobic LA to hydrophilic CMCS. LCC nanoparticles loaded with ADR exerted in vitro anticancer activity against Hela cells that was comparable to the activity of free (non-entrapped in nanoparticles) ADR.
【语种】英文
【第一作者】谭玉龙
【通讯作者】刘晨光
【期刊名称、卷期、页码】Colloids and Surfaces B: Biointerfaces 69 (2009) 178 – 182
【论文发表时间】2009-01-12 00:00:00
【引文索引类型】SCI
【引文索引号】UT WOS:000264463600004
【学科分类】药剂学

【题目】减压贮藏对软溶质水蜜桃采后生理和品质的影响
【中文关键词】水蜜桃 减压贮藏 采后生理 品质
【英文关键词】Juicy peach,Hypobaric storage,Postharvest physiology,Quality
【中文摘要】研究了(10±5)kPa和(80±5)kPa不同减压冷藏及常规常压冷藏对软溶质水蜜桃贮藏期间生理生化和主要品质指标的影响。结果表明,减压处理可显著减少乙烯释放量和抑制呼吸代谢,减少贮藏期可滴定酸、维生素C的损失,保持果肉硬度和色泽;能够有效保持超氧化物歧化酶、过氧化氢酶的活性,延缓细胞膜通透率的增大,从而减轻冷害的发生和延缓贮藏期的品质劣变。采用(10±5)kPa压力处理保鲜效果最好,经30d冷藏和3d常温货架期后,仍能正常后熟,未出现絮败、褐变等冷害现象,保持了水蜜桃独特的品质。
【英文摘要】The effects of hypobaric storage under different pressures on the physiological and quality characteristics of flesh melting textured juicy peach fruit were studied.The pressures were controlled at (10±5)kPa and(80±5 kPa,respectively with air storage as control.The results indicate that hypobaric storage not only significantly slowsdown respiratory and ethylene production rates,but also inhibits the decreases of fruit firmness,L ,titratable acids and Vitamin C contents.Hypobaricstoragecanmaintain higher SOD and CAT activities,maintain the stability of membrane system,and retardoccurrence of senescence and decay.Hypobaric storage under(10±5)kPa can extend the storagelife up to 30 days.It is concluded that thehypobaric storage is an effective method of prolonging the postharvest life of juicy peach fruit.
【语种】中文
【第一作者】陈文煊
【通讯作者】郜海燕
【期刊名称、卷期、页码】2010,41(9):108-112
【论文发表时间】2010-04-20 00:00:00
【引文索引类型】EI
【引文索引号】EI
【学科分类】食品包装与储藏

【题目】瘤胃体外连续培养系统密闭机械喂料装置设计

【中文关键词】瘤胃;连续培养系统;喂料装置
【英文关键词】Rumen;Continuous culture system;Feeding device
【中文摘要】[目的]为解决现有瘤胃体外连续培养系统的喂料装置供料不精确、漏气等严重问题,设计一种新型密闭机械喂料装置。[方法]选取颗粒饲料为试验材料,研究喂料装置的主要结构和设计参数,并进行5次性能测试。[结果]喂料罐内O2含量较敞开式低;喂料装置的实际喂入率与理论喂入率接近;手柄每次转动只需瞬间施给约2N的力就可以完成1个喂料过程。[结论]密闭机械喂料装置基本达到了精确供料和形成厌氧环境的目的。
【英文摘要】[Objective] To design a novelenclosed andmechanical feeding device in an continuous culture systemin vitroso as to solve someproblems in present feeding device, such as feeding inaccurately and leaking ofair. [Method] A granulated feedwere selected as expermi en-talmaterials, and the performance testswere performed five tmi es. [Result] The contentof the oxygen in the feeding jarwas lower than thethat in the open jar, the factual feed rate closed to the theory feed rate, and one processofaccurate feedingwas completedwhen the handlewasturned once under2 N load. [Conclusion] Enclosed andmechanical feeding device can accurately feed and keep the anaerobic environmen.t
【语种】中文
【第一作者】胡晓丽
【通讯作者】胡晓丽
【期刊名称、卷期、页码】安徽农业科学, JournalofAnhuiAgr.i Sci 2010,38(34):19514-19515
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【引文索引号】null
【学科分类】畜牧学

【题目】貂源犬瘟热病毒f基因酵母表达载体的构建和鉴定
【中文关键词】水貂; 犬瘟热病毒; f基因; 酵母表达载体
【英文关键词】mink; canine distemper virus; f gene; yeast expression vector
【中文摘要】根据GenBank中登录的犬瘟热病毒f基因序列设计一对引物,利用RT-PCR方法扩增出水貂源犬瘟热病毒分离株的f基因,将其插入到克隆载体pMD18-T中,经EcoR Ⅰ和Xba Ⅰ双酶切鉴定后纯化回收,与经同样的酶酶切消化后并纯化回收的载体pPICZaA连接并转化E.coliDH5α,在含Zeocin的低盐LB固体培养基上筛选阳性转化子,阳性克隆菌经PCR法鉴定、酶切分析和测序鉴定表明目的基因插入位置、方向和阅读框正确。证明pPICZaA-f酵母表达载体构建成功。
【英文摘要】A pair of primers was designed based on the f gene sequence of canine distemper virus in Genbank,the f gene of the CDV strain isolated from mink was amplified by reverse transcription polymerase chain reaction(RT-PCR).The amplified fragment was cloned into pMD18-T simple vector for sequencing,then objective gene was obtained by digesting the cloning plasmid with EcoR Ⅰ and Xba Ⅰ,and ligated to pPICZaA vector at the same sites to construct the eukaryon expression plasmid pPICZaA-f.Host strain E.coli DH5α was transformated by pPICZaA-f vector,positive recombinant transformant was selected by low salt LB medium with Zeocin and identificated by PCR,restriction analysis by EcoR Ⅰ/Xba Ⅰ and DNA sequencing.The results showed that intact pPICZaA-f recombinant expression vector were constructed successfully,and could be used for further expression in Pichia pastoris cells.
【语种】中文
【第一作者】宫文妮
【通讯作者】单虎
【期刊名称、卷期、页码】经济动物学报,2008,12(4):209-213
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【引文索引号】null
【学科分类】兽医学

【题目】犬瘟热病毒h基因克隆测序与原核表达
【中文关键词】犬瘟热病毒; h基因; 克隆; 原核表达
【英文关键词】canine distemper virus; h gene; cloning; prokaryocyte expression
【中文摘要】根据GenBank中登录的犬瘟热病毒h基因序列设计一对引物,利用RT-PCR方法扩增出犬瘟热病毒弱毒疫苗株的h基因,将其插入到克隆载体pMD18-T中,经蓝白斑筛选及Sal Ⅰ和Xho Ⅰ双酶切鉴定挑出阳性克隆进行序列测定,序列分析

结果表明,该基因与GenBank上标准代表毒株序列完全同源;与扬州分离株、长春分离株、新疆分离株、日本分离株D85755同源性分别为90.6%、91.3%、90.5%、91%;与Onderstepoort、Convac株、美国分离株98-2666-2同源性较高,分别为97.7%、97.2%、98.1%。再将其定向克隆于原核表达载体pET-32a(+)中,转化感受态E.coliBL21细胞,经IPTG诱导表达分子质量约64 ku的重组H蛋白。

【英文摘要】A pair of primers was designed based on the h gene sequence of canine distemper virus in GeneBank,the h gene of(CDV) strain isolated from an attenuated vaccine strain of canine distemper virus was amplified by reverse transcription polymerase chain reaction(RT-PCR).The amplified fragment was cloned into pMD18-T simple vector and the positive recombinants were identified by blue-white screening and restriction endonuclease digestion,and the h fragments were sequenced and analyzed.Sequencing analysis indicates that the gene was the same to the representive canine distemper virus h gene.h gene was 90.6%,91.3%,90.5%,91% identical to Yangzhou isolates,Changchun isolate,XinJiang isolate and Japanese isolateD85755 respectively.It was 97.7%,97.2%,98.1% indentical to Onderstepoort strain,Convac strain and American isolates 98-2666-2 respectively.Then the h gene was subcloned into Prokaryotic expression plasmid pET-32a(+).Recombinantplasmid carrying h gene(pET-32a-h) was transformed into E.coli BL21(DE3) and induced with IPTG.A fusion protein about 64 ku was expressed.

【语种】中文

【第一作者】孙园园

【通讯作者】单虎

【期刊名称、卷期、页码】中国畜牧兽医,2009,36(5):58-62

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【学科分类】兽医学

【题目】网孔孔径和转动方式对瘤胃活体外发酵参数的影响

【中文关键词】网孔孔径 转动方式 瘤胃体外连续培养系统

【英文关键词】wu

【中文摘要】试验采用 2 因素析因试验设计,设计 2 种搅拌方式,分别为单向转动和往复转动。每种搅拌方式下有 4 个不同的网孔孔径,网孔孔径分别为 200、100、80 和 60 目。每个网孔孔径为一组,每组设 3 个重复,活体羊为对照组。系统的稀释率设为发酵罐体积的 3 %/h,即缓冲液流速为 0.5 mL/min,日粮精粗料比30:70,日喂料量为 12 g,试验周期为 9 d。分别测定活体羊瘤胃内和发酵罐内的 pH、NH3-N 和挥发性脂肪酸质量浓度,以评定人工瘤胃体外连续培养系统的模拟效果。试验结果表明 : 当日粮精粗料比为 30:70 时,随着网孔孔径的增大,pH 和 NH3-N 质量浓度显著提高,200 目网孔孔径显著低于 100、80 和 60 目。乙酸和丁酸摩尔比例在网孔孔径间差异不显著,丙酸摩尔比例和总挥发性脂肪酸(TVFA)在网孔孔径间差异不显著。当搅拌方式由往复转动变为单向转动时,pH、NH3-N 质量浓度、乙酸摩尔比例和 TVFA 降低,丙酸和丁酸摩尔比例升高。在瘤胃体外连续培养系统中网孔孔径为 200 目和搅拌方式为单向转动的条件下,瘤胃体外培养的瘤胃发酵特性与活体羊体内环境更接近。

【英文摘要】wu

【语种】中文

【第一作者】陈晓霞

【通讯作者】杨连玉

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【引文索引号】null

【学科分类】畜牧学

【题目】猪圆环病毒与口蹄疫病毒二联重组鸡痘病毒的鉴定和BALB_c小鼠的免疫试验

【中文关键词】PCV2; 重组鸡痘毒; BALB/c小鼠; 免疫

【英文关键词】PCV2; recombinant fowlpox viruses; BALB/c mice; immune

【中文摘要】以鸡痘病毒(FPV282E4)为活载体,用猪2型圆环病毒内蒙株的衣壳蛋白、与复制相关蛋白基因及O型口蹄疫结构蛋白基因作为目的基因,经同源重组的方法获得2个重组鸡痘毒,分别命名为:vUTALP1-ORF2-ORF1、vUTALP1-ORF2。在复制、转录和翻译水平对这2个重组毒进行鉴定,结果表明这2个重组毒均能表达目的蛋白。将它们免疫6~8周龄

BALB/c小鼠,每隔19d免疫1次,共3次;每10d尾跟采血1次,三免后10d杀鼠取脾。用ELISA方法检测小鼠血清抗体效价,流式细胞仪检测脾T淋巴细胞亚类CD4+、CD8+数量。结果发现2个重组毒试验免疫组均是从最后一次采集的小鼠血清能获得最高的抗体效价,与对照组FPV相比都能产生一定的体液免疫反应,且以vUTALP1-ORF2-ORF1重组毒免疫小鼠产生的血清抗体效价最高;脾T淋巴细胞亚类数量测定发现,免疫试验组的CD4+与CD8+的T细胞亚类总数显著高于对照组(P<0.05),并以vUTALP1-ORF2-ORF1数值较高。结果表明,这2个重组鸡痘毒既能较好的刺激细胞免疫又能产生一定的体液免疫,将作为候选活载体重组鸡痘毒进行本体动物免疫试验研究。

【英文摘要】Using fowlpox virus(wt 282E4) as live virus vector,PCV2(Inner Mongolis strain) capsid or replicon genes and FMDV capsid polypeptide genes of O/NY00 were interest genes.The two recombinant viruses which were named as vUTALP1-ORF2 and vUTALP1-ORF2ORF1 were gained by homologous recombination.The two recombinant viruses were identified from replication,transcript and translation level,and tested that they were capable of express interest proteins.Six/eight week-old BALB/c mices(12 mices each)were divided into three groups,one of which was control for inoculating by FPV(wt 282E4 strain) and the other two groups were injected by vUTALP1-ORF2,vUTALP1-ORF2ORF1,respectively.It lasted one week until mices received the first intramuscular injection.Mices were inoculated three times every 20 days.Mice sera gained before inoculation were used as negative control.Then,during the immunization,mice sera were from the mice ’s tails every 10 days.On the 10th day after the third inoculation,mices were killed by excising eyeballs ane removing spleens with sterility.Detecting sera antibody using ELISA and calculating mice spleen T lymphocytes subgroups(CD4+,CD8+) by flow cytometry.And find that the last collected sera has the highest titre among experimental groups;They all produced certain degree of humoral immunity compared with those from control group,and the vUTALP1-ORF2ORF1 is superior.In addition,the numbers of experimental groups ’ CD4+,CD8+ T lymphocytes subgroups are higher than the control group,the total number of T subgroups in vUTALP1-ORF2ORF1 group is also much higher.The results show vUTALP1-ORF2ORF1 can efficiently stimulate both cellular immunity and humoral immunity.It will be tested continually as a specific PCV2 vaccine candidate.

【语种】中文
【第一作者】秦晓冰
【通讯作者】金宁一
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【引文索引号】null
【学科分类】兽医学

【题目】丛枝菌根真菌侵染番茄离体毛状根双重培养体系的建立
【中文关键词】外植体,根内球囊霉,双重培养
【英文关键词】explant, Glomus intraradices, dual culture
【中文摘要】:利用发根农杆菌Agrobacterium rhizogenes A4 诱导樱桃番茄Micro-Tom 产生毛状根,并在此基础上成功建立了丛枝菌根(AM)真菌根内球囊霉Glomus intraradices 与转移Ri T-DNA 番茄离体毛状根的双重培养体系。该真菌侵染14d 左右,菌丝开始形成多级分支,17-21d 时,一些菌丝顶端膨大,长出新生孢子。接种后3 个月时,每皿孢子数量达到600-800 个。新形成的孢子无需休眠,可直接侵染番茄离体根。成功的番茄双重培养为番茄菌根生理分子机制的研究提供了理想的实验体系。

【英文摘要】Agrobacterium rhizogenes A4 was used to induce Lycopersicon esculentum Micro-Tom hairy roots. An in vitro dualculturing system was established with Ri T-DNA transformed Micro-Tom roots and Glomus intraradices. Multilevel-branchedhyphae were observed in about 14 days, and some hyphal top became expanded, and gradually produced some newborn spores inabout 17-21 days of colonization. About 600-800 mature spores per dish were obtained in 3 months of dual culture. The harvestedspores were capable of germination and subsequently colonizing the host hairy roots immediately. The successful in vitro dual cultureof tomato hairy roots and mycorrhizal fungi provided the ideal experimental system for conducting the researches on physiologicaland molecular mechanism of tomato mycorrhiza.

【语种】中文
【第一作者】王晶晶
【通讯作者】徐国华
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【引文索引号】null
【学科分类】土壤学

【题目】新型单外流瘤胃体外连续培养系统
【中文关键词】内网孔径 搅拌方式 稀释率
【英文关键词】wu
【中文摘要】在总结前人研制的人工瘤胃基础上加以改进，自行设计制作了一套新的单外流瘤胃体外连续培养系统。该装置的特点是发酵罐独特的密封设计,发酵罐可更换式内网代替以往的尼龙袋,及独特的搅拌方式设计。通过内网孔径、搅拌方式及稀释率的调整,可提高人工瘤胃发酵的仿生性能。为了验证新设备的稳定性和可行性,设计了稀释率对瘤胃体外连续培养系统发酵参数的影响试验。试验采用对照试验设计,设计 2 个稀释率,每小时分别为发酵罐体积的 3 % 和 6 %,即缓冲液流量分别为 0.5 和 1 mL/min,日喂料量也随之分别为 12 和 18 g。每个稀释率为一组，每组设 3 个重复，活体羊为对照组。分别测定瘤胃和发酵罐内的 pH、NH3-N 和挥发性脂肪酸质量浓度,以评定人工瘤胃体外连续培养系统的模拟效果。系统运行的第3 天 ~ 第 5 天为样本采样期。试验结果表明:当日粮精粗料比为 30:70 时，随着稀释率的提高,pH 逐渐升高,NH3-N 质量浓度下降。乙酸、丙酸与丁酸的摩尔比例和总挥发性脂肪酸质量浓度间差异不显著。在试验条件下,日粮精粗料比为 30:70 时,瘤胃体外连续培养系统的稀释率为 3 % 时,与活体羊最接近。认为瘤胃体外连续培养系统的稀释率应与相应日粮类型及 (或) 营养水平的瘤胃食糜外排速度一致。
【英文摘要】wu
【语种】中文
【第一作者】陈晓霞
【通讯作者】杨连玉
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【学科分类】畜牧学

【题目】刺五加对牛瘤胃发酵参数的影响
【中文关键词】刺五加 瘤胃 发酵参数
【英文关键词】wu
【中文摘要】在饲粮中分别添加 0、5、10 和 50 mg/kg 刺五加醇提取物,通过体外消化试验,研究刺五加对肉牛瘤胃发酵的影响。结果表明:日粮中添加不同含量的刺五加醇提取物对瘤胃的 pH 和氨态氮基本无影响,日粮中添加 50 mg/kg 刺五加醇提取物显著提高了瘤胃产气量及干物质消失率。
【英文摘要】wu
【语种】中文
【第一作者】卢广林
【通讯作者】杨连玉
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【学科分类】畜牧学

【题目】植物中丛枝菌根形成的信号途径研究进展
【中文关键词】丛枝菌根, 钙离子和钙调蛋白依赖蛋白激酶, 结瘤, 信号转导
【英文关键词】arbuscular mycorrhiza, calcium/calmodulin-dependent protein kinase, nodulation, signal transduction
【中文摘要】丛枝菌根(arbuscular mycorrhizal, AM)共生是丛枝菌根真菌与大多数陆地植物的根系之间形成的一种互利共生关系。植物给菌根真菌提供碳水化合物; 作为回报, 菌根真菌能够增强植物对矿质营养元素(尤其是磷)的吸收。菌根的形成过程是一系列信号交换和转导的结果, 具有严格并且一致的顺序。本文以植物中菌根形成的信号途径为主线, 对菌根真菌的形成过程和信号转导途径及其方式进行了分析和讨论。高等植物中菌根形成的信号途径与豆科植物的结瘤信号途

径部分共享, 并且与钙离子信号途径相关, 但前者更为广泛。尽管该途径中很多过程目前还不十分清楚, 但是相信在不久的将来就可以揭开菌根形成过程中的众多谜团。

【英文摘要】Arbuscular mycorrhizal (AM) symbiosis is the mutualistic association between AM fungi and most terrestrial plants: theplant roots offer carbohydrates to the fungi; in return, the fungi assist the plants with uptake of mineral nutrients, particularlyphosphate, from soil, and their subsequent transfer to the root cortical cells. The formation of AM symbiosis involves complicatedpathways of signal exchange and transduction, with stringent and coordinated programs. This mini-review focuses on the currentknowledge in the signal transduction pathways in AMplants. Such pathways in higher plants are similar, in part, to nodulation signalpathways in legumes and are related to calciumsignaling. Many detailed action models in AM signal transduction are not clear yetbut may be revealed soon.

【语种】中文

【第一作者】胡江

【通讯作者】徐国华

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【学科分类】农学其他学科

【题目】电麻醉对西伯利亚鲟幼鱼行为特性与血清离子浓度的影响

【中文关键词】西伯利亚鲟幼鱼; 行为; 离子; 直流电; 鳃动频率; 电压强度

【英文关键词】Acipenser baeri; behav ior; iron; d irect curren;t opercu larmovement frequency; vo ltage intensity

【中文摘要】研究了不同强度电麻醉对西伯利亚鲟幼鱼行为特性与血清离子浓度的影响。西伯利亚鲟电麻醉阶段包括部分失去平衡期、完全失去平衡期、完全麻醉期和鳃动停止期等4个时期。电麻醉时西伯利亚鲟呈现趋阳性; 随着电压升高, 到达各麻醉阶段时间与恢复时间逐渐缩短。西伯利亚鲟到达完全麻醉期时间在15 V、20 V、25 V、35 V 组间均有显著差异, 在30 V 与35 V 时分别仅为97. 0 s和68. 8 s, 而恢复时间为0 s。各试验组西伯利亚鲟在电麻醉时鳃动频率均增加, 而恢复阶段均降低。电麻醉对西伯利亚鲟摄食与活动状态均无显著影响。随着电压升高, 钾离子与镁离子浓度先下降后上升, 钙离子则先上升后下降。钠离子与氯离子浓度变化较大, 均是15 V组时浓度最低, 20 V时浓度最高。磷离子浓度呈现增高趋势。pH 值在麻醉后降低, 对照组与其余各组均有显著性差异。因此西伯利亚鲟幼鱼适宜电麻醉强度为25-30 V, 电麻醉是种较好的麻醉方法, 具有广泛的应用前景。

【英文摘要】E ffects of e lectroanesthesia on behav ior and serum iron concentra tion o f juven ileAcipenser baeri have been studied. E lectroanesthesia phases could be div ided into four stages, including partia l loss o f equilibrium,comp le te loss o f equilibrium, complete anaesthesia and opercular movemen ts stop stage. A. baeri appeared positive reaction during electroanesthesia. The time ofA. baeri reach ing every anaesthesia stage and recoveringnatura l state w ould be gradua lly decreased a long w ith voltage increased. For A. baeri, it took only 97. 0 seconds to reach complete anaesthesia stage in 30 V group and 68. 8 seconds in 35 V g roup, wh ile recovering time w as 0 second. Opercular movement frequency of A. baeri increased in every group during electroanesthesia, w h ile frequency decreased during renew ing stage. There are no remarkab le effects on feeding behavior and activ ity o fA. baeri after electroanesthesia. K+ andMg2+ level firstly decreased and then increased, wh ile Ca2+ f irstly increased and then decreased. Na+ and C l leve l changed most greatly, both of them the low est w as in 15 V group and the h ighest w as in 20 V group. P3+ level increasedw ith voltage increased. The va lue of pH decreased after anaesthesia, and there was significant difference betw een control group and the other groups. Th is study show ed that electroanesthesia w as a good anaesthesia method. The opt imal vo ltage of e lectroanesthesia in A. baeri w as from 25 V to 30 V.

【语种】中文

【第一作者】冯广朋

【通讯作者】庄平

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【学科分类】水产学基础学科

【题目】Proton pump OsA8 is linked to phosphorus uptake and
【中文关键词】无
【英文关键词】Knockout mutant, plasma membrane H+-ATPase, Oryza sativa, phosphorus, Tos17 retrotransposon, phosphate transporter.
【中文摘要】无
【英文摘要】The plasma membrane (PM) proton pump ATPases (H+-ATPases) are involved in almost all aspects of biology. They are plant specific and several members of this family are supposed to play a key role in nutrient acquisition. At present, only some members of this gene family in plants have been characterized. However, no nutrient uptake associated H+-ATPase gene in rice has been functionally analysed. It is reported here that OsA8, a typical PM H+-ATPases gene that was predominantly expressed in roots of rice, is down-regulated by nutrient deficiency. TheOsa8 mutant had a relatively smaller size and root to shoot biomass ratio, but higher ATPase activity than its wild-type counterparts under phosphorus (P) starvation conditions. Knockout of OsA8 affected the expression of several OsA genes and the high affinity phosphate transporter, OsPT6, and resulted in a higher P concentration in the roots and a lower amount of P in the shoots. These analyses demonstrate that OsA8 not only influences the uptake of P by roots, but also the translocation of P from the roots to the shoots in rice.
【语种】英文
【第一作者】常春荣
【通讯作者】徐国华
【期刊名称、卷期、页码】Journal of Experimental Botany, Vol. 60, No. 2, pp. 557 – 565, 2009
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【引文索引号】doi:10.1093/jxb/ern298
【学科分类】农学其他学科

【题目】Conservation and divergence of both phosphate and mycorrhiza-regulated physiological responses and expression patterns of phosphate transporters in solanaceous species
【中文关键词】无
【英文关键词】divergence, evolution, genetic conservation, mycorrhiza, phosphate transporter, phosphorus (P) nutrition, plant gene expression, Solanaceae.
【中文摘要】无
【英文摘要】• Here, orthologous genes of six phosphate transporter (PiT) genes, which are members of thePht1and Pht2 families in tomato and potato, have been cloned from the solanaceous species pepper, eggplant and tobacco. • Overall, expressions of these genes in pepper, eggplant and tobacco showed similarpatterns to those in tomato and potato: P-starvation enhancement in both leaves and roots forPht1;1, P-depletion induction exclusively in roots for Pht1;2, mycorrhizal enhancement forPht1;3, and mycorrhizal induction for both Pht1;4 and Pht1;5. • In the roots of nonmycorrhizal eggplant,SmPht1;3,SmPht1;4 and SmPht1;5 were also expressed under extreme P starvation. Mycorrhizal symbiosis under high-P supply conditions reduced plant growth, with concurrent enhancement of Pht1;2 expression in the roots of pepper as well as eggplant. In addition, the mycorrhizal symbiosis down-regulated the expression of Pht2;1genes greatly in the leaves of pepper and tobacco. • The discrepancies between the evolutionary distances of the PiT genes and theirexpression patterns among the five species suggest greater complexity in functionof PiT in plants than previously expected.
【语种】英文
【第一作者】陈爱群
【通讯作者】徐国华
【期刊名称、卷期、页码】New Phytologist,(2007)173:817-831
【论文发表时间】2007-01-18 00:00:00
【引文索引类型】SCI
【引文索引号】doi:10.1111/j.1469-8137.2006.01962.x
【学科分类】农学其他学科

【题目】俄罗斯鲟仔鱼初次摄食时间对生长及存活的影响

【中文关键词】俄罗斯鲟; 仔鱼; 初次摄食; 摄食率; 不可逆点; 生长; 存活
【英文关键词】Acipenser gueldenstaedtii; larvae; first feeding; feeding rate; point of no return PNR; growth; survival
【中文摘要】以人工繁育的俄罗斯鲟仔鱼为对象, 采用实验生态学方法, 研究了初次摄食时间对生长及存活的影响。结果表明: 在水温17.4℃下, 仔鱼在9-10日龄初次摄食, 初次摄食前投喂对俄罗斯鲟仔鱼的生长和存活无显著性影响, 延迟2 d以上初次摄食对生长影响明显, 存活率在18日龄初次摄食时显著下降, 24日龄时饥饿仔鱼全部死亡; 23-24日龄时仔鱼如不能建立外源营养即达到饥饿不可逆点(PNR)。人工养殖条件下, 俄罗斯鲟仔鱼必须在初次摄食后14 d内建立起主动摄食能力才能保证其仔鱼的正常发育、生长和存活。
【英文摘要】The effects o f the first feed ing tim ing on the grow th and surv iva l of artificia lly breeding Russian sturgeon A cip enser gueldenstaedtii larvae at the age o f 6, 8, 10, 12, 14, 16, 18, 20,and 22 days were examined at 17.4°C under laboratory cond itions. The larvae started first feeding at the age of 9- 10 days; wh ile before th is age, feeding did not provide any advantage. Up to two days delay of the f irst feed ing a ffected the growth and surv ival of larvae sign ificantly. The sur vival rate of the larvae w as sign ificant low er w hen the first feed ing t im ing w as at the age of 18 days than at the age o f 6- 16 days, and no larvae could surv ive when the first feed ing t im ingw as at the age of 24 days. The larvae ach ieved the po in t of no return (PNR) at the age of 23- 24 days when the exogenous feed ing cou ld not be set Under art ific ial breed ing cond itions, feedinglarvae should be started within 14 days after the first feeding timing to avoid the potential starvation mortality and get better growth.
【语种】中文
【第一作者】张涛
【通讯作者】章龙珍
【期刊名称、卷期、页码】生态学杂志,2009,28(3):466-470
【论文发表时间】2009-05-20 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】水产养殖学

【题目】Tomato sugar transporter genes associated with mycorrhiza and phosphate
【中文关键词】无
【英文关键词】Arbuscular mycorrhiza AM fungi Phosphate Sugar transporter genes
【中文摘要】无
【英文摘要】In arbuscular mycorrhizal (AM) symbiosis,there is a reciprocal nutrient exchange betweensymbiotic partners. AM fungi assist the plants with uptake of mineral nutrients from the soil, especially phosphate (Pi). The host plants, in return, provide the fungi with sugar. In contrast to the studies on the symbiotic transport of Pi in arbuscular mycorrhiza,there have been few investigations devoted specifically to sugar transport in AM symbiosis. Usingreverse transcriptase PCR (RT-PCR), we analyzed the effects of mycorrhiza and Pi on the expression of seven putative sugar transporter genes in tomato plants. The expression of LeSUT1 and LeHT2, classified, respectively, as putative sucrose and hexose transporter genes, were down-regulated in the roots inoculated with AM fungi Glomus caledonium or Glomus intraradices. Unexpectedly, the expression of LeST3, a putative monosaccharide transporter gene, was decreased by inoculation of Glomus caledonium, but was enhanced by inoculationof Glomus intraradices in both the roots and leaves.High-Pi in the tomato decreased the expression of LeHT2 and LeST3 in the roots, and enhanced that of LeHT2 in the leaves. The contradictory regulation of the expression of LeST3 in the AM symbiosis indicates that different interaction may take place during mycorrhizal colonization, and a quite complicatedregulation of expression of the sugar transporter genes exist in mycorrhizal tomato.
【语种】英文
【第一作者】葛磊
【通讯作者】徐国华
【期刊名称、卷期、页码】Plant Growth Regul (2008) 55:115 – 123
【论文发表时间】2008-03-27 00:00:00
【引文索引类型】SCI
【引文索引号】doi:10.1007/s10725-008-9266-7
【学科分类】农学其他学科

【题目】分光光度法测定俄罗斯鲟精子密度标准的研究
【中文关键词】俄罗斯鲟; 精子密度; 分光光度法
【英文关键词】Acipenser gueldenstaedtii; sperm concentration; spectrophotomeric method
【中文摘要】为了标准化精子超低温冷冻保存和人工授精程序, 建立了分光光度法测定俄罗斯鲟精子密度的方法, 比较了不同波长(380 nm、530 nm、780 nm)下吸光度(A) 与精子密度(C) 的关系。结果表明, 分光光度法的检测下限为3×106 cells /mL, 且检测上限随波长的增加而上升, 当精子密度为3×106-1.5 ×109 cells /mL时, 530 nm 为最适检测波长, 吸光度与精子密度呈对数回归关系, 其回归方程为: A530 = - 8. 560+ 1. 323 lgC(R2 = 0. 971)。
【英文摘要】To provide the necessary standard ization fo r procedures of sperm cryopreservation and art ificia linsem ination, a spectropho tomeric method has been established to determ ine the sperm concentration of Russian sturgeon, Acipenser gueldenstaed tii. Wave lengths of 380, 530, and 780 nm have been compared, and 530 nm was found to be the most sensitive and reliable. A logarithm ic relat ionship between sperm concentration (C) and photometric abso rbance (A) w as observed for sperm concentration betw een 3×106 and 1. 5× 109 cells/mL. The reg ression equation for the standard curve at 530 nm w as A530 = - 8.560 +1.323 lgC (R2 = 0 971) .
【语种】中文
【第一作者】张涛
【通讯作者】章龙珍
【期刊名称、卷期、页码】海洋渔业,2009,31(1):87-97
【论文发表时间】2009-02-12 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】水产学基础学科

【题目】氟对西伯利亚鲟仔鱼的急性毒性及安全浓度评价
【中文关键词】氟;鱼;毒性;LC50;安全浓度
【英文关键词】fluorine;fish;toxicity;LC50;safe concentration
【中文摘要】:为检测氟对鱼类的生态毒性效应,在水温(17±1)°C的条件下,采用半静态式生物毒性试验方法研究了氟离子对西伯利亚鲟初孵仔鱼的急性毒性效应(氟离子浓度梯度设置为0、100、200、300、400、500、600mg·L-1). 结果表明,氟暴露后仔鱼出现焦躁不安、失去平衡、呼吸减弱等中毒症状,且随着暴露浓度的升高与暴露时间的延长,死亡率逐渐增加,存在明显的剂量效应关系和时间效应关系. 氟对西伯利亚鲟初孵仔鱼48h、72h、96h LC50分别为1014.10mg·L-1、288.28mg·L-1、181.18mg·L-1. 经计算得出氟对西伯利亚鲟初孵仔鱼安全质量浓度为1.81mg·L-1,低于我国部分高氟地区地下水、地表水及人为氟污染水域中氟的浓度,应引起高度重视.
【英文摘要】Fluoride ions caused widespread endemic fluorosis in humans, but little attention was paid to the effect of fluoride ions on aquatic organisms. Semi-static acute toxicity trial on larval Siberian sturgeon Acipenser baeri was carried out to explore the safe criteria of fluoride to fish. Toxicity symptoms of fluoride in larval Siberian sturgeon included abnormal motility, loss of equilibrium, changes in gill ventilation. The mortality rate of larval Siberian sturgeon raised with the exposure concentration increasing and exposure time prolonging. The 48h, 72h and 96h LC50 of fluoride ion to Siberian sturgeon were 1014.10mg · L-1, 288.28mg · L-1 and 181.18mg · L-1, respectively. The safe concentration of fluoride in water for larval Siberian sturgeon was 1.81mg · L -1. Based on the fluoride concentration in water bodies of China, our result highlights the necessity of management of fluoride in water to protect aquatic animals.
【语种】中文
【第一作者】庄平
【通讯作者】庄平
【期刊名称、卷期、页码】生态毒理学报,2009,3(4):440-445
【论文发表时间】2009-05-18 00:00:00
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【引文索引号】null
【学科分类】水产学基础学科

【题目】氟离子对西伯利亚鲟胚胎发育的影响

【中文关键词】氟; 西伯利亚鲟鱼; 胚胎发育; 延迟; 安全浓度
【英文关键词】fluoride; Siberian sturgeonAcipenser baeri; embryo developmen;t delay; sa fety concen tration
【中文摘要】本试验在水温17 ℃的条件下, 采用半静态式生物毒性试验方法, 探讨了氟离子(F2) 对西伯利亚鲟胚胎发育的影响。结果表明, 100-600 mg /L氟暴露会导致胚胎孵化延迟, 氟暴露组半数孵化时间(MHT)比对照组推迟9-22 h。氟暴露同时导致胚胎死亡率显著增加(P < 0. 05), 出膜仔鱼活力减弱、存活时间缩短、畸形率显著升高(P < 0. 05), 出现卵黄囊畸形、脊椎畸形、眼部充血等畸形症状。试验得出F2致西伯利亚鲟胚胎144 h半致死浓度(LC50)为447. 61 mg /L, 孵化安全浓度(SC)为4. 48 mg/L, 导致仔鱼畸形的半数效应浓度(EC50)为536mg /L。氟对西伯利亚鲟胚胎的安全质量浓度低于我国部分高氟地区地下水、地表水及人为氟污染水域中氟含量, 提示天然水体中氟可能会对鱼类胚胎产生负面影响, 应引起重视。
【英文摘要】Fluoride ions caused widespread endem ic fluorosis d isease to human beings. However, littleattentionwas pa id to the effect of fluoride ions on aquatic organ isms. The a im of th is study is to investigate the effect of fluoride ions on embryo development of Siberian sturgeon Acipenser baeri. In semi2static toxicity bioassays, Siberian sturgeon embryos (multi2cell stages) were exposed to six different concentrations of waterborne fluoride (100- 600mg/L) a t17°C . Embryo deve lopment and hatched larvaewere assessed in the experimen.t Fluoride resulted in increased embryo mortality, decreased hatching rate, and increaseddeformed rate of larva compared with the con trol group. Fluoride caused 9- 22 hour extended developmen t time (de layed hatch ing) to embryos, compared to the control group. 144 hmedian letha l concentration(LC50) was 447. 61 mg /L for Siber ian sturgeon embryo, Sa fety Concentration (SC) of hatching was 4. 48 mg /L, median effective concentration (EC50) of larva deformedwas 536mg /L. Study found that safety Concentration(SC) of hatch ingwas lower than water fluoride concentration in h igh fluorine area and h igh2fluoride sewage,which reminds us thatmore a ttention should be paid to the effect of fluoride on aquatic organisms
【语种】中文
【第一作者】王瑞芳
【通讯作者】庄平
【期刊名称、卷期、页码】海洋渔业,2009,31(4):357-362
【论文发表时间】2009-11-18 00:00:00
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【引文索引号】null
【学科分类】水产学基础学科

【题目】可视荧光硅橡胶标志用于西伯利亚鲟幼鱼标志的初步评价
【中文关键词】西伯利亚鲟; 荧光硅橡胶标志; 生长; 存活; 标志保持率
【英文关键词】Acipenser baerii; Visible implant fluorescent elastomer tag; Growth; Survival; Tag retention
【中文摘要】论文为简报,无摘要
【英文摘要】无
【语种】中文
【第一作者】张涛
【通讯作者】章龙珍
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【论文发表时间】2010-05-16 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】水产学基础学科

【题目】Expression analysis suggests potential roles of microRNAs for phosphate and arbuscular mycorrhizal signaling in Solanum lycopersicum
【中文关键词】无
【英文关键词】microRNA,phosphate,arbuscular mycorrhizal
【中文摘要】无
【英文摘要】MicroRNAs (miRNAs) have emerged as a class of gene expression regulatorsthat play crucial roles in many biological processes. Recently, several reportshave revealed that micoRNAs participate in regulation of symbiotic interactionbetween plants and nitrogen-fixing rhizobia bacteria. However, the role ofmiRNAs in another type of plant – microbe interaction, arbuscularmycorrhizal(AM) symbiosis, has not been documented. We carried out a microarrayscreen and poly(A)-tailed reverse

transcriptase-polymerase chain reaction(RT-PCR) validation for miRNA expression in tomato (Solanum lycopersicum)under varying phosphate (Pi) availability and AM symbiosis conditions. Inroots, miRNA158, miRNA862-3p, miRNA319, miRNA394 and miR399 weredifferentially regulated under three different treatments, Pi sufficient (+P), Pideficient (− P) and AM symbiosis (+M). In leaves, up to 14 miRNAs were upordown-regulated under either or both of the Pi treatments and AM symbiosis,of which miR158, miR319 and miR399 were responsive to the treatmentsin both roots and leaves. We detected that miR395, miR779.1, miR840 andmiR867 in leaves were specifically responsive to AM symbiosis, which isindependent of Pi availability, whereas miR398 in leaves and miR399 in bothroots and leaves were Pi starvation induced. Furthermore, miR158 in roots aswell as miR837-3p in leaves were responsive to both Pi deprivation and AMcolonization. In contrast, miR862-3p in roots was responsive to Pi nutrition,but not to AM symbiosis. Moreover, the group of miRNA consisting miR319and miR394 in roots and miR158, miR169g*, miR172, miR172b*, miR319,miR771 and miR775 in leaves were up- and down-regulated by Pi starvation,respectively. The data suggest that altered expression of distinct groups ofmiRNA is an essential component of Pi starvation-induced responses and AMsymbiosis.

【语种】英文

【第一作者】顾冕

【通讯作者】徐国华

【期刊名称、卷期、页码】Physiologia Plantarum,2009, 138: 226-237

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【引文索引类型】SCI

【引文索引号】doi:10.1111/j.1399-3054.2009.01320.x

【学科分类】农学其他学科

【题目】Facilitated legume nodulation, phosphate uptake and nitrogen transfer by arbuscular inoculation in an upland rice and mung bean intercropping system

【中文关键词】无

【英文关键词】Arbuscular mycorrhizal fungi .Nutrient transfer . Hyphal links . 15N . Rice . Mung bean . Intercropping

【中文摘要】无

【英文摘要】Intercropping of upland rice with shortdurationgrain legumes has major advantages inincreasing crop yields and soil productivity. However,the contribution of arbuscular mycorrhizas, the commonmutualistic symbiosis between most crops andmycorrhizal fungi, is not fully understood in intercroppingsystems. We assayed the contribution ofinoculation of the arbuscular mycorrhizal fungus(AMF) Glomus caledonium on nutrient acquisitionand biomass yield. Using the method of plastic filmand nylon net partition and tracing 15N transferredbetween the intercropped upland rice (Oryza sativassp. Japonica Nipponbare) and mung bean (Vignaradiata L. Chuanyuan), we compared the intercropping,with separation of the whole root systems by aplastic film, with and without a barrier of nylon net toallow penetration of the fungal hyphae. Intercroppingsignificantly improved the formation of arbuscularmycorrhizas, particularly in the upland rice roots. Theimproved formation of mycorrhizas by the intercroppingincreased total P uptake by 57% in rice, total Pand N acquisition by 65% and 64% respectively inmung bean, and nodulation by 54% in mung bean.The percentage of total 15N transfer from mung beanto rice leaves was increased from 5.4% to 15.7% byinoculation with AMF. In contrast, there was only2.7% of 15N transfer from rice to mung bean and noAMF effect on N transfer. It is concluded that cerealand legume crop intercropping increase mycorrhizaformation, which in turn improves nodulation, N andP acquisition and N transfer in the legumes.

【语种】英文

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【学科分类】农学其他学科

【题目】瘤胃体外培养技术的研究进展

【中文关键词】瘤胃;体外培养技术;研究进展

【英文关键词】rumen; fermentation in vitro; advance
【中文摘要】反刍动物瘤胃发酵方面的研究越来越受到人们的重视,因此各种各样的瘤胃体外培养方法也随之产生。 综述了几种主要瘤胃体外培养技术的最新研究进展,包括两步法、产气法、体外连续培养法等的优点以及存在的问题。
【英文摘要】The ruminant fermentation has been increasingly paid attention to, thus many methods were produced. In the article, severalmethods on ruminant fermentation in vitro were reviewed including gas production technique, two stage method and continuous culturein vitro.
【语种】中文
【第一作者】陈小霞
【通讯作者】杨连玉
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【学科分类】畜牧学

【题目】污染马铃薯试管苗真菌的分离鉴定
【中文关键词】马铃薯; 试管苗; 真菌; 鉴定
【英文关键词】Potato; Tube seedling; Fungus; Identification
【中文摘要】用马铃薯葡萄糖琼脂(PDA) 培养基和VBC 培养基、麦粒培养基及查氏培养基等选择性培养基对宁夏5 个马铃薯脱毒中心的污染马铃薯试管苗真菌进行分离培养, 经形态学鉴定, 这些真菌分属6 属至少12种, 其中镰刀菌属有5 个种, 其次是毛霉属有2 个种, 第三是链格孢属有2 个种, 根霉属最少, 镰刀菌属真菌分离出的比率最高。比较宁夏5 个马铃薯脱毒中心真菌分离株数, 以海原县马铃薯脱毒中心真菌分离株数远高于其他马铃薯脱毒中心, 其他马铃薯脱毒中心差异不明显。
【英文摘要】Fungi were isolated from contaminated tube seedlings from 5 potato virus-free centers in Ning xia by using PDA, VBC, wheat granule and czapek ’ s media screening as well as morphological character s identification. The results showed that these fungi belonged to 5 genus and at lest 12 species, Fusarum ranked No.1 with 5 species, Mucur, Alternaria and Aspergillus ranked No.2 with two species respectively, and Rhizopus was the last with one species. Fusarium ranked the highest frequency in the isolated fungi. Compared the tube seedlings from 5 potato virus-free centers in Ning xia, the potato tube seedlings from Haiyuan potato virus-free center were contaminated severely.
【语种】中文
【第一作者】沈瑞清
【通讯作者】沈瑞清
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【学科分类】植物保护学

【题目】全人工繁殖西伯利亚鲟仔稚鱼发育的异速生长
【中文关键词】西伯利亚鲟; 仔鱼; 稚鱼; 体长生长; 体质量生长; 器官发育; 环境适应性
【英文关键词】Acipenser baeri; larvae; juvenile; full body length increase; body mass increase; organ deve lopmen;t environmenta l adaptation.
【中文摘要】西伯利亚鲟(Acipenser baeri)是中国主要的淡水养殖对象之一, 目前已经实现了苗种的全人工繁殖, 为了改善西伯利亚鲟苗种培育技术, 采用Im age Pro Plus 5 1软件显微拍照并对仔稚鱼的可量性状进行测量和数据处理, 研究了全人工繁殖西伯利亚鲟仔稚鱼(0-53日龄)发育的异速生长及器官优先发育在早期生存和环境适应性上的意义。结果表明:在9、28、37日龄时分别出现3个全长生长拐点。因此, 全长的生长可以分为4个阶段, 每个阶段的平均增长率分别为0.83、0.79、2.68和1.71 mm · d-1, 其中第3个阶段的生长率明显高于其他阶段; 体质量的增长可以用Gaussion方程进行拟合, 相关系数R2 = 0.99; 全长(FL)与体质量(BW)的关系为BW = 0.2×10- 5 (FL) 2.72, 为负异速生长; 在早期发育过程中, 仔鱼的许多关键器官的大小均存在异速生长现象, 眼径在3~ 4日龄时, 最先达到生长拐点, 这意味着眼部是优先发育的, 使其在出膜后就能有效地躲避敌害; 口宽在17-18日龄时出现拐点, 此时随着感觉器官和各鳍的不断完善, 主动摄食能力不断加强; 胸

鳍、背鳍、臀鳍的长度也分别在16-17、13-14、21-22日龄时出现生长拐点,标志着其游泳能力已比较完善,可以有效地躲避敌害和获得食物,为其早期的生存提供了保障。在育苗生产实践中,可以根据生长和发育的阶段性和优先性,适时地和针对性地创造必要的生长发育条件,保证其重要器官得到优先发育,提高早期的成活率。

【英文摘要】Siberian sturgeon Acipenser baeri is one of the most popular fresh w ater aquacu lturespecies in China, and its artificia l spawn ing is succeeded. In order to provide in fo rmation that may improve fry rearing techniques, the a llome tric grow th of A. baeri from new ly hatched larvae(age, 0 day) to 53 day old juven iles and the sign if icance of prior ity deve lopment of som e o rgans were stud ied by using digital photom icrography and computer softw are (Image Pro Plus 5.1) to measure and analyze the growth characteristics. The results show ed that there w ere 3 inflex ion po ints of full body length (FL) increase occurred at the ages of 9, 28 and 37 days, and thus, the FL increase m ight be divided into 4 periods. The mean FL increase rate of each period w as 0.83, 0.79, 2.68 and 1.71mm • d- 1, respect ive ly, w ith that of the th ird period being sign ificantly higher than those o f the rest periods. The relationsh ip betw een body mass (BW) increase and age could be characterized byG aussion equation (correlat ion coeff icient R2 = 0 99) . The relation sh ip betw een BW and FL w asBW = 0.2× 10- 5 FL2.72, w h ich meant that the bodym ass o fthe larvae and juveniles had a negative a llom etric grow th. Dur ing early developmen,t some important organs also grew in allometry. The eye diameter increase firstly reached to theinflexion point at the age o f 3- 4 days, wh ich m igh t infer that eyes had priority to deve lop, and thus,young f ishm igh t have ab ility to escape from predators imm ediately after hatching. Mouthw idth increase reached to the inflex ion po int at the age of 17- 18 days, wh ich implied that active feeding enhanced hereafter. The grow th inflex ion points of pectoral fin, dorsal fin, and pelv ic fin w ere at the ages o f 16- 17, 13- 14, and 21- 22 days, respectively, ind icating tha t the swimming ability of young fish improved since then. These priority deve lopments of impo rtant organs m ight he lp fish w ith active feed ing and escap ing from predato rs as early as possible, and thus, a higher surv iva l rate m ight achieved during early developmen.t To improve the art ific ia l fry rearing techniques o fA. baeri, spec ific conditions should be prov ided in time, according to the periodic ityand priority of o rgan developmen,t and consequently, impo rtan t organsm ight have priority to deve lop normally, and the survival rate of early life stagem ight increase

【语种】中文
【第一作者】庄平
【通讯作者】庄平
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【学科分类】水产养殖学

【题目】牛CAPN3基因多态性及与肉质性状相关性分析

【中文关键词】In this study
,
CAPN3gene was detected by PCR-SSCP and sequencing for searching SNPs in Chinese red steppes
,S
immental,
Limousin and Tianyigangshan black cattle.Correlation between CAPN3gene's genetic polymorphism and meat quality traits was ana
【英文关键词】cattle;
CAPN3
;
gene polymorphism
;
PCR-SSCP
;
meat quality traits

【中文摘要】:以中国草原红牛、西门塔尔牛、利木赞牛、天一冈山黑牛为试验对象,利用PCR-SSCP结合测序的方法进行SNPs检测,并采用SPSS软件分析CAPN3基因的遗传多态性与肉质性状的关系。结果表明,仅在草原红牛及天一冈山黑牛中发现第46 414处(NC_007308)发生G→T的突变,且发生G→T突变的位点所对应不同基因型的个体,其大理石花纹、失水率、滴水损失和剪切力这些肉质性状存在显著差异,而西门塔尔牛和利木赞牛中未发现此突变。

【英文摘要】牛;CAPN3;基因多态性;PCR-SSCP;肉质性状
【语种】中文
【第一作者】柳思源
【通讯作者】张嘉保
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【学科分类】畜牧学

【题目】人工养殖中华鲟幼鱼摄食不同饵料的转化效率与生长特性
【中文关键词】中华鲟; 饵料转化效率; 生长效率; 特定生长率; 异速生长
【英文关键词】Chinese sturgeon (Acip enser sinensis); feed conversion efficiency; growth efficien
cy; specific grow th rate; allometric growth.
【中文摘要】利用水蚯蚓与人工饲料分别投喂7月龄中华鲟(Acipenser sinensis)幼鱼, 研究不同饵料对中华鲟幼鱼转化效率与生长特性的影响。结果表明: 经过60 d生长, 水蚯蚓组、人工饲料组中华鲟幼鱼的平均体长分别从177.0、191.6 mm增至216.6、332.5 mm, 体质量分别从32.73、44.39 g增至58.27、264.71 g; 水蚯蚓组、人工饲料组中华鲟幼鱼的饵料转化率分别为6.67-39.33、0.89-1.26, 特定生长率分别为0.19% -2.33% 、1.38%-3.94% , 生长效率分别为2.54%-14.99% 、79.56%- 204.44%; 人工饲料组中华鲟幼鱼的生长速度快于水蚯蚓组, 肥满度大于水蚯蚓组; 2 个试验组中华鲟幼鱼的体长与体质量均呈幂函数关系, 各阶段幂指数b 值均小于3, 表明中华鲟幼鱼为异速生长; 水蚯蚓组中华鲟幼鱼肌肉的水分湿质量含量为82.23%±0.79%, 蛋白干质量含量为62.79% ±1.34%, 均略比人工饲料组高; 综合饵料转化效率与各项生长指标, 表明人工饲料比水蚯蚓更适宜作为中华鲟幼鱼阶段的人工养殖饵料。
【英文摘要】Seven months o ld Ch inese sturgeon (Acipenser sinensis) juven iles w ere fed w ith L im nodrilus sp. or art ific ia l feed to study the feed conversion e ff iciency and grow th characteristics of the juveniles. A fter 60 day grow th trials, the body length of the juven iles fed w ith L imnodrilus sp. and artificia l feed increased from 177 0 mm and 191 6 mm to 216 6 mm and 332 5 mm,and the bodym ass increased from 32 73 g and 44 39 g to 58 27 g and 264 71 g, respectively.The juven iles fed w ith L imnodrilus sp. and artificial feed had a feed conversion rat io 6.67- 39.33 and 0.89- 1.26, specif ic g row th rate 0.19- 2.33 and 1.38- 3.94, and grow th efficiency 2.54-14.99 and 79.56- 204.44, respectively. There was an exponen tial relat ionship betw een the body leng th and body mass of the juveniles fed with L imnodrilus sp. or artif icial feed, the exponential value being less than 3, wh ich suggested the a llom etric grow th o f body leng th and body mass.Themuscles crude pro te in andmo isture contents of the juveniles fed w ith L imnodrilus sp. were (62.79 ± 1.34) % and (82.23 ±0.79) %, respect ive ly, slightly higher than those of the juven iles fed w ith artif icial d ie.t Based on the feed conversion effic iency and the grow th ind ices, itw as concluded that art ific ial feed w as better than L imnodrilus sp. for the growth of juvenile Acipenser sinensis.
【语种】中文
【第一作者】冯广朋
【通讯作者】庄平
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【题目】马铃薯脱毒试管苗污染控制效果研究
【中文关键词】马铃薯脱毒苗;污染;抑菌剂;控制效果
【英文关键词】virus-free potato plantlets;contamination;antibacterial agent;control effect
【中文摘要】通过在MS培养基中加入抗生素和杀菌剂进行逐步筛选,解决马铃薯脱毒试管苗快繁过程中的污染问题。结果表明:防止马铃薯脱毒试管苗污染的最佳抑菌剂组合MS+50mg/L硫酸庆大霉素+50mg/L氨苄青霉素+50mg/L硫酸链霉素+0.4g/L多菌灵,该组合有效降低了马铃薯脱毒苗细菌和真菌污染,提高了快繁效率。
【英文摘要】In order to solve contamination problem of virus-free potato plantlets in rapid propagation,this experiment by joining antibiotics and fungicide in MS medium gradually screened and choosed.The results showed that best antibacterial agent preventing the

virus-free potato plantlets contamination,namely,MS+50 mg/L Gentamycin Sulfate+50mg/L Ampicillin Sodium+50mg/L Streptomycin Sulfate+0.6g/L carbendazim.Through this way, bacteria and fungi contamination of virus-free potato plantlets were reduced effectively and efficiency of rapid propagation could alse be improved.
【语种】中文
【第一作者】康萍芝
【通讯作者】沈瑞清
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【题目】日粮营养水平对肉牛IGF-I及其受体基因表达的影响
【中文关键词】营养水平;IGF-I, IGF-IR表达
【英文关键词】无
【中文摘要】动物的生长发育受内分泌和营养的调控,生长激素(GH)一胰岛素样生长因子(IGF)轴是激素和营养实现生长调控的主要机制。GH的促生长作用主要是通过肝脏所产生的IGF-I来介导的,IGF-I必须与其受体结合才能发挥其促生长效应。因此,本试验以三个杂交牛品种(利杂、西杂、夏杂)为研究对象,随机分为三组,分别饲喂低、中和高三种营养水平日粮来研究营养水平对不同遗传基础的肉牛IGF-I, IGF-IRmRNA表达量的影响。日粮营养水平参照中国肉牛饲养标准(2004)按日增重0.8 kg, 1.0 kg, 1.2 kg设计。饲养期10个月。宰后立即取牛的肝和肌肉组织放入液氮中,然后于一80℃保存,采用实时荧光定量RT-PCR法测定肝脏和肌肉组织中IGF-I, IGF-IR基因mRNA的表达。试验结果表明,日粮营养水平对IGF-I, IGF-IR基因mRNA表达量影响显著。而不同品种间表达量差异不显著((P > 0.05)。高营养水平组IGF-I, IGF-IR基因mRNA表达量显著高于低营养水平组。在肝脏、半键肌组织中,IGF-I, IGF-IR mRNA表达量表现出相同的趋势。高营养水平组的IGF-I mRNA表达量显著高于低营养水平组((P < 0.05) ; IGF-IR mRNA表达量,高营养组极显著高于低营养组((P<0.01)。在背最长肌组织中,高营养水平组IGF-I mRNA表达量极显著高于低营养水平组((P<0.01); IGF-IR mRNA表达量,高低营养水平组显著显著((P<0.05)0且随着日粮营养水平的增加,IGF-I, IGF-IR mRNA表达量显著增加。此外,血液中IGF-I的浓度与血液中GH、尿素氮、总蛋白、白蛋白有一定的相关性,且与营养水平有关。随着营养水平的提高,血液中IGF-I的浓度与尿素氮、总蛋白、白蛋白的相关系数升高,而与GH,葡萄糖的相关系数降低。肝脏组织中IGF-ImRNA表达量与血液IGF-I浓度、屠宰率、净肉率、眼肌面积的相关系数随着营养水平的提高而增加,与全期增重、背膘厚度的相关系数降低,且随着日粮营养水平的增加,相关程度由弱变强。本试验结果表明可以通过调控日粮营养水平影响肝脏及肌肉组织中的IGF-I, IGF-IR mRNA表达进而影响动物的生长。
【英文摘要】无
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【第一作者】王蕾
【通讯作者】杨连玉
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【题目】宁夏马铃薯苗期烂薯病病原调查及防治措施
【中文关键词】马铃薯苗期烂薯病;病原;发病原因;发生特点;防治措施;宁夏回族自治区
【英文关键词】无
【中文摘要】根据对马铃薯苗期烂薯病病原的调查情况,分析了烂薯病的发生原因,总结了其发生特点,并提出其综合防治措施,以期为该病防治提供参考。
【英文摘要】无
【语种】中文
【第一作者】刘浩

【通讯作者】沈瑞清
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【学科分类】植物保护学

【题目】三种重金属对长江口纹缟虾虎鱼早期发育的毒性作用
【中文关键词】纹缟虾虎鱼; 重金属污染; 毒性试验; 胚胎; 早期仔鱼
【英文关键词】Tridentiger tr igonocephalus; heavy metal pollution; toxicity, embryo; early larvae
【中文摘要】纹缟虾虎鱼广泛分布于长江口水域, 它摄食底栖生物, 同时又被大型鱼类所食, 在长江口水域食物链中处于重要地位。研究了Cu2+ 、Pb2+ 、Zn2+ 3 种重金属离子对长江口纹缟虾虎鱼从受精卵到出膜期、器官形成初期到出膜期、眼点形成期到出膜期等3 个早期发育阶段孵化率和初孵仔鱼畸形率的影响, 同时对早期仔鱼进行急性毒性试验。结果表明: 3 种重金属对胚胎及初孵仔鱼毒性大小依次为Cu2+ > Zn2+ > Pb2+ 。纹缟虾虎鱼胚胎在3 种重金属影响下出现身体弯曲、萎缩和残缺, 未能形成体节, 心包囊肿等症状, 还会出现较少见的胚体分叉、增生现象。纹缟虾虎鱼初孵仔鱼出现胸腔膨大、身体畸形等现象。仔鱼受重金属影响后, 短期内表现出运动加剧, 而后逐渐活力下降, 个别仔鱼出现头部或者身体中部弯曲症状。Cu2+ 、Zn2+ 、Pb2+ 对早期仔鱼的安全浓度分别为0.010、0.136 和0.167 mg/ L。研究结果可评估环境中重金属对纹缟虾虎鱼早期发育各个阶段的影响, 亦为长江口水质监测与净化、纹缟虾虎鱼的资源增值以及中华鲟幼鱼栖息地饵料资源的保障提供参考。
【英文摘要】T r identiger trigonocephalus, a small2sized fish species widely distributed in the Yangtze estuary,feeds on benthic organisms; contrarily it is preyed by large2sized carnivorous fishes. T hus, it plays an important role in the food chain of the Yangtze estuarine ecosystem. Ear ly life stages of many fish species are sensitive to heavy metal pollution. As industrial development, heavy metal pollution has become a problem in the Yangtze estuar ine ar ea. However, the studies of toxicology of heavy metal ions to the early life of T.trigonocephalus ar e scarce. In this study, the effects of Cu2+ , Zn2+ and Pb2+ on four early developmental periods, i. e. , fer tilized egg to hatching stage, organogenesis stage to hatching stage, eyed stage to hatchinstage and larval stage of T. tr ig onocep ha lus wer e investigated. Experimental r esults showed that the intensity of toxic effects of 3 heavy metal ions was Cu2+ > Zn2+ > Pb2+ . T oxic symptom of embryo was body curvature, body atrophy, body deformity and pericardial tumefaction. At the beginning of toxicosis larvaemoved acutely, and then gradually became weak. T he head and body of some experimental larvae appeared curving. T he safety concentration of Cu2+ , Zn2+ and Pb2+ to the early larvae was 0.010 mg/ L, 0.136 mg/ L and 0.167 mg/ L, respectively. T he purpose of this study is to provide information that may help to evaluate pollution effects on early life stages of fishes, and to provide guidance for the conservation of important fish species in the Yangtze estuary.
【语种】中文
【第一作者】庄平
【通讯作者】庄平
【期刊名称、卷期、页码】长江流域资源与环境,2009,18(8):719-726
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【学科分类】水产学基础学科

【题目】宁夏西吉县马铃薯主栽品种对晚疫病的抗性调查
【中文关键词】马铃薯品种; 晚疫病; 主栽品种; 宁夏西吉县; 商品薯率; 综合性状; 地区经济; 抗性水平; 发病情况; 发生情况
【英文关键词】无
【中文摘要】<正>宁夏西吉县年种植马铃薯面积达到6.67万hm2,成为地区经济的顶梁柱。随着马铃薯种植面积的扩大、种植年限的延长,晚疫病的发生逐年加重。为了明确西吉县马铃薯主栽品种的晚疫病抗性水平,笔者通过不同马铃薯品种的田间自然发病情况、产量、商品薯率三方面的调查结果,及综合性状排位来确定西吉县马铃薯主栽品种对晚疫病的抗性。田间自然发病情况调查:在苗期、开花期、薯块膨大期对15个主栽品种的晚疫病发生情况进行调查。
【英文摘要】无
【语种】中文

【第一作者】刘浩
【通讯作者】沈瑞清
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【引文索引号】null
【学科分类】植物保护学

【题目】Rapid andsensitive detection of microcystin by immunosensor based on nuclear magnetic resonance
【中文关键词】无
【英文关键词】Detection;
Microcystin;
Immunosensor;
Nuclear magnetic resonance;
Sensitive;
Magnetic nanoparticles
【中文摘要】无
【英文摘要】A stable and sensitive toxin residues immunosensor based on the relaxation of magnetic nanoparticles was developed. The method was performed in one reaction and offered sensitive, fast detection of target toxin residues in water. The target analyte, microcystin-LR (MC-LR) in Tai lake water, competed with the antigens on the surface of the magnetic nanoparticles and then influenced the formation of aggregates of the magnetic nanoparticles. Accordingly, the magnetic relaxation time of the magnetic nanoparticles was changed under the effect of the target analyte. The calibration curve was deduced at different concentrations of the target analyte. The limit of detection (LOD) of MC-LR was 0.6 ng g(-1) and the detection range was 1-18 ng g(-1). Another important feature of the developed method was the easy operation: only two steps were needed (1) to mix the magnetic nanoparticle solution with the sample solution and (2) read the results through the instrument. Therefore, the developed method may be a useful tool for toxin residues sensing and may find widespread applications
【语种】英文
【第一作者】Wei Ma,Wei Chen
【通讯作者】Chuanlai Xu,LibingWang
【期刊名称、卷期、页码】Biosensors and Bioelectronics. 2009 Sep 15;25(1):240-3. Epub 2009 Jun 17.
【论文发表时间】2009-09-15 00:00:00
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【学科分类】食品科学技术其他学科

【题目】遗传基础与日粮营养水平对肉牛LPL基因表达的影响
【中文关键词】LPL;营养水平;遗传基础;肉牛
【英文关键词】无
【中文摘要】脂蛋白脂酶(Lipoprotein Lipase,LPL)是动物组织脂肪沉积的关键酶,是甘油三酷(Triacylglycerol, TG)降解为甘油和游离脂肪酸(FFA)反应的限速酶,参与血浆中富含脂质的脂蛋白降解的代谢,并参与代谢调控,与机体的脂质代谢密切相关,在脂质代谢和转运过程中起重要作用。本研究以不同杂交组合肉牛为动物模型,通过饲喂不同营养水平的日粮,旨在找出LPL基因在肉牛不同组织中的表达规律,从分子水平上认识日粮营养水平和遗传基础对肉牛LPL基因表达及相关指标的影响。本实验采用3x3析因试验设计,一个因素是肉牛的遗传基础(8-10月龄西门塔尔一本地杂交牛、夏洛莱一本地杂交牛、利木赞一本地杂交牛),另一个因素是日粮营养水平(高、中、低),试验期10个月。于试验结束时每处理选4头屠宰,采用荧光定量PCR技术研究肉牛不同部位(背最长肌、背脂、大网膜)LPL基因表达量。试验结果:提高日粮营养水平,背脂中LPL表达量变化:西杂牛的在高营养水平比低或中营养水平有显著提高(P<0.05);利杂牛的显著增加(P<0.05),夏杂牛的高营养水平比低营养水平显著增加(P<0.05)。背最长肌中LPL表达量变化:三品种牛高营养水平比中、低营养水平均有极显著提高(P<0.01)。大网膜中LPL表达量变化:西杂牛、利杂牛的高营养水平比低营养水平有显著提高(P<0.05),夏杂牛的高营养水平比中营养水平显著提高(P<0.05),比低营养水平极显著提高(P<0.01)。提高营养水平有增高LPL基因表达的趋势,LPL表达量与甘油三酷呈负相关;与游离脂肪酸呈正相关,表明LPL基因的表达对大理石花纹的形成和肌内脂肪的沉积有一定的正向

调控作用;就遗传因素而言,利杂牛的LPL表达量在不同部位表现了一定的优势,显著或极显著高于其他两品种牛,利杂牛LPL基因表达和肌内脂肪,大理石花纹呈显著正相关,说明利杂牛更有利于脂肪的沉积。LPL基因的表达与胭体瘦肉率有一定的相关关系,这可能与三品种中不同部位中LPL的表达量变化有关,也可能与其脂肪沉积时间有关。
【英文摘要】无
【语种】中文
【第一作者】黄英俏
【通讯作者】杨连玉
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【题目】基于相位检测原理的土壤水分时域反射测量技术
【中文关键词】土壤含水量 介电常数 时域反射 相位检测
【英文关键词】Soilmoisture,Dielectric constant,TDR, Phase detecting
【中文摘要】针对土壤水分测量的特点,提出了用高频正弦波代替脉冲信号作为测试信号,利用相位检测原理测量信号传播时间,从而测量土壤含水量的方法。设计了由高频信号发生器、相位检测器、微处理器和土壤水分探头等组成的P-TDR原理样机。试验表明,该样机测量信号传播时间的精度可达到10 ps,在砂土、壤土和粘壤土中的土壤含水量测量结果与称重法对比差值不超过0.03。
【英文摘要】The basic principle of time domain reflectometry used for soil moisture measurement is introduced,and the disadvantages of currently available TDR instruments are discussed as well as their advantages.A new TDR system,called P-TDR,composed of a high-frequency signal generator,a phase detector,a microprocessor and a soil moisture probe is developed.Single-frequency sinusoidal voltage signal is adopted as test signal,and the travel time of the test signal along with probe embedded in moist soil is measured by...
【语种】中文
【第一作者】王克栋
【通讯作者】王一鸣
【期刊名称、卷期、页码】农业机械学报;2010,41(1):72—76
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【引文索引类型】EI
【引文索引号】2.0101012753e+013
【学科分类】农业工程

【题目】一种新型的单外流瘤胃体外连续培养系统
【中文关键词】瘤胃体外连续培养系统;网孔孔径;搅拌方式
【英文关键词】无
【中文摘要】试验采用两因素(搅拌方式和网孔孔径)析因试验设计。搅拌方式为单向或往复转动;发酵罐内胆网孔孔径分别为200目、100目、80目和60目。每个处理设三个重复,以活体羊为对照。本系统的稀释率依据日粮营养水平与食糜外排速度的关系,确定为发酵罐体积的3%/h,即缓冲液流速为O.SmI/min。试验日粮精粗比30:70,喂料量为12g/d(分2次投料),试验周期为9d。分别测定活体羊瘤胃内和发酵罐内的pH值、NH3-N和VFA浓度,以评定人工瘤胃体外连续培养系统的模拟效果。结果表明:随着网孔孔径的变小,pH值和NH3-N浓度显著提高,200目网孔孔径显著低于100目、80目、60目(P < 0.01)。乙酸、T酸、丙酸摩尔比例和TVFA在网孔孔径间差异不显著((P > 0.05)。当搅拌方式由往复转动变为单向转动时,,pH值、NH3-N浓度、乙酸摩尔比例和TVFA降低,丙酸和丁酸比例升高((P < 0.01)。在本研究中,当日粮精粗比30:70时,发酵罐内胆网孔孔径为200目、搅拌方式为单向转动的条件下,该系统的瘤胃发酵特性与活体羊体内环境更榕沂。存茸它日粮茶件下,该系统的的活宜内胆网孔孔径、搅拌方式和稀释率等参数尚需要研究确定。
【英文摘要】无
【语种】中文
【第一作者】陈晓霞

【通讯作者】杨连玉
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【学科分类】畜牧学

【题目】遗传及营养因素对肉牛脂肪沉积与Leptin mRNA表达的影响
【中文关键词】遗传因素;营养水平;LEP;表达
【英文关键词】无
【中文摘要】Leptin是反应体脂量的主效基因,与脂肪沉积有关。本试验拟研究遗传因素和日粮因素对血浆leptin含量、月同体脂肪相关指标、各脂肪组织leptin mRNA表达的影响,探讨leptin与营养水平及遗传基础互作关系,为改善肉牛胭体品质提供理论依据。试验采用三个杂交牛品种,随机分为三组,分别饲喂低、中和高三种营养水平日粮。日粮营养水平参照中国肉牛饲养标准(2000按日增重0.8kg, 1.Okg, 1.2kg设计。试验期10个月。试验结束禁食后称重送往屠宰场,进行分割,记录各个部位可分离脂肪重。取胭体第12^}13胸腰椎部背最长肌新鲜肉样,称量、切碎、冷冻干燥、测定脂肪含量。采用实时荧光定量RT-PCR法测定LeptinmRNA表达量。试验结果表明:,肉牛可分离脂肪(月同体脂肪含量、肠系膜周围脂肪重、肾周围脂肪重、腔脂率)随着营养水平的升高都呈现增加趋势,利杂牛高于西杂牛和夏杂牛((P > 0.05)。随着营养水平的提高,高、中营养水平组肉牛的背膘厚度、背最长肌IMF都极显著高于低营养水平组((P<0.01),高营养水平组大理石花纹评分极显著高于中营养水平组和低营养水平组((P<0.01)。利杂牛、西杂牛背膘厚度都显著高于夏杂牛,但利杂牛与西杂牛之间背膘厚度差异不显著((P>0.05),利杂牛大理石花纹评分极显著高于西杂牛和夏杂牛((P<0.01),利杂牛肌内脂肪含量显著高于夏杂牛((P< 0.05),但西杂牛和夏杂牛之间差异不显著((P > 0.05)。血浆leptin浓度与日粮营养浓度呈线性关系,即日粮营养水平越高,血浆leptin浓度也越高。高营养水平组肉牛血浆中leptin浓度显著高于中、低营养水平组((P < 0.05),中、低营养组差异不显著(P > 0.05)。利杂牛血浆leptin浓度极显著高于西杂牛、夏杂牛((P<0.01),但西杂牛与夏杂牛之间差异不显著((P > 0.05)。血浆leptin与胭体脂肪含量、内脏脂肪重有关,且受营养水平与杂交牛品种的影响。高营养组三种杂交牛背长肌IMF的含量与血浆leptin含量都呈显著正相关((P<0.05)};中营养组西杂牛和夏杂牛的大理石花纹、低营养组夏杂牛背长肌IMF的含量、大理石花纹与血浆leptin显著正相关((P<0.05)}与利杂牛背膘厚度呈极显著相关((P < 0.01) o leptin mRNA表达量受营养和品种的影响。低营养水平条件下,背部皮下脂肪中利杂牛、西杂牛leptinmRNA表达量显著增加((P < 0.05);腹部皮下脂肪组织中西杂牛极显著高于利杂牛((P<0.01),利杂牛显著高于夏杂牛((P <0.05)。中营养水平条件下,西杂牛表达量最高,夏杂牛最低;腹部皮下脂肪组织中利杂牛、西杂牛极显著高于夏杂牛((P<0.01)。高营养水平条件下,背部皮下脂肪组织中利杂牛显著高于西杂牛和夏杂牛;腹部皮下脂肪组织中利杂牛极显著高于夏杂牛((P<0.01)。大网膜脂肪leptin表达量在低营养、中营养水平条件下,利杂牛表达量最高;高营养水平条件下,利杂牛极显著高于西杂牛((P<0.01)、显著高于夏杂牛((P < 0.05)。本试验结果表明可以通过调控日粮营养水平影响了leptinmRNA基因表达进而影响肌内脂肪沉积。
【英文摘要】无
【语种】中文
【第一作者】秦霞
【通讯作者】杨连玉
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【学科分类】畜牧学

【题目】遗传和营养对肉牛背最长肌FAS和HsL mRNA表达的影响
【中文关键词】遗传因素;营养水平;FAS HSL;基因表达
【英文关键词】无
【中文摘要】脂肪酸合成酶(FAS)和激素敏感脂酶(HSL)是脂肪合成和分解的关键酶,在肉牛肌内脂肪的沉积过程中起着重要的作用。本试验拟研究遗传因素和营养水平对背最长肌中这两个基因表达的影响,并将其与肌内总脂含量进行相关分析,从基因表达水平揭示这两个基因与肌内脂肪沉积的关系,为发挥不同杂交肉牛优良的肉品性能,改善杂交牛肌内脂肪沉积提供依据。试验采用三个杂交牛品种(利杂26头、西杂35头、夏杂24头,平均始重为 249.67士34.51kg)随机分为三组,分别饲喂低、中和高三种营养水平日粮。日粮营养水平参照中国肉牛饲养标准(2004)按日增重0.8kg, 1.Okg, 1.2kg设计。饲养试验

于2008年6月至2009年3月于吉林省九台市疆宁肉业有限公司育肥舍内进行。试验结束后于长春皓月肉牛加工厂进行屠宰。宰后立即取各头牛左胭12-13胸椎处背最长肌组织一部分于一20°C保存;另一部分放入DEPC处理的冷冻管中,迅速放入液氮,于一80°C保存。采用索氏提取脂肪法测定肌内总脂含量;采用实时荧光定量RT-PCR法测定FAS和HSLmRNA表达量。本试验结果表明不同品种间背最长肌肌内总脂含量存在显著差异。与利杂的肌内总脂含量相比,西杂和夏杂分别比利杂低3.35%和5.09%(P < 0.05)。营养水平对背最长肌肌内总脂含量影响显著。与低营养组相比,中营养组和高营养组分别提高1.08%和12.96%(P < 0.05)0背最长肌FASmRNA表达量的测定结果表明:不同品种间背最长肌FASmRNA表达量无显著差异。营养水平对背最长肌FASmRNA表达量影响显著,与低营养组相比,中营养水平组和高营养水平组分别提高17.56%和31.08%(P < 0.05)。背最长肌HSLmRNA表达量的测定结果表明:不同品种间背最长肌HSLmRNA表达量无显著差异。营养水平对背最长肌HSLmRNA表达量影响显著,与低营养组相比,中营养水平组和高营养水平组分别降低31.74%和43.06%(P < 0.05)o FAS和HSL比值结果表明:与利杂相比,西杂和夏杂分别比利杂低34.72%(P < 0.05)和19.44% o FAS和HSL比值随营养水平升高而提高,与低营养组相比,中营养水平组和高营养水平组分别提高61.11%和127.77%(P < 0.05)。相关分析结果表明:肌内总脂含量与FAS mRNA表达量((P < 0.01)和FAS mRNA/HSL mRNA比值(P<0.05)均呈显著正相关,而与HSL mRNA表达量呈显著的负相关(P<0.05)。本试验结果表明可以通过调控日粮营养水平影响背最长肌中的FAS及HSL的mRNA基因表达进而影响肌内脂肪沉积。

【英文摘要】无
【语种】中文
【第一作者】邢力
【通讯作者】秦贵信
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【学科分类】畜牧学

【题目】肉牛日粮中首蓿、黄贮及玉米秸秆的组合效应研究
【中文关键词】肉牛 组合效应
【英文关键词】无
【中文摘要】本论文是以玉米秸秆、首稽草块、玉米黄贮为研究对象;通过动物消化试验,在现有饲料原料的情况下,在营养水平相同、粗精比不同的前提下,研究肉牛日粮中玉米秸秆、首稽草块、玉米黄贮及精料补充料的组合效应,为养牛生产中饲料资源的开发和利用提供依据。
【英文摘要】无
【语种】中文
【第一作者】黄英俏
【通讯作者】杨连玉
【期刊名称、卷期、页码】中国畜牧兽医学会2009学术年会论文集(下册)
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【引文索引号】null
【学科分类】畜牧学

【题目】Development and validation of an immunochromatographic assay for rapid multi-residues detection of cephems in milk.
【中文关键词】无
【英文关键词】Immunochromatographic,Colloidal gold, Cephems ,Polyclonal antibodies
【中文摘要】无
【英文摘要】A one-step immunochromatographic assay (ICA) was developed for the detection of seven kinds ofcephems inmilk. Polyclonal antibodies (PcAb)with group-speci fi c to cephemswere raised in rabbits after immunization with cephalexin – keyhole limpet hemocyanin (KLH) conjugate. The speci fi city of anti-sera was determined by indirect competitive enzyme-linked immunosorbent assay (icELISA), and the 50% inhibitions (IC50) of cephalexin and cefadroxil were obtained at 1.5 ngmL − 1;IC50 of cefatiofur, cefapirin,cefazolin, cefalothin and cefotaxine were 4, 3.7, 3.2, 4.5 and 5 ngmL − 1, respectively. The PcAb against cephems were conjugated to colloidal gold particles as the detection reagent for ICA strips to test for cephems. This method achieved semi-

quantitative detection of cephems in <5min, with high sensitivity to cephalexin and cefadroxil (both 0.5 ngmL − 1). At the same time, cefatiofur, cefapirin, cefazolin, cefalothin and cefotaxine were detected at <100 ngmL − 1 in spiked processed-milk samples. Thismethod was comparedwith an enzyme-linked immunosorbent assay by testing 40milk samples, and the positive samples were validated by a high-performance liquid chromatographic method, with an agreement rate of 100% for both comparisons. In conclusion, the method was rapid and accurate for the multi-residue detection of cephems in milk.

【语种】英文

【第一作者】HuiLing Xie

【通讯作者】ChuanLai Xu LibingWang

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【学科分类】食品科学技术其他学科

【题目】营养水平对杂交肉牛FABP3基因表达及IMF的影响

【中文关键词】杂交牛;

FABP3

基因;肌内脂肪

【英文关键词】crossbred cattle

;F

ABP3;

IMF

【中文摘要】为研究营养水平对杂交肉牛心脏型脂肪酸结合蛋白(FABP3)基因表达及肌内脂肪含量(IMF)的影响,以西门塔尔、利木赞和夏洛莱杂交肉牛为研究对象,利用实时荧光定量PCR技术,分别测定高、中、低营养水平的3种杂交肉牛背部脂肪中FABP3mRNA表达水平,并测定其背最长肌IMF。结果:(1)高营养组中夏洛莱牛IMF高于同营养组其他2种肉牛,其背部脂肪中FABP3mRNA水平也显著高于另外2种杂交肉牛(P<0.01);中营养组中西门塔尔和利木赞牛IMF均高于同营养组的夏洛莱牛,但FABP3mRNA的水平无显著差异(P>0.05);低营养组中夏洛莱牛IMF和FABP3mRNA水平均显著低于另外2种肉牛(P<0.01);(2)夏洛莱杂交肉牛背部脂肪中FABP3mRNA水平与IMF具有显著的相关性(P<0.05),而西门塔尔和利木赞牛中FABP3mRNA水平与IMF无显著相关性(P>0.05)。该结果表明提高营养水平影FABP3mRNA表达并在一定程度上影响IMF,但影响显著与否存在品种差异,在肉牛育种和牛肉生产中应当同时考虑营养因素和遗传因素。

【英文摘要】The experimental cattles were given low,medium and high TMR,FABP3mRNA expression level was de-tected in back fat by real-time PCR and IMF content in lonfissimus dorsal muscle was determined.Results:(1)IMFcontent was highest in Charolais crossbred cattle given high TMR,and FABP3mRNA expression level was also sig-nificantly highest in Charolais crossbred cattle(P<0.01).IMF content of Simmental and Limousin crossbred cattlewere higher than Charolais,while there was no difference between three crossbred cattle given medium TMR(P>0.05).IMF content and FABP3mRNA expression level of Charolais crossbred cattle were lower than other cattlegiven low TMR(P<0.01).(2)In Charolais crossbred cattle,the FABP3mRNA expression level was significantlycorrelated(P<0.05)with IMF content,but there was no significant relation between FABP3mRNA expression lev-el and IMF content(P>0.05).Conclusion:improving nutritional levels could influence FABP3mRNA expressionand IMF content partly.The results suggested that nutritional level and genetic factor should be considered in cattlebreeding and beef production.

【语种】中文

【第一作者】朱晓岩

【通讯作者】刘国文

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【学科分类】畜牧学

【题目】cDNA Cloning, Bioinformatic and Tissue-specific Expression

【中文关键词】猪;JARID1C基因;cDNA克隆;生物信息学分析;基因表达
【英文关键词】pig; JARID1C gene; cDNA cloning; bioinformatic analysis; gene expression
【中文摘要】:JARID1C是高度保守的ARID蛋白家族的成员, 该家族的蛋白参与并引起一系列生物学效应, 如染色质重塑、细胞增殖与分裂、个体发育以及基因转录调控。JARID1C在人脑中表达丰富, 对脑的发育和维持正常功能具有重要作用, 突变可引起智力迟钝。本研究采用电子克隆(in silico cloning)的方法并结合5′末端快速扩增技术(RACE), 从猪卵巢中克隆到 JARID1C的全长cDNA序列(GenBank登录号: EF139241)。猪JARID1C基因的cDNA全长5,908 bp, 包括4,551 bp的开放阅读框(ORF)、522 bp的5′非翻译区(5′ UTR)和835 bp的3′非翻译区(3′ UTR), polyA加尾信号序列AATAAA位于5,881 bp和5, 886 bp之间。生物信息学分析揭示JARID1C蛋白含有1517个氨基酸残基, 定位于细胞核中, 该蛋白含有5个保守的结构域: JmjN结构域、ARID 结构域、JmjC 结构域、C5HC2锌指结构域和PHD锌指结构域。应用ClusterW程序分别对猪、狗、小鼠、大鼠、人和猿的JARID1C核苷酸序列和氨基酸序列进行多重序列比对, 发现猪的JARID1C与其他哺乳动物具有很高的相似性。借助Mega 3.1软件, 采用N-J算法构建JARID1亚家族蛋白的系统进化树, 揭示不同物种的进化关系。应用实时荧光定量PCR技术分析该基因在不同组织的表达差异, 结果表明该基因在各组织均不同程度地表达,其中在肺和骨骼肌表达水平最低, 而在脑和性腺表达水平最高
【英文摘要】Jumonji, AT-rich interactive domain 1C (JARID1C) protein belongs to the highly conserved ARID protein family, which is involved in chromatin remodeling and transcriptional regulation during cell growth, differentiation, and development. In humans, this gene plays a vital role in normal brain development and function. Using an in silico approach in combination with 5′ rapid am-plification of cDNA ends (5′ RACE), the full-length cDNA of JARID1C (GenBank accession No. EF139241) from porcine ovary, which contains 5,908 bp nucleotides, with an open reading frame (ORF) of 4,548 bp, has been cloned. The putative porcine JARID1C protein, which is located in the nucleus, encodes 1,516 amino acids with a molecular weight of 170 kDa and a pI of 5.44. Bioinformatic prediction indicates that the protein contains several conserved domains: a JmjN domain, an ARID domain, a JmjC domain, a C5HC2 zinc finger domain, and a PHD zinc finger domain. Similarity comparisons for nucleic and amino acid sequences reveal that the porcine JARID1C protein shares a high identity with its dog, mouse, rat, and human counterparts. The phylogenetic tree of the JARID1 subfamily proteins has been constructed to reveal the evolutionary relationship of various species. Real-time PCR analysis shows that the JARID1C gene is expressed in various tissues, but at different levels. The expression levels of this gene are higher in the brain and gonad than in other tissues, suggesting that the JARID1C protein plays a role in porcine brain and gonad functions.
【语种】英文
【第一作者】伊璐
【通讯作者】徐银学
【期刊名称、卷期、页码】December 2007, 34(12): 1088－1096
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【学科分类】畜牧学

【题目】遗传和营养对肉牛生长及肝脏GHR基因表达的影响
【中文关键词】营养水平;杂交牛;生长性能;GHR
【英文关键词】无
【中文摘要】品种和营养是影响肉牛生长的重要内、外因。而肉牛生长发育的调控主要是由生长激素通过与靶器官的生长激素受体(GHR)结合而进行。因此,肉牛的生长在很大程度上取决于靶器官的GHR及相关基因的表达,肝脏是GH重要的靶器官。为了研究遗传因素和营养水平对肉牛生长性能的影响及其分子机理。本试验采用三个杂交牛品种(利杂26头、西杂35头、夏杂24头,平均始重为249.67±34.51 kg)随机分为三组,分别饲喂低、中和高三种营养水平日粮。日粮营养水平参照中国肉牛饲养标准(2004)按日增重0.8 kg,1.0 kg, 1.2 kg设计。饲养试验于2008年6月至2009年3月于吉林省九台市疆宁肉业有限公司育肥舍内进行。饲养试验结束后测定试验牛空腹体重,计算日增重。屠宰试验于长春皓月肉牛加工厂进行。宰后立即取各头牛的肝组织放入DEPC处理的冷冻管中,迅速放入液氮,然后于一80°C保存,采用实时荧光定量RT-PCR法测定肝脏中GHRmRNA水平,并分析其与日增重的相关性。试验结果表明不同杂交牛的日增重差异显著,与西杂相比,利杂和夏杂分别比西杂低8.1%(P < 0.05)和5.32%。各品种在不同生长阶段的生长速度有差异,其中利杂在1012月龄生长速度最快,14月龄后生长速度下降;夏杂虽然开始体形较小,在1012月龄增长速度不如西杂、利杂;但12月龄后逐渐超过利杂,仅次于西杂。西杂在1012月龄增重速度不如利杂,在14月龄后均显著高于夏杂、利杂。三组杂交牛在17月龄后生长速度下降。营养水平对生长速度有显著影响。与低营养组相比,中营养组和高营养组分别提高9.75%和16.03%(P < 0.05)。不同杂交牛肝脏中GHRmRNA表达量存在一定差异,西杂>夏杂>利杂,但组间差异未达显著水平。而营养水平对肝脏中GHRmRNA表达量影响显著,与低营养组相比,中营养组和高营养组分别提高119.89%和224%(P< 0.05)。相关分析结果表明肉牛生长速度和肝脏

GHR基因表达量之间存在显著相关(P < 0.05)。本试验结果说明遗传因素和营养水平会影响生长激素受体基因表达量进而肉牛生长速度。
【英文摘要】无
【语种】中文
【第一作者】邢力
【通讯作者】秦贵信
【期刊名称、卷期、页码】第六次全国饲料营养学术研讨会论文集
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【学科分类】畜牧学

【题目】基于蒸发量的膜下滴灌棉花灌溉预警装置设计与试验
【中文关键词】棉花　灌溉预警　蒸发　膜下滴灌
【英文关键词】Cotton; Irrigation scheduling; Pan evaporation; Drip irrigation under plastic mulch;
【中文摘要】设计了一种基于蒸发量的简易灌溉预警装置,并建立了基于水量平衡原理的灌溉预警模型。通过田间试验,确定了适宜供水条件下新疆膜下滴灌棉花各生育阶段的蒸发皿—作物系数,并建立了适宜的灌溉预警指标,提出了降雨条件下的指标修正方法。田间应用表明,在北疆棉花膜下滴灌条件下,苗期、蕾期、花铃期和吐絮期分别以累计蒸发量达到140、75、50和120 mm来控制灌水时间,以0.15、0.4、0.7和0.25倍的累计蒸发量作为灌水量进行灌溉管理,可达到节水、高产的目的。
【英文摘要】A simple visual device for scheduling irrigation based on pan evaporation for drip-irrigated cotton under plastic mulch was designed,and an irrigation scheduling model based on field water budget was established.The most suitable plant-pan coefficient for drip-irrigated cotton under plastic mulch and the indicators to schedule irrigation were determined in field conditions,while a revision method for the indicators was proposed under rainfall conditions.The field test proved that it was an effective way to ...
【语种】中文
【第一作者】张寄阳
【通讯作者】杨贵森
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【题目】舌虾虎鱼肌肉营养成分与品质的评价
【中文关键词】舌虾虎鱼;肌肉;营养成分;营养品质;氨基酸;脂肪酸
【英文关键词】Glossogobius giuris; muscle; nutritional component; nutritive quality; amino acids; fatty acids
【中文摘要】对舌虾虎鱼的肌肉营养成分进行了分析,并对其营养品质进行了评价。结果表明,舌虾虎鱼肌肉(鲜样) 中水分、粗蛋白、粗脂肪和粗灰分的质量分数分别为79.92%±0.96%、16.76%±0.30%、0.91%±0.07% 和2.25%±0.14%。肌肉中含有18 种氨基酸,总量为78.70%±0.57% (质量分数,干样),其中8 种必需氨基酸(EAA)总量是32.26%±0.55%,占氨基酸总量的40. 99%,其必需氨基酸的构成比例符合联合国粮农组织/世界卫生组织(FAO/WHO)的标准。舌虾虎鱼的第一限制性氨基酸为色氨酸,第二限制性氨基酸为(蛋氨酸+胱氨酸),必需氨基酸指数(EAAI) 为63.88,4 种鲜味氨基酸(DAA) 总量为29.67%±0.30% (质量分数,干样)。脂肪酸中EPA 与DHA 质量分数分别为3.91%±0.11% 和8.10%±0.60%,明显高于其它几种淡水经济鱼类。研究表明,舌虾虎鱼含有丰富的氨基酸和脂肪酸营养,具有较好的食用价值与保健作用。
【英文摘要】In order to understand the nutritive quality and nutrient components in the muscle of Glossogobius giuris and to evaluate the potential of the species as a diet source for Chinese sturgeon that is an endangered species only found in the coastal China Seas and the Yangtze River,the main nutrient components in the muscle of G. giuris were analyzed in this paper. Samples body weight,(9. 07 ± 1. 87) g; body length,(8.17 ± 0. 63) cm were collected in the coastal area of Zhejiang Province. Analysis methods of nutrient components were based on the standards of GB 5009 - 85 and BT /T 14965 - 1994. Evaluation standards of the nutritive quality were based on the FAO/WHO ’ s standard mode. The general nutrient compositions weredetermined with routine methods. Amino acid compositions were determined with amino acid analyzer. Fatty acid compositions were inspected with GC. The results showed that

the content of moisture,crude protein,crude fat and crude ash in fresh muscle of G. giuris were 79. 92% ± 0. 96%,16. 76% ± 0. 30%,0. 91% ± 0.07% and 2. 25% ± 0.14% respectively. Eighteen common amino acids were found in the muscle of G. giuris including 8 kinds of essential amino acids (Thr,Val,Met,Phe,Ile,Leu,Lys and Trp),2 kinds of halfessential amino acid (His and Arg),8 kinds of nonessential amino acids (Asp,Glu,Ser,Gly,Ala ,Tyr,Cys and Pro). In dry sample,the total content of amino acids (TAA) was 78. 70% ± 0. 57%; the contents ofEAA,HEAA and NEAA were 32. 26% ± 0. 55%,7. 55% ± 0. 09% and 38. 88% ±0. 34% respectively.Four kinds of delicious amino acids (DAA) accounted for 29. 67% ± 0. 30% in dry sample; the ratio of total delicious amino acids to total amino acids (WDAA /WTAA) was 37. 70%. The essential amino acids index (EAAI) was 63. 88,the ratio of total essential amino acids to total amino acids (WEAA /WTAA) was 40. 99%,and the ratio of total essential amino acids to total nonessential amino acids (WEAA /WNEAA) was 82. 96%. It was clear that the content of the different amino acids was stable and the constitutional rate of the essentialamino acids met the Food and Agriculture Organization of the United Nations /Word Health Organization (FAO/ WHO) standards. According to nutrition evaluation in amino acids score (AAS) and chemical score(CS),the first limited amino acid was Trp,the second limited amino acid was (Met + Cys). 5 saturated fatty acids (SFA),5 mono-unsaturated fatty acids (MUFA) and 6 poly unsaturated fatty acids (PUFA) were found in the muscle of G. giuris. The contents of EPA and DHA in fatty acids were 3. 91% ± 0. 11% and 8.10% ± 0. 60% respectively,which were much higher than those of most fish species. In conclusion,the studyresults indicated that the muscle of G. giuris contains plenty of PUFA,EPA and DHA,thus,it is a high quality food fish for human. It is also a potential diet for the juvenile Chinese sturgeon,Acipenser sinensis,when they stay in the Yangtze Estuary area.

【语种】中文
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【学科分类】水产学基础学科

【题目】水暴露下氟在西伯利亚鲟稚鱼硬骨和软骨中的积累和消除
【中文关键词】氟;鱼;软骨;沉积
【英文关键词】fluorine;fish;cartilage;retention
【中文摘要】采用静态水暴露试验方法,设置0.26(对照)、3.1、7.8、18.7、51.8mg·L-1 氟离子(F-)5 个试验组暴露西伯利亚鲟稚鱼,暴露90d 后转移至清水中培养30d,检测了这2 个阶段鱼体硬骨和软骨中氟离子含量,探讨了氟离子在西伯利亚鲟稚鱼硬骨和软骨中的积累与消除规律,以及氟离子对鱼体生长的影响. 结果表明,随着氟离子浓度的增加和暴露时间的延长,氟在西伯利亚鲟稚鱼硬骨和软骨中的含量显著增加,暴露90d 时各暴露组硬骨和软骨中氟含量均显著高于对照组;西伯利亚鲟稚鱼暴露在较高浓度氟离子(7.8、18.7 和51.8mg·L-1)中90d,生长速度(体重)显著下降;经过30d 清水培养后,较高浓度暴露组(18.7 和51.8mg·L-1)西伯利亚鲟稚鱼硬骨的氟含量显著下降. 由此结论:氟在西伯利亚鲟稚鱼硬骨和软骨组织中具有较高的生物蓄积作用;转移至清水中饲养后,蓄积的高浓度的氟可从硬骨中排出.
【英文摘要】A 120-day growth trial was conducted to determine the accumulation and elimination of fluoride ions (F-) in juvenile Siberian sturgeon (Acipenser baerii). Fish were first exposed to each measured F - concentration of 3.1, 7.8, 18.7 and 51.8mg · L-1(added as NaF), along with a control group(0.26mg · L-1)for 90 days, followed by a 30-day fresh waterexposure period. Fish growth was determined and F - contents in bone and cartilage were analyzed in different tissues every 30 days. Results showed that fish growth was inhibited significantly for groups exposed to 7.8, 18.7 and 51.8mg · L -1 compared with the control group. F - concentrations in bone and cartilage showed dose -response and time -effect. After 90 -day exposure, significant increases in F - content were observed in bone and cartilage of Siberian sturgeon exposed to concentrations above 3.1mg · L-1. F- content in bone significantly decreased in the 18.7 and 51.8mg · L-1 exposure groups after 30 days reared in fresh water. It is summarized that F - can be accumulated in bone and cartilage in Siberian sturgeon from water and F- can be eliminated from bone after reared in fresh water.

【语种】中文
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【学科分类】水产学基础学科

【题目】西伯利亚鲟卵黄脂磷蛋白的分离纯化及性质
【中文关键词】西伯利亚鲟; 卵黄脂磷蛋白; 凝胶过滤层析; 氨基酸
【英文关键词】Acipenser baeri ; Lipovitellin; Gel filtration chromatography; Amino acids
【中文摘要】卵黄是鱼类胚胎发生期的主要营养物质, 卵黄的含量和质量对于早期幼体维持生命和生长发育至关重要。本研究采用Sephacryl S 300 凝胶过滤层析法和蛋白质电泳技术分离纯化西伯利亚鲟(Acipenser baerii) 卵黄脂磷蛋白(lipovitellin, Lv) , 层析洗脱共得到7 个蛋白峰。对每个峰进行SDS PAGE 电泳及油红O、甲基绿和Schiff 试剂特异染色, 峰b 蛋白均呈阳性, 表明峰b 蛋白为西伯利亚鲟卵中的一种卵黄脂磷蛋白, SDS PAGE 电泳分析表明, 其由3 个亚基构成, 相对分子质量分别为30.6 ku、40.8 ku 和76.7 ku。对西伯利亚鲟Lv 氨基酸组成进行分析, 证明是一种含有相对较多天冬氨酸、赖氨酸、谷氨酸、丝氨酸、缬氨酸和亮氨酸的蛋白, 并且所含鲜味氨基酸含量比其他鱼偏高。
【英文摘要】The yolk protein is the chief nutrition material during embryogenesis. The quantity and quality of yolk is crucial for early larval growth.We have used Sephacryl S 300 gel filtration chromatography to separate lipovitellin from the Acipenser baerii. There were seven protein chromatography peaks. The peak b protein was composed of three subunits with molecular weights of 30 6 ku, 40 8 ku and 76 7 ku, respectively as revealed by the SDS PAGE electrophoresis analysis. Oil red O, Methyl green and the Schiff staining showed that the peak b protein was rich in glucose, lipid and phosphorus. Lipovitellin of A . baerii contained rich asparagines acid, lysine acid, glutamic acid,serine acid, leucine acid and valine acid. The quantity of flavor amino acids such as glutamic acid and asparaginesacid in A. baerii was abundant when compared to that in other species.
【语种】中文
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【学科分类】水产养殖学

【题目】节水灌溉管理与决策支持系统
【中文关键词】水资源; 灌溉; 预报; 决策支持系统;
【英文关键词】water resource; irrigation; prediction; decision support systems;
【中文摘要】基于灌区灌溉用水过程的复杂性和实时性,研制了节水灌溉管理与决策支持系统软件。系统根据采集到的气象、土壤水分、作物、水资源状况等信息,运用作物系数法进行作物需水量的计算,根据土壤墒情决策模型,作出灌溉预报,确定精确的灌溉时间和最佳灌溉水量,利用决策结果对灌溉设备进行自动控制与监测,从而达到高效、节水的目的。该系统不仅具有数据录入、编辑、查询、统计、输出等信息处理功能,而且能够根据采集到的信息为灌区管理和用水户提供灌溉优选和水资源优化分配的决策支持,制定精细灌溉的作业方案。该系统立足田间,面向农户,可以为用户提供节水灌溉模式咨询、具体方案优选、指导灌区优化灌溉等功能,具有较强的推广应用价值。
【英文摘要】In the light of the complexity and real-timeliness of water use management in farmland irrigation,the software for water-saving irrigation management and decision support system was developed.Based on the collected information such as weather,soil moisture,crops and water resources situation,the water requirement of the crop was calculated by using the method of crop coefficient.According to the decision-making models of soil moisture,the irrigation prediction could be made to determine the accurate irrigat...
【语种】中文
【第一作者】陈智芳
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【学科分类】农业工程

【题目】Effects of exogenous enzymes (phytase, non-starch polysaccharide enzyme) in diets on growth, feed utilization, nitrogen and phosphorus excretion of Japanese seabass, Lateolabrax japonicus
【中文关键词】无
【英文关键词】Japanese seabass; Lateolabrax japonicus; Exogenous enzymes; Nitrogenous excretion; Phosphorus excretion; Growth; Feeding utilization; Feeding and nutrition
【中文摘要】无
【英文摘要】A feeding experiment was conducted to investigate the effects of exogenous enzymes (phytase, non-starch polysaccharide enzymes: WX and VP, supplied by DSM) on growth performance and excretion of Japanese seabass (Lateolabrax japonicus) (initial mass 6.26±0.10 g). A basal diet was used as a control that contained a mixed protein source, and lysine, methionine and valine were supplemented to simulate the essential amino acid pattern of fish meal. Four other diets were supplemented with 200 mg phytase (500 IU), 400 mg VP, 800 mg WX, or a combination of 800 mg WX and 400 mg VP per kg diet, respectively. Each diet was assigned to triplicate groups of fish in floating sea cages, and each cage was stocked with 60 fish. The results showed specific growth rate (SGR) and feed efficiency ratio (FER) were not significantly improved by the phytase supplementation. However, supplementations with WX and VP significantly enhanced the SGR and FER (Pb0.05). Phosphorus retention was significantly increased by the supplementation with phytase, whereas nitrogen retention was also enhanced by supplementations of non-starch polysaccharide enzymes (Pb0.05). The excretion experiment showed that the soluble phosphorus and ammonia nitrogen in starved fish were constant, irrespective of dietary treatments. The total phosphorus effluent in fish fed the diet with phytase supplementation was significantly lower compared with the control group after feeding to satiation (Pb0.05), but soluble phosphorus excretion was still independent of dietary treatments.The ammonia excretion in satiated fish significantly decreased with upplementations of non-starch polysaccharide enzymes.
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【第一作者】艾庆辉
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【学科分类】水产饲料学

【题目】The pig p160 co-activator family: Full length cDNA cloning,
【中文关键词】无
【英文关键词】IMF; Molecular cloning; p160 co-activators; Pig; qRT-PCR
【中文摘要】无
【英文摘要】Evidence has shown in mouse that the p160 co-activator family, consisting of nuclear receptor co-activators 1 (NCOA1), 2(NCOA2) and 3 (NCOA3) plays a critical role in adipogenesis. In the present study, we cloned these three porcine genes, identi fi edtheir transcript variants and analyzed their expression level in relation to intramuscular fat (IMF) content in Longissimus Dorsi (LD)muscle. Both in silico cloning and PCR ampli fi cation revealed a full length cDNA sequence of 6591 bp for NCOA1 (EU346671),7628 bp for NCOA2 (EU346672) and 5005 bp for NCOA3 (EU346674) in pigs, respectively. Interestingly, three transcript variantswere identi fi ed for the porcine NCOA1 and two for the porcine NCOA2 gene. In addition, the deduced amino acid sequencesindicated that isoform 2 of NCOA2 lacks the fourth LXXLL motif, the number of which has been shown to in fl uence the selectivityand af fi nity for different nuclear receptors. Finally, 15 animals with high IMF content and fi fteen animals with low IMF content($p < 0.05$) selected from 60 individuals were used to investigate how the family members and their variants affect the phenotypein pigs using real-time PCR. Our results showed that both NCOA1 transcript variant 2 ($r = -0.554$, $p < 0.01$) and total NCOA1($r = -0.516$, $p < 0.01$) expression levels were negatively correlated with IMF contents, while NCOA2 transcript variant 1 ($r = 0.605$,$p < 0.01$) and NCOA3 ($r = 0.435$, $p < 0.05$) were positively associated with IMF content in LD muscle. Overall, the present studyprovides evidence for the fi rst time that the p160 co-activator familymight have a concordant effect on lipidmetabolisminmammals.© 2008 Elsevier Inc. All rights reserved.
【语种】英文

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【学科分类】畜牧学

【题目】Expression of Frizzled 2 in the mouse ovary during oestrous
【中文关键词】无
【英文关键词】Frizzled 2, ovary, oestrous cycle, real-time
Q-PCR, in situ hybridization, Western blotting,
immunohistochemistry
【中文摘要】无
【英文摘要】The Wnt/b-catenin pathway is a conserved signalling pathway that reg-ulates gene expression and controls diverse developmental processessuch as cell fate speci fi cation, cell proliferation and cell differentiation.To our knowledge, the potential role of this pathway in the adult ovaryhas been poorly addressed. To this end, we investigated the expressionpattern of Frizzled 2 in the mouse ovary during oestrous cycle by real-time Q-PCR, in situ hybridization, Western blotting and immunohisto-chemistry. In this study, we used uterine wet weight and H3.2 mRNAlevel as two markers for classi fi cation of mouse oestrous cycle. Wefound that both uterine wet weight and H3.2 mRNA are the highest inthe proestrus and decrease from oestrus to diestrus. During oestrouscycle, Frizzled 2 mRNA and protein exhibited the highest level in theproestrus stage and rapidly reduced from oestrus to diestrus. In situhybridization results showed that the positive signals for Frizzled 2 arehighly detected in the oocyte and stroma in proestrus stage, while mod-erate or weak Frizzled 2 mRNAs are localized in the oocyte, granulosacells, stroma and corpus luteum from oestrus to diestrus. The localiza-tion pattern of Frizzled 2 protein is mostly consistent with its mRNA,but stronger Frizzled 2 proteins are present in the granulosa cells andmembrane of oocyte in oestrous cycle. Our data suggest that Frizzled 2may be involved in regulating follicle growth, oocyte maturation andluteinization during oestrous cycle.
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【第一作者】王少兵
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【学科分类】畜牧学

【题目】Effects of dietary ß-1, 3 glucan on innate immune response of large yellow croaker, Pseudosciaena crocea.
【中文关键词】无
【英文关键词】Large yellow croaker; Pseudosciaena crocea; b-1, 3 glucan; Immunity; Bacteria challenge; Growth
【中文摘要】无
【英文摘要】The present study was conducted to investigate the effects of dietary b-1, 3 glucan on the innate immune response and protection against Vibrio harveyi infection in large yellow croaker, Pseudosciaena crocea. A basal diet was supplemented with 0% (control), 0.09% (low) and 0.18% (high) b-1, 3 glucan to formulate three experimental diets. Each diet was randomly allocated to triplicate groups of fish in floating sea cages (1.5 1.5 2.0 m), and each cage was stocked with 100 fish (initial average weight 9.75 0.35 g). Fish were fed twice daily (05:00 and 17:00) to apparent satiation for 8 weeks. The results of 8 weeks feeding trial showed that low glucan supplementation (0.09%) significantly enhanced fish growth, whereas high supplementation (0.18%) did not. The serum lysozyme activity was significantly increased with the increase of dietary glucan ($P < 0.05$), and fish fed the diet with high glucan had significantly higher lysozyme activity compared with low glucan. There were no significant differences in alternative complement pathway (ACP) activity between fish fed diets with and without supplementation of glucan. The phagocytosis percentage (PP) and respiratory burst activity in fish fed the diet with 0.09% glucan were significantly higher than those in fish fed with the control diet ($P < 0.05$), but both immunological parameters significantly decreased in fish fed the diet with high supplementation compared with low

supplementation and no significant difference was observed between the control and highsupplementation groups. The challenge experiment showed that fish fed the diet with low glucan had significantly lower cumulative mortality compared with the control and high glucan groups ($P < 0.05$), but no significant difference was observed between the control and high supplementation groups. These results suggested that low glucan could enhance growth and innate immunity of large yellow croaker with an 8-week oral administration, but higher supplementation did not influence growth, or further improve immunity of large yellow croaker.
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【第一作者】艾庆辉
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【学科分类】水产饲料学

【题目】Effects of dietary vitamin C on survival, growth, and immunity of large yellow croaker, Pseudosciaena crocea
【中文关键词】无
【英文关键词】Large yellow croaker; Pseudosciaena crocea; Vitamin C requirement; Survival; Immunity; Nutritional immunity
【中文摘要】无
【英文摘要】An 8 weeks growth experiment was conducted to determine the effects of dietary vitamin C on the survival, growth, tissue ascorbic acid contents and immunity of large yellow croaker (Pseudosciaena crocea) with initial weight of 17.82±0.68 g. Seven practical diets were formulated to contain 0.1, 12.2, 23.8, 47.6, 89.7, 188.5 and 489.0 mg ascorbic acid equivalent kg^{-1} diet, supplied as L-ascorbyl-2-polyphosphate (LAPP). Each diet was fed to triplicate groups of fish in seawater floating cages (1.5×1.5×2.0 m), and each cage was stocked with 120 fish. Fish were fed twice daily (05:00 and 17:00) to apparent satiation for 8 weeks. The water temperature fluctuated from 19.5 to 25.5 °C, the salinity from 25 to 28‰ and dissolved oxygen content was approximately 7 mg l^{-1} during the experimental period. Results showed that the specific growth rate (SGR) (from 1.80 to 1.96% d^{-1}) had an increasing trend with the increase of dietary vitamin C, but no significant difference was observed among dietary treatments. No gross deficiency signs were observed in any of the experimental fish. Survival rate, however, significantly increased with increasing dietary vitamin C (Pb0.05). The vitamin C contents in liver and muscle correlated positively with the vitamin C in diets. The vitamin C requirement was estimated to be 28.2 mg kg^{-1} based on survival, and 87.0 mg kg^{-1} on liver content of vitamin C. The activities of serum lysozyme and alternative complement pathway (ACP), phagocytosis percentage (PP) and respiratory burst activity of head kidney significantly increased with increasing dietary vitamin C. The challenge experiment with Vibrio harveyi showed that fish fed the diets with supplementation of vitamin C had significantly lower cumulative mortality compared to the control group (66.7%), and the cumulative mortality (16.7%) in fish with 489.0 mg kg^{-1} ascorbic acid was significantly lower than that (41.7%) in fish with 23.8 mg kg^{-1} ascorbic acid. These results suggested that vitamin C significantly influenced the immune response and disease resistance of large yellow croaker.
【语种】英文
【第一作者】艾庆辉
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【题目】Simultaneous and sensitive determination of multiplex chemical residues based on multicolor quantum dot probes
【中文关键词】无
【英文关键词】Simultaneous,Sensitive,Determination,Multiplex chemical residues,Multicolor,Quantum dot,Probes
【中文摘要】无
【英文摘要】Biotinylated denatured bovine serum albumin (Bt-dBSA)-coated cadmium telluride (CdTe) quantum dot (QD) conjugates were prepared and used to develop the multiplexed fluoroimmunoassay for the simultaneousdetermination of five chemical residues. An immune complex was formed using avidin as the bridge to link the Bt-dBSA-QDs with the antibodies. Primarily,

individual quantitative determinations of five representative chemical residues were carried out based on the different emission properties of the QDs. Five antibodies were then conjugated with the corresponding QDs to establish the indirect competition fluorescent-linked immunosorbent assay (ic-FLISA) for the simultaneous detection of five chemicals in one well of a microplate. The linear range for dexamethason (DEX) was from 0.33 μg/kg to 10 μg/kg, 0.28 μg/kg to 10 μg/kg for gentamicin (GM), 0.16 μg/kg to 25 μg/kg for clonazepam (CZP), 0.17 μg/kg to 10 μg/kg for medroxyprogesterone acetate (MPA) and 0.32 μg/kg to 25 μg/kg for ceftiofur (CEF), respectively. The limit of detection (LOD) for the simultaneousdetermination of DEX, GM, CZP, MPA and CEF were as low as 0.13 μg/kg, 0.16 μg/kg, 0.07 μg/kg, 0.06 μg/kg and 0.14 μg/kg, respectively. This detection method was used to analyze samples of pork muscle and the recoveries ranged from 61.3% to 80.3% for DEX and from 74.0% to 87.2% for MPA. Further more, good correlation between the novel ic-FLISA and traditional ELISA was demonstrated during the determination of DEX and MPA residues in real samples. The QD-based protocol described here is less time consuming than the classical method and it may be sufficiently flexible to be used in other systems for the simultaneous multicolor detection of the drugs.
【语种】英文
【第一作者】Chifang Peng
【通讯作者】Zhengyu Jin
【期刊名称、卷期、页码】Biosensors and Bioelectronics 24 (2009) 3657 – 3662
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【学科分类】食品科学技术其他学科

【题目】Heterologous expression of the Bacillus subtilis (natto) alanine dehydrogenase in Escherichia coli and Lactococcus lactis
【中文关键词】无
【英文关键词】Lactococcus lactis;
Alanine
dehydrogenase;
Ldh promoter;
Fermentation;
Alanine
【中文摘要】无
【英文摘要】The major objective of the present study is to change the alanine production of Lactic acid bacteria by expression of Bacillus subtilis (natto) alanine dehydrogenase (AlaDH), the gene that is not present in Lactic acid. B. subtilis AlaDH gene (ald) was cloned into a pGEX6p-1 and expressed in E. coli JM109. Its enzyme activity was 48.3U/mg at 30 degrees C and 45.2U/mg at 42 degrees C. This ald gene was then cloned into a vector pNZ8148 to generate a vector pNZ8148/ald. The same ald gene was placed downstream of the ldh promoter from Streptococcus thermophilus to generate pNZ273/ldhp/ald. The pNZ8148/ald and pNZ273/ldhp/ald were introduced separately in Lactococcus lactis NZ9000. As a result of over-expressed ald, the production of alanine detected by HPLC in L. lactis NZ9000 carrying pNZ273/ldhp/ald reached 52mug/ml, an approximately 26-fold increase compared to the parent strain L. lactis NZ9000, but not in L. lactis NZ9000 carrying pNZ8148/ald. This study would help strain improvement to be used in dairy fermentation for developing healthy yogurts with sweet taste or other fermented dairy foods.
【语种】英文
【第一作者】Wei Ye
【通讯作者】Guicheng Huo
【期刊名称、卷期、页码】Microbiological Research 2010,165,268—275
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【引文索引类型】SCI
【引文索引号】doi:10.1016/j.micres.2009.05.008
【学科分类】食品科学技术其他学科

【题目】Replacement of fish meal by meat and bone meal in diets for large yellow croaker
【中文关键词】wu

【英文关键词】Large yellow croaker; Pseudosciaena crocea; Fish meal; Replacement; Meat and bone meal; Feeding and nutrition
【中文摘要】wu
【英文摘要】A growth experiment was conducted to investigate the effects of replacement of fish meal (FM) by meat and bone meal (MBM) in diets on the growth and body composition of large yellow croaker (Pseudosciaena crocea). Six isonitrogenous (43% crude protein) and isoenergetic (20 kJ g.1) diets replacing 0, 15, 30, 45, 60 and 75% FM protein by MBM protein were formulated. Each diet was randomly allocated to triplicate groups of fish in sea floating cages (1.0×1.0×1.5 m), and each cage was stocked with 180 fish (initial average weight of 1.88±0.02 g). Fish were fed twice daily (05:00 and 17:30) to apparent satiation for 8 weeks. The water temperature ranged from 26.5 to 32.5 °C, salinity from 32 to 36‰, and dissolved oxygen content was approximately 7 mg l.1 during the experimental period. Survival decreased with increasing dietary MBM and the survival in the fish fed the diet with 75% protein from MBMwas significantly lower than other groups (Pb0.05). There were no significant differences in specific growth rate (SGR) among the fish fed the diets with 0 (the control group), 15, 30 and 45% protein from MBM. However, SGR in the fish fed the diets with 60 and 75% protein from MBM were significantly lower than other groups (Pb0.05). No significant differences in feeding rate were observed among dietary treatments. The digestibility experiment showed that the apparent digestibility coefficients (ADC) of dry matter, protein, lipid and energy of MBM were significantly lower compared with those of FM (Pb0.05). Essential amino acid index was found to be correlated positively with SGR in the present study, suggesting that essential amino acid balance was important. Body composition analysis showed that the carcass protein and essential amino acids were not significantly affected by dietary MBM. The lipid and n-3 highly unsaturated fatty acid (n-3 HUFA) in fish muscle, however, significantly decreased with increasing dietary MBM. These results showed that 45% of FM protein could be replaced byMBMprotein in diets of large yellow croaker without significantly reducing growth. It was suggested that the reduced growth with higherMBMwas due to lower digestibility and imbalance of essential amino acids.
【语种】英文
【第一作者】艾庆辉
【通讯作者】艾庆辉
【期刊名称、卷期、页码】Aquaculture 260, 255-263.
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【学科分类】水产饲料学

【题目】Dietary methionine requirement of large yellow croaker, Pseudosciaena crocea R
【中文关键词】wu
【英文关键词】Large yellow croaker; Pseudosciaena crocea; Methionine; Dietary requirement; Feeding and nutrition; Fish
【中文摘要】wu
【英文摘要】A feeding trial was conducted to determine the dietary methionine requirement of juvenile large yellow croaker (initial body weight 1.23±0.02 g). The basal diet contained 43% crude protein from fish meal, soybean meal, yeast, wheat meal and crystalline amino acids with 0.65% methionine and 0.29% cystine on a dry diet basis. Six diets were formulated with six graded levels of methionine (0.66% to 1.89% in about 0.25% increment). Each diet was randomly assigned to triplicate groups of 180 juvenile fish in seawater floating net cages (1.0×1.0×1.5 m). Fish were fed twice daily (05:00 and 17:30) to apparent satiation for 10 weeks. The water temperature fluctuated from 27 to 30 °C, salinity from 25‰ to 28‰ and dissolved oxygen was approximately 7 mg l.1 during the experimental period. Specific growth rate (SGR), feed conversion efficiency (FCE) and protein efficiency ratio (PER) increased with increasing levels of methionine up to 1.41% diet (P<0.05), and thereafter, declined. No significant differences in body composition were found among dietary treatments. On the basis of either SGR or FCE, the optimum dietary methionine requirements of juvenile large yellow croaker were estimated to be 1.44% of diet (3.34% of dietary protein) and 1.39% of diet (3.22% of dietary protein), respectively, using second-order polynomial regression analysis. Hence, the corresponding requirements of this fish for total sulfur amino acids (Met+Cys) were calculated to be 1.73% of diet (4.02% of dietary protein) and 1.68% of diet (3.91% of dietary protein), respectively.
【语种】英文
【第一作者】麦康森
【通讯作者】麦康森
【期刊名称、卷期、页码】Aquaculture 253, 564-572
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【学科分类】水产饲料学

【题目】基于蒸发皿水面蒸发量制定冬小麦喷灌计划
【中文关键词】灌溉; 喷灌系统; 土壤; 蒸发皿蒸发量; 冬小麦; 水分利用效率;
【英文关键词】irrigation; sprinkler systems; soils; pan evaporation; winter wheat; water use efficiency;
【中文摘要】该研究拟利用直径为20cm的标准蒸发皿,制定简单易行的喷灌冬小麦灌溉计划。试验于2005-2006年和2006-2007年冬小麦生长季节,在中国科学院通州农田水循环和节水灌溉试验基地进行。以布置在冠层上20cm直径蒸发皿水面蒸发量(E)为基础,研究了不同水面蒸发量倍数(分别为0.25、0.50、0.75、1.00和1.25倍,以及不灌水对照处理)灌溉水量条件下,喷灌水量对土壤水分、冬小麦生长、产量、耗水量和水分利用效率的影响,分析了利用水面蒸发量制定喷灌灌溉计划的可行性。试验结果显示,喷灌条件下土壤水分主要在0~60cm土层内变化。当灌溉水量小于0.25E时,冬小麦叶面积指数和生物量较小,而大于1.00E也会抑制冬小麦生长。喷灌条件下冬小麦单个生育期内的耗水量在312~508mm内变化,耗水量随着灌水量的增加而增加。喷灌0.50E~0.75E时,冬小麦产量和水分利用效率最高或者接近于最高;灌水量较小(≤0.25E)和较大(≥1.00E)时均会降低产量。建议在北京地区冬小麦返青后,喷灌水量可采用0.50~0.75倍的20cm蒸发皿水面蒸发量,灌水间隔可采用5~7d。
【英文摘要】The objective of this paper is to find a simple and easily fulfilling sprinkler irrigation scheduling for winter wheat using the standard 20 cm evaporation pan.An experiment was conducted in 2005-2006 and 2006-2007 winter wheat seasons at Tongzhou Experimental Base for Water-Saving Irrigation Research,Chinese Academy of Sciences.The objective of the experiment was to study the responses of soil water content,winter wheat growth and yield,evapotranspiration and water use efficiency to five sprinkler irrigati...
【语种】中文
【第一作者】刘海军
【通讯作者】张寄阳
【期刊名称、卷期、页码】农业工程学报;2010,26(1):11-17
【论文发表时间】2010-02-10 00:00:00
【引文索引类型】EI
【引文索引号】2.0101512841e+013
【学科分类】农业工程

【题目】Dietary phosphorus requirement of large yellow croaker, Pseudosciaena crocea R.
【中文关键词】wu
【英文关键词】Fish; Large yellow croaker; Pseudosciaena crocea; Phosphorus requirement; Feeding and nutrition
【中文摘要】wu
【英文摘要】A study was conducted to estimate the optimum requirement of dietary phosphorus for large yellow croaker in floating sea cages (1.0 1.0 1.5 m). Five practical diets were formulated to contain graded levels (0.30%, 0.55%, 0.69%, 0.91% and 1.16%) of available phosphorus from dietary ingredients and monocalcium phosphate (MCP). Each diet was randomly assigned to triplicate groups of 180 juvenile fish (initial body weight, 1.88F0.02 g). Fish were fed twice daily (5:00 and 17:00) to satiation for 8 weeks. During the experimental period, the water temperature fluctuated from 26.5 to 32.5 8C, salinity from 32x to 36x and dissolved oxygen was more than 7 mg l 1. Specific growth rate (SGR) significantly increased with increasing available phosphorus from 0.30% to 0.69% of diet (P b0.05), and then leveled off. The body composition analysis showed that the whole-body ash and lipid, as well as phosphorus content in the whole body, vertebrae and scales were significantly affected by dietary available phosphorus level (P b0.05). Broken-line analysis based on SGR indicated the minimum available phosphorus requirement for the optimal growth of large yellow croaker was 0.70%. Based on the phosphorus content in either vertebrae or whole body, the requirements were 0.89% and 0.91%, respectively.
【语种】英文
【第一作者】麦康森
【通讯作者】麦康森
【期刊名称、卷期、页码】Aquaculture 251, 346-353
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【引文索引类型】SCI

【引文索引号】to be searched
【学科分类】水产饲料学

【题目】基于节能偏好的冲突多目标相容温室环境控制
【中文关键词】遗传算法;温室环境控制;节能偏好信息;相容控制算法
【英文关键词】genetic algorithm; greenhouse climate control; energy-saving preference information; compatible control algorithm
【中文摘要】在温室环境控制问题中,传统的控制方法追求精确的点目标控制,而精确的控制精度是以高的能量消耗为代价的。针对温室环境控制这一实际问题,采用多目标相容控制算法来进行控制。因为在相容控制算法中点控制目标被放宽到区间内,所以有很大的余地来协调控制精度和能耗。为了满足相容控制算法在控制过程中节能偏好的需要,对遗传算法进行了改进,把节能这一偏好信息引入到了优化过程中、参与进化寻优。通过对经典温室模型仿真,验证了新算法在节能降耗方面的优势。
【英文摘要】In the greenhouse climate control problem, classical control methods pursue precise point control; however, precise control is at the cost of high energy consumption. In this paper, the Multi-Objective Compatible Control (MOCC) algorithm is applied in the greenhouse climate. Because control point is enlarged to interval in MOCC, much more room can be used to compromise the control precise and energy consumption. In order to meet the MOCC ’s demand, GA is modified and energy-saving preference information is incorporated into the optimization process. In the classical greenhouse model, classical control method is compared with MOCC based on preference information, and the results show that MOCC has an overwhelming advantage over classical control with respect to energy-saving.
【语种】中文
【第一作者】朱丙坤
【通讯作者】徐立鸿
【期刊名称、卷期、页码】系统仿真学报,2011,23(1):95-99
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【引文索引类型】其他
【引文索引号】null
【学科分类】工程控制论

【题目】Possible promoter regions within the proteolytic system in Streptococcus thermophilus and their interaction with the CodY homolog
【中文关键词】无
【英文关键词】CodY homolog;
proteolytic system;
promoter;
Streptococcus thermophilus
【中文摘要】无
【英文摘要】Possible promoter regions preceding 14 genes belonging to the proteolytic system of Streptococcus thermophilus KLDS 3.0503 were predicted by a promoter analysis software nnpp. The 14 genes included an extracellular protease gene prtS, an oligopeptide ABC transport system gene amiA1, and 12 genes, respectively, encoding peptidases pepA, pepS, pepN, pepC, pepB, pepQ, pepV, pepT, pepM, pepXP, pepP, and pepO. These predicted promoter sequences were cloned and inserted into the upstream of a promoterless Escherichia coli gusA (beta-glucuronidase) gene in a promoter probe vector pNZ273. The resulting vectors were, respectively, introduced into S. thermophilus KLDS 3.0503 and all 14 predicted promoter sequences were able to drive gusA expression, which indicated that these sequences were functional promoters. These promoters were able to interact with the S. thermophilus CodY homolog in an in vitro DNA binding assay but they did not contain a conserved CodY-box sequence identified in Lactococcus lactis. These results were useful for further studies on the regulation of protein metabolism in S. thermophilus.
【语种】英文
【第一作者】Fang Liu
【通讯作者】Guicheng Huo
【期刊名称、卷期、页码】FEMS Microbiology Letters. 2009 Aug;297(2):164-172
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【引文索引类型】SCI
【引文索引号】DOI: 10.1111/j.1574-6968.2009.01672.x
【学科分类】食品科学技术其他学科

【题目】Effects of dietary squid viscera meal on growth and cadmium accumulation in tissues of Japanese seabass, Lateolabrax japonicus (Cuvier, 1828)
【中文关键词】wu
【英文关键词】Japanese seabass, Lateolabrax japonicus,
squid viscera meal, growth, cadmium accumulation
【中文摘要】wu
【英文摘要】Cadmium (Cd) is a toxic environmental pollutant with a long biological half-life and can produce both hepatic and renal injuries in mammals and h. Squid viscera meal (SVM), an e cts of dietary SVM on the growth and Cd deposition in tissues of Japanese seabass, Lateolabrax japonicus. Three practical diets were formulated to contain 0, 50 and100 g SVMkg 1 diet, respectively, containing 0.21, 7.26 and 12.08 mg Cd kg 1 diet. Each diet was randomlyassigned to triplicate groups of 80 Japanese seabass (mean initial weight, 10.89 0.21g) in ating sea cages (1.5 1.5 2.0m). Fish were fed twice daily (06:30 and16:30 hours) to satiation for 8 weeks. The results showed that therewere no signi ant differences in h survival among three dietary treatments, but signi ant higher speci growth rates (SGR) were observed in the h fed diets with 50 or 100 g SVMkg 1 diet than that from the control group (Po0.05). The Cd concentrations in the kidney, liver and gill were found in a decreasing order at each treatment, and positively correlated with dietary Cd levels. Fish fed diets with 50 and100 g SVMkg 1diet had signi antly higher Cd accumulations in the kidney (3.25, 5.85 mg kg 1), liver (0.76, 1.26mg kg 1) and gill (0.42, 0.58mg kg 1) compared with the control group (0.82, 0.34 and 0.32 mg kg 1 respectively) (Po0.05). The Cd concentration in h muscle; however, was undetectable in any treatment. Therefore, based on these results, accumulation of Cd in edible tissue (muscle) of farmed Japanese seabass is not a food safety issue. However, long-term feeding of diets with SVM may result in accumulation of Cd in the kidneys, liver and gills of ¢ sh.
【语种】英文
【第一作者】麦康森
【通讯作者】麦康森
【期刊名称、卷期、页码】Aquaculture Research 37, 1063-1069
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【引文索引类型】SCI
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【学科分类】水产饲料学

【题目】Development of an Enzyme-Linked Immunosorbent Assay for the α-Cyano Pyrethroids Multiresidue in Tai Lake Water
【中文关键词】无
【英文关键词】α-Cyano pyrethroid; pesticide class; ELISA; tai lake water
【中文摘要】无
【英文摘要】A general and broad class selective competitive enzyme-linked immunosorbent assay (ELISA) for the detection of the α-cyano pyrethroids was developed. One class specific hapten, the 5-(3-benzylphenyl)-5-cyanopentanoic acid (CPBA-BE), was conjugated with BSA as an immunogen. Polyclonal antibodies, PY-antibodies, were generated. The assay with the most selectivity for the family α-cyano pyrethroids such as cyphenothrin was further optimized and tested for tolerance to cosolvent, pH, and ionic strength changes. The IC50 values of the optimized immunoassay were 4.58 μg L − 1 for cyphenothrin, 5.62 μg L − 1 for fenpropathrin, 7.08 μg L − 1 for deltamethrin, 10.72 μg L − 1 for cypermethrin, 19.95 μg L − 1 for flucythrinate, and 28.18 μg L − 1 for esfenvalerate. The cross-reactivities of cyphenothrin, fenpropathrin, deltamethrin, cypermethrin, flucythrinate, and esfenvalerate were 100%, 81.49%, 64.68%, 42.72%, 22.96%, and 16.25%, respectively. The low detection limit (LDL) of this assay was 0.107 μg L − 1 for cyphenothrin. This method was used for the detection of the α-cyano pyrethroids in Tai lake water.
【语种】英文
【第一作者】X. L. Hao

【通讯作者】X. L. Hao
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【学科分类】食品科学技术其他学科

【题目】不同杂交品种肉牛背最长肌LPL基因表达的发育性变化及其对IMF的影响
【中文关键词】肉牛;LPL基因;肌内脂肪;荧光定量PCR
【英文关键词】无
【中文摘要】肌内脂肪的沉积受多种因素的影响,遗传和营养是影响肌内脂肪沉积的重要因素,大多数研究者对营养影响IMF的沉积进行了广泛而深入的探讨,而对于遗传因素,尤其是不同月龄肉牛IMF的沉积规律以及影响IIvvIF沉积的分子调控机制尚未见报道。因此,为了研究不同杂交品种肉牛肌肉LPL基因表达的发育性变化及其对IMF沉积的影响,(方法)本试验选择体重相近的15-17月龄西杂、利杂,17-19月龄利草杂交共43头肉牛为研究对象,西杂、利杂、利一草杂牛分别为15头、16头和12头。以品种为单位分为三组,试验牛饲喂精粗比为50:50的饲粮,日粮营养水平参照中国肉牛饲养标准(2004)按日增重1.Okg设计。试验分为三个阶段,每个阶段为90天,各组牛于试验的第90天、180天、270天按比例屠宰,取背最长肌分别放入一20°C和液氮中,用于脂肪含量和LPLmRNA的测定。脂肪的测定采用索氏提取法测定,LPLmRNA的测定采用荧光RT PCR方法进行。(结果)结果表明:在第一屠宰阶段各杂交品种肉牛IMF含量差异不显著((P>0.05),利杂牛含量最高;在第二屠宰阶段利杂牛IMF沉积显著高于其它两个杂交品种牛(P<0.05),随着月龄的增加,脂肪沉积呈升高趋势;背最长肌LPL表达量在三个屠宰阶段各品种间差异不显著((P>0.05),但利杂牛表达量最高,并且随着月龄的增大,表达量呈升高趋势。相关性分析表明,利杂牛和利一草杂牛LPL表达量和IMF含量在第三屠宰阶段出现显著的正相关(P<0.05) o(结论)背最长肌LPL表达量对肌内脂肪沉积有显著的影响,LPL的表达量与IMF沉积呈显著正相关。
【英文摘要】无
【语种】中文
【第一作者】曲桂娟
【通讯作者】秦贵信
【期刊名称、卷期、页码】第六次全国饲料营养学术研讨会论文集
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【引文索引号】null
【学科分类】畜牧学

【题目】Dietary phosphorus requirement of juvenile Japanese seabass, Lateolabrax japonicus.
【中文关键词】无
【英文关键词】Fish; Japanese seabass; Lateolabrax japonicus; Phosphorus requirement; Feeding and nutrition
【中文摘要】无
【英文摘要】A feeding trial was conducted to estimate the optimum requirement of dietary available phosphorus for juvenile Japanese seabass in floating sea cages (1.5×1.5×2 m). Five practical diets were formulated to contain graded levels (0.31%, 0.56%, 0.70%, 0.93% and 1.17%) of available phosphorus from dietary ingredients and monocalcium phosphate (MCP). Each diet was randomly assigned to triplicate groups of fish, and each group was stocked with 60 fish (initial body weight, 6.28±0.1 g). Fish were fed twice daily (06:30 and 16:30) to satiation for 8 weeks. During the experimental period, the water temperature fluctuated from 26.5 to 32.5 °C, salinity from 32‰ to 36‰ and dissolved oxygen was approximately 7 mg l−1. Specific growth rate (SGR) significantly increased with increasing available phosphorus from 0.31% to 0.70% of diet (Pb0.05), and then leveled off. The body composition analysis showed that the carcass ash, lipid and protein, as well as phosphorus contents in the whole body, vertebrae and scales, were significantly affected by dietary available phosphorus (Pb0.05). The blood biochemistry analysis showed that plasma phosphorus and plasma alkaline phosphatase (ALP) activity increased with the increase of dietary available phosphorus levels (Pb0.05). Brokenline analysis based on SGR indicated that the minimum available phosphorus requirement for the optimal growth of juvenile Japanese seabass was 0.68%. Based on the phosphorus content either in whole body or vertebrae, the requirements were 0.86% and 0.90%, respectively.

【语种】英文
【第一作者】张春晓
【通讯作者】麦康森
【期刊名称、卷期、页码】Aquaculture 255, 201-209
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【引文索引类型】SCI
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【学科分类】水产饲料学

【题目】基于MSP430FG4618的水产环境监控系统
【中文关键词】MSP430FG4618 水产环境参数检测 反馈
【英文关键词】MSP430FG46 1 8 aquatic environment parameters detection feedback
【中文摘要】基于水产环境的嵌入式实时检测系统研究与应用,提出了一种基于TI MSP430FG4618监控站的设计方案,该方案能实现对水产环境参数的实时检测,并能通过卜.位机与输入键盘进行控制反馈,还给出了监控系统的功能实现与软件设计流程。
【英文摘要】Based on embedded real-time detection system research and application of Aquatic environment,this paper proposes a design approach based on the TI MSP430FG4618,which enables the real-time detection of the aquatic environment parameters and can get feedback control through the host computer and the keyboard input. It also gives the software design flow chart and function of the monitoring system.
【语种】中文
【第一作者】俞雄
【通讯作者】徐立鸿
【期刊名称、卷期、页码】机电一体化,2010,2,76-78
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【引文索引类型】其他
【引文索引号】null
【学科分类】环境工程学

【题目】Isolation and characterization of a novel virulent phage (phiLdb) of Lactobacillus delbrueckii
【中文关键词】无
【英文关键词】Lactobacillus delbrueckii
Bacteriophage
Phage morphology
Phage stability
Adsorption
【中文摘要】无
【英文摘要】A new virulent phage (phiLdb) of Lactobacillus delbrueckii subsp. bulgaricus was isolated from a Chinese yogurt sample showing slow acidification. It belonged to the Siphoviridae family with an icosahedral capsid of 47.7+/-0.9 nm in diameter and a long tail of 129.8+/-2 nm. The genome of phage phiLdb was estimated to be approximately 41kbp, and did not contain cohesive ends. One-step growth kinetics of its lytic development revealed latent and burst periods of 45 min and 75 min, respectively, with a burst size of 56+/-2 phage particles per infected cell. Phage phiLdb was highly specific for Lactobacillus delbrueckii subsp. bulgaricus. The presence of calcium or magnesium ions was necessary to accelerate cell lysis and improve plaque formation. Phage phiLdb was able to survive in a pH range between 2 and 10, and resist ethanol and isopropanol. However, a treatment of 90 degrees C for 40 min was observed to inactive phage phiLdb thoroughly. Calcium ions, pH as well as temperature did not show significant influence on phage adsorption, and the adsorption kinetics were similar on viable and nonviable cells. The characterization of this novel phage was helpful to establish a basis for adopting the most effective phage control strategies in industrial plants
【语种】英文
【第一作者】Shaohua Wang
【通讯作者】Jian Kong

【期刊名称、卷期、页码】International Journal of Food Microbiology 2010,137(1),22 – 27
【论文发表时间】2010-01-31 00:00:00
【引文索引类型】SCI
【引文索引号】doi:10.1016/j.ijfoodmicro.2009.10.024
【学科分类】食品科学技术其他学科

【题目】Dietary lysine requirement of large yellow croaker, Pseudosciaena crocea R.
【中文关键词】无
【英文关键词】Fish
Large yellow croaker
Pseudosciaena crocea
Lysine requirement
Feeding and nutrition
【中文摘要】无
【英文摘要】A study was conducted to estimate the optimum requirement of dietary lysine for large yellow croaker in floating sea cages (1.0×1.0×1.5 m). Six isonitrogenous and isoenergetic practical diets were formulated to contain graded levels of lysine (1.27, 1.83, 2.41, 3.02, 3.60 and 4.22% dry matter) from dietary ingredients and lysine · HCl. Crystalline amino acid mixtures were supplemented to simulate the amino acid pattern of the whole-body protein of large yellow croaker except for lysine. Each diet was randomly assigned to triplicate groups of 180 juvenile fish (initial body weight, 1.23±0.02 g). Fish were fed twice daily (0500 and 1700 h) to satiation for 10 weeks. During the experimental period, the water temperature fluctuated from 27 to 30 ° C, salinity from 25 to 28‰ and dissolved oxygen was more than 7 mg l.1. The results showed that specific growth rate (SGR), feed efficiency ratio (FER), protein efficiency ratio (PER) and protein retention (PR), significantly increased with increasing lysine level from 1.27 to 2.41% of diet (Pb0.05), and then leveled off. Apart from the reduced growth, no external pathological signs were observed in the fish fed diets limiting in lysine. The whole-body protein (15.6 – 17.7%), as well as whole-body lysine, increased significantly with increasing dietary lysine level (Pb0.05). The body lipid content (5.9 – 5.4%) showed an opposite trend to that of body protein, while moisture, ash and other essential amino acids showed no significant differences among the dietary treatments. Broken-line analysis based on SGR, FER and PER indicated the optimum requirements of large yellow croaker for dietary lysine were 2.48, 2.45 and 2.43% of diet (5.77, 5.70 and 5.65% of dietary protein), respectively.
【语种】英文
【第一作者】张春晓
【通讯作者】麦康森
【期刊名称、卷期、页码】Aquaculture 283, 123-127
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【学科分类】水产饲料学

【题目】不同粗料组合日粮对肉牛体外瘤胃发酵的影响
【中文关键词】瘤胃;发酵参数;日粮;首籍;玉米桔秆;玉米黄贮
【英文关键词】无
【中文摘要】本试验按维持需要1. 6倍营养水平配制不同玉米桔秆型搭配组合日粮,即玉米桔秆十精料型(55:45),首藉+玉米桔秆+精料型(22:45二33)、黄贮十玉米秸秆+精料型(56:12:32)、黄贮+首藉+玉米桔秆十精料型(55:10 10 : 25)四组日粮,对体外发酵参数的影响。结果表明:在营养水平相同,精粗比不同下,四组日粮组合的营养价值具有非加性效应。黄贮+首着+玉米桔秆+精料型日粮的能量利用效率及营养物质消化率效率最高,组合效果优于其他三组。
【英文摘要】无
【语种】中文
【第一作者】蒋春敏
【通讯作者】秦贵信
【期刊名称、卷期、页码】中国畜牧兽医学会2009学术年会论文集(下册)

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【引文索引号】null
【学科分类】畜牧学

【题目】A Novel GFP-Fused Eukaryotic Membrane Protein Expression System in Lactococcus lactis and Its Application to Overexpression of an Elongase
【中文关键词】无
【英文关键词】无
【中文摘要】无
【英文摘要】Eukaryotic membrane proteins are often difficult to produce in large quantities, which is a significant obstacle for further structural and biochemical investigation. Lactococcus lactis has several properties that are ideal for enhanced expression of eukaryotic membrane proteins. In this article, a novel lactococcal vector was constructed, by inserting a green fluorescent protein (GFP) sequence into the vector pNZ8148. The resulting vector pKj-gfp was applied to the overexpression of an elongase-GFP fusion in L. lactis. After adding nisin, the expression of the fusion was confirmed via microscopy, the conditions were optimized by fluorescent spectroscopy, and the location of the fusion was monitored through in-gel fluorescence, indicating that the fusion was directed into the cytoplasmic membrane and no degradation was observed. The ELKJ-GFP fusion accounted for ~15% of the total membrane proteins using PDQuest software. These results indicate that the lactococcal system can be used for the overproduction and convenient detection of eukaryotic membrane proteins. Images
【语种】英文
【第一作者】Yan niu
【通讯作者】kongjian
【期刊名称、卷期、页码】Curr Microbiol(2008)57:423-428
【论文发表时间】2008-10-04 00:00:00
【引文索引类型】SCI
【引文索引号】DOI: 10.1007/s00284-008-9223-8
【学科分类】食品科学技术其他学科

【题目】网络视频监控系统中矢量电子地图的设计
【中文关键词】矢量电子地图 网络视频监控系统 报警
【英文关键词】electronic vector map network video monitoring system alarm
【中文摘要】绍了网络视频监控系统中的客户端——电子地图软件的设计。对于地图显示部分,可以有选择性地使用位图、矢囔图或三维立体图。在此基础上,实现了电子地图的地图功能,即支持多级电子地图和报警后在地图上闪烁示警的功能,报管信息的接收和报臀联动功能,远程浏览功能,以及查询系统日志或锁定系统的功能。
【英文摘要】Briefly introduce the electronic map。which is one of the network video monitoring system ’S customunit.For the part of the map displaying,we can use the bitmap or the vector map.Of cour$e,we Call also use the 3 D graph.Based on using the vector map.the software supports the graphical function such as supporting multiple levels of the electronic map and flashing alarming when the alarm message arrives.It supports the alarming function such as receiving the alarm messages through network,analyzing this message and generating the alarming log which can be queried by the user later.It supports the remote · browsing function of playing the real—time video stream and saving this video stream on the hard disk which we can choose by set the saving path.It also supports the systematic function such as queuing the system log and locking the system which means the user can only detect the alarm but have no right torelease the flashing alarm.
【语种】中文
【第一作者】张婵丽
【通讯作者】徐立鸿
【期刊名称、卷期、页码】机电一体化,2010,2,87-90
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【引文索引类型】其他
【引文索引号】null

【学科分类】控制科学与技术

【题目】Enantioselective determination of cypermethrin in pig muscle tissue by immunoaffinity extraction and high performance liquid chromatography
【中文关键词】无
【英文关键词】Chiral;cypermethrin;high performance liquid chromatography;immunoaffinity;pork muscle
【中文摘要】无
【英文摘要】A high performance liquid chromatography method was developed to detect enantiomers of cypermethrin in pork muscle. Eight isomers of racemic cypermethrin were separated using a normal mobile phase of hexane – isopropyl alcohol (99.3 – 0.7, v/v) on a chiral CD-ph column in 25 min. The elution order of isomers was ascertained using enantiomer/diastereomer enriched cypermethrin standards. The extracts from pork samples were cleaned up by immunoaffinity column before detection. The recoveries from samples fortified levels of 0.1 and 1 mg kg − 1 ranged from 67.3% to 113.5% with a relative standard deviation 6.7 – 16.8%; sufficient to effectively measure cypermethrin enantiomer concentrations in pig muscle tissue samples in the future.
【语种】英文
【第一作者】Hua Kuang
【通讯作者】Hua Kuang
【期刊名称、卷期、页码】International Journal of Food Science & Technology Volume 45, Issue 4, pages 656 – 660, April 2010
【论文发表时间】2010-03-23 00:00:00
【引文索引类型】SCI
【引文索引号】DOI: 10.1111/j.1365-2621.2010.02192.x
【学科分类】食品科学技术其他学科

【题目】鱼类营养免疫研究进展
【中文关键词】鱼类;营养;免疫
【英文关键词】无
【中文摘要】随着集约化养殖模式的推广,鱼类养殖业得到了迅猛发展。然而,由于高密度养殖、投饲频率增加以及水体污染等问题,养殖鱼类感染疾病的几率大大升高,给养殖业造成了巨大损失。因此鱼类病害已经成为制约养殖业进一步发展的瓶颈。传统的用于防治鱼病的方法主要有两种,一是化学药物治疗法;一是疫苗预防法。化学药物治疗存在抗药性和药物残留等问题,而疫苗预防法则由于其特异性和操作困难而存在一定的局限性。因此寻找新的防治鱼类病害的方法就成为人们亟待解决的重大课题。研究证明营养和免疫之间密切相关,通过营养调控来提高鱼类的免疫力,不仅可克服传统方法所存在的缺陷,有利于健康养殖,减少对环境的污染,保证食品的安全,而且这已经被证明是一种行之有效的方法。因此,研究营养和免疫之间的关系已经成为了一门新的学科,有关该方面的研究在鱼类已有了一些报道,本文将对此作一综述。
【英文摘要】无
【语种】中文
【第一作者】艾庆辉
【通讯作者】麦康森
【期刊名称、卷期、页码】水生生物学报 31,425-430
【论文发表时间】2007-11-07 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】水产养殖学

【题目】Expression of the capsidprotein of porcinecircovirustype2 in Lactococcus lactis for oral vaccination
【中文关键词】无
【英文关键词】PCV2
Capsid protein
Lactococcus lactis
Oral vaccines
【中文摘要】无

【英文摘要】Diseases associated with porcine circovirus type 2 (PCV2) infections are becoming a major problem forthe swine industry worldwide. The capsid protein (Cap) of PCV2 is an antigen important for both earlydiagnosis and development of vaccines. In this study, Lactococcus lactis was used as vehicle to deliver thePCV2 antigen in an attempt to develop oral vaccine. A cap gene with a deleted nuclear localization signalsequence (dcap) was cloned into an Escherichia coli/L. lactis shuttle vector pSEC: LEISS under the controlof a nisin promoter. Intracellular and extracellular expression of the dCap was con fi rmed by Westernblot analysis.
Signi fi cantly higher levels of PCV2-speci fi c IgG in the sera of mice were observed upon oraladministration of strain cultures expressing the PCV2 antigen. These results suggest that it is feasible touse L. lactis as an antigen delivery vehicle for developing oral vaccines against PCV2 infection.
【语种】英文
【第一作者】Ke Wang
【通讯作者】Jian Kong
【期刊名称、卷期、页码】Journal of Virological Methods 2008,150,1 – 6
【论文发表时间】2008-04-11 00:00:00
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【引文索引号】doi:10.1016/j.jviromet.2008.02.014
【学科分类】微生物学

【题目】Interference RNA (RNAi)-Based Silencing of Endogenous Smad4 in Porcine Granulosa Cells Resulted in Decreased FSH-mediated GCs Proliferation and Steroidogenesis
【中文关键词】无
【英文关键词】MORPHOGENETIC PROTEIN SYSTEM; TGF-BETA; SIGNAL-TRANSDUCTION; GENE-EXPRESSION; FOLLICLE; MICE; SUPERFAMILY; ROLES; OVARY; LEADS
【中文摘要】无
【英文摘要】FSH plays a critical role in granulosa cell (GC) proliferation and steroidogenesis through modulation by factors including bone morphogenetic proteins family, which belongs to transforming growth factor beta (TGFB) superfamily. TGFBs are the key factors in maintaining cell growth and differentiation in ovaries. However, the interaction of FSH and TGFB on the GCs' proliferation and steroidogenesis remains to be elucidated. In this study, we have investigated the role of SMAD4, a core molecule mediating the intracellular TGFB/SMAD signal transduction pathway, in FSH-mediated proliferation and steroidogenesis of porcine GCs. In this study, SMAD4 was knocked down using interference RNA in porcine GCs. Our results showed that SMAD4-siRNA causes specific inhibition of SMAD4 mRNA and protein expression after transfection. Knockdown of SMAD4 significantly inhibited FSH-induced porcine GC proliferation and estradiol production and changed the expression of cyclin D2, CDK2, CDK4, CYP19a1, and CYP11a1. Thus, these observations establish an important role of SMAD4 in the regulation of the response of porcine GCs to FSH
【语种】英文
【第一作者】王伟
【通讯作者】徐银学
【期刊名称、卷期、页码】2011, 141:643 – 651
【论文发表时间】2011-03-16 00:00:00
【引文索引类型】SCI
【引文索引号】WOS:000290910700010
【学科分类】畜牧学

【题目】光照不均匀图像的一种环带最优阈值分割方法
【中文关键词】光照不均匀 阈值化 环带划分 图像分割
【英文关键词】nonuniform illumination thresholding annulus dividing image segment
【中文摘要】在水下探测、管道探测、工业内窥镜等视频监控系统中,南于主动补光,存在视频图像中央区域偏亮、四周偏暗的问题,无法直接进行图像分割。文章基于局部阈值化方法的思想,结合上述监控系统视频图像的特点,提出了环带划分的最优闯值分割方法。该方法的关键是根据图像亮区重心确定环带中心和根据目标尺寸确定环带宽度,进而把图像划分为若干子图像,然后对子图像运用局部I剖值化方法寻找最佳阈值,实现图像分割。文中对水下鱼饵图像和字符探测图像分别运用全局阈值化方法、局部平均值闯值化方法及本文阈值化方法进行了仿真试验,实验表明本文方法对具有上述特点的图像的分割效果优于其他方法。

【英文摘要】In the video supervisory systems,such as underwater detecting,pipeline detecting or industrial endoscope.we can ’t directly use the classical thresholding method to segment the video images which am in nonuniform illumination conditions.According to the characteristics of the images,this article proposes an annulus dividing thresholding method based on the local thresholding thought.This method firstly divides all image into some subimages,and then USeS each local threshold value to segment the corresponding sub—image.The core of the method is to find the center of the bright image[flea and to set the size of the annulus.We do some simulation tests by the global thresholding method,local thresholding method and annulus dividing thresholding method.The experiment result shows that our method is better than others.
【语种】中文
【第一作者】高明学
【通讯作者】徐立鸿
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【论文发表时间】2010-02-10 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】电子与通信技术其他学科

【题目】不同土层土壤水分特征曲线的空间变异及其影响因素
【中文关键词】土壤水分特征曲线; 空间变异; 多重分形; 土层;
【英文关键词】Soil water retention curve; Spatial variability; Multifractal; Soil layer;
【中文摘要】利用多重分形和联合多重分形方法,对陕西杨凌地区0~20 cm和20~40 cm土层van Genuchten模型参数的空间变异性及其影响因素进行了研究。结果表明:0~20 cm和20~40 cm土层参数α都具有明显的多重分形特征,空间变异性较强,且分别是由低值和高值分布引起的;参数n和θs的多重分形特征不明显,空间变异性较弱。0~20 cm和20~40 cm土层van Genuchten模型参数与土壤物理特性的相关特征并不完全相同,在观测尺度上,0~20 cm土层参数α与Sand、Silt显著相关,参数n与Sand、SOM显著相关,θs与Sand显著相关;20~40 cm土层参数α与SOM显著相关,参数n和θs都与Sand、Silt、SOM显著相关;在多尺度上,0~20 cm土层参数α与Sand、Silt的相关程度最高,20~40 cm土层参数α与BD、SOM的相关程度最高。
【英文摘要】Spatial variability of van Genuchten model parameters and its affecting factors in 0~20 cm and 20~40 cm soil layers were studied with multifractal and joint multifractal methods.The results showed that in 0~20 cm and 20~40 cm soil layers parameter had obvious multifractal characteristics,and its spatial variability was strong caused by the distribution of lower and higher values respectively.The multifractal characteristics of parameter n and θs were not obvious,and the spatial variability was weak.Correlat...
【语种】中文
【第一作者】刘继龙
【通讯作者】马孝义
【期刊名称、卷期、页码】农业机械学报;2010,41(1):41-62
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【引文索引类型】EI
【引文索引号】2.0101012753e+013
【学科分类】农业工程

【题目】Expression of BMP Receptors in Porcine Granulosa Cells (GCs) and Their Regulation by Luteinizing Hormone (LH)
【中文关键词】无
【英文关键词】porcine GCs; mRNA expression; BMP receptors; Smads; LH; E2; P4
【中文摘要】无
【英文摘要】Bone morphogenetic proteins (BMPs) play critical roles in follicle growth and development. BMPs initiate signaling by assembling BMP receptors and activating Smads, which in turn alter expression of target genes. The mechanism underlying the regulation of the expression of BMP receptors and Smads during follicle development in pigs is still unknown. By quantitative real-time PCR, the mRNA expression of BMP receptors and Smads in granulosa cells (GC) was investigated. Cells were obtained from small porcine follicles (SF; <3 mm diameter) and dominant follicles (DF; >6 mm diameter); ActR1A and BMPR2 mRNA levels in DF were significantly higher (P<0.05) than that in SF, whereas BMPR1B, Smad4 and Smad7 expression tended to decrease (P>0.05). The levels of BMPR1A, ActR2, Smad1, Smad5, and Smad8 mRNA did not differ between DFs and SFs. To investigate the effect of LH on BMP

receptors in GC, cells obtained from porcine DFs were cultured in medium supplemented with different doses of luteinizing hormone (LH). High doses of LH (4 IU mL(-1)) significantly decreased the concentration of estradiol (E2) and progesterone (P4) in medium and the expression of Cyp19a1 (P450 aromatase, P450arom) and Cyp11a1 (cholesterol side-chain cleavage enzyme P450, P450scc), while significantly increased viable cell numbers and up-regulated expression of cyclin dependent kinase-4 (CDK4) and cyclin D2. However, LH had no effect on the expression of BMP receptor genes. Thus, the present study indicates that the expression of members of the BMP signaling pathway in porcine GC is regulated during follicle development and the expression of BMP receptors are not regulated by LH in porcine GCs.

【语种】英文

【第一作者】王伟

【通讯作者】徐银学

【期刊名称、卷期、页码】2010,9(11):101-105

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【学科分类】畜牧学

【题目】Identification and characterization of the two-component cell lysis cassette encoded by temperate bacteriophage ϕ PYB5 of Lactobacillus fermentum

【中文关键词】无

【英文关键词】endolysin;
holin;
lytic spectrum;
temperate bacteriophage;
two-component cell lysis cassette;
zymogram analysis

【中文摘要】无

【英文摘要】Aims: To characterize the two-component cell lysis cassette comprised of holin (Hyb5) and endolysin (Lyb5) encoded by Lactobacillus fermentum temperate bacteriophage ϕ PYB5, and illustrate the potential application of Lyb5 as therapeutic agents.Methods and Results: The hyb5 – lyb5 cassette was cloned from the genome library of ϕ PYB5, and the hyb5, lyb5 and hyb5 – lyb5 cassette were expressed in E. coli BL21, respectively. The molecular weight of Hyb5 indicated by SDS-PAGE was 19 kDa, and Lyb5 was 45 kDa. Both Hyb5 and Lyb5 protein could induce cell lysis alone, resulting in the leakage of β -galactosidase. However, the Hyb5 – Lyb5 cassette lysed the host cells more rapidly and extensively. By zymogram analysis, Lyb5 exhibited a broad lytic spectrum.Conclusions: Overexpression of hyb5, lyb5 and hyb5 – lyb5 cassette were carried out in E. coli and Lyb5 exhibited a broad lytic spectrum.Significance and Impact of the Study: The Lyb5 produced in E. coli exhibited a broad lytic spectrum against Gram-positive strains including Staphylococcus aureus as well as Gram-negative strains such as Salmonella typhi, suggesting that Lyb5 provides a potential alternative of diagnostic tools and therapeutic agents.

【语种】英文

【第一作者】孔健

【通讯作者】孔健

【期刊名称、卷期、页码】Volume 105, Issue 6, pages 1939 – 1944, December 2008

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【引文索引号】DOI: 10.1111/j.1365-2672.2008.03953.x

【学科分类】食品科学技术其他学科

【题目】Effect of interrupted endogenous BMP/Smad signaling on growth and steroidogenesis of porcine granulosa cells

【中文关键词】无

【英文关键词】Porcine granulosa cells; Bone morphogenetic protein (BMP)/Smad; Smad4; RNA interference (RNAi); Growth; Steroidogenesis

【中文摘要】无
【英文摘要】Bone morphogenetic proteins (BMPs) play a critical role in the growth and steroidogenesis of granulosa cells (GCs). BMP signals act through membrane-bound heteromeric serine/threonine kinase receptors. Upon ligand binding, BMPs activate intracellular Smad proteins and regulate growth and apoptosis in various cell types. The objective of this study was to demonstrate the effects of BMP/Smad signal on growth and steroidogenesis of porcine GCs. A strategy of RNA interference (RNAi)-mediated 'gene silencing' of Smad4, a core molecule mediating the intracellular BMP/Smad signal transduction pathways, was used to interrupt endogenous BMP/Smad signaling. Results indicate that Smad4-small interfering RNA (siRNA) caused specific inhibition of Smad4 mRNA and protein expression after transfection. Interrupted endogenous BMP/Smad signaling significantly inhibited growth, and induced apoptosis of porcine GCs, while decreasing estradiol production. In addition, interrupted BMP/Smad signaling significantly ($P < 0.05$) changed the expression of Cyclin D2, CDK4, Bcl-2, and Cyp19a1. These findings provide new insights into how BMP/Smad signaling regulates the growth and steroidogenesis of porcine GCs.
【语种】英文
【第一作者】王伟
【通讯作者】徐银学
【期刊名称、卷期、页码】2010,11(9):719-2
【论文发表时间】2010-09-14 00:00:00
【引文索引类型】SCI
【引文索引号】WOS:000281705300010
【学科分类】畜牧学

【题目】Identification of a novel C20-elongase gene from the marine microalgae Pavlova viridis and its expression in Escherichia coli
【中文关键词】无
【英文关键词】Pavlova viridis . Elongase .Membrane protein .
Green fluorescent protein
【中文摘要】无
【英文摘要】Pavlova viridis, a species of a unicellular marine microalgae, is rich in the very-long-chain polyunsaturated fatty acids, such as eicosapentaenoic acid (EPA, 20:5n-3) and docosahexaenoic acid (DHA, 22:6n-3). A new elongase gene (elkj), with high identity with a functionally characterized C20-elongase of Pavlova lutheri, was isolated via reverse transcriptase-polymerase chain reaction using the primers designed from conserved motifs and 5'/3' rapid amplification of cDNA ends. The coding region of 314 amino acids predicted a protein of 34 kDa, which contained seven transmembrane domains with its C-terminal in the cytoplasm and located in the endoplasmic reticulum. The expression of ELKJ in Escherichia coli was carried out by using green fluorescent protein as an indicator, suggesting the correct insertion in cytoplasmic membrane. Functional analysis demonstrated that elkj encoded a C20-elongase that mediated the elongation of EPA into docosapentaenoic acid (22:5n-3), confirming the two-step conversion from EPA to DHA in marine microalga.
【语种】英文
【第一作者】Yan Niu
【通讯作者】Jian Kong
【期刊名称、卷期、页码】Marine Biotechnology,2009,11(1), 17-23
【论文发表时间】2008-06-24 00:00:00
【引文索引类型】SCI
【引文索引号】DOI 10.1007/s10126-008-9116-7
【学科分类】微生物学

【题目】Identification of nisin-producing strains by nisin-controlled gene expression system.
【中文关键词】无
【英文关键词】endolysin;
holin;
lytic spectrum;
temperate bacteriophage;
two-component cell lysis cassette;

zymogram analysis
【中文摘要】无
【英文摘要】A specific method to identify nisin-producing strains was developed based on Nisin-Controlled gene Expression (NICE) vector pSec:Nuc. The plasmid pSec:Nuc was transformed into non-nisin-producing strain Lactococcus lactis NZ9000, a host commonly used for the NICE system. The generating strain L. lactis NZ9000/pSec:Nuc could sense extracellular inducer nisin and efficiently secrete a reporter protein Nuc, the staphylococcal nuclease (Nuc) into the medium. Instead of using purified nisin, the culture supernatants of nisin-producing strains were also used as inducers. Therefore, the NICE system could be used to identify nisin-producing strains. With this principle, 4 among 56 lactococci strains isolated from raw milk were identified as nisin producers. The results were further confirmed by polymerase chain reaction amplification with their genomic DNA as templates, and nucleotide sequencing revealed that three of them produced nisin A, and the others produced nisin Z. Those results made it possible to isolate and identify nisin-producing strains specifically and rapidly using NICE system.
【语种】英文
【第一作者】孔健
【通讯作者】孔健
【期刊名称、卷期、页码】Curr Microbiol. 2009 Jun;58(6):604-8.
【论文发表时间】2009-02-26 00:00:00
【引文索引类型】SCI
【引文索引号】Epub 2009 Feb 26.
【学科分类】食品科学技术其他学科

【题目】An Improved MOCC with Feedback Control Structure Based on Preference
【中文关键词】无
【英文关键词】无
【中文摘要】无
【英文摘要】The optimal solution of multi-objective control problem (MOCP) isn ’t unique, so it is hard for traditional method to obtain these optimal solutions in one simulation process. Based on this background, Multi-Objective Compatible Control (MOCC) algorithm was presented by Lihong Xu in [2]. MOCC is acompromise method, which hunts for suboptimal and feasibleregion as the control aim rather than precise optimal point. The controller of MOCC is optimized by GA in its interval, namely its controller lacks concrete controller structure. Due to the controller without concrete structure, the system model must be accurate andwithout input disturbance; however, it is impractical in practice.Besides, the control problem is different from the optimization.Different user has different preference and users ’ preference information plays a key role in control performance. In this paper,the feedback control law u L and users ’ preference information are incorporated into MOCC algorithm. An improved MOCC (IMOCC) algorithm is presented. The simulation result demonstrates its superiority and advantage over the MOCC algorithm.
【语种】英文
【第一作者】徐立鸿
【通讯作者】徐立鸿
【期刊名称、卷期、页码】GEC ’09, June 12 – 14, 2009, Shanghai,China.
【论文发表时间】2009-06-13 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】控制科学与技术

【题目】Improved determination of phoxim residue in stored wheat by HPLC with DAD
【中文关键词】无
【英文关键词】HPLC;
pesticide residue;
phoxim;
wheat grain samples
【中文摘要】无

【英文摘要】AbstractThis article presents an improved method to detect the phoxim residual in whole wheat grain (not milled). The authors used petroleum ether (PE) as solvent to extract phoxim in darkness, and then determined it with high-performance liquid chromatography (HPLC) with diode array detector (DAD) at 280 nm. Use of PE improved the extraction efficiency of phoxim from grain samples over those obtained using acetone, recovery of 83.3% and 65.9%, respectively. Light produced more side effect on the extraction of this pesticide than with darkness, recovery of 63.2% and 83.3%, respectively. The combination of PE with darkness yielded a higher recovery of phoxim in liquid-phase extraction. The peak area of phoxim compared with its absolute values of phoxim in standard solution concentration range from 0.005 mg/kg to 0.253 mg/kg showed a good linear calibration (R(2) = 0.9999). Recoveries, at spiked concentrations of 0.02, 0.05, and 0.10 mg/kg, varied between 83.3% and 106.3% with relative standard deviations (RSD) ranging from 6.5% to 8.0%. The present method provides sufficient sensitivity as reflected by the values of limit of detection (LOD) and limit of quantification (LOQ). LOD was 0.002 mg/kg (S/N 3), and the estimated LOQ was 0.006 mg/kg (S/N = 10). Use of the proposed method successfully detected phoxim residue in wheat grain from Beijing and Kunming City of China.
【语种】英文
【第一作者】Zhaolin Lv
【通讯作者】Zhaolin Lv
【期刊名称、卷期、页码】J Food Sci. 2009 Jun;74(5):T37-41.
【论文发表时间】2009-05-06 00:00:00
【引文索引类型】SCI
【引文索引号】DOI: 10.1111/j.1750-3841.2009.01157.x
【学科分类】食品科学技术其他学科

【题目】PCR-DGGE 技术在乳酸菌检测中的条件研究
【中文关键词】变性梯度凝胶电泳; 聚合酶链式反应; 乳酸菌; V3可变区域;
【英文关键词】denaturing gradient gel electrophoresis; polymerase chain reaction; lactic acid bacteria; variable V3 region;
【中文摘要】变性梯度凝胶电泳技术广泛应用于微生物生态学的研究,最近也渗透到食品微生物学领域。为了检测发酵乳制品中乳酸菌的组成及动态变化,本实验对PCR-DGGE技术在乳酸菌检测中所需要的条件如变性剂梯度、电泳时间进行研究。结果表明,变性剂梯度在30%~55%,电泳时间为200min时,能够有效分离乳酸菌的16SrRNA基因的V3区域。在此基础上,就PCR技术对染色体DNA混合模板的扩增效率进行分析,结果发现,常规PCR技术与降落PCR技术对乳酸菌16SrRNA基因V3区域的扩增没有差异,而细菌通用引物对乳酸菌模板DNA的识别和扩增具有优先和偏爱性,预示PCR-DGGE技术用于微生物群体检测时还应选用乳酸菌引物进行佐证。
【英文摘要】Denaturing gradient gel electrophoresis (DGGE) analysis was recently applied in the detection of food microbial diversities as well as of environmental microbial communities widely. To analyze the component and structure of lactic acid bacteria in food samples and dairy fermented products, DGGE conditions such as gradient of denaturant and run time for electrophoresis were firstly optimized. The results showed that 30%~55% was a suitable denaturant range of gradient for partially melting DNA fragments, and about 200 min was a proper time for the variable V3 region separation of 16S rRNA genes of lactic acid bacteria. Five chromosomes DNA mixture of lactic acid bacteria was used as template DNA for traditional PCR and touch down PCR to amplify the V3 region, respectively. The PCR production was subjected to DGGE analysis as described above. The different efficiencies of amplification during PCR by universal bacteria primer set were also observed. This suggested that the limit in the detection potential of PCR-DGGE is a consequence of DNA template competition during the amplification reaction.
【语种】中文
【第一作者】马俊孝
【通讯作者】孔 健
【期刊名称、卷期、页码】食品科学,2008,29(4),225-229
【论文发表时间】2008-04-29 00:00:00
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【引文索引号】doi:10.1016/j.ijfoodmicro.2009.10.024
【学科分类】微生物学

【题目】Energy-saving Control of Greenhouse Climate Based on MOCC Strategy
【中文关键词】无

【英文关键词】Energy-saving, Optimal control, Greenhouse climate model,Multi-objective compatible control Strategy, MOEAs
【中文摘要】无
【英文摘要】The adjustment of greenhouse environment has heavy influence on the plants growth, production yield, quality and energy consumption. Moreover, classical methods used for solving greenhouse environment multi-objective control problems may be more reasonable by adopting "region" control objectives instead of "point" control objectives. In this pa-per, we propose a novel energy-saving control algorithm, and employ Multi-Objective Compatible Control(MOCC) strategy and an extant greenhouse model to optimize the con-trol parameters of greenhouse environment for short time-scale prediction(15 minutes). A series of optimization experiments using Multi-Objective Evolutionary Algorithms(MO-EAs) are presented to minimize energy consumption under certain compatible control "region" conditions. The results are encouraging, and show that the proposed method may be valuable and helpful to formulate environmental control strategies, to pursue less energy cost, and to gradually re-alize the ultimate objectives of environmental optimal control
【语种】英文
【第一作者】徐立鸿
【通讯作者】徐立鸿
【期刊名称、卷期、页码】GEC ’09, June 12 – 14, 2009, Shanghai, China.
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【引文索引号】null
【学科分类】控制科学与技术

【题目】Model-based Compromise Control of Greenhouse Climate using Pareto Optimization
【中文关键词】无
【英文关键词】Compromise control algorithm, Energy-saving, Greenhouse climate model, Weather forecast model, NSGA-II
【中文摘要】无
【英文摘要】Energy-saving is always in conflict with the control Errorminimizing for real-world engineering application in greenhouse.Moreover, the efficiency of plant production andenergy consumption depends largely on the adjustment of greenhouse environment. In order to achieve less energy consumption and higher control precision, this paper presents akind of compromise control algorithm for Pareto solutions of greenhouse environment control. The models of greenhouse and weather forecast used are described and derived. A seriesof optimization experiments are presented at any time of a day using Non-dominated Sorting Genetic Algorithm-II(NSGA-II). The results show the feasibility of the proposed method, and it may be valuable and helpful to formulate environmental control strategies, and to achieve high control precision and low energy cost.
【语种】英文
【第一作者】胡海根
【通讯作者】徐立鸿
【期刊名称、卷期、页码】GEC ’09, June 12 – 14, 2009, Shanghai, China.
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【引文索引号】null
【学科分类】控制科学与技术

【题目】乳酸菌有氧呼吸代谢研究进展
【中文关键词】乳酸菌; 有氧增殖; 呼吸代谢; 遗传学特征
【英文关键词】lactic acid bacteria; aerobic proliferation; respiration metabolism; genetic characteristics
【中文摘要】通过添加血红素,部分乳酸菌种(株)的细胞在有氧条件下可进行有氧呼吸代谢,细胞具有完整的呼吸链;遗传学证据表明,细胞色素氧化酶cydA基因可以在对数生长末期获得表达,代谢调控蛋白CcpA作为有氧代谢的"开关"进行代谢调控,此时乳酸菌细胞具有耐氧和耐酸性能力。相对于发酵条件而言,有氧代谢可促使乳酸菌细胞获得较高的生长量,培养介质的pH值维持在较高水平,使细胞具有较强的抗逆效果和生存能力。这意味着通过控制性地改变乳酸菌的培养条件,或许能改善乳酸菌细胞在有氧条件下的增殖潜力和生存能力,拓宽其在食品发酵工业中的应用范围。
【英文摘要】Several strains (species) of lactic acid bacteria (LAB) such as Lactococcus lactis can undergo respiration metabolism and thrive in the presence of both oxygen and a heme source. Genetic evidence suggests that cydA genes encoding cytochrome d oxidase

are expressed at the end of log phase, and aerobic respiration is regulated by the catabolite control protein A (CcpA) acting as "a switch" in LAB strains, therefore the strains present some oxygen and acid resistance. Compared to fermentation, aerobic respiration can prompt effectively the achievement of high biomass, the maintenance of high pH value of culture medium and the increases of adverse resistance and survival ability. It means that the controlled changes in cultivation conditions may increase the proliferation potential and survival ability of LAB, which can widen their application scope in food fermentation industry.
【语种】中文
【第一作者】白凤翎
【通讯作者】张柏林
【期刊名称、卷期、页码】食品科学,2009,30(13),262-267
【论文发表时间】2008-11-18 00:00:00
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【引文索引号】null
【学科分类】微生物学

【题目】Non-even Spread NSGA-II and Its Application to Conflicting Multi-Objective Compatible Control
【中文关键词】无
【英文关键词】NSGA-II; evolutionary algorithm; non-even Pareto front spread;Multi-objective control
【中文摘要】无
【英文摘要】Non-dominated Sorting Genetic Algorithm-II (NSGA-II) is a sound method to deal with the multi-objective optimization problem, and even spread Pareto front preserving strategy is one of its two key principles. However, especially for some dynamic problems, the most interested area is certain special area among the Pareto front. To meet this requirement, the non-even Pareto front spread preserving principle is proposed and is taken as the optimization tool forthe multi-objective compatible control problem (MOCCP).To decrease the real-time computation load at every controlstep, based on the tight relation between the system states of the neighboring sampling instants, an iterative control algo- rithm is presented. The stability preference selection strat-egy in the algorithm tends to produce a stable controllerin face of the Pareto front with the divergent or oscillating segment. To further decrease the computation time, adaptable population corresponding with the control process is adopted. Comparative simulation example illustrates the validity.
【语种】英文
【第一作者】胡青松
【通讯作者】徐立鸿
【期刊名称、卷期、页码】GEC'09, June 12-14, 2009, Shanghai, China.
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【引文索引号】null
【学科分类】控制科学与技术

【题目】饲料中不同水平n-3 HUFA对军曹鱼生长和脂肪酸组成的影响
【中文关键词】军曹鱼;脂肪酸需要;n一3 HUFA;摄食和营养
【英文关键词】Rachycentron canadum ;Fatty acid requirement;n一3 HUFA;Feeding and Nutrition
【中文摘要】:以鱼粉、豆粕和酪蛋白为蛋白源,通过调节饲料中的牛油和鱼油水平,使饲料中高度不饱和脂肪酸(n一3 HU—FA)的含量分别达到0.60、0.96、1,24、1.56、1.77和2.11% ,配制出6种等氮等能的实验饲料,并以此饲料投喂军曹鱼幼鱼(8.3±0、5g)8周。实验结果显示饲料中n一3 HUFA水平对实验鱼成活率没有显著影响,但却显著影响了军曹鱼的特定生长率(SGR)。随着饲料中n一3 HUFA水平的升高,SGR相应提高,但当饲料中n一3 HUFA水平高于1.24%时,各处理之间的生长没有出现显著差异。随着饲料中n一3 HUFA水平的升高,肌肉和肝脏中18:1n一9的含量逐渐下降,而22:6n一3的水平相应升高。根据实验结果,当以特定生长率为评价指标时,用折线模型估计出军曹鱼对饲料中n一3 HUFA的需求量约为1.49%
【英文摘要】Abstract:A feeding experiment was conducted in floating sea cages(1.0m x 1.5m×2.0m)to determine the requirement of juvenile cobia(Rachycentron canadum)for n一3 highly unsaturated fatty acids(n一3 HUFA).Six semi—purified diets were formulated to contain graded levels of n一3 HUFA,ranging from 0.6 to 2.11% .Juvenile fish(weighing 8.3±0.5g)were randomly divided into 18 cages of 20 fish,and fed one of 6 diets for 8 weeks.The water temperature fluctuated from 29 to 23.5°C ,the salinity from 20.9 to 23.9%v,and dissolved oxygen content was approximately 7mg/L during the experimental period.No significant

differences(ANOVA,P>0.05)in survival were observed among dietary treatments.However,specific growth rate (SGR)was significantly(P<0.05)affected by dietary n一3 HUFA.SGR significantly increased with increasing dietary n一3 HUFA from 0 to 1.24% .and reached a peak at 1.56% of n一3 HUFA.Then,SGR slightly decreased for the groups fed the diets containing higher than 1.56% of n · 3 HUFA.The content of 1 8:1 n一9 in muscle and liver decreased,while 22:6n一3 increased with increasing dietary n一3 HUFA.Based on SGR,the requirement for n一3 HUFA of juvenile cobia is about 1.49% of dry diet by broken—line analysis,

【语种】中文
【第一作者】刘兴旺
【通讯作者】谭北平
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【学科分类】水产饲料学

【题目】鱼类苏氨酸营养生理研究进展
【中文关键词】鱼类; 苏氨酸; 营养
【英文关键词】f ish; threonine; nut rit ion physiology
【中文摘要】综述了鱼类苏氨酸营养生理的研究进展, 涉及苏氨酸的营养生理功能, 鱼类对苏氨酸的需要量, 评价鱼类苏氨酸需要量所采用的指标, 饲料中苏氨酸缺乏和过量对鱼类生长的影响, 以及苏氨酸与其它营养素之间的相互关系
【英文摘要】In this paper, the recent advances in threonine studies are presented, including it s mainmetabolism path, physiological function, requirement and value indexes for f ish, threonine def iciency and ex cess symptoms infish, and it s relationships w ith other nut rient s in fish
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【题目】土壤入渗特性的空间变异性及土壤转换函数
【中文关键词】土壤入渗; 稳定入渗率; 空间变异性; 土壤转换函数; 多重分形;
【英文关键词】soil infiltration; stable infiltration rate; spatial variability; pedo-transfer functions; multifractal;
【中文摘要】以在杨陵一级阶地上进行的入渗试验为基础,利用多重分形和联合多重分形方法,研究分析了土壤入渗特性在多尺度上的空间变异性及与土壤物理特性的相关性,并在此基础上建立了土壤入渗特性的土壤转换函数。研究表明:土壤入渗特性具有多重分形特征,观测尺度上,稳定入渗率、前30 min累积入渗量的空间变异都主要由粗粉粒和粘粒含量的空间变异造成。在多尺度上,稳定入渗率的空间变异受土壤容重、粗粉粒和粘粒含量的空间分布影响显著,前30 min累积入渗量的空间变异受粗粉粒和粘粒含量的空间分布影响显著,与观测尺度上的影响因素相同。基于联合多重分形分析建立的稳定入渗率的土壤转换函数的计算误差较小,前30 min累积入渗量的土壤转换函数的计算误差较大。
【英文摘要】Based on the experimental data collected from the first terrace in Yangling station,we perform both multifractal analysis and joint multifractal analysis to investigate the spatial variability and relationship between the stable infiltration rate and soil infiltration characteristics,and establish the pedo-transfer functions(PTFs) of soil infiltration characteristics.The results show that the infiltration characteristics are multifractal.The observed spatial variability of stable infiltration rate and the b...
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【题目】Detection of the Lactic Acid Bacteria in Commercial Yoghurts by PCR-denaturing Gradient Gel Electrophoresis
【中文关键词】乳酸菌; 聚合酶链式反应-变性梯度凝胶电泳; 酸奶; 16S rRNA基因可变区; 益生菌; 发酵乳制品;
【英文关键词】lactic acid bacteria; PCR-DGGE; yoghurt; variable region of 16S rRNA gene; probiotics; fermented dairy product;
【中文摘要】在食品发酵行业,需要一种简捷有效的方法检测发酵产品中的有益微生物.聚合酶链式反应-变性梯度凝胶电泳(Ploymerase chain reaction and denaturing gredient gel electrophoresis,PCR-DGGE)技术广泛应用于微生物生态学的研究.采用PCR-DGGE对5种含有乳酸菌的乳制品进行了菌群组成分析,并通过传统培养方法和核酸序列分析进行了验证.结果表明,所有测试样品中的活菌数量都在106~109 cfu/mL之间,通过平板培养法分离出了形态明显的杆状菌和链球状菌,对其进行16S rDNA核酸序列测定及同源性分析,将其鉴定为德氏乳杆菌(Lactobacillus delbrueckii)和嗜热链球菌(Streptococcus thermophilus).建立了由已知乳酸菌组成的DGGE参考阶梯(Reference ladder),可用其对相应菌株进行DGGE鉴定.用两对不同引物进行PCR-DGGE分析,除样品1外,试样中均检测到德氏乳杆菌和嗜热链球菌.对DGGE参考阶梯未能直接鉴定的样品1的电泳条带进行回收、序列分析,分别鉴定为卷曲乳杆菌(L.crispatus)和鼠李糖乳杆菌(L.rhamnosus).同时发现,引物R518-F357对嗜热链球菌模板的识别效率高于引物Lac1GC-HDA2.以上结果表明,RCR-DGGE技术可以对样品中的乳酸菌进行快速的分析和鉴定.图4表1参30
【英文摘要】For food fermentation industry,it is often desirable to monitor the probiotic microorganisms present in commercial products for quality control.Simple,reliable and rapid detection methods with low cost are required to achieve this goal.Denaturing gradient gel electrophoresis analysis of 16S rDNA has been widely used in identification of microbial communities without any culturing step.We have modified and tailored this technique,independently confirmed by sequencing and culture analyses,for detecting the lactic acid bacteria in commercial yoghurt products.All sampled yoghurt products contained bacteria ranging from 106 to 109-cfu/mL.Two strains,further identified as Streptococcus thermophilus and Lactobacillus delbrueckii,with typical morphological characters of Bacillus sp.and Streptococcus sp.were isolated.A reference ladder derived from amplification products of known lactic acid bacteria was constructed and characterized.L.delbrueckii and S.thermophilus were detected in four out of five yoghurt products by comparison of the reference ladder,while L.crispatus and L.rhamnosus were identif ied in another product by sequencing analysis.Furthermore,the preferential amplification was readily found between primers R518-F357 and Lac1GC-HDA2.Those results suggested that DGGE could be considered a reliable approach for rapid detection of bacteria in commercial yoghurt products.Fig 4,Tab 1,Ref 30
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【题目】饲料中添加外源酶对大黄鱼和鲈氮磷排泄的影响
【中文关键词】大黄鱼; 鲈; 植酸酶; 非淀粉性多糖酶; 氮排泄; 磷排泄
【英文关键词】Phytase; Non starch polysaccharide enzyme; Large yellow croaker; Pseudosciaena crocea; Japanese seabass; Lateolabrax japonicus ; Nitrogen excretion; Phosphorus excret ion
【中文摘要】本研究以大黄鱼和鲈为实验对象, 探讨饲料中添加植酸酶(PY) 和非淀粉性多糖酶(WX 和VP) 对其氨氮和可溶性磷(PO3-4 P) 排泄的影响。以含植物蛋白的饲料为基础饲料, 分别向每千克饲料中添加200mg 植酸酶(酶的活性为2500IU/ g) 、800mg WX(主要包括葡聚糖酶、戊聚糖酶和纤维素酶, 各种酶的活性皆为50IU/ g) 、400mg VP(主要为木聚糖酶, 酶的活性为1000IU/ g) 以及800mg WX+ 400mg VP 配制出5 种实验饲料。实验鱼在海水网箱中经过8周的摄食驯养后, 转入室内水族箱中进行氮磷排泄测定实验。在水族箱中经2 天的适应后, 测定饥饿状态下氨氮及可溶性磷的排泄率。然后饱食投喂, 并连续测定摄食后48h 内鱼体氨氮和可溶性磷的排泄率。实验期间水温为26 5 32 5∀ , 盐度为32 5# 36# , 溶氧在7 mg/ L 以上。实验结果表明, 饥饿状态下实验鱼的氨氮和可溶性磷排泄不受实验饲料影响(p > 0 05) 。而在饱食条件下, 实验饲料中添加非淀粉性多糖酶(WX、VP 及WX+ VP) 显著降低了实验鱼的氨氮排泄率(p < 0 05) , 而

添加植酸酶组实验鱼的氨氮排泄率与对照组差异不显著。饲料处理对实验鱼可溶性磷的排泄率的影响不显著(p> 0 05) , 但添加植酸酶组实验鱼的可溶性磷排泄率有增加的趋势

【英文摘要】An experiment was conducted to evaluate the effects of dietary phytase (PY) and non starch polysaccharide enzyme (WX and VP) on ammonia nitrogen and soluble phosphorus excretion in large yellow croaker (Pseudosciaena crocea) and Japanese seabass (Lateolabrax japonicus) , respectively. Using soybean meal, rapeseed meal, peanut meal, fish meal and meat and bone meal as protein sources, fish oil and soybean oil as lipid sources, lysine, methionine and valine as supplements simulated the essential amino acid pattern of fish meal, five isonitrogenous and isoenergetic experimental dietswere formulated to contain 0, 200mg/ kg phytase (2500 IU per gram) , 800mg/ kg WX (mainly including glucanase, pentosanase and cellulosase, each with 50 IU per gram) , 400mg/ kg VP (mainly including xylanase, 1000 IU per gram) , and the combinat ion of 800 mg/ kg WX and 400mg/ kg VP, respectively. Each diet was randomly assigned to triplicate groups of fish, and each group was stocked with 180 large yellow croaker (initial body weight, (1. 88 & 0. 02) g) or 60 Japanese seabass [initial body weight, (6. 28& 0. 1) g] . Fish were fed twice daily (06: 30 and 16: 30) to sat iation for 8 weeks. During the experimental period, the water temperature fluctuated from 26. 5 ∀ to 32. 5 ∀ , salinity from 32# to 36 # and dissolved oxygen was approximately 7mg/ L. After feeding for 8 weeks in sea cages with experimental diets, fish from each cage (3 fishes per cage) were transferred into indoor tank (20L) to determine ammonia nitrogen and soluble phosphorus excretion rates in starvation and satiation condition. Each tank stocked with 1 large yellow croaker (12. 48 & 1. 02) g or 1 Japanese seabass (54. 87& 2. 34) g. The ammonia nitrogen was determined by the sodium hypobromite oxidation method. The soluble phosphorus was determined by phosphorus molybdenum bluemethod. The results showed that ammonia nitrogen and soluble phosphorus excretion rates of fish in starvation condit ion were not affected by the experimental diets (p > 0. 05) . However, the ammonia nitrogen excretion rates in satiation condition were significantly lower in fish fed with diets supplemented with the combination of WX and VP, WX or VP than that fed with basal diet and phytase supplemented diet (p< 0. 05) , and ammonia nitrogen excretion rates in fish fed with basal diet and phytase supplemented diet were not significantly different. Soluble phosphorus excretion rates of fish fed with different experimental diets were not significantly different (p> 0. 05) , but there was an upward trend of soluble phosphorus excretion rate in fish fed with phytase supplemented diet. These findings in the present study suggested that supplementation of 200 mg phytase per kilogram diet might degrade the dietary phytate and increase availabile phosphorus absorbability, but not significant effects on ammonia nitrogen excretion rates of large yellow croaker and Japanese seabass. The non starch polysaccharide enzymes (400 mg VP, 800 mg WX, or the combination of 800 mg WX and 400 mg VP per kilogram diet) were effective to degrade the ant i nutritional effect of non starch polysac charide and decrease ammonia nitrogen excretion rates of large yellow croaker and Japanese seabass, but not significant effects on soluble phosphorus excretion rates of experimental fish.

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【题目】基于茎直径微变化的棉花适宜灌溉指标初步研究

【中文关键词】棉花; 茎直径微变化; 日出前叶水势; 株间变异; 灌溉指标;
【英文关键词】cotton; microchanges of stem diameter; predawn leaf water potential; plant-to-plant variability; irrigation indicator;

【中文摘要】在2004和2005年棉花生长季节,采用筒栽和大田小区试验相结合,对不同水分状况下茎直径微变化动态中日最大收缩量(M D S)、日增长量(D I)和当日复原所需时间(RT)等3个关键性指标进行了研究。结果表明,3个指标对植株体内水分状况变化的反应均非常敏感,随着日出前叶水势的降低,M D S明显增大;D I逐渐减小,在水势较高时变化幅度较小;RT则大幅度延长。当叶水势降低到-0.1M Pa时,D I变为负值,RT维持在24 h。3个指标的株间变异性测定结果表明,M D S和D I均存在较大的株间变异系数,RT的变异系数最小。对RT与土壤相对含水率进行相关分析发现,两者之间呈幂函数关系,相关程度达极显著水平。根据RT与叶水势和土壤相对含水率的关系,确定了RT对应于棉花适宜水分、轻度水分胁迫和重度水分胁迫的变化范围,而且,在对应的土壤含水率范围内,RT维持在一个相对稳定的区间,说明RT可作为指导棉花灌溉的适宜指标。M D S和D I由于影响因素较多,难以确定对应于水分胁迫的临界值,不适于单独作为灌溉指标。

【英文摘要】Both pot experiment and field experiment were conducted by continuous measurements of stem diameter variations,predawn leaf water potential and soil relative water content for growing cotton(Gossypium hirustum L. "Meimian 99B") in 2004 and 2005.The suitability of using parameters derived from stem diameter measurements,including maximum daily stem

shrinkage(MDS),daily increase(DI),and recovering time(RT) as indicators for irrigation scheduling of cotton was evaluated.The results show that the above three pa...

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【题目】饲料中添加肽聚糖对大黄鱼生长和非特异性免疫力的影响
【中文关键词】大黄鱼; 肽聚糖; 特定生长率; 非特异性免疫力; 累积死亡率
【英文关键词】Pseudosciaena cr ocea ; pept idogly can; specif ic grow th ra te; no n specif ic immunity ; cumulat ive mo rtality
【中文摘要】以初始体重(30. 8 ! 1. 33) g 的大黄鱼(P seudosciaena crocea) 为研究对象, 探讨饲料中添加肽聚糖对其生长和非特异性免疫力的影响。分别向每千克基础饲料中添加0(对照组) 、100、500 mg 肽聚糖, 配制出3 种等氮等能的实验饲料, 进行为期8 周的摄食生长实验。实验在海水浮式网箱(1. 5 m ∀ 1. 5 m ∀ 2. 0 m) 中进行, 每个处理设3 个重复, 每个重复放养40 尾。实验采取饱食投喂方式, 每天投喂2 次(05: 00 和17: 30) , 实验期间海水水温为27. 5~ 30. 5 # , 盐度为29~ 33, 溶解氧含量在7 mg ∃ L- 1 以上。饲喂实验结束后测定实验鱼的生长及相关的免疫学指标, 同时每网箱取10 尾实验鱼转入室内300 L 水族箱内进行攻毒实验。实验结果表明,饲料中添加肽聚糖显著影响大黄鱼的成活和生长。当饲料中添加100 和500 mg ∃ kg- 1肽聚糖时, 成活率(分别为95. 8% 和95. 0%) 显著高于对照组(88. 3%) 。当饲料中添加100 和500 mg∃ kg- 1肽聚糖时特定生长率(分别1. 44% ∃ d- 1 和1. 41% ∃ d- 1) 显著高于对照组(1. 12 % ∃d- 1) (P < 0. 05) 。饲料中添加肽聚糖实验组大黄鱼血液白细胞吞噬活力和血清溶菌酶活力显著高于对照组(P< 0. 05) , 且添加肽聚糖的两实验组之间差异不显著; 而血清替代补体途径活力则随着饲料中肽聚糖添加水平的增加而显著提高(P < 0. 05) 。哈维氏弧菌攻毒实验结果表明, 饲料中添加肽聚糖实验组的累积死亡率(分别为25. 0% 和25. 7%) 显著低于对照组(64.3%) (P< 0. 05) 。因此, 饲料中添加适宜含量的肽聚糖可显著提高大黄鱼生长率和非特异性免疫力, 肽聚糖可以作为一种安全高效的口服免疫增强剂应用于大黄鱼的养殖生产。
【英文摘要】A feeding ex per iment w as conducted to ex amine the ef fects o f dietary pept ido gly ca n on growth, no n specif ic immunity and disease resistance for large y ellow cro aker, P seudosciaena cr ocea. The basal diet was supplemented w ith 0, 100 and 500 mg ∃ kg- 1 pe pt idog lycan,respect ively , to formulate three ex per imental diet s. Each diet w as f ed to t riplicate gro ups of f ish in se awa ter f lo at ing cages (1. 5 m ∀ 1. 5 m ∀ 2. 0 m) , and each cage w as stocked w ith 40 f ish (w ith init ial w eight o f 30. 8 ! 1. 33 g) . Fish were fed tw ice daily (05: 00 and 17: 30) to appar ent sat iation for 8 w eeks. The w ater temper ature f luctuated f rom 27. 5 to 30. 5 # , the sal inity f rom 34 to 35 ∋ and dissolv ed o xy gen co ntent w as appro ximately 7 mg ∃ L- 1 during the experimenta l per iod. Result show ed tha t surv ival and growth w ere signif icant ly (P < 0. 05) af fe cted by dietary pe pt idog lycan. Fish f ed diet s w ith 100 and 500 mg ∃ kg- 1 pe pt idog lycan supplementat io n had signif icant ly (P< 0. 05) higher surviv al (95. 8% and 95. 0%) tha n the cont ro l g roup (88. 3%) . Specif ic grow th rate (SGR) in f ish f ed the diet s w ith pept idog lycan (1. 44% ∃ d- 1 and 1. 41% ∃ d- 1 , respect ively) w as signif icant ly (P< 0. 05) hig her compared w ith the cont ro l gr oup (1. 21 % ∃ d- 1 . Phago cyt ic index (PI) and lyso zyme act ivity (LA) of f ish f ed the diets w ith pept idog lycan w ere also higher than tho se o f co ntro l g roup, and there wer e no sig ni f icant (P > 0. 05) dif ferences betw een two pept idogly ca n supplementat io n gr oups. How ever , alternat ive complement pathwa y activ ity (ACH50) signif icant ly (P < 0. 05) incr eased w ith incr easing dietar y pept idog lycan. The results of Vibr io har vey i chal lenge showed tha t the f ish f ed diets w ith pept ido gly can supplementat ion had signif icant ly low er cumulativ e mor ta lity (25. 0% a nd 25. 7% , respect ive ly) than the cont ro l gro up(64. 3%) . The result s suggested the dietary pept ido glycan signif icant ly impro ved the grow th, non specif ic immunity and disease resistance of lar ge yel low cro aker. Ther efor e, peptido glycan could become a safe and ef f icacio us immunost imulate supplemented to the diets for large yellow croa ker .
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【题目】A black-streaked dwarf disease on rice in China is caused by a novel fijivirus
【中文关键词】水稻病毒病;斐济病毒属;双链RNA基因组片段
【英文关键词】rice virus diseases; Genus fijivirus; dsRNA Genome segments
【中文摘要】本研究围绕该病害并从典型的水稻病株上分离出一个植物呼肠孤病毒分离物,通过连接RT-PCR技术扩增并克隆该病毒基因组片段S7-S10,测序分析显示它在分子水平上与斐济病毒属第二组已知成员高度同源(42.7-85.1%)。进化树分析表明它应该为斐济病毒属第二组的一个新成员,随后对该病毒分离物的全基因组序列分析也支持该病毒属于一个水稻病毒新种的结论。根据该病毒的生物学特征将其暂定名为水稻黑条矮缩病毒2号,为该病毒的监测预警和高效防控提供了科学依据。此外,研究中有关基因组序列和p8蛋白一个高度保守新结构域的报道,为同类病毒基因功能的深入研究提供了重要的基础数据信息。
【英文摘要】An isolate of a plant reovirus causing severe stunting and dark leaf symptoms on rice from Guangdong, China, was similar in virion morphology and serologically related to rice black-streaked dwarf virus (RBSDV). The electrophoretic profiles of genome segments of the two viruses in agarose or polyacrylamide gel were indistinguishable. The four genome segments of the new isolate corresponding to RBSDV S7 – S10 were amplified by ligation RT-PCR and sequenced. The size and organization of each genome segment was very similar to its counterparts in RBSDV, maize rough dwarf virus (MRDV), and mal de Rio Cuarto virus (MRCV). Sequence identity was greatest to RBSDV and MRDV (ranging from about 60 – 85% depending on the protein), but identities were always much lower than those between RBSDV and MRDV. These comparisons and phylogenetic analyses suggested that the virus represents a new species in genus Fijivirus group 2, tentatively named Rice black-streaked dwarf virus-2.
【语种】英文
【第一作者】张恒木
【通讯作者】陈剑平
【期刊名称、卷期、页码】Arch Virol (2008) 153:1893 – 1898
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【学科分类】植物保护学

【题目】充分灌溉和干旱胁迫对棉花茎直径变化的影响
【中文关键词】棉花; 干旱胁迫; 茎变化; 最大收缩量;
【英文关键词】cotton; drought stress; stem variation; maximum diameter shrinkage;
【中文摘要】以桶栽棉花为试验材料,采用随机区组试验设计,探讨充分灌水条件下(T0)和一个干旱周期中(TI)的茎直径变化量(RV)、最大收缩量(MDS)及每日生长量(DI)之间的差异。试验结果表明,由于受到土壤水分减少的影响,TI处理棉花的茎杆逐渐收缩得不到恢复,其RV曲线下降和T0处理RV曲线的差异逐渐变大,并且同是TI处理的植株其RV下降幅度也不同;二种条件下棉株的MDS和DI均呈负相关;水分胁迫的加剧导致棉花叶片气孔导度变小。经回归分析二处理MDS和气象因子中的有效辐射有较好的相关性,表明有效辐射是导致茎变化的主因。据此提出土壤相对含水量60%为RV产生差异的临界值,土壤相对含水量40%是棉花茎杆内可被用做蒸腾的水分被完全耗尽的临界值;同时提出标准茎变化的概念及其全回归方程。
【英文摘要】With those cottons planted in soil barrels,the distinguish of stem diameter s relative variation(RV),maximum diameter shrinkage(MDS) and daily increase(DI) between full irrigation treatment(T0) and drought treatment(TI) was researched by randomized block design experiment.The result indicate the cotton s stem of TI treatment shrinked with the decreasing of soil water content and couldn t recover its stem size at night as the stem of T0 treatment did,and its RV line declined sharply compared with the RV line...
【语种】中文
【第一作者】王晓森
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【学科分类】农业工程

【题目】PCR-DGGE技术在微生物物种多样性研究中的局限性及其解决措施
【中文关键词】变性梯度凝胶电泳; 微生物多样性; 微生物生态学; PCR; 局限性;
【英文关键词】DGGE; microbial diversity; microbial ecology; PCR; limitations;
【中文摘要】变性梯度凝胶电泳(denaturing gradientg elelectrophoresis,DGGE)技术目前已经成为研究微生物物种多样性和动态变化的分子检测工具之一。该技术不依赖于微生物的分离培养,便能快速、准确地获取复杂样品中微生物的菌群组成及其遗传信息,因此被广泛应用于微生物生态学、食品微生物学等领域。但DGGE技术存在一定的局限性,有时会造成分析结果的偏差。本文简单概述了DGGE技术的基本原理及其在微生物群落分析中的应用,重点对造成DGGE结果偏差的因素,如DNA提取、PCR扩增、DGGE条件以及DGGE图谱分析等进行讨论,并提出相应的解决措施,旨在对DGGE检测结果的分析提供参考。
【英文摘要】Polymerase chain reaction-denaturing gradient gel electrophoresis(PCR-DGGE) technique has been proven to be a powerful tool for analyzing microbial communities and their dynamics changes.As a fast and reliable molecular method,DGGE is used widely to investigate the microbial component and structure of complex communities without isolation and cultivation processes.However,potential causes resulting in limitations in DGGE analysis can be sometimes met.In this paper,the principle and application aspects,as well as the limitation of DGGE techniques for microbial ecology analysis were introduced,and the main causing factors addressed and discussed,such as DNA extraction,PCR amplification,DGGE conditions optimization,and DGGE profile analysis
【语种】中文
【第一作者】马俊孝
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【题目】大黄鱼幼鱼对锌的需要量
【中文关键词】大黄鱼;锌需要量;摄食生长
【英文关键词】Pseudosciaena crocea ; zinc requirement ; feeding and nutrition
【中文摘要】以初始体重为(1. 78 ±0. 02) g 的大黄鱼为实验对象,在室内流水系统(养殖桶规格:200 L)中进行为期8 周的摄食生长实验, 研究大黄鱼对饲料中锌的需要量。通过在基础饲料中添加ZnSO4 · H2O 使饲料中锌含量分别达到9. 68、30. 63、48. 94、91. 28、167. 49 和326. 81 mg · kg - 1 。每种饲料设3 个重复,每个重复放养40 尾大黄鱼。实验采取饱食投喂方式,每天投喂2 次(05 :30和17 :30) ,实验期间水温为26. 5~29. 5 ℃,盐度为25~28 ,溶解氧含量在7 mg · L - 1左右。实验结果表明各饲料处理组成活率(84. 2 %~96. 7 %) 无显著差异。随着饲料中锌含量的增加,大黄鱼的特定生长率(SGR) 显著升高[(2. 47~2. 77) % · d - 1 , P < 0. 05] ,且在91. 28 mg · kg - 1锌饲料组达最大值(2. 77 % · d - 1) ,然而,随着饲料中锌含量的进一步增加,SGR 维持在一相对稳定水平,各处理组间体蛋白(14. 0 %~15. 0 %) ,体脂肪(5. 4 %~6. 1 %) ,灰分(3. 7 %~4. 1 %) 及水分含量(76. 1 %~77. 9 %) 均无显著差异(P > 0. 05) 。饲料锌含量显著影响大黄鱼脊椎骨、全鱼和血清中锌的含量,而对肝脏锌含量无显著影响。以SGR 与骨骼锌含量为评价指标,根据折线模型得出大黄鱼对饲料中锌的需要量分别为59. 6 和84. 6 mg · kg - 1
【英文摘要】A growth experiment was conducted to determine the dietary zinc requirement for juvenile large yellow croaker [initial average weight (1. 78 ±0. 02) g] . Six semi2purified diets were formulated to contain 9. 68 ,30. 63 , 48. 94 , 91. 28 , 167. 49 and 326. 81 mg zinc per kg diet , supplied as ZnSO4 · H2O. Each diet was randomly assigned to triplicate groups of fish in flow2through system , and each tank was stocked with 40 juvenile fish. Fish were fed twice daily (05 : 30 and 17 : 30) to apparent satiation for 8 weeks . The water temperature fluctuated from 26. 5 to 29. 5 ℃, salinity from 25 to 28 and dissolved oxygen was approximately 7 mg · L - 1 during the experimental period. No significant differences in survival were found among dietary treatments .Specific growth rate (SGR) significantly increased with increasing dietary zinc from 9. 7 to 48. 9 mg · kg- 1 of diet (P < 0. 05) , and then leveled off . Zinc content in the vertebrae , whole body and serum was significantly affected by dietary zinc level (P < 0. 05) . No significant difference was

observed in body protein (14. 0 % - 15. 0 %) ,lipid (5. 4 % - 6. 1 %) ,ash (3. 7 % - 4. 1 %) and moisture (76. 1 % - 77. 9 %) among dietary treatment (P > 0. 05) . Broken2line analysis showed that the optimum dietary zinc requirement for large yellow croaker juveniles , using SGR and vertebrae zinc saturation as response criteria , was 59. 6 and 84. 6 mg zinc per kg diet ,respectively.

【语种】中文
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【学科分类】水产饲料学

【题目】微颗粒饲料替代生物饵料对大黄鱼稚鱼生长,存活和消化酶活力的影响
【中文关键词】大黄鱼;稚鱼;微粒饲料;替代;生物饵料
【英文关键词】Pseudosciaena crocea ; larvae ; micro2diet ; substitution ; live prey
【中文摘要】以初始体重为(1. 93 ±0. 11) mg 的大黄鱼稚鱼(12 日龄) 为实验对象,以微粒饲料(micro2diet , MD) 分别替代0 %、25 %、50 %、75 %和100 %生物饵料(live prey , LP) ,探讨微粒饲料替代生物饵料对大黄鱼稚鱼生长、存活、体成分和消化酶活力的影响。30 d 的摄食生长实验表明:微粒饲料替代生物饵料显著影响大黄鱼稚鱼的生长、存活、体成分和消化酶活力。当微粒饲料替代50 %和75 %生物饵料时,两组间的特定生长率(SGR) 差异不显著(P > 0. 05) ,但均显著高于100 %替代水平(P < 0. 05) ; 同时,75 %替代水平SGR 显著高于0 %和25 %替代水平(P < 0.05) 。存活率在各处理组间的差异关系与SGR 的变化趋势类似。鱼体粗蛋白含量随替代水平的升高有下降的趋势,其中50 %、75 %和100 %替代水平鱼体粗蛋白含量显著低于0 %和25 %替代水平(P < 0. 05) ,而鱼体粗脂肪含量变化趋势与之相反。当微粒饲料替代100 %生物饵料时,其胰段和肠段淀粉酶活力显著高于其余各处理组(P < 0. 05) ,而其余各处理组之间淀粉酶活力差异均不显著;微粒饲料替代生物饵料对各处理组蛋白酶活力无显著影响。由此可以看出,大黄鱼苗种生产中,在12 日龄以后使用优质微粒饲料替代50 %~75 %的生物饵料是可行的。
【英文摘要】A 302day feeding experiment was conducted in tanks to examine the effects of substitution levels of live prey (LP) by micro2diet (MD) on growth , survival , body composition and digestive enzymes of large yellow croaker larvae , Pseudosciaena crocea. Five treatments with microdiet replacing 0 % (0 % MD) , 25 % (25 % MD) , 50 % (50 % MD) , 75 % (75 % MD) and 100 % (100 % MD) of live prey , were used. Each treatment was randomly assigned to triplicate groups of tanks , and each tank was stocked with 3 500 larvae. The results showed that the substitution of LP by MD significantly influenced the growth , survival , body composition and digestive enzymes of large yellow croaker larvae. The specific growth rates (SGR) of 50 % MD and 75 % MD were significantly higher than those of 100 % MD (P < 0. 05) , and the SGR of 75 % MD were significantly higher than those of 0 % MD and 25 % MD (P < 0. 05) . However , no significant differences were observed in SGR between 50 % MD and 75 % MD. The changes of survival rates among different tested groups followed the similar pattern as that of SGRs . Carcass protein content declined with the increasing of the substitution levels , and carcass protein contents of 50 % MD , 75 % MD and 100 % MD were significantly lower than 0 % MD and 25 % MD (P < 0. 05) . On the contrary , carcass lipid content increased with the increasing of substitution levels . The amylase specific activities of 100 % MD were significantly higher than those of the other groups (P < 0. 05) , but trypsin specific activities were not significantly different among dietary treatments . Therefore , these results indicate that substituting 50 % - 75 % of LP by MD after 122day hatching in fry production of large yellow croaker is appropriate.

【语种】中文
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【期刊名称、卷期、页码】水产学报 32(1),91-97
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【题目】利用气象资料指导膜下滴灌棉花灌溉的试验研究

【中文关键词】膜下滴灌; 棉花; 耗水规律; 灌水模式;
【英文关键词】drip irrigation under plastic film mulch; cotton; water requirement; irrigation schedule;
【中文摘要】利用气象资料指导膜下滴灌棉花灌溉的试验于2007年5~10月份在新疆生产建设兵团灌溉中心试验站的试验基地进行。试验共设置7个处理,分别按生育期ET0的不同比例进行灌水。试验结果表明,为了获得经济合理的产量,膜下滴灌棉花全生育期耗水量应控制在360~405 mm之间。用实时气象资料指导膜下滴灌棉花的灌溉具有很好的可行性,蕾期和花铃后期10 d灌1次水,灌水定额为60%ET0;花铃前期7 d灌1次水,灌水定额为75%ET0,是一种适宜北疆地区膜下滴灌棉花的灌水模式。
【英文摘要】An experiment was conducted at Central Irrigation Station of Xinjiang Production and Construction Corps from May to October in 2007.Seven treatments are set to investigate the effects of irrigation scheduling patterns on water consumption,growth and yield and water use efficiency of cotton cultivated with drip irrigation under plastic film mulch in north Xinjiang.Irrigation volumes for the seven treatments are set as different proportion of reference crop evapotranspiration(ET0).Experimental results show th...
【语种】中文
【第一作者】刘雁翼
【通讯作者】段爱旺
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【引文索引号】null
【学科分类】农业工程

【题目】保加利亚乳杆菌H+-ATPase缺陷型菌株的筛选
【中文关键词】德氏乳杆菌保加利亚亚种; H+-ATPase; 突变株; 后酸化;
【英文关键词】Lactobacillus delbrueckii subsp.bulgaricus; H~+-ATPase; mutant; post-acidification;
【中文摘要】【目的】从传统乳制品中筛选具有新霉素抗性的H+-ATPase缺陷的德氏乳杆菌保加利亚亚种自发突变株,为最终开发弱后酸化的酸奶发酵剂奠定基础。【方法】利用API 50 CH细菌鉴定系统和16SrRNA基因序列分析对菌株进行鉴定。新霉素作为筛选压力,筛选具有新霉素抗性自发突变菌株,比较亲本和突变菌株的H+-ATPase活力及其代谢情况。【结果】从内蒙古地区的传统发酵酸奶中分离鉴定出一株德氏乳杆菌保加利亚亚种(Lactobacillus delbrueckiisubsp.bulgaricus),并命名为KLDS 1.9201。以此为出发菌株,筛选出两株H+-ATPase缺陷的自发突变株,分别命名为KLDS 1.9201-1、KLDS 1.9201-4,它们的H+-ATPase活力分别比亲本KLDS 1.9201降低了46%和60%。在MRS培养基中生长24 h后,KLDS 1.9201、KLDS 1.9201-1和KLDS1.9201-4对初始葡萄糖的代谢率分别为65%、41%和31%,终产物中乳酸的浓度分别为26、18和15 g/L,突变菌株的生物量均低于亲本。【结论】H+-ATPase活力降低的德氏乳杆菌保加利亚亚种的自发突变株具有较低的生长速率和弱产酸能力,它们可被用于制作弱后酸化的酸奶发酵剂。
【英文摘要】[Objective] We identified a neomycin-resistant mutant with reduced membrane-bound H~+-ATPase activity from L.delbrueckii subsp.bulgaricus originated from the traditional dairy product to develop a yoghurt starter culture with low post-acidification capacity.[Methods] API 50 CH identification system and 16s rDNA sequence analysis were applied to identify the strain isolated from the indigenous yoghurt.Neomycin was used to screen spontaneous neomycinresistant mutants.H~+-ATPase activity and metabolic dynamics were evaluated between the parent strain and mutants.[Results] One strain was identified as L.delbrueckii subsp.bulgaricus by API 50 CH identification system and 16s rDNA sequence analysis,coded as KLDS 1.9201.Two mutant strains were mutated from KLDS 1.9201 and coded as KLDS 1.9201-1,KLDS 1.9201-4.Compared with the parent strain,the H~+-ATPase activity of the mutants KLDS 1.9201-1 and KLDS 1.9201-4 decreased by 46% and 60% respectively.After cultured in MRS broth for 24 h,metabolic efficiency of the initial glucose for the parent strain was 65%,the mutants were 41% and 31%,the lactic acid concentration in the culture for the parent strain was 26 g/L,the mutants were 18 g/L and (15 g/L) respectively.The cell density of the mutants was lower than that of the parent strain.[Conclusion] The mutants of L.delbrueckii subsp.bulgaricus with reduced membrane-bound H~+-ATPase activity had low growth and acid production,which could be applied to develop yoghurt starter culture with lower post-acidification.
【语种】中文
【第一作者】刘飞
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【题目】离心条件对双歧杆菌存活力的影响
【中文关键词】双歧杆菌; 离心力; 离心时间; 离心温度; 存活能力;
【英文关键词】Bifidobacterium; centrifugal force; centrifugal time; centrifugal temperature; viability;
【中文摘要】优化离心力、离心时间和离心温度等离心参数,研究其对双歧杆菌存活力的影响。确定了在4℃,6 000 g离心时间30 min的条件下,长双歧杆菌KLDS 2.0001和婴儿双歧杆菌KLDS 2.0002两菌株的存活率最高,分别达到了94.49%和91.19%。
【英文摘要】The centrifugal conditions such as centrifugal force,time and temperature were optimized.The results showed that the highest harvesting rates of viable cells of B.longum KLDS 2.0001 and B.infantis KLDS 2.0002 were 94.49% and 91.19% respectively under 6 000 g at 4 ℃ for 30 min.
【语种】中文
【第一作者】杜鹏
【通讯作者】霍贵成
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【题目】应用热平衡法测定玉米/大豆间作群体内作物的蒸腾量
【中文关键词】玉米/大豆间作; 蒸腾; 茎流; 热平衡法;
【英文关键词】maize/soybean intercropping; transpiration; sap flow; heat balance method.;
【中文摘要】通过田间试验采用基于热平衡法的茎流计测定玉米/大豆条带间作群体内作物的蒸腾规律.结果表明:间作群体内,玉米和大豆植株的茎流速率在晴天呈单峰曲线,在阴天则呈多峰曲线.植株的茎流受多个环境因子的影响,其中太阳辐射是影响植株茎流最主要的气象因子.玉米和大豆的单株日茎流量与多个气象因子间存在较好的相关关系,达到极显著水平.茎流观测期内(2008年6月1—30日),间作群体内玉米植株的日均蒸腾量(1.44mm.d-1)为大豆(0.79mm.d-1)的1.8倍,玉米和大豆植株的蒸腾量分别占间作群体总蒸腾量的64%和36%.考虑到作物的茎直径和叶面积的空间变异,安装一定数量的茎流探头对于准确测定植株茎流是十分必要的.
【英文摘要】In an experimental field with maize/soybean strip intercropping,the transpiration of maize and soybean plants was measured with sap flow gauge based on heat balance method. In the intercropping system,the diurnal change of the sap flow rates of the plants fitted single-peak curve in sunny day and multi-peak curve in cloudy day. The plant sap flow rates were affected by many environmental factors,among which,solar radiation was the most important meteorological factor. The daily sap flow per maize or soybean...
【语种】中文
【第一作者】高阳
【通讯作者】段爱旺
【期刊名称、卷期、页码】应用生态学报;2010,21(5):1283-1288
【论文发表时间】2010-05-03 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农业工程

【题目】基于计算机视觉与敲击振动融合技术检测鸭蛋壳强度
【中文关键词】鸭蛋 蛋壳强度 多传感器融合 数据关联 多元线性回归 模型
【英文关键词】Duck egg, Egg shell intensity, Multi-sensor fusion, Data association, Multi-dimensional linear regression, Model

【中文摘要】通过对敲击振动特征频率矩阵变异系数和测定有裂纹蛋壳强度的探索性分析,获得鸭蛋壳强度特征频率的分离阈值λ=0.02。通过传感器数据关联,确定了进入模型的特征变量。采用后向消去法进行多元线性回归建立了无裂纹鸭蛋壳强度预测模型,结合蛋壳强度分离阈值得出基于特征层多传感器融合鸭蛋壳强度的系统模型。验证性试验表明该模型有较好适应性,对于各种颜色、形态鸭蛋的蛋壳强度都有较好的预测效果,误差均值小于3.1%,误差标准差为0.003。
【英文摘要】Computer vision analysis and impact excitation frequency analysis were used to construct the duck eggs intensity model. By the analysis in the CV (coefficient of variation) of the duck eggs impact excitation frequency and the analysis of the crack eggs intensity, the threshold value (λ=0.02) which can be applied to distinguish the duck egg intensity at the level of 1 MPa (confidence at the level of 95%) was obtained. Then the characteristic variables were entered into the model. The backward elimination procedure was used to perform multi-dimensional linear regression in order to establish the forecast model of the non-crack duck eggs shell intensity. Combined with the threshold value which had been obtained, the system model of duck eggs shell intensity based on the multi-sensor fusion can be obtained. The confirmation experiment indicates that the model had good adaptability on duck-eggs with different color and mass, the model shows high accuracy (the mean of forecast error is 3.1%) as well as good stability (the standard deviation of forecast error is 0.003).
【语种】中文
【第一作者】刘鹏
【通讯作者】屠康
【期刊名称、卷期、页码】农业机械学报、第40卷第8期、175-180
【论文发表时间】2009-08-22 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】食品加工技术

【题目】试谈对做好草原大文章的理解
【中文关键词】草原,保护建设,生态
【英文关键词】Grassland,Protection and construction,Ecology
【中文摘要】我国广袤的草原功能多样,以加强草原保护建设为核心,以转变草原畜牧业发展方式为重点,以科学利用草原为前提,以落实草原生态补偿为保障,以推进草原科技创新为支撑,以强化草原法制建设管理为基础,以实现草原牧区生产、生活、生态协调发展为目标,做好草原大文章,对保障国家生态安全、粮食安全、维护边疆地区社会稳定与民族团结和促进生态文明建设具有重大意义。
【英文摘要】There are a large area of grassland with multiple functions in China.Taking protection and construction grassland as the core, taking developmental mode transformation of grassland animal husbandry as the emphases, taking scientific utilization of grassland as the premise, taking ecological compensation of grassland as the guarantee, taking science and technology innovation of grassland as the support, taking legal management of grassland as the means, and taking realizing the coordinate development of production,life and ecology in pasture area as the target, a great composition on grassland should be written better , which are of great significance for ensuring ecological and food security, vindicating social stability and national unity in the border areas of China and the construction of ecological civilization.
【语种】中文
【第一作者】孙启忠
【通讯作者】孙启忠
【期刊名称、卷期、页码】中国草地学报、第30卷第1期、13-16页
【论文发表时间】2009-01-25 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】畜牧、兽医科学基础学科

【题目】温室滴灌条件下土壤水分亏缺对番茄产量及其形成过程的影响
【中文关键词】温室; 番茄; 水分亏缺; 生长发育; 生理特性;
【英文关键词】greenhouse; tomato; water stress; growth and development; physiological characteristics;
【中文摘要】为确定温室滴灌条件下番茄高产高效的适宜土壤水分控制指标,采用小区试验方法,在温室滴灌条件下研究了不同时期水分亏缺对番茄生长发育及生理特性的影响。研究结果表明,任何生育阶段发生水分亏缺均会降低番茄叶片光

合速率及气孔的开度,进而影响干物质的累积和运转,但不同时期水分亏缺的影响形式及程度有所不同;苗期水分亏缺会抑制番茄的正常生长发育,但水分过高会使植株徒长,不利于光合产物向产量的运移;开花坐果期水分亏缺不仅抑制了番茄的生长发育,而且降低了干物质的累积,并最终影响到产量的形成;成熟采摘期水分亏缺会加速番茄植株的老化,降低最终干物质量,对番茄产量的形成影响最为明显。在不影响番茄植株正常生长发育及生理需水情况下,适度水分亏缺(T1处理)可实现高产与高效用水的统一。

【英文摘要】In order to determine soil moisture control index with high yield and efficient water use for tomato under drip irrigation in greenhouse,effect of water deficit at different growth stages on tomato growth and physiological characteristics were studied in this paper.The results showed that water deficit reduced tomato leaf photosynthetic rate and stomatal aperture,and influenced dry matter accumulation and transportation,but influencing pattern and degree of water stress were not same in the different growth...

【语种】中文

【第一作者】刘浩

【通讯作者】孙景生

【期刊名称、卷期、页码】应用生态学报;2009,20(11):2699-2074

【论文发表时间】2009-11-10 00:00:00

【引文索引类型】其他

【引文索引号】null

【学科分类】农业工程

【题目】宁夏西吉县马铃薯晚疫病生理小种研究初探

【中文关键词】宁夏; 西吉; 马铃薯; 晚疫病; 生理小种

【英文关键词】Ningxia; Xiji; Potato; Late blinght disease; Physiological strains

【中文摘要】对宁夏西吉县马铃薯晚疫病生理小种进行了田间和室内鉴定。结果表明,该县马铃薯晚疫病生理小种组成为1、2、3、5、6、7、8、11号生理小种。

【英文摘要】The physiological strains of late blinght disease of potato in Xiji county of Ningxia were identified in field and laboratory.The results showed that physiological strains of late blinght disease of potato in this county were composed of the physiological strain 1,2,3,5,6,7,8 and 11.

【语种】中文

【第一作者】刘浩

【通讯作者】沈瑞清

【期刊名称、卷期、页码】安徽农业科学,2011,39(10):5819-5820

【论文发表时间】2011-04-01 00:00:00

【引文索引类型】其他

【引文索引号】null

【学科分类】植物保护学

【题目】Characterization of siRNAs derived from rice stripe virus in infected rice plants by deep sequencing

【中文关键词】水稻条纹病毒;RNA干涉;病毒小RNA

【英文关键词】rice stripe virus (RSV);RNA interference;virus-derived small RNA(vsRNA)

【中文摘要】RNA干涉是植物一种天然的抗病毒反应,至今仅有正义RNA病毒siRNA被鉴定。本研究通过高通量测序技术鉴定了一种重要的负义RNA植物病毒,即水稻条纹病毒(RSV)的siRNA的特征:水稻条纹病毒的siRNA大多长20-22nt;且大多数siRNA由其基因组的5'-端和编码区产生;与其基因组碱基组成相比,RSV siRNA具有较高的GC碱基含量,但RSV siRNA的第一个碱基和最后一个碱基具有一定的偏好性,即其第一个碱基偏好A/U碱基,最后一个碱基偏好U碱基,这暗示水稻DCL蛋白有些作用于具有此特征的序列。

【英文摘要】RNA interference is a natural defense against viruses in plants. To date, the only viral siRNAs characterized have been those for positive-sense RNA viruses with one or two genome components. Here, we characterized siRNAs derived from rice stripe virus (RSV), a member of the genus Tenuivirus with four genomic RNAs and an ambisense coding strategy. Deep sequencing of small RNAs from infected rice leaves showed that siRNAs were derived almost equally from virion and complementary RNA strands and were mostly 20 – 22 nucleotides long. Most viral siRNAs were produced within the coding sequences and 5 ’ termini of the RSV genome. RSV siRNAs had a higher G and lower C content than the viral genome but a strong A/U bias at the first nucleotide and a U bias at the final one, suggesting preferential targeting of such sequences by rice Dicer-like proteins.

【语种】英文
【第一作者】燕飞
【通讯作者】陈剑平
【期刊名称、卷期、页码】Arch Virol (2010) 155:935 – 940
【论文发表时间】2010-01-18 00:00:00
【引文索引类型】SCI
【引文索引号】DOI 10.1007/s00705-010-0670-8
【学科分类】植物保护学

【题目】西藏牦牛主要放牧草地的牧草营养成分动态研究
【中文关键词】西藏牦牛,放牧草地,营养成分;
【英文关键词】Tibetan Yak, grazing grassland, nutrient content;
【中文摘要】对西藏牦牛主要放牧草地的粗蛋白,粗脂肪,粗纤维,灰分,钙,磷和氨基酸等成分进行了测定。结果表明,以高山嵩草为建群种的高寒草甸和以西藏嵩草为建群种的沼泽草甸2种草地类型牧草各营养成分差异不明显(P>0.05),氨基酸含量丰富,8月份氨基酸构成比例最好。综合考虑测定指标,认为在8月中下旬在此牧场放牧或割效果较好。
【英文摘要】无
【语种】中文
【第一作者】信金伟
【通讯作者】信金伟
【期刊名称、卷期、页码】中国草食动物,2010年专辑,P78-80
【论文发表时间】2011-10-12 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】畜牧、兽医科学基础学科

【题目】链格孢属一新种——沙棘链格孢
【中文关键词】链格孢属;沙棘链格孢;沙棘
【英文关键词】Alternaria;Alternaria hippophii;Hippophae rhamnoides
【中文摘要】【目的】发现链格孢属新种资源,以丰富生物多样性研究,为植物病害的防治提供依据。【方法】采用实地考察、分离培养和鉴定的方法,与我国和世界已经发现的链格孢属的种特征进行了比较分析。【结果】得到的链格孢属新种沙棘链格孢不同于已发现链格孢属种之处主要在于,其孢子深褐色,长倒棒形,一些孢子近圆柱形,只在孢身与喙处才收缩。【结论】沙棘链格孢与已报道的种在孢子颜色、形状等方面均不同,是一链格孢属新种。研究的模式标本(PSNXAAFS19785)保存在宁夏农林科学院植物病害标本室。
【英文摘要】【Objective】The study was to find a new species of Alternaria,which was helpful for the study of biodiversity and plant disease control.【Method】The sample was collected,isolated and identified, and compared with other species of Alternaria which were found before.【Result】This fungus can be distinguished from its closely related species by having dark brown,long club or down-column conidia body.【Conclusion】This new fungus can be determined as a new species,and the specimen has been deposited in Herbarium of Phytopathological Section,Ningxia Academy of Agriculture & Forestry Sciences(PSNXAAFS 19785).
【语种】中文
【第一作者】沈瑞清
【通讯作者】沈瑞清
【期刊名称、卷期、页码】西北农林科技大学(自然科学版),2012,40(1):79-80,86
【论文发表时间】2011-12-26 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】植物保护学

【题目】保加利亚乳杆菌胞外多糖合成条件的优化及其在发酵乳中的应用研究
【中文关键词】保加利亚乳杆菌 胞外多糖 合成条件

【英文关键词】Lactobacillus delbrueckii subsp. bulgaricus; exopolysaccharide(EPS);synthesis condition
【中文摘要】研究了不同碳源、氮源、碳氮比及发酵条件等因素对保加利亚乳杆菌Y5菌株产胞外多糖的影响。结果表明,以果糖为碳源时,胞外多糖的产量是55.46mg/L。显著高于用半乳糖作为碳源时的产量(29.59mg/L);以鱼蛋白胨作为氮源为时,胞外多糖产量可达到46.89mg/L,明显高于用胰蛋白胨作为氮源时的产量(P〈0.01);当碳氮比为2:1时,Y5菌株产生的胞外多糖最多,可这50.10g/L,显著高于碳氮比为1:2时的产量(P〈0.01)。培养温度为40°C,发酵时间为16h,初始pH值为6.0,葡萄糖添加量为2%的发酵条件是Y-5菌株产胞外多糖的最佳工艺条件,其胞外多糖水平可达105.36g/L。与采用ST和LB菌株的发酵乳相比,应用Y5菌株生产的发酵乳,其乳清析出量仅为7mL(P〈0.01):冷藏30d后,Y5菌株制备的发酵乳仍能维持10^7mL^-1以上的活菌数,明显高于对照菌株的存活数量(P〈0.01)。
【英文摘要】The factors,including carbon and nitrogen sources,the ratio of C to N ,temperature,incluation time and initial pH in medium affecting the level of exopolysaccharides(EPS) produced by Lactobacillus delbrueckii subsp.bulgaricus Y5 were studied .Strain Y5 preferred fructose to galactose as carbon source in producing EPS (P<0.01).In the presence of fructose ,EPS formed by strain Y5 reachde 55.46mg/L;whereas in the presence of galactose ,EPS was 29.59mg/L.EPS production by strain Y5 was higher in the persence of fish pepone than in the presence of tryptone ,and reachde 46.89mg/L Clearly,a 2:1 of C to N was better than a 1:2 of C to N in improving strain Y5 to produce EPS with 50.10mg/mL The combinationa of temperature at 40°C,16h of fermentation eime,initial pH in 6.0 and supplemented glucose of 2% significantly improved EPS production,up to 105.36g/L. Use of strain Y5 to manufuacture fermented milk produced significantly lower whey separation than strain ST and LB did(their fermented milks used as the control),and the amount of whey separated was only 7mL.The live cell counts of strain Y5 decreased slowly during a 30 d refrigerated storage at 4°C,but were higher than 10-7mL- and were significantly improved compared to those of the controlled samples.
【语种】中文
【第一作者】吴荣荣
【通讯作者】张柏林
【期刊名称、卷期、页码】《中国乳品工业》2008年 第2期 5 页 8-12页
【论文发表时间】2007-09-30 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】食品科学技术其他学科

【题目】基于可见光图像分析和支持向量机的鸭蛋新鲜度识别
【中文关键词】图像处理 识别模型 支持向量机 鸭蛋 色泽参数 新鲜度
【英文关键词】image processing,identification model,SVM,duck egg,color parameter,freshness
【中文摘要】研究鸭蛋内部的可见光图像信息(H和I)的变化来表征鸭蛋新鲜度的变化。采用可见光图像分析技术获取鸭蛋蛋心颜色参数, 将哈夫单位作为新鲜度的验证指标, 建立了基于支持向量机(SVM)的蛋心内部色泽参数的鸭蛋新鲜度预测模型。模型表明:当SVM类型为epsilon-SVR, 核函数为RBF模型特征参数C=27、σ=23时所建立的模型预测效果最好。其中模型预测效果参数RMSEC=0.9520, EMSEP=0.4205。鸭蛋新鲜度预测值与测定值之间具有良好的线性关系, 且预测值对实际值具有较大的搜索覆盖能力。该模型较好的解决了用普通的线性方法识别鸭蛋新鲜度存在的稳定性较差和置信度较小的问题。通过比较SVM和神经网络的识别结果可以发现:SVM对鸭蛋蛋心颜色的识别性能优于神经网络的识别性能(SVM: 98.92%>ANN: 93.77%)。
【英文摘要】This article applied the duck egg internal visible light image information (H and I) to characterize the freshness of duck egg. The visible light image analysis technology was applied to obtain the duck egg heart color parameters. The Hafu unit was used as the confirmation index of egg freshness through experiment, then established the forecast model based on SVM (support vector machines) which was developed using the egg heart color parameters to predicate the egg freshness. The model indicated that when we choose the SVM type as epsilon-SVR, the nuclear function as RBF ,the model characteristic parameter C=27, σ=23 ,then the model forecast effect is the best. The model forecast effect parameters RMSEC reached 0.9520, and the EMSEP reached 0.4205. The predicted value of egg freshness and the practical value has good linear correlation and predicted value has a large covering and searching ability on the practical value. This model showed better stability and confidence interval compared with the ordinary linear method. Through the comparison of SVM and neural network recognition results we can get the conclusions that SVM has a better duck-egg freshness recognition performance than ANN by egg heart color's analysis(SVM reach to 98.92%>ANN reach to 93.77%).
【语种】中文
【第一作者】刘鹏
【通讯作者】屠康

【期刊名称、卷期、页码】中国激光、35(s2)、345-350
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【引文索引类型】其他
【引文索引号】null
【学科分类】食品加工技术

【题目】宁夏固原市马铃薯主栽品种对晚疫病的抗性
【中文关键词】宁夏; 马铃薯; 晚疫病; 品种; 抗病性
【英文关键词】Ningxia; potato; late blight; cultivar; disease resistance
【中文摘要】为了明确宁夏固原市马铃薯主栽品种对晚疫病的抗性,采用田间自然发病的方法对20个主栽品种开展了抗病性研究。结果显示,抗病性最强的品种是宁薯12号,其次为冀张薯5号、虎头、费乌瑞它、陇薯3号,它们在发病初期的病情指数为0.44~0.80,发病中期的介于0.98~1.50。综合抗病性、产量和商品薯率对品种优劣进行了排序,结果表明,综合性状表现最好的是冀张薯5号,其次为宁薯12号、陇薯3号、地希瑞、虎头。生产中应同时注重品种抗病性以及产量、商品薯率等经济性状,进行合理布局。
【英文摘要】This experiment investigated the disease resistance condition of 20 main potato cultivars to late blight in Guyuan,Ningxia,using the method of investigation in the field.The results indicated that Ningshu No.12 was the most resistant of all,followed by Jizhangshu No.5,Hutou,Feiwuruita and Longshu No.3.The disease index of the cultivars above was 0.44-0.80 in early stage,and 0.98-1.50 in middle stage.Then the study contrasted the composite characters of resistance,yield and commodity potato rate,and results indicated that Jizhangshu No.5 was the best of all in composite characters and the next was Ningshu No.12,and then Longshu No.3,Dixirui and Hutou.In production,famers should pay attention to disease resistance,yields,commodity potato rates and other economic traits of potato cultivars at the same time,to give rational distribution of cultivars.
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【第一作者】刘浩
【通讯作者】沈瑞清
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【题目】基于计算机视觉和神经网络检测鸡蛋新鲜度的研究
【中文关键词】计算机视觉 分级模型 神经网络 鸡蛋 新鲜度 检测
【英文关键词】computer vision,grading mode,neural network,egg,freshness,detection
【中文摘要】为了实现鸡蛋新鲜度的无损检测和分级, 建立了利用计算机视觉检测鸡蛋内容物透射图像信息的装置, 通过图像处理, 获取了蛋壳表面颜色信息和表示鸡蛋新鲜的参数哈夫单位值(HU), 得到了利用计算机视觉预测鸡蛋新鲜度的有关的H, I, S, a, b, a*, b*, a-a*, b-b*共9个参数, 然后通过分析哈夫单位HU与9个参数之间的相关性, 并建立多元线性回归方程, 确立了与鸡蛋新鲜度密切相关的三个参数H, I, b。并以H, I, b作为输入变量, 创建了基于Matlab的结构为3-15-4的3层BP神经网络模型, 对鸡蛋的新鲜度进行分级, 模型具有较好的泛化功能和鲁棒性, 对各个等级鸡蛋的新鲜度分级准确率达90%, 对整体鸡蛋新鲜度分级的准确率达到93.3%。
【英文摘要】In order to acheieve non-destructive detection and gading of egg freshness, an experimental system was set up based on computer vision. Then egg internal substance transmission images were acquired. After pre-processing, H, S, I, a, b values were extracted. The egg shell color information (a*, b*) was also measured. And the weight of egg was measured using electronic balance and the height of egg albumen was measured using height vernier calliper. Egg freshness was calculated according to its weight and albumen height. The linear regression model for egg Hough unit and egg information (H, I, S, a, b, a*, b*, a-a*, b-b*) was established by SAS. Afterwards the 3 parameters (H, I, b) which is greatly correlated with egg freshness (HU, Egg Hough unit) was reserved. With 3 parameters (H, I, b) of input, the best BP neural network model (3 input nodes, 15 hidden nodes, 4 output nodes) was established by using Matlab. On the BP neural network model of detecting the egg freshness, the automatic detection system was designed, which can immediately show the results according to the egg ′ s color data after the network initialization. The results showed that the grading accuracy by using computer vision and BP neural network for egg freshness exceeds 90%.

【语种】中文
【第一作者】潘磊庆
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【学科分类】食品加工技术

【题目】马铃薯甲虫入侵宁夏的风险分析
【中文关键词】马铃薯甲虫; 风险分析; 风险管理
【英文关键词】Colorado Potato Beetle; pest risk analysis; risk management
【中文摘要】参照国际上有害生物风险分析方法,从定性分析和定量分析相结合对马铃薯甲虫在宁夏的风险性进行了综合评价。通过分析,马铃薯甲虫在宁夏具有大面积的适宜寄主、极强的适应性,且能造成巨大经济损失,其风险值R为2.22,因此确定马铃薯甲虫在宁夏属于高度危险性的有害生物,应采取多种措施,加强对其风险管理。
【英文摘要】In accordance with the principles of pest risk analysis(PRA),the risk of Colorado Potato Beetle in Ningxia was comprehensively evaluated in view of qualitative analysis and quantitative evaluation.The results showed that Colorado Potato Beetle had suitable hosts with a large area,high vitality and it could cause serious economic losses,and the risk assessment value(R) was 2.22.In conclusion,Colorado Potato Beetle belongsed to the most dangerous pest in Ningxia,the risk management should be done by some method.
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【第一作者】张华普
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【题目】乳品真蛋白——定义、分析方法、计价及影响因素
【中文关键词】真品乳蛋白;测定;凯氏法
【英文关键词】Milk true protein;Detemination;Kjeldahl method
【中文摘要】介绍了乳品真蛋白的定义、测定方法及对计价的作用、影响因素。乳品真蛋白即除了非蛋白质氮以外的蛋白态氮,通过计算得到的蛋白质。按照AOAC及美国联邦乳市场改革法令,真蛋白可以采用凯氏定氮法直接或间接地测定。此外,UDY法、红外及类似的仪器也可以直接测定乳中的真蛋白。法国、美国、澳大利亚等国已采用真蛋白作为原料乳收购的计价因子,可以避免因尿素氮的变动造成的测定误差。乳品真蛋白的含量受遗传因子、环境、饲料和乳房炎等因素的影响。
【英文摘要】The paper introduces the definition and determination method of milk true protein,its role inraw milk pricing and its affected factors.True protein means crude protein minus nonprotein nitrogen in milk.It may be determined by Kjeldahl method both direct according AOAC and Federal Milk Marketing Order Teform.It may be directly measured by UDY,infra-red and other similar instrument methods。Until now it was used as a pricing factor in France,Austria,and the United States of American.Error causing by the variation of urea nitrogen in milk may be eliminated by using true protein as pricing factor.The content of milk true protein is affected by genetic factor ,environment,feed,and mastitis etc。
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【第一作者】刘东红
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【题目】防治马铃薯晚疫病药剂筛选试验
【中文关键词】马铃薯晚疫病; 杀菌剂; 防治效果
【英文关键词】potato late blight; fungicide; control efficiency
【中文摘要】[目的]筛选出防治马铃薯晚疫病经济有效的药剂,为防治马铃薯晚疫病提供科学依据。[方法]用田间药效测定方法测定了4种杀菌剂防治马铃薯晚疫病效果。[结果]80%三乙膦酸铝WP、0.3%丁子香酚SC、1%申嗪霉素SC和72%霜脲氰.锰锌WP对马铃薯晚疫病均有较好的防治效果,其中0.3%丁子香酚SC在马铃薯晚疫病发生初期喷施2~3次,防病效果可达72.17%以上,产量比空白对照增产25.53%。[结论]0.3%丁子香酚SC在马铃薯晚疫病田间防治中可大面积推广使用。
【英文摘要】The 4 fungicides were evaluated in order to select out the effective chemicals to control potato late blight.[Methods] Efficacy of four fungicides against potato late blight were tested in field experiment.[Results] Phosethyl-Al 80% WP,eugenol 0.3% SC,phenazino-1-carboxylic acid 1% SC and cymoxanil mancozeb 72% WP were effective for controlling potato late blight.Among of them,eugenol 0.3% SC showed the best activity with 72.17% control and increasing of yield of 25.53% compared with CK.[Conclusions] Eugenol 0.3% SC could be used extensively to control potato late blight in the field.
【语种】中文
【第一作者】郭成瑾
【通讯作者】沈瑞清
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【题目】不同防腐剂对马铃薯脱毒试管苗污染的控制效果
【中文关键词】马铃薯; 脱毒试管苗; 污染; 防腐剂
【英文关键词】Potato; Virus-free potato plantlets; Contamination; Preservati
【中文摘要】利用丙酸钙、脱氢乙酸钠、山梨酸钾3种防腐剂对马铃薯脱毒试管苗污染的控制效果进行了研究。结果表明:山梨酸钾对马铃薯脱毒试管苗污染的控制效果最好,在0.18g·L-1浓度水平上污染率为0,且对脱毒试管苗的生长无影响,持效性强,为最佳的抑菌剂浓度;脱氢乙酸钠次之,在0.05~0.09g·L-1浓度水平上对脱毒试管苗污染表现出了明显的控制效果,污染率为0~10%,但对脱毒试管苗的生长有一定的抑制作用;丙酸钙对马铃薯脱毒试管苗污染的控制效果最差。
【英文摘要】The control effects of 3 preservatives on virus-free potato(Solanum tuberosum L.)plantlets contamination were studied by calcium propionate,sodium dehydroacetate and potassium sorbate.The results showed that potassium sorbate had the best controlling effect on virus-free potato plantlets contamination.Its contamination rate was 0 in the 0.18 g·L-1 concentration level,and had no influence on the growth of virus-free potato plantlets.Its continuous effect is strong,and is regard as the best antibacterial agent concentration.Sodium dehydroacetate showed obvious control effect on virus-free potato plantlets contamination in 0.05-0.09 g·L-1 concentration level.Its contamination rate was 0-10%,but the growth of virus-free potato plantlets was inhibited.The controlling effect of calcium propionate on virus-free potato plantlets contamination was the worst.
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【第一作者】康萍芝
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【题目】不同药剂对马铃薯土壤微生物数量的影响
【中文关键词】马铃薯; 连作; 药剂; 木酶制剂; 土壤微生物

【英文关键词】potato; continuous cropping; pesticide; trichoderma preparation; soil microorganism
【中文摘要】采用稀释平板计数法,研究了不同药剂对马铃薯田土壤微生物数量的影响。结果表明,6种药剂施入马铃薯土壤中使微生物的数量发生了变化,4次测定结果显示,以施入微生物制剂(木酶制剂)的土壤中细菌、放线菌和真菌数量增加值最大,表现最好,与对照药剂(50%多菌灵)和空白对照相比,细菌数量分别增加了79.06%、106.07%,放线菌数量分别增加114.24%、101.08%,真菌数量分别增加47.47%、36.26%。木霉制剂处理能促进土壤有益微生物的繁殖,改善土壤微生态环境,抑制有害真菌的繁殖,增强马铃薯的抗逆能力。
【英文摘要】The effect of different pesticides on microbial quantity of potato soil was studied by dilution-plate method.The results showed that the six kinds of pesticides applied to potato soil changed the number of microorganisms.The added quantities of bacteria,actinomycetes and fungi in soil treated by microbial agents(trichoderma preparation) were the largest,and the performance was the best.Compared to the control pesticide(50% carbendazim) and CK,the number of bacteria increased by 79.06% and 106.07%,the number of actinomycetes increased by 114.24% and 101.08%,and the number of fungi increased by 47.47% and 36.26%,respectively.The trichoderma preparation can promote the breeding of beneficial soil microorganisms,inhibit the propagation of harmful fungi and enhance the resilience of potato plants.
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【第一作者】张丽荣
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【题目】液态乳中掺有复原乳的乳果糖检测方法
【中文关键词】复原乳;乳果糖;掺假;检测
【英文关键词】Reconsitituted milk ; Lactulose; Adulteration; Detect
【中文摘要】目的:比较乳果糖的3种紫外分光光度检测方法,优选出一较好的方法来检测液态乳中是否掺有复原乳。方法:以生乳、复原乳、掺有复原乳的巴氏杀菌乳和UHT灭菌乳为试样,分别采用Adhikari、蒽酮和Seliwanoff’s比色方法来检测生乳和复原乳的差别,选定一种较好的方法测定复原乳的掺入率。结果:用Seliwanoff’s比色法检测液态乳中乳果糖的含量,在生乳和巴氏杀菌乳中掺有15%的复原乳,UHT灭菌乳中掺有20%的复原乳。结论:乳果糖的Seliwanoff’s测定法可以快速检测液态乳中是否掺有复原乳。
【英文摘要】Objective;To compare three lactulose UV spectrophotometry detection methods,select better method to determine reconstituted milk adulterate in fresh milk.Methods;Raw milk,reconstituted milk and reconstituted milk adulteration in fresh milk were used as test sample,the difference of raw milk between reconstituted milk was detected by Adhikari,anthrone and Seliwanoff s method,then select better method to determine reconstituted milk adulterate in fresh milk.Result:At least 15% reconstituted milk in raw and pasteurized milk and 20% reconstituted milk in Ultra High Temperature milk could be detected by Seliwanoff s lactulose method.Conclusion:The Seliwanoff s lactulose method could be used to detecte reconstituted milk adulteration in fresh milk.
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【通讯作者】叶兴乾
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【题目】原料奶嗜冷菌快速检测方法研究进展
【中文关键词】嗜冷菌;原料奶;快速检测方法
【英文关键词】psychrophilic;raw milk;rapid detection method
【中文摘要】嗜冷菌作为冷藏原料奶中生长的优势菌群,在原料奶贮存过程中会大量繁殖,并产生及其耐热的脂肪酶和蛋白酶,这些酶类在高温处理后仍会有残留,并在奶制品储藏过程中继续分解其中的脂肪和蛋白质,导致产品的风味和质地产

生变化。因此,研发出一种即快速又实用的嗜冷菌计数技术成为乳品行业关注的焦点。本文主要介绍了国内外对原料奶中嗜冷菌快速检测的一些方法,并将各个方法在工业应用上的优缺点进行了比较。

【英文摘要】Being the preponderant microorganism in refrigerated raw milk,psychrophilic bacteria increase very swiftly and produce some cellular enzymes with high thermal stability such as lipases and proteases.After treated at high temperature,these enzymes are still active and continue to decompose the fat and protein in raw milk so that the quality of dairy products decrease.Therefore,recently more and more researchers focus the attention on the rapid and exact detection of psychrophilic bacteria in raw milk .This paper discussed many detection methods and compared their advantages and disadvantage.

【语种】中文

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【学科分类】食品科学技术其他学科

【题目】国内外乳品真蛋白检测方法的进展

【中文关键词】乳品真蛋白;酪蛋白;凯氏定氮法;检测方法

【英文关键词】true protein, casein, Kjeldahl method, determination methods

【中文摘要】介绍了乳品真蛋白的定义,比较了国内外牛乳蛋白质检测的标准方法,简述了乳品真蛋白的快速检测方法,提出了我国国家标准需要改进的方向,即在样品处理前先用150g/L的三氯乙酸溶液使乳中的蛋白质沉淀,用滤纸分离,再用凯氏定氮法分别测定沉淀和滤液中的蛋白态氮含量和非蛋白态氮含量,计算蛋白质含量。如果改用pH4.6来沉淀酪蛋白,同样的方法还可以用于测定乳品中酪蛋白。

【英文摘要】Definition of true protein in milk was introduced; the standardized methods of protein determination were compared domestically and abroad; fast determination methods were also described. Our National standard methods of protein determination need to be improved. The suggestions were: Samples should be pre-treated with 15% (w/ v) trichloroacetic acid solution and precipitate protein was separated by filtration. Nitrogen contents of protein precipitate and the triehloroacetie acid solution were determined by Kjeldahl methods. The same principal and method could be used for determination of casein in dairy products by isoeleetrie precipitation at pH 4.6.

【语种】中文

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【学科分类】食品科学技术其他学科

【题目】基于乙醇氧化酶型酶膜的生物传感器的研制和应用

【中文关键词】乙醇检测,生物传感器,核膜微孔,酶的固定化,乙醇氧化酶

【英文关键词】ethanol, biosensors, enzyme electrode, enzyme immobilizatio, alcohol oxidase

【中文摘要】以可溶性淀粉和海藻酸钠混合胶为固定化载体,戊二醛为交联剂,通过固定化乙醇氧化酶(AOX)制成核微孔酶膜,构建出过氧化氢电极系统。同时研究了该酶电极的特性,以及温度、海藻酸钠浓度、pH等相关参数对酶膜检测能力的影响。实验结果表明,在pH8,35°C时酶膜活性最佳,当乙醇体积分数为0.01%~1%时响应值有良好的线性关系,最低乙醇检测浓度在0.001%以下,响应时间为20s。通过对酶膜活性半衰期的检测,建立了乙醇氧化酶型酶膜优化工艺条件,其性能良好,具有较好的应用前景,特别适用于乙醇的在线监测。

【英文摘要】The research constructed an ethanol sensors by building nuclear pore film, which is made by AOX immobilization. The system contained the immobilized carrier via mixing Soluble Starch and Sodium Alginate, and chose Glutaraldehyde to be the cross-linking agent. The research also tested the specialty of enzyme electrode,temperature, coneentration of sodium alginate, pH and concerning parameter which influence the detecting ability of memb'rane. The results showed that the membrane have the

best.detection ability in the atmosphere of pH8 and 35°C. When the alcohol concentration ranges from 0.01%to 1% the response value has a good linear relationship. The lowest detectable concentration is less than 0. 001%, and the responding time is 20s. Finally, we found the optimum production technology of alcohol oxidase enzyme membrane, by means of testing the half time of membrane. It must be a wonderful application prospect because of the high performance and being suitable for online detecting.
【语种】中文
【第一作者】高寅生
【通讯作者】庞广昌
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【题目】棉花生长期的气候变化对棉花生产的影响——以新疆昌吉回族自治州为例
【中文关键词】棉花生长季; 气候变化; 初、终霜; ≥10 ℃积温; 棉花生产; 昌吉回族自治州; 新疆
【英文关键词】cotton growing season; climate change; beginning and ending datesof frost; accumulated temperature≥10 ℃; cotton production.
【中文摘要】利用新疆昌吉回族自治州主要棉区 4个代表站 1961 - 2005年 4~10月的气象资料及昌吉市近 10年棉花发育期观测资料 ,分析气候变化对当地棉花生产的影响。主要表现在:气候变化导致 45年来终霜期提早、初霜期推迟;而近 10年平均初、终霜出现日期均较稳定 ,对棉苗生长影响不大 ,对部分年份的棉花品质可能造成一些影响。其次,10 ℃界限温度初日自 20世纪 90年代以后逐渐提早; 10℃终日自 20世纪 70年代以来变化不大。45年来10 ℃界限温度持续天数呈逐年延长的趋势,约 2d/10a,尤其近10年最长。≥10℃积温也呈增高趋势 ,为 57.4℃ · d/10 a,且近10年为热量条件最好的时期,不仅对当地棉花的生长发育有利 ,而且使昌吉州棉花种植界限发生了明显变化 ,棉花种植区域向东扩展了 100 km,适宜种植海拔高度也提高了 200 m左右。但是近 10年降水分布极不均匀以及日照时数减少的事实对棉花生产有不利影响。
【英文摘要】In this study, climate change in the primary cotton growing region of ChangjiHuiAutonomous Prefecture, Xinjiang during the cotton growing season in different decadeswas analyzed using themeteorological data observed at 4 representative meteorological stations from 1961 to2005, with a focuson the last decade. The effectof climate change on cotton production in the prefecturewas then evaluated. The results revealed that both temperatureand precipitation in the prefecture have increased during the growing season in the last 45 years, and that this increase has been especially notable during the last 10 years. Specifically, the rate of increase in temperature and precipitation has been 0. 25 ℃/decade and 6. 66 mm /decade respectively, although this value varied for different decades. Moreover, the sunshine duration has been decreasing over the last 45 years, and this trend has become especially pronounced during the last10 years. The resultsof this study also revealed that the beginning and ending datesof frostwere relatively stable, and that their effecton cotton production in the prefecture is not veryobvious,although they did impact the qualityof cotton in some years. Furthermore, the beginning date of an air temperatureof10 ℃ hasoccurred earlier since the 1990 ’ s, but the ending date has not changed significantly. Moreover, the accumulated temperature ≥10 ℃ has increased by 57. 4℃/decade, which has resulted in the cotton2growing area being extended by 100 km eastward and the cotton2growing elevation be increased by 200 m. However, the decrease of sunshine duration is disadvantageous for cotton growth.
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【第一作者】傅玮东
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【题目】一种实时方法研究阪崎肠杆菌的生长情况
【中文关键词】阪崎肠杆菌 生长 快速、实时方法
【英文关键词】Enterobacter sakazakii Growth Real - time method

【中文摘要】目的:建立一种实时方法研究阪崎肠杆菌生长情况。方法:采用96孔板培养阪崎肠杆菌,然后由扫描仪实时监测阪崎肠杆菌的生长。结果:采用传统的平板方法和微孔板光谱分析仪测定阪崎肠杆菌数量之间具有非常好的相关性(r2=0.92)。采用这种新的快速方法测定阪崎肠杆菌的生长,从而缩短测定时间(由至少24 h缩短为小于10 h),比传统方法更方便、快速,并可实现实时监测阪崎肠杆菌的生长情况。
【英文摘要】Objective:To establish a fast and real - time method of detecting the growth of Enterobacter sakazakii. Methods: The correction between E. sakazakii counts by conventional plating and microplate luminometer was highly agreeable (r^2 = 0. 92). Results:The new method can quickly monitor E. sakazakii in brain heart infusion broth and requires much shorter incubation times (no more than 10 h) than the conventional plating method (at least 24 h).
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【第一作者】袁飞
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【题目】使用微孔板光谱分析仪和平板计数测定阪崎肠杆菌的生长
【中文关键词】阪崎肠杆菌;微孔板光谱分析仪;平板计数
【英文关键词】Enterobacter sakazakii miroplate luminometer plate counting method
【中文摘要】本实验采用96孔板培养阪崎肠杆菌,然后由微孔板实时监测阪崎肠杆菌的生长。采用微孔板光谱分析仪和传统的平板方法测定阪崎肠杆菌数量之间具有非常好的相关性(R2=0.92),且可缩短测定时间(由至少24h,缩短为小于10h)。阪崎肠杆菌菌株36℃培养末期数量相近,但生长曲线不同。进一步研究17株阪崎肠杆菌菌株42℃生长情况,发现微孔板光谱分析仪方法不仅能快速简便测定生长,且可以一种实时的方式知道阪崎肠杆菌在整个培养过程中的生长情况。研究结果表明,采用该方法可将阪崎肠杆菌菌株根据生长曲线的差异进行表型分类,该表型与阪崎肠杆菌菌株生化反应表型结果一致。
【英文摘要】Experiments were undertaken to determine the growth of E. sakazakii under different temperatures by microplate luminometer. 16 Strains of 17 E. sakazakii strains (including ATCC 29544) used in this study were isolated from dried infant milk formula powder on China retail market. The results showed that the E. sakazakii counts determined by microplate luminometer are perfectly correlated with those determined by conventional plate counting method (r=0.92). E. sakazakii in brain heart infusion broth can be quickly monitored with much shorter time (no more than 10 h) than that of conventional plating method (at least 24 h). Although at the end of incubation the amounts of E. sakazakii strains are close under 36 ℃, but the growth curves are different. And the further research results of 17 E. sakazakii strains being incubated at 42 ℃ indicated that the microplate luminometer method provides a convenient, rapid and real-time way to monitor the growth of E. sakazakii. The results suggested that this microorganism can be divided into different phenotypes according to their different growth characters, which are consistent with phenotypes divided into according to their different biochemistry reactions.
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【第一作者】袁飞
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【题目】阪崎肠杆菌生长特性及耐热耐酸碱性分析
【中文关键词】阪崎肠杆菌;耐热;耐酸碱
【英文关键词】Enterobacter sakazakii anti-thermal anti-acid anti-alkaline
【中文摘要】目的研究不同阪崎肠杆菌菌株的生长特性和耐热耐酸碱性。方法采用光谱扫描仪培养22株阪崎肠杆菌,由扫描仪实时监测不同阪崎肠杆菌菌株生长特性;采用显色平板涂布方法观察高温和酸碱条件下阪崎肠杆菌存活情况。结果传统平板计数法和微孔板光谱扫描仪建立的阪崎肠杆菌生长曲线具有良好相关性(R2=0.92);22株阪崎肠杆菌经75℃处理

2min后,尚有1株存活;经碱处理后(pH12.55)立即检测,所有菌株均已死亡;用酸处理1min后(pH1.18)检测,尚有2株存活。结论采用光谱扫描仪方法测定阪崎肠杆菌生长曲线方便快捷,不需要培养计数;不同的阪崎肠杆菌菌株具有不同的耐热、耐酸特性。

【英文摘要】Objective To study the characters of growth, anti-thermo, anti-acid and anti-alkaline of different Enterobacter sakazakii strains. Methods The growth character of 22 E. sakazakii strains were monitored by mieroplate luminometer. And the survival of the strains under high temperature, acid or alkaline environment was detected by plating method. Results The correlation between E. sakazakii counts by conventional plating and by microplate luminometer was very good(R^2 = 0.92). 22 strains were treated at 75 ℃ for 2 min, and only 1 strain was survival. 22 strains were all died immediately after treated on alkaline condition. Conclusion The microplate luminometer method in growth curves analysis of E. sakazakii strains was rapid and convenient. The differences of anti-thermal, anti-acid and anti-alkaline characters of different strains were observed by the method.

【语种】中文

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【学科分类】食品科学技术其他学科

【题目】基于MODIS影像的新疆植被指数分析

【中文关键词】MODIS;遥感影像;植被指数;新疆

【英文关键词】MODIS; remote sensing image; vegetation index; Xinjiang province

【中文摘要】以MODIS遥感影像为数据源,利用ENVI遥感影像处理软件,对新疆2004年7月-2008年7月五期MO-DIS影像的植被指数进行计算,建立了五期植被指数密度分割模型,以获得全疆植被覆盖的整体状况。结果表明:全疆植被总盖度在2004-2008年呈现上升趋势,较低植被覆盖区较多,高、中植被地区主要分布在北疆的阿勒泰地区、伊犁河谷、北疆沿天山一代及阿克苏地区,低植被覆盖集中在南疆大部分地区及准格尔盆地。五年的植被指数比较结果表明,南疆地区低中覆盖区植被有所增加,高等植被覆盖区没有明显增减,北疆伊犁地区高覆盖区植被明显减少,阿勒泰地区中覆盖植被有小幅减少,低覆盖植被无明显增减。。

【英文摘要】Considering theMODIS remote sensing image as data source, and using the ENVI remote sensing image processing software, the indexes ofMODIS images from July2004 to July2008 inXinjiang province are alculated, density slicemodels of the five periods ’ vegetation indexes are constructed and the general situation ofvegetation fraction can be obtained, and divide the vegetation into three parts according to the value ofNDVI, and got the degree of different vegetation coverage, Through the dynamic linking, overlay,and subtraction between the two vegetation index images, the spatial change situation ofvegetation fraction in thewhole province during the five years can be seen · the results showed: The entire province vegetation totaldegree of coverpresents the trend of escalation from 2004 to 2008 year, the low vegetation cover area aremany, the high、 medium vegetation areamainly distributes in the northern,Altay area, the Tili rivervalley, the northern borderalongTianshan generation ofand theAksu area, the low vegetation cover concentrates in the southmajority of areas and the Zhungerbasin · Compare results of five years ’ vegetation index indicated: in thewhole province, the medium vegetation fraction areas gotsome increase,while the high vegetation fraction areas increased non-obviously · South the boundary area low coverarea vegetation has the increase, the highervegetation coverarea does nothave the obvious fluctuation, the northern borderYili area high cover area vegetation to reduce obviously, in theAltay area covers the vegetation to have the small scale to reduce,covers the vegetation to fluctuate not obviously lowly ·

【语种】中文

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【学科分类】农业基础学科

【题目】阪崎肠杆菌的分类变化及新种属生物学特性
【中文关键词】阪崎肠杆菌;克罗诺杆菌;生物学特性
【英文关键词】E.sakazakii Cronobacter taxonomy characteristics
【中文摘要】阪崎肠杆菌是影响婴幼儿配方粉安全的主要致病菌之一,1980年被定义为一个种,然而,《国际系统与进化微生物学杂志》《International Journal of Systematic and Evolutionary Microbiology》在2008年58卷第6部分的通知单上公布了阪崎肠杆菌重新分类后的新名称和新组合。本文综述了该菌的分类关系、新属和新种生物学特性及其研究进展,以便于国内相关人员及时了解阪崎肠杆菌的最新动态,也有助于中文名称的统一与规范。
【英文摘要】Enterobacter sakazakii,one of the major pathogens affecting the safety of infant formula powder was defined as a species in 1980. However,the new names and new combinations about Enterobacter sakazakii notified in volume 58,part 6,of the International Journal of Systematic and Evolutionary Microbiology (IJSB). The taxonomic relationship of strains described as E. sakazakii,biological characteristics of its new genus and species, the development related to its isolation and identification were reviewed in this paper,in order to facilitate the related personnel to keep in touch with the latest developments on E. sakazakii. It ’s also conducive to unify and standardize the Chinese name for E. sakazakii.
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【第一作者】赵贵明
【通讯作者】陈颖
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【学科分类】食品科学技术其他学科

【题目】新疆草原蝗虫发生面积与大气环流特征量指数模型的研究
【中文关键词】大气环流指数; 蝗虫发生面积;预测模型; 新疆
【英文关键词】atmospheric circulation; area of grasshopper occurrence; prediction model; Xinjiang
【中文摘要】通过对1986- 2003 年新疆草原蝗虫发生面积与大气环流指数74项特征值的相关分析, 筛选出与新疆蝗虫发生有显著关系的大气环流指数因子, 采用逐步回归方法建立4 个新疆蝗虫发生面积预测预报模型, 并对模型进行了检验。利用模型对2004- 2006年新疆蝗虫发生面积进行延伸预测,并与实际蝗虫发生面积进行比对,最终挑选出预报准确率在85% 以上、对新疆草原蝗虫发生面积趋势具有一定预报能力和应用价值的模型,并初步分析了大气环流特征量与蝗虫发生面积的关系。
【英文摘要】By analyzing thecorrelation between the area of grasshopper occurrenceand74 characteristic indexesof atmospheric circulation in Xinjiang from 1986 to 2003, the factors of atmospheric circulation whichwere significant relatedwithgrasshopper occurrence wereselected. And then, 4 models for predicting the area of grasshopper occurrence were established by using the successive regression and tested. The area of grasshopper occurrence in Xinjiang from 2004 to 2006 were predicted with these models, thenthe predicted and actual results were compared and a model, its accuracy rate for prediction was more than 85%, was selected. Meanwhile, the relationship between the factors of atmospheric circulation and the area of grasshopper occurrence were analyzed.
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【第一作者】傅玮东
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【题目】原料乳中嗜冷菌的分离鉴定及其生长特性分析
【中文关键词】嗜冷菌;荧光假单胞菌;生长特性分析
【英文关键词】psychrophilic bacteria Pseudomonasfluorescens raw milk growth

【中文摘要】从来自河北保定一牛场的原料乳中筛选出12株嗜冷菌,基于形态学、生理生化特征及分子生物学数据,其中8株嗜冷菌被确定为荧光假单胞杆菌,1株嗜冷菌被鉴定为食醇鞘氨醇杆菌,3株嗜冷菌被鉴定为短黄杆菌。对不同季节的原料乳采样表明,按数量统计,荧光假单胞菌在嗜冷菌中占的比重大于40%。生长性状研究表明,荧光假单胞菌菌株PF5的最适生长温度为30°C;初始pH值为7时能促进其生长;随着培养时间延长,培养介质的pH值逐渐上升到8.3,并长时间保持稳定和产生蛋白酶。

【英文摘要】12 strains of psychrophile were isolated fi'om a local cattle-farm of Baoding, Hebei Province of China over one year. Among the 12 swains of psychrophile, 8 strains were identified as pseudomonas fluorescens, 1 strain as Sphingobacterium spiritiuvorum, and 3 strains as Havobacterium. breve based on the properties of cell morphological, physic-biochemical characteristics and homology in 16S rDNA sequence. It was found that Pseudomonas fluorescens took up a larger proportion of whole microflora in raw milk sampled from the cattle-farm. Moreover, the growth characteristics of Pseudomonas fluorescens was further chosen to investigate. The optimum growth temperature of Pseudomonas fluorescens was 30°C, and an initial pH of 7 favored the growth of Pseudomoans strains, pH in media rose slowly from 7.0 to 8.3 in the presence of Pseudomonas fluoreseens grown at 30 °C for 24 h, and tended to stabilize as its growth continued.

【语种】中文

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【学科分类】食品科学技术其他学科

【题目】动物源食品中β-内酰胺类抗生素多残留免疫分析方法研究进展

【中文关键词】β-内酰胺类抗生素;头孢菌素;残留检测;目标抗体

【英文关键词】β-lactam antibiotic cephalosporins detection of residues target antibody

【中文摘要】β-内酰胺类抗生素是指化学结构中含有β-内酰胺环的一类抗生素,主要包括青霉素类和头孢菌素类。由于其使用方法不当或不遵守休药期规定等原因给人类健康带来严重危害。本文介绍了动物源食品中β-内酰胺类抗生素的现有残留检测方法,以及实现多残留快速检测的实验思路,包括目标抗体的获得和检测技术的选择。

【英文摘要】β-lactam antibiotic is a kind of antibiotics with β-lactam ring in chemical structure, including penicillins and cephalosporins. Because of its abuse, the residues in food have caused serious hazards to people's health. This paper introduced the present residue detection methods of β-lactam antibiotic and the research thinking of multi-residues detection including producing taget antibody and the selection of detection technology.

【语种】中文

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【学科分类】食品科学技术其他学科

【题目】近49年新疆棉区≥10°C终日和初霜期变化及对棉花生长的影响

【中文关键词】新疆棉区;初霜期;≥10°C终日;变化特征;影响

【英文关键词】Xinjiang cotton-growing area; ≥10°Cterminal day; the first frost date; change characteristics; effect

【中文摘要】利用新疆棉区22 个站1961—2009 年日平均气温和日最低气温资料,分析棉区≥10°C终日和初霜 期的变化特征及对棉花生长的影响。结果表明,≥10°C终日和初霜期均以吐鲁番棉区最晚,南疆棉区次之,并由盆地东部向西部推迟,北疆棉区和哈密棉区最早。49 年来,≥10°C终日在伊犁河谷和石河子地区变化趋势明显,呈显著性向后推迟,北疆其余棉区、东疆棉区、南疆棉区长期变化趋势不明显。初霜期北疆棉区大部变化趋势明显,呈显著性的推迟趋势,东疆棉区、南疆棉区长期变化趋势不明显。≥10°C终日变化吐鲁番棉区最为稳定,南疆棉区次之,北疆棉区波动幅度最大。初霜期变化东疆棉区幅度小于北疆棉区和南疆棉区。北疆棉区、东疆棉区、南疆棉区初霜变幅均大于≥10°C终日,尤以塔里木盆地东部棉

区最为明显。全疆大部棉区20 世纪90年代及2001—2009 年≥10℃终日除少部分站点早于常年外,全疆大部棉区均晚于常年,尤其是北疆棉区、吐鲁番棉区、塔里木盆地西部棉区偏晚较多。初霜期全疆大部分棉区延迟趋势明显,且大部棉区2001—2009 年平均初霜在各年代中是最晚的。这些对于棉花后期生长都是有利的,主要有利条件为热量多,棉花后期生长遭遇霜冻的风险减小,霜前花产量高,品质好。而且≥10℃终日和初霜日变化在很大程度上影响着棉花的种植界限,近年来新疆棉区向北向西扩展。因此生产上,各棉区可以根据该地的≥10℃积温和初霜变化状况选择合适的棉花品种,便于做到棉花生产的高产高效。

【英文摘要】The article was based on data about the mean daily and minimum temperatures of Xinjiang cotton-growing area of 22 stations from 1961 to 2009. The article analyzed not only the change characteristic of ≥10°Cterminal day and the first frost date, but also the effect of cotton growth. The results showed that the latest ≥10°Cterminal day and the first frost date were Turpan regions, followed by cotton-growing areas in southern Xinjiang, delayed from west to east in the Tarim Basin, and cotton-growing areas in northern Xinjiang and Hami was the first. During the 49 years, the change in trend of ≥10°Cterminal day was later in Yili and Shihezi cotton-growing areas, but there was not a clear trend in the rest of the cotton-growing areas in Xinjiang. The change in trend of first frost was later in northern Xinjiang, there was not a clear trend in the rest of the cotton-growing areas in Xinjiang. There was significant linear correlation between ≥10°Cterminal day and the first frost in the most of cotton-growing areas. The most stable ≥10°Cterminal day was Turpan regions, followed by cotton-growing areas in southern Xinjiang. Motion the range cotton-growing areas in northern Xinjiang were biggest. The change in trend of first frost period in eastern regions was smaller than in northern regions and southern Xinjiang cotton-growing areas. The change in trend of first frost period in eastern regions, in northern regions and southern Xinjiang cotton-growing areas were bigger than ≥10°C terminal day. Particularly, Tarim Basin south-eastern cotton-growing regions were the most obvious. most of the cotton-growing areas in Xinjiang 90 years and from 2001 to 2009,the change in trend of ≥10°Cterminal day, only a small part of the site as early as year-round, the rest were later than the year-round. Especially the northern cotton region, Turpan cotton region and western Tarim Basin cotton region late more. Most of Xinjiang early frost delay trend was clearly cotton, and most of the cotton area from 2001 to 2009 the average first frost was last of the era. These were beneficial for the later growth of cotton, mainly as heat and more favorable conditions for cotton growth later reduced the risk of frost encountered before frost high yield, good quality. And ≥10°Cterminal day and the first frost date change to a large extent affected the cultivation of cotton boundaries extend north and west Xinjiang cotton area in recent years. Therefore, the production and the cotton could the local accumulated temperature ≥10°Cand select the appropriate state change first frost of cotton varieties, easy to achieve high yield and efficiency of cotton production.

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【第一作者】曹占洲
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【题目】酶联免疫法快速测定原料乳中α_s-酪蛋白质量浓度
【中文关键词】牛乳α_s-酪蛋白;酶联免疫吸附试验;多克隆抗体
【英文关键词】bovine αs-casein ELISA polyclonal antibody

【中文摘要】用牛sα-酪蛋白纯品免疫新西兰白兔,制得兔抗牛sα-酪蛋白的多克隆抗体。以牛sα-酪蛋白包被抗原,自制抗体为一抗,辣根过氧化物酶标记的羊抗兔IgG为二抗,邻苯二胺(OPD)为底物,建立了牛乳中sα-酪蛋白的间接ELISA检测方法。检测的线性范围是25 1200ng/mL,相关系数是0.9825,回收率在91.97% 115.61%之间,证明可以用酶联免疫法简单快速地测定牛乳中的sα-酪蛋白,因为该蛋白在酪蛋白中质量浓度稳定,所以可以计算出牛乳中酪蛋白的质量浓度。显然该方法可以用于牛乳掺杂使假的鉴别和原料奶酪蛋白质量浓度是否合格的快速检测。

【英文摘要】The polyclonal antibody was prepared by immunizing New Zealand rabbits with bovine αs-casein. Enzyme-Linked Immunosorbent Assays (ELISA) was developed for bovine αs-casein .The standard curve was linear between 25 and 1 200 ng/mL with regression coefficients 0.9825.The recovery rates were between 91.97%~115.61%. It is proved that using ELISA can determinate the content of bovine αs-casein easily and effectively. Because the content of αs-casein is so steady that its content can be calculated easily. Obviously, this method can be determined the adulteration of raw milk and quantified the content of bovine αs-casein.

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【通讯作者】庞广昌
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【题目】津沪地区原料奶中金黄色葡萄球菌的污染情况研究
【中文关键词】原料奶 金黄色葡萄球菌 单克隆抗体检测试板
【英文关键词】raw milk Staphylococcus aureus monoclonal antibody test plate
【中文摘要】金黄色葡萄球菌是影响原料奶质量的微生物之一,它能产生高温灭菌被破坏的肠毒素。近年来,由金黄色葡萄球菌肠毒素引发的食物中毒事件屡见不鲜,严重影响到消费者的身体健康。本研究是利用黄色葡萄球菌金标特异性单克隆检测试板和金黄色葡萄球菌快速检验测试片对天津周边地区及上海共84个原料奶样品进行检测和调查。结果表明,原料奶市场的微生物污染状况不容乐观。通过本研究确定金黄色葡萄球菌金标特异性单克隆抗体快速检测试板是一种快速、简便、准确的检测产品,值得在原料奶市场大力推广。
【英文摘要】Staphylococcus aureus is one of the microbe which affect the quality of the raw milk.It can produce enterotoxin which can not be destroyed by the high temperature sterilization. Enterotoxin is harmful to the human body.The Staphylococcus aureus golden marked specificity single-clone test plate and the petrifilm staph express count plate were used in the research to verify altogether 84 raw milk samples collected from Tianjin and Shanghai.The results indicated that the microbial contamination condition in raw milk is unopfimisfic.It proved the Staphylococcus aureus golden marked specificity monoclonal antibody test plate is a kind of fast,convenient and veracious examination product through the research.It is worth to popularize in raw milk market.
【语种】中文
【第一作者】林柏玲
【通讯作者】庞广昌
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【题目】核微孔膜为基础的乳糖-葡萄糖双功能酶电极的研制
【中文关键词】乳糖传感器 葡萄糖传感器 核微孔膜 酵母破碎液
【英文关键词】lactose biosensor glucose biosensor nuclear pore membrane fragmentized liquid of the yeast
【中文摘要】利用酵母破碎液改性后的核微孔膜作为固定载体,戊二醛为交联剂,通过固定葡萄糖氧化酶(GOD)和β-半乳糖苷酶(GAL)构建出过氧化氢双电极系统。研究了该酶电极的性质,以及不同来源GAL抗干扰性的差异。乳糖电极在0.2%~2%和4%~10%内有良好的线性关系,响应时间40s,半衰期15~20d。葡萄糖电极的线性范围0~1%,分辨率达到0.001%,响应时间20s,半衰期大于60d。该系统可同时测定样品中乳糖和葡萄糖的含量,乳糖电极的葡萄糖干扰用差分法消除。
【英文摘要】Hybrid biosensor for the detecting of lactose and glucose simultaneously was developed. This biosensor consisting of two electrodes was based on the nuclear pore films modified by the yeast broken liquid and 1-1202 electrodes. Glucose oxidase (GOD) and β - galactosidase(GAL) were immobilized on the membranes by using the glutaric dialdehyde as crosslinking agent. Having studied the response characteristics of the two electrodes, the biosensor shows good linearity among the ranges of 0.2- 2 g/100ml and 4-10 g/100ml of lactose and 0- 100mg/100ml glucose respectively. The response time is less than 40s for lactose and less than 20s for glucose. The self(half-life)-life of the galactosidase-electrode is between 15 and 20 days while the glucose oxidase-electrode is more than 60 days. The interference of glucose in lactose detecting can be removed through the subtractive operation between the response datas of the two electrodes.
【语种】中文
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【题目】酶联免疫法快速测定原料乳中κ-酪蛋白含量
【中文关键词】牛乳κ-酪蛋白 酶联免疫吸附检测 多克隆抗体
【英文关键词】bovine K-casein. ELISA polyclonal antibody
【中文摘要】用牛κ-酪蛋白纯品免疫新西兰白兔,制得兔抗牛κ-酪蛋白的多克隆抗体。以牛κ-酪蛋白包被抗原,自制抗体为一抗,辣根过氧化物酶标记的羊抗兔IgG为二抗,邻苯二胺(OPD)为底物,建立了牛乳中κ-酪蛋白的间接ELISA检测方法。检测的线性范围是25~1400ng/mL,相关系数是0.9831,回收率在95.83%~125.83%之间,证明可以用酶联免疫法简单快速地测定牛乳中的κ-酪蛋白,因为该蛋白在酪蛋白中含量稳定,所以可以计算出牛乳中酪蛋白的含量。显然该方法可以用于牛乳掺杂使假的鉴别和原料奶酪蛋白含量是否合格的快速检测。
【英文摘要】The polyclonal antibody was prepared by immunizing New Zealand rabbits with bovine k- casein. Enzyme-Linked Immunosorbent Assays (ELISA) was developed for bovine k-casein. The standard curve was linear between 25 and 1400ng/mL with regression coefficients of 0.9831. The recovery rates were between 95.83% - 125.83%. It is proved that using ELISA can determinate the content of bovine k-casein easily and effectively. Because the content of k-casein is so steady that its content can be calculated easily. Obviously, this method can be used to find out the adulteration of raw milk and quantify the content of bovine k-casein.
【语种】中文
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【题目】津晋豫鲁部分地区原料奶中微生物污染情况调查
【中文关键词】原料奶 蜡样芽孢杆菌 菌落总数 污染
【英文关键词】raw milk Bacillus cereus total number of colonies pollution
【中文摘要】蜡样芽孢杆菌是影响原料奶质量的致病微生物之一,它能产生致吐肠毒素和致腹泻毒素。由蜡样芽孢杆菌引起的食物中毒事件屡见不鲜,严重影响到消费者的身体健康。本研究对国内津、晋、豫及鲁四个地区的原料奶中微生物污染情况进行调查与鉴定,主要检测菌落总数和蜡样芽孢杆菌数。结果表明,原料奶市场的微生物污染状况不容乐观。本实验也对原料奶的溯源奠定了基础。
【英文摘要】Bacillus cereus is one of the microbes which affect the quality of the raw milk. It can produce enterotoxins which cause vomiting or Diarrhea. Food poisoning which caused by Bacillus cereus happened often. Enterotoxin is harmful to the human body. We investigate microbiology pollution of the raw milk come from four cities in this research. Especially aerobic bacterial count and Bacillus cereus count were detected. The results indicated that the microbial contamination condition in raw milk is unoptimistie. At the same time, the research laid a foundation for traceability of the raw milk.
【语种】中文
【第一作者】吴海清
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【题目】报告噬菌体在食源性病原菌检测中的应用研究进展
【中文关键词】食源性病原菌 快速检测 报告噬菌体
【英文关键词】food-borne pathogens rapid detection reporter bacteriophage
【中文摘要】由食源性病原菌造成的食物污染及中毒问题引起了人们的普遍关注。现存的检测方法存在着种种不足,不利于病原菌的成功快速检测,报告噬菌体作为一种快速准确的检测工具吸引了研究人员越来越多的关注。本文主要就应用于报告噬菌体检测技术中的报告系统及这一技术的应用现状与新进展进行综述。
【英文摘要】The food poisoning and pollution problems caused by food-borne pathogens have attracted widespread attention now. There are many defects for the existing detection methods. The reporter phage has attracted more and more attention as a fast and accurate detection tool. This paper presents the reporter system used in the reporter bacteriophage technology and the current status of the application of this technology.
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【第一作者】杨媛
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【题目】免疫传感器测定食品中黄曲霉毒素的研究进展
【中文关键词】免疫传感器 黄曲霉毒素 检测 丝网印刷微电极 纳米材料
【英文关键词】immunosensors aflatoxin detection screen printed electrodes (SPEs) nano-materials
【中文摘要】黄曲霉毒素是一类毒性极强的剧毒物质,及时检测和控制食品中黄曲霉毒素,对于保障人们生命安全和提高我国农副产品国际竞争力是相当重要的。本文综述了近十年来各种免疫传感器测定食品中黄曲霉毒素的研究及应用情况。着重介绍了电化学免疫传感器的制作原理、检测性能及其应用于牛奶、小麦、玉米等基质中测定黄曲霉毒素的研究现状。简要评述了免疫传感器结合丝网印刷微电极、流动注射分析系统和以纳米材料作为固相基底或信号扩增标签等方面的研究。
【英文摘要】Aflatoxins (AFTs) are a group of virulent substances having similar chemical structure. It is important for protecting human health and increasing international competitiveness of agricultural products to detect and control AFrs in foods in time. The development and application of aflatoxin detection in foods by means of various immunosensors are reviewed in this paper, especially the manufacture principle and the detection performance of electrochemical immunosensor as well as its application to detect AFTs in milk, wheat and corn. Recently, an intensive research effort has been performed on the application of immunosensors combined with screen printed electrodes, flow-injection immunoassays (FI-IA) and nano-materials which are used as a solid support or signal-amplification label. The application of immunosensors in food safety which has an extensive application prospect has become the focus of attention.
【语种】中文
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【题目】不同载体固定化GOD-GAL双酶乳糖生物传感器核微孔膜的研究
【中文关键词】固定化酶 酵母细胞壁微粒 醛基化环糊精微粒 醛基化淀粉胶 乳糖酶膜
【英文关键词】immobilization carrier yeast cell wall particulates: β-cyclodextrin glutaraldehyde particulates (β--CDP) starch glutaraldehyde adhesive lactose membrane

【中文摘要】分别以酵母细胞壁微粒、醛基化环糊精微粒(β-CDP)和醛基化淀粉胶材料为载体固定葡萄糖氧化酶(GOD)和β-半乳糖苷酶(β-GAL)双酶,制作三种乳糖酶膜,并用生物传感分析仪测试它们的性能。实验结果表明,用这三种材料制成的酶膜均表现出优良的性能,在乳糖溶液浓度为0.02%~2%的范围内具有良好的线性关系,R2都在0.995以上,乳糖最低检出浓度可达0.001g/L,具有良好的响应性能,响应时间为20~40s。在这三种酶膜中,酵母壁微粒酶膜的线性范围最宽,达0%~10%,这种传感器可广泛应用于原料乳和乳制品中乳糖的检测;β-CDP酶膜具有较强的吸附酶分子的能力,响应值高达2500;醛基化淀粉胶制成的酶膜材质具有良好的均一性,且制作工艺简单。

【英文摘要】Glucose oxidase (GOD), together with β-galactosidase (β-GAL), was immobilized onto yeast cell wall particulates, [~-cyclodextrin glutaraldehyde particulates (β-CDP) and starch glutaraldehyde adhesive respectively to construct bi-enzyme membranes, whose lactose detection performances were tested using an SBA-40C biosensor. All hi-enzyme membranes performed a good detection capability, with a linear calibration range of 0.02%--2% lactose (R2 above 0.995) and a detection limit of 0.001 g/L and had a fast response, with response lime within 20--40s. Among them, bi-enzyme membranes made with yeast cell wall particulates as a carrier had the widest linear calibration range of 0 -- 10% and therefore could be widely used for the detection of lactose in raw milk and dairy products; β-CDP bi-enzyme membranes had a strong adsorption capacity to enzyme molecules and the response values were as high as 2500; hi-enzyme membranes made with starch glntaraldehyde adhesive as a carrier had a good homogeneity and were easy to prepare and could be used to detect lactose in milk.

【语种】中文

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【题目】我国东北部分地区原料奶中蜡样芽孢杆菌污染情况调查

【中文关键词】原料奶 蜡样芽孢杆菌 菌落总数 大肠菌群数 污染

【英文关键词】The raw milk Bacillus cereus The total bacterial count Coliform groups Pollution

【中文摘要】对中国东北3个地区的原料奶中微生物污染情况进行调查与鉴定,主要检测原料奶中蜡样芽孢杆菌数,以及菌落总数和大肠菌群数,确定原料奶中微生物的污染状况与蜡样芽孢杆菌污染的关系。结果表明,3个地区的蜡样芽孢杆菌数平均值均≤105CFU/mL。而细菌总数平均值则为106~107CFU/mL,都属于超标奶。大肠菌群平均值,地区1为1 349 MPN/100mL。地区2为2 574 MPN/100 mL,地区3为2 032 MPN/100 mL。综合分析得出,蜡样芽孢杆菌数与原料奶的微生物污染状况无相关性。

【英文摘要】The microbiology pollution of the raw milk was investigated and identified in three areas of northeast China. Bacillus cereus count in raw milk was detected, mainly, as the same time, aerobic bacterial count, coliform groups count were detected. Especially the relationship between Bacillus cereus count and microbiological contamination was determined. The results indicated that the microbial contamination condition in raw milk is unoptimistic. The Bacillus cereus count average values were bellow or equal to l0^5 CFU/mL in three areas. But all the total bacterial count average values exceeded the criterion, between 10^6 and 10^7 CFU/mL. In terms of the coliform groups average values, the first area were 1 349 MPN/100 mL, the second area were 2 574 MPN/100 mL , the third is 2 032 MPN/100 mL. So there were no relevance between Bacillus cereus count and microbiological contamination of the raw milk.

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【学科分类】食品科学技术其他学科

【题目】原料乳中蜡样芽孢杆菌部分致病基因的鉴定及毒力评价
【中文关键词】原料乳 蜡样芽孢杆菌 溶血素BL hblA基因 bceT基因
【英文关键词】raw milk Bacillus cereus hemolysin BL hblA gene bceT gene
【中文摘要】研究原料乳中蜡样芽孢杆菌的潜在威胁,对我国10个省市原料乳中蜡样芽孢杆菌的污染状况进行调查,并利用PCR扩增技术及血平板检测的方法分析乳源性蜡样芽孢杆菌中的毒性分布。结果表明,原料乳中蜡样芽孢杆菌检出率为33%,检出水平为1×103~1×106CFU/ml,检出的蜡样芽孢杆菌中25株(75.8%)能产生溶血素BL,24株(72.7%)含有bceT基因,至少产生一种毒素的菌株有31株占检出菌总数的93.9%。研究结果证实我国原料乳中的蜡样芽孢杆菌污染状况不容乐观,严格监控原料乳中的蜡样芽孢杆菌污染,对生产出优质乳制品具有重要意义。
【英文摘要】In order to evaluate the toxigenic potential of Bacillus cereus in row milk,100 samples of row milk from 10 cities of China were screened,and Bacillus cereus were found in 33(33%) samples with the concentration within 1 × 103~1 × 106 CFU/ml.Using PCR the isolates were checked for the presence of the hblA gene of the hemolysin BL(HBL) complex and the bceT genes of the enterotoxin T.HBL was detected by blood plate.Totally 25(75.8%) of the 33 B.cereus isolates produced the hemolysin BL,while 24(72.7%) isolates possessed the bceT gene,and as a result,31(93.9%) B.cereus isolates produced at least one toxin.The results suggest that it is necessary to monitor the Bacillus cereus contamination in row milk.
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【题目】我国部分地区原料奶中蜡样芽孢杆菌污染情况调查
【中文关键词】原料奶 蜡样芽孢杆菌 菌落总数 大肠菌群数 污染情况 乳品企业 细菌总数 污染状况 微生物 情况调查
【英文关键词】the raw milk Bacillus cereus The total bacterial count coliform groups pollution
【中文摘要】对我国冀宁浙3个省典型乳品企业的原料奶中微生物污染情况进行调查与鉴定,主要检测原料奶中蜡样芽孢杆菌数,以及菌落总数和大肠菌群数,确定原料奶中微生物的污染状况与蜡样芽孢杆菌污染的关系。结果表明,3个地区的蜡样芽孢杆菌数平均值均≤105 mL-1。而细菌总数平均值,冀某乳品企业为7.61×105 mL-1,浙和宁为106 mL-1,属于超标奶。就大肠菌群平均值而言(最近似值),冀某乳品企业为21.17 mL-1,浙某乳品企业为25.15 mL-1,宁某乳品企业为15.98 mL-1。综合分析表明,蜡样芽孢杆菌数与原料奶的微生物污染状况没有相关性。本调查分析也对我国原料奶蜡样芽孢杆菌污染的溯源奠定基础。
【英文摘要】Bacillus cereus is one of the microbes which affect the quality of the raw milk. It can produce enterotoxins which cause vomiting or Diarrhea. Food poisoning which caused by Bacillus cereus happened often. Enterotoxin is harmful to the human body: We investigated and identified microbiology pollution of the raw milk in Ji Ning Zhe three Areas. We mainly detected Bacillus cereus count in raw milk , as the same time, aerobic bacterial count, coliform groups count were detected. Especially we determined the relationship between Bacillus cereus count and microbiological contamination. The results indicated that the microbial contamination condition in raw milk is unoptimisdc. The Bacillus cereus count average values were ≤ 10^5 CFU/mL in three areas. Among three areas, the total bacterial count average values of Ji was 7.61x105 CFU/mL,the two areas' exceed the criterion, are 10^6 CFU/mL. In terms of the coliform groups average values, Ji was 2117 MPN/ 100m, Zhe was 2515 MPN/100 mL, Ning was 1598 MPN/100 mL. So there were no relevance between Bacillus cereus count and microbiological contamination of the raw milk. And the research laid a foundation for traceability of the raw milk.
【语种】中文
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【题目】中南和东北地区原料奶中金黄色葡萄球菌的调查
【中文关键词】原料奶 金黄色葡萄球菌 金标特异性单克隆抗体检测试板
【英文关键词】raw milk Staphylococcus aureus colloidal gold marked specific monoclonal antibody test plate
【中文摘要】利用金黄色葡萄球菌金标特异性单克隆抗体检测试板对中南和东北地区个体养牛户的240个原料奶样品进行快速检测。结果表明:湖南、湖北和河南省原料奶样品中均未检出金黄色葡萄球菌;而辽宁、吉林和黑龙江省原料奶样品金黄色葡萄球菌阳性率分别为10%、30%和100%,原料奶的微生物污染状况不容乐观。本研究结果说明金黄色葡萄球菌金标特异性单克隆抗体快速检测试板是一种快速、简便、准确的金黄色葡萄球菌检测产品,值得在原料奶市场推广。
【英文摘要】The Staphylococcus aureus colloidal gold marked specific monoclonal antibody test plates co-developed by Tianjin University of Commerce and Lanzhou Institute of Biological Products were used in the investigation of positive rate of Staphylococcus aureus in 240 samples of raw milk collected from individual raising households in central south and northeast China. Staphylococcus aureus was not detected in the raw milk samples collected from central south China including Huan, Hubei and Henan provinces, but the microbial pollution status in raw milk was not optimistic because the positive rates of Staphylococcus aureus were 10%, 30% and 100% respectively in the samples collected from Liaoning, Jilin and Heilongjiang provinces. The investigation prove that the Staphylococcus aureus colloidal gold marked specific monoclonal antibody test plates are fast, convenient and accurate examination products. Therefore, it is worth popularizing in raw milk market.
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【题目】酪蛋白糖巨肽分离纯化方法的研究进展
【中文关键词】酪蛋白糖巨肽 分离技术 检测技术 生理活性
【英文关键词】casein glycomacropeptide (CGMP) separation techniques detection techniques physiological activity
【中文摘要】酪蛋白糖巨肽(CGMP)主要是κ-酪蛋白经凝乳酶降解产生的一类含有糖链的多肽,具有许多的生理活性功能和独特的营养特性,可广泛地应用于保健食品和医药品。本文对酪蛋白糖巨肽的来源及结构作了简要概括,对其分离纯化方法及进展作出了详细论述。
【英文摘要】κ-Casein glycomacropeptide (CGMP) is a kind ofpeptide bearing the carbohydrate chain, mainly derived from κ-casein hydrolysate by tenet. Because CGMP has many physiological functions and unique nutritional attributes, it can widely be used in the functional food and medicine. In this paper, the source and structure of CGMP were reviewed, and the present separation and purification technologies were also introduced.
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【题目】食品作用于肠黏膜免疫系统可能的信号途径
【中文关键词】功能性食品 肠黏膜免疫系统 树突状细胞 信号传递途径 细胞因子网络
【英文关键词】functional food gastrointestinal mucosa immunity system dendritic cells signaling pathway cytokine network
【中文摘要】树突状细胞是体内最强的抗原呈递细胞,也是介导机体先天免疫和获得性免疫的桥梁。当食品中的不同生理活性成分作用于肠黏膜免疫系统时,会被肠黏膜中的树突状细胞吞噬加工呈递,也可以直接结合到DC细胞表面的模式识别受体上,如TLRs、CLRs以及NLRs等,然后启动相应的信号传递途径,从而调节肠黏膜免疫系统中细胞因子网络的变化。本文

主要目的是在现有的研究结果的基础上,尽量详尽地判断和揭示食品中的生理活性成分如何与DC相互作用,激发DC可能的信号传导途径,而后如何影响肠黏膜系统中细胞因子的变化。理解这一因果关系,对食品如何发挥其生物功能具有十分重要的指导意义。

【英文摘要】Dendritic cells (DCs) are considered to be the most potent antigen presenting cells of the immune system. They also are critical in the initiation of innate immune responses and the regulation of adaptive immune responses. When different physiologically active compounds in foods act towards the gaslrointestinal mucosa immunity system, these compounds can be captured and processed by DCs in this system, or can directly be binded to the pattern recognition receptors (PRRs) on DCs, such as TLRs, CLRs and NLRs, and then the corresponding signaling pathways are incluced. These signaling pathways maybe influence the cytokine network in this system. This review aimed to estimate and unveil exhaustively how physiologically active compounds interact with DCs, which possible signaling pathway would be induced, and how the cytokine network could be modulated finally, on the basis of current researches. Adequate understanding of this cause and effect is of directive significance for performance of the biological functions of foods.

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【题目】食品-家兔体温-免疫调节的因果关系研究

【中文关键词】发炎细胞因子 抗炎细胞因子 体温 细胞因子网络 功能食品
【英文关键词】inflammatory cytokine anti-inflammatory cytokine body temperature cytokine network functional food

【中文摘要】通过用滋补类食品山药和清热类食品苦瓜、苦荞麦和酸奶饲喂家兔,研究其体温和主要抗炎与发炎细胞因子的变化规律,分析食品与细胞因子网络和体温的因果关系,揭示食品对机体的免疫调节作用。结果表明:对喂食山药后的家兔24h的跟踪结果为体温升高;细胞因子浓度降低的有:IL-1ra、IL-4、TGF-β、TNF-α、INF-γ、IL-12。升高的有:IL-6、IL-10、IL-1β。对喂食酸奶后家兔24h的跟踪结果为体温降低;细胞因子浓度降低的有:IL-1ra、IL-4、TGF-β、IL-1β、TNF-α、INF-γ;升高的有:IL-6、IL-10、IL-12。喂食苦瓜后家兔对24h跟踪结果为体温降低;细胞因子浓度降低的有:IL-1ra、TGF-β、IL-1β、TNF-α、INF-γ,升高的有:IL-4、IL-6、IL-10、IL-12。对喂食苦荞麦后家兔24h跟踪结果为体温降低;细胞因子浓度降低的有:IL-1ra、IL-4、TGF-β、IL-1β、TNF-α、INF-γ,升高的有:IL-6、IL-10、IL-12。说明食品可以通过肠黏膜信号途径调节细胞因子网络,从而调节免疫细胞网络和活性。但其作用规律非常复杂,往往既可以刺激发炎细胞因子的升高(或降低),也可以刺激抗炎细胞因子的升高(或降低)。不同食品对体温的作用则比较有规律,其中滋补类食品使动物的体温升高,而清热类食品则可以刺激动物体温降低,其变化都在正常体温范围内。实验证明饲喂不同的食品可以调节细胞因子网络,从而调节机体的免疫网络,进而表现出体温的变化。它们存在一定的因果关系。

【英文摘要】Rabbits were fed with nourishing food (yam) and heat-cleating foods (balsam pear, buckwheat and yoghourt). The change regularities of pro- and anti-inflammatory cytokine in the rabbit serum and rabbit body temperature were investigated, and the causal relationship of the foods with rabbit body temperature and cytokine network was expolred to reveal the immunoregulation of the foods. After 24 h of being fed with yam, the body temperatures of the rabbits rise. The concentrations of the cytokines such as IL-1ra, IL-4, TGF- β, TNF- α, INF- γ and IL-12 decline, but those of IL-6, IL-10 and IL-1 β are reverse. After 24 h of being fed with yoghourt,the body temperatures of the rabbits decilne, the concentrations of the cytokines such as IL-1ra, IL-4, TGF- β, IL-1 β, TNF- α and INF- γ decline, but those of IL-6, IL-10 and IL-12 rise. After 24 h of being fed with balsam pear,the body temperatures of the rabbits decline the concentrations of the cytokines such as IL-1ra, TGF- β, IL-1 β, TNF-α and INF- γ decline, but those of IL-4, IL-6, IL-10 and IL-12 rise. After 24 h of being fed with buckwheat, the concentrations of the cytokines such as IL- 1ra, IL-4, TGF- B, IL- β, TNF- α and INF- γ decline, butthose of IL-6, IL- 10 and IL-12 rise. It is clearly that the functional foods can regulate the complicated cytokine network to control the immunosystem and the body temperature of animal. The results revealed that the animal body temperature can be changed by feeding different functional foods, which follow the traditional Chinese experience laws about negative ("Yin') or positive ("Yang") of foods. Therefore the causal relationship of food-animal body temperature - immunoregulation maybe really exist by the interaction between food and mucosal immunosystem.

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【题目】乳糖生物传感器在乳品安全检测中的研究进展
【中文关键词】牛乳 乳糖 生物传感器 实时检测
【英文关键词】牛乳 乳糖 生物传感器 实时检测
【中文摘要】从固定酶的种类、固定化材料的选择以及高灵敏检测信号的获得方式3方面介绍了乳糖生物传感器制作的研究成果,阐述了传感器在制作过程中存在的问题及乳糖实时检测方面的研究现状,并对乳糖生物传感器作为乳品实时检测的应用进行展望。
【英文摘要】This article primarily introduced the research progress of lactose biosensor from three aspects, such as enzyme class, the immobilized materials and the way of highly sensitive detection. It also discussed the production problems, while giving some research progress and applications of real-time detection lactose. And it gives an outlook for lactose biosensor application in real-time monitoring milk.
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【题目】MALDil Botyper与API20E对克罗诺杆菌(阪崎肠杆菌)的鉴定结果比较
【中文关键词】克罗诺杆菌 MALDI-TOFMS Biotyper APIE 比较
【英文关键词】Cronobacter spp. MALDI-TOF MS Biotyper API20E Comparison
【中文摘要】目的:评价MALDI-TOF MS Biotyper鉴定克罗诺杆菌的效果。方法:应用MALDI-TOF MS Biotyper与API20E分别对32株克罗诺杆菌(28株分离株,4株参考菌株)与相近菌株阴沟肠杆菌、产气肠杆菌进行鉴定,并对鉴定结果分析比较。结果:MALDI-TOF MS Biotyper2.0将32株克罗诺杆菌鉴定到种、属水平分别为56.2%和37.5%;API20E为75%、21.9%。3株菌未获得鉴定结果,其余29株菌的鉴定结果相符。结论:MALDI-TOF MS Biotyper作为一种新的细菌鉴定手段,可用于克罗诺杆菌的鉴定。
【英文摘要】Objective:To evaluate the identification effect of MALDI-TOF MS Biotyper on Cronobacter spp.Methods:A total of 32 Cronobacter spp.strains(28 isolates,4 reference strains) and similar trains of Enterobacter cloacae,Enterobacter aerogenes were identified with MALDI-TOF MS Biotyper and API20E,respectively.Results:The identification rates of MALDI-TOF MS Biotyper for 32 Cronobacter spp.strains were 56.2% at species level,37.5% at genus level.The identification rates of API20E 32 Cronobacter spp.strains were 75% at species level,and 21.9% at genus level.Both total 3 test strains identification result was not determined,the results were consistent with identification of 29 strains.Conclusion:MALDI-TOF MS Biotyper,a new method,can be used for the identification of Cronobacter spp.
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【题目】预处理方法对可食性植物样品中微量元素测定结果的影响
【中文关键词】微波消解法 原子吸收分光光度法 野菜 绿叶蔬菜 微量元素
【英文关键词】microwave digestion FAAS wild vegetables green leaf vegetables trace elements
【中文摘要】采用干法、湿法和微波消解法处理紫苏样品,以原子吸收分光光度法检测钙、镁、铜、铁、锌和锰6种微量元素的精密度和加标回收率,证实三种预处理方法会显著影响紫苏中微量元素含量的测定结果。与其它两种方法相比,用混酸HNO3-H2O2(6∶2)处理紫苏并采用微波消解样品后,各微量元素测定结果的加标回收率较高,加标回收率在99.00%~102.00%之间,相对标准偏差(RSD)低于5%。采用微波消解法对水白菜和山莴苣2种野菜样品以及油麦菜、油菜、韭菜和生菜4种绿叶蔬菜样品进行预处理表明,各微量元素的加标回收率在96.51%~99.87%之间,相对标准偏差(RSD)低于5%,这意味着对可食性植物中的微量元素检测而言,微波消解法预处理样品能够提高测定结果的准确性和重复性。
【英文摘要】Three pretreatments of vegetable samples, i.e.dry ashing, wet ashing and microwave digestion procedures,were investigated to evaluate their effects on the concentrations of trace elements including Ca, Mg, Cu,Zn, Fe and Mn by flame atomic absorption spectrometry(FAAS).Perilla frutescens, a vegetable consumed in Tianjin of China,was chosen as a case to deal with the differences occurring in the detected contents of the trace elements due to different pretreatments of samples.A higher recovery ranging from 99.00% to 102% and relative standard deviations below 5% in the detection of these trace elements were obtained when Perilla frutescens samples were pretreated with microwave digestion procedure instead of dry-ashing or wet-ashing method. Moreover, more vegetable samples including Brassica juncea var. multisecta, Lactuca indica, Lactuca sativa, Brassica napus, Allium tuberosum and Lactuca sativa var. capitata were chosen to confirm the accuracy and repeatability of microwave digestion treatment in the detection of these trace elements.It was seen that RSDs were below 5% and the ranges of the recoveries related to the assay of these trace elements varied from 96.51% to 99.87%.Obviously, using microwave digestion to pretreat edible vegetable samples can improve the determination accuracy of trace elements in food nutrition assay.
【语种】中文
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【题目】原料乳中嗜冷菌的危害分析及控制研究
【中文关键词】原料乳 嗜冷菌 控制
【英文关键词】raw milk psychrophile control
【中文摘要】采用分离培养基从牧场的原料乳样品中分离得到嗜冷菌,经鉴定为荧光假单胞菌。进一步研究了不同杀菌方式下嗜冷菌对贮存过程中乳品品质的影响,结果表明,原料乳经115°C高温灭菌,然后进行55°C保温1h灭酶处理,有助于控制嗜冷菌的生长,与25°C贮存相比,在4°C贮存8d后,其蛋白质和脂肪含量相对较高。
【英文摘要】A psychrophile strain, identified as Pseudomonas fluorescens, was isolated by isolation medium from raw milk samples collected from pastures. Furthermore, the effects ofpsychrophile on the quality of stored milk treated by different sterilization methods were investigated. It was found that the growth ofpsychrophile would be controlled after the raw milk was sterilized at 115°C and heat-treated at 55°C for 1 h to destroy enzyme activity. The contents of protein and fat in the milk stored at 4°C for 8 d were higher than those in the milk stored at 25°C.
【语种】中文
【第一作者】吴荣荣
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【题目】原料乳中多种致病菌的快速过滤富集及多重PCR检测
【中文关键词】多重PCR 原料乳 致病菌 过滤 快速检测
【英文关键词】multiplex PCR raw milk foodborne pathogens filtration rapid detection
【中文摘要】针对目前原料乳中致病菌的检测方法繁琐费时耗力的缺点,建立一种能同时检测原料乳中多种致病菌的快速检测方法,采用多重PCR快速灵敏检测技术与一种不需要预增菌就可以直接从原料乳中快速过滤富集菌体的技术相结合来同时检测原料乳中主要致病菌——沙门氏菌、大肠杆菌O157:H7、金黄色葡萄球菌、单增李斯特氏菌和蜡样芽孢杆菌。整个过程只需7~8h即可完成,且检测灵敏度可达102cfu/mL。这种方法是对传统检测方法的有效改进,并且达到了原料乳检测快速、准确、灵敏的要求。
【英文摘要】Conventional methods of detecting food borne pathogens in food are cumbersome and time-consuming.To establish a time-saving detecting method,pathogen were concentrated from raw milk by straightforward filtration and were detected by a rapid and sensitive multiplex PCR system for simultaneous detection of Bacillus cereus,Salmonella spp,Escherichia coli O157:H7,Staphylococcus aureus and Listeria monocytogenes.The assay from filtration to multiplex PCR can be completed in about 7-8h and the limit of detection for multiplex PCR was as low as 102 cfu of bacteria in 1 mL of raw-milk.The study,which increases the accuracy and sensitivity,improves traditional methods and it can be applied to the food microorganism detection and diagnosis of food poisoning.
【语种】中文
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【题目】原料乳中金黄色葡萄球菌生长模型的建立
【中文关键词】金黄色葡萄球菌 生长模型
【英文关键词】Staphylococcus aureus predictive growth model temprature
【中文摘要】金黄色葡萄球菌是严重危害人类健康的致病菌之一.本实验研究了原料奶中该菌在不同温度下的生长繁殖规律,建立了金黄色葡萄球菌混合菌株在原料奶中的生长模型,为今后原料奶和乳制品特征性病原菌的风险评估奠定了一定的理论和科学基础.
【英文摘要】Staphylococcus aureus is one kind of the pathogenic mirpogansim that endangers the human health.This article studied the growth kinetic of Staphyloccus aureus on different temperature in raw milk ,and modeled mixed strains of Staphylococcus aureus growth in raw milk .This study can establish certain theoretical and scientific foudation for mark pathogenic microorganism risk assessment in raw milk and dairy products in the future.
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【题目】酯酶试验法检测牛乳体细胞的研究
【中文关键词】体细胞 酯酶试验法 乳
【英文关键词】somatic cell count esterase test milk
【中文摘要】以酯酶试验法原理为基础,研究了乳体细胞的检测方法。结果表明,酯酶试验法检测结果与显微镜直接计数结果相关性高。该法操作简便,可实现乳体细胞的在线检测,在监测乳房炎、划分原料乳等级等方面具有较大的应用价值。

【英文摘要】Method to detect somatic cell count (SCC) in milk was studied based on Esterase Test. The result showed this method had a high relation with direct microscopic count. Real-time detecting SCC in milk could be implemented because this method was easy to operate. This method had advantages in diagnosing cow mastiffs and determining raw milk quality
【语种】中文
【第一作者】田波
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【题目】IPTG诱导浓度对重组李氏溶血素表达的影响
【中文关键词】单核增生性李斯特杆菌 李氏溶血素 诱导浓度 IPTG 外源蛋白 表达
【英文关键词】Listeria monocytogenes;Listeriolysin O;induced concentration;IPTG;exogenous protein;expression;
【中文摘要】单核增生性李斯特杆菌(L.monocytogenes)的主要毒力基因hly与融合表达载体pGEX-6P-1相连,转化大肠杆菌BL-21。在摇床条件下,利用异丙基硫代-β D-半乳糖苷(IPTG)为诱导剂,分析比较不同IPTG浓度对表达产物的影响,以确定最佳的IPTG浓度。结果表明,在装有LB培养基的三角瓶中,在37°C情况下,当IPTG终浓度为0.6mmol.L-1时,hly基因的表达量最大。当再增加IPTG的浓度时,抑制重组蛋白的表达。Western-blot分析,所表达的蛋白具有抗原特异性。实验为重组李氏溶血素的工业化生产提供依据。
【英文摘要】The recombinant of pGEX-6P-hly was transformed into E.coli BL-21,induced and expressed by IPTG,to analyze the effect of different concentration of IPTG on the expression of recombinant Listeriolysin O,and to confirm the best induced concentration of IPTG.Experimental results indicated that under shake incubator,LB medium and inducing 2.4 hours with 37 °C,hly expression quantity was the most when ultima concentration of IPTG was 0.6 mmol · L-1.Western-blot analysis showed that recombinant fusion protein could react with a specific anti-serum.Theis provided dependable experimental accordance for industry production of Listerolysin 0when IPTG was inducer.
【语种】中文
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【通讯作者】李一经
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【题目】阻抗法的研究进展及其在食品微生物检测中的应用
【中文关键词】阻抗微生物学 阻抗 电导 电容 微生物检测
【英文关键词】无
【中文摘要】阻抗法是一种微生物快速检测方法,在食品工业中具有广泛的应用前景。本文综述了阻抗法的理论研究和仪器开发现状以及该方法在食品微生物检测中的应用情况,并对其今后的发展前景进行展望。
【英文摘要】无
【语种】中文
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【通讯作者】刘东红
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【题目】检测温度对阻抗法快速检测微生物的影响
【中文关键词】阻抗微生物;检测温度;检出时间
【英文关键词】impedance micro-organisms detection temperature detection time
【中文摘要】检测温度对阻抗参数值及微生物生长代谢影响重大,基于此,本文研究检测温度对阻抗检测的影响。比较无菌利乐培养基及5g/L氯化钠溶液在20、22、24、26、28、30、32、34、36、38、40℃温度下对应的G、θ、Cs、Cp、Z值的变化情况。结果表明这些阻抗参数随温度的改变而呈线性变化,同样的温度波动值,导电性好的培养介质的阻抗参数变化值大;将装有8.4×104CFU/mL藤黄微球菌、3.3×103CFU/mL微生物菌群的测试管分别在20、30、40℃培养,结果在20℃条件下阻抗变化率未能达到检出阈,而当检测温度从30℃升高至40℃,藤黄微球菌的检出时间从11.8h缩短至6.8h,微生物菌群则从16.5h缩短至12.5h,说明检测温度对于阻抗微生物快速检测方法意义重大。
【英文摘要】The detection temperature has significant impact on impedance parameters value and the growth of micro-bial,based on this,in this paper the effect of temperature on impedance detection was studied.G, θ ,Cs,Cp and Z values of aseptic Tetra medium and 5 g/L NaCl solution at 20 ℃,22 ℃,24 ℃,26 ℃,28 ℃,30 ℃,32 ℃,34 ℃,36 ℃,38 ℃,40 ℃ were compared,get linear relationship between these impedance parameters and temperature and the same temperature fluctuations have greater impact on the culture medium of high conductivity.At the same time,we compare the detection time of Micrococcus luteus(8.4×104 CFU/mL),microbial flora(3.3×103 CFU/mL) grow at 20 ℃,30 ℃,40 ℃ respectively were also compared,and get that when grow at 20 ℃,the change rate of impedance failed to reach the detection threshold,meanwhile when the incubation temperature rise from 30 ℃ to 40 ℃,the detection time of Micrococcus luteus reduced from 11.8 h to 6.8 h,the microbial flora from 16.5 h to 12.5 h,showed that the temperature have significant impact on the impedance rapid method.
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【题目】Completion of the sequence of rice gall dwarf virus from Guangxi, China
【中文关键词】水稻瘤矮病毒;基因组片段;倒转重复序列
【英文关键词】Rice gall dwarf virus;Genome segments;Inverted repeats
【中文摘要】本研究测定水稻瘤矮病毒中国广西分离物(RGDV-GX)基因组片段S2/S3/S5/S8-11的全序列,由此获得了该分离物的基因组完整序列信息。该分离物全基因组由25567nt组成,在基因组结构于最近新报道的泰国分离物(RGDV-T)相似。序列分析发现S3/S5/S8的近3’-端存在未报道的第二个7-8nt长度的基因组特异性的重复序列;分析发现RGDV-GX基因组片段S4比RGDV-T的S4短139nt,在RGDV-T S4中该插入片段上存在34nt长度的倒转重复序列,而且该插入片段的破坏了预期存在于3’-端的茎环结构,这对病毒基因表达的影响有待进一步分析。
【英文摘要】The complete nucleotide sequences of segments S2, S3, S5, and S8 – S11 of a Rice gall dwarf virus isolate from Guangxi Province, China, (RGDV-GX) were determined, completing the sequence of this isolate. The total genome (25,567nt) was similar in organization to a recently reported Thailand isolate (RGDV-T). A previously unreported second segment-specific repeat of 7 or 8nt was detected close to the 3’-end of segments S3, S5, and S8. The 3’-UTR of RGDV-GX S4 was 139nt shorter than that of RGDV-T; the insertion in RGDV-T contains a 34-nt inverted repeat, with the 3’-terminus probably abolishing the expected stem loop structure.
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【学科分类】植物保护学

【题目】Studies on the epidemiology and yield losses from rice black-streaked dwarf disease in a recent epidemic in Zhejiang province, China

【中文关键词】品种感病性,病害监控,灰飞虱,水稻黑条矮缩病毒,播期

【英文关键词】cultivar susceptibility, disease survey, Laodelphax striatellus, Rice black-streaked dwarf virus, sowing date

【中文摘要】根据1995-2007年间的记载水稻黑条矮缩病的迅速蔓延已成为浙江省中、南部冬小麦、双季水稻种植区的一个重要病害,其中晚稻危害最为严重,每年受害面积达64640 ha,损失稻米约120 000 t。调查分析表明其灰飞虱介体的成虫数量高峰与水稻幼苗期重叠;而且灰飞虱带毒率在1998-2005年间也有所增高;研究表明水稻在3-4页最为感病,而在分蘖后期接毒稍有病状,甚至无症状;病株率和带毒虫量呈正相关性;播种期早的病株率和损失率最高,当播种期推迟25天后,几乎无损失;对于籼稻品种,病株率每增加1%,损失增加0.8%;对于粳稻品种损失则为0.92%;不同品种之间,感病差异很大,表明种植抗病品种有助于该病害的控制。耕作措施和近年冬季气候等方面的变化可能促进了该病害的发生。

【英文摘要】The spread of rice black-streaked dwarf disease, which has emerged as a major problem on winter wheat and the two summer rice crops (early indica and late japonica) grown in central and southern Zhejiang province, China, is documented from 1995 to 2007. The late japonica crop suffered the most: up to 64 640 ha were affected with estimated losses of c. 120 000 t grain per year. Peak adult numbers of the small brown planthopper vector, Laodelphax striatellus, coincided with the seedling stages of both rice crops and the proportion of the insect population carrying virus increased during 1998 – 2005. Seedlings with three to four leaves were the most susceptible, whereas plants inoculated after the end of tillering developed few or no symptoms. Disease levels were strongly correlated with numbers of viruliferous vectors. In sowing-date experiments with both rice crops, the earliest sowings had the most disease and suffered the greatest yield losses. With the last sowing date (25 days after the first), there were almost no losses. There were yield losses of 0.80% for every 1% increase in disease incidence in early indica rice and rather more (0.92%) in the late japonica crop. There were large differences in susceptibility between cultivars, indicating the possibility, within currently available germplasm, of using more resistant cultivars to help contain the disease. Changes in cropping practice and in recent winter weather conditions have probably contributed to the emergence of the virus as a major pathogen in eastern China.

【语种】英文

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【学科分类】植物保护学

【题目】土壤逐渐干旱对4种荒漠植物光合作用和海藻糖含量的影响

【中文关键词】干旱;光合作用;叶绿素荧光;海藻糖;荒漠植物

【英文关键词】drought stress;photosynthesis;chlorophyII fluorescence;trehalose;desert plant

【中文摘要】以腾格里沙漠东南缘4种优势植物红砂(Reaumuria soongorica Maxim)、珍珠(Salsola passerine Bge)、柠条锦鸡儿(Caragana korshinskii Kom)和油蒿(Artemisia ordosica Krasch)为对象,研究土壤逐渐干旱对叶片相对含水量、净光合速率(Pn)、叶绿素荧光参数及海藻糖含量的影响。结果表明:土壤逐渐干旱过程中,4种植物的叶片相对含水量、净光合速率(Pn)、光系统II(PSⅡ)最大光化学量子产量(Fv/Fm)、光系统II表观电子传递速率(ETR)、光化学淬灭(qP)都随干旱程度的加剧而下降;非光化学淬灭(qN)和海藻糖含量随干旱程度的增加而升高。4种植物对干旱过程的响应差异明显,随着土壤干旱的加剧,相对于其他三种植物,柠条具有更高的抗逆保护能力。相关分析表明,土壤含水量显著影响着4种植物的光合作用和海藻糖累积,海藻糖含量与光合作用存在相关性。

【英文摘要】The responses of net photosynthetic rate(Pn), chlorophyII fluorescence parameters and trehalose content of Reaumuria soongorica Maxim, Salsola passerine Bge, Caragana korshinskii Kom and Artemisia ordosica Krasch, to drought stress were studied. The results were as follows: Relative water content of leaves, net photosynthetic rate, maximal photochemical efficiency of PS II in the dark(Fv/Fm), apparent quantum transport rate(ETR), photochemical quenching(qP) decreased, trehalose content and non photochemical quenching(qN) increased under drought stress. The effects of drought stress on those variables among the four desert plants were obviously different, and Caragana korshinskii Kom was the highest tolerance and resistant to drought stress among the four plants studied. Correlation between soil water content, trehalose content, net photosynthetic rate and chlorophyII fluorescence parameters was analyzed. The results indicated that soil water content remarkably affected photosynthesis and trehalose content of four

desert plants.
【语种】中文
【第一作者】宋维民
【通讯作者】宋维民
【期刊名称、卷期、页码】中国沙漠,2008,5;28(3):449-454.
【论文发表时间】2008-05-01 00:00:00
【引文索引类型】其他
【引文索引号】1000-694X(2008)03-0449-06
【学科分类】植物学

【题目】两种固沙蒿属植物在原产地和引种地适应机制的比较研究
【中文关键词】固沙林;油蒿;差不嘎蒿;引种;适应机制
【英文关键词】sand fixation forest;Artemisia ordosica;Artemisia halodendron;introduced plant;adaptive mechanism
【中文摘要】油蒿(Artemisia ordosica)和差不嘎蒿(Artemisia halodendron)在原产地和引种地的生理特性及其与环境因子关系的比较研究显示:油蒿在不同的自然分布区,生理生态学特性有明显不同;在自然条件较好的沙地,会表现出旺盛的生命活动,但不利于植物对水分的有效利用;严酷的环境条件利于植物内部调节机制的启动,利用有限的环境资源,保证其自身的生存。差不嘎蒿引种后光合速率和蒸腾速率明显降低,一方面是由于引种地环境条件的严酷,另一方面是因为引种后植物内部生理因子之间的相互关系及调节程度都发生了变化;引种后的差不嘎蒿尽管可以通过一定的适应性调节使水分利用效率维持在较高水平并维持了生存,但如果遇到连续的干旱年份,则可能会因体内生理过程的紊乱而导致死亡。
【英文摘要】In order to understand the differences in physiological characteristics as well as their relationship with environmental factors, a comparative study was conducted on Artemisia ordosica and A. halodendron in their native habitats and introduced area. The results showed that A.ordosica in different natural distribution regions had significant differences in ecophysiological characteristics. It grew better in advantaged habitat of sand land but the efficiency of water use was low. Adverse environmental conditions were conducive to the activation of modulation mechanisms, resulting the effective using of limited environmental resources for plant survival. A. halodendron showed a decrease in photosynthetic rate and transpiration rate in the introduced area, which was not only related to the adverse environmental conditions, but also the changes of interaction of physiological factors and degree of regulation of introduced plants. A. halodendron could survive by maintain a higher level of water utilization efficiency by means of adaptability regulations, while, if subjected to a consecutive years of drought, A. halodendron would die because of in vivo physiological disorder.
【语种】中文
【第一作者】杨金恒
【通讯作者】周海燕
【期刊名称、卷期、页码】西北林学院学报,2008;23(4):83-88.
【论文发表时间】2008-04-01 00:00:00
【引文索引类型】其他
【引文索引号】1001-7461(2008)04-0083-06
【学科分类】林木遗传育种学

【题目】宁夏环香山地区压砂地土壤肥力特征分析
【中文关键词】压砂田;土壤贮水量;土壤肥力
【英文关键词】gravel-mulched land;soil water storage;soil fertility
【中文摘要】以宁夏环香山地区农田压砂地为研究对象,对压砂不同种植年限(CK,1 a,3 a,5 a,15 a,25 a)下的土壤肥力及其相关因子进行了研究。结果表明:农田压砂后能显著提高土壤贮水量,压砂不同种植年限下的土壤贮水量分别比农田CK提高了68.5%,50.12%,40.42%,60.03%,44.39%。受季节降雨的影响,压砂不同种植年限土壤贮水量的季节变化趋势相一致。农田压砂种植初期(1~5 a)显著降低了pH值,随着种植年限的增加PH值含量基本呈增加趋势。农田压砂后明显降低了土壤全氮、全磷、有机质、碱解氮、速磷、速钾的含量,且随着种植年限的增加呈逐年下降的趋势。随着种植年限的增加西瓜产量呈明显下降趋势,农田压砂种植5~8 a,10 a,15 a,20 a分别比压砂种植1~3 a产量下降了33.33%,38.89%,55.56%,71.11%。
【英文摘要】This paper was studied on the soil fertility and correlation factor of gravel-mulched land with different years (CK, 1 a, 3 a, 5 a, 10 a, 15 a, 25 a) around Xiangshan mountain. The results showed that graveled on the farmland can significantly increase the soil water storage. The soil water storage of gravel-mulched land with different years were superior to the control increased by 68.5%,

50.12%, 40.42%, 60.03%, 44.39%, respectively. By the effect of rainfall, the seasonal variations of soil water storage were almost same in grave-mulched lands with different years. Soil pH value was decreased in gravel-mulched land with initial stage (1~5 a), but showed a rising trend with the increasing of graveled period. The contents of total nitrogen, total phosphorus, organic matter, available nitrogen, available phosphorus and available potassium were all decreased significantly with the increasing of graveled period. The watermelon production showed a decreasing trend, and decreased by 33.33%, 38.89%, 55.56%, 71.11% in different years (5~8a, 10 a, 15 a and 20 a) contrast with that in 1~3 a gravel-mulched land.

【语种】中文
【第一作者】王占军
【通讯作者】蒋齐
【期刊名称、卷期、页码】水土保持学报,2010,4;24(2):201-204.
【论文发表时间】2010-04-01 00:00:00
【引文索引类型】其他
【引文索引号】1009-2242(2010)02-0201-04
【学科分类】土壤学

【题目】荒地不同压砂年限对土壤微生物区系、酶活性与土壤理化性状的影响
【中文关键词】压砂地;微生物区系;酶活性;土壤理化性质
【英文关键词】gravel mulched field;microbial population;enzyme activity;soil physiochemical property
【中文摘要】以宁夏中卫市香山地区荒地压砂3,8,15,25 a和邻近未压砂(对照)的土壤为研究对象,研究了压砂对土壤微生物区系、酶活性和土壤理化性状的影响。结果表明,与对照相比,压砂后微生物总数减少;土壤脲酶活性随着压砂年限的延长呈下降趋势;前15 a压砂地土壤有机碳、全氮、碱解氮和速效钾随着压砂年限的延长呈下降趋势;压砂地土壤含水量高于对照;压砂地全盐含量远远低于对照;说明荒地压砂种植能蓄水保墒,防止土壤次生盐碱化,但连续种植肥力下降,微生物量减少。
【英文摘要】The effects of gravel mulch on soil microbial population, enzyme activity, and physicochemical properties were evaluated on the wasteland in Xiangshan area, Zhongwei City, Ningxia Hui Autonomous Region. Four typical sites were selected as a chronological sequence (3, 8, 15, and 25 years) and an adjacent non-mulched gravel land was taken as the control. Results indicated that compared with the control, the number of microbes in the gravel mulched field was decreased. With the increased year of gravel mulched field, soil urinary enzyme activity presented a declined trend. The contents of soil organic carbon, total nitrogen, available nitrogen, and potassium declined for the sites of 3, 8, and 15 years. The soil water content in gravel mulched field was higher than the control, but the total salt content was much lower than the control. It is suggested that gravel mulch on wasteland can restore vegetation through preserving water, but soil fertility and microbial biomass are low.
【语种】中文
【第一作者】胡景田
【通讯作者】马琨
【期刊名称、卷期、页码】水土保持通报,2010,6;30(3):53-58.
【论文发表时间】2010-06-01 00:00:00
【引文索引类型】其他
【引文索引号】1000-288X(2010)03-0053-06
【学科分类】土壤学

【题目】不同土壤类型下AM真菌分布多样性及与土壤因子的关系
【中文关键词】丛枝菌根真菌(AM 真菌);多样性;土壤环境因子;土壤类型;根际土壤
【英文关键词】Arbuscular mycorrhizal fungi (AMF);Diversity;Soil environmental factor;Soil type;Rhizospheric soil
【中文摘要】以禾本科植物群落为研究对象, 研究了宁夏六盘山林地、银川农耕地、暖泉农耕地、固原农耕地、盐池沙地、灵武沙地6个采样地点5种土壤类型(黑垆土、灌淤土、黄绵土、灰钙土、风沙土)下AM 真菌物种多样性及其与土壤因子的关系。结果表明:5种土壤类型采样点的植被根际土壤中共鉴定出5属48种AM真菌, 其中, 无梗囊霉属(Acaulospora)1种, 巨孢囊霉属(Gigaspora)3种, 球囊霉属(Glomus)37种, 类球囊霉属(Paraglomus)1种, 盾巨孢囊霉属(Scutellospora)6 种, 各采样点土壤均以球囊霉属为优势属。地球囊霉(G.geosporum)和木薯球囊霉(G.manihotis)是6个采样地点中的优势种。不同土壤类型各采样点AM真菌各属的频度存在明显差异, 球囊霉属在各点均有出现, 频度值最高。具有较高植被多样性的暖泉样点, AM 真菌的种属数量较多。土壤环境因子对 AM 真菌孢子密度的影响因所处土壤、植被类型

不同而异。pH、全盐、速效钾、速效磷等土壤肥力因子, 在PCA轴上能最大程度地解释AM真菌孢子密度与土壤环境因子之间相互关系的大部分信息。宁夏不同土壤类型区域中AM真菌种类及分布一定程度上与该采样点的植被类型、植物多样性和土壤肥力特征相对应。

【英文摘要】Rhizospheric soil samples were collected from 5 soil types (dark loessial soil, cumulated irrigated soil, cultivated loessial soil, sierozems and aeolian soil) in 6 sampling sites (Liupanshan Mountain forest land, Yinchuan farmland, Nuanquan farmland, Guyuan farmland, Yanchi desert and Lingwu desert) with gramineae vegetation communities. Then the relationship between Arbuscular mycorrhizal Fungi (AMF) diversity and soil environmental factors was investigated. Based on spore morphological characteristics, a total of 5 genera and 48 species of AMF were found in five soil types. Specifically, there were 1 Acaulospora, 3 Gigaspora, 37 Glomus, 1 Paraglomus and 6 Scutellospora species. From the 6 sampling sites, Glomus was the most dominant genera and G. geosporum and G. manihotis were the most dominant species. Obviously differences were noted in AMF genus frquencies at each sampling site. Glomus was found at every site, its frequency was the highest. Nuanquan farmlands with high plant diversities had relatively high AMF species abundance and diversity. The effects of soil environmental factors on AMF spore density changed with soil and vegetation type. Based on axial principal analysis, total salt, pH, available potassium and available phosphorus mostly explained the relationship between AMF spore density and soil fertility. To a certain degree, the species and distribution of AMF corresponded with vegetation type, plant diversity and soil fertility at the various sampling sites.

【语种】中文

【第一作者】马琨

【通讯作者】马琨

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【学科分类】土壤学

【题目】宁夏压砂地土壤水分动态及消耗规律分析

【中文关键词】压砂农田;压砂西瓜;灌水试验;土壤水分

【英文关键词】Gravel-covered mulched field;Watermelon;Irrigation Experiment;Soil water

【中文摘要】通过田间试验分析不同灌水条件下压砂农田土壤耗水及全生育期土壤水分变化规律,结果表明:压砂农田一次性灌水15mm左右能够有效提高土壤水分,可满足压砂瓜近10d的水分需求;压砂瓜全生育期内存在4个较明显的需水关键期,其中以变瓤期和成熟前期对土壤水分需求最大;不同年限的压砂农田其土壤水分存在一定差异,通常老砂地(压砂10年以上)水分含量高于新砂地。

【英文摘要】The field experiments are carried out to analyse the soil water deprivation and water requirement of crops during the whole growth stages under different irrigations in gravel-covered mulched fields. The result showed that 15mm one-time irrigation can improve the soil moisture around and it can be to meet the water needs for nearly 10d. The water requirement has 4-sensitive period during the watermelon growth, in which the greatest demand for moisture occurred during the early stage of flesh and maturity. There are some differences between soil moisture in the gravel-covered mulched field in various years. Normally water content is higher in aged fields (above 10 years old) than that in the new fields.

【语种】中文

【第一作者】马国飞

【通讯作者】马国飞

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【引文索引号】1002-204X(2011)01-0004-04

【学科分类】土壤学

【题目】红砂和珍珠对极端环境的生理响应与调节机制

【中文关键词】红砂;珍珠;气体交换;水势;渗透调节

【英文关键词】Reaumuria soongorica;Salsola passerine;gas exchange;water potential;osmosis regulating

【中文摘要】红砂和珍珠的生理生态特性随其生长的环境条件而变化;长期生长在一起的红砂和珍珠其生理生态特性具明显的差异,两者适应逆境的机制亦不相同。红砂和珍珠作为超旱生植物,其生理生态学特性明显区别于其他沙生植物;生长在山前地带的红砂和珍珠,可以在极低的水势条件下保证其生命活动,低的水势可能与渗透调节物质(如大量的脯氨酸)的存在有关,这类物质增加了植物的吸水能力;红砂和珍珠的光抑制程度较其他沙生植物要高得多,且光抑制的产生已对两种灌木光合色素产生了破坏,然而在条件稍好的早晚光抑制可得到恢复。

【英文摘要】Reaumuria soongorica and Salsola passerine have significant differences in ecophysiological characteristics and which change with the change of environmental conditions, although they with a long-term growth in together, their adaptive mechanisms to environmental stresses are also different. As two extreme xerophytes, Reaumuria soongorica and Salsola passerina differ significantly from other Psammophytes in ecophysiological characteristics; they can survive in lower water potential, even growth in the Piedmont area. Low water potential may be related to the existence of osmosis-regulating substance, such as praline, which can strengthen the capacity of water absorption. Compared to other Psammophytes, Reaumuria soongorica and Salsola passerina have a higher degree of photoinhibition under the same condition, and the appearance of photoinhibition has been leading to the destruction to photosynthetic pigment contents of the two pants, nevertheless, this photoinhibition can be repaired under suitable conditions in the morning and evening.

【语种】中文

【第一作者】周海燕

【通讯作者】周海燕

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【引文索引类型】其他

【引文索引号】1000-694X(2012)01-024-09

【学科分类】植物学

【题目】几种荒漠植物干旱休眠机理的初步研究

【中文关键词】干旱休眠机理;脱落酸;海藻糖;脯氨酸;甜菜碱

【英文关键词】drought dormancy mechanism;abscisic acid;trehalose;proline;betaine

【中文摘要】研究了阿拉善荒漠区天然生长的荒漠植物梭梭(Haloxylon ammodendron)、骆驼蓬(Peganum harmala)、白刺(Nitraria tangutorum)、霸王(Zygophyllum xanthoxylon)、红砂(Reaumuria soongorica)、珍珠(Salsolapasserina)、油蒿(Artemisia ordosica)叶片的相对含水量、脯氨酸、甜菜碱、海藻糖以及脱落酸(Abscisic Acid,ABA)含量在不同生长季节的变化特征。结果表明,ABA可促进脯氨酸、甜菜碱的积累;脯氨酸在9月累积较多,甜菜碱在7月大量累积,海藻糖在5月和9月积累较多,脱落酸在9月累积较多。脱落酸和脯氨酸对植物休眠可能存在着促进作用。

【英文摘要】Changes in contents of water, proline, betaine, trehalose, and ABA (abscisic acid) in leaves of Haloxylon ammodendron, Peganum harmala, Nitraria tangutorum, Zygophyllumant hoxylon, Reaumuria soongorica, Salsol apasserina, and Artemisia ordosicain Alxa desert in different growing seasons are investigated. The result shows that the content of proline is the highest in September; the content of betaine is the highest in July; the content of trehalose is the highest in May and Sep; while ABA is the highest in September. It suggests that plant dormancy may be promoted by ABA and proline.

【语种】中文

【第一作者】刘扬

【通讯作者】周海燕

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【引文索引号】1000-694X(2011)01-0076-06

【学科分类】植物学

【题目】Identification, Characterization, and Distribution of Southern rice black-streaked dwarf virus in Vietnam

【中文关键词】南方水稻黑条矮缩病毒,斐济病毒,进化分析

【英文关键词】Southern rice black-streaked dwarf virus (SRBSDV) ,feijivirus,phylogenetic analysis

【中文摘要】近年来,一种新的水稻矮缩病在越南发生并迅速扩展至越南中部和北部的19个省,病株表现矮缩,叶色浓绿,叶尖扭曲,叶片边缘出现缺刻,后期产生腊白色或黑色突起,该病害在水稻收获后,也感染玉米。经鉴定,该病害的病原与最近在

中国南部稻区报道的南方水稻黑条矮缩病毒(SRBSDV)属于同一种病毒,电镜观察表明在病株体内存在典型的斐济病毒的细胞病理学特征,包括晶体状排列整齐的直径约70-75nm球状病毒粒子;生物学实验表明该病毒可由白背飞虱传播给水稻和玉米;应用一步RT-PCR技术从越南中部、北部的5个农业生态区29个省采集的477个水稻和玉米病样中的检测结果证实了SRBSDV的存在,当没有检测稻RBSDV,序列分析显示越南和中国的SRBSDV之间的变异率较低,暗示了二者之间共同的起源,也支持SRBSDV作为一个病毒新种的结论。

【英文摘要】A novel dwarf and twisting syndrome first observed on rice in Nghe AnProvince, Vietnam, in 2009 has spread rapidly to the other 19 provinces of North and Central Vietnam. Infected rice plants showed stunting, darkening of leaves, twisting of leaf tips, and splitting of leaf margins. At a later stage, white waxy enations that eventually turned black were observed on the underside of leaf blades, leaf sheaths, and culms. The disease also infected maize after rice was harvested. Infected maize plants were stunted and dark green with small enations along the minor veins on the back of leaves. The disease agent has now been identified as Southern rice black-streaked dwarf virus (SRBSDV) recently reported from Southern China. Typical fijivirus viroplasms containing crystalline arrayed spherical virions approximately 70 to 75 nm in diameter were observed under the electron microscope in ultrathin sections of infected rice leaves. The virus was transmitted to rice and maize seedlings by the white-backed planthopper (Sogatella furcimera). A one-step reverse transcription-polymerase chain reaction (RTPCR) protocol was used to confirm the presence of SRBSDV in 477 samples of rice or maize from 29 provinces among 5 agroecological regions in North and Central Vietnam. Rice black-streaked dwarf virus was not detected in these samples. Partial sequences of RNA segments 4 and 10 from several isolates showed very low genetic divergences between isolates from Vietnam and China, suggesting a common origin, and phylogenetic analysis confirmed the placement of SRBSDV as a distinct virus within subgroup 2 of the genus Fijivirus.

【语种】英文

【第一作者】Anh Ta Hoang
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【题目】家蚕性连锁平衡致死系致死基因的SSR定位

【中文关键词】家蚕; 性连锁平衡致死系; 致死基因; SSR; 基因定位
【英文关键词】Bombyx mrori; sex-linkaged balanced lethal strain; lethal gene; SSR; gene location

【中文摘要】家蚕性连锁平衡致死系(S-14)雄蚕的两条Z染色体分别携带有一个非等位、紧密连锁的隐性胚胎期致死基因l1(lethal gene 1)和l2(lethal gene 2)。两个致死基因的致死时期分别是转青期和G2期。将S-14品系的雄蚕和家蚕P50品系的野生型雌蚕杂交, F1代雄蚕和P50品系雌蚕回交, 即P50×(P50×S14)。回交后代雌蛾根据父本(F1代雄蚕)携带l1 或l2 基因分成两类BC1-l1 和BC1-l2, 分别用来做l1 和l2 基因定位。利用公布的家蚕全基因组序列筛选l1 基因和l2 基因所在Z染色体与P50品系Z染色体间的差异SSR标记, 分别获得16个和18个差异性SSR标记, 用差异性标记检测BC1-l1 和BC1-l2, 最终将l1 基因定位在Z染色体物理图谱中的19.79 Mb位点到染色体末端约2.60 Mb范围内, 将l2 基因定位在Z染色体物理图谱的17.86 Mb位点到18.55 Mb位点约 0.69 Mb范围内。

【英文摘要】The males of sex-linkaged balanced lethal silkworm strain (S-14) has two non-allelic recessive genes (lethal gene 1, l1 and lethal gene 2, l2). The two genes are located on two different Z chromosomes and cause death of embryos at body pigmentation stage and end reversal embryo stage, respectively. We firstly hybridized the males of S-14 strain with the females having wild-type genes of P50 strain and then backcrossed the males of F1 with females of P50 strain. A total of 1660 female moths of BC1 generation were divided into two groups, 1 100 in BC1-l1 and 560 in BC1-l2 according to the lethal gene carried by these female moths ′ fathers-fame moths of F1, respectively. Based on the nucleotide sequence infor-mation from the published physical map of Bombyx mori, we developed 16 polymorphic SSR markers in l1 gene region and 18 polymorphic SSR makers in l2 gene region compared to the allelic region of P50 strain and used these SSR markers and groups of BC1-l1 and BC1-l2 to map the two lethal genes, respectively. Gene l1 was mapped on the region of Z chromosome, covering a physical distance of 2.60 Mb. Gene l2 was fine mapped on the region of Z chromosome, covering a physical distance of 0.69 Mb.

【语种】中文

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【题目】基于虚拟仪器和神经网络的禽蛋检测系统设计
【中文关键词】Lab Windows/CVI,神经网络,禽蛋,检测系统
【英文关键词】Lab Windows/CVI, neural network, egg, detection-system
【中文摘要】该文针对现有禽蛋无损检测方法系统集成度不高,操作界面易用性差,测量误差大、试验效率低等不足,研制了基于 Lab Windows/CVI的多传感器融合的禽蛋无损检测虚拟仪器品质分级系统。该系统以 Lab Windows/CVI 软件为设计操作平台,以 MATLAB 神经网络的分析算法为分析模块核心,充分结合计算机视觉检测和声学检测方法的优点,在无损检测的信息采集和处理层面实现了多传感器融合。系统通过系统静态分级测试,系统动态分级测试和系统连续动态测试等 3 种测试,测试结果表明该系统界面易用性好,在快速运行(27 个样品/min)的情况下具有较好的准确度 (系统连续动态测试准确率大于 90%),和漏检率(最高速情况下小于 3%)。
【英文摘要】The system-integration degree, system working efficiency and user interface of egg non-destructive detection system cannot meet the requirement of fast and accurate detection. A non-destructive detection system for eggs based on virtual instrument and artificial neural network was designed and evaluated. This system used Lab Windows/CVI as the system design platform and the neural network as the core-analysis module. This approach fully uses the advantages of both computer vision and acoustics non-destructive detection. This system realizes the amalgamation of multi-sensors in data collecting and processing.. Three kinds of tests were conducted--the system static grading test, the system dynamic grading test and the system continuous dynamic test. The test results indicate this system was easy to use and provided a good graphical user interface. The system has good veracity (system continuous dynamic test result above 90%) and low un-detecting rate at high speed of the gearing machine (27 samples/min).
【语种】中文
【第一作者】刘鹏
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【期刊名称、卷期、页码】农业工程学报、25(1)、158-163
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【学科分类】食品加工技术

【题目】电子鼻检测鸡蛋货架期新鲜度变化
【中文关键词】无损检测,主成分分析,载荷,电子鼻,鸡蛋,新鲜度,线性判别分析
【英文关键词】nondestructive examination, principal component analysis (PCA), loading, electronic nose, egg, freshness, linear discrimination analysis (LDA)
【中文摘要】该文旨在通过气味检测鸡蛋的新鲜度。利用德国 AIRSENSE 公司 PEN3 型电子鼻对鸡蛋在 20°C,70%相对湿度条件下罗曼鸡蛋货架期的气味进行了无损检测。通过测定哈夫单位,建立了不同货架期气味与鸡蛋哈夫单位等级的对应关系。首先,分析并对比了第 0 天与第 36 天的完整鸡蛋与蛋液所产生气体的变化情况,确定氨氧化物、烷烃和醇类等是鸡蛋贮藏中产生的恶化气体。其次,结合电子鼻,利用主成分分析、线性判别等多元统计方法进行数据分析,对不同货架期、不同等级的鸡蛋进行归类区分,发现线性判别(LDA)效果优于主成分分析法(PCA)。结合载荷分析,确认了检测鸡蛋新鲜度的主要传感器 S1、S2、S3、S5、S6、S8。初步证明了气体传感器和模式识别方法在电子鼻区分鸡蛋货架期新鲜度的可行性,为建立利用气体传感器监控鸡蛋新鲜度的方法提供实验基础和理论依据。
【英文摘要】In order to explore the feasibility of determining egg freshness by their generated deteriorate volatile, a PEN3 electronic nose (E-nose) was used to detect the quality of ‘ Roma ’hen eggs through their shelf-life at 20°C , 70% RH in this study. The corresponding relationship between the shelf-life and grade of eggs was determined by Haugh unit. Firstly, the values of sensor response of the 0 and 36 days of egg liquid and whole egg were compared. The alkanes, ammonium, alcohol were the main deteriorate volatile which changed during the storage. Then the sample response signals were analyzed by principal components analysis (PCA) and linear discrimination analysis (LDA) to discriminate the different freshness during shelf-life, and the latter method proved better results than the former one. A further study of loading analysis and multiple linear regression selected the S1, S2, S3, S5, S6, S8 sensors of the E-nose

in the research. The results indicated that it was possible to discrimination of different shelf-life and quality of eggs by E-nose, and provided theoretical and experimental basis for monitoring the freshness of eggs.
【语种】中文
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【题目】The Complete Genome Sequence of Two Isolates of Southern rice black-streaked dwarf virus, a New Member of the Genus Fijivirus
【中文关键词】进化树分析,水稻黑条矮缩病毒,南方水稻黑条矮缩病毒
【英文关键词】phylogenetic analysis, Rice black-streaked dwarf virus, Southern rice black-streaked dwarf virus
【中文摘要】本研究测定了海南和广东2个侵染水稻的斐济病毒分离物基因组片段S1-S8和S1-S6的序列,由此获得这些分离物的全序列,序列分析显示这2个分离物与水稻黑条矮缩病毒(RBSDV)的关系最近,其中S1/S2/S10最为保守,与RBSDV对应基因组片段的核苷酸同源性为78.5 – 79.2%,氨基酸同源性为83.4 – 89.0%;而基因组S5/S6最不保守,核苷酸同源性70.6 – 71.6%,氨基酸同源性为63.1 – 69.9%。全基因组比较和进化树分析支持之前的观点,即该病毒为斐济病毒属的一个新种的结论,之前的2个名称中,建议称为南方水稻黑条矮缩病毒。
【英文摘要】The nucleotide sequences of genomic segments S1 – S8 and S1 – S6, respectively, of the Hainan (HN) and Guangdong (GD) isolates of a rice-infecting fijivirus were determined, completing the genome sequences of these isolates. The isolates were most closely related to Rice black-streaked dwarf virus (RBSDV): S1, S2 and S10 were most conserved with identities of 78.5 – 79.2% nt (83.4 – 89.0% aa) while S5 and S6 were the least conserved with 70.6 – 71.6% nt (63.1 – 69.9% aa) identity. Whole genome comparisons and phylogenetic analyses supported suggestions that the isolates represent a new species within the genus Fijivirus, family Reoviridae. Of the two names previously suggested for this virus, Southern rice black-streaked dwarf virus is preferred.
【语种】英文
【第一作者】王强
【通讯作者】张恒木
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【学科分类】植物保护学

【题目】基于计算机视觉和声学响应信息融合的鸡蛋裂纹检测
【中文关键词】裂纹,计算机视觉,神经网络,鸡蛋,声学响应,检测
【英文关键词】cracks, computer vision, artificial neural networks, eggshell, acoustic response, detection
【中文摘要】为了提高对鸡蛋裂纹识别的准确性,建立利用计算机视觉和声学响应信息融合技术检测鸡蛋裂纹的系统,首先采集和分析鸡蛋被敲击后的声音信号,提取了 4 个特征频率、偏斜度平均值和峭度平均值共 6 个特征参数,作为人工神经网络的输入量,创建了结构为 6-15-1 的 3 层 BP 神经网络模型判别鸡蛋裂纹。其次,利用计算机视觉系统获取鸡蛋表面图像,提取了区域面积、圆形度、区域长径、短径和长短径之比共 5 个特征参数,作为 BP 人工神经网络的输入量,创建了结构为 5-10-1 的 3 层 BP 神经网络模型识别鸡蛋裂纹。最后,根据计算机视觉与声学响应技术检测鸡蛋裂纹结果的差异,融合二者的信息进行最终判断。结果表明:单独利用声学响应技术对裂纹鸡蛋判别准确率达 92%,计算机视觉对裂纹鸡蛋的判别准确率只有 68%。而将 2 种技术进行信息融合,对裂纹鸡蛋判别准确率可达 98%,优于单一技术,能够发挥计算机视觉技术和声学技术检测的优势,充分保证鸡蛋的质量和安全。
【英文摘要】In order to increase the detection accuracy of eggshell crack, information fusion technology of computer vision and acoustic response was introduced for eggshell crack detection. An experimental system including computer vision system and acoustic response system was built up. Firstly, the acoustic response signals were captured and analyzed, then six variables including the dominant response frequency (f1, f2, f3, f4), the mean value of coefficient of skewness (CS), and the mean value of coefficient of excess

(CE) were extracted after eggs was impacted four times oneggshell equator. With the six variables as inputs, 6-15-1 BP neural network was built to detect eggshell cracks. Secondly, the eggshell images were captured and processed through computer vision system, and five geometrical characteristic parameters of crack and noise regions of eggshell images were extracted. With the five variables including area (A), roundness (R), major axis (Max), minor axis (Min) and the quotient of long path and short path (LS) as inputs, 5-10-1 BP neural network was developed to detect cracks and classify eggs. Finally, the eggshell cracks were evaluated based on the difference of detecting results between computer vision technique and acoustic response technique. The results showed that the detection accuracy of cracked eggs were 92% and 68% respectively by computer vision technique and acoustic response technique. However, the accuracy equaled to 98% by the information infusion of two techniques. The information fusion technology was better than single technique, and the method based on the information fusion of computer vision and acoustic response was applicable for detecting egg cracks.
【语种】中文
【第一作者】潘磊庆
【通讯作者】屠 康
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【题目】西瓜果实中番茄红素的研究进展
【中文关键词】西瓜;番茄红素;功能;含量;研究进展
【英文关键词】watermelon; lycopene; function; content; research progress
【中文摘要】开展西瓜果实中番茄红素的研究,对人体保健和疾病的预防有着重要的意义。文章综述了西瓜果实中番茄红素的理化性质、生理功能、提取方法和测定方法和生物合成,分析了番茄红素在自然界中的分布情况和影响西瓜果实中番茄红素含量的因素,讨论了西瓜中番茄红素的应用前景。
【英文摘要】Carrying out the study of Lycopene in watermelon is of great significance to human health and disease prevention. This Article summaries physicochemical property, physiological function, extraction methods, testing methods and biosynthesis of Lycopene in watermelon. This paper analyzes the distribution situation in nature, factors affecting lycopene content in watermelon. The application prospect of Lycopene in watermelon are dicussed.
【语种】中文
【第一作者】王志强
【通讯作者】刘声锋
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【题目】核桃树的养分积累、分布及叶绿素含量的变化
【中文关键词】核桃;营养;叶绿素
【英文关键词】核桃;营养;叶绿素
【中文摘要】基于合理实施果园养分管理的前提,以核桃为研究对象,对核桃树体各部位营养元素的累积、分布以及叶片叶绿素含量动态变化进行研究。 结果表明:核桃树当年新生生物量主要由叶片和果实构成。 成龄核桃树当年氮素吸收量主要在叶片和果仁中积累,分别占年吸收氮量的 41%和 49%;磷素主要分布在果仁中,占年吸收磷量的 56%,其次为叶片;钾素主要在核桃果皮中积累,占钾素总吸收量的 66%。 核桃年纯养分吸收量为 907g,氮磷钾比例为 1∶0.2∶1。 叶片叶绿素含量在核桃开花后随叶片生长逐渐增加,二者呈显著正相关。
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【语种】中文
【第一作者】张计峰
【通讯作者】张计峰

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【题目】苜蓿抗旱性鉴定与生产性能的研究
【中文关键词】紫花苜蓿 抗旱性 生理学差异
【英文关键词】Alfalfa Drought resistance Physiological differences between
【中文摘要】对来自国内外不同种质的苜蓿水分胁迫之后进行抗旱性等级的划分,然后再进行生理学差异以及生产性能的测定。结果表明:(1)国内品种普遍比国外品种抗旱性要好;新育成的品系普遍要比已申报的品种抗性要好。(2)随着水分胁迫的加剧,其干旱植株的4个指标的测定均有显著性变化(p〈0.01)。并且其变化幅度大的可作为敏感指标。其顺序为:游离脯氨酸含量〉SOD酶活性〉POD酶活性〉细胞膜透性(3)除了细胞膜透性与其抗旱性呈负相关外,其余3个生理指标均呈正相关。(4)第1次评价的测定结果与第2次评价的测定结果有明显的差异(p〈0.01)。(5)苜蓿抗旱性与生产性能是呈显著负相关的。
【英文摘要】The alfalfa germplasm from home and abroad divide different drought resistance level after water stress and then to study of physiological differences and production performance.The results showed that:(1) generally speaking,domestic varieties better than foreign varieties of drought resistance;the drought resistance of new strain bred better than the declared variety.(2) Water stress result in four measured indicators of drought plants and the control plants are significant different(p〈0.01) and indicators of large magnitude changes can be used as good one.The following order: free proline content SOD activity POD activity cell membrane permeability(3) except of cell membrane permeability was negatively correlated with drought resistance the other three physiological indicators were positively related(p〈0.01).(4) The result of the first evaluation and the second results of evaluation is significant difference(p〈0.01).6) The relationship between drought resistance and production of alfalfa is negatively correlated(p〈0.01)
【语种】中文
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【题目】西瓜杂交制种技术研究
【中文关键词】西瓜;杂交制种;纯度;授粉
【英文关键词】Watermelon; Production of hybrid seeds; Purity; Pollination
【中文摘要】西瓜种子质量是西瓜丰产增收的基础和保证,西瓜杂交制种技术的探讨,对于保证种子质量,提高杂交种子产量,增加制种的经济效益,具有很重要的意义。
【英文摘要】watermelon seed quality is the basis of fertility. Production Technology of Watermelon Hybrid Seeds, to ensure quality and improve the seed yield of hybrid seed production, increase the economic efficiency, has the very vital significance.
【语种】中文
【第一作者】王志强
【通讯作者】刘声锋
【期刊名称、卷期、页码】北方园艺,2010(17):74-75
【论文发表时间】2010-05-20 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】园艺学

【题目】基于激光图像分析的苹果表面损伤和内部腐烂检测

【中文关键词】苹果 损伤 内部腐烂 计算机视觉 半导体激光
【英文关键词】Apple, Surface damage, Inner decay, Computer vision, Semiconductor laser
【中文摘要】利用波长650 nm、功率25 mW的半导体激光及计算机视觉技术,初步探讨了利用激光图像分析检测苹果(嘎拉)采后表面损伤和内部腐烂检测的可行性。利用钢球砸伤,模拟苹果在采收和运输过程中受到的损伤;利用微量注射器从苹果底部将15 μL(105/mL孢子浓度)的青霉菌液注入果心部位使其腐坏,模拟苹果内部的腐烂。进行激光图像检测试验,结果表明,受损伤后苹果图像像素数S3在36 h达到最高值(3 964),且在1~84 h内与对照差异显著(P≤0. 05);接种后的苹果随着内部的腐烂,在第4 d时像素数S3达到最高值(3 682),而后开始下降,第7 d与对照差异显著(P≤0. 05)。初步验证本方法检测苹果表面的损伤和内部腐烂是可行的。
【英文摘要】The semiconductor laser beam and computer vision technology were used to monitor the surfacedamageand inner decay of apples (c.v.gala). In the experiments, the damage was produced by falling of a spherical steel ball (diameter: 16 mm, weight: 96 g) on the apples from a height of 20 cm, to simulate the damage caused during the picking and transportation. In order to simulate the inner decay, 15 μL suspensions at 105/mL conidia ofPenicillium expansumwas injected into the inner of the apples by a micro-injection. The laser scattering image analysis indicates that the number of the pixels of the images (S3) reached the maximum (3 964) after 36 hours after damaged, and had significant differences with the control group during 84 hours after damaged (P≤0. 05). After injecting the suspensions, the number of the pixels ofS3reached the maximum (3 682) on the 4th day, and showed significant differences with the control group on the 7th day (P≤0. 05). This trial laid a theoretical basis for applying low power laser beam to monitor the surface damage and inner decay of apples.
【语种】中文
【第一作者】陈育彦
【通讯作者】屠康
【期刊名称、卷期、页码】农业机械学报、40(7)、133-137
【论文发表时间】2009-07-25 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】食品加工技术

【题目】宁夏压砂地西瓜新品种引进筛选试验
【中文关键词】压砂地;西瓜新品种;筛选试验;宁夏回族自治区
【英文关键词】****;***;**
【中文摘要】压砂西瓜新品种引种筛选试验结果表明,通过比较品种的产量、品质、空心、瓜大小、形状、抗旱性、抗病等方面,鉴定出早抗王、陇抗9号、西域风度、凯越2号、金桥4号等品种均适合压砂地栽培,在中期补水、集雨为补充条件下可较大面积推广种植。
【英文摘要】******
【语种】中文
【第一作者】刘声锋
【通讯作者】刘声锋
【期刊名称、卷期、页码】现代农业科技,2009(7):23~24
【论文发表时间】2009-03-10 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】园艺学

【题目】西北香山压砂地西瓜新品种引进筛选比较试验
【中文关键词】西北香山,压砂地;西瓜新品种;比较试验
【英文关键词】***;***;***
【中文摘要】2008年进行了香山压砂地区西瓜新品种引种筛选试验。通过比较品种的产量、品质、空心、瓜大小、形状、抗旱性、抗病等方面,鉴定出早抗王、陇抗9号、西域风度、凯越2号、金桥4号等品种均适合压砂地栽培,适宜中期补水、集雨为补充条件下较大面积种植推广应用
【英文摘要】****;****

【语种】中文
【第一作者】郭守金
【通讯作者】刘声锋
【期刊名称、卷期、页码】长江蔬菜,2009(12):34~36
【论文发表时间】2009-02-20 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】园艺学

【题目】果树腐植酸根际肥料在核桃树上的施用试验
【中文关键词】核桃树;腐植酸根际肥料;颗粒复合肥
【英文关键词】核桃树;腐植酸根际肥料;颗粒复合肥
【中文摘要】通过田间肥料比较试验,研究了果树腐植酸根际肥料的效果,结果表明,秋春 2 次施用果树腐植酸根际肥料Ⅱ型的效果最好,与等养分颗粒复合肥秋春夏 3 次施用相比较,产量提高 10.9%,出仁率提高 2.0%,脂肪含量提高 4.1%,百叶干重提高 5.5%,新梢长度增加 6.5%,蛋白质产量提高8.2%。果树腐植酸根际肥料在秋季和春季 2 次施用能够显著提高核桃叶片各生育期的叶绿素含量。
【英文摘要】无
【语种】中文
【第一作者】梁智
【通讯作者】梁智
【期刊名称、卷期、页码】《农业科技通讯》2009(11):39-42
【论文发表时间】2009-10-01 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农学其他学科

【题目】压砂西瓜间套马铃薯油葵栽培试验.
【中文关键词】压砂西瓜;间套模式;油葵;马铃薯
【英文关键词】***;***;***
【中文摘要】针对宁夏压砂西瓜产业发展的需要,探索压砂西瓜高效栽培模式技术(间套)。结果表明:压砂西瓜套种油葵共生期长,前期油葵与西瓜争光和肥水,西瓜坐瓜和大小受限制,影响西瓜产量;压砂西瓜套种马铃薯共生期长,马铃薯与西瓜争光、争肥水不明显,西瓜坐瓜和大小不受限制,西瓜产量不受影响,每667 m2套种马铃薯生产比对照多收入231.2元
【英文摘要】***;***;
【语种】中文
【第一作者】郭松
【通讯作者】刘声锋
【期刊名称、卷期、页码】北方园艺,2010(16):49~50
【论文发表时间】2010-04-20 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】园艺学

【题目】红枣配方施肥效果研究
【中文关键词】红枣配方施肥效果研究
【英文关键词】红枣配方施肥效果研究
【中文摘要】红枣配方施肥效果研究
【英文摘要】无
【语种】中文
【第一作者】邹耀湘

【通讯作者】邹耀湘
【期刊名称、卷期、页码】《新疆农垦科技》2009(4):56-58.
【论文发表时间】2009-11-01 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农学其他学科

【题目】西瓜新品种“宁农科1号”的选育及其产量、品质和抗病性评价
【中文关键词】西瓜;压砂地;自交系;品种
【英文关键词】Watermelon;Gravel-mulched Land; Inbred line;Variety;
【中文摘要】为了提高压砂西瓜生产的经济效益,宁夏农林科学院种质资源研究所选育出压砂地专用中熟西瓜新品种:宁农科1号。该品种是以高代自交系M204-3为母本,以自交系F306-7为父本配制的杂种一代,于2010年通过国家品种审定。结果表明:该品种全生育期105d左右,果实发育期35d左右;植株生长势强健,易坐果;果实椭圆形,绿底覆墨绿色条带,外形美观;瓤质红色,脆甜。果实整齐度好,商品率高;是高产、抗病、耐储运的优质品种。
【英文摘要】In order to increasing the economic efficiency of watermelon in Gravel-mulched Land , “ NingNongKe No.1 ” was bred by Genetic Germplasm Institute,Ningxia Academy of Agriculture and Forestry.It is a F1 which bred with the self-bred line M204-3 as female parent ,self-bred line F306-7 as the male parent,has been past the national cultivar registration.The results showed that the whole growth period of the cultivar is about 105d and the days of fruit development is about 35d.The plant growth is vigorous and has a good fruit setting .Long oval fruit pellet shape is covered with blank green bands.Flesh is bright red, texture is fine ,crisp and sweet .IT is a new variety with high yield,good storage, diseases resistance and high quality.
【语种】中文
【第一作者】刘声锋
【通讯作者】刘声锋
【期刊名称、卷期、页码】西北农业学报,2012,21(4):102-105
【论文发表时间】2012-02-10 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】园艺学

【题目】西藏牦犊牛早期生长发育潜力的研究
【中文关键词】西藏牦犊牛;发育受阻;生长发育;全哺乳;生长潜力
【英文关键词】yak calves; retarded; growth and development; full lactating; potential growth
【中文摘要】发育受阻在牦牛中普遍存在。本文就牦犊牛暖季全哺乳,暖季适当哺乳+补饲和冷季少量哺乳+半舍饲饲养三种模式对犊牛生长发育的进行了研究。全哺乳和适量哺乳+补饲条件下犊牛的生长发育显著快于牧户母牛挤乳的犊牛(P<0.01);冷季适量哺乳+半舍饲饲养不仅可以防止犊牛冷季掉膘,而且可以继续使牦犊牛生长发育。研究提出了挖掘犊牛早期生长潜力的具体技术措施. 通过挖掘早期生长发育潜力,可以提高犊牛的生长发育, 并降低冷季掉膘和死亡率。
【英文摘要】Growth retarded are very conmen in yak. The following paper study on the growth rate of yakcalves raised under three different conditions: unrestricted lactating, restricted lactating + supplement ,restricted lactating with no supplement. The results show that the growth rate of yak calves improved under condition where calves either had full access to their mother's milk or where limited access to the milk was carried out in conjunction with additional sources of nutrients to calves (p<0.01). In comparison, growth rates were reduced under the traditional condition of raising yak calves where access to mike is restricted but no other sources of nutrients are provided to compensate for this reduction in feed intake. The current study provide some techniques and approaches for improving potential growth rate of yak calves. By improving the potential growth rate at an early stage , yak calves may be given a nutritional advantage necessary for improving productivity and reducing calf mortality over the cold and dormant conditions presented in the winter.
【语种】中文
【第一作者】姬秋梅
【通讯作者】姬秋梅
【期刊名称、卷期、页码】草食家畜、第149期、P54-57

【论文发表时间】2010-12-01 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】畜牧学

【题目】Grain Yield Prediction for Irrigation District Based on LS—SVM
【中文关键词】Yield; Prediction; LS-SVM; Model
【英文关键词】Yield; Prediction; LS-SVM; Model
【中文摘要】Commonly used grain yield forecasting models were briefly reviewed, and a yield prediction model of irrigation district was establishedbased on least squares support vector machines(LS-SVM).The grain yield in irrigation district was analog calculated. And the test sampleswere used to compare with gray prediction, and neural network model. The maximum predicted error of least squares SVM was 7.12%,with anaverage error of 4.81%.The results showed that LS-SVM model has high prediction accuracy and strong generalization ability. So it could beused as a new method for irrigation district yield prediction.
【英文摘要】Commonly used grain yield forecasting models were briefly reviewed, and a yield prediction model of irrigation district was establishedbased on least squares support vector machines(LS-SVM).The grain yield in irrigation district was analog calculated. And the test sampleswere used to compare with gray prediction, and neural network model. The maximum predicted error of least squares SVM was 7.12%,with anaverage error of 4.81%.The results showed that LS-SVM model has high prediction accuracy and strong generalization ability. So it could beused as a new method for irrigation district yield prediction.
【语种】英文
【第一作者】宰松梅
【通讯作者】宰松梅
【期刊名称、卷期、页码】《Agricultural Science&Technology》2009,10(6)1~3,6
【论文发表时间】2009-11-02 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农学其他学科

【题目】莫索湾地区农业气候资源的变化特征分析
【中文关键词】莫索湾;气候变化;初终霜日;无霜期;积温
【英文关键词】Mosuowan;Climatic change; First frost date and latest frost date; Frostless season;Accumulated temperature
【中文摘要】对1959 - 2007年莫索湾地区平均气温和降水资料的变化特征进行统计分析。结果表明:1 莫索湾地区48a来气温呈明显上升趋势,尤以近10a的升温最为明显。四季平均气温总体呈上升趋势,秋季增温最为明显.其次是冬季。 2 年降水量呈上升趋势,特别是20世纪90年代 - 21世纪初降水量增加更为明显,近10a平均降水量比48a均值偏多24. 98%。四季以夏季降水最多,春季次之,冬季最少。进一步分析了影响农业生产的布局和结构的无霜期、0°C、10°C、15°C、20°C积温的变化规律等。为合理利用农业气候资源,科学制定农业发展规划、指导地区农业生产提供依据。
【英文摘要】By analyzing the change ofmean air temperature and precipitation from 1959 to 2007 inMosuowan district.The results showed that the air temperature increased obviously in past 48 years, especially in recent 10 years. Themean air temperature in 4 seasons increased, especially in autumn and winter. The annual precipitation also increased obviously from 1990s to the beginning of this century. The mean precipitation of last decade was 24. 98% more than thatof last 30 years 1971 - 2000 . In 4 seasons, summer had the mostprecipitation, following spring and winter. Further analysis showed the change frost2free duration, accumulated temperature of 0°C,10°C,15°C and 20°C. The resultscould provide evidences formaking use of agricultural climatic resources reasonably,making scientific agricultural development plan and guiding the agricultural production in the district.
【语种】中文
【第一作者】李兰
【通讯作者】李兰
【期刊名称、卷期、页码】中国农业气象,2009,30(1):33-37
【论文发表时间】2009-01-01 00:00:00
【引文索引类型】其他
【引文索引号】null

【学科分类】农业基础学科

【题目】北疆北部地区春季地表湿润状况特征分析
【中文关键词】地表湿润指数;变化特征;极端干湿事件频率;北疆北部
【英文关键词】Surface humid index; Variation characteristics; Frequencyof the extreme dry/wet events; North Xinjiang
【中文摘要】利用北疆北部地区12个气象站1961-2008年3-5月月平均气温、降水量及相对湿度资料,计算得到春季地表湿润指数,对北疆北部地区48a来春季地表湿润指数年际及年代际变化特征及分布规律进行了较为深入的研究。结果表明:2O世纪6O年代以来,北疆北部地区春季地表有变干趋势;从空间分布上看,呈经向分布,偏西地区春季地表湿润指数大于偏东地区,表明偏东地区春旱重于偏西地区。同时探讨了北疆北部地区春季地表湿润指数与降水量、气温和空气相对湿度的关系以及春季极端干湿事件频率的空间分布。
【英文摘要】Abstract: The surface humid index in Springwere calculatedwith themonthlyprecipitation andmean temperature and relative humidity data in spring from 1961 to 2008 of12meteorological stations in north Xinjiang. According to index,the inter2annual and interdecadal change characteristics of the surface humid index in spring and its distribution rule were analyzed. The results showed that the surface humid index in spring declines slowly since 1960s, its spatial distribution were meridional. The surface humid index in spring in the west area were greater than that of the east area in north Xinjiang, it showed that the spring drought in the east areaweremore serious than thatof thewest area in north Xinjiang. Meantime, the relationship between the surface humid index in spring and precipitation and temperature and air relative humiditywere discussed and the spatial distribution of the frequencyof the extreme dry/wet events in springwere analyzed in thispaper.
【语种】中文
【第一作者】傅玮东
【通讯作者】傅玮东
【期刊名称、卷期、页码】中国农业气象,2009,30(2):223-226
【论文发表时间】2009-01-01 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农业基础学科

【题目】运用土壤水盐运移模型优化棉花微咸水膜下滴灌制度
【中文关键词】灌溉; 土壤; 模型; 膜下滴灌; 微咸水; 棉花; HYDRUS;
【英文关键词】irrigation; soils; models; mulched drip-irrigation; brackish water; cotton; HYDRUS;
【中文摘要】为优化设计棉花微咸水膜下滴灌灌溉制度,利用HYDRUS建立含根系吸水项的土壤水盐运移数值模拟模型,并用田间试验资料进行参数识别和模型验证。用验证认可的数值模型优化设计棉花微咸水膜下滴灌和非生育期洗盐灌溉制度,并预测棉花生育期水盐运移规律和长期效应。结果表明:模型仿真度较高、运行速度较快;T检验说明土壤含水率和电导率模拟值与实测值均无显著差异;模型参数中形状系数α、n对含水率影响较大,纵向弥散度DL对电导率影响较大;当地膜下滴灌适合生育期一膜双管、低额高频灌溉,并结合非生育期1年1次或2年1次大水漫灌洗盐,20a的模拟结果显示此灌溉制度下不会引起土壤次生盐渍化。
【英文摘要】n order to optimize the program of mulched drip-irrigation with brackish water for cotton,a soil water and salt numerical model with the root water uptake item was built by using HYDRUS.The parameters were identified and model was verified using the data of field experiments.The verified model was used to set up proper irrigation program of mulched drip-irrigation at cotton growth season and the flood irrigation at non-growth season for leaching soil salt,and to predict soil water and salt migration characteristics and its long-term effect.The results showed that the simulation matched observation well and the calculation rate was fast.The simulated and observed soil water and salt had no significant difference by T test.The parameters α and n had more notable influences on soil water than other parameters,while the longitudinal dispersivity D L had notable influence on soil salt.The proper program of mulched drip-irrigation in the study area is that two pipes are set up for one tarp with low irrigation water quantity and high irrigation interval combined with once flood irrigation during non-growth season for one or two years.Twenty-year simulation showed that the irrigation program would not result in soil secondary salinization.
【语种】中文
【第一作者】王在敏
【通讯作者】靳孟贵

【期刊名称、卷期、页码】农业工程学报 28卷17期 63-70
【论文发表时间】2012-09-01 00:00:00
【引文索引类型】EI
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【学科分类】水文学

【题目】基于染色示踪的膜下滴灌棉田水盐运移规律
【中文关键词】膜下滴灌; 土壤水分; 染色示踪; 亮蓝FCF; 水文地质学; 环境工程;
【英文关键词】mulched drip-irrigation; soil moisture; dye tracer; brilliant blue FCF; hydrogeology; environmental engineering.;
【中文摘要】采用亮蓝FCF染色示踪剂,研究膜下滴灌条件的水盐运移规律;分别在灌溉前、灌溉中和灌溉后等不同时间段共开挖13个时刻的剖面,观察膜下滴灌湿润面的运移情况;以10cm间隔的网格,用MP406土壤水分探测器原位测定3120个点的土壤体积含水率,同时取1430份土样,利用1:5土水比浸提法测定土壤盐分;并利用WATCHDOG气象站监测研究区气象要素.结果表明:染色示踪能直观表征土壤水盐运动轨迹;膜下滴灌条件下,垂直滴灌带方向土壤水流呈点源入渗特征、沿滴灌带方向近似呈线源入渗特征;现行灌溉模式下,壤质砂土湿润锋横向运移速率约为8cm/h;滴灌对滴头附近土体有一定洗盐效果,未覆膜区域地表土体出现盐分积累;灌水时间越长,湿润锋越深,横向扩展速率接近无作物小区(8cm/h);从土壤水合理利用角度考虑,满足研究区一膜一带四行的种植模式和土质的单次合理灌水量应为29.4~69.8mm.
【英文摘要】Brilliant Blue FCF was used to trace water flow in cotton field of mulched drip-irrigation using brackish water.13 cross sections were dug before irrigation,during irrigation and after irrigation,respectively,for observation of the movement of wetting front.The soil moistures were in-situ measured at 3 120 points by using MP406 moisture probe and 1 430 soil samples were sampled to analyze soil salinity by extracting soil water with 1:5 of soil to water,while cross sections were divided as each grid 10 cm×10 cm.The meteorology data were measured by WATCHDOG.The results show that the dye tracer can trace soil water flow and salinity transport obviously.There are two infiltrating states for soil water and salinity transport characters in field under film mulched drip-irrigation:point source infiltrating in the direction vertical to drip irrigation pipe and approximate line source infiltrating along with drip irrigation pipe.The velocity of soil wetting front movement was 8cm/h under the present irrigation.The soil salinity near the dripper was leached by irrigation water;however,the salt accumulated in the surface soil without film mulch.The wetting front extended with the irrigation time,and the spreading distance was similar to that with no plants.For efficient use of soil water,the reasonable irrigation quota for the present planting pattern of one film,one irrigation pipe and four row cottons was 29.4-69.8 mm in the study area
【语种】中文
【第一作者】王在敏
【通讯作者】靳孟贵
【期刊名称、卷期、页码】地球科学(中国地质大学学报) 37卷5期 1093-1100
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【学科分类】水文学

【题目】高矿化度对砂性土毛细水上升影响
【中文关键词】砂; 土壤; 毛细水; 水分; 干旱区; 矿化度;
【英文关键词】sand; soils; capillarity; moisture; arid regions; total dissolved solids;
【中文摘要】为明晰极端干旱区高盐度潜水蒸发机理,指导盐荒地开发与水盐调控,开展了砂性土条件下,不同粒径及潜水矿化度(1、30、100、250g/L)组合的毛细水上升试验。结果表明,试验后期毛细水上升规律稳定时段:粗砂土柱,潜水矿化度越大,毛细水上升高度越小;细砂土柱,1g/L处理毛细水上升高度明显大于其他3组;粉土土柱,不同处理毛细水上升高度由大到小为:30、100、250、1g/L。试验初始阶段,除粗砂外并不表现为矿化度越大,毛细水上升速度越小的趋势。相比高矿化度,粒径是控制毛细水上升的主要因素。研究表明,土体颗粒较细时(细砂、粉土),高矿化度不仅改变毛细水重力,也使得土体孔隙结构发生不同程度变化,二者综合作用于毛细水上升过程。
【英文摘要】Capillary rise is a significant contributor of soil salinity in extremely arid areas and is highly dependent on soil grains and total dissolved solids (TDS) in phreatic water. In this paper, experiments about effects of different grains of sand soil and TDS of phreatic water (1, 30, 100, 250 g/L) on capillary rise were conduced. The results showed that the height of capillary rise was steadily increasing in later stage of experiments and TDS had significant effects on capillary rise. For coarse sand, the higher TDS made the lower height of capillary rise. But for fine sand, the height of capillary rise of 1g/L was obviously larger than others. The sequence of height

from lower to larger of capillary rise in silt was 30, 100, 250 and 1g/L. At the beginning of experiments about coarse sand, the higher TDS made the lower velocity of capillary rise, but other soil groups were not. Compared to high-TDS condition, the grain of sand soil was a more primary controlling factor of capillary rise. The research indicates that high-TDS not only changes the gravity of capillary water but also the pore size of soil during the period of capillary rise in fine sand.
【语种】中文
【第一作者】栗现文
【通讯作者】周金龙
【期刊名称、卷期、页码】农业工程学报 27卷8期 84-89
【论文发表时间】2011-08-01 00:00:00
【引文索引类型】EI
【引文索引号】2.01E+13
【学科分类】水文学

【题目】新疆主要城市地下水水质现状分析
【中文关键词】地下水; 水质评价; 灰色关联度分析法; 新疆城市;
【英文关键词】groundwater; water quality evaluation; method of Grey Relational Analysis; cities in Xinjiang;
【中文摘要】将2003年4至6月份新疆7个城市地下水42个水样监测结果,以各城市为评价单元,以《地下水环境质量标准》(GB/T 14848-93)为评价标准,选择总硬度、矿化度、氨氮、挥发酚、高锰酸钾指数、硫酸盐和氯化物这7个项目作为评价因子,运用灰色关联度分析方法对新疆7个城市的地下水水质进行分析。评价结果表明,矿化度和总硬度较大,总体水质较好。应加强地下水保护及地下水资源质量管理,实现地下水资源可持续利用,并对地下水污染防治提出建议。
【英文摘要】The article investigates the tested results of 42 samples from groundwater in 7 cities of Xinjiang from April to July 2003 regarding city as the basic evaluation unit,choosing the 7 items as the evaluation factors including total hardness,mineralization,NH4-N,C6H5OH,CODMn,SO2-4and Cl-,the《GB/T14848-93 Groundwater Quality Standard》 were taken as the evaluation standard,the method of Grey Relational Analysis was adopted to classify groundwater quality of the 7 cities.The evaluation results indicate that quality of groundwater in the 7 cities of Xinjiang is relatively good,but the total hardness and mineralization are quite high.The priority was given to strengthening the protection of ground water and quality management of ground water resources,to realize the sustainable utilization of ground water resources and some advices were put forward about groundwater pollution prevention.
【语种】中文
【第一作者】李巧
【通讯作者】周金龙
【期刊名称、卷期、页码】新疆农业大学学报 34卷 2期 178-180
【论文发表时间】2011-03-01 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】水文学

【题目】新疆农业大学的地下水科学研究工作
【中文关键词】　地下水;　科学研究;　新疆农业大学
【英文关键词】无
【中文摘要】本文首先简介了新疆农业大学及其水利与土木工程学院,从学术团队、主持的省部级以上科研项目(课题)、省部级以上科研成果获奖、学术专著等方面综述了新疆农业大学的地下水科研工作,最后列出了未来5~10年的主要研究方向。
【英文摘要】无
【语种】中文
【第一作者】周金龙
【通讯作者】周金龙
【期刊名称、卷期、页码】地下水 2011年01期160-164
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【引文索引类型】其他

【引文索引号】0
【学科分类】水文学

【题目】塔里木盆地地下水环境背景值
【中文关键词】环境背景值; 地下水; 塔里木盆地
【英文关键词】无
【中文摘要】测定了2002年4) 8月新疆塔里木盆地地下水背景水样, 运用Grubbs统计方法, 剔除数据中的异常值, 并运用SPSS统计软件, 判定各项组分服从何种分布, 确定了各个流域中K+、 + Na+ 、Ca2+ 、M g2+ 、NH3 - N、C l- 、SO42- 、HCO3-、F- 、CODMn、C6H5OH、总硬度、TDS、pH 值的环境背景值。
【英文摘要】无
【语种】中文
【第一作者】郭晓静
【通讯作者】周金龙
【期刊名称、卷期、页码】人民黄河 2011年第33卷第1期61-63
【论文发表时间】2011-01-01 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】水文学

【题目】干旱区膜下滴灌条件下膜孔蒸发特征研究
【中文关键词】覆膜开孔率; 湿润锋; 累积蒸发量; 返盐量;
【英文关键词】hole opening ratio; wetness van; cumulative evaporation; increased salt content accumulated;
【中文摘要】模拟不同覆膜开孔率下的蒸发试验,研究了蒸发过程中不同覆膜开孔率下土体湿润锋及水盐运移情况的动态分布特征。结果表明:随蒸发历时的延长垂直湿润距离增大,在蒸发1 d后垂直湿润距离的增加量最大,蒸发结束时随覆膜开孔率的增大垂直湿润距离减小;随蒸发历时的延长土体剖面内的含水量在减小,表层减小最快,剖面底部边侧含水量有所增加;盐分则呈现向表层和底部范围增加,剖面中部的含盐量相对减小的动态变化;蒸发结束时土体剖面上同一位置处含水量随开孔率的增大在减小,盐分则表现随开孔率增加表层返盐明显,土体剖面中下部的盐分向远离滴头的斜下方运移,在湿润锋处聚集。而各覆膜开孔率下累积蒸发量与蒸发时间的开平方呈线性关系,累积蒸发量的增量与开孔率呈幂函数关系。
【英文摘要】Plastic film mulching has been widely used in crop planting in arid areas, but due to the seeding holes and other factors, entire mulching can not be performed in the field,and this must affect the distribution of soil water and salt content. Evaporation was simulated with different holes opening ratio to study the dynamic distribution characteristics of wetness van and soil water and salt transfer with different holes opening ratio in evaporation process. The results indicated that vertical wetness distances were increasing with the elongation of evaporation time, and the increment was the biggest after a day of evaporation;The vertical wetness distances were depressed with holes opening ratio increasing at the end of evaporation. The soil water content was inducing with the extension of evaporation time, it was the most rapid in the top layer, but it increased in the bottom of soil profile; The soil salt content was increasing in top and bottom layers. At the end of evaporation the soil water content was reducing with hole opening ratio increasing at the same profile position, but the increased salt content accumulated at top layer was getting higher with hole opening ratio increasing, and the soil salt content of lower profile was moving along inclined below direction, and assembled in the wetness van. There was fine linear relationship between cumulative evaporation and evaporation time, and there was also powerful function relationship between cumulative evaporation increment and open holes ratio.
【语种】中文
【第一作者】王春霞
【通讯作者】王全九
【期刊名称、卷期、页码】干旱地区农业研究、2011年第29卷第1期、14-21
【论文发表时间】2011-01-01 00:00:00
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【引文索引号】0
【学科分类】水文学

【题目】Simulated and measured soil wetting patterns foroverlap zone under double points sources of drip irrigation
【中文关键词】Drip irrigation, HYDRUS, intersection, soil wetting pattern
【英文关键词】Drip irrigation, HYDRUS, intersection, soil wetting pattern
【中文摘要】Water resource scarcity is a serious problem hampering agricultural development in the arid and semiaridregion. Drip irrigation is one of the most useful methods that is widely used in the arid and semiaridregion. Intersection is a however, common event under drip irrigation and the crops are alwaysplanted in the overlap zone, hence a suitable design and operation of the system is very important forcrop yield. In this study, experimental and simulated soil wetting pattern of overlap were investigatedfor drip irrigation at different emitter discharge, irrigation volume and emitter spacing, respectively.Simulations of the water content and wetting front were close to the observed data. To evaluate theeffects of various parameters on wetting, additional simulations were carried out with HYDRUS. Afterthe simulation under the HYDRUS environment, we therefore recommended a larger irrigation volume,larger wetting pattern; and when the emitter spacing is shorter, then the wetting patterns should belarger. Due to the heterogeneity of soil texture, the horizontal and vertical distance are almost uniformlyin the loam and silt, inversely in loamy sand.
【英文摘要】Water resource scarcity is a serious problem hampering agricultural development in the arid and semiaridregion. Drip irrigation is one of the most useful methods that is widely used in the arid and semiaridregion. Intersection is a however, common event under drip irrigation and the crops are alwaysplanted in the overlap zone, hence a suitable design and operation of the system is very important forcrop yield. In this study, experimental and simulated soil wetting pattern of overlap were investigatedfor drip irrigation at different emitter discharge, irrigation volume and emitter spacing, respectively.Simulations of the water content and wetting front were close to the observed data. To evaluate theeffects of various parameters on wetting, additional simulations were carried out with HYDRUS. Afterthe simulation under the HYDRUS environment, we therefore recommended a larger irrigation volume,larger wetting pattern; and when the emitter spacing is shorter, then the wetting patterns should belarger. Due to the heterogeneity of soil texture, the horizontal and vertical distance are almost uniformlyin the loam and silt, inversely in loamy sand.
【语种】英文
【第一作者】Yuyang Shan1
【通讯作者】Yuyang Shan1
【期刊名称、卷期、页码】African Journal of Biotechnology Vol. 10(63), pp. 13744-13755, 17 October, 2011
【论文发表时间】2011-10-17 00:00:00
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【题目】地表滴灌条件下土壤湿润体运移经验方程
【中文关键词】地表滴灌; 土壤湿润体; 数值模拟; SWMS_ 2D模型
【英文关键词】surface drip irrigation ; soil wetted volume ; mathematical simulation ; SWMS_2D model
【中文摘要】为给滴灌制度提供设计依据,研究了地表滴灌下土壤湿润体的运移规律。设置33 种情景,采用SWMS_2D 模型进行数值模拟实验,建立了描述土壤饱和导水率、初始含水率和滴头流量等影响湿润体运移规律的经验关系式。结果表明: 湿润体体积与灌水量成正比,比例系数与土壤饱和含水率和初始含水率正相关,与滴头流量负相关; 湿润锋比和灌水量之间呈幂函数关系,主要受地表积水入渗半径的影响,地表积水半径由滴头流量与土壤饱和导水率的比例决定。与其他试验数据对比表明,本经验关系式具有较高的模拟精度。
【英文摘要】The movement of soil wetted bodies during surface drip irrigation was studied to improve the drip irrigation system design. The SWMS_2D model was used to numerically analyze 33 situations of 22D soil water movement. Two empirical equations were then formulated to describe the effects of the saturated hydraulic conductivity , Ks , initial soil moisture content , θ 0 , and trickle discharge rate , qV , on the development of soil wetted bodies. The results show a linear relationship between the volume of the wetted soil body and the total volume of irrigated water . The volume increases with Ks and θ 0 and decreases with qV . The ratio of the radial to vertical wetting fronts was found to be related exponentially to the irrigated water volume , which depends on the ratio of qV to Ks . These formulas agree well with experimental data from other literatures.
【语种】中文
【第一作者】胡和平
【通讯作者】胡和平
【期刊名称、卷期、页码】清华大学学报(自然科学版)第50 卷第6 期839-843
【论文发表时间】2010-01-01 00:00:00

【引文索引类型】EI
【引文索引号】2.01E+13
【学科分类】水文学

【题目】基于CVODE求解器的饱和-非饱和土壤水分运动数值模型
【中文关键词】地表滴灌; 积水动边界; CVODE; Richards方程;
【英文关键词】无
【中文摘要】为研究地表滴灌条件下的土壤水分分布特征和运动规律,构建了基于二维Richards方程的土壤水分运动数值模型TIVS(Tsinghua Integrated Variably Saturated soil water movement model)。将Richards方程空间半离散后利用CVODE常微分方程求解器进行求解,改进了地表滴灌积水动边界的处理方法,提高了数值求解稳定性和计算效率,模拟结果能保持良好的水量平衡.数值模拟检验和试验验证结果表明,模型具有较高的模拟精度,可用于地表滴灌复杂边界条件下的土壤水分运动长期模拟。
【英文摘要】A numerical model of two-dimensional soil water movement under surface drip irrigation condition was developed. The physical process of soil water movement is described by 2D Richards equation, and the upper boundary condition is depicted by the improved moving ponded area boundary. The partial differential equation (PDE) is transformed into ordinary differential equations (ODEs) through spatial semi-discretization and numerically solved by an ordinary differential equation solver (CVODE). The numerical and field experiments indicate the good performance of the model in terms of accuracy and efficiency. The model provides a useful tool for long-term simulation of soil water movement under surface drip irrigation. Also, the model can serve as a general 2D Richards equation solver for variably saturated soil water movement, which is named as TIVS model (Tsinghua Integrated Variably Saturated soil water movement model).
【语种】中文
【第一作者】田富强
【通讯作者】田富强
【期刊名称、卷期、页码】中国科学:技术科学 2012年 第42卷 第三期:311~324
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【引文索引类型】其他
【引文索引号】0
【学科分类】农艺学

【题目】膜下滴灌棉田土壤水盐分布特征及灌溉制度试验研究
【中文关键词】 干旱区; 膜下滴灌; 棉花; 水盐分布; 灌溉制度;
【英文关键词】 arid area; mulched drip irrigation; cotton; soil water and salt movement; irrigation scheduling;
【中文摘要】在新疆库尔勒市西尼尔镇开展了膜下滴灌棉田土壤水盐分布特征及灌溉制度的试验研究,根据不同灌溉定额(375、525和675mm)及灌水间隔(3.5、7和10.5d)组合设置7个试验处理,通过对比分析研究了膜下滴灌条件下的土壤水、盐分布规律及其对棉花生长性状及最终产量的影响。试验结果表明:(1)主根区土壤含水率自靠近滴灌带的宽行往外至膜间逐渐降低,土壤含盐率则呈相反的规律分布,灌溉期靠近滴灌带的主根区土壤处于脱盐状态,远离滴灌带的土壤处于积盐状态;(2)相同灌水间隔下,灌溉定额越大,主根区含水率越高,主根区以下渗漏水分越多,棉花产量提高但灌溉水生产效率降低;相同灌水定额下,灌水间隔过大或过小均不利于棉花的生长;(3)在试验区的砂性土壤条件下,675mm灌溉定额和7d灌水间隔的灌溉制度可获得最大籽棉产量为6816kg/hm2,375mm灌溉定额和7d灌水间隔的灌溉制度可获得最高的灌溉水生产效率为1.33kg/m3。
【英文摘要】Field experiments were conducted to investigate the dynamic regimes of soil moisture and salt as well as irrigation scheduling for cotton under mulched dripirrigation condition. Seven irrigation treatments with different total irrigation amounts (TIA) and irrigation intervals were designed. The results show that soilmoisture decreases and soil salt increases as the distance from drip tape increases in horizontal direction. In irrigation periods, areas close to drip tape are in desalting process and areas away from drip tape are in salt cumulating process. The higher TIA leads to higher soil moisture while the irrigation water use efficiency will be lower. Either longer or shorter irrigation interval result in unfavor conditions for growth and yield of cotton. Under sandy soil condition, the maximum yield of cotton occurs when TIA is 675 mm and irrigation interval is 7d, the maximum irrigation water used efficiency occurs when TIA is 375 mm andirrigation interval is 7d.

【语种】中文
【第一作者】高龙
【通讯作者】高龙
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【题目】不同年限棉田膜下滴灌水盐运移规律实验研究
【中文关键词】不同年限; 棉田; 膜下滴灌; 水盐运移
【英文关键词】different year ; cot ton field ; drip irrigation under t he film ; water-salt movement
【中文摘要】通过不同年限膜下滴灌棉田中播前、苗期、盛花期、收获期4 个不同时期在1 m 土层内水盐运移规律的田间试验资料分析。初步得出,相同年限棉田在4 个不同的生育阶段各土层在播前土壤含水量较大,到苗期含水量减少,灌头水后含水量逐渐增大,到盛花期含水量达到最大,而后含水量又减少,到收获期含水量达到最小;含盐量的变化特征是相同年限棉田在播前含盐量很大,苗期含盐量降低,到盛花期含盐量升高,到收获期含盐量又降低;在相同的生育阶段,不同年限的棉田随着种植年限的增加盐分累积逐渐增加;30~60 cm 深度是棉田盐分最大聚集区。
【英文摘要】Through the analysis of field data about water2salt movement in 100 cm layer deept h of ten dif2ferent year ’s in drip irrigation of cotton fields of Xinjiang Shihhotze during t he four different periods inclu2ding before sow ,seedling period ,prosperous flower period ,harvest period. We draw t he conclusions :differ2ent layer soil water content before sowing in t he four growth stage at t he same time is higher t han t hat dur2ing the seedling period. Water content increases af ter t he first irrigation. There is maximum water contentin t he prosperous flower period ,af ter which it reduces ,it reduces to t he minimum during the harvest peri2od ;Movement character about the salt at t he same time in t he different growt h stage is t hat salt content be2fore sowing is t he maximum ,it drop s during the seedling period ,it grows during t he prosperous flower pe2riod ,it drop s again during t he harvest time ;At t he same growt h period salt accumulation of t he cot ton int he different time increases wit h increasing of planting years. 30 - 60 cm soil layer is the maximum accumu2lative area of salt .
【语种】中文
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【通讯作者】谷新保
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【题目】双点源滴灌交汇区水盐运移规律试验研究
【中文关键词】水盐运移; 双点源滴灌; 湿润锋; 交汇锋; 电导率
【英文关键词】无
【中文摘要】通过模拟大田滴灌的双点源试验, 探求了沙壤土土质下, 不同滴头流量、滴头间距对水平湿润锋和交汇锋以及电导率的影响。结果表明: 随着入渗时间的增加, 交汇锋和水平湿润锋运移距离都在增加; 当其他条件一定时, 流量越大或者间距越小, 湿润锋和交汇锋运移的速率越大, 土壤湿润体越均匀; 相同间距情况下在0~ 20 cm 深度内大流量的交汇区电导率小, 在20~ 40 cm 深度内小流量的电导率大; 在相同流量情况下0~ 10 cm 深度内滴头间距大的交汇区电导率大,在10~ 40 cm 深度内滴头间距小的电导率大。
【英文摘要】无
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【第一作者】谷新保
【通讯作者】虎胆吐马尔白
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【题目】主成分分析法在膜下滴灌不同年限棉田土壤表层盐渍化评价中的应用
【中文关键词】 主成成分分析; 膜下滴灌; 不同年限; 盐渍化评价
【英文关键词】 main component analysis; under film irrigation; in different years; evaluation of salinization
【中文摘要】利用主成分分析法和SPSS软件对膜下滴灌不同年限棉田土壤表层盐渍化程度进行了评价和分析。结果表明:利用主成分分析法可以有效地识别影响土壤表层盐渍化的主要成分,揭示土壤盐渍化影响离子的相互关系;以石河子121团实验地化验结果为依据,利用主成分分析法进行了分析,最后得出了该地块以氯化物-硫酸盐为主,为土壤盐渍化评价的定量化研究提供了依据,从而说明主成成分分析法在土壤盐渍化的评价中是切实可行的。
【英文摘要】The assessment and analysis on salinization in soil upper layer of cotton field under film iggigation in different years were conducted with the main component analytical method and SPSS software.The results demonstraled that the main components affecting the salinization on the soil upper layer could be effectively discriminated by the use of the main component analytical method and the mutual relation between soil salinization and iron was revealed.Based on the experimental result of Regimental Farm 121 in Shihhotze Area,main component analysis were analyzed by the analytical method.Finally,it was drawn that the upper layer in the area with SO42-Cl-could provide the evidence for quantilative study on evaluation of soil salinization.
【语种】中文
【第一作者】谷新保
【通讯作者】虎胆·吐马尔白
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【学科分类】农学其他学科

【题目】不同灌溉定额对膜下滴灌棉花土壤盐分分布的影响研究
【中文关键词】膜下滴灌; 棉花; 灌溉定额; 土壤盐分分布;
【英文关键词】drip irrigation under film; cotton; irrigation quota; distribution of soil salinity;
【中文摘要】开展了不同灌溉定额对土壤盐分分布影响的试验研究。结果表明,灌溉定额越大,盐分运动和分布所受到的影响越大,盐分水平方向运动越远,相同距离处土壤盐分含量相对越低,垂直方向,土壤盐分向耕作层以下运移并发生聚积,毛管附近土壤盐分淋洗范围和淋洗程度均越大,远离毛管宽行距盐分聚集范围越大且较深。灌溉定额越小,浅层土壤盐分积盐率越高,毛管附近土壤盐分淋洗范围和淋洗程度均越小,远离毛管宽行距盐分聚集范围越小且较浅。
【英文摘要】Influence of distribution of soil salinity under different irrigation quota of cotton drip irrigation under film was researched from the existing cotton drip water law and impact factors.The results showed that the larger irrigation quota,the greater influence on salt movement and distribution,salt moved farther exercise in horizontal direction,soil salt content is relatively lower in the same distance,vertical direction,soil salinity was accumulated under the arable layer,the scope and extent of leaching soil salinity near the capillary were greater,the accumulation of salt greater and deeper where far from the capillary.The smaller irrigation quota,salt accumulation higher in surface soils,soil salinity leaching smaller near the capillary,the smaller and less aggregation far from the capillary.
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【第一作者】张金珠
【通讯作者】虎胆·吐马尔白,
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【题目】棉田膜下滴灌土壤盐分变化规律研究

【中文关键词】膜下滴灌; 盐分运移; 土壤含盐量; 生育期;
【英文关键词】drip irrigation under the film; salt transfer; accumulation of soil salt; growth period
【中文摘要】针对新疆土壤盐碱化开发利用和防止土壤次生盐渍化的问题,通 过对不同年限的棉田膜下滴灌土壤盐分的运移研究,从土壤空间、棉花生育期两个方面对不同年限土壤盐分进行分析,初步得出:滴灌前,土壤垂直方向上盐分变化 幅度大;滴灌后,垂直方向0~40 cm处于脱盐,60~100 cm表现为积盐。灌前和灌后在土壤水平方向和垂直方向含盐量高低变化是膜中滴头处低于棉花窄行,两者且低于膜间裸地。在棉花生育期内,播种前土壤含盐量较 高,苗期含盐量降低,从蕾期到盛铃期土壤盐分逐渐升高,随后吐絮期至收获期逐渐减小。在不同年限棉田监测中,随滴灌年限的增加,土壤耕层盐分逐渐运移到土 壤深层,土壤盐分经较长年限逐渐累积。
【英文摘要】This study was conducted to reveal the problems of using salineakkalisoil and preventing soil salinization and transfering soil salt under drip irrigation in cotton field in Xinjiang.The soil salt in soil space and cotton growth period in different years were analyzed.The conclusions could be drawn that before the drip irrigation,the accumulation of soil-salt has big change;After the condition of irrigation,the soil-salt of layer 0-40 cm is reduced,soil-salt of layer in 60-100 cm is increased.Before and after the irrigation, at the horizontal direction and the vertical direction,the accumulation of soil-salt changes is:the center of film is smaller than cotton row,and they are both lower than that of center of back row.In the cotton growth period and before sowing the accumulation of soil salt is the highest,it drops during the seedling period.From budding stage to full boiling stage,soil salt is gradually increased and from boll opening stage to harvest stage it becomes reduce.The plough layer of soil-salt are moving deepth of soil,then it is gradually ac-cumulated through longer time,with increasing year of drip irrgation.
【语种】中文
【第一作者】弋鹏飞
【通讯作者】虎胆·吐马尔白
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【题目】滴灌施钙时间对盐碱土水盐运移特征研究
【中文关键词】盐碱土; 滴灌; 施钙时间; 水盐运移;
【英文关键词】saline-alkali soil; drip irrigation; calcium-using time; water movement and salt transport;
【中文摘要】通过室内试验测定新疆昌吉地区盐碱土在不同滴灌施钙时间的入渗运动过程,研究不同施钙时间(前期施用Ca-W、后期施用W-Ca、中间施用W-Ca-W、前后期施用Ca-W-Ca)的盐碱土土壤盐分运移和水分运动。结果表明不同施钙方式对滴灌盐碱土土壤水分分布具有影响,对盐碱土盐分运移影响明显,随着湿润锋水平、垂直运移距离的增加,不同滴灌施钙方式的土壤含盐量、钠离子含量和钠吸附比均在不断增加,Ca-W-Ca方式的达标脱盐区评价系数和脱钠区深度系数均大于其他方式,钠吸附比均小于其他方式,脱盐效果均优于其他方式,说明Ca-W-Ca方式更有利于作物根系生长,改良盐碱土效果最明显。 更多还原
【英文摘要】Based on indoor experiments, the movement of soil water in drip irrigation was measured in saline-alkali soil of Changji region in Xinjiang province for different drip irrigation calcium-using time. Soil water movement and salt transport in saline-alkali soil for different drip irrigation calcium-using time (in the beginning of the irrigation cycle (Ca-W), at the end (W-Ca), in the middle (W-Ca-W), and in the beginning and end of the irrigation cycle (Ca-W-Ca)) were studied. The results show that distributions of water in soil is influenced for different calcium-using modes. The salt transport of saline-alkali soil is significantly influenced for different calcium modes. With the increase of the horizontal and vertical advance distance of soil wetted front increasing, soil salinity and sodium content and sodium absorption ratio increase for different calcium treatments in drip irrigation. Coefficients of controlled desalinization zone and the depth of the sodium desalinization zone coefficients of Ca-W-Ca mode are higher than that of other modes, but the sodium absorption ratio of Ca-W-Ca mode is less than that of other modes, and the desalinization effect of Ca-W-Ca is also superior to that of other modes. It can be concluded that the crop root grow better in the Ca-W-Ca mode and improvement effect of saline-alkali soil of this mode superior to that of other modes.
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【第一作者】孙海燕
【通讯作者】孙海燕
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【题目】滴灌条件下石膏配比对盐碱土水盐运移特征影响
【中文关键词】盐碱土;滴灌;石膏配比;水盐运移;
【英文关键词】saline-alkali soil;drip irrigation;gypsum proportion;water movement and salt transport;
【中文摘要】 针对西北等干旱地区土地次生盐渍化的问题,以室内实验为基础,研究了不同石膏配比对盐碱土土壤盐分运移和水分运动的影响。结果表明,不同石膏配比对滴灌盐碱土土壤水分分布具有影响,对盐碱土盐分运移影响明显。随着湿润锋水平、垂直运移距离的增加,不同石膏配比的土壤含盐量增加,在相同入渗距离内,随着石膏配比的增加,钠离子含量减小,脱钠区深度系数增大,脱钠效果明显,石膏配比为0.1的脱钠区深度系数增加比率最大。因此,施加石膏有利于滴灌淋洗土壤盐分。
【英文摘要】 In order to solve the secondary saline-alkalization problems in the northwest arid areas of China,based on the laboratory experiment,soil water movement and salt transport in saline-alkali soil under different gypsum proportions were investigated.The results showed that the gypsum proportion had a great impact on the distribution of water in soil and the salt transport of saline-alkali soil was significantly influenced by it.With the increase of the horizontal and vertical advance distances of soil wetted front,the soil salinity also increased under different gypsum proportions.In the same infiltration distance,with the increase of gypsum proportion,the sodium content decreased while the sodium desalinization zone depth coefficient increased,which showed that the desalinization effect was distinct.When the gypsum proportion was 0.1,the increment of the sodium desalinization zone depth coefficient was greater than that of any other treatments.So the gypsum was propitious to wash soil surface salt under drip irrigation.
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【题目】滴灌施钙土壤水盐运移特征的田间试验研究
【中文关键词】滴灌;连续施钙;间歇施钙;淋洗效果
【英文关键词】无
【中文摘要】盐碱地的改良措施主要有水利改良、化学改良、生物改良。随着农业灌溉水的日益缺乏,水利改良盐碱地已受到一定程度的限制,化学改良和生物改良引起大家的重视。在化学改良中主要是通过添加钙离子含量降低钠离子含量,从而改善土壤结构性能,增加土壤的渗透性和通气性[1]。在盐碱地上,钠离子过多会严重影响土壤的结构,使其通气透水性能大为减小,形成土壤板结现象,严重的影响作物对水分和营养的吸收以致无法正常生长。通过在盐碱地上施加钙离子置换吸附在土壤胶体的钠离子,降低在作物根区范围的钠离子含量。同时近年来在新疆等地大面积推广的膜下滴灌开发利用盐碱地和防治次生盐碱化方法已经取得了显著成效。国内许多就膜下滴灌水盐运移特征 更多还原
【英文摘要】无
【语种】中文
【第一作者】刘建军
【通讯作者】王全九
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【学科分类】土壤学

【题目】土石混合介质水分运动规律研究
【中文关键词】 碎石; 累积入渗量; 湿润锋; Philip入渗模型
【英文关键词】rock fragment; accumulative infiltration; wetting front; Philip infiltration model
【中文摘要】通过一维垂直积水入渗试验,研究碎石含量与碎石粒径对土壤累积入渗量与湿润峰的影响,结果表明碎石的存在明显的促进水分的运动,在碎石含量为30%时,累积入渗量与湿润峰均达到最大,碎石粒径在5~10 mm时,累积入渗量与湿润峰均达到最大,碎石含量对水分运动的影响程度要大于碎石粒径的影响程度;累积入渗量随入渗历时的变化过程与湿润峰随入渗历时的推进过程均可以利用Philip入渗模型进行描述。
【英文摘要】One-dimensional vertical ponding infiltration experiment was performed in order to study the effect of rock fragment content and particle size on soil accumulative infiltration and wetting front,the results turn out to be that rock fragment could promote water movement significantly,the maximum of accumulative infiltration and wetting front appear when rock fragment content reach 30% or particle size is 5~10 mm,the results also present that rock fragment content has a more obvious effect on water movement than rock fragment particle size;in addition,changing process of accumulative infiltration with infiltration duration and advancing process of wetting front with infiltration duration could be described by Philip infiltration model.
【语种】中文
【第一作者】刘建军
【通讯作者】刘建军
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【学科分类】农业基础学科

【题目】水平入渗法确定土石混合介质的水力参数分析
【中文关键词】土石混合介质; 累积入渗量; Hydrus-1D; 水平入渗法
【英文关键词】 stony-soil media; cumulative infiltration; Hydrus-1D; horizontal infiltration;
【中文摘要】我国大量分布着土石混合山区,研究该区的土壤水分运动特征对于我国山区水文研究具有重要的现实意义,其中土石混合介质水力参数的确定是一个重要研究内容。利用一维水平入渗法间接的来推求土石混合介质的水力参数,将其求得的参数作为数学模拟软件hydrus-1D的输入参数来模拟水分入渗过程,将实测的累积入渗量与模拟累积入渗量进行对比,其相对误差介于0.04%~0.48%,说明利用一维水平入渗法来确定土石混合介质的水力参数具有较高的精度,满足实际需要。
【英文摘要】Stony-soil mountain areas largely exist in China.The study on the characteristics of soil water movement of this area has a great realistic significance to the research on mountain zone hydrology of our country.Among which,determination of hydraulic parameters of stony-soil media is an important research content.In this paper,hydraulic parameters of stony-soil media were indirectly obtained through one dimensional horizontal infiltration.Parameters obtained from this method were used as the input parameters of mathematical modeling software called hydrus-1D in order to simulate the process of water infiltration.The relative error between measured and simulated cumulative infiltration lies between 0.04%~0.48%,which indicates that the determination of hydraulic parameters of stony-soil media through one dimensional horizontal infiltration have higher precision and could meet the practical needs.
【语种】中文
【第一作者】刘建军
【通讯作者】王全九
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【学科分类】水文学

【题目】滴灌施钾肥土壤水盐分布特征的田间试验
【中文关键词】脱盐,灌溉,离子,土壤含水率,盐碱地,钾素,滴灌

【英文关键词】Calcium - Concentration (process) - Desalination - Fertilizers - Ions - Moisture determination - Physical chemistry - Soil moisture - Underwater soils - Water filtration
【中文摘要】:化学改良是一种有效改善土壤物理化学特征的土壤盐碱地改良方法,为将化学改良与膜下滴灌和增加土壤肥力相结合,该文通过滴灌施加硝酸钾并对土壤水盐分布特征进行分析,研究了0~30 cm耕作层内3种施K质量浓度400、800、1 000 mg/L及5种(连续、滴水.滴施硝酸钾溶液、滴施硝酸钾溶液.滴水、滴施硝酸钾溶液.滴水一滴施硝酸钾溶液、滴水一滴施硝酸钾溶液.滴水)施K方式下土壤盐分及离子的分布特征。结果表明,随着外源钾素的滴入土壤,改变了土壤耕作层内离子的组成,Ca 、Mg 浓度相对增加、Na 浓度降低;阴离子s0 ‘ 浓度增加,C1 浓度降低;高施K浓度下耕作层内的总盐、钠吸附比(SAR)、C1 ‘ /SO42-减小,滴水.滴施硝酸钾溶液施K方式下的SAR、C1一/$042-最小,说明滴施硝酸钾在土壤耕作层内有明显的土壤改良效果,其施K质量浓度为1 000 mgm 及滴水一滴施硝酸钾溶液施K方式下脱盐效果最好。
【英文摘要】The chemical ameliorant using in salt field is a kind of efficient method, which can meliorate the physical chemistry characteristics of soil. But a problem is always concerned, that is how to combine chemical ameliorant and the under-mulch drip irrigation and the soil fertility. Through analyzing characteristics of soil water and salt distribution in drip fertigation of kalium-using fertilizers, the characteristics of soil water and ion distribution were studied under three kinds of kalium-using concentrations as 400, 800 and 1000 mg/L and five kinds of kalium-using modes (continuous drip irrigation, drip irrigation of water (W)-drip fertigation of KNO3 (K), K-W, K-W-K, and W-K-W) as concatenation, in 0-30 cm cultivation layer. Results indicated that the soil ion forms were changed through drip fertigation of kalium-using fertilizers, Ca2+ and Mg2+ concentrations relatively increased, Na+ concentration reduced, anion SO42- concentration increased and Cl- concentration falled, the total salt content, sodium absorption ratio (SAR) and Cl-/SO42- reduced by high kalium-using concentration in cultivation layer, SAR and Cl-/SO42- in W-K kalium-using mode were least in five kinds of kalium-using modes, which showed drip fertigation of niter-using had visible meliorated effect in cultivation layer, and the effect of pulling salts with 1000 mg/L kalium-using fertilizer and W-K mode were best in three kinds of kalium-using concentrations and five kinds of kalium-using modes.(18 refs)
【语种】中文
【第一作者】王春霞
【通讯作者】王全九
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【学科分类】水文学

【题目】DRAV模型及其在干旱区地下水脆弱性评价中的应用
【中文关键词】地下水;脆弱性;DRAV模型;新疆焉耆县
【英文关键词】无
【中文摘要】结合内陆干旱区地下水的特点,在地下水脆弱性评价的GOD法和DRASTIC 模型的基础上,提出了DRAV模型,其中D为地下水埋深(groundwater depth)、R为含水层净补给量(net recharge of aquifer)、A为含水层特征(aquifer characteristics)、V为包气带岩性(lithology of vadose zone)。以新疆焉耆县平原区为例,在GIS平台上,利用DRAV模型评价该地区孔隙地下水的脆弱性。结果表明:开都河南岸沿岸地区(包括库尔勒市城市地下水水源地)和焉耆镇一带是地下水脆弱性高的地段。为解决城市供水与地下水脆弱性这一对明显的矛盾,应加强该地区地下水污染防治工作,在开展工作时应坚持“ 以预防为主,防、治结合 ”的原则。
【英文摘要】无
【语种】中文
【第一作者】周金龙
【通讯作者】周金龙
【期刊名称、卷期、页码】水文地质工程地质,增刊
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【学科分类】水文学

【题目】新疆塔里木盆地平原区中盐度地下水分布及其质量评价
【中文关键词】中盐度地下水;　补给资源量;　灌溉水质评价;　塔里木盆地;
【英文关键词】　medium salinity groundwater;　recharge resources quantity;　evaluation of agricultural irrigation water quality;　Tarim Basin;
【中文摘要】依据2002-2004年完成的"新疆平原区地下水资源调查与评价"成果,采用地下水资源模数法和GIS技术,确定了塔里木盆地平原区中盐度地下水(矿化度为2~3、3~5和5~7 g/L)的分布状况,分布面积为92 141.32 km2,占塔里木盆地平原区总面积的30.6%;计算了各流域、各地(州)中盐度地下水的补给资源量,总补给资源量为11.16亿m3/a。分别采用单指标法(盐度S、可溶性钠含量SSP、镁系数KMg、残余碳酸钠RSC和钠吸附比SAR)、综合危害系数K和灌溉系数Ka法对中盐度地下水的水质进行了全面的评价,得出了各流域、各地(州)中盐度地下水的灌溉适应性评价结果。
【英文摘要】In this paper,based on the results of Groundwater Resources Survey and Evaluation in Xinjiang Plain Areas(2002-2004),by using groundwater resources module method and GIS technology,the distribution of medium salinity groundwater(2 to 3,3 to 5 and 5 to 7 g/L) in plain area of Tarim Basin,Xinjiang is determined.The total area is 92 141.32 km2,accounting for 30.6% of total plain area of Tarim Basin.Recharge resources quantity of each basin and each prefecture were calculated,the total recharge is 11.16×108 m3/a.An evaluation of irrigation adaptability medium salinity groundwater is conducted by using the single index method,the synthetic harmful coefficient method and the irrigation coefficient method.
【语种】中文
【第一作者】周金龙
【通讯作者】周金龙
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【学科分类】水文学

【题目】内陆干旱平原区水土资源开发与盐分再分布的关系
【中文关键词】水平排水; 水土资源开发; 盐分再分布; 内陆干旱平原区
【英文关键词】horizontal drainage; exploitation of soil and water resources; redistribution of salt; inland arid plain area;
【中文摘要】以新疆阜康市和哈密市典型水土开发区为例,利用典型剖面分层土壤含盐量及地下水水质的测试结果,分析开垦初期有水平排水和无水平排水条件下土壤及地下水中盐分再分布特征。结果表明:开垦初期的水平排水排盐过程,可以将垦区土壤历史时期积累的大量盐分排出农田,作物耕作层下部和地下水含盐量较低;而开垦初期未经历水平排水排盐过程,直接采用竖井灌排的垦区,历史时期积累在表层的盐分随地下水位下降而积累于作物耕作层以下和地下水中。
【英文摘要】By investigating the soil salt content and groundwater quality of typical profiles of soil and water development regions in Fukang City and Hami City of Xinjiang Uygur Autonomous Region, this study analyzed the redistribution characteristics of salt content in soil and groundwater under the conditions with or without horizontal drainage in the initial stage of reclamation. The results showed that many soil salts accumulated in the reclamation area could be discharged from the farmland under horizontal drainage conditions in the initial stages of reclamation, so the salt contents of soil and groundwater below the cultivated horizon were low; but in reclamation areas with shaft well drainage instead of horizontal drainage in the initial stages of reclamation, the salt in the surface stratum leached into the soil and groundwater below the cultivated horizon due to the descent of the groundwater level. © (2012) Trans Tech Publications, Switzerland.
【语种】中文
【第一作者】周金龙
【通讯作者】李巧
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【学科分类】水文学

【题目】我国咸水灌溉对作物生长及产量影响研究进展与展望

【中文关键词】咸水灌溉;生态环境;膜下滴灌
【英文关键词】saline water irrigation;ecological environment;drip irrigation under mulch
【中文摘要】 灌溉水资源的短缺已成为我国干旱半干旱地区农业持续发展的一个重要限制因素,微咸水资源的开发利用可有效地缓解灌溉水源短缺的问题。总结了国内咸水灌溉对作物生长与产量影响的研究进展,为合理利用咸水资源进行灌溉提供指导。从咸水资源灌溉利用现状来看,膜下滴灌为干旱半干旱地区有效利用微咸水资源以及盐碱地的开发利用提供了有效的手段。但利用膜下滴灌方式进行微咸水灌溉,目前仍存在一些问题,需要进一步研究。此外,如何从流域或区域尺度上评价微咸水灌溉对生态环境的影响,并从更大尺度维持盐分平衡及环境的可持续发展值得深入研究。
【英文摘要】The shortage of water resources in irrigation has become an important restraint factor in arid and semi-arid areas in China.The utilization of saline water is an effective way of easing up the shortage of water resources.Drip irrigation under mulch film is an effective way for utilization of saline water and salinized land in arid and semiarid areas.But researches on irrigation with saline water by way of drip irrigation under mulch film are less frequent.It is necessary to go on with the researches.In addition,for sustainable agricultural production,just like water balance,a salinity balance has also to be maintained at the irrigation system basin.
【语种】中文
【第一作者】王毅萍
【通讯作者】周金龙
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【学科分类】水文学

【题目】基于DRAV模型的塔里木盆地地下水脆弱性评价
【中文关键词】地下水; 脆弱性; DRAV模型; 塔里木盆地
【英文关键词】vulnerability ,DRAV model, Tarim Basin
【中文摘要】结合内陆干旱区地下水的特点, 在地下水脆弱性评价的GOD法和DRASTIC 模型的基础上提出DRAV模型, 对新疆塔里木盆地孔隙潜水的脆弱性进行了评价。结果表明: 塔里木盆地平原区地下水脆弱性指数在2~ 4、4~ 6、6 ~ 8和> 8的区域面积分别占塔里木盆地平原区总面积的10. 1%、80. 4%、9. 2%和0. 2%; 地下水脆弱性相对较高区域主要位于薄土层(包气带地表土壤层厚度为20~ 30 cm, 其下部主要为砂砾石)和粉细砂层灌区, 包气带中多缺失亚砂土和亚黏土, 灌溉水入渗补给量较大; 地下水脆弱性相对较低区域主要位于亚砂土和亚黏土层的非灌区, 基本不存在灌溉水的入渗补给, 大气降水补给也极其有限。
【英文摘要】According to the characteristics of groundwater in arid area, this paper proposes DRAV model for groundwater vulnerability assessment, where D is groundwater depth, R is the net recharge of aquifer, A is the aquifer characteristics, and V is the lithology of vadose zone. As a case study, the paper assesses the vulnerability of pore phreatic water in Tarim Basin of Xinjiang, China by using the DRAV model. The results indicate that the areas of phreatic water with vulnerability index ranges of 2-4, 4-6, 6-8 and >8 accounting for 10.1, 80.4, 9.2 and 0.2% of the total plain area of the Tarim Basin respectively, and the areas with the latter two vulnerability ranges (6-8 and >8) are mainly located in the irrigation districts with thin soil layer (20-30 cm thick surface soil of vadose zone, mainly with underlying sandy gravel) and with silty and fine sand layer. Such vadose zone generally lacks sandy loam and clayey soil and has larger recharge by infiltration of irrigation water. © 2009 Springer-Verlag.(32 refs)
【语种】中文
【第一作者】周金龙
【通讯作者】周金龙
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【学科分类】水文学

【题目】DRAV model and its application in assessing groundwater vulnerability in arid area:a case study of pore phreatic water in Tarim Basin,Xinjiang,Northwest China

【中文关键词】无
【英文关键词】 Groundwater; Vulnerability; DRAV model; Tarim Basin;
【中文摘要】无
【英文摘要】ccording to the characteristics of groundwater in arid area, this paper proposes DRAV model for groundwater vulnerability assessment, where D is groundwater depth, R is the net recharge of aquifer, A is the aquifer characteristics, and V is the lithology of vadose zone. As a case study, the paper assesses the vulnerability of pore phreatic water in Tarim Basin of Xinjiang, China by using the DRAV model. The results indicate that the areas of phreatic water with vulnerability index ranges of 2 – 4, 4 – 6, 6 – 8 and[8 accounting for 10.1, 80.4, 9.2 and 0.2% of the total plain area of the Tarim Basin respectively, and the areas with the latter two vulnerability ranges (6 – 8 and[8) are mainly located in the irrigation districts with thin soil layer (20 – 30 cm thick surface soil of vadose zone, mainly with underlying sandy gravel) and with silty and fine sand layer. Such vadose zone generally lacks sandy loam and clayey soil and has larger recharge by infiltration of irrigation water
【语种】英文
【第一作者】Guomin Li
【通讯作者】周金龙
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【引文索引号】2.0102613049e+013
【学科分类】地质学

【题目】Evaluation of Groundwater Quality in the Xinjiang Plain Area
【中文关键词】无
【英文关键词】groundwater quality, evaluation, one veto
【中文摘要】无
【英文摘要】The paper is based on the testing results of 386 groundwater samples acquired during period of April to August,2003. With Grade-III water resource area as the basic evaluating units, value of pH, total dissolved solids, total hardness, NH3-N、C6H5OH、CODMn and intestinal germ group – 7 factors were selected as evaluating criteria by following the “ GB/T14848-93 Groundwater Quality Standard ”. The classification of groundwater quality of these basic evaluating units are evaluated with One Veto Method. The formation causes of the water quality are concisely analyzed.
【语种】英文
【第一作者】周金龙
【通讯作者】周金龙
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【学科分类】水文学

【题目】微咸水膜下滴灌灌溉制度试验研究
【中文关键词】微咸水; 膜下滴灌; 灌溉制度; 棉花; 水分生产率;
【英文关键词】saline water; drip irrigation under plastic film; irrigation system; cotton; water productivity;
【中文摘要】为了探讨科学合理的微咸水膜下滴灌灌溉制度,在新疆巴音郭楞蒙古自治州水利管理处国家重点灌溉试验站进行了不同灌溉定额、灌水频次的微咸水膜下滴灌大田试验。研究结果表明:①灌溉定额4500m3/hm2、灌水频次10次,灌溉定额3000m3/hm2、灌水频次7次,均有利于保持土壤水分。②当灌溉定额≤4500m3/hm2时,灌溉定额越大,土壤积盐越严重;在灌溉定额一定时,灌溉次数越多,土壤积盐越严重。③当灌溉定额≤4500m3/hm2时,灌溉定额越大,棉花产量越高,微咸水灌溉影响棉花产量的灌溉定额上限在4500m3/hm2左右;灌溉定额多时,灌水次数多棉花产量高,灌溉定额少时,灌水次数少棉花产量高。④灌溉水分生产率随着灌溉定额的增大而减小,在灌溉定额大时,采用少量多次灌溉,在灌溉定额小时,采用多量少次灌溉,均可提高灌溉水分生产率。⑤以节水、控盐和高产为优选标准,当地较为理想的微咸水膜下滴灌模式为灌溉定额3750m3/hm2、灌水次数20次、灌水间隔为7d。

【英文摘要】To establish a scientific irrigation system of drip irrigation under the plastic film with saline water,field experiments of different irrigation quota and irrigation frequency at key irrigation experiment station of water resources management division were carried out in Bayingolin,Mongol Autonomous Prefecture,Xinjiang.The results show that:(1)When the irrigation quota reaches 4 500m3/hm2,the irrigation frequency accounts for as much as 10times,while the smaller irrigation quota(3 000m3/hm2)amounts to the irrigation frequency of 7times,both of which are conducive to maintaining the soil moisture.(2) When the irrigation quota is≤4 500m3/hm2,the larger irrigation quota causes more serious soil salt accumulation.While with a constant the irrigation quota,the increasing number of irrigation frequency also leads to more serious soil salt accumulation.(3)When the irrigation quota was smaller than 4 500m3/ hm2,the larger irrigation quota gets the higher yield with brackish water irrigation quota limit around 4 500 m3/hm2,for it has a bigger impact of cotton production.Normally the bigger irrigation quota with greater irrigation frequency leads to higher yields,and vice versa.(4)The irrigation water productivity increases with the decrease of irrigation quota,and so a small amount of many times in large irrigation quota and a big amount of less times in small irrigation quota can both increase irrigation water productivity.(5)With water,salt and high yield as the optimal control standards,the ideal irrigation system of drip irrigation un-der the plastic film with saline water should be 3 750m3/hm2 of irrigation quota,20times of irrigation frequency and 7days of irrigation.
【语种】中文
【第一作者】靳孟贵
【通讯作者】汪丙国
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【学科分类】水文学

【题目】农田秸秆覆盖的土壤水分效应
【中文关键词】秸秆覆盖;腾发量;入渗补给;土壤水分通量法;水均衡
【英文关键词】straw mulch ;evapot ranspiration ;infilt ration recharge ; soil water flux met hod ;water balance
【中文摘要】以大水位埋深的栾城试验站为例,开展玉米秸秆覆盖及对照条件下冬小麦田间试验,运用土壤水分通量法和包气带水均衡的原理,分析了秸秆覆盖农田的土壤水分效应。结果表明在大水位埋深条件下,覆盖秸秆麦田的入渗补给量(165. 02 mm)小于不盖秸秆(192. 91 mm) ,作物腾发量和土壤水消耗量大于不覆盖处理,说明秸秆覆盖不利于降水、灌溉水的入渗补给,但可以抑制土壤水分棵间无效蒸发,增加作物蒸腾量,充分利用土壤水,从而提高土壤水分的利用效率,揭示了秸秆覆盖对农田土壤水分调控的机理,为干旱区推广秸秆覆盖技术提供了理论依据。同时,对大水位埋深条件下土壤水分通量法的适用性进行了探讨。
【英文摘要】In this paper,field experiments of winter wheat with or without cornst raw mulching are carried out at Luancheng Stationunder deep - water table depth. The soil water flux met hod and water balance met hod for unsaturated zone are used to analyze strawmulch ’ s effect on soil water in cropland. The result shows that when water table depth is deep ,the recharge amount with straw mulch(165. 02 mm) is smaller than that without straw mulch (192. 91 mm) ,but crop evapot ranspiration and the change of soil moisture during the growth of winter wheat were bigger. It indicates that straw mulch makes against the infiltration of precipitation and irrigation ,rest rains evaporation lo ss of soil water ,adds crop transpiration ,makes f ull use of soil water ,and use soil water effectively ,whichreveals t he mechanism of straw mulch for soil water control management . The study provides a theoretical foundation for applyingst raw mulch technique in arid regions. Meanwhile ,the application of the soil water flux met hod is discussed under deep water tabledepth.
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【第一作者】汪丙国
【通讯作者】靳孟贵
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【题目】盐酸提取条件下土壤重金属元素的释放特征
【中文关键词】重金属元素;释放特征;盐酸浓度;振荡时间
【英文关键词】heavy metal;release characteristic; HCl concentration; shaking time
【中文摘要】采用河南省黄淮海平原典型农田土壤样品,开展了不同浓度盐酸(1,0.1,0.001,0.000 01 mol/L)和振荡时间(2,24,48,96 h)的土壤重金属元素提取实验,分析了盐酸浓度和振荡时间等对土壤重金属元素释放的影响,探讨了不同提取条件下土壤重金属元素的释放效果及其影响因素。研究表明:土壤Cr、Cu、Ni、Zn和Pb采用1 mol/L盐酸振荡48 h时萃取率显著高于其他处理,其中Pb的萃取率最高,土壤As采用1 mol/L盐酸振荡2 h时萃取率最高,碱性土壤Cd采用0.1 mol/L盐酸振荡2 h时萃取率最高。在此基础上,根据1 mol/L盐酸振荡2 h的提取结果,采用统计分析方法分析了土壤重金属元素全量、理化性质以及土壤类型对土壤重金属元素释放的影响,结果表明:土壤Cr全量越高,Cr萃取率越高;土壤干密度越大,Pb萃取率越高;土壤pH值越低,土壤Ni萃取率越高,而土壤Pb正好相反;土壤有机质对重金属元素萃取率无统计上的显著影响;Cu、As、Pb在碱性土壤(黄河流域)萃取率相对较高,而Cr、Ni、Zn在酸性土壤(淮河流域)萃取率相对较高;土壤类型对重金属元素释放的影响表现为砂姜黑土Cr,水稻土Cu、Ni、Zn,潮土As、Pb的萃取率相对较高。
【英文摘要】The samples were obtained from the typical cropland in Huanghuaihai Plain,Henan Province.Extraction experiments of soil heavy metals under different HCl concentration(1,0.1,0.001 and 0.00001 mol/L)and shaking time(2,24,48 and 96 h)were carried out to figure out the effects of HCl concentration and shaking time on the release of heavy metals.The extraction effect of the soil heavy metals and its factors were also analyzed.The results show that the extraction ratios of Cr,Cu,Ni,Zn and Pb by 1 mol/L HCl extraction for 48 h shaking were much higher than those in other treatments,and the extraction ratio of Pb was the highest among the heavy metals.The extraction ratio of As by 1 mol/L HCl extraction for 2 h shaking,of Cd from basic soil by 0.1 mol/L HCl extraction for 2h shaking were the highest.Based on the results above,statistical analysis was used to analyze the effects of total metal content,physical and chemical properties,soil types on the extraction ratios according to the extraction ratios by 1 mol/L HCl extraction for 2 h shaking.The results indicate that extraction ratio of Cr is higher when the total Cr content of the soil is higher,and extraction ratio of Pb is higher when the dry density of the soil is bigger.While the extraction ratio of Ni is higher when the soil pH is lower,but Pb is just on the opposite.The organic matter content of the soil has no statistically significant effect on the extraction ratio of the soil heavy metals;while extraction ratios of Cu,As and Pb are higher in basic soil(Yellow River basin),but extraction ratios of Cr、Ni and Zn are higher in acid soil and the extraction ratio of Cr in indicotic black soil,Cu,Ni and Zn in paddy soil,As and Pb in meadow soil are the highest.
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【题目】膜下滴灌棉花根系发育特征及其与土壤水盐分布的关系
【中文关键词】膜下滴灌; 根系分布; 土壤水盐动态;
【英文关键词】mulch drip irrigation; root distribution; soil water-salt dynamics;
【中文摘要】为探讨膜下滴灌条件下水分和盐分对棉花根系空间发育的影响,在花铃期选择相同灌溉制度、咸淡水灌溉的两个膜下滴灌处理田块采集距滴灌带不同距离、不同深度上的根系样品144件。用1mm土筛和手拣将棉花根系从土壤中筛分出来,去除死根,冲洗干净后用扫描仪扫描成tif格式图像,再用DT-SCAN软件计算根长密度。对比分析发现膜下滴灌及盐胁迫条件下,咸水灌溉的根系分布范围较大,其总根长密度比淡水大31.69mm/cm3,根系生长深度也远大于淡水灌溉。咸水灌溉根系分布主要受盐分胁迫,淡水灌溉根系分布主要受水分胁迫。水平方向上距滴头40cm以远,水分胁迫对根系发育起主导作用。土壤体积含水率在20%以上、电导率在2000μs/cm以下时可以满足根系的正常生长发育。
【英文摘要】In order to understand the impact of water-salt on spatial development of cotton roots under mulch drip irrigation, 144 root samples were collected in the flower and boll stage for two different treatments irrigated with saline groundwater and fresh surface water using same irrigation system. Screening out cotton roots from the soil with 1 mm soil sieve and hand-picking, removing dead roots, scanning into a tif format images after washing, then the root length density was obtained through DT-SCAN software calculation. The results show that the distribution area of roots under mulch drip irrigation with saline water is larger and total root length density (31.69 mm/cm3) is bigger than that with fresh water. The depth of root for saline water irrigation is much greater than that with fresh water because of salt stress. Root distribution is mainly affected by salt stress under saline water irrigation; however, it is affected by water stress under fresh water irrigation. Water stress plays a leading role in root development 40 cm away from the emitter

at the horizontal direction. When the volumetric water content of soil is greater than 20 % and the electric conductivity is smaller than 2000 μs/cm, the root can grow and develop normally.
【语种】中文
【第一作者】何雨江
【通讯作者】靳孟贵
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【题目】棉花微咸水膜下滴灌灌溉制度的研究
【中文关键词】微咸水,棉花,灌溉,膜下滴灌,灌溉制度
【英文关键词】saline water; cotton; irrigation; mulch drip irrigation; irrigation scheduling;
【中文摘要】为寻求微咸水膜下滴灌的最优灌溉制度,利用2008 和2009 年田间试验结果,从棉花生长和产量的角度出发,分析11 种灌溉处理各生育期的变化情况。测定了叶面积、干物质质量、棉花产量、土壤盐分等指标。结果表明:灌溉水量越大,棉花营养生长部分生长越快,生长时间越长;灌水盐分越高,盐分胁迫使生殖生长部分所占比例越大,越易衰老;试验区内灌溉定额3 750 m^3/hm^2(微咸水80%,淡水20%)的轮灌处理,2008 年棉花产量达到5 190 kg/hm^2,接近仅灌淡水5 250 m^3/hm^2 处理(5 205 kg/hm^2),该轮灌处理2008 年总盐为负增长(-0.95 g/kg),2009 年试验结果有力验证了该灌溉制度的节水增产、保护土壤环境的优越性。
【英文摘要】In order to obtain the optimal irrigation program of mulch drip irrigation with brackish groundwater,the growth and yield of cotton under 11 different irrigation treatments in 2008 and 2009 were analyzed in different reproductive periods.In this paper,the leaf area,dry matter,cotton yield and salt of soil were measured by WDY-500A micro-electron leaf area,oven drying method,artificial method,atomic absorption spectrometer and titration,respectively.These results showed the cotton vegetative growth became faster with increase of irrigation water;the proportion of reproductive growth was greater and easier to become old when the salinity of irrigation was higher.These results also indicated that rotation irrigation system(3 750 m3/hm2,80% brackish water and 20% fresh water) was the optimal one,whose yield reached 5 190 kg/hm2.Meanwhile,in 2008 the rotation irrigation system attained a negative growth(-0.95 g/kg) of total salt.And results of 2009 strongly demonstrated the superiority of the irrigation system.This rotation irrigation system will realize water conservation,increasing yield effectively and protection of soil environment.
【语种】中文
【第一作者】何雨江
【通讯作者】靳孟贵
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【题目】新疆膜下滴灌土壤粒径分布及与水盐含量的关系
【中文关键词】土壤粒径分布; 水盐含量; 膜下滴灌; 分形分析; 多重分形; 质地三角;
【英文关键词】soil particle size distribution – soil water and salt – mulched drip irrigation – fractal analysis – multifractal analysis – textural triangle
【中文摘要】土壤粒径分布及空间变化是土壤重要的物理特性之一,对土壤水分和溶质运移、土壤侵蚀等有重要意义.研究选用新疆膜下滴灌试验田的563个土壤样品,利用激光衍射粒径分析仪分析土壤粒径分布,采用质地三角分类、分形和多重分形对土壤粒径分布进行研究,探讨土壤粒径特征及与水盐含量的关系.研究区土壤颗粒中粘粒含量偏低,平均值为1.52%,砂粒含量最大,粒径分布呈现复杂的单、双峰分布特征;土壤粒径分布的分形和多重分形与土壤颗粒含量的标准差及最大值有良好的相关性,可以较好地反映土壤粒径分布曲线.膜下滴灌对表层土壤盐分空间分布有较大影响,随着深度增加影响减弱;土壤质地与稳定状态下土壤水盐含量关系密切,特别是对土壤表层盐分聚集和深层土壤水分分布有显著影响.
【英文摘要】Soil particle size distribution (PSD), one of the most important soil physical attributes, is of great importance to soil water movement, soil erosion and soil solute migration. In this study, the soil PSD of 563 soil samples from the mulched drip irrigated

cotton fields in Xinjiang of China were measured by laser diffraction particle size analyzer. The soil PSD characteristics and its relations with soil water and salt were studied by using the combined methods of textural triangle, fractal and multifractal analysis. The results showed very low clay content (about 1.52%) while really high sand content of the studied soil, and a complex shape of bimodal or unimodal of soil PSD. The results also showed that the two indices, i.e., standard deviation and the peak value of soil particle relative volumes, were good indicators of soil PSD and thus had good relations with fractal and multifractal characteristics. The correlative analysis further indicated that the mulched drip irrigation had a significant impact on the distribution of the soil salt, while this impact withered for the deeper soil layer. The soil texture feature was found to dominate soil water and salt distribution, especially the surface soil salt content and the deep soil water content.

【语种】中文
【第一作者】胡宏昌
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【题目】基于SPSS的新疆耕地利用效率初探
【中文关键词】SPSS;新疆;耕地利用效益
【英文关键词】SPSS; Xinjiang;cultivated land use efficiency
【中文摘要】】基于 SPSS,运用主成分分析法对新疆 15 个地州 市 的耕地效益进行分析 ,并提出相应对策。【方法】运用经济学理论、多元统计中的主成分分析方法及与计算机技术相结合的一体化分析技术;以新疆 15地州市为研究区 ,采用2007年的统计资料 ,根据新疆 15 地州市耕地的现实条件 ,从生态、经济和社会效益三个方面选取影响新疆耕地利用效益的指标 ,构建指标体系。【结果】通过运用 SPSS 13.0 统计软件 ,得出新疆15地州市的耕地利用效益得分 ,并根据得分进行排序和分类 ,对新疆耕地利用的现状情况进行分析。【结论】新疆15地州市的耕地利用效益水平存在明显的地区差异。为提高新疆的耕地利用效益提出一定的合理化建议 ,为新疆制定正确的用地政策提供一定的参考 ,完成对新疆耕地利用效益的初探性研究。

【英文摘要】In this paper ,based on economic theory,and the principal factor analysis of multitudinous statistic and computer technology,15 Administrative Offices,Autonomous Prefectures and citiesof Xinjiangwere used as the research area.By using the statistical data of 2007 the index system was set up to analyze the cultivated land use efficiencyfrom three aspects of ecological ,economic and social ,based on the current condition. The land use efficiencyof different areas was scored ,ranked and sorted by using the software SPSS V. 13. Rational advices for improving the use efficiency were provided as a result. It may give some reference on making right policy for land use ,and help to complete the preliminary studyon land use efficiency in Xinjiang.

【语种】中文
【第一作者】丁静
【通讯作者】蒋平安
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【题目】基于WebGIS的农业基础地理信息系统构建研究,
【中文关键词】WebGIS;地理信息系统
【英文关键词】WebGIS;geographic information system
【中文摘要】以新疆生产建设兵团农一师 16 团为例 ,以 WebGIS为基础、计算机汇编语言和网络化构架技术为手段 ,提出了基于 WebGIS的农业基础地理信息系统的设计与开发思路;并实现了农一师 16 团农业基础地理信息系统的构建。为建立适合县团级使用的地理信息系统提供了思路和方法。

【英文摘要】The designingand developmental ponderation on agricultural foundation geographic informa2tion systemwas brought forward ,basedon WebCIS and by meansof the computer assembly language network structure technology,taking Regimental Farm 16

,Agricultural Division ,Xinjiang Production and Construction Corps as an example ,whose agricultural foundation geographic information system was realized. Finally,the developmental ponderation and methodwere brought forward to be appropriatefor different counties and Regimental Farms to use agricultural geographic information system.WebGIS;geographic information system

【语种】中文
【第一作者】刘开源
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【题目】维、哈、汉多语言农业信息网站的设计及开发
【中文关键词】多语言兼容技术;农业信息服务;网站建设;ERX字符集
【英文关键词】multilanguage compatible technology;agricultural information service; website construction;ERX character set
【中文摘要】针对新疆多民族语言文字特点和新疆对多语言农业信息网站的需求,探讨了维哈汉多语言兼容关键处理技术,并详细介绍了维哈汉多语言农业信息网站的设计开发过程,包括设计思路系统结构开发工具功能模块安全设计等,目前该网站已成功运行并投入使用
【英文摘要】Abstract : The multi-ethnicity and different languages spoken in Xinjiang ecessitated the development of multilanguage agricultural information website based nmainly on the Uygur,Kazakh and Chinese languages.The design and development processes of multi-language agricultural information website based on Uygur,Kazakh and Chinese have been discussed in detail, including the design idea , system structure, developmental tools,function modules,safety design,etc.On completion of the project , the website has been launched and is running successfully to provide valuable agricultural and scientific information.
【语种】中文
【第一作者】马树才
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【题目】葡萄糖酸-δ-内酯诱导乳清蛋白冷凝胶对双歧杆菌的保护
【中文关键词】乳清分离蛋白; 冷凝胶; 葡萄糖酸-δ-内酯; 双歧杆菌; 保护;
【英文关键词】whey protein; cold-set gel; glucono- δ-lactone; bifidobacteria; protection;
【中文摘要】目的:探讨葡萄糖酸-δ-内酯(glucono-δ-lactone,GDL)诱导乳清分离蛋白(whey protein isolate,WPI)所形成的包含双歧杆菌的乳清蛋白冷凝胶(cold-set gels of whey protein containing bifidobacteria,CGWPCB)对双歧杆菌的保护作用。方法:通过酸耐受性实验评价CGWPCB对菌体的保护作用,借助扫描电子显微镜、物性仪和激光粒度仪观察凝胶结构,并考察CGWPCB在液态制品中的储藏稳定性。结果:0.30%GDL诱导5%WPI和6%WPI形成的颗粒状冷凝胶,在pH1.5的酸环境下对双歧杆菌的保护性最好,作用120min后菌落数下降两个数量级,菌体存活率分别达到1.7%和2.1%;而其在果汁中同样对菌体有很好的保护作用,在4℃条件下储藏56d后菌体存活率可达到43.9%。结论:制备出对双歧杆菌具有良好保护性且适用于液态产品的CGWPCB。 更多还原
【英文摘要】The cold-set gels of whey protein containing bifidobacteria (CGWPCB) were prepared in the presence of glucono- δ-lactone (GDL). Their protection effect on bifidobacteria was investigated by means of acid tolerance test, and the gel structure was observed using scanning electron microscope (SEM), texture analyzer and laser particle size analyzer. The results showed that the cold-set gel particles of 5% and 6% WPI solution induced by 0.30% GDL present the best protection effect, the numbers of bifidobacteria decrease by two order of magnitude, and the survival rates of bifidobacteria are 1.7% and 2.1%, respectively 120 minutes later in the acid condition of pH 1.5; both the survival rates of bifidobacteria are 43.9% after 56 days in fruit juice stored at 4 ℃. In conclusion, cold-set gels of WPI, which have protection effect on bifodobacteria, can be applied in liquid products

【语种】中文
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【学科分类】食品科学技术其他学科

【题目】乳清蛋白冷凝胶对双歧杆菌的保护
【中文关键词】乳清蛋白; 冷凝胶; 双歧杆菌; 保护
【英文关键词】whey protein; cold-set gels; bifidobacteria; protection;
【中文摘要】以CaCl2和葡萄糖酸-δ-内酯(glucono-δ-lactone,GDL)作为凝胶剂,采用酸耐受性实验为评价指标,确定乳清蛋白冷凝胶工艺参数,并借助扫描电子显微镜观察凝胶结构,探讨采用盐和酸诱导乳清分离蛋白(whey protein isolate,WPI)所形成的包含双歧杆菌冷凝胶对双歧杆菌的保护作用。结果显示,0.30%的GDL诱导5%WPI和6%WPI形成的颗粒状冷凝胶,在pH1.5的酸环境下对双歧杆菌的保护性最好,作用120 min后菌落数下降2个数量级,菌体存活率分别达到1.7%和2.1%。制各出的乳清蛋白冷凝胶对双歧杆菌有良好的保护性,为益生菌产品的开发和扩展应用提供了参考。 更多还原
【英文摘要】The protection of bifidobacteria by whey protein isolate (WPI) based cold-set gels induced by salt and acid was investigated.Using CaCl2 and glucono-δ-lactone (GDL) as gels,the optimum technological parameters were determined by the experiment of acid tolerance,and the gel construction was observed by scanning electron microscope.The cold-set gels of 5%and 6%WPI solution induced by 0.3%GDL was parti- cles,the number of cell decreased by two orders of magnitude.Under acid condition of pH 1.5 for 120 minct- es,the survivability of bifidobacteria was 1.7%and 2.1%respectively.Cold-set gels of WPI well protected to bifodobacteria cells was produced in this study.This result provides a strategy to the development and ap- plication of probiotics.
【语种】中文
【第一作者】张九龙
【通讯作者】孟祥晨
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【学科分类】食品科学技术其他学科

【题目】乳酸菌细菌素分类与作用机制
【中文关键词】乳酸菌; 细菌素; 分类; 作用机制;
【英文关键词】lactis acid bacteria (LAB); bacteriocin; classification; mechanism of action;
【中文摘要】乳酸菌细菌素作为天然的食品防腐剂,可抑制或杀灭食品中致病微生物和腐败微生物从而保护食品的安全。文中介绍了乳酸菌细菌素传统分类方法和新提出的分类方法,并且综述了乳酸菌细菌素的作用机制。 更多还原
【英文摘要】Lactis acid bacteria (LAB) bacteriocin acts as natural preservatives by inhibiting or killing pathogenic microorganism and spoilage microorganism to protect food security.The traditional classified methods and new classified methods of LAB bacteriocins were introduced,and the mechanisms of action for LAB bacteriocins were reviewed. 更多还原
【语种】中文
【第一作者】贡汉生
【通讯作者】孟祥晨
【期刊名称、卷期、页码】食品与发酵工业 第34卷第1期
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【学科分类】食品科学技术其他学科

【题目】利用遗传算法实现试题库自动组卷问题的研究
【中文关键词】遗传算法; 随机算法; 自动组卷; 试题库; 多目标约束;
【英文关键词】genetic algorithm; random algorithm; testpaper auto-assembling; question database; multi-object restriction;
【中文摘要】提出并实现了利用遗传算法求解试题库组卷的数学模型,定义了组卷问题的适应度函数,讨论了运用遗传算法求解在一定约束条件下的多目标参数优化问题,通过初始化种群、选择算子、交叉算子和变异算子,等过程不断进化,最后得到最优解,实验结果表明,遗传算法相对于其它算法更能有效的解决试题库自动组卷问题,提出了实现不相邻试卷分配的补遗随机算法,为求解类似的多目标约束问题及不相邻组合问题提供一种新的方法
【英文摘要】The paper introduces a mathematical model of testpaper assembling on genetic algorithm,defines an adaptive function on testpaper assembling,and provides some ideas on multi-object parameter optimization on restricted terms by genetic algorithm.In the evolutionary processes of seeds initialization,operators selecting,operator crossing,operation differentiation,the best solution is finally worked out.Results of experiments indicate,genetic algorithm is more efficient than other algorithms on testpaper auto-assembling. Random algorithm which could achieves testpaper non-adjacency distribution,is a new method for similar multi-object restriction and non-adjacency combination problems.
【语种】中文
【第一作者】孟祥娟
【通讯作者】王俊峰
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【学科分类】计算机科学技术基础学科

【题目】新疆农业信息服务模式研究
【中文关键词】农业信息服务;组织模式;服务模式;传播方式
【英文关键词】Agricullure information service;Organization pattern;Service pattern;Transmission mode
【中文摘要】去为农民提供农业信息服务的模式已大部分解体,而相应出现了各种符合地 方发展需求的服 务模式。本文根据目前新疆农业信息服务的现状,依托新疆地方特色,介绍 了示范区新的农业信息服务的组织模式与传播方式及推广取得的良好效果,进而结合试点对农业信息服务内容进行了详细的阐述。
【英文摘要】The majority pattern of the agriculture information service for the farmer in the past had been disintegrated,and there are various of service modes in accordance with local development needs correspondingly.According to Xinjiang agriculture information service situation at present and local characteristics about Xinjiang,this article introduces the organization pattern of demonstration plot agriculture information service and mode of transmission which have gained good effects,also elaborates the content of the agriculture information service combined with demonstration pilot in detail.
【语种】中文
【第一作者】高宏伟
【通讯作者】蒋平安
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【学科分类】信息科学与系统科学基础学科

【题目】酸适应对一株乳酸乳球菌膜脂肪酸组成和膜蛋白表达的影响
【中文关键词】酸适应; 乳酸乳球菌; 脂肪酸; 应激蛋白; 存活率;
【英文关键词】acid adaptation; Lactococcus lactis; fatty acids; shock protein; survival rate;
【中文摘要】【目的】筛选具有较强酸适应能力的菌株,研究酸适应对其膜脂肪酸组成和膜蛋白表达的影响。【方法】从20株菌中筛选出一株具有较强酸适应能力的乳酸乳球菌KLDS4.0312,以GC-MS法测定该菌酸适应前后膜脂肪酸组成变化;对酸适应前后该菌膜蛋白的差异表达进行双向电泳分析。【结果】酸适应后,该菌膜不饱和脂肪酸含量从30.77%上升到42.93%,饱和脂肪酸含量从69.23%下降到57.07%,且有一种新的长链单不饱和脂肪酸C19:1-n6被诱导产生。酸适应过程中至少有65个蛋白质点表达出现显著差异,其中上调的蛋白质点有43个,减弱表达的蛋白质点有22个。而添加氯霉素后,菌株的

酸适应能力消除,可能与氯霉素抑制新蛋白的合成有关。【结论】说明细胞膜脂肪酸组成的适应性改变和应激蛋白的诱导产生是该菌主要的酸适应机制。 更多还原

【英文摘要】Objective Lactococcus lactis with high acid adaptive capacity was screened, and the influence of acid adaptation on membrane fatty acid profile and expression of membrane proteins were studied. Methods Lactococcus lactis KLDS4.0312 with high acid adaptive capacity was screened from 12 lactic acid bacteria and 8 Bifidobacterium. The change of the fatty acid profile in cell membrane of this strain was analyzed by gas chromatography-mass spectrometry, and two dimensional polyacrylamide gel electrophoresis method was used to analyze the differential expression of membrane proteins during the acid adaptation. Results After acid adaptation, Lactococcus lactis KLDS4.0312 increased the proportion of unsaturated fatty acids from 30.77% to 42.93% in its membrane lipids with a concomitant decrease in saturated fatty acids from 69.23% to 57.07%, and a new long-chained, mono-unsaturated fatty acid C19:1-n6 was induced. Compared with the non-adapted sample, there were at least 65 distinct protein points in the adapted sample, where 43 proteins were up-regulated and 22 proteins were down-regulated. But the acid adaptive capacity of Lactococcus lactis KLDS4.0312 was eliminated by adding chloramphenicol which can restrain the synthesis of new proteins. Conclusion These results showed that change in the membrane fatty acid profile by acid adaptation in Lactococcus lactis KLDS4.0312

【语种】中文

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【学科分类】食品科学技术其他学科

【题目】酸适应乳酸菌的筛选及其酸适应条件的研究

【中文关键词】酸适应; 乳酸乳球菌; 存活率; 筛选;

【英文关键词】acid adaptation; Lactococcus lactis; survival rate; screening;

【中文摘要】对24株包括双歧杆菌、植物乳杆菌、乳酸乳球菌和保加利亚乳杆菌在内的4类乳酸菌酸耐受力进行评价,结果发现除4株保加利亚乳杆菌有较强的酸耐受力外,其余20株均为酸敏感菌株。将这20株酸敏感菌株酸适应(pH 4.5,1 h)后,有13株菌的酸耐受力得到提高。其中,乳酸乳球菌KLDS4.0312酸适应能力最强,酸适应后其酸耐受力可提高7 542倍。确定了乳酸乳球菌KLDS4.0312最佳酸适应条件为pH 4.5,30 min,且稳定期的菌体酸适应后,酸耐受力仅能提高27倍,酸适应能力明显低于对数期菌体。 更多还原

【英文摘要】The acid tolerance of 24 lactic acid bacteria including Bifidobacterium,Lactobacillus plantarum,Lactobacillus bulgaricus and Lactococcus lactis were evaluated.Twenty out of 24 lactic acid bacteria were sensitive to acid except 4 L.bulgaricus.When these 20 lactic acid bacteria were exposed to a moderate acid environment for acid adaptation,the acid tolerance of 13 strains could be improved.Among them,L.lactis KLDS4.0312 had the highest acid adaptive capacity and the acid tolerance was increased by 7 542 times.The optimal conditions for acid adaptation in KLDS4.0312 were pH 4.5 and 30 min.But the acid adaptation of the stationary phase cells of KLDS4.0312 could only be enhanced up to 27-fold compared with the parental strains,and the acid adaptive capacity in KLDS4.0312 stationary phase cells was lower than that in log phase cells.

【语种】中文

【第一作者】刘怀龙

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【学科分类】食品科学技术其他学科

【题目】盐诱导乳清蛋白冷凝胶对双歧杆菌的保护作用

【中文关键词】乳清蛋白; 冷凝胶; 盐诱导; 双歧杆菌; 保护作用;

【英文关键词】whey protein; cold-set gels; salt-induction; Bifidobacterium sp.; protection;

【中文摘要】探讨盐诱导乳清分离蛋白(whey protein isolates,WPI)形成的包含双歧杆菌的乳清蛋白冷凝胶(cold-set gels ofwhey protein containing bifidobacteria,CGWPCB)对双歧杆菌的保护作用。借助扫描电子显微镜和物性仪观察凝胶结构,评价以氯化钙为凝胶剂,形成的CGWPCB对双歧杆菌的保护作用。结果表明,7.5 mmol/L CaCl2诱导8%WPI形成的网络状冷凝胶,在pH 1.5的酸环境下对双歧杆菌的保护性最好,作用120 min后菌落数下降3个数量级,菌体存活率达到0.42%。说明制备的乳清蛋白冷凝胶对双歧杆菌有良好的保护性,为益生菌产品的开发和应用提供了参考。 更多还原

【英文摘要】The protection of salt-induced whey protein isolates(WPI) on Bifidobacterium was investigated.The protection on Bifidobacterium was determined by experiments of acid tolerance,and the gel structure was observed by scanning electron microscope and texture analyser.The results show that the network cold-set gels of 8% WPI solution induced by 7.5 mmol/L CaCl2 can give the best protection on bifidobactetrial cells with an acid condition of pH 1.5.The number of bifidobacterial cells decreases by three order of magnitude,and the survival rate of bifidobacteria is 0.42% by treatment in the acid condition of pH 1.5 for 120 minutes,which suggests better protection on bifodobacterial cells by cold-set gels of WPI can be achieved,and can provide a strategy in the development and application of probiotics

【语种】中文

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【学科分类】食品科学技术其他学科

【题目】一株布氏乳杆菌所产类细菌素的初步纯化与部分特性

【中文关键词】布氏乳杆菌; 类细菌素; 纯化; 特性;

【英文关键词】Lactobacillus buchneri; Bacteriocin-like substance; Purification; Characteristics;

【中文摘要】从分离自内蒙古传统乳制品的67株乳酸菌中筛选得到一株产生类细菌素的布氏乳杆菌KLDS1.0364,对其所产类细菌素进行初步分离纯化,同时研究其所产类细菌素的生物学特性。KLDS1.0364无细胞发酵上清液经阳离子交换树脂纯化后,采用tricine-SDS-PAGE测定类细菌素分子量,并测定了类细菌素的部分特性。KLDS1.0364产生的类细菌素分子量约为21.6kD,对热和pH值稳定,可被多种蛋白酶失活,不能被过氧化氢酶和α-淀粉酶失活。KLDS1.0364产生的类细菌素的作用方式是杀菌,且抑菌谱广,可抑制多种革兰氏阳性菌、革兰氏阴性菌和真菌。 更多还原

【英文摘要】The purpose of this study is to obtain effective and stable bacteriocin-like substance from lactic acid bacteria. Lactobacillus buchneri KLDS1.0364,which was isolated from fermented cream,a traditional dairy product in Inner Mongolia,could produce bacteriocin-like substance. The bacteriocin-like substance produced by KLDS1.0364 was partially purified and the characteristics were studied. The bacteriocin-like substance was purified by SP-Sepharose fast flow cation exchange chromatography. The molecular weight of the bacteriocin-like substance was 21.6kD,as determined by tricine-SDS-PAGE. The bacteriocin-like substance remained stable after 30 min at 121°C and after 2 h of incubation during pH 2~10. Complete inactivation of antimicrobial activity was observed after treatment of the bacteriocin-like substance with several proteinases. Treatment with catalase and α-amylase did not result in any changes of antimicrobial activity. The mode of action of the bacteriocin-like substance is bactericidal. It exhibited a broad spectrum of antagonistic activity against various species of Gram-positive bacteria,Gram-negative bacteria and fungi.

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【学科分类】食品科学技术其他学科

【题目】Paenibacillus sp.K1 β-半乳糖苷酶基因的克隆及在大肠杆菌中的表达

【中文关键词】类芽孢杆菌; β-半乳糖苷酶;DNA文库

【英文关键词】Paenibacillus; β-galactosidase; DNA librar
【中文摘要】从鲜牛奶中分离到1株产-β galactosidase的细菌,经16S rDNA序列比对鉴定为类芽孢菌Paenibacillussp.K1。提取该菌株的染色体DNA,以pUC18(lac-)为载体,构建其DNA文库;在含有X-gal的LB平板上筛选该文库,得到6个蓝色菌落;对阳性克隆中插入的DNA片段序列测定,鉴定出1个编码全长为2 028 bp并携带有组成型启动子的β-半乳糖苷酶基因。将该基因导入大肠杆菌BL21(DE3)中,实现了β-半乳糖苷酶高效表达,其酶活为25.06 U/mL,高于原始菌株的4.55 U/mL,并进一步用亲和层析将该酶进行了纯化。
【英文摘要】A bacteria strain with β-galactosidase activity was isolated from fresh milk on LB plates containing X-gel.It was identified as Paenibacillus sp.K1 by 16S rDNA analysis.The genomic DNA library of Paenibacillus sp.K1 was constructed in Escherichia coli DH5α with the vector pUC18(lac-).A gene of β-galactosidase was obtained by sequencing a positive clone with potential β-galactosidase activity from the DNA library.The full length of the gene is 2028 bp.A constructive promoter was found upstream of the ORF(open reading frame).The overproduction of the β-galactosidase was carried out in E.coli BL21(DE3),and the β-galactosidase activity in E.coli was 25.06 U/mL,which was more than 4.55 U/mL in the wild strain of Paenibacillus sp.K1.This enzyme was purified using affinity chromatography.
【语种】中文
【第一作者】陆文伟
【通讯作者】孔健
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【题目】Paenibacillus sp.K1乳糖酶基因bga在乳酸乳球菌中的表达
【中文关键词】乳糖酶基因; 乳酸乳球菌; 乳糖;
【英文关键词】lactase gene; Lactococcus lactis; lactose;
【中文摘要】为了提高乳酸乳球菌利用乳糖的能力,缓解乳糖不耐症,以实验室构建的含有乳糖酶基因的质粒pUC-bga为模板,通过PCR扩增得到乳糖酶基因bga,将其分别与载体pSEC和pMG36e连接,获得重组质粒pSEC-bga和pMG36e-bga,重组质粒分别电转Lactococcus lactisNZ9000和Lactococcus lactisMG1614,并在乳酸乳球菌细胞内实现了活性表达。高压液相色谱(HPLC)分析其对培养基中乳糖的利用能力,结果重组菌L.lactisNZ9000-Bga对乳糖的利用能力比对照菌株高一倍,为生产低乳糖的发酵乳制品奠定了基础。 更多还原
【英文摘要】To increase the ability of hydrolyzing lactose of lactococci,the recombinants with overproduction of lactase from Paenibacillus sp.K1 in Lactococcus lactis were constructed.The bga gene was amplified by PCR using the plasmid pUC-bga as templates.PCR products were ligated with L.lactis/E.coli shuttle vector pSEC and pMG36e,which resulted in the formation of plasmids pSECbga and pMG36e-bga,respectively.The plasmids pSEC-bga and pMG36e-bga were respectively electroporated into Lactococcus lactis NZ9000 and Lactococcus lactis MG1614.The expression of Lactase in L.lactis NZ9000-Bga and L.lactis MG1614-Bga were carried out in the cytoplasm under the nisin inducible promoter or without induction.Analysis of the residual lactose in the medium by high performance liquid chromatography(HPLC) showed that the ability of utilizing the lactose by constructs L. lactis NZ9000-Bga was significantly higher than that of the control strain,which suggests potential application in dairy fermentation with low lactose
【语种】中文
【第一作者】孙芝兰
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【题目】可控性自裂解乳球菌的构建
【中文关键词】温和噬菌体; 裂解盒; 穿孔素; 裂解素

【英文关键词】temperate bacteriophage; lysis cassette; holin; lysin;
【中文摘要】为阐明发酵乳杆菌温和噬菌体φPYB5编码的由穿孔素(Hyb5)和裂解素(Lyb5)组成的裂解盒在乳酸菌中的作用特征,将hyb5l-yb5基因克隆到E.coli/L.lactis穿梭质粒pSEC的nisin诱导型启动子下游,构建了重组质粒pSEC-hyb5l-yb5。将pSEC-hyb5l-yb5电转入Lactococcus lactisNZ9000,获得重组菌株NZphl。经nisin诱导表达后,Hyb5-Lyb5表现出高的裂解活性,使NZphl菌液的浊度(OD600)急剧下降,并释放出大量胞内蛋白,为利用自裂解菌株生产优质乳制品奠定了基础。 更多还原
【英文摘要】To elucidate the characterization of the lysis cassette(Hyb5-Lyb5) encoded by temperate bacteriophage φPYB5 of Lactobacillus fermentum,the hyb5 and lyb5 genes were cloned into the plasmid pSEC under the control of the nisin-inducible promoter,which can generate the recombinant plasmid pSEC-hyb5-lyb5. Then,the pSEC-hyb5-lyb5 was tromsformed into Lactococcus lactis NZ9000 by electroporation,yielding NZphl.Hyb5 and Lyb5 were successfully expressed under the induction of nisin and effectively induced the lysis of NZphl,resulting in rapid reduction of OD600 and leakage of abundant intracellular proteins.These results will facilitate the application of autolysis lactic acid bacteria in fermentation to improve the quality of products.
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【题目】产广谱细菌素乳酸菌的筛选
【中文关键词】乳酸菌;细菌素;抑菌试验
【英文关键词】Lactic acid bacteria; bacteriocin; antibacterial experimen
【中文摘要】利用牛津杯双层平板法从70株乳酸菌中筛选得到2株具有较高抑菌活性的乳酸菌LAB30、LAB211。研究这2株乳酸菌的抑菌物质发现:排除酸性产物乳酸、乙酸以及过氧化氢的干扰,LAB211和LAB30仍具有较高的抑菌活性;对其发酵液进行蛋白酶处理,LAB30的发酵液经胰蛋白酶和蛋白酶K处理后抑菌活性均有降低;而LAB211的发酵液经蛋白酶K处理后有所降低,胰蛋白酶处理没有变化,因此可以判定这两株乳酸菌产生的抑菌物质为细菌素。利用特异性引物PCR分析可知,LAB211和LAB30产生的细菌素并非nisin。抑菌谱实验表明,LAB30和LAB211的发酵液不仅抑制革兰氏阳性菌,而且对部分革兰氏阴性菌也有抑制作用。因此LAB211和LAB30产生的是一类广谱细菌素。
【英文摘要】LAB211 and LAB30 strains,which showed obvious micro-biostatic effects, were selected from 70 Lactic acid bacteria isolated from fresh milk using the agar diffusion method.The supernatants of LAB211 and LAB30 cultures eliminated the effects of organic acid and hydrogen peroxide,and still exhibited inhibitor activity against the gram-positive bacteria.However,the inhibitory activity of LAB30 stain decreased after treatment with protease K and trypsin,while the inhibitory activity of LAB211 strain decreased by treatment with protease K, which showed that this inhibitory material had the feature of protein.Thus,the inhibitory material produced by LAB211 and LAB30 could be classed as bacteriocin.PCR analysis showed that the inhibitory materials were not nisin.The inhibitory spectrum proved that the supernatants of LAB211 and LAB30 could inhibit not only gram-positive bacteria but also partial gram-negative bacteria.Therefore,these two wide inhibitory spectrum bacteriocin-producing Lactic acid bacteria strains were isolated.
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【第一作者】胡淑敏
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【学科分类】微生物学

【题目】利用PCR-DGGE技术分析微生态制剂在传代过程中的菌群变化
【中文关键词】微生态制剂; 变性梯度凝胶电泳; 传代培养; 菌群组成;
【英文关键词】microecological preparation; DGGE; subculture; microbial community;

【中文摘要】利用变性梯度凝胶电泳(denaturing gradient gel electrophoresis,DGGE)技术,结合传统平板培养法对实验室研制的1种由乳酸菌和芽孢杆菌组成的微生态菌剂WS-401及其在连续转接培养过程中细菌种群组成的动态变化进行分析。WS-401原液的活菌数为2×107cfu/mL,且细胞个体形态多样。将分离自原液的3株细菌进行DGGE分析,出现2种指纹谱带,对照标准的DGGE指纹图谱库和序列分析,分别被鉴定为蜡状芽孢杆菌(Bacillus cereus)和嗜热链球菌(Streptococcus thermophilus)。将该菌剂分别在LB和MRS两种培养基中30°C或37°C连续转接5次,DGGE分析每次转接后培养物的菌群组成,结果发现,随着转接次数的增加,微生物菌群的种类减少,在LB培养基中转接5次后优势菌群只有蜡状芽胞杆菌,而在MRS培养基中转接后优势菌群为植物乳杆菌(Lactobacillus plantarum)和类干酪乳杆菌(Lactobacillus paracasei)。由此说明,微生物的营养基质和培养条件对微生态制剂在传代过程中的菌群组成和动态变化有重要影响。

【英文摘要】Denaturing gradient gel electrophoresis(DGGE) technique combined with classical plate culture and sequencing of partial 16S ribosomal RNA(rRNA) genes were applied to examine microbial community changes of microecological preparation,which was coded as WS-401,composed of lactic acid bacteria and Bacillus sp.,and subjected to successive sub-cultured processes.The population of bacteria with a diverse morphology in WS-401 preparation was 2×107cfu/mL.Two types of band patterns appeared on DGGE gel for three strains of isolates,implying two different species.These isolates were identified as Bacillus cereus and Streptococcus thermophillus by comparison with identification ladder and sequence analysis.When the microecological preparation WS-401 was continuously sub-culturing for five times in medium LB and MRS medium and at 37 °C or 30 °C,respectively,microbial communities largely changed.The results show that Bacillus cereus is dominant in LB medium,while L.plantarum and L.paracasei are dominant in MRS medium.It was concluded that medium components and culture conditions have significant influences on microbial communities and species dynamic changes of microecological preparation.

【语种】中文

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【学科分类】食品科学技术其他学科

【题目】Lactobacillus helveticus 9制备酪蛋白源活性肽工艺的研究

【中文关键词】酪蛋白; L. helveticus 9; 水解度; 肽产量

【英文关键词】casein; L. helveticus 9; degree of hydrolysis; peptides production

【中文摘要】基于酪蛋白水解度和多肽质量浓度数据,研究了接种量、培养时间、培养温度及底物浓度对瑞士乳杆菌菌株L.helveticus 9水解酪蛋白的影响。结果表明,L.helveticus 9对酪蛋白的水解作用的最佳条件为接种量为1×108 mL-1,底物质量浓度为50g/L,培养时间为48 h,培养温度为37°C;在此优化条件下,酪蛋白的水解度可达17.3%,多肽质量浓度达到0.62 g/L。显然,具有较高蛋白水解活力的菌株L.helveticus 9可以用于从酪蛋白中来制备潜在的生物活性肽。

【英文摘要】The present study examined the effects of Lactobacillus helveticus 9 with good proteolytic activity on peptides formation from casein degradation according to degree of hydrolysis and peptide concentration produced.It was seen that such factors as inoculums size,cultivation time and temperature,and substrate concentration were important in affecting the formation of casein-derived peptides.The optimum conditions for this strain to hydrolyze casein to peptides were inoculum level with 1×108 cfu/mL,5% of casein,and incubation at 37 °C for 48 h.The degree of hydrolysis reached 17.3%,and the concentration of peptides formed was 0.62 mg/mL after 48h due to the presence of this strain.It was clear that application of L.helveticus strain 9 with good proteolytic activity would provide a promising technology for the potential production of bio-activity peptides from casein.

【语种】中文

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【学科分类】食品科学技术其他学科

【题目】γ-氨基丁酸的生理功效及其在乳品中的强化途径
【中文关键词】γ-氨基丁酸(GABA); 生理功效; 功能性食品; 乳酸菌;
【英文关键词】γ-Aminobutyric acide (GABA); physiological; function food; Lactic acid bacteria;
【中文摘要】综述了γ-氨基丁酸(GABA)在降低血压、改善脑机能、促进精子受精、活化肾肝方面的功能;阐述了γ-氨基丁酸的合成及强化,尤其是微生物中乳酸菌转化L-谷氨酸为GABA的方式和机制;最后比较了常用的γ-氨基丁酸的检测分析方法及其效果。
【英文摘要】The beneficial effect of γ-Aminobutyric acide(GABA) considered in the present review night include the inhibition of blood pressure,improve condition of brain and increase the sperm acrosin activity,expatiation the composed and intensify of GABA,especially the manner and mechanism of Lactic acid bacteria catalyse L-glutamic acid into GABA. Finally,several ready-to-use methods for the determination of GABA were given.
【语种】中文
【第一作者】宋伟
【通讯作者】张柏林
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【学科分类】食品科学技术其他学科

【题目】开菲尔粒菌相构成的研究
【中文关键词】开菲尔粒; 分离; 鉴定;
【英文关键词】Kefir grains; isolation; identification;
【中文摘要】开菲尔乳的风味和特性与开菲尔粒的菌相组成密切相关,对来自波兰的开菲尔粒中的微生物菌相进行分离鉴定表明,该开菲尔粒主要由干酪乳杆菌(9株)、乳酸乳球菌乳酸亚种(6株)、肠膜明串珠菌右旋葡聚糖亚种(3株)、酿酒酵母(2株)以及巨大克鲁维氏酵母(5株)构成。
【英文摘要】From the Kefir grains,according to the colony forms and biological properties,9 strains of lactic bactria were identified as Lactobacillus casei,6 strains of lactococcus were identified as Lactococcus lactis subsp. lactis,3 strains of were identified as Leuconostoc mesenteroides subsp. dextranicum,5 strains of yeast were identified as Kluyveromyces,2 strains of yeast as Brettanomyees.
【语种】中文
【第一作者】张国亮
【通讯作者】张柏林
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【学科分类】微生物学

【题目】辽宁绒山羊皮肤毛囊血管内皮生长因子基因的表达研究
【中文关键词】VEGF;毛囊;RT-PCR;辽宁绒山羊
【英文关键词】VEGF; hair follicle; RT PCR; Liaoning cashmere go ats
【中文摘要】采用反转录 聚合酶链式反应(RT PCR) 方法对血管内皮生长因子(v ascular endo thelial g rowth facto r, VEGF) 在辽宁绒山羊常年长绒和季节长绒两个品系皮肤毛囊中的相对表达量进行测定。试验结果表明, VE GF 基因 mRNA 在辽宁绒山羊常年长绒和季节长绒两个品系的皮肤毛囊组织中都有表达, 并且两个品系在一年内同一月份VEGF 基因mRNA 的相对表达量差异不显著(P > 0. 05) , 但是一年内各个月份间VEGF 基因mRNA 的相对表达量2 月份与其它月份差异显著(P <0. 05) 。辽宁绒山羊常年长绒型新品系VEGF 基因mRNA 的相对表达量除2 月份外, 常年维持在一个较高的水平, 这可能是其能够常年长绒的一个重要原因。
【英文摘要】RT PCR technique w as used to study t he relative ex pr essio n of vascular endo thelial g r owt h factor (VEGF) in thefollicles of tw o lines of perennia l and seasonal cashmere types. The r esults show ed that VEGF gene ex pressed in the follicles o fbo th tw o lines, and the differentia l expressio n between two lines w as no significant difference (P> 0. 05) . But VEGF gene ex pressio

n level was the low est in 2 mo nth, and ther e w as significant difference compared t o other months (P < 0. 05) . TheVEGF g ene ex pression lev el mainta ined highly all aro und y ea r, besides in 2 month. It may ex plain why perennia l t ype can makecashmere perennially.

【语种】中文
【第一作者】姚纪元
【通讯作者】姜怀志
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【学科分类】畜牧学

【题目】类食品乳杆菌412对酸面团发酵的影响
【中文关键词】类食品乳杆菌412; 安琪酵母; 酸面团; 发酵;
【英文关键词】Lactobacillus paralimentarius 412; Anqi ’ s yeast; sourdough; fermentation;
【中文摘要】从酸面团中分离得到1株类食品乳杆菌(Lactobacillus parali mentarius)412,添加该菌株的面团在28°C发酵4h后的pH为5.2,发酵24h后pH为3.5;而添加商业化安琪酵母发酵的面团在28°C发酵4h后的pH为5.9,发酵24h后pH为5.2。类食品乳杆菌412与安琪酵母(接种量为107CFU/g)联合发酵测定表明,若菌株412起始接种量为109CFU/g,则面团在28(C发酵24h后的滴定酸度为0.76%(滴定酸度以乳酸计,%为质量分数);若菌株412的起始接种量是108CFU/g或107CFU/g时,则面团在28°C发酵24h后的滴定酸度为0.57%。当向面团添加6.75g/kg的葡萄糖或蔗糖可以促进类食品乳杆菌412的生长。面团在28°C发酵12h后,添加葡萄糖可以使菌株412的细胞数量从起始的2×108CFU/g提高到2.5×1010CFU/g,添加蔗糖则可以使其细胞数量提高到2.6×1010CFU/g;而添加果糖的面团在28°C发酵12h,菌株412的细胞生物量仅3.8×108CFU/g。与25(C或32°C发酵条件相比,28°C下发酵的酸面团中类食品乳杆菌412和安琪酵母菌的活菌数都比较高,且面团酸化速率高于单独采用安琪酵母菌发酵的面团。结果证明,类食品乳杆菌412能够单独或与商业化的安琪酵母联合应用到酸面团发酵中,并对面团的酸化起到积极促进作用。
【英文摘要】Lactobacillus paralimentarius 412 as a food-grade microorganism was isolated from a traditional sourdough collected from Handan Area,Hebei Province,China.With Lactobacillus paralimentarius 412 added to sourdough,the pH was 5.2 when fermented for 4h at 28°C and 3.5 after 24h incubation.However,pH in dough inoculated with Anqi ’ s yeast was only 5.9 after 4h and 5.2 after 24h incubation at 28°C.Moreover,the combined fermentation of L.paralimentarius 412 with Anqi ’ s yeast(containing 10 7 CFU/g)indicated,if the initial cell concentration of strain 412 was 10 9 CFU/g,the titratable acidity of sourdough fermented for 24h was 0.76%,while the titratable acidity of sourdough was 0.57% if the initial cell counts of 10 7 CFU/g or 10 8 CFU/g were inoculated into the dough.Adding 6.75g/kg saccharose or glucose to dough increased the cells of strain 412 from 2×10 8 CFU/g to 2.5×10 10 CFU/g or 2.6×10 10 CFU/g after 12h incubation,respectively.When the sourdough was fermented for 12h at 28°C,addition of glucose increased the cells of strain 412 from 2×10 8 CFU/g to 2.5×10 10 CFU/g.Addition of saccharose can increase the cells of strain 412 to 2.6×10 10 CFU/g and addition of fructose to dough leads to lower viable cells of strain 412 with 3.8×10 8 CFU/g after 12h incubation.Compared to 25°C or 32°C,fermentation temperature of 28°C not only improved the viable cells of strain 412 and Anqi ’ s yeast,but also favored the acidification of sourdough quickly.It was clear that L.paralimentariu 412 would be promising in improving sourdough fermentation alone or in combine with the commercial Anqi ’ s yeast.
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【第一作者】李晨
【通讯作者】张柏林
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【学科分类】食品科学技术其他学科

【题目】乳酸菌H+-ATPase延缓酸奶后酸化的应用研究
【中文关键词】乳酸菌; H+-ATPase; 延缓后酸化; 应用研究;

【英文关键词】lactic acid bacteria; H+-ATPase; delay postacidification; applied study;
【中文摘要】酸奶制品在贮存过程中会发生后酸化,为推迟后酸化的发生,延长酸奶制品的保质期,通过新霉素的"加压"环境得到弱化H+-ATPase乳杆菌菌株,研究了单一发酵、结合球菌发酵以及贮藏期的酸度、pH变化,试验证明弱化H+-ATPase菌株能够延缓后酸化,且活菌数保持在107cfu/mL以上。
【英文摘要】Postacidification usually occurs in yogurt products during the process of storage. In older to postpone Postacidification and extend shelf life of yogurt, a mutant Lactobacillus strain with weakening H+-ATPase was selected for further use through a"pressurized" environment of neomycin. Fermentation separately and fermentation with cocci was studied. Changes of acidity and pH was also researched during the period of storage, which was proved weakening H+-ATPase strains could delay postacidification and the count of living strains could remain more than 107 cfu/mL.
【语种】中文
【第一作者】马霞
【通讯作者】张柏林
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【题目】Molecular cloning and analysis of the tryptophan oxygenase
【中文关键词】无
【英文关键词】eye pigmentation, Lepidoptera, vermilion gene
【中文摘要】无
【英文摘要】A Bombyx mori L. (Lepidoptera: Bombycidae) gene encoding tryptophan oxygenase has been molecularly cloned andanalyzed. The tryptophan oxygenase cDNA had 1374 nucleotides that encoded a 401 amino acid protein with anestimated molecular mass of 46.47 kDa and a PI of 5.88. RT-PCR analysis showed that the B. mori tryptophan oxygenasegene was transcribed in all examined stages. Tryptophan oxygenase proteins are relatively well conserved amongdifferent orders of arthropods.
【语种】英文
【第一作者】刘岩
【通讯作者】孟智启
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【题目】辽宁绒山羊毛囊群结构的研究
【中文关键词】:Liaoning cashmere goat ;follicle group st ructure ;follicle density
【英文关键词】辽宁绒山羊;毛囊群结构;毛囊密度
【中文摘要】辽宁绒山羊的产绒性能与其皮肤毛囊结构是密切相关的。通过组织切片技术观察辽宁绒山羊皮肤毛囊结构,并对获得的数据进行最小二乘均数分析,研究了辽宁绒山羊羔羊不同月龄,不同季节毛囊密度和S/ P 值的变化及出生类型,母羊年龄对毛囊性状影响。结果表明,辽宁绒山羊的毛囊群主要是由3 个初级毛囊和若干个次级毛囊组成的三毛群,三毛群占毛囊群总数的75 %左右。次级毛囊呈楔形群排列在中心初级毛囊和外周初级毛囊中间,随着羔羊月龄的增长,毛囊密度逐渐下降,S/ P 值逐渐上升,S/ P 在6 月龄达到最大值。成年羊初级毛囊密度季节间变化不大,次级毛囊密度和S/ P 值表现出明显的季节变化,4 月份次级毛囊密度和S/ P 值最小,9 月份次级毛囊密度和S/ P 值最大。
【英文摘要】Differences of follicle density and S/ P among different months of age in young goat s and among seasons of yearin adult goat and effect s of age ,birth type and mother ’ s age on follicle t rait s were studied in this paper. Follicle group was con2sisted of three primaries and a varying number of secondaries with a wedge2shaped group among cent ral and lateral primaries ,Rate of t ri2group was about 75 %. With increase of age ,S/ P increased with a maximum at 6 months of age and follicle densitydecreased. There was no obvious changes among seasons in primary density of adult goat s. But there were significant differencesamong seasons in secondary density and S/ P of adult goat with a maximum at September and a minimum at April.

【语种】中文
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【题目】家蚕基因组DNA甲基化分析
【中文关键词】家蚕; DNA甲基化; 甲基化敏感扩增多态性
【英文关键词】B om b yx m o ri; DNA m e thyla tion; M e thyla tion2s e ns itive amp lific a tion p o lym o rp h ism
【中文摘要】DNA甲基化在生物的基因表达调控与发育调节过程中具有重要作用。应用甲基化敏感扩增多态性(MSAP)技术对7个家蚕保存品种的胞嘧啶甲基化模式和程度进行评估。在所能检测的CCGG序列中,至少有816%~1019%的胞嘧啶发生了甲基化; 12对引物共获得1 156条扩增带,其中376条在品种间呈多态性,多态性比例为3215%。结果显示:家蚕基因组可检测到DNA甲基化,各品种间的甲基化模式存在差异, CCGG序列中胞嘧啶外部甲基化(1019%)高于内部甲基化(816%) 。
【英文摘要】DNA m e thyla tion p la ys a n imp o rta n t ro le in the p roc e s s of d e ve lopm e n t a nd g e ne e xp re s s ion. Thee xte n t a nd p a tte rn of c ytos ine m e thyla tion in 7 s ilkw o rm s tra ins w e re a s s e s s e d b y us ing the te c hn iq ue ofm e thy2la tion2s e ns itive am p lific a tion p o lym o rp h ism (MSAP) . 816% ~1019%DNA m e thyla tion e ve n ts w e re d e te c te d inthe CCGG s e q ue nc e of s ilkw o rm g e nom e s. To ta lly 1 156 fra gm e n ts w e re am p lifie d w ith 12 p a irs of p rim e rs ,w ith 376 DNA m e thyla tion p o lym o rp h ism s. The a ve ra g e p rop o rtion of p o lym o rp h ism s w a s 3215%. The re s u ltss how e d tha t the DNA m e thyla tion p a tte rns w e re d iffe re n t am ong the s ilkw o rm s tra ins. The e xte rna l c ytos inem e thyla tion of the CCGG s e q ue nc e (1019%) w a s m o re fre q ue n t tha n tha t of in te rna l one (816%) .
【语种】中文
【第一作者】翁宏飚
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【题目】膳食纤维微胶囊化包埋益生菌的研究
【中文关键词】膳食纤维; 嗜酸乳杆菌; 微胶囊; 益生菌;
【英文关键词】dietary fiber; Lactobacillus acidophilus; microencapsulation; probiotics;
【中文摘要】酸碱-酶结合法从麦麸中提取出膳食纤维,得出最佳提取工艺:淀粉酶0.5%,60℃,1%NaOH,碱解100min。以活化的嗜酸乳杆菌(Lactobacillus acidophilus)与可溶性膳食纤维作为芯材,不溶性膳食纤维与海藻酸钠、明胶作为壁材制成微胶囊,进行崩解耐受性试验。结果表明,壁材(不溶性膳食纤维0.5g+3%明胶：2%海藻酸钠=1：1):芯材(50%可溶性膳食纤维：嗜酸乳杆菌菌液=1：1)按1：1的比例制成的微胶囊可明显提高益生菌(嗜酸乳杆菌)的存活能力和活性。
【英文摘要】An optimal process was established to extract dietary fiber from wheat bran. Following the pre-treatment of 0.5% amylase, dietary fiber reached 61.4% of total wheat bran treated with 1% of NaOH solution at 60 °C for 100 min. Then the soluble dietary fiber plus Lactobacillus acidophilus NCFM cells (50% of soluble dietary fiber: Lactobacillus acidophilus = 1:1) were used as a core material, and insoluble dietary fiber in combination with sodium alginate and gelatin(0.5 g insoluble dietary fiber plus 3% gelatin: 2% sodium alginate=1:1) as wall material. The core material was blended with wall material in the ration of 1:1 to form the dietary fiber-based microencapsulated cells.
【语种】中文
【第一作者】郭佳
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【题目】弱化H~+-ATPase的德氏乳杆菌乳酸亚种的生理特性研究
【中文关键词】德氏乳杆菌乳酸亚种L5; 弱化H+-ATPase; 生理特性
【英文关键词】Lactobacillus delbrueckii subsp.lactis L5; reduced H+-ATPase activity; physiology characteristic;
【中文摘要】以德氏乳杆菌乳酸亚种(L5)为出发菌株,以新霉素为选择"压力",获得了弱化H+-ATPase变异菌株5M1、5M6和5B1。与出发菌株L5(对照)相比,各变异株的H+-ATPase活力分别下降51.3%、27.7%和34.3%。对变异株5M1、5M6和5B1的形态及其生理特性研究表明,变异株的细胞较菌株L5细长。L5的ATP含量为0.63×10-18mol/个,明显低于变异菌株;变异株5M6和5B1的ATP含量分别为1.18×10-18mol/个和1.38×10-18mol/个;变异株5M1的ATP含量最高,约为1.60×10-18mol/个。当各菌株在MRS培养基中37°C培养12 h后,变异株表现出较高的谷氨酸到γ-氨基丁酸的转化率,其中变异株5M6最高,为16.73%,变异株5M1和5B1谷氨酸转化率居中,分别为15.6%和15.4%,出发菌株L5的谷氨酸转化率最低,为13.91%。与出发菌株L5相比,变异株5M6、5M1和5B1的H+-ATPase活性下降导致其耐酸性和耐盐性降低。
【英文摘要】Three mutant strains(5M6,5M1 and 5B1) obtained from Lactobacillus delbrueckii subsp.lactis L5 and grown in MRS medium,which contained a lethal concentration of neomycin sulfate,showed reduced H+-ATPase activity.The membrane-bound H+-ATPase activities of 3 mutant strains were reduced by 51.3% for 5M6,27.7% for 5M1 and 34.3% for 5B1 respectively.Cell shapes of the mutant strains 5M6,5M1and 5B1 were slenderer than that of the parental strain L5.Physiological performance indicated that the ATP level of the parental strain(0.63×10-18mol/cell) was lower than that of the mutant strains.The conversion rate of glutamic acid(GA) to γ-aminobutyric acid(GABA) by parental strain L5 cultured in MRS at 37 °C for 12 h was 13.91%.The conversion rates of GA to GABA were 16.73% in mutant strain 5M6,15.6% in mutant strain 5M1 and 15.4% in mutant strain 5B1.The parental strain L5 transformed 13.91% GA to GABA. It was proved that the parental strain showed more acid and salt resistance than its mutant strains in an extended growth period.
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【题目】辽宁绒山羊皮肤毛囊细胞凋亡特点的研究
【中文关键词】:辽宁绒山羊;毛囊;细胞凋亡
【英文关键词】Liaoning Cashmere goats;hair follicle;apoptosis
【中文摘要】:采用TUNEL法在一个生物年的周期内每隔两月对绒山羊体侧部的皮肤毛囊进行检测,观察毛囊细胞凋亡的周期性变化特点。结果表明,控制毛囊生长变化的凋亡细胞是成簇分布的,毛乳头的成纤维细胞很少有凋亡现象,细胞凋亡与毛囊周期性生长具有相关性,兴盛期毛囊凋亡细胞减少,退行期凋亡细胞显著增多。常年长绒型与季节长绒型品系在一年内的凋亡细胞变化情况基本一致,只是常年长绒型品系在兴盛前期的细胞凋亡明显低于季节长绒型品系。
【英文摘要】TUNEL method was adopted for vertical and longitudinal slip section of hair follicles,which were from lateralpart of Liaoning Cashmere goats during ayear in different months,two months as an internal.The results indicated that thedead cells which controlling growth of hair follicle were clustering disposed,the phenomenon of apoptosis on mechanocyte ofhair papilla was hardly found.The correlation between cycling of growth and apoptosis of hair follicle was found.The cells ofapoptosis decreased during anagen,the cells of apoptosis increased prominently.The trend of changing on apoptosis of hair follicle,from the two types of Liaoning Cashemere goats,was coincidence fundamentally,compared with seasonal type,only thequantity of apoptosis cells were fewer before anagen.
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【题目】戊糖乳杆菌胞外多糖合成条件的优化及其在发酵乳中的应用
【中文关键词】戊糖乳杆菌; 胞外多糖; 优化; 发酵乳;
【英文关键词】Lactobacillus pentosus; extracellular polysaccharides; optimization; fermented milk
【中文摘要】优化了两株戊糖乳杆菌菌株Ind-1和Ind-3产生胞外多糖(EPS)的培养条件,探讨了产EPS菌株在发酵乳中的保水能力。结果表明,在MRS基础培养基上,选用葡萄糖+乳糖(1:1)作为碳源,添加量4%;胰蛋白胨+大豆蛋白栋(1:1)作为氮源,添加量2%;初始pH值6.0,30℃下培养16h,菌株Ind-1的EPS合成量达346.86mg/L。选用葡萄糖+麦芽糖(1:1)作为碳源,添加量4%;选用胰蛋白胨+大豆蛋白栋(1:1)作为氮源,添加量4%;初始pH值7.0,37℃下培养24h,Ind-3菌株EPS产量达315.86mg/L。添加菌株Ind-1和Ind-3到发酵乳中能在一定程度上减少乳清的析出量。
【英文摘要】The optimized fermentation conditions of extracellular polysaccharides(EPS) by Lactobacillus pentosus strains Ind-1 and Ind-3,together with the water-retaining capacity of two strains in fermented milk,were studied at MRS medium.The optimal fermentation conditions for strain Ind-1 were glucose plus lactose(in 1 to 1) at 4% inoculation,tryptone plus soybean tryptone(in 1 to 1) at 2% inoculation,temperature at 30 ℃ for 16 hours,and initial pH of 6.0.Its EPS production was 346.86 mg/L.For strain Ind-3,the optimal conditions were glucose plus maltose(in 1 to 1) at 4% inoculation;tryptone plus soybean tryptone(in 1 to 1) at 4% inoculation,temperature 37 ℃ for 24 hours,and initial pH of 7.0.Its EPS production was 315.86 mg/L.Moreover,EPS-forming strains Ind-1 and Ind-3 showed high water-retaining capacity level in fermented milk.
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【第一作者】孙晓琦
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【题目】辽宁绒山羊微卫星多态性及其与经济性状相关性研究
【中文关键词】辽宁绒山羊;微卫星标记;遗传多样性;经济性状
【英文关键词】Key words:Liaoning cashmere goat;microsatellite DNA marker;genetic polymorphism;economic traits
【中文摘要】根据山羊遗传连锁图谱和相关资料,选用7 个微卫星座位,对40 只辽宁绒山羊基因组DNA 的遗传多样性进行检测;通过标记多态性与生产性状的最小二乘线性模型,进行分子标记与经济性状的相关分析。结果表明,7 个微卫星座位中只有4 个表现出了多态性。微卫星OarJMP8 座位上AA、AD 基因型个体羊绒纤维长度显著高于其它基因型个体(P<0.05),AD 基因型个体产绒量显著高于其它基因型个体(P<0.05);微卫星BM143 座位上AC 基因型个体羊绒纤维细度显著低于其它基因型个体(P<0.05);微卫星OarAE101 座位上AB 基因型个体羊绒纤维长度和产绒量均显著或极显著高于其它基因型个体(P<0.05,P<0.01);微卫星BM6506 座位上AA基因型个体产绒量极显著高于其它基因型个体(P<0.01)。
【英文摘要】Abstract:Seven microsatellite loci selected according to the genetic map of male goat and related reports were studied toreveal genetic diversity of the population including 40 Liaoning cashmere goat. The results indicated that there were four microsatelliteloci showed polymorphism in 7 microsatellit loci.The correlation analysis and multiple comparisons between thegenotypes and cashmere performance,AA and AD genotypes in the locus OarJMP8 influenced cashmere longness,significantly(P<0.05),AD genotype influenced cashmere yield;AC genotype in the locus BM143 influenced cashmere diameter,significantly (P<0.05);AB genotype in the locus OarAE101 influenced cashmere longness and cashmere yield,significantly(P<0.05);AA genotype in the locus BM6506 influenced cashmere yield,significantly(P<0.01).
【语种】中文

【第一作者】郭丹
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【题目】应用交叉拮抗法筛选产细菌素菌株的试验研究
【中文关键词】细菌素; 明串珠菌; 乳酸片球菌;
【英文关键词】bacteriocin; Leuconostoc; Pediococcus acidilactici;
【中文摘要】应用交叉拮抗法从明串珠菌和片球菌菌株中筛选产细菌素菌株,获得了4株具有明显抑菌效果并对蛋白酶敏感的菌株,分别为乳酸明串珠菌9、乳酸片球菌、肠膜明串珠菌WZ30-2和肠膜明串珠菌WZ-9-2菌株。
【英文摘要】Bacteriocins produced by lactic acid bacteria as biological preservation have received more attention in recent years. As food-graded microorganisms, Leuconostoc and Pediococcus strains play an important role in modern food production. The ability of some strains from these two LAB to produce bacteriocins to be used potentially as biological agent according to recommended methods was investigated. It was proved that 4 strains from Leuconostoc (Leuconostoc lactis 9, Leuconostoc pseudomesenteroides WZ-9-2 and Leuconostoc mesenteroides subsp. dextranicum WZ30-2) and Pediococcus acidilactici produced bacteriocin-like compounds which were sensitive to proteinase K in MRS medium incubated at 37 °C for 12 h.
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【第一作者】李曼
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【题目】家蚕转基因研究进展
【中文关键词】家蚕; 转基因; 转座子; 启动子; 应用
【英文关键词】Silkworm, Transgenic, Transposon, Promoter, Application
【中文摘要】近年来, 显微注射和生殖系转化已成为家蚕转基因研究的主流技术与方法。本文简要介绍了近几年来家蚕转基因转座子和启动子选择上的发展以及家蚕转基因在研究家蚕基因功能、生产目的蛋白、改善蚕丝质量与增强家蚕抗病性方面的应用。表明家蚕转基因技术的巨大发展潜力和很高的利用价值。
【英文摘要】Recently, Microinjection and Germline transgenesis become the main approach in silkwormtransgenic study. In this paper, the development of transposon and promoter used in the transgenic studyand the application of the silkworm transgenesis in gene function study, foreign protein production, silkquality and anti- disease improvement were introduced. The achievement showed that silkworm transgenesishave great prospect in the future.
【语种】中文
【第一作者】陈金娥
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【题目】辽宁绒山羊7 个微卫星位点的遗传多样性分析
【中文关键词】辽宁绒山羊; 微卫星; 遗传多样性

【英文关键词】Liaoning cashmer e go at; micr osatellite; genetic diver sity
【中文摘要】试验分析了7 个微卫星基因座位OarAE101、Oar JMP8、BM143、BM 6506、BM1824、BM6438、ILST S004 在辽宁绒山羊4 个家系中的遗传多态性。结果表明, 7 个微卫星标记中仅有4 个微卫星位点(Oa rAE101、Oar JM P8、BM143、BM 6506) 表现出了多态性。OarAE101 位点多态信息含量最高, 为0. 727; BM143 位点多态信息含量最低, 为0. 526。在所标记群体中平均有效等位基因数为3. 249 个; 平均多态信息含量为0. 635; 遗传杂合度均值为0. 638。说明辽宁绒山羊品种内的遗传变异处于一个较高的水平, 遗传多样性丰富, 选择潜力很大。
【英文摘要】The genet ic polymo rphisms of 7 micro satellite loci (OarAE101, Oar JM P8, BM143, BM6506, BM1824,BM6438, ILST S004) in four families o f Liaoning cashmer e go at. T he results show ed that there w ere 4 micr osatellite lo ci(OarAE101, Oar JMP8, BM143, BM6506) show ed polymor phism in 7 micro satellit loci. Po lymor phic info rmation contents o fOarAE101 was the highest, P IC was 0. 727, and that o f BM143 w as the low est , PIC w as 0. 526 at 7 micr osatellite lo ci in Lia o ning cashmer e g oat. T he aver ag e effective number ofallele, the aver age PIC v alues and the av erag e g enetic hetero zy go sity wer e3. 249, 0. 635 and 0. 638, r espectiv ely. It showed that var iety the her editary chang e w as in a high level o f Liaoning cashmer ego at , the heredity mult iplicity w as v ery rich, the choice potential was v ery big .
【语种】中文
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【通讯作者】姜怀志
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【题目】两种抽提家蚕基因组DNA 方法的比较
【中文关键词】家蚕; 基因组; DNA 抽提
【英文关键词】Silkworm; Genomic; DNA isolation
【中文摘要】基因组DNA 是开展分子生物学研究的基础工作,而抽提方法繁多。为此,本研究主要对蛋白酶K、CTAB 法进行了系统的分析比较,结果发现两种方法抽提的DNA 均能满足一般的PCR 分析, CTAB 法抽提耗时较短,但的蛋白酶K 抽提法DNA 得率更高,且不同的缓冲液对抽提效果有一定影响。这为今后广泛开展家蚕分子生物学研究有一定的参考作用。
【英文摘要】Extracting genomic DNA is considered to be the basic work for molecular biology research.Methods involved of Proteinase K or CTAB for extraction genomic DNA from Bombyx mori werecompared systemically in present paper. Results showed that both can be used as template for PCRanalysis. Time was saved by CTAB method while more DNA was acquired by Proteinase K. Moreover,quality of extraction DNA by buffer Ⅱ was better than the else when using Proteinase K method. Thismay provide help for the later molecular research on silkworm.
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【第一作者】刘岩
【通讯作者】孟智启
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【学科分类】分子生物学

【题目】辽宁绒山羊产肉性能的研究
【中文关键词】辽宁绒山羊、屠宰测定
【英文关键词】Liaoning Cashmere goat; slaughter measurement
【中文摘要】对辽宁绒山羊成羊进行了屠宰测定,成年羊的屠宰率、净肉率分别为47.03%和32.68%,比较分析表明,辽宁绒山羊产肉性能高于国内本当地山羊品种。
【英文摘要】We have slaughtered and measured the mutton performance of Liaoning Cashmere Goat. The result indicated that the slaughter ratio and net mutton ratio of and 32.68%. The competitive analysis stated that the early mutton 47.03performance of Liaoning Cashmere goat was better than that of the other meat goat breed.

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【第一作者】陈洋
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【题目】差异基因的高通量筛选研究
【中文关键词】差异基因; 表达序列标签; 差异显示反转录PCR; 抑制消减杂交; 基因表达系列分析; 微阵列技术
【英文关键词】无
【中文摘要】随着多个生物体全基因组序列的公布, 研究重点更多地转移到基因功能分析上, 基于生物品质改良、基因诊断及疾病治疗等考虑, 分离并克隆生命体生长发育等过程的时空特异性差异表达基因也越来越受到关注。论文围绕近年来较具代表性的5 种分析方法, 即表达序列标签、差异显示反转录PCR、抑制消减杂交、基因表达系列分析和微阵列技术, 分析各方法的原理及优缺点, 以期对今后开展研究时的选择起到参考作用。
【英文摘要】无
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【第一作者】刘岩
【通讯作者】孟智启
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【学科分类】分子生物学

【题目】绒山羊毛囊发育规律及毛囊发育调控因子的研究进展
【中文关键词】绒山羊;毛囊;发育规律;调控因子
【英文关键词】cashmere goat;hair follicle;law of development;regulatory factor
【中文摘要】针对绒山羊毛囊发育规律及调控毛囊发育相关因子的研究进展进行了介绍
【英文摘要】Hair follicle development of cashmere goat and its regulatory factors were reviewed
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【题目】家蚕胚胎期单卵基因组DNA 的快速抽提
【中文关键词】蚕卵;DNA;磁珠抽提法;家蚕
【英文关键词】Silkworm egg; DNA; Magextractor; Silkworm
【中文摘要】本文对用磁珠法抽提家蚕单粒蚕卵基因组DNA 进行了探讨。结果表明从催青24 h 后到收蚁前一天的单卵中所提取的DNA 断裂少、纯度高,能够满足特异性引物或随机引物进行PCR 扩增的需要。每粒卵可获得100 ng 以上的DNA,能够进行多次重复检测,完全能够满足蚕种鉴定及纯度检测的需要。
【英文摘要】This article is about the method of magextracting genomic DNA from single silkworm egg.We could extract genomic DNA from a single silkworm egg in the period from 24h to the day beforehatching during egg incubation. The extracted genomic DNA has less breakage with high purity, andmeet the requirements for PCR amplification. From every extracted silkworm egg we could get more than100 ng genomic DNA that is enough for identification of silkworm breed for the evaluation of its purity.

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【第一作者】轩楠
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【题目】保加利亚乳杆菌胞外多糖合成条件优化及其在发酵乳中的应用研究
【中文关键词】保加利亚乳杆菌; 胞外多糖; 合成条件;
【英文关键词】Lactobacillus delbrueckii subsp.bulgaricus; exopolysaccharide(EPS); synthesis condition;
【中文摘要】研究了不同碳源、氮源、碳氮比及发酵条件等因素对保加利亚乳杆菌Y5菌株产胞外多糖的影响。结果表明,以果糖为碳源时,胞外多糖的产量是55.46 mg/L,显著高于用半乳糖作为碳源时的产量(29.59 mg/L);以鱼蛋白胨作为氮源为时,胞外多糖产量可达到46.89 mg/L,明显高于用胰蛋白胨作为氮源时的产量(P<0.01);当碳氮比为2∶1时,Y5菌株产生的胞外多糖最多,可达50.10 g/L,显著高于碳氮比为1∶2时的产量(P<0.01)。培养温度为40°C,发酵时间为16h,初始pH值为6.0,葡萄糖添加量为2%的发酵条件是Y-5菌株产胞外多糖的最佳工艺条件,其胞外多糖水平可达105.36 g/L。与采用ST和LB菌株的发酵乳相比,应用Y5菌株生产的发酵乳,其乳清析出量仅为7 mL(P<0.01);冷藏30 d后,Y5菌株制备的发酵乳仍能维持107 mL-1以上的活菌数,明显高于对照菌株的存活数量(P<0.01)。
【英文摘要】The factors,including carbon and nitrogen sources,the ratio of C to N,temperature,incubation time and initial pH in medium affecting the level of exopolysaccharides(EPS) produced by Lactobacillus delbrueckii subsp.bulgaricus Y5 were studied.Strain Y5 preferred fructose to galactose as carbon source in producing EPS(P<0.01).In the presence of fructose,EPS formed by strain Y5 reached 55.46mg/L;whereas in the presence of galactose,EPS was 29.59 mg/L.EPS production by strain Y5 was higher in the presence of fish peptone than in the presence of tryptone,and reached 46.89 mg/L.Clearly,a 2:1 of C to N was better than a 1:2 of C to N in improving strain Y5 to produce EPS with 50.10 mg/mL.The combinations of temperature at 40 °C,16h of fermentation time,initial pH in 6.0 and supplemented glucose of 2% significantly improved EPS production,up to 105.36 g/L.Use of strain Y5 to manufacture fermented milk produced significantly lower whey separation than strains ST and LB did(their fermented milks used as the control),and the amount of whey separated was only 7 mL.The live cell counts of strain Y5 decreased slowly during a 30 d refrigerated storage at 4 °C,but were higher than 107 mL-1 and were significantly improved compared to those of the controlled samples.
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【题目】辽宁绒山羊胎儿发育的初步研究
【中文关键词】辽宁绒山羊,胎儿,生长发育
【英文关键词】Liaoning cashmere goats, fetus, growth and development
【中文摘要】了解辽宁绒山羊胎儿期的发育过程对于指导其妊娠期和生后饲养管理及培育具有重要的一样。因此,分别对妊娠后45、60、75、90、105、135天的辽宁绒山羊胎儿外形、体尺体重及部分器官发育速度进行了测定,获得了如下研究结果:辽宁绒山羊的胎儿在45日龄时已经具备其固有体型;135日龄时其形态、机体的所有器官均已发育完全; 135日龄的胎儿体重、体尺已经接近出生羔羊;胎儿在90胎龄前,绝对增重不大,但相对体重增长快速;90胎龄后绝对增重加快,尤其是120胎龄后,日增重可达40-80g,说明辽宁绒山羊与其他羊一样胎儿发育主要以后3个月为主;胎儿器官的发育速度与相应器官的生理机能是密切相关的,凡是代谢旺盛的器官得以优先发育;胎儿的粗毛在105天时,已经开始全部生长于皮肤之外,而山羊绒则是在120天开始出现,在135天时能够覆盖全身。
【英文摘要】It was great significance that understanding the fetal development of Liaoning cashmere goats for guiding the management and cultivate during pregnancy and after birth. Therefore, the fetus shape, body size, body weight and some organs in the

growth rate were measured on 45,60,75,90,105,135 day of gestation. We had obtained the following results: the fetus at 45 days of age had own inherent size; its shape and all the organs of the body have been developed completely in 135 days of age. The 135-day-old fetal weight and body size are close to a born lamb. The absolute growth was not evident before 90 day of gestational age, but the relative growing weight had a rapid development. The absolute growth was picking up after 90 day of gestational age. The average daily gain would get to 40-80g especially 120 day of gestational age. It said that the fetus growing of Liaoning cashmere goats was the same of other goat. The fetal development is concentrated in the past three months. The speed of and physiological functions of fetal organ was closely relation. Organs of metabolism had priority development. The coarse hair of the fetus on 105 days, the whole had grown up. The cashmere began to appear on 120 days. The whole body was covered on 135 days.

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【题目】家蚕性连锁平衡致死系的杂交改良方法
【中文关键词】家蚕; 性连锁平衡致死系; 杂交; 改良; 经济性状
【英文关键词】B om b yx m o ri; S e x2linke d b a la nc e d le tha l line; C ros s; Im p rovem e n t; Ec onom ic tra it
【中文摘要】家蚕性连锁平衡致死系是专养雄蚕品种的关键亲本材料,为了全面改良其实用经济性状,初步建立了一种杂交改良家蚕性连锁平衡致死系的方法。该方法先将常规品种的雄性与平衡致死系的雌性连续回交,育成一个在性染色体W上带有易位的+ l1基因的中间材料,然后再用此材料的雌性与平衡致死系雄性杂交,并连续自交,同时结合致死基因表型差异进行选择,育成新的平衡致死系品种。采用该方法改良育成的平衡致死系品种平60和普通品种华菁的一代杂交种,雄蚕率达99%以上,茧丝质量和生命力性状均达到了现行普通品种的雄蚕群体水平。
【英文摘要】S e x2linke d b a la nc e d le tha l line s of the s ilkw o rm B om b yx m o ri a re ke y p a re n ta lm a te ria ls fo r “ m a le 2on ly s ilkw o rm ra is ing ” p ra c tic e. In o rd e r to imp rove the s e m a te ria ls pp ra c tic a l e c onom ic tra its m o re e xte ns ive ly,w e d e ve lop e d a c ros s b re e d ing m e thod fo r im p roving the tra its of s e x2linke d b a la nc e d le tha l line s of s ilkw o rm.In th is m e thod, firs t, s uc c e s s ive b a c k c ros s e s w e re c ond uc te d b e tw e e n m a le s of c onve n tiona l va rie ty a nd fe 2m a le s of s e x2linke d b a la nc e d le tha l line to ob ta in a in te rm e d ia te m a te ria lw ith a tra ns loc a te d g e ne + l1 on s e xc h rom os om e W. S e c ond, a c ros s w a s c ond uc te d b e tw e e n fem a le s of the in te rm e d ia te m a te ria l a nd m a le s ofthe b a la nc e d le tha l line. And th ird ly, c on tinuous s e lf2c ros s e s w e re c ond uc te d to the a b ove c ros s e d m a te ria l.M e a nw h ile, s e le c tion w a s c a rrie d ou t b a s e d on p he no typ e d iffe re nc e of the le tha l line. Fina lly, a new s e x2linke d b a la nc e d le tha l va rie ty nam e d P ing 60 w a s ob ta ine d. The F1 hyb rid of P ing 60 a nd c onve n tiona l va rie tyHua jing ha d a n ove r 99% m a le la rva l ra te. Its c oc oon filam e n t q ua lity a nd la rva l vita lity re a c he d the le ve ls ofm a le p op u la tions from c u rre n t c omm e rc ia l va rie tie s.
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【题目】辽宁绒山羊的若干种质特性
【中文关键词】辽宁绒山羊;种质特性
【英文关键词】Liaoning cashmere goat.;Specific character
【中文摘要】辽宁绒山羊是我国乃至世界产绒量最高的绒山羊品种资源,具有良好的生产性能。本文介绍了辽宁绒山羊产区分布与生态特征、体型外貌特征、生产性能、繁殖性能、绒毛品种、常规生理指标、遗传特性等种质特性,以期为辽宁绒山羊的选育及推广改良提高理论参考。

【英文摘要】Liaoning cashmere goat is the one of the cashmere breed which has the highest production in our country, even in the world. It ’s Production Performance is excellent. In this paper, we introduce the distribution, ecological characteristics, development size and appearance, parameters of production and reproduction,strain of villous, physiological index and the characteristic of heredity. We hope it could be available for the selction and extension of Liaoning cashmere goat.
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【题目】β-catenin在辽宁绒山羊皮肤毛囊中表达的研究
【中文关键词】β-catenin;毛囊;发育;辽宁绒山羊
【英文关键词】β-catenin; Liaoning cashmere goats skin; Gene expression
【中文摘要】β-catenin是Wnt信号途径中的重要调控因子,对毛囊细胞的生长、分化、运动、凋亡的调节都具有重要的作用。采用荧光定量PCR方法检测45日龄、365日龄、730日龄的辽宁绒山羊皮肤中β-catenin mRNA表达量,分析其在不同日龄辽宁绒山羊皮肤上的表达差异。研究结果表明:β-连环蛋白在不同年龄辽宁绒山羊皮肤中均有表达。45日龄的β-catenin基因mRNA表达量极显著(P<0.01)地高于365日龄(周岁)和730日龄(2周岁)的表达量,而365日龄(周岁)与730日龄(2周岁)间β-catenin基因mRNA表达量则差异不显著(P>0.05)。说明β-catenin在绒山羊皮肤毛囊的发育和成熟过程中发挥重要作用。
【英文摘要】β-catenin is an important catenin, it plays an important role in growth and development, organizational function of organisms. In order to study the expression of β-catenin in the different ages Liaoning cashmere goat skin, in this experiment, 45 days old, 1 year old, 2 years old Liaoning cashmere goat skin used as experimental materials, to extract of their total RNA,obtaining cDNA by reverse transcription,the obtained cDNA as the template, using PCR technology to amplify the β-catenin,finally,using the fluorescence quantitative PCR reaction for quantitative analysis of target gene expression. The experimental results show that: β-catenin expression in the Liaoning cashmere goats skin in different age groups.Expression levels in the 45 days of age and 1 years old difference is highly significant(P<0.01),1 year old and 2 years old difference was not significant(P>0.05), 45 days and 2 years old difference is highly significant(P<0.01).
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【题目】基于AFLP的家蚕性连锁平衡致死系Z染色体连锁分子标记筛选
【中文关键词】家蚕;性平衡致死系;AFLP;分子标记
【英文关键词】silkworm, balanced sex-linked lethal strain, AFLP, molecular marker
【中文摘要】平48(以下简称P48)是通过转育方法将性连锁平衡致死系的群体性比控制基因转移到白云品系培育而成的。本研究以P48与白云(BY)这对近等位基因系为分析材料,利用AFLP筛选并分析差显标记,经PAGE电泳、片段回收、克隆、测序及与家蚕(P50)基因组数据库序列比对发现家蚕性连锁平衡致死系Z染色体特异性连锁标记C094,该标记与P50的对应序列间存在明显差异。进一步设计差异引物对P48与P50及其杂交F1代进行PCR验证,确定C094标记与家蚕性连锁平衡致死系P48 致死基因l1连锁,这为进一步鉴定及克隆致死相关基因奠定了基础。
【英文摘要】Silkworm Ping48 strain (short for P48), which is obtained by transforming of group sex ratio-controlled letal genes into normal strain Baiyun, is a near isogenic line with Baiyun strain. P48 and Baiyun strains were analyzed by amplification fragment length polymorphism (AFLP) in present paper for screening the Z chromosome markers in silkworm sex-linked balanced lethal strain. C094,

one Z linked marker, was found by DNA retrieving, cloning, sequencing, and blasting silkworm (P50) whole genome database on NCBI. PCR primers were designed to perform the difference identification among P48, P50, and their F1 hybridization. Results showed that C094 marker was genetically linked with l1 lethal gene in silkworm balanced sex-linked lethal strain. This benefits the characterizing and cloning of lethal related genes in silkworm sex-linked balanced lethal strain.

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【学科分类】分子生物学

【题目】不同药物处理对辽宁绒山羊血液生理生化指标的影响
【中文关键词】辽宁绒山羊;褪黑素;环磷酰胺;血液生理生化指标
【英文关键词】Liaoning Cashmere goat; melatonin; Cyclophosphamide; blood physiological and biochemical indexe
【中文摘要】探讨不同药物处理对辽宁绒山羊血液生理生化指标的影响。选用健康的4 岁辽宁绒山羊母羊12 只,随机分为4 组。第1 组为对照组,第2,3 组皮下埋植褪黑素(60mg · 只-1),第3,4 组肌肉注射环磷酰胺(26mg · kg-1)[1]。分别于试验开始后0,30,50d 采集血液样本进行检测。血常规指标测定结果表明:试验2,3 组白细胞数量下降且差异显著(p<0.05),各组平均血红蛋白含量降低,组间差异不显著。对照组和试验3 组血清总胆固醇呈降低趋势,50d 与0d 相比分别降低21%和45%,试验1 组1 与试验2 组呈升高趋势,50d 与0d 相比分别升高10%和47%。各试验组甘油三酯和血清总蛋白含量降低,钙、磷含量升高。结果表明,埋植褪黑素可导致绒山羊白细胞数和红细胞数升高,环磷酰胺具有提高白细胞数量的作用,两种药物单独或共同作用对其他血常规指标的影响没有表现出规律性;褪黑素、褪黑素+环磷酰胺可提高血清中总胆固醇、钙和磷含量水平;褪黑素、环磷酰胺、褪黑素+环磷酰胺可降低血清中甘油三酯、总蛋白的含量水平。
【英文摘要】The aim of this study is to investigate the effect of different drugs on blood physiological and biochemical indiees inLiaoning Cashmere goats. Twelve healthy four-year old female Liaoning Cashmere goats were divided into four groups randomly.The first one was the normal control group, the second and third groups were subcutaneously implanted by melatonin (60mg/each),and the third and fourth groups were administered with cyclophosphamide (26mg · kg-1) by muscle injection. Blood sampleswere collected at three time points: 0d, 30d and 50d after administration, and blood physiological and biochemical indices weredetermined. According to the blood biochemical indicator, the leukocyte number of group Ⅱ and Ⅲ got lower and hadsignificant difference(p<0.05), the average level of hemoglobin was reduced in every group but the differences were not significantbetween them.Compared to the 50 day and 0 day, the total cholesterol of serum seemed to decrease in the control group and thegroup Ⅲ, decreased 21% and 45% separately, but the group Ⅰ and group Ⅱ seem to increase, about 10%, 47% each. The levelof triglyceride and total serum protein was decreased in the test groups, but the level of calcium and phosphor was increased.Results showed that leukocyte number and erythrocyte number increased after subcutaneous administration of melatonin,cyclophosphamide increased the leukocyte number, but other indices of routine blood had no regularly change when the twokinds of medication played a part alone or at the same time. Melatonin, melatonin combining with cyclophosphamide couldincrease the level of total cholesterol, calcium and phosphorus in serum. Melatonin, cyclophosphamide, melatonin combining withcyclophosphamide could reduce the level of triglyceride and total protein in serum.
【语种】中文
【第一作者】郭英振
【通讯作者】栾新红
【期刊名称、卷期、页码】沈阳农业大学学报,2011-10,42(5):578-582
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【学科分类】畜牧学

【题目】药物脱绒对辽宁绒山羊血清激素及酶水平的影响

【中文关键词】辽宁绒山羊;褪黑素;环磷酰胺;激素;酶
【英文关键词】Liaoning Cashmere goat;melatonin;cyclophosphamide
【中文摘要】将12只4岁雌性健康辽宁绒山羊,随机分为4组,分别为对照组、埋植褪黑素(每只60mg)组、埋植褪黑素(每只60mg)+注射环磷酰胺(26mg·kg-1)组及注射环磷酰胺(26mg·kg-1)组,分别于试验开始后0、30和50d采样,检测血清激素及酶水平,以分析药物脱绒对辽宁绒山羊血清激素及酶水平的影响。结果表明,褪黑素可提升辽宁绒山羊血清α-淀粉酶(A-AMY)、碱性磷酸酶(ALP)的水平,降低肾上腺皮质激素(ACTH)、皮质醇(Cor)、表皮生长因子(EGF)、血清肌酸磷酸激酶(CPK)的含量;环磷酰胺可提升CPK、A-AMY、Cor的水平,降低碱性磷酸酶(ALP)、褪黑素(MT)的含量。说明,埋植褪黑素可以在一定程度上降低环磷酰胺脱毛引起的应激反应。
【英文摘要】Abstract:This study was to examine effects of depilation by drugs on blood hormone and enzyme levels ofLiaoning Cashmere goat.Twelve four-year-old female Liaoning Cashmere goats were divided into fourgroups randomly,in which control group was without any treatment,group Ⅰ was treated with subcutaneous implantation of melatonin(60mg·goat-1),groupⅡ was subcutaneous implantation of melatonin plusinjected muscularly with cyclophosphamide(26mg·kg-1),and groupⅢ was only injected with cyclophosphamide(26mg·kg-1).To determine the levels of several serum hormones and enzymes,blood samplesof goats were collected and tested at 0,30and 50dafter treatments.Results obtained from the studyshowed that subcutaneous implantation of melatonin increased the levels of alpha amylase(A-AMY)andalkaline phosphatase(ALP),but reduced the levels of adrenocorticotrophic hormone(ACTH),cortisol(Cor),epidermal growth factor(EGF)and creatine phosphokinase(CPK).Injection of the cyclophosphamide increased the levels of creatine phosphokinase,alpha amylase and cortisol,and reduced the levels ofalkaline phosphatase and melatonin(MT).
【语种】中文
【第一作者】栾新红
【通讯作者】姜怀志
【期刊名称、卷期、页码】草业科学2012年29卷05期:829-832
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【学科分类】畜牧学

【题目】Lead Application for the Stimulation of Fusaricidin Type Compounds by Paenibacillus polymxa SQR-21
【中文关键词】无
【英文关键词】Fusaricidin,Paenibacillus polymyxa SQR-21
【中文摘要】无
【英文摘要】Paenibacillus polymyxa strains produce fusaricidin type compounds that are activeagainst a wide variety of Gram-positive bacteria and fungi. Growth and production of fusaricidin type antifungal compounds by P. polymyxa SQR-21 were compared in tryptone broth supplemented with three concentrations (200, 400 and 600 μM) of lead. The data revealed that the growth of P. polymyxa increased by 7-34 % and fusaricidin type compounds production increased by 15-70 % with the increase in concentration of lead ion (Pb2+). The increase in Pb2+ concentration, decreased the intracellular carbohydrate contents but increased the intracellular protein and lipid contents, however, higher levels of Pb2+ inhibited the intracellular protein and lipid contents. On the other hand, extracellular protein contents were decreased and extracellular polysaccharide contents were increased with the increase in Pb2+ contents in liquid culture. In addition, the regulatory effects of lead were also reflected by decrease of total RNA and increase of relative expression of the six module-containing nonribosomal peptide synthetase (FusA) when the lead treated experimental samples were compared with the untreated controls. The Pb2+ seems to be directly or indirectly correlated with the production of fusaricidin type antifungal compounds. This information will aid in developing fermentation technology for maximum antibiotic production.
【语种】英文
【第一作者】WASEEM RAZA
【通讯作者】WASEEM RAZA
【期刊名称、卷期、页码】J. Chem. Soc. Pak.,Vol.33,No.2,2011
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【学科分类】化学其他学科

【题目】中国绒山羊的毛囊结构特性与发育机制
【中文关键词】绒山羊;毛囊性状;毛囊群结构;发育;调控机制
【英文关键词】cashmere goat; follicle traits; follicle group structure; development; regulating mechanism
【中文摘要】绒山羊业是中国畜牧业的重要组成部分,其皮肤次级毛囊所产的山羊绒是毛纺工业中最优质的天然纤维原料,也是中国国际贸易份额比重最大的畜产品。绒山羊皮肤次级毛囊是山羊绒纤维的“发源地”,因而绒山羊皮肤毛囊的结构特点、遗传特性、发生发育与周期性变化及调控因素,是了解绒山羊种质特性的基础,也是绒山羊选育研究基础。笔者在查阅国内外对绒山羊皮肤毛囊研究文献的基础上,结合多年的研究结果,综述了中国绒山羊毛囊性状与发育调控研究的现状与进展,以期为指导绒山羊育种提供理论基础。
【英文摘要】Cashmere goat industry is an important constituent of Chinese animal husbandry. The cashmere produced by the secondary follicle in the skin of cashmere goat is the best natural material of fiber in the wollen spinning industry, and it takes the highest percentage among the livestock products in the international trade. Because of the secondary follicle in the skin of cashmere goat is the “place of origin” of the cashmere fiber, the follicle structure, genetic characterization, the development, the cyclical change and the regulating facters are the basics for the idioplasm and the selection of cashmere goat. Thus, based of the large amount of paper reading and our own findings in these years, the article overviewed the current situation and the progress of the hair follicle structure characterizations and its developmental mechanisms of Chinese cashmere goat to provide the theoretical basis for the selection of the cashere goat.
【语种】中文
【第一作者】姜怀志
【通讯作者】姜怀志
【期刊名称、卷期、页码】吉林农业大学学报2012年第43卷第5期:1-9
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【学科分类】畜牧学

【题目】Bcl-2/Bax在不同月份辽宁绒山羊皮肤毛囊表达的研究
【中文关键词】辽宁绒山羊,毛囊,Bax,Bcl-2
【英文关键词】Liaoning Cashmere Goats, hair follicle, Bax, Bcl-2
【中文摘要】探讨细胞凋亡相关基因Bcl-2/Bax在辽宁绒山羊成年母羊1年12个月份皮肤毛囊上表达情况。【方法】本研究通过免疫组化,检测Bax和Bcl-2的表达量和表达部位的年周期变化情况。研究结果表明:不同月份辽宁绒山羊成年母羊皮肤的Bax和Bcl-2主要在初级毛囊和次级毛囊的毛球、内根鞘、外根鞘上,以及汗腺、皮脂腺以及表皮上表达。初级毛囊上的Bax表达量6月份最低,7月份最高,而Bcl-2各月之间变化不显著,因此其Bax/Bcl-2比值6月份是全年的最低点,而7月份为最高点;次级毛囊Bax表达量变化呈双峰型,5月和9月为两个高峰值,其他月份表达水平较低,而Bcl-2表达量在5月份为最高峰,其他月份处于低表达水平;Bax/Bcl-2比值4月份是全年的最高点,7月份是另一个高峰,10月达到全年的最低点。
【英文摘要】In this research, the expression of VEGF and the distribution of microvessel was detected by using immunohistochemisty. The results showed as follow, by studying the Liaoning Cashmere Goat’s adult female monthly in a whole year, Bax and Bcl-2-positive was detected in PF and SF’s hair bulb, inner root sheath, outer root sheath, and aebaceous gland, sweat gland, pidermis, similar to VEGF. Expression of Bax in PF minimized at June and maximized at July, while Bcl-2’s changed unremarkable among months, thus the ratio of Bax/Bcl-2 in PF minimized at June and maximized at July. Expression of Bax in SF was bimodal pattern with two peaks at May and September, while Bcl-2’s only peak shown at May, thus the ratio of Bax/Bcl-2 in SF minimized at October and maximized at April, but with another high level at July.
【语种】中文
【第一作者】陈洋
【通讯作者】姜怀志
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【学科分类】畜牧学

【题目】Expression of the Arabidopsis thaliana Histone Gene AtHTA1 Enhances Rice Transformation Efficiency
【中文关键词】无
【英文关键词】Arabidopsis; histone H2A; Agrobacterium; rice; transformation
【中文摘要】无
【英文摘要】We expressed the Arabidopsis thaliana histone AtHTA1 in rice under the control of the maize ubiquitin promoter.Transformation efficiencies of rice plants that constitutively expressed AtHTA1 were 28 – 44% higher than calli containing an empty vector control. Furthermore, co-infection of rice calli with a vector containing AtHTA1 and another vectorwith the target gene increased transformation by 27 – 50%. Thus, expression of AtHTA1 either transiently or in stably transformed cells improved rice transformation efficiency.
【语种】英文
【第一作者】Ye Zheng
【通讯作者】寿惠霞
【期刊名称、卷期、页码】Molecular Plant • Volume 2 • Number 4 • Pages 832 – 837 • July 2009
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【学科分类】农学其他学科

【题目】基于分形理论的参考作物蒸发蒸腾量估算
【中文关键词】温度; 辐射; 趋势分析; 分形维数;
【英文关键词】temperature; radiation; trend analysis; fractal dimension;
【中文摘要】根据成都、雅安和乐山等站点实测的1954~2000年的气象资料和地理参数,建立了温度推算辐射的模型,从分形理论的角度,进一步揭示了温度和辐射的关系特征,并结合Penman-Monteith模型对参考作物蒸发蒸腾量(ET0)进行了估算。研究表明,温度(T)、净辐射(Rn)和净短波辐射(Qns)无标度区拐点的界限时间和分形维数非常接近,具有相似的分形特征,可利用T估算Rn和Qns;通过T估算的Rn计算的ET0的平均绝对偏差和平均相对偏差,均小于通过T估算的Qns计算的ET0的平均绝对偏差和平均相对偏差,而且偏差较小。因此,在实际应用中可通过T估算Rn来计算ET0,简化ET0的计算过程。
【英文摘要】According to the meteorological data and geographical parameters in 1954~2000,establishing a model of the radiation and temperature calculation based on fractal theory from the angle of further reveals that the relationship between temperature and radiation characteristics,combining Penman-Monteith model for reference crop the evapotranspiration(ET0) estimated.Temperature(T)、 net radiation(Rn) and net shortwave radiation(Qns) no-scaling regions and the boundary point of fractal dimension is close,with simila...
【语种】中文
【第一作者】战国隆
【通讯作者】马孝义
【期刊名称、卷期、页码】灌溉排水学报;2010,29(1):11-14
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【引文索引号】null
【学科分类】农业工程

【题目】Effect of fusaric acid on biomass and photosynthesis of watermelon seedlings leaves
【中文关键词】无
【英文关键词】biomass; Fusarium oxysporum f. sp. niveum (FON); fusaric Acid (FA); photosynthesis; stress; watermelon (Citrullus lanatus (Thunb.) Matsum. & Nakai cv. Zaojia 84-24).
【中文摘要】无
【英文摘要】Wilt disease of watermelon caused by Fusarium oxysporum f. sp. niveum in long-term monoculture system has been much often found particularly in protected land cultivation system worldwide. Fusaric acid (FA), a fungal phytotoxin, was extracted from F. oxysporum f. sp. niveum isolated from diseased watermelon plant. The influence of FA on the biomass and leaves

photosynthesis of watermelon seedlings was investigated in a laboratory study. Results obtained are listed as follows. Plant height, fresh weight, main root length and lateral roots of watermelon seedling exposed to FA (400 mg · L-1) for 12 hours and then grown in ordinary condition for nine days were decreased by 23.0%, 23.1%, 23.6% and 33.6% compared with control respectively. Cotyledons were wilted to death completely and necroses occurred on the first true leaf and the upper leaves had become crinkled and chlorosis, which was a typical symptom of wilting disease of watermelon. And thus physiological functions were inhibited and damaged strongly. Net photosynthesis rate, stomatal conductance, intercellular CO2 concentration, and chlorophyll (SPAD reading) of the seedlings decreased with the increasing of concentrations of FA and duration of exposure to FA. Compared with control, stomatal conductances of leaves treated with FA were declined by 87.4-98.4% and net photosynthesis rates of leaves were decreased by 51.8-92.1%. Intercellular CO2 concentration of the seedlings treated with FA was reduced by 66.6 -94.8%. Chlorophyll content in the leaves of the seedlings was decreased by 42.7-72.3%. Transpiration rate fell down to 86.8-96.3%. It was concluded that FA strongly reduced the chlorophyll content of watermelon seedlings leaves resulting to heavy suppression of leaf photosynthesis, which therefore affected seedlings growth finally leading to leaf wilting and necrosis.

【语种】英文
【第一作者】吴洪生
【通讯作者】沈其荣
【期刊名称、卷期、页码】CARYOLOGIA Vol.61,no.3:258-268,2008
【论文发表时间】2008-03-12 00:00:00
【引文索引类型】SCI
【引文索引号】2.624239000 1e+011
【学科分类】细胞生物学

【题目】Identification and expression analysis of OsHsfs in rice
【中文关键词】无
【英文关键词】Heat shock, Transcription factors, Rice, Protein structure, Expression analysis
【中文摘要】无
【英文摘要】Heat stress transcription factors (Hsfs) are the central regulators of defense response to heat stress. We identified a total of 25 rice Hsf genes by genome-wide analysis of rice (Oryza sativa L.) genome, including the subspecies of O. japonica and O. indica. Proteins encoded by OsHsfs were divided into three classes according to their structures. Digital Northern analysis showed that OsHsfs were expressed constitutively. The expressions of these OsHsfs in response to heat stress and oxidative stress differed among the members of the gene family. Promoter analysis identified a number of stress-related cis-elements in thepromoter regions of these OsHsfs. No significant correlation, however, was found between the heat-shock responses of genes and their cis-elements. Overall, our results provide a foundation for future research of OsHsfs function

【语种】英文
【第一作者】Chuang WANG
【通讯作者】寿惠霞
【期刊名称、卷期、页码】Zhejiang Univ Sci B 2009 10(4):291-300
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【学科分类】农学其他学科

【题目】豫北地区参考作物需水量的随机模拟
【中文关键词】参考作物需水量; 随机模拟; 时间序列分析;
【英文关键词】reference evapotranspiration; stochastic characters; time series analysis;
【中文摘要】河南省新乡市1971~2000年共30年的逐旬气象资料,用Penman-Monteith方法计算了逐旬的ET0,并采用时间序列方法,对该地区的ET0进行了分析和模拟,结果表明豫北地区的逐旬ET0变化趋势并不显著,周期性可用Fourier级数加以描述,对随机的变化可建立AR(1)模型。所建立的随机模型能很好的模拟出历年逐旬ET0的变化动向,同时随机模型的建立也为以后该地区实时灌溉预报和农田用水提供依据。
【英文摘要】According to the climate datas from 1971~2000 at Xinxiang weather station in North Henan province,the series of reference evapotranspiration of every ten days was calculated by Penman-Monteith equations,and the stochastic characteristics of the

series was analyzed by time series analysis method.the results suggest that there was no change tendency of the 10 days series,but the mean values and standard deviation can be expressed by the Fourier series,and the stochastic characters of the series can be express...
【语种】中文
【第一作者】王声锋
【通讯作者】段爱旺
【期刊名称、卷期、页码】灌溉排水学报;2008,27(5):59-62
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【引文索引号】null
【学科分类】农业工程

【题目】Molecular and functional comparisons of the vacuolar Na+/H+ exchangers originated from glycophytic and halophytic species
【中文关键词】无
【英文关键词】NHX gene, Rice transformation, Salt stress, Tolerance
【中文摘要】无
【英文摘要】A novel vacuolar Na+/H+ exchanger, CgNHX1, was cloned from a halophytic species Chenopodium glaucum by usingreverse transcriptase-polymerase chain reaction (RT-PCR) and rapid amplification of cDNA ends (RACE) technique. Sequencealignment and phylogenetic analysis of 22 NHX genes from GenBank as well as the new CgNHX1 gene indicate that NHX genesshared a great degree of similarity, regardless of their glycophytic or halophytic origin. Expression of the CgNHX1 gene wasinduced by NaCl and peaked at 400 mmol/L NaCl. Overexpression of NHX1 genes in rice enhanced their tolerance to salt stress.However, there is no significant difference in salt tolerance among the transgenic rice plants overexpressing the NHX1 genes fromeither glycophytic or halophytic species. The Na+ content of both the wild type (WT) and transgenic plants increased when exposedto 50 and 100 mmol/L NaCl, and the Na+ concentration in transgenic plants was marginally higher than that of WT. Our datademonstrate that the overexpression of the NHX1 gene from either glycophytic or halophytic species resulted in the enhancedtolerance to salt stress at a similar level, suggesting that NHX gene per se might not be the reason accounting for the difference insalt tolerance between glycophytes and halophytes.
【语种】英文
【第一作者】Jin-yao LI
【通讯作者】寿惠霞
【期刊名称、卷期、页码】J Zhejiang Univ Sci B 2008 9(2):132-140
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【题目】Adventitious root formation in rice requires OsGNOM1
【中文关键词】无
【英文关键词】Oryza sativa L., adventitious root, OsGNOM1, polar auxin transport
【中文摘要】无
【英文摘要】The fibrous root system in cereals comprises primarily adventitious roots (ARs), which play important roles in nutrient and water uptake. Current knowledge regarding the molecular mechanism underlying AR development is still limited. We report here the isolation of four rice (Oryza sativa L.) mutants, from different genetic backgrounds, all of which were defective in AR formation. These mutants exhibited reduced numbers of lateral roots (LRs) and partial loss of gravitropism. The mutants also displayed enhanced sensitivity to N-1-naphthylphthalamic acid, an inhibitor of polar auxin transport (PAT), indicating that the mutations affected auxin transport. Positional cloning using one of the four mutants revealed that it was caused by loss-of-function of a guanine nucleotide exchange factor for ADP ribosylation factor (OsGNOM1). RT-PCR and analysis of promoter::GUS transgenic plants showed that OsGNOM1 is expressed in AR primordia, vascular tissues, LRs, root tips, leaves, anthers and lemma veins, with a distribution pattern similar to that of auxin. In addition, the expressions of OsPIN2, OsPIN5b and OsPIN9 were altered in the mutants. Taken together, these findings indicate that OsGNOM1 affects the formation of ARs through regulating PAT.

【语种】英文
【第一作者】ShipingLiu
【通讯作者】寿惠霞
【期刊名称、卷期、页码】Cell Research (2009) :1-10.
【论文发表时间】2009-06-16 00:00:00
【引文索引类型】SCI
【引文索引号】doi: 10.1038/cr.2009.
【学科分类】农学其他学科

【题目】Application of Bio-Organic Fertilizer Significantly Affected Fungal Diversity of Soils
【中文关键词】无
【英文关键词】BOF, bio-organic fertilizer; CFU, colony-forming units; DGGE, denaturing gradient gel electrophoresis; NCBI, National Center for Biotechnology Information; NMDS, nonmetric multidimensional scaling; OF, organic fertilizer; PCR, polymerase chain reaction.
【中文摘要】无
【英文摘要】Cotton verticillium wilt (Verticillium dahliae Kleb.) is a very destructive disease. In this study, we evaluated a Bacillus subtilis enhanced bio-organic fertilizer (BOF) for control of the disease and for its eff ect on rhizosphere microbiota. Greenhouse pot experiments were conducted during three cotton (Gossypium hirsutum L.) growing seasons with serial treatments of BOF or unenhanced organic fertilizer (OF). Consistent control of cotton verticilliumwilt was obtained in the three trials. Th e complete BOF treatment, in which both nursery cups with healthy soils and transplanted pots with diseased soils were amended with BOF, was the most eff ective in reducing the counts of pathogenic V. dahliae and of total fungi in the cotton rhizosphere. Th e complete BOF treatment was also the most eff ective in reducing disease incidence. Rhizosphere soil DNA was extracted at harvest and the 5 ´ end (370 base pairs) of the fungal 18S rRNA gene was amplifi ed by using the primer pair NS1 and GCFung (fungus specifi c). Seventy-one bands were recognized in denaturing gradient gel electrophoresis (DGGE) gels and excised for sequencing, but only 35 bands were successfully sequenced during the study. Nonmetric multidimensional scaling analysis of DGGE patterns showed that the complete BOF treatments were not close to any other treatment. Ribotypes related to four Ascomycota and two Basidiomycota fungi were detected in the untreated but not in the BOF-amended soil. Th e results suggest that the complete BOF treatment could eff ectively control cotton verticillium wilt by signifi cantly improving fungal structure in rhizosphere soils.
【语种】英文
【第一作者】罗佳
【通讯作者】沈其荣
【期刊名称、卷期、页码】Soil Biology&Biochemistry Vol.74,No.6,2039-2046,2010
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【学科分类】土壤学

【题目】商丘农田土壤水分测定探头埋设位置研究
【中文关键词】SWR-2型; 土壤水分测定探头; 埋设位置;
【英文关键词】SWR-2 type; soil moisture measuring probe; laying place;
【中文摘要】利用在商丘野外生态试验站定点埋设的SWR-2型土壤水分测定探头采集的数据,通过主成分分析和因子分析,对玉米试验区不同土层深度土壤水分试验数据进行了相关分析和检验,研究了农田中不同深度层土壤水分的相互关系,结果表明,地表下30 cm土层与20 cm、40 cm、50 cm处土壤体积含水率线性相关;主要根系区70 cm土层与60 cm、80 cm9、0 cm处土壤体积含水率线性相关;130 cm、140 cm、150 cm土层之间同样存在着线性相关,初步得出本地区土壤水分测定探头合适埋设位置是地表下10 cm、30 cm7、0 cm1、00 cm、140 cm 5个深度。
【英文摘要】By using the collecting data from the SWR-2 type soil moisture measuring probe,which is laid at fixed point of Shangqiu field ecological experiment station,test and correlation analysis of the experiment data of soil moisture in different soil layers of maize experimental plot are performed,and the relationship among soil moisture in different soil layers has been studied through the principle component analysis and factor analysis.The results show that the volumetric water content in 30 cm soil layer was l...

【语种】中文
【第一作者】刘战东
【通讯作者】高阳
【期刊名称、卷期、页码】节水灌溉;2008,(8):19-23
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【引文索引号】null
【学科分类】农业工程

【题目】Identification of a novel iron regulated basic helix-loop-helix protein involved in Fe homeostasis in Oryza sativa
【中文关键词】无
【英文关键词】Fe,helix-loop-helix,protein
【中文摘要】无
【英文摘要】Background: Iron (Fe) is the most limiting micronutrient element for crop production in alkaline soils. A numberof transcription factors involved in regulating Fe uptake from soil and transport in plants have been identified.Analysis of transcriptome data from Oryza sativa grown under limiting Fe conditions reveals that transcriptabundances of several genes encoding transcription factors are altered by Fe availability. These transcription factorsare putative regulators of Fe deficiency responses.Results: Transcript abundance of one nuclear located basic helix-loop-helix family transcription factor, OsIRO3, isup-regulated from 25- to 90-fold under Fe deficiency in both root and shoot respectively. The expression of OsIRO3is specifically induced by Fe deficiency, and not by other micronutrient deficiencies. Transgenic rice plants overexpressingOsIRO3 were hypersensitive to Fe deficiency, indicating that the Fe deficiency response wascompromised. Furthermore, the Fe concentration in shoots of transgenic rice plants over-expressing OsIRO3 wasless than that in wild-type plants. Analysis of the transcript abundances of genes normally induced by Fedeficiency in OsIRO3 over-expressing plants indicated their induction was markedly suppressed.Conclusion: A novel Fe regulated bHLH transcription factor (OsIRO3) that plays an important role for Fehomeostasis in rice was identified. The inhibitory effect of OsIRO3 over-expression on Fe deficiency response geneexpression combined with hypersensitivity of OsIRO3 over-expression lines to low Fe suggest that OsIRO3 is anegative regulator of the Fe deficiency response in rice.
【语种】英文
【第一作者】Luqing Zheng
【通讯作者】寿惠霞
【期刊名称、卷期、页码】BMC Plant Biology 2010, 10:166
【论文发表时间】2010-01-11 00:00:00
【引文索引类型】SCI
【引文索引号】1471-2229/10/166
【学科分类】农学其他学科

【题目】调亏灌溉对膜下滴灌棉花生长、产量及水分利用效率的影响
【中文关键词】调亏灌溉; 水分胁迫; 膜下滴灌; 棉花;
【英文关键词】regulated deficit irrigation; water deficit; drip irrigation under mulch; cotton;
【中文摘要】在干旱的新疆乌鲁木齐采用人工控水试验,研究了调亏灌溉对膜下滴灌棉花生长发育和最终产量以及水分利用效率的影响。结果表明,要获得较高的产量和水分利用效率,膜下滴灌棉花全生育期内的灌水量应控制在450 mm左右;适时适度的水分亏缺虽然降低了总生物量,但由于作物的亏水补偿效应不但提高了生殖器官在总生物量中的分配比例,而且有利于光合产物向经济产量的转移,水分利用效率明显提高;适时适度的亏水处理1,其最终收获产量和水分利用效率比充分供水的对照处理提高了1.7%和17.0%。实现了以农田水分管理来调控光合产物的分配,减少作物的生长冗余,提高了农业水资源的利用效率。
【英文摘要】Effects of Regulated Deficit Irrigation(RDI) on growth,yield and water use efficiency of cotton with drip irrigation under mulch were tested through artificial water control experiment in Urumqi,Xinjiang province.The results showed that want to obtain both high cotton yield and high water use efficiency will need irrigated about 450 mm.Although the proper time and moderate water deficit reduce the total biomass,it not only improved reproductive organs growing but beneficial to distributed from photosynthate...
【语种】中文

【第一作者】申孝军
【通讯作者】张寄阳
【期刊名称、卷期、页码】灌溉排水学报;2010,29(1):40-43
【论文发表时间】2010-02-09 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农业工程

【题目】温室茄子不同生育期茎直径变化特征及其与气象因子的关系
【中文关键词】茄子; 茎直径变化; 生育期; 气象因子; 土壤含水量;
【英文关键词】eggplant; variation of stem diameter; growth stage; meteorological factor; soil water content;
【中文摘要】为了寻找诊断温室作物水分状况的可靠的茎变化指标,对春季温室条件下茄子不同生育期、不同土壤含水量茎变化关键指标进行了研究。结果表明,各生育期低水分处理的茎直径(MDS)日最大收缩量基本上大于高水分处理的MDS,但它们的变化趋势基本一致,这种一致性是由气象因子所致;苗期的日生长量(DI)从未出现过负值,高水分处理的累积DI要大于低水分处理的累积DI,且MDS和DI之间呈现出一定程度的负相关,而其余时期的DI基本上在DI=0附近波动;通过对MDS、DI和相关气象因子进行回归分析发现,MDS和气象因子有更好的相关性,基本上各时期MDS和相对湿度呈负相关关系,与温度、辐射、空气饱和差呈正相关关系;且气象因子对低水分处理的茎变化影响大于对高水分处理茎变化影响,由此提出建立合理土壤水分条件下的气象因子对MDS的预测模型作为诊断温室作物水分状况、实现自动灌溉的方法。
【英文摘要】In order to find a reliable index of stem variation to diagnose water content of crops in greenhouse,an analysis was made of some key indexes of stem variation under high and low soil water content in greenhouse in spring.The result indicated that,the maximum daily shrinkage(MDS) of low soil water content was mostly bigger than that of high soil water content during three growth stages,but they both shared the same variation trend which was caused by meteorological factors.Furthermore,there was no negative ...
【语种】中文
【第一作者】王晓森
【通讯作者】孟兆江
【期刊名称、卷期、页码】干旱地区农业研究2010,28(4):106-111
【论文发表时间】2010-07-13 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农业工程

【题目】植物形态结构模拟与可视化研究进展
【中文关键词】植物;形态结构;模拟;可视化;研究进展
【英文关键词】Plant; Morphological structure; Simulation; Visualization; Research progress
【中文摘要】本文较系统阐述 了植物形态结构模拟与可视化研究的社会背景、学术价值和经济意义,从创立与发展、 研究与发展的总体趋势和特点、研究居世界先进水平的机构或学者以及领先标志等方面综述 了植物形态结构模拟与可视化的研究进展;指出了该研究的前沿领域、空白点及薄弱环节,分析了中国在该研究中的总体水平、差距及其成因;最后在研究展望基础上提出了若干政策建议。
【英文摘要】At first, the thesis introduced social background, scientific values and economic significances of researches for plant morphological structure simulation and visualization, secondly, reviewed its progresses in found and development, collectivity trends and characteristics, institutions and scholars with world advance level and its sign, collectivity level and gap and causes analysis of formation in china, front fields and blank points or weakness taches, et al., lastly, its prospects and some policy suggestions were put forward.
【语种】中文
【第一作者】曹宏鑫
【通讯作者】曹宏鑫
【期刊名称、卷期、页码】中国农业科学,41(3):669-677
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【引文索引号】null
【学科分类】农业基础学科

【题目】刺参的趋光性以及对附着基颜色的感应行为
【中文关键词】刺参;趋光特性;附着基;平均聚集率;行为生态学
【英文关键词】Apostichopus japonicus;phototactic characteristics;settlement substratum;mean attractive rate;behavioral ecology.
【中文摘要】为了探讨刺参的趋光特性和附着基颜色对其行为反应的影响,分别用平均趋光率 (mean phototactic rate,MPR)和平均聚集率(mean attractive rate,MAR)统计分析了刺参在 100、50、10、5和1 lx共5档强度的光照和7种颜色的附着基(红色、灰色、黄色、蓝色、白色、黑色和绿色)下的行为反应差异。结果表明:在水平光场内,光源照度为100、50和lO lx时,光照度较强区与光照度较低区之间的MPR均存在显著差异(P<O.05),而光源照度为5 和1 lx时,各区域之间的MPR无显著差异;不同颜色附着基实验时,刺参在黑暗和自然光照条件下,同种颜色附着基的MAR无显著差异(P>0.05);在相同光照条件下,黑色和灰色附着基的MAR明显优于其他颜色的附着基,与蓝色、黄色及不放置附着基的MAR差异极显著(P<0.01),不同颜色附着基的MAR由大到小排列为黑色>灰色>红色>绿色>白色>蓝色>黄色。表明刺参的趋光性随着光照强度的增加而减小,呈负趋光性;平均聚集率较高的3种颜色的附着基是黑色、灰色和红色。
【英文摘要】The behavioral responses of sea cucumber(Apostichopus japonicus)to different light intensity(100,50,10,5,and 1 Ix)and settlement substratum color(red,gray,yellow,blue, white,black,and green)were examined by mean phototactic rate f MPR)and mean attractive rate(MAR)methods.The results showed that the MPR was significantly different(P<0.O5) among strong light regions(100,50,and 10 Ix)(P<0.05),but was not between weak ones (5 and l lx).Under natural light and darkness.the MAR of same color settlement substrata had no significant difference;while under the same light intensity.the MAR of black and grey settle— ment snbstrata was superior to that of the others.being significantly different with that of blue and yellow settlement substrata and of the control(P<0.O 1).The attractive effect of different color settlement substrata was in the order of black>gray>red>green>white>blue>yellow.The above results suggested that the MPR of A.japonicus decreased with increasing light intensity, representing the photonegative response of the organism.Among the seven colors settlement sub— strata,the black.gray.and red ones had the higher MAR.
【语种】中文
【第一作者】张辉
【通讯作者】王印庚
【期刊名称、卷期、页码】生态学杂志 2009,28(3):477~482
【论文发表时间】2009-03-10 00:00:00
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【引文索引号】null
【学科分类】水产养殖学

【题目】作物水分信息采集技术与采集设备
【中文关键词】作物水分信息; 采集技术; 采集设备; 研究进展;
【英文关键词】crop water information; soil water information; monitoring technique and equipment; present situation;
【中文摘要】随着社会经济的发展和科学技术的不断进步,农田灌溉正朝着“自动、精准”的方向发展。实现自动、精准灌溉,需要获得及时、准确的作物水分状况信息作为基本依据,而先进、可靠的采集技术与设备则是快速、准确、连续获取作物水分信息的重要保障。作物水分信息,根据其采集部位可分为土壤信息和作物信息两类;而根据采集信息所代表的范围,则可分为点源信息和区域信息两类。2种分类结果相组合,可以将作物水分信息分为点源土壤水分状况信息,区域土壤水分状况信息,点源作物水分状况信息和区域作物水分状况信息四大类。目前应用较多的点源土壤水分状况信息快速采集技术主要有中子仪法、时域反射法(TDR)、频域反射法(FDR)、驻波率法(SWR)和张力计法;点源作物水分状况信息的采集技术则主要有红外温度法、叶水势法、光谱法、茎变差法和蒸腾速率法;区域土壤水分状况信息的采集技术主要有遥感法(裸地表层土壤)和墒情监测网络法;区域作物水分状况信息则主要通过遥感方法获得,包括热红外遥感和微波遥感等方法。这些技术方法各有优点、缺点和适用范围。从目前的研究和实际应用情况看,基于土壤介电特性的土壤水分信息测量技术(TDR,FD和SWR)和基于植株蒸腾速率、植株茎直径变差和...
【英文摘要】Farmland irrigation is developing towards precision irrigation along with the development of society and progress of modern agricultural technologies.Crop water information collection is the basis of precision irrigation decision-making,and advanced,reliable monitoring equipments is a key of collecting crop water information continuously,quickly,and precisely.According

to the position where the information is taken,crop water information can be classified as two kinds: soil water information and crop water ...
【语种】中文
【第一作者】段爱旺
【通讯作者】孟兆江
【期刊名称、卷期、页码】中国农业科技导报;2007,9(1):6-14
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【引文索引号】null
【学科分类】农业工程

【题目】基于差动放大原理的信号测量系统设计
【中文关键词】热脉冲; 差动放大; 数字电位器;
【英文关键词】heat pulse; differential magnify; digital potentiometer;
【中文摘要】利用热脉冲技术测量植物蒸腾速率时存在由于热敏电阻引起的热脉冲信号温差峰值时间确定困难的问题。为此,提出了基于差动放大原理的热脉冲检测及信号处理方法,研究了PIC单片机与数字电位器间的IIC通信。其中,数字电位器的线性特性可以便捷地应用于放大电路的反馈网络中,从而提高了检测精度并降低了对后续采集设备的要求。
【英文摘要】The measurement of plant transpiration rate using heat pulse technology has the determination problem of peak-time which caused by thermal resistance.This paper presents the measurement and the processing approach of heat pulse signals,and the IIC communication between PIC MCU and digital potentiometer is researched.In addition,the linear characteristic of digital potentiometer can be used into the feedback network of magnify circuit,consequently the detection precision is raised and the requirement of subs...
【语种】中文
【第一作者】马晓晶
【通讯作者】马孝义
【期刊名称、卷期、页码】农机化研究;2009(9):78-80
【论文发表时间】2009-09-08 00:00:00
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【引文索引号】null
【学科分类】农业工程

【题目】CS5524在植物蒸腾测定仪上的应用
【中文关键词】植物蒸腾测定仪; CS5524; ARM; SPI; A/D转换器;
【英文关键词】plant sap flow measuring instrument; CS5524; ARM; SPI; A/D converter;
【中文摘要】CS5524是一种理想的4通道增益可编程的A/D转换器,具有功耗低、精度高、抗干扰能力强和测量量程范围大等优点,被广泛应用于小角度测量、精密称重或微弱信号采样等领域。为此,研究了其与ARM的SPI口交换数据,并通过实例说明其在植物蒸腾测定仪上的应用。
【英文摘要】The 24-bit CS5524 is an ideal 4 channel A/D converter which contains a gain programmable amplifier. It can be widely used in such fields as surveys of small angle, precision weighing and samples of faint signal because it has advantages of low power consumption, high precision, strong anti-jamming ability and wide measurement adjusting range. This paper tries to communicate it with ARM via SPI and gives the example of its application in plant stem sap flow measuring instrument.
【语种】中文
【第一作者】陈彭祥
【通讯作者】马孝义
【期刊名称、卷期、页码】农机化研究;2008(8):37-39
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【学科分类】农业工程

【题目】枣树枝条的抗寒性测定分析
【中文关键词】枣; 抗寒性; 相对电导率; K+相对渗出率;
【英文关键词】Ziziphus jujuba Mill; cold resistance; relative electric conductivity; relative K+-leakage;
【中文摘要】【目的】测定环塔里木盆地绿洲的主栽品种灰枣、骏枣、砧木种酸枣及伊犁河谷抗寒品种-霍城大枣的抗寒性。【方法】以枣树一年生休眠枝条为试验材料。测定其相对电导率和K+相对渗出率,建立不同品种(或砧木)的Logistic方程。【结果】(1)参试品种的相对电导率和K+相对渗出率均随着温度的降低而增加;(2)同一低温胁迫下,不同品种间相对电导率和K+相对渗出率存在明显差异。【结论】综合分析得出不同品种间抗寒性为:霍城大枣>酸枣>骏枣>灰枣。
【英文摘要】【Objective and Method】The major cultivation clones of one year dormant seedling of Ziziphus jujube in the oasis around Tarim Basin were used as materials to observe their one year dormant woods of relative electric conductivity and relative leakage of K+ under different low temperature treatments,and various clones Logistic equation were established.【Result】The results show that:(1) The relative electric conductivity and relative leakage of K+ of the clones increased with the decreased of temperature;(2) Under the same low temperature stress,the relative electric conductivity and relative leakage of K+ were different in difference clones.【Conclusion】The comprehensive analysis was given that the difference of the cold resistance abilities of the clones were as follows:Huochengzao jujube > wild jujube> Junzao jujube> Huizao jujube.
【语种】中文
【第一作者】宋锋惠
【通讯作者】史彦江
【期刊名称、卷期、页码】新疆农业科学 2009, 46(6) : 1212- 1215
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【学科分类】林业基础学科

【题目】DS1844与M430在差分放大电路中的应用
【中文关键词】作物参数; 差分放大; DS1844; M430;
【英文关键词】crop parameter; differential magnify; DS1844; M430;
【中文摘要】针对农业生产中一些作物参数的微小变化无法用传统的数据采集设备检测的现状,研究了DS1844数字电位器功能及特性。采用M430单片机自带AD转换器将检测到的数字量转换为模拟量,再将该采集值锁存在DS1844寄存器中,DS1844的锁存值与下一时刻M430单片机AD转换值之差进行差分放大,对差分信号进行分析处理后获得所需参数值。实例结果表明,该方法检测精度高,测量成本低,更适合于实际农业生产的应用。
【英文摘要】The function and characteristic of DS1844 Quad digital potentiometer are studied in this paper in order to measure the tiny change of crop growth parameters. The potentiometer transfers the DS1844 record to the simulation result with the M430 AD adapter. After analyzing the differential amplifier between DS1844 latch data and AD data at next time,the crop parameters can be obtained. The result shows that this method can be widely used in the agricultural production because of the high precision and low cost...
【语种】中文
【第一作者】陈江华
【通讯作者】马孝义
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【学科分类】农业工程

【题目】基于PIC单片机的低功耗温度采集系统
【中文关键词】数据采集; PIC16F74单片机; AD590; 低功耗;
【英文关键词】data acquisition; PIC16F74 MCU; AD590; low-power;
【中文摘要】为了实现温度数据的精确采集,设计开发了一种基于PIC单片机的多通道低功耗温度采集系统。温度信号转换采用AD590温度传感器,配以运算放大电路及数据存储器件,并利用中档单片机PIC16F74自带的A/D转换器,实现温度信号

的采集处理和存储,引进串口通信技术,实现了单片机与上位机的串口通信。
【英文摘要】In order to realize accurate data acquisition of temperature,this paper has designed and developed a low power multi-channel temperature data acquisition system based on PIC MCU. In this system,the temperature signal is processed by AD590. Matching with operational amplifier circuit and data memory,and utilizing the self-contained analogto-digital converter module of the mid-range microcontroller—PIC16F74,it can realize the acquisition,processing, memory and transmission of the temperature signals. With the...
【语种】中文
【第一作者】胡沙沙
【通讯作者】马孝义
【期刊名称、卷期、页码】农机化研究
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【引文索引号】null
【学科分类】农业工程

【题目】枣树的结实特性影响因素
【中文关键词】枣; 自然授粉; 自花授粉; 结实特性; 育性; 影响因素;
【英文关键词】Chinese jujube (Ziziphus jujuba); natural-pollination; self-pollination; fruiting ability; fertility; influncing factors;
【中文摘要】以河北沧县枣种质资源圃的124个枣品种和山西太谷国家枣种质资源圃的156个枣品种为试材,研究枣树的结实特性及其影响因素。结果表明:枣树种质可分为自花可育、自花可实不育、自花不实3类,其中自花可实不育是基本类型,它与自花不实和自花可育类之间可相互转化,而自花可育和自花不实之间相互转化极少;在自然(异花)授粉条件下供试品种均可结实,但育性有不育和可育2类,其中可育的占42.31%。枣树的结实性和育性因基因型(品种和品系)、年份、地区、树冠方位不同而有显著差异,其中影响最大的是基因型;供试品种间自花结实率(吊果率)和可育率的变幅分别为0~61.54%和0~100%,自然授粉结实率和可育率的变幅分别为4.17%~136.84%和0~100%;36个金丝小枣品系自花结实率和可育率的变幅分别为0.89%~163.64%和0~6.98%,自然授粉结实率和可育率的变幅分别为10.71%~138.89%和0~90.00%;5个无核小枣品系的分别为1.10%~81.72%,0~100%和8.06%~137.04%,0~2.70%;3个冬枣品系的分别为25.00%~62.93%,0~1.37%和11.32%~89.23%;不同年份和地区间结实性变化大而育性相对稳定,年份间自花和异花结实率均表现稳定的仅有4.17%、可育率稳定的则高达64.58%,地区间表现稳定的分别为15.38%和73.08%;西南-西北方向自花结实率高。初步筛选出一批自花不实或自花不育而异花高度可育、适宜作为杂交母本的优异种质。
【英文摘要】The factors influencing fruiting ability and fertility of Chinese jujube (Ziziphus jujuba) were analyzed based on an investigation of 124 cultivars in the Cangxian County Jujube Repository,Hebei and 156 cultivars in the National Jujube Repository,Pomology Institute of Shanxi. The results showed that Chinese jujube germplasm resources could be classified into 3 groups,i. e. self-fruitless,self-sterile (but self-fruitful) and self-fertile. Among them,self-sterile was the basic type,and it could convert with self-fruitless and self-fertile. However,the transform between self-fertile and self-fruitless was very scarce. Under natural pollination,all the cultivars and strains tested were able to bear fruits,but they were not all fertile,accounting for 42. 31% ,the rest sterile. The fruiting ability and fertility changed with genotypes (cultivars or strains),years,regional conditions and orientation of the canopy,of which genotype was the most dominant factor. The percentage of fruit to bearing shoot (PFTBS) and the percentage of fruit with seed (PFWS) were respectively in a range of 0 -61. 54% and 0 -100% under self-pollination,and 4. 17% -136. 84% and 0 -100% under natural pollination. PFTBS and PFWS in 36 strains of cultivar ’Jinsixiaozao’were respectively in a range of 0. 89% -163. 64% ,0 -6. 98% under self-pollination,and 10. 71% -138. 89% and 0 -90. 00% under natural pollination. For 5 strains of cultivar ’Wuhexiaozao’,the two parameters were 1. 10% -81. 72% ,0 -100% under self-pollination,and 8. 06% -137. 04% and 0 -2. 70% under natural pollination;For the 3 strains of cultivar ’Dongzao’the two parameters were 25. 00% -62. 93% ,0 -1. 37% under self-pollination,and 11. 32% -89. 23% and 0% under natural pollination,respectively. The variation of fruiting ability was much bigger than that of fertility. Only 4. 17% and 15. 38% of the cultivars had stable PFTBS respectively between years and between regional conditions,while the corresponding ratio of the cultivars with stable PFWS was respectively 64. 58% and 73. 08%. The PFTBS under self-pollination was much higher in the south-west and north-west aspects of the canopy than in other orientations. Some excellent germplasms (with self-fruitless or self-sterile under self-pollination but fertile under cross-pollination),which were fit to be used as female parent in cross breeding,were preliminarily screened out.
【语种】中文
【第一作者】闫超

【通讯作者】刘孟军
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【题目】EVC数据采集在植物蒸腾测定仪中的应用
【中文关键词】EVC; S3C2410; 数据采集; 植物蒸腾测定仪;
【英文关键词】EVC; S3C2410; data collection; plant sap flow measuring instrument;
【中文摘要】介绍了一种以S3C2410处理器为核心的数据采集器的设计方案。利用ARM对微弱信号进行采集分析,在Windows CE环境下利用eMbedded visual C++(EVC)4.0应用程序编写数据采集与实时曲线显示运行界面,并通过实例说明其在植物蒸腾测定仪上的应用。该设计具有低功耗、低成本、体积小等特点,与监控PC机相比,极大地提高了监控的可靠性和实时性。
【英文摘要】An embedded data collection implement design project which used S3C2410 microprocessor as the core is proposed in this paper. It used ARM to sample and analyze the weak singal,and adopted the way that uses eMbedded visualC++4.0 on Windows operating system to realize the real-time curve in the system. The paper gives the example of its application in plant stem sap flow measuring instrument. The system features low power consumption,low cost,and small cubage. Compared with the PC formonitoring,the reliabilit...
【语种】中文
【第一作者】宋建远
【通讯作者】马孝义
【期刊名称、卷期、页码】农机化研究;2010,32(5):169-172
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【学科分类】农业工程

【题目】田间喷施生长调节剂对冬枣胚发育及坐果的影响
【中文关键词】喷施生长调节剂; 冬枣; 胚发育; 坐果;
【英文关键词】growth regulators spraying; Ziziphus jujuba‘ Dongzao ’; embryo development; fruit set;
【中文摘要】以轻度败育枣品种冬枣为试材,在盛花期进行不同种类、不同浓度生长调节剂(GA3、IAA、6-BA)的喷施试验,旨在明确外源生长调节剂对枣胚发育和坐果的影响。结果表明,盛花期喷施不同浓度6-BA(50~150mg/L)可有效提高冬枣小果含仁率至100%(对照91.1%),同时坐果率可达18.3%(对照7.3%);而喷施GA3、IAA却不同程度上降低了冬枣含仁率,但果实坐果率明显提高分别为69.3%(对照17.0%)、45.8%(对照14.6%)。
【英文摘要】Spraying different variety and concentrations growth regulators by treating‘ Dongzao ’which is slightly Abortion with experiment material. The optimum condition about hormone regulating embryo development was studied at the stage of flowering. The results indicated that Spraying 6-BA(50 -150 mg/L) can increased the seed rate of small fruit from 91.1 % to 100 %, and fruit set reached 18.3%(contrast 7.3%); while spraying GA and IAA cause embryo abortion more or less, at the same time, fruit set raised up to 69.3% (contrast 17%), 45.8% (contrast 14.6%).
【语种】中文
【第一作者】梁春莉
【通讯作者】刘孟军
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【题目】棘皮动物免疫学研究进展
【中文关键词】棘皮动物,后口动物,先天性免疫,比较免疫学
【英文关键词】echinoderm, deuterostome, innate immunity, comparative immunology
【中文摘要】棘皮动物属原始后口动物、无脊椎动物的最高等类群,它处于由无脊椎动物向脊椎动物开始分支进化的阶段.研究棘皮动物的免疫功能和作用机理,对从比较免疫学角度探讨动物免疫系统进化过程有承前启后的重要意义.因此,有必要对棘皮动物的免疫学研究进展作一个较全面的综述,并理清未来的研究热点和方向.棘皮动物与其他无脊椎动物一样具有先天性免疫系统,但未发现脊椎动物所具有的获得性免疫.其免疫应答是由参与免疫反应的效应细胞———体腔细胞和多种体液免疫因子共同介导的.比较免疫学分析表明,棘皮动物存在脊椎动物补体系统的替代途径和凝集素途径,但未发现经典途径和明确的终端途径.棘皮动物先天性免疫系统存在数量庞大的基因家族.今后应加强对未知免疫相关基因、蛋白质、信号传导途径及效应分子的研究,回答免疫系统的起源、功能和进化等问题.
【英文摘要】Echinoderms are deuterostome, and occupy the top taxonomic position of invertebrates, where is the evolutionary linkage between invertebrates and vertebrates. This is a critical phylogenetic vantage point to infer both the early evolution of bilaterian immunity and the underpinnings of the vertebrate adaptive immune system.The available published literatures on echinoderm immunological mechanisms are compiled and discussed here to understand its evolution process and the hot spots or directions in future investigations. Echinoderms have an innate immune system like vertebrates but their adaptive attributes have not been observed. Its immune responses are based on coelomocytes activity working in parallel with a variety of humoral factors that react directly with invading pathogens. Comparative studies of immune functions in echinoderms have demonstrated that there is a complement system in echinoderms that appears to have alternative pathway and lectin pathway but lack classicalpathway and terminal pathway. The sea urchin innate immune system has a number of large gene families. Further investigations are needed to understand the unknown immune-associated genes, proteins, immune signaling pathways and effector molecules, and to know the origin, the underlying mechanisms and evolution of innate immune system.
【语种】中文
【第一作者】孟繁伊
【通讯作者】麦康森
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【引文索引号】null
【学科分类】水产养殖学

【题目】枣(Ziziphus jujube Mill.)品种结实特性研究
【中文关键词】枣; 自然授粉; 自花授粉; 结实性; 可育性;
【英文关键词】Chinese jujube (Ziziphus jujuba Mill.); Natural-pollination; Self-pollination; Fruiting ability; Fertility;
【中文摘要】对河北省沧县枣种质资源圃124个和山西果树研究所国家枣种质资源圃156个枣品种(品系)在自花授粉和自然授粉条件下的结实及种仁发育情况进行了调查。结果表明,供试品种自然授粉和自花授粉条件下的平均结实率(结果数/100枣吊)分别为37.06%、20.63%,变幅分别为4.17%~175.00%、0%~163.64%,平均可育率(含仁果实/果实总数×100%)分别为12.10%、3.07%,变幅均为0%~100%;自花结实率和自然结实率极显著正相关,相关系数0.597;供试枣品种可分成自花不实异花可实不育、自花不实异花可育、自花异花均可实不育、自花可实不育异花可育、自花异花都可育等5种结实类型,分别占总品种数的10.27%、16.06%、45.19%、17.15%、11.33%;筛选出稳定表现自花不实或自花可实不育而异花授粉可育率高且种仁饱满的品种2个(小枣4、小墩墩枣),种仁较饱满的5个(洪赵十月红、广东白枣、大荔圆枣、小枣25、圆铃枣),利用这些品种做母本进行杂交育种时可省略去雄程序,有效解决因枣花小去雄难的问题;蛤蟆枣、团枣、无核小枣、马牙枣、核桃纹等自花不实而异花可实的品种,在栽植时应配置授粉树。
【英文摘要】The fruit and seed development of 124 Chinese jujube cultivars in Cangxian County Jujube Repository and 156 Chinese jujube cultivars in National Jujube Repository,Shanxi were investigated. The results showed that average percentage of fruits to bearing shoots (PFTBS) under natural pollination and self-pollination were 37.06% and 20.63%,with the range of 4.17%-175.00% and 0%-163.64%,respectively,while average percentage of fruit with seed (PFWS) under natural pollination and self-pollination were 12.10% and 3.07%,both ranged from 0% to 100%. PFTBS under self-pollination showed significant positive correlation with PFTBS under natural-pollination,(r= 0.597). All the tested cultivars could be devided into five types according to their fruiting charactoristics,i.e. self-(self-pollination) fruitless and natural-(natural-pollination) sterility,self-fruitless and natural-fertility,sterility under both self-and natural-pollination,self-sterility and natural-fertility,fertility under both self-and natural-pollination. The five types counted for 10.27%,16.06%,45.19%,17.15% and 11.33%,respectively. Two cultivars with plump seeds and five cultivars with relative-plump seeds

under natural polllination together with stable characteristics of self-fruitless or natural-sterility were selected to be further used in jujube cross breeding for their advantages of omitting stamen removing. Pollinating cultivars are necessary for cultivar Hamazao,Tuanzao,Wuhexiaozao,Mayazao and Hetaowen because of their characteristic of self-fruitless and fruitfulness after natural or cross pollination.

【语种】中文
【第一作者】闫超
【通讯作者】刘孟军
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【题目】蒸发蒸腾量时间序列的混沌特征分析
【中文关键词】作物蒸发蒸腾量; 混沌理论; 李雅诺夫指数;
【英文关键词】the evapotranspiration of crops; chaos theory; Lyapunov Index;
【中文摘要】利用成都1951-2000年的气象资料和地理参数,用Penman-Monteith公式计算蒸发蒸腾量(ET0)。根据混沌理论,采用Welch法和小数据量法识别ET0的混沌特征,根据G-P关联维和C-C方法得出主要的混沌特征指标,并利用RBF神经网络和Volterra级数进行一步预测。研究表明:ET0序列存在一定的混沌特征,最小嵌入维数m=6时对应的吸引子维数D=2.025,最大李雅诺夫指数大于0;利用RBF神经网络和Volterra级数自适应方法对ET0进行预测一步预时,Volterra级数自适应一步预测结果误差较小,预测精度较高。因此,在实际中可采用Volterra级数自适应模型进行ET0一步预测。
【英文摘要】According to the meteorological data and geographical parameters between 1951 and 2000,the evapotranspiration(ET0) for Penman-Monteith model is calculated.This paper analyzes the chaos characteristic of ET0 and displays the main chaos characteristic target according to the chaotic theory.And RBF neural network and Volterra series forecast for one step is used.This result indicates that ET0 has chaos characteristic.When the minimum embedding dimension is 6,the corresponding attracts dimension is 2.025,and th...
【语种】中文
【第一作者】战国隆
【通讯作者】马孝义
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【学科分类】农业工程

【题目】利用枣离体叶片直接再生完整植株园艺学报
【中文关键词】枣; 叶片; 离体; 直接再生; 不定芽;
【英文关键词】Ziziphus jujuba; leaf; in vitro; direct regeneration; adventitious shoot;
【中文摘要】以冬枣组培苗叶片为材料进行离体再生培养,通过对再生条件的系统研究,实现了离体叶片直接再生不定芽并获得完整植株。试验结果表明:麦芽糖为离体叶片直接再生的适宜碳源;AgNO3可显著提高叶片不定芽再生率和出芽数,在TDZ1.0mg·mL-1+AgNO31.0mg·mL-1的条件下,不定芽直接再生率高达97.3%,出芽数达14.4个。但麦芽糖不适宜继续作为不定芽伸长培养的碳源,再生的不定芽需在MS+蔗糖40g.L-1+琼脂4g.L-1+BA1.0mg·mL-1+IBA0.5mg·mL-1的培养基上进行增殖,增殖系数为3.2。在IBA1.0mg·mL-1条件下,生根率达87.3%。
【英文摘要】A system of complete plantlet regeneration directly from in vitro leaf of Chinese jujube(Ziziphus jujuba Mill.’Dongzao’)was established after investgating proper culture conditions.Carbon source plays a key role on direct shoot inducement from in vitro leaf and maltose is the proper carbon source.AgNO3 could significantly improve the shoot regeneration rate and increase the shoot numbers.Under the medium of MS supplemented with TDZ 1.0 mg·L-1+AgNO3 1.0 mg·L-1,the highest shoot regeneration rate(97.3%)and shoot numbers(14.4)were obtained.But maltose was not suitable for the subsequent shoot growth.Regenerated shoots were growed and proliferated on medium of MS+sucrose 40 g·L-1+agar 4 g·L-1+BA 1.0 mg·L-1+IBA 0.5 mg·L-1with multiplication coefficient of 3.2.The complete plantlets were obtained after the shoots were rooted on MS medium plus IBA 1.0 mg·L-1 with rooting rate of 87.3%.

【语种】中文
【第一作者】王娜
【通讯作者】刘孟军
【期刊名称、卷期、页码】园艺学报,2010, 37(1):103-108.
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【题目】AD7706在植物蒸腾测定仪上的应用
【中文关键词】植物蒸腾测定仪; AD7706; ARM; SPI; A/D转换器; 数据采集;
【英文关键词】plant stem sap flow measuring instrument; AD7706; ARM; SPI; A/D converter; data acquisition;
【中文摘要】提出了一种基于ARM微控制器和AD7706相结合的数据采集系统设计方案,并通过实例说明其在植物蒸腾测定仪上的应用。AD7706是一种3通道伪差分增益可编程的A/D转换器,具有功耗低、分辨率高和自校准等优点,被广泛应用于控制和精密测量等领域。AD7706与ARM间通过SPI总线进行数据通讯。
【英文摘要】A method of data acquisition system based on microcontroller of ARM and AD7706 is proposed.The paper gives the example of its application in plant stem sap flow measuring instrument.The 16-bit AD7706 is a pseudo differential input channel A /D converter which contains a gain programmable gain front.It can be widely used in such fields as control system,precision measuring because it has advantages of low-power,high-resolution,self-calibration.The data between AD7706 and ARM communicates through SPI bus.
【语种】中文
【第一作者】林向阳
【通讯作者】马孝义
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【引文索引号】null
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【题目】秋、冬季节刺参养殖池塘浮游细菌数量变化规律的研究
【中文关键词】刺参 浮游细菌 AODC DVC HPC
【英文关键词】Apostichopus aponicus Planktobacteria AODC DVC HPC
【中文摘要】应用平板稀释涂布培养计数法和荧光显微镜计数法,对秋、冬季(2008年9月~2009年2月)刺参养殖池塘水体中的浮游细菌数量变化规律进行了分析。结果表明,吖啶橙染色直接计数法(AODC)测得细菌总数的变化范围是 1.0 x 10 ~2.1×1O 个/ml,活菌直接计数法(DVC)测得活菌总数的变化范围是4.0×10 ~5.7×1O 个/ml。异养细菌平板计数法(HPC)测得异养细菌数量为 0.6×10。~1.7×10 CFU/m1。TCBS平板培养的弧菌数量在6.6x10。CFU/ml以下。从时间分布看,刺参养殖池塘水体中浮游细菌数量最高值出现在 1O月份,最低值出现在1月份,秋季细菌数量显著高于冬季(P<0.01)。从空间分布看,水体底层细菌数量显著高于表层(P<0.05)。利用SPSS13.0软件对所得到的数据进行统计分析表明,同一样品不同计数方法获得的细菌总数数值之间存在显著的相关性(P<0.01)。
【英文摘要】The spatial and temporal variations of p1anktobacteria quantity in Apostichopus japonicus culture ponds during autumn and winter(from September,2008 to Februray,2009) were investigated by plate culture and fluorescence microscope techniques.The total number of planktobacteria estimated by acridine orange direct count(AODC)and Direct Viable Count (DVC)ranged in 1.0×10 ~2.1×10 cell/ml and 4.0×10 ~5.7×10 cell/ml,respectively. The amount of heterotrophic bacteria detected by heterotrophic plate count(HPC)ranged from 0.6×10 0 to 1.66×l0 CFU/m1.The amount of V/brio was below 6.6×lO。CFU/ml using TCBS selective medium cultivation.The number of D1anktobacteria varied in different season,which reached the maximum in 0ctober and the minimum in January.The number of bacteria in the ponds was significantly higher in autumn than in winter(P~0.01).The total number of bacteria in different water layers was determined.The results showed that the total number of bacteria in the bottom water was significantly higher than that in the surface water(P<0.05).There was significant correlation(Pd0.01)between data deduced by using different bacterial count methods.

【语种】中文
【第一作者】李彬
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【学科分类】水产养殖学

【题目】幼龄灰枣适宜负载量研究
【中文关键词】灰枣; 负载量; 枝组; 枣吊;
【英文关键词】Huizao(Zizyphus jujuba); fruit load; branch group; bearing branch;
【中文摘要】【目的】通过对幼龄灰枣适宜负载量的研究,以期为实现枣高产、优质和高效栽培提供基础。【方法】以34、龄灰枣嫁接苗为试材,通过连续2年的研究,探讨负载量与枝组粗度、产量及单果重的关系。【结果】枝组粗度(X)与产量(Y)成显著相关性,其回归方程为Y=219.6X-102.7,枝组负载量(Y)与枝组粗度(X1)和平均单果重(X2)的回归方程为Y=[219.6X1-102.7]/X2;单株负载量与产量成正相关,与单果重及枣果均匀度成反相关;枣吊1~7节保果数约占总保果数的89.7%;枣吊负载量越大,落果率越高、单果重越小。【结论】3龄灰枣单株负载量以150个果左右为宜;生产中枣吊摘心宜在第8个节点后;单个枣吊负载量以保留2个枣果为宜。
【英文摘要】【Objective】Study on suitable furit load of young Ziziphus jujuba cv.Huizao,expecting to provide planting technology of high yield,fine quality and efficiency.【Method】3-4 years of Huizao were used as study material.The relation between fruit load and branch group diameter,yield and single fruit weight were studied for two years in succession.【Result】The branch group diameter(X) was positively correlated with yield(Y) and the regression equation was Y=219.6X-102.7,the regression equation of group load with branch group diameter and average single furuit weight(X2) was Y=[219.6X1-102.7]/X2;the single plant load was positively correlated with yield,and negatively correlated with fruit single weight and fruit evenness;The fruiting percent of 1-7 bearing branch was 89.7% within fruit number.The higher the bearing branch ,the higher the fruit drop rate and the smaller the single fruit weight.【Conclusion】The suitable fruit load of three ages Huizao tree was 150;The suitable bearing branch should be pruned after the eight node;The suitable single bearing branch fruit load was 2 fruit per branch.
【语种】中文
【第一作者】宋锋惠
【通讯作者】史彦江
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【题目】基于PAID平台的葡萄栽培贮藏保鲜管理专家系统的开发与应用
【中文关键词】葡萄;栽培管理;贮藏保鲜;专家系统
【英文关键词】grape; cultivation and management; storage; expert system
【中文摘要】本文根据新疆葡萄栽培技术成果,利用农业专家系统 PAID 平台,开发新疆葡萄栽培贮藏保鲜管理专家系统。本系统包括葡萄栽培管理等 16个模块、1200 多条规则。通过将专家的研究成果与计算机的结合,为葡萄高效栽培技术的推广提供广阔的应用前景。
【英文摘要】Based on the results of Xinjiang grape cultivation techniques, Xinjiang Grape storage management expert system was developed by using PAID platform of agricultural expert system. The system includes 16 modules, such as grape cultivation management,and more than 1200 rules.Through incorporating research results of experts into the computer,it will provide wide application prospect for the extension of high efficient cultivation techniques of grapes.
【语种】中文
【第一作者】郭绍杰
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【题目】幼龄直播密植枣园的拉枝效应研究
【中文关键词】枣; 拉枝; 光环境; 产量; 品质;
【英文关键词】jujube; branch drawing; light environment; yield; fruit quality;
【中文摘要】【目的】拉枝对直播密植枣园树体生长、光环境以及枣果产量和品质的影响。【方法】对参试株干径和基径进行调查,分析拉枝处理与对照的生长量差异;采用LAI-2000冠层仪和照度计进行行间叶面积指数、株间透光率及树冠中部光照强度日变化进行测定;果实成熟期用蒽酮法、氢氧化钠滴定法和钼蓝比色法分别测定其总糖、总酸和VC的含量。【结果】(1)拉枝处理的干径生长量小于对照,基径生长量则高于对照,差异达显著水平;(2)拉枝处理后行间叶面积指数较对照提高119.0%,株间透光率较对照提高1倍;(3)拉枝后树冠中部光照强度日均值为334.70 lx,对照仅为101.01 lx,光环境明显改善;(4)拉枝后单果重和单株产量与对照差异达极显著水平,品质差异不显著。【结论】在不减少密植枣园有效株数的前提下,株间拉枝方式改善树体光照环境和枣果品质,提高枣果产量和经济效益。
【英文摘要】【Objective】Study the effects of branch drawing on the tree growth,light environment,fruit quality and yield of jujube in direct seeding close planting jujube field.【Method】The stem diameter and branch diameter of the test trees are investigated to analyse the difference between branch drawing treatment and CK.Interplanting leaf area index,the daily changes of light transmittance and light intensity in the middle part of the canopy are observed with the LAI-2000 type and photometer. The content of total sugar,total acids and Vc was detected by anthrone method, sodium hydroxide titration method and molybdenum blue colorimetric method.【Result】(1)The growth of stem diameter was smaller than the contrast, the growth of branch diameter was higher than contrast,and the difference between them was quite significant;(2)The interplanting leaf area index after branch drawing was increased 119.0% more than the contrast,interplanting light transmittance was twice more than the contrast;(3)After branch drawing,the light environment of the middle part of the canopy was obviously improved,the average daily light intensity was 334.70 lx,and the contrast was only 101.01 lx;(4)Single fruit weight and fruit yield of a branch of direct seeding jujube and the contrast achieved significant difference after branch drawing,but fruit quality was not obviously different.【Conclusion】Under the presupposition of not decreasing the effective number of trees in the jujube field,branch drawing helps to improve the light environment and fruit quality,increase fruit yield and economic benefit.
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【第一作者】吴正保
【通讯作者】宋锋惠
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【题目】基于组件式的地理信息系统的作物推荐施肥决策系统的实现
【中文关键词】GIS;组件式;推荐施肥系统
【英文关键词】GIS; Component; Recommended fertilization system
【中文摘要】以新疆兵团农十二师五一农场为研究对象,选用组件式GIS技术来开发作物推荐施肥决策系统分析了组件式地理信息系统开发的原理以及开发过程中Powerbuilder与MapX集成技术的实现方法,同时介绍了该系统总体结构实现流程和部分功能。
【英文摘要】Taking the Wuyi farmland of the 12th Agricultural Corps in Xinjiang as an object, the authors developed the crop recommended fertilization system by using ComGIS technology, Analyzed development principle of ComGIS system and realization method of the integration of MapX with PowerBuilder through the process of exploitation. Meanwhile the ensemble structure, achievement of the flow and the function were expounded.
【语种】中文

【第一作者】陈鹏翔
【通讯作者】盛建东
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【学科分类】信息科学与系统科学基础学科

【题目】微生态制剂在水产养殖中的作用机理及应用研究进展
【中文关键词】微生态制剂;益生菌;水产养殖;作用机理;刺参
【英文关键词】microecologics ; p robiotics ; aquacult ure ; mechanisms ;sea cucumber
【中文摘要】介绍了微生态制剂在水产动物健康养殖中的作用机制,以及微生态制剂在刺参养殖中的应用前景。微生态制剂在水产动物中的作用机理包括通过竞争来抑制病原菌生长(如黏附位点、营养、能源等)、通过代谢物(如抑菌物质、消化酶等)调节微生态平衡、提高免疫机能、改善水质、群体感应(quorum sensing ,QS)。刺参生理生化反应、生活习性的研究为刺参微生态制剂的开发奠定了基础,也存在一些问题限制了它在刺参养殖中的应用,但微生态制剂仍然是抗生素最有潜力的替代品,具有广阔的应用前景。
【英文摘要】Two aspect s of microecologics mechanisms of action in aquacult ure and p ro spect in applications in the cult ure of sea cucumber are discussed. The mechanisms of action in aquacult ure are highlighted , including competitio n for adhesion sites and chemicals or available energy , regulation of t he microecological balance by metabolites , enhancement of t he immune response , imp rovement of water quality and quorum sensing (QS) . The immune and digestive characteristics of A postichop us j a ponicus , which are t he basis for the develop ment of microecologics , were int roduced. Whereas t he application in cult ure of sea cucumber was at t he early stage of develop ment , f urt her reaserach is still needed. However t he application of p robi2otics in aquacult ure has shown to be p romising , it is a kind of potential substit ute for antibiotics to control latent pat hogens in aquacult ure.
【语种】中文
【第一作者】王亚敏
【通讯作者】王印庚
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【题目】新疆塔里木盆地骏枣果营养与土壤养分相关性分析
【中文关键词】骏枣; 土壤养分; 果实营养; 多元逐步回归; 聚类分析;
【英文关键词】Ziziphus Jujuba cv. Junzao; Soil property; Fruit quality; Multiple linear stepwise regression; Cluster analysis;
【中文摘要】测定了新疆塔里木盆地8个县市骏枣种植园土壤养分含量,及相应果园骏枣的果实营养,应用SPSS软件进行多元逐步回归分析,结果显示,骏枣果实营养与土壤养分含量间存在明显的相关关系,其中枣果中总糖和土壤中N含量呈极显著性负相关,枣果中总酸和土壤中的Ca呈显著性正相关;枣果中Vc和土壤中P呈极显著性正相关,和土壤中Fe呈显著性正相关;枣果中Zn和土壤中P呈极显著性负相关,和土壤中Fe呈典型性正相关。对不同采样地土壤和枣果营养的聚类分析显示,采样地间土壤相似性较高,但枣果营养相似性较低,说明除了土壤营养物质外还有其他多种因素共同对枣果实营养起着综合影响。 更多还原
【英文摘要】The soil nutrients of four Junzao orchards were determined, the fruit qualities were analyzed, and the multiple linear stepwise regression analysis was done with SPSS software. Results showed that there was evident relationship between soil property and fruit quality. The content of total sugar in fruit had critically significantly negative correlation with the content of N in soil. The content of total acidity had significantly positive correlation with the content of Ca in soil. The content of Vc had critically significantly positive correlation with the content of P in soil and significantly positive correlation with the content of Fe in soil. The content of Zn had critically significantly negative correlation with the content of P in soil and significantly positive correlation with the content of Fe (?)in soil. The cluster analysis showed that there had high soil similarity and low jujube fruit quality similarity among sampling places. That means that besides soil property, many other factors such as environment also had significant influence on fruit quality.

【语种】中文
【第一作者】宋锋惠
【通讯作者】史彦江
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【题目】南疆灰枣主要营养品质性状的变异及相关性研究
【中文关键词】灰枣; 品质; 相关性; 聚类分析;
【英文关键词】Ziziphus jujuba cv.Huizao; Nutrition quality; Correlation; Cluster analysis;
【中文摘要】通过测定新疆南疆6个灰枣栽植区及其原引种地灰枣营养品质性状,研究其在不同产地的营养品质变异情况,以期能为新疆灰枣的栽培及开发利用提供一定的参考依据。对各栽植区枣果营养物质含量的测定结果显示,(1)各个采样地灰枣营养品质间存在一定的差异性,其中总糖含量排序为:若羌县>温宿县>阿克苏市>沙雅县>巴楚县>且末县>河南新郑;与灰枣原产地河南新郑的测定结果相比,新疆各产地灰枣黄酮、维生素C和糖含量较高,而原产地河南新郑所采灰枣矿物质含量较高;(2)对灰枣16个营养品质因子间的相关性分析显示,灰枣营养因子间有12个达到显著性相关,显示了各营养因子在灰枣营养品质形成过程中具有的相互制约和促进作用;(3)营养性状的聚类结果显示,新疆各栽植区灰枣营养品质与原引种地河南新郑相比差异较大,新疆各产地间灰枣营养品质间也表现出较明显的差异。
【英文摘要】通过测定新疆南疆6个灰枣栽植区及其原引种地灰枣营养品质性状,研究其在不同产地的营养品质变异情况,以期能为新疆灰枣的栽培及开发利用提供一定的参考依据。对各栽植区枣果营养物质含量的测定结果显示,(1)各个采样地灰枣营养品质间存在一定的差异性,其中总糖含量排序为:若羌县>温宿县>阿克苏市>沙雅县>巴楚县>且末县>河南新郑;与灰枣原产地河南新郑的测定结果相比,新疆各产地灰枣黄酮、维生素C和糖含量较高,而原产地河南新郑所采灰枣矿物质含量较高;(2)对灰枣16个营养品质因子间的相关性分析显示,灰枣营养因子间有12个达到显著性相关,显示了各营养因子在灰枣营养品质形成过程中具有的相互制约和促进作用;(3)营养性状的聚类结果显示,新疆各栽植区灰枣营养品质与原引种地河南新郑相比差异较大,新疆各产地间灰枣营养品质间也表现出较明显的差异。
【语种】中文
【第一作者】张萍
【通讯作者】宋锋惠
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【题目】Effects of circadian rhythms of fluctuating temperature on growth and biochemical composition of Ulva pertusa
【中文关键词】无
【英文关键词】macroalga Ulva pertusa fluctuating temperature growth biochemical composition
【中文摘要】无
【英文摘要】The marcoalga Ulva pertusa was cultured under (20 +/- 2)degrees C, (20 +/- 4)degrees C, (20 +/- 6)degrees C, (20 +/- 8)degrees C and (20 +/- 10)degrees C circadian rhythms of fluctuating temperature conditions, and constant temperature of 20 degrees C was used as the control. The growth rate of macroalga at (20 +/- 2)degrees C, (20 +/- 4)degrees C and (20 +/- 6)degrees C were significantly higher than that at constant temperature of 20 degrees C, while growth rate at (20 +/- 8)degrees C and (20 +/- 10)degrees C were significantly lower than that at constant temperature of 20 degrees C. The growth rate of macroalga was a quadratic function of the thermal amplitude. Such a growth model can be described by G = beta(0) + beta(1)(TA) + beta(2)(TA)(2), where G represents the relative growth rate, TA is thermal amplitude in degree Celsius, beta(0) is the intercept on the G axis, and beta(1) and beta(2) are the regression coefficients. The optimal thermal amplitude for the growth of thallus at mean temperature of 20 degrees C was estimated to be +/- 3.69 degrees C. Analysis of biochemical composition at the final stages of thaulls growth revealed that diel fluctuating temperature caused various influences ($P < 0.05$). The content of chlorophyll, protein and total solute carbohydrate at (20 +/- 2)degrees C and (20 +/- 4)degrees C were slightly higher than those at constant temperature of 20 degrees C, however no statistically

significant differences were found among them (P > 0.05). While osmolytes (total solute carbohydrate and free proline) at (20 +/- 10)degrees C were significantly higher than that at 20 degrees C (P < 0.05). Therefore, more chlorophyll and carbohydrate production might account for the enhancement in the growth of macroalga at the diel fluctuating temperatures in the present study.
【语种】英文
【第一作者】Wang, Qiaohan
【通讯作者】Dong, SL
【期刊名称、卷期、页码】Hydrobiologia (2007) 586:313 – 319
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【引文索引号】2.4661280003e+011
【学科分类】水产养殖学

【题目】渭干河—库车河三角洲绿洲近45年气候变化特征分析
【中文关键词】渭-库绿洲 气候变化; 特征; 近45年
【英文关键词】无
【中文摘要】利用1961-2005年渭干河库车河三角洲绿洲内的气象站点气象资料分析了45年来该区域气温降水日照的变化特征。结果表明渭-库绿洲的年冬季夏季气温总体呈上升趋势,20世纪60-90年代年冬季夏季平均气温均为负距平,冬季夏季平均气温均较低,20世纪80-90年代气温呈增加趋势冬季升温比夏季升温明显。近10年总体来看,20 世纪60-90年代冬季增温幅度高于夏季;降水总体呈上升趋势,降水增长率为12.8mm/10年。20世纪80 年代平均降水量比 45年均值偏多19.6%,20世纪90年代平均降水量比45 年均值偏多年平均日照时数总体呈上升趋势,但上升趋势不明显,日照时数的增加率为8.3h/10年。充分表明,渭-库绿洲地区气13.7%;候正在趋于暖湿化,日照时数总体变化较为稳定,这对该区发展农牧业具有积极的作用。
【英文摘要】无
【语种】中文
【第一作者】李聪
【通讯作者】李聪
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【题目】新疆不同种植区赞皇大枣品质的差异分析
【中文关键词】赞皇大枣; 果实品质; 差异分析; 新疆;
【英文关键词】Zizyphus jujuba cv.Zanhuang; fruit quality; difference analysis; Xinjiang;
【中文摘要】为给新疆不同种植区赞皇大枣的栽培提供理论依据,选择位于新疆塔克拉玛干沙漠北部和南部2个种植区的赞皇大枣作为研究材料,分析2个产地赞皇大枣营养成分含量的差异。分析结果显示:(1)沙雅县赞皇大枣总糖含量和糖酸比相对较高,口感偏甜;224团枣果口感更偏向酸甜口味。综合分析各品质测定结果显示,224团赞皇大枣主要营养成分含量较高,枣品质较沙雅县好。(2)224团土壤养分含量总体较沙雅县偏低,但224团赞皇大枣Vc、Ca、Fe的含量都较沙雅县高且差异明显。测定结果进一步证明气候和土壤营养物质等诸多因子共同影响着枣果品质,在对不同产地枣营养成分进行深加工时,一定要注意枣果的来源和产地的生境差异。
【英文摘要】In order to provided theoretical basis for cultivation of Zizyphus jujubacv.Zanhuang at different planting areas of Xinjiang,taking Zanhuang Jujube from two planting areas of Taklimakan Desert of Xinjiang as materials,the contents of nutritional components in fruit were determined.The results showed that:(1)the total sugar content and ratio of sugar to acid in fruit at Shaya County were higher than those at Farm 224.The fruit tasted sweeter at Shaya County,and it tasted more sour-sweet at Farm 224.The results of comprehensive analysis indicated that the fruit quality at Farm 224was better than Shaya County,in which the contents of main nutrient components were higher. (2)The contents of main nutrient components in soil at Farm 224was lower,but the contents of Vc,Ca and Fe in fruit were significantly higher than those at Shaya County.Those all proved that climate,soil property,and some other factors had common effects on jujube fruit quality.So the source and planting area must be considered when fruit was deep processing.
【语种】中文

【第一作者】宋锋惠
【通讯作者】史彦江
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【题目】冬季刺参养殖环境与肠道内细菌菌群的研究
【中文关键词】刺参(Apostichopus japonicus Liao); 肠道菌群; ARDRA; 分子鉴定; 16S rDNA
【英文关键词】Sea Cucumber; Intestinal bacteria; ARDRA; Molecular identification; 16S rDNA
【中文摘要】运用传统细菌分离培养与分子生物学技术相结合的方法, 对 2008 年 11 月至 2009 年 1 月冬季刺参(Apostichopus japonicus Liao)养殖池塘环境(养殖水、底泥、附着基)及刺参肠道内的细菌菌群进行了分析。应用平板稀释涂布培养计数法测得刺参养殖池塘水体、底泥、附着基和肠道细菌数量分别为0.75×10 2 ~1.4×10 4 cfu/mL、8.7×10 4 ~8.1×10 5 cfu/g、3.8×10 5 ~2.8×10 6 cfu/g、7.1×10 5 ~ 1.5×10 7 cfu/g; 根据形态学差异从培养所得的细菌中筛选得到 22 株菌, 用限制性内切酶 Rsa I 和 Msp I 对所分离菌株进行ARDRA (Amplified rDNA Restriction Analysis)分析, 这 22 株菌被分为 8 种不同的分类单元(Operational Taxonomic Unit, OTU), 其中 OTU2 与 OTU3 所包含的菌株分别占分离菌株种数的 30%和 20%; 此外, 作者对不同环境培养所得的优势度最高的细菌进行分子鉴定分析。结果表明: 水环境中优势菌为施氏假单胞菌(Pseudomonas stutzeri)、门多萨假单胞菌(Pseudomonas mendocina)及巨大芽孢杆菌(Bacillus megaterium), 沉积物中优势菌为巨大芽孢杆菌(B.megaterium)、施氏假单胞菌(P.stutzeri)、苏云金芽孢杆 菌 (Bacillus thuringiensis), 附 着 基 中 优 势 菌 为 巨 大 芽 孢 杆 菌 (B. megaterium) 、 苏 云 金 芽 孢 杆 菌(B.thuringiensis), 灿烂弧菌(Vibrio splendidus), 肠道中优势菌为巨大芽孢杆菌(B. megaterium)、苏云金芽孢杆菌(B.thuringiensis), 灿烂弧菌(V.splendidus)、施氏假单胞菌(P.stutzeri)。通过对冬季刺参池塘细菌菌群多样性分析和优势菌鉴定, 为筛选低温益生菌和防治刺参疾病提供了有益参考。
【英文摘要】Studies on the bacteria community in the intestine and culture environment of Apostichopus japonicus in winter were conducted using tranditional bacterial cultivation method combined with molecular biology techniques during the period between November 2008 to January 2009. The total numbers of bacteria in the pond water, the sediment, the cultch and A. japonicus intestine, estimated by the tranditional bacterial cultivation method, ranged from 0.75×10 2 to 1.4×10 4 cfu/mL, 8.7×10 4 to 8.1×10 5 cfu/g, 3.8×10 5 to 2.8×10 6 cfu/g and 7.1×10 5 to 1.5×10 7 cfu/g, respectively. Twenty-two strains were isolated judged by the morphological characteristics of bacteria cultured on the plates. ARADA analysis with restriction enzymes Rsa I and Msp I revealed that the 22 strains were divided into 8 Operational Taxonomic Units (OTUs), which were dominated by OTU2 and OTU3 that accounted for 30% and 20% of the total isolated strains, respectively. Molecular identification was employed to identify the dominant bac-teria in different environments. It was shown that the dominant bacteria were Pseudomonas stutzeri, P. mendocina, and Bacillus megaterium in the pond water; B. megaterium, P. stutzeri, and Bacillus thuringiensis in the sediment; B. megaterium, B. thuringiensis, and Vibrio splendidus on the cultch; B. megaterium, B. thuringiensis, V. splendidus, and P. stutzeri in the sea cucumber intestine. The result of this experiment may be helpful for hypothermia probiot-ics isolation and disease prevention in sea cucumber culture.
【语种】中文
【第一作者】李彬
【通讯作者】王印庚
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【学科分类】水产养殖学

【题目】微型无人飞机遥感影像后期处理技术方法研究
【中文关键词】微型无人飞机;几何纠正;二级校正
【英文关键词】The Miniature Unmanned Aircraft; geometry corrects; dual geography check
【中文摘要】微型无人飞机遥感对于影像的采集具有低成本、高精度、快速度的特点,但是获取的数码图像畸变很大不能直接使用。以吐鲁番市葡萄沟景区、和布克赛尔县景区和克拉玛依市化学工业园区的航拍影像为研究对象,对造成误差的

各种因素进行分析,归纳总结出引起影像几何变形的因素主要可以分为有规律的系统性因素和无规律的非系统性因素,并针对这些因素提出畸变纠正和“二级校正”的思路和方法。通过实际应用,表明这种影像的后期处理方法和流程是有效可行的,可为资源调查和灾害应急调查提供有力的技术方法和数据支撑。

【英文摘要】The miniature unmanned aircraft remote sensing has the characteristics of low cost, high accuracy and quick speed for image gathering. But the images cannot be used directly because the geometry distortion. Based on image analyze on Tulufan Vineyard, the Scenic Region of Hebukesaier County and Kelamayi Chemical Industry Park as the investigated objects, we have summarized the factors which cause geometry distorts mainly to be possible to divide into the orderly systematic factor and the disorder non-systematic factor, and proposed the distortion correction method and the “dual geography check” method. The practical application indicated that these kinds of processing method are effective and feasible, and may provide the powerful data support for the resources investigation and disaster emergency investigation.

【语种】中文

【第一作者】杨志华

【通讯作者】杨志华

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【学科分类】农业基础学科

【题目】Effects of materials, incubation time and colors of artificial shelters on behavior of juvenile sea cucumber Apostichopus japonicus

【中文关键词】无

【英文关键词】Sea cucumber Apostichopus japonicas Artificial shelter Material Incubation time Color

【中文摘要】无

【英文摘要】In the present studies, the effects of various artificial shelters on behavior of juvenile sea cucumber, Apostichopus japonicus, were evaluated. The preferences of animals in the experiments with eight different artificial material shelters were compared, and showed that shelters of stone, cement pipe, polywoven fabric (a synthetic woven material mainly composed of polypropylene), ceramic tile and PVC (polyvinylchloride) pipe attracted significantly more animals than low-pressure polyethylene pipe, wood block and corrugated PVC board ($P < 0.05$). The influences of shelters pre-incubation for 0.5 M (month), 1 M, 1.5 M and 2 M to grow biofilm on the shelter selection of the animals were compared with non-incubation shelters (0 M), and showed that the numbers of the animals attracted by incubated shelters were significantly greater than that without incubation, and the 1.5 M shelters attracted significantly more sea cucumbers than other treatments ($P < 0.05$) except 2 M ($P > 0.05$). Among six color shelters white shelter attracted less juvenile A. japonicus than green, red and blue ones, and there were no significant differences among white, yellow and black shelters ($P > 0.05$). (C) 2010 Elsevier B.V. All rights reserved.

【语种】英文

【第一作者】Dong, Guancang

【通讯作者】Dong, SL

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【学科分类】水产养殖学

【题目】基于SQL Server数据库的通用查询系统的设计与实现

【中文关键词】关系数据库;动态数据窗口;T-SQL;游标

【英文关键词】relation data-base, dynamic data window, T-SQL, cursor

【中文摘要】文章介绍了一个适用于查询任何SQL Server数据库通用查询系统的设计与实现的过程,为非计算机专业人员查询数据库提供了基于图形的管理界面,查询系统在保证实用性和易用性的前提下,为用户的依据需求查询提供了充分的自由度。为开发MIS提供了通用查询模块。

【英文摘要】In this paper we introduced the design and realization processes of a currency inquire system,which can be used to inquire any SQL Server data-base. The inquire system provides the management interface basing on the figures for the unprofessional computer man to inquire the data base. On the condition of practicability and feasibility, it provides the sufficiency freedom for users to inquire according to differentdemands. Furthermore it provides the currency inquire module for MIS exploitation.
【语种】中文
【第一作者】王俊峰
【通讯作者】王俊峰
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【学科分类】信息科学与系统科学基础学科

【题目】Sedimentation and sediment characteristics in sea cucumber Apostichopus japonicus (Selenka) culture ponds
【中文关键词】无
【英文关键词】sea cucumber ponds sedimentation sediment chlorophyll pheophytin POC PON TP
【中文摘要】无
【英文摘要】Annual sedimentation, re-suspension rates and contents of particulate organic carbon (POC), particulate organic nitrogen (PON) and total phosphorus (TP) in the sediment were investigated in two sea cucumber culture ponds at Rongcheng, Shandong Province, China. The results showed that the average flux of total particulate matter in the ponds was 22.1 g m2 d-1. The average re-suspension rate of the sediment in the ponds was 81.7%. The re-suspension rates in spring and autumn were higher than those in summer and winter. The mean contents of POC, PON and TP in the sediment of the ponds were 4.4, 0.5 and 0.6 (mg g-1), respectively, and the mean contents of Chlorophyll a (Chl a) and pheophytin in the sediment were 8.1 and 12.1 mu g g-1 respectively. The POC, PON and TP contents in the sediment of the ponds increased during the period of sea cucumber aestivation (summer) and hibernation (winter), while they decreased during the feeding periods. The organic matter accumulation rate and the contents of POC, PON, TP, Chl a and pheophytin in the sediment were even lower than those in the pond without sea cucumber ($P < 0.05$). The results demonstrated that sea cucumber culture can effectively stop nutrient accumulation at the bottom of the cucumber culture ponds.
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【第一作者】Ren, Yichao
【通讯作者】Dong, SL
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【学科分类】水产养殖学

【题目】双歧杆菌肽聚糖结构及分子量的分析*
【中文关键词】双歧杆菌,肽聚糖,结构,分子量
【英文关键词】Bifidobacterium thermophilum , Peptidoglycan , Structure , Molecular weight
【中文摘要】从双歧杆菌细胞壁中分离纯化肽聚糖,研究其化学成分、结构和分子量分析。经氨基酸、多糖和蛋白质含量分析和肽聚糖的溶解实验鉴定,所提取物质的主要成分为肽聚糖;经核磁共振和红外光谱分析,所提取肽聚糖的结构与已知的肽聚糖的结构相吻合,其糖链结构为由 D 型吡喃糖 N2乙酰葡糖胺和 N2乙酰胞壁酸以β21,42糖苷键连接而组成;经 SDS2PAGE 和多种染色方法结合,分析经溶菌酶水解后的肽聚糖,其分子量的分布呈弥散状,范围在 9716kD 到 1414 kD 之间。
【英文摘要】PG derived from Bifidobacterium thermophilum was separated and purified from the cell wall , and involved in research and analysis of its chemical compositions , structure and molecular weight. The major component of the preparation was validated to be peptidoglycan by animo acid analysis, polysaccharides and protein determination , dissolution by lysozyme. NMR and Infrared spectrum substantiated the glycan chain of peptidoglycan was connected by D-pyranose Nacetylglucosamine and N-acetylmuramic acid through β-1,4 glycosidic bond. SDS-PAGE and multistain suggested that the molecular weight of soluble peptidoglycan showed certain diffusibility , and its ranged from lower than 97.6 kD to higher than14.4 kD.

【语种】中文
【第一作者】张悦
【通讯作者】宋晓玲
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【题目】Sediment-water Fluxes of Nutrient and Dissolved Organic Carbon in Extensive Sea Cucumber Culture Ponds
【中文关键词】无
【英文关键词】Nutrient fluxes Pond sediment Sea cucumber Polyculture
【中文摘要】无
【英文摘要】Sediment samples were collected from three seawater aquaculture ponds, and soil characteristics, sediment oxygen consumption (SOC), dissolved organic carbon (DOC) and nutrient fluxes were measured using chamber incubations at laboratory. The three ponds were each representing a specific monoculture or polyculture model of sea cucumber. Total organic carbon (TOC) and total nitrogen (TN) contents in the dry sediment ranged from 0.14 to 0.26% and 0.022 to 0.037%, respectively. Total phosphorus (TP) contents in the sediment were more spatially and temporally variable. SOC ranged from 15.29 to 45.86 mmol m(-2) d(-1) and showed significant differences among the three ponds ($p < 0.05$). TOC, total carbon (TC) contents, and SOC of the sediment in the pond polycultured with jellyfish increased with culture time, indicating that jellyfish farming enhanced the accumulation of organic matter in the sediments to some extent. Sediment showed net nitrate and ammonium uptake in most ponds and months, and significant differences were found among months ($P < 0.05$). Dissolved inorganic phosphate (DIP) was released from the sediments in all ponds with low flux rates. DOC was released from the sediment in all ponds and ranged from 0.67 to 1.74 g DOC m(-2) d(-1). The results suggested that non-artificial-feeding sea cucumber culture ponds could not only yield valuable seafood products, but also effectively remove nutrients from the aquaculture systems and consequently alleviate nutrient loadings of the nearby coast.
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【第一作者】Zheng, Zhongming
【通讯作者】Dong, SL
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【学科分类】水产养殖学

【题目】新疆农村信息化建设存在的问题和对策.
【中文关键词】新疆; 农村信息化; 问题; 对策
【英文关键词】Xinjiang; agriculture informatization; problems; countermeasures
【中文摘要】本文分析了新疆农村信息化建设中存在的问题,提出里促进新疆农村信息化建设的建议。
【英文摘要】Abstract: In this paper,the existing problems of the information construction in rural areas of Xinjiang were analyzed and then recommendations to promote Xinjiang agriculture information construction were proposed.
【语种】中文
【第一作者】孙霞
【通讯作者】蒋平安
【期刊名称、卷期、页码】农业网络信息,2010,(8):106-108
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【学科分类】土壤学

【题目】Drawback of loop-mediated isothermal amplification
【中文关键词】无
【英文关键词】Loop-mediated Isothermal Amplification, LAMP, Foodborn Salmonella, raw milk, sensitivity
【中文摘要】无
【英文摘要】Loop-mediated isothermal amplification (LAMP) was a novel nucleic acid amplification method that amplified DNA with high specificity, efficiency and rapidity under isothermal conditions using a set of four specially designed primers and a DNA polymerase with strand displacement activity. In our research,LAMP was developed to detect foodborn Salmonella in raw milk, a set of six primers, two outer, two inner and two loop primers, were designed from Salmonella genomic DNA targeting invA. Temperature condition for detection of Salmonella was optimized to be 61 ° C. At the same time, LAMP was found to be effective when the template was pure; however, the usefulness of LAMP methods can be limited by the presence of inhibitors in the analysis of raw milk, unlike all the reports about LAMP, the sensitivity of LAMP was lower than that of PCR methods.
【语种】英文
【第一作者】Deguo Wang
【通讯作者】Guicheng Huo
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【题目】The effect of different macroalgae on the growth of sea cucumbers (Apostichopus japonicus Selenka)
【中文关键词】无
【英文关键词】sea cucumber Apostichopus japonicus growth macroalgae diets
【中文摘要】无
【英文摘要】none
【语种】英文
【第一作者】Liu, Ying
【通讯作者】Dong, SL
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【学科分类】水产养殖学

【题目】北方海区鼠尾藻大规格苗种提前育成的技术
【中文关键词】鼠尾藻 大规格苗种 提前采苗 种菜 促熟 规模化繁育
【英文关键词】Sargassum thunbergii Large-size seedling Early seed collection Broodstock thallus Maturation acceleration Large-scale seedling production
【中文摘要】通过连续3年的鼠尾藻生产性育苗试验,证明在北方海区提前育苗技术可行。该技术克服了鼠尾藻种苗繁育过程中难以培育出大苗的难题,通过提前50d采苗,缩短室内培育周期,采用种菜人工促熟方法,结合室内及海上培育、管理的各种技术措施,得到的种苗健壮、均匀,整齐。共培育出鼠尾藻大规格苗种3373.7万株,经海上中间培育3个多月后,幼苗直立枝数量3~4根、长度可达4~6cm。
【英文摘要】A method for early production of large-size Sargassum thunbergii seedling in north China was developed, which consisted of procedures such as 50 d advancement of seed collection, timesaving of indoor cultivation and accelerated artificial maturation of broodstock thalli. This method should be used in combination with a set of off-shore mariculture and management techniqes. It is applicable in north China as proved by trials for three consecutive years. About 33.737 million healthy seedlings with uniform size were bred with this method, which grew into vertical young thalli (4~6 cm in length) with 3~4 branches after being cultured off-shore for over three months. This method overcomes the difficulty of breeding large-size seedlings met in previous S. thunbergii seedling production practice, and will certainly facilitate the large scale seedling production and cultivation of S. thunbergii.

【语种】中文
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【题目】不同类型附着基对刺参生长和存活影响
【中文关键词】刺参 附着基 成活率 生长
【英文关键词】sea cucumber(Apostichopus japonicus) Selenka shelter survival rate growth
【中文摘要】附着基是刺参(Apostichopus japonicus,Selenka)池塘或围堰养殖水体中设置的专用养殖设施,其功能主要是为刺参提供避光场所和培养刺参的天然饵料。本实验比较研究了石头、瓦片、塑料管、空心砖和水泥管5种不同附着基处理对刺参(规格为5.0 g±2.0 g)生长和存活的影响。结果表明,不同附着基上异养菌含量差异显著,5月附着基上异养菌含量显著的低于11月;石头附着基刺参的成活率最高,但其生长速度较慢;空心砖刺参的生长速度最快,成活率略低于石头;空心砖和石头附着基处理刺参产量显著高于其他附着基,瓦片、塑料管和水泥管上海参产量之间差异不显著。仅从养殖效果上看,目前较为流行的5种刺参附着基以空心砖较好。
【英文摘要】Shelters are a type of farming equipment especially used in sea cucumber pond and sea ranching.They can provide shelter and culture natural food for sea cucumber.The study was conducted in twenty 8 m(L)×8 m(W)×2 m(H) net enclosures to investigate the optimal shelter through measuring the growth,survivalship and yields of sea cucumber(Apostichopus japonicus Selenka) with an initial size of(5.0±2.0) g for different shelter types of stone(ST),cement pipe(CP),earthenware(EA),brick(BR),and plastic pipe(PL) from 20th May 2007 to 20th April 2008.The results showed: the numbers of bacteria on the shelters were different significantly among shelter types and higher in Nov.2007 than in May 2008.The highest survival rate of sea cucumber was gained in ST where sea cucumber growth rate was slow.Sea cucumber grow fastest in BR where,however,the survival rate was lower than in ST.The yields of sea cucumber in BR and ST were significantly higher than in the other shelters where there was no significantly difference in yield.Based on the results obtained in the present study,it could be concluded that BR shelter was the best one for sea cucumber culture among the popular 5 shelter types.
【语种】中文
【第一作者】秦传新
【通讯作者】Dong, SL
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【学科分类】水产养殖学

【题目】不同营养盐因子对鼠尾藻氮、磷吸收速率影响
【中文关键词】鼠尾藻 氮 磷 吸收速率
【英文关键词】Sargassum thunbergii nitrogen phosphorus uptake rate
【中文摘要】评估鼠尾藻作为净化海水水质的可行性,在实验室条件下,研究营养盐因子对鼠尾藻(Sargassum thunbergii)氮、磷吸收速率的影响。结果表明:(1)氮、磷浓度对鼠尾藻氮、磷吸收速率影响极显著(P<0.01)。鼠尾藻对氮、磷吸收速率随着溶液中的氮、磷浓度的升高而升高,在本研究条件下,未出现吸收饱和现象。在氮浓度为200 μmol·L-1时,氮吸收速率最大.为2.48 μmol·g-1·h-1;在磷浓度为13.33 μmol·L-1时,磷吸收速率最大,为0.11 μmol·g-1·h-1。(2)不同氮磷比、氮浓度对鼠尾藻氮、磷吸收均具有极显著的影响(P<0.01),且二者对氮、磷吸收速率的交互作用极显著(P<0.01)。氮最大吸收速率发生在氮浓度为200 μmol·L-1、氮磷比为5:1时,而磷的最大吸收速率发生在氮浓度为80 μmol·L-1、氮磷比为5:1时。(3)鼠尾藻对氨氮和硝酸氮两种化合态氮的吸收速率与其在培养液中所占总氮的比例成正相关,总氮吸收速率在氨氮:硝酸氮为10:1时较低,其它处理的吸收速率无显著差异(P>0.05);鼠尾藻对总磷的最大吸收速率出现在氨氮:硝酸氮为3:1时,之后磷吸收速率随着氨氮比率下降而下降。

【英文摘要】The effects of nutrient factors on the uptake of N and P by Sargassum thunbergii were studied un- der laboratory conditions.The uptake rates of N and P by seaweed increased with the increase of concentrations of N and P in the solution,and no saturation in the uptake of N and P occurred.Concentrations of N and P have significant influences on N and P uptake by seaweed(P<0.01).The highest N uptake rate was 2.48 μ mol · g-1 · h-1,which occurred at 200 μ mol · L-1N in the solution,while the greatest P uptake rate was 0.11 μ mol · g-1 · h-1,which occurred at 13.33 μ mol · L-1p in the solution.The ratio of N to P and concentration of N in the solution have significant effects on the N and P uptake rates by seaweed(P<0.01),and significant in- teractive effects were found between them(P<0.01).The highest N uptake rate occurred at 200 μ mol · L-1N in the solution and 5:1 of N to P,while the highest P uptake rate occurred at 80 μ mol · L-1N and 5:1 of N to P.The inhibition between NH4+-N and NO3--N did not occur in this study.The uptake rates of two chemical forms of N were proportional to their amounts in the solution.The lowest uptake rate of total N occurred at 10:1 of NH4+-N to NO3--N,and there was no significant difference among other treatments.The uptake rate of total P was the highest at 10:1 of NH4+-N to NO3--N,then decreased with the decrease of the ratio of NH4+- N to NO3--N in the solution.

【语种】中文

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【题目】刺参不同养殖模式实验围隔内沉积物——水界面营养盐通量研究

【中文关键词】N、P通量 沉积物——水界面 刺参 底泥呼吸 不同养殖模式

【英文关键词】fluxes of nutrients sediment-water interface Apostichopus japonicus sediment respiration different culture model

【中文摘要】研究刺参(Apostichopus japonicus)养殖模式对池塘底质的影响,于2007年5~11月间从不同养殖模式实验围隔内采得底泥样并通过实验室培养的方法测定了底泥耗氧率(SOD)及沉积物—水界面的N、P等。结果表明,投饵对SOD影响不显著(P>0.05),说明本实验条件下投饵没有造成实验围隔底泥中的有机物积累;7月份的SOD与其它月份间存在显著差异(P<0.05);大部分模式中沉积物释放溶解性无机磷酸盐(DIP)且不同月份之间的通量存在显著差异(P<0.05),不同模式之间的变化较复杂;在硝酸盐(NO3-+NO2-)通量结果中,投饵模式下的平均通量为非投饵模式下通量值的2~3倍,夏季的交换通量为冬季交换通量的2倍;当养殖密度较大时,非投饵模式中沉积物吸收氨氮的通量大于投饵模式中的通量,其它密度下投饵模式中沉积物释放氨氮的通量大于非投饵模式中的通量,并且随着养殖密度的增加通量值降低。

【英文摘要】Sediment samples were collected from different sea cucumber (Apostichopus japonicus) experimental enclosures from May to November in 2007, and sediment-water fluxes of oxygen, nitrogen and phosphorus were investigated using laboratory chamber incubations. Sediment oxygen demand (SOD) in July was significantly different from those in the other months(P<0.05), and SOD values in enclosures were not significantly different between feed model and unfed model(P>0.05), indicating that feeding did not lead to enriched sediments. Dissolved inorganic phosphate (DIP) was released from the sediments in most enclosures. The fluxes of DIP of different months were significantly different(P<0.05) and the variations of the fluxes in different feeding models were more complex. Fluxes of nitrate + nitrite (NO-3+NO-2) in the enclosures with feeding models were two to three times higher than those with non-feed models, and in summer they were higher than in winter. Fluxes of ammonium uptaken by sediments in the enclosures with feeding models were greater than those with non-feed models when sea cucumber density was high. Fluxes of ammonium released from sediments were increased with increasing cultural density with enclosures of non-feed models greater than those of feeding models.

【语种】中文

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【题目】刺参池塘低温有机污染物降解细菌的分离筛选及其降解特性
【中文关键词】刺参 池塘 低温有机污染物降解菌 筛选 细菌鉴定 降解特性
【英文关键词】Apostichopus japonica rearing ponds low-temperature organic-pollutant-degrading bacteria screen-ing and selection bacterial identification degrading characteristics
【中文摘要】利用刺参(Apostichopus japonicus)饵料培养基,在低温(16±1)℃下,从刺参养殖池塘环境中富集驯化分离有机污染物低温降解细菌;根据菌株生长情况、好氧性和生物安全性进行了初步筛选,然后在菌体接种密度1×106 CFU/mL、(16±1)℃、pH 8.0、160 r/min条件下,通过检测菌株对饵料中有机物(COD)和氨态氮(NH4+-N)成分的去除率来最终筛选获得优良低温有机污染物降解细菌,并对其降解特性进行研究。菌株筛选结果表明,从分离的17株低温细菌中共获得3株菌株DR7、DR8和DR11,它们能同时高效降低和去除饵料浸出物中COD和NH4+-N,5 d COD去除率分别为37.7%、50.0%和21.0%,NH4+-N去除率分别为95.0%、98.0%和99.8%。根据菌株的形态特征、生理生化特性以及16S rRNA序列分析,初步鉴定DR7和DR11属于假单胞菌属细菌(Pseudomonas sp.),DR8属于副球菌属细菌(Paracoccus sp.)。菌株降解特性研究结果表明,菌株培养时间对饵料降解有显著影响(P<0.05),在0~6 d内3菌株对饵料中有机物和氨态氮的去除过程明显,其中DR8降解力最强;各组合菌株的饵料降解效果差异显著(P<0.05),但并不完全优于对照单菌株,其中最佳组合为DR8-DR11。研究认为,筛选的3株低温有机污染物降解细菌为良好的菌种资源,在刺参养殖池塘污染环境调控及刺参微生态制剂的研制方面具有较好的潜在应用前景。
【英文摘要】Low-temperature organic-pollutant-degrading bacteria were isolated from sea cucumber(Apostichopus japonicus) outdoor rearing ponds after enriching the liquid sea cucumber feed-medium and acclimating at(16±1)°C.All of the bacterial strains were preliminarily selected by evaluating their aerobic growth on sea cucumber feed-medium and verifying their specificity for the sea cucumber.The bacteria were finally selected by evaluating their ability to degrade organic pollutants(COD) and ammonia nitrogen(NH4+-N) in the feed-medium,with an inoculation of 1.0×106 cfu/mL.Culture conditions were(16±1)°C,pH 8.0 and a shaking rate of 160 r/min.After screening of 17 bacterial isolates,three bacterial strains(DR7,DR8 and DR11) were selected.These strains were able to degrade the feed over 5 d with COD removal rates of 37.7%,50.0% and 21.0%,and NH4+-N removal rates of 95.0%,98.0% and 99.8%,respectively.From morphological and physio-biochemical analyses,and 16S rRNA sequence similarity analysis,strains DR7 and DR11 were identified as Pseudomonas sp.,and strain DR8 as Para-coccus sp.The time course of degradation of the feed was observed by examination of the concentrations of the organic pollutants and ammonia-nitrogen in the liquid sea cucumber-feed-medium between 0 d and 6 d.Bacterial cultivation time had a significant effect on the feed-degrading activities of the three strains(P<0.05).Based on the dynamics of feed degradation,strain DR8 was considered to be the most effective of the three strains.Significant differences(P<0.05) were also observed in the combined feed-degrading capacities of mixtures of the strains.The optimal combination was considered to be DR8 + DR11.However,the overall feed-degrading abilities of the combined strains were not much better than that of the single strain.We conclude that the 3 low-temperature or-ganic-pollutant-degrading bacteria screened in this study are useful bacterial resources,which could show good potential for pollution control in sea cucumber culture ponds and the development of probiotics for sea cucumber culture.
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【第一作者】闫法军
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【题目】在仿刺参体腔液中发现新的调理素样分子
【中文关键词】仿刺参;吞噬细胞;体腔液;调理素样分子
【英文关键词】Apostichopus japonicus;phagocyte;coelomic fluid;opsonin—like molecule
【中文摘要】通过研究发现,仿刺参体腔液中存在一种新的调理素样分子。通过SDS—PAGE,凝胶过滤层析,质谱分析等方法进行蛋白质的纯化和分析,采用荧光显微镜观察吞噬细胞对酵母细胞的吞噬作用,发现一种分子量约为18 kDa的分子可以结合到酵母细胞表面,并可以增强吞噬细胞的吞噬作用。推测这种分子是无脊椎动物调理素样分子中的新成员。同时也发现,虽然调理素样分子能够增强吞噬细胞的吞噬作用,但是,它不是单独起作用的,仍然必须依赖体腔液中其他未知成分,而对未知成分的鉴定需要进一步研究。

【英文摘要】In order to determine if opsonin—like molecules exist in the coelomic fluid of sea cucumber Apostichopus japonicus and identify their properties,immunochemical methods including phagocytosis assay,SDS- PAGE,gel filtration and mass spectrometric analysis were performed.The phagocytosis of sea cucumber phagocytes was quantified in vitro using heat—killed yeast cells as target cells.Phagocytes of the sea cucumber were capable of phagocytosis in isotonic buffer,cell—free coelomic fluid(CFCF)and yeast cell-adsorbed CFCF.but the phagocytosis was significantly enhanced when the incubation medium was CFCF.This phagocytosis promoting activity of CFCF was eliminated by pre—adsorption of CFCF with yeast cells.SDS-PAGE analysis showed that a protein with 1 8 kDa was able to bind to yeast cells.By using gel filtration,the protein was isolated from coelomic fluid of the sea cucumber.Functional test of this molecule demonstrated that it was a phagocytosis—enhancing opsonin-like mole. cule.However,the phagocytosis-enhancing function of the opsonin-like molecule was dependent on some unknown factor(S)in the CFCF,which needs further investigations.Mass spectrometric analysis indicated that this opsonin— like molecule is a new protein.
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【第一作者】麦康森
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【题目】刺参养殖池塘环境有机物降解菌固定化的初步研究
【中文关键词】马氏副球菌 固定化 沸石粉 COD 氨氮 亚硝氮
【英文关键词】Paracoccus marcusii immobilization zeolite Chemical Qxygen demand ammonia nitrogen nitrite nitrogen
【中文摘要】本文以沸石粉作为固定化载体,对一株刺参(Apostichopus japonicus)养殖池塘环境低温有机物降解菌(马氏副球菌Paracoccus marcusii,菌株编号DB11)的固定化技术进行了初步研究,并比较了固定化后有机物降解菌对主要水质参数的降解效果。结果表明,固定化时间、温度、pH和摇床转速均显著影响沸石粉对菌体的吸附率(P<0.05)。在本研究条件下,固定化时间90min、温度16℃、pH值5.8和摇床转速180rpm/min为沸石粉对DB11菌株的最佳固定化条件。菌体固定化以后可以显著提高其对水体中COD、NH4+-N和NO2--N的降解效果,与游离菌体相比,固定化后菌体对COD、NH4+-N和NO2--N的降解率分别达到了56.2%、51.0%、78.3%,降解率则分别提高了11.2%、10.4%和5.29%。鉴于此,以沸石粉作为载体对马氏副球菌进行固定化的技术在刺参池塘养殖的水质和底质环境修复实践中可能具有较大的应用价值。
【英文摘要】Using zolite as carrier, the preliminary study of immobilization of the low-temperature bacteria(Paracoccus marcusii,strain NO. DB11) isolated from sea cucumber culturing ponds was carried out. Their degradation effects on artificial aquaculture sewage water were compared.In this paper, the factors influencing the immobilization and the degradation of waste water in aquaculture by the stain DB11 were studied. The results show that, the adsorption time, pH, temperature and rotations can significantly influenced the effect of immobilization(P<0.05). In this study, the optimum immobilization conditions for the immobilization were adsorption time 90min, temperature 16℃, pH value 5.8 and shaker rotations 180rpm/min. The purification efficiency by immobilized bacteria is much higher than that by free bacteria. The removal rate of COD, NH4+-N and NO2--N reached 56.2%, 51.0%, 78.3% and the degradation rate were increased by 11.2%, 10.4% and 5.29% respectively. In view of this, the zeolite powder as a carrier for immobilized Paracoccus marcusii technology may have greater value in sea cucumber culture pond water quality and sediment environmental restoration practice.
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【题目】能值理论在我国北方刺参(Apostichopus japonicus)养殖池塘的环境可持续性分析中的应用

【中文关键词】能值 刺参 能值产生率 环境负载率 能值可持续发展指标
【英文关键词】emergy sea cucumber(Apostichopus japonicus) mergy yield ratio(EYR) emergy loading ratio(ELR) emergy sustainable index(ESI)
【中文摘要】利用能值(emergy)理论对我国北方刺参(Apostichopus japonicus)养殖池塘的经济收益和环境可持续性进行分析.利用能量系统模型符号构建了刺参池塘的能值图,并对刺参池塘能值的各部分分布进行了分析.通过比较刺参养殖池塘和几种集约化鱼类养殖池塘的能值产生率(emergy yield ratio,EYR)、环境负载率(emergy load-ing ratio,ELR)和能值可持续发展指标(emergy sustainable index,ESI),表明刺参养殖池塘单位能值投入的收益明显高于鱼类的集约化养殖模式,其可持续性和环境容纳量均较高。
【英文摘要】The economic income and environmental sustainability of sea cucumber(Apostichopus japonicus) culture in northern China was analyzed using the emergy approach.Schematic diagram of sea cucumber ponds with emergy symbols was built to analyze the emergy of different parts in sea cucumber earthen ponds.Emergy yield ratio(EYR),emergy loading ratio(ELR) and emergy sustainable index(ESI) were selected to evaluate the sustainability and carrying capacity of sea cucumber ponds and several integrated fish and shrimp culture model.The results showed that the EYR in sea cucumber culture was higher than that in integrated fish and shrimp culture,and sea cucumber culture gained higher sustainability and carrying capacity.
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【题目】鼠尾藻生长、藻体成分及其生境初步研究
【中文关键词】鼠尾藻 生长 藻体成分 氮 磷
【英文关键词】鼠尾藻 生长 藻体成分 氮 磷
【中文摘要】对威海小石岛附近海区鼠尾藻(Sargassum thunbergii)的生长、藻体成分和水体中氮、磷等营养元素的月份变动情况进行了初步研究。结果表明,研究海区水体中硝酸氮的含量具有明显的月份变化,5~10月含量较低,11~4月含量较高;相对于硝酸态氮,氨氮的含量较低,随月份变动也较小;总无机氮的含量变化与硝酸氮含量变化趋于一致;总无机磷含量随月份的变动也较大,在2~6月含量较低,11~1月含量较高。鼠尾藻生长有着明显的月份变化,4~5月生长最快,6~7月藻体达到最大长度;侧枝一般在4月开始出现,7月达到最长。对鼠尾藻体内的碳、氮、磷、碳水化合物以及色素进行测定的结果表明,鼠尾藻体内的碳含量变化较小,一般在25.6%~33.0%之间;氮的含量变化较大,12~5月含量较高,超过3%,7~11月含量较低,低于3%;磷的含量也具有很大的波动,在11~4月含量较高,5~10月含量较低。色素含量具有明显的月份变化,12~3月含量较高,7~10月含量较低。碳水化合物含量在4~7月时较高,最低出现在8~9月。
【英文摘要】A preliminary anniversary investigation was conducted on Sargassum thunbergii at Xiaoshidao,Weihai.The growth and chemical compositions(C,N,P,pigment and carbohydrate)of S.thunbergii were investigated and the fluctuations of environment factors(temperature,salinity,and pH)and nutritional content(N,and P)around S.thunbergii were measured monthly at the same time.The results showed that the content of NO3-in the water was changed significantly monthly,which was lower from May to October,and higher from November to April.Compare wih NO3-,the content of NH4+ was low and small changed with month.The content of total inorganic N showed the same trends as NO3-in the water.The content of total inorganic P fluctuated sharply with month,which was lower from February to July,while higher from November to January.The growth of Sargassum thunbergii was changed significantly with month.Their growth rate was higher at April and May,and the greatest length at Yune and july.Lateral branches appeared at April,and the greatest length at July,however,disappeared at August.Receptacles appeared at May and matured at later July.Carbohydrate content of S.thunbergii was from 25.6% to 33.0%,which had small change with month.N concentration in S.thunbergii fluctuated significantly with month,which showed the same trend as NO3-concentration in the water.P concentration in the algae also showed significant change with month,which was higher from November to April,and lower from May to October.The pigment content was significantly changed with month,and its content was higher from December to March,while lower from July to October.The content of carbohydrate was higher from April to July,while lower at August and September.
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【题目】鼠尾藻研究与利用的现状
【中文关键词】鼠尾藻 富营养化 重金属污染 活性物质 营养盐 海藻 人工育苗技术 雷州半岛 马尾藻属 褐藻多酚
【英文关键词】none
【中文摘要】鼠尾藻(Sargassum thunbergii)隶属褐藻门,马尾藻科,马尾藻属,是北太平洋西部特有的暖温带性海藻,在我国北起辽东半岛,南至雷州半岛均有分布,是沿海常见野生海藻
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【题目】投饵与不投饵池塘刺参肠道异养菌区系的比较
【中文关键词】异养菌 肠道 刺参
【英文关键词】Heterotrophic bacterial flora Intestine Apostichopus japonicus
【中文摘要】从2007年6月到2008年5月,对威海市荣成不投饵刺参养殖池塘和青岛市胶南投饵刺参养殖池塘内的刺参肠道内的异养细菌总活菌数的周年变化进行了调查,并分析了刺参肠道内异养细菌的区系组成。结果表明,投饵与不投饵池塘中刺参肠道内活菌的数量随季节总体变化趋势相似,均为春夏季较低,秋冬季较高,但不投饵池塘刺参肠道内活菌数量在0.01水平显著高于投饵池塘。通过对分离得到的菌株鉴定,发现308株细菌分别属于20个属。在投饵和不投饵池塘中,刺参肠道内的优势菌均为弧菌、假单胞菌和芽孢杆菌,但在投饵池塘中,刺参肠道内的弧菌和芽孢杆菌的比例明显高于不投饵池塘,假单胞菌和其他细菌的比例则明显低于不投饵池塘。不投饵池塘刺参肠道细菌Shannon-Wiener多样性指数在夏季明显高于投饵池塘,其他季节差异不明显。从异养细菌的种类组成看,色杆菌属、Endozoicimonas、瑰杆菌属、副球菌属、短杆菌属、Jeotgalicoccus、Glaciecola仅出现在不投饵池塘刺参肠道内,而屈扰杆菌属、希瓦氏菌、八叠球菌属则仅出现在投饵池塘刺参肠道内。
【英文摘要】Seasonal variation of heterotrophic bacterial flora associated with the intestine of sea cucumber(Apostichopus japonicus) was investigated in the feeding ponds in Jiaonan,Qingdao and unfeeding ponds in Rongcheng,Weihai.Results showed that the total viable counts(TVC) of bacteria in the intestine of sea cucumber in two types of ponds exhibited similar tendency with seasons,which was high in spring and summer but low in autumn and winter.However,TVC of bacteria in the intestine of sea cucumber in the unfeeding ponds was significantly higher than that in feeding ponds($P<0.05$).Altogether,20 genera were identified from the intestine of sea cucumber.Vibrio,Pseudonomas and Bacillus were the most abundant species in both feeding and unfeeding ponds.However,the percentages of both Vibrio and Bacillus to total heterotrophic bacterial species isolated from the intestine of sea cucumber in the feeding ponds were significantly higher than those in the unfeeding ponds($P<0.05$).According to the calculation of Shannon-Wiener diversity index,the diversity of heterotrophic bacterial flora in the intestine of sea cucumber in the unfeeding ponds was higher than that in the feeding ponds.Additionally,the species of Chromobacterium,Endozoicimonas,Roseobacter,Paracoccus,Brachybacterium,Jeotgalicoccus,Glaciecola were only found in the intestine of sea cucumber in the unfeeding ponds,and Flexibacrer,Shewanella,Sporosarcina were only isolated from the intestine of sea cucumber in the feeding ponds.
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【第一作者】牛宇峰

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【题目】温度、盐度和光照强度对鼠尾藻氮、磷吸收影响
【中文关键词】鼠尾藻 温度 盐度 光照强度 氮 磷 吸收速率
【英文关键词】Sargassum thunbergii temperature salinity light intensity nitrogen phosphorus uptake rate
【中文摘要】在实验室条件下,研究了不同的温度和盐度组合,温度和光照强度组合对鼠尾藻(Sargassum thunbergii)氮、磷吸收速率的影响。结果表明,上述3个环境因子对鼠尾藻氮、磷吸收速率均有显著影响。其中,温度和盐度对鼠尾藻氮、磷吸收速率有极显著影响(P<0.01),二者交互作用也极显著(P<0.01)。在盐度20、温度25°C条件下和盐度30、温度30°C条件下,鼠尾藻对氮有较高吸收速率,分别为11.26 μmol/[g(dw)?h]和11.01 μmol/[g(dw)?h];在盐度40、温度15~30°C范围内对磷的吸收速率较大,达到1.5 μmol/[g(dw)?h]以上。温度和光照对鼠尾藻氮、磷吸收速率均有极显著影响(P<0.01),二者交互作用极显著(P<0.01)。在温度15°C和光照强度140~180 μE/(m2?s)以及温度20~25°C和光照强度60~100 μE/(m2?s)条件下,鼠尾藻对氮有较高吸收速率,均在9.60 μmol/[g(dw)?h]以上;在温度25°C和光照强度60 μE/(m2?s)条件下,鼠尾藻对磷的吸收速率达到最大,为1.30 μmol/[g(dw)?h]。本研究结果表明,鼠尾藻总体上对水体中的氮、磷均具有较高的吸收速率,且能较好地同时吸收NH4+-N和NO3--N,显示了它对海水环境中营养盐具有较强的吸收能力。
【英文摘要】There was a close relationship between ambient nutritional concentrations and nutritional content in macroalgae. Previous studies revealed that it was a feasible way to apply seaweeds to assimilate nutrient, i.e., nitrogen, phosphorus, etc., in eutrophic water environment. Sargassum thunbergii,as a kind of macroalgae, has great importance in feed, nutrition, medicine and industry. So most studies focused on the growth and reproduction of S. thunbergii, however,while few studies were reported about their nutritional uptake until now. In this study,the effect of temperature,salinity and light intensity on the uptake of nitrogen and phosphorus by Sargassum thunbergii were investigated under laboratory conditions. Two two-factor experiments were designed. Part one:S. thunbergii were exposed to the combinations of temperature (10°C,15°C,20°C,25°C,30°C) and salinity (10,20,30,40). Part two:S. thunbergii were exposed to combinations of temperatures(10 °C,15 °C, 20°C,25°C)and light intensity (20,60,100,140,180 μE/(m2 ? s). There were three replicates and one control without seaweed for each treatment. S. thunbergii were cultured in beakers with seawater containing total nitrogen of 100 μmol/L (NH4+-N： NO3--N=1：1)and phosphorus of 8 μmol/L (PO43--P) for 12 h,then nitrogen and phosphorus concentrations in the solution were measured. The results showed that all of the three environmental factors had significant effects on the uptake rates of nitrogen and phosphorus. Significant differences in the uptake rates of nitrogen and phosphorus among different temperatures or salinities were observed,and there was significant interaction between temperature and salinity as well (P<0.01). The uptake rates of nitrogen reached as high as 11.26 μmol/[g(dw)?h] and 11.01 μmol/[g(dw)?h] under moderate combinations of salinity 20 and temperature 25 °C,salinity 30 and temperature 30 °C,respectively. While in the temperature of 15-30 °C,the uptake rate of phosphorus was higher at salinity of 40 than at any other salinities,which reached up to 1.50 μmol/ g(dw)?h. There were significant differences in nitrogen and phosphorus uptake rates among different temperatures or light intensities (P<0.01). The temperatures and light intensities had significantly interactive effects on nitrogen or phosphorus uptake (P<0.01). The nitrogen uptake rates were higher at temperatare of 15 °C and light intensiy of 140-180 μE/(m2?s),20-25 °C and 60-100 μE/(m2?s),which all reached up to 9.60 μmol/[g(dw)? h]. The uptake rate of phosphorus reached 1.30 μmol/[g(dw)?h] at temperature of 25°C and light intensity of 60 μE/(m2?s),whick was the highest among all the combinations of temperatur and light intensity. Therefore, Sargassum thunbergii has high ability of uptaking nutrient from water environment,and could uptake ammonium and nitrate simultaneity.
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【题目】注射一株灭活气单胞菌苗对刺参部分免疫因子的影响
【中文关键词】刺参;腐皮综合征;气单胞菌;灭活菌苗;免疫指标
【英文关键词】Ap0stichopus japonic ;skin ulcer syndrome;Aeromonas;inactivated bacterium;immunity index
【中文摘要】从患有“腐皮综合征”的刺参(Apostichopus japonicas Liao)病灶处分离出1株优势菌株,经形态学、生理生化分析以及16S rDNA分子生物学方法鉴定其为气单胞菌属(Aeromo~as)的1个种;人工感染试验证明,该菌株对刺参有一定毒力。将其制备成甲醛灭活菌苗后对健康刺参进行体腔注射,测定灭活气单胞菌苗对刺参部分免疫指标的影响,同时将生理盐水注射组作为对照。结果表明,注射菌苗浓度3.9×10 CFU/mL组刺参血清中溶菌酶活力在注射后6 h达到峰值,而4.7 x 10 CFU/mL注射组的活力在注射后24 h达到最高值;实验组的溶菌酶活力显著高于对照组(P<0.05)。在3.9×10。 CFU/mL组中,碱性磷酸酶活力于48 h达到最高值;而4.7×10 CFU/mL组在96 h达到最高值,实验组的碱性磷酸酶活力显著高于对照组(P<0.05)。相比之下,注射菌苗对血清的超氧化物歧化酶活力影响却不显著。总体上,该菌苗在一定程度上可以刺激刺参机体产生强的免疫应激反应。注射高浓度菌苗时,溶菌酶、碱性磷酸酶活力达峰所用时间较短而且显著,但其酶活力升高持续时间较短。
【英文摘要】The cultured sea cucumber(Apostichopus japonicus Liao)recently suffered from serious disease‘ skin ulcer syndrome ’which has caused massive losses.One bacterial strain was isolated from these naturally infected sea cucumber,which was the most dominant among the isolates.The bacterium was identified as Aeromonas sp · bv morph0logical,physiological and biochemical tests and 1 6S rDNA sequence analysis.Challenge test proved that it was the causative pathogen associated with the disease.The bacterium were killed by formaldehyde and used as an inactivated vaccine to inject normal sea cucumber.The immune effects were shown as follows:me highest lysozyme activities were observed at 6 h post.injection in 3.9×10 CFU/mL group,and at 24 h post—injection in 4.7×10 CFU/mL group.The alkaline phosphatase(AKP)activities reached maximum at 48 h post—injection in 3.9×10 CFU/mL group,and at 96 h post—injection in 4.7×10 CFU/mL group.However,there was no significant difference in superoxide dismutase(SOD)between the experimental groups and the control group · In enera1.the inactivated bacterium could increase the immune effects on sea cucumber.In addition,as the concentration of the inactivated bacterium was higher,lysozyme and AKP activities could reach the maximum rapidlv and significantly.But the increased activities could not last long.
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【题目】温度和光照强度对鼠尾藻生长和生化组成影响
【中文关键词】鼠尾藻 温度 光照强度 生长 生化组成
【英文关键词】Sargassum thunbergii temperature light intensity growth biochemical composition
【中文摘要】在实验室条件下,研究了温度(10、15、20、25℃)和光照强度(20、60、100、140、180 μE.m-2.s-1)对鼠尾藻生长和生化组成的影响.结果表明,温度、光照强度及两者的交互作用对鼠尾藻生长均具有极显著影响.鼠尾藻在15℃和20℃下生长速率较高,随着温度的升高,达到最大生长速率所需要的光照强度有上升趋势.在10℃和15℃下,较高的光照强度对鼠尾藻生长产生了一定抑制作用,而在20℃和25℃下,其生长速率总体随光照强度的增加而增加.温度和光照强度对鼠尾藻叶绿素a、墨角藻黄素的含量影响极显著,其中光照强度的影响大于温度.总体上,叶绿素a和墨角藻黄素的含量均随着光照强度的升高而显著下降,随着温度的升高而升高.鼠尾藻碳水化合物含量随着光照强度的升高而显著升高,而温度对碳水化合物含量影响不显著.鼠尾藻蛋白质含量随着光照强度的增加而显著下降,在10℃和15℃下含量较高,随着温度的继续升高,蛋白质含量呈下降趋势.光照强度和温度的变化可改变鼠尾藻的藻体成分含量,这种改变可能是鼠尾藻为了适应环境因子改变而做出的积极的生理调节,对其生长和生存具有重要的生态意义。
【英文摘要】A two-factorial experiment was designed to study the effects of temperature (10,15,20,and 25 ℃) and light intensity (20,60,100,140,and 180 μE · m-2 · s-1) on the growth and biochemical composition of Sargassum thunbergii. The results showed that temperature,light intensity,and their interactions had significant effects on the growth of S. thunbergii. A higher growth rate of S. thunbergii was observed at 15 ℃-20 ℃,and,with the increase of temperature,the light intensity for the maximum growth rate of S. thunbergii had an increasing trend. At 10 ℃ and 15 ℃,higher light intensity had definite inhibition effect on the growth of S. thunbergii;

while at 20 °C and 25 °C,the growth rate was generally increased with increasing light intensity. Both temperature and light intensity had significant effects on the chlorophyll a and fucoxanthin contents of S. thunbergii,and the effects of light intensity was greater than those of temperature. In general,the chlorophyll a and fucoxanthin contents of S. thunbergii decreased significantly with increasing light intensity but increased with increasing temperature. The carbohydrate content of S. thunbergii increased with increasing light intensity,while no significant difference was observed at different temperature. The protein content of S. thunbergii decreased with increasing light intensity,and was higher at 10 °C and 15 °C but tented to decrease with increasing temperature. The variation of light intensity and temperature induced the changes in the biochemical composition of S. thunbergii,and these changes could be an active physiological adjustment for the adaptation to the variation of environmental factors,which was of ecological significance to the growth and survival of S. thunbergii.

【语种】中文

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【题目】盐度日节律性连续变化对孔石莼生长和生化组成影响

【中文关键词】盐度变化 孔石莼 生长 生化组成

【英文关键词】diel fluctuating salinity Ulva pertusa growth biochemical composition

【中文摘要】利用实验生态学的方法,探讨盐度日节律性连续变化对孔石莼(Ulva pertusa)生长和生化组成的影响,旨在查明潮间带大型海藻对盐度日节律性连续变化的适应性。实验共设5个盐度日节律变化处理(30±3,30±6,30±9,30±12和30±15)和1个恒盐(30±0)对照处理。实验结果表明:孔石莼能够耐受较大范围的盐度日节律性连续变化,这种变化虽然对孔石莼的生长不利,但是仍然能够使孔石莼的相对生长率保持在12%以上;盐度变化幅度±3~±15与恒盐对照相比明显不利于孔石莼的生长,盐度变化幅度越大,孔石莼生长越缓慢。同恒盐处理相比,盐度日节律连续变化对孔石莼叶绿素含量的影响不明显,但叶绿素a和叶绿素b含量都有随着盐度变化幅度的增大而逐渐减少的趋势。盐度日节律性连续变化使孔石莼蛋白质和可溶性糖的相对含量显著增加(P<0.05),随着盐度变化幅度的增大,蛋白质和可溶性糖增加的趋势越明显,并且在盐度日节律性连续变化下,蛋白质增加的速度比可溶性糖增加的速度要快。同时,游离脯氨酸的相对含量随着盐度变化幅度的增加而增加,但是在缓和的盐度日节律性连续变化下(30±3)孔石莼游离脯氨酸的含量却显著小于恒盐对照组(P<0.05)。盐度日节律性连续变化同恒定盐度相比,虽不利于孔石莼的生长,却促进了孔石莼生化产物的合成,是海藻干露时品质得以提高的原因之一。

【英文摘要】The marcoalga Ulva pertusa was cultured under 30±3,30±6,30±9,30±12 and 30±15 circadian rhythms of fluctuating salinity conditions,and a constant salinity of 30 was used as the control.The growth rates of macroalga under fluctuating salinity conditions were significantly lower than that at the constant salinity of 30,while the RGR of U.pertusa under different fluctuating salinity conditions were all kept at least 12%.Analysis of biochemical composition at the final stages of thaulls growth revealed that diel fluctuating salinity caused various influences(P<0.05).The contents of chlorophyll a and chlorophyll b under fluctuating salinity conditions were slightly lower than those at constant salinity of 30,however no statistically significant differences were found among them(P>0.05).The contents of protein and total solute carbohydrate under fluctuating salinity conditions were significantly higher than those at constant salinity of 30(P<0.05),and there was a trend that the content of proline increased with the increase of amplitude of fluctuating salinity,while the content of proline during mild salinity of changes(30±3) was significantly lower than that at constant salinity(P<0.05). Therefore,more protein and carbohydrate production might account for the enhancement in the quality of macroalga at the diel flunctuating salinity in the present study.

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【题目】一株低温降解菌的分离鉴定及其降解特性研究
【中文关键词】低温菌 有机物 氨氮 分离鉴定 降解特性
【英文关键词】low-temperature bacterium organic-pollutants ammonia-nitrogen isolation and identification degrading characteristics
【中文摘要】从刺参(Apostichopus japonicus)养殖池塘环境中驯化分离筛选到1株低温有机物和氨氮降解菌株DB11。根据其形态特征、生理生化特性以及16S rDNA序列分析,将该菌株鉴定为马氏副球菌(Paracoccus marcusii)。经驯化,该菌株以刺参饵料为唯一营养源,低温(15℃)、低接种量(<5×10-3)条件下能同时高效降解饵料中的有机物和氨态氮,5 d时间内对富集培养基中COD和NH4+-N的降解率分别达50%和98%。进一步研究其降解特性表明,菌株生长适温15~30℃,生长适宜pH值为7~10,降解刺参饵料中COD和NH4+-N的最适温度条件为15~20℃、最适pH条件为8.0~8.5;在最适降解条件下、接种量为5×10-3时,对10~20 g/L高质量浓度的刺参饵料液中COD降解效果显著,3 d时间去除率达56.9%~65.7%,对1~20 g/L质量浓度的刺参饵料液中NH4+-N 3 d时间的去除率达91.7%~99.9%。
【英文摘要】A low-temperature bacterium named DB11 was isolated from sea cucumber outdoor culturing ponds with high degradation of organic-pollutants and ammonia-nitrogen.Physiological and biochemical tests and the 16S rDNA sequence similarity analysis indicated that strain DB11 was similar to Paracoccus marcusii.When inoculated into the sea cucumber-feed-enrichment-medium by less than 5×10-3,strain DB11 was able to utilize 50% of COD and 98% of NH+4-N within five days at 15 ℃.Further degradation studies showed that the appropriate range of temperature and pH value for growth of strain DB11 was 15~30 ℃ and pH 7~10,respectively,while the optimal temperature and pH value conditions for degradation of sea cucumber feed was 15~20 ℃ and pH 8.0~8.5,respectively.Strain DB11 could decompose sea cucumber feed concentration of 10~20 g/L with 56.9%~65.7% of COD degradation rate,and feed concentration of 1~20 g/L with 91.7%~99.9% of NH+4-N degradation rate,respectively,within 3 days after inoculated by 5×10-3.
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【题目】一株芽孢杆菌对刺参生长以及消化和非特异性免疫相关酶活性的影响
【中文关键词】芽孢杆菌 生长 免疫 消化酶 刺参
【英文关键词】Bacillus cereus growth immune capacity digestive enzyme Apostichopus japonicus
【中文摘要】研究了一株蜡样芽孢杆菌(Bacillus cereus)对刺参(Apostichopus japonicus)生长、消化和免疫相关酶活性的影响。芽孢杆菌的添加量分别为107、109和1011cfu/kg饲料(以活菌量计),以投喂基础饲料组作为对照,实验时间为56d。实验过程中分别于实验中期和结束时测量刺参生长情况,并于实验结束时测定刺参肠道消化酶和体腔液非特异性免疫相关酶类的活性。结果表明:添加107和109cfu/kg芽孢杆菌可以显著提高刺参的生长速度,降低刺参体重变异系数(p<0.05)。刺参肠道蛋白酶活性与投喂的菌浓度呈明显的正相关,而淀粉酶活性则呈明显的负相关,但添加该芽孢杆菌对脂肪酶活性影响不大(p>0.05)。添加芽孢杆菌对刺参非特异性免疫相关酶类影响有所不同。在本研究的添加量范围内,刺参体腔液超氧化物歧化酶(SOD)活性显著提高(p<0.05);适量添加该芽孢杆菌可以显著提高刺参体腔液中酸性磷酸酶(ACP)、碱性磷酸酶(AKP)和溶菌酶(LSZ)活性(p<0.05)。综合比较表明,芽孢杆菌BC-2的适宜添加量109cfu/ kg,可以显著提高刺参的生长速度、消化功能和非特异性免疫能力。
【英文摘要】Effects of Bacillus cereus on the growth, activities of digestive and non-specific immune enzymes in Apostichopus japonicus were studied over 56 days. The additive doses of living bacillus cells in feed were 0, 107, 109 and 1011cfu/kg, respectively. Results showed that the growth of A. japonicus enhanced significantly (p<0.05), while the coefficient of variation in body weight decreased significantly (p<0.05) when B. cereus was added in feed at the dose of 107 and 109 cfu/kg. Intestinal protease activity exhibited a positive correlation with Bacillus concentration in feed while amylase activity showed a negative correlation (p<0.05). The activities of non-specific immune enzymes were affected by various addtive doses of Bacillus in feed. With the increase of Bacillus concentration in feed, superoxide dismutase (SOD) activity in coelomic fluid of A japonicus enhanced significantly (p<0.05). And the

activities of acid phosphatase (ACP), alkaline phosphatase (AKP) and lysozyme (LSZ) in A japonicus when Bacillus was added in feed at the dose of 109cfu/kg significantly enhance (p<0.05). According to the results in the present study, it could be concluded that the optimal additive concentration of B. cereus BC-2 in feed was 109cfu/ kg, at which the growth rate, activities of digestive enzyme and the capacity of non-specific immunity in A. japonicus could be significantly improved.

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【题目】应用PCR-DGGE技术分析复合芽孢杆菌制剂水体泼洒对刺参体内外微生物群落结构的影响

【中文关键词】芽孢杆菌制剂 微生物群落结构 PCR-DGGE 刺参
【英文关键词】composite Bacillus microbial community structure PCR-DGGE Apostichopus japonicus

【中文摘要】通过传统培养与PCR-DGGE相结合,研究了泼洒复合芽孢杆菌制剂对刺参(Apostichopus japonicus)生长以及养殖水体和肠道中菌群结构的影响。复合芽孢杆菌制剂由枯草芽孢杆菌(Bacillus subtilis)、蜡样芽孢杆菌(Bacillus cereus)和地衣芽孢杆菌(Bacillus licheniformis)按一定比例复配制作而成,其泼洒浓度分别为106、108、1010cfu/m3(分别命名为WSR6、WSR8和WSR10),每7d全量换水1次,以未泼洒芽孢杆菌制剂处理为对照组2(CT2)。另外设置每隔3d全量换水1次的不泼洒芽孢杆菌制剂的处理作为对照组1(CT1)。8周的养殖实验表明,WSR6和WSR10处理组刺参特定生长率显著高于WSR8处理组和两个对照组,刺参个体差异则显著低于两个对照组(P<0.05)。经传统2216E培养基涂布培养分离,从水体和刺参肠道分别中分离出22和14株细菌,分属于弧菌属(Vibrio)、假交替单胞菌属(Pseudoalteromonas)、海杆菌属(Marinobacter)、交替单胞菌属(Alteromonas)、Phaeobacter、Idiomarina、假单胞菌属(Pseudomonas)、希万氏菌属(Shewanella)、Agarivorans、芽孢杆菌属(Bacillus)和不动杆菌属(Acinetobacter)。PCR-DGGE技术分析表明,刺参养殖水体中的优势菌群归属于α-变形菌纲(α-Proteobacteria)、γ-变形菌纲(γ-Proteobacteria)、δ-变形菌纲(δ-Proteobacteria)、黄杆菌纲(Flavobacteria)、拟杆菌纲(Bacteroidetes)和疣微菌纲(Verrucomicrobiae),而芽孢杆菌纲(Bacilli)细菌在水体中未能形成优势菌群。刺参肠道内的优势菌群归属于α-变形菌纲、γ-变形菌纲、ε-变形菌纲(ε-Proteobacteria)、黄杆菌纲、拟杆菌纲和芽孢杆菌纲。施用芽孢杆菌制剂显著改变了刺参肠道的微生物群落结构,以对照组CT2为参照,刺参肠道内除γ-变形菌纲的相对含量有所增加外,其它类群的细菌都有不同程度的降低,而芽孢杆菌纲细菌则在刺参肠道中形成了明显的优势菌群,其相对含量最高达35.5%。本研究表明,水体中泼洒该芽孢杆菌制剂对水体和刺参肠道内菌群结构和丰度均具有显著影响,在适宜的泼洒浓度下可以有效提高刺参的生长速度、降低刺参生长的个体差异。

【英文摘要】An 8-week trial was conducted to study effects of a composite Bacillus on the growth of sea cucumber (Apostichopus japonicus) and microbial community structure in the water and sea cucumber ’s gut by combination of traditional method and PCR-DGGE. Sea cucumbers were cultured in 25 aquaria and divided into five groups including three treatments and two controls. The composite Bacillus,which contains Bacillus subtilis, B. cereus and B. licheniformis, was applied into the water with the doses of 106, 108 and 1010 cfu/m3 every 7 days after water exchange (WSR6, WSR8 and WSR10, respectively). Those with no composite Bacillus application were as the controls, in which water was exchanged every 3 days (CT1) or 7 days (CT2), respectively. The results showed that the specific growth rates of sea cucumber in WSR6 and WSR10 were significantly higher than those in WSR8 and the controls (P<0.05), and the weight coefficients of sea cucumber were significantly lower than those in the controls (P<0.05). With the traditional 2216E medium coated method, 22 and 14 bacteria were isolated from the water and sea cucumber ’s gut, which were classify into Vibrio, Pseudoalteromonas, Pseudomonas, Shewanella, Agarivorans, Idiomarina, Pseudomonas, Shewanella, Agarivorans, Idiomarina and Bacillus. The results from the analysis of PCR-DGGE showed that Bacilli, α-Proteobacteria, γ-Proteobacteria, δ-Proteobacteria, Flavobacteria, Bacteroidetes and Verrucomicrobiae were dominant in the water, while α-Proteobacteria, γ-Proteobacteria, δ-Proteobacteria, Flavobacteria, Bacteroidetes and Bacilli were dominant in the gut of sea cucumber. Bacilli were the most dominant microflora in the gut of sea cucumber and increased up to 35.5% in relative abundance after the application of the composite Bacillus. Compared to CT2, the relative abundance of γ-Proteobacteria increased to some extent as well, while those of the other bacteria decreased. The results in present study demonstrated that the composite Bacillus applied into water had significant influences on microbial community structure in both the water and sea cucumber ’s gut. The composite Bacillus in moderate application dose could effectively enhance the growth rate of sea cucumber and reduce the individual differences between sea cucumbers.

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【期刊名称、卷期、页码】中国海洋大学学报2012,42(Sup.):326-336
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【引文索引号】null
【学科分类】水产养殖学

【题目】Rough Set based Decision Tree Ensemble Algorithm for Text Classification
【中文关键词】文本分类;粗糙集;决策树;系统算法
【英文关键词】Text Classification; Rough Set; Decision Tree; Ensemble Algorithm
【中文摘要】决策树集成方法可以极大地提高分类的泛化能力,它已经成为文本分类领域中的一个热点话题。然后这种技术通常使用所有训练好的决策树进行集成,因此要花费大量的计算时间。为了改进决策树集成的性能,本文提出了一种称为RSDTE的基于粗糙集的决策树集成算法来进行文本分类。实验结果表明RSDTE算法减少了集成的规模,并且性能优于其它方法。
【英文摘要】Abstract. Decision tree ensemble can significantly improve the generalization ability of classification and has become a hot topic in the field of text classification. However, this kind of techniques usually employs all the trained decision trees for constructing ensembles, which can cost a lot of computational time. For improving the performance of decision tree ensemble, a rough set based decision tree ensemble algorithm for text classification, called RSDTE (Rough Set based Decision Tree Ensemble), is proposed in this paper. Experiment results show that RSDTE decreases the size of ensemble and outperforms existing methods.
【语种】英文
【第一作者】时雷
【通讯作者】翁梅
【期刊名称、卷期、页码】Journal of Computational Information System,2010,6:89-95.
【论文发表时间】2010-06-13 00:00:00
【引文索引类型】EI
【引文索引号】2.0102713063e+013
【学科分类】计算机应用

【题目】仿刺参体腔细胞原代培养以及灿烂弧菌胞外产物对其毒性的研究
【中文关键词】刺参;体腔细胞;体外细胞培养;灿烂弧菌;胞外产物
【英文关键词】Hemifusus tuba Gmelin;population;morphological variation;discriminant analysis
【中文摘要】采用CCM、HSM和L 15N 3种培养液对刺参(Apostichopusjaponicas)的体腔细胞进行了体外原代培养,并用MTT还原法对细胞的体外存活力进行测定,结果显示:CCM和 HSM培养的体腔细胞,在体外分别存活至3 d和6 d大量 死亡;L-15N培养液可使细胞在 1周内保持存活。用刺参病原菌灿烂弧菌的胞外产物与刺参体外培养细胞共培育,发现对 体腔细胞有毒性作用,半致死蛋白质浓度(IQo)为27.6/ag/mI 。
【英文摘要】By applying multi—variant morphological measurement data,we used 7 morphological proportional charaeters to analyze the morphological variations from four different natural populations of Hemifus s tuba Gmelin,which were respectively located in Beihai,Wenzhou,Zhanjiang and Lianyungang.From cluster and principal component analyses,morphological characters were rather similar between Beihai and Zhanj iang populations,whereas high variance was found between Wenzhou and Lianyungang populations.Four principal components were constructed,the contributory ratio,from high to low,was 42.74 ,18.23 ,15.83%and 11.83 ,respectively,with 88.63 as the cumulative contributory ratio.The discriminant functions of the four populations were established,the discriminant accuracy being 81.3%--95.6 for P1 and 75.0 ~93.3 for P2,the average discriminant accuracy being 87.3 .The resuIts of multivariation analysis indicated that there were some morphological differences in the four different geographical populations.which were related to geographical distribution,environment,climate, food.and SO on.But the morphological variation of them was characterized under~subspecies.
【语种】中文
【第一作者】许乐乐

【通讯作者】麦康森
【期刊名称、卷期、页码】中国海洋大学学报 第40卷 第3期:007~010
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【引文索引类型】其他
【引文索引号】null
【学科分类】水产养殖学

【题目】动力增压注水机标准
【中文关键词】关键词:动力;注水机;标准
【英文关键词】无
【中文摘要】摘要:本标准规定了宁夏区域内带有动力增压注水装置的移动式机械设备的技术参数。标准的出台补充和完善了宁夏旱作农业抗旱补水标准,为今后同类产品的设计、生产和应用提供技术规范。
【英文摘要】无
【语种】中文
【第一作者】左忠
【通讯作者】左忠
【期刊名称、卷期、页码】宁夏农林科技,.2009(6):34-36
【论文发表时间】2009-06-06 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农学其他学科

【题目】Cinnamic Acid Inhibits Growth but Stimulates Production of Pathogenesis Factors by in Vitro Cultures of Fusarium oxysporum f.sp.niveum
【中文关键词】无
【英文关键词】Biomass; cinnamic acid; Fusarium oxysporum f.sp. niveum (FON); mycotoxin production; pathogenic enzymes
【中文摘要】无
【英文摘要】Long-term monoculture of watermelon leads to frequent occurrence of watermelon fusarium wilt caused by Fusarium oxysporum f.sp. niveum (FON). Some allelochemicals contained in watermelon root exudates and decaying residues are possibly responsible for promoting the wilt disease. The purpose of this study was to evaluate the allelopathic effect of artificially applied cinnamic acid on FON. Results demonstrated that hyphal growth of FON was strongly inhibited by cinnamic acid. At the highest concentration of cinnamic acid, the biomass in liquid culture was decreased by 63.3%, while colony diameter, conidial germination on plates, and conidial production in liquid culture were completely inhibited. However, mycotoxin production and activity of phytopathogenic enzymes were greatly stimulated. Mycotoxin yield, pectinase activity, proteinase activity, cellulase activity, and amylase activity were increased by 490, 590, 760, 2006, and 27.0%, respectively. It was concluded that cinnamic acid dramatically stimulated mycotoxin production and activities of hydrolytic enzymes byFON but inhibited growth and germination of FON. The findings presented here indicate that cinnamic acid is involved in promoting watermelon fusarium wilt.
【语种】英文
【第一作者】吴洪生
【通讯作者】沈其荣
【期刊名称、卷期、页码】Agricultural and Food Chemistry 2008,56,1316-1321
【论文发表时间】2008-01-23 00:00:00
【引文索引类型】SCI
【引文索引号】2.5332120002e+011
【学科分类】植物保护学

【题目】Zeba 保水剂对旱作马铃薯产量的影响研究
【中文关键词】关键词:Zeba 强力保水剂;旱作马铃薯;保水性能;产量

【英文关键词】无
【中文摘要】摘要:利用美国产Zeba 强力保水剂(FARM 型)对旱作地膜马铃薯土壤保水性能进行测试,对比发现,Zeba 强力FARM 型保水剂在同等环境条件下对减少水分蒸发和有效提高旱作地膜马铃薯土壤含水量效果明显。测产分析表明:1g/m2 使用量的产量最高为2254.20kg/ 666.7m2,较对照增产5.46%,商品率也最高,为推荐使用量。
【英文摘要】无
【语种】中文
【第一作者】温淑红
【通讯作者】左忠
【期刊名称、卷期、页码】宁夏农林科技,2010(6).
【论文发表时间】2010-07-06 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农业基础学科

【题目】干旱带马铃薯脱毒种薯种植方式优化研究
【中文关键词】关键词:马铃薯种薯;种植方式;产量;水分效应
【英文关键词】无
【中文摘要】摘要:对宁夏中部干旱带马铃薯脱毒种薯种植方式进行对比研究,结果表明:平膜覆盖种植产量达26 170.5 kg/hm2,较CK增产达33.9%,水分生产效率达7.52 kg/mm,出苗率83.7%,植株生长整齐,经TOPSIS 综合评价排序第1,优于其他各处理,是中部干旱地区较适宜的种薯种植方式。
【英文摘要】无
【语种】中文
【第一作者】杜建民
【通讯作者】杜建民
【期刊名称、卷期、页码】宁夏农林科技,2011,7:9-10.
【论文发表时间】2011-09-08 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农业基础学科

【题目】不同灌水处理对马铃薯种薯生长的影响
【中文关键词】关键词:马铃薯种薯;滴灌;灌溉定额;灌水频率
【英文关键词】无
【中文摘要】摘要:大田滴灌试验结果表明:补灌灌水频率相同时,补水定额越大,马铃薯种薯植株越高,茎秆越粗;补灌灌溉定额相同时,整个生育期马铃薯种薯平均株高与补水频率呈正相关关系,补灌频率越大株高越高,补水比不补水的植株增高明显;试验条件下(分播种前、现蕾期、花期 3 次补灌),少量多次补灌有利于马铃薯种薯植株的生长,补水效果最好;马铃薯种薯覆膜比露地种植长势更好,覆膜有利于提高马铃薯种薯的产量。
【英文摘要】无
【语种】中文
【第一作者】尹 娟
【通讯作者】尹 娟
【期刊名称、卷期、页码】宁夏农林科技,2011,52(05):1-2
【论文发表时间】2011-05-10 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农业基础学科

【题目】Effect of Inoculation with Arbuscular Mycorrhizal Fungus on Nitrogen and Phosphorus Utilization in Upland Rice-Mungbean Intercropping System

【中文关键词】无
【英文关键词】mungbean,rice,arbuscular mycorrhizal fungi(AMF),intercropping,nitrogen,phosphorus,iron,root nodule
【中文摘要】无
【英文摘要】The effect of arbuscular mycorrhiza fungi(AMF)on plant growth and nutrition utilization in upland rice and mungbean intercropping system was studied.A pot experiment was conducted in the greenhouse and AMF colonization rates of rice and mungbean roots,plant nutrient ontents,the ability of nitrogen fixation,and nutrient contents changed in the soil were analyzed.The results were obtained as follows:the rates of AMF colonization of rice and mungbean roots were reached to 14.47 and 92.2% in intercopping system.and increased by 4.1 1 and 1 1.95% compared with that of in mOnOcrOpping;the nirtrogen contents of mungbean and rice were increased by 83.72 and 64.83% in shoots,and 53.76 and 41.29% in roots,repectively,while the contents of iron in shoot and root of mungbean were increased by 223.08 and 60.19% ,respectively.In the intercropping system with inoculation of AM F,the biomass of mungbean increased by 288.8% .However.the biomass of rice was not significantly changed among all treatments with or without inoculation of AM F recorded.The number and dry weight of nodules were significantly increased either when mungbean was intercropped with rice or inoculated with AM F.W hen compared with that of monocropping without AM F inoculation,the contents of nitrogen,phosphorus and iron in nodules of intercropping mungbean with inoculation increased by 80.14,69.54 and 39,62% ,respectively.Additionally,intercropping with AM F inoculation significantly increased soil nitrogen content,but reduced soil phosphorus content.W e concluded that upland rice—mungbean intercropping system and inoculation with AMF improved the nutrient uptake,the ability of nitrogen fixation and the growth of mungbean.
【语种】英文
【第一作者】肖同建
【通讯作者】冉炜
【期刊名称、卷期、页码】Agricultural Sciences in China 2010,9(4):528-535
【论文发表时间】2010-04-05 00:00:00
【引文索引类型】SCI
【引文索引号】2.7869760001e+011
【学科分类】农业基础学科

【题目】不同水分处理对马铃薯块茎品质及产量的影响
【中文关键词】关键词:灌溉定额;灌水次数;马铃薯;品质;产量
【英文关键词】Key words: irrigation quota; irrigation times; potato; quality; yield
【中文摘要】摘要:为了研究水分对马铃薯块茎的品质与产量的影响,进行了马铃薯覆膜与露地滴灌的田间试验.结果表明:在灌溉定额一定灌水次数不同的条件下,马铃薯块茎的淀粉、还原糖、干物质含量都呈灌 2 次水>灌 1 次水>灌 3 次水>不灌水的规律;在灌水次数一定灌溉定额不同时,灌溉定额越大,马铃薯块茎的淀粉、还原糖和干物质含量越大;在试验条件下,覆膜滴灌的马铃薯块茎淀粉含量、还原糖含量和干物质含量均大于露地滴灌的;马铃薯灌溉定额与产量成显著相关,块茎的淀粉、还原糖和干物质含量与产量均呈极显著相关关系,说明淀粉、还原糖和干物质含量越高,马铃薯块茎的产量越高,增加灌溉定额,有助于产量的提高。
【英文摘要】Abstract: By carrying out the field trials of drip irrigation with mulch cover and without mulch cover of potato, we observedthe effect of different treatment of drip irrigation on quality and yield of potato. The results showed that, fixed a certainnumber of irrigation under different conditions of irrigation,the law of seed potato starch, sugar, dry matter content were tested 2 times irrigation water>1 irrigation water>3 times irrigation water>no irrigation;Fixed a certain Irrigation quota under differentconditions of number, the more irrigation water, the higher the potato of starch, sugar and dry matter content;Under theexperimental conditions, the potato of drip irrigation with mulch cover, reducing starch, sugar and dry matter content werehigher than without mulch cover; The potato of irrigation quota,starch,sugar and dry matter content were all positivelycorrelated to yield. The more starch,sugar and dry matter content, the higher the potato of yield. Increase irrigation quota, to help increase the yield.
【语种】中文
【第一作者】马 微
【通讯作者】尹 娟
【期刊名称、卷期、页码】宁夏工程技术,2011, 10(3),232-235
【论文发表时间】2011-09-08 00:00:00
【引文索引类型】其他
【引文索引号】null

【学科分类】农业基础学科

【题目】宁夏中部干旱区马铃薯种薯耗水规律及水分效应研究
【中文关键词】关键词:马铃薯种薯;耗水量;产量;耗水模系数;水分利用效率
【英文关键词】Key words: potato;water consumption;yield;water consumption coefficient;water use efficiency
【中文摘要】摘要:通过开展马铃薯种薯覆膜与露地滴灌田间试验,研究水分对马铃薯种薯产量的影响及马铃薯耗水规律。结果表明:覆膜地马铃薯种薯产量极显著地高于露地马铃薯种薯产量;不灌水处理马铃薯种薯产量极显著地低于其他各灌水处理,灌溉定额越大,马铃薯种薯产量越高;灌溉定额一定,产量、耗水量和耗水模系数及水分利用效率均呈灌水2次>灌水1次>灌水3次的规律;灌溉定额越大的处理耗水量越大,在全生育期马铃薯的耗水规律为现蕾期>花期>苗期>成熟期,现蕾期耗水量最大.露地比覆膜耗水量大 18.43 mm,膜下滴灌马铃薯的水分利用效率明显高于露地,说明膜下滴灌马铃薯技术有利于保持土壤水分,有效节约水资源,适宜在宁夏中部干旱地区广泛推广。
【英文摘要】Abstract: Based on the study of field experiments, water consumption regularities and soil water effecting yield of potato. Theresults show that the yields of potato in mulch cover land are obliviously higher than in bare land, the more irrigation quota,the higher of the yields and water consumption of potato; the law of yield,water consumption,water consumption coefficient and water use efficiency of potato were tested 2 times irrigation water>1 irrigation water>3 times irrigation water> no irrigation.The law of water consumption is buding>florescence>seedling stage>maturity;water consumption of bare land is higher thanthat of mulch cover, water use efficiency with mulch cover is obviously higher than that with bare land. It shows that mulchcover drip irrigation can save water resource, and is feasible in the middle dryland of Ningxia.
【语种】中文
【第一作者】尹 娟
【通讯作者】尹 娟
【期刊名称、卷期、页码】宁夏工程技术,2011.12,334-337.
【论文发表时间】2011-12-07 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农业基础学科

【题目】马铃薯氮磷钾复合专用肥肥效研究
【中文关键词】关键词:马铃薯;复合专用肥;根冠比;产量
【英文关键词】无
【中文摘要】摘要:在半干旱黄土丘陵典型区的宁夏固原地区旱地进行了马铃薯不同复合专用肥及其用量对土壤含水率、植株生长、产量及水分生产效率的影响试验,结果表明:氮、磷、钾复合专用肥不同用量对马铃薯株高、主茎数、分枝数、干物质产量、鲜薯产量均有影响。其中,硫酸钾复合专用肥最佳施用量为450 kg/ hm2,马铃薯鲜薯产量29 520.3 kg/ hm2,水分生产效率76.48 kg/(hm2 · mm);BB 复合肥最佳施用量为600 kg/ hm2,马铃薯鲜薯产量28 106.2 kg/ hm2,水分生产效率75.03kg/(hm2 · mm),分别较常规施肥N225P120 增产11.97%和6.61%,水分生产效率提高6.04%和4.04%。
【英文摘要】无
【语种】中文
【第一作者】周皓蕾
【通讯作者】周皓蕾
【期刊名称、卷期、页码】宁夏农林科技,2011,52(11):11-13.
【论文发表时间】2011-11-02 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农业基础学科

【题目】不同膜色和覆盖方式对马铃薯地温及水分效应的影响
【中文关键词】关键词:马铃薯;黑膜;白膜;覆膜方式;土壤含水量;水分生产效率;产量
【英文关键词】无
【中文摘要】摘要:通过田间试验研究了不同膜色和覆盖方式对马铃薯生育期内土壤含水量、土壤温度、水分生产效率以及马铃薯产量的影响。结果表明:覆膜可提高土壤含水量、耕层土壤温度。0~200 cm 土壤含水量全膜覆盖明显高于半膜

平覆和露地,0~100 cm 土壤含水量全膜覆盖高于半膜覆盖1.66%~2.42%、高于露地0.78%~3.50%;覆膜后耕层土壤温度均高于露地。覆膜能提高马铃薯鲜薯产量和水分生产效率。早春白色地膜半膜平覆处理马铃薯鲜薯产量31 657.23 kg/hm 2,增产62.73%,水分利用效率提高49.51%,为最佳覆膜方式。
【英文摘要】无
【语种】中文
【第一作者】买自珍
【通讯作者】买自珍
【期刊名称、卷期、页码】宁夏农林科技,2011,52(05):3-4,25.
【论文发表时间】2011-05-11 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农业基础学科

【题目】不同膜色和覆盖方式对马铃薯干物质积累及产量的影响
【中文关键词】关键词:马铃薯;白膜;黑膜;覆膜栽培;干物质积累;商品薯率;产量
【英文关键词】无
【中文摘要】摘要:通过田间试验,研究了不同膜色、不同覆盖方式下马铃薯生长过程中源与库的关系,揭示光合产物在源-库之间的分配规律,以进一步挖掘马铃薯产量潜力,通过覆膜措施可为马铃薯生长创造适宜的土壤水、热环境条件,增强光合作用,提高马铃薯根、茎、叶干物质积累(源),向地下块茎(库)输送营养物质,为马铃薯高产奠定物质基础。结果表明:不同处理地上部干物质量排序为全膜覆盖>半膜覆盖>露地,地上部干物质变化呈先缓慢增长→快速增长→达到最大→缓慢下降的趋势,根干重变化趋势为先增加后减少再增加;早春白膜全膜双垄覆膜沟播马铃薯地上干物质180.4 g/ 株,较对照增加100.5g/株;覆膜有助于马铃薯提早结薯,提高马铃薯大、中薯率,单株大薯数较对照增加0.2~0.6个,单株大薯重增加0.14~0.31kg,早春白膜半膜平覆马铃薯膨大期鲜薯重610.9 g/ 株,较对照增加223.6 g/ 株,鲜薯产量31 657.23 kg/ hm2,增产62.73%,水分生产效率提高49.51%。
【英文摘要】无
【语种】中文
【第一作者】李明芳
【通讯作者】李明芳
【期刊名称、卷期、页码】宁夏农林科技,2011(03):4-5,7.
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【引文索引号】null
【学科分类】农业基础学科

【题目】覆膜和优化施肥对马铃薯干物质积累及产量的影响
【中文关键词】关键词:西北干旱区;马铃薯;氮肥;磷肥;钾肥;农家肥;干物质积累;产量
【英文关键词】无
【中文摘要】摘要:通过田间试验,研究了宁南山区黑色地膜覆盖和氮、磷、钾肥与农家肥配施对马铃薯干物质积累和产量的影响。结果表明:氮、磷、钾肥与有机肥配施,有助于马铃薯地上部茎叶和地下根生长,干物质积累,增强抗旱性,提高用水效率,为马铃薯高产创造物质基础。处理D的马铃薯鲜薯产量31289.4kg/hm2,较无肥区增产56.05%,水分生产效率提高48.41%;处理B较处理A 增产8.28%,水分生产效率提高5.11%。
【英文摘要】无
【语种】中文
【第一作者】买自珍
【通讯作者】买自珍
【期刊名称、卷期、页码】宁夏农林科技,2011,52(03):1-3,19
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【引文索引号】null

【学科分类】农业基础学科

【题目】Involvement of OsSPX1 in phosphate homeostasis in rice
【中文关键词】无
【英文关键词】rice, SPX domain, phosphate, homeostasis, suppressor
【中文摘要】无
【英文摘要】Arabidopsis thaliana SPX (SYG/PHO81/XPR1) domain genes have recently been shown to be involved in the phosphate (Pi) signaling pathway. We show here that a rice (Oryza sativa) SPX gene, OsSPX1, is specifically induced by Pi starvation in roots. Suppression of OsSPX1 by RNA interference resulted in severe signs of toxicity caused by the over-accumulation of Pi, similar to that found in OsPHR2 (phosphate starvation response transcription factor 2) overexpressors and pho2 (phosphate-responsive mutant Quantitative RT-PCR showed that expression of OsSPX1 was strongly induced in OsPHR2 overexpression and pho2 mutant plants,indicating that OsSPX1 occurs downstream of OsPHR2 and PHO2. The expression of 10 genes associated with the phosphate-starvation signal pathways was analyzed. Expression of OsPT2 (phosphate transporter and OsPT8 was significantly induced in OsSPX1-RNAi (OsSPX1-Ri) plants, suggesting that over-accumulation of Pi in OsSPX1-Ri plants results from an increase in Pi transport. In contrast, overexpression of OsSPX1 suppressed the induction of expression by Pi starvation of all 10 phosphate starvation-induced genes tested: IPS1 (inducedby phosphate starvation 1), IPS2, OsPAP10 (purple acid phosphatase 10), OsSQD2 (sulfoquinovosyldiacylglycerol ,miR399d and miR399j (microRNA 399), OsPT2, OsPT3, OsPT6 and OsPT8. This suggests that OsSPX1 acts via a negative feedback loop to optimize growth under phosphate-limited conditions.
【语种】英文
【第一作者】Chuang Wang
【通讯作者】寿惠霞
【期刊名称、卷期、页码】The Plant Journal (2008),57::85-904
【论文发表时间】2008-12-26 00:00:00
【引文索引类型】SCI
【引文索引号】10.1111/j.1365-313X.2008.03734.x
【学科分类】农学其他学科

【题目】一种小型多功能田间管理机的设计
【中文关键词】关键词:农业工程;田间管理机;设计;多功能;特色
【英文关键词】Key words:Agricultural engineering;Field management machinery;Design;Multi—purpose;Characteristi
【中文摘要】摘要:为降低小地块耕作的劳动强度、提高劳动效率,在充分吸收大中型农业机械设备技术的基础上,开发出小型多功能田间管理机。该机是一种特色农业多功能田间管理机械,通过更换不同的工作部件,可以完成田间旋耕整地、播种、施肥、培土、田间施药、施叶面肥、果树喷药等多种作业,还能用于田间运输。田间试验示范结果表明,该机工作效率是人工作业的10倍左右,每台机器可管理1 hm 以上的庄稼,是玉米、花生、棉花等作物田间管理的机械化作业工具。
【英文摘要】Abstract:With the rapid development of agricultural production,how to improve the land utilization and the yield perunit area of land is becoming more and more important for people.Reinforcing the field management of crop is an important measure to increase production,meanwhile,advanced production technology and ancillary equipment are necessary .This machine is a combined type of management machinery,through replacing different working parts.It can accomplish field spraying,application of foliage,fruit spraying,rotary preparation,dressing earth,field transport and other operations.Field test results show that:the operating eficiency of this machinery is 1 0 times than that of the manpower;each machine can cultivate more than 1 hm field.It can be a mechanized field management machinery for corn,peanut,cotton and other crops
【语种】中文
【第一作者】刘美丽
【通讯作者】杨福增
【期刊名称、卷期、页码】拖拉机与农用运输车,2011.38(3).82-84.
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【引文索引类型】其他
【引文索引号】null
【学科分类】机械设计

【题目】Responses of Fusarium oxysporum f. sp. niveum to exogenously added sinapic acid in vitro
【中文关键词】无
【英文关键词】Fusarium oxysporum f. sp. niveum .Plant – microbe interaction . Sinapic acid .Virulence factors
【中文摘要】无
【英文摘要】To assess the influence of phenolic acids from plant root exudates on soil pathogens, we studied the effect of sinapic acid added to chemically defined media on the growth and virulence factors of Fusarium oxysporum f. sp.niveum. Sinapic acid inhibited the growth and conidial formation and germination of F. oxysporum f. sp. niveum by 6.7 – 8.8% and 11.2 – 37.3%, respectively. Mycotoxin production by F. oxysporum f. sp. niveum was stimulated by81.6 – 230.7%. Pectinase, proteinase, cellulase, and amylase activities were stimulated at a lower concentration of sinapic acid, while they were inhibited at a higher concentration.It is concluded that sinapic acid inhibited the growth and conidial germination of F. oxysporum f. sp. niveum and decreased the pathogenic enzymes ’ activity at higher doses.
【语种】英文
【第一作者】吴洪生
【通讯作者】沈其荣
【期刊名称、卷期、页码】Biol Fertil Soils (2009)45:443-447
【论文发表时间】2009-01-07 00:00:00
【引文索引类型】SCI
【引文索引号】2.6367110001e+011
【学科分类】土壤学

【题目】山地微耕机液压差高装置的设计
【中文关键词】关键词:设计;稳定性;液压;山地机械
【英文关键词】Key words:Design;Stability;Hydraulic;Mountainous machine
【中文摘要】摘要:由于山地坡度大、地块小、形状不规则,使农机操作困难,工作稳定性差。如何使作业机械在坡地上保持机身水平是解决这一问题的关键。针对这一问题,设计了一种液压差高装置。实践证明,该装置能够有效地解决这一问题,使得微耕机在山地稳定作业,为同类山地机械的研制提供了一个参考。
【英文摘要】Abstract:The development of the mountainous machine is restricted by the complicate terrain,especially by the largeslope,small scale and irregular shape.Since it ’ s difi cult for the tractor to keep balance,the working stability is suspicious.So the key point to solve this question is that how to make tractors keep balance on the hillside itself.This essay dedicates to design a kind of equipment called hydraulic difference in elevation equipment which is turned out can solve this problem successfully,and it can provide a sample for the research of the generic machines.
【语种】中文
【第一作者】张季琴
【通讯作者】杨福增
【期刊名称、卷期、页码】拖拉机与农用运输车,2011.38(3):92-96.
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【引文索引类型】其他
【引文索引号】null
【学科分类】机械设计

【题目】Identification of rice purple acid phosphatases related to
【中文关键词】无
【英文关键词】Expression analysis; phylogenetic analysis;
Pi starvation; purple acid phosphatase; rice.
【中文摘要】无
【英文摘要】Purple acid phosphatases (PAPs) are a family of metallo-phosphoesterases involvedin a variety of physiological functions, especially phosphate deficiency adaptations inplants. We identified 26 putative PAP genes by a genome-wide analysis of rice (Oryzasativa), 24 of which have isolated EST sequences in the dbEST database. Amino acidsequence analysis revealed that 25 of these genes possess sets of metal-ligatingresidues typical of known PAPs. Phylogenetic analysis classified the 26 rice and 29Arabidopsis PAPs

into three main groups and seven subgroups. We detected transcriptsof 21 PAP genes in roots or leaves of rice seedlings. The expression levels often PAP genes were up-regulated by both phosphate deprivation and over-expressionof the transcription factor OsPHR2. These PAP genes all contained one or twoOsPHR2 binding elements in their promoter regions, implying that they are directlyregulated by OsPHR2. Both acid phosphatase (AP) and surface secretory acidphosphatase (SAP) activity assays showed that the up-regulation of PAPs by Pi starvation,OsPHR2 over-expression, PHO2 knockout or OsSPX1 RNA interference ledto an increase in AP and SAP activity in rice roots. This study reveals the potentialfor developing technologies for crop improvement in phosphorus use efficiency.
【语种】英文
【第一作者】Q. Zhang
【通讯作者】寿惠霞
【期刊名称、卷期、页码】Plant Biology,2010,(13)7 – 15
【论文发表时间】2010-03-27 00:00:00
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【引文索引号】10.1111/j.1438-8677.2010.00346.x
【学科分类】农学其他学科

【题目】宁夏中南部地区马铃薯双垄全膜覆盖沟播栽培密度试验
【中文关键词】关键词:宁夏;马铃薯;双垄全膜覆盖;密度
【英文关键词】Key Words: Ningxia Province, Potato, Double-ridge covered the whole film, Density
【中文摘要】摘要:宁夏中南部地区是宁夏主要的马铃薯种植基地,近年来该区由于马铃薯产业的不断发展和环境气候的逐渐改变,马铃薯双垄全膜覆盖沟播栽培已开始较大面积推广。因此,针对宁夏中南部地区不同土壤肥力及气候条件,不同地区选用当地的主栽品种(南部山区为‘陇薯3号’,中部干旱带为‘虎头’),布置了马铃薯不同种植密度试验。结果表明,宁夏中南部地区马铃薯双垄全膜覆盖模种植密度的高低与其生育期、商品薯率及产量间均存在较大的关系。从马铃薯生育期、商品薯率和产量综合因素来看,宁夏南部山区和中部干旱带马铃薯适宜栽培的密度分别为3500~4000株/667m2和2000~2500株/667m2,通过函数拟合发现,宁夏南部山区马铃薯种植高产的密度为3612株/667m2,中部干旱带为2564株/667m2。
【英文摘要】Abstract: South-central area of Ningxia province is the main planting base of potatoes. Due to the continuous development of potato industry and environmental and climatic changes, the potato planting technology of double ridges mulching was widely extended in this area. According to the differences of soil fertility, climatic conditions in south-central area, the experiment with different planting densities of potato was conducted in different testing sites, and local main cultivars were adopted (‘Longshu 3’ was used in southern mountainous area, and ‘Hutou’ in central arid area). The results indicted that, under the planting mode of double ridges mulching, the planting density of potato had close relationship with its growth period, commodity potato rate and yield. Comprehensively considered these indexes, the suitable planting density of potato was 3500-4000 hill/667m2 and 2000-2500 hill/667m2, respectively, in southern mountainous area and central arid area. By function fitting, the highest yield of potato was demonstrated for southern mountainous area and central arid area of Ningxia province, which was 3612 hill/667m2 and 2564 hill/667m2, respectively.
【语种】中文
【第一作者】何进勤
【通讯作者】桂林国
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【学科分类】农业基础学科

【题目】宁夏南部山区马铃薯种薯不同栽培模式品种适应性研究
【中文关键词】关键词:宁夏;马铃薯;栽培模式;品种;适应性
【英文关键词】Key Words: Ningxia; potato; cultivation pattern; variety; adaptability
【中文摘要】摘要:本试验针对宁夏南部山区西吉县黄土丘陵缓坡地旱作农业的特殊条件,开展了旱地马铃薯种薯不同栽培模式品种适应性研究,试验以不同覆膜方式、不同品种为研究对象,分析其土壤含水量、产量和产值的变化特点。结果表明,宁夏南部山区马铃薯种薯适宜选用全膜覆盖栽培模式,从产量和产值考虑,以全膜×冀张薯8号为主,全膜×青薯9号或

半膜×青薯9号次之。
【英文摘要】Abstract: A research about cultivation pattern and variety selection were carried out in the loess land of Xiji county in the southern mountainous part of Ningxia. Various mulching models combined with various potato varieties were tested for its soil water content, yield, and value. The experimental data indicated that whole film coverage was suitable for potato production in the southern mountainous area of Ningxia. When considered from both points of yield and value, whole film coverage combined with the variety ‘ Jizhangshu 8 ’ performed best, followed by whole film coverage combined with the variety ‘ Qingshu 9 ’ or half film coverage combined with ‘ Qingshu 9 ’.
【语种】中文
【第一作者】何进勤
【通讯作者】桂林国
【期刊名称、卷期、页码】中国马铃薯,(待定)
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【引文索引号】null
【学科分类】农业基础学科

【题目】饲料中添加甘草酸对刺参生长、免疫及抗病力的影响
【中文关键词】A 8-week feeding experiment was conducted to evaluate the effects of glycyrrhizin on the growth, non-specific immunity of sea cucumber as well as its resistance against Vibrio splendidus. Four practical diets were formulated containing four glycyrrhizin l
【英文关键词】Apostichopusjaponicus Selenka;Glycyrrhizin;Resistance;Immunity;Immunostimulant
【中文摘要】以初始体重为(6.80士O.oo)g左右的刺参(Apostichopus/aponicu Selenka)为研究对象,在事内循环水 系统巾进行8周饲喂实验,研究饲料巾添加不同梯度的甘草酸对刺参生长、免疫及其抗病力的影响。以基础 饲料为对照组,住基础饲料中分别添加50、100和200 mg/kg的甘草酸,共配制4种实验饲料。结果表明: 饲料中添加十t草酸对刺参的成活率没有影响,处理组均为 100%..饲料中添加200 mg/kg甘草酸可显著提 高刺参的特定生长率(SGR)(P<0.o5)。当饲料中甘草酸添加量为200 mg/kg时,刺参体腔细胞一氧化氮合酶 (NOS)活性和溶菌酶(LZM)活性显著高于对照组及其他添加组(JD<0.05)。当饲料I{J甘草酸添加量为100和200 mg/kg时,刺参体腔细胞 O2产量(COP)、超氧化物歧化酶(SOD)活性及酸性磷酸酶(ACP)活性均显著高于对 照组及50 mg/kg添加组(尸<0.05)。100 mg/kg的甘草酸同时还显著提高了刺参体腔细胞NOS活性和LZM活 性(尸<0.05)。50 mg/kg添加组以 各免疫指标与对照组差异 显著(P>O.05)。养殖实验结束后,通过注射刺 参腐皮综合症致病菌灿烂弧菌(Vibrio splendidus)进行刺参攻毒实验,攻毒后 14d内对照组与 50 mg/kg添 加组的累计发病率(分别为 38_3%和36.7%)显著高于 100和 200 mg/kg添加组(分别为 30.0%和 26.7%)(P<0.o5)。实验可得到以下结论:(1)饲料中添加200 mg/kg甘草酸可以提高刺参养殖的产量,同时可以提高 刺参的非特异性免疫力和抗病力;(2)存研究L卜I,全周期养殖期间投喂 草酸不会产生免疫疲劳或其他副 作用。
【英文摘要】刺参;甘草酸;免疫力;抗病力;免疫增强剂
【语种】中文
【第一作者】陈效儒
【通讯作者】麦康森
【期刊名称、卷期、页码】水生生物学报
【论文发表时间】2010-07-10 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】水产养殖学

【题目】Influence of fertilizers on nitrogen mineralization and utilization in the rhizosphere of wheat
【中文关键词】无
【英文关键词】Rhizosphere .N mineralization .Microorganism . Enzyme
【中文摘要】无
【英文摘要】Plant roots and microorganisms play an important role in the soil N cycle and plant N nutrition through the release of extracellular enzymes. In the present greenhouse pot experiment, wheat (Triticum aestivum) seedlings were grown in a fluvo-aquic soil (Udifluvent) to investigate N mineralization and utilization in the rhizosphere of wheat. The soil received chemical fertilizer (15N-

labeled urea), chemical fertilizer plus manure (common urea + 15N-labeled swine manure) or no N. Plant roots were separated from the soil with a nylon cloth, and 1-mm increments of soil moving laterally away from roots were analyzed for N, microbial C, and the activities of invertase, urease and protease. Chemical fertilizer plus manure promoted wheat growth and N absorption significantly compared with chemical fertilizer. 15N from both chemical fertilizer and swine manure accumulated significantly in the rhizosphere soil within 5 mm of the roots. Fertilized N could thus move easily laterallytowards roots and there was no indication that movement through the soil limited plant N supply. A large proportion of fertilizer N was lost from the soil during the wheat growing period, and N utilization efficiency was 24% for chemical fertilizer and 30% for swine manure. In addition, faster rates of N mineralization, larger amounts of microbial C, and increased activities of invertase, urease and protease occurred in the rhizosphere compared with other parts of the soil. There was a significant correlation between microbialC and N mineralization rate ($r=0.968$, $P<0.01$) in the whole soil. Microbial C also showed significant positive correlations with activities of invertase ($r=0.892$, $P<0.01$) and protease ($r=0.933$, $P<0.01$).Further study showed that adding manure into soil increased microbial C and the activities of invertase and protease; adding urea stimulated urease activity in the same soil. Changes in soil enzyme activities in response to N fertilizers could be considered indicators for different fertilizer managements.

【语种】英文
【第一作者】袁玲
【通讯作者】黄建国
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【引文索引号】2.9068800001e+011
【学科分类】土壤学

【题目】A PIN1 Family Gene, OsPIN1, involved in Auxin-dependent Adventitious Root Emergence and Tillering in Rice
【中文关键词】无
【英文关键词】Adventitious root — Auxin transporter —
Emergence — Oryza sativa L. — PIN-FORMED1 family —
Tillering.
【中文摘要】无
【英文摘要】Auxin transport affects a variety of important growthand developmental processes in plants, including the regulationof shoot and root branching. The asymmetrical localizationof auxin influx and efflux carriers within the plasmamembrane establishes the auxin gradient and facilitates itstransport. REH1, a rice EIR1 (Arabidopsis ethylene insensitiveroot 1)-like gene, is a putative auxin efflux carrier.Phylogenetic analysis of 32 members of the PIN family,taken from across different species, showed that in terms ofevolutionary relationship, OsPIN1 is closer to the PIN1family than to the PIN2 family. It is, therefore, renamed asOsPIN1 in this study. OsPIN1 was expressed in the vasculartissues and root primordial in a manner similar toAtPIN1. Adventitious root emergence and developmentwere significantly inhibited in the OsPIN1 RNA interference(RNAi) transgenic plants, which was similar to thephenotype of NPA (N-1-naphthylphalamic acid, an auxintransportinhibitor)-treated wild-type plants. α-naphthylaceticacid (α-NAA) treatment was able to rescue themutated phenotypes occurring in the RNAi plants. Overexpressionor suppression of the OsPIN1 expressionthrough a transgenic approach resulted in changes of tillernumbers and shoot/root ratio. Taken together, these datasuggest that OsPIN1 plays an important role in auxindependentadventitious root emergence and tillering.

【语种】英文
【第一作者】Min Xu
【通讯作者】寿惠霞
【期刊名称、卷期、页码】Plant Cell Physiol. 46(10): 1674 – 1681 (2005)
【论文发表时间】2005-10-13 00:00:00
【引文索引类型】SCI
【引文索引号】10.1093/pcp/pci183
【学科分类】农学其他学科

【题目】Control of Fusarium wilt disease of cucumber plants with the application of a bioorganic fertilizer

【中文关键词】无
【英文关键词】Antagonistic substance . Bacillus subtilis .Bioorganic fertilizer . Cucumber plant . Fusarium wilt .Paenibacillus polymyxa
【中文摘要】无
【英文摘要】Two field experiments were conducted to evaluate the effect of organic fertilizer application either with or without antagonistic bacteria (Bacillus subtilis SQR-5 and Paenibacillus polymyxa SQR-21) on the control of Fusarium oxysporum f. sp. Cucumerinum J. H. Owen wilt disease in cucumber. The incidence of Fusarium wilt disease was 5.3 – 13.5% for cucumber plants treated with bioorganic fertilizer,while it was 30.3 – 51% in controls (only with organic fertilizer). Higher yields and lower disease incidences were observed in the dry season when compared with the wet season for both types of organic fertilizer treatments. Biolog analysis showed a significant change in soil bacterial composition and activity after bioorganic fertilizer application.The numbers of colony-forming units of F. oxysporumf. sp. Cucumerinum J. H. Owen for bioorganic-fertilizertreated soils were significantly decreased compared with control. Scanning electron micrographs of cucumber basal stems showed a presence of mycelia-like mini strands accompanied by an amorphous substance within the xylemvessels. This amorphous substance and mini strands were richer in calcium and phosphorus but had low carbon and oxygen than the living mycelia. Reverse-phase high-pressure liquid chromatography and mass spectroscopic analysis showed that the antagonistic bacteria produced the antifungal compounds fusaricidin A, B, C, and D with molecular weights of 883.5, 897.5, 947.5, and 961.5 Da, respectively.The application of bioorganic fertilizer has a great potential for the control of F. oxysporum wilt disease in cucumber plants.
【语种】英文
【第一作者】张树生
【通讯作者】沈其荣
【期刊名称、卷期、页码】Biol Fertil Soils (2008)44:1073-1080
【论文发表时间】2008-03-31 00:00:00
【引文索引类型】SCI
【引文索引号】2.5875790001e+011
【学科分类】土壤学

【题目】Development of a mode of application of bioorganic fertilizer for improving the biocontrol efficacy to Fusarium wilt
【中文关键词】无
【英文关键词】Bioorganic fertilizer (BIO) , Nursery application , Fusarium wilt , Watermelon , Paenibacillus polymyxa
【中文摘要】无
【英文摘要】More effective ways of applying biocontrol products should be developed based both on thecharacteristics of the biocontrol agents and the normal practices of the agricultural producer.Anewsystemwas developed to improve the biocontrol efficacy of Fusarium wilt forwatermelon production, and this systemwas tested in pot and field experiments. Biocontrol was achieved by applying a novel bioorganic fertilizer product (BIO) to Fusarium-infested soil. The best biocontrol was obtained by application of a bioorganic fertilizer, BIO, into soil during the nursery phase of watermelon seedling followed by a second applicationto Fusarium-infested soil when watermelon seedlings were transplanted. In comparison with the controls, the incidence of the diseasewas reduced by 60 – 100%in the pot experiment and by 59 – 73% in the field experiment when the BIO was applied during the nursery stage.After application of BIO during the nursery stage, the number of colony-forming units of Fusarium oxysporum in rhizospheric soil was significantly (P\0.05) inhibited compared to the controls. An in vitro experiment showed that the antagonist Paenibacillus polymyxa in the BIO could effectively colonize the rhizosphere of watermelon and proliferate along the extending plant roots. This inhibited growth of Fusarium oxysporum in the rhizosphere of watermelon andprotected the watermelon roots from attack by the pathogens. The method used for biocontrol Fusarium wilt disease inwatermelon should be a useful strategy to improve field efficacy of other biocontrol agents.
【语种】英文
【第一作者】凌宁
【通讯作者】黄启为
【期刊名称、卷期、页码】BioControl (2010)55:673-683
【论文发表时间】2010-03-12 00:00:00
【引文索引类型】SCI
【引文索引号】2.8189770001e+011

【学科分类】植物保护学

【题目】基于作物需水信息的实时灌溉技术研究进展
【中文关键词】灌溉技术; 作物需水; 实时灌溉;
【英文关键词】irrigation technology; crop water requirements; real-time irrigation;
【中文摘要】介绍了基于作物需水信息实时灌溉技术的国内外研究进展,并对研究现状作了较系统的分析和评述,有助于实时灌溉技术的进一步研究和应用推广。
【英文摘要】The research advance is introduced in real-time irrigation and the crop water requirements in domestic and abroad in this paper.The research state are reviewed based on this,it will contribute to further research of real-time irrigation and its application.
【语种】中文
【第一作者】申孝军
【通讯作者】李明思
【期刊名称、卷期、页码】水资源与水土工程学报;2008,19(3):1-5
【论文发表时间】2008-06-05 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农业工程

【题目】Nicotianamine, a Novel Enhancer of Rice Iron Bioavailability to Humans
【中文关键词】无
【英文关键词】iron,OsNAS1
【中文摘要】无
【英文摘要】Background: Polished rice is a staple food for over 50% of the world ’s population, but contains little bioavailable iron (Fe) tomeet human needs. Thus, biofortifying the rice grain with novel promoters or enhancers of Fe utilization would be one ofthe most effective strategies to prevent the high prevalence of Fe deficiency and iron deficiency anemia in the developingworld.Methodology/Principal Findings: We transformed an elite rice line cultivated in Southern China with the rice nicotianaminesynthase gene (OsNAS1) fused to a rice glutelin promoter. Endosperm overexpression of OsNAS1 resulted in a significantincrease in nicotianamine (NA) concentrations in both unpolished and polished grain. Bioavailability of Fe from the high NAgrain, as measured by ferritin synthesis in an in vitro Caco-2 cell model that simulates the human digestive system, wastwice as much as that of the control line. When added at 1:1 molar ratio to ferrous Fe in the cell system, NA was twice aseffective when compared to ascorbic acid (one of the most potent known enhancers of Fe bioavailability) in promotingmore ferritin synthesis.Conclusions: Our data demonstrated that NA is a novel and effective promoter of iron utilization. Biofortifying polished ricewith this compound has great potential in combating global human iron deficiency in people dependent on rice for theirsustenance.
【语种】英文
【第一作者】Luqing Zheng
【通讯作者】寿惠霞
【期刊名称、卷期、页码】PLoS ONE 5(4): e10190.
【论文发表时间】2010-04-16 00:00:00
【引文索引类型】SCI
【引文索引号】10.1371/journal.pone.0010190
【学科分类】农学其他学科

【题目】膜下滴灌技术的研究现状与展望
【中文关键词】灌溉技术; 膜下滴灌; 研究现状; 展望
【英文关键词】无
【中文摘要】目前,膜下滴灌技术研究主要包括膜下滴灌对作物生长发育的影响,膜下滴灌条件下土壤水、热、盐运移规律和膜下滴灌对水肥利用效率的影响等三方面。膜下滴灌技术研究中存在的问题有:如何制定合理的滴灌水肥施用制度和栽培模式,以调节棉花地上部与地下部的协调生长;滴灌条件下的水、热、盐、根系吸水问题,以及膜下滴灌作物水肥科学合理配比等的研究较少。我国膜下滴灌技术未来几年的重点研究方向为土壤水、热、盐动态变化规律和作物的水肥耦合技术等。

【英文摘要】无
【语种】中文
【第一作者】申孝军
【通讯作者】张寄阳
【期刊名称、卷期、页码】人民黄河;2009,31(9):64-67
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【引文索引号】null
【学科分类】农业工程

【题目】Mutation in Nicotianamine Aminotransferase Stimulated the Fe(II) Acquisition System and Led to Iron Accumulation in Rice
【中文关键词】无
【英文关键词】Iron,Rice,NAAT1
【中文摘要】无
【英文摘要】Higher plants acquire iron (Fe) from the rhizosphere through two strategies. Strategy II, employed by graminaceous plants,involves secretion of phytosiderophores (e.g. deoxymugineic acid in rice [Oryza sativa]) by roots to solubilize Fe(III) in soil. Inaddition to taking up Fe in the form of Fe(III)-phytosiderophore, rice also possesses the strategy I-like system that may absorbFe(II) directly. Through mutant screening, we isolated a rice mutant that could not grow with Fe(III)-citrate as the sole Fesource, but was able to grow when Fe(II)-EDTA was supplied. Surprisingly, the mutant accumulated more Fe and otherdivalent metals in roots and shoots than the wild type when both were supplied with EDTA-Fe(II) or grown under waterloggedfield conditions. Furthermore, the mutant had a significantly higher concentration of Fe in both unpolished andpolished grains than the wild type. Using the map-based cloning method, we identified a point mutation in a gene encodingnicotianamine aminotransferase (NAAT1), which was responsible for the mutant phenotype. Because of the loss of function ofNAAT1, the mutant failed to produce deoxymugineic acid and could not absorb Fe(III) efficiently. In contrast, nicotianamine,the substrate for NAAT1, accumulated markedly in roots and shoots of the mutant. Microarray analysis showed that theexpression of a number of the genes involved in Fe(II) acquisition was greatly stimulated in the naat1 mutant. Our resultsdemonstrate that disruption of deoxymugineic acid biosynthesis can stimulate Fe(II) acquisition and increase iron accumulationin rice.
【语种】英文
【第一作者】Longjun Cheng
【通讯作者】寿惠霞
【期刊名称、卷期、页码】Plant Physiology, December 2007, Vol. 145, pp. 1647 – 1657
【论文发表时间】2007-12-19 00:00:00
【引文索引类型】SCI
【引文索引号】10.1104/pp.107.107912
【学科分类】农学其他学科

【题目】Physiological and Transcriptome Analysis of Iron and Phosphorus Interaction in Rice Seedlings
【中文关键词】无
【英文关键词】Iron,rice Seedling,Phosphorus,
【中文摘要】无
【英文摘要】The antagonistic interaction between iron (Fe) and phosphorus (P) has been noted in the area of plant nutrition. To understandthe physiology and molecular mechanisms of this interaction, we studied the growth performance, nutrient concentration, andgene expression profiles of root and shoot segments derived from 10-d-old rice (Oryza sativa) seedlings under four differentnutrient conditions: (1) full strength of Fe and P (+Fe+P); (2) full strength of P and no Fe (2Fe+P); (3) full strength of Fe and noP (+Fe2P); and (4) without both Fe and P (2Fe2P). While removal of Fe in the growth medium resulted in very low shoot androot Fe concentrations, the chlorotic symptoms and retarded seedling growth were only observed on seedlings grown in thepresence of P. Microarray data showed that in roots, 7,628 transcripts were significantly changed in abundance in the absenceof Fe alone. Interestingly, many of these changes were reversed if P was also absent (2Fe2P), with only approximately 15%overlapping with – Fe alone (– Fe+P). Analysis of the soluble Fe concentration in rice seedling shoots showed that P deficiencyresulted in significantly increased Fe availability within the

plants. The soluble Fe concentration under – Fe – P conditions wassimilar to that under +Fe+P conditions. These results provide evidence that the presence of P can affect Fe availability and inturn can influence the regulation of Fe-responsive genes.
【语种】英文
【第一作者】Luqing Zheng
【通讯作者】寿惠霞
【期刊名称、卷期、页码】Plant Physiology , September 2009, Vol. 151, pp. 262 – 274
【论文发表时间】2009-09-23 00:00:00
【引文索引类型】SCI
【引文索引号】10.1104/pp.109.141051
【学科分类】农学其他学科

【题目】Cytokinin represses phosphate-starvation response through increasing of intracellular phosphate level
【中文关键词】无
【英文关键词】Oryza sativa
L.; transcript profile
【中文摘要】无
【英文摘要】The involvement of cytokinins (CTKs) in the repression ofphosphate (Pi)-starvation signalling has been widely documented.However, the full physiological and molecularrelevance of this role remains unclear. To gain furtherinsights into the regulation system of CTK repression ofPi-starvation signalling, a global analysis of gene expressionevents in rice seedlings under Pi starvation, and theexogenous CTK treatment under Pi-sufficient (+P) andPi-deficient (-P) conditions, was conducted using oligonucleotidearray analysis. Physiological and biochemicaladaptation was observed after 10 d Pi starvation in riceseedlings. A global reduction of the Pi-starvation signallingwas detected after 3 d treatment of exogenous CTK. Expressionprofiling data indicate that, together with a significantincrease of intracellular Pi content, many expressionchanges responsive to Pi starvation were reversed by exogenousCTK treatment while CTK-responsive genes behavednormally under-P condition. These results suggest that theinterplay of CTK signal and Pi-starvation response can bepartially explained by the rise of Pi concentration afterexogenous CTK treatment. Microarray data also revealedthat a small number of genes have different CTK responsepatterns under different Pi levels, suggesting a subtle interactionbetween CTK and Pi-starvation signalling pathway.
【语种】英文
【第一作者】XUMING WANG
【通讯作者】寿惠霞
【期刊名称、卷期、页码】Plant, Cell and Environment,(2006),29,1924-1935
【论文发表时间】2006-11-13 00:00:00
【引文索引类型】SCI
【引文索引号】10.1111/j.1365-3040.2006.01568.x
【学科分类】农学其他学科

【题目】平茬更新代次对杞柳生长及柳条产量和质量的影响
【中文关键词】杞柳;平茬更新代次;柳条产量;柳条质量;沿淮低湿地
【英文关键词】willow shrub; harvest rotation; wicker production; wicker quality; low land along Huaihe riverside
【中文摘要】选择淮河低湿地不同平茬更新代次的杞柳林分,对其生长情况及柳条产量、质量进行调查,并对平茬更新代次的影响进行评价。结果表明:0~4代杞柳林分在叶面积指数、柳条平均直径和长度以及生物量方面均不存在显著差异;1代林分柳条分化严重,整齐度低,细弱型柳条(D0.4 cm)比例达44%,需要在栽培过程中加以人工调控;4代林分柳条的整齐度较高,但产条数量较0~2代林分低20%以上,并且粗大型柳条(D0.8 cm)所占比例略高于其他代次,建议在生产中采用1年2次收获的方式以增加中细型柳条的产量。
【英文摘要】无
【语种】中文
【第一作者】田野
【通讯作者】田野
【期刊名称、卷期、页码】南京林业大学学报,36(2):84-88

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【引文索引类型】其他
【引文索引号】null
【学科分类】森林培育学

【题目】宁夏炭疽菌属真菌资源研究
【中文关键词】宁夏; 炭疽菌属; 寄主; 分布; 病害
【英文关键词】Ningxia; Colletotrichum Corda; host; distribution; disease
【中文摘要】炭疽菌属真菌是一类重要的植物病原菌,研究碳疽菌属真菌不仅能为植物病害防治提供科学依据,同时可丰富真菌资源多样性研究。通过实地考察、采集标本和分离培养菌种,从宁夏回族自治区境内共鉴定发现炭疽菌属真菌13种,分别是粒毛盘孢、菊刺盘孢、葱炭疽菌、盘长孢状刺盘孢、禾生刺盘孢、木槿刺盘孢、希金斯刺盘孢、葫芦科刺盘孢菌、豆刺盘孢、亚麻刺盘孢、豌豆刺盘孢、三叶草刺盘孢,及未定名刺盘孢属一种。它们在分布上没有地域特征,都为植物病原菌,引起植物炭疽病。
【英文摘要】Colletotrichum Corda was a kind of important plant pathogenic fungi.Study of Colletotrichum Corda was very helpful not only for control of plant diseases but also for enrichment of fungal resource diversity.Resources of Colletotrichum Corda in Ningxia Hui Autonomous Region were determined by systematical spotting-investigation,collection and identification of 327 samples from 2000 to 2011.The results showed that there were 13 species of Colletotrichum Corda identified,which were Colletotrichum coccodes(Wallr.) Hughes,Colletotrichum chrysanthemi(Hori)Sawada,Colletotrichum circinans(Berkeley.) Vogl.,Colletotrichum gloeosporioides(Penzig) Penzig et Sacc.,Colletotrichum graminicolum(Cesati) Wilson,Colletotrichum hibisci Poll.,Colletotrichum higginsianum Sacc.,Colletotrichum lagenarium(Pass.) Ell.et Halst.,Colletotrichum lindemuthianum(Sacc.et Magn.) Briosi et Cavara,Colletotrichum linicolum Pethyb.et Lauff.,Colletotrichum pisi Pat.,Colletotrichum trifolii Bain et Essary,and one species not named yet.These species of Colletotrichum Corda were all pathogens of plants,and there were no geographical characteristics in the distribution.
【语种】中文
【第一作者】沈瑞清
【通讯作者】沈瑞清
【期刊名称、卷期、页码】河南农业科学,2012,41(5):100-102,149
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【引文索引号】null
【学科分类】植物保护学

【题目】Bacillus subtilis SQR 9 can control Fusarium wilt in cucumber by colonizing plant roots
【中文关键词】无
【英文关键词】Colonization . Bio-organic fertilizer . Fusarium wilt . Rhizosphere . Bacillus subtilis
【中文摘要】无
【英文摘要】Fusarium wilt is one of the major constraints on cucumber production worldwide. Several strategies have been used to control the causative pathogen, Fusarium oxysporum f. sp. cucumerinum J. H. Owen, including soil solarization, fungicide seed treatment and biological control.In this study, F. oxysporum f. sp. cucumerinum was successfully controlled by a newly isolated strain, Bacillus subtilis SQR 9, in vitro and in vivo. Greenhouse experimentswere carried out to evaluate the effect of inoculation and solid fermentation of organic fertilizer with B. subtilis SQR 9, hereby defined as bio-organic fertilizer (BIO), onthe control of Fusarium wilt. In comparison with the control, the wilt incidence was significantly reduced (49 – 61% reduction) by application of BIO. The rhizospherepopulation of F. oxysporum f. sp. cucumerinum, as detected both by selective plating and realtime PCR, was significantly lower in BIO-treated plants than the control. The localization of bacterial cells, pattern of colonization and survival of B. subtilis SQR 9 in the rhizsosphere of cucumber, was examined by fluorescent microscopy and explored following recovery of the green fluorescent protein (gfp)-labeled SQR 9 with the new gfp-markedshuttle vector pHAPII through selective plating. The preferential sites of the labeled strain were the differentiation and elongation zone, root hair and the lateral root junctions. The population of the strain was 106 cfu/g root in rhizoplane. These results indicate that the strain was able to survive well in the rhizosphere of cucumber, suppressed growth of F. oxysporum in the rhizosphere of cucumber and protected the host from the pathogen.

【语种】英文
【第一作者】曹云
【通讯作者】沈其荣
【期刊名称、卷期、页码】Biol Fertil Soils (2011)47:495-506
【论文发表时间】2011-03-31 00:00:00
【引文索引类型】SCI
【引文索引号】2.929724e+011
【学科分类】土壤学

【题目】盐胁迫对棉田土壤微生物量和土壤养分的影响
【中文关键词】盐胁迫; 棉花; 土壤微生物量; 土壤养分
【英文关键词】soil salinity stress;cotton; soil microbial biomass;soil nutrient
【中文摘要】以耐盐品种中棉所44为材料,模拟滨海混合盐土成分,研究了正常灌水(土壤相对含水量保持在75±5%)和轻度干旱(55±5%)下,不同程度盐胁迫(0,0.35%,0.60%,0.85%,1.00%)对棉田土壤微生物量和土壤养分的影响。结果表明,棉花产量及产量构成(铃数和铃重)、生物量、根重均随着盐浓度的升高而显著递减。棉田土壤微生物量C和N在棉花各个生育期内均随着盐浓度的升高而显著降低,花铃期达到最大,土壤有机质、全氮、速效N、有效P、速效K等养分含量的变化趋势与土壤微生物量C和N基本一致,但降幅较小。土壤微生物量碳与土壤有机碳的比值、土壤微生物量氮与全氮的比值均随着盐浓度的升高而呈现逐渐下降的趋势,表明了土壤微生物量碳氮受盐胁迫的影响大于土壤有机碳和全氮,也表明了土壤微生物对土壤有机碳和全氮转化效率的显著减低。正常灌水条件下各盐分处理的棉花生物量、铃数、铃重、根重、土壤微生物量和土壤养分含量均显著高于相应干旱处理,干旱加重了盐分对土壤微生物量和土壤养分的抑制效应。土壤微生物量C和N与土壤pH值之间存在显著负相关,与土壤有机质、全氮、速效N、有效P、速效K之间均存在显著正相关。
【英文摘要】The experiment was completed in pot with CCRI-44(salinity-tolerance) at Pailou experimental station in Nanjing Agricultural University.By simulating the salinity component of seashore saline soil,setting five soil salinity rates(0%,0.35%,0.60%,0.85%,1.00%),two soil water treatments including well-watering(soil relative water content is 75±5%) and water stress(soil relative water content is 55±5%),this study aims to assess the effects of soil salinity stress on soil microbial biomass C and N,and soil nutrient in cotton field.The results showed that seed cotton yield,boll number,boll weight,biomass and root weight significantly declined with increasing soil salinity.At the same time,the soil microbial biomass C and N significantly declined with increasing soil salinity at different growth stages of cotton.For each salinity rate treatment,the microbial biomass C and N at the flowering and boll-forming stage were the highest in all four stages.Compared with CK(soil salinity rate is 0%),the microbial biomass C in different salinity rates decreased by 14.69%~64.32%,and the microbial biomass N decreased by 7.59%~56.81% at flowering and boll-forming stage under the well-irrigated.Soil organic matter,total N,available P,rapidly available N,and rapidly available K were all reduced with increasing soil salinity at different growth stages of cotton.At the same time,soil water stress aggravated the effects of salinity stress on seed cotton yield,boll,boll weight,biomass and root weight,soil microbial biomass and soil nutrients.Correlation analysis demonstrated that soil microbial biomass C and N were significantly positively correlated with soil organic matter,total N,available P,rapidly available N,rapidly available K,seed cotton yield,biomass,and root weight,but significantly negatively correlated with soil pH.
【语种】中文
【第一作者】路海玲
【通讯作者】周治国
【期刊名称、卷期、页码】水土保持学报,2011,25(1),197-201
【论文发表时间】2011-02-01 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农艺学

【题目】不同灌木柳的扦插成活率和光合特性比较
【中文关键词】灌木柳; 无性系; 扦插成活率; 光合参数
【英文关键词】shrub willow; clones; cutting survival ratio; photosynthesis parameter
【中文摘要】编织柳品种单一,柳条产量和质量低下是沿淮地区柳编产业发展的瓶颈。引进11 个灌木柳新无性系,在沿淮低湿地上进行栽培试验,并对其成活率和光合性状进行调查比较。结果表明,引进的无性系P716、2344、2372的扦插成活率均在90%以上,可以作为淮河低湿地杞柳栽培的后备资源或育种材料加以选择。在光合特性方面,无性系1050、51-3、9-6

和P716 的净光合速率均达到45 μmol / (m2 · s) 以上,明显高于本地种,具有较高的生长潜力。通过初步的综合判断,无性系P716 和51-3 在沿淮低湿地具有极好的适应性和生长表现。

【英文摘要】Because of the uniform variety cropping of the shrub-willow,the lack and degradation of the wicker products has become a crucial restriction to the development of the pillar wickerwork industry along Huaihe river basin. In this study,eleven new shrub-willow clones were introduced to plant in the low land along Huaihe riverside,and their cutting survival ratio and photosynthesis parameters were compared. The results showed that the survival ratios of introduced clones P716,2344 and 2372 were higher than 90%,which indicated that these clones could be chosen as reserve resources or breeding materials for shrub-willow cropping. Considering the photosynthesis parameters,clones 1050,51-3,9-6 and P716 represented net photosynthesis rates of over 45 μmol /(m2 · s) and obviously higher than the local species. According to the pre-evaluation integrating the cutting survival ratio and the photosynthesis aspects,clone P716 and 51 -3 have superior adaptability and growth performance in the low land along Huaihe river basin.

【语种】中文

【第一作者】刘文文

【通讯作者】方升佐

【期刊名称、卷期、页码】林业科技开发,25(4): 52-55

【论文发表时间】2011-07-01 00:00:00

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【学科分类】森林培育学

【题目】种薯药剂处理防治大田马铃薯晚疫病试验

【中文关键词】马铃薯晚疫病; 致病疫霉菌; 浸种处理; 化学防治

【英文关键词】Potato late blight; Phytophthora infestans; Seed tuber treatment; Chemical control

【中文摘要】对利用药剂处理马铃薯种薯的方法进行研究,比较3种杀菌剂在2种含量水平上防治马铃薯晚疫病的效果,以期确立种薯处理防治马铃薯晚疫病应用技术,评估其生产推广价值。用商业化广泛使用的克露、安克以及银法利3种药剂和2个含量分别处理种薯,从马铃薯生长后期植株的发病率、发病部位以及发病程度等方面,系统分析不同药剂浸种处理对马铃薯晚疫病的防控效果。结果表明,50%安克WP 350倍液的种薯处理,植株发病率最低,叶片发病数最少,发病级数最低,防治效果最好。可见,种薯处理作为马铃薯晚疫病防控环节中的一个重要措施,通过有效防控来自带菌种薯的初侵染及其初始菌源来控制病害的发生。

【英文摘要】The late blight of potato,caused by Phytophthora infestans,has been the most devastating disease of potato in the world.Its current control strategies highly depend on spraying application of fungicides.In this study,soaking treatment of potato seed tubers was employed to assess the field efficacy of three different,commonly used fungicides,including cymoxanil-mancozeb,dimethomorph,and propamocarb,at two different concentrations on the control of potato late blight,according to the percentage of diseased plants,position and severity of diseased tissues in the late potato growing season.The results showed that the soaking treatment of seed tubers with the 50% dimethomorph WP of 350 times dilution achieved the best efficiency against late blight in terms of lower percentage of diseased plants,fewer and light diseased leaf tissues.Seed tuber-soaking is a potentially important method in the development of integrated approaches to control potato late blight,by effectively controlling primary infections resulted from P.infestans infected and contaminated seed tubers.

【语种】中文

【第一作者】马丽杰

【通讯作者】单卫星

【期刊名称、卷期、页码】西北农业学报,2012,21(1):165-169

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【引文索引号】null

【学科分类】植物保护学

【题目】高等植物的PIN基因家族

【中文关键词】生长素 PIN基因家族 极性运输 生长发育 高等植物

【英文关键词】无
【中文摘要】PIN是一类编码生长素极性运输载体元件的基因家族,影响着高等植物生长素的外向运输和众多生长发育过程。近年来该基因家族的相关成员陆续在不同物种中得到克隆。本文就PIN蛋白家族的结构、功能和活性调控的研究进展作一介绍。
【英文摘要】无
【语种】中文
【第一作者】刘士平
【通讯作者】寿惠霞
【期刊名称、卷期、页码】《植物生理学通讯》 2009年第8期 833-841
【论文发表时间】2009-05-12 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农学其他学科

【题目】Trichoderma harzianum strain SQR-T37 and its bio-organic fertilizer could control Rhizoctonia solani damping-off disease in cucumber seedlings mainly by the mycoparasitism
【中文关键词】无
【英文关键词】Trichoderma harzianum SQR-T37 . Rhizoctonia solani . Mycoparasitism . Bio-organic fertilizer (BIO) .Quantification real-time PCR . DGGE
【中文摘要】无
【英文摘要】Damping-off disease is caused by Rhizoctonia solani and leads to serious loss in many crops. Biological control is an efficient and environmentally friendly way to prevent damping-off disease. Optical micrographs, scanning electron micrographs, and the determination of hydrolytic enzymes were used to investigate the antagonism of Trichoderma harzianum SQR-T37 (SQR-T37) against R. solani. Experiments were performed in pots to assess the in vivo disease-control efficiency of SQR-T37 and bio-organic fertilizer. The results indicate that themycoparasitism was the main mechanism accounting for the antagonistic activity of SQR-T37. In one experiment,the population of R. solani was decreased from 106 internal transcribed spacer (ITS) copies per gram soil to 104 ITS copies per gram soil by the presence of the antagonist. In this experiment, 45% of the control efficiency was obtained when 8 g of SQR-T37 hyphae per gram soil was applied. In a second experiment, as much as 81.82% of the control efficiency was obtained when bio-organic fertilizer (SQR-T37 fermented organic fertilizer, BIO) was applied compared to only 27.27% of the control efficiency when only 4 g of SQRT37 hyphae per gram soil was applied. Twenty days after incubation, the population of T. harzianum was 4.12×107 ITS copies per gram soil in the BIO treatment, which was much higher than that in the previous treatment (8.77×105 ITS copies per gram soil), where only SQR-T37 was applied.The results indicated that SQR-T37 was a potent antagonist against R. solani in a mycoparasitic way that decreased the population of the pathogen. Applying BIO was more efficient than SQR-T37 application alone because it stabilized the population of the antagonist.
【语种】英文
【第一作者】黄新琦
【通讯作者】杨兴明
【期刊名称、卷期、页码】Appl Microbiol Biotechnol
【论文发表时间】2011-04-12 00:00:00
【引文索引类型】SCI
【引文索引号】2.9281140003e+011
【学科分类】微生物学

【题目】细胞周期因子与植物根系发育
【中文关键词】细胞周期;根系发育;植物激素
【英文关键词】无
【中文摘要】植物根系的发育是一个非常复杂且被精确调控的过程,受到多种信号的调控,其中对细胞分裂水平调控的研究已经成为细胞生物学研究的热点之一。文章介绍了植物细胞周期因子和植物根系发育相关的细胞周期调控机制以及根系细胞周期激素调节的研究进展。

【英文摘要】无
【语种】中文
【第一作者】吴娇娇
【通讯作者】寿惠霞
【期刊名称、卷期、页码】植物生理学通讯第44卷第4期,2008年8月
【论文发表时间】2008-08-26 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农学其他学科

【题目】ARF-GEF 基因家族的研究进展
【中文关键词】ARF-GEF; 蛋白分拣; 小泡运输; 高尔基体; 发育
【英文关键词】无
【中文摘要】ARF-GEFs 是小G 蛋白ADP 核糖基化因子(ADP-ribosylation factor, ARF)的鸟苷酸交换因子(Guaninenucleotide exchange factor, GEF), 在所有真核生物中, 大型ARF-GEF 都是高度保守的。它在生物体的膜泡分拣和蛋白运输中发挥着重要作用, 近年来关于ARF-GEFs 的蛋白结构、亚细胞定位和相关功能的报道很多, 它已成为细胞生物学领域的一大研究热点。文章主要介绍了大型ARF-GEF 的蛋白结构和在不同物种中的分布, 阐述了该基因家族在酵母、人和拟南芥中的相关进展, 并对其调控机理进行了小结。
【英文摘要】无
【语种】中文
【第一作者】刘士平
【通讯作者】寿惠霞
【期刊名称、卷期、页码】遗传,2009,31:982-992
【论文发表时间】2009-10-23 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农学其他学科

【题目】水稻低丰度表达基因OsAMT1 ; 3 实时荧光定量PCR方法的建立及其应用
【中文关键词】实时荧光定量PCR ; 扩增曲线; 标准曲线; 铵转运蛋白基因; 基因表达; 研究方法
【英文关键词】real2time fluorescence quantitative PCR ; amplification curve ; standard curve ; ammonium t ransporter gene ;gene expression ; methodology
【中文摘要】采用实时荧光定量PCR 技术,通过使用特异引物,对水稻中的低丰度表达基因OsAM T1 ; 3 进行了转录水平上的定量分析,成功建立了可检测低丰度表达基因的SYBR Green 实时荧光定量PCR 技术平台。该方法具有很好的准确性和实用性。获得的荧光定量PCR 扩增曲线,基线平整,指数区明显,斜率大且固定;线性范围广,17~36 个循环都能测出;稳定性、重复性好,变异系数仅为0. 47 %;标准曲线表明,循环阈值与PCR 体系中起始模板量的对数值之间有着良好的线性关系,可对基因表达进行相对定量;缺氮条件下OsAM T1 ; 3 与纯NH4+ 处理相比表达量增加4 倍以上。
【英文摘要】One of the ammonium t ransporter genes in rice ,OsAM T1 ; 3 , normally expressed in low abundance ,which is dif2 ficult to quantify it s expression by using t raditional methods ,such as Northern blot ,PCR technique. A technique for real2time quantification of OsAM T1 ; 3 relative to a housekeeping gene for encoding an actin in rice using real2time SYBR Green quanti2 tative PCR(RQ2PCR) with specific primers was established ,which showed : the amplification curve had flat baseline ,distinct exponential area ,large and stable slope ; The coefficient of variation of the technique was 0. 47 %; There was a linear relation2 ship between threshold cycle value at which sample crosses threshold and the logarithmic value of template concent ration ; The expression of OsAM T1 ; 3 was enhanced 42fold by nit rogen starvation in comparison to supply of ammonium as sole source ofnit rogen.
【语种】中文
【第一作者】孙淑斌
【通讯作者】徐国华
【期刊名称、卷期、页码】中国水稻科学 , 2006 , 20 (1) :8~12
【论文发表时间】2006-02-24 00:00:00

【引文索引类型】其他
【引文索引号】null
【学科分类】农学其他学科

【题目】Physiological and molecular responses of nitrogen-starved rice plants to re-supply of different nitrogen sources
【中文关键词】无
【英文关键词】Ammonium assimilation Æ
Ammonium transporters Æ Glutamine synthetase Æ
Nitrate reductase Æ Nitrate transporters Æ Nitrogen
starvation
【中文摘要】无
【英文摘要】Rice grown under anaerobic waterloggedsoil condition takes up ammonium as amajor source of nitrogen (N). A substantialquantity of nitrate is taken up by rice when aerationconditions prevail. This work compared thephysiological and molecular responses of N-depletedrice (Oryza sativa L. japonica ssp. cv.Wuyunjing) to re-supply of different N sources ina hydroponic system. Expression of six genesknown to be related to N uptake and assimilationin roots was analyzed by semi-quantitativereverse transcription polymerase chain reaction(RT-PCR). N starvation increased root growthbut decreased shoot biomass and nitrate reductase(NR) activity. In comparison to nitrate as Nsource, ammonium tended to inhibit root growthbut significantly improved shoot growth, total Nuptake, and, particularly, the translocation of N tothe above ground parts. Replacing half of theammonium by nitrate in the single ammoniumsolution increased glutamine synthetase (GS)activity and total N uptake. This replacementenhanced expression of OsAMT1;3 but decreasedthe expression of OsAMT1;2 in the roots. Likewise,replacing half of the nitrate by ammoniumin the single nitrate solution, increased NRactivity and expression of an NR gene (OsNR1)but suppressed expression of OsNRT2 in theroots. Expression of both OsAMT1;1 and a GSgene (OsGS1;1) was relatively constant and notaffected by the N form or starvation in the riceroots. Predominant beneficial effects of dualsupply of the two forms of N in comparison with asingle form of N either as ammonium or as nitratemight be due to improvement of ammonium uptakedue to nitrate presence near the roots andenhanced reduction of nitrate in leaves byammonium.
【语种】英文
【第一作者】李宝珍
【通讯作者】徐国华
【期刊名称、卷期、页码】Plant Soil (2006) 287:145 – 159
【论文发表时间】2006-05-12 00:00:00
【引文索引类型】SCI
【引文索引号】10.1007/s11104-006-9051-1
【学科分类】农学其他学科

【题目】Meat quality is associated with muscle metabolic status but not contractile myofiber type composition in premature pigs
【中文关键词】猪肉质;能量代谢; MyHC;AMPK;PGC-1α;糖皮质激素受体
【英文关键词】Pork quality; Energy metabolism; MyHC; AMPK; PGC-1α; Glucocorticoid receptor
【中文摘要】本文是李晓博士撰写,早产猪的肉质与肌肉代谢状态有关,与收缩肌纤维类型无关。
【英文摘要】Longissimus muscles were sampled from Erhualian (EHL) and Pietrain (PIE) pigs at 20 kg of body weight. No breed differences were detected in either the proportions or the mRNA/protein expression of respective MyHC isoforms, or the mRNA expression of PGC-1α (all $P > 0.10$). However, meat quality traits were already divergent between breeds, and were associated with distinct energy metabolic status, as reflected by dramatically lower AMPK activity yet higher CK and LDH activities (all $P < 0.01$) in longissimus muscle of EHL pigs. Moreover, mRNA expression of glucocorticoid receptor (GR) was found to be higher ($P < 0.05$) in longissimus muscle of EHL pigs. These results indicate that the differences in meat quality traits occur early in premature pigs, and these are attributed to skeletal muscle energy metabolism and not contractile myofiber type composition. Breed-specific GR expression in muscle may be related to the pattern of energy metabolism and meat quality, yet the mechanism awaits further investigation.
【语种】英文
【第一作者】李晓
【通讯作者】赵茹茜

【期刊名称、卷期、页码】Meat Science.81(2009)218-223
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【引文索引类型】SCI
【引文索引号】3091740
【学科分类】兽医学

【题目】Effects of vegetation cover on phosphorus loss from a hillslope cropland of purple soil under simulated rainfall: a case study in China
【中文关键词】无
【英文关键词】Overland flow , Subsurface flow Phosphorus transport , Purple soil
【中文摘要】无
【英文摘要】Nutrients and sediment lost through runoff to surface and ground water represents a risk tohuman and environmental health. In order to understand the mechanisms of nutrient and sediment loss under different levels of vegetation cover, we conducted a simulated rainfall experiment on hillslope cropland in the Sichuan Basin of China. The experiment was performed on a 4.5 m long 9 1.5 m wide 9 0.6 m deep plot to analyze the mechanisms of overland flow, subsurface flow, sediment yield, and P loss for bare soil, and soil with 25, 50, 75, and90% vegetation coverage. The results showed that total sediment loss and total bioavailable P (BAP) loss by overland flow decreased with increasing coverage; the rate of P release from fertilizer decreased with increasing time during a rain event and increasing coverage; and the growth in vegetation shoots and roots improved soil physical properties around roots, thus increasing P absorbance and the infiltration rate. Hence, we suggest increasing vegetation coverage to conserve soil and reduce BAP loss by sediments, and paying more attention to groundwater affected by pollutant transport through subsurface flows.
【语种】英文
【第一作者】Yang Gao
【通讯作者】Yang Gao
【期刊名称、卷期、页码】Nutr Cycl Agroecosyst,2009,85:263 – 273
【论文发表时间】2009-01-02 00:00:00
【引文索引类型】SCI
【引文索引号】DOI 10.1007/s10705-009-9265-8
【学科分类】环境学

【题目】Investigation of factors influencing spore germination of Paenibacillus polymyxa ACCC10252 and SQR-21
【中文关键词】无
【英文关键词】Paenibacillus polymyxa . AGFK . Fructose plus L-alanine . Germination temperature . Germination buffer .pH
【中文摘要】无
【英文摘要】Bioorganic fertilizer containing Paenibacillus polymyxa SQR-21 showed very good antagonistic activity against Fusarium oxysporum. To optimize the role of P.polymyxa SQR-21 in bioorganic fertilizer, we conducted a study of spore germination under various conditions. In thisstudy, L-asparagine, glucose, fructose and K+ (AGFK), and sugars (glucose, fructose, sucrose, and lactose) plus Lalanine were evaluated to determine their ability to induce spore germination of two strains; P. polymyxa ACCC10252 and SQR-21. Spore germination was measured as a decrease in optical density at 600 nm. The effect of heat activation and germination temperature were important for germination of spores of both strains on AGFK in Tris – HCl. L-Alanine alone showed a slight increase in spore germination; however, fructose plus L-alanine significantly induced spore germination, and the maximum spore germination rate was observed with 10 mmol l − 1 L-alanine in the presence of 1 mmol l − 1 fructose in phosphatebuffered saline (PBS). In contrast, fructose plus L-alanine hardly induced spore germination in Tris – HCl; however, in addition of 10 mmol l − 1 NaCl into Tris – HCl, the percentages of OD600 fall were increased by 19.6% and 24.3% for ACCC10252 and SQR-21, respectively. AGFK-induced spore germination was much more strict to germinationtemperature than that induced by fructose plus L-alanine.For both strains, fructose plus L-alanine-induced spore germination was not sensitive to pH. The results in this study can help to predict the effect of environmental factors and nutrients on spore germination diversity, which will be beneficial for bioorganic fertilizer storage and transportation to improve the P. polymyxa efficacy as biological control agent.
【语种】英文
【第一作者】霍振华

【通讯作者】沈其荣
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【学科分类】分子生物学

【题目】饲料中添加硒酵母和维生素E对刺参生长、免疫力及抗病力的影响
【中文关键词】刺参;硒酵母;维生素E;免疫力;抗病力
【英文关键词】sea cucumbers(Apostichopus japonicas Selenka);selenoyeast;vitamin E;immunity;disease resistance
【中文摘要】本文旨在研究饲料中添加硒酵母和维生素E对刺参生长、免疫力及抗病力的影响。采 用2 X4双因子试验设计,即在基础饲料中分别添加0和250 mg/kg的维生素E,每一维生素E 水平下分别添加0、100、300和600 mg/kg的硒酵母,共制成8种试验饲料,饲喂平均初始体重 为(3.52±0.08)g的刺参8周。每组设3个重复,每个重复25头刺参,其中饲喂未添加硒酵母和维生素E的基础饲料的组为对照组。饲养试验结果表明,硒酵母和维生素E对刺参的特定生 长率(SGR)均有显著影响(P<0.05),高剂量硒酵母(600 mg/kg)和维生素E(250 mg/kg)添加 组刺参的SGR最高。当饲料中不添加维生素E时,刺参的吞噬活性、呼吸爆发(RB)活性、酚氧 化酶(PO)活性和酸性磷酸酶(ACP)活性随硒酵母添加量的增加而升高,且600 mg/kg硒酵母添加组上述指标均显著高于对照组(P<0.05)。当饲料中250 mg/kg的维生素 E时,添加 600 mg/ 硒酵母组刺参的吞噬活性、RB活性和PO活性均高于其他硒酵母添加组,并显著高 于对照组(P<0.05)。攻毒试验结果表明饲料中添加硒酵母和维生素E均可显著影响刺参感 染灿烂弧菌后的14 d内的累积死亡率(P<0.05)。当饲料中不添加维生素E时,刺参的累积死 亡率随着硒酵母添加量的增加有下降的趋势(P>0.05)。当饲料中添加250 mg/kg的维生素E 时,各硒酵母添加组刺参的累积死亡率显著低于对照组(P<0.05)。在本试验条件下,饲料中添 加硒酵母和维生素E均可提高刺参的特定生长率、免疫力和抗病力,同时添加600 mg/kg硒酵 母和250 mg/kg的维生素E是本研究最优的组合。
【英文摘要】This trial was conducted to investigate the effects of dietary selenoyeast and vitamin E on growth, immunity and disease resistance of sea cucumbers(Apostichopus japonicus Selenka).A total of 600 sea cu-cumbers with an average initial body weight of(3.52±0.08)g were fed with 8 practical diets according to a 2×4 factorial design. The feeding trial results showed that dietary selenoyeast and vitamin E had significant influence on specific growth rate(SGR)(P<0.05),and the highest SGR of sea cucumbers was found in the group with the diet containing 600 mg/kg selenoyeast and 250 mg/kg vitamin E. It can be concluded that the supplementation of selenoyeast and vitamin E in diets can enhance the SGR,immunity and disease resistance of sea cucumbers.Accordingly,the supplementation of 600 mg/kg selenoyeast and 250 mg/kg vitamin E in the diet is the optimal combination in the present study
【语种】中文
【第一作者】张琴
【通讯作者】麦康森
【期刊名称、卷期、页码】动物营养学报2011,23(10):1745~175
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【引文索引类型】其他
【引文索引号】null
【学科分类】水产养殖学

【题目】植物磷转运蛋白基因及其表达调控的研究进展
【中文关键词】基因; 表达调控; 磷转运蛋白; 植物
【英文关键词】gene ; regulated expression ; phosphate transporter ; plants
【中文摘要】土壤有效磷的缺乏是限制植物生长发育的主要因素之一,植物对于磷素营养的吸收及转运主要是通过不同家族的磷转运蛋白来进行的。在外部介质严重缺磷的环境中,植物体自身会通过诱导或增强磷素转运蛋白基因的表达量提高其对根际和共生菌根菌丝磷素的吸收和利用,同时外界环境中的其他一些因素也会影响磷转运蛋白基因的表达调控。近年来,随着分子生物学技术和植物基因组学的快速发展,国内外有关磷素转运蛋白的分子研究也在不断深入,并取得了一系列令人振奋的成果。本文简述了近年来高等植物磷素转运蛋白基因的克隆、表达、调控及其可能存在的相互作用,并对进一步的研究作了展望。
【英文摘要】Phosphorus (P) is considered to be one of the least available plant nutrients in the soil . The deficit of available P in soil is one of the major factors restraining the growth and development of crop. Inorganic phosphate (Pi) transport through plant membranes

is mediated by a number of Pi transporter proteins. Plants regulate the expression of Pi transporter genes to adapt low available P environment by enhancing their ability to acquire and transfer Pi . Over the past years , a significant advance has been obtained on the gene cloning , expression regulation and functional characterization of Pi transporters in plants. In this article , the research progresses on molecular level of known plant Pi transporters in last decade were reviewed.
【语种】中文
【第一作者】王萍
【通讯作者】徐国华
【期刊名称、卷期、页码】植物营养与肥料学报2006 ,12 (4) :584 - 591
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【引文索引号】null
【学科分类】农学其他学科

【题目】In Vitro Physiological Responses of Fusarium oxysporum f. sp. niveum to Exogenously Applied Syringic Acid
【中文关键词】无
【英文关键词】Phenolic acid, plant – microbe interaction.
【中文摘要】无
【英文摘要】Plant – microbe interactions are often accompanied by allelochemicals, such as syringic acid, released from the host plant.To explore the role of phenolic acids released from crop host plants in response to pathogen invasion, we examined the allelopathic effect of an artificially applied syringic acid on Fusarium oxysporum f. sp. niveum. We demonstrated that the growth and the conidial germination rate of F. oxysporum f. sp. niveum were stimulated at lower concentrations of syringic acid, though inhibited by higher dosage compared with control. The yield of fungus mycotoxin was increased from 60.9% to 561.5%. We conclude that syringic acid can be considered as a allelochemical inducer, stimulating the relative virulence factors of invading pathogens.
【语种】英文
【第一作者】吴洪生
【通讯作者】沈其荣
【期刊名称、卷期、页码】J.Eukaryot.Microbiol. 56(4),2009,396-387
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【引文索引类型】SCI
【引文索引号】2.6775420001e+011
【学科分类】微生物学

【题目】Conservation and divergence of both phosphate -and mycorrhiza-regulated physiological responses and expression patterns of phosphate transporters in solanaceous species
【中文关键词】无
【英文关键词】divergence, evolution, genetic conservation, mycorrhiza, phosphate transporter, phosphorus (P) nutrition, plant gene expression, Solanaceae.
【中文摘要】无
【英文摘要】 • Here, orthologous genes of six phosphate transporter (PiT) genes, which aremembers of thePht1andPht2families in tomato and potato, have been clonedfrom the solanaceous species pepper, eggplant and tobacco. • Overall, expressions of these genes in pepper, eggplant and tobacco showed similarpatterns to those in tomato and potato: P-starvation enhancement in both leaves androots forPht1;1, P-depletion induction exclusively in roots forPht1;2, mycorrhizalenhancement forPht1;3, and mycorrhizal induction for bothPht1;4andPht1;5. • In the roots of nonmycorrhizal eggplant,SmPht1;3,SmPht1;4andSmPht1;5werealso expressed under extreme P starvation. Mycorrhizal symbiosis under high-Psupply conditions reduced plant growth, with concurrent enhancement ofPht1;2expression in the roots of pepper as well as eggplant. In addition, the mycorrhizalsymbiosis down-regulated the expression ofPht2;1genes greatly in the leaves ofpepper and tobacco. • The discrepancies between the evolutionary distances of the PiT genes and theirexpression patterns among the five species suggest greater complexity in functionof PiT in plants than previously expected.
【语种】英文

【第一作者】陈爱群
【通讯作者】徐国华
【期刊名称、卷期、页码】New Phytologist,(2007)173,817-831
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【引文索引号】0.1111/j.1469-8137.2006.01962.x
【学科分类】农学其他学科

【题目】氮饥饿水稻利用不同形态氮素的差异及其生理机制
【中文关键词】水稻;铵态氮;硝态氮;硝酸还原酶;谷氨酰胺合成酶;叶绿素
【英文关键词】无
【中文摘要】通过水培试验,研究了氮饥饿7d 后,恢复供应不同形态氮源对水稻氮吸收和积累及氮同化中关键酶活性和光合色素的影响。结果表明,缺氮促进根系生长,增加根冠比。恢复供氮4d 显著增加地上部生物量。铵硝混合营养促进了水稻对氮的吸收和转运,叶片和根系中全氮及叶片中铵态氮的含量以硝酸铵处理最高。与单一铵或硝营养相比,铵硝混合营养增强了根系的谷氨酰胺合成酶和叶片中硝酸还原酶的活性,提高了水稻同化和利用氮的能力。另外,与纯硝营养相比,供应铵态氮显著增加了叶片中总叶绿素,尤其是叶绿素a 的含量。因此,改善水肥管理、平衡对水稻供氮的铵硝配比将提高水稻氮素的吸收和利用效率。
【英文摘要】无
【语种】中文
【第一作者】李宝珍
【通讯作者】徐国华
【期刊名称、卷期、页码】土壤学报,2007,44:273-279
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【引文索引号】null
【学科分类】农学其他学科

【题目】Amplification of rainbow trout microsatellites in Brachymystax lenor
【中文关键词】细鳞鱼,微卫星,多态性,种群遗传
【英文关键词】Brachymystax lenok, microsatellite, polymorphism, population genetics
【中文摘要】细鳞鱼是冷水性鱼,栖息于含氧量高的山溪上游。我们用来自虹鳟13对多态性微卫星引物扩增32B,细鳞鱼采自乌苏里江。每个位点等位基因2-7个平均3.9个。发现杂合率0.0625-0.9677。一个位点显著偏离Hardy-Weinberg平衡。13个位点为细鳞种群结构及遗传多样性研究提供了基础。
【英文摘要】Brachymystax lenok is a cold freshwater fish accustomed to inhabit relatively high concentration of dissolved oxygen and clean upper streams. Here we present 13 polymorphic microsatellite primer pairs from rainbow trout to amplify in 32 B. lenok individuals from Ussuri River of China. The number of alleles ranged from two to seven with an average of3.9 per locus. Observed heterozygosity ranged from 0.0625 to 0.9677. One locus showed significant deviation from Hardy – Weinberg equilibrium. These 13 loci will provide a good basis for investigation of B. lenok population structure and genetic diversity in different distribution region..
【语种】中文
【第一作者】贾志英
【通讯作者】牟振波
【期刊名称、卷期、页码】Molecular Ecology Resources (2008) 8, 1520 – 1521
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【引文索引类型】SCI
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【学科分类】水产学基础学科

【题目】Isolation of microsatellite DNA and analysis on genetic diversity of endangered fish, Hucho taimen (Pallas)
【中文关键词】哲罗鱼,微卫星标记

【英文关键词】Hucho taimen
【中文摘要】哲罗鱼是中国濒危物种。为评估其种群的遗传结构及多态性,我们其基因库中利用富含(ACA)16的片段分离了6个多态性微卫星标记,并应用于61个野生个体。每个位点等位基因2-7个,期望杂合率0.3200-0.7410,多态性信息量0.3047-0.6896。这些标记对于评估哲罗鱼遗传变异有意义。
【英文摘要】Hucho taimen (Pallas) is an endangered species in China. To evaluate the species ’ genetic diversity and population genetic structure, we isolated six polymorphic microsatellite markers from its genomic libraries by (ACA)1 enriched, and characterized using 61 wild individuals. The number of alleles per locus ranged from two to seven, expected heterozygosity ranged from 0.3200 to 0.7410, polymorphism information content ranged from 0.3047 o 0.6896. These markers will be useful for the genetic variation assessment of taimen
【语种】中文
【第一作者】佟广香
【通讯作者】孙效文
【期刊名称、卷期、页码】Molecular Ecology Notes, 2006, 6(4):1099-1101
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【引文索引类型】SCI
【引文索引号】j.1471-8286.2006.01447.x
【学科分类】水产学基础学科

【题目】斑点叉尾鮰病毒病研究概述
【中文关键词】关键词:斑点叉尾鮰(1ctalurus punctatus);病毒病;诊断;防治
【英文关键词】Key words:channel catfish(1ctalurus punctatus);virus disease;diagnostics;prevention
【中文摘要】摘要:简要介绍r斑点叉尾鮰病毒病的临床症状、流行病学特征、诊断与防治方法以及病毒的生物学特性与检测技术等。
【英文摘要】Abstract:This report presented a brief introduction to the clinic symptom ,epidemiology, diagnostics and prevention ofthe diseases and to the biological characterization and detection methods of the virus
【语种】中文
【第一作者】孟彦
【通讯作者】肖汉兵
【期刊名称、卷期、页码】淡水渔业,37(5),72-75
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【学科分类】水产学基础学科

【题目】长鳍篮子鱼的外形特征与消化系统结构
【中文关键词】关键词: 长鳍篮子鱼; 外形特征; 形态参数; 消化系统
【英文关键词】Key words: Siganus canaliculatus; conf igurationa l character; parameters of configurat ion; digestive system
【中文摘要】摘 要: 观察并描述了长鳍篮子鱼的外形特征, 详细测量了200 ind长鳍篮子鱼的外部形态参数, 进行了相关关系分析; 并解剖观察了其消化系统结构特征。外部形态参数全长(LT) 与体长(LB) 、头长(LH)与体长(LB)、体长(LB)与体高(H B)、体重(W) 与体长(LB) 的相关关系分别为: LT = 1. 243LB + 0. 084 (R2 = 0. 994);LH = 0. 218LB + 0. 370(R2 = 0. 972) ; LB = 2. 251H B + 1. 509(R2 = 0. 896); W = 0. 011 L B3. 283 (R2 = 0. 991); 消化系统结构特征为: 口咽腔较小, 颌齿发达; 食道较短; 胃Y 形, 幽门部肌肉发达, 具有2~ 4个幽门盲囊; 肠道细长, 肠道系数(CI)为2. 64 ? 0. 47; 肝脏分左右两叶, 左肝叶是右肝叶的5倍以上。胆囊位于体腔的后部, 肝胆之间通过细长的胆囊管相连, 胆囊距肝脏较远。
【英文摘要】A tota l number of 200 ind iv idua ls (body leng th from 4. 1 - 27. 4 cm) have been observed and measured on the parameters of the con figuration. The follow ing regression equat ions wh ich have close correlat ion of tota l length and body leng th, body leng th and head leng th, body leng th and body he igh,t bodyw e ight and body length w ere obta ined: LT = 1. 243LB + 0. 084 (R2 = 0. 994) ; LH = 0. 218LB + 0. 370(R2 = 0. 972) ; LB = 2. 251H B + 1. 509 (R2 = 0. 896) ; W = 0. 011 LB3. 283 (R2 = 0. 991) . The structure o f digest ive system o fS. canalicula tus has been observed by w ay o f anatom icmethod. The ora-l pharyngea l cav ityw as sma l,l jaw teeth w erew e l-l developed; the stomach w asY-shaped and pyloric sph incterw asw el-l developedw here therew ere 2-4 pyloric caeca; the intestine w as long and the coefficient of intestine w as 2. 64 ? 0. 47.L iverw as composed by two lobes, and the left lobe w as

five t imes than the right one. The ga llbladder locatedat the posterio r part of the body-cav ity, far aw ay from the liver. There w as a long, thin cystic duct betw eenliver and ga llbladder.

【语种】中文
【第一作者】赵峰
【通讯作者】章龙珍
【期刊名称、卷期、页码】海洋渔业,30(3),202-206
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【学科分类】水产学基础学科

【题目】池养大鲵的人工催产研究
【中文关键词】关键词:大鲵;人工养殖;人工繁殖
【英文关键词】Key wor ds : Chinese giant salamander ; Tank2culture ; Artificial propagation
【中文摘要】摘要:本文报道了人工培育大鲵亲本的繁殖结果。在养殖条件下,大鲵的性腺可正常发育,大鲵的性成熟年龄为5龄,性周期为一年一次,群体的繁殖高峰期出现在每年的6 —8 月。使用LRH2A 或HCG均可诱导大鲵产卵和排精。群体的性腺发育进程存在明显的个体差异,雄性比雌性的发育时间长10 —20d 。在繁殖盛期进行人工催产,获产率为60 %左右。人工繁育的子代,在培育为亲本时,其性腺发育的个体差异仍然存在。养殖的性成熟个体,在没有受到外源激素作用时,将不会发生自然排卵现象,雄鲵不能挤出精液。在20 —23 ℃下,雌性大鲵的效应时间约为96 —120h ,雄性可在80h 后挤到精液。大鲵的产卵量为400 —500 粒,平均为430 粒。多次产卵个体的产卵量多于初次产卵个体。低剂量的药物催熟,未发现对性腺发育进程和产卵结果有明显的促进作用。
【英文摘要】Abstract : Chinese giant salamander[Andrias davidianus (Blanchard)] ,Which is the largest species i n amphibian , is found in17 provinces of Chi na. The resources of salamander are declined remarkably because of inordinate catching by men . Therefore the artificial domestication and propagation of salamander are widely developed in the present time. In this paper , the results ofpropagation for artificial domesticated brood in Chinese giant salamander are reported.he salamande rs or the test we re c aught rom Hubei and an i Provinces . he area o each tank or domestication was 1 m2and the dept h o water wa s 0 20m. n e ach tank 12 40 salamande rs are cultured in static water which came rom tap water .he water was changed onc e in 1 2 da s. he temperature o water changed rom to 2 in all ea r . he eed was resh fish.In the condition of artificial domestication , it takes 5 years for the Chinese giant salamander to attain gonad maturity and thegonads can be normally developed . Its reproductive cycle is once a year and fastigiumis 6 —8 mont h in each year. Its ovulationand spermiation can be induced byLHRH2Aor HCGinjection . Individual differences were observed in gonad development withinthe population . During the reproductive fastigium , only about 60 % brood salamanders can lay eggs after hormonal injection. It takes 10 —20 days more for male than female to attain gonad maturity. The phenomenon is often observed that the gonad of someindividuals in the population attaining progenitive age cannot attain maturity. When the filial generations coming from artificialpropagation attain maturity , their individual differences of gonad development are also observed.If they were not induced by exterior hormone , the mature individual under the condition of artificial domesticationwould nottake ovulation and spermiation. Furthermore , their gonads will degenerate and absorb naturally. After induced by hormone , female salamanders can lay eggs naturally in tank , but copulatory action is not observed .The reactive time for salamander spawning is related with different hormone and water temperature. The reactive time ofLHRH2A was longer than that of HCG. The lower the water temperature was ; the longer time needed. If the water temperature declines 1 ℃, the reactive time will delay 10 hours. Induced by the extender of LHRH2A and HCG, the reactive time of female was about 96 —120h and sperm could be extruded in male after 80h.The quantity of eggs laid by each brood salamander was about 400 —500 , with an average of 430. The ovulated quantity ofrepetitious spawni ng brood was more than that of first spawning brood. The method of inducing ovulation was that exterior hormone was directly injected into t he celomof salamander. The effect of once injection was better than that of more than one injection. No significant effects were found upon the gonad development and spawning rate by using low doses of hormones for inducing maturation . On the contrary , low doses of hormones could lead to the abortion of some brood salamander.
【语种】中文
【第一作者】肖汉兵
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【期刊名称、卷期、页码】水生生物学报,3 0 (5) 530-534
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【引文索引号】100023207(2006) 0520530205
【学科分类】水产增殖学

【题目】池养大鲵人工繁殖试验
【中文关键词】关键词:(略)
【英文关键词】Key words:abbreviation
【中文摘要】摘要略
【英文摘要】abstract(Abbreviation)
【语种】中文
【第一作者】王海文
【通讯作者】王海文
【期刊名称、卷期、页码】渔业现代化,2004,5,15-19
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【引文索引类型】其他
【引文索引号】渔业现代化,2004,5,15-18
【学科分类】水产增殖学

【题目】大豆分离蛋白替代鱼粉对哲罗鱼稚鱼生长、体成分和血液生化指标的影响
【中文关键词】关键词:(略)
【英文关键词】Key words:abbreviation
【中文摘要】研究简报,摘要略
【英文摘要】abbreviation
【语种】中文
【第一作者】徐奇友
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【引文索引类型】其他
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【学科分类】水产饲料学

【题目】大鲵精子体外活力的初步观察
【中文关键词】关键词:(略)
【英文关键词】Key words:abbreviation
【中文摘要】摘要略
【英文摘要】abstract(Abbreviation)
【语种】中文
【第一作者】王海文
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【学科分类】水产增殖学

【题目】大鲵人工繁养技术
【中文关键词】关键词:(略)
【英文关键词】Key words:abbreviation

【中文摘要】摘要略
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【语种】中文
【第一作者】王海文
【通讯作者】王海文
【期刊名称、卷期、页码】水产养殖,25(5)41-45
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【引文索引类型】其他
【引文索引号】水产养殖,25(5)41-45
【学科分类】水产增殖学

【题目】大鲵遗传多样性分析
【中文关键词】关键词:大鲵(Andrias davidianus);线粒体DNA;遗传多样性
【英文关键词】Key words:Andrias davidianus;mtDNA;genetic diversity
【中文摘要】摘要:以线粒体DNA控制区为分子标记,对汉水流域大鲵(Anddas davidianus)的遗传多态性进行了研究。在获得的757bp的碱基序列中,有18个多态性核苷酸变异位点,占全部碱基数的2.38%;基因突变以转换为主,有一处插入或缺失;A、T、C、G四种碱基的平均含量分别为31.8%、33.0%、20.9%、14.3%,且A+T的含量(64.8%)明显高于G+c的含量(35.2%)。28个样本检测到8种单倍型,单倍型间的核苷酸变异在0.13%一1.74%之间,单倍型多样性(Haplotype diversity)指数和核苷酸多样性(Nucleotide diversity)指数分别为h=0.8230±0.0440和7r=0.00446±0.00122,显示了大鲵驯养群体的的遗传多样性水平较低。
【英文摘要】Abstract:A research on polymorphism of giant salamander,was conducted by taking their mtDNA control region as no1ecular marker.A sequence of 757 bp obtmned contained 18 polymorphic nucleotide variable loci,accounting for 2.38%of the total number of bases Transition was the predominating gene mutation. There was only one insertion or deletion. Theaverage contents of the four bases A,T,G and C were 31.8% ,33.0% 20.9% and 14.3% ,respectively. And A+Tcontents(64.8%)were significantly higher than those of G+C (35.2%).Eight haplotypes were detected in 28 samplesThe nucleotide divergence among the haplotypes was between 0.13% and 1.74% . The haplotype diversity index and thenucleotide diversity index were h=0.8230±0.0440 and 7r=0.00446±0.00122.which suggested that the genetic diversityof the giant salamander population was at a rather low leve1.
【语种】中文
【第一作者】方耀林
【通讯作者】肖汉兵
【期刊名称、卷期、页码】淡水渔业,36(6),8-11
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【引文索引类型】其他
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【学科分类】水产学基础学科

【题目】大鲵幼鲵培育技术关键
【中文关键词】关键词:(略)
【英文关键词】Key words:abbreviation
【中文摘要】摘要略
【英文摘要】abstract(Abbreviation)
【语种】中文
【第一作者】欧燎原
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【学科分类】水产增殖学

【题目】底质和遮蔽物在锯缘青蟹Scylla serrata(Forslca9l)种苗中间培育中的作用
【中文关键词】关键词:锯缘青蟹幼蟹 底质 遮蔽物 存活率
【英文关键词】Key words:abbreviation
【中文摘要】【提要】 在日换水量30%基础上比较了粗沙、海细泥沙底质及有无遮蔽物对锯缘青蟹幼蟹生长存活的影响。实验结果表明:蟹苗潜沙比例与沙粒径大小及蟹苗规格相关。表现为沙粒径越小或蟹苗规格越大,蟹苗完全潜沙的比例越高;C1、C2 阶段蟹苗,具较强的攀附习性,以网片为附着物的蟹苗数量约占30%以上,进入C3 后,网片上蟹苗数量呈明显下降趋势。变态速度方面,海沙底较其余各组要提前1 天,而其余各组无明显差异;最终成活率方面,网片(77%)>海泥沙(70%)>粗沙(65%)>空白(60%);规格方面,同一期的幼蟹壳宽无明显差异(P> 0.05)
【英文摘要】abstract(Abbreviation)
【语种】中文
【第一作者】乔振国
【通讯作者】乔振国
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【学科分类】水产增殖学

【题目】点篮子鱼肌肉的营养成分分析与评价
【中文关键词】关键词: 点篮子鱼; 肌肉; 生化成分; 氨基酸; 营养评价; A /E 值
【英文关键词】Key words: Siganus guttatus; muscle; biochem ical components; am ino acid; nutritive evaluat ion; A /E ra tio
【中文摘要】摘要: 利用常规肌肉营养测试方法测定分析了10尾野生点篮子鱼(S iganus guttatus) 的一般生化成分与氨基酸含量。结果表明, 点篮子鱼肌肉(鲜样)中水分、粗灰分、粗蛋白和粗脂肪的质量分数分别为74. 27%、1. 60%、21. 20%和2. 79%。点篮子鱼肌肉中检测出18 种氨基酸(包括牛磺酸, 胱氨酸未检测), 总量为74. 57% (质量分数, 干样), 必需氨基酸总量为31. 72%, 占氨基酸总量的42. 54%, 点篮子鱼必需氨基酸的构成比例符合联合国粮农组织/世界卫生组织(FAO /WHO)的标准。点篮子鱼的限制性氨基酸为色氨酸和(蛋氨酸+ 胱氨酸), 其必需氨基酸指数(IEAA)为69. 77。点篮子鱼肌肉中4种鲜味氨基酸(DAA) 总量为25. 41%(质量分数, 干样) , 占总氨基酸含量的34. 01%。对点篮子鱼肌肉10种必需氨基酸的A /E 值进行了计算与分析, 从A /E 值的大小次序来看, 点篮子鱼与银大麻哈鱼基本类似, 比值最高的前三位必需氨基酸依次为赖氨酸、亮氨酸和精氨酸, 最小的为色氨酸。A /E 值为点篮子鱼必需氨基酸需求研究和配合饲料的开发提供了基础素材。
【英文摘要】Abstract: B iochem ica l components and am ino acids composit ion in themusc le o fS iganus guttatus w ere tested and ana lyzed w ith routine methods. Samp les of 10 w ild indiv iduals, w ith (20. 04 0. 53) cm body length and (305. 86 34. 00) g body w eigh,t were collected from the South Ch ina Sea, near Sanya C ity o fH ainan Prov ince in September of 2007. The results show ed that contents of mo isture, crude ash, crude pro te in andcrude fat o f freshmuscles w ere 74. 27%, 1. 60% , 21. 20% and 2. 79% , respectively. The composition o fam ino acids ofmuscle w as 18 common am ino ac ids, inc lud ing Tau, and 8 essential am ino ac ids for human needs (no ana lysis w as made for Cys) . In dry samp le the tota l content of am ino acids w as 74. 57% ; thecontent o f essentia l am ino acids w as 31. 72%; the percentage of essentia l am ino ac ids in tota l am ino ac idsw as42. 54% . Itw as apparent that the content of the different am ino acidsw as stable and the const itutional rate o fthe essen tial am ino ac ids accorded w ith the FAO /WHO Standard, fundamenta lly. A ccord ing to nutritioneva luation in am ino acids score (SAA) and chem ica l score (SC) , the first lim ited am ino ac id w asT rp, and thesecond lim ited am ino ac ids was Phe + Tyr; the essentia l am ino acids index (IEAA) w as 69. 77; in dry samplethe conten t o f four k inds delicious am ino ac ids w as 25. 41%, and the percentage o f de lic ious am ino acids intota l am ino ac ids w ere 34. 01%. W e calcu lated the A /E ratios o f 10 essent ial am ino acids for S. guttatus.Based on the descent order ofA /E rat ios, the first three essent ia l am ino ac ids w ere G lu, Leu and Arg. Thevalue ofA /E ratio for Trp was the sma llest in 10 essen tial am ino acids. This descent order w as a lso found inchum salmon. A /E rat ios of S. gu ttatus prov ided basic materia ls for research o f essential am ino acids requiremen t and artificial food deve lopm ent
【语种】中文
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【题目】豆油代替鱼油对哲罗鱼稚鱼生长和体成分的影响
【中文关键词】豆油; 哲罗鱼; 生长; 体成分
【英文关键词】soybean oil; H ucho taimen ; growth performance; body composit ion
【中文摘要】研究不同比例豆油取代粗制鱼油对哲罗鱼(H ucho taimen) 稚鱼生长和体成分的影响。实验分4 个组, 每组设3 个重复, 每个重复100 尾稚鱼(体质量7~ 8 g) 。第1 组(G1) 为对照组, 添加15%鱼油, 第2 组(G2) 、第3 组(G3) 和第4 组(G4) 分别用5%、10%和15%豆油取代鱼油。实验进行8 周。结果表明, 不同处理成活率和平均日增重差异不显著(P> 0 05) , 但随着豆油比例的增加, 特定生长率和肥满度都得到提高, G3 和G4 组特定生长率显著高于G1 组(P > 0 05);G4 组肥满度显著高于G1 组(P > 0 05) 。G3、G4 组饵料系数显著降低(P < 0 05) 。不同处理体成分中水分、粗蛋白质和粗脂肪含量均差异不显著(P > 0 05) 。实验表明, 豆油作为脂肪源可以完全代替鱼油用于哲罗鱼稚鱼饵料生产。
【英文摘要】Dietary lipids are major source of energy and also prov ide essential PUFA for fish. But the resource of fish oil, w hich w as the major source of dietary lipid, w as scarce. So it s important to find a replacement for f ish oil in aqua feed. In this study, four t reatments w ere designed and three replicates w ere set in each t reatment, each w ith 100 juvenile fish(body weight 7- 8 g) in each replicate. G1 w as set up as the control group, w ith 15% f ish oil added in, and treatments G2, G3 and G4 used 5%, 10% and 15% soybean oil respectively as the replacement of f ish oil. T he experiment w as conducted for eight w eeks. T he results show ed that there w ere no dif ferences in survival rate(SR) and daily w eight gain(P > 0 05) among different treatments, but specif ic grow th rates(SGR) and condit ion factors were signif icantly improved w hen the soybean oil level was increased, and feed conversion rat io(FCR) decreased in G3(P > 0 05) and G4(P < 0 05) ; SGRincreased in G4 and G3 signif icantly (P < 0 05) and condit ionfactors increased signif icant ly in G4. The moisture, crude protein and crude fat content of f ish body were not dif ferent among dif ferent t reatments(P> 0.05) . The conclusion is that soybean oil can replace fish oil completely and can improve the product ion of juvenile H uchotaimen, which is verysignificant in feed producing of H . taimen.
【语种】中文
【第一作者】王炳谦
【通讯作者】尹家胜
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【学科分类】水产饲料学

【题目】呼玛河哲罗鱼遗传多样性的AFLP 分析
【中文关键词】关键词: 哲罗鱼; AFLP; 遗传多样性
【英文关键词】Key words:H ucho taimen Pallas; AFLP; genetic diversity
【中文摘要】摘要: 2002 年4 月在黑龙江水系呼玛河塔河河段100 km 范围内, 用三刺网捕获索饵洄游哲罗鱼(H ucho taimen Pallas) 个体20 尾, 用12 对引物对其进行AFLP 分析, 每对引物组合扩增的位点在39~ 53 之间, 共扩增出了565 个位点, 多态性位点为477 个, 多态性比例为841 43%, 平均Nei 氏基因多样性指数H 为01386 7, 平均Shannon 氏指数I 为01 510 2, 个体间平均遗传距离为01455 2, UPGMA 聚类结果显示呼玛河水系哲罗鱼群体内有严重的近亲交配现象。研究结果表明呼玛河水系哲罗鱼具有适度的遗传多样性, 这对呼玛河水系哲罗鱼资源量的恢复有着至关重要的作用。
【英文摘要】H ucho taimen is the biggest salmonid species and endemic to cold w ater systems around China,especially w idely distributed in Amur Basin and w ater systems in Xinjiang Autonomous Region in 1960s. Inthe recent decades, the census size of the w hole populat ions has dramat ically decreased and its habitat hasbecome narrow, resulting from habitat damage, overfishing and climate change as w ell as its propagat ingcharacterist ics of later maturity and weak fecundity. In order to protect this precious species, H ucho tainmenhas been listed in Red Book as endangered fish species in China since 1998. Additionally, some researchersnot only evaluated the current status of it s habitats but made some prog resses on evolut ion, genet icdiversity and populat ion st ructure using biological methods. Huma River, a branch of Amur River, w as authorizedto nature protect ion region for H ucho taimen. How ever, document s about populat ion st ructure andgenet ic diversity of H . taimen in Huma River are very limited. Amplif ied fragment length

polymorphism ofDNA (AFLP) is a kind of molecular markers famous for its higher sensit iv ity and capability. In our study ,w e use 12 primer pairs to amplify genomic DNA samples f rom 20 w ild individuals captured in Huma Riverw ith AFLP method. As a result , a total number of loci detected are 565 w ith 39- 53 loci per primer pair. Ofthe 565 loci, 477 loci are polymorphic and the percentage of polymorphisms is 84. 43%. The mean Nei. sgenic diversity index (H) is 01386 7, the mean Shannon. s information index (I) is 01510 2, show ing a relative higher genetic polymorphism. The mean genetic distance among individuals is 01455 2. UPGMA dendrogram shows that 20 individuals are divided into tw o groups. It is notew orthy that the phylegenet ic tree also demonst rates that there is serious inbreeding w ithin taimen populat ion, which is a disadvantageous factorfor stock enhancement .Although the genet ic diversity of taimen inHuma River is moderate based on ourresult s, the inbreeding degenerat ion cannot be ig nored. And further more it is necessary to invest ig ate thehabitat and spaw ning sites of H . taiman in detail. In this case, the chances of propagation for indiv idualsfrom dif ferent genetic backgrounds will be increased by human. s intervent ion, w hich w ill play a vital rolefor populat ion recovering.

【语种】中文
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【学科分类】水产学基础学科

【题目】黄斑蓝子鱼海水网箱单养与池塘混养技术初探
【中文关键词】关键词:(略)
【英文关键词】Key words:abbreviation
【中文摘要】摘要略
【英文摘要】abbreviation
【语种】中文
【第一作者】冯广鹏
【通讯作者】章龙珍
【期刊名称、卷期、页码】科学养鱼,2007,5,26-27
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【引文索引号】科学养鱼,2007,5,26-27
【学科分类】水产增殖学

【题目】黄斑篮子鱼肌肉营养成分与品质的评价
【中文关键词】关键词: 黄斑篮子鱼; 肌肉; 营养成分; 品质评价
【英文关键词】Key words: Siganus oramins; muscle; nutrient components; evaluation of nutritive quality
【中文摘要】摘要: 测定分析了10 尾黄斑篮子鱼的肌肉营养成分。结果表明, 黄斑篮子鱼肌肉(鲜样) 中水分、粗灰分、粗蛋白和粗脂肪的质量分数分别为74. 52%、1. 09%、19. 64% 和4. 71%。肌肉中含有18 种氨基酸, 总量为68. 33% (质量分数, 干样) , 其中8 种人体必需氨基酸(EAA) 总量是30. 40% , 占氨基酸总量的44. 48% ; 其必需氨基酸的构成比例符合联合国粮农组织/ 世界卫生组织(FAO/WHO) 的标准。黄斑篮子鱼的限制性氨基酸为(蛋氨酸+ 胱氨酸) 和色氨酸, 必需氨基酸指数(EAAI) 为61. 07, 4 种鲜味氨基酸(DAA) 总量为24. 36% (质量分数, 干样) 。脂肪酸中EPA 与DHA 质量分数分别为3. 13%和18. 03% , 明显的高于其它几种经济鱼类; 矿物元素比例合理, 微量元素中锌和硒含量较丰富, 表明黄斑篮子鱼具有较高的食用价值与保健作用。
【英文摘要】Abstract: Nutrient components in the muscle of Siganus oramin were investigated in this paper. Sample fish(n= 10) were collected from the South China Sea, near Qionghai city of Hainan Province in May of 2006. Theexamination results showed that the content of moisture, crude ash, crude protein and crude fat in fresh muscle ofS . oramin were 74. 52%, 1. 09%, 19. 64 % and 4. 71% , respectively. Eighteen common amino acids were found in the muscle of S . oramin, including 8 essential amino acids (EAA) 2 half-essential amino acids (HEAA) and 8 nonessential amino acids (NEAA) . In dry sample, the total content of amino acids(TAA) was 68. 33% ; the content of EAA, HEAA and NEAA were 30. 40 %, 6. 40% and 31. 55% respectively. Four kinds of delicious amino acids(

DAA) accounted for 24. 37% in dry sample; the rat io of total delicious amino acids to total amino acids (WDAA / WTAA) was 35. 66% . The essential amino acids index(EAAI) was 61. 07, the ratio of total essential amino acids to total amino acids (WEAA/ WTAA) was 44. 48% , and the rat io of total essential amino acids to total nonessential amino acids(WEAA/ WNEAA) was 96. 35% . It was clear that the content of thedifferent amino acids was stable and the constitutional rate of the essential amino acids met the Food andAgriculture Organization of the United Nations/World Health Organization (FAO/WHO) Standard. According tonutrition evaluation in amino acids score (AAS) and chemical score (CS) , the first limited amino acid wasMet+ Cys and the second limited amino acid was Trp. 10 saturated fatty acids (SFA) , 6 mono-unsaturated fatty acids (MUFA) and 9 poly unsaturated fatty acids (PUFA) were found in the muscle of S. oramin . The contents of EPA and DHA in fatty acids were 3. 13% and 18. 03%, respectively, which were much higher than those ofmost f ish species. The composition of mineral elements in the muscle of S. oramin was reasonable and the traceelements such as Zn and Se were rich. In conclusion, this investigation indicated that S. oramin is a nutritiveand delicious food f ish, and it could be a potential aquaculture species.

【语种】中文
【第一作者】庄平
【通讯作者】庄平
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【学科分类】水产学基础学科

【题目】尖塘鳢繁养殖概况与建议
【中文关键词】关键词:(略)
【英文关键词】Key words:abbreviation
【中文摘要】摘要略
【英文摘要】abstract(Abbreviation)
【语种】中文
【第一作者】陈永乐
【通讯作者】陈永乐
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【引文索引号】海洋与渔业,2007,5,6-8
【学科分类】水产增殖学

【题目】Nitrogen metabolism disorder in watermelon leaf caused by fusaric acid
【中文关键词】无
【英文关键词】Enzymes in relation to nitrogen metabolism; Fusaric acid (FA); Fusarium oxysporum f.sp. niveum; Programmed cell death; Stress; Watermelon fusarium wilt
【中文摘要】无
【英文摘要】The effect of fusaric acid (FA) on the activity of leaf nitrogen (N) metabolism enzymes in watermelon seedlings supplied with different N forms was studied. The results showed that FA inhibited nitrogen uptake and caused decreased leaf amide and protein but increasedthe content of ammonium and amino acids. When treated with FA the activities of enzymes in the pathway for the synthesis of amino acid in leaves (GS, GOGAT, and GDH) were decreased by 15 – 23%, 13 – 40%, and 71 – 86%, respectively. The activity of asparagine synthetase was decreased by 34 – 57%. The proteinase activity was initially increased by 37 – 125% at 12 h after treatment of FA but then subsequently decreased. The activity of glutamate-pyruvate aminotransferase was increased by 280 – 400%, though the activity of glutamate-oxaloacetate aminotransferase was decreased by 30 – 63%. It was suggested that FA inhibited the uptake of ammonium in seedlings and suppressed the activities of amino acid and amide synthases, while stimulating proteinase activity.A new pathogenic mechanism of watermelon infection by Fusarium spp. was found as FA caused the complete disorder and collapse of the host plant ’s nitrogen metabolism. This work provides a new insight into the progression of watermelon wilting caused by Fusariumoxysporum f.sp. niveum.

【语种】英文
【第一作者】吴洪生
【通讯作者】沈其荣
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【学科分类】植物保护学

【题目】锯缘青蟹Scylla serrata(Forsk å l)溞状幼体(Zoaea)高温培育技术探讨
【中文关键词】关键词:青蟹溞状幼体 高温培育 水质环境 微生态环境
【英文关键词】Key words:abbreviation
【中文摘要】本文探讨了30°C以上温度条件下青蟹种苗生产的相关技术问题,结果表明:青蟹蚤状幼体的发育速度因温度升高而加快,其中,Z1 变态为Z2 时间缩短1 d,并直接影响后期幼体的变态存活率;高温对水质环境的影响,表现为育苗水体中NO2-N、NH4-N 含量及弧菌数、总菌数峰值会提早出现;高温季节育苗可通过生物饵料的营养强化,进、换水避开高温,选用生物制剂防治病害以及蟹苗变态期适当降低水温等措施提高育苗效果。
【英文摘要】abstract(Abbreviation)
【语种】中文
【第一作者】于忠利
【通讯作者】乔振国
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【引文索引号】现代渔业信息,22(8),27-29
【学科分类】水产增殖学

【题目】锯缘青蟹室内养殖技术探讨
【中文关键词】关键词:锯缘青蟹 室内水泥育苗池 蟹笼 养殖
【英文关键词】Key words:abbreviation
【中文摘要】【提要】 在室内水泥育苗池中以3 种不同方式进行锯缘青蟹的养殖试验。挑选49~82g/ 只,附肢齐全、健康的锯缘青蟹,经过75d 的养殖试验,在水温27.2~30.2°C、海水比重1.019~1.021;水位控制在50cm以上,养殖密度在9 只/m2 左右;结果是采取气提流水及遮光方式的3# 池,成活率在96%、平均增长率在163.3~176.8%。
【英文摘要】abstract(Abbreviation)
【语种】中文
【第一作者】王建钢
【通讯作者】乔振国
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【学科分类】水产增殖学

【题目】锯缘青蟹种苗规模化生产关键技术
【中文关键词】关键词:(略)
【英文关键词】Key words:abbreviation
【中文摘要】摘要略
【英文摘要】abstract(Abbreviation)
【语种】中文
【第一作者】乔振国

【通讯作者】乔振国
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【学科分类】水产增殖学

【题目】篮子鱼繁殖生物学研究进展
【中文关键词】关键词:(略)
【英文关键词】Key words:abbreviation
【中文摘要】摘要略
【英文摘要】abbreviation
【语种】中文
【第一作者】赵峰
【通讯作者】庄平
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【学科分类】水产增殖学

【题目】卵黄蛋白原的发生、结构及功能研究现状
【中文关键词】关键词:(略)
【英文关键词】Key words:abbreviation
【中文摘要】研究进展,摘要略
【英文摘要】abbreviation
【语种】中文
【第一作者】张年国
【通讯作者】孙大江
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【引文索引号】1005- 3832(2007) 01- 0097- 10
【学科分类】水产学基础学科

【题目】青蟹幼体对脂类需求的研究进展
【中文关键词】关键词:青蟹 幼体 脂类需求 高度不饱和脂肪酸 营养强化
【英文关键词】Key words:abbreviation
【中文摘要】本文归纳和总结了国内外有关青蟹幼体对脂类需求的研究进展。对脂类在青蟹幼体阶段的功能和主要代谢方式、青蟹幼体发育对脂类和必须脂肪酸的营养需求和生物饵料的营养强化工艺等相关问题进行了阐述。以此为基础,探讨了以改变生物饵料营养强化形式为切入点,改进传统青蟹种苗生产工艺的可行性
【英文摘要】abstract(Abbreviation)
【语种】中文
【第一作者】吕延红
【通讯作者】乔振国
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【学科分类】水产增殖学

【题目】青蟹种苗规模化生产若干影响因子的初步探讨
【中文关键词】关键词: 青蟹; 种苗; 规模化生产; 理化环境; 微生态环境; 营养
【英文关键词】Key words:abbreviation
【中文摘要】摘要: 以实验室研究与生产实际相结合的方式对青蟹种苗规模化生产的主要影响因子进行研究探讨。研究表明, 非生产性影响因子源自青蟹种苗培育和养成阶段对盐度的不同要求; 生产性影响因子有: 种蟹的培育设施和培育技术, 蚤状幼体培育阶段生物饵料中EPA、DHA等高度不饱和脂肪酸的含量和比例, 盐度、温度、光照度、NO2-N、NH4-N等理化环境因子, 以及致病菌、细菌总数、弧菌数等苗池微生态环境因子
【英文摘要】abstract(Abbreviation)
【语种】中文
【第一作者】乔振国
【通讯作者】乔振国
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【学科分类】水产增殖学

【题目】人工养殖条件下大鲵病害防治初探
【中文关键词】关键词:(略)
【英文关键词】Key words:abbreviation
【中文摘要】摘要略
【英文摘要】abstract(Abbreviation)
【语种】中文
【第一作者】欧东升
【通讯作者】王海文
【期刊名称、卷期、页码】内陆水产,2005,8:17-18
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【学科分类】水产增殖学

【题目】三种鲟科鱼类和两种鲑科鱼类卵黄免疫球蛋白性质的比较
【中文关键词】施氏鲟　小体鲟　西伯利亚鲟　哲罗鲑　金鳟　卵　Ig
【英文关键词】Amur sturgeon, A . schrencki, Sterlet, A . ruthenus , Siberian sturgeon, A . baeri, Taimen, Hucho taimen,Golden rainbow trout, Oncorhynchus mykiss, Egg yolk, Immunoglobulin
【中文摘要】从施氏鲟(Acip enser schrencki) 、小体鲟(Acipenser ruthenus) 、西伯利亚鲟(Acipenser baeri) 、哲罗鲑(Hucho taimen) 和金鳟(Oncorhynchus mykiss) 五种鱼类卵黄中分离、纯化Ig , 并对其分子结构进行了初步研究。结果表明: 五种鱼类卵中Ig 的分子量分别为施氏鲟524 kD、小体鲟468 kD、西伯利亚鲟475 kD、哲罗鲑为490kD, 金鳟498 kD, 其Ig 重链的相对分子量相同, 约为97 kD。轻链的相对分子量各不相同, 施氏鲟为27 kD, 小体鲟28 . 5 kD, 西伯利亚鲟30 kD, 哲罗鲑28 . 5 kD 和金鳟16 kD。其中西伯利亚鲟、施氏鲟和小体鲟Ig 等电点约为5 . 85, 哲罗鲑和金鳟的Ig 等电点约为6 . 55, 其蛋白质结构上具有一定的相似性, 且均为糖蛋白
【英文摘要】In this paper, immunoglobulins (Igs) were purified respectively from egg yolk of Amur sturgeon Acipenser schrencki,sterlet A . ruthenus , Siberian sturgeon A . baeri, taimen Hucho taimen and golden rainbow trout Oncorhynchus mykiss . Theirchemical, physical, and antigenc characteristics were studied by high speed centrifugation and gel filtration chromatography.Molecular weights of immunoglobulin from Amur sturgeon,Sterlet, Siberian sturgeon, Taimen and golden rainbow trout were 524,468, 475, 490 and 498 kD respectively. After SDS- PAGE, immunoglobulin of the five species of fishes appeared as two bands,representing heavy chains and light chains respectively . The molecular weight of the heavy chains of five fishes was about 97 kD,and the molecular weight of the light chains was 27 kD for Amur sturgeon, 28 . 5 kD for Sterlet, 30 kD for Siberian sturgeon, 28. 5

kD for Taimen and 16 kD for golden rainbow trout. Immunoglobulins of these five species were confirmed to be glycoproteins bystaining with Molecular Proes Pro-QR Emerald 300 Glycoprotein Gel stain. The pI of immunoglobulin of fishes were 5 . 85 forAmur sturgeon, Sterlet and Siberian sturgeon, and 6 . 55 for Taimen and gold rainbow trout. Immunoglobulin from egg yolk andserum of the Amur sturgeon showed identical antigencity. Antiserum against Ig in egg yolk of the Amur sturgeon also cross-reactedwith Igs in egg yolk of other sturgeons and cross- reacted weakly with Igs from the salmonid fishes suggesting that Igs in egg yolk offish may not be species specific

【语种】中文
【第一作者】张颖
【通讯作者】孙大江
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【学科分类】水产学基础学科

【题目】三种鲟鱼血清及组织中磷酸酶和补体活性的比较
【中文关键词】关键词: 鲟鱼; 磷酸酶; 补体
【英文关键词】Key word: Sturgeon; Phosphate; A lex in
【中文摘要】摘要: 对施氏鲟、小体鲟和西伯利亚鲟的血清、肝脏、鳃及肠中碱性磷酸酶(AKP)、酸性磷酸酶(ACP)、补体C3及补体C4活性进行了测定和比较。AKP活性在小体鲟鳃和肠中显著高于施氏鲟和西比伯利亚鲟(P < 0. 05), 而其在三种鲟鱼的肝脏和血清中差异不显著(P > 0. 05); ACP活性在小体鲟肠中显著高于施氏鲟和西比伯利亚鲟(P < 0. 05), 而其在三种鲟鱼的肝脏、鳃和血清中差异不显著(P > 0. 05); 补体C3 活性在小体鲟肝脏和肠中显著高于施氏鲟和西比伯利亚鲟(P < 0. 05) , 而其在三种鲟鱼的鳃和血清中差异不显著(P > 0. 05); 小体鲟血清中补体C4 活性显著高于施氏鲟和西伯利亚鲟(P < 0. 05) , 而补体C4活性在三种鲟鱼的肝脏、鳃及肠中差异不显著(P > 0. 05) 。由此可见, 虽然三种同为鲟科鲟属鱼类, 但它们之间的AKP、ACP、补体C3及补体C4活性存在着种间差异。
【英文摘要】Abstract: The activities of AKP, ACP , A lex in C3 and A lex in C4 in serum, liver, gill and intest ine ofAmur sturgeon (Acip enser schrencki Brandt), Sterlet (Acip enser ru thenus Linnaeus) and S iberian sturgeon (A cipenser baer ii) from Engeer ing and Technology Center o f S turgeon B reeding and Cultivation, B eijing, Fangshan w ere studied in the experimen.t The re su lts show ed that act iv ity o fAKP in gill and intestine o f Sterletw as sign ificantly h igher than that ofAmur sturgeon and Siberian sturgeon (P < 0. 05) , not sign if icantly in liver and serum(P >0. 05). act iv ity of ACP in intest ine o f S terlet w as sign ificantly higher than that o fAmur sturgeon and S iberian sturgeon (P < 0. 05) , not sign if icantly in liver, g ill and serum (P > 0. 05).activ ity of A lex in C3 in liver and intestine o f Sterletw as sign ificantly higher than that of Amursturgeon and S iber ian sturgeon (P < 0. 05), no t sign ificantly in g ill and serum (P > 0. 05).activ ity of A lex in C4 in serum of Sterlet was sign ificantly higher than that o fAmur sturgeon and S iberian sturgeon (P < 0. 05), no t sign ificantly in liver, g ill and intestine (P > 0. 05) . A lthough three kinds o f sturgeons w ere in the sam e genus and fam ily, AKP, ACP , A lex in C3 and A lex in C4 acy ivities of the three k inds fishw ere signifi can tly different

【语种】中文
【第一作者】杨贵强
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【学科分类】水产学基础学科

【题目】施氏鲟不同组织来源细胞离体培养的初步研究
【中文关键词】关键词 施氏鲟; 细胞系; 离体培养
【英文关键词】Key words Amur sturgeon (Acipenser schrencki Brandt); cell lines; cultivation in vitro
【中文摘要】摘要:采用组织块移植培养技术, 对来源于施氏鲟(Amur sturgeon, Acipenser schrencki Brandt)肝脏、脾脏、肾脏、鳍条和心脏组织的细胞进行了原代培养, 2~3天左右可见组织块周围有成纤维样细胞迁出, 10 天左右组织块周围形成单层细胞。对原代培养的单层细胞用胰蛋白酶-EDTA消化后传代培养, 建立了可连续传代的施氏鲟肝脏、脾脏、肾脏、

心脏组织细胞系。初步确立施氏鲟细胞培养的条件, 培养基为MEME, 培养温度为25 °C, 血清浓度为20%。对传代培养细胞以二甲基亚砜为保护剂在液氮冷冻保存, 细胞复苏后可连续传代培养。施氏鲟细胞离体培养为开展鲟鱼病毒病和遗传资源保存研究提供了重要试验材料。

【英文摘要】Abstract By using the tissue explantation technique, primary culture of cells derived from the liver, spleen,kidney, fin and heart tissue of Amur sturgeon, Acipenser schrencki Brandt, were conducted. In 2 – 3 days cellsmigrate out around tissues and in 10 days post culture cells outgrow to monolayer. Continuous cell lines from liver,spleen, kidney and heart tissues were established after subculture of primary cells with trypsin-EDTA digestionmethod. The optimized conditions for these cells are: minimum essential medium eagle ’ s (MEME), 25 °C 20% fetal bovine serum. Cells were cryopreserved with preservative DMSO in liquid nitrogen and grew well afterrecovery.The establishment of cell lines derived from Amur sturgeon has provided important experimental materials for theresearch on sturgeon virosis and genetic resources conservation

【语种】中文

【第一作者】孟彦

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【学科分类】水产学基础学科

【题目】施氏鲟出血性败血症病原菌的分离和鉴定

【中文关键词】关键词 施氏鲟; 出血性败血症; 病原; 分离鉴定; 嗜水气单胞菌

【英文关键词】Key words amur sturg eo n(A cip enser schr encki i Brandt) ; hemorrhage disease; pathog en; isolat ionand identif icat io n; A eromonas hy dr op hila

【中文摘要】摘要 从患典型出血性败血症死亡的施氏鲟(Acip enser schrenckii Brandt) 脾脏组织分离到1 株致病性病原菌。依Koch 法则建立室内感染模型, 一次感染试验和回归感染试验的试验组均可复制出与自然发病情况下相同的症状, 根据Reed Muench 法计算病原菌半数致死浓度为1. 17 107 cfu/ mL。对从自然发病和一次感染试验的病鱼体内分离的致病菌进行形态和VITEK 全自动细菌生理生化表型鉴定以及16S rRNA 基因部分序列进化树分析, 结果表明导致施氏鲟出血性败血症的病原菌为嗜水气单胞菌(Aer omonas hy dr op hila) 。药物敏感试验结果显示, 该病原菌对庆大霉素、环丙沙星、阿米卡星等药物敏感, 对氨卞青霉素、舒巴坦、头孢唑啉等药物具有抗性。

【英文摘要】Abstract A st rain o f causat ive pathogen w as iso lated from the spleen tissue of freshly died amursturgeon (A cip enser schr encki i Brandt) suf fered from hemorrhagic sept icemia. Ex perimental infect io nmodel w as established based o n the Koch rule. In init ial infect io n test and regr essive infect ion test, thety pical diseased symptoms as naturally occurred w ere ex perimentally repro duced by intr aperito neal inject ion w ith iso lated bacterium suspension. T he result o f infect ion test show ed the LD50 w as 1. 17 ×107cfu/ mL, calculated by the Reed Muench method. Co nsidering the r esult s of the Gram ’ s staining , VITEKbacterial automat ic ident ificat ion system, sequencing of 16S rRNA gene and phy logenet ic analysis, the isolated pathog en w as identif ied as A eromonas hy dr op hila. The suscept ibility test to ant ibiot ics rev ealed the isolated pathog en was resistant to ampicillin, sulbactam, cefazolin, piper acillin and sensit ive to ciprof lox acin, gentamicin, etc.Key words amur sturg eo n(A cip enser schr encki i Brandt) ; hemorrhage disease; pathog en; isolat ionand identif icat io n; A eromonas hy dr op hila

【语种】中文

【第一作者】孟彦

【通讯作者】曾令兵

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【学科分类】水产学基础学科

【题目】施氏鲟卵黄蛋白的分离纯化及其性质

【中文关键词】关键词: 施氏鲟; 卵黄蛋白; 分离纯化

【英文关键词】Key words: Acip enser schr enckii ; vitellog enin; isolat ion and purif icat ion
【中文摘要】摘要: 采用组织匀浆、饱和硫酸铵分步沉淀和Sephadex G-100 葡聚糖凝胶层析的方法提取和纯化施氏鲟卵黄蛋白, 并对性质进行了研究。结果表明: 采用50%和70%饱和度的硫酸铵分步沉淀与Sephadex G- 100 凝胶层析相结合的方法,可以获得一种卵黄蛋白纯品。Native- PAGE 和SDS- PAGE 分析表明, 该纯化蛋白纯度为100%, 由一种同源亚基组成, 其亚基的相对分子质量约为30 kD。油红O、免疫印迹(Western- blot) 和罗丹明B 染色均为阳性, 表明该蛋白为施氏鲟卵中的一种脂磷蛋白
【英文摘要】Abstract: The yolk proteins of Amur sturgeon(A cipenser schr enckii) are chief supplemental nutrit ion andenergy for embryo development . After organic mashing, saturat ion ammonium sulfate precipitating , andSephadex G-100 gel chromatography, the pure sample of protein f rom eggs of Acip enser schrenckii w as obtained.T he results show ed that throug h tw ice salt out of (NH4) 2 SO4 and Sephadex G-100 gel chromatography,we found only one band in Nat ive-PAGE and SDS-PAGE, molecular weig ht 30 kD, and this proteinis composed of one subunit w hile SDS-PAGE of crude protein of amur sturgeon. s eggs showed that there w ere eight bands. The purified protein could be stained by red oil O, luodan bright B, w hich meant that itw as the phospholipoprotein. Sera ant-i phospholipoprotein of Amur sturgeon had been prepared by repeatedly immunized New Zealand rabbits w ith purified protein, and t iters of anti sera obtained up to 1B32 by immunodiffusion.The purified protein was detected in the protein crude ext ract s of amur sturgeon. s eg gs by Western blot ting , indicative of having proteins in amur sturg eon. s egg. In the paper, the results indicated that the method, using saturat ion ammonium sulfate precipitate protein f rom Amur sturgeon. s egg at 50% and 70%reprecipitating saturat ion and further f ract ionated by filt rat ion through a Sephadex G-200 column, is feasiblein purification of f ish egg protein.
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【第一作者】张年国
【通讯作者】孙大江
【期刊名称、卷期、页码】中国水产科学, 2007, 14(2) : 309- 314
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【学科分类】水产学基础学科

【题目】施氏鲟卵黄蛋白原及其相关蛋白的研究
【中文关键词】关键词: 施氏鲟; 卵黄蛋白原; 脂磷蛋白; 高磷蛋白
【英文关键词】K ey words: A cip enser schrenckii; V itellogenin; L ipov itellin; Phosv itin
【中文摘要】摘要: 采用凝胶柱层析、聚丙烯凝胶电泳、免疫印迹(W estern b lo tting) 和免疫扩散等方法对施氏鲟卵黄蛋白原(V-itellogenin, Vg)及其相关蛋白(Yo lk prote in, YP)进行了研究。结果表明, 施氏鲟血清Vg是一种糖脂磷蛋白, 其相对分子量为410kD, 由分子量为205kD的两个同源亚基组成。Vg 的3种相关蛋白YP1、YP2 和YP3。其中YP1相对分子量为370kD, 是一种糖脂磷蛋白, 由相对分子量为97kD和33kD 的两个亚基构成。YP2是一种相对分子量为144kD的磷脂蛋白, 由相对分子量为94kD和45kD 的2个亚基构成。YP3为相对分子量为66kD的磷蛋白, 由相对分子量为30kD的同源亚基构成。
【英文摘要】Abstract: Sturgeon is an anc ient fam ily (Acipenseridae) of fishes close to the divergence f ish that eventua lly evolved intoterrestrial anmi als and those which evo lved into modern teleost spec ies. Amur sturgeon vitellogenin (Vg) and its correspondingyolk protin (YP) products, YP1, YP2 and YP3 were iso lated from serum of female at v itellogenes is and eggsfrom ovulated amur sturgeon, respectively. Amur sturgeon Vg was purified from fem ale serum by a comb ination of precip-itation in DW and gel filtration on sephadexG-200. Vg was confirm ed to be a lipoglycophosphoprotein by staining w ith Redoi,l Mo lecular ProespP ro-Q Em erald 300 Glycoprotein Gel sta in and P ro-Q D iamond Phosphoprotein Gel Sta in, whichhad an apparentm olecularm ass o f410kD and appeared as onem ajor band corresponding to 205kD after nat ive-PAGE andSDS-PAGE, and confirmed by western blott ing. T hree yolk prote ins derived from v itellogenin (YP1, YP2 and YP3). Apparent molecular w eights o fYP1, YP2 and YP3w ere 370kD, 144kD and 66kD, respectively. After SDS-PAGE, YP1 appeared as two bands of 97kD and 33kD, while YP2 were resolved as two bands o f94kD and 45kD under reducing condit ions. T he characters ofYolk prote in 1 is smi ilar to amur sturgeon Vg, it is a lipoglycophosphoprotein that can be stained by Red oi,l M o lecular ProespPro-Q Emerald 300 G lycoprotein Gel stain and Pro-Q D iam ond Phosphoprote in Gel Stain,wh ileYolk protein 2 was confirm ed to be a phospholipoprotein. Yolk protein 3 appeared as one band of 30kD, and it couldbe stained only by P ro-Q Diamond Phosphoprotein Gel Stain. Antiserum toYP2 and YP3 cross reacted w ith vitellogeninsuggested thatYP2 and YP3w ere the cleaved products of v itellogen in, while the characters of purified yo lk protein indicatedthatYP2 and YP3 were am ur sturgeon L ipov itellin and Phosvit in like, respectively. There are e ight subunits of v itellinof am ur sturgeon appeared in reduced SDS-PAGE, as four subunits in unreduced SDS-PAGE. The results of doub le mimunodiffusiongusing ant-iVg show ed that amur sturgeonVg w as composed ofYP1 and YP2, andYP3 had less antigenicity

againstant-iVg.
【语种】中文
【第一作者】张颖
【通讯作者】孙大江
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【学科分类】水产学基础学科

【题目】我国海水蟹类养殖现状与发展目标
【中文关键词】关键词: 青蟹; 梭子蟹; 苗种; 养殖技术; 发展目标
【英文关键词】Key words:abbreviation
【中文摘要】摘要: 简述我国海水养殖蟹类研究和生产领域取得的主要成果。其中包括与苗种规模化生产配套的种蟹培育技术, 苗池微生态环境调控技术, 以营养强化剂和E M 菌替代单细胞藻类的育苗工艺和土池育苗工艺, 苗种运输方法和苗种中间培育技术, 东南沿海青蟹群体遗传结构和三疵梭子蟹多倍体育种研究。探讨了影响产业可持续发展的主要问题: 苗种生产规模和生产稳定性与产业发展存在差距, 种质基础研究和良种选育工作滞后, 营养与饲料研究欠缺, 产品形式单一, 上市季节集中, 经济效益不高提出了产业的发展目标: 建立青蟹、梭子蟹等海水养殖蟹类良种(品系) 扩繁和利用体系, 高产、高效健康养殖模式技术体系、健康及病害防治关键技术体系、产品质量安全可追溯管理体系
【英文摘要】abstract(Abbreviation)
【语种】中文
【第一作者】乔振国
【通讯作者】乔振国
【期刊名称、卷期、页码】2008水产科技论坛
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【引文索引号】2008水产科技论坛
【学科分类】水产增殖学

【题目】五种鱼类卵黄蛋白等电点特性分析
【中文关键词】等电点; 卵黄蛋白; 施氏鲟; 小体鲟; 西伯利亚鲟; 哲罗鲑; 虹鳟
【英文关键词】isoelectric poin;t V ite llin; Acipenser schrencki; A cip enser ruthenus; Acip enserbaeri; H ucho taim en; Oncorhynchusmyk iss
【中文摘要】运用IFE - PAGE 电泳技术, 对施氏鲟(A cipenser schrencki Am ur sturgeon)、小体鲟(Acip enser ruthenus L innaeus)、西伯利亚鲟(Acip enser baer i Siber ian sturg eon)、哲罗鲑(H uchotaim en Ta im en) 和虹鳟Oncorhynchusm ykiss goLden ra inbow trout) 5种鱼类卵黄蛋白等电点的特性进行研究, 建立了比较成熟的测定卵黄蛋白等电点的实验方法。5种鱼类卵黄蛋白等电聚焦电泳图谱都为3 条带, 表明5 种鱼都是由3 种卵黄蛋白组成, 哲罗鲑和虹鳟卵黄蛋白都属于酸性类型, 与鲟形目这3 种鱼卵黄蛋白等电点差别较大
【英文摘要】The propert ies o f isoelectric po ints o f v itellin in ubun itsin five k ind o f f ishes(Acip enser schrenck i Amur sturgeon; Acip enser ru thenus L innaeus; A cip enser baeri S berian sturgeon; H ucho taim en Taimen; Oncorhynchusmykiss go lden rainbow trout) w ere ana lysed byIFE - PAGE techn iques, and the m ethod to determ inate isoe lectric po ints o f v itellin w asestab lished. A ll of electrophoresis m ap of five kind of fishes w ere three bands . The resultsshow ed five k ind o f fishes w ere mak ing up o f three kinds o f v itellin. The v itellin of Huchotaim en, Taim en and Oncorhynchusmyk iss, goLden ra inbow troutw as asidic, and itw as differentfrom A cipenser.
【语种】中文
【第一作者】霍堂斌
【通讯作者】曲秋芝
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【学科分类】水产学基础学科

【题目】细鳞鱼卵巢滤泡细胞的发育及功能
【中文关键词】关键词:细鳞鱼;卵巢;滤泡细胞;闭锁细胞
【英文关键词】Key words:Brachymystax lenok;ovary;follicular cell;atretic cells
【中文摘要】摘要:通过光镜和透射电镜对细鳞鱼(Brachymystax lenok) 的卵巢滤泡细胞进行了研究。结果表明,滤泡细胞起源于非生殖细胞,并且其整个发育过程可分为4 个时期:零散细胞期、单层扁平细胞期、多层扁平细胞期和颗粒细胞分泌期。滤泡细胞在初级卵母细胞早期并不具备任何功能,到卵母细胞卵黄积累初期,滤泡细胞上皮协同其合成部分卵膜;卵黄积累旺盛时期,滤泡细胞在此过程中起到信号介导、物质转运和储存的作用;在卵巢退化阶段,滤泡细胞与未发育的卵母细胞形成闭锁卵泡,对卵细胞残体和碎片还具有吞噬、消化等作用
【英文摘要】Abstract:The ovarian follicular cells of Brachymystax lenok were studied by light and transmission electronmicroscopies. The results show that follicular cells originate from non-germ cells,and its whole developmentprocess can be divided into four stages:scattered cell stage,unilayer flat cell stage,multilayer flat cell stage andgranule cell secretion stage. At early primary oocyte stages follicular cells don ’ t have any function;at early yolkaccumulating stages follicular cells and follicular cell endepidermis synthesize part egg envelope coordinately;at yolk-quickly-accumulating stages ,follicular cells play a role in signal media,as well as material conveyingand storing;at ovaries degenerating stages follicular cells and undeveloped oocytes become corpora atretica,andhave the function of phagocytosing and digesting ovotid fragment.
【语种】中文
【第一作者】牟振波
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【学科分类】水产学基础学科

【题目】细鳞鱼三个野生种群的遗传多样性AFLP分析
【中文关键词】细鳞鱼;AFLP;遗传多样性
【英文关键词】lenok;AFLP;genetic diversity
【中文摘要】采用AFLP对牡丹江(Muda~iang River,MD)、鸭绿江(Yalujiang River,YL)和乌苏里江(Wusuli River,WSL)的3个细鳞鱼(Brachymystax lenok)野生种群共72个个体进行了遗传多样性分析。结果显示,12对选择性扩增引物共扩增得到559个位点,其中多态性位点541个,多态性为96.78%。对3个群体的Shannon多样性指数,Nei氏基因多样性等参数进行了分析。结果表明,总基因多样性(H)平均值为0.3512~0.0208;种群内基因多样性( )平均值为0.2137~0.0152;群体间的基因多样性)为0.1375。基因分化系数( )为0.3914,种群内的基因多样性占总群体的60.85%,种群间为39.15%,而基因流系数(N)为0.7776。分子方差分析(AMOVA)表明,群体平均近交系数( )为0.55336,变异44.84%来自群体间,55.16%来自群体内。三个群体中牡丹江群体的细鳞鱼种内多态性比例最高,而乌苏里江群体最低
【英文摘要】abstract(abbreviation)
【语种】中文
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【学科分类】水产学基础学科

【题目】小体鲟卵黄雌性蛋白分离纯化及抗血清的研制

【中文关键词】小体鲟; 卵; 卵黄蛋白; 卵黄雌性特异蛋白
【英文关键词】Acip enser ruthenus; egg; yolk protein; yolk female specif ic protein
【中文摘要】采用凝胶柱层析法, 对小体鲟(Acip enser r uthenus Linnaeus) 卵黄蛋白粗提液进行分离纯化。小体鲟卵黄蛋白粗提液的质量浓度为25 04 mg/ mL, 经Sephadex G- 200 层析后出现3 个蛋白峰。用聚丙烯凝胶电泳、免疫印迹(Westernblo tting) 和免疫扩散等方法研究表明, 小体鲟卵黄蛋白由分子量分别为132 1 kD、97 4 kD、85 9 kD、67 0 kD、59 2 kD、47 6 kD、3 0 kD、1 4 3 kD 和12 8 kD 的9 个亚基组成; 层析后峰B 蛋白为卵黄雌性特异蛋白(yolk female specific protein,YFSP) , 是一种糖脂磷蛋白, 具有雌性特异性和组织特异性, 抗体具有种属特异性。Western blotting 结果表明, 卵黄雌性特异蛋白(YFSP) 与血清雌性蛋白(FSSP) 免疫印迹图谱上都显示分子量为97 4 kD 和30 kD 的2 条杂交带, 可见两种蛋白在免疫原性上具有相似性, 可以用卵黄雌性蛋白抗血清代替卵黄蛋白原抗血清对卵黄蛋白原进行检测。
【英文摘要】Yolk is the primary nutrit ion material during the development of embryo of w hich itellin is primary constitude element . At present only the yolk protein of H uso huso Acip enser ruthenus and Acip enser tr ansmontanus had been studied in all of Acip enser . It had not been reported that yolk female specific protein (YFSP) of A cipenser ruthenus Linnaeus w as studied. So in order to know the characters ofyolk female rotein f rom Acipenseriformes, the yolk protein w as abstracted and purified and it s ropert ies w ere analysed. The crude ex tract ion of yolk protein from Acip enser ruthenus Linnaeus serum w as concen trated and its concent rat ion was 25 04 mg/ mL. The crude ext ract w as purif ied by g el chromatography ofSephaden G200. The results showed there were three protein peaks A, B and C by g el chromatography at4 0 2 mmol/ L PMSF and three protein peaks w ere relatively symmet ric. Then rotein peak B w as purified by more than one t ime Sephadex G 200 eluting . T he propert ies of yolk protein w ere analyzed by themethods of polyacrylamide gel electrophoresis, w estern blott ing and immuno diffusion. Based on the 12%SDS PAGE staining data, nine brands w ere detected w ith molecular w eights of 132 1 kD, 97 4 kD,85 9 kD,67 0 kD, 59 2 kD, 47 6 kD, 30 kD, 14 3 kD and 12 8 kD, respect ively . And protein peak B was composed of tw o subunits with molecular w eights of 30 kD and 97 4 kD, respect ively. T wo ext ra brandsw ith molecular w eights of 30 kD and 97 4 kD also w ere found in serum of latter reproductive period of female adult s of Acip enser r uthenus Linnaeus by 12% SDS PAGE. The special dying analyses of hosphorus, lipid and carbohydrate show ed protein B w as a kind of carbohydrate phosphorus lipid rotein. The result ofpolyacrylamide gel elect rophoresis, western blot t ing andimmuno diffusion showed protein B w as a kind ofYFSP. YFSP is a kind of hospholipins glycoprotein and it had female specificity and t issue specif icity andits antibody is species specif ic. Immunity experiment show ed that the vitellin only xisted in reproduct ive lat ter period of female adult s of A cip enser ruthenus Linnaeus. The result of Western blot t ing show ed IgGcould ident ify protein B and two hybridizat ion bands w ere detected w ith molecular mass 97 4 kD and 30kD, respect ively. These how ed the immunogenicity of both YFSP and female serum specific protein(FSSP) was similar and its ant ibody w as species specific. So the ant i serum of Lipov itell (Lv)can replacethe ant i serum of Vitelline to detect vitelline.
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【题目】Responses of Rice Cultivars with Different Nitrogen Use Efficiency to Partial Nitrate Nutrition
【中文关键词】无
【英文关键词】Ammonium transporter, partial NO3 nutrition, NH4 uptake, nitrogen use efficiency, rice, Oryza sativa.
【中文摘要】无
【英文摘要】† Background and Aims There is increased evidence that partial nitrate (NO32) nutrition (PNN) improves growth ofrice (Oryza sativa), although the crop prefers ammonium (NH4þ) to NO32 nutrition. It is not known whether theresponse to NO32 supply is related to nitrogen (N) use efficiency (NUE) in rice cultivars. † Methods Solution culture experiments were carried out to study the response of two rice cultivars, Nanguang(High-NUE) and Elio (Low-NUE), to partial NO32 supply in terms of dry weight, N accumulation, grain yield,NH4þ uptake and ammonium transporter expression [real-time polymerase chain reaction (PCR)]. † Key Results A ratio of 75/25 NH4þ-N/NO32-N increased dry weight, N accumulation and grain yield of ‘ Nanguang ’ by 30, 36 and 21 %, respectively, but no effect was found in ‘ Elio ’ when compared with those of 100/0 NH4þ-

N/NO32-N. Uptake experiments with 15N-NH4þ showed that NO32 increased NH4þ uptake efficiency in ‘ Nanguang ’ by increasing Vmax (14 %), but there was no effect on Km. This indicated that partial replacement of NH4þ byNO32 could increase the number of the ammonium transporters but did not affect the affinity of the transportersfor NH4þ. Real-time PCR showed that expression of OsAMT1s in ‘ Nanguang ’ was improved by PNN, while thatin ‘ Elio ’ did not change, which is in accordance with the differing responses of these two cultivars to PNN. † Conclusions Increased NUE by PNN can be attributed to improved N uptake. The rice cultivar with a higher NUEhas a more positive response to PNN than that with a low NUE, suggesting that there might be a relationshipbetween PNN and NUE.

【语种】英文
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【学科分类】农学其他学科

【题目】小体鲟卵黄蛋白生化特性及合成途径的研究
【中文关键词】小体鲟; 卵黄蛋白; 生化特性; 免疫组织化学; 合成途径
【英文关键词】A cip enser ruthenus; Yo lk protein; B iochem ical character; Immunohistochem istry; Synthesis pathw ay
【中文摘要】使用葡聚糖凝胶(Sephadex G-200)从小体鲟鱼卵粗提液中, 提纯卵黄脂磷蛋白(Lipov itellin, Lv)和卵黄高磷蛋白(Phosv itin, Pv) 。卵黄脂磷蛋白(含糖、磷和脂, 等电点7150) 具有雌性特异性, 分子量为144kD, 由9714kD和30kD的大小2个亚基组成。卵黄高磷蛋白(含糖、磷, 等电点8130)其分子量为66kD, 其具有两个亚基, 分子量分别为716kD、161 8kD。制备卵黄脂磷蛋白兔抗血清, 采用免疫组化方法对不同年龄小体鲟的肝脏、肠、卵(Ò) Õ期卵巢) 及血涂片, 进行免疫组织化学定位研究。小体鲟卵巢发育到Ô期前, 卵黄蛋白主要靠卵母细胞自身合成这个时期内源性合成卵黄蛋白; 当卵巢发育到Ô期, 卵母细胞自身不合成卵黄蛋白, 主要是通过肝脏合成卵黄蛋白原, 通过血液循环运送到卵巢, 被卵母细胞吸收后, 裂解为卵黄蛋白, 这个时期外源性合成卵黄蛋白。
【英文摘要】Yolk is the prmi ary nutrition material during the developm ent o f embryo, ofwhich vitellin is rmi ary constituteelem ent1In order to know the biochem ica l characters and synthes is athway of yo lk protein from A cipenser ruthenus, theyolk protein was abstracted1T he bchem ical character and synthesis pathw ay of yolk prote in from A cip enser ruthenus werestudied by chromatography w ith Sephadex G-200, po lyacry lam ide gel electrophoresis, w estern-blotting and mi m unoh istochemistry1T he resu lts showed that yolk protein wascom posed of lipovitellin, yolk mi m unoglobulin and Phosvitin1Lipov itellin w as a kind o flycosy,l phosphorus and lipid protein and it w as sam e as female serum specif ic protein(FSSP) 1 It had female specificity and its antibody had genus dtissuespecificity1Them olecular w eight of L ipov itellinw as 144kD, which was composed of tw o subunits itholecular w eight of 14kD and 30kD, respectively, its isoelectricpo intw as 71501Phosv itinwasmadeup wsubunitswithmolecularw eight of4716kD and 1618kD, respectively, itsm olecularw igh as 66kD and isoelectric po intwas 1651T he rabbit antiserum s ofL ipov itellin were prepared, and mi munohistochem istry location asvestigated in liver, ntestine,egg (Ò) Õ period vary) and blood sm ears at different age1T he results showed that iver cells of female turgeonat Ô stage ovary and above Ô stage ovary were mi munostained w ith DAB,wh ich indicated the liver cellsw ere pos itive tospecial antibody and pos itive reaction curredainlyinthecytoplasm of liver cells1No special mi munostain ing was observedeither inlivercellsof m aleturgeonand fem ale sturgeon wh ich ovary was during Ñ) Ó period or in contro lgroup1Theurface oflood cells of female sturgeon which gonad was at Ô) Õ stage was posit ive to special ntbody1Incontrast, the surface of blood cells ofmaturem ale sturgeon, fem ale sturgeon duringÑ) Ô period ovary and negat ive controlwere negative to special antibody1The intest ine cells of anterior testine, m idintestine and posterior intestine beforem aturing in both ma le and fem ale sturgeon w ere also negative to special ant ibody1T here w ere a lot of posit ive react ion tancesinucleusduring Òperiod ovary1Grand growth phase 3 prmi ary oocyte occupied the greater part of Ó stage ovarywh ich could be div ided into nonage, metaphase and anaphase stage1A lot of positive reaction substances ex isted in nucleusat nonage stage of Ó stage ovary1When the ovary developed tom etaphase, posit ive react ion substances of nucleus began todecrease, whereas, it appeared in cytoplasm1The cellsw ere oval and the pos itive reaction substances increased at anaphasestage1T here were no pos itive reaction substances at Ô stage ovary but yolk granule appeared pos itive reaction1A lot of yolkgranule wh ich were posit ive in oocyte appeared in Õ stage ovary1In conclusion, the synthesis sty le of yolk protein from A cipenser ruthenus L innaeus was belonged to facultative1Before Ô stage of ovary, the yolk prote in was m ainly synthes ized by oocyte onesel,f which was autosynthes is1When ovary deve-loped to Ô stage, oocytes stoped to synthes ize yolk protein and liver cells began to synthesize v itellogenin which was transportedto ovary by blood circulation1After ndocytosis by

developing oocytes, v ite llogenin w as enzymatically converted intoegg yo lk protein, which was endogenesis1K ey words: A cip enser ruthenus; Yo lk protein; B iochem ical character; Immunohistochem

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【学科分类】水产学基础学科

【题目】星点篮子鱼(Siganus stellatus Forsska9l)淡化技术的探讨
【中文关键词】关键词:星点蓝子鱼 淡化 存活率
【英文关键词】Key words:abbreviation
【中文摘要】通过对体长2.40~3.50 cm、平均体长2.94 cm;体重0.47~0.97 g、平均体重0.71 g 的星点蓝子鱼的淡化试验。结果表明:水温32.0 ℃条件下、将鱼苗从27.4 的高盐度环境中直接移入6.9 的低盐度环境,72 小时后的存活率100%;直接移入3.2 的低盐度环境,72 小时后的存活率83.3%;直接移入淡水环境,3~4 h 内鱼苗全部死亡;采用20% 日换水量的盐度递降方式在220h 内将鱼苗培育水盐度由6.9 淡化至淡水的存活率63.3%;用流水淡化方式在145 h

v

【英文摘要】abstract(Abbreviation)
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【题目】星突江鳎(Platichthys stellatus) 群体同工酶分析
【中文关键词】关键词: 星突江鳎; 养殖群体; 同工酶分析
【英文关键词】K ey words: P latichthy s stellatus; cultured stock; isozym e analysis
【中文摘要】摘要: 采用水平凝胶电泳技术对星突江鳎(P latichthy s stellatus) 养殖群体进行了同工酶分析。筛选了9种酶, 检测到15个位点, 在0199水平上, 仅PGM* 位点表现为多态, LDH* 、SDH* 、G 3PDH* 、GPI-1* 、GPI-2* 、GP I-3* 、IDHP* 、SOD-1* 、SOD-2* 、SOD-3* 、MDH-1* 、MDH-2* 、MPI-1* 和MP I-2* 均为单态, 多态位点比例为61 67%, 实际观测杂合度为010098, 预期杂合度为01 0303, 平均有效等位基因数目为11 0557。结果表明, 星突江鳎养殖群体的遗传多样性水平较低。
【英文摘要】Abstrac t: H o rizontal starch ge l electrophoresis was used to investigate the genetic d iversity o f a cultured P latichthy s stellatus stock1 OnlyPGM* locus w as po lymo rph ic among fifteen loc iw hich w ere exam ined from n ine enzym es wh ile the m ost comm on allele was less than or equa l to 01 991 The proportion o f po lymo rph ic loc iw as 61 67%, the m ean observed heterozygosity w as 01 0089, and the m ean expected heterozygosity was 01 03031 The ave rage effective number of a lle les was 11 05571
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【学科分类】水产学基础学科

【题目】星突江鲽的形态特征及内部结构研究
【中文关键词】关键词:星突江鲽;外部形态;可量可比性状;可数性状;内部结构
【英文关键词】Key words:Platichthys stellatus Pallas; morphometic characters; meistic characters; internal structure
【中文摘要】摘要: 通过观察、测量、解剖、数据的整理和分析,对120 尾全长11~43 cm, 体质量0.02~2.49 kg 的养殖星突江鲽(Platichthys stellatus Pallas) 外部形态、可量可比性状、可数性状和内部结构进行了研究。外部形态包括口、鼻、眼、鳍条、侧线和鳞片的特征;可量可比性状包括全长/ 体长(Tl/Sl)、体长/ 体高(Sl/Bd)、体长/ 头长(Sl/Hl)、头长/ 吻长(Hl/Pl)、尾柄长/ 尾柄高(Cl/Cd)、体长/ 尾柄长(Sl/Cl)、头长/ 眼间距(Hl/Ei)、头长/ 眼径(Hl/Ed) 比值及其相关方程;可数性状包括背鳍鳍条、尾鳍鳍条、臀鳍鳍条、腹鳍鳍条、胸鳍鳍条、侧线鳞、侧线上鳞、侧线下鳞、牙齿、幽门盲囊、上鳃耙、脊椎骨;内部结构主要包括消化系统的组成和解剖位置。结果表明:(1) 外部形态的明显特征在于:背鳍、臀鳍、尾鳍有黑色和黄色相间的条纹;多角星状鳞片,有刺状突起。(2) 全长/ 体长变动范围最小,雌雄差异最小,其线性相关性最好,全长与体长相关方程为Sl= 0.877 1Tl-0.158 9(R2=0.982 2);头长/ 吻长、头长/ 眼径不仅变动最大,而且其线性相关性最差,雌雄的差异也最大;星突江鲽体长与体质量关系为:W=0.016 8Sl3。199 ,R2= 0.979 7;雄性:W=0.027 4Sl2。972 1,R2= 0.993;雌性:W=0.013 4Sl3。300 8,R2= 0.982 2(W 代表体质量,kg;Sl 代表体长,cm)。(3) 星突江鲽腹鳍鳍条与幽门盲囊最稳定;侧线鳞和牙齿变动最大。(4) 牙尖锐,圆锥形;胃大,呈“I”型,肠粗短;1~2 枚幽门盲囊。通过比较发现:星突江鲽的外部形态、可量可比性状和内部结构特征均与石鲽相近;星突江鲽与6 种比目鱼相比,可数性状指标的数目多较少。
【英文摘要】Abstract: By observing,measuring and anatomizing 120 individuals of the raised Platichthys stellatus Pallas(total length ranged from 11 to 43 cm, body weight ranged from 0.02 to 2.49 kg), the fish external shape,morphometic characters, meistic characters and internal structure were observed and described. The external shapeincludes the description for mouth, noses, eyes, pterygiophores, lateral lines and scales; the morphometric characters include total length/standard length(Tl/Sl), standard length/body depth(Sl /Bd), standard length /headlength(Sl /Hl), head length /proboscis length(Hl /Pl), caudal length/caudal depth(Cl/Cd), standard length /caudal length (Sl / Cl), head length /eye interal(Hl /Ei), head length /eye diameter(Hl/Ed) and their correlationequations; the meistic characters includes dorsal fin rays, caudal fin rays, anal fin rays, ventral fin rays pectoral fin rays, lateral line scales, the upper scales of lateral line, the lower scales of lateral line, teeth, pyloric caeca,the upper gill rakers, vertebrae; the internal structure mainly includes the constitution and anatomic positionof digestive system. The results indicate that the visible characteristic of external shape lies in the black-yellow stripes on dorsal fin, anal fin and caudal fin as well as the multiangular stellate scales with spinulose gibbosity.Besides, the variation magnitude of total length/standard length is small with little difference between female andmale. The correlation equation of total length and standard length [Sl = 0.8771 Tl -0.1589(R2=0.982 2)] presentsthe best in linear correlation. The values of both head length/proboscis length and head length /eye diameter not only vary largely but present the worst in linear correlation with great difference between female and male. The general correlation equations of standard length (Sl) and body weight (W) is W=0.016 8Sl3。199 (R2= 0.979 7),for male, W=0.027 4Sl2。9721 (R2= 0.993);for female, W=0.013 4Sl3。3008,R2= 0.982 2. Moreover, the numbersof ventral fin rays and pyloric caeca are relatively steady. The deviation of lateral line scales and teeth is thelargest. The teeth are sharp and conical; the stomach with “I” shape is big;the intestine is wide and short andthere are one to two pyloric caeca. By comparison, it is discovered that the characteristics of external shape,morphometic characters and internal structure of Platichthys stellatus Pallas are always similar with Kareiusbicoloratus(Basilewsky), and most of the meistic character indexes of Platichthys stellatus Pallas are less thansix flatfishes in numerical value.
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【题目】星突江鲽卵巢中常量及微量元素分析
【中文关键词】关键词:星突江鲽;常量元素;微量元素
【英文关键词】Keywords:Plafichthys stellatus Pallas;Constant element;Trace elemen

【中文摘要】摘要:本文对星突江鲽卵巢中常量及微量元素含量进行了分析。结果表明:常量元素由高到低排列为:K (11712.50-I-2789.19 ug/g)>P(5597.0±1992.59 ug/g)>Na(5196.20±1068.30 ug/g)>Mg(1064.20±174.16 ug/g)>Ca(751.22±69.43 ug/g);微量元素由高到低的{{ 列为:Fe(712.0±148.49 ug/g)>Mn(172.0±35.16 ug/g)>Zn(80.0±35.24 ug/g)>Cu(10.0±2.14 ug/g)>Mo(4.78±0.53 ug/g)>Cr(1.68±0.51 ug/g)>As(1.0±0.01 ug/g)>Ge(0.90±0.13 ug/g)>Co。比较发现:星突江鲽卵巢中Fe、K、Mn、cu的含量均远高于七种鱼卵、牛肉和鸡蛋,其中Mn含量高出近百倍。

【英文摘要】Abstract:The contents of constant and trace elements in the ovary of Platichthys stellatus Pa—llas wereanalysed.The results indicate that sequence from highness to lowness for constant elements is,K (1 1712.50~2789.19ug/g)>P(5597.O±1992.59ug/g)>Na(5196.20+1068.30ug/g)>Mg(1064.20:1:174.16 ug/g)>Ca(751.22+69.43 ug/g);for trace elements is,Fe(712.0士148.49 ug/g)>Mn(172.0±35.16 ug/g)>Zn(80.0±35.24 ug/g)>Cu(10.0±2.14 ug/g)>Mo(4.78~0.53 ugg)>Cr(1.68~0.51 ug/g)>As(1.0±0.01 ug/g)>Gef0.90~0.13 ug/g)>Co.By comparison We find that the content of Fe,K,Mn and Cu in ovary of Platichthysstellatus Pallas is far high than seven kinds ofspawn beefand egg,of Mn is nearly one hundred times higher

【语种】中文

【第一作者】齐国山

【通讯作者】陈四清

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【引文索引号】1005—3832(2008)02—0071—04

【学科分类】水产增殖学

【题目】星突江鲽胚胎发育的研究

【中文关键词】关键词 星突江鲽 受精卵 胚胎发育

【英文关键词】KEY WORDS Starry flounder, Fertilized egg

【中文摘要】对人工干法授精、微量充气孵化条件下星突江鲽的胚胎发育进行了研究。星突江鲽受精卵为分离的球形浮性卵,无油球、卵膜薄、光滑且透明,具弹性。吸水前卵径为O.66~0.7Omm,吸水后为0.91~1.06mm。根据胚胎发育的外部形态及典型特征将星突江鲽胚胎发育过程划分为卵裂期、囊胚期、原肠期、神经胚期、胚孔关闭、眼泡和肌节形成、尾芽形成、晶体出现、听囊出现、出膜前期和出膜期11个连续的典型时期。在11±O.5℃ 水温下,受精卵经过101h仔鱼脱膜孵出。初孵仔鱼全长2.3~2.5mm,卵黄囊长径1.O75~1.25mm,短径O.6O~O.675mm。

【英文摘要】ABSTRACT This paper presents the result of research on embryonic development of starry flounder P n f s PZ nf “ by means of artificial propagation and incubation in lightly aerated seawater. Fertilized eggs of starry flounder were isolated and spherical, contained no oil glob—ules,and were buoyant in sea water.The egg membrane was thin,smooth,transparent and elastic. The mean size of eggs was O.66~ O.7O mm in diameter before absorbing water and O.9l~ 1.06 mm after fertilization and water absorption. According to the appearance and character—istics of the embryo,embryonic development was divided into 1 1 consecutive periods: cleavagestage,blastula stage,gastru1ae stage,neurula stage,blastopore closed,formation of optic vesi—cle and somite, tail ud forming, formati0n of crystal, formation of otocyst, pre—hatchingstage,hatching stage. In 1 l± 0.5℃ sea water,larvae hatched at about 1 O 1 h after fertilizati0n The total length of the post—hatch larvae was 2.3~ 2.5 mm. The long diameter of yolk sac was1.O75~ 1.25mm and short diameter was O.60~ 0.675 mm.

【语种】中文

【第一作者】陈四清

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【期刊名称、卷期、页码】渔业科学进展,30(1),1-7

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【引文索引类型】其他

【引文索引号】1000—7075(2O09)01一O0O1—0

【学科分类】水产学基础学科

【题目】盐度和水流对青蟹蜕壳率、存活率影响的初步研究

【中文关键词】关键词: 锯缘青蟹; 盐度; 水流; 蜕壳率; 存活率

【英文关键词】Key words:abbreviation

【中文摘要】摘要: 在室内水泥池条件下, 对平均体质量在(653 士152) 9 的青蟹进行了为期30 天的养殖实验, 分别测定其在两种不同盐度和有无水流条件下的蜕壳率和存活率。实验结果表明: 盐度巧组和2 5%。组青蟹成活率差异不显著(p> 0.0 5), 但蜕壳方面盐度巧组明显快于盐度25 组(p< 0.05) ; 水流对青蟹的蜕壳无明显促进作用, 但有水流情况下其存活率显著高于无水流组(p< 0.05)。因此, 软壳蟹养殖应在适当降低盐度情况下, 增加一定量的水流
【英文摘要】abstract(Abbreviation)
【语种】中文
【第一作者】于忠利
【通讯作者】乔振国
【期刊名称、卷期、页码】2008水产科技论坛
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【引文索引类型】其他
【引文索引号】2008水产科技论坛
【学科分类】水产增殖学

【题目】野生大鲵及其人工繁殖后代的遗传多样性分析
【中文关键词】关键词:(略)
【英文关键词】Key words:abbreviation
【中文摘要】研究简报,摘要略
【英文摘要】abbreviation
【语种】中文
【第一作者】方耀林
【通讯作者】肖汉兵
【期刊名称、卷期、页码】水生生物学报,3 2, (5),783-786
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【引文索引类型】其他
【引文索引号】SP
【学科分类】水产学基础学科

【题目】野生和养殖大鲵群体遗传多样性的微卫星分析
【中文关键词】Andrias davidianus,微卫星标记,等位基因,多态信息含量
【英文关键词】Andrias davidianus,microsatellite DNA markers,allele,PIC
【中文摘要】中国大鲵是世界上最大的两栖动物并且为我国特有,现在该物种野生种群急剧下降,而人工养殖种群逐渐增多。为了对大鲵 ndrias davidianus)群体进行遗传多样性的本底调查,本文用10对微卫星引物对28尾野生大鲵和16尾人工养殖的大鲵样本进行了遗传多样性分析。结果表明,在10对引物中有7对检测到多态位点,野生群体和养殖群体的观察等位基因数分别为5—8和4—6,期望杂合度分别为o.81~I]0.75,说明本实验中研究的大鲵的遗传多样性水平较高。通过人工养殖群体和野生群体的比较发现,人工养殖群体存在较大的等位基因丢失现象,并且遗传多样性水平低于野生群体。以上结果将为大鲵的人工繁育和遗传多样性的保护、利用提供一定的理论依据。
【英文摘要】The Chinese giant salamander ndrias davidianus)is world ’ S largest amphibian and is endemic to China.W ild populations of the species have declined drastically,while domesticated populations have increased in recent years.To estimate genetic variation in the Chinese giant salamander,we analyzed ten microsatellite loci of 44 individuals from two wild and one domesticated populations.A total of 52 alleles were fotmd from seven loci shown to be polymorphic.The number of alleles ranged from 6 to 9(mean 7.41.The polymorphism information content(PIC)of all populations at all loci exceeded 0.54 except the YQY atGS 1 34(0.3750),suggesting high polymorphism at microsatellite markers.Compared with the wild populations,some alleles in the domesticated population were drifted and the PIC was lower.Our results may providea theoretical basis for conservation and exploitation of giant salamanders in China
【语种】中文
【第一作者】孟彦
【通讯作者】肖汉兵
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【引文索引类型】其他
【引文索引号】SP.J.1003.2008.0810
【学科分类】水产增殖学

【题目】野生与养殖哲罗鱼消化系统及消化酶的比较研究
【中文关键词】哲罗鱼;消化系统:消化酶
【英文关键词】Key words:Hucho taimen Pallas;digestive system ;digestive enzymes
【中文摘要】采用组织学方法对野生与养殖哲罗鱼(Hucho taimen Pallas)消化系统的形态及组织结构进行比较研究,采用聚丙烯酰胺凝胶电泳方法比较了两个群体哲罗鱼3种消化酶的相对含量。结果表明,野生与养殖哲罗鱼的消化系统在形态上存在一定差异,在组织结构上无明显差异。两个群体哲罗鱼在食道与胃酯酶相对含量上差异不显著(0.05),在肝脏与幽门盲囊酯酶相对含量上差异显著(JPl<0.05),在肠道酯酶的相对含量上差异极为显著(JPl<0.01)。两个群体哲罗鱼在食道与胃淀粉酶的相对含量上差异不显著(0.05),在肝脏与肠道淀粉酶的相对含量上差异显著(P<0.05),在幽门盲囊淀粉酶的相对含量上差异极为显著(JPl<0.01)。哲罗鱼的蛋白酶表达存在一定的pH依赖性,在体外酸性条件下(pH3),两个群体哲罗鱼只有食道与胃有蛋白酶表达;在体外碱性条件下(pH 9),两个群体哲罗鱼只有幽门盲囊与肠道有蛋白酶表达;两种pH条件下,两个群体哲罗鱼各组织中蛋白酶的相对含量差异均不显著(0.05)。两个群体哲罗鱼的消化系统结构及消化酶含量所表现出的差异与其生活环境及食物有关。
【英文摘要】The morphology and histology of the digestive system of wild and cultivated Hucho taimen has beenstudied using histological method.The results showed that there were some diferences between the wild an dcultivated types in the shape of digestive system,but the diferences in histology of esophagus,stomach,liverpyloric caecum and intestine were not clear.The digestive enzymes of the tw o populations were studied bymeans of polyacrylamide gel electrophoresis.The results showed that diferences of relative esterase content inesophagus and stomach between the two populations were not significant(P>0.05),while in liver and pyloriccaecum the diferences were significant(P<0.05).In intestine,the relative enzyme content were extremely significant(P<0.0 1).The diference of relative amylase content in esophagus and stomach between the opopulatioas is not significant(P>0.05),in liver and intestine,the diference was significant(P<0.05),in pyloriccaecurn,the diference was extremely significant(P<0.0 1).The expression of proteases relied on pH value.Only in esophagus and stomach there was protease ’s expression of the two populations in acidic condition(pH 3).In alkaline condition(pH=9),pyloric caecum and intestine had the expression of proteases.In both conditions,the Tence relative protease content of each tissue between the two populations was not prominent(p>0.05).It could bc concluded that diference of digestive system an d digestive enzymes betw een the tw o populations reliedon their living condition and food
【语种】中文
【第一作者】顾彦
【通讯作者】尹家胜
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【引文索引号】1005—8737一(2008)02—0330—07
【学科分类】水产学基础学科

【题目】哲罗鱼AFLP技术体系建立的研究
【中文关键词】哲罗鱼,AFLP,反应体系
【英文关键词】Key words:Hucho taimen(pallas);AFLP;reaction system
【中文摘要】以哲罗鱼为材料提取DNA,采用两组限制性内切酶组合酶切基因组,并对酶量、酶切时间、扩增时稀释倍数及镁离子的浓度进行优化,结果表明200 ngDNA用4 U的EcoR I和PstI在37℃酶切4 h后,再分别用4 U的Tru9I和z-伽I在65℃酶切4 h后用3 U的T4连接酶连接3 h,进行预扩增,预扩增产物稀释100倍后选择扩增效果最佳,得到了清晰稳定的扩增图谱;并对两组酶切组合的扩增结果进行了比较,结果显示EcoRI、Tru9I酶切组合扩增的条带数要多于PstI、raqI酶切组合扩增的条带数,但后者的多态性要高于前者。本研究为采用该技术对哲罗鱼基因组的研究提供了参考。
【英文摘要】Abstract:Nowadays,amplified fragment length polymorphism(AFLP)is one of the most regularly usedmolecular markers.In this study,the aim DNA was extracted from Hucho taimen(pallas).The genomic DNAwas digested with two groups of restriction enzymes.Th e quantity of the restricting enzymes,the time of the digested reaction,times of pre—amplification product dilution and concentration of Mg2 were optimized. 200 nggenomic DNA was digested for 4 h at 37 oC with 4 U EcoRI.PstI an d then

65 ℃ for 4 h with 4 U Tru9I an dTaqI,respectively;the product was ligated for 3 h with 3 U ligase and was pre—amplificated;the products ofpre—am pification was diluted 100 times for selective amp lification;the amplification patterns were obtainedclearly and stably.Comparison the obtained results with two pairs of restriction enzymes showed that the groupof EcoRI an d Tru9I obtained more amplification bands than the group of PstI and TaqI,but the polymorphicbands of the later exceed the former.An useful tool was provided to check the Hucho taimen(pallas)geneticvariations and was helpful for molecular assisted selection of breeding.

【语种】中文

【第一作者】佟广香

【通讯作者】尹家胜

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【学科分类】水产学基础学科

【题目】哲罗鱼基因组微卫星富集文库的构建与分析

【中文关键词】哲罗鱼; 微卫星; 磁珠富集

【英文关键词】Hucho taimen Pallas; microsatellite; enrichment w ith mag net ic beads

【中文摘要】采用磁珠富集法构建哲罗鱼(Hucho taimen Pallas) 基因组微卫星文库。哲罗鱼基因组DNA 经Mbo I 限制性内切酶 消化后, 选取400~ 900 bp 的片段, 用生物素标记的简单重复序列(ACA) 15作探针与其杂交, 杂交复合物结合到包被有链霉亲和素的磁珠上, 获得目的片段, 连接T 载体克隆, 构建基因组微卫星富集文库。再用同位素标记的(ACA) 15探针进行二次筛选, 筛选出686 个阳性克隆, 阳性克隆率为351 94%。对其中140 个阳性克隆进行测序, 共获得149 个微卫星序列, 4 个小卫星序列, 其GenBank Accession Number 为DQ110955~ DQ121108。其中per fect(完美型) 62 个, 占41161%;imperfect(非完美型) 92 个, 占611 74%; compound(混合型) 5 个, 占31 36%, 重复次数主要分布于6~ 45(81121%) , 平均重复次数为321 5, 这表明(ACA/ TGT) n 在哲罗鱼基因组DNA 中含量非常丰富。本研究旨为从DNA 水平上研究哲罗鱼种群结构、遗传多样性及目前群体现状等方面提供有效工具

【英文摘要】Enrichment of microsatellite DNA w ith magnet ic beads is a simple and efficient DNA isolat ing method, w hich was used to const ruct microsatellite DNAs library f rom H ucho taimen Pallas genome in this study. This project w as designed to isolate microsatellite markers from H ucho taimen Pallas genome using the biot in capture method, w hich had been developed as a convenient and eff icient method in recent years. Firstly, genomic DNA w as ext racted and digested w ith Mbo Ñ . And 400- 900 bp f ragment s w ere recovered and ligated to a short linker (23 bp) . Secondly , the lig ated DNAs were hybridized w ith biot in-labeled simple sequence repeat s(SSR) probes (ACA) 15 and the mix ture w as incubated w ith reptavidin-coated magnetic beads. T he selected sing le-st rand microsatellite DNA w as obtained by removing the SSR-uncombined fragments Af ter the amplificat ion of the selected microsatellite DNA, the PCR product s w ere ligated to Tvector and transformed to E . col i competent cells. inally, a library containing 2 100 colonies w as constructed.Six hundred and eig hty six positive colonies w ere obtained af ter the screening of the library by radioact ive labeling hybridizat ion. Sequencing of 140 posit ive colonies confirmed 149 microsatellite loci. Of these sequences, only 4 ontained compound repeat mot ifs (2161%) , and the others included 60 perfect (39122%) and 89 imperfect (58117%) repeat motifs. In addition, relat ively short arrays (6- 45 repeats) w ere most abundant (7117%) and the larg est array contained 131 repeats in the microsatellite repeat s. According to unique sequences flanking each motif, 117 primers were designed using the sof tw are Primer Premier 5. The results indicated that microsatellite sequences w ere characterized by (ACA) n abundant in genomic DNA of H ucho taimen pallas. T he (ACA) 15-enriched library onstructed in this study w ill be a useful resource for screening addit ional microsatellite markers from H ucho taimen Pallas for further study .

【语种】中文

【第一作者】佟广香

【通讯作者】孙效文

【期刊名称、卷期、页码】中国水产科学,2006,13(2):181-186

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【引文索引号】1005- 8737- (2006) 02- 0181- 06

【学科分类】水产学基础学科

【题目】哲罗鱼精子的超微结构
【中文关键词】哲罗鱼; 精子; 超微结构
【英文关键词】Hucho taimen; spermatozoon; ultrastructure
【中文摘要】应用透射电镜观察了乌苏里江哲罗鱼(Hucho taimen) 精子的超微结构。哲罗鱼的精子由头部、中段和尾部组成。头部呈卵圆形, 主要结构是细胞核。核前端无顶体, 后端有植入窝, 核中染色质致密, 存在着不规则的网络状间隙。中段包括中心粒复合体和袖套。近端中心粒为9 组三联微管结构, 与远端中心粒相互垂直。袖套与细胞核后端相连, 含有丰富的线粒体和泡, 部分线粒体彼此融合, 形成复合线粒体。尾部细长, 主要结构是轴丝, 为典型的/ 9+ 20管结构。尾部的近核段有许多囊泡包围着轴丝, 远核段则无此结构。尾部有对称排列的波纹状侧鳍
【英文摘要】Ultrastructure of spermatozoon of Hucho taimen in Wusuli River was observed by transmission electron microscopy. The spermatozoon of Hucho taimen consisted of a head, a midpiece and a tail. The head was ovoid in shape, of which the main structure was nucleus. It had no acrosome and at its caudal end the nucleus had an implantation fossa. The nucleus consisted of electron dense chromatin materials and contained irregularly netlike gap. The midpiece consisted of the centriolar complex and the sleeve. The proximal centriole, which is made up of nine triplets of peripheral microtubules, and the distal centriole were arranged at a right angle to each other.The sleeve, which contained a high number of mitochondria and vesicles, was connected to the osterior end of the nucleus. Some of the single mitochondria were fused with each other and formed a complex chondriosome.The main structure of the tail was axoneme, which was slim and long. The structure of the tail was of the typical / 9+ 20 model. At the proximal end of the tail there were many vesicles outside the axoneme. The distal end of the tail, however, did not contain any esicles. The tail had lateral fins, which were undulating and arranged symmetrically.
【语种】中文
【第一作者】尹洪滨
【通讯作者】尹洪滨
【期刊名称、卷期、页码】水产学报,32(1),27-31
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【学科分类】水产学基础学科

【题目】哲罗鱼胚胎和仔鱼发育的研究
【中文关键词】关键词:哲罗鱼;胚胎;仔鱼;人工繁殖;驯化
【英文关键词】Key words:Hucho taimen;embryo;larva;artificial propagation;acclimation
【中文摘要】摘要:用活体观察和固定观察两种方法,首次对哲罗鱼Hucho taimen胚胎和仔鱼发育进行了系统观察,描述了哲罗鱼早期发育过程。哲罗鱼受精卵为沉性端黄卵,呈圆球形,含有大量卵黄,卵色呈桔黄色,吸水膨胀后卵径为(5.55 4-0.15)mill。在水温为4.8~9.0 qC下,受精卵历时839 h破膜,初孵仔鱼全长为(18.45±0.32)mm,卵黄囊体积为(0.074 4-0.009)cm ,经过60 d左右仔鱼发育基本完成。将哲罗鱼与几种鱼类进行了对比,探讨其卵径、孵化平均水温与破膜所需时间及初孵仔鱼大小之间的关系。
【英文摘要】Abstract:The embryonic and larval development in taimen Hucho taimen was described for the first time by liveand fixed samples.Th e demersal,and telolecithal egg was spherical in shape with a great deal of yolk and had anaverage diameter of(5.55±0.15)mm after absorption of water.At 4.8—9.0°C ,t}le larvae with a yolk sac vol—Lime of(0.074±0.009)cm hatched in 839 h after fertilization,and was(18.45±0.32)mm in total length andcomplete larval development in 60 days.The average egg diameter,hatching temperature and relationship betweenincubation period and larval size of taimen as well as diferent species were discussed.
【语种】中文
【第一作者】张永泉
【通讯作者】尹家胜
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【学科分类】水产增殖学

【题目】哲罗鱼全人工繁育的初步研究
【中文关键词】哲罗鱼; 人工养殖; 生长; 性腺发育; 繁殖
【英文关键词】H ucho taimen; art if icial rearing; grow th; gonad development ; propag at ion
【中文摘要】从乌苏里江捕获体质量0 5~ 2 kg 的野生哲罗鱼(Hucho taimen) 幼鱼, 经人工培育至性腺成熟后催产获得鱼苗, 分别饲养于北京房山鲟鱼基地(水温8~ 22) 和黑龙江渤海冷水鱼实验站 水温3~ 18) , 观察和测定在人工养殖条件下哲罗鱼的生长和性腺发育, 并进行全人工繁殖实验。结果表明, 在流水池塘驯养条件下, 投喂人工配合颗粒饵料可以保证哲罗鱼的生长能量需求, 性腺能够发育成熟。北京房山基地的养殖池, 生长适温期较长, 5 龄鱼体质量可达(5 560 1 353) g, 体长(76 85 6 56) cm。黑龙江渤海站的养殖池, 生长适温期较短, 5 龄鱼体质量可达(3 626 1 282) g, 体长(67 32 6 13) cm。在黑龙江渤海站饲养的实验鱼, 原始生殖细胞出现明显性别分化的时间在出苗后60 d 左右, 期卵巢的出现期在3~ 14 个月, 期卵巢出现期在15~ 34 个月, 期卵巢出现期在35~ 47 个月, 期卵巢出现期在48~ 59个月。所得鱼苗经5 年多的人工池塘驯养, 2006 年分别在北京房山基地和黑龙江渤海站成功进行了哲罗鱼的全人工繁殖, 为该鱼的规模化养殖提供了实验依据。
【英文摘要】H ucho taimen w ith body w eight ranging from 0 5 kg to 1 5 kg w ere captured f rom Wushuli River, China, and the f ries were reproduced af ter t ificial rearing T he fries w ere reared separately in Beijing Fangshan base at w ater temperature of 8- 22 and Heilong jiang Bohai stat ion at w ater temperature at 3- 18 . During the period of rearing, w e observed the growth and gonad development of H ucho taimen , and made a pilot f art ificial propag at ion. The result s showed that feeding part icle foods can meet the energy demands for grow th and gonad maturity of H ucho taimen reared in ponds w ith flow ing w ater. Unlike Bohai Stat ion in Heilongjiang, Fangshan Base has a longer period of opt imum emperature,thus, the body weight and body leng th of 5-year-old fish can reach (5 560 1 353) g and (76 85 6 56) cm, respect ively. In cont rast , the body w ght and body leng th of the same-year-old fish reared in BohaiStation only reach(3 626 1 282) g and (67 32 6 13) cm. For those fishrearedinohai Stat ion, the primary germ cell tends to present obvious sex different iat ion at 60 days of ag e, phase ovary shape at 3-14 months, phase ovary hape at 15- 34 months, phase ovary shape at 35- 47 months, and phase ovary shape at 48-59 months.After 5 years rearing in ponds, artif icial propagat ion w ith sex-matured H ucho taimen w as conducted. The results show ed that in Beijing Fangshan base, the mean values of spaw ning ate, fert ilization rate, eyed-egg rate, incubat ion rate and larva float ing rate were 21 7, 56 3, 88 3, 88 9 and75 0, respect ively.
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【第一作者】徐伟
【通讯作者】孙效文
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【学科分类】水产增殖学

【题目】哲罗鱼人工育苗技术研究
【中文关键词】关键词:哲罗鱼;繁殖;鱼苗;驯养;生长
【英文关键词】Key words:Hucho taimen Pallas;artificial propagation;fb ;domestication;growt
【中文摘要】采捕野生乌苏里江哲罗鱼(Hucho taimen Pallas)幼鱼,在流水池塘中培育至性腺成熟,进行人工繁殖和育苗技术的研究。结果表明:注射催产激素HCG、S-GnRH—A和DOM的混合制剂可促使成熟的亲鱼排卵(9±2)qC水温药物的效应时间在8~11 d。哲罗鱼的受精卵,为圆形、淡黄色,卵膜较软,无粘性。7 ~9 龄鱼的卵径为4.20~5.56 mm[平均(4.98±0.33)mm];吸水膨胀后的卵径为4.32~5.76 mm[平均(5.20±0.38)mm],增大约0.2 mm。6~12 kg的雌性亲鱼绝对产卵量为4 500~14 000粒/尾,相对产卵量1 000~1 200 ind/kg。哲罗鱼人工繁育的催产率、发眼率和仔鱼上浮率平均为87.5% 、83.5%和86.4% 。从卵受精到破膜需28~31 d[平均(29.3±1.3)d],完全出苗需38~41 d[平均(38.5±1.0)d],仔鱼上浮需56~58 d[平均(57.1±0.9)d]。鱼苗驯化依次投喂水蚤一水蚤、水丝蚓一水丝蚓一水丝蚓、软颗粒饲料一软颗粒饲料一软颗粒饲料、硬颗粒饲料一硬颗粒饲料,可从动物性饵料转化为人工配合颗粒饲料喂养。人工养殖条件下,仔鱼体长与日龄的回归方程为L=1.9623e。o219t,(R =0.9507,n=30),稚鱼体长与日龄的回归方程为L=2.6877e 0119t,(R :0.9943,n=30),1龄鱼的平均体长为(16.2±0.93)cm,体重为(28.45±2.98)g。

【英文摘要】Abstract:The juveniles of wild Hucho taimen Pallas were caught and reared to adult in a pond with flowingwater,and propagation and seed culture were ca~ied out.The results showed that the Hucho taimen could beartificially induced to spawn time after time during the period of their reproduction seasons by injecting thehormone mixture which was composed of HCG.S—GnRH—A and DOM.It ’ s about 8—1 1 days for the fish tospawn after injecting at water temperature(9±2)qC.The eggs are round,no sticky,light yellow,and witha soft ovum membrane,and the eggs which were got from the 7 一9 years old brood stocks had a diameter of4.20—5.56 mm,and theaverage value was(4.98±0.33)mm;after absorbing water,diameter becomes4.32—5.76 mm and the average value becomes f5.20 ±0.38)mm.The absolute fecundity is 4 500—14 000 eggs per fish,the relative fecundity is 1 000 —1 200 eggs per kg. The average value 0f artificia1inducing ratio,eyed—eggs percentage and larva floating ratio were 87. 5% ,83.5% and 86.4% ,respective1y.Th e deVelopmental stages from fertilized egg to becoming f with membrane, to getting 0ut 0f the membrane completely and to floating larva need 28—31 d[average(29.3 4-1.3)d],38-41 d[average(38.5 4-1.0)d]and 56—58 d[average(57.1 4-0.9)d],respectively.Using the acclimation method of gradual transition(daphnia---*daphnia,mnodrilus---limnodrilus---limnodrilus,soft granular f0od soft granular food softgranular food,hard granular food--*hard granular food),the fish fry can be weaned to artificial dry foods bygradually reducing the animal feed. Under the artificial culture conditions, the relationship between totallength and day age of larva is L :1.9623e , (R =0.9507,n=30),and the relationship between totallength and day age of juvenile is L=2.6877e 们 ,(R =0.9943,n=30),and after the first year average body length is(16.2 4-0.93)cm,the average body weight is(28.45 4-2.98)g.

【语种】中文

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【学科分类】水产增殖学

【题目】哲罗鱼消化系统器官发生发育的组织学观察

【中文关键词】哲罗鱼; 消化系统; 器官; 发生发育; 组织学

【英文关键词】Hucho taimen; Digestive system; Organ; Development; Histology

【中文摘要】The development of digestive system in Hucho taimen during embryonic period and pos-t embryonic period was studied by continuous tissue sectioning technique.The results howed that, an original digestive vessel was formed 11 days after fertilization. Liver primodium appeared and U stomach was formed by 18 days. The egg membrane was broken, and the scrod could open its mouth freely by 30 days. The teeth and anus were formed, and the digestive tract composed of cavum oropharyngeum, esophagus, U stomach, intestine and anus was observed 8 days after the rupture of egg membrane. The pancreas and cystigenic valve were found, and the digest system of the baby fish became capable of ingestion and igestion of extraneous foods by 16 days after hatching . After 24 days, the fish floated to water surface for searching foods and changed from endogenous nutrition to mixed utrition. By 30 days after hatching, the yolk sac was completely absorbed; the structure and function of the digestive organs were developed; and the fish switched from mixed nutrition to exogenous nutrition. As the fish further grew, its digest organs matured slowly; its hyoid tooth together with lower pharyngeal teeth became arranged in double lines; its powerful stric glands changed into net structure; plenty of pyloric caecum was formed; the intestine became straight; and the liver and pancreas were separated into independent organs.。

【英文摘要】abstract(abbreviation)

【语种】中文

【第一作者】关海红

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【学科分类】水产学基础学科

【题目】哲罗鱼消化系统形态学和组织学观察
【中文关键词】关键词:哲罗鱼:消化系统;形态学;组织学
【英文关键词】Key words:Hucho taimem digestive system;morphology;histology
【中文摘要】摘要:采用活体解剖和显微镜技术对哲罗鱼(Hucho taimen)消化系统进行了较详细的观察,描述了消化道、消化腺的形态特征及各消化段的基本组织结构特点以及各段的细胞学特征。结果表明,哲罗鱼消化系统具有以下特点:(1)口端位,吻尖,口腔、口裂都较大;上下颌、犁骨、腭骨及舌上均有细小的尖齿,齿多向内倾斜;舌肌不发达,舌前端游离,舌黏膜表面为复层鳞状上皮,内含味蕾和杯状细胞。(2)食道粗短,肌层发达,内壁上有较深的纵向褶,黏膜层有大量的杯状细胞(3)胃u犁,分3部分,胃壁内有纵向皱褶,纵褶之间有网状褶,胃底部有胃腺。(4)盲囊呈指状,约180~256个左右,盲囊腔内有灰白色的胶冻状物质,上皮游离面具有微绒毛,黏膜层突入腔内形成窄长的绒毛,黏膜下层不明显。(5)肠直行,分前后肠,黏膜层中有单管状的肠腺。(6)肝不分叶,底边分又呈枫叶状,在肝的右腹面有一长形的裸露胆囊,肝小叶分隔不明显。(7)肝胰脏分开。本研究通过对哲罗鱼消化系统的形态及显微结构的观察,探讨了其消化系统组织学和解剖学特征与其食性的适应性。
【英文摘要】Abstract:Digestive system of Hucho taimen was observed by vivisection and microscope technology.And themorphological feature of alimentary canal and digestive gland and cell character of every part in digestive systemwere described.The results show that traits of the fish ’ s digestive system are as follows:(1)moutheven in thefront,snout acute,oropharyngeal cavity and mouth large.Exiguous and sharp teeth lie on upper and lower jaw,vomer,palatine bone and tongue and most of them are slant inside.Tongue muscle is undeveloped,the front endis dissociative and the mucosa surface is stratified squamous epithelium which contains taste bud and caliciformcells.(2)Oesophagus:thick and short.Muscular layer is strong and the longitudinal plicamucosa is deep.Lots ofgoblet cells lie in the mucous coat.(3)Stomach:U—shaped and consists of three parts.There are reticular plicamucosaand stomach gland between longitudinal plicamucosas of the mucosa and gastric glands lie at the bottom ofthe stomach.(4)Caecum:about 180-256 digitiform caecums.There is offwhite colloidal material in the caecumcavity.MicroviUus lies on epidermis free surface,long and narrow villus are formed by the mucous layer intrud—ing into the cavity.No strata submucosum was found.(5)Intestine:straight—forward and divided into foregut andhindgut.There are tubular intestine glands in the mucous coat.(6)Liver:nonfoliole.The hemline is branched andis maple—leaves—liked.A long naked gall bladder lays the right ventral side of liver.There is no obvious boundarybetw een acini hepatics.(7)Liver and pancreas are separate.In this study,histology and anatomy character of digestive tract in Hucho taimen was studied by observation of its morphology and microscope structure
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【第一作者】关海红
【通讯作者】尹家胜
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【学科分类】水产学基础学科

【题目】哲罗鱼稚鱼的蛋白质和脂肪需求量
【中文关键词】哲罗鱼; 蛋白质; 脂肪; 需求量
【英文关键词】H ucho t aimen; protein; lipid; requirement
【中文摘要】采用4 @ 3 两因素完全随机设计, 研究了哲罗鱼(H ucho taimen) 稚鱼蛋白质和脂肪的需要量。初始体质量为7~ 8 g的哲罗鱼饲养于玻璃钢水簇箱中(直径90 cm, 水深45 cm) 。实验共设4 个蛋白质水平(50%、46%、42%、3 8%) , 每个蛋白质水平设3 个脂肪水平(10%、15%和20%) , 共12 种饲料, 每种饲料投喂组设3 个重复, 每个重复100 尾鱼。实验期间水温111 5~ 171 5 e , 溶解氧71 8~ 10 mg/ L, 每天饲喂3 次, 实验共进行8 周。结果表明, 不同处理对成活率未产生显著影响; 脂肪水平对蛋白质需要量影响较大, 在10% 脂肪水平, 与其他蛋白质水平相比, 50% 蛋白质水平显著提高了终末体质量、终末体长和平均日增重(P < 01 01) , 特定生长率和饵料系数也得到改善(P < 0105) ; 在15%脂肪水平下, 与38%蛋白质水平相比, 42%、46%和50%蛋白质水平各组终末体质量、平均日增重、特定生长率和饵料系数都显著改善(P< 01 05) ; 在20%脂肪水平下, 38%与50%蛋白质水平相比, 终末体质量、平均日增重和饵料系数差异显著(P < 0105),但其他各组差异不显著; 与10%和15%脂肪水平相比, 20%脂肪水平显著提高了蛋白质效率(P < 01 05) ; 鱼体脂肪含量随饲料中脂肪含量增加而显著提高(P < 0101) ; 50% 蛋白质水平显著降低了鱼体水分和脂肪含量, 提高了体蛋白含量(P <01 05) ; 鱼体总能随着蛋白质和脂肪水平的提高也极显著提高(P < 0101) 。本实验结论为: 在10%脂肪水平, 哲罗鱼稚鱼最适蛋白质水平为50%, 在15%和20%脂肪水平下, 最适蛋白质水平为42%。
【英文摘要】A 4×3 factorial feeding trail w as conducted to determine the optimal dietary protein and lipid requirementof juvenile H ucho taimen. Juvenile f ish w ith init ial average weig ht of 7- 8 g were raised in tanksof 90 cm × 45 cm. T welve practical diets were

formulated to contain four protein levels(50%, 46% , 42% ,38%) , each protein levels w ith three lipid levels(10% , 15% , 20%) , each diets was randomly assigned tot riplicate groups of 100 fish. Water temperature f luctuated at 1115- 1715 e ; dissolved ox ygen content wasapproximately 718- 10 mg/ L during the experiment period. Fish w ere fed 3 t imes daily to apparent sat iation for 8 weeks. The results show ed that different t reatment s did not influence the survival rate. Protein requirement w as influenced by lipid level. At 10% lipid level, finial body weight , finial body length and average daily w eight g ain all increased at 50% protein level(P < 0101) compared w ith other protein levels, and SGR and FCR w ere improved(P < 0105) too. At 15% lipid level, compared w ith 38% protein, finial body w eight , daily w eight gain, SGR and FCR were improved(P < 0105) by 42% , 46% and 50% protein. At20% lipid level, f inial body w eight, daily w eight g ain and FCR were improved by 50% protein compared w ith 38% protein, but there w ere no dif ferences among other groups. Compared w ith 10% and 15% lipid levels, PER increased at 20% lipid level(P < 0105) . Body fat content increased w hen feed lipid increased(P< 0101) ; body moisture and fat content decreased and protein increased on 50% protein level(P < 0101) ;body energy content increased w hen protein and fat levels increased(P < 0101) . Viscerosomat ic index increased when proteinincreased(P < 0101) . These results sugg ested that at 10% fat level, the protein requirement w as 50% , and at 15% and 20% fat levels, the protein requirement was 42% for juvenile Hucho taimen .

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【第一作者】徐奇友
【通讯作者】尹家胜
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【学科分类】水产饲料学

【题目】Functional characterization of LePT4: a phosphate Functional characterization of LePT4: a phosphate
【中文关键词】无
【英文关键词】Glomus intraradices, Lycopersicon esculentum,
Micro-Tom, phosphorus acquisition, root/shoot.
【中文摘要】无
【英文摘要】Many plant roots acquire inorganic phosphate (Pi)from soils directly through the root – soil interface viahigh-affinity Pi transporters and/or through symbioticassociations between the cortical cells and arbuscularmycorrhizal fungi. In tomato, three phosphate transporters(LePT3, LePT4, and LePT5) are up-regulatedupon colonization by arbuscular mycorrhizal fungi. Inthis study, the role of LePT4 in tomato is elucidated bymolecular and physiological characterizations ofa loss-of-function mutant lept4. In the absence ofmycorrhizal infection and under solution-Pi concentrations(Cp) of 0.05 mM and 0.5 mM, the mutant exhibitedsevere Pi-deficiency symptoms which were associatedwith significantly lower Pi uptake as compared withthat of the wild type. However, at a Cp of 5 mM, lept4grew better than the wild type. Mycorrhizal infection ata Cp of 0.05 mM resulted in a significant increase inthe transcripts of LePT4 in the wild type and a concomitant2-fold increase in Pi uptake. Although uponmycorrhizal infection, lept4 also exhibited an increasedPi uptake, it was significantly lower than thatof the wild type. Under a Cp of 1 mM and in theabsence of mycorrhizal infection, LePT4 expressionwas suppressed in the wild type and a mutation in thisgene resulted in a slight reduction in total Pi uptake.These data highlight the pivotal role of LePT4 inmycorrhizal-mediated Pi uptake in tomato, and showthat this function may not be fully compensated byother members of the family. Characterization of themycorrhiza-associated Pi transporter lept4 mutant,along with expression analysis of LePT3, providesevidence for the different routes of mycorrhizamediatedPi uptake in plants.
【语种】英文
【第一作者】徐国华
【通讯作者】徐国华
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【学科分类】农学其他学科

【题目】Effect of fungal fusaric acid on the root and leaf physiology of watermelon (Citrullus lanatus) seedlings
【中文关键词】无
【英文关键词】Cell transmembrane potential . Fusaric acid phytotoxin . Pathogenesis-related proteins . Phenylalanine ammonia-lyase . Lipid peroxidation .Reactive oxygen species . Stress
【中文摘要】无
【英文摘要】The impact of fusaric acid (FA) phytotoxin on the physiology of root leaf cells in watermelonseedlings was evaluated. Results revealed that the cell membrane potential treated with FA in 12 h was decreased by 61.9 – 81.8% compared with untreated controls. FA markedly accelerated the lipid peroxidase activity of watermelon leaves. Malondiadehyde in leaves treated with different concentrations of FA in 24 h was 5.2 – 11.0 fold as much as control. Phenylalanineammonia-lyase activity (PAL) in leaves treated with FA was first increased and then decreased. The highest PAL activity was obtained after 6 – 12 h,which was 7.2 – 10.5 fold as much as control.Activities of catalase (CAT), superoxide dismutase (SOD), and peroxidase (POD) were first increased and then decreased when the seedlings were treatedwith FA. The highest SOD and POD activities were observed after 12 h and then both declined. The β-1,3-glucanase and chitinase activities in leaves treated with FA were first quickly increased and then declined, the highest activities were found after 12 and 3 h. We concluded that FA strongly inhibited root and leaf cells functions physiologically responsible for fusarium wilt of watermelon.
【语种】英文
【第一作者】吴洪生
【通讯作者】沈其荣
【期刊名称、卷期、页码】Plant Soil (2008)308:255-266
【论文发表时间】2008-03-03 00:00:00
【引文索引类型】SCI
【引文索引号】2.5652970002e+011
【学科分类】农业基础学科

【题目】Comparing nitrate storage and remobilization in two rice cultivars that differ in their nitrogen use efficiency
【中文关键词】无
【英文关键词】Cellular nitrate activities, nitrate reductase, nitrogen use efficiency, rice, vacuolar remobilization.
【中文摘要】无
【英文摘要】Soil nitrogen (N) is available to rice crops as eithernitrate or ammonium, but only nitrate can be accruedin cells and so factors that influence its storage andremobilization are important for N use efficiency(NUE). The hypothesis that the ability of rice crops toremobilize N storage pools is an indicator of NUE wastested. When two commonly grown Chinese ricecultivars, Nong Ken (NK) and Yang Dao (YD), werecompared in soil and hydroponics, YD had significantlygreater NUE for biomass production. The abilityof each cultivar to remobilize nitrate storage pools 24 hafter N supply withdrawal was compared. Althoughmicroelectrode measurements of the epidermal subcellularnitrate pools in leaves and roots showedsimilar patterns of vacuolar remobilization in bothcultivars, whole-tissue analysis showed very littledepletion of storage pools after 24 h. However, leafepidermal cell cytosolic nitrate activities were significantlyhigher in YD when compared with NK. Before Nstarvation and growing in 10 mM nitrate, the xylemnitrate activity in YD was lower than that of NK. After24 h of N starvation the xylem nitrate had decreasedmore in YD than in NK. Tissue analysis of stemsshowed that YD had accumulated significantly morenitrate than NK, and the remobilization pattern suggestedthat this store is important for both cultivars.Changes in nitrate reductase activity (NRA) and expressionwere measured. Growing in 10 mM nitrate,NRA was undetectable in roots of both cultivars, andthe leaf total NRA of equivalent leaves was similar inNK and YD. When the N supply was withdrawn, after24 h NRA in NK was reduced to 80% but no decreasewas found in YD. The proportion of NRA in an activeform in YD was significantly higher than that in NKunder both nitrate supply and deprivation conditions.Checking NR gene expression showed that leaf expressionof OsNia1 was faster to respond to nitratedeprivation than OsNia2 in both cultivars. Thesemeasurements are discussed in relation to cultivardifferences and physiological markers for NUE in rice.
【语种】英文
【第一作者】范晓荣
【通讯作者】沈其荣
【期刊名称、卷期、页码】Journal of Experimental Botany, Vol. 58, No. 7, pp. 1729 – 1740, 2007
【论文发表时间】2007-03-09 00:00:00

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【引文索引号】10.1093/jxb/erm033
【学科分类】农学其他学科

【题目】Roles of the spiA gene from Salmonella enteritidis in biofilm formation and virulence
【中文关键词】无
【英文关键词】spiA,Salmonella enteritidis,biofilm,virulence
【中文摘要】无
【英文摘要】Salmonella enteritidis has emerged as one of the most important food-borne pathogens forhumans, and the formation of biofilms by this species may improve its resistance todisadvantageous conditions. The spiA gene of Salmonella typhimurium is essential for itsvirulence in host cells. However, the roles of the spiA gene in biofilm formation and virulence of S.enteritidis remain unclear. In this study we constructed a spiA gene mutant with a suicide plasmid.Phenotypic and biological analysis revealed that the mutant was similar to the wild-type strain ingrowth rate, morphology, and adherence to and invasion of epithelial cells. However, the mutantshowed reduced biofilm formation in a quantitative microtitre assay and by scanning electronmicroscopy, and significantly decreased curli production and intracellular proliferation ofmacrophages during the biofilm phase. In addition, the spiA mutant was attenuated in a mousemodel in both the exponential growth and biofilm phases. These data indicate that the spiA gene is involved in both biofilm formation and virulence of S. enteritidis.
【语种】英文
【第一作者】董洪燕
【通讯作者】焦新安
【期刊名称、卷期、页码】Microbiology,157,1798 – 1805
【论文发表时间】2011-03-15 00:00:00
【引文索引类型】SCI
【引文索引号】SCI
【学科分类】兽医学

【题目】Bio-available phosphorus transport from a hillslope cropland of purple soil under natural and simulated rainfall
【中文关键词】无
【英文关键词】Overland flow , Subsurface flow ,Phosphorus transport , Natural rainfall
【中文摘要】无
【英文摘要】To further understand the mechanism of bioavailable total P (BAP) and bioavailable dissolved P (BDP) transport by overland and subsurface flow, we exposed a runoff plot 4.5 m long × 1.5 m wide × 0.6 m deep to simulated and natural rainfall in order to study the effects of rainfall type, rainfall intensity, and vegetation cover on BAP and BDP transport. The resultsshowed that vegetation cover could alleviate the discharge of overland flow and sediment ransport and enhance subsurface flow. BAP transport significantly increased with elevated rainfall intensity.Vegetation cover reduced the BAP transport by overland flow and increased t by subsurface flow. BDP transport showed no significant relationship with vegetation cover and rainfall type.The bioavailable particulate P (BPP) transport by overland flow contributed to no less than 90% by weight of total BAP, and the BPP transport by subsurface flow ntributed to no less than 60% by weight of total BAP. Short-time heavy rainfall caused more BAP transport and accelerated nonpoint source pollution.
【语种】英文
【第一作者】Y. Gao , B. Zhu
【通讯作者】Y. Gao , B. Zhu
【期刊名称、卷期、页码】Environ Monit Assess,2010, 171:539 – 550
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【学科分类】土壤学

【题目】Interaction of dietary Bacillus subtilis and fructooligosaccharide on the growth performance, non-specific immunity of sea cucumber, Apostichopus japonicus

【中文关键词】仿刺参,益生菌,益菌素,生长,免疫,灿烂弧菌
【英文关键词】Apostichopus japonicus;Probiotic;Prebiotic Growth;Immunity;Vibrio splendidus
【中文摘要】本养殖试验是为了研究益生菌枯草芽孢杆菌和益菌素低聚果糖对海参生长性能,免疫,肠道微生物和疾病抵抗方面的作用。实验表明,饲料的中芽孢杆菌明显提高了海参的特定生长率,总体腔细胞数和吞噬作用,也提高了活菌数和对弧菌的抗病性,然而弧菌的数量减少。但是芽孢杆菌饲料并没有对酚氧化酶活性和体腔细胞裂解物上清液产生明显的影响。低聚果糖饲料对特定生长率,酚氧化酶活性,总活菌数和弧菌数都产生了明显的影响。实验条件下,饲料中的芽孢杆菌和低聚果糖协同提高了海参的免疫性和抗病能力。
【英文摘要】A feeding experiment was conducted to investigate the interaction of probiotic Bacillus subtilis and prebioticfructooligosaccharide (FOS) on the growth performance, immunity, intestinal micro fl ora and disease resistance of sea cucumber (Apostichopus japonicus). Five hundred and forty individuals (initial body weight:5.06 0.10 g, mean S.E) were fed nine practical diets according to a 3 3 factorial design: the basal diet as the control diet supplemented with three levels of B. subtilis (0, 1.82 107 or 4.95 107 CFU g 1 diet),crossed with 0, 0.25% or 0.50% FOS. After 8 weeks, three sea cucumbers per tank were sampled for bacterial quanti fi cation and immunity determination. Then all the sea cucumbers left were challenged by Vibrio splendidus. The results showed that dietary B. subtilis signi fi cantly increased the speci fi c growth rate (SGR),total coelomocytes counts (TCC), phagocytosis of sea cucumbers, the counts of total viable bacteria and disease resistance to V. splendidus ($P < 0.05$), whereas the counts of Vibrio decreased. However, dietary B. subtilis had no signi fi cant effect on phenoloxidase (PO) activity in coelomocyte lysate supernatant (CLS)($P > 0.05$). The SGR, PO activity, total viable bacterial counts (TBC) and Vibrio counts (VBC) were signi fi cantly affected by dietary FOS. In the group with 0.50% FOS, TCC, phagocytosis and PO activity signi fi cantly increased compared to the group fed without FOS in diet ($P < 0.05$). In the groups with 1.82 107 CFU B. subtilis/g diet, FOS supplementation remarkably decreased VBC. And higher level of FOS (0.50%) resulted in signi fi cantly higher TCC and PO activity compared with 0.25% FOS ($P < 0.05$). Moreover, the animals fed with diets supplemented with 0.25% and 0.50% FOS at each B. subtilis level had notably lower cumulative mortality after 14 days following V. splendidus exposure ($P < 0.05$). Under the experimental conditions,dietary B. subtilis and FOS had a synergistic effect on enhancing immunity and disease resistance of sea cucumber ($P < 0.05$).
【语种】英文
【第一作者】张琴
【通讯作者】马洪明
【期刊名称、卷期、页码】Fish & Shell fi sh Immunology 29 (2010) 204-211
【论文发表时间】2010-04-03 00:00:00
【引文索引类型】SCI
【引文索引号】2.793889e+011
【学科分类】水产养殖学

【题目】水稻中的磷转运蛋白基因在异源表达系统中的功能分析
【中文关键词】水稻; 磷转运蛋白; 酵母; 人胚胎肾细胞; 功能分析
【英文关键词】rice ; phosphate t ransporter ; yeast ; human embryonic kidney cell ; functional analysis
【中文摘要】为了更好地研究植物在磷素吸收过程中的分子机制以及生物化学过程的变化,将水稻中分离得到的一个磷转运蛋白基因(Os P T6) 用于互补实验。互补实验结果表明,Os P T6 能够与缺失磷转运功能的酵母突变体实现互补,并在低磷条件下促进酵母突变体对磷的吸收。进一步分析表明Os P T6 属于水稻Pht1 家族运输蛋白基因,所编码的蛋白对磷酸盐(Pi) 的吸收Km值为96 μ mol/ L ,属于高亲和的磷转运蛋白。不同的酵母转化子对不同p H 环境的响应实验显示,OsPT6 是一个与质子相偶联的磷运输蛋白,其吸收磷素的最佳p H 为6. 0 。对Os P T6 在人的胚胎肾细胞(HEK293) 中的表达分析表明,该基因能够编码蛋白并定位于细胞膜,证明OsPT6 的功能与酵母磷转运子PHO84 相似,是一个定位于细胞膜上的具有吸收转运磷素作用的运输蛋白。
【英文摘要】For a better understanding of the molecular and biochemical processes involved in orthophosphate (Pi) uptake ,a phosphate t ransporter cDNA (Os P T6) f rom rice was expressed in yeast and HEK293 cell expression systems. The geneOsPT6 codes a protein that belongs to Pht1 family of phosphate t ransporters with 12 putative t ransmembrane domains. The yeast mutant complementation analysis suggested that the t ransporter (OsPT6) was functional Pi t ransporter in yeast cells mediating Pi uptake at micromolar concent rations. When expressed in a Pi2uptake deficient yeast mutant , the phosphatet ransporter (OsPT6) protein exhibited an apparent Km of 96 μ mol/ L and mediated the highest Pi uptake at p H 6. 0. The p H experiment suggested that the activity of OsPT6 was dependent on the elect rochemical membrane potential mediated by the yeast P2type H+ 2ATPase. When expressed in HEK293 cells by either Os P T6 ：Y FP or Os P T6 ：CFP proteins , both the Y FP and CFP fluorescence were observed at the plasma

membrane. This work demonst rated that OsPT6 had a similar function as PHO84 which is a phosphate t ransporter in yeast S accharomyces cerevisiae and OsPT6 played an important role in Pi acquisition.
【语种】中文
【第一作者】郭强
【通讯作者】徐国华
【期刊名称、卷期、页码】中国水稻科学 , 2008 , 22 (3) :227~233
【论文发表时间】2007-11-21 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农学其他学科

【题目】Root Physiological and M orphological Characteristics of Two Rice Cultivars with Different Nitrogen-Use Efficiency
【中文关键词】无
【英文关键词】N accumulation,root bleeding rate,root dry weight,root surface area,total root length
【中文摘要】无
【英文摘要】The variation in nitrogen(N)uptake by rice has been widely studied but difierences in rice root morphology that may contribute to this variation are not completely understood.Field and greenhouse experiments were carried out to study N accumulation,root dry weights,total root lengths,root surface areas,and root bleeding rates of two rice cultivars,Elio with low N—use eficiency and Nanguang with high N—use eficiency.Low (1 mmol N L)and high(5 mmol N L-1)N applications were established in the greenhouse experiment,and the N rates were 0,120,and 240 kg ha- in the field experiments at Jiangning and Jiangpu farms,Nanjing,China.The results showed that the N accumulation.root dry weight,total root length,and root surface area increased with an increase in N application.At the heading stage,Naccumulation in the shoots and roots of Nanguang was greater than that of Elio in the field experiments and that of Elio at 5 mmol N L一 in the greenhouse experiment.After the heading stage.N accumulation was higher for Nanguang at both 1 and 5 mmol N L一 in the greenhouse experiment.The total root length and root surface area were significantly different between the two cultivars.Over the range of the fertilizer application rates.the root lengths of Nanguang at Jiangning Farm were 49%一61% greater at booting and 26%—39% greater at heading than those of Elio.and at Jiangpu Farm they were 22%一42% and 26%一38% greater,respectively Nanguang had a greater root bleeding rate than Elio.It was concluded that the N—use eficiency of the two rice cultivars studied depended to a great extent on the root n1orDh0logical parameters and root physiological characteristics at different growth stages.
【语种】英文
【第一作者】樊建波
【通讯作者】沈其荣
【期刊名称、卷期、页码】Pedosphere 20(4):446-455,2010
【论文发表时间】2010-03-21 00:00:00
【引文索引类型】SCI
【引文索引号】20(4):446-455,2010
【学科分类】土壤学

【题目】盐胁迫对棉田土壤微生物数量与酶活性的影响
【中文关键词】盐胁迫; 棉花; 土壤微生物; 土壤酶活性
【英文关键词】salinity stress; cotton; soil microbe; soil enzyme activity
【中文摘要】在盆栽条件下模拟滨海盐土组成,研究土壤盐胁迫对不同耐盐性棉花品种"中棉所44"和"苏棉12号"土壤微生物数量和土壤酶活性的影响。结果表明:从苗期到吐絮期,两个品种的土壤细菌、真菌和放线菌数量,以及土壤脲酶、蔗糖酶、碱性磷酸酶和纤维素酶活性均随土壤盐分的增加呈现逐渐下降的一致趋势,处理间差异均达显著水平。土壤水分亏缺加重盐胁迫影响,相同盐分水平下,正常灌水处理的土壤微生物数量和酶活性显著高于相应干旱处理。棉株的生长发育亦受到土壤盐分的显著抑制,根系活力、根重、生物量和籽棉产量均随土壤盐分水平升高而一致降低,根冠比则相反。耐盐性品种中棉所44各项测定指标的下降幅度均小于苏棉12号。相关性分析表明,各菌类数量和酶活性与籽棉产量之间存在显著的正相关关系,同时各菌类数量和酶活性之间密切相关,其中碱性磷酸酶和纤维素酶活性与各菌类数量之间的相关系数均达到极显著水平。说明土壤微生物与土壤酶活性对盐胁迫反应极为敏感,并与棉花产量密切相关,是盐胁迫下棉花显著减产的一个重要原因,可作为土壤盐胁迫过程中的重要指标。

【英文摘要】The two-year experiment was conducted in pot with Sumian 12 (salinity-sensitivity) and CCRI-44 (salinity-tolerance) at Pailou experimental station in Nanjing agricultural university.Simulating the salinity component of seashore saline soil,setting five soil salinity rates (0%,0.35%,0.60%,0.85%,1.00%)and two soil water treatments including well-watering ((75±5)%)and water stress((55±5)%),the objective of this study was to evaluate the effects of soil salinity on soil microbes and enzyme activities at different growth stages of cotton.The results showed that under the same soil water treatment,with increasing of soil salinity,the number of bacteria,fungi and actinomyces,and the activity of urease,invertase,phosphatase,celluloytic enzyme decreased.At the same time,the growth of cotton was inhabited by soil salinity stress.Root vigor,root dry weight,biomass,and seed cotton yield all declined with the increase of soil salinity,but R/S-ratio improved.Under the same soil salinity,the number of soil microbe and activity of soil enzyme were much higher in well-watering treatment than in water stress treatment.Soil water stress aggravated the effects of soil salinity stress.Compared to Sumian 12,CCRI-44 was less affected by soil salinity at different growth stages of cotton.Correlation analysis showed that the seed cotton yield had a significant positive correlation with soil microbe and soil enzyme,and the number of soil microbe was closely related with activity of soil enzyme,especially in phosphatase and celluloytic enzyme.Soil microbe and soil enzyme,which are sensitive to soil salinity stress and closely related with cotton yield,are the important reasons of cotton yield decreasing and important indices to extent of soil salinity stress.

【语种】中文

【第一作者】周玲玲

【通讯作者】周玲玲

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【引文索引号】null

【学科分类】农艺学

【题目】Isolation and characterisation of fusaricidin-type compound-producing strain of paenibacillus polymyxa SQR-21 active against Fusarium oxysporum f.sp. nevium

【中文关键词】无

【英文关键词】Antifungal compound . Biocontrol potential . Disease incidence . Enzyme activity

【中文摘要】无

【英文摘要】A bacterial strain was isolated from the rhizosphere of healthy watermelon plants in a heavilywilt-diseased field. This isolate was tentatively identified as Paenibacillus polymyxa (SQR-21) based on biochemical tests and partial 16S rRNA sequence similarity. The purified antifungal compounds were members of the fusaricidin group of cyclic depsipeptides having molecular masses of 883, 897, 947, and 961 Da with an unusual 15-guanidino-3-hydroxypentadecanoic acid moiety, bound to a free amino group.The strain SQR-21 was not able to produce antifungal volatile compounds but was able to produce cellulase, mannase, pectinase, protease, β-1,3-glucanase and lipase enzymes. However, the strain did not show anychitinase activity. Biocontrol potential of this strain was evaluated against Fusarium oxysporum cause of Fusarium wilt disease of watermelon in a greenhouse experiment. This strain combined with organic fertiliser decreased the disease incidence by 70% and increasedthe dry plant weight by 113% over the control.

【语种】英文

【第一作者】Waseem Raza

【通讯作者】沈其荣

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【学科分类】植物保护学

【题目】土壤盐分对棉花功能叶气体交换参数和叶绿素荧光参数日变化的影响

【中文关键词】棉花; 土壤盐分; 功能叶; 气体交换参数; 叶绿素荧光参数; 日变化

【英文关键词】cotton(Gossypium hirsutum); soil salinity; functional leaf; gas exchange parameter; chlorophyll fluorescence parameter; diurnal variation

【中文摘要】2007—2008年在南京农业大学牌楼试验站进行盆栽试验,选择耐盐品种中棉所44和盐敏感品种苏棉12号为材料,试验设置5个土壤盐分水平(0、0.35%、0.60%、0.85%和1.00%),研究土壤盐分对棉花功能叶气体交换参数和叶绿素荧光参数日变化的影响.结果表明:随土壤盐分水平的升高,棉花功能叶中Na+、Cl-和Mg2+含量升高,K+和Ca2+含量降低.低于0.35%盐分处理对叶片气体交换参数和叶绿素荧光参数的影响较小,高于0.35%的盐分处理显著降低了棉花功能叶的净光合速率(Pn),提高了棉花功能叶对日间光辐射强度和温度的敏感程度,导致光温抑制现象加重,并改变了Pn和气孔导度(Gs)的日变化趋势,使其由单峰曲线逐渐变为持续下降趋势.随日间光辐射强度和温度的变化,棉花叶片最大光化学效率(Fv/Fm)、光系统Ⅱ(PSⅡ)量子产量(ΦPSⅡ)和光化学猝灭系数(qP)的日变化趋势呈"V"型曲线,最低值出现在12:00—13:00,非光化学猝灭系数(qN)的日变化趋势呈单峰曲线;盐分处理降低了棉花功能叶Fv/Fm、ΦPSⅡ和qP,提高了qN,且增大了其变化幅度.耐盐品种中棉所44功能叶片中较低的Na+、Cl-含量及相对较高的K+、Ca2+含量保证了PSⅡ的相对稳定性,相对较高的热耗散能力是其在盐胁迫下保持相对较高Pn的重要原因之一

【英文摘要】A two-year(2007-2008) pot experiment with cotton varieties Sumian 12(salinity-sensitive) and Zhongmiansuo 44(salinity-tolerance) was conducted at the Pailou experimental station of Nanjing Agricultural University to study the diurnal variation of the gas exchange and chlorophyll fluorescence parameters of cotton functional leaves under five levels(0,0.35%,0.60%,0.85%,and 1.00%) of soil salinity.With the increase of soil salinity,the concentrations of Na+,Cl-,and Mg2+ in functional leaves increased,whereas the concentrations of K+ and Ca2+ decreased.The salinity level <0.35% had little effects on the gas exchange and chlorophyll fluorescence parameters,but that >0.35% depressed the net photosynthetic rate(Pn) dramatically.At the salinity level >0.35%,the sensitivity of functional leaves to daytime photon flux density(PFD) and air temperature(Ta) enhanced,which in turn resulted in more severe photo-and temperature inhibition,and changed the diurnal variation patterns of Pn and stomatal conductance(Gs) from a one-peak curve to a constantly decreasing one.Along with the variations of daytime PED and Ta, the diurnal variation patterns of the maximum photochemical efficiency(Fv/Fm),quantum yield of electron transport(ΦPSⅡ),and photochemical quenching coefficient(qP) of functional leaves presented a V-shaped curve,with the minimum value appeared at 12:00-13:00,while the non-photochemical quenching coefficient(qN) showed a single-peak curve.Soil salinity decreased the Fv/Fm,ΦPSⅡ,and qP significantly,but increased the qN and enlarged its change trend.The comparatively low concentrations of Na+ and Cl-and the relatively high concentrations of K+ and Ca2+ in salt-tolerant Zhongmiansuo 44 functional leaves benefited the relative stability of PSⅡ,and the maintenance of a relatively high thermal dissipation capacity could be one of the reasons for a high level of Pn at high salinity level.

【语种】中文
【第一作者】张国伟
【通讯作者】周治国
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【学科分类】农艺学

【题目】氮素供应形态对水稻根系形态和磷吸收的影响
【中文关键词】铵态氮; 硝态氮; 磷素; 根系形态; 水稻
【英文关键词】无
【中文摘要】采用水培方法,研究了缺磷条件下不同形态氮(NH4+ 、NO3- 和NH4 NO3) 下的水稻根系形态性状,以及它们产生的后效应对磷吸收的影响。结果表明,在氮素供应充足但磷饥饿胁迫的状况下,氮素形态对根系的影响仍然十分显著。与单一的铵营养相比,铵硝混合营养增加了根长和根系的表面积、根系的密度以及磷的总吸收量;与单一的铵或硝营养相比,铵硝混合营养可增加吸收的磷从根系向地上部的运输。因此,铵硝混合营养改善低磷胁迫下水稻对磷的吸收和转运,其部分原因与氮素形态与根系形态发生有关。
【英文摘要】无
【语种】中文
【第一作者】李宝珍
【通讯作者】徐国华
【期刊名称、卷期、页码】中国水稻科学(Chinese J Rice Sci):22:665-668
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【引文索引号】null

【学科分类】农学其他学科

【题目】水稻根系细胞膜H+2ATPase 对缺磷的反应
【中文关键词】水稻; 细胞膜H+2ATPase ; 缺磷
【英文关键词】无
【中文摘要】用两相法分离了供磷(+ P) 和缺磷(- P) 营养下水稻苗期根系的细胞膜,并测定了细胞膜上H+2ATPase 的水解活性,以期阐明水稻根系细胞质膜上H+2ATPase 对不同缺磷的反应机制。结果表明,缺磷的水稻根系细胞膜H+2ATPase 的水解活性和H+2ATPase 的Vmax , Km 均低于正常供磷的植物; 缺磷的水稻根系细胞膜H+2ATPase 最佳pH 值为610 ,而正常供磷植物的为pH 614 左右; Western Blot 结果说明,缺磷水稻根系细胞膜H+2ATPase 酶浓度与正常供磷植物相似。本试验结果还说明,缺磷水稻根系细胞膜H+2ATPase 活性低的原因并不是因为其单位细胞膜上的H+2ATPase 酶分子数量小于正常供磷的植物,而是缺磷水稻根系细胞膜上H+2ATPase 的同工酶的组成与供磷植物相比发生了变化。这很可能是缺磷胁迫下水稻根系细胞膜H+2ATPase 的一种适应机制。
【英文摘要】无
【语种】中文
【第一作者】许征宇
【通讯作者】朱毅勇
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【学科分类】农学其他学科

【题目】棉花萌发期和苗期耐盐性评价及耐盐指标筛选
【中文关键词】棉花; 萌发期; 苗期; 耐盐性; 耐盐指标; 隶属函数值
【英文关键词】cotton (Gossypium hirsutum); germinating stage; seedling stage; salt tolerance; salt tolerance index; subjection value.
【中文摘要】于2010年在江苏南京农业大学人工气候室内进行砂培试验,采用不同浓度的NaCl水溶液模拟盐胁迫,以多项指标盐害系数隶属函数值和总隶属函数值为依据,比较了13个棉花品种萌发期和苗期的耐盐性,并进行聚类分析.结果表明:150mmol · L-1NaCl是进行棉花耐盐性鉴定的适宜盐浓度.棉花的耐盐性在生育期和品种间表现不同:中棉所44和中棉所177是在萌发期和苗期均表现稳定的耐盐品种,表现稳定但不耐盐品种有中棉所102、苏棉12号和泗棉3号,表现稳定且中等耐盐品种有中棉所103、德夏棉1号和美棉33B;发芽率、发芽势、发芽指数、活力指数和鲜质量的盐害系数可以作为棉花萌发期耐盐鉴定指标,株高、叶片伸展速率、地上部干质量、根系干质量、根系活力和净光合速率的盐害系数可以作为棉花苗期耐盐鉴定指标.
【英文摘要】A sand culture experiment was conducted to study the salt tolerance of 13 cotton cultivars at their germinating and seedling stages under the stress of different concentration NaCl, and a cluster analysis was made on the salt tolerance, according to the subjection values of salt toxicity coefficients of multi-indices and the sum subjection value. It was observed that the appropriate concentration of NaCl for the evaluation of salt tolerance was 150 mmol · L-1. The salt tolerance differed with cultivar and growth stage. Among the 13 cultivars, the CCRI-44 and CCRI-177 were steadily salt-tolerant at both germinating and seedling stages, the CCRI-103, Dexiamian 1, and NuCOTN 33B were steadily and moderately salt-tolerant, while the CCRI-102, Sumian 12, and Simian 3 were steadily salt-sensitive. Germination rate, germination potential, germination index, vigor index, and fresh mass could be served as the indicators to evaluate the salt tolerance of the cultivars at germinating stage, while plant height, leaf expansion rate, shoot dry mass, root dry mass, root vigor, and net photosynthetic rate could be applied to assess the salt tolerance at seedling stage.
【语种】中文
【第一作者】张国伟
【通讯作者】周治国
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【学科分类】农艺学

【题目】Effects of discontinuous administration of β-glucan and glycyrrhizin on the growth and immunity of white shrimp Litopenaeus vannamei
【中文关键词】南美白对虾,β-葡聚糖,甘草酸,免疫疲劳
【英文关键词】Litopenaeus vannamei; β-glucan;Glycyrryhizin;Immunity fatigue
【中文摘要】本实验持续六周,比较添加了不同免疫增强剂的饲料对南美白对虾生长和免疫的影响。实验设置六个不同饲料的小组,分别为不添加免疫增强剂的对照组,只添加β葡聚糖或者甘草酸的连续喂养的实验组,添加β葡聚糖的间断喂养的实验组和添加β葡聚糖和添加甘草酸交替喂养的实验组。结果表明,β葡聚糖更能使对虾维持较高的免疫水平。但是β葡聚糖和甘草酸的持续喂养会导致南美白对虾的免疫疲劳。在第27天,β葡聚糖连续投喂组对虾的总血细胞数,超氧化物阴离子和超氧化物歧化酶活性不再明显高于对照组;35天,酚氧化酶活性不再高于对照组。在第25,37,29天,甘草酸连续投喂组的总血细胞数,酚氧化酶活性和超氧化物歧化酶活性分别低于对照组。间断喂养可以消除免疫疲劳。β葡聚糖喂养2天后,接着用基本饲料喂养5天,对虾的特定生长率最高,这是最适合的投喂方式。
【英文摘要】A 6-week growth trial was conducted to compare the effects of different feeding strategies of dietary immunostimulants on the growth and immunity of white shrimp Litopenaeus vannamei (4.70 ±0.20 g). Six feeding strategies were set, including feeding immunostimulants-free diet continuously (control), feeding dietary β-glucan or glycyrrhizin continuously, feeding dietary β-glucan discontinuously, feeding dietary β-glucan and glycyrrhizin alternately. The results showed that compared with glycyrrhizin, β-glucan couldmaintain the immunity of shrimps at a higher level during the experimental period. However, continuously applying β-glucan or glycyrrhizin into the diet caused immunity fatigue in L. vannamei. On the 27th day, the total haemocyte count (THC), superoxide anion and superoxide dismutase (SOD) activity of the shrimps fed with β-glucan continuously were no longer signi fi cantly higher than those in the control group. Meanwhile,phenoloxidase (PO) activity was no longer signi fi cantly higher on the 35th day. THC, PO activity and SOD activity of the shrimps fed with glycyrrhizin were no longer signi fi cantly higher than those in the controlgroup on the 25th, 37th, 29th day, respectively. Discontinuous administration of β-glucan or glycyrrhizin could eliminate the immunity fatigue. Shrimps fed with dietary β-glucan 2 days followed by the basal diet for 5 days showed the highest speci fi c growth rate (SGR). It was concluded that this feeding strategy is most suitable for L. vannamei.
【语种】英文
【第一作者】白楠
【通讯作者】张文兵
【期刊名称、卷期、页码】Aquaculture 306 (2010) 218 – 224
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【引文索引类型】SCI
【引文索引号】2.8073520003e+011
【学科分类】水产养殖学

【题目】紫色丘陵区典型小流域暴雨径流迁移过程与通量
【中文关键词】迁移过程;小流域;暴雨径流;氮磷;初期冲刷效应;壤中流;流域
【英文关键词】无
【中文摘要】对紫色丘陵区盐亭截流小流域2007 年3 次暴雨径流的全过程进行了连续监测,测定了径流量及降雨—径流过程中氮、磷的形态、浓度与通量变化。结果表明,N、P 各形态浓度变化曲线与流量曲线趋势大致相同,总氮(TN)浓度迅速达到峰值后缓慢下降,而后期又略呈上升趋势,硝态氮(NN) 浓度变化总体呈上升趋势,颗粒态氮(PN) 与颗粒态磷(PP) 浓度在径流过程中迅速达到峰值后陡然下降,氨态氮(AN) 及磷酸盐(PO43 - 2P) 含量较低且波动较小。暴雨径流前期氮素迁移以PN 为主,主要来源于地表径流,受降雨强度控制。后期以NN 为主,来源于土壤硝酸盐随壤中流淋失。磷素主要以地表径流迁移的PP 为主。暴雨径流导致的N、P 流失负荷巨大,说明初期冲刷效应明显。
【英文摘要】无
【语种】中文
【第一作者】蒋 锐
【通讯作者】蒋 锐
【期刊名称、卷期、页码】水利学报,2009,60(6):659-666
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【学科分类】土壤学

【题目】Tomato sugar transporter genes associated with mycorrhiza and phosphate
【中文关键词】无
【英文关键词】Arbuscular mycorrhiza AM fungi Phosphate Sugar transporter genes
【中文摘要】无
【英文摘要】In arbuscular mycorrhizal (AM) symbiosis,there is a reciprocal nutrient exchange betweensymbiotic partners. AM fungi assist the plants withuptake of mineral nutrients from the soil, especiallyphosphate (Pi). The host plants, in return, provide thefungi with sugar. In contrast to the studies on thesymbiotic transport of Pi in arbuscular mycorrhiza,there have been few investigations devoted specificallyto sugar transport in AM symbiosis. Usingreverse transcriptase PCR (RT-PCR), we analyzedthe effects of mycorrhiza and Pi on the expression ofseven putative sugar transporter genes in tomatoplants. The expression of LeSUT1 and LeHT2,classified, respectively, as putative sucrose andhexose transporter genes, were down-regulated inthe roots inoculated with AM fungi Glomus caledoniumor Glomus intraradices. Unexpectedly, theexpression of LeST3, a putative monosaccharidetransporter gene, was decreased by inoculation ofGlomus caledonium, but was enhanced by inoculationof Glomus intraradices in both the roots and leaves.High-Pi in the tomato decreased the expression ofLeHT2 and LeST3 in the roots, and enhanced thatof LeHT2 in the leaves. The contradictory regulationof the expression of LeST3 in the AM symbiosisindicates that different interaction may take placeduring mycorrhizal colonization, and a quite complicatedregulation of expression of the sugar transportergenes exist in mycorrhizal tomato.
【语种】英文
【第一作者】葛磊
【通讯作者】徐国华
【期刊名称、卷期、页码】Plant Growth Regul (2008) 55:115 – 123
【论文发表时间】2008-09-10 00:00:00
【引文索引类型】SCI
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【学科分类】农学其他学科

【题目】Use of response surface methodology to evaluate the effect of metal ions (Ca2+, Ni2+, Mn2+, Cu2+) on production of antifungal compounds by Paenibacillus polyxa
【中文关键词】无
【英文关键词】Antifungal compounds,Metal ions,Paenibacillus polymyxa,Quadratic model
【中文摘要】无
【英文摘要】The effects of four metal ions (Ca2+, Ni2+, Mn2+ and Cu2+) were evaluated on growth and production of antifungal compounds by Paenibacillus polymyxa SQR-21 and a quadratic predictive model was developed using response surface methodology (RSM). The results revealed, Mn2+ and Ni2+ showed most positive synergistic interactive affect on production of antifungal compounds followed by the positive interactive synergistic affect of Cu2+ and Ni2+ and then Mn2+ and Cu2+. While the interactive effect of Ca2+ with all other three metals inhibited the production of antifungal compounds. The Mn2+ (P = 0.0384), Ni2+ (P = 0.0004) and Cu2+ (P = 0.0117) significantly affected the production of antifungal compounds whilethe effect of Ca2+ (P = 0.1851) was less significant. The maximum growth (OD600 = 1.55) was obtained at 500 (0), 125 (0), 100 (2) and 37.5 (0) lM levels and the maximum size of inhibition zone (31 mm) was measured at 400 (1), 150 (1), 400 (1) and 25 lM (1) levels of Ca2+, Mn2+, Ni2+ and Cu2+, respectively.The RSM model provided an easy and effective way to determine the interactive effect of metal ions on production of antifungal compounds by P. polymyxa SQR-21 so that optimum media recipes can be developed to produce maximum amounts of antifungal compounds under laboratory and commercial fermentation conditions.
【语种】英文
【第一作者】Waseem Raza
【通讯作者】沈其荣
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【引文索引号】2.7427140005e+011
【学科分类】农业基础学科

【题目】土层厚度对紫色土坡地生产力的影响
【中文关键词】紫色土;土层厚度;生产力;临界土层
【英文关键词】无
【中文摘要】通过紫色土坡地土层厚度的调查与不同土层厚度的小区对比试验,研究紫色土薄层坡地的生产力特性。结果表明,约73%的紫色土坡耕地土层厚度为20~60 cm。土层厚度是紫色土生产力的基本限制条件。土层越薄,作物株高、生物量和产量愈低,生产力愈低;土层越厚,生物量、产量愈高,生产力愈高,土层厚度的影响在玉米季尤为突出, 20 cm、40 cm小区夏玉米产量仅为60 cm小区的50%、74% ,为80 cm小区的28%、40% , 100 cm小区的23%、34%。当土壤厚度超过60 cm,小麦、玉米的株高、生物量及根重差异不显著,而土壤蓄水可抵御紫色丘陵区连续20 d的夏旱,因此,可初步判定60 cm土层为紫色土生产力临界土层。60 cm以上厚度的紫色土可维持基本稳定的生产力水平。
【英文摘要】无
【语种】中文
【第一作者】朱波
【通讯作者】朱波
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【题目】基于面向服务架构的企业间业务协同服务平台及技术研究
【中文关键词】Web服务; 面向服务架构; 业务协同服务; 语义服务
【英文关键词】Web service; service oriented architecture; business collaboration service; semantic service
【中文摘要】借鉴面向服务的架构、业务流程管理和语义Web服务等相关的标准和技术,讨论了面向服务架构的结构、服务类型划分、服务总线,然后利用现有的服务中间件,建立基于面向服务架构的企业间业务协同服务平台。平台采用基于面向服务架构的业务流程管理框架,分离核心业务逻辑和流程控制逻辑,采用面向语义的流程服务模型,构建Web服务的执行环境,以提高业务服务和流程服务的动态发现和建模能力,最后给出了原型。
【英文摘要】Based on Service Oriented Architecture(SOA),Business Process Management(BPM) and semantic Web service,the framework of SOA,classification of service types and the service bus were discussed,and then a SOA and BPM-based business collaboration service platform for cross-enterprises was constructed.This platform applied the semantics-oriented business process to separate kernel business logic and flow control logic.The process service model oriented to semantics was applied to set up execution environment for Web service to improve the ability of dynamical finding and modeling for business services and process services.Finally,a prototype was provided.
【语种】中文
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【学科分类】信息科学与系统科学基础学科

【题目】Antibiotic effect of exogenously applied salicylic acid on in vitro soilborne pathogen, Fusarium oxysporum f.sp.niveum
【中文关键词】无
【英文关键词】Antibiotic action,Biomass,Fusarium oxysporum f.sp. niveum (FON),Virulence factors,Salicylic acid
【中文摘要】无
【英文摘要】Salicylic acid, which is biosynthesized inside plant and is often found and accumulated in soil due to plant debris decaying, is considered as a signaling substance during plant – microbe interactions. It is involved in the cycling of biogeochemistry and

related to plant resistance to biotic and abiotic stress. The antibiotic effect of salicylic acid on Fusarium oxysporum f.sp.niveum (FON) was studied to investigate the relationships between the salicylic acid and the fungus in the ecological interaction of plant – microbe. Resultsshowed that the biomass, colony diameter, number of conidium germination and conidium production of FON were decreased by 52.0%, 25.7%, 100% and 100% at concentrations of 800 mg L 1. However, mycotoxin yield was increased by 233%, pectinase activity raised by 168.0% and cellulase activity increased by 1325% compared to control at higher concentrations. It was concluded that salicylic acid as an allelochemical greatly inhibited FON growth and conidia formation and germination, though stimulated mycotoxin production and activities of hydrolytic enzymes by FON.

【语种】英文
【第一作者】吴洪生
【通讯作者】沈其荣
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【学科分类】环境科学技术及资源科学技术其他学科

【题目】基于Bayes信任模型的Web服务组合优化方法
【中文关键词】Bayes信任模型; Web服务; 组合; 优化; 遗传算法
【英文关键词】Bayes trust model; Web service; composition; optimization; genetic algorithm
【中文摘要】为提高组合服务的可信性,提出了一种将Bayes信任模型与遗传算法相结合的服务组合优化方法。首先利用Bayes方法对Web服务的信任度进行估计;然后根据Web服务的基本组合结构,给出组合服务的执行成功概率的计算模型;最后采用遗传算法对服务组合进行优化。仿真实验表明,该方法可为Web服务组合提供一种优化方案,极大地提高组合后服务的执行成功概率。
【英文摘要】To enhance the creditability of composite Web Service,an optimization method for Web service composition was proposed by combining Bayes trust model and Genetic Algorithm(GA).Bayes method was firstly applied to evaluate the trust degree of Web service.Then according to the basic composition structure,a computation model for mission completion success rate of Composite Web service was presented.At last,GA was adopted to optimize Web service composition.Simulation experiment results demonstrated that the method provided a scheme to optimize Web service composition,and enhanced mission completion success rate of composite Web service greatly.
【语种】中文
【第一作者】云本胜
【通讯作者】云本胜
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【学科分类】信息科学与系统科学基础学科

【题目】Proton pump OsA8 is linked to phosphorus uptake and translocation in rice
【中文关键词】无
【英文关键词】Knockout mutant, plasma membrane H+-ATPase, Oryza sativa, phosphorus, Tos17 retrotransposon, phosphate Knockout mutant, plasma membrane H+-ATPase, Oryza sativa, phosphorus, Tos17 retrotransposon, phosphate
【中文摘要】无
【英文摘要】The plasma membrane (PM) proton pump ATPases (H+-ATPases) are involved in almost all aspects of biology. Theyare plant specific and several members of this family are supposed to play a key role in nutrient acquisition. Atpresent, only some members of this gene family in plants have been characterized. However, no nutrient uptakeassociated H+-ATPase gene in rice has been functionally analysed. It is reported here that OsA8, a typical PMH+-ATPases gene that was predominantly expressed in roots of rice, is down-regulated by nutrient deficiency. TheOsa8 mutant had a relatively smaller size and root to shoot biomass ratio, but higher ATPase activity than its wild-typecounterparts under phosphorus (P) starvation conditions. Knockout of OsA8 affected the expression of several OsAgenes and the high affinity phosphate transporter, OsPT6, and resulted in a higher P concentration in the roots anda

lower amount of P in the shoots. These analyses demonstrate that OsA8 not only influences the uptake of P by roots,but also the translocation of P from the roots to the shoots in rice.
【语种】英文
【第一作者】常春荣
【通讯作者】徐国华
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【学科分类】农学其他学科

【题目】Suppression of Fusarium wilt of watermelon by a bio-organic fertilizer containing combinations of antagonistic microorganisms
【中文关键词】无
【英文关键词】Antioxidase activity ,Bio-organic fertilizer Fusarium oxysporum f.sp.niveum , Lipid peroxidation Malondialdehyde ,Pathogenesis-related proteins
【中文摘要】无
【英文摘要】Fusarium wilt of watermelon commonly occurs in locations where the crop has been grown formany seasons. Its occurrence results in a severely decreased watermelon crop. The goal of this study was to assess the capability of a new product (bio-organic fertilizer) to control the wilt in Fusarium-infested soil.Pot experiments were conducted under growth chamberand greenhouse conditions. The results showed that the fertilizer controlled the wilt disease. Compared with control pots, the incidence rates of Fusarium wilt at 27 and 63 days following treatment of the plants with the bio-organic fertilizer at a rate of 0.5% (organic fertilizer + antagonistic microorganisms, including 3 9 109 CFU g-1 Paenibacillus polymyxa and 5 9107 CFU g-1 Trichoderma harzianum) were reduced by 84.9 and 75.0%, respectively, in both the growth chamber and greenhouse settings. The activities of antioxidases (catalase, superoxide dismutase and peroxidase) in watermelon leaves increased by 38.9, 150 and 250%, respectively. In the roots, stems and leaves,the activity of b-1,3-glucanase (pathogenesis-related proteins) increased by 80, 1140 and 100% and that of chitinase increased by 240, 80, and 20%, respectively,while the contents of malondialdehyde fell by 56.8, 42.1 and 45.9%, respectively. These results indicate that this new fertilizer formula is capable of protecting watermelon from Fusarium oxysporum f.sp. niveum. The elevated levels of defense-related enzymes are consistent with the induction and enhancement of systemic acquired resistance of plant.
【语种】英文
【第一作者】吴洪生
【通讯作者】沈其荣
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【学科分类】植物保护学

【题目】Immune response of sea cucumber Apostichopus japonicus coelomocytes to several immunostimulants in vitro
【中文关键词】海参(仿刺参),免疫刺激剂,体腔细胞培养,免疫应答
【英文关键词】Sea cucumber (Apostichopus japonicus);Immunostimulant;Coelomocyte culture;Immune response
【中文摘要】本实验研究β葡聚糖,甘露寡糖,CPG寡聚脱氧核苷酸,乳铁蛋白和维生素c在体外对日本刺身免疫反应的影响。在含有不同增强剂的培养基中培养,并在不同时间孵化。实验结果表明,β葡聚糖,甘露糖,寡聚脱氧核苷酸乳铁蛋白和维生素c可以在体外可以提高刺身的非特异性免疫反应。
【英文摘要】The in vitro effects of β-glucan, mannan oligosaccharides (MOS), CpG oligodeoxynucleotide (CpG ODN),lactoferrin and vitamin C on the non-speci fi c immune response of sea cucumber Apostichopus japonicus coelomocytes were studied. Coelomocytes were cultured in L-15 medium containing different concentrations of β-glucan (0, 5, 25 and 100 μg ml − 1), CpG ODN (0, 0.5, 2.5 and 5 μM), MOS (0, 40, 80 and 120 μg ml − 1), lactoferrin(0, 5, 25 and 100 μg ml − 1) and vitamin C (0, 25, 100 and 250 μg ml − 1). Coelomocytes were incubated with the above immunostimulants for 1 h, 3 h, 6 h, 12 h or 24 h except vitamin C for 3 h, 6 h, 12 h, 24 h or 48 h.Coelomocytes incubated in medium without immunostimulants were taken as

controls at each incubation time.After exposure to these substances, coelomocytes were sampled and immune parameters viz., phagocytosis,superoxide anion production, superoxide dismutase (SOD) activity and total nitric oxide synthase (T-NOS)activity were determined. All immune parameters were signi fi cantly (Pb0.05) enhanced by β-glucan, MOS and CpG ODN. Lactoferrin induced signi fi cant (Pb0.05) increase in superoxide anion production and SOD activity of coelomocytes but did not affect phagocytosis and T-NOS activity. Vitamin C signi fi cantly (Pb0.05) enhanced the SOD and T-NOS activities of coelomocytes while no signi fi cant effects were observed in phagocytosis and superoxide anion production. The results suggest that β-glucan, MOS, CpG ODN, lactoferrin and vitamin C canenhance the non-speci fi c immune response of sea cucumber in vitro.

【语种】英文
【第一作者】谷珉
【通讯作者】马洪明
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【学科分类】水产养殖学

【题目】一种基于双线性链表结构编码的遗传算法
【中文关键词】并行机成组调度; 遗传算法; 编码; 双线性链表
【英文关键词】scheduling of grouped jobs on parellel machines; Genetic Algorithm(GA); encoding; Double linear-linked-list
【中文摘要】针对基于以往经典编码方式的遗传算法解决并行机大批量成组调度问题时的弊端,提出了一种基于双线性链表结构编码的遗传算法(DLGA),并设计了相应的遗传算子。应用于某轮胎厂的硫化工序调度问题,进行了多次仿真实验与分析,结果表明该算法在优化调度性能指标、提高应用可行性方面有显著成效。

【英文摘要】Regarding the fault of the Genetic Algorithm based on classical encoding,which is to resolve the large-scale parallel machines batch-scheduling problem,this text proposed a method DLGA,including a Double Linear-linked-list encoding and the relevant genetic operators.This method was testified by simulating to resolve the scheduling problem of vulcanizing missions in certain tyre factory.The simulation result indicates that the indexes of scheduling performance and the feasibility of application are improved by this algorithm.

【语种】中文
【第一作者】赵振
【通讯作者】赵振
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【学科分类】信息科学与系统科学基础学科

【题目】基于SOA的网格制造单元构造方法
【中文关键词】集成制造; 网格技术; 网格化制造; 网格制造单元
【英文关键词】integrated manufacturing; grid; grid manufacturing; manufacturing grid unit
【中文摘要】为解决动态、分布与异构制造资源的集成与共享,实现合作伙伴间的商务协同、制造协同、供应链系统,讨论了网格化制造模式下网格制造单元的构造和抽象过程.网格制造单元划分为设备网格、信息系统网格和知识网格,设备资源通过构造层的抽象封装成设备网格,基于J2EE和Microsoft.net的软件系统和数据库被封装成信息系统网格,在此基础上,运用知识和服务流技术,构建知识网格.

【英文摘要】In order to effectively integrate and share the dynamic,distribute and heterogeneous manufacturing resources,the abstract and construction process of grid manufacturing units in grid manufacturing mode based on the service oriented architecture(SOA)are discussed.Grid manufacturing units are parted into the equipment grid,the information grid and the knowledge grid according to the manufacturing resource characteristic.Equipment resources are abstracted into the equipment grid,and the information grid is encapsulated from the J2EE and Microsoft.net-based systems and databases,the knowledge grid is based on the knowledge system and service flow.

【语种】中文
【第一作者】刘敏
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【题目】Effects of dietary b-glucan and glycyrrhizin on nonspecific immunity and disease resistance of white shrimp, Litopenaeus vannamei (Boone) challenged with Vibrio alginolyticus
【中文关键词】β-葡聚糖,甘草酸,南美白对虾,免疫,溶藻弧菌
【英文关键词】b-glucan, glycyrrhizin, Litopenaeus vannamei, immunity,Vibrio alginolyticus
【中文摘要】分别用无免疫增强剂的,含0.2%β葡聚糖的,含0.06%甘草酸的饲料喂养18天,用每只虾6.4×104CFU浓度的的溶藻弧菌侵染。持续120h检测对虾的总血细胞数,酚氧化酶活性,呼吸爆发和超氧化物歧化酶的活性的改变,记录死亡率。结果显示,含两种免疫增强剂饲料喂养的对虾的酚氧化酶活性,呼吸爆发和超氧化物歧化酶活性都明显高于对照组。在感染后0到24h,总血细胞数和超氧化物歧化酶活性明显降低,然后在96h和72h时,两者分别恢复到正常水平。感染后0到48h,酚氧化酶活性和呼吸爆发的值增加。与对照组相比,在感染后120h,用免疫增强剂喂养的对虾的酚氧化酶活性和呼吸爆发值都明显升高。死亡率在免疫增强剂组也明显降低。总之,饲料中添加β葡聚糖和甘草酸提高了对虾的免疫能力。而且在弧菌侵染后β葡聚糖能够比甘草酸早12小时引起某些免疫因子增加。
【英文摘要】The white shrimp Litopenaeus vannamei, fed immunostimulant-free 0.2% b-glucan and 0.06% glycyrrhizin diets for 18 days, respectively, were challenged with Vibrio alginolyticus at 6.4 10 4 CFU shrimp 1 .The total haemocyte count (THC), phenoloxidase(PO) activity, respiratory burst (RB) and superoxide dismutase (SOD) activity changes for a 120-h periodwere investigated, and shrimp mortality was also recorded. The results showed that PO activity, RB and SOD activity were signi ¢ cantly higher in shrimp fed the two immunostimulant diets after 18 days than those in shrimp fed immunostimulant-free diets. The THC and SOD activity decreased signi ¢ cantly from 0 to 24 h post challenge, and then reverted to normallevels at 96 and 72 h respectively. The values for PO activity and RB increased from 0 to 48 h post challenge. Compared with those fed the control diets,shrimp fed immunostimulants had signi ¢ cantly higher PO activity and RB values at 120 h post challenge. Mortalities after challenge withV. alginolyticus were signi ¢ cantly lower in shrimp fed with b-glucan or glycyrrhizin than in those fed with a diet without immunostimulants. It was concluded that dietaryb-glucan and glycyrrhizin Q2 increased the shrimp immune ability. Furthermore, b-glucan caused an increase in some immune parameters12 h earlier than glycyrrhizin afterV. alginolyticus challenge.
【语种】英文
【第一作者】常杰
【通讯作者】王小洁
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【学科分类】水产养殖学

【题目】4种杀虫剂对杞柳瘿蚊幼虫的室内毒力测定和田间药效试验
【中文关键词】杞柳瘿蚊;毒力测定;药效试验
【英文关键词】Rhabdophaga salics Schrank; indoor toxicity; field efficacy
【中文摘要】为了明确4 种杀虫剂对杞柳瘿蚊幼虫的防治效果,分别用浸渍法和喷雾法进行了室内毒力测定和田间药效试验。结果表明,20%啶虫脒可溶性粉剂毒杀效果最好,其毒力指数为1 995.43,为当地常规药剂毒死蜱的19.95倍。20%啶虫脒可溶性粉剂、70%吡虫啉水分散粒剂和48%毒死蜱乳油田间防效较好,药后3 d 校正防效分别为60.27%、54.80%和40.83%,药后7 d 校正防效分别为79.50%、70.71%和58.07%,药后30 d 保苗效果分别为59.74%、50.65%和46.75%。在生产上防治杞柳瘿蚊幼虫时,选择药剂可首选20%啶虫脒可溶性粉剂,其次为70%吡虫啉水分散粒剂和48%毒死蜱乳油,可分别按照300 g · hm-2、150 g · hm-2 和1 500 mL · hm-2 的用量进行田间喷雾。3 种药剂交替使用,以延缓害虫抗药性的产生。

【英文摘要】Indoor toxicity and field efficacy were tested with dipping and spraying methods to determine the efficacies of four kinds of insecticides in controlling the larva of Rhabdophaga salics Schrank. The results indicated that 20% Acetamiprid SP had the most significant toxic effect on the larva. Its toxicity index was 1 995.43 and 19.95 times of that of 48% Chlorpyrifos EC, which was used as a regular pharmacy in the local. 20% Acetamiprid SP, 70% Imidacloprid WDG and 48% Chlorpyrifos EC exhibited better control in the field. Three days after spraying, the corrected efficacies were 60.27%, 54.80% and 40.83%, respectively. Seven days after spraying, the corrected efficacies were 79.50%, 70.71% and 58.07%. Thirty days after spraying, the seedling protecting effects were 59.74%, 50.65% and 46.75% respectively. In actual use, 20% Acetamiprid SP, 70% Imidacloprid WDG and 48% Chlorpyrifos EC should be selected to spray at 300 g · hm-2, 150 g · hm-2 and 1 500 mL · hm-2, respectively. The three insecticides must be used alternately to postpone the appearance of insecticide resistance of R. salics.
【语种】中文
【第一作者】沈鹏
【通讯作者】李世广
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【题目】Pathogenicity and Immunogenicity of a Mutant Strain of Listeria monocytogenes in the Chicken Infection Model
【中文关键词】无
【英文关键词】Pathogenicity and Immunogenicity,Listeria monocytogenes, Chicken
【中文摘要】无
【英文摘要】Listeria monocytogenes has been exploited as a vaccine carrier based upon its ability to induce a strongcell-mediated immune response. At present, the safety of live, attenuated L. monocytogenes vaccines in patientsis being studied in clinical trials. L. monocytogenes is also an attractive vaccine vector for use in poultry;however, the pathogenicity and immunogenicity of this organism in poultry remain to be fully elucidated. Inthis study, we investigated the pathogenicity and immunogenicity of an actA- and plcB-deficient L. monocytogenesstrain, yzuLM4 actA/plcB, and its wild-type parent strain, yzuLM4, in an avian infection model. Theresults showed that the wild-type strain could infect ISA brown chickens, causing serious tissue disruptions,including various degrees of degeneration, necrotic lesions, and inflammatory cell infiltration in the liver,spleen, heart, and kidney. However, the mutant strain showed reduced virulence in embryonated eggs comparedwith that of the parent strain (the 50% lethal dose [LD50] was 3 logs higher). The mutant strain alsoshowed low virulence in chickens and was rapidly eliminated by the host. There were no obvious pathologicalchanges in tissue sections, but the mutant strain still retained the ability to stimulate high levels of antibodyagainst the protein listeriolysin O (LLO). Booster immunization with the mutant strain led to rapid bacterialclearance from the livers and spleens of chickens challenged by the intramuscular route or the oral route.Collectively, our data suggest that the wild-type serotype 1/2a L. monocytogenes strain can cause serious diseasein chickens but the mutant strain with a deletion of the actA and plcB genes is less virulent but induces a strongimmune response. This mutant strain of L. monocytogenes is therefore a promising candidate as a safe andeffective vector for the delivery of heterologous antigens to prevent zoonosis and infectious disease in poultry.
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【第一作者】殷月兰
【通讯作者】焦新安
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【学科分类】兽医学

【题目】安徽阜南杞柳林生长及其土壤特性
【中文关键词】生物量; 相关性; 杞柳; 土壤养分; 林分结构
【英文关键词】Biomass; Correlation; Salix integra; Soil nutrients; Stand structures

【中文摘要】对阜南黄岗地区杞柳纯林及杨树-杞柳混交林两种栽培模式下的林分结构、生物量及土壤特性进行了研究。结果表明: 不同栽培模式下杞柳的平均地径为0. 46 ~ 0. 99 cm,平均条高为130. 44 ~ 187. 61 cm,在相同林龄下纯林的平均地径和条高大于混交林; 杞柳纯林及混交林的平均总生物量分别为17. 55、17. 03 t · hm-2 ,纯林的杞柳叶平均生物量高于混交林,而根系生物量则低于混交林,杞柳各部位的生物量大小依次为根(7. 51) >去皮茎杆(6. 32) >茎皮(2. 42) >叶(1. 16) 。不同林分下,各样地土壤有机质、全N 及全K 质量分数随土层深度的加深而降低,同一土层中养分质量分数差异不显著。相关分析显示: 平均地径与平均条高呈极显著正相关; 杞柳林平均总生物量与土壤速效磷及10 ~ 30 cm 土层有机质质量分数都呈极显著正相关; 在各土层内土壤有机质、全N、全P、速效P、全Ca 和全Mg 质量分数间均存在不同程度的正相关。

【英文摘要】An investigation was conducted to study the structure,biomass and soil characteristics of Salix integra pure and mixed stands under two cultivation patterns. Results indicated that the mean base diameter and mean height for the two cultivation patterns were 0. 46-0. 99 cm and 130. 44-187. 61 cm respectively. The pure stands had higher mean base diameter andmean height compared with the mixed stands with poplar I-69 of the same forest age. The average total biomass of the pure and mixed stands were 17. 55 t · hm-2 and 17. 03 t · hm-2 ,respectively. The foliar biomass was higher in the pure stands than in the mixed stands. However,the root biomass was adverse. The biomass of root (7. 51 t · hm-2) was the highest, followed by peeled stem (6. 32) ,peel (2. 42) ,and leaf (1. 16) . The contents of organic matter,total nitrogen and total potassium in different stands decreased with increasing depth of soil. There was no significant difference in nutrient content in the same soil layer between the pure and mixed stands. Correlation analysis demonstrated that the mean base diameter was significantly and positively correlated with mean height. The total biomass of S. integra stands had a significant positive correlation with available phosphorus in all soil layers,and organic matter in 10-30 cm soil layer. There were different degrees of correlations between organic matter,total nitrogen,total phosphorus,available phosphorus,total calcium and total magnesium.

【语种】中文
【第一作者】赵竑绯
【通讯作者】徐小牛
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【引文索引号】null
【学科分类】森林培育学

【题目】基于概念邻近度的本体映射重用
【中文关键词】本体; 映射重用; 二分图; 概念邻近度
【英文关键词】ontology; mapping reuse; bipartite graph; neighboring concepts similarity
【中文摘要】为减少映射查找时相似度的冗余计算,改善映射查找效果,提出了一种通过考察待查概念与已有映射概念之间的邻近度,来推断待查概念映射关系的映射重用算法。构建概念描述概要间的语义二分图联系,从最佳匹配的角度,计算已有映射中概念与待查概念间的邻近程度,以已有映射中概念的邻近概念具有相似映射关系为前提,根据概念间相似度传递性决定待查概念间的映射关系。实验结果表明,该映射重用算法明显改善了映射查找的效果。

【英文摘要】To reduce the redundant similarity calculations and improve the mapping discovery,by considering the neighboring similarity among the concepts to be investigated and the concepts in the existing mapping which could infer the new mappings,an ontology mapping reuse algorithm was proposed.Firstly,a semantic bipartite graph be-tween the concepts ’ profile was established.Then,the neighboring concepts similarity from the best match of the bi-partite graph was obtained.Finally,inspired by the similarity transmission among neighboring concepts,the new mapping among the concepts was decided by their neighboring similar concepts ’ existing mapping.Experimental re-sults showed that the proposed algorithm could improve the mapping discovery.

【语种】中文
【第一作者】严隽薇
【通讯作者】严隽薇
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【学科分类】信息科学与系统科学基础学科

【题目】基于棉花功能叶高光谱参数的土壤电导率监测模拟
【中文关键词】棉花功能叶; 高光谱参数; 土壤电导率; 监测模拟
【英文关键词】cotton functional leaf; hyperspectral parameter; soil electrical conductivity; monitoring and simulation
【中文摘要】通过2008—2009年在江苏南京农业大学牌楼试验站的盆栽试验,选择耐盐棉花品种中棉所44和盐敏感性品种苏棉12号为材料,模拟5种不同含盐水平的滨海盐土(0、0.35%、0.60%、0.85%和1.00%),分析了棉花生育期棉田土壤电导率与棉花功能叶光谱反射率和高光谱参数的关系,并建立了棉田土壤电导率(EC)的定量监测模型.结果表明:棉花功能叶光谱反射率在近红外和中红外区域均随土壤盐分水平的升高而升高;以敏感波段1350nm和2307 nm构建的归一化光谱指数NDSI(R1350,R2307)与土壤电导率的决定系数最高,基于此构建了基于NDSI(R1350,R2307)的棉田土壤EC监测模型:EC=-42.899NDSI(R1350,R2307)+27.338;在光谱微分参数中,以TM影像第5个波段的光谱反射率(TM5-SWIR)与棉田土壤EC的决定系数最高,构建了基于TM5-SWIR的棉田土壤EC监测模型:EC=0.0574TM5-SWIR2-2.5928TM5-SWIR+30.021.以NDSI(R1350,R2307)和TM5-SWIR为自变量的监测模型的预测精度均较高,分别为0.887和0.814,根均方差均较小,分别为1.09和1.29 dS.m-1.利用棉花功能叶NDSI(R1350,R2307)和TM5-SWIR均能较好地监测棉田土壤电导率.
【英文摘要】Taking the salt-tolerant cotton variety CCRI-44 and salt-sensitive cotton variety Sumian 12 as test materials,a two-year pot experiment was conducted at the Pailou experimental station of Nanjing Agricultural University in 2008 and 2009 to study the relationships of soil electrical conductivity(EC) with the spectral reflectance and hyperspectral indices of cotton functional leaves at different growth stages under five simulated salinity levels(0,0.35%,0.60%,0.85%,and 1.00%) of coastal saline soils,and the quantitative monitoring models on the cotton soil EC were established.With increasing salinity level,the cotton functional leaves had an increased spectral reflectance in near-infrared and middle-infrared regions,and the spectral parameter normalized difference spectrum index(NDSI) based on 1350 nm and 2307 nm,i.e.,NDSI(R1350,R2307),correlated well to the soil EC.With the NDSI(R1350,R2307) as independent variable,the soil EC monitoring model was constructed as EC=-42.899NDSI(R1350,R2307) +27.338.Among the derivative spectral parameters,TM5-SWIR was most correlated to soil EC,and thus,the soil EC monitoring model was constructed as EC=0.0574TM5-SWIR2-2.5928TM5-SWIR+30.021.The two models with NDSI(R1350,R2307) and TM5-SWIR as the independent variables respectively all had higher prediction precision,with the determination coefficient being 0.887 and 0.814 and the root mean square error being 1.09 and 1.29 dS · m-1,respectively,suggesting that using the hyperspectral parameters NDSI(R1350,R2307) and TM5-SWIR of cotton functional leaves could effectively monitor the soil EC of saline cotton fields.
【语种】中文
【第一作者】张雷
【通讯作者】周治国
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【学科分类】农艺学

【题目】安徽淮河堤防杨树防护林生长与土壤养分的关系
【中文关键词】I-69杨; 土壤养分; 林分生产力; 防护林
【英文关键词】Populus deltoides cv. "Lux"; soil nutrient; stand productivity; shelterbelt
【中文摘要】对安徽淮河堤防I-69杨防护林生长与土壤养分关系进行了调查分析, 结果表明, 不同立地条件下杨树防护林生长差异显著, 10~12年生林分年平均蓄积生长量为10.45~23.27 m3·hm-2·a-1, 林分生产力水平的高低主要受控于土壤有机质含量及氮、磷有效性。
【英文摘要】Relationship between growth & soil nutrients for Populus deltoides cv."Lux" shelterbelt of Huaihe River embankment in Anhui province was investigated. Result shows that: there are significant differences in growth of poplar shelterbelt under different sites; the annual mean volume increment for the stands of 10-12-year-old ranged from 10.45 to 23.27m3 · hm-2 · a-1; the stand productivity was greatly controlled by soil organic matter content and the availability of nitrogen and phosphorus.
【语种】中文
【第一作者】王勤
【通讯作者】王勤
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【学科分类】防护林学

【题目】滨海盐土棉田棉花水、盐遥感监测系统的设计与实现
【中文关键词】棉花; 盐土; 遥感; 监测; 系统
【英文关键词】cotton; saline soil; remote sensing; monitoring; system
【中文摘要】为监测滨海盐土棉田棉花的水、盐状况,对盐碱地植棉提供理论依据。本研究运用软件工程的思维,耦合了基于地面遥感手段构建的棉花功能叶水、盐状况监测模型和土壤介电常数模型,开发了具有监测滨海盐土棉田棉花和土壤水、盐状况功能的遥感监测系统。系统以光谱反射率和土壤介电常数数据为基本输入,对棉花功能叶和棉田土壤水、盐状况进行了预测计算,运行结果以表格和图形的形式输出。应用结果表明,该系统操作简单、运行稳定,监测结果准确,可为农业生产者、管理人员和科技人员提供棉作数字化和科学化的决策支持。
【英文摘要】In order to apply software engineering to monitor the water and salinity content of cotton in saline soil,we developed a remote sensing monitoring system by integrating an estimation model for the water and salinity content of cotton leaf with a soil dielectric properties ’ model based on remote ground sensing.Through inputting hyper-spectral reflectance for functional leaves and microwave dielectric properties for saline soil as essential parameters,we were able to calculate and predict the water and salinity content of these systems.The running result was output,demonstrating the simple but reliable operation of this system.This system can provide digital and scientific decision support in cotton farming for farmers,agronomists,and researchers.
【语种】中文
【第一作者】林蔚
【通讯作者】周治国
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【学科分类】农艺学

【题目】Fate of 15N after combined application of rabbit manure and inorganic N fertilizers in a rice – wheat rotation system
【中文关键词】无
【英文关键词】Fate .N pool . IOF. 15N-labeled fertilizers .Rice – wheat rotations
【中文摘要】无
【英文摘要】The present study was carried out on pot experiments with rice (Oryza sativa L. cv. Wuyujing 7) and winter wheat (Triticum aestivum L. cv. Yangmai 6) rotation in a sandy and a clayey soil fertilized with 15N-labeled ammonium sulfate (AS) and 15N-labeled rabbit feces so asto study the mechanisms of reduction of fertilizer N loss by organic fertilizers. The treatments included: (1) control without any N fertilizer application; (2) fertilization with15N-labeled AS (IF); (3) fertilization with labeled rabbit feces (OF); (4) fertilization with either 40% 15N-labeled rabbit feces and 60% unlabeled AS (IOF1) or (5) 40% unlabeled rabbit feces and 60% 15N-labeled AS (IOF2). In the rice season, the IOF treatments compared to the IFtreatment decreased the percentage of lost fertilizer N from the sandy and clayey soils, whereas it increased the percentage of fertilizer N, present as mineral N and microbial biomass N (MBN). During the second season,when soils were cropped to winter wheat, the IOFtreatments in comparison with the IF or OF treatment increased mineral N and MBN contents of soils sampled at tillering, jointing, and heading stages, and such increases were derived from the organic N fertilizer in the sandy soil and from the inorganic N fertilizer in the clayey soil. The increased MBN in the IOF treatments was derived from inorganic fertilizers applied both soils. Therefore, in the IOF treatment, during the rice season, the organic Nincreased the immobilization of inorganic N in MBN,while the inorganic N fertilizer applied to both soils stimulated the uptake of organic N and the organic N fertilizer increased the uptake of inorganic N by winter wheat; the inorganic N increased the recovery of organic Nin the plant-soil system after harvesting the winter wheat.
【语种】英文
【第一作者】吴成龙
【通讯作者】徐阳春

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【题目】不同土地利用对土壤有机碳储量及土壤呼吸的影响
【中文关键词】土地利用; 土壤有机碳; 土壤呼吸; 地表气温
【英文关键词】land use; soil organic carbon; soil respiration; ground surface air temperature
【中文摘要】为了探讨土地利用方式对土壤碳储及土壤呼吸的影响,对安徽沿淮洼地杞柳纯林、杞柳-杨树混交林及杨树纯林3 种不同土地利用方式下土壤有机碳储量及土壤呼吸特点进行了比较。结果表明: 杞柳纯林、杞柳-杨树混交林、杨树纯林0~30 cm土壤有机碳含量分别为6.80、8.50 和7.71 g · kg-1,土壤有机碳密度分别为2.88、3.26和2.95 kg · m-2,土壤有机碳含量和土壤碳密度随土层深度的增加而降低。不同土地利用类型土壤呼吸年平均值分别为1.68 μmol · m-2 · s-1(杞柳纯林) 、2.33 μmol · m-2 · s-1(杞柳-杨树混交林) 、1.61 μmol · m-2 · s-1(杨树纯林),土壤呼吸日均值最高出现在夏季(6.64 μmol · m-2 · s-1),最低为冬季(0.13 μmol · m-2 · s-1) 。相关分析表明,土壤呼吸速率与地表气温之间呈显著的指数关系,杞柳纯林、杞柳-杨树混交林、杨树纯林的相关系数R2 分别为0.71、0.62、0.54。杞柳-杨树混交林较杞柳纯林有利于土壤有机碳的固定,杞柳纯林土壤有机碳储量偏低,与其粗放经营有关。在今后的栽植管理中,应采取合理的耕作施肥措施,在提高土壤肥力的同时增强土壤的碳固定。
【英文摘要】To understand the effects of land use type on soil carbon storage and soil respiration,a comparative study was made to study the characteristics of soil carbon storage and soil respiration under three different land use types,i.e.,pure willow plantation (WP) ,willow-poplar mixed plantation (WPP) ,and pure poplar plantation (PP) on the lowlands along the Huaihe River in Funan of Anhui Province,East China. The organic carbon storage in 0 - 30 cm soil layer in WP,WPP,and PP was 6. 80,8. 50 and 7. 71 g · kg - 1,and the corresponding organic carbon density was 2. 88,3. 26,and 2. 95 kg · m - 2, respectively. Under the same land use types, both the soil organic carbon storage and density decreased with soil depth. The mean annual soil respiration rate in WP,WPP,and PP was 1. 61,2. 33 and 1. 61 μmol · m - 2 · s - 1,respectively, and the mean daily soil respiration rate was the maximum (6. 64 μmol · m - 2 · s - 1) in summer and the minimum (0. 13 μmol · m - 2 · s - 1) in winter. There was an exponential relationship between soil respiration rate and ground surface air temperature,with the R2 value being 0.71 for WP,0. 62 for WPP,and 0. 54 for PP. The WPP was beneficial to the sequestration of soil organic carbon,as compared to WP,and the lower soil organic carbon storage in WP was relatedto its extensive management. It was suggested that in the future forest management, reasonable tillage and fertilization should be taken to improve soil fertility and enhance soil carbon sequestration.
【语种】中文
【第一作者】赵竑绯
【通讯作者】徐小牛
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【题目】Maternal low-protein diet programs offspring growth in association with alterations in yolk leptin deposition and gene expression in yolk sac membrane, hypothalamus and muscle of developing Langshan chicken embryos
【中文关键词】低蛋白日粮;蛋;卵黄尿囊膜;下丘脑;肌肉;皮质酮;瘦素;甲状腺激素
【英文关键词】Maternal low-protein diet: Eggs: Yolk-sac membrane: Hypothalamus: Muscle: Corticosterone: Leptin: Thyroid hormone: Gene expression: Chickens
【中文摘要】本文由饶开晴博士所写,描述低蛋白日粮对崑山肉鸡胚胎卵黄囊和蛋黄中瘦素基因表达的改变。
【英文摘要】The present study was aimed to investigate the mechanism underlying the influence of maternal low-protein (LP) diet on offspring growth in the chicken. One hundred and twenty Chinese inbred Langshan breeder hens were allocated randomly into two groups fed diets containing low (10 %,LP) or normal (15 %) crude protein levels. Low dietary protein did not affect the body weight of hens, but significantly decreased the laying rate and egg weight. The yolk leptin content was significantly lower in eggs laid by LP hens, while no differences were detected for yolk contents of corticosterone, tri-iodothyronine (T3) or thyroxine. Despite significantly lower

hatch weight, the LP offspring demonstrated obviously higher serumT3 concentration, which is in accordance with the faster post-hatch growth rate achieving significantly heavier body weight and pectoralis major muscle weight 4 weeks post-hatching. Expression of 20-hydroxysteroid dehydrogenase (20-HSD) mRNA in the yolk-sac membrane was signifi-cantly down-regulated at embryonic day 14, whereas that of transthyretin and leptin receptor (LepR) was not altered. Moreover, hypothalamic expression of 20-HSD, glucocorticoid receptors, thyrotropin-releasing hormone and LepR mRNA was significantly up-regulated in the LP group compared with their control counterparts. In the pectoralis major muscle, significantly higher expression of insulin-like growth factor (IGF)-I and IGF-I receptor mRNA was observed in LP embryos. The present study provides evidence that maternal LP diet programmes post-hatch growth of the offspring. The associated alterations in yolk leptin deposition as well as in yolk-sac membrane, fetal hypothalamus and muscle geneexpression may be involved in mediating such programming effect in the chicken.

【语种】英文

【第一作者】饶开晴

【通讯作者】赵茹茜

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【学科分类】兽医学

【题目】Effect of exogenously added ferulic acid on in vitro Fusarium oxysporum f.sp. niveum

【中文关键词】无

【英文关键词】Allelopathy,Ferulic acid,Fusarium wilt of watermelon,Fusarium oxysporum f. sp. niveum (FON) Interaction of plant – microbe,Mycotoxin,Hydrolytic enzymes related to,pathogenicity

【中文摘要】无

【英文摘要】Allelochemicals from root exudates or decaying residues of watermelon plant may be related towatermelon fusarium wilt. The aim of this work was to study the effect of an artificially applied allelochemical, ferulic acid, on in vitro Fusariumoxysporum f. sp. niveum (FON), a causal pathogen of plant wilting in the laboratory setting.The results showed that ferulic acid inhibited growth at high concentrations. The biomass wasreduced by 71.6% and the conidial germinate rate was decreased by 100%, while mycotoxin production by FON was increased by 227.7% at the highest concentration (1600 mg L 1). Activities of hydrolytic enzymes related to pathogenicity were also affected.It is concluded that ferulic acid at commonly found concentrations inside plants suppressed the growth of pathogen F. oxysporum f. sp. niveum.

【语种】英文

【第一作者】吴洪生

【通讯作者】沈其荣

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【学科分类】园艺学

【题目】慈姑球茎膨大过程中主要碳水化合物变化的初步研究

【中文关键词】慈姑;球茎;碳水化合物

【英文关键词】Sagittaria trifolia var. sinensis; corm; carbohydrate

【中文摘要】通过对慈姑球茎膨大过程中的主要碳水化合物含量的变化进行了初步研究,以期为慈姑的田间生产提供丰产的理论依据。在武汉地区的气候条件下,‘刮老乌’品种从9 月上旬球茎开始膨大。结果表明,在膨大过程中,蔗糖含量呈上升趋势,在球茎膨大约90 天时含量最高达28.05 mg/g。果糖含量遵循“上升-下降-上升”的变化规律;葡萄糖含量先上升,之后降低。总淀粉、直链淀粉和支链淀粉含量都呈上升的变化规律,支链淀粉/直链淀粉的比值总是小于1。

【英文摘要】Based on the Arrowhead bulbs in the process of enlargement of the main changes in carbohydratecontent of a preliminary study, Sagittaria to the field for the production of high yield of the theoretical basis, the results indicated that climatic conditions in Wuhan, scraping the old varieties of ‘ Ukraine ’ in early September bulbs from the start swelling. In the enlargement process, the sugar content went up, about 90 days in the content of bulb enlargement up to 28.05 mg/g. Fructose follow the “ up-down-

up ” variation; glucose increasedfirst and then decreased. Total starch, amylose and amylopectin content increased for changes of amylopectin/amylose ratio were always less than 1.
【语种】中文
【第一作者】赵婷婷
【通讯作者】徐文娟
【期刊名称、卷期、页码】中国农学通报,2011,27(13):216-218
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【学科分类】园艺学

【题目】Development of a single base extension-tag microarray for the detection of pathogenic Vibrio species in seafood
【中文关键词】无
【英文关键词】Vibrio species, Single base extension-tag on glass slides (SBE-TAGS), Microarray . Multiplex PCR
【中文摘要】无
【英文摘要】In this study, a single base extension-tag array onglass slides (SBE-TAGS) microarray was established todetect the seven leading seafood-borne pathogens, includingVibrio parahaemolyticus, Vibrio cholerae, Vibriovulnificus, Vibrio mimicus, Vibrio alginolyticus, Vibrioanguillarum, and Vibrio harveyi. Three multiplex PCRassays were developed to specifically target the followingspecies with individual gene markers, which are aadS, tdh,and trh for V. parahaemolyticus; col, toxR, and vvh for V.alginolyticus, V. mimicus, and V. vulnificus; and empA,vhh1, and tcpA for V. anguillarum, V. harveyi, and V.cholerae, respectively. The purified PCR products wereused as template DNA for single base extension-tagreactions, labeled with Cy3 fluorescent dye and hybridizedto DNA microarrays. The detection specificity of thismicroarray method was 100%, with the sensitivity for puregenomic DNA at 200 fg to 2 pg per reaction. Application ofthe DNA microarray methodology to 55 naturally contaminatedseafood samples (shrimp, fish, and oysters) revealedthe presence of V. parahaemolyticus at 50.9% and V.alginolyticus at 32.7%. This corresponds with traditionalassays (microbiological and biochemical tests) except onesample which was identified as negative in V. parahaemolyticusby the microarray assay but as positive bythe conventional method. Therefore, a combination ofmultiplex PCR with DNA microarray hybridization basedon SBE-TAGS ensures rapid and accurate detection ofpathogenic Vibrio species in seafood, thereby providingsafer seafood products for consumers at a low financialburden to the aquaculture industry.
【语种】英文
【第一作者】Chen W
【通讯作者】史贤明
【期刊名称、卷期、页码】Appl Microbiol Biotechnol,89(6),1979-1990
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【引文索引号】SCI
【学科分类】兽医学

【题目】慈姑球茎形成与膨大进程的初步研究
【中文关键词】慈姑;球茎;根状茎
【英文关键词】Sagittaria trifolia Linn. var. Sinensis; Corm; Rhizome
【中文摘要】对慈姑球茎的形成与膨大进程进行了初步研究。研究结果表明,在武汉地区的气候条件下,慈姑的根状茎从7月上旬开始陆续形成,其后数目不断增加,大约到10 月上旬根状茎的数目基本不再变化,根状茎的生长主要是以伸长生长为主,其横径基本不发生变化。9 月上旬球茎开始形成,9 月中下旬球茎数目迅速增加,到10 月中下旬基本无新的球茎形成。单个球茎从形成到成熟大约80 d。在球茎形成的30~60 d 膨大最为迅速。其单个球茎质量的增加遵循“ 慢-快-慢 ”的变化规律。球茎的淀粉、可溶性总糖含量在40 d 以前呈缓慢上升,之后快速增加;还原糖呈“ 上升-降低-上升 ”的变化趋势。
【英文摘要】The corm formation and enlargement process of the arrowhead were studied. The results showed that the rhizome of the arrowhead started to form from early July in Wuhan climatic conditions, then increasing number of rhizomes, in early October about to not the number of basic changes. The growth of rhizome elongation mainly dominated its diameter did not change basically. Began to form in early September bulbs, bulbs form late September the number increased rapidly to 10 months, almost no new bulbs in late formation. The formation of a single bulb to mature form about 80 d. Time is growing fastest in the bulb formation of the first 30-60

d. The single bulb weight increase follows a "slow-fastslow" variation. Bulbs of starch, total soluble sugar content increased slowly before the 40 d, after a rapid increase. Reducing sugar had "up-lower-up" trend.
【语种】中文
【第一作者】赵婷婷
【通讯作者】徐文娟
【期刊名称、卷期、页码】长江蔬菜,2010(14):62-64
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【学科分类】园艺学

【题目】Fluorescence excitation – emission spectroscopy with regional integration analysis for assessment of compost maturity
【中文关键词】无
【英文关键词】Compost,Excitation-emission matrix (EEM),Maturity,Fluorescence spectroscopy,Water extract organic matter
【中文摘要】无
【英文摘要】Composting of animal manures is believed as an alternative way for directly recycling them in farms, andtherefore assessment of compost maturity is crucial for achieving high quality compost. Fluorescenceexcitation – emission matrices (EEMs) combined with regional integration analysis is presented to assesscompost maturity. The results showed that the EEM contours of water-extract organic matter (WEOM)from immature composts exhibited four peaks at excitation/emission (Ex/Em) of 220/340 nm, 280/340 nm, 220/410 nm, and 330/410 nm, whereas EEM contour of WEOM from mature composts had onlytwo peaks at Ex/Em of 230/420 nm and 330/420 nm. Pearson correlation demonstrated that peaks intensityrather than their ratios had a significantly correlation with the common indices assessing compostmaturity, whereas the normalized excitation – emission area volumes (Ui,ns) from regional integrationanalysis had a stronger correlation with the common indices assessing compost maturity than peaksintensity. It is concluded that the Ui,ns from regional integration analysis are more suitable to assessthe maturity of compost than the intensities of peaks. Therefore, the fluorescence spectroscopy combinedwith regional integration analysis can be used as a valuable industrial and research tool for assessingcompost maturity, given its high sensitivity and selectivity.
【语种】英文
【第一作者】余光辉
【通讯作者】沈其荣
【期刊名称、卷期、页码】Waste Management 31(2011)1729-1736
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【学科分类】资源科学技术

【题目】An weighted ontology-based semantic similarity algorithm for web service
【中文关键词】无
【英文关键词】Semantic web services;Semantic similarity;Degree of matching;Rank
【中文摘要】无
【英文摘要】A critical step in the process of reusing existing WSDL-specified services for building web-based applications is the discovery of potentially relevant services. However, the category-based service discovery, such as UDDI, is clearly insufficient. Semantic web services, augmenting web service descriptions using semantic web technology, were introduced to facilitate the publication, discovery, and execution of web services at the semantic level. Semantic matchmaker enhances the capability of UDDI service registries in the semantic web services architecture by applying some matching algorithms between advertisements and requests described in OWL-S to recognize various degrees of matching for web services. Based on semantic web service framework, semantic matchmaker and probabilistic matching approach, this paper proposes a weighted ontology-based semantic similarity algorithm for web service to support a more automated and veracious service discovery and rank process in the semantic web service framework.
【语种】英文
【第一作者】刘敏

【通讯作者】刘敏
【期刊名称、卷期、页码】Expert Syst. Appl.2009,36:12480-12490
【论文发表时间】2009-04-01 00:00:00
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【引文索引号】10.1016/j.eswa.2009.04.034
【学科分类】信息科学与系统科学基础学科

【题目】氮磷钾肥对莲藕产量和品质的影响
【中文关键词】莲藕;产量;品质
【英文关键词】Lotus root; Yield; Quality
【中文摘要】通过分别施用不同水平的氮磷钾肥,研究其对莲藕(Nelumbo nucifera Gaertn.)产量和品质的影响。研究结果表明,施用氮磷钾肥对莲藕的产量和品质有明显的影响,施肥的增产效应为氮肥略高于钾肥,氮肥和钾肥远高于磷肥;不同水平的氮磷钾用量中,中等施肥量的处理N450、P180 和K450 的莲藕产量最高;合理施用氮磷钾肥不仅能增加莲藕中蛋白质、维生素C、还原糖含量,而且还能降低莲藕中粗纤维和硝酸盐含量,从而使莲藕品质得到改善。氮肥对增加莲藕蛋白质、维生素C 和还原糖含量的作用明显,钾肥对降低莲藕粗纤维和硝酸盐含量的作用明显,磷肥对莲藕品质的影响没有氮肥和钾肥显著,所以生产中应注意氮钾肥的合理施用。
【英文摘要】The effects of different levels of NPK fertilizer on yield and quality of lotus root (Nelumbo nucifera Gaertn.) were studied. The results showed that application of NPK on yield and quality of lotus root had a significant impact, effects of nitrogen fertilization yield slightly increased potash, nitrogen and potassium much higher than the phosphate fertilizer,amount of different levels of NPK, the medium amount of fertilizer N450, P180 and K450 handle lotus yield were the highest; rational application of NPK not only increased the lotus root protein, vitamin C, reducing sugar content but also reduced the lotus root crude fiber and nitrate, improve the quality of lotus root, nitrogen for protein increased, vitamin C and sugar content reduced obviously, and potassium, lotus root nitrate content of crude fiber reduced obviously, and phosphate on the quality of lotus root had no significant difference, so the lotus root production should be noted the rational application of nitrogen fertilizer.
【语种】中文
【第一作者】张长伟
【通讯作者】徐文娟
【期刊名称、卷期、页码】长江蔬菜,2011(16):92-95
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【引文索引号】null
【学科分类】园艺学

【题目】Antibacterial Activity, Mechanism of Action, Zinc Oxide Nanoparticles,Campylobacter jejuni
【中文关键词】无
【英文关键词】Antibacterial Activity and Mechanism of Action of Zinc Oxide,
Nanoparticles against, Campylobacter jejuni
【中文摘要】无
【英文摘要】The antibacterial effect of zinc oxide (ZnO) nanoparticles on Campylobacter jejuni was investigated forinhibition and inactivation of cell growth. The results showed that C. jejuni was extremely sensitive totreatment with ZnO nanoparticles. The MIC of ZnO nanoparticles for C. jejuni was determined to be 0.05to 0.025 mg/ml, which is 8- to 16-fold lower than that for Salmonella enterica serovar Enteritidis andEscherichia coli O157:H7 (0.4 mg/ml). The action of ZnO nanoparticles against C. jejuni was determinedto be bactericidal, not bacteriostatic. Scanning electron microscopy examination revealed that the majorityof the cells transformed from spiral shapes into coccoid forms after exposure to 0.5 mg/ml of ZnOnanoparticles for 16 h, which is consistent with the morphological changes of C. jejuni under other stressconditions. These coccoid cells were found by ethidium monoazide-quantitative PCR (EMA-qPCR) to havea certain level of membrane leakage. To address the molecular basis of ZnO nanoparticle action, a largeset of genes involved in cell stress response, motility, pathogenesis, and toxin production were selected fora gene expression study. Reverse transcription-quantitative PCR (RT-qPCR) showed that in response totreatment with ZnO nanoparticles, the expression levels of two oxidative stress genes (katA and ahpC) anda general stress response gene (dnaK) were increased 52-, 7-, and 17-fold, respectively. These resultssuggest that the antibacterial mechanism of ZnO nanoparticles is most likely due to disruption of the cellmembrane and

oxidative stress in Campylobacter.
【语种】英文
【第一作者】Xie Y
【通讯作者】史贤明
【期刊名称、卷期、页码】APPLIED AND ENVIRONMENTAL MICROBIOLOGY,77(7), 2325 – 2331
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【学科分类】兽医学

【题目】杞柳瘿蚊的生物学研究
【中文关键词】杞柳瘿蚊; 生物学; 生活史; 生活习性
【英文关键词】Rhabdophaga salicis; bionomics; life cycle; life habits
【中文摘要】杞柳瘿蚊R habdophaga salicis Schrank是沿淮地区危害杞柳的重要害虫。该虫在沿淮地区1 a发生5代, 以幼虫在当年生被害杞柳柳条上的虫瘿内越冬。翌年3月上旬开始化蛹, 除越冬代外各代幼虫发生盛期分别为4月上旬、5月上旬、6月中旬和8月上旬, 有明显的世代重叠现象, 越冬代幼虫于10月中下旬陆续进入越冬状态。幼虫共3龄。蛹期10~ 12 d。蛹的发育过程根据形态变化可分为4个阶段。
【英文摘要】Rhabdophaga salicis Schrank is an important pest attacking osier along Huaihe River. It has 5generations a year in low-lying area along Huaihe River and overwinters as matured larva in the galls in the infested wickers. It pupates in the first ten days of March the next year. The hatching peaks of the larvae of different generations except the overw intering generation are first ten days of April and May, mid June and first ten days of August. The generations overlap. The larva of the fifth generation overw inters from late October. The larva has 3 instars and the pupal stage is 10-12 days which can be divided into four phases according to its morphological changes.
【语种】中文
【第一作者】俞艳栋
【通讯作者】林华峰
【期刊名称、卷期、页码】中国森林病虫,2010,29(6):9-11
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【引文索引类型】其他
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【学科分类】森林保护学

【题目】Allelopathic impact of artificially applied coumarin on Fusarium oxysporum f.sp. niveum
【中文关键词】无
【英文关键词】Allelopathy , Biomass , Coumarin,Fusarium oxysporum f.sp. niveum (FON) ,Mycotoxin (MT)
【中文摘要】无
【英文摘要】Watermelon production is threatened by fusarium wilt caused by Fusarium oxysporum f.sp. niveum(FON) in continuous cultivation system. Some elements,mainly allelochemicals, released from living roots or decayed plants might be associated with the disease. The purpose of this work was to evaluate the possible impact of coumarin, one kind of watermelon allelochemical, on FON.Furthermore, possible new mechanisms might be investigated during the ecological interactions of plant-microbe.Results showed that coumarin strongly inhibited growth ofFON leading to a decrease in its biomass, dry weight of mycelia of FON in a liquid culture. The dry weight was decreased by 62.9% compared with control. The hyphal growth of FON on plates was stopped at high ([400 mg l-1) concentrations of coumarin. At 320 mg l-1,sporulationand enzyme activities of FON were also severely suppressed by coumarin. The yield of conidia, and the activities of proteinase, cellulase, and amylase were reduced by 98.9%, 79.7%, 29.8% and 15.9% respectively.However, conidial germination and mycotoxin (MT) production of FON were greatly stimulated, being increased by 55.7% and 14.9 fold at 320 mg l-1 respectively. Weconclude that coumarin acted as an allelochemical substance to inhibit growth and pathogenic enzyme activities of FON but to stimulate mycotoxin production and conidial germination. It was suggested that coumarin acted as a signal transduction element bridging plant and pathogen in the process of plant-microbe interactions.
【语种】英文

【第一作者】吴洪生
【通讯作者】沈其荣
【期刊名称、卷期、页码】World J Microbiol Biotechnol (2008) 24:1297 – 1304
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【学科分类】微生物学

【题目】Intercropping with aerobic rice suppressed Fusarium wilt in watermelon
【中文关键词】无
【英文关键词】Watermelon; Aerobically growing rice; Intercropping; Fusarium oxysporum f. sp. niveum; Microbial community; Rice root exudates
【中文摘要】无
【英文摘要】Watermelon is susceptible to Fusarium wilt in successively mono-cropped soil. Pot experiments were carried out to investigate theeffect of intercropping with aerobic rice on Fusarium wilt in watermelon. The tested soil was classified as a loam soil, previously plantedwith watermelon and collected from Hexian county, Anhui province, China. The results obtained are listed as follows: (1) 66.7% ofwatermelon plants were infected with wilt disease and 44.4% died on 40 days after transplanting in mono-cropped soil, but plants weremuch less susceptible to infection when intercropped with rice; (2) the density of Fusarium oxysporum f. sp. niveum decreased by 91% insoil from the intercropped watermelon rhizosphere when compared with that from the mono-crop 40 days after transplanting; (3)densities of bacteria and actinomycetes increased, but fungal density decreased in rhizosphere soil from the intercrops in comparison withthe mono-crop control; (4) compared to the control, the germinated Fusarium spores were decreased by 41.0% in the treatment withaddition of 1.5 ml rice root exudates. Adding 20 ml of root exudates decreased Fusarium spore production by 76.4%; and (5) the activitiesof defense enzymes in the leaves and roots of watermelons in the intercropped system were significantly lower than those in the monocroppedsystem. It is suggested that intercropping with aerobic rice alleviated Fusarium wilt in watermelon, by restraining the sporeproduction of Fusarium and by changing the microbial communities in rhizosphere soil through the production of rice root exudates.r 2007 Elsevier Ltd. All rights reserved.
【语种】英文
【第一作者】任丽轩
【通讯作者】任丽轩
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【引文索引类型】SCI
【引文索引号】2.5300080003e+011
【学科分类】土壤学

【题目】Influence of Root Exudates of Watermelon on Growth and Virulence Factors of in vitro Fusarium oxysporum f.sp.niveum
【中文关键词】无
【英文关键词】FON, Fusarium oxysporum f. sp. nivea; HPLC, high-performance liquid chromatography.
【中文摘要】无
【英文摘要】Watermelon [Citrullus lanatus (Thunb.) Matsum. & Nakai var. lanatus] production in the same fi eld without rotation of crops leads to disease buildup and poor yields. The purpose ofthis research was to evaluate the infl uences of root exudates produced by watermelon cultivars susceptible or resistant to the pathogen Fusarium oxysporum f. sp. niveum (FON). At low concentrations of root exudates (<50 mg L − 1), the susceptible cultivar stimulated the growth of FON but the resistant cultivars inhibited FON at high concentration (200 mg L − 1).Mycotoxin production was increased more in the presence of exudates from susceptible thanresistant cultivars and after fl owering than before fl owering. Activities of enzymes (protease,pectinase, cellulose, and amylase) were stimulated more in resistant than susceptible cultivars by FON. Also, there were higher ratios of antifungal phenolic acids (p-hydroxybenzoic,phthalic, gallic, coumaric, cinnamic, ferulic, salicylic, and sinamic acids) to fungus-stimulating phenolic acids (vanillic and syringic acids) in resistant cultivars than in susceptible ones both before and after fl owering. Breeding of resistant cultivars containing more antifungal agents is a strategy that, if pursued, could lead to a reduction in the occurrence of watermelon wilt disease, especially when rotation of crops is not possible.

【语种】英文
【第一作者】吴洪生
【通讯作者】沈其荣
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【学科分类】土壤学

【题目】Effects of dietary β-glucan and glycyrrhizin on non-specific immunity and disease resistance of the sea cucumber (ApostichopusjaponicusSelenka) challenged with Vibrio splendidus
【中文关键词】β葡聚糖;甘草甜素;仿刺参;免疫;灿烂弧菌
【英文关键词】13-Glucan;Glycyrrhizin;Apostichopusjaponicus Selenka;Immunity;Vibrio splendidus
【中文摘要】仿刺参投喂无免疫增强剂的日粮(基础日粮,0.2% β葡聚糖和0.02%甘草甜素在循环水系统饲养45天,随后用灿烂弧菌注射1.0×1 0 cfu/刺参感染15天后,在第0、5、10、15天监测分析刺参体腔液的吞噬能力(PC),细胞内的超氧阴离子产生(ISAP),溶解酵素(LSZ)活性和超氧化物歧化酶(SOD)活性。结果显示,经过45天的饲喂周期,日粮中含有β葡聚糖或甘草甜素组的刺参PC,ISA LSZ活力和SOD活力显著高于基础饲料组。在注射后的第5天,被注射灿烂弧菌的刺参所有被检测的免疫参数值显著降低;在第15天,PC.ISAP和LSZ活力值与第0天的水平相似;在为期15天的侵染实验中,被注射盐的刺参的所有被检测的免疫参数和累计发病率没有显著性差异。注射灿烂弧菌后再次侵染灿烂弧菌,饲喂基础饲料的刺参组累计发病率显著高于饲喂含有β葡聚糖或甘草甜素组的刺参,在整个实验过程中,β葡聚糖组合甘草甜素组的刺参在发病率上没有显著性差异。
【英文摘要】Sea cucumbers Apostichopus]aponicus Selenka,were fed diets containing non—immunostimulant(basal diet),0.2% 13-glucan and 0.02%glycyrrhizin in a recirculatory water system for 45 days,and subsequently challenged with Vibrio splendidus by in ection at 1.0×1 0 cfu/sea cucumber for l 5 days.Phagocytic capacity(PC),intracellular superoxide anion production(ISAP),lysozyme(LSZ1 activity and superoxide dismutase fSOD)activity in the coelomic fluid were analyzed on the 0 ,5 ,l 0 “ and 1 5 “ days after iniection.Results showed that after the 45一day feeding period,PC,ISA LSZ activity and SOD activity in sea cucumbers fed with dietary 3-glucan or glycyrrhizin were significantly higher than in those fed with the basa1 diet.On the 5 day after infection.all the immune parameters examined in the sea cucumbers injected with splendidus decreased in value significantly.On the 1 5 “ day, PC.ISAP and LSZ activity returned to 1evels similar to those on the 0 “ day.For the sea cucumbers injected with saline,there were no significant differences in all the immune parameters examined and in the cumulative morbidity during the 1 5-day challenging tria1 After injecting with splendidus.the cumulative morbidity of sea cucumbers fed with the basal diet was significantly higher than those fed with dietary 3-glucan or glycyrrhizin when challenged with splendidus challenged sea cucumber fed with the basal diet was significantly higher than those fed with dietary 3-glucan or glycyrrhizin.There was no significant difference in cumulative motbidity between the dietary 3-glucan and glycyrrhizin treatments over time.
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【第一作者】常杰
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【学科分类】水产养殖学

【题目】Biocontrol of Fusarium wilt disease for Cucumis melo melon using bio-organic fertilizer
【中文关键词】无
【英文关键词】Antagonistic microbes,Fusarium oxysporum f. sp. melonis,Melon,Soil-borne disease
【中文摘要】无
【英文摘要】Fusarium wilt disease in melon (Cucumis melo L.) is widespread, responsible for serious economic losses.Pot and field experiments were performed to investigate the effects of different bio-organic fertilizers (BIOs) made from organic fertilizer and different antagonistic microbes. BIOs decreased the incidence of fusarium wilt disease and increased melon yield. The disease incidence

of treatments with double application (BIOs applied both in the nursery and in the pot soil) was 20%, much lower than control (80%).Moreover, double application of a mix termed BIOII resulted in a 17.4-fold increase in plant fresh weightcompared to control. Application of BIOs strongly reduced the number of pathogen colony-forming units (cfu) in stems and roots of melon. Pathogen populations were 2.27×103 and 6.67×103 cfu g − 1 FW (fresh weight) on BIOII-treated stems and roots, respectively, and 8.17×104 and 3.67×104 cfu g − 1 FW on control stems and roots, respectively; i.e., cfus were reduced by 97% and 82%, respectively. Microbial community structure was ameliorated by all BIOs. The number of bacteria and actinomycota in rhizosphere soil increased markedly under all BIO applications compared to control. In contrast, pathogen and fungal density was dramatically higher in the rhizosphere of control plants. The activities of defenseenzymes in the leaves of melons receiving double application of BIOII were lower than those of control plants. The highest melon yield was achieved by plants that received a double application of BIOII in field experiments (7225 kg ha − 1 vs. 4447 kg ha − 1 for control plants). In conclusion, the most effective treatment was double application of BIOII, which minimized the incidence of wilt disease, maximized biomass production, and altered microbial community structure.

【语种】英文

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【学科分类】土壤学

【题目】Influence of dietary probiotic Bacillus TC22 and prebiotic fructooligosaccharide on growth, immune responses and disease resistance against Vibrio splendidus infection in sea cucumber Apostichopus japonicus.

【中文关键词】仿刺参,益生菌,益菌素,免疫,灿烂弧菌

【英文关键词】Apostichopusjaponicus;probiotics;prebiotics;immunity;Vibrio splendidus

【中文摘要】本实验研究益生菌TC22芽孢杆菌(从感染的刺身肠道中分离)和益菌素黄金双歧因子对仿刺参生长,免疫和抗病力的影响。实验设置六个实验组,三个浓度水平的芽孢杆菌和两个浓度水平的黄金双歧因子组合。在养殖试验最后八周,给刺参注射灿烂弧菌。结果显示刺身的特定生长率没有受TC22和黄金双歧因子或两者之间的相互作用影响。但是,刺身的免疫反应和抗病能力受两者相互作用明显。在饲料中TC22的含量为109CFUg-1和黄金双歧因子的含量为0.5%,两者单独存在或组合存在时,刺身体腔细胞吞噬作用,呼吸爆发和酚氧化酶活性均显著提高;对灿烂弧菌感染的抗病力也显著增强。但是,饲料中同时添加上述含量的两种物质所产生的作用效果没有明显高于单独添加其中一种时所得到的作用效果。因此,其他水平的TC22和黄金双歧因子组合对刺身免疫和抗病力影响仍需进一步研究。

【英文摘要】The effects of probiotic Bacillus TC22 risolated from intestine of infected sea cucumber)and prebiotic fi'uctooligosaccharide fFOS、on growth,immunity and disease resistance in sea cucumber Apostichopus japonicus were studied.Six experimental diets were formulated with combinations of three levels of TC22(0,1 0 and 1 0 CFU g diet)and two levels of FOS(0 and 0.5%)in a 3×2 factorial experiment.At the end of the 8-week feeding trial animals were challenged by injecting Vibrio splendidus.The resuits revealed that the specific growth rates(SGR)of sea cucumbers were not affected by TC22 and FOS,or the interaction between TC22 and FOS r尸>0.05).However,there were significant interactions between TC22 and FOS fur immune response and disease resistance in sea cucumbers(P<0.05).When sea cucumbers were fed with TC22 at 10 CFUg- feed and O.5%FOS alone or in combination,the phagocytosis,respiratory burst and phenoloxidase activity of sea cucumber coelomocytes were significantly en—hanced;the disease resistance against splendidus infection was also increased significantly(JD<0.05).However,dietary combination of TC22 at 10 CFUg diet and 0.5% FOS did not yield significantly higher efficiency than either TC22 at l0 CFUg diet or 0.5%FOS used alone >0.05).Therefore,further studies should examine the effects of combinations of other levels of FOS f>0.5%or<0.5%)and TC22 on the immunity and disease resistance of sea cucumbers.

【语种】英文

【第一作者】赵彦翠

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【学科分类】水产养殖学

【题目】Formulations can affect rhizosphere colonization and biocontrol efficiency of Trichoderma harzianum SQR-T037 against Fusarium wilt of cucumbers

【中文关键词】无

【英文关键词】Biocontrol formulation . Bioorganic fertilizer .Trichoderma harzianum . Fusarium oxysporum f. sp.cucumerinum . Cucumis sativus

【中文摘要】无

【英文摘要】Pot experiments were carried out over two growing periods to assay the biocontrol efficacy andrhizosphere colonization of Trichoderma harzianum SQRT037 (SQR-T037) applied as SQR-T037 conidia suspension (TCS), SQR-T037 conidia suspension blended with organic fertilizer (TBF), or SQR-T037 fermented organic fertilizer (TFF). Each formulation had three T. harzianumnumbers. In two experiments, Percent Disease Indexes (PDIs) decreased with the increase of SQR-T037 number added to soils. The TFF treatment consistently exhibited the lowest PDIs at same amendment rate of SQR-T037 and 0 – 8.9%, 25.6 – 78.9%, and 4.4 – 50.0% of PDIs were found inTFF, TCS, and TBF treatment, respectively. Soils treated with TFF showed the highest SQR-T037 population in rhizosphere and bulk soil. Decrease of Fusarium oxysporum population in both bulk and rhizosphere soils occurred in the treatment SQR-T037 at 105 and 106 cfug − 1 soil rate. The TFF treatment at the SQR-T037 rate of 103 cfug − 1 soil significantly ($p<0.05$) increased SQR-T037 population within the rhizoplane but had no effect on F.oxysporum population when compared to TCS and TBF.Generally, TFF treatments were superior to TCS and TBFtreatments on disease control by sustaining colonization of SQR-T037 and decreasing F. oxysporum abundance in the rhizosphere soil. We propose that TFF treatment at SQRT037rate of 107 cfug − 1 (i.e., 105 cfug − 1 soil after applied to soil) was the best formulation for controlling Fusarium wilt of cucumber.

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【第一作者】杨兴明

【通讯作者】沈其荣

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【学科分类】土壤学

【题目】Effects of continuous and alternate administration of β-glucan and mannan-oligosaccharide on the growth, immunity and resistance against Vibrio splendidus of sea cucumber Apostichopusjaponicus (Selenka)

【中文关键词】仿刺参,β葡聚糖,甘露聚糖,免疫,灿烂弧菌

【英文关键词】Apostichopus japonicus, b-glucan,mannan-oligosaccharide, immunity, Vibrio splendidus

【中文摘要】本养殖试验持续四周,研究添加了免疫增强剂的饲料采用不同的投喂方式对仿刺参生长,免疫和对灿烂弧菌抗病力的影响。设置六种投喂方式,包括无添加的对照组,添加β葡聚糖(1.25 g kg-1)饲料连续投喂,添加甘露寡糖(MOS;2.00 g kg-1)饲料连续投喂,添加β葡聚糖饲料投喂5天再用添加MOS饲料投喂2天,添加β葡聚糖饲料投喂2天再用MOS投喂5天,投喂β葡聚糖7天再用MOS投喂7天。添加免疫增强剂的饲料组表现出较高的特定生长率,和较低的累积死亡率。连续投喂β葡聚糖,在第四天,总体腔细胞数和超氧化物阴离子明显高于对照组。但是在18天后,这两种免疫指标并没有明显高于对照组。MOS连续喂养,在15天内,这两种免疫指标没有显著高于对照组。β葡聚糖和MOS间隔喂养,所有的免疫指标显著高于对照组。七天间隔的投喂方式表现出最高的特定生长率和第二低的累积死亡率。这表明这种投喂方式为刺身的最适投喂方式。

【英文摘要】A 4-week growth trial was conducted to comparethe effects of different feeding strategies of dietary immunostimulants on the growth, immunity and resistance against Vibrio splendidus of sea cucumbers Apostichopus japonicus (Selenka). Six feeding strategies were set, including feeding immunostimulants-free diet continuously (control), feedingdietary b-glucan (1.25 g kg 1diet) continuously,feeding dietary mannan-oligosaccharides (MOS;2.00 g kg 1diet) continuously, feeding b-glucan2 days followed by MOS 5 days alternately, feeding b-glucan 5 days followed by MOS 2 days alternately and feeding b-glucan 7 days followed by MOS 7 days alternately. The sea cucumbers fed immunostimulants showed higher speci fi c growth rate (SGR) and lower cumulative mortality than control ($P < 0.05$). When sea cucumbers were fed with b-glucan continuously, total coelomocytes counts and superoxide anion were signi fi cantlyhigher than control on the 4th day ($P < 0.05$). However, these two immune parameters were not signi fi cantly higher than those in control after the 18th day ($P > 0.05$). While sea cucumbers continuously fed

MOS, these two immune parameters were not signi fi cantly higher than control untilthe 15th day. All immune parameters of the sea cucumbers fed with b-glucan and MOS alternately were signi fi cantly higher than those in controlduring the experiment ($P < 0.05$). The sea cucumbers fed with b-glucan 7 days followed MOS 7 days alternately showed the highest SGR and second lowest cumulative mortality. It was suggested that this feeding strategy is most suit-able for sea cucumbers.

【语种】英文
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【学科分类】水产养殖学

【题目】发生于中国的青枯病菌生化变种研究
【中文关键词】青枯病菌; 中国; 生化变种
【英文关键词】Ralstonia solanacearum, China,Biochemical variants
【中文摘要】从8种不同寄主上分离纯化得青枯病菌181个菌株,根据Hayward划分青枯病菌生化变种的标准,进行归类划型。研究结果表明:发生于中国的青枯病菌生化变种以3和4为主,分别占54. 7%和33. 7%;而生化变种2、5和3 - 1分别只占3. 9%、1. 7%和6. 1%;未发现1型生化变种。
【英文摘要】181 Ralstonia solanacearum strains were isolated from eight different host. They were classified according to the standards of R. solanacearum biochemical variants made by Hayward. The study indicated that the main R. solanacearum biochemical variants in China were 3 and 4, accounting for 54.7% and 33.7%, respectively. Whereas, biochemical variants 2, 5 and 3-1, accounted for only 3.9%,1.7% and 6%, respectively. Biochemical variants1 was not found.
【语种】中文
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【期刊名称、卷期、页码】江苏农业科学
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【学科分类】植物保护学

【题目】Diversity analysis of antagonists from rice-associated bacteria and their application in biocontrol of rice diseases
【中文关键词】扩增核糖体DNA限制性分析,拮抗菌,生物防治,BOX-PCR,鉴定,生理特征,水稻细菌,水稻真菌病原物
【英文关键词】amplified ribosomal DNA restriction analysis, antagonists, biocontrol, BOX-PCR, identification, physiological characteristics, rice-associated bacteria, rice fungal pathogen
【中文摘要】目的:为了了解水稻相关细菌的多样性、类别和抗性潜力,为了发现新的防治水稻叶部病原物的生防细菌。方法和结果:利用rDNA扩增性片段酶谱分析(ARDRA)、BOX-PCR和16S rRNA基因序列分析方法来分析203种水稻相关抗性细菌的多样性。通过大田试验检测11种有生防潜力的细菌对稻瘟病的生防效果。11个不同属来自于5个纲,包括芽孢杆菌纲、α-变形菌纲、β-变形菌纲、γ-变形菌纲、恐球菌纲。微环境中最突出的属是芽孢杆菌属(68.5%)。菌株1Pe2、2R37和1Re14对水稻叶瘟的生防效果分别为64.35%、57.86%和56.44%。讨论:大田试验的生防数据显示抗性、生理特性和生防效果之间没有显著的关联。从不同微环境中分离的水稻相关细菌之间存在显著性差异。所有微环境中最突出的是芽孢杆菌属。短短芽孢杆菌属菌株1Pe2和异常球菌属菌株1Re14有很好的大田应用和商业运用潜力。研究的意义和影响:这是首次尝试对不同微环境中的水稻相关抗性细菌进行多样性研究和鉴别,植物内生细菌异常球菌属菌株1Re14、假单胞菌属菌株3Re21和短短芽孢杆菌属菌株1Pe2是首次作为水稻相关细菌被报道。
【英文摘要】Aims: To understand the diversity, taxonomy and antagonistic potential of rice-associated bacteria, and to discover new bacteria for biocontrol of rice foliar pathogens. Methods and Results: Amplified ribosomal DNA restriction analysis (ARDRA), BOX-PCR and 16S rRNA gene sequence analysis were used to identify the diversity of 203 rice-associated antagonistic bacteria. Eleven potential biocontrol bacteria were used to test their biological control of rice blast in a natural field experiment. Eleven different genera were encountered in five divisions, including Bacilli, Alphaproteobacteria, Betaproteobacteria, Gammaproteobacteria and Deinococci.

The most prominent genus in all microenvironments was Bacillus (68.5%). The efficacy of rice leaf blast biocontrol was 64.35% for strain 1Pe2, 57.86% for strain 2R37 and 56.44% for strain 1Re14. Conclusions: Biocontrol data from the field experiments demonstrated no positive correlation between antagonism, physiological characteristics and biocontrol efficacy. There was significant diversity among the rice-associated bacteria isolated from different microenvironments. The most prominent genus of all microenvironments was Bacillus. Brevibacillus brevis strain 1Pe2 and Deinococcus aquaticus strain 1Re14 have good potential for field application and commercial use. Significance and Impact of the Study: This is the first attempt to study the diversity and identification of rice-associated antagonistic bacteria from different microenvironments, and endophytic bacteria Deinococcus aquaticus strain 1Re14, Acidovorax sp. isolate 3Re21 and Brevibacillus brevis strain 1Pe2 are first reported as rice-associated bacteria.

【语种】英文

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【学科分类】植物保护学

【题目】Analysis of defence enzymes induced by antagonistic bacterium Bacillus subtilis strain AR12 towards Ralstonia solanacearum in tomato

【中文关键词】枯草芽孢杆菌,青枯劳尔氏菌,抗氧化酶,解毒酶,诱导系统抗性

【英文关键词】Bacillus subtilis, Ralstonia solanacearum, antioxidant enzyme, detoxifying enzyme, induced systemic resistance

【中文摘要】在中国很多的省份中,由青枯雷尔氏菌(Smith ,Yabuuchi et al.)引起的番茄细菌性枯萎病是一种重要的经济病害。在温室中用枯草芽孢杆菌属的抗性菌株AR12防治番茄(Lycopersicon esculentum Miller)细菌性枯萎病。生防效果高达90.18%。研究了番茄植株中的超氧自由基和过氧化氢的产生率以及苯丙氨酸解氨酶(PAL)、多酚氧化酶(PPO)、过氧化物酶(POD)、过氧化物歧化酶(SOD)、抗坏血酸过氧化物酶(APX)和过氧化氢酶(CAT)的活性变化。菌剂显著的增加和增强PAL、 PPO、POD和 SOD 的活性。相比之下,这四个酶的活性在仅用青枯雷尔氏菌株TM15处理的番茄上增强的较少且较慢(处理2),在用灭菌水处理的番茄上没有改变呈现最低的水平(处理1)。四种酶在番茄中的最大活性出现在AR12处理后的不同阶段:PAL、 PPO、POD和 SOD 的活性分别在接种病原菌后的48、48、12和12h达到最高水平并保持一段时间。H2O2与系统获得抗病性的过敏反应(HR)有关。番茄中的H2O2含量在AR12处理后显著增加,但是过敏反应(HR)并未出现。CAT和APX是降解H2O2的关键酶。在AR12处理过的番茄中,CAT的活性在接种病原菌80h后降低,此时APX的活性显著增强。这一现象表明番茄根际促生菌株对病原菌感染下的番茄生长性能存在有益效果与抗氧化酶活性有关。

【英文摘要】Bacterial wilt, caused by Ralstonia solanacearum (Smith) Yabuuchi et al., is an economically important disease on tomato in many provinces of China. Antagonistic bacterium Bacillus subtilis strain AR12 was used to control bacteria wilt of tomato (Lycopersicon esculentum Miller) in the greenhouse. The biocontrol efficiency was as high as 90.18%. Superoxide anion and hydrogen peroxide generation rates and changes in phenylalanine ammonia lyase (PAL), polyphenoloxidase (PPO), peroxidase (POD), superoxide dismutase (SOD), ascorbate peroxidase (APX), and catalase (CAT) activities were studied in tomato plants. Antagonist AR12 advanced and increased significantly activities of PAL, PPO, POD, and SOD. As comparison, the activities of these four enzymes increased less and later in tomato only treated with R. solanacearum TM15 (control 2), and kept lowest level with few change in tomato with sterilised water (control 1). The maximum activities of these four enzymes in tomato treated with AR12 occurred in different stages: activity of PAL, PPO, POD, and SOD increased to the top level at 48, 48, 12 and 12 h, respectively, after pathogen inoculation and kept high level for some time. H2O2 is associated with hypersensitive response (HR) during systemic acquired resistance. H2O2 content increased significantly in tomato treated with AR12, but HR response was not seen. CAT and APX are the key H2O2 detoxifying enzymes. Activities of APX in tomato treated with AR12 were increased significantly, while CAT was degraded until 80 h after pathogen inoculation. This work support the view that increased antioxidant enzyme activities could be involved, at least in part, in the beneficial effects of plant growth-promoting rhizobacteria strains on the performance of vegetable grown under the pathogen infection conditions.

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【题目】Evaluation of the strains of Acinetobacter and Enterobacter as potential biocontrol agents against Ralstonia wilt of tomato
【中文关键词】拮抗菌,青枯劳尔氏菌,生物防治,不动杆菌属,蘸根,浸润,肠杆菌属
【英文关键词】Antagonist, Ralstonia solanacearum, Biological control, Acinetobacter sp., Root-dipping, Drenching, Enterobacter sp.
【中文摘要】在中国南方番茄细菌性枯萎病(Ralstonia solanacearum)造成番茄大量减产。生物防治是降低这一病害造成的发病率和产量损失的有效途径。通过对青枯雷尔氏菌和3个土传真菌病原物的抗性试验和温室防效试验,从14株潜在生防菌株中筛选出Xa6 (不动杆菌属Acinetobacter sp.) 和Xy3 (肠杆菌属Enterobacter sp.)两个菌株。为了找出抗性菌株合适的接种方式,我们从根围定植能力、生防效果和促生效果方面对蘸根和灌根两种方法进行比较。灌根处理表现出更好的生防效果和增产,且这一方法在田间大规模施用时更易操作。通过田间试验对两个拮抗菌株进一步评估。在温室和大田试验中,菌株Xy3的防效比菌株Xa6的高,而Xa6则引发更高的生物量或产量。两次田间试验中处理后第75天的记录表明,两次田间试验中Xy3的生防效果都约为65%,Xa6分别增加了32.4%和40.7%的产量。这是首次将不动杆菌属菌株作为防治番茄青枯病生防因子的报道。
【英文摘要】Bacterial wilt (Ralstonia solanacearum) of tomato, Lycopersicon esculentum, causes a considerable amount of damage to tomato in Southern China. Biological control is one of the more promising approaches to reduce the disease incidence and yield losses caused by this disease. Based on antagonistic activity against R. solanacearum and three soil-borne fungal pathogens as well as biocontrol efficacy in the greenhouse, two bacterial strains Xa6 (Acinetobacter sp.) and Xy3 (Enterobacter sp.) were selected out of fourteen candidates as potential biocontrol agents. In order to find a suitable antagonist inoculation method, we compared the methods of root-dipping with soil-drenching in the aspects including rhizocompetence, biocontrol efficacy, and effect of promoting plant growth under greenhouse conditions. The drenching treatment resulted in a higher biocontrol efficacy and plant-yield increase, and this method was also easier to operate in the field on a large scale. Field trials were conducted for further evaluation of these two antagonistic strains. In both greenhouse and field experiments, the strain Xy3 had a better control effect against bacterial wilt than Xa6 did, while Xa6 caused higher biomass or yield increases. As recorded on the 75th day after treatment in two field experiments, biocontrol efficacy of Xy3 was about 65% in both field trials, and the yield increases caused by Xa6 were 32.4 and 40.7%, respectively, in the two trials. This is the first report of an Acinetobacter sp. strain used as a BCA against Ralstonia wilt of tomato.
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【题目】Effects of potential probiotic Bacillussubtilis T13 on growth, immunity and disease resistance against Vibrio splendidusinfection in juvenile sea cucumber Apostichopusjaponicus
【中文关键词】仿刺参,益生菌,生长,免疫,芽孢杆菌。
【英文关键词】Apostichopus japonicus;Probiotics;Growth;Immunity;Bacillus
【中文摘要】本养殖试验为了研究潜在益生菌枯草芽孢杆菌T13(从健康刺身肠道中分离)对仿刺参幼参生长,免疫和对灿烂弧菌感染抗病力的影响。幼参用芽孢杆菌含量为0,,105,107,和109CFU/g的饲料分别喂养30天。最后取每桶15头幼参测定免疫指标。然后剩余的二十头刺身用灿烂弧菌侵染。结果显示,添加T13会对刺参的特定生长率产生明显的影响。109CFU/gT13组的刺参体腔细胞吞噬作用,呼吸爆发和总一氧化氮合成酶活性明显的提高。该组还表现出最高的总体腔细胞数和超氧化物歧化酶活性。弧菌侵染后该组的累积死亡率明显的降低。目前的研究证实,饲料中添加益生菌枯草芽孢杆菌T13会对仿刺参产生潜在的有益影响。
【英文摘要】A feeding experiment was conducted to determine in fl uences of potential probiotic Bacillus subtilis T13(isolated from intestine of healthy sea cucumbers) on growth, immunity and disease resistance against Vibrio splendidus infection in juvenile sea

cucumbers Apostichopus japonicus. Animals were fed with diets containing B. subtilis T13 at 0, 105, 107 and 109 CFU/g for 30 days, respectively. At the end of the growth trial, fi fteen sea cucumbers from each aquarium were sampled for immune indices measurement. Then twenty sea cucumbers from each replicate were challenged with V. splendidus. Results showed that administration of B. subtilis T13 had signi fi cant effect on the speci fi c growth rates (SGR) of sea cucumbers($P < 0.05$). Phagocytosis, respiratory burst activity and total nitric oxide synthase (T-NOS) activity were signi fi cantly improved in coelomocytes of sea cucumbers fed with T13 at 109 CFU/g diet ($P < 0.05$). The highest values of the total coelomocytes counts (TCC) and superoxide dismutase (SOD) activity were found in sea cucumbers fed diet containing T13 at 109 CFU/g. The cumulative mortality after V. splendidus challenge decreased signi fi cantly in sea cucumbers fed with T13 at dose of 109 CFU/g ($P < 0.05$). The present study con fi rmed the potential bene fi cial effects of B. subtilis T13 as dietary probiotic in juvenile A.japonicus.

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【题目】Dietary administration of soybean isoflavones enhances the immunity of white shrimp Litopenaeusvannamei and its resistance against Vibrio alginolyticus
【中文关键词】生长,免疫,免疫增强剂,南美白对虾,大豆异黄酮,溶藻弧菌
【英文关键词】growth, immunity, immunostimulant, Litopenaeus vannamei, soybean iso fl avones, Vibrio alginolyticus
【中文摘要】饲料中分别添加0,5,10,20,40mg kg-1的大豆异黄酮,喂养8周,检测南美白对虾的生长回应,总血细胞数,呼吸爆发,一氧化氮合成酶活性和对溶藻弧菌抗病力。异黄酮对对虾的存活率没有产生显著地影响。10,20和40mg kg-1的异黄酮使对虾的特定生长率显著高于对照组。20mg kg-1异黄酮喂养的对虾的总血细胞数,酚氧化酶活性,呼吸爆发值,超氧化物歧化酶活性和一氧化氮合成酶活性都显著增加。10或40mg kg-1异黄酮组的总血细胞数,呼吸爆发值,超氧化物歧化酶活性和一氧化氮合成酶活性也有明显变化。添加异黄酮的组在弧菌感染后的累积死亡率显著低于对照组。因此,持续口服添20mg kg-1的异黄酮可以提高对虾的免疫力,提高对虾养殖的产量。
【英文摘要】The growth response, total hemocyte count (THC), respiratory burst (release of superoxide anion), phenoloxidase (PO)activity, superoxide dismutase (SOD) activity, nitric oxidesynthase (NOS) activity and resistance to the pathogen Vibrio alginolyticus were measured in white shrimp (Litopenaeus vannamei) which had been fed diets supplemented with soy-bean iso fl avones (SI) at 0, 5, 10, 20, 40 mg kg)1feed for 8 weeks. Dietary SI had no signi fi cant in fl uence on survival rate of the shrimp. Signi fi cantly greater SGR was observed intreatments with 10, 20 and 40 mg kg)1SI supplement than that in control ($P < 0.05$). Shrimp fed a diet with 20 mg kg)1SI showed signi fi cant increase in THC, PO activity, respiratory burst activity, SOD activity as well as NOS activity ($P < 0.05$).Increased THC, respiratory burst activity, SOD activity and NOS activity were also noticed in shrimp fed SI at 10 or40 mg kg)1($P < 0.05$). Signi fi cant lower cumulative mortality after challenge was observed in shrimp fed diets with SI supplement (10.0 – 13.3%) than that in control group (36.7%)($P < 0.05$). It is therefore concluded that oral administration of SI at 20 mg kg)1for 8 weeks could enhance the immune ability of shrimp and improve production in shrimp farming.
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【通讯作者】谭北平
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【题目】Effects of Dietary Glycyrrhizin on Growth and Nonspecific Immunity of White Shrimp, Litopenaeusvannamei
【中文关键词】生长,免疫,免疫增强剂,南美白对虾,大豆异黄酮,溶藻弧菌

【英文关键词】growth, immunity, immunostimulant, Litopenaeus vannamei, soybean iso fl avones, Vibrio alginolyticus
【中文摘要】饲料中分别添加0,50,100,150和200mg/kg的甘草酸,喂养八周,测定南美白对虾的生长回应,总血细胞数,呼吸爆发,酚氧化酶活性,超氧化物歧化酶活性,一氧化氮合成酶活性和对溶藻弧菌抗病力。饲养试验中,存活率没有显著不同。添加甘草酸的实验组的特定生长率显著高于对照组。200mg/kg浓度的甘草酸实验组对虾的总血细胞数,酚氧化酶活性,呼吸爆发活性和超氧化物歧化酶活性显著高于对照组。100和150mg/kg甘草酸添加组的总血细胞数,呼吸爆发活性和一氧化氮合成酶活性也明显的增加。弧菌感染后,甘草酸添加组的累积死亡率显著低于对照组。以上结果表明,甘草酸可以增强南美白对虾的非特异性免疫系统,增强对虾的抗病力,同时提高对虾养殖的产量。
【英文摘要】The growth response, total hemocyte count (THC), respiratory burst (release of superoxide anion),phenoloxidase (PO) activity, superoxide dismutase (SOD) activity, nitric oxide synthase (NOS) activity as well as resistance to the pathogen Vibrio alginolyticus were measured in Litopenaeus vannamei,which had been fed diets supplemented with glycyrrhizin (the aqueous extract of licorice, Glycyrrhiza glabra, roots) at 0, 50, 100, 150, and 200 mg/kg of feed for 8 wk. In the feeding trial, there was no signi fi cant difference in survival rate (P > 0.05). Signi fi cant higher speci fi c growth rate was observed in treatments with dietary glycyrrhizin than that in the control group (P < 0.05). Shrimp fed a diet with 200 mg/kg of glycyrrhizin had signi fi cant higher THC, PO activity, respiratory burst activity and SOD activity than that in the control group (P < 0.05). Increased THC, respiratory burst activityand NOS activity were also noticed in shrimp fed glycyrrhizin at 100 or 150 mg/kg (P < 0.05). There were signi fi cantly lower cumulative mortalities after the disease challenge in shrimp fed glycyrrhizin diets (8.33 – 16.67%) than that in the control group (36.67%) (P < 0.05). These results indicated that glycyrrhizin may enhance the nonspeci fi c immune system, increase the resistance of L. vannamei as well as improve production in shrimp farming.
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【第一作者】陈效儒
【通讯作者】麦康森
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【题目】Effects of dietary β-glucan on the growth, immune responses and resistance of sea cucumber,Apostichopusjaponicus against Vibrio splendidus infection
【中文关键词】仿刺参,β葡聚糖,生长,免疫反应,疾病挑战,灿烂弧菌
【英文关键词】Apostichopus japonicus; β-glucan;Growth;Immunity response;Disease challenge;Vibrio splendidus
【中文摘要】本养殖实验进行8周,研究饲料中添加β葡聚糖对刺参生长,免疫和对弧菌侵染抗病力的影响。基础饲料含有20.6%的粗蛋白和4.8%的粗脂肪。两个水平(1.25和2.50g/kg)的β葡聚糖代替小麦粉添加到基础饲料中。养殖结束后,给刺参注射灿烂弧菌,检测β葡聚糖对对虾抗病力的影响。添加了1.25g/kgβ葡聚糖的饲料组生长加快,但是在2.50g/kg组没有表现。添加β葡聚糖饲料的实验组对虾的体腔细胞吞噬作用明显高于基础饲料的对照组。此外,实验组的酚氧化酶活性也显著增强。与2.50g/kgβ葡聚糖相比,投喂1.25g/kgβ葡聚糖的对虾体腔细胞的呼吸爆发显著提高;然而,前者与基础饲料组的呼吸爆发无显著差异。1.25g/kgβ葡聚糖组对虾具有明显的对灿烂弧菌感染的抗病力。但是2.50g/kg水平的β葡聚糖对对虾的保护作用不明显。总之,β葡聚糖可以作为刺参饲料原料用来抵抗灿烂弧菌的不利影响,但是在使用时剂量是一个非常重要的考虑因素。
【英文摘要】An eight-week feeding trial was conducted to determine the effects of dietary supplementation of β-glucan on the growth, immunity and resistance of sea cucumber against Vibrio splendidus infection. A basal diet was formulated to contain 20.6% crude protein and 4.8% crude lipid. Two levels (1.25 and 2.50 g/kg) of β-glucan were added to the basal diet to replace wheat. After the feeding trial, a V. splendidus injection challenge was executed to test the effects of β-glucan on disease resistance. Enhanced growth was observed in sea cucumber fed diet supplemented with 1.25 g glucan/kg, but not in sea cucumber fed diet supplemented with 2.50 gglucan/kg. The coelomocyte phagocytosis activity of sea cucumber fed β-glucan-supplemented diets was signi fi cantly (Pb0.05) higher than those of sea cucumbers fed the basal diet. In addition, phenoloxidase activity of coelomocytes was signi fi cantly (Pb 0.05) enhanced by dietary supplementation of β-glucan. Sea cucumbers fed 1.25 g/kg glucan had a signi fi cant (Pb0.05) increase in respiratory burst of coelomocytes, compared to sea cucumber fed diet containing 2.50 g β-glucan/kg; however, coelomocyte respiratory burst of sea cucumber fed 2.50 g β-glucan/kg diet was not signi fi cantly different from those of sea cucumber fed thebasal diet. The challenge test showed that dietary supplementation of β-glucan at inclusion level of 1.25 g/kg conferred signi fi cant protection to sea cucumber against V. splendidus infection. However, protective effect of β-glucan supplementation at 2.50 g/kg was

marginal. It is concluded that dietary β-glucan has potential for use in diet formulations of sea cucumber to limit the adverse effects of V. splendidus, however, dosage should be an important consideration in administration.
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【题目】刺参免疫系统及其免疫增强剂评价指标的研究进展
【中文关键词】刺参;免疫增强剂;免疫系统;免疫指标
【英文关键词】Apostichopus japonicuss Selenk;immunostimulants;immune system;immune index
【中文摘要】本文对棘皮动物的免疫系统和机制,以及不同免疫增强剂对棘皮动物免疫反应的影响进行了综述。旨在 为今后开发刺参免疫增强剂,评定刺参免疫力,防治其病害提供参考
【英文摘要】In tllis article,immune functions of echinoderms and the effects of different immunostimulants on immune responses of echinoderms were reviewed,which could provide basic information for application of immunostimulants to evaluate immune functions of sea cucumber(Apostichopus japonicus Selenka)and control diseases.
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【题目】4 株对虾肠道益生菌的筛选及鉴定
【中文关键词】益生菌, 筛选, 鉴定, 抑制作用, 安全性实验
【英文关键词】Probiotic bacteria, Screening, Identification, Inhibitory activity, Safety test
【中文摘要】采用体外拮抗试验的方法, 先从不同生长阶段的对虾肠道中分离的96 株细菌中筛选出4 株对病原菌(鳗弧菌、副溶血弧菌、哈维氏弧菌)有拮抗作用的细菌; 进一步通过固体扩散法和液体混合法确定LV060806、LV060808 的产物对鳗弧菌有明显抑制作用, LV060806、LV060815 的产物对副溶血弧菌有明显抑制作用, LV060810、LV060815 的产物对哈维氏弧菌有明显抑制作用。溶血试验证实这些菌株不产生溶血素, 不具有潜在的致病性; 动物安全性实验证实菌株浓度在106 cfu/ml 以下对实验对虾无明显的毒害作用。随后测定了其16S rRNA 基因序列, 分析了相关细菌相应序列的同源性, 构建了系统发生树, 结合菌株表型特征和生理生化特性最终鉴定结果为:LV060806、LV060808 为Vibrio natriegens; LV060810、LV060815 为V. alginolyticus。
【英文摘要】96 bacteria strains were isolated from the intestine of different-aged shrimps. Four stains showingantagonism against three pathogenic indicator vibrios, Vibrio anguillarum, V. harveyi, and V. parahaemolyticus wereselected, and their inhibitory activities were tested. The inhibitory of the stains was tested in solid diffusion assay andliquid blend assay; and showed no pathogenicity to artificially infected shrimp. The 16S rRNA of strains were sequencedand compared with those of relative strains. Strains LV060806, LV060808 were identified as V. natriegens, and LV060810,LV060815 as V. alginolyticus in physiology and biochemistry shown molecular phylogenetic dendrogram.
【语种】中文
【第一作者】李海兵
【通讯作者】宋晓玲
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【题目】大黄对凡纳滨对虾生长和非特异性免疫指标的影响
【中文关键词】凡纳滨对虾;生长;非特异性免疫指标;大黄
【英文关键词】Litopenaeus vannamei; rhubarb; growth; non-specific immune response
【中文摘要】在凡纳滨对虾饲料中分别添加大黄 0、0.5、1.0、5.0、10.0 和 20.0 g/kg,研究大黄对凡纳滨对虾(初始体重为 0.34±0.004 g)生长及非特异性免疫指标的影响。结果表明,大黄对凡纳滨对虾成活率、增重率、特定生长率、饲料系数、蛋白质效率和蛋白质累积率的影响不显著(P > 0.05),对全虾和尾肌肉的灰分、脂肪和粗蛋白含量影响显著,全虾的粗蛋白和粗脂肪含量以 1.0 g/kg 组最高(P < 0.05),对凡纳滨对虾血清碱性磷酸酶、酸性磷酸酶、酚氧化酶、超氧化物歧化酶、溶菌酶以及血清总蛋白量等的影响显著,溶菌酶活性以 1.0 g/kg 组最高(P < 0.05);细菌感染实验中以 1.0 g/kg 组存活率最高(P < 0.05)。以非特异性免疫反应指标及感染实验存活率为指标,凡纳滨对虾饲料中大黄的适宜添加量为 1.0 g/kg。
【英文摘要】An 8-week feeding experiment was conducted to evaluate the effect of rhubarb levels on growth and non-specific immunity in Litopenaeus vannamei (initial body weight 0.34±0.004 g). Six experimental diets containing different rhubarb levels (0, 0.5, 1, 5, 10 and 20 g/kg) were formulated and fed to triplicate groups of juvenile white shrimp. The result indicated that there were no significant difference in the survival, weight gain, specific growth rate, feed conversion ratio, protein efficiency ratio and productive protein value (P > 0.05). Ash, lipid and protein content were significantly affected by the dietary rhubarb levels. AKP, ACP, PO, SOD, LSZ and Serum total protein were different among all the groups (P <0.05). The challenge experiment with Vibro alginolyticus showed that the highest cumulative survival was found in group that fed the diets with 0.1% rhubarb supplementation. These results suggested that the rhubarb significantly influenced the immune response and disease resistance of white shrimp. Based on the data of non-specific immune response and survival rate of infection experiment, the dietary rhubarb supplemented level was recommended to be 0.1% for white shrimp.
【语种】中文
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【题目】美人鱼发光杆菌对凡纳滨对虾非特异性
【中文关键词】凡纳滨对虾 美人鱼发光杆菌 非特异性免疫 抗病力 WSSV
【英文关键词】Litopenaeus vanname;P hotobacterium damselae ; Non-specific immunity ;Resistance to disease ; White Spot Syndrome Virus (WSSV)
【中文摘要】在基础饲料中分别添加 01 1% 和 1%美人鱼发光杆菌灭活菌、01 1% 美人鱼发光杆菌活菌配制成 3 种免疫实验饲料, 以基础饲料为空白对照组饲料, 每组设 3 个平行样。对个体质量为(41 83? 01 36) g 的凡纳滨对虾进行为期 20 d 的饲养实验, 分别在 0、5、10、15 和 20d 进行取样, 以血清中的酚氧化酶(PO) 、酸性磷酸酶(ACP) 、碱性磷酸酶(AKP) 、超氧化物歧化酶(SOD) 和溶菌酶(U L) 活性为免疫指标, 探讨了美人鱼发光杆菌作为免疫制剂对凡纳滨对虾非特异性免疫效应的影响; 在投喂免疫饲料后的第 22 天, 按 01 004 2 kg/ kg 体重的剂量, 直接投喂对虾白斑综合征病毒(WSSV) 病料, 并记录累积死亡率。结果表明, 美人鱼发光杆菌免疫实验组对凡纳滨对虾血清中 PO、ACP、AKP、UL和 SOD 活性影响明显高 于对照组, 并且在 饲料中添 加美人 鱼发光杆 菌后, 明显 提高了 对虾抵 御WSSV 感染的能力。其中 01 1%美人鱼发光杆菌活菌实验组的抗病毒感染能力最强, WSSV 感染 14d 内累计死亡率为 631 3% ? 51 8% ; 而对照组为 961 7% ? 31 3%。研究表明, 美人鱼发光杆菌添加在对虾饲料中能提高凡纳滨对虾非特异性免疫水平, 增强抵抗疾病的能力, 将其作为对虾免疫增强剂具有良好的应用前景。
【英文摘要】Litop enaeus vannamei at (41 83 ? 01 36) g body w eight w ere fed w ith 01 1%heat-killed, 1% heat-killed and 01 1% living P hotobacterium damselae for 21 days respectively.The serum w as collected at 0, 5, 10, 15 and 20 days post-immunization and Phenoloxidase (PO) , acid phosphat ase (ACP) , alkaline phosphat ase (A KP) , superoxide dismutase (SOD)and lysozyme activity (U L) in the serum of L . vannamei w ere determined to evaluat e t he nonspecific immune effect of P . damselae A fter 21

days, the shrimps w ere challeng ed by w hite spot syndrome virus (WSSV) and the mortalities of challenging test w ere recorded. The results showed that most PO, ACP, AKP, UL and SOD in the serum of L. vannamei of the test groups were significantly different (P < 01 05 or P< 01 01) , and the resistance ability of shrimps to WSSV w as also significantly enhanced by the diet supplemented with P. damselae T he group fed w ith 10g hea-t killed P.damselae per 1 kg shrimps exhibited the strongest resistance to WSSV in 14 days and its final cumulative mortality was 631 3% ? 51 8% , while the control w as 961 7% ? 71 3% . The results indicated that P. damselae improved shrimp non-specific immunity and its resistance to WSSV, suggesting that it might be a promising diet supplement in shrimp farming.

【语种】中文
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【题目】Phenotypic, Proteomic, Genomic, ABC-Transporter Permease, Biofilm Formation
【中文关键词】无
【英文关键词】Phenotypic, Proteomic, and Genomic Characterization,
of a Putative ABC-Transporter Permease Involved,
in Listeria monocytogenes Biofilm Formation
【中文摘要】无
【英文摘要】The foodborne pathogen Listeria monocytogenes is able to form biofilms in food processing environments. Previously,we have reported that an lm.G_1771 gene (encoding a putative ABC-transporter permease) was involvedin negative regulation of L. monocytogenes biofilm formation using LM-49, a biofilm-enhanced mutant isolated onTn917 mutagenesis (AEM 2008 p.7675 – 7683). Here, the possible action of this ABC-transporter permease inL. monocytogenes biofilm formation was characterized by phenotypic, proteomic, and genomic analyses usingan lm.G_1771 gene deletant (D1771). The D1771mutant exhibited the same enhanced ability for biofilm formationas the LM-49 strain using a crystal violet staining assay. DNA microarrays and two-dimensional gel electrophoresisrevealed 49 and 11 differentially expressed (twofold or more) genes or proteins in D1771, respectively.The transcriptomics study indicated that lm.G_1771 could play a vital role in regulating candidate genes involvedin biofilm formation such as genes encoding cell surface proteins (Dlt), cell surface anchor proteins (SrtA), andtranscriptional regulators (GntR) contributing to negative reglution of biofilm formation by L. monocytogenes. Themutant D1771 was more sensitive to Triton X-100 and less resistant to cationic antibiotics, which might beexplained by the down-regulation of dlt operon in this deletant and the fact that dlt involves the incorporation ofD-alanine residues into lipoteichoic acids, resulting in a positive net charge on the teichoic acids. Therefore,lm.G_1771 is considered to be involved in negative regulation of biofilm formation, and the results from this workprovide a possible molecular mechanism of biofilm formation regulated by lm.G_1771 in L. monocytogenes.
【语种】英文
【第一作者】Xinna Zhu
【通讯作者】史贤明
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【学科分类】兽医学

【题目】Characterization of biofilm formation by Salmonella enterica Serovar Pullorum strains
【中文关键词】无
【英文关键词】Salmonella enterica Serovar Pullorum, biofilm, curli, virulence
【中文摘要】无

【英文摘要】Salmonella enterica Serovar Pullorum causes acute or persistent infection in chickens, resulting insignificant economic losses. The objective of this study was to evaluate the biofilm-forming ability of S.enterica Serovar Pullorum strains and association with the pathogenicity. A total of 62 S. entericaSerovar Pullorum isolates were measured for biofilm formation by crystal violet staining. Thirty-nine outof 62 strains were found to produce biofilm which were further confirmed by observation under lightmicroscopy, field emission scanning electron microscopy. Analysis of the major components forbiofilm formation showed that bacterial colonies were smooth phenotype and the architecture of biofilmwas composed of exopolysaccharides and curli other than cellulose. In addition, animal experimentswere performed to determine the 50% lethal doses (LD50) of four S. enterica Serovar Pullorum isolateswith or without biofilm-producing ability. Although the virulence of S. enterica Serovar Pullorum strainswas independent of the ability of biofilm formation, prior growth as a biofilm for a biofilm producer of S.enterica Serovar Pullorum lead to enhanced virulence in chickens. The results suggested that biofilmmay be one of the important virulence factors for S. enterica Serovar Pullorum infection.
【语种】英文
【第一作者】卢艳
【通讯作者】彭大新
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【学科分类】兽医学

【题目】基于多传感器融合的鸡蛋裂纹系统性识别
【中文关键词】鸡蛋 裂纹 支持向量机 判别模型 多传感器融合
【英文关键词】Egg Crack, Support vector machine, Discriminate model, Multi-sensor fusion
【中文摘要】通过图像分析、敲击振动和电子鼻3种传感器分别输出与鸡蛋外部常规裂纹、外部细小裂纹和内部裂纹有关的无损检测参数并进行实验,设计一组针对鸡蛋裂纹程度的支持向量机判据。用该判据并结合实验数据构建一对多的支持向量数为4的鸡蛋裂纹判别模型。模型性能参数(模型拟合度为0.9735,收敛误差在0.0001以内)和验证性实验(对确定的5种裂纹状态判别准确率均可达90%)表明该模型具有可信的结构和较好的判别能力。
【英文摘要】The egg crack detection is one of the most important parts in the non-destructive detection of egg.The non-destructive testing parameters related the eggs external conventional cracks, the externalminimal cracks and internal cracks were extracted through image analysis, impact excitation frequency analysis and electronic nose pattern recognition respectively. A non-destructive testing criterion was designed according to the eggs cracks based on experimental research. The criterion was used to build the-one-to-many support vector discriminated model in eggs crack combined with experiment data. Performance parameters of the model (the model fitting degree was 0.9735, the convergence error was less than 0.0001) and the confirmatory test (the discriminated accuracy in the five cracks status was more than 90%) indicates that the model has credible structure and good discriminated ability.
【语种】中文
【第一作者】刘鹏
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【学科分类】食品加工技术

【题目】基于DGPS导航的田间数据采集机器人的设计
【中文关键词】农业机器人; 导航控制系统; 田间数据采集; CAN多线程;
【英文关键词】Agricultral Robot; Navigation; Control system; In-field information sampling; CAN; Multiple threads;
【中文摘要】将计算机、传感器、GPS和数据通讯等技术集成和融合,开发了一种基于DGPS定位传感器的农业机器人导航控制系统。论述了农业机器人的软硬件设计和DGPS导航的工作原理,提出了一种利用航向跟踪实现导航目标点逼近的控制方法。
【英文摘要】A navigation control system of agricultural robot based on DGPS is developed,which is integrated with computer technology,sensor technology,GPS technology and communication technology.Design of hardware and software and basic theory

based on DGPS navigation are introduced.A target approaching control algorithm,which follows travel course to approach target point,is presented.
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【第一作者】安秋
【通讯作者】姬长英
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【学科分类】农业工程

【题目】基于CAN总线的农业移动机器人分布式控制网络
【中文关键词】农业机器人; CAN总线; 分布式控制;
【英文关键词】Agricultural robot; CAN bus; Distributed control;
【中文摘要】在全向移动式农业机器人上引入基于CAN总线的分布式控制网络。阐述了机器人平台的CAN总线通讯网络的组成,下位机节点控制器的硬件和软件设计以及上下位机间通信协议的制定。通过信息的发送、接收测试表明,CAN总线通讯网络可用于农业机器人的分布式控制,可提高整个机器人系统的开放性和实时性。
【英文摘要】CAN bus makes control system of agricultural machine networked,intelligent,and distributed because of its high data transmission rate,reliability and expandability.Distributed control network for CAN-based autonomous agricultural robot was designed.The objective was to present 4WD/4WS robot system structure and hardware structure and software design of CAN network in detail,and to prove it to be feasible that a controller area network(CAN bus)as the basis of an autonomous agricultural robot by the test of sending and receiving messages.Tests showed that CAN bus network could increase open and real-time of the robot system.
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【第一作者】安秋
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【题目】基于光照无关图的农业机器人视觉导航算法
【中文关键词】机器视觉; 农业机械; 自动导航; 光照无关图;
【英文关键词】computer vision; agricultural machinery; automatic guidance; illumination invariant image;
【中文摘要】完成沿作物行的行走作业是农业机器人视觉导航系统的一个基础功能,但是由于田间环境的复杂性,比如阴影的存在和天气的恶劣变化等外界因素的影响使导航参数的提取变得困难。该研究针对农业机器人视觉导航中存在的阴影干扰问题,采用基于光照无关图的方法去除导航图像中的阴影,然后采用增强的最大类间方差法进行图像分割和优化的Hough变换提取作物行中心线,最终通过坐标转换获得导航参数。最后,通过作物行跟踪试验表明,基于光照无关图的阴影去除方法不仅满足了导航实时性的要求,而且使农业机器人在光照变化的情况下导航参数提取的鲁棒性有了更大的提高。
【英文摘要】Operation along crop row is a basic function of vision navigation for agricultural robot.The complex external factors of working environment in the field,such as existed shadow and weather change etc.,make the navigation parameters extracting become more difficult.Aiming at shadow influence problem in vision navigation process of agricultural robot,illumination invariant image based on shadow removal algorithm was introduced.An enhanced OSTU image segmentation method was used,and an optimized Hough transformation algorithm was used to extract crop line, and coordinate transform was applied to obtain navigation parameters.Finally,tests of following crop row showed that shadow removal method based on illumination invariant image satisfied real-time requirement of system and improved the robustness of extracting navigation parameters under variable daylight illuminants.
【语种】中文
【第一作者】安秋
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【题目】农用轮式移动机器人系统仿真研究
【中文关键词】农用轮式移动机器人; 机械系统仿真; 智能控制仿真;
【英文关键词】Agricultural wheeled mobile robot; Mechanical system simulation; Intelligent controller simulation;
【中文摘要】农用轮式移动机器人是一个复杂的机电一体化系统,在移动机器人的设计过程中,如果缺乏设计经验就需要通过系统仿真的方法来辅助移动机器人的设计。本文针对移动机器人的机械子系统和智能控制系统进行了仿真研究,减少了设计过程中的失误,缩短了设计和开发的周期。
【英文摘要】The agricultural wheeled mobile robot is a complex integration of mechanics and electrics system.In the course of design,the method of system emulation is need to assistant the design if the experience is poor.The simulation of the mechanical subsystem and the intelligent control system has been researched in the text.The result indicates that the simulation can reduce the error in the course of design,and shorten the cycle of designing and development.
【语种】中文
【第一作者】王友权
【通讯作者】姬长英
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【学科分类】农业工程

【题目】农用轮式机器人间接型专家控制系统研究
【中文关键词】农用机器人;自动导航;路径跟踪;间接型专家控制;
【英文关键词】Agricultural robot; Automatic guidance; Path tracking; Indirect expert control
【中文摘要】为了适应农用机器人的工作环境复杂多变,研究了一种用于自动导航路径跟踪控制的间接型专家控制算法,根据不同的控制策略、转向方式建立了专家控制的控制算法库,对农用机器人路径跟踪和转向进行控制。针对农用机器人沿作物行行走建立了精确的数学模型,同时采用相适应的转向方式并依最优控制律对农用机器人进行控制;针对田间地头转向时转角较大、对转向灵活性要求较高,采用四轮转向方式设计了模糊控制算法。专家控制器根据具体的路径状况,调用不同的控制算法。通过仿真验证,该专家控制算法能满足农用机器人导航时的路径跟踪控制的精度要求。
【英文摘要】According to the different working environment,an indirect expert control algorithm for the path tracking control of the automatic guidance was designed.Based on the control strategy and steering model,the control algorithm library was designed to track the path and control the steering of the agricultural robot.The exact mathematical model was set up with the path along which the agricultural robot worked in the field,and the agricultural robot was controlled by the corresponding steering model and the optimal control laws.The fuzzy control algorithm was designed due to the larger shift angle at the end of the field and the higher requirement for the agility.The expert controller adopted different control algorithms according to the actual working path.Through the simulation,it was verified that the expert control system could satisfy the precision of the path tracking control when the agricultural robot was guided.
【语种】中文
【第一作者】王友权
【通讯作者】姬长英
【期刊名称、卷期、页码】江西农业学报,2008,20(7): 87-90
【论文发表时间】2008-07-01 00:00:00
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【引文索引号】1001-8581(2008) 07-0087-04
【学科分类】农业工程

【题目】基于自主导航和全方位转向的农用机器人设计
【中文关键词】农业机器人; 全方位转向; CAN总线; 路径跟踪控制;
【英文关键词】agricultural mobile robot; omni-directional steering; CAN-BUS; path tracking control;
【中文摘要】为了提高农业作业的自动化程度,在对传感器技术、信息技术、自动导航技术等进行研究的基础上,设计了一种自动导航农用轮式移动机器人。针对目前农业机器人存在的操纵、路径跟踪等技术问题,机器人采用四轮全方位转向,操纵灵活;利用CAN总线使导航、控制等模块的通讯效率得以改善;选用模糊控制模仿人在路径跟踪控制时的控制策略,提高了移动机器人的智能化程度。仿真和试验表明机器人有较好的转向性能且在速度为1m/s时跟踪路径的偏差为0.1m左右。
【英文摘要】For raising automation level of farm operation, an agricultural wheeled-mobile robot was designed on the basis of the research on the intelligent sensor, information and automatic navigation. Aiming at some of the current problems on handle and path tracking, the omni-directional steering was adopted, which made the robot agility on steering. The efficiency of communication on modules such as navigation and control has been improved highly by the application of CAN-BUS. The intelligence of the mobile robot has been improved through the use of the fuzzy controller which was designed by imitating the human ’s control strategy. The simulation and experiment indicate that the robot ’s steering performance is property and the path tracking error is 0.1 m when the velocity is 1 m/s.
【语种】中文
【第一作者】王友权
【通讯作者】姬长英
【期刊名称、卷期、页码】农业工程学报,2008,24(7):110-113
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【引文索引类型】EI
【引文索引号】2.0083611519e+013
【学科分类】农业工程

【题目】农用轮式移动机器人灰色预测控制
【中文关键词】轮式移动机器人; 灰色预测; 最优控制;
【英文关键词】null
【中文摘要】提出了一种对机器视觉导航的轮式移动机器人进行横向控制的灰色预测控制算法,根据从传感器处获得的偏差建立灰色预测模型,以预测的偏差代替严重滞后的机器视觉采样偏差,并设计了系统最优控制器。仿真结果表明,该算法有效地克服了因非结构化农田自然环境视觉识别延迟过长所引起的控制系统性能下降的问题,改善了控制效果和自适应能力。
【英文摘要】null
【语种】中文
【第一作者】王友权
【通讯作者】姬长英
【期刊名称、卷期、页码】农业机械学报, 2008, 39(12):213-215
【论文发表时间】2008-12-01 00:00:00
【引文索引类型】其他
【引文索引号】10.3969/j.issn.1000-1298.2008.39.12
【学科分类】农业工程

【题目】Large-scale conditional random field for natural outdoor scene labeling
【中文关键词】null
【英文关键词】image understanding; conditional random fields; computer vision; image labeling; Markov random fields.
【中文摘要】null
【英文摘要】We propose a novel large-scale conditional random field model with respect to the problem of natural outdoor scene labeling. The novelty of the proposed method lies in three aspects: 1. features from two neighboring regions are concatenated to form the input of the pairwise classifier to compensate for the simultaneous feature deviation of neighboring regions; 2. the definition of a generalized neighboring system and the incorporation of direction-specific patterns in conditional random field models based on the

generalized neighboring system to better simulate the visual cognition of human being; and 3. the definition of a similarity criterion based on the bags-of-words expression to facilitate the incorporation of semantic patterns. The proposed model is first evaluated over the Corel dataset. Both qualitative and quantitative results show that our model is capable of modeling large-scale spatial relationships between objects in natural outdoor scenes, and achieves better results than other existing conditional random field models. Furthermore, our model is also evaluated over several other natural datasets, which are taken from logged field tests, to further demonstrate the adaptability of our model to different lighting conditions.

【语种】英文
【第一作者】王明军
【通讯作者】王明军
【期刊名称、卷期、页码】Optical Engineering, 2009, 48(10),107205-1-107205-10
【论文发表时间】2009-10-01 00:00:00
【引文索引类型】EI
【引文索引号】2.0114714538e+013
【学科分类】农业工程

【题目】Learning long-range terrain perception for autonomous mobile robots
【中文关键词】null
【英文关键词】autonomous navigation, stereo vision, machine learning, conditional random fields
【中文摘要】null
【英文摘要】Long-range terrain perception has a high value in performing efficient autonomous navigation and risky intervention tasks for field robots, such as earlier recognition of hazards, better path planning, and higher speeds. However, Stereo-based navigation systems can only perceive near-field terrain due to the nearsightedness of stereo vision. Many near-to-far learning methods, based on regions' appearance features, are proposed to predict the far-field terrain. We proposed a statistical prediction framework to enhance long-range terrain perception for autonomous mobile robots. The main difference between our solution and other existing methods is that our framework not only includes appearance features as its prediction basis, but also incorporates spatial relationships between terrain regions in a principled way. The experiment results show that our framework outperforms other existing approaches in terms of accuracy, robustness and adaptability to dynamic unstructured outdoor environments.

【语种】英文
【第一作者】王明军
【通讯作者】王明军
【期刊名称、卷期、页码】International Journal of Advanced Robotic Systems, 2010, 7(1):55-66
【论文发表时间】2010-03-01 00:00:00
【引文索引类型】EI
【引文索引号】2.0104213295e+013
【学科分类】农业工程

【题目】基于条件随机场的大范围地形感知框架
【中文关键词】移动机器人; 视觉导航; 条件随机场;
【英文关键词】mobile robot; vision navigation; conditional random field;
【中文摘要】基于条件随机场,提出一种由近及远的在线、自适应大范围场景地形感知框架.首先,把当前场景图片划分为超像素,将近视场超像素的特征向量和地形类别作为学习样本整合到地形数据库中;然后,利用条件随机场和地形数据库对远视场超像素的特征信息和空间关系进行建模;最后,利用在线学得的模型参数对远视场超像素所属地形类别进行推理.分类实验结果表明,该方法相对已有的其他方法在分类的精度、鲁棒性以及对动态环境的自适应能力三方面均有极大提高.
【英文摘要】Based on conditional random fields(CRFs),an online,adaptive,and near-to-far long-range terrain perception approach is proposed.First,the current image is segmented into superpixels,and feature vectors and terrain categories of near-field superpixels are incorporated into terrain database as learning samples.Second,superpixel features and spatial relationships between far-field superpixels are modeled by using conditional random fields and terrain database.Finally,terrain categories of far-field superpixels are inferred based on the on-line learned model parameters.Experimental results show that the proposed approach outperforms other existing methods in terms of accuracy,robustness and adaptability to dynamic environments.

【语种】中文
【第一作者】王明军
【通讯作者】王明军
【期刊名称、卷期、页码】机器人,2010,32(3):326-333
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【引文索引类型】EI
【引文索引号】2.010251303e+013
【学科分类】农业工程

【题目】农业机械导航中的GPS定位误差分析与建模
【中文关键词】农业机械; 全球定位系统; 导航; 定位误差; AR模型;
【英文关键词】Agricultural machinery; GPS; Navigation; Positioning error; AR model;
【中文摘要】为实现高精度的农业机械导航,分析了GPS定位误差及其相关性,运用时间序列分析方法建立GPS静态和动态定位误差的AR模型,给出了导航过程中的定位误差处理方法,并在自制的农田智能移动平台上进行了实验。结果表明,处理后的GPS定位误差信号的相关性明显下降,接近于白噪声,定位误差均值从0.1951 m下降为-0.0022 m。
【英文摘要】The GPS positioning error and its correlation were analyzed,and then corresponding static and dynamic error were described as AR model by using time series methods.Finally,the process for dealing with the positioning error in navigation was presented,and the experiment was carried out with self-made agricultural robot.The experimental results showed that the proposed approach improves the positioning precision of GPS,and the correlation within the positioning error is decreased,similar to white noise. The average value of positioning error is reduced to-0.002 2 m from 0.195 1 m.So it can be applied to achieve high precision navigation of agricultural machinery.
【语种】中文
【第一作者】周俊
【通讯作者】周俊
【期刊名称、卷期、页码】农业机械学报, 2010,41(04):189-193
【论文发表时间】2010-04-01 00:00:00
【引文索引类型】EI
【引文索引号】2.0102212967e+013
【学科分类】农业工程

【题目】基于立体视觉的水果采摘机器人系统设计
【中文关键词】采摘机器人; 立体视觉; 手眼标定; 识别;
【英文关键词】Fruit harvesting robot; Stereo vision; Hand-eye calibration; Recognition;
【中文摘要】基于立体视觉建立了水果采摘机器人系统。在图像空间利用Hough变换检测出果实目标,并利用随机采样目标上均匀分布多个点的三维坐标信息重建果实球模型,进而获得目标质心的空间位置坐标;通过最小二乘法研究了采摘机器人手眼标定;分析了采摘机器人的轨迹规划。实验结果表明,设计的自动采摘系统可以有效地消除遮挡以及立体视觉匹配失效等因素的影响,目标定位误差小于8 mm,显著地提高了抓取的精度和可靠性。
【英文摘要】The automatic picking system of fruit harvesting robot was designed based on stereo vision.Firstly,the fruit objects were recognized in image space by using the Hough transform.Some pixels of each object obeying the uniform distribution in the image space were sampled randomly.Then the sphere model of fruit was constructed in 3-D space with these pixels,and the coordinates of the center of each fruit object were obtained directly.Secondly,hand-eye calibration was carried out through the least square method.Finally,the path planning of the harvesting robot was analyzed simply.Experimental results showed that the effects of the partial occlusion and invalidation of stereo matching in the presence of complex scene on the automatic picking system was weakened,and the positioning accuracy of the fruit object was less than 8mm.Therefore the reliability and precision of fruit gripping were improved significantly.
【语种】中文
【第一作者】周俊
【通讯作者】周俊
【期刊名称、卷期、页码】农业机械学报, 2010,41(06):158-162

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【引文索引类型】EI
【引文索引号】2.0102713063e+013
【学科分类】农业工程

【题目】基于粒子滤波的苹果采摘机器人目标姿态估算
【中文关键词】苹果; 采摘; 农业机器人; 姿态估计; 粒子滤波;
【英文关键词】Apple; Harvesting; Agricultural robot; Attitude estimation; Particle filter;
【中文摘要】针对苹果采摘机器人中果实姿态信息缺失造成果实损伤及采摘失败等问题,根据苹果尾部花萼遗迹区域是否可见分析了果实姿态信息机器视觉测量方法,研究了果实姿态信息的粒子滤波估计。将单目摄像机固定在机器人末端手爪上,在手爪趋近果实的采摘过程中,随机采集多帧果实图像。对每帧图像运用惯性主轴或重心点偏移两种方法计算果实在机器人坐标系下的姿态向量值,并通过粒子滤波融合来得到果实姿态信息的最优估计。实验结果表明,粒子滤波方法可以有效地融合多帧图像的苹果姿态信息,能够减小因依靠单帧图像直接测量而产生的误差。
【英文摘要】In view of harvesting damages and failures caused by the absence of attitude information in the current apple harvesting robot,the method of measuring apple attitude was put forward with the machine vision,and the optimal estimation of apple attitude was carried out based on the particle filter in real time.A camera was fixed on the robotic gripper,in the process of picking the camera vision field was controlled to cover the expected fruit target,and a series of apple images were sampled randomly.The algorithms of the inertial axis and the center offset were applied to calculate the apple attitude at the robotic coordinate according to the each apple image.Finally,the attitude data extracted from many apple images was fused with the particle filter,and the optimal estimation of the apple attitude was obtained.The experimental results showed that the multiple information of apple attitude was fused successfully,and the measurement error of apple attitude was decreased effectively.
【语种】中文
【第一作者】周俊
【通讯作者】周俊
【期刊名称、卷期、页码】农业机械学报, 2011,43(3):161-165
【论文发表时间】2011-03-01 00:00:00
【引文索引类型】EI
【引文索引号】2.0111913966e+013
【学科分类】农业工程

【题目】基于灰色预测的农业机器人GPS导航系统硬故障隔离
【中文关键词】农业机器人;全球定位系统;故障隔离;卡方检验;灰色预测;
【英文关键词】Agricultural robot,GPS,Fault isolation,Ch-isquare test,Gray prediction
【中文摘要】采用卡方检验和灰色预测相结合的算法,综合利用卡尔曼滤波数据和GPS历史有效定位数据,在不增加额外传感器信息条件下,对农业机器人导航中常见的GPS定位数据突变故障进行了检测和隔离。实验结果表明,这类故障被有效隔离后,不会影响导航系统的正常工作。GPS定位数据的灰色预测残差小于10 cm,当虚警率仅为0.05时仍可降低卡方故障检验的漏检率。
【英文摘要】By combining the chi-square test and gray prediction,an algorithm of hard fault detection and isolation was introduced for the navigation of agricultural robot.The Kalman filtered data and historical valid GPS data were applied to detect and isolate positioning fault caused by the GPS failure,and none of other sensors were applied.With the prototype of the agricultural wheeled mobile robot,the experimental results showed that the GPS positioning fault was isolated effectively and had no any effects on the robot navigation.The error of gray prediction of GPS positioning data were less than 10cm,and the missing rate of fault detection was reduced further when the false alarm rate of the chi-square test method was only 0.05.
【语种】中文
【第一作者】周俊
【通讯作者】周俊
【期刊名称、卷期、页码】农业机械学报, 2010,41(12):165-168
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【引文索引类型】EI

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【学科分类】农业工程

【题目】基于卡尔曼滤波的RBF神经网络和PD复合控制研究
【中文关键词】随机噪声; 卡尔曼滤波; RBF神经网络; PD控制;
【英文关键词】random noise; Kalman filter; RBF neural network; PD control;
【中文摘要】针对工业机器人控制系统在实际工作中不可避免地要受到随机噪声的影响,提出了基于卡尔曼滤波的RBF神经网络与PD复合控制器设计,该控制器由PD反馈、RBF神经网络前馈控制器和卡尔曼滤波器三部分构成;基于卡尔曼滤波的PD和RBF神经网络复合控制具有优良的控制性能和动态品质,能快速跟踪设定的参考信号,而且无大的超调和振荡出现,只需较少的控制能量,明显抑制白噪声的污染,提高系统自适应性和鲁棒性;仿真结果表明了其有效性。
【英文摘要】Industrial robot control system was influenced inevitably by random noise during its running.A RBF neural network and PD combined controller was proposed based on the Kalman filter,the controller was composed of RBF neural network feed forward,PD feedback and Kalman filter.The control property and dynamic performance of RBF neural network and PD composite control have been greatly improved based on Kalman filter.It can fast track the fixed value without overshoots and oscillations based on less control energy,and the white noise was suppressed,thus its adaptability and robustness can be enhanced.The simulation results show the efficiency of the combined controller.
【语种】中文
【第一作者】王学林
【通讯作者】姬长英
【期刊名称、卷期、页码】计算机测量与控制, 2009,17(8):1551-1553
【论文发表时间】2009-02-01 00:00:00
【引文索引类型】其他
【引文索引号】1671-4598(2009)08-1551-03
【学科分类】农业工程

【题目】基于力矩外环的软物体抓取控制
【中文关键词】抓取; 控制; 灰色力矩预测; 机械手; 软物体;
【英文关键词】grasping; control; grey torque prediction; manipulator; soft objects;
【中文摘要】为减少机械手抓取软物体造成的损害,提出基于关节力矩预测的力矩外环在线抓取控制方案。该方案通过建立灰色预测模型直接预测关节力矩的变化代替预测软物体刚度的变化;并能同时控制机械手抓取过程中关节力矩偏差和角速度关系。在实际关节力矩和灰色预测力矩之间采用线性插值,按采样周期将预测力矩逐渐加到力矩回路中。仿真表明,当抓取具有刚度变化的软物体时,基于关节力矩预测的力矩外环软物体抓取控制系统对机械手和软物体之间的动态接触过程具有一定的自适应性,可以快速跟踪设定值,而且无大的超调和振荡出现,使控制性能和动态品质得到较大改善,具有较强的鲁棒性,是适合软物体抓取的一种控制方法。
【英文摘要】To decrease the damage of grasping soft objects,an online joint torque predictive grasping control scheme is proposed based on external torque control loops.Grey prediction model is established to predict joint torque variation instead of stiffness of soft objects directly.The relations between joint torque deviation and angular velocity of manipulator are controlled.The predicted joint torque is gradually added to torque loops according to sampling period based on linear interpolation between the current torque and predictive one.Simulation results show that,when the stiffness of soft objects is variable,it makes grasping control system adaptive to the dynamic contact process between manipulator and soft objects,and can fast track fixed value without overshoots and oscillations.The control property and dynamic performance are greatly improved,so it is a good control method in grasping soft objects with strong robustness.
【语种】中文
【第一作者】王学林
【通讯作者】姬长英
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【引文索引类型】其他
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【学科分类】农业工程

【题目】基于灰色预测控制的果蔬抓取系统设计与试验
【中文关键词】机器人; 力控制; 算法; 抓持; 灰色预测;
【英文关键词】robots; force control; algorithms; grasping; grey prediction;
【中文摘要】为使末端执行器和变形果蔬间的抓持力快速低超调地跟踪设定力,提出基于灰色预测的增量式比例积分(PI)力控制算法。该算法通过采集果蔬受到的抓持力建立灰色预测模型,当预测模型精度较高或较低时,相应地加大或减小预测力偏差在综合力偏差中的权值,使力控制器可以利用过去、当前和未来的果蔬抓持力信息来计算合适的控制校正量对抓持力偏差进行预补偿,可以使控制器获得超调量小和响应快速的特点,对末端执行器和果蔬之间的动态抓持过程具有适应性。果蔬抓持试验证明了灰色预测PI力控制算法的有效性,可减小果蔬抓持损伤。 更多还原
【英文摘要】Incremental PI(proportional integral) force control algorithm was proposed based on grey prediction for making grasp force track set value quickly with small overshoot between end-effector and deformable fruit and vegetable. Grey prediction model was built by the signal of grasp force acquired from the sensor,the weights of predictive force error were increased or decreased in integrated error accordingly to the precision of predictive model. Force controller could employ the past,present and future grasp force information to calculate an appropriate control correction to pre-compensate the force error,and could yield small overshot,fast response simultaneously,so make the controller adaptive to the dynamic grasp process between fruit and end-effector. Experimental results demonstrated the efficacy of grey predictive incremental PI algorithm,which the damage of grasping fruit and vegetable could be decreased.
【语种】中文
【第一作者】王学林
【通讯作者】姬长英
【期刊名称、卷期、页码】农业工程学报,2010,26(3):112-117.
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【学科分类】农业工程

【题目】基于改进Hough变换的类圆果实目标检测
【中文关键词】目标识别; 算法; 研究; 类圆形; 方向编码; 边缘特征点;
【英文关键词】object recognition; algorithms; research; quasi-circular; direction coding; edge character point;
【中文摘要】为了能够快速准确地计算出类圆果实的形心坐标和半径,提出了一种基于改进圆形随机Hough变换的快速类圆果实目标检测方法。在以2R-G色差分量实现背景分离后,采用模板匹配细化算法获取单像素果实轮廓,并按步长获取果实的边缘特征点;然后,根据边缘特征点的平均切线方向对特征点进行分组,并以此为依据对圆形RHT算法进行改进;最后利用改进后的圆形RHT算法计算出类圆果实的形心坐标和半径。该方法能够快速准确地对类圆果实进行检测,对部分被遮挡的类圆果实识别效果较好。
【英文摘要】In order to calculate accurate centric coordinates and radius of quasi-circular fruit rapidly,a kind of detection method for quasi-circular fruits based on improved randomized circular Hough transform was proposed.After the object was segmented from background with 2R-G,the template matching thinning algorithm was used to extract one-pixel fruit contour,from which the edge character points were abstracted.Then the edge character points were grouped according to their average tangent directions,with which the circular RHT algorithm was improved.Last,the centric coordinates and radius of quasi-circular fruits were calculated with the optimized circular RHT algorithm.The proposed method can detect the quasi-circular fruits rapidly and accurately,and can also recover the shape of part-covered fruit satisfactorily.
【语种】中文
【第一作者】谢忠红
【通讯作者】姬长英
【期刊名称、卷期、页码】农业工程学报,2010,26(7):157-162
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【引文索引类型】EI
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【学科分类】农业工程

【题目】基于计算机视觉的苹果生长姿态估算多方法融合
【中文关键词】苹果; 生长姿态; 计算机视觉; 估算; 多方法融合;
【英文关键词】Apple; Growth attitude; Computer vision; Estimation; Fusion of several methods;
【中文摘要】为了避免机械手在采摘过程中因缺少苹果生长姿态信息造成对苹果和枝干的损伤,提出了一种苹果生长姿态估算方法。利用纹理和颜色特征两步法实现背景分离后,采用链码跟踪法获得轮廓;阐述了二阶中心矩法、最短距离法、斜率方差法和三点一线法4种苹果姿态识别方法,并比较了4种方法的识别率。为了提高姿态的识别率,综合4种方法进行决策融合,识别苹果姿态。研究结果表明,基于4种方法的融合决策识别苹果的正确率高于单独使用任何一种方法,正确率达到了90%。
【英文摘要】In order to avoid damaging apples and branches caused by manipulator during the picking operation,for the absence of attitude information,an apple ’s attitude estimation method was put forward.After the apple object was segmented from background with the two-step algorithm based on the characters of color and texture,the freeman chain code algorithm was used to extract one-pixel fruit contour.Then least distance method,least slope variance method and three collinear points ’ method were given,and the recognition rates of three methods were compared.At last,for the purpose of improving recognition rate,decision method based on fusion of four methods was proposed.The research results showed that the recognition rates by using four methods were higher than using any one of methods separately,and the right recognition rate could reach to 90%.
【语种】中文
【第一作者】谢忠红
【通讯作者】姬长英
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【学科分类】农业工程

【题目】基于凹点搜索的重叠果实定位检测算法研究
【中文关键词】重叠果实; N点方向编码差; 边缘特征点; 凹点; Hough变换;
【英文关键词】Overlapped fruits; Direction coding difference of N points; Edge character point; Group of concave spots; Hough transform;
【中文摘要】为了能够快速准确地计算出生长状态为靠拢或重叠的成熟类圆果实的形心坐标和半径,提出了一种基于凹点搜索的快速定位和检测重叠果实目标的方法。利用色调分量的统计规律实现背景分离,采用链码跟踪法获得单像素果实轮廓,并按步长获取边缘特征点;然后利用N点方向编码差获取边缘凹点,确定凹点群,根据阈值确定分割凹点;最后利用改进的Hough变换计算出多个重叠桃子的形心坐标和半径。研究结果表明,本文算法速度快,果实正确识别率最高可达90.0%,形心和半径误差均小于7%。
【英文摘要】In order to calculate centric coordinates and radius of quasi-circular ripe fruits whose growing state was approached or overlapped,a kind of fast location and detection method for fruits object based on concave spots searching was proposed.After the object was segmented from background with hue according to statistical law,the freeman chain code algorithm was used to extract one-pixel fruit contour,from which the edge character points were abstracted.Then the edge concave spots which were found by direction coding difference of N points were divided into several concave spot groups,and the segmentation concave spots were located by the threshold.At last,the centric coordinates and radius of several overlapped peaches were calculated based on optimized circular Hough transform.The research results showed that the proposed method had rapid speed,the highest obtainable right recognition rate was 90.0%,and the error rate of centric points and radius was below 7%.
【语种】中文
【第一作者】谢忠红
【通讯作者】姬长英
【期刊名称、卷期、页码】农业机械学报, 2011,42(12):191-196
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【学科分类】农业工程

【题目】基于梯度相位编组的树枝识别新算法
【中文关键词】相位编组; 改进的Sobel算子; 梯度相位直方图; 平方梯度; 两点Hough变换;
【英文关键词】Phase grouping; Improved sobel operator; Histogram of gradient ’s phrases; Squared gradient; Two points hough transform;
【中文摘要】为了能够快速准确地计算出果树枝干的空间位置,提出了一种基于梯度相位编组的Hough变换树枝检测新算法。利用改进的平方梯度法计算边缘点的梯度相位角,找出梯度相位直方图中多个阈值大于T的峰值。然后将具有相近梯度相位角的边缘点归为一组。最后对每组中的边缘点采用改进的两点表决Hough变换算法找出对应的直线参数。利用梯度相位角进一步验证参数的正确性。研究结果表明,提出的梯度相位编组直线检测方法具有速度快、检测误差小和鲁棒性强的特点,能够快速准确地实现果树树枝的定位和检测,对部分被遮挡的树枝的识别效果也较好。
【英文摘要】A new method of Hough transform based on gradients phase grouping for branches detection was proposed to locate the position of branches of fruit trees accurately and rapidly.After the gradient phase of edge points was calculated by using the squared gradient method,the histogram of gradients ’s direction was calculated.From the histogram,several peak values were found by threshold T.Then edge points were grouped according to their gradent phases,and points in each group almost had the same gradient ’s direction.At last,an improved two-points Hough transform was applied to edge points in each group to calculate the parameters of lines,and the gradent ’s direction of every group was used to affirm the correctness of the parameters.The research results show that the proposed method has the merits of high speed,low error and strong robustness,can locate the branches of fruit trees accurately and fastly,and also can detect part-covered branches satisfactorily. 更多
【语种】中文
【第一作者】谢忠红
【通讯作者】姬长英
【期刊名称、卷期、页码】计算机科学, 2012,39(5):254-257
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【引文索引号】1002-137X(2012)05-0254-04
【学科分类】农业工程

【题目】智能移动水果采摘机器人设计与试验
【中文关键词】水果; 采摘机器人; 末端执行器; 机器视觉; 移动平台;
【英文关键词】Fruit; Picking robot; End-effector; Machine vision; Mobile platform;
【中文摘要】设计了一种智能移动水果采摘机器人,该机器人主要由智能移动平台、采摘机械臂、末端执行器、横向滑移机构和控制系统组成。用VC++语言编写了系统控制程序,开发了人机交互界面。样机在江苏省丰县果园进行了综合试验,结果表明:该机器人能够完成自主导航、自主采摘及自主装箱作业,移动平台、采摘机械臂及末端执行器能够实现智能协调控制。整个系统工作性能稳定,成熟果实的识别正确率为81.73%,采摘成功率为86.92%,单个苹果采摘平均耗时9.50 s。
【英文摘要】A prototype for intelligent fruit picking operation was developed.It mainly consisted of intelligent mobile platform,picking arm,end-effector,transverse sliding institution and control systems.The system control program and human-machine interface were programmed with VC++.The comprehensive experiments of the prototype were carried out in the orchard of Feng county in Jiangsu province.Results revealed that this robot could achieve autonomous navigation,independent picking and autonomous binning operation.The mobile platform,picking arm and end-effector can work coordinately,so the whole system performed very well.The correct rate of ripe fruit recognition and success rate of picking reached to 81.73% and 86.92%,respectively,whereas averagely 9.50 s were required for picking a single apple.
【语种】中文
【第一作者】顾宝兴
【通讯作者】姬长英
【期刊名称、卷期、页码】农业机械学报, 2012,43(6):153-160
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【学科分类】农业工程

【题目】农用开放式智能移动平台研制
【中文关键词】智能移动平台; 导航; 双目立体视觉;
【英文关键词】Intelligent mobile platform; Navigation; Binocular stereo vision;
【中文摘要】研制了一种作为农田智能化作业前提和基础的农用履带式智能移动平台。该平台主要包括机械系统和控制系统。移动平台能够实现田间自主导航,且具有一定的开放性,可满足农田多种智能化作业的要求。用VC++6.0编写了自主导航控制程序,开发了人机交互界面。样机在江苏省丰县果园进行了导航实验。结果表明:在组合导航模式下,该智能移动平台自主导航性能稳定,直线路径最大跟踪误差为0.05 m,曲线路径最大跟踪误差为0.11 m。
【英文摘要】The agricultural intelligent mobile platform is the premise and basis of farmland intelligent operation,so a prototype of agricultural intelligent operation was developed.It was consisted of mechanical system and control system.The mobile platform can navigate autonomously.It showed a certain openness which could meet various requirement of farmland intelligent operations.The autonomous navigation program and human-machine interface were programmed with VC++6.0.The field navigation tests of the prototype were carried out in the orchard of Feng county in Jiangsu province.Results revealed that this platform performed well in the integrated navigation mode and the error was 0.05 m during straight path movement,whereas in curved path the error increased to 0.11 m.
【语种】中文
【第一作者】顾宝兴
【通讯作者】姬长英
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【学科分类】农业工程

【题目】基于机器视觉和支持向量机的温室黄瓜识别
【中文关键词】黄瓜; 机器视觉; 最小二乘支持向量机; 形态学; 几何特征; 纹理特征;
【英文关键词】Cucumber; Machine vision; Least squares support vector machine; Morphology; Geometric feature; Texture feature;
【中文摘要】针对复杂温室环境中的成熟黄瓜,采用脉冲耦合神经网络分割黄瓜图像,利用数学形态学方法处理,把黄瓜从图像背景中分离出来;提取各连通区域的4个几何特征值和灰度共生矩阵基础上的3个纹理特征值,作为最小二乘支持向量机(LS-SVM)的输入特征向量;利用训练好的分类器判别图像中的黄瓜。试验结果表明:用于试验的70幅黄瓜图像,正确识别率达82.9%,基于脉冲耦合神经网络分割结合LS-SVM的方法,适合复杂背景的温室黄瓜识别。
【英文摘要】Pulse coupled neural network(PCNN) and mathematical morphological technologies were employed to separate the mature in-greenhouse cucumber from complex background image.Four geometric feature values and three texture feature values based on gray level co-occurrence matrix(GLCM) of every connected regions in image were extracted,which were the input feature vector of least squares support vector machine(LS-SVM).The trained classifier was used for identifying the cucumber in image.Experimental results showed that 70 cucumber images were used for testing,the average rate of correct identification reach to 82.9% in different conditions,indicating that the method based on PCNN and LS-SVM could be used for in-greenhouse cucumber recognition.
【语种】中文
【第一作者】王海青
【通讯作者】姬长英
【期刊名称、卷期、页码】农业机械学报, 2012,43(3):163-167
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【学科分类】农业工程

【题目】模糊自整定PID温度控制系统的建模与仿真

【中文关键词】模糊自整定; 比例积分微分参数调整; 温度控制; 加热系统;
【英文关键词】fuzzy self-tuning; Proportion Integration Differentiation(PID) parameters adjustment; temperature control; heating system;
【中文摘要】针对炒茶机的加热控制系统跟踪设定的温度值滞后、自动调节加热装置实时性差的问题,设计一种模糊自整定比例积分微分(PID)参数控制器。采用PID控制和模糊控制算法相结合的方法,实现模糊控制对PID参数的调整。利用Matlab在Simulink中建立模型,并对该控制器进行仿真分析。结果表明,模糊PID自整定控制器的超调量≈1%,稳态误差es=0。该方法可提高温度控制系统的性能。
【英文摘要】Aiming at the heating temperature control system of fried tea machine lag to track the set temperature value.In addition,the real-time of automatic adjusting device is poor.In order to solve this problem,a fuzzy self-tuning Proportion Integration Differentiation(PID) parameters controller is designed,which is based on PID control algorithm and fuzzy control algorithm,achieves fuzzy adjusting the PID parameters.The simulation model is created in Simulink of Matlab for analyzing the performance of the algorithm.Result shows that the overshoot,the steady-state error ≈1% and steady-state error es=0 in fuzzy self-tuning PID control system.The method proposed can raise performance of the temperature control system.
【语种】中文
【第一作者】王海青
【通讯作者】姬长英
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【学科分类】农业工程

【题目】基于光谱分析技术的黄瓜与茎叶识别研究
【中文关键词】光谱分析; 黄瓜识别; 主成分分析; 偏最小二乘法; 马氏距离法;
【英文关键词】Spectral analysis; Cucumber recognition; Principal component analysis; Partial least squares; Mahalanobis distance;
【中文摘要】为了能够快速实时地识别温室中的黄瓜,研究了黄瓜和其茎叶的近红外反射光谱特性。利用近红外光谱仪在室内共采集138个样本(黄瓜46个,茎46个,叶46个)的反射光谱,进行Savitzky-Golay平滑后,抽取光谱中的108个样本作为校正集,采用偏差权重法选择信息量较大的光谱波段690~950 nm进行研究。在主成分分析(PCA)的基础上,结合马氏距离建立识别模型,剔除了7个异常样本。用剩余的101个样本进行偏最小二乘法建模,对校正集之外的30个样本进行预测。结果显示预测值和实际值的相关性达0.994 1,正确识别率达100%。说明黄瓜、茎和叶的近红外反射光谱特性之间有一定差异,可以用近红外光谱技术进行鉴别,为黄瓜识别提供了一种新的方法和思路。
【英文摘要】To be able to quickly identify the cucumber real time,the present paper studied the near infrared reflectance characteristics of cucumber,stem and leaf.Spectral reflectance of 138 samples(46 cucumbers,46 stems and 46 leaves) was collected using near infrared spectroscopy in the band range of 600~1 099 nm indoor.After Savitzky-Golay smoothing preprocessing,random 108 spectral samples were put forward as calibration set.The weighted deviation method was used for choosing the spectral bands 690~950 nm that include much more information.The samples were analyzed by PCA method to extract the principal component scores,combining the Mahalanobis distance method the recognition model was established,and seven abnormal samples were excluded.The partial least squares(PLS) model was established by remaining 101 samples spectra of calibration set,which was used for predicting the validation set(30 samples except of the calibration set).The result shows that the correlation of the predicted value and the actual value reaches up to 0.994 1,and the correct recognition rate is 100%.This significantly illustrates that the near infrared spectral reflectance characteristics are different among the cucumbers,stems and leaves,which can be successfully applied to recognition of cucumber by the method.The developed technique can provide a new method for cucumber identification.
【语种】中文
【第一作者】王海青
【通讯作者】姬长英
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【学科分类】农业工程

【题目】黑背景下收获前棉花图像色特征生成及其品级聚类分析
【中文关键词】图像特征; 颜色空间; 棉花品级; 聚类; 有效性;
【英文关键词】image features; color space; cotton grade; clustering; validity;
【中文摘要】为了客观地评价田间收获前棉花品级,依据我国子棉收购文字标准,运用机器视觉技术,对棉花的尺寸和色泽特征进行了研究,其色泽特征包括6个常用颜色空间下棉花和带壳棉花的黄色区域、黄色深度、白度、色差等8个色泽特征。结果表明,RGB、NTSC、亨特、HSI颜色空间下的特征参数区分度较好;棉花尺寸与色泽特征的相关性表明棉花白度为无效特征。在各颜色空间下,基于有效图像特征对7个品级的棉花样本进行了K均值聚类分析。分析结果说明,棉花品级的聚类结果独立于颜色空间;铃壳色泽对品级的贡献显著;由于其聚类品级与图像特征的相关性普遍较高、较均衡,且算法运行时间较短,HSI颜色空间可能是棉花品级聚类的最优颜色空间。与人工分级相比,机器视觉的区分度更好,因此机器视觉技术可用于提高收获前棉花分级精度。
【英文摘要】In order to assess the grades of preharvest cottons objectively,boll size and fiber color features,including yellow region,yellow degree, white degree and brightness contrast of cottons with/without bracteoles in six typical color spaces,were investigated based on Chinese government grading standards and machine vision technologies.The results show that better discriminations of feature parameters can be obtained in RGB,NTSC,Hunter and HSI color spaces,white degree is unvalued according to the correlation analysis between boll size and fiber color features.K-means clustering were performed based on valid image features to grade cotton samples into seven categories in each color.The results indicate that clustering results are independent of color spaces,bracteoles color contributes to their grades obviously and HSI color space maybe the best color spaces for grade clustering because of higher and more uniform correlations between grades and features as well as shorter runtime can be obtained in this space.Machine vision can be used to improve sorting accuracy of preharvest cottons since its more exact discriminability comparing with that of human eyes.
【语种】中文
【第一作者】王玲
【通讯作者】姬长英
【期刊名称、卷期、页码】棉花学报,2007,19(2):119-123
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【引文索引类型】其他
【引文索引号】1002-7807(2007)02-0119-05
【学科分类】农业工程

【题目】基于机器视觉技术的田间籽棉品级抽样分级模型研究
【中文关键词】田间; 籽棉; 品级; 机器视觉技术; 图像特征; 分级模型; 泛化;
【英文关键词】Field; Seed cotton; Grade of quality; Machine vision technology; Image feature; Grading model; Generalization;
【中文摘要】【目的】客观评价田间籽棉质量。【方法】依据中国籽棉品级分级标准,基于机器视觉技术选取棉花尺寸、色泽特征建立田间籽棉品级抽样分级模型。【结果】相关分析表明:亮度修正后,图像特征与籽棉品级之间相关显著。贝叶斯判别分析结果表明:基于10折交叉验证建立的籽棉品级判别模型的识别率在75.00%~92.86%之间,模型的平均识别率达83.20%。基于“1个标准误差”规则选取较好的贝叶斯判别模型,它在独立数据集上的泛化精度达89.11%,其中,前3级籽棉的识别率均达到100%。【结论】基于机器视觉技术识别籽棉品级是可行的,有利于提高籽棉品级抽样分级模型精度。
【英文摘要】【Objective】The quality of field seed cottons is assessed objectively.【Method】According to Chinese government grading standards of field seed cotton,grading models of field sampling cottons were developed based on their image features,including size and colors. 【Result】 Correlation analysis showed that the correlations among image features as well as grades of seed cotton quality were significant after image intensity correction. Based on 10-fold cross-validation,Bayes-criterion discrimination results showed that grading models of field sampling cottons were developed with accuracy of 75.00% to 92.86%,with average of 83.20%. Based on a rule of “ one-standard error ”,a better grading model of field sampling cottons was investigated with a generalization accuracy of 89.11% on an independent-model data,and 1-3 grade of seed cotton quality were recognised with an accuracy of 100%【 .Conclusion】 It is feasible to recognise grades of seed cotton quality by using machine vision technologies,which helps to improve the accuracy of grading models of field sampling cottons.
【语种】中文
【第一作者】王玲

【通讯作者】姬长英
【期刊名称、卷期、页码】中国农业科学,2007,40(4):704-711
【论文发表时间】2007-04-01 00:00:00
【引文索引类型】其他
【引文索引号】0578-752(2007)04-0704-08
【学科分类】农业工程

【题目】基于图像特征的收获前籽棉品级聚类融合分析
【中文关键词】籽棉品级; 机器视觉; 图像特征; 聚类融合; 识别率;
【英文关键词】Cotton grade; Machine vision; Image features; Cluster fusion; Accuracy;
【中文摘要】为客观评价收获前籽棉品级,依据籽棉品级国家标准,基于机器视觉在3个颜色空间中选取棉瓣大小、色泽特征用K-均值、竞争学习网络方法对7个品级的样本进行聚类融合分析。结果表明,亮度修正后特征之间极显著相关,Hunter颜色空间较好。肉眼对第1、2、7品级的识别率为73%~100%,3~6品级为26%~46%,总计47.7%;聚类融合对各品级的识别率为65%~100%,总计78.6%。聚类融合方法基于人类的先验知识,在更宽的视觉范围内更均衡所有特征,可克服个体聚类器的过度训练,能够客观地识别收获前籽棉品级,提高其采摘、收购质量。
【英文摘要】In order to assess preharvest cotton grades, according to Chinese government grading standard, clustering fusion was performed based on machine vision technologies by using K-means and competitive learning network to grade cotton quality with 7 categories renewedly based on their size, white, impurity and yellow in Ohta, HSI, and Hunter Color Spaces. Correlation analysis showed that the Peason ’s correlations among image features were significant at the 0.01 probability level by adjusting image intensity and Hunter Color Space to an approximate optimum; clustering by human eyes did not consider all image features uniformly with fitting coefficients of quadratic polynomial of 0.55-0.98 (0.88, 0.94, 0.98, 0.55) between cluster center of image features and grade value of cotton quality; individual clustering by K-means and competitive learning network also did not consider all image features uniformly with fitting coefficients of 0.32-0.74 (0.74, 0.63, 0.70, 0.32) and 0.39-0.94 (0.85, 0.39, 0.94, 0.84), respectively; and their clustering fusion considered all image features uniformly with fitting coefficients of 0.71-0.99(0.89, 0.71, 0.99, 0.83). Bayes quadratic discriminants analysis for cotton graded showed that clustering by human eyes recognized the 1st, 2nd, 7th grades with accuracies of 73%-100%, the grades 3-6 with accuracies of 26%-46%, and total accuracy of 47.7%; accordingly, clustering by K-means recognized each grade with accuracies of 93%-100%, and total accuracy of 96%; clustering by competitive learning network recognized each grade with accuracies of 79%-95%, and total accuracy of 86%; clustering fusion recognized each grade with accuracies of 65%-100%, and total accuracy of 78.6%. On the whole, the average quality grade of clusering fusion was 4.33 while that of clustering by human eyes was 4.57, and the specimens with large recognization difference between the two methods were less than 1/3 of the total. Compared with by human eyes, clustering fusion can use each image feature more adequately and uniformly with the wider range of vision based on human ’s previous knowledge, and overcome the over-training of individual clustering, further, grade preharvest cottons objectively to improve high-quality cottons to be purchased, and this method can be generalized effectively to meet different environments.
【语种】中文
【第一作者】王玲
【通讯作者】姬长英
【期刊名称、卷期、页码】作物科学,2007,33(7):1162-1167
【论文发表时间】2007-07-01 00:00:00
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【引文索引号】0496-3490(2007)07-1162-06
【学科分类】农业工程

【题目】基于竞争学习网络的田间籽棉图像分割
【中文关键词】田间籽棉; 图像分割; 颜色空间选取; 竞争学习网络; 形态学滤波;
【英文关键词】field cotton; image segmentation; color space selection; competitive learning network; morphological filtering;
【中文摘要】为了正确识别田间籽棉,将籽棉和铃壳、绿叶、根茎、土地等自然背景视为二个类别,基于竞争学习网络进行了图像分割。从多幅典型的籽棉图像中选取10000个像素作为训练样本,并为它们贴上类别标签,在HSI、Lab、Ohta、RGB颜色空间下对训练样本的颜色特征及其组合进行K-均值聚类,选取了误分率普遍较低的RGB颜色空间,其B值的误分率尤其低。在RGB颜色空间下,用训练样本的R、G、B组合或B值一次性地训练了竞争学习网络,将图像的全部像素输入网络进行测试,同时与K-均值聚类比较,形态学滤波去噪后的结果表明,基于B值的竞争学习网络较优,用907幅籽棉图像对其进行

仿真的精度达92.94%。该方法结合了有监督的学习算法,避免了传统K-均值聚类的反复迭代和过拟合现象,提高了图像分割的效率和精度。

【英文摘要】In order to distinguish field cotton image exactly,cotton and its nature background,including bracteole,leaf,rhizome and land,were classified into two categories and segmented based on competitive learning network.10000 pixels with two categories extracted from some typical cotton images were regarded as training data,their color components and mixing of components were classified into two categories based on K-means clustering in HSI,Lab,Ohta,RGB color space,and error rates of color components and their mixtures are lower in RGB color space,particularly blue component.Competitive learning networks were trained only onec with one input value of blue component or three inputs of red,green and blue components of training data in RGB color space and all pixels of an image as test data were input into them,comparing the results of competitive learning networks with K-means clustering after morphological filtering show that competitive learning network with one input value of blue component was optimized,907 cotton images were segmented with an accuracy of 92.94%.Combining supervisory learning arithmetic,avoiding iterative and over-fitting of K-means clustering,competitive learning network has good performance and high efficiency in image segmentation.

【语种】中文

【第一作者】王玲

【通讯作者】姬长英

【期刊名称、卷期、页码】农业工程学报,2008,24(10):156-160

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【引文索引号】2.0085011779e+013

【学科分类】农业工程

【题目】基于颜色阈值的田间籽棉图像分割技术

【中文关键词】田间棉花; 图像分割; 颜色阈值; 去噪;

【英文关键词】Field cotton; Image segmentation; Color threshold; Removing noise;

【中文摘要】为正确分割田间籽棉图像,将棉花与背景视为两个类别,在典型的未成熟籽棉图像和不同质量等级的成熟/过熟籽棉图像中,用肉眼选取20000个白棉、黄染棉和污染棉等棉花像素以及20000个棉株、土壤等背景像素,在RGB、HSI、La*b*和Hunter颜色空间下获取两类像素之间的颜色阈值,基于阈值进行图像分割,选取噪声较少的HSI和La*b*颜色空间,进一步基于形态学滤波器去噪,实验结果表明,907幅籽棉图像分割的准确率为87.21%和86.33%。HSI颜色空间更适合分割成熟籽棉图像,La*b*颜色空间则适合未成熟籽棉;颜色阈值覆盖范围广,基于速度的阈值分割法能够适应田间籽棉环境。

【英文摘要】The goal of cotton production in China is to improve corresponding rate of cotton quality grade, foreign fibers, adulteration, and cotton baling inconsistent phenomenon to decrease continuously. With the background, machine vision and pattern recognition technologies are introduced into traditional picking task to discriminate maturity degree and grade of quality of field cotton, which will solve the problem of picking cotton by the way from source, so that various cotton varieties can be adapted, pollution caused by agriculture chemicals can be avoided, labor cost can be reduced and agriculture cost can be decreased. In order to segment field cotton images exactly, we regarded cotton and its background as two classes and segmented them based on their color threshold. A total of 20 000 white, yellow, and stain cotton pixels and 20 000 background pixels of soil and cotton plant, including cotton bracteole, leaf, and branch, were extracted from typical under-ripe cotton images and ripe/over-ripe cotton images with various quality grades from 1 to 7. Color threshold of two classes of cotton and its background pixels were obtained in RGB, HSI, La*b*, and Hunter color space respectively; on the basis of which cotton regions were segmented from images; and HSI and La*b* color spaces were selected respectively by using S below 28, I over 108, L over 118, a* from 123 to 134, b* below 136 with less segmentation noise which would be removed based on morphological filter. The experiment results showed that 907 cotton images were segmented with an accuracy of 87.21% and 86.33% in HSI and La*b* color space respectively. The front images were segmented with an accuracy of 90.83% and 89.98% and the side images with an accuracy of 83.33% and 82.42%. Ripe cotton images were segmented perfectly in HSI color space while under-ripe cotton images in La*b* color space, and the speed-based segmentation method with threshold covering a wide area was preferable for field cotton surroundings.

【语种】中文

【第一作者】王玲

【通讯作者】姬长英

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【学科分类】农业工程

【题目】基于MATLAB的若干苹果边缘检测方法及其特性的对比研究
【中文关键词】边缘检测; MATLAB; 数字图像处理; 苹果;
【英文关键词】edge detection; MATLAB; digital image processing; apple;
【中文摘要】首先介绍了数字图像处理中边缘检测的基本原理以及常见方法。这些方法包括Sobel算子、Roberts算子、Prewitt算子、Canny算子、Kirsch算子和Gauss-Laplace算子。然后在实验室条件下,通过MATLAB编程将这些方法用于苹果边缘的检测。最后将这些方法及其特性进行系统地对比,结果表明:在当前实验室条件下Kirsch算子用于苹果边缘检测效果较好。
【英文摘要】The basic theories and usual methods about edge detection in digital image processing firstly are introduced. The methods contained Sobel operator,Roberts operator,Prewitt operator,Canny operator,Kirsch operator and Gauss-Laplace operator. And secondly,all these methods above were used for apple ’s edge detection based on MATLAB. Finally,all of them were compared as fully as possible. The results demonstrate that Kirsch operator is better than others in current laboratory condition.
【语种】中文
【第一作者】田光兆
【通讯作者】姬长英
【期刊名称、卷期、页码】科学技术与工程,2010,10(16):3783-3787
【论文发表时间】2010-06-01 00:00:00
【引文索引类型】其他
【引文索引号】1671-1815(2010)16-3873-05
【学科分类】农业工程

【题目】基于红外图像融合的DSP水果检测系统研究
【中文关键词】红外图像; 图像融合; 数字信号处理器; 水果; 检测;
【英文关键词】infrared image; image fusion; DSP; fruit; measuring;
【中文摘要】为了提高水果检测系统精度和实时性,提出了在数字信号处理平台上开发水果检测系统的方案。该方案是根据可见光与红外图像的互补优势,以DSP/BIOS为实时操作系统,CCS为开发环境来构建应用程序。最后以苹果为研究对象,对苹果的红外和可见光图像分别进行相应的预处理后对所得的图像进行融合。试验结果表明,融合后的图像可以检测苹果早期淤伤,对水果品质检测精度有较大提高,经优化后实时性更好。
【英文摘要】In order to improve the accuracy and real-time of fruit detection system,a program of developing fruit detection system in digital signal processing(DSP) platform is put forward.This program is based on the complementary strengths of visible and infrared images,and DSP /BIOS as the real-time operating system,code compose studio(CCS) for the development environment to build applications.Finally,the infrared and visible images of apples are preprocessed and fusion.The experiments show that image fusion can be used to detect the early bruises,and greatly improved real-time and measurement accuracy of the system.
【语种】中文
【第一作者】严君
【通讯作者】沈明霞
【期刊名称、卷期、页码】计算机工程与设计,2009,30(21):4872-4875
【论文发表时间】2009-11-01 00:00:00
【引文索引类型】其他
【引文索引号】1000-7024(2009)21-4872-03
【学科分类】农业工程

【题目】红外图像处理技术在苹果早期淤伤检测中的应用
【中文关键词】红外图像; 淤伤检测; 无损检测; 混合增强算法;
【英文关键词】infrared; bruise detection; non-destructive; mixed enhancement algorithm;
【中文摘要】在苹果品质检测中,淤伤是影响检测效率的一个重要原因,针对苹果淤伤检测这一难题,提出应用红外图像处理技术解决。根据红外热图像成像原理及其特点,采用风扇加热与冷却两种实验方法。在实验过程中,红外摄像机拍摄获

得苹果红外图像,选用优越的混合图像增强算法等红外图像处理方法识别早期淤伤。实验结果表明,应用红外图像技术可以检测苹果早期淤伤,且效率达96%以上。
【英文摘要】Bruise is one of the most important causes for rejecting apples at quality inspection.Infrared image processing can implement bruise detection in apple.Infrared image processing is applied to solve this problem.Because of the theory and features of infrared thermal images forming,the images are gained by using two ways of fan heating and cooling,and then the good mixed image enhancement algorithm and other infrared image processing technology are used to detect.Experiments show that infrared image processing implement bruise detection in apple,up to above 96% of apple bruises are detected using infrared image.
【语种】中文
【第一作者】杨万利
【通讯作者】沈明霞
【期刊名称、卷期、页码】计算机工程与设计,2010,31(1):149-153
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【引文索引类型】其他
【引文索引号】1000-7024(2010)01-0149-04
【学科分类】农业工程

【题目】成熟番茄的图像识别及其位姿的获取研究
【中文关键词】成熟番茄; 图像识别; 位姿; 质心; 惯性主轴;
【英文关键词】Ripe tomato; Recognition of image; Pose; Center of mass; Principal inertia axis;
【中文摘要】针对自然生长状态下成熟番茄图像的识别问题,提出选用YIQ颜色空间,采用Otsu最大类间方差法分割图像,然后用面积阈值的方法消除噪声,来获取成熟番茄图像的目标区域;然后用矩法来求目标区域的质心位置和惯性主轴,用惯性主轴的角度来标识果实果轴的方向,进而获取果实的生长姿态。实验结果表明,用这种方法可以取得较好的效果。
【英文摘要】Aiming at the recognition of the ripe tomato images in natural growth conditions,YIQ color space was selected,Otsu method was used to segment images,and the area threshold method was applied to eliminate noise and obtain the target area of the ripe tomato images;and then the moment method was used to obtain the center of mass of the target region and inertia axis,and the angle of the principal inertia axis was used to identify the direction of fruit fruit-axis and obtain the pose of the fruits.The experimental results showed that this method could obtain good effects.
【语种】中文
【第一作者】董坦坦
【通讯作者】姬长英
【期刊名称、卷期、页码】江西农业学报,2009,21(8):152-155
【论文发表时间】2009-08-01 00:00:00
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【引文索引号】1001-8581(2009)08-0152-04
【学科分类】农业工程

【题目】自适应模糊控制的多指手抓取控制
【中文关键词】多指机械手; 稳定抓取; 自适应模糊控制;
【英文关键词】multi-fingered hands grasping steadily self-adaptive fuzzy control;
【中文摘要】为了实现果实的稳定抓取,结合果实的生长情况设计了一种新型的多指机械手。采用自适应模糊进行控制,并在模糊输入输出记法上做了改进,仿真结果与理论分析一致,验证了该方法的合理性和有效性。
【英文摘要】A new multi-fingered hand was designed to achieve the aim of grasping steadily,combining the situation of the fruit growth in the article.Self-adaptive fuzzy control was adopted,and it was improved in the denotation of the fuzzy input and output.Simulations are the same with the theoretical analysis and the validity of proposed method is verified.
【语种】中文
【第一作者】黄浩乾
【通讯作者】姬长英
【期刊名称、卷期、页码】科学技术与工程,2009,9(20):6203-6207
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【学科分类】农业工程

【题目】基于二维熵的农业图像目标分割
【中文关键词】机器视觉; 图像分割; 二维熵;
【英文关键词】computer vision; image segmentation; two-dimensional entropy;
【中文摘要】农业图像的目标分割是在农业领域应用机器视觉技术的基础,采用阈值法进行图像的目标分割,能够克服一些图像缺陷。首先将彩色数字图像转换成像素灰度级分布与其邻域平均像素灰度级分布所构成的二维灰度图,再根据图像分割后的最大熵计算分割阈值,然后由计算出的阈值分割农业田间图像,分割的结果显示,二维熵法分割农业田间图像的效果很好,分割质量的优秀率达到了98%。
【英文摘要】Agricultural image segmentation is the basic work of computer vision technology in agriculture.Some faults can be overcome by using threshold method.First two-dimensional gray-level histogram of pixel gray and neighborhood average gray distribution was converted from color digital image,then the threshold value was calculated based on maximum entropy.The agricultural image was seg-mented by the threshold.The image after segmentation was very good and the excellence rate reached 98%.
【语种】中文
【第一作者】李志臣
【通讯作者】李志臣
【期刊名称、卷期、页码】东北农业大学学报,2010,41(4):130-132
【论文发表时间】2010-04-01 00:00:00
【引文索引类型】其他
【引文索引号】1005-9369(2010)04-0130-03
【学科分类】农业工程

【题目】自主移动农用机器人导航系统故障诊断分析
【中文关键词】信号检测; 时间序列分析法; 故障诊断; GPS; 自主移动农用机器人; 导航系统;
【英文关键词】Signal measurement; Time series analysis method; Fault diagnosis; GPS; Automobile agricultural robot; Navigation system;
【中文摘要】通过对自主移动农用机器人运行过程数据序列的统计辨识,逐步累积故障识别能力,建立有效的故障诊断体系。运用时间序列分析法对正常和故障情况下导航系统中定位部件GPS输出随机信号进行分析,得到判断GPS性能故障的方法。建立GPS随机漂移数学模型AR(p)模型,并采用K-L(Kullback-Leibler)信息测度检测法构造相应的信息距离差别函数进行系统状态检测。利用该时序分析法能够有效地检测出系统故障。
【英文摘要】Through statistical identification to the data series obtained in the course of unit running of automobile agricultural robot,as well as the gradual accumulation of the ability to identify the fault,an effective fault diagnosis system was set up.By means of time series analysis method,the random drift signal output by orientation GPS in navigation system was analyzed under normal and faulty conditions,and a fault identification method for GPS performance was obtained.By establishing mathematic AR(p) model and using K-L(Kullback-Leibler) measuring method based on information range difference function,the system status was tested.The method of time series analysis could effectively diagnose the faults in the system.
【语种】中文
【第一作者】郝昕玉
【通讯作者】姬长英
【期刊名称、卷期、页码】江西农业学报,2010,22(12):127-129
【论文发表时间】2010-12-01 00:00:00
【引文索引类型】其他
【引文索引号】1001-8581(2010)12-0127-03
【学科分类】农业工程

【题目】一种多用途采摘机器人末端执行器的设计

【中文关键词】采摘机器人; 末端执行器; 多用途; 拧断;
【英文关键词】picking robot; end-effector; multi-use; wring;
【中文摘要】我国水果种植面积广大,采摘任务繁重,急需机械代替人工。目前出现的末端执行器均为一对一采摘,为此,设计了一种适合采摘两种水果、且有一定自适应能力的收获机器人末端执行器。该末端执行器采用三指对中定心外夹持采摘方式,预设采摘对象为苹果和梨,具有体积小巧、操作简单、安全可靠、适应性强、成本低廉等特点。研究证明,此末端执行器能够很好完成采摘任务。
【英文摘要】It is necessary to replace manual working by machinery in fruit picking in our country because of the large planting areas and onerous task of harvesting.The current end-effectors were one-to-one picking,thus a new kind of end-effector of picking robot has been designed,which was suitable for picking two kinds of fruits and showed self-adaptive ability.This end-effector used three fingers centering gripper jaws for apple and pear harvesting,and had the features of small size,simple operation,safe and reliable,adaptable,low cost and so on.The experiments showed that this end-effector could complete picking tasks well.
【语种】中文
【第一作者】居洪玲
【通讯作者】姬长英
【期刊名称、卷期、页码】浙江农业学报,2010,22(3):370-373
【论文发表时间】2010-05-01 00:00:00
【引文索引类型】其他
【引文索引号】1004-1524(2010) 03-0370-04
【学科分类】农业工程

【题目】基于Pro/E和ADAMS的欠驱动苹果采摘机械手运动学仿真分析
【中文关键词】欠驱动; 采摘机械手; Pro/E; ADAMS; 仿真;
【英文关键词】underactuated; picking manipulator; Pro/E; ADAMS; simulation;
【中文摘要】将欠驱动技术应用于农业采摘领域,欠驱动手指作为水果采摘机器人的末端执行器.对手爪的抓取力进行了分析,利用Pro/E完成对苹果采摘机械手的虚拟设计与装配;利用ADAMS对机械手进行运动学、动力学仿真,获得其速度、加速度和接触力的变化情况曲线,仿真结果表明,机械手的设计符合要求,并为实现机械手的控制提供了重要依据.
【英文摘要】The underactuated technology was applied in the field of agriculture and the under actuated fingers were as end-effectors of the fruit picking robot actuators.The analysis of grasping force is carried out.The virtual design and virtual assembly of apple picking manipulator are implemented with Pro/E.The kinematics and dynamics simulations of manipulator with ADAMS are achieved.Through the virtual simulation of the manipulator and the simulation curves of the speed,acceleration and contact forces can be leaned and an important basis was provided for the control of the manipulator. 更多
【语种】中文
【第一作者】彭磊
【通讯作者】姬长英
【期刊名称、卷期、页码】机械与电子,2010,(6):62-65
【论文发表时间】2010-06-01 00:00:00
【引文索引类型】其他
【引文索引号】1001-2257(2010)06-0062-03
【学科分类】农业工程

【题目】基于稳定抓取力学模型的末端执行器控制器设计
【中文关键词】建模; 加速度传感器; 自主抓取; 自适应优化;
【英文关键词】End-actuator; Mechanical model; Controller; Adaptive optimization;
【中文摘要】以苹果采摘机器人末端执行器稳定抓取为目标,建立了二指末端执行器抓取苹果的力学模型,提出了利用加速度传感器反馈进行优化控制的方法并设计基于BP神经网络和PID控制的自适应控制器。
【英文摘要】Aiming at the steady grabbing of the end-actuator of apple-picking robot,the mechanical model of apple gabbing for two-finger end-actuators was established.Based on the mechanical model,the optimal control method with acceleration sensor feedback was proposed and one kind of adaptive optimization controller based on BP neural network and PID control was designed.
【语种】中文

【第一作者】冯良宝
【通讯作者】姬长英
【期刊名称、卷期、页码】江西农业学报,2010,22(7):105-106
【论文发表时间】2010-07-01 00:00:00
【引文索引类型】其他
【引文索引号】1001-8581(2010)07- 0105-02
【学科分类】农业工程

【题目】基于自整定模糊PID的DSP温度控制系统设计
【中文关键词】数字信号处理器(Digital Signal Processor,DSP); 模糊PID; 温度控制系统;
【英文关键词】DSP; fuzzy PID; temperature control system;
【中文摘要】设计了一种新型恒温培养箱的温度控制系统,系统以DSP为主控制器。针对控制对象的不确定性,采用了自整定模糊PID控制算法,可实现PID参数的在线自整定,也能克服传统的以单片机PID控制的不足之处。实践证明该温度控制系统具有实时性好、响应快、稳定性高等优点。
【英文摘要】A new kind of temperature control system is designed,in which DSP is made as the main controller.According to the uncertainty and difficulty to control of the system,the control method of self-turning fuzzy PID is used,it can realize parameters of online self-turning,also can overcome traditional taking single-chip PID control shortcomings.The results show that the system has advantages of real time,high speed,and good stability.
【语种】中文
【第一作者】高峰
【通讯作者】姬长英
【期刊名称、卷期、页码】科学技术与工程,2011,11(18):4207-4211
【论文发表时间】2011-06-01 00:00:00
【引文索引类型】其他
【引文索引号】1671-1815(2011)18-4207-05
【学科分类】农业工程

【题目】苹果采摘机械手对果实损伤的影响
【中文关键词】苹果; 采摘机械手; 机械损伤; 硬度; 可溶性固形物;
【英文关键词】apple; picking manipulator; mechanical damage; hardness; soluble solids content;
【中文摘要】我国是苹果种植大国,机械采摘的快速发展与大面积推广应用为我国苹果产业的后续发展提供了强大的动力。但同时由于机械采摘带来的果实机械损伤每年都在增加。以此为依据,设计了一种采摘机械手,对果实进行模拟采摘,并使用仪器检测采摘后苹果硬度和可溶性固形物含量的变化,确定是否造成损伤。结论表明,该机械手在满足工作要求的同时,对果实几乎没有损伤。
【英文摘要】China is a big country planting apples. Apple industry developed very fast with widely using of mechanical harvesting. The loss of fruits mechanical damage has increased every year because of the rapid development. In order to solve this problem,a kind of robot hand was designed to pick apples. Instruments were used to discover the change of the apple hardness and soluble solids content. The results indicted that the robot hand could meet the requirements of use and there was little damage on fruits.
【语种】中文
【第一作者】张麒麟
【通讯作者】姬长英
【期刊名称、卷期、页码】食品工程科技,2011,32(12):404-405
【论文发表时间】2011-12-01 00:00:00
【引文索引类型】其他
【引文索引号】1002-0306(2011)12-0404-05
【学科分类】农业工程

【题目】自然场景下成熟苹果的图像识别研究
【中文关键词】成熟苹果; 图像识别; 霍夫变换; 外接矩形;

【英文关键词】ripe apple; recognition of image; Hough; circum rectangle;
【中文摘要】针对自然生长状态下的成熟苹果图像的识别问题,提出选用R-G色差模型,改进的Ostu最大类间方差法分割图像。然后用面积阈值法消除噪声,获取成熟苹果果实的目标区域。然后采用基于OpenCV的圆形Hough变换方法对多个粘连苹果果实进行分离。通过实验统计,根据苹果果实的最小外接矩形的边长设置累加器、搜索范围和圆心距。实验表明,这种方法可以取得较好的效果。
【英文摘要】According to the recognition of the ripe apple images in natural growth conditions,R-G color space was selected,improvement of the Ostu method was used to segment images,and the area threshold method was applied to eliminate noise and obtain the target area.Then the Hough method based on OpenCV was selected to separate multiple adhesion apples.Though the experiment statistics,according to minimum circumscribed rectangular side of apple,accumulators,search scope and distance of circle were setted.Experimental results show that this method can achieve good effect.
【语种】中文
【第一作者】赵文旻
【通讯作者】姬长英
【期刊名称、卷期、页码】科学技术与工程,2012,12(27):6889-6893
【论文发表时间】2012-09-01 00:00:00
【引文索引类型】其他
【引文索引号】1671-1815(2012)27-6889-04
【学科分类】农业工程

【题目】基于matlab的苹果树枝图像分割方法研究
【中文关键词】树枝图像; 图像分割; matlab;
【英文关键词】branches image; image segmentation; matlab;
【中文摘要】水果收获机器人机械手工作环境复杂。为了避免机械手与树枝相碰撞造成机械手的损坏,避障研究很有必要。获取障碍物信息是研究基础。把树枝图像分为枝干区域、成熟苹果区域、绿色区域,用matlab编程,分析三区域在RGB、YIQ、HSI颜色空间的分布情况。分别基于RGB和HSI色彩空间,采用阈值分割技术,对树枝图像进行分割,提取枝干区域,并实验比较其分割效果。找出适合苹果树枝图像的分割方法——剥离分割。
【英文摘要】The working environment of fruit harvesting robot’s manipulator is complexity.In order to avoid the manipulator with branches collide causing damage to the robot,research on obstacle avoidance is necessary.And to obtain obstacle information is the base of this research.Branches image is divided into branches region,mature apples region,green area.Analysis of the three regions in the distribution of RGB,YIQ,HSI color space is used matlab programming.Based on the RGB and HSI color space,A threshold segmentation technique to divide branches image to extract branches region is respectively used.Finally,the segmentation results to find the segmentation method of identifying the apple branches-stripped segmentation is experimentsed to compare.
【语种】中文
【第一作者】李莹莹
【通讯作者】姬长英
【期刊名称、卷期、页码】科学技术与工程,2012,12(13):3783-3787
【论文发表时间】2012-05-01 00:00:00
【引文索引类型】其他
【引文索引号】1671-1815(2012)13-3084-05
【学科分类】农业工程

【题目】新型中草药松花蛋的研制
【中文关键词】松花蛋,中草药,料液配比,工艺
【英文关键词】preserved egg,Chiniese herb,the ratio of material to liquid,technique
【中文摘要】以新鲜鸭蛋为原料,通过添加甘草和桂花,采用均匀实验设计,对腌制剂进行优化选择,选出最佳配比成分,研究出一种具有保健功能的松花蛋的腌制方法;同时在腌制过程中,对料液中NaOH浓度以及蛋内pH进行了测定。研究结果表明,无铅中草药松花蛋的最佳配方为12(约720g)个鸭蛋,加水 1200g,盐36g,ZnSO4 3.3克,NaOH 60g,茶叶36g,甘草16.8g,桂花13g。
【英文摘要】Taking fresh duck eggs as raw material,through adding licorice and sweet-scented osmanthus,a new kind of Chinese herb preserved egg was development.Through the even experimental design,the optimized formulation of the preserved egg was

obtained.Meanwhile,the pH and NaOH density in the material fluid were determinated.The result showed that the best formulation was every twelve eggs(about 720g),water 1200g,salt 36g,ZnSO4 3.3g,NaOH 60g,tea leaf 36g,liquorice 16.8g,sweet-scented osmanthus 13g.
【语种】中文
【第一作者】刘风娟
【通讯作者】屠康
【期刊名称、卷期、页码】食品工业科技、30(5)、221-222,225
【论文发表时间】2009-05-25 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】食品加工技术

【题目】Freeways in the plant: transporters for N, P and S and their regulation
【中文关键词】无
【英文关键词】phosphorus,sulfur,nitrogen,regulation,Freeways
【中文摘要】无
【英文摘要】This review focuses on plant acquisition and transport of theinorganic forms of nitrogen, phosphorus and sulfur. Families ofmembrane transporters have been identified and severalmembers are well characterised. Although some families arelarge, specific members may be expressed in a particularmembrane or cell type, or at certain times during development.Therefore, each transporter can have specific activities and theconcept of functional redundancy is questionable. Structurallyrelated proteins can mediate all transport steps within the plant,including uptake from the soil. Although transport mechanismsand membrane locations may be different, a picture isemerging that suggests sequence homology can be areasonable indicator of the nutrient that is transported by eachprotein.
【语种】英文
【第一作者】Miller, Anthony J
【通讯作者】Miller, Anthony J
【期刊名称、卷期、页码】Current Opinion in Plant Biology 2009, 12:284 – 290
【论文发表时间】2009-05-27 00:00:00
【引文索引类型】SCI
【引文索引号】10.1016/j.pbi.2009.04.010
【学科分类】农学其他学科

【题目】基于多传感器融合技术的苹果成熟度检测研究
【中文关键词】多传感器融合; D-S(Dempster-shafer)规则; BP神经网络;苹果;成熟度;检测
【英文关键词】multi-sensor amalgamation; D-S criterion; BP-NN; apple; ripeness; detection
【中文摘要】本文通过计算机视觉和敲击振动两传感器信息融合技术对苹果成熟度进行无损检测。试验结果表明,基于多传感器融合技术能充分发挥神经网络的自适应、泛化能力,以及D-S理论表达模糊信息和进行不精确推理的能力,并且能达到理想的识别效果,提高了苹果成熟度的识别率,经过D-S判据优化的神经网络预测苹果成熟度准确率平均值达到了97.1%。
【英文摘要】Computer vision and acoustic impulse response technique were used to study the apple maturity in a nondestructive way. The test results show that based on multi-sensor amalgamation technology can give full play to the neural network adaptive and generalization ability, and increase the express fuzzy information and inaccurate reasoning ability of d-s theory, and improve the apple maturity recognition rate, through D-S criterion optimized neural network could predicted apple maturity that average accuracy reached 97.1%.
【语种】中文
【第一作者】刘 鹏
【通讯作者】屠康
【期刊名称、卷期、页码】江苏农业学报、26(3)、670-672
【论文发表时间】2010-06-30 00:00:00
【引文索引类型】其他

【引文索引号】null
【学科分类】食品加工技术

【题目】Adaptation of plasma membrane H+-ATPase of rice roots to low pH as related to ammonium nutritionpce_2009
【中文关键词】无
【英文关键词】NH4+; NO3-; pH; plasma membrane H+-ATPase;rice (Oryza sativa L.).
【中文摘要】无
【英文摘要】The preference of paddy rice for NH4+ rather than NO3- isassociated with its tolerance to low pH since a rhizosphereacidification occurs during NH4+ absorption. However, theadaptation of rice root to low pH has not been fully elucidated.This study investigated the acclimation of plasmamembrane H+-ATPase of rice root to low pH. Rice seedlingswere grown either with NH4+ or NO3-. For both nitrogenforms, the pH value of nutrient solutions was graduallyadjusted to pH 6.5 or 3.0. After 4 d cultivation, hydrolyticH+-ATPase activity, Vmax, Km, H+-pumping activity, H+ permeabilityand pH gradient across the plasma membranewere significantly higher in rice roots grown at pH 3.0 thanat 6.5, irrespective of the nitrogen forms supplied. Thehigher activity of plasma membrane H+-ATPase of adaptedrice roots was attributed to the increase in expression ofOSA1, OSA3, OSA7, OSA8 and OSA9 genes, whichresulted in an increase ofH+-ATPase protein concentration.In conclusion, a high regulation of various plasma membraneH+-ATPase genes is responsible for the adaptation ofrice roots to low pH. This mechanism may be partly responsiblefor the preference of rice plants to NH4+ nutrition.
【语种】英文
【第一作者】朱毅勇
【通讯作者】沈其荣
【期刊名称、卷期、页码】Plant, Cell and Environment (2009) 32, 1428 – 1440
【论文发表时间】2009-10-13 00:00:00
【引文索引类型】SCI
【引文索引号】10.1111/j.1365-3040.2009.02009.x
【学科分类】农学其他学科

【题目】松花蛋研制剂循环利用研究现状
【中文关键词】松花蛋,腌制剂,循环利用,研究现状
【英文关键词】preserved egg; preserved preparation; circulation utilization; research status
【中文摘要】松花蛋现代化生产过程中,腌制剂的循环利用对于降低生产成本及其对环境的污染具有很重要的意义。本文主要综述了我国松花蛋生产中腌制剂循环利用的研究现状,为松花蛋现代化生产加工的残料再利用提供理论和实践依据。
【英文摘要】In modernized production of preserved egg, cyclic utilization of preserved preparation is very mi portent for reducing the cost of production and the environmental pollution1In this paper, research status of domestic preserved egg preparation was reviewed, in order to provide theoretical and practical reference for recycling the salvage of e preserved egg from modernization production.
【语种】中文
【第一作者】潘磊庆
【通讯作者】屠康
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【学科分类】食品加工技术

【题目】OsSIZ1 Regulates the Vegetative Growth and Reproductive Development in Rice
【中文关键词】无
【英文关键词】Oryza sativa . SIZ1 . Growth . Development .Regulation
【中文摘要】无
【英文摘要】SAP and MIZ (SIZ) is a small ubiquitin-relatedmodifier (SUMO) E3 ligase that facilitates conjugation ofSUMO to protein substrates. Although there have been anumber of reports about the functions of SIZ1 inArabidopsis in the regulation of diverse

life processes, noinformation regarding the role of SIZ in other plants isavailable yet. In this work, two homologous genes fromrice (Oryza sativa) were isolated and designated as OsSIZ1and OsSIZ2 based on amino acid sequence homology toAtSIZ1 and their phylogenetic relationship. The function inthe vegetative growth and reproductive development in ricewas investigated using OsSIZ1 mutants containing aT-DNA insertion. The results showed that the mutantOssiz1 exhibited the significant changes in several growthand developmental parameters, including primary rootlength, adventitious root number, plant height, leaf andpanicle length, flower formation, and seed-setting ratecompared with wild type. Taking together these resultsindicate that OsSIZ1 plays an important role in regulatinggrowth and development in rice.

【语种】英文

【第一作者】王化敦

【通讯作者】孙淑斌

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【引文索引号】10.1007/s11105-010-0232-y

【学科分类】农学其他学科

【题目】鲜食玉米果穗外观品质分级的计算机视觉方法

【中文关键词】鲜食玉米; 果穗; 外观品质; 分级; 计算机视觉; 神经网络

【英文关键词】Fresh corn, Ear, Appearance quality, Grading, Computer vision, Neural network

【中文摘要】在HSI颜色模型下, 通过计算机视觉检测技术实现对鲜食玉米果穗外观品质分级。提出垂直投影法确定秃尖位置并去除秃尖。对H 值进行双向一次微分运算以实现缺陷的识别。在此基础上获取果穗缺陷比、穗长、果穗最大直径、长宽比和矩形度作为外观品质特征参数, 并以此为输入向量构建广义回归神经网络对果穗外观品质分级。试验结果表明: 秃尖位置、穗长和果穗最大直径的平均误差分别为2.27mm、1.96 mm 和0.54mm, 缺陷误判率为3. 00%, 分级平均准确率为95. 91%。

【英文摘要】Appearance quality grading for fresh corn ear was implemented by computer vision based on HSI color model. Bare tip position was detected and removed using projection method. Defects of fresh corn ear were identified by the first order differential operation on H. Characteristic parameters of appearance quality, such as defect proport ion, ear length, ear max imum diameter, aspect ratio and rectangle factor were obtained. General regression neural network with five characteristic parameters as input was developed for grading. Experiment showed that average errors of bare tip position, ear length and ear max imum diameter were 2.27 mm, 1.96 mm and 0.54 mm, respectively. Mistake rate of defect proportion was 3.00%, and grading average ratio was up to 95.91% .

【语种】中文

【第一作者】王慧慧

【通讯作者】孙永海

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【学科分类】食品加工技术

【题目】基于压力和图像的鲜玉米果穗成熟度分级方法

【中文关键词】分级,压力,图像处理,神经网络,颜色特征,鲜玉米果穗

【英文关键词】grading, pressure, image processing, neural networks, color characteristics, fresh corn ear

【中文摘要】为实现鲜玉米果穗成熟度等级的客观评定,提出了基于压力传感器和计算机视觉技术的综合分析方法。研制了玉米果穗成熟度检测装置,提取纹理信息所得惯性矩和压力检测装置所得最大压力值作为鲜玉米果穗成熟度等级评定的特征参数,通过系统聚类分级研究,确定成熟度等级为3 级。采用主成分分析法对11 个颜色特征进行优化筛选,用第一、二主成分可综合反映11 个颜色特征的分级信息,实现了参数的降维。试验结果表明:以最大压力值、惯性矩、颜色特征主成分分析第一、二主成分值作为构建概率神经网络的输入,进行鲜玉米果穗成熟度等级评定,正确率为96.67%。结合压力传感器和计算机视觉技术可实现对鲜玉米果穗成熟度的准确分级。

【英文摘要】In order to realize objective evaluation of maturity grading of fresh corn ear, a method using pressure sensor and computer vision was presented. Maturity grading detection device was developed. The inertia moment of texture information and the

maximum pressure obtained from pressure detection device were used as maturity grading characteristic parameters of fresh corn ear. Maturity was classified into 3 grades through system cluster method. Eleven color characteristics were optimized and screened by principal components analysis. The first and the second principal components were applied to represent the eleven color characteristics in the grading, so dimension reduction was implemented. Results showed that inertia moment, maximum pressure, the first and the second principal component values of color characteristics were used as inputs of the probabilistic neural network developed for maturity grading of fresh corn ear, with grading accuracy 96.67%. Fresh corn ear maturity grading can be implemented accurately by combination of pressure sensor and computer vision technology.

【语种】中文
【第一作者】王慧慧
【通讯作者】孙永海
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【学科分类】食品加工技术

【题目】基于二维离散小波的鲜玉米果穗成熟度的等级评定
【中文关键词】食品机械;二维离散小波分解;鲜玉米果穗;成熟度;神经网络
【英文关键词】food machinery, two-dimension discrete wavelet decomposition, fresh corn ear, maturity grading, neural network
【中文摘要】采用计算机视觉技术,经二维离散小波分解后提取与玉米果穗成熟度相关的图像特征实现成熟度等级评定。在HSI颜色模型下对鲜玉米果穗图像H 分量进行二维离散小波分解,提取低频子带的颜色特征。在RGB颜色模型下提取鲜玉米果穗图像高频子带的纹理特征。通过主成分分析法实现特征参数的降维。以前4个主成分值作为网络输入,构建概率神经网络,实现鲜玉米果穗成熟度的等级评定,评定正确率为95%。
【英文摘要】Evaluation of maturity grading of fresh corn ears was realized through computer vision. Image characteristics of maturity grading were extracted after two-dimensional discrete wavelet decomposition. In HIS color model wavelet decomposition of H component was carried out, and the color characteristics of H component were extracted from low frequency sub-band. The texture characteristics were extracted from low frequency sub-band in RGB color model. Dimension reduction of characteristics parameters was implemented using principal component analysis method. The first four principal component values were taken as the network inputs. The probabilistic neural network was developed for maturity grading of fresh corn eras, and the grading accuracy is about 95%.
【语种】中文
【第一作者】王慧慧
【通讯作者】孙永海
【期刊名称、卷期、页码】吉林大学学报(工学报),2011,41(2):574-578
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【学科分类】食品加工技术

【题目】基于颜色传感器的玉米脂肪酸含量检测方法研究
【中文关键词】脂肪酸含量; 快速检测; 颜色传感器; 玉米
【英文关键词】content of free fatty acid, rapid detection, color sensor, corn
【中文摘要】玉米游离脂肪酸含量是判断玉米存储品质的重要指标。为此,提出了基于颜色传感器的玉米游离脂肪酸含量检测方法可实现现场快速检测。研究在提取玉米游离脂肪酸时使用了AOT - 异辛烷溶液,较好地解决了常规有机溶剂提取游离脂肪酸的同时会提取出玉米色素的问题; 同时,优化得到了玉米游离脂肪酸最佳提取及显色参数; 构建了BP 神经网络检测模型。研究结果表明: 用基于颜色传感器的玉米游离脂肪酸含量检测方法来判断玉米陈化情况的正确率高达96.7%。
【英文摘要】Content of free fatty acid in corn is a important index of storage quality of corn. The rapid detection method for content of free fatty acid in corn based on color sensor can be used in spot. A solution blended with bis(2-ethyl) hexylsulfosuccinate (AOT) and isooctane in the suitable ratio was used in extracting free fatty acids. The method can avoid that corn pigment was done synchronously as free fatty acids was extracted. The optimization parameters in extracting free fatty acid in corn and in colorimetry were obtained. A BP neural network was built. The experimentation results show that accuracy of estimating corn aging by the measured

content of free fatty acid in corn based on color sensor is 96.7%。
【语种】中文
【第一作者】孙永海
【通讯作者】孙永海
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【学科分类】食品科学技术基础学科

【题目】速冻玉米的微波解冻温度变化规律及能量利用研究
【中文关键词】速冻玉米;微波间歇解冻;微波吸收效率
【英文关键词】quick-frozen maize,intermittent microwave thawing,microwave absorption efficiency
【中文摘要】为探索一种更节能的解冻方式,采用微波场技术对速冻玉米进行解冻,以玉米穗数量为变量,通过连续解冻和间歇解冻两种解冻方式,研究玉米穗不同部位的温度变化规律及其对微波能量吸收效率的影响。结果表明,微波连续解冻和间歇解冻过程中,玉米穗不同部位呈现相同的温度变化趋势,即解冻初期,玉米的表面温度>籽粒温度>玉米轴的中心温度,随着解冻时间的延长,玉米轴的中心温度迅速升高,形成从玉米轴中心到表面的温度梯度。与微波连续解冻相比,微波间歇解冻得到的产品温度分布较均匀,微波吸收效率较高,且吸收效率随着速冻玉米数量的增加而增加,当玉米数量达到4穗时,对微波能量的吸收效率趋于稳定,此时微波能量利用率为50.2 %。
【英文摘要】To obtain a more energy-efficient thawing approach, quick-frozen maize was thawed by microwave field technology in either a continuous or intermittent mode under conditions of varying number of maize ears in this paper. The regularity of temperature change in different parts of maize ear and its effect on microwave energy absorption were explored. The results showed that different parts of maize ear displayed identical temperature change trend during both continuous and intermittent thawing. The surface of maize ear exhibited the highest temperature, followed by grain temperature and cob temperature during the early stages of thawing. As the thawing time was prolonged, the central temperature of maize cob was promptly elevated, forming a temperature gradient from the central axis of maize cob to the surface of ear. In comparison with continuous thawing, intermittent thawing resulted in more even temperature distribution and higher microwave energy absorption, which rose as the number of maize ear was increased and tended to remain stable at 50.2% until the number of maize ear reached 4.
【语种】中文
【第一作者】郑明珠
【通讯作者】刘景圣
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【学科分类】食品科学技术基础学科

【题目】超高压技术对玉米粉糊化度的影响研究
【中文关键词】玉米粉;超高压技术;糊化度
【英文关键词】corn flour, ultra high pressure technology, gelatinization degree
【中文摘要】为改善玉米粉加工和食用品质,以普通玉米粉为原料,分别采用单因素和正交试验研究压力、保压时间、玉米粉质量浓度对其糊化度的影响。结果表明:在实验范围内,随着超高压处理压力的增大、保压时间的延长、玉米粉糊化度逐渐升高、玉米粉质量浓度的增大,玉米糊化度均呈先增加后降低的趋势;通过正交试验可知,压力 500MPa、保压时间 20min、玉米粉质量浓度 15g/100mL 时,玉米粉糊化度达到最大为 98.66%。
【英文摘要】In order to improve process and edible quality, the effects of different pressure, holding time and corn flour concentration on gelatinization degree of corn flour were studied with corn flour as raw material by single factor experiment and orthogonal experiment, in order to improve the processing quality and food quality of corn flour. The results showed that with the increment of pressure and prolongation of holding time, the gelatinization degree enhanced. With the concentration of corn flour increasing, gelatinization degree enhanced firstly and then decreased. The results of orthogonal experiment showed that the corn flour which concentration is 15g/100 mL was gelatinized 98.66 % under pressure of 500 MPa for 20 min.

【语种】中文
【第一作者】李建珍
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【题目】鲜玉米中可溶性糖含量的测定
【中文关键词】鲜玉米;可溶性糖;高效液相色谱法
【英文关键词】fresh corn, soluble sugar, HPLC
【中文摘要】采用高效液相色谱法对鲜玉米中可溶性糖含量进行检测。色谱柱为Agilent Zorbax carbohydrate柱(4.6 mm×250mm,5 μm),流动相为75%乙腈,柱温25℃,流速1mL/min。相关系数R在0.99839~0.99995(n=5)之间;精密度实验RSD 0.90%~3.80%(n=5);平均回收率在95.28%~101.02%之间。该方法准确、可靠,可以快速准确的对鲜玉米中可溶性糖进行定性定量分析。
【英文摘要】A high performance liquid chromatography(HPLC) to detect soluble sugar content in fresh corn. Agilent Zorbax carbohydrate(4.6×250mm,5 μm) column is adopted, mobile phase is acetonitrile: H2O=75:25, the column temperature is 25°C,and the flow rate is 1ml/min.The correlation coefficient is 0.99839 to 0.99995(n=5), the RSD is 0.89% to 3.77%(n=5)in precision experiment, and the average recovery is 95.28% to 101.02%. This method is proved to be accurate and rapid for analysis of soluble sugar in fresh corn.
【语种】中文
【第一作者】修琳
【通讯作者】刘景圣
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【题目】鲜食玉米物性测定及食用温度研究
【中文关键词】鲜食玉米;温度;物性特征;感官评定
【英文关键词】steamed corn on the cob, temperature, physical properties, sensory evaluation
【中文摘要】目的:确定鲜食玉米的最佳食用温度及该温度下的质构特性。方法:采用 TPA 法和感官评定法研究鲜食玉米的使用温度范围内的物性特征和食用品质,综合分析 TPA 各项指标和感官评定结果,得出鲜食玉米的最佳食用温度。结果:鲜食玉米的最佳食用温度为 60℃。结论:鲜食玉米在 60℃时口感最佳,物性指标较好。
【英文摘要】The current study was aimed at determining physical properties and the optimum consumption temperature of steamed corn on the cob. Texture profile analysis (TPA) performed on a Stable Micro Systems texture analyzer and sensory evaluation were used to investigate physical properties and the eating quality of steamed corn, respectively. Based on the comprehensive analysis of various determined TPA profile parameters and sensory evaluation, the optimum consumption temperature of steamed corn was determined as 60°C.
【语种】中文
【第一作者】张大力
【通讯作者】刘景圣
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【学科分类】食品科学技术基础学科

【题目】响应面法优化蛋白酶菌株发酵条件
【中文关键词】蛋白酶;玉米浸泡;优化;响应面
【英文关键词】protease, corn steeping, optimization, response surface
【中文摘要】目的:在单因素试验的基础上,应用响应面法优化可用于玉米高效浸泡的产蛋白酶菌株的发酵条件。方法:通过单因素试验及响应面方法研究C/N、MgSO4 和CaCl2、接种量等因素对菌株产蛋白酶酶活力的影响,确定发酵最佳工艺参数。结果:C/N 为2、MgSO4 0.5g/L、CaCl2 0.2g/L、接种量6%,该蛋白酶酶活力最大值为2504.8U/mL,酶活力较优化前提高了4 倍。同时建立蛋白酶酶活力与C/N、MgSO4 添加量、CaCl2 添加量、接种量之间的二次多项式模型,该模型可以很好地预测蛋白酶产量。结论:用响应面分析方法对该产蛋白酶菌株发酵培养基进行优化,可获得最佳的工艺条件。
【英文摘要】In our previous work, we have isolated a protease-producing Pichia kudriavzevii yeast strain. This study was undertaken to use response surface methodology to optimize fermentation conditions for protease production by the strain.Protease activity in fermentation broth was investigated with respect to C/N ratio, MgSO4 and CaCl2 concentrations, and inoculum size. A quadratic polynomial model describing the effects of the fermentation conditions on protease production was established. The highest protease production of 2504.8 U/mL was achieved under the following conditions: C/N ratio of 2, 0.5 g/L MgSO4, 0.2 g/L CaCl2, and inoculum size of 6%, which was four times higher than before optimization. In addition, the established regression model was found to have good effectiveness in predicting protease production.
【语种】中文
【第一作者】张丹
【通讯作者】闵伟红
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【题目】响应曲面法对双螺杆挤压蒸煮玉米粉条件的优化
【中文关键词】挤压蒸煮;糊化度;响应曲面法
【英文关键词】extrusion cooking, degree of gelatinization, response surface methodology
【中文摘要】本研究以普通玉米粉为原料,通过双螺杆挤出对玉米粉进行改性,探讨了高水分条件下物料含水量,挤出温度,螺杆转速对挤出物糊化度的影响,并建立了物料含水量(X1),挤出温度(X2),螺杆转速(X3)之间的数学模型:Y=96.97-1.49 X1-1.21X2-1.85X3-0.37 X1X2-1.15X1X3-2.35 X2X3- 2.20X12-2.50 X22-3.77X32,确定了最佳蒸煮条件:含水量34%、挤出温度139℃、螺杆转速223r/min。在此条件下,玉米粉的糊化度为97.5%,与理论预测值基本相符。为进一步研究螺杆挤压蒸煮工艺提供一定的理论依据,具有很高的应用价值。
【英文摘要】Ordinary corn flour as raw material was modified by two-screw extrusion. Effects of high moisture content, extrusion temperature and screw speed on degree of gelatinization (DG) were investigated. Mathematical model between moisture content(X1),extrusion temperature(X2) and screw speed(X3) was established as follows: Y=96.97-1.49 X1-1.21X2-1.85X3-0.37 X1X2-1.15X1X3-2.35 X2X3- 2.20X12-2.50 X22-3.77X32. Optimal extrusion cooking conditions were obtained as follows: moisture content 34%,extrusion temperature 139℃ and screw speed 223r/min. Under these conditions, DG attained 97.5%, basically consistent with the theoretical prediction. This research has a high application value for providing theoretical basis for further study of screw extrusion cooking process.
【语种】中文
【第一作者】王宝石
【通讯作者】刘景圣
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【引文索引号】0
【学科分类】食品加工技术

【题目】生物酶修饰对于玉米粉品质的影响
【中文关键词】枯草芽孢杆菌;黑曲霉;生物酶;玉米粉;品质
【英文关键词】Bacillus subtilis , Aspergillus niger, biological enzymes, corn flour, quality
【中文摘要】为了改善玉米的加工及食用品质,探讨改性后玉米粉制作主食品的可行性。同时,开发生物酶应用在食品行业的新途径。采用枯草芽孢杆菌和黑曲霉分泌的生物酶对玉米粉进行修饰改性,实验结果表明,经过两种酶修饰后,玉米粉的真蛋白含量、总淀粉含量都明显下降,直链淀粉含量、溶解度都有所增加,枯草芽孢杆菌胞外酶修饰玉米粉的保水力、凝胶体积膨胀率和粘度都有所提高,而黑曲霉胞外酶修饰玉米粉的保水力、凝胶体积膨胀率和粘度都有所降低,在物性测定方面,两种酶修饰后玉米面团的延展性、韧性等都大幅度增加,具有加工面条、水饺等主食品的潜力,说明玉米粉的加工及食用品质得到了明显的改善。
【英文摘要】To improve processing and eating quality of corn, the corn flour was modified by biological enzymes from Bacillus subtilis or Aspergillus niger. The results indicated that the content of starch and protein in the corn decreased significantly with increasing in the solubility viscogram and straight chain starch. It was improved in quality of water retention capacity, gel dilatability and viscosity of corn flour modified by Bacillus subtilis on the contrary with flour modified by Aspergillus niger, but the physical properties of both corn flour dough modified by biological enzymes from Bacillus subtilis and Aspergillus niger were improved,So it has potential of making corn dumpling and corn noodles with its good viscosity, ductility, toughness. This kind of biological enzymes can be used to improve the quality of corn flour.the processing and eating quality of corn flour had been improved.
【语种】中文
【第一作者】王景会
【通讯作者】刘景圣
【期刊名称、卷期、页码】食品科学,2012,33(11):8-11
【论文发表时间】2012-06-15 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】食品科学技术基础学科

【题目】微波辅助技术在食品工业中的应用研究进展
【中文关键词】微波辅助加热;食品工业;应用
【英文关键词】microwave-assisted heating, food industry, application
【中文摘要】对微波辅助漂烫、微波辅助干燥、微波辅助烘焙、微波辅助萃取和微波辅助解冻等技术的原理及应用现状进行综述,并对存在的问题进行针对性分析,为微波食品的工业化提供参考。
【英文摘要】As a new type of heating technology,Microwave-assisted technology has many advantages.This paper briefly introduced the basic principal and current application condition of microwave blanching,microwave drying,microwave baking,microwave assisted extraction and microwave thawing techniques.The problems of the technology were also specifically analyzed and can provided reference for the industrialization of microwave food.
【语种】中文
【第一作者】苏慧
【通讯作者】刘景圣
【期刊名称、卷期、页码】食品与机械,2011,27(2):165-167
【论文发表时间】2011-03-18 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】食品科学技术基础学科

【题目】双螺杆挤出条件对玉米粉质构特性的影响
【中文关键词】玉米粉;双螺杆挤出;质构特性;TPA测试
【英文关键词】corn grits, Two-screw extrusion, Quality and structure characteristics, TPA test
【中文摘要】考察了不同加水量、机筒温度、螺杆转速对双螺杆挤出玉米粉质构特性的影响。试验结果表明:当加水量由10%增加到35%时,面团硬度增加了38.0%,而粘度和弹性分别下降了42.3%和66.8%;当温度由100°C增加到160°C时,面团硬度减少了19.5%,而粘度和弹性分别增加了92.9%和44.0%,温度由180°C增加到200°C时,硬度增加了41.0%,而粘度和弹性分别减少了34.8%和24.1%;当螺杆转速由180r/min增加到220r/min时,面团硬度和弹性分别增加了48.5%和7.7%,而粘度降低了

58.1%,当螺杆转速由240r/min增加到280r/min时,面团硬度和弹性分别降低了24.2%和20.5%,粘度增加了215.8%。因此,双螺杆挤出对玉米粉质构特性有较大的影响。

【英文摘要】Texture properties of corn were investigated as a result of extrusion condition, including water added, jet temperature and two-screw speed. The results indicate that the hardness of dough increased 38.0% with feed added increased to 35% by 10%, but the adhesiveness and springiness of dough decreased by 42.3, 66.8%, respectively. When the temperature up to 160°C from 100°C, The hardness of dough decreased 19.5%, and the adhesiveness and springiness increased 92.9%,44.0%, respectively. But with temperature increased to 200°C by 180°C, the hardness of dough increased by 41.0%, and the adhesiveness and springiness decreased by 34.8%, 24.1%, respectively. When the screw speed up to 220r/min from 180r/min, the hardness and springiness of dough increased by 48.5%, 7.7%, respectively, and the adhesiveness decreased by 58.1%. But with the screw speed increased to 280r/min by 240r/min the hardness and springiness decreased by 24.2%, 20.5%, respectively, and the adhesiveness increased by 215.8%. Therefore, Two-screw extrusion has a significantly effect on the texture properties of corn grits.

【语种】中文

【第一作者】刘义军

【通讯作者】刘景圣

【期刊名称、卷期、页码】中国食物与营养,2011,17(9):36-38

【论文发表时间】2011-09-28 00:00:00

【引文索引类型】其他

【引文索引号】0

【学科分类】食品加工技术

【题目】玉米热风与微波联合干燥工艺优化研究

【中文关键词】联合干燥;微波辅助;玉米;正交试验

【英文关键词】combination drying,microwave- assisted,maize,orthogonal experiment

【中文摘要】对玉米进行热风与微波联合干燥实验研究,目的是缩短单独热风干燥玉米时间,节约能耗,同时利用微波干燥对环境无污染的优势。通过单因素试验和正交试验优化设计,得到玉米联合干燥的较佳工艺条件。结果表明联合干燥玉米的较佳工艺条件为:转换水分点为20%,微波功率为119 W,微波时间为8 min。此条件下干燥玉米,其裂纹率为0%,颜色和气味基本正常。

【英文摘要】In order toreduce hot- air dryingtime and save dryingenergyconsumption, as well as take advantage of eco- friendly microwave drying, maizes were dehydrated by a combination of hot- air and microwave drying, the optimum conditions were obtained by orthogonal test design, a transferred moisture content of 20 %, a microwave power of 119 W, and a microwave time of 8 min. Meanwhile, it shows that corn crack rates were 0 % without a difference of corn colour and smell under the combination drying conditions.

【语种】中文

【第一作者】贾洪雷

【通讯作者】贾洪雷

【期刊名称、卷期、页码】食品研究与开发,2011,32(7):61-64

【论文发表时间】2011-07-05 00:00:00

【引文索引类型】其他

【引文索引号】0

【学科分类】食品科学技术基础学科

【题目】燃气直热与微波辅助玉米干燥装置的设计

【中文关键词】燃气直热;微波辅助;干燥装

【英文关键词】gas-heating, microwave-assisted, drying device

【中文摘要】利用天然气燃烧产生的气体作为热介质,在恒速干燥最后阶段,加入微波辅助加热,利用微波加热的特点,加快内部水分向外部扩散的速率,这样可以大大缩短降速干燥阶段时间。

【英文摘要】Combustion gas produced by natural gas as heating medium, microwave was applied to heat in the final stage of constant rate drying in this machine design. Microwave heating can rapidly improve the diffusive rate of water from inside to outside materials. Therefore, this device can greatly reduce the drying time in the falling rate stage.

【语种】中文
【第一作者】刘春喜
【通讯作者】贾洪雷
【期刊名称、卷期、页码】价值工程,2010,29(4):122-123
【论文发表时间】2010-04-18 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】食品科学技术基础学科

【题目】质构重组技术在食品工业中的应用
【中文关键词】质构重组技术;机理;应用
【英文关键词】texture and structure recombination technology,mechanism,application
【中文摘要】综述国内外的质构重组技术(如超高压处理、挤压处理、微波处理、超声波处理等)加工食品物料的机理、条件及物料的理化性质和结构变化的基本研究情况,并对其应用的发展前景进行了展望。
【英文摘要】To introduce the basic research in texture and structure recombination technology(such as ultrahigh pressure processing, extrusion treatment, microwave treatment, ultrasound treatment and so on), including the mechanism and condition of processing food, the physical and chemical properties and structural changes of the materials, and its application in the development was prospected.
【语种】中文
【第一作者】李建珍
【通讯作者】刘景圣
【期刊名称、卷期、页码】食品研究与开发,2011,32(12):181-184
【论文发表时间】2011-12-05 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】食品科学技术基础学科

【题目】即食玉米质构的感官评定与仪器分析
【中文关键词】即食玉米;食品质构;感官评定;仪器评价
【英文关键词】instant corn, food texture, sensory assess, instrumental analysis
【中文摘要】介绍了即食玉米质构的感官评价方法和仪器分析方法,讨论了感官评定方法与仪器分析方法之间的相关性,并对其在即食玉米质构评价中的应用进行了展望。
【英文摘要】Instant corn texture evaluate by sensory assess and instrumental analysis was introduced in this paper. Also the relationships of sensory assess and instrumental analysis was discussed, we prospect the research progress in the evaluation of instant corn texture.
【语种】中文
【第一作者】孙海涛
【通讯作者】刘景圣
【期刊名称、卷期、页码】食品科技,2011,36(6):288-291
【论文发表时间】2011-06-20 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】食品科学技术基础学科

【题目】多酶复合对玉米粉质构特性的影响
【中文关键词】复合酶; 玉米粉; 改性; 质构特性
【英文关键词】multienzyme, corn flour, modification, texture property
【中文摘要】利用中性蛋白酶、谷氨酰胺转氨酶、普鲁兰酶和葡萄糖氧化酶复合作用对玉米粉进行修饰,改善其粘弹性和延展性。在研究多种蛋白酶和淀粉酶改性过程中,以改性条件和改性程度为基础,选择合适的酶进行复合改性,并利用 Stable TA. XT plus 质构分析仪对玉米粉的粘弹性和延展性进行分析。结果表明,单种酶对玉米粉的改性程度有限,不能满足加工

要求; 多种酶复合改性能使玉米粉的粘弹性和延展性有较大改善,使普通玉米粉的粘度由46.59 Pa. s 提高到 213.85 Pa. s,延展性由 10.21mm 提高到 28.26mm,恢复性由 7.84% 提高到 31.04% ,硬度由16.52g 提高到 276.13g。

【英文摘要】Corn flour was modified by neutral protease,glutamine transaminase,pullulanase,and glucose oxidase to improve viscoelastic and extensibility of corn dough. In the modification process of protease and amylase,modified conditions and degree selected as basis,the viscoelastic and extensibility of corn dough were measured with Stable TA. XT plus. Results showed that single species of enzyme had a limit extent of modification. Compound enzyme deeply improved the viscoelastic and extensibility,and viscoelastic,extensibility,resilience and hardness improved from 46. 59 Pa. s,10. 21mm,7. 84% ,and 16. 52g to 213. 85 Pa. s,28. 26mm,31. 04% ,and 276. 13g respectively.

【语种】中文

【第一作者】王富盛

【通讯作者】刘景圣

【期刊名称、卷期、页码】中国食物与营养,2012,18(3):49-53

【论文发表时间】2012-03-28 00:00:00

【引文索引类型】其他

【引文索引号】0

【学科分类】食品科学技术基础学科

【题目】微波辐射对玉米粉质构特性的影响

【中文关键词】微波辐射; 玉米粉; 质构特性

【英文关键词】microwave radiation, corn flour, texture property

【中文摘要】利用微波对玉米粉辐照,以面团的粘度和延展距离为指标,考察了加水量、微波功率和微波辐射时间对微波辐射玉米粉质构特性的影响,并利用 Stable TA. XT plus 质构分析仪的 A/DSC 和 HDP/TPB 模式对面团的质构特性进行分析。结果表明,加水量、微波功率和微波辐射时间对面团粘度和延展距离都有显著影响,通过微波改性能使面团的粘度由14. 320g 提高到53. 547g,面团的延展距离由10. 135mm 提高到22. 330mm。

【英文摘要】Effects of water addition,microwave power and microwave time on corn flour were researched with viscosity and extend distance as index. Using the A / DSC and HDP / TPB mode of Stable TA. XT plus,the texture property of dough was determind. The results showed that water addition,microwave power and microwave time had significant impact on the viscosity and extend distance of dough. By the microwave radiation,the viscosity of dough increased from 14. 320g to 53. 547g,and the extend distance increased from 10. 135mm to 22. 330mm.

【语种】中文

【第一作者】王富盛

【通讯作者】刘景圣

【期刊名称、卷期、页码】中国食物与营养,2012,18(1):28-31

【论文发表时间】2012-01-28 00:00:00

【引文索引类型】其他

【引文索引号】0

【学科分类】食品科学技术基础学科

【题目】玉米醇溶蛋白湿热法糖基化初步研究

【中文关键词】玉米醇溶蛋白;糖基化;接枝度

【英文关键词】zein, glycosylation, conjugation degrees

【中文摘要】对玉米醇溶蛋白湿法糖基化的改性工艺进行了初步研究,分析了不同糖基供体、温度、底物浓度对接枝度、可溶性蛋白和游离氨基含量的影响。结果表明,葡萄糖作为糖基供体,在90°C、蛋白与葡萄糖质量比为1∶2时进行糖基化反应,接枝度可达到38.34%,可溶性蛋白含量为1.22mg/mL,可溶性蛋白含量提高了1.84倍。

【英文摘要】Modification process of glycosylation of zein by water-heating was preliminarily studied.Effects of different glycosyl donor, temperature,concentration of substrate on the conjugation degrees and the solubility and free amino of the conjugates were investigated.Results showed that under these conditions (temperature 90°C,weight ratio of protein to glucose 1:2) with glucose as glycosyl donor, conjugation degrees achieved 38.34% and content of soluble protein was 1.22mg/mL which rised 1.84 times than original zein

【语种】中文
【第一作者】孔繁惠
【通讯作者】刘景圣
【期刊名称、卷期、页码】中国食物与营养,2012,18(4):55-58
【论文发表时间】2012-04-28 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】食品科学技术基础学科

【题目】营养玉米饺子粉配粉工艺及品质特性研究
【中文关键词】营养玉米饺子粉;配粉;蒸煮品质; 质构特性
【英文关键词】Nutritional dumpling-flour, blending flour, cooking quality, Texture characteristics
【中文摘要】研究以玉米粉-膨化玉米粉为主,添加活性谷朊粉和大豆蛋白制备营养玉米饺子粉的工艺。通过单因素和正交试验,获取最佳配比:玉米原粉:玉米膨化粉:活性谷朊粉:大豆蛋白的比例为51:34:10:5。在此条件下营养玉米饺子粉的感官评分最佳,蒸煮损失率为6.45%;延伸性为10.612mm;回复性为0.287。
【英文摘要】Nutritional dumpling-flour was prepared with maize meal and extruded maize meal as material, adding soy protein and wheat gluten corn. Optimal formula was obtained by single factor and orthogonal experiments as follows: the ratio between ordinary maize meals extruded maize meal, and wheat gluten corn and soy protein is 51:34:10:5. Under these conditions, cooking loss rate, extensibility and recoverability is 6.45%, 10.612mm, 0.278, respectively. And the sensory score is the highest.
【语种】中文
【第一作者】董艳娇
【通讯作者】刘景圣
【期刊名称、卷期、页码】中国食物与营养,2012,18(7):54-57
【论文发表时间】2012-07-28 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】食品工程与粮油工程

【题目】双螺杆挤压蒸煮对普通玉米粉糊化度的影响
【中文关键词】普通玉米粉;双螺杆挤压蒸煮;糊化度
【英文关键词】Ordinary Corn flour, Two-screw Extrusion Cooking, Degree of Gelatinization
【中文摘要】本研究以普通玉米粉为原料,研究了不同挤压蒸煮条件对玉米粉糊化度的影响。试验结果表明:随着物料含水量增加,挤出玉米粉的糊化度先增加后降低,物料含水量为35%时,糊化度达到最大为96.03%;随着挤出温度的增加,挤出玉米粉的糊化度先增加然后略有降低,挤出温度为150℃时,糊化度达到最大为94.1%;随着螺杆转速的增加,挤出玉米粉的糊化度呈现先增加后降低的趋势,螺杆转速为225r/min时,糊化度达到最大为93.7%。
【英文摘要】Extrusion cooking conditions on the degree of gelatinization (DG) with ordinary corn flour as raw material were researched in the paper. Results showed as follows: with the increasing of moisture content, DG of extrusion corn flour firstly increased and then decreased and reached maximum as 96.03%when moisture content was 35% ; DG of extrusion corn flour firstly increased and then decreased slightly with the increasing of extrusion temperature and reached maximum as 94.1% when extrusion temperature was 150oC; DG of extrusion corn flour presented a trend of firstly increased and then decreased with the increasing of screw speed and reached maximum as 93.7%when screw speed was 225r/min.
【语种】中文
【第一作者】王宝石
【通讯作者】刘景圣
【期刊名称、卷期、页码】食品与发酵科技,2012,48(2):13-15
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【引文索引类型】其他
【引文索引号】0
【学科分类】食品加工技术

【题目】采用全基因组改组技术选育蛋白酶高产菌株
【中文关键词】枯草芽孢杆菌; 蛋白酶; 基因组改组
【英文关键词】Bacillus subtilis, protease, genome shuffling
【中文摘要】为提高枯草芽孢杆菌B4的蛋白酶产量,采用了全基因组改组技术进行菌株选育,首先通过紫外诱变构建了B4菌的突变体库,在优化其原生质体制备和再生条件的基础上,以其中4株诱变菌株作为亲本,采用PEG介导的方法进行两次多亲本的全基因组改组,同时,结合双亲灭活的筛选方法,共筛选出3株酶活大幅度提高并能稳定遗传的优良菌株,酶活最高达2175.8U/ml,达到原始菌株的3.01倍。
【英文摘要】In order to increase the protease output of Bacillus subtilis, the whole genome shuffling was applied. First of all, a candidate mutant library was constructed by treating B4 with ultraviolet rays. Based on studying the optimum conditions for protoplast preparation and regeneration of B4, Multi parental whole genome shuffling with 4 strains was conceded by PEG mediated protoplasts fusion, then combines with the screening method of double-inactive protoplast, three strains with higher yield of protease were obtained effectively,which can descend stably after eight generations, and their enzyme production reached 2175.8U/ml ,which was increased 3.01 fold compared with the initial strain B4 .
【语种】中文
【第一作者】王景会
【通讯作者】刘景圣
【期刊名称、卷期、页码】食品科学
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【学科分类】食品科学技术基础学科

【题目】辣味咸鸭蛋的研制
【中文关键词】咸鸭蛋;辣味;料液配比;研制
【英文关键词】salty duck egg;hot;feed solution proportion;develop
【中文摘要】以新鲜鸭蛋为原料,通过添加辣椒、八角、桂皮和生姜,采用正交实验,对腌制剂配比成分进行优化选择,研究出一种具有保健功能的咸鸭蛋。同时在腌制过程中,对料液中的NaCl浓度以及蛋内水分含量进行了测定,来检测鸭蛋的腌制过程。研究结果表明,对于24个鸭蛋(约2160g),辣味咸鸭蛋的最佳配方为:水1800g,NaCl270g,辣椒60g,八角2.4g,桂皮3g,生姜9.6g。
【英文摘要】This experiment took the fresh duck egg as a raw material by the addition of pepper, star anise, the Chinese cinnamon and the ginger,using the orthogonal experimental design to determine the optimized choice for the salt preparation and the best allocated proportion ingredient,to develop salty duck egg with the health care function. Meanwhile in the souse process,NaCl concentration and water content in the material fluid were detected. The findings indicated that the hot salty duck egg's best formula is 24 duck eggs (approximately 2 160 g),adds water 1 800 g,the salty 270 g,the hot pepper 60 g,the star anise 2.4 g,the Chinese cinnamon 3 g,the ginger 9.6 g.
【语种】中文
【第一作者】潘磊庆
【通讯作者】屠康
【期刊名称、卷期、页码】农产品加工(学刊)、(3)、10-12,16
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【学科分类】食品加工技术

【题目】鸡种蛋孵化品质无损检测的研究进展
【中文关键词】鸡种蛋,孵化,成活性,无损检测
【英文关键词】chicken hatching eggs; incubation; fertility; non-destructive test
【中文摘要】对鸡种蛋的孵化进行自动化检测,及时剔除未受精蛋和死胚蛋有利于提高孵化的经济效益。无损检测技术是近几十年农产品内外品质检测的研究热点,部分技术已有实际应用,已有国内外学者采用无损检测的方法对种蛋的孵化情

况进行研究。本文综述了各种无损技术检测种蛋孵化的方法原理、研究现状,并指出了目前尚需解决的问题和发展前景。
【英文摘要】Automatically detection of hatching eggs during early incubation would allow tmiely removal of dead embryos and infertile eggs from incubation thereby contributing to hatchery profits1Non-destructive inspection is a research focus in agricultural products detection in recent years, some techniques have been successfully applied in the food industry1The principle of the nondestructive measurements on the fertility detection and the research situation at home and at abroad were reviewed, the current solved problems were also discussed.
【语种】中文
【第一作者】邹秀容
【通讯作者】屠康
【期刊名称、卷期、页码】食品工业科技、31(2)、342-344,347
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【题目】杞柳瘿蚊生物学特性及防治
【中文关键词】杞柳瘿蚊;生物学特性;防治
【英文关键词】Rhbdophaga salics Schrank; biological characteristics; control
【中文摘要】杞柳瘿蚊(Rhbdophaga salics Schrank)是沿淮地区和黄河流域的一种危害杞柳的重要害虫。通过对该虫的室内饲养观察和田间调查,掌握了其主要的生物学特性,并对其进行了药剂防治试验。结果表明:该虫在沿淮地区1 年发生5 代,以幼虫在当年生被害杞柳柳条上的虫瘿内越冬。第一、二代幼虫发生盛期分别为4 月和5 月上旬,应作为防治的重点时期。防治试验所使用的4 种药剂中,啶虫脒对杞柳瘿蚊的室内毒力最高,LC50为9.1105 mg/L,乐斯本的毒力最低;药后7 天吡虫啉和啶虫脒对杞柳瘿蚊的田间防效都能达到50%以上,是田间防治杞柳瘿蚊的较理想药剂。
【英文摘要】Rhbdophaga salics Schrank is an important pest which endanger osier in Yellow River Basin andregion along Huaihe River. By means of indoor and field rearing and observation, we mastered its main biological characteristics and carried out chemical control tests. Experimental results showed thatRhbdophaga salics Schrank had five generations per year in low-lying area along Huaihe River. The matured larva overwintered in the galls of damaged wickers in the current year. The peak time for the larvae ’s hatching was first ten-day of April and May, which should be the focus period of control. According to chemical control experiment of four chemicals, laboratory toxicity of acetamiprid was the highest, the LC50 values was 9.1105 mg/L, while which of chlorpyrios was the lowest. Field control efficacy of imidacloprid and acetamiprid after 7 days were both over 50%, so imidacloprid and acetamiprid could be used as optimum agents in field control of Rhbdophaga salics Schrank.
【语种】中文
【第一作者】俞艳栋
【通讯作者】林华锋
【期刊名称、卷期、页码】中国农学通报,2010,26(18):293-296
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【题目】基于电子鼻对水蜜桃货架期评价的研究
【中文关键词】久保水蜜桃;电子鼻;货架期;评价
【英文关键词】Jiubao juicy peach;electronic nose;freshness;evaluation
【中文摘要】利用 PEN3 电子鼻系统对早熟“久保”水蜜桃采后7d 货架期内的芳香成分进行检测分析,先通过电子鼻系统动态采集水蜜桃芳香成分并得到了电子鼻的响应值,再利用PCA(主成分分析)、LAD(线性判别)模式识别方法进行数据分析。结果表明 LDA 方法能够更好地区分第 1 天、第 2~4 天和第 5~7 天货架期的水蜜桃,进行交叉确认分析后,对第1 天、第2~4 天和第5~7 天的水蜜桃货架期区分准确率达91%,同时采用负荷加载(Loading)分析方法可以得知,传感器 W1S(甲烷)、W2S(乙醇)、W2W(硫化氢类)对水蜜桃货架期的评价起主要作用,这为进一步优化传感器以及探索方便快捷的水蜜桃无损检测技术提供了依据。

【英文摘要】In this study, a portable electronic nose PEN3 was used for the aroma analysis of Jiubao juicy peach, an early-ripening cultivar in order to provide experimental references for the evaluation of its freshness. Dynamic aroma sampling was achieved using PEN3 and the response values of the instrument were obtained. This was followed by data analysis using principal component analysis (PCA) and linear discrimination analysis (LDA). The results showed that the use of LDA was able to better discriminate peaches on the 1st, 2ndto 4th, and 5th to 7th days of postharvest storage in polyethylene bags under the conditions of (20 ±0.5)℃ and 65%-70% relative humidity. According to cross-validation analysis, the discrimination accuracy among these samples stored for different storage periods was as high as 91%. Meanwhile, it was indicated by loading analysis that sensors W1S, W2S and W2W played a central role in evaluating the freshness of juicy peach, which provides useful evidences for the optimization of sensors and exploration into a simple and convenient non-destructive technique for the evaluation of juicy peach freshness.
【语种】中文
【第一作者】江琳琳
【通讯作者】潘磊庆
【期刊名称、卷期、页码】食品科学、31(12)、229-232
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【学科分类】食品加工技术

【题目】E ® ect of Nitrate on Activities and Transcript Levels of Nitrate Reductase and Glutamine Synthetase in Rice
【中文关键词】无
【英文关键词】ammonium, glutamine synthetase, nitrate, nitrate reductase, Oryza sativa L.
【中文摘要】无
【英文摘要】Real-time polymerase chain reaction analysis was used to compare the e ® ect of NO ¡ 3 on the activities of nitratereductase (NR) and glutamine synthetase (GS), and the transcript levels of two NR genes, OsNia1 and OsNia2, twocytosolic GS1 genes, OsGln1;1 and OsGln1;2, and one plastid GS2 gene OsGln2, in two rice (Oryza sativa L.) cultivarsNanguang (NG) and Yunjing (YJ). Both cultivars achieved greater biomass and higher total N concentration when grownin a mixed N supply than in sole NH+4 nutrition. Supply of NO ¡ 3 increased NR activity in both leaves and roots. Expression of both NR genes was also substantially enhanced and transcript levels of OsNia2 were signi ¯ cantly higher than those of OsNia1. NO ¡ 3 also caused an increase in GS activity, but had a complex e ® ect on the expression of the three GS genes. In roots, the OsGln1;1 transcript increased, but OsGln1;2 decreased. In leaves, NO ¡ 3 had no e ® ect on the GS1 expression, but the transcript for OsGln2 increased both in the leaves and roots of rice with a mixed supply of N. These results suggested that the increase in GS activity might be a result of the complicated regulation of the various GS genes.In addition, the NO ¡ 3 -induced increase of biomass, NR activity, GS activity, and the transcript levels of NR and GS genes were proportionally higher in NG than in YJ, indicating a stronger response of NG to NO ¡ 3 nutrition than YJ.
【语种】英文
【第一作者】曹云
【通讯作者】沈其荣
【期刊名称、卷期、页码】Pedosphere 18(5): 664{673, 2008
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【学科分类】农学其他学科

【题目】杞柳瘿蚊越冬虫源及越冬场所的研究
【中文关键词】杞柳瘿蚊;越冬虫源;越冬场所
【英文关键词】Rhbdophaga SP ; the overwintering generation; the overwintering place
【中文摘要】为了明确杞柳瘿蚊的越冬虫源和越冬场所,掌握该虫的生物学特性,为防控该虫提供科学依据,通过采摘剥查当年生被杞柳瘿蚊为害的杞柳枝头上形成的虫瘿,及将采摘的虫瘿和剥查出来的杞柳瘿蚊幼虫和蛹放置在不同的环境条件下研究其越冬情况,并调查该虫的越冬场所。结果表明:杞柳瘿蚊以幼虫和蛹在当年生被害杞柳枝头上的虫瘿内越冬,越冬场所在土壤外部,越冬虫源主要来自于杞柳加工过程中残留在下脚料上的虫瘿和集中堆放的未经加工的带虫瘿柳条;其次是杞柳收割过程中散落并残留在田间的虫瘿。实际生产中,对收割后杞柳枝头上的虫瘿进行摘除并集中销毁,同时清除残

留在田间的虫瘿,可有效降低杞柳瘿蚊的越冬虫源,减轻翌年杞柳瘿蚊对杞柳的危害。
【英文摘要】In order to make clear the overwintering generation and the overwintering place ofRhbdophaga SP, master its biological characteristics and provide the scientific basis to control this insect, the author picked and peeled the galls in the infested wickers, then put the larva and pupa into different environmental conditions to research the characteristic of overwintering and find the overwintering place. The results showed that: the larva and pupa overwintered in the galls of damaged wickers in the current year. The overwintering place of this pest was out of soil. The overwintering generation of the pest was mainly in the galls which were in the scrap after processing and in the outside branches before processing. The galls falling in the field in harvest was the other source. In the practical application, galls must be removed and destroyed centrally after wickers harvest. And the galls falling in the field must be eliminated simultaneously. It could largely reduce the number of overwintering generation after taking such measure. And the perniciousness ofRhbdophaga SP would be remitted the next year.
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【第一作者】姚骏
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【题目】有机、无机肥对莲藕生长和品质的影响及施肥效益分析
【中文关键词】施肥;莲藕;生长;品质;效益
【英文关键词】fertilize; lotus root; growth; quality; efficiency
【中文摘要】为了提高莲藕产量和改善莲藕的品质,通过采用施用不同肥料,研究有机、无机2 种肥料对莲藕生长、品质及施肥效益的影响。结果表明,有机肥处理比无机肥处理莲藕茎秆粗壮,根茎肥大,节间短,单支主藕较重,纤维素含量低,还原糖、维生素含量高,硝酸盐含量低,即施用有机肥的莲藕长势强、品质佳、产量高、效益好。总之,施用有机肥不但能提高莲藕产量,而且还能改善莲藕品质。
【英文摘要】In order to improve the production and quality of lotus root, the author studied organic and inorganic on two kinds of lotus root through different methods, including growth, quality and efficiency of fertilization. The results showed that, the organic fertilizer treatment was better than the inorganic fertilizer treatment. It had the following advantages: lotus root thick stem, root hypertrophy, internodes short, the single main lotus heavy, low fiber content, rich in vitamin and reducing sugars, low nitrate content. The application organic fertilizer of the lotus had good quality, high yield and good benefits. In short, the application of organic fertilizers would not only increase production of lotus root, but also to improve quality.
【语种】中文
【第一作者】张长伟
【通讯作者】徐文娟
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【题目】模拟淹水对杞柳生长和光合特性的影响
【中文关键词】杞柳;淹水胁迫;生长;叶绿素荧光;光合速率
【英文关键词】Salix integra; flooding stress; growth; chlorophyll fluorescence; photosynthesis rate
【中文摘要】以一年生红皮柳(Salix integra cv. hongpi)和青皮柳(Salix integra cv. qingpi)为试验材料,研究了人工模拟淹水胁迫对两个杞柳品种的生长、气体交换及叶绿素荧光的影响。经过75天的淹水处理,两个品种的存活率均为100%。在试验过程中,红皮柳和青皮柳都产生了有利于吸收氧气的不定根和肥大的皮孔,但在产生的时间上红皮柳较青皮柳迟10天左右。渍水处理促进了青皮柳的生长和光合作用,而红皮柳在渍水和轻度淹水胁迫处理下的生长、叶绿素含量(Chl)、净光合速率(PN)和气孔导度(Gs)都明显低于对照。随着淹水时间的增加,红皮柳的非光化学淬灭系数((NPQ)持续增加并高于对照,最大光化学量子效率(Fv/Fm)持续下降且明显低于对照;青皮柳的非光化学淬灭的值增加幅度较小,最大光化学量子效率一

直在0.8-0.85之间波动,与对照相比都无显著差异。以上的实验结果表明在淹水胁迫下红皮柳的光合运转机构受到了一定程度的损伤,而渍水处理则促进了大青皮的生长,因此青皮柳较红皮柳而言更耐淹,更适合在河岸带和消落区生长。

【英文摘要】The effects of flooding on growth, leaf gas exchange and chlorophyll fluorescence of Salix integra seedlings were studied during a growth season (from August to October in 2011). Throughout a 75-day flooding period, the survival rates of seedlings of the two types of Salix integra were 100%. The seedlings of both types developed hypertrophied lenticels and adventitious roots at their stem base with the different formation time (Salix integra cv. hongpi was 10d later than Salix integra cv. qingpi). The growth and photosynthesis of S. integra cv. qingpi were promoted under the waterlogging stress, while the growth and photosynthetic properties (chlorophyll (Chl) content, net photosynthetic rate (PN) and stomatal conductance (Gs)) of S. integra cv. qingpi under waterlogging stress and slight flooding stress were all significantly lower than those of the control. Significant increases of non-photochemical quenching (NPQ) and reductions of maximal quantum efficiency of PSII photochemistry (Fv/Fm) in the flooded seedlings were observed for S. integra cv. hongpi. For S. integra cv. qingpi, however, the value of Fv/Fm was fluctuated from 0.80 to 0.85. There were no significant differences in NPQ and Fv/Fm between the treatments and control. Our results demonstrated that S. integra cv. hongpi of S. integra appeared a slight damage to its photosynthetic apparatus under slight flooding stress. In contrast, the slight flooding stress promoted the growth of S. integra cv. qingpi, indicating that S. integra cv. qingpi can tolerate prolonged soil flooding better than S. integra cv. hongpi. Thus S. integra cv. qingpi is more suitable for afforestation in the riparian zone.

【语种】中文

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【通讯作者】徐小牛

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【学科分类】森林培育学

【题目】Identification and expression analysis of OsHsfs in rice

【中文关键词】无

【英文关键词】Heat shock, Transcription factors, Rice, Protein structure, Expression analysis

【中文摘要】无

【英文摘要】Heat stress transcription factors (Hsfs) are the central regulators of defense response to heat stress. We identified atotal of 25 rice Hsf genes by genome-wide analysis of rice (Oryza sativa L.) genome, including the subspecies of O. japonica andO. indica. Proteins encoded by OsHsfs were divided into three classes according to their structures. Digital Northern analysisshowed that OsHsfs were expressed constitutively. The expressions of these OsHsfs in response to heat stress and oxidative stressdiffered among the members of the gene family. Promoter analysis identified a number of stress-related cis-elements in thepromoter regions of these OsHsfs. No significant correlation, however, was found between the heat-shock responses of genes andtheir cis-elements. Overall, our results provide a foundation for future research of OsHsfs function.

【语种】英文

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【学科分类】农学其他学科

【题目】不同氮效率水稻的生长特性

【中文关键词】水稻; 氮效率; 根系; 硝酸还原酶活性; 谷氨酰胺合成酶活性

【英文关键词】无

【中文摘要】以氮高效水稻4007和氮低效水稻Elio为材料, 在水培条件下设置高(5172 mmol · L - 1) 、低(1143 mmol · L - 1)2个供氮处理, 研究2个水稻品种的籽粒产量及不同生育期的干物重、吸氮量和根系形态以及功能叶片硝酸还原酶活性(NRA) 、功能叶片和根系谷氨酰胺合成酶活性(GSA) 的差异。结果表明: 2个处理4007的籽粒产量均高于Elio。在分蘖期,

Elio的地上、下部生物量及氮积累量均大于4007, 至拔节期两者差距减小, 齐穗期Elio的地上部氮积累量只有4007的8614%, 且差异显著。高氮条件下, 在分蘖期4007的根系特征参数显著低于Elio, 而在拔节期两品种却没有显著差异, 在齐穗期4007的总根长、根表面积和根尖数已经显著高于Elio。高氮处理的叶片NRA、叶片和根系GSA均显著高于低氮处理; 在拔节期和齐穗期, Elio叶片NRA极显著下降, 而4007叶片则保持NRA的稳定; 在齐穗期4007的GSA显著高于Elio。
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【语种】中文
【第一作者】叶利庭
【通讯作者】张亚丽
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【题目】氮高效水稻品种苗期耐低磷种质的筛选与鉴定
【中文关键词】水稻; 苗期; 耐低磷; 筛选; 鉴定
【英文关键词】无
【中文摘要】以先前通过田间试验筛选出来的36 个氮高效水稻品种为供试材料, 在苗期进行了耐低磷筛选, 并对获得的3 个耐低磷和2 个低磷敏感品种响应磷素胁迫的生理机制进行了初步研究。结果表明: 1) 正常供磷和低磷条件下, 所有调查性状的相对值(低磷/ 正常供磷) 中, 相对根系干质量、相对地上部干质量、相对根冠比和相对分蘖数均具有较大的品种间变异(变异系数分别为16. 9%、1 0. 9%、11. 4%、16. 3%) 。相关分析表明, 它们呈显著或极显著正相关。因此, 这4 个性状可以作为水稻苗期耐低磷筛选的评价指标。2) 在低磷条件下, 筛选出的3 个耐低磷品种比2 个低磷敏感品种的根系生长旺盛且活力强, P 吸收动力学参数中Km 、Cmin 小, 而Vmax大, 酸性磷酸酶(APase) 活性升幅大, 磷效率在两者之间也存在显著差异。同时, 不同耐低磷品种适应低磷胁迫的调节机制也有所不同。表明筛选氮磷双高效的水稻品种是可行的, 同时也为后续基因定位和遗传机制的研究提供了材料和生理学依据。
【英文摘要】无
【语种】中文
【第一作者】宋爱梅
【通讯作者】徐国华
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【题目】花生不同种植方式对田间土壤微环境和产量的影响
【中文关键词】种植方式;花生;土壤微环境;产量
【英文关键词】planting patterns; peanut; soil microenvironment; pod yield
【中文摘要】在大田条件下,采用随机区组设计了春播覆膜(CBFM)、春播露地(CBLD)、麦田套种(MT)、麦田露地(MTLD)、夏播覆膜(XBFM)和夏播露地(XBLD)6种花生种植方式。研究了不同种植方式对花生田间土壤物理性状、土壤微生物量碳、活跃微生物量、土壤呼吸及花生产量的影响。结果表明,花生不同种植方式对土壤微环境和花生产量具有明显影响。花生春播覆膜和麦田套种种植提高了土壤孔隙度、毛管和非毛管孔隙度,增加了细菌和放线菌数,降低了土壤容重和真菌数,提高了土壤微生物量碳、活跃微生物量及土壤呼吸速率,有利于土壤养分的分解和有效化;花生覆膜种植可明显增加荚果产量,春花生覆膜的增产作用大于夏花生覆膜,麦田套种的花生产量最低。因此,在一年一熟的春花生产区应以覆膜种植方式为主;在小麦花生一年两熟的花生产区,可以推广收麦后直播花生的种植方式。
【英文摘要】Effects of different planting patterns on soil physical properties, bacteria, fungi, acyinomycete, soil microbiomass C, active soil microbiomass, soil respiration and pod yield of peanut were investigated using six planting patterns in a randomized design. Results showed that, effects of different planting patterns on soil microenvironment and pod yield of peanut were significant. In the patterns of plastic film mulching system of spring seeded and interplanting in wheat field system, total porosity, non-capillary, capillary porosity, bacteria, actinomycete numbers, soil microbiomass C, active soil microbiomass and soil respiration were increased, while bulk

density and fungi numbers decreased, conducing the decomposition and effectivity of soil nutrient. Pod yield of peanut were increased significantly in the plastic film mulching system, and spring seeded was more effective than summer-planting. The pod yield of interplanting in wheat field system was the lowest. Thus, plastic film mulching system should be the main planting pattern in annual planting regions of peanut, while open cultivation of summer-planting should be generalized in wheat and peanut interplanting regions.
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【题目】不同种植方式对花生土壤微生物生物量及活性的影响
【中文关键词】花生种植方式 土壤 微生物生物量碳 活跃微生物生物量
【英文关键词】peanut planting pattern; soi;l microbialbiomassC; activemicrobialbiomass.
【中文摘要】在大田条件下,采用随机区组设计研究了春播覆膜(CBFM)、春播露地(CBLD)、麦田套种(MT)、麦田套种露地对照(MTLD)、夏播覆膜(XBFM)和夏播露地(XBLD)6种花生种植方式对土壤微生物生物量碳、活跃微生物生物量和土壤呼吸的影响.结果表明:花生生育期和种植方式均显著影响土壤微生物生物量及活性.从始花期开始,随着生育进程的推进,土壤微生物生物量碳、活跃微生物生物量和呼吸速率逐渐升高,到结荚期达到最大值,随后下降.露地栽培花生提高了土壤微生物生物量碳和土壤呼吸速率,但是降低了活跃微生物生物量,对土壤养分的转化和吸收不利;覆膜花生提高了活跃微生物生物量,促进土壤养分的分解和有效化;麦田套种花生比同期播种的露地对照花生提高了土壤微生物生物量碳、活跃微生物生物量和土壤呼吸速率,固结养分较多,不利于花生生长.
【英文摘要】A field experimentwith randomized design was conducted to study the effects of six planting patterns ofpeanu,ti. e., spring sowing and plastic film mulching, spring sowing and open cultivation, summer sowing and plastic film mulching, summer sowing and open cultivation, inter-cropped inwheat field, and controlof intercropped inwheat field, on soilmicrobialbiomassC, soil activemicrobial biomass, and soil respiration rate. The results showed that the growth stage and planting pattern ofpeanuthad significanteffectson soilmicrobialbiomass and respiration rate. With the prolonged time after anthesis, soilmicrobialbiomassC, activemicrobialbiomass, and respiration rate increased gradually, peaked at pod-setting stage, and decreased then. Open cultivation enhanced soilmicrobial biomass C and respiration rate but reduced soil active microbial biomass, being unfavorable to soil nutrient transformation and nutrient availability, while plastic film mulching increased soil activemicrobial biomass, and consequently, promoted soil nutrient transformation and nutrient availability. Comparingwith intercropped inwheat field and open cultivation, intercropped inwheat field and plastic film mulching increased soilmicrobial biomass C, activemi-crobial biomass, and respiration rate, which immobilizedmore soilnutrients andwas notconducive to peanutgrowth.
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【第一作者】林英杰
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【题目】苗期遮荫对花生光合生理特性的影响
【中文关键词】花生;遮荫;光合作用;光抑制
【英文关键词】peanut; shading; photosynthesis; photoinhibition
【中文摘要】大田条件下,以花生品种“花育22号”为材料,齐苗期设置遮荫50%和85%两个遮荫强度分别处理40d,研究了遮荫对花生光合特性的影响及遮荫解除后的光合恢复规律。结果表明: (1)与正常光照条件相比,遮荫花生叶片净光合速率(Pn)、RuBP羧化效率降低,叶绿素含量、表观量子效率及光系统Ⅱ的最大光化学效率(Fv/Fm)增加,表明花生对弱光胁迫有一定的自我调节和适应能力。(2)遮荫和自然光下生长的花生中午强光下的Fv/Fm值均明显下降,表明发生了光抑制,遮荫程

度越大,光抑制愈严重。(3)Fv/Fm值和净光合速率Pn遮荫解除后5d之内持续下降,之后逐步恢复。遮荫50%处理的叶片Fv/Fm值和Pn分别于遮荫解除后8d和10d左右恢复到对照水平;遮荫85%的处理分别于遮荫解除后15d和20d左右才恢复到最大,但Pn不能恢复到对照水平,显著低于对照。

【英文摘要】The photosynthetic characteristics of a peanutvariety, Huayu 22, under shading treatments (50%, 85%) and subsequent recovery under full lightwere studied at seedling stage in the field. The shading treatments were last 40d.Relative to those under full light, the peanuts grew in shading environment had lower net photosynthetic rate (Pn), the light compensation point (LCP), the carboxylation efficiency (CE), the non-photochemical quenching (NPQ), higher apparentquantum yield (AQY), maxmi al photochemical efficiency (Fv/Fm) and the contentof total chlorophyll content. It shows that peanut has self-adjusting and adaptation ability to low light stress. When exposed to strong light at noon,Fv/Fm, which can reflect the efficiency ofPS Ⅱ, decreased obviously in both shading seedling leaves and full lightseedling leaves. In all treatments, Photoinhibition wasmore severe in lower light treatment seedlings. Otherwise, when removed shading stress, Fv/Fm and Pn of peanut seedling leaves continued to decrease in 5d relative to those of the controlunder full light, and began to increase subsequently.Fv/FmandPnof 50% shading seedlings recovered to the same level as the control in 8d and 10d, respectively; however,Fv/FmandPnof85% shading seedlings reached the top values in 15d and 20d, respectively, whereasPnwas still lower than thatof the control

【语种】中文
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【题目】麦套花生氮素代谢及相关酶活性变化研究
【中文关键词】套种花生;氮素代谢;硝酸还原酶;谷氨酰胺合成酶;谷氨酸脱氢酶;谷丙转氨酶
【英文关键词】relay-cropped peanutwith wheat; nitrogen metabolism; nitrate reductase;
【中文摘要】大田条件下,以花生“花育22号”为材料,研究了麦套花生的氮素代谢及相关酶活性变化情况。结果表明,麦套花生根、叶游离氨基酸、氮素平均含量及根系可溶性蛋白平均含量高于单作;而叶片可溶性蛋白平均含量则低于单作。与小麦共生期间,麦套花生根叶硝酸还原酶(NRase)活性、谷氨酸脱氢酶(GDH)活性、叶片谷氨酰胺合成酶(GS)活性及谷丙转氨酶(GPT)活性(除播后25 d)明显低于单作;整个生育期麦套花生根系GS平均活性及GPT活性高于单作花生。可见,花生苗期小麦遮荫对花生氮素代谢及酶活性有一定影响。

【英文摘要】Nitrogen metabolism and relative enzyme activities of peanutwere studied by comparing relay-cropped peanut(RP) with wheat and mono-cropped peanut (MP) under filed condition. The tested peanut cultivarwasHuayu 22 · The results showed that, free amino acids and nitrogen contents in leaves and roots, soluble protein contents were higher in roots of RP compared toMP. However, soluble protein contentwas lower in RP leaves than inMP leaves. Nitrate reductase(NRase) activities and glutamate dehydrogenase(GDH) activities in leaves and roots, glutamine synthetase(GS) activities and glutamate pyruvate transaminase(GPT) activities (except for 25 days after sowing) in leaves of RPwere significantly lower than those ofMP during the wheat and peanut symbiotic period. GS activities and GPTactivities in roots of RPwere higherthan those ofMP duringthe entire growth period. It can be concluded thatwheat shading in RP affected nitrogen metabolism and enzymatic activities at seedling stage.

【语种】中文
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【题目】花生抗旱性鉴定指标的筛选与评价

【中文关键词】花生,综合评价,抗旱性,品种(系),水分胁迫
【英文关键词】Arachis hypogaea,comprehensive appraisal,drought resistance,varieties,water stress
【中文摘要】为确定鉴定花生(Arachis hypogaea)品种(系)抗旱性指标体系,综合评价花生品种(系)的抗旱性,在人工控水条件下,通过盆栽试验,测定了29个花生品种(系)苗期和花针期的株高、分枝数、生物累积量、叶片含水量和光合色素含量等与抗旱性有关的13个表观形态性状和生理性状的指标,采用抗旱系数法和隶属函数值法,对各指标性状进行了水分胁迫下的抗性评价和鉴定。结果表明,29个花生品种(系)可划分为抗旱性较强、中等、较弱和不抗旱4类,其中‘唐科8号’、‘冀花2号’、‘大唐油’、‘花育25号’、‘花育17号’、‘鲁花14号’、‘丰花1号’7个品种(系)具有较强的抗旱能力;苗期同一品种(系)的主茎高、分枝数和生物累积量等形态指标和光合色素等生理指标的隶属函数值均有较大差别,苗期各指标隶属函数值与品种(系)抗旱性无显著相关关系,苗期单一形态指标不能作为鉴定品种(系)抗旱性的指标;但苗期抗旱性综合评价值(D)与抗旱系数间存在显著相关关系,D的大小可作为抗旱性的鉴定指标。花针期形态指标和生理指标D值间,以及各类指标D值与抗旱系数间均存在显著或极显著的相关关系,此期植株形态指标、生理指标隶属函数值以及综合D值均可作为鉴定品种(系)抗旱性的指标。
【英文摘要】Aims Our objective was to define an index of peanut(Arachis hypogaea)drought resistance and comprehensively evaluate drought resistance of peanut varieties under controlled water conditions.Methods The experiment was conducted on the farm of Qingdao Academy of Agricultural Science with 29 peanut varieties.Two levels of water content(80% – 85%and 45% – 50%of field moisture capacity)were used in arandomized complete block design with four replications.We measured 13 morphological and physiological characters such as plant height,branch numbers,biomass,leaf water content and photosynthetic pigment content in seedling and pod-pin stages. Important findings The 29 peanut cultivars can divided into four classes:high-,mid-and low-tolerant cultivars and intolerant cultivars.The high-tolerant cultivars included‘ Tangke 8 ’,‘ Jihua 2 ’,‘ Datangyou ’,‘ Huayu 25 ’,‘ Huayu 17 ’,‘ Luhua 14 ’and‘ Fenghua 1 ’.Subordinate function values of the morphological indexes including main stem height,branch number and biomass,and photosynthetic pigments contents of the same cultivars at seedling stage were different. In addition,the subordinate function value of the seedling stage was unrelated to drought resistance,so a single physiological index cannot be used to identify the drought resistance of peanut. But the values drought resistance comprehensive evaluation(D)of physiological indexes were significantly related to drought resistance and can be used to identify the drought resistance of peanut.At the pod-pin stage,the D values of morphological indexes and physiological indexes were both significantly related to drought resistance,so the subordinate function value and D value of morphological indexes and physiological indexes at this stage can serve as indexes for identifying peanut drought resistance.
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【题目】对超级玉米杂交种的选育与推广的思考
【中文关键词】超级玉米; 选育; 推广;
【英文关键词】Super maize; Breeding; Popularization;
【中文摘要】超级玉米是在目前玉米杂交优势利用的基础上,以提高玉米品种单产能力为目标的科技创新。本文论述了超级玉米育种的意义,指出超级玉米的选育目标除"超高产、优质、多抗、广适、易制种"外,还应考虑品种的审定效率、高产稳产性、高产攻关田产量指标,并对种质创新、株型选择、植株性状提出了更高的要求。针对超级玉米推广的现状,提出了加速制定超级玉米品种区试审定标准、注意良法配套和高产示范、重视高产攻关试验的建议。 更多还原
【英文摘要】Super maize was a science and technology innovation for enhancing maize cultivars yield ability on the basis of maize heterosis utilization at present.This paper discussed the significance of super maize breeding,indicating that the objective of super maize should consider the approved efficiency of cultivar,the character of high yield and stable yield and the determination of yield index in high yield tackling field,except"super high yield,high-quality,multi-resistant,wide-suitable,easy production of seed",also proposed higher requirements for germplasm-innovation,plant type selection and plant characters.Aiming at present status of super maize popularization,suggesting that we should accelerate to establish reginal trial appoved criteria,pay attention to finy varieties with suitable cultivation method,high-yield demonstration and high-yield tackling trial.

【语种】中文
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【题目】借鉴国外先进经验发展我国玉米种业
【中文关键词】玉米种业; 玉米生长; 玉米种子; 玉米新品种; 种业公司; 玉米生产; 播种面积; 种子公司; 加工设备; 单粒播种;
【英文关键词】Super maize; Breeding; Popularization;
【中文摘要】由于目前我国玉米育种种质资源的匮乏, 给玉米育种带来极大的影响。外来种质的引进及利用是解决我国玉米育种种质资源狭窄的重要途径; 而玉米杂种优势群及其模式的研究又是玉米育种的重要基础性工作。文章从种质的改良利用、 引进及创新方法进行了阐述, 同时分析了我国的杂种的重要基础性工作。文章从种质的改良利用、 引进及创新方法进行了阐述, 同时分析了我国的杂种优势群体及模式的变化。
【英文摘要】High-quality,multi-resistant,wide-suitable,easy production of seed",also proposed higher requirements for germplasm-innovation,plant type selection and plant characters.Aiming at present status of super maize popularization,suggesting that we should accelerate to establish reginal trial appoved criteria,pay attention to finy varieties with suitable cultivation method,high-yield demonstration and high-yield tackling trial.
【语种】中文
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【学科分类】农艺学

【题目】种植方式对夏玉米光合生产特征和光温资源利用的影响
【中文关键词】夏玉米; 套种; 直播; 光合生产特征; 光温资源利用;
【英文关键词】ummer maize; interplanting; direct seeding; photosynthesis characteristics; utilization of solar and heat resources.;
【中文摘要】为研究套种与直播两种种植方式对夏玉米光合生产特征和光温资源利用的影响,选取郑单958和登海661为研究对象,设置3个播期,密度为67500株.hm-2,以地上干物质积累量和作物生长速率、叶面积指数、穗位叶的单叶光合速率来评价夏玉米的光合生产特征;以Richards模型拟合籽粒灌浆过程;结合气象数据计算夏玉米光能利用率.结果表明:直播处理比套种处理籽粒产量增加1.17%~3.33%(P<0.05),但千粒重显著降低;生育期随播期提前而延长;直播条件下叶面积指数和单叶光合速率在灌浆前期显著高于套种,但灌浆后期下降较快;与套种相比,直播开花前和开花后具有较高的干物质积累量和较快的作物生长速率.Richards模型解析表明,直播处理达到最大灌浆速率的时间明显早于套种,起始势较套种高,但灌浆期、活跃灌浆期和灌浆速率最大时的生长量均低于套种;与套种相比,直播处理生育期间总积温和总辐射量分别减少150~350℃.d和200~400MJ.m-2,但籽粒光能利用率较套种提高10.5%~24.7%.因此,直播较套种有优势,在夏玉米大田生产条件下,重视叶片的光合生产特征,延缓叶片衰老,有利于提高夏玉米的光能利用率,进一步挖掘增产潜力.
【英文摘要】In order to investigate the effects of interplanting and direct seeding on the photosynthesis characteristics of summer maize and its utilization of solar and heat resources,two summer maize cultivars (Zhengdan 958 and Denghai 661) were planted in the farmlands of Denghai Seed Co. Ltd in Laizhou City of Shandong Province,with 67500 plants · hm-2 and three sowing dates. The above-ground biomass,plant growth rate,leaf area index,and net photosynthetic rate per ear leaf were measured to reveal the photosynthesis characteristics of test cultivars. In the meantime,the characters of grain-filling were simulated by Richards ' model,and the solar resource utilization efficiency of the cultivars was calculated,in combining with meteorological data. Comparing with inter-planting,direct seeding increased the grain yield by 1.17%-3.33%,but decreased the thousand-grain weight significantly. Growth stages were extended under earlier sowing. The leaf area index and net photosynthetic rate from flowering to 30 d after anthesis were significantly higher under direct seeding than under interplanting,but after then,they decreased faster. Direct seeding induced a higher

accumulation of dry matter and a faster plant growth rate before and after flowering. Under direct seeding,the maximum grain-filling rate reached earlier,the starting potential was higher,but the grain-filling period,active grain-filling period,and Wmax were lower,compared with those under interplanting. Also under direct seeding,the total accumulative temperature and solar radiation during growth period decreased by 150-350 ℃ · d and 200-400 MJ · m-2,respectively,but the solar resource utilization efficiency of grain increased by 10.5%-24.7%. All the results suggested that direct seeding was superior to interplanting for the summer maize production under field condition. In order to enhance solar and heat utilization efficiency and excavate yield potential,it would be essential to improve the leaf photosynthesis efficiency and postpone leaf aging.

【语种】中文

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【学科分类】农艺学

【题目】国际化背景下我国种子产业的发展策略

【中文关键词】种子产业;国际化背景;发展策略

【英文关键词】Super maize; Breeding; Popularization;

【中文摘要】本文分析了我国种子产业面临的国际、国内两方面的形势,提出培养壮大民族种业是我国种子产业发展的主要方向,并从种业扶持政策、种子管理机制和法律制度建设三方面提出我国种业的发展策略。

【英文摘要】The starting potential was higher,but the grain-filling period,active grain-filling period,and Wmax were lower,compared with those under interplanting. Also under direct seeding,the total accumulative temperature and solar radiation during growth period decreased by 150-350 ℃ · d and 200-400 MJ · m-2,respectively,but the solar resource utilization efficiency of grain increased by 10.5%-24.7%. All the results suggested that direct seeding was superior to interplanting for the summer maize production under field condition. In order to enhance solar and heat utilization efficiency and excavate yield potential,it would be essential to improve the leaf photosynthesis efficiency and postpone leaf aging.

【语种】中文

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【学科分类】农艺学

【题目】播期对冬小麦品种登海5197群体发育及产量形成的影响

【中文关键词】冬小麦; 播期; 群体发育; 产量构成; 产量;

【英文关键词】Winter wheat; Sowing date; Population development; Yield formation; Yield;

【中文摘要】通过大田试验,研究了播期对登海5197群体发育及产量形成的影响。结果表明:(1)播期对拔节前总茎数的影响显著,拔节后不显著。(2)播期推迟一周出苗时间延长一天,基本苗随播期推迟而递减,叶面积系数第二播期(10月15日)最高,总茎蘖数和有效茎蘖数随播期推迟而降低,但有效茎蘖率和成穗率呈相反趋势。(3)对籽粒产量形成的R ichards解析表明,第二播期比第一播期(10月8日)和第三播期(10月22日)灌浆启动较早,最大灌浆速率和起始势较高,但活跃灌浆期较短。(4)群体和单株干物质积累量在开花前表现为随播期的推迟而明显减少,开花后由于第二播期的单株干物质积累加快,成熟期第二播期的群体干物质最高。(5)随播期的推迟,穗数和千粒重逐渐降低,穗粒数和籽粒产量呈先上升后降低趋势,最高产量出现在第二播期。 更多还原

【英文摘要】A field trial was conducted to reveal the effect of sowing date on the population development and the yield formation of Denghai 5197.The results were as follows.Firstly,the effect of sowing date on the total stem number was significant before stem elongation,but not significant after stem elongation.Secondly,the emergence time postponed one day once the sowing date postponed one week,and also the basic seedlings,the total stem & tiller number and the effective stem & tiller number declined,while the effective

stem & tiller rate and spike rate increased.The leaf area index of the second sowing-date treatment was the highest.Thirdly,the analysis by Richards ’ model showed the wheat of the second sowing date reached the maximum grain-filling rate earlier than those of the first and third treatments,and the maximum grain-filling rate and starting potential of the second sowing date were higher,while its active grain-filling period was shorter.Fourthly,the dry matter accumulation of the population and individual deceased obviously with the sowing date postponing before anthesis.The population dry matter of the second sowing date was the highest in maturity,as a result of the accelerated accumulation of the individual dry matter.Fifthly,the spike number and 1000-grain weight deceased,and the grain number per spike and grain yield increased firstly and then decreased with the sowing date postponed,the maximum yield occurred at the second sowing time.

【语种】中文
【第一作者】朱元刚
【通讯作者】董树亭
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【学科分类】农艺学

【题目】超级玉米新品种登海662的选育与高产栽培技术
【中文关键词】高产玉米; 叶片冗余; 产量; 光合特性;
【英文关键词】Summer maize; Planting method; Rough dwarf disease; Yield; Plant characteristics;
【中文摘要】登海662是山东登海种业股份有限公司最新育成的超级玉米新品种。该品种在多年多点试验中表现产量高,稳产性好,果穗均匀,秃尖小,品质优良,抗病,活秆成熟,适宜在黄淮海夏玉米区种植。 更多还原
【英文摘要】The nitrogen accumulation of maize plants increased after leaf-cutting.The treatments of cutting 1/4 or 1/2 leaf could improve the nitrogen harvest index;with the increase of leaf cutting,the nitrogen harvest index showed the increase trend.So breeding the maize variety with smaller leaf area was an effective way to solve the low nitrogen utilization under the condition of super high yield.
【语种】中文
【第一作者】唐世伟
【通讯作者】柳京国
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【学科分类】农艺学

【题目】超级玉米新品种登海701的选育与夏直播高产栽培技术
【中文关键词】高产玉米; 叶片冗余; 产量; 光合特性;
【英文关键词】Summer maize; Planting method; Rough dwarf disease; Yield; Plant characteristics;
【中文摘要】登海701是山东登海种业股份有限公司最新育成的超级玉米系列新品种。该品种在多年多点试验中表现产量高、稳产性好、果穗均匀、不秃尖、品质优良、抗病、活秆成熟,适宜在黄淮海夏玉米区种植。 更多还原
【英文摘要】The nitrogen accumulation of maize plants increased after leaf-cutting.The treatments of cutting 1/4 or 1/2 leaf could improve the nitrogen harvest index;with the increase of leaf cutting,the nitrogen harvest index showed the increase trend.So breeding the maize variety with smaller leaf area was an effective way to solve the low nitrogen utilization under the condition of super high yield.
【语种】中文
【第一作者】唐世伟
【通讯作者】柳京国
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【学科分类】农艺学

【题目】玉米新品种登海661选育及高产栽培技术
【中文关键词】高产玉米; 叶片冗余; 产量; 光合特性;
【英文关键词】Summer maize; Planting method; Rough dwarf disease; Yield; Plant characteristics;
【中文摘要】登海661是山东登海种业股份有限公司最新育成的超级玉米新品种。该品种在多年多点试验中表现产量高,稳产性好,果穗均匀,不秃尖,品质优良,抗病,活秆成熟。适宜在黄淮海夏玉米区高产攻关种植。
【英文摘要】The nitrogen accumulation of maize plants increased after leaf-cutting.The treatments of cutting 1/4 or 1/2 leaf could improve the nitrogen harvest index;with the increase of leaf cutting,the nitrogen harvest index showed the increase trend.So breeding the maize variety with smaller leaf area was an effective way to solve the low nitrogen utilization under the condition of super high yield.
【语种】中文
【第一作者】杨今胜
【通讯作者】柳京国
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【学科分类】农艺学

【题目】施氮水平对不同花生品种氮代谢及相关酶活性的影响
【中文关键词】施氮水平;花生品种;氮素代谢;硝酸还原酶;谷氨酰胺合成酶;谷氨酸脱氢酶
【英文关键词】nitrogen level; peanut cultivars; nitrogen metabolization; nitrate reductase; glutamine synthetase; glutamate dehydrogenase
【中文摘要】【目的】花生籽仁蛋白质含量较高,研究花生不同器官中氮代谢酶活性在施氮水平和品种间的差异及其与籽仁蛋白质含量间的关系,阐述花生氮素代谢的生理特性。【方法】选用生产中普栽品种花育22号和白沙1016,设置4个氮素水平,测定两品种不同生育期各器官中主要含氮物质(可溶性蛋白质(Pro)、游离氨基酸(AA))含量及主要氮代谢酶(硝酸还原酶(NRase)、谷氨酰胺合成酶(GS)和谷氨酸脱氢酶(GDH))活性。【结果】两品种各器官Pro、AA、NRase、GS、GDH活性的变化态势大致相同,但其含量的高低因品种和施氮量不同而变化,各器官中各指标含量均以白沙1016较高;适当提高氮素水平可增加各器官中可溶性蛋白质和游离氨基酸的含量和主要氮代谢酶活性;氮素水平过高虽能提高硝酸还原酶和籽仁蛋白质含量,但谷氨酰胺合成酶(GS)和谷氨酸脱氢酶(GDH)的活性下降;各营养器官中可溶性蛋白质含量与GS和GDH活性间的相关关系不明显,但与其相应器官中的NRase活性表现显著或极显著相关,荚果中Pro与AA和NRase间、GS和GDH、NRase与游离氨基酸间均呈极显著的相关关系。【结论】施氮量和品种差异对花生各器官中游离氨基酸和可溶性蛋白质含量及氮代谢酶活性有影响,白沙1016对高量氮肥较敏感,花育22号则较适应高氮;增施氮肥通过改变氮素代谢的生理特性改善花生品质。
【英文摘要】【Objective】This experiment was conducted to study the characters of nitrogen metabolism and provide a basis for high yield and quality of peanut,by determining the effects of nitrogen level and cultivars on nitrogen metabolism related enzymes,and analyzing their relationship with protein content in peanut kernel.【Method】The effects of four nitrogen levels and two cultivars,Huayu 22(High yield big peanut)and Baisha 1016(Small peanut),on soluble protein content(Pro),free amino acid content(AA),nitrate reductase(NR),glutamine synthetase(GS)and glutamate dehydrogenase(GDH)in different organs of peanut at different growth stages were determined.【Result】The results showed that the change trends of Pro,AA,NR,GS,GDH in different organs of the two types of peanut cultivars were similar.But the values of Baisha 1016 were higher than those of Huayu 22 in different organs.With the increase of nitrogen,Pro and AA were increased,and the activities of NR,GS and GDH were also increased.When excessive nitrogen was used,NR and Pro were increased,while the activities of GS and GDH were decreased.In each organ,Pro had no obvious relationship with GS and GDH activities,but was significantly related to NR activity.And the correlations between Pro and AA,Pro and NR,GS and GDH,and NR and AA,were all significant.【Conclusion】There are significant effects of nitrogen level and cultivars on AA,Pro and the nitrogen metabolism related enzymes in different organs.Baisha 1016 is more sensitivity to high nitrogen level than Huayu22.Application of more nitrogen could improve the quality of peanut by the changes of nitrogen metabolism.
【语种】中文
【第一作者】张智猛

【通讯作者】万书波
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【学科分类】农业基础学科

【题目】施氮量对不同花生品种积累氮素来源和产量的影响
【中文关键词】花生;施氮量;氮素来源;产量
【英文关键词】peanut; nitrogen application amount; source of nitrogen; yield
【中文摘要】利用盆栽试验和15N示踪技术,研究了不同施氮量对两个花生品种氮素积累来源和产量的影响。结果表明,两个花生品种的茎、叶片,果针、幼果,根的干物重均表现出随着施氮量的增加而增加的趋势。大花生品种花育17号的荚果产量随着施氮量的增加而增加,而小花生品种白沙1016在施N 0~90 kg/hm2范围内表现为随着施氮量的增加显著增加,但过多施氮(N 135 kg/hm2)荚果产量反而下降,说明两品种对氮肥的增产效应存在差异。两个花生品种均随着施氮量的增加吸收土壤氮和生物固氮量而增加,表明增施氮肥促进了花生植株对土壤氮的吸收和对大气氮的固定。在施氮量0~135 kg/hm2下,花生吸收土壤氮的比例在41·85%~48·63%之间,吸收肥料氮的比例在0%~13·93%之间;生物固氮的比例在41·25%~56·85%之间。吸收肥料氮的比例随着施氮量的增加而增大,生物固氮的比例随着施氮量的增加而减小。
【英文摘要】Effects of nitrogen application amounts on source of nitrogen accumulation and yields of two peanut cultivars were studied by using the method of pot culture and15N tracer. The results indicate that dry matter weights of stem +leaf, peg + unfilled pod and rootofthe two cultivars are all increased underthe highernitrogen amounts. The pod yields of Huayu17 are increased alongwith nitrogen amount increases, while the pod yields of Baisha1016 are increased when nitrogen application amount is less than 90 kg/ha, the pod yield would decrease when the amount is larger than 135kg/ha. These indicate the yield increasing effects of the nitrogen application are different. The nitrogen amount absorbed from soil and fixed from air are both improved alongwith the increases of nitrogen application amount, which shows that the increases of nitrogen application could enhance the nitrogen amount absorbed from soil and fixed from air by peanut plant. Proportions of nitrogen absorbed from soil, fertilizer and fixed from air by peanut are 41·85%-48·63%, 0%-13·93% and 41·25%-56·85% respectively. The proportion of nitrogen absorbed from the fertilizer is increased, while the fixed proportion is decreased alongwith the increases of nitrogen application amount.
【语种】中文
【第一作者】孙虎
【通讯作者】李尚霞
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【题目】腐植酸肥料对生姜土壤微生物量和酶活性的影响
【中文关键词】腐植酸肥料;生姜;土壤微生物量;土壤酶
【英文关键词】humic acid; ginger; soilmicrobia;l soil enzyme
【中文摘要】设4个处理:空白对照、等量腐植酸、等量无机养分和腐植酸复合肥。通过小区试验,研究了腐植酸肥料在生姜不同生育时期对土壤微生物量和3种重要酶活性的影响。结果表明:与不施肥处理比较,施用腐植酸使前期的微生物量碳增加、脲酶活性降低,后期的微生物量碳减少、脲酶活性提高;施用腐植酸增加土壤活跃微生物量、提高酸性磷酸酶活性、降低蔗糖酶活性,全生育期平均土壤活跃微生物量和酸性磷酸酶活性分别提高17.34%和11.40%、蔗糖酶活性降低10.57%。与施用等量无机养分处理比较,施用腐植酸复合肥也使前期的微生物量碳增加、脲酶活性降低,后期的微生物量碳减少、脲酶活性提高;施用腐植酸复合肥增加土壤活跃微生物量、提高酸性磷酸酶和蔗糖酶活性,全生育期平均土壤活跃微生物量、酸性磷酸酶和蔗糖酶活性分别提高18.61%、10.07%和7.61%。
【英文摘要】This field study was conducted to investigate the effect of humic acid on microbial and the activities of three enzymes in the soilwhere gingers (Zingiber officinaleRose) were grown. Soilwas subjected to four fertilizer regmi es: contro,l humic acid only (19.6g/m2), inorganic nutrient (45.0 gN/m2, 15.0 g P2O5/m2, and 60.0 gK2O/m2), and humic acid compound (45.0 gN/m2, 15.0 g P2O5/m2, 60.0 gK2O/m2and 19.6g humic acid/m2). Microbial carbon levelwas greater during the early expermi ental period, but

lower during the late expermi ental period in humic acid only versus the control and in humic acid compound versus nutrient treatment. Urease activity levelwas lower during the early expermi ental period, butgreaterduring the late expermi entalperiod in humic acid only versus the controland in humic acid compound versusnutrient treatment. When datawere averaged over the entire expermi entalperiod, humic acid only treated soil exhibited a 17.3% higher activemicrobial carbon leve,l 11. 4% higher acid phosphatase activity, and 10. 6% lower invertase activity. than the contro.l Soil treatedwith the humic acid compound had 18.6% higher activemicrobial carbon leve,l 10.1% higher acid phosphatase activity and 7.6% higher invertase activity than inorganic nutrient treatment, when datawere averaged over the entire expermi ental period.

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【第一作者】刘兰兰
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【题目】钙对镉胁迫下花生生理特性、产量和品质的影响
【中文关键词】花生钙肥镉胁迫生理特性产量籽仁品质
【英文关键词】peanut;Ca fertilizer;Cd stress;physiological characteristics;yield;kernel quality.
【中文摘要】通过盆栽试验,选用高油品种豫花15和高蛋白品种XB023,研究了不同浓度钙对镉胁迫下不同类型花生品种营养生长、叶片叶绿素含量、光合速率、保护酶活性等生理特性及产量和品质的影响.结果表明:施钙可以缓解镉胁迫对花生植株主茎高和侧枝长的抑制作用,增加花生植株干物质量,提高叶片叶绿素含量和光合速率,提高叶片超氧化物歧化酶(SOD)、过氧化氢酶(CAT)、过氧化物酶(POD)活性和可溶性蛋白质含量,降低丙二醛(MDA)的积累量,减轻镉胁迫对花生叶片的伤害;施钙可以缓解镉胁迫对花生的减产作用,增加花生荚果和籽仁产量,其增产的主要原因是增加了单株结荚数和出仁率;施钙可以促使籽仁中可溶性糖向粗脂肪和蛋白质转化,增加籽仁中脂肪和蛋白质含量,改善镉胁迫下花生籽仁品质.施钙可以降低两花生品种籽仁中镉含量,对豫花15的降低效果好于XB023.
【英文摘要】Taking high-oil peanut cultivar Yuhua15 and high-protein peanut cultivar XB023 as test materials,a pot experiment was conducted in both 2009 and 2010 to study the effects of applying different concentration calcium(Ca)on the vegetative growth,leaf chlorophyll content,photosynthetic rate,and protective enzyme activities,as well as the yield and kernel quality of the cultivars under cadmium(Cd)stress.Applying Ca alleviated the inhibitory effects of Cd on the height growth of peanut main stem and the length growth of the branches,resulting in the increase of plant dry mass,and mitigated the Cd damage on peanut leaf,manifesting in the increase of leaf chlorophyll content,photosynthetic rate,superoxide dismutase(SOD),peroxidase(POD),and catlase (CAT)activities,and soluble protein content,and the decrease of leaf malondialdeyde(MDA) content.Under the application of Ca,both the pod yield and the kernel yield increased,mainly because of the increase of pod number per plant and of the kernel number per pod.Applying Ca also promoted the transformation of soluble sugar into fat and protein in peanut kernel,increased the kernel fat and protein contents,and improved the kernel quality under Cd stress.Ca application decreased the kernel Cd content of the cultivars,with better effect on Yuhua15 than on XB023.
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【题目】镉胁迫对花生生理特性、产量和品质的影响
【中文关键词】花生;镉胁迫;生理特性;产量;籽仁品质
【英文关键词】Peanut;Cd stresses;Physiological characteristics;Yield;Kernel quality

【中文摘要】选用高油花生品种豫花15和高蛋白品种XB023,研究了土壤不同浓度镉胁迫对花生生理特性和产量品质的影响。结果表明,轻、中度镉胁迫(促进花生营养生长,重、高度镉胁迫抑制营养生长;轻、中度镉胁迫增加XB023的叶绿素含量,重、高度镉胁迫降低两品种叶片叶绿素含量和净光合速率。镉胁迫降低了两品种荚果和籽仁产量,豫花15在中度镉胁迫下产量即开始明显降低,而XB023在重度镉胁迫时产量才开始显著下降。镉胁迫对花生不同品质类型品种的影响不同,镉胁迫增加了豫花15的籽仁可溶性总糖含量,降低了脂肪、蛋白质含量及油酸/亚油酸(O/L)比值;降低了XB023籽仁中可溶性糖含量、脂肪含量及O/L比值,轻、中度镉胁迫可增加籽仁蛋白质含量及赖氨酸和苏氨酸等氨基酸组分。镉胁迫导致花生体内镉含量增加,豫花15植株内镉含量高于XB023,但籽仁中镉含量小于XB023。

【英文摘要】A pot experiment was carried out to study the effects of different cadmium concentrations on peanut physiological characteristics,yield and quality using peanut cultivars of Yuhua 15 and XB 023.Five Cd concentrations light Cd stress, heavy Cd stress, and high Cd stresswere treated by basal dressing in 2009 and 2010.The results showed that light and medium Cd stresses could promote peanut vegetative growth,but heavy and high Cd stresses inhibit its growth.Heavy and high Cd stresses decreased the chlorophyll content and photosynthetic rate of the two peanut cultivars while light and medium Cd stresses increased the chlorophyll content of XB023 leaves.Cd stresses decreased the yield of pod and kernel.The yield of Yuhua 15 decreased obviously when the Cd concentration reached 2.5 mg kg – 1(medium Cd stresses),however,for XB023,reached 7.5 mg kg – 1(heavy Cd stresses).Cadmium stress had different influence on peanut quality in different cultivars.It could increase the content of soluble sugar,decrease the content of protein and oil,and reduce the ratio of oleic acid to linoleic acid(O/L)in Yuhua 15 kernels;but decrease the content of soluble sugar and oil,reduce the ratio of oleic acid to linoleic acid(O/L)in XB023 kernels.Light and medium Cd stresses could increase the content of protein and its components of Lys and Thr in peanut kernels.Cd stresses could increase the cadmium content in peanut.The cadmium content was higher in Yuhua 15 plants than in XB 023 plants,but was less in seed kernel than in XB 023 kernel.

【语种】中文
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【题目】Behavioral Equivalence Based Web Service Discovery
【中文关键词】无
【英文关键词】Behavioral Equivalence; Web service discovery
【中文摘要】无

【英文摘要】With the rapid expanse of the web service over the internet, discovering relevant web services becomes a significant challenge. To tackle this problem, a service-discovering framework based on behavioral equivalence is proposed in this paper. First, ¼-calculus as a formal tool is adopted to express service behavior, including the published services and the query services. Then, the reverse engineering and behavioral equivalence are exploited for service matchmaking. Last, an example is taken for illustrating this approach.

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【学科分类】信息科学与系统科学基础学科

【题目】不同类型拌种剂对花生及其根际微生物的影响
【中文关键词】花生;拌种剂;产量;品质;根际土壤微生物
【英文关键词】groundnut;seed-dressing agent;yield;quality;rhizosphere soil microbes

【中文摘要】拌种处理对于花生一播全苗和稳定高产非常重要。选用不同类型的4种拌种剂即哈茨木霉菌剂(真菌拮抗剂)、甲基托布津(杀真菌剂)、适乐时(杀真菌剂)、好安威(化学杀虫剂)处理花生种子,通过测定花生农艺性状、品质指标、根际土壤微生物动态等来评价其对花生和环境的综合效应。结果表明:1)各种杀菌剂拌种均能提高花生成苗率,而好安威略差;各拌种剂促进花生株高、叶绿素含量,而单株叶片数适乐时增多,好安威减少,单株分枝数盛花期有所增多(好安威除外),结果期均略减少;单株烂、虫、芽果数均减少,单株秕果数增加,单株饱果数降低(好安威除外),百果重和百仁重提高(哈茨木霉除外),而饱满度降低;最终荚果产量除哈茨木霉略低,其余拌种剂增产效果极显著,甲基托布津、适乐时、好安威比对照分别增产34.58%、25.90%、22.82%。2)哈茨木霉拌种使蛋白质含量、亚油酸含量增幅最大,油份含量增幅较大,油亚比值降幅最大;甲基托布津处理的蛋白质和油份含量降幅最大;适乐时对提高油份含量、油亚比值效果最佳;好安威对品质指标的影响有限。3)从细菌及放线菌与真菌的比值来看,甲基托布津促细菌、抑真菌的效果好且长,对放线菌/真菌比值影响较小;哈茨木霉在前中期促细菌与放线菌、抑真菌的效果明显,但后期效果趋反;适乐时促细菌、抑真菌的效果短促,且一直强烈抑制放线菌;而好安威相比影响较小。4)好安威对根瘤菌具有显著的抑制作用,而哈茨木霉、适乐时、甲基托布津均极显著增加根瘤数量。结论:各拌种剂对花生产量、品质、根瘤、根际微生物产生了较大差异的综合效应,须因地、因时选用;化学杀菌剂甲基托布津的农艺效应、环境微生物效应均最好,唯蛋白质含量、油份含量略有降低,是一种较理想的综合优良拌种剂。

【英文摘要】Seed dressing of peanut playes an important role in full stand and achieving high and stable yield.Four different types of seed dressing agents Trichoderma harzianum(biological antifungi agent),Thiophanate-methyl(chemical fungicide,TM),Celest(chemical fungicide),Carbosulfan(chemical insecticide)were used to treat peanut seeds,and their comprehensive effects on peanut and environment were evaluated by measuring the growth and development,yield,quality of peanut,and soil microorganisms.The results are as follows:1)All antifungi agents increased seedling rate,while Carbosulfan had less effect.All seed dressing agents promoted plant height,chlorophyll content,however the number of branches and leaves per plant reduced except for Celest;The number of rotted,insects-damaged,and germinated pod per plant were reduced while blighted pod increased,whereas number of full pod per plant increased only for Carbosulfan.100-pod mass and 100-seed mass were significantly higher than the control,except for T.harzianum,while the fullness degree was lower than the control.In addition to slightly lower yields for T.harzianum,the others gave extremely significant increase of yield over the control.Of the treatments,TM,Celest,Carbosulfan gave rise to yield increase of 34.58%,25.90%,22.82%compared to the control,respectively.2)T.harzianum had the most increase in protein and Linoleic acid content,larger increase in oil content,and the most decrease in ratio of Oleic acid/Linoleic acid(O/L);TM decreased protein and oil content mostly;Celest increased oil content and O/L mostly;Carbosulfan had a limited impact on the quality indicators.3)With respect to the ratio of bacteria(actinomycetes)to fungi,TM kept on promoting bacteria and inhibiting fungi,while had less effect on ratio of actinomycetes to fungi;T.harzianum had significant effect on promoting bacteria and actinomycetes,and suppressing fungi at early and middle stage,but tended to the contrary at late stage;Celest produced temporary bacteria promotion and antifungal effect,and had been suppressing actinomycetes strongly;Carbosulfan had less effect.4)Carbosulfan significantly inhibited the number of nodules(rhizobia),while T.harzianum,Celest,and TM promoted it significantly.In conclusion,the seed dressing agents had large and different combined effect on the yield,quality,root nodule,rhizosphere microorganisms,they should be used in according to sites and time.Among the investigated agents,chemical fungicides TM gave the most agronomic and environmental-microbial effects with only slight decrease in protein and oil contents,which is an ideal seed dressing agent.

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【题目】硼钼肥对旱地花生生长发育及产量的影响

【中文关键词】花生;硼肥;钼肥;配施;产量

【英文关键词】Peanut;Boron Fertilizer;Molybdenum Fertilizer;Combination application;Yield

【中文摘要】旱(薄)地条件下,研究了叶面喷施硼肥和钼肥对春播和夏播花生生长发育及产量的影响。结果表明:无论春播还是夏播,施肥处理的多数农艺性状明显好于对照,但不同施肥处理间存在较大差异,其中硼钼肥配施对花生营养性状的促进作用优于单施钼肥或硼肥,春、夏播结果一致;单施硼肥有利于提高春花生单株结荚数,单施钼肥有利于饱果率,硼钼配施有利于同时提高单株结荚数和饱果率;硼钼配施或单施硼肥有利于提高夏花生双仁果率,单施钼肥对提高夏花生产量性状

无明显影响;春、夏播4个施肥处理产量,以硼钼配施的处理最高,比对照平均增产12.0%,其次为单施硼肥,比对照平均增产7.0%,单施钼肥春播增产5.6%,夏播无明显增产作用。因此,生产中应注意硼钼肥配施。

【英文摘要】Under the condition of dryland or leanness soil,effects of foliar-spraying of boron fertilizer and molybdenum fertilizer on growth and development and yield of peanut sown in spring and in summer were studied.The results showed that main agronomic characteristics of peanut sown in spring and in summer under fertilizer treatment were better than CK,and there were significant differences among different fertilizer treatments.Furthermore,a combined application of boron and molybdenum fertilizer had more significant effect in improving the nutritional characteristics than single application of any kind of fertilizer.Single application of molybdenum fertilizer was helpful to increase the pod number.Single application of boron fertilizer could increase the pod number.Combined application of boron and molybdenum fertilizer or single application of boron fertilizer had favorable effect on improving double kernel plump pod rate of peanut sown in summer,and single application of molybdenum fertilizer had no significant effect in yield characteristics.Compared with CK,the yield of peanut sown in spring and in summer was remarkably increased by 12.0%after combined application of boron and molybdenum fertilizer,and single application of boron fertilizer could increase the yield by 7.0%.Compared with CK,single application of molybdenum fertilizer could increase the yield of peanut sown in spring by 5.6%,whereas it had no visible effect on yield of peanut sown in summer.Therefore,combined application of boron and molybdenum fertilizer should be noted in peanut production.

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【题目】不同种植方式对花生田间小气候效应和产量的影响.

【中文关键词】花生;种植方式;群体;小气候;产量

【英文关键词】peanut;planting patterns;population;microclimate;yield

【中文摘要】在大田高产条件下,研究了同一密度下不同种植方式对花生田间小气候效应及产量的影响。结果表明:增大行距和采用大小行种植方式有利于增加田间透光率,提高冠层空气温度与地表温度,降低田间相对湿度,提高田间CO2 浓度,提高群体光合速率,进而增加荚果产量。但是行距过大,导致各种环境资源的浪费。采用大行距55cm小行距35cm的大小行种植方式是比较合理的种植方式。

【英文摘要】Peanut(Arachis hypogaea L.)is a high-value legume crop that has been grown successfully in China for many years.China leads in production of peanuts,having a share of about 41.5%of overall world production,followed by India (18.2%)and the United States of America(6.8%).Large scale production of peanut is concentrated in the major geographic areas of the China:Shandong,Henan and Hebei Province.Higher yields could be in store for peanut farmers, thanks to a new planting pattern designed by researchers,because spacing the plants in a uniform,staggered manner also promotes thicker,faster-spreading canopies that help keep the soil bed cool,moist and better protected from erosion,and moreover,improved weed control is another benefit.However,the actual optimum for any peanut will vary with variety,climate,soil,weed pressure,and equipment in use and will need to be adapted for each farm through observation and experiment.

【语种】中文

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【题目】苗期干旱及复水对花生光合特性及水分利用效率的影响.

【中文关键词】花生;干旱;复水;光合特性;水分利用效率
【英文关键词】peanut;drought;rewatering;photosynthetic characteristics;water use efficiency
【中文摘要】【目的】揭示苗期不同程度水分胁迫后复水对花生光合特性和水分利用效率的影响,以期为花生节水高产栽培提供理论依据。【方法】采用防雨棚池栽法,对比分析花生苗期不同程度的干旱及复水处理下花生光合速率、耗水量、产量和水分利用效率等相关指标的变化。【结果】花生苗期干旱,光合速率与蒸腾速率降低,干旱持续时间越长降低越明显,复水后光合速率和蒸腾速率均能较快恢复,产生一定的补偿效应;同时苗期干旱导致花生耗水量减少,且干旱程度越重耗水量越小;但水分利用效率并不随耗水量的减少而降低,干旱5 d处理产量水平的水分利用效率最高,对照次之,干旱15 d处理的最低。【结论】苗期适度干旱可减少花生的耗水量,提高产量水平的水分利用效率。
【英文摘要】【Objective】The objective of the experiment was to study the effects of different water stress at seedling stage and rewatering on photosynthetic characteristics and water use efficiency(WUE)of peanut,and to provide a scientific basis for water saving and high-yield cultivation of peanut.【Method】The method of pool culture in rainproof installations was used to study the effects of different drought at seedling stage and rewatering on photosynthetic characteristics,water consumption,yield,WUE and other indexes of peanut.【Result】Under drought at seedling stage of peanut,photosynthetic rate and transpiration rate both decreased,and furthermore,the longer the duration of drought was,and the more they reduced obviously,then,after rewatering,both the photosynthetic rate and transpiration rate can recover fast,and there was a compensation effect to some extent,but there were no over-compensation effects.Meanwhile,drought at seedling stage of peanut induced the reduction of water consumption,and the more severe droughts the smaller water consumption,however,WUE did not decrease with the water consumption decrease.Under the treatment of 5 d drought,WUE of the yield level was the highest,the control was the second,and the 15 d drought was the smallest.【Conclusion】At peanut seedling stage,the moderate drought process can reduce water consumption,and can also increase the WUE of production levels.
【语种】中文
【第一作者】刘吉利
【通讯作者】王铭伦
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【题目】不同施肥处理对花生产量、品质及衰老的影响
【中文关键词】花生;肥料;衰老;产量;品质
【英文关键词】Peanut;Fertilizer;Senescence;Yield;Quality
【中文摘要】大田条件下,以“花育22号”品种为材料,研究了有机无机肥及其配施对花生产量和品质的影响。结果表明,不同种类肥料均能不同程度地提高花生根系活力、叶面积系数和叶片中叶绿素含量,延缓花生衰老,提高单株果数、饱果率和荚果产量。特别是有机肥可显著提高脂肪含量,无机肥可降低棕榈酸含量,提高亚油酸含量;施肥对硬脂酸、油酸、蛋白质及氨基酸等含量没有明显影响。有机无机肥配施对延缓植株衰老、提高荚果产量和脂肪含量效果优于单独施用其中任何一种肥料。
【英文摘要】A peanut variety,“Huayu22”,was used to investigate effects of different fertilizers on yield and quality of peanut.The results showed that all types of fertilizers could enhance root activity,leaf area index,and chlorophyll content at different degrees.Peanut senescence could be delayed and finally the number of pod per plant,rate of full pod and yield of pod were increased.Especially,the organic fertilizer significantly could increase fat content,and the inorganic fertilizer could reduce the content of palmitic acid and increase the content of linoleic acid.Fertilizer application had no markedly effect on the contents of stearic acid,oleic acid,protein and amino acid.Application of a combination of organic and inorganic fertilizer was superior to single application of any kind of fertilizer on delaying plant senescence and the increase of pod yield and fat content.
【语种】中文
【第一作者】郑亚萍
【通讯作者】王才斌
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【题目】不同营养元素对共生固氮潜力影响的研究进展
【中文关键词】养元素;共生固氮;根瘤;固氮潜力
【英文关键词】nutrient element;symbiotic nitrogen fixation;root nodule;potential of nitrogen fixation
【中文摘要】生物固氮是一个全球性的战略课题,而共生固氮又是生物固氮的主体部分,因此研究豆科植物-根瘤菌共生固氮体系(根瘤)的固氮潜力具有重要意义。本文介绍了大量营养元素和微量营养元素对根瘤固氮潜力的影响的研究现状和主要进展,阐述了各营养元素影响根瘤固氮潜力的机制,并对根瘤固氮潜力研究的前景进行了展望。
【英文摘要】Because the biological nitrogen fixation is a global strategic problem, and symbiotic nitrogen fixation is the main part of biological nitrogen fixation.Thus it is very important to research the nitrogen fixation potential between legume and Rhizobium.In the article, the statue about the effect of macro-elements and micro-elements on the nitrogen fixation potential of root nodule and its main progresses were summarized.At the same time,the mechanism about the effect of nutrient elements on nitrogen fixation potential was discussed,and the prospect of symbiotic nitrogen fixation was described.
【语种】中文
【第一作者】郑亚萍
【通讯作者】郑亚萍
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【题目】超高产夏玉米田土壤微生物与土壤酶的动态变 化
【中文关键词】夏玉米; 超高产; 细菌; 真菌; 放线菌; 脲酶; 转化酶;
【英文关键词】summer maize; super-high yielding; bacteria; fungi; actinomycetes; urease; invertase;
【中文摘要】为揭示超高产夏玉米田(产量>15000kg.hm-2)土壤微生物与土壤酶活性动态变化特性,在国家玉米工程技术研究中心(山东)试验场进行夏玉米生长季农田土壤微生物与土壤酶活性研究.在连续3年产量15000kg.hm-2以上的超高产夏玉米田中选择一块超高产田(HF,产量为20322kg.hm-2)与常规生产田(CF,产量为8920.1kg.hm-2)进行对比分析,主要测定0~20cm土层土壤细菌、真菌与放线菌数量及脲酶和转化酶活性.结果表明:播种后超高产田与常规生产田土壤微生物(细菌、真菌与放线菌)数量均表现出先升高后下降的趋势,超高产田在玉米生长后期土壤微生物数量低于常规生产田,细菌与放线菌表现尤其明显,收获期超高产田B/F值(细菌与真菌数量比)比播种期高2.03倍,比常规生产田高3.02倍,常规生产田收获期与播种期的B/F值变化不显著;超高产田土壤脲酶活性在播种31d(拔节期)后低于常规生产田,转化酶活性播种58d(开花期)后快速下降,低于常规生产田. 更多还原
【英文摘要】To reveal the characteristics of the dynamic changes of soil microbial populations and enzyme activities in super-high yielding(>15 000 kg · hm-2) summer maize farmland soil,a comparative study was conducted in the experimental fields in National Maize Engineering Research Center(Shandong).On the fields with an annual yield of >15 000 kg · hm-2 in continuous three years,a plot with the yield of 20 322 kg · hm-2(HF) was chosen to make comparison with the conventional farmland(CF) whose maize yield was 8920.1 kg · hm-2.The numbers of bacteria,fungi,and actinomycetes as well as the activities of urease and invertase in 0-20 cm soil layer were determined.The results showed that in the growth period of maize,the numbers of bacteria,fungi,and actinomycetes in the two farmland soils increased first and declined then.At the later growth stages of maize,the numbers of soil microbes,especially those of bacteria and actinomycetes,were lower in HF than those in CF.At harvest stage,the ratio of the number of soil bacteria to fungi(B/F) in HF was 2.03 times higher than that at sowing stage,and 3.02 times higher than that in CF.The B/F in CF had less difference at harvest and sowing stages.The soil urease activity in HF was significantly lower than that in CF at jointing stage,and the invertase activity in HF decreased rapidly after blooming stage,being significantly lower than that in CF.
【语种】中文
【第一作者】侯鹏
【通讯作者】董树亭
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【学科分类】农艺学

【题目】Wide dissemination of multidrug-resistant Shigella isolates in China
【中文关键词】无
【英文关键词】ESBLs, ciprofloxacin, characterization
【中文摘要】无
【英文摘要】Objectives: To evaluate the prevalence of antimicrobial resistance and selected antimicrobial resistancemechanisms in Shigella isolates recovered in outpatients from 1997 to 2009 in China.Methods: The isolates were subjected to serotyping and antimicrobial susceptibility testing. Shigella isolatesproducing extended-spectrum b-lactamases (ESBLs) or resistance to ciprofloxacin were further characterizedby PFGE to determine the genetic relatedness. These isolates were also screened for b-lactamase genes andmutations in the quinolone resistance-determining regions (QRDRs) by PCR. DNA sequence analysis was alsoperformed.Results: After serotyping, 301 Shigella isolates were grouped into three subgroups and 13 distinct serotypes.The antimicrobial resistance profiles differed among subgroups and serotypes. Ciprofloxacin-resistant isolateswere mainly Shigella flexneri serotypes f2a and f4a, which were resistant to at least four additionalnon-quinolone antimicrobials. Three point mutations in the QRDRs of gyrA and parC were identified in all30 ciprofloxacin-resistant S. flexneri isolates. Plasmid-mediated blaCMY-2, blaCTX-M-14, blaCTX-M-15 and blaCTX-M-55-like genes were found in 29 ESBL-producing isolates and three clavulanic-acid-resistant isolates, and six isolatesalso exhibited resistance to ciprofloxacin. Distinct genetic differences in both serotypes and PFGE profiles wereobserved for these ciprofloxacin- or extended-spectrum-cephalosporin-resistant isolates.Conclusions: ESBL-producing or fluoroquinolone-resistant Shigella is no longer an unusual phenomenon in thelocal community. The monitoring programme in China should stay vigilant to the dissemination of these isolatesand the health agencies must take appropriate measures to restrict the abuse of antimicrobials, especiallyin the community.
【语种】英文
【第一作者】Wenli Zhang
【通讯作者】崔生辉
【期刊名称、卷期、页码】Journal of Antimicrobial Chemotherapy, 66(11), 2527-2535
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【学科分类】兽医学

【题目】Vibrio parahaemolyticus Isolates from Southeastern Chinese Coast Are Genetically Diverse with Circulation of Clonal Complex 3 Strains Since 2002
【中文关键词】无
【英文关键词】Vibrio parahaemolyticus Isolates, Diverse, Clonal Complex 3 Strains
【中文摘要】无
【英文摘要】Multilocus sequence typing (MLST) was used to examine the clonal relationship and genetic diversity of 71Vibrio parahaemolyticus isolates from clinical and seafood-related sources in southeastern Chinese coast between2002 and 2009. The tested isolates fell into 61 sequence types (STs). Of 17 clinical isolates, 7 belonged to ST3 of thepandemic clonal complex 3, with 3 strains isolated in 2002. Although there was no apparent clonal relationshipfound between clinical strains and those from seafood-related sources positive with pathogenic markers, therewere clonal relationships between clinical strains from this study and those from environmental sources in otherparts of China. Phylogenetic analysis showed that strains of 112 STs (61 STs from this study and 51 retrievedfrom PUBMLST database covering different continents) could be divided into four branches. The vast majorityof our isolates and those from other countries were genetically diverse and clustered into two major branches ofmixed distribution (of geographic origins and sample sources), whereas five STs representing six isolates split astwo minor branches because of divergence of their recA genes, which had 80% – 82% nucleotide identity to typicalV. parahaemolyticus strains and 73.3% – 76.9% identity to the CDS24 of a Vibrio sp. plasmid p23023, indicating thatthe recA gene might have recombined by lateral gene transfer. This was further supported by a high ratio ofrecombination to mutation (3.038) for recA. In conclusion, MLST with fully extractable database is a powerfulsystem for analysis of clonal relationship for strains of a particular region in a national or global scale as well asbetween clinical and environmental

or food-related strains.
【语种】英文
【第一作者】Ying Yu
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【学科分类】兽医学

【题目】Effect of soil salinity on physiological characteristics of functional leaves of cotton plants
【中文关键词】无
【英文关键词】Flowering and boll-forming stage; Physiological mechanism; Salt stress
【中文摘要】无
【英文摘要】This study analyzes the effects of soil salinity on fatty acid composition, antioxidative enzyme activity, lipid peroxidation, and photosynthesis in functional leaves during the flowering and boll-forming stages of two cotton cultivars, namely, CCRI-44 (salt-tolerant) and Sumian 12 (salt-sensitive), grown under different soil salinity conditions. Saturated (C16:0 and C18:0) and unsaturated fatty acid (FA) contents (C18:1), as well as superoxide dismutase activity increased, whereas high-unsaturated FA (C18:2 and C18:3) decreased, with the increase in soil salinity. The production of malondialdehyde increased with increasing lipoxygenase (LOX) activity, indicating that LOX catalyzed FA peroxidation under salt stress. Soil salinity had no significant effect on catalase (CAT) and peroxidases (POD) activity in the salt-sensitive cultivar Sumian 12, but significantly increased CAT and POD activities in the salt-tolerant cultivar CCRI-44. Net photosynthesis and stomatal conductance of the cotton cultivars decreased in response to salt stress; however, CCRI-44 showed a smaller reduction in photosynthesis than Sumian 12. The results indicated that stomatal apparatus limited leaf photosynthetic capacity in the salinity-treated plants of both cultivars. The net photosynthetic rate, maximum photochemical efficiency, and photochemical quantum yield of the cotton functional leaves showed positive correlation with double-bond index (DBI). These results suggested that salt stress caused DBI reduction and decreased the photochemical conversion efficiency of solar radiation and, thereby resulting in lower net photosynthetic rates.
【语种】英文
【第一作者】张雷
【通讯作者】周治国
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【题目】Disruption of InlC2 enhances the internalization of Listeria monocytogenes by epithelial cells
【中文关键词】无
【英文关键词】L. monocytogenes, inlC2, Internalization, Epithelial cells
【中文摘要】无
【英文摘要】The LPXTG internlin gene inlC2 is L. monocytogenesspecific and formed an internalin cluster withinlD, inlE and, in some cases, inlG between ascB and dapE.Of note, inlC2 was transcribed monocistronically, and ofthese internalin genes, only inlC2 expression was enhancedin synthetic human gastric fluid. Disruption of inlC2 did nothave a polar effect on its downstream internalin genes, butenhanced the production of InlA without changing inlAtranscript level, suggesting a link between inlC2 expressionand inlA posttranscriptional regulation. The adhesion andinvasion rates of DinlC2 mutant in epithelial cells weresignificantly higher than those of parent strain. Also,recovery of listerial cells from the liver and spleen wasmuch higher in mice inoculated with DinlC2 mutant than itsparent strain. Thus, we speculate that increased invasion ofDinlC2 mutant into epithelial cells might be due to elevatedproduction of InlA, a major invasin, that could lead furtherto increased listerial virulence. Overall, this studypresents supportive evidence that internalization ofL. monocytogenes could be a complex network or unknownmechanisms requiring further study.

【语种】英文
【第一作者】Jianjun Jiang
【通讯作者】方维焕
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【学科分类】兽医学

【题目】Monitoring the leaf water content and specific leaf weight of cotton (Gossypium hirsutum L.) in saline soil using leaf spectral reflectance
【中文关键词】无
【英文关键词】Cotton; Saline soil; Spectral reflectance; Leaf water content; Specific leaf weight; Monitoring model
【中文摘要】无
【英文摘要】The objectives of the present study are to determine the relationships of equivalent water thickness (EWT), fuel moisture content (FMC) and specific leaf weight (SLW) of cotton leaves with leaf spectra reflectance, and to find sensitive spectral bands and best spectral indices to establish quantitative models for the quick and accurate estimation of EWT, FMC and SLW in cotton plants under different salinity levels. Plot experiments were conducted at different levels of salinity and cotton cultivars during three consecutive growing seasons. Time-course measurements of the leaf spectral reflectance, leaf fresh weight, leaf dry weight, leaf area, and leaf ion content of cotton were recorded under various treatments. Then, the normalized difference spectral indices (NDSI) and ratio spectral indices (RSI) based on the leaf spectrum were obtained within 350 – 2500 nm, and their correlation with EWT, FMC and SLW were quantified. The results show that the EWT, FMC and SLW of cotton leaves increased with increasing soil salinity levels and that the changes in leaf spectral reflectance under varied salinity levels are highly significant, with consistent patterns across the two cultivars tested. As the soil salinity levels increased, the Na+, Cl − , and SO42 − content in the cotton leaves increased, whereas K+ and Ca2+ decreased at the same growth stage. In addition, the relationships among ion content, EWT, FMC and SLW were significant ($P < 0.01$). The sensitive spectral bands for EWT, FMC and SLW occurred mainly within the near infrared (NIR) and short-wave infrared (SWIR) ranges. The best spectral indices for estimating EWT, FMC and SLW in cotton were found to be NDSI (R1347, R2307), RSI (R2307, R1347); NDSI (R1650, R1801), RSI (R1801, R1650); NDSI (R1300, R2308), RSI (R2307, R1347) and 1650/2220 nm ratio, and the regression models based on the above spectral indices were identified as the best equations for the effective estimation of EWT and SLW in cotton. After testing these derived equations, the models for EWT and SLW estimation based on NDSI and RSI yielded an R2 of over 0.73, with more satisfactory performance under different ecological conditions, but the estimated accuracies of FMC models were very low and may not be suitable for estimating vegetation water content in saline conditions from leaf-level reflectance. The high fit between the measured and estimated values indicates that the EWT and SLW models based on new spectral indices from leaf-level reflectance could be used for the indirect estimation of plant salinity status by monitoring the changes in EWT and SLW caused by soil salinity in cotton plants.
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【第一作者】张雷
【通讯作者】周治国
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【学科分类】农艺学

【题目】有机-无机肥配施对紫色土坡耕地氮素淋失的影响
【中文关键词】有机;无机;紫色土;氮素;淋失
【英文关键词】organic2inorganic fertilization; purp le soil; nitrogen; leaching
【中文摘要】通过坡地渗漏小区定位试验,研究总施氮量相同情况下,施肥方式对紫色土坡耕地氮素淋失的影响. 结果表明,有机2无机肥配施会影响紫色土硝酸盐向下累积过程,显著降低紫色土坡耕地硝酸盐累积量. 渗漏液中硝态氮含量在0.15~46. 99mg · L -1之间,占总氮含量的66.4% ~96.3%;总氮淋失量在(4.05 ±0.37) ~(37.82±0.86) kg · hm - 2之间,占当季施氮

量的2.7%~25.2%. 在维持总施氮量相同的条件下,与常规氮磷钾施肥相比,农家肥、秸秆与化肥配合施用的渗漏液总氮含量分别降低了71.0%、61.4% ,总氮淋失量分别降低了48.1%、31.6%. 这表明有机2无机肥配施能显著降低紫色土坡耕地氮素淋失量,对有效控制紫色土区浅层地下水硝酸盐污染具有重要作用.

【英文摘要】Lysimeter experiments in a purp le soil with a hilly slope were performed to study the effects of combined app lication of organic and inorganic fertilizers on nitrogen leaching. The results showed that accumulated nitrate decreased significantly due to organic2inorganic fertilization, suggesting that the nitrate accumulation p rocess of slop ing crop land in purp le soil was affected by fertilization styles. Measured nitrate2N contents were in the range of 0115~46. 99 mg · L - 1 during the period 2004 to 2006, which accounted for 66. 4% ~96. 3% of the total nitrogen. Total soil nitrogen contents of organic inorganic fertilization (OMNPK, RSDNPK) declined by 71. 0% and 61. 4% , respectively, and total nitrogen leaching fluxes of OMNPK or RSDNPK treatments decreased by 48. 1% and 31. 6%, respectively, compared to conventional NPK fertilizer treatments at the same total N app lication rates. It could be concluded that nitrogen leaching decreases through the combination of organic and inorganic fertilization. Therefore, it is important to control nitrate pollution of shallow groundwater in the area of purp le soil via changing fertilization modes.

【语种】中文

【第一作者】汪涛

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【题目】降血压功能乳酸菌研究进展

【中文关键词】乳酸菌, 降血压功能, 降血压肽

【英文关键词】none

【中文摘要】本文综述了乳酸菌及其发酵乳制品的降血压功能、作用机制及乳源性降血压肚所具有的独特优势同时介绍降血压功能乳酸菌的筛选方法, 为开发安全、高效的降血压功能乳酸菌口服制剂提供可参考的理论依据。

【英文摘要】none

【语种】中文

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【学科分类】医学微生物学

【题目】基因工程乳酸菌的应用研究进展

【中文关键词】乳酸菌; 基因工程; 应用

【英文关键词】Lactic acid bacteria; Recombinant genetic engineering; Application

【中文摘要】随着分子生物学技术的不断发展,重组基因工程乳酸菌取得了较快的进展。本文主要从基因工程乳酸菌在食品、药品、保健品、饲料养殖领域中的应用进行综述,以便正确认识、了解和使用基因工程乳酸菌,对其进一步的研究以及开发应用具有深远的意义。

【英文摘要】With the deepening of researches on molecular biology,various interesting genes have been integrated intoLAB,resulting in the rapid development on genetic engineering LAB. This article mainly reviewed the application of geneticengineering lactic acid bacteria in food,medicine,health products and in the field of breeding. Correctly recognizing,understandingand utilizing genetic engineering lactic acid bacteria will make far-reaching significance for the further research and thedevelopment of lactic acid bacteria.

【语种】中文

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【题目】紫色土坡耕地硝酸盐流失过程与特征研究
【中文关键词】紫色土;坡耕地;硝酸盐;流失
【英文关键词】Purple soi;l Slope cropland; Nitrate; Loss load
【中文摘要】通过对紫色土坡耕地地表径流、壤中流径流过程及其硝酸盐含量的长期监测,研究紫色土坡耕地硝酸盐流失特征。结果表明,径流过程对紫色土坡耕地硝酸盐流失过程影响明显。地表径流过程中硝酸盐含量随降雨历时表现为先升后降的趋势,而壤中流过程则表现为不断上升、趋于稳定的趋势。紫色土坡耕地硝酸盐流失潜在的环境风险极大,历次降雨产流事件中地表径流和壤中流NO3--N平均含量分别为0·73±0·17 mgL-1、21·72±2·05mgL-1,其中, 75%的地表径流NO3--N含量超过0·5mgL-1, 85%的壤中流NO3--N含量超过10 mg L-1。紫色土坡耕地地表径流NO3--N年流失负荷为0·93±0·05 kg hm-2,壤中流NO3--N年流失负荷为33·51±2·73 kg hm-2,分别占当季施肥量的0·62%、22·34%,随壤中流淋失是紫色土坡耕地硝酸盐流失的主要途径。紫色土坡耕地硝酸盐流失不仅可能造成当地地表水富营养化,而且可能造成当地浅层地下水硝酸盐污染,将加剧长江上游水环境压力。
【英文摘要】Nitrate loss is an important route ofnitrogen loss, and itsmechanism in flatcropland has been documented · However, it is stillunclearhow nitrate loss takes place in sloping cropland · Long-term plotexperiments on field runoffwere performed tomonitornitrate losswith runoff process in a sloping cropland of purple soil · Results show thatrunoffaffected the process ofnitrate loss from the slope cropland · Nitrate content in runoff increased at the initialperiod ofa rainfalleven,t and then declined, and in the subsurface flow, it increased steadily and leveled offgradually · The potential environmental risk of the nitrate in surface runoff from slopeland ofpurplish soil is extremely high · The average nitrate content in surface runoff and subsurface flows of several rainfall eventswasN 0·73±0·17 mgL-1andN 21·72±2·05 mgL-1, respectively · In about75% of the surface runoffs, nitrate contentwas aboveN 0·5 mgL-1and in about85% of the subsurface flow aboveN 10 mgL-1· Itwas calculated that that the nualnitrate losswith surface runoff from the slope cropland ofpurple soilwasN 0·93±0·05 kg hm-2, accounting for0·62% of the fertilizer-N applied in the currentcrop season, whilewith the sub-surface flow, it was N 33·51±2·73 kghm-2, accounting for22·34%, suggesting hatnitrate lossvia subsurface flow is themain route ofnitrate loss from the sloping cropland ofpurple soi,l notonly leading to eutrophication ofsurfacewaterbodies and pollution fgroundwater, butalso aggravating environmentalpressure in the upper streams of heChangjiangRiver
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【学科分类】土壤学

【题目】秸秆还田技术的应用与展望-以四川盆地紫色土地区为例
【中文关键词】秸秆还田;四川盆地;土壤性质
【英文关键词】return straw to field;Sichuan Basin;Soil properties
【中文摘要】在介绍国内秸秆还田技术的应用现状的基础上,分析了秸秆还田技术的意义,探讨了四川盆地紫色土地区秸秆还田的应用模式,对秸秆还田技术的应用前景进行了展望。
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【学科分类】土壤学

【题目】基于RBF 神经网络的土壤有机质空间变异研究方法
【中文关键词】径向基函数网络,误差分析,土壤,有机质,空间异质性,普通克里格
【英文关键词】radial basis function networks, error analysis, soils, organic matter, spatial heterogeneity, ordinary kriging
【中文摘要】通过研究土壤性质的空间变异和空间插值方法,快速准确获取土壤性质的空间分布是精确农业和环境保护的基础。该文以四川眉山一块约40 km2 的区域为试验区,采集表层土壤(0~20 cm)样点80 个,利用径向基函数(RBF)神经网络建立空间坐标和邻近样点与土壤有机质间的非线性映射关系(RBF2),模拟土壤有机质的空间分布。与普通克里法(OK)和仅以坐标为网络输入的神经网络方法(RBF1)相比,RBF2 的插值精度有显著的提高;相同样点密度下其相对预测误差分别较OK 和RBF1 减小了9.87%、1.97%(样本A)和3.09%、2.36%(样本B);即使样点数减半的情况下RBF2 的相对预测误差也分别较OK 和RBF1 减小了10.23%和2.33%,并且插值图差异相对较小,可以更好地反映土壤有机质空间分布的异质性。因此,利用以坐标和邻近样点为输入的神经网络方法可以相对准确、快速地获取区域土壤性质空间分布的异质性信息。
【英文摘要】Fast and accurate simulation of the spatial distribution of soil properties from the study on soil spatial variability and spatial interpolation was the basis for precision agriculture and environmental protection. In this paper, 80 topsoil samples were collected in a 40 km2 test area in Meishan, Sichuan Province. Nonlinear mapped relations between spatial coordinatesand neighbor samples and the content of soil organic matter were established based on radial basis function neural network (RBF2) to simulate the distribution of the content of soil organic matter in the test area. Compared with ordinary kriging method (OK) and radial basis function neural network method only using spatial coordinates as inputs of net (RBF1), thepredicted errors achieved by RBF2 were much smaller, which were reduced by 9.87%, 13.09% and 1.97%, 2.36%, respectively;even samples were cut in half, the predicted error was still reduced by 10.23% and 2.33%, respectively, compared with OK and RBF1 which used in all samples. Besides, RBF2, which was able to make the interpolation maps and had smaller difference comparatively in different samples, could express the spatial heterogeneity of soil organic matter well. Thus, the spatial heterogeneity information of soil properties could be achieved exactly and quickly by the method of radial basis function neural network which used spatial coordinates and neighbor samples information as inputs of net.
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【题目】官司河流域防护林结构调整及景观格局变化
【中文关键词】官司河流域; 防护林; 结构调整; 景观格局; 物元分析
【英文关键词】GuansiRiverw atershed; protection forests; structure regulation; landscape structure; matter element analysis
【中文摘要】利用2005年度的IKONOS4卫片解译数据、1B1万林相图、2007年度森林资源二类小班调查资料, 结合样地调查数据以及四川省林业科学研究院森林生态效益定位站(四川绵阳新桥) 径流场的有关数据, 对绵阳官司河流域的防护林结构进行了调整, 并对调整前后的生态经济效益和景观格局的变化进行了对比分析。结果表明: 目前本区的林地面积分配不合理。针阔混交林面积偏小, 仅占整个有林地面积的14197%, 而针针混交林的面积却占了27137%, 针叶纯林的面积更是占了421 48%。从物种多样性、均匀度以及生态优势度综合来看, 均表现出混交林优于纯林。经调整后各类防护林面积比例为针阔混交林281 05%、灌木林171 28%、经济林3127%、阔叶纯林13113%、针针混交林111 04%、针叶纯林101 89%、草地61 34%。针阔混交林面积明显增加, 从原来的124139 hm2增加到现在的2331 13 hm2, 增加了871 42%。经济林的面积有所增加, 从原来的961 67 hm2 增加到调整后的110130hm2。本区防护林土地利用的生态效益指数由调整前的2 0531 93点上升到调整后的2327139点, 净增了13131%,经济效益指数则从调整前的2 3001 40点上升到调整后的2 493163点, 净增了8140%。景观多样性指数(H)和景观均匀度指数(E)分别由调整前的11826 1和01523 8增加到调整后的211923和017683, 分别增加了20105%和46168%。景观优势度和蔓延度指数由调整前的017348和01 7327减少到调整后的013816和016928。说明景观的异

质性提高,向着多样化和均匀化方向发展。调整后各景观要素的边缘密度和斑块密度减少,其斑块向小型化发展,景观破碎度增加。调整后各要素的散布与分列指数IJ I 都有明显的增加,说明其空间关系趋于复杂化。聚集度指数AI 增大,其斑块越来越聚集,斑块的结合底在增大。各景观要素的LSI 都有不同程度的减少,而分维数都有不同程度的增加,说明其斑块复杂程度减少,稳定性增加。

【英文摘要】By application of interpreted IKONOS4 in 2005, 1B10 000 forest map, data of C lass II forest survey in 2007, as we ll as runoff data in permanent runo ffmon ito ring field, the structure o f pro tection forest systems in Guangsi r iver inM ianyang munic ipality w ere regulated; besides, the eco-econom ic bene fits and landscape pattern before and after regulation w ere analyzed. The resu lts indicated that the forest distribu tion in this area is not rationa,l the area ofm ixed forest betw een coniferous and broad-leafed species is re lative ly low (14197%) , the area of mixed forest by con iferous spec ies and pure con iferous forestw as 27137% and 42148% respectively. Judging by biodiversity,evenness and eco-dom inance, them ixed forest ismuch better than that o f pure fores.t A fter regu lation, the areaofm ixed coniferous and broad-leafed fo res,t shrub fores,t econom ic fores,t broad-leafed fores,t m ixed forest by coniferous species, pure coniferous forest and grassland w as 28105% , 17128%, 13127% , 13113%, 11104% ,10189% and 6134% respect ively1The area of m ixed fo rest betw een coniferous and broad-leafed spec ies increases sharply, from 124139 hm2 to 233113 hm2 (by 87142%) ; the econom ic forest goes up from 96167 hm2 to 110130 hm21M eanwhile, the ecolog ica lbenefit index increases from 2053193 to 327139(or by 13131%), economic benefit index goes up from 2 300140 to 2 493163(o r by 8140%) 1The landscape diversity index (H) and evenness index (E) change from 118261 and 01523 8 before regulation to 211923 and 017683 (or by 20105% and 46168% respective ly) 1A fter regu lation, the index of landscape dom inance and contag ion decreases from 01734 8 and 017327 to013816 and 016928 respectively, th ismeans that the heterogene ity of landscape increases and develops tow ard diversity and evenness1Besides, themarg in density and patch density of landscape elements go down; the patch develops tow ard sm all size and the degree of fragmentation increases1Meanwh ile, the dispersion and IJI increase obviously, wh ich means the spatia l relationship becom e more complicated1H igher AI means increase of congregation 1LSI of landscape elements decrease but fractura ld imension goes up to some exten;t this in dicates that the complexof patches decrease and stability increases.

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【题目】官司河流域防护林景观结构及生态功能研究

【中文关键词】官司河流域;防护林;景观要素;景观结构;生态功能
【英文关键词】Guansi River watershed; protection forests; landscape elements; landscape structure; ecological function

【中文摘要】利用2005 年度的IKONOS4 卫片解译数据和2007 年度小班调查资料,结合样地调查资料以及四川省林业科学研究院森林生态效益定位站(四川绵阳新桥)径流场的有关数据,对绵阳官司河流域的防护林体系景观结构及生态功能进行了分析。结果表明:该区域防护林景观中,以松柏混交林(Mixed Alnus-Cupressus forest)面积最大,占27.37%,其次是马尾松纯林(Pinusmassoniana forest),占25.41%。栎柏混交林(Mixed Quercus-Cupressus forest)最少,只占0.96%。纯林面积明显大于混交林,前者比后者大45.31%。栎柏混交林、松柏栎混交林(Mixed Pinus- Cupressus- Quercus forest)最大斑块指数(LPI)、边缘密度(ED)和斑块密度(PD)较小,分布较为破碎。而马尾松纯林、松柏混交林和柏木纯林(Cupressus forest)分布较为集中。桤柏混交林(Mixed Alnus-Cupressus forest)和松柏混交林的散布与并列指数(IJI)较大,其空间关系较为复杂。栎柏混交林、柏木纯林的聚集度(AI)较小,斑块分散度大,连接性较差;而桤柏混交林、松柏混交林的分散度较大,连接性较好。桤柏混交林、松柏混交林的形状指数(LSI)较小,形状分布较规则,而马尾松纯林、柏木纯林的形状指数较大,形状较复杂。从不同景观类型林下灌草层的生物多样性指数可知,松柏混交林、栎柏混交林的灌草多样性指数均较大,而马尾松纯林、柏木纯林则较小。从保持水土功能来看:桤柏混交林、松柏混交林的水土保持效果优于柏木纯林、马尾松纯林,桤柏混交林的水土保持效果优于松柏混交林。因此,对长江防护林进行空间结构调整,应多采用混交林模式,针阔混交林代替针针混交,乔灌草结合,调整合理的密度,使防护林景观的生态功能更好地发挥。

【英文摘要】Based on the translated data from remote sensing images (IKONOS4) in 2005, the survey data of sub-compartments in 2007 and data from the runoff plots in Xinqiao positioning research station, the landscape structure and ecological function of protection forests in Guansi river watershed were analyzed. The results have shown that the area of mixed Pinus-Cupressus forest is the largest one, occupying 27.37%, the Pinus massoniana forest was the second, accounting for 25.41%, while mixed Quercus-Cupressus

forest is the least, occupying 0.96% only. The area of pure forest is obviously large, which is 45.31% higher than mixed forests. The LPI(largest patch index),ED(edge density and PD(patch density) of mixed Quercus-Cupressus forest and mixed Pinus-Cupressus-Quercus forest is smaller, which mean that the distribution is fragmentized; while the Pinus massoniana forest, mixed Pinus-Cupressus-Quercus forest and Cupressus forest is centralized. The IJI (interspersion juxtaposition index)of mixed Alnus-Cupressus forest and mixed Pinus-Cupressus forest is bigger, which implies that the spatial relationship is the more complicated.The AI(aggregation index) of mixed Quercus-Cupressus forest and Cupressus forest is smaller, which means that the patch dispersion degree is bigger and connection is worse, while mixed Alnus-Cupressus forest and mixed Pinus-Cupressus-Quercus forest is opposite. The LSI of mixed Alnus-Cupressus forest mixed Pinus-Cupressus-Quercus forest is smaller, which indicates that the shape distribution is more regular, while Pinus massoniana forest and Cupressus forest is opposite. The diversity of shrub and herb of mixed Pinus-Cupressus-Quercus forest and mixed Quercus-Cupressus forest is bigger, while Pinus massoniana forest and Cupressus forest is opposite. From the function of water and soil conservation,the effectiveness of mixed Alnus-Cupressus forest and mixed Pinus-Cupressus-Quercus forest is better than Cupressus forest and Pinus massoniana forest, the effectiveness of mixed Alnus-Cupressus forest is better than mixed Pinus-Cupressus-Quercus forest. Thus, in the process of restructuring the protection forests in the upper reach of Changjiang river, more mixed forest models, especially with combination of trees, shrubs and grasses would be applied; besides, dense stands should be regulated in order to exert sound ecological function.

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【题目】Virtual Visualization System for Growth of Tobacco Root
【中文关键词】烟草,根系,仿真模型,虚拟植物,可视化
【英文关键词】Tobacco, root, simulation model, virtual plant, visualization
【中文摘要】形态可视化技术是虚拟植物研究的关键技术之一。本研究以烟草根系为对象,将系统分析方法和数学建模技术应用于烟草根系的形态建成,通过对烟草根系形态数据的定量分析,并结合前人的研究成果,构建了烟草根系生长模型(纵向伸展速率、横向伸展速率、根系生长方向)、根系分枝模型(分枝方向、分枝位置、分支数量)等。以此为基础,运用计算机图形学技术,构建了烟草根系虚拟生长系统。系统运行结果表明该系统能较好的模拟烟草根系的形态特征,能较逼真的实现烟草根系生长过程的虚拟显示。

【英文摘要】Abstract :Visualization study on the growth of virtual plant roots is of great significance to enhance the overall level of research on virtual plant growth. In this study, with the tobacco root as the object, its growth was divided by systematic analysis into three stages: root emergence, root growth, and root branching. Through the quantitative analysis of the morphological data of the tobacco root and in combination with results of previous studies, the tobacco root growth, branching and other models were established, and parameter values of the models were extracted. On this basis, computer graphics technology was applied to establish a virtual visualization system for tobacco root growth that should be capable of simulating root growth and computing indicators of roots including the number, length, density, etc. Results indicated that this system can do a better job of simulating the morphological features for the tobacco root and virtually displaying the process of tobacco root growth in a more realistic way.

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【中文关键词】关键词:乳酸菌;胞外蛋白水解酶;降血压肽;克隆;表达
【英文关键词】Key words:Lactobacillus;extracellular protease;anti-hypertensive peptide;cloning;expression
【中文摘要】目的:构建连接乳酸菌胞外蛋白水解酶基因的非抗性重组质粒。方法:以瑞士乳杆菌基因组DNA 为模板,克隆胞外蛋白水解酶基因,连接到以thyA 为选择压力的非抗性穿梭表达载体pW425et 上,构建重组质粒pW425et-R,转化入thyA 基因缺陷型E.coli X13 感受态细胞,SDS-PAGE 电泳检测显示该水解酶得到了表达。结果:成功构建了重组质粒pW425et-R,胞外蛋白水解酶基因在E.coli X13 中得到正确表达。结论:成功地表达了乳酸菌胞外蛋白水解酶基因,可为进一步制备具降血压功能基因工程乳酸菌提供参考。
【英文摘要】Objective: To construct a recombinant plasmid carrying extracellular protease gene from Lactobacillus. Methods:The extracellular protease gene was cloned from genomic DNA of L. helveticus and inserted into the expression vector pW425et.Then the recombination plasmid was transformed into the competence thyA gene-mutant E. coli X13. The expressed protein wasanalyzed by SDS-PAGE. Results: The recombinant shuttle plasmid pW425et-R was constructed successfully and the Lactobacillusextracellular proteinase gene was expressed in E. coli X13. Conclusion: Our research idea is feasible for the successfulexpression of Lactobacillus extracellular protease gene in E. coli X13, which will provide a basis for further preparation ofrecombinant Lactobacillus with anti-hypertensive function.
【语种】中文
【第一作者】杨桂连
【通讯作者】王春凤
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【题目】嗜酸乳杆菌S-层蛋白表面展示系统的构建及酶切位点分析
【中文关键词】关键词嗜酸乳杆菌; S-层蛋白; 表面展示系统
【英文关键词】L. acidophilus; S-layer protein; Surface display
【中文摘要】[目的]克隆和表达嗜酸乳杆菌S-层蛋白基因,用其构建能承载外源抗原表位的乳酸菌细胞表面展示系统。[方法]以染色体DNA 为模板克隆S-层蛋白基因SlpA,通过酶切、连接将其插入大肠杆菌- 乳酸菌穿梭表达载体pW425et,构建表面展示系统pW425et-S,并对酶切位点进行分析。[结果]将pW425et-S 转化入thyA 基因缺陷型E. coli X13 感受态细胞,SDS-PAGE、Western-blotting、全细胞ELISA 检测表明,在重组菌表面表达出S-层蛋白,构建出表面展示系统,确定BstEⅡ作为融合外源保护性抗原基因的酶切位点。[结论]克隆出嗜酸乳杆菌S-层蛋白基因,成功构建表面展示系统pW425et-S,为开发乳酸菌活载体口服活菌疫苗提供了可行性操作平台。关键词嗜酸乳杆菌; S-层蛋白; 表面展示系统
【英文摘要】[Objective]The aim was to clone and express S-layer protein gene of L. acidophilus to construct a novel expression system capable oflocating antigen molecules on the cell surface of L. actobacillus.[Method]The SlpA gene including N-terminal signal sequence,variable domainand C-terminal domain anchors sequence was amplified via PCR from genome extract of the L. acidophilus. This sequence was digested and ligatedinto an E. coli-L. actobacillus shuttle secretion vector pW425et,and a cell surface display system called pW425et-S was obtained with a restrictionendonuclease recognition site qualifying for integration of exogenous genes.[Result]Recombinant pW425et-S was transformed into competent cellE. coli X13 which thymidylate synthetase (ThyA) was deficiency. SDS-PAGE and Western-blotting analysis were used to detect the expressioncondition of S-layer protein. S-layer protein of L. acidophilus was expressed by recombinant and this protein can be detected by whole-cell ELISA.[Conclusion]S-layer protein gene of L. acidophilus was cloned and surface display system pW425et-S was constructed and that vector can be usedas an applicable operate platform for exploitation of L. actobacillus vivi-vector oral vaccine.
【语种】中文
【第一作者】刘琼
【通讯作者】王春凤
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【题目】绿色荧光蛋白标记穿梭表达载体构建及重组乳酸菌的制备
【中文关键词】关键词: 绿色荧光蛋白; 穿梭表达载体; 大肠杆菌; 乳酸菌
【英文关键词】Key words : green fluorescent protein ; shuttle expression vector ; E1coli ; Lactobacillus
【中文摘要】以红霉素耐药性基因/ thyA 基因双筛选压力大肠杆菌—乳酸杆菌穿梭表达载体pW425et 为基本骨架,将绿色荧光蛋白(GFP) 基因插入该载体,构建GFP 标记的穿梭表达载体pW425et2GFP。通过连续的荧光强度检测,验证gfp 基因能否在重组菌中得到稳定表达。重组表达质粒pW425et2GFP 酶切和PCR 鉴定结果与预期片段大小相符,SDS - PAGE 显示27 kD 的绿色荧光蛋白获得表达,在蓝光的激发下,可见明显的绿色荧光,且荧光稳定性强,连续传代30 次仍可见荧光。结果表明已成功构建了GFP 标记穿梭表达载体pW425et2GFP ,为乳酸菌作为益生生理菌载体进行体内定植规律研究和食品级、疫苗级乳酸菌产品的开发奠定了基础。
【英文摘要】GFP labeling shuttle expression vector pW425et2GFP was constructed by inserting green fluo2rescent protein (GFP) based on erythromycin drug resistance gene / thyA gene dipl2bolting pressure shuttleexpression vector pW425et1 The expression stability of GFP was estimated by consecutive fluorescence in2tensity detection1 Results of enzyme digested and PCR identify of pW425et2GFP were consistent withthose expected1 SDS - PAGE showed that 27 kD GFP had been expressed1 Green fluorescent which couldbe observed in the blue light were of higher stability after 30 serial passages1 Results showed that GFP la2beling shuttle expression vector has been constructed successfully1 It establishes the foundation for the re2search of field planting axiom in vivo as well as the development of the food2grade and the vaccine2gradelactic acid bacteria production of lactobacillus as a physio2bacterium vector1
【语种】中文
【第一作者】陈晓雷
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【学科分类】医学微生物学

【题目】乳酸菌在疾病预防中的应用
【中文关键词】乳酸菌作为机体内必不可少的正常生理菌群对机体有特殊的生理作用,文章综述了乳酸菌在预防癌症、心血管疾病、肾结
石、炎症性肠病和过敏性疾病等方面的研究进展,为乳酸菌在疾病预防领域的开发利用提供借鉴。
关键词:乳酸菌;疾病预防;展望
【英文关键词】none
【中文摘要】乳酸菌作为机体内必不可少的正常生理菌群对机体有特殊的生理作用,文章综述了乳酸菌在预防癌症、心血管疾病、肾结石、炎症性肠病和过敏性疾病等方面的研究进展,为乳酸菌在疾病预防领域的开发利用提供借鉴。 关键词:乳酸菌;疾病预防;展望
【英文摘要】none
【语种】中文
【第一作者】杜芳
【通讯作者】王春凤
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【题目】Studies on construction of a recombinant Eimeria tenella SO7 gene expressing
【中文关键词】none
【英文关键词】Eimeria tenella
SO7 gene
Non-antibiotic
Escherichia coli
Protective effect
【中文摘要】none
【英文摘要】Eimeria spp. are the causative agents of coccidiosis, a major disease affecting the poultry industry. Arecombinant non-antibiotic Escherichia coli that expresses the Eimeria tenella SO7 gene was constructed andits protective efficacy against homologous infection in chickens was determined. The three-day-old chickenswere orally immunized with the recombinant non-antibiotic SO7 gene expressing E. coli and boosted twoweeks later. Four weeks after the second immunization, the chickens were challenged with 5×104homologous sporulated oocysts. The protective effects of the recombinant non-antibiotic E. coli weredetermined by measuring body weight change, mortality, histopathology, lesion scores, oocyst counts, thespecific antibody response and the frequency of CD4+ and CD8+ lymphocytes in peripheral blood. Theresults showed that immunization with SO7 expressing E. coli resulted in significantly improved body weightgain, reduced lesion scores and oocyst shedding in immunized chickens compared to controls. Furthermore,administration of recombinant SO7 expressing E. coli leads to a significant increase in serum antibody, CD4+and CD8+ T cells in peripheral blood of chickens. These results, therefore, suggest that the recombinant nonantibioticE. coli that expresses the SO7 gene is able to effectively stimulate host protective immunity asevidenced by the induction of development of both humoral and cell-mediated immune responses againsthomologous challenge in chickens.
【语种】英文
【第一作者】杨桂连
【通讯作者】王春凤
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【题目】猪白细胞介素18 成熟蛋白基因的克隆与表达
【中文关键词】猪; 白细胞介素18; 乳酸菌; 克隆; 基因表达
【英文关键词】【Key words】Pig; Interleukin 18; Lactic acid bacteria; Cloning; Gene expression
【中文摘要】目的克隆猪白细胞介素18(pIL-18) 成熟蛋白基因,并在植物乳杆菌(Lb. plantarum) NC8 中进行表达。方法通过RT-PCR 方法从猪脾脏细胞中扩增出pIL-18 成熟蛋白基因,克隆到T 载体pMD18-T 后测序; 将阳性基因片段克隆至大肠埃希菌- 乳酸菌穿梭表达载体pSIP-409 构建重组表达载体pSIP-409-IL-18,进行酶切和PCR 鉴定;应用电穿孔技术将其转化至Lb. plantarum NC8 中,经SppIP 诱导表达后,进行SDS-PAGE 及Western-blot 分析。结果经测序,pIL-18 成熟蛋白基因核苷酸长度为579 bp,编码193 个核苷酸; 酶切和PCR 鉴定证明成功构建了重组表达载体pSIP-409-IL-18; SDS-PAGE 及Western-blot 分析表明重组菌表达了18 kD 的融合蛋白,该重组蛋白可以与鼠抗猪IL-18多克隆抗体反应。结论成功克隆了pIL-18 成熟蛋白基因,并获得有生物活性的pIL-18 重组乳酸菌,为研制开发IL-18 重组乳酸菌制剂奠定基础。【关键词】猪; 白细胞介素18; 乳酸菌; 克隆; 基因表达
【英文摘要】【Abstract】Objective To clone porcine interleukin 18 mature protein gene and express it in Lactobacillus plantarumNC8 (Lb. plantarum NC8) . Methods The porcine interleukin 18 mature protein gene (pIL-18) was amplified from its spleencells by RT-polymerase chain reaction (PCR) method,then subcloned to pMD18-T and sequenced. The positive gene fragmentwas subcloned to lactic acid bacteria expression vectors PSIP-409 to construct recombinant expression vector PSIP-409-IL-18and identified by enzyme digestion and PCR. The recombinant expression vector PSIP-409-IL-18 was transformed to Lb. plantarumNC8 through electric perforation techniques. After the recombinant strains were induced to express,the expression productwas analysed by SDS-PAGE and Western-blot. Results Sequencing results showed that the pIL-18 mature protein genecontained 579 bp of bases and coded 193 nucleotides. The recombinant expression vector pSIP-409-IL-18 was proved to havebeen successfully constructed by enzyme digestion and PCR. SDS-PAGE and Western-blot analysis indicated that 18 kD fusionprotein was expressed by these recombinant strains and it can react with the IL-18 polyclonal antibody of mouse anti-porcine.Conclusion The pIL-18 mature protein gene was amplified. And the pIL-18 recombinant Lactic acid bacteria with boligicalactivity was successfully

constructed,which lay the foundation for the development of IL-18 recombinant Lactobacillus.
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【题目】牛乳中乳酸乳球菌nisRK 基因的克隆与序列分析
【中文关键词】关键词: 乳酸乳球菌; nisRK 基因; 克隆; 序列分析
【英文关键词】Key words : Lactococcus lactis ; nisRK gene ; cloning ; sequence analysis
【中文摘要】以一株分离自牛乳中乳酸乳球菌染色体DNA 为模板,采用PCR 技术扩增出乳链菌肽生物合成的双组分调控元件(nisRK 基因) 。试剂盒回收纯化nisRK 基因后将其克隆入以氨苄青霉素为选择压力的pGEM2T克隆载体中,再转化E. coli DH5 α 感受态细胞,筛选阳性克隆,提取重组体,进行酶切鉴定和PCR 鉴定,并对nisRK基因进行序列测定,与已知序列进行同源性比较。结果表明成功地克隆出nisRK 基因,全长为2 035 bp ,与国外报道的nisRK基因同源性高达9919 %。关键词: 乳酸乳球菌; nisRK 基因; 克隆; 序列分析
【英文摘要】Using chromosome DNA of Lactococcus lactis isolated from milk as template , nisRK gene wasamplified by PCR with Pf u DNA polymerase. After purification , the PCR product was cloned into pGEM2T vector containing ampicillin resistance gene to generate recombinant plasmid pGEM2T：：nisRK. ThenpGEM2T：：nisRK was transformed into E. coli DH5 α competent cells. Identification by restriction en2donuclease digestion and PCR technique showed that the whole nisRK gene was cloned successfully. Se2quence analysis indicated that nisRK gene , 2 035 bp , displayed 9919 % nucleotide homology with thepublished abroad.
【语种】中文
【第一作者】郝凤奇
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【题目】赣无1油茶优良无性系经济性状与气象因子的典型相关分析
【中文关键词】森林培育学;油茶;优良无性系;经济性状;气象因子;典型相关分析.
【英文关键词】siviculture;Camellia oleifera;superior clone,economic characters,meteorological factors;canonical correlation analysis.
【中文摘要】分析了油茶赣无1优良无性系连续3年的经济性状的变化规律,并运用典型相关分析研究了其与气象因子的相关性,结果表明:(1)典型相关分析可以综合地反映油茶优良无性系的经济性状及与气候因子之间关系,探索其经济性状与环境因子之间的变化机理。(2)赣无1油茶在2004年至2006年间每年自8月初至10月下旬的干出籽率、鲜果含油率及干籽含油率与日均气温、最高气温、最低气温之间相关程度最高,其中2004年与2005年其鲜果含油率与日均气温、日最高温及最低气温呈逆向趋势,干籽含油率与日最高气温、日均气温呈正向趋势,但与日最低气温呈反向趋势;2006年其鲜果含油率与日最低气温及日照时数呈逆向趋势,干籽含油率与日均气温呈反向趋势,但干籽含油率与日照时数及最低气温、鲜果含油率与日均气温呈正向趋势。(3)油茶赣无1鲜出籽率在各年度间及同一年度不同考种时间段间表现稳定,而干出籽率、鲜果含油率及干籽含油率在不同年度与时间段间受气象因子影响变化较大。
【英文摘要】This article analyzes the three-year continuous variation regularity about the economic properties of Ganwu 1 Camellia oleifera superior clones,and studies on the correlations between these economic properties and the meteorological factors based on application of canonical correlation analysis.The results show as follows:(1) It can synthetically express the relationship between the meteorological factors and the main economic properties of Camellia oleifera superior strains in accordance with canonical correlation analysis,and explore the veriatson mechanism of its economic characters and the environmental factors.(2) There were closest degree of correlation among the given dry seed rate,oil content of fresh seed,oil content of dry seed and daily mean tempeerature,maximum

temperature,minimum temperature from the early August to late October in the three years from the period of 2004 to 2006,and the associations among the oil content of fresh seed and the daily mean temperature,maximum temperature,minimum temperature;There were positive trends among the oil content of dry seed and the daily mean temperature,maximum tempearture,and there was a reverse trend between minimum temperature and the oil content of dry seed in 2004 and in 2005;but there were reversed tendency among oil content of fresh seed and daily minimum temperature,sunshine hours,also oil content of dry seed and daily mean temperature;but the positive trend among oil content of dry seed and sunshine duration,daily minimum temperature,oil content of fresh seed,daily mean temperature in 2006.(3) The fresh seed yield of Camellia oleifera clone dsplayed stability among each year and the different periods of time in the same year about the seed testing;but given dry seed rate,oil content of fresh seed and oil content of dry seed has been greatly affected by meteorological factors in the different years and various time quantum.

【语种】中文
【第一作者】左继林
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【题目】江西油茶产业发展优势及对策分析
【中文关键词】油茶;产业发展;优势;对策.
【英文关键词】Camellia oleifera Abel;industry development;advantages;countermeasure.
【中文摘要】油茶是我国最重要的经济林资源之一,具有"东方橄榄油"之称。目前,国家主张大力发展油茶产业,并给予相应的政策扶持,调动了社会各界参与油茶经营开发的积极性。笔者综述了江西油茶产业发展的优势,并针对其优势、现状提出了油茶产业的发展对策,以促进江西油茶产业更好地发展。
【英文摘要】Camellia oleifera Abel.is the most important non-timber product forest in China,and it is called to be 'Oriental Olive'.At present,China advocates to develop Camellia oleifera Abel.and corresponding policy support was given,which has aroused all circles of society enthusiasm to participate in management.The authers summarizes the developmental advantages of Camellia oleifera Abel.in Jiangxi province,and put forward the developmental countermeasures of Camellia oleifera Abel.according to advantages and current situation,which to promote the better development of Camellia oleifera Abel.in Jiangxi province.
【语种】中文
【第一作者】王玉娟
【通讯作者】王玉娟
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【题目】Glutamine transport and feedback regulation of nitrate Glutamine transport and feedback regulation of nitrate cytosolic nitrate pools
【中文关键词】无
【英文关键词】Feedback regulation, glutamine transport, Hordeum vulgare L., nitrate reductase, nitrogen status.
【中文摘要】无
【英文摘要】The size of tissue amino acid pools in plants mayindicate nitrogen status and provide a signal that canregulate nitrate uptake and assimilation. The effects oftreating barley roots with glutamine have been examined,first to identify the transport system for theuptake of the amino acid and then to measure rootNR activity and cellular pools of nitrate. Treating Nreplete roots with glutamine elicited a change in thecell membrane potential and the size of this responsewas concentration dependent. In addition, the size ofthe electrical change depended on the previous exposuresof the root to glutamine and was lost aftera few cycles of treatment. Whole root tissue pools ofglutamine and phenylalanine increased when rootswere incubated in a nutrient solution containing 10 mMnitrate and 1 mM glutamine. Treating roots with 1 mMglutamine increased cytosolic nitrate activity from3 mM to 7 mM and this change peaked

after 2 h oftreatment. Parallel measurements of root nitrate reductaseactivity during treatment with 1 mM glutamineshowed a decrease. These measurements provideevidence for feedback regulation on NR activity thatresult in changes in cytosolic nitrate activity. After 6 hin glutamine both root NR activity and cytosolic nitrateactivity returned to pretreatment values, while tissueconcentrations of glutamine and phenylalanine remainedelevated. The data are discussed in terms ofthe mechanisms that are most likely to be responsiblefor the changes in cytosolic nitrate.
【语种】英文
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【学科分类】农学其他学科

【题目】油茶林分光合特性的研究
【中文关键词】经济林; 油茶林分; 光合特性; 湖南祁阳;
【英文关键词】non-timber forest; stand of Camellia oleifera; photosynthetic characteristics; Qiyang County of Hunan Province;
【中文摘要】对祁阳县油茶现有林分的光合性能指标进行了分析研究。结果表明,粗放经营模式下油茶成年林分的净光合速率呈"双峰";不同品种类型、不同立地条件和不同改造措施下的油茶林分在净光合速率、水分利用率、气孔限制值等生理指标方面存在明显的差异,这些生理指标的综合作用决定了油茶的光合特性;垦复加施肥的改造方式对改善油茶光合性能具有很好的作用;土壤肥力对油茶光合性能影响亦大;红球品种类型的光合效能最好。
【英文摘要】The photosynthetic characteristics of Camellia oleifera stands in Qiyang County of Hunan Province were investigated,and the photosynthetic characteristics indexes were also studied.The results indicate that the curve of net photosynthetic rate(Pn) of the mixed Camellia oleifera forests showed double peak change;there were obvious differences for the Camellia oleifera forests in net photosynthetic rate,water use efficiency and stomatal limitation value etc.under the conditions of different variety types,site conditions and modification measures,and the synthetically effect of all these physiological indexes decided the photosynthetic characteristics of Camellia oleifera;the fertilization and reclaim both improved the photosynthetic characteristics of Camellia oleifera,and the soil fertility was the biggest influence factor to the photosynthesis;the photosynthesis of the red-ball variety of Camellia was the best.
【语种】中文
【第一作者】李建安
【通讯作者】李建安
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【引文索引号】null
【学科分类】经济林学

【题目】赣系油茶10个无性系始果期果实性状分析
【中文关键词】果实性状; 主成分分析; 赣系油茶无性系;
【英文关键词】fruit character; principal component analysis; Camellia oleifera clones of Group Gan;
【中文摘要】采用主成分分析法对赣系油茶10个优良无性系始果期果实形态和品质等性状指标进行分析和综合评价,结果表明:各无性系的果高、果径等果形指标存在显著差异,产油量、千粒重、鲜出籽率和干籽含油率等可作为主要经济品质性状。赣无1、赣永5、赣石84-8及赣石84-3等无性系其果实具有较好的经济性状。
【英文摘要】Using principal component analysis,comprehensive evaluation and correlated analysis were used to study the fruit morphology and economic characters of 10 young Camellia oleifera clones of Group Gan.The results showed that there was significant difference in fruit shape,such as fruit height and fruit diameter.The characters were dominant in economic quality traits such as oil production,one thousand-seed weight,fresh and dry seeds of oil seed rate.The clones such as Ganwu1,Ganyong 5,Ganshi 84-8 and Ganshi 84-3 had better economic characters in their fruit than others.

【语种】中文
【第一作者】彭丽梅
【通讯作者】张露
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【学科分类】经济林学

【题目】高产油茶超级壮苗关键培育技术的研究
【中文关键词】油茶; 砧木; 超级壮苗; 培育;
【英文关键词】Camellia oleifera; root stocks; super strong seedling; cultivation;
【中文摘要】在常规育苗的基础上,通过筛选良种培育砧木、重施有机肥作基肥、选用良种壮穗、科学病虫害防治、巧妙利用磷酸二氢钾的功效、合理打顶等一系列措施,培育超级壮苗,其一年生苗高20 cm以上,地径0.28 cm以上,两年生苗高40~50 cm,地径0.4 cm以上,且分枝数多,抗病性、抗寒性均比常规育苗好。
【英文摘要】On the basis of conventional seedlings,a series of measures to cultivate super strong seedlings were taken,such as cultivating rootstocks by screening improved variety,applying organic fertilizer as base fertilizer,using strong scions of improved variety,scientific pest control,ingeniously useing the efficacy of potassium dihydrogen phosphate,reasonable topping,etc.The height and diameter of one-year-old seedlings reached above 20 cm and 0.28 cm respectively,and the two-year-old ’s reached 40~50 cm and 0.40 cm respectively,and their branch number,disease resistance and cold resistance were all better than conventional seedlings.
【语种】中文
【第一作者】雷小林
【通讯作者】徐林初
【期刊名称、卷期、页码】中南林业科技大学学报, 2011,31(6):39-43
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【题目】垦复抚育对油茶林下植被的结构组成及多样性影响研究
【中文关键词】油茶;植被;多样性;垦复;抚育
【英文关键词】Camellia oleifera; vegetation; diversity; reclamation; tending
【中文摘要】选择上年垦复抚育、前2 年垦复抚育和10 年未曾垦复抚育的3 块油茶(Camellia oleifera)林地,分别进行林下植被的调查,结果表明,油茶林下植被以盐肤木、檵木等木本植物和芒萁、蕨、苔草等草本植物为优势,并且木质藤蔓植物相当丰富,从维护植物多样性角度出发,油茶林地垦复抚育以3 年1 次为好,同时建议在垦复抚育时适当保留隔药柃、狗脊蕨等常绿阔叶林下较常见的物种,以增加油茶群落的植物多样性和群落结构的稳定性。
【英文摘要】Three spots of Camellia oleifera forest reclamated last year, two years ago and not reclamated for 10 years, respectively, were selected to investigate vegetation under the forests. The results showed, Rhus chinensis, Aralia chinensis, Dicranopteris pedata, Pteridium aquillium var. latiusculum and Arthraxon hispidus were dominant species in the vegetation under the forests, and species of woody vine was rich. It is good that C. oleifera forest is reclamated once every three years.
【语种】中文
【第一作者】何志华
【通讯作者】何志华
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【学科分类】经济林学

【题目】我国经济林地套种研究文献分析
【中文关键词】经济林; 套种; 文献分析; 文献计量学
【英文关键词】Economic forest; Interplanting; Literature research; Literature metrology;
【中文摘要】以2003~2010年《中国知识资源总库》收录的经济林地套种文献为依据,采用文献计量学的方法,对文献的年份分布、文献作者分布、案例分布、期刊类别、研究内容等方面进行统计分析,从文献计量学角度反映我国经济林木套种研究的现状和发展趋势。
【英文摘要】Using the method of literature metrology,based on papers on Interplanting of economic forest in China(2003-2010) in <<CNKI>>,made a quantitative analysis of year,authors,journal and research field.The research status and development trend were discussed.
【语种】中文
【第一作者】钱萍
【通讯作者】张露
【期刊名称、卷期、页码】江西科学, 2011,29(1):119-121
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【学科分类】经济林学

【题目】单核细胞增生性李斯特菌prfA 基因缺失株的构建及其生物学
【中文关键词】单核细胞增生性李斯特菌,突变株,prfA 基因,同源重组,生物学特性
【英文关键词】Listeria monocytogenes,mutant,prfA,homologous recombination,biological characteristics
【中文摘要】【目的】单核细胞增生性李斯特菌(Lm) 是人兽共患李斯特菌病的病原菌,其致病性与调控因子PrfA 蛋白作用下毒力基因的表达有着密切关系,本文初步探讨了PrfA 蛋白对细菌毒力因子的调控作用。【方法】利用同源重组技术对血清型分别为1 /2a 和4b 的LM4、F4636 进行prfA 基因的敲除,并构建其回复突变株,对获得的突变株LM4 Δ prfA、F4636 Δ prfA 进行生物学特性研究。【结果】实验结果表明: 两株缺失株的溶血活性丧失、回复突变株的溶血活性得到恢复,突变株还丧失磷脂酶活性,黏附和侵袭特性显著下降(P < 0. 05) ,对BALB / c 小鼠的半数致死剂量提高了105 个数量级。【结论】由此表明,PrfA 蛋白对hly、plcB、inl 家族基因的表达及细菌毒力具有重要的调控作用。prfA 基因缺失株的构建为进一步研究PrfA 蛋白的调控功能提供了材料,为研究其在Lm 致病性中的作用奠定了基础。
【英文摘要】[Objective] Listeria monocytogenes (Lm) is an important pathogen that can cause serious listeriosis in humansand animals. The pathogenicity of Lm has a close relationship with the PrfA protein regulating the expression of virulencegenes. Therefore,we studied the regulation functions of PrfA and its role on Lm's virulence. [Methods] The prfA genesof LM4,serotype 1 /2a,and F4636,serotype 4b,were deleted by homologous recombination technology, and thebiological characteristics of the mutants were further studied. [Results] The prfA gene deleted strains LM4 Δ prfA andF4636 Δ prfA and their back mutation strains were successfully constructed. The results show that the hemolysis activity waslost in prfA deleted strains and was recovered in the reverse mutant strains. The prfA deleted strains lost phospholipaseactivity; their adhesion and invasion ability significantly decreased. Furthermore,their 50% lethal doses (LD50) were 5logs higher comparing with wild type strains. [Conclusion] PrfA regulates hly,plcB and inl gene family and affectssignificantly Lm's virulence.
【语种】中文
【第一作者】白春光
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【学科分类】兽医学

【题目】肠炎沙门氏菌鸡源株ompR 基因缺失株的构建及生物学特性
【中文关键词】肠炎沙门氏菌,生物被膜,ompR 基因,缺失,毒力
【英文关键词】Salmonella enteritidis,biofilm,ompR gene,mutant,virulence

【中文摘要】【目的】为了探讨ompR 基因在肠炎沙门氏菌生物被膜形成及毒力中的作用。【方法】以肠炎沙门氏菌作为母本,运用自杀性载体pGMB151 构建了ompR 基因缺失株,结晶紫染色法和扫描电镜观察测定缺失株的生物被膜形成能力,细胞的吸附和侵入及小鼠攻毒试验测定缺失株的毒力。【结果】RT-PCR 和蛋白表达证明了ompR 基因缺失株构建成功; 该缺失株不表达纤维素和菌毛,不形成生物被膜; 上皮细胞吸附和侵入试验表明缺失株与野生株具有相同的吸附和侵入率; BALB / c 鼠腹腔感染性试验表明,缺失株的半数致死量为106. 67CFU,而野生株的半数致死量小于2 CFU。【结论】ompR 基因既是肠炎沙门氏菌生物膜形成的调控基因,又是重要的毒力基因。

【英文摘要】[Objective]To investigate the role of ompR gene from Salmonella enteritidis in biofilm formation and virulence.[Methods]We constructed an ompR mutant of Salmonella enteritidis by suicide plasmid pGMB151. Biofilm formingability of the mutant was detected by crystal violet assay and scanning electron micrography. Virulence of the mutant wasdetermined by assay of adherence to and invasion of epithelial cells,and mouse challenge experiments. [Results] TheompR mutant was confirmed by RT-PCR and the pattern of outer membrane protein. The mutant did not produce cellulose,curli,and biofilm,and showed similar adherence percentage to and invasion percentage of epithelial cells as wild typestrain. In addition,intraperitoneal challenge of bacteria in BALB / c mice revealed that LD50 of the mutant strain was 106. 67CFU,while that of the wild type strain was less than 2 CFU. [Conclusion] These data indicate that the ompR gene isinvolved in both biofilm formation and virulence in Salmonella enteritidis.

【语种】中文

【第一作者】董洪燕

【通讯作者】焦新安

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【学科分类】兽医学

【题目】Amino acids and nitrate as signals for the regulation of nitrogen acquisition

【中文关键词】无

【英文关键词】amino acids, ammonium uptake, feedback regulation, nitrate uptake, nitrogen sensor.

【中文摘要】无

【英文摘要】The uptake of nitrogen (N) by roots is known to change with supply in a manner that suggests that the N status of plants is somehow sensed and can feedback to regulate this process. The most abundant source of N in most soils is nitrate. As nitrate is assimilated via conversion to nitrite, then ammonium into amino acids, it has been suggested that the internal pools of amino acids within plants may indicate nitrogen status by providing a signal that can regulate nitrate uptake by the plant. In support of this idea, both nitrate and ammonium influx and transporter transcript were shown to decrease in root tissue treated with exogenously applied amino acids. Several different amino acids have been tested for their effects on influx and transcription and glutamine was most effective. The feedback regulation occurs by changing the expression of transporters, but may also involve the post-translational modification of proteins. For example, some of the cytoplasmic enzymes responsible for nitrate assimilation are regulated by phosphorylation and binding of a 14-3-3 protein. We have examined the effects of treating plants with glutamine to first identify the uptake of the amino acid and then to measure tissue nitrate reductase activity and cellular pools of nitrate. These results are reviewed in terms of feedback regulation and the putative cell sensing systems for N status including a possible specific role for cytosolic nitrate.

【语种】英文

【第一作者】Anthony J Miller

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【学科分类】农学其他学科

【题目】江苏某地健康绵羊群产志贺毒素大肠杆菌体内分离株的分子

【中文关键词】产志贺毒素大肠杆菌,PCR,O 抗原,H 抗原,半数致死量,Vero 细胞

【英文关键词】Shiga toxin-producing E. coli,multiplex polymerase chain reaction,O-antigen,H antigen,LD50
【中文摘要】【目的】探讨江苏某羊场健康绵羊体内产志贺毒素大肠杆菌的带菌和流行情况,同时就分离株的致病力和对Vero 细胞的毒性作用作了研究。【方法】基于本实验室已经建立的EHEC O157:H7 EDL933W 株的stx1、stx2、eaeA、hlyA四个基因的多重PCR 检测并配合选择性增菌、平板筛选等方法对STEC 进行分离鉴定。【结果】在为期6 个月的连续跟踪调查中,共分离到STEC 菌株107 株,分离率为19. 4% (107 /550)。分离株属于41 种O 血清型、62 种O:H 血清型,未定型(ONT)有22 株,粗糙型(OR)1 株。其中属于绵羊STEC 的优势血清型有O5(2 株)、O91(1 株)、O103(1 株)。本文检测到的优势血清型为O93,stx2 阳性菌株的分离率较stx1 阳性菌株的分离率高,LD50测定结果表明分离株对小鼠致病力不高,受试的3 个分离株均不能致小鼠死亡。对107 株stx 阳性分离株噬菌斑试验表明,71 株阳性菌株携带噬菌体(66. 3% ,71 /109)。受试分离株进行Vero 细胞毒性试验,其中有一个菌株stx 基因阳性但不能使Vero 细胞产生病变。【结论】绵羊是STEC 的天然宿主,可健康带菌。虽然STEC 分离株对小鼠的致病力较弱,但不能排除其对人类安全的威胁。STEC 携带志贺毒素基因并不意味着一定表达志贺毒素,需对志贺毒素的表达及调控机理做进一步的研究。
【英文摘要】[Objective]In order to investigate the distribution of Shiga toxin-producing Escherichia coli (STEC) amonghealthy sheep in a farm and the pathogenicity to mice and Vero cells of these STEC isolates. [Methods]We usedpolymerase chain reaction (PCR) to detect genes of eaeA,stx1,stx2,hlyA,which had been developed in this laboratorypreviously,combing the selective cultivation and Chrom-Agar (CA) O157 plates to isolate STEC strains. [Results]Atotal of 107 STEC strains were isolated in a sheep farm during six visits from August,2008 to January,2009. The isolationrate was 19. 8% (107 /550) . These isolates belonged to 41 O serotypes and 60 O: H serotypes,except that 21 were Onon- typable and 1 was rough. O93 was the common serotype. Some isolates such as O5,O91,O103,which are reportedin other countries originated from healthy sheep were also isolated in this study. Stx2 positive rate was higher than that ofstx1. 50% lethal dose assay in mice indicated the pathogenicity of isolates was low and none of the 3 tested isolates causedmice death. We selected 107 stx gene positive STEC strains to induce the lambdoid bacteriophages. The results showedthat 71 out of 107 isolates formed plagues,while 28 did not after induction. Detection of Shiga toxins for three testedisolates in Vero cell assay indicated one stx gene positive strain lacked the toxigenicity to Vero cells. [Conclusions]Sheep are the natural reservoirs of STEC and they are healthy to carry STEC. Although these STEC isolates experience lowpathogenicity to mice,they are potential threat to human health. Shiga toxin gene positive were not equal to production ofShiga toxins,so we need to further study the Shiga toxin expression and regulation mechanism.
【语种】中文
【第一作者】顾丛丛
【通讯作者】高崧
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【学科分类】兽医学

【题目】油茶成龄低产林种群的产量结构与改造对策研究
【中文关键词】油茶;产量;群体;种群;定位改造
【英文关键词】Camellia oleifera; yield; population; localization improvement
【中文摘要】对50 年生的油茶成龄低产林的研究表明,油茶成龄林群体鲜果产量的差异较大,这种产量差异与林分密度几乎无关(r = 0.4971),但与单株平均产量有一定的关系(r = 0.765 1),种群的鲜果产量结构总体表现为:单株在2 kg 以下的低产植株占80%左右、在2 ~ 5 kg 的中产植株占10% ~ 15%、在5 kg 以上的高产植株占6%左右,呈现明显的负指数分布(Y = 23.49X-1.587 8),并且构成产量的植株基本上是受品种的影响,因此导致油茶成龄林低产的主要原因是由于低产品种多、中高产品种少,由此提出除劣补优的良种定位置换改造对策。
【英文摘要】Studies on 50-year-old low-yield forest of Camellia oleifera showed, fresh fruit yield had great difference among the mature forests of C. oleifera. It was not correlated significantly with stand density (r = 0.4971), but it was correlated significantly with average yield per individual (r = 0.7651). The individual whose yield was less than 2 kg accounts for about 80%. The middle-yield individual whose yield was from 2 kg to 5 kg, accounts for 10% ~ 15%, and high--yield individual whose yield was more than 5 kg, accounts for about 6%. Individual yield displayed Negative exponential distribution(Y = 23.49X-1.587 8).This paper proposed transformation countermeasure of low-yield mature forest of C. oleifera.
【语种】中文
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【学科分类】经济林学

【题目】根际pH 对水稻细胞膜质子泵基因表达的影响
【中文关键词】水稻; 细胞膜; 质子泵; 氢离子浓度指数(pH) ; 基因表达; 根际
【英文关键词】无
【中文摘要】通过水培试验研究了不同根际pH 对水稻(日本晴) 细胞膜质子泵基因表达的影响。以栽培在pH 5. 5 的营养液中的水稻作为对照, 然后分别转移到pH 3. 5 和pH 7. 5 的营养液中培养。研究发现, 质子泵基因OsPMA1 、OsPMA2 、OsPMA3 、OsPMA7 在根系和叶片中均有表达; 当营养液pH 为3. 5 或7. 5 时, 上述质子泵基因的表达总体上均比对照(pH5) 降低。但植物地上部的质子泵表达不受根际pH 的影响。而且, pH 越低, 水稻生物量与体内的氮含量越低。其可能的原因是, 水稻在pH 骤然降为3. 5 的营养液中没有及时适应高浓度的H+胁迫, 导致根系细胞膜质子泵受抑制, 进而影响水稻对养分的吸收。而pH 7. 5 与植物细胞质pH 相当, 质子泵无需过量表达即可用于养分吸收。说明根际pH 直接影响到根系细胞膜质子泵在转录水平上的表达, 并间接影响根系对养分的吸收和植物的生长。
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【语种】中文
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【学科分类】农学其他学科

【题目】Functional co-expression of two insect nicotinic receptor subunits (Nlα3 and Nlα8) reveals the effects of a resistance-associated mutation (Nlα3Y151S) on neonicotinoid insecticides
【中文关键词】nicotinic acetylcholine receptor, Nilaparvata lugens,
resistance-associated mutation, subunit composition
【英文关键词】乙酰胆碱受体,褐飞虱,抗药性相关突变,亚基组成
【中文摘要】由于Y151S在褐飞虱的两个亚基(Nlα1和Nlα3)上的首次发现,因此南京农业大学昆虫神经毒理学实验室以这两个亚基为中心,对褐飞虱nAChRs的亚基组成进行了深入研究。对褐飞虱的Nlα1和Nlα2进行体外表达,发现这两个α亚基与哺乳动物的β2亚基共聚,组成一个三亚基五聚体受体(Nlα1/Nlα2/rβ2)。对褐飞虱内源nAChRs进行免疫共沉淀分析,证实了这两个亚基在褐飞虱神经系统中确实共聚于一个五聚体中。由于Nlα3亚基独立表达或者与哺乳动物rβ2共表达都不成功,这促使研究者寻找与Nlα3亚基共表达的褐飞虱其他亚基。褐飞虱nAChRs亚基不同组合表达发现,Nlα3亚基可以与Nlα8亚基共表达,与哺乳动物rβ2在体外重组成另外一个三亚基五聚体(Nlα3/Nlα8/rβ2),这在昆虫nAChRs亚基组成中为首次发现(Zhang et al., 2009)。随后,研究者以这两个三亚基五聚体为基础,对Nlα1和Nlα3中发现的Y151S突变功能影响进行了分析。Nlα3/Nlα8/rβ2对吡虫啉的敏感性(EC50= 3.2±0.5 μmol/L)比Nlα1/Nlα2/rβ2(EC50=350.4±16.8 μmol/L)高出109倍。与敏感受体(Nlα1/Nlα2/rβ2)相比,Nlα1Y151S突变只造成受体Nlα1Y151S/Nlα2/rβ2(EC50=624±24 μmol/L)对吡虫啉敏感性下降1.8倍。而与敏感受体(Nlα3/Nlα8/rβ2)相比,Nlα3Y151S突变造成受体Nlα3Y151S/Nlα8/rβ2(EC50= 29.5±3.9 μmol/L)对吡虫啉敏感性下降9.2倍。结合两个受体敏感性差异,说明Nlα3Y151S突变在吡虫啉靶标不敏感性中的作用更重要。
【英文摘要】Neonicotinoid insecticides, such as imidacloprid, are selectiveagonists of insect nicotinic acetylcholine receptors (nAChRs)and are used extensively to control a variety of insect pestspecies. Previously, we have identified a nAChR pointmutation (Y151S) associated with insecticide resistance in thebrown planthopper Nilaparvata lugens. Although this mutationhas been identified in two different N. lugens nAChR subunits(Nla1 and Nla3) because of difficulties in heterologousexpression of Nla3; its influence on agonist potency has beenexamined only in Nla1-containing nAChRs. Here we describethe cloning of a novel nAChR subunit from N. lugens (Nla8),together with evidence for its co-assembly with Nla3 in nativeand recombinant nAChRs. This has, for the first time,

enabled the functional effects of the Nla3Y151S mutation to beexamined. The Nla3Y151S mutation has little effect on agonistpotency of acetylcholine but has a dramatic effect on neonicotinoidinsecticides (reducing Imax values and increasingEC50 values). The apparent affinity of neonicotinoids washigher and the effect of the Y151S mutation on neonicotinoidagonist potency was more profound in Nla3-containing, ratherthan Nla1-containing nAChR. We conclude that Nla3- andNla1-containing nAChRs may be representative of two distinctinsect nAChR populations.

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【题目】江苏某奶牛场健康奶牛体内产志贺毒素大肠杆菌的分离鉴定及其对小鼠致病性的研究
【中文关键词】产志贺毒素大肠杆菌;奶牛;多重PCR;O抗原;H抗原;毒力基因
【英文关键词】Shiga toxin-producing E.coli;cattle;multiplex polymerase chain reaction;O antigen;
H antigen;virulence genes
【中文摘要】:通过对江苏省某奶牛场连续6个月的定群、定畜跟踪调查,获得产志贺毒素大肠杆菌(STEC)在该牛场分布的广泛性、持续性和血清型多样化的资料,并对一些重要血清型分离株作致病性的鉴定。基于本实验室已经建立的多重PCR方法对stx1、stx2、eaeA、ehxA 共4个基因进行检测,对检测出的阳性样品,非O157STEC采用多重PCR结合CT-SMAC平板的分离方法,而O157STEC通过免疫磁珠结合O157显色平板的分离方法。结果表明,该奶牛场STEC的初筛率为16.1%(112/696),分离率为11.1%(77/696)。分离株属于35种O血清型和60种O：H血清型。该场的优势血清型为O4、O26和O93,O157在该场存在,但并非优势血清型。77个分离株中,stx2基因的检出率为68.8%,远远高于其它毒力基因,如stx1(19.5%)、eaeA(11.7%)和ehxA(20.8%)。该场分离到一些O157和O26血清型的菌株,对小鼠具有较强的致病性。奶牛是STEC的天然宿主,可健康带菌。除了O157STEC外,非O157STEC中一些高致病力菌株对人类的健康也存在威胁。
【英文摘要】Through investigating a herd of cattle from a farm in Jiangsu Province for Shiga toxinproducing Escherichia coli (STEC)over a period of 6months,we obtained the information of theepidemicity,persistence and diverse serotypes of STEC in this farm and the pathogenicity of someisolates.Polymerase chain reaction(PCR)that had been developed in this laboratory previouslywas carried out to detect genes of eaeA,stx1,stx2,ehxA.Non-O157STEC were isolated by usingmultiplied PCR and CT-SMAC separation,and O157STEC were isolated by using immunomagnetic combining Chrom-Agar(CA)O157plates separation from the PCR positive samples.stxgenes were detected in 112of the 696faecal samples(16.1%),but only 77STEC were isolated(11.1%).These STEC isolates belonged to 35Oserogroups and 60O：H serotypes.O4,O26,O93were the common serotypes.O157existed in this farm,but not popular.Stx2positive rate(68.8%)was higher than other genes,e.g.stx1(19.5%),eaeA (11.7%)and ehxA (20.8%),among all STEC isolates.Some of the tested isolates were highly pathogenic to mice.The presentresults showed that the cattle are the natural reservoirs of STEC and they are healthy to carrySTEC.In addition to O157STEC,non-O157STEC are potential threat to human health.There-fore,to prevent the transmission of STEC from cattle to beef and milk products might be the keyroute to diminish the infection of STEC in human

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【学科分类】兽医学

【题目】Identification of two Lynx proteins in Nilaparvata lugens and the modulation on insect nicotinic acetylcholine receptors.
【中文关键词】neonicotinoids resistance, nicotinic acetylcholine
receptor modulator, nicotinic acetylcholine receptors, Nilaparvata

lugens
【英文关键词】新烟碱类杀虫剂抗药性,烟碱型乙酰胆碱受体调控蛋白,烟碱型乙酰胆碱受体,褐飞虱
【中文摘要】总结前期抗药性机理的研究成果,发现褐飞虱烟碱型乙酰胆碱受体(nicotinic acetylcholine receptors, nAChRs)具有特异性,其中Nlα1亚基和Nlα2亚基共聚,而Nlα3亚基和Nlα8亚基共聚。验证我们先前在Nlα1亚基和Nlα3亚基上发现的Y151S突变,发现Nlα3亚基的突变重要性更强,与抗药性的关系更为密切,为褐飞虱抗吡虫啉检测技术的开发提出了指导。同时,研究发现除了吡虫啉的作用靶标nAChRs外,褐飞虱体内的一些附属蛋白也在抗药性中扮演了影响因子,如近期发现的Lynx1和Lynx2蛋白,可以抵消抗性突变带来的部分影响,这方面取得了突破性进展。
【英文摘要】Nicotinic acetylcholine receptors (nAChRs) mediate fast cholinergicsynaptic transmission in the insect brain and are targetsfor neonicotinoid insecticides. Some proteins, other thannAChRs themselves, might play important roles in insectnAChRs function in vivo and in vitro, such as the chaperone,regulator and modulator. Here we report the identification oftwo nAChR modulators (Nl-lynx1 and Nl-lynx2) in the brownplanthopper, Nilaparvata lugens. Analysis of amino acid sequencesof Nl-lynx1 and Nl-lynx2 reveals that they are twomembers of the Ly-6/neurotoxin superfamily, with a cysteinerichconsensus signature motif. Nl-lynx1 and Nl-lynx2 onlyincreased agonist-evoked macroscopic currents of hybridreceptors Nla1/b2 expressed in Xenopus oocytes, but notchange the agonist sensitivity and desensitization properties.For example, Nl-lynx1 increased Imax of acetylcholine andimidacloprid to 3.56-fold and 1.72-fold of that of Nla1/b2 alone,and these folds for Nl-lynx2 were 3.25 and 1.51. When thepreviously identified Nla1Y151S mutation was included(Nla1Y151S/b2), the effects of Nl-lynx1 and Nl-lynx2 on imidaclopridresponses, but not acetylcholine response, were differentfrom that in Nla1/b2. The increased folds in imidaclopridresponses by Nl-lynx1 and Nl-lynx2 were much higher inNla1Y151S/b2 (3.25-fold and 2.86-fold) than in Nla1/b2 (1.72-fold and 1.51-fold), which indicated Nl-lynx1 and Nl-lynx2might also serve as an influencing factor in target-site insensitivityin N. lugens. These findings indicate that nAChRschaperone, regulator and modulator may be of importance inassessing the likely impact of the target-site mutations suchas Y151S upon neonicotinoid insecticide resistance.
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【学科分类】植物保护学

【题目】Native subunit composition of two insect nicotinic receptor subtypes with differing affinities for the insecticide imidacloprid
【中文关键词】烟碱型乙酰胆碱受体,亚基组成,吡虫啉,褐飞虱
【英文关键词】Nicotinic acetylcholine receptor,Subunit composition,Imidacloprid,Nilaparvata lugens
【中文摘要】通过免疫共沉淀技术,发现Nlα1和Nlα2亚基在褐飞虱神经系统中共聚于同一个受体中,与褐飞虱Nlβ1构成五聚体受体(Nlα1/Nlα2/Nlβ1);Nlα3和Nlα8亚基共聚于同一个受体中,与褐飞虱Nlβ1构成五聚体受体(Nlα3/Nlα8/Nlβ1)。通过同位素结合和敏感性差异分析,发现Nlα1/Nlα2/Nlβ1和Nlα3/Nlα8/Nlβ1均与吡虫啉的结合相关,其中Nlα3/Nlα8/Nlβ1构成吡虫啉高亲和力位点,而Nlα1/Nlα2/Nlβ1构成吡虫啉低亲和力位点,Nlα3/Nlα8/Nlβ1对吡虫啉的敏感性比Nlα1/Nlα2/Nlβ1高出109倍。
【英文摘要】Neonicotinoid insecticides, such as imidacloprid, are selective agonists of insect nicotinic acetylcholine receptors (nAChRs) and are used extensively to control a variety of insect pest species. The brown planthopper (Nilaparvata lugens), an insect pest of rice crops throughout Asia, is an important target species for control with neonicotinoid insecticides such as imidacloprid. Studies with nAChRs purified from N. lugens have identified two [3H]imidacloprid binding sites with different affinities (Kd ¼ 3.5 0.6 pM and 1.5 0.2 nM). Co-immunoprecipitation studies with native preparations of N. lugens nAChRs,using subunit-selective antisera, have demonstrated the co-assembly of Nla1, Nla2 and Nlb1 subunits into one receptor complex and of Nla3, Nla8 and Nlb1 into another. Immunodepletion of Nla1 or Nla2 subunits resulted in the selective loss of the lower affinity imidacloprid binding site, whereas immunodepletion of Nla3 or Nla8 caused the selective loss of the high-affinity site. Immunodepletion of Nlb1 resulted in a complete absence of specific imidacloprid binding. In contrast, immunodepletion with antibodies selective for other N. lugens nAChR subunits (Nla4, Nla6, Nla7 and Nlb2) had no significant effect on imidacloprid binding. Taken together, these data suggest that nAChRs containing Nla1, Nla2 and Nlb1 constitute the lower affinity binding site, whereas nAChRs containing Nla3, Nla8 and Nlb1 constitute the higher affinity binding site for imidacloprid in N. lugens.

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【题目】Selectivity of lynx proteins on insect nicotinic acetylcholine receptors in the brown planthopper,Nilaparvata lugens
【中文关键词】烟碱型乙酰胆碱受体,受体调控蛋白,褐飞虱,新烟碱类杀虫剂抗药性
【英文关键词】nicotinic acetylcholine receptors
(nAChRs), nAChR modulator, Nilaparvata lugens,
neonicotinoids resistance
【中文摘要】试图外源组建昆虫功能性nAChRs(所有亚基均来源于昆虫)的研究一直是国际研究热点,但近20年来一直没有突破。通过褐飞虱EST文库筛选、免疫沉淀和体外验证等技术手段,从褐飞虱中鉴定了两种调控蛋白,同样属于Ly-6/neurotoxin家族,分别命名为Nl-lynx1和Nl-lynx2,这两个调控蛋白都可以提高昆虫α亚基与哺乳动物β亚基复合受体的表达水平,而且在不同的亚基组成受体间存在显著的差异性。研究同时发现,这两个调控蛋白都与Y151S突变的功能有关,影响褐飞虱对吡虫啉的抗性水平,预示着这类蛋白质同样可以成为杀虫剂的攻击靶标。由于Lynx蛋白与褐飞虱nAChRs亚基并不能成功组建体外受体,说明还有其他小分子附属蛋白存在,未来在这方面将开展研究。
【英文摘要】Neuronal nicotinic acetylcholine receptors (nAChRs)are major excitatory neurotransmitter receptors inboth vertebrates and invertebrates. Two lynx proteins(Nl-lynx1 and Nl-lynx2) have been identified in thebrown planthopper, Nilaparvata lugens, which act asmodulators on insect nAChRs. In the present study,two lynx proteins were found to act on the tripletreceptor Nla1/Nla2/b2 expressed in Xenopus oocytes,increasing agonist-evoked macroscopic currents, butnot changing agonist sensitivity and desensitizationproperties. Nl-lynx1 and Nl-lynx2 increased Imax(maximum responses) of acetylcholine to 4.85-foldand 2.40-fold of that of Nla1/Nla2/b2 alone, and theyalso increased Imax of imidacloprid to 2.57-fold and1.25-fold. Although, on another triplet nAChRs Nla3/Nla8/b2, Nl-lynx2 increased Imax of acetylcholine andimidacloprid to 3.63-fold and 2.16-fold, Nl-lynx1 hadno effects on Imax of either acetylcholine or imidacloprid.The results demonstrate the selectivity of lynxproteins for different insect nAChR subtypes. Thisselectivity was also identified in native N. Lugens.Co-immunoprecipitation was found between Nla1/Nla2-containing receptors and both Nl-lynx1 andNl-lynx2, but was only found between Nla3/Nla8-containing receptors and Nl-lynx2. When the previouslyidentified Nla1Y151S and Nla3Y151S mutations wereincluded (Nla1Y151S/Nla2/b2 and Nla3Y151S/Nla8/b2), theincrease in Imax of imidacloprid, but not acetylcholine,caused by co-expression of Nl-lynx1 and Nl-lynx2 wasmore noticeable than that of their wildtype counterparts.Taken together, these data suggest that twomodulators, Nl-lynx1 and Nl-lynx2, might serve as aninfluencing factor in target site insensitivity in N.lugens, such as Y151S mutation.
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【题目】微卫星标记对牙鲆有丝分裂雌核发育家系的亲子鉴定
【中文关键词】牙鲆; 雌核发育; 微卫星标记; 亲子鉴定
【英文关键词】Japanese flounder (Paralichthys olivaceus); Gynogenesis; Microsatellite marker; Paternity testing
【中文摘要】利用18个微卫星标记,对6个家系的26尾有丝分裂雌核发育牙鲆进行亲子鉴定,PCR扩增产物经8%非变性聚丙烯酰胺凝胶电泳检测,结果表明:1个座位在母本中表现为相同的基因型,视为单态座位,其他17个座位为多态; 多态座位在亲子鉴定中的累计排除概率和累计个体识别概率分别为0.9985、0.9999; 根据被测个体在17个微卫星座位的基因型,最后确认26尾子代的母本,其中7尾子代在某些座位表现出与其母本不完全匹配的基因型。利用微卫星标记可确定雌核发育后代的

亲子关系,从而构建牙鲆雌核发育家系系谱,对牙鲆雌核发育的深入研究具有重要意义。
【英文摘要】Eighteen microsatellite markers were analyzed with a paternity testing application using 26mitogynogenetic Japanese flounder (Paralichthys olivaceus) progeny and their six assumed female-parents. The amplified products of PCR were analyzed by 8% polyacrylamide gel electrophoresis. Electrophoresis patterns showed that only one pair of primers had a monomorphic pattern, and the others were polymorphic. Cumulate exclusion probability of polymorphic loci was 0.9985 and cumulate power of discrimination was 0.9999. An effective method was applied to track the gynogenetic maternal parents of 26 progeny. The genotypes of six progeny were not completely identical to their mothers on some loci. The construction of pedigree was perfected by looking at microsatellite loci from paternity tests which are essential to the deeper analysis of gynogenetic Japanese flounder.
【语种】中文
【第一作者】季旭
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【题目】牙鲆5个养殖群体的遗传多样性分析
【中文关键词】牙鲆; 养殖群体; 遗传多样性; 微卫星
【英文关键词】Japanese flounder; cultured population; genetic diversity; microsatellite
【中文摘要】利用16对微卫星分子标记对牙鲆(Paralichthys olivaceus)的5个养殖群体进行遗传多样性分析。结果表明,等位基因数为2~9个,平均等位基因数为6.0625; 有效等位基因数1.2596~5.5161,平均有效等位基因数3.692; 各位点的杂合度观测值(Ho)0.2200~0.8000; 杂合度期望值(He)0.2061~0.8187。各群体之间无偏倚杂合度期望值从小到大依次为丹东、北戴河、威海、青岛、荣成。Kruskal-Wallis检验结果(H=0.672,df=4,P=0.955)则说明,5个群体遗传多样性差异不显著。群体间基因分化系数(GST)为0.0991,各群体之间存在中度遗传分化。采用UPGMA法对5个群体进行聚类,可分3类:丹东和北戴河各为一类,威海、荣成、青岛为一类,其中威海与荣成群体的分化最小。结合Hardy—Weinberg平衡x2拟合度检验和遗传偏离指数(d)的分析结果表明,各群体的遗传平衡状况存在很大差别。遗传变异的分析结果说明5群体遗传多样性比较丰富
【英文摘要】Genetic divergence within and between 5 cultured stocks (Dandong, Beidaihe,Weihai, Rongcheng and Qingdao) of Japanese flounder (Paralichthys olivaceus) was assessed by 16 microsatellite loci which in the 5 cultured populations showed allele number (A) was 2 to 9; average allele number was 6.062 5:effective allele number (Ne) was 1.2596-5.5161; average effective allele number was 3.692; observed heterozygosity value (Ho) is 0.2200 to 0.8000; excepted heterozygosity value(He)was 0.2061 to 0.8187. He values followed the order of Dandong, Beidaihe, Weihai, Qingdao, Rongcheng, and a comparison by Kruskal-Wallis test revealed that there was no significant difference in genetic diversity of the 5 cultured stocks (H=0.672, df=4, P=0.955).The results also showed that the coefficient of gene differentiation between the stocks (GST) was 0.0991,there were moderate genetic differentiation among these 5 cultured populations. The genetic distance of 5 cultured populations was calculated and the cluster analysis by UPGMA method was carried out that all populations were pooled into three groups: Dandong, Beidaihe and Shandong (including Weihai, Rongcheng and Qingdao).Among the 3 populations of Shandong, Weihai and Rongcheng were more similar. Hardy-Weinberg equilibrium analysis in 16 microsatellite loci by Chi Square test and genetic deviation index (d) showed a remarkable difference in populations.
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【题目】牙鲆微卫星分子标记与生长性状的相关性分析
【中文关键词】牙鲆; 微卫星; 生长性状; 基因型; 相关性分析

【英文关键词】Paralichthys olivaceu; microsatellite marker; growth trait; genotype; correlation analysis
【中文摘要】研究利用30对牙鲆微卫星标记,对牙鲆雌核发育家系91个个体基因组DNA进行检测,在30对微卫星标记中,共检测到124个等位基因。其中,各座位的等位基因数3~8个,等位基因片段大小为80~170bp,平均有效等位基因数3.257。其中poli11座位的等位基因数目最多为8。平均多态信息含量为0.6197,平均杂合度为0.6672。利用SAS8.2中的一般线性模型(GLM)对30个微卫星标记与牙鲆的生长性状进行连锁显著性检验。发现在30个微卫星座位中,有8个座位分别与体重、体长、体高显著相关。其中,poli6TUF位点与体重相关; poli30TUF、poli107TUF、poli108TUF、poli116TUF、poli123TUF、poli130TUF6个座位与体长显著相关; poli145TUF与体重、体长显著相关,而与体高相关性不显著。poli9-8TUF与体重、体长、体高3个性状均显著相关(P<0.05)。将基因型与生长性状进行Duncan多重比较,找到4种与生长性状相关的基因型。
【英文摘要】 Total 30 microsatellite DNA markers were selected to analyze the genomic DNA of 91 gynogenesis progenies from the gynogenesis family. The results showed that total 124 different alleles were found,and the number of allele was 3-8 in each locus. The DNA fragment length was 80-170 bp,the number of mean valid alleles was 3.257,the value of mean heterozygosity was 0.6672 and the mean Polymorphism Information Content (PIC) was 06197. The SAS 8.2 was used to analyze the effect of these 30 microsatellites on body weight,length and height. Results uncovered poli30TUF,poli107TUF,poli108-TUF,poli116TUF,poli123TUF,poli130TUF had significant impacts on body length,poli6TUF had a significant impact on body weight,poli145TUF had significant on body weight and length,and the poli9-8TUF had a significant on body weight,body length and body depth. In addition,the genotypes of four correlative loci were determined.
【语种】中文
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【学科分类】水产学基础学科

【题目】鱼类MHC及其基因研究进展
【中文关键词】 鱼类; MHC; 基因
【英文关键词】Fish;Major histocompatibility complex (MHC); Gene;
【中文摘要】MHC广泛存在于脊椎动物中,在鱼类中由于其高度的多态性,使其在遗传进化、免疫相关、抗病育种等方面倍受关注。本文综述了国内外关于鱼类MHC基因的遗传结构、功能特性及系统学方面的研究进展,并展望了将此类基因应用于遗传育种中的前景,以及制约研究所存在的问题。
【英文摘要】Major histocompatibility complex (MHC) is widely found in vertebrates.Be- cause of its high polymorphism in fish,MHC genes have drawn much attention in relation to ge- netic evolution,immunological functions and disease-resistance breeding etc.The genetic struc- ture,function characteristics and phylogeny of MHC genes in fish studies are summarized in this paper;and the prospect and problems of using MHC genes in genetic breeding of fish are discussed.
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【题目】红鳍东方鲀两个群体的遗传结构及与经济性状的相关性分析
【中文关键词】红鳍东方鲀(Takifugu rubripes) ; 微卫星; 遗传结构; 经济性状; 相关性分析
【英文关键词】Takifugu rubripes; microsatellite; genetic structure; economic traits; correlation
【中文摘要】本文利用21 对多态性微卫星标记对河北省红鳍东方鲀(Takifugu rubripes) 良种场引进的日本群体和选育的秦皇岛群体进行了遗传结构分析。日本与秦皇岛两个群体的有效等位基因数分别为3. 3697 和2. 8593,期望杂合度分别是0. 6516 和0. 6073,多态信息含量分别是0. 6009 和0. 5509。研究结果表明这两个群体遗传多样性较高,多态信息含量丰富,具有较

大的遗传改良和育种潜力。同时,本文通过对21 个微卫星座位与日本群体的体长、体重和体高三个经济性状进行最小二乘方差分析,得到6 个与经济性状显著相关的微卫星标记,f161、f273 与体重显著相关(P < 0. 05) ,f170、f501 与体长显著相关(P < 0. 05) ,而f53、f331 与体高显著相关(P < 0. 05) 。对同一标记不同基因型间进行多重比较,找到与4 种性状相关的基因型。

【英文摘要】suggested a ba1ancing se1ection in the MHC-DAB gene,which exp1ained the high polymorphism of MHC-DAB gene in Japanese flounder.The number of transitions and tranversions gradually increased with genetic distances,indicating that the MHC-DAB gene might discuss the genetic evolution.Phylogenetic tree was based using NJ method revealed a preliminary phylogeny among l9 MHC-DAB major type of alleles.Frequency of synonym codons were not distributed equally.These results provide molecular date for the study on genetic variation and marker-assisted selective breeding in Japanese flounder.

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【学科分类】水产学基础学科

【题目】建鲤GHR基因多态性及与增重相关的SNP位点的筛选

【中文关键词】建鲤; GHR; 多态性; 增重; 体型; 相关性

【英文关键词】Cyprinus carpio var. Jian; Growth hormone receptor; Single nucleotide polymorphism; Weight gain; Body form; Correlation

【中文摘要】生长激素是调控动物生长的关键因子, 它通过与膜蛋白生长激素受体结合后发挥作用, 因此生长激素受体基因的变异对动物生长有着重要的影响。实验根据已分离的4 个建鲤jlGHRs 基因, 通过测定来自6 尾建鲤的序列, 共找到38 个SNP 位点。使用PCR-RFLP 方法检测了353 尾建鲤在其中5 个SNP 位点 (1a 内含子3 A43G、1a 外显子8 A361G、1b 外显子8 C12T、2a 外显子8 A555G 和2b 外显子8 A315G)的基因型, 分析了不同基因型与生长性状的相关性。结果表明5 个位点均与增重显性相关; 1a 内含子3 A43G 还与体高/体长和体厚/体长显性相关; 1b 外显子8 C12T 与体高/体长和尾柄高/尾柄长显性相关; 1a 外显子8 A361G 和2a 外显子8 A555G 也与尾柄高/尾柄长显性相关。数据分析还显示增重标记个数富集4 个以上的个体明显比标记少的个体生长快, 在选育群中增重标记数有2 个的个体最多占30%, 而增重标记数4 个以上的只占14%,说明存在着较大的选育空间。实验筛选的5 个位点可以作为建鲤分子育种的有效标记。

【英文摘要】Growth hormone is one of the key regulators in animal growth, and combines with growth hormone receptors of membrane protein to function, so the mutations on growth hormone receptor gene have an important influence on animal growth. We identified 38 SNPs on four jlGHRs, by sequencing the genes from 6 individuals of Cyprinus carpio var. Jian. PCR-RFLP was applied to detect the genotypes of 5 SNPs loci (1a intron 3 A43G, 1a exon 8 A361G, 1b exon 8C12T, 2a exon 8 A555G and 2b exon 8 A315G) among 353 individuals and the relationship between the different genotypes and growth characteristics was also analyzed in this study. Results showed that all the five sites were associated with weight gain significantly. SNP locus 1a intron 3 A43G has a significant correlation with height/length and thickness/length as well, 1b exon 8 C12T has a significant correlation with height/length and caudal peduncle height/length, 1a exon 8 A361G and 2a exon 8 A555G also have a significant correlation with caudal peduncle depth/caudal length. Data analysis also showed that the individuals with more than four markers grew faster obviously than those with few markers. The number of the individuals with 2 markers is the most, with 30 percent in the investigated population. But the number of the individuals with more than four markers only has a percentage of 14, indicating the presence of large selection space. The 5 SNPs detected in this experiment can be used in molecular breeding.

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【学科分类】水产学基础学科

【题目】建鲤生长激素受体基因分离、转录子多态性以及组织表达特性
【中文关键词】建鲤; 生长激素受体基因; 旁系同源基因; 组织表达
【英文关键词】Cryprinus carpio var. jian; Growth hormone receptor gene; Paralogs; Tissues expression
【中文摘要】使用PCR、RT-PCR 和RACE 方法分离克隆了建鲤基因组内的4 个jlGHRs 基因, 同源性分析和系统树表明它们两两分属于鱼类GHR1 和GHR2, 命名为jlGHR1a、jlGHR1b; jlGHR2a、jlGHR2b。jlGHR1s 和jlGHR2s 的两个旁系同源基因间氨基酸差异分别为5%和11%, 但功能保守区FGVFS 基序、Box1、Box2 基本一致, jlGHR1s 和jlGHR2s 氨基酸差异为41%。jlGHRs 和斑马鱼GHRs 基因结构相同, 在阅读框内存在7个内含子, 两旁系同源基因间内含子长度或序列存在差异。jlGHR1s、jlGHR2s 与不同鱼类GHR1、GHR2 同源性高低与传统分类地位一致。实验过程中发现建鲤肝脏存在jlGHRs 的多种转录子, 包括丢失了外显子4的jlGHR1b'、保留了内含子3 的jlGHR2a'、丢失了部分外显子8 的jlGHR2as。实时定量RT-PCR 组织表达结果显示4 个jlGHRs 在脑、肝、心、头肾、肾、肠、脾、肌肉各组织中均有表达, 但表达量差异明显, 其中肌肉组织中4 个基因表达量均最高, 脑中4 个基因的表达水平相当, 其余各组织中jlGHR2b 的表达量均最高。从多转录子和较低表达量推测jlGHR2a 所受的选择压力低于jlGHR2b。鲤鱼基因组内分离到GHR1、GHR2 的两个旁系同源基因在功能基因方面证实了鲤鱼体内存在两套基因, 表明鲤鱼是研究同源基因变异分化的好材料, 也为今后正确查找jlGHRs 基因上的SNP 位点奠定了基础。
【英文摘要】Four jlGHRs (jlGHR1a, jlGHR1b; jlGHR2a, jlGHR2b) were cloned by using PCR, RT-PCR and RACE methods in Cyprinus carpio var. jian. Homology analysis and phylogenetic tree showed that jlGHR1a,-1b and jLGHR2a,-2b belonged to fish GHR1 and GHR2, respectively. The differences of amino acid sequence were 5% and 11% between the two paralogs, but the functional conversation regions, such as extracellular motif FGVFS, Box1 and Box2 were mostly identical. The difference between jlGHR1s with jlGHR2s amino acid sequence was 41%. jlGHRs had the same genetic structure as zebrafish. There were 7 introns in the open reading frame. The lengths of specific introns between paralogs were obvious different. The comparability between jlGHR1, jlGHR2 and other GHR1, GHR2 was consisted with traditional staple. In this study, different jlGHR transcripts were found in the liver of Cyprinus carpio var. jian, including jlGHR 1b' (lost exon 4), jlGHR2a' (containing intron 3) and jlGHR 2as (lost partial exon 8). Real time-PCR results indicated that despite quite different quantity, 4 genes expressed in all the 8 tissues, such as brain, liver, heart, head kidney, kidney, intestines, spleen and muscle. Expression levels of 4 jlGHRs were the highest in muscle. Except brain, jlGHR2b expression was higher than other 3 genes in tissues. It was conferred that jlGHR2a was under lower selection stress than jlGHR 2b from the several transcripts and lower expression. The two paralogs jlGHR1s and-2s isolated from C. carpio approved that two sets of gene existed in Cyprinus carpio var. jian, which indicated that C. carpio var. jian was good material for homeotic genes differentiation researching. The two sets of gene existed in Cyprinus carpio var. jian also laid foundation for finding SNP loci in the GHR correctly.
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【题目】建鲤IGF-Ⅰa 基因的SNPs 位点筛选及其与增重的相关性分析
【中文关键词】建鲤; IGF-Ⅰa; SNPs; 增重;
【英文关键词】Cyprinus carpio var. jian; insulin-like growth factor; single nucleotide polymorphisms; weight gain; correlation
【中文摘要】机体生长主要受到促生长激素释放激素—生长激素—胰岛素样生长因子(GHRH-GH-IGFs) 生长轴调控,类胰岛素生长因子IGF-Ⅰ是生长激素(GH) 发挥生物学功能的重要传导因子。实验特异性扩增了建鲤(Cyprinus carpio var. jian) IGF-Ⅰa 基因的5个外显子和3 个内含子(内含子1、内含子3 和内含子4) 。通过比对10 尾建鲤的序列,共找到SNPs 位点8 个。使用PCR-RFLP 方法检测了5 个家系共372 尾建鲤的内含子1_C175G, 12 个家系共987 尾的内含子1_A993G 和内含子4_A511C 3 个位点。内含子1_C175G 雌雄个体均以GG 型频率为最高,分别是0.44 和0.43; 此位点在幼鱼和成鱼时期与雌、雄建鲤增重均无相关性; 内含子1_A993G 雌雄个体均以AG 型频率最高,分别是0. 76 和0. 72; 此位点在成鱼阶段与雄性建鲤增重呈显著相关(P < 0. 05) ; 内含子4_A511C 在雌雄个体中均以CC 型频率最高,分别是0. 48 和0. 47;其在幼鱼和成鱼阶段均与增重存在极显著的相关性(P < 0. 01) 。本次试验表明在建鲤体内, IGF-I 基因在不同生长阶段的表达量不同,且处于同一生长阶段的雌雄个体间的表达也存在差异。内含子1_A993G、内含子4_A511C 均与建鲤增重存在相关性,可以考虑作为建

鲤分子育种的相关依据。

【英文摘要】The GHRH-GH-ⅠGFs growth axis plays an essential and central role in body growth. The insulinlike growth factor,located downstream of the axis,is a critical conduction factor of GH transmission and biological function exertion. In this experiment,we specifically isolated 5 exons and 3 introns (intron1,intron3,and intron4) of IGF-Ⅰa gene in Cyprinus carpio var. jian. A total of 8 SNPs were screened by comparing the sequences of 10 individuals. PCR-RFLP was applied in detecting the intron 1 _ C175G genotypes of 372 individuals from 5 families; the intron 1 _A993G and intron 4 _A511C genotypes of 987 individuals from 12 families. And then we identified the genotype,counted the allele frequency and analyzed the correlation between the three SNPs and weight gain. The results showed that the GG genotype frequency (male 0. 43 and female 0. 44) was the highest in intron 1_C175G,while this locus showed no association with weight gain. Intron 1_A993G locus significantly correlated with male weight gain in adult stages (P < 0. 05) and AG genotype displayed the highest frequency,0. 76 in female and 0. 72 in male. 0. 48 in female and 0. 47 in male of CC genotype was the highest allele frequency for locus intron 4 _ A511C,which was remarkably associated with both male and female weight gain in both juvenile and adult stages(P < 0. 01) .This experiment indicated that the expression of IGF-Ⅰ gene varied between the different growth stages in Cyprinus carpio var. jian. Furthermore,expression diversity also existed between male and female individualseven at the same growth stage. The intron 1_A993G and intron 4_A511C were found significantly related with weight gain and could be considered as references in molecular breeding in Cyprinus carpio var. jian.

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【题目】建鲤IGFBP1 基因的克隆及与增重相关的SNP 位点分析

【中文关键词】建鲤; IGFBP1; SNP; 增重; 相关性

【英文关键词】Cyprinus carpio var. jian; Insulin-like growth binding protein 1; Single nucleotide polymorphism; Weight gain; Correlation

【中文摘要】旨为查找建鲤(Cyprinus carpio var. jian) 胰岛素样生长因子结合蛋白1(Insulin-like growth factor binding proteins1, IGFBP1) 基因上与增重相关的SNP 位点。利用基因克隆,Clustal W 比较8 个个体的DNA 序列,筛选SNP 位点。并采用PCR-RFLP 方法检测了其中2 个位点(1b-E1-A210G,1b-E3-C108T) 在913 尾建鲤(♂469,♀444) 中的基

【英文摘要】Two IGFBP1 genes were isolated from Cyprinus carpio var. jian. Seven and twenty-four SNP loci were identified on IGFBP1a and IGFBP1b, respectively. There are two and four SNPs were located at exons of 1a and 1b, respectively. PCR-RFLP was applied to detect genotypes of 913 individuals (♂469,♀444) at two SNPs (1b exon 1_A210G,1 b exon 3_C108T) . Correlation analysis between genotypes and weight gain showed: both two SNPs were associated with male weight gain significantly (P < 0. 01) . To these two SNPs loci,GG and CC genotype individuals grew faster than other individuals in the juvenile stage and it was AG and CC genotype in the adult stage. A210G was also significantly related to female juvenile weight gain (P < 0. 01) and AG individuals grew significantly faster than AA ones. The CC and CT type male adult weight gains of C108T were significantly (P < 0. 01) larger than TT type. Nine diplotypes were found in this experimental population. Multiple comparison results displayed that the body weight gains of D4,D5,D7 were significantly larger than those of D6,D9. D4,D5 and D7 individuals accounted for sixty percent in experimental population, so there still are spaces for further improved. A210G and C108T identified in this experiment can be used in molecular breeding of Cyprinus carpio var. jian.

【语种】中文

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【学科分类】水产学基础学科

【题目】建鲤IGFBP3 基因多态性对生长的影响
【中文关键词】建鲤; 胰岛素样生长因子结合蛋白3; 单核苷酸多态性; 增重; 相关性
【英文关键词】Cyprinus carpio var. jian; Insulin-like growth factor binding protein 3; Single nucleotide
【中文摘要】胰岛素样生长因子结合蛋白3 (insulin-like growth factor binding protein,IGFBP3) 是调节动物生长和代谢的重要基因。本实验查找了建鲤(Cyprinus carpio var. jian) IGFBP3s 基因上的SNP 位点。使用PCRRFLP检测了其中5 个位点(IGFBP3a-I3 _G-253T、IGFBP3b-I2 _G30T、IGFBP3b-I3 _A-341G、IGFBP3b-E4 _C54T、IGFBP3b-E4_C72G) 在931 尾(485♂,4
【英文摘要】Insulin-like growth factor binding protein 3 (IGFBP3) is a most important gene regulating animal growth and metabolism. We isolated two IGFBP3 genes from Cyprinus carpio var. jian in this experiment.Eighteen SNPs loci were identified on IGFBP3a and IGFBP3b respectively. Eight SNPs were located at exons.PCR-RFLP was applied to detect genotypes of five SNPs (IGFBP3a intron 3_G-253T,IGFBP3b intron 2_G30T,IGFBP3b intron 3 _A-341G,IGFBP3b exon 4 _C54T,IGFBP3b exon 4 _C72G) in 931 individuals (485♂,446♀) . Correlation analysis between genotypes and weight gain showed that five SNPs were associated with female juvenile weight gain significantly (P < 0. 01 or P < 0. 05) and individuals with these five SNPs loci,TT,GG,AG,CC and CG genotype grew faster than other individuals. Only G30T was significantly related to male juvenile weight gain (P < 0. 05) and the GG individuals grew significantly faster than TT ones. C72G and A-341G were significantly pertinent to adult weight gain (P < 0. 01 or P < 0. 05) . Individuals with CG at C72G were significantly larger than those with CC and GG types. The AG and GG type male adult weight gain of A-341G were significantly higher than AA type,while AG type grew the fastest in female adult fish. G30T was significantly associated with female adult weight gain. The GG and GT type fish weight gain were significantly (P< 0. 05) higher than TT type,and the GG male adult individuals also grew obviously faster than other types. The GT type male adult weight gain of G-253T was significantly higher than GG and TT type (P < 0. 01) ,while nosimilar situation was found in female adult individuals. To conclude,with the fastest weight gain,GG type of G30T,AG type of A-341G and CG type of C72G could be used as molecular markers in C. carpio var. jian breeding. In addition,weight gain increased with the enrichment of molecular SNPs markers,consistent with the characteristics of quantitative traits.
【语种】中文
【第一作者】魏可鹏
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【题目】不同年龄柏木混交林下主要灌木—黄荆生物量及分配格局研究
【中文关键词】柏木混交林; 黄荆; 生物量; 分配格局; 预测模型;
【英文关键词】mixed forest of cypress; Vitex negundo L.; biomass; allocation; allometric equation;
【中文摘要】灌木是森林生态中一个重要组成部分,以柏木林下主要灌木种-黄荆为研究对象,研究其在不同年龄柏木林下的生物量以及分配格局,同时利用简单指标对其生物量建立估测模型。研究表明:①随着林分年龄的增加,林下黄荆单丛生物量以及各器官生物量也随之增加,其中枝生物量相差值最大,差距达24.3倍,而生物量最小的叶片,其差距也达6.9倍。②黄荆地上各器官生物量分配大小表现为干生物量>枝生物量>叶生物量>皮生物量;根系生物量的分配以粗根和中根生物量为主,其中根桩和粗根生物量所占比重随着林分年龄的增加而增加,中根、小根和细根生物量所占比重则随着林分年龄的增加而减小;地上生物量所占比例较大,并随着林分年龄的增加逐渐降低,并最后趋于稳定。③建立生物量模型的简单指标以基径(D)作为自变量优于利用株高(H)和HD2模型的建立;最优预测模型多为二次或三次次曲线模型。其中干、枝和粗根生物量、地上生物量、地下生物量、单丛生物量建立的预测模型较好,其模型的相关系数在0.8107—0.9293,达到极显著水平;皮生物量和根桩生物量的次之,模型相关系数分别为0.7689和0.7926;中根和小根的生物量预测模型相对最差,模型的最大相关系数仅在0.4410—0.4830。
【英文摘要】The bush is an important component in forest ecosystem.In the hilly area of central Sichuan Basin,the biomass and its allocation of undergrowth Vitex negundo L.in different age classes of mixed cypress forest were measured and analysed,and the biomass allometric equations has been established.The results showed that: ①With the increase of forest age,the biomass and its components of the undergrowth single Vitex negundo L.increased.In which the difference of branch biomass is biggest,the disparity achieves 24.3

times;leaf biomass is the smallest which achieves 6.9 times.②The aboveground biomass allocated in the order stem biomass > branch biomass > leaf biomass > bark biomass.The coarse roots and middle roots dominated the underground biomass.With the increase of forest age,the biomass proportions of stump and coarse roots increased,while those of middle roots,small root and fine root reduced.As a main part of biomass,the proportion of aboveground biomass in total biomass decreased with the increase of forest age and finally tended to stabilize.③ The biomass as well as its component are more relevant to basal diameter(D) alone than the height(H) and HD2.
【语种】中文
【第一作者】黎燕琼
【通讯作者】慕长龙
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【学科分类】林业基础学科

【题目】紫色土坡耕地磷素流失特征及施肥方式的影响
【中文关键词】磷素流失;壤中流;地表径流;流失负荷;施肥影响
【英文关键词】phosphorus loss;interflow;overland flow;loss flux;fertilization effects
【中文摘要】通过雨季典型降雨-径流事件中不同施肥方式下土壤磷素流失的野外定位观测,研究紫色土坡地磷素随地表径流和壤中流流失的通量、过程特征及其施肥方式的影响。结果表明,紫色土坡耕地地表径流过程呈多峰的时间变化特点,壤中流呈单峰且其产流时间滞后于地表径流;雨季次降雨平均径流量为23.6~29.1mm,壤中流是雨季的主要径流输出方式。地表径流总磷(TP)平均浓度远高于壤中流,泥沙吸附态磷(PP)是地表磷素流失的主要形态;溶解态有机磷(DOP)是壤中流流失的主要磷素形态。施肥方式显著影响地表径流TP浓度,常规施肥(NPK)、有机肥-化肥配施(OMNPK)、有机肥(OM)、秸秆-化肥配施(RSDNPK)各施肥处理的地表径流TP平均浓度呈依次减小的顺序。次降雨平均磷素流失负荷呈RSDNPK<OMNPK<OM<NPK的规律;壤中流是紫色土坡耕地磷素流失不可忽视的重要通道。施肥方式仅能控制地表径流磷素流失,而控制壤中流磷流失的效果不佳,有待更深入的研究。
【英文摘要】The phosphorus losses and effects of fertilization on sloping cropland of purple soil were studied by in situ field monitoring. Results showed that the average discharges of runoff were 23.6~29.1mm in wet season,and the interflow was the main pathway of runoff for sloping cropland of purple soil in. The average contents of total phosphorus (TP) of overland flow were 0.65~1.81mg/L, particulate phosphorus (PP) was the main form of P lost by overland flow. The average contents of total dissolved phosphorus(TDP) of interflow were 0.024~0.037mg/L. The dissolved organic phosphorus(DOP)was the main form of P lost by in.terflow. The TP lost by overland flow were influenced by fertilization distinctly. The TP contents in runoff were in the following sequence related to fertilizations:RSDNPK<OM<OMNPK<NPK. The TP loss fluxes related to fertilizations was in the sequence:RSDNPK<OMNPK<OM<NPK. The interflow was also an important pathway of phosphorus losing from purple soil. Phosphorus losses through overland flow could be controlled by fertilization practices. However,phosphorus loss fluxes through interflow can not be effectively reduced by fertilization modes,which needs more researches in the future.
【语种】中文
【第一作者】周明华
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【题目】四川省降水空间分布的插值分析
【中文关键词】降水; 空间插值; 克里金法; 四川省
【英文关键词】precipitation; spatial interpolation; Kriging method; Sichuan Province
【中文摘要】降水的空间分布特征是区域生态研究的重要内容, 基于GIS 的空间插值是获取降水分布特征的主要方法, 以四川省49 个气象站(其中15 个为校验站点) 2000~ 2007年的年平均降水量和四川省DEM 为数据源,选取了反距离加权法(IDW) 、普通克里金法(Ordinary Kriging,OK) 和考虑高程、坡度、坡向的协克里金法(Co- Kriging, CK)3 种空间内插方法,

对四川省降水的最优空间插值方法的选取进行了探讨。结果表明: 考虑高程、坡度、坡向的协克里金插值取得了较好的效果; 四川省降水存在较大的空间变异性,有明显由东往西递减的趋势, 最大降水量主要分布于东北部的达州、巴中地区以及东南部的乐山、雅安地区。

【英文摘要】The spatial distributio n o f pr ecipitation is an impo rtant par t of reg io nal eco lo gical study and spat ial inter polation based on GIS is the main method to obtain the pr ecipitation dist ribution char acter istics. Based on the annual precipitation data fr om 2000 to 2007 at 49 meteo ro log ical stations and DEM o f Sichuan Pro vince, we made a scussio n on the select ion of the best spat ial inter po lation metho ds in Sichuan Prov ince by t hr ee inter polat ion metho ds of inv erse distance weig ht, o rdinary Kr ig ing and co-Kriging considering elevation, slope and aspect. The results show that better effects have been attained by co- Kriging method; great spatial heterog eneity of precipitat ion ex ists in Shichuang Pro vince, decreasing from the east to the w est and the maximum precipitation mainly distributes in Dazhou and Bazhong of the northeastern region and Leshan and Ya'an of the southeastern region.

【语种】中文

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【学科分类】农业基础学科

【题目】单核细胞增生李斯特菌荧光定量PCR 检测试剂盒的研制

【中文关键词】单核细胞增生李斯特菌; 荧光定量PCR; 检测试剂盒

【英文关键词】Listeria monocytogenes; Real-time PCR; detection kit

【中文摘要】目的:建立一种用于单核细胞增生李斯特菌快速检测的荧光定量PCR 试剂盒。方法:根据本课题组前期工作基础,针对单核细胞增生李斯特菌hly 基因序列设计TaqMan 探针和引物,建立荧光定量PCR 检测方法,将反应试剂组装成试剂盒,并对该试剂盒的各项参数进行评价。结果:特异性试验表明,组装的试剂盒对8 株单核细胞增生李斯特菌标准菌株的检测均呈阳性反应,对6 株其它种的李斯特菌及13 株食品(环境)中常见的非李斯特污染菌(如沙门氏菌、金黄色葡萄球菌)呈阴性反应。该试剂盒的基因组DNA 检测灵敏度为3.94 fg/反应(约合1.34 CFU/反应)。该试剂盒批内平均变异系数为2.2%,批间变异系数为1.9%,具有良好的重复性;同时稳定性强,反复冻融处理对其无明显影响;可在-20 ℃下避光保存1 年。结论:该试剂盒具有特异性强、灵敏度高、重复性好、稳定性强等优点,可应用于单核细胞增生李斯特菌的快速检测。

【英文摘要】Objective: The purpose of this study was to develop a Real-time PCR detection kit for the rapid detectionof Listeria monocytogenes. Methods: The Taqman probe and primers for a Real-time PCR detection kit were designedaccording to the conserved gene hly of L. monocytogenes based on the previous study in our laboratory. The optimizationof the kit components and the evaluation of its performance such as its specificity, sensibility, reproducibilityand stability were carried out in this study. Results: A Real-time PCR detection kit was successfully developed in thisstudy, which was used to specifically identify 8 reference strains of L. monocytogenes, while the strains from otherspecies of Listeria and non-Listeria strains were not amplified with this kit. The detection limit of the kit was 3.94 fg/reactionwith L. monocytogenes genomic DNA, i.e., 1.34 CFU/reaction. The average inter-assay CV% of the kit was 2.2%and the intra-assay CV% was 1.9%, which showed a good reproducibility. The repeated frozen-thaw had no significantinfluence on the activity of this kit. Besides, this kit worked well after being stored at -20 ℃ for 1 year away fromlight. Conclusion: The Real -time PCR detection kit developed in this study is suitable for the rapid detection of L.monocytogenes for its high specificity, high sensitivity, good reproducibility and strong stability.

【语种】中文

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【学科分类】兽医学

【题目】土地整理中土壤肥力保持价值比较研究
【中文关键词】土地整理;土壤肥力保持价值;整理类型
【英文关键词】land consolidation, keep value on soil fertility, the types of land consolidation
【中文摘要】:土地整理不可避免地会对项目区的环境要素及其生态过程产生影响,基于生态服务价值理论,对邛崃市孔明乡土地整理项目区不同整理类型土壤肥力保持价值进行了比较研究,可为该地区土地整理决策、土地整理质量与效益评价等提供定量依据。结果表明,土壤肥力保持每公顷累积价值土地开发区为1.51 万元,土地复垦区1.85 万元,土地整理区0.49 万元。土地复垦区积累价值率达到147.2%,远大于开发区和整理区,这一结果与复垦区土壤全部通过客土改造有关。土地整理后项目区土壤肥力保持总价值增加了733.88 万元,其来源一是新增耕地面积,二是农地地力的提高。土壤肥力保持效费比分别为开发区0.05,复垦区0.09,整理区0.46,效益以土地整理区最高。说明以改善农业基础设施、提高地力为主要特征的土地整理类型投资少,土壤肥力保持效益高,值得提倡。
【英文摘要】Land consolidation will unavoidably impact the environmental elements and ecological process, we conducted a comparative study on soil fertility's maintaining value in different types of Qiong Lai city's land consolidation program zone base on the theoretical value of ecosystem services, which can provide quantitative basis for the land consolidation decision-making, quality and efficiency evaluation. The results show that, soil fertility keeps accumulated value of land development zone 15 100 RMB per hectare, and land reclaim zone 18 500 RMB, and land consolidation zone 4900 RMB. The rate of accumulated value of land reclaim zone reachs to 147.2%, which higher than land development zone and land consolidation zone. This result related to the land reclaim zone by soil transformed. The total value of soil fertility in program zone after land consolidation keeps increasing 7 338 800 RMB, which comes from the increased cultivated land and the improvement of family land. The soil fertility keeps scale in development zone is 0.05, reclaim zone is 0.09,consolidation is 0.46, from which land consolidation have highest benefit. It shows that improve agricultural infrastructure and improve soil fertility as the main characteristics of the type of land investment inless-effective to maintain soil fertility, should be advocated.
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【学科分类】土壤学

【题目】添加有扩增内标的沙门氏菌荧光定量PCR 检测体系的建立与评价
【中文关键词】沙门氏菌,靶点筛选,EvaGreen 荧光定量PCR,扩增内标
【英文关键词】Salmonella,Target mining,EvaGreen real-time PCR,Internal amplification control
【中文摘要】【目的】建立添加有扩增内标(IAC,Internal amplification control) 的沙门氏菌EvaGreen 荧光定量PCR检测体系,提高PCR 检测可靠性。【方法】通过比较已有沙门氏菌属细菌的基因组序列,筛选沙门氏菌属特异检测靶点,设计特异引物; 再用复合引物法构建扩增内标,优化参数,建立沙门氏菌内标PCR 检测体系,利用特异性和灵敏度实验评价体系的检测性能。【结果】筛选得到的新特异靶点基因编码III 型分泌系统蛋白(ssaQ) 。针对该基因设计特异引物(SsaQ6) ,建立了添加有扩增内标的常规PCR 和EvaGreen 荧光定量PCR检测体系; 二者对151 株沙门氏菌和34 株非沙门氏菌的检测符合率均达100% ,对基因组DNA 的检测下限达14. 9 拷贝/PCR 和2. 76 拷贝/PCR; 人工污染牛奶样品(初始染菌量: 4 - 6 cfu /10 mL) ,增菌10 h 和8 h 后分别可检出沙门氏菌。【结论】本研究发掘的新靶点基因ssaQ 特异性强,基于这一新靶点建立的添加有扩增内标的EvaGreen 荧光定量PCR 比常规内标PCR 的检测限更低,重复性更好,快速方便,在12 h 内即可得出检测结果,并且定量准确,有利于推进沙门氏菌PCR 检测方法的标准化应用。
【英文摘要】[Objective] The aim of this study was to establish a new EvaGreen real-time IAC-PCR for the rapid detectionof Salmonella. [Methods] We used Salmonella genomic comparison analysis to mine Salmonella-specific targets,andPrimer Premier 5. 0 to design primers which were evaluated by specificity and sensitivity tests. [Results]We obtained aSalmonella-specific gene that encodes putative type III secretion protein (ssaQ) ,and specific primers (SsaQ6L / SsaQ6R)were designed based on this gene. Then we established IAC-PCR and EvaGreen real-time IAC-PCR assays,which showed100% inclusivity and 100% exclusivity on all strains tested. Their detection limits of purified Salmonella genomic DNAwere 14. 9 copies /PCR and 2. 76 copies /PCR respectively. Artificial contamination assays showed that Salmonella couldbe detected after 10 hours and 8 hours enrichment when the original bacterial concentration was 4. 2 cfu /10 mL.[Conclusion] A new EvaGreen real-time IAC-PCR with high specificity and sensitivity was successfully developed for therapid detection of Salmonella.

【语种】中文
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【题目】北盘江流域降雨量和径流量年际变化研究
【中文关键词】小波变换; 年降雨; 年径流; 周期
【英文关键词】wavelet t ransform; annual precipitation; annual natural runoff ; periodic changes
【中文摘要】对北盘江流域的降雨和径流实测序列进行多尺度时频分析, 可为喀斯特地区流域的综合治理、水资源的合理利用、水电设施设计标准的制定及地区的可持续发展提供保证, 尤其对解决喀斯特地区的季节性干旱具有一定的指导意义。采用小波变换方法对北盘江流域年均降雨量和径流量的变化周期性进行分析, 研究结果表明: 北盘江流域1956- 2000年降雨量和径流量均具有中等程度的变异, 且径流量的增加速率大于降雨量; 降雨和径流存在明显的年际和年代变化, 且降雨量和径流量的变化周期具有同步性; 降雨量的主周期依次为23, 45, 5, 12a, 而23a 尺度的周期具有全局性; 径流量的变化周期大致为24, 6, 13, 40a, 而24a 尺度的周期具有全局性。
【英文摘要】Research o n the multiple time..frequency analy sis of annual precipitation and annual runof f is help to integrated manage o f Karst ar ea, ef ficient ly use of w ater r esources, co nstitute criterion of designing water and elect ricity establishment . T his paper analyzes tendency and periods of annual precipitation and annual natur al runoff in Beipan River w atershed based on Morlet wvelet transform. The results showed: annual precipitation has middling variance and no obvious increase tendency from 1956-2000, but annual runoff hasmiddling variance and o bvio us increase tendency; periodic changes o f annual precipitat ion and annual runoff are isochronous; periods of precipitat ion is 23, 45, 5, 12 years, and 23 years are overall; periods of runoff is 24, 6, 13, 40 years, and 24 y ears are o verall.
【语种】中文
【第一作者】熊亚兰
【通讯作者】王昌全
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【题目】一种抗性淀粉测定方法的改进
【中文关键词】淀粉水解; 抗性淀粉; 抗生素; 水稻
【英文关键词】starch hydrolysis; resistant starch; antibiotics; rice
【中文摘要】通过淀粉水解动力学分析,比较了防腐剂和抗生素抑制淀粉消化液发酵的效果,以改进Goni等分析抗性淀粉的方法。结果表明,抗生素和防腐剂均能有效抑制消化液中微生物的生长,但防腐剂的使用需要无菌条件,而且对淀粉酶活性的抑制比抗生素强,因此使用抗生素是比较好的选择。为加快淀粉水解速率,降低抗生素对淀粉酶的抑制作用,淀粉酶用量从120 mg增至160 mg,但对水解速率较低的籼稻品种南京11未有改善,因此仍选择120 mg的酶量。这些结果为建立稳定可靠的抗性淀粉测定方法及筛选高抗性淀粉的水稻品种奠定了良好的技术基础。
【英文摘要】The inhibitory effects of preservatives and antibiotics on incubation mixture were compared through the analysis of starch hydrolysis kinetics to improve the procedure of Goni et al. for the determination of resistant starch. We showed that both preservatives and antibiotics could effectively inhibit the growth of microorganisms in samples. Preservatives must be used under sterile conditions and showed a stronger inhibition on amylase than antibiotics. Hence antibiotics were better choices compared to preservatives. To accelerate the hydrolysis rate of starch and reduce the inhibition of antibiotics on amylase, the amount of amylase was increased from 120 mg to 160 mg, except for the indica cultivar Nanjing 11 with a low hydrolysis rate, which showed no significant improvement with a high amylase amount. These results were helpful for the establishment of a reliable method for resistant starch measurement and screening of rice cultivars with a high content of resistant starch.

【语种】中文
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【题目】铅胁迫对茶树生长及叶片生理指标的影响
【中文关键词】铅;茶树生长;茶叶;生理指标
【英文关键词】lead; growth of tea tree; tea leaves; physiological index
【中文摘要】通过盆栽试验,研究了不同土壤铅浓度对茶叶生长及叶片生理特性的影响。结果表明,随着土壤铅浓度的升高,夏茶叶绿素含量显著下降,并有失绿现象,茶树生长受到一定程度的抑制。春茶叶绿素含量呈上升趋势,夏茶叶绿素含量呈先增加后降低的趋势。当铅浓度为100 mg·kg-1时,叶绿素含量达到最大值2.93 mg·g-1;铅浓度为1 500 mg·kg-1时,叶绿素含量达到最小值2.28 mg·g-1;随铅浓度增加,叶片中游离脯氨酸、丙二醛含量显著增加,两者与铅浓度呈显著正相关,春茶的相关系数分别为0.922(P<0.01)和0.880(P<0.01),夏茶的相关系数为0.871(P<0.05)和0.971(P<0.01),且夏茶中的游离脯氨酸、丙二醛含量大于春茶。铅对春茶、夏茶中可溶性糖的合成有一定的抑制作用,相关系数分别为-0.715(P<0.01)和-0.912(P<0.01)。在铅浓度为0~200 mg·kg-1时,春茶可溶性糖有小幅度增加;在铅浓度为200 mg·kg-1时,春茶、夏茶可溶性糖含量都同时达到最大值。
【英文摘要】Effects of different lead concentrations on growth and physiological index in leaves of tea were studied with the tea cultured in pots.The results showed that, with the increasing concentrations of lead , lead had a significant effect to the yield of summer tea, and the green deficiency symptoms were visible, and the growth of tea was inhibited. The chlorophyll(Chl)content of spring tea was enhanced with the increasing concentrations; The Chl content of summer tea was first stimulated and then inhibited with increasing concentration of lead. When the lead concentration in nutrient solution was 100 mg·kg-1, the Chl content reached the maximum 2.93 mg·g-1 and when the concentration was 1 500 mg·kg-1, Chl content reached the minimum 2.28 mg·g-1. Meanwhile, with increasing concentration of lead, the free praline and malondialdehyde(MDA)content in leaves were significantly enhanced, There was a positive correlation between the free praline, MDA content and the lead concentration, which the coefficient of correlation is 0.922(P<0.01)and 0.880(P<0.01)respectively on spring tea, and , the coefficient of correlation is 0.871(P<0.05)and 0.971(P<0.01)on summer tea,and then the summer tea ′s was higher than spring tea ′s; Lead would inhibit the synthesis of soluble sugar in the tea, the coefficient of correlation is -0.715(P<0.01)and -0.912(P<0.01)respectively. The soluble sugar of spring tea has a little increase when the lead concentration was 0~100 mg·kg-1 and the soluble sugar of spring tea and summer teareached the maximum at the same time when the lead concentration was 200 mg·kg-1.
【语种】中文
【第一作者】夏建国
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【题目】鸡白痢沙门菌分离株的耐药性及磺胺类耐药机制研究
【中文关键词】鸡白痢沙门菌;耐药性;Ⅰ类整合子
【英文关键词】Salmonella pullorum;drug resistance;class Ⅰ integrons
【中文摘要】采用药敏纸片法,对33株鸡白痢沙门菌进行了药敏试验,结果显示丁胺卡那、卡那霉素、庆大霉素、环丙沙星、氟苯尼考的抑菌作用较强,所有受试菌株均对其敏感;58%~94%的受试菌株对氯霉素、新霉素、恩诺沙星和羧苄青霉素敏感;61%~88%的受试菌株对四环素、复方磺胺、磺胺异恶唑耐药。33株鸡白痢沙门菌分离株出现了多重耐药性,2耐及以上占85%,3耐及以上占66%,4耐及以上仅占27%。根据发表的序列设计了3对引物,分别扩增磺胺类耐药基因sul1、sul2和Ⅰ类整合子,所选的18个对磺胺及磺胺增效剂均耐药。分离株中94.4%(17/18)的菌株携带sul1基因,没有sul2基因,同时

94.4%(17/18)的菌株携带Ⅰ类整合子,大小分别为0.7 kb和1.6 kb。研究表明这些鸡白痢沙门菌的耐药谱较窄,且Ⅰ类整合子在磺胺类耐药菌株的产生中起到很重要的作用。

【英文摘要】The susceptibility to antimicrobials of 33 Salmonella pullorum(S.pullorum)isolates was determined. All isolateswere sensitive to amikacin,kanamycin,ciprofloxacin,gentamycin,florfenicol. 58% to 94% of isolates were sensitive toneomycin,chloramphenicol,enrofloxacin and carbenicillin. 61% to 88% of isolates had resistance to tetracycline,sulfamethoxazole and trimethoprim,sulfamethoxazole. The pattern of drug resistance showed that 85% of isolates wereresistant to two or more antimicrobials,66% of isolates were resistant to three or more antimicrobials,and only 27% of isolates were resistant to four and more antimicrobials. Sul1 gene,Sul2 gene, or class Ⅰ integrons was chosen to PCRamplification in 18 S.pullorum isolates with resistance to sulfamethoxazole. Sul1 gene was amplified in 17 of 18 strains,andno sul2 gene was amplified. Among the 18 strains,17 of these isolates carried class Ⅰ integrons,the size of which was 0.7and 1.6 kb,respectively. These results implied that drug resistance spectrum of these S.pullorum isolates was narrow andclass Ⅰ integrons might play a critical role on resistance to sulfamethoxazole in S.pullorum.

【语种】中文

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【学科分类】兽医学

【题目】Fine mapping of the grain chalkiness QTL qPGWC-7 in rice (Oryza sativa L.).

【中文关键词】垩白;精细定位;胚乳;水稻

【英文关键词】chalkiness;fine-mapping;endosperm;rice

【中文摘要】水稻籽粒垩白是重要的品质性状,对食味和研磨品质有重要的影响。用一套培矮64s和9311的染色体片段置换系研究了垩白率(PGWC)的遗传。在第6和7号染色体上分别定位到两个控制垩白的位点,qPGWC-6和 qPGWC-7。比较株系C51(含qPGWC-7的CSSL株系、胚乳有垩白)和轮回亲本9311(透明胚乳),分析透明胚乳和垩白胚乳之间的理化差异。与透明胚乳不同,垩白胚乳的淀粉粒排列疏松,而且C51和9311之间支链淀粉结构和晶体程度也有显著差异,但是直链淀粉含量或淀粉粘滞性没有显著差异。C51和9311的F2群体进行分离分析表明,垩白率是一个半显性性状,受单个核基因控制。用C51和9311的构建了一个大F2群体用于qPGWC-7的精细定位,已定位于44kb的DNA片段,含13个预测基因。这个结果为qPGWC-7的图位克隆提供了平台,使得胚乳品质的分子标记选择成为可能。

【英文摘要】Chalkiness of rice grain is an important quality component of rice, as it has a profound influence on eating and milling qualities. We has determined the inheritance of percentage of grain with chalkiness (PGWC) using a set of chromosome segment substitution lines, made from a cross between cv. PA64s and cv. 9311. Two loci controlling PGWC, designated as qPGWC-6 and qPGWC-7, were located on, respectively, chromosomes 6 and 7. Comparisons were made between C-51 (a CSSL harbouring qPGWC-7 and having a chalky endosperm) and the recurrent parent 9311 (translucent endosperm) to characterize the physical and chemical differences between translucent and chalky endosperm. Unlike the translucent endosperm, the chalky endosperm contains loosely packed starch granules, and there were significant difference between C-51 and 9311 for amylopectin structure and degree of crystallinity, but not for either amylose content or starch viscosity. Segregation analysis of the F2 population from the cross between C-51 and 9311 showed PGWC is a semi-dominant trait, controlled by single nuclear gene. A large F2 population was constructed from the cross C51 9 9311, and used for the fine mapping of qPGWC-7, which was located to a 44-kb DNA fragment, containing thirteen predicted genes. This result provides a springboard for the map-based cloning of qPGWC-7 and allowed for marker-assisted selection for endosperm texture.

【语种】英文

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【学科分类】农业基础学科

【题目】Real Time PCR探针法定量检测沙门菌方法的建立及应用
【中文关键词】沙门菌; Real T ime PCR; 荧光定量; 快速检测
【英文关键词】Salmonella; real time PCR; fluo rescence quant itatio n; rapid det ection
【中文摘要】目的 建立快速、特异性好、灵敏度高的Rea l Time PCR 方法定量检测沙门菌。方法 根据编码沙门菌肠毒素基因stn 的核苷酸序列, 设计荧光探针和一对引物, 通过对荧光定量PCR 反应体系和反应条件的摸索, 建立定量检测沙门菌的方法。结果 建立的Real Time PCR 方法有很好的特异性与敏感性, 所检测沙门菌结果均为阳性, 而非沙门菌均为阴性;标准曲线相关系数为R2 = 0. 993, 其敏感性为5 CFU。运用该方法对108 份鸡粪便、5 0 份鸡肉以及58 份水样进行检测, 阳性率分别为3. 7%(6/ 108) 、4%(2/ 50) 和3. 4%(2/ 58) , 与传统细菌分离检测结果相符。结论 结果表明该方法具有简便、快速、特异性强、敏感性高等特点, 此研究为环境及疾病诊断中沙门菌快速检测提供了新方法。
【英文摘要】To establish real time PCR for quantitat ive detectio n of Salmonella sp p . , a pair of pr imer s and fluor escentpr obe wer e desig ned accor ding to stn g ene sequence of Salmonella s p p . , and then a real t ime PCR met ho d w as successfully es tablished to detect Salmonella sp p . thro ug h the explo rat ion of reactio n system and reaction co nditio ns. Results demonstratedthat the method is specific and sensitive. S almonell a sp p . detected by this r eal time PCR was po sitive while non Salmonellaone was neg ativ e. The cor relation coefficient o f standard cur ve (R2) was 0. 993 and the detecting thresho ld was up to 5 CFU.After the detectio n o f 108 chicken feces, 50 chicken meats and 58 w ater sam ples wer e detected w ith the this method and thepo sitiv e r ates wer e 3. 7% (6/ 108) , 4% (2/ 50) and 3. 4% (2/ 58) respectively . The r esult w as consistent w ith r esults fr om t ra ditional micr obio log y method. The metho d is simple, rapid, specific and sensitiv e, and this study made a go od foundatio n forrapid detectio n o f Salmonella sp p . in the env iro nment study or disease diagnosis.
【语种】中文
【第一作者】耿士忠
【通讯作者】焦新安
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【学科分类】兽医学

【题目】稻米脂肪与米粉RVA谱特征的关系分析
【中文关键词】稻米; 品质; 脂肪; RVA谱
【英文关键词】rice (Oryza sativa L.) ; quality; lipid; RVA profile
【中文摘要】应用水稻新品系W1721和大面积应用的杂交粳稻恢复系轮回422构建了重组自交系群体,分析了稻米脂肪与米粉RVA谱特征间的关系。结果表明,脱脂米粉的峰值黏度和热浆黏度都显著高于未脱脂米粉,冷胶黏度也表现同样的趋势,说明脱脂后米粉的黏度显著上升;峰值黏度、热浆黏度、冷胶黏度与脂肪含量都分别存在着极显著的负线性关系,其线性变异的成分分别占10105%、16119%、27153% ,说明脂肪含量升高,米粉黏度下降。本研究从正反两方面取得了一致的结果,提示脂肪对食味品质的影响主要是通过脂肪的润滑作用降低黏度来实现的。
【英文摘要】A R IL population derived from a cross between two japonica rice, W1721 and Lunhui 422, was developed. The RIL population exhibited a p lenty of variation in traits studied, which was an idealmaterial for investigating relationship between lip id and flour viscosity properties. The results showed that removal of lip ids from rice flour led to a significant increase in peak viscosity (PV) and hot viscosity (HV) , and an insignificant increase in final viscosity (FV). Furthermore, the relationship between RVA profile eigenvalue and lipid content was analyzed by a linear regression method,and the results showed that the PV, HV and FV had a negative correlation with lipid content explaining 10.05% , 16.19% and 27.53% of the phenotypic variance, respectively. Results above indicated the lipids affected rice eating and cooking quality mainly through its lubricant effect which led to a decrease in viscosity.
【语种】中文
【第一作者】吴洪恺
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【学科分类】农业基础学科

【题目】名山河流域水稻土组分对微团聚体吸附解吸锌的影响
【中文关键词】微团聚体, 土壤组分, Zn2+ ,吸附解吸
【英文关键词】microaggregate; soil component Zn2+; sorption desorption
【中文摘要】通过模拟..培养试验和选择溶解法, 研究了四川省名山河流域水稻土各土壤组分对原土和不同粒径微团聚体吸附解吸Zn2+ 能力的影响. 结果表明: 原土和不同粒径微团聚体对Zn2+ 的吸附与有机质、游离氧化铁、无定形氧化铁、阳离子交换量(CEC)含量极显著相关, 原土去除各土壤组分前后对Zn2+ 的吸附均用reundlich方程拟合最佳, 对Zn2+ 的吸附能力大小顺序为: 小于0.002mm > 0.25~ 2 mm > 原土> 0.002~ 0.053mm > 0.053~ 0.25 mm. 与未去除土壤组分相比, 去除土壤组分的原土和微团聚体对Zn2 + 的吸附量均有一定程度减小,吸附量的减小以< 0.002 mm 粒径最高, 0..25~ 0.053 mm 粒径最低, 原土介于各微团聚体中间. 去除有机质后, < 0.002mm、 0.053~ 0.25 mm 和原土吸附Zn2 + 的减少量依次为39.56%. 1.97%、 26.68% . 4.21%和36.39% . 2.31% ; 去除游离氧化铁后, 吸附Zn2+ 的减少量依次为30.41% . 1.91% 、 20.14% . 3.33% 和 28.73% . 1.22%; 去除无定形氧化铁后, 吸附Zn2+的减少量依次为22.12% . 1.27% 、 12.43% . 2..11%和20.15% . 2.62%. 吸附减少量大小顺序为: 去除有机质> 去除游离氧化铁> 去除无定形氧化铁, 不同处理间差异极显著. 去除各土壤组分后, 原土和各粒径微团聚体对Zn2+ 的非专性吸附量显著上升, 增加了Zn2 + 在土壤中的流动性; 而专性吸附量降低, 降低了原土和各粒径微团聚体对Zn2 + 的缓冲能力和固持能力.
【英文摘要】By using simulation..incubation test and se lective dissolution method, th is paper studiedthe effects of soil components on the zinc sorption..desorption by the microagg regates from a typical paddy soil in Mingshan R iver watershed. The Zn2+ sorption capacity of bulk soil and microaggregatesw as sign if icantly correlated with the contents of soil organic matter, free oxide iron, amorphous oxide iron, and cation exchange capacity. Whether or not the soil components w ere removed,the Zn2+ sorption by the bulk soil and microaggregates fitted well to the Freundlich isotherm mode,land the Zn2+ sorption capacityw as in the order of < 0.002mm m icroaggregates > 0.25- 2mm microaggregates> bulk soil > 0.002 - 0.053 mm microaggregates > 0.053 - 0.25 mm microaggregates. After the removal of the soil components, the Zn2+ sorption capacity by bulk soil and microaggregates decreased, and the decrement was in the order of < 0.002 mm microaggregates >bulk soil > 0.053-0.25 mm microaggregates, compared with that be fore the removal of the soil components. After the removal of organicmatter, the decrement o f the Zn2+ adsorption capacity of < 0.002mm microaggregates, 0.053- 0.25 mm microaggregates, and bulk soil was 39.56% ,1.97% , 26.68% . 4.21%, and 36..39% ,2.31%; after the removal of free oxideiron, the decrement was 30.41% , 1.91% , 20.14% , 3.33%, and 28.73% , 1.22%; and after the removal of amorphous oxide iron, the decrement was 22.12% , 1.27% , 12.43% ,2.11%, and 20.15%, 2.62%, respectively. The decrement of Zn2+ sorption by bulk soil and microaggregates after the removal of the soil componentsw as in the o rder of removal of organicmatter> removal of free oxide iron > removal of amorphous oxide iron, and the difference among the treatments was significant After the removal of the soil components, the nonspecific adsorption of Zn2+ by bulk soil and microaggregates increased significantly, wh ich increased the Zn2+ mobility in soil while the specific adsorption decreased, resu lting in the decrease of the buffering. and retention capability of the bulk soil and microaggregates to Zn2 + .
【语种】中文
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【学科分类】土壤学

【题目】名山河流域水稻土组分对微团聚体吸附-解吸铜的影响
【中文关键词】微团聚体;土壤组分;Cu2+ ;吸附-解吸
【英文关键词】microaggregates; soil components; Cu2+; adsorption and desorption
【中文摘要】以名山河流域典型的水稻土为例,利用模拟-培养试验和选择溶解法,研究各土壤组分对原土和不同粒径微团聚体吸附解吸Cu2+ 能力的影响. 结果表明,去除土壤组分前后的原土和不同粒径微团聚体对Cu2 + 的吸附均用Langmuir 方程拟合效果最佳,原土和不同粒径微团聚体对Cu2 + 的吸附能力大小顺序为: < 0. 002mm > 2.000 ~ 0.250mm > 原土> 0.053 ~ 0.002mm > 0.250 ~ 0.053mm. 与未去除土壤组分的原土相比,去除土壤组分的原土和微团聚体对Cu2 + 的吸附量均有所减小

,尤其以去除有机质后对Cu2+ 吸附量的减小最为显著,在< 0.002mm 微团聚体中减小值高达44.50% ± 2.77%,0.250 ~ 0.053mm 微团聚体中Cu2 + 吸附量减小值最低,为37. 68% ± 3. 11%. 经不同处理后原土和各粒径微团聚体吸附量减少的顺序为:去有机质> 去游离氧化铁> 去无定形氧化铁. 去除各土壤组分后,原土和各粒径微团聚体对Cu2 + 的专性吸附降低,非专性吸附显著上升,降低了原土和各粒径微团聚体对Cu2 + 污染的缓冲能力,同时显示了各土壤组分在专性吸附中的重要性.

【英文摘要】Typical paddy soil,collected from the Mingshan River,was used to investigate the effect of paddy soil components on adsorption and desorption of copper by microaggregates in the soil. Simulation and incubation tests were used along with selective dissolution. The results howed that whether or not the paddy soil components were removed,the sorption of Cu2 + by the bulk soil and microaggregates fit well to the Langmuir isotherm model. The Cu2+ capacity was in the order: < 0.002mm > 2.000 ~ 0.250 mm > bulk soil > 0.053 ~ 0.002 mm > 0.250 ~ 0.053 mm for different size soil particles.The Cu2 + adsorption capacity of bulk soil and microaggregates decreased after removal of soil components,especially after removal of rganic matter,up to 44.50% 2.77% in the < 0.002 mm and 37.68% 3.11% in the 0.250 ~ 0.053 mm sizes. The decrease of Cu2 + adsorption by bulk soil and microaggregates after removal of soil components occurred in the order: removing organic matter> removing free iron oxide> removing amorphous iron oxide. The bulk soil and microaggregates capability to buffer the Cu2 + pollution was decreased with the decrease of specific adsorption after removal of soilcomponents,suggesting the importance of soil components in the specific adsorption. Simultaneously,the non-specific adsorption was increased.

【语种】中文
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【题目】稻米蛋白质组分及总蛋白质含量与淀粉RVA 谱特征值的关系
【中文关键词】水稻; 蒸煮食味品质; 谷蛋白; 醇溶蛋白; 蛋白质含量; 淀粉黏滞性谱
【英文关键词】rice ; eating and cooking quality ; glutelin ; prolamin ; protein content ; starch viscosity

【中文摘要】利用低谷蛋白含量(low glutelin content , LGC) 粳稻品种W1721 与大面积应用的杂交粳稻恢复系轮回422 构建了重组自交系群体。根据种子总蛋白质的SDS2PAGE带型,推断各单株LGC位点的基因型。在排除脂肪的影响下,比较了基因型LGCLGC(谷蛋白含量较醇溶蛋白低) 与基因型lgclgc(谷蛋白含量较醇溶蛋白高) 在RVA谱特征值上的差异,以及同一基因型内总蛋白质含量与淀粉RVA谱特征值的关系。结果表明基因型LGCLGC 的崩解值和回复值的平均值分别显著和极显著大于基因型lgclgc ;LGC对崩解值和回复值的相对加性效应分别为3.91 %和4.45 % ,贡献率分别为4.81 %和12.81 %。LGCLGC 型的稻米,总蛋白质含量与崩解值和消减值分别存在显著的负线性回归和正线性回归关系,贡献率分别为9.86 %和11.48 %; lgclgc 型的稻米,总蛋白质含量与消减值和回复值都存在极显著的负线性回归关系,贡献率分别为13.41 %和27.88 %。结合前人研究认为,稻米食味品质受谷蛋白相对于醇溶蛋白的含量以及总蛋白质含量的影响;而总蛋白质含量对食味品质的影响因谷蛋白相对于醇溶蛋白的含量的不同而异。因此,育种工作中应当把谷蛋白相对于醇溶蛋白的含量以及总蛋白质含量同时作为选择指标。

【英文摘要】A recombinant inbred line (RIL) population derived f rom the cross between two japonica rice , W1721 with low glutelin content (L GC) and Lunhui 422 with normal glutelin content , was developed to investigate the effect of L GC gene on RVA profile properties and relationship between total protein content and starch RVA profile properties. According to SDS-PAGE band type , genotypes of individuals at L GC locus were estimated : LGCLGC with low glutelin content and high prolamin content , lgclgc with high glutelin content and low prolamin content in the RIL population. The RVA profile characteristics of defatted rice showed breakdown and consistence values of LGCLGC were ext remely significantly higher than those of lgclgc.The LGC gene exhibited a highly significant relative additive effect on consistence value (4.45%) , explaining 12.81 % of the phenotypic variance , whereas the LGC exhibited a significant relative additive effect on breakdown value (3.91 %) , explaining4181 % of the phenotypic variance. For the genotype LGCLGC , total protein content had a negative and positive linear regression relationship with breakdown value (P < 0. 045) and setback value (P < 0. 030) , explaining 9. 86 % and 11. 48 % of the phenotypic variance , respectively , whereas for the genotype lgclgc , total protein content had a negative linear regression relationship with setback value (P < 0. 006) and consistence value (P < 0. 000) , explaining 13. 41 % and 27. 88 % of the phenotypic variance , respectively. Combined with previous studies , it is deduced that eating quality of rice is determined , at least in part ,by both the relative proportions of the two major protein f ractions , glutelin and

prolamin , and total protein content . Effect of total protein content on eating quality of rice varied with the relative proportions of glutelin and prolamin. Therefore , it may be possible to develop rice with desired levels of eating quality by breeding varieties with particular proportions of glutelin and prolamin and appropriate total protein content.
【语种】中文
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【题目】农用地抵押制度建设研究——以成都市龙泉驿区为例
【中文关键词】土地管理; 农用地抵押; 制度建设; 龙泉驿区;
【英文关键词】land administration; agricultural land mortgage; system establishment; Longquanyi District;
【中文摘要】研究目的:为农用地抵押制度建立提供参考依据。研究方法:在分析农用地抵押争议点的基础上,结合龙泉驿区农用地流转的现状,采用文献资料法、法理分析法、中外比较法、实证研究法及收益还原法进行分析研究。研究结果:全面阐述了农用地抵押的必然性和可行性,探讨了农用地经营权抵押制度建设的问题,确定了农用地抵押的基准价格,提出了完善农用地抵押制度相关法规的建议及健全相关配套组织的设想。研究结论:在规范制约机制、明确抵押责任的前提下农用地抵押权可以实现,龙泉驿区试点对推广农用地抵押制度建设工作具有借鉴意义。 更多还原
【英文摘要】The purpose of this paper is to provide reference basis for the establishment of agricultural land mortgage system.Method employed is the combination of documentation,legal analysis,China-foreign comparison,empirical study and income approach,which is based on the dispute points of agricultural land mortgage and the current condition of agricultural land transfer in Longquanyi District.The results indicate:(1)the necessity and feasibility of agricultural land mortgage have been thoroughly illustrated;(2)problems related to the establishment of mortgage system for the contractual right of agricultural land have been discussed and the benchmark prices of agricultural land mortgage have been determined;(3)suggestions on how to perfect the regulations of agricultural land mortgage system and the supplemented organizations have been proposed.It is concluded that under the preconditions of formal restriction mechanism and the clarification of mortgage responsibilities,the agricultural land mortgage right can be realized,and the trail of Longquanyi District can provide meaningful reference for the extension of agricultural land mortgage system in China.
【语种】中文
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【学科分类】农学其他学科

【题目】秸秆覆盖对土壤理化性状、微生物及生态环境的影响
【中文关键词】秸秆还田; 土壤理化性状; 土壤微生物;
【英文关键词】straw mulching; soil physical and chemical properties; soil microorganism;
【中文摘要】归纳了国内外学者关于秸秆还田对土壤理化性状、微生物及生态环境影响的研究,研究表明:相对秸秆焚烧,秸秆还田不但可以减少大气污染,更重要的是秸秆还田可以有效调节土壤水、肥、气、热,提高土壤孔隙度、提高水分渗透率、增加土壤水稳性团聚体含量、提高土壤有机质、提高土壤有效养分(N、P、K等)、提高土壤微生物生物量、增强各种土壤酶的活性,同时还可以有效降低各种重金属对土壤的污染;从经济效益来讲,还可以提高作物的产量。提出应该加大对新的还田技术与方法理论以及秸秆的加工技术的研究,以提高秸秆的利用效益和效率,减少其负面效应。总之,因地制宜地利用秸秆可以使生态、社会和经济效益显著提高,是农业持续发展的有效措施和途径之一。
【英文摘要】The author concluded the effects of straw mulching on soil physical and chemical properties,soil microorganism and environment in home and abroad.Previous studies had showed that straw mulching treatmentc an reduce the atmosphere pollution

compared with burning straw.But the most important effect of it is that itc an efficiently accommodate soil water,fertility,soil atmosphere and heat.It can also increase soil porosity,soilw ater permeability,the content of water stable aggregate,soil organic matter,soil available nutrient,the soil microbial biomass and enhance the activity of soil enzyme.Meanwhile,straw mulching treatment can decrease the contamination of series heavy metal to soil.Considering the economic benefit,mulching straw can also improvec rop yields.The author considered that the researcher should enhance the research of method and technology of straw mulching and straw process so as to increase the using efficiency and decrease the negative effect.In conclusion,using mulching straw with suit measures to local conditions can improve ecological,social and economic benefits.This is one of the efficient measures of the agricultural sustainable development.
【语种】中文
【第一作者】吴涌泉
【通讯作者】屈明
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【题目】也谈柑橘溃疡病综合防治
【中文关键词】柑橘溃疡病,综合防治,赣南脐橙
【英文关键词】无
【中文摘要】柑橘溃疡病是国内外植物检疫对象。赣南有部分种植者对柑橘溃疡病的认识不足、防治方法不当,造成部分脐橙园柑橘溃疡病有发生严重的趋势。结合多年管理果园经验,提出以下综合防治措施:1、冬季清园是基础;2、春梢防治是关键;3、夏秋梢防治是重点。
【英文摘要】无
【语种】中文
【第一作者】方贻文
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【学科分类】园艺学

【题目】Identification and characterization of a novel Waxy allele from a Yunnan rice landrace
【中文关键词】水稻 Waxy基因 颗粒结合淀粉合酶 直链淀粉含量 dCAPS标记
【英文关键词】Rice (Oryza sativa L.) Waxy gene Granule-bound starch synthase (GBSSI) Amylose content dCAPS marker
【中文摘要】低直链淀粉含量对于水稻蒸煮品质是有利性状,在软米育种中是被选择的性状。为更好的了解直链淀粉含量控制的分子机制,筛选了83个云南地方品种并鉴定了一个低直链淀粉含量的品种,毫屁。遗传分析和转基因实验表明毫屁的低直链淀粉是Wx的一个新等位基因控制的,Wxhp,编码颗粒结合淀粉合酶(GBSSI)。Wxhp和Wxb(日本晴)序列比较表明在上游调控区(包括启动子、5’非翻译区和第一个内含子的5’拼接位点)。有趣的是,这些变化对Wx转录本的转录水平和拼接效率没有明显影响。同时,对编码区的检查发现Wxhp从起始密码子第497个核苷酸处有一个A到G的改变,导致Asp165/Gly165的替换。这个替换对体外酶活没有检测到影响,但明显降低了酶与淀粉颗粒的结合,导致种子中直链淀粉含量的降低。同时,3个低直链淀粉的其他云南地方品种也有相似的替换,表明他们来自于共同祖先。基于核苷酸多态性,开发了dCAPS标记用于水稻控制胚乳直链淀粉含量的育种实践。
【英文摘要】Low amylose content (AC) is a desirable trait for rice (Oryza sativa L.) cooking quality and is selected in soft rice breeding. To gain a better understanding of the molecular mechanism controlling AC formation, we screened 83 Yunnan rice landraces in China and identified a rice variety, Haopi, with low AC. Genetic analyses and transgenic experiments revealed that low AC in Haopi was controlled by a novel allele of the Wx locus, Wxhp, encoding a granule-bound starch synthase (GBSSI). Sequence comparisons of Wxhp and Wxb alleles (from Nipponbare)showed several nucleotide changes in the upstream regulatory regions (including the promoter, 50-untranslated region, and first intron 50 splicing junction site). Interestingly, these changes had no obvious effect on the expression level and splicing efficiency of Wx transcripts. In addition, an examination of the coding region revealed that the Wxhp allele

carries an A-to-G change at nucleotide position 497 from the start codon, resulting in an Asp165/Gly165 substitution. The amino acid substitution had no detectable effects on GBSSI activity in vitro; however, it notably reduced the binding of GBSSI to starch granules, resulting in a reduction of AC in rice seeds. Moreover, three other Yunnan landraces with low AC also carry a nucleotide substitution identical to Haopi at the ?497 position of the Wx gene, suggesting common ancestry. Based on the single-nucleotide polymorphism, we have developed a new derived cleaved amplified polymorphic sequence marker for use in breeding practice to manipulate AC in rice endosperm.

【语种】英文
【第一作者】刘玲珑
【通讯作者】万建民
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【学科分类】农业基础学科

【题目】脐橙大枝修剪技术操作实施要点
【中文关键词】脐橙;大枝修剪;栽培
【英文关键词】无
【中文摘要】大枝修剪是指以主枝、副主枝及较大侧枝为剪除象的一种修剪技术,一般在5年生以上结果脐橙园开展。较常规修剪(精细修剪)而言,因其在实施过程中所针对的主要对象的有所不同,每一工序所产生效果或对树体所产生的破坏程度均有较大差异。所以在实施脐橙大枝修剪过程中须掌握方法。1、脐橙大枝修剪技术要点;2、脐橙大枝修剪操作程序;3、注意事项。
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【学科分类】园艺学

【题目】Partial and total replacement of fish meal with poultry by-product meal in diets for gibel carp, Carassius auratus gibelio Bloch
【中文关键词】无
【英文关键词】fishmeal, poultry by-product meal,replacement, gibel carp Carassius auratus gibelio
【中文摘要】无
【英文摘要】Triplicate groups of gibel carp Carassius auratus gibelio Bloch (initial body weight: 4.89 g) were fed for 8 weeks at 24.8^30.8 1C with nine isonitrogenous and isoenergetic diets. The control diet (F1) used white fishmeal as the sole protein source. In the other eight diets (F2^F9), 40.5^100% of FM protein was substituted by poultry by-product meal (PBM) at 8.5% increments. The speci ¢ c growth rate (SGR), feed e ⁄ ciency ratio, protein e ⁄ ciency ratio, protein retention e ⁄ ciency and energy retention rate for ¢ sh fed PBMdiets (F2^F9)were all higher, but not always signi ¢ cantly, than those for ¢ sh fed F1. All apparent digestibility coe ⁄ cients for ¢ sh fed PBM diets were lower than those for ¢ sh fed F1. Fish fed F1had a signicantly higher hepatosomatic index value than ¢ sh fed PBM diets (Po0.05). No signi ¢ cant (P40.05) ¡ ect of diet was found in whole-body moisture and fat content. Whole-body protein and energy content for ¢ sh fed PBM diets were slightly higher than that for ¢ sh fed F1.The optimal replacement level of FMby PBM was estimated by second-order polynomial regression to be 66.5% in protein.
【语种】英文
【第一作者】YongYang
【通讯作者】Shouqi Xie
【期刊名称、卷期、页码】Aquaculture Research, 2006, 37, 40-48

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【引文索引类型】SCI
【引文索引号】to be researched
【学科分类】水产饲料学

【题目】Effect of inclusion of blue-green algae meal on growth and accumulation of
【中文关键词】无
【英文关键词】无
【中文摘要】无
【英文摘要】Six isonitrogenous (crude protein content: 38%) and isoenergetic(gross energy content: 17 kJ g)1) diets were formulated to investigate the effects of inclusion of blue-green algae meal ongibel carp (Carassius auratus gibelio). In each diet, 15% of the protein was supplied by fishmeal; the remainder was supplied bysoybean meal and blue-green algae meal. Diet 1 was used ascontrol with no blue-green algae meal whereas the content indiets 2 – 6 was 15.15, 29.79, 44.69, 59.58 and 74.48%, respectively.Each diet was fed to five groups of gibel carp for 12 weeksin a flow-through system. Final body weight and specific growthrate (SGR) of fish fed diet 5 were significantly lower than thecontrol diet ($P < 0.05$). Mortality of gibel carp increased withincrease in algae meal inclusion ($P < 0.05$), but there was nosignificant difference between fish fed diets 3 – 6 ($P > 0.05$).Feed conversion efficiency (FCE) decreased with the increase inalgae meal inclusion ($P < 0.05$). Fish-fed diet 6 showed thehighest feeding rate ($P < 0.05$), while there were no significantdifferences among the other groups ($P > 0.05$). Apparentdigestibility coefficient of dry matter, protein, and energydecreased with increasing algae meal inclusion in the diets($P < 0.05$). Aspartate aminotransferase (GOT) activity in theliver was not significantly different among groups ($P > 0.05$).Liver alanine aminotransferase (GPT) activity of fish-fed diets4, 5 and 6 was significantly lower than the control diet (diet 1;$P < 0.05$). Microcystins in the muscle, liver, gallbladder, andspleen increased with increasing algae inclusion ($P < 0.05$).
【语种】英文
【第一作者】By M. Zhao
【通讯作者】By M. Zhao
【期刊名称、卷期、页码】J. Appl. Ichthyol. 22 (2006), 72 – 78
【论文发表时间】2006-10-10 00:00:00
【引文索引类型】SCI
【引文索引号】to be searched
【学科分类】水产饲料学

【题目】Effects of different levels of fish protein hydrolysate in the diet on the nonspecific immunity of Japanese sea bass, Lateolabrax japonicus (Cuvieret Valenciennes,1828)
【中文关键词】无
【英文关键词】无
【中文摘要】无
【英文摘要】Japane s e s ea ba s s, Lateolabrax japonicus (Cuvieret Vale nc ie n nes, 1828) is one o f t he ma i n ma r i ne ¢ s h c u lt u red i n C h i na. Howeve r, i n f e c t ious d is ea s e s a re b e c o m i ng mo re c om mon w it h i nc rea s i ng c u lt u re.A nt ibiot ic s us e d to c ont rol t he s e d is ea s e s c a n res u lt i n t he d evelop me nt o f d r ug-re s i sta nt bact e r ia, e nv i r on me nta l p ol lut ion a nd re s idue s i n ¢ s h (Brow n 1989).Vacc i nat ions fo r ¢ s h pat hoge ns have s ig n i ¢ ca nt ly re -duc e d t he i nc id e nc e o f ma ny i mp o r ta nt d is ea s e s i n ¢ s h aquac u lt u re. Howeve r, t h is approach c a n on lyi nduc e s p e c i ¢ c i m mu n it y aga i ns t a pa r t icu la r pat ho -ge n, a nd ha s not b e e n succ e s s f u l, s o fa r, i n i m mu n i-s at ion agai n st i nt rac el lu la r pat hoge ns (Sa ka i 1999).He ighte n i ng t he i n nate i m mu n it y o f ¢ s h us i ng d iet-a r y i m mu no st i mu la nt s ha s att rac te d att e nt ion a s as t rateg y fo r d i s e a s e prophyla x is (Raa 1996).
【语种】英文
【第一作者】Liang, M.Q
【通讯作者】Liang, M.Q
【期刊名称、卷期、页码】Aquaculture Research 37(1),102-106
【论文发表时间】2006-11-01 00:00:00

【引文索引类型】SCI
【引文索引号】to be searched
【学科分类】水产饲料学

【题目】Growth performance and tissue mineral content of juvenile grouper (Epinephelus coioides) fed diets supplemented with arious levels of manganese
【中文关键词】无
【英文关键词】grouper, interactions, manganese, requirement,toxicity
【中文摘要】无
【英文摘要】This study was conducted to investigate the effect of dietary manganese (Mn) on growth, vertebrae and whole-body Mn content of juvenile grouper, and to examine the effect of dietary Mn on copper (Cu), iron (Fe), zinc (Zn), calcium (Ca), phosphorus (P) and magnesium (Mg) content of vertebrae and whole body. Seven casein-gelatin-based diets were supplemented with 0, 5, 10, 15, 20, 50 and 1000 mg kg)1 of Mn from MnSO4ÆH2O. Grouper with an initial weight of 12.9 ± 0.4 g were fed to satiation with one of the seven diets for 8 weeks. Growth was not significantly affected by dietary Mn supplements. Vertebrae Mn increased from 31.7 to 118.1 mg kg)1 dry weight with dietary Mn supplement increasing from 0 to 50 mg kg)1 (y =)0.0002x3 + 0.0162x2 + 1.3903x + 26.27, R2 = 0.9561, where y is the vertebrae Mn content and x is the dietary Mn content). Whole-body Mn increased from 2.5 to 7.8 mg kg)1 wet weight with dietary Mn supplement increasing from 0 to 50 mg kg)1 (y = 0.00001x3) 0.00107x2 + 0.11054x + 2.24615, R2 = 0.9080, where y is the whole-body Mn content and x is the dietary Mn content). Dietary Mn had no significant effect on vertebrae Fe, Ca, P and Mg content, and whole-body Cu, Zn and Mg content. However, vertebrae Zn and whole body Ca, P were highest in fish fed diet supplemented with 15 mg kg)1 of Mn. Based on this, Mn supplement of 15 mg kg)1 mightbe the optimum when the basal diet contained 4 mg kg)1 of Mn. Fish fed diet supplemented with 1000 mg kg)1 of Mn did not show any gross abnormality or change in feeding behaviour, but Mn contents of vertebrae and wholebody were as high as 695.1 mg kg)1 dry weight and42.5 mg kg)1 wet weight, respectively. Also, whole body Fe decreased significantly when Mn supplement was up to1000 mg kg)1.
【语种】英文
【第一作者】Ye, C.Y.
【通讯作者】Ye, C.Y.
【期刊名称、卷期、页码】Aquaculture Nutrition,doi:10.1111/ j.1365-2095. 2008.00628.x
【论文发表时间】2009-08-01 00:00:00
【引文索引类型】SCI
【引文索引号】to be searched
【学科分类】水产饲料学

【题目】Alternative vegetable lipid sources in diets for grouper, Epinephelus coioides (Hamilton): effects on growth, and muscle and liver fatty acid composition
【中文关键词】无
【英文关键词】lipid sources, growth, fatty acids, Epinepheluscoioides
【中文摘要】无
【英文摘要】The aim of this study was to investigate the effects of diffe re nt oil s on g rowt h p e r for ma nc e a nd lipid metabolis m o f t he g roup e r, Ep i n e phelu s c oi oi d es.Fiveex-perimental fish meal-based is onit rogenous and is olipid ic d iet s we re for mu late d c onta i n ing e it her 5.5 % -adde d ¢ s h oil (FO), s oybea n oil (SB O), c or n oil (CO), sun £ owe r oil (S FO) or p ea nut oil (PO). Each d iet wa s fe d to tr ipl icate g roup s o f 20 ¢ s h (i n it ia l body we ig h t 13.2 0.02 g) g rown in s eawate r at 28.0 ^30.5 1C for 8 we eks. Fis h we re f e d t w ice a day to v isua l sati et y. No s ig n i ¢ cant d i ¡ e re nc e s i n t he su r v iva l, we ight ga i n, s p e c i ¢ c g rowt h rate, fe e d c onve rs ion rat io, protei n e ⁄ cie nc y rat io or hepatos omatic i ndexwe re found bet we e n ¢ s h f e d t he FO or vegetable oils (VO) d iet s. D ietar y l ipid s ourc e s d id not a ¡ e c t whole body c ompos ition a mong g roup e r f e d the va r iousd iet s. Mus cle o f ¢ s h f e d t he FO d iet had s ig n i ¢ cant ly h igher levels o f 14:0, 16:0, 16:1n-7, 20:5 n-3[e ic osape n taenoic acid (E PA)] a nd doc osa hexaenoic acid(D H A) 1E PA (except for PO f e d ¢ s h) c ompa re d with t hos e o f ¢ s h f e d VO d iet s. Howeve r, t he levels o f 18:1n-9, 18:2 n-6 a nd DHA / E PA rat ios i n t he mus cle o f ¢ s h f e d FO d iet we re s ig n i ¢ cantly lowe r t ha n t hose of fish fe d t he VO d iet s. The l ive r o f ¢ s h fe d t he FO d iet had s ig n i ¢ cant ly h igher levels o f 18:0, 20:5 n-3, 22:6 n-3, n-3 h igh ly u nsat u rate d fatt y acid s a nd DH A1EPA thant hos e o f ¢ s h f e d t he VO d iet s, wherea s i nc rea s e s i n 18:1n-9, 18:2 n-6 a nd mono -u nsat u rate d fatt y acid levels we re observed in the liver of fish fed t he VO diets.

【语种】英文
【第一作者】Hei-Zhao Lin
【通讯作者】L-X Tian
【期刊名称、卷期、页码】Aquculture Research 38, 1605-1611
【论文发表时间】2007-11-01 00:00:00
【引文索引类型】SCI
【引文索引号】to be searched
【学科分类】水产饲料学

【题目】Effects of dietary manganese on growth and tissue manganese concentrations of juvenile gibel carp, Carassius auratus gibelio.
【中文关键词】无
【英文关键词】growth, Juvenile gibel carp, manganese, tissue manganese concentrations
【中文摘要】无
【英文摘要】A 68-day growth trial was conducted in a flow-through system to determine the effect of dietary manganese levels on growth and tissue manganese concentration of juvenile gibelcarp (Carassius auratus gibelio). Seven purified diets containing 7.21, 8.46, 9.50, 10.50, 13.03, 19.72 and 22.17 mg manganese (as manganic sulfate) per kilogram diet were fedto triplicate groups of fish (initial weight 3.21 ± 0.01 g). The results showed that dietary manganese levels did not significantly affect feed intake of the fish. Specific growth rate, feed efficiency, total hepatic superoxide dismutase activity, carcass and skeletal manganese concentration increased significantly with increased dietary manganese($P < 0.05$) while condition factor decreased significantly($P < 0.05$). It was concluded that dietary requirement of manganese was 13.77 mg Mn per kilogram diet. Carcass and skeletal manganese concentration could also be used to evaluate the manganese requirement. Total hepatic superoxide dismulase activity was not a sensitive indicator for dietary requirement.
【语种】英文
【第一作者】L.PAN
【通讯作者】Xiaoming Zhu
【期刊名称、卷期、页码】Aquaculture Nutrition 14, 459-463.
【论文发表时间】2008-07-01 00:00:00
【引文索引类型】SCI
【引文索引号】to be researched
【学科分类】水产饲料学

【题目】Effect of dietary iron supplement on growth, haematology and microelements of juvenile grouper, Epinephelus coioides
【中文关键词】无
【英文关键词】copper, grouper, interactions, iron, manganese, zinc
【中文摘要】无
【英文摘要】An experiment was conducted to investigate the effect ofdietary iron supplement on growth, haematology and microelements of juvenile grouper,Epinephelus coioides .Casein – gelatine-based diets supplemented with 0, 50, 100, 150, 200 and 250 mg kg) 1 iron from ferrous sulphate were fed to grouper (mean initial weight: 21.0 ± 0.2 g) for8 weeks. Weight gain was highest in fish fed the diet supplemented with 100 mg kg) 1 iron, intermediate in fish feddiets with 50, 150, 200 and 250 mg kg) 1 iron and lowest in fish fed the basal diet. Feed efficiency followed a similar trend except that the lowest value was in fish fed the basal diet and the diet supplemented with 250 mg kg) 1 iron. Hepatic iron was highest in fish fed diets supplemented with iron ‡ 100 mg kg)1, followed by fish fed diet with50 mg kg)1 iron and lowest in fish fed the basal diet. The whole-body iron was lowest in fish fed the basal diet but not significantly different from other groups, as judged byANOVA . Iron supplement to the basal diet had no significant effect on haematological parameters (red blood cell count, haematocrit and haemoglobin), hepatic copper concentra-tion or manganese, zinc concentration in liver and whole body. Broken-line analysis of hepatic iron indicated that iron supplementation of 100 mg kg)1 satisfied the hepaticiron storage and that further supplementation did not expand the iron status.
【语种】英文
【第一作者】C-X Ye
【通讯作者】Li xia Tian

【期刊名称、卷期、页码】Aquaculture Nutrition 13, 1 – 7
【论文发表时间】2007-11-01 00:00:00
【引文索引类型】SCI
【引文索引号】to be searched
【学科分类】水产饲料学

【题目】Effect of faecal collection interval and dietary meat and bone meal levels on
【中文关键词】无
【英文关键词】Fecal collection interval ; Meat and bone meal ; Digestibility ; Carassius auratus gibelio
【中文摘要】无
【英文摘要】:The present study was undertaken to evaluate the effects of faecal collection interval (using a settling column) and the levels of dietary meat and bone meals (MBM) on the apparent digestibility coefficient (ADC) for dry matter , protein , energy and phosphorus in gibel carp. Six iso2nitrogenous (crude protein : 410 g/ kg) and iso2energetic (gross energy : 18 kJ / g) diets were used in which fish meal (FM) protein was gradually replaced byMBM at 0 % , 20 % , 40 % , 60 % , 80 % and 100 %. These diet combinations were fed to juvenile gibel carp for 11 weeks. The faecal samples were collected two weeks after the beginning of thexperiment using a settlement column starting 1 min after excretion started , or 4h and 16h after feeding. The results showed that the ADCs of dry matter , protein , energy and phosphorus increased significantly as the time from excretion to faecal collections in2creased while not being significant for the high MBM inclusion diets. ADCs of dry matter , crude protein , energy and phosphorus decreased linearly or almost linearly with the increase in dietaryMBMlevels. These findings suggest that faeces should be collectedsoon after they had settled under the conditions of this study for digestibility determination while rapid leaching is apparently re2sponsible for this false reading of digestibility with increasing sampling interval. It is also apparent that the digestibility is one of the problems affecting the use of MBM in juvenile gibel carp
【语种】英文
【第一作者】ZHANG Song
【通讯作者】XIE Shouqi
【期刊名称、卷期、页码】水生生物学报Vol . 32 ,No . 1.79-88
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【引文索引类型】其他
【引文索引号】null
【学科分类】水产饲料学

【题目】草鱼鱼种叶酸营养需要量的研究
【中文关键词】草鱼;叶酸;需要量
【英文关键词】grass carp ;folie acid;requirement
【中文摘要】以酪蛋白和明胶为蛋白源,配制叶酸含量分别为0,0.5,1.0,2.0,5.0,10.0,20.0 mg/kg的7组精制试验饲料,投喂初始体重为(5.78±0.17)g的草鱼鱼种8 w,考察不同叶酸添加量对草鱼鱼种生长和部分血液指标的影响,以确定草鱼鱼种的叶酸需要量。结果表明:添加叶酸5.0 mg/kg使草鱼鱼种增重率(WG)、饲料效率(FE)、血液中血红蛋白含量(Hh)和血小板数(PlJT)比未添加叶酸的对照组有显著增加(P<0.05),而使血清中甘油三脂(TG)、总胆固醇(Tc)和低密度脂蛋白胆固醇(LDL—C)含量比对照组有显著降低(P<0.05);添加叶酸对草鱼鱼种存活率(SR)、血清中总蛋白(TP)和高密度脂蛋白胆固醇(HDL.C)含量,以及血液中红细胞数(RBC)无显著影响(P>0.05);对WG、TG、Tc、Hh和PLT进行折线回归分析得出草鱼鱼种对叶酸的需要量为3.6—4.3 mg/kg饲料。
【英文摘要】A feeding trial was conducted to determine the folic acid requirement of grass carp (Ctenopharyngodon idella)fingerling.Purified basal diets were formulated using vitamin—free casein and glutin as the protein source.Different levels of folic acid(0,0.5,1.0,2.0,5.0,10 and 20 mg folic acid/kg diet)were graded in the basal diet,resulting in seven dietary treatments in the experiment.Each diet was fed for 8 weeks to triplicate groups of grass carp with initial average weight(5.78±0.17)g.Grass carp fingerling fed diets supplemented with 5.0 mg folic acid/kg diet had significantly higher(P<0.05)weight gain,feed eficiency,hem0gl0binassay and platelet counting in blood than the control group fed without folicacid supplement.In contrast,the test groups had significantly lower(P <0.05)triacylglycerol,totalcholesterol and low density lipoprotein cholesterol in serum than the control group. Supplementati0n of dietaryfolio acid had no efect on survival rate,total protein and high density lipoprotein cholesterol levels in serumand red blood cell counting in blood. Weight gain,triacylglycerol,total cholesterol,hemoglobinassay andplatelet counting analyzed by broken—line

regression indicated that the requirement for dietary folic acid inrearing grass carp is approximately 3.6—4.3 mg/kg diet
【语种】中文
【第一作者】赵智勇
【通讯作者】文华
【期刊名称、卷期、页码】上海水产大学学报 17(1), 91-96
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【引文索引号】null
【学科分类】水产饲料学

【题目】Effect of dietary carbohydrate sources on growth performance and utilization for gibel carp (Carassius auratus gibelio) and Chinese longsnout catfish (Leiocassis longirostris G ü nther)
【中文关键词】无
【英文关键词】carbohydrate, Chinese longsnout catfish, gibel carp, gluconeogenesis, growth, lipogenesis
【中文摘要】无
【英文摘要】The nutritional function of monosaccharides, disaccharides and polysaccharides for omnivorous gibel carp and carnivorous Chinese longsnout catfish were investigated and the ability of these two species to utilize carbohydrates was compared. For each species, triplicate groups of fish were assigned to each of five groups of isoenergetic and isonitrogenous experimental diets with different carbohydrate sources: glucose, sucrose, dextrin, soluble starch (acid-modified starch) and a-cellulose. The carbohydrates were included at 60 g kg) 1 in Chinese longsnout catfish diets and at 200 g kg) 1 in gibel carp diets. A growth trial was carriedout in a recirculation system at 27.8 ± 1.9 C for 8 weeks. The results showed that fish with different food habits showed difference in the utilization of carbohydrate sources.For gibel carp, better specific growth rate (SGR) and feed efficiency (FE) were observed in fish fed diets containing soluble starch and cellulose, but for Chinese longsnout cat-fish, better SGR and FE were observed in fish fed diets containing dextrin and sucrose. Apparent digestibility coefficient of dry matter (ADCd) and apparent digestibility coefficient of energy (ADCe) were significantly affected by dietary carbohydrate sources in gibel carp. ADCd and ADCe significantly decreased as dietary carbohydrate complexityincreased in Chinese longsnout catfish except that glucose diet had medium ADCd and ADCe. In both species, no significant difference of apparent digestibility coefficient of protein was observed between different carbohydrate sources. Dietary carbohydrate sources significantly affected body composition, and liver phosphoenolpyruvate carboxykinase(PEPCK), pyruvate kinase (PK), glucose 6-phosphate dehydrogenase (G6PD) and malic enzyme (ME) activities also varied according to dietary carbohydrate complexity. Fish with different food habits showed different abilities to synthesize liver glycogen, and the liver glycogen content in gibel carp was significantly higher than in Chinese longsnout catfish. The influence of carbohydrate source on gluconeogenesis and lipogenesis was also different in the two fish species.
【语种】英文
【第一作者】Q. Tan
【通讯作者】Shouqi Xie
【期刊名称、卷期、页码】Aquaculture Nutrition 12, 61-70
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【引文索引类型】SCI
【引文索引号】to be searched
【学科分类】水产饲料学

【题目】Meat and bone meal replacement in diets for juvenile gibel
【中文关键词】无
【英文关键词】Carassius auratus gibelio, growth performance,loading, meat and bone meal, nitrogen, phosphorus, retention
【中文摘要】无
【英文摘要】A 11-week growth trial was conducted in a flow-throughsystem with juvenile gibel carp Carassius auratus gibelio toevaluate the effects of gradual replacement of fish meal (FM)by meat and bone meal (MBM) on growth performance,phosphorus (P) and nitrogen (N) loading. Six isonitrogenous(crude protein: 410 g kg)1) and isoenergetic (gross energy:18 kJ g)1) diets were formulated. FM was used as the control protein. In the other five diets, 20, 40, 60, 80 and 100% FM protein was substituted with MBM20, MBM40, MBM60,MBM80, MBM100, respectively. Total P content in the diets ranged from 16.0 to 28.3 g kg)1 and the

available P was 5.0 – 6.6 g kg)1. The results showed that the best growth wasachieved with fish fed on the control diet and MBM20. Final body weight, weight gain, feed efficiency, protein retention efficiency and energy retention efficiency decreased with increased dietary MBM. No significant differences were found in the feeding rate and hepatosomatic index between the groups. Apparent digestibility coefficient (ADC) of drymatter, protein and P decreased with increase in dietary MBM, while there were no significant differences in the ADC of energy. P and N retention decreased linearly while P andN loading increased linearly with the increased dietary MBM levels. No significant differences were observed in the activity of alkaline phosphatase, aspartate aminotransferase and alanine aminotransferase, as well as pyruvate kinase in liver or in serum. Total superoxide dismutase activity in MBM20 was significantly higher than that of MBM100.

【语种】中文

【第一作者】S. ZHANG

【通讯作者】S. Xie,

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【引文索引号】to be researched

【学科分类】水产饲料学

【题目】草鱼幼鱼对烟酸需要量的研究

【中文关键词】草鱼;烟酸;生长;需要量

【英文关键词】Ctenopharyngodon idellus;niacin;growth;requirement

【中文摘要】:草鱼幼鱼的初始体重为(12.43±0.80)g,试验分为7组,其饲料中烟酸含量分别为5.1、9.8、16.6、32.2、66.7、130.1、271.5 mg·kg~ ,每组设3个重复,每桶3O尾鱼,日投喂率2% 一3%,饲养试验周期为8周。研究不同含量烟酸对草鱼幼鱼生长性能、饲料系数、机体营养组分、造血功能及血脂的影响,以确定草鱼幼鱼饲料中适宜烟酸需要量。试验结果表明:① 添加烟酸显著提高了特定生长率、增重率和草鱼幼鱼的存活率,对草鱼幼鱼肥满度无显著影响;烟酸含量为32.2 mg·kg时草鱼的特定生长率和增重率最大,饲料系数最低,并与其它各组存在显著差异;②添加烟酸对草鱼全鱼水分、灰分无显著影响,显著提高了全鱼粗脂肪含量,但各添加组间无显著差异,饲料中烟酸含量为66.7 mg-kg 时,全鱼粗蛋白含量显著高于对照组及9.8 mg·kg 组;③ 添加烟酸显著提高了血液红细胞计数和血红蛋白含量,但对血清胆固醇和甘油三酯无显著影响,烟酸含量为16.6 mg·kg 及以上时显著提高血清高密度脂蛋白胆固醇与低密度脂蛋白胆固醇,与对照组和9.8 mg·kg 组存在显著差异。基于折线法分析,草鱼幼鱼获得最佳生长时对饲料中烟酸的最低需求量为25.5 mg·kg。

【英文摘要】Abstract:Niacin is an essential nutrient for growth an d health of l=ish.The signs ofmacln deficiency in most fish species are loss of appetite,poor growth and increased mortality.The objective of this study is to detect the suitable requirement of niacin in diet of juvenile Ctenopharyngodon idellus,a primary aquacultural breed in China.Prior to the start of expe riment,all fish were acclimated to the expe rimental condition for 2 weeks an d fed the basal diet,then thirty healthy fish were randomly distributed to each of 21 experimental fiberglass tanks connec ted to a flow.through system .Niacin was added to the basal diet at 0,10,20,40,80,160,320 mg·kg~ diet,an d the actual content of niacin in diets were 5.1,9.8,16.6,32.2,66.7,130.1,271.5 mg‘ kg diet respectively based on determination by High Performance Liquid Chromatography(HPLC).The 7 diets were fed to randomly assigned triplicate groups of fish[initial body weight(12.43-4-1.80)g]. l fish were fed at a rate of2% 一3% of their body weight per day in three equal feedings.Fish were batch—weighted by tank once every two weks and the daily rations were 删usted accordingly.Experiment was conducted for 8 weks.The results showed that:1.the addition of niacin to diets had no efect on condition factor but significan tly improved fish specific growth rate (SGR),weight gain rate(WGR)and survival rate(SR).The highest SGR and WGR were observed at group of 32.2 mg·kg_。,while feed conversion rate(FCR)were lowest,these indexes had significant ference from the other 6 groups;2.there were no significan t diference in carcase moisture,crude ash of the fish.Th e crude lipid of fish in experimental groups was significantly higher than the control group but there were no differences among the expe rimental groups.Th e crude protein of 66.7 mg‘ kg一 group was significan tly higher than the control group and 9.8 mg·kg~group;3.the addition of niacin to diets significantly improved hemoglobin(1iB)and red blood count(RBC)but had no efect on serum cholesterol(CHOL)and triglyceride(TG).The high density lipopmtein cholesterol(HDL-C)and low density lipoprotein cholesterol(LDL—C)were significantly higher than the control group an d 9.8 mg·kg~ group when the fish fed above 16.6 mg niacin pe r kg diet.Th e results of this study demonstrated that dietary niacin could improve growth performance,and decrease mortality.Using the broken.1ine analysis model,the dietary niacin requirement for juvenile Ctenopharyngodon ideUus based on specificgrowth rate(SGR)was 25.5 mg·kg which could maintain maximum growth of the fish.

【语种】中文

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【题目】饲料中添加植酸酶对草鱼鱼种性能和磷利用率的影响
【中文关键词】植酸酶 草鱼 生长性能 磷利用率
【英文关键词】]phytase;grass carp;growth performance;utilization of phosphorus
【中文摘要】用两因素交叉试验法,以大豆粕、棉仁粕和菜籽粕为主要蛋白源,在饲料中添加2个水平(0.75%和1.50%)的Ca(HzPO4)2和3个水平(0,500,1000 U/kg)的植酸酶,经过8周饲养试验后,结果显示:在饲料中添加500 U/kg植酸酶可使草鱼的净增重提高15.45%~18.09%,饲料系数显著降低(P<0.05),鱼体磷的贮积率增加
【英文摘要】The effects of phytase supplementation on growth performance and phosphorus availability in grass carp larval were studied by cross design for two factors.The 0.75%or 1.50%Ca(H2PO4)2 and 0,500 or 1000 U/kg phytase were added respectively in diets formulated mainly with soybean meal,cotton seed meal and rape seed meal as protein resources.After reared for 8 weeks.the results were as follow:The phytase adding 500 U/kg in diet could improve the net weight increase of grass carp by 15.45%~l8.09%。enhance rate of phosphorus in body of he fish,and reduce the feed coefficient(P<0.05)
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【第一作者】黄峰
【通讯作者】黄峰
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【题目】饲料中高水平铜对草鱼生长、肝胰脏和
【中文关键词】铜;草鱼;肝胰脏;肌肉;铁;锌
【英文关键词】无
【中文摘要】:研究饲料中铜对草鱼生长性能、肝胰脏和肌肉中铜铁锌含量的影响,为饲料中铜的安全添加提供理论依据。用铜含量分别为9.38(对照),28.17,46.21,80.07,208.54,439.50,679.72,873.37,1 365.42mg/kg的试验饲料,饲喂初始体重(25.57±0.47)g的草鱼56 d,每14 d取样1次。结果表明:饲料铜含量对草鱼的成活率、特定生长率、饲料系数、鱼体水分、鱼体粗脂肪和鱼体粗灰分无显著影响(P>0.05);而饲料铜含量/>873.37 m kg时,鱼体粗蛋白含量显著低于对照组(P<0.05)。随着饲料铜含量的升高,草鱼肌肉铜含量无显著变化(其含量为1.52~1.65 mg/kg),铁含量显著升高,锌含量则仅在14 d时显著降低;肝胰脏铜含量显著升高,56 d时,在铜含量1 365.42 me,/kg的试验组达到22.97 mg/kg;肝胰脏铁含量14 d时显著升高,但在56 d时呈先升高后降低趋势;肝胰脏锌含量在14 d时显著降低,而在56 d时,饲料铜含量≥439.50 mg/kg的试验组显著高于对照组(P<0.05)。在本试验条件下,草鱼肝胰脏和肌肉中铜含量均低于我国水产品相关标准中规定的铜的限量。
【英文摘要】无
【语种】中文
【第一作者】赵宇江
【通讯作者】文华
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【题目】Effects of dietary thiamin on the physiological status of the grouper Epinephelus coioides
【中文关键词】无
【英文关键词】Epinephelus coioides ,Grouper ,Superoxide dismutase(SOD), Thiamin, Thiobarbituric acid reactive substances(TBARs),Transketolase
【中文摘要】无
【英文摘要】This study was conducted to evaluate the effects of dietary thiamin on the physiological status of the juvenile grouper, Epinephelus coioides. Graded levels of thiamin(0.08,0.50,2.12,3.15,4.63,12.37 mg thiamin kg – 1diet)werefed to grouper juveniles(mean weight:16.97±0.14 g)for 10 weeks. Although fish fed the thiamin-deficient(TD)diet showed no obvious symptoms of thiamin deficiency or increased mortality, those fed the lowest doses of thiamin(0.08 and 0.50 mg thiamin kg – 1diet)had significantly decreased transketolase activity in the liver.In addition, the level of liver thiobarbituric acid reactive substances in fish fed the TD diet was 33 – 67%higher than that in fish with the thiamin-supplemented diet. There were no significant differences in superoxide dismutase activity between the different groups of fish.
【语种】英文
【第一作者】J.W.Huang
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【学科分类】水产饲料学

【题目】牛磺酸对草鱼生长、品质、消化酶和
【中文关键词】:牛磺酸;草鱼;生长;消化酶;代谢酶
【英文关键词】无
【中文摘要】:本文旨在研究牛磺酸对草鱼的营养效应。选用体长12.5 -13.0 c m,体重38.1 -38.9 g 的草鱼432尾,随机分为8个处理组,每组54尾,设3个重复,每个重复18尾。在饲料中添加0,200,400,600,800,1 000,1 400,1 800 mg/kg的牛磺酸,以0 mg/kg添加组为对照组,试验期30 d,研究牛磺酸对草鱼生长、品质、消化酶和代谢酶活性的影响。结果表明:(1)牛磺酸促进草鱼生长(除1 800 mg/kg添加量外)。添加量为600 mg/kg时,特定生长率(SGR)、肌肉、肝胰脏RNA/DNA比值、饲料效率(FE)和蛋白质效率最高(P<0.05);(2)饲料中添加牛磺酸后,草鱼体水分含量下降,体蛋白、体脂含量增加(P<0.05),灰分含量、内脏指数、肥满度各试验组之间差异不显著(P>0.05);(3)添加适宜牛磺酸(600-800m g/kg),显著提高肝胰脏和肠道脂肪酶、淀粉酶的活性(P<0.05);(4)牛磺酸具有促进草鱼肝胰脏和肌肉转氨酶、碱性磷酸酶活性的作用。综合以上结果,草鱼饲料中牛磺酸的最适添加量为600 mg/kg,
【英文摘要】无
【语种】中文
【第一作者】罗莉
【通讯作者】文华
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【题目】硒对草鱼生长、营养组成和消化酶活性的影响
【中文关键词】硒;草鱼;生长;营养组成;消化酶
【英文关键词】selenium; Cenopharyngodon idellus; growth performance;nutritional composition;digestive enzyme
【中文摘要】选用体长(10.16±0.14)em,体重(21.20±0.24)g的草鱼种630尾,随机分为7个试验组,每组设置3个重复,每个重复30尾草鱼。在纯化饲料中添加0、0.15、0.3、0.6、1.2、2.4、4.8 mr/kg的硒,以0 mr/kg添加组为对照组,进行为期84 d的生长试验以研究饲料不同硒水平对草鱼生长、营养组成和消化酶活性的影响。结果表明:饲料中添加硒能促进草鱼的生长,提高饲料效率,提高体蛋白含量,降低脂肪含量,提高草鱼消化酶活性。饲料硒对草鱼脂肪酶活性的影响最为显著(P<0.05)。当

硒添加量为0.6 mr/kg时,草鱼的特定生长率、增重率、饲料效率、蛋白质效率和饲料蛋白沉积效率为最大值,与对照组相比,其特定生长率和饲料效率分别提高了28.37%和38.30%;草鱼鱼体蛋白含量最高,脂肪含量最低;草鱼的肝胰脏和肠道蛋白酶、淀粉酶以及脂肪酶活性均达最大值,其中肝胰脏和肠道脂肪酶活性分别比对照组提高了205.55%和249.33%。上述研究表明饲料中适量添加硒能提高消化酶活性,改善草鱼品质,促进生长。

【英文摘要】Abstract:630 grass carps[initial length:(10.16±0.14)am,initial weight:(21.20±0.24)g]wererandomly divided into 7 treatments(90 for each treatment,30 for each replicate)to study the effects of dietary selenium on growth performance,nutritional composition and digestive enzyme activities of grass carp by feeding 7 pure diets with 0,0.15,0.3,0.6,1.2,2.4 ,4.8 mg Se/kg diet.The basal diet which was added 0 mg selenium per kilogram was used as control group.After a 84一day feeding trail,the results showed that:dietary selenium had significantly affected growth, nutritional composition and digestive enzyme activities of grass carp(P<0.05).The special growth rate(SGR) ,weight gain(WG),feed eficiency(FE),proteieficiency ration(PER),protein reservation rates(PRR),the crude protein of fish body and muscle as well as the activities 0f the three digestive enzymes were highest in fish fed diet with 0.6 mg Se/Kg diet;while the flat content is the lowest.The specific growth rates(SGR),feed eficiency(FE)increased 28.37% and 38.30% respectively while hepatic and intestinal lipase increased 205.55% and 249.33% respectively compared with the control group.All of these results demonstrated that the activities of digestive enzyme were enhanced by adding selenium SO as to improve fish quality and accelerate grass carp to growth.

【语种】中文

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【学科分类】水产饲料学

【题目】Effect of dietary calcium and phosphorus on growth, feed efficiency, mineral content and body composition of juvenile grouper, Epinephelus coioides

【中文关键词】无

【英文关键词】Grouper; Calcium; Phosphorus; Magnesium

【中文摘要】无

【英文摘要】A study was conducted to investigate the effects of dietary calcium (Ca) and phosphorus (P) on juvenile grouper, and to characterize P deficiency signs. Six isoenergetic and isonitrogenous diets with two P levels (with or without P supplement) were prepared using casein and gelatin as the main protein sources. Juvenile grouper with an initial weight of 29.8 ± 0.15 g were fed to satiation with one of the six diets for 10 weeks. Fish fed diets without P supplement showed reduced growth, poor feed efficiency, loss of appetite, reduced ash content and mineral (Ca, P and Mg) deposition in scales, vertebrae and opercula, and an increase in body lipid content. When P was not supplemented, Ca supplement of 6 g kg − 1 had no significant effect on growth, ash content in scales, vertebrae and opercula, or mineral (Ca, P, Mg and Zn) deposition in scales and vertebrae, but increased feed efficiency, and Ca and P depositions in opercula, and lowered protein level in liver. When diets were supplemented with 6 g kg − 1P, C a supplement of 6 g kg − 1 had no significant effect on growth, or the ash and mineral (Ca, P and Mg) content in scales, vertebrae and opercula, but excess Ca supplement (up to 12 g kg − 1) had a negative effect on scale ash, mineral (Ca, P and Mg) deposition and vertebrae Zn deposition. Second-degree polynomial regression analysis has revealed a slight trend towards reduced growth at the high Ca levels. Interestingly, dietary Ca supplement also increased feed efficiency at the level of 6 g kg − 1 supplemental P. If feed efficiency and scale mineralization are taken into account, Ca supplement of 6 g kg − 1 (Ca / P = 1) might be optimum when diet wassupplemented with 6 g kg − 1P.

【语种】英文

【第一作者】Cao xia Ye

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【学科分类】水产饲料学

【题目】饲料Vc对草鱼生长、肌肉品质及非特异性免疫的影响
【中文关键词】:草鱼:V ;生长;肌肉品质;非特异性免疫
【英文关键词】无
【中文摘要】:采用维生素C(Vc,以Vc磷酸酯为Vc源)添加量分别为50 mg&g、100 mg/kg、l50 mg&g、200 mg&g、300 mg/l(g饲料的配合饲料,喂养体质量(42.4+5.0)g的草鱼(Ctenopharyngodon idellus)60 d,以不添加V 的基础饲料饲喂组为对照,探讨v 对草鱼生长性能、肌肉品质和非特异性免疫的影响。结果表明,饲料中添加V 能显著提高草鱼增重率,降低饲料系数,当v 添加量为150~200 mg/l(g时,草鱼生长性能最佳;随V。添加量增加,肌肉失水率、肌纤维直径和肌原纤维耐折力呈增加趋势;肌肉胶原蛋白含量和肝脏V 含量随V 添加量的增加而增加;V 添加量为150 mg&g及以上水平时,各实验组草鱼血清碱性磷酸酶(AKP)活性比对照组显著提高(P<0.05);V。添加量达到300 mg,kg后血清溶菌酶(LSZ)活性比对照组显著提高(P<0.05);各组问血清超氧化物歧化酶(SOD)活性差异不显著(P>0.05)。上述研究表明,饲料中添加V 能促进草鱼生长,改善肌肉品质,增强非特异性免疫力。适宜的V 添加量为150mg/l(g饲料。
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【语种】中文
【第一作者】胡斌
【通讯作者】冷向军
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【题目】单核细胞增生李斯特菌弱毒株主要毒力基因表达水平分析
【中文关键词】单核细胞增生李斯特菌;弱毒株;毒力基因;表达水平
【英文关键词】Listeri a monocy togenes, low2pathogenicity, virulence gene, expression level
【中文摘要】单核细胞增生李斯特菌是重要的食源性病原菌,可引起人与动物的胃肠炎、脑膜炎、败血症、流产等。其感染过程的每一步均由特定的毒力因子介导。本试验应用荧光定量PCR ,比较分析单核细胞增生李斯特菌弱毒株H4 (4a 型) 与强毒株10403S(1/ 2a 型) 、681 (4b 型) 主要毒力基因(prfA、plcA 、hly、mpl 、ac2tA 、plcB、inlA 、inlB 和sigB) 的表达水平差异。除应激调控因子σB (sigB) 外,H4 株主要毒力基因的表达水平均显著高于10403S 与681 。膜裂解因子的高表达导致H4 更易暴露于宿主免疫系统而被清除,从而引起毒力下降。本研究为探明这类菌株的弱毒机制奠定了基础。
【英文摘要】Listeri a monocy togenes is an important foodborne pat hogen wit h manifestations ranging f romgast roenteritis to meningitis , septicemia and abortion. Each step of it s infection p rocess is mediated byspecific virulence factors. This study was at tempted to compare the expression levels of major virulence2as2sociated genes (prfA , plcA , hly , mpl , actA , plcB , inlA ,inlB and sigB) in low2pat hogenicity isolate H4(4a) wit h t hose in pat hogenic st rains 10403S (1/ 2a) and 681 (4b) using real2time PCR assay. Major viru2lence2associated genes in H4 were expressed at higher levels t han t hose in st rains 10403S and 681 , exceptfor alternative sigma factor σB (sigB) . Due to over2expression of membrane2damaging factors , t he bacteriaare more likely to be exposed to t he host immune systems and readily eliminated f rom t he body. This st udypresent s some clues of t he molecular mechanisms of low2pat hogenicity of L . monocy togenes .
【语种】中文
【第一作者】白帆
【通讯作者】方维焕
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【学科分类】兽医学

【题目】基于生态足迹的雅安市土地生态安全研究
【中文关键词】土地生态安全; 生态足迹; 生态承载力; 生态压力指数;

【英文关键词】land ecological security; ecological footprint; ecological capacity; ecological tension index;
【中文摘要】以雅安市1999-2006年的统计数据为基础,利用生态足迹理论与方法,对雅安市的生态足迹、生态承载力、生态赤字进行了研究,对雅安市的生态安全情况进行了评价。结果表明:雅安市人均生态足迹从1999年的1.068 hm2增加到2006年的1.657 hm2,而同期的人均生态承载力则由0.925 hm2下降到0.833 hm2,人均生态赤字由0.143hm2增大为0.825 hm2,生态压力指数由0.858上升为1.126;万元GDP生态足迹在1.87~2.78 hm2之间上下波动,平均值为2.212 hm2。研究期内雅安市的人均生态足迹超出了人均生态承载力,表现出巨大的生态赤字,且生态赤字基本上呈直线上升趋势,雅安市的经济社会发展处于不可持续状态,土地生态系统始终处于超负荷和不安全的状态。这为揭示区域土地生态安全的本质提供一定参考,同时也指出协调人口、资源和区域经济发展可缓解这种不安全状态。
【英文摘要】Based on the statistical data of Ya ’an in 1999-2006,we carried out initial research for the city ’s ecological footprint,ecological capacity and ecological deficit.The results showed that the ecological footprint per capita in Ya ’an city increased from 1.068 hm2 in 1999 to 1.657 hm2 in 2006,whereas,the ecological capacity per capita decreased from 0.925 hm2 to 0.832 hm2;the ecological deficit per capita increased from 0.143 hm2 to 0.825 hm2;the ecological tension index increased from 0.858 to 1.126.Ecological footprint million GDP fluctuation was between 1.87 hm2 and 2.78 hm2 with national average of 2.212 hm2.Ya ’an ecological footprint per capita exceeded the ecological carrying capacity per capita,showing a huge ecological deficit and ecological deficit is basically linear upward trend.The results indicated that the development model of Ya ’an city was not sustainable,and the land resources was almost in the ecology over burden condition,suggesting that the land ecological environment is at risk.The results would provide theory basis for revealing the essence of regional ecological safety of land,and at the same time,it pointed out that the coordination of people,resources and regional economic development might alleviate the situation of insecurity.
【语种】中文
【第一作者】何淑勤
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【题目】草鱼幼鱼肌醇营养需要量的研究
【中文关键词】草鱼;肌醇;生长;血清
【英文关键词】Ctenopharyngodon idella;myo-inositol;growth;serum
【中文摘要】以酪蛋白、明胶和鱼粉为蛋白源,配制含肌醇水平分别为0、50 mg/kg、100 mg/kg、200 mg/kg、400 mg/kg、800 rag/kg、1 600mg/kg的7组实验饲料。每组设3个重复,连续投喂体质量(4.78±0.18)g的草鱼(Ctenophar2mgcMon idella)幼鱼9周,通过测定生长指标、部分血清生化指标和全鱼营养成分来评价饲料肌醇添加水平对草鱼幼鱼的影响。结果表明,饲料中肌醇添加水平≥2mg/kg使草鱼幼鱼增重率(WGR)、特定生长率、血清中总胆固醇(TC)和低密度脂蛋白胆固醇(LDL—C)含量与对照组相比有显著提高(P<0.05),而血清甘油三酯(TG)含量比对照组有显著降低(P<0.05);200mg/kg和400mg/kg肌醇添加组草鱼幼鱼饲料系数(FCR)比对照组有显著降低(P<0.05);饲料中添加肌醇对草鱼幼鱼存活率、血清中高密度脂蛋白胆固醇和全鱼营养成分无显著影响(P>0.05)。对WGR、FCR、TC、TG和LDL—C进行折线回归分析得出饲料中肌醇添加水平为166~214 mg/kg对草鱼幼鱼的生长比较适宜。
【英文摘要】Abstract:An 9一week growth experiment was conducted to estimate the requirement of myo-inosito1(MI)for grass carp,Ctenopharyngodon idella fingerling.Half—purified basal diets were formulated using the fishmeal,glutin and casein as the protein source.M 1 was supplemented at 0, 50,100,200,400,800,and1 600 mg/kg diet in the basal diet.Each diet was fed to triplicate groups of grass carp with initial averagebody weight(4.78±0.18)g.Gras carp fingerling fed diets supplemented with≥200 mg MI/kg had significantly higher weight gain,specific growth rate,total cholesterol and low density lipo protein cholesterol in serulTl than the control group fed diet without MI supplement(P<0.05).In contrast.the test groups had significantly lower triacylglycerol in serum than the control group(P<0.05).Also gras carp fingerling fed diets with 200 mg(MI)/kg and 400 mg(MI)/kg had significantly lower feed conversion rate than the cOntrol group(P<0.05).Supplementation of dietary MI had no effect on survival,high density lipoprotein cholesterol in serum and the whole fish biochemical composition of gras carp fingerling(P>0.05).Weight gain rate,feed conversion rate,total cholesterol,triacylglycerol and low density lipo protein cholesterol of gras carp analyzed by broken—line regresion indicated that the suitable requirement for dietary M I of growing gras carp was approximately 166—214 mg/kg diet。
【语种】中文

【第一作者】文华
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【题目】Dissecting soil CO2 fluxes from a subtropical forest in China by integrating field
【中文关键词】无
【英文关键词】CO2 fluxes;subtropical forest;modeling approach
【中文摘要】无
【英文摘要】Terrestrial carbon sequestration involves a series of processes, including photosynthesis, plant autotrophic respiration and soil microbial heterotrophic respiration. Field measurements of carbon dioxide (CO2) using either eddy covariance or chamber methods usually provide bulk CO2 fluxes from more than one sink or source. For the purpose of estimating the C budget in ecosystems, it is inherently important to determine the individual sinks or sources. This report describes how we tested the Forest-DNDC model using a dataset collected at a subtropical forest site in Sichuan Province, China. One-year field measurements were conducted using a chamber method at four plots with different treatments that were specifically designed to distinguish the CO2 fluxes produced from three sources: root respiration, forest floor respiration and mineral soil respiration. The obtained datasets were utilized to verify the modeled CO2 fluxes from the corresponding sources for the tested forest ecosystem. Results from the tests indicated that Forest-DNDC was capable notonly of quantifying the total CO2 emissions but also of distinguishing their sources related to plant autotrophic and soil microbial heterotrophic respiration. Because measuring root respiration is always difficult in field investigations, adopting Forest-DNDC for quantifying root respiration represents an appropriate complement to most field measurements.
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【第一作者】Xiaoguo Wang
【通讯作者】Bo Zhu
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【题目】脐橙大枝修剪技术试验研究
【中文关键词】大枝修剪;赣南脐橙;栽培技术;试验
【英文关键词】无
【中文摘要】脐橙大枝修剪技术具有显著改善树体通风透光条件、增强树势、提高单株产量及省工省力等优点,为赣南脐橙产区大力推广的一项技术。在生产实际中,许多果农对脐橙大枝修剪技术掌握还不到位。2008~2009年,我们特开展了脐橙大枝修剪技术试验,旨在研究脐橙大枝修剪方法、修剪量、最佳修剪时期、大枝修剪与常规修剪(精细)效果比较与成本分析,形成一套较为完整的脐橙大枝修剪技术。研究表明,采用脐橙大枝修剪技术:1、有效降低脐橙生产成本;2、能有效提高植株果实商品率;3、春季为实施大枝修剪的适宜期;4、修剪量控制在20%以内为宜。
【英文摘要】无
【语种】中文
【第一作者】凌永河
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【题目】川中丘陵区紫色土坡耕地土壤侵蚀特征
【中文关键词】川中丘陵区; 紫色土; 坡耕地; 土壤侵蚀
【英文关键词】central hilly areas of Sichuan; purple soil; sloping field; soil erosion
【中文摘要】通过径流小区定位观测, 研究了川中丘陵区坡耕地土壤侵蚀特征。结果表明, 坡面径流量和土壤侵蚀量年际间存在差异; 随着坡度的增加, 坡面径流量和土壤侵蚀量呈增加的趋势。多元回归分析表明, 降雨量与坡面径流深、土壤侵蚀量之间存在显著的线性关系; 而降雨强度、降雨历时与土壤侵蚀量分别存在着显著的幂函数和二次函数关系。主成分分析表明, 降雨量和降雨强度为坡耕地主要的土壤侵蚀因子, 降雨历时对土壤侵蚀的贡献率随坡度的增加逐渐加强。
【英文摘要】T he study w as carried out to do research o n the characterist ics of soil ero sion in sloping fields at the central hilly areas of Sichuan by observing the water and soil loss of runoff observation field. The results indicated that the runoff and soil erosion were differ ent between different years. Runoff and soil erosion increased with the rise of slope. Multiple regression analysis showed that significant liner relationship existed between r ainfall and runoff depth, soil erosion.How ever, the signif icant power and quadratic relat ionships were found between rainfall intensity and soil erosion, rainfall duration and soil erosion respectively. The principal component analysismanifested that rainfall and rainfall intensity were the major factors for soil erosion. The effect degree of rainfall durat io n on soil erosion was enhanced with the rise of slope.
【语种】中文
【第一作者】杨占彪
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【学科分类】土壤学

【题目】用四重PCR 检测方法检测产单核细胞李斯特菌
【中文关键词】关键词: 产单核细胞李斯特菌; 四重PCR; 检测
【英文关键词】Li ster ia monocy togenes ; quadr up l e PCR; detect ion
【中文摘要】为了同时快速准确的检测产单核细胞李斯特菌以及是否为有毒力的产单核细胞李斯特菌, 根据相关文献报道的四重PCR 方法, 针对该菌的种特异性基因inlA 基因进行引物设计, 扩增片段大小为800bp, 结果应用该PCR 法可特异性的扩增出目的基因片段, 与GenBank 上发表的序列同源性为97. 3%。同时通过对毒力基因inlB, inlC 和inlJ 的检测用来判断菌株的相关毒力。而同一属的其他菌种无害李斯特菌(L . innocua) , 韦氏李斯特菌(L . w elshimeri) 均无特异条带, 嗜水气单胞菌(J 1) , 产气荚膜梭菌(C57 13) ,大肠埃希菌(AT CC 25922) , 鼠伤寒沙门菌(C79 32) , 金黄色葡萄球菌(AT CC 25923) 结果均为阴性。对临床上送检的23 份样品进行四重PCR 方法检测并同时与国家标准GB/ T 22429- 2008 食品中单核细胞增生李斯特氏菌的快速筛选检验中使用的检测方法进行比对, 两种检测方法的结果完全符合, 均检测出7 份阳性样品。并且四重PCR 法表明这7 份阳性样品中的产单核细胞李斯特菌均携带有3 种毒力因子(inlB, inlC和inlJ) , 因此该四重PCR 法可用于快速鉴定是否是有毒力的产单核细胞李斯特菌, 为有效预防控制产单核细胞李斯特菌污染提供技术支撑。
【英文摘要】In order to detect List er ia monocy togenes and it s virulence, PCR primers of species specif ic inlAgene w ere designed and the amplif ied pr oduct w as 800 bp according to the quadruple PCR. The homo logyof amplified gene fragment and the published sequence in GenBank w as 97. 3% . At the same t ime, the v ir ulence o f these st rains w as ascer tained by the fo rmat ion o f 884 bp and / or 517 bp and/ or 238 bp f ragmentsw ith the inlB, inlC and inlJ primers, respect ively. How ever, no PCR products w ere detected f rom L.innocua, L . wel shimer i , Aeromonas hy d rop hi la (J 1) , Clostr idium p erf r ingens (C57 13) , Escher i chia coli(AT CC 25922) , S. ty p himur ium (C79 32) , Stap hy lococcus aureus (A TCC 25923) . The tw enty threeclinical samples w ere detected by the mult iplex PCR assay and the method int roduced in GB/ T 22429-2008. T he r esult s of these tw o methods w er e accordant . Among these samples both methods detected sev en posit ive samples and this mult iplex PCR detected the thr ee virulence genes (inlB, inlC and inlJ) all exis ted in the sev en posit ive samples. So this assay can provide a rapid method for searching pathog enic L.monocy togenes st rains and pro vide technolog y support for ef fectiv e co nt rol of L . monocy togenes contamination.
【语种】中文

【第一作者】葛菲菲
【通讯作者】王建
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【题目】日粮铁对草鱼生长、营养成分和部分血液指标的影响
【中文关键词】草鱼(C enop haryngodon idellus); 日粮铁; 生长性能; 营养成分; 血红蛋白; 红细胞
【英文关键词】无
【中文摘要】选用(7 12 ! 0 22) g 的草鱼(Cenopharyngodon idellus) 鱼种, 分别在纯化日粮中添加铁0, 100, 200,300, 400, 500 m g /kg, 进行为期78 d的生长试验以考察铁对草鱼生长性能、营养成分和部分血液指标的影响。试验结果显示, 日粮中添加铁对草鱼的生长、体成分和血红蛋白和红血细胞数目等都有显著影响。日粮中添加铁300 m g /kg时, 草鱼增重率、特定生长率、饲料效率、蛋白质效率比、蛋白沉积效率达最大值; 体蛋白和肌肉蛋白含量高, 脂肪含量低, 灰分含量高; 血红蛋白和红血细胞均达最高水平。结果说明: 草鱼纯化日粮中铁的适宜添加量为300 m g /kg。
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【语种】中文
【第一作者】苏传福
【通讯作者】文华
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【题目】草鱼幼鱼对饲料中泛酸需要量的研究
【中文关键词】泛酸钙;草鱼;生长;需求量
【英文关键词】clacium D—pnatohtenate;grasscarp;growth;requirement
【中文摘要】研究了饲料中泛酸钙添加量对平均体重(4.80±0.32)g的草鱼幼鱼生长和部分生理指标的影响。在相同基础配方中分别添加泛酸钙0、8、15、30、60、120、240mg/kg饲料,进行为期8周的养殖试验,每个处理3个重复。结果表明:饲料中添加泛酸钙能提高草鱼幼鱼的增重率和特定生长率,降低饲料系数,对成活率无显著影响(P>0.05)。对照组的总胆固醇、高密度脂蛋白胆固醇和低密度脂蛋白胆固醇含量显著低于添加组(P<0.05),各添加组无显著差异(P>0.05)。鱼体灰分含量不受饲料中泛酸钙含量的影响,但能提高鱼体水分、蛋白和脂肪含量(P<0.05)。基于特定生长率折线法分析,草鱼幼鱼获得最佳生长时的饲料泛酸钙最低需求量为25mg/kg。
【英文摘要】An 8week feeding trial was conducted to investigate the effect of dietary clacium D-pantohtenate supplementation on growth in grass carp(Ctenopharyngodon idella) fingerlings.Puriifedbasaldietswereformulatedu-singthecaseinasproteinsource.Clacium D.pantohtenatewassupplementedtohtebsala dietatarateof 0,8,15,30,60,120and240mg/kgfeed.One of the test diets was fed to the juvenilesweighing(4.80±0.32)g with triplicates.The results showed that the supplementary dietary clacium D-pna tothenateimprovedweightgain(WG)andspeciifcgrowht rate(SGR),and reduced feed convemionraito(FCR)(P<0.05),butthesurvivlarateremainedunafected(P>0.05).The total serumcholesterol,highdensi~lipoproteincholesterolnadlowden-sitylipoproteincholesterollevelsweresignificna tlylowerincontrolrgouphtaninthegroupsiwht clacium D・・pan to・・htenateenircheddiets(P<0.05).However,hterewasnosingiifcnatdiferenceinhtejuvenilesefdthedietssup-plemented withclacium D—pan tohtenate.hT eer weresingiifcna tlyhighermoistuer,proteinandlipidcontentsinhtejuvenilesefdhtedietssupplementedwithcalciumD-pantohtenatehtanhtoseefdhtecontroldiet(P<0.05).The carcassashcontentinhteifsh wasnotfa ectedbythesupplementallevelsofdietarycalcium D-pnatohtenate.Itwassuggestedthathteopitmaldietarycalcimu D-pantothenatebeabout25mg/kgfeedforifngerlingrgsascarp.

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【通讯作者】文华
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【学科分类】水产饲料学

【题目】柑橘溃疡病综合防治试验研究
【中文关键词】柑橘溃疡病;防治;试验;植保
【英文关键词】无
【中文摘要】柑橘溃疡病 (Citrus bacterial canker disease, CBCD) 是一种细菌性病害。在自然条件下,该病菌可以侵染脐橙枝条、叶片和果实,严重时造成异常落叶、落果,影响树势和果实产量与质量,对赣南脐橙出口和产业发展造成严重的经济损失。针对目前生产中存在的是否清病原及春梢防治时期等争议,2008~2009年,我们开展了柑橘溃疡病综合防治试验。试验结果表明:1、春梢喷药防治柑橘溃疡病,能显著减轻夏秋梢发病率,且花前喷药比花后喷药效果更好;2、病原基数的高低,很大程度上决定了生长季节新梢溃疡病的防治效果,其决定因素大于春季喷药防治时期因子,因此,秋梢老熟后至次年萌芽前清除病原、减少柑橘溃疡病基数是关键的技术措施之一。
【英文摘要】无
【语种】中文
【第一作者】严翔
【通讯作者】方贻文
【期刊名称、卷期、页码】《现代园艺》2010年第11期(10-11)
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【引文索引号】null
【学科分类】植物保护学

【题目】饥饿对草鱼血清游离氨基酸的影响
【中文关键词】草鱼(Ctenopharyngodon idella);血清;游离氨基酸;禁食
【英文关键词】无
【中文摘要】:将池塘捕获的体重(1.70±0.80)kg的草鱼(Ctenopharyngodon idella)饲养在室内水族箱内,分别测定了空腹(禁食1 d,26样本)、饥饿15 d(15样本)、饥饿30 d(15样本)的草鱼血清游离氨基酸含量。结果显示:草鱼血清游离氨基酸总量基本恒定,空腹、饥饿15 d和饥饿30 d的氨基酸总量无显著差异;处于饥饿状态的草鱼血清游离必需氨基酸总量极显著地高于空腹状态,非必需氨基酸总量极显著地低于空腹状态;血清赖氨酸、氨酸、异亮氨酸、亮氨酸和胱氨酸含量因饥饿显著升高,而组氨酸、苯丙氨酸、天冬氨酸、丝氨酸、谷氨酸和酪氨酸因饥饿显著降低;饥饿15 d和饥饿30 d各氨基酸含量均未见差异。草鱼血清游离氨基酸含量在正常摄食情况下主要受饲料蛋白质影响,处于饥饿状态下主要来源于肌体蛋白质的分解,比较正常摄食后和饥饿状态下血清游离氨基酸的组成可评价饲料蛋白质的质量。
【英文摘要】无
【语种】中文
【第一作者】游文章
【通讯作者】文华
【期刊名称、卷期、页码】淡水渔业第37卷第3期26-29
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【学科分类】水产饲料学

【题目】健康猪直肠粪便中沙门菌I 类整合子与耐药基因的检测

【中文关键词】临床健康猪; 多重耐药; 沙门菌; I 类整合子; 耐药基因
【英文关键词】Clinical healthy swine; Multiple resistance; Salmonella; Class I integron; Antibiotic resistance gene
【中文摘要】目的了解安徽省规模化猪场健康猪直肠粪便中沙门菌分离株多重耐药情况及其与I 类整合子和耐药基因的携带关系。方法采用标准K-B 纸片法对22 株沙门菌分离株进行15 种抗生素敏感试验; 应用PCR 技术对沙门菌分离株进行I 类整合子及耐药基因检测。结果22 株沙门菌分离株中有20 株(90. 91%) 对2 种以上抗生素耐药,属于多重耐药株,羧氨苄青霉素-四环素-卡那霉素-氯霉素-氟苯尼考是主要多重耐药谱; 22 株沙门菌中有19 株(86. 4%) 携带I 类整合子, tetB、aph(3) -IIa 和cmlA 基因分别检出最高。结论沙门菌多重耐药性与整合子携带之间的关系密切,耐药表型测定结果与耐药基因检测结果基本一致,基因组DNA 携带的耐药基因种类多于质粒。
【英文摘要】Objective To understand the relationship between multiple-resistance of Salmonella isolates from rectafaeces of clinically healthy swine and the conditions of carrying class I integrons and antibotic resistance genes. MethodThe susceptibility testing of 22 strains of Salmonella isolates to 15 antibiotics were performed by means of K-B disc method.PCR technique was used to detect the presence of class I integrons and antibiotic resistance genes. Result 20 strains of the22 isolates (90. 91%) exhibited resistance to at least two antibiotics. The dominating multiple resistant spectrum wasAmoxicillin-Tetracycline-Kanamycin-Chloromycetin-Florfonicol. In the 22 Salmonella strains,19 strains(86. 4%) carriedclass I integrons and the most prevalent genes detected by PCR were tetB,aph(3) -IIa and cmlA genes. Conclusion Aclose correlation exists between the multiple resistance and the carrier condition of class I integrons. The phenotype of multipleresistance is consistent with the antibiotic resistance genes. The genome DNA carries more genes than plasmid does.
【语种】中文
【第一作者】张玮
【通讯作者】魏建忠
【期刊名称、卷期、页码】中国微生态学杂志,22(7),594-598
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【学科分类】兽医学

【题目】Effects of vanillic acid on the growth and development of Fusarium oxysporum f. sp. niveum
【中文关键词】无
【英文关键词】Allelopathy, biomass, Fusarium oxysporum f.sp.niveum (FON),mycotoxin; phytopathogenic enzymes activities, vanillic acid.
【中文摘要】无
【英文摘要】To determine the possible role of vanillic acid in a root exudates, in the development of fusarium wilt caused by Fusarium oxysporum f.sp. niveum (FON), the effects of vanillic acid on the growth and development of FON were studied. Vanillic acid was added into the media to culture the FON. Vanillic acid stimulated the FON growth and biomass production, increased the fungal mycotoxin production, increased the proteinase and amylase activity and altered the fungal morphology. However, it inhibited the conidial germination. We concluded that secretion of vanillic acid by roots of plants susceptible to fusarium wilt might facilitate the development of this disease.
【语种】英文
【第一作者】吴洪生
【通讯作者】沈其荣
【期刊名称、卷期、页码】Allelopathy Journal 22 (1): 111-122 (2008)
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【引文索引号】2.5824970001e+011
【学科分类】农艺学

【题目】油茶林中药材GAP立体种植与推广
【中文关键词】油茶;GAP;中药材;套种;立体种植
【英文关键词】Camellia oleifera; GAP; Chinese traditional medicinal herbs; interplanting; stero-planting

【中文摘要】在油茶林合理套种中药材有助于增加农民收入。对江西永丰等地的油茶示范林进行环境评价,均符合中药材GAP基地的标准,适宜发展中药材GAP立体种植。本文对 2006年以来在江西永丰、樟树、东乡等地油茶林套种中药材的示范推广经验进行总结,提出几种适宜套种的中药材,以及相应的栽培管理技术。
【英文摘要】It will be helpful for farmers to interplant Chinese traditional medicinal herbs in Camellia oleifera reasonably by increasing their earnings. Evaluation on C. oleifera demonstration forest environment was carried out in several places including Yongfeng county, Jiangxi province. The results shown that the environments all reached national GAP standards of Chinese traditional medicinal herbs. Stero-planting Chinese traditional medicinal herbs in C. oleifera was feasible. The papper summerized the popularizing experiences of interplanting Chinese traditional medicinal herbs in C. oleifera in several places including Yongfeng county, Zhangshu county, and Dongxiang county, Jiangxi province. Several Chinese traditional medicinal herbs were recommended. The forest management methods corresponding to GAP were suggested.
【语种】中文
【第一作者】赵松子
【通讯作者】赵松子
【期刊名称、卷期、页码】湖北林业科技, 2011,3:67-69
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【学科分类】经济林学

【题目】油茶光合特性研究进展
【中文关键词】油茶;光合特性;研究进展
【英文关键词】Camellia oleifera;
【中文摘要】光合作用是植物生长的基础,光合作用的强弱不仅反映植物的生长发育水平,而且直接关系到其产量与品质。作者依据目前的研究成果,分析油茶不同品种和不同叶龄叶片的光合特性规律、高光效育种现状,探索了提高油茶光合速率的途径,并展望了油茶光合特性研究的方向和重点。
【英文摘要】Camellia oleifera.
【语种】中文
【第一作者】郭春兰
【通讯作者】张露
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【学科分类】经济林学

【题目】水稻耐盐性的遗传和分子育种的研究进展
【中文关键词】水稻, 耐盐性, 种质, QTL, 克隆, 分子育种
【英文关键词】Rice, Salt-tolerance, Germplasm, QTL, Genetics and breedin
【中文摘要】盐胁迫是造成水稻减产的重要环境因素之一。本文从维护膜系统的完整性、离子的区隔化以及渗透调节等三个方面介绍了水稻耐盐性的机理;简要描述了水稻生物耐盐能力、农艺耐盐能力和离体细胞对盐害反应等三种耐盐鉴定方法。总结了近年来对水稻耐盐种质资源的发掘、耐盐性QTL定位和重要基因的克隆以及耐盐水稻选育所取得的进展。通过长期水稻耐盐性评价、已发掘了一些耐盐的水稻种质;定位了七十多个控制 Na+/K+含量、存活天数等耐盐性相关性状的 QTL;两个水稻耐盐基因 SKC1 和 DST 已被克隆;我们已获得系列不同程度耐盐的转基因植株和SKC1/BADH两类耐盐基因聚合系。本文进一步讨论了水稻耐盐性机制的研究以及在生产实践中应用的前景,试图为深入开展水稻耐盐性研究提供参考。
【英文摘要】Salt stress is one of the main environmental constraints for the losses of rice yield. In this paper, we introduced the mechanisms of rice salt-tolerance by the following three aspects: the integrity of membrane systems, ionic compartmentation, and osmotic adjustment. We also briefly presented the three methods for identifying rice salt-tolerance, which specifically refer to biological and agronomic salt resistance, as well as the response of in vitro cells to salt stress. Then we summarized the progresses of mining salt-resistance rice germplasm resources, mapping the QTLs conferring salt-tolerance, cloning slat-tolerant genes of importance and

breeding salt-tolerant rice varieties. Through a long-term evaluation of this trait, some rice germplasm involved in salt tolerance have been identified. More than 70 QTLs controlling the salt-related traits of Na+/K+ contents and survival days in rice have been identified. Two salt-tolerance genes SKC1 and DST have been cloned. A series of transgenic lines with salt-tolerance and polymerization lines of two salt-resistant genes (SKC1 and BADH) in rice have been developed in our lab. Finally, we discussed the prospects of rice salt-tolerant mechanism research and their applications in practice, which might provide an important reference for further studies of salt-tolerance in rice.

【语种】中文
【第一作者】胡时开
【通讯作者】郭龙彪
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【题目】促进油茶产业生态化、标准化、集约化、园艺化发展——我省油茶产业发展的思考与建议
【中文关键词】油茶;产业;生态化;标准化;集约化;园艺化
【英文关键词】Camellia oleifera; Industry; Ecological; Standardized; Intensivism; Horticultural
【中文摘要】油茶是江西省主要的油料经济树种,也是最具优势的地方特色产业,江西拥有悠久的油茶种植历史,栽培和食用文化源远流长。本文总结了江西省油茶产业近年来发展的特点,并分析了油茶产业升级提速过程中的主要障碍,提出促进油茶产业健康快速发展的对策。
【英文摘要】Camellia is the main oil crop economic tree, and also the local characteristic industry with most advantages. There is a long planting history in Camellia oleifera in Jiangxi province. And the culture of cultivation and food has long standing. The papper summarize the characteristics of the C. oleifera industry development during recent years in Jiangxi, and analyse obstacle to the upgrading of the industry and accelerating one ’ s development, and suggest the countermeasures of promoting the industry development healthful and rapid.
【语种】中文
【第一作者】左继林
【通讯作者】左继林
【期刊名称、卷期、页码】2010年促进中部崛起专家论坛,“ 油茶产业发展 ”专题论坛论文集, 2010, 24-29
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【学科分类】经济林学

【题目】水稻芽期与幼苗前期耐碱性状QTL分析
【中文关键词】水稻;碱性盐胁迫;数量基因座位;DH群体
【英文关键词】rice, alkali stress, quantitative trait locus, double haploid population
【中文摘要】利用包含120个株系的籼粳交来源(春江06/TN1)的加倍单倍体群体,在Na2CO3胁迫下,以发芽期和幼苗前期的相对发芽势等10个性状作为耐碱性评价指标,进行水稻耐碱性的QTL定位。相关性分析表明,相对发芽势和相对发芽率显著正相关,相对苗高、相对根数和相对根长之间显著正相关。采用QTLNetwork统计软件共定位到14个加性QTL和13个上位性QTL。在第3染色体RM251-RM3280间有2个QTL,在第7染色体RM3286-RM1279区域有3个QTL;在第1、2和7染色体同一位置同时检测到2个上位性QTL,在第12染色体RM1246~RM5199之间集中了4个上位性QTL,耐碱数量基因表现出一因多效或紧密连锁现象。耐碱性盐QTL可能包括两类,一类与K+、Na+离子胁迫有关,另一类与高pH胁迫有关。水稻品种都具有一些耐碱基因,可以通过有性杂交和分子标记辅助选择的方法选育优良的耐碱品种。
【英文摘要】A double haploid(DH) population including 120 lines derived from a cross between indica rice (Oryza sativa L.) TN1 and japonica CJ06 was used to detect quantitative trait loci (QTLs) for 10-trait relative values of alkali damage at germination period and early seedling stage under0.15% Na2CO3 stress. Correlation analyses showed that alkali damage rate in germination period (ADG) had significant positive correlation with relative germination energy (RGE), relative germination rate (RCG) and relative germination index(RGI),and alkali damage rate at early seedling stage (ADS) had significantly correlation with relative seedling height (RSH),

relative root length (RRL), relative root number(RRN) and relative seedling dry weight (RDW). ADG and ADS can be used as evaluation indexs of alkaline tolerance in rice. By using QTLNetwork 2.0 software,14 additive QTLs and 13 epistatic QTLs, on chromosome 3, and three main effect QTLs were mapped between RM3286 and RM1279 on chromosome 7. Epistasis analysis showed that some epistatic loci, like RM1-RM1195,RM1358-RM290, RM1279-RM505, and RM1246-RM519 on chromosome 1, 2,7, and 12 respectively were important under alkali stress, included two or more epistatic QTLs, indicating that the QTLs displayed their effects through different ways of interaction. Among the key loci under alkali stress one may by pleiotropic or some closely linked each other. Comparing QTLs with those found in other researches, some alkali resistance QTLs were likely to be in the same region with some salt resistance QTLs. A presume was made that QTLs in this article might include two types, one for resistance to ions (K+ or Na+) stress and other for resistance to high PH stress, the latter may play an important role for tolerance to alkali. Many rice varieties have different resistance QTLs for alkali stress; we can pyramid them through marker-assistant selection to breed varieties suitable to growth in saline-alkalized land.

【语种】中文
【第一作者】程海涛
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【引文索引号】null
【学科分类】遗传学

【题目】油茶新造林不同经营模式经济概算
【中文关键词】油茶;技术经济;现金流量;投资回收期;套种
【英文关键词】Camellia oleifera; Technical economy; Cash flow; Investment recovery period; Interplanting.
【中文摘要】为进一步提高油茶的经营效益,调查分析了油茶新造林5种复合经营模式的投入产出情况,并采用技术经济分析方法分析其现金流量和投资回收期。经济概算结果表明:套种紫珠收回投资最快,第1年的投入最大;套种西瓜、大豆、花生模式投资收回较快,8年累积净收入最高,第1年的投入相对较低;大容器苗新造林模式在投资回收期、8年累积净收入、第1年的投入等3个方面均居于中等;这3种经营模式适宜在不同的情况下推广。
【英文摘要】In order to enhance economic incomes further, investment and output of young plantation managed by five different models in Camellia oleifera were analyzed, and cash flow and investment recovery period were calculated by technical economy analysis method. The results were as follows: The model of interplanting Callicarpa kwangtungensis with Camellia oleifera was the shortest one in investment recovery period and the largest one in the first year investment. If interplanted watermelon, soybean and peanut with Camellia oleifera, the first year investment was relatively lower, the investment recovery period was relatively short, then the highest accumulated net profit could be obtained during eight years. In the case of young plantation afforested with four-year seedlings, three economic index were all middling, including investment recovery period, eight-year accumulated net profit and first-year investment. Abovementioned three models were suited to spread in different conditions.
【语种】中文
【第一作者】龚春
【通讯作者】赵松子
【期刊名称、卷期、页码】2010年促进中部崛起专家论坛,“油茶产业发展”专题论坛论文集, 2010, 54-59
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【学科分类】经济林学

【题目】两个水稻DH群体发芽期和幼苗前期耐碱性状QTL定位比较
【中文关键词】水稻,DH群体,发芽期和幼苗前期,耐盐碱性状,QTL
【英文关键词】ice, Double haploid population, Germination period and early seeding stage, Alkali stress, QTL
【中文摘要】利用两个不同的加倍单倍体群体,在 0.15% Na2CO3胁迫下,以发芽期和幼苗前期的发芽势(GE)等10个性状碱害相对值作为耐碱指标,进行耐碱性状QTL定位比较。碱害相对值相关分析表明,多个性状的碱害相对值存在显著或极显著相关。采用 QTL Mapper 1.6 统计软件对碱害相对值进行QTL分析。DH-1群体定位到10个主效QTL和15个上位性

QTL,DH-2群体定位到14个主效 QTL 和15个上位性QTL。两群体定位列线比对发现:1个控制相对根长的QTL,qRRL3-1,两群体定位在第 3 染色体对应的区域(CT339-G62 和 RM7-RM3280)。其他性状两群体没有定位在相同的区域,但存在多个重要的数量基因座位,如CT158-CT550、RM3755-RM418 和RM1349-RM1061等区域。在这些相同基因座位上两群体都检测到控制不同性状的主效QTL或上位性QTL,耐碱性QTL可能存在多效性、连锁性,在不同遗传背景下加性效应和上位性效应可以相互转化。多个QTL不仅与水稻耐碱性有关,还与多种抗逆性有关。这些结果将有利于耐碱性分子机制的剖析和强耐碱性水稻品种的选育。

【英文摘要】Two rice double haploid (DH) populations were used in this study to detect quantitative trait loci (QTLs) of tolerance to alkali at germination period and early seedling stage. Relative 10trait values under 0.15% Na2CO3 stress were used as the index of tolerance to alkali. Correlation analyses showed that relative germination rate and relative vigor index had significant positive correlation with the others. Total 10 QTLs and 15 epistatic loci were mapped from DH-1 population (ZYQ8×JX17) and 14 QTLs and 15 epistatic loci were mapped from DH-2 population (CJ06×TN1). Alignement of QTL mapping between these two DH populations showed that one QTL controllingroot length, qRRL3-1, were mapped on same region of CT339-G62 and RM7-RM3280 on chromosome 3 both in DH-1 and DH-2. There was no same region from the QTLs affecting other traits between these two populations. However, some QTLs controlling different traits were detected in the same region on chromosome 1, 3, 7 and 12 between DH-1 and DH-2, such as the regions of CT158-CT550、RM3755-RM418 and RM1349-RM1061, which indicated that those loci might be pleiotropic or closely linked QTLs. Some alkali resistant QTLs had adversity resistance, salt tolerance especially. The results will be beneficial to the dissection of molecular mechanism and breeding of rice with tolerance to alkali.

【语种】中文

【第一作者】程海涛

【通讯作者】郭龙彪

【期刊名称、卷期、页码】分子植物育种 第6卷,第3期,第439-450页

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【引文索引号】null

【学科分类】遗传学

【题目】水稻基因设计育种的研究进展与展望

【中文关键词】水稻,育种,功能基因组学,基因设计育种,分子标记辅助选择

【英文关键词】rice; breeding ; functional genomics; gene-design breeding; marker-assisted selection

【中文摘要】分子标记、基因工程(转基因技术) 和基因组学的研究成果为实现对基因型的直接选择和农作物新品种设计育种提供了可能。设计育种旨在控制所有重要农艺性状基因的所有等位性变异。通过精细遗传定位、高饱和染色体片段系的构建和表型鉴定, 可以实现设计育种。鉴于一系列可以得到的标记技术、软件工具以及已定位和克隆的水稻基因、已建立的基因-表型(G-P)数据关联信息, 设计育种目标已成为现实。主要介绍了设计育种、分子育种及一些基本技术, 当前重点应用的基因功能研究与水稻功能基因分子利用的研究进展, 并对水稻基因设计育种的前景进行了展望。

【英文摘要】Progress in molecular markers, gene engineering and genomics are beneficial to direct selection and crop breeding by design. Breeding by design is a concept that aims to control all allelic variation for all genes o f agronomic importance. This concept can be achieved through a combination of precise genetic mapping , high- resolution chromosome haplotyping and extensive phenotyping. Thanks to marker technology and software tools available today, and the fine- mapped/ cloned genes in rice and their related GP data bank, this goal can now be achieved. Some related techniques concerning molecular breeding and breeding by gene-design, a highlight of breeding by gene design and progress in functional research for key genes and their molecular utilization in rice breeding are presented in the paper. In addition, the prospects of rice gene-design breeding are discussed.

【语种】中文

【第一作者】郭龙彪

【通讯作者】钱前

【期刊名称、卷期、页码】分子植物育种 第22卷,第6期,第650-657页

【论文发表时间】2008-11-01 00:00:00

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【引文索引号】null

【学科分类】遗传学

【题目】Interactive effects from combining inorganic and organic fertilisers on phosphorus availability
【中文关键词】无
【英文关键词】combining organic and inorganic fertilisers, grain yield, Po and Pi fractions, microbial biomass P,32P.
【中文摘要】无
【英文摘要】A pot experiment was conducted using different ratios of triple superphosphate (TSP) to pig manure (PM) to determine the best ratio for combining inorganic and organic fertilisers to attain optimum crop yields, and investigate the mechanisms affecting P availability in a wheat (Triticum aestivum L.) – soybean (Glycine max L.) rotation in eastern China. The TSP/PM treatment ratios used were: T1, 0/0 as a control; T2, 100/0; T3, 90/10; T4, 80/20; T5, 70/30; T6, 0/100. All treatments except T1 received the same amount of P. Treatment T4 gave significant yield increases of 25.6% in 2008 and 16.8% in 2009 compared with T2. Regarding the various forms of organic P (Po) under different fertilisation treatments, the labile Po of treatment T4 was 60.0% higher than that of T2. The contents of moderately labile Po were inthe order T6 > T5 = T4 > T3 > T2 > T1. The addition of pig manure decreased the contents of iron (Fe)-P and calcium-P and occluded-P more than the content of aluminium-P. Compared with the T2 treatment, soil inorganic P decreased by 5.3%, 12.1%, and 15.0% when the ratios of TSP/PM in fertiliser were T3, T4, and T5, respectively. Microbial biomass and phytase activity of treatment T4 were not significantly different from those of T5 and T6, but significantly increased compared with T2. When the amount of leachate was 50mL, only 1.6%, 8.4%, and 9.8% of total 32P leached from the T1, T2, and T4 soils, respectively. Treatment T4 resulted in higher grain yield, increased labile Po and moderately labile Po, and decreased Fe-P and occluded-P, and promoted microbial biomass P and phytase activity, which were betteroutcomes for a wheat – soybean rotation. Fertilising soil with combined organic and inorganic P sources could lower P fixation and enhance P mobility.
【语种】英文
【第一作者】李想
【通讯作者】徐阳春
【期刊名称、卷期、页码】Soil Research, 2012, 50, 607 – 615
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【引文索引类型】SCI
【引文索引号】607 – 615
【学科分类】土壤学

【题目】A study of the in vitro protein digestibility of indica and japonica cultivars
【中文关键词】pH-下降方法 蛋白消化性 籼粳稻 醇溶蛋白
【英文关键词】pH-drop method Protein digestibility Indica and japonica rices Prolamin
【中文摘要】利用体外的pH-drop法,即3-或4-酶法,测定18个籼粳稻品种生精米的蛋白消化性。籼粳稻表现相似的蛋白消化性,与人体内结果相似。蒸煮提高了4酶法的测定值,而还原剂明显抑制了用多酶法测定籼粳稻的蛋白消化性。在蛋白含量和消化率间有显著相关,而直链淀粉含量和消化率间没有相关性。SDS-PAGE分析表明多酶和胃蛋白酶对醇溶蛋白的消化有显著差异,这点可能与本研究和前人结果之间的不一致有关,前人认为粳稻的体外蛋白消化率高于籼稻。另外,我们支持前人有关waxy基因产物不是精米蛋白消化率主要决定因素的报道。
【英文摘要】Protein digestibility was determined in 18 indica and japonica raw milled rices using an in vitro pH-drop method with three- or four-enzyme system. Similar protein digestibility was found between indica and japonica rices, which is in agreement with the in vivo digestibilities in human. Cooking improved protein digestibility in the four-enzyme assay, while reducing agents exhibited apparent inhibition in multienzyme digestibility of indica and japonica rices. A significant correlation was detected between protein content and the estimates of digestibility, whereas no significant correlation was found between amylosecontent and digestibility estimates. SDS – PAGE analysis showed a significant difference in the degradation extent of prolamin between multienzyme and pepsin digestion, which might contribute to the inconsistence between results of this study and previous findings that in vitro protein digestibility of japonica rice was higher than that of indica rice. In addition, our results supported the previous report that waxy gene product level is not a major determinant of protein digestibility in milled rice.
【语种】英文
【第一作者】张文伟
【通讯作者】万建民
【期刊名称、卷期、页码】Food Chemistry 2010,122 ,1199 – 1204

【论文发表时间】2010-06-14 00:00:00
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【引文索引号】doi:10.1016/j.foodchem.2010.03.117
【学科分类】农业基础学科

【题目】Antibiotic effect of exogenously applied salicylic acid on in vitro soilborne pathogen, Fusarium oxysporum
【中文关键词】无
【英文关键词】Antibiotic action;Biomass;Fusarium oxysporum f.sp. niveum (FON);Virulence factors;
Salicylic acid
【中文摘要】无
【英文摘要】Salicylic acid, which is biosynthesized inside plant and is often found and accumulated in soil due to plant debris decaying, is considered as a signaling substance during plant – microbe interactions. It is involved in the cycling of biogeochemistry and related to plant resistance to biotic and abiotic stress. The antibiotic effect of salicylic acid on Fusarium oxysporum f.sp.niveum (FON) was studied to investigate the relationships between the salicylic acid and the fungus in the ecological interaction of plant – microbe. Resultsshowed that the biomass, colony diameter, number of conidium germination and conidium production of FON were decreased by 52.0%, 25.7%, 100% and 100% at concentrations of 800 mg L 1. However, mycotoxin yield was increased by 233%, pectinase activity raised by 168.0% and cellulase activity increased by 1325% compared to control at higher concentrations. It was concluded that salicylic acid as an allelochemical greatly inhibited FON growth and conidia formation and germination, though stimulated mycotoxin production and activities of hydrolytic enzymes by FON.
【语种】英文
【第一作者】吴洪生
【通讯作者】沈其荣
【期刊名称、卷期、页码】Chemosphere 74 (2008) 45 – 50
【论文发表时间】2008-10-25 00:00:00
【引文索引类型】SCI
【引文索引号】2.6314000001e+011
【学科分类】农业基础学科

【题目】In Vitro Physiological Responses of Fusarium oxysporum f. sp. niveum to Exogenously Applied Syringic
【中文关键词】无
【英文关键词】Phenolic acid, plant – microbe interaction.
【中文摘要】无
【英文摘要】Plant – microbe interactions are often accompanied by allelochemicals, such as syringic acid, released from the host plant.To explore the role of phenolic acids released from crop host plants in response to pathogen invasion, we examined the allelopathic effect of an artificially applied syringic acid on Fusarium oxysporum f. sp. niveum. We demonstrated that the growth and the conidial germination rate of F. oxysporum f. sp. niveum were stimulated at lower concentrations of syringic acid, though inhibited by higher dosage compared with control. The yield of fungus mycotoxin was increased from 60.9% to 561.5%. We conclude that syringic acid can be considered as a allelochemical inducer, stimulating the relative virulence factors of invading pathogens.
【语种】英文
【第一作者】吴洪生
【通讯作者】沈其荣
【期刊名称、卷期、页码】J. Eukaryot. Microbiol., 56(4), 2009 pp. 386 – 387
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【引文索引类型】SCI
【引文索引号】2.6775420001e+011
【学科分类】微生物学

【题目】Nitrogen metabolism disorder in watermelon leaf caused by fusaric
【中文关键词】无

【英文关键词】Enzymes in relation to nitrogen metabolism; Fusaric acid (FA); Fusarium oxysporum f.sp. niveum; Programmed cell death; Stress; Watermelon fusarium wilt
【中文摘要】无
【英文摘要】The effect of fusaric acid (FA) on the activity of leaf nitrogen (N) metabolism enzymes in watermelon seedlings supplied with different N forms was studied. The results showed that FA inhibited nitrogen uptake and caused decreased leaf amide and protein but increased the content of ammonium and amino acids. When treated with FA the activities of enzymes in the pathway for the synthesis of amino acid in leaves (GS, GOGAT, and GDH) were decreased by 15 – 23%, 13 – 40%, and 71 – 86%, respectively. The activity of asparagine synthetase was decreased by 34 – 57%. The proteinase activity was initially increased by 37 – 125% at 12 h after treatment of FA but then subsequently decreased. The activity of glutamate-pyruvate aminotransferase was increased by 280 – 400%, though the activity of glutamate-oxaloacetate aminotransferase was decreased by 30 – 63%. It was suggested that FA inhibited the uptake of ammonium in seedlings and suppressed the activities of amino acid and amide synthases, while stimulating proteinase activity.A new pathogenic mechanism of watermelon infection by Fusarium spp. was found as FA caused the complete disorder and collapse of the host plant ’s nitrogen metabolism. This work provides a new insight into the progression of watermelon wilting caused by Fusariumoxysporum f.sp. niveum.
【语种】英文
【第一作者】吴洪生
【通讯作者】沈其荣
【期刊名称、卷期、页码】Physiological and Molecular Plant Pathology 71 (2007) 69 – 77
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【引文索引类型】SCI
【引文索引号】2.6266920001e+011
【学科分类】植物保护学

【题目】Responses of Fusarium oxysporum f. sp. niveum to exogenously added sinapic acid in
【中文关键词】无
【英文关键词】Fusarium oxysporum f. sp. niveum .Plant – microbe interaction . Sinapic acid .Virulence factors
【中文摘要】无
【英文摘要】To assess the influence of phenolic acids from plant root exudates on soil pathogens, we studied the effect of sinapic acid added to chemically defined media on the growth and virulence factors of Fusarium oxysporum f. sp.niveum. Sinapic acid inhibited the growth and conidial formation and germination of F. oxysporum f. sp. niveum by 6.7 – 8.8% and 11.2 – 37.3%, respectively. Mycotoxin production by F. oxysporum f. sp. niveum was stimulated by81.6 – 230.7%. Pectinase, proteinase, cellulase, and amylase activities were stimulated at a lower concentration of sinapic acid, while they were inhibited at a higher concentration.It is concluded that sinapic acid inhibited the growth and conidial germination of F. oxysporum f. sp. niveum and decreased the pathogenic enzymes ’ activity at higher doses.
【语种】英文
【第一作者】吴洪生
【通讯作者】沈其荣
【期刊名称、卷期、页码】Biol Fertil Soils (2009) 45:443 – 447
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【引文索引类型】SCI
【引文索引号】2.6367110001e+011
【学科分类】土壤学

【题目】培矮64S/93-11重组自交系分子图谱构建及千粒重QTL检测
【中文关键词】水稻;重组自交系;SSR;分子标记;遗传连锁图谱;千粒重;染色体片段置换系;QTL
【英文关键词】rice; RIL population; SSR; molecular marker; genetic linkage map; 1000-grain weight ; CSSL population; QTL
【中文摘要】利用光、温敏核不育系培矮64S 与常规品种93-11 进行杂交,以单粒传方法建立含217 个单株的重组自交系(RILs)群体。选用775 对SSR 引物进行亲本多态性筛选,共有170 对检测到多态性,频率为21. 9%。构建的水稻分子遗传图谱共包含141 个标记座位,总图距约2 060. 4 cM,标记间平均图距为14. 6 cM。群体中标记偏分离情况较严重。以该RILs 群体217 个株系为材料,对千粒重性状进行了QTL 分析。结果表明:在RILs 群体中检测到3 个与千粒重相关的QTL,分别在第1、

5、8 染色体上,命名为qTGW-1、qTGW-5、qTGW-8,其LOD 值为5. 51、3. 31、4. 94,贡献率为17. 90%、6. 12%、9. 59%。qTGW-1 控制千粒重的增效基因来自低值亲本培矮64S,qTGW-5 和qTGW-8 控制千粒重的增效基因来自高值亲本93-11。通过相应的含有154 个家系的全基因组染色体片段置换系(CSSLs) 群体图示基因型分析,证实了在第1 染色体上标记RM315 附近存在控制千粒重的增效基因,来源于染色体片段供体亲本培矮64S,使千粒重增加1. 03 g;在第5、8 染色体上标记 RM3663、RM310 附近存在控制千粒重的增效基因,来自染色体片段受体亲本93-11,使千粒重分别增加0.63 g 和0.80 g。

【英文摘要】The present study used the photo-thermo sensitive genic male sterile Peiai64S and 93-11 as the material to develop 217 recombinant inbred lines (RILs) by using SSR marker aided selection. A total of 775 pairs of SSR markers were used to analyze the polymorphism between Peiai64S and 93-11. It was shown that there were 170 pairs of polymorphism markers and their polymorphic ratio are 21.9%. The linkage map consists of 141 SSR markers. This map covered the rice genome about 2 060.4 cM with about 14.6 cM of average interval. Serious segregation distortion was observed in this RIL population. QTL analysis for the 1000-grain weight (TGW) was conducted with the RIL of " Peiai64S/93-11 " with 217 lines and a genome-wide chromosome segment substitution line (CSSL) population with 154 lines. The result indicated that in the RIL population of three QTLs controlling the TGW were detected on chromosome 1, 5 and 8, named qTGW-1, qTGW-5, qTGW-8, respectively. The LOD values of each QTL were 5.51, 3.31, and 4.94, and phenotypic variations explained by each QTL are 17.90%, 6.12% and 9.59%, respectively. The allele of qTGW-1 was derived from PA64S and the other two alleles of qTGW-5 and qTGW-8 were derived from 93-11. An analysis of CSSL graphical gene types also showed that there was a positive allele on the PA64S chromosome substitution segment near the marker RM315 locating on the chromosome 1 which certificated the existence of qTGW-1, also there were other two negative alleles on the PA64S chromosome substitution segment near the marker RM3663 and RM310 locating on the chromosome 5 and 8 which proved the existence of the qTGW-5 and qTGW-8.

【语种】中文
【第一作者】徐小飒
【通讯作者】江玲
【期刊名称、卷期、页码】南京农业大学学报 2011,34(1):8-13
【论文发表时间】2011-03-03 00:00:00
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【引文索引号】null
【学科分类】农业基础学科

【题目】A previously unknown zinc finger protein, DST, regulates drought and salt tolerance in rice via stomatal aperture control
【中文关键词】无
【英文关键词】Rice; zinc finger protein; drought tolerance; salt tolerance; stomatal aperture; hydrogen peroxide
【中文摘要】无
【英文摘要】Abiotic stresses, such as drought and salinity, lead to crop growth damage and a decrease in crop yields. Stomata control CO2 uptake and optimize water use efficiency, thereby playing crucial roles in abiotic stress tolerance. Hydrogen peroxide (H2O2) is an important signal molecule that induces stomatal closure. However, the molecular pathway that regulates the H2O2 level in guard cells remains largely unknown. Here, we clone and characterize DST (drought and salt tolerance)—a previously unknown zinc finger transcription factor that negatively regulates stomatal closure by direct modulation of genes related to H2O2 homeostasis—and identify a novel pathway for the signal transduction of DST-mediated H2O2-induced stomatal closure. Loss of DST function increases stomatal closure and reduces stomatal density, consequently resulting in enhanced drought and salt tolerance in rice. Thesefindings provide an interesting insight into the mechanism of stomata-regulated abiotic stress tolerance, and an important genetic engineering approach for improving abiotic stress tolerance in crops.
【语种】英文
【第一作者】黄新元
【通讯作者】林鸿宣
【期刊名称、卷期、页码】GENES & DEVELOPMENT ,第23卷,第15期,第1805-1817页
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【引文索引号】2685986000
【学科分类】遗传学

【题目】用两种粪便收集方法测定草鱼对九种饲料原料的表观消化率
【中文关键词】饲料;消化率;粪便收集方法;草鱼
【英文关键词】feed;apparent digestibility;fecal collecting method;grass carp
【中文摘要】在(21.5±1.0)℃水温下,以Cr:0 为指示物采用自排法和挤压法分别收集平均体重为65 g草鱼的粪便,测定草鱼对棉籽粕、花生粕、双低菜籽粕、秘鲁鱼粉、菜籽粕、小麦次粉、米糠、大豆粕和肉骨粉9种饲料原料主要营养成分的表观消化率。试验饲料以70%基础饲料和30%的待测饲料原料组成。结果表明:(1)草鱼对肉骨粉、秘鲁鱼粉、棉籽粕、大豆粕的干物质表观消化率较高,分别为60.69%、59.07%、61.08%、57.99%;(2)用自排法和挤压法测定草鱼对饲料原料的表观消化率时,干物质表观消化率有差异,而饲料原料粗蛋白质表观消化率基本保持一致;(3)草鱼对各种饲料原料的蛋白质表观消化率与氨基酸表观消化率的趋势基本一致。
【英文摘要】At the water temperature of(21.5±1)℃ ,apparent digestibility coefficients(ACDs)of grass carp for nutrients in nine main feed ingredients including cottonseed meal,peanut meal,double—low rapeseed meal,Peru fish meal,rapeseed meal,wheat middling,rice bran,soybean meal,meat and bone meal were determined by collecting fecal safllpies of grass carp the average body weight of 65 g in abdominal pressure method and siphoning method. Chromic oxide was used as an internal indicator.70% of the test diets was reference diet,in weight,and 30% of the test ingredient. Theresults showed that:(1)The ACDs for dry matter of the meat and bone meal,Peru fish meal,cottonseed meal and soybean meal were higher,which were 60.69% ,59.07% ,61.08% ,57.99% ,respectively.(2)The ACDs for dry matter in two methods indicated significant diferences。while the ACDs for crude protein showed no discrepancy.(3)The ACDs for amino acids were almost the same with the ACDs of crude protein,which suggested that the ACDs of protein were indicative of amino acid digestibility.
【语种】中文
【第一作者】蒋明
【通讯作者】文华
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【学科分类】水产饲料学

【题目】外源酶对草鱼鱼种生长及饲料表观消化率的影响
【中文关键词】酶制剂;草鱼;生长;消化酶
【英文关键词】E~wme preparation;Grass carp(Ctenopharyngodon idellu~);Gm~h;Digestion enzyme
【中文摘要】探讨酶制剂在水产动物饲料中得到合理利用的途径。f方法]在饲料中添加木聚糖酶(0、15o、300 me/kg),N-蛋白酶(0、50、100tT kg)、淀粉酶(0、200、400m#kg)和纤维素酶(0、200、400me/KG)4种单体纯酶,并采用L9(34)正交设计法,将4种单体酶配制成复合酶制剂.研究外源酶制剂对草鱼鱼种的生长及饲料表观消化率的影响。[结果]4种单体酶对草鱼鱼种生长影响的主次顺序为木聚糖酶>淀粉酶>N.蛋白酶>纤维素酶;外源复合酶对饲料干物质和粗蛋白表观消化率有一定的影响,且影响力大小依次为木聚糖酶>纤维素酶>淀粉酶>N.蛋白酶。外源复合酶的适宜配方为:木聚糖酶300 m#kg、淀粉酶200~400 ms/ 、N一蛋白酶0~50 m#kg和纤维素酶0~200 me,/kg。f结论]饲料中添加外源复合酶可提高草鱼的特定生长率和增重率,提高草鱼对饲料的消化率。
【英文摘要】The aim of the research was to discuss the approach of rational utilization of enzyme preparation in the feed of aquatic animals.[Method]4 kinds of mono-enzyme ofthe xylanase at0,150 and 300 me/ ,N-protease at0,50 and 100 m#kg,amylase at0,200 and 400 ms/ and celluloseat 0,200 and 400 me/kg were added into the feed and,nixed for confecting eilzyn3e mixture preparation to sm(1y the effect ofthe exogenous enzymeson the growth performance and apparent digestibility in feeds of grass carp fingerling by L9(34)design.【Resultj The influence 4 kinds ofiflono—enzylil~on growth grass carp fingerling in order was xylanase>amylase>N-protease>cellulase.111e exogenous enzyme nrixtures had a defmi~ infl uence on dryma terial and apparent digestibili~of crude protein in feed ofgrass carp fingerling and the contributors of4 kinds of nlono-enzylnP in orderwasxylanase>cellulase>amylase>N.protea~.The properformulaforthe exogenous enzymemixturewasthe xylanase 300m#kg,amylase200~400ms/kg,N-protease0~50 ms/kg and cellulase 0~200 ms/kg.[Conclusion]The exogenous enzylne mixture san improve the specific growth rate and net weight gain rate of grass carp fingerling and increase the feed digestility of glass carp
【语种】中文

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【学科分类】水产饲料学

【题目】Evaluating the microtubule cytoskeleton and its interacting proteins in monocots by mining the rice genome
【中文关键词】无
【英文关键词】Cytoskeleton, kinesins, microtubules (MTs), microtubule-associated proteins (MAPs), motors, rice, Oryza sativa.
【中文摘要】无
【英文摘要】Background Microtubules (MTs) are assembled by heterodimers of α -and β -tubulins, which provide tracks for directional transport and frameworks for the spindle apparatus and the phragmoplast. MT nucleation and dynamics are regulated by components such as the γ -tubulin complex which are conserved among eukaryotes, and other components which are unique to plants. Following remarkable progress made in the model plant Arabidopsis thaliana toward revealing key components regulating MT activities, the completed rice (Oryza sativa) genome has prompted a survey of the MT cytoskeleton in this important crop as a model for monocots. Scope The rice genome contains three α -tubulin genes, eight β -tubulin genes and a single γ -tubulin gene.A functional γ -tubulin ring complex is expected to form in rice as genes encoding all components of the complex are present. Among proteins that interact with MTs, compared with A. thaliana, rice has more genes encoding some members such as the MAP65/Ase1p/PRC1 family, but fewer for the motor kinesins, the end-binding protein EB1 and the mitotic kinase Aurora. Although most known MT-interacting factors have apparent orthologues in rice, no orthologues of arabidopsis RIC1 and MAP18 have been identified in rice. Among all proteins surveyed here, only a few have had their functions characterized by genetic means in rice. Elucidating functions of proteins of the rice MT cytoskeleton, aided by recent technical advances made in this model monocot, will greatly advance our knowledge of how monocots employ their MTs to regulate their growth and form.
【语种】英文
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【学科分类】分子生物学

【题目】维生素B12对草鱼幼鱼生长、体组分和造血机能的影响
【中文关键词】草鱼;幼鱼;维生素B12;生长;需要量
【英文关键词】Ctenopharyngodon idellus;juvenile;vitamin Bl2;growth;requiremen
【中文摘要】在饲料中添加0(对照组),0.025,0.050,0.100,0.200,0.400,0.800 ms/ks的维生素B12,研究不同含量维生素B】:对草鱼幼鱼生长性能、饲料系数、机体营养组分、造血机能的影响,以确定草鱼幼鱼饲料中适宜维生素B12需要量。试验结果表明:维生素B12添加量为0.100 ms/ks 时特定生长率和增重率最大,0.050 ms/ks 时饲料系数最低,并与对照组有显著性差异(P<0.05);维生素B】2的添加对试验鱼的存活率和肥满度无显著影响;血小板计数和血红蛋白含量分别在0.100ms/ks和0.200ms/ks 时最高,并与对照组有显著性差异,维生素B1:的添加对红细胞计数无显著影响;维生素B】:对草鱼全鱼水分、粗蛋白、粗脂肪和粗灰分无显著影响。草鱼特定生长率与饲料中维生素B】2添加量回归方程表明,草鱼幼鱼饲料中维生素B】2适宜添加量为0.094 mg/kg。
【英文摘要】An 8-week feeding trim was conducted to nvestigate growth,feed utilization,body composition,hemopoiesis ofglass carp fed on purified diet added with vitamin B12(VB12)at a gradient of0(control group),0.025,0.050,0.100,0.200,0.400,0.800 mg/kg diet.The results showed that:the highest specific growth rate and weight gain rate were observed at the group of 0.100 ms/ks,while feed conversion rate was the lowest at the group of 0.050 mg/kg,in addition,these indexes were significantly diferent from those of the control group(P<0.05).Survival rate and condition factor of the fish were not significantly diferent among diferent treatments.The platelet count and hemoglobin in blood of test fish were the highest in 0.100 ms/ks and 0.200 mg/kg group.and significantly higher than the control

group(P<0.05),while the supplement of VB12 to diet did not significantly efect red blood count of the fish.No significant difference ofmoisture,crude protein,crude lipid and crude ash in the whole body Was observed among diferent treatments.The dietary VB12 requirement for juvenile glass carp based on the re. gression analysis between special S~owth rate and dietary VB12 supplement Was estimated to be O.094 mg/kg of diets.

【语种】中文
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【题目】维生素E对中华绒螯蟹酚氧化酶、抗菌力和溶菌酶活性的影响
【中文关键词】中华绒螯蟹,维生素E,非特异性免疫
【英文关键词】Chinese mi tten。handed crab(Eriocheir sinensis), Vitami n E, Non。special immunity
【中文摘要】在以鱼粉、豆粕、玉米粉和麦麸为主要原料配制而成的每 基础饲料中分别添加VE 0、100、200、400、600mg配制成五种试验饲料,对均重为(37.52±2.19)g的中华绒螯蟹进行为期6O天的饲养试验,以酚氧化酶(PO)、抗菌力( )、溶菌酶活性( )等指标为依据,探讨VE对中华绒螯蟹非特异性免疫的影响。结果表明,V 对中华绒螯蟹各组织、器官中PO、Ua、UL等活性有显著或极显著的影响(P<0.05或P<0.01),在适宜范围内,随着VE添加量的增加,PO、 和 活性显著增强,从而增强中华绒螯蟹的非特异性免疫力。综上所述,V 作为免疫刺激剂能有效地增强中华绒螯蟹的非特异性免疫能力,增强中华绒螯蟹免疫功能的VE适宜添加量为200--400mg/kg饲料。
【英文摘要】The studies was conducted to determine the effects of non · -specific immunity on the Chinese mitten。handed crabs riocheir sinensis(initial mean weight of 37.52±2.29g)fed with diets containing various levels of vitamin E(0,1 o0,200,400,600mg/kg diet respectively)in a 60d feeding trial,during which the activities of phenoloxidase(PO)antibacterial performance(Uo),and lysozyme(UL)weremeasured.The results indicated that the efects of dietary VE on th e activities of PO, ,and UL in thetissues and organ of E sinensis were significantly diferent(P<0.05 or P<0.01).The activities of PO, ,and UL in the serum,muscle,and hepatopancrea of E sinensis were significantly enhanced with VE enrichment from 200--400mg/kg diet(P<0.05 or P<0.01).In conclusion,after fed with the VE—enriched diets,the crabs ’ non—specific immunity increased.
【语种】中文
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【题目】Overexpression of the trehalose-6-phosphate phosphatase gene OsTPP1 confers stress tolerance in rice and results in the activation of stress responsive genes
【中文关键词】无
【英文关键词】Abiotic stress tolerance,OsTPP1,Rice,Trehalose
【中文摘要】无
【英文摘要】Trehalose plays a protective role in yeast and microorganisms under abiotic stresses. However, little is known about its role in higher plants when subjected to environmental challenges. A systematic search of rice databases discovered a large TPS/TPP gene family in the rice genome, which is similar to that found in Arabidopsis thaliana, especially in the gene family structure. Expression analysis demonstrated that OsTPP1 was initially and transiently up-regulated after salt, osmotic and abscisic acid (ABA) treatments but slowly up-regulated under cold stress. OsTPP1 overexpression in rice enhanced tolerance to salt and cold stress. Analysis of the overexpression lines revealed that OsTPP1 triggered abiotic stress response genes, which suggests a possible transcriptional regulation pathway in stress induced reprogramming initiated by OsTPP1. The current study revealed the mechanism of an OsTPP gene involved

in stress tolerance in rice and also suggested the use of OsTPP1 in abiotic stress engineering of crops.
【语种】英文
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【学科分类】遗传学

【题目】Effects of dietary canola meal on growth performance, digestion and metabolism of Japanese seabass, Lateolabrax japonicus
【中文关键词】wu
【英文关键词】Japanese seabass
Growth
Canola meal
Anti-nutrients
Digestion
Metabolism
【中文摘要】wu
【英文摘要】A 10-week feeding trial in seawater floating cages (1.5×1.5×2.0 m) was conducted to investigate the effects of dietary canola meal (CM) levels on growth, survival, digestion and selected immune parameters of Japanese seabass (initial average weight 8.3±0.15 g). Six isonitrogenous (crude protein 43%) and isoenergetic (20 kJg − 1) practical diets were formulated by replacing 0 (the control), 10, 20, 30, 40, and 50% of protein from fish meal with CM. Each diet was randomly fed to triplicate groups of fish, and each cage was stocked with 20 fish. Fish were fed twice daily (06:30 and 16:30) to apparent satiation. The results showed that with increasing dietary CM levels, the survival, specific growth rate (SGR) and feed efficiency (FE) decreased. The survival was ignificantly lower compared to the control group (Pb0.05) with a 40% substitution level. Fish fed the diet with 20% or more protein from CM had significantly lower SGR than the control group (Pb0.05), but there was no significant difference in FE at this level (PN0.05). The activities of digestive enzymes and apparent digestibility coefficients of dry matter, protein, lipid and phosphorus significantly decreased with increasing dietary CM level. A similar trend was observed in the immune response where lysozyme activity significantly decreased compared with the control group when the substitution level was more than 20%. Results of the present study indicated that protein from CM could substitute less than 20% for fish meal protein without influencing the growth of Japanese seabass. The higher substitution levels of CM induced negative influences on growth, survival and serum lysozyme of Japanese seabass.
【语种】英文
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【题目】Dietary Leucine Requirement for Juvenile Large Yellow Croaker Pseudosciaena crocea (Richardson, 1846)
【中文关键词】wu
【英文关键词】Pseudosciaena crocea; leucine; requirement; diets
【中文摘要】wu
【英文摘要】Dietary leucine requirement for juvenile large yellow croaker, Pseudosciaena crocea Richardson 1846 (initial body weight 6.0 g ± 0.1 g) was determined using dose-response method. Six isonitogenous (crude protein 43%) and isoenergetic (19 kJ g − 1) practical diets containing six levels of leucine (Diets 1 − 6) ranging from 1.23% to 4.80% (dry matter) were made at about 0.7% increment of leucine. Equal amino acid nitrogen was maintained by replacing leucine with glutamic acid. Triplicate groups of 60 individuals were fed to apparent satiation by hand twice daily (05:00 and 17:30). The water temperature was 26 − 32°C, salinity 26 − 30

and dissolved oxygen approximately 7 mg L − 1 during the experimental period. Final weight (FW) of large yellow croaker initially increased with increasing level of dietary leucine but then decreased at further higher level of leucine. The highest FW was obtained in fish fed diet with 3.30% Leucine (Diet 4). FW of fish fed the diet with 4.80% Leucine (Diet 6) was significantly lower than those fed Diet 4. However, no significant differences were observed between the other dietary treatments. Feed efficiency (FE) and whole body composition were independent of dietary leucine contents (P > 0.05). The results indicated that leucine was essential for growth of juvenile large yellow croaker. On the basis of FW, the optimum dietary leucine requirement for juvenile large yellow croaker was estimated to be 2.92% of dry matter (6.79% of dietary protein).

【语种】英文
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【题目】维生素K3 对草鱼生长、体成分和凝血时间的影响
【中文关键词】草鱼(C tenopharyngodon idellus); 维生素K3; 生长; 凝血时间
【英文关键词】g rass carp(C tenopharyngodon idellus); v itam in K3; g row th; b lood coagulation tim e
【中文摘要】以酪蛋白和脱脂豆粕为蛋白源, 糊精为糖源, 玉米油和豆油为脂肪源的半纯化饲料为试验饲料, 研究了维生素K3对草鱼(C tenophary ngodon idellus) 成活、生长、体成分、血清中钙磷含量及凝血时间的影响。试验饲料中的维生素K3共设7个添加梯度, 分别为0, 0.5, 1.0, 2.0, 5, 10, 20 m g /kg, 每一梯度设3个重复, 每个重复60尾初始体重3.5 g左右的草鱼, 在(25.0 ! 3.0) 的流水系统中养殖11周。结果表明: 维生素K3对草鱼增重率、特定生长率、饲料系数、成活率和体成分均没有显著性影响(P > 0. 05); 维生素K3对血清中的钙磷浓度也无显著性影响; 凝血时间显著性受饲料中维生素K3含量影响, 饲料中缺乏维生素K3会延迟凝血时间。对饲料中维生素K3含量和草鱼凝血时间进行折线回归分析表明: 草鱼幼鱼饲料中维生素K3适宜的含量为1.9 mg /kg.
【英文摘要】The experim entw as conducted to determ ine the effec ts of d ietary v itam in K3 on grow th, carcass com position andb lood coagulation tim e for g rass carp finger ling (Ctenopharyngodon idellus) . Seven sem i.pur ified diets were form ulated to prov ide a ser ies o f grade leve ls o fm enad ione sod ium b isu lfite(MSB) (0~ 20 m g /kg diet). Each diet w as fed to tr iplica te g roups o f fish w ith in itia l body we ight o f 3.5 g in a flow.through aquarium, and each aquarium w as stocked w ith 60 fishes.Thew ater temperature was(25 . 0 ! 3. 0) during the expe rim en t. Fish w ere hand.fed the appropriate d ie ts three times ev. e ry days at 8#00, 12#00, 16#00 for 11 w eeks. Surv ival ra te, grow th, carcass com po sition and serum ca lc ium, serum phosphorus we re no t sign ificantly a ffected by the d ie tary treatm ents(P > 0. 05). B lood coagu la tion time w as found to relat. ed to d ieta ry lev el of v itam in K3. V itam in K3 defic iency pro longed blood coagu la tion time. It is proposed that the requ ire. m ent o f grass carp finger ling fo r v itam in K3 is about 1.9 mg /kg d ie t.

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【题目】海带配子体无性繁殖(克隆)技术研究与应用进展
【中文关键词】海带;配子体克隆;种质保存;育种;苗种繁育
【英文关键词】Laminaria;gametophyte clone;germplasm conservation;bieeding;sporeling—raising
【中文摘要】海带具有异型世代交替,其配子体在单独分离培养时可进行营养生长,形成无性繁殖系(克隆)。本文简要回顾了海带配子体克隆技术研究与应用的历程,综述海带配子体克隆在海带种质资保存、海带生理和遗传学研究及海带育种和苗种繁育中的应用现状。

【英文摘要】Laminaria is a genus to which diverse brown macroalgae belong.The members of this genus have a life cycle consisting of a monoploid gametophyte generation and a diploid sporophyte generation. Vegetative growth of their gametophytes can be maintained at an appropriate condition,forming gametophyte clones.In this paper,the evolvement of the methodological development is briefly reviewed.The reviewed includes also the application of gametophyte clones in germplasm conservation,genetic and physiological research,and breeding and sporeling—raising of Larninaria.
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【题目】转基因海带的研究现状
【中文关键词】海带、基因报告、基因功能基因
【英文关键词】Kelp,Transgene,Reporter gene,Functional gene
【中文摘要】海带是海洋中一种极其重要的经济海藻。转基因技术在海带科研中的应用,将使海带的附加值得到进一步的提高。就海带遗传转化方法,以及转GUS基因、转 z基因、转 基因、转6甜基因等报告基因和转HBsAg基因、转r-PA基因等功能基因海带的研究现状进行了综述。
【英文摘要】Kelp is one kind of extremely important economical seaweeds in the sea.The applicafion of transgenic technology in kelp will filither improve its value-added in the furore.The current development of transgenic kelp,including reporter gene such as GUS gene,lacZ gene,CAT gene;bar gene and functional gene such as HBsAg gene,r-PA gene.etc.,and genetic transformation was reviewed in this article.
【语种】中文
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【学科分类】生物学其他学科

【题目】基于转基因生物安全性的海带不育系构建研究
【中文关键词】海带;转基因;生物安全性;不育系
【英文关键词】laminaria;transgene;biological secure;infecunity system
【中文摘要】根据转基因生物的安全性需要,构建海带不育系,利用其不能形成生殖组织或生殖细胞的特点,将其作为海带遗传转化技术的安全载体。
【英文摘要】For the need of security of transgene,the infecunity system 0f Laminaria was founded。 Because the genital cell or germinal tissue can't come into being,it was used as a secure carrier of genetic transform technology of Laminaria.
【语种】中文
【第一作者】马鲁豫
【通讯作者】马鲁豫
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【学科分类】生物学其他学科

【题目】Responses of vegetative gametophytes of Undaria pinnatifida to high irradiance in the process of gametogenesis
【中文关键词】gametogenesis, light acclimation, reproduction, seaweed, Undaria pinnatifida.
【英文关键词】gametogenesis, light acclimation, reproduction, seaweed, Undaria pinnatifida.
【中文摘要】The population of Undaria pinnatifida in its ecologic niche sustains itself in high temperature summer in the form of vegetative gametophytes, the haploid stage in its heteromorphic life cycle. Gametogenesis initiates when seawater temperature drops below the threshold levels in autumn in the northern hemisphere. Given that the temperature may fall into the appropriate range for gametogenesis, the level of irradiance determines the final destiny of a gametophytic cell, either undergoing vegetative cell division or initiating gametogenesis. In elucidating how vegetatively propagated gametophytes cope with changes of irradiance in gametogenesis, we carried out a series of culture experiments and found that a direct exposure to irradiance as high as 270 mmol photons m-2 s-1 was lethal to dim-light (7 – 10 mmol photons m-2 s-1) adapted male and female gametophytes. This lethal effect was linearly correlated with the exposure time. However, dim-light adapted vegetative gametophytes were shown to be able tolerate as high as 420 mmol photons m-2 s-1 if the irradiance was steadily increased from dim light levels (7 – 10 mmol photons m-2 s-1) to 90, 180 and finally 420 mmol photons m-2 s-1, respectively, at a minimum of 1 – 3 h intervals. Percentage of female gametophytic cells that turned into oogonia and were eventually fertilized was significantly higher if cultured at higher but not lethal irradiances. Findings of this investigation help to understand the dynamic changes of population size of sporophytic plants under different light climates at different site-specific ecologic niches. It may help to establish specific technical details of manipulation of light during mass production of seedlings by use of vegetatively propagated gametophytes.
【英文摘要】The population of Undaria pinnatifida in its ecologic niche sustains itself in high temperature summer in the form of vegetative gametophytes, the haploid stage in its heteromorphic life cycle. Gametogenesis initiates when seawater temperature drops below the threshold levels in autumn in the northern hemisphere. Given that the temperature may fall into the appropriate range for gametogenesis, the level of irradiance determines the final destiny of a gametophytic cell, either undergoing vegetative cell division or initiating gametogenesis. In elucidating how vegetatively propagated gametophytes cope with changes of irradiance in gametogenesis, we carried out a series of culture experiments and found that a direct exposure to irradiance as high as 270 mmol photons m-2 s-1 was lethal to dim-light (7 – 10 mmol photons m-2 s-1) adapted male and female gametophytes. This lethal effect was linearly correlated with the exposure time. However, dim-light adapted vegetative gametophytes were shown to be able tolerate as high as 420 mmol photons m-2 s-1 if the irradiance was steadily increased from dim light levels (7 – 10 mmol photons m-2 s-1) to 90, 180 and finally 420 mmol photons m-2 s-1, respectively, at a minimum of 1 – 3 h intervals. Percentage of female gametophytic cells that turned into oogonia and were eventually fertilized was significantly higher if cultured at higher but not lethal irradiances. Findings of this investigation help to understand the dynamic changes of population size of sporophytic plants under different light climates at different site-specific ecologic niches. It may help to establish specific technical details of manipulation of light during mass production of seedlings by use of vegetatively propagated gametophytes.
【语种】英文
【第一作者】Shao Jun Pang
【通讯作者】Shao Jun Pang
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【题目】Breeding and trial cultivation of Dongfang No.3, a hybrid of Laminaria gametophyte clones with a more than intraspecific less than interspecific relationship
【中文关键词】Hybrid Laminaria;Dongfang No. 3;Gametophyte clone;Gametophyte clone hybridization;Hybrid seedling raising;Hybrid vigor;Heterosis
【英文关键词】Hybrid Laminaria;Dongfang No. 3;Gametophyte clone;Gametophyte clone hybridization;Hybrid seedling raising;Hybrid vigor;Heterosis
【中文摘要】Dongfang No. 3, a Laminaria hybrid, was bred by hybridizing a female gametophyte clone isolated from Line 7 of L. japonica with a male one isolated from Line LZZ which was developed through hybridizing female gametophyte clones of L. lonngissima and male gametophyte clones of L. japonica followed by continuous self-crossing and tolerances of strong irradiance and high seawater temperature targeted selection. The parental gametophyte clones of Dongfang No. 3 have a more than intraspecific but less than interspecific relationship. The seedlings of the hybrid were raised with the techniques of gametophyte clone asexual

reproduction and hybridization and cultivated on trial. The dark brown hybrid has a wide, uniform, rippleless and very tough blade and a very robust holdfast. A deep vertical groove and a half-round joint between stripe and blade distinguished also the hybrid from the varieties of L. japonica. The hybrid is tolerant of strong irradiance and high seawater temperature and resistant to the tissue rottenness of blade tip and edge. The hybrid matured later than the varieties of L. japonica widely used currently. The trial cultivation of this Laminaria hybrid has reached N406 ha in total. It increased the yield by 60.5% and 54.8% in average on that of Benniu (Control I) and Zaohoucheng (Control II), respectively, and by 62.4% and 75.8% on that of Line LZZ and Line 7, respectively, as were observed in Weihai, Shandong Province, China, in 3 continuous years, and by 57.0% and 32.1% in average on that of Control I and II, respectively, across 10 sites on the coast of north China in 2 continuous years. The breeding and application of Laminaria hybrids have paved an avenue of the direct use of heterosis, the easy integration of elite agronomical traits and fast renewing of Laminaria varieties.

【英文摘要】Dongfang No. 3, a Laminaria hybrid, was bred by hybridizing a female gametophyte clone isolated from Line 7 of L. japonica with a male one isolated from Line LZZ which was developed through hybridizing female gametophyte clones of L. lonngissima and male gametophyte clones of L. japonica followed by continuous self-crossing and tolerances of strong irradiance and high seawater temperature targeted selection. The parental gametophyte clones of Dongfang No. 3 have a more than intraspecific but less than interspecific relationship. The seedlings of the hybrid were raised with the techniques of gametophyte clone asexual reproduction and hybridization and cultivated on trial. The dark brown hybrid has a wide, uniform, rippleless and very tough blade and a very robust holdfast. A deep vertical groove and a half-round joint between stripe and blade distinguished also the hybrid from the varieties of L. japonica. The hybrid is tolerant of strong irradiance and high seawater temperature and resistant to the tissue rottenness of blade tip and edge. The hybrid matured later than the varieties of L. japonica widely used currently. The trial cultivation of this Laminaria hybrid has reached N406 ha in total. It increased the yield by 60.5% and 54.8% in average on that of Benniu (Control I) and Zaohoucheng (Control II), respectively, and by 62.4% and 75.8% on that of Line LZZ and Line 7, respectively, as were observed in Weihai, Shandong Province, China, in 3 continuous years, and by 57.0% and 32.1% in average on that of Control I and II, respectively, across 10 sites on the coast of north China in 2 continuous years. The breeding and application of Laminaria hybrids have paved an avenue of the direct use of heterosis, the easy integration of elite agronomical traits and fast renewing of Laminaria varieties.

【语种】英文

【第一作者】Xiaojie Li
【通讯作者】Guanpin Yang

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【题目】High throughput culture and gametogenesis induction of Laminaria japonica gametophyte clones

【中文关键词】Gametophyte clone ;Growth dynamics;Induction of gametogenesis;Laminaria japonica ;Large-scale culture;Vegetative growth
【英文关键词】Gametophyte clone ;Growth dynamics;Induction of gametogenesis;Laminaria japonica ;Large-scale culture;Vegetative growth

【中文摘要】In anticipation of the application of a new sporelingraising method using gametophyte clones to Laminaria commercial cultivation in China, techniques of mass culture and gametogenesis induction of L. japonica gametophyte clones were developed, as a mass of fertile gametophytes is a prerequisite for sporeling-raising with the new method. Gametophyte clones which were subjected to fed-batch culture exhibited a classical logistic growth curve. Growth rates decreased gradually after 2 months of culture, and were negatively correlated to cell density. UNOVA also showed that only cell density has a significant effect on the growth of gametophyte clones under the experimental conditions. Based on the dynamics models revealed, a culture strategy only directed at the control of cell density was adopted. By this strategy, a total of 36 kg wet weight from an initial weight of 0.75 kg was achieved after 3 months culture in 100 20-L bottles. The final average density reached 24 g L − 1. For the subsequent gametogenesis induction, amplificatory male and female gametophyte clones were cut, mixed and cultured in bottles under the same conditions used in amplification except for a change of photoperiod from continuous irradiance to 10 h light: 14 h dark cycle. Egg discharge occurred 10 days after the mixed culture and increased gradually with the culture duration. Most gametophytes gave rise to sporophytes 20 days after induction. Large-scale culture of gametophyte clones and gametogenesis induction for commercial cultivation in 2003 – 2005 have been conducted successfully.
【英文摘要】In anticipation of the application of a new sporelingraising method using gametophyte clones to Laminaria commercial cultivation in China, techniques of mass culture and gametogenesis induction of L. japonica gametophyte clones were developed, as a

mass of fertile gametophytes is a prerequisite for sporeling-raising with the new method. Gametophyte clones which were subjected to fed-batch culture exhibited a classical logistic growth curve. Growth rates decreased gradually after 2 months of culture, and were negatively correlated to cell density. UNOVA also showed that only cell density has a significant effect on the growth of gametophyte clones under the experimental conditions. Based on the dynamics models revealed, a culture strategy only directed at the control of cell density was adopted. By this strategy, a total of 36 kg wet weight from an initial weight of 0.75 kg was achieved after 3 months culture in 100 20-L bottles. The final average density reached 24 g L − 1. For the subsequent gametogenesis induction, amplificatory male and female gametophyte clones were cut, mixed and cultured in bottles under the same conditions used in amplification except for a change of photoperiod from continuous irradiance to 10 h light: 14 h dark cycle. Egg discharge occurred 10 days after the mixed culture and increased gradually with the culture duration. Most gametophytes gave rise to sporophytes 20 days after induction. Large-scale culture of gametophyte clones and gametogenesis induction for commercial cultivation in 2003 – 2005 have been conducted successfully.
【语种】中文
【第一作者】Quan Sheng Zhang
【通讯作者】Quan Sheng Zhang
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【学科分类】生物学其他学科

【题目】海带配子体克隆育苗的关键技术
【中文关键词】海带;配子体克隆;育苗;
【英文关键词】laminaria;Gametophyte
【中文摘要】海带配子体克隆育苗生产技术工艺包括克隆的扩增培养、采苗及幼苗培育3部分。从生产应用的角度总结并探讨了海带克隆育苗工艺中各环节的关键技术。
【英文摘要】无
【语种】中文
【第一作者】罗世菊
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【学科分类】生物学其他学科

【题目】Assessing genetic identities of sporophytic offspring of the brown alga Undaria pinnatifida derived from mono-crossing of gametophyte clones by use of AFLP and microsatellite markers
【中文关键词】amplified fragment length polymorphism, gametophytes, genetic polymorphism, microsatellite, Undaria pinnatifida.
【英文关键词】amplified fragment length polymorphism, gametophytes, genetic polymorphism, microsatellite, Undaria pinnatifida.
【中文摘要】The haploid stage of gametophytes of the subtidal brown alga Undaria pinnatifida can be vegetatively propagated under favorable conditions. This unique characteristic makes it possible to establish independent gametophyte cell lines that are zoospore-derived. Sporophytic offspring can be generated through hybridizing the male and female gametophytes, which are derived from different cell lines. Accumulated experiences in this and other species in Laminariales demonstrated the applicability of this novel way to breed desired strains for open-sea cultivation. Sporophytic offspring originated from mono-crossing of male and female gametophyte clones were shown to have similar morphological characteristics under identical ambient conditions. However, there has been no report to relate this similarity on molecular levels. In this report, amplified fragment length polymorphism (AFLP) and microsatellite markers were used to analyze the genetic identity of sporophytic offspring of U. pinnatifida originated from two monocrossing lines (M1 and M2), two self-breeding lines (S1 and S2) and one wild population (W). Totally 318 AFLP loci were revealed by use of 11 primer sets, of which 4.7%, 0.3%, 17.9%, 16.4% and 36.5% were polymorphic in M1, M2, S1, S2 andW, respectively. The pairwise genetic identity among the individuals of the same line was assessed. It was shown that offspring from monocrossing lines had a higher degree of identity (95.6 – 100%) than self-breeding lines (87.7 – 98.4%) and the wild population (81.5 – 92.1%). Analysis by use of six microsatellite loci

also revealed a higher genetic identity among individuals of the mono-crossing line, further confirming the results of AFLP analysis. Results from this investigation support, on molecular levels, the novel way to produce and maintain strains in U. pinnatifida by use of different gametophyte cell lines.

【英文摘要】The haploid stage of gametophytes of the subtidal brown alga Undaria pinnatifida can be vegetatively propagated under favorable conditions. This unique characteristic makes it possible to establish independent gametophyte cell lines that are zoospore-derived. Sporophytic offspring can be generated through hybridizing the male and female gametophytes, which are derived from different cell lines. Accumulated experiences in this and other species in Laminariales demonstrated the applicability of this novel way to breed desired strains for open-sea cultivation. Sporophytic offspring originated from mono-crossing of male and female gametophyte clones were shown to have similar morphological characteristics under identical ambient conditions. However, there has been no report to relate this similarity on molecular levels. In this report, amplified fragment length polymorphism (AFLP) and microsatellite markers were used to analyze the genetic identity of sporophytic offspring of U. pinnatifida originated from two monocrossing lines (M1 and M2), two self-breeding lines (S1 and S2) and one wild population (W). Totally 318 AFLP loci were revealed by use of 11 primer sets, of which 4.7%, 0.3%, 17.9%, 16.4% and 36.5% were polymorphic in M1, M2, S1, S2 andW, respectively. The pairwise genetic identity among the individuals of the same line was assessed. It was shown that offspring from monocrossing lines had a higher degree of identity (95.6 – 100%) than self-breeding lines (87.7 – 98.4%) and the wild population (81.5 – 92.1%). Analysis by use of six microsatellite loci also revealed a higher genetic identity among individuals of the mono-crossing line, further confirming the results of AFLP analysis. Results from this investigation support, on molecular levels, the novel way to produce and maintain strains in U. pinnatifida by use of different gametophyte cell lines.

【语种】英文

【第一作者】Ti Feng Shan1,2

【通讯作者】Shao Jun Pang

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【学科分类】生物学其他学科

【题目】Phylogenetic analysis of members of the order Laminariales based on rbcL genes and 5.8S rRNA genes

【中文关键词】rbcL genes; 5.8S rRNA genes; Laminariales; phylogenetic relationships

【英文关键词】rbcL genes; 5.8S rRNA genes; Laminariales; phylogenetic relationships

【中文摘要】Phylogenetic analysis is widely used to determine evolution and function of gene, to identify the genus of algae based on gene sequences. Phylogenetic trees showing the evolutionary relationship of 20 Laminariales based on rbcL and 5.8S rRNA gene sequences were compared. The validity and the reliability of phylogenetic trees were studied in this paper. The results show that rbcL gene sequences are reliable at determining relationships of Laminariales. 5.8S rRNA gene sequences are appropriate for describing phylogenetic relationships between some distantly related algae. It is useful to clarify the phylogenetic relationships of Laminariales combining rbcL with 5.8S rRNA gene sequences.

【英文摘要】Phylogenetic analysis is widely used to determine evolution and function of gene, to identify the genus of algae based on gene sequences. Phylogenetic trees showing the evolutionary relationship of 20 Laminariales based on rbcL and 5.8S rRNA gene sequences were compared. The validity and the reliability of phylogenetic trees were studied in this paper. The results show that rbcL gene sequences are reliable at determining relationships of Laminariales. 5.8S rRNA gene sequences are appropriate for describing phylogenetic relationships between some distantly related algae. It is useful to clarify the phylogenetic relationships of Laminariales combining rbcL with 5.8S rRNA gene sequences.

【语种】英文

【第一作者】Zeyu Zhang

【通讯作者】Zeyu Zhang

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【学科分类】生物学其他学科

【题目】中国海带养殖现状与发展趋势
【中文关键词】海带;育苗;养殖;育种
【英文关键词】Liminaria;nursery;cultivation;breeding
【中文摘要】中国海带养殖规模与养殖产量均世界首位,并形成了一个集育苗、养殖、食品加工、藻类化工与生物制品开发于一体的链式产业,有关工作为我国海水养殖业的发展奠定了重要的理论、技术与实践基础。在国家高度重视资源与环境协调发展和渔业经济结构调整的深刻背景下,高新技术的研究与应用将是保障海带养殖产业优质、健康和高效发展的关键。
【英文摘要】The dimensions and yield of Liminaria breed aquatics of China is on the top of the world.There was a chain of industry made up of nursery,cultivation,foodstuff machining, algae apperception and biological production,which made an important foundation on theoretics, technology and practice for the breed aquatics of China.The harmony of resource and environment and the redressaI of fishery economic structure was attached great importance in China,and under this background,the research and • application of high,new technology will be the key that ensures Liminaria breed aquatics develop health,high effectively and with high quality.
【语种】中文
【第一作者】金振辉
【通讯作者】刘涛
【期刊名称、卷期、页码】海洋与湖沼通报
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【题目】藻类线粒体DNA研究进展
【中文关键词】线粒体DNA,cytochrome b,进化树,系统进化
【英文关键词】mitochondrial DNA ,cytochrome b,phylogenetic tree,systematic evolution
【中文摘要】系统地研究分析了26种藻类线粒体DNA(mtDNA)全基因组的结构特征,利用细胞色素b基因(cob)对应的氨基酸序列构建了24种藻类和10种高等植物的系统树,并结合国内外mtDNA研究成果,论述和分析了利用mtDNA进行藻类系统进化研究的进展。指出:藻类mtDNA在进化过程中分为“简化起源型”和“原始型”两种类型;根据cob基因氨基酸序列构建系统树显示,绿藻和高等植物聚为一支,而不含叶绿素b的红藻、褐藻等藻类聚为另一支。
【英文摘要】In this article,the molecular structures of 26 algae ’ mitoehondrial genomes from the GenBank were analyzed,and a phylogenetic tree based on the amino acid sequences of the cob gene from 24 algae and 10 higher plants was constructed.The research status of algae mtDNA in systematic evolution was also reviewed.It points out that two distinct mitochondrial genome types have been described among the algal lineages:a reduced—derived,Chlamydomonas-like type and an ancestml,Prototheca—like type;According to the phylogenetic tree based on the amino acid sequ ences of cob,green algae an d higher plants clustered into one group,while red algae,brown algae and other algae which do not contain chlorophyll b clustered into another group.
【语种】中文
【第一作者】张静
【通讯作者】刘涛
【期刊名称、卷期、页码】高技术通讯
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【学科分类】生物学其他学科

【题目】A sex-linked microsatellite marker detected in the female gametophytes of Undaria pinnatifida (Phaeophyta)
【中文关键词】gametophyte, microsatellite marker, sex determination, sex-related, Undaria pinnatifida.
【英文关键词】gametophyte, microsatellite marker, sex determination, sex-related, Undaria pinnatifida.
【中文摘要】In our microsatellite analysis of three male and three female gametophytes of Undaria pinnatifida (Harv.) Suringar, a microsatellite marker (part of the locus Up-AC-2A8, GenBank accession no. AY738602.1) was only polymerase chain reaction-

amplified in three female gametophytes. This putative female-specific marker was further tested by the use of 32 male and 21 female gametophytes maintained in the Marine Biological Culture Collection Centre, China. In addition, three sporophytes were included for confirmation. Results showed that the marker was present in all of the female gametophytes and sporophyte cultures, but absent in all of the male gametophytes. To our knowledge, this is the first sex-related marker ever reported in U. pinnatifida. The discovery of this marker will accelerate gender identification and shed light on our understanding of the mechanisms of sex determination at a molecular level in this commercially important seaweed.

【英文摘要】In our microsatellite analysis of three male and three female gametophytes of Undaria pinnatifida (Harv.) Suringar, a microsatellite marker (part of the locus Up-AC-2A8, GenBank accession no. AY738602.1) was only polymerase chain reaction-amplified in three female gametophytes. This putative female-specific marker was further tested by the use of 32 male and 21 female gametophytes maintained in the Marine Biological Culture Collection Centre, China. In addition, three sporophytes were included for confirmation. Results showed that the marker was present in all of the female gametophytes and sporophyte cultures, but absent in all of the male gametophytes. To our knowledge, this is the first sex-related marker ever reported in U. pinnatifida. The discovery of this marker will accelerate gender identification and shed light on our understanding of the mechanisms of sex determination at a molecular level in this commercially important seaweed.

【语种】英文

【第一作者】Ti Feng Shan

【通讯作者】Shao Jun Pang

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【学科分类】生物学其他学科

【题目】海带配子体克隆中一株镰刀菌的分离鉴定

【中文关键词】镰刀菌, ITS, 系统发育树, 分离鉴定

【英文关键词】Fusarium, ITS, Phylogenetic analysis, Identification

【中文摘要】A fungal strain (No. 059601016C) was obtained from Laminaria Gametophyte Clones. Growth states, morphological characteristics and internal transcribed sequence (ITS) were studied.The results showed that colonics on PDA are white and cottony, the reverse color changed from white to dark purple. The aerial mycelium grew abundantly and the height reached 5 mm to 7 mm. Microconidia are in false head or chains, (5 − 10.5) μm × (1.2 − 2.5) μm. Macroconidia sickle-shaped were slightly bent, apex acuminate, 2 − 5 septate, mostly 3 − 4 septate. Based on the analysis of ITS and the phyogenetic tree, the strain showed a 100% homogeneous and the most close relationship to Fusarium proliferatum Nirenberg. Hence, the strain 059601016C isolated form Laminaria Gametophyte Clones belonged to the genus Fusarium sp. and the GenBank accession number of strain 059601016C ITS is GU951805.

【英文摘要】从海带配子体克隆中分离出一株真菌(菌株编号: 059601016C), 对其培养性状、形态特征和ITS基因进行研究分析。结果显示: 059601016C真菌在PDA培养基上呈棉絮状生长, 菌落背面颜色由白色变为深紫色。气生菌丝发达, 高度可达5 − 7 mm。小型分生孢子以链状或假头状着生于瓶状产孢细胞上, (5 − 10.5) μm × (1.2 − 2.5) μm。大型分生孢子镰刀状, 略有弯曲, 顶胞渐尖, 2 − 5个隔膜, 多3 − 4个隔膜。通过ITS基因序列同源性分析, 该菌株与层出镰刀菌的相似性为100%。系统发育树的分析结果也表明该菌株与层出镰刀菌的亲缘关系最接近, 因此将菌株059601016C鉴定为层出镰刀菌(Fusarium proliferatum Nirenberg)。在GenBank中申请的基因序列号为GU951805。

【语种】中文

【第一作者】王娜

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【学科分类】生物学其他学科

【题目】Microsatellite analysis of genetic diversity and population genetic structure of the sporophytes of Undaria pinnatifida (Phaeophyceae) in Dalian of China

【中文关键词】Undaria pinnatifida; Genetic diversity; Genetic structure; Microsatellite; Dalian

【英文关键词】Undaria pinnatifida; Genetic diversity; Genetic structure; Microsatellite; Dalian

【中文摘要】Genetic diversity and population genetic structure of Undaria pinnatifida populations in Dalian of China were studied based on fourteen microsatellite loci. A relatively low level of genetic diversity was observed from the accessions collected from 165 individuals of four populations, including two natural populations, one cultured population and introduced population from Japan. The fourteen microsatellites revealed a total of 42 alleles, with an average of 3 alleles per locus. A comparison of the parameters showing genetic diversity, including the observed heterozygosity (Ho), gene diversity (He) and Shannon ’s information index (I) of Undaria pinnatifida accessions from different populations in Dalian of China, indicated that four populations possesses similar genetic diversity. Genetic distance between two natural populations was low, confirming high gene flow between these two areas. Moreover, genetic distance between introduced population and other population was the highest.

【英文摘要】Genetic diversity and population genetic structure of Undaria pinnatifida populations in Dalian of China were studied based on fourteen microsatellite loci. A relatively low level of genetic diversity was observed from the accessions collected from 165 individuals of four populations, including two natural populations, one cultured population and introduced population from Japan. The fourteen microsatellites revealed a total of 42 alleles, with an average of 3 alleles per locus. A comparison of the parameters showing genetic diversity, including the observed heterozygosity (Ho), gene diversity (He) and Shannon ’s information index (I) of Undaria pinnatifida accessions from different populations in Dalian of China, indicated that four populations possesses similar genetic diversity. Genetic distance between two natural populations was low, confirming high gene flow between these two areas. Moreover, genetic distance between introduced population and other population was the highest.

【语种】英文

【第一作者】Ruipeng Wang

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【学科分类】生物学其他学科

【题目】裙带菜孤雌生殖幼孢子体体细胞诱导2n雌配子体研究

【中文关键词】孤雌生殖;幼孢子体;2n早配子体

【英文关键词】Undaria pinnatifida;parthnogesis;juvenile sporophtes;2n female gametophytes

【中文摘要】以实验室内保存培养的裙带菜(Undaria pinnatifida)2n~ 子体为实验材料,经切碎培养,促进2n早配子体成熟,排出卵进行孤雌生殖,形成幼孢子体。将0.5-1 cm 的孤雌生殖幼孢子体的假根切除,从其体细胞中诱导出2n早配子体 实验结果表明,在10-20℃范围内,培养20 d后,在15℃和20℃下的2n2配子体排出的卵的孤雌生殖率分别为8.4%和7.4%,明显高于10V下的 1%。20℃下诱导培养15 d后就出现了2n早配子体,培养60 d后,2n配子体的诱导率达到100%;15℃下培养30 d后才出现2n早配子体,60 d后的诱导率为38%;而10℃下诱导培养45d后才开始出现2n早配子体,60 d后的诱导率仅为l2%。将诱导产生的2n早配子体切碎,在20~C下培养10 d后的成熟率为34%,60 d的成熟率达到100%。通过孤雌生殖幼孢子体诱导产生的2n早配子体与正常 配子体杂交形成了3n裙带菜幼孢子体。本研究发现了获得大量2n2配子体的新方法,旨在为裙带菜三倍体幼苗规模化培育奠定基础。

【英文摘要】After being excised into several cells of fragments.the indoor incubated 2n female gametophytes of Undaria pinnatoqda matured and produced some iuvenile sporophytes without fertilization.Then,the 2n female gametophytes were induced from the vegetative cells of the obtained parthenogenetic 2n juvenile sporophytes,which were rem oved rhizoids and in a0.5-1cm 1ength.The parthenogenesis rate of the matured 2n female gametophytes reached 8.4% and 7.4% after 20 days of incubation at 20°C and 15°C .respectively,which were both higher than 1% at 10°C .The 2n female gametophytes were induced after incubation for 15 days at 20cm.but for 30 days at 15°C and for 45 days at 10°C .The induction rate of the 2n female gametophytes was 100% at 20。C.but was 3 8% at 1 5°C and 1 2% at l 0°C after 60 days of incubation.respectively.The maturation rate of the induced 2n female gametophytes.after being excised into fragments.reached 34% after incubation for 1 0 days and 1 00% for 20 days at 20°C ,respectively.The 3n juvenile sporophytes were produced by the cross between the induced 2n female gametophyte and the n male gametophyte.In present study a new method of mass production of 2n female gametophytes was founded,which laid a foundation for the scale production of triploid seedlings of Undaria pinnatifida.

【语种】中文
【第一作者】李晓丽
【通讯作者】张泽宇
【期刊名称、卷期、页码】中国水产科学
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【学科分类】生物学其他学科

【题目】Cloning and Comparative Studies of Seaweed Trehalose-6-Phosphate Synthase Genes
【中文关键词】comparative genomics of TPS genes; gene cloning; RACE-PCR; seaweed; trehalose-6-phosphate synthase gene
【英文关键词】comparative genomics of TPS genes; gene cloning; RACE-PCR; seaweed; trehalose-6-phosphate synthase gene
【中文摘要】The full-length cDNA sequence (3219 base pairs) of the trehalose-6-phosphate synthase gene of Porphyra yezoensis (PyTPS) was isolated by RACE-PCR and deposited in GenBank (NCBI) with the accession number AY729671. PyTPS encodes a protein of 908 amino acids before a stop codon, and has a calculated molecular mass of 101,591 Daltons. The PyTPS protein consists of a TPS domain in the N-terminus and a putative TPP domain at the C-terminus. Homology alignment for PyTPS and the TPS proteins from bacteria, yeast and higher plants indicated that the most closely related sequences to PyTPS were those from higher plants (OsTPS and AtTPS5), whereas the most distant sequence to PyTPS was from bacteria (EcOtsAB). Based on the identified sequence of the PyTPS gene, PCR primers were designed and used to amplify the TPS genes from nine other seaweed species. Sequences of the nine obtained TPS genes were deposited in GenBank (NCBI). All 10 TPS genes encoded peptides of 908 amino acids and the sequences were highly conserved both in nucleotide composition (>94%) and in amino acid composition (>96%). Unlike the TPS genes from some other plants, there was no intron in any of the 10 isolated seaweed TPS genes.
【英文摘要】The full-length cDNA sequence (3219 base pairs) of the trehalose-6-phosphate synthase gene of Porphyra yezoensis (PyTPS) was isolated by RACE-PCR and deposited in GenBank (NCBI) with the accession number AY729671. PyTPS encodes a protein of 908 amino acids before a stop codon, and has a calculated molecular mass of 101,591 Daltons. The PyTPS protein consists of a TPS domain in the N-terminus and a putative TPP domain at the C-terminus. Homology alignment for PyTPS and the TPS proteins from bacteria, yeast and higher plants indicated that the most closely related sequences to PyTPS were those from higher plants (OsTPS and AtTPS5), whereas the most distant sequence to PyTPS was from bacteria (EcOtsAB). Based on the identified sequence of the PyTPS gene, PCR primers were designed and used to amplify the TPS genes from nine other seaweed species. Sequences of the nine obtained TPS genes were deposited in GenBank (NCBI). All 10 TPS genes encoded peptides of 908 amino acids and the sequences were highly conserved both in nucleotide composition (>94%) and in amino acid composition (>96%). Unlike the TPS genes from some other plants, there was no intron in any of the 10 isolated seaweed TPS genes.
【语种】英文
【第一作者】Guoliang Wang
【通讯作者】Tao Liu
【期刊名称、卷期、页码】Mar. Drugs
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【学科分类】生物学其他学科

【题目】我国发展大型海藻养殖碳汇产业的条件与政策建议
【中文关键词】海藻;养殖;碳汇
【英文关键词】seaweed,cultivation,carbon sink
【中文摘要】本文简要分析了我国大型海藻养殖业的发展现状,探讨了我国2000年以来海藻养殖种类、产量和面积的变动情况;分析了我国海带、紫菜、江蓠、麒麟菜等主要养殖海藻种类的碳含量,估算出我国大型海藻养殖业碳汇规模达到34.79万吨/年。大型海藻养殖具有碳含量高、可计量、养殖过程可控制等优点,可以作为一种新型的碳汇产业。
【英文摘要】This paper studied the current situation of the seaweed cultivation in China,as wel1 as the variations of the species,the output and the cultivation area of the kelps cultivation in China since 2000.We estimated that the carbon sink of the seaweed cultivation has reached 347, 900 tons/year in China,by analyzing how much carbon is contained in the major kelps under cultivation,such as

Laminaria japonica,Porphyra sp.,Gracilaria sp.,Eucheuma sp.,seaweed cultivation can be regarded as a new kind of carbon sink industry for its high carbon content,being quantifiable and controllable in the breeding process

【语种】中文

【第一作者】罗丹

【通讯作者】Tao Liu

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【学科分类】生物学其他学科

【题目】海带新品系脂肪酸的气相色谱-质谱联用分析

【中文关键词】海带;脂肪酸;气相色谱一质谱联用技术

【英文关键词】无

【中文摘要】首次用乙醇提取、甲酯化处理的方法,对GN海带新品系脂肪酸的化学成分采用GC-MS技术进行分析研究。结果表明:海带中含有10种不饱和脂肪酸,占37.98%,其中亚油酸占9.29%,γ-亚麻酸占3.74%,EPA占1.12%,DHA占0.63%,花生四烯酸占4.9%;含有4种饱和脂肪酸,占56.22%的,其中棕榈酸(又名软脂酸)的含量高达36.23%。为海带新品系在生物制药和营养保健品领域的深度开发应用提供了科学依据。

【英文摘要】The fatty acids were extracted from a new kelp using alcohol,which were esterified in KOH-CH3OH solution and then analyzed by GC—MS method.The results showed that there were ten polyunsaturated fatty acids(PUFAs)with their contents of 37.98% ,including linoleic acid(LA,9.29%), γ -Linolenic acid(GLA,3.74%),eieosapentaen0ic acid(EPA,1.12%),docosahexenoic acid(DHA,0.63%),Arachidonic acid(AA,4.9%).Besides,there were four saturated fatty acids(SFAs)with their contents of 56.22%,including palmitie acid 36.23%.This work provided scientific evidence for the deeper exploitation of the new kelp in the biological pharmacy and nourishment fields.

【语种】中文

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【期刊名称、卷期、页码】中山大学学报

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【学科分类】生物学其他学科

【题目】Development of EST-SSR primers and their practicability test for Laminaria.

【中文关键词】Laminaria, EST-SSRs, germplasm identification, polymorphism analysis

【英文关键词】Laminaria, EST-SSRs, germplasm identification, polymorphism analysis

【中文摘要】Laminaria (Saccharina) is one of the economic important seaweeds. Through sequence analysis of 4099 ESTs from Laminaria (971 were generated from our own cDNA laboratories and 3 128 were downloaded from updated EST databases) with SSRIT software, two hundred and fifty-four SSRs in 206 ESTs were found. From the 254 SSRs, sixty-three SSR primer-pairs were designed. In order to test their practicability, the 63 primer-pairs were tested in commonly used SSR reaction conditions using 12 Laminara DNA samples as templates. The results show that 23 SSR primer-pairs gave good amplification patterns on most (more than 80%) of the 12 Laminara DNA templates. Genetic diversity study of 12 Laminaria lines, which were widely used in breeding and economic cultivation in China, was performed based on the obtained SSR data.

【英文摘要】Laminaria (Saccharina) is one of the economic important seaweeds. Through sequence analysis of 4099 ESTs from Laminaria (971 were generated from our own cDNA laboratories and 3 128 were downloaded from updated EST databases) with SSRIT software, two hundred and fifty-four SSRs in 206 ESTs were found. From the 254 SSRs, sixty-three SSR primer-pairs were designed. In order to test their practicability, the 63 primer-pairs were tested in commonly used SSR reaction conditions using 12 Laminara DNA samples as templates. The results show that 23 SSR primer-pairs gave good amplification patterns on most (more than 80%) of the 12 Laminara DNA templates. Genetic diversity study of 12 Laminaria lines, which were widely used in breeding and economic cultivation in China, was performed based on the obtained SSR data.

【语种】英文
【第一作者】WANG Guoliang
【通讯作者】Tao Liu
【期刊名称、卷期、页码】ACTA OCEANOLOGICA SINICA
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【题目】Study on high temperature resistant and high-yield Laminaria variety
【中文关键词】Hybridization of gametophytes . Laminaria saccharina . RAPD . Phaeophyceae
【英文关键词】Hybridization of gametophytes . Laminaria saccharina . RAPD . Phaeophyceae
【中文摘要】Hybridization of gametophytes, continuous selfcrossing and targeted selection were utilized to breed a new Laminaria variety. After five-generation selection breeding, the new variety “ Rongfu ” was obtained. Its male parent “ Yuanza No.10 ” was the high-yield cultivation variety, and its female parent was variety “ Fujian ” which could tolerate relatively high seawater temperature. “ Yuanza No.10 ” and “ Fujian ” were different but complement in theirmorphological characteristics and biological habits. Variety “ Rongfu ” was bred through their hybridization which exhibited high-yield potential and high seawater temperature tolerance. The results of traits evaluation in consecutive years showed that “ Rongfu ” attained higher yields by 24 – 27% compared to the control (widely used commercial variety) and also contained considerable amounts of iodine, mannitol, and algin. When seawater temperature was 18 – 21 ° C, the blade growth of “ Rongfu ” was maintained and tissue loss by abrasion was significantly lower than the control. Since the adoption of variety “ Rongfu ” in 2001, its cultivation areas have been extended to Shandong, Fujian and Guangdong province and have reached 14,133 ha currently, i.e., almost one-tenth of the total cultivation areas of Laminaria in China. The results of Random Amplified Polymorphic DNA analysis showed that the relationship between “ Rongfu ” and other cultivation varieties in China was very close.
【英文摘要】Hybridization of gametophytes, continuous selfcrossing and targeted selection were utilized to breed a new Laminaria variety. After five-generation selection breeding, the new variety “ Rongfu ” was obtained. Its male parent “ Yuanza No.10 ” was the high-yield cultivation variety, and its female parent was variety “ Fujian ” which could tolerate relatively high seawater temperature. “ Yuanza No.10 ” and “ Fujian ” were different but complement in theirmorphological characteristics and biological habits. Variety “ Rongfu ” was bred through their hybridization which exhibited high-yield potential and high seawater temperature tolerance. The results of traits evaluation in consecutive years showed that “ Rongfu ” attained higher yields by 24 – 27% compared to the control (widely used commercial variety) and also contained considerable amounts of iodine, mannitol, and algin. When seawater temperature was 18 – 21 ° C, the blade growth of “ Rongfu ” was maintained and tissue loss by abrasion was significantly lower than the control. Since the adoption of variety “ Rongfu ” in 2001, its cultivation areas have been extended to Shandong, Fujian and Guangdong province and have reached 14,133 ha currently, i.e., almost one-tenth of the total cultivation areas of Laminaria in China. The results of Random Amplified Polymorphic DNA analysis showed that the relationship between “ Rongfu ” and other cultivation varieties in China was very close.
【语种】英文
【第一作者】Jing Zhang
【通讯作者】Tao Liu
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【学科分类】生物学其他学科

【题目】鲈幼鱼对饲料中苏氨酸的需要量
【中文关键词】鲈; 苏氨酸; 需求量; 摄食生长;
【英文关键词】Japanese seabass(Lateolabrax japonicus); threonine; requirement; feeding and nutrition;
【中文摘要】以初始体质量(8.00±0.20)g的鲈为实验对象,在海水网箱(1.5 m×1.5 m×2.0 m)中进行为期8周的摄食生长实验,研究鲈对饲料中苏氨酸的需要量。通过在半精制基础饲料中添加晶体L-苏氨酸使饲料中苏氨酸含量分别达到0.75%、

1.03%、1.36%、1.67%、2.04%和2.31%,配制成6水平等氮等能饲料(41.83%粗蛋白质,19.68 kJ/g总能)。每种饲料设3个重复,每个重复随机放养30尾鲈。实验采用表观饱食投喂方式,每天投喂2次(06:00和17:30),实验期间水温为26~32℃,盐度为22~28,溶解氧含量在7 mg/L左右。实验结果表明,各饲料处理组成活率(94.4%~98.9%)无显著差异。随着饲料中苏氨酸含量的增加,鲈的增重率显著升高(150.3%~256.9%)(P<0.05),且在1.67%苏氨酸饲料组达到最大值(256.9%),然而,随着饲料中苏氨酸含量的进一步增加,增重率有下降的趋势。鲈的氮累积率随着饲料中苏氨酸含量的增加而显著升高(13.18%~26.36%)(P<0.05),且在1.67%苏氨酸饲料组达到最大值(26.36%),随着饲料中苏氨酸含量的进一步增加,氮累积率有下降的趋势。饲料苏氨酸含量对鲈鱼体粗蛋白、粗脂肪和灰分含量无显著影响。以增重率和氮累积率为评价指标经二次回归分析得出,鲈对饲料中苏氨酸的需要量分别为1.77%和1.88%,占饲料蛋白质的4.21%和4.47%。

【英文摘要】A feeding experiment was conducted to determine the dietary requirement of threonine of juvenile Japanese seabass(initial average weight 8.00±0.20 g).Six isonitrogenous and isoenergetic semi-purified diets were formulated to contain 41.83% crude protein,19.68% kJ/g gross energy and six levels of threonine 0.75%,1.03%,1.36%,1.67%,2.04% and 2.31%(dry matter basis)at about 0.35% increment(diets 1-6).Each diet was randomly assigned to triplicate groups of 30 fish and fed to apparent satiation by hand twice daily(06:00 and 17:30)for 8 weeks in floating sea cages.The water temperature fluctuated from 26 to 32 ℃,salinity from 22‰ to 28‰ and dissolved oxygen was approximately 7 mg/L during the experimental period.No significant differences in survival were found among dietary treatments.Weight gain rate(WGR)significantly increased with increasing dietary threonine from 150.3 to 256.9%(P<0.05),and thereafter showed a declining tendency.Nitrogen retention(NR)significantly increased with increasing dietary threonine from 13.18% to 26.36%(P<0.05),same as above,declined.No significant differences in body composition were found among dietary treatment.On the basis of either WGR or NR,the optimum dietary threonine requirements of juvenile Japanese seabass were estimated to be 1.77% of diet(4.21% of dietary protein)and 1.88% of diet(4.47% of dietary protein),respectively,using second-order polynomial regression analysis.

【语种】中文

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【学科分类】水产饲料学

【题目】环糊精葡萄糖基转移酶的结构特征与催化机理

【中文关键词】环糊精;环糊精葡萄糖基转移酶;结构特征;催化机理;环化反应

【英文关键词】Cyclodextrin; Cyclodextrin glycosyltransferase; Structural characteristics;Catalytic mechanism; Cyclization reaction

【中文摘要】随着环糊精在食品、医药等领域的应用越来越广,生产环糊精所必需的环糊精葡萄糖基转移酶(CGT酶)已经成为当今研究的热点。特别是近二十年来,国外对该酶进行了比较深入的研究。首先介绍了CGT酶的功能特性与结构特征。CGT酶是一种多功能型酶,能催化三种转糖基反应(歧化、环化和耦合反应)和水解反应,其中,能将淀粉转化为环糊精的环化反应是特征反应;作为α-淀粉酶家族的成员,CGT酶除了具有与α-淀粉酶相同的A、B、C结构域外,还存在D和E结构域。另外,对CGT酶的催化机理包括底物结合方式、转糖苷反应机理以及环化机理等进行了详细的讨论。

【英文摘要】With the applications of cyclodextrins expanding in the industries related to food,pharmaceuticals,etc,cyclodextrin glycosyltransferase(CGTase),the essential enzyme for the production of cyclodextrins,has become the focus of scientific research nowadays.Especially in recent twenty years,CGTase has been studied extensively,leading to increasing knowledge of its structure and function.Firstly the function and structural characteristics of CGTase were focused on.CGTase is a multifunctional enzyme.It can catalyze three transglycosylation reactions(disproportionation,cyclization,and coupling),and a hydrolysis reaction.The specific CGTase reaction is the cyclization reaction,which can result in the formation of a cyclodextrin.CGTase is a member of the α-amylase family of glycosyl hydrolases. α-Amylases generally consist of three structural domains,A,B,and C,while CGTases show a similar domain organization with two additional domains,D and E.In addition,substrate binding of CGTase and mechanisms of transglycosylation and cyclization reactions catalyzed by CGTase were discussed in detail.Domain B contributes to substrate binding by providing several amino acid side chains alongside a substrate binding groove on the surface of the CGTase protein.Maltose binding site assists in guiding the linear starch chains into the substrate binding groove containing at least nine subsites.After the glycosidic bond cleavage reaction has taken place between subsites +1 and-1,the non-reducing end of the oligosaccharide at the groove is transferred to the reducing end of the same oligosaccharide chain,leading to cyclic products

【语种】中文
【第一作者】李兆丰
【通讯作者】顾正彪
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【学科分类】分子生物学

【题目】Calcium Leads to Further Increase in Glycine-Enhanced Extracellular Secretion of Recombinant γ -Cyclodextrin Glycosyltransferase in Escherichia coli
【中文关键词】无中文关键词
【英文关键词】Cyclodextrin glycosyltransferase, Paenibacillus macerans, extracellular secretion, glycine, Escherichia coli; Ca2+
【中文摘要】无中文摘要
【英文摘要】Overexpression of recombinant genes in Escherichia coli and targeting recombinant proteins to the culture medium are highly desirable for the production of industrial enzymes. However, a major barrier is inadequate secretion of recombinant protein across the two membranes of E. coli cells. In the present study, we have attempted to circumvent this secretion problem of the recombinant α -cyclodextrin glycosyltransferase (α -CGTase) from Paenibacillus macerans strain JFB05-01. It was found that glycine, as a medium supplement, could enhance the extracellular secretion of recombinant α -CGTase in E. coli. In the culture with glycine at the optimal concentration of 150 mM, the α -CGTase activity in the culture medium reached 23.5 U/mL at 40 h of culture, which was 11-fold higher than that of the culture in regular TB medium. A 2.3-fold increase in the maximum extracellular productivity of recombinant α -CGTase was also observed. However, further analysis indicated that glycine supplementation exerted impaired cell growth as demonstrated by reduced cell number and viability, increased cell lysis, and damaged cell morphology, which prevented further improvement in overall enzyme productivity. Significantly, Ca2+ could remedy cell growth inhibition induced by glycine, thereby leading to further increase in the glycine-enhanced extracellular secretion of recombinant α -CGTase. In the culture with 150 mM glycine and 20 mM Ca2+, both extracellular activity and maximum productivity of recombinant enzyme were 1.5-fold higher than those in the culture with glycine alone. To the best of our knowledge, this is the first article about the synergistic promoting effects of glycine and Ca2+ on the extracellular secretion of a recombinant protein in E. coli.
【语种】英文
【第一作者】Zhao-Feng Li
【通讯作者】Jing Wu, Jian Chen
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【学科分类】分子生物学

【题目】Delayed supplementation of glycine enhances extracellular secretion of the recombinant alpha-cyclodextrin glycosyltransferase in Escherichia coli
【中文关键词】无中文关键词
【英文关键词】Cyclodextrin glycosyltransferase. Paenibacillus macerans. Extracellular secretion. Glycine. Escherichia coli. Delayed supplementation
【中文摘要】无中文摘要
【英文摘要】The targeting of recombinant proteins for secretion to the culture medium of Escherichia coli presents significant advantages over cytoplasmic or periplasmic expression. However, a major barrier is inadequate secretion across two cell membranes. In the present study, we attempted to circumvent this secretion problem of the recombinant alpha-cyclodextrin glycosyltransferase (alpha-CGTase) from Paenibacillus macerans strain JFB05-01. It was found that glycine could promote extracellular secretion of the recombinant alpha-CGTase for which one potential mechanism might be the increase in membrane permeability. However, further analysis indicated that glycine supplementation resulted in impaired cell growth, which adversely affected overall recombinant protein production. Significantly, delayed supplementation of glycine could control cell growth impairment exerted by glycine. As a result, if

the supplementation of 1% glycine was optimally carried out at the middle of the exponential growth phase, the alpha-CGTase activity in the culture medium reached 28.5 U/ml at 44 h of culture, which was 11-fold higher than that of the culture in regular terrific broth medium and 1.2-fold higher than that of the culture supplemented with 1% glycine at the beginning of culture.
【语种】英文
【第一作者】Zhao-Feng Li
【通讯作者】Jing Wu, Jian Chen
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【题目】Enhanced secretion of recombinant α-cyclodextrin glucosyltransferase from E. coli by medium additives
【中文关键词】无中文关键词
【英文关键词】α-Cyclodextrin glucosyltransferase, Extracellular enzyme, Medium additives, Cell membrane permeability, Phosphatidylglycerol, Cell membrane fluidity
【中文摘要】无中文摘要
【英文摘要】The purpose of this study was to investigate the effect of medium additives on the secretion of recombinant α-cyclodextrin glucosyltransferase (α-CGTase) into the culture media of Escherichia coli. It is found that supplementation of the E. coli culture with SDS, glycine, Ca2+ or Na+, individually, facilitated the secretion of α-CGTase. Orthogonal experiment showed that the optimal condition to achieve maximal secretion of α-CGTase was the supplementation with 0.03% SDS, 400 mM Na+, 0.3% glycine and 10 mM Ca2+ together. Under this condition, extracellular enzyme activity reached 12.89 U/ml, which is 15 times higher than that of the culture without any additives. Further analysis showed that the permeability, fluidity and phosphatidylglycerol content of the E. coli cell membrane under the optimized condition were significantly increased in comparison to those under the control condition. These might be the potential mechanisms for the increased secretion of α-CGTase from the periplasmic compartment into the culture medium.
【语种】英文
【第一作者】Runrong Ding
【通讯作者】Jing Wu, Jian Chen
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【引文索引号】j.procbio.2010.02.009
【学科分类】分子生物学

【题目】油菜沪油15中AP2/ERF-B3亚族转录因子的克隆和生物信息学分析
【中文关键词】转录因子AP2/ERF—B3亚族 生物信息学 进化树 油菜沪油15
【英文关键词】无
【中文摘要】AP2/ERF转录因子家族广泛存在于植物中,参与植物细胞周期、生长发育以及生物和非生物胁迫相关基因表达调控。本文利用油菜UniGene数据库,以拟南芥AP2/ERF—B3亚族转录因子保守序列为信息探针,分离得到2个油菜AP2/ERF—B3亚族的转录因子BnaERFB3—1和BnaERFB3—2。通过PCR和RT—PCR方法分别从双低甘蓝型油菜沪油15的DNA和cDNA中克隆了上述基因。序列分析显示,克隆的BnaERFB3—1-Hy15和BnaERFB3—2-Hy15转录因子与电子克隆的基因序列差异很小,均只有1个氨基酸位点不同,且都没有内含子。从氨基酸序列的相似性、组成成分、理化性质、疏水性/亲水性、序列比对、进化树、功能域、二级结构、三级结构、无序化特性等方面进行了预测和较为全面的分析。结果显示BnaERFB3—1-Hy15和BnaERFB3—2-Hy15是亲水性蛋白,在蛋白质的三级结构上与AtERF5相似,BnaERFB3—1-Hy15和BnaERFB3—2-Hv15蛋白无序化程度大于拟南芥AtERF5。通过分析EST丰度显示,BnaERFB3—1的表达集中在种子中,而BnaERFB3—2的表达则集中在根中。另外,将上述基因分别构建入酵母表达载体和植物双元表达载体,为深入研究该基因在油菜抗逆调控中的作用奠定了基础
【英文摘要】无

【语种】中文
【第一作者】庄静
【通讯作者】姚泉洪
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【题目】甘蓝型油菜中一类AP2/ERF转录因子的克隆和生物信息学分析
【中文关键词】AP2/ERF ; 转录因子;克隆;生物信息学;甘蓝型油菜;沪油15
【英文关键词】无
【中文摘要】AP2/ERF转录因子家族是植物中广泛存在的一类转录因子,AP2/ERF这类转录因子主要参与植物的细胞周期、生长发育以及生物和非生物胁迫相关基因的表达调控.由于拟南芥和油菜同属于芸薹属,具有相似的基因信息,利用油菜UniGene数据库,以拟南芥ERF 转录因子保守序列为探针,通过电子克隆从一个UniGene Cluster中分离得到三个同类的AP2/ERF转录因子,从cDNA序列、氨基酸序列的相似性、组成成分、理化性质、疏水性/ 亲水性分析、序列比对、进化树、功能域、二级结构、三级结构、无序化特性进行了预测和较为全面的分析.结果显示油菜来源的BnaERF1、BnaERF2和BnaERF3属于AP2/ERF 转录因子的B-2亚族,是亲水性蛋白,在蛋白质的三级结构上与AtERF1相似.蛋白质无序化分析发现,油菜BnaERF1、BnaERF2和BnaERF3无序化程度小于拟南芥AtERF1.设计引物通过PCR和RT-PCR方法分别从甘蓝型双低油菜沪油15幼苗的DNA和cDNA中扩增了上述基因,初步分析BnaERF2没有内含子,BnaERF1和BnaERF3有内含子.另外,通过EST丰度分析显示,该类转录因子的表达最高峰在种子中,其次为花,在芽、茎和分生组织中没有检测出表达的存在.
【英文摘要】无
【语种】中文
【第一作者】庄静
【通讯作者】姚泉洪
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【题目】Behavioral response of Norway rats (Rattus norvegicus) to odors of different mammalian species
【中文关键词】Rattus norvegicus , Predator odor aversion ,Behavioral responses , Captivity , Meles meles
【英文关键词】Rattus norvegicus , Predator odor aversion ,Behavioral responses , Captivity , Meles meles
【中文摘要】Behavioral responses to the odors of three predators of rodents (domestic cat (Felis catus), weasel (Mustela sibirica), Eurasian badger (Meles meles)), one non-predator mammal (rabbit (Lepus capensis)), and distilled water (control) were assessed in three types of Norway rats (Rattus norvegicus): wild (WNRs), domestic (DNRs), and albino laboratory Wistar (AWRs). Rats were taken individually to a testing apparatus consisting of a hide box and a testing arena. The behavioral activities, including concealing, heading out, approaching, and feeding behaviors in each trial were videotaped for 3 h. Results revealed that WNRs, DNRs, and AWRs all showed an aversion to the predator odors by spending more time concealing in the hide box: frequencies of approaching and feeding behaviors, as well as the amount of food intake were significantly lower than control group. Our results suggest that the response of DNRs and AWRs were ‘‘builtin’’ or innate in nature as they had never experienced the odors of the tested predators. Moreover, all three types of rats can distinguish between predator and non-predator odors, but the ability of WNRs was the highest, which can distinguish between sympatric and allopatric predators, while the ability of AWRs was the lowest, which spent most time in the hide box. The concealing and approaching behaviors were no significantly different among the five odor exposure groups. Also, the reactions of the three types of rats toward the control group(distilled water) significantly differ. This suggests that the duration of time spent in captivity plays an important role in shaping the response of rats to different predator odors.
【英文摘要】Behavioral responses to the odors of three predators of rodents (domestic cat (Felis catus), weasel (Mustela sibirica), Eurasian badger (Meles meles)), one non-predator mammal (rabbit (Lepus capensis)), and distilled water (control) were assessed in three types of Norway rats (Rattus norvegicus): wild (WNRs), domestic (DNRs), and albino laboratory Wistar (AWRs). Rats were

taken individually to a testing apparatus consisting of a hide box and a testing arena. The behavioral activities, including concealing, heading out, approaching, and feeding behaviors in each trial were videotaped for 3 h. Results revealed that WNRs, DNRs, and AWRs all showed an aversion to the predator odors by spending more time concealing in the hide box: frequencies of approaching and feeding behaviors, as well as the amount of food intake were significantly lower than control group. Our results suggest that the response of DNRs and AWRs were ‘‘builtin’’ or innate in nature as they had never experienced the odors of the tested predators. Moreover, all three types of rats can distinguish between predator and non-predator odors, but the ability of WNRs was the highest, which can distinguish between sympatric and allopatric predators, while the ability of AWRs was the lowest, which spent most time in the hide box. The concealing and approaching behaviors were no significantly different among the five odor exposure groups. Also, the reactions of the three types of rats toward the control group(distilled water) significantly differ. This suggests that the duration of time spent in captivity plays an important role in shaping the response of rats to different predator odors.

【语种】英文
【第一作者】殷宝法
【通讯作者】魏万红
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【学科分类】生态学

【题目】Biogeographical Study of Plateau Pikas Ochotona curzoniae (Lagomorpha,Ochotonidae)
【中文关键词】cob, D-loop, Ochotona curzoniae, phylogeography, pikas, population
【英文关键词】cob, D-loop, Ochotona curzoniae, phylogeography, pikas, population
【中文摘要】We reconstructed the demographic history of the plateau pika (Ochotona curzoniae) on the Qinghai-Tibetan plateau by using genetic variation data obtained from spatially distributed populations across much of the plateau. We obtained sequence data, including cob (1,140 bp) and D-loop sequences (732 bp), from 144 individuals at sites ranging from the high-altitude interior to the relatively low-altitude northeastern plateau, and identified 37 and 42 unique haplotypes, respectively.Phylgenetic analysis and haplotype networks based on the individual and the combined datasets of cob and D-loop sequences clustered all populations into four well-supported major groups, and the interaction between vicariance, dispersal, and habitat fragmentation resulted in the current geographical distribution and genetic diversity of O. curzoniae on the plateau. Analysis of molecular variance (AMOVA) and mismatch distribution suggested that the recent continuous uplifts of the plateau contributed to the radiation and diversification of the O. curzoniae populations occurring there.
【英文摘要】We reconstructed the demographic history of the plateau pika (Ochotona curzoniae) on the Qinghai-Tibetan plateau by using genetic variation data obtained from spatially distributed populations across much of the plateau. We obtained sequence data, including cob (1,140 bp) and D-loop sequences (732 bp), from 144 individuals at sites ranging from the high-altitude interior to the relatively low-altitude northeastern plateau, and identified 37 and 42 unique haplotypes, respectively.Phylgenetic analysis and haplotype networks based on the individual and the combined datasets of cob and D-loop sequences clustered all populations into four well-supported major groups, and the interaction between vicariance, dispersal, and habitat fragmentation resulted in the current geographical distribution and genetic diversity of O. curzoniae on the plateau. Analysis of molecular variance (AMOVA) and mismatch distribution suggested that the recent continuous uplifts of the plateau contributed to the radiation and diversification of the O. curzoniae populations occurring there.
【语种】英文
【第一作者】俞发宏
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【学科分类】生态学

【题目】Male reproductive success in plateau pikas(Ochotona curzoniae): A microsatellite analysis
【中文关键词】Male reproductive success; Microsatellites; Paternity analysis; Plateau pika
【英文关键词】Male reproductive success; Microsatellites; Paternity analysis; Plateau pika
【中文摘要】In many social species, competition and cooperation between group members may lead to a large variance in reproductive success among individuals, especially for adult male. From April to August 2002, we studied the adult male reproductive success of plateau pikas in Haibei Alpine Meadow Ecosystem Research Station, Chinese Academy of Science, using microsatellite analysis of paternity, mark-recapture and behavioral observations. Our result indicated that the reproductive success of adult males had a large variance. Its average was 6 individuals and range was from 0 to 13 individuals. One-third of males sired 63.22% offspring. There was a hierarchy system in polygynandrous families. Although the reproductive success of dominant males was higher than that of subordinate males, subordinate males still play an important role in the reproductive success of the population.
【英文摘要】In many social species, competition and cooperation between group members may lead to a large variance in reproductive success among individuals, especially for adult male. From April to August 2002, we studied the adult male reproductive success of plateau pikas in Haibei Alpine Meadow Ecosystem Research Station, Chinese Academy of Science, using microsatellite analysis of paternity, mark-recapture and behavioral observations. Our result indicated that the reproductive success of adult males had a large variance. Its average was 6 individuals and range was from 0 to 13 individuals. One-third of males sired 63.22% offspring. There was a hierarchy system in polygynandrous families. Although the reproductive success of dominant males was higher than that of subordinate males, subordinate males still play an important role in the reproductive success of the population.
【语种】英文
【第一作者】殷宝法
【通讯作者】魏万红
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【学科分类】生态学

【题目】Prey selection and hunting behaviors of steppe polecat mustela eversmanni in laboratory studies
【中文关键词】Hunting behavior, Mustela eversmanni , prey activity, prey body mass, prey number, China
【英文关键词】Hunting behavior, Mustela eversmanni , prey activity, prey body mass, prey number, China
【中文摘要】Steppe polecat (Mustela eversmanni Lesson, 1827) is the dominant species of mustelids in the alpine meadow ecosystem of the Qinghai-Xizang (Tibetan) plateau in China. Using the live and dead rats as the experimental prey, we investigated the effects of prey body masses, numbers and activities on predatory behaviors of the polecat. Our results revealed that the prey activity was the most important factor that affected prey selection of the polecat during searching phase. The searching time used for live prey by polecat was significantly longer than that used for dead prey. Also, the prey numbers and body masses significantly affected prey selection of the polecat. When the activities of prey were the same, the polecat always preferred the group with more prey than the one with less prey. When the number and activity of prey were the same, the searching duration was significantly decreased from the lowest weight class to the highest one. In addition, the foraging profitability of polecat is prey-dependent, which was higher with smaller prey than with large ones. These results indicated that the polecat could adjust the hunting behaviors to achieve the optimal profitability according to the characteristics of prey.
【英文摘要】Steppe polecat (Mustela eversmanni Lesson, 1827) is the dominant species of mustelids in the alpine meadow ecosystem of the Qinghai-Xizang (Tibetan) plateau in China. Using the live and dead rats as the experimental prey, we investigated the effects of prey body masses, numbers and activities on predatory behaviors of the polecat. Our results revealed that the prey activity was the most important factor that affected prey selection of the polecat during searching phase. The searching time used for live prey by polecat was significantly longer than that used for dead prey. Also, the prey numbers and body masses significantly affected prey selection of the polecat. When the activities of prey were the same, the polecat always preferred the group with more prey than the one with less prey. When the number and activity of prey were the same, the searching duration was significantly decreased from the lowest weight class to the highest one. In addition, the foraging profitability of polecat is prey-dependent, which was higher with smaller prey than with large ones. These results indicated that the polecat could adjust the hunting behaviors to achieve the optimal profitability according to the characteristics of prey.
【语种】英文

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【通讯作者】魏万红
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【引文索引号】doi:000298099400001
【学科分类】生态学

【题目】whwei@yzu.edu.cn
【中文关键词】单宁酸;生殖激素;高原鼠兔;根田鼠;协同进化
【英文关键词】Coevolution;Gonad hormone;Plateau pikas (Ochotona curzoniae);Root voles (Microtus oeconomus);Tannic acid
【中文摘要】高原鼠兔和根田鼠是生存于青藏高原的小哺乳动物,它们所取食的高原植物含有多种次生化合物。为了证明食物中的次生化合物对高原鼠兔和根田鼠繁殖相关激素的影响,探讨它们与取食植物间的协同进化,分别对两种动物灌服0、5、10和20 mg/ kg BW剂量单宁酸1 d、3 d及5 d后,测定其下丘脑促性腺激素释放激素、血浆中睾酮和血浆雌二醇的含量。结果表明,单宁酸对高原鼠兔的LD50为112 ±27　72 mg/ kg BW,对根田鼠的LD50为117 ± 17　37 mg/ kg BW;单宁酸可以使高原鼠兔和根田鼠血浆睾酮和雌二醇水平升高,但对下丘脑促性腺激素释放激素水平没有明显的影响。说明单宁酸可能会促进这两种动物的性成熟,有利于它们的繁殖
【英文摘要】Plateau pikas (Ochotona curzoniae)and root voles (Microtus oeconomus)are herbivorous mammals inhabiting in the highest plateau of the world,the Qinghai-Tibet Plateau　They feed on plants that contain many kinds of secondary metabolites. Our study objectives were to verify that secondary metabolites in their diets have some effects on the hormones related to their reproductive behaviors,and to explore the co-evolution between the animals and their forage for both species. Gonadotropin-releasing hormone (GnRH),plasma androgen and estrogen for both species was assayed after subjects were administrated tannic acid at dosages of 0,5,10,20 mg /kg BW for 1,3,or 5 days. Tannic acid increased plasma androgen and estrogen in both of pikas and root voles. We observed no significant change of GnRH in either species. This suggests that tannic acid plays a role in sexual maturation and benefits reproductive behaviors.
【语种】中文
【第一作者】戴鑫
【通讯作者】杨生妹
【期刊名称、卷期、页码】兽类学报,31 (3):278 -283
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【引文索引类型】其他
【引文索引号】null
【学科分类】生态学

【题目】京杭运河堤坝区域狗獾的栖息地特征
【中文关键词】狗獾; 栖息地选择; 人为干扰
【英文关键词】Mele meles; habitat selection; human disturbance
【中文摘要】2006年10-11月和2007年10-11月,在京杭运河邵伯—高邮段的西侧堤坝上,采用样方法测定了狗獾3个不同类型栖息地的特征变量和利用强度,结果表明: 狗獾主要生活在郁闭度较高的森林中,对泡桐、泡桐-杨树次生林的利用强度显著的高于杨树人工林(P < 0.05) ; 多元线性逐步回归分析表明: 洞口数主要受灌木密度、大树密度、草本植物盖度、土壤含水率和人为干扰强度的影响(P = 0.002) ,而粪堆数主要受灌木密度、大树密度和人为干扰强度的影响(P = 0.012) 。整体来看,影响狗獾栖息地选择的因素主要是郁闭度、人为干扰水平有关的因子。
【英文摘要】Habitat selection is one of the most poorly understood ecological processes,but its study has become a necessary tool in conservation biology and wildlife management. The basic assumption in habitat selection theory is that individuals select those types of habitat where the benefits are maximized and the harm is minimized. Many variables can influence the individual's decision of selecting between available habitats,from physiological limitations to ecological constrains (e. g.predation pressure,refuge) . The knowledge of these factors is basic for the correct understanding of habitat choice processes and for the implementation of effective strategies in conservation and /or management of species and landscapes.The Eurasian badger (Meles meles) is a medium sized carnivore distributed all over temperate Eurasia. In October-November 2006 and 2007,the habitat selection of Eurasian badger was investigated at Beijing-Hangzhou Grand Canalembankment (from Shaobo to Gaoyou) . Two indexes of activity intensities,setts number and feces

number were used to estimate the utilization intensities of badger on three types of habitats,Populus euphratica artificial forest,Populus euphratica-Paulownia fortunei artificial forest and Populus euphratica artificial forest. Meanwhile,the factors influencing the habitat selection of badger were analyzed by stepwise regression for determining the habitat characteristics of Eurasianbadger. Results indicated that,in Beijing-Hangzhou Grand Canal embankment area,badgers preferred Populus euphratica forest and Populus euphratica-Paulownia fortunei artificial forest attribute to dense plant canopy. Stepwise regression indicated that density of shrubs,density of big trees,herbaceous plants cover,soil moisture and human disturbance degree significantly influenced the number of setts (P = 0.002) . Furthermore,the number of fences were also affected by the density of shrubs and big trees,and human disturbance(P = 0.012) . Overall,the influences of most habitat variables onthe habitat selection of badger were directly or indirectly related to shelter cover and predation risk. It is concluded that badgers preferred to selecting forests with dense plant canopy and lower predation risk.

【语种】中文

【第一作者】殷宝法

【通讯作者】魏万红

【期刊名称、卷期、页码】生态学报,31(7) : 2002—2007

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【引文索引类型】其他

【引文索引号】null

【学科分类】生态学

【题目】Every rose has its own thorns? A study on Trivers – Willard hypothesis in plateau pikas

【中文关键词】Sex ratio variation; litter size, Trivers – Willard hypothesis; Ochotona curzonia

【英文关键词】Sex ratio variation; litter size, Trivers – Willard hypothesis; Ochotona curzonia

【中文摘要】This study is considered the first dealt with Trivers – Willard hypothesis in china using a wildlife population of plateau pikas (Ochotona curzoniae) by which we have investigated the relationship between maternal quality, litter sex ratio and litter size in a polytocous mammal. Our results indicated that the reproductive time significantly affected the litter sex ratio. Although the concentration of female adult plasma immunoglobulin G (IgG) and Glucagon (Glu) at gestation, body weight, ear length, rear foot length, and body length of adult female after gestation did not affect the litter sex ratio, however, litter size has a significant negative impact on the litter sex ratio, and body weight of adult females have a significant effect on the litter size. These results might give some evidence for the Trivers – Willard hypothesis in polytocous mammals.

【英文摘要】This study is considered the first dealt with Trivers – Willard hypothesis in china using a wildlife population of plateau pikas (Ochotona curzoniae) by which we have investigated the relationship between maternal quality, litter sex ratio and litter size in a polytocous mammal. Our results indicated that the reproductive time significantly affected the litter sex ratio. Although the concentration of female adult plasma immunoglobulin G (IgG) and Glucagon (Glu) at gestation, body weight, ear length, rear foot length, and body length of adult female after gestation did not affect the litter sex ratio, however, litter size has a significant negative impact on the litter sex ratio, and body weight of adult females have a significant effect on the litter size. These results might give some evidence for the Trivers – Willard hypothesis in polytocous mammals.

【语种】英文

【第一作者】殷宝法

【通讯作者】魏万红

【期刊名称、卷期、页码】Journal of Animal and Veterinary Advance 10(24):3249-3253

【论文发表时间】2011-12-21 00:00:00

【引文索引类型】SCI

【引文索引号】2.9809750001e+011

【学科分类】生态学

【题目】Apical thickening of epicarp is responsible for embryo protection in acorns of Quercus variabilis

【中文关键词】hull thickness,herbivory defense,weevil larvae,Quercus

【英文关键词】hull thickness,herbivory defense,weevil larvae,Quercus

【中文摘要】The present study explored the evolutionary role of epicarp thickness of Q. variabilis acorns as a defensive mechanism against length and fresh mass of insect-damaged acorns were not different from those of intact ones, but width did differ.About 2, 18, and 79% of oviposition sites are distributed at the apical end, middle part, and basal end of acorns, respectively. About 5, 49, and 55% of

eggs or larvae are infested at the apical end, middle part, and basal end, respectively. Similarly, about 10, 43, and 45% of emergence holes are found at the apical end, middle part, and basal end. Epicarp thickness varied among the three parts of acorns and was significantly negatively correlated with the appearance percentage of oviposition sites, infestation sites, and emergence sites, respectively. However, secondary metabolites and nutrition reserve showed no close correlation with the appearance percentage of ovi ¬ position sites, infestation sites, and emergence sites.Acorns with emergence holes at the apical end exhibited significantly lower seedling emergence and survival rates.Therefore,variation in epicarp thickness in individual acorns may be responsible for the weevil ' s preference for oviposition,infestation, and emergence, and acts as an alternative and important strategy protectingacorn embryos from pre-dispersal larval damage.

【英文摘要】The present study explored the evolutionary role of epicarp thickness of Q. variabilis acorns as a defensive mechanism against length and fresh mass of insect-damaged acorns were not different from those of intact ones, but width did differ.About 2, 18, and 79% of oviposition sites are distributed at the apical end, middle part, and basal end of acorns, respectively. About 5, 49, and 55% of eggs or larvae are infested at the apical end, middle part, and basal end, respectively. Similarly, about 10, 43, and 45% of emergence holes are found at the apical end, middle part, and basal end. Epicarp thickness varied among the three parts of acorns and was significantly negatively correlated with the appearance percentage of oviposition sites, infestation sites, and emergence sites, respectively. However, secondary metabolites and nutrition reserve showed no close correlation with the appearance percentage of ovi ¬ position sites, infestation sites, and emergence sites.Acorns with emergence holes at the apical end exhibited significantly lower seedling emergence and survival rates.Therefore,variation in epicarp thickness in individual acorns may be responsible for the weevil ' s preference for oviposition,infestation, and emergence, and acts as an alternative and important strategy protectingacorn embryos from pre-dispersal larval damage.

【语种】英文

【第一作者】易现峰

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【期刊名称、卷期、页码】ISRAEL JOURNAL OF ECOLOGY & EVOLUTION, 56(2): 153-164

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【引文索引号】DOI: 10.1560/IJEE.56.2.153

【学科分类】生态学

【题目】Extracellular expression and biochemical characterization of α-cyclodextrin glycosyltransferase from Paenibacillus macerans

【中文关键词】无中文关键词

【英文关键词】Expression, Cyclization activity, Characterization, Cyclodextrin glycosyltransferase, Paenibacillus macerans,Escherichia coli

【中文摘要】无中文摘要

【英文摘要】The cgt gene encoding α-cyclodextrin glycosyltransferase (α-CGTase) from Paenibacillus macerans strain JFB05-01 was expressed in Escherichia coli as a C-terminal His-tagged protein. After 90 h of induction, the activity of α-CGTase in the culture medium reached 22.5 U/mL, which was approximately 42-fold higher than that from the parent strain. The recombinant α-CGTase was purified to homogeneity through either nickel affinity chromatography or a combination of ion-exchange and hydrophobic interaction chromatography. Then, the purified enzyme was characterized in detail with respect to its cyclization activity. It is a monomer in solution. Its optimum reaction temperature is 45 ° C, and half-lives are approximately 8 h at 40 ° C, 1.25 h at 45 ° C and 0.5 h at 50 ° C. The recombinant α-CGTase has an optimum pH of 5.5 with broad pH stability between pH 6 and 9.5. It is activated by Ca2+, Ba2+, and Zn2+ in a concentration-dependent manner, while it is dramatically inhibited by Hg2+. The kinetics of the α-CGTase-catalyzed cyclization reaction could be fairly well described by the Hill equation.

【语种】英文

【第一作者】Zhaofeng Li

【通讯作者】Jing Wu, Jian Chen

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【引文索引类型】SCI

【引文索引号】j.carres.2010.02.002

【学科分类】分子生物学

【题目】Behavioral adaptation of Pallas ’ s squirrels to germination schedule and tannins in acorns
【中文关键词】behavioral decisions,germination schedule,long-term food supply,scatter hoarding,tannins,tree squirrels
【英文关键词】behavioral decisions,germination schedule,long-term food supply,scatter hoarding,tannins,tree squirrels
【中文摘要】Using acorns from Castanea henryi (CH) and Quercus variabilis (QV) with contrasting germination schedule (related to food perishability) and tannin levels, we conducted field experiments in a subtropical forest in Southwest China to investigate how free-ranging Pallas ’ s squirrels (Callosciurus erythraeus) utilize acorns as long-term storage based on the food perishability and hightannin hypotheses. Though QV acorns germinated much earlier than CH ones, we found that Pallas ’ s squirrels hoarded more high-tannin QV acorns over low-tannin CH ones, supporting the high-tannin hypothesis (but not the food perishability hypothesis). However, several other predictions derived from the food perishability hypothesis received sound support: nondormant QVacorns had their embryos removed with a highe r probability (68.5%) than dormant CH ones (8.8%) and embryo-removed acornshad a much lower germination success but had a higher probability surviving as long-term storage. During the caching-recoveryp rocess, hoarding animals actively detected acorn state (dormant or not) and removed acorn embryos with an increasing probability in subsequent hoarding events. In addition,embryo-removed acorns could serve as long-term storage because they had a very low probability being infested by fungi as intact acorns did during the time of storage. We conclude that tree squirrelscan differentially respond to acorn germination and remove the embryos of nondormant acorns more frequently as long-term storage, but tannin level is more important in determining whether a given acorn is hoarded or not. Combined with the studies from North America, our results suggest convergent evolution of acorn hoarding behavior in tree squirrels across different continents. Key words: behavioral decisions, germination schedule, long-term food supply, scatter hoarding, tannins,tree squirrels.
【英文摘要】Using acorns from Castanea henryi (CH) and Quercus variabilis (QV) with contrasting germination schedule (related to food perishability) and tannin levels, we conducted field experiments in a subtropical forest in Southwest China to investigate how free-ranging Pallas ’ s squirrels (Callosciurus erythraeus) utilize acorns as long-term storage based on the food perishability and hightannin hypotheses. Though QV acorns germinated much earlier than CH ones, we found that Pallas ’ s squirrels hoarded more high-tannin QV acorns over low-tannin CH ones, supporting the high-tannin hypothesis (but not the food perishability hypothesis). However, several other predictions derived from the food perishability hypothesis received sound support: nondormant QVacorns had their embryos removed with a highe r probability (68.5%) than dormant CH ones (8.8%) and embryo-removed acornshad a much lower germination success but had a higher probability surviving as long-term storage. During the caching-recoveryp rocess, hoarding animals actively detected acorn state (dormant or not) and removed acorn embryos with an increasing probability in subsequent hoarding events. In addition,embryo-removed acorns could serve as long-term storage because they had a very low probability being infested by fungi as intact acorns did during the time of storage. We conclude that tree squirrelscan differentially respond to acorn germination and remove the embryos of nondormant acorns more frequently as long-term storage, but tannin level is more important in determining whether a given acorn is hoarded or not. Combined with the studies from North America, our results suggest convergent evolution of acorn hoarding behavior in tree squirrels across different continents. Key words: behavioral decisions, germination schedule, long-term food supply, scatter hoarding, tannins,tree squirrels.
【语种】英文
【第一作者】肖治术
【通讯作者】张知彬
【期刊名称、卷期、页码】BEHAVIORAL ECOLOGY,20(5): 1050-1055
【论文发表时间】2009-10-21 00:00:00
【引文索引类型】SCI
【引文索引号】DOI: 10.1093/beheco/arp096
【学科分类】生态学

【题目】Mutations at subsite -3 in cyclodextrin glycosyltransferase from Paenibacillus macerans enhancing alpha-cyclodextrin specificity
【中文关键词】无中文关键词
【英文关键词】Cyclodextrin glycosyltransferase, Cyclodextrin, Product specificity, Paenibacillus macerans, Mutation, Subsite －3
【中文摘要】无中文摘要
【英文摘要】"A major disadvantage of cyclodextrin production is the limited cyclodextrin product specificity of cyclodextrin glycosyltransferase (CGTase). Here, we described mutations of Asp372 and Tyr89 at subsite -3 in the CGTase from Paenibacillus

macerans strain JFB05-01. The results showed that Asp372 and Tyr89 played important roles in cyclodextrin product specificity of CGTase. The replacement of Asp372 by lysine and Tyr89 by aspartic acid, asparagine, lysine, and arginine resulted in a shift in specificity towards the production of alpha-cyclodextrin, which was most apparent for the mutants D372K and Y89R. Furthermore, the changes in cyclodextrin product specificity for the single mutants D372K and Y89R could be combined in the double mutant D372K/Y89R, which displayed a 1.5-fold increase in the production of alpha-cyclodextrin, with a concomitant 43% decrease in the production of beta-cyclodextrin when compared to the wild-type CGTase. Thus, the D372K and Y89R single and double mutants were much more suitable for the industrial production of alpha-cyclodextrin than the wild-type enzyme. The enhanced alpha-cyclodextrin specificity of these mutants might be a result of stabilizing the bent conformation of the intermediate in the cyclization reaction. "

【语种】英文

【第一作者】Zhaofeng Li

【通讯作者】Jing Wu, Jian Chen

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【引文索引类型】SCI

【引文索引号】s00253-009-1865-3

【学科分类】分子生物学

【题目】Behavioural responses of sympatric rodents to complete pilferage

【中文关键词】complete pilferage,food hoarding,hoarded intensity,pilferage avoidance , pilferage tolerance ,sex difference

【英文关键词】complete pilferage,food hoarding,hoarded intensity,pilferage avoidance , pilferage tolerance ,sex difference

【中文摘要】Food-hoarding animals employ a variety of tactics to minimize the loss of caches to pilferers. It remains unclear, however, how these responses are affected by complete pilferage events and if differences occur between species and between the sexes within a species that adopt different hoarding strategies. We studied the behavioural responses to complete pilferage in five species that scatter-hoard or larderhoard.Under natural conditions and within outdoor enclosures we simulated complete pilferage events by removing wild apricot, Prunus armeniaca, seeds hoarded by Pere David ’ s rock squirrels, Sciurotamias davidianus, Korean field mice, Apodemus peninsulae, striped field mice, Apodemus agrarius, Chinese white-bellied rats, Niviventer confucianus, and rat-like hamsters, Tscherskia triton. Following pilferage, all five species increased seed removal from the source and total hoarding intensity under both natural and captive conditions, but no effect of sex was found. Pere David ’ s rock squirrels, Korean field mice and striped field mice, which show both scatter and larder hoarding, increased scatter hoarding, but notlarder hoarding. Our pilferage manipulations in the field also increased the distance that seeds were buried from the source. These findings suggest that complete pilferage may increase seed-hoarding behaviour in rodents and that scatter hoarding might be better than larder hoarding in avoiding complete pilferage in rodents that already perform both of these

【英文摘要】Food-hoarding animals employ a variety of tactics to minimize the loss of caches to pilferers. It remains unclear, however, how these responses are affected by complete pilferage events and if differences occur between species and between the sexes within a species that adopt different hoarding strategies. We studied the behavioural responses to complete pilferage in five species that scatter-hoard or larderhoard.Under natural conditions and within outdoor enclosures we simulated complete pilferage events by removing wild apricot, Prunus armeniaca, seeds hoarded by Pere David ’ s rock squirrels, Sciurotamias davidianus, Korean field mice, Apodemus peninsulae, striped field mice, Apodemus agrarius, Chinese white-bellied rats, Niviventer confucianus, and rat-like hamsters, Tscherskia triton. Following pilferage, all five species increased seed removal from the source and total hoarding intensity under both natural and captive conditions, but no effect of sex was found. Pere David ’ s rock squirrels, Korean field mice and striped field mice, which show both scatter and larder hoarding, increased scatter hoarding, but notlarder hoarding. Our pilferage manipulations in the field also increased the distance that seeds were buried from the source. These findings suggest that complete pilferage may increase seed-hoarding behaviour in rodents and that scatter hoarding might be better than larder hoarding in avoiding complete pilferage in rodents that already perform both of these

【语种】英文

【第一作者】黄志源

【通讯作者】张知彬

【期刊名称、卷期、页码】ANIMAL BEHAVIOUR,81(4): 831-836

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【引文索引号】DOI: 10.1016/j.anbehav.2011.01.018
【学科分类】生态学

【题目】Scatter-hoarding rodents as secondary seed dispersers of a frugivore-dispersed tree Scleropyrum wallichianum in a defaunated Xishuangbanna tropical forest, China
【中文关键词】rugivorous vertebrate, scatter-hoarding rodents, Scleropyrum wallichianum, seed dispersal,seedling recruitment.
【英文关键词】rugivorous vertebrate, scatter-hoarding rodents, Scleropyrum wallichianum, seed dispersal,seedling recruitment.
【中文摘要】Local extinction or population decline of large frugivorous vertebrates as primary seed dispersers, caused by humandisturbance and habitat change, might lead to dispersal limitation of many large-seeded fruit trees. However,it is not known whether or not scatter-hoarding rodents as secondary seed dispersers can help maintain natural regeneration (e.g. seed dispersal) of these frugivore-dispersed trees in the face of the functional reduction or losses of primary seed dispersers. In the present study, we investigated how scatter-hoarding rodents affect the fate of tagged seeds of a large-seeded fruit tree (Scleropyrum wallichianum Arnott, 1838, Santalaceae) from seed fall to seedling establishment in a heavily defaunated tropical forest in the Xishuangbanna region of Yunnan Province, in south-west China, in 2007 and 2008. Our results show that: (i) rodents removed nearly all S. wallichianum seeds in both years; (ii) a large proportion (2007, 75%; 2008, 67.5%) of the tagged seeds were cached individually in the surface soil or under leaf litters; (iii) dispersal distance of primary caches was further in 2007 (19.6 ± 14.6 m) than that in 2008 (14.1 ± 11.6 m), and distance increased as rodents recovered and moved seeds from primary caches into subsequent caching sites; and (iv) part of the cached seeds (2007, 3.2%; 2008, 2%) survived to the seedling stage each year. Our study suggests that by taking roles of both primary and secondary seed dispersers, scatterhoarding rodents can play a significant role in maintaining seedling establishment of S. wallichianum, and are able to at least partly compensate for the loss of large frugivorous vertebrates in seed dispersal.
【英文摘要】Local extinction or population decline of large frugivorous vertebrates as primary seed dispersers, caused by humandisturbance and habitat change, might lead to dispersal limitation of many large-seeded fruit trees. However,it is not known whether or not scatter-hoarding rodents as secondary seed dispersers can help maintain natural regeneration (e.g. seed dispersal) of these frugivore-dispersed trees in the face of the functional reduction or losses of primary seed dispersers. In the present study, we investigated how scatter-hoarding rodents affect the fate of tagged seeds of a large-seeded fruit tree (Scleropyrum wallichianum Arnott, 1838, Santalaceae) from seed fall to seedling establishment in a heavily defaunated tropical forest in the Xishuangbanna region of Yunnan Province, in south-west China, in 2007 and 2008. Our results show that: (i) rodents removed nearly all S. wallichianum seeds in both years; (ii) a large proportion (2007, 75%; 2008, 67.5%) of the tagged seeds were cached individually in the surface soil or under leaf litters; (iii) dispersal distance of primary caches was further in 2007 (19.6 ± 14.6 m) than that in 2008 (14.1 ± 11.6 m), and distance increased as rodents recovered and moved seeds from primary caches into subsequent caching sites; and (iv) part of the cached seeds (2007, 3.2%; 2008, 2%) survived to the seedling stage each year. Our study suggests that by taking roles of both primary and secondary seed dispersers, scatterhoarding rodents can play a significant role in maintaining seedling establishment of S. wallichianum, and are able to at least partly compensate for the loss of large frugivorous vertebrates in seed dispersal.
【语种】英文
【第一作者】曹林
【通讯作者】郭聪
【期刊名称、卷期、页码】Integrative Zoology, 6: 227-234
【论文发表时间】2011-09-22 00:00:00
【引文索引类型】SCI
【引文索引号】DOI: 10.1111/j.1749-4877.2011.00248.x
【学科分类】生态学

【题目】Effectiveness of koreanpine(Pinus koraiensis) seeds dispersing by small rodents in fragmented forests
【中文关键词】seed dispersal, rodents,Pinus koraiensis, tree regeneration, Lesser Xing ’an Mountain
【英文关键词】seed dispersal, rodents,Pinus koraiensis, tree regeneration, Lesser Xing ’an Mountain
【中文摘要】The effectiveness of dispersers on seeds of Korean pine (Pinus koraiensis Siebold et Zuccarini) was investigated in three fragmented stands and one primary stand. The proportion of Korean pine trees was less than 7% in the fragmented stands but more than 90% in primary stand. Five estimates related seed dispersal (proportion of removed seeds, scatter-hoarded seeds, cache dynamics, dispersal distance and microhabitat) were assessed to see the effect of forest fragmentation on the probability of seed dispersal of Korean pine seeds. Our results indicated fast seed harvest of Korean pine by small rodents at the seed stations and no difference among the four

stands. Scatter-hoarding rodents are potentially important in promoting natural regeneration of Korean pine as revealed by high proportion of seed removal (up 50%), short seed lifetime from the seed release locations and lower proportion of seeds remained on the ground surface. Although a proportion of seeds were scatter-hoarded in fragmented stands, no seedling was successfully emerged due to heavy predation. Dispersal distances were strongly left-skewed in fragmented stands, indicating that fragmentation is likely to be disadvantageous for longer distance dispersal. The effective dispersal suffered from a very heavy cost as accompanied by a great portion of seed predation and lower level of scatter-hoarded seeds. Failing to see seedling establishment in fragmented stands rather than in primary stand indicated that fragmentation and deforestation have negative effects on dispersal behavior and consequently seed destination. Artificial tree plantation and pinecone protection are highly recommend for Korean pine regeneration.

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【通讯作者】易现峰
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【学科分类】生态学

【题目】Frequency-dependent selection by tree squirrels: adaptive escape of nondormant white oaks

【中文关键词】behavioral preference, dispersal success, frequency-dependent selection, oak – squirrel system, predator – prey dynamics, seed Germination;dormancy.
【英文关键词】behavioral preference, dispersal success, frequency-dependent selection, oak – squirrel system, predator – prey dynamics, seed Germination;dormancy.

【中文摘要】Frequency-dependent selection is theoretically predicted to have an important impact on predator – prey dynamics, but little is understood about this process in nature. We investigated oak – squirrel interactions to test the hypothesis that tree squirrels predate/disperse white oak acorns based on the frequency of their germination phenotypes (dormancy, i.e., delayed germination vs. nondormancy, i.e., immediately germinating), which in turn influences dispersal and establishment of these oaks. In Central China, we manipulated the relative frequency of dormant and nondormant acorns available to Pe`re David ’ s Rock squirrel (Sciurotamias davidianus) with 2 white oaks (QAA, Quercus aliena var. acutesevata and QSB, Quercus serrata var. breviptiolata) that exhibit considerable variation in acorn germination between and within oak species throughout the fruiting season. We predicted that dispersal success (i.e., the probability of a viable acorn being hoarded) of each germination phenotype would vary with the phenotype frequency and hence show either positive or negative frequency-dependent selection. We found that acornembryo removal by squirrels may select for the dormant phenotype but is more likely to occur for early germinating acorns. We also found that both absolute and relative dispersal success of each germination phenotype increased with their frequency in the 2 white oaks, thus demonstrating positive frequency-dependent selection. Our results reveal that the frequency of germination phenotypes can account for as much as 40.5% and 21.4% of the observed dispersal success in QAA and QSB, respectively. We show that behavioral preferences of scatter-hoarding animals could result in frequency-dependent selection in nature, and such selection may help maintain variation in germination phenotypes in prey species.

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【第一作者】肖治术
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【学科分类】生态学

【题目】High regeneration capacity helps tropical seeds to counter rodent predation
【中文关键词】Embryo removal ,Hoarding behavior ,Seed dispersal ,Seed germination ,Seed pruning
【英文关键词】Embryo removal ,Hoarding behavior ,Seed dispersal ,Seed germination ,Seed pruning
【中文摘要】Rapid germination of non-dormant seeds is one adaptation plants have evolved to counter seed predation by rodents. Some rodent species have evolved behaviors that prevent or slow the seed germination process through seed embryo removal or seed pruning; however, no plant species is known to have successfully escaped embryo removal or seed pruning by rodents. Here, we report that the non-dormant seeds of Pittosporopsis kerrii Craib in tropical rain forests in China have a high regeneration capacity to counter seed pruning by rodents. We found seed pruning, instead of embryo removal, was commonly used by rodents to increasefood storage time by slowing down the seed germination process, but that P. kerrii seeds have a high regeneration capacity to escape seed predation by rodents: all pruned seeds, pruned roots and embryo-removed seeds by rodents or people retain the ability to develop into seedlings. Seeds of P. kerrii also have other capacities (i.e. rapid seed decomposition and indigestible dormant taproots) to escape predation by reducing the plant ’s attractiveness to rodents.The association between seed pruning behavior in rodents and high regeneration capacity of pruned seeds or roots in P. kerrii seeds are likely novel adaptation strategies adopted by seeds and rodents, respectively.
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【语种】英文
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【学科分类】生态学

【题目】Intra- and inter-specific effects of mast seeding on seed fates of two sympatric Corylus species
【中文关键词】Corylus ,Seed dispersal , Mast seeding ,Intra,specific interaction ,Inter-specific interaction ,Seed trait
【英文关键词】Corylus ,Seed dispersal , Mast seeding ,Intra,specific interaction ,Inter-specific interaction ,Seed trait
【中文摘要】We released seeds of two sympatric tree species, Corylus mandshurica (seed with thinner seed hull, higher nutrition) and C. heterophylla (seeds with thicker seed hull, lower nutrition) in the masting year of C. mandshurica in 2008, and C. heterophylla in 2009,respectively, to investigate how seed masting of the two sympatric Corylus species affects seed removal and dispersal fitness of the two species differently at both intra- and inter-specific levels. At intra-specific level, the authors found mast seeding of both C. mandshurica and C. heterophylla significantly reduced seed removal, seed consumption, but increased seed dispersal distance and seed dispersal fitness of the released seeds. Mast seeding of C. mandshurica increased seed caching of C. mandshurica.At inter-specific level, the authors found mast seeding of C. mandshurica reduced seed removal of C. heterophylla, but mast seeding of C. heterophylla did not significantly reduce seed removal of C. mandshurica. Mast seeding of C. mandshurica reduced seed consumption of C. heterophylla, while mast seeding of C. heterophylla reduced seed consumption of C. mandshurica. We found mast seeding of C.mandshurica significantly reduced seed dispersal distance of C. heterophylla, while mast seeding of C. heterophylla significantly increased seed dispersal distance of C. mandshurica. We found that mast seeding of C. mandshurica significantly increased seed dispersal fitness of C. heterophylla, while mast seeding of C. heterophylla did not significantly increase seed dispersal fitness of C. mandshurica. More studies are needed to reveal the ecological consequences of mast seeding at interspecific or community-level. Seed traits may attribute the differences of mast seeding at inter-specific level. Because seeds with thinner seed hull and higher nutrition were more harvested and eaten by rodents, mast seeding of C. mandshurica might have reduced seed removal and seed consumption, but increased dispersal fitness of C. heterophylla (seeds with thicker seed hull, lower nutrition). Therefore, synchrony among species is, or is not, selectively beneficial to the focus species depends on seed traits which determine gains from mast seeding at interspecific level.
【英文摘要】We released seeds of two sympatric tree species, Corylus mandshurica (seed with thinner seed hull, higher nutrition) and C. heterophylla (seeds with thicker seed hull, lower nutrition) in the masting year of C. mandshurica in 2008, and C. heterophylla in 2009,respectively, to investigate how seed masting of the two sympatric Corylus species affects seed removal and dispersal fitness of the two species differently at both intra- and inter-specific levels. At intra-specific level, the authors found mast seeding of both C. mandshurica and C. heterophylla significantly reduced seed removal, seed consumption, but increased seed dispersal distance and seed dispersal fitness of the released seeds. Mast seeding of C. mandshurica increased seed caching of C. mandshurica.At inter-specific level, the authors found mast seeding of C. mandshurica reduced seed removal of C. heterophylla, but mast seeding of C. heterophylla did not significantly reduce seed removal of C. mandshurica. Mast seeding of C. mandshurica reduced seed consumption of C. heterophylla, while mast seeding of C. heterophylla reduced seed consumption of C. mandshurica. We found mast seeding of C.mandshurica significantly reduced seed dispersal distance of C. heterophylla, while mast seeding of C. heterophylla significantly increased seed dispersal distance of C. mandshurica. We found that mast seeding of C. mandshurica significantly increased seed dispersal fitness of C. heterophylla, while mast seeding of C. heterophylla did not significantly increase seed dispersal fitness of C. mandshurica. More studies are needed to reveal the ecological consequences of mast seeding at interspecific or community-level. Seed traits may attribute the differences of mast seeding at inter-specific level. Because seeds with thinner seed hull and higher nutrition were more harvested and eaten by rodents, mast seeding of C. mandshurica might have reduced seed removal and seed consumption, but increased dispersal fitness of C. heterophylla (seeds with thicker seed hull, lower nutrition). Therefore, synchrony among species is, or is not, selectively beneficial to the focus species depends on seed traits which determine gains from mast seeding at interspecific level.
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【学科分类】生态学

【题目】Large acorns benefit seedling recruitment by satiating weevil larvae in Quercus aliena
【中文关键词】Acorn ,Defense traits ,Acorn infestation ,Acorn size/mass ,Seedling establishment
【英文关键词】Acorn ,Defense traits ,Acorn infestation ,Acorn size/mass ,Seedling establishment
【中文摘要】Plants can enhance their seed viability and survival through reducing the fitness costs of herbivory by satiating seed predators at either plant or seed level, or both. The former satiates with production of large crops while the latter with large-sized seeds, enhancing the probability of seed survival. We analyzed both types of satiat in the interaction between the Quercus aliena and the weevil Curculio spp in 2 years with different crop size and acorn size. Larger crop size seemed to satiate less effectively weevils due to higher proportions of the seeds were attacked in oaks producing more crops of smaller acorns. However, prematurely abscission of infested acorns in large crop year might compensate this ineffectiveness. Larger acorns in lean year well satiated weevil larvae, as a larger acorn size increased the likelihood of embryo survival and seedling establishment. Although effective satiation by largeracorns would be negated by smaller seed crops, the proportion of attacked acorns that survived increased with large acorn size in lean year. These results highlighted the importance of annual variation in acorn size of Quercus aliena in satiating and defending weevil larval predations, consequently in successful seedling recruitment and establishment.
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【学科分类】生态学

【题目】OXYTOCIN AND VASOPRESSIN IMMUNOREACTIVE STAINING IN THE BRAINS OF BRANDT ’S VOLES (LASIOPODOMYS BRANDTII) AND GREATER LONG-TAILED HAMSTERS (TSCHERSKIA TRITON)
【中文关键词】medial preoptic area, anterior hypothalamus, medial
amygdala, solitary, social behavior
【英文关键词】medial preoptic area, anterior hypothalamus, medial
amygdala, solitary, social behavior
【中文摘要】Immunoreactive (ir) staining of the neuropeptides oxytocin (OT) and vasopressin (AVP) was performed in the brains of Brandt ’s voles (Lasiopodomys brandtii) and greater long-tailed hamsters (Tscherskia triton)—two species that differ remarkably in social behaviors. Social Brandt ’s voles had higher densities of OT-ir cells in the medial preoptic area (MPOA) and medial amygdala (MeA) as well as higher densities of AVP-ir cells in the lateral hypothalamus (LH) compared to solitary greater long-tailed hamsters. In contrast, the hamsters had higher densities of OT-ir cells in the anterior hypothalamus (AH) and LH and higher densities of AVP-ir cells in the MPOA than the voles. OT-ir and AVP-ir fibers were also found in many forebrain areas with subtle species differences. Given the roles of OT and AVP in the regulation of social behaviors in other rodent species, our data support the hypothesis that species specific patterns of central OT and AVP pathways may underlie species differences in social behaviors. However, despite a higher density of OT-ir cells in the paraventricular nucleus of the hypothalamus (PVN) in females than in males in both species, no other sex differences were found in OT-ir or AVP-ir staining. These data failed to support our prediction that a sexually dimorphic

pattern of neuropeptide staining in the brain is more apparent in Brandt ’ s voles than in greater long-tailed hamsters.
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【学科分类】生态学

【题目】Repeated radicle pruning of Quercus mongolica acorns as a cache management tactic of Siberian chipmunks
【中文关键词】Siberian chipmunks ,Radicle pruning ,Acorn storage , Quercus mongolica
【英文关键词】Siberian chipmunks ,Radicle pruning ,Acorn storage , Quercus mongolica
【中文摘要】Many rodents hoard seeds as a means of ensuring food availability during scarcity. Siberian chipmunks (Tamias sibiricus) feed on acorns of white oak Quercus mongolica and hoard them for future use. Such caches may deteriorate due to the early germination of the acorns in autumn, which can be inhibited by radicle pruning or embryo excision. Siberian chipmunks are found to frequently prune the radicles of germinated acorns of Q. mongolica; however,whether this behavior is a kind of cache management tactic remains unclear. Here, we performed semi-natural enclosure and field experiments to test the role of radicle pruning in cache management of T. sibiricus. We found that T. sibiricus preferred non-germinated acorns and tended to prune radicles of germinating acorns when scatter-hoarding them, but did not perform the behavior of embryo excision by squirrels.Both semi-natural enclosure and field experiments showed that T. sibiricus not only pruned radicles repeatedly but removed radicles varied in length from acorns, which significantly postponed acorn germination and radicle growth. These observations suggest that radicle pruning would be an evolutionary tactic for cache management of Siberian chipmunks.
【英文摘要】Many rodents hoard seeds as a means of ensuring food availability during scarcity. Siberian chipmunks (Tamias sibiricus) feed on acorns of white oak Quercus mongolica and hoard them for future use. Such caches may deteriorate due to the early germination of the acorns in autumn, which can be inhibited by radicle pruning or embryo excision. Siberian chipmunks are found to frequently prune the radicles of germinated acorns of Q. mongolica; however,whether this behavior is a kind of cache management tactic remains unclear. Here, we performed semi-natural enclosure and field experiments to test the role of radicle pruning in cache management of T. sibiricus. We found that T. sibiricus preferred non-germinated acorns and tended to prune radicles of germinating acorns when scatter-hoarding them, but did not perform the behavior of embryo excision by squirrels.Both semi-natural enclosure and field experiments showed that T. sibiricus not only pruned radicles repeatedly but removed radicles varied in length from acorns, which significantly postponed acorn germination and radicle growth. These observations suggest that radicle pruning would be an evolutionary tactic for cache management of Siberian chipmunks.
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【题目】Scatterhoarding of Manchurian walnut Juglans mandshurica by small mammals: response to seed familiarity and seed size
【中文关键词】Seed dispersal ,Juglans mandshurica ,Caching experience , Seed size ,Apodemus penisulae
【英文关键词】Seed dispersal ,Juglans mandshurica ,Caching experience , Seed size ,Apodemus penisulae
【中文摘要】Dispersal patterns can be affected by seed familiarity and seed traits, including size, mass, and nutritional value, but these factors have not been intensively studied in the context of seed dispersal processes. Our aim was to study how small rodents respond to seed size and seed familiarity in their pattern of Manchurian walnut (Juglans mandshurica) seeds in two different habitats in temperate forests of northeast China. Our results demonstrated that Apodemus penisulae acts as the most important disperser for Manchurian walnut seeds. Inexperienced smallrodents did not reject seeds of the Manchurian walnut and show similar seed removal rates as compared with experienced rodents. Both experienced and na ï ve rodents actively participated in seed scatterhoarding of Manchurian walnut seeds. Consecutive survey showed that seeds with large size/mass were removed faster than those with small size/mass, indicating a preference for large seeds. However,small seeds scatter-hoarded by small rodents were transported farther than large ones, failing to support the traditional optimization models for various tree species.Small seeds of Manchurian walnut in caches were less likely to be recovered than large ones and showed greater cache survival rates, indicating that small seeds would be more advantageous for regeneration than large seeds in small rodent-dominated forests.
【英文摘要】Dispersal patterns can be affected by seed familiarity and seed traits, including size, mass, and nutritional value, but these factors have not been intensively studied in the context of seed dispersal processes. Our aim was to study how small rodents respond to seed size and seed familiarity in their pattern of Manchurian walnut (Juglans mandshurica) seeds in two different habitats in temperate forests of northeast China. Our results demonstrated that Apodemus penisulae acts as the most important disperser for Manchurian walnut seeds. Inexperienced smallrodents did not reject seeds of the Manchurian walnut and show similar seed removal rates as compared with experienced rodents. Both experienced and na ï ve rodents actively participated in seed scatterhoarding of Manchurian walnut seeds. Consecutive survey showed that seeds with large size/mass were removed faster than those with small size/mass, indicating a preference for large seeds. However,small seeds scatter-hoarded by small rodents were transported farther than large ones, failing to support the traditional optimization models for various tree species.Small seeds of Manchurian walnut in caches were less likely to be recovered than large ones and showed greater cache survival rates, indicating that small seeds would be more advantageous for regeneration than large seeds in small rodent-dominated forests.
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【题目】都江堰林区取食樱桃果实(种子)的鸟类及其种子扩散作用
【中文关键词】食果鸟; 鹎科鸟类; 樱桃; 种子扩散
【英文关键词】Frugivorous birds; Pycnonotidae; Wild Cherry (Prunus pseudocerasus); Seed dispersal
【中文摘要】樱桃(P runus p seudocerasu s)是广泛分布于我国亚热带常绿阔叶林内的一种重要核果植物。为了解食果鸟类在樱桃种群更新中的作用, 于2007年和2008年在四川都江堰亚热带常绿阔叶林内研究了取食樱桃果实(种子)的鸟类及其种子扩散作用。研究表明, 樱桃成熟果实的下落高峰发生在4 月下旬至5月上旬; 2007年的种子扩散率为4.0% ± 1.0%, 明显低于2008 年(27.7% ± 5.7%)。在研究地内, 发现至少有16种鸟取食樱桃果实或种子, 根据其对果实和种子的处理方式分为3个功能群: 白头鹎(Pycnontus sinensis)、领雀嘴鹎(Sp iz ix os sem itorques)、黑鹎(H yp isip etes leucocephalu s)、白颊噪鹛(Garru laxsnnio)、红嘴蓝鹊(Urocissa ery thorhyncha) 等10种鸟吞食樱桃果实, 而种子通过消化道末端排出并将种子携至远离母树的地方, 是重要的种子扩散者; 暗绿绣眼鸟(A lcipp e morr isonia) 和灰眶雀鹛(Z osterop siaponicus)等4种鸟主要啄食果肉而将种子丢弃在母树下, 为啄食果肉者; 而普通朱雀(Carp op acuserythrinus)和灰头鸦雀(Paradox orn is gularis)则主要取食种子, 为纯粹的种子捕食者。在吞食樱桃果实的 食果鸟中, 3种鹎科鸟类访问频次所占的比例达55. 3% (2007 年)和35. 3% (2008年) , 说明鹎科鸟类是都江堰林区樱桃种子的主要扩散者, 对樱桃种群的空间格局和自然更新可能有重要影响。

【英文摘要】As one important fruit plant, wild cherry (P runus pseudocerasus) is widely distributed in subtropical evergreen broad-leaved forests in China. In 2007 and 2008, fruit removal by frugivorous birds and its potential impacts on seed dispersal and natural regeneration of w ild cherry were investigated in a subtropical evergreen broad-leaved forest in the Dujiangyan City of Sichuan Province, Southwest China. The results showed that the falling peak of ripe fruits occurred from late April to early M ay, but the proportion of fruits removed by birds was significantly lower in 2007(4.0% ± 1. 0%) than in 2008(27. 7%± 5. 7%). In the study site, w e identified at least 16 bird species consuming cherry fru its or seeds, which belong to the following three functional groups based on their fruit/seed hand ling behaviors: legitimate seed dispersers, which swallowed whole fruits and defecated intact seeds aw ay from parent plants through the end o f gut, including Py cnontus sinens is, Spizix ossemitorques, Hypisipetes leucocephalus, Garrulax snnio and Urocissa erythorhyncha; pulp consumers, which on ly consumed fruit pulps but dropped seeds under parent plants, e. g. Alcippemorr isonia and Zosterop siaponicus; and pure seed consumers such as Carpopacus erythrinus and Paradoxorn is gularis. Among the legitimate seed dispersers, the total visiting frequency by three Pycnonotidae birds (P. sinensis, S. sem itorques and H.leucocep halus) w as very high in both years, up to 55.3% (2007) and 35. 3% (2008) , respectively. This suggests that the three Pycnonotidae birds are main seed dispersers to wild cherry and could have a substantial impact on spatial patterns and natural regeneration o f wild cherry in the Du jiangyan forest.

【语种】中文

【第一作者】姜明敏

【通讯作者】肖治术

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【学科分类】生态学

【题目】Agonistic encounters and brain activation in dominant and subordinate male greater long-tailed hamsters

【中文关键词】Aggression,Defense,c-fos,Medial preoptic area,Anterior hypothalamus,Amygdala

【英文关键词】Aggression,Defense,c-fos,Medial preoptic area,Anterior hypothalamus,Amygdala

【中文摘要】During an agonistic encounter test, dominant male greater long-tailed hamsters (Tscheskia triton) initiated attacks sooner and displayed higher levels of aggression and flank marking behavior than their subordinate counterparts. Accordingly, subordinate males exhibited more defensive behavior than dominant ones.Specific patterns of neuronal activation, measured by Fos-immunoreactive staining (Fos-ir), were found in the hamster brain following agonistic interactions. Increased Fos-ir was observed in the bed nucleus of the stria terminalis (BST), ventromedial hypothalamus (VMH), and medial (MeA) and anterior cortical (ACo) nuclei of the amygdala (AMYG) in both dominant and subordinate males. In contrast, dominant males had significantly higher Fos-ir densities in the medial preoptic area (MPOA) than subordinate males, whereas subordinate males expressed higher densities of Fos-ir in the anterior hypothalamus (AH) and central nucleus of the amygdala (CeA). Additionally, Fos-ir levels in the MPOA were significantly correlated with aggression and Fos-ir levels in the AH and CeA were correlated with defensive behavior. Together, our data indicate distinct patterns of neuronal activation associated with agonistic encounters in a behavior-specific manner in male greater long-tailed hamsters.

【英文摘要】During an agonistic encounter test, dominant male greater long-tailed hamsters (Tscheskia triton) initiated attacks sooner and displayed higher levels of aggression and flank marking behavior than their subordinate counterparts. Accordingly, subordinate males exhibited more defensive behavior than dominant ones.Specific patterns of neuronal activation, measured by Fos-immunoreactive staining (Fos-ir), were found in the hamster brain following agonistic interactions. Increased Fos-ir was observed in the bed nucleus of the stria terminalis (BST), ventromedial hypothalamus (VMH), and medial (MeA) and anterior cortical (ACo) nuclei of the amygdala (AMYG) in both dominant and subordinate males. In contrast, dominant males had significantly higher Fos-ir densities in the medial preoptic area (MPOA) than subordinate males, whereas subordinate males expressed higher densities of Fos-ir in the anterior hypothalamus (AH) and central nucleus of the amygdala (CeA). Additionally, Fos-ir levels in the MPOA were significantly correlated with aggression and Fos-ir levels in the AH and CeA were correlated with defensive behavior. Together, our data indicate distinct patterns of neuronal activation associated with agonistic encounters in a behavior-specific manner in male greater long-tailed hamsters.

【语种】英文

【第一作者】潘永良

【通讯作者】张知彬
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【学科分类】生态学

【题目】槲栎种子雨进程中昆虫的捕食特征
【中文关键词】槲栎; 种子雨; 昆虫捕食; 种子大小; 寄主选择偏好
【英文关键词】Quercus aliena; seed rain; insect predation; seed size; host preference
【中文摘要】为了了解昆虫捕食与槲栎Quercus aliena种子大小和产量的关系以及在栎林更新中的作用, 于2008和2009年秋季, 分别在暖温带伏牛山系天池山国家森林公园内研究了两个年度槲栎的种子雨过程及昆虫捕食特征。结果表明: (1)种子雨过程从8月中下旬到9月底约经历40 d, 存在高峰期且时段较明显, 高峰期下落种子量分别占全部种子雨量的78.13% (2008年)和75. 91% (2009 年); (2)槲栎的种子雨强度年间存在较大差异, 2008 年明显小于2009年(两年分别为31.75 ± 16.65粒/m2 和51.92 ± 29.26粒/m2), 但2009年的橡子明显比2008年小(两年分别为1. 94 ± 0.61 cm3 和2.46 ±0. 57 cm3); (3)种子雨构成比例在两个年份间存在差异, 完好种子的量分别为59.05%(2008年) 和36. 12% (2009年), 虫蛀率在大量结实的2009 年显著提高; (4)虫蛀橡子(2. 29 ±0. 42 cm3)显著大于完整橡子(1.59 ±0. 32 cm3), 且虫蛀种子中所含虫卵数与种子大小显著正相关, 昆虫有选择大种子产卵寄生的偏好。本研究的结果说明, 昆虫对槲栎大种子有寄生选择偏好; 大部分槲栎种子遭遇象甲虫蛀而降低生命活力, 这可能是影响槲栎林更新的主要因素之一。
【英文摘要】Insect seed predation and its relationships with seed rain o f Quercus aliena were investigated in Tianchi Mountain National Forest Park of Funiu Mountain in Luoyang, a warm temperate forest from August to September in 2008 and 2009. The results indicated that the duration of seed ra in of Q. aliena lasted from middle August to late September. The seed amount at the peak accounted for 78.13% and 75.91% of all seeds in 2008 and 2009, respectively. The seed rain density of Q.aliena was 31.75 ± 16.65 and 51.92 ± 29.26 nuts/m2 in 2008 and 2009, respectively. Seed size in 2009 (1.94 ± 0.61 cm3) was significantly smaller than that in 2008 (2.46 ± 0.57 cm3) . The proportion of intact seeds in 2008 and 2009 w as 59.05% and 36.12% respectively, and the proportion of the insect infested seeds w as increased significantly in 2009.We also found that the number of weevil eggs and larvae in each insect infested acorn was significantly correlated with acorn size, and the infested acorns (2.29± 0.42 cm3 in size) were much larger than the sound ones (1.59 ±0.32 cm3 in size), indicating the preference o f weevils to larger acorns for oviposition. The results suggest that weevils prefer larger acorns for oviposition, and the higher proportion o f weevil infested acorns may be one o f the main causes of decline in seedling establishment of Q. Aliena.
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【第一作者】刘文静
【通讯作者】易现峰
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【学科分类】生态学

【题目】食物单宁和皂苷对小白鼠食物选择的影响
【中文关键词】小白鼠;单宁;皂苷;食物选择;取食经历
【英文关键词】Mice; Tannins; Saponins; Diet selection; Feeding experiences
【中文摘要】通过饲喂自然种子及人工饲料块等单宁和皂苷含量不同的食物,研究了食物中单宁或皂苷水平对小白鼠(Mus musculus domesticus) 食物选择的影响,以及取食经历在其食物选择中的作用。结果表明,(1) 无论有无取食经历,小白鼠均优先取食次生物质含量低的锥栗(或花生(Arachis hypogae Castanea henryi)a) ,而很少取食单宁含量高的栓皮栎(Quercus variabilis) 或皂苷含量高的油茶(Camelia oleifera) ;(2) 小白鼠的取食经历能增强其对种子中单宁或皂苷水平的识别,从而减少其摄入;(3) 小白鼠的食物摄入量随单宁或皂苷含量的增加而显著降低。本研究说明单宁或皂苷均可显著影响动物的食物选择,且取食经历能增强动物对食物的识别能力。
【英文摘要】We tested the effects of food tannin and saponin on diet selection of mice (Mus musculus domesticus) by using natural seeds and artificial food with different amount of tannin or saponin. We also investigated theeffects of feeding experiences on diet

selection. The results showed that: (1) regardless of feeding experiences,mice preferred to consume more seeds with lower tannin (i. e. Castanea henryi) or saponin (i. e. Arachishypogaea) over those with high tannin (i. e. Quercus variabilis) or saponin (i. e. Camelia oleifera) ; (2)feeding experiences for mice could enhance its ability to identify tannin or saponin levels in seeds,resulting in less food intake; and (3) food intake of mice significantly decreased with the increase of food tannin or saponin level. Our study indicates that food tannin or saponin can highly influence food selection by animals and feeding experiences can promote the animals to identify and use different kinds of food.

【语种】中文
【第一作者】李婷婷
【通讯作者】肖治术
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【学科分类】生态学

【题目】围栏条件下花鼠找寻种子的途径和方式
【中文关键词】花鼠;埋藏点;种子找回;红松;毛榛;平榛
【英文关键词】Eutamias sibiricus; Cache; Seed recovery; Pinus koraiensis; Corylus mandshurica; Corylus heterophylla.
【中文摘要】2009 年8 月和2010 年8 月,在黑龙江省带岭区东方红林场半天然围栏内研究了花鼠(Eutamias sibiricus) 对地表放置和埋藏种子的发现过程,摸清围栏条件下花鼠找寻种子信号的途径和方式。实验步骤如下:第1 天在花鼠巢区对角每释放点地表放置1 粒标记种子,共30 粒;第2 天在巢区对角每释放点埋藏1 粒标记种子,共30 粒,第3 天在巢区对角按1 粒、2 粒、3 粒次序循环重复埋藏标记种子,共60 粒;第4 天在巢区对角每释放点埋藏1 个塑料标签作为“ 伪种子 ”,共30 个;第5 天在巢区对角每释放点埋藏1 粒未标记种子,共30 粒,研究花鼠对3 种林木种子(红松Pinus koraiensis、平榛Corylus heterophylla 和毛榛C. mandshurica) 以及“ 伪种子 ”的发现率。结果表明,地表释放和埋藏对花鼠发现3 种林木种子无显著影响。种子类型和埋藏点大小对花鼠发现种子具有显著影响,埋藏点越大,发现率越高。花鼠对空标签的发掘率分别为3. 75% 、1. 67% 和42. 92% ,说明视觉在发现种子过程的作用。花鼠在寻找自身埋藏点与人工埋藏点的标记种子发现率间差异不显著,说明空间记忆的作用在短时间内较弱。围栏条件下花鼠可依靠嗅觉和视觉的共同作用寻找种子,视觉信号可在短时间内形成,但嗅觉的作用在发现种子的过程中还是主要的。
【英文摘要】Seed recovery processes were investigated with Eutamias sibiricus in the semi-natural enclosures in Dongfanghong Forest Dailing District of Heilongjiang Province in August 2009 and 2010. In the beginning ofexperiments,we constructed 16 semi-natural enclosures with one nest in each enclosure which is 10 m × 10 m ×2. 5 m in size and one E. sibiricus was released in it. All the enclosures with natural vegetation were covered by net to protect the animal from predator. In the first 3 days,we laid 30 seeds of Pinus koraiensis in the center of enclosure every day to check the discovery rate for each animal. Then,we choose 8 very active one as target animal to test the seed recovery process. In the formal experiment,we laid 30 tagged seeds evenly in the half enclosure area against the nest side in the first day; buried 30 tagged seeds 2 cm depth evenly in the same region in the second day; buried 60 marked seeds alternately with 1,2 and 3 seeds in each cache in the third day to see whether cache size influences seed recovery rate. In the fourth day,we buried 30 tags only unevenly to test whether animal can locate seeds by vision; fifth day,we buried 30 untagged seeds to see whether the animal can find seed by smell. We used three seed species (P. koraiensis,Corylus heterophylla and C. mandshurica) in this study. Our results showed no difference in seed discovery rates regardless ground surface releasing and burial. However,seed recovery rates varied significantly with seed species and cache sizes. The recovery rates of “ false seeds ” were 3. 75% (P. koraiensis) ,1. 67% (C. heterophylla) and 42. 92% (C. mandshurica) ,indicating the significance of vision. The recovery rates between handling caches and chipmunk ’ s own cacheswere not significantly different. These results showed that E. sibiricus rely on olfaction and vision to recover seeds under the semi-natural enclosures and olfaction might play an important role in finding seeds.

【语种】中文
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【学科分类】生态学

【题目】Estimation of the Homoplasmy Degree for Transplastomic Tobacco using Quantitative Real-time PCR
【中文关键词】烟草质体转化,实时定量PCR,同质化程度
【英文关键词】Transplastomic tobacco,Real-time quantitative PCR ,Homoplasmy degree
【中文摘要】在叶绿体转化过程中,转基因叶绿体的同质化程度检测是必须的关键步骤。以往利用Southern杂交的方法进行同质化检测,该方法耗时较长且需要大量的转基因植株材料。现发展了一项新型快速、灵敏且高效的检测方法——实时定量PCR法。本实验利用外源基因faeG设计探针,利用内源基因matK作为内参基因对17个转基因株系进行实时定量PCR检测,得到的结果与Southern blotting试验的相同,证明:省时、成本低的实时定量PCR更适合进行叶绿体转化的同质化程度检测。
【英文摘要】Estimation of the homoplasmy of transgene in chloroplast is a necessary step in chloroplast transformation. This task is usually achieved by Southern blot analysis, which is laborious, time-consuming, requires large amounts of plant materials and needs hazardous radioisotopes in some cases. To develop a fast, sensitive, stable and effective technique for determining the homoplasmy of transgene in chloroplast, one real-time PCR system based on TaqMan probe technique was developed for evaluating the homoplasmy degree. In the real-time PCR system, one assay targets the exogenous faeG gene, and another one the tobacco chloroplast reference gene, maturase gene within the trnK intron (matK). The homoplasmy of the transgene was determined by the comparison of copy number of faeG and matK. The analyzed results of 17 transplastomic tobacco lines using the developed real-time PCR system were consistent with those from Southern blot analysis, indicating that the real-time PCR method is suitable for estimating the homoplasmy degree of transplastomic plant with the advantages of high efficiency and throughput, low cost and saving time.
【语种】英文
【第一作者】Huifeng Shen
【通讯作者】Dabing Zhang
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【学科分类】分子生物学

【题目】小泡巨鼠和社鼠对珍稀濒危植物红豆树种子的捕食和扩散作用
【中文关键词】Ormosia hosiei, Leopoldamys edwardsi, Niviventor confucianus, 分散贮藏, 种子扩散, 种子捕食, 自然更新
【英文关键词】Ormosia hosiei, Edward ’s long-tailed rat, Chinese white-bellied rat, scatter-hoarding, seed dis-persal, seed predation, natural regeneration
【中文摘要】红豆树(Ormosia hosiei)为我国特有的国家II级保护珍稀濒危植物, 有关动物对种子的捕食和扩散作用是否影响其种群更新目前尚无研究。2009年秋季, 我们在四川省都江堰地区利用大型实验围栏研究了小泡巨鼠(Leopoldamys edwardsi)和社鼠(Niviventor confucianus)对红豆树种子的捕食和贮藏格局, 以便了解鼠类在红豆树种子扩散中的潜在作用。结果表明小泡巨鼠和社鼠均取食红豆树种子, 但二者贮藏种子的方式不同: 社鼠主要集中贮藏种子, 对红豆树种子的扩散作用不大, 而小泡巨鼠则主要分散贮藏种子, 故对红豆树种子有一定的扩散作用。研究结果说明尽管鼠类可通过捕食而降低种子存活, 但分散贮藏的鼠种能促进红豆树种子的扩散, 从而有利于其种群维持。
【英文摘要】Ormosia hosiei (Papilionaceae) is a rare and endangered plant native to China. Currently, it is not understood how seed predation and dispersal by animals affect natural regeneration of the species. During the autumn of 2009, we investigated patterns of predation and hoarding by Edward ’s long-tailed rats (Leopolda-mys edwardsi) and Chinese white-bellied rats (Niviventor confucianus) of Ormosia hosiei seeds using large semi-natural enclosures in Dujiangyan City of Sichuan Province, southwest China. Both rodent species ate Ormosia hosiei seeds, but their hoarding patterns differed. Chinese white-bellied rats larder-hoarded more seeds in the nest and thus may have a negative impact on seed dispersal while Edward ’s long-tailed rats scat-ter-hoarded more seeds and thus may have a positive impact on seed dispersal. In conclusion, our study indi-cates that compared with other rodent species as seed predators, scatter-hoarding rodents as seed dispersers may play a significant role in seed dispersal and subsequent establishment of this endangered plant.
【语种】中文
【第一作者】刘鑫

【通讯作者】肖治术
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【学科分类】生态学

【题目】Acorn germination and seedling survival of Q. variabilis: effects of cotyledon excision
【中文关键词】Q. variabilis ,acorn damage ,cotyledon excision ,germination rate ,seedling survival
【英文关键词】Q. variabilis ,acorn damage ,cotyledon excision ,germination rate ,seedling survival
【中文摘要】We studied the effects of acorn cotyledon loss by insect damage and artificial excision on germination and seedling survival of Quercus variabilis, to determine whether insect infestation decreases acorn germination and seedling establishment; and to what extent cotyledon damage can affect acorn germination and seedling establishment. Artificial excision partially imitated the effect of insect damage on acorn germination and seedling survival, and indicated that insect damage did not significantly decrease germination rate and seedling survival of Q. variabilis acorns. The viability of infested but still viable acorns strongly depends on which sector weevil larvae feed on. The cotyledon reserves at the apex of acorns were more important than those at the base in supporting acorn viability and seedling establishment. The excision of apical cotyledon has the most detrimental effects on acorn germination activity. The relatively low effect of larval infestation on acorn viability was likely related to the high frequency of feeding and escaping at the base, which was closely correlated with differentiation in pericarp thickness in Q. variabilis acorns. These could explain the low decrease in acorn germination and seedling survival experienced by infested acorns.
【英文摘要】We studied the effects of acorn cotyledon loss by insect damage and artificial excision on germination and seedling survival of Quercus variabilis, to determine whether insect infestation decreases acorn germination and seedling establishment; and to what extent cotyledon damage can affect acorn germination and seedling establishment. Artificial excision partially imitated the effect of insect damage on acorn germination and seedling survival, and indicated that insect damage did not significantly decrease germination rate and seedling survival of Q. variabilis acorns. The viability of infested but still viable acorns strongly depends on which sector weevil larvae feed on. The cotyledon reserves at the apex of acorns were more important than those at the base in supporting acorn viability and seedling establishment. The excision of apical cotyledon has the most detrimental effects on acorn germination activity. The relatively low effect of larval infestation on acorn viability was likely related to the high frequency of feeding and escaping at the base, which was closely correlated with differentiation in pericarp thickness in Q. variabilis acorns. These could explain the low decrease in acorn germination and seedling survival experienced by infested acorns.
【语种】英文
【第一作者】侯晓改
【通讯作者】易现峰
【期刊名称、卷期、页码】ANNALS OF FOREST SCIENCE , 67(7):711-717
【论文发表时间】2010-11-17 00:00:00
【引文索引类型】SCI
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【学科分类】生态学

【题目】种内及种间干扰对围栏内花鼠分散贮藏行为的影响
【中文关键词】围栏;红松;花鼠;干扰竞争;分散贮藏
【英文关键词】Eutamias sibiricus; Interference competition; Pinus koraiensis; Scatter-hoarding ; Semi-natural enclosure
【中文摘要】2009 年9 月在黑龙江省带岭区东方红林场10 m ×10 m 半天然围栏内模拟花鼠种内(不同性别) 和种间(大林姬鼠) 干扰竞争对花鼠分散埋藏红松种子行为的影响。实验分四个处理两个批次进行,依次为单只花鼠对照实验(雄性7 只,雌性9 只)、种内同性干扰竞争、种内异性干扰竞争和种间干扰竞争。结果表明:(1)花鼠雌性个体的分散埋藏强度明显高于雄性个体;(2)种间干扰竞争引起花鼠对红松分散埋藏比例明显增加,而种内干扰对花鼠分散埋藏行为的影响不显著;(3)种内干扰竞争条件下,同性干扰竞争和异性干扰竞争对花鼠分散埋藏行为均无显著影响;(4)雄性个体在同性干扰下,埋藏强度不变;而在雌性个体干扰竞争下,埋藏强度增加;(5)雌性个体在雌性和雄性干扰条件下,花鼠分散埋藏行为均无明显变化。
【英文摘要】The effects of intra- (different gender) and inter-specific (Apodemus penisulae)interferences on scatter-hoarding behavior of Siberian chipmunk (Eutamias sibiricus)were investigated in 10 m × 10 m semi-natural enclosures in Heilongjiang province

in September 2009. Four treatments were established and performed within two batches , i.e. , control group with single chipmunk; intraspecific intrasexual interference competition ;intra specific inter-sexual interference competition; and inter-specific interference. Our results showed that:(1)Female chipmunks scatter-hoarded more seeds than did males; (2)Inter-specific interference by A. penisulae significantly increased seed scatter-hoarding by chipmunks, while intra-specific interference showed no influence;(3)Both intra- and inter-sexual interference showed no effect on scatter-hoarding of chipmunks;(4)Male chipmunks scatter-hoarded more seeds when interfered by females ,but did not change when interfered by males;(5)Both inter-and intra-sexual competitions showed no significant influence on scatter hoarding of female individuals.

【语种】中文
【第一作者】焦广强
【通讯作者】易现峰
【期刊名称、卷期、页码】兽类学报,31 (1):62 -68
【论文发表时间】2011-09-16 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】生态学

【题目】The effects of kernel mass and nutrition reward on seed dispersal of three tree species by small rodents
【中文关键词】Seed dispersal ,Seed fate, Kernel mass, Caloric reward ,Seed size, Seed mass ,Colored tag marking
【英文关键词】Seed dispersal ,Seed fate, Kernel mass, Caloric reward ,Seed size, Seed mass ,Colored tag marking
【中文摘要】In the present study, colored tags were fastened to individual seeds to investigate seed dispersal and seed fates of Pinus koraiensis, Corylus mandshurica, and Corylus heterophylla with different seed traits. Our aim was to determine the role of the proportion of kernel mass, caloric reward per seed, and tag color in affecting seed removal rates and seed fates. We predicted that higher proportion of kernel mass and caloric reward will favor seed removal and caching, while lower ones will facilitate seed consumption either in situ or after removal. Our results showed that the proportion of kernel mass, rather than seed size, played an important role in determining seed removal rates and seed fates. Seeds of C. heterophylla with the lowest proportion of kernel mass, regardless of their largest size and/or mass, had lower removal rates, lower level of caching but higher proportion of consumption in situcompared with P. koraiensis and C. mandshurica seeds. Seeds with higher caloric reward exhibited greater dispersal distances. Seed kernel proportion was closely correlated to seed removal rates and caching rates, while seed size and hull thickness seemed to play less important role in affecting seed dispersal, probably because the higher seed handling ability of small rodents in the experimental areas. Our investigation revealed no significant effect of tag color on seed removal rates and seed fates of the three seed species.
【英文摘要】In the present study, colored tags were fastened to individual seeds to investigate seed dispersal and seed fates of Pinus koraiensis, Corylus mandshurica, and Corylus heterophylla with different seed traits. Our aim was to determine the role of the proportion of kernel mass, caloric reward per seed, and tag color in affecting seed removal rates and seed fates. We predicted that higher proportion of kernel mass and caloric reward will favor seed removal and caching, while lower ones will facilitate seed consumption either in situ or after removal. Our results showed that the proportion of kernel mass, rather than seed size, played an important role in determining seed removal rates and seed fates. Seeds of C. heterophylla with the lowest proportion of kernel mass, regardless of their largest size and/or mass, had lower removal rates, lower level of caching but higher proportion of consumption in situcompared with P. koraiensis and C. mandshurica seeds. Seeds with higher caloric reward exhibited greater dispersal distances. Seed kernel proportion was closely correlated to seed removal rates and caching rates, while seed size and hull thickness seemed to play less important role in affecting seed dispersal, probably because the higher seed handling ability of small rodents in the experimental areas. Our investigation revealed no significant effect of tag color on seed removal rates and seed fates of the three seed species.
【语种】英文
【第一作者】杨月芹
【通讯作者】易现峰
【期刊名称、卷期、页码】ACTA ETHOLOGICA,15(1): 1-8
【论文发表时间】2012-04-19 00:00:00
【引文索引类型】SCI
【引文索引号】DOI 10.1007/s10211-011-0101-1
【学科分类】生态学

【题目】Effect Of Establishment of a Gene Expression System in Rice Chloroplast and Obtainment of PPT-Resistant Rice Plants
【中文关键词】水稻,叶绿体转化,bar 基因,同源片段
【英文关键词】Oryza sativa L.,chloroplast transformation,bargene,homologous fragments
【中文摘要】核转化中外源基因的整合随机性大,而叶绿体转化可以通过同源重组将外源基因定点的引入到叶绿体基因组中。本实验选择水稻叶绿体内源基因ndhF and trnL 位点区域作为外源除草剂基因bar的整合靶位点,来建立一个水稻叶绿体外源基因表达体系。本研究选择叶绿体内源的16s rRNA基因的启动子和psbA基因的3‘终止子作为外源基因表达载体的启动子和终止子。利用基因枪轰击法获得转基因植株。分子检测结果显示bar基因已成功的整合到水稻叶绿体基因组中,且转基因植株获得了PPT抗性。本研究成功建立了叶绿体转化技术。
【英文摘要】In contrast to the situation of random integration of foreign genes in nuclear transformation, the introduction of genes via chloroplast genetic engineering is characterized by site-specific pattern via homologous recombination. To establish an expressionsystem for alien genes in ricechloroplast, the intergenic region of ndhF and trnL was selected as target for site-specific integration of PPT-resistantbargene in this study. Two DNA fragments suitable for homologous recombination were cloned from ricechloroplast genome DNA using PCR technique, and the chloroplast-specific expression vector pRB was constructed by fusing a modified 16S rRNA gene promoter to bargene together with terminator of psbAgene 3 ′ sequence. Chloroplast transformation was carried out by biolistic bombardment of sterile rice calli with the pRB construct. Subsequently, the regenerated plantlets and seeds of progeny arising from reciprocal cross to the wild-type lines were obtained. Molecular analysis suggested that the bargene has been integrated into ricechloroplast genome. Genetic analysis revealed that bargene could be transmitted and expressed normally in chloroplast genome. Thus, the bargene conferred not only selection pressure for the transformation of ricechloroplast genome, but PPT-resistant trait for riceplants as well. It is suggested that an efficient geneexpressionsystem in the ricechloroplast has been established by chloroplast transformation technique.
【语种】英文
【第一作者】Yi-nü LI
【通讯作者】SHEN Gui-fang
【期刊名称、卷期、页码】Agricultural Sciences in China,2009, 8(5): 101-105
【论文发表时间】2009-06-15 00:00:00
【引文索引类型】SCI
【引文索引号】2.78076e+011
【学科分类】分子生物学

【题目】Cinnamic Acid Inhibits Growth but Stimulates Production of Pathogenesis Factors by in Vitro Cultures of Fusarium oxysporum f.sp. niveum
【中文关键词】无
【英文关键词】Biomass; cinnamic acid; Fusarium oxysporum f.sp. niveum (FON); mycotoxin production; pathogenic enzymes
【中文摘要】无
【英文摘要】Long-term monoculture of watermelon leads to frequent occurrence of watermelon fusarium wilt caused by Fusarium oxysporum f.sp. niveum (FON). Some allelochemicals contained in watermelon root exudates and decaying residues are possibly responsible for promoting the wilt disease. The purpose of this study was to evaluate the allelopathic effect of artificially applied cinnamic acid on FON. Results demonstrated that hyphal growth of FON was strongly inhibited by cinnamic acid. At the highest concentration of cinnamic acid, the biomass in liquid culture was decreased by 63.3%, while colony diameter, conidial germination on plates, and conidial production in liquid culture were completely inhibited. However, mycotoxin production and activity of phytopathogenic enzymes were greatly stimulated. Mycotoxin yield, pectinase activity, proteinase activity, cellulase activity, and amylase activity were increased by 490, 590, 760, 2006, and 27.0%, respectively. It was concluded thatcinnamic acid dramatically stimulated mycotoxin production and activities of hydrolytic enzymes by FON but inhibited growth and germination of FON. The findings presented here indicate that cinnamic acid is involved in promoting watermelon fusarium wilt.
【语种】英文
【第一作者】吴洪生
【通讯作者】沈其荣

【期刊名称、卷期、页码】J. Agric. Food Chem. 2008, 56, 1316 – 1321
【论文发表时间】2008-01-23 00:00:00
【引文索引类型】SCI
【引文索引号】2.5332120002e+011
【学科分类】农学其他学科

【题目】Immunogenicity of recombinant F4 (K88) fimbrial adhesin FaeG expressed in tobacco chloroplast.
【中文关键词】F4ac enterotoxigenic Escherichia coli,FaeG,质体转基因烟草,免疫原性
【英文关键词】F4ac enterotoxigenic Escherichia coli,FaeG,adhesin,transplastomic tobacco,immunogenicity
【中文摘要】本研究将FaeG基因构建在叶绿体表达载体上转化烟草,分子检测显示FaeG已整合到叶绿体基因组中。该基因在烟草叶绿体中得到表达。本研究证明;可以利用叶绿体表达系统生产ETEC疫苗。
【英文摘要】To test the possibility of producing the novel vaccine in plants against diarrhea normally found in neonatal and newly weaned piglets, the faeG gene, encoding a major F4ac fimbrial subunit protein, was introduced into the tobacco chloroplast genome. After two rounds of selection under spectinomycin, we obtained the transgenic plants nearly homoplasmic. RNA gel blot analysis indicated that faeG and the antibiotic selective gene aminoglycoside 3 ′ adenylyltransferase (aadA) were highly transcribed as a dicistron, while the translational level of recombinant FaeG in transplastomic tobacco was about 0.15% of total soluble protein. The immunogenicity of recombinant FaeG produced in tobacco chloroplasts was confirmed by the observation that FaeG-specific antibodies were elicited in mice immunized with total soluble protein of transgenic plants, as well as the result that mouse sera stimulated by chloroplast-derived recombinant FaeG could neutralize F4ac enterotoxigenic Escherichia coli (ETEC) in vivo. This study provides a new alternative for producing the ETEC vaccine using the chloroplast expression system.
【语种】英文
【第一作者】Huifeng Shen
【通讯作者】Wanqi Liang
【期刊名称、卷期、页码】Acta Biochimica et Biophysica Sinica,2010,42: 558 – 567
【论文发表时间】2010-07-13 00:00:00
【引文索引类型】SCI
【引文索引号】2.8053010001e+011
【学科分类】分子生物学

【题目】Antioxidant, antihypertensive, and immnomodulatory activities of peptide fractions from fermented skim milk with Lactobacillus delbrueckii ssp. bulgaricus LB340
【中文关键词】ACE抑制、抗氧化、免疫调节、脱脂牛奶、乳酸菌发酵
【英文关键词】ACE inhibitory, antioxidant, immunomodulatory, fermented skim milk, Lactobacillus delbrueckii ssp,bulgaricus LB340.
【中文摘要】本研究的目的是使脱脂牛奶获得抗氧化、免疫调节及抗体功能。
【英文摘要】The aim of this study was to evaluate the antioxidant, antihypertensive and immunomodulatorycharacteristics of skim milk fermented with Lactobacillus delbrueckii ssp. bulgaricus LB340.Supernatants obtained from the ferments after centrifugation were subjected to ultrafiltration and yielded four peptidic fractions of 10 – 5kDa,5 – 3 kDa, 3 – 1 kDa, and <1・0 kDa. Peptides in 5 – 3 kDa range exhibited a good antioxidant activity. The peptides (<1・0 k) was applied to Superdex-30 G column fractionation and produced six fractions (F1 – 6).Fraction F2 presented the highest angiotensin I-converting enzyme inhibition activity with IC50 of 67・71±7・62mg/ml. Moreover, fraction F6,which displayed a good immunomodulatory activity, had a positive effect on murine spleen lymphocyte proliferation with Stimulation Index of 0・729±0・123. The present data showed the potential of the milk fermented with Lactobacillus delbrueckii ssp. bulgaricus LB340 as a functional food, however, further research is needed to evaluate the biofunctional activity of this fermentation product in vivo using model animal
【语种】英文
【第一作者】Bingjun Qian
【通讯作者】Bingjun Qian
【期刊名称、卷期、页码】Journal of Dairy Research,(2011),78:72 – 79.
【论文发表时间】2011-02-15 00:00:00

【引文索引类型】SCI
【引文索引号】10.1017/S0022029910000889
【学科分类】分子生物学

【题目】Mutations of Lysine 47 in Cyclodextrin Glycosyltransferase from Paenibacillus macerans Enhance β-Cyclodextrin Specificity
【中文关键词】无中文关键词
【英文关键词】Cyclodextrin glycosyltransferase, cyclodextrin, product specificity, Paenibacillus macerans, residue 47, mutation
【中文摘要】无中文摘要
【英文摘要】"The nature of amino acid residue 47 shows a clear discrimination between the different groups of cyclodextrin glycosyltransferase (CGTase). The effects of amino acid side chain at position 47 on cyclodextrin product specificity were investigated by replacing Lys47 in the CGTase from Paenibacillus macerans strain JFB05-01 with arginine, histidine, threonine, serine, or leucine. All of the mutations reduced α-cyclodextrin-forming activity, whereas significant increases in β-cyclodextrin-forming activity were achieved. Especially, the mutations of Lys47 into threonine, serine, or leucine converted P. macerans CGTase from α-type to β/α-type. As a result, all of the mutants displayed a shift in product specificity toward the production of β-cyclodextrin. Thus, they were more suitable for the industrial production of β-cyclodextrin than the wild-type enzyme. The enhancement of β-cyclodextrin specificity might be due to weakening or removal of hydrogen-bonding interactions between the side chain of residue 47 and the bent intermediate specific for α-cyclodextrin formation.
【语种】英文
【第一作者】Zhaofeng Li
【通讯作者】Jing Wu, Jian Chen
【期刊名称、卷期、页码】J. Agric. Food Chem. (2009), 57: 8386 – 8391
【论文发表时间】2009-08-14 00:00:00
【引文索引类型】SCI
【引文索引号】jf902312u
【学科分类】分子生物学

【题目】γ-Cyclodextrin: a review on enzymatic production and applications
【中文关键词】无中文关键词
【英文关键词】Gamma-Cyclodextrin, Cyclodextrin glycosyltransferase, Enzymatic production, Application, Property
【中文摘要】无中文摘要
【英文摘要】Cyclodextrins are cyclic α-1,4-glucans that are produced from starch or starch derivates using cyclodextrin glycosyltransferase (CGTase). The most common forms are α-, β-, and γ-cyclodextrins. This mini-review focuses on the enzymatic production, unique properties, and applications of γ-cyclodextrin as well as its difference with α- and β-cyclodextrins. As all known wild-type CGTases produce a mixture of α-, β-, and γ-cyclodextrins, the obtaining of a CGTase predominantly producing γ-cyclodextrin is discussed. Recently, more economic production processes for γ-cyclodextrin have been developed using improved γ-CGTases and appropriate complexing agents. Compared with α- and β-cyclodextrins, γ-cyclodextrin has a larger internal cavity, higher water solubility, and more bioavailability, so it has wider applications in many industries, especially in the food and pharmaceutical industries.
【语种】英文
【第一作者】Zhaofeng Li
【通讯作者】Jing Wu, Jian Chen
【期刊名称、卷期、页码】Appl Microbiol Biotechnol (2007), 77:245 – 255
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【引文索引号】s00253-007-1166-7
【学科分类】分子生物学

【题目】γ-环糊精与溴甲酚绿的包合作用

【中文关键词】γ-环糊精; 溴甲酚绿; 包合物
【英文关键词】γ-Cyclodextrin, Bromocresol green, Complexation
【中文摘要】采用紫外-可见分光光度法和等摩尔连续变化法研究了γ-环糊精与溴甲酚绿的包合作用,确定了包合物形成的化学计量比为1∶2;采用热力学方法分析了温度与包合常数之间的关系,计算了包合过程的焓变、熵变及自由能变化分别为-39.988 kJ/mol,86.400 J/(K.mol)和-14.245 kJ/mol,这表明疏水作用力为主要驱动力;采用核磁共振、分子模拟和红外光谱法对包合物进行了研究,确定了包合物的形成,分析认为这可能是BCG部分基团进入γ-环糊精腔内导致增色效应
【英文摘要】UV-Vis and continuous variation plot method were used to study the complexation of γ-cyclodextrin with bromocresol green,and the stoichiometric ratio of the complexation was to be 1∶2.Thermodynamic analysis results show an inverse relationship between temperature and complexation constant,and the change of enthalpy,entropy and free energy of the complexation were-39.988 kJ/mol,86.400 J/(K·mol) and-14.245 kJ/mol,respectively,which indicating that hydrophobic effect was the main force to form the complexes. γ-Cyclodextrin and bromocresol green complexes were examined by nuclear magnetic resonance,infrared spectrum and molecular modeling analysis,and BCG was may be the group included in γ-cyclodextrin
【语种】中文
【第一作者】刘虹
【通讯作者】顾正彪
【期刊名称、卷期、页码】高等学校化学学报 , (2008), 29: 1773-1776
【论文发表时间】2008-09-01 00:00:00
【引文索引类型】SCI
【引文索引号】09—1773-04
【学科分类】分析化学

【题目】不同淀粉原料及前处理方法对β-环糊精生产的影响
【中文关键词】环糊精葡萄糖基转移酶; β-环糊精; 转化率; 前处理
【英文关键词】cyclodextringlycosyltransferase, β-cyclodextrin, conversion rate, preprocess
【中文摘要】为了获得β-环糊精生产的高转化率,通过对不同淀粉的比较,得出玉米淀粉具有较高的经济适用性;通过对不同前处理方法得到的淀粉生产β-环糊精转化率的比较,得出影响转化率的几个因素,分别是淀粉颗粒大小、淀粉的晶体结构的破坏程度和小分子糖的抑制作用;并得出将糊化淀粉作为底物最有利于环化反应的进行,但由于高粘度却无法工业化生产;通过研究,确定了一种新型的前处理方法,即将质量分数7%玉米淀粉浆在85℃下保温1 h,水浴摇床中65℃200 r/min转化24 h,获得了29.86%的高转化率,克服了大规模生产中糊化淀粉粘度过高无法搅拌均匀和酶解处理后的淀粉中小分子糖抑制作用的问题。
【英文摘要】In order to further increase the β-cyclodextrin production yield,different kinds of starch and preliminary treatment were investigated and compared.Among of them,corn starch was suitable for production.Furthermore,the effects of the size of starch,the damage extent of crystalline structure and the inhabitance of micromolecular sugar was investigated,and the results predict that CGTase was suitable for preferred gelatinized starch,but do not be used in industry production due to the fact that high viscosity.then a novel predisposal method was suggested and described as follows:heated at 85 ℃ for 1h,agitation for 24 h at the constanttemperature of 65 ℃.With the optimum conditions,a highest transformation yield achieved at 29.86%.The developed method was avoiding the problem of high conglutination caused by gelatinized starch and the micromolecular sugar caused by enzymed starch.
【语种】中文
【第一作者】杨钟超
【通讯作者】顾正彪
【期刊名称、卷期、页码】食品与生物技术学报 , (2009), 28(5):616-622
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【引文索引类型】其他
【引文索引号】null
【学科分类】食品科学技术基础学科

【题目】甲基橙褪色分光光度法定量测定α-环糊精
【中文关键词】α-环糊精; 甲基橙; 分光光度法; 测定
【英文关键词】α-cyclodextrin, methyl orange, spectrophotometry, determination

【中文摘要】"在酸性环境中,α-环糊精(α-CD)包埋甲基橙(MO)使其发生褪色反应,并且其褪色程度(△A)与α-CD浓度在一定范围内成正比,因此可利用其定量测定α-CD。结果表明,最优测定条件为:最大吸收波长λ为507 nm,pH为1.6,温度为16℃,MO浓度为0.1 mol/L。α-CD在0~0.3 g/L范围内符合朗伯-比尔定律,回归方程为:△A=0.4209 Cα-CD(g/L),线性相关系数R2为0.998 9。此方法灵敏度高,表观摩尔吸光系数ξ507为4.1×105L.mol-1.cm-1,α-CD的检出限为3.5×10-4g/L。该方法操作简便,有较好的稳定性、选择性与准确度,回收率为95%~100%,相对标准偏差(RSD)为0.141%,可用于α-CD的准确测量。

【英文摘要】In acid environment, α-cyclodextrin(α-CD) can embed methyl orange and a fading reaction occurs.The concentration of α-CD is directly proportional to the degree of fading(△A) in a certain range.The α-CD determination method developed in this work was based on the fading reaction.The obtained optimum condition for measuring α-CD is as follow: absorption spectra are 507 nm,pH is 1.6,temperature is 16 ℃,and the concentration of methyl orange is 0.1 mmol/L. The Beer’s law is obeyed when α-CD is in the range of 0~0.3 g/L.The regression equation is △A=0.420 9 Cα-CD(g/L),the correlation coefficient is 0.998 9.The method has high sensitivity,the maximum molar absorption coefficient(ξ507)is 4.1×105 L·mol-1·cm-1,and the detection limit is 3.5×10-4 g/L.The recovery is 95%~100%,RSD is 0.141%,The method with simplicity,stable system,good accuracy and selectivity can be applied to the determination of α-CD。

【语种】中文

【第一作者】刘虹

【通讯作者】顾正彪

【期刊名称、卷期、页码】中国粮油学报, (2008), 23(5):186-192

【论文发表时间】2008-09-01 00:00:00

【引文索引类型】其他

【引文索引号】null

【学科分类】食品科学技术基础学科

【题目】麦芽糊精摩尔质量分布对β-环糊精合成的影响

【中文关键词】环糊精;环糊精葡萄糖基转移酶;麦芽糊精;分子摩尔质量分布

【英文关键词】cyclodextrin;cyclodextrin glucanotransferase;maltodextrin;molecular weight distribution

【中文摘要】环糊精是一类广泛应用于食品、医药、化工、农业等领域的环状低聚糖。本实验研究了以麦芽糊精为底物,其摩尔质量分布对β-环糊精(β-CD)合成的影响。通过GPC分析,运用Sephacryl 200-HR和Sephacryl 400-HR两种凝胶分析麦芽糊精的摩尔质量分布,通过高效液相色谱法(HPLC)分析其小分子糖组成。结果表明,不同葡萄糖值(DE值)的麦芽糊精具有明显不同的分子组成,随着DE值升高,麦芽糊精分子的分支化程度逐步升高,分子链长减小,小分子糖含量呈上升趋势;生产工艺不同可引起DE值相近的麦芽糊精出现摩尔质量分布的较大差异;麦芽糊精分子组成可影响β-CD的合成,应用适当链长的底物在一定程度上可促进环化反应,链长过长易引起歧化反应,而链长过短则会导致β-CD因耦合反应而降解;β-CD的转化率随麦芽糊精分子分支化程度的升高而降低,重均摩尔质量约在(MW)43,053-18,793 g·mol-1左右且分支较少的线性麦芽糊精分子可认为是环化反应的最适底物。

【英文摘要】The molecular weight distribution of maltodextrins and its relation to the synthesis of cyclodextrinsCyclodextrins(CDs) are cyclic oligosaccharides with a wide range of application in food,pharmaceutical,cosmetic and agricultural industries.In this work,we studied the influence of molecular weight distribution of starch degradations on the synthesis of β-CD.The molecular weight distribution of starch degradations were analyzed by GPC on both Sephacryl 200-HR and Sephacryl 400-HR column.The oligosaccharides in starch degradation were analyzed by HPLC.With the increasing of DE,the contents of low weight polysaccharides with higher multiple branching degree increased.Maltodextrins,which were prepared by different methods,had significantly different molecular weight distribution even if they had similar dextrose equivalent value(DE).In general,the conversion rate of β-CD decreased with DE increasing.The best condition for the substrate is the average molecular weight between 43 053~18 793 g/mol and less branch Maltodextrains.Similar DE with different processing methods can shift molecular weight distribution greatly.The different component of Maltodextrains can affect β-CD production.Starch degradations with appropriate molecular weight and higher linear degree are better for the synthesis of β-CD.

【语种】中文

【第一作者】靳蓉

【通讯作者】洪雁

【期刊名称、卷期、页码】食品与发酵工业 (2011), 37(2):140-146

【论文发表时间】2011-02-01 00:00:00

【引文索引类型】其他
【引文索引号】null
【学科分类】食品科学技术基础学科

【题目】溴甲酚绿增色分光光度法测定γ-环糊精
【中文关键词】γ-环糊精; 溴甲酚绿; 分光光度法
【英文关键词】γ-cyclodextrin, bromocresol green, spectrophotometry
【中文摘要】研究了溴甲酚绿分光光度法定量测定γ-环糊精的条件。在pH为4.1的酸性环境中,γ-环糊精使溴甲酚绿发生增色反应,最大增色波长为640 nm,其增色程度(ΔA)与γ-环糊精质量浓度在0~0.3 g/L的范围内成线性关系。回归方程为:ΔA=1.032 7C-γCD(g/L),线性相关系数R2为0.995 7。该方法具有很高的灵敏性,表观摩尔吸光系数ξ640=1.7×106L/(mol.cm),对γ-环糊精的检出限为7.3×10-4g/L。样品平均实测回收率为96%~101.3%,RSD为0.071%,可用于γ-环糊精的定量测定。
【英文摘要】In this manuscript,a easy,economic and efficient determination method of γ-cyclodextrin(γ-CD) was developed based on the principle that γ-cyclodextrin(γ-CD) reacted with bromocresol green(BCG) to form BCG-(γ-CD) complexation at pH 4.1,which causes the hyperchromic of the BCG solution.The maximum hyperchromic wavelength is located at 640 nm.The optimum conditions of the reaction,the influencing factors and relationship between the hyperchromic intensity and the concentration of γ-CD has been investigated.The optimum conditions for measuring the γ-CD are as follows: pH 4.1,BCGconcentration 5 mmol/L,room temperature and 20 min reaction time The concentration of γ-CD is linear proportional to the degree of hyperchromic(ΔA) at the range of 0~0.3 g/L.The regression equation is ΔA=1.032 7Cγ-CD(g/L),the correlation coefficient is 0.995 7.The method has high sensitivity and the maximum molar Absorption coefficient(ξ640) is 1.7×106 L·mol-1·cm-1,and the detection limit is 7.3×10-4 g/L.The recovery is 96%~101.3%,RSD is 0.071%.The method with simplicity,stability system and good accuracy can be applied to the determination of γ-CD
【语种】中文
【第一作者】刘虹
【通讯作者】顾正彪
【期刊名称、卷期、页码】食品与生物技术学报 (2009), 28(4):451-455
【论文发表时间】2009-07-01 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】食品科学技术基础学科

【题目】乙醇对环糊精葡萄糖基转移酶催化作用影响的研究
【中文关键词】乙醇 环糊精葡萄糖基转移酶 环化作用 偶合作用
【英文关键词】ethanol,cyclodextrin glycosyltransferase, cyclization ,coupling
【中文摘要】采用紫外吸收光谱法测定了乙醇、环已烷与β-环糊精包合反应稳定常数及自由能变化,确定乙醇与β-环糊精的包合反应稳定常数Ks为4.71L/mol,ΔG=-3.84KJ·mol-1;环已烷与 β-环糊精Ks为19.56L/mol,ΔG=-7.37 KJ·mol-1。环已烷与β-环糊精的结合能力大大高于乙醇,故乙醇提高其产率的机理不同于传统工艺中所添加的环已烷。通过测定乙醇对环糊精葡萄糖基转移酶催化作用的影响来进一步探究其作用机理。结果表明:乙醇不仅能提高环糊精葡萄糖基转移酶环化作用的活力,并能在一定程度上减少对转化环糊精有抑制作用的小分子糖的形成,还可以减轻环糊精葡萄糖基转移酶对环糊精的水解及偶合作用,从而提高环糊精的产率。
【英文摘要】UV absorption spectroscopy was used to study the stability constant (Ks) and free energy change (ΔG)of the inclusion reaction of ethanol or cyclohexane with β-cyclodextrin. The Ks and ΔG of ethanol with β-cyclodextrin was 4.71L/mo and-3.84KJ·mol-1;the Ks and ΔG of cyclohexane with β-cyclodextrin was 19.56L/mo and-7.37KJ·mol-1. The binding ability of cyclohexane with β-cyclodextrin is higher than that of ethanol. The effect of ethanol added is shown not to be related to the product inhibition of CGTase, the way of action is different than cyclohexane. Ethanol can not only increase the activities of CGTase, but also inhibit the effect of the coupling reaction and hydrolysis reaction, resulting in an increase in cyclodextrins yield.
【语种】中文
【第一作者】王亮
【通讯作者】顾正彪

【期刊名称、卷期、页码】高等学校化学学报,2010,31(6):1-4
【论文发表时间】2010-06-01 00:00:00
【引文索引类型】SCI
【引文索引号】90833N
【学科分类】分析化学

【题目】户用沼气池建设的节能减排和农民增收效果
【中文关键词】沼气,气体排放,能源效益,节能,农村能源
【英文关键词】Marsh gas, gas emissions, energy efficiency, energy saving, rural energy
【中文摘要】合河南省利用亚行贷款农村能源生态建设项目环境影响评价工作,该文作者在9个项目县的9个乡(镇),按比例选择不同生态模式,入户调查沼气建设农户和未建沼气农户在项目实施前后农户的能源消耗量,能源消耗成本,农业生产投入与产出等80多项指标,并定量分析了沼气建设对种植业和养殖业的促进作用,对气体污染物的减排情况,为时2年。分析结果表明,沼气建设大大降低了传统能源的消耗,节约能源消耗成本,减少了气体污染物的排放,大幅度提高了农户种植、Ik和养殖业的经济收入。可见,户用沼气池建设具有明显的能源效益、经济效益、环境效益和社会效益。
【英文摘要】无
【语种】中文
【第一作者】沈连峰
【通讯作者】张全国
【期刊名称、卷期、页码】农业工程学报,2009,25(10):220-225
【论文发表时间】2009-10-06 00:00:00
【引文索引类型】EI
【引文索引号】无
【学科分类】能源化学

【题目】基于LEAP的居民生活能源与环境情景分析
【中文关键词】居民生活用能;LEAP;情景分析;环境影响
【英文关键词】residential energy;LEAP;scenario analysis;environmental impact
【中文摘要】:应用LEAP软件建立河南省居民生活能源与环境模型.利用该模型模拟3个不同情景下河南省居民生活在2005--2030年间能源需求和环境影响.模拟结果表明,政策执行力度及技术推广程度对能源需求量及用能结构有较大影响,3个不同情景下的能源需求量的最大差异量达到9.8 Mtce,而且终端直接消费能源所产生的C02排放量在3个情景下呈不同的下降趋势.
【英文摘要】To assess the energy demand and environment effect for household sector,a bottom—upLEAP Henan model was developed to simulate three different scenarios from 2005 to 2030.In this paper,taking Henan Province as an example,simulation results show that:the implementation of poli · cies and technologies to promote the degree of intensity of energy demand and use can produce a grea—ter impact on the structure.The three different scenarios of the greatest differences in energy demandhave reached 9.8 Mtce,and the direct consumption of energy by the end of the C02 produced emissionsin three different scenarios was a downward trend.
【语种】中文
【第一作者】逯曙光
【通讯作者】徐广印
【期刊名称、卷期、页码】河南农业大学学报,2010,44(2):229-232
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【引文索引类型】其他
【引文索引号】null
【学科分类】能源计算与测量

【题目】镁锰锌金属离子对γ-CGT酶生产和能量代谢的促进影响
【中文关键词】γ-CGT酶; Bacillus macorous WSH02-06; 二价金属离子; 组合添加; ATP; ATP/ADP
【英文关键词】γ-CGTase, Bacillus macorous WSH02-06, divalent metal ion, combined addition, ATP, ATP/ADP
【中文摘要】研究了添加镁、锰、锌二价金属离子对Bacillus macorousWSH02-06生产γ-CGT酶的影响。结果表明,在培养基中组合添加镁、锰、锌等二价金属离子能提高酶产量近两倍。这些金属离子的添加同样能促进细胞生长。锰、锌金属

离子的存在能促进细胞消耗镁离子的量。γ-CGT酶产量、细胞干重随着镁离子消耗量的增加而增加。镁、锰、锌二价金属离子提高了胞内ATP含量和ATP/ADP比例,从而为产酶提供了更大的能量支持。

【英文摘要】The effects of divalent metal ions addition such as magnesium,manganese and zinc on the yield of γ-CGTase by Bacillus macorous WSH 02-06 were studied.The γ-CGTase yield was increased maximally almost three folds by the combined addition of magnesium,manganese and zinc ions.The addition of these metal ions also stimulated cell growth.The consumption of Mg2+ was promoted in the cultures with the co-existance of manganese ion and zinc ion.The γ-CGTase yield and dry cell weight increased with the consumption of magnesium ion.The increased intracellular content of ATP and ATP-to-ADP ratio by the addition of these metal ions could generate more energy for better cell growth and higher γ-CGTase yield。

【语种】中文

【第一作者】王峰

【通讯作者】王峰

【期刊名称、卷期、页码】化学与生物工程,2008, 25(7):33-37

【论文发表时间】2008-07-01 00:00:00

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【引文索引号】null

【学科分类】分析化学

【题目】水温对香港巨牡蛎摄食和代谢的影响

【中文关键词】香港巨牡蛎;水温;滤水率;摄食率;吸收率;耗氧率;排氨率

【英文关键词】Crassostrea hongkongensis;water temperature;filtration rate;ingestion rate;absorption efficiency;oxygen consumptionrate;ammonia excretion rate

【中文摘要】为了探明香港巨牡蛎(Crassostrea hongkongensis)的摄食和代谢生理与水温的关系,在实验室条件下采用流水系统研究了不同水温条件下香港巨牡蛎的滤水率、摄食率、吸收率、耗氧率和排氨率的变化规律,结果显示:(1)在13℃—33℃范围内,水温对香港巨牡蛎的滤水率、摄食率和吸收率的影响都极显著,滤水率、摄食率和吸收率与水温之间的关系方程分别为:FR=-0.027T2+1.1967T-7.8537(R2=0.8902);IR=-0.147T2+6.5202T-42.845(R2=0.9009);AE=-0.1783T2+8.1846T-12.304(R2=0.9757)。(2)在13℃—33℃范围内,水温对香港巨牡蛎的耗氧率和排氨率的影响极显著,耗氧率和排氨率与水温之间的关系方程分别为:OR=1.283Ln(T)-2.332(R2=0.9599);NR=0.1022Ln(T)-0.2136(R2=0.9743)。根据研究结果可以判断:香港巨牡蛎生长的最适水温为22℃,其摄食和代谢在水温18~28℃之间处于较适宜水平。

【英文摘要】In order to make clear the relationship between water temperature and the feeding and metabolic physiology of Crassostrea hongkongensis, the variation of filtration rate (FR), ingestion rate (IR), absorption efficiency (AE), oxygen consumption rate (OR) and ammonia excretion rate (NR) under different water temperatures (T) were studied at laboratory conditions using a running water system. The results showed that, (1) Within the range of 13~33℃, the temperature had a very significant effect on filtration rate, ingestion rate and absorption efficiency of Crassostrea hongkongensis (P<0.01), and the relations between water temperature and filtration rate, ingestion rate and absorption efficiency were as follows: FR =-0.027T2+1.1967T-7.8537 (R2=0.8902), IR=-0.147T2+6.5202T-42.845 (R2=0.9009), AE=-0.1783T2+8.1846T-12.304 (R2=0.9757). (2) Within 13~33益, the temperature had a very significant effect on oxygen consumption rate and ammonia excretion rate of Crassostrea hongkongensis, the relations between water temperature and oxygen consumption rate and ammonia excretion rate were as follows: OR=1.283Ln(T)-2.332 (R2=0.9599); NR=0.1022Ln(T)-0.2136 (R2=0.9743). This study indicated that the optimal temperature for the growth of Crassostrea hongkongensis was 22℃, its feeding and metabolism were at a appropriate level between temperature 18℃and 28℃.

【语种】中文

【第一作者】廖文崇

【通讯作者】张汉华

【期刊名称、卷期、页码】广东农业科学,2011,1:7-11.

【论文发表时间】2011-01-10 00:00:00

【引文索引类型】其他

【引文索引号】2.42E+09

【学科分类】水产学其他学科

【题目】体规格对香港巨牡蛎摄食和代谢的影响

【中文关键词】香港巨牡蛎;个体规格;滤水率;摄食率;吸收率;耗氧率;排氨率
【英文关键词】Crassostrea hongkongensis; sizes; filtration rate; ingestion rate; absorption efficiency; oxygen consumption rate; ammonia excretion rate
【中文摘要】为了查明香港巨牡蛎(Crassostrea hongkongensis)的摄食和代谢与个体规格的关系,本研究在实验室条件下采用流水系统研究了不同规格香港巨牡蛎的滤水率(FR)、摄食率(IR)、吸收率(AE)、耗氧率(OR)和排氨率(NR)的变化规律。结果显示:1)个体规格对香港巨牡蛎的滤水率、摄食率的影响都极显著(P<0.01)。滤水率和摄食率与干组织质量之间的关系方程分别为:FR = 3.568 5W-0.590 1,(R2=0.956 4);IR = 20.396W-0.539 2,(R2=0.967 9)。个体规格对吸收率的影响不显著(P>0.05)。2)个体规格对香港巨牡蛎的耗氧率和排氨率的影响极显著(P<0.01),耗氧率和排氨率与干组织质量之间的关系方程分别为:OR=1.220 8W-0.444 8,(R2= 0.948 1);NR= 0.074 3W-0.469 1,(R2=0.922 4)。个体规格对O:N的影响不显著(P>0.05),不同个体规格下O:N平均值为18.09,表明在本实验条件下香港巨牡蛎代谢所需要的能量主要由脂肪和碳水化合物提供。
【英文摘要】In order to make clear the relationship between sizes and the feeding and metabolic physiology of Crassostrea hongkongensis, the variation of filtration rate (FR), ingestion rate (IR), absorption efficiency (AE), oxygen consumption rate (OR) and ammonia excretion rate (NR) under different sizes were studied at laboratory conditions using a running water system. The results showed that: (1) Sizes had a very significant effect on filtration rate and ingestion rate of Crassostrea hongkongensis (P<0.01). The relations between dry tissue weight and filtration rate and ingestion rate were as follows: FR = 3.5685W-0.5901, (R2=0.9564); IR = 20.396W-0.5392, (R2=0.9679). Sizes had no significant impacts on absorption efficiency of Crassostrea hongkongensis (P>0.05). (2) Sizes had a very significant effect on oxygen consumption rate and ammonia excretion rate of Crassostrea hongkongensis (P<0.01). The relations between dry tissue weight and oxygen consumption rate and ammonia excretion rate were as follows: OR=1.2208W-0.4448, (R2= 0.9481); NR= 0.0743W-0.4691, (R2=0.9224). The sizes had no significant impacts on the ratio of O:N (P>0.05). The values of O:N ratios were 18.09, which indicated that the Crassostrea hongkongensis in the experiment mainly utilized carbohydrate and lipid as their energy sources.
【语种】中文
【第一作者】廖文崇
【通讯作者】张汉华
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【学科分类】水产学其他学科

【题目】盐度对香港巨牡蛎摄食和代谢的影响
【中文关键词】香港巨牡蛎;盐度;滤水率;摄食率;吸收率;耗氧率;排氨率
【英文关键词】Key words: Crassostrea hongkongensis;salinity;filtration rate;ingestion rate;absorption efficiency;oxygen consumption rate;ammonia excretion rate
【中文摘要】为了探明香港巨牡蛎(Crassostrea hongkongensis)的摄食和代谢与盐度的关系,本研究在实验室条件下采用流水系统研究了不同盐度(S)条件下香港巨牡蛎的滤水率(FR)、摄食率(IR)、吸收率(AE)、耗氧率(OR)和排氨率(NR)的变化规律。结果显示:(1)在盐度6~27范围内,盐度对香港巨牡蛎的滤水率、摄食率的影响都极显著(P<0.01),随着盐度的升高,滤水率与摄食率先增大后减小,盐度13时最大,分别为5.93 L · g-1 · h-1和38.26×106 cell · g-1 · h-1;盐度对吸收率的影响不显著(P>0.05),吸收率为74.77 %~78.41 %。 (2)在盐度6~27范围内,盐度对香港巨牡蛎的耗氧率和排氨率的影响极显著(P<0.01),随着盐度的升高,耗氧率与排氨率先增大后减小,盐度20时最大,分别为1.76 mg · g-1 · h-1和0.11 mg · g-1 · h-1;盐度对O:N比的影响不显著(P>0.05),不同盐度下O:N平均值为17.89,表明在本实验条件下香港巨牡蛎代谢所需要的能量主要由脂肪和碳水化合物提供。根据研究结果可以判断:香港巨牡蛎的摄食和代谢活动在盐度13到20之间处于较适宜水平。
【英文摘要】In order to make clear the relationship between salinity and the feeding and metabolic physiology of Crassostrea hongkongensis, the variation of filtration rate (FR), ingestion rate (IR), absorption efficiency (AE), oxygen consumption rate (OR) and ammonia excretion rate (NR) under different salinity (S) were studied at laboratory conditions using a running water system. The results showed that: (1) In the context of salinity 6-27, the salinity had a very significant effect on filtration rate and ingestion rate (P<0.01). The filtration rate and ingestion rate were the highest at the salinity of 13, respectively 5.93 L · g-1 · h-1 and 38.26×106 cell · g-1 · h-1, and decreased at the higher and lower salinity. The salinity had no significant impacts on absorption efficiency of Crassostrea hongkongensis (P>0.05), witch was between 74.77~78.41 %. (2) In the context of salinity 6-27, the salinity had a very significant effect on oxygen consumption rate and ammonia excretion rate of Crassostrea hongkongensis (P<0.01). The oxygen consumption rate and ammonia excretion rate were the highest at the salinity of 20, respectively 1.76 mg · g-1 · h-1 and 0.11 mg · g-

1・h-1, and decreased at the higher and lower salinity. The salinity had no significant impacts on the ratio of O:N(P>0.05). The values of O:N ratios were 17.89±1.05(mean±SD), which indicated that the Crassostrea hongkongensis in the experiment mainly utilized carbohydrate and lipid as their energy sources. It could be judged based on the results that the feeding and metabolism of Crassostrea hongkongensis were at a appropriate level between salinity 13 to 20.
【语种】中文
【第一作者】林丽华
【通讯作者】张汉华
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【学科分类】水产学其他学科

【题目】秸秆资源化利用途径及建议
【中文关键词】秸秆资源化;利用途径;农村环境
【英文关键词】无
【中文摘要】介绍了我国作物秸秆资源特点,综述了秸秆资源化利用的主要途径,并提出了加强秸秆资源化利用和促进农村环境保护的几点建议。
【英文摘要】无
【语种】中文
【第一作者】王艳锦
【通讯作者】张全国
【期刊名称、卷期、页码】河南农业科学,2009,(7):23-26
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【引文索引号】null
【学科分类】能源科学技术其他学科

【题目】两段式处理制取车用燃料级沼气的试验研究
【中文关键词】沼气;纯化;水洗;碱金属吸收剂;车用燃料
【英文关键词】无
【中文摘要】配制的模拟沼气为原料,采用水洗和可再生的碱金属基吸收剂干法吸收相结合的两段式处理流程来纯化沼气,以沸石颗粒作洗涤塔填料,附载Na2CO,的活性碳颗粒作干式吸收塔填料,制得的CH4含量在95%以上,达到车用燃料级的高纯沼气。
【英文摘要】无
【语种】中文
【第一作者】黄黎
【通讯作者】张全国
【期刊名称、卷期、页码】太阳能学报,2012, 33(3):363-367)
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【题目】麦秸中温厌氧干发酵技术实验研究
【中文关键词】农作物秸秆;干发酵;产气特性;发酵残留物
【英文关键词】crops straw;dry digestion;biogas production parame蚰;biogas residue
【中文摘要】文研究了麦秸秆中温厌氧干发酵过程中的沼气产量和发酵残留物中有机质、全氮、速效磷、速效钾的含量及其与发酵条件的相关关系。实验结果表明,沼气产量随着发酵原料中固体浓度的增加而减少;发酵残留物中有机质、全氮、速效磷、速效钾的含量和发酵原料中固体浓度的关系并不十分明显,但在沼气产量较高的发酵工况下,其发酵残留物

中有机质、全氮、速效磷、速效钾的含量较多,为进一步开发秸秆中温厌氧干发酵技术提供科学参考。
【英文摘要】Relations among fermentation concentration。biogas production and constituents of fermentation residue we咒studied for mesophilie and dry anaerobic fermentation.The result showed that biog鹪production W88 reduced witlI inereasingof TS content in the fermentation.And the constituents of fermentation residue,namely,organic matter,total nitrogen,rapidly-available phosphorus and potassium,did not have very obvious relations with fermentation'IS concentration.The fermentationresidue had higher contents of total nitrogen,rapidly · available phosphorus and potassium under higher biogasyield condition.
【语种】中文
【第一作者】黄俊
【通讯作者】张全国
【期刊名称、卷期、页码】中国沼气,2010,28(1):7-13
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【题目】酶法制备α-环糊精反应体系中癸醇的分离
【中文关键词】液液萃取,α-环糊精,癸醇,分离,水蒸气蒸馏
【英文关键词】extraction, α-cyclodextrin, 1-decanol, separation, steam distillation
【中文摘要】建立了利用液液萃取技术分离酶法制备α-环糊精反应体系中复合剂———癸醇的方法。首先,在α-环糊精溶液中加入癸醇形成α-环糊精-癸醇复合物沉淀后,以该混合体系为研究对象,考察了萃取剂种类及其用量、萃取温度和萃取时间等因素对萃取法分离癸醇的影响,确定了萃取条件: 以15 倍于癸醇体积的乙醚作为萃取剂,在30℃下萃取30 min。其次,以酶法制备α-环糊精的反应体系为研究对象,在最佳萃取条件下分离癸醇后,所测得的α-、β-、γ-环糊精收率与采用传统方法———水蒸气蒸馏法所得收率相当,进一步验证了萃取法能够将α-环糊精-癸醇复合物中的癸醇有效分离出来。
【英文摘要】An extraction method was developed to separate the complex reagent 1-decanol in enzymatic reactionsystem for α-cyclodextrin production. Firstly,a certain amount of 1-decanol was added to α-cyclodextrin solution toform α-cyclodextrin-1-decanol complexes for the parameter study of extraction separation. Effects of type and volumeof extraction solvent,extraction time,and extraction temperature on extraction separation of 1-decanol were investigated.The results showed that the optimum conditions were that ethyl ether,15 times as many as the volume of 1-decanol,was used as extraction solvent to extract 1-decanol at 30℃for 30 min. Secondly,under above optimum conditions,1-decanol in enzymatic reaction system for α-cyclodextrin production was extracted. The results showed that,after extraction separation of 1-decanol, α, β and γ-cyclodextrin yields determined were almost the same as those bythe traditional separation method--steam distillation,which further verified that 1-decanol in the α-cyclodextrin-1-decanol complexes could be effectively separated using extraction method. Furthermore,compared with steam distillation,the proposed extraction method was simple,energy-saving and efficient.
【语种】中文
【第一作者】卢滋
【通讯作者】顾正彪
【期刊名称、卷期、页码】食品与发酵工业,2012,38(2):203-206
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【题目】耐低温兼性厌氧淀粉酶产生茵Y89的筛选及酶学特性
【中文关键词】兼性厌氧;酶学特性;淀粉酶;类芽孢杆茵属
【英文关键词】facuhative anoxie;enzymatic properties;amylase;Paenibaeillus 8p.
【中文摘要】为了提高厌氧发酵中的沼气产气率。对某污水处理厂活性污泥采用双层平板基内培养法,筛选得到一株兼性产淀粉酶菌株Y89。经形态学、生理生化和16S rDNA序列分析,鉴定为类芽胞杆茵属(Paenibacillus sp.)。同时对其酶学性质进行了研究,结果表明该茵为耐低温菌,最适生长温度为16℃,最适氯化钠浓度5%,最佳pH为6.0,pH 5.0--9.5范围内均能生长,培养72~124h处于生长稳定期,在40℃进行水浴反应,酶活较高,达386.13 U/mL。

【英文摘要】To improve methane gas production rate in anaerobic fermentation,a facuhative strain producingamylas was isolated from activated sludge of a sewage treatment plant by using of double-flat-panel screening.The morphology.the physiological biochemical characteristics and the 1 6S rDNA analysis of the strain showedthat this organism was Paenibaeillus 8p..Studies on the enzymatic properties indicated that the strain waspsychrotolerant,the optimum growth temperature wag l 6°C,the NaCI optimum for growth was 5%,the fastestgrowth occurred within pH 6.0.the strain Call also grow within a range of 5.0-9.5.,11le stationary phase of thestrain occurred after cultured between 72 h and 1 24 h,water bath at 40°C,the Amylase-producing displayedmaximum activity(386.13 U/mL).
【语种】中文
【第一作者】李欣
【通讯作者】程辉彩
【期刊名称、卷期、页码】中国农学通报,2011,27(7):107-111
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【学科分类】能源科学技术其他学科

【题目】一株产甲烷杆菌XJ一1的分离及鉴定
【中文关键词】甲酸甲烷杆菌;生理生化;16S rDNA序列分析
【英文关键词】bacilus ofMethanobacterium;physiological andbiochemical;16S rDNA sequence analysis
【中文摘要】采用改良Hungate厌氧操作技术,从沼气池中分离出一株甲烷杆菌XI一1。)(J—l菌株呈略弯、扭曲和直杆形态,一般单生、成对或少数成串。菌体长3-6 trm,直径为0.3—0.5 trm。能够利用甲酸钠和HJC02转化成甲烷,不利用乙酸钠、甲醇、甲胺、二甲胺、乙二醇和丙二醇等。最适生长温度为37°C,最适盐浓度为1%,最适生长pH为7.0~8.0,对青霉素、罗红霉素、利福平、硫酸新霉素、硫酸卡那霉素和硫酸链霉素有抗性,对盐酸四环素和氯霉素敏感。经生理生化及系统发育鉴定为甲酸甲烷杆菌。
【英文摘要】Using improved Hungate anaerobic technology,a Methanobacterium strain XJ一1 wasisolated from a methane digester.XJ-1 strain had a shape of slighfly bent,twisted and straight rod,usually single,in pairs or small clusters.Cell length was 3-6斗m,and the diameter was about 0.3-0.5 Ixm.Sodium formate and H2/C02 could be utilized as substrate but not sodium acetate,methanol,methylamine,dimethylamine,ethylene glycol or propylene glyc01.The optimal tempera—ture was 37°C,pH 7.0~8.0 and with I%NaCI.XJ一1 had a resistance to penicillin,roxithromycin,rifampicin,neomycin sulfate,kanamycin and streptomycin sulfate but not Hydrochloride tetracyclineand chloramphenic01.XJ一1was identified as a bacilus of Methanobacterium by the physiological,biochemical and phylogenetic method.
【语种】中文
【第一作者】李辉
【通讯作者】张丽萍
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【学科分类】能源科学技术其他学科

【题目】沼气建设对改善农村生态环境的研究
【中文关键词】沼气建设;土壤质量;空气质量;径流水质
【英文关键词】biogas construction;soil quality;air quality;runoff quality
【中文摘要】合河南省。利用亚行贷款农村能源生态建设项目”环境影响评价工作,通过对沼气户和非沼气户的土壤、厨房空气、庭院径流水进行监测,对疾病发生率进行统计,定量分析了沼气建设对改善农村生态环境的效果。结果表明,沼气户土壤中有效钾、有效磷、全氮和有机质含量都明显高于非沼气户;沼气户厨房空气中CO,S02,PM。o,NH3的平均浓度均低于非沼气户;沼气户地表径流水中SS,COD,TP,NH3-N的平均浓度也均低于非沼气户;沼气户院内苍蝇数量、呼吸道和消化道疾病发病率均低于非沼气户,说明沼气建设对改善农村生态环境效果明显。
【英文摘要】Referring to the environmental impact assessment of the rural energy ecological construction project using AsianBank loans in Henan Province,through the monitoring of soil,kitchen air and courtyard runoff,the statistics of disease ineidenceto biogas

farn舱r and non-biogas farmer,the effect of biogas construction on improving rural ecological environmentwere analyzed quantitatively.The results showed that the contents of available potassium,phosphorus,total nitrogen andorgallic matter in soll of biogas farmer were obviously higher than that for non-biogas farmer.The average content of CO,S02,PMIo and NH3 in kitchen air of biogas farmer is lower than that for non—biogas farmer.‰average content of SS,COD,TP,NH3-N in courtyard runoff of biogas farmer is lower than that for non · biogas farmer;the fly number in courtyard,the respiratory disease incidence and the gastrointestinal disease incidence were also lower for biogas farmer than thatfor the non · biogas farmer.

【语种】中文
【第一作者】沈连峰
【通讯作者】张全国
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【学科分类】能源科学技术其他学科

【题目】OsAREB1, an ABRE-binding protein responding to ABA and glucose, has multiple functions in Arabidopsis
【中文关键词】无
【英文关键词】ABA, ABRE, Dehydration, Flowering, Heat
【中文摘要】无
【英文摘要】Expression patterns of OsAREB1 revealed that expression ofOsAREB1 gene can be induced by ABA, PEG and heat. Yeastone-hybrid assay demonstrated it can bind to ABA-responsiveelement (ABRE), which was found in most stress-induced genes.Transgenic Arabidopsis over-expressing OsAREB1 had differentresponses to ABA and glucose compared to wild-type plants,which suggest OsAREB1 might have a crucial role in these twosignaling pathways. Further analysis indicate that OsAREB1have multiple functions in Arabidopsis. First, OsAREB1 transgenicplants had higher resistance to drought and heat, andOsAREB1 up-regulated the ABA/stress related gene such asRD29A and RD29B. Second, it delayed plant flowering time bydown-regulating the expression of flowering-related genes, suchas FT, SOC1, LFY and AP1. Due to the dates, OsAREB1 mayfunction as a positive regulator in drought/heat stresses response,but a negative regulator in flowering time in Arabidopsis
【语种】英文
【第一作者】Xiaofen Jin
【通讯作者】Xiaofen Jin
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【学科分类】植物学

【题目】DGTF: A Database of Grape Transcription Factors
【中文关键词】无
【英文关键词】Vitis vinifera L., family, domain, transcriptional regulator
【中文摘要】无
【英文摘要】ABSTRACT. The database of grape transcription factors (DGTF) is a plant transcription factor (TF) databasecomprehensively collecting and annotating grape (Vitis L.) TF. The DGTF contains 1423 putative grape TF in 57families. These TF were identified from the predicted wine grape (Vitis vinifera L.) proteins from the grape genomesequencing project by means of a domain search. The DGTF provides detailed annotations for individual members ofeach TF family, including sequence feature, domain architecture, expression information, and orthologs in otherplants. Cross-links to other public databases make its annotations more extensive. In addition, some othertranscriptional regulators were also included in the DGTF. It contains 202 transcriptional regulators in 10 families
【语种】英文
【第一作者】BinCai

【通讯作者】Quanhong Yao
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【引文索引号】44091628
【学科分类】植物学

【题目】Isolation and Identification of Lactic Acid Bacteria from Tarag in Eastern Inner Mongolia of China by 16S rRNA Sequences and DGGE analysis
【中文关键词】乳酸菌
【英文关键词】Tarag Lactic acid bacteria 16S rRNA gene DGGE Biodiversity
【中文摘要】lactic acid bacteria fermentation
【英文摘要】Tarag is a characteristic fermented dairy product with rich microflora (especially lactic acid bacteria), developed by the people of Mongolian nationality in Inner Mongolia of China and Mongolia throughout history. One hundred and ninety-eight samples of Tarag were collected from scattered households in Eastern Inner Mongolia, and total of 790 isolates of lactic acid bacteria (LAB) were isolated by traditional pure culture method. To identify these isolates and analyze their biodiversity, 165 rRNA gene sequences analysis and PCR-DGGE were performed respectively. The results showed that 790 isolates could be classified as 31 species and Subspecies. Among these isolates. Lactobacillus helveticus (153 strains, about 19.4%), Lactococcus lactis subsp. lactis (132 strains, about 16.7%) and Lactobacillus casei (106 strains, about 11.0%) were considered as the predominated species in the traditional fermented dairy products (Tarag) in Eastern Inner Mongolia. It was shown that the biodiversity of LAB in Tarag in Inner Mongolia was very abundant, and this traditional fermented dairy product could be considered as valuable resources for LAB isolation and probiotic selection. (C) 2011 Elsevier GmbH. All rights reserved
【语种】英文
【第一作者】刘文俊
【通讯作者】张和平
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【引文索引号】3.0060330001e+011
【学科分类】食品科学技术基础学科

【题目】Phenotypic and genotypic characteristics of Lactic acid bacteria isolated from Fermented Congee in Inner Mongolia of China
【中文关键词】乳酸菌
【英文关键词】congee lactic acid bacteria 16S rRNA gene
【中文摘要】lactic acid bacteria fermented milk
【英文摘要】Sour congee is a popular food in the western regions of Inner Mongolia in China. It has a complex microbial population, which contributes to its unique flavor and functional properties. In this study, we chose 28 sour congee samples that were collected from different areas in Inner Mongolia for analysis of the microbial community of lactic acid bacteria (LAB) by classical biochemical tests, 16S rRNA gene sequencing, multiplex PCR assay of recA gene and restriction fragment length polymorphism (RFLP) analysis of the tuf gene (encoding elongation factor Tu). The results revealed that all the isolates were identified as Lactobacillus (L.) paracasei (38 strains), L. fermentum (28 strains), L. plantarum (7 strains), L brevis (4 strains), L. reuteri (2 strains), L. amylolyticus (1 strain), Enterococcus (E.) faecalis (3 strains), E. italicus (2 strains) or Lactococcus lactis subsp. lactis (1 strain). The predominant LAB were L. casei and L. fermentum in sour congee samples. The diversity of LAB derived from sour congee could offer useful information for further research on sour congee, and the results demonstrated that the combination of tuf gene and RFLP patterns can be considered as a useful tool for differentiation of the L. casei group
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【第一作者】于洁
【通讯作者】张和平
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【学科分类】食品科学技术基础学科

【题目】Diversity of lactic acid bacteria associated with traditional fermented dairy products in Mongolia
【中文关键词】乳酸菌
【英文关键词】lactic acid bacteria
【中文摘要】lactic acid bacteria dairy
【英文摘要】Spontaneous milk fermentation has a long history in Mongolia, and beneficial microorganisms have been handed down from one generation to the next for use in fermented dairy products. The objective of this study was to investigate the diversity of lactic acid bacteria (LAB) communities in fermented yak, mare, goat, and cow milk products by analyzing 189 samples collected from 13 different regions in Mongolia. The LAB counts in these samples varied from 3.41 to 9.03 log cfu/mL. Fermented yak and mare milks had almost identical mean numbers of LAB, which were significantly higher than those in fermented goat milk but slightly lower than those in fermented cow milk. In total, 668 isolates were obtained from these samples using de Man, Rogosa, and Sharpe agar and M17 agar. Each isolate was considered to be presumptive LAB based on gram-positive and catalase-negative properties, and was identified at the species level by 16S rRNA gene sequencing, multiplex PCR assay, and restriction fragment length polymorphism analysis. All isolates from Mongolian dairy products were accurately identified as Enterococcus faecalis (1 strain), Enterococcus durans (3 strains), Lactobacillus brevis (3 strains), Lactobacillus buchneri (2 strains), Lactobacillus casei (16 strains), Lactobacillus delbrueckii ssp. bulgaricus (142 strains), Lactobacillus diolivorans (17 strains), Lactobacillus fermentum (42 strains), Lactobacillus helveticus (183 strains), Lactobacillus kefiri (6 strains), Lactobacillus plantarum ssp. plantarum (7 strains), Lactococcus lactis ssp. lactis (7 strains), Leuconostoc lactis (22 strains), Leuconostoc mesenteroides (21 strains), Streptococcus thermophilus (195 strains), and Weissella cibaria (1 strain). The predominant LAB were Strep. thermophilus and Lb. helveticus, which were isolated from all sampling sites. The results demonstrate that traditional fermented dairy products from different regions of Mongolia have complex compositions of LAB species. Such diversity of LAB provides useful information for further studies of probiotic strain selection and starter culture design, with regard to the industrial production of traditional fermented milk.
【语种】英文
【第一作者】于洁
【通讯作者】张和平
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【学科分类】食品科学技术基础学科

【题目】Complete Genome Sequence of the Lactobacillus helveticus H10
【中文关键词】乳酸菌
【英文关键词】BACTERIA
【中文摘要】bacteria
【英文摘要】Lactobacillus helveticus strain H10 was isolated from traditional fermented milk in Tibet, China. We sequenced the whole genome of strain H10 and compared it to the published genome sequence of Lactobacillus helveticus DPC4571.
【语种】英文
【第一作者】赵文静
【通讯作者】张和平
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【学科分类】食品科学技术基础学科

【题目】Complete genome sequence of Lactobacillus delbrueckii subsp. bulgaricus strain ND02
【中文关键词】乳酸菌
【英文关键词】BACTERIA
【中文摘要】bacteria
【英文摘要】Lactobacillus delbrueckii subsp. bulgaricus strain ND02 is a Chinese commercial dairy starter used for the manufacture of yoghurt. It was isolated from naturally fermented yak milk in Qinghai, China. Here, we report the main genome features of ND02 and several differences with two other published genomes of Lactobacillus delbrueckii subsp. bulgaricus strains.
【语种】英文
【第一作者】孙志宏
【通讯作者】张和平
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【学科分类】食品科学技术基础学科

【题目】In fl uence of consumption of probiotics on the plasma lipid pro fi le: A meta-analysis of randomised controlled trials.
【中文关键词】乳酸菌
【英文关键词】Probiotics; Meta-analysis; Total cholesterol; HDL cholesterol; LDL cholesterol; Triglycerides
【中文摘要】lactic acid bacteria
【英文摘要】Aims: Human clinical studies have yielded mixed results on the effects of consumption of probiotics on the plasma lipid profile. We conducted a meta-analysis of randomised controlled trials that evaluated the effects of probiotics consumption on blood lipids. Data Synthesis: A systematic literature search of Embase, Web of Science, PubMed and Cochrane Controlled Trials Registry was conducted for studies that investigated the efficacy of probiotics on the plasma lipid profile of subjects. With the help of Review Manager 4.2, data from 13 trials, which included 485 participants with high, borderline high and normal cholesterol levels, were examined. The pooled mean net change in total cholesterol for those treated with probiotics compared to controls was -6.40 mg dl(-1) (95% confidence interval (CI), -9.93 to -2.87), mean net change in low-density lipoprotein (LDL) cholesterol was -4.90 mg dl(-1) (95% CI, -7.91 to -1.90), mean net change in high-density lipoprotein (HDL) cholesterol was -0.11 mg dl(-1) (95% CI, -1.90-1.69) and mean net change in triglycerides was -3.95 mg dl(-1) (95% CI, -10.32-2.42). Conclusion: These results indicate that a diet rich in probiotics decreases total cholesterol and LDL cholesterol concentration in plasma for participants with high, borderline high and normal cholesterol levels. (C) 2011 Elsevier B.V. All rights reserved
【语种】英文
【第一作者】郭壮
【通讯作者】张和平
【期刊名称、卷期、页码】Nutrition, Metabolism & Cardiovascular Diseases
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【学科分类】食品科学技术基础学科

【题目】Proteomic analysis of responses of a new probiotic bacterium Lactobacillus casei Zhang to low acid stress
【中文关键词】乳酸菌
【英文关键词】Lactobacillus casei Zhang; Proteomics; Acid stress
【中文摘要】lactic acid bacteria 蛋白质组学
【英文摘要】erance to acid is an important feature for probiotic bacteria during transition through the gastrointestinal tract. Proteomics analysis of a new probiotic bacterium. Lactobacillus casei Zhang, was performed upon 30-min exposure to low acid stress (pH 2.5 vs. pH 6.4) using two-dimensional electrophoresis. Out of 33 protein spots that showed changes of expression between the two pHs, 22 showed 1.5-fold higher expression at pH 2.5 than at pH 6.4, whereas five spots had expression decreased by 1.5-fold at pH 2.5. There were also six protein spots that were exclusively present on different pH maps. Further analysis showed that eight of the enhanced

proteins, NagA, NagB, PGM, GlmM, LacC, TOP, GALM and Ptsl, were involved in carbohydrate catabolism. Moreover, quantitative RT-PCR showed that the mRNA expression levels of dnaK, nagB, galm, estC, tuf and luxS were consistent with changes in protein expression. We postulate that there might be some relationship between differentially expressed proteins and acid tolerance in L casei Zhang. (C) 2011 Elsevier B.V. All rights reserved.
【语种】英文
【第一作者】乌日娜
【通讯作者】张和平
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【学科分类】食品科学技术基础学科

【题目】Validation of reference genes for real-time quantitative PCR studies in gene expression levels of Lactobacillus casei Zhang.
【中文关键词】乳酸菌
【英文关键词】Lactobacillus casei Zhang; Reference genes; Real-time quantitative PCR
【中文摘要】lactic acid bacteria
【英文摘要】Lactobacillus casei Zhang, a potential probiotic strain isolated from homemade koumiss in Inner Mongolia of China, has been sequenced and deposited in GenBank. Real-time quantitative PCR is one of the most widely used methods to study related gene expression levels of Lactobacillus casei Zhang. For accurate and reliable gene expression analysis, normalization of gene expression data using one or more appropriate reference genes is essential. We used three statistical methods (geNorm, NormFinder, and BestKeeper) to evaluate the expression levels of five candidate reference genes (GAPD, gyrB, LDH, 16s rRNA, and recA) under different culture conditions and different growth phases to find a suitable housekeeping gene which can be used as internal standard. The results showed that the best reference gene was GAPD, and a set of two genes, GAPD and gyrB (which were the most stable reference genes), is recommended for normalization of real-time quantitative PCR experiments under all the different experimental conditions tested. The systematic validation of candidate reference genes is important for obtaining reliable analysis results of real-time quantitative PCR studies in gene expression levels of Lactobacillus casei Zhang.
【语种】英文
【第一作者】赵文静
【通讯作者】张和平
【期刊名称、卷期、页码】Journal of Industrial Microbiology & Biotechnology.
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【学科分类】食品科学技术基础学科

【题目】Complete Genome Sequence of Streptococcus thermophilus Strain ND03
【中文关键词】乳酸菌
【英文关键词】BACTERIA
【中文摘要】bacteria
【英文摘要】Streptococcus thermophilus strain ND03 is a Chinese commercial dairy starter used for the manufacture of yogurt. It was isolated from naturally fermented yak milk in Qinghai, China. We present here the complete genome sequence of ND03 and compare it to three other published genomes of Streptococcus thermophilus strains.
【语种】英文
【第一作者】孙志宏
【通讯作者】张和平
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【学科分类】食品科学技术基础学科

【题目】A survey of bacterial composition in kurut from Tibet of China using a culture-independent approach
【中文关键词】乳酸菌
【英文关键词】Tarag Lactic acid bacteria 16S rRNA gene DGGE Biodiversity
【中文摘要】lactic acid bacteria fermentation
【英文摘要】Kurut (fermented yak milk) made by natural fermentation is a very important dairy food for the local people in Tibet (China). It is important to fully understand the bacterial composition of kurut for quality improvement and industrial production. Because more than 99% of prokaryotes cannot be cultured and identified by methods currently used in taxonomy, we applied a culture-independent approach to explore the microbial biodiversity of this traditional food. In this study, a bacterial 16S rIINA gene clone library, including 460 clones, was constructed using total DNA extracted from 30 samples of kurut. After screening by restriction fragment length polymorphism (RFLP) analysis, 56 operational taxonomic units (OTU) with unique RFLP patterns were obtained. Then, 1 representative sequence of every OTU was sequenced and phy-logenetically analyzed. The representative phylotypes were affiliated with 5 groups, including Lactococcus lactis ssp. laths, Lactobacillus helveticus, Streptococcus thermophilus, Lactobacillus delbrueckii ssp. bulgaricus, and Acetobacter. In addition, nearly one-third of the representative clones (132 clones) had low similarity to species in GenBank (<97%), and these phylotypes were regarded as unknown bacteria. The characteristics of kurut are determined not only by lactic acid bacteria well known by the culture-dependent approach but also by bacteria that have not yet been identified.
【语种】英文
【第一作者】刘文俊
【通讯作者】张和平
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【学科分类】食品科学技术基础学科

【题目】Lactobacillus casei Zhang stimulates lipid metabolism in hypercholesterolemic rats by affecting gene expression in the liver.
【中文关键词】乳酸菌
【英文关键词】DNA microarray Gene expression Hypocholesterolemic effect Lactobacillus casei Liver
【中文摘要】lactic acid bacteria
【英文摘要】In this study, we show that administration of Lactobacillus casei Zhang evokes a significant reduction in the levels of cholesterol, triglycerides (TGs), and low-density lipoprotein cholesterol (LDL-C) from the serum and liver of hypercholesterolemic rats. After administration of L. casei Zhang, there was 31.5 and 30.8% reduction in the levels of serum TG and LDL-C. DNA microarray results revealed that 755 genes, mainly involved in biological regulation, and cellular and metabolic processes, were differentially expressed in the liver from rats treated with probiotic bacteria, wherein, 324 genes were up-regulated and 431 were down-regulated, respectively. In the up-regulated group, we characterized genes including Acsl1, Hadh, Acaa2, Acads, and gcdH, which are involved in beta-oxidation of fatty acids and encodes enzymes catalyzing critical steps for CoA synthesis and dehydrogenation. It is possible that Lactobacillus could accelerate the fatty acid catabolism by enhancing beta-oxidation step, thus reducing the level of free fatty acid and TG in the serum and liver. Subsequently, it may trigger lipid homeostasis that converts TGs, which are the main storage form of fatty acids, into free fatty acids, and lower TG concentrations both in the serum and liver.
【语种】英文
【第一作者】钟智
【通讯作者】张和平
【期刊名称、卷期、页码】EUROPEAN JOURNAL OF LIPID SCIENCE AND TECHNOLOGY
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【学科分类】食品科学技术基础学科

【题目】Effect of Lactobacillus plantarum P-8 on lipid metabolism in hyperlipidemic rat model.
【中文关键词】乳酸菌
【英文关键词】Intestinal microflora Lactobacillus plantarum P-8 Lipid metabolism Probiotics
【中文摘要】lactic acid bacteria
【英文摘要】Probiotics have been reported to play an important role in the prevention of metabolic disorders. Werecently identified a novel probiotic strain Lactobacillus plantarum (L. plantarum) P-8. The objective ofthis study was to determine the effects of L. plantarum P-8 on lipid metabolism of rats fed with high fatdiet. All experimental rats were divided into three groups: control group, model group, and L. plantarumP-8 group. Changes in serum lipid levels, hepatic lipid deposition, serum oxidative stress-relatedparameters, activities of liver function marker enzymes, organ indices, gut microflora, and fecal lipidswere assessed. Compared with model group, L. plantarum P-8 exhibited hypolipidemic effects bylowering serum total cholesterol (TC), triglyceride (TG), and low-density lipoprotein cholesterollevels, accompanied with elevation of high-density lipoprotein cholesterol level. L. plantarum P-8 alsoexerted beneficial effects against high-fat diet-induced oxidative stress, curtailed the accumulation of liverlipids and protected healthy liver function. Moreover, L. plantarum P-8 was able to regulate intestinalbacteria and enhance the fecal excretion of TC, TG, and bile acid. These findings indicate thatL. plantarum P-8 may represent a potential therapeutic agent for controlling hyperlipidemia.
【语种】英文
【第一作者】包艳
【通讯作者】张和平
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【题目】Complete Genome Sequence of Probiotic Bifidobacterium animalis subsp. lactis Strain V9
【中文关键词】乳酸菌
【英文关键词】BACTERIA
【中文摘要】bacteria
【英文摘要】Streptococcus thermophilus strain ND03 is a Chinese commercial dairy starter used for the manufacture of yogurt. It was isolated from naturally fermented yak milk in Qinghai, China. We present here the complete genome sequence of ND03 and compare it to three other published genomes of Streptococcus thermophilus strains.
【语种】英文
【第一作者】孙志宏
【通讯作者】张和平
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【题目】益生菌豆乳发酵剂的筛选
【中文关键词】乳酸菌
【英文关键词】Lactobacillus casei Zhang; Reference genes; Real-time quantitative PCR
【中文摘要】为生产出具有良好风味和感官特性的发酵豆乳,选用Lactobacillus plantarum IMAU10156和L.IMAU60042分别与Lacbobacillus aci-dophilum S21-1,Streptococcus thermophilus S21-2,Bifidobacterium animalis L01-1复合发酵豆乳,接种量分别为1×107 mL-1,于42°C发酵和4°C贮藏期间测定菌落总数、pH值、滴定酸度、黏度及脱水收缩性指标,并在贮藏1 d进行感官鉴评。结果表明,L.plantarum IMAU10156与S.thermophilus S21-2,L.plantarum IMAU60042与S.thermophilus S21-2复合具有良好的发酵特性,在6 h即可到达发酵终点,发酵豆乳产品具有纯正的豆乳发酵香味、酸甜适口、组织状态良好等特点,是两组具有开发价值的益生菌豆乳发酵剂

【英文摘要】lactic acid bacteria
【语种】中文
【第一作者】包艳
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【题目】益生菌 B. animalis V9 冻干粉安全性毒理学研究
【中文关键词】乳酸菌
【英文关键词】Lactobacillus casei Zhang; Reference genes; Real-time quantitative PCR
【中文摘要】目的 对益生菌B.animalis V9冻干菌粉进行安全性毒理学评价,确保该菌株在发酵乳制品及保健类食品中的应用安全.方法 连续14 d对小鼠灌胃不同剂量的(0.5、5和15 g/kg体重)B.animalis V9菌粉,然后执行以下指标的测量,包括每天测体重,观察不同时间点(3、7和14 d)小鼠生长状况,血液细胞成分、肝脏功能、脏器指数变化及脂类代谢情况等.在显微镜下进行肝、肾形态学观察.结果 B.animalis V9对小鼠的半数致死量(LD50)为15 g/kg体重,灌胃14 d小鼠未出现中毒症状,更无死亡现象,且对小鼠的生长发育无不良影响.小鼠体重变化与对照组比较差异无统计学意义(P>0.05);血常规,肝功能、脏器指数、血清脂类等各项指标测定结果与对照组比较差异无统计学意义(P>0.05);通过对小鼠肝脏、肾脏的染色镜检可知,肝脏、肾脏均无异常改变.结论 急性毒性试验及相关指标检测结果显示B.animalis V9菌粉无毒副作用.
【英文摘要】lactic acid bacteria
【语种】中文
【第一作者】梁春梅
【通讯作者】张和平
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【题目】益生乳酸菌Lactobacillus casei Zhang—从基础研究到产业化开发.
【中文关键词】乳酸菌
【英文关键词】Lactobacillus casei Zhang; Reference genes; Real-time quantitative PCR
【中文摘要】2001年-2009年,内蒙古农业大学"乳品生物技术与工程"教育部重点实验室从采集自中国西部7个省市及蒙古国14个省市不同少数民族地区951份自然发酵乳制品等样品中分离鉴定出3 388株乳酸菌,建立了中国首个原创性乳酸菌菌种资源库;从菌种库中分离自传统发酵酸马奶(koumiss)的243株乳杆菌中筛选获得1株性能优良的乳酸菌—Lactobacillus casei Zhang(L.casei Zhang)。采用5种动物模型和人体试验进行了功能评价,并利用基因组学和蛋白质组学研究技术对L.casei Zhang益生分子机制进行了深入剖析。经过多年系统的基础研究,自主解决了其产业化的关键技术问题,包括其直投式发酵剂、发酵乳制品和发酵豆乳益生菌饮料的研发并实现了产业化。
【英文摘要】lactic acid bacteria
【语种】中文
【第一作者】张和平
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【引文索引号】2417130653
【学科分类】食品科学技术基础学科

【题目】干酪乳杆菌对数生长期与稳定期蛋白质组比较分析
【中文关键词】乳酸菌
【英文关键词】Lactobacillus casei Zhang; Reference genes; Real-time quantitative PCR
【中文摘要】研究建立干酪乳杆菌Lactobacillus casei XM2-1的蛋白质组双向电泳表达图谱,比较其在对数生长中期与稳定期初期的图谱差异。结果表明:有16个蛋白质点表达发生明显变化,经过基质辅助激光解吸/电离飞行时间质谱鉴定,其中有7个蛋白质点鉴定为应激蛋白质,分别为GroEL、DnaK、Hsp 20-1、Hsp 20-2和UspA蛋白质。可见,应激蛋白质可能在L.casei XM2-1稳定期对外界环境的抵御能力增强起到重要作用
【英文摘要】lactic acid bacteria
【语种】中文
【第一作者】乌日娜
【通讯作者】张和平
【期刊名称、卷期、页码】食品科学
【论文发表时间】2012-01-08 00:00:00
【引文索引类型】其他
【引文索引号】2417130654
【学科分类】食品科学技术基础学科

【题目】自然发酵乳中粪肠球菌和屎肠球菌的4种鉴定方法的比较
【中文关键词】粪肠球菌 屎肠球菌 分类鉴定 基因亚型
【英文关键词】Lactobacillus casei Zhang; Reference genes; Real-time quantitative PCR
【中文摘要】采用传统生理生化鉴定方法,16SrRNA基因序列分析技术,16S-23SrRNA间区序列多态性分析技术,变性梯度凝胶电泳技术(DGGE),对分离于自然发酵乳中的9株粪肠球菌和6株屎肠球菌进行鉴定,并对4种鉴定方法进行比较和评价。结果表明,16S-23SrRNA间区序列多态性分析技术和DGGE技术不但可以快速、精确地区分粪肠球菌和屎肠球菌,而且能够将粪肠球菌和屎肠球菌种内的不同基因亚型区分开,而传统生理生化鉴定方法和16SrRNA基因序列分析技术较以上两种方法区分效果略差
【英文摘要】lactic acid bacteria
【语种】中文
【第一作者】李梅花
【通讯作者】张和平
【期刊名称、卷期、页码】食品与发酵工业
【论文发表时间】2012-01-09 00:00:00
【引文索引类型】其他
【引文索引号】2417130655
【学科分类】食品科学技术基础学科

【题目】OsHSF7 gene in rice, Oryza sativa L., encodes a transcription factor that functions as a high temperature receptive and
【中文关键词】无
【英文关键词】Heat-shock factor, Heat tolerance, OsHSF7, Rice, Yeast
one-hybrid
【中文摘要】无
【英文摘要】Three novel Class A genes that encode heat shock transcriptionfactor (HSF) were cloned from Oryza Sativa L using a yeast hybridmethod. The OsHSF7 gene was found to be rapidly expressed inhigh levels in response to temperature, which indicates that it maybe involved in heat stress reception and response. Over-expressionof OsHSF7 in transgenic Arabidopsis could not inducedover the expression of most target heat stress-inducible genes ofHSFs; however, the transcription of some HSF target genes wasmore abundant in transgenic plants following two hours of heatstress treatment. In addition, those transgenic plants also had ahigher basal thermotolerance, but not acquired thermotolerance.Collectively, the results of this study indicate that OsHSF7 mightplay an important role in the response to high temperature.Specifically, these findings indicate that OsHSF7 may be usefulin the production of transgenic monocots that can over-expressprotective genes such as HSPs in response to heat stress, whichwill enable such plants to tolerate high temperatures.

【语种】英文
【第一作者】Jingeliu
【通讯作者】Quanhong Yao
【期刊名称、卷期、页码】bmb reports 2009; 42(1): 16-21
【论文发表时间】2009-02-02 00:00:00
【引文索引类型】SCI
【引文索引号】19192388
【学科分类】植物学

【题目】OsNAC52, a rice NAC transcription factor, potentially responds to ABA and
【中文关键词】无
【英文关键词】Abiotic stress ; OsNAC52 ;Transcription factor ; ABA ; Drought toleranc
【中文摘要】无
【英文摘要】Abstract A novel NAC (NAM, ATAF1/2, CUC2)homologous gene, OsNAC52, was isolated from Oryzasativa L using RACE (rapid amplification of cDNA ends).Analysis of the amino acid sequence of OsNAC52 revealeda highly conserved NAC domain and a potential nuclearlocalization sequence in its N-terminus, and the transcriptionalactivation motif in the C-terminal region. Transgenicplants over-expressing OsNAC52 were highly sensitive toABA (Abscisic acid), and the growth of the 35S-OsNAC52transgenic seedlings was significantly more restrained byABA treatment than those of the wild-type seedlings.Furthermore, over-expression of OsNAC52 activated theexpression of downstream genes in transgenic Arabidopsis,resulting in enhanced tolerance to drought stresses but notgrowth retardation. The results from this study indicate thatthis novel rice OsNAC52 gene functions as an importanttranscriptional activator in ABA-inducible gene expressionand may be useful in improving plant tolerance to abioticstress.
【语种】英文
【第一作者】Fen gao
【通讯作者】Quanhong Yao
【期刊名称、卷期、页码】Plant Cell Tiss Organ Cult (2010) 100:255 – 262
【论文发表时间】2010-06-10 00:00:00
【引文索引类型】SCI
【引文索引号】225595960
【学科分类】植物学

【题目】Optimizing the binding activity of the AP2/ERF transcription factor with the GCC box element from Brassica napus by directed evolution
【中文关键词】无
【英文关键词】AP2/ERF, GCC box, Gene shuffling, Transcription factor,
Yeast one-hybrid system
【中文摘要】无
【英文摘要】In this study, we cloned the ERF-B3 subfamily transcriptionfactor gene BnaERF-B3-hy15 from Brassica napus L. Huyou15.This 600 bp gene encodes a 199 amino acid classic ethyleneresponsive factor (ERF), which shown no binding or very weakbinding GCC box-binding activity by the yeast one-hybridassay. We used gene shuffling and the yeast one-hybrid systemto obtain three mutated sequences that can bind to the GCCbox. Sequence analysis indicated that two residues, Gly156 inthe AP2 domain and Phe62 at the N-terminal domain weremutated to arginine and serine, respectively. Changes ofGly156 to arginine and Phe62 to serine increased the GCCbindingactivity of BnaERF-B3-hy15 and the alter of Gly156 toarginine changed the AP2-domain structure of BnaERF-B3-hy15.
【语种】英文
【第一作者】Xiaofen Jin
【通讯作者】Quanhong Yao
【期刊名称、卷期、页码】BMB reports 2010; 43(8): 567-572
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【引文索引类型】SCI

【引文索引号】20797320
【学科分类】植物学

【题目】Expression of a rice DREB1 gene, OsDREB1D, enhances cold
【中文关键词】无
【英文关键词】Abiotic stress, Arabidopsis, DREB-type transcription
factors, Rice, Transgenic plants
【中文摘要】无
【英文摘要】OsDREB1D, a special DREB (dehydration responsive elementbinding protein) homologous gene, whose transcripts cannotbe detected in rice (Oryza sativa L), either with or withoutstress treatments, was amplified from the rice genome DNA.The yeast one-hybrid assay revealed that OsDREB1D was ableto form a complex with the dehydration responsive element/C-repeat motif. It can also bind with a sequence of LTRE (lowtemperature responsive element). To analyze the function ofOsDREB1D, the gene was transformed and over-expressed inArabidopsis thaliana cv. Columbia. Results indicated that theover-expression of OsDREB1D conferred cold and high-salttolerance in transgenic plants, and that transgenic plants werealso insensitive to ABA (abscisic acid). From these data, we deducedthat this OsDREB1D gene functions similarly as otherDREB transcription factors. The expression of OsDREB1D inrice may be controlled by a special mechanism for the redundancyof function
【语种】英文
【第一作者】Yang zhang
【通讯作者】Quanhong Yao
【期刊名称、卷期、页码】BMB reports 2009; 42(8): 486-492
【论文发表时间】2009-08-16 00:00:00
【引文索引类型】SCI
【引文索引号】19712584
【学科分类】植物学

【题目】Isolation and characterization of a novel AP2/EREBP-type transcription factor OsAP211 in Oryza sativa
【中文关键词】无
【英文关键词】low temperature, rice, yeast one-hybrid system
【中文摘要】无
【英文摘要】AP2 (APETALA2)/EREBPs (ethylene responsive element binding proteins) are the primary members of a family oftranscription factors and OsAP211 was isolated from Oryza sativa L using the yeast one-hybrid system. It can specificallybind to the promoter containing three tandem repeats of DRE core sequence: TACCGACAT and activate the transcriptionof the downstream lacZ gene in the yeast one-hybrid system. OsAP211 contained a single open reading frame of225 amino acids and encoded a protein containing a conserved AP2/EREBP domain featuring the DREB family. Thesemi-quantitative RT-PCR (s-Q RT-PCR) analysis indicated OsAP211 was strongly induced by low temperatures but notby NaCl and drought. It accumulates primarily in shoot tips during the tillering stage and young spikes during the bootingstage. OsAP211 might function as a DRE-binding transcription factor in stress signal transduction pathways in rice.
【语种】英文
【第一作者】Fen Gao
【通讯作者】Quanhong Yao
【期刊名称、卷期、页码】BIOLOGIA PLANTARUM 53 (4): 643-649, 2009
【论文发表时间】2009-11-10 00:00:00
【引文索引类型】SCI
【引文索引号】326268P056
【学科分类】植物学

【题目】Genome-wide analysis of the AP2/ERF gene family in Populus trichocarpa
【中文关键词】无
【英文关键词】Populus;Arabidopsis thaliana;AP2/ERF;Transcriptional factor;In silico cloning;Bioinformatics

【中文摘要】无
【英文摘要】Populus is a model system for investigating the wood development, crown formation, and disease resistancein perennial plants. AR2/ERF is a large family of transcription factors in plant, encoding transcriptionalregulators with a variety of functions involved in the developmental and physiological processes.Here, starting from database of Populus genome, we identified 200 AP2/ERF genes by in silico cloningmethod using the AP2/ERF conserved domain amino acid sequence of Arabidopsis thaliana as probe. Basedon the number of AP2/ERF domains and the function of the genes, those AP2/ERF genes from Populus wereclassified into four subfamilies named the AP2, DREB, ERF, RAV, and a soloist. Among these genes, thenumber genes of total AP2/ERF family genes, DREB subfamily, and ERF subfamily from Populus trichocarpawere about 1.4 – 1.6-fold than those from A. thaliana. The rates were very similar for the putative homologsbetween Populus and Arabidopsis.
【语种】英文
【第一作者】Jing Zhuang
【通讯作者】Quanhong Yao
【期刊名称、卷期、页码】Biochemical and Biophysical Research Communications 371 (2008) 468 – 474
【论文发表时间】2008-09-16 00:00:00
【引文索引类型】SCI
【引文索引号】18442469
【学科分类】植物学

【题目】卡介菌多糖核酸(BCG-PSN)对感染IBDV鸡的免疫活性研究
【中文关键词】卡介菌多糖核酸; 细胞免疫; 体液免疫; 传染性法氏囊病; 鸡
【英文关键词】polysaccharide nucleic acid fraction of Bacillus Calmette Guerin (BCG-PSN) ; cellular immunity; humoral immunity; infections bursal disease (IBD) ; chicken
【中文摘要】为了评价卡介菌多糖核酸(BCG-PSN) 在畜禽病毒性疾病中的作用及其诱导机体免疫的能力,建立了人工感染传染性法氏囊病(IBD) 动物模型,通过检测免疫器官指数、IBDV 抗体、外周淋巴细胞亚群、诱导干扰素和白介素水平等特异性和非特异性免疫指标,评估不同剂量BCG-PSN 对IBDV 感染鸡免疫功能的影响。结果显示: 免疫器官脾脏指数和胸腺指数在注射BCG-PSN 的初期出现上升趋势,而在注射BCG-PSN 后期(15 d) 受试鸡外周血液CD4+/CD8+ 值显著提升; 各BCG-PSN 注射组的IBDV 抗体滴度在试验初期明显提高; 从注射开始,BCG-PSN 就显示出其对IFN- γ、IFN- α 和IL-2 的显著提升效果。上述结果说明: BCG-PSN 既能调节IBDV 感染鸡的细胞免疫功能,又能调节机体的体液免疫功能,激活组织细胞释放包括IFN- γ、IFN- α 和IL-2 等多种细胞因子,以0. 3 mg · kg - 1的注射剂量可获得良好的免疫效果。
【英文摘要】To evaluate the protective effects and immune activities induced by polysaccharide nucleic acid fraction of Bacillus Calmette Guerin (BCG-PSN) in the livestock,the animal model of IBD (infectious bursal disease) on chicken was established.The specific and nonspecific immune response parameters such as the titer of IBDV antibody,the periphery lymphocyte subsets, the levels of IFN- α ,IFN- β ,and IL-2 were used to evaluate the effects of clinicaltherapy and its immune activities in IBDV vaccinated chickens which were injected with different doses of BCG-PSN. The results showed that immune organ index such as spleenindex and thymus index had the induction tendency at the beginning of BCG-PSN injection. During later period (15 d) ,the ratio of CD4+/CD8+ T lymphocytes in peripheral blood of chickens increased significantly. The titers of IBDV antibody from the beginning stage after BCG-PSN injection increased obviously in IBDV vaccinated chickens. The levels of serum IFN- γ ,IFN- α and IL-2 increased significantly from the beginning of BCG-PSN injection. The results suggested that BCG-PSN could not only increase and regulate cellular immunity including IFN- γ ,IFN- α and IL-2 but also humoral immunity. The middle dosage of BCG-PSN(0. 3 mg · kg - 1) used in chickens could produce upstanding immune and protective effects
【语种】中文
【第一作者】辛凌翔
【通讯作者】鲍恩东
【期刊名称、卷期、页码】南京农业大学学报,2010,33(6):75-80
【论文发表时间】2010-06-01 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】兽医学

【题目】Heat stress protection in Aspen sp1 transgenic Arabidopsis
【中文关键词】无
【英文关键词】ChlorophyII, ChlorophyII fluorescence, High temperature stress, Malondialdehyde, Proline, Stable protein 1, Water content
【中文摘要】无
【英文摘要】It is known that the stable protein 1 (SP1) detected in aspenplants remains soluble upon boiling and that sp1 expression intransgenic aspen is resistant to salt stress. Presently, we analyzedthe effect of expression of SP1 in Arabidopsis thalianaplants and their response to high temperature stress. After 45oCfor 16 h, relative to wild type plants, sp1 transgenic plants exhibitedstronger growth and were better in several physiologicalproperties including chlorophyII, chlorophyII fluorescence, watercontent, , proline content, and malondialdehyde content.These preliminarily results suggest that the over-expression ofSP1 may notably enhance heat-tolerant level of transgenic A.thaliana plants
【语种】英文
【第一作者】Bo zhu
【通讯作者】Quanhong Yao
【期刊名称、卷期、页码】BMB reports 2008; 41(5): 382-387
【论文发表时间】2008-05-14 00:00:00
【引文索引类型】SCI
【引文索引号】18510869
【学科分类】植物学

【题目】卡介菌多糖核酸体外抗病毒活性试验
【中文关键词】卡介菌多糖核酸; 鸡胚成纤维细胞; 水疱口炎病毒; 抗病毒
【英文关键词】BCG- PSN; CEF; VSV; a nt-i virus a ctivity
【中文摘要】为探讨卡介菌多糖核酸(BCG- PSN) 的抗病毒效果, 对离体培养的鸡胚成纤维(CEF) 细胞进行水疱口炎病毒(VSV) 感染, 用四甲基偶氮唑盐(MTT) 比色法检测BCG- PSN 对CEF 细胞活性的影响; 用细胞病变法(CPE) 检测BCG- PSN 对VSV 的抑制作用, 并在安全浓度范围内筛选BCG- PSN 抑制VSV 的最佳作用时间和作用剂量。试验结果表明: BCG- PSN 能显著抑制VSV 在CEF 细胞上的生长, 但抑制作用并非随着其剂量的增加和作用时间的延长而增强, 质量浓度为144. 0 Lg / mL 的BCG- PSN 在CEF 细胞上作用24 h 后, 产生的抗病毒活性最强; 当BCGPSN质量浓度大于800 Lg/ mL 时则对CEF 细胞具有明显的毒性作用。BCG- PSN 可诱导CEF 细胞产生IFN-A和IFN-B, 研究结果显示: BCG- PSN 的抗病毒作用与其诱导的干扰素有关
【英文摘要】To inv estig ate the ant-i v ira l activity o f Bacillus Calme tte Gue rin (BCG- PSN) , vesicula r stomatits virus(VSV) , MTT method and CPE method we re use d to o bs erve the ce ll viability and to de te ct the protec tio n o f CEF ce lls from VSV infec tio n in v itro . The o ptima l incuba tion time and c once ntra tion w ere also de termine d acc ording to MTTmethod. The re sult show ed that BCG- PSN ha d tox icity to CEF cells after trea te d w ith mo re than 800 Lg/ mL BCG- PSN.BCG- PSN can inhibit VSV g row th in CEF c ells, how ev er, the a nt-i viral activ ity wa s no t cha nge d with c once ntra tion induction of BCG- PSN and incuba tion time . The ant-i VSV activity w as maximal for 144. 0 Lg / mL of BCG- PSN trea tment a t 24 h. The result a lso showe d that the ant-i vira l a ctivities induc ed by BCG- PSN in CEF c ells we re re lated to the lev els of IFN-A and IFN-B.
【语种】中文
【第一作者】乔飞鸿
【通讯作者】鲍恩东
【期刊名称、卷期、页码】中国农业大学学报,2011,16(3):133-139
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【引文索引类型】其他
【引文索引号】null
【学科分类】兽医学

【题目】Over-expression of ThpI from Choristoneura fumiferana enhances tolerance to cold
【中文关键词】无
【英文关键词】Thermal hysteresis protein I ;Low temperature stress; Electrolyte leakage ;Malondialdehyde ; Proline

【中文摘要】无
【英文摘要】Abstract Thermal hysteresis proteins (Thps) known asantifreeze proteins for their antifreeze activity, depress thefreezing point of water below the melting point in manypolar marine fishes, terrestrial arthropods and plants. Forthe purpose of breeding cold-resistant plants, we designedto introduce the Thp gene into the plants. The physiologicaland biochemical effect of high-lever expression of themodified Choristoneura fumiferana Thp (ThpI) in Arabidopsisthaliana plants was analyzed. Under low temperaturestress, the ThpI transgenic plants exhibited stronger growththan wild-type plants. The elevated cold tolerance of theThpI over-expressing plants was confirmed by the changesof electrolyte leakage activity, malonyldialdehyde andproline contents. These results preliminarily showed thatthe Thp possibly be used to enhance the low temperaturetolerantability of plants.
【语种】英文
【第一作者】BoZhu
【通讯作者】Quanhong Yao
【期刊名称、卷期、页码】Mol Biol Rep (2010) 37:961 – 966
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【引文索引类型】SCI
【引文索引号】19728155
【学科分类】植物学

【题目】Forced expression of Mdmyb10, a myb transcription factor gene from apple,enhances tolerance to osmotic stress in transgenic plants
【中文关键词】无
【英文关键词】Mdmyb10 ; Transgenic Arabidopsis ;
Osmotic stress
【中文摘要】无
【英文摘要】Abstract In plants, anthocyanins often appear at specificdevelopmental stages, but are also induced by a number ofenvironmental factors. The coordinated expression ofgenes encoding the anthocyanin biosynthetic pathwayenzymes is controlled at the transcriptional level usually byan R2R3Myb transcription factor. However, little is knownabout the effects of R2R3-Myb on plant resistance toenvironmental stresses. In this study, we introduced anR2R3Myb transcription factor gene Mdmyb10, a regulatorygene of anthocyanin biosynthesis in apple fruit, into Arabidopsisand analyzed its function to osmotic stress intransgenic plants. Under high osmotic stress, the Mdmyb10over-expressing plants exhibited growth better than wildtypeplants. The elevated tolerance of the transgenic plantsto osmotic stress was confirmed by the changes of flavonoids,chlorophyll, malondialdehyde and proline contents.These results preliminarily showed that the Mdmyb10 canpossibly be used to enhance the high osmotic-tolerantability of plants.
【语种】英文
【第一作者】Jianjie Gao
【通讯作者】Quanhong Yao
【期刊名称、卷期、页码】Mol Biol Rep (2011) 38:205 – 211
【论文发表时间】2011-04-01 00:00:00
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【引文索引号】20339923
【学科分类】植物学

【题目】水分供给量对绿豆苗期光合特性的影响
【中文关键词】绿豆; 水分供给量; 光合特性
【英文关键词】Mung bean; Water supply; Photosynthetic
【中文摘要】[目的]研究不同供水量对绿豆苗期光合生理特性的影响, 进而确定其合理的供水量范围。[方法]模拟长春降水量设计4种供水量, 处理 : 150 mm、处理 : 250 mm、处理 : 350 mm、处理 : 450 mm, 采用多指标分析不同供水量对绿豆苗期光合生理特性的影响。[结果]不同供水量绿豆叶片净光合速率的日均值为: 处理 > 处理 > 处理 > 处理 , 其气孔导度的日均值为: 处理 > 处理 > 处理 > 处理 , 其水分利用效率日均值为: 处理 > 处理 > 处理 > 处理 。不同供水量绿豆蒸腾速率与气孔导度的日变化趋势基本一致。处理 和处理 的胞间CO2 浓度变化基本一致, 处理 和处理 的胞间CO2 浓度下午变化趋势基本一致。处理 和处理 的气孔

限制值日变化呈明显双峰曲线, 处理　　和处理　　的气孔限制值日变化呈不明显双峰曲线。[结论]绿豆苗期的适宜供水量为250~ 350 mm。

【英文摘要】[Ob jective] The purpose was to research the effect o f differentw ater supply on osynthetic physio log ical characteristics o fmung bean seed ling so as to confirm reasonab le scope o fwater supply. [Method] Four kinds o fwater supplyw ere designed by smi ulating the ra infallo fChangchun, which were T reatm ent　: 150 mm, T reatm ent　: 250mm, T reatment :350mm and T reatm ent　: 450 mm resp. The effecto f differentw ater supply on the photosynthetic physio logica l character istics ofmung bean seedling was analy zed w ith multiple indexes. [Result] The da ily mean values o fm ung bean leaves o f differentwater supply were as follow s: T rea tment　> T reatm ent　> T reatment　>T reatment　, their daily mean va lues of stomata l conductancew ere as fo llows: T reatment　> T reatm ent　> T rea tment　> T reatment and the ir dailym ean va lues o fwater utilization rateswere as fo llow s: T reatm ent　> T reatm ent　> Treatment　> T reatment. The daily variation trends o f transpiration rate and stoma ta l conductance ofmung bean o f differentwater supplyw ere basica lly uniform. The variations o f intercellu larCO2 concn. of Trea tment　andT rea tment　were basically uniform and that o fT reatm ent　and T reatm ent　in a fter　noon were basically un iform. T he daily varia tion of stom atal lmi it ofT reatment　and T reatment　show ed as obv ious bmi odal curve and that of Treatment and T reatment　showed nonobvious bmi odal curve. [Conclusion] The suitablewater supply ofmung bean seedlingwas 250- 350 mm.

【语种】中文

【第一作者】耿艳秋

【通讯作者】邵玺文

【期刊名称、卷期、页码】安徽农业科学, 2010, 38(36) : 20601- 20604

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【学科分类】农学其他学科

【题目】Discovery and expression profile analysis of AP2/ERF family genes from Triticum aestivum

【中文关键词】无

【英文关键词】Transcription factor ; AP2/ERF ;Expression profile ; Arabidopsis thaliana ; Triticum aestivum

【中文摘要】无

【英文摘要】Abstract Throughout its development, common wheat,Triticum aestivum responds to different kinds of adverseabiotic and biotic stress by expressing specific genes thatallow it to adapt to these stresses. In this process, genes inthe AP2/ERF family encode transcriptional regulatorsinvolved in diverse developmental and physiological processesplay critical roles. Here, we established an extensivepicture of the AP2/ERF family genes in wheat. From 960,174 ESTs of T. aestivum, 117 putative AP2/ERF familygenes were identified by in silico analysis based on thepresence of the conserved AP2/ERF domain amino acidsequence of Arabidopsis thaliana. Based on the modelspecies A. thaliana, the AP2/ERF TFs from T. aestivumwere classified into five subfamilies with the followingnumber of members: DREB (57), ERF (47), AP2 (9), RAV(3) and Soloist (1). Using the available EST information asa source of expression data, the putative AP2/ERF familygenes from T. aestivum were detected in nine kinds oftissues. Transcripts of the genes were shown to be mostabundant in leaves, followed by roots and seeds, and theleast abundant in stem. Most of the T. aestivum AP2/ERFfamily genes showed some tissue specificity

【语种】英文

【第一作者】Jing Zhuang

【通讯作者】Quanhong Yao

【期刊名称、卷期、页码】Mol Biol Rep (2011) 38:745 – 753

【论文发表时间】2011-09-13 00:00:00

【引文索引类型】SCI

【引文索引号】20407836

【学科分类】植物学

【题目】苏打盐碱土控水栽培水稻生理指标与产量关系研究

【中文关键词】苏打盐碱土; 控水栽培; 水稻; 生理指标; 产量
【英文关键词】saline- sodicsoil; water-saving cultivation; rice; physiological character; yield
【中文摘要】:针对松嫩平原盐渍土水稻种植地下水逐年减少的生态问题,节水种植水稻必将成为发展的趋势,灌水洗盐是盐碱地水稻种植的核心技术。为了减少模拟和大田的差异,于2011 年在吉林省大安市进行大田试验,通过在返青期、分蘖期、抽穗期和灌浆期的不同生育时期进行节水处理,并在分蘖前期、分蘖后期、抽穗期和灌浆期进行生理指标的测定,以及成熟期的产量测定。结果表明:分蘖期控水处理的理论产值达到最大,极显著高于,显著高于处理1。节水增产高效率期在分蘖期。
【英文摘要】Aiming at the ecological problem of groundwater decreasing at the songnen plains saline soil for rice cultivation year by year. Saving water for rice plant will become a tren of development, Saline irrigation to wash the salt was the core technology of rice ultivation.In order to reduce the differences between simulations and fields.In the different growth stages of turning green stage, tilleringstage, booting stage and milk stage we made water treatment and in early tillering stage, after tillering stage, booting stage and milk stage we made physiological tracking measurements and determination in maturity stage. The result showed that the biggest biomass was in tillering stage, significantly higher than CK, significantly higher than treatment 1 and increasing yield in tillering stage.
【语种】中文
【第一作者】侯威
【通讯作者】徐惠风
【期刊名称、卷期、页码】广东农业科学,2012年7月:38-40
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【引文索引类型】其他
【引文索引号】null
【学科分类】农学其他学科

【题目】Genome-wide analysis of the putative AP2/ERF family genes in Vitis vinifera
【中文关键词】无
【英文关键词】Vitis vinifera;AP2/ERF;Transcription factor;In silico Mapping;Gene duplication
【中文摘要】无
【英文摘要】The nucleotide sequence of the entire grapevine genome has been obtained and its draft sequence hasserved as the model for fruit crops. Many transcription factors involved in stress-resistance pathwayshave been identified, among which the AP2/ERF is a large, and one of the most important families oftranscription factors in plants. In this study, 132 putative transcription factor genes in the AP2/ERFfamily were identified from the database of the Vitis vinifera (grapevine) genome, and were comparedwith those from three other completely sequenced genomes, Arabidopsis thaliana, Populus trichocarpa(poplar), and Oryza sativa (rice). The grapevine AP2/ERF genes were classified into four subfamilies, AP2,DREB, ERF, RAV, and a soloist, and there were considerable variations among the subfamily memberscomparing with those in other species. The amino acid sequence, composition, physical and chemicalcharacterization, phylogenetic tree, conserved domain sequences, function domain, and locations onchromosomes were predicted and analyzed. In silico mapping of the gene loci showed that AP2/ERFfamily genes of grapevine were localized on 19 linkage groups. The extant AP2/ERF gene family ingrapevine apparently resulted from whole genome, segmental and tandem duplications. Severalgrapevine AP2/ERF genes have been identified which are orthologous to those characterized inArabidopsis with known functions.
【语种】英文
【第一作者】Jing Zhuang
【通讯作者】Quanhong Yao
【期刊名称、卷期、页码】Scientia Horticulturae 123 (2009) 73 – 81
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【引文索引类型】SCI
【引文索引号】223427741
【学科分类】植物学

【题目】Analysis of Brassica rapa ESTs: gene discovery and expression patterns of AP2/ERF family genes
【中文关键词】无

【英文关键词】AP2/ERF　Transcription factor
Expression pattern　Brassica rapa　Arabidopsis thaliana
【中文摘要】无
【英文摘要】Abstract Chinese cabbage (Brassica rapa subsp. pekinensis)is among the most important vegetables and iswidely cultivated in world. Genes in the AP2/ERF familyencode transcriptional regulators that serve a variety offunctions in the plants. Expressed sequence tags (ESTs) arecreated by partially sequencing randomly isolated genetranscripts and have proved valuable in molecular biology.Starting from the database with 142 947 ESTs of B. rapa,62 putative AP2/ERF family genes were identified by insilico cloning using the conserved AP2/ERF domain aminoacid sequence of Arabidopsis thaliana as a probe. Based onthe number of AP2/ERF domains and functions of thegenes, the AP2/ERF transcription factors from B. rapawere classified into four subfamilies (DREB, ERF, AP2and RAV). Using large-scale available EST information asa source of expression data for digital expression profiling,differentially detected genes were identified among diverseplant tissues. Roots contained the largest number of transcriptsof the AP2/ERF family genes, followed by leavesand seeds. Only a few of the 62 AP2/ERF family geneswere detected in all tissues: most were detected only insome tissues but not in others. The maximum detected wasthat of BraERF-B2-5, and it was recorded from seed tissue.
【语种】英文
【第一作者】JingZhuang
【通讯作者】Quanhong Yao
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【学科分类】植物学

【题目】不同产量水平大豆叶片保护酶活性的比较
【中文关键词】大豆;产量;保护酶活性;丙二醛含量
【英文关键词】soybean;yield;protective enzyme activity;MDA contents
【中文摘要】【目的】探讨不同产量水平大豆叶片保护酶活性的变化规律,为大豆育种和高产栽培提供生理依据。【方法】选择3个不同产量水平(低产品种、高产品种、中产品种)的9个栽培大豆(Glycine max (L.)Merr.)品种,在相同的环境条件下种植,在大豆结荚期以后,测定大豆叶片超氧化物歧化酶(SOD)、过氧化物酶(POD)、过氧化氢酶(CAT)活性及叶片丙二醛(MDA)含量和细胞膜透性。【结果】在结荚期后,不同产量水平大豆叶片的SOD、POD、CAT活性表现为高产品种>中产品种>低产品种,其活性变化趋势相同,均在鼓粒盛期达到最大,然后下降,高产品种叶片SOD、POD、CAT活性均显著高于低产品种;不同产量水平大豆叶片MDA含量和细胞膜透性则表现为低产品种>中产品种>高产品种,随生育进程均呈上升趋势,以成熟期最大,高产品种MDA含量和细胞膜透性极显著低于低产品种。【结论】在结荚期以后,高产大豆品种清除活性氧的能力较强,膜脂过氧化程度较低,叶片衰老延缓,而功能期延长,有利于后期干物质积累,进而有助于提高产量。
【英文摘要】【Objective】The study was performed to explore changes of protective enzyme activities in leaves of soybean at different yield levels.The purpose was to provide some physiological basis for soybean breeding and high-yield cultivation.【Method】Nine soybean(Glycine max (L.)Merr.)cultivars were divided into three yield levels(low yield cultivars,high yield cultivars,middle yield cultivars)were planted under the same environmental condition.After podding stage,the superoxide dismutase(SOD)activities, catalase(CAT)activities,peoxidase(POD)activities,malondialdehyde(MDA)contents and cell membrane permeability were measured in soybean leaves.【Result】After podding stage,the activities of SOD,CAT and POD in leaves were the highest at high yield cultivars,then at middle yield cultivars and the lowest at low yield cultivars.The change tendency of those enzymes was consistent,which all reached maximum value at seedfilling-flourishing stage and then decreased.The activities of SOD,CAT and POD in leaves of high yield cultivars were significantly higher than that of low yield cultivars.The contents of MDA and cell membrane permeability in leaves were the highest at low yield cultivars,then at middle yield cultivars and the lowest at high yield cultivars after podding stage.Following the breeding proceeding,the contents of MDA and cell membrane permeability all showed rising tendency and reached maximum value atmaturation stages,then the MDA contents and the cell membrane permeability of high yield cultivars were very significantly lower than those of low yield cultivars.【Conclusion】After podding stage,the ability inleaves of high yield cultivars to eliminate active oxygen was better and the degree of lipid peroxidation waslow.The leaf of high yield cultivars senescence was delayed and the function of leaves extended,whichmake for dry matter accumulation at later stage and conduce to increase yields
【语种】中文
【第一作者】陈展宇

【通讯作者】张治安
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【学科分类】农学其他学科

【题目】Anti-virus activity induced by Polyinosinic:polycytidylic acid copolymer in vitro chick embryo fibroblast cells
【中文关键词】聚肌胞;新城疫病毒;抗病毒活性;干扰素;毒性
【英文关键词】polyinosinic:polycytidylic acid copolymer, Newcastle disease virus,
anti-virus activity, IFN, toxicity
【中文摘要】研究PolyLc的杭病毒效果及其机理,选择鸡新城疫病毒(Lasota株)和水疤口炎病毒(VSv)对离体培养的鸡胚成纤维(cEF)细胞进行病毒感染,分别研究 PolyI:C对离体培养鸡胚CEF细胞的病习印制和干扰素测定试验。试验结果表明, PolyLc能显著抑制NDv在cEF细胞上生长,但 PolyLC对NDv的抑制作用并非随着其剂量的增加和作用时间的延长而增强,60林留mL的 PolyLc在cEF细胞上作用12h后,产生的杭病毒活性最强;PolyI:c抑制水疤口炎病毒在CEF细胞上生长的结果表明, PolyI:C具有免疫刺激活性,PolyLc能诱导吓争吞am刃则和万W节舰刃则转录水平升高,说明 PolyLc的杭病毒作用和其诱导产生的干扰素有关;而且井W渭脚刃叼转录水平是刀刁瞬a阴R入只表达量的数倍,说明正N一p在抗病毒活性中起主要作用;然而, PolyLC也同时能抑制CEF细胞的生长,且与 PolyI:c剂量和作用时间成正比,说明 PolyLc具有一定的毒副作用,在临床使用时,应注意使用剂量和使用频度。
【英文摘要】The effect of a polyinosinic:polycytidylic acid copolymer (Poly I:C) on chickembryo fibroblast (CEF) cell viability, anti-Newcastle disease virus (NDV) activityand on IFN-α and IFN-β levels were determined in vitro. Poly I:C inhibited NDVgrowth in CEF cells in the range of 30 – 500 μg/mL and over 0.75 – 12 h of treat-ment. The anti-NDV activity was maximal for 60 μg/mL of Poly I:C treatment at12 h, after which it declined. The result of VSV protection assay which was usedto determine IFN-activity showed that Poly I:C inhibited VSV growing on CEF cells,indicating that Poly I:C had immune-stimulating activities. The amount of IFN-β in cell supernatant and the transcription levels of IFN-α mRNA and IFN-β mRNAincreased after Poly I:C treatment, indicating that the anti-viral activity related tothe production of type I IFN. However Poly I:C also showed a toxic effect by inhib-iting CEF cell proliferation in a dose-dependent and time-dependent manner. Theresults of this study indicate that the dosage level of Poly I:C must be carefullyconsidered when used in a clinical setting.
【语种】英文
【第一作者】Yingjun Lv
【通讯作者】鲍恩东
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【学科分类】兽医学

【题目】氮肥不同比例分期施用对超高产玉米叶片
【中文关键词】超高产玉米; 氮肥; 保护酶活性; 丙二醛(MDA) 含量; 叶绿素含量
【英文关键词】super hig h yield maize; nit rog en fert ilizer; protect ive enzymes act ivity; MDA content ; Chl content
【中文摘要】目的:研究不同氮肥施用方式对超高产玉米叶片保护酶活性变化规律的影响, 为玉米超高产模式研究提供理论依据。方法:以超高产玉米品种先玉335 为试验材料, 在氮肥总量一定的条件下, 按分配比例不同设6个处理: N1. 底肥100%; N2. 底肥80%, 拔节期追施20%; N3. 底肥80%, 拔节期追施10%, 吐丝期追施10%; N4. 底肥60%, 拔节期追施40%; N5. 底肥60%, 拔节期追施30%, 吐丝期追施10%; N6. 底肥60%, 拔节期和吐丝期均追施20%, 研究氮肥不同比例分期施用对玉米产量、叶片保护酶(超氧化物歧化酶(SOD) 、过氧化物酶(POD) 、过氧化氢酶(CAT)) 活性及丙二醛(MDA) 、叶绿素(Chl) 和可溶性蛋白含量的影响。 结果 N6 处理玉米产量最高, N2 处理玉米产量最低, N6 处理比N4、N1、N2 处理分别增产7. 3%, 10. 2%, 11. 1%。在灌浆期以前, 各处理叶片叶绿素及可溶性蛋白含量差异不显著; 灌浆期以后, N6、N5 处理叶片叶绿素及可溶性蛋白含量显著高于N4、N1、N2 处理。在吐丝期以前, 各处理叶片保护酶SOD、POD、CAT 活性及MDA 含量差异不显著, 吐丝期以后N6、N5 处理的叶片保护酶SOD、POD、CAT 活性显著高于N4、N1、N2 处理, 而MDA 含量则显著低于N4、N1、N2 处理。 结论 氮肥不同比例分期追施使玉米叶片生育后期保护酶活性增强, 延

缓了玉米叶片的衰老速度,提高了产量。氮肥最佳施用模式为60%作底肥,拔节期和吐丝期均追施20%,玉米产量最高可达14 852. 2 kg / hm2 。

【英文摘要】Objective:The effect of nit ro gen fert ilizer applied in dif ferent w ays on the change regularity of pro tective enzymes act iv ity in leaves o f super hig h yield maize was studied to pro vide a scientif ic theor y for the super hig h yield pro duct ion mo del. Method Six t reatments w ere desig ned in differ ent distr ibution proport ions under the condit io n o f a certain total nitr ogen fert ilizer using the super hig h y ield maizehy br id Xianyu 335 as the exper imental material: N 1. Base fert ilizer 100% ; N2. Base fert ilizer 80%, top dressed in jointing stage 20%; N 3. Base fert ilizer 80%, topdressed in jo int ing stag e 10%, to pdressed in an thesis stage 10%; N4. Base fert ilizer 60% , topdressed in joint ing stage 40% ; N 5. Base fer tilizer 60%, top dressed in jo int ing stage 30%, topdressed in anthesis stag e 10% ; N6. Base fer tilizer 60% , topdressed in bothjoint ing stage and anthesis stag e with 20% . T he ef fects of nitr ogen fert ilizer applicat ion at stages in differ ent pr opo rt io ns o n the o utcome of maize, the protect iv e enzyme act ivity(sperox ide dismutase(SOD) , prox i dase(POD) , ctalase(CAT)) , the content o f malo ndialdehy de(MDA) , the content of chloro phyll (Chl) andsoluble protein in leaves were studied. Result The result s show ed that the y ield of N6 treatment w as thehig hest, the y ield of N2 t reatment w as the low est , and N6 tr eatment increased pro duct ion by 7. 3%, 10. 2%and 11. 1% than N4, N1 and N2 t reatmemt respectively. The difference of Chl content and soluble pr oteinin leaves of all dif ferent tr eatment s w ere not sig nif icant before f illing stage. A fter that , the content o f Chland so luble protein of N6 and N5 in leaves w ere significant ly hig her than that of N4, N1 and N2. T he pro tect ive enzyme act ivity and MDA co ntent of each t reatment w ere not signif icant befor e anthesis stag e, butpro tective enzyme act ivit ies of N6 and N5 w ere significant ly higher than that of N4, N1 and N2 af ter f illingstage, and the MDA co ntent w as signif icant ly low er than that of N 4, N 1 and N2 t reatment . Conclusio n The study show ed that nit ro gen fert il izer applicat ion at stag es in different pro por tions can r einfo rce pr otec t ive enzyme act ivity and slow dow n the aging of leaves in late grow th stage, thereby enhancing the y ield.The best nit rog en applicat ion model is the base fer tilizer applied by 60% , both the joint ing stag e and anthesis stage sho uld be topdressed by 20% . The highest yield o f maize can be up to 14 852. 2 kg/ hm2 .

【语种】中文

【第一作者】刘亚亮

【通讯作者】张治安

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【学科分类】农艺学

【题目】Preparation and evaluation of polyinosinic:polycytidylic acid copolymer microcapsules

【中文关键词】聚肌胞;乙基纤维;微囊;缓释;液中干燥法

【英文关键词】Polyinosinic:polycytidylic acid copolymer; ethylcellulose; microencapsulation; sustained release; intra-liquid desiccation method

【中文摘要】PolyLC微囊的制备与体外评价,以乙基纤维(EC)为囊材,采用液中干燥法制备 PolyLc缓释微囊。通过正交实验对成囊试验条件进行优化,试验结果表明,700rpm转速、0.49硬脂酸镁、2%司盘一80、囊材占丙酮质量2.5%、丙酮和石蜡体积比30:30为最佳制备条件。对最佳条件制备的微囊进行体外试验评价,微囊大小均一,平均粒径93.56卜m,载药率为0.64%,包封率为74%,体外释放度随着聚乙二醇一2000(pEG一2000)的含量增加而增大

【英文摘要】The purpose of this research is to prepare polyinosinic : polycytidylic acid (poly I : C) microcapsules by intra-liquid desiccation with ethylcellulose (EC) as the polymer coating material. An orthogonal test was used to develop an optimal combination. The optimal combination of encapsulating factors for poly I : C microcapsules was found to be as follows: a rotation speed of 700 rpm, 0.4 g magnesium stearate, 2 % Span-80 in acetone, 2.5 % EC in acetone, and an acetone/paraffin ratio of 30:30 (v/v). The pharmaceutical characteristics of size, morphological characterization, drug loading efficiency, encapsulation yield, and in vitro release rate were evaluated. The in vitro release rate was directly proportional to the amount of PEG-2000, i.e., with an increase in the amount of PEG-2000, poly I : C release from the microcapsules was more rapid

【语种】英文

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【题目】Apoptosis induced by Polyinosinic : polycytidylic acid copolymer on chicken embryo fibroblast cells in vitro
【中文关键词】聚肌胞,鸡胚成纤维细胞,毒性,凋亡,caspase活性,死亡受体途径
【英文关键词】Polyinosinic:polycytidylic acid copolymer; Chicken embryo fibroblast cell; Cytotoxicity; Apoptosis; Caspase activation; Death receptor-mediated pathway
【中文摘要】为研究Poly I:C对CEF细胞的毒性及其机理,将Poly I:C与CEF细胞共孵育后,对CEF细胞活性、形态变化、磷脂酰丝氨酸外翻、DNA片段形成、caspase-3, caspase-8, caspase-9活性变化及RIPK1 mRNA和TNFRSF8 mRNA转录水平等进行检测。试验结果显示,随着Poly I:C药物浓度和作用时间的延长,CEF细胞活性降低,成剂量和时间正相关,表明Poly I:C对CEF细胞具有一定的毒性作用;磷脂酰丝氨酸外翻和DNA片段形成显示,Poly I:C可诱导CEF细胞的凋亡;随着作用时间的延长,caspase-3活性升高,说明Poly I:C引起的凋亡和caspapse激活途径相关;caspase-8活性升高,而caspase-9活性没有显著变化的结果说明Poly I:C诱导凋亡和死亡受体途径相关;TNFRSF8 mRNA转录水平增加说明凋亡和TNFRSF8上调有关。
【英文摘要】In this study apoptosis induced by the toxic effects of the Polyinosinic:polycytidylic acid copolymer (Poly I:C) was investigated on CEF cells. Along with cell viability and morphological changes, other indicators including phosphatidylserine translocation, the formation of DNA fragments, activity of caspase-3, caspase-8 and caspase-9, and the expression levels of RIPK1 mRNA and TNRSF8 mRNA, were measured in vitro, after incubation of the cells with Poly I:C. An inhibition of proliferation was found with increased levels of Poly I:C, showing that the Poly I:C was toxic to the cells. The finding of phosphatidylserine translocation and formation of DNA fragmentation suggested that Poly I:C induced apoptosis. With increased incubation time, the activities of caspase-3 and caspase-8 increased, while there was no significant change in caspase-9 activity. Accordingly it is concluded that the apoptosis induced by Poly I:C involves a cell death receptor-mediated pathway. The transcription level of RIPK1 mRNA decreased, while that of TNFRSF8 mRNA increased, indicating that Poly I:C-induced apoptosis was related to an upregulation of TNFRSF8. These observations provide insight into the potential mechanism of Poly I:C-induced toxicity.
【语种】英文
【第一作者】吕英军
【通讯作者】鲍恩东
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【学科分类】兽医学

【题目】东北地区盐碱土及耕作改良研究进展
【中文关键词】中国东北;盐碱土;形成;危害;耕作措施;改良
【英文关键词】Northeast China; saline-sodic soil; formation; harm; tillage measure; amelioration
【中文摘要】概述了东北地区盐碱土形成的宏观机制和过程,并分析了盐碱土的危害及各种耕作的必要性。根据盐碱土的形成过程分析得出,在微观治理上,耕作是改良东北地区盐碱土理化性质的基础,也是化学改良和植物改良的基础,为盐碱土耕作及综合治理提供理论依据和指导。
【英文摘要】The macroscopical mechanisms and processes of the formation of saline-sodic soil in NortheastChina were reviewed. The disadvantage of saline-sodic soil and the necessity of all kinds of cultivation wereanalyzed. According to the forming processes of the saline-sodic soil, in microcosmic management cultivationwas the basis of improving the physical and chemical properties of saline-sodic soil in Northeast China, and the basis of chemical amelioration and phytomelioration. It provided a theoretical foundation and guidance for comprehensive management to saline-sodic soil.
【语种】中文
【第一作者】徐璐
【通讯作者】王志春
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【题目】肥料添加纳米碳在水稻上的施用效果
【中文关键词】添加纳米碳的肥料;水稻;施用效果
【英文关键词】fertilizer added with nano carbon;rice;application effect
【中文摘要】肥料添加纳米碳在水稻主产区5个地点的应用效果表明:100%常规肥料添加纳米碳处理与100%常规肥处理相比,产量平均增幅为9.5%;常规肥料添加纳米碳在节氮30%~50%的情况下,与100%常规处理相比,产量平均增幅为11.3%;常规肥料添加纳米碳处理比100%常规肥处理每公顷均有数百到数千元的经济效益。
【英文摘要】Abstract:The application effect of fertilizer added with nano carbon on rice in 5 main producing areasshows that the treatment of 100% fertilizer added with nano carbon compared to the treatment of 100%conventional fertilizer,the average yield increases 9.5%;when nitrogen amount reduced by 30%-50%added with nano carbon, compared to the treatment of 100% conventional fertilizer, the average yield increases 11.3% . The fertilizer added with nano carbon can benefit the average income of several hundred to several thousand RMB Yuan per hectare compared to the traditional fertilizer.
【语种】中文
【第一作者】刘键
【通讯作者】马筠
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【题目】盐渍化水田秸秆还田对水稻生长及产量的影响
【中文关键词】水稻; 秸秆还田; 产量; 盐渍化水田
【英文关键词】Rice; Straw application; Grain yield; Soda-salinization paddy
【中文摘要】选择盐渍化水田进行水稻秸秆30%、50% 和70% 还田处理,研究水稻秸秆还田对水稻生长及产量的影响。结果表明,与CK 相比,30%、50% 和70% 秸秆还田对拔节期水稻生长及地上部干物质积累没有显著影响,对灌浆成熟期影响显著。50% 秸秆还田可提高灌浆期水稻有效叶片数和有效叶片面积,增加地上部干物重; 30%秸秆还田的水稻产量比对照提高4. 0% ,差异不显著(P > 0. 05) ; 50% 秸秆还田的水稻产量比对照提高9. 4% ,差异显著(P < 0. 05) ; 70% 秸秆还田水稻产量比对照降低1. 2% ,差异不显著(P >0.05) 。说明在盐渍化水田秸秆还田时,秸秆还田量不能过多,控制在50% 左右最佳,还田量过高不利于水稻生长发育,产量降低。
【英文摘要】The soda-salinization paddy soil was treated with 30%, 50% and 70% of rice straw, the effects of rice straw application to soda-salinization paddy soil on rice growth and grain yield were studied. The results showed that, in the soda-salinization paddy soil with 30%, 50% and 70% of rice straw application, the rice growth and the aerial part dry matter had no significant differences with the control at jointing stage; but there were significantdifferences with the control at grain filling stage. In the soda-salinization paddy soil with 50% rice straw application,efficient leaf numbers,efficient leaf area and aerial part dry matter of rice were significantly higher than those in the control at grain filling stage. In the soda-salinization paddy soil with 30% rice straw application, the grainyield was increased by 4. 0% compared with the control(P > 0. 05) . In the soda-salinization paddy soil with 50% straw application, the grain yield was increased by 9. 4% compared with the control(P < 0. 05) . In the soda-salinization paddy soil with 70% straw application, the grain yield was reduced by 1. 2% compared with the control(P >0. 05) . These results showed that 50% rice straw application was optimum for grain yield; it was not beneficial to rice growth and grain yield when rice straw application was higher than 50%.
【语种】中文
【第一作者】孙扬
【通讯作者】张治安
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【题目】杀菌剂对苏打盐碱地水稻秆腐菌核病防治
【中文关键词】杀菌剂;水稻秆腐菌核病;毒力作用;防治
【英文关键词】fungicide; sclerotiniose blight of rice stem rot; virulent effect; control
【中文摘要】[目的]水稻秆腐菌核病是苏打盐碱地水稻重要病害,为了筛选防治水稻秆腐菌核病有效杀菌剂对17种杀菌剂进行试验。 [方法]利用生长速率法,对供试药剂建立毒力回归线,进行EC值分析。 计算病情指数和防效并进行差异显著性分析。 [结果]50%异菌脲WP、25%咪鲜胺(德国)EC和25%咪鲜胺EW防治效果明显,达到了80%以上;25%丙环唑EC达到70%。 [结论]防治苏打盐碱地水稻秆腐菌核病首选50%异菌脲WP、25%咪鲜胺(德国)EC和25%咪鲜胺EW,25%丙环唑EC可以作为备选药剂。
【英文摘要】[Aims] Sclerotiniose blight of rice stem rot is an important plant disease in the sodium bicarbonate soil of the Songnen plain. Effective fungicides to the disease were screened in this study. [Methods] Probit regression lines were established by using plate mycelium growth rate method, and EC values were analyzed. Then, disease indexes and control effects were calculated, and difference signifi cances were analyzed by DPS software. [Results] Control effects of iprodione, prochloraz (made in Germany) and prochloraz (made in China) exceeded 80%, and that of propiconazole was 70%. [Conclusions] First, fungicide iprodione, prochloraz (made in Germany) and prochloraz (made in China) were used to control sclerotiniose blight of rice stem rot in the sodium bicarbonate soil. Then, fungicide propiconazole could be a candidate.
【语种】中文
【第一作者】张佳环
【通讯作者】邵玺文
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【题目】等距开槽结合施用石膏改良苏打盐碱土
【中文关键词】等距开槽; 石膏; 苏打盐碱土; 理化性质
【英文关键词】equidistance slotting; gypsum; soda saline-alkali soil; physical and chemical properties
【中文摘要】采用田间小区试验,研究了等距开槽结合施用石膏对东北松嫩平原西部苏打盐碱土的改良效果。结果表明:等距开槽(20 ~ 40 cm 心土层开槽,槽间距1 m) 能有效降低开槽点的土壤紧实度,对槽间土壤紧实度也有一定的降低作用,且与对照(不开槽) 紧实度的差异达到极显著水平; 等距开槽必须结合石膏才能改善土壤的化学性质,加石膏与未加石膏处理的pH 和碱化度达到差异显著水平,而电导率值在处理前后差异不显著,开槽松土处理对槽内土壤化学性质改善效果不明显; 磷石膏与脱硫石膏在改土效果上差异不显著,石膏配合开槽能有效改善土壤理化性质和植物生长状况,且对槽间土壤改良和植物生长均有一定的促进作用。
【英文摘要】A field plot experiment was conducted to examine the effectiveness of equidistant slottingin combining with gypsum application on the amelioration of soda saline-alkali soil in thewest Songnen Plain of Northeast China. Equidistant slotting at the soil depth 20 - 40 cm and 1 mapart could significantly decrease the degree of soil compaction within the slotted area,as comparedwith the control (un-slotting) ,and also,had definite effect in decreasing the soil compactnessbetween the slotted areas. Slotting combined with gypsum application improved the soilchemical properties,with significant difference in soil pH and exchangeable sodium percentagebut little difference in soil electrical conductivity between gypsum and no-gypsum treatments.Slotting and subsoiling had little effects on soil chemical properties within the slotted areas. Phosphogypsumand desulfurized gypsum had little difference in ameliorating the soda saline-alkalisoil. This study showed that slotting in combining with gypsum application could effectively improvethe physical and chemical properties of soda saline-alkali soil and the plant growth withinthe slotted area,and had definite effect in ameliorating soil properties and in promoting plantgrowth between the slotted areas.
【语种】中文
【第一作者】徐璐

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【题目】水稻耐盐碱鉴定标准评价及建议与展望
【中文关键词】水稻; 盐碱; 评价标准; 改进
【英文关键词】Rice; Saline-alkalinity; Evaluation standard; Improvement
【中文摘要】对国内外水稻耐盐碱鉴定评价标准进行了评述,指出目前采用的评价标准存在着对盐碱害判断不够全面、准确的问题,只适用对水稻进行生物耐盐力的鉴定,而不适合对水稻的农业耐盐力进行鉴定; 提出了对水稻耐盐碱鉴定的标准品种、方法、鉴定胁迫浓度等进行改进的建议,强调对水稻进行全生育期的耐盐碱性鉴定。
【英文摘要】The identification standards of saline-alkali tolerance in rice were evaluated according to the researches in both China and abroad. This study pointed out that the present adopted evaluation standards was inaccurate in distinguishing harms of salinity and alkalinity and they could only be used for the biological salt tolerance and could not be used for agricultural salt tolerance. Some suggestions on identification standards of rice saline-alkali tolerance in varieties,methods and stress concentrations were also provided in this paper. The saline-alkali tolerance abilities in the whole life cycle of rice should be emphasized in the future.
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【第一作者】杨福
【通讯作者】王志春
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【题目】苏打盐碱胁迫下粳稻子粒灌浆动态研究*
【中文关键词】北方粳稻; 苏打盐碱胁迫; 干物质积累; 灌浆速率; 子粒含水量
【英文关键词】Northern Japonica rice; saline-sodic stress; dry matter accumulation; milking rate; water content of grain
【中文摘要】选用粳稻品种/ 东稻4 号0 (DD4) 、粳稻品系/ G190 作为试验材料, 分别种植在pH 值为81 01 和9103 的苏打盐碱地中。在栽培条件相同的情况下, 分析2 个供试材料在不同苏打盐碱胁迫下水稻灌浆期干物质积累、子粒灌浆速率和含水量的动态变化。结果表明: 重度苏打盐碱胁迫下水稻起始灌浆期都延迟5 d; 强势粒干物质积累都明显高于弱势粒, 强势粒前期的灌浆速率高于弱势粒, 后期呈明显的下降趋势; / DD40 先于/ G190 达到干物质积累的高峰, / G190 强势粒灌浆高峰次数多于/ DD40 ; 灌浆期/ DD40 无论强势粒还是弱势粒均失水较快, 而/ G190 强势粒失水快, 弱势粒相对平缓。
【英文摘要】The Japonica rice cultivar DD4 and strain G19 were grown under saline-sodic stress on ricepaddy with pH 8101 and 9103, respectively. The effects of saline-sodic stress on the dynamic changes of grain dry matter accumulation, milking rate and water content during rice milking stage were studied under the same conditions. The results showed that starting of the rice filling delays 5 days under severe saline-sodic stress; The superior grains are superior on dry matter accumulation to inferior grains, strong milking rate during former stage and downtrend later; The peak of dry matter accumulation DD4 is earlier than G19, and the times of milking peak of G19 superior grains are more than DD4. Water loss of DD4is faster to both superior and inferior grains, and in this respect, G19 superior grains are the same whereas inferior grains exhibit slower water loss comparat ively.
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【第一作者】李景鹏
【通讯作者】杨福
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【题目】苏打盐碱胁迫对水稻品种长白9号穗部性状及产量构成的影响
【中文关键词】水稻; 盐碱; 穗部性状; 产量
【英文关键词】Rice; Salinity and sod ic ity; Panicle traits; Yield
【中文摘要】研究了盆栽条件下苏打盐碱胁迫对水稻品种长白9号穗部性状及产量构成的影响。结果表明: 盐碱胁迫对稻穗2次枝梗数、2次枝梗上的颖花数、2次枝梗上的实粒数的影响达显著水平(P < 0 05), 随盐碱胁迫程度的增加, 2次枝梗数、2次枝梗上的颖花数和2次枝梗上的实粒数呈明显降低趋势; 相关分析表明, 盐碱胁迫下穗上的2次枝梗数是对单穗产量贡献的最大因子; 方差分析结果表明, 盐碱胁迫使长白9 号产量显著降低, 其降低的主要原因是盐碱胁迫使穗的总颖花数、穗粒数减少。因此, 盐碱地种植长白9号在孕穗期要加强水肥调控, 尽量增加水稻的颖花数, 减少2次枝梗退化。
【英文摘要】Studied on panicle traits and y ield components o f rice variety Changba i9 in pot fo llow ing soda saline sodic stress. The resu lts show ed that w ith soda saline sodic stress increased amount o f secondary branches, grains of secondary branches, ripened g rains of secondary branches w ere significant ly decreased. Amount of secondary branches on panicle w as considered as themost important effecting factor for sing le panicle y ield. Y ield of Changba i9 w ere sign if icantly reduced due to tota l amount of spike decreased under saline sodic stress. Therefore, w ater and fertilizer regulation w asmore important to increase number of florets on pan icle and decrease degradation of secondary branches atChangba i9 boo ting stage under sa line sod ic env ironments.
【语种】中文
【第一作者】杨福
【通讯作者】王志春
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【题目】收获时间对玉米单交种种子质量和萌发过程中贮藏物质运转的影响
【中文关键词】玉米单交种;收获时间;种子质量;物质运转
【英文关键词】maize single-cross hybrid; harvest time; seed quality; matter transportation
【中文摘要】以授粉后不同时间收获的玉米单交种郑单958为试验材料,研究了不同收获时间对种子发芽率、百粒重以及种子萌发过程中可溶性糖、淀粉含量和贮藏物质运转的影响。结果表明,授粉后40 d收获的玉米种子其发芽率最低,未达到国家玉米良种发芽率85%的标准,而授粉后55 d收获的玉米种子其发芽率最高,为97.3%。授粉后60 d收获的玉米种子其百粒重最高,为33.22 g。玉米种子在萌发过程中,淀粉含量表现为下降变化。授粉后55、60 d收获的单交种在其种子萌发过程中淀粉含量都显著地高于40、45、50 d收获的单交种。在萌发过程中,不同时间收获的玉米单交种贮藏物质的运转率和消耗率均随授粉天数的增加而呈上升趋势,且运转率和消耗率的比值在1.3~1.5之间,其中,授粉后55 d收获的玉米单交种萌发过程中运转率与消耗率的比值最大为1.43。
【英文摘要】Using single-cross Zhengdan958 hybrid maize harvested at different time after pollination asexperimental material, studied how different harvest time affected germination rate of maize seeds, 100-seed weight and soluble sugar content during seed germination, starch content and reserve transportation. The results showed that maize seeds harvested after 40 d of pollination, with had the lowest germination rate failed to meet the national standard rate, which was 85%; and seeds harvested after 55 d had the highest germination rate whichwas 97.3%. Seeds harvested after 60 d had the highest 100-seed weight, which was 33.22 g. During the process of germination, starch content had a trend of falling. During the process of germination, maize seeds harvested after 55, 60 d of pollination, its starch content was outstanding higher than maize seeds harvested after 40, 45, 50 d.During the process of germination, the reserve translocation rate and consumption rate had a trend of increasing with days after pollination, and ratio of the reserve translocation and consumption were from 1.3 to 1.5. Seeds harvested after 55 d pollination had the biggest ratio which was 1.43.
【语种】中文
【第一作者】刘晟宇
【通讯作者】张治安
【期刊名称、卷期、页码】东北农业大学学报42(10): 25-29

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【学科分类】农学其他学科

【题目】植物光合生物增效剂对玉米产量及干物质积累的影响
【中文关键词】玉米;光合生物增效剂;产量;干物质积累
【英文关键词】Maize; Photosynthesis biological synergist; Yield; Drymatter accumulation
【中文摘要】以玉米和植物光合生物增效剂为试验材料,研究叶面喷施植物光合生物增效剂对玉米产量及干物质积累的影响。结果表明,喷施150 g/hm2 和300 g/hm2 植物光合生物增效剂对玉米子粒产量增加不显著;喷施450~750 g/hm2 植物光合生物增效剂能够显著增加玉米子粒产量,比对照产量提高8.3%~12.0%,主要表现在穗粒数和百粒重显著增加;还能显著提高地上部干物质积累速度和叶片叶绿素含量。以喷施600 g/hm2 植物光合生物增效剂增产效果最佳。
【英文摘要】Maize and plant photosynthesis biological synergist were used as test materials, the effect of plant photosynthesis biological synergist on yield and dry matter accumulation of maize were studied. The results showed that the effect of spraying 150 and 300 g/ha of plant photosynthesis biological synergist on grain yield ofmaize was not significant. The maize yield with spraying 450, 600 and 750 g/ha of plant photosynthesis biological synergist were significantly increased. Compared with CK, spraying 450, 600 and 750 g/ha of plant photosynthesis biological synergist could significantly increase the kernel number per ear and 100- kernel weight and the chlorophyll content in leave of maize. Increase the grain maize effect was the best with spraying 600 g/ha plant photosynthesis biological synergist.
【语种】中文
【第一作者】孙扬
【通讯作者】张治安
【期刊名称、卷期、页码】玉米科学2012,20(4):86-89,94
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【学科分类】农学其他学科

【题目】水分、pH 值、光照对蓝蓟生长性状及产量的影响研究
【中文关键词】蓝蓟; 环境因子; 性状; 品质; 产量
【英文关键词】Echium v ulgar e L. ; environmental factor s; characters; quality ; y ield
【中文摘要】在温室内进行土壤pH 值、水分、光照的梯度处理, 通过对性状指标及产量指标的测定与分析, 了解各项环境因子对蓝蓟生长及产量的影响。在pH 值6. 5、湿润条件下最先出苗, 其次为pH 值6~ 8, 再次是80%光照处理出苗, 最后为干旱和60%光照处理出苗。植株生长到第9 天开始测定植株苗期性状指标为: pH 值6. 0、湿润、光照正常情况, 叶长、叶宽和株高值最大。考种结果为: 在pH 值6. 5 千粒质量出现最大值4. 43(为CK 的115%) , 干旱条件出现最小值3. 34; 在pH 值6. 0 条件下单株粒数出现最大值1 635 粒, 在干旱条件下出现最小值913 粒; 粗脂肪含量在pH 值8. 0 最大值24. 60%, 在80%光照下出现在最小值18. 60%。充足的光照和湿润的土壤对蓝蓟性状生长起重要作用, 偏酸促进良好性状和产量, 但偏碱对蓝蓟的品质有利。
【英文摘要】It w as used the g radient t reatment o f soil pH value, moisture and illuminat ion inside the green house. It w as understoo d the ef fect of any env ir onmental factors o n gr ow th and y ield v ia determining and anly zing on the character and yield index s. T he results show ed that it w as first ly seeding emerg enc under the condit io n of pH v alue equaled to 6. 5 and moist . pH v alue betw een 6 to 8 w as follow ed, then w er e the 80% illumination t reatments, the last one was dry and 60% illumination t reatment s. When plants grew onthe ninth day, it w as began to measure the character index s of seeding. It show ed that leaf length, width and hight w ere max ium w hen pH value equaled to 6. 0, moist and no rmal illumination conditions. Testing seed results indicated that the max ium value of the thousand g rain w eig ht w as 4. 43 w hen the pH v alue was 6. 5 (115% of the contr ol) . , and the minium w as 3. 34 on dry co ndit ion. T he max ium of single plant grain number w as 1 635 under pH 6. 0, and the minium w as 913 on the dr y conditon. T he max ium o f crud fatcontent w as 24. 60% on pH value 8. 0, and the minium w as 18. 60% under 80% illuminat ion. T he r esults of stat ist ical analysis w ere that the prerequisite o n the grow th of Echium v ulgare L. w ere abundant lightsupply and mo ist so il. If it w as meta acid, it w as g ood at character and yield, how ev er, meta alkaline w as good at quality of Echium vulgareL.

【语种】中文
【第一作者】徐惠风
【通讯作者】徐惠风
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【题目】结核分枝杆菌菌体蛋白对鸡红细胞免疫功能及淋巴器官发育的影响
【中文关键词】结核分枝杆菌; 菌体蛋白; 红细胞; 免疫; 鸡; 淋巴器官
【英文关键词】Mycobacterium tuberculosis; tropina; red cell; immune activity; chicken; lymphatic organ
【中文摘要】将180羽1日龄AA 肉鸡随机分为6组, 分别设置为结核分枝杆菌菌体蛋白高、中、低剂量组, 未破碎全菌体组, 菌体蛋白注射组和对照组, 每组30羽。对照组仅饲喂基础日粮, 试验组分别添加不同剂量的分枝杆菌菌体蛋白。试验鸡于14、21、28、35 d时分别进行剖杀。通过红细胞C3b受体花环和红细胞免疫复合物花环试验及试验鸡免疫器官组织学检查, 结果表明: 分枝杆菌菌体蛋白能有效增强鸡红细胞免疫功能并能刺激淋巴器官的发育和增殖。
【英文摘要】无
【语种】中文
【第一作者】於敏
【通讯作者】鲍恩东
【期刊名称、卷期、页码】江苏农业科学,2008,5:191-193
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【学科分类】兽医学

【题目】Cyanobacteria MT gene SmtA enhance zinc tolerance
【中文关键词】无
【英文关键词】Metallothionein ; Zinc tolerance;Transgenic plants ; Arabidopsis ; Cyanobacteria
【中文摘要】无
【英文摘要】Abstract Zinc is essential but toxic in excess. A bacterialmetallothionein, SmtA from Synechococcus PCC 7942, hashigh affinity for Zn2? and the intracellular exclusivelyhandling of Zn2?. In this study, we report a functionalanalysis of SmtA in Arabidopsis thaliana and its responseto zinc stress. After high zinc stress, the transgenic plantsover-expressing SmtA showed higher survival rate than thewild type. We also found that over-expression of SmtA inArabidopsis increased the activities of SOD and POD, andenhanced the tolerance to zinc stress. Together, our resultsindicate that SmtA may play an important role in theresponse to zinc stress in Arabidopsis.
【语种】英文
【第一作者】Jing Xu
【通讯作者】Jing Xu
【期刊名称、卷期、页码】Mol Biol Rep (2010) 37:1105 – 1110
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【学科分类】环境科学技术基础学科

【题目】Expression and characterization of a cold-active and xylose-stimulated b-glucosidase from Marinomonas
【中文关键词】无
【英文关键词】b-Glucosidase; Glycoside hydrolase family 1 ;Marinomonas MWYL1 ; Cold-active ; Xylose-stimulated
【中文摘要】无
【英文摘要】Abstract The gene encoding a cold-active and xylosestimulatedb-glucosidase of Marinomonas MWYL1 wassynthesized and expressed in Escherichia coli. Therecombinant enzyme (reBglM1) was purified and characterized.The molecular mass of the

purified reBglM1determined by SDS-PAGE agree with the calculated values(50.6 Da). Optima of temperature and pH for enzymeactivity were 40 C and 7.0, respectively. The enzymeexhibited about 20% activity at 5 C and was stable over therange of pH 5.5 – 10.0. The presence of xylose significantlyenhanced enzyme activity even at higher concentrations upto 600 mM, with maximal stimulatory effect (about 1.45-fold) around 300 mM. The enzyme is active with bothglucosides and galactosides and showed high catalyticefficiency (kcat = 500.5 s-1) for oNPGlc. These characterizationsenable the enzyme to be a promising candidatefor industrial applications.
【语种】英文
【第一作者】Wei Zhao
【通讯作者】Quanhong Yao
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【学科分类】微生物学

【题目】Gene duplication, transfer and evolution in the chloroplast genome
【中文关键词】无
【英文关键词】Gene duplication;Transfer;Evolution;Chloroplast
【中文摘要】无
【英文摘要】In addition to the nuclear genome, organisms have organelle genomes. Most of the DNA present in eukaryoticorganisms is located in the cell nucleus. Chloroplasts have independent genomes which are inherited fromthe mother. Duplicated genes are common in the genomes of all organisms. It is believed that geneduplication is the most important step for the origin of genetic variation, leading to the creation of new genesand new gene functions. Despite the fact that extensive gene duplications are rare among the chloroplastgenome, gene duplication in the chloroplast genome is an essential source of new genetic functions and amechanism of neo-evolution. The events of gene transfer between the chloroplast genome and nucleargenome via duplication and subsequent recombination are important processes in evolution. The duplicatedgene or genome in the nucleus has been the subject of several recent reviews. In this review, we will brieflysummarize gene duplication and evolution in the chloroplast genome. Also, we will provide an overview ofgene transfer events between chloroplast and nuclear genomes.
【语种】英文
【第一作者】aisheng Xiong
【通讯作者】Rihe peng
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【引文索引号】19472510
【学科分类】植物学

【题目】An Aquatic Product Traceability System Based on RFID Technology
【中文关键词】RFID,水产品,信息追溯
【英文关键词】RFID,Aquatic Product,Traceability
【中文摘要】一种基于RFID的水产品信息追溯系统
【英文摘要】An Aquatic Product Traceability System Based on RFID Technology
【语种】英文
【第一作者】袁筱萍
【通讯作者】魏志强
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【学科分类】信息科学与系统科学其他学科

【题目】Genetic mapping of size-related quantitative trait loci (QTL) in the bay scallop (Argopecten irradians) using AFLP and microsatellite markers
【中文关键词】海湾扇贝;年龄大小;遗传连锁图;
【英文关键词】Argopecten irradians; Bay scallop; Linkage map; Size-at-age; QTL
【中文摘要】我们使用AFLP和微卫星标记技术构建了海湾扇贝遗传连锁图谱,进行了个体大小相关性状的复合区间作图(CIM)。317个AFLP和10微卫星标记被用于图谱构建。母本地图包含15个连锁群的120个标记,跨越479.6厘米,平均间隔7厘米。父本地图有17个连锁群的190个标记,覆盖883.8厘米,每个标记7.2厘米。观察母本地图覆盖率为70.4%,父本地图覆盖率为81.1%。偏向同一方向的标记在遗传图谱上是密切相联的,表明存在生存相关的重要基因。测量了壳长,壳高,壳宽,总重量,软组织重量,和壳重六个大小相关性状用于QTL作图。尺寸数据之间显著相关。我们对得到的数据log转化后进行了主要成分分析,利用第一主成分为进行QTL作图。用CIM分析在母本地图的连锁群3发现一个重要的数量性状位点(LOD=2.69,1000序列,Pb0.05)。在本研究中,测绘大小相关QTL提供了通过标记辅助选择促进海湾扇贝的生长的可能性。
【英文摘要】We constructed genetic linkage maps for the bay scallop Argopecten irradians using AFLP and microsatellite markers and conducted composite interval mapping (CIM) of body-size-related traits. Three hundred seventeen AFLP and 10 microsatellite markers were used for map construction. The female parent map contained 120 markers in 15 linkage groups, spanning 479.6 cM with an average interval of 7.0 cM. The male parent map had 190 markers in 17 linkage groups, covering 883.8 cM at 7.2 cM per marker. The observed coverage was 70.4% for the female and 81.1% for the male map. Markers that were distorted toward the same direction were closely linked to each other on the genetic maps, suggesting the presence of genes important for survival. Six size-related traits, shell length, shell height, shell width, total weight, soft tissue weight, and shell weight, were measured for QTL mapping. The size data were significantly correlated with each other. We subjected the data, log transformed firstly, to a principle component analysis and use the first principle component for QTL mapping. CIM analysis revealed one significant QTL (LOD=2.69, 1000 permutation, Pb0.05) in linkage group 3 on the female parent map. The mapping of size-related QTL in this study raises the possibility of improving the growth of bay scallops through marker-assisted selection.
【语种】英文
【第一作者】Yanjie Qin
【通讯作者】张国范
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【学科分类】水产学基础学科

【题目】An Agent-Based Load Balancing Approach for RFID Middlewares
【中文关键词】RFID,中间件,信息追溯
【英文关键词】RFID,Middle wares,Traceability
【中文摘要】一种基于Agent的RFID中间件的负载均衡方法
【英文摘要】An Agent-Based Load Balancing Approach for RFID Middle wares
【语种】英文
【第一作者】魏志强
【通讯作者】魏志强
【期刊名称、卷期、页码】ICIECS2009 会议论文
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【引文索引号】null
【学科分类】信息科学与系统科学其他学科

【题目】A novel Heart Cell Line from Brown-marbled Grouper, Epinephelus fuscoguttatus (Forsskal), and Its Viral Susceptibility to Iridovirus

【中文关键词】对细胞的影响;褐点石斑鱼;heart-cell线;虹彩病毒的易感性。
【英文关键词】brown-marbled grouper; cytopathic effects; Epinephelus fuscoguttatus; heart-cell line; iridovirus; viral susceptibility.
【中文摘要】一种新的细胞系(bmgh)成立于心棕色大理石棕点石斑鱼和病毒的敏感性评价。bmgh已传代至65代,培养液使用DMEM/F12,是进一步补充胎牛血清,羧甲基壳聚糖,碱性成纤维细胞生长因子(生长因子)和胰岛素样生长因子(IGF - I)在24。角的心细胞具有成纤维细胞形态和增殖的汇合后14天。细胞生长在一个稳定的速度在随后的亚文化,群体倍增时间40.3小时。核型分析表明,这些细胞表现出染色体非整倍体与模式染色体数目48。结果病毒易感性表征表明,细胞病变效应(终端)的bmgh细胞出现感染后2虹彩病毒,大菱鲆红体病虹彩病毒(trbiv)和淋巴囊肿病毒(淋巴囊肿病毒)。大量trbiv和淋巴囊肿病毒颗粒也观察到感染的bmgh细胞的电子显微镜检查。所有这些事实表明,bmgh系建立在这里可以作为一个宝贵的工具,为研究细胞病毒相互作用,具有潜在的应用在鱼类病毒分离,繁殖和疫苗开发。
【英文摘要】A novel cell line (bmGH) was established from the heart of brown marbled grouper Epinephelus fuscoguttatus and its viral susceptibility was evaluated. The bmGH cells have been subcultured to passage 65 in Dulbecco ’s modified eagle medium:Ham ’s nutrient mixture F-12 (1:1) medium (DMEM/F12) which was further supplemented with foetal bovine serum (FBS), carboxymethylchitosan, basic fibroblast growth factor (bFGF) and insulin-like growth factor-I (IGF-I) at 24 。 C. The heart cells have a fibroblastic morphology and proliferated to confluence 14 days later. The cells grew at a steady rate during subsequent subculture and had a population doubling time of 40 · 3 h at passage 60. Karyotype analysis showed that these cells exhibited chromosomal aneuploidy with a modal chromosome number of 48. The results of viral susceptibility characterization revealed that cytopathic effects (CPE) of bmGH cells appeared after infection by two iridoviruses, turbot reddish body iridovirus (TRBIV) and lymphocystis disease virus (LCDV). A large number of TRBIV and LCDV particles were also observed in the infected bmGH cells by electron microscope examination. All of these facts indicate that the bmGH cell line established here may serve as a valuable tool for studies of cell-virus interactions and has potential applications in fish virus isolation, propagation and vaccine development.
【语种】英文
【第一作者】魏云波
【通讯作者】樊廷俊
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【学科分类】水产学基础学科

【题目】Establishment of a turbot fin cell line and its susceptibility to turbot reddish body iridovirus
【中文关键词】大菱鲆鳍细胞;细胞系;病毒易感性;大菱鲆红体大菱鲆虹彩病毒;
【英文关键词】Turbot fin cells ; Cell line; Viral susceptibility ;Turbot reddish body iridovirus;Scophthalmus maximus
【中文摘要】一种比目鱼,大菱鲆,鳍(因子)细胞系的建立和易感性的大菱鲆红体病虹彩病毒(trbiv)决心在本研究。原代启动,细胞开始从鳍组织块部分消化与胰蛋白酶,胶原酶和透明质酸酶。消化组织块培养在24摄氏度 leibovitz-15培养液,辅以20%胎牛血清,羧甲基壳聚糖,乙酰氨基葡萄糖盐酸盐,碱性成纤维细胞生长因子和表皮生长因子。培养的细胞,成纤维细胞形态,增殖到100%汇合后50天。细胞系群体倍增时间为45.6小时,已经建立至133代。染色体分析表明,如果表现出细胞染色体非整倍体与模式染色体数目44表现出正常的二倍体核型的S .鲆至少通过80。trbiv敏感性试验表明,细胞病变效应和传播病毒粒子观察组细胞后,trbiv感染。总之,连续trbiv敏感因子的细胞系已成功建立,并系可作为一个有价值的工具,为研究细胞病毒相互作用和应用各种不同的cytotechnological研究以及。
【英文摘要】A turbot, Scophthalmus maximus, fin (TF) cell line was established and susceptibility to turbot reddish body iridovirus (TRBIV) was determined in this study. Primary culture of TF cells was initiated from fin tissue pieces partially digested with trypsin, collagenase II and hyaluronidase. Digested tissue pieces were cultured at 24 C in Leibovitz-15 medium (pH 7.2), supplemented with 20% fetal bovine serum, carboxymethyl chitosan, N-acetylglucosamine hydrochloride, basic fibroblast growth factor and epidermal growth factor. The cultured TF cells, in fibroblast shape, proliferated to 100% confluency 50 days later. A TF cell line, with a population doubling time of 45.6 h at passage 80, has been established and subcultured to passage 133. Chromosome analyses indicated that the TF cells exhibited chromosomal aneuploidy with a modal chromosome number of 44 which displayed the normal diploid karyotype of S. maximus at least up to passage 80. TRBIV susceptibility testing demonstrated that cytopathic effect and propagated viral particles were observed in TF cells after TRBIV infection. In conclusion, a continuous TRBIV susceptible TF cell line has been established successfully, and the cell line may serve as a valuable tool for studies of cell-virus interactions and has applications for different kinds of cytotechnological studies as well.

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【第一作者】樊廷俊
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【题目】Development and characterization of a new marine fish cell line from turbot (Scophthalmus maximus)
【中文关键词】大菱鲆;大菱鲆;肾细胞系;TK;核型;病毒的易感性
【英文关键词】Turbot ;Scophthalmus maximus;Kidney cell line ;TK ;Karyotype ;Virus susceptibility
【中文摘要】一个新的海洋鱼类细胞系,传统知识,从大菱鲆(大菱鲆)肾脏,确定了方法胰酶消化,传代50个以上的通道在300天的时间。传统知识的细胞保持在最低必需培养基的MEM,抗生素,胎牛血清(胎牛血清),2 -巯基乙醇(ME),和碱性成纤维细胞生长因子(因子)。适宜生长温度为24摄氏度,和显微镜下,传统知识的细胞组成的成纤维细胞样细胞。染色体分析表明,传统知识的细胞具有正常的二倍体核型与2n = 44。2种鱼类病毒lcdv-c(淋巴囊肿病毒从中国)和trbiv(大菱鲆红体病虹彩病毒)被用来确定病毒易感性的细胞系。传统知识的细胞被发现是容易trbiv,并被证实感染细胞病变(病变)和透射电子显微镜,发现病毒颗粒在细胞质中的病毒感染的细胞。最后,重要的绿色荧光信号,观察时,tkcells转染pegfp-n3矢量,表明其潜在的效用鱼类病毒的研究和基因操纵。
【英文摘要】A new marine fish cell line, TK, derived from turbot (Scophthalmus maximus) kidney, was established by the method of trypsin digestion and subcultured for more than 50 passages over a period of 300 days. The TK cells were maintained in Minimum Essential Medium Eagle (MEM) supplemented with HEPES, antibiotics, fetal bovine serum (FBS), 2-Mercaptoethanol (2-Me), and basic fibroblast growth factor (bFGF). The suitable growth temperature for TK cells was 24 C, and microscopically, TK cells were composed of fibroblast-like cells. Chromosome analysis revealed that the TK cell line has a normal diploid karyotype with 2n = 44. Two fish viruses LCDV-C (lymphocystis disease virus from China) and TRBIV (turbot reddish body iridovirus) were used to determine the virus susceptibility of TK cell line. The TK cell line was found to be susceptible to TRBIV, and the infection was confirmed by cytopathic effect (CPE) and transmission electron microscopy, which detected the viral particles in the cytoplasm of virus-infected cells. Finally, significant green fluorescent signals were observed when the TKcells were transfected with pEGFP-N3 vector, indicating its potential utility for fish virus study and genetic manipulation.
【语种】英文
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【学科分类】水产学基础学科

【题目】Generation and characterization of a kidney-derived fibroblast-like cell line from Southern Flounder (Paralichthys lethostigma)
【中文关键词】核型,肾细胞系,漠斑牙鲆,SFK,南部比目鱼,病毒的易感性
【英文关键词】karyotype, kidney cell line, Paralichthys lethostigma, SFK, southern flounder, virus susceptibility.
【中文摘要】无摘要
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【学科分类】水产学基础学科

【题目】Inbreeding depression for various traits in two cultured populations of the American bay scallop, Argopecten irradians irradians Lamarck (1819) introduced into China
【中文关键词】海湾扇贝养殖群体近交衰退;近亲繁殖的水平;mass-mating;自体受精
【英文关键词】Argopecten irradians irradians; Cultured population; Inbreeding depression; Inbreeding level; Mass-mating; Self-fertilization
【中文摘要】本文探讨的影响,近亲繁殖的水平人口的规模inbreedingdepression通过比较它们之间的twoculturedpopulations(一和二)在雌雄同体动物的bayscallopargopectenirradiansirradians。人口预计将有更少的遗传变异和近交水平由于长期培养的历史(20代)和“祖先”的个人(26人)比人口由于历史较短的培养(4代)和更多的“祖先”的个人(406人)。2组在每个人口的生产,一个使用自体受精和一个使用mass-mating在同一人口。自交后代(a和b)从twopopulations都有较低的健身组件比他们的mass-mated同行(和骨髓)和展出inbreedingdepression所有检查特征,如较低的孵化,少活力和增长放缓,表明inbreedingdepression的一个共同特点是在这种动物。健身组件在所有性状的后代人口显着不同的人口和规模inbreedingdepression所有性状的人口具有较高的近亲繁殖水平明显小于在人口与较低的近亲繁殖的水平,表明这两个健身组件和规模inbreedingdepression均显着影响的近亲繁殖水平的人口和遗传负荷窝藏在人口可能是部分通过清除近亲繁殖。此外,规模inbreedingdepression在twopopulations都各不相同的特征和生活的历史阶段。本研究结果支持这一假设inbreedingdepression partial-dominance
【英文摘要】This paper examines the effect of inbreeding level of population on the magnitude of inbreedingdepression expressed by comparing them between twoculturedpopulations (A and B) in the hermaphroditic animal of the bayscallopArgopectenirradiansirradians. Population A is expected to have less genetic variations and higher inbreeding level due to longer cultured history (20 generations) and less “ancestral” individuals (26 individuals) than population B due to shorter cultured history (4 generations) and more “ancestral” individuals (406 individuals). Two groups within each population were produced, one using self-fertilization and one using mass-mating within the same population. Selfed offspring (AS and BS) from twopopulations both had lower fitness components than their mass-mated counterparts (AM and BM) and exhibited inbreedingdepression for all examined traits, e.g. lower hatching, less viability and slower growth, indicating that inbreedingdepression is a common feature in this animal. Fitness components in all traits of offspring from population A significantly differed those from population B and the magnitude of inbreedingdepression for all traits in population A with higher inbreeding level was significantly smaller than that in population B with lower inbreeding level, indicating that both fitness components and magnitude of inbreedingdepression were significantly affected by inbreeding level of populations and genetic load harbored in population A may be partially purged through inbreeding. Moreover, the magnitude of inbreedingdepression in the twopopulations both varied among traits and life history stages. The present results support the partial-dominance hypothesis of inbreedingdepression
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【题目】Growth and survival of reciprocal crosses between two bay scallops, Argopecten irradians concentricus Say and A. irradians irradians Lamarck
【中文关键词】海湾扇贝;海湾扇贝;双列杂交;杂种优势;母体效应;生存;发展
【英文关键词】Bay scallop; Argopecten irradians; Diallel cross; Heterosis; Maternal effect; Survival; Growth
【中文摘要】一个完全双列杂交两国之间的海湾扇贝说,墨西哥湾扇贝(米)和扇贝扇贝拉马克(丙),进行了。生长和存活的比较混合动力和纯人口。无显着差异的壳长被发现四组间在第一天的d-larvae。10天,壳长度的相互交叉(厘米,三菱商事)(♀×♂)显着高于消委会(141.97μ米)和毫米(146.20μ米)组,与增长率的三菱商事(156.14μ米)交叉高于厘米(155.35μ米)交叉。此外,杂种优势的生存显着较大的比生长。产妇起源和交配策略有显着影响生长和存活在整个幼虫期。杂种优势

也观察后吐和成年阶段。170天,平均壳长,壳高和总重量的厘米交叉均显着高于其他组合(< 0.05)。从本研究结果表明,杂交墨西哥湾扇贝生殖腺和扇贝扇贝可能是一个有希望的方式为遗传改良现有的海湾扇贝孵化股票中国。

【英文摘要】A complete diallel cross between two bay scallop populations, Argopecten irradians concentricus Say (M) and A. irradians irradians Lamarck (C), was carried out. Growth and survival were compared among hybrids and pure populations. No significant difference in the shell length was found among the four groups on the first day of D-larvae. On day 10, shell lengths of the two reciprocal crosses (CM, MC)(♀ × ♂) were significantly greater than those of the CC (141.97 μm) and MM (146.20 μm) groups, with the growth rate of the MC (156.14 μm) cross greater than that of the CM (155.35 μm) cross. Also, heterosis for survival was significantly larger than that for growth. Both maternal origin and mating strategy had significant effects on growth and survival throughout the whole larval stage. Heterosis was also observed in later spat and adult stages. On day 170, the mean shell length, shell height and total weight of the CM cross were significantly larger than those of the other crosses (P < 0.05). The results from this study indicate that hybridization between A. irradians concentricus and A. irradians irradians may be a promising way for genetic improvement of existing bayscallop brood stocks in China.

【语种】英文

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【学科分类】水产学基础学科

【题目】Molecular cloning and expression analysis of the myostatin gene in sea perch (Lateolabrax japonicus)

【中文关键词】胚胎干细胞;基因;基因表达;鲈鱼;肌肉;海鲈鱼

【英文关键词】embryonic stem cell; gene; gene expression;Lateolabrax japonicus;myostatin;sea perch

【中文摘要】肌肉生长抑制素(抑制素)是一个成员的转化生长因子(因子)家族的功能作为一个负调控骨骼肌的发展和增长的哺乳动物。然而,一些报告提供的结构和功能研究中的鱼类。在这里,该抑制素基因克隆鲈(鲈)的同源性克隆和基因组步行。在4873-bp基因组序列,外显子内含子三,2,和50和30个侧翼序列被确定。海鲈鱼肌肉生长抑制素基因编码一个374-amino酸性蛋白,包括信号肽,保守的半胱氨酸残基,并rxxr蛋白裂解域。表达分析研究表明,抑制素的高度表达的眼睛,大脑,肌肉;中等在小肠;和弱的鳃,肝,脾,心。结果表明,抑制素基因高表达在胚胎干细胞(ljes1),但它是不可在几种类型的体细胞系由海鲈鱼,包括成纤维细胞样细胞,上皮细胞,与淋巴细胞样细胞。此外,它表明,50个侧翼地区的肌肉生长抑制素基因可以表达绿色荧光蛋白(绿色荧光蛋白)基因在ljes1细胞和转基因斑马鱼(斑马鱼)。这是第一次报告的表达谱研究基因在不同类型的细胞培养。

【英文摘要】Myostatin (MSTN) is a member of the transforming growth factor-b (TGF-b) superfamily that functions as a negative regulator of skeletal muscle development and growth in mammals. However, few reports are available about the structure and function of MSTN in teleost. Here, the MSTN gene was cloned from sea perch (Lateolabrax japonicus) by homology cloning and genomic walking. In the 4873-bp genomic sequence, three exons, two introns, and 50 and 30 flanking sequences were identified. The sea perch MSTN gene encodes a 374-amino acid protein, including a signal peptide, conserved cysteine residues, and a RXXR proteolytic cleavage domain. Expression analysis of MSTN revealed that MSTN was highly expressed in eyes, brain, and muscle; intermediately in intestine; and weakly in gill, spleen, liver, and heart. It was demonstrated that MSTN mRNA was highly expressed in embryonic stem cell line (LJES1), but it was undetectable in several types of somatic cell lines from sea perch, including fibroblast-like cell, epithelioid cell, and lymphocyte-like cell. Further, it was demonstrated that the 50 flanking region of the MSTN gene can drive the expression of green fluorescent protein (GFP) reporter gene in LJES1 cells and transgenic zebrafish (Danio rerio). This is the first report on the expression profile of MSTN gene in various types of cell cultures.

【语种】英文

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【学科分类】水产学基础学科

【题目】Pluripotency and chimera competence of an embryonic stem cell line from the sea perch (Lateolabrax japonicus)
【中文关键词】细胞移植;嵌合体;胚胎干细胞;全能;鲈鱼;斑马鱼
【英文关键词】Cell transplantation;chimera;embryonic stem cells;pluripotency;sea perch;zebrafish
【中文摘要】一个稳定的绿色荧光蛋白(绿色荧光蛋白+ ljes1)细胞株是从ljes1细胞获得鲈(鲈胚胎,)。绿色荧光蛋白+ ljes1细胞进行体外诱导维甲酸分化成各种细胞类型,也有能力形成胚体结构在悬浮培养。确定分化潜能的ljes1体内细胞,绿色荧光蛋白+ ljes1细胞被移植到海鲈鱼和斑马鱼的胚胎在囊胚阶段。二十出478移植鲈鱼胚胎含有绿色荧光蛋白表达ljes1细胞24小时后注射。十五嵌合体胚胎发育成苗。在这些怪物,绿色荧光蛋白+ ljes1细胞有助于各种组织包括头部和躯干。在斑马鱼胚胎显微注射的绿色荧光蛋白,221 + ljes1细胞和22嵌合体胚胎表达绿色荧光蛋白获得了炸薯条。供体基因+ ljes1细胞有助于各种组织中的头部和躯干的斑马鱼胚胎和孵化的鱼苗。
【英文摘要】A stable GFP-expressing (GFP+LJES1) cell strain was developed from the LJES1 cells obtained from sea perch (Lateolabrax japonicus,) embryos. GFP+LJES1 cells were induced in vitro by RA to differentiate into a variety of cell types and also had the ability to form embryoid body-like structures in suspension culture. To determine the differentiation potential of LJES1 cells in vivo, GFP+LJES1 cells were transplanted into sea perch and zebrafish embryos at mid-blastula stage. Twenty out of 478 transplanted sea perch embryos contained GFP-expressing LJES1 cells 24 h after microinjection. Fifteen chimera embryos developed into fry. In these chimeras, the GFP+LJES1 cells contributed to a variety of tissues including the head and trunk. In zebrafish, 221 embryos were microinjected with GFP+LJES1 cells and 22 chimera embryos and fries expressing GFP were obtained. Donor GFP+LJES1 cells contributed to various tissues in head and trunk of zebrafish embryos and hatched fry.
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【题目】Effect of parental stock size on F1 genetic structure in the bay scallop, Argopecten irradians (Lamarck, 1819)
【中文关键词】海湾扇贝,母本原种的数量,母本原种的大小
【英文关键词】Argopecten irradians, the number of parental stock, AFLP, parental stock size
【中文摘要】由1个,2和10个个体产生3个F1群体的海湾扇贝。使用扩增片段长度多态性技术对这些群体的遗传改变进行了分析。在母本原种中,使用七个引物对共有330条带被发现, 70%的位点为多态性。与母本原种相比,所有的F1群体有明显低比例的多态位点,稀有位点的损失和杂合体的减少杂都发生。大群体的后代表现出较少数量遗传分化,这表明N=1,2和10的有效群体大小分别是1.50, 1.61 and 2.49。电子商务!有效的人口规模(东北)在N 51,2和10被估计为1.50,1.61和2.49。基于回归分析,我们认为保持养殖群体的遗传变异在孵化群体中至少要有340个个体。
【英文摘要】Three F1 families of the bay scallop, Argopecten irradians,were produced from one, two and 10 individuals.The genetic changes in these populations,which su!ered recent and di!erent levels of bottleneck,were analysed using ampli
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【题目】基于语义规则的普适计算隐私控制方法研究
【中文关键词】普适计算; 隐私保护; 多类逻辑; 推理规则

【英文关键词】pervasive computing; privacy protection; many-sorted logic; inference rule
【中文摘要】针对普适计算隐私保护问题,研究基于策略的用户隐私信息控制方法。根据多类逻辑,定义了隐私策略的形式化模型,采用本体和规则推理技术建立隐私策略模型的语义应用框架。通过支持后向链推理的规则引擎,测试了隐私策略的执行机制,表明语义隐私规则在隐私保护应用系统中的有效性和可用性。
【英文摘要】Policy-based method on user-controllable privacy for pervasive computing is studied in the paper.A formal model to express user privacy policy is introduced by using many-sorted logic,and a semantic application framework for the policy model is built based on ontology and inference rule technology.Finally the effect of privacy policy enforcement is verified in rule engine which supports backward chaining.Result shows the validity and availability of semantic privacy rule in privacy-sensitive system.
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【学科分类】信息科学与系统科学其他学科

【题目】气相色谱-串联质谱法测定贝类中指示性多氯联苯
【中文关键词】多氯联苯; 贝类; 气相色谱-串联质谱法;
【英文关键词】Polychlorinated biphenyls; Seashell; Gas chromatography-tandem mass spectrometry;
【中文摘要】研究并建立了测定贝类中多氯联苯残留的气相色谱-串联质谱(GC-MS/MS)方法。通过正己烷和丙酮的混合溶液超声提取,硅胶柱净化,旋转蒸发浓缩,采用GC-MS/MS多反应监测(MRM)方式测定,可同时对贝类中的7种指示性多氯联苯进行定性和定量。研究结果表明:7种指示性多氯联苯的检出限(S/N=3)为0.0066~0.0098 μg/kg,定量限(S/N=10)为0.02 μg/kg;在0.1~50.0 ng/mL时峰强度与质量浓度的线性关系良好(r>0.99)。方法的平均回收率为73%~113%。该法简便快捷,降低了分析成本,在一定程度上实现了持久性污染物的快速检测和确证。
【英文摘要】A method for determining residues of seven polychlorinated biphenyls(7 PCBs) in seashell was developed by gas chromatography-tandem mass spectrometry.The sample was extracted with blended solution of hexane and acetone,cleaned-up by column of silica gel,and concentrated with a rotary evaporator.The mass spectrometer was operated using multiple reaction monitoring(MRM)for qualitative and quantitative analysis of 7 PCBs in seashell at the same time.The results showed that the limits of detection for 7 PCBs were 0.0066~ 0.0098 μg/kg(S/N=3),and the limits of quantitation were 0.02 μg/kg(S/N=10).The method was linear over the range from 0.1 ng/mL to 50 ng/mL with correlation coefficients >0.99,and the average recoveries for 7 PCBs were between 73% and 113%.The method is simple,fast and low cost,which facilitates the fast analysis of the permanent contaminations.
【语种】中文
【第一作者】孙伟红
【通讯作者】冷凯良
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【学科分类】分析化学

【题目】Development and characterization of a cell line from the embryos of half smooth tongue sole(Cynoglossus semilaevis)
【中文关键词】胚胎细胞系;半滑舌鳎;核型;绿色荧光蛋白;淋巴囊肿病毒生长
【英文关键词】embryonic cell line; half smooth tongue sole; karyotype; GFP; LCDV; CSEC
【中文摘要】一个新的细胞系,生长,已成功建立了从原肠期胚胎在一个海洋养殖鱼类,半滑舌鳎(半滑舌鳎)。我细胞积极发展和稳定50多通道超过200天在培养液中添加15%胎牛血清(胎牛血清),碱性成纤维细胞生长因子(2.5毫微克/毫升,碱性成纤维细胞生长因子),1纳克/立方厘米荧光(白血病抑制因子)和50浓度/循环箱(2-mecaptoethanol)。细胞生长良好,在温度范围为24 – 30 ° °C,最佳生长温度为24摄氏 ° 胎牛血清和生长因子的浓度是其中的关键组成部分的商业性剥削细胞增殖。染色体分析表明,生长细胞具有正常的二倍体核型与2 = 42t。重要的荧光信号,观察我转染后绿色荧光蛋白报告基因,这表明生长细胞系可以作为一个有用的工具,转基因和基因操纵研究。我细胞病变效应(终端)后感染淋巴囊肿病病毒(淋巴囊肿

病毒)2 d。此外,该淋巴囊肿病毒粒子可以看到在细胞质中的病毒感染细胞的电子显微镜。这表明,我可能是潜在的用于研究水生病毒。

【英文摘要】A new cell line, CSEC, has been successfully established from embryos at gastrula stage of a cultured marine fish, half smooth tongue sole (Cynoglossus semilaevis). CSEC cells grow actively and stably more than 50 passages for over 200 d in DMEM medium supplemented with 15% FBS (fetal bovine serum), 2.5 ng/cm3 bFGF (basic fibroblast growth factor), 1 ng/cm3 LIF (leukemia inhibitory factor) and 50 mmol/dm3 2-ME (2-mecaptoethanol). The cells grew well in the temperature range of 24 – 30 ° C and the optimal growth temperature was 24 ° C. FBS and bFGF concentrations are the two key components for CSEC cells proliferation. Chromosome analysis reveals that CSEC cells have a normal diploid karyotype with 2n=42t. The significant fluorescent signals were observed in CSEC after transfection with the GFP reporter gene, suggesting that the CSEC cell line can be used as a useful tool for transgenic and genetic manipulation studies. CSEC cells showed the cytopathic effect (CPE) after infection with lymphosystis disease virus (LCDV) in 2 d. Moreover, the LCDV particles can be observed in the cytoplasm of virus-infected cells by electron microscopy. It suggests that CSEC could be potentially used for the study of aquatic virus.

【语种】英文

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【学科分类】水产学基础学科

【题目】Establishment, characterization of a new cell line from heart of half smooth tongue sole (Cynoglossus semilaevis)

【中文关键词】细胞;半滑舌鳎(半滑舌鳎);肽;核型;绿色荧光蛋白;淋巴囊肿病毒

【英文关键词】Cell line;Half smooth tongue sole (Cynoglossus semilaevis);CSH ;Karyotype;GFP;LCDV

【中文摘要】一个新的细胞系的建立从心的海洋养殖鱼类,半滑舌鳎(半滑舌鳎),指定为肽(半滑舌鳎心脏细胞系)。该肽细胞生长超过400天的最低基本培养基(液)辅以10%胎牛血清(胎牛血清)和2毫微克/毫升,碱性成纤维细胞生长因子(因子)。适宜的温度对细胞的生长是24 – 30 ° 与最佳生长在24 ° 和降低经济增长在12和30摄氏 ° 胎牛血清和碱性成纤维细胞生长因子浓度的重要组成部分,肽细胞增殖。百分之二十胎牛血清中被发现的最佳浓度和碱性成纤维细胞生长因子促进细胞生长肽。双时间的细胞在24摄氏 ° 确定73.39小时染色体分析显示,44%的细胞保持正常的二倍体染色体数(2 = 42)在肽细胞通道58。荧光信号,观察肽后的细胞转染绿色荧光蛋白(绿色荧光蛋白)记者质粒。肽的细胞病变效应(终端)后感染淋巴囊肿病病毒(淋巴囊肿病毒)。此外,该淋巴囊肿病毒粒子可以看到在细胞质中的病毒感染细胞的电子显微镜,和一段基因的主要衣壳蛋白的淋巴囊肿病毒被发现的聚合酶链反应扩增核酸的病毒感染的细胞

【英文摘要】A new cell line was established from the heart of a cultured marine fish, half smooth tongue sole (Cynoglossus semilaevis), designated as CSH (Cynoglossus semilaevis heart cell line). The CSH cells grow over 400 days in minimum essential medium (MEM) supplemented with 10% fetal bovine serum (FBS) and 2 ng/ml basic fibroblast growth factor (bFGF). The suitable temperature for the cell growth was 24 – 30 ° C with the optimum growth at 24 ° C and a reduced growth at 12 and 30 ° C. FBS and bFGF concentration were the two important components for CSH cells proliferation. Twenty percent FBS in the medium was found to be the optimum concentration and bFGF promoted the growth of CSH cells. The double time of the cells at 24 ° C was determined to 73.39 h. Chromosome analysis revealed that 44% of the cells maintained a normal diploid chromosome number (2n = 42) in the CSH cells at Passage 58. The fluorescent signals were observed in CSH after the cells were transfected with green fluorescent protein (GFP) reporter plasmids. CSH cells showed the cytopathic effect (CPE) after infection with lymphosystis disease virus (LCDV). Moreover, the LCDV particles can be observed in the cytoplasm of virus-infected cells by electron microscopy, and a segment of MCP gene for major capsid protein of LCDV was found by PCR amplification DNA of virus-infected cells

【语种】英文

【第一作者】XL Wang

【通讯作者】陈松林

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【学科分类】水产学基础学科

【题目】Development and characterization of a continuous embryonic cell line from the southern flounder (Paralichthys Lethostigma)

【中文关键词】胚胎细胞系;漠斑牙鲆;核型; GFP 报告基因

【英文关键词】embryonic cell line southern flounder Paralichthys lethostigma karyotype reporter gene

【中文摘要】漠斑牙鲆(Paralichthys lethostigma) 是中国近年新开发的重要海水养殖鱼类,本研究以漠斑牙鲆囊胚期胚胎为材料,探索了鱼类胚胎细胞分离和培养的条件,建立了漠斑牙鲆胚胎细胞培养技术。建立的漠斑牙鲆胚胎细胞系(SFEC)至今已经培养了240 多天,传至80 多代。SFEC 的完全培养基采用添加抗生素、胎牛血清(FBS) 、花鲈血清(SPS) 、成纤维生长因子(bFGF) 的DMEM。SFEC 形态小而呈圆形、多边形,在培养基中生长迅速。本实验检测了温度、胎牛血清浓度、成纤维生长因子对SFEC 生长的影响。在24~30 ℃之间SFEC 生长良好,但当温度低于18 ℃时细胞生长速度明显减慢。在含15 % FBS 的培养基中,SFEC 生长速度明显比在含715 % FBS 的培养基中快,在培养基中添加bFGF 可以使细胞生长速度显著提高。SFEC 的二倍体核型为2n = 6st + 42t 。将GFP 报告基因通过脂质体介导的方法转入SFEC 中并成功地获得了表达,转化率为20 %。

【英文摘要】A continuous cell line,SFEC(southern flounder embryonic cell line),was established from embryos at gastrula stage of a marine cultured fish,southern flounder(Paralichthys lethostigma) and was cultured for more than 240d with more than 80 generation.The SFEC cells were cultured in DMEM medium supplemented with antibiotics,fetal bovine serum(FBS),sea perch serum(SPS),basic fibroblast growth factor(bFGF).The cells were small and round in shape and grew actively and stably in medium.Effects of temperature,FBS and bFGF concentration on the growth of SFEC cells were evaluated.The cells grew well in the temperature range of 24-30°C,but had a reduced growth rate at temperature below 18°C.The growth of SFEC cells in medium containing 15% FBS was higher than that in medium containing 7.5% FBS.Addition of bFGF to the medium significantly increased growth rate of SFEC cells.Chromosome analysis revealed that SFEC cells have a normal diploid karyotype with 2n=6st+42t.GFP reporter gene was successfully transferred into SFEC cells and expressed

【语种】英文

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【学科分类】水产学基础学科

【题目】Production of a base population and its responses to F1 selection in the bay scallop, Argopecten irradians irradians Lamarck (1819)

【中文关键词】海湾扇贝、海湾扇贝;人口;基础;遗传改良选择性育种;遗传增益;

【英文关键词】bay scallop;Argopecten irradians irradians;base population;genetic improvement;genetic gain;selective breeding

【中文摘要】人口基数海湾扇贝,海湾扇贝拉马克,是由跨越2养殖海湾扇贝种群。经过1年的培育,顶部10%截断选择前10%(= 1.755)进行了在基地人口约1300人。一个家长控制组具有相同数目的选择亲本组随机选择从整个人口在孤立的选择父母组。结果表明,在幼虫期,幼虫的生长速度在选定的路线是明显高于对照组(< 0.05),而且遗传增益为6.78%。由于低密度控制在吐阶段,平均壳长的控制线是大于该选择线在100天。在相同的密度进行了调整,线与线之间的过渡阶段中(从100日至160),每日生长率的选线明显高于控制线(< 0.05)。生存的选择线明显大于控制线在成长阶段。最后,得出的结果,这个实验表明,选择性育种基地人口具有较高的遗传多样性建立了大规模产卵不同人群之间似乎是一个有希望的方法遗传改良的海湾扇贝,扇贝扇贝拉马克。

【英文摘要】A base population of the bay scallop, Argopecten irradians irradians Lamarck, was produced by crossing two cultured bay scallop populations. After 1 year of rearing, the top 10% truncation selection of the top 10% (i=1.755) was carried out in the base population of about 1300 adults. A control parental group with a an identical number to the select parental group was randomly selected from the entire population before isolation of the select parental group. The result showed that, at the larval stage, the growth rate of larvae in the selected line was significantly higher than that of the control (P<0.05), and that the genetic gain was 6.78%. Owing to the lower density of control at the spat stage, the mean shell length of the control line was larger than that of the select line at day 100. When the same density was adjusted between two lines in the grow-out stage (from day 100 to 160), the daily growth rate of the selected

line was significantly higher than that of the control line (P<0.05). Survival of the select line was significantly larger than that of the control line in the grow-out stage. In conclusion, the results obtained from this experiment indicate that selective breeding from a base population with a high genetic diversity established by mass spawning between different populations appears to be a promising method of genetic improvement in bay scallop, A. irradians irradians Lamarck.

【语种】英文

【第一作者】Haibin Zhang

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【学科分类】水产学基础学科

【题目】Sustained response to selection in an introduced population of the hermaphroditic bay scallop Argopecten irradians irradians Lamarck (1819)

【中文关键词】响应选择;遗传;遗传增益;雌雄同体;近亲繁殖;海湾扇贝、海湾扇贝;

【英文关键词】Response to selection; Heritability; Genetic gains; Hermaphrodite; Inbreeding; Bay scallop; Argopecten irradians irradians

【中文摘要】引进的物种往往开始与有限的遗传变异,这是问题的选择性繁殖。近亲繁殖的问题可以被激怒的雌雄同体。该海湾扇贝、海湾扇贝是雌雄同体物种已被引入到现在支持的一个主要的水产养殖产业在中国。积极响应选择的快速增长是观察一个少交股在先前的研究。在这项研究中,我们评估选择二代确定选择反应可以持续在这人口雌雄同体物种介绍。选择反应,实现了遗传的二代,累积(2代),电流(为二代)和剩余(第一代)的遗传增益估计比较三种不同类型的线:党卫军(选择2代),资深大律师(选定的第一代只)和消委会(选2代)。不锈钢线增长明显快(< 0.05)比其他2线,表明二代选择更快的增长仍然是有效的。反应选择和实现遗传的二代0.612±0.101和0.349±0.057,分别,这是类似于观察到的第一代。累积,目前,和剩余收益17.56±5.30%,10.63和6.25±±2.46%,3.13%,分别为。持续反应选择二代在这里观察表明,相当多的遗传变异存在于这个人口和选择性育种今后的努力可能会取得丰硕成果

【英文摘要】Introduced species often start with limited genetic variability, which is problematic for selective breeding. The problem of inbreeding can be exasperated by hermaphroditism. The bay scallop Argopecten irradians irradians is a hermaphroditic species that has been introduced to and now supports a major aquaculture industry in China. Positive response to selection for fast growth was observed in one of the less inbred stocks in a previous study. In this study, we evaluated selection for the second generation to determine if response to selection can be sustained in this introduced population of a hermaphroditic species. Response to selection, realized heritability for the second generation, cumulative (over two generations), current (for the second generation) and residual (from the first generation) genetic gains were estimated by comparing three different types of lines: SS (selected for two generation), SC (selected for the first generation only) and CC (unselected for two generations). The SS line grew significantly faster (P < 0.05) than the other two lines, indicating that the second generation selection for faster growth is still effective. Response to selection and realized heritability for the second generation were 0.612 ± 0.101 and 0.349 ± 0.057, respectively, which are similar to those observed for the first generation. The cumulative, current, and residual gains were 17.56 ± 5.30%, 10.63 ± 2.46%, and 6.25 ± 3.13%, respectively. The sustained response to selection for the second generation observed here suggests that considerable genetic variability exists in this population and that future efforts on selective breeding are likely to be fruitful

【语种】英文

【第一作者】Huaiping Zheng

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【学科分类】水产学基础学科

【题目】玉蜀黍赤霉有性重组体的诱导及其生物学特性

【中文关键词】玉蜀黍赤霉; nit突变体; 有性重组体; 生物学特性; 遗传进化;
【英文关键词】Gibberella zeae; nit mutants; sexual recombinants; biological properties; genetic evolution;
【中文摘要】本研究以硝酸盐营养缺陷型突变体(nit)和多菌灵抗性为遗传标记,在5个所选菌株中设计了3个玉蜀黍赤霉病菌Gibberella zeae的杂交组合,使各菌株之间进行杂交,从而诱导有性重组体。从各杂交组合的后代中任意挑选出3个有性重组体,比较了这些有性重组体与其亲本在无性和有性阶段的主要生物学性状。结果表明,玉蜀黍赤霉中的nit基因及对杀菌剂多菌灵的抗药性基因可以通过有性杂交的方式重组,即发生了有性重组。有性重组体与其亲本在菌落生长、培养性状和致病性方面没有显著差异;但某些有性重组体中,产孢量和产子囊壳能力方面存在一定差异。总体看来,有性重组体仍然保持了较高的适合度。因此,可以认为有性重组在玉蜀黍赤霉群体对多菌灵抗药性发生发展以及群体遗传进化中可能起着重要的作用。
【英文摘要】In order to induce sexual recombinants of Gibberella zeae,five selected isolates were adopted as parents and crossed in three designed pairs by using nitrate non-utilizing(nit) mutants and carbendazim-resis-tance as genetic markers.Three sexual recombinants from each of the three combinations were randomly selec-ted to compare the major biological properties with their parental isolates.The results showed that the nit gene and carbendazim-resistance gene could be recombined by sexual crosses.There were no significant differences in mycelial growth,traits of culture and pathogenicity between the sexual recombinants and their parental isolates.Sporulation and perithecigerous capacities,however,changed more or less in some sexual recombinants.The fitness of the sexual recombinants was comparable to the parents in general.Therefore,it is concluded that sexual recombination may play an important role in carbendazim resistance development and genetic evolution of G.zeae populations.
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【第一作者】陈雨
【通讯作者】周明国
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【学科分类】植物保护学

【题目】禾谷镰孢菌微管相关蛋白基因(map)克隆及其与多菌灵抗药性关系分析
【中文关键词】禾谷镰孢菌; 微管相关蛋白基因(map); 多菌灵; 抗药性;
【英文关键词】Fusarium graminearum; microtubule-associated proteins gene(map); carbendazim(MBC); resistance;
【中文摘要】根据禾谷镰孢菌(Fusarium graminearum)测序菌株NRRL31084(PH-1)的微管相关蛋白基因(map)核苷酸序列设计4对引物,采用PCR方法测定了禾谷镰孢菌对多菌灵(MBC)不同敏感性表型的6个中国菌株的map全序列。DNA序列比对表明,中国的3个敏感菌株和3个抗药菌株的map核苷酸序列相似性没有差异,表明多菌灵抗药性与微管相关蛋白无关。该基因全长1 793 bp,含有6个内含子,编码199个氨基酸;与NRRL31084的map核苷酸序列相似性为99.39%,存在10个差异核苷酸,与其所编码的氨基酸序列相似性为100%
【英文摘要】The full-length nucleotide sequence of microtubule-associated proteins gene(map)from each of 6 Fusarium graminearum strains from China which had different carbendazim(MBC)sensitivity phenotypes were cloned using PCR with 4 primer pairs designed in accordance with nucleotide sequence of map from the genome-sequenced isolate,NRRL31084(PH-1).The DNA sequence comparison showed that there was no difference in the nucleotide sequence of map among 3 sensitive and 3 resistant strains from China.This result demonstrated that there was no relationship between MBC-resistance and map gene.The full-length of the gene spans 1 793 bp,including 6 introns,encoding 199 amino acids.With 99.39% homology,there were 10 nucleotide differences in map gene between PH-1 isolate and the 6 strains from China.The homology of the deduced amino acid sequence of the gene was 100% between the 6 strains and PH-1 isolate.
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【第一作者】陈长军
【通讯作者】周明国
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【学科分类】植物保护学

【题目】Establishment of a novel fin cell line from Brown marbled grouper
【中文关键词】鳍细胞;细胞的影响;病毒易感性;褐点石斑鱼
【英文关键词】brown-marbled grouper;fin cell line;cytopathic effects;viral susceptibility;Epinephelus fuscoguttatus
【中文摘要】奠定坚实基础的体外调查鱼类病毒病,病理科和细胞毒性,一个新的细胞系来自对,褐点石斑鱼,成立和病毒的敏感性评价。鳍组织,消化酶和胶原酶Ⅱ,用于原代启动24摄氏度的20%胎牛血清DMEM/F12,这是进一步补充 – 羧甲基壳寡糖,碱性成纤维细胞生长因子和胰岛素样生长因子的成纤维细胞生长在一个稳定的鳍在随后的亚文化有一个人口倍增时间为50.6小时60。模态的二倍体染色体数目为48。一对鳍细胞系(bmgf-1)已经成立,由现在的75代,通道。病毒的敏感性表明,典型的细胞病变的影响bmgf-1细胞出现感染后大菱鲆虹彩病毒(reddish-body trbiv)或淋巴囊肿病毒(淋巴囊肿病毒)。然而,大量trbiv和淋巴囊肿病毒颗粒也发现在受感染的bmgf-1细胞。所有这些表明,bmgf-1细胞具有良好的敏感性trbiv和淋巴囊肿病毒,它可以作为一个宝贵的工具,为研究细胞 – 病毒的相互作用,具有潜在的应用在鱼类病毒的传播和疫苗的发展。
【英文摘要】To lay a solid foundation of in vitro investigations of fish viral diseases, cytotechnology and cytotoxicology, a novel fin cell line from brown-marbled grouper, Epinephelus fuscoguttatus, was established and its viral susceptibility was evaluated. The fin tissues, digested with hyaluronidase and collagenase II, were used to initiate primary culture at 24 ° C by using 20% foetal bovine serum-Dulbecco's modified Eagle medium/F12 medium, which was further supplemented with carboxymethyl – chitooligosaccharide, basic fibroblast growth factor and insulin-like growth factor-I. The fibroblastic fin cells grew at a steady rate during subsequent subculture and had a population doubling time of 50.6 h at passage 60. The modal diploid chromosome number was 48. A brown-marbled grouper fin cell line (bmGF-1) has been established and subcultured to passage 75 by now. Viral susceptibilities revealed that typical cytopathic effects of bmGF-1 cells emerged after being infected by turbot reddish-body iridovirus (TRBIV) or lymphocystis disease virus (LCDV). However, a large number of TRBIV and LCDV particles were also found in infected bmGF-1 cells. All these indicate that the bmGF-1 cell line has good susceptibility to TRBIV and LCDV, which may serve as a valuable tool for studies of cell – virus interactions and have potential applications in fish virus propagation and vaccine development.
【语种】英文
【第一作者】魏云波
【通讯作者】樊廷俊
【期刊名称、卷期、页码】Aquaculture Research
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【学科分类】水产学基础学科

【题目】cDNA cloning, characterization and expression analysis of the DEAD box family genes
【中文关键词】DEAD盒;对虾;营养;pl10系
【英文关键词】DEAD-box; Fenneropenaeus chinensis;germ-line ;vasa ; PL10
【中文摘要】核糖核酸解旋酶的死盒和相关的家庭都参与了各种细胞过程,包括复制,修复,和加工。然而,功能的死盒蛋白在水产养殖物种是了解甚少在分子水平上。我们获得的基因全长序列的2基因编码的蛋白质helicase-related,fc-vasa和fc-pl10a从睾丸,中国对虾,对虾。2预测的氨基酸序列包含所有保守的图案特征的死盒家庭和几个基本重复的N -末端区域。同源性和系统发育分析表明,它们属于“ 瓦萨 ”号和pl10亚科。三维结构的蛋白质进行了预测,同源性建模方法。核心蛋白组成的串联recA样域相似的死盒解旋酶。采用逆转录聚合酶链反应(RT - PCR)和实时聚合酶链反应,我们发现,fc-vasa是表示特别是在成年性腺。转录减少,但增加的卵巢在睾丸性腺发育过程中。fc-pl10a表达是广泛分布于组织,我们审查。采用原位杂交,我们表明,fc-vasa转录是位于细胞质的精原细胞和卵母细胞。因此,我们的结果表明,fc-vasa起着重要的作用,在生殖系的发展,并已成为一种生殖细胞谱系标记将有助于产生新的见解的起源和分化的生殖细胞以及调节复制在中国对虾。
【英文摘要】RNA helicases of the DEAD-box and related families are involved in various cellular processes including DNA replication, DNA repair, and RNA processing. However, the function of DEAD-box proteins in aquaculture species is poorly understood at molecular level. We obtained the full-length cDNA sequences of two genes encoding helicase-related proteins, Fc-vasa and Fc-PL10a, from the testes of Chinese shrimp, Fenneropenaeus chinensis. The two predicted amino acid sequences contain all the conserved motifs characterized by the DEAD-box family and several RGG repeats in the N-terminal regions. Homology and phylogenetic analyses indicate that they belong to the vasa and PL10 subfamilies. The three-dimensional structures of the two proteins were predicted with a homology modeling approach. Both core proteins consist of two tandem RecA-like domains similar to those of the DEAD-box RNA helicase. Using reverse transcription-polymerase chain reaction (RT-PCR) and real-time PCR we found that Fc-

vasa was expressed specifically in the adult gonads. Transcription decreased in the ovary but increased in the testis during gonadal development. Fc-PL10a expression was widely distributed in the tissues we examined. Using in situ hybridization, we demonstrated that the Fc-vasa transcript is localized to the cytoplasm of the spermatogonia and oocytes. Thus, our results suggest that Fc-vasa plays an important role in germ-line development, and has utility as a germ cell lineage marker which will help to generate new insight into the origin and differentiation of germ cells as well as the regulation of reproduction in F. chinensis.

【语种】英文
【第一作者】周倩如
【通讯作者】张志峰
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【学科分类】水产学基础学科

【题目】Cloning, characterization and expression analysis of the DEAD box family genes
【中文关键词】DEAD盒;对虾;营养;pl10系
【英文关键词】DEAD-box; Fenneropenaeus chinensis; germ-line; vasa; PL10
【中文摘要】核糖核酸解旋酶的死盒和相关的家庭都参与了各种细胞过程,包括复制,修复,和加工。然而,功能的死盒蛋白在水产养殖物种是了解甚少在分子水平上。我们获得的基因全长序列的2基因编码的蛋白质helicase-related,fc-vasa和fc-pl10a从睾丸,中国对虾,对虾。2预测的氨基酸序列包含所有保守的图案特征的死盒家庭和几个基本重复的N -末端区域。同源性和系统发育分析表明,它们属于“ 瓦萨 ”号和pl10亚科。三维结构的蛋白质进行了预测,同源性建模方法。核心蛋白组成的串联recA样域相似的死盒解旋酶。采用逆转录聚合酶链反应(RT - PCR)和实时聚合酶链反应,我们发现,fc-vasa是表示特别是在成年性腺。转录减少,但增加的卵巢在睾丸性腺发育过程中。fc-pl10a表达是广泛分布于组织,我们审查。采用原位杂交,我们表明,fc-vasa转录是位于细胞质的精原细胞和卵母细胞。因此,我们的结果表明,fc-vasa起着重要的作用,在生殖系的发展,并已成为一种生殖细胞谱系标记将有助于产生新的见解的起源和分化的生殖细胞以及调节复制在中国对虾。
【英文摘要】RNA helicases of the DEAD-box and related families are involved in various cellular processes including DNA replication, DNA repair, and RNA processing. However, the function of DEAD-box proteins in aquaculture species is poorly understood at molecular level. We obtained the full-length cDNA sequences of two genes encoding helicase-related proteins, Fc-vasa and Fc-PL10a, from the testes of Chinese shrimp, Fenneropenaeus chinensis. The two predicted amino acid sequences contain all the conserved motifs characterized by the DEAD-box family and several RGG repeats in the N-terminal regions. Homology and phylogenetic analyses indicate that they belong to the vasa and PL10 subfamilies. The three-dimensional structures of the two proteins were predicted with a homology modeling approach. Both core proteins consist of two tandem RecA-like domains similar to those of the DEAD-box RNA helicase. Using reverse transcription-polymerase chain reaction (RT-PCR) and real-time PCR we found that Fc-vasa was expressed specifically in the adult gonads. Transcription decreased in the ovary but increased in the testis during gonadal development. Fc-PL10a expression was widely distributed in the tissues we examined. Using in situ hybridization, we demonstrated that the Fc-vasa transcript is localized to the cytoplasm of the spermatogonia and oocytes. Thus, our results suggest that Fc-vasa plays an important role in germ-line development, and has utility as a germ cell lineage marker which will help to generate new insight into the origin and differentiation of germ cells as well as the regulation of reproduction in F. chinensis.

【语种】英文
【第一作者】周倩如
【通讯作者】张志峰
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【学科分类】水产学基础学科

【题目】The manganese superoxide dismutase gene in bay scallop Argopecte irradians
【中文关键词】锰超氧化物歧化酶(酶);克隆;海湾扇贝;三维建模;qrt-pcr;基因表达;免疫反应

【英文关键词】Manganese superoxide dismutase (MnSOD); Cloning; Argopecten irradians; 3D modelling; qRT-PCR; mRNA expression; Immune response
【中文摘要】一种新型的manganesesuperoxidedismutase(歧化酶)是克隆的′bayscallopargopecten 3和5′末端快速扩增聚合酶链反应(种族)。全长基因的锰超氧化物歧化酶1207与678开放阅读框编码226个氨基酸。推导的氨基酸序列包含一个假定的信号肽26个氨基酸。序列比较表明,锰超氧化物歧化酶的扇贝共享高身份与锰超氧化物歧化酶在无脊椎动物和脊椎动物,如锰超氧化物歧化酶从鲍鱼盘鲍(abg88843)和青蛙爪蟾(aaq63483)。此外,三维结构bayscallop锰超氧化物歧化酶的预测蛋白质模型的网络服务器和比较与其他mnsods。整体结构bayscallop锰超氧化物歧化酶类似斑马鱼斑马鱼,果蝇果蝇,中国明对虾,人类智人,并有最高的相似性scallopmizuhopecten扇贝、鲍鱼H铁饼铁饼。定量实时聚合酶链反应(qrt-pcr)法是检测的mrnaexpression锰超氧化物歧化酶在不同的组织和时间表达血以下的挑战与细菌鳗弧菌。更高一级的mrnaexpression锰超氧化物歧化酶检测在鳃,地幔。表达的锰超氧化物歧化酶所达到的最高水平在3小时后注射鳗弧菌和稍微恢复从6至48小时结果表明,bayscallop锰超氧化物歧化酶是一个构和诱导蛋白,因此可以发挥重要作用的免疫反应对鳗弧菌感染。
【英文摘要】A novel manganesesuperoxidedismutase (MnSOD) was cloned from bayscallopArgopecten irradians by 3′ and 5′ rapid amplification of cDNA ends (RACE) PCR. The full-length cDNA of MnSOD was of 1207 bp with a 678 bp open reading frame encoding 226 amino acids. The deduced amino acid sequence contained a putative signal peptide of 26 amino acids. Sequence comparison showed that the MnSOD of A. irradians shared high identity with MnSOD in invertebrates and vertebrates, such as MnSOD from abalone Haliotis discus discus (ABG88843) and frog Xenopus laevis (AAQ63483). Furthermore, the 3D structure of bayscallop MnSOD was predicted by SWISS-MODEL Protein Modelling Server and compared with those of other MnSODs. The overall structure of bayscallop MnSOD was similar to those of zebrafish Danio rerio, fruit fly Drosophila melanogaster, Chinese shrimp Fenneropenaeus chinensis, human Homo sapiens, and had the highest similarity to scallopMizuhopecten yessoensis and abalone H. discus discus. A quantitative real-time PCR (qRT-PCR) assay was developed to detect the mRNAexpression of MnSOD in different tissues and the temporal expression in haemocytes following challenge with the bacterium Vibrio anguillarum. A higher-level of mRNAexpression of MnSOD was detected in gill and mantle. The expression of MnSOD reached the highest level at 3 h post-injection with V. anguillarum and then slightly recovered from 6 to 48 h. The results indicated that bayscallop MnSOD was a constitutive and inducible protein and thus could play an important role in the immune responses against V. anguillarum infection.
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【第一作者】Yongbo Bao
【通讯作者】张国范
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【学科分类】水产学基础学科

【题目】Sensitivity of Sclerotinia sclerotiorum from oilseed crops to boscalid in Jiangsu Province of China
【中文关键词】Sclerotinia stem rot
Disease management
Fungicides
Oilseed rape
Carboxamides
【英文关键词】Keywords:
Sclerotinia stem rot
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【中文摘要】Between 2006 and 2008, 120 isolates of Sclerotinia sclerotiorum from the Jiangsu Province of China werecharacterized for the baseline sensitivity to boscalid, a new active ingredient that interferes withsuccinate ubiquinone reductase in the electron transport chain of fungi. The isolates collected between2006 and 2008 all showed similar sensitivity to boscalid. Baseline sensitivities were distributed asunimodal curves with mean EC50 values of 0.17 0.09 mg ml 1 for inhibition of mycelial growth. Inhibitionof mycelial growth of isolates whether they had resistance to carbendazim or, dimethachlon ordual resistance to both carbendazim and dimethachlon was similar, suggesting that there was no crossresistancebetween boscalid and MBC/dimethachlon already in commercial

use. In field trials, thetreatments boscalid (50% WG), at 125, 187.5 and 250 g ai ha 1 provided higher control efficacies of 65.2,69.0 and 75.1%, respectively, than the treatments carbendazim (50% WP), at 750 g ai ha 1 and dimethachlon(46% WP), at 690 g ai ha 1 with control efficacies of 18.9 and 44.6%, respectively

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【语种】英文

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【学科分类】植物保护学

【题目】水稻叶绿素a氧化酶基因突变体的鉴定及其对氮营养的响应

【中文关键词】水稻 Tos17 叶绿素a氧化酶 纯合体

【英文关键词】无

【中文摘要】对从日本获得的水稻Tos17插入突变基因进行了鉴定,并通过PCR技术对其插入位点和纯合体进行了分析和筛选。结果表明, Tos17插入在序列号为DP000086的基因,在此基因反向互补序列的1 579 bp处,在mRNA序列的第5个外显子区域,是水稻的一个叶绿素a氧化酶基因,而且此基因在单一的铵营养下表达减弱,氮饥饿条件下表达增强。利用Tos17未端和插入位点上下游设计引物进行PCR反应,鉴定到3株纯合突变体株,为进一步研究其功能奠定了基础。

【英文摘要】无

【语种】中文

【第一作者】李宝珍

【通讯作者】徐国华

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【学科分类】农学其他学科

【题目】Mutations in a beta-Tubulin Confer Resistance of Gibberella zeae to Benzimidazole Fungicide

【中文关键词】gene-deletion and -complementation mutants.

【英文关键词】gene-deletion and -complementation mutants.

【中文摘要】Wheat head blight caused by Gibberella zeae (anamorph: Fusariumgraminearum) is a threat to food safety in China because of mycotoxincontamination of the harvested grain, the frequent occurrence of thedisease, and the failure of chemical control in some areas due tobenzimidazole resistance in the pathogen population. The molecularresistance mechanism, however, of G. zeae to benzimidazole fungicides(especially carbendazim; active ingredient: methyl benzimidazol-2-ylcarbamate [MBC]) is poorly understood. DNA sequences of a β-tubulingene (β2tub) (GenBank access number FG06611.1) in G. zeae wereanalyzed. Mutations in β2tub in moderately resistant strains (MBCMR)included TTT (Phe)→TAT (Tyr) at codon 167 or TTC (Phe)→TAC (Tyr)at codon 200. A highly resistant strain (MBCHR) had two point mutations,one at codon 73, CAG (Gln)→CGG (Arg), and the other at codon 198,GAG (Glu)→CTG (Leu). To confirm that mutations in the β2tub conferresistance to benzimidazole fungicides, the entire β2Tub locus was deletedfrom MBCMR and MBCHR strains of G. zeae. The resulting Δ β2tubmutants from both MBCMR and

MBCHR strains grew normally on MBCfreepotato dextrose agar medium and were supersensitive to MBC. Complementationof the Δβ2tub mutants by transformation with a copy of theintact β2Tub locus from their parent strains exhibited less resistance thanthe original strains, and complementation of the Δβ2tub mutants bytransformation with a copy of the intact β2Tub locus from sensitive strainsrestored MBC sensitivity. The results indicated that the mutations in the β2tub gene conferred resistance of G. zeae to benzimida

【英文摘要】Wheat head blight caused by Gibberella zeae (anamorph: Fusariumgraminearum) is a threat to food safety in China because of mycotoxincontamination of the harvested grain, the frequent occurrence of thedisease, and the failure of chemical control in some areas due tobenzimidazole resistance in the pathogen population. The molecularresistance mechanism, however, of G. zeae to benzimidazole fungicides(especially carbendazim; active ingredient: methyl benzimidazol-2-ylcarbamate [MBC]) is poorly understood. DNA sequences of a β-tubulingene (β2tub) (GenBank access number FG06611.1) in G. zeae wereanalyzed. Mutations in β2tub in moderately resistant strains (MBCMR)included TTT (Phe)→TAT (Tyr) at codon 167 or TTC (Phe)→TAC (Tyr)at codon 200. A highly resistant strain (MBCHR) had two point mutations,one at codon 73, CAG (Gln)→CGG (Arg), and the other at codon 198,GAG (Glu)→CTG (Leu). To confirm that mutations in the β2tub conferresistance to benzimidazole fungicides, the entire β2Tub locus was deletedfrom MBCMR and MBCHR strains of G. zeae. The resulting Δβ2tubmutants from both MBCMR and MBCHR strains grew normally on MBCfreepotato dextrose agar medium and were supersensitive to MBC. Complementationof the Δβ2tub mutants by transformation with a copy of theintact β2Tub locus from their parent strains exhibited less resistance thanthe original strains, and complementation of the Δβ2tub mutants bytransformation with a copy of the intact β2Tub locus from sensitive strainsrestored MBC sensitivity. The results indicated that the mutations in the β2tub gene conferred resistance of G. zeae to benzimida

【语种】英文
【第一作者】陈长军
【通讯作者】陈长军
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【学科分类】植物保护学

【题目】Establishment of a spleen cell line from large yellow croaker Pseudosciaena crocea and its primitive application in foreign gene

【中文关键词】大黄鱼脾脏细胞,细胞系,转基因易感性,绿色荧光蛋白,大黄鱼
【英文关键词】large yellow croaker spleen cells; cell line; transgenic feasibility; green fluorescence protein (GFP); Pseudosciaena crocea

【中文摘要】本文建立了大黄鱼脾(LYCS)细胞系并评估了用该细胞系进行外源基因转染的可行性。LYCS细胞的原代培养用脾组织块,用DMEM/F12培养液(DMEM/F12,1∶1)(ph7.2)在25℃培养,添加20%胎牛血清,羧甲基壳聚糖,硫酸软骨素,碱性成纤维细胞生长因子(bFGF)和胰岛素样生长因子(IGF - I)。培养的LYCS细胞为成纤维细胞形态,20天后长满培养瓶底部。染色体分析表明,LYCS细胞表现出染色体非整倍体,特征性染色体数目为48,表现出正常的大黄鱼二倍体核型(6m + 6sm +36t,NF= 60)。LYCS细胞系第60代细胞的群体倍增时间48.7小时,表明已经建立了LYCS细胞系并传至70代。转基因的可行性试验表明,LYCS 细胞在pcDNA3.1-GFP质粒转染后能够观察到阳性绿色荧光蛋白的表达。总之,具有外源基因转染易感性的LYCS连续细胞系已经建立成功。该细胞系可以作为研究转基因育种的评价工具,并且有可能应用于各种不同的细胞技术研究

【英文摘要】A large yellow croaker, Pseudosciaena crocea, spleen (LYCS) cell line was established and the feasibility of using it for foreign gene transfection was evaluaed in this study. Primary culture of LYCS cells was initiated from spleen tissue pieces, which were cultured at 25°C in Dulbecco ’s modiced Eagle medium/F12 medium (DMEM/F12, 1:1) (pH7.2), supplemented with 20% fetal bovine serum, carboxymethyl chitosan, chondroitin sulfate, basic fibroblast growth factor (bFGF) and insulin-like growth factor-I (IGF-I). The cultured LYCS cells, in fibroblast shape, proliferated to 100% confluency 20 days later. Chromosome analyses indicated that the LYCS cells exhibited chromosomal aneuploidy with a modal chromosome number of 48 which displayed the normal diploid karyotype of P. crocea (6m+6sm+36t, NF=60). A LYCS cell line, with a population doubling time of 48.7 h at passage 60, has been established and subcultured to passage 70. Transgenic feasibility test demonstrated that positive green fluorescence protein (GFP) expression was observed in LYCS cells after pcDNA3.1-GFP plasmid transfection. In conclusion, a continuous foreign gene transfection feasible LYCS cell line has been established successfully. The cell line might serve as a valuable tool for studies of transgenic breeding and has potential applications for different kinds of cytotechnological studies.

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【题目】漠斑牙鲆胚胎细胞系的建立与鉴定
【中文关键词】胚胎细胞系;漠斑牙鲆;核型; GFP 报告基因
【英文关键词】embryonic cell line ;southern flounder ; Paralichthys lethostigma ;karyotype ;reporter gene
【中文摘要】漠斑牙鲆(Paralichthys lethostigma) 是中国近年新开发的重要海水养殖鱼类,本研究以漠斑牙鲆囊胚期胚胎为材 料,探索了鱼类胚胎细胞分离和培养的条件,建立了漠斑牙鲆胚胎细胞培养技术。建立的漠斑牙鲆胚胎细胞系(SFEC) 至今已经培养了240 多天,传至80 多代。SFEC 的完全培养基采用添加抗生素、胎牛血清(FBS) 、花鲈血清(SPS) 、成纤 维生长因子(bFGF) 的DMEM。SFEC 形态小而呈圆形、多边形,在培养基中生长迅速。本实验检测了温度、胎牛血清浓 度、成纤维生长因子对SFEC 生长的影响。在24~30 ℃之间SFEC 生长良好,但当温度低于18 ℃时细胞生长速度明显 减慢。在含15 % FBS 的培养基中,SFEC 生长速度明显比在含715 % FBS 的培养基中快,在培养基中添加bFGF 可以使 细胞生长速度显著提高。SFEC 的二倍体核型为2n = 6st + 42t 。将GFP 报告基因通过脂质体介导的方法转入SFEC 中 并成功地获得了表达,转化率为20 %
【英文摘要】A continuous cell line ,SFEC (southern flounder embryonic cell line) ,was established f rom embryos at gast rula stage of a marine cultured fish ,southern flounder (Paralichthys lethostigma) and was cultured for more than 240 d with more than 80 generation. The SFEC cells were cultured in DMEM medium supplemented with antibiotics ,fetal bovine serum (FBS) , sea perch serum (SPS) ,basic fibroblast growth factor (bFGF) . The cells were small and round in shape and grew actively and stably in medium. Effect s of temperature ,FBS and bFGF concent ration on the growth of SFEC cells were evaluated. The cells grew well in the temperature range of 24 - 30 ℃, but had a reduced growth rate at temperature below 18 ℃. The growth of SFEC cells in medium containing 15 % FBS was higher than that in medium containing 715 % FBS. Addition of bFGF to the medium significantly increased growth rate of SFEC cells. Chromosome anal ysis revealed that SFEC cells have a normal diploid karyotype with 2n = 6st + 42t . GFP reporter gene was successfully t ransferred into SFEC cells and expressed
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【题目】High-throughput detection of highly benzimidazole-resistant allele E198A with mismatch primers in allele-specific real-time polymerase chain reaction
【中文关键词】allele-specific quantitative real-time PCR; mismatch primers; genotyping; carbendazim-resistance; Sclerotinia sclerotiorum
【英文关键词】allele-specific quantitative real-time PCR; mismatch primers; genotyping; carbendazim-resistance; Sclerotinia sclerotiorum
【中文摘要】BACKGROUND: A point mutation often confers resistance of organisms against medical drugs and agricultural pesticides.Allele-specific nucleotide polymerase chain reaction (ASPCR) and allele-specific quantitative real-time PCR using SYBR Green(ASQPCR) arewidely and effectively applied to detect and monitor this type of resistance. However, the former is unsuitable forhigh-throughput detection, and the latter often reduces the accuracy of detection.RESULTS: In order to decrease background amplification, a rapid and high-throughput genotyping method with mismatchprimers was developed (ASQPCR-MP) and applied specifically to survey the frequency of the highly benzimidazole-resistantMBCHR mutation (E198A) in the β-tubulin gene of

Sclerotinia sclerotiorum (Lib.) de Bary populations. Genomic DNA from 223sclerotiawas analysed. Similar genotype results were also obtained using ASPCR with mismatch primers and amycelial growthinhibition assay. It was found that ASQPCR-MP clearly differentiated MBCHR and benzimidazole-sensitive MBCS phenotypes.Moreover, ASQPCR-MP took less than 6 h to complete.CONCLUSION: ASQPCR-MP appears suitable for large epidemiological studies involving resistant genotypes and requiringhigh-throughout formats.

【英文摘要】BACKGROUND: A point mutation often confers resistance of organisms against medical drugs and agricultural pesticides.Allele-specific nucleotide polymerase chain reaction (ASPCR) and allele-specific quantitative real-time PCR using SYBR Green(ASQPCR) arewidely and effectively applied to detect and monitor this type of resistance. However, the former is unsuitable forhigh-throughput detection, and the latter often reduces the accuracy of detection.RESULTS: In order to decrease background amplification, a rapid and high-throughput genotyping method with mismatchprimers was developed (ASQPCR-MP) and applied specifically to survey the frequency of the highly benzimidazole-resistantMBCHR mutation (E198A) in the β-tubulin gene of Sclerotinia sclerotiorum (Lib.) de Bary populations. Genomic DNA from 223sclerotiawas analysed. Similar genotype results were also obtained using ASPCR with mismatch primers and amycelial growthinhibition assay. It was found that ASQPCR-MP clearly differentiated MBCHR and benzimidazole-sensitive MBCS phenotypes.Moreover, ASQPCR-MP took less than 6 h to complete.CONCLUSION: ASQPCR-MP appears suitable for large epidemiological studies involving resistant genotypes and requiringhigh-throughout formats.

【语种】中文

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【题目】Monogenic resistance to a new fungicide, JS399-19, in Gibberella zeae

【中文关键词】cyanoacrylate fungicide,
Fusarium graminearum
,
Triticum aestivum
, wheat head blight
【英文关键词】cyanoacrylate fungicide,
Fusarium graminearum
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Triticum aestivum
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【中文摘要】The fungicide JS399-19 is a novel cyanoacrylate fungicide active againstGibberella zeae, and has been marketed in Chinafor control of fusarium head blight (FHB) on wheat. Forty-three isolates sensitive to fungicide JS399-19 were collectedfrom three commercial wheat fields in China. Forty-five isolates resistant to JS399-19, obtained from five sensitiveisolates by selection for resistance to JS399-19, were selected. Three sensitivity levels were identified: sensitive (S),moderately resistant (MR) and highly resistant (HR) to JS399-19, based on a previous study. Eight isolates representingthe three sensitivity-level phenotypes were randomly selected for a study on the inheritance of JS399-19 resistance byanalysing the sensitivity of hybrid F1progeny. A nitrate-non-utilizing mutant (nit) was used as a genetic marker toconfirm that individual perithecia were the result of outcrossing. Five crosses were assessed: S×S, S×HR, MR×HR,HR×HR and MR×S. In crosses between parents with different sensitivity levels, such as S×HR, MR×HR andMR×S, the progeny fitted a 1:1 segregation ratio of the two parental phenotypes. No segregation was observed in thecrosses S×S and HR×HR. It was concluded that the MR and HR phenotypes inG. zeaewere conferred by differentallelic mutations within the same locus. In these isolates, resistance to JS399-19 was not affected by modifying genes orcytoplasmic components.

【英文摘要】The fungicide JS399-19 is a novel cyanoacrylate fungicide active againstGibberella zeae, and has been marketed in Chinafor control of fusarium head blight (FHB) on wheat. Forty-three isolates sensitive to fungicide JS399-19 were collectedfrom three commercial wheat fields in China. Forty-five isolates resistant to JS399-19, obtained from five sensitiveisolates by selection for resistance to JS399-19, were selected. Three sensitivity levels were identified: sensitive (S),moderately resistant (MR) and highly resistant (HR) to

JS399-19, based on a previous study. Eight isolates representingthe three sensitivity-level phenotypes were randomly selected for a study on the inheritance of JS399-19 resistance byanalysing the sensitivity of hybrid F1progeny. A nitrate-non-utilizing mutant (nit) was used as a genetic marker toconfirm that individual perithecia were the result of outcrossing. Five crosses were assessed: S×S, S×HR, MR×HR,HR×HR and MR×S. In crosses between parents with different sensitivity levels, such as S×HR, MR×HR andMR×S, the progeny fitted a 1:1 segregation ratio of the two parental phenotypes. No segregation was observed in thecrosses S×S and HR×HR. It was concluded that the MR and HR phenotypes inG. zeaewere conferred by differentallelic mutations within the same locus. In these isolates, resistance to JS399-19 was not affected by modifying genes orcytoplasmic components.

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【题目】Effect of Carbendazim Resistance on Trichothecene Production and Aggressiveness of Fusarium graminearum.
【中文关键词】Effect ;Carbendazim Resistance
; Trichothecene Production and Aggressiveness
;Fusarium graminearum
【英文关键词】Effect ;Carbendazim Resistance
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【中文摘要】Fusarium graminearum (teleomorph, Gibberella zeae)causes head blight of cereals and contaminates grains withtrichothecene mycotoxins that are harmful to humans anddomesticated animals. Control of Fusarium head blightrelies on carbendazim (MBC) in China, but resistance toMBC in F. graminearum is now widespread. Sixty-sevenstrains were evaluated for trichothecene production inshake culture or in the field. The strains included 60 wildtypestrains (30 MBC-resistant and 30 MBC-sensitive),three MBC-resistant site-directed mutants at codon 167 in β 2-tubulin, three MBC-sensitive site-directed mutants atcodon 240 in β 2-tubulin, and their MBC-sensitive wild-typeprogenitor strain ZF21. The incidence of infected spikeletsand the amount of F. graminearum DNA in field grain(AFgDNA) also were evaluated for all strains. MBC resistanceincreased trichothecene production in shake cultureor in the field. Although MBC resistance did not changethe incidence of infected spikelets, it did increase AFgDNA.Tri5 gene expression increased in MBC-resistant strainsgrown in shake culture. We found a significant exponentialrelationship between trichothecene production and Tri5gene expression in shake culture and a linear relationshipbetween the incidence of infected spikelets or AFgDNAand trichothecene production in field grain.
【英文摘要】Fusarium graminearum (teleomorph, Gibberella zeae)causes head blight of cereals and contaminates grains withtrichothecene mycotoxins that are harmful to humans anddomesticated animals. Control of Fusarium head blightrelies on carbendazim (MBC) in China, but resistance toMBC in F. graminearum is now widespread. Sixty-sevenstrains were evaluated for trichothecene production inshake culture or in the field. The strains included 60 wildtypestrains (30 MBC-resistant and 30 MBC-sensitive),three MBC-resistant site-directed mutants at codon 167 in β 2-tubulin, three MBC-sensitive site-directed mutants atcodon 240 in β 2-tubulin, and their MBC-sensitive wild-typeprogenitor strain ZF21. The incidence of infected spikeletsand the amount of F. graminearum DNA in field grain(AFgDNA) also were evaluated for all strains. MBC resistanceincreased trichothecene production in shake cultureor in the field. Although MBC resistance did not changethe incidence of infected spikelets, it did increase AFgDNA.Tri5 gene expression increased in MBC-resistant strainsgrown in shake culture. We found a significant exponentialrelationship between trichothecene production and Tri5gene expression in shake culture and a linear relationshipbetween the incidence of infected spikelets or AFgDNAand trichothecene production in field grain.
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【题目】大菱鲆红体病虹彩病毒体外增殖条件的研究
【中文关键词】大菱鲆红体病虹彩病毒(TRBIV) ; 细胞病变效应(CPE) ; 牙鲆鳃细胞; 增殖
【英文关键词】turbot reddish body iridovirus (TRBIV) ; cytopathic effect (CPE) ; flounder gill (FG) cells ; propagation
【中文摘要】探讨大菱鲆病毒疫苗的研制,以牙鲆鳃细胞(FG细胞) 为增殖体系,利用细胞病变效应(CPE) 为判断指标,对大菱鲆红体病虹彩病毒(Turbot reddish body iridovirus , TRBIV) 的体外最适增殖条件等进行了研究。结果表明,病毒接种量、病毒吸附时间、细胞培养条件对TRBIV 的体外增殖均有明显的影响,以0. 2 mL 病毒液接种FG细胞、吸附2 h、用含10 %胎牛血清的MEM 培养液于22 ℃培养时,病毒的增殖速度最快。研究还发现,病毒的收获时间和病毒液冻融次数对所得病毒的感染力均有显著影响,在最佳增殖条件下,病毒在FG细胞中增殖至第4 天时进行收获,且只冻融1 次,其感染活性最强,反复冻融后病毒的感染活性会显著降低。
【英文摘要】By using the cytopathic effect (CPE) as a criterion index , the optimal propagation condition of Turbot reddish body iridovirus (TRBIV) in culturing flounder gill (FG) cells was studied in this study. The result s show that the amount of inoculated virus , adsorption time of virus and FG cell culture condition all had great effect s on the i n vit ro propagation of TRBIV. And TRBIV propagated very fast when 0. 2 mL virus solu2 tion was inoculated , adsorpted for 2 h , and virus inoculated FG cells were cultured in 10 % bovine calf serum supplemented MEM medium at 22 ℃. It was found that the harvest time of propagated viruses and the times of f reeze2thaw of the harvested virus solution had enormous effect s on the infective ability of TRBIV. It was also found that the propagated TRBIV had the highest infective ability when they were harvested 4 days after inocu2 lation and f reeze2thawed only once. The determination of the optimal propagation condition of TRBIV will lay a solid foundation for exploiture of turbot virus vaccine.
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【题目】大菱鲆鳍细胞系的建立
【中文关键词】大菱鲆; 鳍细胞; 原代培养; 传代培养; 细胞系
【英文关键词】turbot ; fin cells ; primary culture ; subculture ; cell line
【中文摘要】建立大菱鲆(Scophthalus maximus) 鳍细胞系,文中采用胰蛋白酶、透明质酸酶和Ⅱ型胶原酶消化法启动大菱鲆鳍组织的原 代培养,并通过培养液配方和培养条件的优化成功进行大菱鲆鳍细胞的继代培养。研究结果显示,在pH = 7. 0~7. 4 、温度20~24 ℃ 的培养条件下,培养于含有表皮细胞生长因子、碱性成纤维细胞生长因子、羧甲基壳多糖、N2乙酰葡萄糖盐酸盐的Leibovitz215 培养液 (20 %胎牛血清) 中的大菱鲆鳍细胞,其生长分裂状况最好,细胞形态为成纤维细胞样。经继代培养后,细胞生长分裂依然十分旺盛, 第60 代大菱鲆鳍细胞系的群体倍增时间为62. 4 h ,虽然出现了染色体的非整倍性,但其特征性染色体仍为44 条。该细胞系细胞经 液氮冻存后仍保持有原有形态和较高存活率。现已成功建立了连续性大菱鲆鳍细胞系,目前已传至第65 代。该细胞系的建立对于 查清病毒对大菱鲆细胞的感染途径与感染机理等具有重要的理论意义,对于病毒疫苗研制具有重要应用价值。
【英文摘要】turbot reddish body iridovirus (TRBIV) ; cytopathic effect (CPE) ; flounder gill (FG) cells ; propagation To establish a cell line of turbot Scophthal us maximus , primary culture of turbot fin cells was ini2 tiated by t rypsin , hyaluronidase and type II callagenase digestion methods , and the cells were successfully sub2 cultured after optimization of the culture medium and culture conditions. The result s showed that the optimal culture medium for turbot fin cells was Leibovitz215 medium supplemented with 20 %fetal bovine serum , basic fibroblast growth factor (bFGF) , epidermal growth factor (EGF) , N2Acetyl2D2glucosamine , and car2 boxymethyl2chitosan. And the optimal culture conditions for turbot fin cells were 20224 ℃and pH = 7. 027. 4. The turbot fin cells were in fibroblast2like shape and grew actively under the optimal medium and culture condi2 tions. The population2doubling time of the cell line established is 62. 4 hours at passage 60. And chromosome analysis showed that the cells exhibited chromosomal aneuploidy with a modal chromosome number of 44. The cells maintained their original shape and high viability after cryopreserved and

resuscitated. A continuous turbot fin cell line has been established which has been subcultured to passage 65. The established turbot fin cell line will provide an ideal research system for studying the pathways and mechanisms of infective viruses , and will lay solid foundations for viral vaccine development .
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【题目】褐点石斑鱼三种组织细胞系的建立
【中文关键词】褐点石斑鱼; 鳍细胞; 心脏细胞; 鳔细胞; 细胞系
【英文关键词】Ep inep helus f uscogut tatus ; f in cells; heart cells; sw im bladder cells; cell line
【中文摘要】为建立褐点石斑鱼鳍、心脏和鳔组织细胞系, 本文利用不同培养液和培养温度对褐点石斑鱼鳍、心脏和鳔组织 细胞进行了原代培养和传代培养。实验结果显示, 在24 培养于含有羧甲基壳寡糖、碱性成纤维样生长因子、I 型胰岛素 样生长因子及20%胎牛血清的DMEM/ F12 培养液(pH= 7. 2) 中的3 种细胞, 均为成纤维样细胞, 其生长分裂状态最佳, 可 以持续稳定传代。第60 代褐点石斑鱼鳍、心脏和鳔细胞的群体倍增时间分别为50. 6 h、40. 3 h 和43. 3 h, 其特征性染色体 数目均为48 条。目前鳍、心脏和鳔细胞已分别传至第90 代、第70 代和第75 代, 已成功建立了3 种细胞的连续性细胞系, 为鱼类病毒与宿主细胞相互作用机制等鱼类病毒学基础研究, 以及鱼类病毒的分离、鉴定、繁殖及病毒疫苗研制等奠定了 基础。
【英文摘要】To establish novel cell lines from brow n marbled g rouper, Epinep helus f uscogut tatus , primary cultures of f in, heart and sw im bladder t issues w ere init iated in this study. These cells w ere successfully culturedat 24 by using 20% FBS DMEM/ F12 medium (pH = 7. 2) , which w as further supplemented w ith carbox ymethy l chitooligosaccharide, basic f ibroblast g row th factor and insulin like growth factor I. The fin, heart and sw im bladder cells all show ed fibroblast ic morphology. These cells grew at a steady rate during subsequent subculture with populat ion doubling t imes of 50. 6 h, 40. 3 h and 43. 3 h at passage 60, respect ively. Chromo some analyses show that these cells exhibited chromosomal aneuploidy, but st ill had a modal chromosome num ber of 48. To date, three novel brow n marbled grouper cell lines have been established and subcultured to morethan 70 passages. These continuous cell lines may serve as valuable tools for studies of cell virus interact ions and have potential applications in f ish virus isolat ion, propagat ion and vaccine development.
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【学科分类】水产学基础学科

【题目】对虾细胞培养现状与对策
【中文关键词】对虾;细胞系; 细胞培养
【英文关键词】shrimp; cell line; biocytoculture
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【学科分类】水产学基础学科

【题目】条斑星鲽连续性鳍细胞系的建立与鉴定
【中文关键词】条斑星鲽; 鳍细胞; 原代培养; 继代培养; 细胞系
【英文关键词】barf in f lounder; f in ce lls; pr im ary cu lture; subcu lture; ce ll line
【中文摘要】为了建立条斑星鲽鳍细胞系, 为其细胞工程及病毒学研究奠定基础, 对经 型胶原酶和透明质酸酶联合消化法所得鳍组织碎块分别用DM EM /F12、L 15和M 199培养液(pH 7. 2) 在18~ 26 进行了鳍组织的体外培养, 并在所筛选出的最适培养液和培养温度下通过添加羧甲基壳寡糖、碱性成纤维样生长因子(bFGF)和I型胰岛素样生长因子(IGF I)启动了鳍细胞的原代培养。体外培养结果显示, 条斑星鲽鳍细胞的最适培养液为DMEM /F12培养液, 最适培养温度为22 , 原代培养鳍细胞的生长分裂状态旺盛, 细胞形态主要为成纤维样, 20 d后便可形成汇合细胞单层, 经过连续的继代培养已建立了条斑星鲽的连续性鳍细胞系, 目前已传至第135代; 生长特性检测结果显示, 第60代鳍细胞系细胞的群体倍增时间为56. 9 h, 其生长分裂状态依然十分旺盛; 染色体分析结果显示, 第60代鳍细胞系细胞虽然出现了染色体的非整倍性, 但其特征性染色体数目仍为46条, 并具有2 sm + 44 t的正常二倍体核型, 证明所建立的细胞系确为条斑星鲽连续性鳍细胞系。该细胞系为条斑星鲽的细胞工程育种和病毒-细胞相互作用提供了一个理想的体外研究体系, 具有重要的理论意义和应用价值。
【英文摘要】To estab lish a barf in f lo under f in cell line and lay a so lid fo unda tion fo r v ira l and cy to techno log ica l studies, the f in tissues, d ig ested w ith hy aluron idase and co llagena se II, w ere cu ltured in 20% feta l bo v ine se rum (FB S) conta in ing DM EM /F12 (1!1), M 199 and L eibo v itz L 15 m ed ium (pH7. 2), supplem ented w ith 20% fe ta l bov ine serum, carbox ym ethy l ch ito san, ba sic fibrob la st g row th fac to r (bFGF) and insulin like g row th facto r I (IGF I), a t 18~ 26 ,respec tive ly. The results o f in v itro cu lture show ed that the optim um m ed ium o f the fin ce llsw as DM EM /F12 m ed ium(pH 7. 2) w ith the abo ve supp lem ents, and the o ptim um tem perature o f them w a s about 22 . B y utilizing 20% FB S DM EM /F12 m ed ium w ith the abov e supp lem en ts, the pr im ary culture o f the fin ce llsw as in itiated a t 22 . A nd the f ince lls, in f ibro blasticm o rpho lo gy, g rew rapid ly, and fo rm ed a conf luen tm ono lay er 20 d after culture in itiation. By successive subcu lture, a barfin flounde r fin ce ll line w as suce ssfully established, and sub cultured to passag e 135 till now. G row th property analy sis show ed tha t the fin ce lls o f the ce ll line a t pa ssage 60 had a popula tion do ubling tim e o f 56. 9h, w h ich ind icated that the ce lls had activ e pro life ra ting ab ilitie s. C hrom o som e ana ly sis show ed that the ce lls exh ib ited chrom o som a l aneup lo idy but still had am odal chrom o som e num ber o f 46 w h ich had a norm a l diplo id karyo type o f 1 pa iro f subm etacen tric and 22 pa irs o f te lo cen tric chrom o som es. A ll the se indicate that a nov el co ntinuous barf in flounder f in ce ll line w as sucessfu lly estab lished in th is study, w h ich as an ideal in v itro research ing sy stem, w ill be o f g reat theore tica l and practica l sig nif icance fo r cy to techno lo g ica l breeding and ce ll v irus interactio n stud ie s o f barfin flounder.
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【学科分类】水产学基础学科

【题目】大黄鱼鳍细胞系的建立及久效磷对其毒性作用的研究
【中文关键词】大黄鱼; 鳍细胞; 细胞系; 久效磷; 毒性作用
【英文关键词】lar ge yellow cr oaker; fin cells; cell line; monocrotophos; cyto to xic effect
【中文摘要】为了建立大黄鱼(Pseudosciaena crocea) 鳍细胞系, 为其细胞毒理学、病毒学与细胞工程等研究奠定基础, 本文采用酶消化法使用含有20%胎牛血清(FBS) 的DMEM/ F12、Leibo vitz L 15 和DM EM 培养液(pH 7. 2) 在22~ 28 分别启动了大黄鱼鳍组织的体外培养, 通过添加促细胞贴壁和分裂的物质在最适培养条件下对大黄鱼鳍细胞进行了原代培养和继代培养, 并研究了久效磷对大黄鱼细胞系鳍细胞的毒性作用。体外培养结果显示, 大黄鱼鳍细胞的最适培养液为20%FBS DM EM/ F12, 最适培养温度为25 , 体外培养鳍细胞的形态主要为成纤维细胞样, 22 d 后便可形成汇合细胞

单层, 经过连续继代培养成功建立了大黄鱼的连续性鳍细胞系, 目前已传至第112 代; 对第60 代大黄鱼鳍细胞系细胞的鉴定结果显示, 其群体倍增时间为50. 96 h, 分裂状态十分旺盛, 虽然出现了染色体的非整倍性, 但其特征性染色体数目仍为48 条,并具有正常的6m+ 6sm+ 36t 二倍体核型, 证明所建立的细胞系确为大黄鱼鳍细胞系。不同浓度久效磷处理的检测结果显示, 大黄鱼鳍细胞对久效磷敏感, 20~ 160 g/ mL 久效磷可引起鳍细胞乙酰胆碱酯酶活性的持续性显著降低, 引起超氧化物歧化酶和谷胱甘肽 S 转移酶活性的显著升高并随着浓度的升高而逐渐降低, 久效磷对该细胞系细胞的48 h 半抑制浓度(IC50) 为43. 05 g / mL, 证实久效磷对大黄鱼鳍细胞具有显著的毒性作用

【英文摘要】For laying a solid foundat ion fo r cellular tox icolog y, v ir olog y and cell eng ineering studies, this ar ticle is about establishment and ident ification o f large y ellow croaker fin cell line and study of cytotox ic ef fects o f monocrotopho s to the f in cells. T he fin t issues, digested w ith hyaluro nidase and co llag enase II, were cultured in three kinds o f media (pH7. 2) at different temperatures supplemented w ith 20% fetal bov ine serum, carbox ymethyl chito oligosaccharide, cho ndroit insulfate, basic f ibro blast g row th factor and insulin like gr ow th factor I to init iate the primary culture and subculture. T he cultur e in vit ro show ed that the opt imum medium and temperature w ere Dulbecco % s modified Eag le medium/ F12 medium(DMEM/ F12) and 25 respect iv ely , and the fibroblast ic f in cells grew steadily and fo rmed mo no lay er 22 days later. T he large y el low croaker fin cell line has been sucessfully established and subcultur ed to passage 112 now . The f in cells at passage 60 had a populat ion doubling t ime o f 50. 96 h, indicating that the cells still proliferated act ively. Karyo ty pe analysis show ed that the cells exhibited chr omosomal aneuploidy but had a modal diploid chr omosome number of 48 w ith 3 pairs of metacent rics, 3 pairs of submeta cent rics and 18 pairs of telocent rics. In the monocrotopho s t reated cells f rom 20 to 160 g / mL, result s show ed that the act ivit ies o f acetylcho linesterase (AChE) reduced sustaining ly and significant ly, the act ivit ies o f superox ide dismutase (SOD) and g lutathione S t ransferase (GST) increased sig nif icant ly but later reduced alo ng w ith increased concent rat io n of monocrotophos and the 48 h IC50 v alues of monocr otophos to yellow croaker f in cel ls w er e 43. 05 g / mL. Result s show ed that monocrotopho s have significant ly cytotox ic effect to lar ge y ellow cr oaker fin cel ls. The established cont inuous large yellow cr oaker fin cell line has theoret ical significance and pract ical v alue for lay ing a fo undat ion to detect the org anophospho rus pest icide and set ing up a rapid ef fect ive bioassay system, and studing of cellular tox icolog y, virolo gy and cell engineering as an ideal in vit ro research system.

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【学科分类】水产学基础学科

【题目】圆斑星鲽连续性鳃细胞系的建立

【中文关键词】圆斑星鲽; 鳃; 原代培养; 继代培养; 细胞系

【英文关键词】Spo tted halibut (Ver asp er var i egatus) ; g ill; primary culture; subculture; cell line

【中文摘要】为建立圆斑星鲽(Ver asp er v ar iegatus) 鳃细胞系, 本文采用胰蛋白酶消化法启动了圆斑星鲽鳃组织的体外培养, 并通过对培养液配方和培养条件的优化成功地进行了圆斑星鲽鳃细胞的原代培养和继代培养。结果显示, 圆斑星鲽鳃细胞的最适培养液为含有20% 胎牛血清(FBS) 的DMEM/ F12 培养液, 培养液最适pH 值为7. 2, 最适培养温度为22 ; 通过向20% FBSDMEM/ F12 培养液(pH = 7. 2) 中添加N 乙酰葡萄糖盐酸盐、羧甲基壳寡糖、碱性成纤维细胞生长因子(bFGF) 及I 型胰岛素样生长因子(IGFI) , 在22 成功启动了圆斑星鲽鳃细胞的原代培养, 细胞的贴壁、生长和分裂状态良好, 为典型的成纤维样细胞形态, 30 d 即可形成汇合的细胞单层; 经连续继代培养后, 已成功建立了连续性圆斑星鲽鳃细胞系, 现已继代培养至第76 代; 该细胞系细胞经液氮冻存复苏后仍保持其原有的成纤维样细胞形态, 其贴壁生长状态和增殖速度也与冻存前无差异; 生长特性鉴定结果显示, 第60 代圆斑星鲽鳃细胞系细胞的群体倍增时间为43. 6 h,表明细胞的生长分裂依然十分旺盛。染色体分析结果显示, 圆斑星鲽鳃细胞系细胞虽然出现了染色体的非整倍性, 但其特征性染色体数目仍为46 条, 并具有其典型的二倍体核型特征(46 t) , 表明所建立的细胞系确为圆斑星鲽鳃细胞系。该细胞系的建立对于病毒与宿主相互作用机理的研究及病毒疫苗的开发具有重要的理论和应用价值。

【英文摘要】To establish a novel cell line f rom spot ted halibut , Ver asp er var i egatus, primar y culture ofspot ted halibut g ill t issue w as init iated w ith metho ds of t rypsin digest ion, and the cells w ere successfully subcultured thro ug h optimizing the medium formulat ion and culture condit ions. T he gill cel ls grew w ellat 22 in DMEM/ F12 medium (pH7. 2) w hich contained 20% fetal bovine serum (FBS) , NAcetylDg lucosamine, carbo xymethy lchitoolig osaccharide, basic f ibroblast grow th factor (bFGF) and insulinlike g row th facto rI (IGFI) . The cells show ed f ibro blastic shape, g rew r apidly and formed a co nf luent monolayer after 30

days o f cultivat ion. The gill cel ls could be subcultured subsequent ly and maintained their original gr ow th rate af ter cr yopreservat io n and resuscitat ion. The populat io n doubling t ime of the cel l line w as 43. 6 hours at passage 60. Chromo some analysis show ed that some cells w ere chromo somal aneuploidybut most of them had a modal chromosome number o f 46, w hich had a normal diploid kar yotype of 23pairs o f telo cent ric chromosomes at passage 60. A co nt inuous spot ted halibut g ill cell line has been established w hich is being subcultured to passage 76 now . T he establishment of this cell line w ill make greatcont ribut ion to the study of mechanisms of cellv ir us interact ions and the development of viral vaccine forf ish viral disease cont rol.

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【题目】海水双壳类减数分裂器的一种免疫荧光显微观察方法
【中文关键词】海水双壳类; 减数分裂器; 免疫荧光; 显微观察术
【英文关键词】marine bivalves ;meiotic apparatus ;immunofluorescence ;microscopy
【中文摘要】为定性并定量研究海水双壳类受精过程中纺锤体和染色体的动态,改进了一种免疫荧光显微观察方法,包括样品的预处理、荧光染色和荧光显微观察。本方法适用于同步观测海水双壳类的纺锤体和染色体,具有操作简捷、清晰度高的优点。
【英文摘要】An immunofluorescent method was developed to be adopted for observation of meiotic apparatus , which comprises chromosomes and the meiotic spindle , of fertilized eggs f rom marine bivalves. This method involves the pre2t reatment of sam2 ples , fluorescent staining , and observation under fluorescence microscope. It is proved that this method is adequate for simulta2 neous observation of spindles and chromosomes in eggs with merit s of simplicity in preparation and high definition of image of interest .
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【学科分类】水产学基础学科

【题目】杂交三倍体太平洋牡蛎群体的染色体数目组成观察
【中文关键词】太平洋牡蛎; 三倍体; 非整倍体; 嵌合体; 生长
【英文关键词】Pacif ic oyster Crassostrea gigas; t riploids; aneuploids; mosaics; grow th
【中文摘要】探讨多倍体牡蛎的遗传基础, 通过染色体计数法对2 龄杂交三倍体太平洋牡蛎(Cr assostr ea gigas) 群体的染色体数目组成进行了分析, 发现在80 个具良好中期分裂相的牡蛎中, 有56 个三倍体(70. 0%) ; 12 个非整倍体(15. 0%) , 4 个2n/3n嵌合体(5. 0%) ; 8 个二倍体(10. 0%) 。12 个非整倍体中包括9 个29 条染色体的亚三倍体(3 n- 1) 和3 个31 条染色体的超三倍体(3n + 1) 。非整倍体与三倍体的生长差异不明显(P> 0. 05) 。可能由于数量较少的原因, 嵌合体和二倍体的生长没有表现明显生长滞后(P > 0. 05)
【英文摘要】The chromosome composit ion in 2 year mated t riploid oysters w as observed by chromosome counting. The results show ed that there w ere the 56 triploids (70. 0%) , 12 aneuploids (15. 0%) , 4 mosaics (5. 0%) and 8 diploids (10. 0%) of the 80 mated t riploid oysters in total. These aneuploids included 9 hy pot riploids (3 n- 1= 29) and 3 hypertriplo ids (3n + 1= 31) . There w as no obvious difference in g row th between t riploids and aneuploids. The amount s of mosaics and diploids w ere very small, which mig ht be the reason why the mosaics and diploids did not show bad g row th.
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【学科分类】水产学基础学科

【题目】太平洋牡蛎人工培育群体的繁殖习性初探
【中文关键词】太平洋牡蛎(Crassostrea gigas);人工培育群体;繁殖习性
【英文关键词】Pacific oyster, Crassostrea gigas;cultivated groups;reproductive characteristics
【中文摘要】作者对太平洋牡蛎(Crassostrea gigas)人工培育群体的繁殖习性进行了初步探讨。经室内升温人工育苗培育的牡蛎性成熟年龄缩短,受精135 d 后性腺发育成熟;雌雄性比随着年龄而变化,4.5 月龄的牡蛎群体中,雄性占优势(68.93%),雌雄性比为1∶2.73;1 龄群体中,雌雄两性比例接近,性比为1∶1.07;2 龄群体中雌性(63.69%)明显多于雄性,雌雄性比为1∶0.599。群体中存在雌雄同体现象,雌雄同体率随着年龄的增长而降低, 4.5月龄的牡蛎群体中,雌雄同体高达1.94%,1 龄群体中雌雄同体比例降低为0.35%,而2 龄牡蛎群体中,雌雄同体率仅为0.12%;雌雄同体者能够自体受精。怀卵量随年龄的增长而增大,1 龄牡蛎的平均怀卵量在800 万粒~856.8 万粒,而2 龄牡蛎的平均怀卵量在2 333.80万粒~2 900 万粒之间,明显多于1 龄群体;怀卵量的多少也与亲贝的营养条件和性腺的发育程度有关。雌体的壳高、壳宽、体质量和软体部质量都明显大于雄体(P<0.05),但雌雄两性在壳长方面差异不显著。
【英文摘要】The reproductive characteristics of cultured Pacific oysters (Crassostrea gigas) were discussed in this study. The time for sex maturation shortened in oysters that were artificially breeded inside the door by promoting the sea water temperature. The gonad matured only 135 days after fertilization in these oysters. Sex ratio of female to male varied greatly with ages, was 1:2.73 in a 4.5-month-old group, 1:1.07 in 1-year-old group and 1:0.599 in 2-year-old group. Hermaphrodites exist in oyster groups and the rate of hermaphrodites reduced with the increase of ages. The proportion of hermaphrodites was up to 1.94% in 4.5-month-old group and lowed to 0.35% in 1-year-old oyster, only 0.12% of hermaphrodites were observed in 2-year-old group. Self-fertilization was realizable in hermaphrodites. The fecundity increases with the increase of ages, the mean amount of eggs in each femle ranges from 23.338~290.0 million in 2-year-old oyster which were significantly more than that in 1-year-old group (ranged from 80.0~85.68million). Beside ages, fecundity also depended on nutrition and extent of gonad development. The females were larger than males in shell height, shell width, whole weight and tissue weight(P<0.05), but no significant differences were noticed in shell length between males and females.
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【学科分类】水产学基础学科

【题目】四倍体与二倍体太平洋牡蛎(Crassostrea gigas Thunberg)离体精子的存活能力比较
【中文关键词】太平洋牡蛎(Cr ass ostr ea gig as Thunberg) ; 四倍体; 二倍体; 精子; 存活
【英文关键词】Cr ass ostr ea gigas ; t et raplo id; diploid; sperm; sur vival
【中文摘要】在不同海水温度和不同精子密度条件下对四倍体(4n) 与二倍体(2n) 太平洋牡蛎(Cr ass os trea gigas Thunberg) 离体精子的存活能力进行了比较。结果表明, 四倍体与二倍体太平洋牡蛎精子的存活时间均随水温的升高和密度的降低而缩短, 四倍体牡蛎精子的存活能力低于二倍体。四倍体牡蛎精子在海水温度10 可存活8 h, 在28 仅存活2 h; 二倍体牡蛎精子在10 可存活12 h, 在28 仅存活4 h。四倍体牡蛎精子在较高密度(6. 4 107个/ mL) 下可存活8 h, 较低密度(2. 0 106 个/ mL) 下低于1 h; 在与四倍体牡蛎精子相同的高、低密度下, 二倍体存活时间分别超过10 h 和1 h。
【英文摘要】T he survival capacity of sperm f rom diploid (2n) and tet raploid (4n) Pacific Oy ster s, Crassostr ea gigas in different temperatures and densit ies w as compared in this study. The result s showed that surv iv al t ime of sperm from both 2n and 4n shortened w ith the increased temperatur es and reduced densit ies. The surv iv al capacity o f sperm from 4n w as lower than that from 2n. Sperm fr om 4n could sur vive 8 h at 10 and 2 h at 28 , respectively, but the sperm f rom 2n can survive 12 h at 10 and 4 h at 28 , respect ively, but o nly 8 h and 2 h could the sperm f rom 4n survive at bo th temper atures. For the sperm f rom 4n, the survival t ime w

as abo ut 8h in high density(6. 4 107 cells/ mL) and less than 1h in low density (2. 0 106 cells/ mL) . How ever the sperm f rom 2n could survive more than 10h in hig h density and more than 1h in low density.
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【学科分类】水产学基础学科

【题目】双壳纲八种贝类的核DNA 定量分析及其与进化地位关系的初步探讨
【中文关键词】双壳纲; DNA 含量; 进化地位
【英文关键词】bivalv ia; DNA content; evolut ionary degree
【中文摘要】运用流式细胞仪测定了双壳纲8 种贝类的细胞核DNA 含量。结果显示, 测定贝类的DNA 含量分别为(pg) : 太平洋牡蛎, 2. 06 0. 03; 东方海笋, 2. 11 0. 07; 近江牡蛎, 2. 18 0. 13; 结蚶, 2. 59 0. 10; 青蚶, 3. 08 0. 23; 砂海螂, 3. 24 0. 28; 缢蛏, 3. 85 0. 10; 日本镜蛤, 5. 00 0. 20。双因素方差分析表明, 同种贝类个体间DNA 含量的差异不显著(p >0. 05) , 仅占总差异的0. 12%; 而种间差异极为显著(p < 0. 01) , 比例高达97. 45%。本实验所测8 种贝类的DNA 含量与其进化地位间未呈现出明显的相关性。
【英文摘要】T he nuclear DNA contents of eight Bivalv ia species w ere quant ified using flow cy tomet ry. The mean C values (in picograms, pg) of the species were as follow s, respect ively: Crassostrea gigas, 2. 06 0. 03; Pholas or iental is, 2. 11 0. 07; Crassostr ea r iv ularis , 2. 18 0. 13; Tegil larca nodif era , 2. 59 0. 10; Bar bat ia virescens, 3. 08 0. 23; My a arenar ia, 3. 24 0. 28; Sinonovacula constr icta, 3. 85 0. 10; and Dosinia j aponi ca, 5. 00 0. 20. Almost no difference w as detected at individual levels (p > 0. 05) , w hile the interspecies difference w as very sig nificant (p < 0. 01) according to the tw o w ay ANOVA. A high percentage of the total variat ion w as obtained at the interspecies level (97. 45%) w ith only 0. 12% at the intraspecies lev el. Evolut ionary degree of these species could not be resolved clearly on the bass of their DNA content s merely.
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【学科分类】水产学基础学科

【题目】单体全三倍体太平洋牡蛎育苗技术的研究
【中文关键词】单体; 全三倍体; 太平洋牡蛎; 育苗
【英文关键词】cultchless spat ; all t riploid; pacif ic oyster; seeds
【中文摘要】本文利用四倍体太平洋牡蛎雄贝与二倍体雌贝杂交生产出的全三倍体牡蛎, 幼虫经常 规方法培育至60%出现眼点幼虫时, 投放聚乙烯塑料纸、废旧筛绢网和聚乙烯波纹板作附着 基, 经过附着变态后, 当达到2~ 3 mm 时, 可脱基生产单体牡蛎, 也可中间培育至10 mm 边 脱基边出售到养殖单位进行养殖, 采用此法生产的单体牡蛎方法简便, 成本低, 脱基致残率极 低, 是一种生产单体牡蛎好方法之一。2005- 2006 年在50m3 水体中生产单体牡蛎1000 万粒 (1cm) , 单位水体出苗量为20 万粒/ m3 。
【英文摘要】Cultchless all t riplo id Pacif ic oy ster seeds w ere pr oduced in a large scale by crossing tet raplo id males w ith diploid females. A t the t ime w hen 60% spat s appear eye spot, w e co l lected spat w ith old sieve, plast ic f ilm and polyethy lene rippled broad. When the size reached 2 3 mm af ter metamorphism, spat can be drop dow n from the co llector. Otherw ise, w e also culture the spat to size of 10 mm and sel l them to the aquaculture facto ry. T his large scale culture technique of pro duced cultchless all t riploid oyster w as simple and convenient, co st low ly and low percentage of disability dur ing the spat drop dow n. 10 million seeds about 1 cm w ere pr oduced in total w ater v olume o f 50 m3 betw een 2005 and 2006, and the seeds of per unit w ater volume w as 200 thousand/ m3 .

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【题目】一种新方法——低渗诱导虾夷扇贝三倍体的研究
【中文关键词】虾夷扇贝; 三倍体; 低渗诱导
【英文关键词】scallop Pat inop ecten yessoensi s; triploid; indion hypotonic t reatment
【中文摘要】研究开发了1 种多倍体诱导的新方法, 采用低渗抑制受精卵第2 极体(PB2) 的释放诱导虾夷扇贝(Patinop ecteny essoensis) 三倍体。结果表明: 以低渗盐度S= 12, 在第一个PB2 出现时开始处理, 持续处理20 min, 诱导率可高达(84. 74±3. 82) %; 三倍体处理组的幼虫比对照组具有明显的生长优势, 但是幼虫存活率低于二倍体对照组。
【英文摘要】A new method of polyploid induct ion w as developed and used in scallop Patinop ecten yessoensis for triplo id induct ion by inhibiting polar body ∃(PB2) releasing w ith hy potonic t reatment . Results show ed when the fert ilized egg s w ere treated 20 min with a hypotonic solut ion of 12 salinity at the t ime when the first PB2 w as observed, can yield that the highest t riploidy rate w hich w as up to 84. 74% 3. 82%. T he induced triploid larv ae appeared much advantageous in grow th, but the survival rate w as lower than that of the diploid controls.
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【题目】中国明对虾囊胚和原肠胚细胞的分离和培养
【中文关键词】中国明对虾(Fenneropenaeus chinensis),囊胚;原肠胚;细胞培养
【英文关键词】Fenneropenaeus chinensis;blastula;gastrula;cell culture
【中文摘要】尝试了多种方法分离中国明对虾(Fenneropenaeus chinensis)囊胚细胞和原肠胚细胞并进行了细胞培养。结果表明,解剖法适用于囊胚细胞, 自行设计的压片法适用于原肠胚细胞。在培养起始阶段,通过降低血清浓度和缩小培养体系可使中国明对虾囊胚细胞和原肠胚细胞迅速贴壁并铺展,囊胚细胞铺展后有明显的生长晕,中后期原肠胚细胞较易达到半汇聚状态。值得注意的是,中国明对虾囊胚细胞在不同培养液中培养可发生形态上的分化。本实验方法有望用于对虾细胞分化机理和对虾细胞建系的研究。
【英文摘要】To develop cell culture of penaeid shrimps,in vitro cell culture of the embryo.including the blastulaand gastrula,of Fenneropenaeus chinensis was performed in this study.Viable blastula cells were obtained bydissecting the embryos(puncturing the chorion with fine acus and then gently pipetting the blastula cell mass),and good yields of viable gastrula cells were obtained by crushing the embryos gently.The attachment and spreadofthe embryonic cells could remarkably improved by decreasing the concentrmion offetal bovine serum (FBS)and the volume of the culture medium at the beginning of the culture.After spreading。blastula cells took ongrowth hallow,but they couldn’t proliferate notably,while the cells of the developed for 1 3-1 8 h gastrula couldeasily become sub—confluent.However,passage of primary cultures resulted in the loss of adherence of cells.Themedium used was l xLeibovitz’s L一1 5 medium supplemented with 12.0 g/L NaC1,FBS and embryo extract of Echinensis,and the concentration of FBS and the embryo extract was based on the need of diferent experiments. Itwas worth the whistle that the blastula cells cultured in different media could morphologically differentiate.
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【题目】海鞘血细胞培养和细菌污染控制
【中文关键词】血细胞培养;细菌污染;16S rDNA;药敏试验;海鞘(Ciona savignyi
【英文关键词】hemocytes culture;bacterial contamination;16S rDNA;drug sensitivity test;ascidian(Ciona savignyi
【中文摘要】以海鞘(Ciona savignyi)为研究对象,考察了海鞘血细胞原代培养方法及培养中细菌污染的鉴定和控 制。血细胞在培养1 h后贴壁,细胞基本以圆形细胞为主,变形细胞一般呈不规则形。变形细胞存活时间较 短,而圆形细胞存活时间较长。对于培养过程中的细菌污染,通过细菌分离、培养和纯培养发现两类菌株检 出率较高,均为革兰氏阴性茵。经PCR扩增l6S rDNA基因序列片断,结果显示这两类菌株分别属于弧菌属 (VIbrio)和施万氏菌属(Shewanella)。药敏试验结果显示,弧菌属对氯霉素和环丙沙星等具有较强的敏感 性;对施万氏茵属较敏感的药物依次为亚胺培南和氯霉素等。最后比较了几种抗生素组合控制血细胞培养 中细菌污染的使用效果,其中氯霉素、亚胺培南加双抗的组合有较好的抑菌效果并对培养细胞的贴壁和生长没有影响。
【英文摘要】In this study,ascidian hemocytes were cultured in vitro and the identification and prevention of bacterial contam ination were investigated. A fter 1 h incubation,hem ocytes spread and form ed a flat sheet consisting of nine types of cells. M ost cultured cells were round and several cells were amebocytes. Round cell types could be maintained for 2 weeks at least in vitro culture,whereas in vitrO could survived for very short time.Two bacteria1 strains contaminated in cell culture were isolated from the bacteria1 contamination samples by culture and purity culture.Two bacterial strains were gram—negative bacterium. The detected bacteria were isolated and identified as the mem bers of by 16S rDN A sequencing. Drug sensitivity test de— tected that Vibrio showed resistance to chloromycetin and andciprofloxacin, Shewnnella showed resistance to im ipenem and chloromycetin. In order to contro】the microbia1 contamination in cel1 culture,tbree antibiotics mixtures were compared.It is shown that gentanycin was efeetive to prevent bacterial contaminatio
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【学科分类】水产学基础学科

【题目】中国明对虾caspase基因的克隆与表达分析
【中文关键词】中国明对虾(Fenneropenaeus chinensis) 基因克隆 Caspase WSSV攻毒 实时定量PCR分析
【英文关键词】Fenneropenaeus chinensis,caspase gene cloning,WSSV challenge,real-time PCR,RNAi
【中文摘要】利用细胞凋亡来清除多细胞器官受损伤或有害的细胞,为动物发育过程中保持机体平衡起到关键作用。为了研究细胞凋亡在甲壳类动物应对病毒感染后所起到的作用,作者利用同源克隆技术获得了中国明对虾(Fenneropenaeus chinensis)caspase基因(FcCasp)的cDNA序列,并分析了该基因在对虾受到白斑综合症病毒(white spot syndrome virus,简称WSSV)刺激后的表达变化规律。结果表明,该基因的cDNA含有954个核苷酸,编码317个氨基酸,具有caspase家族典型的QACRG五肽蛋白酶活性位点(190-194氨基酸)。对注射了WSSV的中国明对虾FcCasp的表达进行分析,在5个时间点取其肝胰脏样本,经real-time PCR检测发现,WSSV刺激3 h后,对虾肝胰脏中FcCasp的表达呈现显著性上调,说明FcCasp的表达与WSSV感染密切相关,提示FcCasp基因与细胞凋亡相关。
【英文摘要】Apoptosis eliminates unwanted cells, from an organism including damaged and virus-infected cells, being a fundamental cellular process that plays a critical role in normal development and tissue homeostasis. Here we studied a caspase homolog from Chinese shrimp Fenneropenaeus chinensis, designated FcCasp. An open reading frame of 954 nucleotides encoding 317 amino acids (aa) contained a conserved motif, QACRG, of known caspases- 3, and was located at aa 190 – 194. FcCasp expressions were measured in normal shrimp and in shrimp infected by white spot syndrome virus (WSSV) at five time-points post-injection (p.i.)

with real-time PCR, revealing different expression profiles of FcCasp gene in hepatopancreas of shrimps after they were challenged by WSSV. The transcription of FcCasp in hepatopancreas showed up-regulation 12 h post-challenge, indicating the expression of FcCasp was closely related to WSSV challenge. Therefore, FcCasp might be involved in the apoptosis.

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【学科分类】水产学基础学科

【题目】Occurrence and characterization of dimethachlon insensitivity in Sclerotinia sclerotiorum in Jiangsu Province of China
【中文关键词】Occurrence and Characterization;dimethachlon Insensitivity
;Sclerotinia sclerotiorum ; Jiangsu Province of China
【英文关键词】Occurrence and Characterization;dimethachlon Insensitivity
;Sclerotinia sclerotiorum ; Jiangsu Province of China
【中文摘要】Sclerotinia stem rot, caused by Sclerotinia sclerotiorum, is the main fungal disease of oilseedrape (Brassica napus) in China. Numerous fungicide applications are required for control. Dimethachlon,one of the dicarboximide fungicides, has been the major fungicide for disease controlafter benzimidazole resistance became widespread. Fungal populations were collectedthroughout Jiangsu Province between 2006 and 2007 in order to determine their sensitivity todimethachlon. A total of 1,066 single-sclerotium isolates of S. sclerotiorum were collected, andmost of the isolates were considered sensitive to dimethachlon. Five isolates collected inYancheng and Changzhou showed normal growth at 5 μg/ml dimethachlon with the resistancefactor ≈ 10 (resistance factor was estimated as ratios between the EC50 values of resistant isolatesand the average EC50 values of sensitive ones) compared to the sensitive isolates (EC50 isthe concentration of fungicide causing 50% reduction in growth). Through in vitro selection forresistance to the fungicide, 25 dimethachlon-resistant mutants were derived from 10 wild-typeisolates of S. sclerotiorum. The resistance factors for the isolates ranged from 198 to 484, andthe isolates were considered highly resistant to dimethachlon. Therefore, at least two differentmechanisms of resistance seem to be involved: one that may provide a moderate resistance (insensitivity)and a second that may give a high resistance level under laboratory conditions. Therewas positive cross-resistance between dimethachlon and other dicarboximide fungicides, such asiprodione and procymidone, in these S. sclerotiorum isolates. The field dimethachlon-insensitiveand the laboratory-induced dimethachlon-resistant isolates appeared to have mycelial growth,sclerotial production, and pathogenicity comparable to their wild-type parental isolates. Also,results of osmotic tests showed that there were no significant difference in mycelial radialgrowth between the field dimethachlon-sensitive and field dimethachlon-insensitive isolates onpotato dextrose agar plates amended with 2, 4, 6, or 8% (wt/vol) NaCl, but the laboratoryinduceddimethachlon-resistant isolates grew significantly more slowly than their wild-typesensitive parents under all concentrations of NaCl. Because these studies yielded a high frequencyof laboratory resistance in S. sclerotiorum, together with the occurrence of field insensitivity,appropriate precautions against resistance development in natural populations should betaken.

【英文摘要】Sclerotinia stem rot, caused by Sclerotinia sclerotiorum, is the main fungal disease of oilseedrape (Brassica napus) in China. Numerous fungicide applications are required for control. Dimethachlon,one of the dicarboximide fungicides, has been the major fungicide for disease controlafter benzimidazole resistance became widespread. Fungal populations were collectedthroughout Jiangsu Province between 2006 and 2007 in order to determine their sensitivity todimethachlon. A total of 1,066 single-sclerotium isolates of S. sclerotiorum were collected, andmost of the isolates were considered sensitive to dimethachlon. Five isolates collected inYancheng and Changzhou showed normal growth at 5 μg/ml dimethachlon with the resistancefactor ≈ 10 (resistance factor was estimated as ratios between the EC50 values of resistant isolatesand the average EC50 values of sensitive ones) compared to the sensitive isolates (EC50 isthe concentration of fungicide causing 50% reduction in growth). Through in vitro selection forresistance to the fungicide, 25 dimethachlon-resistant mutants were derived from 10 wild-typeisolates of S. sclerotiorum. The resistance factors for the isolates ranged from 198 to 484, andthe isolates were considered highly resistant to dimethachlon. Therefore, at least two differentmechanisms of resistance seem to be involved: one that may provide a moderate resistance (insensitivity)and a second that may give a high resistance level under laboratory conditions. Therewas positive cross-resistance between dimethachlon and other dicarboximide fungicides, such asiprodione and procymidone, in these S. sclerotiorum isolates. The field dimethachlon-insensitiveand the laboratory-induced dimethachlon-resistant isolates appeared to have mycelial growth,sclerotial production, and pathogenicity

comparable to their wild-type parental isolates. Also,results of osmotic tests showed that there were no significant difference in mycelial radialgrowth between the field dimethachlon-sensitive and field dimethachlon-insensitive isolates onpotato dextrose agar plates amended with 2, 4, 6, or 8% (wt/vol) NaCl, but the laboratoryinduceddimethachlon-resistant isolates grew significantly more slowly than their wild-typesensitive parents under all concentrations of NaCl. Because these studies yielded a high frequencyof laboratory resistance in S. sclerotiorum, together with the occurrence of field insensitivity,appropriate precautions against resistance development in natural populations should betaken.

【语种】英文

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【学科分类】植物保护学

【题目】PIRA-PCR for detection of Fusarium graminearum genotypes with moderate resistance to carbendazim

【中文关键词】Gibberella zeae, methyl benzimidazole carbamates (MBC), molecular detection, single nucleotide mutation, wheat scab, b2-tubulin

【英文关键词】Gibberella zeae, methyl benzimidazole carbamates (MBC), molecular detection, single nucleotide mutation, wheat scab, b2-tubulin

【中文摘要】PIRA-PCR (primer-introduced restriction analysis PCR) was developed to detect isolates of Fusarium graminearum withmoderate resistance to carbendazim, a methyl benzimidazole carbamate (MBC)-group fungicide. Two primer pairs weredesigned and synthesized according to the nucleotide sequence of the b2-tubulin gene from F. graminearum. Fragmentsof 164 bp were amplified by nested PCR from isolates differing in carbendazim sensitivity. A HindIII restriction enzymerecognition site was introduced artificially by inner primers to detect a mutation at codon 167, and TaaI (Tsp4CI) restrictionenzyme was used to detect a mutation at codon 200. The sensitivity of isolates to carbendazim was determined byanalyzing electrophoresis patterns of the resulting PCR products after simultaneous digestion with both HindIII andTaaI. Results from PIRA-PCR and a conventional method (mycelial growth on agar) were identical but PIRA-PCRrequired only 7 – 8 h while the conventional method required 5 – 7 days. This study demonstrates that PIRA-PCR not onlymonitors the appearance of moderately resistant isolates, but can be useful for detecting genotypes of F. graminearumwith moderate resistance to carbendazim.

【英文摘要】PIRA-PCR (primer-introduced restriction analysis PCR) was developed to detect isolates of Fusarium graminearum withmoderate resistance to carbendazim, a methyl benzimidazole carbamate (MBC)-group fungicide. Two primer pairs weredesigned and synthesized according to the nucleotide sequence of the b2-tubulin gene from F. graminearum. Fragmentsof 164 bp were amplified by nested PCR from isolates differing in carbendazim sensitivity. A HindIII restriction enzymerecognition site was introduced artificially by inner primers to detect a mutation at codon 167, and TaaI (Tsp4CI) restrictionenzyme was used to detect a mutation at codon 200. The sensitivity of isolates to carbendazim was determined byanalyzing electrophoresis patterns of the resulting PCR products after simultaneous digestion with both HindIII andTaaI. Results from PIRA-PCR and a conventional method (mycelial growth on agar) were identical but PIRA-PCRrequired only 7 – 8 h while the conventional method required 5 – 7 days. This study demonstrates that PIRA-PCR not onlymonitors the appearance of moderately resistant isolates, but can be useful for detecting genotypes of F. graminearumwith moderate resistance to carbendazim.

【语种】英文

【第一作者】罗卿权

【通讯作者】周明国

【期刊名称、卷期、页码】Plant Pathology,2009, 58, 882 – 887

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【引文索引类型】SCI

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【学科分类】植物保护学

【题目】Sexual recombination of carbendazim-resistance in Fusarium graminearum under field conditions
【中文关键词】Gibberella zeae; carbendazim resistance; disease management; sexual recombination; epidemiology; population biology
【英文关键词】Gibberella zeae; carbendazim resistance; disease management; sexual recombination; epidemiology; population biology
【中文摘要】BACKGROUND: Carbendazim has been the major fungicide for control of Fusarium head blight (FHB) caused by Fusariumgraminearum Schwade in China.However, the effectiveness of carbendazim has been threatened by the emergence of resistantpathogen populations in the field.RESULTS: Five isolates, representing three phenotypes of different carbendazim sensitivity levels (S,MRandHR),were randomlyselected to study the inheritance of carbendazim resistance by three genetic crosses under field conditions. Each parent in allcrosseswas marked with a different class of nitrate non-utilizing (nit)mutation. The presence of sexual recombinants indicatedthat outcrossing had occurred in the crosses. Over 100 putative self-crossing or outcrossing perithecia for each cross wererandomly sampled on the surface of the haulms of dead rice for each pair of parents. Results showed that 5.7 – 20.9% outcrossingfrequency occurred in the three crosses and confirmed sexual recombination under field conditions. There were no significantdifferences inmycelial linear growth and pathogenicity between the selected recombinants and their parents, but they differedin sporulation ability and capacity to produce perithecia. Nevertheless, most of the sexual recombinants possessed fitnesslevels comparable with those of their parents.CONCLUSION: Outcrossing between carbendazim-sensitive and -resistant isolates did occur under field conditions, and sexualrecombinationmust play a role in the development of carbendazim resistance in the field.
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【语种】英文
【第一作者】陈雨
【通讯作者】周明国
【期刊名称、卷期、页码】Pest Management Science,2009, 65: 398 – 403
【论文发表时间】2009-11-01 00:00:00
【引文索引类型】SCI
【引文索引号】sci
【学科分类】植物保护学

【题目】γ - Polyglutamic acid (γ - PGA) produced by Bacillus amyloliquefaciens C06 promoting its colonization on fruit surface
【中文关键词】无
【英文关键词】Bacillus amyloliquefaciens C06、γ -Polyglutamic acid (PGA)、Surface colonization Biofilm、Surface adhesion、Swarming motility
【中文摘要】无
【英文摘要】Bacillus amyloliquefaciens C06, an effective biological agent in controlling brown rot of stone fruit caused by Monilinia fructicola, was also found to produce extra-cellular mucilage and form mucoid colonies on semisolid surfaces. This study aimed to characterize the extra-cellular mucilage produced by B. amyloliquefaciens C06 using transposon mutagenesis and biochemical and physical analyses. The mucilage production in B. amyloliquefaciens C06 was demonstrated to be associated with ywsC gene expression and characterized to be of high molecular weight, consisted of only glutamic acid and linked with non-peptide bonds, thus identified as γ -polyglutamic acid (γ -PGA). Compared with wild type B. amyloliquefaciens C06, its mutants deficient in producing γ -PGA, e.g. M106 and C06 Δ ywsC showed less efficiency in biofilm formation, surface adhesion and swarming ability. It was also demonstrated that γ -PGA was not essential for C06 to form colony on semi-solid surfaces, but was able to improve its colony structure. In vivo

evaluation showed that disruption of γ-PGA production in C06ΔywsC impaired its efficiency of colonizing apple surfaces.
【语种】英文
【第一作者】刘俊
【通讯作者】高学文
【期刊名称、卷期、页码】International Journal of Food Microbiology、142、190-197
【论文发表时间】2010-08-15 00:00:00
【引文索引类型】SCI
【引文索引号】2.8134440003e+011
【学科分类】植物保护学

【题目】Depressed biofilm production in Bacillus amyloliquefaciens C06 causes γ-polyglutamic acid (γ-PGA) overproduction
【中文关键词】无
【英文关键词】无
【中文摘要】无
【英文摘要】Bacillus amyloliquefaciens C06, a potential agent in biological preservation of post-harvest fruit, was found to secrete extra-cellular gamma-polyglutamic acid (gamma-PGA) in liquid culture. In this work, M306, a transposon mutant of B. amyloliquefaciens C06, defective in forming structured colony and displaying enhanced ability of producing gamma-PGA, was obtained. Inverse PCR and quantitative reverse transcription PCR (qRT-PCR) analysis demonstrated that the defective phenotype in M306 was associated with an ORF showing high similarity to RBAM_034550 from B. amyloliquefaciens FZB42. In this paper, the ORF was designated pbrA, standing for gamma-PGA production and biofilm formation regulatory factor. qRT-PCR analysis also indicated that pbrA down-regulated mRNA expression of epsD and yqxM, the crucial genes involved in biofilm formation, but affected little on expression of ywtB, the gene directing gamma-PGA synthesis. Evaluations in gamma-PGA productivity of wild-type C06 and its mutants C06 Delta epsA and C06 Delta tasA, respectively, deficient in producing exopolysaccharides (EPS) and TasA, revealed that gamma-PGA overproduction in M306 was probably due to the redistributed metabolic flux caused by defective production of EPS.
【语种】英文
【第一作者】刘俊
【通讯作者】高学文
【期刊名称、卷期、页码】Current Microbiology, 62,235-241
【论文发表时间】2011-01-31 00:00:00
【引文索引类型】SCI
【引文索引号】2.8592720003e+011
【学科分类】植物保护学

【题目】Identification and Analysis of Polychlorinated Biphenyls (PCBs)-Biodegrading Bacterial Strains in Shanghai
【中文关键词】无
【英文关键词】Identification ;Polychlorinated Biphenyls ; Biodegrading ;Bacterial Strains;Shanghai
【中文摘要】无
【英文摘要】Abstract As one of China ’s great metropolises, Shanghaiis vulnerable to various forms of industrial and agriculturalcontamination associated with its development. Polychlorinatedbiphenyls (PCBs) are man-made chemicals thatnever existed in nature until the 1900s when they started tobe released into the environment. PCBs are hazardousenvironmental contaminants that bind strongly to soil. Inthis study, four soil samples were screened for the presenceof PCB-degrading bacteria. The 16 S rDNAs were amplifiedfrom those genomes and the products (*1.5 kb) werepurified and sequenced for the isolation and identificationof bacterial species. Four Pseudomonas strains (strain1-212 from sample 1; strain 2-241 from sample 2; strain3-318 from sample 3; and strain 4-150 from sample 4) wereselected for analysis by HPLC. Setting the content of thebiphenyl in CK as 100%, the biphenyl contents was 2.32%in 1-212, 73.11% in 2-241, 69.83% in 3-318, and 86.16%in 4-150. The results of this study suggest directions forfuture research, including genetic screening, cloning andrestructuring, and provide guidance for the cultivation ofPCBs-degrading bacteria.
【语种】英文
【第一作者】Jianjun Shuai

【通讯作者】Quanhong Yao
【期刊名称、卷期、页码】Curr Microbiol (2010) 61:477 – 483
【论文发表时间】2010-08-10 00:00:00
【引文索引类型】SCI
【引文索引号】20405129
【学科分类】环境科学技术基础学科

【题目】Identification of Up-regulated Genes of Bacillus amyloliquefaciens B55 During the Early Stage of Direct Surface Contact with Rice R109 Root
【中文关键词】无
【英文关键词】无
【中文摘要】无
【英文摘要】The early stage of plant-rhizobacteria interaction, affected by plant root exudates and plant-rhizobacteria surface contact, is considered to be critical for plant growth-promoting rhizobacteria colonizing plant roots and initiating the beneficial effects on plant growth. However, little is known about the mechanisms of plant-rhizobacteria surface contact involved in early stage of plant-rhizobacteria interaction. In order to reveal the molecular mechanisms of the surface contact, a rhizobacterium Bacillus amyloliquefaciens B55 was interacted with plant roots of rice R109 and used to perform a cDNA-based suppression-subtractive hybridization. Seven differentially expressed DNA fragments were identified. Except for the two fragments showing no matches to any known sequences in the Genbank, the other five fragments were found to have high homologies with the genes encoding 2-oxoglutarate dehydrogenase E1 component OdhA, aspartate ammonia-lyase AnsB, and hypothetical protein proposed to be involved in surface adhesion, acetolactate decarboxylase AlsD, and DNA mismatch repair protein MutL, respectively. The induced RNA expression levels of two putative genes ansB and odhA and an unmatched DNA fragment BD33 were verified by RT-PCR analysis.
【语种】英文
【第一作者】刘俊
【通讯作者】高学文
【期刊名称、卷期、页码】Current Microbiology, 62,267-272
【论文发表时间】2011-01-31 00:00:00
【引文索引类型】SCI
【引文索引号】2.8592720004e+011
【学科分类】植物保护学

【题目】Identification of candidate genes involved in responses of Arabidopsis to polychlorinated biphenyls based on microarray analysis
【中文关键词】无
【英文关键词】Polychlorinated biphenyls Microarray
Gene expression Arabidopsis Phytoremediation
【中文摘要】无
【英文摘要】Abstract Polychlorinated biphenyls (PCBs) are consideredas persistent organic pollutants. Their long termaccumulation in soils and progressive bioaccumulation inthe food chain makes PCBs a risk for human health. Phytoremediation,or the use of plants to enhance pollutantdissipation, is an efficient technique for the removal oforganic compounds, including PCBs. However, themolecular basis of plant responses to PCBs has not beenclearly elucidated. Here we studied the effects on growthand the transcriptional profile of Arabidopsis thaliana afterexposure to 2,20,3,30-tetrachlorobiphenyl, a representativePCB. A comprehensive survey of global gene expressionresponse to this PCB was done by using Arabidopsis (V4)gene expression microarray (4 9 44 K) to quantify thespatio-temporal variations in transcript abundance of42,000 genes. The results revealed a coordinated inductionor suppression of 146 or 148 genes, respectively. Of these,expression of 40 genes was validated by RT-PCR analysis.The functional classification of these PCB-responsivegenes indicated their involvement in various metabolicpathways, such as ion transport, signal transduction, transcriptionalregulation, and other processes related togrowth and development.
【语种】英文
【第一作者】Xiaofen Jin

【通讯作者】Quanhong Yao
【期刊名称、卷期、页码】Plant Growth Regul (2011) 65:127 – 135
【论文发表时间】2011-03-14 00:00:00
【引文索引类型】SCI
【引文索引号】225210512
【学科分类】环境科学技术基础学科

【题目】Expression, purification and functional characterization of a recombinant 2,3-dihydroxybiphenyl-1,2-dioxygenase from Rhodococcus rhodochrous
【中文关键词】无
【英文关键词】Bphc gene 2,3-Dihydroxybiphenyl dioxygenase Pseudomonas 2,3-Dihydroxybiphenyl HPLC
【中文摘要】无
【英文摘要】Abstract A 2,3-dihydroxybiphenyl (2,3-DHBP) dioxygenasegene from a Rhodococcus sp. strain, namedRrbphCI and involved in the degradation of polychlorinatedbiphenyls (PCBs), was synthesized. RrbphCI wasexpressed in Escherichia coli and its encoded enzyme waspurified. SDS – PAGE analysis indicated that the size of theprotein encoded by RrbphCI was about 32 kDa. Theactivity of the 2,3-DHBP dioxygenase was 82.8 U/mgwhen the substrate was 2,3-DHBP, with optimum pH 8.0 at30 C, and optimum temperature was 40 C at pH 8.0. TheRrbphCI gene was transformed into Pseudomonas putidastrain EG11, to determine the ability of the enzyme todegrade 2,3-DHBP. The wild type EG11 degraded 61.86%of supplied 2,3-DHBP and the transformed EG11 (hostingthe RrbphCI gene) utilized 52.68% after 2 min of treatmentat 30 C. The overexpressed and purified enzyme was ableto degrade 2,3-DHBP. The 2,3-DHBP dioxygenase is a keyenzyme in the PCB degradation pathway. RrbphCI and itsencoded 2,3-DHBP dioxygenase may have transgenicapplications in bioremediation of PCBs.
【语种】英文
【第一作者】Fei Xiong
【通讯作者】Quanhong Yao
【期刊名称、卷期、页码】Mol Biol Rep (2011) 38:4303 – 4308
【论文发表时间】2011-09-02 00:00:00
【引文索引类型】SCI
【引文索引号】21113668
【学科分类】环境科学技术基础学科

【题目】Assessment of Inheritance Pattern and Agronomic Performance of Transgenic Rapeseed having HarpinXooc-Encoding hrf2 Gene
【中文关键词】无
【英文关键词】Transgenic rapeseed,hrf2 gene,Inheritance , Resistance,Agronomic performance
【中文摘要】无
【英文摘要】hrf2 gene is a member of the harpin-encoding gene family of rice-pathogenic bacterium Xanthomonas oryzae pv. oryzicola. In our previous studies, we observed that harpin(Xooc) could elicit hypersensitive cell death in non-host plants, induce disease and insect resistance in plants, and enhance plant growth. In this study, the rapeseed cultivar, Yangyou 4, was genetically engineered via Agrobacterium-mediated transformation to express the hrf2 gene. Polymerase chain reaction (PCR) and southern blot analyses of T-1 generation of transgenic rapeseed revealed stable integration and expression of the inserted gene hrf2. In addition, the resistance to Sclerotinia sclerotiorum was greatly enhanced. A comparison between agronomic characters of transgenic and control lines displayed significant differences in terms of plant height, stem width, number of pods per plant, number of seeds per pod, 1,000-seed weight, and seed yield per plant. Among lines with resistance to S. sclerotiorum, T(1)1 had improved agronomic traits compared with controls with a 22.7% seed yield increase. These results suggest that the introduction of the hrf2 gene into rapeseed can be an effective strategy for enhancing resistance to S. sclerotiorum
【语种】英文
【第一作者】霍蓉

【通讯作者】高学文
【期刊名称、卷期、页码】Transgenic Reserch, 19,841-847
【论文发表时间】2010-10-31 00:00:00
【引文索引类型】SCI
【引文索引号】2.8170260001e+011
【学科分类】植物保护学

【题目】多氯联苯的生物修复
【中文关键词】多氯联苯; 生物降解; 菌株分离; 基因克隆; 植物修复
【英文关键词】无
【中文摘要】多氯联苯(Polychlorinated biphenyls, PCBs)是一种持久性有机污染物, 对人类和自然环境具有很大的威胁, 降解PCBs 一直是研究的热点。在目前的研究方法中生物降解最具潜力, 生物降解主要分为微生物降解、植物修复和微生物-植物共同修复3 个方面。文章着重介绍了微生物降解PCBs 菌株的分离, 降解相关基因的克隆和改造; 同时对植物修复, 植物与微生物共同修复以及植物转基因修复进行了讨论。
【英文摘要】无
【语种】中文
【第一作者】帅建军
【通讯作者】姚泉洪
【期刊名称、卷期、页码】遗传 2011 , 33(3): 219—227
【论文发表时间】2011-03-10 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】环境科学技术基础学科

【题目】沪油15 中两个AP2PERF2B1 亚族转录因子的克隆与分析
【中文关键词】AP2PERF ;B1 亚族;转录因子;克隆;沪油15
【英文关键词】无
【中文摘要】摘 要:利用油菜EST 数据库,以拟南芥ERF2B1 亚族转录因子序列为探针,电子克隆拼接得到2 个cDNA序列(BnaERFB121 和BnaERFB122) ,通过PCR 和RT2PCR 方法分别从甘蓝型油菜沪油15 的DNA 和cDNA 中克隆了上述基因。克隆转录因子BnaERFB1212Hy15 和BnaERFB1222Hy15 与电子克隆的序列差异很小,分别只有2 个和6 个氨基酸位点不同,且都没有内含子。从cDNA 序列、氨基酸序列的相似性、组成成分、理化性质、疏水性P亲水性、进化树、序列比对、功能域、二级和三级结构等方面进行了分析,结果显示,BnaERFB1212Hy15 和BnaERFB1222Hy15 转录因子属于AP2PERF 家族中的ERF2B1 亚族,是亲水性蛋白,在蛋白质的三级结构上与拟南芥atERF7 相似。EST 丰度分析显示,BnaERFB121 的表达主要集中在种子中,而BnaERFB122 的表达则主要集中在分生组织中。
【英文摘要】无
【语种】中文
【第一作者】庄静
【通讯作者】姚泉洪
【期刊名称、卷期、页码】核农学报 2009 ,23 (3) :435~441
【论文发表时间】2009-08-12 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】植物学

【题目】Molecular Mechanism of Plant Growth Promotion and Induced Systemic Resistance to Tobacco Mosaic Virus by Bacillus spp
【中文关键词】无
【英文关键词】Bacillus spp, PGPR, induced systemic resistance,
tobacco mosaic virus, growth promotion

【中文摘要】无
【英文摘要】Bacillus spp., as a type of plant growth-promoting rhizobacteria (PGPR), were studied with regards promoting plant growth and inducing plant systemic resistance. The results of greenhouse experiments with tobacco plants demonstrated that treatment with the Bacillus spp. significantly enhanced the plant height and fresh weight, while clearly lowering the disease severity rating of the tobacco mosaic virus (TMV) at 28 days post-inoculation (dpi). The TMV accumulation in the young non-inoculated leaves was remarkably lower for all the plants treated with the Bacillus spp. An RT-PCR analysis of the signaling regulatory genes Coil and NPR1, and defense genes PR-1a and PR-1b, in the tobacco treated with the Bacillus spp. revealed an association with enhancing the systemic resistance of tobacco to TMV. A further analysis of two expansin genes that regulate plant cell growth, NtEXP2 and NtEXP6, also verified a concomitant growth promotion in the roots and leaves of the tobacco responding to the Bacillus spp.
【语种】英文
【第一作者】王帅
【通讯作者】高学文
【期刊名称、卷期、页码】JOURNAL OF MICROBIOLOGY AND BIOTECHNOLOGY,19,1250-1258
【论文发表时间】2009-10-31 00:00:00
【引文索引类型】SCI
【引文索引号】2.7123060003e+011
【学科分类】植物保护学

【题目】Over-expression of ThpI from Choristoneura fumiferana enhances tolerance to cold in plants
【中文关键词】无
【英文关键词】Thermal hysteresis protein I ;Low temperature stress; Electrolyte leakage ;Malondialdehyde ; Proline
【中文摘要】无
【英文摘要】Abstract Thermal hysteresis proteins (Thps) known asantifreeze proteins for their antifreeze activity, depress thefreezing point of water below the melting point in manypolar marine fishes, terrestrial arthropods and plants. Forthe purpose of breeding cold-resistant plants, we designedto introduce the Thp gene into the plants. The physiologicaland biochemical effect of high-lever expression of themodified Choristoneura fumiferana Thp (ThpI) in Arabidopsisthaliana plants was analyzed. Under low temperaturestress, the ThpI transgenic plants exhibited stronger growththan wild-type plants. The elevated cold tolerance of theThpI over-expressing plants was confirmed by the changesof electrolyte leakage activity, malonyldialdehyde andproline contents. These results preliminarily showed thatthe Thp possibly be used to enhance the low temperaturetolerantability of plants.
【语种】英文
【第一作者】Bo Zhu
【通讯作者】Quanhong Yao
【期刊名称、卷期、页码】Mol Biol Rep (2010) 37:961 – 966
【论文发表时间】2010-09-14 00:00:00
【引文索引类型】SCI
【引文索引号】19728155
【学科分类】微生物学

【题目】Isolation from Ochrobactrum anthropi of a Novel Class II 5-Enopyruvylshikimate-3-Phosphate Synthase with High Tolerance to Glyphosate
【中文关键词】无
【英文关键词】Ochrobactrum anthropi;Class II 5-Enopyruvylshikimate-3-Phosphate Synthase; High Tolerance to Glyphosate
【中文摘要】无
【英文摘要】Applying the genomic library construction process and colony screening, a novel aroA gene encoding5-enopyruvylshikimate-3-phosphate synthase from Ochrobactrum anthropi was identified, cloned, and overexpressed,and the enzyme was purified to homogeneity. Furthermore, site-directed mutagenesis was employedto assess the role of single amino acid residues in glyphosate resistance
【语种】英文
【第一作者】Yongsheng Tian

【通讯作者】Quanhong Yao
【期刊名称、卷期、页码】APPLIED AND ENVIRONMENTAL MICROBIOLOGY, 2010,76(17) 6001 – 6005
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【引文索引类型】SCI
【引文索引号】20601515
【学科分类】环境科学技术基础学科

【题目】Expression of HpaG(Xooc) Protein in Bacillus subtilis and its Biological Functions
【中文关键词】无
【英文关键词】HpaGXooc, Bacillus subtilis, biological function
【中文摘要】无
【英文摘要】HpaG(Xooc), from rice pathogenic bacterium Xanthomonas oryzae pv. oryzicola, is a member of the harpin group of proteins, eliciting hypersensitive cell death in non-host plants, inducing disease and insect resistance in plants, and enhancing plant growth. To express and secret the HpaG(Xooc) protein in Bacillus subtilis, we constructed a recombinant expression vector pM43HF with stronger promoter P43 and signal peptide element nprB. The SDS-PAGE and Western blot analysis demonstrated the expression of the protein HpaG(Xooc) in B. subtilis. The ELISA analysis determined the optimum condition for HpaG(Xooc) expression in B. subtilis WBHF. The biological function analysis indicated that the protein HpaG(Xooc) from B. subtilis WBHF elicits hypersensitive response (HR) and enhances the growth of tobacco. The results of RT-PCR analysis revealed that HpaG(Xooc) induces expression of the pathogenesis-related genes PR-1a and PR-1b in plant defense response
【语种】英文
【第一作者】伍辉军
【通讯作者】高学文
【期刊名称、卷期、页码】JOURNAL OF MICROBIOLOGY AND BIOTECHNOLOGY, 19 , 194-203
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【引文索引类型】SCI
【引文索引号】2.6380190001e+011
【学科分类】植物保护学

【题目】Molecular and biochemical detection of fengycin- and bacillomycin D-producing Bacillus spp., antagonistic to fungal pathogens of canola and wheat
【中文关键词】无
【英文关键词】Bacillus spp.; bacillomycin D; fengycin; PCR detection; MALDI-TOF-MS
【中文摘要】无
【英文摘要】Bacillus species are well known for their ability to control plant diseases through various mechanisms, including the production of secondary metabolites. Bacillus subtilis DFH08, an antagonist of Fusarium graminearum, and other Bacillus spp. that are antagonists of common fungal pathogens of canola were screened for peptide synthetase biosynthetic genes of fengycin and bacillomycin D. Specific polymerase chain reaction (PCR) primers identified B. subtilis strains DFH08 and 49 for the presence of the fenD gene of the fengycin operon. Bacillus cereus DFE4, Bacillus amyloliquefaciens strains DFE16 and BS6, and B. subtilis 49 were identified for the presence of the bamC gene of the bacillomycin D synthetase biosynthetic operon. Both fengycin and bacillomycin D were detected in the culture extract of strain Bs49, characterized through MALDI-TOF-MS (matrix-assisted laser desorption ionization - time of flight - mass spectrometry), and their antifungal activities demonstrated against F. graminearum and Sclerotinia sclerotiorum. This study designed and used specific PCR primers for the detection of potential fengycin- and bacillomycin D-producing bacteria antagonists and confirmed the molecular detection with the biochemical detection of the corresponding antibiotic produced. This is also the first report of a B. cereus strain (DFE4) to have bacillomycin D biosynthetic genes. Bacteria that synthesize these lipopeptides could act as natural genetic sources for genetic engineering of the peptide synthetases for production of novel peptides.
【语种】英文
【第一作者】Ramarathnam, R
【通讯作者】Ramarathnam, R
【期刊名称、卷期、页码】CANADIAN JOURNAL OF MICROBIOLOGY , 53 , 901-911

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【引文索引类型】SCI
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【学科分类】植物保护学

【题目】Cloning, expression and characterization of a new aspartate aminotransferase from Bacillus subtilis B3
【中文关键词】无
【英文关键词】aspartate aminotransferase; Bacillus subtilis;
conserved active residues; kinetic
parameters; protein sequence analysis
【中文摘要】无
【英文摘要】In the present study, we report the identification of a new gene from theBacillus subtilis B3 strain (aatB3), which comprises 1308 bp encoding a 436amino acid protein with a monomer molecular weight of 49.1 kDa. Phylogeneticanalyses suggested that this enzyme is a member of the Ib subgroupof aspartate aminotransferases (AATs; EC 2.6.1.1), although it also hasconserved active residues and thermostability characteristic of Ia-typeAATs. The Asp232, Lys270 and Arg403 residues of AATB3 play a key rolein transamination. The enzyme showed maximal activity at pH 8.0 and45 C, had relatively high activity over an alkaline pH range (pH 7.0 – 9.0)and was stable up to 50 C. AATB3 catalyzed the transamination of fiveamino acids, with L-aspartate being the optimal substrate. The Km valueswere determined to be 6.7 mM for L-aspartate, 0.3 mM for a-ketoglutarate,8.0 mM for L-glutamate and 0.6 mM for oxaloacetate. A 32-residue N-terminalamino acid sequence of this enzyme has 53% identity with that ofBacillus circulans AAT, although it is absent in all other AATs from differentorganisms. Further studies on AATB3 may confirm that it is potentiallybeneficial in basic research as well as various industrial applications.
【语种】英文
【第一作者】伍辉军
【通讯作者】高学文
【期刊名称、卷期、页码】FEBS JOURNAL, 278 ,1345-1357
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【引文索引类型】SCI
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【学科分类】植物保护学

【题目】Harmonizing Quality and Traceability Standards for Pecten Trade in Asia Pacific Region
【中文关键词】亚太生态合作组织
【英文关键词】Asia-Pacific Economic Cooperation
【中文摘要】摘录:“ 渔业产业经济占全球百分之75以上的捕捞渔业和超过百分之90的全球水产养殖生产。亚太经合组织是一个重要的声音在国际渔业有关的问题和总的来说有重大影响的全球可持续渔业和负责任的做法的鱼。 ”
【英文摘要】Excerpt: "Fisheries industries in APEC economies account for over 75 percent of the world's capture fisheries and over 90 percent of global aquaculture production. APEC economies are an important voice internationally on fishery-related issues and collectively have a significant impact on global sustainability of fisheries and responsible practices in the fish trade."
【语种】英文
【第一作者】张国范
【通讯作者】张国范
【期刊名称、卷期、页码】Harmonizing Quality and Traceability Standards for Pecten Trade in Asia Pacific Region
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【引文索引号】null
【学科分类】水产学基础学科

【题目】The purL gene of Bacillus subtilis is associated with nematicidal activity
【中文关键词】无

【英文关键词】biocontrol; Bacillus; plant-parasitic nematodes; nematicidal-related genes; purL
【中文摘要】无
【英文摘要】Parasitic nematodes of plants are important plant pathogens that represent a significant financial burden on agriculture. This study evaluated the efficacy of Bacillus spp. as nematode biocontrol agents and identified Bacillus genes associated with nematicidal activity. Culture by products of Bacillus subtilis strains OKB105 and 69 and Bacillus amyloliquefaciens strains FZB42 and B3 were used to treat Aphelenchoides besseyi, Ditylenchus destructor, Bursaphelenchus xylophilus and Meloidogyne javanica, respectively. The highest mortality rates were observed at 12 h when combinations of either A. besseyi/B3, D. destructor/OKB105, B. xylophilus/69 or M. javanica/OKB105 resulted in 10.6%, 27.6%, 35.6% and 100% mortality rates, respectively. Supernatant analysis demonstrated that the nematicidal active ingredients of strain OKB105, with a molecular weight of < 1000 Da, were nonproteinaceous, heat and cold resistant, highly polar and could be evaporated but not extracted by some organic solvents. To identify nematicidal-related genes, 2000 OKB105 mutants were generated using the TnYLB-1 transposon. Mutant M1 lost nematicidal activity by 72 h and inverse PCR results demonstrated disruption of the purL gene. Nematicidal activity was restored when M1 mutant was complemented with either plasmid pMA5-purL or pUC18-purL, demonstrating a role for purL in mediating nematicidal activity
【语种】英文
【第一作者】夏彦飞
【通讯作者】高学文
【期刊名称、卷期、页码】FEMS Microbiol Lett, 322,99-107
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【引文索引类型】SCI
【引文索引号】2.937932e+011
【学科分类】植物保护学

【题目】Functional analysis and application of the cryptic plasmid pBSG3 harboring the RapQ-PhrQ system in Bacillus amyloliquefaciens B3
【中文关键词】无
【英文关键词】Bacillus amyloliquefaciens; Rolling-circle replication plasmid; RapQ-PhrQ system; Shuttle vector; HpaG(xooc) protein
【中文摘要】无
【英文摘要】This work sequenced and characterized a cryptic plasmid called pBSG3 from wild-type Bacillus amyloliquefaciens B3 - a powerful agent for suppression of plant pathogenic organisms. It is an 8439 bp circular molecule, with G + C content of 40.3%. We provide evidence that pBSG3 replicates via the rolling-circle (RC) mechanism and, sequence comparisons place it in the pC194 family of rolling-circle-replicons. The plasmid contains seven putative open reading frames (ORFs), including genes repB3, mobB3. rapQ, phrQ, pgsR, and two unknown ORFs (orf1c and orf2). Our observations reveal that the RapQ-PhrQ (response regulator aspartate phosphatase-phosphatase regulator) system is involved in sporulation and RapQ can delay the onset of sporulation. Two Escherichia coli and Bacillus potential shuttle vectors, pTRD (containing the minimal replicon) and pTRDS (containing the minimal replicon and the single-strand origin) were developed from pBSG3 and tested the stability. Moreover, HpaG(xooc) protein, which can induce disease and insect resistance in plants, was tried to express with the stable vector pTRDS in Bacillus subtilis. In summary, the pBSG3 plasmid containing various genes is not only a candidate tool for vector development in Bacillus genus research but also a potential vehicle for the exchange of genetic elements among Bacillus populations that contributes to the survival of bacilli in natural environments. (C) 2010 Elsevier Inc. All rights reserved
【语种】英文
【第一作者】乔俊卿
【通讯作者】高学文
【期刊名称、卷期、页码】Plasmid, 65, 141-149
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【引文索引类型】SCI
【引文索引号】2.8738460001e+011
【学科分类】植物保护学

【题目】Molecular characterization of two important antifungal proteins isolated by downy mildew infection in non-heading Chinese cabbage
【中文关键词】略
【英文关键词】Downy mildew; Non-heading Chinese cabbage (Brassica rapa ssp. chinensis L.) ;Plant chitinase;Plant defensin;Real-time quantitative PCR;Systemic acquired resistance
【中文摘要】略
【英文摘要】Two cDNA clones for a pathogen inducedgenes in non-heading Chinese cabbage (Brassica rapa ssp.chinensis L. cv. Suzhouqing) were isolated and character-ized. The two full-length cDNA clones, designated Bcchiand BcAF were isolated during the resistance response toPeronospora parasitica. Sequence analysis of corre-sponding cDNA clones con fi rmed the translation productsof both genes showed high degree of homology to otherplant chitinases and plant defensins, respectively. GenomicDNA Southern blot analysis indicated that each gene rep-resented a small multi-gene family. Upon inoculation withP. parasitica, both genes transcripts were rapid accumu-lated in the infected leaves. Tissue-speci fi c expression ofboth genes showed that 24 h post-inoculation the highestexpression tissue of Bcchi mRNA was leaves, and 12 hpost-inoculation the highest expression tissue of BcAFmRNA was leaves. These data revealed that both genesmay be involved in plant resistance against fungal patho-gen infection.
【语种】英文
【第一作者】Xiaofeng Chen
【通讯作者】Xilin Hou
【期刊名称、卷期、页码】Mol Biol Rep (2008) 35:621 – 629
【论文发表时间】2008-03-10 00:00:00
【引文索引类型】SCI
【引文索引号】DOI 10.1007/s11033-007-9132-0
【学科分类】园艺学

【题目】枯草芽孢杆菌脂肽类抗生素发酵和提取条件
【中文关键词】枯草芽孢杆菌; 脂肽类抗生素; 发酵; 提取
【英文关键词】无
【中文摘要】以枯草芽孢杆菌G1 为出发菌株,研究了发酵过程中不同培养条件和培养基对该菌株产生脂肽类抗生素的影响。结果表明: 最有利于脂肽类抗生素产生的发酵条件是初始pH710 ,接种量3 % ,发酵培养温度30 ℃,发酵时间38h 时,而最佳培养基为Landy 培养基。在提取脂肽类抗生素粗提物的过程中发现,加酸至pH410 时脂肽类抗生素能够完全沉淀。在Landy 培养基和上述发酵条件下,最多能产生脂肽类抗生素粗提物615g/ L 。利用HPLC 技术对产生的脂肽类抗生素进行定量分析,结果表明产生纯的脂肽类抗生素最高达214g/ L
【英文摘要】无
【语种】中文
【第一作者】王帅
【通讯作者】高学文
【期刊名称、卷期、页码】中国生物防治,23(4),342-344
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【引文索引类型】其他
【引文索引号】null
【学科分类】植物保护学

【题目】The construction of a genetic linkage map of non-heading Chinese cabbage (Brassica campestris ssp. chinensis Makino)
【中文关键词】略
【英文关键词】non-heading Chinese cabbage; genetic linkage map; SRAP; SSR; RAPD
【中文摘要】略
【英文摘要】Non-heading Chinese cabbage (Brassica campestris ssp. chinensis Makino) is one of the most important vegetables in eastern China. A genetic linkage map was constructed using 127 doubled haploid (DH) lines, and the DH population was derived from a commercial hybrid “ Hanxiao ” (lines SW-13 × L-118). Out of the 614 polymorphic markers, 43.49% were not assigned to any of the linkage groups (LGs). Chi-square tests showed that 42.67% markers were distorted from expected Mendelian segregation ratios, and the direction of distorted segregation was mainly toward the paternal parent L-118. After sequentially removing the

markers that had an interval distance smaller than 1 cM from the upper marker, the overall quality of the linkage map was increased. Two hundred and sixty-eight molecular markers were mapped into 10 LGs, which were anchored to the corresponding chromosome of the B. rapa reference map based on com-mon simple sequence repeat (SSR) markers. The map covers 973.38 cM of the genome and the average interval distance between markers was 3.63 cM. The number of markers on each LG ranged from 18 (R08) to 64 (R07), with an average interval distance within a single LG from 1.70 cM (R07) to 6.71 cM (R06). Among these mapped markers, 169 were sequence-related amplified polymorphism (SRAP) mo-lecular markers, 50 were SSR markers and 49 were random amplification polymorphic DNA (RAPD) markers. With further saturation to the LG, the current map offers a genetic tool for loci analysis for important agronomic traits.

【语种】英文

【第一作者】Yan Cheng

【通讯作者】Xilin Hou

【期刊名称、卷期、页码】J. Genet. Genomics 36 (2009) 501-508

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【引文索引号】DOI: 10.1016/S1673-8527(08)60140-X

【学科分类】园艺学

【题目】Linkage map construction and QTL analysis for bolting trait based on a DH population of Brassica rapa

【中文关键词】略

【英文关键词】bolting index; Chinese cabbage; doubled haploid population; genetic map; quantitative trait loci.

【中文摘要】略

【英文摘要】Early bolting of Chinese cabbage (Brassica rapa L.) during spring cultivation often has detrimental effects on theyield and quality of the harvested products. Breeding late bolting varieties is a major objective of Chinese cabbagebreeding programs. In order to analyze the genetic basis of bolting traits, a genetic map of B. rapa was constructedbased on amplified fragment-length polymorphism (AFLP), sequence-related amplified polymorphism (SRAP), simplesequence repeat (SSR), random amplification of polymorphic DNA (RAPD), and isozyme markers. Marker analysiswas carried out on 81 double haploid (DH) lines obtained by microspore culture from F1 progeny of two homozygousparents: B. rapa L. ssp. pekinensis (BY) (an extra-early bolting Chinese cabbage line) and B. rapa L. ssp. rapifera(MM) (an extra-late bolting European turnip line). A total of 326 markers including 130 AFLPs, 123 SRAPs, 16 SSRs, 43RAPDs and 14 isozymes were used to construct a linkage map with 10 linkage groups covering 882 cM with anaverage distance of 2.71 cM between loci. The bolting trait of each DH line was evaluated by the bolting index undercontrolled conditions. Quantitative trait loci (QTL) analysis was conducted using multiple QTL model mapping withMapQTL5.0 software. Eight QTLs controlling bolting resistance were identified. These QTLs, accounting for 14.1% to25.2% of the phenotypic variation with positive additive effects, were distributed into three linkage groups. Theseresults provide useful information for molecular marker-assisted selection of late bolting traits in Chinese cab-bage breeding programs.

【语种】英文

【第一作者】Xu Yang

【通讯作者】Feng-Lan Zhang

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【引文索引号】doi: 10.1111/j.1672-9072.2007.00447.x

【学科分类】园艺学

【题目】Unconditional and Conditional Quantitative Trait Loci Mapping for Plant Height in Nonheading Chinese Cabbage.

【中文关键词】略

【英文关键词】nonheading Chinese cabbage, plant height, unconditional QTL mapping, conditional QTL mapping

【中文摘要】略

【英文摘要】Quantitative trait loci (QTLs) identi fi ed so far in Brassica were mainly generatedin the fi nal stage of plant development, which did not apply to the exploitation of geneticeffects that were expressed during a speci fi c developmental stage.

Thus, the objective of thisstudy was to simultaneously identify unconditional and conditional QTL associated withplant height at various stages of nonheading Chinese cabbage. One hundred twelve doubledhaploid (DH) lines developed from the cross between nonheading Chinese cabbage lines ‘ SW-13 ’ and ‘ SU-124 ’ were used for QTL analysis of plant height by the composite intervalmapping method combined with mixed genetic model. The map we used for QTL analysiswas an updated version of the first genetic map of nonheading Chinese cabbage with 48additional markers to the same DH population. With data from 2 years, a total of 11unconditional QTLs in six linkage groups and 23 conditional QTLs in eight linkage groupswere identified for plant height. The results indicated that the number and type of QTLsand their genetic effects for plant height were different in a series of measuring stages. EachQTL can explain 7.92% to 28.25% of the total phenotypic variation. Two QTLs (ph8-4 andph8-5) were identified to be associated with plant height using both unconditional andconditional mapping methods simultaneously in 2 years. These results demonstrated that itis highly effective for mapping QTL of developmental traits using the unconditional andconditional analysis methodology.

【语种】英文

【第一作者】Yan Cheng,Jianfeng Geng

【通讯作者】Xilin Hou

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【引文索引类型】SCI

【引文索引号】none

【学科分类】园艺学

【题目】IdentiWcation of SCAR markers linked to or, a gene inducing beta-carotene accumulation in Chinese cabbage

【中文关键词】略

【英文关键词】Chinese cabbage (Brassica rapa L. ssp. pekinensis) · Orange head leaf gene (or) · SCAR markers · Gene mapping · Marker-assisted selection

【中文摘要】略

【英文摘要】The or mutation in Chinese cabbage(Brassica rapa L. ssp. pekinensis) is a recessive, sin-gle-locus mutation that causes the head leaves of theplant to accumulate carotenoids and turn orange. InChina, considerable attention has been focused inrecent years on breeding the variety with orange headleaves. In this study, sequence-characterized ampliWedregion (SCAR) markers linked to the or gene wereidentiWed based on random ampliWed polymorphicDNA (RAPD) and ampliWed fragment length poly-morphism (AFLP) by performing a bulked segregantanalysis (BSA) using a doubled haploid (DH) popula-tion derived from the F1 cross between 91-112 (whitehead leaves) and T12-19 (orange head leaves) viamicrospore culture. Two RAPD markers—OPB01-845 and OPAX18-656—and 1 AFLP marker, namely,P67M54-172, were identiWed to be linked to the orgene, and they were successfully converted into theSCAR markers SCR-845, SCOR204, and SCOR127,respectively. In a linkage analysis, these 3 SCARmarkers and 2 previously published simple sequencerepeat markers, namely, BRMS-51 and Ni4D09(located on R9 linkage group), were mapped to thesame linkage group with the or gene at a LOD score of6.0, indicating that the or gene should be located onthe linkage group R9 of the A genome. In addition,accuracies of 92%, 90%, and 89.1% were obtainedwhen 110 diVerent inbred breeding lines of Chinesecabbage were used for investigation with these 3SCAR markers, indicating that these makers could beused in marker-assisted selection in orange head leafbreeding programs for Chinese cabbage.

【语种】英文

【第一作者】Fenglan Zhang

【通讯作者】Fenglan Zhang

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【引文索引类型】SCI

【引文索引号】DOI 10.1007/s10681-008-9721-6

【学科分类】园艺学

【题目】A Genetic Linkage Map of Nonheading Chinese Cabbage
【中文关键词】略
【英文关键词】Brassica rapa ssp. chinensis, doubled haploid population, SSR, RAPD, SRAP, ISSR, segregation distortion
【中文摘要】略
【英文摘要】Brassica rapa L. ssp. chinensis (L.) Hanelt, known as nonheading chinese cabbage in China, is an importantvegetable in eastern Asia and its genetic improvement requires a genetic linkage map. The first genetic linkage map ofnonheading chinese cabbage using 112 doubled haploid lines derived from a released F1hybrid cultivar Shulu ¨ between two lines SW-3 and Su-124 was constructed in this paper. One hundred thirty-eight molecular markers weremapped into 14 linkage groups. Among these markers, there were 77 sequence-related amplified polymorphism markers,27 simple sequence repeat markers, 21 random amplification polymorphic DNA markers, and 13 intersimplesequence repeat markers. Chi-square tests showed that 54 markers are distorted from Mendelian segregation ratios,and the direction of the distortion is mainly toward the maternal parent SW-3. The distortion affects not only theestimation of genetic distance, but also the order of distorted markers on a same linkage group. Given a specific marker order, the authors proposed a multipoint approach to correct the linkage map in an unbiased manner in anF2population while considering distorted, dominant, and missing markers. A new method was used to correct thelinkage map in the doubled haploid population mentioned earlier considering new, distorted, and missing markers.The total length of the corrected linkage map was 1923.75 cM, with an average marker spacing of 15.52 cM. The mapwill facilitate selective breeding and mapping of quantitative trait loci.
【语种】英文
【第一作者】Jian-Feng Geng
【通讯作者】Xilin HOU
【期刊名称、卷期、页码】J. AMER. SOC. HORT. SCI. 132(6):816 – 823. 2007.
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【引文索引号】none
【学科分类】园艺学

【题目】Genetic mapping and localization of a major QTL for seedling resistance to downy mildew in Chinese cabbage (Brassica rapa ssp. pekinensis)
【中文关键词】略
【英文关键词】Brassica rapa ssp. pekinensis;Seedling resistance to downy mildew;Doubled haploid (DH) ;Genetic mapping ;QTL (quantitative trait loci)
【中文摘要】略
【英文摘要】Downy mildew caused by the fungusPeronospora parisitica is a serious threat to membersof the Brassicaceae family. Annually, a substantialloss of yield is caused by the widespread presence ofthis disease in warm and humid climates. The aim ofthis study was to localize the genetic factors affectingdowny mildew resistance in Chinese cabbage (Bras-sica rapa ssp. pekinensis). To achieve this goal, weimproved a preexisting genetic map of a doubled-haploid population derived from a cross between twodiverse Chinese cabbage lines, 91-112 and T12-19,via microspore culture. Microsatellite simplesequence repeat (SSR) markers, isozyme markers,sequence-related amplified polymorphism markers,sequence-characterized amplified region markers andsequence-tagged-site markers were integrated into thepreviously published map to construct a compositeChinese cabbage map. In this way, the identities oflinkage groups corresponding to the Brassica Agenome reference map were established. The newmap contains 519 markers and covers a total length of1,070 cM, with an average distance between markersof 2.06 cM. All markers were designated as A1 – A10through alignment and orientation using 55 markersanchored to previously published B. rapa or B. napusreference maps. Of the 89 SSR markers mapped, 15were newly developed from express sequence tags inGenbank. The phenotypic assay indicated that asingle major gene controls seedling resistance todowny mildew, and that a major QTL was detectedon linkage group A8 by both interval and MQMmapping methods. The RAPD marker K14-1030 andisozyme marker PGM flanked this major QTL in aregion spanning 2.9 cM, and the SSR markerOl12G04 was linked to this QTL by a distance of4.36 cM. This study identified a potential chromo-somal segment and tightly linked markers for use inmarker-assisted selection to improve downy mildewresistance in Chinese cabbage.
【语种】英文
【第一作者】Shuancang Yu

【通讯作者】Fenglan Zhang
【期刊名称、卷期、页码】Mol Breeding (2009) 23:573 – 590
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【学科分类】园艺学

【题目】大白菜 SRAP 反应体系的建立与优化
【中文关键词】大白菜; SRAP; 优化; 正交试验
【英文关键词】Chinese cabbag e (Brassica camp estr is syn. rapa L. ssp. P ekinensis (L our) olsson) ; SRAP; Optimization; Orthogo nal design
【中文摘要】以大白菜基因组D NA 为模板, 通过正交试验设计, 从M g2+ 、T aq 酶、dNT Ps、引物、模板5 种因素4个水平对大白菜SRA P(Sequence- related amplified polymo rphism, 序列相关扩增多态性) 反应体系进行优化,建立了适合于大白菜的SRA P- P CR 优化反应体系, 该体系为25 L: M g2+ 浓度为3. 0 mmo l/ L, dN T Ps 为0. 2mmol/ L , T aq 酶1. 5 U , 引物为0. 2 mol/ L , 模板DN A73. 2 ng。P CR 反应程序为: 94 预变性5 min; 94 变性1 min, 35 复性1 m in, 72 延伸1 min, 5 个循环; 94 变性1 min, 50 复性1 min, 72 延伸1 min, 35 个循环, 72 延伸10 min。
【英文摘要】U sing Chinese Cabbag e (Br assica camp estris syn. r apa L . ssp. P ekinensis (L our) olsson)geno me DNA as tem plate, the m ajor com po nents of SRAP, such as co ncentratio ns of M g2+, dNT Ps,Taq DNA polym erase, primers and template, w ere o ptimized in this study by ortho gonal desig n in fivefacto rs four levels r espectively. T he results show ed that the optim um SRAP reaction system includesMg2+3. 0 mmo l/ L, dN TPs 0. 2 m mol/ L, DNA template 73. 2 ng , T aq DNA poly merase 1. 5 U andprim er 0. 2 mo l/ L in the 25 L vo lum e reaction. The m ost suitable protocol w as initially denaturingat 94 for 5 m in, then pr e-amplifying at 94 1 min, 35 1min and 72 1 min fo r five cy cles, finallyam plifying for 35 cy cles w hen the annealing tem perature w as adjusted to 50 .
【语种】中文
【第一作者】杨 琦
【通讯作者】张鲁刚
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【学科分类】园艺学

【题目】油菜菌核病生防芽孢杆菌的分离鉴定及其脂肽化合物分析
【中文关键词】油菜菌核病; 芽孢杆菌; 16S rDNA; BOX PCR 指纹图谱; 脂肽化合物
【英文关键词】无
【中文摘要】采用平板拮抗筛选, 分别从西藏日喀则地区和拉萨地区杂草根围土壤中筛选到2个对油菜菌核病菌有显著拮抗活性的芽孢杆菌菌株RJGP16和YBWC43。通过生理生化鉴定、16S rDNA 序列分析和BOX PCR 指纹图谱分析, 鉴定菌株RJGP16 为萎缩芽孢杆菌Bacillus atrophaeus, 菌株YBWC43为解淀粉芽孢杆菌B acillus amyloliquefaciens。离体叶片试验结果显示, 菌株RJGP16 和YBWC43对油菜菌核病菌防治效果分别为50. 24% 和100. 00% 。脂肽化合物种类分析显示, 菌株RJGP16产生脂肽化合物表面活性素和芬枯草菌素, 菌株YBWC43产生杆菌霉素D和芬枯草菌素。表明菌株R JGP16和YBWC43对油菜菌核病的防治效果与其产生的脂肽化合物有关。
【英文摘要】无
【语种】中文
【第一作者】薛鹏琦
【通讯作者】高学文
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【学科分类】植物保护学

【题目】大白菜SSR锚定标记分子遗传图谱的构建
【中文关键词】大白菜；遗传图谱；SSR；锚定标记
【英文关键词】Chinese cabbage; genetic map; SSR; anchor markers
【中文摘要】为了将已有的大白菜分子遗传图谱和国际上A 基因组参考图谱对应起来，利用国际上发表的大白菜和甘蓝型油菜 A 基因组特异 SSR 标记作为锚定标记，以 100个 DH 株系组成的群体为作图群体进行了分子遗传图谱的构建研究。利用双亲和F1对 230个SSR 标记和 8个STS 标记进行了筛选，共获得67个多态性分子标记。在此基础上整合了已有的 263 个 AFLP 标记、150 个 RA PD 标记、17 个 SSR 标记、3个SCAR 标记、14个同工酶标记和 1个形态标记，最终构建了一张由 10个连锁群组成，包含了 497个标记的大白菜高密度分子遗传图谱。该图谱覆盖基因组长度 1 08617 cM，标记间平均图距 21 19 cM。此图谱上包含了已在A 基因组参考图谱上定位的 34个 SSR 标记和2个 ST S标记，分布于 10 个连锁群上，由此可将该图谱按A 基因组参考图谱的连锁群进行命名，即A 1~ A 10，并与 10 条染色体对应起来，A 1~ A 10 分别对应 3、6、2、8、5、4、7、9、1、10号染色体。
【英文摘要】In th is paper, a DH population inc lud ing 100 lines w as used to construct a detailed geneticm ap to estab lish the identity of linkage g roups corresponding to reference m ap ofB rassica A genom e. A se t o fSSR and STS m arkers prov ided anchors to prev iously pub lished linkage m aps forB. rapa and B. napus, andw as used to designate linkage groups. Ou t o f 230 SSR m arkers and 8 STS m arkers, 67 m arkers show ed po ly-m orph ism betw een 2 parents and w ere analyzed in DH popu lation. In add ition, 448 prev iously m apped m o lec-u lar m arkers, including 263 AFLP m arkers, 150 RAPD m arkers, 17 SSR m arkers, 3 SCAR m arkers, 14isozym e m arkers and a m orpho log ica lm arker w ere integrated to a genetic m ap. This m ap contains 497 loc,iand covered 1 08617 cM w ith an average d istance 2119 cM. In th ism ap, 36 m arkers prev iously pub lished inre ference m ap, including 34 SSR m arkers and 2 STS m arkers, w ere distributed in 10 linkage g roups. A ccord-ing ly, these linkage g roupsw ere nam ed fo llow ing the A1 to A10 o f reference m ap, and w ere assigned to corre-spond ing chrom osom es.
【语种】中文
【第一作者】于仁波
【通讯作者】张凤兰
【期刊名称、卷期、页码】园 艺 学 报 2008，35（10）：1447-1454
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【学科分类】园艺学

【题目】Over-expression of mitochondrial heat shock protein 70 suppresses programmed cell death in rice
【中文关键词】线粒体热激蛋白70;线粒体膜电势;细胞程序性死亡;活性氧;水稻
【英文关键词】Mitochondrial heat shock protein 70; Mitochondrial membrane potential; Programmed cell death; Reactive oxygen species; Oryza sativa
【中文摘要】本文鉴定并验证了线粒体热激蛋白70的生物学功能。在水稻原生质体中过表达该基因可以有效抑制热激和过氧化氢诱导的程序性死亡,部分原因在于线粒体热激蛋白70 可以稳定并维持线粒体内膜完整性及跨膜电势,并部分阻止了细胞色素C的外漏。同时,该蛋白的过表达也抑制了程序性死亡早期的活性氧爆发。
【英文摘要】In this study, we identified and functionally characterized the mitochondrial heat shock protein 70 (mtHsp70). Over-expression of mtHsp70 suppressed heat- and H2O2-induced programmed cell death (PCD) in rice protoplasts, as reflected by higher cell viability, decreased DNA laddering and chromatin condensation. Mitochondrial membrane potential (Dwm) after heat shock was destroyed gradually in protoplasts, but mtHsp70 over-expression showed higher Dwm relative to the vector control cells, and partially inhibited cytochrome c release from mitochondria to cytosol. Heat treatment also significantly increased reactive oxygen species (ROS) generation, a phenomenon not observed in protoplasts over-expressing mtHsp70. Together, these results suggest that mtHsp70 may suppress PCD in rice protoplasts by maintaining mitochondrial Dwm and inhibiting the amplification of ROS.
【语种】英文
【第一作者】齐耀程
【通讯作者】张炜
【期刊名称、卷期、页码】FEBS Letters, 585: 231 – 239

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【学科分类】生物化学

【题目】西藏低温适生芽孢杆菌的分离鉴定及其抗菌和促生作用
【中文关键词】低温适生芽孢杆菌; ERIC-PCR 指纹图谱; 16S rRNA 系统发育; gyrB 基因;抑菌作用; 促生作用
【英文关键词】无
【中文摘要】从西藏拉萨色拉寺杂草根围土壤中分离到1 株低温适生芽孢杆菌LSSC3, 对该菌株进行了形态学、生理生化和分子生物学鉴定及抗菌和促生作用研究。菌株LSSC3 细胞短杆状, 芽孢圆形, 10 度条件下生长良好。生理生化特征显示, 该菌株与巨大芽孢杆菌Bacillus megaterium特征一致, 但ERIC-PCR 指纹图谱分析表明其与B .megaterium 模式菌株存在显著差异。16SrRNA 基因序列分析结果显示, 菌株LSSC3 与B. subtilis 和B. atrophaeus 的系统发育相似性均很高。进一步通过gyrB 基因测序和比对, 其同源性与B. atrophaeus 达到100%, 没有找到与B . subtilis 的同源性关系。据此, 将其鉴定为B. atrophaeus 。菌株LSSC3 对植物病原真菌和细菌均具有很强的抑制作用, 同时对拟南芥有良好的促生长作用。该菌具有耐低温和生防的双重特点, 具有在农业生产上应用的潜力。
【英文摘要】无
【语种】中文
【第一作者】刘芳
【通讯作者】高学文
【期刊名称、卷期、页码】中国生物防治,26(4):453-460
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【引文索引号】null
【学科分类】植物保护学

【题目】大白菜抗 TuMV-C3 的 QTL 分析
【中文关键词】大白菜;TuMV-C3
;SRAP;数量性状位点(QTL)
【英文关键词】Chinese cabbage; TuMV-C3; SRAP; QTL
【中文摘要】本研究以大白菜高抗 TuMV-C3 株系的自交系 A52-2 和感病自交系 P9805 杂交的 F2 代 202 个单株作为构建遗传图谱的作图群体,采用 SRAP 标记方法构建包含 8 个连锁群,由 95 个 SRAP 遗传标记组成的大白菜分子遗传图谱,该图谱覆盖长度为 1 151.1 cM,平均图距 12.1 cM 。运用软件 Windows QTL Cartographer V2.5 和复合区间作图法共检测到 4 个抗 TuMV-C3 的 QTL 位点。这一研究成果为开展大白菜 TuMV 抗性分子标记辅助育种提供了理论基础。
【英文摘要】A population of Chinese cabbage F2 generation including 202 individual plants was derivedfrom the cross between resistance line A52-2 and susceptible line P9805. A molecular genetic map ofChinese cabbage was constructed with Mapmaker 3.0 software. A total of 95 SRAP markers were mapped to8 linkage groups, covering 1 151.1 cM with an average distance of 12.1 cM between loci. Four QTLscontrolling TuMV-C3 resistance at artificial inoculation were identified with Windows QTL Cartographer V2.5software and Composite Interval Mapping method. It provides theoretical base for improvement of Mar-ker-assisted Selection (MAS) for breeding ofTurnip Mosaic Virus (TuMV) resistance in Chinese cabbage.
【语种】中文
【第一作者】屈淑平
【通讯作者】崔崇士
【期刊名称、卷期、页码】东北农业大学学报 40(11): 33~37
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【引文索引号】null
【学科分类】园艺学

【题目】大白菜抗软腐病性状的 SRAP 标记分析

【中文关键词】大白菜;软腐病;SRAP ;数量性状位点(QTL)
【英文关键词】Chinese cabbage;
Erwinia. carotovora . subsp.carotovora; SRAP; QTL
【中文摘要】:以大白菜高抗软腐病的自交系 A32-2 和感病自交系 A19-2 进行杂交的 F2 代 225 个单株作为构建遗传图谱的作图群体,采用 SRAP 标记方法构建了包含 10 个连锁群,由 103 个 SRAP 遗传标记组成的大白菜分子遗传图谱,该图谱覆盖长度为 1 223.6 cM,平均图距 11.9 cM 。运用软件 Windows QTL Cartographer V2.5 和复合区间作图法共检测到 4 个抗软腐病的 QTL 位点。
【英文摘要】A population of F2 generation Chinese cabbage including 225 individual plants were derived fromthe crossing between resistance line A32-2 and susceptible line A19-2. molecular genetic map of Chinese cabbagewas constructed using Mapmaker 3.0 software. Total 103 SRAP markers were developed in 10 linkage groups,covering was 1 223.6 cM with an average distance of 11.9 cM between four QTLs linked to soft rot resistance traitwere identified using Windows QTL Cartographer V2.5 software and Interval Mapping Method.
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【第一作者】徐莹莹
【通讯作者】屈淑平
【期刊名称、卷期、页码】东北农业大学学报
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【学科分类】园艺学

【题目】西藏帕里牦牛本品种选育研究
【中文关键词】帕里牦牛, 本品种选育, 初生重, 生长发育, 成活率;
【英文关键词】Pali yak, breeding, birth weight, growth, livability;
【中文摘要】通过对帕里牦牛体型外貌特征和体尺体重指标进行了种公牛和基础母牛的选择, 并进行本品种选育, 建立了牦牛本品种选育技术体系和规程, 向全区提供牦牛良种, 为牦牛良种推广和生产性能的提高起到积极的推动作用。
【英文摘要】无
【语种】中文
【第一作者】姬秋梅
【通讯作者】姬秋梅
【期刊名称、卷期、页码】西藏科技,2011年第2期,P60-61
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【学科分类】畜牧学

【题目】不结球白菜PR4 蛋白基因的克隆与诱导表达分析
【中文关键词】不结球白菜; PR4; 实时定量PCR(qPCR) ; 系统获得抗性(SAR) ; R ACE
【英文关键词】no n-heading Chinese cabbage (Br assica camp estr is ssp. chinensis) ; PR4; rea-l time quantitative PCR (qPCR) ; systemic acquired resistance (SAR) ; RA CE
【中文摘要】从不结球白菜抗病品种苏州青中克隆到一个受SA 和病原菌诱导的病程相关蛋白4(P R4) 基因, 命名为BcP R4(DDBJ 登录号: A B325873) , 该基因核苷酸序列全长593 bp, 编码140 个氨基酸, 与其它植物的PR4 蛋白基因具有较高的相似性。系统进化树分析表明, 该基因在不同物种之间具有保守性。基因组DN A 杂交表明BcPR4 属于多基因家族。实时定量PCR(qP CR) 检测表明, SA 和Peronosp ora p ar asitica 均能诱导不结球白菜BcP R 4 转 录表达, BcPR4 在不结球白菜叶片中的表达特征说明它可能参与寄主对病原菌的抗性。
【英文摘要】A SA and pathog en induced cDNA clo ne in Brassica camp estr is ssp. chinensis cv. Suzho uqing was isolated and characterized. T he gene w as desig nated as B cP R4(DDBJ accession number AB325873) , which contains 593 bp nucleotide and encodes 140 amino acids. BcPR4 show s high sim ilar ity w ith P R4 gene from other plants. Phy log enetic analy sis revealed the evo lutionary co nser vation of these pr oteins among diver sespecies. Genom ic DNA g el blot show ed that B cPR 4 belong to a multigene family. Rea-l tim e quantitative PCR (qPCR) analysis revealed that BcPR4 transcript was increased after inoculated w ith SA and P er

onosp ora p ar asitica. Expressio n characterization o f BcPR4 in non-heading Chinese cabbag e leaves indicated that it might be involved in host resistance against pathog ens.
【语种】中文
【第一作者】陈晓峰
【通讯作者】侯喜林
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【学科分类】园艺学

【题目】西藏牦牛生产系统特征、存在问题及发展思路
【中文关键词】牦牛;现状;问题;发展;思路
【英文关键词】Yak;Current Situation;Problem;Development;Thread
【中文摘要】:本文通过对西藏牦牛生产系统的研究和总结,阐述了西藏牦牛生产和发展的现状,分析了牦牛生产中存在的主要问题,并针对主要问题提出了解决的技术措施以及西藏牦牛产业发展的初步的思路,为今后牦牛的科研和生产提供参考。
【英文摘要】Abstmct:Through the research and summary of Tibetan yak production systems through,the current situation of yak production and development was described and the main issues about the Yak production were analyzed. According the main problems,the preliminary thinking and strategies were presented and technical measures were put forward,which would provide some references for further research and production on yak in Tibet.
【语种】中文
【第一作者】姬秋梅
【通讯作者】姬秋梅
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【学科分类】畜牧学

【题目】Mitochondrial proteome during salt stress-induced programmed cell death in rice
【中文关键词】细胞程序性死亡;蛋白质组学;线粒体;盐胁迫;热激蛋白70
【英文关键词】Programmed cell death; Proteomics; Mitochondria; Salt stress; Heat shock protein 70
【中文摘要】前期研究在水稻根尖细胞中建立了盐诱导细胞程序性死亡模型,包括DNA片段化、细胞色素C释放、TUNEL阳性反应。本研究进一步分析线粒体在PCD早期发挥的作用。盐诱导2小时后,线粒体完整度轻微下降,伴随少量细胞色素C释放,电子传递部分受抑,导致活性氧爆发,但ATP的产量未受影响。分析了该PCD条件下的线粒体蛋白质组,并鉴定了8个PCD相关蛋白。其中4个蛋白表达上调,包括葡糖苷水解酶、线粒体热激蛋白70、20S蛋白酶体、SOD。4个蛋白下调,包括ATP合酶亚基、细胞色素C氧化酶亚基、SAM和转录起始因子。结果表明ATP合酶可能不是PCD早期线粒体ATP的主要生产者,葡糖苷水解酶参与ETC伤害及活性氧爆发,热激蛋白70是PCD的调节因子。
【英文摘要】It has been shown that mitochondria play a pivotal role in plant programmed cell death (PCD). Previous study established a salt stress-induced PCD model in rice (Oryza sativa L. cv. WYJ 8th) root tip cells, demonstrated by DNA laddering, cytochrome c release, and TUNEL positive reaction. In this study, the role of mitochondria during the early phase of PCD (2h-PCD) was analyzed in rice roots. After 2h-PCD induction, the integrity of mitochondria decreased slightly, consistent with a small release of cytochrome c. 2h-PCD partially inhibited electron transport, resulting in oxidative burst in mitochondria. However, ATP production maintained constant. Mitochondria proteome were analyzed by two-dimensional IEF/SDS-PAGE before and after 2h-PCD induction, and eight PCD-related proteins were identified. Amongthem, four proteins were up-regulated after PCD induction, which included glycoside hydrolase, mitochondrial heat shock protein 70, 20S proteasome subunit, and Cu/Zn-superoxide dismutase, and four were down-regulated, namely ATP synthase beta subunit, cytochrome c oxidase subunit 6b, S-adenosylmethionine synthetase 2, and transcription initiation factor eIF-3 epsilon. These results suggested that ATP synthase may not be the major producer of ATP in mitochondria during the early stage of PCD in rice. Glycoside hydrolase may be involved in ETC impairment and ROS burst, and

mitochondrial HSP70 is a potential candidate for PCD regulation. The possible roles of other proteins on PCD initiation were also discussed。

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【第一作者】陈熙
【通讯作者】张炜
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【题目】基于光温的温室标准切花菊品质预测模型
【中文关键词】温室　标准菊　切花　品质　生理辐热积　预测模型
【英文关键词】greenhouse; standard chrysanthemum; cut flower; quality; physiological product of thermal effectiveness and PAR; prediction model.
【中文摘要】根据光温对菊花品质的影响, 通过不同定植期和不同品种试验, 建立了以生理辐热积(physiological product of thermal effectiveness and PAR, PTEP)为尺度的温室标准切花菊品质预测模型,并用独立的试验数据对模型进行检验.结果表明: 模型对温室标准切花菊的展叶数、 单株叶面积、 株高、 茎粗、 节间长和花径的模拟值与实测值的符合度较好, 模拟值与实测值基于 1:1线的决定系数(R2)和预测相对误差(RSE)分别为 0.99、0.98、0.98、0.92、0.87、0.88和 5.5 %、 6.5 %、5.9 %、4.1%、11.2 %、 12.4 %. 表明该品质预测模型预测精度高、 实用性强,可为温室标准切花菊生产中的光温调控提供理论依据和决策支持.
【英文摘要】Based on the effects of light and temperature on chrysanthemum quality and the experiments with different chrysanthemum varieties and planting dates , a quality prediction model of greenhouse standard cut chrysanthemum with the physiological product of thermal effectiveness and PAR (PTEP) as the measurement scale was developed and validated . The results showed that the predicted results, including the number of unfolding leaves, leaf area, plant height, stem diameter,internode length and flower diameter, accorded well with the observed ones , and the determination coefficient (R2) and relative prediction error (RSE) based on 1:1 line were 0.99, 0.98, 0.98,0.92, 0.87 and 0.88, and 5.5%, 6.5%, 5.9%, 4.1%, 11.2%, 12.4%, respectively. This model was of high precision and practicable, which could be used in optimizing the light and temperature management for greenhouse standard cut chrysanthemum production
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【第一作者】杨再强
【通讯作者】罗卫红
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【题目】不结球白菜BcDF1. 2 基因克隆与诱导表达
【中文关键词】不结球白菜; 植物防卫素; 实时定量PCR; 系统获得抗性(SA R) ; RACE
【英文关键词】Brassica campestris ssp. chinensis; plant defensin; real time quantitative PCR; systemic acquired resistance (SAR) ; RACE
【中文摘要】利用R ACE 技术, 获得了不结球白菜防卫素基因全长序列, 命名为BcDF1. 2(DDBJ 登录号A B302891) . 序列分析发现, BcD F1. 2 全长532 bp 包含1 个长度为96 bp 的内含子区域, 该基因编码79 个氨基酸残基组成的蛋白质, 与其他植物的防卫素基因和抗真菌蛋白基因有较高的同源性. 系统进化树分析表明, 该基因在不同植物间具有高度保守性. 基因组D NA 杂交表明BcD F1. 2 属于较小的多基因家族. 水杨酸和霜霉病原菌诱导后, 该mR NA 不仅在诱导的叶片中转录表达增加, 而且在未诱导的系统叶片中表达增加. BcDF1. 2 在不结球白菜叶片中的转录表达特点表明可能参与对霜霉病的抗性反应.
【英文摘要】Using RACE techno logy , a plant denfensin g ene w as cloned from B rassica camp estris ssp. chinensis geno mic DNA. T he plant denfensin gene, designated B cDF1. 2, contains 532 bp nucleotides w ith a 96 bp intron sequence (DDBJ accession No. AB302891) . BcDF1. 2 encodes a po lypeptide o f 79 amino acids, and show ed high deg ree of homolo gy to other plant defensin g enes

and antifung al pr oteins. Phylog enetic analysis rev ealed the evolutionary conserv ation of this pro tein among different plants. Genomic DNA gel blot show ed that BcDF1. 2 belo ng s to a small m ultigene family. U pon inoculated w ith salicylic acid (SA) and P. parasitica, BcDF 1. 2 mRN A transcript was increased no t o nly in infected leav es but also in uninfected system ic leav es. Ex pr ession character ization of B cDF1. 2 in Br assica camp estr is ssp. chinensis leaves show ed it might be inv olved in host resistance against do w ny mildew (DM) .

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【第一作者】陈晓峰
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【题目】牦牛MOET技术研究进展
【中文关键词】牦牛;超数排卵;体外受精;胚胎移植
【英文关键词】yak;multiple ovulation;in vitro fertilization;embryo transfer;
【中文摘要】本文对近10年有关牦牛同期发情、超数排卵以及胚胎移植研究的相关报道进行了总结,对国、内外有关牦牛在MOET技术研究中应用的方法和效果,对该技术研究进展进行了综述。
【英文摘要】无
【语种】中文
【第一作者】张成福
【通讯作者】张成福
【期刊名称、卷期、页码】中国牛业科学2011,37(1):58-60,64
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【题目】蓝色温和凝胶双向电泳用于分析嗜盐菌质膜蛋白复合物
【中文关键词】嗜盐芽孢杆菌,相容性溶质,质膜,蛋白质复合物,蓝色温和凝胶电泳
【英文关键词】halophilic Bacillus; compatible solute; plasma membrane; protein complex; blue native gel electrophoresis
【中文摘要】为了揭示细胞对盐胁迫渗透适应的分子机制,以新鉴定的中度嗜盐芽孢杆菌Bacillus sp. I121 为实验材料,分析了该嗜盐菌质膜上的盐胁迫响应蛋白.为此,通过蓝色温和凝胶双向电泳(BN/SDS-PAGE)对纯化的质膜组分进行了差异蛋白质组学研究.经MALDI-TOF/TOF质谱分析,鉴定了8 个盐胁迫响应蛋白.盐胁迫诱导上调表达的蛋白质包括ABC 型转运蛋白、3- 磷酸甘油透性酶、嘧啶核苷转运蛋白和甲酸脱氢酶,下调表达的蛋白质包括琥珀酸脱氢酶(succinate dehydrogenase)铁硫亚基、黄素蛋白亚基、细胞色素b556 亚基以及分子伴侣DnaJ 的同源蛋白;酶活力测定结果表明胁迫条件下上述蛋白质的活性变化与表达量变化相一致.这些蛋白质中绝大多数属于高度疏水的跨膜蛋白,主要负责物质跨膜运输及能量代谢.上述结果表明,中度嗜盐菌Bacillus sp. I121 可通过加快跨膜物质运输,同时抑制TCA 循环完成盐胁迫条件下相容性溶质脯氨酸和四氢嘧啶的合成与积累.也进一步证明,蓝色温和凝胶双向电泳不仅可用于线粒体、叶绿体中蛋白质复合物的分析,也同样适用于细胞质膜上高度疏水蛋白复合物的比较研究.
【英文摘要】In order to reveal the mechanisms of cell osmo-adaptation to salt stress, a newly identified moderately halophilic Bacillus sp. I121 was used to study the salt-stress responding proteins. Differential proteomic analysis of the purified plasma membrane fractions were performed by two dimensional Blue-Native/SDS-PAGE. Eight proteins corresponding to NaCl were identified by MALDI-TOF/TOF. Up-regulated proteins under salt stress include an ABC transporter permease, glycerol-3-phosphate permease, pyrimidine nucleotide transporter, formate dehydrogenase, and down-regulated proteins include succinate dehydrogenase iron-sulfur subunit, flavoprotein subunit, cytochrome b-556 subunit, and a hypothetical membrane protein similar to charperone DnaJ. Some of these changes were further verified by enzyme activity assay. Most of these proteins are highly hydrophobic trans-membrane protein, and responsible for material transport across membrane and energy metabolism. These results indicated that in halophilic Bacillus sp. I121,

higher salt stress activated material transport across plasma membrane, and compatible solutes, such as proline and ectoine, could be synthesized through suppressed TCA cycle. The research further demonstrated that besides the protein complexes in mitochondria and chloroplast, BN/SDS-PAGE is also a powerful tool for the protein complexes in plasma membrane.
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【通讯作者】张炜
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【题目】不同处理对西藏牦牛超出排卵的影响研究
【中文关键词】西藏牦牛;超数排卵;埋拴法;PG法;PMSG+PG法
【英文关键词】Tibetan yak;Multiple—ovulation;Burying suppository method;PG method;PMSG+PG method ·
【中文摘要】本研究选用了埋植CIDR栓法、埋植PRID栓法、PG法以及PMSG+PG法四套方案对西藏41头母牦牛进行了超数排卵试验。试验结果:埋植CIDR法得到的平均卵母细胞数为7.4枚/头,埋植PRID法得到的平均卵母细胞数为6.5枚/头.PG法得到的平均卵母细胞数为4枚/头,PMSG+PG法得到的平均卵母细胞数为4.8枚/头,各组之间差异极显著(P<0.01);而经过卵母细胞成熟培养之后,埋植CIDR法得到的平均可用卵母细胞数为6.2枚/头,埋植PRID法得到的平均可用卵母细胞数也为6.2枚/头,PG法得到的平均可用卵母细胞数为4枚/头,PMSG+PG法得到的平均可用卵母细胞数为4.6枚/头,CIDR+FSH法与PRID+FsH法两组、两次PG法与PMSG+PG法两组差异不显著(P>0.05)。但是CIDR+FSH法和pRID+FSH法组与两次PG法和PMSG+PG法组之间差异都极显著(P<0.05);用CIDR法和PRID法进行西藏牦牛超排效果较好,并可获得较多的可用卵母细胞。
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【语种】中文
【第一作者】姬秋梅
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【题目】定植期和定植密度对温室单头切花菊外观品质的影响
【中文关键词】单头切花菊 定植密度 定植期 外观品质
【英文关键词】single-flower cut chrysanthemum; transplanting density; transplanting date; appearance quality
【中文摘要】定植期和种植密度是影响切花菊外观品质的重要栽培措施. 本文以单头切花菊-神马. (Chrysanthemum morifolium cv . Shenma)为材料, 研究定植期和密度对温室单头菊外观品质的影响.结果表明,在试验的定植期和密度范围内,随着定植期的延迟、 密度的增加, 单头菊株高增加,单株叶数、 茎直径减小,单株鲜质量降低, 花颈长度增加, 花朵直径减小,但密度对株高的影响不大.在上海地区非加温温室单头切花菊生产中, 以生产 A级产品为目标的适宜定植期为 8月中旬, 适宜种植密度为 64株 m-2; 以生产 B级产品为目标的适宜定植期为 8月中旬至9月初,适宜种植密度为 72~ 80株 m-2.本研究为建立基于光、 温和密度的温室单头切花菊外观品质预测模型提供了参考.
【英文摘要】Transplanting date and density are the important factors affecting the appearance qualityof chrysanthemum. The study on the greenhouse single-flower cut chrysanthemum (Chrysanthemummorifolium cv. Shenma) showed that within the ranges of test transplanting date and density, the plant height and neck length increased, while the leaf number per plant, stem diameter, plant fresh mass and flower diameter decreased with the delay of transplanting date and the increase of transplanting density. No effect of transplanting density was observed on plant height. For the production of single-flower cut chrysanthemum in non-heated greenhouse in Shanghai, the optimal transplanting date and density to achieve the top rank of quality (rank A) were the middle ten days of August and 64 plants m-2, and those to achieve the second rank of quality (rank B) were from mid August to early September and 72-80 plants m-2, respectively . The results obtained in this study offered references in establishing the prediction model of greenhouse single-flower

cut chrysanthemum appearance quality based on light, temperature, and transplanting date and density.
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【题目】白菜亚硝酸还原酶基因BcNiR 的克隆及表达分析
【中文关键词】白菜; 亚硝酸还原酶; 克隆; 基因表达
【英文关键词】Brassica camp estris L. ssp. chinensis (L.) M ak ino; N iR gene; cDNA; clon ing; expression
【中文摘要】以白菜品种 -苏州青. 自交系叶片 cDNA 为模板, 采用 RT-PCR、3cRACE 和 5cRA CE 技术,获得了编码亚硝酸还原酶基因 (N iR) 的 cDNA 全序列 1 852 bp, 包含有 1 749 bp的开放阅读框, 编码 583个氨基酸,命名为B cN iR。所推导的氨基酸序列与拟南芥N iR1、烟草 nii2 编码的氨基酸序列具有较高同源性,分别为 83% 和 76% 。生物信息学分析表明, B cN iR 具有完整的N iR 蛋白结构, 含血红素蛋白 B - 化合物区域,一个明显的西罗血红素 sirohem e结合位点和 4Fe- 4S 区域, 可以在 SW iSS-M ODEL 数据库中搜索到与之相近的三维结构。RT-PCR 结果显示, 该基因在叶片中的表达量远远高于根系, 在以 0、10、20、30、40 mm o l# L- 1硝态氮各分别处理 0、2、4、6、8、12 h的试验中, 30 mmo l# L- 1处理 4 h可使 BcN iR 的表达量达到最大; 5和 10 mm o l# L- 1铵态氮处理试验表明, 高浓度的铵抑制该基因的表达。
【英文摘要】The BcNiR gene w as cloned using RT-PCR and 3c/5cRACE techn iques w ith cDNA isolatedfrom non-heading Chinese cabbage [Brassica camp estris L. ssp. chinensis (L.) M ak ino], wh ich w as n itrateinduced for 4 hours. The cDNA ofB cN iR w as 1 852 bp conta in ing a 1 749 bp opening-reading fram e (ORF)encoding 583 am ino ac ids. Further com parison show ed thatB cN iR had h igh hom o logy to A rabidop sis thaliana NiR1 gene andN ico tiana tabacum nii2 gene, were 83% and 76%, respective ly. The predicted B cN iR proteinw as found to have a hem oprotein be ta-com pnent (ferrodox in-like), a sirohem e-binding site and 4Fe- 4S reg ion. A sim ilar 3D structural w ere obta ined from the SW iSS-MODEL database. Rea-l tim e PCR analysisshow ed tha,t the expressions ofB cN iR w ere aw fu lly h igher in leaves than that in roo ts. Furtherm ore, in nitratetreatm ent experim en ts, bo th the m ax im um expressions of BcN iR in roo ts and leaves w ere induced by 30 mm o l# L- 1NO3-- N at 4 h. 5 and 10 mm ol# L- 1NH 4+- N treatm ents indicated that high leve l ofNH 4+-N treatm ent restrained the expression o fB cN iR.
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【第一作者】孙菲菲
【通讯作者】侯喜林
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【题目】放牧条件下西藏帕里牦母牛初配体重及体重指数测定研究
【中文关键词】帕里牦母牛,初配期,体重指数
【英文关键词】Pali Yak
【中文摘要】通过对西藏帕里牦母牛初配期体尺体重的测定,结果表明:帕里牦母牛初配期大多为39-40月龄,其体重为187.39±15.19kg,体重指数为0.78,部分为50-52月龄,其体重为210.25±23.20kg,体重指数为0.89,帕里牦母牛的初配期体重极显著高于斯布牦牛(P 0.01)。体重指标在0.8左右时,育成母牛的体重达到该类群成年牦母牛平均体重的70%以上,可进行初配,在选育组群时可纳入当年配种计划。
【英文摘要】pali Yak bodyweight
【语种】中文
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【通讯作者】姬秋梅

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【题目】高等植物液泡加工酶VPE家族的生物信息学分析
【中文关键词】拟南芥; 水稻; 液泡加工酶; 细胞程序性死亡(PCD); 生物信息学
【英文关键词】Arabidopsis thaliana; Oryza sativa L ; vacuolar processing enzyme; programmed cell death (PCD); bioinformatics
【中文摘要】利用已经分离的植物液泡加工酶(vacuolar processing enzyme,VPE)蛋白家族的Peptidase_C13结构域序列为检索序列,对拟南芥和水稻中的VPE家族成员进行序列分析,同时利用所有成员的氨基酸序列构建系统进化树,并对其中的保守序列以及信号肽区段和亚细胞定位进行了分析。结果表明:1)结合同源序列的搜索和结构域的鉴定,最终在拟南芥和水稻中确定了8个和13个VPE,其中2个拟南芥和11个水稻VPE成员为首次报道;2)蛋白系统进化分析表明,该基因家族的基本特征在拟南芥和水稻分离之前就已经形成;3)多序列联配以及MEME分析表明,Peptidase_C13结构域在VPE家族成员间高度保守;4)亚细胞定位分析表明,VPE成员定位于细胞中的不同特定位置,定位于液泡中的占多数。
【英文摘要】In this study,we used the sequence of the Peptidase_C13 domain identified from the vacuolar processing enzyme(VPE)genes in plants as queries to search for VPE genes in both Arabidopsis thaliana and Oryza sativa L.genomes.A phylogenetic tree was then constructed based on the corresponding VPE proteins from Arabidopsis and rice,and the conserved sequences,signal peptides,and subcellular localization of these proteins were analyzed.The results showed that:1)Eight and thirteen VPE from Arabidopsis thaliana and O.sativa,respectively,were identified based on the characteristic domains and the result of alignment analysis.Two and eleven of them from Arabidopsis thaliana and rice,respectively,were reported for the first time.2)The polygenetic analysis of these sequences indicated that the main character for VPE genes might have existed before the split of Arabidopsis thaliana and rice.3)The Peptidase_C13 domain was highly conserved among these proteins based on the sequence alignment analysis.4)The subcellular localization analysis indicated that different VPEs were localized in different positions in cell,but most VPEs were localized in vacuolar
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【学科分类】植物学

【题目】Zn2+对高盐和紫外线胁迫条件下水稻根尖细胞程序性死亡的影响
【中文关键词】盐胁迫; 紫外线辐射; Zn2+; 细胞程序性死亡; 活性氧;
【英文关键词】salt stress; UV radiation; Zn2+; PCD; reactive oxygen species;
【中文摘要】前期研究表明:500mmol.L-1NaCl处理能诱导水稻武运粳8号根尖细胞发生细胞程序性死亡(programmed celldeath,PCD)。为了研究Zn2+对盐胁迫诱导的水稻根尖细胞PCD的影响,采用不同浓度Zn2+进行试验,结果表明:10μmol.L-1Zn2+能够在一定程度上缓解PCD现象。对这一过程中抗氧化酶(CAT、APX、POD和SOD)活性进行检测,发现抗氧化酶活性短期迅速升高,随后降低,10μmol.L-1Zn2+试验组的抗氧化酶活性高于对照组与单独NaCl处理组。而对H2O2在根尖细胞积累的观测结果显示Zn2+的添加能减少H2O2的积累,证明低水平Zn2+(10μmol.L-1)能够诱导抗氧化酶活性上升,并抑制活性氧产生。Zn2+同样可以缓解紫外线诱导的水稻根尖细胞原生质体PCD,而添加特异性的锌离子螯合剂TPEN(NNN′,N′-tetrakis-(2-pyridylmethyl)ethylenediamine)则会促进PCD的发生。据此推测:一定水平Zn2+对不同胁迫模式下发生的PCD进程的缓解作用具有普遍性。
【英文摘要】Previous study indicated that,the root tip cells of Oryza sativa L.Wuyunjing 8 could be induced to programmed cell death(PCD)by 500 mmol · L-1 NaCl treatment.To investigate the effects of Zn2+ on the PCD of rice root tip cells which was induced by salt stress,tested cells were added with Zn2+ solutions of different concentrations.The results showed that 10 μmol · L-1 Zn2+ could partially inhibit the PCD.The activity of antioxidant enzymes(CAT,APX,POD and SOD)increased rapidly,and then decreased

during salt-induced PCD.The addition of Zn2+ increased the activity of antioxidant enzymes,compared with NaCl treatment alone.The observation of H2O2 accumulation in root tip cells showed that the addition of Zn2+ could reduce the H2O2 level and increased the activity of antioxidant enzymes.Zn2+ also inhibited UV-induced PCD in rice root tip cell protoplast.TPEN,a specific chelator of zinc ions,accelerated the PCD process.The results indicated that certain level of Zn2+ inhibits the PCD induced by various stresses in plant cell.

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【学科分类】植物学

【题目】Quantifying the effects of nitrogen on fruit growth and yield of cucumber crop in greenhouses
【中文关键词】无
【英文关键词】Cucumber,Nitrogen,Source/sink ratio,Fruit growth,Yield
【中文摘要】无
【英文摘要】Nitrogen supply can improve crop growth and yield. An over-use of nitrogen fertilizer in greenhouse crop productions, however, causes many environmental problems. The aim of this study was to quantify the effects of nitrogen on fruit growth and yield so as to facilitate the optimization of nitrogen management for cucumber (Cucumis sativus) crop in greenhouses. Four experiments with different levels of nitrogen treatments, substrates and planting dates on cucumber (cv. Deltastar) were conducted in greenhouses located at Shanghai during 2005 and 2007. Using data of one experiment, seasonal time courses of leaf nitrogen content (NL), leaf area per plant (LA), and the number of fruits growing per plant (nFG), aswell as time course of the length of individual fruit growing on the plant (LF(i)) under different levels of nitrogen supply conditionswere, respectively, determined as functions of a photo-thermal index (PTI). The impact of NL on LA was determined by curve fi tting to the experimental data. The source/sink ratio (LA/nFG), an indicative of the source size per fruit, was then derived fromthe seasonal time courses of LA and nFG. The impact of NL on LF(i)was indirectly quanti fi ed by the relationship between source/sink ratio (LA/nFG) and the elongation rate of individual fruit (RFL(i)). Both the harvest date and freshweight (WF(i)) of individualfruit growing at different node, and number of harvested fruits (nFH) were then calculated as functions of the fruit length. These quantitative relationships were assembled to form a model for predicting the effects of nitrogen on fruit growth and yield (fruit fresh weight per plant). Independent data from other experiments were used to validate the model. Our model gives satisfactory predictions of cucumber fruit growth and yield under different levels of nitrogen supply and growing season conditions. The coef fi cient of determination (r2) and the relative rootmean squared error (rRMSE) between the predicted and measured values are, respectively, 0.92 and 0.22 (r2, rRMSE) for leaf area per plant, 0.90 and 0.24 forthe number of fruits growing on the plant, 0.91 and 0.22, 0.90 and 0.23, and 0.92 and 0.21, respectively, for the length, harvest date and fresh weight of individual fruit growing on the plant, 0.94 and 0.20 for yield. The model may be used for the optimization of nitrogen management for cucumber production in greenhouses. Further model calibration and test would be needed when applying this model to a wider range of conditions.
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【题目】温室标准切花菊发育模拟与收获期预测模型研究
【中文关键词】菊花;生理辐热积;发育;模拟;收获期

【英文关键词】Chrysanthemum morifolium; Physiological product of thermal effectiveness and PAR;Development; Simulation; Harvest date

【中文摘要】【目的】建立一个可以预测温室标准切花菊现蕾和收获期的模拟模型,为温室切花菊温光调控提供决策支持。【方法】根据菊花(Chrysanthemum morifolium Ramat.)发育对光温反应的特性,提出了生理辐热积(physiological product of thermal effectiveness and PAR,PTEP)的概念,通过不同扦插期和不同品种的试验,建立了以生理辐热积(PTEP)为尺度的温室标准切花菊发育模型,并用独立的试验数据对模型进行了检验。【结果】模型对从扦插到定植、短日处理、现蕾和收获期的模拟预测值与实测值的符合度较好,预测值与实测值间1:1线的回归估计标准误差RMSE分别为 2.3、2.9、1.2和3.2 d,预测精度明显高于以有效积温为尺度的发育模型(RMSE分别为3.0、12.5、12.5和15.6 d)。【结论】本研究建立的模型能较准确地预测标准切花菊各个发育阶段出现的时间与收获期,可以为中国温室标准切花菊周年生产的光温调控提供理论依据和决策支持。

【英文摘要】【Objective】In order to optimize the climate control for standard cut chrysanthemum production in greenhouse, a simulation model for predicting standard, cut chrysanthemum development and harvesting date was developed. 【Method】Based on the effects of photo-thermal conditions on chrysanthemum development, the concept of physiological product of thermal effectiveness and PAR (PTEP) and its calculation method were proposed and used to predict cut chrysanthemum development stages. Experiments with different varieties and cutting dates were carried out in greenhouses to collect data to develop and to validate the model. 【Result】The results show that the simulated results agree well with the observed ones. Based on the 1:1 line, the root mean squared error (RMSE) from cutting to planting, beginning of the short-day length treatment, bud break and harvesting date were, respectively, 2.3, 2.9, 1.2 and 3.2 days. The prediction accuracy of the model developed in this study is significantly higher than that of the growth degree days (GDD) base model (RMSE is 3.0, 12.5, 12.5 and 15.6 days, respectively, from cutting to planting, beginning of the short-day length treatment, bud break and harvesting date). 【Conclusion】It can be concluded that the model developed in this study can give satisfactory prediction of standard cut chrysanthemum development and harvesting date and can be used for decision making for the optimization of the climate control for standard cut chrysanthemum production in greenhouse.

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【学科分类】园艺学

【题目】温室标准切花菊干物质生产和分配模型

【中文关键词】菊花;生理辐热积;干物质生产;干物质分配

【英文关键词】Chrysanthemum morifolium; Physiological product of thermal effectiveness and PAR; Dry matter production; Dry matter partitioning

【中文摘要】【目的】干物质生产与分配是菊花(Chrysanthemum morifolium Ramat.)外观品质形成的基础。本研究建立一个预测温室标准切花菊各器官干重和植株地上部分鲜重的模型,为温室标准切花菊外观品质的调控提供决策支持。【方法】根据光温对菊花生长的影响,通过不同定植期和不同品种的试验,建立以生理辐热积(Physiological product of thermal effectiveness and PAR,PTEP)为尺度的温室标准切花菊干物质生产和分配模型,并用独立的试验数据对模型进行检验。【结果】模型对温室标准切花菊的植株总干重、叶干重、茎干重、花干重和单株地上部分鲜重的模拟值与实测值的符合度较好,模拟值与实测值间 1:1 线的决定系数(R2)和回归估计标准误差(RMSE)分别为:0.97、0.97、0.97、0.83、0.99;67.5 g · m-2、22.4 g · m-2、28.2 g · m-2、15.4 g · m-2、3.73 g/株。本模型对菊花植株干物质生产的预测精度明显高于基于光合作用驱动的生长模型(R 2和 RMSE 分别为0.82 和 274.68 g · m-2)。【结论】本研究建立的模型能较准确地预测温室标准切花菊的干物质生产和各个器官的干重,模型的实用性较强,可以为温室标准切花菊生产中的光温调控提供理论依据和决策支持。

【英文摘要】【Objective】 Dry matter production and partitioning is the base of external quality formation of cut chrysanthemum. A simulation model was developed to predict the biomass production, dry weight of organs and shoots. This model was developed to look at the optimization of crop and climate management for greenhouse production of standard cut chrysanthemum.【Method】A model of dry matter production and partitioning of standard cut chrysanthemum in greenhouse was developed based on the effects of temperature and radiation on chrysanthemum growth using physiological product of thermal effectiveness and PAR (PTEP) as prediction index. Experiments with different varieties and planting dates were carried out in greenhouses to collect data to develop and

validate the model. 【Result】The results show that the simulated values agreed well with the observed ones. The determination coefficient (R2) and root mean squared error (RMSE) between the simulated and the measured value based on the 1:1 line for biomass production, dry weight of leaf, stem and flower, and fresh weight of shoot per plant were, respectively, 0.97, 0.97, 0.97, 0.83, 0.99; 67.5 g · m-2, 22.4 g · m-2, 28.2 g · m-2, 15.4 g · m-2 and 3.73 g/plant. For the prediction of biomass production, the prediction accuracy of the PTEP based model is significantly higher than that of the photosynthesis driven crop growth model (R2 and RMSE were 0.82 and 274.68 g · m-2, respectively). 【Conclusion】 Based on the results obtained in this study, it can be concluded that the model developed can give a satisfactory prediction of standard cut chrysanthemum biomass production and partitioning. The model developed in this study is more applicable than the photosynthesis driven crop growth model for the optimization of climate and crop management for standard cut chrysanthemum production in greenhouses.

【语种】中文

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【题目】温室标准切花菊叶面积预测模型研究

【中文关键词】菊花;生理辐热积;叶面积指数;预测模型

【英文关键词】Chrysanthemum morifolium; Physiological product of thermal effectiveness and PAR; Leaf area index; Prediction model

【中文摘要】【目的】建立一个温室标准切花菊的叶面积指数预测模型。【方法】根据光温对菊花(Chrysanthemum morifolium Ramat.)出叶和展叶速率的影响,通过不同定植期和不同品种的试验,以综合考虑温度、光合有效辐射和日长的生理辐热积为预测指标,建立了温室标准切花菊叶面积预测模型,并用独立的试验数据对模型进行检验。【结果】模型对温室标准切花菊的叶面积指数的预测精度较高,预测值与实测值基于1∶1线的决定系数(R2)和回归估计标准误差(RMSE)分别为 0.94 和 0.75。基于生理辐热积的预测模型对叶面积指数的预测精比积温法和比叶面积法分别提高了48.2%和84.6%。【结论】本研究的叶面积指数预测模型预测精度高,模型参数少,机理性强,可以为温室标准切花菊生长和外观品质的预测与管理提供理论依据与决策支持。

【英文摘要】【Objective】To develop a model for predicting the leaf area of standard cut chrysanthemum in greenhouses.【Method】Based on the effects of temperature and radiation on chrysanthemum leaf emerging and elongation, an integrated photo-thermal index, the physiological product of thermal effectiveness and PAR was used to predict the leaf area of standard cut chrysanthemum in greenhouse. Experiments with different varieties and planting dates were carried out in greenhouses to collect data to develop and validate the model.【Result】The predicted results agreed well with the observed ones. The determination coefficient (R2) and the root mean squared error (RMSE) between the predicted and the measured leaf area index (LAI) based on the 1:1 line were 0.94 and 0.75, respectively. Compared to the models based on growth degree days (GDD) and specific leaf area (SLA), the prediction accuracy of the model developed in this study was 48.2% and 84.6% higher, respectively.【Conclusion】From the results obtained in this study, it can be concluded that the model can give satisfactory prediction of the leaf area index of standard cut chrysanthemum. It can be used for the prediction of growth and quality as well as for the decision making for the production management of standard cut chrysanthemum in greenhouses.

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【学科分类】园艺学

【题目】温室甜椒叶面积指数形成模拟模型
【中文关键词】温室, 甜椒, 辐热积, 叶面积指数, 模型
【英文关键词】greenhouse ; sweet pepper ; product of thermal effectiveness and PAR; leaf area index ; model.
【中文摘要】叶面积指数是光合作用驱动的作物生长模型以及冠层蒸腾模型所需的重要作物参数, 温度和辐射是影响叶片生长的重要环境因子.通过不同定植期、 不同品种、 不同地点的试验, 定量分析了温室甜椒出叶数、 叶片长度和叶面积指数与温度和辐射的关系, 构建了温室甜椒叶面积模型,并利用独立的试验资料对模型进行了检验. 结果表明: 甜椒出叶数与出苗后累积辐热积呈指数函数关系;叶片长度与出叶后累积辐热积呈负指数函数关系;甜椒出叶数、 叶片长度和叶面积指数的模拟结果与实测值之间的决定系数 R2分别为 0　94、0　89、0　93 ,其回归估计标准误 RMSE分别为 3　4、2　15 cm、 0　15 . 该模型能够利用气温、 辐射、种植密度和出苗日期准确地预测温室甜椒叶面积指数动态,且模型参数少、实用性强, 可以为温室甜椒生长模型和蒸腾模型提供必需的叶面积指数动态信息.
【英文摘要】Leaf area index (LAI) is one of the most important crop parameters in photosynthesis -driving crop growth simulation model and canopy evapotranspiration simulation model, while air temperature and radiation are the important climate factors affecting crop leaf growth. In this paper, experiments with different sweet pepper (Capsicum annuum L .) cultivars and sowing dates were conducted in greenhouse to quantitatively analyze the relationships of the number of unfolding leaves per plant, the number of old leaves removed per plant, and the length of each leaf with air temperature and radiation. Based on these quantitative relationships, a leaf area simulation model for greenhouse sweet pepper was developed, and the independent experimental data were used to validate the model. The results showed that the number of unfolding leaves per plant was a positive exponential function of the product of thermal effectiveness and PAR (TEP) accumulated after emergence, and the length of each leaf was a negative exponential function of the TEP accumulated after emergence. The coefficient of determination (R2) and the root mean squared error (RMSE) between simulatedand measured leaf number, leaf length, and LAI were 0.94, 0.89, and 0.93, and 3.4, 2.15, and0.15, respectively. The model could use air temperature, radiation, planting density, and emergence date to satisfactorily predict the LAI of greenhouse sweet pepper, and supply required LAI information for the sweet pepper growth and canopy evapotranspiration simulation models.
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【题目】单位面积杆数对温室标准切花菊品质影响的预测模型
【中文关键词】菊花, 杆数, 密度, 模型, 品质
【英文关键词】Chrysanthemum morifolium; stem number; planting density; model; quali ty .
【中文摘要】通过对切花菊不同品种、 不同单株主杆数、 不同定植密度和不同定植日期的试验, 定量分析了单位面积杆数对标准切花菊叶面积指数动态变化规律和各外观品质指标的影响, 在此基础上,构建了以冠层吸收的生理辐热积为指标的可定量预测单位面积不同杆数对温室标准切花菊品质影响的预测模型,并用与建模相独立的试验数据对模型进行了检验. 结果表明:随单位面积杆数的增加,切花菊的叶面积指数增加,其植株的平均株高、 茎粗、 出叶数、 花径均降低.所建模型对多杆栽培和不同密度单杆栽培的标准切花菊单杆地上部分鲜质量、 株高、 茎粗、 出叶数、 花径和单位面积出花枝数的预测值与实测值的决定系数 (R2)分别为 0.95、0.96、0.94、0.91、0.81和 0.97, 预测相对误差分别为 16.1%、10.1%、12.8%、13.4%、15.9% 和16.1% ,模型模拟精度较高.该模型可为温室标准切花菊栽培密度和栽培杆数的优化以及品质的光温调控提供理论依据和决策支持.
【英文摘要】In order to understand the effects of stem numbers per ground area on the quality ofstandard cut Chrysanthemum morifolium, an experiment with different cultivars, different stem numbers per plant, different planting densities, and different planting dates was conducted in a greenhouse in Shanghai in 2005 and 2006. The effects of stem numbers per ground area on the canopy leaf area index and external quality of standard cut C. morifolium were quantified using the experimental data. Based on the physiological product of thermal effectiveness and PAR (PETP) the canopy absorbed, a model for predicting the effects of stem numbers per ground area on the quality of standard cut C. morifolium was developed, and validated with independent experimental data. The results showed that with the increase of stem numbers per ground area, the leaf area index increased, whereas plant height, stem diameter, leaf number, and flower diameter decreased. The model gave satisfactory predictions of the quality of standard cut C. morifolium cultivated

with different stem numbers and planting density. The coefficient of determination (R2) and relative prediction error (RSE) based on the 1:1 line for fresh mass per stem, plant height, stem diameter,leaf number, flower diameter, and the number of qualified stem harvested per ground area were 0.95, 0.96, 0.94, 0.91, 0.81 and 0.97,and 16.1%, 10.1%, 12.8%, 13.4%, 15.9 %, 16.1%, respectively. The model developed in this study could be used for the optimization of light and temperature management for standard cut C. morifolium cultivated with different stem numbers and planting densities in greenhouse.

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【题目】叶片氮浓度对温室黄瓜花后叶片最大总光合速率影响的模拟
【中文关键词】叶片最大总光合速率;叶片氮浓度;光合有效辐射;温度
【英文关键词】maximum leaf gross photosynthesis rate; leaf nitrogen concentration; PAR; temperature
【中文摘要】光合作用是作物产量和品质形成的基础, 直接受到叶片含氮量的影响。 该文通过不同定植期不同氮素处理试验,建立了不同光温条件下温室黄瓜叶片适宜氮浓度的求算方程,并定量分析了不同光温条件下黄瓜叶片最大总光合速率与叶片氮浓度的关系。在此基础上,进一步建立了适合不同光温条件的温室黄瓜花后叶片最大总光合速率与叶片氮浓度关系的通用模型,并用与建模相独立的试验数据对模型进行了检验。结果表明,建立的模型能较好地预测不同定植期黄瓜叶片氮浓度对叶片最大总光合速率的影响。模型对温室黄瓜叶片最大总光合速率的预测结果与实测结果之间基于1∶1直线的决定系数和均方根差分别为0.83和1.56 μmol·m-2·s-1。建立的模型可以为温室黄瓜周年生产的氮素精确管理提供理论依据与决策支持。
【英文摘要】Leaf photosynthesis rate, as one of the most important physiological processes affecting crop yield and product quality, is strongly affected by leaf nitrogen concentration.Experiments with four nitrogen treatments and sowing dates were conducted in greenhouses in Shanghai during 2003 to 2005. The seasonal time course of the optimal leaf nitrogen concentration(N%opt) for photosynthesis was found to be an exponential function of the physiological development time after transplanting(PDT). The relationship between the ratio of the maximum leaf gross photosynthesis rate with nitrogen deficiency (Pgmaxi) to that without nitrogen deficiency(Pgmax0) (PR= Pgmaxi / Pgmax0) and the ratio of the actual leaf nitrogen concentration(N%) to the optimal leaf nitrogen concentration(N%opt) (NR= N%/ N%opt) was also found to be an exponential function. Based on these quantitative relationships, a general model was developed to estimate the effects of leaf nitrogen concentration on the maximum leaf gross photosynthesis rate of greenhouse cucumber under different radiation and temperature conditions. Independent experimental data were used to validate the model. The coefficient of determination(R2) and the root mean squared error(RMSE) between the estimated and the measured maximum leaf gross photosynthesis rate based on the 1∶1 line were 0.83 and 1.56 μmol CO2·m-2·s-1, respectively. The model developed in this study gives satisfactory estimation of the maximum leaf gross photosynthesis rate of greenhouse cucumber growing during different seasons, hence it can be used to optimize nitrogen management for greenhouse cucumber production under different PAR and temperature conditions.
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【第一作者】陈永山
【通讯作者】罗卫红
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【题目】氮素对温室黄瓜开花后干物质分配和产量影响的模拟研究
【中文关键词】温室黄瓜 叶片氮浓度 干物质分配 产量

【英文关键词】greenhouse cucumber; leaf nitrogen concentration; dry matter partitioning; yield

【中文摘要】了解氮素对干物质分配和产量的定量影响是实现温室黄瓜氮肥优化管理的前提。该研究通过黄瓜雌性无限生长型品种“戴多星”(Cucumis sativas.‘Deltastar’)不同定植期和开花后不同氮素处理试验,定量分析了氮素施用水平对该类型黄瓜开花后干物质分配和产量的影响,并建立了开花后分配指数和采收指数与盛果期叶片氮浓度的关系方程。在此基础上,建立了氮素对黄瓜开花后干物质分配和产量影响的预测模型,并用独立的试验数据对模型进行了检验。结果表明,模型对茎干物质量、叶干物质量和果实干物质量及黄瓜产量(鲜质量)预测值与实测值之间基于1∶1直线之间的决定系数R2分别为0.945、0.943、0.990、0.955;相对预测误差RE分别为13.0%、12.3%、9.2%、16.8%。本模型可预测不同氮素水平下温室黄瓜地上部各器官干物质量和产量,可以为中国温室黄瓜生产的氮肥优化管理决策提供参考。

【英文摘要】Quantifying the effects of nitrogen (N) on dry matter partitioning and yield of greenhouse cucumber is essential for the optimization of nitrogen management in greenhouse cucumber production. For this purpose, experiments with different planting dates and levels of nitrogen application rate after anthesis for greenhouse cucumber (Cucumis sativus) were conducted in a greenhouse in Shanghai during 2005. First, the seasonal time course of the partitioning indices of shoot dry matter to stem, leaf and fruit were derived using the experimental data. The relative decreasing rate of leaf partitioning index and the relative increasing rate of fruit partitioning index after anthesis were found, respectively, to be an exponential function of leaf nitrogen concentration at middle fruit harvest stage (NL). The seasonal time course of the harvest index, defined as the ratio of the accumulated dry weight of the harvested fruit to the accumulated total fruit dry weight, was also derived from the experimental data. The relative increasing rate of harvest index was also found to be an exponential function of NL. Based on these quantitative relationships, a model was developed to predict the effects of nitrogen on after anthesis dry matter partitioning and yield of greenhouse cucumber. Independent experimental data were used to validate the model. The coefficient of determination (R2) between the predicted and the measured dry weight of stem, leaf, fruit and the yield (fresh weight) based on the 1:1 line were 0.945, 0.943, 0.990, 0.955, respectively, and the relative prediction error (RE) were 13.0%, 12.3%, 9.2%, 16.8%, respectively. The results showed that the model developed in this study can give satisfactory prediction of dry matter partitioning and yield of greenhouse cucumber under different nitrogen application level, hence, can be used to support decision-making for nitrogen management in greenhouse cucumber production.

【语种】中文

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【学科分类】园艺学

【题目】温室黄瓜生育期模拟模型的研究

【中文关键词】黄瓜;生理发育时间;生育期;模拟模型

【英文关键词】cucumber; physiological development time; development stages; simulation model

【中文摘要】根据黄瓜(Cucumis sativus)发育的光温反应过程,建立了基于生理发育时间的黄瓜生育期模拟模型,并利用不同品种的试验资料对模型进行了检验。结果表明,黄瓜从播种到第一批瓜成熟需积累生理发育时间30 d,播种 幼苗、幼苗 伸蔓、伸蔓 开花、开花 结瓜、结瓜 成熟所需的生理发育时间分别为3、11、9、5、2 d。发芽期、幼苗期、伸蔓期、开花期、结瓜期等各生育期持续时间的模拟值与实际观测值的回归估计标准误差(root mean squared error; RMSE)分别为0、2.6、1.7、0.8、2.1 d,从播种到第一次采收的模拟值与观测值的RMSE为1.4 d。而用有效积温法对发芽期、幼苗期、伸蔓期、开花期、结瓜期等各生育期持续时间的模拟值与实际观测值的RMSE分别为0.7、10.0、5.7、2.4、2.5 d,从播种到第一次采收的模拟值与观测值的RMSE为22.0 d。本模型比用有效积温法能更准确地预测黄瓜各个生育期的起止日期和黄瓜的收获期。

【英文摘要】A simulation model of development stages of greenhouse cucumber (Cucumis sativus) was developed based on photo-thermal reactions of crop development rate. The concept of physiological development time(PDT) was used as the scale to measure the greenhouse cucumber development stages. Experimental data of different varieties were used to validate the model. The results show that the PDT value for the duration from sowing date to the first harvest date was 30 days, with 3, 11, 9, 5, 2 days, respectively, for the duration from sowing to germination, germination to tendril elongation, tendril elongation to flowering, flowering to fruit setting, and fruit setting to first harvest. The root mean squared error(RMSE) between the simulated and observed results for duration of germination, five leaf stage, tendril elongation, flowering, fruit setting, and from sowing to first harvest, respectively, was 0, 2.6, 1.7, 0.8, 2.1, 1.4 days, which was lower than the prediction errors using the growing degree days(GDD) (0.7, 10.0, 5.7, 2.4, 2.5, 22.0 days,

respectively).
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【第一作者】李永秀
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【学科分类】园艺学

【题目】Effects of combined nitrogen fertilizer and nano-carbon application on yield and nitrogen use of rice grown on saline-alkali soil
【中文关键词】盐碱土,纳米碳,水稻,氮,产量
【英文关键词】Saline-alkali soil, nano-carbon, rice, nitrogen, yield.
【中文摘要】在盐碱地大田试验条件下,以水稻长白10号为材料,研究氮肥与纳米碳结合施肥和单一氮肥对土壤氮素利用和水稻产量的影响,分别设100%、70%和50%三个施肥水平,相当于公顷施氮量214kg、150kg和107kg。结果表明:在水稻成熟期,水稻氮素累积吸收量A1比B1、A2比B2、A3比B3分别高13.23%、9.57%和38.14%;水稻收获后,土壤中全氮的残留量A1比B1、A2比B2、A3比B3分别降低6.95%、8.48%和9.65%;生物量分别高8.58%、15.70%和19.30%;增产18.36%、8.51%和10.19%。氮肥与纳米碳结合施用土壤养分的供应能力、植株对氮素的累积吸收量、干物质积累量及产量均显著高于不加纳米碳的氮肥处理。
【英文摘要】To investigate the effects of combined application of nitrogen fertilizer and nano-carbon on nitrogen use of soil and rice yield, six treatments were applied as a randomized complete block design with three replications including A1 (N 215 kg hm-2 + nano-carbon 1.194 kg hm-2), B1 (N 215 kg hm-2), A2 (N 150.5 kg hm-2 + nano-carbon 0.836 kg hm-2), B2 (N 150.5 kg hm-2), A3 (N 107.5 kg hm-2 + nano-carbon 0.597 kg hm-2) and B3 (N 107.5 kg hm-2), respectively, to a rice cv. Changbai 10. The soil total and available N, the N accumulation, dry matter accumulation of aerial part and the yield components such as spike number, filled spike number, 1000-grain weight and yield of O. sativa were studied. The result indicated that significant differences in nitrogen use of saline-alkali soil and yield were observed among the treatments and the deliverability of soil nutrition, the nitrogen uptake of plant, dry matter accumulation and yield significantly increased after combined application of nitrogen fertilizer and nano-carbon. The nitrogen accumulation of rice of A1, A2 and A3 treatments were 13.23%, 9.57% and 38.14% higher than B1, B2 and B3 treatments, respectively; total nitrogen residues of soil of A1, A2 and A3 treatments were 6.95%, 8.48% and 9.65% lower than B1, B2 and B3 treatments, respectively; dry biomass of aerial part of A1, A2 and A3 treatments were 58%, 15.7% and 19.3% higher than B1, B2 and B3 treatments, respectively. The yield of all treatments combined application of N and nano-carbon were higher than those in treatments that only applied nitrogenous fertilizer was applied, compared to B1, B2 and B3 treatments, the yield of A1, A2 and A3 treatments were 18.36%, 8.51% and 10.19% higher, respectively. There was no significant difference between the yield of A2 and B1, which indicated that the yield of combined application of 70% conventional fertilizer and nano-carbon (N 150.5 kg hm-2 and nano-carbon 0.836 kg hm-2) was equal to that with supplied 100% conventional fertilizer (N 215 kg hm-2). This indicated that the utilization rate of nitrogen fertilizer increased after combined application of nano-carbon, which can save the N fertilizer in production practice. Therefore, combined treatment is suitable to application and dissemination in soda saline-alkali soil in the agriculture.
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【第一作者】范丽丽
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【题目】Estimating Exchangeable Sodium Percentage from Sodium Adsorption
【中文关键词】ESP,SAR,饱和膏提取液,土壤盐渍度,土壤碱度

【英文关键词】ESP, SAR, saturated paste extract, soil salinity, soil sodicity
【中文摘要】土壤碱化度(ESP)和钠吸附比(SAR)通常被用来评价土壤的碱化程度。土壤饱和浸提液的SAR与土水或1:5浸提液SAR与土壤ESP的相关关系被用来估算土壤的ESP。但是到目前为止,对中国东北松嫩平原盐渍土尚缺乏用SAR估算ESP的模型。本研究选择117个土壤样品,研究了松嫩平原西部盐渍土用SAR估算ESP的方法。研究结果表明,土壤饱和浸提液的SAR与土水和1:5浸提液SAR与土壤ESP高度相关(r2 > 0.76, P <0.001)。松嫩平原盐渍土的ESP可以通过一个对数回归方程进行估算。
【英文摘要】Soil exchangeable sodium percentage (ESP) and sodium adsorption ratio (SAR) are commonly used to assess soil sodicity. Corre-lation between ESP and SAR of saturated pasted extract (SARe) or of 1:5 (m:m) mixture soil to water (SAR1:5) has been documentedto predict ESP from SAR. However limited studies have been undertaken to model soil ESP based on soil SAR in the Songnen Plain,Northeast China. In this study, 117 soil samples were used to predict ESP from SARe and SAR1:5 of salt-a ® ected soils in western Song-nen Plain. Soil ESP was highly related (r2 > 0:76, P < 0:001) with SARe and SAR1:5. ESP of salt-a ® ected soils in the Songnen Plaincould be predicted using a logarithmic regression equations of ESP = 10.72 ¢ ln(SARe) ¡ 15:36 and ESP = 11.44 ¢ ln(SAR1:5) + 5:48.Key Words: ESP, SAR, saturated paste extract, soil salinity, soil sodicity
【语种】英文
【第一作者】迟春明
【通讯作者】王志春
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【学科分类】土壤学

【题目】Effect of irrigation water depth on rice growth and yield in a saline-sodic soil in
【中文关键词】发展关键期,灌溉水深度,水稻,盐碱土,松嫩平原
【英文关键词】Critical development period, irrigation water depth, rice, saline-sodic soil, Songnen plain.
【中文摘要】通过调节灌溉水深度可降低盐碱胁迫对水稻产量的影响。然而,不同灌溉水深度对以碳酸盐和碳酸氢盐为主的盐碱土的水稻生长发育和产量的影响有待进一步研究。为此在松嫩平原西部未改良的盐碱土上开展田间试验,设置三种灌溉水深度(1,4,7cm)。研究表明,水稻每单位面积穗数和叶面积指数随灌溉水深度增加而增加。三种灌溉水深度的水稻产量分别为0.62,1.38和2.62 t/ha。1,4cm灌溉水深处理的水稻每穗粒重对产量的贡献率大于单位面积穗数,而7cm灌溉水深度处理的水稻每穗粒重对产量的贡献率小于单位面积穗数,且7cm灌溉水深度处理的水稻每穗粒数最大。三种灌溉水深处理的水稻结实率对每穗粒重的变异贡献率最大,这可能受较低的气温和盐碱度的综合作用影响。综上,7cm灌溉水深增加了水稻的产量,主要由于水稻每穗粒数以及结实率增加与分蘖抑制减轻的结果。
【英文摘要】It was hypothesized that reductions in rice yield under salinity stress can be ameliorated by adjusting the water depth. However, the effect ofdifferent irrigation water depths on rice growth and yield in a saline-sodic soil dominated by carbonate and bicarbonate salts is not yet wellunderstood. A field experiment consisting of three levels of 1, 4 and 7 cm irrigation water depth was conducted in an unameliorated saline-sodic soilin western of Songnen plain. The trends were found that tiller number per hill and LAI increased as the irrigation water depth increased. The yieldsof 1, 4 and 7 cm irrigation water depth treatments were 0.62, 1.38 and 2.62 t ha-1, respectively. Panicle density (PD) of 1 cm and 4 cm irrigation waterdepth treatments both contributed more to yield compared to seed weight per panicle (SWP) while SWP at the 7 cm irrigation water depth treatmentcontributed over PD. Spikelets per panicle (SP) was maximum in 7 cm irrigation water depth treatment. Percent filled spikelet accounted for the mostvariation for SWP at each treatment probably owing to low air temperature and salinity and sodicity. We conclude that increasing water depth up to7 cm increased rice grain yield mainly by increasing rice SP and PFS and alleviating the tillering inhibition.
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【第一作者】王明明
【通讯作者】王志春
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【题目】Characterizing Salt-Affected Soils of Songnen Plain Using Saturated Paste
【中文关键词】电导率,钠离子浓度,钠吸附比,总离子浓度
【英文关键词】electrical conductivity (EC), Na+ concentration, sodium adsorption ratio (SAR), total cation concentration (TCC)
【中文摘要】在松嫩平原西部,盐渍土化学性质测定主要是利用土水比1:5的方法制备土壤浸提液,而对于土壤饱和浸提液方法测定土壤化学性质应用较少。本试验利用两种浸提液方法来分析121个盐渍化土壤样品的化学性质,具体测量指标为EC、pH、土壤四种盐离子(Na+、Ca2+、Mg2+和K+)。试验结果表明,土壤阳离子中以Na+为主。土壤样品中SAR较高,最大值为4042.57(mmolcL-1)1/2,其中22个土壤样品SAR超过1000(mmolcL-1)1/2。通过回归分析,两种方法浸提液的阳离子浓度与EC呈显著性相关,斜率分别为10.3(饱和土壤浸提液方法)和9.8(土水比1:5浸提液方法)。EC、Na+和SAR在两种浸提液方法均呈显著性相关(r2>0.81,P<0.0001),而Ca2+、Mg2+在两种方法无显著性相关。
【英文摘要】In the Songnen Plain, Northeast China, chemical parameters of salt-affected soilswere previously obtained from 1:5 soil-to-water (1:5) extracts so that there isno information available for soil salinity and sodicity from the saturated paste(SP) extracts. The work reported here characterized soil salinity and sodicity ofSP extracts and compared salinity and sodicity measurements using SP and 1:5extraction methods from 121 soil samples from various sites of salt-affected soilareas in the Songnen Plain. Electrical conductivity (EC), major cations Na+, K+,Mg2+, Ca2+ , sodium adsorption ratio (SAR), and pH were determined and analyzedusing SP extracts and 1:5 extracts.The sodium ion was the predominant cation so that Na+ concentration was close to total cation concentration (TCC). The SAR in the 121 samples wasremarkably high; 22 soils had a SAR > 1000 mmolc L − 1 1/2 with a maximum SARvalue of 4042.57 mmolc L − 1 1/2 for SP extract. The SAR was highly correlated withEC r2 > 0 86 P < 0 0001 . The salt-affected soils are predominantly saline-sodicbased on the classification of the USDA (1954). Through a regression analysis, totalcation concentration was strongly related to EC with slopes of 10.3 and 9.8 withouty intercept in SP and 1:5 extracts, respectively.Significant relationships r2 > 0 81 P < 0 0001 existed between EC, Na+,and SAR in SP and 1:5 extracts. However, K+, Ca2+, and Mg2+ of SP extracts was not related to those of 1:5 extracts.
【语种】英文
【第一作者】迟春明
【通讯作者】王志春
【期刊名称、卷期、页码】Arid Land Research and Management, 24:1 – 11, 2010
【论文发表时间】2009-12-30 00:00:00
【引文索引类型】SCI
【引文索引号】2.732409e+011
【学科分类】土壤学

【题目】鸡源抗菌肽Fowlicidin-3表达条件的优化及生物学特性和体内治疗研究
【中文关键词】Fowlicidin - 3; 表达优化; 生物学特性; X - 33; 体内疗效
【英文关键词】Fowlicidin-3; optimize expression; biological characteristics; X-33; therapeutic test
【中文摘要】对重组X - 33 毕赤酵母菌株表达的鸡源Fowlicidin - 3 抗菌肽的条件进行优化,并研究了表达产物的生物学活性。结果表明: 当含有重组酵母菌的BMGY 培养基A600值达到5 ~ 6 时,转接pH 6.0 的BMMY 培养基,每24 h 补加2%甲醇, 29 °C条件下培养72 h,重组鸡源Fowlicidin - 3 抗菌肽获得高效表达,含量达到170 mg · L - 1。采用琼脂孔扩散法对该抗菌肽的热稳定性、酸碱稳定性等特性进行分析,结果表明: 鸡源Fowlicidin - 3 抗菌肽具有较强的热、酸稳定性; 对致病性大肠杆菌K99、鸡白痢沙门氏菌和金黄色葡萄球菌Cowan Ⅰ的最小抑菌浓度分别为3. 12、1. 56 和1. 56 μg · mL - 1。在对大肠杆菌感染雏鸡的体内疗效试验中,鸡源Fowlicidin - 3 显示出了较好的预防和治疗效果。
【英文摘要】The requirement for the flask-shaking culture fermentation of the recombinant antibacterial peptide Pichia pastoris was optimized.Fowlicidin-3 would be expressed with high level and the concentration of the secreted peptides was 170 mg · L- 1 while thedensity of the yeast amounted to A600 value 5-6,the pH of the culturing BMMY medium was 6. 0, the yeast was cultured under 29 °Cfor 72 hours and 2% methanol was supplemented into the medium. According to Agarose Diffusion Assay, the pH-stable assay indicatedthat the peptide dispalyed the best activities while the pH was between 5. 0 - 10. 0. The heat-stable assay indicated that the peptide could remain its inhibition activity after 2 h treated in boiled water. The minimal inhibitory concentration (MIC) of antibacterialpeptide Fowlicidin-3 against E. coli K99,Salmonella typhimurium and Staphylococcus aureus Cowan Ⅰ were 3.12,1.56 and 1.56 μg · mL- 1,respectively. The results of therapeutic tests showed that the mortality rate decreased significantly (P<0.01) in both antimicrobial peptide Fowlicidin-3 group and ciprofloxacin group compared to the E. coli O1 infection control group, and the

prevention effectives from antibacterial peptide Fowlicidin-3 group reached the high level as ciprofloxacin group did.Recombinant antibacterial peptide Fowlicidin-3 displayed preferable curative effect and protection.
【语种】中文
【第一作者】李荣荣
【通讯作者】鲍恩东
【期刊名称、卷期、页码】南京农业大学学报,2011,34(2):113-118
【论文发表时间】2011-09-01 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】兽医学

【题目】干扰对草地植被与土壤的影响之研究进展
【中文关键词】草地植被;草地土壤;干扰
【英文关键词】grassland vegetation, grassland soil, disturbance
【中文摘要】从干扰作用机制和干扰引起生态系统异质性2方面详细阐述了干扰的研究进展。论述了干扰作用形成的2个假设-中等强度干扰假说和干扰频率假说,并从中等度干扰假说的2 个基本假定说明了中等强度干扰假说的具体理论研究。在干扰对草地植被和土壤的作用方面, 重点叙述了火烧、刈割和施肥3 方面的干扰,从火烧后植物群落生产力及其产量空间结构、植物养分和草原植物对火的耐受力3 方面阐明了火烧干扰对植被的作用研究;火烧干扰对土壤物理性质、化学性质和土壤火烧后细菌、真菌、放线菌的变化及微生物总数和微生物生物量的变化和刈割干扰对土壤种子库和土壤性质的变化。
【英文摘要】The mechanism of disturbance and ecosystem heterogeneity caused by disturbance about progressin disturbance were expounded by introducing two hypothesis in disturbance: Intermediate disturbance hy-pothesis and disturbance frequency hypothesis, and explaining the detailed theoretical study of the interme-diate disturbance hypothesis in two basic hypothesis in terms of study progress in disturbance of grasslandvegetation and soil effect. By emphasizing on burning disturbance, mowing disturbance, fertilizing distur-bance, changes in productivity of plant community and yielding spatial structure after burning, changes inplant nutrient after burning and grassland plant tolerance to burning was expounded in burning disturbanceeffect to the vegetation; changes of soil physical nature, chemical nature and changes in soil bacterial, fun-gus, actinomycetes after burning disturbance, and changes of the number and biomass of microorganism,changes in soil seed bank and soil nature after mowing disturbance.
【语种】中文
【第一作者】刘 昊
【通讯作者】戎郁萍
【期刊名称、卷期、页码】中国农学通报、vol.24 2008 May、8-16
【论文发表时间】2008-05-01 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】畜牧、兽医科学基础学科

【题目】育苗移栽新技术示范在新疆-接替地膜覆盖的新途径治理残膜污染的新曙光
【中文关键词】育苗移栽 棉花
【英文关键词】null
【中文摘要】2007年5月19-23日考察了位于北疆的新疆兵团生产建设兵团农七师、农四师、农八师和克拉玛依基质育苗移栽新技术的示范情况,开展了实地调查。结果表明,裸苗移栽成活率达到95%上下,表明移栽的关键技术指标经受住了考验,是取得成功的重要标志。
【英文摘要】null
【语种】中文
【第一作者】毛树春
【通讯作者】毛树春
【期刊名称、卷期、页码】中国棉花,2007,34(8):35
【论文发表时间】2007-08-15 00:00:00

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【引文索引号】null
【学科分类】农艺学

【题目】我国棉花耕作栽培技术研究和应用
【中文关键词】棉花; 栽培; 耕作; 技术; 应用;
【英文关键词】Cotton;Cultivation;Tillage;Technology;application
【中文摘要】耕作栽培学科紧密围绕棉花高产优质高效,面向全国开展棉花栽培试验研究、经验总结和生产服务,在棉花生产区域划分、麦棉两熟种植、棉花需水和棉田灌溉、棉花营养和施肥、盐碱地植棉、育苗移栽、地膜覆盖、化学和农艺调控、合理密植、模拟决策支持和监测预警信息等方面取得新进展,在科技兴棉中发挥积极作用,促进棉花增产,棉农增效,品质改良,丰富和发展了棉花栽培理论,取得一批技术成果和专利,其中一些领域居国内外同类研究的领先水平。近10年,又从产中科学化向产前信息化和产后市场化延伸,棉花生产现代化技术也初见端倪,促进棉花产量、质量和效益再上新台阶。
【英文摘要】The discipline of cot ton culture and tillage was one preeminent subject. It w as generally approved in practices that the cultural technology shared 35 percents in the yield increasing. In the past half century, cotton culture and tillage carried on experiment and research, practices summing up and service of cotton culture in the whole country, closely around high yield, good quality, and high efficiency of cotton producing. It achieved new progress in geographic division of cotton producing, wheat cotton doubling cropping, water absorption and field irrigation, nutrition and fertilization, cotton planting in alkali land, seedling raising and transplanting, film-mulching, chemical control and agronomic regulation, rational density, simulation and decision making support, monitoring and early warning information, and so on. These progress worked a positive role in prospering cotton by science and technology , helped increasing cot ton production, adding income of cotton farmers, improving fiber quality, enriching and developing cotton culture theory, and obtained a mass of technological achievements and patent s, in which some w ere in the highest flight of the same researches in the world. In the late 10 years, the study of information service before producing and market service after harvest was put forward and extended from the study of science and technology service in producing. The modern cotton production technology also came out initially, promoted the product ion, quality and benefits o f cotton stepping into a new stage.
【语种】中文
【第一作者】毛树春
【通讯作者】毛树春
【期刊名称、卷期、页码】棉花学报,2007,19(5):369-377
【论文发表时间】2007-05-15 00:00:00
【引文索引类型】其他
【引文索引号】1002-7807(2007)05-0369-09
【学科分类】农艺学

【题目】裸苗移栽棉花根系形态特征的初步观察
【中文关键词】棉花; 根系; 植物生长调节; 剖面;
【英文关键词】root system; plant growth regulator; complete distribution at soil profile;
【中文摘要】对收获期裸苗移栽、营养钵育苗移栽和直播棉花的成熟棉株根系形态特征进行了剖面观察,发现裸苗移栽棉株的侧根向四周呈伞面放射状生长,可见粗而健壮的优势侧根6~8条.株-1;营养钵移栽棉株的侧根多向一侧呈鸡爪状极性伸展,可见优势侧根1~2条或2~3条;直播棉花为典型的直根系。经测定,裸苗移栽棉花一级侧根条数44条.株-1,分别比营养钵移栽和直播棉的多15.8%和37.5%;根直径0.31cm,分别比营养钵移栽和直播棉的粗20.5%和88%;根干重31.9g.株-1,分别比营养钵移栽和直播棉的重22.2%和75.3%。
【英文摘要】The morphological parameters of the adult plant root system of the root-naked transplanting cotton(RNTC)was compared in the fields with the soil-cubes transplanting cotton(SCTC)and the direct seeding cotton(DSC)by observing the distribution of root system at each soil profile in layer 0~170 cm. Results showed that lateral roots of RNTC grew actinomorphicly, there about 6 to 8 dominant thick and strong lateral roots. Lateral roots of SCTC spread anisomerously to one side like the paw of a chicken, with about one to two or two to three dominant lateral roots. The root system of DSC was typical taproot system. T he survey indicated that mean numbers of primary lateral roots of RN TC w as 44/plant , more than SCT C and DSC by 15. 8% and 37.5% each (F= 33. 24> F0. 01=5. 49) . Mean diameter width of the primary lateral roots of RNTC was 0.31 cm, wider than SCTC and DSC by 20. 5% and 88% each (F= 249. 01> F0. 01 = 5. 49) ; Mean dry weight o f w hole root system of RNTC was 31.9 g · plant-1 , heavier than SCT C and

DSC by 22.2% and 75.3% each.
【语种】中文
【第一作者】毛树春
【通讯作者】毛树春
【期刊名称、卷期、页码】棉花学报,2008, 20(1) : 76-78
【论文发表时间】2008-01-15 00:00:00
【引文索引类型】其他
【引文索引号】1002-7807(2008)01-0076-03
【学科分类】农艺学

【题目】棉花工厂化育苗和机械化移栽新技术
【中文关键词】棉花;工厂化育苗,机械化移栽
【英文关键词】null
【中文摘要】1技术特点棉花工厂化育苗和机械化移栽是一项发明新技术,具有现代农业特征,其核心技术是基质育苗和裸苗移栽,于2004年通过农业部组织的专家鉴定,鉴定委员会认为,本成果居同类研究的国际领先水平,已研制形成一系列国家发明技术和专利产品。“ 三高、五省、成本可接受和基质再利用 ”是试验研究提出的技术效果,经各地示范具有重现性,符合当前农村劳动力转移的新形势,是简化种植和节约型农业新技术的具体体现。
【英文摘要】null
【语种】中文
【第一作者】毛树春
【通讯作者】毛树春
【期刊名称、卷期、页码】中国棉花,2008,35(3):34-36
【论文发表时间】2008-03-16 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农艺学

【题目】麦后裸苗移栽短季棉连作模式关键栽培措施效应研究
【中文关键词】棉花;连作;裸苗移栽
【英文关键词】null
【中文摘要】我国人口增长,耕地减少,粮棉争地矛盾不断加剧。而发展麦后移栽短季棉连作模式,是充分利用耕地和光热资源,提高复种指数,实现粮、棉双高产,改善品质,提高农业效益,增加农民收入的有效途径。本文主要研究麦后裸苗移栽短季棉连作模式下适宜移栽期、移栽苗龄、移栽密度和移栽棉花化学调控等栽培措施对棉花产量、产量构成因子、早熟性和成铃进程、株高、果枝数和果枝始节等指标的影响,为本技术的推广提供技术支撑。
【英文摘要】null
【语种】中文
【第一作者】韩迎春
【通讯作者】毛树春
【期刊名称、卷期、页码】中国棉花,2008,35(5):32-34
【论文发表时间】2008-05-16 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农艺学

【题目】棉花麦后机械化裸苗移栽研究简报
【中文关键词】棉花;机械化;裸苗移栽
【英文关键词】null
【中文摘要】麦棉套作可提高复种指数,缓解粮棉争地矛盾,但麦棉套作引起的迟发、晚熟、低产、劣质的问题客观存在,改麦棉套作为麦后棉花连作,发展麦后棉花机械化裸苗移栽新技术,是充分利用耕地和光热资源,提高复种指数、减轻劳动强度、节省人力、降低生产成本,实现粮、棉双高产,改善品质,提高农业效益,增加农民收入的有效途径。本文主要研究麦

后不同移栽期和直播期对棉花产量、早熟性、经济效益等指标的影响,为本技术的推广应用提供技术支撑。
【英文摘要】null
【语种】中文
【第一作者】韩迎春
【通讯作者】毛树春
【期刊名称、卷期、页码】中国棉花,2007,34(5):45-47
【论文发表时间】2007-05-16 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农艺学

【题目】南疆棉区地面灌溉棉田高效节水灌溉方式研究
【中文关键词】南疆棉区; 地面灌溉; 灌溉方式;
【英文关键词】Cotton region of south Xinjiang; Surface irrigation; Irrigation regime;
【中文摘要】研究了南疆地面灌溉条件下棉花生育期不同灌溉定额的土壤水分动态、棉株叶片水势动态、棉花耗水规律以及对棉花生长发育、产量和水分利用效率的影响。结果表明, 棉花全生育期灌溉定额345 mm, 每次灌水量60~ 75 mm, 土壤供水明显不足, 叶片水势下降较快, 棉株生育受到抑制, 减产严重; 灌溉定额480mm, 每次灌水量90~ 105 mm, 在15 d 左右的灌水周期内, 土壤供水适宜, 棉株生长稳健, 产量与充分灌溉相当, 水分生产效率显著高于低量灌溉和充分灌溉; 灌溉定额615 mm, 每次灌水量105~ 135 mm, 土壤水分偏多, 棉株生长过旺, 与适量灌溉相比并没有增产效果, 且耗水量加大、水分生产效率下降。在试验结果的基础上提出了南疆棉区合理的灌溉制度。
【英文摘要】Effects of the irrigation schedules of surface irrigation during cotton growing season on change of soil moisture and leaf water potential,water consumption,growth,yield and water use efficiency in cotton field were studied.The results showed:(a) by irrigating 345 mm during the whole season and 60~75 mm each application,the soil moisture supplying ability was obviously deficient,the drop of leaf water potential was faster,the cotton growth was inhibited,the yield sharply decreased;(b) by irrigating 480 mm during whole season and 90~ 105 mm each, the soil supplied sufficient water in 15 days alternation, the cotton grew steadily and vigorously, the yield equal to w h full irrigate, and the water use efficiency w ere higher than that of insufficient and full irrigation; (c)by irrigating 615 mm during whole season and 105~ 135 mm each, the soil supplied too much water, the growth was too strong, the yield did no t increased comparing with common irrigation schedule while the water consumption increased, and the water use efficiency w as reduced. An rational irrigation regime for cot ton production in south Xin-Jiang was proposed based on the studies.
【语种】中文
【第一作者】董合林
【通讯作者】董合林
【期刊名称、卷期、页码】西北农业学报,2007, 16(4) : 96-100, 105
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【引文索引类型】其他
【引文索引号】1004-1389(2007)04-0096-05
【学科分类】农艺学

【题目】移栽期和覆膜对基质育苗移栽棉花产量的影响
【中文关键词】棉花;移栽期;基质育苗;产量
【英文关键词】null
【中文摘要】棉花基质育苗移栽技术即无土基质育苗和无载体裸苗移栽技术,是营养钵育苗移栽的接班技术,本试验旨在研究两熟种植条件下基质育苗对不同移栽期和地膜覆盖的效应,为该新技术应用提供理论依据。
【英文摘要】null
【语种】中文
【第一作者】李鹏程
【通讯作者】毛树春
【期刊名称、卷期、页码】中国棉花,2007,34(6):38-40
【论文发表时间】2007-06-16 00:00:00

【引文索引类型】其他
【引文索引号】null
【学科分类】农艺学

【题目】裸苗移栽棉花缓苗期抗氧化酶活性和叶绿素含量的变化特点
【中文关键词】棉花; 裸苗移栽; 缓苗期; 抗氧化酶活性; 叶绿素;
【英文关键词】cotton; naked-seedling transplanting; recovering stage; anti-oxidant enzyme activity; chlorophyll;
【中文摘要】2007年在一熟棉田设裸苗移栽、钵苗移栽和直播3个处理,在麦棉两熟裸苗移栽棉田设置地膜覆盖和不覆盖两个处理,在移栽后40d内分次取样测定棉花功能叶片的超氧化物歧化酶(SOD)、过氧化物酶(POD)、过氧化氢酶(CAT)活性和叶绿素含量。结果表明,移栽棉花由于移栽时根系受损,存在明显的缓苗期,缓苗期内功能叶片三种酶活性和叶绿素含量变化规律均表现为先升高而后下降或趋于平稳变化;CAT、POD较SOD对逆境的反应敏感,其活性当处于逆境时快速升高,逆境解除时就迅速下降;地膜覆盖有利于缩短移栽缓苗期,促进棉苗早发。
【英文摘要】The purpose of experiment was to study the antioxidant enzyme activity and chlorophyll contents in naked-seedling transplanting cotton on recovering stage.Three treatments were designed in single cropping field including directly sowed cotton,seedling raised with nutritive soil cube and transplanted cotton,seedling raised with soilless-substrante and root-naked transplanted cotton.Two treatments including film-mulched,or no film-mulched were designed in double cropping system of wheat-cotton.SOD,POD and CATactivity, chlorophyll content in functional leaves were measured in 40 days after cot ton w as transplanted. The results show ed that: transplanting cotton had distinct recovering stage because o f the damaged root s during transplanting. During the recovering stage, SOD,POD and CAT activity , chlorophyll content in functional leaves w ere all going up at first , then descending or in a steady situation. CA T、 POD were more sensitive to the negative environment than SOD, the activity went up quickly in the negative environment and went down quickly when the negative environment w as relieved; film-mulched is beneficial to shorting the recovering stag e and promoting the cot ton seedling delivery early.
【语种】中文
【第一作者】崔爱花
【通讯作者】毛树春
【期刊名称、卷期、页码】棉花学报,2008, 20(5) : 372-378
【论文发表时间】2007-09-16 00:00:00
【引文索引类型】其他
【引文索引号】1002-7807(2008)05-0372-07
【学科分类】农艺学

【题目】棉花基质育苗技术研究
【中文关键词】棉花;基质;育苗技术;播种密度;
【英文关键词】Cotton;Substratum;Cultivating seeding;Sowing density;
【中文摘要】研究了不同育苗基质和播种密度对棉花出苗率和苗质的影响。结果表明:苗床采用蛭石与河沙复合基质,棉花出苗率较高且苗质较壮;最佳播种密度为8 cm×2 cm,苗床成苗数可达569.0个/m2,根冠比最高达0.210。
【英文摘要】The medium composition for seedling culture of cotton were studied.Results showed that medium made of vermiculite and river sand was the best for cotton seedling cultivation.The best density was 8 cm×2 cm,and seedling density was 569.0个/m2,root-top ratio was 0.210.
【语种】中文
【第一作者】王国平
【通讯作者】毛树春
【期刊名称、卷期、页码】河北农业科学,2007,11(4):1- 2
【论文发表时间】2007-04-18 00:00:00
【引文索引类型】其他
【引文索引号】1008-1631(2007)04-0001-02
【学科分类】农艺学

【题目】新棉遭遇“ 熊市 ”应全力做好托市收购

【中文关键词】棉花;成本;价格;收购;收储
【英文关键词】null
【中文摘要】根据监测结果分析了2008年棉花生产成本变化、新棉产量、棉花销售进度、现货与期货价格走势等,立足于稳定棉花市场、保障棉农收益提出了相应的建议,并对采取棉花救市措施后将产生的积极效果进行了展望。
【英文摘要】null
【语种】中文
【第一作者】毛树春
【通讯作者】毛树春
【期刊名称、卷期、页码】中国棉花、35(12):2-3
【论文发表时间】2008-12-15 00:00:00
【引文索引类型】其他
【引文索引号】1000-632X(2005)12-0002-02
【学科分类】农艺学

【题目】裸苗移栽棉花产量、品质和效益分析
【中文关键词】棉花; 育苗移栽; 产量; 品质; 效益;
【英文关键词】null
【中文摘要】2003-2006年在大田条件下比较研究了裸苗移栽棉、营养钵移栽棉和直播棉的产量、品质和效益。4年平均,裸苗移栽棉的子棉和皮棉产量分别比营养钵移栽棉增加了7.5%和5.2%,2005-2006年净产值较营养钵移栽棉增加了11.9%,较直播棉增加了9.6%。试验结果还表明,裸苗移栽对棉花早熟性和主要纤维品质指标均无不利影响,4年平均霜前花率达到88.5%,与营养钵移栽棉相当;裸苗移栽能明显增结早秋桃,提高成铃数。分析认为,裸苗移栽与传统的营养钵育苗移栽相比,具有一定的增产、增效作用。
【英文摘要】null
【语种】中文
【第一作者】韩迎春
【通讯作者】韩迎春
【期刊名称、卷期、页码】中国棉花、37(3):10-14
【论文发表时间】2009-03-15 00:00:00
【引文索引类型】其他
【引文索引号】1000-632X (2009)03-0009-05
【学科分类】农艺学

【题目】学习贯彻一号文件 确保棉花生产稳定
【中文关键词】棉花; 生产; 技术; 政策;
【英文关键词】null
【中文摘要】全文分析了2009年全国棉花产业经济的运行状况,结合学习"一号文件",针对金融危机发生后的形势,提出力保棉花生产稳定发展的对策措施。
【英文摘要】null
【语种】中文
【第一作者】毛树春
【通讯作者】毛树春
【期刊名称、卷期、页码】中国棉花、37(4):3-4
【论文发表时间】2010-04-15 00:00:00
【引文索引类型】其他
【引文索引号】1000-632X (2010)04-0002-03
【学科分类】农艺学

【题目】我国棉花种植技术的现代化问题
【中文关键词】棉花; 轻简种植; 现代化技术;

【英文关键词】null
【中文摘要】分析了我国棉花种植规模和劳动力变化的新情况,针对面临的新问题提出新型种植制度、工厂化育苗、轻简施肥和灌溉、统防统治、机械化和半机械化播种、地膜覆盖、移栽和收获、冗余器官的开发利用、公益性服务等现代植棉技术和措施对策。
【英文摘要】null
【语种】中文
【第一作者】毛树春
【通讯作者】毛树春
【期刊名称、卷期、页码】中国棉花、37(3):2-5
【论文发表时间】2010-03-15 00:00:00
【引文索引类型】其他
【引文索引号】1000-632X (2010)03-0002-04
【学科分类】农艺学

【题目】我国棉花种植技术的应用和发展
【中文关键词】棉花; 种植; 技术;
【英文关键词】null
【中文摘要】建国60年来,我国棉花生产经历了总结和推广劳模植棉经验;依靠科技进步,大力推广应用育苗移栽、地膜覆盖、化学调控、麦(油)棉两熟种植、合理密植、平衡施肥和节水灌灌技术等历程,栽培技术对提高单产的贡献率达到了35%。进入新世纪,又从产中科学化向产前信息化和产后市场化延伸,棉花现代化种植技术初见端倪,促进棉花产量、质量和效益再上新台阶。
【英文摘要】null
【语种】中文
【第一作者】毛树春
【通讯作者】毛树春
【期刊名称、卷期、页码】中国棉花、36(9):17-22
【论文发表时间】2009-09-15 00:00:00
【引文索引类型】其他
【引文索引号】1000-632X (2009)09-0017-06
【学科分类】农艺学

【题目】塔里木棉区育苗移栽杂交棉棉铃空间分布特性
【中文关键词】移栽方式; 密度; 棉铃; 空间分布; 塔里木棉区;
【英文关键词】null
【中文摘要】在大田条件下,采用不同移栽方式和移栽密度研究了塔里木棉区育苗移栽杂交棉棉铃空间分布特性。结果表明,不同移栽方式下,穴盘移栽的株高、果枝始节、单株铃数都大于裸苗移栽,铃重、单株皮棉产量的空间分布存在较大差异。具体表现为:穴盘移栽的上、中位铃及内围铃性状均优于裸苗移栽,而下位铃、外围铃间差异均不明显。不同密度处理间表现为:随密度的增加,果枝始节增高,果枝数、果节数和单株结铃数均减少。棉铃分布表现为随密度的增加上部、中部铃和内围铃所占比例均增大,下部铃和外围铃所占比例均减少。
【英文摘要】null
【语种】中文
【第一作者】文卿琳
【通讯作者】文卿琳
【期刊名称、卷期、页码】中国棉花、37(2):8-16
【论文发表时间】2010-02-15 00:00:00
【引文索引类型】其他
【引文索引号】1000-632X (2010)02-0008-05
【学科分类】农艺学

【题目】不同育苗方式对棉苗生物学特性的影响
【中文关键词】裸苗育苗; 穴盘育苗; 棉苗; 生物学特性;
【英文关键词】null
【中文摘要】研究不同育苗方式对棉苗生物学特性的影响,结果表明:裸苗育苗和穴盘育苗法存在明显的不同之处,穴盘育苗的棉苗出叶速度快,裸苗育苗的茎粗、根系干重和侧根数均较穴盘育苗的粗、重和多;裸苗育苗棉株的棉苗素质好,良好的植物学形态特征为高产奠定了基础。
【英文摘要】null
【语种】中文
【第一作者】文卿琳
【通讯作者】文卿琳
【期刊名称、卷期、页码】中国棉花、36(7):23-24
【论文发表时间】2009-07-15 00:00:00
【引文索引类型】其他
【引文索引号】1000-632X (2009)07-0023-02
【学科分类】农艺学

【题目】不同密度裸苗移栽棉的生长发育规律研究
【中文关键词】密度; 裸苗移栽棉; 生长; 发育;
【英文关键词】null
【中文摘要】对5个密度的裸苗移栽棉进行了初步研究,结果表明:不同密度处理株高的增长趋势趋于一致,果枝的果节数呈现中部多、下部和上部少,单株现蕾、结铃,落蕾、落铃数具有随着密度的增大而减少的趋势,裸苗移栽棉适宜密度应在0.7万株/667m2左右。
【英文摘要】null
【语种】中文
【第一作者】杨桂臻
【通讯作者】文卿琳
【期刊名称、卷期、页码】安徽农学通讯、15(13):85-86
【论文发表时间】2009-06-15 00:00:00
【引文索引类型】其他
【引文索引号】1007-7731(2009)15-85-02
【学科分类】农艺学

【题目】SPSS逐步回归分析法构建北疆棉蚜年发生程度的预报模型
【中文关键词】棉蚜; 气象因子; 逐步回归; 观测模型;
【英文关键词】Aphis gossipii; Meteorological factors; Stepwise regression; Prediction model;
【中文摘要】根据北疆奎屯垦区12年(1995~2005和2007年)的历史气象资料,用SPSS逐步回归分析法研究棉蚜年发生程度与气象因子的关系,构建棉蚜年发生程度的预测模型,用所建立的模型对12年调查资料进行回判和预判,准确率达100%。
【英文摘要】According to the historical meteorological data of 12 a(1995-2005 and 2007) of Kuitun reclamation area in north Xinjiang,the relationship between year occurrence of Aphis gossipii and meteorological factors was studied by SPSS stepwise regression analysis method,and the prediction model on year occurrence degree of A.gossipii was established.The back-judge and pre-judge on 12 a investigation data was conducted with the established model,the accuracy was 100%.
【语种】中文
【第一作者】刘政
【通讯作者】刘政
【期刊名称、卷期、页码】安徽农业科学、37(6):2815-2817
【论文发表时间】2009-06-15 00:00:00
【引文索引类型】其他
【引文索引号】0517-6611(2009)06-02815-03
【学科分类】农艺学

【题目】盘吸式穴盘播种机抛振系统运动分析与优化
【中文关键词】农业机械; 动力学; 种子; 穴盘播种机; 盘吸式; 抛振机构; 运动分析;
【英文关键词】agricultural machinery; kinetics; seed; tray seeder; sucker; ejection mechanism; motion analysis;
【中文摘要】为改善盘吸式穴盘播种机种盘振动时种子悬浮高度的均匀性,从而减少播种的空穴率,设计了一种由弹簧-电衔铁-种盘所构成的种盘抛振系统,通过对该系统内种子运动过程的理论分析与动力学仿真,得出了种盘内种子的运动规律,并对种盘结构进行了优化设计,完成新样机试制与性能试验。试验结果表明:优化后的抛振系统种子抛起高度均匀一致,有效克服种子群移动、扎堆等问题,单粒率大于96%,吸附率大于98%,空穴率低于2%,各性能指标达到精量播种的农艺要求。为穴盘育苗精量播种机振动系统的结构设计提供了一种新的思路。
【英文摘要】A new ejection mechanism system was designed to improve the uniformity of seed suspension height in seed plate vibrating for air-suction tray seeder.This new ejection mechanism system consists of four springs,one electromagnet and one seed plate.The seed movement rules were recognized through theoretical analysis and dynamic simulation with respect to seed movement.An advanced seed plate was designed,and the second-generation prototype was completed and tested.The test results indicated the hopping heights ...
【语种】中文
【第一作者】董春旺
【通讯作者】董春旺
【期刊名称、卷期、页码】农业工程学报、26(6):124-128
【论文发表时间】2010-06-15 00:00:00
【引文索引类型】EI
【引文索引号】1002-6819(2010)-06-0124-05
【学科分类】农艺学

【题目】脱氧雪腐镰刀菌烯醇(DON)人工抗原及多克隆抗体的研制
【中文关键词】脱氧雪腐镰刀菌烯醇、结构修饰、琥珀酸酐法、碳化二亚胺法
【英文关键词】deoxynivalenol、structuremodification、succinyloxide、carbodiimide reaction
【中文摘要】脱氧雪腐镰刀菌烯醇(Deoxynivalenol,DON)是一种半抗原,没有免疫原性。为了制备抗DON的抗体,必须对其进行结构修饰,加大DON的分子量。本研究采用保护-去保护策略使DON的C3上的羟基与琥珀酸酐反应,使DON衍生后获得1个羧基。利用薄层色谱法跟踪反应进程,反应产物采用薄层色谱法纯化,高效液相色谱和电喷雾离子化质谱(ESI-MS)分析,得出[M+H]+为397.2,确认为3-半琥珀酰-脱氧雪腐镰刀菌烯醇(3-HS-DON)。3-HS-DON与载体蛋白采用碳化二亚胺法进行偶联,偶联物经SDS-聚丙烯酰胺凝胶电泳鉴定,推断偶联成功,并研制出多克隆抗体。
【英文摘要】Deoxynivalenol (DON) is a toxin produced by Fusarium graminearum, which causes ear blight of wheat,barley, corn and other cereal crops worldwide. Consumption of cereal grains containing DON can result in diseases in animals and human beings. It is very necessary to detect DON in food. However,DON is notan antigen, it is essential tomodify the structure and design an semi-antigen. The conversion of DON to 3-HS-DON was facilitated by protecting two of the three available hydroxyls with a cyclic boronate ester and making DON react with the C3 hydroxyl. The derived product was purified with TLC and analyzed by HPLC and ESI-MS.The mass spectrum of derived DON, 3-HS-DON, had the expected [M+H]+ peak at 397.2 m/z. 3-HS-DON-BSA and 3-HS-DON-OVA were prepared by the carbodiimide reaction, and the conjugates were confirmed by SDS-PAGE.
【语种】中文
【第一作者】祭芳
【通讯作者】史建荣
【期刊名称、卷期、页码】江苏农业学报
【论文发表时间】2008-04-01 00:00:00
【引文索引类型】其他
【引文索引号】无
【学科分类】兽医学

【题目】脱氧雪腐镰刀菌烯醇(DON)抗原化分子设计及其检测
【中文关键词】脱氧雪腐镰刀菌烯醇、人工抗原、鉴定

【英文关键词】deoxynivalenol (DON)、artificial antigen、identification
【中文摘要】利用琥珀酸酐法对DON分子进行结构修饰,采用高效液相色谱法和薄层层析法进行检测,并将衍生物与载体蛋白牛血清白蛋白进行偶联,设计人工抗原,通过紫外分光光度法、SDS-PAGE和ELISA试剂盒分析偶联结果。结果显示,成功得到了DON-BSA,偶联物中DON浓度为0.797μg/μL。
【英文摘要】Deoxynivalenol(DON) molecular structure was modified with succinic anhydride(SA) method in this study. HPLC and TLC were used to determine the product. The derivative and carrier protein BSA were coupled to develop artificial antigen. The conjugate was analyzed with ultraviolet spectrophotometry, SDS-PAGE and ELISA kit for DON. The result showed that DON artificial antigen was obtained and the content ofDON in DON-BSA was 0.797 μg/μL.
【语种】中文
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【题目】玉米中伏马毒素FB1液相色谱-电喷雾串联质谱测定方法的建立
【中文关键词】液相色谱-电喷雾串联质谱、玉米、伏马毒素、多离子反应监测
【英文关键词】HPLC/MS/MS、maize、fumonisin、multiple responsemonitor
【中文摘要】为建立简单、快速、同时测定玉米中伏马菌素的超高效液相色谱三重四极杆质谱确证方法,利用液相色谱-电喷雾串联质谱法(HPLC-MS/MS)测定FB1,采用固相萃取富集,以含有0·1%甲酸的甲醇/水(75+25)为流动相,流速0.4 ml/min,以多反应监测(MRM)方式进行检测,利用ESI/MS/MS对FB1质谱解析,分别选择特征离子峰m/z334和m/z352作为准确定性的依据。结果表明,在最佳色谱条件下,碰撞能量50 eV,传输区电压100 V时,FB1的保留时间为1.0 min,检出限为75 pg,平均回收率为80.5%,相对标准偏差≤7.47%。以上数据表明该方法具有预处理简单、检测速度快、灵敏度高的优点,可用于玉米样品中伏马菌毒素的确认和准确定量检测,并满足对伏马菌毒素的最低检出要求。
【英文摘要】A new approach for simple, rapid and simultaneous determination of fumonisin B1contaminants inmaize by high-performance liquid chromatography-tandem mass spectrometry was established. High performance liquid chromatography-electrospray ionization tandem mass spectrometry (HPLC-MS/MS) combining with solid phase extraction had been developed for the determination of FB1 inmaize. Mobile phases were methanol-water (75+25), both containing 0.1% formic acid. Flow rate was maintained at 0.4 ml/min. Ionization was performed in an electrospray-positive ion source (+) and quantitative detection was carried out using multiple reaction monitor (MRM) mode.Using the proposed ESI/MS/MS, FB1 could be identified with both retention time and the typical ion peaks at m/z 352 and m/z 334, respectively. When the electrospray ionization source valueswere as follows: collision energy, 50 eV, and cone voltage, 100 V, the retention time of FB1 was 1.0 min, the limit of detection was 75 pg, and the linear rangewas from 0 ng/ml to 300 ng/ml with recovery of 80.5% and theRSD≤7.47%. It comes to a nclusion that the quantitative method has many advantages including simple pretreatment, rapid determination and high sensitivity, which could be applied to the determination and quantification of fumonisin contaminants inmaize.
【语种】中文
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【学科分类】兽医学

【题目】真菌毒素的污染、危害及其检测技术
【中文关键词】真菌毒素、农产品、污染、检测技术
【英文关键词】无

【中文摘要】真菌毒素是农产品及饲料的主要污染源之一,本文阐述了常见真菌毒素的种类,包括黄曲霉毒素、脱氧雪腐镰刀菌烯醇、玉米赤霉烯酮、伏马菌素以及赭曲霉毒素等;分析了它们在农产品及饲料中的污染情况以及对人和动物的危害性;并对真菌毒素检测技术进行了简要介绍。
【英文摘要】无
【语种】中文
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【题目】饲料中单端孢霉烯族真菌毒素检测方法的探讨
【中文关键词】真菌毒素、单端孢霉烯族毒素、检测、饲料
【英文关键词】Mycotoxins、Trichothecenes、Detection、Feeds
【中文摘要】[目的]为饲料中单端孢霉烯族真菌毒素的有效、快速检测提供理论支持。[方法]通过比较单端孢霉烯族毒素的检测方法,探讨了相关问题并预测了饲料中单端孢霉烯族毒素检测方法的发展方向。[结果]使用TLC检测脱氧雪腐镰刀菌烯醇的检测限可达20~300μg/kg。在羟基衍生化后用气相色谱电子俘获法检测A类单端孢霉烯族毒素的检测限为10~50μg/kg,衍生化或荧光酰化后检测B类单端孢霉烯族毒素的检测限可达20~50μg/kg,甚至更低。利用HPLC,以甲醇-水或乙腈-水混合物为流动相检测单端孢霉烯族毒素,其检测限为100~500μg/kg。利用LC-MS/MS检测单端孢霉烯族毒素的检测限可达0.8~10.0 ng/kg。[结论]随着技术的发展,将会有越来越多的优良分析检测方法用于检测饲料中的单端孢霉烯族毒素。
【英文摘要】[Objective]The purpose was to supply theoretical support for the effective and rapid detection of trichothecene mycotoxins in feeds.[Method]Through comparing the detection methods of trichothecene mycotoxins,some problems existing in these methods were discussed and the developing direction of detection methods of trichothecene mycotoxins in feeds was predicted.[Result]The detection limit of TLC in detecting deoxynivalenol was as low as 20 - 300 μg/kg.The detection limit range of GC electron capture detection in detecting the hydroxyl -derivative of type-A trichothecene mycotoxins was 10 - 50 μg/kg and its detection limit in detecting the derivative and fluorescent acylate of type-B trichothecene mycotoxins was as low as 20 - 50 μg/kg,even lower.The detection limit range of HPLC in detecting trichothecene mycotoxins with methanol-water or acetonitrile-water mixture as mobile phase was 100 - 500 μg/kg.The detection limit of LC-MS/MS in detecting trichothecene mycotoxins was as low as 0.8 - 10.0 ng/kg.[Conclusion]As the technology was developed,there would be more and more good analysis and detection methods used in detecting trichothecene mycotoxins in feeds.
【语种】中文
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【学科分类】兽医学

【题目】抗脱氧雪腐镰刀菌烯醇单克隆抗体的制备
【中文关键词】脱氧雪腐镰刀菌烯醇、单克隆抗体、酶联免疫吸附测定
【英文关键词】deoxynivalenol、monoclonal antibody、enzyme-linked immunosorbent assay
【中文摘要】【目的】小麦赤霉病菌产生的毒素不仅在病害发展过程中具有加重赤霉病的作用,而且污染谷物导致严重的食用安全性问题。由于赤霉病的普遍发生,有必要建立快速、灵敏、有效的毒素检测方法,本试验旨在制备可用于检测被脱氧雪腐镰刀菌烯醇污染的粮谷类特异性单克隆抗体。【方法】本实验首先将脱氧雪腐镰刀菌烯醇(DON)的衍生物3-半琥珀酰 -脱氧雪腐镰刀菌烯醇(3-HS-DON-OVA)与卵清蛋白(OVA)采用碳化二亚胺法进行偶联得到人工抗原,以此人工抗原免疫 BAL B/C 小鼠,取该鼠脾细胞与 SP2/O 鼠骨髓瘤细胞融合,经筛选和克隆,得到了1株能稳定分泌 DON 抗体的单克隆

细胞株(3B2),并制备单克隆抗体腹水。【结果】经检测3B2的抗体类型及亚类均为IgG1,其轻链为κ链。腹水通过间接酶联免疫吸附测定效价在1×107以上。该单克隆抗体与脱氧雪腐镰刀菌烯醇特异性结合反应的50%抑制质量浓度为29μg/L,除与3-acetyldeoxynivalenol(3-Ac-DON)的交叉反应率为78.38%,与其他脱氧雪腐镰刀菌烯醇结构类似物无交叉反应。【结论】本实验所制备的单克隆抗体有较高的灵敏度和特异性,具有较好的应用价值。

【英文摘要】[Objective] Deoxynivalenol (DON) is a trichothecene mycotoxin produced by Fusarium graminearum, a pathogen causing Fusarium Head Blight of wheat. It is necessary to establish a rapid and simple assay to detect DON. [Methods] High affinity monoclonal antibodies (Mab) against DON were produced by cell fusion with 500 mg/mL Poly-ethylene Glycol 400, and cell sub-cloning in HAT (H: hypoxanthine, A: aminopterin; T: thymidine) culture medium for screening and limiting dilution. Hybridoma lines were screened for specificity to DON by Enzyme-linked Immunosorbent Assay (ELISA). One hybridoma cell line (3B2) secreting monoclonal antibody (MAb) against DON was produced by fusing mouse myeloma cells (SP 2/0) with spleen cells from BAL B/C mice which were immunized by the artificial antigen conjugated with Ovalbumin (OVA). [Results] The MAb obtained in this experiment could specifically react with DON without cross-reactivity to DON related compounds except 3-acetyldeoxynivalenol (3-Ac-DON), with the titres of ascitic fluids up to 1×l07 by indirect ELISA. Isotype and subclass of the monoclonal cell line (3B2) showed that it belonged to IgG1. The light chain of the MAb was identified to be κ. Ascites antibodies generated by hybridoma of 3B2 cells were purified. Inhibition rate studies showed that the detection limit of the ELISA was 8 μg/L, with the regression equation of indirect ELISA Y=0.733lg(x) 0.572, R2=0.9652, IC50 value being 29ug/L. [Conclusion] The MAb can be used to prepare the reagents for analyzing DON residue.

【语种】中文

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【学科分类】兽医学

【题目】薄层色谱和高效液相色谱联合检测玉米赤霉烯酮的方法研究

【中文关键词】玉米赤霉烯酮;检测;TLC;HPLC

【英文关键词】zearalenone、detection、TLC、HPLC

【中文摘要】建立了薄层色谱法(TLC)定性检测和高效液相色谱法(HPLC)定量检测相结合的检测玉米粉中玉米赤霉烯酮(ZON)的方法。以石油醚：乙醚：冰醋酸(70：28：2)为展开剂, TCL定性检测ZON, ZON的比移值(Rf值)约为0.26。HPLC对ZON进行定量分析,ZON在0.25~5μg/mL范围内线性关系良好,回收率高,检测限为3μg/kg。试验表明: TLC快速、简便,可作为大批量、快速检测ZON的有效方法;HPLC精确、灵敏度高可作为定量检测ZON的有效手段。

【英文摘要】Thin layer chromatography (TLC) combined with high performance liquid chromatography (HPLC) were used for the detection of zearalenone (ZON) in corn flour. Rfvalue of ZON for TLC with ligarine-ethylether-glacial acetic acid (70：28：2, V/V) as expanded materialwas determined as 0.26. Quantitation of ZON was carried out by HPLC. The linear correlation was well between 0.25~5 μg/mL. The coefficient of recovery was high and detection limit was 3 μg/kg. It suggested that TLC is fastand convenient, and suitable for quick detection in a large batch, while HPLC is precise and sensitive, and suitable for quantitation of ZON.

【语种】中文

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【学科分类】兽医学

【题目】Optimization of the isolation and cultivation of Cyprinus carpio primary hepatocytes

【中文关键词】Hepatocytes; Primary culture; Cell viability; Cyprimus carpio

【英文关键词】Hepatocytes; Primary culture; Cell viability; Cyprimus carpio

【中文摘要】The aquatic environment is affected by numerous chemical contaminants. There is an increasing need to identify these chemicals and to evaluate their potential toxicity towards aquatic life. In this research we optimized techniques for primary cell culture of Cyprinus carpio hepatocytes as one adjunct model for ecotoxicological evaluation of the potential hazards of xenobiotics in the aquatic environment. In this study, Cyprinus carpio hepatocytes were isolated by mechanical separation, two-step collagenase perfusion, and pancreatin digestion. The hepatocytes or parenchymal cells could be separated from cell debris and from non-parenchymal cells by low-speed centrifugation (Percoll gradient centrifugation). The harvested hepatocytes were suspended in DMEM, M199 (cultured in 5% CO2), or L-15 (cultured without 5% CO2) medium then cultured at 17, 27, or 37°C. Cell yield was counted by use of a hemocytometer, and the viability of the cells was assessed by use of the Trypan blue exclusion test. Results from these studies showed that the best method of isolation was pancreatin digestion (the cell yield was 2.7*108 per g (liver weight) and the viability was 98.4%) and the best medium was M199 (cultured in 5% CO2) or L-15 (cultured without 5% CO2). The optimum culture temperature was 27 °C. The primary hepatocytes culture of Cyprimus carpio grew well and satisfied requirements for most toxicological experiments in this condition.

【英文摘要】The aquatic environment is affected by numerous chemical contaminants. There is an increasing need to identify these chemicals and to evaluate their potential toxicity towards aquatic life. In this research we optimized techniques for primary cell culture of Cyprinus carpio hepatocytes as one adjunct model for ecotoxicological evaluation of the potential hazards of xenobiotics in the aquatic environment. In this study, Cyprinus carpio hepatocytes were isolated by mechanical separation, two-step collagenase perfusion, and pancreatin digestion. The hepatocytes or parenchymal cells could be separated from cell debris and from non-parenchymal cells by low-speed centrifugation (Percoll gradient centrifugation). The harvested hepatocytes were suspended in DMEM, M199 (cultured in 5% CO2), or L-15 (cultured without 5% CO2) medium then cultured at 17, 27, or 37°C. Cell yield was counted by use of a hemocytometer, and the viability of the cells was assessed by use of the Trypan blue exclusion test. Results from these studies showed that the best method of isolation was pancreatin digestion (the cell yield was 2.7*108 per g (liver weight) and the viability was 98.4%) and the best medium was M199 (cultured in 5% CO2) or L-15 (cultured without 5% CO2). The optimum culture temperature was 27 °C. The primary hepatocytes culture of Cyprimus carpio grew well and satisfied requirements for most toxicological experiments in this condition.

【语种】英文

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【学科分类】兽医学

【题目】Development of a sensitive competitive indirect ELISA method for determination of ochratoxin A levels in cereals originating from Nanjing, China

【中文关键词】Ochratoxin A; Monoclonal antibody; ELISA; Cereals

【英文关键词】Ochratoxin A; Monoclonal antibody; ELISA; Cereals

【中文摘要】A monoclonal antibody against ochratoxin A (OTA) was produced and a simple, rapid and reliable competitive indirect ELISA (ci-ELISA) for detection of OTA was developed. The 50% inhibitory concentration (IC50) was 1.70 ng/mL, with a detectable range of 0.55-6.75 ng/mL, and a limit of determination (LOD) at 0.15 ng/mL. The cross-reactivity of the antibody against ochratoxin B was 17%, and <10% against deoxynivalenol, fumonisin B1 or aflatoxin B1. A survey of 65 cereal samples was carried out in Nanjing, the capital of Jiangsu Province, China. The frequencies of OTA contamination were 36.36%, 26.08% and 15.00%, and the mean concentrations of positive samples were 4.248 ng/g, 7.360 ng/g and 3.382 ng/g for wheat, corn and rice, respectively. The results of this study suggest that the ci-ELISA developed can be used to determine OTA in agricultural commodities such as cereals, and a survey might be needed to investigate OTA contamination in food and feed to prevent their harmful health effects.

【英文摘要】A monoclonal antibody against ochratoxin A (OTA) was produced and a simple, rapid and reliable competitive indirect ELISA (ci-ELISA) for detection of OTA was developed. The 50% inhibitory concentration (IC50) was 1.70 ng/mL, with a detectable range of 0.55-6.75 ng/mL, and a limit of determination (LOD) at 0.15 ng/mL. The cross-reactivity of the antibody against ochratoxin B was 17%, and <10% against deoxynivalenol, fumonisin B1 or aflatoxin B1. A survey of 65 cereal samples was carried out in Nanjing, the capital of Jiangsu Province, China. The frequencies of OTA contamination were 36.36%, 26.08% and 15.00%, and the

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【语种】英文
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【学科分类】兽医学

【题目】A mitochondria-mediated apoptotic pathway induced by deoxynivalenol in human colon cancer cells
【中文关键词】Deoxynivalenol; HT-29; Apoptosis; Mitochondria-mediated pathway
【英文关键词】Deoxynivalenol; HT-29; Apoptosis; Mitochondria-mediated pathway
【中文摘要】Deoxynivalenol (DON), known colloquially as "vomitoxin", is a pathogenic mycotoxin produced by Fusarium fungi. Human food poisoning outbreaks, with nausea, diarrhea, and vomiting as primary symptoms, have been associated with Fusarium-infected cereals. Therefore, this study was designed to determine the molecular aspects of DON in human colon cancer cells (HT-29). To this aim, we have monitored the effects of DON on (i) cellular morphological changes via optical and transmission electron microscopy, especially in regards to cell viability and mitochondria changes, and (ii) its effects on key regulators of cell apoptosis, including cytochrome c, caspase-9, caspase-3, Bcl-2, Bax, and Bid. Our results showed that DON treatment inhibited cell proliferation, induced significant morphological changes, and promoted the activation of cytochrome c and caspases. Furthermore, changes in Bcl-2, Bax, and Bid expression were detected. The relative expression profile of Bcl-2 was contrary to that of Bax and Bid, as Bcl-2 expression decreased as the concentrations DON increased, reaching a minimum at the highest concentration of DON. We concluded that DON-induced apoptosis was caused by mitochondrial dysfunction and subsequent release of cytochrome c into the cytoplasm and successive activation of caspases, and this was likely regulated by Bcl-2 family proteins.
【英文摘要】Deoxynivalenol (DON), known colloquially as "vomitoxin", is a pathogenic mycotoxin produced by Fusarium fungi. Human food poisoning outbreaks, with nausea, diarrhea, and vomiting as primary symptoms, have been associated with Fusarium-infected cereals. Therefore, this study was designed to determine the molecular aspects of DON in human colon cancer cells (HT-29). To this aim, we have monitored the effects of DON on (i) cellular morphological changes via optical and transmission electron microscopy, especially in regards to cell viability and mitochondria changes, and (ii) its effects on key regulators of cell apoptosis, including cytochrome c, caspase-9, caspase-3, Bcl-2, Bax, and Bid. Our results showed that DON treatment inhibited cell proliferation, induced significant morphological changes, and promoted the activation of cytochrome c and caspases. Furthermore, changes in Bcl-2, Bax, and Bid expression were detected. The relative expression profile of Bcl-2 was contrary to that of Bax and Bid, as Bcl-2 expression decreased as the concentrations DON increased, reaching a minimum at the highest concentration of DON. We concluded that DON-induced apoptosis was caused by mitochondrial dysfunction and subsequent release of cytochrome c into the cytoplasm and successive activation of caspases, and this was likely regulated by Bcl-2 family proteins.
【语种】英文
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【学科分类】兽医学

【题目】宁夏发展设施农业的思考与对策
【中文关键词】设施农业;宁夏引黄灌区;设施蔬菜;经济社会发展;节能日光温室;中部干旱带;总体思路;长效机制;少数民族地区;大力发展;

【英文关键词】The facility agriculture;Ningxia Yellow River Irrigation;facilities vegetables;economic and social development;energy-saving solar greenhouse;central arid zone;overall idea;term mechanism;minority areas;vigorously develop;
【中文摘要】宁夏设施农业发展现状宁夏是全国五个少数民族地区之一,地域小,人口少,既不沿边,也不靠海,是典型的内陆省区,也是全国几个集中贫困连片地区之一。为此,2008年9月7日,国务院正式下发了《关于进一步促进宁夏经济社会发展的若干意见》,把宁夏放在全国改革开放的大背景下,确定宁夏经济社会发展的战略定位、总体思路和重大举措,坚持把解决当前紧迫问题和谋划长远发展相结合,一揽子统筹解决宁夏问题,努力促进宁夏经济社会又好又快发展。大力发展设施农业,就成为宁夏引黄灌区建设现代高效农业,中部干旱带和南部山区突破干旱制约、转变农业增长方式,构建农民抗旱增收长效机制,推进农业和农村经济跨越式发展的重大战略决策。
【英文摘要】Ningxia facilities Present Agricultural Development in Ningxia is one of the five ethnic minority areas, geographically small, small population, neither border nor the sea, is a typical inland provinces, is also one of several of concentrated poverty contiguous region. To this end, on September 7, 2008, the State Council officially issued a "further promote economic and social development in Ningxia, Ningxia in the context of the country's reform and opening up, determine the strategic positioning of the economic and social development in Ningxia, the overall ideas and major initiatives, adhere to solve current pressing issues and plan for the long-term development package comprehensively address Ningxia, Ningxia's economic and social efforts to promote sound and rapid development. To develop facilities for agriculture, Ningxia Yellow River Irrigation construction of a modern and efficient agriculture, arid zone in central and southern mountain break the drought constraints, the transformation of agricultural growth, to build farmers Drought income long-term mechanism to promote leapfrog development of agriculture and rural economy major strategic decisions.
【语种】中文
【第一作者】张源沛
【通讯作者】张源沛
【期刊名称、卷期、页码】宁夏农林科技,2009(04):46-47.
【论文发表时间】2009-08-15 00:00:00
【引文索引类型】其他
【引文索引号】无
【学科分类】农业基础学科

【题目】不同灌溉定额对设施茄子光合特性和产量的影响
【中文关键词】设施茄子; 灌水量; 光合特性; 水分利用效率;
【英文关键词】greenhouse eggplant; irrigation amount; photosynthesis characteristics; water use efficiency;
【中文摘要】为研究不同灌溉定额对设施茄子叶片光合特性及产量的影响,在宁夏盐池县进行小区栽培试验。结果表明:灌溉定额675、900 mm的处理叶片净光合速率影响显著高于灌溉113 mm的处理。随着灌水量的增加,叶片蒸腾速率、气孔导度、胞间CO2浓度先减少后增加,Fo有着先减少后增加的趋势,Fm和Fv随着灌水量的增加有先增加后减少的趋势。反映了水分亏缺和水分过量都会影响光化学效率、潜在活性、捕获激发能的效率、光和电子的传递。水分利用效率随着灌水量的增加而逐渐的减少,根据不同灌水处理下茄子的生理性状、经济效益和土壤水分的可持续利用原则,最佳的灌溉量为550~700 mm。
【英文摘要】The effects of different irrigation amount on leaf photosynthesis characteristics and yield of greenhouse eggplant are studied in Yanchi county of Ningxia.The result shows that Pn of the treatments with 675 mm and 900 mm irrigation quota are significant more than that of 113 mm treatment.At the same time,with the increase of the irrigation amount,the values of stomatal conductance(Ci),intercellular CO-2 concentration(Gs)and transpiratory rate(Tr) are gradually decrease first then increased,the trend of Fo is reduced firstly then increases,while the Fm,Fv increases firstly then reduces.This reflects that both the water deficit and water surplus have effects on the primary light energy conversion of PSⅡ,the potential activities of PSⅡ,the potential photosynthetic activities and photosynthetic electron transport.The water use efficiency(WUE) is gradually decreased with the increase of irrigation amount.According to the analysis result of yield and growth status of eggplant under different irrigation amount,economic benefit and sustainable use of soil water,it is concluded that the optimum irrigation amount is 550 to 700 mm.
【语种】中文
【第一作者】郑国保
【通讯作者】张源沛
【期刊名称、卷期、页码】节水灌溉,2010,(12):28-30+34.
【论文发表时间】2010-12-15 00:00:00

【引文索引类型】其他
【引文索引号】无
【学科分类】农业基础学科

【题目】灌水量对日光温室辣椒膜下滴灌耗水规律的影响
【中文关键词】灌水量; 日光温室辣椒; 耗水规律;
【英文关键词】irrigates; solar greenhouse; pepper; water consumption;
【中文摘要】在日光温室条件下,研究不同灌水量对日光温室辣椒膜下滴灌耗水规律的影响.结果表明:在全生育期内,辣椒的耗水量增加,耗水强度也相应增加,各生育时期耗水量和耗水强度也呈增加趋势.各处理耗水量均表现为结果盛期>结果末期>营养生长期>结果前期;耗水强度表现为结果前期>结果盛期>结果后期>营养生长期.在滴灌条件下,作物耗水量为426 mm,对应产量为2 275 kg/666.7 m2,可作为日光温室辣椒膜下滴灌的最佳指标.
【英文摘要】The studies were carried on drip irrigation of pepper on water consumption under film in solar greenhouse.The results showed that: water consumption quantity was increased during whole duration,accompanied with water consumption intensity.The tendency was also found in various periods of duration on water consumption and the water consumption intensity.In each processing water consumption ranked: begin of fruit stage>the later of fruit stage>vegetative growth period>earlier fruit period.The water consumption intensity ranked: the earlier fruit period>begin of fruit stage>the later of fruit stage>vegetative growth period.The crop water consumption amount of 426mm had highest yield of 2275kg/666.7m2 in drip irrigation under film,which could be suitable index for pepper irrigation
【语种】中文
【第一作者】郑国保
【通讯作者】张源沛
【期刊名称、卷期、页码】农业科学研究,2010(04):50-52.
【论文发表时间】2011-12-15 00:00:00
【引文索引类型】其他
【引文索引号】无
【学科分类】农业基础学科

【题目】不同灌水量对日光温室番茄产量_品质和水分利用效率的影响
【中文关键词】灌水量; 日光温室番茄; 产量; 品质; 水分利用率;
【英文关键词】irrigation quantity; solar greenhouse tomato; yield; quality; WUE;
【中文摘要】通过温室膜下滴灌试验,研究了不同灌水量对番茄产量、品质和水分利用率的影响。结果表明:灌水量对番茄产量和果实品质有显著的影响。灌水量为375mm的处理产量达到138108kg/hm2,比对照增产74.96%,达到极显著水平,水分利用率为1.60kg/m3;降低灌水量可提高果实中硝酸盐、可溶性糖和维生素C等可溶物的含量。
【英文摘要】The experiment was carried on drip irrigation under film in solar greenhouse to study the effect of irrigation quantity on yield and quality and water use efficiency.The results showed that irrigation quantity affected the yield of tomato and fruit quality significantly.The yield of tomato dealt with 375 mm irrigation treatment achieved 138 108 kg/hm~2,it was higher by 74.96%than check and achieved significance level,WUE of this treatment achieved 1.60 kg/m~3;The content of nitrate and solubility sugar and vitamin C in fruit were raised through reducing irrigation quantity.
【语种】中文
【第一作者】郑国保
【通讯作者】张源沛
【期刊名称、卷期、页码】北方园艺, 2010(11):47-49.
【论文发表时间】2010-06-25 00:00:00
【引文索引类型】其他
【引文索引号】无
【学科分类】农业基础学科

【题目】不同灌水次数对日光温室番茄土壤水分动态变化规律的影响
【中文关键词】灌水次数;日光温室;番茄;土壤水分动态变化

【英文关键词】irrigation frequency; greenhouse; tomato; soil water dynamics
【中文摘要】根据番茄在整个生育期内土壤水分变化特点,充分利用有限水资源,调节土壤水分状况。在相同灌水量条件下,利用时域反射仪研究不同灌水次数对土壤含水量的变化的影响。结果表明:各处理土壤贮水量变化的深度一般在0~100 cm内,尤其在0~60 cm变化最为激烈,100~180 cm范围内土壤水分变化不明显。按土壤水分运移规律进行划分,将土壤水分的垂直变化分为4层,即活跃层(0~30 cm)、次活跃层(30~60 cm)、缓变层(60~100 cm)和均稳层(100~180 cm)。灌水次数越少对土壤水分消耗的越多,易造成活跃层和次活跃层土壤水分亏缺;反之,则土壤水分消耗较少。
【英文摘要】In the whole growth period of tomato, according to soil moisture characteristics, full used of limited water resources and regulated soil moisture. Used TDR to study the yield and soil water dynamics of greenhouse tomato by different irrigation times of some irrigation amount. The result showed that: the depth of soil water dynamics changes by different treatments was 0-100 cm, and the change of depth 0-60 cm was best fury. The change of depth 100-180 cm was not distinctness. By soil moisture migration to be divided, there were 4 layers divided by the vertical variation of soil moisture: the active layer (0-30 cm), sub-active layer (30-60 cm), graded layer (60-100 cm) and stable layer (100-180 cm). Irrigation times less then consumption of soil moisture more, led to the active layer and the second active layer of the soil water deficit easily. The more number of irrigation on soil the moisture consume less, could easily lead times active layer of soil moisture deficit.
【语种】中文
【第一作者】郑国保
【通讯作者】张源沛
【期刊名称、卷期、页码】中国农学通报,2011,27(22):192-196.
【论文发表时间】2011-11-15 00:00:00
【引文索引类型】其他
【引文索引号】无
【学科分类】农业基础学科

【题目】三种灌溉技术对日光温室蔬菜生产效率和经济效益的影响
【中文关键词】灌溉技术;设施蔬菜;经济效益
【英文关键词】The economic benefits of irrigation technology; facilities vegetables;
【中文摘要】通过田间试验分析日光温室蔬菜在膜下滴灌、膜下沟灌和沟灌 3 种灌溉技术下的灌溉水生产效率及经济效益。结果表明:膜下滴灌的灌溉水生产效率可达到 20.82kg/m3,膜下沟灌的灌溉水生产效率为 15.91kg/m3,而沟灌的灌溉水生产效率只有 11.44kg/m3;膜下滴灌的灌溉水生产效率比膜下沟灌提高 30.87%,是沟灌的 1.82 倍;膜下滴灌每 667m2增产 14.8%,减少肥料投入量 26.8%,减少农药投入量 32.44%,省工 212.5 元,节水 180m3,降低了生产成本和灌水量,经济效益显著。
【英文摘要】Irrigation water under drip irrigation, membrane under furrow irrigation and furrow irrigation techniques in greenhouse vegetable production efficiency and cost-effectiveness analysis of the field experiment. The results show that: drip irrigation irrigation water productivity can be achieved 20.82kg/m3, the film under furrow irrigation water productivity 15.91kg/m3, and furrow irrigation water productivity only 11.44kg/m3; drip irrigation irrigation water production efficiency than the film under furrow irrigation increased by 30.87%, is the furrow of 1.82 times; drip irrigation under plastic film each 667m2 increase of 14.8%, 26.8% to reduce the amount of fertilizer inputs, reduce pesticide inputs 32.44% and 212.5 yuan, the provincial workers, water-saving 180m3 reduce the cost of production and irrigation, significant economic benefits.
【语种】中文
【第一作者】郑国保
【通讯作者】张源沛
【期刊名称、卷期、页码】宁夏农林科技,2010,(06):3-4.
【论文发表时间】2010-12-15 00:00:00
【引文索引类型】其他
【引文索引号】无
【学科分类】农业基础学科

【题目】不同灌水量对日光温室黄瓜耗水规律及水分利用效率的影响
【中文关键词】日光温室;黄瓜;灌水量;耗水规律;水分利用效率
【英文关键词】Greenhouse; Cucumber; Irrigation amoun;t Water consumption; Waterutilization efficiency

【中文摘要】研究不同灌水量对日光温室黄瓜耗水规律及水分利用效率的影响。[方法]在宁夏干旱区日光温室膜下滴灌条件下,研究了不同灌水量对日光温室黄瓜耗水规律和土壤水分利用效率的影响。[结果]灌水量为563 mm时,耗水强度整体随生育期的延后逐渐增大,在结果盛期达到最大,随后逐渐下降,在各生育期各处理日耗水强度随灌水量的增加而增加;而土壤水分的消耗则随灌水量的增加而明显减少,灌水量达到563mm时完全能满足黄瓜水分需求,并开始向土壤补充水分,且水分利用率达到33.4 kg/m3。[结论]为温室黄瓜生产的水分管理提供了理论依据。

【英文摘要】Thispaperami ed to investigate the effectsofdifferent irrigation amountonwaterconsumption andwaterutilization e-fficiency ofgreenhouse cucumber. [Method] Under the condition ofdrip irrigationwith differentwateramount in sunlightgreenhouse of the ar-id areas inNingxia, the soilwaterwasmeasured and thewaterconsumption ofcropwas calculated. [Result]When irrigation amountwas563mm, thewater consumption as awhole gradually increasedwith the delay ofgrowth period, reached peak during the thriving stage of fruitse-tting, and then gradually declined; in each treatmen,t the dailywaterconsumption increasedwith the increasing of irrigation amountduring ev-ery growth period. However, the consumption of soilmoisture reducedwith the significant increase of irrigation. 563mm of irrigation amountcouldmeet thewaterrequirementsofcucumberand began to addwater to soi,l andwaterutilization efficiency could reach33.4 kg/m3. [Con-clusion] The research had provided theoreticalbasis forwatermanagement in the production process ofgreenhouse cucumber.

【语种】中文

【第一作者】郭生虎

【通讯作者】张源沛

【期刊名称、卷期、页码】安徽农业科学,2010,(36):20568-20570.

【论文发表时间】2010-12-15 00:00:00

【引文索引类型】其他

【引文索引号】无

【学科分类】农业基础学科

【题目】不同灌水量对日光温室黄瓜耗水规律及水分利用效率的影响_英文_

【中文关键词】日光温室;黄瓜;灌水量;耗水规律;水分利用效率

【英文关键词】Greenhouse; Cucumber; Irrigation amoun;t Water consumption; Waterutilization efficiency

【中文摘要】研究不同灌水量对日光温室黄瓜耗水规律及水分利用效率的影响。[方法]在宁夏干旱区日光温室膜下滴灌条件下,研究了不同灌水量对日光温室黄瓜耗水规律和土壤水分利用效率的影响。[结果]灌水量为563 mm时,耗水强度整体随生育期的延后逐渐增大,在结果盛期达到最大,随后逐渐下降,在各生育期各处理日耗水强度随灌水量的增加而增加;而土壤水分的消耗则随灌水量的增加而明显减少,灌水量达到563mm时完全能满足黄瓜水分需求,并开始向土壤补充水分,且水分利用率达到33.4 kg/m3。[结论]为温室黄瓜生产的水分管理提供了理论依据。

【英文摘要】Thispaperami ed to investigate the effectsofdifferent irrigation amountonwaterconsumption andwaterutilization e-fficiency ofgreenhouse cucumber. [Method] Under the condition ofdrip irrigationwith differentwateramount in sunlightgreenhouse of the ar-id areas inNingxia, the soilwaterwasmeasured and thewaterconsumption ofcropwas calculated. [Result]When irrigation amountwas563mm, thewater consumption as awhole gradually increasedwith the delay ofgrowth period, reached peak during the thriving stage of fruitse-tting, and then gradually declined; in each treatmen,t the dailywaterconsumption increasedwith the increasing of irrigation amountduring ev-ery growth period. However, the consumption of soilmoisture reducedwith the significant increase of irrigation. 563mm of irrigation amountcouldmeet thewaterrequirementsofcucumberand began to addwater to soi,l andwaterutilization efficiency could reach33.4 kg/m3. [Con-clusion] The research had provided theoreticalbasis forwatermanagement in the production process ofgreenhouse cucumber.

【语种】英文

【第一作者】郭生虎

【通讯作者】张源沛

【期刊名称、卷期、页码】Agricultural Science & Technology,(Z1):2011,217-220.

【论文发表时间】2010-12-15 00:00:00

【引文索引类型】其他

【引文索引号】无

【学科分类】农业基础学科

【题目】沼液复配杀菌剂防治黄瓜霜霉病效果初报
【中文关键词】沼液;杀菌剂;防治效果;黄瓜霜霉病
【英文关键词】biogas slurry;fungicide;control effect;downy mildew of cucumber
【中文摘要】利用沼液复配杀菌剂进行黄瓜霜霉病防效试验。结果表明:10%丙烷眯甲霜灵·沼液复配杀菌剂1000倍液、3000倍液防效达到88.73%以上,与其它处理相比较均达到了极显著水平,5000倍沼液复配杀菌剂与10%丙烷眯甲霜灵水乳剂500液防效相当,表明沼液对杀菌组合物具有明显的增效作用,沼液复合型杀菌剂对黄瓜霜霉病具有显著的防效。该研究为开发利用以沼液为原料的杀菌剂提供了科学参考。
【英文摘要】The control effect of biogas slurry mixture fungicide on owny mildew of cucumber were studied The results showed that 10% opamidine slurry mixture fungicide metala洲·1 000 times, 3 000 times more than control effect reached 88. 73 percent, compared with other treatments, were extremely significant, 5 000 times Biogas slurry mixture fungicide with 1000 of the fungicide Propamidine and etalaxyl EW 500 times control effect, that f3iogas slurry on the bactericidal omposition had obvious synergies, biogas slurry compound isinfectants on cucumber downy mildew si加ficant control effect. The study for the full development and utilization of biogas slurry as raw material to provide a scientific reference fungicide.
【语种】中文
【第一作者】郭生虎
【通讯作者】张源沛
【期刊名称、卷期、页码】北方园艺,2011(03):21-23.
【论文发表时间】2011-01-25 00:00:00
【引文索引类型】其他
【引文索引号】无
【学科分类】农业基础学科

【题目】宁夏设施蔬菜病虫害发生特点及综合防治技术
【中文关键词】设施蔬菜生产; 发生特点; 蔬菜病虫害; 农业可持续发展; 温室白粉虱; 宁夏; 防治措施; 番茄灰霉病; 黄瓜霜霉病; 日光温室;
【英文关键词】Vegetable production facilities; occurrence characteristics; vegetable pests; sustainable agricultural development; greenhouse whitefly; Ningxia; prevention measures; tomato gray mold; cucumber downy mildew; solar greenhouse;
【中文摘要】设施蔬菜是我区高产优质高效农业发展的成功典范,是科技和经济的结合点,是当前我区农业生产中最有活力的产业之一,是实现农业可持续发展及实施农业新技术革命的重要内容。
【英文摘要】Establishment vegetable is my area high yield high grade and efficient agriculture development is successful, science and technology and economic integration point, is currently in production of my area agriculture one of industries that have energy most, it is to realize the agricultural sustainable development and the implementation of the new agricultural technological revolution is the important content of.
【语种】中文
【第一作者】郭生虎
【通讯作者】张源沛
【期刊名称、卷期、页码】长江蔬菜,2011(13):38-40.
【论文发表时间】2011-07-10 00:00:00
【引文索引类型】其他
【引文索引号】无
【学科分类】农业基础学科

【题目】不同灌水次数对温室黄瓜耗水规律及水分利用效率的影响
【中文关键词】日光温室;黄瓜;灌水次数;耗水规律;水分利用效率
【英文关键词】Greenhouse; Cucumber; Irrigation times; Water consumption; Water use efficiency
【中文摘要】在膜下滴灌条件下,灌溉定额为 600 mm 时,研究了不同灌水次数对日光温室黄瓜耗水规律及水分利用效率的变化规律。 研究结果表明,灌水次数达 18 次时,黄瓜耗水强度整体随着生育期的延后逐渐增大,在结果盛期达到最大,随后逐渐下降;土壤贮水量随灌水量的增加而增加,而土壤水分的消耗则随着灌水量的增加而明显减少;灌水15~18 次,既能满足黄瓜水分需求,又可为土壤补充水分,且水分利用率达到 33.4 kg/m3。

【英文摘要】Under the drip irrigation, irrigation quota was 600 mm, to study cucumber water consumption and changes of water use efficiency in greenhouse. The results showed that up to 18 times the number of irrigation, the water consumption of the overall strength increased with the growth delay period, the maximum peak in the fruiting stage, then decreased gradually. Along with irrigation increasing, the soil water storage capacity increased, but water consumption of soil signifi-cant reduced. Irrigation frequency 15-18 times, to meet the needs of cucumber water and began to supply water to the soil, and water utilization rate was 33.4 kg/m3.
【语种】中文
【第一作者】孔德杰
【通讯作者】张源沛
【期刊名称、卷期、页码】长江蔬菜,2010(04):43-46.
【论文发表时间】2010-02-20 00:00:00
【引文索引类型】其他
【引文索引号】无
【学科分类】农业基础学科

【题目】不同灌水量对日光温室番茄土壤水分变化的影响
【中文关键词】灌水量;日光温室番茄;土壤水分
【英文关键词】Irrigation amount; Greenhouse tomato; Soil water
【中文摘要】通过田间试验,研究不同灌水量条件下日光温室番茄土壤水分的动态变化规律。 研究结果表明,随着灌水量的增加,番茄对土壤水分的消耗逐渐减少,并且土壤贮水量变化的深度一般在 0~120 cm 内,尤其在 0~60 cm 范围内变化最为激烈,120~180 cm 范围内各处理土壤水分变化不明显,灌水量越少土壤水分消耗得越多,土壤水分亏缺程度越严重。
【英文摘要】Soil moisture law of greenhouse tomato under different irrigation amount has been researched. The results showed that soil water consumed by tomato was decreased with irrigation amount increased, and water held in soil generally between 0-120 cm, and there was a big difference between 0-60 cm, there was not significantly difference between 120-180 cm, and water consume amount would be increased with irrigation amount decreased, soil water deficiency also would be more serious.
【语种】中文
【第一作者】郑国保
【通讯作者】张源沛
【期刊名称、卷期、页码】长江蔬菜,2011,(06):49-52.
【论文发表时间】2011-03-20 00:00:00
【引文索引类型】其他
【引文索引号】无
【学科分类】农业基础学科

【题目】不同灌水量对日光温室番茄耗水规律的影响
【中文关键词】灌水量; 日光温室; 番茄; 耗水规律;
【英文关键词】irrigation amount; greenhouse; tomato; water requirement;
【中文摘要】通过温室膜下滴灌实验,研究不同灌水量对日光温室番茄耗水规律的影响.结果表明:番茄整个生育期耗水量随着灌水量增加而增加,各处理耗水量均表现为结果盛期>结果前期>结果后期>营养生长期;番茄整个生育期耗水强度随着灌水量增加而增加,各处理耗水强度均表现为结果盛期>营养生长期>结果前期>结果后期.在滴灌条件下,作物耗水量为448 mm时番茄产量最高,可达9151 kg/666.7m2. 更多还原
【英文摘要】The experiment was carried on drip irrigation under film in solar greenhouse to study irrigation amount of tomato and it ’s water consumption.The results showed that: the water consumption of tomato rate in whole growth duration was increased with irrigation amount increased,the water consumption of each treatment ranked: peak fruit stage> begin fruit stage> later fruit stage > vegetative growth stage.The intensity of the whole growth duration of tomato consumption was increased according irrigation increase and water consumption intensities ranked: peak fruit stage> vegetative growth stage> begin fruit stage> later fruit stage.In the experiment at drip irrigation under film,tomato water consumption amount of 448mm could be achieved highest tomato yield of 9151kg/666.7m2. 更多
【语种】中文
【第一作者】孔德杰

【通讯作者】张源沛
【期刊名称、卷期、页码】农业科学研究,2010,(04):53-55.
【论文发表时间】2011-12-15 00:00:00
【引文索引类型】其他
【引文索引号】无
【学科分类】农业基础学科

【题目】不同灌水次数对日光温室辣椒土壤水分动态变化规律的影响
【中文关键词】灌水次数; 日光温室辣椒; 土壤水分动态变化;
【英文关键词】irrigation frequency; greenhouse pepper; soil water dynamics;
【中文摘要】在膜下滴灌条件下,研究不同灌水次数对日光温室辣椒土壤水分动态变化规律的影响。结果表明:随着灌水次数的增加,灌水间隔时间短,单次灌水量较少,对土壤水分的消耗逐渐减少,并且土壤贮水量变化的深度一般在0~100cm内,灌溉水基本能满足辣椒生长的需要;灌水次数越少土壤水分消耗得越多。
【英文摘要】The influence of different irrigation times on soil water dynamic change rule of greenhouse pepper under film mulched drip irrigation is studied in this paper.The result show that with the increase of irrigation times,the interval time and the irrigation quantity per time decrease,and the consumption of soil water gradually decreases.Moreover,the depth of soil water dynamics change under different treatments is 0~100 cm,the irrigation water can satisfy the need of greenhouse pepper.The more is the irrigation time,the more is the consumption of soil water.
【语种】中文
【第一作者】孔德杰
【通讯作者】张源沛
【期刊名称、卷期、页码】节水灌溉,2011,(06):14-15+19.
【论文发表时间】2011-06-25 00:00:00
【引文索引类型】其他
【引文索引号】无
【学科分类】农业基础学科

【题目】不同灌水次数对日光温室黄瓜产量和光合特性的影响
【中文关键词】日光温室; 黄瓜; 膜下滴灌; 光合特性;
【英文关键词】greenhouse; cucumber; drip irrigation; photosynthetic characteristics;
【中文摘要】在膜下滴灌条件下,研究不同灌水次数对日光温室黄瓜的生长指标、光合特性及产量的影响。结果表明:随着灌水次数的增加,黄瓜株高和茎粗有着先增加后减少的趋势,灌水18次时达到最大值,光合速率随着灌水次数的增加呈增加的趋势,但差异不显著,灌水18次时产量最高,说明黄瓜产量与生长指标、光合速率关系密切,在一定范围内,生长越旺盛,光合速率越高,总产量越高。从产量与生理指标变化趋势来考虑,为实现黄瓜的高产及节水效果,日光温室黄瓜在膜下滴灌条件下,灌水18次时,水分利用效率最佳,产量最好。 更多还原
【英文摘要】The effect of different irrigation frequency on growth photosynthetic characteristics and yield of cucumber in greenhouse targets were studied under drip irrigatioa The results showed that with the increase in the number of irrigation,plant height and stem diameter hacl a first cucumber increasing and then decreasing trend and reached 18 times the maximum irrigation,the photosynthetic rate increased as the irrigation frequency was increasing,but the difference was not significant when the highest yield of 18 irrigation,yield and growth parameters for cucumber,the photosynthetic rate was closely related,within a certain range,the more vigorous growth,the higher the photosynthetic rate,total output were higher.Yield and physiological parameters from the trend to consider for achieving high yield and water-saving effect of cucumber,greenhouse cucumber in mulched drip irrigation 18 times,the water use efficiency of the best, the best yield.
【语种】中文
【第一作者】孔德杰
【通讯作者】张源沛
【期刊名称、卷期、页码】北方园艺,2011,(02):4-6.
【论文发表时间】2011-01-25 00:00:00
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【引文索引号】无
【学科分类】农业基础学科

【题目】宁夏设施番茄膜下滴灌条件下耗水规律和水分利用效率
【中文关键词】设施番茄; 需水规律; 产量; 膜下滴灌;
【英文关键词】Greenhouse tomato; Water requirement; Yield; Drip irrigation under mulch;
【中文摘要】为探索宁夏中东部干旱带设施番茄需水规律,在宁夏盐池温室大棚里进行小区栽培试验,研究了不同灌水定额对番茄产量和生理生化指标的影响。结果显示:不同阶段番茄的耗水量不同,平均日耗水量为1.31~3.73 mm/d,开花坐果期最大,日耗水强度达到7.31 mm/d。不同灌水定额处理对番茄茎叶、根的生物量及产量有显著的影响,灌水量为375 mm的处理产量达到195898 kg/hm2,比对照增产75%,达到显著水平,水分利用率达到3.45 kg/m3。并初步制定了适合该地区设施番茄栽培的灌溉制度。
【英文摘要】In order to explore the water requirement of tomato in greenhouse at arid area in central Ningxia,some irrigation experiments were conducted in the Yanchi county to evaluate the effect on grow,yield and water use efficiency(WUE) of greenhouse tomato.The result showed that the evapotranspiration(ET) of different irrigation treatments at different grow stage was various,daily water consumption was 1.31-3.73 mm/d,and in the flowering and fruit bearing period,and water consumption reached the maximum,7.31 mm/d.And the effects of different treatments on yield and some physiological indexes of tomato were significantly.For the treatment of 375 mm irrigation,the yield was 195 898 kg/hm2,75% higher than the control which ble reached the significant level,and WUE was 3.45 kg/m3.And the drip irrigation schedule has been made for the cultivation of greenhouse tomato. 更多
【语种】中文
【第一作者】孔德杰
【通讯作者】张源沛
【期刊名称、卷期、页码】北方园艺,2011,(04):73-75.
【论文发表时间】2011-02-25 00:00:00
【引文索引类型】其他
【引文索引号】无
【学科分类】农业基础学科

【题目】不同灌水量对日光温室辣椒土壤水分动态变化的影响
【中文关键词】灌水量; 日光温室辣椒; 土壤水分变化;
【英文关键词】irrigation; solar greenhouse pepper; soil moisture;
【中文摘要】通过田间试验,研究不同灌水量对日光温室辣椒土壤水分变化的影响。结果表明:随着灌水量的增加,0~60 cm土壤水消耗逐渐减少。各处理0~100 cm土壤贮水量随着灌水量的增加而增加,而土壤水分的消耗则随着灌水量的增加而明显减少。在苗期、营养生长期和结果前期,蒸腾蒸发量相对较少,灌溉水能基本满足植株生长需要,植株从土壤中吸收的水分较少。
【英文摘要】Soil moisture law of greenhouse pepper under different irrigation amount has been researched.The results showed that with the increase of irrigation amount,0~60 cm of soil water consumption decreased,0~100 cm treatments of soil water storage capacity along with the increasing of irrigation.While the consumption of soil moisture was reduced with the irrigation increasing,In the seedling stage,vegetative growth stage and fruiting stage,the evapolranspiration was relatively low,the amount of irrigation water could meet the basic needs of plant growth,and could obsorb ralively less water from soil. 更多
【语种】中文
【第一作者】孔德杰
【通讯作者】张源沛
【期刊名称、卷期、页码】西北农业学报,2011,20(1):119-123.
【论文发表时间】2011-10-25 00:00:00
【引文索引类型】其他
【引文索引号】无
【学科分类】农业基础学科

【题目】不同灌水量对设施番茄产量和耗水规律的影响

【中文关键词】设施番茄; 需水规律; 产量; 耗水量;
【英文关键词】Greenhouse tomato; Water requirement; Yield; Water consumption;
【中文摘要】为探索宁夏中东部干旱地区设施番茄需水规律,在宁夏盐池进行了小区栽培试验,研究了不同灌水量对番茄产量和耗水规律的影响,结果表明,不同生长发育阶段番茄的耗水量不同,平均耗水量为1.31~3.73 mm/d;开花坐果期耗水量最大,达到7.31 mm/d;不同灌水量处理对番茄的茎叶、根的生物量及产量有显著的影响,灌水量为375 mm时产量达138108 kg/hm2,比对照(灌水75 mm)增产75%,达到显著水平,水分利用率达到1.60 kg/m3,并初步制定了适合该地区设施番茄栽培的灌溉制度。
【英文摘要】In order to explore the water requirement of tomato in greenhouse at arid area in central Ningxia,some experiments were done in the Yanchi county.The effect of different irrigation amount on yield and water consumption pattern was studied.The results showed that the evapotranspiration(ET) of different grow stage by different irrigation treatments is various,the day water use efficiency of total grow stage is 1.31-3.73 mm/d,and the biggest date is in the flowering and fruit bearing period,and the number is 7.31 mm/d.And the effect of yield and some physiological indexes of tomato by different treatments is significantly.Yield of the treatment of irrigation amount 375 mm,138 105 kg/hm2,ratio increased 75%,is significant than control.And the water use efficiency is 1.60 kg/m3,is also significant than control.And the scheduling of drip irrigation on the tomato in greenhouse is draw up
【语种】中文
【第一作者】孔德杰
【通讯作者】张源沛
【期刊名称、卷期、页码】长江蔬菜,2010,(24):45-48.
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【引文索引类型】其他
【引文索引号】无
【学科分类】农业基础学科

【题目】不同施氮量对设施黄瓜生长及产量的影响
【中文关键词】日光温室; 施氮量; 黄瓜;
【英文关键词】greenhouse; N application rate; cucumber;
【中文摘要】通过田间试验研究了不同施氮量对二代日光节能温室黄瓜生长、产量及其经济效益的影响。结果表明:供试土壤速效氮、磷相对贫乏,氮素是决定黄瓜生长发育的决定性指标,对黄瓜的株高、叶绿素含量、茎粗及产量都有显著影响;黄瓜产量81%依赖于氮素施用水平;黄瓜对氮肥投入的反映表现为典型的抛物线式;温室黄瓜最高产量施氮量为720 kg/hm2,最大经济效益施氮量为695 kg/hm2。 更多还原
【英文摘要】A field experiment was conducted to study the effect of different N fertilizer application rate on cucumber growth,yield and economic benefit in second generation greenhouse of Ningxia.The results showed that the soil had less available phosphorus and nitrogen.Therefore,height,chlorophyll content,stem diameter and yield of cucumber were significantly affected by N application rate.81% of cucumber yield was relied on N fertilizer application rate.The reasonable application rate of N for maximum and economical yield production of cucumber was 720 kg/hm2 and 695 kg/hm2 respectively.
【语种】中文
【第一作者】曹庆杰
【通讯作者】孙权
【期刊名称、卷期、页码】北方园艺,2010(08):1-4.
【论文发表时间】2010-04-25 00:00:00
【引文索引类型】其他
【引文索引号】无
【学科分类】农业基础学科

【题目】氮磷钾配比对设施辣椒产量和效益的影响
【中文关键词】氮磷钾配比; 日光温室; 辣椒; 肥料利用率;
【英文关键词】Ratio of N,P and K fertilizer; Greenhouse; Pepper; Use ratio of fertilizer;
【中文摘要】通过田间试验研究了二代日光节能温室氮、磷、钾及其配合施用对辣椒产量及其经济效益的影响。结果表明,供试土壤速效磷、钾丰富,速效氮素相对贫乏,表现为设施内高投肥特征并导致土壤轻度盐渍化;三要素对株高和叶绿素含量的影响顺序为:NPK>NP>NK>PK>CK,氮素的促长效应显著;而肥料配比对辣椒茎粗的影响作用顺序为

:NPK>NK>PK>NP>CK,钾素的壮苗品质作用明显。氮肥对温室辣椒的产量具有决定性影响,三要素对辣椒产量影响的顺序为氮>磷>钾;辣椒产量59%依赖于土壤供肥水平.

【英文摘要】Field experiments were conducted to study the effect of mixed N,P,K application on yield and economic benefits of pepper in second generation greenhouse.The results showed that the tested soil was abundant of available P and K,but lack of available N.The soil was lightly salinized due to over fertilization.The effective order of fertilizers on height and chlorophyll of pepper is NPK>NP>NK>PK>CK.Pepper growth was significantly promoted by N application.The effective order of fertilizers on diameter of pepper stem is NPK>NK>PK>NP>CK.K had significantly strong pepper stem.Pepper yield was significantly affected by N.The effective order of fertilizers on pepper production is N>P>K.59% of pepper yield was rely on soil fertilities.The seasonal use ratio of N,P,and K is only 19.27%,4.74% and 13.38% respectively due to over fertilization.N mixed with P,N mixed with k,and N mixed with both of them can promote the ratio of output and input,as well as promote economic benefit for pepper production in greenhouse.

【语种】中文

【第一作者】郭鑫年

【通讯作者】孙权

【期刊名称、卷期、页码】长江蔬菜,2010(22):57-59.

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【引文索引类型】其他

【引文索引号】无

【学科分类】农业基础学科

【题目】不同施氮量对设施番茄生长与产量的影响及最佳用量

【中文关键词】日光温室; 产量; 施氮量; 番茄;

【英文关键词】Greenhouse; Yield; N application rate; Tomato;

【中文摘要】通过田间试验研究了二代日光节能温室不同施氮量对番茄生长、产量及其经济效益等的影响。结果表明,供试土壤全盐随施氮量的增加而增加,pH则随氮肥施用量的增加而显著降低;番茄株高、茎粗、叶绿素含量随施氮量增加而显著增加,施氮量超过600 kg.hm-2时,冠幅显著增加,造成枝叶徒长。番茄产量与施氮量呈典型的抛物线关系,即施氮量低于600 kg.hm-2时,随施氮量的增加,番茄产量增加;但进一步增加的施氮量导致产量下降,产投比也显著降低。施氮使番茄果实中可溶性糖含量的增加,总酸度下降,糖酸比的增大,Vc含量的增加,硝态氮的累积均达显著水平。设施番茄最高产量施氮量为646 kg.hm-2,最大经济效益施氮量为604 kg.hm-2。 更多还原

【英文摘要】A field experiment was conducted to study the effect of different N fertilizer application rate on tomato growth,yield and economic benefit in second generation greenhouse.The results showed that the total salts content was increased with the N application,yet pH was decreased at the same time.The height,stem diameter and chlorophyll of tomato were increased along with increment of N application.When more than 600 kg · hm-2 N was used in the field,the trunk breadth of tomato was significantly increased and led to overgrowth of leaves.The yield of tomato was increased along with enhanced N application rate,yet the yield of tomato was decreased if N applied more than 600 kg · hm-2.N application promotes the increase of soluble sugar,Vc,and NO3——N content,but reduce the total acidity.Changed ratio of sugar/acidity improves the quality of tomato.The reasonable application rate of N is 646 kg · hm-2.The optimum application rate of N is 604 kg · hm-2. 更多

【语种】中文

【第一作者】沙海宁

【通讯作者】孙权

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【论文发表时间】2010-03-25 00:00:00

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【引文索引号】无

【学科分类】农业基础学科

【题目】不同施磷量对设施番茄生长_产量的影响及最佳施用量研究

【中文关键词】日光温室; 产量; 施磷量; 番茄;

【英文关键词】Greenhouse; Yield; Papplication rate; Tomato;

【中文摘要】通过田间试验研究了二代日光节能温室不同施磷量对番茄生长、产量及其经济效益的影响。结果表明,幼苗期,磷肥施用量显著促进茎粗和叶面积的增加;而花期叶面积和冠幅差异不显著。随着施磷量的增加,番茄株高、茎粗、叶

绿素均比对照显著增加,但处理间差异不显著。随着番茄植株的生长,至花期营养生长与生殖生长并进,不同施肥处理中番茄株高、茎粗、冠幅、叶绿素均显著增加。番茄产量的磷效应表现为典型的抛物线式,施磷量低于225kg/hm2时,随施磷量的增加,番茄产量增加;但进一步增加施磷量则会导致产量下降,从而得到其最高产量施磷量为253.90kg/hm2,最大经济效益施磷量为250.80kg/hm2

【英文摘要】A field experiment was conducted to study the effect of Phosphate on growth and yield of tomato and the optimum application amount.The results showed that seedling stage,phosphate application significantly enhanced the increase in stem diameter and leaf area;while flowering leaf area and crown size difference was not significant.With the increase in P application rate,tomato plant height,stem diameter,chlorophyll a significant increase than the control,but no significant difference among treatments.With the growth of tomato plants to flowering vegetative and reproductive growth of the times,in different fertilization treatments in the tomato plant height,stem diameter,crown width,chlorophyll were significantly increased.Non significant effects of different potassium application rate on height,diameter of stem,leaf area,breadth of tress,as well as chlorophyll were observed.However,tomato yield was significantly affected by potassium application.The Yield of Tomato was increased along with increased phosphate application rate under 225 kg/hm2.Yet further increased phosphate led to decrease of tomato production.The maximum application rate of phosphate for tomato growth is 253.90 kg/hm2.The optimum application amount of it is 250.80 kg/hm2.

【语种】中文

【第一作者】沙海宁

【通讯作者】孙权

【期刊名称、卷期、页码】长江蔬菜,2010(20):59-62.

【论文发表时间】2010-10-25 00:00:00

【引文索引类型】其他

【引文索引号】无

【学科分类】农业基础学科

【题目】宁夏机修日光温室建棚导致土壤板结的研究

【中文关键词】重型机械; 日光温室; 土壤退化; 土壤板结;

【英文关键词】heavy machinery; greenhouse; soil degradation; soil compaction;

【中文摘要】针对当前二代节能日光温室大型机械打墙所产生的土壤板结、渗透性变差等问题,系统分析了机修温室内土壤紧实度、容重、孔隙度、田间持水量等土壤物理性质的变化。结果表明:大型机械碾压和夯实后,土壤物理性质退化严重,从大田到墙边水平方向上土壤紧实度最高达到150 kg,增加了90 kg,田间持水量降低了35 g,容重增加了0.42 g/cm3、总孔隙度减少了17个百分点,非毛管孔隙度降低了14个百分点;垂直方向上,打墙后0~60 cm土壤耕作层紧实度、容重、总孔隙度、非毛管孔隙度均随着深度增加而降低,田间持水量增加,60cm以下层土壤紧实度和田间持水量受机械碾压和夯实的影响不大、土壤容重增加、总孔隙度和非毛管孔隙度降低。

【英文摘要】Caused by the second-generation greenhouse wall constructed by heavy machine.This article was designed to study soil compaction,permeability deterioration and other problems caused by.This article analyzed the soil compaction,bulk density,porosity,field water holding capacity and other soil physical properties changes in greenhouse.The results showed that: After large mechanical rolling and compaction,from the field to the horizontal wall the the soil physical properties were seriously degenerated,the soil compaction increased by 90 kg,field water capacity decreased by 35 g and bulk density increased by 0.42 g/cm3,the total porosity decreased by 17%,non-capillary porosity decreased by 14%.On the vertical direction,from 0-60 cm, bulk density of plough layer,porosity,non-capillary porosity decreased with increasing of the depth.The soil bulk density below 60 cm plough layer and field water capacity were little affected by mechanical operation. 更多

【语种】中文

【第一作者】王锐

【通讯作者】孙权

【期刊名称、卷期、页码】新疆农业科学.2010.47(S2):110-113.

【论文发表时间】2010-12-25 00:00:00

【引文索引类型】其他

【引文索引号】无

【学科分类】农业基础学科

【题目】酵素菌肥施用量对日光温室土壤及芹菜产量品质的影响
【中文关键词】酵素菌肥; 日光温室土壤; 品质; 产量; 芹菜;
【英文关键词】microbial organic manure; soil in greenhouse; quality; celery;
【中文摘要】通过田间试验研究了酵素菌肥不同施用量对日光温室土壤、芹菜产量及品质的影响。结果表明:供试土壤有机质、碱解氮、速效磷、速效钾、全盐含量随酵素菌肥施用量的增加而显著增加,pH则随施用量的增加而显著降低;在15~45t/hm2施肥范围内,随酵素菌肥用量的增加,芹菜产量线性增加,VC含量略下降,可溶性糖含量显著增加,芹菜体内硝态氮含量显著升高,但仍属于A级绿色蔬菜。
【英文摘要】A field experiment was conducted to study the effect of different microbial organic manure application on yield and quality of the celery and soil properties in greenhouse.The results showed that the content of organic manure, available N,available P,available K and total salts was significantly increased along with the increased microbial organic manure application rate,yet pH was decreased at the same time.The yield of celery was increased along with increased application rate of microbial organic manure between 15 t/hm2 and 45 t/hm2.Vc was decreased but soluble sugar was significantly increased,while NO3--N content in the celery was also obviously increased along with enhanced organic manure application,but the celery still was green vegetable in grade A.
【语种】中文
【第一作者】王青凤
【通讯作者】孙权
【期刊名称、卷期、页码】北方园艺.2011(03):41-43.
【论文发表时间】2011-02-15 00:00:00
【引文索引类型】其他
【引文索引号】无
【学科分类】农业基础学科

【题目】宁夏引黄灌区日光温室辣椒高产施肥量及配比研究
【中文关键词】日光温室; 辣椒; 产量; 合理施肥;
【英文关键词】Greenhouse; Hot Pepper; Yield; Fertilizer application;
【中文摘要】应用四元二次通用旋转组合设计研究了银川平原二代节能日光温室春茬辣椒对生物有机肥、氮肥、磷肥和钾肥的反应及其合理施用量。结果表明,供试土壤有效养分供肥特点表现为低氮、高磷、高钾,且因施肥量大及排水不畅,土壤表现为轻度盐渍化特征;氮素是决定辣椒生长发育和产量的最主要影响因子;四种肥料对辣椒产量的作用顺序为氮肥>有机肥>磷肥>钾肥;辣椒稳产51.13 t.hm-2以上的适宜施肥量为有机肥3000~6000 kg.hm-2,N 633~750 kg.hm-2,P2O5 75~225 kg.hm-2,K2O 90~225 kg.hm-2;供试土壤最佳投肥水平m(N)∶m(P2O5)∶m(K2O)为10∶1∶1.2。 更多还原
【英文摘要】Effect and optimum application rate of bio-organic manure,N,P and K in hot pepper production in Yinchuan Plain were studied using quaternion uniform-precision rotatable central composite design.The result shown that the soil has less available N,but more available P and K,and mild salinization characteristics due to high fertilizer application and drainage problem.N is the determination factor for hot pepper growth and production.The order of four fertilizer effect on hot pepper growth is:N>organic manure>P>K.The optimal application amount of organic manure,N,P2O5 and K2O is 3000~6000 kg · hm-2,633~750 kg · hm-2,75~225 kg · hm-2,and 90~225 kg · hm-2 respectively for 51.13~63.6 t · hm-2 hot pepper yield.The reasonable ratio of m(N)∶m(P2O5)∶m(K2O) is 10∶1∶1.2. 更多
【语种】中文
【第一作者】孙权
【通讯作者】孙权
【期刊名称、卷期、页码】西北农业学报,2010(04):110-114.
【论文发表时间】2010-04-25 00:00:00
【引文索引类型】其他
【引文索引号】无
【学科分类】农业基础学科

【题目】宁夏南部山区设施园艺发展现状_问题与对策
【中文关键词】设施园艺; 现状; 问题; 对策; 宁南山区;
【英文关键词】facility horticulture; present status; problems; measures; southern mountain area of Ningxia;

【中文摘要】在广泛深入生产一线调研的基础上,通过大量翔实的数据,分析了宁夏南部山区设施园艺发展的现状、存在问题,并根据当地实际,针对性提出宁夏南部山区(以下简称"宁南山区")设施园艺发展的对策建议,为促进宁夏设施园艺产业的可持续发展提供理论依据.

【英文摘要】Based on a great deal of true data from rural investigation,present status and problems existed on the development of facility horticulture in southern mountain area of Ningxia were analyzed.Reasonable measures were proposed according to the regional practicality.These proposals could be used as theoretical guide for sustainable development of facility horticulture in Ningxia

【语种】中文

【第一作者】孙权

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【引文索引类型】其他

【引文索引号】无

【学科分类】农业基础学科

【题目】不同灌溉方式对宁南黄土丘陵区设施辣椒生长发育及产量的影响

【中文关键词】灌溉方式; 设施辣椒; 宁南丘陵;

【英文关键词】irrigation method; greenhouse pepper; hilly area of southern Ningxia;

【中文摘要】在半干旱黄土丘陵典型区宁夏固原日光温室内进行了不同灌溉方式对设施辣椒生长发育及产量的影响试验。在满足设施辣椒正常生长的情况下,通过设定不同时期不同灌水量,计算不同灌溉方式灌水总量,并测定不同处理下辣椒生长发育指标及产量。结果表明:不同灌溉方式下辣椒株高、茎粗、产量差异明显。毛管滴灌下株高和叶绿素SPAD值最大,膜下沟灌株高最矮,茎粗最粗;膜下沟灌产量最高,相对传统沟灌节水50.3%,其次为滴头滴灌,毛管滴灌产量最低;采用毛管滴灌和滴头滴灌技术,比传统沟灌分别节水71.2%和65.8%,节水效果极显著;膜下沟灌和膜上沟灌较传统沟灌节水50%左右,节约成本达850.5~1227元/hm2。宁南黄土丘陵区日光温室栽培辣椒从高产角度看比较适合采用膜下沟灌,从节水高效模式来看比较适合采用滴头滴灌。

【英文摘要】An experiment was conducted to find out the impact of irrigation methods on greenhouse pepper growth and yield in the typical semiarid loess hilly regions of southern Ningxia.Under the condition of the normal growth of pepper,different periods and different irrigation volume were set to calculate the total irrigation volume and then measure the growth indicators and production.The results showed that: Under different modes of irrigation,pepper plant height,stem diameter and yield were significantly different.Under capillary drip irrigation,the plant height and SPAD were the largest;while under furrow irrigation under mulch,the plant height was the shortest and the stem diameter was the thickest.The yield of furrow irrigation under mulch was the highest and could save water by 50.3% compared with furrow irrigation,the following was emitter drip irrigation,while the yield under capillary drip irrigation was the minimum.Compared with furrow irrigation,the capillary drip irrigation and emitter drip irrigation technology could save water by 71.2% and 65.8%,and the water-saving efficiency was significant;the water-saving rate of furrow irrigation under mulch and on mulch was near 50%,and the water production cost efficiency was 850.5~1227 yuan/hm2.So drip emitter irrigation and furrow irrigation under mulch are suitable for greenhouse pepper in the loess hilly regions of southern Ningxia. 更多

【语种】中文

【第一作者】王锐

【通讯作者】孙权

【期刊名称、卷期、页码】干旱地区农业研究,2010(05):171-175.

【论文发表时间】2010-10-25 00:00:00

【引文索引类型】其他

【引文索引号】无

【学科分类】农业基础学科

【题目】设施农业滴灌用黄河水安全净化处理技术试验研究

【中文关键词】滴灌; 黄河水; 净化处理技术; 干旱区; 宁夏;

【英文关键词】drip irrigation; Yellow River water; technology of purifying water; arid region; Ningxia province;

【中文摘要】引用高含沙地表水作为滴灌水源是解决干旱地区滴灌工程水源的主要途径之一,滴灌用高含沙水净化处理成为亟待解决的重要问题。以宁夏中南部地区设施农业滴灌用黄河水净化技术为对象,开展试验研究,主要结论有:扬黄水经

2次沉沙池除沙后泥沙含量降至0.04~0.08 kg/m3,悬浮物含量0.98~1.40 mg/L,COD平均含量1.26~2.28 mg/L,已可满足滴灌要求;筛网过滤器在泥沙量0.05~0.08 kg/m3时,除沙率约1%,过滤效果差;叠片式过滤器除沙率约5%,且优点较多可作为主过滤设备;过滤设备悬浮物去除率13.1%~20.6%,COD去除率5.8%~26.5%,综合去除率21%~50%;宁夏半干旱风沙区和黄土高原区区域,以扬黄水为水源的设施农业,净化系统工程投资5.07~7.8万元/hm2,其中工程净化投资4.8~7.35万元/hm2,设备投资0.27~0.45万元/hm2。

【英文摘要】It is an important approach to solve water source for drip irrigation project in arid areas by using a high-silt content surface water.So,the technology of Purifying water for drip irrigation with high-silt content water is the first key question.In this paper,we did some experiment in central and southern regions of Ningxia province for the technology of purifying water for drip irrigation which was used by establishment agriculture with Yellow River water.Results indicate that: The Yellow River water passed two settling basins,the value of sediment charge,suspension content and COD average content were drops to 0.04~0.08 kg/m3,0.98~1.40 mg/L and 1.26~2.28 mg/L separately,which has been possible to satisfy for the drip irrigation.In case,the silt measures 0.05~0.08 kg/m3,the gauze filter eliminates sediment about 1%,the filtration effect is bad.The stack type filter eliminate sediment ratio about 5% and more advance,so may take the main filter plant.Filter plant can eliminated suspension 13.1%~20.6%,COD about 5.8%~26.5%,synthesis elimination rate 21%~50%.In sub-arid wind desert region and the Loess Highlands area region of Ningxia province,the Yellow River water is a main water source for facility agriculture.Accord to calculating the purification system project may invest 50 700~78 000 Yuan/hm2,there into,the project purification invests 48 000~73 500 Yuan/hm2,equipment invests 2 700~4 500 Yuan/hm2.

【语种】中文

【第一作者】鲍子云

【通讯作者】鲍子云

【期刊名称、卷期、页码】灌溉排水学报,2011(03):1-5.

【论文发表时间】2011-06-25 00:00:00

【引文索引类型】其他

【引文索引号】无

【学科分类】农业基础学科

【题目】柠条粉基质栽培对番茄产量和品质的影响

【中文关键词】柠条; 基质栽培; 产量; 品质;

【英文关键词】Caragana korshinskii Kom.; Substrate culture; Yield; Quality;

【中文摘要】以土壤栽培为对照,研究了柠条粉基质栽培对番茄产量和品质的影响。研究结果表明,基质栽培的番茄比对照增产35%,VC含量提高了10.2mg/100g,同时节肥18.7%。柠条粉作为栽培基质具有极大的开发利用潜力。

【英文摘要】Compared with soil culture as CK, the effect of Caragana korshinskii Kom. powder as substrate culture on tomato yield and quality was studied. The results showed that the tomato yield of substrate increased by 35%, the content of VC increased by 10.2 mg/100 g, and the fertilizer decreased by 18.7%. Caragana korshinskii Kom. powder as substrate culture has great exploitation and utilization potentiality.

【语种】中文

【第一作者】曲继松

【通讯作者】郭文忠

【期刊名称、卷期、页码】长江蔬菜,2010(02):63-64.

【论文发表时间】2010-01-25 00:00:00

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【引文索引号】无

【学科分类】农业基础学科

【题目】干旱风沙区设施番茄品种比较试验

【中文关键词】干旱风沙区; 番茄; 栽培; 适应性;

【英文关键词】Arid-sandstorm area; Tomato; Cultivation; Adaptability;

【中文摘要】对7个设施用番茄品种在宁夏盐池干旱风沙区进行适应性栽培比较试验,结果表明,综合产量、品质、抗性等指标,倍盈、保罗塔表现最好,667m2产量可达9424.3kg和9480.6kg,可作为今后干旱风沙区设施越冬番茄优势品种发展。

更多还原

【英文摘要】The adaptability of 7 cultivars of tomato were compared. The results showed that ’Beiying’ and ’Baoluota’ had higher yield, better quality, stronger disease resistance than the others.The yield is 9 424.3 kg/667 m2 and 9 480.6 kg/667 m2. They are suitable for cultivation in solar greenhouses in Arid-sandstorm area in future.
【语种】中文
【第一作者】曲继松
【通讯作者】郭文忠
【期刊名称、卷期、页码】长江蔬菜,2010(04):28-30.
【论文发表时间】2010-02-25 00:00:00
【引文索引类型】其他
【引文索引号】无
【学科分类】农业基础学科

【题目】宁夏干旱风沙区设施黄瓜早春茬栽培适应性比较研究
【中文关键词】干旱风沙区; 黄瓜; 产量; 抗性; 适应性;
【英文关键词】arid-sandstorm area; cucumber; yield; resistance; compatibility;
【中文摘要】以12个设施专用黄瓜品种为试材,进行干旱风沙区设施内早春适应性栽培比较。结果表明:综合产量、品质、抗性等指标,"德尔99"、"博耐13"可作为今后宁夏干旱风沙区设施早春茬黄瓜优势品种发展。
【英文摘要】12 cultivars of cucumber(Cucumis sativus L.) was used as test materials,the comparison of cultivation adaptability experiment was done in earch spring in arid-sandstorm area.The results showed that "De ’er99" and "Bonai13"grew batter and had stronger disease resistance than others.They were suitable for cultivation in solar greenhouses in arid-sandstorm area in future.
【语种】中文
【第一作者】曲继松
【通讯作者】郭文忠
【期刊名称、卷期、页码】北方园艺,2011(05):60-62.
【论文发表时间】2011-03-25 00:00:00
【引文索引类型】其他
【引文索引号】无
【学科分类】农业基础学科

【题目】干旱风沙区白菜型油菜越冬栽培适应性研究
【中文关键词】白菜型油菜; 越冬栽培; 适应性;
【英文关键词】Brassicaca mpestris L.; Cultivation; Adaptability;
【中文摘要】对6种叶用白菜型油菜在干旱风沙区越冬栽培的适应性包括产量、品质、植物学性状进行了比较研究。结果表明,6个品种中,品冠油菜产量和VC含量最高,分别为53925kg/hm2,68.2mg/100g,可溶性糖含量也较高,为0.83g/100g,而亚硝酸盐却没检测出,综合认为,在干旱风沙区品冠可作为叶用白菜型油菜优势品种推广应用。 更多还原
【英文摘要】The adaptability of 6 cultivars of Brassicaca mpestris L were compared in winter. The results showed that ’Pinguan’ had higher yield and better quality than that of others. It is suitable for cultivation in solar greenhouses in arid-sandstorm area in future.
【语种】中文
【第一作者】曲继松
【通讯作者】郭文忠
【期刊名称、卷期、页码】长江蔬菜,2009(24):25-26.
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【引文索引类型】其他
【引文索引号】无
【学科分类】农业基础学科

【题目】柠条粉作基质对西瓜幼苗生长发育及干物质积累的影响
【中文关键词】干旱区; 基质; 生长; 柠条; 育苗; 叶绿素荧光; 生态效应;

【英文关键词】arid regions; substrates; growth; Caragana korshinskii Kom; seedling; chorofluroescence; ecological effect;
【中文摘要】研究柠条粉作为育苗基质对西瓜幼苗生长发育及干物质积累的影响,确定柠条粉作为育苗基质的可行性,进而为柠条资源后续产业的开发提供理论基础。以"壮苗二号"育苗基质为对照,通过基质理化性状、幼苗生长发育、干物质积累及叶绿素荧光诱导动力学曲线参数等指标,比较分析柠条粉基质育苗效果。结果表明:柠条粉基质与壮苗二号基质在物理性状方面基本一致,柠条粉基质速效养分含量显著高于壮苗二号基质;在育苗方面,两种基质幼苗株高、茎粗、根长、叶片数、地上部鲜质量、地下部鲜质量、全株鲜质量、地上部干质量、地下部干质量、全株干质量和根冠比等生长发育指标上均趋于一致,且柠条粉基质幼苗壮苗指数高于壮苗二号基质幼苗壮苗指数9.76%,同时柠条粉基质幼苗光能利用效率略高于壮苗二号基质幼苗。柠条粉基质完全具备取代以草炭为原料的现有育苗基质的潜能,可作为西北干旱地区设施瓜菜工厂化育苗基质进行开发、利用。 更多还原
【英文摘要】Influence on the growth and accumulation of dry matter of watermelon seedlings based on caragana-straw as nursery substrate in studies,it used to determine the feasibility of caragana-straw as nursery substrate,to provide theoretical basis for the development of caragana resource and follow-up industry.With"Zhuangmiao-2"nursery for the control matrix,through the matrix physical and chemical properties,seedling growth,dry matter accumulation, parameters of chlorophyll fluorescence induction dynamics and other indicators,effects of two seedlings were compared. The results showed that caragana straw and Zhuangmiao-2 were basically the same of the physical properties,available nutrient content of caragana straw was significantly greater than Zhuangmiao-2,plant height,stem diameter,leaf number, root length,shoot fresh weight,shoot dry weight,root fresh weight,root dry weight,total fresh weight,total dry weight, root/shoot ratio of two seedlings were tends to be uniform,seedling index of caragana-straw seeding was higher than seedling index of Zhuangmiao-2 seeding 9.76%,at the same time the former light use efficiency slightly higher than the latter.Caragana-straw have potential to replace peat as nursery substrate raw material,which will be developed and utilized to be nursery substrate of industrial seedling in northwest arid regions.
【语种】中文
【第一作者】曲继松
【通讯作者】郭文忠
【期刊名称、卷期、页码】农业工程学报,2010(08):291-295.
【论文发表时间】2010-08-25 00:00:00
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【引文索引号】无
【学科分类】农业基础学科

【题目】干旱风沙区小西瓜早春日光温室品种适应性比较研究
【中文关键词】小西瓜; 品种; 适应性;
【英文关键词】Citrullus lanatus; varietal; compatibility;
【中文摘要】对11个小西瓜品种的植物学性状、抗病性、产量及品质等性状进行了比较试验。结果表明:黑美人、大美人、小玲、黑昼和惠玲不仅抗病、丰产、品质较好,产量均超过5000 kg/667m2,且黑昼和黑美人之间无显著差异,惠玲、大美人和小玲之间无显著差异,均极显著高于艳玲、惠兰、红玉2号、金美人和红双喜。 更多还原
【英文摘要】The comparison experiment of 11 cultivars of Citrullus lanatus in the character of botanical,disease resistance,yield and quality.The results showed that the watermelon varieties of Heimeiren,Da meiren,Xiaoling,Heizhou and Huiling,not only disease-resistant,high yield,good quality,but also yield more than 5 000 kg/667m2,and Heizhou and Heimeiren no significant difference between,Hui-Ling,Da meiren and Xiaoling no significant difference between,were very significantly higher than Yanling,Huilan,Hongyu2,Jinmeiren and Hongshuangxi
【语种】中文
【第一作者】冯海萍
【通讯作者】郭文忠
【期刊名称、卷期、页码】北方园艺,2010(05):67-68.
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【引文索引类型】其他
【引文索引号】无
【学科分类】农业基础学科

【题目】不同栽培方式下樱桃番茄基质栽培试验及效益分析
【中文关键词】日光温室; 樱桃番茄; 栽培方式; 基质培; 产量;
【英文关键词】sunlight greenhouse; cultivation methods; cherry tomato; substrate culture; yield;
【中文摘要】通过日光温室番茄不同栽培方式试验,研究了基质栽培和土壤栽培条件下对番茄生长发育及产量的影响。结果表明:箱式栽培、地下式栽培及半地下式栽培处理与土壤栽培处理相比番茄的生长势均较好,生育期提前3 d左右,总产量提高0.71%~20.35%,经济效益在0.94~1.21万元/667m2。 更多还原
【英文摘要】It were studded that effect of cherry tomato growth and yield in substrate culture and in soils by different cultivation methods experiment in sunlight greenhouse.The results showed that the growth potential of tomato are good of box-type cultivation,underground cultivation and semi-underground cultivated compared with soil cultivation,which the growth period was ahead of about three days,the total yield increased 0.71%~20.35%,the economic benefits in the 0.94~1.21 million/667m2.
【语种】中文
【第一作者】冯海萍
【通讯作者】郭文忠
【期刊名称、卷期、页码】北方园艺,2010(07):38-39.
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【引文索引类型】其他
【引文索引号】无
【学科分类】农业基础学科

【题目】干旱风沙区日光温室春茬萝卜综合性状比较
【中文关键词】春茬萝卜; 日光温室; 干旱风沙区; 综合性状; 晶莹; 青福;
【英文关键词】Raphanus sativus L.; Solar-greenhouse; Arid-Sandstorm Area; Comprehensive characters; Jingying; Qinfu;
【中文摘要】对5个萝卜品种的植物学性状、产量、品质等性状进行了比较。结果表明,晶莹和青福产量高,肉质根肉质脆嫩,味甜,VC和可溶性糖含量也较高,株型半直立,开展度适中,抗病性和抗抽薹性也较强,综合性状表现良好,适宜在宁夏干旱风沙区推广种植。 更多还原
【英文摘要】The comparison of 5 cultivars of Raphanus sativus L. in the characters of botanical, yield and quality was studied. The results showed that the ’Jingying ’and ’Qingfu ’were better than others. It is suitable for cultivation in solar greenhouses in Ningxia area in future.
【语种】中文
【第一作者】冯海萍
【通讯作者】郭文忠
【期刊名称、卷期、页码】长江蔬菜,2009(24):31-32.
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【引文索引类型】其他
【引文索引号】无
【学科分类】农业基础学科

【题目】基于发酵柠条为栽培基质对樱桃番茄产量及品质的影响
【中文关键词】柠条; 樱桃番茄; 营养液; 产量; 品质;
【英文关键词】Caragana korshinskii Kom; cherry tomato; nourishing cream; yield; quality;
【中文摘要】采用发酵柠条(Caragana korshinskii Kom)粉作为栽培基质,对不同营养液配方处理的樱桃番茄产量和品质进行了研究。结果表明:无机营养液处理的樱桃番茄不仅在生长势和产量方面优于其它营养液处理,产量比土壤栽培高20.3%,比对照CK高23.91%,而且有利于提高樱桃番茄Vc和可溶性糖含量。
【英文摘要】Cherry tomato ’s yield and quality in substrate culture that fermentation Caragana korshinskii Kom take the cultivation matrix with different nutrient solutions formulations were studied.The results showed that the inorganic nourishing treatment of cherry tomato were not only living the growing trend and the yield aspect surpass other nourishing treatment,the yield cultivate high 20.3%compared to the soil,compared to compares CK high 23.91%,moreover was advantageous in increase the content of Vitamin C and the soluble sugar in cherry tomato.
【语种】中文

【第一作者】冯海萍
【通讯作者】郭文忠
【期刊名称、卷期、页码】北方园艺,2010(03):22-23.
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【引文索引号】无
【学科分类】农业基础学科

【题目】不同施氮量对设施辣椒生长与产量的影响及最佳施用量研究
【中文关键词】日光温室;施氮量;辣椒;宁夏
【英文关键词】green house; N application rate; pepper; Ningxia
【中文摘要】通过田间试验研究了宁夏二代日光节能温室不同施氮量对辣椒生长、产量及其经济效益的影响。结果表明:供试土壤速效磷、速效钾丰富,速效氮相对贫乏,设施内高投肥已导致土壤轻度盐渍化;氮素是决定辣椒生长发育的决定性指标,对辣椒的株高、叶绿素含量、茎粗及产量都有显著影响;辣椒产量83%依赖于氮素施用水平;辣椒对氮肥投入的反映表现为典型的抛物线式;温室辣椒最高产量施氮量为872 kg/hm2,最大经济效益施氮量为791 kg/hm2。
【英文摘要】A field experiment was conducted to study the effect of different N fertilizer application rate onpepper growth, yield and economic benefit in second generation greenhouse inNingxia. The resultswere shown that therewere relatively lack of nitrogen in available phosphorus and potassium in the tested soil. The soil is gently salinized due to over fertilization in the greenhouse. N is decisive factor for pepper growth because its height,chlorophyll, diameter of stem, and yield of pepperwere significantly affected by increasedN application rate. 83% of pepper yield relied on N fertilizer application amount. The relationship between N application rate and pepper yield can be described by parabola curve. The maximum application rate of N is 872 kg/hm2. The optimumapplication rate of N is 791 kg/hm2
【语种】中文
【第一作者】于晶
【通讯作者】孙权
【期刊名称、卷期、页码】新疆农业科学,2010,47(S2):114-117
【论文发表时间】2010-12-15 00:00:00
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【引文索引号】无
【学科分类】农业基础学科

【题目】温室蔬菜生长发育模型研究进展
【中文关键词】温室蔬菜;生长;发育;结构模型;功能模型
【英文关键词】greenhouse vegetable; growth; development; structural model; functional model
【中文摘要】作物模型是进行作物生产精确管理的有力工具,对设施作物生产优化管理具有重要理论指导意义和应用值。该文对国内外温室蔬菜生长发育模型的研究成果从功能模型、 结构模型两个方面进行了阐述。 对功能模型分别从叶面积、冠层辐射传输、光合作用、呼吸作用、干物质分配、产量形成的模拟以及生育期预测等方面进行了总结和评述。对结构模型,重点评述了从结构模型发展到结构-功能模型所取得的成果。最后讨论了研究中存在的薄弱环节以及今后的主要研究方向。
【英文摘要】Crop models are useful tools in precision management of greenhouse crop production. This paper presents a review on research progresses of both structural and functional models of greenhouse vegetable crops. Researches on functional models including leaf area development, light interception, photosynthesis, respiration, dry matter partitioning, yield formation and development were summarized. Researches on structural models with emphasis on the progress from structural models to structural- functional models and the future development trends of greenhouse vegetable crop models were discussed.
【语种】中文
【第一作者】李永秀
【通讯作者】罗卫红
【期刊名称、卷期、页码】农业工程学报 24(1):307-312
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【引文索引号】1002-6819(2008)-1-0307-06
【学科分类】园艺学

【题目】水分对日光温室独本菊生长动态影响的模拟
【中文关键词】干物质生产,模型,独本菊,基质水势
【英文关键词】dry matter production, models, standard cut chrysanthemum, substrate water potential
【中文摘要】光合作用与干物质生产是观赏植物外观品质形成的基础。水分是影响植物光合作用与干物质生产的重要因子。为定量研究水分对日光温室独本菊光合作用与干物质生产的影响,本研究以秋菊品种‘ 神马 ’(Chrysanthemum morifolium.L‘ Shenma ’) 为试验材料, 于 2006 年8 月~2007 年6 月在北京日光温室内进行了不同定植期和不同水分处理的栽培试验,以生理辐热积为发育尺度,定量分析了基质水势对独本菊叶面积指数、光合速率和干物质生产动态的影响,建立了基质水势对独本菊叶面积指数、光合速率和干物质生产影响的模拟模型,并用与建立模型相独立的数据对模型进行了检验。结果表明,模型对日光温室独本菊叶面积指数、叶片最大总光合速率和植株总干重的预测结果较好,叶面积指数、叶片最大总光合速率和植株总干重的模拟值与实测值之间基于 1∶1 线的决定系数分别为 0.94,0.90,0.94,相对预测误差分别为 11.95%、3.13%、11.14%。本研究建立的模型可以为日光温室秋菊品种‘ 神马 ’的水分管理提供理论依据和决策支持。
【英文摘要】Photosynthesis and dry matter production are essential for guaranteeing the external quality of ornamental plants. Water is the important factor affecting plant photosynthesis and dry matter production. The aim of this study was to quantitatively investigate the effects of water on photosynthesis and dry matter production of standard cut chrysanthemum grown in a solar greenhouse. Experiments of standard cut chrysanthemum (Chrysanthemum morifolium. ‘ Shenma ’) with different planting dates and different levels of water treatment were conducted in a solar greenhouse in Beijing from August 2006 to June 2007. The integrated photo-thermal index, the product of thermal effectiveness, PAR and day length (PTEP), was used to describe the seasonal change of the canopy leaf area index. Effects of substratewater potential on the dynamics of leaf photosynthesis rate and the canopy leaf area index were quantified based on the experimental data. These quantitative relationships were then integrated into a photosynthetically driven dry matter production model to predict the effects of substrate water potential on dry matter production of standard cut chrysanthemum in solar greenhouse. Independent experimental data were used to validate the model. The results showed that the coefficient of determination (R2) between the simulated and the measured values of canopy leaf area index, the maximal leaf gross photosynthesis rate and the dry matter production based on the 1:1 line were 0.94, 0.90, 0.94, respectively; and the relative prediction errors (RE) between the simulated and the measured values were 11.95%, 3.13%, 11.14%, respectively, for the canopy leaf area index, the maximal leaf gross photosynthesis rate and the dry matter production. The model developed in this study gives satisfactory predictions of the canopy leaf area index, the maximal leaf gross photosynthesis rate and the dry matter production of the standard cut chrysanthemum, hence, can be used foroptimizing water management for standard cut chrysanthemum production in solar greenhouses.
【语种】中文
【第一作者】周艳宝
【通讯作者】罗卫红
【期刊名称、卷期、页码】农业工程学报 24(11):176-182
【论文发表时间】2008-04-29 00:00:00
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【学科分类】园艺学

【题目】温室甜椒生长与产量预测模型
【中文关键词】模型,温室,生长,甜椒,干物质生产,干物质分配
【英文关键词】models, greenhouses, growth, sweet pepper, biomass production, dry matter partitioning
【中文摘要】基于光温的作物生长模拟模型是进行温室作物和环境优化调控的有力工具。通过不同品种、不同生态地点的温室播期试验,定量分析辐射和温度对甜椒干物质分配和果实采收指数的影响,以及果实干物质量增长和鲜质量增长的关系,建立以辐热积为预测指标的甜椒干物质分配模型,并将其与光合作用驱动的干物质生产模型以及果实干物质量增长和鲜质量增长的定量关系相结合,建立温室甜椒生长动态与产量预测模型。利用与建模相独立的试验资料对模型进行检验,结果表明,模型对Venlo 型连栋温室和日光温室中种植的不同品种甜椒的干物质生产与分配和产量的预测结果较好,建立的模型参数少且易获取,实用性较强,可以为中国温室甜椒生产中光温的管理提供决策支持。

【英文摘要】Crop growth simulation models are useful tools in optimizing greenhouse crop and climate management. In order to quantify the effects of radiation and temperature on greenhouse sweet pepper (Capsicum annuum L.) growth and yield, experiments with 2 cultivars and different sowing dates were conducted in a multi-span Venlo-type plastic greenhouse located in Shanghai and a Chinese traditional solar greenhouse located in Shi He Zi, Xingqiang, China. Theproduct of thermal effectiveness and PAR (TEP) was used as the predicting index, and the effects of radiation and temperature on dry matter partitioning and fruit harvest index were quantified based on the experimental data. And the relationship between dry weight and fresh weight of the fruits was derived according to the experimental data. A model for greenhouse sweet pepper growth and yield simulation was developed by integrating those quantitative relationships with a general photosynthesis driven biomass production model. Independent experimental data were used to validate the model. The results show that the model developed in this study gives satisfactory predictions of the growth and yield of sweet pepper grown in both the multi-span Venlo-type greenhouse and the solar greenhouse. The model developed inthis study can be used for light and temperature management for greenhouse sweet pepper production.
【语种】中文
【第一作者】刁明
【通讯作者】罗卫红
【期刊名称、卷期、页码】农业工程学报 25(10):241-246
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【引文索引类型】EI
【引文索引号】1002-6819(2009)-10-0241-06
【学科分类】园艺学

【题目】氮素对日光温室独本菊‘神马’外观品质影响的模拟
【中文关键词】独本菊;日光温室;叶片氮含量;外观品质;模型
【英文关键词】standard cutting chrysanthemum; solar greenhouse; leaf nitrogen content; external quality; model
【中文摘要】【目的】定量研究氮素对日光温室独本菊外观品质的影响,为温室切花菊氮肥管理提供决策依据。【方法】以温室独本菊品种‘神马’(Dendranthema morifolium‘Shenma’)为材料,根据不同定植期、不同氮素处理的试验资料,以生理辐热积为发育尺度,以现蕾期叶片累积氮含量为植株氮素特征指标,定量分析氮素对独本菊品质指标(株高、茎粗、叶片数、花头直径、花颈长)动态的影响。在此基础上,建立氮素对日光温室独本菊外观品质影响的模拟模型,并用独立的试验资料对模型进行检验。【结果】在试验的土壤当季供氮量范围内,叶片累积氮含量对株高和叶片数的影响不显著。模型对株高、茎粗、叶片数、花头直径和花颈长的预测精度较高,模拟值与实测值基于1∶1线的决定系数(R 2)分别为0.99、0.96、0.96、0.97 和0.98,相对预测误差(RSE)分别为5.25%、3.04%、8.9%、10.92%和9.22%。【结论】本研究建立的模型可以为日光温室中秋菊品种‘神马’生产中的氮素管理提供理论依据和决策支持。
【英文摘要】【Objective】 The aim of this study was to quantitatively investigate the effects of nitrogen on external quality of solar greenhouse standard cutting chrysanthemum, and to optimise the nitrogen management for standard cutting chrysanthemum production in solar greenhouse. 【Method】 Experiments with different planting date and nitrogen treatment were conducted in a solar greenhouse in Beijing during 2005 and 2006. The cultivar used in the experiments was Dendranthema morifolium ‘Shenma’. The integrated photo-thermal index, the product of thermal effectiveness, PAR and day length (PTEP), was used to describe the changes of the external quality indices (plant height, stem diameter, leaf number, diameter of flower head, length of flower neck). Effects of the accumulated leaf nitrogen content at flower bud showing stage on the dynamics of the quality indices were quantified based on the experimental data. Based on these quantitative relationships, a model for predicting the effects of nitrogen on external quality of standard cutting chrysanthemum in solar greenhouse was developed. Independent experimental data were used to validate the model. 【Result】 In the range of nitrogen available in the soil during the experimental seasons, the effect of nitrogen on plant height and leaf number were not significant. The coefficient of determination (R2) between the simulated and measured value of plant height, stem diameter, leaf number, diameter of flower head and length of flower neck of the standard cutting chrysanthemum plants were 0.99, 0.96, 0.96, 0.97, 0.98, respectively; and the relative prediction error (RSE) were 5.25%, 3.04%, 8.9%, 10.92%, 9.22%, respectively based on the 1∶1 line. 【Conclusion】 The model developed in this study can be used for the optimization of nitrogen management for solar greenhouse standard cutting chrysanthemum ‘Shenma’ production.
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【题目】氮素对日光温室独本菊品种‘神马’干物质分配影响的模拟
【中文关键词】独本菊 日光温室 叶片氮含量 干物质分配 模型
【英文关键词】standard cut chrysanthemum, solar greenhouse, leaf nitrogen content, dry matter partitioning, model
【中文摘要】为定量研究氮素对日光温室独本菊(Dendranthema morifolium)干物质分配的影响，该研究以独本菊品种‘神马’为试验材料，于2005年10月~2006年7月在北京日光温室内进行了不同定植期和不同氮素水平的栽培试验，以生理辐热积为发育尺度，定量分析了氮素对独本菊品种‘神马’干物质分配指数动态的影响，建立了氮素对日光温室独本菊品种‘神马’干物质分配影响的模拟模型，并用与建立模型相独立的数据对模型进行了检验。结果表明，独本菊品种‘神马’叶片累积氮含量最大值出现在现蕾期，现蕾期叶片累积氮含量适宜值为1.62 g·m－2。模型对日光温室独本菊品种‘神马’各器官干重预测结果较好，茎、叶和花干重的预测值与实测值之间基于1:1线的决定系数分别为0.94、0.97和0.94，相对预测误差分别10.3%、5.76%和4.02%。该研究建立的模型可以根据温室内的气温、太阳辐射、日长和现蕾期叶片累积氮含量预测日光温室独本菊品种‘神马’各个器官干重随生育时期的动态变化，从而为日光温室独本菊品种‘神马’生产中氮素的优化管理提供决策支持。
【英文摘要】Aims Dry matter partitioning is the basis of external quality formation of ornamental plants. Nitrogen is the important nutrient affecting dry matter partitioning of plants. Our aim was to quantitatively investigate the effects of nitrogen on dry matter partitioning of standard cut chrysanthemum (Dendranthema morifolium ‘Shenma’) grown in a solar greenhouse. Methods We conducted our experiments using different planting dates and different levels of nitrogen application rates in a solar greenhouse in Beijing, China during October 2005 and July 2006. The integrated photo-thermal index, the product of thermal effectiveness, photosynthetically active radiation (PAR) and day length (PTEP), was used to describe changes of the partitioning indices of leaf, stem and flower with development stages. Effects of the accumulated leaf nitrogen content at bud-showing stage on the dynamics of the partitioning indices of leaf, stem and flower were quantified based on experimental data. Based on these quantitative relationships, we developed a model for predicting the effects of nitrogen on dry matter partitioning. Independent experimental data were used to validate the model. Important findings The seasonal maximum accumulated leaf nitrogen content occurred at the bud-showing stage, and the optimal value at this stage is 1.62 g·m－2. Based on the 1:1 line, the coefficients of determination (R2) between the simulated and measured dry weight of stem, leaf and flower were 0.96, 0.97 and 0.94, respectively, and the relative prediction errors (RSE) between the simulated and measured dry weight of stem, leaf and flower were 8.26%, 5.76% and 3.70%, respectively. The model we developed can satisfactorily predict dry weight of stem, leaf and flower using greenhouse air temperature, radiation, day length and the accumulated leaf nitrogen content at the bud-showing stage as inputs; hence, it can be used for the optimization of nitrogen management for standard cut chrysanthemum ‘Shenma’ production in solar greenhouse.
【语种】中文
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【题目】温室黄瓜无土栽培营养液氮素管理模型的研究
【中文关键词】温室黄瓜; 叶片含氮量; 营养液氮素浓度; 模型
【英文关键词】greenhouse cucumber; leaf nitrogen concentration; nitrogen concentration of nutrient solution; model
【中文摘要】通过温室无土栽培黄瓜不同定植期不同施氮水平试验,分析了不同定植期黄瓜叶片含氮量随生育期的变化规律,以及叶片含氮量与叶片净光合作用速率和产量的定量关系，确定了不同光温条件下黄瓜叶片适宜含氮量的求算方法,以及盛果期黄瓜叶片含氮量与营养液氮素浓度的关系。在此基础上，建立了温室黄瓜无土栽培营养液氮素管理模型。结果表明,叶片适宜含氮量在开花前随生育期推进而增加,到开花期达到最大,开花后叶片适宜含氮量随生育期推进而逐渐降低

,到盛果期达到较为稳定的状态。因此,盛果期的叶片含氮量可以作为温室黄瓜氮素管理指标。黄瓜叶片净光合作用速率和产量随盛果期叶片含氮量升高按负指数规律增加,在相同氮浓度的营养液灌溉条件下,春夏茬黄瓜盛果期的叶片适宜含氮量低于秋冬茬,春夏茬和秋冬茬黄瓜盛果期适宜的叶片含氮量分别为3.3%和3.6%,春夏茬和秋冬茬黄瓜无土栽培营养液适宜的氮素浓度分别为124 mg/L和96 mg/L。

【英文摘要】In order to investigate the optimal nitrogen concentration of the nutrient solution for soilless cultivated cucumber crops in g reenhouse, experiments with different levels of nitrogen application rate and transplanting dates were conducted in a greenhouse in Shanghai during 2005. The seasonal time course of leaf nitrogen concent ration and its relation to the leaf net photosynthesis rate and yield were analyzed. Then, the optimal leaf nitrogen concentration for soilless cultivated cucumber crop in greenhouse in different seasons was determined. Leaf net photosynthesis rate and yield of cucumber were found to be increasedexponentially with the leaf nitrogen concentration at the middle fruit harvest stage. The relationship between the leaf nitrogen concentration at the middle fruit harvest stage and the nitrogen concentration of the nutrient solution was then quantified. Based on these quantitative relationships, a management model of nitrogen concentration of the nutrient solution was developed. The results show that during the growing season, the optimal leaf nitrogen concentration reached the peak value at flowering stage. Thereafter, the optimal leaf nitrogen concentration decreased and reached a relative stable level at the middle fruit harvest stage. Therefore, the leaf nitrogen concentration at the middle fruit harvest stage was used as an index for nitrogen management for cucumber crop in greenhouse. The optimal leaf nitrogen concent ration at middle fruit harvest stage were 3.3% , 3.6% , respectively, for the Spring Summer season and the Autumn Winter season and the corresponding optimal nitrogen concentration of the nutrient solution were 124 mg/L and 96 mg/L respect ively.

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【题目】玉米花丝饮品对糖尿病鼠的降血糖作用

【中文关键词】玉米花丝饮品;糖尿病,实验性;降血糖药

【英文关键词】corn filament beverage ; diabetes mellitus, experimental ; hypoglycemic agents

【中文摘要】目的:观察玉米花丝饮品(CFB)对糖尿病大鼠及小鼠降血糖作用,为玉米花丝浸提物在降糖药物和功能食品中应用提供科学依据。方法:60只大鼠随机分为空白对照组(纯净水)、四氧嘧啶模型组、康立舒胶囊(0.7g·kg-1)组及7.00、3.50、1.75mL·kg-1CFB 3个剂量组(n=10),眶静脉采血法测血糖,取肝脏测肝糖元含量。72只小鼠随机分为空白对照组(纯净水)、四氧嘧啶模型组、康立舒胶囊(1.0g·kg-1)组及10.0、5.0、2.5mL·kg-1CFB 3个剂量组(n=12),检测指标及方法同上。取72只小鼠,分组方法同上,腹腔注射盐酸肾上腺素,断头取血法测血糖,取肝脏测肝糖元含量。另取72只小鼠,分组方法同上,尾静脉注射葡萄糖,检测指标及方法同上。结果:与糖尿病大鼠模型组比较,7.00和3.50mL·kg-1CFB组血糖明显降低(P<0.01),肝糖元含量均明显增加(P<0.01),且7.00mL·kg-1CFB组优于3.50mL·kg-1组。与糖尿病小鼠模型组比较,10.0和5.0mL·kg-1 CFB组血糖明显降低(P<0.01),肝糖元含量明显增加(P<0.01),且10.0mL·kg-1CFB组优于5.0mL·kg-1组。与肾上腺素小鼠模型组比较,10.0mL·kg-1CFB组血糖明显降低(P<0.01);10.0和5.0mL·kg-1CFB组肝糖元含量明显升高(P<0.05或P<0.01)。10.0mL·kg-1CFB组外源性葡萄糖致高血糖小鼠血糖明显降低(P<0.05),肝糖原含量明显增加(P<0.01)。结论:CFB对四氧嘧啶致糖尿病大鼠或小鼠、肾上腺素血糖升高小鼠及外源性葡萄糖致血糖升高小鼠具有明显降血糖作用。

【英文摘要】Objective:To study the action of corn filament bever age (CFB) on falling blood sugar in diabetic rats and mice, provide scientific basis for application of corn filament extraction in falling sugar drug or functional food. Methods 60 rats were randomly divided into control group (pure water) , alloxan model group, Kanglishu capsule(0.7g·kg-1)group, and7.00、3.50、1.75mL·kg-1CFB groups (n = 10) . the orbital vein blood samples were obtained, the contents of blood sugar were determined; The liver samples were obtained and the contents of liver glycogen were determined.72 mice were randomly divided into control group (pure water) , alloxan model group, Kanglishu capsule (1.0g·kg-1) group, and 10.0、5.0、2.5mL·kg-1 CFB groups (n= 12) , the indexes mentioned above were determined.72 mice were divided into 6 groups same as the method mentioned above, the mice were injected adrenalin hydrochloride through abdominal cavity, blood was extracted by decapitation, and the contents of blood sugar and liver glycogen were determined. Another 72 mice w ere divided and fed same as the met ho d mentioned above, and t he mice w ere injected glucose through caudal vein, the indexes mentioned above were detected. Results:Compared wit h diabetic model rats, the contents o f

blood sugar in 7.00 and3.50mL • kg-1 CFB groups were reduced obviously (P<0.01) , and the contents of liver glycogen increased obviously (P<0.01) , and 7.00mL • kg-1 CFB group w as prior to 3.50mL • kg-1 CFB group. Compared with diabetic mo del mice, the content s of blood sugar in 10.0 and 5.0mL • kg-1 CFB groups w ere reduced obviously(P<0.01) , and the contents of liver glycogen increased obviously (P<0.01) , and 10.0mL • kg-1 CFB group was prior to 5.0mL • kg-1 CFB group. Compared with adrenine model mice, the contents of blood sugar in 10.0mL • kg-1 CFB group decreased obviously (P<0.01) , and the contents of liver glycogen in 10.0 and 5.0mL • kg-1 CFB groups w ere increased obviously (P<0.05 or P<0.01) , the blood sugar of hyperglycemia mice in 10.0mL • kg-1 CFB group was obviously reduced because o f exogenous glucose (P<0.05) , and the content of liver glycogen was obviously increased (P<0.01) . Conclusion:CFB has the function of falling blood sugar on alloxan diabetic rats or mice and hyperglycaemia mice induced by adrenine and exogenous glucose.

【语种】中文
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【题目】水分对日光温室独本菊外观品质影响的模拟
【中文关键词】外观品质控制,模型,日光温室,基质水势,独本菊
【英文关键词】external quality control, models, solar greenhouses, substrate water potential, standard cut chrysanthemum
【中文摘要】水分是影响菊花生长发育和外观品质的重要因子。为定量研究水分对日光温室独本菊外观品质(株高、茎粗、叶片数、 花头直径、 花颈长) 的影响, 该研究以秋菊品种“ 神马 ”(Chrysanthemum morifolium ‘ Jinba ’) 为试验材料, 于 2006年 8 月-2007 年6 月在北京日光温室内进行了不同定植期和不同水分处理的栽培试验,以生理辐热积为预测指标,定量分析了基质水势对独本菊株高、茎粗、叶片数、花头直径和花颈长的动态的影响,建立了基质水势对独本菊株高、茎粗、叶片数、花头直径和花颈长影响的模拟模型,并用与建立模型相独立的数据对模型进行检验。结果表明,模型对日光温室独本菊各外观品质指标预测结果较好,株高、茎粗、单株叶片数、花头直径和花颈长的模拟值与实测值之间基于 1∶1线的决定系数分别为 0.98、0.93、0.98、0.93、0.86,相对预测误差(RSE)分别为 8.79%、5.66%、8.45%、12.2%、12.9%。该研究建立的模型可以为日光温室秋菊品种“ 神马 ”的水分管理提供理论依据和决策支持。
【英文摘要】Water is the important factor affecting the growth and external quality of chrysanthemum. The aim of this study was to quantitatively investigate the effects of water on the external quality indices (plant height, stem diameter,leaf number, diameter of flower head, length of flower neck) of standard cut chrysanthemum grown in a solar greenhouse. Experiments of standard cut chrysanthemum (Chrysanthemum morifolium ‘ Shenma ’) with different plantingdates and different levels of water treatment were conducted in a solar greenhouse in Beijing from August 2006 to June 2007. The physiological product of thermal effectiveness and PAR(PTEP) was used to describe the seasonal change of the external quality indices. Effects of substrate water potential on the dynamics of plant height, stem diameter, leaf number, diameter of flower head, length of flower neck were quantified based on the experimental data. These quantitative relationships were then integrated into a model to predict the effects of substrate water potential on the external quality indices of standard cut chrysanthemum in solar greenhouse. Independent experimental data were used to validate the model. The results showed that the coefficient of determination (R2) between the simulated and measured values of plant height, stem diameter, leaf number, diameter of flower head, length of flower neck based on the 1:1 line were 0.98, 0.93, 0.98, 0.93, 0.86, respectively, and the relative prediction error (RE) between the simulated and measured values were 8.79%, 5.66%, 8.45%, 12.2%, 12.9%, respectively, for plant height, stem diameter, leaf number, diameter of flower head and length of flower neck. The model developed in this study gives satisfactory predictions of the external quality indices of the standard cut chrysanthemum, hence, it can be used for optimizing water management for standard cut chrysanthemum production in solar greenhouses.

【语种】中文
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【题目】玉米蛋白粉中β-胡萝卜素提取技术的研究
【中文关键词】玉米蛋白粉;β-胡萝卜素;超临界CO2萃取技术
【英文关键词】corn gluten meal;β-carotene;supercritical CO2 extraction technology
【中文摘要】以玉米蛋白粉为原料,采用超临界CO2 萃取技术提取β-胡萝卜素,通过正交试验对影响提取率的主要因素进行研究和分析,确定β-胡萝卜素提取的最佳工艺条件为:夹带剂用量10%,萃取温度40℃,萃取压力20MPa,萃取时间150min。按此工艺条件提取β-胡萝卜素,提取率达88.70%。
【英文摘要】Corn gluten meal was used as material to extract β-carotene through supercritical CO2 extraction technology. The major affecting factors of the extraction rate of β-carotene were studied by orthogonal test method. The optimal conditions for extracting β-carotene are determined as follows: amount of modifier 10%, extraction temperature 40℃, pressure 20 MPa, and time 150 min.Under the above conditions, the extraction rate is 88.70%.
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【题目】A photothermal model of leaf area index for greenhouse crops
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【英文关键词】Temperature, PAR, Leaf elongation rate, Leaf area index, Leaf rank
【中文摘要】无
【英文摘要】Leaf area index (LAI) is an important variable formodelling canopy photosynthesis and crop water use. In many crop simulation models, prediction of LAI is very sensitive to errors in the value of parameter ‘ speci fi c leaf area ’ (SLA),which often relies on destructive measurements to determine. In this study,we present a model for predicting LAI of greenhouse crops based on the quanti fi cation of easily measured morphological traits as affected by temperature and radiation. Our model predicts LAI based on canopy light interception as a function of node development rate along with speci fi c leaf size and elongation rates characteristics de fi ned on a leaf number basis. Growth studies with fi ve greenhouse crops(cucumber, sweet pepper, chrysanthemum, tulip and lilium) were conducted in different greenhouses and different sites during 2003 to 2009. The model was evaluated, in comparison with two commonly used methods for predicting LAI – the growing degree days (GDD) based model and SLA based model, using independent data fromother experiments. The coef fi cient of determination (r2) and the root mean squared error (RMSE) between the predicted and measured values using our photothermal method are 0.99 and 0.95 (r2, RMSE) for leaf number, 0.98 and 0.01 m for speci fi c leaf length, and 0.98 and 0.13 m2 m 2 for canopy LAI. For the GDD-based model, the r2 and RMSE are 0.93 and 4.23, 0.82 and 0.04 m, 0.87 and 0.48 m2 m 2 for the three traits, respectively. For the SLA-basedmodel, the r2 and RMSE for canopy LAI is 0.81 and 1.24 m2 m 2 when using the estimated SLA data as input or 0.94 and 0.25 m2 m 2when using the measured SLA data as input. So, our model better predicts LAI for greenhouse crops at different latitudes and a range of planting densities and pruning systems. Althoughcalibrations for speci fi c light regime, pruning practices and cultivars are needed, the fact that production conditions in commercial greenhouse production are often well controlled and production practices are often rather standardized implies a general applicability of our model.
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【学科分类】园艺学

【题目】玉米皮多糖挤出低聚化的研究
【中文关键词】低聚化;玉米皮;多糖;挤出
【英文关键词】oligomerization;corn bran;polysaccharide;extrusion
【中文摘要】以玉米皮为原料,经超临界CO2 流体萃取,脱脂、脱杂及酶法脱除蛋白质及淀粉后获得玉米皮多糖,采用挤出技术对其进行降解处理,制取玉米皮低聚多糖,采用黏度法测定其聚合度和分子量。通过正交试验,确定最佳挤出条件为:挤出温度175℃,料水比1:1.4,玉米皮多糖粒度0.147mm,喂料速度10kg/h。按此工艺条件处理玉米皮多糖,其聚合度由894 降低至66,分子量由144828 降至10612。
【英文摘要】Polysaccharides were prepared from corn bran by the steps of supercritical CO2 fluid extraction for removing fat, alkaline protease hydrolysis for removing protein and α -amylase hydrolysis for removing starch. Then the oligomerization of corn bran polysaccharides was conducted through extrusion. According to degree of polymerization (DP) and molecular weight (MW) measured with viscosimetry, the oligomerization conditions of corn bran polysaccharides were optimized through orthogonal test. The results showed that the optimal conditions are as follows : material to liquid ratio 1:1.4, extrusion temperature 175 ℃, particle size of material 0.147 mm and feed speed of material 10 kg/h. Under the above conditions, the DP of corn bran polysaccharides drops from 894 to 66, and its MW reduces from 144828 to 10612.
【语种】中文
【第一作者】王大为
【通讯作者】王大为
【期刊名称、卷期、页码】食品科学、2009年第30卷第2期、138-141
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【引文索引号】null
【学科分类】食品加工技术

【题目】高纤维玉米酸奶生产工艺研究
【中文关键词】膳食纤维;玉米;酸奶
【英文关键词】dietary fiber;corn;yogurt
【中文摘要】采用发酵工程技术生产高纤维玉米酸奶,通过正交试验筛选出最佳工艺条件。当玉米汁与牛奶比为1:1(V/V),玉米膳食纤维加入量10%,发酵时间6h,发酵剂加入量4% 时,所制得的高纤维玉米酸奶口感细腻,组织状态均匀,玉米香气淡雅,风味独特。
【英文摘要】High fiber corn yogurt was processed through experimentation engineering, the optimum condition was determined through orthogonal test. The corn juice to milk is 1:1 (V/V), the amount of corn dietary fiber is 10%, the experimentation period is 6 h, the amount of starter is 4%, the taste of fiber corn yogurt is smooth and fine, the texture construction is homogeneous, the corn odor is weak and standard, the flavor is unusual.
【语种】中文
【第一作者】张雁凌
【通讯作者】王大为
【期刊名称、卷期、页码】食品科学、2009年第30卷第8期、311-313
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【引文索引号】null
【学科分类】食品加工技术

【题目】玉米膳食纤维挤出功能化及粒度对其物性的影响研究
【中文关键词】玉米膳食纤维;粒度;挤出;功能化;物性
【英文关键词】corn dietary fiber;particle size;extrusion;functionalization;physical properties
【中文摘要】以玉米非淀粉组分玉米皮为原料制备玉米膳食纤维,并采用挤出技术进行功能化处理,研究不同粒度对功能化玉米膳食纤维吸脂力、膨胀性、持水力及结合水力的影响,筛选最佳挤出条件。结果表明:膳食纤维粒度0.125mm 时,玉

米纤维的综合物性最佳。当玉米膳食纤维加水量110%、温度180°C、喂料速度10kg/h、1次挤出功能化处理时玉米膳食纤维膨胀性与吸脂力均最佳,可溶性成分含量最高,显示其可作为减肥功能食品基料。

【英文摘要】Wet corn bran was washed with flowing water to remove residual starch and endosperm, centrifugalized, and dried. The dried corn bran was crushed and sieved into different particle sizes (60, 80, 100, 120 and 140 mesh) to prepare dietary fiber by removing fat, colored substances and odorous substances with supercritical carbon dioxide. Furthermore, the prepared corn dietary fiber was functionally treated by extrusion technology under 7 different combinations of water addition, extrusion temperature, feed rate and extrusion times. Effects of particle size of corn bran powder on oil retention capacity, expansion property, water holding capacity and water bonding capacity of prepared corn dietary fiber were investigated. The results showed that the comprehensive physical property of corn dietary fiber prepared from the corn bran powder with the particle size of 120 mesh (the particle size is 0.125 mm) was the best. When the extrusion was finished once under the conditions of water addition in corn dietary fiber 110%, temperature 180 °C, feed speed 10 kg/h, the oil retention capacity and expansion property of extruded dietary fiber were the best, and the amount of soluble component was the highest.

【语种】中文

【第一作者】张艳荣

【通讯作者】王大为

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【学科分类】食品加工技术

【题目】粒度对玉米花丝物性影响的研究

【中文关键词】玉米花丝;粒度;物性

【英文关键词】maize silk;particle size;physical properties

【中文摘要】采用超细粉碎技术对玉米花丝进行粉碎处理,研究粒度对玉米花丝膨胀力、持水力、结合水力及吸脂力的影响。结果表明:当玉米花丝粒度为0.147mm (100目)时,其膨胀力、持水力、结合水力和吸脂力最好。

【英文摘要】The corn silks were g round by ultrafine comminution and the effect of particle size on physical properties of corn silk powder such as expansibility, water-holding capacity, water retention capacity and lipid adsorption capacity were studied. The results indicated the corn silk powder with a particle size of 0.147 mm (100 mesh) demonstrated the highest expansibility, water retention capacity and lipid adsorption capacity.

【语种】中文

【第一作者】张艳荣

【通讯作者】王大为

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【学科分类】食品加工技术

【题目】超临界法制备玉米共轭亚油酸的工艺研究

【中文关键词】玉米;共轭亚油酸;超临界;制备

【英文关键词】corn;conjugated linoleic acid;supercritical fluid extraction;preparation

【中文摘要】以玉米胚芽油为原料,采用超临界法制备玉米共轭亚油酸(CLA)。通过正交试验方法确定最佳工艺条件为温度80°C、油:碱为1:0.5、时间4h、油:溶剂为1:2、压力15MPa,此时异构化效果理想,经气相色谱检测CLA转化率97.65%,产品中c9,t11-CLA 与t10,c12-CLA 含量分别为27.72% 和30.88%。

【英文摘要】A series of orthogonal array design experiments were conducted for developing the optimum supercritical fluid extraction procedure of conjugated linoleic acid (CLA) from corn germ oil, which was based on 4 h extraction at 80 °C, 15 MPa with ratios of oil to sodium hydroxide of 1:0.5 (W/W) and oil to solvent of 1:2 (W/W). Gas chromatographic analysis indicated that the CLA product obtained with a conversion ratio of 97.65% was composed of c9,t11-CLA (27.72%) and t10,c12-CLA (30.88%).

【语种】中文
【第一作者】王大为
【通讯作者】王大为
【期刊名称、卷期、页码】食品科学、2009年第30卷第20期、64-67
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【引文索引类型】其他
【引文索引号】null
【学科分类】食品科学技术基础学科

【题目】玉米皮多糖制备、分离纯化及相对分子质量的测定
【中文关键词】玉米皮;多糖;分离纯化;相对分子质量
【英文关键词】corn spermoderm;polysaccharide;purification;relative molecular mass
【中文摘要】采用微波提取及95% 乙醇沉淀处理制备玉米皮粗多糖,经D315 型离子交换树脂脱蛋白,乙醇分级沉淀及Sephadex G-100、Sephadex G-75 层析柱纯化得CSPA-1、CSPA-2 和CSPB。紫外- 可见光谱在220~400nm处扫描CSPA-1、CSPA-2 及CSPB,无蛋白及核酸吸收峰。纯化得到的多糖经葡聚糖凝胶层析法测得相对分子质量分别为186170、103885、146887。
【英文摘要】Crude corn bran polysaccharides (CBP) were obtained through microwave-assisted extraction followed by 95% alcohol precipitation, purified through D315 ion exchange resin column chromatography for the removal of protein and fractionated into 2 fractions, CBPA and CBPB, through fractional precipitation with alcohol. CBPA was further fractionated through Sephadex G-100 column chromatography into 2 subfractions, CBPA-1 and CBPA-2 of which Sephadex G-75 column elution profile exhibited a single absorption peak. Sephadex G-75 column chromatographic analysis indicated that CBPB comprised a single homogeneous composition. Neither protein nor nuclear acid characteristic absorption peaks were shown in the UV-visible spectra of CBPA-1, CBPA-2 and CBPB. The relative molecular mass of CBPA-1, CBPA-2 and CBPB were determined by the dextran gel filtration method to be 186170, 103885 and 146887 , respectively.
【语种】中文
【第一作者】张艳荣
【通讯作者】王大为
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【学科分类】食品加工技术

【题目】丁香抑菌成分提取工艺研究
【中文关键词】丁香;提取;青霉;抑菌作用
【英文关键词】clove;extraction;Penicillium species;antimicrobial effect
【中文摘要】采用浸提法提取丁香中抑菌成分,并以青霉为供试菌,研究其抑菌效果。通过单因素和正交试验确定丁香抑菌成分最佳提取工艺条件为乙醇溶液体积分数60%、料液比1:12(g/mL)、提取温度60°C、回流浸提2h。
【英文摘要】Solvent extraction was used to extract antimicrobial substances from clove against a Penicillium strain preserved in our laboratory, and their activity was evaluated by paper disc method. The clove extracts obtained using water, 60% ethanol, nhexane or acetone were tested for their diameters of inhibition zone and ethanol was the selected solvent due to the smallest diameter of inhibition zone. This was followed by the optimization of diameter of inhibition zone of ethanol extract from clove using single factor and orthogonal array design methods. The results showed that the optimal conditions for improved extraction of antimicrobial substances from clove were as follows: ethanol concentration 60%, solid-to-liquid ratio 1 g:12 mL and extraction temperature 60 °C for a reflux extraction duration of 2 h.
【语种】中文
【第一作者】张雁南
【通讯作者】王大为
【期刊名称、卷期、页码】食品科学、2010年第31卷第12期、25-27

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【引文索引号】null
【学科分类】食品科学技术基础学科

【题目】超临界CO2 处理对米糠纤维物性的影响
【中文关键词】米糠;膳食纤维;超临界CO2;物性
【英文关键词】rice bran;dietary fiber;supercritical CO2;physical properties
【中文摘要】研究超临界CO2 处理米糠粉前后制备的米糠纤维的膨胀力、持水力、结合水力及吸脂力的变化。结果表明,相同粒度的米糠纤维,其膨胀力、持水力和结合水力经超临界CO2 处理后均有所提高,而吸脂力却有所下降。超临界CO2 处理前后持水力、吸脂力均在纤维粒度0.246mm 时达到最高值,膨胀力、结合水力在0.900mm和0.175mm 时分别达到最高值。米糠纤维的综合物性在粒度0.246mm 时最佳,且超临界CO2 处理后米糠纤维的综合物性值比处理前提高27.75%,米糠纤维提取率增加36.63%。
【英文摘要】Rice bran subjected to supercritical CO2 treatment for the removal of fat was extracted to obtain dietary fiber. Dietary fibers from treated bran and untreated rice bran were compared for the differences in their physical properties including expansibility, water-holding capacity, water-retention capacity and oil-retention capacity. The expansibility, water-holding capacity, water-retention capacity of the dietary fiber from treated rice bran with the same particle sizes all increased when compared with that from untreated rice bran, while the oil-retention capability displayed an opposite change. For both of the dietary fibers, the highest water-holding capacity and oil-retention capacity were both achieved at the particle size of 0.246 mm, and the highest expansibility and water-retention capacity at 0.900 mm and 0.175 mm, respectively, and the highest weighted value of the above 4 parameters at 0.246 mm. The highest weighted value of the above 4 parameters of the dietary fiber from treated rice bran was 27.75% higher than that of the dietary fiber from untreated rice bran. Supercritical CO2 treatment resulted in an increase in dietary fiber yield of 36.63%.
【语种】中文
【第一作者】王大为
【通讯作者】王大为
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【引文索引号】null
【学科分类】食品加工技术

【题目】蓝靛果红色素微波提取及抗氧化作用
【中文关键词】蓝靛果;色素;微波辅助提取;抗氧化
【英文关键词】Lonicera edulis;pigment;microwave-aided extraction;antioxidation
【中文摘要】采用微波辅助法提取蓝靛果中红色素,以吸光度为评价指标,采用单因素试验探讨乙醇溶液体积分数、料液比、微波功率、提取时间对蓝靛果红色素提取率的影响,采用正交试验优化提取工艺。用DPPH 法测定蓝靛果红色素的抗氧化活性。结果表明:微波辅助提取蓝靛果红色素的最佳提取工艺条件为乙醇溶液体积分数65%、料液比1:10(g/mL)、微波功率540W、提取时间90s,此条件下红色素提取量为105.5mg/100g 果实,抗氧化实验证明蓝靛果红色素具有清除DPPH 自由基的作用。
【英文摘要】The microwave-aided extraction of red pigments from the fruits of Lonicera edulis was optimized using orthogonal array design method based on single factor investigations for maximizing the 520 nm absorbance of the extract. Meanwhile, DPPH radical scavenging assay was employed to assess whether the extracted pigments have antioxidant effect. The optimum microwave-aided extraction conditions were as follows: ethanol concentration 65%, solid/liquid ratio 1:10 (g/mL), microwave power 540 W, and extraction time 90 s. The maximum red pigment yield was 105.5 mg/100 g of fruits under such conditions. The red pigments had the ability to scavenge DPPPH free radicals.
【语种】中文
【第一作者】张雁南
【通讯作者】张艳荣
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【题目】高纤维玉米挂面生产技术
【中文关键词】特制玉米粉;膳食纤维;苦瓜;沙蒿籽;挂面
【英文关键词】special corn flour;dietary fiber;bitter gourd;Artemis sphaerocephala Krasch;vermicelli
【中文摘要】采用单因素试验和正交试验相结合的方法,研究高纤维玉米挂面的加工技术。结果表明:在特制玉米粉中添加玉米膳食纤维6%、苦瓜粉4%、沙蒿籽粉6%、食盐2.5%,可制得营养丰富、色味俱佳、宜于糖尿病人食用的玉米挂面;且该工艺制作的挂面断条率为0,烹煮损失率为9.6%。
【英文摘要】The processing technology for preparing fiber-rich corn vermicelli was optimized by single factor and orthogonal experiments. Results indicated that special corn flour with adding 6% high-quality dietary fiber, 4% bitter gourd powder, 6% Artemis sphaerocephala Krasch powder and 2.5% salt could prepare nutrient-rich corn vermicelli with excellent color and delicious taste, which was suitable for diabetes.
【语种】中文
【第一作者】杨玉民
【通讯作者】王大为
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【学科分类】食品加工技术

【题目】米糠超临界流体萃取物中植物甾醇组分的气相色谱分析
【中文关键词】米糠;超临界流体萃取;植物甾醇;气相色谱
【英文关键词】rice bran;supercritical fluid extract;phytosterol;gas chromatography
【中文摘要】用气相色谱法对米糠超临界流体萃取物中植物甾醇组成及其含量进行分析。结果表明:米糠超临界流体萃取物中含有3 种植物甾醇,即菜油甾醇、豆甾醇和β - 谷甾醇,其中β - 谷甾醇含量最高为8.47mg/g,其次是菜油甾醇含量为1.97mg/g,豆甾醇含量最低为1.23mg/g。气相色谱法检测米糠中植物甾醇种类及含量,可广泛用于植物原料中的植物甾醇的定性、定量分析。
【英文摘要】The phytosterols and their contents in the supercritical fluid extract from rice bran were analyzed by gas chromatography. Totally 3 phytosterol compounds were identified in the extract, including campesterol, stigmasterol and β - sitosterol and among them, β -sitosterol had the highest content (8.47 mg/g), followed by campesterol (1.97 mg/g) and stigmasterol (1.23 mg/g).
【语种】中文
【第一作者】刘婷婷
【通讯作者】王大为
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【学科分类】食品科学技术基础学科

【题目】响应面法优化米糠挤出工艺及其物性研究
【中文关键词】米糠;挤出;膳食纤维;响应面法
【英文关键词】rice bran;extrusion;dietary fiber;response surface methodology
【中文摘要】采用响应面法对米糠挤出试验工艺条件进行优化。在单因素试验基础上,以米糠粒度、水分含量、挤出温度为响应因素,米糠可溶性膳食纤维得率为响应值,根据中心组合及Box-Behnken试验设计原理采用三因素三水平的响应面分析法,确定最佳挤出工艺。结果表明:米糠粒度0.175mm(80 目)、水分含量33%、挤出温度164°C时,米糠可溶性膳食纤维得率为19.23%,与理论值较为接近,表明数学模型对优化挤出工艺可行,方差分析结果表明挤出过程中对可溶性膳食纤维得率

影响程度由强到弱的因素为水分含量>挤出温度>物料粒度。挤出后米糠的膨胀力、持水力、结合水力、吸脂力均较挤出前有较大改善,综合物性值为挤出前的2.12 倍。

【英文摘要】In order to optimize the extrusion technology of rice bran, the effects of rice bran granule size, water content and extrusion temperature on the yield of soluble dietary fiber from rice bran were explored by response surface methodology on the basis of single factor experiments. The optimal extrusion conditions were determined to be: rice bran granular size, 0.175 mm; water content, 33%; and extrusion temperature 164 °C. The yield of soluble dietary fiber from rice bran was 19.23% under these extrusion conditions, which was close to the theoretical value. The importance of the above three process conditions affecting the extraction rate of soluble dietary fiber from strong to weak was in an order of water content, extrusion temperature and rice bran size. The extruded rice bran exhibited a significant improvement in expansion power, water-holding capacity, water-binding capability and oil-absorbing capacity. Comprehensive material property value of extruded rice bran exhibited a 2.12-fold improvement. Therefore, the extrusion technology can greatly improve the content of soluble dietary fiber in rice bran and comprehensive material properties, which will provide theoretical references for the utilization of rice bran in food industry.

【语种】中文

【第一作者】张艳荣

【通讯作者】王大为

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【学科分类】食品加工技术

【题目】响应面法优化米糠超临界流体脱脂工艺

【中文关键词】米糠;超临界流体;脱脂纯化;响应面法

【英文关键词】rice bran;supercritical fluid;degreasing rate;response surface methodology

【中文摘要】运用响应面法优化米糠超临界流体脱脂纯化工艺。在单因素试验基础上,以萃取温度、萃取时间、萃取压力为响应因素,脂类及异杂物质脱除率为响应值,根据中心组合Box-Benhnken 试验设计原理采用三因素三水平的响应面分析法,确定最佳脱脂工艺。结果表明当萃取温度46℃、萃取时间94min、萃取压力27MPa 时脂类及异杂物脱除率18.34%(g/100g 米糠),脱脂除杂有效率为92.19%,与理论值较为接近,表明数学模型对优化脱脂工艺可行。方差分析结果表明各因素对米糠脱脂除杂率的影响强弱顺序依次为萃取压力>萃取温度>萃取时间。

【英文摘要】Supercritical carbon dioxide extraction was applied to degrease rice bran in the present study. The process conditions for the degreasing of rice bran was optimized by response surface methodology. The effects of extraction temperature, extraction time and extraction pressure on lipid removal rate were explored with Box-Benhnken experimental design coupled with response surface analysis on the basis of single factor experiments. The optimal extraction parameters were determined as follows: extraction temperature, 46 °C; extraction time, 94 min; and extraction pressure, 27 MPa. A lipid removal rate of 18.34% (g/100g rice bran, or 92.19% degreasing efficiency) under these optimal extraction conditions, which was close to the theoretical value. Therefore, the developed mathematical model was reliable in predicting lipid removal rate. The analysis of variance exhibited that the importance of the above three factors affecting lipid removal rate from strong to the weak were extraction pressure, extraction temperature and extraction time.

【语种】中文

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【学科分类】食品科学技术基础学科

【题目】丁香、甘草协同抑菌作用研究

【中文关键词】香辛料;丁香;甘草;抑菌作用;协同作用

【英文关键词】spices;clove;licorice;antimicrobial activity;synergistic effect
【中文摘要】对丁香、甘草、八角、白芷、草蔻和胡椒6 种常用香辛料提取液的抑菌作用进行研究,选择抑菌作用较强的香辛料提取液进行协同抑菌作用研究,确定协同作用的最佳配比。结果表明:丁香和甘草提取液抑菌作用较强,丁香与甘草提取液的最佳配比为体积比5:3,协同抑菌作用大于单一提取液。研究了复配液的最小抑菌质量浓度(MIC),对细菌的MIC为3.125mg/mL,对霉菌的MIC 为6.25mg/mL,在较低质量浓度下即可达到较好的抑菌效果。
【英文摘要】The inhibitory effects of ethanol extracts from six commonly used spices on five species of microorganisms were measured and compared in order to screen spices with higher antimicrobial activity, and the optimal mixing ratio for screened spices resulting in the best synergistic antimicrobial effect was determined. Clove and licorice were the selected spices based on the results from the comparison of antimicrobial activity, and the best mixing ratio for the ethanol extracts from them was 5:3 (V/V), which gave a synergistic antimicrobial effect better than single uses of them. The mixture presented minimum inhibitory concentrations (MIC) of 3.125 mg/mL for bacteria and 6.25 mg/mL for mold and could show better antimicrobial effect at a low concentration.
【语种】中文
【第一作者】张雁南
【通讯作者】王大为
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【学科分类】食品科学技术基础学科

【题目】生物信息数据多维分析与挖掘技术研究进展
【中文关键词】生物信息;数据仓库;多维分析;数据挖掘
【英文关键词】Biological information;Data warehouse;Cube analysis;Data mining
【中文摘要】作者综述了生物信息数据整合技术方法与研究进展,通过比较分析指出数据仓库多维数据分析在生物数据处理中的应用优势.在数据仓库技术多维数据分析基础上,可以有效地利用多种数据挖掘模型处理生物信息数据.
【英文摘要】The author reviewed the research progress of technologies and methods for biological information integration,further pointed out that the data warehouse cube analysis has been more advantaged compared with others.Many data mining model can be effective utilized to treat biological data in different form stored,on based of data warehouse.
【语种】中文
【第一作者】白云峰
【通讯作者】白云峰
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【学科分类】畜牧学

【题目】Assessment of lipoprotein lipase gene diversity and distance between Red jungle fowl and domestic chicken breeds
【中文关键词】脂蛋白酶,遗传多样性,遗传距离,系统发育
【英文关键词】Lipoprotein lipase,genetic diversity,genetic distance,phylogeny tree
【中文摘要】在红色原鸡、如皋、安卡、文昌鸡群,中采用聚合酶链反应 - 单链构象多态性(PCR-SSCP)分析脂蛋白脂酶基因多态性。结果表明高脂蛋白脂肪酶基因在Shannon信息指数上呈现多样性有效性。平均总的遗传多样性(HT),种群内的遗传多样性(HS)和脂蛋白脂酶基因位点的遗传分化系数(GST)的所有分别为0.577±0.013 ,0.535±0.011和0.073。基因在所有位点在5个鸡群体的平均值为6.332。此外,在如皋和安卡鸡群间最高脂蛋白脂肪酶基因遗传距离为0.220。而在文昌和Silikes鸡群间的距离较低为0.013。脂蛋白发育树的构建显示,安卡和红色原鸡的基因比其他品种相关74.4%。
【英文摘要】Polymerase chain reaction single strand conformation polymorphism (PCR-SSCP) was used to analyze lipoprotein lipase gene polymorphism in Red Jungle Fowl (Gallus gallus spadiceus), Rugao, Anka, Wenchang and Slikies chicken populations. The results shows high lipoprotein lipase gene diversity, effective number of allele and Shannon information index in Silikes population. The average total genetic diversity (HT), genetic diversity within population (HS) and coefficient of genetic differentiation (GST) across all loci of lipoprotein lipase gene were 0.577±0.013, 0.535±0.011 and 0.073, respectively. The average gene flow across all loci in five

chicken populations was 6.332. in addition, the highest lipoprotein lipase genetic distance was 0.220 between Rugao and Anka populations, while the lower was 0.013 between Wenchang and Silikes populations The constructed lipoprotein lipase phylogeny tree shows that Anka and Red jungle fowl were genetically related than the other breeds with 74.4% bootstrapping percentages and then both are related by 74.4% bootstrapping percentages with Wenchang followed by Rugao and Silikes breeds.

【语种】英文

【第一作者】Hassan H.Musa

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【学科分类】畜牧学

【题目】RT-PCR analysis of LDL receptor mRNA expression in different tissues of genetically fat and lean chickens

【中文关键词】RT-PCR;低密度脂蛋白受体;mRNA表达;鸡;组织;腹部

【英文关键词】RT-PCR,LDL receptor,mRNA expression,chicken,tissue,abdominal fat

【中文摘要】组织标本包括切除(肝,肾,小肠,腹部脂肪),瘦肉(如皋)和脂肪(安卡)鸡,这两个品种在同等条件下提出的。在各种脂肪鸡和瘦肉鸡组织中的低密度脂蛋白受体mRNA的表达采用半定量RT-PCR测定。每个单独的基因的PCR产物的基因表达水平的测定如积分峰面积的比率,与共扩增β-肌动蛋白的内部标准相关联。结果表明,低密度脂蛋白受体mRNA的表达显着不同于腹部脂肪和肝脏组织,而非其他组织的差异。在脂肪鸡和瘦肉鸡组织中低密度脂蛋白R1的表达在肠,肾,腹部脂肪组织中的表达水平没有显著不同,而在肝脏中较显著。此外,在脂肪和瘦肉鸡中低密度脂蛋白R5在不同组织中的表达没有显著不同。

【英文摘要】Tissues specimens include (liver, kidney, small intestine and abdominal fat) were excised from lean (Rugao) and fat (Anka) chickens, both breeds were raised under the same conditions. The expression of LDL receptor mRNA in various tissues of genetically fat and lean chickens were determined by semi-quantitative RT-PCR. The level of gene expression was determined as the ratio of integrated peak area for each individual gene PCR product relative to that of the co-amplified ß-actin internal standard. The results shows that the expression of low density lipoprotein receptor mRNA was significantly ($p< 0.05$) different between abdominal fat and liver tissues, while they were non significantly different between the other tissues. The levels of LDLR1 mRNA expression in intestine, kidney and abdominal fat tissues were none significantly different between genetically fat and lean, while it was significantly ($p< 0.05$) different in liver. In addition, the levels of LDLR5 mRNA expression in various tissues were non significantly different between genetically fat and lean chickens.

【语种】英文

【第一作者】H.H.Musa

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【学科分类】畜牧学

【题目】Analysis of Genetic Diversity and Phylogenetic Relationships among Red Jungle Fowls and Chinese Domestic Fowls

【中文关键词】红色原鸡,家禽,微卫星,遗传多样性,亲缘关系

【英文关键词】red jungle fowl, domestic fowl, microsatellite, genetic diversity, phylogenetic relationship

【中文摘要】两个红色原鸡的亚种的568个个体和14个国内鸡的基因多样性鸡亲缘关系,用29个定位点进行评估,基因变异及鸡群间基因差异进行估算。红色原鸡和中国家禽群体间的遗传分化及遗传多样性和系统发育的关系进行分析。

【英文摘要】Genetic diversity and phylogenetic relationships among 568 individuals of two red jungle fowl subspe-cies (Gallus gallus spadiceus in China and Gallus gallus gallus in Thailand) and 14 Chinese domestic chicken breeds were evaluated with 29 microstaellite loci, the genetic variability within population and genetic differentiation among population were estimated, and then genetic diversity and phylogenetic relationships were analyzed among red jungle fowls and Chinese domestic fowls. A total of 286 alleles were detected in 16 population with 29 microsatellite markers and the average number of the alleles observed in 29 microsatellite loci

was 9.86±6.36. The overall expected heterozygosity of all population was 0.6708±0.0251, and the number of population deviated from Hardy-Weinberg equilibrium per locus ranged from 0 to 7. In the whole population, the average of genetic differentiation among population, measured as FST value, was 16.7% (P<0.001), and all loci contributed significantly (P<0.001) to this differentiation. It can also be seen that the deficit of heterozygotes was very high (0.015) (P<0.01). Reynolds ’ distance values varied between 0.036 (Xiaoshan chicken-Luyuan chicken pair) and 0.330 (G. gallus gallus-Gushi chicken pair). The Nm value ranged from 0.533 (between G. gallus gallus and Gushi chicken) to 5.833 (between Xiaoshan chicken and Luyuan chicken). An unrooted consensus tree was constructed using the neighbour-joining method and the Reynolds ’ genetic distance. The heavy-body sized chicken breeds, Luyuan chicken, Xiaoshan ch icken, Beijing Fatty chicken, Henan Game chicken, Huainan Partridge and Langshan chicken formed one branch, and it had a close genetic relationship between Xiaoshan chicken-Luyuan chicken pair a nd Chahua chicken-Tibetan chicken pair. Chahua chicken and Tibetan chicken had closer genetic relationship with these two subspecies of red jungle fowl than other domestic chicken breeds. G. gallus spadiceus showed closer phylogenetic relationship with Chinese domestic chicken breeds than G. gallus gallus. All 29 microstaellite loci in this study showed high levels of polymorphism and significant genetic differentiation was observed among two subspecies of red jungle fowl and 14 Chinese domestic chicken breeds. The evolutional dendrogram is as follows: evolutional breeds primitive breeds (Chahua chicken and Tibetan) red jungle fowl in China (G. gallus spadiceus) red jungle fowl in Thailand (G. gallus gallus). The results supported the theory that the domestic fowls might originate from different subspecies of red jungle fowl and Chinese domestic fowls had independent origin.

【语种】英文
【第一作者】包文斌
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【学科分类】畜牧学

【题目】信息技术在畜牧生产中应用研究现状与展望
【中文关键词】信息技术;畜牧生产;研究进展
【英文关键词】IT; livestock production; research progress
【中文摘要】随着cDNA微阵列等生物技术发展的日新月异,产生了大量丰富的生物信息资源,海量生物信息与知识的共享是当前生物学研究面临的瓶颈问题,相对于其他查询与搜索工具,由本体论发展而来的基因本体工具在解决海量生物Web信息共享时具有独特优势,从而有望实现世界范围内的知识共享和智能信息集成。本文概述本体论和基因本体论的概念、研究进展以及基因本体论在生物信息数据库中的应用等情况,并对基因本体论在海量生物信息处理中的应用与研究前景进行了展望
【英文摘要】With the cDNA microarray development of biotechnology advances, resulting in a wealth of biological information resources, vast amounts of biological information and knowledge sharing bottlenecks faced by current biological research, relative to the other query and search tools, ontology developmentfrom the gene ontology tool has a unique advantage in solving the massive biological web information sharing, which is expected to achieve world-wide knowledge sharing and intelligent Information Integration. This article provides an overview of ontology and gene ontology concepts, research progress, and Gene Ontology bioinformatics database and Gene Ontology massive biological information processing and research prospect.
【语种】中文
【第一作者】白云峰
【通讯作者】陈国宏
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【学科分类】畜牧学

【题目】基于代理程序快速开发生物信息二次数据库

【中文关键词】代理程序;生物信息;数据库
【英文关键词】Distribution Agent;biological information;
Database
【中文摘要】以构建鸡基因组全序列二次数据库为例,探讨Windows操作系统下,编译Web代理程序,快速开发生物信息二次数据库的一般过程。研究通用代理程序开发本地化生物信息二次数据库的具体步骤,所涉及的关键技术以及常见问题解决。解决了海量生物信息自动下载与处理问题,经反复调试实现了示例程序鸡基因组全序列二级数据库系统的快速构建。
【英文摘要】As to construct the chicken genome full sequential quadratic database an example , with the Windows operating system , we discuss about compiling Web proxy program and developing the general process of biological information secondary database rapidly . Studying the general agent program to develop the specific steps of localization biological information secondary database , key technology and common problem ,then solving the mass of biological information automatically download and dealing with problems and bringing about the example program all the chicken genome sequence secondary database system rapidly after repeated debug .
【语种】中文
【第一作者】白云峰
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【学科分类】畜牧学

【题目】丹顶鹤(Grus Japonensis)性别鉴定的分子标记方法
【中文关键词】丹顶鹤,性别鉴定; Eeo.6序列
【英文关键词】red-crowned crane;sex identification;Eeo.6
【中文摘要】红丹顶鹤是第一类保护动物,很难性别鉴定与形态学方法。这种情况挑战了人工繁殖的丹顶鹤。在这项研究中,使用使用无损抽样方法从羽毛中提取基因组DNA,三对引物组合被选择用来放大特殊红色丹顶鹤的EE0.6序列。结果显示,雄性鸟类仅有一个扩增带,而雌性的却有两个可以成功识别,解决了人工繁殖丹顶鹤的关键问题。
【英文摘要】Red-cowned crane(Crus japonensis)is a first classprotectedanimal in China and a kindof monornorphicbird,it ’ sdifficult toidentifythe sex withmorphological method,thissituationchallengedthecoupleand human—assistedbreedingofRed-crowned crane.In thisstudy,GenomeDNA was extracted from feathersby usingnondestructivesamplingmethod and threecombinationsof primerswere selected toamplifythe EE0.6sequenceof red-crowned cranespecifically.Theresults showed that malebirdsdisplayed onlyone distinctamplification band,whereastwo bands wereamplifiedfor female ones.The sex of red-crowned cranecouldbeidentifiedsuccessfullyandaccaratelyand thensolvedthekey problem duringthehuman-assistedbreedingof red-crownedcrane.
【语种】中文
【第一作者】张红霞
【通讯作者】陈国宏
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【学科分类】畜牧学

【题目】Assessment of Population Structure and Genetic Diversity of 15 Chinese Indigenous Chicken Breeds Using Microsatellite Markers
【中文关键词】鸡,微卫星,遗传分化,遗传结构
【英文关键词】Chicken, Microsatellites, Genetic Differentiation, Genetic Structure
【中文摘要】使用29个微卫星标记对15名中国本土鸡品种的遗传结构和多样性进行调查。被检查的鸟类总数为542只,平均每36只一个品种。总共有277等位基因(从2到25的范围内,每个基因座平均有9.55等位基因,)被观察。所有群体表现出高水平的杂合度,始固鸡为最低的估计,为0.440,为,最高的是0.644,为皖南三黄鸡。球形杂合子在所有群体的逆差值(FIT)达

0.180(p < 0.001)。大约16%的总遗传变异起源于品种之间的差异,从而所有位点显著地造成了这种区别。使用近邻加入方法和基于标记估计关系的双向距离构造一个无根的共识树。两个主要的群被发现。重体类型的群体分在一个集群中,轻体类型群体分为第二个集群。这个结构软件被用来评估这些鸡品种的遗传聚类。相似于系统分析,重体类型与轻体类型群体开始被分开,聚类分析来提供提供一个准确的当前遗传品种之间的关系表示。使用所有的方法得到非常相似的品种排名。

【英文摘要】The genetic structure and diversity of 15 Chinese indigenous chicken breeds was investigated using 29 microsatellite markers. The total number of birds examined was 542, on average 36 birds per breed. A total of 277 alleles (mean number 9.55 alleles per locus, ranging from 2 to 25) was observed. All populations showed high levels of heterozygosity with the lowest estimate of 0.440 for the Gushi chickens, and the highest one of 0.644 observed for Wannan Three-yellow chickens. The global heterozygote deficit across all populations (FIT) amounted to 0.180 (p<0.001). About 16% of the total genetic variability originated from differences between breeds, with all loci contributing significantly to this differentiation. An unrooted consensus tree was constructed using the Neighbour-Joining method and pair-wise distances based on marker estimated kinships. Two main groups were found. The heavy-body type populations grouped together in one cluster while the light-body type populations formed the second cluster. The STRUCTURE software was used to assess genetic clustering of these chicken breeds. Similar to the phylogenetic analysis, the heavy-body type and light-body type populations separated first. Clustering analysis provided an accurate representation of the current genetic relations among the breeds. Remarkably similar breed rankings were obtained with all methods.

【语种】英文

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【学科分类】畜牧学

【题目】RESEARCHES OF DIGITAL DESIGN SYSTEM OF RICE CULTIVATION BASED ON WEB AND SIMULATION MODELS

【中文关键词】Web; Simulation model; Rice cultivation; Decision-making support system; Digital design

【英文关键词】Web; Simulation model; Rice cultivation; Decision-making support system; Digital design

【中文摘要】In order to integrate web with crop growth simulation and decision-making support system, the field experiment of different basal levels was carried out in experiment area of Jiangsu Academy of Agricultural Sciences in 2005 adopting 4 cultivars such as “Wuyungeng 7”, “Yangdao 6”, “Yueyou 948” and “Nangeng 41”, which mainly were used in collecting cultivar parameters and updating database of them. The database of rice cultivars, soil and weather data were developed using SQL Server 2000. The pages of digital design system of rice cultivation based on web and simulation model (DDSRCBWSM) were designed using Visual Studio.Net, which included register, the main page, cultivar parameter management, site data management, parameter adjustment, decision making for rice cultivation, and so on. The DDSRCBWSM accorded with TCP/IP agreements, which could be installed and run in server (IIS5.0), and be browsed on internet, it inherited mechanism, universal adaptability and utility of rice cultivation simulation-optimization-decision making system(RCSODS), combined web techniques with research of rice growth models, set up web system of RCSODS, made agricultural technicians of main rice production area of china gain pre-sowing optimization cases and rice management suggestion of the current year with dynamic, goal and digital characteristic in accordance with soil, cultivar and weather conditions online, and to fulfill technical direction through many kind manner such as paper, internet, email, television, wall newspaper, and so on, eventually.

【英文摘要】In order to integrate web with crop growth simulation and decision-making support system, the field experiment of different basal levels was carried out in experiment area of Jiangsu Academy of Agricultural Sciences in 2005 adopting 4 cultivars such as “Wuyungeng 7”, “Yangdao 6”, “Yueyou 948” and “Nangeng 41”, which mainly were used in collecting cultivar parameters and updating database of them. The database of rice cultivars, soil and weather data were developed using SQL Server 2000. The pages of digital design system of rice cultivation based on web and simulation model (DDSRCBWSM) were designed using Visual Studio.Net, which included register, the main page, cultivar parameter management, site data management, parameter adjustment, decision making for rice cultivation, and so on. The DDSRCBWSM accorded with TCP/IP agreements, which could be installed and run in server (IIS5.0), and be browsed on internet, it inherited mechanism, universal adaptability and utility of rice cultivation simulation-optimization-decision making system(RCSODS), combined web techniques with research of rice growth models, set up web system of RCSODS, made agricultural technicians of main rice production area of china gain pre-sowing optimization cases and

rice management suggestion of the current year with dynamic, goal and digital characteristic in accordance with soil, cultivar and weather conditions online, and to fulfill technical direction through many kind manner such as paper, internet, email, television, wall newspaper, and so on, eventually.
【语种】英文
【第一作者】Hongxin Cao
【通讯作者】Hongxin Cao
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【题目】基于XML中国地方鸡种核酸序列元数据模型的建立
【中文关键词】地方鸡种; 核酸序列; XML; 元数据; 生物信息系统
【英文关键词】Local chicken breeds;The nucleic acid sequence; XM L;data;Biological information system
【中文摘要】在中国地方鸡种核酸序列数据库建立研究中, 在比较现有国际主流生物信息数据库文件格式特点基础上,采用XML Schem a设计核酸序列元数据。提出以XML用于中国地方鸡种核酸序列数据存储、表示和共享, 阐述XML作为分子序列格式文件的优势。研究通过定义元数据模型, 以XML作为核酸序列表示文件, 可以与数据库无缝连接,便于与生物信息常用序列文件进行格式转换与分析, XML适用于构建大范围、强适应性生物信息系统。
【英文摘要】In the study of establishing the nucleic acid sequence database Chinese local chicken breeds , compared with the file format characteristics of international mainstream biological information database ,designing nucleic acid sequence metadata by XML Schem a . XML is used for local JiZhong nucleic acid sequence data storage, expression and sharing , then expounds the advantageas of XML as molecular sequence format file . By defining metadata model , with XML as the nucleic acid sequence expressing documents, we can connect with database seamless . It is convenient to conversion the form with biological information common sequence and analysis . XML is applicable to build a large range, strong adaptability biological information system .
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【第一作者】白云峰
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【题目】不同产量水平小麦最适总茎数动态模型研究
【中文关键词】小麦;产量水平;品种类型;最适总茎数;模拟
【英文关键词】Wheat; Yielding levels; Cultivar types; The optimum TSN; Simulation
【中文摘要】以2000~2002年田间试验为基础,结合相关文献资料,借鉴R/WCSODS思路,建立了不同产量水平小麦最适总茎数动态模拟模型,利用济南与南京地区常年气象资料及相应品种参数等进行了检验。结果表明,7 500 kg.ha-1产量时济麦19号和济麦20号在济南的最适总茎数动态模拟值与实测值的相关系数0.9649~0.9690,差值标准误154.2万~155.2万·ha-1,平均绝对误差14.25万~127.5万·ha-1;6 000 kg.ha-1产量时扬麦5号在南京的最适总茎数动态模拟值与实测值相关系数0.9987,差值标准误81.56万·ha-1,平均绝对误差1.38万·ha-1。相关系数达显著或极显著。本文综合考虑了品种类型、产量水平、最适叶面积及单茎(穗)叶面积等因素,为确定不同地区、品种类型及产量水平小麦最适总茎数动态提供了理论方法。
【英文摘要】A simulation model of optimum total shoot number(TSN) dynamic for wheat under different yielding levels was developed based on field experiment from 2000 to 2002 and relative reference data, employed idea of R/WCSODS (Rice / Wheat Cultivation-Simulation-Optimization Decision Making System), which was calibrated adopting climate data in the normal year in Jinan and Nanjing areas and correspond cultivar parameters. The results showed that the correlation coefficient, standard error of absolute deviation, and average absolute deviation between the simulated and the observed of the optimum TSN dynamic were 0.9649~0.9690, 154.2×104~155.2 ×104stems · ha-1, and 154.2×104~155.2×104stems · ha-1 for Jimai 19 and Jimai 20 at 7 500 kg.ha-1 yield in

Jinan area, respectively, 0.9987,81.56(104 • ha-1), and 1.38×104stems • ha-1) for Yangmai 5 at 6 000 kg.ha-1 yield in Nanjing area, respectively. Thereinto, the correlation coefficient were significant at 0.05 or 0.01 level. The paper took into account factors such as cultivar types, yielding levels, the optimum LAI and leaf area per shoot or ear, and so on, provided theoretical method for confirming the optimum TSN dynamic for wheat under different sites and yielding levels.

【语种】中文
【第一作者】曹宏鑫
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【题目】基因本体论研究进展及在生物信息数据库中的应用
【中文关键词】基因本体论; 分子功能; 生物信息数据库
【英文关键词】Gene Ontology; molecular function; bioinformatics database
【中文摘要】随着cDNA微阵列等生物技术发展的日新月异,产生了大量丰富的生物信息资源,海量生物信息与知识的共享是当前生物学研究面临的瓶颈问题,相对于其他查询与搜索工具,由本体论发展而来的基因本体工具在解决海量生物Web信息共享时具有独特优势,从而有望实现世界范围内的知识共享和智能信息集成。本文概述本体论和基因本体论的概念、研究进展以及基因本体论在生物信息数据库中的应用等情况,并对基因本体论在海量生物信息处理中的应用与研究前景进行了展望。
【英文摘要】Along with the development of cDNA microarray and other biological technology , a large number of rich biological information resources have produced . The sharing of large mount of biological information and knowledge is the current bottleneck problem what biology research faces with .Compared to other query and search tools , Gene ontology tool derived from ontology is superior to solving the sharing of mass of biological Web information , Thus to realize the knowledge sharing and intelligent information integration within the scope of the world . This paper summarizes the concept of ontology and gene ontology, researching progress and the use of gene ontology in biological information database application, and the gene ontology in mass of biological information processing and the application and research prospect.
【语种】中文
【第一作者】栾德琴
【通讯作者】陈国宏
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【题目】基于mtDNA中国地方鸡种系统发生数据库建立
【中文关键词】中国地方鸡种; 数据库; 系统发生分析
【英文关键词】Chinese local chicken species; database; phylogenetic analysis
【中文摘要】在NET编程环境下,运用代理程序的方法从GenBank中获取中国地方鸡种数据,并将有关mtDNA的数据进行整理,引用Matlab生物信息学工具箱,以组件技术将其打包和发布,建成中国地方鸡种mtDNA数据库。实验人员可以应用系统发生分析组件、经过运算得到中国地方鸡种进化树图结果。说明通过Matlab、SQL和. NET混合编程构建中国地方鸡种mtDNA数据库系统,实现了基于mtDNA的中国地方鸡种生物进化关系分析功能。
【英文摘要】Thousands of sequences were downloaded by agent p rogram using. NET Studio. The phylogenetic analy2sis component had been designed, developed, packaged and distributed with citedMatlab bioinformatics toolkit, and thenthe Chinese local chicken speciesmtDNA customized database was built using the component. The database was a three hi2erarchical architecture composed of chicken nucleotide, mtDNA, and localmtDNA datasets. The system was also an inte2grated information workbench for the storage, retrieval, analysis of chicken nucleotide data.

【语种】中文
【第一作者】白云峰
【通讯作者】陈国宏
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【题目】基于基因本体文件XML文档与数据库记录相互转换的初步研究
【中文关键词】XML;数据库系统;转换
【英文关键词】XML;database system;transformation
【中文摘要】分析了XML与数据库各自的特点,以及基于基因本体文件信息互相转换的必要性,以基因本体文件如何在这两种格式下进行相互转换为例。探讨了XML文档与数据库记录的相互转化的具体方法。
【英文摘要】The features of XML and database,and the necessity of mutual transformation based on Gene Ontology Documentbetween them were discus∞d.AnexampleWag taken to descfibe the8pec墒cmethod of how GeneOntologydocument transformedbetween the two formats.It contributes to the sharing of information for the bio-informafics.
【语种】中文
【第一作者】栾德琴
【通讯作者】陈国宏
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【题目】Correlation analysis between single nucleotide polymorphisms in ADSL gene and IMP content in chicken
【中文关键词】ADSL基因,鸡SNP;肌苷酸含量
【英文关键词】ADSL gene;chicken;SNP;Inosine monophosphate content
【中文摘要】本研究旨在探讨在各种品种中ADSL基因的单核苷酸多态性SNP,包括隐性白色鸡、丝羽乌骨鸡、萧山鸡,鸡和西藏鸡。根据鸡基因组序列的数据库设计ADSL基因中的外显子9的引物,并且使用PCR-SSCP和DNA测序的方法侦测多态性。在5鸡品种重三个基因型个体被发现,并且再9 839核苷酸发现一个突变体CA。这是一个非同义替换突变,导致氨基酸序列在273从苏氨酸相应地改变到脯氨酸。结果X ~(2)表明,基因型频率与基因频率在不同品种中显著不同。然而,从变异分析的结果说明在鸡中SNP位点和IMP位点之间没有显著关系。
【英文摘要】This study was designed to investigate the single nucleotide polymorphismSNP of ADSL gene in various breeds, including Recessive White chickens, Silkies chickens, Xiaoshan chickens, Baier chickens and Tibetan chickens. Primers for exon 9 in ADSL gene were designed from the database of chicken genomic sequence and polymorphisms were detected by PCR-SSCP and DNA sequencing. Three genotypes were found among individuals within 5 chicken breeds and a mutation C A at 9 839 nucleotide was found. It was a nonsynonymous mutation, resulted in amino acid sequence at 273 change accordingly from Pro to Thr. The results X~(2) showed that the frequency of genotype and the frequency of gene were significant different among breeds. However, The results from analysis of variation suggested that there was no significant relationship between this SNP site and IMP content in chickens.
【语种】英文
【第一作者】包文斌
【通讯作者】陈国宏
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【题目】Sex Identification of Seven Species of Cranes in China by PCR
【中文关键词】EE0.6序列,性别鉴定,PCR,DNA
【英文关键词】EE0.6 sequence, sex identification, PCR, DNA
【中文摘要】鹤的性别可以在视觉上被区分开是由于形态学上雄性和雌性之间的相似性。为了便于实施保护为濒临灭绝的鸟类的计划,尤其是丹顶鹤,从羽毛样本提取基因组DNA,使用三个引物组合的鸟类性别EE0.6序列建立一个以PCR为基础的性别检测方法。通过从22种已知性别的鹤中挑选的七种,放大其基因组DNA的方法,PCR的特异性被证实了。经过30周期的放大,使用琼脂糖凝胶电泳容易区分单条带的雄性和双条带的雌性。使用PCR后,七种中的50只未知性别的鹤被成功识别。以PCR为基础的性别检测方法不仅仅能促进鹤的种繁殖,而且能提供对确定其他濒危鸟类性别有用的参考。
【英文摘要】Sexes of cranes cannot be distinguished visually due to the morphological similarities between male and female. To facilitate the protection program for the endangered birds, red-crowned cranes in particular, genomic DNA was extracted from feather samples and a PCR-based sexing method was established using three primer combinations of avian sex-specific EE0.6 sequence. The specificity of the PCR was confirmed by amplifying genomic DNA from 22 known-sex cranes of seven species. After 30 cycles of amplification, easily distinguishable single bands for males and two bands for females were displayed by agarose gel electrophoresis. The sexes of 50 unknown-sex cranes of seven species were successfully identified using the PCR. The noninvasive PCR-based sexing method can not only facilitate the human-assisted breeding of cranes, but also provide useful reference for accurate sexing of other endangered birds.
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【第一作者】包文斌
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【题目】Molecular method of sex identification in Siberian White crane (Grus eucogeranus)
【中文关键词】EE0.6序列;西伯利亚白鹤;性别鉴定
【英文关键词】EE0.6 sequence, Siberian White crane, sex identification.
【中文摘要】用性识别无损取样方法来收集羽毛从西伯利亚白鹤来提取基因组DNA,此后,三个组合的引物被用来放大EE0.6序列。雄性鸟类显示只有一个截然不同的扩充条带,而雌性展示两个条带。结果得出结论,与性相关基因扩增有关的PCR技术对西伯利亚白鹤的性鉴定也是成功的。这种方法对于其他濒临灭绝的鸟类性别的识别也可以做出准确指导。
【英文摘要】For sex identification nondestructive sampling method was used to collect feathers from Siberian White crane to extract genomic DNA. Thereafter, three combinations of primers were used to amplify the EE0.6 sequence. The male birds displayed only one distinct amplified band, whereas, females displayed two bands. The results concluded that PCR technique for sex-related gene amplification is successful for sex identification of Siberian White crane. This method may also guide for accurate sex identification of other endangered birds.
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【题目】鸡MyoT基因组织表达谱分析、SNP检测及其与胴体和肉质性状的关联分析
【中文关键词】鸡;MyoT;表达谱;SNP;关联分析
【英文关键词】chicken;MyoT;express profile;SNP;association analysis

【中文摘要】利用半定量RT—PCR方法,对MyoT基因在自来航鸡7种不同组织(心、肝,脾、肺、肾,脑和肌肉)中的表达谱进行研究。结果表明,MyoT基因只在心脏和肌肉中表达。克隆得到了鸡MyoT基因的部分片段,发现外显子10存在A/G转换,利用PCR—Hin6 I—RFLP方法对其在12个中国地方鸡种(白耳鸡、仙居鸡、大骨鸡、鹿苑鸡、固始鸡、斗鸡、乌骨鸡、油鸡、茶花鸡、萧山鸡、狼山和藏鸡)和1个外来鸡种(隐性白羽鸡)中的分布进行了研究。在藏鸡、隐性白羽鸡、杂交鸡(藏舍×隐早)和75%血液藏鸡[藏舍×(藏舍×隐早)早]群体中进行了不同基因型与性状间的关联分析,结果表明,该SNP位点不同基因型与腿肌质量显著相关(P<O.05),与腿肌率和腿肌肉色极显著相关(P<O.01)。

【英文摘要】The semi—quantitative RT—PCR was performed to detect the expression pattern of chicken MyoT gene in 7 different tissues(heart,liver,spleen,lung,kidney,brain and muscle).The results showed that MyoT gene was expressed only in heart and muscle.Partial DNA sequence of chicken MyoT gene was cloned and a A/G transition was found in exon 10.Using PCR—Hin6 IRFLP method。the A/G SNP lOCUS was analyzedin 12 native chicken breeds(White Ear,Xianju,Dagu,Luyuan,Gushi,Game chickens,Silky Sooty,Beijing Fatty,Chahua,Xiaoshan,Langshan and Tibetan chicken)and 1 foreign breeds(Recessive Wbite chicken).The association between different genotypes and carcass and meat quality traits was analyzed in Tibetan chicken,Recessive white,hybrid chicken(Tibetan♂x Recessive♀).The result of association analysis showed there were correlation between this SNP site and leg muscle weight(P<0.05).and significant correlation between this SNP site and leg muscle rate and meat colour(1eg muscle)(P<0.01).

【语种】中文

【第一作者】朱志明

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【题目】棉花纤维特异表达GhCesA4启动子的克隆及序列分析

【中文关键词】棉花;纤维特异启动子; GhCesA4 ;克隆;序列分析

【英文关键词】cot ton ; fiber2specific promoter ; GhCesA4 ;cloning ; sequence analysis

【中文摘要】摘要:以新疆陆地棉品种新陆早19 的DNA 为模板,克隆了棉花纤维特异启动子GhCesA4 ,GenBank 登录号: EU183119 ,将启动子基因序列克隆到pMD192T 载体中,由载体通用引物M13247 、RV2M 经PCR 鉴定获得pMD192T/ GhCesA4 重组载体。测序和序列分析表明,该启动子序列由1503 bp 核苷酸组成,与GenBank 中GhCesA4 基因启动子序列同源性高达98 %。分别用限制性内切酶Cl a Ⅰ和B amH Ⅰ双酶切重组质粒pMD192T/ GhCesA4 和双元植物表达载体pB I121 ,分别回收pMD192T/ GhCesA4 重组质粒中的GhCesA4 小片段和pBI121 植物表达载体中缺失CaMV35S 组成型启动子的大片段,经连接、转化、酶切及测序鉴定,获得由GhCesA4 驱动报告基因GUS 的新型植物表达载体,命名为pB I2GhCesA 4 。

【英文摘要】Abstract : Differentiation of cot ton fiber experience four development stages , including initiation , prolongation , secondary wall thickening , and dehydration and mat uration. During t he stages , many genes , known to be fiber2specific or preferentially expressed in cot ton fiber , are developmentally expressed. Inhere promoter of cot ton fiber development related gene play an important role. In t his experiment , we cloned cot ton fiber2specific promoter GhCesA4 f rom " Xinluzao 19" , GenBank accession number is EU183119. The promoter is cloned into pMD192T vector , t hen we successf ully identified and obtained recombinant plasmid pMD192T/ GhcesA4 t hrough vector specific PCR primer M13247 and RV2M. Sequencing and sequence analysis showed the promoter is up of 1503 bp nucleotide and has 98 % identity wit h GhCesA4 gene submitted in GenBank. Respectively rest riction enzyme Cl a Ⅰ and B amH Ⅰ digested recombinant plasmid pMD192T/ GhCesA4 and binary plant expression vector,recovering t he small f ragment in the recombinant plasmid pMD192T/ GhCesA4 and t he big fragment lack of CaMV35S promoter in binary plant expression vector pBI121. By ligating , transforming , digestion and sequencing , we obtained a new pat tern plant expression vector which was drivenby GhCesA4 GUS reporter gene , namely pB I2GhCesA4.

【语种】中文

【第一作者】袁 辉

【通讯作者】罗淑萍

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【学科分类】农艺学

【题目】Three cotton homeobox genes are preferentially expressed during early seedling development and in response to phytohormone signaling
【中文关键词】无
【英文关键词】Cotton;Homeodomain-leucine zipper protein;Gene expression;Seedling development; Phytohormone signaling
【中文摘要】无
【英文摘要】Abstract:Homeodomain-leucine zipper (HD-Zip) proteins are transcription factors unique to plants. In this study, three cDNAs (designated as GhHB2, GhHB3 and GhHB4) encoding HD-Zip proteins were isolated from cotton cDNA library. GhHB2 gene encodes a protein of 300 amino acids, GhHB3 gene encodes a peptide with 254 amino acids, and GhHB4 gene encodes a protein of 281 amino acids. The deduced proteins, which contain the homeodomain and leucine-rich zipper motif, share relatively high similarities with the other plant HD-Zip proteins. Quantitative RT-PCR analysis indicated that GhHB3and GhHB4 were preferentially expressed in hypocotyls and cotyledons, whereas GhHB2 gene was predominantly expressed in young stems, at relatively high levels in hypocotyls. Expressions of all the three genes were up-regulated in roots, hypocotyls and cotyledons after GA3 treatments. Additionally, GhHB4 expression was enhanced by 6-BA treatment. A GhHB2 promoter fragment was isolated from cotton by Genome-Walking PCR. Expression of GUS gene controlled under GhHB2 promoter was examined in the transgenic Arabidopsis plants. Strong GUS staining was detected in cotyledon, veins of the emerging leaves and shoot apices of 5- to 15-day-old transgenic seedlings, but GUS activity became more and more weak as the seedlings further developed. In addition, the promoter activity was induced by exogenous GA, indicating that GhHB2 promoter is very active during early seedling development, and may be GA-inducible. The results suggested that the three HB genes may function in early seedling development of cotton and in response to gibberellin signaling.
【语种】英文
【第一作者】Qin Yong-Fang
【通讯作者】Li Xue-Bao
【期刊名称、卷期、页码】Plant Cell Rep (2010) 29:1147 – 1156
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【学科分类】农艺学

【题目】Cotton BCP genes encoding putative blue copper-binding proteins are functionally expressed in fiber development and involved in response to high-salinity and heavy metal stresses
【中文关键词】无
【英文关键词】AMINO-ACID-SEQUENCE; CELL ELONGATION; HORSERADISH ROOTS; MOLECULAR CHARACTERIZATION; ARABIDOPSIS-THALIANA; TRICHOME DEVELOPMENT; CUCUMBER PEELINGS; OXIDATIVE STRESS; IN-VITRO; STELLACYANIN
【中文摘要】无
【英文摘要】Copper is vitally required for plants at low concentrations but extremely toxic for plants at elevated concentrations. Plants have evolved a series of mechanisms to prevent the consequences of the excess or deficit of copper. These mechanisms require copper-interacting proteins involved in copper trafficking. Blue copper-binding proteins (BCPs) are a class of copper proteins containing one blue copper-binding domain binding a single type I copper. To investigate the role of BCPs in plant development and in response to stresses, we isolated nine cDNAs encoding the putative blue copper-binding proteins (GhBCPs) from cotton (Gossypium hirsutum). Meanwhile, four corresponding genes (including GhBCP1-GhBCP4), which contain a single intron inserted in their conserved position, were isolated from cotton genome. Quantitative reverse transcriptase-polymerase chain reaction (RT-PCR) analysis indicated that the nine GhBCP genes are differentially expressed in cotton tissues. Among them, GhBCP1 and GhBCP4 were predominantly expressed in fibers, while the transcripts of GhBCP2 and GhBCP3 were accumulated at relatively high levels in fibers. These four genes were strongly expressed in early fiber elongation, but dramatically declined with further fiber development. In addition, these GhBCP genes were upregulated in fibers by Cu2+, Zn2+, high-salinity and drought stresses, but downregulated in fibers by Al3+ treatment. Overexpression of GhBCP1 and GhBCP4 in yeast (Schizosaccharomyces pombe) significantly increased the cell

growth rate under Cu2+, Zn2+ and high-salinity stresses. These results suggested that these GhBCPs may participate in the regulation of fiber development and in response to high-salinity and heavy metal stresses in cotton.
【语种】英文
【第一作者】Ruan Xiang-Mei
【通讯作者】Li Xue-Bao
【期刊名称、卷期、页码】Physiologia Plantarum 141: 71 – 83. 2011
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【学科分类】农艺学

【题目】不同烹调方式对马铃薯中氯苯胺灵残留量的影响
【中文关键词】高效液相色谱法,抑芽剂,氯苯胺灵,高压锅烹调,微波炉烹调
【英文关键词】high performance liquid chromatography; sprouts inhibitor; chlorpropham; pressure cooking; microwavecooking
【中文摘要】抑芽剂主效成分氯苯胺灵(CIPC) 在马铃薯中的残留量不但受施用方式的影响,而且也受马铃薯烹调方式的影响。用自主研发的抑芽剂粉剂处理马铃薯4d,然后分别在常温(18~22℃) 和低温(3~5℃) 条件下贮藏30d。结果表明,采用普通锅、高压锅和微波炉三种烹调方法处理的马铃薯,薯皮中CIPC 的含量分别为22.48~36.27、45.35~56.40、63.72~74.61mg /kg; 薯肉中CIPC 的含量分别为2.17~3.32、2.86~3.70、3.54~4.02mg /kg。三种处理方法与对照相比,薯皮中CIPC 含量差异显著,薯肉中CIPC 含量差异不显著。其中在低温条件下贮藏的马铃薯中CIPC 残留量最高,而且在煮过马铃薯的水中也发现了少量CIPC。
【英文摘要】Residue concentrations of main component of the potato sprout inhibitor chlorpropham(CIPC) in potatoes were affected by both treatment way of sprout inhibitor and methods of cooking potato.Potatoes were treated with self-made potato sprout inhibitor powder for 4d,then were stored at 18~22℃ and 3~5℃ for 30d,respectively.The results showed that the CIPC concentrations in the peel of potatoes were 22.48 ~ 36.27,45.35 ~ 56.40,63.72 ~74.61mg · kg - 1 by treating with boiling、 pressure cooking and microwave cooking,respectively.While in the peeled tubers,the residues were 2.17~3.32,2.86~3.70,3.54~4.02mg · kg - 1 .By the methods of treatment above compared with contrast control,it showed that the CIPC residue oncentrations in the peel had significant differences,but nosignificant differences in the peeled tuber.Meanwhile,the highest residue were found in the potato tubers at 4℃,and the little amounts of CIPC in the cooking water was also detected.
【语种】中文
【第一作者】李守强
【通讯作者】李守强
【期刊名称、卷期、页码】食品工业科技,2011,32,(12):96-98
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【学科分类】食品科学技术基础学科

【题目】我国马铃薯贮藏加工产业现状及其发展建议
【中文关键词】马铃薯;贮藏加工;现状;发展
【英文关键词】potato;storage and processing;present situation;development
【中文摘要】马铃薯具有产量高和营养丰富的特点,是我国的主要农作物,为保障国家粮食安全发挥了重要作用。本文阐述了我国马铃薯贮藏加工产业发展的现状及其存在的主要问题,提出了完善我国马铃薯贮藏加工产业的建议,为促进该产业的又快又好发展提供参考依据。
【英文摘要】Potato, as the main crops of China, which has the features of high yield and nutrition, has played an importantrole for guaranteeing nation grain safety. This paper introduces the present situation of potato storage and processingindustry and some obvious problems of China, meanwhile, provides feasible resolution suggestions of potato storage andprocessing industry of China, which can provide reference for rapid and healthy development of the industry.
【语种】中文
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【学科分类】农产品贮藏与加工

【题目】不同贮藏方式对马铃薯种薯生理特性的影响
【中文关键词】马铃薯种薯;生理特性;酶活性;贮藏方式
【英文关键词】Seed potato;Physiological character;Enzyme activity;Storage way
【中文摘要】以庄薯3号原种为材料,分别以竹筐、网袋和纸箱贮藏5个月,研究不同贮藏方式对马铃薯种薯生理特性的影响。结果表明,贮藏窖内平均温度为4.7℃,湿度为82.6%,贮藏前期窖内CO2体积分数较低,中期较高,后期达到最高;3种贮藏方式下,种薯水分质量分数分别较收获时下降3.46%、5.71%和6.54%,且处理间达到极显著差异(P<0.01);淀粉质量分数分别较收获时下降0.61%、4.99%和3.27%,呈极显著下降趋势(P<0.01);干物质质量分数分别较收获时增加1.29%、2.74%和4.42%,处理间达到极显著差异(P<0.01);与网袋、纸箱贮藏相比,竹筐贮藏可抑制种薯PPO活性,降低POD活性,减少MDA的产生,从而降低膜结构的受损程度;竹筐贮藏的种薯活力高于纸箱贮藏和网袋贮藏的。竹筐贮藏效果最好,网袋次之,纸箱效果较差。
【英文摘要】In the present studies,the seed potato of “ Zhuangshu No.3 ” was used to study effects of different storage ways on the seed potatoes physiological characters in cellar by storing them in Bamboo basket,mesh bag and carton storage ways for five months,in order to explore the best storage ways under cellar storage conditions.The results showed that,① The average temperature was 4.7°C,humidity maintained at 82.6%in storage cellar.The carbon dioxide concentration was lower in early storage,and then increased,reached the highest value in later storage period.②In three different storage ways of bamboo basket,mesh bag and carton,the average water mass fraction of seedpotatoes was 3.46%,5.71%and 6.54%lower than that under just harvest separately,reached a significant difference(P<0.01);the starch mass fraction was 0.61%,4.99%and 3.27%than that under just harvest separately,reached a significant difference(P<0.01);the dry matter mass fraction was 1.29%,2.74%and 4.42% higher than that under just harvest separately,reached a significant difference(P<0.01).③The bamboo basket storage can inhibit PPO activity,reduce POD activity and MDA molality,and decrease the damage rate of the membrane structure.④The vigor of seed potatoes was the highest under bamboo basket storage.It was indicated that the bamboo basket storage was beneficial for the efficient storage of seed potatoes,the order was bamboo basket storage>meshbag storage>carton storage.
【语种】中文
【第一作者】刘亚武
【通讯作者】李国旗
【期刊名称、卷期、页码】西北农业学报,2012,21(4):65-70
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【学科分类】农产品贮藏与加工

【题目】Mapping QTLs for Tissue Culture Response of Mature Wheat Embryos
【中文关键词】无
【英文关键词】callus induction; plantlet regeneration; QTL; wheat
【中文摘要】无
【英文摘要】The mature wheat embryo is arguably one of the best explants for genetic transformation because of its unlimited availability and lack of growth season restriction. However, an efficient regeneration system using mature wheat embryos (Triticum aestivum L.) is still not available. To identify genes related to the tissue culture response (TCR) of wheat, QTLs for callus induction from mature embryos and callus regeneration were mapped using an RIL population derived from the cross of 'Wangshuibai' with 'Nanda2419', which has a good TCR. By whole genome scanning we identified five, four and four chromosome regions conditioning, respectively, percent embryos forming a callus (PEFC), percent calli regenerating plantlets (PCR-P), and number of plantlets per regenerating callus (NPRC). The major QTLs QPefc.nau-2A and QPcrp.nau-2A were mapped to the long arm of chromosome 2A, explaining up to 22.8% and 17.6% of the respective phenotypic variance. Moreover, two major QTLs for NPRC were detected on

chromosomes 2D and 51); these together explained 51.6% of the phenotypic variance. We found that chromosomes 2A, 2D, 5A, 5B and 5D were associated via different intervals with at least two of the three TCR indexes used. Based on this stud), and other reports, the TCRs of different explant types of wheat may be under the control of shared or tightly linked genes, while different genes or gene combinations may govern the stages from callus induction to plantlet regeneration. The importance of group 2 and 5 chromosomes in controlling the TCRs of Triticeae crops and the likely conservation of the corresponding genes in cereals are discussed

【语种】英文
【第一作者】贾海燕
【通讯作者】马正强
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【引文索引类型】SCI
【引文索引号】2.4798150001e+011
【学科分类】农业基础学科

【题目】Molecular genetic analysis of five spike – related traits in wheat using RIL and immortalized F2 populations
【中文关键词】无
【英文关键词】Wheat,Spike-related traits, QTLs,Inheritance mode, Epistasis
【中文摘要】无
【英文摘要】Kernel number per spike is one of the most important yield components of wheat. To map QTLs related to kernel number including spike length (SPL), spikelet number per spike (SPN), fertile spikelet number (FSPN), sterile spikelet number (SSPN) and compactness, and to characterize the inheritance modes of the QTLs and two-locus interactions, 136 recombinant inbred lines (RILs) derived from 'Nanda2419' x 'Wangshuibai' and an immortalized F-2 population (IF2) generated by randomly permutated intermating of these RILs were investigated. QTL mapping made use of the previously constructed over 3300 cM linkage map of the RIL population. Three, five, two, two and six chromosome regions were identified, respectively, for their association with SPL, SPN, FSPN, SSPN, and compactness in at least two of the three environments examined. All compactness QTLs but one shared the respective intervals of QSpn.nau-5A and the SPL QTLs. Xcfd46-Xwmc702 interval on chromosome 7D was related to all traits but SSPN and had consistently the largest effects. The fact that not all the compactness QTL intervals were related to both SPL and SPN indicates that compactness is regulated by different mechanisms. Interval coincidence between QTLs of SPL and SPN and between QTLs of FSPN and SSPN was minimal. For all the traits, favorable alleles exist in both parents. Inheritance modes from additiveness to over-dominance of the QTLs were revealed and two-locus interactions were detected, implying that the traits studied are under complex genetic control. The results could contribute to wheat yield improvement and better use of Wangshuibai and Nanda2419 the two special germplasms in wheat breeding program.
【语种】英文
【第一作者】马正强
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【学科分类】农业基础学科

【题目】Assessment of Population Structure and Genetic Diversity of 15 Chinese
【中文关键词】微卫星遗传多样性,遗传距离,地理距离,鸡
【英文关键词】genetic diversity; microsatellite; genetic distance; geographical distance; chicken
【中文摘要】使用29种微随体基因座对红色原鸡的遗传多样性和遗传距离和地理距离之间的关系,以及14种中国本土鸡种进行评估。在从2到25范围内,每个基因座上等位基因的数量和所有基因座上预期的平均杂合度和多态信息含量分别是0.6683和0.5。在从固始鸡品种的3.41到皖南三黄鸡的6.28范围内,每个基因座上等位基因的平均数量。15个中国鸡品种总体期望值为0.6686±0.0254,并且所有品种显示相对较大的杂合性。族群间的平均遗传分化值为16.4%(P < 0.001)。红原鸡和固始鸡与其他品种有遥远的遗传关系,然而淮南鹧鸪和藏鸡与其他品种有更密切相关。结果没有提供足够的信息来证明遗传和地理双向的距离间的显著相关。

【英文摘要】Genetic diversity and the relationship between genetic distance and geographical distance inred jungle fowl and 14 Chinese indigenous chicken breeds were evaluated using 29 microsatellite loci. Thenumber of alleles per locus ranged from 2 to 25 and the average expected heterozygosity and PIC of all lociwere 0.6683 and 0.50, respectively. The average number of alleles per locus ranged from 3.41 in Gushi chickenbreed to 6.28 in Wannan Three-yellow chicken breed. The overall expected heterozygosity of 15 Chinesechicken breeds was 0.6686 ± 0.0254 and all breeds showed relatively large heterozygosity. The average ofgenetic differentiation among populations was 16.4% (P < 0.001). Red jungle fowl and Gushi chicken haddistant genetic relationship from other breeds, while Huainan Partridge and Tibetan chicken were moreclosely related with other breeds. The results did not provide enough support for a significant correlationbetween the genetic and geographical pair-wise distances.
【语种】英文
【第一作者】包文斌
【通讯作者】陈国宏
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【学科分类】畜牧学

【题目】Mapping chromosomal regions affecting flowering time in a spring wheat RIL population
【中文关键词】无
【英文关键词】Earliness per se; Epistasis; Flowering time; QTL; Wheat
【中文摘要】无
【英文摘要】Flowering time is an important trait for the adaptation of wheat to its target environments. To identify chromosome regions associated with flowering time in wheat, a whole genome scan was conducted with five sets of field trial data on a recombinant inbred lines (RIL) population derived from the cross of spring wheat cultivars '2419' and 'Wangshuibai'. The identified QTLs involved seven chromosomal regions, among which QFlt.nau-1B and QFlt.nau-2B were homoeologous to QFlt.nau-1D and QFlt.nau-2D, respectively. Nanda 2419, the earlier flowering parent, contributed early flowering alleles at five of these QTLs. QFlt.nau-1B and QFlt.nau-7B had the largest effects in all trials and were mapped to the Xwmc59.2-Xbarc80 interval on chromosome 1BS and the Xgwm537-Xgwm333 interval on 7BS. Most of the mapped QTL intervals were not coincident with known vernalization response or photoperiod sensitivity loci and QFlt.nau-1B seems to be an orthologue of EpsA(m)1. Four pairs of loci showed significant interactions across environments in determining flowering time, all of which involved QFlt.nau-1B. These findings are of significance to wheat breeding programs
【语种】英文
【第一作者】林峰
【通讯作者】马正强
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【学科分类】农业基础学科

【题目】A high-density intervarietal map of the wheat genome enriched with markers derived from expressed sequence tags
【中文关键词】小麦,表达序列标签,简单重复序列,标记,遗传图谱
【英文关键词】bread wheat,EST-STS,SSR,marker,genetic map
【中文摘要】无
【英文摘要】Bread wheat (Triticum aestivum L.) is a hexaploid species with a large and complex genome. A reference genetic marker map, namely the International Triticeae Mapping Initiative (ITMI) map, has been constructed with the recombinant inbred line population derived from a cross involving a synthetic line. But it is not sufficient for a full understanding of the wheat genome under artificial selection without comparing it with intervarietal maps. Using an intervarietal mapping population derived by crossing Nanda2419 and Wangshuibai, we constructed a high-density genetic map of wheat. The total map length was 4,223.1 cM, comprising 887 loci, 345 of which were detected by markers derived from expressed sequence tags (ESTs). Two-thirds of the high marker density

blocks were present in interstitial and telomeric regions. The map covered, mostly with the EST-derived markers, approximately 158 cM of telomeric regions absent in the ITMI map. The regions of low marker density were largely conserved among cultivars and between homoeologous subgenomes. The loci showing skewed segregation displayed a clustered distribution along chromosomes and some of the segregation distortion regions (SDR) are conserved in different mapping populations. This map enriched with EST-derived markers is important for structure and function analysis of wheat genome as well as in wheat gene mapping, cloning, and breeding programs.

【语种】英文
【第一作者】薛树林
【通讯作者】马正强
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【学科分类】农业基础学科

【题目】Characterization of 12 single nucleotide polymorphisms (SNPs) in Pacific abalone, Haliotis discus hannai
【中文关键词】non
【英文关键词】AS-PCR; Haliotis discus hannai; Pacific abalone; polymorphism; SNP
【中文摘要】无
【英文摘要】We report here for the first time 12 polymorphic single nucleotide polymorphisms (SNPs) in a commercially important gastropod, Pacific abalone (Haliotis discus hannai) that were identified by searching expressed sequence tag database. These SNP loci (seven nuclear and five mitochondrial SNPs) were polymorphic among 37 wild abalone individuals, based on a four-primer allele-specific polymerase chain reaction analysis. All loci had two alleles and the minor allele frequency ranged from 0.027 to 0.473. For the seven nuclear SNPs, the expected and observed heterozygosities ranged from 0.053 to 0.499 and from 0.054 to 0.811, respectively.
【语种】英文
【第一作者】亓海刚
【通讯作者】刘晓
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【学科分类】水产学基础学科

【题目】The full-length transcripts and promoter analysis of intergenic microRNAs in Drosophila melanogaster
【中文关键词】无
【英文关键词】miRNA; Transcription factor; Promoter; Drosophila melanogaster; Chromatin immunoprecipitation; Luciferase reporter assays; RNA interference
【中文摘要】无
【英文摘要】MicroRNA (miRNA) transcription is still not well understood until now. To increase the miRNA abundance, we stimulated miRNA transcription with CuSO(4) and knocked down Drosha enzyme using dsRNA in Drosophila S2 cells. The full length transcripts of bantam, miR-276a and miR-277, the 5'-end of miR-8, the 3'-end of miR-2b and miR-10 were obtained. We also conducted a series of miRNA promoter analysis to prove the reliability of RACE results. Luciferase-reporter assays proved that both bantam and miR-276a promoters successfully drove the expressions of downstream luciferase genes. The promoter activities were impaired by introducing one or multiple mutations at predicted transcription factor binding sites. Chromatin immunoprecipitation analysis confirmed that hypophosphorylated RNA polymerase II and transcription factor c-Myc physically bind at miRNA promoter. RNA interference of transcription factors Mad and Prd led to down-expression of bantam, miR-277 and miR-2b but not miR-276a, whereas RNAi of Dorsal had the opposite effect.
【语种】英文
【第一作者】Qian, Jinjun

【通讯作者】Li, Fei
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【学科分类】植物保护学

【题目】Phenotypic characterization ,genetics ananlysis , ad molecular mapping of a new mutant gene for male sterility in rice
【中文关键词】无
【英文关键词】rice; male sterility; mutant; genetic mapping
【中文摘要】无
【英文摘要】xs1 is a male-sterile rice mutant derived from a spontaneous mutation. The floret of the mutant, consisting of 6 stamens and 1 pistil, looks the same as that of the wild type except that the filaments are long and thin and the anthers are withered in white transparence. It is confirmed that xs1 is a no-pollen type of male-sterile mutant, for no pollen grains can be stained with I-2-KI solution and the anther locules are always hollow. Anther transverse sections indicate that the mutant microspores are abnormally condensed and agglomerated to form a deeply stained cluster at the late microspore stage, which results in cessation of the vacuolation process of microspores, and, therefore, the mutant forms no functional pollens for reproduction. Genetic analysis of 4 F-2 populations and 3 BC1F1 populations revealed that the mutation is controlled by a single recessive gene, termed VR1 (Vacuolation retardation 1). Screening of 432 F-2 mutant individuals derived from the cross of xs1 x G603 with simple sequence repeat markers revealed that VR1 is located between the molecular markers RM17411 and RM5030, at distances of 0.7 and 1.5 cM, respectively, on chromosome 4. VR1 is a new male fertility controlling gene located on chromosome 4 in rice.
【语种】英文
【第一作者】左玲
【通讯作者】李平
【期刊名称、卷期、页码】Genome, 51:303-308
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【学科分类】农业基础学科

【题目】哈克尼西棉细胞质雄性不育系、保持系差异表达基因分析.
【中文关键词】哈克尼西棉; 细胞质雄性不育; cDNA-AFLP; 基因表达; 不育机理;
【英文关键词】Gossypium harknessii; CMS; cDNA-AFLP; gene expression; molecular mechanism
【中文摘要】【目的】通过筛选哈克尼西棉细胞质雄性不育系和保持系间败育关键时期花药中差异表达的基因,为进一步揭示棉花雄性不育机理,更好地利用棉花细胞质雄性不育材料奠定基础。【方法】以哈克尼西棉细胞质雄性不育系和保持系间败育关键时期,即花粉母细胞时期之前的花药为研究材料,应用cDNA-AFLP技术分离和鉴定两材料间差异表达的片段,并对差异片段进行验证、克隆、测序和生物信息学分析。【结果】共得到108个差异表达片段,其中67个被成功克隆,通过BLAST分析发现,29个片段可以在NCBI数据库中找到同源序列,对这些序列进行Gene Ontology分析后得知这些片段主要参与信号转导、转录、能量代谢、细胞壁发育等相关过程。其中,在两材料间还分离到一些与RNA编辑和雄配子发育相关的基因存在差异表达,而这些可能与棉花细胞质雄性不育相关。【结论】本研究通过cDNA-AFLP的分析,在棉花细胞质雄性不育系和保持系间分离到了108个差异表达的片段,通过对这些片段的分析,对两材料间差异表达的基因信息有了一个基本了解,这些结果为更好地了解棉花细胞质雄性不育发生过程相关基因的调控网络,揭示棉花雄性不育机理打下基础。
【英文摘要】【Objective】 By identifying the differentially expressed transcripts of anthers at the critical period of abortion between cytoplasmic male sterility and maintainer lines of Gossypium harknessii,this study is to explore the possible molecular mechanism of the cytoplasmic male sterility,and lay a basis on utilizing cytoplasmic male sterility lines.【 Method】 cDNA amplified fragment length polymorphism analysis was used to isolate the differentially expressed fragments,these fragments were verified by reverse
【语种】中文
【第一作者】马勇
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【学科分类】农业基础学科

【题目】RNA interference of ace1 and ace2 in Chilo suppressalis reveals their different contributions to
【中文关键词】无
【英文关键词】acetylcholinesterase, RNA interference,
rice stem borer, nontypical functions, larvae growth,
motor ability.
【中文摘要】无
【英文摘要】Acetylcholinesterase (AChE, EC 3.1.1.7) is a keyenzyme in terminating synaptic transmission. Weknocked down the expression of Csace1 or Csace2using chemically synthesized small interfering RNAs(siRNAs) designed from divergent regions. The mRNAabundance of the two ace genes was reduced to50 – 70% of control levels. The enzyme activities weredecreased to 40 – 70%. Silencing of Csace1 or Csace2resulted in a ~25% mortality rate. Knockdown ofCsace1 had major effects on larval growth inhibitionand resulted in reduced larval weight and length, malformationand motor disability, whereas silencing ofCsace2 had only minor effects. These results suggestedthat both AChE-1 and AChE-2 have importantroles in maintaining life in this insect and indicatedthat AChE-1 might have nontypical functions in regulatinglarval growth and motor ability
【语种】英文
【第一作者】Hui, X. -M
【通讯作者】Fei Li
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【学科分类】植物保护学

【题目】双价转基因抗虫杂交棉-中棉所76
【中文关键词】双价转基因抗虫杂交棉——中棉所76
【英文关键词】双价转基因抗虫杂交棉——中棉所76
【中文摘要】双价转基因抗虫杂交棉——中棉所76
【英文摘要】双价转基因抗虫杂交棉——中棉所76
【语种】中文
【第一作者】王红梅
【通讯作者】王红梅
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【学科分类】农学其他学科

【题目】A novel shell color variant of the Pacific abalone Haliotis discus hannai Ino subject to genetic control and dietary influence
【中文关键词】无
【英文关键词】color adaptation; Haliotis discus hannai; Pacific abalone; predator avoidance; shell color variation
【中文摘要】无
【英文摘要】Molluscan shells may display a variety of colors, which formation, inheritance, and evolutionary significance are not Well understood. Here we report a new variant of the Pacific abalone Haliotis discus hannai that displays a novel orange shell coloration (O-type) that is clearly distinguishable from the Wild green-shelled abalone (G-type). Controlled mating experiments between O- and G-type abalones demonstrated apparent Mendelian segregations (1:1 or 3:1) in shell colors in F(2) families, which support the notion

that the O- and G-types are under strict genetic control at a single locus With a recessive o (for orange shell) allele and a dominant G (for green shell) allele. Feeding with different diets caused modifications of shell color within each genotype, ranging from orange to yellow for O-type and green to dark-brown for the G-type, without affecting the distinction between genotypes. A previously described bluish-purple (B-type) shell color was found in one of the putative oo X oG crosses, suggesting that the B-type may be it recessive allele belonging to the same locus. The new O-type variant had no effect on the growth of Pacific abalone on the early seed-stage. This Study demonstrates that shell color in Pacific abalone is subject to genetic control as well as dietary modification, and the latter probably offers selective advantages in camouflage and predator avoidance.

【语种】英文
【第一作者】刘晓
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【学科分类】水产学基础学科

【题目】Fine mapping of a male sterility gene, vr1,on chromosome 4 in rice
【中文关键词】雄性不育,分子标记,精细定位,水稻
【英文关键词】Male sterility; Molecular maker; Fine mapping; Rice
【中文摘要】无
【英文摘要】xs1 is a male sterile rice mutant derived from a spontaneous mutation. Pollen development in the xs1 mutant proceeds normally until the vacuolation stage, at which time xs1 pollen fails to vacuolate and no viable pollen is produced. Genetic analysis indicates that the xs1 mutant phenotype is controlled by a single recessive gene, designated vacuolation retardation 1 (vr1), which was mapped to rice chromosome 4. In order to fine-map the vr1 locus, two large mapping populations were generated and several SSR and InDel markers were developed from publicly available rice genomic sequences. By employing a strategy of chromosome-walking, the vr1 gene was finally located within a genetic interval of 0.27 cM, flanked by the markers FID30 and FS15, with distances of 0.11 and 0.16 cM, respectively, and co-segregating with the marker FC4-2. Based on the japonica rice genome sequence, the vr1 locus is estimated to cover a 48-kb region containing eight putative genes. Our results will facilitate the cloning and functional characterization of the vr1 gene

【语种】英文
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【通讯作者】李平
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【学科分类】农业基础学科

【题目】我国短季棉遗传育种研究进展
【中文关键词】我国短季棉遗传育种研究进展
【英文关键词】我国短季棉遗传育种研究进展
【中文摘要】我国短季棉遗传育种研究进展
【英文摘要】我国短季棉遗传育种研究进展
【语种】中文
【第一作者】喻树迅
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【题目】短季棉新品种———中棉所58
【中文关键词】短季棉新品种———中棉所58
【英文关键词】短季棉新品种———中棉所58
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【英文摘要】短季棉新品种———中棉所58
【语种】中文
【第一作者】喻树迅
【通讯作者】喻树迅
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【学科分类】农学其他学科

【题目】Effects of the initial size, stocking density and sorting on the growth of juvenile Pacific abalone, Haliotis discus hannai Ino
【中文关键词】皱纹盘鲍; 初始规格; 养殖密度; 生长速率
【英文关键词】Haliotis discus hannai Ino; initial size; stocking density; sorting; growth
【中文摘要】无
【英文摘要】During winter months, a novel overwintering mode of transferring juvenile abalones to open seawaters in southern China rather than keeping them in closed land-based nursery systems in northern China is a popular practice. The initial size, stocking density and sorting are among the first considerations when establishing an abalone culture system. This study aimed to investigate the effects of these factors on the growth of juvenile Pacific abalone, Haliotis discus hannai Ino, during overwintering. Juvenile abalones were reared in multi-tier basket form for overwintering in open seawaters in southern China for 106 days. The daily growth rates (DGRs) in the shell length of all experimental groups ranged from 67.08 to 135.75 mu m day(-1), while the specific growth rates (SGRs) were 0.2447-0.3259% day(-1). Variance analysis indicated that both DGRs and SGRs in shell length were significantly affected by the initial body size and stocking density. Furthermore, the effects of stocking density on DGRs and SGRs varied with the initial size. However, sorting abalones according to their initial sizes may not be necessary in practice as sorting did not alter growth significantly at all densities in this study. Factors potentially affecting abalone growth such as genetic control and intraspecific competition were discussed.
【语种】英文
【第一作者】吴富村
【通讯作者】刘晓
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【学科分类】水产养殖学

【题目】Discovering conserved insect microRNAs from expressed sequence tags
【中文关键词】无
【英文关键词】MicroRNA; Insect; EST; Computational identification; RT PCR
【中文摘要】无
【英文摘要】MicroRNAs (miRNA) participate in regulating diverse biological pathways by translational repression in animals They have attracted increasing attention recently However little work has been done on the miRNA genes in agriculturally important pests Because the transcripts of most miRNA genes are the products of type-II RNA polymerase pri-miRNA has a poly(A) tail and appears in expressed sequence tags (EST) We developed a computational pipeline to identify miRNA genes from insect ESTs First 980 697 ESTs from 63 Insects were collected and used to search the nr database The ESTs which did not share significant similarities with any known

protein-coding genes were treated as non-coding ESTs Next known mature miRNAs were used to align with non-coding ESTs The ESTs which contain the sequence of mature miRNA were treated as candidate ESTs Finally putative precursors were extracted flanking the mature miRNA region in candidate ESTs and evaluated by the Triplet-SVM algorithm As a result 86 miRNAs from 30 Insect species were found based on a strict criterion while 330 miRNAs from 51 species were found based on a loose criterion Evolution analysis indicated that mir-467 mir-297 and mir-466 were the highest conserved miRNA families in insects To confirm the reliability of putative insect miRNAs the expression profile of nine predicted miRNAs in Locusta migratoria was investigated Eight miRNAs were successfully detected by RT-PCR. Most miRNAs were expressed ubiquitously at all examined tissues and developmental stages whereas Lmi-mir-509 was specifically expressed in the thorax of the 2nd 4th and 5th instars and adult locust In all our work reported an efficient computational strategy for predicting miRNA genes from insect ESTs and presented tens of miRNAs in diverse insect species which are expected to participate in many important physiological processes

【语种】英文
【第一作者】Qidong Jia
【通讯作者】Fei Li
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【学科分类】植物保护学

【题目】Mining expressed sequences for single nucleotide polymorphisms (SNPs) in Pacific abalone Haliotis discus hannai
【中文关键词】SNP; EST; 皱纹盘鲍; PCR-DS; AS-PCR
【英文关键词】SNPs;EST;Pacific abalone;Haliotis discus hannai;PCR-DS;AS-PCR
【中文摘要】无
【英文摘要】Although single nucleotide polymorphisms (SNPs) are important resources for population genetics, pedigree analysis and genomic mapping, such loci have not been reported in Pacific abalone so far. In this study, a bioinformatics strategy was adopted to discover SNPs within the expressed sequences (ESTs) of Pacific abalone, Haliotis discus hannai, and furthermore, polymerase chain reaction direct sequencing (PCR-DS) and allele-specific PCR (AS-PCR) were used for SNPs detection and genotype scoring respectively. A total of 5893 ESTs were assembled and 302 putative SNPs were identified. The average density of SNPs in ESTs was 1%. Fifty-two sets of sequencing primers were designed from SNPs flanking ESTs to amplify the genomic DNA, and 13 could generate products of expected size. Polymerase chain reaction direct sequencing of the amplification products from pooled DNA samples revealed 40 polymorphic SNP loci. Using a modified tetra-primer AS-PCR, seven mitochondrial and six nuclear SNPs were typed and characterized among 37 wild abalones. In conclusion, it is feasible to discover SNPs from number limited ESTs and the AS-PCR as a simple, robust and reliable assay could be a primary method for small- and medium-scale SNPs detection in abalones as well as other non-model organisms.
【语种】英文
【第一作者】亓海刚
【通讯作者】刘晓
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【学科分类】水产学基础学科

【题目】IDENTIFICATION OF TWO PIWI GENES AND THEIR EXPRESSION PROFILE IN HONEYBEE,Apis mellifera
【中文关键词】无
【英文关键词】Piwi; Apis mellifera; gene expression; worker and queen; nutritional control
【中文摘要】无
【英文摘要】Piwi genes play an important role in regulating spermatogenesis and oogenesis because they participate in the biogenesis of piRNAs, a new class of noncoding RNAs. However, these genes are not well understood in most insects. To understand the function of piwi genes in honeybee reproduction, we amplified two full-length piwi-like genes, Am-aub and Am-ago3. Both the cloned Am-aub

and Am-ago3 genes contained typical PAZ and PIWI domains and active catalytic motifs "Asp-Asp-Asp/His/Glu/Lys," suggesting that the two piwi-like genes possessed slicer activity. We examined the expression levels of Am-aub and Am-ago3 in workers, queens, drones, and female larvae by quantitative PCR. Am-aub was more abundant than Am-ago3 in all the tested samples. Both Am-aub and Am-ago3 were highly expressed in drones but not in workers and queens. The significant finding was that the larval food stream influenced the expression of Piwi genes in adult honeybees. This helps to understand the nutritional control of reproductive status in honeybees at the molecular level.

【语种】英文
【第一作者】Zhen Liao
【通讯作者】Fei Li
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【学科分类】植物保护学

【题目】Effects of missing marker and segregation distortion on QTL mapping in F2 populations
【中文关键词】无
【英文关键词】missing marker,segregation distortion,QTL,F2 populations
【中文摘要】无
【英文摘要】Missing marker and segregation distortion are commonly encountered in actual quantitative trait locus (QTL) mapping populations. Our objective in this study was to investigate the impact of the two factors on QTL mapping through computer simulations. Results indicate that detection power decreases with increasing levels of missing markers, and the false discovery rate increases. Missing markers have greater effects on smaller effect QTL and smaller size populations. The effect of missing markers can be quantified by a population with a reduced size similar to the marker missing rate. As for segregation distortion, if the distorted marker is not closely linked with any QTL, it will not have significant impact on QTL mapping; otherwise, the impact of the distortion will depend on the degree of dominance of QTL, frequencies of the three marker types, the linkage distance between the distorted marker and QTL, and the mapping population size. Sometimes, the distortion can result in a higher genetic variance than that of non-distortion, and therefore benefits the detection of linked QTL. A formula of the ratio of genetic variance explained by QTL under distortion and non-distortion was given in this study, so as to easily determine whether the segregation distortion marker (SDM) increases or decreases the QTL detection power. The effect of SDM decreases rapidly as its linkage relationship with QTL becomes looser. In general, distorted markers will not have a great effect on the position and effect estimations of QTL, and their effects can be ignored in large-size mapping populations
【语种】英文
【第一作者】Zhang Luyan
【通讯作者】王建康
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【学科分类】农业基础学科

【题目】A panel of genic single nucleotide polymorphism (SNP) markers for the Pacific abalone, Haliotis discus hannai
【中文关键词】皱纹盘鲍; SNP; PAMSA
【英文关键词】Pacific abalone; Haliotis discus hannai Ino; SNP; PAMSA
【中文摘要】无
【英文摘要】We developed 14 single nucleotide polymorphism (SNP) markers for the Pacific abalone, Haliotisdiscus hannai, one valuable fishery resource in East Asian countries and popular seafood worldwide. The polymorphisms of these SNP loci were assessed using a wild population comprising 37 unrelated individuals. The minor allele frequency ranged from 0.1216 to 0.4865, and the observed and expected heterozygosities ranged from 0.189 to 0.865 and from 0.217 to 0.507, respectively. Only one locus (HdS82) deviated significantly from Hardy – Weinberg equilibrium and no significant linkage disequilibrium was detected after Bonferroni

corrections. These polymorphic markers appear suitable for conservation surveys and population genetic studies for the Pacific abalone.

【语种】英文
【第一作者】张振
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【学科分类】遗传学

【题目】银耳微波真空干燥特性及动力学模型
【中文关键词】农产品,微波,模型,干燥,银耳
【英文关键词】agriculture products;microwaves;models;drying;white fungus
【中文摘要】利用微波真空干燥技术,对银耳微波真空干燥特性进行研究,探讨不同微波强度、真空度及初始含水率对失水速率的影响,其中微波强度对失水速率影响最大.根据试验数据建立银耳微波真空干燥的水分比与干燥时间关系的动力学模型,并对模型进行拟合检验.结果发现银耳微波真空干燥过程符合Page模型,该模型预测值与实测值拟合良好.该模型可以准确预测银耳在微波真空干燥过程中的含水率和失水速率.

【英文摘要】White fungus is a edible fungus,which is characterized of high nutrition value and short shelf life.Microwave vacuum drying technique was used to dry white fungus to research its drying properties.The effects of microwave power, vacuum degree and initial moisture content on the drying rate were investigated,and microwave intensity had the greatest influence on the dehydrating rate.The suitable kinetics model which could be used to describe the relationship of moisture ratio and drying time was established base on experimental data and the proof test was performed.The results showed that the drying procedure of white fungus could accurately be described by the Page model,the predicted values of the model were nearly consistent with the observed values.The moisture contents and dehydrating rate during the drying procedure can be exactly estimated by it.

【语种】中文
【第一作者】黄 艳
【通讯作者】郑宝东
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【学科分类】食品加工技术

【题目】Validation of Reference Genes for Quantitative Expression Analysis by Real-Time
【中文关键词】无
【英文关键词】expression stability; housekeeping gene; qPCR; reference gene
【中文摘要】无
【英文摘要】Quantitative real-time polymerase chain reaction (qPCR) is an efficient and widely used technique to monitor gene expression. Housekeeping genes (HKGs) are often empirically selected as the reference genes for data normalization. However, the suitability of HKGs used as the reference genes has been seldom validated. Here, six HKGs were chosen (actin A3, actin A1, GAPDH, G3PDH, E2F, rp49) in four lepidopteran insects Bombyx mori L. (Lepidoptera: Bombycidae), Plutella xylostella L. (Plutellidae), Chilo suppressalis Walker (Crambidae), and Spodoptera exigua Hubner (Noctuidae) to study their expression stability. The algorithms of geNorm, NormFinder, stability index, and Delta Ct analysis were used to evaluate these HKGs. Across different developmental stages, actin A1 was the most stable in P. xylostella and C. suppressalis, but it was the least stable in B. mori and S. exigua. Rp49 and GAPDH were the most stable in B. mori and S. exigua, respectively. In different tissues, GAPDH, E2F, and Rp49 were the most stable in B. mori, S. exigua, and C. suppressalis, respectively. The relative abundances of Siwi genes estimated by 2(-Delta Delta Ct) method were tested with different HKGs as the reference gene, proving the importance of internal controls in qPCR data analysis. The results not only presented a list of suitable reference genes in four lepidopteran insects, but also proved that the expression stabilities of HKGs were different among evolutionarily close species. There was no single universal reference gene that could be used in all situations. It is

indispensable to validate the expression of HKGs before using them as the internal control in qPCR.
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【第一作者】Xiaolu Teng
【通讯作者】Fei Li
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【学科分类】植物保护学

【题目】Development of Gene-targeted SNP Markers for Genomic Mapping in Pacific Abalone Haliotis discus hannai Ino
【中文关键词】SNPs; 皱纹盘鲍; 直接测序法; AS-PCR
【英文关键词】SNPs; Pacific abalone; Haliotis discus hannai Ino; Direct sequencing; AS-PCR
【中文摘要】无
【英文摘要】Useful and novel DNA markers are needed for aquaculture genetics and breeding. In this study, we report the discovery and development of gene-targeted single nucleotide polymorphisms (SNPs) for genomic mapping in the Pacific abalone Haliotis discus hannai Ino. Single EST or EST-contigs from 66 genes that had positive BLASTx matches (E-value a parts per thousand currency sign 1e-8) were used for polymerase chain reaction (PCR) amplification. PCR products from the two parents of one mapping family were directly sequenced, and 83 SNP loci were found from 17 genes. Allele-specific PCR (AS-PCR) was developed and optimized for genotyping of 11 SNP loci in 120 progeny of the mapping family. Nine of the loci conformed to the expected Mendelian ratio of 1:1 based on the chi(2) test (P > 0.05) and could potentially be used for linkage map construction. Our data also indicate that the sequencing of two parents may be a practical strategy for the discovery of informative SNPs for linkage mapping in a particular mapping population.
【语种】英文
【第一作者】亓海刚
【通讯作者】张国范
【期刊名称、卷期、页码】MOLECULAR BIOLOGY REPORTS, 2010,卷: 37 期: 8 页: 3779-3784
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【学科分类】水产学基础学科

【题目】基于两个相关群体的玉米花期相关性状QTL定位
【中文关键词】玉米;花期相关性状;QTL定位
【英文关键词】maize; flowering-related traits; quantitative trait loci
【中文摘要】【目的】利用具有共同亲本黄早四的2个F2：3群体,定位控制玉米的抽雄期(DTT)、散粉期(DTP)、吐丝期(DTS)以及散粉-吐丝间隔期(ASI)的QTL,为玉米分子育种与相关基础研究提供参考和依据。【方法】以自交系齐319和掖478分别与黄早四杂交构建的230个和235个F2：3家系为定位群体(分别写作Q/H和Y/H),利用完备区间作图方法,对在不同生态环境下(2007-北京、2008-北京、2007-河南、2008-河南、2007-新疆以及2008-新疆)玉米花期相关性状进行QTL定位。同时利用基于混合线性模型的QTLNetwork-2.0软件进行基因×环境互作及上位性的分析。【结果】尽管4个花期相关性状的表现在2个群体中存在明显差异,但它们之间均呈现高度的相关性。在6个环境下对2个群体的4个性状进行了QTL检测,Q/H群体共定位到了85个QTLs,分布在玉米的10条连锁群上;Y/H群体共检测到了30个QTLs,呈现成簇分布。在Q/H群体中检测到2个重要的与多个性状相关且在不同环境条件下同时表达的QTL区域,分别位于第8染色体的umc1562—bnlg1651和第10染色体的phi062—umc1115区段;在Y/H群体中也检测到了1个与多性状相关且在多环境表达的QTL区域,位于第3染色体的nc030—umc2166区域。进一步分析发现,贡献率较大的QTL同时控制着多个性状。对比2个群体的定位结果,共检测到4个在不同遗传背景下的“一致性”QTLs。【结论】玉米花期相关性状的遗传机制较为复杂,而在不同环境及不同遗传背景下能够稳定存在的QTL可为这类性状的生产应用以及精细定位与图位克隆提供有价值的参考。
【英文摘要】【Objective】 Quantitative trait loci (QTL) for maize flower-related traits including days to tasseling (DTT), days to pollen-shedding (DTP), days to silking (DTS) and anthesis-silking interval (ASI) were mapped in two different F2:3 families with a shared male parent to provide reference for molecular breeding and related basic research in maize. 【Method】 230 and 235 F2:3

families derived from Qi 319×Huangzaosi population (Q/H) and Ye 478×Huangzaosi population (Y/H), respectively, under six different environments (2007-Beijing, 2008-Beijing, 2007-Henan, 2008-Henan, 2007-Xinjiang, and 2008-Xinjiang) were used to map QTL controlling four flower-related traits of maize by using the inclusive composite interval mapping method (ICIM). Meanwhile, QTL Network-2.0 was used to analyze epistasis among QTLs and QTL by environment interaction (QEI). 【Result】 Phenotypic analysis showed that DTT, DTP, DTS and ASI differed significantly in both Q/H and Y/H populations, while significant statistical correlations were observed between these flower-related traits in both populations. Under all of the six environments, 85 QTLs distributed on the 10 chromosomes were identified in Q/H, while 30 QTLs among which some were clustered were identified in Y/H for these four flower-related traits. Two and one important QTLs related to multiple traits were detected in each population, which were located on the interval of umc1562-bnlg1651 of Chrom. 8, phi062-umc1115 of Chrom. 10 and nc030-umc2166 of Chrom. 3, respectively. They could be expressed under different environments (may be called constitutive QTL). The results also indicated that those QTLs which could explain a relatively higher proportion of phenotypic variation seemed to control multiple target traits. Further, four QTLs were observed to be consistent between Q/H and Y/H. 【Conclusion】 Previous studies suggested that the genetic mechanisms of the flowering-related traits in maize are quite complicated. However, the results obtained here may give an important clue for precise mapping and positional cloning of QTL which could be stably expressed under different environments or genetic backgrounds.

【语种】中文
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【学科分类】农业基础学科

【题目】Development of 127 novel microsatellite markers for the Pacific abalone, Haliotis discus hannai
【中文关键词】无
【英文关键词】non
【中文摘要】无
【英文摘要】We developed and characterized 127 novel microsatellite markers for the Pacificabalone by constructing microsatellite-enriched libraries.
【语种】英文
【第一作者】张振
【通讯作者】刘晓
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【学科分类】水产学基础学科

【题目】基于元分析和生物信息学分析的玉米抗旱相关性状QTL一致性区间定位
【中文关键词】玉米; 抗旱性; “一致性”QTL; 元分析; 生物信息学方法
【英文关键词】Maize (Zea mays L.); Drought tolerance; Meta-QTL; Meta-analysis; Bioinformatics approach
【中文摘要】定位玉米基因组中一致的抗旱性区段是玉米抗旱分子育种的重要基础。本研究对至今发表的在干旱条件下定位的相关性状 QTL 信息搜集整理, 以 IBM2 2008 Neighbors 为参考图谱, 利用 overview 分析和元分析方法进行Meta-QTL (MQTL)检测, 共发掘 79 个 MQTL, 生物信息学分析结果显示, 有 43 个区间内包含抗旱相关基因信息, 占检出 MQTL 总数的 54.43%。基于 MaizeGDB 网站的 Genome Browser 中的遗传图谱与物理图谱的整合信息, 进行MQTL 物理距离的估算, 根据 maizesequence 网站的玉米基因组序列信息, 进行初步的抗旱基因预测表明, 这些区段中包含丰富的 MYB、bZIP 以及 DREB 转录因子序列信息以及大量的 LEA 基因家族成员。
【英文摘要】Mapping consensus genomic regions for drought-tolerance is of great importance in the molecular breeding of maize. The present research integrated informations of the published QTLs relevant to drought-tolerance mapped in the environment of water

stress. On the basis of the high-density linkage map of IBM2 2008 Neighbors, a total of 79 Meta-QTLs (MQTLs) were screened out through the methods of “ overview ” and meta-analysis, and the bioinformatic analysis indicated that 43 of these MQTLs (54.43%) contained the information of genes conferring drought tolerance. By integrating the genetic map and the physi-cal map of maize via Genome Brower in maize genome database (http://www.maizegdb.org/), we estimated the physical map distance of MQTLs and analyzed the function of these candidate drought tolerance-related genomic regions based on the maize genome sequence information from the maize sequence database (http://www.maizesequence.org/). The results showed that these regions contained abundant sequences of transcription factors of MYB, bZIP and DREB, and a number of functional genes of LEA family.

【语种】中文
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【学科分类】农业基础学科

【题目】Mitogenome of the small abalone Haliotis diversicolor Reeve and phylogenetic analysis within Gastropoda.
【中文关键词】杂色鲍 线粒体DNA 腹足纲 SNP
【英文关键词】Haliotis diversicolor; mtDNA; Haliotidae; Gastropoda; Ka/Ks; SNP
【中文摘要】无
【英文摘要】The complete mitochondrial coding regions of three small abalones Haliotis diversicolor Reeve, two collected from Vietnam and one from southern China, were successfully sequenced. The molecular feature of the mitochondrial genome is identical with the general description of the family Haliotidae mtDNAs that have been sequenced so far. The sequenced nucleotides are 16,186-16,266 bp in length. The mitogenome encodes 13 protein-coding genes, 2 ribosomal RNA genes, and 22 transfer RNA genes. Between adjacent genes trnH and nad5 there is an overlapping region. Comparison of the ratios of Ka and Ks among four species of Haliotis (H. diversicolor, H. discus hannai, H. rubra and H. tuberculate tuberculate) reveals that values of Ka/Ks in some NADH dehydrogenase and ATPase genes such as nad2, nad6 and atp8 are higher than those in other mitochondrial genes. Genome-wide gene arrangement among four species of Haliotis has been compared. Although all gene arrangement is the same in H. diversicolor, H. discus hannai and H. rubra, the location of trnS(2) and trnF in H. tuberculate tuberculate are inter-exchanged. Both gene arrangement and phylogenetic analysis support that the family Haliotidae is at a relatively primordial phylogenetic position in Gastropoda. Through alignment between Vietnam and southern China individuals, 111 SNPs are detected, most SNPs are synonymous mutations, and 7, 94 and 10 SNPs are observed at NCR, protein-coding region and RNA region, respectively. The result of SNP analysis also demonstrates that the difference is mainly in some NADH dehydrogenase genes between the Vietnam and southern China individuals. (C) 2011 Elsevier B.V. All rights reserved.
【语种】英文
【第一作者】辛一
【通讯作者】刘晓
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【题目】基于SSR标记的小麦骨干亲本育种重要性研究
【中文关键词】小麦;大面积推广品种;骨干亲本;基因型分析
【英文关键词】common wheat; major cultivar; founder; microsatellite genotyping
【中文摘要】【目的】通过对大面积推广小麦品种和育种骨干亲本的全基因组多位点扫描分析,探讨两者之间的遗传关系及骨干亲本在小麦育种中的作用。【方法】利用ABI3730对中国66份大面积推广的小麦品种和13份育种骨干亲本的481个SSR位点进行基因型扫描分析。【结果】以基因型数据为基础的主坐标及NJ聚类分析,发现中国大面积推广品种可聚成6个大组,每一组中至少有一个骨干亲本。系谱分析表明,每一组中大面积推广品种和骨干亲本之间均存在密切的血缘关系

,前者大多为骨干亲本的后裔;同一省份的品种多数聚在一起。来自同一组合的骨干亲本碧蚂4号含有的优势等位变异数多于大面积推广品种碧蚂1号,同样,郑引4号(St2422-464)多于郑引1号(St1472-506) ;新一代骨干亲本往往由上一代骨干亲本衍生而来;来源于同一组合的骨干亲本与大面积品种相比,前者与其组合中的骨干亲本间存在更大的遗传差异。 【结论】只有对资源的创新、引进和利用给予足够的重视,育种工作才能取得大的突破。

【英文摘要】【Objective】 The purpose of this study was to reveal genetic relationship between the large-scale cultivated wheat varieties and the founder genotypes (cornerstone breeding parents) and illuminate the role of the founder genotypes in breeding at genomic level. 【Method】 Sixty-six large-scale planted varieties and 13 founder genotypes were genotyped at 481 SSR loci by the ABI 3730. 【Result】 Analyses of principal coordinate (PCO) and neighbor-joining cluster based on the genotyping data showed that the 66 large-scale planted varieties were clustered into six major groups. In each group, there is at least one founder. Within each group, most of the large-scale planted varieties are the descendents of the founder. Varieties from the same province usually jointed into one group. Two founders, Bima 4 and St2422-464 convey more alleles favored in breeding than their sister lines, Bima 1 and St1472-506, respectively. Usually, the older cornerstone breeding parents are the founders for the new ones. Among sister lines, the new founder has more difference than large-scale cultivated varieties to their founder genotype. 【Conclusion】 Therefore, innovation and enhancement of germplasm is the base for breeding large-scale planted varieties. It should occupy proper portion in national breeding program.

【语种】中文

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【学科分类】农业基础学科

【题目】A multiplex allele-specific PCR method for the detection of carbendazim-resistant Sclerotinia sclerotiorum

【中文关键词】Benzimidazole fungicide
b-Tubulin gene
Point mutation
Sclerotinia stem rot

【英文关键词】Benzimidazole fungicide
b-Tubulin gene
Point mutation
Sclerotinia stem rot

【中文摘要】The benzimidazole fungicide carbendazim (CBD) has been used extensively in China for the control ofsclerotinia stem rot (SSR) of rapeseed caused by Sclerotinia sclerotiorum. In this study, 245 isolates of S.sclerotiorum were examined for their sensitivities to CBD, and two resistance levels were identified.Among 245 isolates, 78 isolates were highly resistant to CBD. These CBD highly resistant (CBD-HR) isolateswere more sensitive to the phenylcarbamate fungicide diethofencarb than CBD sensitive (CBD-S)isolates. One isolate was medium resistant to CBD, and insensitive to diethofencarb. Random amplifiedpolymorphic DNA (RAPD) analysis showed the CBD-HR isolates had different genetic backgrounds. Analysisof the DNA sequence of the b-tubulin gene showed that all CBD-HR isolates had a point mutation atthe codon 198, causing a substitution of glutamic acid to alanine. The CBD medium resistant (CBD-MR)isolate had a point mutation at the codon 200 causing a substitution of phenylalanine to tyrosine. Basedon these point mutations, a multiplex allele-specific PCR method was developed to detect two differentpoint mutations simultaneously in single PCR amplification.

【英文摘要】The benzimidazole fungicide carbendazim (CBD) has been used extensively in China for the control ofsclerotinia stem rot (SSR) of rapeseed caused by Sclerotinia sclerotiorum. In this study, 245 isolates of S.sclerotiorum were examined for their sensitivities to CBD, and two resistance levels were identified.Among 245 isolates, 78 isolates were highly resistant to CBD. These CBD highly resistant (CBD-HR) isolateswere more sensitive to the phenylcarbamate fungicide diethofencarb than CBD sensitive (CBD-S)isolates. One isolate was medium resistant to CBD, and insensitive to diethofencarb. Random amplifiedpolymorphic DNA (RAPD) analysis showed the CBD-HR isolates had different genetic backgrounds. Analysisof the DNA sequence of the b-tubulin gene showed that all CBD-HR isolates had a point mutation atthe codon 198, causing a substitution of glutamic acid to alanine. The CBD medium resistant (CBD-MR)isolate had a point mutation at the codon 200 causing a substitution of phenylalanine to tyrosine. Basedon these

point mutations, a multiplex allele-specific PCR method was developed to detect two differentpoint mutations simultaneously in single PCR amplification.
【语种】中文
【第一作者】Yanni Yin
【通讯作者】马忠华
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【学科分类】植物保护学

【题目】The mitogen-activated protein kinase kinase Bos5 is involved in regulating vegetative differentiation and virulence in Botrytis cinerea
【中文关键词】Botrytis cinerea
High-osmolarity glycerol (HOG) pathway
Vegetative differentiation
Virulence
【英文关键词】Botrytis cinerea
High-osmolarity glycerol (HOG) pathway
Vegetative differentiation
Virulence
【中文摘要】We present a characterization of bos5 from Botrytis cinerea, a gene that encodes a mitogen-activated proteinkinase kinase (MAPKK), which is homologous to OS-5 of Neurospora crassa. The bos5 gene deletionmutant exhibited reduced vegetative growth and strongly impaired conidiation. The mutant also exhibitedincreased sensitivity to the dicarboximide fungicide iprodione and to osmotic stress mediated byNaCl or KCl. Western-blot analysis showed that the BcSAK1 protein, the putative downstream componentof BOS5, was not phosphorylated in the mutant. Plant inoculation tests showed that the mutants wereunable to infect cucumber leaves. All of these defects were restored by genetic complementation ofthe Dbcos5-21 mutant with the wild-type bos5 gene. These results indicated that BOS5 is involved inthe regulation of vegetative differentiation, virulence, adaptation to iprodione and ionic stress in B.cinerea.
【英文摘要】We present a characterization of bos5 from Botrytis cinerea, a gene that encodes a mitogen-activated proteinkinase kinase (MAPKK), which is homologous to OS-5 of Neurospora crassa. The bos5 gene deletionmutant exhibited reduced vegetative growth and strongly impaired conidiation. The mutant also exhibitedincreased sensitivity to the dicarboximide fungicide iprodione and to osmotic stress mediated byNaCl or KCl. Western-blot analysis showed that the BcSAK1 protein, the putative downstream componentof BOS5, was not phosphorylated in the mutant. Plant inoculation tests showed that the mutants wereunable to infect cucumber leaves. All of these defects were restored by genetic complementation ofthe Dbcos5-21 mutant with the wild-type bos5 gene. These results indicated that BOS5 is involved inthe regulation of vegetative differentiation, virulence, adaptation to iprodione and ionic stress in B.cinerea.
【语种】英文
【第一作者】Leiyan Yan
【通讯作者】马忠华
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【学科分类】植物保护学

【题目】利用SSR标记研究不同来源的同名玉米骨干自交系的遗传同一性和遗传差异
【中文关键词】玉米; SSR 标记; 遗传同一性;遗传差异
【英文关键词】Zea mays ; SSR marker ; Genetic uniformity ; Genetic variation

【中文摘要】从分子水平上阐明不同单位保存的同一份种质资源的遗传同一性和遗传差异对种质资源的保存和利用有重要意义。本研究利用116对SSR引物对不同来源的5个玉米骨干自交系(黄早四、掖478、Mo17、丹340和自330,共39份材料)进行了鉴定,共检测到400个等位变异,每对引物可以检测到1~4个等位变异,平均为3.45个。5个自交系中每个自交系间检测的等位变异在156~228个,5个自交系同名材料之间遗传相似系数变化范围为0.7~0.9。聚类分析结果表明,在供试自交系中黄早四、掖478、Mo17等3个材料的同名自交系能很好地聚为一类,且遗传相似系数很高。丹340和自330的同名材料在聚类时个别材料互有交叉,在利用时需要注意。

【英文摘要】Understanding genetic uniformity and genetic variation of germplasm with same name but different origin at molecular level is important to conservation and utilization of germplasm resources. In the present study, totally 39 accessions of 5 maize inbred lines, . ie. Huangzaosi, Ye478, Mo17, Dan 340 and Zi330 from different institutes were characterized by 116 SSR markers. A total of 400 alleles were detected, with a range of 14 alleles per SSR loci with the average of 3.45. For these 5 inbreds, the range of numbers of alleles was 156-228 and the range of alleles per loci was 1.35-1.89. The range of genetic similarity within inbred lines of same name was 0.70.9. The results of cluster analysis indicated that Huangzaos, iYe 478 and Mo 17 from different origin could beclustered into respective groups due to higher similarity. However, Dan 340 and Zi 330 from different origins hadhigher genetic difference, implying thatmore attention should be paid when using these inbred lines.

【语种】中文

【第一作者】许　洛

【通讯作者】王天宇

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【学科分类】农业基础学科

【题目】玉米籽粒构型与产量性状的关系及QTL作图

【中文关键词】玉米;籽粒构型;产量;QTL

【英文关键词】maize; kernel structure; yield; QTL

【中文摘要】【目的】探讨玉米籽粒构型性状(粒长、粒宽、粒厚、粒形等)与产量性状间的相互关系,进行籽粒构型性状相关QTL的检测与定位。【方法】以自交系齐319和黄早四构建的226个F2:3家系为试验材料,利用相关分析、主成分分析、出籽率模拟运算及QTL定位等方法,对在不同生态环境下(北京春播和河南夏播)玉米籽粒构型与产量性状间相关性进行探讨,并初步分析籽粒构型性状遗传基础。【结果】单穗产量与绝大多数籽粒构型性状显著相关,特别是与粒长的相关系数最高。主成分分析结果表明,对单穗产量影响较大的性状有粒长、粒厚、穗长、出籽率和粒长/穗半径。出籽率是影响果穗同化产物分配状况的衡量指标,受到粒长、粒长/穗半径、穗长和粒宽的显著影响。模拟运算亦表明粒长/穗半径与出籽率具有十分紧密的关系。对在两个生态环境下籽粒构型性状和产量性状的相关QTL进行了检测,共检测到了36个QTL。进一步分析发现,在不同生态环境下的部分QTL定位在相同的染色体区域;同时,还有不同性状的QTL定位在相同或临近的染色体区域。【结论】玉米籽粒构型性状与产量性状具有较高的相关关系,籽粒构型QTL与产量相关QTL的重叠区域对剖析玉米产量形成遗传机制可能具有重要的研究价值。

【英文摘要】【Objective】 The correlation of traits of kernel structure with yield components was investigated and quantitative trait loci (QTL) for these traits were analyzed in this paper. 【Method】 Two hundred and twenty-six F2:3 lines from the cross of Qi 319×Huangzaosi in two different environments (spring-sown in Beijing and summer-sown in Henan) were used to conduct correlation analysis, principle component analysis, simulated calculation of rate of kernel production (RKP) and QTL mapping. 【Result】 Kernel yield per ear (KYE) showed significant correlation with most traits of kernel structure, especially with kernel depth (KD). Principle component analysis indicated that KD, kernel thickness (KT), ear length (EL), rate of kernel production (RKP) and KD/ear semidiameter (EsemiD) determined the performance of KYE. As the parameter reflecting the distribution of assimilation in ear, RKP was influenced by KD, KD/EsemiD, EL and Kernel Width (KW). Simulated calculation of RKP also showed that KD/EsemiD had a close relationship with RKP. A total of thirty-six QTLs for traits of kernel structure and yield components were detected. It was found that some QTLs detected in different environments were located in the same genetic regions. Several chromosomal regions with QTL cluster relevant to multiple traits were also detected. 【Conclusion】 Traits of kernel structure have high correlations with yield components. The detection of genetic regions with QTL cluster might be helpful to the understanding of genetic mechanism of maize yield.

【语种】中文

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【学科分类】农业基础学科

【题目】水稻叶片几何参数的模拟分析
【中文关键词】水稻;叶片;几何参数;生长模型;虚拟生长
【英文关键词】Rice;Leaf blade;Geometrical parameter;Growth model;Virtual growth
【中文摘要】摘要:【目的】在生长模型输出的基础上,构建预测水稻叶片几何参数的动态模型,以便更准确地实现水 稻的虚拟生长。【方法】在试验观测的基础上,分析 了不同品种类型水稻分蘖与主茎同伸叶片叶长之间以及叶长与叶宽之间的定量关系,进一步耦合水稻叶龄、叶面积和茎蘖数模拟模型,进行水稻叶片几何参数变化的动态模型构建。【结果】不同品种类型水稻分蘖与主茎同伸叶片的叶长比随分蘖叶序呈二次曲线变化,叶长与叶宽的关系可用幂指数函数描述。运用独立实测资料对模型进行的初步检验显示,本模型可较好地模拟不同生长条件下水稻不同叶位叶片的几何参数。【结论】本研究构建的水稻叶片几何参数分析模型较好地体现了器官几何参数受生态环境、品种类型和栽培措施影响的形态生理规律,为水稻虚拟生长提供 了可靠和普适的叶片几何特征确定方法。
【英文摘要】Abstract:[Objective]In order to realize more accurate virtual growth of rice,a dynamic model was developed to analyzegeometrical parameters of leaf blade based on outputs of rice growth mode1.[Method]Based on the expefimental observations,the relationships between the tiller leaf blade length and its synchronously emerging leaf blade length on main stem and between leaf blade length and its width were quantified.Then,coupled with simulation models of leaf age,leaf area and tiller number of fice,a general model for predicting geometrical parameters of rice leaf blade was developed.[Result]The ratio of tiller leaf blade length to its synchronously emerging leaf blade length on main stem changed with tiller leaf number in quadratic equation and the relationship between leaf blade length and its width could be expressed in power function,The validation of the model withindependent experimental data indicated that the model could simulate the geometrical characteristics of rice leaf blade under different growth conditions.[Conclusion]This study has provided a reliable and general method for modeling the geometricalparameters of rice leaf blade and reflected the morpho—physiological patterns of geometrical parameters of crop organs as affected by environmental conditions and variety types.
【语种】中文
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【通讯作者】朱 艳
【期刊名称、卷期、页码】中国农业科学,39(5):910-915
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【学科分类】农业基础学科

【题目】Identification of specific fragments of HpaGXooc, a harpin from Xanthomonas oryzae pv. oryzicola, that induce disease resistance and enhance growth in plants
【中文关键词】无
【英文关键词】hypersensitive response (HR), systemic acquired resistance (SAR).
【中文摘要】无
【英文摘要】Harpin proteins from gram-negative plant-pathogenic bacteria can stimulate hypersensitive cell death (HCD) and pathogen defense as well as enhance growth in plants. Two of these diverse activities clearly are beneficial and may depend on particular functional regions of the proteins. Identification of beneficial and deleterious regions might facilitate the beneficial use of harpin-related

proteins on crops without causing negative effects like cell death. Here, we report the identification and testing of nine functional fragments of HpaGXooc , a 137-amino-acid harpin protein from Xanthomonas oryzae pv. oryzicola , the pathogen that causes bacterial leaf streak of rice. Polymerase chain reaction-based mutagenesis generated nine proteinaceous fragments of HpaGXooc; these caused different responses following their application to Nicotiana tabacum (tobacco) and Oryza sativa (rice). Fragment HpaG62-137 , which spans the indicated amino acid residues of the HpaG, induced more intense HCD; in contrast, HpaG10-42 did not cause evident cell death in tobacco. However, both fragments stimulated stronger defense responses and enhanced more growth in rice than the full-length parent protein, HpaGXooc . Of the nine fragments, the parent protein and one deletion mutant of HpaGXooc tested, HpaG10-42 , stimulated higher levels of rice growth and resulted in greater levels of resistance to X. oryzae pv. oryzae and Magnaporthe grisea . These pathogens cause bacterial leaf blight and rice blast, respectively, the two most important diseases of rice world-wide. HpaG10-42 was more active than HpaGXooc in inducing expression of several genes that regulate rice defense and growth processes and activating certain signaling pathways, which may explain the greater beneficial effects observed from treatment with that fragment. Overall, our results suggest that HpaG10-42 holds promise for practical agricultural use to induce disease resistance and enhance growth of rice.

【语种】英文

【第一作者】陈蕾

【通讯作者】董汉松

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【学科分类】植物保护学

【题目】Thirty-seven transcription factor genes differentially respond to a harpin protein and affect resistance to the green peach aphid in Arabidopsis

【中文关键词】无

【英文关键词】Arabidopsis; defence; ethylene; green peach aphid; transcription factor

【中文摘要】无

【英文摘要】The harpin protein HrpNEa induces Arabidopsis resistance to the green peach aphid by activating the ethylene signalling pathway and by recruiting EIN2, an essential regulator of ethylene signalling, for a defence response in the plant. We investigated 37 ethylene-inducible Arabidopsis transcription factor genes for their effects on the activation of ethylene signalling and insect defence. Twenty-eight of the 37 genes responded to both ethylene and HrpNEa , and showed either increased or inhibited transcription, while 18 genes showed increased transcription not only by ethylene but also by HrpNEa . In response to HrpNEa , transcription levels of 22 genes increased, with AtMYB44 being the most inducible, six genes had decreased transcript levels, and nine remained unchanged. When Arabidopsis mutants previously generated by mutagenicity at the 37 genes were surveyed, 24 mutants were similar to the wild type plant while four mutants were more resistant and nine mutants were more susceptible than wild type to aphid infestation. Aphid-susceptible mutants showed a greater susceptibility for atmyb15 , atmyb38 and atmyb44 , which were generated previously by T-DNA insertion into the exon region of AtMYB15 and the promoter regions of AtMYB38 and AtMYB44 . The atmyb44 mutant was the most susceptible to aphid infestation and most compromised in induced resistance. Resistance accompanied the expression of PDF1.2 , an ethylene signalling marker gene that requires EIN2 for transcription in wild type but not in atmyb15 , atmyb38 , and atmyb44 , suggesting a disruption of ethylene signalling in the mutants. However, only atmyb44 incurred an abrogation in induced EIN2 expression, suggesting a close relationship between AtMYB44 and EIN2 .

【语种】英文

【第一作者】刘若雪

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【学科分类】植物保护学

【题目】Transcription factor AtMYB44 regulates induced expression of the ETHYLENE INSENSITIVE2 rene in Arabidopsis responding to a harpin protein
【中文关键词】无
【英文关键词】无
【中文摘要】无
【英文摘要】AtMYB44 is a transcription factor that functions in asso-ciation with the ethylene-signaling pathway in Arabidopsis thaliana . The pathway depends on ETHYLENE INSENSI-TIVE2 (EIN2), an essential component of ethylene signal-ing, to regulate defense responses in the plant following treatment with HrpNEa , a harpin protein from a bacterial plant pathogen. Here, we show that AtMYB44 regulates in-duced expression of the EIN2 gene in HrpNEa-treated Arabidopsis plants. A HrpNEa and ethylene – responsive fragment of the AtMYB44 promoter is sufficient to support coordinate expression of AtMYB44 and EIN2 in specific transgenic Arabidopsis . In the plant, the AtMYB44 protein localizes to nuclei and binds the EIN2 promoter; the HrpNEa treatment promotes AtMYB44 production, binding activity, and transcription of AtMYB44 and EIN2 . AtMYB44 overexpression results in increased production of the AtMYB44 protein and the occurrence of AtMYB44- EIN2 interaction under all genetic backgrounds of wild-type Arabidopsis and the etr1-1 , ein2-1 , ein3-1 , and ein5-1 mu-tants, which have defects in the ethylene receptor ETR1 and the signal regulators EIN2, EIN3, and EIN5. However, AtMYB44 overexpression leads to enhanced EIN2 expression only under backgrounds of wild type, ein3-1 , and ein5-1 but not etr1-1 and ein2-1 , suggesting that ethylene percep-tion is necessary to the regulation of EIN2 transcription by AtMYB44.
【语种】英文
【第一作者】刘若雪
【通讯作者】董汉松
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【学科分类】植物保护学

【题目】The antagonistic effect of hydroxyl radical on the development of a hypersensitive response in tobacco
【中文关键词】无
【英文关键词】elicitin;hydroxyl radicals;hypersensitive response;reactive oxygen species;riboflavin
【中文摘要】无
【英文摘要】Reactive oxygen species (ROS) are important signalling molecules in living cells. It is believed that ROS molecules are the main triggers of the hypersensitive response (HR) in plants. In the present study of the effect of riboflavin, which is excited to generate ROS in light, on the development of the HR induced by the elicitin protein ParA1 in tobacco (Nicotiana tabacum), we found that the extent of the ParA1-induced HR was diminished by hydroxyl radical (OH•), a type of ROS. As compared with the zones treated with ParA1 only, the HR symptom in the zones that were infiltrated with ParA1 plus riboflavin was significantly diminished when the treated plants were placed in the light. However, this did not occur when the plants were maintained in the dark. Trypan blue staining and the ion leakage measurements confirmed HR suppression in the light. Further experiments proved that HR suppression is attributed to the involvement of the photoexcited riboflavin, and that the suppression can be eliminated with the addition of hydrogen peroxide scavengers or OH• scavengers. Fenton reagent treatment and EPR measurements demonstrated that it is OH• rather than hydrogen peroxide that contributes to HR suppression. Accompanying the endogenous OH• formation, suppression of the ParA1-induced HR occurred in the tobacco leaves that had been treated with high-level abscisic acid, and that suppression was also removed by OH• scavengers. These results offer evidence that OH•, an understudied and little appreciated ROS, participates in and modulates biologically relevant signalling in plant cells.
【语种】英文
【第一作者】邓晟
【通讯作者】董汉松
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【学科分类】植物保护学

【题目】The induction of abscisic-acid-mediated drought tolerance is independent of ethylene signaling in Arabidopsis plants responding to a harpin protein
【中文关键词】无
【英文关键词】Abscisic acid Arabidopsis Drought tolerance Ethylene HrpN_(Ea) ABI2
【中文摘要】无
【英文摘要】Harpin proteins from plant pathogenic bacteria can activate distinct signaling pathways and cause multiple effects in plants. When Arabidopsis thaliana (Arabidopsis) plants are treated with the HrpN_(Ea) harpin produced by Erwinia amylovora, a bacterial pathogen that causes fire blight in rosaceous plants, abscisic acid (ABA) is stimulated to mediate drought tolerance, and ethylene signaling is activated to regulate plant growth enhancement and insect resistance. It is unclear if ABA and ethylene signaling interacts in response to harpin proteins. Here we report that ethylene signaling is dispensable to the induction of ABA-mediated drought tolerance in Arabidopsis. In wild-type (WT) plants growing under drought stress conditions, ABA, but not ethylene, was required for HrpN_(Ea) to promote cellular adaptive responses and decrease drought severity of plants. During the induction of drought tolerance in HrpN_(Ea)-treated WT plants, expression of the ABA signaling gene ABI2 was induced coincidently with decreases in transcripts of ETR1, which encodes an ethylene receptor, and several other genes that are also involved in ABA and ethylene signal transduction pathways. In response to HrpN_(Ea), the Arabidopsis etrl-1 mutant developed drought tolerancesimilarly as did WT, but the abi2-1 mutant did not, suggesting that sensing of ABA is essential, but sensing of ethylene is not. Consistently, the induction of drought tolerance was abolished by inhibiting WT to synthesize ABA, instead of ethylene. Ourresults suggest that HrpN_(Ea) treatment enables plants to prioritize the ABA signal transduction pathway over ethylene signaling in accordance with the real-time requirement to survive under drought stress conditions.
【语种】英文
【第一作者】张春玲
【通讯作者】董汉松
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【学科分类】植物保护学

【题目】A selected fragment of HpaGXooc, a harpin protein from Xanthomonas oryzae pv. oryzicola, affects disease reduction and grain yield of rice in extensive grower plantings
【中文关键词】无
【英文关键词】disease severity index, secure crop production.
【中文摘要】无
【英文摘要】Harpins of phytopathogenic bacteria stimulate defense and plant growth in many types of plants, conferring disease resistance and enhanced yield. In a previous study, we characterized nine fragments of the harpin protein HpaG Xooc from Xanthomonas oryzae pv. oryzicola for plant defense elicitation and plant growth stimulation activity relative to the intact protein. In plants grown under controlled conditions, the fragment HpaG10-42 was more active in both regards than HpaG Xooc . Here, we demonstrate that the activity of HpaG10-42 in rice under field conditions significantly exceeds that of HpaGXooc , stimulating resistance to three important diseases and increasing grain yield. We carried out tests in 672 experimental plots with nine cultivars of rice planted at three locations. Application protocols were optimized by testing variations in application rate, frequency, and timing with respect to rice growth stage. Of the concentrations (24, 24, 12, and 6 μg/ml), and number and timing of applications (at one to four different stages of growth) tested, HpaG10-42 at 6 μg/ml applied to plants once at nursery seedling stage and three times in the field was most effective. Bacterial blight, rice blast, and sheath blight were reduced 61.6 and 56.4, 93.6 and 76.0, and 93.2 and 55.0% in indica and japonica cultivars, respectively, relative to controls. Grain yields were 22 to 27% greater. These results are similar to results obtained with typical local management practices, including use of chemicals, to decrease disease severities and increase yield in rice. Our results demonstrate that the HpaG10-42 protein fragment can be used effectively to control diseases and increase yield of this staple food crop.
【语种】英文

【第一作者】陈蕾
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【学科分类】植物保护学

【题目】Development and Linkage Analysis of 104 New Microsatellite Markers for Bay Scallop (Argopecten irradians)
【中文关键词】海湾扇贝 微卫星 无效等位基因 基因分离 遗传连锁图谱
【英文关键词】Argopecten irradians; Bay scallop; Microsatellites; Null allele; Segregation; Linkage map
【中文摘要】无
【英文摘要】For genetic analysis and linkage mapping of bay scallop (Argopecten irradians), a set of 120 novel simple sequence repeat markers were developed from microsatellite-enriched libraries and expressed sequence tags. An inter-subspecies hybrid bay scallop family (CC5) of 46 progeny was analyzed as the reference population to confirm polymorphism and test the segregation patterns of these loci. A total of 104 microsatellite markers were polymorphic in the reference family, among which 36 in female, 28 in male, and 40 in both parents, respectively. Linkage analysis allowed mapping these markers to 15 linkage groups, which is close to the haploid chromosome number of bay scallop (n = 16). Analysis of the 40 markers segregating in both parents showed a higher recombination rate in the female parent, with the average of female-to-male recombination ratio of 1.09:1 between linked pairs of markers. When null alleles were considered, there were 17 loci showing segregation distortion at the 5% significance level using the chi-square test. The microsatellite markers developed in this study provide a useful resource for future linkage mapping and quantitative loci analysis in A. irradians.
【语种】英文
【第一作者】李宏俊
【通讯作者】刘晓
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【学科分类】水产学基础学科

【题目】A consensus microsatellite-based linkage map for the hermaphroditic bay scallop (Argopecten irradians) and its application in size-related QTL analysis
【中文关键词】无
【英文关键词】non
【中文摘要】无
【英文摘要】Bay scallop (Argopecten irradians) is one of the most economically important aquaculture species in China. In this study, we constructed a consensus microsatellite-based genetic linkage map with a mapping panel containing two hybrid backcross-like families involving two subspecies of bay scallop, A. i. irradians and A. i. concentricus. One hundred sixty-one microsatellite and one phenotypic (shell color) markers were mapped to 16 linkage groups (LGs), which corresponds to the haploid chromosome number of bay scallop. The sex-specific map was 779.2 cM and 781.6 cM long in female and male, respectively, whereas the sex-averaged map spanned 849.3 cM. The average resolution of integrated map was 5.9 cM/locus and the estimated coverage was 81.3%. The proportion of distorted markers occurred more in the hybrid parents, suggesting that the segregation distortion was possibly resulted from heterospecific interaction between genomes of two subspecies of bay scallop. The overall female-to-male recombination rate was 1.13∶1 across all linked markers in common to both parents, and considerable differences in recombination also existed among different parents in both families. Four size-related traits, including shell length (SL), shell height (SH), shell width (SW) and total weight (TW) were measured for quantitative trait loci (QTL) analysis. Three significant and six suggestive QTL were detected on five LGs. Among the three significant QTL, two (qSW-10 and qTW-10, controlling SW and TW, respectively) were mapped on the same region near marker AiAD121 on LG10 and explained 20.5% and 27.7% of the phenotypic variance, while the third (qSH-7, controlling SH) was located on LG7 and accounted for 15.8% of the phenotypic variance. Six suggestive QTL were detected on four different LGs.

The linkage map and size-related QTL obtained in this study may facilitate marker-assisted selection (MAS) in bay scallop.
【语种】英文
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【学科分类】水产学基础学科

【题目】基于形态模型的小麦器官和单株虚拟生长系统研究
【中文关键词】小麦; 形态模型; 虚拟; 可视化; 系统
【英文关键词】wheat; morphogenesis model; virtual; visualization; system
【中文摘要】为更加直观的展示小麦的整个生长过程, 同时为教学科研提供支持, 将系统分析方法和数学建模技术应用于小麦植株的形态建成, 通过对小麦形态数据的定量分析, 并结合前人的研究成果,构建了小麦形态建成模拟模型, 包括叶片形态建成子模型(包括叶长、叶形、叶面积、叶片空中伸展曲线、茎叶夹角、叶色和叶片衰亡)、茎形态建成子模型(包括茎长和茎粗)、叶鞘形态建成子模型(包括叶鞘长和叶鞘粗)和麦穗形态建成子模型(包括穗长和麦芒)等。并以此为基础, 结合已有小麦生长模拟模型WheatGrow,在Microsoft Visual C++ 平台上利用OpenGL构建了基于形态模型的小麦虚拟生长系统(WVGS),初步实现了小麦生长过程的可视化表达。建立的模型库主要包括形态模型、生长模型、可视化模型以及场景控制模型四部分。所建数据库主要存储气象数据、土壤数据和品种参数。系统运行结果表明该系统能较好地模拟小麦形态特征,能较逼真的实现小麦生长过程的虚拟显示。
【英文摘要】By applying the system analysis principle and mathematical modeling technique to the morphogenesis, the morphogenesis model for wheat was developed through the quantitative analyses of the experimental data and integrating the existing theory and knowledge. The whole morphogenesis model includes four submodels of leaf, stem, sheath and ear morphogenesis. The submodel of leaf morphogenesis can quantitatively describe the dynamics of leaf length, leaf shape, leaf area, leaf curve, leaf angle, leaf color and leaf senescence, and the stem morphogenesis submodel can simulate the dynamics of stem length and thickness. By integrating the existing wheat growth model WheatGrow, a morphogenesis model based wheat virtual growth system for organs and plant was developed with OpenGL on the platform of Microsoft Visual C++ 6.0. The system comprised of models, database and interface (or browser), in which the models included the morphogenesis model, growth model, visualization model and scene control model, and the database included the weather data, soil data and variety parameters. The operational results of the system show that the system can primarily realize the visual description of growth process of organs and single plant in wheat.
【语种】中文
【第一作者】陈国庆
【通讯作者】朱艳
【期刊名称、卷期、页码】农业工程学报. 2007, 23(3):126-130
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【引文索引号】20073252090
【学科分类】农业基础学科

【题目】Simultaneous detection of Fusarium asiaticum and Fusarium graminearum in wheat seeds using a real-time PCR method.
【中文关键词】无
【英文关键词】无
【中文摘要】To develop a PCR-based method for quantitative detection of Fusarium asiaticum (Fa) and Fusarium graminearum (Fg) in wheat seeds.Based on the sequences of the cyp51A gene, two primer pairs FaF + FaR and FgF + FgR were developed for the species-specific detection of Fa and Fg, respectively. To simultaneously detect these two phylogenetic species, a pair of primers FgaF + FgaR was developed based on the first and the second introns of beta-tubulin gene. This primer pair amplified a 228-bp fragment only from Fa and Fg isolates, but not from 22 other Fusarium spp. and 13 other fungal species. A real-time PCR with this primer pair was able to quantify minute amounts of Fa and Fg DNA in wheat seeds rapidly.PCR primers designed based on the sequence of cyp51A or intron region of beta-tubulin gene could allow differentiation of genetically related fungal species.The sensitive and quantitative

detection method can be readily used in epidemiological studies and in assessing risk of Fusarium mycotoxin contamination in wheat samples.

【英文摘要】To develop a PCR-based method for quantitative detection of Fusarium asiaticum (Fa) and Fusarium graminearum (Fg) in wheat seeds.Based on the sequences of the cyp51A gene, two primer pairs FaF + FaR and FgF + FgR were developed for the species-specific detection of Fa and Fg, respectively. To simultaneously detect these two phylogenetic species, a pair of primers FgaF + FgaR was developed based on the first and the second introns of beta-tubulin gene. This primer pair amplified a 228-bp fragment only from Fa and Fg isolates, but not from 22 other Fusarium spp. and 13 other fungal species. A real-time PCR with this primer pair was able to quantify minute amounts of Fa and Fg DNA in wheat seeds rapidly.PCR primers designed based on the sequence of cyp51A or intron region of beta-tubulin gene could allow differentiation of genetically related fungal species.The sensitive and quantitative detection method can be readily used in epidemiological studies and in assessing risk of Fusarium mycotoxin contamination in wheat samples.

【语种】英文

【第一作者】尹燕妮

【通讯作者】马忠华

【期刊名称、卷期、页码】Letters in Applied Microbiology,2009,48:680-686

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【引文索引号】SCI

【学科分类】植物保护学

【题目】短季棉杂交种中棉所68 选育及栽培技术

【中文关键词】短季棉杂交种中棉所68 选育及栽培技术

【英文关键词】短季棉杂交种中棉所68 选育及栽培技术

【中文摘要】短季棉杂交种中棉所68 选育及栽培技术

【英文摘要】短季棉杂交种中棉所68 选育及栽培技术

【语种】中文

【第一作者】喻树迅

【通讯作者】喻树迅

【期刊名称、卷期、页码】中国棉花,2008 , 35 (11):20-23

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【引文索引号】null

【学科分类】农学其他学科

【题目】Transfer of the beta-tubulin gene of Botrytis cinerea with resistance to carbendazim into Fusarium graminearum

【中文关键词】fungicide resistance; carbendazim; Fusarium graminearum; Fusarium head blight; Triticum aestivum; Gibberella zeae

【英文关键词】fungicide resistance; carbendazim; Fusarium graminearum; Fusarium head blight; Triticum aestivum; Gibberella zeae

【中文摘要】BACKGROUND: Resistance to carbendazim and other benzimidazole fungicides in Botrytis cinerea (Pers. ex Fr.) and most otherfungi is usually conferred by mutation(s) in a single chromosomal β-tubulin gene, often with several allelic mutations. InFusarium graminearum Schwade, however, carbendazim resistance is not associated with a mutation in the corresponding β-tubulin gene.RESULTS: The β-tubulin gene conferring carbendazim resistance in B. cinerea was cloned and connected with two homologousarms of the β-tubulin gene of F. graminearum by using a double-joint polymerase chain reaction (PCR). This fragment wastransferred into F. graminearum via homologous double crossover at the site where the β-tubulin gene of F. graminearum isnormally located (the β-tubulin gene of F. graminearum had been deleted). The transformants were confirmed and tested fortheir sensitivity to carbendazim.CONCLUSION: The β-tubulin gene conferring carbendazim resistance in B. cinerea could not express this resistance in F.graminearum, as transformants were still very sensitive to carbendazim.

【英文摘要】BACKGROUND: Resistance to carbendazim and other benzimidazole fungicides in Botrytis cinerea (Pers. ex Fr.) and most otherfungi is usually conferred by mutation(s) in a single chromosomal β-tubulin gene, often with several allelic mutations. InFusarium graminearum Schwade, however, carbendazim resistance is not associated with a mutation in the corresponding β-tubulin gene.RESULTS: The β-tubulin gene conferring carbendazim resistance in B. cinerea was cloned and connected with two

homologousarms of the β-tubulin gene of F. graminearum by using a double-joint polymerase chain reaction (PCR). This fragment wastransferred into F. graminearum via homologous double crossover at the site where the β-tubulin gene of F. graminearum isnormally located (the β-tubulin gene of F. graminearum had been deleted). The transformants were confirmed and tested fortheir sensitivity to carbendazim.CONCLUSION: The β-tubulin gene conferring carbendazim resistance in B. cinerea could not express this resistance in F.graminearum, as transformants were still very sensitive to carbendazim.
【语种】英文
【第一作者】liu shengming
【通讯作者】周明国
【期刊名称、卷期、页码】PEST MANAGEMENT SCIENCE,2010,66 (5):482-489
【论文发表时间】2010-11-01 00:00:00
【引文索引类型】SCI
【引文索引号】sci
【学科分类】植物保护学

【题目】Genetic parameter estimates for growth traits at early stage of Pacific abalone Haliotis discus hannai Ino
【中文关键词】皱纹盘鲍; 生长特征; 遗传力; 遗传相关
【英文关键词】Haliotis discus hannai Ino; growth traits; heritability; genetic correlations
【中文摘要】无
【英文摘要】Heritability and genetic and phenotypic correlations were estimated for juvenile growth traits of Pacific abalone Haliotis discus hannai Ino. The estimates were calculated from shell length and shell width measurements on progeny resulting from 12 half-sib families and 36 full-sib families obtained using artificial fertilization of mating three females to each male. The measurements were taken at 10, 20 and 30 d after fertilization. It was found that heritability estimates based on sire component ranged from 0.23 to 0.36 for shell length and 0.21 to 0.32 for shell width. Heritability estimates from dam component were larger than those from sire component at three ages, indicating presence of maternal effects, non-additive genetic effects and common environmental effects. Phenotypic correlations were significant at three ages ($P < 0.05$), with values of 0.92, 0.93 and 0.92, respectively. Genetic correlations from the paternal half-sib correlation analysis were highly positive at three ages, with values of 0.50, 0.78 and 0.81, respectively. The results suggest that selective breeding is an effective approach to improving growth traits of Pacific abalone stocks.
【语种】英文
【第一作者】邓岳文
【通讯作者】张国范
【期刊名称、卷期、页码】ACTA OCEANOLOGICA SINICA 卷: 26 期: 5 页: 90-95
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【引文索引类型】其他
【引文索引号】无
【学科分类】水产学基础学科

【题目】Effects of fungicides JS399-19, azoxystrobin, tebuconazloe, and carbendazim on the physiological and biochemical indices and grain yield of winter wheat.
【中文关键词】无
【英文关键词】Agrochemicals
Leaf senescence
Oxidative status
【中文摘要】无
【英文摘要】The impact of four modern fungicides JS399-19 (2-cyano-3-amino-3-phenylancryic acetate) (novel fungicide),azoxystrobin (a strobilurin), tebuconazole (a triazole) and carbendazim (a benzimidazole),applied as foliar spray at the recommended field rate, on the physiology and biochemistry of the senescenceprocess and grain yield was studied in winter wheat (Triticum aestivum L. cv. ‘Nannong No. 9918’)under natural environmental conditions. Fungicide treatments to wheat plants at growth stage [ZGS] 57(3/4 of head emerged) significantly increased the chlorophyll (CHL) and soluble protein (SP) content anddecreased the malondialdehyde (MDA) content and electrolyte leakage. Additionally, activities of theantioxidative enzymes superoxide dismutase (SOD), catalase (CAT) and peroxidase (POD) in flag leavesof the fungicide-treated plants were also higher than

that in untreated plants. These coincided with elevatedlevels of H2O2 and reduced level of O 2 in the fungicide-treated plants. The results suggested thatthe fungicide-induced delay of senescence was due to an enhanced antioxidant enzyme activity protectingthe plants from harmful active oxygen species (AOS). Because all fungicides can induce the delay ofwheat senescence, fungicide-treated wheat shown higher grain yield than untreated wheat. Of all testedfungicides, JS399-19, azoxystrobin and tebuconazole showed similar effects on delaying senescence ofwheat and enhancing the grain yield of wheat, but JS399-19 was more efficient in general.
【语种】英文
【第一作者】Yan-Jun Zhang
【通讯作者】周明国
【期刊名称、卷期、页码】Pesticide Biochemistry and Physiology 98 (2010) 151 – 157
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【引文索引类型】SCI
【引文索引号】sci
【学科分类】植物保护学

【题目】棉花MADS-box 蛋白基因(GhMADS-13)的克隆和表达分析
【中文关键词】棉花MADS-box 蛋白基因(GhMADS-13)的克隆和表达分析
【英文关键词】棉花MADS-box 蛋白基因(GhMADS-13)的克隆和表达分析
【中文摘要】棉花MADS-box 蛋白基因(GhMADS-13)的克隆和表达分析
【英文摘要】棉花MADS-box 蛋白基因(GhMADS-13)的克隆和表达分析
【语种】中文
【第一作者】吴东
【通讯作者】吴东
【期刊名称、卷期、页码】基因组学与应用生物学,2009, 28(2), 223-228
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【引文索引号】null
【学科分类】农学其他学科

【题目】Experimental evaluation of heterobeltiosis and heterosis between two populations of Pacific abalone Haliotis discus hannai
【中文关键词】皱纹盘鲍; 群体交配; 杂种优势
【英文关键词】Haliotis discus hannai Ino; population mating; heterobeltiosis; heterosis
【中文摘要】无
【英文摘要】A2 x 2 factorial cross between two populations of Pacific abalone Haliotis discus hannai Ino, collected separately from Dalian (D) in China and Miyagi (M) in Japan, was conducted to compare performances in fertilization rate, hatching rate, metamorphosis rate and growth at days 20, 43, 160 and 330 between purebreds (DD and MM) and crossbreds (DM and MD) and investigate the magnitude of heterobeltiosis (better parent) and heterosis (mid-parent). Heterobeltiosis and heterosis for all the traits analyzed were evidently different between crossbreds DM and MD. Heterobeltiosis in the crossbred DM varied among traits, with values of 2.5% for the fertilization rate, 2.2% for the hatching rate, -1.9% for the metamorphosis rate and 7.4% for the growth at the (lay 330. The crossbred DM displayed positive heterotic values for fertilization rate (5.4%), hatching rate (7.4%), metamorphosis rate (7.6%) and growth (12.0%) at the day 330. However, both heterobeltiosis and heterosis for all the traits in the crossbred MD were negative except those for the growth at days 20 and 43. The results indicate the importance of selecting superior hybrid varieties if the exploitation of hybrid vigor is considered in the Pacific abalone breeding program.
【语种】英文
【第一作者】邓岳文
【通讯作者】刘晓
【期刊名称、卷期、页码】ACTA OCEANOLOGICA SINICA 卷: 27 期: 4 页: 112-119
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【引文索引号】无

【学科分类】水产学基础学科

【题目】A single amino acid substitution in the SdhB protein of succinate dehydrogenase determines resistance to amicarthiazol in Xanthomonas oryzae pv. oryzae
【中文关键词】无
【英文关键词】Xanthomonas oryzae pv. oryzae; amicarthiazol resistance; succinate dehydrogenase; sdhB; carboxamide fungicides
【中文摘要】无
【英文摘要】BACKGROUND: Xanthomonas oryzae pv. Oryzae Ishiyama, a causal agent of rice bacterial leaf blight, was found to be sensitivein vitro to the systemic fungicide amicarthiazol (2-amino-4-methylthiazole -5-carboxanilide), which is a potent inhibitor ofsuccinate dehydrogenase (SDH, EC 1.3.99.1). This paper aimed to determine the molecular resistance mechanism of X. oryzaepv. oryzae to amicarthiazol.RESULTS: UV-induced resistantmutants of X. oryzae pv. oryzae to amicarthiazol were isolated. The activity of SDH in wild-typeX. oryzae pv. oryzaewas strongly inhibited by amicarthiazol,while that in resistantmutantswas insensitive, although their SDHactivity was decreased compared with the wild-type sensitive strain without amicarthiazol. A mutation of Histidine229 (CAC) toTyrosine229 (TAC) was identified in sdhB, which encoded the iron – sulfur protein subunit of SDH. The sdhB from themutantwasligated into a cosmid, pUFR034, to generate pUFR034RAX, which conferred resistance to amicarthiazol when transformed intothe wild-type sensitive strain.CONCLUSION: A mutation of His229 (CAC) to Tyr229 (TAC) in SdhB was responsible for determining amicarthiazol resistance. c 2010 Society of Chemical Industry
【语种】英文
【第一作者】张宇君
【通讯作者】周明国
【期刊名称、卷期、页码】Pest Manag Sci 2010; 66: 627 – 633
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【引文索引类型】SCI
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【学科分类】植物保护学

【题目】中棉所36 均一化全长cDNA 文库的构建与鉴定
【中文关键词】中棉所36 均一化全长cDNA 文库的构建与鉴定
【英文关键词】中棉所36 均一化全长cDNA 文库的构建与鉴定
【中文摘要】中棉所36 均一化全长cDNA 文库的构建与鉴定
【英文摘要】中棉所36 均一化全长cDNA 文库的构建与鉴定
【语种】中文
【第一作者】吴东
【通讯作者】吴东
【期刊名称、卷期、页码】作物学报,2009, 35(4): 602 − 607
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【引文索引号】null
【学科分类】农学其他学科

【题目】Biological Mode of Action of Dimethomorph on Pseudoperonospora cubensis and Its Systemic Activity in Cucumber
【中文关键词】无
【英文关键词】biological activity, dimethomorph, Pseudoperonospora cubensis, systemic activity
【中文摘要】无
【英文摘要】Dimethomorph is a fungicide with high activity against Peronosporomycetes plant pathogens. The present study showedthat dimethomorph is effective on controlling the oomycete fungal pathogen Pseudoperonospora cubensis causingdowny mildew on cucumber. The fungicide did not affect zoospores discharge from sporangia of P. cubensis, but itstrongly inhibited mycelial growth and sporangial production in vitro and increased lysis of zoospores. Dose of 2 mg L-1 ofdimethomorph was sufficient to inhibit mycelial growth and sporangial production of P. cubensis on leaf disks, 5 mg L-1 wasenough to lyse zoospores of P. cubensis, and 25 mg L-1 was required to inhibit sporangial production on detached leaves.In whole plant tests, dimethomorph exhibited strong

protective and curative activity. Dimethomorph when applied at adose of 300 mg L-1 for 1, 3, 5, 7 days before inoculation exhibited 100% efficacy on disease control. On the other hand,efficacies of 67.1 and 31.5% were obtained when the same dose of dimethomorph was applied for 1 and 3 days afterinoculation, respectively. So dimethomorph had persistence effect on leaves for 7 days at least and exhibited strongprotective and curative activity. Bioassay analyses showed that dimethomorph could be translocated in the xylemsystem, redistributed in the leaf, and penetrated from the upper surface to the lower surface of the leaf but could not betranslocated in phloem system or transferred from the roots to leaves of cucumber plants in sufficient amounts for diseasecontrol. The biocharacteristics of dimethomorph make it well suitable for integration of a control programme againstdowny mildew disease on cucumber and as a component to delay other peronosporomycetes fungicide-resistancedevelopment.

【语种】英文
【第一作者】wanghancheng
【通讯作者】周明国
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【引文索引号】sci
【学科分类】植物保护学

【题目】冬小麦麦穗生长过程的模拟研究
【中文关键词】小麦; 穗长; 穗宽; 穗厚; 穗形; 模拟模型
【英文关键词】Wheat; Spike length; Spike width; Spike thickness; Spike shape; Simulation model
【中文摘要】为了实现小麦麦穗生长过程的可视化表达, 以不同氮肥处理条件下不同类型小麦品种的两年田间试验为基础, 通过连续观测并记载不同处理条件下的小麦主茎和分蘖麦穗形态指标(包括穗长、穗宽和穗厚),综合分析了小麦麦穗形态指标随生育进程和环境条件的变化规律, 并利用系统分析方法和动态建模技术, 构建了冬小麦麦穗生长过程的动态模拟模型。结果表明, 麦穗的伸长过程符合 S 型曲线, 而不同蘖位麦穗的最终长度符合二次曲线, 且在不同氮肥处理之间均差异明显; 采用 Logistic 方程描述了麦穗长度的动态变化过程, 用二次曲线和线性方程定量描述了穗形的动态变化过程, 同时采用旗叶的SPA D值量化了氮素对麦穗生长特征的影响; 并利用不同小麦品种的田间试验资料对所建模型进行了测试和检验。结果显示, 不同时期麦穗穗长、穗宽和穗厚预测值的平均RMSE分别为0.28、0.05和0.04 cm。表明模型具有较强的动态预测性和可靠性,从而为进一步建立虚拟小麦生长系统奠定了基础。
【英文摘要】Modeling spike growth dynamics in wheat is of significant importance for realizing virtual and digital wheat plant growth. Based on time-course observations on spike morphological properties (spike length, spike width and spike thickness) on main stems and tillers under different nitrogen rates and winter wheat cultivars in two growing seasons, the change patterns of spike morphology with growth progress and environmental factors were characterized and a dynamic model was developed to simulate time-course growth characters of spike on wheat plant. The results showed that the final spike length at different tiller positions accorded with quadratic equation, which showed marked differences under different nitrogen rates. The growth dynamics of spike length could be described with a logistic model (sigmoid curve), and the growth dynamics of spike shape described with quadratic equation and linear equation. The effect of nitrogen status on spike growth was quantified by the value of leaf SPAD. The model was validated with the field experiment data of different winter wheat cultivars. The average RMSEs of time-course spike length, width and thickness were 0.28, 0.05 and 0.04cm, respectively. The results indicated that the present model had a good performance in predicting spike morphological growth on wheat plant, and thus lay a foundation for further constructing virtual wheat plant.
【语种】中文
【第一作者】谭子辉
【通讯作者】朱艳
【期刊名称、卷期、页码】麦类作物学报. 2006, 26(4):93-97
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【引文索引号】null
【学科分类】农业基础学科

【题目】Heterosis and combining ability in a diallel cross of three geographically isolated populations of Pacifc abalone Haliotis discus hannai Ino

【中文关键词】皱纹盘鲍 杂种优势 配合力
【英文关键词】Haliotis discus hannai; Inoheterosis; combining ability
【中文摘要】无
【英文摘要】We conducted a complete diallel cross among three geographically isolated populations of Pacific abalone Haliotis discus hannai Ino to determine the heterosis and the combining ability of growth traits at the spat stage. The three populations were collected from Qingdao (Q) and Dalian (D) in China, and Miyagi (M) in Japan. We measured the shell length, shell width, and total weight. The magnitude of the general combining ability (GCA) variance was more pronounced than the specific combining ability (SCA) variance, which is evidenced by both the ratio of the genetic component in total variation and the GCA/SCA values. The component variances of GCA and SCA were significant for all three traits ($P<0.05$), indicating the importance of additive and non-additive genetic effects in determining the expression of these traits. The reciprocal maternal effects (RE) were also significant for these traits ($P<0.05$). Our results suggest that population D was the best general combiner in breeding programs to improve growth traits. The DM cross had the highest heterosis values for all three traits.
【语种】英文
【第一作者】邓岳文
【通讯作者】张国范
【期刊名称、卷期、页码】Chinese Journal of Oceanology and Limnology 卷: 28, 期: 6, 页: 1195-1199
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【学科分类】水产学基础学科

【题目】一株高效降解胆固醇乳酸菌的筛选鉴定及其益生潜能初探
【中文关键词】筛选;鉴定;发酵乳杆菌DF-4;降胆固醇;益生菌
【英文关键词】screening;identification; Lactobacillus fermentum DF-4; cholesterol-reducing effect; probiotics
【中文摘要】从新鲜牛粪中分离出的5株乳酸菌中筛选得到一株具有高效降胆固醇能力的乳酸菌,其体外胆固醇脱除率达到50.83%。经API50CHL系统及16SrDNA基因序列比对鉴定为发酵乳杆菌Lactobacillus fermentum,命名为发酵乳杆菌DF-4。模拟胃液中的低pH值和小肠中的胆汁盐浓度进行了耐受性实验,结果表明该菌株具有较强的耐酸和耐胆盐的性能,对致病大肠杆菌和金黄色葡萄球菌均有显著抑制作用,是一株具有开发前景的高效降胆固醇的益生菌。
【英文摘要】A probiotic strain with an excellent cholesterol-reducing ability of 50.83 % was screened from 5 strains of lactic acid bacteria, which were isolated from fresh cattle feces. This strain was identified as Lactobacillus fermentum with API identification system and 16srRNA sequence alignment and was nominated as Lactobacillus fermentum DF-4. It exhibited a strong tolerance to 0.3% bile salt and low pH and an antagonistic effect against both enteropathogenic E.coli and S.aureas when incubated in the simulated gastroenteric environment. These results indicate that Lactobacillus fermentum DF-4 is a potential probiotics with an excellent cholesterol-reducing effect.
【语种】中文
【第一作者】曾小群
【通讯作者】潘道东
【期刊名称、卷期、页码】食品科学 2009,30(21):241
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【学科分类】食品科学技术基础学科

【题目】Activity of Azoxystrobin and SHAM to Four Phytopathogens
【中文关键词】无
【英文关键词】azoxstrobin;
salicylhydroxamic acid (SHAM);
plant pathogens;
spore germination;
mycelial growth;

oxygen consumption rate
【中文摘要】无
【英文摘要】The study was conducted to make clear the activity of azoxystrobin to 4 plant pathogens and the synergistic effects of salicylhydroxamic acid (SHAM), which acted on the alternative oxidase. It was also conducted to be aware of the mechanism of azoxystrobin in inhibition on mycelial respiration and the influence of SHAM. The activity test of azoxystrobin and SHAM was carried out with a mycelial linear growth test and spore germination test. Other related biological properties were also observed. Inhibition of azoxystrobin and SHAM on 4 pathogens was determined by using SP-II oxygraph system. Azoxystrobin inhibited mycelial growth in Colletotrichum capsici, Botrytis cinerea, Rhizoctonia solani, and Magnaporthe grisea, respectively; it also inhibited conidia germination, and conidia production in C. capsici, B. cinerea M. grisea, and sclerotia formation in R. solani. Moreover, it created stayed pigment biosynthesis in C. capsici and M. grisea somehow. Salicylhydroxamic acid enhanced inhibition by azoxystrobin. An oxygen consuming test of the mycelia showed that azoxystrobin inhibited all the 4 fungi's respiration in the early stages. With the concentration rising up, the effectiveness increased. However, as time went on, the respiration of the mycelia treated with fungicides recovered and SHAM could not inhibit the oxygen consuming. This reaction between the mycelia and the fungicides appeared not to initiate alternative respiration but rather the other mechanism created a lack of efficacy.
【语种】英文
【第一作者】金丽华
【通讯作者】周明国
【期刊名称、卷期、页码】Agricultural Sciences in China 2009, 8(7): 835-842
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【学科分类】植物保护学

【题目】一株酸马奶乳酸菌分子生物学鉴定及降胆固醇试验研究
【中文关键词】乳酸菌; 胆固醇降解; 16S r DNA序列; 系统发育
【英文关键词】lactic acid bacteria; cholesterol degradation; 16S rDNA sequence; phylogenetic analysis
【中文摘要】从新疆伊犁农牧民传统发酵的酸马奶中分离筛选到呈革兰氏染色阳性,杆状,编号为H-1的菌株。通过对此菌株进行形态观察和普通生理分析,并测定该菌株降解胆固醇的活力,通过16S r DNA序列分析表明,分离菌株H-1与Lactobacillus casei具有100%相似性,说明此菌株即为干酪乳杆菌。使用ClustalX1.8程序和Mega2程序将该菌株与报道的相关乳酸菌进行系统发育分析,揭示了16S r DNA序列分析在菌株鉴定的正确性。
【英文摘要】Bacterial strain baculiform H - 1 Cram- positive was isolated from traditional fermenting koumiss in Ili, Xinjiang. The activity of bacterial strain cholesterol degradation was determined. The analysis on 165 rDNA sequence indicated that the isolated bacteria strain H - 1 was similar to Lactobacillus casei by 100%.The phylogness analysis on the bacteria strain and the reported related lactic acid bacteria, which revealed that the identification of sequence analysis on 165 rDNA was correct.
【语种】中文
【第一作者】陈阳
【通讯作者】姚新奎
【期刊名称、卷期、页码】新疆农业科学 2009,46(5):1121
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【学科分类】食品科学技术基础学科

【题目】水稻叶色变化动态的模拟模型研究
【中文关键词】水稻; 叶色; 变化动态; 模拟模型
【英文关键词】Rice; Leaf color; dynamic Change; Simulation model
【中文摘要】定量描述叶片颜色变化的动态过程是植物生长数字化和可视化的重要内容。本研究通过对不同水稻品种和不同水氮处理条件下主茎和分蘖不同叶位叶色变化过程的连续观测和定量分析, 构建了水稻叶片颜色随生长度日变化的动态模拟模型。水稻叶片颜色变化的基本过程可以用3 个阶段的 SPAD 值分别表达, 第一阶段为基于幂函数的伸长期,叶色逐渐增强, 第二阶段为相对稳定的功能期, 叶色基本不变, 第三阶段为基于二次曲线的衰老期, 叶色逐渐减弱; 并基于二次曲

线方程分别描述了叶片含氮量和含水量对叶色变化过程的调控效应。在此基础上, 进一步建立了叶片SPAD 值与叶色组分(RGB)值的关系模型。利用独立的水稻田间试验资料对所建模型进行了测试和检验, 显示主茎不同叶位叶色变化 3个阶段模拟值的均方根差分别为 2.58、3.69 和 3.82, 4个分蘖不同叶位叶色变化模拟值的均方根差分别为4.65、4.39、3.51和 4.25; SPAD值与叶色组分间模拟值的均方根差分别为 2.98和 3.25。表明本模型可较好地模拟不同生长条件下水稻不同茎蘖上不同叶位叶色的动态变化过程, 从而为实现水稻生长系统的数字化模拟和可视化显示奠定了基础。

【英文摘要】With the development of digital agriculture, the visualization expression of plant growth process is very important. Quantifying the dynamic process of leaf color is the basic part of plant growth visualization. At present, the study on plant leaf color visualization at home and abroad is emphasized on reversing and rebuilding crop virtual growth with the figure identifying technique in computer, however, simulation model and visualization technique based on leaf color dynamic process have not been established successfully.Modeling leaf color dynamics in rice is an important task for realizing virtual and digital plant growth. Based on time-course observations on leaf color changes at different leaf positions of stem and tillers under different nitrogen rates and water conditions with four rice cultivars, we developed a simulation model on leaf color dynamic changes in rice in relation to GDD. Leaf color changes in the model were described with SPAD in three phases. The first phase during leaf growth period was based on the exponential relationship of leaf color to cumulative GDD; the second phase during leaf function period was represented with a relative stable SPAD; the third phase during leaf senescence period was described in a quadratic equation between SPAD and GDD. In addition, the effects of nitrogen and water conditions on leaf color were quantified through the effectiveness values of leaf nitrogen concentration and water content in relation to SPAD. Then, the RGB values were further predicted from the changing SPAD. The model was validated with the independent field experiment data involving different rice cultivars and nitrogen rates. The average RMSEs between the simulated and observed SPAD dynamics at different leaf positions were 2.58, 3.69, and 3.82, respectively, for three leaf color phases on main stem, 4.65, 4.39, 3.51, and 4.25, respectively, for four individual tillers in rice, and 2.98, 3.25, respectively, for SPAD and R, G values. The results indicate that the present model has a good performance in predicting leaf color changes at different leaf positions in rice under different growth conditions, and thus lays a foundation for further constructing digital and visual rice growth system.

【语种】中文
【第一作者】常丽英
【通讯作者】曹卫星
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【引文索引号】null
【学科分类】农业基础学科

【题目】Development of gene-associated intronic TR markers for the Pacific abalone Haliotis discus hannai
【中文关键词】无
【英文关键词】non
【中文摘要】无
【英文摘要】The Pacific abalone, Haliotis discus hannai, isone of the most important shellfish cultured in China. Thelarge-scale hatchery production of this marine mollusc calls forthe development and implementation of sound genetic managementpractices and selective breeding programmes. Geneticmarkers such as RAPD, AFLP and microsatellites have beendeveloped and used in H. discus hannai. Useful and novel DNAmarkers, especially type I markers1 associated with genes ofinterest, are particularly useful for association studiesto elucidate possible gene function. We developed intronictandem repeat (TR) markers associated with genes of knownfunction using exon-primed intron-crossing polymerase chainreaction (EPIC-PCR)2 sequencing.

【语种】英文
【第一作者】亓海刚
【通讯作者】张国范
【期刊名称、卷期、页码】ANIMAL GENETICS 卷: 40 期: 4 页: 575-575
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【学科分类】水产学基础学科

【题目】云南传统乳产品中乳酸菌的菌群分析
【中文关键词】乳酸菌; 生态学
【英文关键词】lactic acid bacteria; ecology
【中文摘要】对采集于云南传统乳制品中乳酸菌的种类及优势菌群的分布情况进行了研究。从采集的8份样品中共分离获得73株乳酸菌,分属于5个属的13个种。对乳酸菌优势菌群分析,发现肠球菌、乳球菌和同型发酵乳杆菌为主要菌群,分别占乳酸菌总数的20%、27%和20%。
【英文摘要】Lactic acid bacteria were isolated from the samples of the traditional dairy products, which collected from Yunnan in China. 73 strains were isolated from 8 sanples, among of them 41 isolates strains were cocci and 32 strains were bacillus. Isolated strains were characterized by phenotypic, physiological and biochemical properties. They were ascribled to Enterococcus, Lactococcus, Pediococcus, Streptococcus and Lactobacilli, containing with 13 species. Results showed that Enterococcus, Lactococcus and homofermentative Lactobacilli were the predominant with 20%, 27% and 20%, respectively.
【语种】中文
【第一作者】张宜凤
【通讯作者】顾瑞霞
【期刊名称、卷期、页码】乳业科学与技术 2009,32(3):113-115
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【学科分类】食品科学技术基础学科

【题目】Mutations in a beta-Tubulin Confer Resistance of Gibberella zeae to Benzimidazole Fungicides
【中文关键词】无
【英文关键词】gene-deletion and -complementation mutants.
【中文摘要】无
【英文摘要】Wheat head blight caused by Gibberella zeae (anamorph: Fusariumgraminearum) is a threat to food safety in China because of mycotoxincontamination of the harvested grain, the frequent occurrence of thedisease, and the failure of chemical control in some areas due tobenzimidazole resistance in the pathogen population. The molecularresistance mechanism, however, of G. zeae to benzimidazole fungicides(especially carbendazim; active ingredient: methyl benzimidazol-2-ylcarbamate [MBC]) is poorly understood. DNA sequences of a β-tubulingene (β2tub) (GenBank access number FG06611.1) in G. zeae wereanalyzed. Mutations in β2tub in moderately resistant strains (MBCMR)included TTT (Phe)→TAT (Tyr) at codon 167 or TTC (Phe)→TAC (Tyr)at codon 200. A highly resistant strain (MBCHR) had two point mutations,one at codon 73, CAG (Gln)→CGG (Arg), and the other at codon 198,GAG (Glu)→CTG (Leu). To confirm that mutations in the β2tub conferresistance to benzimidazole fungicides, the entire β2Tub locus was deletedfrom MBCMR and MBCHR strains of G. zeae. The resulting Δβ2tubmutants from both MBCMR and MBCHR strains grew normally on MBCfreepotato dextrose agar medium and were supersensitive to MBC. Complementationof the Δβ2tub mutants by transformation with a copy of theintact β2Tub locus from their parent strains exhibited less resistance thanthe original strains, and complementation of the Δβ2tub mutants bytransformation with a copy of the intact β2Tub locus from sensitive strainsrestored MBC sensitivity. The results indicated that the mutations in the β2tub gene conferred resistance of G. zeae to benzimidazole fungicidesand this gene can be used as a genetic marker in G. zeae.
【语种】英文
【第一作者】陈长军
【通讯作者】周明国
【期刊名称、卷期、页码】Phytopathology 99:1403- 1411
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【引文索引号】sci
【学科分类】植物保护学

【题目】水稻地上部单位器官物质分配过程的定量模拟

【中文关键词】水稻;单位器官;干物重;分配指数;定量模拟
【英文关键词】Rice; Unit organ; Dry weight; Partitioning index; Quantitative simulation
【中文摘要】【目的】定量描述水稻植株地上部单位器官(叶片、叶鞘、节间、稻穗)干物质的动态分配过程,为作物形态建成模拟和可视化表达奠定基础。【方法】通过不同水稻品种和水氮试验中主茎和分蘖单位叶片、茎鞘及穗的干物质与水分及氮素含量的连续观测和定量分析,构建水稻地上部各单位器官干物质分配指数动态模型。【结果】模型采用线性和指数方程描述了叶片、茎鞘及穗单位器官分配指数随 GDD 的动态变化过程;分别用指数方程及一元二次方程描述了叶片、茎鞘及穗最大单位分配指数随不同叶位、鞘位以及穗位的动态变化过程;另外,以叶片、茎鞘及穗的氮素和水分因子法分别描述了水氮限制对各单位器官干物质分配过程的定量影响。利用独立的水稻田间试验资料对所建模型进行了初步的测试和检验,主茎与分蘖各单位器官干物重的观测值与模拟值的根均方差分别为 0.93、0.81 及 6.8 kg·ha-1。【结论】本模型可较好地模拟不同生长条件下水稻不同茎蘖各单位器官干物质动态的变化过程。
【英文摘要】【Objective】 Modeling dynamics of the dry matter partitioning among unit organs (leaf, sheath, internode and panicle) in rice is an important task for realizing virtual and digital plant growth. In the past years, some great progresses had been made on the dynamics of dry matter partitioning among leaves, stem and sheath, and panicles of rice, but the dry matter partitioning among unit organs of plant was seldom addressed. The present study was conducted to develop a simulation model on the dry matter partitioning dynamics for various unit organs of rice having relation to GDD. 【Method】Four experiments were carried out involving different nitrogen rates and water regimes with four rice cultivars, and time-course observations were made on the dry matter changes in different unit organs on stem and tillers. 【Result】The results showed that the dynamic change of the unit organ partitioning index could be characterized by linear and exponential equation, respectively for leaf, internode and sheath, and panicle in relation to accumulated GDD. The changes in the maximum partitioning index for unit organ could be described by exponential equation (unit leaf and sheath) and quadratic equation (unit panicle) with different leaf, internode and sheath and panicle positions on main stem and tillers. In addition, the effects of nitrogen and water conditions on the dry weight and partitioning index for unit organs were quantified through the effectiveness values of nitrogen concentration and water content in unit organs. The model was validated by the independent field experiment data involving different rice cultivars and nitrogen rates. The average RMSEs between the simulated and observed values for the dry weights of unit organs on main stem and tillers under varied nitrogen and water levels with different cultivars were 0.93, 0.81, and 6.8 kg·ha-1 for leaf, internode and sheath, and panicle, respectively. 【Conclusion】The results indicated that the present model had a good performance in predicting the dynamic changes in the dry weight and partitioning index for different unit organs in rice under different growth conditions, and thus it will be a foundation for further constructing digital and visual organ growth system in rice.
【语种】中文
【第一作者】常丽英
【通讯作者】朱艳
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【题目】Isolation of 106 microsatellite markers for the Pacific abalone from a trinucleotide-enriched library
【中文关键词】无
【英文关键词】non
【中文摘要】无
【英文摘要】The Pacific abalone, Haliotis discus hannai Ino, has been considered one of themost flavorful species among molluscs in many Asian countries (Sekino and Hara2001). Numerous genetic breeding programs have been initiated to improve itseconomically important traits, such as growth rate and disease resistance. Several ofthese traits are controlled primarily by quantitative trait loci (QTL), the geneticbases of which are studied using high-density linkage maps. Microsatellites are oneof the most popular types of markers for constructing genetic linkage maps becauseof their codominant inheritance, high degree of polymorphism, large volume ofinformation on segregation, and transferability among mapping families (Tautz1989; Toth et al. 2000; Zhan et al. 2009). The majority of microsatellite markersdeveloped for the Pacific abalone are dinucleotides (Li et al. 2002; An and Han2006; Sun et al. 2007; Zhan et al. 2008; Li et al. 2010). The trinucleotidemicrosatellites can be more easily and accurately scored, however, because fewerghost bands/peaks are associated with them than with the dinucleotides (e.g.,Rongwen et al. 1995). The objectives for our researches were to increase thediversification of microsatellite markers and to construct a high-density linkage mapfor the Pacific abalone, and we

succeeded in isolating 106 novel polymorphictrinucleotide microsatellite markers.
【语种】英文
【第一作者】张振
【通讯作者】刘晓
【期刊名称、卷期、页码】BIOCHEMICAL GENETICS 卷: 49 期: 9-10 页: 625-637
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【学科分类】遗传学

【题目】Root growth of Arabidopsis thaliana is regulated by ethylene and abscisic acid signaling interaction in response to HrpNEa, a bacterial protein of harpin group.
【中文关键词】无
【英文关键词】Abscisic acid
Ethylene
HrpNEa
Plant growth
【中文摘要】无
【英文摘要】HrpNEa is a harpin protein from Erwinia amylovora, a bacterial pathogen that causes fire blight in rosaceous plants. Treating plants with HrpNEa stimulates ethylene and abscisic acid (ABA) to induce plant growth and drought tolerance, respectively. Herein, we report that both growth hormones cooperate to mediate the role of HrpNEa in promoting root growth of Arabidopsis thaliana seedlings. Root growth is promoted coordinately with elevation in levels of ABA and ethylene subsequent to soaking of germinating seeds of wild-type (WT) Arabidopsis in a solution of HrpNEa. However, these responses are arrested by inhibiting WT roots from synthesizing ethylene as well as sensing of ABA and ethylene. The effects of HrpNEa on roots are also nullified in ethylene-insensitive etr1-1 and ein5-1 mutants and in the ABA-insensitive mutant abi2-1 of Arabidopsis. These results provide evidence for presence of a relationship between root growth enhancement and signaling by ABA and ethylene in response to HrpNEa. Nevertheless, when HrpNEa is applied to leaves, ethylene signaling is active in the absence of ABA signaling to promote plant growth. This suggests the presence of a different signaling mechanism in leaves from that in roots.
【语种】英文
【第一作者】任秀艳
【通讯作者】董汉松
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【学科分类】植物保护学

【题目】Activity of carbendazim, dimethachlon, iprodione, procymidone and boscalid against Sclerotinia stem rot in Jiangsu Province of China
【中文关键词】无
【英文关键词】Carboxamides . Disease management .
Fungicides . Oilseed rape . Sclerotinia sclerotiorum
【中文摘要】无
【英文摘要】Carbendazim (MBC) was widely used tocontrol Sclerotinia stem rot routinely during the 1980sin China, but development of MBC resistance in thecausal agent Sclerotinia sclerotiorum led to controlfailures of this disease. In this study it was found thatthe MBC resistance in S. sclerotiorum populations waswidespread throughout Jiangsu Province with a resistancefrequency of 29.54% in the 1786 collectedisolates during the growing seasons of 2006 to 2008.The resistance frequencies differed among sampledcities, ranging from 3.1% to 54.9%. The field MBCresistantisolates showed comparable mycelialgrowth, sclerotia production and pathogenicity tothe wild-type sensitive isolates, which suggestedthat the field MBC-resistant isolates might havesufficient parasitic fitness to compete with the fieldMBC-sensitive isolates in the field. In the in vitrosensitivity test, boscalid showed greater activityagainst

S. sclerotiorum than dicarboximide fungicides(dimethachlon, iprodione and procymidone).The treatment 50% boscalid (WG) 125 g a.i. ha.1was comparable in efficacy to the treatment 50%iprodione (WP) 600 g a.i. ha.1, and better than othertreatments of 6% dimethachlon (WP) 690 g a.i. ha.1and 50% procymidone (WP) 337.5 g a.i. ha.1,whereas MBC failed to control Sclerotinia stem rot(control efficacy only 16.0%). The most active agentfor controlling Sclerotinia stem rot was boscalid inour study.
【语种】英文
【第一作者】马慧霞
【通讯作者】周明国
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【学科分类】植物保护学

【题目】冬小麦叶色动态的量化研究
【中文关键词】小麦;叶片;颜色;SPAD;RGB;模拟模型
【英文关键词】Wheat; Leaf; Color; SPAD; RGB; Simulation model
【中文摘要】【目的】模拟小麦叶色变化的动态过程,为实现小麦生长的可视化表达奠定基础。【方法】以不同施氮水平下不同类型小麦品种的两个生长季田间试验为基础,通过连续测量不同处理条件下小麦主茎和分蘖不同叶位叶片的 SPAD 值,综合分析小麦叶片 SPAD 值随生育进程的变化规律及其与 RGB 值的关系,进而构建基于 SPAD 的冬小麦叶色变化动态的模拟模型。【结果】模型采用分段函数描述叶片 SPAD 值随生育进程的动态变化过程:第 1 阶段为基于二次曲线的叶色增强过程;第 2 阶段为相对稳定的功能期叶色维持过程;第 3 阶段为基于二次曲线的叶色减弱过程;并基于叶片氮含量表达了氮素供应水平对叶片 SPAD 值变化规律的影响,同时用线性方程描述了叶片SPAD 值与 RGB 值之间的定量关系。利用独立的小麦田间试验资料对所建模型进行了测试和检验,显示不同时刻主茎和分蘖叶片 SPAD 预测值的平均 RMSE分别为 11.60%和 9.03%。【结论】本模型具有较强的动态预测性和可靠性,为进一步建立虚拟小麦生长系统奠定了基础。
【英文摘要】【Objective】 Modeling leaf color dynamics in wheat is of significant importance for realizing virtual wheat plant growth. 【Method】 Based on time-course observations on leaf SPAD value on main stem and tillers under different nitrogen rates and winter wheat cultivars in two growing seasons, the change patterns of leaf SPAD with growth progress and environmental factors were characterized, and the relationship between leaf SPAD and RGB was analyzed. Using systematic analysis method and dynamic modeling technology, a SPAD-based leaf color dynamic model was developed to simulate time-course change characters of leaf SPAD on wheat plant. 【Result】 The leaf color dynamic could be described with three phases in SPAD. The first phase in SPAD during leaf growth period was based on the quadratic relationship of leaf color to growing degree days (GDD), the second phase during leaf function period was represented with a relative stable SPAD, and the third phase during leaf senescence period was described in a quadratic equation between SPAD and GDD. In addition, the effect of nitrogen status on leaf SPAD was quantified by the value of leaf nitrogen concentration, and the relationship between SPAD and RGB was described with linear equation. The model was validated with the independent field experiment data of different winter wheat cultivars. The average RMSEs of time-course leaf SPAD on stem and tiller were 11.60% and 9.03%, respectively. 【Conclusion】 Thus, the present model has a good performance in predicting leaf color on wheat plant, laying a foundation for further constructing virtual leaf growth system of wheat.
【语种】中文
【第一作者】朱艳
【通讯作者】曹卫星
【期刊名称、卷期、页码】中国农业科学. 2008,41(11):3851-3857
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【学科分类】农业基础学科

【题目】Acclimation-dependent expression of heat shock protein 70 in Pacific abalone (Haliotis discus hannai Ino) and its acute response to thermal exposure
【中文关键词】皱纹盘鲍 高温胁迫 低温刺激 Hsp70 生物标记

【英文关键词】Haliotis discus hannai Ino; heat shock; cold stress; Hsp70; biomarker
【中文摘要】无
【英文摘要】Heat shock protein 70 (Hsp70) is one important member of heat shock protein (Hsp) family that is responsible for various stresses, especially thermal stress. Here we examined the response of Hsp70 gene to both chronic and acute thermal exposure in Pacific abalone (Haliotis discus hannai Ino). For the chronic exposure, abalones were maintained at 8, 12, 20, and 30 ° C for four months and their mRNA levels were measured. The highest mRNA level of Hsp70 gene relative to actin gene was detected in the 30 ° C-acclimated group, followed by the 8 ° C-acclimated group and then the 12 ° C- and 20 ° C-acclimated groups. After the long-term acclimation, gills from each of the above acclimation groups were dissected and exposed to different temperatures between 8 ° C and 38 ° C for 30 min. Hsp70 expression in gills acclimated to different temperatures responded differentially to the same temperature exposure. The incubation temperature that induced maximum Hsp70 mRNA expression was higher in the higher temperature acclimation groups than lower temperature groups. Pacific abalones could alter the expression pattern of Hsp70 gene according to environmental thermal conditions, through which they deal with the stress of thermal variations.
【语种】英文
【第一作者】李加琦
【通讯作者】刘晓
【期刊名称、卷期、页码】Chinese Journal of Oceanology and Limnology 卷: 30 期: 1 页: 146-151
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【学科分类】水产学基础学科

【题目】基于OpenGL的小麦形态可视化技术
【中文关键词】小麦,可视化,几何建模,渲染,OpenGL
【英文关键词】wheat, visualization, geometric modeling, rendering, OpenGL
【中文摘要】形态可视化技术是虚拟植物研究的关键技术之一。本研究以小麦作物为对象,在提出小麦形态可视化技术框架的基础上,首先研究了小麦不同器官的三维几何建模技术,构建了基于器官形态特征参数的几何模型,包括叶、茎秆和麦穗几何模型。用 NURBS 曲面来模拟叶片和叶鞘;用圆柱体模拟茎秆的节间;并采用组合单器官的方式来构建麦穗模型:用圆柱体模拟穗轴,用椭球体和圆柱体分别模拟小穗的谷粒及小穗枝梗。然后,基于 OpenGL 图形平台,绘制了小麦器官的三维形态,并提出了颜色渲染、纹理映射、光照处理等真实感图形显示技术;最后,通过耦合小麦植株的拓扑结构模型以及小麦个体之间的相互关系,实现了小麦从器官-个体-群体三个层次的形态可视化,从而为构建可视化小麦生长系统奠定了技术基础。
【英文摘要】Morphology visualization is one of the key technologies for constructing visual plants. Based on the framework of wheat morphology visualization, the 3D geometric modeling technologies of wheat organs were investigated, and the organ geometrical models were developed with characteristic architecture parameters. The model included three submodels: leaf geometry, stem geometry and wheat spike geometry submodels. The NURBS was used to simulate leaf blade and sheath, and stem geometry submodel was developed by a cylinder. The wheat spike geometry submodel was developed by means of assembling a single organ. The spike axis was simulated with a cylinder, and the spikelet was simulated with an ellipsoid and a cylinder. Based on the platform of OpenGL, the 3D morphology of organs was drawn, and the rendering models of color, texture and light were developed. By further integrating the model of topographic structure of wheat plant and the interaction among individual plants, the wheat 3D morphologies at the organ, individual and population levels were visualized on the computer. These results lay a foundation for further development of visual growth system for the wheat plant.
【语种】中文
【第一作者】伍艳莲
【通讯作者】曹卫星
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【学科分类】农业基础学科

【题目】Molecular Cloning, Characterization and Expression Analysis of Two Members of the Pht1 Family of Phosphate Transporters in Glycine max
【中文关键词】无
【英文关键词】soybean (Glycine max); Abiotic stress; Expression analysis
【中文摘要】无
【英文摘要】AbstractBackground: Phosphorus is one of the macronutrients essential for plant growth and development. The acquisition and translocation of phosphate are pivotal processes of plant growth. In a large number of plants, phosphate uptake by roots and translocation within the plant are presumed to occur via a phosphate/proton cotransport mechanism.Principal Findings:We cloned two cDNAs from soybean (Glycine max), GmPT1 and GmPT2 , which show homology to the phosphate/proton cotransporter PHO84 from the budding yeastSaccharomyces cerevisiae. The amino acid sequence of the products predicted from GmPT1 and GmPT2 share 61% and 63% identity, respectively, with the PHO84 in amino acid sequence. The deduced structure of the encoded proteins revealed 12 membrane-spanning domains with a central hydrophilic region. The molecular mass values are, 58.7 kDa for GmPT1 and , 58.6 kDa for GmPT2. Transiently expressed GFP – protein fusions provide direct evidence that the two Pi transporters are located in the plasma membrane. Uptake of radioactive orthophosphate by the yeast mutant MB192 showed that GmPT1 and GmPT2 are dependent on pH and uptake is reduced by the addition of uncouplers of oxidative phosphorylation. The Km for phosphate uptake by GmPT1 and GmPT2 is 6.65 mM and 6.63 mM, respectively. A quantitative real time RT-PCR assay indicated that these two genes are expressed in the roots and shoots of seedlings whether they are phosphate-deficient or not. Deficiency of phosphorus caused a slight change of the expression levels of GmPT1 and GmPT2 .Conclusions: The results of our experiments show that the two phosphate transporters have low affinity and the corresponding genes are constitutively expressed. Thereby, the two phosphate transporters can perform translocation of phosphate within the plant.
【语种】英文
【第一作者】武兆云
【通讯作者】邢邯
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【学科分类】农学其他学科

【题目】Riboflavin-induced priming for pathogen defense in Arabidopsis thaliana.
【中文关键词】无
【英文关键词】callose deposition;
defense responses;
hypersensitive cell death;
hydrogen peroxide;
priming;
riboflavin
【中文摘要】无
【英文摘要】Riboflavin (vitamin B2) participates in a variety of redox processes that affect plant defense responses. Previously we have shown that riboflavin induces pathogen resistance in the absence of hypersensitive cell death (HCD) in plants. Herein, we report that riboflavin induces priming of defense responses in Arabidopsis thaliana toward infection by virulent Pseudomonas syringae pv.tomato DC3000 (Pst). Induced resistance was mechanistically connected with the expression of defense response genes and cellular defense events, including H2O2 burst, HCD, and callose deposition in the plant. Riboflavin treatment and inoculation of plants with Pst were neither active but both synergized to induce defense responses. The priming process needed NPR1 (essential regulator of systemic acquired resistance) and maintenance of H2O2 burst but was independent of salicylic acid, jasmonic acid, ethylene, and abscisic acid. Our results suggest that the role of riboflavin in priming defenses is subject to a signaling process distinct from the known pathways of hormone signal transduction.
【语种】英文

【第一作者】张书建
【通讯作者】董汉松
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【学科分类】植物保护学

【题目】Effect of Carbendazim Resistance on Trichothecene Production and Aggressiveness of Fusarium graminearum
【中文关键词】无
【英文关键词】无
【中文摘要】无
【英文摘要】Fusarium graminearum (teleomorph, Gibberella zeae)causes head blight of cereals and contaminates grains withtrichothecene mycotoxins that are harmful to humans anddomesticated animals. Control of Fusarium head blightrelies on carbendazim (MBC) in China, but resistance toMBC in F. graminearum is now widespread. Sixty-sevenstrains were evaluated for trichothecene production inshake culture or in the field. The strains included 60 wildtypestrains (30 MBC-resistant and 30 MBC-sensitive),three MBC-resistant site-directed mutants at codon 167 in β 2-tubulin, three MBC-sensitive site-directed mutants atcodon 240 in β 2-tubulin, and their MBC-sensitive wild-typeprogenitor strain ZF21. The incidence of infected spikeletsand the amount of F. graminearum DNA in field grain(AFgDNA) also were evaluated for all strains. MBC resistanceincreased trichothecene production in shake cultureor in the field. Although MBC resistance did not changethe incidence of infected spikelets, it did increase AFgDNA.Tri5 gene expression increased in MBC-resistant strainsgrown in shake culture. We found a significant exponentialrelationship between trichothecene production and Tri5gene expression in shake culture and a linear relationshipbetween the incidence of infected spikelets or AFgDNAand trichothecene production in field grain.
【语种】英文
【第一作者】张艳军
【通讯作者】周明国
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【学科分类】植物保护学

【题目】不同株型小麦干物质积累与分配对氮肥响应的动态分析
【中文关键词】小麦; 株型; 施氮量; 干物质; 积累与分配; 动态分析
【英文关键词】Wheat; Plant type; Nitrogen Rate; Dry matter; Accumulation and partitioning; Dynamic analysis
【中文摘要】为了揭示株型和施氮量对小麦干物质积累与分配动态的影响, 通过实施不同株型小麦品种和氮肥处理的田间试验, 于主要生育期测定了各处理单株及不同器官干物质积累量, 并分别利用 Richards 和 VP 方程对其进行拟合。结果表明, 适量施氮提高了各株型小麦的干物质平均增长速率(Ra)和最大增长速率(Rmax), 缩短了各株型小麦到达Rmax的时间, 延长了各株型小麦的缓增持续期(D3)。施氮提高了紧凑型矮秆品种矮抗 58、松散型品种淮麦 17 和中间型品种扬麦 12的起始生长势(R0), 缩短了上述 3种株型小麦的渐增持续期(D1), 降低了其到达 Rmax时的干物质积累量(WRmax), 而紧凑型高秆品种宁麦 9 号的 R0、WRmax和 D1与上述 3 种株型小麦的变化趋势相反。随施氮量的增加, 矮抗 58 和宁麦 9 号的快增持续期(D2)呈下降趋势, 而淮麦 17 和扬麦 12 的 D2以中氮处理(150 kg hm − 2)最低。施氮降低了淮麦 17 和扬麦 12 的叶、穗最大分配比例(Pmax)以及矮抗 58 和宁麦 9 号的茎鞘最大分配比例(PSmax), 但增加了矮抗58 和宁麦 9 号的叶部和穗部 Pmax以及淮麦 17 和扬麦 12 的 PSmax。施氮降低了宁麦 9 号、淮麦 17 和扬麦 12 的叶分配比例最大下降速率及矮抗 58 和宁麦 9 号的穗分配比例最大增长速率, 而增加了矮抗 58 的叶分配比例最大下降速率及淮麦 17 和扬麦 12 的穗分配比例最大增长速率, 但过量施氮抑制了宁麦 9 号穗分配比例最大增长速率的增加和扬麦 12 穗分配比例最大增长速率的下降。施氮对各株型小麦茎鞘分配比例最大增长和下降速率(RSimax和RSdmax)的影响无明显规律。因此, 在建立高产小麦栽培技术体系时, 应充分考虑到不同株型小麦干物质积累和分配动态对施氮量的响应差异。
【英文摘要】Ningmai 9 (compact-high type) exhibited an opposite pattern. In Aikang 58 and Ningmai 9, the second phase duration (D2) decreased when the nitrogen rate increased, and Yangmai 12 and Huaimai 17 had the smallest D2 value under the medium

nitrogen rate. With the increase of nitrogen rate, the maximum dry matter partitioning percentage (Pmax) of leaf and spike in Huaimai 17 and Yangmai 12 as well as the maximum dry matter partitioning percentage of stem and sheath (PSmax) in Aikang 58 and Ningmai 9 decreased. In contrast, the Pmax of leaf and spike in Aikang 58 and Ningmai 9, and the PSmax in Huaimai 17 and Yangmai 12 increased accompanying with the increase of nitrogen rate. In terms of the maximum decreasing rate of dry matter partitioning percentage (MDRP) to leaf, Ningmai 9, Huaimai 17 and Yangmai 12 showed a decrease trend when nitrogen rate increased, while Aikang 58 was in an increase tendency. For the maximum increasing rate of dry matter partitioning percentage (MIRP) to spike, Aikang 58 and Ningmai 9 had a negative response to nitrogen rate and Huaimai 17 and Yangmai 12 had a positive response. Excessive application of nitrogen had negative effects on the promotion of MDRP to spike in Ningmai 9 and the reduction of MIRP to spike in Yangmai 12. No consistent effects were observed on the maximum changing rate of dry matter partitioning percentage to stem and sheath (RSimax and RSdmax). Thereby, plant types of wheat cultivars should be considered in the nitrogen application regime in practical system of cultivation techniques.

【语种】中文

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【学科分类】农业基础学科

【题目】不同温度下皱纹盘鲍“ 中国红 ”与各家系代谢和吸收效率的比较

【中文关键词】皱纹盘鲍; 家系; 温度; 代谢; 吸收效率

【英文关键词】Haliotis discus hannai; family strain; temperature; metabolism; absorption efficiency

【中文摘要】为了综合评价皱纹盘鲍Haliotis discus hannai红壳色新品系中国红(RwRh)的生理能量学特性,采用实验生态学的方法比较了12、15、18、21、24℃条件下,RwRh与皱纹盘鲍不同地理群体(J_1Jm、C_1Jm、C_1Rh、J_7Rh和RjRh)的代谢率和吸收效率。结果表明:J_1Jm(皱纹盘鲍日本群体♀*日本群体♂)和C_1Jm(皱纹盘鲍中国群体♀*日本群体♂)的耗氧率随水温的升高而上升,但超过18℃在21℃下耗氧率明显下降,RwRh与其半同胞家系(C1Rh、J7Rh、RjRh)的耗氧率拐点出现在21℃,说明中国红及其半同胞家系更适宜较高温度;各家系排氨率随温度升高的变化趋势与耗氧率基本相同。方差分析显示,在12-24℃内,家系对吸收效率的影响未达到显著水平,但在21-24℃下中国红有较高的吸收效率。

【英文摘要】Comparison of metabolism and absorption efficiency between new stock named "Chinese red" (RwBh) with red shell and different geographical populations of abalone Haliotis discus hannai(J_1Jm, C_1Jm, C_1Bh, J_7Bh and RjRh)were conducted at 12, 15, 18, 21 and 24 ℃ in order to evaluate bioenergetic properties of this stock using experimental eeologieal methods. The results showed that the respiration rate of J_1 Jm (Japan ♀ * Japan ♂) and C_1Jm (China ♀ * Japan ♂)inereased with inerease in water temperature, but signifieantly decreased at over 18 ℃. The respiration rate in "Chinese red" (RwRh) and its half-sib families(C_1Rh, J_7Rh, RjRh) sharply deereased at 21 ℃, indieating that the "Chinese red" (RwRh) and its half- sib families adopted higher temperature. The ehanges in NH_4 -N exeretion rate showed a similar tendeney to the respiration during the experiment. Absorption eflieieney was not signifieantly affeeted by family strains at 12 -24 ℃ while the "Chinese red" showed higher absorption et/ieieney at 21 -24 ℃.

【语种】中文

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【学科分类】水产养殖学

【题目】Quantification of Fusarium graminearum in harvested grain by real-time polymerase chain reaction to assess efficacies of fungicides on Fusarium head blight, deoxynivalenol contamination, and yield of winter wheat

【中文关键词】无

【英文关键词】mycotoxins.
【中文摘要】无
【英文摘要】We used a real time polymerase chain reaction-based assay and visualdisease assessment to evaluate the efficacies of Js399-19, tebuconazole, amixture of tebuconazole and thiram, azoxystrobin, carbendazim, andthiram on the development of Fusarium head blight (FHB) anddeoxynivalenol (DON) contamination and on the yield of winter wheat(cv. Nannong no. 9918) after artificial inoculation under field conditionswith Fusarium graminearum. The incidence of infected spikelets (IIS),amount of F. graminearum DNA (Tri5 DNA), total DON (containingDON, 3-acetyl-deoxynivalenol, and 15-acetyl-deoxynivalenol) concentration,and 1,000-grain weight (TGW) were quantified in 2006 and 2007.A strong positive correlation was found between IIS or Log10Tri5 DNAand total DON concentration in the harvested grain. The Js399-19,tebuconazole, and the mixture of tebuconazole and thiram significantlyreduced IIS of FHB, amount of Tri5 DNA, and total DON within thegrain and increased TGW. Although azoxystrobin, carbendazim, andthiram can increase TGW, they had no effect on the occurrence of F.graminearum compared with those of the untreated controls. Surprisingly,azoxystrobin and carbendazim significantly increased the totalDON content in the harvested grain because they might have stimulatedthe amount of total DON production per Tri5 DNA. The fungicidesJs399-19, tebuconazole, and the mixture of tebuconazole and thiram werethe most effective in controlling FHB and reducing DON contaminationof the wheat.required only 7 – 8 h while the conventional method required 5 – 7 days. This study demonstrates that PIRA-PCR not onlymonitors the appearance of moderately res
【语种】英文
【第一作者】张艳军
【通讯作者】周明国
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【学科分类】植物保护学

【题目】Nicotiana tabacum TTG1 contributes to ParA1-induced signalling and cell death in leaf trichomes
【中文关键词】无
【英文关键词】NtTTG1
Hypersensitive cell death (HCD)
ParA1
Leaf trichome
Signalling
【中文摘要】无
【英文摘要】Leaf trichomes serve as a physical barrier and can also secrete antimicrobial compounds to protect plants from attacks by insects and pathogens. Besides the use of the physical and chemical mechanisms, leaf trichomes might also support plant responses by communicating the extrinsic cues to plant intrinsic signalling pathways. Here we report a role of leaf trichomes in tobacco (Nicotiana tabacum) hypersensitive cell death (HCD) induced by ParA1, an elicitin protein from a plant-pathogenic oomycete. After localized treatment with ParA1, reactive oxygen species were produced first in the leaf trichomes and then in mesophylls. Reactive oxygen species are a group of intracellular signals that are crucial for HCD to develop and for cells to undergo cell death subsequent to chromatin condensation, a hallmark of HCD. These events were impaired when the production of hydrogen peroxide (H2O2) was inhibited by catalase or a NADPH-oxidase inhibitor applied to trichomes, suggesting the importance of H2O2 in the pathway of HCD signal transduction from the trichomes to mesophylls. This pathway was no longer activated when leaf trichomes were treated with C51S, a ParA1 mutant protein defective in its interaction with N. tabacum TTG1 (NtTTG1), which is a trichome protein that binds ParA1, rather than C51S, in vitro and in trichome cells. The ParA1-NtTTG1 interaction and the HCD pathway were also abrogated when NtTTG1 was silenced in the trichomes. These observations suggest that NtTTG1 plays an essential role in HCD signal transduction from leaf trichomes to mesophylls.
【语种】英文
【第一作者】王云鹏
【通讯作者】董汉松
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【学科分类】植物保护学

【题目】Molecular cloning and functional characterization of OsJAG gene based on a complete-deletion mutant in rice (Oryza sativa L.)
【中文关键词】无
【英文关键词】Oryza sativa; Os JAG; floral organ development; stamen specification
【中文摘要】无
【英文摘要】In this article, we report an independent work of positional cloning and functional characterization of Os JAG gene in rice. The advantage of our work is that we used a genuine null mutant, in which the wild-type allele was completely deleted. This allowed us to identify the mutant phenotypes accurately without the interference of residual function of the target gene. Os JAG is an important gene with pleiotropy, expressing almost throughout the plant and acting in both vegetative phase and reproductive phase. But its main and crucial roles are in regulating the development of all floral organs, especially in specifying the identity of stamens. Interestedly, Os JAG does not affect the number of floral organ primordial and so of floral organs in each whorl, suggesting that Os JAG does not influence the initiation of floral organ primordia, but affect the developmental fate of all floral organs after their primordia have initiated. Loss of Os JAG function results in maldevelopment of all floral organs, such as degenerated lemma and palea, elongated lodicules and deformed and sterile pistil. The stamen appears to be more sensitive to the mutation, exhibiting that all the six stamens were thoroughly transformed into six pistil-like organs developed at the presumptive positions of the stamens in whorl 3.
【语种】英文
【第一作者】段远霖(Duan Yuanlin)
【通讯作者】吴为人(Wu Weiren)
【期刊名称、卷期、页码】Plant Mol. Biol. 74:605 – 615
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【学科分类】分子生物学

【题目】大豆不同产量水平生物量积累与分配的动态分析
【中文关键词】大豆; 产量; 生物量累积; 动态生物量分配; 动态相关
【英文关键词】Soybean; Yield; Biomass accumulation; Dynamic biomass partition; Dynamic correlation
【中文摘要】利用亲本间生物量、产量有较大差异的重组自交家系群体(NJRIKY), 在相对控制遗传背景的条件下研究地下和地上部生物量与产量相关的动态, 比较高中低产家系生物量累积和分配的动态特征, 为大豆高产栽培管理和育种提供生物量动态调控与选择的依据。结果表明: (1) 地下部和地上部生物量与产量显著相关, 随生长进程, 相关系数逐渐增加, 至鼓粒期(R5~R6 期)相关系数达到最大, r 分别约 0.76 和 0.79; (2) 大田条件 2 500~2 800 kg hm − 2以上的高产家系, 地下部和地上部生物量显著高于中、低产家系, 最大累积值均出现在鼓粒期, 地下部和地上部生物量最大值分别为 660~700 kg hm − 2和 7 200~7 800 kg hm − 2。(3) 两年高产组所包含的家系不尽相同, 产量下降的家系相应生物量也下降, 这归因于环境所致的生物量累积不足; (4) 高产家系各器官生物量分配动态特征为茎秆、叶柄占同时期全生物量的比例显著高于中、低产家系, R5 时分别为 30.8%和 10.6%, 而叶、根比例显著低于中、低产家系, R5 时分别为 34.1%和 9.7%。未来大豆产量的突破有赖于品种生物量与收获指数的综合改良和生长调控技术的继续改进。
【英文摘要】The dynamic correlation between yield and above- and below-ground biomass and the dynamic partition of biomass of high, medium and low yield lines were studied by using the population of recombinant inbred lines NJRIKY derived from a cross between parents with different biomass and yield potential levels to obtain some information for dynamic control of biomass accumulation in high yield breeding and management of soybean. The results obtained were as follows: (1) Yield was significantly and positively correlated with above- and below-ground biomass accumulation, their correlation increased during the growing stages and the peak correlation occurred at seed filling stage (R5 – R6) with $r = 0.76$ for below-ground biomass and 0.79 for above-ground biomass. (2) The high yield lines (2 500 – 2 800 kg ha − 1) had a significantly higher below-ground and above-ground biomass accumulation than the medium yield and low yield lines. Both below- and above-ground biomass accumulation reached the peak at seed filling stage with the highest below-ground biomass of 660 – 700 kg ha − 1 and above-ground biomass of 720 – 780 kg ha − 1 at R5.

(3) The composition of high yield lines was not consistent in the two years. Lines with decreased yield had also a decreased biomass, which demonstrated reduction of biomass accumulation caused by different environments was the reason for yield decrease. (4) The dynamic partition of biomass to stem and petiole during growing stages in high yield lines (30.8% and 10.6% at R5, respectively) was significantly higher than that in medium and low yield lines and the dynamic partition of biomass to leaf and root during growing stages in high yield lines (34.1% and 9.7% at R5, respectively) was significantly lower than that in medium and low yield lines. The results implied that the more increase of yield in the future depends on the comprehensive genetic improvement of both biomass and harvest index and the successive advancement of growth regulation technology in soybean.

【语种】中文
【第一作者】黄中文
【通讯作者】盖钧镒
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【学科分类】农艺学

【题目】Baseline and differential sensitivity of Peronophythora litchi (lychee downy blight) to three carboxylic acid amide fungicides
【中文关键词】无
【英文关键词】dimethomorph, flumorph,
Litchi chinensis
, pyrimorph
【中文摘要】无
【英文摘要】Downy blight, caused byPeronophythora litchii, is an important disease of lychee (litchi) plants in China. Thein vitrosensitivities of various asexual stages ofP. litchiito the three carboxylic acid amide (CAA) fungicides dimethomorph,flumorph and pyrimorph were studied with four single-sporangium isolates. None of the three fungicides affectedzoospore discharge from sporangia, but they strongly inhibited mycelial growth (mean EC50values of 0・075, 0・258 and0・115 mg L.1, respectively); sporangial production (mean EC50values of 0・085, 0・315 and 0・150 mg L.1, respectively);germination of cystospores (mean EC50values of 0・140, 0・150 and 0・645 mg L.1, respectively); and germination ofsporangia (mean EC50values of 0・203, 0・5 and 0・743 mg L.1, respectively). As mycelial growth was the most sensitivestage to dimethomorph and pyrimorph, it was chosen to test baseline sensitivities to the three fungicides. In 2007, from131 isolates collected in Fujian, Guangdong and Guangxi provinces, 127, 116 and 113 isolates were used to establishbaseline sensitivity for dimethomorph, flumorph and pyrimorph respectively. Isolates from different provinces exhibitedsimilar baseline sensitivity to the same fungicide. Baseline sensitivities to dimethomorph, flumorph and pyrimorph weredistributed as unimodal curves, with mean EC50values of 0・082 (±0・01), 0・282 (±0・047), and 0・115 (±0・032) mg L.1,respectively. This information will serve as a baseline for tracking future changes in sensitivities ofP. litchiipopulationsto these three CAA fungicides.

【语种】英文
【第一作者】汪汉成
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【学科分类】植物保护学

【题目】A Method for identification of the expression mode and mapping of QTL underlying embryo-specific characters
【中文关键词】Embryos of crop seeds are one of the major sources of the plant protein and lipid for human nutrition. The genetic expression
for embryo-specific characters in crop seeds can be controlled exclusively by the embryo or the maternal genotypes and sometime

【英文关键词】Embryos of crop seeds are one of the major sources of the plant protein and lipid for human nutrition. The genetic expression
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【中文摘要】Embryos of crop seeds are one of the major sources of the plant protein and lipid for human nutrition. The genetic expressionfor embryo-specific characters in crop seeds can be controlled exclusively by the embryo or the maternal genotypes andsometimes by both simultaneously. However, current methods for mapping quantitative trait loci (QTLs) underlying charactersof maternal plants have not been effective in dealing with the QTL analysis of embryo characters.
【英文摘要】Embryos of crop seeds are one of the major sources of the plant protein and lipid for human nutrition. The genetic expressionfor embryo-specific characters in crop seeds can be controlled exclusively by the embryo or the maternal genotypes andsometimes by both simultaneously. However, current methods for mapping quantitative trait loci (QTLs) underlying charactersof maternal plants have not been effective in dealing with the QTL analysis of embryo characters.
【语种】英文
【第一作者】胡治球
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【期刊名称、卷期、页码】Journal of Heredity 2006:97:473 – 482
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【学科分类】农业基础学科

【题目】皱纹盘鲍杂交幼鲍闽东内湾度夏初探
【中文关键词】皱纹盘鲍 Haliotis discus hanna; 杂交鲍; 度夏; 生长; 存活
【英文关键词】Pacific abalone; hybrid abalone; over-summer; growth; survival
【中文摘要】为探讨皱纹盘鲍杂交鲍幼鲍在闽东内湾度夏的生长与存活,以山东荣成两家育苗场培育的皱纹盘鲍Haliotis discus hannai杂交鲍幼鲍(XXK、DY)、福建东山岛培育的盘鲍H.discus discus幼鲍(DS)为材料,分别运输至福建霞浦内湾长腰海区、山东荣成爱连湾进行度夏培育.各幼鲍组XXK、DY、DS均为1龄苗种,起始壳长分别为31.51 mm2.66 mm、30.76 mm3.30 mm、30.63 mm2.57 mm,且无显著性差异(P<0.05).经过6个月的培育,在南方闽东内湾培育条件下,皱纹盘鲍杂交鲍幼鲍组壳长的日增长率达95.34 mum/d29.14mum/73.81 mum/d29.37 mum/d,存活率为50.06%0.25%、49.88%0.17%;盘鲍组壳长的日增长率则为65.81 mum/d29.71mum/d,存活率为28.81%4.87%.作为对照,在北方培育条件下,皱纹盘鲍杂交鲍幼鲍组壳长的日增长率达67.85mum/d29.01mum/d、63.749 mum/d22.99 mum/d,存活率为78.90%2.24%、86.56%2.98%;盘鲍组壳长的日增长率则为27.87mum/d29.21mum/d,存活率为43.19%1.85%.双因素方差分析结果表明养殖环境与幼鲍来源,以及两者的交互作用均显著影响幼鲍度夏的生长发育.本研究结果对皱纹盘鲍杂交幼鲍在南方闽东内湾的养成提供了一定的参考.
【英文摘要】Experiments on growth and survival of juvenile hybrid abalone(Haliotis discus hannai)during over-summer time in southern China were conducted in the present study. Two juvenile hybrid abalone H. Discus hannai Ino groups(XXK and DY)from commercial hatcheries in Rongcheng, Shandong Province, and one juvenile H. Discus discus group(DS)from a hatchery in Dongshan, Fujian Province were utilized as experimental materials in the study. Initial body sizes of each juvenile abalone group are near 3cm(SL, Shell lengths), and no significant differences were found among them. After 6 months experiment in southern environmental conditions, DGRs(Daily growth rates)by SL increments of groups XXL and DY were 95.34 mum/d29.14 mum/d and 73. 81 mum/d29.37 mum/d, respectively, while survival rates were 50.06% 0.25% and 49.88%0.17%, respectively. However, both DGRs by SL increments and survival rates of group DS were poor, which were only 65.81mum/d29.71mum/d and 28.81%+4.87%, respectively. As a control, juvenile H. Discus hannai XXK and DY in northern environmental conditions had a higher survivalrate of 78.90%2.24% and 86.56% 2.98%, respectively, but little slower DGRs by SL increments of 67.85 mum/d29.01 mum/d and 63.74 mum/d22.99 mum/d, respectively. Similarly, juvenile H. Discus dis-cus had a poor growth and survival performance in northern environmental conditions. DGR by SL incre-ments and survival rate of juvenile DS were only 27.87 mum/d+29.21 mum/d and 43.191.85%, respec-tively. Two-way analysis of ANOVA showed effects of environmental condition, juvenile abalone group and the interaction between them have significant impacts on juvenile abalone growth and survival during over-summer times. The results of the present study can be helpful to the development of abalone production in-dustry in southern China.
【语种】中文
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【通讯作者】张国范
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【学科分类】水产养殖学

【题目】QTL mapping of grain length in rice (Oryza Sativa L.)
【中文关键词】Chromosome segment substitution (CSS) lines have the potential for use in QTL fine mapping and map-based cloning. The standard t-test used in the idealized case that each CSS line has a single segment from the donor parent is not suitable for non-ideali
【英文关键词】Chromosome segment substitution (CSS) lines have the potential for use in QTL fine mapping and map-based cloning. The standard t-test used in the idealized case that each CSS line has a single segment from the donor parent is not suitable for non-ideali
【中文摘要】Chromosome segment substitution (CSS) lines have the potential for use in QTL fine mapping andmap-based cloning. The standard t-test used in the idealized case that each CSS line has a singlesegment from the donor parent is not suitable for non-idealized CSS lines carrying severalsubstituted segments from the donor parent. In this study, we present a likelihood ratio test basedon stepwise regression (RSTEP-LRT) that can be used for QTL mapping in a population consistingof non-idealized CSS lines.
【英文摘要】Chromosome segment substitution (CSS) lines have the potential for use in QTL fine mapping andmap-based cloning. The standard t-test used in the idealized case that each CSS line has a singlesegment from the donor parent is not suitable for non-idealized CSS lines carrying severalsubstituted segments from the donor parent. In this study, we present a likelihood ratio test basedon stepwise regression (RSTEP-LRT) that can be used for QTL mapping in a population consistingof non-idealized CSS lines.
【语种】英文
【第一作者】吴军
【通讯作者】李立会
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【学科分类】农业基础学科

【题目】Characterization of Fusarium graminearum Isolates Resistant to Both Carbendazim and a New Fungicide JS399-19
【中文关键词】无
【英文关键词】fungicide resistance, multi-drug resistance, phenotype, wheat scab.
【中文摘要】无
【英文摘要】Fusarium head blight (FHB) of wheat and other cereals, caused mainlyby Fusarium graminearum, is one of the most economically importantdiseases worldwide, especially in the United States and China. Thebenzimidazole fungicides, particularly carbendazim (MBC), have beenconsistently used during the period of wheat heading and flowering inareas with warm and moist weather to control FHB in China for over30 years. The effectiveness of MBC, however, has been threatened by theemergence of resistant pathogen populations in the field. JS399-19 (experimentalnumber; a.i. 2-cyano-3-amino-3-phenylancryic acetate) is anovel cyanoacrylate fungicide discovered and patented by the JiangsuBranch of National Pesticide Research & Development South Center ofChina. To evaluate the potential risk of resistance development in MBCresistantF. graminearum isolates to this new fungicide JS399-19, fiveisolates each of MBC-resistant or -sensitive, which were classified intothree different sensitivity phenotypes, such as sensitive (S), moderatelyresistant (MR), and highly resistant (HR) to MBC, were selected toinduce JS399-19-resistant mutants by selecting resistance on potatosucrose agar (PSA) plates amended with JS399-19 at 10 μg/ml. In thisway, a total of 24 JS399-19-resistant mutants were obtained from alltested MBC-resistant or -sensitive isolates. All 50 single-spore progeniesof each of the resistant mutants could grow normally on PSA platesamended with JS399-19 at 10 μg/ml, indicating stability of resistance tothis fungicide. Also, all of the resistant mutants maintained their resistanceto JS399-19 and/or MBC through eight transfers on PSA plates for40 days and when stored on PSA slants at 4 ° C for 60 days. The mycelialgrowth and conidial production capacity were decreased in 52.4% of theresistant mutants,

indicating that a fitness cost was associated with JS399-19-resistant phenotypes of F. graminearum isolates. However, most of themutants resistant to both MBC and JS399-19 exhibited high sexualreproduction capacity and pathogenicity as their parental isolates. Nevertheless,the majority of these mutants possessed fitness levels comparableto their parents. The results on the efficacy of the two fungicides forcontrolling FHB incited by the fungicide-resistant mutants were generallyconsistent with those of the in vitro sensitivity tests. JS399-19 waseffective in controlling FHB caused by MBC-resistant isolates under fieldconditions, while it was not effective in controlling FHB caused by isolatesresistant to JS399-19 or those that were resistant to both MBC andJS399-19. Moreover, the efficacy of the mixture of MBC and JS399-19was also significantly lower in controlling FHB caused by the isolatesresistant to both MBC and JS399-19 than the efficacy against the diseasecaused by the sensitive isolates, the MBC-resistant isolates, or the JS399-19-resistant isolates. The results suggest that JS399-19 possessed a highrisk in development of resistance in MBC-resistant and -sensitive F.graminearum isolates, and this double resistance to both of these fungicidescould presumable emerge and create a major problem since boththese fungicides are extensively used in China. Therefore, careful use ofJS399-19 should be followed to delay resistance development in naturalpopulations of F. graminearum, avoid unexpected control failures, andsustain the usefulness of MBC and the new product JS399-19.

【语种】英文
【第一作者】陈雨
【通讯作者】周明国
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【学科分类】植物保护学

【题目】海湾扇贝微卫星标记开发及其分离方式分析
【中文关键词】海湾扇贝(Argopecten irradians); 微卫星; 富集文库; 无效等位基因; 分离方式
【英文关键词】Bay scallop (Argopecten irradians); SSR; microsatellite-enriched library; null allele; allele transmission
【中文摘要】利用尼龙膜吸附杂交法构建了海湾扇贝的(AC)_(15)、(AG)_(15)微卫星富集文库,随机挑取3 000个克隆,经菌落原位杂交二次筛选共获得阳性克隆1 268个(42.3%).经序列测定和生物信息学分析后得到521个独立的阳性克隆,其中微卫星506个,小卫星15个.微卫星中,完美型248个,占总数的49.0%;非完美型216个,占42.7%;复合型42个,占8.3%;其中AG/TC重复占70.4%(356个),AC/TG重复29.6%(150个).选择其中的55条序列设计引物,筛选出其中的20对引物检测它们在海湾扇贝CC10家系的双亲和94个子代个体中的分离情况,结果表明:(1) 其中6个位点在母本和子代中发生分离,10个位点在父本和子代中发生分离,4个为双亲共享位点;(2) 2个位点存在无效等位基因;(3) 16个位点符合孟德尔遗传定律,4个位点的子代个体基因型频率偏离孟德尔遗传定律.上述结果表明,这些微卫星引物可以用于构建海湾扇贝的遗传连锁图谱,并且所构建的富集文库适用于微卫星标记的大规模开发.
【英文摘要】Three genomic libraries enriched for (AC)_(15) and (AG)_(15) were constructed using the method of nylon membrane hybridization in bay scallop (Argopecten irradians). A total of 3 000 clones derived from the enrichment libraries were screened by (AC)_(15) and (AG)_(15) probes, and 1 268 (42.3%) were proved to contain microsatellite repeat sequences. One thousand positive clones were sequenced, 506 independent microsatellites, and 15 minisatellite sequences were obtained. Among the 506 microsatellite repeat sequences, 248 (49.0%) were identified to be perfect microsatellites, 216 imperfect(42.7%) and 42 compound (8.3%). Fifty-five primer pairs were designed and amplified in one bay scallop family to test their polymorphism in this family. Twenty polymorphic microsatellite markers were selected to analyze their segregation and inheritance in parents and their 94 progenies of this bay scallop family, among which 4 were polymorphic in both parents, 6 in female and 10 in male. Two markers were observed to produce null alleles; and when null alleles were considered, there were 4 loci showing segregation distortion at 5% significance level. These results indicated that the microsatellite-enriched libraries constructed in the present study are efficient and suitable to isolate a large amount of microsatellite markers in bay scallop.

【语种】中文
【第一作者】李宏俊
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【期刊名称、卷期、页码】海洋科学 卷: 33 期: 12 页: 4-8
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【学科分类】水产学基础学科

【题目】不同统计遗传模型 QTL 定位方法应用效果的模拟比较
【中文关键词】QTL 定位; 遗传模型; 定位程序; 定位方法与数据模型的适配性
【英文关键词】QTL mapping; Genetic model; Mapping procedure; Pertinence between mapping method and data model
【中文摘要】分子遗传和数量遗传的结合, 发展了 QTL 定位研究。随着定位方法与软件的建立和完善, QTL 定位的研究越来越多。准确定位的 QTL 可用于分子标记辅助选择和图位克隆, 而假阳性 QTL 将误导定位信息的应用。本文分析了迄今主要定位方法(软件)对于各种遗传模型数据的适用性。应用计算机模拟 4 类遗传模型不同的重组自交系群体(RIL), 第一类只包含加性 QTL; 第二类包含加性和上位性互作 QTL; 第三类包含加性 QTL 和 QTL 与环境互作效应; 第四类包含加性、上位性互作 QTL 和 QTL 与环境互作效应。每类按模拟 QTL 个数不同设两种情况, 共分为 8种数据模型(下称 M-1~M-8)。选用 WinQTLCart 2.5 的复合区间作图(下称 CIM)、多区间作图前进搜索(MIMF)、多区间作图回归前进选择(MIMR)、IciMapping 2.0 的完备复合区间作图(ICIM)、MapQTL 5.0 的多 QTL 模型(MQM)以及QTLnetwork 2.0 的区间作图(MCIM) 6 种程序对 8 种不同遗传模型的 RIL 进行 QTL 检测。结果表明, 不同程序适用的遗传模型范围不同。CIM 和 MQM 只适于检测第一类模型; MIMR、MIMF 和 ICIM 只适于检测第一类和第二类模型; 只有 MCIM 适于检测所有 4 类遗传模型; 因而不同遗传模型数据的最适合检测程序不同。由于未知实际数据的遗传模型, 应采用在复杂模型程序, 如 QTLnetwork 2.0, 扫描基础上的多模型 QTL 定位策略, 对所获模型用相应模型软件进行验证。
【英文摘要】QTL mapping has emerged based on the development and integration of molecular genetics and quantitative genetics. Along with the establishment and improvement of QTL mapping procedures, a great number of studies of QTL mapping in vari-ous crop species have been carried out. QTLs detected with high accuracy can be used for marker-assisted selection and map-based cloning, while the false-positive QTLs are meaningless, even mislead their usefulness. In the present study, the recom-binant inbred line (RIL) populations were simulated based on four kinds of genetic models, including Model I, additive QTL; Model II, additive and epistatic QTLs; Model III, additive QTL and QTL×environment interaction, and Model IV, additive, epistatic QTLs and QTL×environment interaction. Two sets of RIL data for each of the four models were obtained, in a total of eight sets of RIL data designated as M-1 to M-8. Six QTL mapping procedures, i.e. CIM (Composite interval mapping), MIMF (forward search of multiple interval mapping) and MIMR (regression forward selection of multiple interval mapping) of WinQTL Cartographer Version 2.5, ICIM (Inclusive composite interval mapping) of IciMapping Version 2.0, MQM (multiple-QTL model) of MapQTL Version 5.0, and MCIM (mixed model based CIM) of QTLnetwork Version 2.0 were used for detecting QTLs of the eight sets of RIL data. The results showed: (1) Different mapping procedures fit different genetic models. CIM and MQM were only suitable for Model I data. MIMR, MIMF, and ICIM were only suitable for Model I and Model II data. Only MCIM was suit-able for all four models ’ data. Therefore, the data from different genetic models corresponded to different optimal QTL mapping procedures. (2) Since the genetic model of the practical experimental data was unknown, a multiple model mapping strategy should be taken, i.e., a full model scanning with complex model procedure, such as QTLnetwork 2.0, followed by verification with another procedure corresponding to the scanning results.
【语种】中文
【第一作者】苏成付
【通讯作者】盖钧镒
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【学科分类】农艺学

【题目】Characterization of Osmads6-5, a null allele, reveals that OsMADS6 is a critical regulator for early flower development in rice (Oryza sativa L.)
【中文关键词】无
【英文关键词】rice, Osmads6-5, null allele, floral meristem determinacy, floral organ identity
【中文摘要】无
【英文摘要】AGL6-clade genes are a subfamily of MADS-box genes and preferentially expressed in floral organs. OsMADS6 and OsMADS17 are two AGL6-like genes in rice. OsMADS17 has been shown to play a minor role in floral development and appears to result from a duplication of OsMADS6. OsMADS6 was initially named as MFO1 for mosaic floral organs based on its moderate mutant

phenotypes. So far, four moderate or weak mutant alleles of OsMADS6 have been described, providing valuable insights into its role in flower development. Here, we report a null allele of OsMADS6 (Osmads6-5), which exhibited a strong mutant phenotype in spikelet without affecting vegetative traits, causing all floral organs except lemma homeotically transformed into lemma-like organs (LLOs) as well as an indeterminate floral meristem, thus resulting in a mutant floret consisting of reiterating whorls of lemma and LLOs. In consistently, over-expression of OsMADS6 led to additional lodicule-, stamen- and carpel-like organs. Expression analysis showed that OsMADS6 controls the formation of the incipient primordia of lodicule, stamen and carpel via regulating the expression of class B, C and SEP-like MADS-box genes. Taken together, our results revealed that OsMADS6 acts as a critical regulator for early flower development in rice and provide novel insights into the molecular mechanism of OsMADS6.

【语种】英文

【第一作者】段远霖(Duan Yuanlin)

【通讯作者】薛勇彪

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【学科分类】分子生物学

【题目】The introgression of chromosome 6P specifying for increased numbers of florets and kernels from Agropyron cristatum into wheat

【中文关键词】A wheat (Triticum aestivum L.) line 4844
with superior numbers of florets and grains per spike
was derived from the cross between Fukohokomugi
wheat and Agropyron cristatum (L.) Gaertn. In order
to determine the genetic control of floret and kernel
n

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【中文摘要】A wheat (Triticum aestivum L.) line 4844with superior numbers of florets and grains per spikewas derived from the cross between Fukohokomugiwheat and Agropyron cristatum (L.) Gaertn. In orderto determine the genetic control of floret and kernelnumber per spike in this line, chromosome additionand substitution lines that were derived from line 4844were characterized by means of in situ hybridization,microsatellite (SSR), and gliadin analyses. Genomic insitu hybridization analysis with biotinylated P genomicDNA of A.

【英文摘要】A wheat (Triticum aestivum L.) line 4844with superior numbers of florets and grains per spikewas derived from the cross between Fukohokomugiwheat and Agropyron cristatum (L.) Gaertn. In orderto determine the genetic control of floret and kernelnumber per spike in this line, chromosome additionand substitution lines that were derived from line 4844were characterized by means of in situ hybridization,microsatellite (SSR), and gliadin analyses. Genomic insitu hybridization analysis with biotinylated P genomicDNA of A.

【语种】英文

【第一作者】吴军

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【学科分类】农业基础学科

【题目】线粒体COI、COII 和CYTB 基因在鲍属物种鉴定中的适用性
【中文关键词】鲍属(Haliotis); DNA条形码; 线粒体基因; 物种鉴定
【英文关键词】Haliotis; DNA barcode; mitogenome; species identification
【中文摘要】为寻找最适于进行鲍属物种鉴定的线粒体基因,测定了中国及日本沿海5个皱纹盘鲍(Haliotis discus hannai)群体共16个个体的线粒体基因COI、COII以及CYTB的完整序列,并结合杂色鲍(H. diversicolor)、疣鲍(H. tuberculata)和黑唇鲍(H. rubra)的线粒体基因组信息,比较分析了3种基因的G+C含量、种间/种内遗传距离和序列多态性等特征。研究结果表明,上述3种基因的序列构成和遗传多样性都具有一定相似性,且三者都可用于区分上述鲍属物种。鉴于目前CO/具有完善的通用引物,并且具有较多的公布序列,本研究建议采用CO/序列作为目前鲍属物种鉴定的DNA条形码。
【英文摘要】In order to select appropriate mitochondrial genes for Haliotis species identification, COI, COII and CYTB of sixteen Haliotis discus hannai individuals collected from five populations along Chinese and Japanese coasts, were sequenced in this study. With available mitogenomes of H. diversicolor, H. tuberculata and H. rubra, G+C content, intra-/inter-specific K2P distance, and sequence diversity were compared among Haliotis. The results show that sequence composition, genetic diversity of COI, COII and CYTB are similar. Furthermore, both genetic distance and diversity results imply that all these genes can be used for Haliotis species identification. Since there are effective, universal primers for COI and more COI sequences published than the other two genes in Haliotis, we suggest that COI could be used as a DNA barcode for Haliotis species identification.
【语种】中文
【第一作者】辛一
【通讯作者】辛一
【期刊名称、卷期、页码】海洋科学 卷: 35 期: 11 页: 58-62
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【学科分类】水产学基础学科

【题目】Effects of carbendazim on conidial germination and mitosis in germlings of Fusarium graminearum and Botrytis cinerea. International
【中文关键词】无
【英文关键词】Botrytis cinerea; carbendazim-resistance; Fusarium graminearum; mitosis
【中文摘要】无
【英文摘要】The effects of carbendazim on carbendazim-sensitive (wild-type) and -resistant strains of Fusarium graminearumand Botrytis cinerea were compared. When treated with carbendazim, conidia and germlings of wild-typeF. graminearum and B. cinerea germinated and grew to produce stunted, distorted, and abnormally branchedgermlings; in addition, distinct nuclei were replaced by irregularly distributed chromosome masses, and normalnuclear division was not observed. The CMI (chromosome mitosis index) values of wild-type strains rapidlyincreased within 60 min of treatment with carbendazim and then rapidly declined. Whereas the wild-type strainsof the two fungi responded similarly, the carbendazim-resistant strains of F. graminearum and B. cinerearesponded differently to carbendazim. The resistant strain of F. graminearum showed normal mitosis butproduced significantly more branches and higher CMI values when treated with carbendazim than whenuntreated. In contrast, the carbendazim-resistant strain of B. cinerea exhibited normal morphology and mitosisafter carbendazim treatment. The results suggest that the mechanism for carbendazim resistance in F.graminearum differs from that in B. cinerea and other fungi.
【语种】英文
【第一作者】毕朝位
【通讯作者】周明国
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【学科分类】植物保护学

【题目】大豆产量有关性状 QTL 的检测
【中文关键词】大豆;产量;生物量;叶部性状;产量组分;相关;QTL定位
【英文关键词】soybean; yield; biomass; leaf trait; yield component; correlation; QTL mapping
【中文摘要】【目的】研究大豆产量和生物量、叶面积指数、冠层以及产量构成因素间的相关性,定位控制这些性状的QTL。【方法】以地理和遗传来源均有较大差异的北方亲本科丰 1 号和南方亲本南农 1138-2 所衍生的 184 个重组自交家系2年有重复的田间试验结果进行产量有关性状的QTL分析。【结果】(1)产量与地上部生物量、叶面积指数、根重、冠层宽和高等均有极显著正相关,相关系数 0.5~0.7。(2)地上部生物量检测到 7 个 QTL,贡献率6.2%~21.1%, 其中2年重复检出1个 (qSBO-1) ; 根重8个 QTL, 贡献率5.2%~20.1%, 重复检出1个 (qRTB1-1) 。(3)开花期叶面积指数5个QTL,贡献率6.4%~17.2%;结荚期叶面积指数5个QTL,贡献率7.3%~26.2%,重复检出1个(qLAIR3A2);冠层宽4个QTL,贡献率6.3%~13.1%,重复检出1个(qCWD1b-2);冠层高11 个QTL,贡献率5.2%~9.2%,重复检出 4个(qCHH-1、qCHO-1、qCHO-2和qCHO-3)。(4)百粒重 6个,荚粒数 2 个,荚数1个QTL,贡献率6.9%~15.7%;分枝荚数5个,主茎荚数3个QTL,贡献率6.3%~11.1%;主茎节数8个QTL,有效分枝数 3 个 QTL,贡献率 4.7%~15.2%。(5)根重和地上部生物量各有 1 个,R1(始花期)和 R3(始荚期)叶面积指数各有 2 个,冠层宽和高各有 2 个,产量与荚数各有 1 个,百粒重和分枝荚数各有 1 个,荚粒数和主茎节数各有 1 个,分枝荚数与有效分枝数各有 1 个共享的 QTL。【结论】大豆产量有关的 13 个性状共检测到 68 个 QTL;年份间有重复检出的,但不多,其表达较大程度上与环境有关;尽管性状间普遍有相关、有共享的QTL,但不多,各有其遗传体系;产量有关性状中很少有贡献率大的主效QTL,产量育种要考虑多数基因聚合的技术。
【英文摘要】【Objective】 The present study was aimed to reveal the correlation between yield and biomass, leaf area and yield components, and to detect and map the QTLs of the yield-related traits. 【Method】 The 184 recombinant inbred lines derived from a cross between geographically and genetically distant parents, Kefeng 1 from northern China and Nannong 1138-2 from southern China, were tested in two years and then analyzed for detecting and mapping QTLs of the traits related to yield. 【Result】 A very significant positive correlation was observed between yield and above ground biomass, leaf area index, root weight, canopy width and canopy height with r values of 0.5-0.7. Seven QTLs of above ground biomass were mapped with contribution rate of 6.2%-21.1% and one QTL (qSBO-1) repeatedly detected in both years while eight QTLs of root weight mapped with contribution rate of 5.2%-20.1% and one QTL (qRTB1-1) repeatedly detected. Five QTLs of R1 leaf area index were mapped with contribution rate of 6.4%-17.2% while five QTLs of R3 leaf area index mapped with contribution rate of 7.3%-26.2% and one QTL (qLAIR3A2) repeatedly detected. Four QTLs of canopy width were mapped with contribution rate of 6.3%-13.1% and one QTL (qCWD1b-2) repeatedly detected while 11 QTLs of canopy height mapped with contribution rate of 5.2%-9.2% and four QTLs repeatedly detected. Six, two and one QTL of 100-seed weight, number of seeds per pod and number of pods per plant, respectively, were mapped with their contribution rate of 6.9%-15.7%. Five and three QTLs of number of pods on branches and number of pods on main stem, respectively, were mapped with their contribution rate of 6.3%-11.1%. Eight and three QTLs of number of nodes on main stem and effective number of branches, respectively, were mapped with their contribution rate of 4.7%-15.2%. There was one QTL shared by above ground biomass and root weight, two QTLs shared by R1 and R3 leaf area index, two QTLs by canopy width and height, one by yield and number of pods per plant, one by 100-seed weight and number of pods on branches, one by number of seeds per pod and number of nodes on main stem, and one by number of pods on branches and effective number of branches. 【Conclusion】 A total of 68 QTLs were mapped for 13 yield-related traits. Among them, only a small part was repeatedly detected in both years, implied their expression depended on years or environmental conditions. Although significant correlations existed among the traits extensively, only a small part of the QTLs was shared between the traits, which indicted different gene systems for various traits. There were few QTLs with large contribution found in the yield-related traits, thus breeding technology for pyramiding multiple genes should be considered for yield improvement.
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【第一作者】黄中文
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【题目】水稻单株产量与根系主要几何属性的定量关系
【中文关键词】水稻;根系;几何属性;单株产量
【英文关键词】rice;root system;geometric property;yield per plant

【中文摘要】为揭示水稻单株产量与不同生育阶段根系主要几何属性的定量关系。以两优108(杂交籼稻)、86优8(杂交粳稻)和南粳43(常规粳稻)为材料,设施肥(N:每盆 3.6g;P2O5每盆0.8g;K2O:每盆 3.6g)与不施肥2个水平,共6个处理,采用塑料桶土培。在试验观测的基础上,建立回归模型及模型统计量,结果表明拔节期至灌浆末期水稻单株产量与单株总根长及单株总根表面积之间的定量关系以二次模型较好,分蘖初期至拔节期根系几何属性与单株产量关系则以三次模型拟合较好;单株产量与根系各参数相关分析结果表明单株总根长、总根表面积及总根体积的增加有利于提高产量。

【英文摘要】The objectives of this study were to build the best-fit mathematical models for quantitative relationships between the individual plant yield and the main geometric properties of rice root system in different growth stages.Three rice cultivars,Liangyou 108(indica hybrid rice),86You8(japonica hybrid rice)and Nanjing43(conventional japonica rice),were planted in pots,applying fertilizer at rates of3.6g, N 0.8g,P2O5and 3.6g, K2O per pot as treatment and no fertilizer as contro1.Based on the experimental observations,the mathematical models were developed by regression analysis.Cubic model was the best-fit relationship between the geometric properties of rice root system and the individual plant yield except the best-fit quadratic equation between the yield of individual plant and the total root length per plant,and total root surface area per plant during jointing to end filling periods.Correlation analyses between yield per plant and various parameters of root system revealed that increasing total root length,total surface area and total volum per plant will be of benefit for raising rice yeild per plant.

【语种】中文

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【通讯作者】曹宏鑫

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【学科分类】农业基础学科

【题目】Sensitivity of Fusarium graminearum to fungicide JS399-19: in vitro determination of baseline sensitivity and the risk of developing fungicide resistance

【中文关键词】无

【英文关键词】Crop resistance; disease management; Fusarium head blight; Gibberella zeae; resistance stability.

【中文摘要】无

【英文摘要】The baseline sensitivity of Fusarium graminearum Schwade [teleomorph = Gibberella zeae(Schweinitz) Petch] to the fungicide JS399-19 (development code no.) [2-cyano-3-amino-3-phenylacrylic acetate] and the assessment of risk to JS399-19 resistance in vitro are presented.The mean EC50 values for JS399-19 inhibiting mycelial growth of three populations ofwild-type F. graminearum isolates were 0.102±0.048, 0.113±0.035 and 0.110±0.036 μgml.1, respectively. Through UV irradiation and selection for resistance to the fungicide, weobtained a total of 76 resistant mutants derived from five wild-type isolates of F. graminearumwith an average frequency of 1.71×10.7% and 3.5%, respectively. These mutants couldbe divided into three categories of resistant phenotypes with low (LR), moderate (MR) andhigh (HR) level of resistance, determined by the EC50 values of 1.5 – 15.0 μg ml.1, 15.1 – 75.0 μg ml.1 and more than 75.0 μg ml.1, respectively. There was no positive crossresistancebetween JS399-19 and fungicides belonging to other chemical classes, such asbenzimidazoles, ergosterol biosynthesis inhibitors and strobilurins, suggesting that JS399-19 presumably has a new biochemical mode of action. Although the resistant mutantsappeared to have comparable pathogenicity to their wild-type parental isolates, they showeddecreased mycelial growth on potato-sucrose-agar plates and decreased sporulation capacityin mung bean broth. Nevertheless, most of the resistant mutants possessed fitness levelscomparable to their parents and had MR or HR levels of resistance. As these studies yieldeda high frequency of laboratory resistance in F. graminearum, appropriate precautions againstresistance development in natural populations should be taken into account.

【语种】英文

【第一作者】陈雨

【通讯作者】周明国

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【学科分类】植物保护学

【题目】大豆蛋白质有关性状的 QTL 定位
【中文关键词】大豆; 蛋白质含量; 蛋油总量; 11S; 7S; 11S/7S; 亚基组; QTL 定位
【英文关键词】Soybean; Protein content; Protein plus fat content; 11S; 7S; 11S/7S; Subunit group; QTL mapping
【中文摘要】以科丰 1号×南农 1138-2 组合衍生的 184个重组自交家系(简称RIKY)和(Essex×ZDD2315)×ZDD2315 衍生的 114 个BC1F2家系(简称BIEX)为材料, 对蛋白质含量、蛋油总量与油脂含量, 11S、7S、11S/7S, 11S-1~11S-4, 7S-1~7S-6等 4 组 16 个性状利用WinQTL Cartographer Ver.2.5 的复合区间作图法(CIM)、多区间作图法(MIM)和IciMapping Ve r.2.0 的完备区间作图法(ICIM)进行QTL分析, 结果表明: (1) 在RIKY和BIEX群体分别定位到 17+个和 21+个QTL, 合计 38+个QTL; 在RIKY有蛋白、油脂、蛋油总量QTL11 个, 在 11S和 7S亚基组上分别只有 1+和 3+个; 在BIEX有前性状QTL2+个, 有后性状QTL分别 9+和 6+个; (2) 两群体 16 个性状上均没有检测到共享的QTL, 说明两群体的蛋白质有关性状具有完全不同的遗传基础; RIKY的两个亲本间蛋白、油脂和蛋油总量有明显遗传差异, 但在亚基组上遗传差异不大, 而BIEX则反之; (3) 4 组总、分性状中, 两群体一致表现出蛋白、油脂和蛋油总量和 11S、7S和 11S/7S比值两组在总、分性状间共享QTL(共同遗传基础), 而 11S亚基组和 7S亚基组两组性状在总、分性状间无共享的QTL; (4) 蛋白质有关性状QTL定位结果和分离分析结果共同表明这类性状主效基因和微效基因均占较大比重, 要考虑两者兼用的育种方法。
【英文摘要】Soybean processing industry places emphasis on the quality of soybean protein which is related to the protein components, mainly 11S, 7S and 11S/7S, and their subunit constituents. In the improvement of soybean protein quality, the knowledge of genetic structure of the traits related to protein quality is of great importance. Therefore, the present paper was aimed at mapping QTLs of 16 traits, including protein content, protein plus fat content, fat content, 11S, 7S, 11S/7S, and subunit groups. Two popu-lations, RIKY population with 184 recombinant inbred lines derived from Kefeng 1×Nannong 1138-2 and BIEX population with 114 BC1F2 lines derived from (Essex×ZDD2315) ×ZDD2315, were used to map QTLs with the softwares of composite interval mapping (CIM), multiple interval mapping (MIM) of WinQTL Cartographer Ver. 2.5 and the inclusive composite interval map-ping (ICIM) of IciMapping. The results showed that there were totally 17+ QTLs detected with 11 for protein content, fat content and total content of protein and fat, and 1+ and 3+ for 11S subunit groups and 7S subunit groups, respectively, in RIKY, as well as totally 21+ detected with only 2+ for protein content, fat content and protein plus fat content, but 9+ and 6+ for 11S subunit groups and 7S subunit groups, respectively, in BIEX. There was no shared QTL detected for all 16 traits in both populations, indicating that the 16 traits between RIKY and BIEX have completely different genetic systems, and there existed obvious genetic differ-ences between two parents of RIKY in protein content, fat content and protein plus fat content but less genetic differences in 11S subunit groups and 7S subunit groups, and those of BIEX were on the contrary. The group of protein content, fat content and pro-tein plus fat content and the group of 11S, 7S and 11S/7S had common QTLs, showing their common genetic base, but there were no common QTLs in the groups of 11S subunit and 7S subunit. The results from QTL mapping and segregation analysis showed jointly that both major genes and minor genes contributed a large part of phenotypic variations for all 16 traits, suggesting that both major genes and minor genes should be considered in the breeding for protein-related traits.
【语种】中文
【第一作者】刘顺湖
【通讯作者】盖钧镒
【期刊名称、卷期、页码】作物学报 2009, 35(12): 2139－2149
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【引文索引类型】其他
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【学科分类】农艺学

【题目】Characterization and fitness of carbendazim-resistant strains of Fusarium graminearum (wheat scab)
【中文关键词】无
【英文关键词】Fusarium graminearum; carbendazim resistance; characterization; fitness
【中文摘要】无
【英文摘要】BACKGROUND: Carbendazim (MBC) has failed to control wheat scab, caused by Fusarium graminearumSchwabe, on the eastern coast of China in recent years after about 30 years of application.RESULTS: MBC resistance was found to be common in pathogen populations on the eastern coast and alongareas of the Yangze River. EC50 and minimum inhibitive concentration (MIC) values of MBC inhibiting myceliumgrowth of wild-type isolates were less than 0.9 and 1.4 μ gmL.1 respectively, while EC50 values of

resistant collectionsaveraged 7.02 ± 11.86 μgmL.1. The slope of the MBC dosage – response curve (DRC) for resistant isolates of F.graminearum was flat: 1 < b < 2.8 for resistant isolates and 3.5 < b < 11 for sensitive isolates). Both field resistantand sensitive MBC strains shared similar temperature sensitivity, fitness and virulence on ears. Field resistantstrains and UV-induced mutants showed positive cross-resistance to other benzimidazole derivatives and weremainly at intermediate MBC resistance level. Highly resistant field MBC strains rarely appeared, but only some ofthe highly resistant MBC UV mutants were insensitive to N-phenylaminecarbamates. Nomutation in beta-tubulinwas found in F. graminearum, in contrast to mutation in this tubulin which has led to MBC resistance in otherplant pathogens.CONCLUSION: MBCR isolates have high fitness and competition in field, conferred by a novel molecularmechanism.

【语种】英文

【第一作者】陈长军

【通讯作者】周明国

【期刊名称、卷期、页码】Pest Manag Sci 63:1201 – 1207 (2007)

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【学科分类】植物保护学

【题目】Genetic Study on JS399-19 Resistance in Hyphal Fusion of Fusarium graminearum by using nitrate non-utilizing mutants as genetic makers.

【中文关键词】无

【英文关键词】Fusarium graminearum; JS399-19 resistance; biological properties; genetic marker; hyphal fusion

【中文摘要】无

【英文摘要】Twenty-two nitrate nonutilizing (nit) mutants were recovered from five wild-type isolates of Fusarium graminearum and fifty nit mutants were recovered from three JS399-19-resistant mutants of F. graminearum cultured on MMC medium. Some biological properties were compared between nit mutants and their parental isolates. The results showed that there were no significant differences in growth rate, cultural characters or pathogenicity between JS399-19-resistant nit mutants and their parental isolates. But the conidial production and the sexual reproduction ability changed to some extent. There was no cross resistance toward chlo-rate and JS399-19 in F. graminearum and the resistance could be stable through 20-time subcultures. Therefore, the nit could be used as a genetic marker for studying the genetics of JS399-19 resistance in F. graminearum, which was used to study JS399-19 resistance transferability in hyphal fusion. Resistance in JS399-19 could not be transferred by hyphal fusion or could be transferred with low chance between two compatible isolates, which would delay the development of JS399-19 resistance in the field.

【语种】英文

【第一作者】陈雨

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【引文索引号】sci

【学科分类】植物保护学

【题目】Multivariate segregation analysis for quantitative traits in inbred line crosses

【中文关键词】Segregation analysis is a method of detecting major genes
for quantitative traits without using marker information. It
serves as an important tool in helping investigators to plan
further studies such as quantitative trait loci mapping or more
sophist

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【中文摘要】Segregation analysis is a method of detecting major genesfor quantitative traits without using marker information. Itserves as an important tool in helping investigators to planfurther studies such as quantitative trait loci mapping or moresophisticated genomic analyses. However, current methodsof segregation analysis for a single trait typically have lowstatistical power. We propose a multivariate segregationanalysis (MSA) that takes advantage of the correlationstructure of multiple quantitative traits to detect major genes.
【英文摘要】Segregation analysis is a method of detecting major genesfor quantitative traits without using marker information. Itserves as an important tool in helping investigators to planfurther studies such as quantitative trait loci mapping or moresophisticated genomic analyses. However, current methodsof segregation analysis for a single trait typically have lowstatistical power. We propose a multivariate segregationanalysis (MSA) that takes advantage of the correlationstructure of multiple quantitative traits to detect major genes.
【语种】英文
【第一作者】肖静
【通讯作者】徐辰武
【期刊名称、卷期、页码】Heredity, 2007, 98:427-435
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【引文索引类型】SCI
【引文索引号】10.1038
【学科分类】农业基础学科

【题目】Vegetative compatibility of Fusarium graminearum isolates and genetic study on their carbendazim-resistance recombination in China
【中文关键词】无
【英文关键词】fungicide resistance, Fusarium head blight.
【中文摘要】无
【英文摘要】Monoconidial isolates of 33 carbendazim-sensitive isolates and 31carbendazim-resistant isolates of Fusarium graminearum were selectedfrom three regions of China for vegetative compatibility group (VCG)analysis. A total of 213 and 224 nit mutants were recovered from the 33sensitive and the 31 resistant isolates, respectively. Of all the nit mutants,the frequency of the different phenotypes was 44.6, 46.5, 5.7, and 3.2%for nit1, nit3, nitM, and nitA, respectively. VCG analysis identified 30different VCGs among the 33 sensitive- and the 31 carbendazim-resistantisolates, with VCG diversity 0.91 and 0.97, respectively. Both, a carbendazim-sensitive and a -resistant isolate from the same field belongedto the same VCG. In all then, a total of 59 VCGs were identified amongthe 64 isolates with an overall VCG diversity 0.92. Direct hyphal fusionwas observed in six pairs of vegetatively compatible complements, whichis evidence of heterokaryon formation. It was hypothesized that carbendazimresistance could not be transferred by hyphal fusion or there is asmall chance to be transferred between two compatible isolates. Threestable sexual recombinants of F. graminearum were randomly chosenfrom each of the three genetic crosses to study their biological properties.There were no significant differences in mycelial linear growth andpathogenicity between recombinants and their parents, but they differ insporulation ability and capacity to produce perithecia. We concluded thatsexual recombination presumably played a role in the development ofcarbendazim resistance under field conditions.
【语种】英文
【第一作者】陈雨
【通讯作者】周明国
【期刊名称、卷期、页码】Phytopathology 97:1584-1589
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【学科分类】植物保护学

【题目】Genetic dissection of cytonuclear epistasis in line crosses
【中文关键词】Dissection of cytonuclear interactions is fundamentally important for understanding the genetic architecture of complex traits. Here we propose a mating design based on reciprocal crosses and extend

the existing QTL mapping method to evaluate the contri

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【中文摘要】Dissection of cytonuclear interactions is fundamentally important for understanding the geneticarchitecture of complex traits. Here we propose a mating design based on reciprocal crosses and extendthe existing QTL mapping method to evaluate the contribution of cytoplasm and QTL 3 cytoplasminteractions to the phenotypic variation.

【英文摘要】Dissection of cytonuclear interactions is fundamentally important for understanding the geneticarchitecture of complex traits. Here we propose a mating design based on reciprocal crosses and extendthe existing QTL mapping method to evaluate the contribution of cytoplasm and QTL 3 cytoplasminteractions to the phenotypic variation.

【语种】英文

【第一作者】汤在祥

【通讯作者】徐辰武

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【学科分类】农业基础学科

【题目】大豆蛋白质有关性状遗传的分离分析

【中文关键词】大豆;蛋白质含量;蛋油总量;11S;7S;11S/7S;亚基组;主基因+多基因混合遗传模型分离分析

【英文关键词】Soybean; Protein content; Protein plus fat content; 11S; 7S; 11S/7S; Subunit group; Segregation analysis based on mixed major gene and polygene inheritance model

【中文摘要】采用科丰 1 号×南农 1138-2 衍生的重组自交家系群体(RIKY)和(Essex×兴县灰布支)×兴县灰布支回交自交衍生群体(BIEX)为材料，应用 SDS-PAGE 电泳测定 11S、 7S、 11S/7S 比值及其 10 个亚基组的相对含量，用凯氏(Kjeltec)自动定氮仪测定蛋白质含量、自动索氏(Soxtec)抽提仪测定油脂含量。结果表明: (1) 两群体蛋白质组分及其亚基组有关性状以及油脂与蛋油总量等均有不同程度超亲分离，双亲间存在不同程度的位点互补。(2) 蛋白质含量遗传，两群体均为 1 对主基因+多基因模型，主基因和多基因遗传率分别为 31.3%~40.9%和 37.2%~53.7%。蛋油总量均为 3 对主基因+多基因模型，主、多基因遗传率分别为 59.9%~66.6%和 23.2%~27.9%。油脂含量为 2~3 对主基因+多基因模型，两类遗传率分别为 48.6%~71.7%和 4.2%~29.7%。(3) 11S 组分均为 3 对主基因+多基因模型，两类遗传率分别为14.3%~60.7%和 17.0%~50.7%。7S 组分均为 3 对主基因+多基因模型，两类遗传率分别为 34.5%~44.1%和 21.5% ~45.1%。11S/7S 比值遗传均为 2 对主基因+多基因模型，两类遗传率分别为 56.6%~74.8%和 10.1%~20.1%。(4) 11S的 4 个亚基组依次分别为 2~3 对主基因+多基因、2 对主基因+多基因、2 对主基因+多基因、2~3 对主基因+多基因模型。(5) 7S 的 6 个亚基组依次分别为 1~2 对主基因+多基因、2 对主基因+多基因、2~3 对主基因+多基因、3 对主基因+多基因、1~2 对主基因+多基因和 2 对主基因+多基因模型。所有 16 个性状都由主基因和多基因控制，其中有 10个性状两群体具相同的主基因数，其他 6 个性状两群体间相差 1 对主基因，两群体间遗传模型大同小异。 这些相关性状的育种既要利用主基因还必须利用微效多基因，要考虑兼用两者的育种方法。

【英文摘要】The quality and processing property of soy protein depend on its constitution of components and subunit groups, as well as their related traits. The recombinant inbred line population (RIKY) derived from Kefeng 1×Nannong 1138-2 and backcross inbred derived line population (BIEX) derived from (Essex×ZDD2315)×ZDD2315 were tested for their 16 traits related to protein components and their subunit groups, including protein content, protein plus fat content, 11S, 7S, 11S/7S ratio, four 11S subunit groups and six 7S subunit groups, by using Kjeltec, Soxtec and SDS-PAGE analysis. The data obtained were analyzed for the inheritance of the 16 traits by using segregation analysis based on mixed major gene plus polygene inheritance model. The results showed that there existed transgressive segregations in all the traits, which indicated the mutual complement among loci between the parents. One major gene plus polygene mixed model was detected for protein content in both populations with major gene heritability (MGH) 31.3 – 40.9% and polygene heritability (PGH) 37.2 – 53.7%; three major genes plus polygene model for protein plus fat content with MGH 59.9 – 66.6% and PGH 23.2 – 27.9%; two to three major genes plus polygene model for oil content with MGH 48.6 – 71.7% and PGH 4.2 – 29.7%. Three major genes plus polygene inheritance model was detected for 11S protein content with MGH 14.3 – 60.7% and PGH 17.0 – 50.7%; three major genes plus polygene model for 7S protein content with MGH 34.5 – 44.1% and PGH 21.5 – 45.1%; two major genes plus polygene model for 11S/7S ratio with MGH 56.6 – 74.8% and PGH 10.1 – 20.1%. Two to three major gene plus polygene, two major genes plus polygene, two major genes plus polygene and two to three major genes plus

polygene inheritance models were detected for 11S-1 through 11S-4, respectively; one to two major genes plus polygene, two major genes plus polygene, two to three major genes plus polygene, three major genes plus polygene, one to two major genes plus polygene and two major genes plus polygene inheritance models were detected for 7S-1 through 7S-6, respectively. All of 16 traits are controlled by both major genes and minor genes. Among them, ten traits are controlled by same numbers of major genes in both populations and for the other six traits there is one major gene difference between the two populations. Thus, between the two populations, for each trait, the inheritance model is mainly similar in number of major genes while somewhat different in gene effect for those with same major gene numbers. Therefore, plant breeders have to pyramid both major genes and polygenes in breeding for protein content and related quality traits.

【语种】中文
【第一作者】刘顺湖
【通讯作者】盖钧镒
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【学科分类】农艺学

【题目】Isolation of cDNA sequences encoding the MAP kinase HOG1 and the MAP kinase kinase PBS2 genes of the fungus Alternaria tenuissima through a genetic approach.
【中文关键词】无
【英文关键词】Alternaria tenuissima;
cDNA library;
MAP kinase;
HOG1;
PBS2
【中文摘要】无
【英文摘要】Alternaria tenuissima is a fungus widely present in the environment and causes diseases in plants and humans in the world. In this study, we constructed an A. tenuissima cDNA expression library in a centromeric yeast vector that allows the isolation of functional cDNA sequences from this environmental and pathogenic fungus. Through a genetic approach we have isolated and functionally characterized the cDNA sequences encoding the MAP kinase (MAPK) Hog1p and the MAPK kinase Pbs2p of A. tenuissima. AtHOG1 cDNA encodes a protein of 355 amino acids, while AtPBS2 cDNA encodes a protein of 683 amino acids
【语种】英文
【第一作者】Fei Feng
【通讯作者】linghuojiang
【期刊名称、卷期、页码】Journal of Microbiological Methods Volume 69, Issue 1, April 2007, Pages 188 – 196
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【引文索引号】sci
【学科分类】植物保护学

【题目】Gene actions at loci underlying several quantitative traits in two elite rice hybrids
【中文关键词】To understand the gene activities controlling
nine important agronomic quantitative traits in rice, we
applied a North Carolina design 3 (NC III design) analysis to
recombinant inbred lines (RILs) in highly heterotic inter-
(IJ) and intra-subspecific
【英文关键词】To understand the gene activities controlling
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【中文摘要】To understand the gene activities controllingnine important agronomic quantitative traits in rice, weapplied a North Carolina design 3 (NC III design) analysis torecombinant inbred lines (RILs) in highly heterotic inter-(IJ) and intra-subspecific (II) hybrids by performing thefollowing tasks: (1) investigating the relative contribution ofadditive, dominant, and epistatic effects for performancetraits by generation means analysis and variance componentestimates; (2) detecting the number, genomic positions, andgenetic effects of QTL for phenotypic traits; and (3) characterizingtheir mode of gene action.

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【语种】英文

【第一作者】李兰芝

【通讯作者】胡中立

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【引文索引类型】SCI

【引文索引号】10.1007

【学科分类】农业基础学科

【题目】Effects of missing marker and segregation distortion on QTL mapping in F2

【中文关键词】Missing marker and segregation distortion are commonly encountered in actual quantitative trait locus (QTL) mapping populations. Our objective in this study was to investigate the impact of the two factors on QTL mapping through computer simulations.

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【中文摘要】Missing marker and segregation distortion arecommonly encountered in actual quantitative trait locus(QTL) mapping populations. Our objective in this studywas to investigate the impact of the two factors on QTLmapping through computer simulations. Results indicatethat detection power decreases with increasing levels ofmissing markers, and the false discovery rate increases.Missing markers have greater effects on smaller effectQTL and smaller size populations. The effect of missingmarkers can be quantified by a population with a reducedsize similar to the marker missing rate.

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【语种】英文

【第一作者】张鲁燕

【通讯作者】王建康

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【学科分类】农业基础学科

【题目】大豆花叶病毒保存方法的比较研究
【中文关键词】大豆花叶病毒; 病毒保存;超低温;液氮
【英文关键词】Soybean mosaic virus ; Virus preservation ; Ultra low temperature ; Liquid nitrogen
【中文摘要】利用 2个株系的 4份大豆花叶病毒分离物在低温冰箱 (- 40)、 超低温冰箱 (- 80)和液氮 (- 196)3种保存方法下, 保存 3个月、 8个月和 15个月, 接种感病品种南农 1138 -2 , 测定感病后的发病率和病情指数,以寻求适合 SMV长期低温保存的方法方差分析结果表明: 二指标在保存方法、 保存时间、 分离物及各种交互作用上均表现显著差异。保存 3个月时, 3种保存方法均可保持 SMV的高发病率和病情指数; 保存 8个月和 15个月时, 低温下 S MV分离物的发病率和病情指数因来源株系不同而不同,超低温和液氮下的发病率和病情指数均较高,分别可达 90 . 0%和 75 . 0 %以上。因此, - 80 超低温和 - 196 液氮可以作为 S MV 较长时期保存的方法, - 40 低温保存通用性差,不适宜长期稳定保存。
【英文摘要】Plant v iruses , such as SoybeanM osa i c V irus (SMV), can li ve outs i de the body i n room te m perature on l y a veryshort ti me , therefore , it is essen tia l to find a way f o r long ter m preserva tion o f p lant v iruses . The presen t study w as to com-pa re different m ethods o f l ow te m pera t ure f o r l ong ter m prese rvation of SMV. Four iso l a tes o f t wo strai ns w ere prese rved i nl ow temperature refr i gerato r (-40), ultra l ow te m pe rature freezer (-80) and li qui d nitrogen (-196) for three , eigh tand fifteen m onths . The i nci dence rate (IR) and disease i ndex (DI) on the suscepti ble soybean culti va rNannong 1138 -2 i n -ocu lated w it h t he isolates were eva l uated . The results of ANOVA sho w ed t hat there were sign ifi cant differences i n I R and DIa m ong preservati on me t hods , preserva ti on periods , iso l a tes and t he ir interac ti ons . S MV iso l a tes preserved in t he threem eth -ods for t hreem ont hs a ll kept high I R and DI . The I R and DI of SMV preserved i n l ow temperature refri g era tor for e i ght andfifteen months var i ed a m ong iso l a tes , bu t tho se i n u ltra l ow te m pe rature free zer and li qu i d n i trogen kept m ore t han 90 . 0%and 75 . 0%, respecti ve l y . There fore , -80 u ltra l ow te m pe ra t ure freezer and -196 liquid nitrogen are su itab le f o r preser -vati on of SMV for 15 months , wh ile-40 l ow te m pe ra t ure re frigerator is no t a suitable w ay for long te r m preserv ati on o fS MV due t o i ts fl uctuati on a m ong i so lates . From the h i gh I R and D I va l ues after 15 m ont hs preservati on under ultra lo w tem-pe rature freezer and liquid n itrogen condition , furt her longer preserva ti on can be expec ted , espec iall y for the latter . There -fo re , furt her study i s ongo i ng.
【语种】中文
【第一作者】杨清华
【通讯作者】盖钧镒
【期刊名称、卷期、页码】大豆科学 2009,29(2):260-262
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【引文索引类型】其他
【引文索引号】null
【学科分类】农艺学

【题目】Variation characteristics of the nitrate reductase gene of key inbred maize lines and derived lines in China
【中文关键词】we found that: 1) the NR gene of most inbred lines from Huangzaosi and from derived lines had two insertion fragments and two replacement fragments; 2) the NR gene of most inbred lines from Mo17 and derived lines had one insertion fragment and one replace
【英文关键词】we found that: 1) the NR gene of most inbred lines from Huangzaosi and from derived lines had two insertion fragments and two replacement fragments; 2) the NR gene of most inbred lines from Mo17 and derived lines had one insertion fragment and one replace
【中文摘要】we found that: 1) the NR gene of most inbred lines from Huangzaosi and from derived lines had two insertion fragments and two replacement fragments; 2) the NR gene of most inbred lines from Mo17 and derived lines had one insertion fragment and one replacement fragment; 3) there were two common variations and eight common SNPs in the NR gene of the four key lines.Huangzaosi and Mo17 also had three common variations compared with the other key lines. Moreover, Mo17 had some unique variations; there were no unique variations in the other key lines, even for SNPs, and 4) phylogenetic tree analysis showed that the NR gene of the derived lines from the same key line had higher sequence homology.
【英文摘要】we found that: 1) the NR gene of most inbred lines from Huangzaosi and from derived lines had two insertion fragments and two replacement fragments; 2) the NR gene of most inbred lines from Mo17 and derived lines had one insertion fragment and one replacement fragment; 3) there were two common variations and eight common SNPs in the NR gene of the four key lines.Huangzaosi and Mo17 also had three common variations compared with the other key lines. Moreover, Mo17 had some unique variations; there

were no unique variations in the other key lines, even for SNPs, and 4) phylogenetic tree analysis showed that the NR gene of the derived lines from the same key line had higher sequence homology.
【语种】英文
【第一作者】张JJ
【通讯作者】黄玉碧
【期刊名称、卷期、页码】Genetics and Molecular Research, 2010, 9: 1824-1835
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【引文索引号】10.4238
【学科分类】农业基础学科

【题目】不同生态条件下不同品种马铃薯还原糖、蛋白质、干物质含量研究
【中文关键词】马铃薯;生态条件;还原糖;蛋白质;干物质
【英文关键词】Potato;Ecological environment;Reducing sugar;Protein;Dry matter
【中文摘要】为了提高马铃薯品质,增加经济效益,探讨不同马铃薯品种适宜的种植区,对青薯168、宁薯4号、陇薯3号、青薯6号4个马铃薯参试品种在宁夏4个不同生态条件下的还原糖、蛋白质、干物质含量进行方差分析。结果表明:还原糖含量表现为试点之间的差异大于品种之间的差异,品种×试点的差异达极显著水平;蛋白质含量表现为试点之间的差异大于品种之间的差异,品种×试点的差异不显著;干物质含量表现为品种之间的差异大于试点之间的差异,品种×试点的差异不显著。宁夏海原马铃薯还原糖含量最低,为0.393%,宁夏泾源最高,为0.794%;宁夏海原的蛋白质平均含量最高,为0.71%,宁夏隆德最低,为0.56%;宁夏固原的干物质含量最低,为20.73%,宁夏海原的干物质含量最高,为22.15%。还原糖含量受地理环境和品种的双重影响,在种植时应考虑品种和环境两因素,而蛋白质和干物质含量受品种因素的影响远远大于环境因素,在种植时主要考虑品种因素。
【英文摘要】In order to improve potato quality and increase economic benefit,the reducing sugar,protein,dry matter content of analysis of variance of four potato varieties in the Ningxia four different ecological conditions were analyzed.The difference in reducing sugar content is greater inregions than in varieties;species×pilot was significantly different.The difference in protein content is greater in regions than in varieties;species×the pilot was not significant.The differenc dry matter content is greater in varieties than in regions;variety×pilot was not significant.The sugar content of Haiyuan potato is lowest(0.393%)but that of Jingyuan potato is highest(0.794%).The protein content of Haiyuan potato is lowest(0.71%)but that of Delong potato ishighest(0.56%).The dry matter content of Haiyuan potato is lowest(22.15%)but that of Guyuan potato is highest(20.73%).The results showed that reducing sugar content by environment and variety,and environment was considered when planting potato.The protein and dry matter content were affected by variety far more than environmental,and the variety factor was considered when planting
【语种】中文
【第一作者】刘喜平
【通讯作者】陈彦云
【期刊名称、卷期、页码】河南农业科学,2011,40(11):100-103
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【引文索引类型】其他
【引文索引号】null
【学科分类】农产品贮藏与加工

【题目】Genetic dissection of amino acid content in rice grain
【中文关键词】The findings showed thatmostmain effect QTLs for AACs detected tended to be co-localised within the genome. Thus, if a breeder were interested in changing the concentration of only one amino acid, this might be difficult to achieve. Meanwhile, the preva
【英文关键词】The findings showed thatmostmain effect QTLs for AACs detected tended to be co-localised within the genome. Thus, if a breeder were interested in changing the concentration of only one amino acid, this might be difficult to achieve. Meanwhile, the preva
【中文摘要】The findings showed thatmostmain effect QTLs for AACs detected tended to be co-localised within the genome.Thus, if a breeder were interested in changing the concentration of only one amino acid, this might be difficult to achieve.Meanwhile, the prevalent epistasis for the loci involved appeared to hold true for the content of amino acids. The informationreported in the present

study is expected to be useful for future breeding programmes targeting the development of improvedrice amino acid composition for human nutrition.

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【语种】英文

【第一作者】陆凯阳

【通讯作者】牟同敏

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【引文索引号】10.1002

【学科分类】农业基础学科

【题目】大豆嫁接体系中砧木或接穗保留叶片数对接穗生长发育的影响

【中文关键词】大豆; 嫁接; 保留叶片数; 可传导开花物质; 剂量效应

【英文关键词】Soybean; Graft; Maintained leaf number; Transmissible floral substance; Accumulative effect

【中文摘要】以早熟品种黑河 27 为砧木, 晚熟品种自贡冬豆为接穗, 通过嫁接并结合去叶处理, 创造砧木和接穗叶片数各不相同的嫁接体, 观察砧木及接穗的叶片数目对接穗发育的效应, 分析大豆叶片中可传导开花诱导物质和抑制物质的有无、作用方式及其对植株发育的影响。结果表明, 在长日照(16 h)条件下, 与黑河 27 嫁接, 导致自贡冬豆在嫁接后第 30 天(出苗后第 41 天)开花, 而自体嫁接的自贡冬豆在试验结束前(>120 d)仍未开花, 说明在非诱导光照条件(长日照)下, 早熟品种黑河 27 的叶片产生可传导的开花促进物质, 并通过嫁接传导至晚熟品种自贡冬豆的顶端分生组织, 诱导其实现成花转变。 砧木诱导接穗开花的效应大小与其所保留的叶片数目呈正比, 说明上述可传导物质对大豆开花的促进作用存在剂量效应。 接穗去叶可导致自身花期提前, 花数增加, 显示晚熟接穗的叶片在长日照下可产生开花抑制物质。 接穗上的花朵和荚果数目与其保留叶片数呈反比, 说明开花抑制物质阻止生殖器官的发育, 且其作用也具有剂量效应。接穗去叶部位对其成花发育状态亦有一定影响。试验表明, 在大豆生长发育过程中, 叶片根据光周期信号的变化, 调节开花促进物质和开花抑制物质的多少和比例, 进而协调营养生长和生殖生长的进度, 保证生命周期的完成。

【英文摘要】To elucidate whether there exist floral stimuli and inhibitors in flowering process, what the underlying mechanism is, and how they regulate plant growth and development, we used the early-maturing soybean cultivar Heihe 27 and late-maturing cultivar Zigongdongdou as stock and scion, respectively to make graf in which scions and stocks had different leaf numbers in combination with defoliation, and to study the effect of leaf number of stock and scion on the reproductive development. Under long-day (16 h) conditions, Zigongdongdou scions flowered at day 30 after being grafted onto Heihe 27 stocks, while its self-grafts failed to flower until the experiment finished (over 120 days). It suggested that under noninductive photoperiods (long-day), the transmissible floral stimuli were produced in the leaves of the early-maturing Heihe 27 and moved to the apical meristem of the late-maturing Zigongdongdou to induce the scion to flower. And the effect of the stock on the flowering of the scion was dependent on the number of leaves remained in the stock. It indicated that there exists an accumulative effect of the transmissible stimuli on soybean flowering. Defoliation on scions promoted flowering and increased flower number, which showed that some floral inhibitors were produced in the leaves of scions under long-day conditions. The number of flowers and pods on scions negatively correlated with the number of remained scion leaves. It indicated that the floral inhibitors suppress the development of the reproductive organs, and the inhibitions have an accumulative effect as well. The node location where scions were defoliated also had an effect on the flowering development. It was proposed that, during the growth and development of soybean, leaves regulate the amount and balance of floral stimuli and inhibitors based on photoperiodic signals, and consequently trigger the proceeding from vegetative growth to the reproductive development to ensure the completion of life cycle.

【语种】中文

【第一作者】贾贞

【通讯作者】韩天富

【期刊名称、卷期、页码】作物学报 2011, 37(4): 650 − 660

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【学科分类】农艺学

【题目】Synthesis and Herbicidal Activity of Novel N-(2,2,2)-Trifluoroethylpyrazole Derivatives
【中文关键词】无
【英文关键词】N-(2,2,2)-Trifluoroethylpyrazole; herbicidal activity; synthesis; safety
【中文摘要】无
【英文摘要】A series of novel N-(2,2,2)-trifluoroethylpyrazole derivatives were synthesized, and their structures were characterized by IR, mass spectroscopy, 1H NMR, and elementary analysis. The herbicidal activities of target compounds 10a − c and 11a − c were assessed. The bioassay results showed that these pyrazole derivatives exhibited good herbicidal activity. Compound 11a showed the best pre-emergence herbicidal effects against both dicotyledonous and monocotyledonous weeds with good safety to maize and rape at the dosage of 150 g a.i. ha − 1 in greenhouse. Field trials indicated that compound 11a exhibited better herbicidal activity by soil application than the commercial herbicide, metolachlor. Moreover, compound 11a showed the same level of safety to maize as metolachlor.
【语种】英文
【第一作者】Hong-Ju Ma
【通讯作者】宁君
【期刊名称、卷期、页码】J. Agric. Food Chem., 2010, 58 (7), pp 4356 – 4360
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【引文索引号】sci
【学科分类】有机化学

【题目】Genetic Dissection of Complex Endosperm Traits
【中文关键词】The endosperm of plants is a major source of food, feed
and industrial raw materials. The genetic analysis of
endosperm traits poses numerous challenges due to
the endosperm ’s complex genetic composition and
unique physical and developmental propertie
【英文关键词】The endosperm of plants is a major source of food, feed
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【语种】英文
【第一作者】王学枫
【通讯作者】徐辰武
【期刊名称、卷期、页码】Trends in Plant Science, 2009, 14(7): 391-398
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【引文索引号】10.1016

【学科分类】农业基础学科

【题目】大豆苗期耐淹性的遗传与 QTL 分析
【中文关键词】大豆; 耐淹性; RIL 群体; 分离分析; QTL 定位
【英文关键词】Soybean; Waterlogging tolerance; Recombinant inbred line (RIL); Segregation analysis; QTL mapping
【中文摘要】洪涝灾害是大豆生产的主要逆境之一, 培育耐涝品种是抗灾保收的重要措施。大豆耐涝性育种方案的设计必须以耐涝性遗传为前提。 以苏 88-M21(淹水不敏感)×新沂小黑豆(淹水敏感)衍生的 175 个重组自交系(NJRISX)为材料, 在盆栽V2 期土壤表层保持5~7 cm水层 20 d的淹水条件下, 研究大豆苗期耐淹性的遗传和QTL定位。通过对8 个耐淹性有关性状的相关分析和主成份分析, 确定以处理前后株高变化量、 处理终叶龄和成熟期株高 3个性状的平均耐淹指数为评价指标。NJRISX 家系间耐淹性差异极显著, 存在超亲分离。主基因+多基因分离分析表明该群体的耐淹性为 2 对连锁主基因+多基因遗传, 主基因遗传率为 62.83%, 多基因的遗传率为 8.90%。WinQTLCart2.5 复合区间及多区间 QTL 定位分析均检测到 2 个 QTL, 位于连锁群 L2 上的 Satt229~Satt527 和 Satt527~Sat_286 区间, 对表型的解释率分别为11.76%~25.20%和10.10%~12.34%。大豆NJRISX群体苗期耐淹性遗传分离分析与QTL定位结果相对一致。
【英文摘要】Flooding is a serious problem for soybean production in eastern and southern China. Development of cultivars with tolerance to waterlogging is one of the effective ways to cope with the stress problem. For which, the genetic knowledge of wa-terlogging tolerance is of essential importance. The present study was aimed at revealing the inheritance and mapping the QTLs for waterlogging tolerance of soybean at seedling stage. The materials used were 175 recombinant inbred lines (RILs) derived from the cross Su88-M21 (tolerant) × Xinyixiaoheidou (highly sensitive), designated as NJRISX. A pot experiment was held un-der 5 – 7 cm waterlogging stress for 20 days at V2 stage. Based on the correlation and principal component analysis of eight traits, we calculated the joint waterlogging tolerance index from the average of individual tolerance index of plant height increment, number of leaves at the end of waterlogging and plant height at maturity to evaluate the tolerances of the materials. There existed obvious transgressive segregation and significant differences among the RIL lines. The segregation analysis under major gene plus polygene mixed inheritance model showed that waterlogging tolerance of soybean was controlled by two linked major genes plus polygenes with major gene heritability of 62.83% and polygene heritability of 8.90%. By using composite interval mapping (CIM) and multiple interval mapping (MIM) of WinQTL Cartographer Version 2.5, two QTLs conferring waterlogging tolerance were mapped in the marker regions of Satt229 – Satt527 and Satt527 – Sat_286 on linkage groups L2, explaining 11.76% – 25.20% and 10.10% – 12.34% of the total phenotypic variation, respectively. Accordingly, the results from segregation analysis and QTL map-ping are relatively consistent in NJRISX population.
【语种】中文
【第一作者】孙慧敏
【通讯作者】盖钧镒
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【学科分类】农艺学

【题目】不同药剂处理对马铃薯种薯生理生化特性的影响
【中文关键词】马铃薯种薯; 药剂处理; 生理生化特性; 发病率
【英文关键词】seed potato; pesticide; physiological and biochemical character; morbidity rate
【中文摘要】为筛选出窖藏条件下马铃薯种薯贮藏的理想防病药剂,以庄薯3 号原种为供试材料,利用病毒克星、72%农用硫酸链霉素、50%多菌灵可湿性粉剂和75%百菌清可湿性粉剂对种薯进行喷药处理,研究不同药剂处理对贮藏期种薯生理生化特性及其发病率的影响。结果表明: (1) 经150 d 贮藏后,不同喷药处理间种薯发病率存在极显著差异(P < 0. 01) ; 与对照相比,用病毒克星、农用硫酸链霉素、多菌灵和百菌清处理后种薯发病率分别降低了4. 98 个百分点、6. 94 个百分点、5. 22 个百分点、6. 03 个百分点。(2) 不同药剂处理间种薯淀粉含量存在显著性差异(P < 0. 05) ; 干物质含量无显著性差异; 种薯含水量存在极显著差异(P < 0. 01) 。(3) 与对照相比,各处理均能抑制种薯的多酚氧化酶(PPO) 活性、降低过氧化物酶(POD) 活性、减少丙二醛(MDA) 含量。(4) 与对照相比,农用硫酸链霉素、多菌灵和百菌清可以提高种薯活力,其中采用72%农用硫酸链霉素处理的种薯活力最高,而病毒克星反而降低了种薯活力。表明较为理想的防病药剂为72%农用硫酸链霉素和百菌清。
【英文摘要】The seed potato Zhuangshu No. 3 was used to study the effects of different pesticides on physiological and biochemical characters and morbidity rates of the seed potatoes by spraying virus buster,72% streptomycin sulfate,50% carbendazim and 75%

chlorothalonil,in order to select the optimal chemicals during cellaring. There were extremely significantdifferences (P < 0. 01) in the morbidity rates of seed potatoes among the different treatments after storage for five months. In the treatments of virus buster,streptomycin sulfate,carbendazim and chlorothalonil,the morbidity rates of seed potatoes were lower than that of control by 4. 98 percentage point,6. 94 percentage point,5. 22 percentage point and 6. 03 percentage point respectively. Among the four treatments, the difference of the starch content of seed potatoes was significant (P < 0. 05) ,the difference of the dry matter content was not significant,and the difference of the water content was extremely significant (P < 0. 01) . Compared with the control,all four treatments could inhibit polyphenol oxidase (PPO) activity and peroxidase (POD) activity and decrease malondialdehyde (MDA) content. The 24 vigor of seed potatoes was the highest in 72% streptomycin sulfate treatment,and was lowered by virus buster treatment. It was indicated that 72% streptomycin sulfate and 72% chlorothalonil were better for control of seed potato diseases.

【语种】中文
【第一作者】刘亚武
【通讯作者】李国旗
【期刊名称、卷期、页码】江苏农业学报 ,2012,28(1) : 24 ~ 29
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【学科分类】农产品贮藏与加工

【题目】Improved Genetic Mapping of Endosperm Traits Using NCIII and TTC Designs
【中文关键词】The endosperm in plants is a major source of human
nutrition and industrial raw material. The genetic study of
endosperm poses a great challenge due to its complex
genetic composition and unique physical and developmental
properties. In this note, we
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【语种】英文
【第一作者】王学枫
【通讯作者】徐辰武
【期刊名称、卷期、页码】Journal of Heredity, 2009, 100(4):496 – 500
【论文发表时间】2009-03-30 00:00:00
【引文索引类型】SCI
【引文索引号】10.1093
【学科分类】农业基础学科

【题目】Mapping QTL for Multiple Traits Using Bayesian Statistics
【中文关键词】The value of a new crop species is usually judged by the overall performance of multiple traits.
Therefore, in most quantitative trait locus (QTL) mapping experiments, researchers tend to collect
phenotypic records for multiple traits. Some traits may v

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【语种】英文

【第一作者】徐辰武

【通讯作者】徐士忠

【期刊名称、卷期、页码】Genetics Research, 2009, 91(1):23-37

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【引文索引类型】SCI

【引文索引号】10.1017

【学科分类】农业基础学科

【题目】Molecular evolution and functional divergence of HAK Potassium transporter gene family in rice (Oryza sativa L.)

【中文关键词】The high-affinity K+ (HAK) transporter gene family is the largest family in plant that functions as potassium transporter and is important for various aspects of plant life. In the present study, we identified 27 members of this family in rice genome. Th

【英文关键词】The high-affinity K+ (HAK) transporter gene family is the largest family in plant that functions as potassium transporter and is important for various aspects of plant life. In the present study, we identified 27 members of this family in rice genome. Th

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【语种】英文

【第一作者】杨泽峰

【通讯作者】徐辰武

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【引文索引号】10.1016

【学科分类】农业基础学科

【题目】大豆品种主要光合指标日变化的研究

【中文关键词】大豆,净光合速率,气孔导度,胞间CO2浓度,蒸腾速率,日变化

【英文关键词】So y bean Netp hotos y ntheticrate Stomatalconductance IntercellularCO2concen - tration Trans p irationrate Diurnal chan g es

【中文摘要】为了探讨大豆品种光合作用的差异 在田间条件下 选用5个大豆品种 利用LI - Cor6400光合测定仪对其开花期和结荚期的净光合速率 气孔导度 胞间CO2 浓度及蒸腾速率的日变化进行了研究 同时比较了不同大豆品种的叶绿素含量

结果表明 开花期 大豆净光合速率和蒸腾速率呈典型双峰曲线变化 在10001500达到高峰 结荚期 净光合速率主要呈单峰变化 在1000达到全天的最高值 蒸腾速率仍然表现为典型双峰曲线 但达到日变化最高值的时间比开花期提前了2h 气孔导度在早晨最高 900之后变化平缓 胞间 CO 2 浓度在早晨和傍晚较高 在900-1600内变化不大 大豆不同品种的叶绿素SPAD值在开花期无显著差异 在结荚期 中豆8号显著低于其他品种 研究表明 不同大豆品种之间的主要光合指标具有规律性 因此 选择高光效品种时应兼顾各项主要光合指标

【英文摘要】Toinvesti g atethedifferencesbetweenthep hotos y ntheticcharacteristicsofdifferentso y beanvarietiesdiurnalvariationofmainp hotos y nthetic indexwasdeterminedfor fivedifferentso y beanvarietiesb yusin gLI - Cor6400p ortablep hotos y nthesiss y steminthefieldconditionatflowerin gandp oddin gsta g e.Andthecontentofchloro p h y llwasalsodetermined.TheresultsshowedAtflowerin gsta g enetp hotos y ntheticrateandtrans p irationrateshowedat yp icalbi -modal curvep eakin gat1000and1500 Atp oddin gsta g ethetrans p irationratere p resentedat yp icaldiauxiecurvewhichreached itshi g hestp eakaheadof2hhoweverthenetp hotos y ntheticratewascharacterizedb yaunimodalcurvewithap eakat1000 Thehi g heststomatalconduc -tancewasinthemornin gandchan g edslowl yafter900IntercellularCO 2 concentrationwashi g her inthemornin gandevenin gwithlittlechan g ebetween900and1600 TheSPADValueofdifferentso y beanvarietieshadnosi g nificantdifferenceat flowerin gsta g eandZhon g douNo.8wassi g nificantl ylower thantheothervarietiesatp oddin gsta g e.Thestud yshowedthat thediur -nalvariationofp hotos y nthetic indexhaditsre g ularit yamon gfiveso y beanvarieties.Itwascon -cludedthat theselectin gofso y beanvarietieswithhi g hp hotos y ntheticefficienc yshouldtake intoaccountofvarious indicatorsofp hotos y ntheticcharacteristics.

【语种】中文

【第一作者】徐新娟

【通讯作者】黄中文

【期刊名称、卷期、页码】河南农业科学 2011,40(11):49-52,56

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【学科分类】农艺学

【题目】Dominance, Over-dominance and Epistasis Condition the Heterosis in Two Heterotic Rice Hybrids

【中文关键词】Two recombinant inbred (RI) populations having 194 and 222 lines each, derived, respectively, from a highly heterotic inter- (IJ) and intrasubspecific (II) hybrid, were backcrossed to their respective parents.
The RI and two backcross populations alon

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【中文摘要】Two recombinant inbred (RI) populations having 194 and 222 lines each, derived, respectively, from ahighly heterotic inter- (IJ) and intrasubspecific (II) hybrid, were backcrossed to their respective parents.The RI and two backcross populations along with F1 and its two parents of each hybrid were evaluated fornine important traits, including grain yield and eight other yield-related traits. A total of 76 quantitative traitloci (QTL) for the IJ hybrid and 41 QTL for the II hybrid were detected in the RI population, midparentheterosis of two backcross populations, and two independent sets of data by summation (L1 1 L2) and bysubtraction (L1 L2) of two backcross populations (L1 and L2).

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【语种】英文

【第一作者】李兰芝

【通讯作者】胡中立

【期刊名称、卷期、页码】Genetics, 2008, 180: 1725-1742

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【引文索引号】10.1534
【学科分类】农业基础学科

【题目】Quantitative trait loci controlling Cu, Ca, Zn, Mn and Fe content in rice grains
【中文关键词】In the present study, with a set of 241
recombinant-inbred lines (RILs) derived from a cross between
Zhenshan 97 and Minghui 63, mapping of main-effect
QTLs and epistatic QTLs for the Fe, Ca, Zn, Mn and Cu
content of rice grain was conducted based on
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【语种】英文
【第一作者】陆凯阳
【通讯作者】牟同敏
【期刊名称、卷期、页码】Journal of Genetics, 2008, 87: 305-310
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【引文索引类型】SCI
【引文索引号】10.1007
【学科分类】农业基础学科

【题目】热分析对马铃薯抑芽粉剂中氯苯胺灵缓释机理的研究
【中文关键词】马铃薯,抑芽剂,氯苯胺灵,热分析
【英文关键词】potato; inhibit-sprout powder; chloropropham; thermoanalysis
【中文摘要】采用热重法、导数热重法和差热分析法,分别对基料凹凸棒、主效成分氯苯胺灵和抑芽粉剂进行热分析测定,通过对热分析结果的比较,提出了基料凹凸棒对主效成分氯苯胺灵的缓释机理。结果表明,经过液化工艺将氯苯胺灵附载到凹凸棒上,由于基料凹凸棒的比表面积较大,吸附在凹凸棒上的氯苯胺灵因表面效应在较低的温度下也易于挥发,并延缓了挥发速率,为选用凹凸棒作为基料对氯苯胺灵的缓释提供了理论依据
【英文摘要】In this research, base-powder clay, chlorpropham and potato sprout inhibitor were determined bythermogravimetry (TG), derivative thermogravimetry (DTG) and differential thermal analyses (DTA), respectively. And theslow-release mechanism of chloropropham in potato sprout inhibitor was put forward by comparisons. It was concluded that when chlorpropham was carried on the clay by colliquative technology, chlorpropham absorbed on the clay could easily evaporate even at low temperature due to the clay's large specific surface area, and be slowed down for the rate of volatilization, which suggested that the clay could be used as base-powder for chlorpropham's slow-release.
【语种】中文
【第一作者】田世龙
【通讯作者】田世龙
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【学科分类】农产品贮藏与加工

【题目】大豆突变体 NJS-1 H核雄性不育性的细胞学与遗传学分析
【中文关键词】大豆; 核雄性不育;联会异常; 遗传
【英文关键词】Soybean ; Nuclear male sterility ; Abnormal synapsis ; Inheritance
【中文摘要】利用化学诱变剂叠氮化钠 (NaN3)处理大豆品种南农 86 -4 , 获得雄性不育突变体 NJS -1H。细胞学观察发现 ,该突变体不育株 NJS -1H (s)的小孢子在减数分裂前期 I染色体联会异常, 出现单价体;减数分裂过程中出现染色体落后、不对称或不同步分裂等现象;在四分体阶段, 出现各种畸形多分体及大量微核; 所形成单核小孢子细胞核消失,细胞质变稀薄, 最后成熟花粉粒无内容物, 完全不育。从减数分裂到花粉粒发育成熟都有败育发生,但大量败育主要发生在减数分裂阶段。人工平行杂交试验表明其雌性育性不正常。对突变体后代育性分离株系及株系群的遗传分析,发现 NJS -1H 的雄性不育性受 1对隐性核基因控制。
【英文摘要】A soybean nuclearma le -steril em utantNJS -1H w as ob tained from NN86 -4 i nduced w i th NaN3. A series of irregularpheno m ena w ere observed dur i ng its m i crospo rogenes i s based on no r m al squash and ace tocar m i ne dye i ng . The me iosis o f po- ll en m other ce lls o f itsm a l e ster ile p l ants w as h i gh l y abno r m al i n chro m osome synapsis at prophase I , fo llo w ed w ith appear i ngun i va l ent , chro m osom e l agg i ng, unequa l and asynchrony d istri buti on , etc . du ri ng them eiotic process . A t tetrad stage , var- ious m a lfor m ed po lyad and a l arge number o fm icronuc l e i appeared . After w ards a t un i nuc learm icro spore stage , the nucle i de -generated w it h cy t op l asm becom i ng w as hy and m i crospo res shrunk and t hen the ma t ure poll ens appeared e m pty w ithout ce lli nc l usi on and therefo re w ere ster ile . The abno r m al pheno m ena occurred a l m ost at a ll stages fro m initial o f m eiosis to po ll enma t ur ity w ith its m ajor per i od duri ngm e i os i s s i nce t he disorder of chromoso m e synapsis causi ng po llen degene ra tion . The re -su lts from pa ra lle l cross tests i nd i ca ted that t he NJS -1H m a l e -ster ile p lant is a l so partiall y fe m a l e -ster ile . Fro m them a l e fer -tility seg regati on ana l y ses o f progen i es de ri v ed fro m m a l e - fertile i ndiv i dua l s obta i ned i n fertilit y - segreg ati on fa m ili es , it wasf ound tha t them a l e ste rility of NJS -1H was contro lled by a pa ir of recess i ve nuc l ear genes
【语种】中文
【第一作者】李曙光
【通讯作者】盖钧镒
【期刊名称、卷期、页码】大豆科学 29(2):181-185
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【引文索引类型】其他
【引文索引号】null
【学科分类】农艺学

【题目】Genomewide comparative phylogenetic and molecular evolutionary analysis of tubby-like protein family in Arabidopsis, rice, and poplar
【中文关键词】Tubby-like proteins, which are characterized by a highly conserved tubby domain, play an important role in the maintenance and function of neuronal cells during postdifferentiation and development in mammals. In additional to the tubby domain, most tubb
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【中文摘要】Tubby-like proteins, which are characterized by a highly conserved tubby domain, play an important role inthe maintenance and function of neuronal cells during postdifferentiation and development in mammals. Inadditional to the tubby domain, most tubby-like proteins in plants also possess an F-box domain. Plants alsoappear to harbor a large number of TLP genes. To gain insight into how TLP genes evolved in plants, weconducted a comparative phylogenetic and molecular evolutionary analysis of the tubby-like protein genefamily in Arabidopsis, rice, and poplar. Genomewide screening identified 11 TLP genes in Arabidopsis, 14 inrice, and 11 in poplar.
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tubby-like protein genefamily in Arabidopsis, rice, and poplar. Genomewide screening identified 11 TLP genes in Arabidopsis, 14 inrice, and 11 in poplar.
【语种】英文
【第一作者】杨泽峰
【通讯作者】徐辰武
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【引文索引类型】SCI
【引文索引号】10.1016
【学科分类】农业基础学科

【题目】外源钙对马铃薯块茎贮藏期间几种酶活性及蛋白质含量的影响
【中文关键词】马铃薯; 外源钙; 酶活性; 蛋白质
【英文关键词】Potato;Effects of exogenous Ca; enzyme activity; protein
【中文摘要】通过对马铃薯生长设置不同水平的钙肥施用处理,研究外源钙对马铃薯块茎贮藏期间淀粉酶活性、过氧化物酶活性、多酚氧化酶活性及蛋白质含量的影响。结果表明,高浓度钙处理下在贮藏后期马铃薯块茎过氧化物酶活性和多酚氧化酶活性都高于低浓度钙处理和对照,高浓度钙处理的淀粉酶活性则低于对照。低浓度钙处理的马铃薯块茎蛋白质含量在贮藏过程中下降幅度最小,对照则降幅最大。
【英文摘要】无
【语种】中文
【第一作者】刘喜平
【通讯作者】陈彦云
【期刊名称、卷期、页码】江苏农业科学 2012 年第40 卷第2 期
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【学科分类】农产品贮藏与加工

【题目】Molecular Evolution of the CPP-like Gene Family in Plants: Insights from Comparative Genomics of Arabidopsis and Rice
【中文关键词】CPP-like genes are members of a small family
which features the existence of two similar Cys-rich
domains termed CXC domains in their protein products
and are distributed widely in plants and animals but do not
exist in yeast. The members of this fami
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【语种】英文
【第一作者】杨泽峰
【通讯作者】徐辰武
【期刊名称、卷期、页码】Journal of Molecular Evolution, 2008, 67(3):266-277
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【学科分类】农业基础学科

【题目】Comparative Study of SBP-box Gene Family in Arabidopsis and Rice
【中文关键词】SBP-box proteins are plant-specific putative transcription factors, which contain highly conserved SBP domain and could bind specifically to
promoters of the floral meristem identity gene SQUAMOSA and its orthologous genes to regulate their expressions.
【英文关键词】SBP-box proteins are plant-specific putative transcription factors, which contain highly conserved SBP domain and could bind specifically to
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【语种】英文
【第一作者】杨泽峰
【通讯作者】徐辰武
【期刊名称、卷期、页码】Gene, 2008, 407:1-11
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【学科分类】农业基础学科

【题目】外源钾对马铃薯块茎贮藏期间酶活性的影响
【中文关键词】马铃薯; 外源钾; 酶活性
【英文关键词】Potato; Exogenous potassium; Activities of enzyme
【中文摘要】[目的]研究不同浓度外源钾对马铃薯块茎贮藏期间几种酶活性的影响。[方法]在大田栽培条件下,以马铃薯陇薯3 号为材料,叶面喷施不同浓度的外源钾,通过比较块茎在贮藏期间酶活性的变化,研究喷施外源钾对马铃薯休眠生理代谢的调控效应。[结果]4. 05 kg /hm2 的钾处理可以极显著降低取样末期块茎内淀粉酶和升高多酚氧化酶活性的活性,并显著升高过氧化物酶活性; 8. 1 kg /hm2 的钾处理可提高取样末期块茎内过氧化物酶活性并显著提高取样末期块茎内酚氧化酶活性。[结论]研究结果对了解外源钾在马铃薯块茎休眠期间的作用,以及促进外源钾在马铃薯上的应用具有重要意义。
【英文摘要】[Objective]To investigate the effects of exogenous potassium on the activities of enzymes in potato tuber during storage.[Method]Under field cultivation conditions,different concentrations of exogenous potassium were sprayed on the leaves of Longshu No. 3,through comparing the enzyme activities in potato tuber during storage,the regulation of dormant physiology of potato by the foliar spraying of exogenous potassium was studied. [Result]4. 05 kg /hm2 exogenous potassium could significantly reduce the

activities of amylase and increase the activities of polyphenol oxidase and peroxides; 8. 1 kg /hm2 exogenous potassium treatment could increase the activities of a peroxides and significantly improve the activities of polyphenol oxidase.[Conclusion]The research results were of great significance to understanding role of exogenouspotassium in the dormancy regulation of potato tuber and promoting its application to potatos.

【语种】中文
【第一作者】刘喜平
【通讯作者】陈彦云
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【学科分类】农产品贮藏与加工

【题目】A Mixture Model Approach to the Mapping of QTL Controlling Endosperm Traits with Bulked Sample
【中文关键词】Endosperm traits are of triploid inheritance and
have become a focus of breeding effort for their close
relations with the grain quality. Current methods for
mapping quantitative trait loci (QTL) underlying endosperm
traits are restricted to the use o
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【语种】英文
【第一作者】王学枫
【通讯作者】徐辰武
【期刊名称、卷期、页码】Genetica, 2008, 132:59-70
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【引文索引类型】SCI
【引文索引号】10.1007
【学科分类】农业基础学科

【题目】西吉县马铃薯种植乡域优势比较分析
【中文关键词】马铃薯;比较优势;乡域经济
【英文关键词】Potato;Integrated advantages indices;Rural regional economic
【中文摘要】利用2002-2008 年西吉县19 个乡镇的农业统计数据,以效益优势指数、规模优势指数、集中度优势指数和综合优势指数分析了西吉县19 个乡镇马铃薯生产比较优势状况。结果表明:西吉县马铃薯在效益、规模、集中度、综合反

映上具有比较优势的乡镇基本上有5个,效益比较优势乡(镇)、规模优势区、集中度优势区、综合优势区分布大致相同,主要分布于西吉县土石山区(半阴湿区)、葫芦河川道区、西部半干旱黄土丘陵区。主要的乡镇有:新营、吉强、苏堡、偏城、火石寨。

【英文摘要】Efficiency and integrated comparative advantages indices、scale advantages index and concentration index were calculated from the statistical data of 19 townships in agricultural production between 2002 and 2008.The information illustrated potato production status of comparative advantage of 19 townships in Xiji County.The results showed that:there were basically 5 townships of comparative advantage in scale、efficiency and integrated advantage;The distribution of the comparative advantage、the scale advantage area, concentration edge area,the comprehensive advantages is same.the areas were distributed primarily over the(semi-wet area),gourd river Road area,western semi-arid loess hilly region.The main towns are:Xin-ying,Ji-qiang,Subu,Pian-cheng,Huo-shizhai.

【语种】中文

【第一作者】成果

【通讯作者】陈彦云

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【学科分类】农产品贮藏与加工

【题目】An optimal method of DNA silver staining in polyacrylamide gels

【中文关键词】DNA silver staining has widely been used to detect DNA fragments in polyacrylamide gels with high sensitivity. We developed an optimal method for DNA silver staining on polyacrylamide gels. The novel procedure can be completed within 10 min instead of o

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【语种】英文

【第一作者】韩延闯

【通讯作者】胡中立

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【引文索引类型】SCI

【引文索引号】10.1002

【学科分类】农业基础学科

【题目】叶面喷施硝酸钾和硝酸钙对马铃薯产量的影响

【中文关键词】马铃薯;硝酸钾;硝酸钙;产量

【英文关键词】Potato; Potassium nitrate; Nitrate; Yield

【中文摘要】通过叶面喷施硝酸钾和硝酸钙试验,研究钙钾肥配合施用的效果及其对马铃薯产量的影响.结果表明:叶面单喷硝酸钙397g/666.7m2 或硝酸钾382g/666.7m2,共4次,效果最好,产量分别为1 096.3、1 210.5kg/666.7m2.硝酸钙与硝酸钾肥配合施用的最佳组合是硝酸钙310g/666.7m2、硝酸钾239g/666.7m2,产量1273kg/666.7m2.

【英文摘要】无
【语种】中文
【第一作者】刘喜平
【通讯作者】陈彦云
【期刊名称、卷期、页码】农业科学研究,第32卷第4期
【论文发表时间】2011-05-05 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农产品贮藏与加工

【题目】A modified algorithm for the improvement of composite interval mapping
【中文关键词】Composite interval mapping (CIM) is the most commonly used method for mapping quantitative trait loci (QTL) with populations derived from biparental crosses. However, the algorithm implemented in the popular QTL Cartographer software may not completely
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【语种】英文
【第一作者】李慧慧
【通讯作者】王建康
【期刊名称、卷期、页码】Genetics, 2007, 175: 361-374
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【引文索引类型】SCI
【引文索引号】10.1534
【学科分类】农业基础学科

【题目】Inclusive composite interval mapping (ICIM) for digenic epistasis of quantitative traits
【中文关键词】It has long been recognized that epistasis or interactions between non-allelic genes plays an important role in the genetic control and evolution of quantitative traits. However, the detection of epistasis and estimation of epistatic effects are diffi
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【语种】英文

【第一作者】李慧慧

【通讯作者】王建康

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【引文索引号】10.1007

【学科分类】农业基础学科

【题目】Application of identified QTL-marker associations in rice quality improvement through a design breeding

【中文关键词】A permanent mapping population of rice consisting
of 65 non-idealized chromosome segment substitution
lines (denoted as CSSL1 to CSSL65) and 82 donor
parent chromosome segments (denoted as M1 to M82) was
used to identify QTL with additive effects for

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of 65 non-idealized chromosome segment substitution
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【语种】英文

【第一作者】王建康

【通讯作者】万建民
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【引文索引号】10.1007
【学科分类】农业基础学科

【题目】Candida mengyuniae sp. nov., a novel metsulfuron-methyl -resistant yeast.
【中文关键词】甲磺隆抗性;分离鉴定;D1/D2区;梦筠假丝酵母;乙酰乳酸合酶
【英文关键词】metsulfuron-methyl-resistant; isolation and identification; D1/D2 rigion; Candida mengyuniae sp. nov.; acetohydroxyacid synthase
【中文摘要】菌株JHLT的系统发育分析表明,其与假丝酵母Candida vartiovaarae及土星拟威尔酵母Williopsis saturnus的五个变种W. saturnus var. saturnus、var. mrakii、var. sargentensis、var. suaveolens和var. subsufficiens在26S rDNA D1/D2区系统发育树上聚于一个分支。18S rDNA的序列分析同样支持了它们的近缘性。参照菌株与JHLT的D1/D2区序列差异率最小值为3.3%,大于种间差异最小值1%;ITS1区和ITS2区差异率分别多达25%以上和30%以上,这些数据则明显指出了JHLT是一新种的可能性。菌株JHLT可在玉米粉平板上形成假菌丝,不产子囊孢子;发酵D-葡萄糖、蔗糖,不发酵麦芽糖;可以D-葡萄糖、D-半乳糖、蔗糖、海藻糖、甲基-α-D-葡萄糖苷、棉籽糖、菊粉、D-山梨醇、D-甘露醇等为唯一碳源生长,不能以L-鼠李糖、麦芽糖、纤维二糖、水杨苷、熊果苷、松三糖、木糖醇、琥珀酸盐为唯一碳源生长;可以硝酸盐、亚硝酸盐和L-赖氨酸为唯一氮源生长;可在无维生素培养基上生长;最高生长温度45 ° C;脲酶试验反应阴性;DBB试验反应阴性。经鉴定,JHLT(JHLT=CGMCC2.3681T=CBS 10845T)属于假丝酵母属(Candida Berkhout)一个新种,并将该新种命名为Candida mengyuniae sp. nov.。
【英文摘要】An ALS inhibitors herbicide-resistant yeast strain, JHL, was isolated from sulfonylureas-contaminated soil collected in the campus of Nanjing Agriculture University, Jiangsu Province, China. This strain was revealed, by molecular phylogenetic analysis based on 26S rRNA gene D1/D2 region and internal transcribed spacer (ITS), to represent novel specie in the genus williopsbs. The name williopsbs WenXinii sp. nov (type strain JHLT=AS2.3110T=CBS 10357T) is proposed for this novel specie.
【语种】英文
【第一作者】陈博
【通讯作者】何家
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【引文索引类型】SCI
【引文索引号】19406825
【学科分类】微生物学

【题目】害虫的基因沉默控制
【中文关键词】基因沉默,害虫控制
【英文关键词】gene silencing,pest control
【中文摘要】作为现代分子生物学的重大突破性成果之一,基因沉默是人为调控基因表达的重要途径之一。本文介绍了基因沉默的发现历史、作用机制及其在昆虫中的研究进展,以及利用基因沉默原理进行害虫控制的探索,并展望害虫基因沉默控制的应用前景。
【英文摘要】Gene silencing,a way of manipulating gene expression,is one of the most important breakthroughsin modern molecular biology. This article describes the history of gene silencing,how it works,and progress in its application on insects,including early attempts to apply it to pest control. The future potential of this novel technique for the control of insect pests is discussed.
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【题目】大豆对大豆疫霉菌株Pm14抗性的遗传分析及基因定位
【中文关键词】大豆;大豆疫霉;遗传分析;抗性基因;SSR 标记
【英文关键词】soybean; Phytophthora sojae ; genetic analysis; resistance gene; SSR marker
【中文摘要】摘要:【目的】研究大豆对大豆疫霉菌株 Pm14 的遗传模式,并对其抗性基因进行定位。【方法】采用下胚轴创伤接种方法进行抗性鉴定,利用苏 88-M21 与新沂小黑豆构建的重组自交系群体进行遗传分析,并通过 SSR 技术结合 BSA 方法对苏 88-M21 的抗性基因进行定位。【结果】苏 88-M21 对大豆疫霉菌株 Pm14 的抗性由 1 对主效基因控制,抗病对感病表现为显性。通过分子作图,将抗性基因RpsSu 定位于大豆分子遗传图谱 O 连锁群微卫星标记Satt358 和 Sat_242 之间,与这 2 个标记的遗传距离分别为 3.5 cM 和 7.4 cM。【结论】苏 88-M21 对大豆疫霉菌株Pm14 的抗性是由 1 对单显性基因控制的,并将在苏 88-M21 发现的抗性基因 RpsSu 定位于 O 连锁群。
【英文摘要】Abstract: 【Objective 】 The objective of this study was to reveal the inheritance pattern and map resistance gene to Phytophthora sojae (P. sojae) strain Pm14 in soybean.【Method】 A population of 176 recombinant inbred lines (RIL) derived from the cross of Su88-M21×Xinyixiaoheidou was evaluated for phytophthora resistance using the hypocotyl inoculation technique. The RIL was used to analyze the inheritance of resistance and map the resistance gene to a linkage group.【Result】 The results showed that the resistance of Su88-M21 to strain Pm14 is controlled by a single gene (Rps), and the resistance is dominant to susceptible. RpsSu (resistance gene in Su88-M21 was temporarily designated) is a novel phytophthora re sistance gene which was firstly found on molecular linkage group O, and flanked by Satt358 and Sat_242 with genetic distances 3.5 cM and 7.4 cM. 【Conclusion】 The resistance to Pm14 is controlled by a single dominant gene (Rps), and the resistance gene RpsSu in Su88-M21 was firstly mapped on molecular linkage group O.
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【题目】MicroRNA profiling reveals microRNAs are involved in soybean resistance to Phytophthora sojae
【中文关键词】无
【英文关键词】microRNAs,Phytophthora sojae , resistance, microar ray, Glycine max
【中文摘要】无
【英文摘要】Abstract: MicroRNAs (miRNAs), a group of small noncoding RNAs, may ser ve as a class of post-transcr iptional regulators in plant immune systems. Never theless, little is known about their roles in plant immune response to the oomycete pathogens. To identify miRNAs involved in the response of soybean to Phytophthora sojae , we examined expressional patter ns of miRNAs upon infection by P. sojae by microar ray analysis in three soybean cultivars: Williams (susceptible), Conrad (quantitative resistance), and Williams 82 (qualitative resistance). Expression of a number of miRNAs was signif icantly altered upon infection and (or) in the different genotypes. qRT – PCR data with some miRNAs fur ther conf ir med the microar ray results. Comparative analysis of the selected miRNAs and their targeted gene expression datasets uncovered many reciprocally expressed miRNA – target pairs, which could proposed a feedback circuit between miRNA(s) and protein-coding genes. These results may ser ve as a basis for fur ther in-depth studies of miRNAs involved in soybean resistance to P. sojae.
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【题目】大豆叶茸毛着生状态的变异及其与豆卷叶螟抗性的相关性
【中文关键词】大豆;叶茸毛着生状态;豆卷叶螟;抗虫性;选择效率
【英文关键词】Soybean; Pubescence status ; Lam prosem a indicata (Fabricius) ; Resistance to insects ; Selecti on effect
【中文摘要】大量观察发现大豆叶柄茸毛着生状态有别于叶片茸毛着生状态。根据对 392份来自全国各生态区的代表性样本的观察,将叶片茸毛着生状态分为匍匐、 半匍匐和斜立 3类,将叶柄茸毛着生状态分为紧贴、 倾斜和直立 3类。发现茸毛着生状态与地理来源有关,纬度增大,斜立型叶片茸毛和直立型叶柄茸毛有增加的趋势。叶片和叶柄茸毛着生状态存在极显著相关性, χ2为 164 . 72。叶片茸毛着生状态和叶柄茸毛着生状态与豆卷叶螟抗性等级间也存在极显著相关, χ2分别为 187 . 46和 123 . 44。匍匐、 半匍匐叶片茸毛和紧贴、 倾斜叶柄茸毛是抗虫性状,而斜立叶片茸毛和直立叶柄茸毛是感虫性状。卷叶率、 虫包在叶片和叶柄茸毛着生状态间都存在显著差异。匍匐型、 半匍匐型叶片茸毛能分别降低 32 . 25%和 3 . 72%的虫包数, 51 . 37%和 6 . 89%的卷叶率。紧贴型、 倾斜型叶柄茸毛能分别降低 25 . 93%和 46 . 40%的虫包数, 42 . 20%和 62 . 81%的卷叶率。大豆叶茸毛着生状态可作为豆卷叶螟抗性的指示性状,用于大豆抗豆卷叶螟的种质筛选和育种。
【英文摘要】Itwas found that the pubescence status on leaf bladeswas different from that on leaf peti oles . According t o a sur2vey on 392 cultivars fr om all the six eco2regi ons of s oybeans in China, the status of pubescence on leaf blade was classifiedas p rostrate, semi2p rostrate and skewed and that on leaf peti ole as app ressed, semi2app ressed and erect . Itwas found that therati o of skewed leaf blade pubescence and erect leaf peti ole pubescence increased al ongwith the increase of geographic lati2tude, indicating the status of leaf pubescence being related with their geographic s ources . Significant correlati onswere detec2ted bet ween status of leaf blade pubescence and that of leaf peti ole pubescence, bet ween status of leaf blade pubescence andresistance t o bean pyralid (Lam prosem a indicate) , and bet ween status of leaf peti ole and resistance t o bean pyralid,with χ 2values as 164 . 72, 187 . 46 and 123 . 44, res pectively . There showed significant differences of percentage of r olled leaves(PRL) and number of r olled leaves (NRL) bet ween different leaf blade and peti ole pubescence types . The PRL of p r ostrateand semi2p r ostrate leaf blade pubescence were 51 . 37% and 6 . 98% l ower than, while those of NRL were 32 . 25% and3172% l ower than the skewed leaf blade pubescence, res pectively . The PRL of app ressed and semi2app ressed leaf peti olepubescence were 42 . 20% and 62 . 81% l ower than,while those of NRL were 25 . 93% and 46 . 40% l ower than the erectleaf peti ole pubescence, res pectively . Therefore, the results showed both the leaf blade pubescence type and the leaf peti olepubescence type can be used as the indicat ors of resistance t o bean pyralid in ger mpasm evaluati on and breeding p r ograms
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【题目】Diverse cadherin mutations conferring resistance to Bacillus thuringiensis toxin Cry1Ac in Helicoverpa armigera
【中文关键词】棉铃虫;Bt;钙粘蛋白;抗性;Bt棉花
【英文关键词】Helicoverpa armigera; Bacillus thuringiensis; cadherin; resistance; Bt cotton
【中文摘要】本文采用F1筛选策略和基因克隆技术,揭示了棉铃虫江苏江浦种群钙粘蛋白基因突变的多样性。
【英文摘要】Transgenic cotton expressing Bacillus thuringiensis (Bt) toxins has been widely adopted to control some key lepidopteran pests including the bollworm Helicoverpa armigera. Evolution of resistance to Bt cotton by target pests is a major threat to the continued success of Bt cotton. Previous results revealed 3 null alleles (r1-r3) of a cadherin gene (Ha_BtR) conferring Cry1Ac resistance in H. armigera. An F1 screen of 123 single-pair families was conducted between a Cry1Ac-resistant strain (the SCD-r1 strain, homozygous for the r1 allele of Ha_BtR) and field-derived insects from Jiangpu population (Jiangsu province, China) in 2008. Five new null alleles of Ha_BtR (r4-r8) were identified in six candidate single-pair families. These null alleles were created through either an insertion or a point mutation. Interestingly, intact alleles of Ha_BtR were found in two field-derived insects from another two candidate single-pair families. It suggests that these two field-derived insects may carry novel resistance alleles of Ha_BtR, with missense mutations resulting in a non-functional cadherin protein, or a major dominant mutation at a locus other than cadherin. The resistance allele

frequency of Ha_BtR was detected at an appreciable level (0.024) in the Jiangpu population of H. armigera in 2008. Together with previous findings, a total of eight different resistance alleles of Ha_BtR were identified from three Chinese strains of H. armigera. Mutational diversity of Ha_BtR could impair DNA screening for Bt resistance allele frequency in the field, and an F1 screen should be used routinely for monitoring cadherin-based resistance allele frequencies in H. armigera.

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【题目】大豆杂种产量相关的位点及等位变异分析
【中文关键词】大豆; 双列杂交; 杂种优势; 单标记分析; 杂合位点; 纯合位点
【英文关键词】Soybean; Diallel cross; Heterosis; Single marker analysis; Heterozygous loci; Homozygous loci
【中文摘要】选用来源于中国黄淮和美国的熟期组 II~IV 的 8 个大豆品种，按 Griffing 方法 II 设计，配成 28 个双列杂交组合，包括 8 个亲本共计 36 份材料。选用 300 个 SSR 标记，对 8 个大豆亲本进行全基因组扫描，利用基于回归的单标记分析法，对大豆杂种产量和分子标记进行相关性分析，估计等位变异的效应和位点的基因型值，剖析杂种组合的等位变异。结果表明，300 个 SSR 标记中有 38 个与杂种产量显著相关，分布于 17 个连锁群上，其中 D1a 和 M 连锁群上较多，有8个位于连锁定位的QTL区段内(±5 cM)。单个位点可分别解释杂种产量表型变异的11.95%~30.20%。杂种的位点构成中包括有增效显性杂合位点、增效加性纯合位点、减效加性纯合位点和减效显性杂合位点 4 部分，其相对重要性依次递减。从 38 个显著相关的 SSR 标记位点中，遴选出 Satt449、Satt233 和 Satt631 等 9 个优异标记基因位点，Satt449~A311、Satt233~A217 和 Satt631~A152 等 9 个优异等位变异，以及 Satt449~A291/311、Satt233~A202/ 207 和 Satt631~A152/180 等 9 个优异杂合基因型位点。这些结果为理解杂种优势的遗传构成和大豆杂种产量聚合育种提供了依据。
【英文摘要】Single marker regression analysis is an effective way to detect differences among genotypes associated with marker alleles in quantitative traits. Eight soybean parental materials, seven from Huang-Huai region in China and one from the USA with maturity groups II – IV, were used to develop a set of diallel crosses according to Griffing ' s Method II, including the eight parents and their 28 crosses. The molecular data of 300 SSR markers on eight parental materials were obtained and analyzed for association between SSR markers and hybrid yield using the single marker regression analysis. The hybrid crosses were dissected into their allele constitution and the effects of alleles and genotypic values of single locus were estimated. The results showed that 38 SSR loci located on 17 linkage groups were identified to associate with hybrid yield in the diallel crosses with more loci on linkage groups D1a and M. Eight of the 38 loci were located within a region of ±5 cM apart from a known QTL identified from family-based linkage (FBL) mapping. Each of the loci explained 11.95% – 30.20% of the phenotypic variance of hybrid yield. The allele pairs of the hybrids were composed of four parts, i.e. positive dominant heterozygous loci, positive additive homozygous loci, negative additive homozygous loci and dominant heterozygous loci, with their relative importance in a descending order. Among the 38 loci associated with hybrid yield, nine elite (loci such as Satt449, Satt233, and Satt631) and nine elite alleles (such as Satt449 – A311, Satt233 – A217, and Satt631 – A152) were identified. Nine heterozygous allele pairs such as Satt449 – A291/311, Satt233 – A202/207, and Satt631 – A152/180 were detected. These results may provide some relevant information for understanding the genetic basis of heterosis and lay a foundation for hybrid soybean breeding by design.
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【题目】大豆质核互作雄性不育系 NJCMS3A 双亲雄性育性基因的 SSR 标记
【中文关键词】大豆; 质核互作雄性不育; 雄性育性遗传; 基因定位
【英文关键词】Soybean; Cytoplasmic-nuclear male sterility; Fertility inheritance; Gene mapping
【中文摘要】利用大豆质核互作雄性不育系 NJMCS3A 的质、 核供体亲本 N21566 和 N21249 构建 F2 和 BC1F1 育性分离群体进行雄性育性的遗传分析与基因定位。结果表明, F1 正反交可育, F2 和 BC1F1 的可育株与不育株分离比例经 χ2测验分别符合 3∶1 和 1∶1, 表明 NJCMS3A 供体亲本雄性育性由一对基因控制, 可育等位基因为显性。该基因可能是 NJCMS3A 的一个恢复基因。选用 793 对 SSR 引物对 F2 和 BC1F1 群体分别进行育性基因定位, 发现该育性基因位于O 连锁群上, 在 Satt331 和 Satt477 标记之间, 与 Satt331、 CSSR133 和 Satt477 标记距离的次序一致, 分别为 8.1~10.4、11.4~16.4 和 13.3~19.2 cM。
【英文摘要】Utilization of the three lines [cytoplasmic-nuclear male-sterile (CMS) line, maintainer line, and restorer line] in producing hybrids with heterosis has been very successful in a number of crops including soybean. The soybean CMS line NJCMS3A was developed through six consecutive backcross generations with N21566 as cytoplasm source and N21249 as nuclear donor. The objective of our study was to reveal the genetic mechanism and mapping the male fertility gene in the two parents of the CMS line NJCMS3A, i.e. N21566 and N21249. The male fertility of (N21566×N21249) F2 and BC1F1 showed that the segregation ratio of fertile to sterile plants fitted the expected ratios of 3:1 and 1:1, respectively, indicating one pair of gene conferring male fertility in the parents of NJCMS3A with dominance allele in N21249 being male fertile. This gene might be one of the restorer genes for the male sterility of NJCMS3A. The mapping results on BC1F1 and F2 showed that out of the 793 randomly selected SSR markers, Satt331, CSSR133 and Satt477 on linkage group O were linked to the male fertility gene Rf with their genetic distances of 8.1 − 10.4, 11.4 − 16.4, and 13.3 − 19.2 cM, respectively, in a same order and its location between Satt331 and Satt477.
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【第一作者】李曙光
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【题目】Introgression of a disrupted cadherin gene enables susceptible Helicoverpa armigera to obtain resistance to Bt toxin Cry1Ac
【中文关键词】Cry1Ac;抗性;钙粘蛋白;适合度代价
【英文关键词】Cry1Ac;resistance;cadherin;fitness costs
【中文摘要】通过渐渗杂交,证实了钙粘蛋白与棉铃虫Bt抗性连锁。
【英文摘要】A disrupted allele (r1) of a cadherin gene (Ha_BtR) is genetically associated with incompletely recessive resistance to Bacillus thuringiensis toxin Cry1Ac in a Cry1Ac-selected strain (GYBT) of Helicoverpa armigera. The r1 allele of Ha_BtR was introgressed into a susceptible SCD strain by crossing the GYBT strain to the SCD strain, followed by repeated backcrossing to the SCD strain and molecular marker assisted family selection. The introgressed strain (designated as SCD-r1, carrying homozygous r1 allele) obtained 438-fold resistance to Cry1Ac, >41- fold resistance to Cry1Aa and 31-fold resistance Cry1Ab compared with the SCD strain, however there was no significant difference in susceptibility to Cry2Aa between the integrated and parent strains. It confirms that the loss of function mutation of Ha_BtR alone can confer medium to high levels of resistance to the three Cry1A toxins in H. armigera. Reciprocal crosses between the SCD and SCD-r1 strains showed that resistance to Cry1Ac in the SCD-r1 strain was completely recessive. Life tables of the SCD and SCD-r1 strains on artificial diet in the laboratory were constructed, and results showed that the net replacement rate (R0) did not differ between the strains. The toxicity of two chemical insecticides, fenvalerate and monocrotophos, against the SCD-r1 strain was not significantly different from that to the SCD strain. However, larval development time of the SCD-r1 strain was significantly longer than that of the SCD strain, indicating a fitness cost of slower larval growth is associated with Ha_BtR disruption in H. armigera.
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【题目】大豆种皮色相关基因研究进展
【中文关键词】大豆; 种皮色; 基因; 研究进展
【英文关键词】soybean; seed coat color; gene; research progress
【中文摘要】大豆种皮色在从野生大豆到栽培大豆的演变过程中逐渐从黑色变成黄色, 是重要的形态标记, 因此, 大豆种皮色相关基因研究无论对进化理论还是育种实践都具有重要的意义。种皮颜色是通过各种花色苷的沉积而形成的。虽然很多植物色素沉积的分子调控机制比较明晰, 但大豆中控制种皮颜色形成的基因尚未被完全了解。文章综述了控制大豆种皮色基因与位点的相关研究进展, 主要有 I、T、W1、R、O 5 个经典遗传位点, 其中 I 位点被定位在第 8 号染色体(A2 连锁群)一个富含查尔酮合成酶(CHS)的区域, CHS 基因在大豆中是多基因家族且同源性较高;定位于第 6 号染色体(C2 连锁群)T 位点的基因 F3 ’ H 已被克隆和转基因验证,由于碱基缺失导致所编码的氨基酸缺少了保守域 GGEK, 从而不能与血红素结合而丧失功能; R 位点定位在第 9 号染色体(K连锁群)A668-1与 K387-1两标记之间, 可能是 R2R3类 MYB转录因子, 也可能是 UDP类黄酮 3-O糖基转移酶; O 位点定位在第 8 号染色体(A2 连锁群)Satt207 与 Satt493 两标记之间, 其分子特性尚不清楚; W1 位点可能由F3 ’ 5 ’ H 基因控制遗传。
【英文摘要】Seed-coat color has changed from black to yellow during natural and artificial selection of cultivated soybean from wild soybean, and it is also an important morphological marker. Therefore, discovering genes related to the soybean seed-coat color will play a very important role in breeding and evolutionary study. Different seed-coat colors caused by deposition of various anthocyanin pigments. Although pigmentation has been well dissected at molecular level in several plant species, the genes controlling natural variation of seed-coat color in soybean remain to be unknown. Genes related to seed-coat color in soybean were discussed in this paper, including 5 genetic loci (I, T, W1, R and O). Locus I is located in a region that riches in chalcone synthase (CHS) genes on chromosome 8. Gene CHS is a multi-gene family with highly conserved sequences in soybean. Locus T located on chromosome 6 has been cloned and verified, which encodes a flavonoid-3'-hydroxylase. Mutant of F3'H can not interact with the heme-binding domain due to lack of conservative domain GGEK caused by a nucleotide deletion in the coding region of F3'H. Locus R is located between A668-1 and K387-1 on chromosome 9 (linkage group K). This locus may encode a R2R3 MYB transcription factor or a UDP flavonoid 3-O glyco-syltransferase. Locus O is located between Satt207 and Satt493 on chromosome 8 (linkage group A2) and its molecular characteristics has not been characterized. Locus W1 may be a homology of F3'5'H gene.
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【学科分类】农艺学

【题目】A single linkage group confers dominant resistance to Bt toxin Cry1Ac in Helicoverpa armigera
【中文关键词】棉铃虫;Bt;Cry1Ac;显性抗性;AFLP
【英文关键词】Helicoverpa armigera, Bacillus thuringiensis, Cry1Ac, dominant resistance, amplified fragment length polymorphism (AFLP)
【中文摘要】通过AFLP技术,将一种Bt抗性显性基因定位于单条染色体上。
【英文摘要】The BKBT strain of Helicoverpa armigera was derived from a susceptible BK77 strain (collected from Bouake, Cote D ’ Ivoire in 1977) through 30 generations of selection with activated Bacillus thuringiensis δ-endotoxin Cry1Ac. Unlike recessive inheritance of Cry1Ac resistance in H. armigera from previous reports, resistance to activated Cry1Ac in the BKBT strain is dominant. A backcross approach was used to map dominant resistance to Cry1Ac in the BKBT strain. One hundred and forty-seven informative amplified fragment length polymorphism (AFLP) DNA markers covered all 31 linkage groups of H. armigera. Five AFLP markers linked to Cry1Ac resistance in the BKBT strain were on the same autosomal linkage group, which is the only linkage group contributing dominant Cry1Ac resistance in the BKBT strain of H. armigera.

【语种】英文
【第一作者】吴益东
【通讯作者】吴益东
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【学科分类】植物保护学

【题目】大豆重组自交家系群体动态株高及其相对生长速率与产量的关系
【中文关键词】大豆; 动态株高; 相对生长速率; 产量; 相关
【英文关键词】Soybean; Dynamic plant height; Relative growth rate; Yield; Correlation
【中文摘要】提高产量潜力始终是大豆育种的重要目标, 研究产量相关性状是解析产量重要途径之一。大豆株高影响产量, 但存在不确定性。本研究利用一套包含 212 个家系的大豆重组自交家系(RIL), 于 2008—2009 年连续 2 年测定各家系动态株高, 并计算相对生长速率, 研究与产量的关系, 以期为大豆产量改良中对株高的选择提供参考信息。试验结果表明: (1) 产量和株高变幅分别为 1 000~5 000 kg hm – 2和 38~103 cm, 说明样本有较大代表性。(2) 出苗后 20 d的株高即与产量具极显著正相关, 随生长进程, 相关系数逐渐增大, 至株高生长停止达到最大。株高生长速率前期与产量呈显著正相关, 后期与产量具负相关, 说明后期过快增加株高不利于产量。(3) 在试验范围内, 株高与产量呈负指数回归关系, 随株高增加, 产量逐渐增加, 当株高为 80 cm 时, 随株高增加, 产量的增加逐渐缓慢。发现株高的变异在 70~90 cm 之间时, 均能获得 4 000 kg hm – 2产量。本文还简要讨论了重组自交家系用于表型分析的优势, 以及在大豆产量育种中如何对株高进行选择。
【英文摘要】Selection for increasing yield potential is consistantly the main goal of soybean breeding. Plant height influences yield with uncertainty in soybean. A population of 212 recombinant inbred lines (RIL) was used to analyze the correlation of dynamic plant height and its relative growth rate with yield across two-year field experiments. The results were as followed: (1) The range of yield and plant height was 1 000 – 5 000 kg ha – 1, 38 – 128 cm respectively, which indicated the sample in the study had a good representativeness. Significant differences between plant height and its relative growth rate at the same developmental stages were observed among the RILs. (2) Yield was significantly and positively correlated with plant height at 20 days after emergence, and the correlation increased with the growing stages and the highest correlation occurred when plant height culminated. Yield was positively correlated with relative growth rate in plant height at earlier growth stages and negatively correlated at later stages, indicating that faster growth in plant height at later stage would not be beneficial to higher yield. (3) A negative exponential regression mode was observed in the relationship between yield and plant height. Yield increased steeply when plant height was less than 80 cm and this trend would slow down when plant height was over 80 cm. We found yields reached 4 000 kg ha – 1 when plant heights were 70 – 90 cm. The merits and demerits of phenotypic analysis using RIL and how to select plant height in soybean breeding were discussed.
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【第一作者】黄中文
【通讯作者】卢为国
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【题目】Disruption of Ha_BtR alters binding of Bacillus thuringiensis δ-endotoxin Cry1Ac to midgut BBMVs of Helicoverpa armigera
【中文关键词】配基印迹;钙粘蛋白
【英文关键词】Ligand blotting; Cadherin
【中文摘要】通过配基结合和印迹技术,发现了钙粘蛋白r1突变对毒素受体结合具有一定影响。
【英文摘要】Disruption of Ha_BtR (a cadherin gene) is genetically linked to resistance to Cry1Ac δ-endotoxin of Bacillus thuringiensis in the GYBT strain of Helicoverpa armigera. Brush border membrane vesicles (BBMVs) prepared from midguts of both the Cry1Ac-resistant GYBT strain (homozygous for a deletion knockout of Ha_BtR) and the susceptible GY strain (homozygous for

the wild type of Ha_BtR) possessed saturable and specific binding ability to 125I-Cry1Ac. The binding affinity (Kd) of the GY strain was significantly lower than that of the resistant GYBT strain, whereas their binding site concentrations (Bmax) were similar. When midgut BBMVs was reacted directly with streptavidin conjugated to horseradish peroxidase, the GY strain had very clear 120- and 85-kDa protein bands, which indicated the 120- and 85-kDa bands are endogenous biotin-containing proteins. However, the GYBT strain nearly lost these two biotin-containing proteins. Ligand blotting with biotinylated Cry1Ac toxin showed midgut BBMVs of the GY strain contain five protein bands of 210-, 190-, 150-, 120- and 85-kDa respectively, however BBMVs of the GYBT strain contain only two protein bands of 150- and 120-kDa. 120-kDa bands may consist of two proteins with coincidentally same molecular weight (putatively, an APN and a biotin-containing protein). Our results showed that binding pattern of Cry1Ac to midgut BBMVs of H. armigera was altered quantitatively and qualitatively by knockout of Ha_BtR. There are multiple Cry1Ac-binding proteins in the midgut of susceptible H. armigera, but only the Ha_BtR can be considered as a putative functional receptor of Cry1Ac. Possible involvement of other receptor proteins in the intoxication process in vivo could not be excluded.

【语种】英文

【第一作者】许新军

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【学科分类】植物保护学

【题目】大豆重组自交系群体 NJRIKY 遗传图谱的加密及其应用效果

【中文关键词】大豆; 遗传连锁图谱; SSR 标记; QTL

【英文关键词】Soybean; Genetic linkage map; SSR markers; QTL

【中文摘要】作物基因组研究, 包括基因或数量性状位点(QTL)定位、图位克隆以及物理图谱构建等, 首先必须建立具有丰富标记信息的高密度遗传连锁图谱。由科丰 1 号和南农 1138-2 杂交组合衍生的重组自交系群体 NJRIKY 已经构建了 4 张大豆遗传连锁图谱, 但由于遗传信息和标记数目不够充分, 在基因和 QTL 作图时仍然存在精确度和准确度问题。为增加 NJRIKY 图谱密度, 本研究在 967 对 SSR 引物中获得了 401 个多态性 SSR 标记。结合其他分子数据, 使用作图软件 Mapmaker/Exp 3.0b, 获得一张含有 553 个遗传标记, 25 个连锁群, 总长 2 071.6 cM, 平均图距 3.70 cM 的新遗传连锁图谱, 其中 SSR 标记 316 个, RFLP 标记 197 个, EST 标记 39 个, 形态标记 1 个。连锁群上大于 20 cM 的标记间隔由原来 42 个减少到 2 个。原图谱的 3 个 SMV 抗性基因定位于 D1b 连锁群末端的开放区间上且仅与一个RFLP 标记连锁, 利用加密图谱对 Rsc-3、Rsc-7、Rsc-9、Rsc-13、Rsa、Rn1 和 Rn3 等 7 个 SMV 抗性基因重定位, 全部位于 D1b 连锁群, 与相邻分子标记距离均小于 6 cM, 其中 Rsc-9、Rn1、Rsa 的距离小于 1 cM, Rsc-13 与 EST 标记GMKF168a 共分离。对本群体农艺性状进行 QTL 重定位, 获得 8 个性状相关的 42 个主效 QTL, 其中 20 个 QTL 遗传贡献率大于 10%, 与原图谱比较, 新定位的各 QTL 的标记区间明显缩短, 与相邻标记的连锁更加紧密。

【英文摘要】A high-density genetic linkage map with informative markers is essential for plant genome analysis, including gene mapping, identification of quantitative trait locus (QTL), map-based cloning, and physical map construction. Though four genetic linkage maps for the recombinant inbred line population NJRIKY derived from (Kefeng 1×Nannong 1138-2) have been established already, there are still problems of precision and accuracy in mapping genes and QTLs due to insufficiency of genetic information and number of markers. A total of 401 polymorphic SSR markers were screened out from 967 ones for density-enhancement of the previous maps. Along with other marker data, a new genetic linkage map was constructed by using Mapmaker/Exp 3.0b, with 553 markers, including 316 SSR, 197 RFLP, 39 EST and one morphologic markers, spanning 25 linkage groups, covering total length 2 071.6 cM of the soybean genome, with an average marker interval distance of 3.70 cM. In comparison with the old map, the number of gaps larger than 20 cM decreased from forty-two to two on the enhanced map. Using this map to relocate the seven SMV resistant genes, Rsc-3, Rsc-7, Rsc-9, Rsc-13, Rsa, Rn1, and Rn3 were mapped on LG D1b again with distances to the flanking markers all less than 6 cM, among them, Rsc-9, Rn1, and Rsa less than 1 cM and Rsc-13 co-segregating with EST-SSR marker GMKF168a. After re-mapping the QTLs for eight agronomic traits, 42 QTLs were detected on 12 linkage groups, with 20 of them accounted for more than 10% of the total variation, respectively, and their marker intervals obviously shortened.

【语种】中文

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【题目】Mutated cadherin alleles of Helicoverpa armigera conferring resistance to Bacillus thuringiensis toxin Cry1Ac detected in the field
【中文关键词】F1筛选;钙粘蛋白等位基因
【英文关键词】F1 screen; Cadherin allele
【中文摘要】从河南安阳棉铃虫田间种群分离到两个Cry1Ac相关钙粘蛋白等位基因。。
【英文摘要】The cotton bollworm, Helicoverpa armigera is the major insect pest targeted by transgenic Bt cotton in the Old World. The evolution of resistance by this pest to Bt toxins is the main threat to the long-term effectiveness of transgenic Bt cotton. A deletion mutation allele (r1) of a cadherin gene (Ha_BtR) was previously identified as genetically linked with Cry1Ac resistance in a laboratory-selected strain of H. armigera. Through a biphasic screen strategy, two new cadherin alleles (r2, r3) associated with Cry1Ac resistance in H. armigera were successfully trapped from a field population collected from the Yellow River cotton area of China in 2005. The r2 and r3 alleles were created by insertions of a long terminal repeat of a retrotransposon (designated as HaRT1) and the intact HaRT1 at the same position in exon 8 of Ha_BtR respectively, which results in a truncated cadherin containing only two ectodomain repeats in the N terminal of Ha_BtR. This is the first time that Bt resistance alleles of a target insect of Bt crops have been successfully detected in the open field. It is also demonstrated that bollworm larvae carrying two resistance alleles can complete development on Bt cotton. The cadherin locus should be an important target for intensive DNA-based screening in field populations of H. armigera.
【语种】英文
【第一作者】杨亚军
【通讯作者】吴益东
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【学科分类】植物保护学

【题目】广适应大豆品种中黄 13的光周期反应
【中文关键词】大豆; 中黄 13 ;广适应性; 光周期反应
【英文关键词】Soybean ; Zhonghuang 13 ; Adaptability ; Photoperiod response
【中文摘要】中黄 13是我国目前种植面积最大的大豆品种,适宜推广范围覆盖黄淮海流域夏大豆区、 北方春大豆区、 南部和南方多作大豆区部分区域,表现出较强的适应能力。为分析中黄 13广适应的机制, 在不同光周期条件下研究中黄 13开花期、 成熟期等生育期性状,株高、 节数、 分枝数等农艺性状和蛋白质含量、 脂肪含量等品质性状对光周期的反应,比较中黄 13不同性状间以及中黄 13与成熟期相近的品种中黄 24和凤交 66 - 12间光周期反应敏感性的差异,并分析中黄 13在各级区域试验中的产量稳定性, 以期为中黄 13的进一步推广和广适应大豆新品种选育提供理论依据。结果表明: 中黄 13在短日照 (12 h)、 长日照 (16 h)和北京自然光照条件下均能正常开花结实, 生育期性状的光周期反应敏感性弱于中黄 24和凤交 66 - 12。随光照长度的增加, 中黄 13的株型和农艺性状变化较为明显,但与中黄 24和凤交 66 - 12相比, 其株高、 主茎节数、 分枝数、 顶端花序荚数、 单株有效荚数、 单株粒数和单株粒重等性状的光周期反应敏感性均较弱,表现出较好的稳定性,但其蛋白质含量受光周期影响较大。综合分析光照处理和区域试验的结果,认为光周期反应相对钝感是中黄 13广适应的重要原因。
【英文摘要】Zhonghuang 13 is the most w i de l y - g rown soybean var i eties i n China i n recent years . It adapted to g row in t hebroad a rea o fY ell ow and Hua i he R i ver Va lley s , the southern part of North Spr i ng Soybean Planti ng A rea , and some part o fSouthM u lt- i Planti ng Soybean A rea i n t h i s country . In order to ana l yze them echanism o f its adaptab ility to chang i ng env-ironm ents , the plants we re trea ted w it h 12 h sho rt - days(SD), 16 h long - days(LD) and na t ura l pho toper i od treat m ents re - specti ve l y , the exper i m ents w ere conducted to study the photoper i od i c responses o f Zhonghuang 13 i n g row t h per i od tra its ,agrono m ic tra its and qua lity tra its under d ifferent photope ri od cond iti ons . Com par i sons o f photoperiod sensiti v ity w ere a lsom ade bet w een the d ifferen t tra i ts of Zhonghuang 13 and bet w een Zhonghuang 13 and o t her t wo var i e ties , Zhonghuang 24

andFeng jiao 66 - 12 , w ith si m ilarm at ur ity ; the pe rf o r m ances of Zhonghuang 13 i n different prov i nc i a l un ifor m tests we re ana l yzedas w el. l Zhonghuang 13 cou l d b l oo m and m ature nor m a ll y under short - day(12 h), l ong- day(16 h), and na t ura l photope ri odtreatm ents . Photoper i od sensiti v ity of its gro w th period tra its w as weake r than t hat of Zhonghuang 24 and Feng jiao 66 - 12 .W it h inc rease of day l eng t h , the plan t type and agrono m ic tra its o f Zhonghuang 13 changed si gn ifi cantly . H owever , t he pho to -per i od responses o f the tra its li ke plan t he i ght , node number on m a i n stem, branch num be r , pod num ber on ter m i nal racem e ,seed number and seed we i ght pe r plant i n Zhonghuang 13 werew eaker than t hose of Zhonghuang 24 and Feng ji ao 66 - 12 , butits prote i n content was mo re sensiti ve to pho toper i od t han that i n t he othe r t wo var i e ti es . Fro m the above results , itw as drawnthat t he less photoperiod sensitivity w as t he m ajor reason for Zhonghuang 13 to adapt to w ide areas

【语种】中文
【第一作者】姜妍
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【题目】黄淮地区大豆重要亲本间产量杂种优势、配合力及其遗传基础
【中文关键词】大豆; 产量; 杂种优势; 一般配合力; 特殊配合力; 亲本系数; SSR 标记
【英文关键词】Soybean; Yield; Heterosis; General combining ability; Specific combining ability; Coefficient of parentage; SSR marker
【中文摘要】2003—2005 年以选自黄淮地区及美国的 8 个大豆重要亲本品种(系)及其组配的 28 个双列杂交组合为材料, 分析大豆亲本间的产量杂种优势及其配合力, 探讨高优势组合的遗传基础, 包括杂种优势与亲本系数、 SSR 标记遗传距离的相关。结果表明: (1) 黄淮地区大豆亲本间存在产量超亲优势, 平均 20.39%, 组合间差异甚大, 变幅为 − 5.34%~76.88%, 优选出豫豆 22×晋豆 27、淮豆 4 号×晋豆 27、诱变 30×蒙 90-24, 超亲优势分别为 76.88%、29.90%和 34.42%, 超标率均在 25.00%以上, 晋豆 27 和诱变 30 为优秀亲本材料。单株荚数及单株粒数的优势和产量优势相对一致。(2) 大豆亲本间产量杂种优势既与双亲一般配合力之和及特殊配合力有关, 又不完全相关。高优势高产组合的亲本产量配合力特点为亲本之一具有较高的一般配合力, 或双亲具有较高的一般配合力之和, 兼有较高的特殊配合力。单株荚数和单株粒数的情况和产量一致。(3) 按亲本系数聚类和按 SSR 标记遗传相似系数聚类揭示的 8 个亲本间的遗传关系相对一致, 均分为两组, 一组包含 6 个黄淮中、南部品种(系), 另一组包含 1 个山西和 1 个美国品种。要获得高优势高产组合, 亲本间必须具有一定的遗传距离, 但遗传距离大并不一定都高产高优势, 还有其他因素决定杂种优势。
【英文摘要】In recent years, breeding for hybrid cultivars of soybean [Glycine max (L.) Merr.] for utiliazation of heterosis has been paid great attention, but there are few reports on the fundamental aspects regarding the heterosis in soybeans.. In fact, for a real utilization of hybrid soybean, the important prerequisite is high heterosis. Therefore, a fundamental effort in hybrid breeding is the choice of parents and identification of superior hybrid combinations. In this paper, heterosis and combining ability were determined using eight key parental materials, including seven from Huang-Huai region and one from US as well as their 28 F1 diallel crosses in Huai ’ an, Jiangsu, China from 2003 to 2005, and relationships between F1 performance and its pedigree-based and SSR-based genetic distances were investigated. The results showed that there were heterobeltiosis in yield among parents in Huang-Huai region with the average heterobeltiosis of 20.39%, and a large difference among hybridized combinations with a range from − 5.34% to 76.88%. We screened combinations, among them, Yudou 22 × Jindou 27, Huaidou 4 × Jindou 27, and Youbian 30 × Meng 9024 had the heterobeltiosis in yield of 76.88%, 29.90%, and 34.42%, respectively. Among these parents used above, Youbian 30 and Jindou 27 were the elite. Heterosis of pods per plant and seeds per plant were relatively in accord with yield heterosis. Yield heterosis in parents was related to general combining ability (GCA) and specific combining ability(SCA). One of parents has high GCA or both have high GCA and high SCA in high-yield combinations. Parents-based cluster and SSR-based cluster analysis revealed that genetic relationships for eight parents were basically consistent, and eight parents were classified into two groups, one including six varieties from middle and south of Huang-Huai region, the other consisting of one from Shanxi and one from America. Therefore, certain genetic distance is require for a cross with high heterosis and high yield, but genetic distance is not an only determinant factor for high-yield heterosis.
【语种】中文
【第一作者】杨加银
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【题目】Computational identification of new porcine microRNAs and their targets
【中文关键词】EST, 同源搜索,microRNA, 猪
【英文关键词】EST, Homology search, microRNA, pig
【中文摘要】微RNA(miRNA)代表一种新发现的一类非蛋白编码～22个核苷酸的小分子RNA,在多种生物学过程中扮演着重要降解目标mRNA或抑制mRNA的翻译的角色。在这里,我们提出了一个表达序列标签(EST)为基础的新型猪miRNA的检测相结合的办法。这是由以前已知的miRNA序列,从智人(人)和小家鼠(小鼠)爆野猪(猪)EST数据库的。一系列的过滤条件后,共65个新的miRNA被检测。我们使用这些新的潜在的miRNA序列,进一步获得公开可用的猪基因数据库从NCBI和检测48586使用的软件RNA杂交的潜在目标命中。到目前为止,人类和小鼠,少的miRNA(只有54个miRNA的),确定了野猪种。这65个新的miRNA和它们的目标在猪已经通过了miRHelper的产量数据,可以帮助我们更好地理解可能发挥的作用的miRNA在调节猪的生长和发展的。这些结果表明,EST分析是一个很好的替代策略,确定新的miRNA的候选人,他们的目标和其他基因。
【英文摘要】MicroRNAs (miRNAs) represent a newly identified class of non-protein-coding ~22 nt small RNAs which play important roles in multiple biological processes by degrading targeted mRNAs or repressing mRNA translation. Here we present an expressed sequence tag (EST)-based combined approach for the detection of novel porcine miRNAs. This was initiated by using previously known miRNA sequences from Homo sapiens (human) and Mus musculus (mouse) to blast the databases of Sus scrofa (pig) EST. A total of 65 new miRNAs were detected following a range of filtering criteria. Using these new potential miRNA sequences, we further obtained the publicly available porcine mRNA database from NCBI and detected 48 586 potential target hits using a software RNA hybrid. So far, compared to human and mouse, fewer miRNAs (only 54 miRNAs) were identified in Sus scrofa species. These 65 new miRNAs and their targets in pig have been run through miRHelper to yield data that may help us better understand the possible role of miRNAs in regulating the growth and development of pigs. These findings suggest that EST analysis is a good alternative strategy for identifying new miRNA candidates, their targets and other genes.
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【第一作者】周波
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【题目】开花后不同光周期条件下大豆农艺性状和品质性状的 QTL 分析
【中文关键词】大豆; 开花后光周期; 农艺性状; 品质性状; QTL 定位
【英文关键词】Soybean; Post-flowering photoperiod; Agronomic trait; Quality trait; QTL mapping
【中文摘要】以开花期相近的181个大豆重组自交系(RIL)为材料, 研究开花后不同光照长度对大豆主要农艺性状的影响, 并在利用 SSR 标记构建大豆遗传图谱的基础上, 分别在长日(16 h)和短日(12 h)条件下检测与主要农艺性状及其光周期敏感度(PS)相关的 QTL。结果表明, 开花后光照处理对大豆农艺性状和品质性状有较大影响, 不同性状的光周期敏感度差异明显, 株高>主茎节数>蛋白质含量、脂肪含量>百粒重>单株荚数>蛋白质和脂肪总量。利用复合区间作图法检测到 12 个与株高、主茎节数、单株荚数、百粒重、蛋白质和脂肪总量等性状及各性状对开花后光周期处理的敏感度相关的 QTL, 分别定位于 A1、A2、B1、B2、C1、D1a、F、L 等 8 个连锁群上。其中, 在短日条件下检测到 4 个 QTL, 可解释的遗传变异范围在 11.37%~26.63%之间; 在长日条件下检测到 3 个 QTL, 可解释的遗传变异范围在 11.84%~27.85%之间; 检测到 5 个与不同性状光周期敏感度有关的 QTL, 可解释相对应性状表型变异的范围在6.15%~21.44%之间。针对同一性状, 未检测到在长日和短日条件下均起作用的主效 QTL, 说明开花后光周期对大豆产量和品质性状相关基因的表达有较大影响。
【英文摘要】Most of agronomic and quality traits of soybean (Glycine max L. Merr.) are quantitatively inherited, and sensitive to photoperiod. In this study, 181 recombinant inbred lines (RIL) of F10 generation were used to analyze the post-flowering photoperiod

effects on yield and quality traits of soybean, and 129 SSR markers were used to map QTLs associated with the above traits under both long day (LD) and short day (SD) conditions and their photoperiod sensitivity (PS). The results showed that photoperiod greatly affected the performances of agronomic and quality traits of soybean, and the photoperiod sensitivity of the traits were plant height>node number on the main stem>protein content and oil content>100-seed weight>pod number per plant>total percentage of protein and oil. By using CIM (composite interval mapping) method, a total of 12 QTLs associated with the agronomic and quality traits and their sensitivity to the post-flowering photoperiod were identified and mapped on eight linkage groups including A1, A2, B1, B2, C1, D1a, F, and L. Among the QTLs mentioned above, four were identified under SD and could explain 11.37% – 26.63% of phenotypic variation, and three were identified under LD condition and could explain 11.84% – 27.85% of phenotypic variation. The other five were associated with photoperiod sensitivity of various traits and could explain 6.15% – 21.44% of phenotypic variation. For the same individual agronomic or quality trait, no major QTL was detected under both SD and LD, indicating that post-flowering photoperiod dramatically regulates the expression of genes determining yield and quality traits, and the agronomic and quality traits of soybean are sensitive to environmental factors. It was drawn that photoperiod sensitivity is a key index for adaptability improvement of soybean. For breeding elite varieties with ideal yield potential, quality and stress tolerance, the photoperiod-insensitive genes related to various traits should be explored and pyramided with other needed genes.

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【题目】MicroRNA expression profiles of porcine skeletal muscle
【中文关键词】同源搜索,芯片,小RNA, 猪
【英文关键词】homology search, microarray, microRNA, pig.
【中文摘要】为了研究猪骨骼肌中miRNA的作用,本研究检测了大白公猪×二花脸母猪的杂种猪在90胎龄和120日龄时的背最长肌样品中miRNA的表达谱。首先,我们用已知的人和小鼠的miRNA序列在猪的EST序列中进行Blast, 经过一系列的筛选后得到了98个新的候选猪miRNA。随后,用这些候选猪miRNA 和73个已知的猪的miRNA来做猪的miRNA 芯片分析。结果,16个新鉴定的猪miRNA和31个以前已知的猪miRNA被检测在猪的骨骼肌中有表达。在90胎龄时,miR-1826、miR-26a、miR-199b和let-7 表达量最高,而在120日龄时miR-1a、miR-133a、miR-26a和miR-1826表达量最高。从NCBI上下载猪的mRNA序列,用RNAhybrid软件计算了这47个从miRNA芯片中检测到的猪miRNA在猪骨骼肌的mRNA中潜在的靶位点。总之,本研究预测并验证了16个新的miRNA基因,得到了18个miRNA家族潜在的44个靶位点,检测了不同发育时期猪骨骼肌中miRNA的表达谱。这些研究结果为进一步研究猪miRNA的转录后调控提供了有价值的参考。
【英文摘要】MicroRNAs (miRNAs) are endogenous non-coding RNAs of 22 nucleotides in length that play important roles in multiple biological processes by degrading targeted mRNAs or repressing mRNA translation. To evaluate the roles of miRNA in porcine skeletal muscle, miRNA expression profiles were investigated using longissimus muscle tissue from pigs at embryonic day 90 (E90) and postpartum day 120 (PD120). First, we used previously known miRNA sequences from humans and mice to perform blast searches against the porcine expressed sequence tag (EST) database; 98 new miRNA candidates were identified according to a range of filtering criteria. These miRNA candidates and 73 known miRNAs (miRBase 13.0) from pigs were chosen for porcine miRNA microarray analysis. A total of 16 newly identified miRNAs and 31 previously known miRNAs were detected in porcine skeletal muscle tissues. During later foetal development at E90, miR-1826, miR-26a, miR- 199b and let-7 were highly expressed, whilst miR-1a, miR-133a, miR-26a and miR-1826 showed highest abundance during the fast growing stage at PD120. Using the 47 miRNAs detected by the microarray assay, we performed further investigations using the publicly available porcine mRNA database from NCBI and computed potential target hits using the software RNAHYBRID. This study identified 16 new miRNA candidates, computed potential target hits for 18 miRNA families and determined the miRNA expression profiles in porcine skeletal muscle tissues at different developmental stages. These results provide a valuable resource for investigators interested in post-transcriptional gene regulation in pigs and related animals.

【语种】英文
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【题目】Optimization of IgG conjugation with R-phycoerythrin from Porphyra yezoensis
【中文关键词】藻红蛋白,免疫球蛋白G,结合,荧光探针,制备,优化
【英文关键词】Phycoerythrin . IgG . Conjugation .Fluorescence probes . Preparation . Optimization
【中文摘要】要优化的R-藻红蛋白(R-PE)和抗体,不同的摩尔比的异双功能试剂的N-琥珀酰亚胺基-3-2-吡啶基二硫代丙酸酯(SPDP),R-PE进行了测试的R-PE推导成R之间的化学缀合-PE-PDP,以及不同的二硫苏糖醇(DTT)到IgG抗体的摩尔比进行了测试对IgG的硫醇化。结果表明,在由紫外线(UV)分光光度法测定的最好的产品产量方面,最佳的R-PE的SPDP的摩尔比为40:1用于PE的推导,和,DTT与IgG抗体为硫醇化500:1。 R-PE标记的二次抗体,产生的交联PE-PDP和巯基化的抗体。在进一步纯化之后,紫外光谱和非变性聚丙烯酰胺凝胶电泳确定其高纯度和分子量。最后,在结合抗原特定的第一抗体,应用R-PE标记的IgG作为二次抗体的荧光免疫测定法,并成功地检测到抗原上的硝酸纤维素膜,以及SMCC-7721细胞的细胞内抗原的斑点。本研究条斑紫菜R-PE荧光抗体的制备提供了一个可行的方法,并演示了荧光标记效率高的产品和良好的免疫反应。
【英文摘要】To optimize the chemical conjugation between R-phycoerythrin (R-PE) and antibody, different molar ratios of the heterobifunctional reagent N-succinimidyl- 3-2-pyridyldithio propionate (SPDP) to R-PE were tested for R-PE derivation into R-PE-PDP, and different molar ratios of dithiothreitol (DTT) to IgG were tested for IgG thiolation. The results showed that in terms of best product yields determined by ultraviolet (UV) spectrophotometry, the optimal molar ratio of SPDP to R-PE was 40:1 for PE derivation, and that of DTT to IgG was 500:1 for thiolation. R-PE-labeled secondary antibody was produced by cross-linking PE-PDP and thiolated IgG. After further purification, UV spectra and native polyacrylamide gel electrophoresis determined its high purity and molecular weight. Finally, in conjunction with antigen-specific first antibodies, the R-PE-labeled IgG was applied in fluorescence immunoassays as secondary antibody and successfully detected antigens spotted on nitrocellulose membrane as well as intracellular antigen in SMCC-7721 cells. This study provides a feasible method of fluorescence antibody preparation from R-PE of Porphyra yezoensis and demonstrates high fluorescent labeling efficiency and good immunologic reactivity of the product.
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【题目】双列杂交设计的主-微位点组遗传分析方法研究
【中文关键词】双列杂交遗传设计; 主基因加微基因遗传模型; 主位点组; 微位点组; 逐步回归
【英文关键词】Diallel cross design; Major gene and polygene model; Major locus group; Minor locus group; Stepwise regression
【中文摘要】数量性状遗传研究通常以双亲本杂交后代为对象, 而作物育种中常涉及多个具有优良性状的亲本作为有利基因的供体, 因此有必要研究多个材料间的遗传关系, 以便从中选择最佳亲本组合, 这对杂种品种选育尤其重要。本研究在以往位点组分析方法的基础上, 将其扩展为主基因+多基因遗传模型框架下双列杂交设计的主-微位点组遗传分析方法, 将微位点组从原来的剩余部分中分离出来。该方法针对双列杂交设计的主位点组和微位点组及其与环境互作的统计遗传模型提出了主位点组检测与效应估计和微位点组效应估计的逐步选入回归法; 因模拟实验发现逐步选入回归法的 F 测验有偏, 提出了 F 测验的调整方法。利用模拟方法评估了遗传率、主位点组个数、增效基因型频率、主位点组间相似性和微基因效应等因素与方法功效的关系。然后通过模拟实验数据和油菜实际试验数据的分析验证了所提方法的应用效果。本研究建立的双列杂交设计的主-微位点组遗传分析方法为杂种品种的亲本选配提供了方法和理论依据。
【英文摘要】Studies on inheritance of quantitative traits are usually based on two-way crosses, while in plant breeding, knowledge on inheritance of traits among a group of parental materials is needed since elite genes or QTLs are scattered in different materials. It is

especially true in breeding for hybrids. Based on our previous studies on major locus group analysis among a set of parents, we aimed at extending the analysis to major-minor locus groups in diallel cross experiment. The statistical method was derived from a forward stepwise regression for identifying major locus groups and estimating their genetic effects as well as the estimation of genetic effect of collective minor locus groups. In which the procedure of adjusting F criterion was raised since biased F-test was found in a simulation study. Then the procedure was used to evaluate the relationship between its power and some factors, including heritability value, number of major locus groups, genotypic frequency with increment alleles, similarity among major locus groups and effect of collective minor locus groups. A simulated diallel cross experiment was used to demonstrate the effectiveness of the procedure. A diallel cross experiment on days to flowering of rapeseed was given to show the statistical steps and its utilization. The procedure of major-minor locus group analysis in diallel crosses based on major gene plus polygene inheritance model provides a way to analyze the genetic constitution of a group of parental materials for obtaining the best hybrid combinations.

【语种】中文
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【题目】亚洲地区大豆育成品种幼苗期耐淹性鉴定和优选
【中文关键词】大豆;育成品种; 亚洲;耐淹性; 遗传变异
【英文关键词】Soybean ; Released cultivar ; Asia ; Submergence to lerance ; Geneticvariation
【中文摘要】以亚洲大豆育成品种为对象, 评价其幼苗期耐淹性,揭示其遗传变异特点,从而为耐涝育种提供种质基础。采用我国黄淮、 南方及亚洲其它 15国的 350份大豆育成品种,以相对死苗率为主要鉴定指标, 结合叶片相对失绿率与相对萎蔫率, 在苗期进行大豆耐淹性盆栽鉴定。结果表明: 以相对死苗率为主的指标体系可以有效鉴定大豆品种的苗期耐涝性。亚洲品种群体存在丰富的耐淹性遗传变异, 相对死苗率变幅为 4 . 8% ~ 212 . 0%。中国黄淮、中国南方、 东亚、 东南亚和南亚 5个区域的品种均呈现中间多、 两头少的单峰态分布, 遗传变异系数均高于21 24%, 耐淹性变异丰富,尤其中国黄淮地区覆盖了全群体相对死苗率变幅。各地区均存在耐淹品种, 山东、 江苏相对较多; 从 5个区域中依次优选出 7、 4、 1、 1、 2 , 共 15份耐淹性种质;系谱追踪发现莒选 23 、 南农 493- 1 、 黔豆 2号的耐淹性可能传递给后代; 4份国外耐淹性品种兼具有抗病性可作为亲本拓宽中国耐涝育种的种质基础。
【英文摘要】Floodi ng is one o f them ost frequent c li m ate disasters i n eastern and southe rn Asia . Deve l opm en t o f cultivars to l e r ant t o subm ergence is an effective w ay to avo id the t hreat o f fl ooding to soybean producti on . The ob j ec tives of the presentstudy w ere to evalua te t he subm ergence to lerance of young seed li ngs o f re leased cu lti var popu l a tions fro m d iffe rentA si an re g i ons , t o revea l their genetic va riati on , and to i den tify e lite ger m plasm w it h subm ergence to lerance for breed i ng pu rpose . The350 re leased cultivars from H uangH uai va lley s and Southern Chi na , as w ell as other 15 Asian countries w ere sa m p l ed andtested i n po t experi m ent at young seedli ng stage under a rtific i a l fl oodi ng conditi on . The re lati ve dea t h ratew as used asm a j o ri ndicator w ith re lati ve ye llo w i ng ra te and re l a tivew it her i ng rate as reference i nd i cato r s . The resu lts sho w ed t hat t he i nd ica t o rsyste m w as e ffective in eva l uati ng the subm erg ence to l erance at young seedli ng stage of soybean . There ex isted g rea t g eneticva riati on of subm ergence t o lerance i n t he Asian soybean cu lti var populati on w ith re l a tive dea t h ra te vary ing fro m 4 . 8% to212 . 0%. In each eco reg ion , . i e . Huang H uai va lley s , Sou t hern Ch i na , E ast A si a , Sout heast Asia and Sou t h Asia , t he re l a ti ve dea t h rate o f the cu lti vars d i str i bu ted as a si m il a r si ng le peak curve w ith geneti c coe ffi c ient o f var i ation mo re t han21 24%, espec iall y i n Huang H uai va lley s w ith its range cover i ng the who l e popu lati on . There ex ist e lite to l erantm ate rialsi n each eco reg ion , espec iall y i n Shandong and Jiangsu Prov i nces , and seven , f our , one , one and t w o in a tota l o f 15 m ost to l e rantm a terials w ere se l ected fro m t he respec tive eco reg ions . Among them, som e se l ec ted to lerant culti va r s have the ir to l e r ance inherited fro m the to l eran t parents , Juxuan 23 , Nannong 493 1 , Q iandou No . 2 , after trac i ng t he ir ped i g ree ; the four se lected exotic t o lerant cultivars are cha racte rized w ith resistance to some diseases , t herefore , could be used as e lite parents f o rbroaden i ng genetic bases i n breedi ng for subm ergence to lerance i n China
【语种】中文
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【题目】Expression of the insulin-like growth factor system in skeletal muscle during embryonic and postnatal development in the first filial generation pigs from Erhualian and Yorkshire reciprocal crosses
【中文关键词】基因表达,胰岛素样生长因子,猪,骨骼肌
【英文关键词】Gene expression; Insulin-like growth factor; Pig; Skeletal muscle
【中文摘要】在这项研究中,我们检测到的表达,IGF-I,IGF-II,IGF-IR,IGF-IIR和IGFBP-3 mRNA在50(E50),70(E70),90(E90)天的妊娠,和1(D1),20(D20),70(D70),120(D120)和180(D180)天(LD)的背最长肌和半腱肌(ST)的,从约克夏公猪×二花脸猪的年龄母猪(YE)交叉以及一个二花脸公猪×约克夏母猪(EY)交叉。我们发现,骨骼肌组织中IGF-I和IGF-II mRNA的表达差异的基础上发育年龄和相互交叉型(P <0.05)。 IGF-I基因的表达呈现波动上升的趋势。与此相反,IGF-II在出生后呈波动下降的趋势。 IGF-IR mRNA的水平明显高于出生前,出生后,除了ST D120的EY猪在(P <0.05)。随着年龄的增长和相互交叉型(P <0.05),IGF-IIR和IGFBP-3基因的表达显着改变。 IGF-I,IGF-II,IGFBP-3的表达呈正相关,与IGF-IR50E180D。这些数据表明,在肌肉组织中从正反杂交猪在不同的发展阶段和IGF系统基因的表达具有特定的发育模式在一定时期的发展,可能会出现与表达。我们的研究结果可能为猪的分子育种提供了宝贵的资源。
【英文摘要】In this study, we detected the expression of IGF-I, IGF-II, IGF-IR, IGF-IIR, and IGFBP-3 mRNA at 50 (E50), 70 (E70), and 90 (E90) days of gestation, and 1 (D1), 20 (D20), 70 (D70), 120 (D120), and 180 (D180) days of age in the longissimus dorsi (LD) and the semitendinosus (ST) of pigs from a Yorkshire boar × Erhualian sow (YE) cross as well as a Erhualian boar × Yorkshire sow (EY) cross. We found that the expression of IGF-I and IGF-II mRNA in skeletal muscle tissues differed based on developmental age and reciprocal cross type (P < 0.05). The expression of IGF-I mRNA exhibited a fluctuant ascending trend. In contrast, IGF-II showed a fluctuant descending trend after birth. The levels of IGF-IR mRNA were higher before birth compared with after birth except for the ST of EY pigs at D120 (P < 0.05). The expression of IGF-IIR and IGFBP-3 mRNA remarkably changed with age and reciprocal cross type (P < 0.05). IGF-I, IGF-II, and IGFBP-3 mRNA were positively correlated with IGF-IR from 50E to 180D. These data suggest that the expression of IGF-system genes exhibits specific developmental patterns in the skeletal muscle tissues of pigs from reciprocal crosses at different developmental stages and may show linked expression during certain periods of development. Our results may provide a valuable resource for the molecular breeding of pigs.
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【题目】以光周期处理与分期播种试验综合鉴定大豆品种的光温反应
【中文关键词】大豆; 生态类型; 光周期; 温度; 光温互作
【英文关键词】Soybean; Ecotype; Photoperiod; Temperature; Photothermal interaction
【中文摘要】设置短日照(12 h)和长日照(16 h)两种光周期处理, 并以春播模拟低温、夏播模拟高温条件, 形成长日+低温、长日+高温、短日+低温、短日+高温 4 种光温组合。2007 年对近年育成的 10 个北方春大豆[Glycine max (L.) Merr.]品种(系)和 18 个黄淮海夏大豆品种(系)进行了光温反应特性鉴定。2008 年对 50 份材料进行了光周期反应鉴定。结果表明, 不论在低温(春播)还是高温(夏播)条件下, 短日照均加快大豆的发育进程, 导致开花提前; 不论在长日照还是短日照条件下, 高温均减少出苗至初花的日数。光周期和温度对大豆的发育存在明显的互作, 随着温度的升高, 短日照促进大豆发育的效应有所加强; 随着日照的缩短, 高温加快发育的作用也有所增大。 供试大豆品种生态类型在光周期反应敏感度(PRS)、温度反应敏感度(TRS)及光温综合反应敏感度(PTCRS)等方面均存在显著差异。北方春大豆品种的上述 3 个指标均小于黄淮海夏大豆品种, 但前者在不同光照条件下的温度反应敏感度差值和在不同温度条件下的光周期反应敏感度差值均较后者高, 说明北方春大豆品种光温互作效应较强。

【英文摘要】Soybean [Glycine max (L.) Merr.] is a short-day crop that favors temperate weather. There have been a lot of studies on the responses to photoperiod, temperature or photothermal comprehensive regimes in soybean. However, little work has been conducted in the interactive effects of photoperiod and temperature on the development of soybean. To fully understand the photothermal responses of soybean and to identify the varietal variations in these traits, we designed two photoperiodic treatments of 12 h (short day or SD) and 16 h (long day or LD) integrated with two thermal conditions, i.e. high temperature (HT) (summer seeding in Beijing) and low temperature (LT) (spring seeding) in the current study. In 2007, the responses to the photoperiod, temperature, and photoperiod-temperature combinations of 10 spring sowing soybean varieties (lines) from the Northeast and 18 summer sowing varieties (lines) from Yellow-Huai-Hai River Valleys of China were identified in 4 photothermal regimes (LD+LT, LD+HT, SD+LT, SD+HT). In 2008, 50 varieties (lines) were used to test the photoperiodic responses. The results showed that SD promoted the developmental rate of soybean regardless of the temperature conditions; HT shortened the number of the days from emergence to flowering no matter whether the photoperiod was long or short. There was significant interaction between temperature and photoperiod from emergence to flowering. With the increase of temperature, the promotive effect of SD on developmental rate of soybean was enhanced, and the HT hastening effect was strengthened by SD as well. The apparent differences in photoperiod response sensitivity (PRS), temperature response sensitivity (TRS) and photothermal comprehensive response sensitivity (PTCRS) between ecotypes were observed. The above three indices of spring sowing soybean varieties from the Northeast were all lower than those of summer sowing varieties from Yellow-Huai-Hai River Valleys. However, the differences between TRS values under the two photoperiod treatments and that between PRS values under the two temperature conditions in spring sowing soybean varieties from the Northeast were both larger than those in summer sowing varieties from the Valleys, and it indicated that there was higher photoperiod × temperature interaction in the spring sowing varieties. The relationship between photothermal responses of soybean varieties and their ecological adaptability was discussed, and it was proposed that, in breeding program, emphasis should be paid not only on the identification of responses of soybean varieties to the individual photoperiod or temperature factor but also on the photothermal interaction.

【语种】中文
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【题目】应用关联分析鉴定大豆对斜纹夜蛾的抗性基因
【中文关键词】关联分析, 遗传多样性, 连锁不平衡, 抗虫性, 大豆
【英文关键词】association analysis, genetic diversity, linkage disequilibrium, resistance to insects, soybean (Glycine max (L.) Merr.)
【中文摘要】用135个分布于全基因组的SSR(simple sequence repeat)标记分析196份大豆(Glycine max)地方品种的遗传变异、群体结构和连锁不平衡(linkage disequilibrium, LD)。在考虑群体结构的条件下, 应用全基因组关联分析的方法鉴定与大豆抗斜纹夜蛾有关的数量性状位点, 进而发掘各关联位点的优异等位基因及代表性载体材料。结果表明: (1) 该群体不仅地理起源广, 而且遗传变异丰富; (2) 在整个群体内, 有17.9%的标记对处于显著的连锁不平衡, 而且在相同染色体上标记对间连锁不平衡延伸的平均距离约为6.61 cM(D'>0, P<0.05); (3) 通过关联分析发现, 有7个SSR标记分别与3个大豆抗斜纹夜蛾性状关联(P<0.01), 其中4个位点对性状的变异解释率超过了10%, 6个位点所在的连锁群上存在已报道的食叶性害虫抗性位点; (4) 各位点等位基因的效应分析显示, 幼虫重相关位点的等位基因主要表现为减效作用, 等位基因Sat_334-A208减效作用最大(43.9%); 单虫食叶量和蛹重相关位点的等位基因主要表现为增效作用; 等位基因Satt199- A186对单虫食叶量增效作用最大(36.4%); 等位基因Sat_320-A286对蛹重增效作用最大(31.4%)。
【英文摘要】We used 135 genome-wide simple sequence repeat (SSR) markers to assess genetic diversity, population structure and linkage disequilibrium (LD) of 196 soybean landraces. On the basis of estimated population structure, we conducted association mapping for soybean resistance to common cutworm (CCW) using genomic-wide mapping strategies and detected the elite alleles of soybean resistance to CCW, along with their carriers. In addition to wide geographic origin, the population showed extensive genetic variation, and 17.9% of the SSR pairs were in LD (with D'>0, P<0.05). The extent of LD was > 6.61 cM with genetic distance of locus pairs for the loci in the same linkage group (LG). Association analysis revealed 7 SSRs associated with soybean resistance to CCW (P<0.01): 4 accounted for >10% of the total genetic variation for resistance; 6 located in the linkage groups reported to be related to soybean resistance to insects. Allele effect analysis revealed that the alleles related to larval weight of CCW mainly had a negative effect,

the allele Sat_334-A208 showing the largest negative effect (43.9%). The alleles related to leaf consumption of single larva (LCL) and pupal weight (PW) of CCW mainly had a positive effect, the allele Satt199-A186 showing the largest positive effect for LCL (36.4%) and the allele Sat_320-A286, the largest positive effect for PW (31.4%).

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【题目】基于生物量的水稻叶片主要几何属性模型研究
【中文关键词】水稻;生物量;叶长;叶宽;比叶重
【英文关键词】rice; biomass; leaf length; leaf width; specific leaf weight
【中文摘要】构建基于生物量的水稻叶片主要几何属性模型,为水稻株型设计与调控提供理论依据。【方法】以两优108、86优8、南粳43及扬稻6号为材料,设置品种、氮肥与密度田间试验,观测水稻主茎不同叶位叶片长度和宽度,分析了水稻主茎叶片长和宽的关系、比叶重(SLW)随叶位的变化规律,以及水稻叶片干重与叶长和叶宽的关系,构建基于生物量的水稻叶片主要几何属性模型。【结果】叶长与叶宽的关系可用幂指数方程表达,比叶重随叶位呈二次曲线变化。采用独立的试验资料检验模型,主茎叶片叶长、叶宽模拟值与实测值的根均方差(RMSE)分别为2.55和0.06cm。【结论】表明该模型可较好地模拟不同生长条件下水稻主茎不同叶位叶片的主要几何属性,为生长模型与形态结构模型的结合奠定了基础。
【英文摘要】【Objective】 To develop a geometrical property model of leaf blade based on dry weight (DW), which is the output of growth model.【Method】 Firstly, the model was deduced from the relationship between biomass and geometrical parameters of leaf theoretically. And then, based on observations on leaf length and leaf width of different leaf position (LP) on main stems under different nitrogen rates and density with four cultivars (LY108#, 86Y8#, NJ43#, YD 6#), the change patterns of specific leaf weight (SLW) with leaf position and the relationship between leaf length and width of rice on main stem were discussed.【Result】 The results indicated that the relationship between leaf blade length and its width could be expressed in power function, and SLW changed with the leaf position (LP) in quadratic equation. 【Conclusion】 The validation of the model with independent experimental data under different nitrogen rates and density with four cultivars showed that the RMSE of dynamic leaf length and leaf width on main stem were 2.55cm and 0.06cm, respectively, and the model could simulate the geometrical characteristics of rice leaf blade on main stem under different growth conditions.
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【题目】中国野生大豆群体特征和地理分化的遗传分析
【中文关键词】野生大豆(Glycine soja Sieb. et Zucc.);SSR;连锁不平衡(LD);群体结构;地理分化;全生育期遗传分化
【英文关键词】wild soybean (Glycine soja Sieb. et Zucc.); simple-sequence repeat (SSR); linkage disequilibrium (LD); population structure; geographic differentiation; genetic differentiation of days to maturity
【中文摘要】【目的】从分子标记等位变异水平上探讨中国野生大豆群体的遗传特征、连锁不平衡特点和地理生态分化的遗传机制,并以重要生态性状全生育期为代表解析性状地理分化的遗传基础。【方法】从全国 24 个省区不同地理生态型的野生大豆材料中抽选 174份组成代表性样本,选用 204个 SSR标记,利用 TASSEL及 STRUCTURE 2.2软件进行群体连锁不平衡(linkage disequilibrium,LD)和群体遗传结构分析。在此基础上对群体的地理分化、亚群体特异性及全生育期位点等位变异的地理分化进行遗传分析。【结果】中国野生大豆群体蕴含丰富的遗传变异,20条连锁群中,I和 C2连锁群有相对较多

的位点平均等位变异和遗传分化。不论是共线性组合,还是非共线性组合,都有一定程度的 LD存在,说明历史上发生过连锁群间的大量重组;野生群体 D ′ 平均值为 0.34,高值多,比栽培大豆高,说明野生群体发生过更多的重组,保留下较高的 LD。采用 H-W平衡模型将野生群体聚成 4类,模型聚类亚群划分与地理生态分类相关、有交叉,推测各地理亚群体发生过材料的迁移。各地理亚群经长期自然选择,各位点等位基因的频率发生变化,还有新生的与绝灭的,因此,各地理亚群间产生明显的等位基因分化。与地理生态性状全生育期关联的有 15个位点 160个等位变异,其中,亚群特有等位变异共 58个,来自 14个位点,同一位点可以在多个亚群体产生不同的特有等位变异,其效应从南至北逐渐下降,这说明生态区间不仅有强烈的遗传分化,而且是有规律的遗传分化。【结论】中国野生大豆群体遗传多样性高,共线、非共线位点间连锁不平衡程度高,4 个生态亚群体间位点高度遗传分化,产生大量地区特有等位变异,全生育期还表现由南向北降效的规律性遗传分化。

【英文摘要】【Objective】 The objective of the present study was to explore the genetic characteristics, linkage disequilibrium (LD) and genetic mechanism of geographic differentiation of the Chinese wild soybean population, and based on it, the geographic differentiation mechanism of days to maturity, the key geographic-ecological trait, is to be revealed. 【Method】 A sample composed of 174 accessions of wild soybean (Glycine soja Sieb. et Zucc.) from all growing areas (24 provinces) in China was established as the representative population of the Chinese wild soybean. The genotyping data of 204 simple-sequence repeat (SSR) markers on 174 accessions were obtained and analyzed for LD among marker pairs and the genetic structure of the population by using the TASSEL and STRUCTURE 2.2 program. Based on it, the genetic mechanism of the geographic differentiation of the population, the characteristics of the geographic subpopulations, and geographic differentiation of alleles of loci related to days to maturity were studied. 【Result】 There showed a plenty of genetic diversity in the Chinese wild soybean population and showed relatively larger average number of alleles and genetic differentiation on Linkage group (LG) I and C2 than others among the 20 LGs. Different LD degrees were detected not only among syntenic marker pairs but also among nonsyntenic pairs, suggesting there had been historical recombination among linkage groups. The average D ′ was 0.34 for the population, larger than the previously reported value for cultivated soybean (G. ma x (L.) Merr.), implying more recombination occurred in the history and therefore higher LD values remained at present. The population was classified into four subpopulations according to H-W model-clustering analysis which was not completely but somewhat consistent with the geographic classification, indicating multiple migrations among eco-regions happened in the long history. There showed a great deal of allelic differentiation among the geographic subpopulations, including changes of allelic frequencies, new outcome of alleles and extinct of old alleles due to the long term natural selection. For the key geographic-ecological trait of the wild population, days to maturity, 160 alleles on 15 loci were detected, among them, 58 alleles from 14 loci were subpopulation-specific. Even multiple subpopulation-specific alleles of a same locus happened on each of the four subpopulations. The allelic genetic effects varied in a systematic decrease from the south to the north, which indicates not only strong but also systematic genetic differentiation among ecological subpopulations happened in the history for the trait. 【Conclusion】 The Chinese wild soybean population is characterized by higher genetic diversity and higher syntenic and nonsytenic LD. Among the four geographic subpopulations, there happened great genetic differentiation, which caused outcomes of subpopulation-specific alleles. The genetic differentiation of the key geographic-ecological trait, days to maturity, is characterized by not only strong but also systematic decrease of allelic effect from the south to the north.

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【题目】中国野生和栽培大豆 11S及 7S蛋白质相对含量的比较分析
【中文关键词】野生大豆 (G.soja Sieb.et Zucc.); 栽培大豆 (G.max(L.)Merr.); 11S蛋白质; 7S蛋白质; 11S /7S比值; 蛋白质亚基组;遗传变异; 生态
【英文关键词】W il d soybean(G. soja S i eb . et Zucc .); Cultivated soybean(G. m ax (L.)M err .); 11S prote i n ; 7S pro tein ; 11S /7S rati o ; Prote i n subun it group ; Genetic variab ility ; Eco - reg i on
【中文摘要】大豆种质蛋白质 11S和 7S及其亚基组相对含量的遗传变异是专用型品种选育的基础。以全国各生态区的野生豆 138份和地方品种 409份, 国内育成品种 148份、 国外育成品种 83份,合计 778份大豆种质为材料, 采用SDS - PAGE电泳技术测定蛋白质 11S和 7S组分及其亚基组相对含量,研究其遗传变异。在南京同一条件下的结果表明: 全国野生豆、 地方品种和育成品种 11S相对含量平均分别为 54 . 7 %、 64 . 8 %和 71 . 7%,变幅 28 . 8% ~ 82 . 6 %、 38 . 8 % ~ 79 . 4%和 48 . 2 % ~

88 . 9%; 7S相对含量平均分别为 44 . 7%、 34 . 9% 和 27 . 9%, 变幅 20 . 6% ~ 71 . 2 %、20 16% ~ 61 . 1%和 15 . 7% ~ 47 . 8%; 11S /7S比值平均分别为 1 . 4、 2 . 0和 2 . 7 , 变幅 0 . 4~ 3 . 9、 0 . 6~ 3 . 9和 0 . 9~410。野生豆驯化为栽培豆并经选育后 11S相对含量和 11S /7S比值上升, 7S相对含量下降, 变幅均减小; 亚基组11S - 2和 11S - 3相对含量增加; 7S的 6个亚基组, 尤其 7S - 1和 7S - 6 , 相对含量下降。11S、 7S 、11S /7S以及各亚基组在各群体各生态区内均有较大变异, 但与来源地纬度、 蛋白质和油脂含量均无显著相关。从中优选到 11S /7S比值大于 3 . 7 、 11S相对含量为 78 . 9% ~ 88 . 9%的 8份种质,发现有 11S的 4个亚基组相对含量分别大于 37%、 7S的 6个亚基组相对含量分别大于 24%、 以及 11S - 1和 7S的 6个亚基组缺失的种质,这些特异种质可供蛋白质组分育种利用。

【英文摘要】In breed i ng for cultivars w ith spec ifi c pro te i n qua lit y , it shou l d be t he basi c step to ho l d the g enetic va riab ilit y o fre l ative content o f 11S , 7S prote i n and t he ir subun it groups in soybean ger mp las m. In the present study , to tal 778 acces -sions , i nclud i ng 138 w ild entr i es(Glycine soja S ieb . et Zucc .), 409 cultivated l andraces(G lycine max (L .)M err .) and 148re l eased do m estic cu lti vars sa m pled fro m various eco - reg i ons as a representa ti ve i n Ch i na , a l ong w ith 83 released f o re i gncu lti va r s , w ere tested f o r t he ir 11S , 7S prote i n and t he ir subun it group re l ative contents by usi ng SDS - PAGE ana l y si s . Theob tained da taw ere ana l yzed w it h the soft w are of SAS 9 . 0 and SPSS 13 . 0 . The results obta i nd under env ironm en t cond iti onsi n Nan ji ng are as fo ll ow s : Them ean re l a tive content o f 11S i n w il d accessi ons , landraces and released cultivarsw as 54 1 7 %,64 . 8 % and 71 . 7 % w ith a range of 28 . 8%- 82 . 6%, 38 . 8%-79 . 4 % and 48 . 8%-88 . 9 %, respecti ve l y . That of 7S w as 44 .7%, 34 . 9% and 27 . 9% w ith a range o f 20 . 6 %- 71 . 2%, 20 . 6%- 61 . 1% and 15 . 7%- 47 . 8%, respectively . That of 11S /7S rati o w as 1 . 4 , 2 . 0 and 2 . 7 w it h a range of 0 . 4 - 3 . 9 , 0 . 6 -3 . 9 and 0 . 9 - 4 . 0 , respec ti ve l y . Due to do m esti cation and artif- ic i a l breed i ng , t he 11S relati ve content and 11S /7S ratio i ncreased and t he 7S re lati ve con tent decreased g radua ll y w it h theirranges all decreased , w hil e the re lati ve con tents o f subunit group 11S - 2 and 11S - 3 inc reased and tho se o f the six 7S subun itgroups , espec i a lly 7S - 1 and 7S - 6 decreased . There ex isted abundant var i a tion in 11S and 7S re lati ve conten t , 11S /7S ra tioand their subun it groups i n the three ger m plasm types i n each eco - reg i on , but no si gn ificant corre l a tion w ith geographic lat- itude of accessi on. s source s i te , as w e ll as w ith pro tein and fat content w as found . E i ght elite accessions w ere screened outfrom the 778 accessi ons to be w ith 11S /7S ratiom ore than 3 . 7 and 11S re lati ve content 78 . 9%- 88 . 9%. In additi on , therefound also the accessi onsw ith 11S subun it g roup relative conten tmo re t han 24% and the access i ons w it h 11S - 1 defi c ient orone o r t w o 7S subun it g roups de fi c i ent . Thesem ate rials shou l d be the super i or sources f o r breeding progra m s i n prote i n quality improvement

【语种】中文

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【学科分类】农艺学

【题目】中国野生和栽培大豆蛋白质及油脂含量的比较分析

【中文关键词】野生大豆 (G l y cine soja Sieb . et Zucc .); 栽培大豆 (Glycine m ax (L.)M err .); 蛋白质含量; 油脂含量; 遗传变异; 生态区域

【英文关键词】W ild soybean(G l y cine soja Sieb . et Zucc .); Cultivated soybean(G l y ci ne max (L.)M err .); Prote i n content ; Fat content ; Gene ti c var i ability ; Eco reg ion

【中文摘要】蛋白质和油脂是大豆的主要营养成分, 掌握大豆种质蛋白质和油脂含量的遗传变异是专用型品种选育的基础。以全国各生态区的野生豆 138份、 地方品种 408份、 国内育成品种 145份、 国外育成品种 77份, 合计 768份大豆种质为材料, 测定蛋白质和油脂含量, 研究其遗传变异特点。结果表明:在南京同一环境下全国野生豆蛋白质含量、 油脂含量和蛋脂总含量变幅分别为 39 . 2 % ~ 54 . 2%、 7 . 5 % ~ 17 . 5%和 47 . 3 % ~ 64 . 6%, 地方品种 38 . 8% ~51 5%、 11 . 5%~ 22 . 5%和 55 . 6%~ 69 . 0 %, 国内育成品种 41 . 7%~ 49 . 4%、 12 . 9 %~ 22 . 9% 和 55 . 6 %~ 68 . 6 %。野生豆驯化为栽培豆并经人工选育后油脂含量和蛋脂总含量有大幅增加, 而蛋白质含量平均数和变异度则有减小,说明以往人工进化着重在油脂含量的改进。三个性状各群体在各生态区内均有较大变异,区平均间差异并不大,各区都有优良变异。野生豆蛋白质含量、 油脂含量和蛋脂总含量与来源地纬度并未发现相关; 栽培豆地方品种和育成品种的油脂含量与地理纬度出现显著正相关;育成品种蛋白质含量与地理纬度还出现显著负相关;野生自然状态下蛋白质含量和油脂含量之间无相关,而栽培豆地方品种和育成品种依次增强了负相关; 形成这种相关的原因在于地区间油脂含量人工进化程度的差异。

【英文摘要】It is a bas i cw ork to exp l o re the gene ti c variab ility and se l ec ti on po tentia l of prote i n and fat content ex isted in soy bean ger m plasm for the i mprove m en t of t he t wo components . In t he presen t study , tota l 768 accessi ons , i nc l ud i ng 138

w ildentr ies (Glycine soja S ieb . e t Zucc .) , 408 cultivated landraces (G l y ci ne max (L.) M err .) and 145 re leased dom estic cu lti vars sa m pled fro m var i ous eco reg i ons as a representative i n Chi na , along w it h 77 released foreign cultivars , w ere tested f o rthe ir prote i n and fat content by usi ngK je ltec and Sox tec techn i que i n order to characterize t he genetic variab ility of pro te i nand fat content i n respective k i nds of germp l asm. The data obta i ned w ere ana l yzed w i th t he soft w are of SAS 9 . 0 and SPSS13 . 0 . The resu lts obtaind under t he env ironm enta l cond iti ons i n Nanji ng s howed t ha t t he range o f prote i n content , fat contentand to tal of both i n w il d soybean were 39 . 2 54 . 2 %, 7 . 5 17 . 5 %, 47 . 3 64 . 6%, t hose i n cultivated landraces 38 . 8 51 5%,11 5 22 . 5 %, 55 . 6 69 . 0%, those in released do m estic cu lti vars 41 . 7 49 . 4%, 12 . 9 22 . 9%, 55 . 6 68 . 6 %, respec tively . Theincrease of fat con tent and prote i n p l us f a t content afte r dom esticati on and the decrease o f pro te i n conten t as w ell as its rang ei m pli ed that the i mprove m en t of fat content happened dur i ng the artifi c ial i m prove m ent process . There ex isted l arge amounto f genetic va riati on o f prote i n content , fat con tent and tota l o f both contents i n var i ous eco reg ions i n different ki nds o fm aterials , w ith e lite accessions i n each eco reg i ons , but the variati on was no t l arge enough a m ong eco reg ion m eans . No si gn ifi cant corre l a tion bet ween the three con tents and the o rig i nal l atitude of them ater ials was found i n w ild accessions , wh ile si g n ifican t positive co rre lati on bet ween fat content and latitude ex isted i n culti va ted l andraces and re l eased cu ltivars and s i gnif icant neg ati ve correlation be t w een pro tein conten t and latit udew as f ound on l y i n released cu ltivars . Therew as no si gnificantco r re l a ti on be t w een protei n content and fat content in w il d soybeans , but si gn ifi cant negati ve correlati on bet w een t he t wo con tents found i n cu lti va ted land races and re leased cu lti vars . The reason for this ki nd o f change shoul d be the differential artifi c ial selecti on a m ong the eco reg ions

【语种】中文
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【题目】中国栽培及野生大豆的遗传多样性、地理分化和演化关系研究
【中文关键词】栽培大豆;野生大豆;地理生态型;遗传多样性;遗传特异性;遗传分化;演化关系
【英文关键词】无
【中文摘要】栽培大豆的起源和演化是大豆生物学和农学基础研究的重要命题之一. 本研究选用 60 对细胞核 SSR标记(nuSSR)和 11 对叶绿体 SSR (cpSSR)标记, 在检测由 393 份地方品种和 196份野生材料组成的全国代表性样本的细胞核、叶绿体基因组变异的基础上, 分析了栽培、野生地理生态群体间的遗传演化关系. 结果表明: (ⅰ) 野生群体核、质遗传多样性都明显大于栽培群体, 核、质等位变异数分别为 1067:980 和 57:44 个; 栽培大豆 980 个核等位变异中有 377 个(38.5%)为驯化后新生等位变异, 44 个质等位变异中出现了 7 个(15.9%)新生等位变异. (ⅱ) 栽培生态类群中, 以南方 3个地理生态类群(中南、华南、西南)遗传多样性较高; 野生生态类群中以长江中下游野生类群遗传多样性较高. (iii) 从分子方差分析、遗传聚类与地理类群间关联分析及群体特有等位变异三方面证实我国栽培、野生大豆地理生态分化有其遗传分化的基础. (iv) 以材料为单位的聚类结果表明与栽培大豆近缘的野生材料大多来自长江中下游及西南-中南野生地理类群; 进一步分析地理群体间的遗传距离, 并作 UPGMA 聚类, 发现各栽培地理类群与长江中下游野生大豆群体的遗传距离一致, 小于与包括本区在内的其他野生群体的距离, 结合该区野生群体特有的 cpDNA等位变异 NTCP10-117 在所有栽培生态类群中都有分布的现象, 推论在南方野生群体中的长江中下游野生祖先可能是栽培大豆共同的野生祖先.
【英文摘要】无
【语种】中文
【第一作者】文自翔
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【题目】重组自交家系群体 4 对主基因加多基因混合遗传模型分离分析方法的建立
【中文关键词】重组自交家系群体(RIL); 主基因加多基因混合遗传; 分离分析
【英文关键词】RIL population; Major gene plus polygenes mixed inheritance; Segregation analysis
【中文摘要】主基因加多基因混合遗传模型分离分析方法是基于数量性状表型数据的统计遗传分析方法, 该方法适于育种工作者利用杂种分离世代的数据对育种性状的遗传组成做出初步判断, 制订相应的育种策略, 也可用以校验 QTL定位所揭示的性状遗传组成。重组自交家系群体(RIL)是一种永久性群体, 可以进行有重复的比较试验, 适合于环境影响较大的复杂性状的遗传研究。本研究以 RIL 群体为对象, 将遗传模型拓展到 4 对主基因, 建立相应的分离分析方法。新构建的模型共包括 4 对主基因和 4 对主基因加多基因两类共 15 个遗传模型, 通过极大似然法和 IECM 算法估算各种模型的分布参数, 由 AIC 值和一组适合性测验选取最佳遗传模型, 再由最小二乘法估计模型的遗传参数。通过模拟实验对所建立的模型进行验证, 模拟群体中一阶遗传参数的估计值与设定值之间有很好一致性。以大豆科丰 1 号×南农 1138-2 构成的 RIL 群体及其亲本棕榈酸含量的遗传(I-1 模型, 即 4 对加性-上位性主基因和加性-上位性多基因遗传模型)为例, 说明该方法的应用效果。
【英文摘要】The segregation analysis of major genes plus polygenes is a statistical method for genetic analysis of quantitative traits. This method is particularly valuable for breeders to use their data accumulated from segregation populations to estimate the genetic system of target traits which is necessary for designing breeding strategies and also useful for validating the results of QTL mapping. The recombinant inbred line (RIL) population is a permanent population, which is suitable for genetic analyses of complex traits and can be used in replicated experiments. For RIL, the analytical procedures of three major genes plus polygenes mixed inheritance models have been established and widely used in crops. There is an increasing demand on the genetic model expanding from three major genes plus polygenes to four or more major genes plus polygenes. Therefore, the objective of the present study was to establish the analytical procedures of segregation analyses for four major genes plus polygenes mixed inheritance model in RIL population. Fifteen genetic models with four additive and/or epistatic major genes including those without and with polygenes were established. The genetic models and their distribution parameters were solved and estimated with maximum likelihood method and IECM algorithm. The best model was chosen based on Akaike ’s Information Criterion (AIC) and a set of goodness of fit tests. The genetic parameters of the best model were estimated with the least square method. The established procedure was validated with a set of Monte Carlo simulation experiments. The results showed a relatively high accuracy and consistency for first order parameters between the simulated population and scheduled population. For demonstration of the usefulness of the established procedure, the data of palmitic acid content obtained from a RIL population NJRIKY (derived from Kefeng 1 × Nannong 1138-2) along with their P1 and P2 were analyzed. The results showed that the data fitted to Model I-1, i.e. four additive and epistasis major genes plus additive and epistatic polygenes mixed inheritance model.
【语种】中文
【第一作者】王金社
【通讯作者】盖钧镒
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【题目】作物模型发展探讨
【中文关键词】作物模型;作物生长模型;作物形态模型;发展;探讨
【英文关键词】crop models (CMs); crop growth models; crop morphological models; development; discussion
【中文摘要】为进一步深化与促进作物模型发展,并融入国际潮流,本文以系统学思想为指导,采用系统分析、分类、比较及认识论挖掘等方法,通过作物模型概念、分类、作用及其与数字种植业的关系分析,阐述了作物模型作用,综述了国内外作物模型研究与应用新动态,比较了国际上作物生长模型四大研究组(DSSAT,School of de Wit,APSIM及中国)和功能-结构植物模型三大研究组(L-Studio,GREENLAB及中国)间作物模型的差异,分析了存在问题,提出了进一步发展的对策和建议。目前,虽然作物模型及数字种植业的应用较少,但随着中国农业的发展,特别是城乡结构的变化,未来它将具有广阔应用和发展前景。
【英文摘要】In order to deepen the studies of crop models (CMs), promote its development, and make it to join into international development tide, the methods of systematic analysis, classifying, comparison, and dig of epistemology, etc were adopted in this paper.

The roles in CMs were set forth through putting forward clearly to the concepts and classifying of CMs, and analyzing the relationships between CMs and digital plant (DP) in this paper. The latest studies and application progresses of CMs in internal and abroad were reviewed, the issues in their current studies and application were analyzed through comparison of differences for plant growth models among 4 research groups (DSSAT, School of de Wit, APSIM, and China) and for functional structural plant models (FSPMs) among 3 research groups (L-Studio, GREENLAB, and China) in the world, and some countermeasures and suggestions for their further development were advised. At present, although the application of CMs and DP is little, it will have a wide development and application foreground with development of agriculture in China in future, especially, changes in proportion of town and countryside.

【语种】中文
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【题目】A novel focal adhesion kinase from Marsupenaeus japonicus and its response to WSSV infection
【中文关键词】无
【英文关键词】Focal adhesion kinase; Shrimp; Phosphorylation; Cell adhesion
【中文摘要】无
【英文摘要】Focal adhesion kinase (FAK) is a cytoplasmic protein-tyrosine kinase involved in integrin-mediated signal transduction which regulates multiple cell functions in mammalian cells. In contrast to the well document of FAK in mammalian cells, the properties of FAK in crustacean have not been reported yet and even none of their gene or protein sequences is known to date. Here, we report for the first time the cloning of FAK from Marsupenaeus japonicus (designated as MjFAK) and the identification of its involvement in the virus infection and host defense. Sequence analysis displayed that MjFAK shared strong similarity to FAK family protein-tyrosine kinase, including conserved tyrosine phosphorylation sites, PTK domain and FAT domain. Immunofluorescence staining analysis showed that MjFAK was located prominently at the cell periphery and partly in cytoplasm and nucleus. Notably, considerable high content of MjFAK and MjFAK (pY399) were found in shrimp, which differs greatly from the low level of endogenous FAK and pFAK in the mammalian cells. It implies that pMjFAK may play a significant role in shrimp. Moreover, pMjFAK increased at the early infection stage, and the hemocyte adhesion activity of fibronectin also increased significantly accompanying with its phosphorylation. These results suggest that pMjFAK may not only promote the WSSV infection, but also participate in the defense mechanism via the enhancement of the immune-cell adhesion. Our data provide a clue to recognize the FAK-mediated signaling connection in the control of immunity and virus infection in crustaceans, which will be helpful to shrimp viral disease control.
【语种】英文
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【通讯作者】Xun Xu
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【学科分类】水产学基础学科

【题目】A transglutaminase from Chinese shrimp (Fenneropenaeus chinensis), full length cDNA cloning, tissue localization and expression profile after challenge
【中文关键词】无
【英文关键词】Transglutaminase; Cloning; Expression profile; Challenge; Fenneropenaeus chinensis
【中文摘要】无
【英文摘要】Transglutaminase can catalyze the cross-linking reaction between soluble clotting protein molecules from the plasma for prevention of excess blood loss from a wound and obstructing micro-organisms from invading the wound in crustaceans. A novel transglutaminase (FcTG) gene was cloned from hemocytes of Chinese shrimp Fenneropenaeus chinensis by 3′ and 5′ rapid

amplification of cDNA ends (RACE) PCR. The full-length cDNA consists of 2972 bp, encoding 757 amino acids with a calculated molecular mass of 84.96 kDa and a theoretical isoelectric point of 5.61. FcTG contains a typical transglutaminase-like homologue (TGc domain: E-value = 1.94e-38). Three catalytic sites (Cys-324, His-391 and Asp-414) are present in this domain. The deduced amino acid sequence of FcTG showed high identity with black tiger shrimp TG, kuruma shrimp TG and crayfish TG. Transcripts of FcTG mRNA were mainly detected in gill, lymphoid organ and hemocytes by RT – PCR. RNA in situ hybridization further confirmed that FcTG was constitutively expressed in hemocytes both in the circulatory system and lymphoid organ. The variation of mRNA transcription level in hemocytes and lymphoid organ following injection of killed bacteria or infection with white spot syndrome virus (WSSV) was quantified by RT – PCR. The up-regulated expression ofFcTG in shrimp lymphoid organ following injection of bacteria indicates that it is inducible and might be associated with bacterial challenge.
【语种】英文
【第一作者】Yichen Liu
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【题目】Antiviral phagocytosis is regulated by a novel Rab-dependent complex in shrimp Penaeus japonicus
【中文关键词】无
【英文关键词】Rab GTPase; protein complex; phagocytosis; antivirus
【中文摘要】无
【英文摘要】Rab GTPases are involved in phagosome formation and maturation. However, the role of Rab GTPases in phagocytosis against virus infection remains unknown. In this study, it was found that a Rab gene (PjRab) from marine shrimp was upregulated in virus-resistant shrimp, suggesting that Rab GTPase was involved in the innate response to virus. The RNAi and mRNA assays revealed that the PjRab protein could regulate shrimp hemocytic phagocytosis through a protein complex consisting of the PjRab, beta-actin, tropomyosin, and envelope protein VP466 of shrimp white spot syndrome virus (WSSV). It was further demonstrated that the PjRab gene silencing by RNAi caused the increase in the number of WSSV copies, indicating that the PjRab might be an intracellular virus recognition protein employed by a host to increase the phagocytic activity. Therefore, our study presents a novel Rab-dependent signaling complex, in which the Rab GTPase might detect virus infection as an intracellular virus recognition protein and trigger downstream phagocytic defense against virus in crustacean for the first time. This discovery would improve our understanding of the still poorly understood molecular events involved in innate immune response against virus infection of invertebrates.
【语种】英文
【第一作者】Wenlin Wu
【通讯作者】Xiaobo Zhang
【期刊名称、卷期、页码】Journal of Proteome Research,7:424-431
【论文发表时间】2007-12-12 00:00:00
【引文索引类型】SCI
【引文索引号】1535-3893
【学科分类】水产学基础学科

【题目】Arginine kinase from Litopenaeus vannamei Cloning, expression and catalytic properties
【中文关键词】无
【英文关键词】Arginine kinase; Cloning; Expression; Litopenaeus vannamei; LPS; Activity
【中文摘要】无
【英文摘要】Arginine kinase (AK) is a phosphotransferase that plays a critical role in energy metabolism in invertebrates. In this paper, the full-length cDNA of AK was cloned from shrimp, Litopenaeus vannamei by using RT-PCR and RACE PCR. It was 1446 bp encoding 356 amino acids, and belongs to the conserved phosphagen kinase family. The quantitative real-time reverse transcription PCR analysis revealed a broad expression of AK with the highest expression in the muscle and the lowest in the skin. The expression of AK after challenge with LPS was tested in hemocytes and muscle, which indicated that the two peak values were 6.2 times

(at 3 h) and 10.14 times (at 24 h) in the hemocytes compared with the control values, respectively (P < 0.05), while the highest expression of AK was 41 times (at 24 h) in the muscle compared with the control (P < 0.05). In addition, AK was expressed in Escherichia coli by prokaryotic expression plasmid pGEX-4T-2. The recombinant protein was expressed as glutathione s-transferase (GST) arginine kinase (GST – AK) fusion protein, which was purified by affinity chromatography using Glutathione Sepharose 4B. After cleavage from GST by using a site-specific protease, the recombinant protein was identified by ESI-MS and showed AK activity. After treatment with 10 mM ATP, the enzyme activity significantly increased. However, the enzyme activity was inhibited by 10 mM α-ketoglutarate, 50 mM glucose and 200 mM ATP. This research suggested that AK might play an important role in the coupling of energy production and utilization and the immune response in shrimps.

【语种】英文

【第一作者】Cuilan Yao

【通讯作者】Jianhai Xiang

【期刊名称、卷期、页码】Fish & Shellfish Immunology,26:553-558

【论文发表时间】2009-02-23 00:00:00

【引文索引类型】SCI

【引文索引号】1050-4648

【学科分类】水产学基础学科

【题目】cDNA cloning and gene expression pattern following bacterial challenge of peroxinectin in Chinese shrimp Fenneropenaeus chinensis

【中文关键词】无

【英文关键词】Cell adhesion gene; Peroxinectin; Expression pattern; Real-time RT-PCR; Fenneropenaeus chinensis;

【中文摘要】无

【英文摘要】Peroxinectin, a cell-adhesive hemoperoxidase that binds superoxide dismutase and mediates blood cells adhesion and migration in invertebrate, is believed to play an important role in cellular immune reaction. In this study, we reported a new peroxinectin gene homologue from Chinese shrimpFenneropenaeus chinensis. Based on expressed sequence tags (ESTs) of haemocyte cDNA library, we cloned a 2,611 bps full-length cDNA of peroxinectin gene homologue encoded 801 amino acids. Motif scanning of the predicted polypeptide revealed a peroxidase domain and an integrin binding motif (Lys-Gly-Asp, KGD). Peroxinectin gene expressed constitutively in haemocyte as determined by quantitative real-time RT-PCR, the expression level varied following bacterial challenge. These findings suggested that peroxinectin expression is susceptible to exterior stimulus and maintains at a high expression level during bacterial infection.

【语种】英文

【第一作者】Bo Dong

【通讯作者】Jianhai Xiang

【期刊名称、卷期、页码】Molecular Biology Reports,36:2333-2339

【论文发表时间】2009-01-16 00:00:00

【引文索引类型】SCI

【引文索引号】0301-4851

【学科分类】水产学基础学科

【题目】cDNA cloning, characterization and expression analysis of the antioxidant enzyme gene, catalase of Chinese shrimp Fenneropenaeus chinensis.

【中文关键词】无

【英文关键词】Catalase; Cloning; WSSV; Immune response; Expression; Fenneropenaeus chinensis

【中文摘要】无

【英文摘要】Catalase is an important antioxidant protein that protects organisms against various oxidative stresses by eliminating hydrogen peroxide. The full-length catalase cDNA of Chinese shrimp Fenneropenaeus chinensis was cloned from the hepatopancreas using degenerate primers by the method of 3′ and 5′ rapid amplification of cDNA ends PCR. The cDNA sequence consists of 1892 bp with a 1560 bp open reading frame, encoding 520 amino acids with high identity to invertebrate, vertebrate and even bacterial catalases. The sequence includes the catalytic residues His71, Asn144, and Tyr354. The molecular mass of the predicted protein is 58824.04 Da with an estimated pI of 6.63. Sequence comparison showed that the deduced amino acid sequence of F.

chinensis catalase shares 96%, 73%, 71% and 70% identity with that of Pacific white shrimp Litopenaeus vannamei, Abalone Haliotis discus hannai, Zhikong scallopChlamys farreri and Human Homo sapiens, respectively. Catalase transcripts were detected in hepatopancreas, hemocytes, lymphoid organ, intestine, ovary, muscle and gill by real-time PCR. The variation of catalase mRNA transcripts in hemocytes and hepatopancreas was also quantified by real-time PCR and the result indicated that the catalase showed up-regulated expression trends in hemocytes at 14 h and in hepatopancreas at 37 h after injection with white spot syndrome virus (WSSV).

【语种】英文

【第一作者】Qingli Zhang

【通讯作者】Jianhai Xiang

【期刊名称、卷期、页码】Fish and Shellfish Immunology,24:584-591

【论文发表时间】2008-02-01 00:00:00

【引文索引类型】SCI

【引文索引号】1050-4648

【学科分类】水产学基础学科

【题目】Characterization of a Rab GTPase up-regulated in the shrimp Peneaus japonicus by virus infection

【中文关键词】无

【英文关键词】Rab; Shrimp immunity; WSSV

【中文摘要】无

【英文摘要】The molecular mechanisms of the immune system against virus in shrimp are not well known, despite its economic importance as an aquaculture species. In this investigation, a Rab gene (named as PjRab gene) was obtained from Peneaus japonicus shrimp, which exhibited high homology with Rab 6 of other species. The PjRab protein, having GTP-binding activity, contained characteristic signatures of Rab proteins with 6 GTP binding domains and 5 Rab specific domains. However, the PjRab protein exhibited a very different prenylation site (CLLNL) at its C-terminus from most of other Rabs. The PjRab gene was ubiquitously expressed in shrimp tissues. Real-time PCR revealed that the PjRab gene was up-regulated in WSSV-resistant shrimp, suggesting that the PjRab protein might play an important role in shrimp immune response against virus infection. This discovery might contribute better understanding to the molecular events involved in shrimp as well as invertebrate immune responses.

【语种】英文

【第一作者】Wenlin Wu

【通讯作者】Xiaobo Zhang

【期刊名称、卷期、页码】Fish and Shellfish Immunology,23:438-445

【论文发表时间】2007-01-20 00:00:00

【引文索引类型】SCI

【引文索引号】1050-4648

【学科分类】水产学基础学科

【题目】Characterization of a ras-related nuclear protein (Ran protein) up-regulated in shrimp antiviral immunity.

【中文关键词】无

【英文关键词】WSSV;Shrimpimmunity;RanGTPase

【中文摘要】无

【英文摘要】Diseases caused by viruses, especially white spot syndrome virus (WSSV), are the greatest challenge to worldwide shrimp aquaculture. Therefore, the innate immunity of shrimp has attracted extensive attentions these years. To date, however, no mechanism of immuno-related signal transduction pathway has been reported. In this investigation, an important signal transduction factor-Ran gene encoding ras-related nuclear protein (Ran protein) was characterized in shrimp. The shrimp Ran gene, without introns when compared with genomic DNA, was 645bp in length. The GTP-binding assay showed that the Ran protein had GTP-binding activity. The results of RT-PCR and Western blot indicated that the transcript and protein of Ran were detected in every tissue of shrimp including hepatopancreas, haemolymph, gill, intestine, heart and muscle. In the WSSV-resistant and WSSV-infected shrimp at 4h postinfection, the Ran gene was obviously up-regulated, indicating that it played a role in shrimp immunity against virus infection. This study, therefore, might provide a clue to elucidate shrimp innate immunity.

【语种】英文
【第一作者】Fang Han
【通讯作者】Xiaobo Zhang
【期刊名称、卷期、页码】Fish and Shellfish Immunology,23:937-944
【论文发表时间】2007-02-09 00:00:00
【引文索引类型】SCI
【引文索引号】1050-4648
【学科分类】水产学基础学科

【题目】Cloning and recombinant expression of a crustin-like gene from Chinese shrimp, Fenneropenaeus chinensis
【中文关键词】无
【英文关键词】Fenneropenaeuschinensis; Crustin-likegene; Prokaryotic expression; Function identification
【中文摘要】无
【英文摘要】Antimicrobial peptides or proteins (AMPs) are proved to be one of the most important humoral factors to resist pathogen infection. As an antimicrobial protein, crustin had been described in invertebrates as acomponent of the innate immune system. Acrustin-likegene (CruFc) was cloned from haemocytes ofChineseshrimpFenneropenaeuschinensis by 3′ and 5′-RACE PCR. The full-length cDNA consists of 523 with 405 bp open reading frame encoding 134 amino acids and the deduced peptide contains aputative signal peptide of 17 amino acids. The sequence also contains a whey-acidic protein (WAP) domain at the C-terminal. Transcripts of CruFc were mainly detected in haemocytes and gill by RT-PCR analysis. In addition, another full-length cDNA named CshFc was also cloned from haemocytes ofChineseshrimp and its inferred amino acid sequence lacks the WAP-type ‘four-disulfide core’ domain. The fusion proteins containing CruFc and CshFc were, respectively, produced and the antimicrobial assays revealed that the recombinant CruFc could inhibit the growth of gram-positive bacteria in vitro but the recombinant CshFc could not inhibit at the same conditions. The difference of antimicrobial activity between recombinant CruFc and CshFc provides the evidence that the four-disulfide core domain ofcrustin may play an important role in its biological function.
【语种】英文
【第一作者】Jiquan Zhang
【通讯作者】Jianhai Xiang
【期刊名称、卷期、页码】Journal of Biotechnology,127:605-614
【论文发表时间】2007-01-20 00:00:00
【引文索引类型】SCI
【引文索引号】0168-1656
【学科分类】水产学基础学科

【题目】Cloning, Expression and Identification of Ferritin from Chinese Shrimp,Fenneropenaeus chinensis
【中文关键词】无
【英文关键词】Fenneropenaeus chinensis; Ferritin; White spot syndrome virus; Semi-quantitative RT-PCR; Metal ions
【中文摘要】无
【英文摘要】Ferritin, the iron storage protein, plays a key role in iron metabolism. A cDNA encoding ferritin (FcFer) was cloned from hepatopancreas of Chinese shrimp, Fenneropenaeus chinensis. The predicted protein contains 170 amino acid residues with a predicted molecular weight (MW) about 19, 422.89 Da and theoretical isoelectric point (PI) of 4.73. Amino acid alignment of FcFer revealed 97% homology withLitopenaeus vannamei ferritin. Results of the RT-PCR showed that the expression of FcFer mRNA was up-regulated after shrimp was challenged with either white spot syndrome virus (WSSV) or heavy metal ions (Zn^{2+} and Cu^{2+}) in the laboratory. A fusion protein containing FcFer was produced and the purified recombinant protein exhibited similar function of iron uptake in vitro. The result of in-gel digestion and identification using LC – ESI – MS showed that two peptide fragments (-DDVALPGFAK- and -LLEDEYLEEQVDSIKK-) of the recombinant protein were identical to the corresponding sequence of L. vannamei ferritin. The recombinant FcFer protein will be proved useful for study on the structure and function of ferritin in F. chinensis.
【语种】英文

【第一作者】Jiquan Zhang
【通讯作者】Jianhai Xiang
【期刊名称、卷期、页码】Journal of Biotechnology,125
【论文发表时间】2006-09-01 00:00:00
【引文索引类型】SCI
【引文索引号】0168-1656
【学科分类】水产学基础学科

【题目】Comparative proteomic profiles of the hepatopancreas in Fenneropenaeus chinensis response to hypoxic stress
【中文关键词】无
【英文关键词】2-DE; Chinese shrimp; enneropenaeus chinensis; Hypoxia; Real-time PCR
【中文摘要】无
【英文摘要】Hypoxia, as one suboptimal environmental condition, can affect the physiological state of shrimp during pond aquaculture. To better understand the mechanism of response to hypoxic stress in Chinese shrimp Fenneropenaeus chinensis, proteome research approach was utilized. Differentially expressed proteins of hepatopancreas in adult Chinese shrimp between the control and hypoxia-stressed groups were screened. By 2-DE analysis, 67 spots showed obvious changes after hypoxia. Using LC-ESI-MS/MS, 51 spots representing 33 proteins were identified including preamylase, arginine kinase, phosphopyruvate hydratase, citrate synthase, ATP synthase alpha subunit, chymotrypsin BI, chitinase, ferritin, C-type lectin receptors, transketolase, formylglutathione hydrolase, formyltetrahydrofolate dehydrogenase, aldehyde dehydrogenase, glutathione peroxidase, cytosolic manganese superoxide dismutase, protein disulfide isomerase, beta-actin, oncoprotein nm23, crustacyanin-C1 and so on. These proteins could be functionally classified into several groups such as proteins related to energy production, metabolism-related proteins, immune-related proteins, antioxidant proteins, chaperones, cytoskeleton proteins and ungrouped proteins. The transcription levels of ten selected genes encode the identified proteins were analyzed by real-time PCR at different sampling times of hypoxia. This study is the first analysis of differentially expressed proteins in the hepatopancreas of shrimp after hypoxia and provides a new insight for further study in hypoxic stress response of shrimp at the protein level.
【语种】英文
【第一作者】Hao Jiang
【通讯作者】Jianhai Xiang
【期刊名称、卷期、页码】Proteomics,9:3353 – 3367
【论文发表时间】2009-07-03 00:00:00
【引文索引类型】SCI
【引文索引号】1615-9853
【学科分类】水产学基础学科

【题目】Comparison of Antiviral Efficiency of Immune Responses in Shrimp.
【中文关键词】无
【英文关键词】Marsupenaeus japonicus; White spot syndrome virus; Innate immunity; Apoptosis; Phagocytosis; Phenol oxidase
【中文摘要】无
【英文摘要】The antiviral effectiveness of three major immune responses including phagocytosis, apoptosis and proPO system in the shrimp Marsupenaeus japonicus was characterized. It was found that the suppression of apoptosis and phagocytosis in vivo by their corresponding inhibitors resulted in the increase of white spot syndrome virus (WSSV) copies and shrimp mortality, whereas the inhibition of phenol oxidase generated the least influence on WSSV infection and shrimp mortality. These results suggest that apoptosis and phagocytosis were the essential immune responses to protect shrimp from virus infection, while the phenol-oxidase-dependent proPO system plays a comparatively minor role in antiviral defense of shrimp.
【语种】英文
【第一作者】Wei Wang
【通讯作者】Xiaobo Zhang
【期刊名称、卷期、页码】Fish and Sellfish Immunology,25:522-527
【论文发表时间】2008-08-05 00:00:00

【引文索引类型】SCI
【引文索引号】1050-4648
【学科分类】水产学基础学科

【题目】Comparison of gene expression profiles of Fenneropenaeus chinensis challenged with WSSV and Vibrio
【中文关键词】无
【英文关键词】WSSV; Vibrio; cDNA microarray; Fenneropenaeus chinensis
【中文摘要】无
【英文摘要】Microarray technique was used to analyze the gene expression profiles of shrimp when they were challenged by WSSV and heat-inactivated Vibrio anguillarum, respectively. At 6 h post challenge (HPC), a total of 806 clones showed differential expression profile in WSSV-challenged samples, but not in Vibrio-challenged samples. The genes coding energy metabolism enzyme and structure protein were the most downregulated elements in 6 h post WSSV-challenged (HPC-WSSV) tissues. However, a total of 155 clones showed differential expression in the Vibrio-challenged samples, but not in WSSV-challenged samples. Serine-type endopeptidase and lysosome-related genes were the most upregulated elements in tissues 6 h post Vibrio challenge (HPC-Vibrio). Totally, 188 clones showed differential expression in both 6 and 12 HPC-WSSV and HPC-Vibrio samples. Most of the differentially expressed genes (185/188) were downregulated in the samples of 12 HPC-WSSV, whereas upregulated in the samples at 6 and 12 HPC-Vibrio and 6 HPC-WSSV. The expression profiles of three differentially expressed genes identified in microarray hybridization were analyzed in hemocytes, lymphoid organ, and hepatopancreas of shrimp challenged by WSSV or Vibrio through real-time PCR. The results further confirmed the microarray hybridization results. The data will provide great help for us in understanding the immune mechanism of shrimp responding to WSSV or Vibrio.
【语种】英文
【第一作者】Bing Wang
【通讯作者】Jianhai Xiang
【期刊名称、卷期、页码】Marine Biotechnology,10:664—675
【论文发表时间】2008-07-13 00:00:00
【引文索引类型】SCI
【引文索引号】1436-2228
【学科分类】水产学基础学科

【题目】Construction and Characterization of a Bacterial Artificial Chromosome (BAC) Library of Pacific White Shrimp,Liptopenaeus vannamei
【中文关键词】无
【英文关键词】Pacific white shrimp; Litopenaeus vannamei; Bacterial artificial chromosome (BAC) library; Genome; Overgo probe
【中文摘要】无
【英文摘要】The pacific white shrimp (Litopenaeus vannamei) is one of the most economically important marine aquaculture species in the world. To facilitate gene cloning and characterization, genome analysis, physical mapping, and molecular selection breeding of marine shrimp, we have developed the techniques to isolate high-quality megabase-sized DNA from hemocyte nuclear DNA of female shrimp and constructed a bacterial artificial chromosome (BAC) genomic library for the species. The library was constructed in the Hind III site of the vector pECBAC1, consisting of 101,760 clones arrayed in 265 384-well microtiter plates, with an average insert size of 101 kb, and covering the genome approximately fivefold. To characterize the library, 92,160 clones were spotted onto high-density nylon filters for hybridization screening. A set of 18 pairs of overgo probes designed from eight cDNA sequences of L. vannamei genes were used in hybridization screening, and 35 positive clones were identified. These results suggest that the shrimp BAC libraries will provide a useful resource for screening of genomic regions of interest candidate genes, gene families, or large-sized synthetic DNA region and promote future works on comparative genomics, physical mapping, and large-scale genome sequencing in the species.
【语种】英文
【第一作者】Xiaojun Zhang
【通讯作者】Jianhai Xiang
【期刊名称、卷期、页码】Marine Biotechnology,12:141-149

【论文发表时间】2009-07-08 00:00:00
【引文索引类型】SCI
【引文索引号】1436-2228
【学科分类】水产学基础学科

【题目】Difference between hemocyanin subunits from shrimp Penaeus japonicus in anti-WSSV defense
【中文关键词】无
【英文关键词】WSSV, white spot syndrome virus; CT, cycle threshold value
【中文摘要】无
【英文摘要】Hemocyanin, the respiratory protein of arthropods and mollusks, was found to function against bacterial and fungal invasion. In this study, we show that this protein complex could delay the infection of white spot syndrome virus (WSSV) in vivo and cloned two hemocyanin subunits genes (PjHcL and PjHcY) from the shrimp Penaeus japonicus. Further investigation of their transcriptional regulation during viral invasion showed that in contrast to subunit PjHcY, PjHcL expression could be strongly induced by WSSV infection. These findings not only reveal an important role of hemocyanin in shrimp antiviral defense but also suggest a possible discrepancy between the two subunits in shrimp innate immunity.
【语种】英文
【第一作者】Kaiyu Lei
【通讯作者】Xun Xu
【期刊名称、卷期、页码】Developmental & Comparative Immunology,32:808-813
【论文发表时间】2008-01-11 00:00:00
【引文索引类型】SCI
【引文索引号】0145-305X
【学科分类】水产学基础学科

【题目】Expression, purification, and characterization of recombinant Chinese shrimp crustin-like protein (CruFc) in Pichia pastoris
【中文关键词】无
【英文关键词】Crustin-like protein; Fenneropenaeus chinensis; Pichia pastoris
【中文摘要】无
【英文摘要】A crustin-like protein (CruFc) from Fenneropenaeus chinensis was expressed in Pichia pastoris and then puri fi ed to electrophoretic homogeneity on a Sephacryl S-100 column with a band corresponding to the expected one (13 kDa) shown by 15% SDS-PAGE. Western blot indicated that the rCruFc speci fi cally reacted with polyclonal rabbit anti-Fenneropenaeus chinensis CruFc. Production in a 5 l bioreactor gave 237 mg rCruFc/l. Antimicrobial assay revealed that 4 lM rCruFc inhibited growth of Staphylococcus aureus.
【语种】英文
【第一作者】Jiquan Zhang
【通讯作者】Jianhai Xiang
【期刊名称、卷期、页码】Biotechnology Letters,29:813-817
【论文发表时间】2007-05-01 00:00:00
【引文索引类型】SCI
【引文索引号】0141-5492
【学科分类】水产学基础学科

【题目】Genomic organization of the translationally controlled tumor protein (TCTP) gene from shrimp Marsupenaeus japonicus
【中文关键词】无
【英文关键词】Marsupenaeus japonicus; TCTP; Genomic organization; Promoter
【中文摘要】无
【英文摘要】The shrimp translationally controlled tumor protein (TCTP) gene was previously found up-regulated in response to viral infection. In order to further understand the transcriptional regulation of TCTP gene expression under viral challenge, the 5′-flanking promoter region of the TCTP gene in shrimpMarsupenaeus japonicus (Mj-TCTP) was cloned by using genomic walking method. The sequence shows that this region contains many important potential binding sites for transcription factors, such as

activator protein1 (AP1), cAMP response element binding protein (CREB), Ets like transcription factor-1 (Elk-1), suggesting its expression is highly regulated. The promoter activity of this 5′-flanking region was confirmed by fusing to the enhanced green fluorescence protein (EGFP) gene and testing in Trichoplusia ni High Five cell line. Along with the introns and exons cloned in this study, the Mj-TCTP DNA sequence was reported here as the first TCTP gene with complete genomic organization in crustaceans.

【语种】英文
【第一作者】Dandan Chen
【通讯作者】Xun Xu
【期刊名称、卷期、页码】Molecular Biology Reports,36:1135-1140
【论文发表时间】2008-06-28 00:00:00
【引文索引类型】SCI
【引文索引号】0301-4851
【学科分类】水产学基础学科

【题目】Identification of a novel inducible cytosolic Hsp70 gene in Chinese shrimp Fenneropenaeus chinensis and comparison of its expression with the cognate Hsc70 under different stresses
【中文关键词】无
【英文关键词】Heat shock proteins; Hsp70; Heat shock; Heavy metal; Stress; Fenneropenaeus chinensis
【中文摘要】无
【英文摘要】The heat shock protein 70 (Hsp70) family is widely expressed in eukaryotic cells as the major chaperone protein. In this study, the full-length complementary DNA (cDNA) of a novel inducible cytosolic Hsp70 family member (FcHsp70) was cloned from Fenneropenaeus chinensis. FcHsp70full-length cDNA consists of 2,511 bp with a 1,890-bp open reading frame encoding 629 amino acids. Three Hsp70 protein family signatures, IDLGTTYS, IIDLGGGTFDVSIL, and IVLVGGSTRIPKVQK, were found in the predicted FcHsp70 amino acid sequence. Phylogenetic analysis showed that FcHsp70 was categorized together with the inducible HSP70s reported in other crustaceans. Compared to the previously identified cognate Hsp70 (FcHsc70) in F. chinensis, the expression of FcHsp70 showed quite different expression profiles when the shrimp were subjected to different stresses including heat shock and heavy metal treatments. Under heat shock treatment, the expression of FcHsp70 showed much higher up-regulation than FcHsc70. Copper treatment also induced higher up-regulation of FcHsp70 than FcHsc70. Cadmium treatment did not induce the expression of FcHsp70, but caused down-regulation of FcHsc70. The different expression profiles of FcHsp70 and FcHsc70 in shrimp may indicate their different reactions to different stresses. Therefore, Hsp70 or Hsc70 could be developed as a biomarker to indicate different stresses in shrimp.
【语种】英文
【第一作者】Wei Luan
【通讯作者】Jianhai Xiang
【期刊名称、卷期、页码】Cell Stress &Chaperone,15:83-93
【论文发表时间】2010-07-02 00:00:00
【引文索引类型】SCI
【引文索引号】1355-8145
【学科分类】水产学基础学科

【题目】Identification of a novel relish homolog in Chinese shrimp Fenneropenaeus chinensis and its function in regulating the transcription of antimicrobial peptides
【中文关键词】无
【英文关键词】Relish; Immunity; Antimicrobial peptides; Transcription; RNA interference; Fenneropenaeus chinensis
【中文摘要】无
【英文摘要】Penaeid shrimp, as an invertebrate, relies on the innate immunity to oppose the microbial invaders. Antimicrobial peptides (AMP) are an integral component of the innate immune system in most organisms and function as an early first line of defense against pathogens, but the knowledge about the pathways to regulate the shrimp AMP gene expression is still absent up to date. In the current study, a Relish homolog (FcRelish) was cloned from Chinese shrimp Fenneropenaeus chinensis. The full length cDNA of FcRelish consists of 2157 bp, including 1512 bp open reading frame, encoding 504 amino acids. The predicted molecular weight of

FcRelish is 57 kDa, and the theoretical PI is 7.00. Spatial expression profiles showed that FcRelish had the highest expression levels in the hemocytes and lymphoid organ. Both Vibrio anguillarium and Micrococcus lysodeikticus stimulation to shrimp can affect the transcription profile of FcRelish. Silencing of FcRelish through DsRNA interference can greatly change the transcription profile of AMP. Therefore, we suggest that FcRelish identified in the present study is closely related to the transcription of AMP, and then we inferred that Imd pathway might exist in shrimp.
【语种】英文
【第一作者】Fuhua Li
【通讯作者】Jianhai Xiang
【期刊名称、卷期、页码】Developmental and Comparative Immunology,33:1093-1101
【论文发表时间】2009-06-21 00:00:00
【引文索引类型】SCI
【引文索引号】0145-305X
【学科分类】水产学基础学科

【题目】Mj—DWD, a double WAP domain—containing protein with antiviral relevance in Marsupenaeus japonicus.
【中文关键词】无
【英文关键词】Marsupenaeus japonicus; WAP domain; WSSV; Real-time PCR; Pichia pastoris; Bacillus subtilis
【中文摘要】无
【英文摘要】The Mj-DWD (Marsupenaeus japonicus ’ double-WAP domains) gene was originally found up-regulated in virus-resistant shrimp M. japonicus by suppression subtractive hybridization (SSH). The full-length cDNA of Mj-DWD encodes a novel protein containing a KGD (Lys – Gly – Asp) motif and double WAP domains. Performed by quantitative real-time PCR, the expression level of Mj-DWD gene was consistently maintained at a high level in the newly prepared virus-resistant shrimp compared to the normal one. In addition, the Mj-DWD gene was also found to be rapidly up-regulated by WSSV infection during the early phase. Furthermore, the recombinant Mj-DWD, expressed by Pichia pastoris, showed specific protease inhibitory activity on Bacillus subtilis. These findings suggest that Mj-DWD plays an important role in the host defence system against WSSV infection in M. japonicus, possibly through its protease inhibitory activity.
【语种】英文
【第一作者】Dandan Chen
【通讯作者】Xun Xu
【期刊名称、卷期、页码】Fish and Shellfish Immunology,25:775-781
【论文发表时间】2008-03-06 00:00:00
【引文索引类型】SCI
【引文索引号】1050-4648
【学科分类】水产学基础学科

【题目】Molecular characteristics and expression analysis of calreticulin in Chinese shrimp Fenneropenaeus chinensis
【中文关键词】无
【英文关键词】Calreticulin; Cloning; Expression; Fenneropenaeus chinensis; Heat shock; Molting stage; WSSV challenge
【中文摘要】无
【英文摘要】Calreticulin (CRT), as an endoplasmic reticulum luminal resident protein, plays important roles in Ca2+homeostasis and molecular chaperoning. CRT on the surface of the cell can modulate cell adhesion, phagocytosis and integrin-dependent Ca2+ signaling. The full length cDNA of calreticulin (FcCRT) was cloned from Chinese shrimp Fenneropenaeus chinensis. It consists of 1672 bp with an open reading frame of 1221 bp, encoding 406 amino acids. This is the first reported cDNA sequence of calreticulin in Crustacea. The deduced amino acid sequence of FcCRT showed high identity with those of Bombyx mori(88%), Drosophila melanogaster (83%), Mus musculus (82%) and Homo sapiens (82%). Highest expression of FcCRT was detected in ovary by Northern blot and in situ hybridization. Different mRNA levels of FcCRT were detected at various molting stages. Expression of FcCRT was induced significantly after 3 h of heat shock treatment, reached the maximum at 4 h and dropped after that. Differential expression profiles of FcCRT were observed in hepatopancreas and haemocytes when shrimp were challenged by white spot syndrome virus (WSSV). From the above results, we inferred that FcCRT might play important roles in Ca2+ homeostasis, chaperoning and immune function in shrimp.

【语种】英文
【第一作者】Wei Luana
【通讯作者】Jianhai Xiang
【期刊名称、卷期、页码】Comparative Biochemistry and Physiology B,147:482-491
【论文发表时间】2007-07-01 00:00:00
【引文索引类型】SCI
【引文索引号】1096-4959
【学科分类】水产学基础学科

【题目】Molecular characterization and effect of RNA interference of retinoid X receptor (RXR) on E75 and chitinase gene expression in Chinese shrimp Fenneropenaeus chinensis
【中文关键词】无
【英文关键词】Retinoid X receptor; Molting; Fenneropenaeus chinensis
【中文摘要】无
【英文摘要】Retinoid X receptor (RXR)/ultraspiracle (USP) is the heterodimeric partner of ecdysteroid receptor and is required for the molting process of arthropods. To better understand the molecular aspects governing the process of molting in shrimp, the full-length cDNA of two RXRs, named as FcRXR-1 and FcRXR-2 were obtained from Chinese shrimp Fenneropenaeus chinensis which were of 1715 and 1700 bp long, revealed a 1315 and 1300 bp open reading frame (ORF) respectively. Quantitative Real time PCR analysis showed a marked tissue-specific difference in the expression of FcRXR transcript, which revealed that the expression of FcRXR could be regulated in a tissue-specific manner. Moreover, high expression of FcRXR mRNAs was observed in late pre-molt period (D3) and post molt stages (A-B) of shrimp. Among the two isoforms, FcRXR-2 appeared in a considerably high level in all the stages compared to the FcRXR-1. In addition, we examined the temporal expression of two chitinase genes: FcChitinase (FcChi) and FcChitinase-1 (FcChi-1) during the molt cycle of F. chinensis. Both the FcChi and FcChi-1 transcripts were detected in all stages of molting, although considerable fluctuations observed through the molt cycle. Injection of double stranded RXR (dsRXR) into juvenile shrimp resulted in a maximum silencing effect at 48 h post injection. We analyzed the expression levels of FcChi, FcChi-1 and the ecdysone inducible gene E75 (FcE75) in samples of dsRXR injected shrimp. Significant reduction in levels of both FcE75, FcChi and FcChi-1 transcripts occurred in the silenced shrimp. This correlation suggested that RXR might involve in the downstream regulation of E75 and chitinase gene transcription in the ecdysone signaling pathway of decapod crustaceans.
【语种】英文
【第一作者】T.A. Jose Priya
【通讯作者】Jianhai Xiang
【期刊名称、卷期、页码】Comparative Biochemistry and Physiology,153:121-129
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【引文索引类型】SCI
【引文索引号】1096-4959
【学科分类】水产学基础学科

【题目】Molecular characterization and expression analysis of chitinase (Fcchi-3) from Chinese shrimp, Fenneropenaeus chinensis
【中文关键词】无
【英文关键词】Fenneropenaeus chinensis; Chitinase; Recombinant expression; LC-ESI-MS
【中文摘要】无
【英文摘要】Complementary DNA (cDNA) and genomic DNA, including flanking regions of the chitinase gene (Fcchi-3) of Fenneropenaeus chinensis, were cloned and sequenced. Fcchi-3 was found to have 92.0 and 91.4% identity at the cDNA level to that of Litopenaeus vannamei and Marsupenaeus japonicus, respectively. The predicted amino acid sequence had an overall similarity with a comparable region of L. vannamei (96.8%) and M. japonicus (93.4%). Based on the cDNA sequence, the genomic structure of the gene was characterized. Sequence analysis revealed that the Fcchi-3 gene was composed of seven exons with 411, 252, 186, 132, 171, 117 and 135 bp and six introns with 232, 196, 121, 90, 159 and 157 bp. Analysis by RT-PCR revealed that Fcchi-3 was a hepatopancreas specific gene. Semi-quantitative RT-PCR analysis revealed that Fcchi-3 transcript was down-regulated significantly in response to the challenge of WSSV at 5 h post-injection and then came back to normal level at 37 h. A fusion protein containing Fcchi-3 was produced and the purified recombinant protein exhibited similar biological function. The result

of identification through LC-ESI-MS showed that three peptide fragments (-MAADPVLR-, -ATIDPAYNVPELSK- and -AILAVGGWNEGSPK-) of the recombinant protein were identical to the corresponding sequence of L. vannamei chitinase-3. The recombinant Fcchi-3 could degrade the colloid chitin confirming that the recombinant protein is actually the chitinase.
【语种】英文
【第一作者】Jiquan Zhang
【通讯作者】Jianhai Xiang
【期刊名称、卷期、页码】Mol Biol Rep,37:1913-1921
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【引文索引类型】SCI
【引文索引号】0301-4851
【学科分类】水产学基础学科

【题目】Molecular characterization of an ecdysone inducible gene E75 of Chinese shrimp
【中文关键词】无
【英文关键词】E75; Molting; Fenneropenaeus chinensis; RNAi
【中文摘要】无
【英文摘要】Ecdysone inducible gene, E75 is a primary target of ecdysone receptor (EcR), and is found to play a critical role in the molting process of arthropods. In this study, a cDNA encoding the E75 of Chinese shrimp Fenneropenaeus chinensis (FcE75) was cloned using RT-PCR and RACE techniques. FcE75 cDNA was 3611 bp in length with an ORF of 2394 bp. The deduced amino acid sequence of FcE75 had the highest sequence identity to E75 from a land crab Gecarcinus lateralis and E75 of the shrimpMetapenaeus ensis. Quantitative real-time PCR revealed a prominently high expression of FcE75 mRNA in the whole body RNA extract of late premolt period (D3) juvenile shrimp. The role of E75 in the process of shrimp molting was investigated using the RNA interference technique. Long double-stranded RNA corresponding to the FcE75 (dsE75) efficiently silenced the FcE75 transcript levels in juvenile F. chinensis. Further, injection with dsE75 completely arrested the molting process in experimental shrimp which eventually caused death. Setogenic analysis of the uropods from molt-arrested shrimp, showed defective epidermal retraction, poor development of setae and new cuticle. These results indicate that E75 might be related to the molting process and is essential for proper molting and survival of shrimp. This is the first report demonstrating the use of double stranded RNA to elucidate the possible role of E75 in the molting of decapod crustaceans.
【语种】英文
【第一作者】T.A. Jose Priya
【通讯作者】Jianhai Xiang
【期刊名称、卷期、页码】Comparative Biochemistry and Physiology,156:149 – 157
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【引文索引类型】SCI
【引文索引号】1096-4959
【学科分类】水产学基础学科

【题目】Molecular cloning and characterisation of a pattern recognition protein, lipopolysaccharide and b-1,3-glucan binding protein (LGBP) from the Chinese shrimp Fenneropenaeus chinensis
【中文关键词】无
【英文关键词】Fenneropenaeus chinensis; LGBP; Innate immunity; Pattern-recognition
【中文摘要】无
【英文摘要】A pattern recognition protein (PRP), lipopolysaccharide and β-1,3-glucan binding protein (LGBP) cDNA was cloned from the haemocyte of Chinese shrimp Fenneropenaeus chinensis by the techniques of homology cloning and RACE. Analysis of nucleotide sequence revealed that the full-length cDNA of 1,275 bp has an open reading frame of 1,098 bp encoding a protein of 366 amino acids including a 17 amino acid signal peptide. Sequence comparison of the deduced amino acid sequence of F. chinensis LGBP showed a high identity of 94%, 90%, 87%, 72% and 63% withPenaeus monodon BGBP, Litopenaeus stylirostris LGBP, Marsupenaeu japonicus BGBP, Homarus gammarus BGBP and Pacifastacus leniusculus LGBP, respectively. The calculated molecular mass of the mature protein is 39,857 Da with a deduced pI of 4.39. Two putative integrin binding motifs, RGD (Arg-Gly-Asp) and a potential recognition motif for β-1,3-linkage of polysaccharides were observed in LGBP

sequence. RT-PCR analysis showed that LGBP gene expresses in haemocyte and hepatopancreas only, but not in other tissues. Capillary electrophoresis RT-PCR method was used to quantify the variation of mRNA transcription level during artificial infection with heat-killedVibrio anguillarum and Staphylococcus aureusin. A significant enhancement of LGBP transcription was appeared at 6 h post-injection in response to bacterial infection. These results have provided useful information to understand the function of LGBP in shrimp.

【语种】英文

【第一作者】Fengsong Liu

【通讯作者】Jianhai Xiang

【期刊名称、卷期、页码】Molecular Biology Reprots,36:471-477

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【引文索引类型】SCI

【引文索引号】0301-4851

【学科分类】水产学基础学科

【题目】Molecular cloning and characterisation of prophenoloxidase (ProPO) cDNA from Fenneropenaeus chinensis and its transcription injected by Vibrio anguillarum

【中文关键词】无

【英文关键词】Cloning; Expression; Prophenoloxidase; Fenneropenaeus chinensis

【中文摘要】无

【英文摘要】The prophenoloxidase(ProPO) gene was cloned from haemocytes of Chinese shrimpFenneropenaeus chinensis by Rapid Amplification Complementary DNA Ends (RACE) method. The full-length cDNA of prophenoloxidase gene consists of 3040 bp with a 2061 bp Open Reading Frame (ORF), encoding 686 amino acids. Phylogenetic analysis revealed that it belongs to insect-type invertebrate prophenoloxidase gene family. To understand ProPO reaction for pathogeny ’s challenge in shrimp, the expressions of ProPO in different tissues were studied by real-time PCR after challenged by Vibrio anguillarum. The results showed that the expression level of ProPO gene in haemocytes was highest among three studied tissues including haemocytes, lymphoid organ and hepatopancreas. The time-course change of ProPO mRNA levels in challenge experiment showed that ProPO mRNA transcripts had the biggest change extent in lymphoid organ.

【语种】英文

【第一作者】Hongwei Gao

【通讯作者】Jianhai Xiang

【期刊名称、卷期、页码】Molecular Biology Reports,36:1159-1166

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【引文索引类型】SCI

【引文索引号】0301-4851

【学科分类】水产学基础学科

【题目】Molecular cloning and characterization of a Class II ADP ribosylation factor from the shrimp Marsupenaeus japonicus

【中文关键词】无

【英文关键词】Shrimp; WSSV; ADP ribosylation factor; Defense

【中文摘要】无

【英文摘要】In shrimp, small GTPases in the Ras superfamily can regulate hemolytic phagocytosis against WSSV infection. However, the ADP ribosylation factors (Arfs), also belonging to the regulatory GTP-binding proteins and playing a central role in membrane trafficking, have not been reported yet in shrimp and their relationship with WSSV infection is completely unknown to date. Here, a novel class II Arf (designated as MjArf4) was cloned and characterized from the shrimp Marsupenaeus japonicus. Like other Arfs, MjArf4 contains an N-terminal myristoylated site, a p loop, switch regions, as well as an interswitch region. In High Five cells, when MjArf4 was in its GDP-bound form, it dispersed into the whole cell, whereas in the GTP-bound form it promoted formation of a punctuate Golgi-like structure, indicating that the MjArf4 distribution was dependent on its GDP/GTP binding. After challenge with WSSV, the mRNA level of MjArf4 was up-regulated significantly as WSSV propagated. Thus, a member of the Arf family was characterized for the first time in shrimp and found to be involved in WSSV infection.

【语种】英文
【第一作者】Mingchang Zhang
【通讯作者】Xun Xu
【期刊名称、卷期、页码】Fish & Shellfish Immunology,28:128 – 133
【论文发表时间】2010-10-21 00:00:00
【引文索引类型】SCI
【引文索引号】1050-4648
【学科分类】水产学基础学科

【题目】Molecular Cloning and Characterization of Proliferating Cell Nuclear Antigen (PCNA) from Chinese Shrimp Fenneropenaeus chinensis
【中文关键词】无
【英文关键词】Fenneropenaeus chinensis; Haematopoietic tissue; PCNA; Vibrio challenge; WSSV challenge
【中文摘要】无
【英文摘要】The proliferating cell nuclear antigen gene was cloned from Fenneropenaeus chinensis (FcPCNA). The full-length cDNA sequence of FcPCNA encodes 260 amino acids showing high identity with PCNAs reported in other species. FcPCNA expressed especially high in proliferating tissues of shrimp such as haematopoietic tissue (HPT) and ovary. In order to understand the response of HPT to bacteria and virus challenge, mRNA level of FcPCNA in HPT was analyzed after shrimp were challenged by Vibrio anguillarum and white spot syndrome virus (WSSV). FcPCNA expression in HPT of shrimp was responsive to WSSV and Vibrio challenge, but different expression profiles were obtained after challenge by these two pathogens. The data provide additional information to understand the defense mechanisms of shrimp against virus and bacteria.
【语种】英文
【第一作者】Yusu Xie
【通讯作者】Jianhai Xiang
【期刊名称、卷期、页码】Comparative Biochemistry and Physiology, Part B.,151:225-229
【论文发表时间】2008-10-01 00:00:00
【引文索引类型】SCI
【引文索引号】1096-4959
【学科分类】水产学基础学科

【题目】Molecular cloning and expression analysis of crustin—like gene from Chinese shrimp Fenneropenaeus chinensis
【中文关键词】无
【英文关键词】Crustin-lik gene; Fenneropenaeius chinensis; molecular cloning; expression analysis; microbe challenge
【中文摘要】无
【英文摘要】A new member of antimicrobial protein genes of the Crustin family was cloned from haemocytes of the Chinese shrimp Fennero-penaeus chinensis by 3'and 5' RACE.The full-length cDNA of Crustin-like gene contains a 390 bp open reading frame,encoding 130 amino acids.The deduced peptide contains a putative signal peptide of 17 amino acids and mature peptide of 113 amino acids.The molecular mass of the deduced mature peptide is 12.3 ku.It is highly cationic with a theoretical isoelectric point of 8.5.The deduced amino acids sequence of this Crustin showed high homology with those of Penaeus (Litopenaeus) setferus.Northern blotting showed that the cloned Crustin gene was mainly expressed in haemocytes,gill,intestine,and RNA in situ hy-bridization indicated that the Crustin gene was constitutively expressed exclusively in haemocytes of these tissues.Capillary elee-trephoresis RT-PCR analysis showed that Crustin was up-regulated dramatically from 12 to 48 h after a brief decrease of mRNA during first 6 h in response to microbe infection.The level of Crustin mRNA began to restore at 72 h post-challenge.This indica-ted that Crustin gene might play an important role when shrimps are infected by bacterial pathogen.
【语种】英文
【第一作者】Fengsong Liu
【通讯作者】Jianhai Xiang
【期刊名称、卷期、页码】Acta Oceanologica Sinica,27:81-92
【论文发表时间】2008-01-01 00:00:00

【引文索引类型】SCI
【引文索引号】0253-505X
【学科分类】水产学基础学科

【题目】Molecular cloning and expression of NOS in shrimp, Litopenaeus vannamei
【中文关键词】无
【英文关键词】NOS; Litopenaeus vannamei; Expression; LPS; Poly I:C
【中文摘要】无
【英文摘要】The importance of the nitric oxide synthase (NOS) gene family is demonstrated by many studies in recent years. However, the lack of sequence information and clones of shrimp NOS cDNA limits further study on its characterization and function in this species. In this report, the cDNA of NOS contained full-length ORF was cloned from the Pacific white shrimp, Litopenaeus vannamei. It was of 4680 bp, including a 5′-terminal untranslated region (UTR) of 278 bp, a 3′-terminal UTR of 862 bp, which contained 5 ATTTA repeats, and an open reading frame (ORF) of 3540 bp encoding a polypeptide of 1179 amino acids. It contained a typical NO synthase domain at the N-terminal, next to a flavodoxin 1 domain, a flavin adenine dinucleotide (FAD) binding domain, respectively, and a conservative nicotinamide adenine dinucleotide (NAD) binding domain structure at the C-terminal. Quantitative real-time reverse transcription PCR analysis revealed L. vannamei NOS (LvNOS) to be expressed in most shrimp tissues, with highest expression in the hepatopancreas and weakest expression in skin. The expression of LvNOS after challenge with LPS and poly I:C was tested in hemocytes, hepatopancreas and nerve. The results indicated that the NOS transcript level could be induced in hemocytes by injection with LPS. The highest expression was in the hemocyte, with 8.8 times (at 3 h) as much as that in the control ($p < 0.05$). However, sharp down-regulation of NOS was found in hepatopancreas and nerve after LPS and poly I:C injection ($p < 0.05$). These results suggested that NOS might play an important role in shrimp's defense against pathogenic infection.
【语种】英文
【第一作者】Cuilan Yao
【通讯作者】Jianhai Xiang
【期刊名称、卷期、页码】Fish & Shellfish Immunology,28:453 – 460
【论文发表时间】2009-12-22 00:00:00
【引文索引类型】SCI
【引文索引号】1050-4648
【学科分类】水产学基础学科

【题目】Molecular cloning, characterization and expression analysis of a putative C-type lectin (Fclectin) gene in Chinese shrimp Fenneropenaeus chinensis
【中文关键词】无
【英文关键词】C-type lectin; Cloning; Expression profile; Primary cell culture; Fenneropenaeus chinensis
【中文摘要】无
【英文摘要】Lectin is regarded as a potential molecule involved in immune recognition and phagocytosis through opsonization in crustacean. Knowledge on lectin at molecular level would help us to understand its regulation mechanism in crustacean immune system. A novel C-type lectin gene (Fclectin) was cloned from hemocytes of Chinese shrimp Fenneropenaeus chinensis by 3′ and 5′ rapid amplification of cDNA ends (RACE) PCR. The full-length cDNA consists of 1482 bp with an 861 bp open reading frame, encoding 287 amino acids. The deduced amino acid sequence contains a putative signal peptide of 19 amino acids. It also contains two carbohydrate recognition domains/C-type lectin-like domains (CRD1 and CRD2), which share 78% identity with each other. CRD1 and CRD2 showed 34% and 30% identity with that of mannose-binding lectin from Japanese lamprey (Lethenteron japonicum), respectively. Both CRD1 and CRD2 of Fclectin have 11 amino acids residues, which are relatively invariant in animals' C-type lectin CRDs. Five residues at Ca2+ binding site 1 are conserved in Fclectin. The potential Ca2+/carbohydrate-binding (site 2) motif QPD, E, NP (Gln-Pro-Asp, Glu, Asn-Pro) presented in the two CRDs of Fclectin may support its ability to bind galactose-type sugars. It could be deduced that Fclectin is a member of C-type lectin superfamily. Transcripts of Fclectin were found only in hemocytes by Northern blotting and RNA in situ hybridization. The variation of mRNA transcription level in hemocytes during artificial infection with bacteria and white spot syndrome virus (WSSV) was quantitated by capillary electrophoresis after RT-PCR. An exploration of mRNA expression variation after LPS stimulation was carried out in primarily cultured hemocytes in vitro. Expression

profiles of Fclectin gene were greatly modified after bacteria, LPS or WSSV challenge. The above-stated data can provide us clues to understand the probable role of C-type lectin in innate immunity of shrimp and would be helpful to shrimp disease control.
【语种】英文
【第一作者】Yichen Liu
【通讯作者】Jianhai Xiang
【期刊名称、卷期、页码】Molecular Immunology,44:598-607
【论文发表时间】2007-01-01 00:00:00
【引文索引类型】SCI
【引文索引号】0161-5890
【学科分类】水产学基础学科

【题目】Molecular cloning, expression of a peroxiredoxin gene in Chinese shrimp Fenneropenaeus chinensis and the antioxidant activity of its recombinant protein
【中文关键词】无
【英文关键词】Peroxiredoxin (Prx) gene; Expression profile; Vibrio anguillarum infection; Immune response; Recombinant protein; Activity; Fenneropenaeus chinensis
【中文摘要】无
【英文摘要】Peroxiredoxin (Prx) is known to be an antioxidant protein that protects the organisms against various oxidative stresses and functions in intracellular signal transduction. A Prx gene was firstly isolated in the crustacean, Chinese shrimp Fenneropenaeus chinensis. The full-length cDNA consists of 942bp with a 594bp open reading frame, encoding 198 amino acids. The molecular mass of the deduced amino acid is 22041.17Da with an estimated pI of 5.17. Sequence comparison showed that Prx of F. chinensis shares 76%, 73% and 72% identity with that of Aedes aegypti, Branchiostoma belcheri tsingtaunese and Drosophila melanogaster, respectively. Northern blot analysis revealed the presence of Prx transcripts of F. chinensis in all tissues examined. Real-time PCR analysis indicated that the Prx showed different expression profiles in shrimp hemocytes and hepatopancreas after artificial infection with Vibrio anguillarum. In addition, a fusion protein containing Prx was produced in vitro. LC-ESI-MS analysis showed that four peptide fragments of the recombinant protein were identical to the corresponding sequence of F. chinensis Prx. And the purified recombinant proteins were shown to reduce H(2)O(2) in the presence of dithiothreitol.
【语种】英文
【第一作者】Qingli Zhang
【通讯作者】Jianhai Xiang
【期刊名称、卷期、页码】Molecular Immunology,44:3501 – 3509
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【引文索引类型】SCI
【引文索引号】0161-5890
【学科分类】水产学基础学科

【题目】Multiple forms of alpha-2 macroglobulin in shrimp Fenneropenaeus chinesis and their transcriptional response to WSSV or Vibriopathogen infection
【中文关键词】无
【英文关键词】Diversity; Immune challenge; Splicing variant; Lymphoid organ; Hemocyte; Catalytic histidine; Gene expression; Real-time RT-PCR
【中文摘要】无
【英文摘要】Alpha-2macroglobulin (A2M) is a non-specific protease inhibitor involved in host defense. By full length cloning and sequencing we identified three distinct cDNAs for A2M in Chinese shrimpFenneropenaeuschinesis, designated FcA2M-1, FcA2M-2 and FcA2M-3, respectively. Expression profiles in normal tissues as well as tissues after challenge by white spot syndrome virus (WSSV) andVibrio pathogen were conducted for FcA2M-1 and FcA2M-2. The FcA2M-1 and FcA2M-2 cDNAs encode proteins with 1501 or 1502 amino acids, respectively, containing the typical conserved domain architecture of A2M. Similar to complement component C3, FcA2M-2 has a catalytic histidine, which may confer opsonic properties on this shrimp A2M. Six variants in the bait region were found in FcA2M-2responding differently to Vibrio challenge, thereby widening the spectrum of inhibition and the diversity of immune recognition. FcA2M-1 and FcA2M-3, as well as most other protostomia invertebrate A2Ms identified so far, have a

serine residue in the catalytic histidine position instead of the conserved asparagine residue found in vertebrate A2Ms. This, as inferred from a carp C3 molecule in which the catalytic histidine is substituted by a serine, suggests A2Ms in lower invertebrates possibly bear C3-like opsonic activity. These FcA2Ms showed much lower similarity to each other than to the A2Ms in other shrimp species, further supported by pylogenetic analysis. FcA2M-1 was found to be expressed most highly in hemocytes and lymphoid organ, while FcA2M-2 was expressed most highly in the heart and lymphoid organ, with the lowest expression in hemocytes. Challenge by WSSV or Vibrio pathogen increased the FcA2M-1 mRNA level in both hemocytes and lymphoid organ. After challenge, FcA2M-2showed up-regulation in lymphoid organ but not in hemocytes. These expression features indicate that the different types of A2M in F. chinesis carry out different functions and that they are not simply functionally redundant.

【语种】英文

【第一作者】Hongming Ma

【通讯作者】Jianhai Xiang

【期刊名称、卷期、页码】Developmental and Comparative Immunology,34:677-684

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【引文索引类型】SCI

【引文索引号】0145-305X

【学科分类】水产学基础学科

【题目】Novel function of QM protein of shrimp (Penaeus japonicus) in regulation of phenol oxidase activity by interaction with hemocyanin

【中文关键词】无

【英文关键词】White spot syndrome virus ; QM, RNAi ; Phenoloxidase ; Innate immunity

【中文摘要】无

【英文摘要】Since it was proposed to be a tumor suppressor in 1991, the QM protein has attracted intensive studies in plants, animals and fungi. Up to date, however, the function of QM protein remains unknown. In this investigation, it was found that the shrimp QM gene (designated as PjQM) was significantly up-regulated in virus- resistant shrimp, suggesting that the PjQM was involved in shrimp immunity. The GST pull-down assays showed that the PjQM protein interacted with shrimp hemocyanin and myosin, indicating that the PjQM protein might participate in prophenoloxidation (proPO) activation system of shrimp immunity. As revealed by RNAi assays, it was demonstrated for the first time that the QM protein could regulate the activity of phenol oxidase, a key enzyme in the proPO activation system of invertebrate immunity. This discovery showed a novel aspect of QM protein in arthropod immune response, which contributed a better understanding to the still poorly understood molecular events involved in innate immunity of arthropods.

【语种】英文

【第一作者】Jianyang Xu

【通讯作者】Xiaobo Zhang

【期刊名称、卷期、页码】Cellular Physiology and Biochemistry,21:473-480

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【引文索引类型】SCI

【引文索引号】1015-8987

【学科分类】水产学基础学科

【题目】Proteomic analysis of differentially expressed proteins in lymphoid organ of Fenneropenaeus chinensis response to Vibrio anguillarum stimulation

【中文关键词】无

【英文关键词】2-DE; Fenneropenaeus chinensis; Lymphoid organ; Vibrio anguillarum; Proteomics

【中文摘要】无

【英文摘要】To gain an insight into the function of shrimp lymphoid organ at protein level, we analyzed the proteome of lymphoid organ in healthy Chinese shrimp Fenneropenaeus chinensis (F. chinensis) through two-dimensional gel electrophoresis (2-DE) based proteomic approach. A total of 95 spots representing 75 protein entries were identified by liquid chromatography tandem mass spectrometry (LC – MS/MS) with both online and in-house database. According to Gene Ontology (GO) annotation of biological process, the identified proteins were classified into 13 categories. Among them, approximately 36% of proteins related to cytoskeleton

are noticeable. Then, a comparative proteomic approach was employed to investigate the differentially expressed proteins in lymphoid organ of Vibrio anguillarum-challenged F. chinensis. At 24 h post-injection (hpi), 17 differentially expressed protein spots were successfully identified, including 4 up-regulated protein spots (represent 4 proteins: cathepsin L, protein similar to squid CG16901-PC, protein kinase C and protein similar to T-complex Chaperonin 5 CG8439-PA), and 13 down-regulated protein spots (represent 9 proteins: actin, beta-actin, cytoplasmic actin CyII, alpha tubulin, beta tubulin, protein similar to proteasome delta, vacuolar ATP synthase subunit B, elongation factor 2, carboxypeptidase B). These data may help us to understand the function of lymphoid organ and the molecular immune mechanism of shrimp responsive to pathogen infection.

【语种】英文

【第一作者】Jinkang Zhang

【通讯作者】Jianhai Xiang

【期刊名称、卷期、页码】Fish & Shellfish Immunology,29:186 – 194

【论文发表时间】2010-04-13 00:00:00

【引文索引类型】SCI

【引文索引号】1050-4648

【学科分类】水产学基础学科

【题目】Purification and primary identification of haemocyanin in the Chinese shrimp, Fenneropenaeus chinensis (Decapoda, Penaeoidea)

【中文关键词】无

【英文关键词】Fenneropenaeus Chinensis; Haemocyanin; LC-ESI-MS

【中文摘要】无

【英文摘要】We here report the isolation of haemocyanin, the crustacean oxygen transporter, from the haemolymph of the Chinese shrimp, Fenneropenaeus chinensis. We employed a Superdex 75 column, and the purified protein was demonstrated as homogeneous by Native-PAGE. The molecular mass of the purified haemocyanin was estimated to be 450 kDa using SDS-PAGE. The subsequent 2-DE suggested that it would be composed of three different subunits of 75-76 kDa each. Primary structure determination was performed by LC-ESI-MS and the data obtained were compared with the NCBI database. The result showed that these three subunits are identical to a partial fragment of haemocyanin from Litopenaeus vannamei. This research could be relevant to obtain pure haemocyanin, and will be helpful for further study on the structure and function of this large molecule.

【语种】英文

【第一作者】Bingxin Huang

【通讯作者】Jianhai Xiang

【期刊名称、卷期、页码】Crustaceana,81:769-780

【论文发表时间】2008-07-01 00:00:00

【引文索引类型】SCI

【引文索引号】0011-216X

【学科分类】水产学基础学科

【题目】Ran GTPase regulates hemocytic phagocytosis of shrimp by interaction with myosin

【中文关键词】无

【英文关键词】shrimp; Ran GTPase; protein interaction; antiviral phagocytosis; RNAi

【中文摘要】无

【英文摘要】Ran GTPases, one family of small G protein superfamily, have been widely demonstrated to be involved in the transport system between cytoplasm and the nucleus. However, the function of Ran GTPase in immunity remains unclear. In our study, it was found that the Ran GTPase (designated as PjRan) was up-regulated in virus-resistant shrimp, indicating that the PjRan might be implicated in the innate immune system against virus infection. On the basis of protein interactions, it was found that the PjRan interacted with myosin, a crucial protein in the process of phagocytosis to form a protein complex. The RNAi and mRNA assays showed that the PjRan could regulate shrimp hemocytic phagocytosis. Further data evidenced that the depletion of PjRan by RNAi caused a significant increase of virus copies, and the overexpression of PjRan resulted in a significant decrease of virus copies, suggesting that the PjRan participated in the antiviral immunity by regulating phagocytosis. Therefore, our study revealed a completely novel aspect of Ran GTPase in phagocytosis by the direct interaction with the cytoskeleton protein and presented a novel pathway concerning

to antiviral immunity, which will help to better understand the molecular events in immune response against virus infection in invertebrates.
【语种】英文
【第一作者】Weifeng Liu
【通讯作者】Xiaobo Zhang
【期刊名称、卷期、页码】Journal of Proteome Research
【论文发表时间】2009-01-23 00:00:00
【引文索引类型】SCI
【引文索引号】1535-3893
【学科分类】水产学基础学科

【题目】Rapid, sensitive detection of Vibrio anguillarum using loop-mediated isothermal amplification
【中文关键词】无
【英文关键词】Loop-Mediated Isothermal Amplification(LAMP); detection assay; empA gene; Vibrio anguillarum
【中文摘要】无
【英文摘要】Vibrio anguillarum is an important bacterial pathogen of aquatic organisms and a significant problem in aquatic farming.The rapid detection and identification of V.anguillarum,and other pathogens that infect marine organisms,is crucial to effective disease management.In this study,we developed a loop-mediated amplification(LAMP)assay to detect V.anguillarum in an hour in a single tube without the need for thermal cycling.Conserved regions of the metalloproteinase(empA)gene of V.anguillarum served as the targets for primer design.A fragment of the empA gene was amplified at 65°C in the presence of the primer mixture and Bst DNA polymerase.In the optimized LAMP assay,6.7 pg of V.anguillarum DNA could be detected.Six strains of V.anguillarum and 17 strains of non-V,anguillarum bacteria were used in this study to evaluate the species specificity of the primers.The six V.anguillarum strains gave a positive result in the LAMP assay.This method was also validated in V.anguillarum-infected fish.This LAMP method is more sensitive than PCR in the detection of V.anguillarum and shows good species specificity.The LAMP assay is therefore an effective method for the quick detection of V.anguillarum both in the laboratory and in the field.
【语种】英文
【第一作者】Hongwei Gao
【通讯作者】Jianhai Xiang
【期刊名称、卷期、页码】CHINESE JOURNAL OF OCEANOLOGY AND LIMNOLOGY,28:62-66
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【引文索引类型】SCI
【引文索引号】0254-4059
【学科分类】水产学基础学科

【题目】Regulation of phagocytosis against bacterium by Rab GTPase in shrimp Marsupenaeus japonicus
【中文关键词】无
【英文关键词】Rab GTPase; Phagocytosis; RNAi; mRNA overexpression; Shrimp immunity
【中文摘要】无
【英文摘要】Rab GTPases, members of the Ras superfamily, play important roles in phagosome formation and maturation. However, the involvement of Rab protein in phagocytosis against invading pathogens in crustacean remains unknown. In the present study, the RNAi and mRNA overexpression assays were conducted to elucidate the function of shrimp Rab gene (designated as PjRab) in hemocytic phagocytosis against bacterium. The results indicated that the phagocytic percentage and phagocytic index using FITC-labeled Vibrio parahemolyticus were significantly decreased when the PjRab gene was silenced by sequence-specific siRNA, suggesting that the PjRab protein was essential in hemocytic phagocytosis. On the other hand, the overexpression of PjRab gene leaded to the increase of phagocytic percentage and phagocytic index. The findings indicated that the PjRab protein was involved in the regulation of hemocytic phagocytosis of shrimp. Our report on the regulation of phagocytosis by Rab GTPase would contribute a better clue to realize the still poorly understood molecular events involved in shrimp as well as crustacean immune response.
【语种】英文
【第一作者】Rongrong Zong

【通讯作者】Xun Xu
【期刊名称、卷期、页码】Fish and Shellfish Immunology,25:258-263
【论文发表时间】2008-05-25 00:00:00
【引文索引类型】SCI
【引文索引号】1050-4648
【学科分类】水产学基础学科

【题目】Requirement for shrimp caspase in apoptosis against virus infection
【中文关键词】无
【英文关键词】Virus; Apoptosis; PjCaspase; Innate immunity
【中文摘要】无
【英文摘要】Caspases are central effectors in apoptosis. In this investigation, a novel caspase gene (designated as PjCaspase) obtained from the marine shrimp Marsupenaeus japonicus was found to be significantly upregulated in survivors of WSSV-challenged shrimp, suggesting that it might be involved in shrimp antiviral immunity. As revealed by RNAi assays, when the PjCaspase gene was silenced by gene-specific siRNA, the WSSV-induced apoptosis was significantly inhibited. The results showed that the PjCaspase gene was essential in the virus-induced apoptosis of shrimp. Based on the quantitative PCR detection, it was shown that the PjCaspase gene silencing resulted in the increase of virus copies, indicating that apoptosis played a key role in antiviral process of shrimp. As well known, caspase-3 and -8 are crucial caspases in apoptosis. The discovery of PjCaspase in this study would contribute another essential caspase involved in apoptosis against virus infection, which might reveal an ancient mechanism of caspase activation in invertebrate immunity against viruses.
【语种】英文
【第一作者】Lei Wang
【通讯作者】Xiaobo Zhang
【期刊名称、卷期、页码】Developmental and Comparative Immunology,32:706-715
【论文发表时间】2007-11-26 00:00:00
【引文索引类型】SCI
【引文索引号】0145-305X
【学科分类】水产学基础学科

【题目】Reviews on The Immunological Function of Tetraspanins
【中文关键词】Tetraspanins,免疫,病毒,四跨膜蛋白超家族(TM4SF),无脊椎动物
【英文关键词】Tetraspanins; immunity; virus; transmembrane 4 superfamily; invertebrate
【中文摘要】Tetraspanins 属于四跨膜蛋白超家族(transmembrane 4 superfamily,TM4SF),能跨膜连接蛋白,促进细胞间及细胞内信 号转导,参与某些病毒的细胞识别和侵染.Tetraspanins 成员之间相互关联,并与其他蛋白质形成一个巨大的 tetraspanins 网 络,在免疫反应中发挥着重要作用.作为一大类进化上保守的细胞膜蛋白,它们在无脊椎动物中也行使复杂多样的功能.将重点阐述在 tetraspanins 的结构、识别病毒的机制、在免疫系统中的作用研究方面取得的进展,并对无脊椎动物 tetraspanins 在先天性免疫系统中的重要意义进行讨论.
【英文摘要】Tetraspanins belongs to the transmembrane 4 superfamily(TM4SF). They can be as a bridge to connect the proteins outside or inside the cell membrane. A tetraspanins web is formed by the tetraspnins-proteins complex, and the web is believed to involve in fundamental functions of immunity system, and consequnently, signaling between cells and inside cells, regulating cell activation and adhesion, participating in the identification and infection of some virus. As a family of conservative transmembrane proteins, tetraspanins play multiplex roles in invertebrate. It was described how tetraspanin microdomains might have functions in the immune system, and how they contact with virus. In addition, the important role of tetraspanins in the innate immune system of invertebrate were discussed.
【语种】英文
【第一作者】Lang Gui
【通讯作者】Jianhai Xiang
【期刊名称、卷期、页码】PROGRESS IN BIOCHEMISTRY AND BIOPHYSICS,35:1231-1238
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【引文索引类型】SCI
【引文索引号】1000-3282
【学科分类】水产学基础学科

【题目】SDS-PAGE与液质联用技术分离和鉴定中国明对虾(Fenneropenaeus chinensis)血浆蛋白
【中文关键词】中国明对虾; 血浆; 蛋白质组
【英文关键词】Fenneropenaeus chinensis; Plasma; Proteome
【中文摘要】提取中国明对虾的血浆蛋白用SDS-PAGE进行分离.将电泳条带从上到下平均切成4份,分别胶内酶解并利用液相色谱.串联质谱系统进行质谱分析.利用SEQUEST软件对NCBInr蛋白数据库进行检索,鉴定了66个中国明对虾血浆蛋白质.运用生物信息学手段,对鉴定的蛋白进行功能分类,包括转录、细胞结构和骨架、信号转导、蛋白质合成与处理、蛋白质折叠、分拣和降解、免疫功能、生长和发育、能量代谢、细胞周期、碳水化合物代谢、钙离子平衡、抗氧化剂和氨基酸和脂类代谢等.本研究丰富了中国对虾血浆蛋白质表达谱,可为进一步研究对虾免疫机制提供有力的支持.
【英文摘要】Plasma, as a major component of hemolymph, plays important physiological functions in Chinese shrimp Fenneropenaeus chinensis immunity. However, it is difficult to analyze plasma proteome by 2-DE because plasma is a complicated and dynamically changing system, consisting of different types and abundant proteins. In this study,SDS-PAGE pre-fractionation combined with LC-MS/MS (liquid chromatography-tandem mass spectrometry) was applied to achieve more comprehensive proteome profiles of plasma proteins. 66 non-redundant proteins were identified in this research. By means of bioinformatics, the identified proteins was classified in terms of functions in transcription, structural and cytoskeletal, signal transduction, protein synthesis, protein folding-sorting-degradation, immunity, growth performance, energy metabolism, cell cycle, carbohydrate metabolism, calcium homeostasis, antioxidant and amino acid, and lipid me-tabolism, which shall enhance our understanding on the immunity mechanisms of Chinese shrimp.
【语种】中文
【第一作者】黄冰心
【通讯作者】相建海
【期刊名称、卷期、页码】海洋与湖沼,2009,40:208-213
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【引文索引类型】其他
【引文索引号】0029-814X
【学科分类】水产学基础学科

【题目】The complete mitochondrial genomes of two common shrimps (Litopenaeus vannamei and Fenneropenaeus chinensis) and their phylogenomic considerations
【中文关键词】无
【英文关键词】Decapoda; Penaeidae; Phylogenomics; Phylogenetics; Complete mitochondrial genome
【中文摘要】无
【英文摘要】Complete mitochondrial genomes have proven extremely valuable in helping to understand the evolutionary relationships among metazoans. However, uneven taxon sampling may lead to unclear or even erroneous phylogenetic topologies. The decapod crustaceans are relatively well-sampled, but sampling is still uneven within this group. We have sequenced the mitochondrial genomes of two shrimpsLitopenaeus vannamei and Fenneropenaeus chinensis. As seen in other metazoans, the genomes contain a standard set of 13 protein-coding genes, 22 transfer RNA genes, two ribosomal RNA genes and an AT-rich non-coding region. The gene arrangements are consistent with the pancrustacean ground pattern. Both the pattern of gene rearrangements and phylogenomic analyses using concatenated nucleic acid and amino acid sequences of the 13 mitochondrial protein-coding genes strengthened the support that Caridea and Palinura are primitive members of Pleocyemata. These sequences, in combination with two previously published penaeid mitochondrial genomes, suggest that genera within the family Penaeidae have the following relationship: (((Penaeus + Fenneropenaeus) + Litopenaeus) + Marsupenaeus). The analyses of nucleic acid and amino acid sequences of the mitochondrial genomes also strongly support the monophyly of Penaeidae, Brachyura and Pleocyemata. In addition, the analyses of the average Ka/Ks in the 13 mitochondrial protein-coding genes of penaeid shrimps indicated a strong purifying selection within this group.
【语种】英文

【第一作者】Xin Shen
【通讯作者】Bin Liu
【期刊名称、卷期、页码】Gene,403:98-109
【论文发表时间】2007-11-15 00:00:00
【引文索引类型】SCI
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【学科分类】水产学基础学科

【题目】The lysosome and lysozyme response in Chinese shrimp Fenneropenaeus chinensis to Vibrio anguillarum and laminarin stimulation.
【中文关键词】无
【英文关键词】Fenneropenaeus chinensis; haemocyte; laminarin; lysosome; lysozyme; neutral red retention assay; Vibrio anguillarum
【中文摘要】无
【英文摘要】The lysosome and lysozyme response in Chinese shrimp Fenneropenaeus chinensis to Vibrio anguillarum and laminarin stimulation | Fenneropenaeus chinensis; haemocyte; laminarin; lysosome; lysozyme; neutral red retention assay; Vibrio anguillarum | The effect of laminarin and Vibrio anguillarum on neutral red retention (NRR) time of lysosome and lysozyme activity in blood cells was investigated in Chinese shrimp, Fenneropenaeus chinensis. In addition the variation, of total haemocyte counts (THC) and differential haemocyte counts (DHC) were dtermined simultaneously The. results showed that the lysosome membrane stability was significantly elongated with the longest NRR time for 180 min at 3 h after lamianrin injection, ($p<0.05$). The lysozyme activity of haemocytes showed a moderate increase simultaneously. THC also increased and with a highest percentage of semi-granular cell counts at 3 h after laminarin injection. However, the NRR time sharply decreased with the shortest NRR time for 13 min at 1.5 h after V. anguillarum injection. Compared to the control group, the lysozyme activity obviously increased after injection, which was demonstrated at 1.5 h though the THC decreased. The percentage of hyaline cells increased obviously after V. anguillarum injection ($p<0.05$). The results suggested that the shrimp immune status could be evaluated by using lysosome membrane stability and lysozyme activity. (C) 2008 Elsevier B.V. All rights reserved.
【语种】英文
【第一作者】Cuilan Yao
【通讯作者】Jianhai Xiang
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【引文索引号】0022-0981
【学科分类】水产学基础学科

【题目】The mitochondrial manganese superoxide dismutase gene in Chinese shrimp Fenneropenaeus chinensis
【中文关键词】无
【英文关键词】Mitochondrial MnSOD(mMnSOD); Cloning; WSSV; Immune response; Expression; Enzyme assay; Fenneropenaeus chinensis
【中文摘要】无
【英文摘要】Manganese superoxide dismutase (MnSOD) plays an important role in crustacean immune defense reaction by eliminating oxidative stress. Knowledge on MnSOD at molecular level allows us to understand its regulatory mechanism in crustacean immune system. A novel mitochondrial manganese superoxide dismutase (mMnSOD) was cloned from hepatopancreas of Chinese shrimp Fenneropenaeus chinensisby 3′ and 5′ rapid amplification of cDNA ends (RACE) PCR. The full-length cDNA consists of 1185 bp with a 660 bp open reading frame, encoding 220 amino acids. The deduced amino acid sequence contains a putative signal peptide of 20 amino acids. Sequence comparison showed that the mMnSOD of F. chinensis shares 88% and 82% identity with that of giant freshwater prawn Macrobrachium rosenbergiiand blue crab Callinectes sapidus, respectively. mMnSOD transcripts were detected in hepatopancreas, hemocytes, lymphoid organ, intestine, ovary, muscle and gill by Northern blotting. RT-PCR analysis indicated that mMnSOD showed different expression profiles in shrimp hemocytes and hepatopancreas after artificial infection with white spot syndrome virus (WSSV). In addition, a fusion protein containing mMnSOD was produced in vitro. LC – ESI – MS analysis

showed that two peptide fragments (-GDVNTVISLAPALK- and -NVRPDYVNAIWK-) of the recombinant protein were identical to the corresponding sequence of M. rosenbergii mMnSOD, and the enzyme activity of the refolded recombinant protein was also measured.

【语种】英文
【第一作者】Qingli Zhang
【通讯作者】Jianhai Xiang
【期刊名称、卷期、页码】Developmental and Comparative Immunology,31:429-440
【论文发表时间】2006-10-06 00:00:00
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【引文索引号】0145-305X
【学科分类】水产学基础学科

【题目】Three tetraspanins from Chinese shrimp, Fenneropenaeus chinensis, may play important roles in WSSV infection
【中文关键词】无
【英文关键词】WSSV, tetraspanins, TM4SF, Fenneropenaeus chinensis
【中文摘要】无
【英文摘要】Three members of the tetraspanin/TM(4)SF superfamily were cloned from Chinese shrimp, Fenneropenaeus chinensis. The deduced amino acid sequences of the three proteins have typical motifs of the tetraspanin/TM(4)SF superfamily. Phylogenetic analysis of the proteins, together with the known tetraspanins of invertebrates and vertebrates, revealed that they belong to different tetraspanin subfamilies: CD9, CD63 and tetraspanin-3. The three cloned genes of CD9, CD63 and tetraspanin-3 showed apparently different tissue distributions. The CD9 gene (FcCD9) was specifically expressed in the hepatopancreas. While for the CD63 gene (FcCD63), the highest expression was detected in nerves, epidermis and heart, with low expression in haemocytes, ovary, gill, hepatopancreas and stomach and no expression in intestine, muscle and lymphoid organ. Compared with FcCD9 and FcCD63, the tetraspanin-3 gene (FcTetraspanin-3) was more broadly expressed and its highest expression was detected in the intestine. Its expression in nerves was lower than in the intestine, but was higher than in other tissues. Expression in haemocytes, ovary and muscle was much lower than in other tissues. The expression profiles of FcCD9, FcCD63 and FcTetraspanin-3 in different tissues, including haemocytes, lymphoid organ and hepatopancreas, were compared by real-time PCR when shrimp were challenged by live white spot syndrome virus (WSSV) and heat-inactivated WSSV. All three tetraspanins were markedly up-regulated in the live WSSV-challenged shrimp tissues. The data suggested that the three cloned members of TM(4)SF superfamily in Chinese shrimp may play a key role in the route of WSSV infection.
【语种】英文
【第一作者】Bing Wang
【通讯作者】Jianhai Xiang
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【学科分类】水产学基础学科

【题目】抑制性消减杂交技术结合cDNA MICROARRAY技术在中国明对虾WSSV感染后差异表达基因研究上的应用
【中文关键词】中国明对虾;消减文库;基因芯片
【英文关键词】Fenneropenaeus chinensis; SSH library; Microarray
【中文摘要】以中国明对虾WSSV感染6h的头胸部组织为实验材料,提取总RNA分别进行正反向抑制性PCRcDNA消减杂交,消减杂交后的PCR产物经纯化并克隆到T载体,进而转化成正反向消减文库。消减文库库容分别为:正向库,3.7×10^4;反向库,1.2×10^4。利用消减文库的克隆构建了cDNA表达谱芯片,共有1536个靶点,其中正、反向文库各768个。使用该cDNA芯片对WSSV感染后6h的对虾组织进行了表达谱分析,对其中80个出现明显表达调控变化的阳性克隆进行了测序。结果显示,在WSSV感染后6h,病毒基因开始大量表达,而宿主糖酵解,嘌呤、嘧啶代谢以及精氨酸代谢等代谢途径的关键基因出现明显下调。这表明病毒已在宿主体内大批量复制并开始抑制宿主代谢。病毒上调表达的WSV482可能与病毒毒力的增强有关,而宿主蛋白的管家基因如Actin,EFQ的下调表达提示:在利用基因表达技术研究WSSV病毒的实验中,管家基因的选择要十分慎重。此外,根据作者已有的研究结果,TPI基因是比较好的候选管家基因。而WSV414、WSV215和

WSV482是对WSSV进行RNA干涉实验较好的候选靶标基因。

【英文摘要】After challenged with WSSV for 6h, forward and reverse SSH (suppression subtractive hybridization) were performed by mRNA of cephalothorax of Chinese shrimp, Fenneropenaeus chinensis. The PCR products of SSH were cloned into a T vector, and then transferred into plasmid libraries. The titers of the two libraries were, forward library at 3.7 * 10~4, and reverse library at 1.2* 10~4. A total of 1536 randomly-selected cDNA clones of the SSH libraries (768 each) were stained on a glass slide to construct cDNA microarray. The gene expression profiles of cephalothorax of the shrimp 6h after WSSV injection were examined in microarray. Eighty significantly differential expression clones were sequenced. The results reviewed that, 6h after WSSV injection, the WSSV genes were expressed at a high mRNA level while the processes of host glycolysis and metabolism of purine, pyrimidine, and arginine kinase were observably down regulated. The results indicated that the up regulation of WSV482 might result in the virulence of WSSV. The down regulation of house keeping genes includes Actin and Efalpha reminded us that we should carefully choose the inter-stander in such experiments. Besides, we believe that TPI is a good candidate of inter-stander based on our previously experiments. WSV414, WSV215 and WSV482 can be good candidates of target of RNA interference.

【语种】中文

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【学科分类】水产学基础学科

【题目】中国明对虾Rel(NF—kB)家族基因在弧菌刺激下的表达

【中文关键词】中国明对虾; 基因表达; 弧菌刺激

【英文关键词】Rel/NFkappa; B; Fenneropenaeus chinensis; Rel/NF-kappaB; Gene expression; Vibrio challenge

【中文摘要】利用RT-PCR和RACE技术获得了中国明对虾Rel/NF-kappaB家族成员FcRel基因的部分cDNA片段,并研究了该基因在弧菌刺激条件下的转录表达变化。结果表明,该cDNA编码320个氨基酸,包含一个完整的RHD结构域和部分IPT-NFkappaB结构域。FcRel基因的RHD结构域与其它物种的RHD结构域的分子系统学分析表明,中国明对虾的FcRel与果蝇的Relish聚在一起,然后与疟蚊、烟草天蛾等其它节肢动物的Relish聚为一类。在弧菌刺激时,FcRel在血细胞和淋巴器官中的转录表达显示出不同的变化模式。在弧菌注射后3h和5h,血细胞中FcRel的转录表达出现明显下调;而弧菌注射引起淋巴器官中FcRel基因明显的上调表达。说明FcRel基因的表达与弧菌刺激密切相关,提示Relish可能参与了对虾抗菌反应的信号转导通路。

【英文摘要】Rel/NF-kappaB is a group of nuclear transcription factors, and very important in mediating innate immune reactions in animals. RT-PCR and RACE techniques were applied in this study to produce partial cDNA fragments of FcRel-a member of Rel/NF-kappaB family from Chinese shrimp Fenneropenaeus chinensis. The cDNA fragment encoded 320 amino acids, including a whole RHD domain and a partial IPT-NFkappaB domain. Phylogenetic analysis on RHDs from different species shows that FcRel is categorized with the Relish of Drosophila melanogaster first, and then joined the Relish of Aedes aegypti and Bornbyx mori. Real-time PCR analysis revealed different expression profiles of FcRel gene between hemocytes and lymphoid organ of shrimp when they were challenged by Vibrio. The transcription of FcRel in hemocytes showed down-regulation 3h and 5h post-challenge, while that of FcRel in lymphoid organ showed apparent up-regulation post-challenge. It was indicated that the expression of FcRel was closely related to Vibrio challenge. Therefore, it is deduced that Relish may be involved in the signal transduction pathway of antibacterial response in shrimp.

【语种】中文

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【学科分类】水产学基础学科

【题目】Cloning of a Novel Pyrethroid Hydrolase Gene from Sphingobium sp.JZ-1 and characterization of the Gene Product

【中文关键词】拟除虫菊酯;生物降解;Sphingobium wenxiniae JZ-1;基因克隆和表达;PytH;手性选性

【英文关键词】Pyrethroid pesticides; Biodegradation; Sphingobium wenxiniae JZ-1; Gene clone and expression; PytH; Isomer selectivity

【中文摘要】通过构建基因组DNA文库,成功地从菊酯降解菌株Sphingobium wenxiniae JZ-1中克隆到一个新的菊酯水解酶基因,命名为pytH。该基因含840个碱基,编码280个氨基酸,G+C mol%含量为66.55%,没有信号肽序列。通过和PDB(Protein Data Bank)数据库中的氨基酸序列比对结果发现,PytH和α/β-水解酶折叠蛋白家族中的一些成员相似性最高:和来源于巴西橡胶树中的羟基乙腈裂解酶(PDB:2G4LA)有24%同源性;和来源于大肠杆菌羧酸酯酶BioH(PDB:1M33A)有23%同源性;和来源于金杆菌属的γ-内酰胺酶(1HKHA)有23%同源性;和来源于詹森菌属的咔唑水解酶(1J1IA)有20%的同源性,并具有α/β-水解酶家族蛋白的典型三联体催化活性位点Ser-His-Asp/Glu(Ser78、Asp202和His230)以及该家族蛋白的特征序列标签GXSXG(GHSLG从76位到80位)。通过PCR定点突变的方法对PytH可能的三联体催化位点和特征序列进行突变,突变体(Ser78Thr、Asp202Asn、His230Ile、Gly76Ser和Gly80Cys)酶活性完全丧失。因此推测PytH为α/β-水解酶折叠蛋白家族中的一个新成员。以pET29a为载体,构建表达质粒pET29a-pytH,实现了PytH蛋白在E. coli Rosseta (DE3)和E. coli BL21 (DE3)中的融合表达,并用镍离子亲和层析柱对融合蛋白PytH实现了纯化。PytH是分子量为31 kD,等电点(pI)为4.85的单体酶。0.5 mmol/L的Ag+、Ni2+、Cu2+、Hg2+和Zn2+;10 mmol/L的表面活性剂SDS和Tween80;0.5 mmol/L的丝氨酸蛋白酶抑制剂PMSF,组氨酸变性剂DEPC以及巯基试剂pCMB和碘乙酰胺都能强烈的抑制PytH的活力。10 mmol/L的Triton X-100能抑制大约20~30%的酶活。10 mmol/L的金属离子螯合剂EDTA和1, 10-二氮菲对酶抑制作用小于10%。菊酯的分子结构显著影响菊酯水解酶PytH对菊酯的降解效率,菊酯分子结构中酯键附近空间位阻越大,降解速率越慢。PytH对测定的菊酯降解速率顺序为:氯菊酯>甲氰菊酯>氯氰菊酯>功夫菊酯>氰戊菊酯>溴氰菊酯>联苯菊酯。PytH能水解短链的对硝基苯酚羧酸酯,其中对硝基苯酚乙酸酯的水解速率最高。随着羧酸链的增长,酶对底物催化效率不断下降。对超过6个碳原子的羧酸与对硝基苯酚形成的酯,PytH对其完全失去催化活力。由于脂肪酶更倾向于水解长链脂肪酸酯,而酯酶更倾向于水解短链羧酸酯,所以PytH为酯酶,而不是脂肪酶。PytH对氯氰菊酯、氯菊酯的降解没有顺反异构选择性,对甲氰菊酯有两种立体异构体(αR-, αS-)氰戊菊酯有四个立体异构体(αS, 2R-, αR, 2R-, αS, 2S-, αR, 2S-)也没有手性选择性,这不同于以往报道的菊酯水解酶。

【英文摘要】A novel esterase gene, pytH, encoding a pyrethroid-hydrolyzing carboxylesterase was cloned from Sphingobium sp. JZ-1. The gene contained an open reading frame of 840 bp encoding for a protein of 280 amino acids. The G+C mol%content was 66.55%. No potential signal sequence was found. The deduced protein was compared with the known enzymes available from the Protein Data Bank (NCBI database). PytH showed the highest homology with some α/β-hydrolase fold proteins, e.g., a hydroxynitrile lyase from Hevea brasiliensis (24% identity), a carboxylesterase BioH from E. coli (23% identity), an (-) γ-lactamase from Aureobacterium sp. (23% identity), and a hydrolase from Janthinobacterium sp. (20% identity). PytH contains the typical catalytic centers Ser-His-Asp/Glu and highly conserved pentapeptide GXSXG of α/β-hydrolase fold proteins. The mutant enzymes Ser78Thr,Asp202Asn and His230Ile (catalytic centers Ser-His-Asp mutations), and Gly76Ser and Gly80Cys (highly conserved pentapeptide GXSXG mutations) did not show any specific activity against pyrethroids at all. Thus, the enzyme PytH was proposed to be a novel member of α/β-hydrolase fold proteins.PytH was expressed in Escherichia coli BL21 (DE3) and Escherichia coli Rosseta (DE3), and was purified using Ni-nitrilotriacetic acid affinity chromatography. PytH was a monomeric structure with a molecular mass of approximately 31 kDa and a pI of 4.85. No cofactors were required for enzyme activity. The enzyme was strongly inhibited by many metal ions (Ag+, Ni2+, Cu2+, Hg2+ and Zn2+; 0.5 mM), the surfactants SDS and Tween 80 (10 mM), the Ser protease inhibitor PMSF, His modifier DEPC (0.5 mM), and thiol reagent pCMB and iodoacetamide (0.5 mM); while Triton X-100 (10 mM) showed only slight inhibition (20-30% inhibition), and chelating agents EDTA and 1, 10-phenanthroline (10 mM) had little effect on the enzyme activity (less than 10% inhibition).PytH was capable of hydrolyzing all of the pyrethroids tested, and hydrolysis efficiencies were dependent on the pyrethroid molecular structure, with the hydrolysis rates descending as follows: permethrin > fenpropathrin > cypermethrin > cyhalothrin > fenvalerate > deltamethrin > bifenthrin. PytH showed the highest activity with p-nitrophenyl acetate, and the activities decreased with the increase of the aliphatic chain length. No lipolytic activity was observed with esters containing an aliphatic chain length longer than six carbon atoms, indicating that PytH was an esterase and not a lipase. The specific activities for trans- and cis-permethrin (or cypermethrin) were found to be relatively similar, and stereoisomers of fenpropathrin or fenvalerate were hydrolyzed at an approximately equal rate, indicating that PytH lacked isomer selectivity for pyrethroid pesticides.

【语种】英文

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【学科分类】微生物学

【题目】Junyi Gai, Han Xing. Association analysis of vegetable soybean quality traits with SSR markers
【中文关键词】无
【英文关键词】vegetable soybean — association mapping —linkage disequilibrium — population structure — markertrait associations
【中文摘要】无
【英文摘要】AbstractAssociation mapping is a useful alternative to linkage mapping for the detection of marker-phenotype associations. The main objective of this study is to identify simple sequence repeat (SSR) markers associated with the vegetable soybean quality traits of 100-pod weight, 100-seed weight, sucrose content and free amino acid content. The four quality traits were evaluated in 323 soybean cultivar accessions from China, and the 323 accessions were genotyped with 101 SSR markers. Analysis of population structure revealed two subgroups in the population. The mean linkage disequilibrium (LD) value (D ¢) for all statistically significant loci pairs was 0.258. The decay of the LD based on the D ¢ value showed little change with the increasing genetic distance between pairs. A total of 79 marker – trait associations related to the four traits were identified, involving 44 different SSR markers. According to the results, the association analysis approach in this study can be an effective method for quantitative trait loci mapping and can help breeders to develop new strategies for improving vegetable soybean quality.
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【学科分类】园艺学

【题目】Sphingobium faniae sp. nov., a pyrethroid-degrading bacterium isolated from activated sludge treating pyrethroid-manufacturing wastewater
【中文关键词】拟除虫菊酯农药;生物降解;Sphingobium faniae sp. nov.;水解酶PytH
【英文关键词】pyrethroids; biodegradation; Sphingobium faniae sp. nov.; hydrolase PytH
【中文摘要】采用富集培养方式从菊酯农药厂废水中分离到一株以甲氰菊酯为唯一碳源进行生长的细菌JZ-2,经16S rDNA基因序列系统分析,将其初步鉴定到鞘酯菌属(Sphingobium sp., GenBank Accession No. FJ373058),因为与该属内其他模式菌株相比,菌株JZ-2与Sphingobium cloacae JCM 10874T和Sphingobium ummariense CCM 7431T 同源性最高,分别为98.3%和97.1%,与其余的模式菌株同源性也在94.8 – 96.9%之间。菌株JZ-2主要的非极性脂肪酸是18:1ω7c,主要的2-羟基脂肪酸是14:0 2-OH,主要的醌是Q-10,所含极性酯主要为:双磷脂酰甘油、磷脂酰单甲基乙醇胺、卵磷脂、磷脂酰甘油、磷脂酰乙醇胺和鞘糖脂。主要的多胺是亚精胺,G+C含量为63.8±0.8 mol%。JZ-2和Sphingobium cloacae JCM 10874T,Sphingobium ummariense CCM 7431T的DNA-DNA杂交同源性分别为34%和23%。通过对拟除虫菊酯降解菌JZ-2表型(生理生化特征比较、多胺、极性酯成分、醌)、基因型(G+C mol%含量以及DNA-DNA杂交分析)和系统发育特征分析,发现菌株JZ-2为鞘酯菌属中的一个新种,命名为樊氏鞘酯菌Sphingobium faniae sp. nov. (=CGMCC 1.7749T =DSM 21829T)。该菌部分生物学特性如下:该菌株在pH7.0生长最好,最适生长温度为30 °C,装液量40 ml/150 ml时,生长量最大,随着装液量的增加生长呈下降趋势。在10~15 g · l-1的盐浓度范围生长较好,以葡萄糖为碳源、以有机氮为氮源的培养基中生长较好。对氨苄青霉素、链霉素有抗性。
【英文摘要】A bacterial strain capable of degrading pyrethroid, designated JZ-2T, was isolated from activated sludge treating pyrethroid-contaminated wastewater. Phylogenetic analysis based on 16S rRNA gene sequences indicated that strain JZ-2T belongs to the genus Sphingobium. It showed the highest levels of 16S rRNA gene sequence similarity to Sphingobium cloacae JCM 10874T (98.3 %) and Sphingobium ummariense CCM 7431T (97.1 %), and 94.8 – 96.9% similarity to the type strains of other members of the genus Sphingobium. Strain JZ-2T contained C18 : 1v7c as the predominant fatty acid, C14 : 0 2-OH as the major 2-hydroxy fatty acid,

ubiquinone Q-10 as the main respiratory quinone, diphosphatidylglycerol, phosphatidylglycerol, phosphatidylcholine,phosphatidylmonomethylethanolamine, phosphatidylethanolamine and two sphingoglycolipids as the predominant polar lipids and spermidine as the major polyamine. DNA – DNA hybridization results showed that strain JZ-2T had low genomic relatedness with S. cloacae JCM 10874T (34 %) and S. ummariense CCM 7431T (23 %). Based on the phenotypic, genotypic and phylogenetic data presented, strain JZ-2T is considered to represent a novel species of the genus Sphingobium, for which the name Sphingobium faniae sp. nov. is proposed. The type strain is JZ-2T (5CGMCC 1.7749T 5DSM 21829T).

【语种】英文

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【学科分类】微生物学

【题目】Biodegradation of Ethametsulfuron-Methylby Pseudomonas sp. SW4 isolated from contaminated soil.

【中文关键词】胺苯磺隆;硝酸还原假单胞菌SW4;代谢途径;生物检测;土壤修复

【英文关键词】Ethametsulfuron-Methyl; metabolic pathways; Pseudomonas nitroreducens SW4; bioassay; bioremediation

【中文摘要】对胺苯磺隆降解菌株Pseudomonas nitroreducens SW4 的生长特性与降解特性作了详细的研究。发现SW4 在C/N 2-8 范围内生长都较好,以C/N 8 生长最好,最适碳源为葡萄糖,最适氮源为有机氮,其中有机氮以蛋白胨为最好。通过对其他磺酰脲类除草剂的降解谱试验后发现,SW4 可以利用胺苯磺隆、烟嘧磺隆、吡嘧磺隆、甲磺隆、噻磺隆、为唯一氮源生长,却不能利用苯磺隆、氯磺隆、氯嘧磺隆。SW4 的最适生长温度为30℃,最适pH 为8,菌株生长与装液量成负相关。静息细胞在25℃时对胺苯磺隆降解效果最好,温度过高或过低都会显著影响降解效果。静息细胞在pH 值6-10 范围内对胺苯磺隆都有很好的降解效果,环境pH<5 时显著抑制静息细胞的降解活性。运用HPLC 和LC-MS 的手段分析了菌株SW4 在以胺苯磺隆为唯一氮源的液体培养基中代谢胺苯磺隆时产生的代谢物,在对代谢物结构的分析基础上推测了SW4 降解胺苯磺隆的途径,结果表明SW4 降解胺苯磺隆时存在两条代谢途径,其中一条为胺苯磺隆的脲桥断裂;另一条为胺苯磺隆的三嗪环侧链发生N-脱甲基作用,生成N-脱甲基胺苯磺隆,继而发生O-脱乙基作用,生成N-脱甲基-O-脱乙基胺苯磺隆,最后发生三嗪环的开环及其他作用后生成了methyl 2-[[[[[amino[(aminocarbonyl)imino]methyl]amino]carbonyl]amino]sulfonyl]benzoate。

【英文摘要】The optimum carbon sources for SW4 were glucose, sucrose and maltose, and the optimal nitrogen source was organic nitrogen, and the most optimal C/N (mol atom) ratio was 8/1. It grew well under conditions of 25°C-37°C and pH 8.0. Its resting cells degraded ESM well at 25°C-30°C and pH6-10 . Besides ESM, SW4 could also grow on Nicosulfuron, Pyrazosulfuron-Ethyl, Metsulfuron-methyl, and Thifensulfuronmethy using as sole nitrogen sources. The degradation products of ESM in the culture medium extracts were isolated and identified by LC/MS. Five metabolites of ESM degradation were detected. Based on the identified products, strain SW4 seemed to degrade ESM following two separate and different pathways: One route includes the cleavage of the sulfonylurea bridge, yielding the corresponding sulfonamide and heterocyclic amine. The other route implicates the loss of the alkyl from the triazine portion of ESM and yielding the N-desethyl Ethametsulfuron-Methyland N-desmethyl-O-desethyl Ethametsulfuron-Methyl, the later was further transformed to methyl 2-[[[[[amino[(aminocarbonyl)imino]methyl] amino]carbonyl]amino]sulfonyl]benzoate due to the cleavage of triazine ring.

【语种】英文

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【学科分类】微生物学

【题目】Proteomics study of changes in soybean lines resistant and sensitive to Phytophthora sojae

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【英文关键词】Phytophthora sojae;soybean lines;plant-oomycete in teractions
【中文摘要】无
【英文摘要】AbstractBackground: Phytophthora sojae causes soybean root and stem rot, resulting in an annual loss of 1-2 billion US dollar s in soybean production worldwide. A proteomic technique was use d to deter mine the effects on soybean hypocotyls of infect ion with P. sojae .Results: In the present study, 46 differentially expressed proteins were identified in soybean hypocotyls infected with P. sojae , using two-dimension alelectrophoresis and matrix-assisted laser desorption/ionization tandem time of flight (MALD I-TOF/TOF). The expression levels of 26 proteins were significantly affected at various time points in the tolerant soybean line, Yudou2 5, (12 uregulated and 14 down-regulated). In contrast, in the sensitive soybean line, NG6 255, only 20 proteins were significantly affected (11 up-regulated and 9 down-regulated). Among these proteins, 26% were related to energy regulation, 15% to protein destination and storage , 11% to defense against disease, 11% to metabolism, 9% to protein synthesis, 4% to secondary metabolism, and 24% were of unknown function. Conclusion: Our stud y pro vides important information on the use of proteomic methods for studying protein regulation during plant-oomycete interactions.
【语种】英文
【第一作者】张玉梅
【通讯作者】张玉梅
【期刊名称、卷期、页码】Proteome science 2011 9 52
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【学科分类】农艺学

【题目】Cre/lox System and PCR Based Genome Engineering in Bacillus subtilis.
【中文关键词】枯草杆菌、重组系统、基因的框内删除(in-frame deletion)、Cre/loxP
【英文关键词】Bacillus subtilis, Cre/loxP,in-frame deletion
【中文摘要】现有的枯草芽孢杆菌遗传操作系统依赖于载体的构建和枯草芽孢杆菌自身的重组系统,耗时长、效率低。本文将Cre/loxP定点重组系统和重叠延伸PCR技术结合建立了一套快捷高效的枯草芽孢杆菌基因组操作方法。用重叠延伸PCR技术代替载体构建快速地将目标敲除位点的上下游同源臂和抗性标记盒融合起来,用Cre/loxP定点重组系统代替菌体自身的重组系统高效的删除抗性标记,整个操作过程可以在2天内完成,大大提高了效率。应用该方法实现了枯草芽孢杆菌的基因敲除、基因的框内删除(in-frame deletion)以及基因组大片断的删除。该方法还适用于基因组的重排(genome rearrangement)和大规模的基因敲除。
【英文摘要】We have developed a fast and accurate method to engineer the Bacillus subtilis genome that involves fusing by PCR two flanking homology regions with an antibiotic resistance gene cassette bordered by two mutant lox sites (lox71 and lox66). The resulting PCR products were used directly to transform B. subtilis, and then transient Cre recombinase expression in the transformants was used to recombine lox71 and lox66 into a double-mutant lox72 site, thereby excising the marker gene. The mutation process could also be accomplished in 2 days by using a strain containing a cre isopropyl- -D-thiogalactopyranoside (IPTG)-inducible expression cassette in the chromosome as the recipient or using the lox site-flanked cassette containing both the cre IPTG-inducible expression cassette and resistance marker. The in vivo recombination efficiencies of different lox pairs were compared; the lox72 site that remains in the chromosome after Cre recombination had a low affinity for Cre and did not interfere with subsequent rounds of Cre/lox mutagenesis. We used this method to inactivate a specific gene, to delete a long fragment, to realize the in-frame deletion of a target gene, to introduce a gene of interest, and to carry out multiple manipulations in the same background. Furthermore,it should also be applicable to large genome rearrangement.
【语种】英文
【第一作者】闫新
【通讯作者】何健
【期刊名称、卷期、页码】Applied and Environmental Microbiology. 2008; 74(17): 5556 - 5562
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【学科分类】微生物学

【题目】A study on relative importance of additive, epistasis and unmapped QTL for Aluminium tolerance at seedling stage in soybean
【中文关键词】无
【英文关键词】Soybean;recombinant inbred line;aluminium tolerance;sand culture;additive quantitative trait locus;epistatic quantitative trait locus pair;collective unmapped quantitative trait locus
【中文摘要】无
【英文摘要】The relative importance of quantitative trait locus (QTL) types controlling aluminium (Al) tolerance in a recombinant inbred line population of soybean was assessed under greenhouse sand culture in 2 years. Three growth-related indicators for Al-tolerance, namely relative total plant dry weight (RTDW), relative shoot dry weight (RSDW) and relative root dry weight (RRDW) were analysed for genetic architecture. RTDW showed relatively higher correlations and shared marker regions with RSDW and RRDW. Four additive QTL, four epistatic QTL pairs and collective unmapped QTL were identi fi ed for RTDW, with respective contributions of 22.30%, 14.86% and40.64%, in a total genetic contribution of 77.80% to phenotypic variation, while QTL • Environment contribution was relatively negligible. Similar results were found for RSDW and RRDW. Altogether, seven additive QTL, eleven epistatic QTL pairs and collective unmapped QTL were involved with Al-tolerance. Among them, one major QTL linked to marker region GMKF046-Sat_128 on B1 was shared by the three traits. The results imply that the three QTL types are all relevant and should be comprehensively utilized for the improvement of Al-tolerance in soybean.
【语种】英文
【第一作者】PAUL C. KORIR
【通讯作者】盖钧镒
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【学科分类】农艺学

【题目】Degradation of pyrethroid by Sphingobium sp. JZ-2 and the purification and characterization of a novel pyrethroid hydrolase
【中文关键词】拟除虫菊酯农药;生物降解;Sphingobium faniae sp. nov.;水解酶PytH
【英文关键词】pyrethroids; biodegradation; Sphingobium faniae sp. nov.; hydrolase PytH
【中文摘要】采用富集培养方式从菊酯农药厂废水中分离到一株以甲氰菊酯为唯一碳源进行生长的细菌JZ-2,经16S rDNA基因序列系统分析,将其初步鉴定到鞘酯菌属(Sphingobium sp., GenBank Accession No. FJ373058),因为与该属内其他模式菌株相比,菌株JZ-2与Sphingobium cloacae JCM 10874T和Sphingobium ummariense CCM 7431T 同源性最高,分别为98.3%和97.1%,与其余的模式菌株同源性也在94.8 – 96.9%之间。对菌株JZ-2的降解特性研究结果显示,该菌可在含菊酯的无机盐平板上产生透明圈,降解的最适pH值为8.0,最适温度为30 °C,接种量在2%以下时,甲氰菊酯的降解速率与初始接种量呈正相关,在浓度为20~100 mg · l-1范围内,甲氰菊酯能迅速降解。JZ-2不仅能够很好地降解甲氰菊酯,还能降解氯菊酯、氯氰菊酯、氰戊菊酯、溴氰菊酯、功夫菊酯和联苯菊酯等多种拟除虫菊酯类杀虫剂。Sphingobium faniae JZ-2对菊酯的降解没有手性选择性。菌株JZ-2降解甲氰菊酯的可能代谢途径如下:JZ-2首先将甲氰菊酯水解为甲氰菊酸和3-苯氧基苯甲醛,后者可被进一步氧化为3-苯氧基苯甲酸,3-苯氧基苯甲酸经3-苯氧基苯甲酸双加氧酶生成原儿茶酸和苯酚,原儿茶酸经3,4-双加氧酶而开环降解,苯酚先被氧化形成邻苯二酚,然后通过邻位途径开环降解。初步研究了Sphingobium faniae JZ-2在实验室模拟条件下对水体中的低浓度甲氰菊酯的降解情况。当补加无机盐时,该菌株72 h内能够有效降解50 μg · l-1池塘水体和污泥中的甲氰菊酯,解除甲氰菊酯对水生生物的毒害。这说明JZ-2在降解水体中的菊酯残留方面有很大潜力。基于粗酶液可以在含有甲氰菊酯的磷酸盐(PBS)平板上产生水解圈而建立了一种新的定性检测甲氰菊酯水解酶活性的方法。该菌株的甲氰菊酯水解酶主要存在于细胞内,为胞内酶,同时水解酶也是组成酶。通过硫酸铵沉淀、Sephadex G-75凝胶层析和PAGE切胶回收电洗脱等纯化手段,将菊酯水解酶(PytH)纯化了108.5倍,最终得率为10.2%。该水解酶是单体酶,分子量大小约31±1 kDa,等电点4.8,水解甲氰菊酯的最适反应温度为40 °C,最适pH值为7.5,在10 °C~50 °C温度范围内比较稳定。Ag+, Cu2+, Hg2+, Ni2+, Zn2+, 甲基对硫磷和对氯汞苯甲酸强烈抑制水解酶的酶活。苯甲磺酰氟完全抑制水解酶的酶活,说明该酶可能是丝氨酸酯酶。PytH的最适底物是甲氰菊酯,酶的比活达到42.31 U · mg-1,还能水解氯菊酯、氯氰菊酯、氰戊菊酯、溴氰菊酯和联苯菊酯等。该酶的最大降解速率Vmax为7.536 nmol · min-1, 米氏常数Km为0.05 nmol · ml-1。经艾德曼降解反应测得NH2-氨基酸十个氨基酸残基 (NH2 MTVTDIILIH)。该序列与已报道菊酯水解酶EstP和来源于哺乳动物和昆虫的菊酯

水解酯酶均无同源性。由于在上述诸方面与已报道菊酯水解酶有很多不同,PytH可能是一个新的酯酶。

【英文摘要】JZ-2 could grow on the agar mineral medium supplemented with fenpropathrin and show the transparent zones by degradation of fenpropathrin on the plate. The optimal pH for degrading fenpropathrin by the strain JZ-2 was pH8.0, the optimal temperature was 30°C. The rate of degrading fenpropathrin was related positively to initial inoculum size when it ' s below 2%. The strain could degrade fenpropathrin rapidly (initial concentration: 20~100 mg · l-1). In addition to fenpropathrin, JZ-2 was capable of degrading various pyrethroids, including permethrin, cypermethrin, fenvalerate, deltamelthrin, cyhalothrin and bifenthrin. No isomer selectivity was observed to the biodegradation of pyrethroid isomers. The proposal metabolic pathway was deduced as follows: JZ-2 metabolized fenpropathrin to 2,2,3,3-tetramethylcyclopropanecarboxylic acid and 3-phenoxybenzaldehyde by hydrolysis, then 3-phenoxybenzaldehyde were further oxidized to 3-phenoxy benzoate, 3-phenoxy benzoate was metabolized to protocatechuate and phenol by 3-phenoxybenzoate dioxygenase; protocatechuate were degraded by protocatechuate-3,4-dioxygenase, whereas phenol was transformed to catechol and then metabolized by ortho cleavage pathway. JZ-2 was used preliminarily to study biodegradation effects on low concentration fenpropathrin in pond water, which was simulated to natural condition. When supplemented with MSM liquid medium, JZ-2 could effectively degrade 50 μg · l-1 fenpropathrin in pond water and sediment after 72h, toxicity of fenpropathrin to aquatic organisms was eliminated. The results indicated that strain JZ-2 has potential use for bioremediation of pyrethroid-contaminated water.Based on crude enzymes of strain JZ-2 could show transparent halos on PBS plate supplemented with fenpropathrin,a novel qualitative analysis of pyrethroid-hydrolyzing enzyme activitiy was established. The fenpropathrin hydrolase in the bacterium was an endoemzyme, as well as a constituted enzyme. The hydrolase (PytH) was purified 108.5-fold to apparent homogeneity with 10.2% overall recovery by ammonium sulfate precipitation, gel filtration chromatography and PAGE extraction. It was a monomeric structure with a molecular mass of 31±1 kDa, a pI of 4.8, and the enzyme activity was optimal at 40°C and pH7.5, respectively. The enzyme was stable over a range from 10°C to 50°C. The pyrethroid hydrolyzing activity was strongly inhibited by Ag+, Cu2+, Hg2+, Ni2+, Zn2+, methyl parathion and ρ – chloromercuribenzoate. The hydrolase was completely inhibited by phenylmethylsulfonyl fluoride, indicating that PytH seems a serine esterase. The most preferred substrate of PytH was fenpropathrin, specific activity was 42.31 U · mg-1, permethrin, cypermethrin, fenvalerate, deltamelthrin and bifenthrin was also hydrolyzed. The Vmax for the degradation of fenpropathrin was 7.536 nmol · min-1. And the Michaelis-Mentn ' constant (Km) was 0.05 nmol · ml-1.The amino acid sequences of the N terminus of the enzyme (NH2 MTVTDIILIH) were determined by automated Edman degradation. There was no homology with the previously described EstP pyrethroid hydrolase or with other recognized hydrolases that have been isolated from mammals and insects. Different from those previously reported pyrethroid-hydrolyzing enzyme above the properties, PytH may be a novel esterase.

【语种】英文

【第一作者】郭鹏
【通讯作者】何健

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【引文索引号】j.ibiod.2009.09.008
【学科分类】微生物学

【题目】Discovery of genes involved in defense-immunity functions in a haemocytes cDNA library from Fenneropenaeus chinensis by ESTs annotation

【中文关键词】无
【英文关键词】Fenneropenaeuschinensis; Haemocytes; ESTs; Immune factors

【中文摘要】无

【英文摘要】Crustacean haemocytes play important roles in the host immune response including recognition, phagocytosis, melanization, cytotoxicity and inter-cellular signal communication. Expressed sequence tags (ESTs) analysis is proved to be an efficient approach not only for genediscovery, but also for geneexpression profiles performance. In order to further understand the innate immune system and defensemechanisms of Chinese shrimp at molecular level, complementary DNA library is constructed from the haemocyte tissue of Fenneropenaeuschinensis.A total of 2371 cDNA clones are successfully sequenced and the average sequence length is 460 bp. About 50% are identified as orthologs of knowngenes from other organisms by BLASTx and BLASTn program. By sequences comparability and analysis, 34 important genes including 177 ESTs are identified that may be involved in defense or immune functions in shrimp based on the known knowledge. These genes are categorized into five categories according to their putative functions in shrimp immune system: 13 genes are different types of antimicrobial

peptides (AMP, penaeidin, anti-lipopolysaccharide factor, etc.), and their proportion is about 38%; 11 genes belong to prophenoloxidase system (prophenoloxidase, serine proteinase, serine proteinase inhibitor, etc.), and their proportion is about 32%; five genes have high homology with clotting protein (lectin, transglutaminase, etc), and their proportion is about 15%; three genes may be involved in inter-cell signal communication (peroxinectin, integrin), and their proportion is about 9%; two genes have been identified to be chaperone proteins (Hsc70, thioredoxin peroxidase), and their proportion is about 6%. These EST sequences enrich our understanding of the immune genes of F. chinensis and will help further experimental research into immune factors and improve our knowledge of the immune mechanisms of shrimp.

【语种】英文

【第一作者】Bo Dong

【通讯作者】Jianhai Xiang

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【学科分类】水产学基础学科

【题目】Enhancement of shrimp antiviral immune response through caspase-dependent apoptosis by small molecules

【中文关键词】无

【英文关键词】Immunostimulant; Target protein; Apoptosis; Shrimp; Virus

【中文摘要】无

【英文摘要】Epidemic diseases cost large amount of economic loss in the shrimp aquaculture. To control the epidemic diseases, it is a very efficient approach to enhance the shrimp immunity by immunostimulants. In aquaculture, however, the applications of the available immunostimulants are very limited due to the lack of information about the roles of these immunostimulants in animal immunity. In the present study, a caspase protein (PjCaspase), required in shrimp antiviral apoptosis, was used as the target protein to screen for small molecules which would enhance the shrimp immunity. Based on screening using the EGFP-PjCaspase fusion protein in insect cells, four small molecules could enhance the activity of PjCaspase protein. Among them, IL-2 and evodiamine were further evidenced to enhance the apoptotic activity of shrimp hemocytes in vivo, suggesting that the small molecules improved the activity of apoptosis through the activation of the PjCaspase protein. The results indicated that the enhancement of apoptotic activity effectively inhibited the white spot syndrome virus (WSSV) infection in shrimp, which further led to the decrease of mortalities of WSSV-infected shrimp. Therefore, our study, for the first time, presented that the strategy using the key proteins in immune responses of aquatic organisms as the target proteins was a very efficient approach for the screening of immunostimulants to prevent the aquatic organisms from pathogen infections.

【语种】英文

【第一作者】Bin Zhi

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【学科分类】水产学基础学科

【题目】Comamonas zonglianii sp. nov., isolated from phenol-contaminated soil

【中文关键词】苯酚耐受菌;新种;多相分类研究;丛毛单胞菌属

【英文关键词】phenol tolerant strain; novel species; research on polyphasic taxonomy; the genus of Comamonas

【中文摘要】本文从长期受到苯酚污染的土壤中分离得到一株耐受苯酚菌株,命名为BF-3T,其对苯酚的最高耐受浓度为1000mg · L-1。经形态观察、生理生化鉴定和16S rRNA序列分析,将其鉴定为丛毛单胞菌属(Comamonas sp.)。但BF-3T的系统发育分析同时表明,BF-3T与丛毛单胞菌属模式菌株构建的进化树上形成了一个独立的分枝,它与最近的模式菌株Comamonas aquatica LMG 2370T的同源性仅为96.8%,低于了新种的阈值97%,这些分析都明显指出了BF-3T是一新种的可能性。于是,我们利用多相分类技术对该菌及同源性最近的3个菌株 (C. aquatica LMG 2370T、C. nitrativorans DSM 13191T 和 C. odontotermitis LMG 23579T)进行了分类学地位的研究。经研究可知,菌株BF-3T菌体呈短杆状(0.6-0.8 × 0.9-1.5 μm),革

兰氏染色阴性,无鞭毛。在30°C培养2d后,菌落呈浅黄色,圆形,半透明,中间突起,边缘平整。BF-3T好氧生长且最适生长条件为25 – 35°C,0 – 1% NaCl,pH 7 – 8。BF-3T接触酶、氧化酶、精氨酸双水解酶、脲酶、明胶水解呈阳性,可以利用吐温40、吐温80、葡萄糖酸盐、癸酸盐、己二酸盐及柠檬酸盐等碳源。BF-3T对氨苄青霉素、庆大霉素、青霉素G、利福平及链霉素均有抗性。BF-3T脂肪酸含量的主要成分为16:0、18:1/18:1ω7c、17:0 cyclo 及 summed feature 3(16:1ω7c and/or 15:0 iso 2-OH),其中17:0 cyclo含量高于其他模式菌株。BF-3T DNA G+C mol%含量为65.2±1%。其与同源性最近的3个菌株的DNA – DNA杂交率为25.4% – 28.7%,小于了新种认定的阈值(70%以下)。生理生化实验、系统发育分析、脂肪酸含量及DNA – DNA杂交等实验,表明了菌株BF-3T(=CCTCC AB 209170T =DSM 22523T)为丛毛单胞菌属的一个新种的模式菌株,命名为Comamonas zonglianii sp. nov.。

【英文摘要】A bacterial strain, designated BF-3T was isolated from phenol-contaminated soil. It can endure 1000 mg · L-1 phenol. Based on morphological, biochemical tests and analysis of 16S rRNA gene sequence, BF-3T was identified as Comamonas species. But phylogenetic analysis based on 16S rRNA gene sequences showed that strain BF-3T formed a monophyletic branch at the periphery of the evolutionary radiation occupied by the genus Comamonas; it showed the highest sequence similarity to Comamonas aquatica LMG 2370T(96.8%). This low sequence similarity (less than 97%) indicated that strain BF-3Tcould be clearly differed from other Comamonas species. So BF-3T with other three closely related species (C. aquatica LMG 2370T、C. nitrativorans DSM 13191T and C. odontotermitis LMG 23579T) were investigated by polyphasic taxonomic approach in our study.Cells of strain BF-3T are aerobic, Gram-negative, non-sporulating, non-motile and short rod (0.6-0.8 × 0.9-1.5 μm). Colonies on LB agar are circular, semi-transparent, pale yellow and convex after 2d incubation at 30°C. The optimum growth is observed at 25 – 37°C, 0 – 1% NaCl and pH 7 – 8. Strain BF-3T shows positive results for oxidase, catalase, arginine dihydrolase, urease, hydrolysis of gelatin, assimilation of Tween 40, Tween 80, gluconate, caprate, adipate and citrate reactions. Cells are resistant to ampicillin, gentamicin, rifampicin, penicillin G and streptomycin. The major fatty acids of BF-3T are 16:0, 18:1/18:1ω7c, 17:0 cyclo and summed feature 3 (16:1ω7c and/or 15:0 iso 2-OH). The value of 17:0 cyclo is greater than other species of Comamonas. The DNA G+C content of strain BF-3T is 65.2±1 mol%. And strain BF-3T showed relatively low DNA – DNA relatedness to other three closely related species(25.4% – 28.7%), these values well below the threshold of 70% recommended for the delineation of bacterial species.According to the phylogenetic analysis, DNA – DNA hybridization, whole-cell fatty acid composition as well as biochemical characteristics, strain BF-3T (=CCTCC AB 209170T =DSM 22523T) was clearly distinguished from all recognized Comamonas species and should be classified as a novel species of the genus Comamonas, for which the name Comamonas zonglianii sp. nov. is proposed.

【语种】英文

【第一作者】俞新妍

【通讯作者】何健

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【学科分类】微生物学

【题目】Meat quality is associated with muscle metabolic status but not contractile myofiber type composition in premature pigs.

【中文关键词】李晓

【英文关键词】Pork quality; Energy metabolism; MyHC; AMPK; PGC-1α; Glucocorticoid receptor

【中文摘要】无

【英文摘要】Longissimus muscles were sampled from Erhualian (EHL) and Pietrain (PIE) pigs at 20 kg of body weight. No breed differences were detected in either the proportions or the mRNA/protein expression of respective MyHC isoforms, or the mRNA expression of PGC-1α (all P > 0.10). However, meat quality traits were already divergent between breeds, and were associated with distinct energy metabolic status, as reflected by dramatically lower AMPK activity yet higher CK and LDH activities (all P < 0.01) in longissimus muscle of EHL pigs. Moreover, mRNA expression of glucocorticoid receptor (GR) was found to be higher (P < 0.05) in longissimus muscle of EHL pigs. These results indicate that the differences in meat quality traits occur early in premature pigs, and these are attributed to skeletal muscle energy metabolism and not contractile myofiber type composition. Breed-specific GR expression in muscle may be related to the pattern of energy metabolism and meat quality, yet the mechanism awaits further investigation

【语种】英文

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【学科分类】兽医学

【题目】Maternal low-protein diet programs offspring growth in association with alterations in yolk leptin deposition and gene expression in yolk sac membrane, hypothalamus and muscle of developing Langshan chicken embryos.
【中文关键词】饶开晴
【英文关键词】Maternal low-protein diet: Eggs: Yolk-sac membrane: Hypothalamus: Muscle: Corticosterone: Leptin: Thyroid hormone: Gene
expression: Chickens
【中文摘要】无
【英文摘要】The present study was aimed to investigate the mechanism underlying the influence of maternal low-protein (LP) diet on offspring growth in thechicken. One hundred and twenty Chinese inbred Langshan breeder hens were allocated randomly into two groups fed diets containing low (10 %,LP) or normal (15 %) crude protein levels. Low dietary protein did not affect the body weight of hens, but significantly decreased the laying rateand egg weight. The yolk leptin content was significantly lower in eggs laid by LP hens, while no differences were detected for yolk contents ofcorticosterone, tri-iodothyronine (T3) or thyroxine. Despite significantly lower hatch weight, the LP offspring demonstrated obviously higher serumT3concentration, which is in accordance with the faster post-hatch growth rate achieving significantly heavier body weight and pectoralis majormuscle weight 4 weeks post-hatching. Expression of 20-hydroxysteroid dehydrogenase (20-HSD) mRNA in the yolk-sac membrane was signifi-cantly down-regulated at embryonic day 14, whereas that of transthyretin and leptin receptor (LepR) was not altered. Moreover, hypothalamicexpression of 20-HSD, glucocorticoid receptors, thyrotropin-releasing hormone and LepR mRNA was significantly up-regulated in the LPgroup compared with their control counterparts. In the pectoralis major muscle, significantly higher expression of insulin-like growth factor(IGF)-I and IGF-I receptor mRNA was observed in LP embryos. The present study provides evidence that maternal LP diet programmes post-hatchgrowth of the offspring. The associated alterations in yolk leptin deposition as well as in yolk-sac membrane, fetal hypothalamus and muscle geneexpression may be involved in mediating such programming effect in the chicken.
【语种】英文
【第一作者】饶开晴
【通讯作者】赵茹茜
【期刊名称、卷期、页码】British Journal of Nutrition
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【引文索引号】0007-1145
【学科分类】兽医学

【题目】Layer and broiler chicks exhibit similar hypothalamic expression of orexigenic neuropeptides but distinct expression of genes related to energy homeostasis and obesity.
【中文关键词】袁丽霞
【英文关键词】Chicks
Hypothalamus
Neuropepti des
Glucocor ticoid receptor
Fat mass and obesi ty
associated gene
Layer and broiler
【中文摘要】无
【英文摘要】Layer and broiler chickens demonstrate striking differen ces in body weight and bodycomp osition. However, the m echanism underly ing such difference is el usive.Hypothalamus – pituitary – adrenal (HPA) axis regulates energy homeo stasis and body sizein mammals, but informati on in birds is scarce. Here we test the hypothesis that such breeddifference is more associated with

hypothalamic expression of genes relate d to HPA axis,rather than orexi genic neuropeptides. Broiler chicks exhibit significantly higher body weightand food intake at day (D) 7 posthatchi ng, but the food intake rel ative to body weight gainwas actually lower. No breed differen ces were observed for hypothalamic expression ofneuropeptide Y (NPY), agouti-related protein (AGRP), proopiomelano cortin (POMC), orexin(ORX), leptin recept or (LEPR), acetyl-CoA carboxylase (ACC) or fatty acid synthase (FAS).However, broiler chicks expressed signif icantly higher glucocorticoid receptor (GR) mRNA(P < 0 .0 5) a nd pr ot ei n (P < 0 .0 1) in hypothalamus compared to layer chicks,which isassociated with lower corticotro pin-releasing hormon e (CRH) mRNA (P < 0.05) yet higheraccumulation of CRH peptid e in hypothala mus, suggesting an augme nted GR-me diatednegative feedback regulation of CRH trans cription and release in broiler chicks.Furthermore , fat mass and obesity associated (FTO) gene was also more highly expressedin hypothala mus of broiler chicks (P < 0.05). These results suggest that the genes related toenergy homeostasis and obesity, such as GR, CRH and FTO, rather than orexigenic neuropeptides, are impacted by the genetic selecti on practices and play a role in breed-specific body weight setpoint regulation in the chicken.

【语种】英文
【第一作者】袁丽霞
【通讯作者】赵茹茜
【期刊名称、卷期、页码】Brain Research
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【引文索引类型】SCI
【引文索引号】0006-8993
【学科分类】兽医学

【题目】Effects of ligustrum licidum fruits on performance, antioxidation and meat quality in Arbor Acres broilers.
【中文关键词】陈鹏
【英文关键词】Broilers, Ligustrum lucidum , Performance, Antioxidation, Meat Quality
【中文摘要】无
【英文摘要】This study was conducted to evaluate the effects of Ligustrum lucidum (LL) on growth performance, antioxidation, and meat quality in broilers. 270 birds (1 d old) were allotted to 3 treatments with 6 replicates per treatment. The feeding progra m included a starter diet from d 1 to 21 of age and a grower diet from d 22 to 42 of age. The birds were give n a basal corn-soybean meal die t supplemented with 0 (the control), 5 or 10 g of LL/kg, respectively. The results showed that in the starter, grower and overall phase, broilers fed with 5 or 10 g of LL/kg had better ($p<0.01$) average daily gain, but there were no differences in feed: gain between treatments. In the starter and overall phase, average daily feed intake of LL groups was greater ($p<0.05$) than that of the control, but this difference was not observed in the grower phase. Supplementation of LL significantly increased ($p<0. 05$) superoxide dismutase activity and total antioxidant capability in serum of chickens. In breast muscle, birds fed 5 g of LL/kg had an increase ($p<0.05$) in sup eroxide dismutase activity. The LL supplementation significantly decreas ed ($p<0.05$) malondialdehyde contents. Adding 5 or 10 g of LL/kg to the diet significantly increased pH value and reduced drip loss of meat ($p<0.05$). The results of this study indicated that diet ary LL could improve growth performance, increase pH value and reduce drip loss of meat by decr easing lipid peroxidation and by improving antioxidative status in broilers.

【语种】英文
【第一作者】陈鹏
【通讯作者】单安山
【期刊名称、卷期、页码】Asian-Australasian Journal of Animal Sciences
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【引文索引号】1011-2367
【学科分类】兽医学

【题目】Hepatic Lipolysis in Broiler Chickens with Different Fat Deposition during Embryonic Development.
【中文关键词】赵苏梅
【英文关键词】Broilerchicken; Hepaticlipolysis; Embryonicdevelopment; Real time RT-PCR
【中文摘要】无

【英文摘要】The aim of this study was to explore the hepaticlipolysis in broilerchickens with differentfatdeposition during embryonicdevelopment. The mRNA expression of CPT-1 (carmitine palmtoyltransferase-1), PPAR α (peroxisome proliferator-activated receptor alpha) and LPL (lipoprotein lipase) genes were determined using Real time RT-PCR. The start of incubation was called day 1 (E1) and after hatching called day 1 (H1). On incubation days 9 (E9), 14 (E14) and 19 (E19) as well as at hatching (H1), samples of liver were collected. Blood samples were obtained during days 14 (E14) and 19 (E19) of embryonicdevelopment and at hatching. This study showed that serum TG (triglycerol) decreased and TC (total cholesterol) and NEFA (non-estered fatty acid) increased during embryonicdevelopment. The expression of CPT-1, PPAR α and LPL genes exhibited different developmental changes. For example, little LPL gene was expressed at hatching and PPAR α gene expression peaked before hatching. However, CPT-1 gene exhibited no significance during the embryonicdevelopment. Our results showed that expression of these genes in Arbor Acres (AA) broilers was significantly higher than that in San Huang (SH) broilers. Therefore, this study suggested that hepaticlipolysis in broilerchickens exhibited developmental changes during embryogenesis and breed difference which may be one of the factors in the fatdeposition difference between fat line and lean line broilers during embryonicdevelopment.
【语种】英文
【第一作者】赵苏梅
【通讯作者】邹思湘
【期刊名称、卷期、页码】Research in Veterinary Science
【论文发表时间】2010-03-01 00:00:00
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【引文索引号】0034-5288
【学科分类】兽医学

【题目】The effect of dehydroepiandrosterone on cell viability and hepatic lipid lipogenic gene mRNA expression in primary cultured chicken hepatocytes.
【中文关键词】唐雪
【英文关键词】Cell survival;Cultured primary chicken hepatocytes;Dehydroepiandrosterone (DHEA);Lipogenic genes
【中文摘要】无
【英文摘要】The effects of dehydroepiandrosterone (DHEA) on lipogenic gene mRNA expression were examined using cultured primary chicken hepatocytes. Cell samples were equilibrated to culture conditions for 24 h and then exposed to DHEA (1, 10 and 100 μM) dissolved in DMSO. The expression of sterol regulatory element-binding protein-1 (SREBP-1) mRNA in cultured primary hepatocytes did not vary with time, except for a significant decrease in gene expression when cells were treated with 10 or 100 μM DHEA for either 1 or 2 h. A similar tendency toward decreased gene expression was evident for acetyl CoA carboxylase. The expression of peroxisome proliferator-activated receptor (PPAR) and carnitine palmitoyl transferase I mRNA was dramatically enhanced subsequent to treatment with 10 or 100 μM DHEA for periods of time from 6 to 48 h, while there was a decrease in the expression of PPAR in the presence of 10 μM DHEA after 1 and 2 h of exposure, and in the presence of 100 μM DHEA after 2 h of exposure. Hepatocytes treated with 10 or 100 μM DHEA contained more mitochondria and mitochondria with a higher electron density than did untreated hepatocytes. Furthermore, cell survival was significantly inhibited by treatment with 100 μM DHEA at 24, 48 and 72 h. In contrast, 1 μM DHEA administration significantly increased cell survival after 72 h; however, 10 μM DHEA treatment had no pronounced effect on cell survival. Overall, the results reported here indicate that DHEA accelerates lipid catabolism by direct regulation of hepatic gene expression and by induction of changes in hepatocyte mitochondria.
【语种】英文
【第一作者】唐雪
【通讯作者】邹思湘
【期刊名称、卷期、页码】European journal of lipid science and technology
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【引文索引类型】SCI
【引文索引号】1438-7697
【学科分类】兽医学

【题目】Dehydroepiandrosterone activates cyclic adenosine 3’,5’ – monophosphate protein kinase A signalling and suppresses sterol regulatory element-binding protein-1 expression in cultured primary chicken hepatocytes.

【中文关键词】唐雪
【英文关键词】Dehydroepiandrosterone: Hepatic lipid metabolism: Lipogenesis: Cultured primary chicken hepatocytes
【中文摘要】无
【英文摘要】Dehydroepiandrosterone (DHEA), a steroid hormone that is secreted by the adrenal cortex in mammals, has an array of biological actions, includ-ing inhibition of fat synthesis, decreasing the number of adipocytes, and a reduction in mammalian metabolic efficiency. Recent studies showed that DHEA may decrease fat deposition in poultry, but the mechanism of action is unclear. In the present study, we demonstrate that DHEA stimulates intracellular cyclic adenosine 30,50-monophosphate (cAMP) accumulation in chicken hepatocytes during a 30 min incubation period.Increases in intracellul ar cAMP are evoked by as low as 0・1 m M -DHEA. The cAMP induced by DHEA, while suppressing cAMP-specific phos-phodiesterase activity, also activates cAMP-dependent protein kinase A (PKA) in chicken hepatocytes. In addition, the activation of PKA leads to down-regulation of sterol regulatory element-binding protein-1 (SREBP-1). These findings demonstrate that direct action by DHEA leads to activation of the cAMP/PKA signalling system in the modulation of lipid metabolism by repressing SREBP-1, thereby providing a novel explanation for some of the underlying effects proposed for DHEA in the prevention of fat deposition in poultry
【语种】英文
【第一作者】唐雪
【通讯作者】邹思湘
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【引文索引号】0007-1145
【学科分类】兽医学

【题目】Effects of selenium and methionine supplementation of breeder hen diets on selenium concentration and oxidative stability of lipids in the thigh muscles of progeny.
【中文关键词】王曾广
【英文关键词】breeders, dietary supplementation, lipid stability, methionine, selenium
【中文摘要】无
【英文摘要】The effects of dietary supplementation to female chickens with selenium (Se) and methionine (Met)on the next generation were studied. Lang-shan breeding hens (450) were obtained at 52 wk of age and randomlyallotted to 9 treatments; 5 replicates of each treatment were carried out. The breeders were fed a basal corn – soybeanmeal diet (0.13 mg Se/kg) supplemented with 0, 0.30, or 0.60 mg/kg Se from Sel-Plex and 0.32%, 0.40%, or 0.54% Met for the 30-d adapting period and 70-d experiment period. Se and glutathione (GSH) concentrations, glutathioneperoxidase (GSH-Px) activity, and the oxidative stability of muscular lipids of 90-d progeny were determined by test-ing the TBARS values. When breeders received the highest levels of Met or Se, GSH-Px activity was decreased, the Se concentration and the oxidative stability of muscular lipids were increased with the supplementation of Se or Met.When breeder hens were given a Met-deficient diet, supplementing with Se decreased the Se deposition in progenythigh. With regard to lipid oxidation, 0.3 mg/kg maternal dietary Se supplementation decreased the oxidative stabil-ity of muscle lipid and 0.6 mg/kg Se supplementation showed no difference from the control. When breeders werefed a Se-deficient diet, the GSH-Px activity was increased significantly and the oxidative stability of progeny muscleswas decreased with the supplementation of Met. It was concluded that supplementation of the maternal diet withhigher Se and Met can increase Se deposition in progeny muscle and lead to more effective protection against lipidoxidation in progeny thighs.
【语种】英文
【第一作者】王曾广
【通讯作者】王曾广
【期刊名称、卷期、页码】Journal of Food Science
【论文发表时间】2009-06-01 00:00:00
【引文索引类型】SCI
【引文索引号】0022-1147
【学科分类】兽医学

【题目】Methionine and selenium yeast supplementations of the hen diets affect antioxidant and gel properties in the chick myofibrillar protein.
【中文关键词】王曾广
【英文关键词】maternal , selenium yeast , methionine , color , water-holding capacity
【中文摘要】无
【英文摘要】Four hundred fifty 52-wk-old Lang-shan breeding hens (dual-purpose type, an indigenous poul-try breed of China) were randomly divided into 9 treat-ments with 5 replicates each treatment. They were fed corn-soybean diets with 0, 0.30, and 0.60 mg of Se/kg from Se yeast and 3.2, 4.0, and 5.4 g of dl-Met/kg, respectively. After incubation, 250 chickens each treatment were randomly divided into 5 replicates and fed the same diet. At 21 d old, 10 male chicks in each treatment were slaughtered. There results were as fol-lows. (1) The Se content significantly increased with the increase of Se yeast supplementation ($P < 0.01$). (2) The carbonyl content of the myofibrillar protein significantly decreased with the increase of Met supple-mentation ($P < 0.01$) and the carbonyl content of the 0 mg of Se/kg treatment was higher than the 0.3 mg of Se/kg treatment ($P < 0.01$). (3) Selenium supple-mentation at 0.30 and 0.60 mg/kg significantly de-creased malondialdehyde content compared with that of 0 mg of Se/kg ($P < 0.01$) and 4.0 and 5.4 g of Met/kg supplementation significantly decreased malondial-dehyde content compared with that of 3.2 g of Met/kg ($P < 0.01$). (4) Supplementation of Met at 5.4 g/kg significantly increased International Commission on Illumination a* value compared with 3.2 and 4.0 g of Met/kg ($P < 0.01$). Supplementation of Se at 0.6 mg/kg significantly increased a* value compared 0 and 0.3 mg of Se/kg ($P < 0.01$) and 0 mg of Se/kg significantly increased b* value compared with 0.30 and 0.60 mg of Se/kg ($P < 0.01$). (5) Selenium supplemented at 0.30 and 0.60 mg/kg decreased drip loss compared with 0 mg of Se/kg and 4.0 and 5.4 g of Met/kg decreased drip loss compared with 3.2 g of Met/kg, respectively. The conclusion was drawn that Met and Se yeast supple-mentation of the maternal diets could improve color, water-holding capacity, and oxidative stability of male offspring meat to an extent.
【语种】英文
【第一作者】王曾广
【通讯作者】王曾广
【期刊名称、卷期、页码】Journal of Muscle Foods
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【引文索引类型】SCI
【引文索引号】1046-0756
【学科分类】兽医学

【题目】Methionine and selenium yeast supplementations of the maternal diets affect color, water-holding capacity and oxidative stability of their male off-spring meat at the early stage.
【中文关键词】王曾广
【英文关键词】maternal , selenium yeast , methionine , color , water-holding capacity
【中文摘要】无
【英文摘要】Four hundred fifty 52-wk-old Lang-shan breeding hens (dual-purpose type, an indigenous poultry breed of China) were randomly divided into 9 treatments with 5 replicates each treatment. They were fed corn-soybean diets with 0, 0.30, and 0.60 mg of Se/kg from Se yeast and 3.2, 4.0, and 5.4 g of dl-Met/kg, respectively. After incubation, 250 chickens each treatment were randomly divided into 5 replicates and fed the same diet. At 21 d old, 10 male chicks in each treatment were slaughtered. There results were as follows. (1) The Se content significantly increased with the increase of Se yeast supplementation ($P < 0.01$). (2) The carbonyl content of the myofibrillar protein significantly decreased with the increase of Met supplementation ($P < 0.01$) and the carbonyl content of the 0 mg of Se/kg treatment was higher than the 0.3 mg of Se/kg treatment ($P < 0.01$). (3) Selenium supplementation at 0.30 and 0.60 mg/kg significantly decreased malondialdehyde content compared with that of 0 mg of Se/kg ($P < 0.01$) and 4.0 and 5.4 g of Met/kg supplementation significantly decreased malondialdehyde content compared with that of 3.2 g of Met/kg ($P < 0.01$). (4) Supplementation of Met at 5.4 g/kg significantly increased International Commission on Illumination a* value compared with 3.2 and 4.0 g of Met/kg ($P < 0.01$). Supplementation of Se at 0.6 mg/kg significantly increased a* value compared 0 and 0.3 mg of Se/kg ($P < 0.01$) and 0 mg of Se/kg significantly increased b* value compared with 0.30 and 0.60 mg of Se/kg ($P < 0.01$). (5) Selenium supplemented at 0.30 and 0.60 mg/kg decreased drip loss compared with 0 mg of Se/kg and 4.0 and 5.4 g of Met/kg decreased drip loss compared with 3.2 g of Met/kg, respectively. The conclusion was drawn that Met and Se yeast supplementation of the maternal diets could improve color, water-holding capacity, and oxidative stability of male offspring meat to an extent.

【语种】英文
【第一作者】王曾广
【通讯作者】王曾广
【期刊名称、卷期、页码】Poultry Science
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【引文索引号】0032-5791
【学科分类】兽医学

【题目】Sterol regulatory element binding transcription factor 1 expression and geneticpolymorphism significantly affect intramuscular fat depositionin the longissimus muscle of Erhualian and Sutai pigs
【中文关键词】陈杰
【英文关键词】association, intramuscular fat content, mutation, messenger ribonucleic acid expression, pig, sterol regulatory element binding transcription factor 1
【中文摘要】无
【英文摘要】Two experiments were performed to elucidate the role of sterol regulatory element binding transcription factor 1 (SREBF1) in i.m. fat (IMF) depo-sition in pigs. In Exp. 1, LM samples were removed from 4 male and 4 female Erhualian piglets at 3, 20,and 45 d of age, and SREBF1mRNA expression level and IMF content were measured. Intramuscular fat content and expression of SREBF1mRNA was greater ($P < 0.05$) in females than males at all 3 stages of age,providing initial evidence that the level of SREBF1 mRNA expression is related to IMF deposition in mus-cle of suckling pigs. Additionally, in Exp. 2 there was a positive correlation between theSREBF1mRNA level and IMF content ($r = 0.67$, $P < 0.01$) in 100 Sutai finish-ing pigs, a synthetic line produced by crossing Erhua-lian and Duroc pigs. Single-strand conformation poly-morphism (SSCP) analysis of the reverse transcription PCR products of the SREBF1gene revealed 3 genotypes in Sutai pigs with frequencies of 50% for AA, 36% for AB, and 14% for BB, respectively. Both SREBF1mRNA level and IMF content in muscle were greater ($P < 0.05$) in AB and BB animals than in AA animals, whereas no difference in backfat thickness was observed among the 3 genotypes. Sequencing analysis identified 2 SNP at T1006C and C1033T within the open reading frame of the SREBF1gene (NM_214157). Although both are silent mutations, they affected the secondary structure of SREBF1mRNA. These results suggest that SREBF1 might play an important role in regulation of muscle fat deposition during postnatal growth of pigs. The SNP identified in the SREBF1gene suggest that it could be used as a genetic marker to improve IMF content in pigs.
【语种】英文
【第一作者】陈杰
【通讯作者】赵茹茜
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【论文发表时间】2007-09-03 00:00:00
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【引文索引号】0021-8812
【学科分类】兽医学

【题目】Growth- and Breed-related Changes of Fetal Development in Cattle.
【中文关键词】毛卫华
【英文关键词】Breed, Body Composition, Cattle, Fetal Growth, Gestation
【中文摘要】无
【英文摘要】Breed differences in adult animals are determined during fetal development. If interventions are to be developed that influence growth of muscle and fat, it is important to know at which time during gestation breed diff erences appear and are fixed. The objective of this study was to characterize fetal development in cattle of different breeds. Pregnant cows of 4 cattle breeds with different growth impetus and muscularity were slaughtered under normal pr ocessing conditions and th e fetuses were removed. German Angus, a typical beef cattle; Galloway, a smaller, environmentally resistant beef type; Holstein Friesian, a dairy type; and Belgian Blue, an extreme type for muscle growth were used. Fetuses of each breed were investigated at 3, 6, and 9 mo of gestati on. Fetuses were weighed and dissected into carcass, organs, and muscles. Body fat weight was obtained using the Soxhlet extraction method. Fetal weight

increased most rapidly in the third trimester of gestation mainly due to the accelerated muscle and fat deposition. The organ w eight to body weight (BW) ratios decreased and the muscle and fat weight to BW ratios increased. At 3 mo of gestation, Galloway fetuses had the ignificantly smallest BW, half-carcass we ight, leg weight, organ weight, muscle weight and shortest leg length. In contrast, Holstein fetuses had the significantly greatest BW, liver, kidney, and l ung weights and significantly longest leg length among the 4 breeds, but no differences between Holstein Friesian and Belgian Blue were detected in half-carcass and leg weight. Indeed, Belgian Blue fetuses had the significantly greatest half-carcass weight, leg weight, and muscle weight at 9 mo of gestation, and Galloway had a significantly greater body fat to BW ratio than Holstein Friesian and Belgian Blue. These differences were not evident at 3 and 6 mo of gestation. These data show that the profound increase of tissue and organ weights occurred in la ter gestation in cattle fetuses even thoug h breed differences were evident as early as 3 mo of gestation. Depending on the tissue of interest, impacting fetal growth likely need s to occur early in gestation before the appearance of breed-specific differences.

【语种】英文

【第一作者】毛卫华

【通讯作者】J. Wegner

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【学科分类】兽医学

【题目】Leptin is Involved in the Effects of Cysteamine on Egg Laying of Hens, Characteristics of Eggs, and Posthatch Growth of Broiler Offspring.

【中文关键词】胡艳

【英文关键词】cysteamine, laying performance, maternal effect, leptin, broiler chicken

【中文摘要】无

【英文摘要】Cysteamine has been reported to modu -late energy homeostasis and exert significant growth-promoting effects in broiler chickens. However, little is known concerning its effects on egg production of hens and the growth rate of their offspring. In the present study, 67-wk-old broiler breeders were allotted at ran -dom to control and cysteamine-supplemented (400 mg/kg) groups for 8 wk. The hatchlings were fed under the same condition until 6 wk of age. Cysteamine signifi -cantly increased the average laying rate by 2.24% (P < 0.01), decreased dramatically the percentage of the broken eggs by 40.55% (P < 0.01), and increased that of the abnormal eggs by 20.15% (P < 0.05). Cysteamine did not alter the egg weight, egg quality, fertility, or hatch -ability but significantly increased eggshell weight (P < 0.05) and decreased albumin weight (P < 0.05). Serum concentrations of total thyroxine (P < 0.01) and leptin (P < 0.01) were significantly lower in cysteamine-treat -ed hens, whereas total triiodothyronine (T3), free T3, and glucagon were not affected. Western blot analysis with leptin-specific antibody detected a band of approx -imately 15 to 16 kDa in egg yolk and albumin extracts as well as in liver homogenates of hens. Cysteamine did not affect the yolk content of T3, thyroxine, estradiol, or glucagon, but significantly increased leptin content in liver of hens (P < 0.05), as well as in yolk (P < 0.05) and albumin (P < 0.05) of eggs. These changes were accompanied by a significant downregulation of leptin receptor mRNA expression (P < 0.05) in the yolk sac of d-12 embryos. Female offspring hatched from cysteam -ine-treated eggs demonstrated significantly lower body weight at hatching (P < 0.01) and 42 d of age (P < 0.01). The results indicate that cysteamine improves laying performance of hens and affects the early posthatch growth of broiler offspring, in a sex-specific fashion. The modified leptin secretion and egg deposition, to -gether with altered yolk sac leptin receptor expression, may be involved in such an effect.

【语种】英文

【第一作者】胡艳

【通讯作者】赵茹茜

【期刊名称、卷期、页码】Poultry Science

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【引文索引号】0032-5791

【学科分类】兽医学

【题目】Alterations in methylation and expression levels of imprinted genes H19 and Igf2 in diabetic fetuses.
【中文关键词】邵伟娟
【英文关键词】embryonic day
【中文摘要】无
【英文摘要】The study aimed to reveal alterations in expression and methylation levels of the growth-related imprinted genes H19 and Igf2 in fetuses of diabetic mice. Diabetes was induced in female mice by intraperitoneal injection of streptozotocin. DNA and total RNA were extracted from fetuses obtained from diabetic and control dams on embryonic day (E) 14. Real-time RT-PCR analysis revealed that the mRNA expression of Igf2 in fetuses from diabetic mice was 0.65-fold of the control counterparts. Bisulfite genomic sequencing demonstrated that the methylation level of the H19 – Igf2 imprint control region was 19.1% higher in diabetic fetuses than in those of control dams. In addition, the body weight of pups born to diabetic dams was 26.5% lower than that of the control group. The results indicate that maternal diabetes can affect fetal development by means of altered expression of imprinted genes. The modified genomic DNA methylation status of imprinting genes may account for the change in gene expression.
【语种】英文
【第一作者】邵伟娟
【通讯作者】赵茹茜
【期刊名称、卷期、页码】Comparative Medicine
【论文发表时间】2008-01-01 00:00:00
【引文索引类型】SCI
【引文索引号】1532-0820
【学科分类】兽医学

【题目】Effects of dehydroepiandrosterone on growth performance, lipid metabolic hormones and parameters in broilers.
【中文关键词】马海田
【英文关键词】dehydroepiandrosterone (DHEA); growth performance; carcass composition; lipid metabolic hormones and parameters; broiler
【中文摘要】无
【英文摘要】One hundred and eighty (180) day-old broiler chickens were used to investigate the effects of dehy-droepiandrosterone (DHEA) on growth performance, carcass composition, and the serum concentrations of severallipid metabolic hormones and metabolic parameters (indicators). The broilers received the same basal diets, withDHEA added at 0 (control), 5 and 20 mg/kg feed. During the experimental period, broilers fed DHEA exhibitedlower levels of triglycerides (TG), total serum cholesterol (TC), high density lipoprotein-cholesterol (HDL-C) andnon-esterified fatty acids (NEFA) as compared to the control animals, but a marked increase in lipoprotein lipase(LPL) activity. Adding DHEA to the diet significantly decreased serum concentrations of thyroxine (T4), serumfree triiodothyronine (FT3), and serum free thyroxine (FT4), but significantly increased the serum leptin (LEP)and glucogon (GLU) levels in male broiler chickens. However, female broiler chickens showed pronounced differ-ences in LEP, FT3 and FT4 only, while there were no differences in the other three metabolic hormones (T3, T4 andGLU). Overall, these results indicate that DHEA improves lipid metabolism through the regulation of metabolichormones and metabolic parameters, while not adversely affecting growth performance in broiler chickens.
【语种】英文
【第一作者】马海田
【通讯作者】马海田
【期刊名称、卷期、页码】Veterinarni Medicina
【论文发表时间】2008-10-01 00:00:00
【引文索引类型】SCI
【引文索引号】0375-8427
【学科分类】兽医学

【题目】Effect of early feed restriction on myofibre types and expression of growth-related genes in the gastrocnemius muscle of crossbred broiler chickens.
【中文关键词】李月

【英文关键词】Feed restriction: Myosin heavy chain: Myofibre types: Gene expression: Chicken
【中文摘要】无
【英文摘要】The purpose of this study was to investigate the immediate and long-term effects of early feed restriction (ER) on morphology and gene expression of lateral gastrocnemius muscle. Newly hatched crossbred broiler chickens were allocated into control and ER groups, the latter being free-fed on alternate days from hatch to 14 days of age (14 d), followed by ad libitumfeeding as the control group until 63 d. The lateral gastrocnemius muscle was taken at 14 and 63 d, respectively for myofibre typing by both myosin ATPase staining and relative quantification of myosin heavy chain (MyHC) mRNA for slow-twitch (SM), red fast-twitch (FRM) and white fast-twitch (FWM) myofibres. The body weight and lateral gastrocnemius weight were significantly lower in the ER group, accompanied by significantly reduced serum triiodothyronine. The ER group exhibited signifi-cantly higher SM and FRM MyHC expression at 14 d, but lower SM expre ssion at 63 d. Myosin ATPase staining revealed a similar pattern. The percentage of SM was higher at 14 d while lower at 63 d in the ER group. These morphological changes were accompanied by changes of mRNA expression for growth-related genes. The ER group expressed lower insulin-like growth factoar I (IGF-I) and higher IGF-I receptor (IGF-IR) at 14 d, yet significantly increased growth hormone receptor and IGF-IR mRNA at 63 d. These result s indicate that ER may delay the slow to fast myofibre conversion as an immediate effect, but would result in a lower percentage of slow fibres owing to compensatory growth in the long term,which involves changes of mRNA expression for the growth-related genes in the muscle.
【语种】英文
【第一作者】李月
【通讯作者】赵茹茜
【期刊名称、卷期、页码】British Journal of Nutrition
【论文发表时间】2007-01-17 00:00:00
【引文索引类型】SCI
【引文索引号】0007-1145
【学科分类】兽医学

【题目】Effect of Dietary Daidzein on Egg Production, Shell Quality and Gene Expression of ER- α , GH-R and IGF-IR in Shell Gland of Laying Hens.
【中文关键词】倪迎冬
【英文关键词】Daidzein; egg laying performance; shell gland; gene expression; ISA hens
【中文摘要】无
【英文摘要】Our previous studies demonstrated that dietary daidzein improves egg production in ducks during the late period of the laying cycle. The present study was aimed to investigate the effect of daidzein in laying hens, with more focus on eggshell quality. The expression of ER- R, GH-R, and IGF-IR mRNA in shell glands was determined to identify the target genes of daidzein action and to reveal the relationship between shell quality and profiles of gene expression in shell glands of laying hens.1000 ISA hens, at 445 days of age, were allotted at random to two groups and given the basal diet with or without 10 mg of daidzein per kg diet for 9 weeks. Daidzein supplement significantly increased the egg laying rate and the feed conversion ratio. The eggshell thickness increased, while the percentage of cracked eggs decreased in daidzein-treated hens. Serum E 2 and phosphate concentrations were not altered, but the level of serum Ca 2+ and the tibia bone mineral density were significantly increased in the daidzein-treated group compared with their control counterparts. In parallel with the significant increase of oviduct weight, significant down-regulation of GH-R and IGF-IR mRNA and a trend of decrease in ERR mRNA expression in shell glands were observed in daidzein-treatedhens. The results indicate that dietary daidzein improves egg laying performance and eggshell quality during the late (postpeak) laying stage of hens, which is associated with modulations in gene expression in the shell gland.
【语种】英文
【第一作者】倪迎冬
【通讯作者】赵茹茜
【期刊名称、卷期、页码】Journal of Agricultural & Food Chemistry
【论文发表时间】2007-01-08 00:00:00
【引文索引类型】SCI
【引文索引号】0021-8561
【学科分类】兽医学

【题目】Exposure of Preimplantation Embryos to Insulin Alters Expression of Imprinted Genes
【中文关键词】邵伟娟
【英文关键词】E, embryonic day; Igf2, insulin-like growth factor 2; PCR, polymerase chain reaction
【中文摘要】无
【英文摘要】Insulin promotes early embryonic development, but whether this action affects postimplantation fetal development and alters the expression of imprinted genes remain to be determined. This study analyzed the expression and methylation levels of the growth-related imprinted genes H19 and insulin-like growth factor 2 (Igf2) in fetuses exposed to insulin before implantation. We cultured 2-cell embryos in either 0 or 0.25 μg/ml insulin until the blastocyst stage and then transferred them into pseudopregnant recipient mice. The number of embryos developing to blastocysts after insulin exposure was 16.4% higher than that of the control, and the birth body weight of the insulin-exposed group was 17.8% higher than that of the control group. Real-time reverse transcription – polymerase chain reaction analysis revealed that exposure of preimplantation embryos to insulin increased the mRNA expression of both Igf2 and H19 in embryonic day (E) 14 fetuses. Bisulfite genomic sequencing demonstrated that the methylation level of the H19 – Igf2 imprint control region was 19.3% lower in insulin-exposed E14 fetuses than in controls. The present study indicates that insulin exposure during the preimplantation stage alters the expression of imprinted genes and affects fetal development.
【语种】英文
【第一作者】邵伟娟
【通讯作者】赵茹茜
【期刊名称、卷期、页码】Comparative Medicine
【论文发表时间】2007-06-11 00:00:00
【引文索引类型】SCI
【引文索引号】1532-0820
【学科分类】兽医学

【题目】Tissue-specific Effect of Dietary Cysteamine on Expression of Adiponectin Receptors in Rats.
【中文关键词】许金先
【英文关键词】Adiponectin; adiponectin receptors; cysteamine; rat
【中文摘要】无
【英文摘要】Adiponectin is synthesized by adipocytes and affects glucose and lipid metabolism by binding to its receptors, AdipoR1 and AdipoR2. Cysteamine, a naturally existing intermediate metabolite of sulfur amino acid, has been reported to modulate metabolism and growth in various species of animals;however, whether the action of cysteamine involves adiponectin and its receptors is unknown. The objective of the present study was therefore to investigate the effect of dietary cysteamine on the expression of AdipoR1/R2 in different tissues, in association with the alterations in endocrine and metabolic status. Rats were fed either of the diets supplemented with 0 or 700 mg/kg cysteamine feed additive (containing 30% of cysteamine hydrochloride) for 4 weeks, and the expression ofadiponectin and its receptors in adipose tissue, AdipoR1 and AdipoR2 in liver, gastrocnemius, and soleus muscle was determined, in association with the growth performance and serum concentrations of hormones and metabolites. A temporal trend of increase in growth rate and the ratio of feed consumption relative to body weight gain was observed in the second week of cysteamine supplementation. Serum concentrations of insulin and TNF- R increased, while serum levels oftriglycerides, FFA, and total cholesterol decreased significantly 4 weeks after cysteamine treatment. Leptin and GH remained unaffected. Cysteamine supplementation increased mRNA expression of AdipoR1 in adipose tissue, gastrocnemius, and soleus muscle as well as that of AdipoR2 in soleus muscle and adipose tissue. Nevertheless, hepatic expression of AdipoR1 and AdipoR2 was not influenced. Despite a numeric increase, no significant alteration in adiponectin mRNA expression in adipose tissue was observed. In conclusion, dietary supplementation of cysteamine modulates the endocrine and metabolic status of rats, which may involve the tissue-specific responses of adiponectin receptors at the level of mRNA transcription.
【语种】英文
【第一作者】许金先
【通讯作者】赵茹茜
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【引文索引号】0021-8561
【学科分类】兽医学

【题目】Hepatic and muscle expression of thyroid hormone receptors in association with body and muscle growth in large yellow croaker, Pseudosciaena crocea (Richardson).
【中文关键词】杨晓静
【英文关键词】Large yellow croaker; Thyroid hormone receptors; Cloning; Expression; Thyroid hormones
【中文摘要】无
【英文摘要】The role of thyroid hormone (TH) and its receptors (TRs) in the regulation of body growth and muscle accretion is well establis hed inmammals and birds, whereas the involvement of THs and TRs in W sh growth, especially during the muscle accretion period of juvenile-adult transition, is unknown. This study describes the cloning of the partial cDNA sequences of TR and TR in large yellow croaker,Pseudosciaena crocea (Richardson) and the patterns of TR and TR mRNA expression in liver and muscle of 1- and 2-year-old large yellow croaker, associated with changes in body mass and muscle characteristics. Two TR isoforms (TR 1, TR 2) and TR were identi-W ed in large yellow croaker. The deduced amino acid sequences showed high homology to the TRs of human and other teleosts. Hepatic TR mRNA expression was markedly lower in 2-year-old large yellow croaker compared with the 1-year-old, while no signi W cant agedi Verence was observed for hepatic TR mRNA expression. Muscle expression of TR mRNA was signi W cantly higher in 2-year-oldlarge yellow croaker, whereas TR exhibited no signiW cant age di Verence. Meanwhile, serum concentration of T 4 was signi Wcantlydecreased in 2-year-old large yellow croaker, but no change was observed for T3 . The body mass, fork length and body height of 2-year-old large yellow croaker were 4.7, 1.6 and 1.7 times greater, respectively compared with that of 1-year-old. Average diameters of skeletal muscle in 2-year-old large yellow croaker were remarkably larger than that in 1-year-old with no signi Wcant di Verence in muscle crude fat content. The down-regulation of hepatic TR expression was associated with the decrease in general growth rate and the increase in mus-cle expression of TR was accompanied with muscle accretion and myo Wber hypertrophy, implicating the diVerent roles of TRs in the regulation of growth in large yellow croaker.
【语种】英文
【第一作者】杨晓静
【通讯作者】赵茹茜
【期刊名称、卷期、页码】General and Comparative Endocrinology
【论文发表时间】2007-01-20 00:00:00
【引文索引类型】SCI
【引文索引号】0016-6480
【学科分类】兽医学

【题目】Muscle type-specific responses of myoD and calpain 3 expression to recombinant porcine growth hormone in the pig
【中文关键词】杨晓静
【英文关键词】calpain 3, MyHC, MyoD, pigs, rpGH
【中文摘要】无
【英文摘要】Sixteen castrated male Large White 3 Landrace pigs were employed to investigate the muscle type-specific changes of geneexpression in response to recombinant porcine growth hormone (rpGH) administration. Pigs were injected intramuscularly withrpGH (4 mg/day, n 5 8) or saline (n 5 8) for 28 days. Semi-quantitative reverse transcription-polymerase chain reaction (RT-PCR)was used to determine the mRNA abundance of genes related to muscle growth in longissimus dorsi (LD) and semitendinosus (ST) muscles. Myofibre-type composition was characterised by the ratio of the expression of myosin heavy chain (MyHC) 1, 2a or 2b relative to 2x. The results showed that the relative myofibre-type composition of neither LD nor ST was affected by rpGH administration. rpGH administration did not induce significant changes in the abundances of myostatin and myogenin mRNA in both types of muscle. MyoD and calpain 3 mRNA were significantly increased after rpGH treatment in ST muscle, whereas the difference was not significant in LD muscle. A tendency of down-regulation was observed for PGC-1a mRNA expression in STmuscle of rpGH-treated group (P 5 0.16). These results suggest that myoD, calpain 3 and probably PGC-1a may be involved in the mechanism of exogenous GH action on skeletal muscle growth; rpGH up-regulates mRNA expression of myoD and calpain 3 in a muscle type-specific manner, being more remarkable in ST than in LD, whereas no influences of rpGH on the mRNA expression of myostatin and myogenin were detected.

【语种】英文
【第一作者】杨晓静
【通讯作者】赵茹茜
【期刊名称、卷期、页码】Animal.1:7, 989 – 996
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【引文索引类型】SCI
【引文索引号】1751-7311
【学科分类】兽医学

【题目】Developmental changes of FSH-R, LH-R, ER-_ and GnRH-I expression in the ovary of prepubertal ducks. (Anas platyrhynchos)
【中文关键词】倪迎冬
【英文关键词】FSH receptor; LH receptor; Estrogen receptor-beta; GnRH-I; Gene expression; Prepuberty; Ovary; Duck
【中文摘要】无
【英文摘要】Normal ovarian development is dependent on stimulation of the gonadotropic hormones, follicle-stimulating hormone (FSH) and luteinizing hormone (LH), as well as some regulatory factors locally produced in ovary, e.g. 17beta-estradiol (E2) and gonadotropin-releasing hormone (GnRH), mediated by their respective receptors. In order to elucidate the potential roles of LH, FSH, E2 and GnRH-I during early follicular development in prepubertal ducks, mRNA expression of LH-R, FSH-R, ER- and GnRH-I in ovaries of 1-day-old (D1), 30-day-old (D30), 60-day-old (D60) and 90-day-old (D90) ducks was measured with semi-quantitative RT-PCR using -actin as an internal standard. The ovary index (the ratio of ovary weight/body mass) did not change from D30 to D90, while the ovary weight and serum E2 levels rose pro-gressively, indicating the prepubertal development of the ovary. Ovarian expression of FSH-R, LH-R, ER- and GnRH-I mRNA changed greatly during this period. Abundance of FSH-R and ER- mRNA went up gradually from D1 to D60, followed by a decline on D90. LH-R and GnRH-I mRNA expression increased from D1 to D90, reaching a peak at D90. These results indicate that the developing ovary is highly responsive to the regulation of FSH during the early stage, while close to the onset of sexual maturation, the ovary is likely more responsive to LH. In addition, the expression of GnRH-I and ER- mRNA in the ovary suggest that GnRH-I and E2 are involved in the regulation of prepubertal follicular development in the ovary of ducks.
【语种】英文
【第一作者】倪迎冬
【通讯作者】赵茹茜
【期刊名称、卷期、页码】Animal Reproduction Science.100 (2007) 318 – 328
【论文发表时间】2007-01-01 00:00:00
【引文索引类型】SCI
【引文索引号】1836-0939
【学科分类】兽医学

【题目】Expression of gastric ghrelin and H+ – K+-ATPase mRNA in weanling piglets and effect of ghrelin on H+ – K+-ATPase expression and activity in gastric mucosal cells in vitro
【中文关键词】杜改梅
【英文关键词】Ghrelin; H
+ – K+
-ATPase; Gastric mucosal cells; Weanling piglets
【中文摘要】无
【英文摘要】This study was designed to investigate the effect of ghrelin on gastric acid secretion in weaning piglets both in vivo and in vitro. Thirty newborn piglets were selected from six litters and on 28, 35 (weaning), 38, 42 and 45 d of age, respectively, one piglet from each litter was killed and the mucosal tissue from gastric fundus was collected for detecting ghrelin mRNA as well as H
【语种】英文
【第一作者】杜改梅
【通讯作者】赵茹茜

【期刊名称、卷期、页码】Research in Veterinary Science. 82 (2007) 99 – 104
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【引文索引号】0034-5288
【学科分类】兽医学

【题目】Effect of Chicken Egg Yolk Antibody against Adipocyte Plasma Membranes on Carcass Composition and Lipogenic Hormones and Enzymes in Pigs
【中文关键词】姜锦鹏
【英文关键词】Yolk antibody (IgY); Adipose tissue plasma membrane (APM); Carcass composition; Pigs
【中文摘要】无
【英文摘要】Chicken egg yolk antibody against pig adipose tissue plasma membranes (AIgY) was raised and used in the present experiment to ev alu ate t he effe ct of di et ar y AI gY s upp l eme nt at io n on pi g gro wt h an d car ca s s co mp os it io n. 160 cr oss bre d (D uro c – Jersey × Landrace · Meishan) pigs, with initial live body weight of 27.5 ± 2.4 kg, were treated with AIgY or non-immunized control egg yolk powder (NIgY) at the inclusion level of 75 mg/kg diet. Following a 104-day trial, the pigs were slaughtered for analyzing the carcass and meat quality traits. The perirenal, mesenteric and subcutaneous fat depots were weighed and the diameter of adipocytes from different fat depots was measured with histological methods. Serum concentrations of insulin and leptin as well as the activities of malic enzyme (ME) and lipoprotein lipase (LPL) in adipose tissue were measured. Dietary supplementation of AIgY enhanced average daily ga in an d f e e d e ff ic ie nc y b y 1 3 .03 % (P b 0.01) and 7.49%, respectively, with no influence on feed consumption. AIgY increased the lean mass by 10.3% (P b 0.01) without affecting the dressing percentage. Backfat thickness at 6th – 7th rib and the weights of perirenal,mesenteric and subcutaneous fat depots were reduced by 24.14% (P b 0.01), 27.27% (P b 0.05), 20.42% (P b 0.01) and 29.21% (P b 0.01), respectively. Dietary supplementation of AIgY reduced the size of adipocytes in all the three fat pads (P b 0.05). The meat color was improved whereas the marbling score, the intramuscular fat content, and pH 45 of the longissimus muscle remained unaffected.Serum concentration of non-esterified fatty acids (NEFA) was significantly increased (P b 0.01) while urea-N content was reduced (P b 0.05). No alterations were detected for the serum levels of triacylglycerides (TG) and glucose. Serum concentrations of insulin and leptin were decreased by 26.19% (P b 0. 05) a nd 26 .53 % (P b 0.05), respectively. LPL activity in adipose tissue was depressed significantly (P b 0.05) without affecting ME activity. This study demonstrates that dietary supplementation of AIgY can effectively improve growth and carcass composition of pigs and the changes of serum insulin and leptin levels as well as the tissue LPL activity may be involved in the acting mechanism.
【语种】英文
【第一作者】姜锦鹏
【通讯作者】赵茹茜
【期刊名称、卷期、页码】Livestock Science.107 (2007) 235 – 243.
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【引文索引号】1871-1413
【学科分类】兽医学

【题目】Effects of In Ovo Administration of DHEA on Lipid Metabolism and Hepatic Lipogenetic Genes Expression in Broiler Chickens During Embryonic Development.
【中文关键词】赵苏梅
【英文关键词】Lipid metabolism mRNA Liver
Broiler DHEA
【中文摘要】无
【英文摘要】In order to study the mechanism of DHEA (Dehydroepiandrosterone) in reducing fat in broiler chickens during embryonic development, fertilized eggswere administrated with DHEA before incubation and its effect on lipid metabolism and expression of hepatic lipogenetic genes was investigated. The mRNA levels ofacetyl CoA carboxylase (ACC), fatty acid synthase (FAS),malic enzyme (ME), apolipoprotein B100 (apoB100) and sterol regulator element binding protein-1c (SREBP-1c)were determined using real time quantitative PCR. Sam-ples of livers were collected from the chickens on days 9,14, and 19 of embryonic development as well as at hatching. Blood samples were extracted on days 14, 19 of incubation and at hatching. The results showed that

DHEA decreased the concentration of triacyglycerol in the blood and the content in liver, and the mRNA levels of ACC, FAS, ME, SREBP-1c and apoB. This suggested that DHEA decreased the expression of hepatic lipoge-netic genes and suppressed triglycerols transport, by which it reduced the deposition of fat in adipose tissue in broiler chickens during embryonic development and hatching.
【语种】英文
【第一作者】赵苏梅
【通讯作者】邹思湘
【期刊名称、卷期、页码】Lipids.(2007) 42:749 – 757
【论文发表时间】2007-06-16 00:00:00
【引文索引类型】SCI
【引文索引号】0024-4201
【学科分类】兽医学

【题目】Effects of Dehydroepiandrosterone (DHEA) on Hepatic Lipid Metabolism Parameters and Lipogenic Gene mRNA Expression in Broiler Chickens.
【中文关键词】马海田
【英文关键词】Dehydroepiandrosterone (DHEA) Hepatic lipid metabolism Lipogenic genes Broilers
【中文摘要】无
【英文摘要】The aim of the present study was to identify the effects of dehydroepiandrosterone (DHEA) on hepatic lipid metabolism parameters and lipogenic gene mRNAexpression in broiler chickens. A total of 72 1-day-old broiler chicks received a common basal diet with DHEA added at either 0 (control), 5 or 20 mg/kg feed. In the present study, the hepatic triglyceride (TG) concentration was significantly lower in male and female broilers that had bed administered DHEA than in control birds. In contrast,DHEA administration caused a marked rise in the hepatic non-esterified fatty acid (NEFA) concentration in both male and female broilers and also increased lipase (HL) activity in male broilers, while in female birds, no signif-icant differences were observed in HL activity. The expression of peroxisome proliferators-activated receptora (PPAR a) and carnitine palmitoyl transferase I (CPTI) mRNA was decidedly enhanced following treatment withDHEA, and a similar tendency was also observed in the expression of acyl-Coenzyme A oxidase 1 (ACOX1).However, no significant differences were observed in theexpression of either sterol regulatory element binding protein-1c (SREBP-1c) or acetyl CoA carboxylase (ACC) mRNA, except for a decline in the expression of ACC in females treated with 5 mg DHEA/kg. Numerous peroxi-somes without a core and an increased number of peroxisomes were evident during morphological observations of broiler livers, in animals that had been treated with DHEA. Overall, the results of the present study indicated that DHEA accelerated lipid catabolism bydirect regulation of hepatic lipid metabolism and by induction of relevant gene expression.
【语种】英文
【第一作者】马海田
【通讯作者】马海田
【期刊名称、卷期、页码】Lipids. (2007) 42:1025 – 1033
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【引文索引类型】SCI
【引文索引号】0024-4201
【学科分类】兽医学

【题目】Enhancement of Mucosal Immune Responses in Chickens by Oral Administration of Cysteamine.
【中文关键词】杨倩
【英文关键词】cysteamine, mucosal immunity, immunoglobulin A-positive cell, intestinal intraepithelial lymphocyte,somatostatin-positive cell
【中文摘要】无
【英文摘要】Somatostatin, a tetradecapeptide originally isolated from the hypothalamus, can exert an inhibitory effect on the secretion of growth hormone by the anterior pituitary gland. In addition to endocrine organs, somatostatin is also present in the digestive tract and immune organs. In lymphoid tissues, somatostatin appears to play a role in the modulation of the immune response. Cysteamine (CS) is a sulfhydryl reducing agent that is known as a depletory agent of somatostatin. To evaluate its effects on chicken mucosal immune responses, CS was administrated orally to 1-wk-old broilers (40 mg/kg) that were immunized orally with Newcastle

disease attenuated vaccine (NDV). The number of IgA-positive cells and intestinal intraepithelial lymphocytes (iIEL) in duodenum and jejunum were examined at 3-, 5-, and 7-wk posttreatment and immunization. The number of somatostatin-positive cells and relative amounts of somatostatin mRNA were also examined in the duodenum. The number of somatostatin-positive cells in the duodenum was reduced ($P < 0.05$) after CS treatment. In broilers receiving CS and NDV treatment (CS+NDV) the level of IgA-positive cells and iIEL in the duodenum and jejunum was increased ($P < 0.05$) at 3 and 5 wk posttreatment. The expression of somatostatin mRNA increased ($P < 0.05$) compared with that of the control group at 5 wk after immunization in broilers receiving CS+NDV or NDV alone. The results suggest that CS can induce proliferation and differentiation of IgA-positive cells and iIEL in the intestinal mucosa of chickens by reducing the number of somatostatin-positive cells.

【语种】英文
【第一作者】杨倩
【通讯作者】杨倩
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【学科分类】兽医学

【题目】Effect of compound mucosal immune adjuvant on mucosal and systemic immune responses in chicken orally vaccinated with attenuated Newcastle-disease vaccine.
【中文关键词】张晓飞
【英文关键词】Compound mucosal immune adjuvant; Mucosal immune response; Systemic immune response; Attenuated Newcastle-disease vaccine; Chicken
【中文摘要】无
【英文摘要】In order to compare the adjuvant activity of compoundmucosalimmuneadjuvant (cMIA), two novel compoundadjuvants (cMIA I and cMIA II) were prepared and mixed with Newcastle-disease (ND) vaccine, respectively, to vaccinate 7-day-old chickens, taking the non-adjuvantvaccines and PBS as controls. Serum were sampled on weeks 1 – 7 and tissues on weeks 3, 5 and 7 after vaccination, respectively. The humoral and cellular immuneresponses were determined by means of hemagglutination inhibition test, enzyme linked immunosorbent assay, semi-quantitative RT-PCR, immunohistochemical examination and histological examination. The results showed that two compoundadjuvants could promote CD3+ T lymphocytes, IgA secreting cells, intestinal intraepithelial lymphocytes (iIEL) and Mast cells formation and enhance serum and content antibody titer. The best adjuvant activity of cMIA II in promoting cellular immunity and cMIA I in enhancing humoral immunity occurred in whole immune period. Based on good synergistic effects of their components, two cMIAs would be expected as new-type mucosalimmuneadjuvants for mucosalimmune.
【语种】英文
【第一作者】张晓飞
【通讯作者】杨倩
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【引文索引号】0264-410X
【学科分类】兽医学

【题目】Use of green fluorescent protein tomonitor Lactobacillus in the gastro-intestinal tractof chicken
【中文关键词】庾庆华
【英文关键词】green fluorescent protein; gastro-intestinal tract; Lactobacillus ; chicken.
【中文摘要】无
【英文摘要】Lactobacilli, like other gut commensal bacteria, are well known for their use inindustrial food fermentations and for their probiotic properties. However, little isknown about the interaction of these microorganisms with the gastro-intestinalepithelia when administered in vivo . To specifically monitor the passage oflactobacilli after oral administration, the gfp gene was cloned downstream

fromthe constitutive L-lactate dehydrogenase promoter (pldhL) in the experiment. Therecombinant expression vector pLEM415:: gfp was electroporated into differentlactobacilli isolated from chicken. Green fluorescent protein (GFP) was expressedsuccessfully in Lactobacillus delbrueckii ssp. lactis D17 (D17-GFP) andLactobacillusfructosus C2 (C2-GFP). Moreover, oral administration of D17-GFP in chickensallowed us to trace it in the gastro-intestinal tract. Six hours after ingestion, D17-GFP was detectable in all luminal contents (stomach, jejunum, ileum and caecum).At 42 h post-administration the microorganism was present throughout theintestine with maximum concentrations about 105.5in all intestinal sections. Nofluorescent lactobacilli were detected in the spleen or liver of chickens at any time.Using fluorescence microscopy, it became apparent that the D17-GFP were mainlyembedded in the mucus, localized close to the epithelial surface of the intestine andscattered in the intestine lamina propria.

【语种】英文
【第一作者】庾庆华
【通讯作者】杨倩
【期刊名称、卷期、页码】FEMS Microbiology Letters.275 (2007) 207 – 213
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【引文索引号】0378-1097
【学科分类】兽医学

【题目】Effect of early feed restriction on metabolic programming and compensatory growth in broiler chickens.
【中文关键词】占秀安
【英文关键词】feed restriction, lipid metabolism, compensatory growth, metabolic programming, broiler chicken
【中文摘要】无
【英文摘要】The effect of early feed restriction on meta-bolic programming and compensatory growth was stud-ied in broiler chickens. A total of 480 female 1-d-oldbroiler birds (Aconred) were randomly allocated to adlibitum and feed-restricted groups, each of which wasreplicated 6 times with 40 birds per replicate. Broilerswere provided commercial diets. Feed-restricted broilerswere deprived of feed for 4 h per day from 1 to 21 d ofage. Effects of treatments were determined at 21 and 63d of age. In feed-restricted birds at 21 d of age, BW,average daily gain and average daily feed intake, breastmuscle ($P < 0.01$), carcass yield ($P < 0.05$), and abdominalfat ($P < 0.05$) were decreased. Ether extract content inbreast muscle was increased ($P < 0.01$), whereas CP con-tent was slightly decreased. Triiodothyronine ($P < 0.01$)and thyroxine ($P < 0.05$) were decreased in serum. Freefatty acid and very low density lipoprotein were slightlyincreased in serum, whereas triglyceride and glucosewere decreased ($P < 0.01$). Activities of NADPH-generat-ing enzymes in liver including malic dehydrogenase, iso-citrate dehydrogenase, and glucose-6-phosphate remained unchanged in ad libitum birds, whereas hor-mone-sensitive lipase activity was increased ($P < 0.01$).In feed-restricted birds at 63 d of age, BW, average dailygain, average daily feed intake, carcass yield, breast mus-cle yield, and serum triiodothyronine and thyroxine re-mained as ad libitum birds, whereas abdominal fat yieldwas increased ($P < 0.05$). Ether extract content in breastmuscle was decreased ($P < 0.01$), whereas CP contentwas increased ($P < 0.05$). Activities of NADPH-generatingenzymes were significantly increased, except abdominalmalic dehydrogenase and hormone-sensitive lipase activ-ity was decreased ($P < 0.01$) in liver and abdominal fat.Lipoprotein lipase activity was increased ($P < 0.05$) inabdominal fat. In summary, feed restriction severely af-fected growth performance and lipid metabolism in broil-ers in the early period. Because there was no statisticaldifference among the final BW, near full compensatorygrowth was achieved. In addition, early feed restrictionmight have induced prolonged metabolic programmingin chicks and led to adult obesity.

【语种】英文
【第一作者】占秀安
【通讯作者】占秀安
【期刊名称、卷期、页码】Poultry Science.2007, 86:654 – 660
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【学科分类】兽医学

【题目】Effects of different selenium source on selenium distribution, loin quality and antioxidant status in finishing pigs.
【中文关键词】占秀安

【英文关键词】Se; Selenomethionine; Sodium selenite; Pig; Meat color; Drip loss; GSH-Px; MDA
【中文摘要】无
【英文摘要】The experiment was conducted to study the effects of different selenium source on selenium distribution, loin quality and antioxidant status in finishing pigs. A total of 108 castrates (Duroc × Landrace × Yorkshire) at average body weight (BW) of 60 kg were allotted to three treat-ments, each of which was replicated three times with 12 pigs per replicate (four per pen). The control groups received the basal diet containing 0.045 mg Se/kg. A 0.3 mg Se/kg in forms of sodium selenite or selenomethionine was added to the basal diet for the experimental groups. The total test period was 40 d. Results showed that selenomethionine-treatment increased the Hunter a (redness) value of meat color during 45 min, 8 and 16 h measurement period ($P<0.05$) and decreased the drip loss of loin mus-cle during 8 and 16 h measurement period ($P<0.05$), while sodium selenite-treatment only elevated the Hunter a value of meat color during 0.75 h measurement period ($P<0.05$) and had no significant effects on drip loss of loin muscle tissues. Both selenomethionine and sodium selenite-treatment increased the Se content in serum, muscle, liver, pancreas and kidney tissue ($P<0.05$), the level was substantially higher in muscle, liver and pancreas ($P<0.05$) in the selenomethionine treated group. In addition, both selenomethionine and sodium selenite-treatment increased glutathione peroxidase (GSH-Px) activity ($P<0.05$) and decreased the malondialdehyde (MDA) content in the liver and muscle ($P<0.05$) when compared with control group, but the level of magnitude was higher when selenomethionine was fed.The present study suggests that compared with sodium selenite, selenomethionine is more effective in depositing Se in tissues, enhances the antioxidant status, thus decreasing the volume of drip loss and stabilizing the meat color.
【语种】英文
【第一作者】占秀安
【通讯作者】占秀安
【期刊名称、卷期、页码】Animal Feed Science and Technology132 (2007) 202 – 211
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【学科分类】兽医学

【题目】In vitro effects of ghrelin on gastric H+-K+-ATPase and pepsin activity and mRNA expression of gastrin, somatostatin, receptors for GH and IGF-1 in cultured gastric mucosal cells of weanling piglets.
【中文关键词】杜改梅
【英文关键词】gastric mucosal cells, gastrin, GHR, ghrelin, H
þ
-K
þ
-ATPase, IGF-1R, somatostatin.
【中文摘要】无
【英文摘要】The present study was conducted to investigate the effects of ghrelin on gastric acid and pepsin secretion, as well asthe mRNA expression of gastrin, somatostatin (SS) and receptors for growth hormone (GH) and insulin-like growthfactor-1 (IGF-1) in gastric mucosal cells in vitro. Gastric mucosal cells were isolated from 5-week-old weanling pigletsand exposed for 4 h to 3 £ 10 22,3 £ 102 1,3,3 £ 10 and 3 £ 102nmol/l of h-ghrelin, respectively after 30-h incubation inDMEM/F-12. Pepsin activity in culture medium, cell viability and H þ -K þ -ATPase activity, as well as mRNA expression ofgastrin, SS, GHR and IGF-1R in gastric mucosal cells were determined as response criteria. The experiment wasrepeated three times. Ghrelin significantly (P , 0 · 05) increased H þ -K þ -ATPase activity of gastric mucosal cells at3 £ 1021, 3 and 3 £ 10 nmol/l of h-ghrelin. However, no significant changes were observed either in pepsin activity orthe cell viability after ghrelin treatment. The mRNA expression of gastrin and SS was significantly increased in gastricmucosal cells exposed to h-ghrelin at 3 £ 1021and 3 nmol/l (P , 0 · 05). H-ghrelin significantly increased IGF-1R but notGHR mRNA expression at 3 £ 102 1, 3 and 3 £ 10 nmol/l of h-ghrelin (P , 0 · 05). Ghrelin acts on gastric mucosal cellsfrom weanling piglets to regulate the H þ -K þ -ATPase activity and mRNA expression of gastrin, SS, and IGF-1R in vitro .
【语种】英文
【第一作者】杜改梅
【通讯作者】赵茹茜
【期刊名称、卷期、页码】Journal of Animal Science2006, 82: 823 – 828

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【引文索引号】1344-3941
【学科分类】兽医学

【题目】Computer image analysis of intramuscular adipocytes and marbling in the longissimus muscle of cattle.
【中文关键词】杨晓静
【英文关键词】adipocyte, cattle, computer image analysis, longissimus muscle, marbling
【中文摘要】无
【英文摘要】The deposition of fat in muscle, recog-nized by the consumer as marbling, is an important meat quality trait. The objective of the study was to provide additional insights into the quantitative extent of marbling by means of computer image analysis. Fifty-one F2 generation German Holstein and Charolais crossbreed cattle, 18 mo of age, were used to determine relationships among marbling traits, adipocyte size, and the amount of adipose tissue in different depots. Differences were recorded among the size of i.m. adipo-cytes in different groups of marbling flecks, divided according to the location in the muscle cross-section andto the size of the marbling flecks. The results showed positive correlation between i.m. adipocyte size and the weight of s.c. fat, intestinal fat, omental fat, and perire-nal fat (r = 0.50, 0.61, 0.70, and 0.63, respectively, P <0.001). The i.m. adipocyte size was correlated with i.m.fat content, number of marbling flecks, proportion of marbling fleck area, and total length of marbling flecks (r = 0.71, 0.44, 0.62, and 0.55, respectively, P < 0.01).The number of marbling flecks was also correlated withi.m. fat content, proportion of marbling fleck area, and total length of marbling flecks (r = 0.58, 0.62, and 0.91,P < 0.01, respectively). The ventral marbling flecks had a 5-fold larger fleck area, 4-fold more adipocytes, and larger adipocytes (P < 0.001). Larger marbling flecks contained larger adipocytes (P < 0.001). Moreover, com-pared with the small marbling flecks, there was a 48-fold larger fleck area and 26-fold more adipocytes in the large marbling flecks. The results indicate that i.m.fat deposition increases concurrently with the other fat depots but is still independent. Furthermore, the i.m. fat is preferentially deposited in the ventral area of LM. Although the i.m. adipocyte size has an important effect on the traits of marbling flecks, cell number plays a greater role in i.m. fat deposition than cell size.
【语种】英文
【第一作者】杨晓静
【通讯作者】J. Wegner
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【引文索引号】1344-3941
【学科分类】兽医学

【题目】Cysteamine increases expression and activity of H+-K+-ATPase of gastric mucosal cells of weaning piglets
【中文关键词】石志敏
【英文关键词】Cysteamine; Weaning piglets; H
+-K+-ATPase;
Gastric mucosal cells; Somatostatin
【中文摘要】无
【英文摘要】AIM: To determine the in vivo and in vivo effects of cysteamine (CS) on expression and activity of H+-K+-ATPase of gastric mucosal cells in weaning piglets.
【语种】英文
【第一作者】石志敏
【通讯作者】赵茹茜
【期刊名称、卷期、页码】World J of gastroenterology2005;11(42):6707-6712
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【引文索引类型】SCI
【引文索引号】1007-9327
【学科分类】兽医学

【题目】肉种鸡饲养方式对子代胚肝蛋白表达谱的影响
【中文关键词】肉鸡;饲养方式;2D-PAGE
【英文关键词】无
【中文摘要】挑选4O周龄体况良好的产蛋三黄肉种鸡200只,随机分为对照组(笼养)和试验组(平养),饲喂相同的肉 种鸡日粮。收集受精种蛋各300枚并孵化,分别取9、14、19胚龄和出壳时的肝脏,经2D-PAGE分离后,对经胶体 考马斯亮蓝G-250染色的图像用PDquest7.3软件进行差异表达分析,取差异表达的蛋白质斑点进行胶内酶切和 MALDI-TOF-MS分析。结果表明,试验组和对照组在9、14和19胚龄时,胚质量和肝质量均无显著差异;出壳时, 试验组胚质量、肝质量均显著小于对照组(P<O.05)。蛋白表达谱分析发现29个在试验组和对照组间表达量存在 两倍以上差异的蛋白斑点,其中22个得到鉴定。在这些被鉴定的蛋白中,大多涉及到机体内基础代谢的酶、能量 产生及信号传导等。
【英文摘要】Forty—week healthy Sanhuang(SH)broilers were randomly divided into floor~reared (treatment)and cage—reared groups(contro1),and feed with the same diet.During the experi~ mental period,300 fertile eggs were randomly collected from each group and directly incubated in an electric forced~draft incubator.Livers were collected on day一9,14,19 of incubation and the hatching,respectively.Proteins were extracted and separated by 2D-PAGE and stained with col一 1oidal Coomassie Brilliant Blue.Then,the stained gels were scanned and analyzed using PDQuest7.3 software.The differential protein spots with in—gel trypsin digestion were subse— quently identified by MALDI—TOF—MS.The results indicated that the embryo and absolute liver weight of floor—reared group was significantly lower than that of the control at hatching,although no significant differences were observed in both embryo and absolute liver weight between the floor—reared group and the control on day 9,14 and 1 9 of embryonic development.The result of offspring broiler liver protein profiles showed that twenty~nine proteins had expressed at least 2.0-fold variance compared to the control during embryonic development and twenty—tWO of them were identified.Most of these proteins were highly related to carbohydrate metabolism,energy production and signal transduction.
【语种】中文
【第一作者】黄建珍
【通讯作者】马海田
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【学科分类】兽医学

【题目】早期限饲对肉鸡肌肉生长及肌纤维类型的影响
【中文关键词】早期限饲;腓肠肌;肌纤维类型;肌球蛋白重链
【英文关键词】无
【中文摘要】采用隔日限饲的方式对l~l4日龄三黄肉鸡仔鸡进行早期限饲处理,后恢复自由采食直至63日龄试验结束,以分析早期限饲对肉鸡肌肉生长和肌纤维类型的影响。分别于l4和63日龄随机选取对照组和早期限饲组肉仔鸡各2O羽,屠宰后采样,记录腓肠肌外侧头重量并采用相对定量RT-PCR的方法检测其不同类型肌纤维肌球蛋白重链mRNA基因表达。结果表明,早期限饲组体重及腓肠肌外侧头重均低于对照组(P《o.05,n=20)。14日龄早期限饲组慢肌及快红肌肌球蛋白重链mRNA表达水平显著高于对照组(分别为P<0.01和P<0.05,n=10),快白肌肌球蛋白重链基因表达显著低于对照组(P<0.05,n—lO)。63日龄早期限饲组慢肌肌球蛋白重链mRNA基因表达显著低于对照组(P<0.05,n=10),快红肌和快白肌肌球蛋白重链与对照组相比均无差异(P>o.05,n=10)。结果提示:(1)早期限饲阻碍了肌纤维类型的转化,延缓了肌肉的发育及增重,最终引起整体体重的下降;(2)早期限饲对肌肉肌纤维成分具有持久影响,其影响一直持续到63日龄上市。
【英文摘要】For exploring the efect of early feed restriction on muscle growth and myofiber types in broiler chickens,newly hatchedbroilerchickenswere allocated randomlyinto controland earlyfedrestriction(ER)groups.Chickensin control groupwere fed adlibitumforthewholeperiodofinvestigation.whiletheERgroupWel'e subjectedtointca-mitmntfed restriction、 thfedpro- vided on alternate daysfromhatchto 14days ofage(14 d),followedby adlibitumfeedingtillthe end ofthe experiment on 63 d. Twenty chickensfrom each groupwere sacrificed on 14and 63 d respectively,lateral gas~cnemiusmusclewastakenformyofiber typing byrelative quantification ofmRNA expression forthree diferenttypesofmyosin heavy chain(MyHC):slow myofiberMyHC (SMMyHC),redfast-twitchmyofiberMyHCfiRMMyHC)andwhitefast-twitchmyofiberMyHC(FWMMyHC)byRT-PCRusing 18SrRNAasaninternal—standard.Thebodyweightandthelateralgaslrocnemlusmuscleweightwere significantlylowerinERgroup on 14dand 63 d(P<0.05,n_2O).ERgroup exhibited significantlyhigherSM(P<0.01,n=10)andFRM(P<0.05,n=lo)MyHC mRNA

expressionbutlowerFWM(P《o.05,n=10)MyHCmRNA compared、 ththeircontrol counterpartson 14d.On63 dhowev- er,a significantdown-regulationwasobservedinERgroupforSMMyHCexpression(P,0.05,n=10),whereasno significantdifer- ences、detectedforbothFRMandFWMMyHCmRNA expressionbetweentwo groups(P>o.0,n=105).Theseresultsindicate that,1)earlyfeedrestrictionmaydelaythe conversionfrom slow-twitchmyofibertofast-twitchmyofiber,resultinginretardedmuscle growththatmayaccountforthedecreasedbodyweight,2)theinfluenceofearlyfeedrestrictiononmyofiberD~pcsislong-lasting,sig- nificantdiference still seenafter7wekswhen chickensreachthemarketingage.

【语种】中文
【第一作者】李玥
【通讯作者】赵茹茜
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【学科分类】兽医学

【题目】日粮添加脂肪细胞膜蛋白抗体对猪胴体品质和脂肪代谢相关激素和酶活性的影响.
【中文关键词】猪;抗体;脂肪细胞膜;胴体品质;脂蛋白脂酶活性
【英文关键词】Pigs;Antibody;Adipocyte plasma membrane;Carcass composition;LPL activity
【中文摘要】【目的】研究口服型脂肪细胞膜蛋白抗体对生长肥育猪胴体品质和代谢的影响及其作用机理。【方法】 体重27 kg左右的杜X长.梅三元杂交商品猪160头,随机分成试验组和对照组。试验组基础日粮中添加75 mg.kg 脂肪细胞膜蛋白抗体,对照组在基础日粮中添加等量阴性抗体辅料,饲喂1 04d后屠宰,采集血液和组织样品。用 放射免疫法测定血清胰岛素(insulin)和瘦素(1eptin)浓度,组织学方法测量脂肪细胞直径,分光光度法测定 脂肪组织DNA、RNA浓度、脂肪组织氧化型辅酶Ⅱ一苹果酸脱氢酶(NADP-MDH)活性以及脂肪与肌肉组织中脂蛋白 脂酶(LPL)活性。【结果】试验组平均日增重及瘦肉率分别提高1 3.03%(P<0.01)和1 0.30%(0.01),背膘 厚以及肾周脂肪、肠系膜脂肪和皮下脂肪比率分别下降24.14%(P<O.O1)、27.27%(0.05)、20.42%(0.01) 和29.21%(P<0.01),而肌内脂肪含量则不受影响;试验组血清insul in浓度降低26.19%(0.05),leptin浓 度下降26.5 3%(P<O.05);不同部位脂肪细胞的直径显著降低;脂肪组织NADP—MDH活性变化不显著;脂肪组织脂 蛋白脂酶活性以及脂肪组织与肌肉组织脂蛋白脂酶活性的比值显著下降(P<0.05 o【结论】1:1服脂肪细胞膜蛋白 抗体可显著改善猪的胴体品质;血清insul in、1ept in以及组织脂蛋白脂酶活性的改变可能参与这种作用的调节。
【英文摘要】[Objective]The study looked at the efects of oral type antibody against adipocyte plasma membrane(OAAb)on the metabolism,carcass composition and its mechanisms in pigs.[Method]Crossbred(Duroc—Jerseyx Landrace · Meishan)pigs(160 of them)weighing approximately 27 kg were allocated randomly into treatment and control groups.The treatment group was fed with the basal diet supplemented with 75 mg · kg~OAAb.Following a 104一day trial,the pigs were slaughtered,the carcass composition was measured and the weights of internal fat depo~were recorded.Blood and tissue samples were taken for further analysis.Serum concentrations of insulin and leptin were determined with RIA.Diameters of adipocytes from diferent fat depots were measured by using histological methods.DNA/RNA concentrations and NADP—MDH,lipoprotein lipase(U ’ L)activity were analyzed.[Result] Dietary supplementation of OAAb increased average daily weight gain and lean mass by 13.03%(尸<0.01)and 10.3%(尸<0.01), respectively,and dressing percentage was unafected.Back fat thickness at 6th-7th rib was reduced by 24.14%(尸<0.01),the perirenal,mesenteric and subcutaneous fat depots were reduced by 27.27%(P<O.05),20.42%(P<O.o1)and 29.21%(P<O.o1),however,the intramuscular fat content of the longissimus muscle remained unafected.Serum concentrations of insulin and leptin were reduced by 26.1 9%(P<0.05)and 26.53%(P<0.05),respectively.Dietary supplementation of OAAb reduced adipocyte size in all the three diferent adipose pads(P<0.05),LPL activity in adipose tissue and the ratio of LPL activity between adipose tissue and skeletal muscle were reduced significantly P<0.05)whereas NADP—MDH activity was unafected.[Conclusion]We first demonstrated the oral efect of OAAb on carcass composition in the pig and the changes of serum insulin and leptin levels as well as the tissue LPL activity may be involved in the acting mechanism.
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【题目】断奶前后仔猪小肠不同肠段胰高血糖素原mRNA的表达
【中文关键词】:仔猪;断奶;小肠上皮;胰高血糖素样肽.2
【英文关键词】无
【中文摘要】研究表明,成年猪的肠上皮细胞大约2~4 d更新1次,而 新生仔猪肠上皮细胞7—10 d才能完成1次更新。仔猪的胃肠 道功能发育迟缓,使其不能适应生产上早期断奶的需要,出 现食欲不振、腹泻,甚至死亡。仔猪断奶后小肠的功能发生相 当大的改变(Boudry et a1.,2004)。但这个转变的内在机制目前 还不清楚。 胰高血糖素样肽.2(GLP.2)是由小肠L细胞分泌的一种 33个氨基酸组成的小肽,与小肠上皮生长关系密切(Petersen et a1.,2002)。对GLP.2的研究发现其可能在动物断奶前后小 肠结构与功能的变化中起重要作用,然而,断奶前后仔猪小 肠上皮更新缓慢是否与编码GLP.2的基因胰高血糖素原(proglucagon)的时空特异性表达有关,尚未见文献报道。因 此,本实验采用相对定量RT—PCR方法研究proglucagon mRNA在仔猪断奶前后不同肠段粘膜的表达模式。
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【题目】不同蛋白水平日粮对狼山鸡卵黄中激素沉积及子代生长的影响.
【中文关键词】狼山鸡;日粮:卵黄;激素沉积;生长
【英文关键词】Langshan chickens,Diet,Yolk,Hormone deposition,Growth
【中文摘要】选取狼山鸡种母鸡160羽,随机分成三个组,分别饲喂粗蛋白水平为10%(低)、15% (对照)和20%(高)的日粮,21d后收集种蛋。每组随机选择10枚种蛋用于放免测定卵黄中母源 性甲状腺激素和胰高血糖素,其余孵化后在相同条件饲养至28d,并测定生长性能.。分别与1日龄和 28日龄每组各选10羽雏鸡进行屠宰测定。结果:(1)试验前后母鸡体重各组间均没有变化,低蛋白组 产蛋率和蛋重显著下降(p<O.05),高蛋白组蛋重显著高于对照组;(2)三组种蛋的卵黄中T3、胰高血 糖素水平均没有显著性差异,而高蛋白组卵黄中T4水平显著高于对照组和低蛋白组(p<0.05),低蛋 白组1d后代血清中T3水平显著高于对照组,而高蛋白组血清T4水平显著高于对照组(p<0.05); (3)出雏重与蛋重呈正相关(R2=0.9275,p<0.01),出雏后高、低蛋白组子代均表现出较高的生长速度, 28d低蛋白组子代鸡体重和相对胸肌重显著高于对照组(p<O.05),高蛋白组体重与对照组相比有增 加趋势,但差异不显著(p=0.08)。结论:母鸡饲喂不同蛋白水平日粮可以改变卵黄中母源性激素的沉 积并能显著影响子代的生长
【英文摘要】160 Langshan breeder hens were randomly divided into 3 groups,fed with 10%(1ow),15% (contro1)and 20%(high)crude protein(CP)diet,respectively for21days.Fertile eggs were colected 10 days after the dietary treatment.10 eggs each group were used to determine the yolk deposition of maternal thyroid hormones and glucagon with radioimmunoassay,and the remaining eggs were incubated. Newly hatched chickens were raised under the same condition until 28 days of age and the growth performance of the offspring was recorded.1 0 chicks from each group were sacrificed on day 1 and day 28,respectively for sampling.Results:Dietary protein level showed no significant effect on body weight of the hens,yet the egg laying rate and egg weight decreased markedly in the low-CP diet group(p<O.05). Egg weight in the high-CP diet group is significantly higher than the controls.Yolk contents of T3 and glucagon didn t show differences among groups,while that of T4 in the high—CP diet group was significantly higher than the other two groups(p<O.05).At hatching,serum levels of T3 in the low—CP group and T4 in the high—CP diet group were significantly higher than the controls(p<0.05).Strong positive relationship was found between hatch weight and fertile egg weight(R2=0.9275,p<O.o1).Both high—and low—CP diet group showed higher growth rate after hatching.Relative breast muscle weight and body weight in the low—CP diet group were markedly higher than that in the control group on 28 days(p< O.05),whereas that in the high-CP group showed a Bend of increase,compared with that of the control group(p=0.08).Conclusion:Dietary protein level in hens could significantly change the yolk deposition of maternal hormones and offspring growth.

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【题目】大豆黄酮对母鸡蛋品质及后代仔鸡肉品质的影响.
【中文关键词】大豆黄酮;蛋品质;子代;肌肉品质;肉种鸡
【英文关键词】daidzein;egg quality;offspring;meat quality;broiler breeders
【中文摘要】本文旨在研究添喂大豆黄酮对母鸡蛋品质及后代仔鸡肉品质的影响。试验选取产蛋后期肉种鸡480只, 随机分为2组,每组设8个重复。试验组在基础日粮中添喂10 mg/kg的大豆黄酮,第5周后收集种蛋,每组随机 取3O枚做蛋品质分析,剩余种蛋按正常程序孵化,出雏后饲养至63日龄,宰杀取肌肉做肉品质分析。结果表明: 母鸡饲喂大豆黄酮后,蛋壳厚度和蛋壳比重分别增加了0.03 mm(P<0.01)和0.45 (P<0.05);蛋白的Haugh 单位增加了4(P<0.05);入孵蛋出雏率和受精蛋出雏率分别降低了l1.5%和8.3%(P<0.05)。添喂大豆黄酮 对后代仔鸡生长无显著影响,但显著降低了雌仔鸡肌肉比重和肌肉的蒸煮损失率(P<0.05),显著降低雄仔鸡肌 肉的滴水损失率(P<0.05);显著增加胸肌黄度(P<0.05);但对腿肌的快慢肌纤维比例、纤维密度以及快慢肌 纤维的横截面积均无显著影响(P>0.05)。以上结果提示:10 mg/kg剂量的大豆黄酮应慎用于种蛋禽上,而在商 品蛋禽上则具有良好的应用前景。
【英文摘要】The effects of dietary daidzein on broiler breeders during the late periods of the laying cycle on egg quality,hatching rate and meat quality of the offspring chickens were studied.Broil— er breeders feed a basal-diet(n一240,8 replicates,contro1)or the basal diet supplemented with 10 mg/kg daidzein(n一240,8 replicates,daidzein).The laying rate was increased over the whole investigation with the daidzein treatment.Egg quality analysis showed that eggshell thickness and relative weight of eggshell to the whole egg increased 0.03 mm(P<0.01)and 0.45 (P <0.05),respectively,in daidzein group.Compared with the control group,egg Haugh unit in— creased significantly in daidzein group by 4 units(P< 0.05).The hatching rate of fecundated eggs and hatched eggs were decreased by 1 1.5 and 8.3%after daidzein supplementation,re— spectively(P<0.05).Although postnatal growth of the offspring chickens from 1 to 63 days of age was not significantly affected,maternal daidzein supplementation tended to reduce the muscle mass of female chicken.As the breast muscle and leg muscle,the rate of cooking lOSS24 and drip loss24 were significantly decreased,and the yellowness of breast muscle was significantly in— creased by daidzein treatment(P<0.05),while the ratio of myofiber types were not changed.The results suggested that maternal diet supplemented with 10 mg/kg daidzein during late periods of the lay-ing cycle of broiler breeders affect egg quality and meat quality of the offspring chickens.
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【题目】孵化早期蛋内注射大豆黄酮对仔鸡生长与血液指标的影响.
【中文关键词】胚胎发育;大豆黄酮;生长;代谢;肉鸡
【英文关键词】无
【中文摘要】为探讨胚胎发育早期接触大豆黄酮(Da)对仔鸡生长的影响,在孵化7 d(7胚龄)的种蛋内注射0 l 和100 l白油以及100 l 1 mg/ml、10 mg/ml的大豆黄酮白油溶液,分别作为空白对照(C)、溶剂对照(O)、低剂 量(d)和高剂量(D)大豆黄酮组。结果表明,蛋内注射大豆黄酮显著降低出雏率(P<0.05),但不影响出壳重;与 O组相比,D组1日龄仔鸡肝重和肝体比分别提高12.8%和13.4%(P<0.05);7日龄时,d组体重显著高于O 组,此差异一直保持至20日龄,而D组体重与对照组无显著差异;20日龄时,d组和D组的肝体比与O组相比分 别降低了25.7%和21.8%(P<0.05);大豆黄酮对20日龄仔鸡血清生化指标的影响表现出明显的性别差异,对 母鸡无显著影响,而D组仔公鸡的总胆固醇含量显著高于O组(P<0.05);d组和D组仔公鸡的低密度脂蛋白和

高密度脂蛋白含量均显著高于C组和O组,并呈现剂量效应(P<0.05);葡萄糖、甘油三酯、总胆固醇与高密度脂 蛋白的比例及低密度脂蛋白与高密度脂蛋白的比例均未见显著差异;放射免疫方法测定结果表明,1日龄d组和 D组仔鸡血清中游离T1(FT)水平显著低于C组和O组(P<0.05),而T1和T4水平无显著差异;20日龄D组仔 鸡血清中的丌 与O组相比显著上升(P<0.05),T1和T 水平均无显著差异(P>0.05)。综上可见,早期蛋内 注射低剂量大豆黄酮对出雏后仔鸡生长有显著促进作用,而高剂量大豆黄酮对代谢相关的激素和生化指标的影 响较为显著,提示不同剂量大豆黄酮的作用机制可能有所不同。
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【题目】半胱胺盐酸盐对仔猪胃黏膜细胞H+ -K+ -ATPa se活性和生长抑素表达的影响.
【中文关键词】仔猪; 胃粘膜细胞; 半胱胺盐酸盐; 生长抑素; H+
2K+2A T Pa se
【英文关键词】无
【中文摘要】将分离的仔猪胃粘膜细胞分为4组, 在含10%胎牛血清的DM EM高糖培养液中培养24h后, 分别在新鲜的基础培养液中添加0(对照组)、01001(低水平组)、0101(中水平组)和011(高水平组)g ö L的半胱胺盐酸盐, 继续培养20h后收集细胞, 测定细胞H+2K+2A T Pa se活性, 同时用相对定量R T2PCR法测定细胞H+2K+2A T Pa se和生长抑素(SS)m RNA的相对丰度。结果表明: (1)低水平的半胱胺盐酸盐对H+2K+2A T Pa se的表达和活性没有影响(P> 0105), 但中、高水平的半胱胺盐酸盐显著提高了H+2K+2A T Pa se的表达和活性(P< 0105), 其中H+2K+2A T Pa sem RNA的相对丰度分别提高了36%和44%,H+2K+2A T Pa se活性分别提高了57%和53%。(2)低水平半胱胺盐酸盐对SSm RNA的表达没有影响(P> 0105), 中、高水平的半胱胺盐酸盐显著提高了SSm RNA的相对丰度(P< 0105), 提高幅度均为52%。以上结果提示半胱胺盐酸盐可增强体外培养的仔猪胃黏膜细胞H+2K+2A T Pa se的表达及活性, 而这一作用可能由SS所介导。
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【题目】Isolation and Characterization of Metsulfuron-methyl Degrading Bacteria Methylopila sp. S113.
【中文关键词】甲磺隆;生物降解与修复;甲磺隆水解酶;降解特性
【英文关键词】metsulfuron-methyl; biodegradation and bioremediation,The characteristics of metsulfuron-methyl hydrolase
【中文摘要】从长期受甲磺隆污染的土壤中分离筛选获得一株能够高效降解甲磺隆的菌株S113。根据S113的表型特征、生理生化特性,16S rDNA同源性比较,系统进化分析将其鉴定为噬甲基菌Methylopila sp.。该菌能够能以甲磺隆为唯一碳源生长,72h对50mg L-1甲磺隆的降解率达98%以上。S113的最适生长温度30°C,最适生长初始pH7.0。装液量小于100mL/250mL时,S113生长旺盛。在供试的几种无机碳源中,S113对丁二酸钠和淀粉利用较好。S113以有机氮为氮源生长较好,在供试的无机氮源中,S113对NH4NO3利用最好。降解谱实验结果表明,S113还可以降解噻吩磺隆,苄磺隆,胺苯磺隆,降解率都在95%以上。但在同样条件下,S113不能降解绿磺隆,吡嘧磺隆。S113降解甲磺隆的最适pH值为7.0。S113对甲磺隆的降解率和起始接种量呈正相关。改变通气量对S113降解甲磺隆没有显著影响。加入蛋白胨和酵母膏可以促进S113对甲磺隆的降解。在室内条件下对S113的水解酶进行了研究,发现该酶为胞内酶、非诱导酶。建立了甲磺隆水解酶的酶促反应体系:2830 μL Na2HPO4- NaH2PO4缓冲液(0.2 mol L-1,pH7.0),150 μL甲磺隆(1000mg L-1),20 μL粗酶液(约1.2 μg粗蛋白),30°C水浴30min。甲磺隆水解酶pH稳定范围为6-9,最适pH为8。水解酶热不稳定,45°C处理30min,酶活下降59.22%,70°C处理

30min可完全灭活。测定了8种金属离子对水解酶的作用,发现1mmol L-1的Ca2+对酶活有促进作用。

【英文摘要】A bacterium S113 capable of degrading metsulfuron-methyl was isolated from metsulfuron-methyl contaminated soil. Based on the morphology, physiological and biochemical characteristics, and the homology analysis of its 16S rDNA sequence,S113 was identified preliminarily as Methylopila sp.。. S113 was capable of utilizing metsulfuron-methyl as the sole carbon source for its growth. This bacterium could degrade 98% of 50mg L-1 metsulfuron-methyl within 72h. Biological properties of S113 were studied. The optimal growth temperature and initial pH are 30°C, 7.0 respectively. The aeration had little effect on the growth of S113. The optimal medium for the growth of strain S113 was amylum as carbon source and organic nitrogen as nitrogen source. S113 could also degrade thifensulfuron-methy, bensulfuron, ethametsulfuron, but could not degrade chlorsulfuron and pyrazosulfuron. The optimal pH of S113 for degrading metsulfuron-methyl was 7.0. The degradation rate of metsulfuron-methyl by S113 was related positively to initial amount of inoculation. The aeration has little effect on degrading ability of S113。 The speed of degradation of metsulfuron-methyl by S113 was related positively to initial amount of inoculum size. Peptone and yeast extract at certain concentration could promote the degradation of the strain.Metsulfuron-methyl hydrolase from metsulfuron-methyl degrading strain S113 was studied. The hydrolase in the bacterium was endoemzyme. The enzymatic reaction system was found as follows: Na2HPO4-NaH2PO4 buffer 2830 μ L, metsulfuron-methyl (1000 mg L-1) 150 μ L, crude enzyme 20 μ L (about 1. 2 μ g crude protein), 30°Cwater bathing 30 min. The characteristics of metsulfuron-methyl hydrolase were determined. The pH suitable for keeping enzyme was 6-9, with the optimum pH 8. 0. The activity of enzyme was down to 59. 22% and zero when treated at 45°C for 30 min and 70°C for 30min respectively. Eight metal ions were chosen to study their effects on the metsulfuron-methyl hydrolase activity, and the results showed that 1 mmol L-1 Ca2 + could enhance the enzyme activity.

【语种】英文

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【学科分类】微生物学

【题目】Isolation of a chlorpyrifos-degrading bacterium, Sphingomonas sp. strain Dsp-2, and cloning of the mpd gene.

【中文关键词】毒死蜱降解菌;mpd基因的克隆和表达;定向进化;生物修复

【英文关键词】Chlorpyrifos-degrading bacteria; Cloning and expression of mpd gene; Direct-evolution; Bioremediation

【中文摘要】采用以毒死蜱为唯一碳源的选择性培养基,从毒死蜱污染的环境样品中分离到七株毒死蜱降解菌,分别命名为Dsp-1~Dsp-7。经生理生化鉴定和系统发育分析,七株菌属于5个不同的属。菌株Dsp-2鉴定为Sphingomonas sp.,菌株Dsp-4为Stenotrophomonas sp.,菌株Dsp-7为Brevundimonas sp.,菌株Dsp-6为Bacillus sp,其他菌株为Pseudomonas sp.。其中从Sphingomonas sp.和Brevundimonas sp.分离到毒死蜱农药降解菌尚属首次报道。对分离的毒死蜱降解菌进行基于16S rDNA序列的系统发育分析,对染色体ERIC-PCR指纹图谱扩增及对降解特性进行比较研究,结果表明七株降解菌在遗传、生理和降解能力等方面表现出丰富的多样性。不同菌株对毒死蜱的降解能力有很大差异,其降解谱也表现出一定的差异。降解菌株Dsp-1~Dsp-4对多种有机磷类农药具有降解能力,与其他菌株相比,菌株Dsp-2在液体培养基中拥有最快的降解速率,12h几乎完全降解100 mg · L-1的毒死蜱,并且能降解有机磷农药丙溴磷。菌株Dsp-1在自然环境中对毒死蜱的降解效果最好。而菌株Dsp-5和Dsp-7只能降解毒死蜱农药,而不能降解其他有机磷农药。七株菌降解毒死蜱的中间产物均为3,5,6-三氯-2-吡啶酚(TCP),且积累TCP。根据已报道的有机磷水解酶基因序列设计引物,通过PCR的方法从降解菌Dsp-1~Dsp-4中克隆到了有机磷水解酶mpd基因,mpd结构基因共有996个碱基,编码331个氨基酸序列。通过序列比较发现,在基因水平上,四株降解菌的有机磷水解酶基因可以分为3种亚型,相互之间的同源性为99%;在氨基酸水平上,四株降解菌的有机磷水解酶可以分为3种亚型,相互之间的同源性为92%。将四株降解菌的mpd结构基因分别连接到表达质粒载体pET29a上,在E. coli BL21实现了基因的高效表达。通过致突变PCR对野生型的mpd基因进行定向进化,获得了5个毒死蜱降解能力增强的突变体。其中突变子Mn7,突变了5个氨基酸位点(N271T,I275S,G277S,A280V,P304S),其水解毒死蜱的动力学参数kcat和kcat/Km比原始MPH分别提高10和118倍,水解3种供试的有机磷底物的相对活力都有明显的增强。通过定点突变的方法,对这些突变位点的作用进行进一步的研究。酶动力学参数的测定结果表明,单位点突变体N271I的kcat/Km比原始MPH提高了15倍,A280V的kcat/Km比原始MPH提高了32倍,是导致毒死蜱催化能力增强的重要位点。而F196I则使kcat/Km下降了1倍,这可能与该位点是MPH酶作用的关键位点有关。对突变体的Mn7三维结构进行模拟分析表明,这些位点的突变并未对酶的三维结构产生明显的影响,但其二级结构分析表明α-螺旋和β-折叠的含量有所增加,这可能使得蛋白的构象更加稳定,从而提高了酶的水解活力。研究了菌株Dsp-1的最适生长条件,菌株Dsp-1的最适温度为30°C;最适生长初始pH在7左右;装液量小于

150 mL/250 mL时,生长旺盛;Dsp-1生长不需要NaCl,无特殊生长因子要求。在供试的几种碳源中,Dsp-1对葡萄糖利用最好;在以葡萄糖为碳源时,以有机氮为氮源生长较好,在供试的几种无机氮源中,Dsp-1对NH4NO3利用最好;该菌株对多种常用抗生素敏感。在发酵培养基中,经过16h达到稳定期,菌体生长良好(>1011CFU · mL-1),能较好的满足后续试验的要求。降解菌剂的应用试验表明,在消除土壤和蔬菜毒死蜱残留的试验中,菌株Dsp-1对毒死蜱表现了较强的降解能力。人工接种毒死蜱降解菌Dsp-1到毒死蜱污染的三种不同的土壤(红粘土、灰潮土、高沙土),Dsp-1在3种土壤中都能有效降解毒死蜱,Dsp-1在pH中性的灰潮土中降解毒死蜱的速率最快,酸性的红粘土中降解效果较差,而碱性的高沙土中毒死蜱的自然降解作用也较明显;说明土壤pH值对降解效率的影响十分显著。相对较高的有机氮的含量也有利于毒死蜱的降解。在1~100 mg · kg-1的浓度范围内Dsp-1都能有效降解土壤中的毒死蜱,对低浓度的毒死蜱降解率更高,达到90%以上。该结果显示了菌株Dsp-1具有对毒死蜱污染的土壤进行实地修复的潜力。应用Dsp-1分别对冬季和春季栽培的温室小青菜的毒死蜱残留进行降解试验,在环境条件适宜,使用推荐农药用量时,施用含1010 CFU · mL-1 活菌的降解菌剂可以发挥良好的作用,7天的降解效率达到80%以上,加快了毒死蜱的降解进程,从而保证在安全间隔期内达到国家的残留标准(0.1 mg · kg-1)。

【英文摘要】A highly effective chlorpyrifos-degrading bacterium strain Dsp-2 was isolated from the polluted treatment system of a chlorpyrifos manufacturer.This strain was preliminarily identified as Sphingomonas sp. based on its morphological, physiological and biochemical tests as well as 16S rDNA analysis. It utilized chlorpyrifos as its sole source of carbon for growth, by hydrolyzing chlorpyrifos to 3,5,6-trichloro-2-pyridinol (TCP). It could also utilize parathion, parathion-methyl, fenitrothion and profenofos, but not phoxin and triazophos. Bioremediation of chlorpyrifos-contaminated soil was examined using Dsp-2. Dsp-2 addition to soil treated with 100 mg kg 1 chlorpyrifos resulted in a higher degradation rate than control soils without inoculation. The moderate pH, moisture and inoculum density could have promoted degradation. The gene encoding the chlorpyrifos hydrolytic enzyme was cloned by PCR. Although BLAST sequence search results indicated that this gene has 99% similarity to mpd (a gene encoding the parathion-methyl hydrolyzing enzyme in Plesiomonas sp. M6), its hydrolytic efficiency for chlorpyrifos was significantly greater than the wild-type mpd from strain M6.

【语种】英文
【第一作者】李晓慧
【通讯作者】李顺鹏
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【学科分类】微生物学

【题目】Genetic components and major QTL confer resistance to bean pyralid (Lamprosema indicata Fabricius) under multiple environments in four RIL populations of soybean

【中文关键词】无
【英文关键词】Keywords: Soybean [Glycine max (L.) Merr.], Bean pyralid (Lamprosema indicata Fabricius), Recombinant inbred line (RIL), Resistance to insects, Genetic components, QTL mapping

【中文摘要】无

【英文摘要】Bean pyralid (BP; Lamprosema indicata Fabricius) is one of the major leaf-feeding insects that affect soybean crops in central and southern China. Four recombinant inbred line populations (KY, WT, XG and SX) were tested during 2004 – 2006 in Nanjing, China, to identify quantitative trait loci (QTL) for resistance to BP on the basis of data for rolled lea fl et percentage under fi eld infestation conditions. The mapping was performed using QTL Network V2.0 and checked with Windows QTL Cartographer V2.5 and IciMapping V2.2. The results showed that 81 – 92 % of the phenotypic variation was accounted for by additive QTL (27 – 43 %), epistatic QTL pairs (5 – 13 %), and collective unmapped minor QTL (38 – 58 %). In total, 17 QTL were detected on 11 linkage groups, of which two had additive effects, six had both additive and epistatic effects, and nine had only epistatic effects. Eight epistatic QTL pairs were observed, of which three pairs involved two QTL with additive effects, one involved one QTL with additive effect, and four involved no QTL with additive effects. Different genetic structures for BP resistance were found among the populations. Eight QTL (fi ve additive and three epistatic pairs) were detected in KY, ten QTL (four additive and fi ve epistatic pairs) were detected in WT, and only one additive QTL was detected in both the XG and the SX populations. BP12-1 and BP1-1 are major QTL, with the former accounting for 15, 31, and 50 % of the total genetic variation (including epistasis) in KY, WT, and XG, respectively, and the latter accounting for 13 and 32 % of the total genetic variation in KY and SX, respectively. The additive 9 year and epistasis 9 year interaction effects were negligible, indicating that the QTL were stable over the years. Because 41 – 68 % of the total genetic variation could not be accounted for by these QTL, the use of both identi fi ed QTL and unmapped minor QTL in breeding for BP resistance should be

considered.
【语种】英文
【第一作者】邢光南
【通讯作者】盖钧镒
【期刊名称、卷期、页码】Theor Appl Genet (2012) 125:859 – 875
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【学科分类】农艺学

【题目】香蕉物流过程中品质指标动态预测研究
【中文关键词】香蕉;品质指标;物流过程;动态预测
【英文关键词】banana (Musa nana cv. Baxi);quality;logistics;sequential forecast
【中文摘要】摘 要:以“ 巴西 ”香蕉(Musa nana cv. Baxi)为材料,研究不同温度物流贮运条件下呼吸强度、乙烯释放量和色度预测香蕉品质指标的变化。结果表明:以香蕉果肉软化作为品质特征指标,低温贮运香蕉在第6d 发生冷害,其果肉软化与 L 值变化相关,r2 为0.9301;常温贮运香蕉后熟过程和高温贮运香蕉第8d 出现的“ 青皮熟 ”劣变与h值变化相关,h 值与果肉相关系数分别为0.9018 和0.9264;贮运过程香蕉的呼吸强度和乙烯释放量与其果肉软化无线性相关性。色度变化可作为香蕉品质评判指标体系有效监控香蕉贮运期间品质变化。
【英文摘要】Abstract :The potential forecast factors of bananas (Musa nama) during logistics storage at 5, 20 and 35 °C were studied. Thechanges in respiration, ethylene production, chromatic value (L and h) and firmness of pulp over storage were investigated.During storage, the change in peel colour from green to yellow is gradual for the samples stored at 20 and 35 °C, whereas the samplesat 5 °C remaining green for the first 6 days and then changing to darkness. While the flesh texture of bananas stored at 5 and 35°C softens quite rapidly at the end of storage, there were little changes in the flesh hardness values of the samples stored at 25°C. There is linear relationship between flesh hardness and chromatic values as sequential forecast factor, nevertheless therespiration and ethylene production are not be effective factors to forecast the change of quality of banana during storage.
【语种】中文
【第一作者】苏新国
【通讯作者】苏新国
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【引文索引号】0
【学科分类】食品包装与储藏

【题目】环境温度对紫花芒果后熟及感官品质的影响
【中文关键词】芒果;环境温度;感官品质;后熟
【英文关键词】mango (Mangifera indica cv.Zihua); ambient temperature;sensory quality;ripening
【中文摘要】摘 要:以 0.1%的乙烯利处理“ 紫花 ”芒果(Mangifera indica cv. Zihua),研究环境温度对其后熟进程和感官品质的影响。结果表明:30°C促进了芒果的后熟进程,第 4d 果实达到完熟,而在 20°C条件下需要 6d;20°C贮运环境有利于芒果果皮叶绿素降解,表现为其果皮 h 值降低,果实均匀饱满,果肉可溶性固形物升高,保持合适的糖酸比,口感较佳。在 20°C催熟芒果中检测出 36种呈香物质,并含有更多种类的醇、酮、酯等芳香物质,高于30°C催熟芒果的 26种。综合比较后熟芒果的感官品质指标,20°C贮运环境促进了催熟芒果的内源生化反应,更有利于芒果后熟。
【英文摘要】Abstract:A comparative analysis of the sensory quality was carried out at postharvest of “ Zihua ” mango under different ripening temperatures. The L value, h value, chlorophyll content of mango pericarp decrease but the total soluble solid in pulp increases gradually as fruit ripens. Compared with mango ripening at 30 °C, more violate aromatic compounds in mango ripening at 20 °C are found,which is associated with the sensory modification of “ Zihua ” fruit consistently. It suggested that 20 °Cambient temperature benefical to ripening of “ Zihua ” mango with better appearance, pleasant taste and morefragrant smell.
【语种】中文
【第一作者】王尔茂

【通讯作者】苏新国
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【学科分类】食品包装与储藏

【题目】宰后成熟过程中冷却牛肉、猪肉色泽和嫩度的变化
【中文关键词】牛肉;猪肉;宰后成熟;小片化指数
【英文关键词】beef;pork;postmortem aging;myofibril fragmentation index
【中文摘要】摘 要:本实验比较研究了冷却牛肉和猪肉在宰后 120h 内色泽和剪切力的变化。分别从牛屠宰厂和猪屠宰厂选取牛、猪各 4 头,按规范工艺屠宰后取背最长肌,分切成 8 个肉块,经简易包装后在 0~4℃下 18、48、96、120h,之后测定肉色、剪切力值及其他相关指标。结果表明,牛肉和猪肉的 pH 值、肉色(L*、a*、b*)、水分含量、剪切力值等指标存在显著差异(p< 0.05)。随着成熟时间延长,亮度增加、红度下降、剪切力下降;宰后 120h内,猪肉嫩度的变化比牛肉更明显。
【英文摘要】Abstract :The study was designed to track the changes of meat color and tenderness of chilled beef and pork within the first postmortem 120 h. The results showed that there are significant differences in pH value, L*, a* and b* values, moisture content and shear force value between the beef and the pork. As the aging time prolonging, the meat lightness rises, but the redness and shear force value decline. Under the same conditions, the pork has a greater change in shear force than the beef within postmortem 120 h.
【语种】中文
【第一作者】吴菊清
【通讯作者】周光宏
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【学科分类】食品包装与储藏

【题目】时间温度指示器响应动力学模型的研究
【中文关键词】货架期 ;冷藏链 ;动力学模型;TTI
【英文关键词】Shelf 1ife:Cold chain;Kinetics mode1;TTI
【中文摘要】摘要: 在食品流通贮藏过程中可以应用时间温度指示器实现对食品货架期进行实时监测和预报。对预测食品货架期的常用数学模型如 Arrhenius方程、z值模型 ,Ql0等的原理及应用进行了详述。
【英文摘要】Abstract:The real-time monitoring and prediction of the shelf life of foods could be realized by applying time—temperature indicator in the circulation and storage process of foods.The principle and application of common mathematical models for predicting the shelf life of foods such as Arrhenius eqautation,Z value model,Ql0 were discussed in detail.
【语种】中文
【第一作者】佟懿
【通讯作者】谢晶
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【引文索引号】0
【学科分类】食品科学技术基础学科

【题目】Effect of high oxygen atmosphere storage on quality, antioxidant enzymes, and DPPH-radical scavenging activity of Chinese bayberry fruit
【中文关键词】none
【英文关键词】Chinese bayberry; high O2 atmosphere; antioxidant enzymes; antioxidant activity; fruit decay
【中文摘要】none

【英文摘要】Abstract:The in fl uence of high O2 atmosphere on postharvest decay, quality, total phenolic, total anthocyanin contents, antioxidant enzymes activity, and antioxidant activity of Chinese bayberry fruit was investigated. Freshly harvested Chinese bayberry fruits were placed in jars and ventilated continuously with air or with 80 and 100% O2 for up to 12 days. Samples were randomly selected initially and at 3-days interval during storage. The fruit exposed to high O2 was resistant to decay, had high levels of total soluble solids, titratable acidity and ascorbic acid contents, and also reduced the increment of pH value. High O2 treatment was less stressful as re fl ected by having the signi fi cantly lower malonaldehyde contents and higher catalase, ascorbic acid peroxidase, and peroxidase activities during storage. Both 80% and 100% O2 treaments had also retained the bioactive contents and 1,1-diphenyl-2-picrylhydrazyl radical scavenging activity during storage. These results indicate that elevated O2 levels may improve the ability of the antioxidative defense mechanism in Chinese bayberry and result in a better control of fruit decay.
【语种】英文
【第一作者】杨震峰
【通讯作者】郑永华
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【学科分类】食品包装与储藏

【题目】Methyl jasmonate reduces chilling injury and enhances antioxidant enzyme activity in postharvest loquat fruit
【中文关键词】none
【英文关键词】Loquat fruit; Methyl jasmonate; Chilling injury; Antioxidant enzyme; Lipoxygenase; Fatty acids
【中文摘要】none
【英文摘要】Abstract:Loquat fruit were pre-treated with 10 μ mol/l methyl jasmonate (MeJA) for 24h at 20 ° C, and then stored at 1 ° C for 35days to investigate the effect of MeJA treatment on chilling injury and changes in the anti-oxidant system. Loquat fruit developed chilling injury, manifested as increased fruit firmness, decreased extractable juice rate and internal browning during storage. These chilling injury symptoms were significantly reduced by MeJA treatment. MeJA also markedly delayed the increases in O2 production rate and H2O2 content. Meanwhile, the MeJA-treated fruit exhibited significantly higher activities of superoxide dismutase, catalase and ascorbate peroxidase, and lower activity in lipoxygenase than control fruit during the storage. The ratio of unsaturated/saturated fatty acid in MeJA-treated fruit was also significantly higher than that in control fruit. These results suggest that the reduction in chilling injury by MeJAmay be due to enhanced antioxidant enzyme activity and higher unsaturated/saturated fatty acid ratio.
【语种】英文
【第一作者】曹士峰
【通讯作者】郑永华
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【引文索引号】0
【学科分类】食品包装与储藏

【题目】Effects of short-term N2 treatment on quality and antioxidant ability of loquat fruit during cold storage
【中文关键词】none
【英文关键词】Loquat fruit; Methyl jasmonate; Chilling injury; Antioxidant enzyme; Lipoxygenase; Fatty acids
【中文摘要】none
【英文摘要】Abstract:BACKGROUND: Loquat fruit is susceptible to microbial decay and quality deterioration during postharvest distribution. In this study, in a search for effective alternatives to methods currently used for quality maintenance, the effects of short-term pre-storage N2 treatment on the quality and antioxidant ability of loquat fruit were investigated.RESULTS: Loquat fruits were exposed to 100% N2 for 6 h at 20°C and then stored at 5°C for 35 days. Short-term N2 treatment significantly delayed the increase in fruit decay rate and decreases in total soluble solid and titratable acidity contents,thereby maintaining better eating quality and extending the storage life of fruits. It also markedly delayed increases in membrane permeability, malondialdehyde content and

superoxide anion production rate. In addition, N2-treated fruitsexhibited significantly higher superoxide dismutase and catalase activities and lower lipoxygenase activity than control fruits.CONCLUSION: Short-term pre-storage N2 treatment effectively reduced fruit decay and maintained quality in loquat fruits during cold storage. The reduction in fruit decay and quality deterioration by the treatment was correlated with enhanced antioxidant ability and reduced lipid peroxidation.
【语种】英文
【第一作者】郜海燕
【通讯作者】郑永华
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【学科分类】食品包装与储藏

【题目】Low-temperature conditioning combined with methyl jasmonate treatment reduces chilling injury of peach fruit
【中文关键词】none
【英文关键词】peach fruit; low-temperature conditioning; methyl jasmonate; chilling injury
【中文摘要】none
【英文摘要】Abstract: BACKGROUND: Peaches are sensitive to low temperature and develop chilling injury (CI) symptoms during refrigerated storage.This CI reduces consumer acceptance of peaches and limits the potential postharvest market life of the fruit. To develop a suitable technique to reduce CI, the effect of a combination of low-temperature conditioning (LTC) and methyl jasmonate (MJ) treatment on CI of peach fruit was investigated in this study.RESULTS: Freshly harvested firm-mature peaches were treated with a combination of LTC at 10 or 20°C and 1 μ mol L-1MJ and then stored at 0°C for 5 weeks. The fruits developed CI during storage, manifested as internal browning and flesh mealiness. The combined treatment significantly reduced these CI symptoms and maintained higher fruit quality. The activities of polyphenol oxidase and peroxidase were significantly inhibited while those of superoxide dismutase, catalase and ascorbate peroxidase were induced by the combined treatment. In addition, the activities of phenylalanine ammonia-lyase and polygalacturonase and the level of total phenolics were enhanced by the combined treatment.CONCLUSION: The combination of LTC and MJ treatment could be a useful technique to reduce CI and maintain quality in peach fruit during cold storage.
【语种】英文
【第一作者】金鹏
【通讯作者】郑永华
【期刊名称、卷期、页码】Journal of the Science of Food and Agriculture,2009, 89(10): 1690-1696
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【引文索引类型】SCI
【引文索引号】0
【学科分类】食品包装与储藏

【题目】Methyl jasmonate reduces decay and enhances antioxidant capacity in Chinese bayberries
【中文关键词】none
【英文关键词】Chinese bayberry; methyl jasmonate; decay; antioxidant capacity
【中文摘要】none
【英文摘要】Abstract:The effects of methyl jasmonate (MeJA) on postharvest decay and antioxidant capacity in harvested Chinese bayberry fruit were investigated. Chinese bayberries were treated with 0, 1, 10, 100, or1000 μ mol L-1 MeJA at 20 ° C for 6 h and then stored at 0 ° C for 12 days. MeJA at 10 μ mol L-1 was most effective in reducing fruit decay; quality parameters including pH value, total soluble solids, and titratable acidity were not significantly affected by MeJA treatment. Fruit treated with 10 μ mol L-1 MeJA exhibited significantly higher phenylalanine ammonia-lyase activity and higher levels of total phenolics, flavonoids, and anthocyanins as well as individual phenolic compounds than control.These fruits also maintained significantly higher antioxidant activity as measured by scavenging capacity against 1,1-diphenyl-2-picrylhydrazyl, superoxide, and hydroxyl radicals and by the reducing power test compared to the control. These results indicate that MeJA can effectively reduce fruit decay and improve antioxidant capacity of Chinese bayberry fruit.

【语种】英文
【第一作者】汪开拓
【通讯作者】郑永华
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【学科分类】食品包装与储藏

【题目】Effect of methyl jasmonate on quality and antioxidant activity of postharvest loquat fruit
【中文关键词】none
【英文关键词】loquat fruit; methyl jasmonate; quality; phenolics; flavonoids; antioxidant activity
【中文摘要】none
【英文摘要】Abstract: BACKGROUND: Loquat fruit is rich in natural antioxidants and has shown a remarkably high antioxidant activity. To search for an effective method for maintaining or even improving antioxidant activity during postharvest storage, we investigated the effect of 10 μ mol L-1 methyl jasmonate (MeJA) treatment on levels of major individual sugars and organic acids, total phenolics, total carotenoids, total flavonoids and antioxidant activity in loquat fruit during storage at 1°C for 35 days.RESULTS: The MeJA-treated fruit exhibited significantly lower levels of respiration rate, ethylene production, phenylalanine ammonia-lyase and polyphenol oxidase activities, and higher levels of sugars, organic acids, total phenolics and total flavonoids than control fruit. Meanwhile, the treatment also maintained significantly higher antioxidant activity as measured by the scavenging capacity against 1,1-diphenyl-2-picrylhydrazyl (DPPH), superoxide and hydroxyl radicals, and by the reducing power test compared to the control. There was a significant positive linear relationship between total phenolic content and DPPH radical scavenging activity.CONCLUSION: MeJA treatment can improve the quality and functional properties of harvested loquat fruit by maintaining a higher level of antioxidants and enhancing antioxidant activity.
【语种】英文
【第一作者】曹士峰
【通讯作者】郑永华
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【题目】Effects of 1-methylcyclopropene on oxidative damage, phospholipases and chilling injury in loquat fruit
【中文关键词】none
【英文关键词】1-MCP; loquat; chilling injury; oxidative damage; phospholipase
【中文摘要】none
【英文摘要】Abstract: BACKGROUND: Low-temperature storage is commonly used for loquat (Eriobotrya japonica Lindl.) fruit to inhibit decay and extend postharvest life, but it also increases the severity of chilling injury (CI) in red-fleshed fruit. 1-Methylcyclopropene (1-MCP) has been used to reduce the development of CI in cold-stored loquat. However, the effects of 1-MCP on changes in antioxidant system and phospholipase activity and their relation to CI have not been investigated. The objective of this study was to determine whether the 1-MCP-induced modification in antioxidant system and phospholipase activity is linked to the reduced CI in cold-stored loquat fruit.RESULTS: 1-MCP treatment significantly alleviated CI in ‘ Fuyang ’ loquat fruit. The treatment markedly inhibited the accumulation of malondialdehyde, superoxide radicals and hydrogen peroxide and the increase in electrolyte leakage. In addition, 1-MCP-reated fruit exhibited significantly higher catalase activity and lower lipoxygenase (LOX) and phospholipase C (PLC) activities than control fruit during storage.CONCLUSION: These results suggest that LOX and PLC are associated with the induction of CI in loquat fruit. 1-MCP might reduce CI by inhibiting LOX and PLC activities and alleviating oxidative damage.
【语种】英文

【第一作者】曹士峰
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【学科分类】食品包装与储藏

【题目】Effect of 1-methylcyclopropene treatment on chilling injury, fatty acid and cell wall polysaccharide compositions in loquat fruit
【中文关键词】none
【英文关键词】Loquat; 1-MCP; chilling injury; fatty acid; cell wall polysaccharide
【中文摘要】none
【英文摘要】Abstract: Loquat fruit was treated with 2.32 nmol L-1 1-methylcyclopropene (1-MCP) for 24 h at 20 ° C, and then stored at 1 ° C for 35 days to investigate the effect of 1-MCP treatment on chilling injury (CI) and fatty acid and cell wall polysaccharide composition. Loquat fruit developed CI, manifested as increased fruit firmness, internal browning and decreased extractable juice. These CI symptoms were reduced by 1-MCP treatment. 1-MCP-treated fruit exhibited higher levels of linoleic and linolenic acid and a higher unsaturated/saturated fatty acid ratio than control fruit during storage.The treatment also markedly delayed increase in alcohol insoluble residue, i.e. hemicellulose and cellulose. Meanwhile, the level of water- and CDTA-soluble pectins in treated fruit was higher than that in control. Our result suggested modifications of fatty acid and cell wall polysaccharide composition are associated with CI develpoment in loquat and 1-MCP treatment modulates the changes that seem to regulate the strength of cell wall and so to alleviate CI.
【语种】英文
【第一作者】曹士峰
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【学科分类】食品包装与储藏

【题目】热处理对冷藏枇杷木质化及相关酶活性的影响.
【中文关键词】枇杷果实,热处理,低温贮藏,木质化
【英文关键词】loquat fruitss, heat treatment, low temperature storage, flesh leatheriness
【中文摘要】摘要:为阐明热处理对冷藏枇杷果实木质化败坏的影响及其机理,该研究先将枇杷果实用 38℃热空气处理 5 h,然后在(1±1)℃下贮藏 35 d,并每隔 7 d 测定果实硬度、出汁率、苯丙氨酸解氨酶(PAL)、过氧化物酶(POD)、多酚氧化酶(PPO)和多聚半乳糖醛酸酶(PG)等木质化相关酶活性及果胶和木质素含量的变化。结果表明,热处理可以有效控制果实硬度的上升和出汁率的下降,抑制 PAL、POD 和 PPO 活性的上升及 PG 活性的下降,减少原果胶和木质素的积累,保持较高的水溶性果胶含量,从而减轻冷藏枇杷果实的木质化症状,保持较好的食用品质。这些结果表明,热处理减轻冷藏枇杷果实木质化败坏的机理与其抑制木质素的合成和促进果胶物质的降解有关。
【英文摘要】The study was conducted to investigate the effects of heat treatment on flesh leatheriness of cold-stored loquat fruitsand the possible mechanisms. Freshly harvested loquat fruits were pre-treated with hot air at 38℃ for five hours and thenstored at (1±1)℃ for 35 days. Fruits firmness, extractable juice rate, the activities of phenylalanine ammonium-lyase (PAL),peroxidase (POD), polyphenol oxidase (PPO) and polygalacturonase (PG) that were related to flesh leatheriness, and contentsof lignin and pectin were analyzed at seven-day intervals during storage. The results indicated that heat treatment significantlydelayed the increase of fruits firmness and the decrease of extractable juice rate, inhibited the increase of PAL, POD and PPOactivities and the decrease of PG activity. Meanwhile, heat treatment reduced the accumulation of lignin and protopectin andmaintained higher content of water soluble pectin, thereby prevented the development of flesh leatheriness and maintained thequality of cold-stored loquat fruits. These data suggest that the reduction of flesh leatheriness by heat treatment may be relatedto the inhibition of lignin synthesis and the enhancement of pectin solubilization.

【语种】中文
【第一作者】芮怀瑾
【通讯作者】郑永华
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【题目】采收成熟度对冷藏水蜜桃果实品质和冷害的影响
【中文关键词】水蜜桃;成熟度;低温贮藏;冷害;品质
【英文关键词】juicy peach; harvest maturity; cold storage; chilling injury; quality
【中文摘要】摘要:【目的】研究不同采收成熟度对南方软质型水蜜桃在低温下的贮藏效果及抗冷性,以探索适宜的果实采收成熟度,为软质型水蜜桃低温贮藏提供依据。【方法】以7-8成熟和9成熟2种不同采收成熟度的“湖景蜜露”水蜜桃为材料,测定在1℃28d贮藏期间果实腐烂指数、硬度、可溶性固形物、可滴定酸、VC含量、呼吸强度、乙烯释放速率、相对电导率、褐变指数和SOD、POD等品质及生理生化指标。【结果】7-8成熟的水蜜桃在冷藏过程中果实硬度增加,出汁率在7d后开始下降,不能正常后熟,出现明显的冷害症状,果实的品质降低;而9成熟的水蜜桃在冷藏期间果实硬度缓慢下降,出汁率平稳增加,能正常后熟,未出现明显的冷害症状,保持了较高的商品价值。与7-8成熟的水蜜桃果实相比,9成熟的水蜜桃在冷藏期间褐变指数较小,可溶性固形物和VC含量较高,乙烯释放量和呼吸强度较大,SOD和POD活性较高。【结论】9成熟的水蜜桃具有较好的抗冷性,适宜于低温贮藏。
【英文摘要】Abstract: 【Objective】 This research investigated the effects of different harvested maturities on quality attributes and chilling injury of peach fruit (Prunus persica L. Batsch cv. Hujingmilu) in low temperature storage, and further explore the optimal harvested maturity, which is useful for guiding storage technique of soft peaches in south China. 【Method】 Changes in rotten rate, flesh firmness, total soluble solids (TSS), titratable acidity (TA) and ascorbic acid, respiration rate, relative leakage rate, browning index,superoxide dismutase (SOD) and peroxidase (POD) of ‘Hujingmilu’ peaches were investigated at 1℃ for 28 days.【Result】 As compared to the fruits with 7-8 maturity-degree at 1℃, the fruits with 9maturity-degree showed a stronger tolerance to cold stress,and kept better quality during low temperature storage periods. In addition, the fruits with 9 maturity-degree showed an increase in activities of SOD and POD, reducing accumulation of free radical and alleviating chilling injury. 【Conclusion】 Thus, 9 maturity-degree should be suggested as the best harvest maturity of juicy peaches in low temperature storage.
【语种】中文
【第一作者】郜海燕
【通讯作者】郑永华
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【题目】鲜带鱼不同贮藏温度的货架期预测模型
【中文关键词】动力学模型,贮藏,品质控制,带鱼,货架期
【英文关键词】kinetic models;storage;quality control; Trichiurus haumela;shelf life
【中文摘要】摘 要:为了研究鲜带鱼在冷链流通中的品质变化与货架期,通过不同温度下的贮藏试验研究了鲜带鱼的货架期预测模型。将鲜带鱼贮藏在268、273、278、283和293 K条件下,测定了鲜带鱼的总菌落数、总挥发性盐基氮(T-VBN)、鲜度指标(K值)与感官品质指标的变化。在Arrhenius动力学方程基础之上,建立了菌落总数、总挥发性盐基氮和鲜度指标(K值)与贮藏时间及贮藏温度之间的动力学模型。试验表明一级化学反应动力学模型和Arrhenius方程对总菌落数、总挥发性盐基氮(T-VBN)及鲜度指标(K值)的变化具有较高的拟合精度。菌落总数变化预测模型中的活化能(EA)及速率常数(k0)分别为:71.26 kJ/mol和3.987×1013,挥发性盐基氮变化的活化能(EA)及速率常数(k0)分别为:68.86 kJ/mol和2.159×1012,鲜度指标(K值)变化的活化能(EA)及速率常数(k0)分别为:41.26 kJ/mol和2.539×107。结果表明,鲜带鱼的总菌落数、总挥发性盐基氮(T-VBN)、鲜度指标(K值)随着贮藏时间的延长而增加,且随着贮藏温度的升高而增加迅速,其感官品质指标随着贮藏时间的延长而下降,且随着贮藏温度的升高而下降迅速。该试验建立的带鱼货架期预测模型所获得货架

期预测值准确率达到±10%以内,可根据菌落总数、T-VBN 值及 K 值在 268~293 K 范围内,对带鱼的剩余货架期进行预测。

【英文摘要】Abstract:To study quality changes and shelf life in cold chain circulation, kinetic models were developed to predict the shelf-life of fresh Trichiurus haumela at different temperatures during storage. Total Viable Count(TVC), Total-Volatile Basic Nitrogen (T-VBN) value, K value and sensory evaluation at different storage temperatures (268, 273, 278, 283 and 293 K) were accessed to investigate the relation between the shelf-life and temperature. The kinetic models of TVC, T-VBN value and K value with respect to storage time and temperature were developed based on Arrhenins equation. The high regression coefficients(R2〉 0.9) indicated the acceptability of the first order reaction and Arrhenius model for predicting the changes of TVC, T-VBN value and K value of Trichiurus haumela. Activation energies(EA) and rate constants(k0) of TVC, T-VBN value, K value were obtained. They were 71.26 kJ/mol, 3.987× 10^13, 68.86 kJ/mol, 2.159×10^12 and 41.26 kJ/mol, 2.539×10^7, respectively. The results indicate that TVC, T-VBN value and K value increase with the increase of storage time and temperature. It is observed that the evaluation of sensory quality decrease with storage time and increasing temperature. It shows from the reliability assessment between predicted and observed shelf-life that relative error is within +10% calculated by the prediction model for the shelf-life of Trichiurus haumela. The remaining shelf-life of Trichiurus haumela can be predicted at the storage temperature from 268 K to 293 K based on TVC, T-VBNvalue and K value.

【语种】中文

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【题目】鲳鱼货架期预测模型的电子鼻评价与研究

【中文关键词】鲳;电子鼻;动力学模型;挥发性盐基氮;总菌落数
【英文关键词】Pampus argenteus ; electronic nose ; kinetic model ; total volatile base-nitrogen ; total viable count

【中文摘要】摘要:利用电子鼻对鲳在不同贮藏温度与贮藏时间下的挥发性气味变化进行了分析,并对电子鼻测定获得的数据进行了主成分分析(PCA)与判别因子分析(DFA)。将电子鼻PCA与DFA分析获得的鲳的气味变化突变点作为气味变化的切分点与理化品质指标值(菌落总数)相结合,建立了鲳在273~283K下的Q加货架期预测模型。结果表明,电子鼻PCA与DFA分析能很好地将贮藏于273、283与293K下的鲳随着贮藏时间变化的气味进行区分。贮藏于不同温度条件下的鲳的TVBN与菌落总数值回归拟合方程均符合一级化学动力学模型(R^2〉0.95)。基于电子鼻PCA与DFA分析获得的283K与293K下的气味变化切分点与相同温度下理化品质指标变化具有较好的对应关系,采用Arrhenius动力学模型推导公式求得鲳在273—283K与283~293K温度段内菌落总数的Q10值,并结合283K与293K温度下电子鼻PCA与DFA分析获得的气味变化货架期切分点,从而得到鲳在273~283K与283~293K温度段内的Q10货架期预测模型为:SL(275~283K)=3×3.008 283-τ/10与SL(283-293K)=1.5×3.423 283-τ/10。上述模型预测的货架期与实测值的相对误差均小于10%。所获得的两个温度段下的货架期预测模型能很好地对273~283K与283~293K温度段下鲳的货架期进行预测。

【英文摘要】
Abstract:In this paper, an application of the electronic nose was used to evaluate the freshness quality difference of the pomfret(Pampus argenteus) fillet under different storage periods and storage temperatures.
The raw data of the pomfret fillet of the electronic nose analysis was analyzed by principal compounds analysis (PCA) and discriminate factorial analysis (DFA). The Q10 model of the pomfret fillet by applying both chemical assays and olfactometric (e-nose) method was developed. The result showed that the sample stored at 273 K, 283 K and 293 K could be well discriminated by 18 Metal Oxide Sensors. Changes in total volatile base-nitrogen (TVBN) and total viable count (TVC) of pomfret fillet with respect to different storage time and temperature conformed to the first kinetic model with high regression coefficients (R^2 〉 0.95). Using PCA and DFA analysis of Alphasoft 11. 0 and Arrhenius kinetic model, the Q10(273~283K) and Q10(283-293 K) model of shelf-life of pomfret fillet was SL(275~283K)=3×3.008 283-τ/10 and SL(283-293K)=1.5×3.423 283-τ/10. It was shown from the reliability assessment between predictive and observed shelf-life that relative error was within 10% calculated by the prediction model for the shelf-life of pomfret fillet. The remaining shelf-

life of pomfret fillet could be predicted at the storage temperature from 273 K to 283 K and 283 K to 293 K based on the Q10(273 -283 K) and Q10(283 -293 K) model.
【语种】中文
【第一作者】佟懿
【通讯作者】谢晶
【期刊名称、卷期、页码】水产学报,2009,34(3):367-374
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【学科分类】食品科学技术基础学科

【题目】动力学模型预测鲳鱼货架寿命的实验研究
【中文关键词】鲳鱼;动力学模型; 菌落总数 ;挥发性盐机氮; K值
【英文关键词】pomfret ; kinetics model ; TVC ; TVB-N ; K value
【中文摘要】摘要:通过不同温度下的贮藏实验研究了鲳鱼的菌落总数、挥发性盐基氮(TVB-N)、鲜度指标(K值)与感官指标随贮藏时间的变化规律。建立了菌落总数、挥发性盐基氮和鲜度指标K值与贮藏时间及贮藏温度之间的动力学模型。实验表明一级化学反应动力学模型和Arrhenius方程对微生物数量、挥发性盐基氮(TVBN)及鲜度指标(K值)的变化具有较高的拟合精度(R^2〉0.9)。菌落总数变化预测模型中的EA及k0分别为:47.60kJ/mol和1.568×10^9,挥发性盐基氮变化的EA及k0分别为:50.80kJ/mol和1.490×10^9,鲜度指标K值变化的EA及k0分别为:43.81KJ/mol和3.553×10^7。
【英文摘要】Abstract:Total viable count (TVC), total volatile base-nitrogen (TVB-N) value, freshness index (K value) and sensory evaluation of Pampus argenteus (pomfret) at different storage temperatures were assessed to investigate the relation between the shelf life and temperature. The Arrhenius models of TVC, TVB-N value and K-value with respect to storage time and temperature were developed. The high regression coefficients (R^2 〉 0.9) indicated the acceptability of the first order reaction and Arrhenius model for predicting the changes of TVC, TVBN value and K-value of pomfret. The activation energy (E0) and preexponential factor (k0) of TVC, total volatile base-nitrogen value, and K-value prediction models were 47.60 kJ/mol andl.568× 10^9, 50.80 kJ/mol andl.490 × 10^9, and 43.81 kJ/mol and 3.553× 10^7 respectively.
【语种】中文
【第一作者】佟懿
【通讯作者】谢晶
【期刊名称、卷期、页码】食品科学,2009,30(10):265-268
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【引文索引类型】其他
【引文索引号】0
【学科分类】食品科学技术基础学科

【题目】生物保鲜剂对水产品保鲜效果影响的研究进展
【中文关键词】水产品;生物保鲜剂;保鲜;研究进展
【英文关键词】Aquatic products ; Bio-preservative ; Fresh-keeping ; Research progress
【中文摘要】摘要:系统回顾了茶多酚、溶菌酶、壳聚糖、乳酸链球菌素与葡萄糖氧化酶等常用生物保鲜剂在水产品保鲜上的应用,并分别比较了几种生物保鲜剂在水产品保鲜中的保鲜效果。
【英文摘要】Abstract:In this paper,several bio—preservatives such as tea polyphenols,lysozyme,chitosan,Nisin and Glucose oxides on the application of aquatic products preservation were reviewed systematically,and their fresh-keeping effects were also analyzed.
【语种】中文
【第一作者】蓝蔚青
【通讯作者】谢晶

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【学科分类】食品包装与储藏

【题目】鲳鱼品质变化动力学模型的实验研究
【中文关键词】鲳鱼;动力学模型;反应级数;感官评定
【英文关键词】pore fret ; kinetics model ; reaction order ; sensory evaluation
【中文摘要】摘要:通过不同温度下的贮藏实验研究了鲳鱼的菌落总数、挥发性盐基氮(TVI谢)、鲜度指标K和感官指标随贮藏时间的变化规律.通过相应的品质能级函数分析,确定鲳鱼的K符合零级化学反应动力学模型,TVBN、总菌落数值符合一级化学反应动力学模型,且化学反应动力学方程的相关系数均大于0.9,具有较高的拟合精度.利用Arrhenius方程对活化能E和温度系数Q10进行计算,并对照感官评定得到鲳鱼在268~278K,273~283K和283~293K温度段内任何一点温度丁的货架期预测模型分别为θs(T)=5.8×2.009^(278-T)/10,θs(T)=3.0×1.948^(283-T)/10和θs(T):1.7×2.407^(298-T)/10,θs(T)为货架寿命.并模拟得到了鲳鱼经历不同温度、时间流通后的品质损失量和货架寿命余量.
【英文摘要】Abstract: Total viable count (TVC), total volatile base-nitrogen (TVBN) value, K-value and sensory evaluation of pomfret at different storage temperatures were assessed to investigate the relation between shelf life and temperature. Analyzing the chemical kinetics of quality, it is concluded that K-value is conformed to the zero order model, meanwhile, TVBN and TVC follow the first order model. The activation energy Es and Q10 were calculated according to the Arrhenius model. By means of sensory evaluation, during 268~278 K, 273~283 K and 283~293 K, the functions for shelf-life prediction at any temperature are θs(T)=5.8×2.009^(278-T)/10, θs(T)=3.0×1.948^(283-T)/10 and θs(T):1.7×2.407^(298-T)/10, θs(T) respectively. It is shown from the reliability assessment that the basic error between predictive remaining shelf life and observed shelf life is within 20 % and the system can predict the freshness and remaining shelf life of pomfret rapidly and reliably.
【语种】中文
【第一作者】佟懿
【通讯作者】谢晶
【期刊名称、卷期、页码】上海理工大学学报,2009,31(5):489-494
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【学科分类】食品科学技术基础学科

【题目】Effect of methyl jasmonate on cell wall modification of loquat in relation to chilling injury after harvest
【中文关键词】none
【英文关键词】Loquat fruit;Chilling injury;Methyl jasmonate;Lignin;Cell wall polysaccharides
【中文摘要】none
【英文摘要】Abstract:Loquat fruit were pretreated with 10 μM methyl jasmonate (MeJA) for 24h at 20 ° C, and then stored at 1 ° C for 35 days to investigate the effect of MeJA treatment on cell wall modification in relation to chilling injury. Loquat fruit developed chilling injury, manifested as increased fruit firmness and internal browning, decreased extractable juice during storage. These chilling injury symptoms were significantly reduced by MeJA treatment. MeJA also markedly delayed the increases in lignin, alcohol insoluble residues, hemicellulose and cellulose. Meanwhile, the MeJA-treated fruit exhibited significantly lower activities of phenylalanine ammonia lyase, peroxidase, polyphenol oxidase and higher polygalacturonase activity than the control during storage. The levels of water- and CDTA-soluble pectins in MeJA-treated fruit were also significantly higher than that in the control. These results suggest that the reduction in chilling injury by MeJA may be due to inhibited lignin accumulation and enhanced cell wall polysaccharides solubilisation.

【语种】英文
【第一作者】曹士峰
【通讯作者】郑永华
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【学科分类】食品包装与储藏

【题目】Effects of heat treatment on internal browning and membrane fatty acid in loquat fruit in response to chilling stress
【中文关键词】none
【英文关键词】loquat fruit; heat treatment; internal browning; fatty acid; chilling stress
【中文摘要】none
【英文摘要】Abstract: BACKGROUND: Chilling injury (CI) limits the storage period and shelf-life of red-fleshed loquat fruit (Eriobotrya japonica Lindl.),which leads to a remarkable loss after cold storage. To develop an effective technique to reduce CI, the effects of a 38°C heat treatment in air for 5h, plus storage at 1°C for 35days, on internal browning (IB) and membrane fatty acid composition of the loquat cv. Jiefangzhong were investigated.RESULTS: Heat treatment delayed the occurrence of IB and inhibited the increase of IB index in ‘ Jiefangzhong ’ loquat fruit.Heat treatment maintained lower levels of electrolyte leakage and malondialdehyde content, and inhibited the increases in phospholipase D and lipoxygenase activities compared with the control fruit. Meanwhile, heat treatment inhibited the increases in palmitic, stearic and oleic acid levels and delayed the decreases in linoleic and linolenic acid contents, thus maintaining higher unsaturated/saturated fatty acid ratio than the control.CONCLUSION: These results suggest that the reduction of IB in chilled loquat fruit by heat treatment might due to maintenance of membrane integrity and higher unsaturated/saturated fatty acid ratio.
【语种】英文
【第一作者】芮怀瑾
【通讯作者】郑永华
【期刊名称、卷期、页码】Journal of the Science of Food and Agriculture,2010, 90(9):1557-1561
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【引文索引类型】SCI
【引文索引号】0
【学科分类】食品包装与储藏

【题目】Quality and physiological responses of Chinese bayberry fruit to storage temperature
【中文关键词】none
【英文关键词】none
【中文摘要】none
【英文摘要】SUMMARY: The effects of storage temperature on quality and physiological responses in Chinese bayberry fruit (Myrica rubra Sieb. and Zucc. cv. Wumei) were investigated. Freshly harvested bayberries were stored at 20 ° C, 10 ° C, or 1 ° C for 60h,5d, or 14d, respectively. The rates of respiration and ethylene production, fruit firmness, total sugars, organic acids,and total soluble solids (TSS) contents, total titratable acidity (TA), pH, relative electrical conductivity (REC), and polyphenol oxidase (PPO) activity of fruit were measured during storage. The results showed that the rates of respiration and ethylene production decreased during storage, and that their values were lowered significantly by decreasing the storage temperature. Low temperatures maintained higher TSS contents, TA, and fruit firmness and inhibited any increases in pH, REC, and PPO activity in bayberry fruit. There was a significant decline in citric acid and sucrose contents during storage, with a more rapid decrease occurring at higher temperatures. The data obtained indicate that cold storage is an effective way to maintain quality and chemical components in Chinese bayberry fruit.
【语种】英文
【第一作者】杨震峰
【通讯作者】郑永华
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【学科分类】食品包装与储藏

【题目】Effect of hot air treatment on postharvest mould decay in Chinese bayberry fruit and the possible mechanisms
【中文关键词】none
【英文关键词】Chinese bayberry;Hot air treatment;Fruit decay;Quality;Disease resistance
【中文摘要】none
【英文摘要】Abstract: The effect of hot air treatment (HAT) on reducing natural fungal decay and green mould decay caused by Leptographium abietinum on postharvest Chinese bayberry fruit and the possible mechanisms were investigated. Freshly harvested Chinese bayberry fruit were firstly pretreated with hot air at 36 – 60 ° C for 1 – 3h, and then stored at 20 ° C for 3d or at 1 ° C for 12d to investigate the optimum condition of hot air treatment (HAT) for inhibiting decay development. Results demonstrated that HAT at 48 ° C for 3h was the most effective in reducing natural decay without impairing quality. This treatment also enhanced the resistance of Chinese bayberry fruit against green mould rot caused by L. abietinum and reduced the severity of the disease. The activities of defense-related enzymes including chitinase, β-1, 3-glucanase, peroxidase and polyphenol oxidase were significantly enhanced by HAT. In addition, the in vitro experiment showed that HAT significantly inhibited spore germination, germ tube elongation and mycelial growth of L.abietinum. These results indicate that HAT can effectively reduce fruit decay possibly by directly inhibiting pathogen growth and indirectly inducing disease resistance.
【语种】英文
【第一作者】汪开拓
【通讯作者】郑永华
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【学科分类】食品包装与储藏

【题目】Effect of 1-methylcyclopropene on anthracnose rot caused by Colletotrichum acutatum and disease resistance in loquat fruit
【中文关键词】none
【英文关键词】loquat fruit; 1-MCP; anthracnose rot; senescence
【中文摘要】none
【英文摘要】Abstract: BACKGROUND: Loquat (Eriobotrya japonica Lindl.) fruit are susceptible to fungal decay during postharvest storage at ambient temperature. The control of postharvest diseases of loquat is based primarily on the use of synthetic fungicides. To look for an alternative method for disease control, we investigated the effect of 1-methylcyclopropene (1-MCP) on controlling anthracnose rot caused by Colletotrichum acutatum of loquat fruit.RESULTS: 1-MCP treatment significantly reduced decay incidence of loquat fruit. The treatment markedly inhibited accumulation of superoxide radicals and hydrogen peroxide and maintained higher superoxide dismutase, catalase and ascorbate peroxidase.Meanwhile, 1-MCP treatment induced higher activities of two defense-related enzymes – chitinase and β-1,3-glucanase – during 6 days ' storage. Furthermore, the treatment inhibited increases in fruit firmness and internal browning index, and maintained higher extractable juice rate, total soluble solids and titratable acidity contents, thereby delaying the development of senescence. CONCLUSION: 1-MCP was effective in reducing decay and might have enhanced the disease resistance in loquat fruit by increasing chitinase and β-1,3-glucanase, and maintained natural resistance by delaying senescence development.
【语种】英文
【第一作者】曹士峰
【通讯作者】郑永华
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【学科分类】食品包装与储藏

【题目】Effect of methyl jasmonate in combination with ethanol treatment on postharvest decay and antioxidant capacity in Chinese bayberries
【中文关键词】none
【英文关键词】Chinese bayberries; methyl jasmonate; ethanol; decay; antioxidant capacity
【中文摘要】none
【英文摘要】Abstract: The effects of methyl jasmonate (MeJA) in combination with ethanol (EtOH) treatment on green mold rot caused by Penicillium citrinum, natural decay, and antioxidant capacity in harvested Chinese bayberries were investigated. MeJA at 10 μ mol L-1 in combination with EtOH at 22.32 μ mol L-1 was most effective in reducing green mold rot and natural decay. This combined treatment also significantly inhibited spore germination and germ tube elongation of the pathogen in vitro compared with MeJA alone or control. Meanwhile, the combination-treated bayberries exhibited highest reducing power, scavenging activities against superoxide, hydroxyl, and 1,1-diphenyl-2-picrylhydrazyl radicals,and contents of total phenolics, flavonoids, and anthocyanins as well as individual phenolic compounds.Fruit quality parameters were not significantly affected by these treatments. These results suggest that the combination of MeJA and EtOH had an additive effect in reducing postharvest decay and improving antioxidant capacity in Chinese bayberries.
【语种】英文
【第一作者】汪开拓
【通讯作者】郑永华
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【引文索引号】0
【学科分类】食品包装与储藏

【题目】A combination of hot air treatment and nano-packing reduces fruit decay and maintains quality in postharvest Chinese bayberries
【中文关键词】none
【英文关键词】Chinese bayberry; hot air treatment; nano-packing; decay; quality
【中文摘要】none
【英文摘要】Abstract: BACKGROUND: Chinese bayberry is susceptible to microbial decay during postharvest handling and storage. To search for effective alternatives to currently used fungicides for disease control, the efficacy of hot air (HA) treatment at 48°C for 3h alone or in combination with nano-packing (NP) containing nano-TiO2 and nano-Ag in controlling green mould decay caused by Penicillium citrinum and natural decay, and their effects on fruit quality in harvested Chinese bayberries were investigated in this study.RESULTS: The combined treatment of HA and NP resulted in a remarkably improved control of green mould and natural decay in Chinese bayberries compared with treatment of HA or NP alone. The in vitro growth of P. citrinum was significantly inhibited by individual HA or NP. In addition, HA in combination with NP showed interactive effect on inhibiting fruit respiration, ethylene production and membrane lipid peroxidation, and maintained higher fruit firmness and DPPH radical scavenging activity.CONCLUSION: These results suggest that a combination of HA treatment and NP may be a useful technique to reduce fruit decay and maintain quality in Chinese bayberries during postharvest storage and retail conditions.
【语种】英文
【第一作者】汪开拓
【通讯作者】郑永华
【期刊名称、卷期、页码】Journal of the Science of Food and Agriculture, 2010; 90: 2427 – 2432
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【引文索引号】0
【学科分类】食品包装与储藏

【题目】Improved control of postharvest decay in Chinese bayberries by a combination treatment of ethanol vapor with hot air
【中文关键词】none
【英文关键词】none
【中文摘要】none
【英文摘要】Abstract: The effect of ethanol vapor treatment (EVT, 250 or 500 mL L-1 for 3h) alone or in combination with hot air treatment (HAT, 48 C for 3 h) on postharvest decay and microbial loads in Chinese bayberries was investigated. Treatment with ethanol vapor or hot air alone both resulted in significantly lower decay incidence caused by Verticicladiella abietina, Penicillium citrinum or Trichoderma viride compared with the control. The combined treatment of 500 mL L-1 ethanol vapor with hot air showed the lowest incidence of fruit decay caused by these pathogens. This treatment also significantly inhibited spore germination and germ tube elongation of the pathogens in vitro than EVT or HAT alone. Meanwhile, the combined treatment exhibited the lowest natural decay incidence and microbial loads on Chinese bayberries without impairing fruit quality. These results suggest the usefulness of the combined treatment for reducing fruit decay in Chinese bayberries.
【语种】英文
【第一作者】汪开拓
【通讯作者】郑永华
【期刊名称、卷期、页码】Food Control,2011, 22(1):82-87.
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【引文索引号】0
【学科分类】食品包装与储藏

【题目】Chinese bayberry fruit extract alleviates oxidative stress and prevents 1, 2-dimethylhydrazine-induced aberrant crypt foci development in rat colon carcinogenesis
【中文关键词】none
【英文关键词】Chinese bayberry;Colon carcinogenesis;Oxidative damage;DMH;ACF
【中文摘要】none
【英文摘要】Abstract: The effects of Chinese bayberry fruit extract (CBFE) ingestion on hepatic and colonic oxidative stress and 1,2-dimethylhydrazine (DMH)-induced intestinal aberrant crypt foci (ACF) development in rats were investigated. Rats were administered DMH (35 mg/kg body weight) and were supplemented with CBFE(50 or 500 mg/kg body weight every day) for 16 weeks. Results showed that DMH consumption induced intestinal ACF development and adenoma or adenocarcinoma formation, which were significantly reduced with CBFE supplement. The CBFE treatments increased reduced glutathione levels and activities of superoxide dismutase, catalase and glutathione reductase, in both hepatic and colonic tissues; how- ever, the activities of glutathione-S-transferase and glutathione peroxidase were inhibited. These results indicate that CBFE, rich in phenolic compounds, effectively inhibits DMH-induced ACF and colonic tumour development by alleviating oxidative stress.
【语种】英文
【第一作者】杨震峰
【通讯作者】郑永华
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【引文索引号】0
【学科分类】食品包装与储藏

【题目】基于乙醇质量分数的草莓果实腐烂指数预测模型
【中文关键词】无损检测;乙醇;腐烂;预测模型;草莓果实
【英文关键词】nondestructive detection ; ethanol ; decay ; prediction model ; strawberry fruit
【中文摘要】摘要:为应用电子鼻快速检测草莓物流过程中果实腐烂状况,建立了一种基于乙醇质量分数的果实腐烂指数预测模型。将草莓果实贮藏于不同温度(273、278、283、288、293和298K)下,测定其腐烂指数和乙醇质量分数的变化。首先,基于Arrhenius动力学方程建立了草莓果实乙醇质量分数与贮藏时间和温度之间的动力学预测模型;其次,基于零级反应

方程式建立了腐烂指数与贮藏时间和温度之间的动力学预测模型;最后,根据果实腐烂指数和乙醇质量分数变化的线性关系,进一步建立了基于乙醇质量分数的果实腐烂指数预测模型。在275、280、285、290、295和300K贮藏温度下对上述3个预测模型进行验证,预测的相对误差(RE)分别为0.76%、5.89%和7.08%,预测精度较高。将基于果实乙醇质量分数的腐烂指数预测模型与传统的腐烂指数动力学预测模型进行比较,发现二者的预测精度无显著差异。因此,基于乙醇质量分数的腐烂指数预测模型可以较好地预测在273~300K贮藏温度下草莓果实的腐烂状况,从而为应用电子鼻无损检测果实品质提供理论依据。

【英文摘要】Abstract: For the purpose of fast detection of fruit decay in strawberry fruit during postharvest distribution by gas sensor array,a prediction model for decay index based on ethanol content was developed in this study.Freshly harvested strawberries were stored at different temperatures(273,278,283,288,293 and 298 K).Changes in decay index and ethanol content of strawberry fruit were determined during storage.Firstly,a kinetic model of ethanol content with respect to storage time and temperature was developed based on the Arrhenius equation.Secondly,a kinetic model of decay index with respect to storage time and temperature was also developed based on the zero order equation.Finally,a prediction model for decay index based on ethanol content was further developed according to the linear relationship between decay index and ethanol content.The three models were then verified with the strawberry fruit stored at 275,280,285,290,295 and 300 K.The relative prediction errors were found to be 0.76%,5.89%,7.08% respectively,and the prediction accuracy was acceptable.There was no significant difference in prediction accuracy between the kinetic model of decay index and prediction model for decay index based on ethanol content.The results suggest that decay index of strawberry fruit can be accurately predicted at the storage temperature from 273 to 300 K by the prediction model for decay index based on ethanol content,which lays the foundation for the non-destructive real-time measurement of fruit quality using gas sensor array.

【语种】中文

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【学科分类】食品科学技术基础学科

【题目】低温预贮处理对冷藏水蜜桃冷害和品质的影响

【中文关键词】水果;低温工程;冷藏;质地;品质控制;桃;质地多面分析;冷害

【英文关键词】fruits ; low temperature engineering ; cold storage ; textures ; quality control ; peach ; texture profile analysis ; chilling injury

【中文摘要】摘要:为探索低温预贮处理减轻水蜜桃果实冷藏冷害的作用及适宜条件,研究了不同温度与时间组合的预贮模式对霞晖5号桃果实冷害和品质的影响。该研究先将果实置于4、8、12°C下分别预贮2、4、6、8和10d,然后转入0°C冷藏28d,冷藏结束后移至20°C货架贮藏3d。货架期结束后进行果实质地多面分析和品质感官评定,并测定果实颜色、可溶性固型物、可滴定酸、褐变指数和出汁率等品质和冷害指标。结果表明,采后直接在0°C下冷藏28d的果实出现了明显的冷害症状,主要表现为果实质地絮败和果肉发生褐变。4°C预贮果实出现严重的木质化冷害症状,8°C预贮果实褐变严重,而采用12°C、6d预贮可最显著地减轻果实质地絮败和果肉褐变等冷害症状的发生,保持较好的感官品质。这些结果表明,12°C、6d预贮处理在桃果实贮藏中具有较好的应用前景。

【英文摘要】Abstract:The effects of low temperature conditioning(LTC)in alleviating chilling injury of juicy peach fruit and its optimum conditions were investigated in this study.'Xiahui No.5'peach fruit were pre-conditioned at temperatures of 4,8 and 12°C for 2,4,6,8and 10 days,respectively,and then transferred to 0°C for 28 days followed by 3 days shelf life holding at 20°C.Fruit texture profile analysis and sensory evaluation were done and fruit quality parameters including surface color values,contents of soluble solids and titratable acids,internal browning index and percentage juice were also measured after 3 day shelf-life period.The results indicated that the control fruit directly stored at 0°Cwithout pre-conditioning developed chilling injury symptoms including flesh wooliness and internal browning after 28 days of storage.Fruit pre-conditioned at 4°Calso exhibited severe chilling injury manifested as flesh leatheriness.Severe internal browning was observed in fruit pre-conditioned at 8°C.LTC at 12°Cfor 6 days was found most effective in inhibiting the development of flesh wooliness and internal browning and maintaining sensory quality.These results suggest that LTC at 12°Cfor 6 days might be a useful technique to alleviate chilling injury and maintain peach fruit quality during cold storage.

【语种】中文

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【题目】基于绿熟番茄果实L值的番茄红素含量预测模型
【中文关键词】番茄果实;明度;番茄红素含量;动力学模型
【英文关键词】tomato fruit;L value;lycopene content;kinetic models
【中文摘要】摘要:为了研究绿熟番茄果实贮藏期间颜色和番茄红素含量变化的关系,通过不同温度下的贮藏实验研究基于果实明度(L* 值)的番茄红素含量预测模型。将绿熟番茄果实贮藏在 283.15、288.15、298.15K 条件下,测定了果实L* 值和番茄红素含量的变化。采用指数函数和Gomportz函数分别对不同贮藏温度下番茄果实L*值和番茄红素含量进行曲线拟合,建立了果实 L* 值和番茄红素含量与贮藏时间和贮藏温度之间的动力学模型。实验表明,指数函数和Gomportz函数分别对番茄果实L*值和番茄红素含量的变化具有较高的拟合精度(R2>0.95)。在Arrhenius动力学方程基础上得到绿熟番茄果实贮藏期间L*值和番茄红素含量变化的活化能(Ea)分别为48.09kJ/mol和67.06kJ/mol,复相关系数分别为0.9644和0.9815。建立的基于果实L*值变化的番茄红素含量的预测模型所获得的番茄红素预测值与实测值之间的平均相对误差为 8.74%,小于 10%。这表明,在 283.15~298.15K(10~25℃)的贮藏温度范围内,可根据番茄果实采后 L* 值的变化对番茄红素的含量进行预测。
【英文摘要】Abstract:A kinetic model was developed to predict the lycopene content as a function of the luminosity (L) of mature green tomatoes stored at different temperatures. The L value and lycopene content of mature green tomatoes stored at 283.15, 288.15,296.15 K or 298.15 K were determined. The kinetic models of L value and lycopene content with respect to length of storage and storage temperature were developed based on exponential function and Gomportz function, respectively. The high regression coefficients (R2>0.95)indicated the acceptability of the exponential function and Gomportz function for predicting the changes of L value and lycopene contentin tomato fruits. Activation energies (Ea) and multiplecorrelation coefficients for L value and lycopene content were obtained based on the Arrhenius equation: 48.09 kJ/mol and 67.06 kJ/mol, 0.9644 and 0.9815, respectively. The average relative error between the predicted and measured values of lycopene content was 8.74% (within ± 10%). These results suggest that lycopene content in mature green tomato fruits stored at a storage temperature from 283.15 to 298.15 K may be accurately predicted based on L value.
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【题目】基于电子鼻的带鱼货架期预测模型研究
【中文关键词】动力学模型;主成分分析;气味;电子鼻;菌落总数;挥发性盐基氮;带鱼
【英文关键词】dynami c models,principal component analysis,odors,electric nose,total becteria nitrogen,total volatile basic nitrogen,Trichiurus haumel
【中文摘要】摘要:为探索通过气味分析判断海产品贮藏品质的方法,利用电子鼻对带鱼在不同贮藏温度与贮藏时间下的挥发性气味变化进行了分析 ,对所获数据进行 了主成分分析与货架期分析 ,并与理化 品质指标值挥发性盐基氮 (total volatile basic nirtogen,TVBN)相联系,建立了带鱼在 273~283K下的货架期预测模型。结果表明:电子鼻18个金属传感器能很好地将贮藏于273与 283K下的带鱼随着贮藏时间变化的气味进行区分。贮藏于不同温度条件下的带鱼的TVBN值与菌落总数值均随着贮藏 时间的增加而增长,且均符合一级化 学动力学模型 (>0.9)。基于 电子鼻货架期分析获得的273~283下的气味变化 结果与该温度下理化品质指标变化具有较好 的对应关系,采用 Arrhenius动力学模型推导公式求得带鱼在 (273~283K)温度段内 TVBN的O,。(温差为 l0K的货架寿命之比)值,对照该温度段下电子鼻货架期分析获得的气味变化货架期分析值,得到带鱼在该温度段内的 Q10货架期预测模型,经验证,其预测误差小于 20%。可根据获得的货架期预测模型对

带鱼在273~283K条件下的货架期进行预测。
【英文摘要】Abstract:An electric nose was used to evaluate the quality of the Trichiurus haumela under difierent storage periods andstorage temperatures.The raw data of the Trichiurus haumela of the electric nose analysis were analyzed by principalcompounds analysis(PCA)and shelf life(SL).The Q1o model of the Trichiurus haumela by applying both chemical(rrrsNassays)and olfactometric re.nose)methods was developed.The results showed that the sample stored at 273 K and 283 Kcould be well discriminated bv 1 8 Metal Oxide Sensors.Changes in total volatile base.nitrogen(TVBN)and tota1 viable countfTVC)of fchiurus haumela with respect to difierent storage time and temperatures conformed to the first kinetic model withhighly regression coeficients >0.9).Shelflife function of Alphasoftl 1.0 and Arrhenius kinetic model were developed topredicted the shelf life of Trichiurus haumela.It showed from the reliability assessment between predicted and observedshelf_life that relative error was within 20% calculated by the prediction model for the shelf-life of Trichiurus haumela.1f11eremaining shelf-life of Trichiurus haumela can be predicted at the storage temperatures from 268 to 293 K by using Olo mode1
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【题目】气味指纹识别技术在食品货架期预测模型中的应用
【中文关键词】气味指纹分析技术;货架期预测模型;电子鼻;固相微萃取;气质联用分析
【英文关键词】无
【中文摘要】摘要:综述了气味指纹识别技术在食品货架期预测模型中的应用。气味指纹识别技术可以客观、准确、快速、全面地测定食品气味。气味指纹识别技术的分析仪器有气相色谱仪、质谱仪和气味指纹仪等,本文重点介绍了固相微萃取结合气质联用技术和电子鼻技术在食品货架期预测模型中的应用。具体包括固相微萃取和气质联用技术的基本原理及应用,电子鼻技术的发展、工作原理、组成和统计方法。将气味指纹识别技术应用于食品货架期预测模型的建立是目前食品品质鉴定的热点之一。
【英文摘要】无
【语种】中文
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【题目】Characterization and molecular mechanism of a naturally occurring metsulfuron-methyl resistant strain of Pseudomonas aeruginosa
【中文关键词】甲磺隆;生物降解与修复;抗药性;基因克隆
【英文关键词】metsulfuron-methyl; biodegradation and bioremediation; herbicides resistance; gene cloning
【中文摘要】从长期受甲磺隆污染的土壤中分离,纯化了2株甲磺隆的抗性菌L6、L36。经形态、生理生化特性测定、16S rDNA序列同源性比较、系统进化树的分析和细胞脂肪酸分析,将甲磺隆抗性菌L6、L36鉴定为铜绿假单孢菌(Pseudomonas aeruginosa)。甲磺隆对铜绿假单孢菌敏感菌株PAO1及抗性菌株L6、L36的有效中浓度(Medium Effective Concentration, EC50)分别为0.36、2.75、2.89mM;最低抑制浓度(Minimal Inhibition Concentration, MIC)分别为1.31、6.03、6.03mM。L6、L36 的EC50值分别是PAO1的EC50值的7.63、8.03倍。甲磺隆的抗性菌株与普施特无交互抗性。测定了甲磺隆对Pseudomonas aeruginosa敏感菌株PAO1及抗性菌株L6、L36的乙酰乳酸合酶(Acetolactate synthase,ALS)的抑制作用。发现抗性菌株L6、L36的ALS活性均显著低于敏感菌株PAO1的ALS活性,如在不加甲磺隆处理的情况下,PAO1、L6、L36的ALS活性分别为391.4、122.8、120.4U。同时发现L6、L36的ALS对甲磺隆抑制作用不敏感,如400nM甲磺隆对PAO1的ALS活性的

抑制率为75.5%,而对L6、L36的ALS活性无抑制作用。与PAO1相比,L6、L36的ALS活性对PH敏感,pH为8.5时抗性菌株ALS酶活显著降低。PAO1、L6、L36的ALS对温度的敏感性无显著差异。ALS酶抑制剂Val对PAO1、L6、L36的ALS酶都有反馈抑制作用,500nM的Val对PAO1、L6、L36的抑制率分别为68.6%,45.3%,46.2%。通过PCR扩增的方法,得到了编码Pseudomonas aeruginosa乙酰乳酸合酶的两个亚基(ilvI, ilvH)的基因全序列,ilvI,ilvH基因序列全长分别为1725bp、492bp,分别编码含有575、164个氨基酸残基的多肽链。其中IlvI,IlvH亚基氨基酸序列在Pseudomonas sp.及其它许多生物中的保守性较高。通过序列比较,在IlvH亚基中未发现氨基酸突变,而在抗性菌株L36,L6的IlvI亚基中同时发现了单个氨基酸突变,高度保守的Ala29(GCC)变异为Val29(GTC)。通过功能互补实验,将含有这一突变的抗性菌株L36的ilvI基因与广宿主载体pBBR1-MCS5连接,通过三亲接合导入Pseudomonas aeruginosa的敏感菌株PAO1,结果转化子对甲磺隆产生抗性。实验结果证实了发生在ALS的IlvI亚基中的Ala29变异为Val29突变是导致Pseudomonas aeruginosa对甲磺隆产生抗药性的原因。

【英文摘要】Two metsulfuron-methyl resistant strains, L6 and L36 were isolated from metsulfuron-methyl contaminated soil. Based on the homology analysis of its 16S rDNA sequence, morphology, physiological and biochemical characteristics, the L6, L36 were identified as Pseudomonas aeruginosa . Medium effective concentration (EC50) of metsulfuron-methyl against the growth of wild-type isolate PAO1 and resistant isolates L6, L36 were 0.36,2.75, 2.89mM respectively; and the minimal inhibition concentrations (MICs) were 1.31mM, 6.03mM, 6.03mM respectively. The metsulfuron-methyl resistant strains showed no cross resistance with imazethapyr.Inhibition by metsulfuron-methyl of acetolactate synthase (ALS) activities of Pseudomonas aeruginosa wild-type isolate PAO1 and two resistant strains were assayed. The ALS activities of PAO1、L6、L36 were 391.4、122.8、120.4U respectively, the results showed ALS activities of resistant strains were significantly lower than that of PAO1. The activity of PAO1 ALS was inhibited 75.5% by 400nM SM, whereas the ALS produced by the resistant strains was not affected, which suggested that the occurrence of metsulfuron-methyl resistance were related to the decreased sensitivity of ALS to it. The ALS of L6 and L36 were not sensitive to metsulfuron-methyl. The ALS of L6 and L36 were sensitive to pH compared with that of PAO1.There was no difference among the sensitive of ALS produced by the SM sensitive or resistant strains to temperature. The ALS of PAO1, L6 and L36 were inhibited 68.6%,45.3%,46.2% by 500nM Val.The complete nucleotide sequences of two subunits (IlvI, IlvH) of acetolactate synthase (ALS) were cloned by PCR amplification. The entire nucleotide sequences of ilvI, ilvH were 1725bp, 492bp in length, which encoded two polypeptides of 575, 164 amino acid residues respectively. The IlvI and IlvH subunits were highly conserved not only in Pseudomonas sp., but also in other organisms. By sequence blasting, an amino acid mutation Ala29(GCC) →Val29(GTC)in IlvI was found in L6 and L36, which might confer resistance of Pseudomonas aeruginosa to metsulfuron-methyl. The mutant ilvI gene from a resistant strain L36, containing the Ala29(GCC) →Val29(GTC)mutation, was cloned by PCR amplification. The mutant ilvI gene was then ligated into vector pBBR1-MCS5, and shown to confer metsulfuron-methyl resistance in Pseudomonas aeruginosa when transfer into the wild-type sensitive strain PAO1. It was confirmed that the substitution of Ala to Val in the IlvI of ALS conferred metsulfuron-methyl resistance to Pseudomonas aeruginosa.

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【题目】Biodegradation of synthetic pyrethroids (SPs) by Ochrobactrum tritici strain pyd-1

【中文关键词】生物降解、菊酯杀虫剂、Ochrobactrum tritici pyd-1、立体异构性、降级代谢途径
【英文关键词】Biodegradation, Synthetic pyrethroids, Ochrobactrum tritici pyd-1, Isomer selectivity, Degradation pathway

【中文摘要】从处理农药厂农药废水的活性污泥中分离筛选获得一株能够高效降解菊酯类农药的的菌株pyd-1。根据该菌的表型特征、生理生化特性,16S rDNA同源性比较,系统进化分析将其鉴定为噬甲基菌Ochrobactrum tritici。对该菌的生物学特、降解特性进行了深入研究,该菌的降解谱非常广,能降解甲氰菊酯、氯氰菊酯、氰戊菊酯等多种菊酯类杀虫剂,对该菌降解聚酯类杀虫剂的降解代谢途径进行了深入研究。

【英文摘要】A synthetic pyrethroid (SP)-degrading bacterium, designated pyd-1, was isolated from Spcontaminated soil. Based on its phenotypic and genotypic properties, the strain was identified as Ochrobactrum tritici. Strain pyd-1 was able to degrade a wide range of SPs, and its degradation efficiencies were dependent on the molecular structure of the SP. Interestingly, the strain degraded cisand trans-permethrin (cypermethrin) at nearly the same rate and possessed approximately equal hydrolysis activities toward the two

enantiomers of fenpropathrin. These results suggest that different isomers of SPs are degraded with equal efficiency by strain pyd-1. We studied the metabolic pathway of fenpropathrin degradation in strain pyd-1 by metabolite identification and enzymatic analysis. Fenpropathrin is degraded by hydrolysis of the carboxylester linkage to yield 2,2,3,3-tetramethylcyclopropanecarboxylic acid and 3-phenoxybenzaldehyde, which is converted to 3-phenoxybenzoic acid (PBA). PBA is further metabolized to 4-hydroxy-3-phenoxybenzoic acid (4-hydroxy-PBA). 4-Hydroxy-PBA is oxidized to protocatechuate and p-hydroquinone. Protocatechuate is further oxidized through an ortho-cleavage pathway, and p-hydroquinone is degraded via 1,2,4-benzenetriol.

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【学科分类】微生物学

【题目】乙羧氟草醚降解菌Pseudomonas sp. YF1的分离、鉴定及降解特性
【中文关键词】乙羧氟草醚;假单胞菌;生物降解;降解特性
【英文关键词】Fluoroglycofen-ethyl; Pseudomonas; biodegradation; degradation characteristics
【中文摘要】从生产乙羧氟草醚工厂的污水处理池污泥中分离到一株乙羧氟草醚降解细菌,命名为YF1. 根据表型特征、生理生化特性和16S rDNA序列系统发育分析,将其鉴定为假单胞菌属(Pseudomonas sp.). 接种量为5%时,菌株YF1在含200 mg/L乙羧氟草醚的基础盐液体培养基中降解乙羧氟草醚,7 d后降解率约80%. 加大接种量和外加营养碳氮源可以促进乙羧氟草醚的降解. 该菌株降解乙羧氟草醚的最适pH为7.0,最适温度为30 °C. 菌株YF1能利用苯酚、邻苯二酚、对苯二酚、苯甲酸、龙胆酸、对硝基苯酚和邻氯苯酚为底物生长,不能利用3-苯氧基苯甲酸为碳源生长,菌株YF1细胞内邻苯二酚1,2-双加氧酶受到乙羧氟草醚或其代谢产物的诱导.
【英文摘要】The use of organofl uorine compounds has been increased in recent years, and some of the compouds are now ubiquitous environmental contaminants. Although generally viewed as recalcitrant because of their lack of chemical reactivity, a lot of fl uorinated organisms are biologically active. The pesticides containing fl uorine is now the hot spot of research and development. Fluoroglycofen-ethyl is one kind of herbicides having been widely used recently. A bacterial strain designated as strain YF1, capable of degrading f luoroglycofen-ethyl efficiently, was isolated from sludge in a wastewater treatment installation that had long been used to treat fluoroglycofen-ethyl polluted water. Strain YF1 was identified preliminarily as Pseudomonas sp. based on its physiological and biochemical characters and the result of the 16S rDNA homologue sequence analysis. This bacterium could degrade 80% of 200 mg/L fluoroglycofen-ethyl in 7 d. Large initial inoculum size and additional nutrients could promote the degradation. The optimal pH and temperature for fluoroglycofen-ethyl degradation were 7.0 and 30 °C, respectively. Strain YF1 used phenol, catechol, hydroquinol, benzoic acid, gentisic acid, p-nitrophenol and o-chlorophenol, but not 3-phenoxybenzoate as sole carbon sources. Catechol 1,2-dioxygenase, but not catechol 2,3-dioxygenase and gentisic acid 1,2-dioxygenase, was induced by fl uoroglycofen-ethyl in strain YF1 cells

【语种】中文
【第一作者】邱吉国
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【学科分类】微生物学

【题目】氟铃脲降解菌FLN-1的分离鉴定及降解特性
【中文关键词】氟铃脲;生物降解;红球菌FLN21;酶的定域
【英文关键词】hexaflumuron; biodegadation; Rhodococcus sp. FLN21; enzyme distribution
【中文摘要】从农药厂废水处理池的活性污泥中分离到1株能降解氟铃脲的菌株,命名为FLN21. 根据表型特征、生理生化特性及16S rDNA 序列同源性分析,将FLN21初步归类为红球菌属(Rhodococcus sp.) . 研究结果表明,该菌能在含氟铃脲

(50mg · L - 1)的基础盐液体培养基中降解氟铃脲,5d降解率达85% ,降解最适pH为6. 0~9. 0,最适温度为25~40℃,降解速率随初始接种量的增加而增大; 100mg · L - 1的葡萄糖、酵母膏和蛋白胨对菌株降解氟铃脲具有促进作用. 酶的定域试验表明,降解氟铃脲的酶为胞内酶.

【英文摘要】A hexaflumuron2degrading bacterium, FLN21, was isolated from activated sludge collected from the wastewater2treatment system of a pesticide factory. Based on the analysis of its 16S rDNA, morphology and physiological characteristics, strain FLN21 was identified as Rhodococcus sp. This strain could degrade 85% of 50 mg · L - 1 hexaflumuron within 5 days. The op timum pH and temperature ranges for the degradation were 6. 0~9. 0 and 25~30°C, respectively. The degradation efficiencywas positively correlated to initial inoculum size. Addition of 100 mg · L - 1 yeast extract, glucose or pep tone could enhance the hexaflumuron degradation rate. Enzyme distribution experiment results indicated that the hexaflumuron degrading enzyme of strain FLN21 was an endoenzyme.

【语种】中文

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【学科分类】微生物学

【题目】两株抗乙酰羟酸合酶类除草剂克雷伯氏菌的分离及其AHAS基因ilvIH的克隆

【中文关键词】乙酰羟酸合酶抑制剂类除草剂;除草剂抗性细菌;乙酰羟酸合酶;ilvIH

【英文关键词】AHAS inhibitor herbicide; herbicide-resistant bacterium; acetohydroxyacid synthase; ilvIH

【中文摘要】乙酰羟酸合酶(AHAS)是磺酰脲类、咪唑啉酮类、三唑嘧啶类、磺酰胺类和嘧啶水杨酸类等乙酰羟酸合酶抑制剂类除草剂的作用靶标,获得能抗此类除草剂的AHAS突变基因资源具有非常重要的理论和应用价值. 本文从长期使用磺酰脲类除草剂的农田土壤中分离到2株抗性细菌HR9和HR11,根据其表型特征、生理生化特性和16SrDNA序列系统发育分析,初步鉴定为克雷伯氏菌(Klebsiella sp.). 菌株HR9和HR11对甲磺隆的最高耐受浓度分别达到9 600 μmol/L和8 200 μmol/L,且对各种乙酰羟酸合酶抑制剂类除草剂具有交叉抗性. 利用PCR技术从HR9、HR11和实验室保存的一株除草剂敏感型克雷伯氏菌LB-2的总DNA中克隆到编码AHAS的基因ilvIH,其中ilvI编码大亚基即催化亚基,ilvH编码小亚基即调节亚基. 比对结果表明,菌株HR11与菌株HR9的ilvI有6个位点的氨基酸存在差异,HR9、HR11与LB-2的ilvI各有20和16个位点的氨基酸存在差异.

【英文摘要】Acetohydroxyacid synthase (AHAS) is a target for sulfonylurea, imidazolinone, triazolopyrimidine and other AHAS inhibitor herbicides. Resistant mutations of this enzyme have theoretical value and potential application in plant transgenetic engineering. Two strains resistant to AHAS inhibitor herbicides, HR9 and HR11, were isolated from farmland soil that had been exposed to sulfonylurea herbicides for many years. Based on the analysis of 16S rDNA, and their morphological and physiological characteristics, these two strains were identifi ed preliminarily as Klebsiella sp. In M9 medium with 4 g/L glucose as carbon source, HR9 and HR11 could endure 9 600 μmol/L and 8 200 μmol/L metsulfuron-methyl respectively, and showed cross resistance to sulfonylurea, imidazolinone and triazolopyrimidine. The acetohydroxyacid synthase genes ilvIH were cloned from the genome DNA of the two strains and herbicides sensitive strain LB-2. The alignment result of the ilvI amino acid sequenceshowed that strains HR9 and HR11 differed from strain LB-2 by 3.5% (20 substitutions) and 2.7% (16 substitutions) respectively,while strain HR9 differed from strain HR11 by 1.0% (6 substitutions).

【语种】中文

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【学科分类】微生物学

【题目】Molecular cloning and functional analysis of cathepsin B in nutrient metabolism
【中文关键词】无
【英文关键词】Meretrix meretrix,Larvae,Cathepsin B,Nutrient metabolism
【中文摘要】无
【英文摘要】Seed rearing is an important part in large scale clam culture industry. Since the nutritional history affects early development in bivalve, the condition of larval nutrition plays a key role in successful seed rearing. So far, the molecular mechanism of nutrient uptake in bivalve larvae is unclear. As one of the important proteolytic enzymes, cathepsin B of several organisms has been reported to be involved in digestion. We intended to analyze whether cathepsin B is involved in larval nutrient metabolism in the economic bivalve,clam Meretrix meretrix. The full length of M. meretrix cathepsin B (MmeCB) cDNA was cloned, which is 1647 bp with an open reading frame of 1014 bp. The deduced amino acid sequence encoded a preproenzyme of 337 residues with Cys-114, His-282 and Asn-302 composing cathepsin B activity center. The temporal and spatial expressions of MmeCB mRNA were examined from trochophore to post larva stages by whole mount in situ hybridization. In trochophore stage, no detectable signal was found. In the later three stages, MmeCB mRNA was detected in the digestive gland, suggesting a possible role of MmeCB in digestion. Moreover, MmeCB mRNA was also observed in the epidermal cells in D-veligers. Cathepsin B specific inhibitor (CA074 methyl ester) was applied to block the activity of cathepsin B in unfed larvae. The average shell lengths of treated larvae were smaller than that in control groups. The results of mRNA epidermal distribution and inhibitor treatment in D-veligers indicated that MmeCB may be also associated with other pathway of nutrient metabolism in larval epidermis. The overall results in this paper revealed that MmeCB might play a role in larval nutrient metabolism.
【语种】英文
【第一作者】Xiaomei Wang
【通讯作者】Baozhong Liu
【期刊名称、卷期、页码】Aquaculture 282 (2008) 41 – 46
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【学科分类】分子生物学

【题目】3 个杨树无性系蒸腾耗水特性研究
【中文关键词】杨树无性系;蒸腾速率;蒸腾量;环境因子
【英文关键词】poplar tree clone; transpiration rate; transpiration quantity; environmental factors
【中文摘要】采用Li-6400光合系统测定仪分别于5 月、7 月、8 月、10月对南林895、I-69 、皖林 1 号3 个杨树无性系蒸腾特性进行了测定。结果表明,3 个供试杨树无性系蒸腾速率日变化和日均值的年变化均趋势大致相同,5月和10月为单峰型,7月和8 月为双峰型,各个杨树无性系蒸腾速率均于7 月达到一年中的最高值,5 月为最低值。各月蒸腾速率日均值分别为I-69(1.87 、7.61 、2.52 和3.34 mmol · m-2 · s-1> 南林895(1.71 、5.57 、1.79 和2.71 mmol · m-2 · s-1>皖林1 号(1.13、3.55 、1.4和1.96 mmol · m-2 · s-1。相关系数及直接通径系数表明,环境因子对蒸腾速率均具有不同程度的影响,除 10月的南林895和I-69 为Gs>Ta>RH>PAR 外,其余均为 Ta>RH>Gs>PAR。3 个无性系标准木单株日蒸腾量分别是南林895 为42 020.84 g ,I-69 为61 866.03 g ,皖林1 号为23 346.43 g 。
【英文摘要】The characteristics of transpiration of 3 popl ar clones which are NL 895, I-69 and WL1 were measured by LI-6400 portable photosynthesis system in May, July, August and October. The result indicated that the daily variation and annual variation of daily aver age transpiration rates of the 3 tested poplar tree clones were approximately the same, displaying single peak in May and October, and double-peak in July and August. The maximum and minimum values of their transpiration rates appeared in July and May. The monthly order of the daily average transpiration rates in each month were as follows: I-69 (1.87, 7.61, 2.52 and 3.34 mmol · m-2 · s-1> NL895 (1.71, 5.57, 1.79 and 2.71 mmol · m-2 · s-1> WL1(1.13, 3.55, 1.4 and 1.96 mmol · m-2 · s-1. Correlation coefficient and direct path coefficient showed that all clones ’ transpiration rates had different degree correlation with environmental factors. The factors which affect transpiration rates are of the following order: Ta (air temperature) >RH(relative humidity) >Gs (stomatal conductance) >PAR(photosynthetic active radiation), in exception to NL895 and I-69 varieties in October, which is in the order of Gs>Ta>RH>PAR . The daily total transpiration quantities for single plant of three clone standard woods were listed as: NL 895,42 020.84g; I-69 , 61 866.03 g; WL1 , 23 346.43 g.
【语种】中文
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【学科分类】农学其他学科

【题目】Isolation of a Methylobacillu s sp. that degrades microcystin toxins associated with cyanobacteria
【中文关键词】微囊藻毒素降解;菌株J10;细胞壁;氧
【英文关键词】microcystin degradation; strain J10; cell wall; oxygen
【中文摘要】用微囊藻毒素提取物对无锡太湖梅梁湾打捞的蓝藻淤泥中的微生物进行驯化培养。从中分离到能够降解MC-RR和MC-LR的菌株J10,鉴定为 Methylobacillus sp.。进一步研究表明接种 17小时后,菌株J10能够将添加到培养基中的MC-LR 和MC-RR完全降解,并且降解过程可能需要氧的参与。在菌株 J10细胞的不同组分中,我们发现了与MC降解活力相关的多种不同的酶,这些酶有依赖氧和不依赖氧的。然而,主要负责降解MC的酶是依赖氧的,并且很可能位于细胞壁或细胞膜外。
【英文摘要】Sludge from cyanobacteria-salvaged yard in Meiliang Bay, Lake Taihu in Wuxi, China was cultured and acclimated by inoculating microcystins (MCs) extract. Strain J10 was isolated by degrading the MC-RR and MC-LR and was identified as Methylobacillussp. Further research showed that both MC-LR and MC-RR could be completely degraded at 17 h after inoculation of J10, and the degradation probably was mediated by oxygen. Different enzymes, oxygen-dependent as well as oxygen-independent, with MC-degrading activity were found in the different fractions of J10 culture. However, the enzymes mainly responsible for MC degradation by J10 were oxygen-dependent and were probably bound to cell wall or outside the cytoplasmic membrane.
【语种】英文
【第一作者】胡梁斌
【通讯作者】石志琦
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【题目】乙酰羟酸合成酶同工酶基因ilvBN、ilvGM 和ilvIH 的表达及对除草剂抗性的比较
【中文关键词】AHAS 抑制剂类除草剂, 乙酰羟酸合酶同工酶, ilvBN, ilvGM, ilvIH, 除草剂抗性
【英文关键词】AHAS-inhibitor herbicides, AHAS isozymes, ilvBN, ilvGM, ilvIH, herbicides-resistance
【中文摘要】乙酰羟酸合成酶(AHAS)是磺酰脲类和咪唑啉酮类等AHAS 抑制剂类除草剂的作用靶标。获得抗此类除草剂的AHAS 突变基因资源具有非常重要的理论和应用价值。本研究从抗甲磺隆菌株Klebsiella sp. HR11 和甲磺隆敏感菌株Klebsiella pneumoniae MGH 78578 中分别克隆到AHAS 三种同工酶基因ilvBN、ilvGM 和ilvIH。抗性菌株和敏感菌株AHAS 三种同工酶基因在氨基酸水平上差异位点主要集中在ilvBN 和ilvGM 的大亚基上。将2 株菌的ilvBN、ilvGM 和ilvIH 分别构建到表达载体pET29a(+)中, 在Escherichia coli BL21(DE3)中进行表达, 测得只有含菌株HR11 ilvBN 和ilvGM 的转化子细胞破碎液AHAS 对各类AHAS 抑制剂类除草剂具有较强的抗性, 而含菌株HR11 ilvIH 和菌株MGH78578 ilvBN、ilvGM 和ilvIH 的转化子细胞破碎液AHAS 对各类AHAS 抑制剂类除草剂敏感。
【英文摘要】Acetohydroxyacid synthase (AHAS) catalyses the first reaction in the pathway for synthesis of the branched-chain amino acids. AHAS is the target for sulfonylurea, imidazolinone and other AHAS-inhibitor herbicides. Herbicides-resistant AHAS genes have potential application in plant transgenetic engineering and development of new generation herbicide. The AHAS isozyme genes ilvBN, ilvGM and ilvIH were cloned from metsulfuron-methyl resistant strain Klebsiella sp. HR11 and metsulfuron-methyl sensitive strain Klebsiella pneumoniae MGH 78578. Homologous sequences comparison indicated that the differences in AHAS isozyme genes at amino acid levels between strain HR11 and strain MGH 78578 were mainly on the large subunits of ilvBN and ilvGM. The three AHAS isozyme genes from HR11 and MGH 78578 were ligated into the expression vector pET29a(+) and expressed in Escherichia coli BL21, respectively. The results of enzyme inhibition assay showed that only ilvBN and ilvGM from strain HR11 showed strong resistance to AHAS-inhibitor herbicides, while ilvIH from strain HR11 and ilvBN, ilvGM and ilvIH from strain MGH78578 were sensitive to AHAS-inhibitor herbicides.

【语种】中文
【第一作者】沈晶晶
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【题目】3-苯氧基苯甲酸降解菌BA3的降解特性及基因工程菌的构建
【中文关键词】3-苯氧基苯甲酸;生物降解;鞘脂菌;菊酯水解酶基因;基因工程菌
【英文关键词】3-phenoxybenzoic Acid ; biodegradation; Sphingobium sp.; pyrethroid hydrolase gene (pytH); genetically engineered microorganism
【中文摘要】从石油污染土壤中分离到1株能以3-苯氧基苯甲酸(3-PBA)为唯一碳源的细菌BA3。根据其生理生化特征和16S rDNA序列相似性分析,将该菌鉴定为鞘脂菌属(Sphingobium sp.)。该菌株在60h内对100mg L-13-苯氧基苯甲酸降解率达到99%。降解3-苯氧基苯甲酸的最适温度为30℃,pH值为7.0,降解速率与初始接种量呈正相关。拟除虫菊酯类杀虫剂pytH水解酶基因为研究发现的一个新的菊酯水解酶基因, 通过PCR 从菊酯降解菌株JZ-2 总DNA 扩增了pytH,将pytH 定向克隆到pBBRMCS-5 载体上,构建重组质粒pPYTH,在辅助质粒pRK600的帮助下,通过三亲接合将pPYTH转移到3-PBA降解菌株Sphingobium sp.BA3 中,获得的工程菌Sphingobium sp.BA3-pytH可以快速降解菊酯类杀虫剂及其中间产物3-PBA;BA3-pytH对菊酯的降解效率较出发菌株JZ-2高。该基因工程菌应比野生菌株JZ-2在菊酯污染环境的生物修中具有优势。
【英文摘要】A bacterium capable of utilizing 3-phenoxybenzoic Acid as sole carbon source was isolated from petroleum-contaminated soil. This bacterium, designated as BA3, was identified as Sphingobium sp. according to its physiological & biochemical characteristic and the similarity analysis of its 16S rDNA sequence. Strain BA3 was able to degrade 99% of 100mg L-1 3-phenoxybenzoic Acid in 60h. The optimal pH and temperature for the degradation were 7.0 and 30 °C, respectively. The degradation efficiency was related positively to initial inoculum size.The pyrethroid hydrolase gene e (pytH) gene was cloned by the method of shotgun cloning , and the sequences were determined and analyzed. PytH gene was amplified from the genomic DNA of Sphingobium sp. JZ-2 by PCR. Recombinant plasmids pPYTH was constructed by ligating pytH gene into broad host vector pBBRMCS-5.With the help of plasmid RK600 , pPYTH was transferred into Sphingobium sp. BA3 to constructBA3-pytH. BA3-pytH can degrade The selected genetically engineered microorganisms(GEM) can degrade Permethrin and 3-PBA simultaneously. BA3-pytH.showed higher degrading ability than the original strain JZ-2. All these results indicate that BA3-pytH. was a promising GEM in bioremediation of pyrethroid contaminated environment.
【语种】中文
【第一作者】段小芹
【通讯作者】何健
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【题目】Lysis of Microcystis aeruginosa with Extracts from Chinese Medicinal Herbs
【中文关键词】中草药;铜绿微囊藻;蓝藻细菌;裂解
【英文关键词】Chinese medicinal herbs; Microcystis aeruginosa; cyanobacteria; lysis
【中文摘要】通过SAO(琼脂糖覆盖)方法,对66个中草药沸水提取物的杀藻(绿铜微囊藻)活性进行了筛选。结果表明16种材料的提取物可以抑制该细菌生长。在这些具有杀藻活性的样品中,8个样品显示出了极低的最小抑制浓度(MIC),其中4个的MIC值在1-6mg/mL间,4个的MIC 值小于1 mg/mL ,这个浓度(小于1 mg/mL)恰好被认为可以在蓝藻的繁盛出现以前抑制蓝藻的爆发。进一步的研究表明MIC值小于1mg/mL的3个样品,在其MIC浓度处理蓝藻,7天后诱导了叶绿素的降解。这些结果表明杀藻物质具有高效的抑制蓝藻活性。最终结果表明由于这三个提取物(Malaphis chinensis、Cynips gallaetinctoriae、Fructus mume)具有显著杀藻活性,有可能将其开发成为杀藻剂。

【英文摘要】1. Boiling water extracts of 66 selected Chinese medicinal herbs were screened for their anticyanobaterial activity against Microcystis aeruginosa by the soft-agar overlayer (SAO) method. Results indicated that extracts from 16 materials could inhibit the growth of this bacterial species. Among these anticyanobacterial samples, eight extracts showed low minimum inhibitory concentrations (MIC), including four extracts with MICs between 1 and 6 mg/mL, and four extracts with MICs < 1 mg/mL which could be considered useful to prevent the outbreak of cyanobacteria before the appearance of cyanobacterial blooms. Further study showed that three extracts with MIC values < 1 mg/mL induced intensive chlorophyll-a lysis within 7 days at the MIC. The results suggested that highly efficient anticyanobacterial compounds must be involved in the inhibitory activities. The final results indicated these three extracts (from Malaphis chinensis, Cynips gallaetinctoriae and Fructus mume) had the potential to be developed as algicides due to their remarkably anticyanobacterial activities.
【语种】英文
【第一作者】杨静东
【通讯作者】石志琦
【期刊名称、卷期、页码】International Journal of Molecular Sciences. 2009(10): 4157-4167
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【引文索引类型】SCI
【引文索引号】doi:10.3390/ijms10094157
【学科分类】环境科学技术基础学科

【题目】Cloning, characterization and expression of ferritin subunit from clam Meretrix meretrix in different larval stages
【中文关键词】无
【英文关键词】Ferritin subunit,Larval shell,Meretrix meretrix,Bivalve,Iron
【中文摘要】无
【英文摘要】Shell formation is one of the important events during larval development and metamorphosis in bivalves. However, the molecular mechanisms and environmental cues regulating shell initiation and growth are unclear. Here, we report that ferritin, a principal protein for biological iron storage and metabolism, might play a role in larval shell development of the bivalve mollusk Meretrix meretrix. A full-length ferritin subunit cDNA, named as MmeFer, was cloned and characterized. The MmeFer mRNA expression in different developmental stages, from trochophore to post larvae, was analyzed by real-time reverse transcription polymerase chain reaction (RT-PCR). MmeFer mRNA expression in larvae of later developmental stages increased at least 8-fold following trochophores. Moreover, the temporal and spatial expressions of MmeFer mRNA were examined by whole mount in situ hybridization. In the trochophore stage, MmeFer was detectable where it was supposed to be for shell initiation. In the later developmental stages, MmeFer was found near digestive glands and mantle that secret larval shell. MmeFer expression was also detected in larvae cultured in artificial seawater with different iron concentrations ranging from 0 to 100 μM. These results suggest that ferritin may play a role in the shell formation of mollusks.
【语种】英文
【第一作者】Xiaomei Wang
【通讯作者】Baozhong Liu
【期刊名称、卷期、页码】Comparative Biochemistry and Physiology, Part B 154 (2009) 12 – 16
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【引文索引类型】SCI
【引文索引号】SCI
【学科分类】分子生物学

【题目】Sphingobium sp. JZ-1对菊酯类农药的降解特性研究
【中文关键词】菊酯类农药;生物降解;鞘氨醇杆菌属;手性选择
【英文关键词】pyrethroid ; biodegradadtion; Sphingobium; isomer selectivity
【中文摘要】研究了菊酯降解菌株Sphingobium sp. JZ-1及其粗酶液对菊酯类农药的降解特性。结果表明该菌能降解目前使用的各种菊酯类农药,降解速率顺序为:氯菊酯>甲氰菊酯≈氯氰菊酯>功夫菊酯>氰戊菊酯>溴氰菊酯>联苯菊酯;Sphingobium sp. JZ-1对菊酯的降解没有手性选择性;高效液相色谱检测结果表明Sphingobium sp. JZ-1对氯氰菊酯降解的初始反应是在菊酯水解酶的催化下羧酸酯键断裂生成二氯菊酸和3-苯氧基苯甲醛,3-苯氧基苯甲醛进一步氧化成苯氧基苯甲酸。Sphingobium sp. JZ-1细胞中菊酯水解酶酶活不需要菊酯的诱导。

【英文摘要】The degradation characteristics of the pyrethriod degradation strain Sphingobium sp. JZ-1 and its crude enzyme were investigated in this experiment. The strain was capable of degrading a wide range of pyrethroid pesticides, with the degradation rates descending as follows: permethrin > fenpropathrin ≈ cypermethrin > cyhalothrin > fenvalerate > deltamethrin > bifenthrin. No isomer selectivity was observed to the biodegradation of pyrethroid isomers. In Sphingobium sp. JZ-1, cypermethrin was hydrolyzed by breaking the ester linkage to yield equimolar amounts of dichloroving acid (DCVA) and 3-phenoxybenzaldehyde, which was then oxidized to 3-phenoxybenzoic acid. The pyrethroid hydrolase in Sphingobium sp. JZ-1 was constracted expressed without pyrethroid induction.
【语种】中文
【第一作者】李恋
【通讯作者】何健
【期刊名称、卷期、页码】土壤学报, 2011, 48(2): 389-396.
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【引文索引类型】其他
【引文索引号】null
【学科分类】微生物学

【题目】菊酯类杀虫剂降解菌JZL-3 (Arthrobacter sp.)的分离鉴定与降解特性研究
【中文关键词】环境生物学;菊酯类杀虫剂;生物降解;节杆菌属;立体异构选择性
【英文关键词】environmental biology; pyrethroid; biodegradation; Achromobacter sp.; cis-trans isomer selectivity
【中文摘要】自农药厂废水中分离到一株广谱菊酯类杀虫剂降解菌JZL-3,经过形态、生理生化实验及16S rDNA 序列分析,鉴定其属于节杆菌属(Arthrobacter sp.)。该菌能降解目前市场上使用的七种主要菊酯类杀虫剂,降解速率由高到低为:氯菊酯、甲氰菊酯、氯氰菊酯、氰戊菊酯、联苯菊酯、功夫菊酯、溴氰菊酯。对氯氰菊酯的最适降解温度、pH为30 °C、7.0,初始接种量在一定范围内(1 %-5 %)与降解率呈正相关。菌株JZL-3对氯菊酯和氯氰菊酯顺反异构体的降解没有显著的差异,本实验结果不同已有的关于菊酯类杀虫剂生物降解具有显著立体异构选择性的结论。

【英文摘要】The degradation characterizatics of pyrethroid pesticides-degrading bacterium JZL-3, which was isolated from activated sludge collected from wastewater-treating system of a pesticide manufacturer, was studied. The strain was identified as Arthrobacter sp. according to its physiological & biochemical characteristic and the similarity analysis of its 16S rDNA sequence and was able to degrade about 90% cypermethrin (100mg/L) in 72 hours. Strain JZL-3 was capable of degrading a wide range of pyrethroid pesticides, including fenpropathrin, permethrin, cypermethrin, fenvalerate, deltamelthrin, cyhalothrin and bifenthrin. Fenpropathrin was the most preferred substrate, permethrin, cypermethrin and fenvalerate were degraded slower than fenpropathrin, while much faster than bifenthrin, cyhalothrin and deltamethrin. Bifenthrin was the most persistent. These results indicated that substitutions of methyl with α -cyano group, dichloroethylene or chloridben had little influence on the degradation efficiencies, while the substitutions of chloroyl with bromovinyl, fluoro, on the chrysanthemic acid and the replacement of the 3-phenoxybenzyl with a biphenyl significantly reduced the degradation efficiencies. The optimal temperature and pH for the degradation was 30 °C and 7.0, respectively. The degradation efficiency was related positively to initial inoculum size (1%-5%). When the initial inoculum size was more than 7%, the degradation efficiency was not been effected. The strain could degrade cypermethrin rapidly when initial concentration was 20-50mg/L, while the degradation rate was significantly reduced when initial concentration was more than 100mg/L. No cis-trans isomer selectivity was observed to the biodegradation of permethrin and cypermethrin; this feature is different from reported results. The results of degradation characterizatics to pyrethroid pesticides indicated that strain JZL-3 has potential use for bioremediation of pyrethroid-contaminated soils and waters.
【语种】中文
【第一作者】李恋
【通讯作者】何健
【期刊名称、卷期、页码】安全与环境学报, 2010, 10(6): 63-67.
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【引文索引类型】其他
【引文索引号】null
【学科分类】微生物学

【题目】Inhibition of fengycins on the production of fumonisin B1 from Fusarium verticillioides
【中文关键词】fengycins; FUM1; FUM8; 伏马菌素B1; 串珠镰刀菌; 抑制
【英文关键词】fengycins; FUM1; FUM8; fumonisin B1; Fusarium verticillioides; inhibition
【中文摘要】目标:明确fengycins对串珠镰刀菌产生伏马菌素(FB1)的调控作用。方法和结果:为了确定fengycins处理后伏马菌素(FB1)的产生量,我们测定了FBI和菌丝体的质量比。结果表明,每单位重量的菌丝体产生的FB1比对照组(未经fengycins处理)下降了28%。fengycins悬浮液处理菌丝体的结果也表明, fengycins能显著影响伏马菌素(FB1)的产生。使用RT-PCR进行基因表达分析,显示fengycins处理后FUM1 和FUM8(编码FB1基因的酶)的转录本下调了。结论: fengycins可以下调与FB1产量相关的某些关键基因的表达,进而影响串珠镰刀菌体内FB1的合成。本研究的意义和影响:本研究有助于加深我们采用fengycins控制农作物和食品中FB1污染的认识。
【英文摘要】1. Aim: To understand the role of fengycins in regulating the fumonisin B1 (FB1) production of Fusarium verticillioides.Methods and Results: The mass ratio of FB1 to mycelia was determined in order to identify the effect of fengycins on FB1 production. It was shown that the amount of FB1 produced by unit mass mycelia decreased to 28% of the control. Results from mycelia resuspension with fengycins also demonstrated that fengycins had a potent impact on FB1 production. Gene expression patterns using quantitative reverse-transcription PCR (RT-PCR) revealed that the transcriptional levels of both FUM1 and FUM8 (coding enzymes for the gener-ation of FB1) were down-regulated with fengycin treatment.Conclusions: Fengycins could down-regulate the transcription of some key genes involved in the production of FB1, and impair FB1 synthesis by F. verti-cillioides.Significance and Impact of the Study: These results further improved our understanding of fengycins as the potential candidates to control FB1 contamination in crops and food.
【语种】英文
【第一作者】胡梁斌
【通讯作者】石志琦
【期刊名称、卷期、页码】Letters in Applied Microbiology. 2009(48): 84 – 89
【论文发表时间】2008-12-19 00:00:00
【引文索引类型】SCI
【引文索引号】doi:10.1111/j.1472-765X.2008.02493.x
【学科分类】农产品贮藏与加工

【题目】Bacillus subtilis fmbJ脂肽类抗菌物质的分离和纯化
【中文关键词】Bacillus subtilis fmbJ; 脂肽; 分离; 纯化;
【英文关键词】Bacillus subtilis fmbJ; lipopeptides; isolation; purification;
【中文摘要】对BacillussubtilisfmbJ脂肽类抗菌物质的分离和鉴定进行了系统研究。通过HPLC层析确定BacillussubtilisfmbJ抗菌物质由多种组分构成,其中含有保留时间与surfactin相似的成分。通过TLC层析和原位酸解确定BacillussubtilisfmbJ抗菌物质含有两个具有闭合肽键类的物质,其中之一为迁移率Rf与标样surfactin非常相近的组分。通过ESI-MS分析检测到BacillussubtilisfmbJ抗菌物质含有分子量与fengicin相同的m/z1449.9、m/z1463.8、m/z1477.8、m/z1491.9和m/z1505.9五种同系物,和分子量与surfactin相同的m/z1008.8、m/z1022.8和m/z1036.8三种同系物。
【英文摘要】无
【语种】中文
【第一作者】别小妹
【通讯作者】陆兆新
【期刊名称、卷期、页码】生物工程学报.22(4):328-333
【论文发表时间】2006-05-31 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】生物化学

【题目】Polymorphic microsatellite loci for population studies of the razor clam, Sinonovacula constricta
【中文关键词】无
【英文关键词】Sinonovacula constricta, Genetic diversity, Microsatellite
【中文摘要】无

【英文摘要】"The razor clam (Sinonovacula constricta) is an important aquacultured bivalve in China. The natural populations of this species are decreasing quickly. To facilitate studies on genetic diversity and population structure of wild populations, microsatellites were isolated from a CA enriched genomic library. Eight microsatellite loci were polymorphic in 30 individuals from Chongming in Shanghai, China. The number of alleles per polymorphiclocus varied from 6 to 13 and the values of observed heterozygosity and expected heterozygosity ranged from 0.350 to 1.000 and from 0.602 to 0.902, respectively. These microsatellites are being used in studying population differentiation and genetic diversity for effective conservation and management genetic resources of S. constricta."
【语种】英文
【第一作者】Dong-Hong Niu
【通讯作者】Jia-Le Li
【期刊名称、卷期、页码】Conserv Genet (2008) 9:1393 – 1394
【论文发表时间】2008-01-18 00:00:00
【引文索引类型】SCI
【引文索引号】SCI
【学科分类】分子生物学

【题目】蓝藻发酵沼液对青菜生物学特性和品质影响初探
【中文关键词】蓝藻;沼液;青菜;产量;品质
【英文关键词】Blue-green algae; Biogas slurry; Chinese cabbage; Yield; Quality
【中文摘要】以青菜为材料,研究了蓝藻沼液不同施用量和化肥组对青菜生物量、品质的影响以及MC-LR在青菜体内积累状况。结果表明,沼液的使用可有效增加青菜的生物量和株高,其中以中量沼液处理效果最好,与化肥组的没有显著差异;同样沼液的使用可以显著改善青菜的品质,使可溶性糖和维生素C含量增加,亚硝酸盐含量降低,其中以中量沼液处理最为明显,而化肥组虽然生物量最高,但是品质相对较差;单位鲜重青菜体内MC-LR含量和生物富集系数在低量沼液处理下,没有检测到,随着沼液处理量的增加,单位鲜重青菜体内MC-LR含量和生物富集系数增加。说明沼液中的MC-LR可被作物吸收并进行积累,对人类的健康存在潜在的威胁。
【英文摘要】The Chinese cabbage seedlings were treated with various concentrations of biogas slurry fermented by blue-green algae. The effects of biogas slurry on the biomass, quality and situation of MC-LR accumulation in Chinese cabbage were studied in this paper. The results showed that the biomass and plant height were significantly increased by the utiliztion of biogas slurry. Especially, medium amount of biogas slurry revealed the best effect, whereas it did not show marked difference as compared with the chemical fertilizer. At the same time, the quality of Chinese cabbage was improved remarkably by the biogas slurry, the application of biogas slurry (especially meduim amount of biogas slurry) made the soluble sugar and vitamin C content increase, and made the nitrite reduce. Although the biomass was the highest in the treatment of chemical fertilizer, the quality of Chinese cabbage was lower. The MC-LR content in Chinese cabbage and bio-concentration factor (BCF) were not found in the treatment of low amount of biogas slurry. However, the MC-LR content in Chinese cabbage and BCF increased along with the increase of application rate of biogas slurry. The results showed that MC-LR in the biogas slurry could be absorbed and accumulated by the plant, which was a potential risk for people's health.
【语种】中文
【第一作者】薛延丰
【通讯作者】石志琦
【期刊名称、卷期、页码】江西农业学报. 2009(21):59-62
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【引文索引号】null
【学科分类】农业基础学科

【题目】Bacillus subtilis fmbR抗菌物质的分离和纯化
【中文关键词】枯草芽孢杆菌(Bacillus subtilis fmbR); 抗菌物质; 分离; 鉴定;
【英文关键词】Bacillus subtilis fmbR; Antimicrobial substance; Isolation; Identification;
【中文摘要】【目的】对Bacillus subtilis fmbR产生的抗菌物质进行分离和鉴定研究,以确定抗菌物质的组成和结构。【方法】采用HPLC和TLC层析对Bacillus subtilis fmbR抗菌物质进行分离纯化,通过ESI-MS和MALDI-MS分析对抗菌物质的组成和结构进行初步鉴定。【结果】HPLC层析表明了Bacillus subtilis fmbR抗菌物质含有保留时间与surfactin相似的成分。

TLC层析和原位酸解证明了Bacillus subtilis fmbR抗菌物质含有闭合肽键类的物质,其中之一为相对迁移率Rf与标样surfactin相近的组分。采用ESI-MS分析检测到Bacillus subtilis fmbR抗菌物质含有分子量与surfactinA相同的m/z1009.1、m/z1023.2和m/z1037.0等3种同系物;通过MALDI-MS分析获得[M+H]+为m/z 3403.95抗菌物质,该物质分子量与Bacillus subtilis 168产生的细菌素subtilosin的m/z3403.3相同。【结论】Bacillus subtilis fmbR抗菌物质由C13~C15的3种surfactinA同系物和一种羊毛硫抗生素subtilosin组成。
【英文摘要】无
【语种】中文
【第一作者】别小妹
【通讯作者】陆兆新
【期刊名称、卷期、页码】中国农业科学. 39(11) 2327-2334
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【引文索引类型】其他
【引文索引号】null
【学科分类】植物保护学

【题目】枯草芽孢杆菌fmbR抗菌物质稳定性研究
【中文关键词】枯草芽孢杆菌fmbR;抗菌物质;温度;pH;蛋白酶;稳定性;
【英文关键词】Bacillus subtilis fmbR;the antimicrobial substance;temperature;pH;proteinases;stability
【中文摘要】枯草芽孢杆菌fmbR能够产生抗菌物质,对革兰氏阳性菌和革兰氏阴性菌具显著的抑菌效果。本文研究了该抗菌物质对温度、pH和三种蛋白酶(胰蛋白酶、胰凝乳蛋白酶、胃蛋白酶)的稳定性。研究结果表明:抗菌物质在pH7.0下,在20~120℃的范围内,抑菌活性不发生变化;此外在室温下,pH处理在2.0~12.0范围内抗菌物质保持稳定,抑菌活性不受影响。结果还表明:抗菌物质对胃蛋白酶的作用表现出很高的稳定性,而胰蛋白酶和胰凝乳蛋白酶能够在一定条件下将抗菌物质降解。
【英文摘要】无
【语种】中文
【第一作者】别小妹
【通讯作者】陆兆新
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【学科分类】微生物学

【题目】利用16SrDNA序列分析鉴定一株产抗菌物质的微生物菌株
【中文关键词】抗菌物质;16SrDNA;枯草芽孢杆菌;系统发育分析;鉴定;
【英文关键词】The antimicrobial substance;16S rDNA;Bacillus subtilis;phylogenetic analysis;identification;
【中文摘要】从桃子上分离纯化得到1株产抗菌物质的菌株,命名为fmb3菌,通过抑菌实验发现该菌对革兰氏阳性菌蜡样芽孢杆菌、革兰氏阴性菌大肠埃希菌和真菌扩展青霉等3种常见食品病原菌具有显著的抑菌效果。利用16SrDNA分析对该菌作了系统进化鉴定,首先提取fmb3菌基因组DNA,根据不同种属的细菌的16SrDNA序列两端的保守性设计通用引物,对fmb3菌16SrDNA片断进行PCR扩增,对扩增得到的目标片段测序,并且利用NCBIBLAST对测序结果进行比对,构建系统进化树进行分析,初步确定该菌属于枯草芽孢杆菌。
【英文摘要】无
【语种】中文
【第一作者】别小妹
【通讯作者】陆兆新
【期刊名称、卷期、页码】食品科学.27(11):446-470
【论文发表时间】2006-08-19 00:00:00
【引文索引类型】其他
【引文索引号】null

【学科分类】微生物学

【题目】枯草芽孢杆菌fmbJ产生的新型抗微生物物质体外抗NDV和IBDV的活性分析
【中文关键词】抗微生物物质;新城疫病毒;传染性法氏囊病毒;抗病毒作用;
【英文关键词】antimicrobial substance;Newcastle disease virus;Infectious Bursal Disease Virus;antiviral activity;
【中文摘要】测定了枯草芽孢杆菌fmbJ株产生的新型抗微生物物质的体外抗新城疫病毒(Newcastle disease virus,NDV)lasota株、传染性法式囊病病毒(Infectious Bursal Disease Virus,IBDV)哈尔滨(H)株作用。结果表明该新型抗微生物物质对鸡胚成纤维(Chicken Embryo Fibroblasts,CEF)细胞的TD50和TD0分别为128.95mg/L、25.79mg/L;对NDVlasota株、IBDV H株所致细胞病变效应有明显的抑制作用,可使细胞存活率显著升高;该抗微生物物质具有抗NDVlasota株、IBDV H株作用;并具有预防其感染及抑制其复制的作用。其抗病毒作用效果和病毒唑相当,由于其对CEF细胞的毒性较弱,可作为一种抗病毒药物进行开发研究。
【英文摘要】无
【语种】中文
【第一作者】黄现青
【通讯作者】陆兆新
【期刊名称、卷期、页码】生物工程学报. 22(2):328-333
【论文发表时间】2005-10-06 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】药理学

【题目】抗微生物脂肽体外抗PRV和PPV的研究
【中文关键词】抗微生物脂肽;PRV;PPV;抗病毒作用;
【英文关键词】Antimicrobial lipopeptide;Pseudorabi es virus;Porcine parvovirus;Antiviral effect;
【中文摘要】本试验研究了枯草芽孢杆菌fmbJ株产生的抗微生物脂肽(Antimicrobiallipopeptide,AMI)的体外抗伪狂犬病病毒(Pseudorabiesvirus,PRV)、猪细小病毒(Porcineparvovirus,PPV)南京株活性并对其可能的机理进行了初步探讨。结果表明该抗微生物脂肽对猪肾(PorcineKidney,PK-15)细胞的半数中毒浓度(MedianToxicosisDose,TD50)和最大无毒浓度(TD0)分别为47.57mg/L、18.9mg/L;对PRV株、PPV南京株所致细胞病变效应(CytopathicEffects,CPE)有明显的抑制作用,可使细胞存活率显著升高;但不能抑制PRV株、PPV南京株在PK-15细胞上的感染和复制。由此可知,该抗微生物脂肽可以直接作用于PRV株、PPV南京株,从而抑制其对PK-15细胞的感染作用,其作用效果显著低于抗病毒药物阿昔洛韦(Acyclovir,ACV),但由于其对PK-15细胞毒性较弱,可作为一种抗病毒药物进行进一步开发研究。
【英文摘要】无
【语种】中文
【第一作者】黄现青
【通讯作者】陆兆新
【期刊名称、卷期、页码】中国病毒学.21(5):426-429
【论文发表时间】2006-05-16 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】畜牧、兽医科学基础学科

【题目】Identification of Immune Genes of the Agamaki Clam (Sinonovacula constricta) by Sequencing and Bioinformatic Analysis of ESTs
【中文关键词】无
【英文关键词】Sinonovacula constricta,cDNA library,Expressed sequence tags (ESTs),Immune gene
【中文摘要】无
【英文摘要】The Agamaki clam (Sinonovacula constricta) is an economically important shellfish in Asia. However, genomic research on this species is still in its infancy, and genomic resources are largely unavailable. The objective of this study was to generate expressed sequence tags (ESTs) from a normalized liver complementary DNA library and to identify genes that function in immune defense. A total of 5,296 ESTs were sequenced, from which 540 contigs and 3,473 singletons were identified. BLAST homology analysis

indicated that only 20.7% of these ESTs were homologues of known genes while the remaining 79.3% appeared to be novel sequences. Based on sequence similarities, 43 putative immune genes were identified that encode proteases and protease inhibitors, adhesive proteins,stress proteins, lysosomal enzymes, and signal transduction regulators. Our study thus provides both a large collection of novel transcripts and a detailed annotation of immune genes for an important bivalve species.
【语种】英文
【第一作者】Bingbing Feng
【通讯作者】Jiale Li
【期刊名称、卷期、页码】Mar Biotechnol (2010) 12:282 – 291
【论文发表时间】2009-07-10 00:00:00
【引文索引类型】SCI
【引文索引号】SCI
【学科分类】分子生物学

【题目】N+注入诱变芽孢杆菌选育高产抗菌物质菌株
【中文关键词】N+离子;芽孢杆菌;抗菌物质;突变体;
【英文关键词】N+ ion implantation;Bacillus subtilis;antimicrobial substance;mutant;
【中文摘要】本研究通过N+注入芽孢杆菌选育高产抗菌物质菌株。注入N+的能量为25keV,剂量为50×2.6×1013、80×2.6×1013、100×2.6×1013、120×2.6×1013和150×2.6×1013N+/m2。结果表明最佳的注入剂量为50×2.6×1013N+/m2,选育出了1株高产菌株(Bacillus subtilisfmbJ224),其抗菌物质产量是出发菌株的1.96倍,经传代培养,其高产性能稳定。同时通过对该菌株的发酵特性研究,发现其产抗菌物质的模式为延滞合成型。
【英文摘要】无
【语种】中文
【第一作者】沈娟
【通讯作者】陆兆新
【期刊名称、卷期、页码】核农学报.20(4):296-296
【论文发表时间】2005-03-11 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】食品科学技术其他学科

【题目】Bacillus sp. fmbJ224发酵产新型抗菌肽发酵条件的优化研究
【中文关键词】Bacillus sp. fmbJ224;新型抗菌肽;Plackett-Burman设计;响应曲面法(RSM);Box-Boken设计;
【英文关键词】Bacillus sp.fmbJ224;novel antimicrobial peptide;Plackett-Burman design;response surface methodology(RSM);Box-Boken design;
【中文摘要】采用响应面方法对Bacillussp.fmbJ224发酵产新型抗菌肽发酵条件进行了优化。首先采用Plackett-Burman设计(Plackett-Burman Design,PB)法,对影响Bacillus sp.fmbJ224产抗菌肽的6个发酵外部条件进行了筛选。结果表明:影响深层该菌发酵产抗菌肽的主要因子为温度、装液量、发酵时间。在此基础上,然后用Box-Boken设计及响应面分析法确定关键因子的最佳水平及交互作用。通过对二次多项回归方程求解得知,在上述自变量分别为温度33.08℃,装液量为71.93ml,发酵时间为43.45h时抗菌肽的含量提高了199.19 μg/mL。
【英文摘要】无
【语种】中文
【第一作者】沈娟
【通讯作者】陆兆新
【期刊名称、卷期、页码】生物工程学报.21(4):609-614.
【论文发表时间】2009-02-09 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】化学工程其他学科

【题目】金银花内生菌EJH-1抗菌作用发酵培养基响应面法优化
【中文关键词】内生菌;培养基优化;Plackett-Burman设计;响应面法;中心组合设计;
【英文关键词】endophyte;medium optimization;Plackett-Burman design;response surface methodology;Central Composite design;
【中文摘要】首先采用P lackett-Burm an设计法,对影响金银花内生菌EJH 1抗菌作用发酵的9个相关因素进行了筛选。结果表明,对发酵液抗菌活性具有显著影响的因子是谷氨酸钠和KH2PO4。然后,采用响应曲面法(Response Surface M ethodology,RSM)(中心组合设计)对影响抗菌物质发酵的谷氨酸钠和KH2PO4最佳水平及其交互作用进行了研究与探讨。通过模型方程3 D图及其等高线图研究发现,谷氨酸钠和KH2PO4分别在5.12 g.L-1和2.13 g.L-1的条件下,可获得抑菌圈直径的最大预期值20.27 mm。验证试验证实了该方程的预测值与实际值之间吻合较好。优化后的培养基使抗菌活性抑菌圈直径从起始Landy培养基的18.21 mm提高到20.27 mm。
【英文摘要】无
【语种】中文
【第一作者】孙力军
【通讯作者】陆兆新
【期刊名称、卷期、页码】南京农业大学学报.29(3):108-113
【论文发表时间】2005-12-26 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农学其他学科

【题目】1株抗菌植物内生菌EJH-2菌株的分离和鉴定
【中文关键词】内生菌;多粘类芽胞杆菌;16SrRNA;鉴定;
【英文关键词】Endophyte;Paenibacillus polymyxa;16S rRNA;Identification;
【中文摘要】目的从中药植物金银花的组织中分离到1株具有抗菌活性的植物内生菌EJH-2菌株,并对其进行了分子生物学鉴定。方法通过总DNA提取,PCR扩增,得到1 300 bp的16S rRNA序列。PCR产物序列通过BLAST软件在NCB I网站中进行同源性比较。通过B ioed it 7.0和Treedraw ing软件绘制系统发育树。结果EJH-2的16S rRNA序列和数据库中的类多粘芽胞杆菌KCTC 1663菌株的序列的同源性为99.76%。在系统发育树中,EJH-2菌株和多粘类芽胞杆菌在同一分支。结论EJH-2菌株应归属于多粘类芽胞杆菌(Paenibacillus polymyxa)。
【英文摘要】无
【语种】中文
【第一作者】孙力军
【通讯作者】陆兆新
【期刊名称、卷期、页码】中国微生物态杂志.18(1):23-26
【论文发表时间】2006-07-11 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】微生物学

【题目】Identification and characterization of the pathogenic effect of a Vibrio parahaemolyticus-related bacterium isolated from clam Meretrix meretrix with mass mortality
【中文关键词】无
【英文关键词】Vibrio parahaemolyticus,Meretrix meretrix,Pathogen,TEM
【中文摘要】无
【英文摘要】A mass mortality of clam, Meretrix meretrix, occurred in Jiangsu Province of China in the late September of 2007. Of the isolates obtained from the diseased clams, MM21 had the strongest virulence to the clam in the virulence test, with a LD50 value of 6 106 CFU ml 1. MM21 was identified as Vibrio parahaemolyticus by the VITEK 2 Compact system and 16S rDNA sequencing. Detection of virulence-associated genes by PCR indicated that MM21 was positive for toxR and tlh, and negative for tdh. Compared with control group, histiocytes from MM21-infected clams displayed a variety of cytopathological changes by transmission electron microscopy examination, which included increased lipid droplets in hepatocytes, deposition of granules in the mantle, excessive secretion in the gill. The results of our study suggested that MM21 may have been an etiological element in the mass mortalities of hard clam (M. meretrix) in Jiangsu Province of China in 2007.

【语种】英文
【第一作者】Xin Yue
【通讯作者】Baozhong Liu
【期刊名称、卷期、页码】Journal of Invertebrate Pathology 103 (2010) 109 – 115
【论文发表时间】2009-11-27 00:00:00
【引文索引类型】SCI
【引文索引号】SCI
【学科分类】分子生物学

【题目】干热胁迫下两种苇状羊茅对不同水肥处理的响应机理
【中文关键词】苇状羊茅;干热胁迫;水肥处理;抗性;生长
【英文关键词】tall feseue(Festuca arundinacea);heat and drought stress;water and fertilizer treatment;resistance;growtb
【中文摘要】苇状羊茅是我旧过渡区常用的四季常绿草坪草种,但在夏季苇状羊茅受到高温和干旱的双重胁迫。通过研究干热胁迫下不同灌溉与施肥管理措施对2种苇状羊茅品种火凤凰和科纳多的内部生理生化指标、外部形态学指标及草坪质量外观指标的影响,目的在于,1)分析灌溉和施肥管理对2个苇状羊毛品种对干热胁迫抗性的调控,2) 通过该项实验筛选出适合在下热胁迫下不同品种的优化水肥管理措施。结果表明,1)不同组合水肥处理下的苇状羊茅2个品种,其抗逆性均有显著提升,MDA含量下降,火凤凰B1C1的MDA含量为16.461 fmol/g,火凤凰B2C2为2O.386 mol/g,POD活性升高,叶绿素含量上升,从科纳多对照的3.5813 mg/ g提高到科纳多B1C1的 5.206 7 mg/ g。相对含水量提高,以外部形态而言,分蘖数和叶片数密度提高,适度的干旱胁迫提高了根冠比,浇 水和施肥均能显著提高草坪质量。2)品种火凤凰的整体表现要优于科纳多,但差异均不显著。3)灌溉和施肥对干热盼迫下的苇状羊茅各项生理指标的影响均达到显著水平,但水肥问互作效应表现的并不显著。4)从水肥处理的结果来看,B1C1的组合,也就是每周浇水1次和每2周施肥1次,对苇状羊茅的综合抗性有提高调节作用,为最优 水肥管理措施。5)苇状羊茅的不同品种对干热胁迫的适应性从地上部分和地下部分发生了分化,这对苇状羊茅的品种选育和夏季水肥管理有着重要的指导意义。
【英文摘要】无
【语种】中文
【第一作者】刘晓军
【通讯作者】杨烈
【期刊名称、卷期、页码】草 业 学 报;第2O卷 第1期 46-45
【论文发表时间】2010-04-15 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农学其他学科

【题目】海洋链霉菌GB-2发酵产物的抗细菌活性及性质研究
【中文关键词】海洋链霉菌GB-2;发酵产物;抗细菌活性;稳定性;
【英文关键词】marine Streptomyces sp. GB-2;the fermentation product;antibacterial activity;stability;
【中文摘要】从连云港海域潮间带采集的样品中筛选得到一株产高活性抗细菌物质的链霉菌GB-2。该菌的发酵产物对蜡样芽孢杆菌AS1.1846、金黄色葡萄球菌ATCC25923及6株耐药性金黄色葡萄球菌等11株革兰氏阳性菌,大肠杆菌AS1.487、荧光假单胞菌AS1.1802等4株革兰氏阴性菌有显著拮抗作用。纸层析对抗细菌物质分析结果表明,菌株GB-2所产抗细菌物质是中性的水溶性物质,其产生与海水的存在有显著相关性。发酵液稳定性研究表明,该物质在121°C,pH1和pH12条件下抑菌活性均不变;紫外线照射也不影响其抑细菌活性。显示菌株GB-2产物在生防、食品及医药方面潜在的应用价值。
【英文摘要】无
【语种】中文
【第一作者】刘姝
【通讯作者】陆兆新
【期刊名称、卷期、页码】生物工程学报,23(6):1077-1081
【论文发表时间】2007-04-26 00:00:00
【引文索引类型】其他
【引文索引号】null

【学科分类】微生物学

【题目】一株海洋放线菌的分类鉴定及抗菌活性研究
【中文关键词】链霉菌GB-2;鉴定;抗菌活性;稳定性;
【英文关键词】Streptomyces GB-2;identification;antimicrobial activity;stability;
【中文摘要】从连云港海域潮间带采集的样品中筛选得到1株产广谱、高活性抗菌物质的放线菌GB-2。该菌对藤黄微球菌、蜡样芽孢杆菌、金黄色葡萄球菌等5种革兰氏阳性菌,大肠杆菌、荧光假单胞菌等4种革兰氏阴性菌及扩展青霉、黄曲霉、点青霉、犁头霉、番茄灰霉、小麦赤霉病菌、香蕉炭疽病菌、棉花枯萎病菌、稻瘟病菌等18种真菌有显著拮抗作用。根据其形态特征、培养特征、生理生化特性和16S rRNA序列分析结果,确定其为弗氏链霉菌变种。菌株GB-2所产抗菌物质的稳定性研究表明,该物质在121℃pH 1和pH 12条件下抑菌活性均不变;紫外线照射不影响其抗菌活性。结果揭示该菌在生防、食品及医药方面有潜在的应用价值。
【英文摘要】无
【语种】中文
【第一作者】刘姝
【通讯作者】陆兆新
【期刊名称、卷期、页码】南京农业大学学报,30(4):124-129
【论文发表时间】2006-12-11 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】微生物学

【题目】Generation, annotation, and analysis of ESTs from hemocyte of the bloody clam, Tegillarca granosa
【中文关键词】无
【英文关键词】Tegillarca granosa,Bloody clam,Hemocyte,cDNA library,Expressed sequence tags,Immune response
【中文摘要】无
【英文摘要】Tegillarca granosa, bloody clam are valuable resource and extensive culture bivalve in China. In contrast to other cultured mollusca, very few genomic resources are available in this species. In an effort to identify clam genes involved in immunity, growth and hemoglobins, a normalized full-length cDNA library were constructed from hemocytes of the bloody clam. 2278 ESTs from 50 ends of the cDNA clones representing 1501 unigenes with an average length of 459 bp were obtained from library. Cluster analysis of these ESTs identified 1501 unique sequences containing 173 contigs and 1328 singletons. Among the sequences that matched known genes, based on comparisons with the NCBI non-redundant database, the unigene were clustered into six categories, 142 (29.0%) were related to metabolism, 128 (26.3%) were related to cell structure/motility, 94 (19.2%) were related to gene/protein expression, 61 (12.5%) were related to cell signaling/communication, 50 (10.2%) were related to cell/organism immune, and 14 (2.8%) were related to cell division. All contigs and singlets were compared to the public protein database using BLASTx, and annotations and descriptions of interested genes related to immunity, growth or hemoglobin. These genome resources provide a significant number of ESTs for gene discovery and development of microarrays for gene expression.
【语种】英文
【第一作者】Yongbo Bao
【通讯作者】Zhihua Lin
【期刊名称、卷期、页码】Fish & Shellfish Immunology 29 (2010) 740-746
【论文发表时间】2010-07-16 00:00:00
【引文索引类型】SCI
【引文索引号】SCI
【学科分类】分子生物学

【题目】密度、氮肥基追比例对不同穗型小麦产量的影响
【中文关键词】小麦; 密度; 氮肥基追比例;多穗型;大穗型;产量
【英文关键词】Wheat; density; proportion of nitrogen Dressing; multi-spike type; Big Ear; yild
【中文摘要】以烟农19和兰考矮早8为材料,研究密度和氮肥基追比例对多穗型和大穗型小麦品种产量及其构成因素的影响。结果表明,播种密度提高有利于不同穗型小麦品种单位面积穗数的增加,而穗粒数与千粒重随播种密度的加大而减小

。氮肥基追比例增加与不同穗型小麦品种的千粒重间均呈正相关,而与不同穗型小麦品种的穗粒数间呈负相关,氮肥基追比例增加对不同穗型小麦品种单位面积穗数影响未达显著差异水平。烟农19以中密度、氮 肥基追比例5:5处理产量最高,兰考矮早8以高密度、氮肥基追比例7:3处理产量最高 根据密度、氮肥基追比例组合与产量结果建立二元回归模型,烟农19的氮肥基追比例5:5最佳,优化密度为328.4×104hm-2 基本苗,其优化产量可达8 725.3 kg.hm-2,兰考矮早8的氮肥基追比例7:3最佳,优化密度为421.2×104hm-2。基本苗,其优化产量可达7 441.1kg.hm-2。
【英文摘要】无
【语种】中文
【第一作者】王竞绍
【通讯作者】董召荣
【期刊名称、卷期、页码】安徽农业大学学报,2011,38(1):14—19
【论文发表时间】2011-12-17 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农学其他学科

【题目】芽胞杆菌发酵液中抗菌脂肽的定量检测方法及应用
【中文关键词】抗菌脂肽;表面活性素;芬荠素;效价;
【英文关键词】antimicrobial lipopeptides;surfactin;fengycin;titer;
【中文摘要】抗菌肽(Antimicrobial Peptides)是生物体内经诱导产生的生物界中广泛存在的一类生物活性小肽,是两性分子,常带正电荷。根据来源不同,可分为动物体来源、植物体来源和微生物来源。抗菌脂肽是芽孢杆菌属产生的微生物来源的抗菌肽,具有抗细菌、真菌、病毒和支原体的功能,在抗菌的同时又不破坏动物体内的正常细胞,对人体安全,在生物医药方面具有重要的应用价值。此外,脂肽作为一种生物表面活性剂在石油工业、食品、化妆品和农业上有着广泛的应用价值。本文着重研究了抗菌脂肽的高效液相色谱定量检测方法,为抗菌脂肽的应用奠定基础。本研究包括以下四方面内容:1.用管碟法建立了青霉素效价的标准曲线Y=0.0057x+2.6048,相关系数达到0.9955。重复3次制作标准曲线,曲线间的相对标准偏差小于4%。以此标准曲线测定得1g抗菌脂肽粗样效价达到0.93×106IU。2.建立了一种以高效液相色谱测定发酵液中表面活性素(surfactin)含量的新方法。采用COSMOSIL 5C18-AR-Ⅱ(4.6×250mm)色谱柱,以乙腈(含0.1%三氟乙酸)和水(含0.1%三氟乙酸)为流动相,流速0.84mL/min梯度洗脱,210nm紫外检测,在20min内检测到surfactin。结果表明,运用本方法在1~100mg/L范围内surfactin浓度与积分面积之间具有良好的相关性(r=0.9998),精密度为1.5%,检出限为1mg/L,回收率达到96.59%。3.自制了芬荠素(fengycin)相对纯品,并且建立了一种以高效液相色谱测定发酵液中fengycin含量的新方法。采用COSMOSIL 5C18-Ms-Ⅱ(4.6×250mm)色谱柱,以乙腈(含0.1%三氟乙酸)和水(含0.1%三氟乙酸)为流动相,流速0.8mL/min梯度洗脱,230nm紫外检测,在30min内检测到fengycin。结果表明,运用本方法在5~300mg/L范围内fengycin浓度与积分面积之间具良好的相关性(r=0.9921),精密度为2.74%,检出限2 mg/L。4.对抗菌脂肽的效价及应用作了研究。用双层琼脂法计算得1g抗菌脂肽粗样的效价达到1.1×106IU;以抗菌脂肽粗样配合山梨酸钾和乙二胺四乙酸二钠(EDTA)对常温下酸奶的保鲜作用做了研究,结果表明,25℃条件下,以抗菌脂肽0.5g/kg、山梨酸钾0.2g/kg、EDTA0.13g/kg配比时能显著抑制酸奶中微生物的繁殖,使酸奶在常温下的保质期达到10d以上。
【英文摘要】无
【语种】中文
【第一作者】艾嘉
【通讯作者】陆兆新
【期刊名称、卷期、页码】食品科学,6:188-190
【论文发表时间】2008-06-20 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】有机化学

【题目】铁纳米线/壳聚糖/抗体生物探针的制备和层析检测
【中文关键词】纳米线,免疫层析检测,免疫传感器,生物探针
【英文关键词】Nanowires; immunochromatographic assay; immunosenors; biological probes;
【中文摘要】以戊二醛为交联剂制备Fe纳米线/壳聚糖复合物,研究其对牛血清白蛋白的吸附性能:缓冲液pH为6. 0时,达到最大平衡吸附量,为148. 40 mg/g;以Fe纳米线/壳聚糖交联吸附α2HCG抗体制备生物探针,组装层析试纸条,进行免疫层析实

验,结果表明:其检测灵敏度为10 IU /L,与市场上销售的胶体金早孕试纸条相比,可以将早孕检测时间提前2~3 d。
【英文摘要】Fe nanowires/chitosan nanocomposites were prepared and their capacity for adsorbing BAS was examined.The result showed that when pH of buffer solution was set at 6.0,the maximum of adsorption is 148.40 mg/g.By crosslinking α-human ohorionic gonodotropin(α-HCG),biological probes with Fe nanowires/chitosan/antibody were prepared.Immunochromatographic strips were manufactured,and different concentration HCG antigens were tested.The result indicates that the sensitivity is 10 IU/L.Pregnancy can be detected for 2~3 d earlier by them than by colloidal gold test strips on the market.
【语种】中文
【第一作者】杨昊
【通讯作者】潘敏
【期刊名称、卷期、页码】分析化学,2009, 37(2):275-278
【论文发表时间】2009-02-01 00:00:00
【引文索引类型】SCI
【引文索引号】0
【学科分类】纳米材料

【题目】金属粒子掺杂的多壁碳纳米管气敏性研究
【中文关键词】多壁碳纳米管; 掺杂; 气敏传感器
【英文关键词】mult-i w alled carbon nanotubes; doping; gas senso r
【中文摘要】碳纳米管作为一种新材料自1991 年被发现以来 , 其物理化学性质和应用得到了广泛的研究, 丰富的孔隙结构、大的比表面积和很高的表面能使其成为有前景的气敏材料. 碳纳米管对无机气体敏感性的研究报道很多, 如单壁碳纳米管(sing le-w alledcar bon nanotubes, SWCNTs) 对O2、NO2、NH3 的气敏性, 以及多壁碳纳米管(mult-i w alled carbon nano tubes, MWCN Ts) 对NO2、H2、NH3 的气敏性. 碳纳米管在挥发性有机化合物(volatile org anic compounds, VOCs) 检测中的应用也有报道. Penza 等人利用碳纳米管作为气敏材料, 采用声表面波(surface aco ust ic w ave, SAW) 、石英微天平(quart z crystal micr obalance, QCM) 和特制光纤(specialty opt ical f iber, SOF) 等原理制作气敏传感器, 对VOCs 的检测具有很好的效果. 基于SAW、QCM、S OF 等原理的碳纳米管传感器对制作和测试工艺要求较高, 在实际使用时具有一定的局限性. 此外, 对于其他许多气体而言, 碳纳米管的敏感度仍显较差 , 需要通过物理或者化学的手段进行改性以提高碳管与待测气体间的相互作用.
【英文摘要】Pd and Cu part icles w ere doped into the mult-i walled carbo n nanotubes (MWCN Ts) preprocessedusing a mixture of H2SO4 and HN O3 by means o f chemical react ion method and elect rochemist rymethod r espect ively. Amperomet ric sensors w ere fabricated using the original and doped MWCNTs. Theresponses to formaldehyde, benzene, toluene and x ylene w ith dif ferent vo lume fractions w er e tested usingan elect rochemical analy zer . Hig h sensitiv ity and reproducibility of these senso rs indicate the feasibleVOCs detect ion at ro om temperature. Metal part icles doping result s in gr eat chang e of sensit ivity and selectivity.T he main impact s on the g as sensing pro perty include: the str uctural defects of MWCN Ts, theinteract ion of g as molecules and metal clusters, and the cataly tic act ive site formed by metal par ticles.
【语种】中文
【第一作者】方向生
【通讯作者】潘敏
【期刊名称、卷期、页码】浙江大学学报(工学版),2009, 43(5):911-915
【论文发表时间】2009-05-01 00:00:00
【引文索引类型】EI
【引文索引号】0
【学科分类】纳米材料

【题目】A Carbon Nanotube Gas Sensor Fabricated by Dielectrophoresis and Its Application for NH3 Detection
【中文关键词】none
【英文关键词】none
【中文摘要】Multi-walled carbon nanotubes(MWNTs) were successfully manipulated by dielectrophoresis (DEP) to form electrical connection netween interdigitated gold electrodes (IDEs) and were demonstrated to serv as gas sensor for NH3 detection. The MWNTs were suspended in ethanol and depasited on the IDEs. The electrical conductivity of the DEP-fabricated MWNTs sensor decreased when exposed to NH3 at room temperature. There is a good linear correlation between the decreasing amplitude of

conductance and the NH3 concentration, and the detection limit of 10ppm NH3 could be achieved.
【英文摘要】Multi-walled carbon nanotubes (MWNTs) weresuccessfully manipulated by dielectrophoresis (DEP) to formelectrical connection between interdigitated gold electrodes(IDEs) and were demonstrated to serve as gas sensor for NH3detection. The MWNTs were suspended in ethanol anddeposited on the IDEs under the effect of DEP. After theevaporation of ethanol, the MWNTs remained between the gapsof the IDEs. The electrical conductivity of the DEP-fabricatedMWNTs sensor decreased when exposed to NH3 at roomtemperature. There is a good linear correlation between thedecreasing amplitude of conductance and the NH3concentration, and the detection limit of 10ppm NH3 could beachieved.
【语种】英文
【第一作者】Renhui Wang
【通讯作者】潘敏
【期刊名称、卷期、页码】31st Annual international Conference of the IEEE Engineering in Medicine and Biology Society, 2009,6046-6049
【论文发表时间】2009-09-02 00:00:00
【引文索引类型】EI
【引文索引号】0
【学科分类】仪器仪表技术

【题目】Functional Contrast and Kinetic Analysis of water-Dispersible Carbon Black Nanoparticles and MWNTs in Glucose Biosensors
【中文关键词】none
【英文关键词】none
【中文摘要】Poly(sodium 4-styrenesulfonate)(PSS) was grafted onto carbon black surface by ambient surface-initiated atom radical transfer polymerization. And the carbon paste electrodes modified by CB-g-PSS and MWNTs were comoleted. CB-g-PSS and MWNTs had no effect on direct electron transfer based on the carbon paste electrode, but increased the redox speed of Fe[(CN)6]3-/Fe[(CN)6]4- and led to stronger current response. The experimental results indicate that the sensitivity of modified by CB-g-PSS is 2.1 times of no modified, and MWNTs is 4 times. Measurable linear range is 1.1mmol/L~33.3mmol/L. For sensors modified by CB-g-PSS, testing of different concentration glucose:RSD<7%;sensors modified by MWNTs, RSD<7.5%(glucose<15mmol/L), RSD<10%(glucose>15mmol/L)respectively.
【英文摘要】Poly (sodium 4-styrenesulfonate) (PSS) wasgrafted onto carbon black surface by ambient surface-initiatedatom radical transfer polymerization. And the carbon pasteelectrodes modified by CB-g-PSS and MWNTs were completed.CB-g-PSS and MWNTs had no effect on direct electron transferbased on the carbon paste electrode,but increased the redoxspeed of Fe [(CN)6]3-/Fe[(CN)6]4-and led to stronger currentresponse. The experimental results indicate that the sensitivityof modified by CB-g-PSS is 2.1 times of no modified, andMWNTs is 4 times. Measurable linear range is1.1mmol/L~33.3mmol/L. For sensors modified by CB-g-PSS,testing of different concentration glucose: RSD<7%; sensorsmodified by MWNTs, RSD<7.5% (glucose < 15mmol/L),RSD<10% (glucose > 15mmol/L) respectively.
【语种】英文
【第一作者】HaoYang
【通讯作者】潘敏
【期刊名称、卷期、页码】31st Annual International Conference of the IEEE Engineering in Medicine and Biology Society, 2009,7204-7207
【论文发表时间】2009-09-02 00:00:00
【引文索引类型】EI
【引文索引号】0
【学科分类】纳米材料

【题目】经皮穴位电刺激镇痛的脑电研究
【中文关键词】脑电;镇痛;样本熵;经皮穴位电刺激
【英文关键词】electroencephalogram(EEG); pain relief; sample entropy; transcutaneous electrical acupoint stimulation (TEAS);
【中文摘要】通过对经皮穴位电刺激镇痛实验中记录的脑电信号进行分析,提取表征时间序列规则性的样本熵参数,研究了脑电样本熵与疼痛之间的关系,以及它的变化趋势.样本熵的独立样本T检验分析结果表明,样本熵在致痛状态与静息状

态之间存在显著性差异(P<0.01),其平均值在致痛状态下要高于静息状态;在致痛状态与TEAS治疗状态之间存在显著性差异(P<0.01),其平均值在致痛状态下要高于治疗状态.样本熵能反映疼痛程度变化趋势,从非线性角度说明了穴位电刺激疗法对大脑的疼痛处理过程有一定的调制作用,样本熵有望用于客观的评价疼痛.

【英文摘要】Recorded electroencephalogram (EEG) was analyzed during transcutaneous electrical acupoint stimulation (TEAS) for pain relief.Then sample entropy was extracted to represent time series regularity,and the relationship between EEG sample entropy and pain,and its trend were investigated.Independent samples T test results showed that sample entropy during pain state and rest state was significantly different (P <0.01);the mean value during pain state was higher than that during rest state.Sample entropy during pain state and TEAS showed significant difference (P <0.01);the mean value during pain state was higher than that during TEAS.Sample entropy can imply trend of pain degree.TEAS can modulate pain mechanism in brain to some degree.Sample entropy is indicated to be an objective criterion to evaluate pain.

【语种】中文

【第一作者】朱丹华

【通讯作者】潘敏

【期刊名称、卷期、页码】浙江大学学报(工学版),2009, 43(12): 2319-2322

【论文发表时间】2009-12-01 00:00:00

【引文索引类型】EI

【引文索引号】0

【学科分类】信息处理技术

【题目】基于碳纳米管的气敏传感器的研究进展

【中文关键词】碳纳米管;气敏传感器;功能化修饰

【英文关键词】carbon nanotube; gas sensor; functionalization

【中文摘要】碳纳米管(CNTs)具有独特的电学、力学、物理、化学性能,可对许多气体进行选择吸附和快速检测。近年来,碳纳米管在气敏传感领域的研究及应用取得了显著进展。碳纳米管气敏传感器具有体积小、常温下即可检测、灵敏度高、响应速度快等优点。综述了本征碳纳米管气敏传感器、碳纳米管气敏传感器的功能化修饰、碳纳米管气敏传感器在呼吸检测中的应用等研究进展。为提高碳纳米管气敏传感器的气敏性能(灵敏度、选择性、响应时间和可重复性)、增大检测气体种类,目前主要通过使用不同材料(有机聚合物、金属、金属氧化物)对碳纳米管进行合理的功能化修饰。在进一步研究中,应重视发展除加热和紫外光照射之外的新脱附技术、研究复杂气体环境中特定气体的选择性检测、将传感器阵列技术用于CNTs 气敏传感器、实现商业化的电子器件等问题及挑战。

【英文摘要】Carbon nanatubes (CNTs) have potential applications inthe selective and rapid detection of various gas species due to theirspecial electrical, mechanical, physical, chemical performance . Inrecent years, researches on the application of CNTs in gas sensinghave made a great progress. CNTs -based gas sensors enjoy manygood features, such as small size, the capability of working at roomtemperature, high sensitivity, and short response time. This paperreviews the recent progress on the development of intrinsic CNTsbasedgas sensors, the functionalization of CNTs-based gas sensorsand the applications in human breath, with the focus on how toimprove the sensing performance (sensitivity,selectivity ,responsetime and reproducibility) and increase the gas species of detectingthrough the rational functionalization of CNTs with differentmaterials (organic polymers ,metals and metal oxides) .The newdesorption method besides heating and ultraviolet radiation, theselective detection for specific gas in the complex surroundings, thetechnology of CNTs-based gas sensor arrays, and the implementationof commercial gas sensor devices will be issues for future reseaches.

【语种】中文

【第一作者】王仁慧

【通讯作者】潘敏

【期刊名称、卷期、页码】科技导报,2009, 27(21):107-110

【论文发表时间】2009-09-05 00:00:00

【引文索引类型】其他

【引文索引号】0

【学科分类】仪器仪表技术

【题目】生物系统中随机共振现象及其应用

【中文关键词】生物系统 噪声 随机共振 神经元
【英文关键词】Biosystem Noise Sto chastic r eso nance (SR) Neur on
【中文摘要】对于传统信号检测和传输而言, 噪声通常被认为是有害的。但是, 随着近二十几年来对非线性系统的深入研究和实验验证, 人们发现噪声对微弱信号能起到一种增强或者优化作用。这种作用被称为随机共振(Stochastic resonance, SR) 效应。随机共振的概念最初由Benzi 等[1] 于1981 年提出。直到Mc-Namara 等于1988 年在一次激光器实验中展示了随机共振现象后, 随机共振才引起研究者们的广泛关注。目前, 随机共振在工程系统、量子物理学、化学、医学系统和生物系统等领域中得到了展示。其中,研究生物系统中存在的随机共振效应对生物医学工程的发展意义重大, 并已取得令人鼓舞的进展。随机共振机制可以用小球在两个坑之间跃迁的系统来形象地描述。在此系统中, 驱动系统做来回运动的周期或非周期的微小力所引起的系统扰动作为携带信息的微弱输入信号, 此力不足以引起小球的跃迁事件; 驱动系统做左右倾斜运动的力所引起的系统扰动作为噪声。系统的信号输出为小球的跃迁事件。在适当的噪声强度下, 信号和噪声的协同作用能引起小球偶尔出现跃迁事件。随机共振理论认为该跃迁事件与微弱信号是相关的。因此, 随机共振效应就是噪声和微弱输入信号之间的协同作用所引起的对微弱信号的增强或优化效应。
【英文摘要】Stochast ic r eso nance (SR) is g iven to a phenomeno n that is manifest in nonlinear systems wherebygenerally feeble input info rmatio n can be am plified and o pt imized by the assistance of noise. Fir st, the basic concept sand the character istic quantities o f SR are intr oduced in t his paper. Second, SR in bio log ical system and its applicationsare rev iewed in detail. At last, a summary is presented and the fut ur e researches o n SR a re prospect ed.
【语种】中文
【第一作者】朱丹华
【通讯作者】潘敏
【期刊名称、卷期、页码】生物医学工程学杂志,2009, 26(1):191-194
【论文发表时间】2009-02-01 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】信息处理技术

【题目】基于酶电极的胆固醇生物传感器研究
【中文关键词】胆固醇;酶电极;生物传感器;化学修饰电极
【英文关键词】Cholesterol;Enzyme electrodes;Biosensor;Chemically modified electrode
【中文摘要】高胆固醇是心脑血管疾病重要的危险因素之一。近年来随着生活水平的提高,血脂异常的发病率增长迅速并呈年轻化趋势,因此研究胆固醇的快速测定方法具有重要意义。基于酶电极的生物传感器具有检测速度快、灵敏度高、使用方便、价格低廉等优点。因而在临床及家庭保健领域都具有很大的应用潜力。介绍了基于酶电极的胆固醇生物传感器的结构、材料、酶的选择及固定方法以及电化学测量手段等技术的现状及发展趋势。
【英文摘要】HigIl concentration of total cholesterol is one of the most important factors of cardiac and cerebralvessel diseases.Accompanied with the improving of quality of life,the morbidity of blood lipid abnormality hasgrown fast,and the age of onset tended to be younger.Biosensors based on enzyme electrode,with the merits of fastdetection,high sensitivity,low price and facility,have great potentials in clinical applications and householdhealthcare.This paper introduced the structure,materials,choosing and fixing of enzymes,and electrochemical de—tection methods used in the biosensors for total cholesterol testing.
【语种】中文
【第一作者】牛婉婷
【通讯作者】潘敏
【期刊名称、卷期、页码】国际生物医学工程杂志,2008, 31(6):355-357
【论文发表时间】2008-12-01 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】生物材料

【题目】淀粉液化芽孢杆菌抗菌脂肽发酵培养基及发酵条件的优化
【中文关键词】淀粉液化芽孢杆菌;抗菌脂肽;发酵;优化;均匀设计;
【英文关键词】Bacillus amyloliquefaciens;Lipopeptides;Fermentation;Optimization;Uniform Design;

【中文摘要】【目的】提高淀粉液化芽孢杆菌(Bacillus amyloliquefaciens)发酵产脂肽类抗菌物质的产量。【方法】采用Plackett-Burman Design对影响B.amyloliquefaciens ES-2-4产脂肽类抗菌物质产量的13个因子进行筛选,在筛选结果的基础上,再运用Uniform Design(均匀设计)对关键因子的最佳水平范围进行研究,通过回归方程求解得到最高产量时各关键因子的最优组合。【结果】影响抗菌物质产量的关键因子为葡萄糖、L-谷氨酸钠、转速和温度;获得最佳产量时关键因子的最优组合为:葡萄糖(42g·L-1)、L-谷氨酸钠(14g·L-1)、温度(27℃)、转速(200r/min),在此条件下,产量从优化前的4.84g·L-1提高到了6.76g·L-1,增长了39.7%。【结论】B.amyloliquefaciens ES-2-4抗菌脂肽发酵培养基筛选与优化的过程中,采用Plackett-Burman Design和Uniform Design相结合的方法,效果显著,经济有效。
【英文摘要】无
【语种】中文
【第一作者】方传记
【通讯作者】陆兆新
【期刊名称、卷期、页码】中国农业科学,41(2):533-539
【论文发表时间】2006-11-03 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】化学工程其他学科

【题目】培养基对解淀粉芽孢杆菌ES-2菌株产抗菌脂肽的影响
【中文关键词】解淀粉芽孢杆菌;培养基;抗菌脂肽;碳源;氮源;
【英文关键词】Bacillus amyloliquefaciens;Medium;Antimicrobial lipopeptide;Carbon source;Nitrogen source;
【中文摘要】【目的】研究培养基对解淀粉芽孢杆菌ES-2菌株产生抗菌脂肽的影响,为选择合适的产抗菌脂肽的培养基提供指导。【方法】通过HPLC技术对培养基中的碳、氮源对ES-2菌株抗菌脂肽组分的影响进行试验。【结果】改进的Landy培养基抗菌脂肽产量较高;葡萄糖是ES-2菌株产生脂肽的良好碳源,特别是对surfactin的产生有明显的促进作用;蔗糖和乳糖也是产生fengycin的良好碳源;L-谷氨酸和L-天门冬酰胺是抗菌脂肽产生的良好氮源;而不同的氨基酸组合并不有利于抗菌脂肽的产生;实验结果还显示,6种脂肪酸对抗菌脂肽的产生起到抑制作用。【结论】改进的Landy合成培养基是ES-2菌株产生脂肽适宜的培养基,在抗菌脂肽生产中向培养基中加入合适种类的糖和氨基酸十分重要。
【英文摘要】无
【语种】中文
【第一作者】孙力军
【通讯作者】陆兆新
【期刊名称、卷期、页码】中国农业科学,40(10):3389-3398
【论文发表时间】2007-12-11 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】微生物学

【题目】南方农区紫花苜蓿发展潜力与种植模式研究进展
【中文关键词】南方农区;紫花苜蓿;冬闲田;林间种植;季节性栽培利用
【英文关键词】southernChina;alfalfa;winter2fallowfarmland;gladeplanting;seasonal utilization
【中文摘要】我国是紫花苜蓿生产大国之一,但南方农区紫花苜蓿的发展一直滞后,仅零星种植,生产效益不高。随着我国农业产业结构的调整以及畜牧业的蓬勃发展,农区对牧草产品的需求日益增加,紫花苜蓿的生产潜力正在逐渐显现。根据南方农区的生态条件和耕作制度设计紫花苜蓿与粮经作物复种的季节性种植模式,并配套相应的高产栽培技术,充分利用冬闲田和经济林晚秋至春季落叶季节进行速生栽培利用,能提高农区紫花苜蓿的生产效益。季节性栽培利用将是南方农区紫花苜蓿的重要发展方向。
【英文摘要】无
【语种】中文
【第一作者】张艳娟
【通讯作者】沈益新
【期刊名称、卷期、页码】《草原与草坪》 2010年第30卷第1期 84-88页

【论文发表时间】2010-10-10 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农学其他学科

【题目】Estimation of genetic parameters for growth traits in cultured clam Meretrix meretrix (Bivalvia: Veneridae) using the Bayesian method based on Gibbs sampling
【中文关键词】无
【英文关键词】Meretrix meretrix, genetic parameter,heritability, Bayesian inference
【中文摘要】无
【英文摘要】"The aim of this study was to estimate the genetic parameters of the growth performance of clam Meretrix meretrix. As part of the breeding programme, 25full-sib families nested within eight half-sib families were produced, planted out and tested to assess the heritability of the total body weight (TW), shell length (SL), shell height (SH) and shell width (SW) at di ¡ erent growth stages. Method of analysis was implemented using the Bayesian method based on the Multiple Trait using Gibbs Sampling under Animal Model program, which was used to estimate the (co)variance components of the traits and conductgenetic analysis. A total of 25 full-sib families, each with 30^35 individuals within family, were used for the analysis. Signi ¢ cant positive genetic and phenotypic correlations between SL, SW, SH and TW with each other were observed. The growth traits showed high-magnitude heritabilities, with values ranging from 0.64 to 0.85, which indicates that these traits should respond to selection and therefore should be included in genetic improvement programmes."
【语种】英文
【第一作者】HongxiaWang
【通讯作者】Baozhong Liu
【期刊名称、卷期、页码】Aquaculture Research, 2011, 42, 240-247
【论文发表时间】2010-10-22 00:00:00
【引文索引类型】SCI
【引文索引号】SCI
【学科分类】分子生物学

【题目】Complete mtDNA of Meretrix lusoria (Bivalvia: Veneridae) reveals the presence of an atp8 gene, length variation and heteroplasmy in the control region
【中文关键词】无
【英文关键词】Meretrix lusoria,mtDNA,atp8,D-loop,VNTR,Heteroplasmy
【中文摘要】无
【英文摘要】"The complete nucleotide sequence of the mitochondrial genome of the clam Meretrix lusoria (Bivalvia: Veneridae) was determined. It comprises 20,268 base pairs (bp) and contains 13 protein-coding genes,including ATPase subunit 8 (atp8), two ribosomal RNAs, 22 transfer RNAs, and a non-coding control region.The atp8 encodes a protein of 39 amino acids. All genes are encoded on the same strand. A putative control region (CR or D-loop) was identified in the major non-coding region (NCR) between the tRNAGly and tRNAGln.A 1087 bp tandem repeat fragment was identified that comprises nearly 11 copies of a 101 bp motif and accounts for approximately 41% of the NCR. The 101 bp tandem repeat motif of the NCR can be folded into a stem – loop secondary structure. Samples of eight individuals from Hainan and Fujian provinces were collected and their NCR regions were successfully amplified and sequenced. The data revealed a highly polymorphic VNTR (variable number of tandem repeats) associated with high levels of heteroplasmy in the D-loop region. The size of the CR ranged from 1942 to 3354 bp depending upon the copy number of the repeat sequence."
【语种】英文
【第一作者】Hongxia Wang
【通讯作者】Baozhong Liu
【期刊名称、卷期、页码】Comparative Biochemistry and Physiology, Part D 5 (2010) 256 – 264
【论文发表时间】2010-08-03 00:00:00
【引文索引类型】SCI

【引文索引号】SCI
【学科分类】分子生物学

【题目】Low power research and design in plant eco-physiological monitoring system based on zigbee.
【中文关键词】none
【英文关键词】wireless sensor network, ZigBee, low power,Z-Stack
【中文摘要】none
【英文摘要】ZigBee wireless sensor network usually works in a complex environment, and the energy of sensor node is very limited, so energy consumption is a big problem in ZigBee wireless sensor network,especially in the multi-sensor system. Plant eco-physiological monitoring system is a typical multi-sensor system. There are many kinds of sensors in this system. These sensors, as well as ZigBee module and some peripheral components need different power supplying, so the system should provide various power supplying. But it is very difficult in the limited energy condition, especially in a low power required system. This paper investigates power reduction in plant eco-physiological monitoring system, and low power strategy on both the hardware designing and software controlling is presented. The test results about the performance of the plant eco-physiological monitoring system are given, which demonstrates that the system is reliable. This designing will provide a good reference for the multi-sensor network based on ZigBee technology for the low power designing.
【语种】英文
【第一作者】Liu Yanfei
【通讯作者】Wang Cheng
【期刊名称、卷期、页码】Computer and computing technologies in agriculture-II,2009, 24 67-71
【论文发表时间】2009-10-01 00:00:00
【引文索引类型】EI
【引文索引号】0
【学科分类】计算机应用

【题目】基于ZigBee的数据透明传输系统的设计
【中文关键词】ZigBee, 透明传输,监测
【英文关键词】ZigBee, transparent transmission,monitoring
【中文摘要】ZigBee是一种新兴的无线传感网络技术可以广泛的应用于工农业的监测和控制当中,但其协议栈较为复杂,给ZigBee技术的开发应用带来了一定的难度。本文以TI的SoC芯片CC2430为硬件核心设计了基于ZigBee技术的数据透明传输终端,用户避免了繁复的ZigBee协议应用开发,只需将要传输的数据交给终端就能实现数据的无线传输,只要在ZigBee网络覆盖的范围内就能实时传递监控设备采集的数据,通过ZigBee网络将现场监控设备和上位机建立连接,方便地实现远程环境的监测和控制。
【英文摘要】ZigBee is a rising wiress network technology, which is used widely in industry and agriculture monitor and test.But the complex Z-stack makes the development and application of the ZigBee technology difficult.The paper finished the design of the data transparent transmission system based on ZigBee,the hardware core of the system is the SoC chip CC2430 produced by TI.User avoids the developing of the complex Z-stack, only needs to send the data to the terminal then the data will be sent to the destination device. The data collected by the test and monitor device will be sent to the PC in real time in the ZigBee network coverage area. The PC connected with the local test and monitor device by the ZigBee network, implemented the environment remote test and monitor very conveniently..
【语种】中文
【第一作者】刘彦飞
【通讯作者】王成
【期刊名称、卷期、页码】计算机科学,2009, 36(4):76-77
【论文发表时间】2009-04-15 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】通信技术

【题目】Research on ZigBee Wireless Sensors Network Based on Modbus Protocol
【中文关键词】none
【英文关键词】ModBus Protocol1; ZigBee Stack2;Monitoring3;
【中文摘要】none
【英文摘要】The information transmission is transparent for the user in the ZigBee wireless sensors network, which are lack of interactivity and self-constrain. The information in the ZigBee wireless sensors network can not be viewed in a real time by a friendly interface. Modbus protocol is embedded into ZigBee stack, in this way, we can implement interaction well and the information can be viewed in a friendly interface. The paper present the measures to embed the Modbus protocol into the ZigBee stack provided by Chipcon company, which contains address bound mechanism, information centralized storage, and flexible monitoring, by which we can monitor the real time information from the ZigBee wireless network and use some instructions to control the remote device in a friendly interface, which can be used well in the middle and small ZigBee monitoring wireless sensors network. We implement it in the plant physiological ecology monitoring system.
【语种】英文
【第一作者】Liu Yanfei
【通讯作者】Wang Cheng
【期刊名称、卷期、页码】International Forum on Information Technology and Applications,2009, (1): 487-490.
【论文发表时间】2009-05-15 00:00:00
【引文索引类型】EI
【引文索引号】0
【学科分类】计算机应用

【题目】Design of plant eco-physiology monitoring system base on embedded technology
【中文关键词】none
【英文关键词】plant eco-physiology monitor system, embedded technology, MODBUS Protocol
【中文摘要】none
【英文摘要】A real time system has been developed to collect plant's growth information comprehensively. Plant eco-physiological signals can be collected and analyzed effectively. The system adopted embedded technology: wireless sensors network collect the eco-physiological information. Touch screen and ARM microprocessor make the system work independently without PC. The system is versatile and all parameters can be set by the touch screen. Sensors ’ intelligent compensation can be realized in this system. Information can be displayed by either graphically or in table mode. The ARM microprocessor provides the interface to connect with the internet, so the system support remote monitoring and controlling. The system has advantages of friendly interface, flexible construction and extension. It ’s a good tool for plant ’s management.
【语种】英文
【第一作者】LI yunbing
【通讯作者】Wang Cheng
【期刊名称、卷期、页码】Computer and Computer Technologies in Agriculture III,2009, 317: 185-190
【论文发表时间】2009-10-01 00:00:00
【引文索引类型】EI
【引文索引号】0
【学科分类】园艺学

【题目】An Improved Design of ZigBee Wireless Sensor Network
【中文关键词】none
【英文关键词】ZigBee; Wireless Sensor Network; CC2430;
【中文摘要】none
【英文摘要】ZigBee is a low rate, low power consumption wireless communication technology, which can be widely used in the Wireless Sensor Network (WSN). WSN is composed of hundreds of nodes, all of the sensor nodes information in the network will be sent to the coordinator, so the coordinator usually undertake the task to collect sensor data information, conserve the information, process the information, and also as the interface of the network with the user. The coordinator should communicate with the host computer by the upper protocol, so the coordinator carry too much load, especially in the large scale wireless sensor network, which

will have an bad effect on the network communication. The effect showed bad real-time, data packet loss, and stability decrease. The paper presents an improved design of ZigBee Wireless Sensor Network. In the network the coordinator only deal with the task on the ZigBee network, the rest tasks will be processed by another processor. The processor connected with the Coordinator by RS-232 interface. All data information will be sent to the processor though the serial port. So the processor undertakes the task to deal with data, conserve the network information, and communicate with the host computer. At last we tested the improved ZigBee wireless network and verification the effect.
【语种】英文
【第一作者】Liu Yanfei
【通讯作者】Wang Cheng
【期刊名称、卷期、页码】International Conference on computer Science and Information technology,2009, 3: 510-513
【论文发表时间】2009-10-08 00:00:00
【引文索引类型】EI
【引文索引号】0
【学科分类】计算机应用

【题目】南抗杨叶片快速繁殖体系的建立
【中文关键词】南抗杨;组织培养;快繁体系
【英文关键词】Populus deltoides cl. Nankang;tissue culture ;fast regeneration system
【中文摘要】以南抗杨叶片为材料,对其快繁体系进行研究。选用 9 种分化培养基、4 种增殖培养基和6 种生根培养基,研究不同激素组合对快速繁殖体系建立的影响。结果表明:适宜的诱导分化培养基为 MS + 6-BA 1.5 mg/L + NAA 0.5 mg/L + KT 0.1 mg/L;丛生芽增殖培养基为 MS + 6-BA 1.2 mg/L + NAA 0.3 mg/L + KT 0.1 mg/L ;最佳生根培养基为1/2MS + IBA 0.5 mg/L + NAA 0.01 mg/L 。
【英文摘要】This paper deals with fast reproduction system from leaves of Populus deltoides cl.Nankang with 9 differentiation media,4 multiplication media and 6 rooting media. The effect of hormone concentration was also studied. The results indicated that the best differentiation media was MS + 6-BA 1.5 mg/L + NAA 0.5 mg/L + KT 0.1 mg/L; the best multiplication media was MS + 6-BA 1.2 mg/L + NAA 0.3 mg/L + KT 0.1mg/L; the best rooting media was 1/2MS + IBA 0.5 mg/L + NAA 0.01 mg/L.
【语种】中文
【第一作者】杨 茹
【通讯作者】项艳
【期刊名称、卷期、页码】安徽农业大学学报, 2011, 38(2): 146-150
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【引文索引类型】其他
【引文索引号】null
【学科分类】农学其他学科

【题目】农杆菌介导法与基因枪轰击法结合在植物遗传转化上的应用
【中文关键词】农杆菌介导法;基因枪轰击法;农杆菌法;遗传转化
【英文关键词】Agrobacterium-mediated transformation;particle bombardment;agrolistic;
genetic transforma-tion
【中文摘要】根癌农杆菌介导法(Agrobacterium-mediated transformation)和基因枪轰击法(particle bombardmenttransformation)是植物遗传转化的主要方法.两种方法各有优缺点,农杆菌介导法是一种天然的植物遗传转化系统,外源基因在转基因植物中的拷贝数低,遗传稳定性好;基因枪转化法不受材料基因型的限制.通过结合两种方法的优点,发展了3种农杆菌介导和基因枪轰击法相结合的遗传转化方法,分别为农杆枪法、基因枪轰击/农杆菌感染法、金粉或钨粉包裹菌体细胞作为微弹轰击法.对3种结合转化方法的技术途径、原理、转化受体及研究进展等方面进行了综述.
【英文摘要】Agrobacterium-mediated transformation and particle bombardment are the main methods of plant genetic transformation.Both of them have its characters.Agrobacterium-mediated transformation is a natural genetic transformation system.In this method,foreign gene has low copies and stable inheritance.The advantages of particle bombardment is genotypeindependent.By combining the advantages of the two ways,three methods of genetic transformation which is agrolistic, moicroprojectile bombardment before Agrobacteriuminfection and bacterial cell as microprojectile had been developed.This paper summarized the method,principle,receptors and the proceeding of genetic transformation of the combining Agrobacterium-mediated transformation

and particle bombardment in plant.
【语种】中文
【第一作者】耿立召
【通讯作者】李付广
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【学科分类】分子生物学

【题目】亚洲棉再生体系研究进展
【中文关键词】亚洲棉;基因组学;再生体系
【英文关键词】Gossypium arboreumL.;genomics; regeneration system
【中文摘要】亚洲棉具有优良的遗传学特性,是进行棉属基因组学和遗传工程研究的主要材料,但其作为遗传工程基础的再生体系目前尚未完善。虽然早在20世纪70年代已开展了许多研究,但是由于亚洲棉自身特点其再生体系很难建立,仅停留在愈伤组织的诱导阶段,直至最近才取得了少量突破性的进展,获得了再生植株。亚洲棉愈伤组织是四个栽培种中较容易诱导的,但是诱导出的愈伤组织生长状态不佳,其分化和再生困难,解决的办法主要是调整激素的种类与浓度,适当改变培养方法和培养条件。
【英文摘要】The diploid cotton species provide more valuable genetics characters for the agronomicallydesirable cultivated than the tetraploid cultivars.G. arboreumL. also offers better material to study gene structure and function. The regeneration system ofG. arboreumL. is very important to study genetics engineering and genomics. But the regeneration system is difficult to be constituted because of the genotype of diploid cotton. Since 1970 ’ s, many researches have been done, but the regeneration system has not been completely established. Up to now, several important progresses have been made and the plantlets have been obtained. It is easier to induce the callus culture ofG. arboreumL. thanother cotton species. However the state of the callus is worse than other species and the callus is difficult to induce somatic embryo. The major ways to overcome this difficulty is not only to adjust proportion of auxins and cytokinins, but also to change culture methods and environmental conditions.
【语种】中文
【第一作者】冷春旭
【通讯作者】李付广
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【题目】冬季饥饿再投喂对菲律宾蛤仔生长、存活和生化组成的影响
【中文关键词】菲律宾蛤仔; 冬季; 饥饿; 生长; 存活; 生化组成
【英文关键词】Ruditapes philippinarum; winter; starvation; growth; survival; body biochemical composition
【中文摘要】2007年12月—2008年4月,在冬季低温(水温3.0℃~4.2℃、盐度25~27、pH7.90~8.16)条件下,采用饥饿时间不等、恢复投喂时间相同的方式,研究了饥饿再投喂对不同规格菲律宾蛤仔生长、存活及体组分的影响.结果表明:在冬季低温条件下,各试验组菲律宾蛤仔生长性状的差异不明显;其对饥饿的耐受能力随着蛤仔规格的增大而升高;存活率随着饥饿时间的延长而降低,但整个试验过程中未出现不可逆点.从较大规格菲律宾蛤仔(壳长7mm)的体组分上看:菲律宾蛤仔水分、脂肪含量随着饥饿时间的延长而下降;蛋白质含量在饥饿前期随着脂肪的消耗而上升,后期因脂肪的过度消耗开始被利用而下降;灰分含量在整个试验过程中的变化不显著. 更多还原
【英文摘要】From December 2007 to April 2008,a laboratory experiment was conducted to study the effects of various starvation periods followed by the same refeeding period on the growth,survival,and biochemical composition of different size Ruditapes philippinarum at water temperature 3.0 ℃-4.2 ℃,salinity 25-27,and pH 7.90-8.16. No significant differences in the growth characteristics of R. philippinarum at low temperatures were observed among different size groups. The tolerance to starvation increased with increasing size,while the survival rate decreased with increasing starvation period. the point-of-no return (PNR50) was not observed during the study period. For the larger size group (7 mm),the body moisture and lipid concentrations generally decreased

with increasing starvation period. During starvation,the body protein content increased initially as a result of lipid being utilized for energy,but decreased thereafter when the lipid was depleting. Ash content remained unchanged during the study period,and was not affected by starvation or refeeding

【语种】中文
【第一作者】闫喜武
【通讯作者】闫喜武
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【题目】降低棉花胚性愈伤褐化研究
【中文关键词】棉花;组织培养;胚性愈伤;胚状体
【英文关键词】Gossypium hirsutum; tissue culture; embryo callus;embryoid
【中文摘要】在棉花组织培养中,诱导出的胚性愈伤组织转到继代培养基上时,经常出现褐化现象,需要经过3~4次继代培养才能诱导出正常绿色胚状体。实验通过激素和氮源对诱导绿色胚状体的效应研究,认为氮源配比不合适是褐化现象的主要诱因,与KT、6-BA、IAA等激素关系不明显;经过对MS培养基的改良,一次继代就可以获得绿色胚状体,从而缩短了组织培养周期近2个月
【英文摘要】In cotton tissue culture, normal green embryoid is usually obtained after 3 or 4 rounds sub-cultures. But the callus usually turns brown in the subculture from embryogenic callus to somatic embryogenesis. Our research suggests that the brown-turning mainly results from the improper ratio of nitrogen. It also indicated that the content of KT、6-BA and IAA had no significant effect on embryo tissue brown-turning. The normal green embryoid is produced only by once subculture after improvement of MS culture medium, shorten its cycle about two months.
【语种】中文
【第一作者】张朝军
【通讯作者】李付广
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【题目】泥蚶(Tegillarca granosa) GT 微卫星位点的筛选和性质鉴定
【中文关键词】微卫星, 磁珠, 泥蚶
【英文关键词】Microsatellite (SSR); Magnetic bead; Tegillarca granosa
【中文摘要】采用磁珠富集法, 利用生物素标记的(GT)15 寡核苷酸探针从泥蚶基因组DNA Sau3A1 酶切的500—1000bp 片段中筛选GT/CA 微卫星位点。洗脱的杂交片段克隆到PMD18-T 载体上构建富集微卫星基因组文库后, 通过PCR 筛选检测出阳性克隆进行测序。在139 条序列中有115 条序列包含有重复次数不少于5 次的微卫星位点, 阳性序列比例达到82.7%。其中perfect 类型微卫星最大的重复次数为35 次。在112 条非冗余序列中, 共有100 条(88.5%)微卫星重复序列两端有侧翼序列能够进行引物设计。
【英文摘要】Although microsatellite marker (SSR) has been widely used in population genetics and genetic map construction,problems still exist in the application of sequence information and primer design on flanking regions. In this experiment, magnetic bead hybridization method is used to enrich the microsatellite loci in Tegillarca granosa, being more efficient than that of the traditional way. Genomic DNA was digested by restriction endonuclease Sau3A1 and electrophored on agarose gel, DNA fragments of 500—1000bp was recovered and ligated to Sau3A1 adaptor. Purified, adaptorligated fragments were hybridized to biotin-labelled (GT)15 probe and captured by Streptavidin-coated magnetic beads. Target fragments were eluted and PCR amplified, then the purified PCR products were inserted to PMD18-T vector and transformed into DH5α component cell. Positive clones in the enriched genomic DNA bank were screened out through PCR method and sequenced. Of 139 positive clones, 115 sequences contained repetition that repeated no less than 5 times, 3 redundant sequences were found after the multiple sequence alignment analysis, and the

rest 112 non-redundant microsatellite-contained sequences of which about 82.7% contained positive sequence, and the largest repeat number of perfect type microsatellite was 35. Among the 112 non-redundants, 100(or 88.5%) had enough flanking region (80—100bp), which is enough to design microsatellite primer pairs, and will be used to design primer and test polymorphism in further research.
【语种】中文
【第一作者】曾庆国
【通讯作者】尤仲杰
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【题目】侵蚀性降雨与土壤侵蚀关系的研究
【中文关键词】侵蚀性降雨;土壤侵蚀;侵蚀性降雨标准
【英文关键词】Erosive rainfall;Soil erosion;Erosiverainfall standards
【中文摘要】研究侵蚀性降雨与土壤侵蚀的关系,选取霍山县上土寺水土保持站作为降雨观测资料的中心站,采用量级法和回归分析法来分析霍山县上土寺水保站记录的当地降水资料,研究降雨量、降雨历时、降雨强度与土壤侵蚀的关系,得出降雨因子中降雨量对土壤侵蚀的影响最大,其次是降雨历时,最后是降雨强度。
【英文摘要】In order to research the erosive rainfall and soil erosion on the relationship of huoshan county。The selection of soil and water conservation stand as soil temple rainfall observation data center,using middle weight method and regression analysis method to analyze the soil and water conservation station huoshan county of local temple of precipitation data record,the rainfall,rainfall duration,rainfall intensity and soil erosion,it is concluded that the relationship of rainfall factor of soil erosion of rainfall in the biggest influence,followed by rainfall duration,and finally the rainfall intensity.
【语种】中文
【第一作者】董召荣
【通讯作者】董召荣
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【题目】我国棉田生态系统立体污染及其防治对策
【中文关键词】棉田;生态系统;农业污染;农药;化肥;地膜
【英文关键词】cotton field; ecological system; agricultural pollution; pesticide; fertilizer; plastic mem-
brane
【中文摘要】棉花的农药、化肥和地膜使用量在我国主要农作物中均占据首位且居高不下,棉田生态系统受到从水体、土壤、生物到大气的交叉性“立体污染”。农膜的大量使用及高残留破坏土壤结构,影响土壤的透气性,并导致土壤质量下降;同时残膜降解过程中产生的有毒物质,阻碍种子根系生长,影响产量;过量施用化学肥料加之施用方法不妥,导致了严重的生态环境污染并危及人类健康;棉花病虫害防治高度依赖高毒、剧毒化学农药,导致药害,天敌和有益生物遭受毁灭性杀伤。农药、化肥成份残留于土壤中,或者被无节制地排放到水体环境,或随意散逸到大气中。从四个角度提出了相应的综合防治对策。对污染源头实施技术性控制。从生态系统平衡化和植物营养利用最优化着手,研究组建我国三大棉区棉田生态型IPM技术体系,形成棉田病虫害防治技术标准及棉田平衡施肥技术标准。改进施药施肥方法,创新棉花栽培和耕作措施,研制可降解环保棉田专用农膜。建立棉田生态系统污染修复技术体系。大力发展生物技术,提高生物防治水平。
【英文摘要】Cotton stands first constantly in the using of pesticide, fertilizer and plastic film comparing to the other crops in China. Presently, the negative effects have emerged severely and have been embodied in the agricultural tri-dimension pollution (ATriP) from water, soil and organism to the air in the ecological system in cotton field. This paper firstly analyzed three key factors of ATriP of ecological system in cotton field and summarized the present situation of the AtriP. First, plastic film remained in the soil largely. These remnants destroyed the soil structure, blocked the ventilation and thus resulted in the bad soil quality. Meanwhile, during the

decomposition, these remnants producedpoisonous matters and then inhibited the root growth and reduced production. Secondly, while the over-fertilization and the incorrect ways led to the seriously ecological environment pollution and endanering human health badly. Thirdly, the controls of diseases, pests and weeds in cotton crop were highly depended on pesticide of strong toxicity. On one hand, it was liable to arouse the pesticide scathe; on the other hand, some natural enemies of pests were subjected to fatal poison during the malign recycle of anti-pesticide and increasing using quantity and toxicity of pesticide. Consequently, it broke the ecological balance. Especially, the lower utilization and misuse of pesticide and fertilizerhave made poisonous matters remain in the soil, released into water environment or escaped into the atmosphere. These poisonous remnants certainly contributed to the ATriP from water, soil to the air after long time of accumulation and cooperation, and accordingly had deep effects on the crop quality,world climate and human health. On the basis of AtriP states in the ecological system of cotton field,we put forward the corresponding control tactics from four aspects. First is to control the source of A-triP by means of effective techniques, and constitute IPM technology system so as to reduce the chemical control and to realize the balanceable fertilization. Second is to found an AtriP-preventing technology system by way of researching and generalizing environment-friendly pesticide and slow-releasingfertilizer and improving the means of applying pesticide and fertilization; establishing an environment-friendly and efficient planting and cultivation measures; developing a type of biomaterial and decomposable multi-function agricultural membrane. Third is to found an AtriP-renovating technology system. A quick-diagnosis information database should be established firstly based on the AtriP distribution situation and the AtriP mechanism. Researches should be intensified to realize the bio-decomposition or bio-elimination of the plastic membrane remainders and poisonous remnants of pesticide and fertilizer. As to the transgenic insect-resistant cotton, it is necessary to set up a technology norm fordetecting and monitoring the remaining and decomposition regularly. The last tactic is to cultivate newvarieties of high quality and multiple fastnesses, such as insect-resistance, disease-resistance,drought-resistance, salt and alkali-tolerance and high fertilizer-efficiency by biotechnology so that wecan elevate the bio-control level in the cotton field.

【语种】中文

【第一作者】李付广

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【学科分类】农学其他学科

【题目】泥蚶(Tegillarca granosa)6 个微卫星引物的分离和鉴定

【中文关键词】泥蚶, 微卫星, 等位基因

【英文关键词】Blood clam Tegillarca granosa, Microsatellite, Allele

【中文摘要】应用6 个微卫星标记在奉化泥蚶种群上进行扩增, 以检测其遗传信息。扩增结果表明, 引物所扩增出的等位基因数目变化从3 个到7 个, 平均等位基因数目为5.4。引物的多态性信息含量范围为0.111—0.814。最大的观察杂合度Ho为0.690, 最小为0.121。期望杂合度He 范围为0.117—0.848。位点TMP22 显著偏离了哈代-温伯格平衡。6 个引物在18 个马来西亚泥蚶上进行扩增, 结果只有TMP18 和TMP36 在马来西亚模板上有扩增产物。

【英文摘要】Six microsatellite loci were isolated and then used to investigate the genetic diversity of blood clam (Tegillarca granosa) collected form Fenghua, Zhejiang Province. The microsatellite primers were first screened in a polymerase chain reaction through a temperature gradient to determine best annealing temperature. The functional primers were then selected for population amplification. PCR was performed in a 25 μl reaction system as follows: 1×PCR buffer, 2.0mm MgCl2, 0.2mm dNTPs, 10pmol per primer, 0.65U Taq polymerase, and 10ng genomic DNA. Reaction took place in a PCR amplifier (Mastercycler Eppendorf) in program of: 5min at 94°C for denaturation, 30 cycles of 94°C 1min, 30 s at annealing temperature, 72°C extension for 45s, and a final extension for 7min at 72°C. The PCR products were afterwards electrophoresed on 8% polyacrylamide gel and detected in silver staining method. Polymorphic information content (PIC) was calculated with CERVUS 2.0 software. The expected heterozygosity (He) and observed heterozygosity (Ho) was estimated with GENEPOP 4.0.7. The allele number per loci varied from 3 to 7, PIC value was 0.111 to 0.814. The mean Ho and He varied from 0.121 to 0.690 and 0.117 to 0.848, respectively. Primer amplification showed that some microsatellite loci isolated from the samples of continental China were absent in those of Malaysia.

【语种】中文

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【题目】基于几何参数模型和OpenGL的油菜花朵可视化研究
【中文关键词】油菜; 几何参数模型; 可视化; OpenGL
【英文关键词】rapeseed ; geometric parameter models ; visualization ; OpenGL
【中文摘要】为构建可视化油菜生长系统, 本研究以油菜花朵为研究对象,通过对 2种氮肥水平下 3种油菜品种的盆栽试验数据进行统计分析, 建立了油菜花柄和花蕾的几何参数模型。在此基础上, 进一步探讨了油菜花朵组件三维建模技术, 构建了基于组件形态特征参数的花柄与花萼几何模型, 其中,以圆柱体模拟花柄, 12×9个四边形模拟花萼曲面; 通过组合多个几何图元的方式构建了花瓣和花蕊模型, 其中, 以平面梯形和半圆模拟花瓣,椭球体和圆柱体模拟雄蕊, 球体和圆柱体模拟雌蕊, 球体模拟蜜腺。然后,基于 OpenGL图形库, 绘制了油菜花朵各组件三维形态, 并进行了颜色渲染。最后,以 VC++ 定时器为驱动变量,通过 OpenGL旋转、 缩放及平移命令耦合油菜花朵拓扑结构模型, 实现了油菜花朵开放过程的动态模拟。

【英文摘要】To construct the visual growth system for rapeseed (Brassica napus L.), rapeseed flower was taken as object to develop the growth models of flower stalk and flower bud by statistical analysis of datas from two-nitrogen-level pot experiment for three rapeseed cultivars. The geometric models of rapeseed flower component(including submodels for flower stalk and flower calyx) with architecture parameters were developed using the 3D technologies of modeling rape flower components , a cylinder and 12×9 quadrangles used for simulating flower stalk and the camber of calyx , respectively . Further more , submodels for petals , pistil, stamen and nectar were also constructed by the combination of geometric graphic elements of plane trapezium and semicircle , ellipsoid and cylinder , sphere and cylinder , and sphere . The rapeseed flower components were drawn by the 3D pattern and colored with the help of OpenGL. The timer in VC++ serving was taken as the driving variable , and the model of topog raphic structure for rapeseed flower were integrated by the command of rotation , scale and translation in OpenGL.The dynamic simulation of the blossom of rape flowers was obtained with better real .
【语种】中文
【第一作者】岳延滨
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【题目】陆地棉体细胞胚胎发生过程的cDNA-AFLP分析
【中文关键词】陆地棉;胚胎发生;cDNA-AFLP
【英文关键词】Gossypium hirsutumL.;embryogenesis;cDNA-AFLP
【中文摘要】以陆地棉标准系TM-1未经诱导的下胚轴、下胚轴经诱导40 d的愈伤组织和胚性愈伤组织为材料,利用cDNA-AFLP差异显示技术对陆地棉体细胞胚胎发生过程中的cDNA差异表达进行了初步分析.经反转录获得3个不同时期的cDNA,利用180对引物组合进行AFLP分析,结果表明,在总共显示的约3 000条谱带中,其中38条为胚性愈伤组织中所特有的差异谱带.对这些差异片段进行克隆、序列测定和同源性分析,其中12个差异片段同已知陆地棉、雷蒙德氏棉和亚洲棉不同发育时期器官的EST序列高度同源,其相似性达到90%以上.结果说明,棉属在形态建成早期(胚胎发育阶段),其特定器官的相关基因已经表达

【英文摘要】We used cDNA-AFLP technique to analyze gene expression profiles during somatic embryogenesisof hypocotyls section (explant),callus after forty days induction on medium of MS and somatic embryo in cotton (Gossypium hirsutumL.) TM-1.cDNA-AFLP was analyzed in double strand cDNA after reverse transcription from the three different development stages tissues of TM-1.One hundred and eighty combinations of AFLP primers produced about 3 000 fragments.38 specific bands were identified in the somatic embryo.These cDNA fragments were further cloned and sequenced,and sequence analysis demonstrated that there were twelve sequence-similar to cDNA sequences with the different tissues ofGossypium raimondiiL..Gossypium hirsutumL.andGossypium

arboretumL.in GenBank among 38 sequenced fragments.Their identities were above ninety percent.The results indicated that the gene expression of whole plant had already occured at the early stage of embryogenesis.
【语种】中文
【第一作者】冷春旭
【通讯作者】李付广
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【学科分类】分子生物学

【题目】生育期对小麦全株青贮发酵品质的影响
【中文关键词】全株青贮; 小麦; 生育期; 发酵品质; 饲用品质
【英文关键词】whole-crop silage ; wheat ; maturity ; fermentation quality ; feeding value ;
【中文摘要】【目的】探讨不同生育期全株小麦发酵品质和饲用价值的优劣。【方法】用3个小麦品种(新麦18、周麦22和淮麦22)袋贮比较了乳熟期和蜡熟期全株青贮的发酵品质和饲用品质差异。【结果】乳熟期和蜡熟期小麦均适宜全株青贮利用,但全株小麦青贮的发酵品质和青贮饲料的饲用价值存在显著的生育期间差异(P〈0.05)。乳熟期小麦全株青贮饲料的pH、挥发性脂肪酸(volatile fatty acid,VFA)和总氮中氨态氮(NH3-N/TN)的含量显著低于蜡熟期,乳酸(lactic acid,LA)的含量显著高于蜡熟期,发酵品质较好;蜡熟期小麦全株青贮饲料的纤维成分(中性洗涤纤维(neutral detergent fiber,NDF)和酸性洗涤纤维,(acid detergentfiber,ADF))、可溶性碳水化合物(water soluble carbohydrates,WSC)和粗蛋白(crude protein,CP)的含量显著低于乳熟期,淀粉的含量显著增加,饲用品质较好。【结论】乳熟期小麦全株青贮的发酵品质因WSC含量高而显著优于蜡熟期;但蜡熟期青贮饲料的饲用品质则因种子比重增加,淀粉含量的增加而优于乳熟期。
【英文摘要】【Objective】 The changes in fermentation quality and feeding value of whole crop silage of wheat at different maturity stages were studied.【Method】Three wheat cultivars(Xinmai 18,Zhoumai 22,and Huaimai 22) were ensiled by polyethylene bag at milk and dough ripening stages to test the fermentation quality and feeding value.【Result】Whole crop of wheat ensiled at two maturation stages both provided good silage,but the fermentation quality and feeding value of the silages were significantly different between the maturity stages(P〈0.05).The pH,volatile fatty acid(VFA) including acetic acid(AA),prop ionic acid(PA),and butyric acid(BA) concentrations in the silage ensiled at milk ripening stage were significantly lower than that at dough ripening stage,while the lactic acid(LA) content was significantly higher.It indicates that fermentation quality of silage ensiled at the milk ripening stage was better than that at the dough ripening stage.The concentration of neutral detergent fiber(NDF),acid detergent fiber(ADF),water soluble carbohydrates(WSC) and crude protein(CP) of the silage ensiled at dough ripening stage were significantly lower than that at milk ripening stage,but the starch content was significantly higher.Then,feeding value of whole crop silage of wheat at dough ripening stage was better.【Conclusion】At the milk ripening stage,the fermentation quality of whole crop silage was better owing to the higher WSC content,while at the dough ripening stage,the feeding value of whole crop silage was better owing to seeds increasing and starch accumulation.
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【第一作者】秦梦臻
【通讯作者】沈益新
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【题目】PEG胁迫方法评价棉花幼苗耐旱性研究
【中文关键词】棉花;PEG胁迫;耐旱性;成活率
【英文关键词】cotton; PEG water-stress; drought tolerance; survival rati
【中文摘要】分别选用8个陆地棉、2个海岛棉、2个亚洲棉品种作为材料进行耐旱水平试验,以PEG6000作为水分胁迫剂,对棉花种子萌发期、芽期、子叶期和真叶期材料分别进行处理,得出了耐旱水平变化曲线,结果验证棉花耐旱性鉴定关键时期应在3~6片真叶幼苗。用不同浓度PEG6000对具有3~6片真叶的棉花幼苗进行12 h连续处理后,统计其成活率。研究表

明:PEG6000溶液浓度为17%(W/V)时,棉花幼苗的成活率与田间旱棚鉴定结果有较高的一致性。此方法简单、快速,易操作,基本可用于棉花品种的耐旱性评价与鉴定工作,并将为棉花耐旱分子生物学研究奠定基础。

【英文摘要】This experiment was conducted with eight cultivars of upland cotton, two of island cotton and three of Asian cotton as types of different levels in drought tolerance. Cotton materials during germination, budstage, cotyledon-stage and real-leaf stage were exposed to osmotic adjustments of PEG6000 for 12 hours in order to imitate the drought circumstance. After the 12-hours osmotic menace,calculated the survival ratio of various materials,then through statistical method,curves of the mutative level of drought tolerance were obtained, proving that the 3~6-leaf stage is the key stage on drought tolerance of cotton seedlings. With different PEG6000 concentration, the ratios which 3~6-leaf seedlings recovered were calculated to compare with the results in real drought situation. And the results revealed that: With 17%(W/V) PEG6000 treatment,the ratio which seedlings recovered corresponded with the results in drought-shed. The above results suggested that osmotic adjustments could be used to evaluate simply the drought tolerance of cotton, though the cotton after PEG-treated differed slightly in physiology with cotton after drought-treated. The method with osmotic adjustments of PEG is simple, fast and easy operated, could be used to evaluate the drought tolerance of cotton in principle, and will establish foundations for study on cotton drought-tolerance molecular biology.

【语种】中文

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【学科分类】分子生物学

【题目】基于形态参数和AFLP 标记的文蛤(Meretrixmeretrix)不同地理群体遗传变异分析

【中文关键词】文蛤, 地理群体, 遗传多样性, 形态变异, AFLP

【英文关键词】Meretrix meretrix, Geographical population, Genetic diversity, Morphological variance, AFLP

【中文摘要】"应用方差分析和Tukey 多重比较对文蛤的辽宁(LN)、山东(SD)、江苏(JS)、广西(GX)4 个自然地理群体的7 个壳形态参数进行了研究, 结果发现, SD 和JS 群体间差异不显著, LN 和GX 群体差异不显著, GX群体与SD和JS 群体间差异显著(P<0.05)。利用4 对引物组合对这4 个群体进行了AFLP扩增, 共得到236 个位点, 其中特有位点14 个, 这些特有位点可作为群体鉴别的特征性标记。遗传多样性分析表明, 4 个文蛤群体的遗传多样性水平均较高, 而以GX 群体最高, Nei’s 基因多样性指数和Shannon’s 多样性指数分别达到0.2636、0.3961, SD 群体最低, 分别为0.2308、0.3462。从群体间遗传距离和NJ 法构建的亲缘关系谱系图来看, LN 和SD 群体的遗传距离最近(0.0394), 首先聚在一起, 而GX 群体与其他3 个群体间都较远(0.1271—0.1586), 单独分出一支, 这说明GX 群体已发生了明显的遗传分化, 用它与其他3 个群体杂交可望较大幅度地提高遗传多样性水平。"

【英文摘要】"The genetic diversity of four geographical populations of Meretrix meretrix, i.e. Liaoning (LN), Shandong (SD), Jiangsu (JS) and Guangxi (GX), was analyzed using morphological parameters and AFLP markers. Shell traits were measured and seven shell parameters were used for Tukey’s multiple comparison among the four populations. The results showed no significant difference between the SD and JS, between the LN and GX populations, but significant difference in GX population to SD and JS populations. Four AFLP primer combinations were applied to analyze genetic diversities andrelationships among the four populations. Fourteen population-specific bands were found in 236 detected bands, 11 bands in GX population, 2 in LN population and 1 in SD population. The proportion of polymorphic loci were 72.02%, 67.43%, 74.65% and 76.92%, the genetic similarity indexes within each population were 0.7818, 0.8114, 0.7792, and 0.7582, Nei’s gene diversity indexes were 0.2603, 0.2308, 0.2554 and 0.2636, and Shannon’s information indexes were 0.3881, 0.3462, 0.3830, and 0.3961 for LN, SD, JS and GX population, respectively. The results showed that GX population had highestgenetic diversity and SD had the lowest. The genetic distance analysis showed that LN, SD, and JS populations were closer to each other than GX population to each of them. In addition to the genetic similarity indexes and distance matrixes among populations, the results of cluster analysis with NJ method showed that the LN and SD population were clustered together first and then clustered with JS population, and GX population was an independent cluster."

【语种】中文

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【题目】花粉管通道法获得棉花转基因株系主要农艺性状变异分析
【中文关键词】棉花;花粉管通道法;转基因;农艺性状;变异
【英文关键词】cotton(Gossypium hirsutumL.);pollen-tube pathway;transgenenic;agronomic traits;variations
【中文摘要】通过对花粉管通道法获得的38个棉花转基因株系稳定后代T5代主要农艺性状的变异进行分析发现,外源基因的导入可引起受体植株后代农艺性状可遗传的非靶标变异,且变异广泛,多个农艺性状出现了显著性变异。叶长和叶宽均有变短的趋势,但裂叶缺刻深浅变异方向不定,说明部分叶片变得更加皱缩。株高变异方向不定。与对照相比,吐絮期提前,单株结铃数增加,使皮棉和子棉产量均增加。纤维品质变异也很大,如比强度增大、麦克隆值变大、纤维长度也显著增加;短纤维指数变异方向不定。
【英文摘要】Variations of main agronomic traits in selected lines from transgenic cotton obtained bytransformed insect resistant genes into cotton line Zhong 99668 through pollen tube pathway method were investigated. Introducing of foreign genes resulted in stable hereditable non-target-gene variation of agronomic characteristics in the descents. The analysis of T5generation of transgenic lines revealed that variations occurred in many agronomic traits. Most of the transgenic lines showed an increasing trend for the yield, the number of plant branches and rolls. However, the reverse trend was also observed. The leaves became smaller and the generational period became shorter. A lot of variations in fiber qualities were also found such as fiber strength, micronaire value fiber length, fiber index, degree of uniformity etc.
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【第一作者】刘冬梅
【通讯作者】李付广
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【题目】施氮对江淮地区饲用玉米产量形成的调控研究
【中文关键词】饲用玉米; 产量形成; 江淮地区; 调控; 施氮; 粮食作物; 经济作物; 玉米籽粒
【英文关键词】forage maize ;yield formation ; the Jianghuai Area;regulating ;nitrogen ;Food crops; economic crops; corn grain
【中文摘要】玉米是重要的粮食、饲料和经济作物,世界约70%~75%玉米籽粒用作饲料。长期以来,我国把玉米作为粮食作物而重视其籽粒产量,忽视数量极大的玉米秸秆的饲用品质改良与整株利用研究。
【英文摘要】无
【语种】中文
【第一作者】史文娟
【通讯作者】董召荣
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【题目】ERF转录因子对生物胁迫的反应及对棉花抗性改良的意义
【中文关键词】ERF(乙烯应答因子),转录调控,棉花抗病性,分子改良
【英文关键词】ERF(ethylene responsive factor),Transcriptional regulation,Cotton disease resistance,Molecular improvement

【中文摘要】大量研究表明植物中ERF(ethylene responsive factor)类转录因子广泛参与外界环境胁迫应答基因表达的调控。它编码的蛋白能够特异结合GCC-box元件,从而调控启动子含有GCC-box的病程相关蛋白基因的表达,在植物抗病反应中发挥重要的调控作用。棉花中ERF基因表达受生物和非生物胁迫诱导,并在乙烯、茉莉酸和水杨酸信号传导途径中发挥一定的作用。一些ERF基因在转基因植物中的超表达表现出了一定的广谱抗性,因而在棉花分子育种中具有较为广阔的应用前景。本文主要论述了棉花等植物中ERF的结构与功能特征,当前相关研究进展,及其对棉花抗病性分子遗传改良的意义。

【英文摘要】Numerous studies have shown that transcription factor ERF(ethylene responsive factor)plays a crucial role in regulating plant genes that response to environmental stress.ERF is a subfamily of AP2/ERF,which could specifically bind the GCC-box presenting in the promoter of many PR genes and modulate their expression,consequently plays an important role in disease resistance signal pathway.Cotton ERF genes are induced by biotic and abiotic stresses,and involved in ethylene,jasmine and salicylic signal pathway.Over-expression of ERF genesshowed the broad-spectrum pathogen resistance in transgenic plants,which suggests a potential application of ERF genes in cotton molecular breeding.This paper summarized the structure and function of the ERF transcription factors in cotton and other plants,and discussed the significance in enhancing cotton disease resistance and molecular genetic improvement based on the current research progress.

【语种】中文

【第一作者】孟宪鹏

【通讯作者】李付广

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【学科分类】农学其他学科

【题目】基于几何参数模型和OpenGL的油菜角果可视化研究

【中文关键词】角果;几何参数模型;可视化;OpenGL

【英文关键词】无

【中文摘要】以油菜角果为研究对象,通过不同品种和氮肥盆栽试验数据统计分析,拟合得到油菜角果的几何参数模型。在此基础之上,研究了油菜角果的三维建模技术,构建了基于形态特征参数的角果几何模型。用圆柱体模拟果柄;采用组合多个几何图元的方式构建角果果身模型;用圆台体模拟果喙。然后,基于OpenGL图形平台,绘制了角果的三维形态,并进行了颜色渲染和光照处理。最后,通过耦合角果个体形态结构模型以及角果个体之间的相互关系,实现了角果个体一群体2个层次的形态可视化,为构建可视化油菜生长系统奠定了技术基础。

【英文摘要】无

【语种】中文

【第一作者】岳延滨

【通讯作者】曹宏鑫

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【学科分类】农业基础学科

【题目】广西文蛤(Meretrix)的fAFLP 及ITS 分析

【中文关键词】文蛤, fAFLP, ITS, PCR-RFLP, 遗传结构, 亲缘关系

【英文关键词】Meretrix, fAFLP, ITS, PCR-RFLP, Genetic structure, Genetic relationship

【中文摘要】利用fAFLP 标记技术和PCR-RFLP 技术, 对采集于广西的形态和壳色变异很大的2 个文蛤群体(G、W)以及山东文蛤(S)群体进行了遗传结构和亲缘关系研究。fAFLP 分析显示:在457 个总扩增位点中存在53 个W 群体的特异性位点(其中9 个为100%显性)、21 个G 群体的特异性位点、14 个S 群体的特异性位点, 这些位点可作为群体鉴别的特征性标记; 通过计算群体间相对遗传距离和聚类分析, 发现S 和G 间的遗传距离最小(0.0424), 在系统树上首先聚在一起, 而W 与S、G 的相对遗传距离均很大(0.2308 和0.2305), 单独分出一支。对文蛤核糖体ITS 的PCR-RFLP 结果显示: W的三个不同壳色类群(WX、WC、WH)的酶切结果完全一致, 而与G 和S 群体差别较大; G 和S 群体基本一致, 但也稍有差别。进一步的ITS 序列

分析显示: W 的ITS 序列长度为1266—1269bp, 而G和S 分别为1614bp 和1520bp; W 群体内部序列比较保守, 而与G 和S 群体之间在ITS1 和ITS2 开始和结尾处均存在多处插入/缺失; 在依据序列构建的系统树上, WX、WC、WH 三个类群聚在一起, S和G 聚为另一支, 两支相距甚远。本研究结果表明, fAFLP 标记分析、PCR-RFLP 分析和ITS 序列分析结果一致, W 群体和G、S 群体的差异较大, 已超出种内群体间的遗传变异, S 和G 尽管存在遗传分化, 但仍应同属Meretrix meretrix 一个物种。
【英文摘要】"The taxonomy of genus Meretrix has been in argument over several discrepancies among scientists in the world for a long while. Two groups of Meretrix clam (G & W) existed much variance on shell shape, color and pattern were collected from Beihai, Guangxi Province. One kind of Meretrix clam (G) is similar in shell color and pattern to Meretrix meretrix widely distributed in China costal region, another (W) is white color and convex in shell width. Genetic relationship between G and W was addressed by the fAFLP and PCR-RFLP compared with that of Shandong population of M. meretrix. The results of fAFLP analysis showed that each group had their own specific bands (loci) in which there were 53 unique loci in Group W, 21 unique loci in Group G, and 14 unique loci in S group. These unique loci could be taken for molecular markers to classify and distinguish other groups. The genetic distance matrix between Groups S and G was 0.0424, but the genetic distance matrix of W group between population S or G were 0.2308 or 0.2305 in respectively. Thephylogenetic trees by the methods of Neibour-Joining (NJ) indicated that Groups S and G were more closely related, but Group W was much independently clustered among groups. The result of PCR-RFLP suggested that W group was different from Groups G and S. The internal transcribed spacer (ITS) region was sequenced. The results show that the size of ITS ranged 1266—1269bp in W group, and 1614bp in Group G and 1520bp in S group. The sequences of W group were conserved, but obviously different from Groups G and. Phylogenetic trees by NJ method showed that Group G was more closely related to Group S, but Group W was much independent cluster. The results fully reveal that Group G belongs to M. meretrix, and Group W is an independent species. But we still could not classify Group W to M. lusoria or M. larmarckii, even a new species of genus Meretrix. More researches shall be carried out in the future."
【语种】中文
【第一作者】林志华
【通讯作者】胡景杰
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【学科分类】分子生物学

【题目】棉花耐旱相关基因研究进展
【中文关键词】棉花;耐旱基因;分子机制
【英文关键词】Cotton;Drought!tolerant gene;Molecular mechanism
【中文摘要】综述了棉花耐旱相关基因的研究进展及研究方法。
【英文摘要】The research progress of cotton drought tolerant gene and its research methods are summarized.
【语种】中文
【第一作者】张玲
【通讯作者】李付广
【期刊名称、卷期、页码】安徽农业科学;2008,36(5):1781-1782,1813
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【学科分类】分子生物学

【题目】四个杨树品系夏季光合作用日变化
【中文关键词】杨树品系;光合作用;日变化
【英文关键词】Populus;photosynthesis;diurnal variation
【中文摘要】树种(品系)选择和栽培措施的制定是农田防护林建设的重要内容。通过对‘I-69’、‘I-72’、‘I-63’、‘南林895’这4个在沿淮地区防护林建设中得到广泛应用的杨树品系的光合指标进行测定和分析。结果表明:从光合能力的差异来看,无论是日最大净光合速率还是日均净光合速率4,个品系中的排列顺序都是:‘南林895’〉‘I-69’〉‘I-63’〉‘I-72’。这说明‘南林895’较其他3个品系具有较强的光合能力;从影响光合作用的有关生理生态因子来看,4个

品系的光合能力强弱与蒸腾作用、叶表面温度、细胞间CO2浓度、气孔导度等生理生态因子都存在一定的相关性,并且在各生理生态因子中蒸腾速率对4个杨树品系光合作用的影响最为显著,其次是叶面温度,而细胞间CO2浓度和气孔导度对光合作用的影响相对较小。通过对这些光合生理学特性的分析,为沿淮地区农田防护林的建设提供一定的理论依据。

【英文摘要】The selection of species(strain) and the development of cultivation measures is an important part for establishing farmland shelterbelt.In this study,we selected four Populus strains('I-69'、'I-72'、'I-63' and 'Nanlin 895'),which have been widely planted in the Huaihe River,to analysis their photosynthetic characteristics.The results showed that: Whether maximum net photosynthetic rate in a day or daily average net photosynthetic rate,The photosynthetic capacity in four strains could be arranged from high to low as: 'Nanlin 895''I-69''I-63' 'I-72'.This indicated that 'Nanlin 895' had strong photosynthetic capacity compared with other strains;Concerning the impact of physiological and ecological factors on photosynthesis,the net photosynthetic rate of four strains had a certain correlation with the transpiration rate,intercellular CO2 concentration,leaf surface temperature and stomatal conductance.Among them,the most significant factor was transpiration rate,the next was leaf surface temperature.The influence of intercellular CO2 concentration and stomatal conductance was relatively small.Through the analysis of photosynthetic and physiological characteristics,a theoretical basis for the construction of farmland shelterbelt along the Huaihe River was provided

【语种】中文

【第一作者】闫年

【通讯作者】项艳

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【学科分类】农学其他学科

【题目】植物体细胞胚胎发生机理的研究进展

【中文关键词】植物组织培养;体细胞胚;氨基酸;同工酶;激素

【英文关键词】plant tissue culture; somatic embryo; amino acid;isoenzyme;phyto hormone

【中文摘要】体细胞胚胎的诱导是大多数植物组织培养中的关键环节。在愈伤组织分化胚性愈伤组织的过程中,随着细胞功能的转变,细胞内部基因的差异表达,引起了植物体内蛋白质组分、酶组分与活性、激素等各方面的变化,这些变化一直是组织培养研究中的热点。本文对体细胞胚胎的氨基酸变化、标记性蛋白、基因的差异表达、同工酶变化、激素动态和高体细胞胚胎发生率的材料遗传与选育等方面的研究进展作了综述。

【英文摘要】Induction of embryogenic callus (EC) is a key course of the whole plant regeneration process of plant tissue culture. Recent progresses in plant somatic embryogenesis, including the dynamic change of amino acid, enzyme and phyto hormones, protein marker and gene different expressions,and the heritability of regeneration capacityin vitroplant were reviewed. In the process of inducing callus to EC by tissue culture, the changes would happen to protein components, enzyme activity,phyto-hormone contents with cell functions transforming, and a series of genes expressing in plant,and how these affect the induction were the hot point of tissue culture researches. The research results of the increased content of nucleic acid, amino acid, and protein of EC were applied into the improvement of culture medium which was added more amino acids like Arg and Glu. It was proved thatPOD, APase and Esterase Isoenzymes played important roles in the differentiation of EC. In the same time, High ABA among of phyto-hormone was benefit to increase the ability of EC differentiation with low PEP. The study on differentia expression of gene was just at the initial stage, in which the common sequencings of protein of 35~55 kD was found as the marker of EC. The differentia expression gene had never been cloned. The researches on proteomics, which should be enhanced, were so far at initial research period of isoenzyme and protein marker. In genetics researches, though the genotype limitation existed in most of plants, the materials with high differentiation rates were only selected in few crops. So it is necessary to further search for the main genes of embryogenic callus and to select the high differentiation materials rapidly.

【语种】中文

【第一作者】张朝军

【通讯作者】李付广

【期刊名称、卷期、页码】棉花学报;2008,20(2):141-147

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【学科分类】分子生物学

【题目】棉花体细胞胚胎发生的研究进展
【中文关键词】棉花,影响因素,体细胞胚胎发生,组织培养
【英文关键词】cotton,factors,somatic embryogenesis,tissue culture
【中文摘要】经过30多年的发展,已经在多个不同的棉花品种中获得了体细胞胚,并再生成苗。但由于体细胞胚胎发生往往受多种因素影响,如何从愈伤组织高效率地转化为胚性愈伤组织依然是限制棉花组织培养与遗传转化的关键问题之一。本文概述了棉花体细胞胚胎发生的研究进展,分别从棉花体细胞胚胎发生的起源、影响棉花体细胞胚胎发生的内外因素以及寻找棉花体细胞胚胎发生特异表达基因等几方面进行综述,并对研究中存在的问题进行了讨论。
【英文摘要】Over the past 30 years,somatic embryogenesis induction and plant regeneration has been successful in many different cotton cultivars.However,the efficient conversion of callus into embryogenic callus is still a restricting step during cotton tissue culture and genetic transformation,because embryogenic callus induction is affected by many fac tors.This paper reviews the research into cotton embryogenic callus in terms of the origin,intrinsic and extrinsic factors affecting callus differentiation,as well as the techniques used to investigate the differential gene expression in the conversion process.We also discuss the problems encountered during the research.
【语种】中文
【第一作者】武秀明
【通讯作者】李付广
【期刊名称、卷期、页码】植物学通报;2008,25(4):469-475
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【学科分类】分子生物学

【题目】文蛤(Meretrix meretrix)幼虫发育过程中细胞凋亡和Caspase 功能分析
【中文关键词】文蛤幼虫, 细胞凋亡, Caspase, 发育, 变态
【英文关键词】Meretrix meretrix larvae, Apoptosis, Caspase, Development, Metamorphosis
【中文摘要】"以文蛤为研究对象, 利用TUNEL 技术(Terminal-deoxynucleotidyl transferase mediated dUTPNick End Labeling)检测了文蛤各发育阶段的幼虫中细胞凋亡的部位, 利用Caspase 原位标记分析了有活性的Caspase 在幼虫中的分布情况, 用Caspase 抑制剂Z-VAD-FMK 处理受精后4 天和5 天的变态前幼虫, 同时以抑制剂的有机溶剂DMSO(Dimethyl sulfoxide)作对照, 根据其对幼虫变态的影响,分析Caspase 在文蛤幼虫变态中的作用。细胞凋亡检测结果显示, 幼虫发育过程中发生细胞凋亡的部位主要在壳顶幼虫的面盘, 说明细胞凋亡可能是文蛤幼虫变态过程中面盘退化的主要机制; 在担轮幼虫至壳顶幼虫中都检测到有活性的Caspase, 说明整个幼虫形态变化过程中都有Caspase 的参与;用Caspase 特异性抑制剂处理变态前幼虫, 发现处理组幼虫变态率均显著低于对照组(P<0.05), 说明Caspase 在变态早期和晚期都有重要作用, 同时发现DMSO 对幼虫变态有诱导作用, 可以在生产中加以利用。"
【英文摘要】"Apoptosis plays an important role in larval development of species. Taking clam Meretrix meretrix as an example, to the apoptosis and function of caspase in bivalve larvae development and metamorphosis were studied. Apoptosis was detected in larvae at different stages with TUNEL labeling (Terminal-deoxynucleotidyl transferase mediated dUTP Nick End Labeling). The distribution of activated caspase in larvae was examined with CaspACETM FITC-VAD-FMK In Situ Marker. The pan-caspase inhibitor (Z-VAD-FMK) was used to analyze the function of caspase in 4-day-old and 5-day-old larvae post fertilization. Dimethyl sulfoxide (DMSO), the solvent of the inhibitor, was added to seawater as control. According to the effect on metamorphosis, the function of caspases in larvae was analyzed. The results reveal that the main apoptosis event occurred in the velum of pediveliger before metamorphosis, indicating that the degradation of velum might be the process of apoptosis. The activated caspases were observed in the larvae from trochophore to pediveliger, suggesting the caspases are involved in the whole developmental process. Having detected no signal in the velum, we proposed that the apoptosis in velum might be caspase-independent. The 4-day-old and 5-day-old larvae under treatment of caspase inhibitor showed significant lower metamorphosis rates than that in the DMSO control group (P<0.05). The results indicate that the caspases had functioned in early and later stages of metamorphosis, and also that DMSO couldbe an inducer in larvae metamorphosis."
【语种】中文
【第一作者】王晓梅

【通讯作者】刘保忠
【期刊名称、卷期、页码】海洋与湖沼Vol.40, No.2,Mar, 2009,181-186
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【学科分类】分子生物学

【题目】棉花黄萎病及抗病育种研究进展
【中文关键词】In this review,we mainly summarized the recent research advances on cottonVerticillium wilt in the following aspects:mechanism ofVerticilliumpathogenicity,mechanism of host resistance,cotton resistance breeding againstVerticilliumwilt.We analyzed the dif
【英文关键词】cotton (Gossypiumspp.);Verticilliumwilt;resistance breeding
【中文摘要】介绍了黄萎病病菌致病机理、棉花黄萎病抗病机理及棉花抗黄萎病育种研究的现状,从不同的方面分析了制约棉花抗黄萎病育种研究的因素,提出了加快抗黄萎病育种研究进程的对策和建议。
【英文摘要】棉花;黄萎病;抗性育种
【语种】中文
【第一作者】李成伟
【通讯作者】李付广
【期刊名称、卷期、页码】棉花学报;2008,20(5):385-390
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【学科分类】农业基础学科

【题目】基于生物量的水稻根系生长动态模型
【中文关键词】水稻根系;生物量;生长模型
【英文关键词】rice root system;biomass;model
【中文摘要】为了建立水稻根系生长动态模型,实现根系可视化,该研究以两优108(Val,杂交籼稻)、86优8(Va2,杂交粳稻)和南粳43(Va3,常规粳稻)为材料,采用塑料桶土培,设施肥(每盆N 3.6 g,P:O,0.8 g、KO 3.6 g),与不施肥(基土同施肥处理)两个水平,分析并建立水稻根系根长、根体积以及根表面积与根干重的最适关系模型。结果显示:根长、根体积及根表面积与根干重间的动态关系符合幂函数y=ax6;2008年根长、根体积及根表面积的模拟值与观测值的根均方差(RMSE)每株分别为358.138 l cm、2.089 1 em3和136.325 2 cm2,2009年的每株分别为42.993 7 em、0.314 9 cm3和14.072 8 cm2,检验结果为该模型可靠性较好。表明所建水稻根系生长动态模型具有一定的解释性和通用性,为功能-结构水稻模型研究及水稻可视化奠定了基础,对水稻理想株型设计、结构与功能关系研究及水稻生长系统的可视化和数字化均有一定的参考价值。
【英文摘要】To build the dynamic model for rice root system according to the geometry parameters and to achieve visualization of the root system in combination with computer graphics,three rice cultivars,Liangyoul08(hybrid long-shaped rice,Val),86you8(hybrid round-shaped rice,Va2)and Nanjing43(round-shaped rice,Va3),were planted in pots.There are two different levels of fertilizer:fertilizer(N 3.6 g,P205 0.8 g,KO 3.6 g),and no fertilizer(with loamy soil).Based on the experimental observations,the relationships between the root dry weight and root length,root volume,and root surface area were analyzed,respectively.The power function Y=axb was showed to describe above relationships.The RMSEs between the simulation values and the observation values of the root length per plant,the root volume per plant,and the root surface erea per plant were 358.138 1 cm,2.089 1 cm3,and 136.325 2 cm2 in2008 respectively,and42.993 7 cm,0.314 9 cm3.and 14.072 8 cm2 in 2009 respectively。which revealed that the model established was reliable,accountable and universal.This research would lay a basis for developing function-structure rice models.
【语种】中文
【第一作者】刘永霞
【通讯作者】曹宏鑫
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【题目】植物渗透调节研究进展及与棉花耐旱遗传改良
【中文关键词】渗透调节,干旱胁迫,棉花耐旱
【英文关键词】Osmotic adjustment,Drought stress,Cotton drought tolerance
【中文摘要】渗透调节是植物在干旱胁迫下降低渗透势,抵抗逆境胁迫的一种重要方式,是植物的一种重要抗逆生理机制。渗透调节物质合成相关基因在植物中的超表达可提高植物的耐旱性,在棉花耐旱遗传改良方面有着广阔的应用前景。本文综述了近年来几种主要的有机渗透调节物质的研究进展,及其对棉花耐旱遗传改良的意义。
【英文摘要】Osmotic adjustment is one of the most important ways that higher plant devolepes to maintain the osmotic balance and resist to environmental stress under water deficiency.Over-expression of certain genes which encode key enzymes involved in the osmolytes biosynthesis,showed improved drought tolerance in transgenic plants,which suggests a potential application of these genes in cotton geneticimprovement.This article reviews the advance in several important osmoprotectants based on the current research and discusses the promising application of osmoprote ctant in enhancing cotton drought tolerance and molecular genetic improvement.
【语种】中文
【第一作者】陈亚娟
【通讯作者】李付广
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【题目】菲律宾蛤仔(Ruditapes philippinarum)大连群体家系建立及生长比较
【中文关键词】菲律宾蛤仔, 野生群体, 家系, 生长
【英文关键词】Ruditapes philippinarum, Wide population, Family, Growth
【中文摘要】于2008 年6 月, 以大连野生型蛤仔为材料, 采用巢式设计即1 个雄性亲本与3 个雌性亲本交配的方式建立了菲律宾蛤仔15 个半同胞家系(A, B, …, O)和45 个全同胞家系(A1, A2, A3, …, O1, O2,O3)。对各家系的壳长、壳宽、壳高、鲜重等各项指标进行了方差分析和多重比较。结果表明, 3、4、5月龄, 菲律宾蛤仔45 个全同胞家系的表型性状具有显著差异, 且各月龄的差异趋势基本一致。5 月龄时, 从其生长性状上看, 家系F2、G2、G3表现出明显的生长优势, 壳长分别提高28.43%、24.72%、30.53%,壳宽分别提高21.14%、22.3%、25.58%, 壳高分别提高30.88%、26.96%、25.25%, 鲜重分别提高50.00%、68.42%、44.12%。从其存活上看, 家系E3的四个表型性状在全同胞家系中最小, 但存活数量最多为2269粒, 表现出很强的抗逆性; 具有生长优势的家系F2 存活个数最少仅为43 粒, 抗逆性相对最差。从其产量上看, 家系N3、I1、E3、C1、N1、G2 产量较高, 分别比平均产量提高了77.8%、75.61%、75%、69.45%、53.96%、50.19%。综合以上各项指标家系G2、G3、N3、E3、I1、C1、N1 可作为优良的家系育种材料, 在下一步育种工作中可以利用家系选择及家系杂交的方法对7 个家系进行遗传改良。
【英文摘要】Fifteen half-sib families and 45 full-sib families were established by using the nest design of ♂: ♀ = 1 : 3, in June 2008. Phenotypic growth traits, such as shell length, shell width, shell height, and fresh weight, were compared among different families by using the ANOVA. The results show that the shell length was significantly different among 45 full-sib families at the age of 3, 4, 5 months; however, the growth tendency of those 3-month-old ones were nearly the same. The growth traits of the 5-month ones showed strong enhancement in F2, G2, G3 having the shell length increased by 28.43%, 24.72%, and 30.53%, the shell width by 21.14%, 22.3%, and 25.58%; the shell height by 30.88%, 26.96%, and 25.25%; the fresh weight by 50.00%, 68.42%, and 44.12%, respectively. E3 is best in anti-adversity having the smallest phenotypic growth traits and the largest survival rate among all the 45 full-sib families; while F2 was the poorest in anti-adversity. The yields of family systems N3, I1, E3, C1, N1, and G2 were improved with 77.8%, 75.61%, 75%, 69.45%,53.96%, 50.19%, respectively. The results suggest that G2, G3, N3, E3, I1, C1, and N1 are good candidates of breed.
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【题目】饲用小黑麦在皖西北地区的引种及生产性能
【中文关键词】皖西北地区;小黑麦;引种
【英文关键词】northwest of Anhui province;triticale;introduction
【中文摘要】为建设皖西北优质饲料作物基地,满足当地畜牧业需求,在安徽阜阳进行小黑麦中饲237和中新830引种试验。结果表明:所引小黑麦品种能较好地适应当地自然条件,表现出生育期适中、产草量高、品质优、可适度刈割和抗性强等特点,可作为饲用优良麦类品种在当地大力推广种植。
【英文摘要】The introduction experiment of two triticale cultivars,Zhongsi 237 and Zhongxin 830,was conducted to screen out good forage triticale Cultivars for establishing the quality forage basis to develop local animal husbandry in northwest of Anhui province.The results show that two introduced triticales cultivars can adapt local ecological condition and has the advantage of moderate growth period,high grass yield,good grass quality,moderate cutting tolerance and strong resistance.Therefore,two introduced forage triticale cultivars can be vigorously popularized in northwest of Anhui province.
【语种】中文
【第一作者】李焰焰
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【题目】来源于耐旱荒漠植物蛋白CkND对棉花黄萎病的抑制作用及其抗旱性研究
【中文关键词】牛心朴子;蛋白CkND;棉花黄萎病;抗旱性
【英文关键词】Cynanchum komarovii;CkND protein;Verticillium dahliaeKleb;drought-resistant
【中文摘要】利用蛋白组学策略分离了荒漠植物-牛心朴子(Cynanchum komarovii)抗病、抗旱功能相关蛋白CkND。以棉花黄萎病菌为供试菌株,研究了蛋白CkND对棉花黄萎病的抑制作用。结果表明:蛋白CkND对棉花黄萎病菌菌丝生长及孢子萌发具有较好的抑制作用。离体试验中,100 mg·L-1的蛋白CkND对棉花黄萎病菌菌丝生长抑制效果在24 h、48 h、72 h分别为79.53%、83.01%、87.50%,35 mg·L-1的蛋白CkND对孢子萌发抑制率为100%;活体试验中,蛋白CkND对棉花黄萎病具有显著的防治效果。另外,本研究将CkND基因构建到pCAMBIA1304表达载体CaMV35S启动子下游,将pCAMBIA1304-CkND通过农杆菌介导转化法转入野生型拟南芥植株中。将33个株系的转pCAMBIA1304-CkND的T2代拟南芥和21株转pCAMBIA1304的T2代拟南芥,同时进行抗旱性试验。结果显示,转pCAM-BIA1304的T2代拟南芥14个株系枯死,而转pCAMBIA1304-CkND的T2代拟南芥有24个株系的转基因植株存活,且叶片保持绿色,植株生长良好,根系、须根发达,须根数目明显增多。转pCAMBIA1304-CkND拟南芥株高增加了30%,显著提高了植物抗旱性。
【英文摘要】Protein CkND, a novel disease-resistant and drought-resistant protein, was extracted formthe roots of Cynanchum Komaroviiby method of proteomics. In this study, we tested the fungicidalactivities and resistance of protein CkND againstVerticillium dahliae. The results showed that short protein CkND may have a good inhibition on the spore germination and mycelial growth ofVerticilli-um dahliae. In vitro test suggested that 100 mg·L-1of protein CkND on mycelial growth at 24 h, 48h, 72 h was 79.53%, 83.01% and 87.50%, respectively ,and 35 mg·L-1of protein CkND on sporegermination ofVerticillium dahliaewas 100%.In vivotest showed that protein CkND had good in-hibitory effects againstVerticillium dahliae. In addition, theCkNDgene was constructed into the downstream of the CaMV35S promoter of the pCAMBIA1304 expression vector and transfer of pCAMBIA1304-CkNDwas transferred intoArabidopsisthalianamediated by Agrobacteriumtume faciens. We take33 pCAMBIA1304-CkNDT2transgenic plants and 21 pCAMBIA1304 T2transgenicplants into drought-resistant experiments at the same time. The results showed that 14 of the pCAMBIA1304 T2transgenic plants died, but 24 pCAMBIA1304-CkNDT2transgenic plants survived. Theleaves kept green, the plant growed well, roots and fibrous roots developed strongly, and the number of fibrous roots increased obviously. The drought-resistant of pCAMBIA1304 CkNDtransgenic plants increased 30%, which obviously enhance the drought-tolerance of plants.

【语种】中文
【第一作者】李付广
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【学科分类】分子生物学

【题目】菲律宾蛤仔(Ruditapes plilippinarum)大连群体两种壳型家系生长发育比较
【中文关键词】菲律宾蛤仔; 大连群体; 壳型; 家系; 生长发育
【英文关键词】Ruditapes plilippinarum; dalian population; shell-shape line; growth and development
【中文摘要】通过对菲律宾蛤仔大连群体壳宽的选择,于2006年5月建立了壳宽型(WS)和壳扁型(PS)两个家系。对两种壳型亲本的鲜重、性比、产卵量及其子代的生长与存活进行了比较。结果表明:两种亲贝的鲜重差异显著(P<0.05),WS、PS亲贝的雌雄比例分别为0.88∶1、0.62∶1,产卵量分别为124.19万/粒和408.50万/粒;两家系子代的卵径、D形幼虫大小、变态规格无显著差异(P>0.05),但单水管、双水管稚贝的大小差异显著(P<0.05);幼虫浮游期间(0~16日龄),WS和PS幼虫平均生长速度分别为(9.46±1.56) μm d-1和(9.60±0.38) μm d-1,差异不显著(P>0.05)。12日龄前,WS和PS幼虫存活率差异不显著(P>0.05),但16日龄时,WS幼虫存活率明显低于PS(P<0.05)。变态期间(16~24日龄),WS家系的生长速度((2.64±0.34) μm d-1)显著地小于PS家系((3.91±0.67) μm d-1)(P<0.05),WS家系的变态率(5.32%±1.53%)也显著地小于PS家系(15.68%±3.06%)(P<0.01)。PS家系在稚贝的室内培育期间(24~60日龄)和生态池育成阶段(60~180日龄)的生长速度均显著地快于WS家系(P<0.05);PS家系的存活率也均显著地高于WS家系(P<0.05)。
【英文摘要】This study compared the whole body weight,gender ratio,and fecundity of broodstcoks from two lines of Manila clam(Ruditapes philippinarum) with different shell shapes(wide-shell,WS and plate-shell,PS) and the growth and survival of their offspring.The results showed that the PS broodstock was larger than the WS broodstock(15.6 vs.11.6 g/clam)(P<0.05).The brookstock ♀:♂ratio was 0.62:1 for the PS line and 0.88:1 for WS line.Fecundity was 4.08×106 eggs/PS clam and 1.24×106 eggs/WS clam.There were no significant differences(P>0.05) in sizes of eggs,D-larvae,and metamorphosed larvae between the two lines.The single-siphon juveniles of PS clams were larger(P<0.05) in shell size than those of WS clams,while the double-siphon juveniles of the former were smaller(P<0.05) than the latter.At the pelagic larval stage(0-16 days),there were no significant differences in the daily growth rate and survival of larvae between the two lines.During the metamorphosis(16-24 days),the daily growth rate of PS line((3.91±0.67) μm d-1) was significantly greater(P<0.05) than that of WS line((2.64±0.34) μm d-1).The metamorphosis rate of the former(15.68%±3.06%) was also higher than that of the latter(5.32%±1.53%)(P<0.01).During the indoor(24-60 days) and outdoor(60-180 days) rearing periods,the PS line also grew faster and had higher survival than the WS line(P<0.05).These results indicate that the PS line appears to be superior to the WS line in most production traits evaluated.
【语种】中文
【第一作者】张跃环
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【题目】亚洲棉(Gossypium arboreum L.)全生育期均一化全长cDNA文库的构建和鉴定
【中文关键词】亚洲棉;全生育期;均一化;cDNA文库;EST
【英文关键词】asian cotton;whole-life cycle;normalization;cDNA library;EST
【中文摘要】【目的】构建二倍体亚洲棉石系亚1号全生育期均一化全长cDNA文库,建立亚洲棉功能基因组学研究基础平台,发掘亚洲棉发育、抗逆等相关基因。【方法】取石系亚1号子叶期、苗期、蕾期、花铃期不同组织器官,提取总RNA并分离纯化mRNA,采用SMART技术反转录全长双链cDNA。用DSN(duplex-specific nuclease)法对全长双链cDNA进行均一化,均一化的cDNA连接到λZAPⅡ载体,包装蛋白包装后构建石系亚1号全生育期均一化全长cDNA文库。【结果】初级文库滴度4×106pfu·ml-1,库容2×106个独立隆,重组率大于95%,插入片段平均长度大于1.5 kb。随机挑取192个克隆进行

EST(expressed sequence tags)测序,冗余度仅为3.49%。BLASTN比对结果显示:78.31%的EST为新EST。【结论】文库均一化效果良好,质量符合要求,可能包含大量新基因,是进行EST测序、发掘新基因等棉花功能基因组学的研究平台。
【英文摘要】【Objective】In order to develop a functional genomics platform for diploid Asia cotton(Gossypium arboreum L.)and discover novel genes related to resistance and development,a normalized full-length cDNA library of Shixiya I(Gossypiumarboreum L.)in the whole-life cycle was constructed.【Method】Individual plant of Shixiya I at the stages of cotyledon and seedling,leaves at the stage of seedling,flowers,buds and bolls at various stages were used for library construction.Total RNA was extracted from them with a modified CTAB method.Purified from total RNA,mRNA was reverse transcripted to double strands fulllength cDNA with the SMART technique.The cDNA from different tissues was normalized with the DSN method,then the normalized cDNA was linked with λZAPⅡvector.The normalized full length cDNA library was constructed when the ligation was packed with GigapackⅢXL packaging extract.【Result】The titer of primary library was 4×106pfu · ml-1,the capacity was 2×106clones,and the recombination ratio was more than 95%.The average insertion size was above 1.5 kb.Random selected 192 cloneswere sequenced,the redundancy was 3.49%.With BLASTN,sequences were compared against online nucleotide databases,78.31%of the sequences were not found in GenBank,and 21.69%were found in existing nucleotide databases.【Conclusion】It is suggested that the cDNA library was well normalized with high quality.Most likely containing many novel genes,the library can be well usedfor cotton functional genomics,novel gene screening and high-throughput EST sequencing.
【语种】中文
【第一作者】王玉荣
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【题目】甜高粱用作青贮作物的潜力评价
【中文关键词】甜高粱; 营养成分;干物质产量; 青贮
【英文关键词】Sweet sorghum; Nutritioncomposition; Dry matter yield; Silage
【中文摘要】为探索华东地区甜高粱(Sorghum bicolor (L.) Moench)用作青贮饲料的可能性,丰富该地区饲料作物来源,在相同的大田试验条件和350 kg · hm-2施肥(尿素)水平下,以渝单8号和登海9号玉米(Zea mays L.)为参照,研究了大力士甜高粱(H unnigreen)的干物质产量、饲草品质和青贮饲料品质.大力士甜高粱5月下旬播种,9月初刈割.结果表明:地上部干物质产量达44.0 t · hm-2,显著高于玉米(P<0.05).大力士干物质中粗蛋白质含量为5.11%,和渝单8号相近;粗蛋白质和可消化干物质产量分别达到2.25和20.8 t · hm-2,是玉米的1.4倍和1.6倍.大力士的中性洗涤纤维(NDF)含量与2个玉米品种无显著差异,酸性洗涤纤维(ADF)含量显著高于玉米(P<0.05),但青贮后,大力士ADF含量下降了3.2%.大力士甜高粱青贮发酵品质及青贮饲料品质和玉米相当,因此在华东地区用作青贮作物栽培有较大的利用潜力.
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【第一作者】渠晖
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【题目】棉花体细胞胚发生机理的研究进展
【中文关键词】陆地棉;体细胞胚发生;畸形体细胞胚;机理
【英文关键词】Gossypium hirsutumL.;somatic embryogenesis;abnormal somatic embryo;mechanisms
【中文摘要】棉花是一种较难通过体细胞胚发生完成植株再生的作物,而体细胞胚发生是限制棉花基因工程和细胞工程得以广泛应用的主要因素.研究者从不同角度探讨了棉花体细胞胚发生机理并取得了很大的进展,为棉花的遗传转化提供了重要的技术支持,同时成功建立了一些棉花植株再生体系.本文分别从基因型限制、胚胎学、生理生化变化、分子机理等

方面阐述了近年来棉花体细胞发生机制的研究进展,并讨论了本研究领域目前存在的主要问题及相应对策.
【英文摘要】Because it is relatively difficult to obtain somatic embryos and regenerated plants from cotton via tissue culture,somatic embryogenesis is a main factor which limits its extensive application on cotton genetic engineering and cell engineering.Great progresses have been made in different aspects of cotton somatic embryo research,and several research groups have established series of plant regeneration system of cotton,which provide necessary technical support for cotton genetic transformation.This article reviews the progresses in cotton somatic embryogenesis in recent years,mainly in genotype dependence of somatic embryogenesis,embryological studies,physiological and biochemical changes and molecular mechanisms.This article also discusses the existing problems in the studies of cotton somatic embryogenesis and the future works in this field.
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【题目】支持向量机在地下水水质评价中的应用
【中文关键词】支持向量机;地下水;水质评价
【英文关键词】SVM;groundwater quality;water quality evaluation
【中文摘要】【目的】针对地下水水质评价中影响因素的模糊性和各因素与评价等级之间的不确定性等问题,采用支持向量机模型进行地下水水质评价研究,改进地下水水质评价方式。【方法】应用非线性支持向量机模型中的分类支持向量机,选用 Gauss核函数,以羊毛湾灌区部分水井的水质资料为研究对象,进行地下水水质评价,并利用综合指数法和BP人工神经网络法对评价结果进行验证。【结果】羊毛湾灌区水质评价结果显示,该区地下水资源已被污染,需要进行保护性开发。3种方法的评价结果较为相似,但相较于综合指数法,支持向量机计算速度较快,易于通过计算机实现;相较于标准BP人工神经网络模型,支持向量机的评价精度较高,收敛速度较快,且所需参数较少。【结论】支持向量机能将复杂的非线性问题转化为线性问题,从而有效地避免过学习问题,并且拥有极大的泛化能力和对小样本问题的处理能力,可有效提高地下水水质评价精度,简化评价过程,为地下水水质评价提供了一条新思路。
【英文摘要】【Objective】Oweing to the fuzziness of the affecting factors and uncertain relationship be-tween the factors and groundwater quality levels,the theory of Support Vector Machine(SVM)is intro-duced to study the groundwater evaluation,so that the groundwater quality evaluation,and the development and utilization of groundwater resources of Yangmaowan Irrigated Area could be improved.【Method】Choosing the Classified-Support Vector Machine(C-SVM)and Gauss kernel function,using the data ofYangmaowan Irrigated Area,groundwater quality is evaluated.And the result is compared with the one ofSynthetical Index Method and BP Artificial Neural Network(BP ANN).【Result】From the result ofgroundwater quality evaluation of Yangmaowan Irrigated Area,we can see that,the groundwater should beprotective development.The results from 3different methods are similar,but comparing with SyntheticalIndex Method,the calculation of SVM is faster and easier to achieve on the computer;and comparing withstandard BP ANN,SVM is more accurate,faster,and need fewer parameters.【Conclusion】The methodbased on SVM can translate nonlinearity to linearity,so it can avoid over-fitting problem.Besides,it alsohas better generalization ability and handling ability with small sample data.Apparently,it can also improvethe accuracy effectively and simplify the calculation.Overall,SVM is a new way to evaluate the groundwa-ter quality.
【语种】中文
【第一作者】陈琳
【通讯作者】刘俊民
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【学科分类】农业工程

【题目】基于GIS技术的远程集中用水管理控制系统
【中文关键词】GIS;GSM 通信;历史数据;用水管理;远程控制
【英文关键词】GIS technology; GSM communication; history data; water management; remote control
【中文摘要】该系统是结合 GIS 技术和 GSM 通信技术,实施对农业灌溉用水的远程调度和管理同时合理的对农作物进行灌溉保证了农产品的质量。在系统中充分利用计算机技术和 GIS 技术对各个不同用水点的信息进行可视化的管理。同时利用 GSM 网络覆盖面积广、抗干扰强等特点,实现对数据的远程传输。利用 Visual C++6.0 和 SQL Server 2000 数据库技术来实现对实时数据进行处理。通过对系统中的灌溉和用水历史数据的科学分析,从而达到对灌溉用水的科学使用和管理。通过应用示范,为北京市水利系统提供一套功能完备齐全的用水计量管理系统,达到对北京市地下用水统一管理,统一收费和科学决策的目的。
【英文摘要】To achieve the unification of management, charging and scientific decision-making of Beijing underground water, integrated with GIS and GSM communication technology, this system supervises the agricultural irrigative water remotely to guarantee the quality of agriculture products. Using GIS and computer technology, different water-consuming points could be supervised visually. With the advantages of the GSM internet, such as wide coverage area, powerful property of anti-jamming, the remote data transmission was achieved. Visual C++6.0 and SQL Server 2000 were used to process the remote data. The history data of irrigation must be analyzed scientifically to administer and use the irrigative water reasonably. Through the demonstrative applications, the system provides a fully functional system of water management.
【语种】中文
【第一作者】方桃
【通讯作者】郑文刚
【期刊名称、卷期、页码】农业工程学报 ,2008.9(24):2 54-57
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【学科分类】农业工程

【题目】不同壳型菲律宾蛤仔杂交家系的建立及早期生长发育比较
【中文关键词】菲律宾蛤仔, 壳型, 杂交家系, 生长发育
【英文关键词】Ruditapes philippinarum Shell shape Hybrid family Growth development
【中文摘要】利用3种壳型的菲律宾蛤仔,即壳宽型(H)、中间型(M)和壳扁型(P),采取双列杂交方式,成功建立3种杂交组合(PH、HM和MP),每个杂交组合由4个杂交家系组成,共12个杂交家系。结果表明,不同壳型亲本形态差异显著(P<0.05,n=4);各杂交组合的D形幼虫、附着规格、变态规格和单水管稚贝的大小彼此间差异不显著(P>0.05,n=120)。幼虫浮游期间,3种杂交组合表现出不同程度的生长、存活优势。PH杂交组合表现出明显的生长优势,与HM、MP组幼虫大小差异显著(P<0.05,n=120),生长速度分别为(10.21±0.42)、(9.96±0.52)和(9.29±0.52) μm/d;从存活率上看,9日龄时,PH杂交组合存活率最高,与HM、MP组合差异极显著(P<0.05,n=12)。变态期间,幼虫生长缓慢,PH、HM和MP杂交组合的生长速度分别为(1.72±0.48)、(1.93±0.53)和(2.08±0.39) μm/d,差异显著(P<0.05,n=120);变态率分别为(83.20±8.47)%、(6.45±3.06)%和(10.75±3.70)%,差异极显著(P<0.01,n=12)。稚贝培育期间,3组稚贝的大小差异极显著(P<0.01,n=120),生长速度分别为(16.74±3.06)、(13.08±2.24)和(15.20±2.55) μm/d;本阶段3组存活率均较高,分别为(93.25±2.99)%、(90.75±2.22)%和(87.25±4.86)%,彼此间差异显著(P<0.05,n=12)。
【英文摘要】The twelve hybrid families were obtained by broodstock of different shell shapes including "wide","middle","flat" in October,2007.The experiment consisted of three hybrid categories(PH=0,HM,MP),and each category was made up of four hybrid families,which included twelve hybrid families altogether.The results showed that the morphology of parents was of significant difference,and the size of D-larvae,size at settlement and metamorphosis,and the size of single siphon juveniles were not significantly different.At planktonic stage,the growth and survival of the larvae were different.The size of PH larvae was significantly bigger than HM and MP categories(P<0.05,n=120),and the growth rates were(10.21 ± 0.42),(9.96 ± 0.52),(9.29 ± 0.52) μm/d for these categories,respectively.The survival of 9d larvae of the PH category was significantly higher than the HM and MP categories.At the metamorphic stage,the larvae grew slowly.Larvae of the PH,HM and MP categories showed growth rates of(1.72 ± 0.48),(1.93 ± 0.53),(2.08 ± 0.39) μm /d,respectively,which were significantly different.The metamorphosis rates of these categories were(83.20 ± 8.47)%,(6.45 ± 3.06)%and(10.75 3.70)%,and the difference was extremely significant.At the nursery stage,juveniles of the PH,HM,MP categories showed significant difference in size and their growth rates were(16.74 3.06),(13.08 2.24)and(15.20 2.55) μm/d,respectively.Survival of juveniles was also significantly different between each category,which was(93.25 ± 2.99)%,(90.75 ± 2.22)%and(87.25 ± 4.86)% for PH,HM and MP.

【语种】中文
【第一作者】张跃环
【通讯作者】闫喜武
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【学科分类】分子生物学

【题目】Genetic structure composed of additive QTL, epistatic QTL pairs and collective unmapped minor QTL conferring oil content and fatty acid components of soybeans
【中文关键词】无
【英文关键词】Soybean [Glycine max (L.) Merr.];Oil and fatty acids;Additive QTL;Epistatic QTL pair; Collective unmapped minor QTL
【中文摘要】无
【英文摘要】The relative importance of various types of quantitative trait locus (QTL) conferring oil content and its fatty acid components in soybean seeds was assessed through testing a recombinant inbred line(RIL) population (derived from KF1 9 NN1138-2) in randomized blocks experiments in 2004 – 2006. The contents of oil and oleic, linoleic, linolenic, palmitic and stearic acids were determined with automatic Soxhlet extraction system and gas chromatography, respectively. Based on the established genetic linkage map with 834 markers, QTLNetwork2.0 was used to detect QTL under the genetic model composed of additive, additive 9 additive (epistasis), additive 9 year and epistasis 9 year effects. The contributions to the phenotypic variances of additive QTL and epistaticQTL pairswere 15.7%(3 QTL) and 10.8%(2 pairs) for oil content, 10.4% (3 QTL) and 10.3% (3 pairs) for oleic acid, 11.6% (3 QTL) and 8.5% (2 pairs) for linoleic acid, 28.5% (7 QTL) and 7.6% (3 pairs)for linolenic acid, 27.0% (6 QTL) and 16.6% (7 pairs) for palmitic acid and 29.7% (5 QTL) and 4.3%(1 pair) for stearic acid, respectively. Those of additive QTL by year interaction were small and no epistatic QTL pair by year interaction was found. Among the 27 additiveQTL and 36 epistaticQTL (18 pairs), three are duplicated between the two QTL types. A large difference was found between the genotypic variance among RILs and the total variance of mapped QTL, which accounted for 52.9 – 74.8% of the genotypic variation, much larger than those of additive QTL and epistatic QTL pairs. This part of variance was recognized as that due to a collection of unmapped minor QTL, like polygenes in biometrical genetics, and was designated as collective unmapped minor QTL. The results challenge the breeders for how to pyramid different types of QTL. In addition, the present study supports themapping strategy of a fullmodel scanning followed by veri fi cation with other procedures corresponding to the fi rst results.
【语种】英文
【第一作者】李海旺
【通讯作者】盖钧镒
【期刊名称、卷期、页码】Euphytica (2011) 182:117 – 132
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【学科分类】农艺学

【题目】Isolation and Characterization of an ERF Transcription Factor Gene from Cotton(Gossypium barbadense L.)
【中文关键词】无
【英文关键词】Ethylene-response factor(ERF).Pathogen-inducible.GCC box.Cotton.Gossypium barbadense L.. Transcription activator
【中文摘要】无
【英文摘要】A pathogen-inducible ethylene-responsive factorgene,EREB1,was isolated and characterized in cotton(Gossypium barbadense L.).The deduced amino acidsequence of EREB1 had some typical features of transcriptionfactors including nuclear localization signals,an acidicactivation domain,and a conserved DNA binding domain.As a single copy gene in the cotton genome,the level ofexpression of EREB1 in roots and leaves was significantlyelevated following treatment with Verticillium wilt toxin.Presence of a GCC box-binding ability motif indicated that theEREB1 protein was capable of binding to GCC box elementsin vitro as a

transcriptional activator.In tobacco,overexpres-sion of EREB1 activated pathogenesis-related genes undernormal growth conditions.These results suggested thatEREB1 might play an important role in biotic stress signaltransduction pathways and that the overexpression of EREB1might serve as a viable approach to enhance diseaseresistance t in cotton.
【语种】英文
【第一作者】Xianpeng Meng
【通讯作者】Fuguang Li
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【学科分类】分子生物学

【题目】水稻根系与叶片形态特征的定量分析
【中文关键词】水稻;叶片形态特征;根系形态参数;回归分析
【英文关键词】rice;morphologic character of leaf;morphologic parameter of root;regression analysis
【中文摘要】定量分析拔节一孕穗期间水稻根系形态参数与叶片形态特征间的关系。以江苏省农业科学院培育的高产品种两优108(Vl,杂籼)、86优8(v2,杂粳)和南粳43(V3,常规粳稻)为材料,采用塑料桶土培,设施肥(每盆N 3.6 g、P20,0.8 g、K:0 3.6 g)与不施肥(处理同施肥基土)两个处理,在试验观测的基础上,建立水稻不同处理下根系形态参数与叶片性状间的预测回归模型。研究表明:拔节一孕穗期间水稻根系形态参数与叶片形态特征间的3个预测回归模型的方差分析都达到极显著水平,拟合度较好,单株总根长、总根表面积及总根体积模拟值与实测值的平均绝对误差分别为每株一176.506 cm、8.784 cm2及一1.624 cm3(n=24),差值标准误分别为每株31.542 cm、15.653 cm2和2.117 cm3,相关系数分别为0.913**、0.904**和0.907**。上述拔节一孕穗期间叶片形态特征与根系形态间预测回归模型,为探明水稻地下与地上几何性状的联系提供了借鉴,也为支撑水稻植株地上部与地下部的协同虚拟表达,以及高产株型及栽培措施选择等提供了参考。
【英文摘要】The objectives of this study were to quantify the relationships among morphologic characters of leaf and root system in rice during the period of elongation to booting.Three high yield rice materials of Jiangsu Academy of Agricultural Sciences,Liangyoul08(indica hybrid rice,V1),86you8(japonica hybrid rice,V2),and Nanjing43(japonica rice,V3),were planted in pots with loamy soil.There were two treatments of fertilizer:fertilizer of 3.6 g N,0.8 g P205 and 3.6 gK0 per pot and no fertilizer.Based on the experimental observations,the multifactor linear regression(MLR)models between morphologic parameters of leaf and root system were built.The variance of three MLR models was significant,and the fitness of models was very good.The average absolute deviation between simulated value and measured value of total root length,total root surface and total root volume were 一176.506cm per plant,8.784 cm2 per plant,and一1.624 cm3 per plant(n=24),the corresponding standard error of difference per plant were 31.542cm,15.653cm2,and 2.117cm3,and corresponding correlation coefficients were 0.913**,0.904**and 0.907**,respectively.The MLR models between the characteristic 0f leaf and morphology of root system from elongation to booting would be help to link the research of above-ground part with that 0f root system,cooperate visualizing rice plants above-ground with under-ground,and select high yield plant types and cultivation practices.
【语种】中文
【第一作者】刘永霞
【通讯作者】曹宏鑫
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【题目】中国蛤蜊的家系建立及早期生长发育
【中文关键词】中国蛤蜊; 家系; 生长; 存活; 变态
【英文关键词】Mactra chinensis Philipi; family; growth; survival; metamorphosis
【中文摘要】采用不平衡巢式设计建立了中国蛤蜊家系(7个父系半同胞家系和21个全同胞家系:A1、A2、A3……G1、G2、G3),并对各家系的卵径、受精率、孵化率及生长、存活和变态等相关指标进行了分析。结果表明,各家系蛤蜊的卵径、受精率、孵化率及D形幼虫大小均无显著差异(P>0.05)。不同发育阶段各家系的个体大小不同,生长速度不同,并受父本

效应、母本效应及雄内雌间作用的影响。幼虫浮游期,G1壳长最大,生长速度为(10.04±1.67) μm/d;A2壳长最小,生长速度为(6.07±1.32) μm/d。幼虫匍匐期,B3生长最快,其生长速度为(29.93±3.67) μm/d;D1生长最慢,其生长速度为(16.72±2.73) μm/d。稚贝期,G3壳长最大,生长速度为(83.14±5.85) μm/d;A2、A3的壳长较小,其生长速度分别为(57.78±5.44) μm/d,(55.86±4.48) μm/d。幼虫浮游期,A2、C1、E3、F2、G1、G2的存活率较高(>85%),B2、D1存活率较低(<35%);稚贝培育期,G1存活率(70.40%)最高;A1(23.40%)、C2(20.90%)、F1(19.30%)的存活率较低。变态期间,各家系的生长速度不同,G1、G3生长速度较快,分别为(7.94±1.53) μm/d、(7.96±1.52) μm/d;D1生长速度最慢,仅为(5.23±0.75) μm/d。各家系的变态率不同,B1、E1、G2变态率均在80%以上,E2(41.24%)、F1(43.25%)变态率较低。各家系的变态规格存在差异,随着变态时间的延长变态规格小型化;G1、G2、G3变态规格最大(240 μm),变态时间最短(13d);D1变态规格最小,仅为(226.65±5.65) μm,变态时间最长(17d)。综合各家系生长、存活等早期表型性状,G3生长最快,F2存活率最高,G1产量最高,可进一步作为中国蛤蜊的育种材料。

【英文摘要】A total of 7 half-sib families and 21 full-sib families(A1,A2,A3…G1,G2,G3) of sunray surf clam Mactra chinensis Philipi were established by using the method of unbalanced nest design in Sept.2007.Phenotypic traits of different families,such as egg-diameter,fertilization rates,hatching rates,and larval and juvenile growth,survival and metamorphosis were analyzed.The results showed that egg-diameter,fertilization rates,hatching rates,and D larval size were non-significantly different among families(P>0.05).Considering growth,growth was varied at different development stages for each family and was influenced by maternal effect,paternal effect and male within female effect.G1 had the largest shell length with the growth rate of(10.04 ± 1.67) μm/d;whereas A2 had the smallest shell length with(6.07 ± 1.32) μm/d during pelagic period of larvae.B3 grew fastest in filial generation of family with(29.93 ± 3.67) μm/d;whereas D1 grew slowest in filial generation of family with(16.72 ± 2.73) μm/d during plantigrade period.G3 had the largest shell length with the growth rate(83.14 ± 5.85) μm/d;whereas A2,A3 of juvenile indoor period had the smallest shell length with growth rate of(57.78 ± 5.44) μm/d,(55.86 ± 4.48) μm/d respectively.Considering survival,A2,C1,E3,F2,G1 and G2 had higher survival rate(> 85%) in filial generation of family,whereas B2,D1 had lower survival rate(< 35%) in filial generation of family during pelagic period of larvae.G1 had the highest survival rate(70.40%) in filial generation of family,whereas A1(23.40%),C2(20.90%),F1(19.30%) had lower survival rate in filial generation of family during juvenile indoor period.Considering metamorphosis,growth rate was varied for each family,the growth rate of G1and G3 was(7.94 ± 1.53) μm/d,and(7.96 ± 1.52) μm/d respectively,but the growth of D1 was only(5.23 ± 0.75) μm/d.B1,E1 and G2 had higher metamorphosis(> 80%) in filial generation of family,whereas E2(41.24%),and F1(43.25%) had lower metamorphosis in filial generation of family.However,as the metamorphic time prolonged,the metamorphic size decreased.G1,G2,G3 had the largest metamorphic size(240 μm) with the shortest metamorphic time(13 d),whereas D1 had the lowest metamorphic size[(226.65 ± 5.65) μm]with the longest metamorphic time(17 d).By summarizing the early phenotypic traits of families,G3,F2 and G1 respectively inherited the excellent traits such as fast growth,strong stress resistance,and high yield,and could further be used as the breeding material for rearing of new sunray surf clam strains. 更多

【语种】中文

【第一作者】闫喜武

【通讯作者】闫喜武

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【学科分类】分子生物学

【题目】Genetic analysis and fine-mapping of a dwarfing with withered leaf-tip mutation in rice

【中文关键词】1

【英文关键词】mutant; dwarf; finemapping; rice

【中文摘要】1

【英文摘要】A dwarf mutant of rice (Oryza sativa L.) by mutagenesis of ethylene methylsulfonate (EMS) treatment from Nipponbare was identified. The mutant exhibited phenotypes of dwarfism and witheredleaftip (dwl1). Based on the internode length of dwl1, this mutant belongs to the dm type of dwarfing. Analysis of elongation of the second sheath and α-amylase activity in endosperm showed that the phenotype caused by dwl1 was insensitive to gibberellin acid treatment. Using a large F2 population derived from a cross between the dwl1 and an indicarice variety, TN1, the DWL1 gene was mapped to the terminal region of the long arm of chromosome 3. Fine-mapping delimited it into a 46 kb physical distance between two STS markers, HL921 and HL944, where 6 open reading frames were predicted. Cloning of DWL1 will contribute to dissecting molecular mechanism that regulates plant height in rice, which will be

beneficial to molecular assisted selection of this important trait.
【语种】英文
【第一作者】Liang Jiang
【通讯作者】钱前
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【学科分类】分子生物学

【题目】Differential gene expression of cotton cultivar CCRI24 during somatic embryogenesis
【中文关键词】无
【英文关键词】Auxin;Cotton;Ethylene;Somatic embryogenesis;Suppression subtractive hybridization
【中文摘要】无
【英文摘要】Regeneration is an essential step for recovery of transgenic plants following genetransfer.However,most cotton cultivars fail to respond to the current regenerationprotocols for cotton.This hinders the use of gene transfer technology to improve thiscrop.Identification of the genes involved in cotton somatic embryogenesis(SE)mayprovide information that will help to improve regeneration protocols.To investigatethe genes expressed during cotton SE,we constructed a suppression subtractivehybridization(SSH)library using cDNA from nonembryogenic callus as driver andthose from embryogenic callus as tester.From this library,368 cDNA clones thathybridized conspicuously to the forward-subtracted and unsubtracted tester probes,but not to the reverse-subtracted or unsubtracted driver probes,were obtained andsequenced.Among the 241 putative unigenes,the functions of 152 genes(63%)couldbe assigned using existing databases.In addition to many previously reportedSE-related genes,some new genes,such as members of ethylene pathway and auxinpathway,were discovered in our library.The expression of eight genes,including anAux/IAA responsive gene,was analyzed by reverse-transcription-polymerase chainreaction and found to be upregulated during the SE.This is in agreement withprevious studies showing that embryogenesis involves auxin signaling.&2009 Elsevier GmbH.All rights reserved.
【语种】英文
【第一作者】Xiuming Wu
【通讯作者】Fuguang Li
【期刊名称、卷期、页码】Journal of Plant Physiology;2009,16:1275-1283
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【学科分类】分子生物学

【题目】Construction and analysis of cotton (Gossypium arboretum L.)drought-related cDNA library
【中文关键词】无
【英文关键词】none
【中文摘要】无
【英文摘要】Background:Drought is one of the most important environmental factors causing water stressfor cotton,and it greatly limits cotton growth and crop productivity.So far only a few drought tolerance genes have been functionally characterized in details,and most efforts on this topic have been made in model organisms.Therefore,to identify more drought-related genes in cotton plays the underlying mechanisms of drought tolerance as well as utilizingbioengineering techniques to improve the tolerance in this organism.Findings:Here we constructed a subtractive drought-tolerance cDNA library using suppressivesubtractive hybridization(SSH).Through differential screening and bioinformatics analysis,weidentified 392 positive clones with differential expression,corresponding 265 unique genes.ByBLAST search against Genbank,we found that more than half of these EST sequences werehomologous to those previously known drought-related genes and that there were 57 sequenceswith unknown functions,suggesting that many more genes are involved in this complex trait.Moreover,using RT-PCR,we examined the expression of nine representative candidate genes andconfirmed that their expression levels were increased at different levels under drought stress.Conclusion:Our results show that drought tolerance is a complex trait in cotton,which involvesthe coordination of many genes

and multiple metabolism pathways.The candidate EST sequenceswe identified here would facilitate further functional studies of drought-related genes and provide important insights into the molecular mechanisms of drought-stress tolerance and genetic breeding in cotton.

【语种】英文
【第一作者】Ling Zhang
【通讯作者】Fu-Guang Li
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【引文索引号】doi:10.1186/1756-0500-2-120
【学科分类】分子生物学

【题目】微囊藻毒素对油菜幼苗生长及抗氧化酶活性的影响
【中文关键词】微囊藻毒素;油菜;生长;抗氧化酶;叶绿素
【英文关键词】microcystins;rape;growth;antioxidant enzymes;chlorophyll
【中文摘要】以‘秦优9号’油菜为材料,研究不同浓度藻毒素(MC)对油菜种子萌发和幼苗生长、叶绿素含量和抗氧化 酶活性的影响,以及并对MC-LR和一RR在幼苗体内的积累进行分析。结果表明:仅5 000 ng/mL MC处理的油菜种子发芽率和发芽势显著低于对照和其余浓度处理,而其他处理及对照间无显著差异;在高浓度(1 000~5 000 ng/mL)MC处理下,幼苗出现植株矮化、叶片呈黄褐色、叶面积减小,以及主根变短、变粗且根系呈现黄褐色等毒害症状;叶绿素含量随着藻毒素浓度的递增表现为先上升后下降趋势,MC对SOD活性具有抑制作用,但对POD的活性具有促进作用,CAT活性随MC浓度的增加表现为先上升后下降的趋势;单位鲜重幼苗体内MC—LR和一RR 含量随MC处理浓度的升高而增加,但MC-LR和一RR的积累率随MC浓度的增加而减小。研究发现,高浓度微囊藻毒素能显著抑制油菜幼苗生长,同时显著改变其体内保护酶活性,且MC可被油菜植株吸收并在其体内积累。
【英文摘要】Effects of different concentrations of microcystins(MC)on the germination percentage,germination energy,the content of chlorophyll,the growth and the activities of antioxidant enzymes of rape(Brassica campestris L.)‘Qinyou 9’and the accumulation of MC—LR and—RR in seedlings were studied.The results showed that the MC had no significant effects on the germination percentage and germinating viability compared with that of the contro1 except the 5000 ng/mL treatment.However,the growth of rape seedlings markedly decreased with the increase of MC concentration.When the rape seedlings were under the higher MC concentrations(1 000~5 000 ng/mL),it was found that the shoots of rape seedlings shortened,the 1eaves had brown spots,the leaf area reduced,and the primary root become shorter and turned brown.The chlorophyl1 content increased under the 1OW concentrations,whereas the chlorophyll content decreased in the higher MC concentration.With the MC treatments the activities of S0D and CAT showed the trend of increase and decrease,but the activity of P0D was induced and increased.The contents of MC—LR and—RR in the seedlings increased with the increase of MC concentration,while the accumulated rates decreased.The results suggested that MC can strongly change the activities of antioxidant enzymes,inhibit the growth,be absorbed and accumulated in rape seedlings.
【语种】中文
【第一作者】易能
【通讯作者】石志琦
【期刊名称、卷期、页码】西北植物学报. 2009,29(6):1207—1213
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【引文索引号】null
【学科分类】植物学

【题目】不同地理群体菲律宾蛤仔生长发育的比较
【中文关键词】菲律宾蛤仔; 地理群体; 生长; 存活; 变态
【英文关键词】Ruditapes philippinarum; geographical population; growth; survival; metamorphosis
【中文摘要】于2007年6月—11月,对菲律宾蛤仔Ruditapes philippinarum莆田群体(PT)、大连群体(DL)和东京群体(DJ)的生长发育情况进行了比较。结果表明:菲律宾蛤仔3个群体的受精率、孵化率无显著差异(P>0.05);卵径、D形幼虫大小、单水管稚贝大小差异显著(P<0.05);附着规格、亲贝形态,PT群体与DL、DJ群体间差异显著(P<0.05)。浮游期间,幼虫生长速度依次为PT>DJ>DL,分别为(9.37±0.44)、(9.28±0.59)、(8.70±0.51) μm/d,PT、DJ群体与DL群体差异显著(P<0.05);9日龄时

,PT、DL、DJ群体幼虫的存活率分别为(95.08±1.87)%、(85.22±3.34)%、(75.32±3.49)%,彼此间差异显著(P<0.05)。变态期间,3个群体幼虫的生长速度依次为PT>DJ>DL,分别为(2.54±0.39)、(2.37±0.52)、(2.05±0.45) μm/d,彼此间差异显著(P<0.05);变态率、变态时间、变态规格,PT群体与DL、DJ群体间差异显著(P<0.05)。室内培育阶段(20~40日龄),3个群体稚贝的生长速度依次为PT>DL>DJ,分别为(22.60±4.04)、(20.67±4.74)、(18.74±5.15) μm/d,PT、DL群体与DJ群体间差异显著(P<0.05);40日龄时,PT、DL、DJ群体稚贝的存活率分别为(87.07±4.29)%、(66.73±6.43)%、(35.75±4.84)%,彼此间差异显著(P<0.05)。室外养成阶段(80~160日龄),3个群体稚贝的生长速度依次为PT>DL>DJ,分别为(86.94±21.72)、(75.23±16.91)、(67.25±18.26) μm/d,彼此间差异显著(P<0.05);160日龄时,PT、DL、DJ群体幼贝的存活率分别为(90.21±4.68)%、(66.73±4.94)%、(56.98±6.58)%,彼此间差异显著(P<0.05)。

【英文摘要】Growth and development of Manila clam(Ruditapes philippinarum) were investigated in different geographical populations including Putai(PT),Dalian(DL) and Tokyo(DJ) on June 2007.The results showed that there were no significant differences in egg-diameter,and sizes in D larvae and single-siphon juveniles,but significant difference in sizes at settlement and metamorphosis and morphology of the broodstocks among different geographical populations.At the pelagic stage,shell length was smaller in DL population than that in PT and DJ populations.The daily growth and survival rates were found to be(9.37±0.44),(8.70±0.51),(9.28±0.59) μm and(95.08±1.87)%,(85.22±3.34)%,(75.32±3.49)% in the three populations larvae,respectively.During metamorphosis,there were significant differences in growth,metamorphosis rate,metamorphic time,and size at metamorphosis among the three populations.During the nursing stage indoor,the maximal shell length was observed in the PT population,followed by DJ population,and next to DL population.The daily growth and survival rates were(22.60±4.04),(20.67±4.74),(18.74±5.15) μm and(87.07±4.29)%,(66.73±6.43)%,(35.75±4.84)% in larvae of the three populations,respectively.During the rearing stage outdoor,the maximal shell length was found in the PT population,followed by DL population,and next to DJ population.The daily growth of(86.94±21.72),(75.23±16.91),and(67.25±18.26) μm and survival rates of(90.21±4.68)%,(66.73±4.94)%,and(56.98±6.58)% were observed in larvae of the three populations,respectively.

【语种】中文

【第一作者】张跃环

【通讯作者】闫喜武

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【学科分类】分子生物学

【题目】水稻籼粳交DH群体的构建及其基因型偏态分离分析

【中文关键词】水稻; DH群体; SSR标记; 纯合; 基因型; 偏态分离

【英文关键词】rice; DH population; SSR markers; homozygous; genotype; distorted segregation

【中文摘要】对籼(Oryza sativa L.ssp.indica)粳(O.sativa L.ssp.japonica)杂交组合中花11(粳)/中组14(籼)F1进行花药培养,共获得112个加倍单倍体(DH)再生植株。利用亲本间多态性SSR分子标记对该DH群体再生植株进行纯合性鉴定,并分析该群体的基因型偏离情况。选用22个多态性SSR标记分析的结果表明,所得再生植株都来自花粉母细胞的纯合植株,不存在来自体细胞的杂合株,确保了DH群体的准确性。带型分析结果显示,该群体未发生异常的基因型偏态分离。因此在组织培养体系中引进SSR标记,可以快速而准确地构建DH群体,基因型的偏态分离分析保证了群体的质量。

【英文摘要】F1 anther of Zhonghua 11/Zhongzu 14 (japonica/indica)combination was cultured and one hundred and twelve double haploid (DH) regenerant plants were obtained. All of the DH plants were analysed for their homozygosity using 22 polymorphic SSR markers between the two parents. Distorted segregation analysis in genotype for the population was carried out. Polymorphic SSR analysis suggested that the regenerant plants were all originated from microspore and no heterozygots from somatic cells. Band pattern analysis with polymorphic SSRs showed that there was no abnormal distribution in genotype for the population. The results indicated that the DH population consisted accurately of microspore-originated regenerants and quality of the population was guaranteed via distorted segregation analysis in genotype with SSR markers.

【语种】中文

【第一作者】季芝娟

【通讯作者】杨长登

【期刊名称、卷期、页码】农业生物技术学报,2008,16(2):315~319

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【引文索引号】null
【学科分类】农业基础学科

【题目】Histological and Ultrastructural Observation Reveals Significant Cellular Differences between Agrobacterium Transformed Embryogenic and Non-embryogenic Calli of Cotton
【中文关键词】无
【英文关键词】cell organization pattern;chloroplasts;embryogenic callus;Gossypium hirsutum;histological structure;transformation;ultrastructure.
【中文摘要】无
【英文摘要】Over the past few decades genetic engineering has been applied to improve cotton breeding. Agrobacterium medicated transformation is nowadays widely used as an efficient approach to introduce exogenous genes into cotton for genetically modified organisms.However,it still needs to be improved for better transformation efficiency and higher embryogenic callus induction ratios.To research further the difference of mechanisms for morphogenesis between embryogenic callus and non-embryogenic callus,we carried out a systematical study on the histological and cellular ultrastructure of Agrobacterium transformed calli.Results showed that the embryogenic callus developed nodule-like structures,which were formed by small, tightly packed,hemispherical cells.The surface of some embryogenic callus was covered with a fibrilar-like structure named extracellular matrix.The cells of embryogenic calli had similar morphological characteristics.Organelles of embryogenic callus cells were located near the nucleus,and chloroplasts degraded to proplastid-like structures with some starch grains.In contrast,the non-embryogenic calli were covered by oval or sphere cells or small clusters of cells. It was observed that cells had vacuolation of cytoplasm and plastids with a well organized endomembrane system.This study aims to understand the mechanisms of embryogenic callus morphogenesis and to improve the efficiency of cotton transformation in future.
【语种】英文
【第一作者】Hai-Hong Shang
【通讯作者】Fu-Guang Li
【期刊名称、卷期、页码】Journal of Integrative Plant Biology;2009,51(5):456-465
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【引文索引类型】SCI
【引文索引号】doi:10.1111/j.1744-7909.2009.00824.x
【学科分类】分子生物学

【题目】微囊藻毒素(MC-RR)对白三叶种子萌发及幼苗生理生化特性影响
【中文关键词】藻毒素;白三叶;种子;抗氧化酶
【英文关键词】MC-RR; Trifolium repens; seed; antioxidant enzyme
【中文摘要】以白三叶种子和幼苗为材料,研究了不同浓度MC-RR对白三叶种子萌发、抗氧化酶活性变化以及MC-RR在白三叶体内积累规律。结果表明,发芽率和发芽势随着处理浓度的增加而降低,在高浓度处理下,与对照相比显著降低;株高随着MC-RR处理浓度增加而显著降低,根长和鲜重在低浓度处理下显著增加,在高浓度处理下显著降低;抗氧化酶活性的变化不尽相同,SOD活性随着处理浓度的增加与对照相比呈先增加后降低而后又增加的趋势,POD活性随着处理浓度的增加呈先增加后降低的趋势,CAT活性的变化趋势不同于SOD和POD;单位鲜重白三叶MC-RR含量随着处理浓度的增加与0.05mg/L处理下的MC-RR含量相比显著增加,而生物富集系数的变化趋势则与单位鲜重白三叶MC-RR含量相反,随着MC-RR处理浓度的增加而降低。说明随着MC-RR处理浓度的增加,白三叶受到的伤害增大。
【英文摘要】The seed and seedlings of Trifolium repens were treated with various concentration of MC-RR. The effects of MC-RR on the seed germination, the change of antioxidant enzymes and the regulation of MC-RR accumulation in T. repens were studied in this paper. The results showed that the germination percentage and the germinating viability decreased with the increase of MC-RR concentration. When at the higher concentration, the germination percentage and germinating viability significantly decreased compared with the control. Shoot height markedly inhibited with the rising of MC-RR concentration. Root length and fresh weight significantly increased under the lower concentration. Whereas they markedly reduced at the higher concentration. The changes of antioxidant enzymes were different each other. SOD activity indicated the trend of increase-decrease-increase compared with the control. POD activity illustrated that it increased firstly and the decreased. However, the trend of CAT activity was different from SOD and POD. The MC-RR content of T. repens increased with the treating concentration compared with the concentration of 0.05 mg/L,

whereas bioccocentration (BCF) decreased. All the results suggested that the seed and seedlings of T. repens would be damaged seriously with the increase of MC-RR concentration.
【语种】中文
【第一作者】薛延丰
【通讯作者】石志琦
【期刊名称、卷期、页码】草业学报. 2009(18):180-185
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【引文索引号】null
【学科分类】农业基础学科

【题目】The identification and mapping of a tiller angle QTL on rice chromosome 9
【中文关键词】ORYZA-SATIVA L.; FRIZZY-PANICLE; SPREADING STUB; DWARF MUTANT; GENE; GROWTH; BIOSYNTHESIS; GRAVITROPISM; ARCHITECTURE; ELONGATION
【英文关键词】ORYZA-SATIVA L.; FRIZZY-PANICLE; SPREADING STUB; DWARF MUTANT; GENE; GROWTH; BIOSYNTHESIS; GRAVITROPISM; ARCHITECTURE; ELONGATION
【中文摘要】Tiller angle is an important component of plant architecture in rice even though little is known of its mode of inheritance. A quantitative trait loci (QTL) analysis based on a set of recombinant inbred lines extracted from an indica × japonica cross identified a major effect locus (designated qTA-9a) on chromosome 9, which was expressed in two independent environments. The qTA-9a allele derived from the indica parent IR24 increased tiller angle. This QTL was validated in a set of chromosome segment substitution lines involving the same two parental lines. A high resolution genetic map was constructed from a large secondary F2 population and anchored to the genomic sequence of rice. The QTL was narrowed to a 65-kb physical region, inclusive of eight putative genes. We have provided the basis for positional cloning of qTA-9a and have developed markers for a major tiller angle QTL.
【英文摘要】Tiller angle is an important component of plant architecture in rice even though little is known of its mode of inheritance. A quantitative trait loci (QTL) analysis based on a set of recombinant inbred lines extracted from an indica × japonica cross identified a major effect locus (designated qTA-9a) on chromosome 9, which was expressed in two independent environments. The qTA-9a allele derived from the indica parent IR24 increased tiller angle. This QTL was validated in a set of chromosome segment substitution lines involving the same two parental lines. A high resolution genetic map was constructed from a large secondary F2 population and anchored to the genomic sequence of rice. The QTL was narrowed to a 65-kb physical region, inclusive of eight putative genes. We have provided the basis for positional cloning of qTA-9a and have developed markers for a major tiller angle QTL.
【语种】英文
【第一作者】陈平
【通讯作者】万建民
【期刊名称、卷期、页码】Crop Sci. 2008, 48: 1799-1806
【论文发表时间】2008-09-01 00:00:00
【引文索引类型】SCI
【引文索引号】2.5979210002e+011
【学科分类】农学其他学科

【题目】Quantitative trait loci mapping and stability for low temperature germination ability of rice
【中文关键词】rice; low temperature germination ability; quantitative trait locus
【英文关键词】rice; low temperature germination ability; quantitative trait locus
【中文摘要】A high rate of germination at low temperatures is necessary for economic yields to be maintained. In this paper, the genetic control of low temperature germination ability (LTG) was assessed by the measurement of germination rate (GR), germination rate index (GI) and mean germination time (MGT), and genetically mapped using a set of recombinant inbred lines, derived from a cross between the japonica cultivar 'Asominori' and the indica cultivar 'IR24'. Putative quantitative trait loci (QTL) were validated by testing in two related sets of chromosome segment substitution lines (CSSL). In this genetic background, LTG is under the control of a number of QTL, each of relatively small effect, and is spread over six chromosomes. The most stable of these QTL was for GR, mapping to a segment of chromosome 11 which also carries a QTL for GI. On chromosome 2, qGR-2 not only controlled GR, but also was associated with GI and MGT. Significant differences in LTG were detected between 'Asominori' and some CSSL harbouring qGR-2 or

qGR-11.
【英文摘要】A high rate of germination at low temperatures is necessary for economic yields to be maintained. In this paper, the genetic control of low temperature germination ability (LTG) was assessed by the measurement of germination rate (GR), germination rate index (GI) and mean germination time (MGT), and genetically mapped using a set of recombinant inbred lines, derived from a cross between the japonica cultivar 'Asominori' and the indica cultivar 'IR24'. Putative quantitative trait loci (QTL) were validated by testing in two related sets of chromosome segment substitution lines (CSSL). In this genetic background, LTG is under the control of a number of QTL, each of relatively small effect, and is spread over six chromosomes. The most stable of these QTL was for GR, mapping to a segment of chromosome 11 which also carries a QTL for GI. On chromosome 2, qGR-2 not only controlled GR, but also was associated with GI and MGT. Significant differences in LTG were detected between 'Asominori' and some CSSL harbouring qGR-2 or qGR-11.
【语种】英文
【第一作者】纪素兰
【通讯作者】万建民
【期刊名称、卷期、页码】PLANT BREEDING 卷: 128 期: 4 页: 387-392
【论文发表时间】2009-08-01 00:00:00
【引文索引类型】SCI
【引文索引号】2.6865940001e+011
【学科分类】农学其他学科

【题目】QTL analysis of cold tolerance at seedling stage in rice (Oryza sativa L.). using recombination inbred lines
【中文关键词】rice; seedling cold tolerance; recombinant inbred lines (RILs); chromosome segment substitution lines (CSSL); quantitative trait loci (QTL) mapping
【英文关键词】rice; seedling cold tolerance; recombinant inbred lines (RILs); chromosome segment substitution lines (CSSL); quantitative trait loci (QTL) mapping
【中文摘要】Cold tolerance at seedling stage of rice (Oryza sativa L.) is a favorable trait for the stable establishment in temperate and high-elevation areas. In the present study, 71 recombinant inbred lines (RIL) derived from the cross of Asominori (Japonica) and IR24 (Indica) were used to identify quantitative trait loci (QTL) affecting cold tolerance at seedling stage. The putative QTL was further confirmed using some chromosome segment substitution lines (CSSLs), in which IR24 was used as the donor parent and Asominori as the recurrent parent. The average seedling mortality was used as cold tolerance after cold treatment with 6 degrees C for 7 days and recovery culture with 25 degrees C for 4 days at three-leaf seedling stage. Three QTL affecting cold tolerance at seedling stage were detected on chromosomes 1, 5 and 6 with LOD scores ranging from 2.2 to 4.1 using composite interval mapping (CIM). Among them, qSCT-1 located in the region of XNpb87-2-C955 on chromosome 1 was a major QTL which explained 24.51% of total phenotypic variance and favorable allele came from japonica parent, Asommori. In addition, IR24 alleles at the other two loci (qSCT-5 and qSCT-6) increased cold tolerance. And these three QTL were confirmed by four lines from the IR24 CSSLs. Transferring favorable allele from japonica variety to indica background or pyramiding different QTL identified from indica is an effective way to improve cold tolerance of rice. (c) 2007 Elsevier Ltd. All rights reserved.
【英文摘要】Cold tolerance at seedling stage of rice (Oryza sativa L.) is a favorable trait for the stable establishment in temperate and high-elevation areas. In the present study, 71 recombinant inbred lines (RIL) derived from the cross of Asominori (Japonica) and IR24 (Indica) were used to identify quantitative trait loci (QTL) affecting cold tolerance at seedling stage. The putative QTL was further confirmed using some chromosome segment substitution lines (CSSLs), in which IR24 was used as the donor parent and Asominori as the recurrent parent. The average seedling mortality was used as cold tolerance after cold treatment with 6 degrees C for 7 days and recovery culture with 25 degrees C for 4 days at three-leaf seedling stage. Three QTL affecting cold tolerance at seedling stage were detected on chromosomes 1, 5 and 6 with LOD scores ranging from 2.2 to 4.1 using composite interval mapping (CIM). Among them, qSCT-1 located in the region of XNpb87-2-C955 on chromosome 1 was a major QTL which explained 24.51% of total phenotypic variance and favorable allele came from japonica parent, Asommori. In addition, IR24 alleles at the other two loci (qSCT-5 and qSCT-6) increased cold tolerance. And these three QTL were confirmed by four lines from the IR24 CSSLs. Transferring favorable allele from japonica variety to indica background or pyramiding different QTL identified from indica is an effective way to improve cold tolerance of rice. (c) 2007 Elsevier Ltd. All rights reserved.
【语种】英文
【第一作者】江玲

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【题目】Identification of quantitative trait loci associated with resistance to brown planthopper in the indica rice cultivar Col.5 Thailand
【中文关键词】NILAPARVATA-LUGENS STAL; ORYZA-SATIVA L.; GENE
【英文关键词】NILAPARVATA-LUGENS STAL; ORYZA-SATIVA L.; GENE
【中文摘要】The brown planthopper (BPH) is one of the most serious insect pests of rice throughout Asia. In this study, we constructed a linkage map to determine the locus for BPH resistance gene, using an F-2 population from a cross between a resistant indica cultivar, 'Col.5 Thailand', and a susceptible cultivar '02428'. Insect resistance was evaluated using 147 F-3 families and the genotype of each F-2 plant was inferred from the phenotype of corresponding F-3 families. Two QTLs was detected on chromosome 2 (explains 29.4% phenotypic variation) and 6 (46.2% variation explained) associated with resistance to BPH in the mapping population. Comparison of the chromosomal locations and reactions to BPH biotypes indicated that the gene on chromosome 6 is different from at least 18 of the 19 previously identified BPH resistance genes. These two genes have large effects on BPH resistance and may be a useful BPH resistance resource for rice breeding programs.
【英文摘要】The brown planthopper (BPH) is one of the most serious insect pests of rice throughout Asia. In this study, we constructed a linkage map to determine the locus for BPH resistance gene, using an F-2 population from a cross between a resistant indica cultivar, 'Col.5 Thailand', and a susceptible cultivar '02428'. Insect resistance was evaluated using 147 F-3 families and the genotype of each F-2 plant was inferred from the phenotype of corresponding F-3 families. Two QTLs was detected on chromosome 2 (explains 29.4% phenotypic variation) and 6 (46.2% variation explained) associated with resistance to BPH in the mapping population. Comparison of the chromosomal locations and reactions to BPH biotypes indicated that the gene on chromosome 6 is different from at least 18 of the 19 previously identified BPH resistance genes. These two genes have large effects on BPH resistance and may be a useful BPH resistance resource for rice breeding programs.
【语种】英文
【第一作者】孙立宏
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【题目】A novel lipoxygenase gene from developing rice seeds confers dual position specificity and responds to wounding and insect attack
【中文关键词】dual positional specificity; rice seeds; lipoxygenase; wounding and biotic stress
【英文关键词】dual positional specificity; rice seeds; lipoxygenase; wounding and biotic stress
【中文摘要】OsLOX1 is a novel full-length cDNA isolated from developing rice seeds. We have examined its biochemical properties and expression patterns. The protein has dual positional specificity, as it releases both C-9 and C-13 oxidized products in a 4:3 ratio. OsLOX1 transcripts were detected at low abundance in immature seeds and newly germinated seedlings, but accumulate rapidly and transiently in response to wounding or brown planthopper (BPH) attack, reaching a peak 3 h after wounding and 6 h after insect feeding. We produced transgenic rice lines carrying either sense or antisense constructs under the control of a cauliflower mosaic virus 35S promoter, and these rice lines showed altered OsLOX1 activity. In all of the antisense lines and more than half of the sense lines the expression levels of OsLOX1, the levels of enzyme activity, and the levels of the endogenous OsLOX1 products (jasmonic acid, (Z)-3-hexenal and colneleic acid) at 6, 48, and 48 h after BPH feeding respectively, were below the levels found in non-transgenic control plants; yet, the levels in the remaining sense transformants were enhanced relative to controls. Transformants with a lower level of OsLOX1 expression were less able to tolerate BPH attack, while those with enhanced OsLOX1 expression were more resistant. Our data

suggest that the OsLOX1 product is involved in tolerance of the rice plant to wounding and BPH attack.
【英文摘要】OsLOX1 is a novel full-length cDNA isolated from developing rice seeds. We have examined its biochemical properties and expression patterns. The protein has dual positional specificity, as it releases both C-9 and C-13 oxidized products in a 4:3 ratio. OsLOX1 transcripts were detected at low abundance in immature seeds and newly germinated seedlings, but accumulate rapidly and transiently in response to wounding or brown planthopper (BPH) attack, reaching a peak 3 h after wounding and 6 h after insect feeding. We produced transgenic rice lines carrying either sense or antisense constructs under the control of a cauliflower mosaic virus 35S promoter, and these rice lines showed altered OsLOX1 activity. In all of the antisense lines and more than half of the sense lines the expression levels of OsLOX1, the levels of enzyme activity, and the levels of the endogenous OsLOX1 products (jasmonic acid, (Z)-3-hexenal and colneleic acid) at 6, 48, and 48 h after BPH feeding respectively, were below the levels found in non-transgenic control plants; yet, the levels in the remaining sense transformants were enhanced relative to controls. Transformants with a lower level of OsLOX1 expression were less able to tolerate BPH attack, while those with enhanced OsLOX1 expression were more resistant. Our data suggest that the OsLOX1 product is involved in tolerance of the rice plant to wounding and BPH attack.
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【题目】Genetic analyses of heading date of Japonica rice cultivars from Northeast China
【中文关键词】genetic analyses; heading date; Japonica rice (Oryza sativa L.); Northeast China; photoperiod-sensitivity; temperature-sensitivity
【英文关键词】genetic analyses; heading date; Japonica rice (Oryza sativa L.); Northeast China; photoperiod-sensitivity; temperature-sensitivity
【中文摘要】Northeast regions of China (38-55 N latitude) play an important role in Japonica rice planting. Heading dates of 10 Japonica rice cultivars native to the Northeast of China were investigated and their sensitivities to photoperiod and temperature were analyzed. The results showed that these Japonica rice cultivars were insensitive to photoperiod but strongly sensitive to temperature, i.e. a high temperature can markedly shorten the heading date. Genetic analyses were conducted on these 10 cultivars using a set of heading date tester lines. All these Japonica cultivars carried a dominant early heading gene Ef-1, and most of these cultivars carried the photoperiod insensitivity allele et, and two types of alleles were presented at the Se-1 locus, including recessive photoperiod insensitivity gene Se-1 a and dominant strong photoperiod-sensitivity (PS) gene Se-1(n). The PS of these cultivars carrying El or Se-1(n) can be repressed or weakened by Ef-1 and the recessive allele hd2 they carried. These results provided a reasonable explanation to the adaptability of Japonica rice to the high latitude environment of the Northeast China, and could be useful for breeding new cultivars well adapted to the high latitude regions and expanding the rice cultivation range. (C) 2008 Elsevier B.V. All rights reserved.
【英文摘要】Northeast regions of China (38-55 N latitude) play an important role in Japonica rice planting. Heading dates of 10 Japonica rice cultivars native to the Northeast of China were investigated and their sensitivities to photoperiod and temperature were analyzed. The results showed that these Japonica rice cultivars were insensitive to photoperiod but strongly sensitive to temperature, i.e. a high temperature can markedly shorten the heading date. Genetic analyses were conducted on these 10 cultivars using a set of heading date tester lines. All these Japonica cultivars carried a dominant early heading gene Ef-1, and most of these cultivars carried the photoperiod insensitivity allele et, and two types of alleles were presented at the Se-1 locus, including recessive photoperiod insensitivity gene Se-1 a and dominant strong photoperiod-sensitivity (PS) gene Se-1(n). The PS of these cultivars carrying El or Se-1(n) can be repressed or weakened by Ef-1 and the recessive allele hd2 they carried. These results provided a reasonable explanation to the adaptability of Japonica rice to the high latitude environment of the Northeast China, and could be useful for breeding new cultivars well adapted to the high latitude regions and expanding the rice cultivation range. (C) 2008 Elsevier B.V. All rights reserved.
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【第一作者】魏祥进
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【题目】水稻千粒重和垩白粒率的QTL及其互作分析
【中文关键词】水稻 千粒重 垩白粒率 QTL 上位性互作 QTLX环境互作效应
【英文关键词】Rice 1000-grain weight (TGW) Percentage of grains with chalkiness(PGWC) QTL epistatic interaction QTLXenvironment interaction(QE)
【中文摘要】产量因子千粒重和稻米品质指标垩白粒率密切相关。本研究以越光/Kasalath//越光BIL群体为材料,分析千粒重和垩白粒率的相关性、QTL、上位性互作及其环境的互作效应。相关分析表明,群体千粒重和垩白粒率在2005年和2006年均呈极显著正相关,相关系数分别为0.42和0.35 (P<0.001)。2年共检测到千粒重QTL 11个,其中5个在2年重复检测到,5个具有环境互作效应;千粒重上位性互作8对,7对与环境存在互作。垩白粒率QTL 6个,3个具有环境互作效应;上位性互作9对,其中4对具有上位性环境互作效应。比较分析发现3个主效QTL同时控制千粒重和垩白粒率的表现,千粒重和垩白粒率的增效等位基因来自同一亲本;1对上位性互作同时对千粒重和垩白粒率有相同的影响。一些与垩白粒率不相关的千粒重主效QTL,如qTGW-3c、qTGW-4a和qTGW-6b,可为育种所利用。对利用QTL定位结果进行千粒重和垩白粒率分子辅助选择育种进行了探讨。
【英文摘要】There is a close correlation between 1000-grian weight (TGW, an important yield factor) and percentage of grains with chalkiness (PGWC, an important rice quality index). In this study, a backcross inbred lines (BIL) population derived from a cross between Koshihikari (japonica) and Kasalath (indica) was used to detect correlations and among interactions QTL, epistatic and environment on TGW and PGWC. Correlation analysis showed that there was a significantly positive correlation between TGW and PGWC in the BIL population and the correlation coefficients were 0.42 and 0.35 (P<0.001) in 2005 and 2006, respectively. A total of eleven QTLs and eight epistatic interactions for TGW were detected in 2005 and 2006; of them, five QTLs were repeatedly detected in the two years, and five QTLs and seven epistatic interactions had significantly QE interaction. A total of six QTLs and nine epistatic interactions for PGWC were detected in 2005 and 2006; of them, three QTLs and four epistatic interactions had markedly QE interaction. Three main-effect QTLs simultaneously controlling TGW and PGWC were detected, and their alleles increasing TGW and PGWC were from the same parent; one epistatic interaction had similar effects on TGW and PGWC. Some main-effect QTLs, controlling TGW but not PGWC, such as qTGW-3c, qTGW-4a,and qTGW-6b, could be used for breeding. The strategy was discussed in using QTL mapping results for the marker-assisted selection breeding of TGW and PGWC.
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【题目】杂草稻种子休眠数量性状位点的定位
【中文关键词】杂草稻 种子休眠 抽穗期 数量性状基因座(QTL)
【英文关键词】Weedy rice Seed dormancy Heading date Quantitative trait locus (QTL)
【中文摘要】利用杂草稻与粳稻品种衍生的分离群体对控制种子休眠性的遗传基础进行了研究。检测到4个控制种子休眠性的QTL, 分别位于第1、第2和第6(2个)染色体上, 贡献率分别为7.8%、7.1%、5.5%和4.5%, 其中第2染色体上的QTL可能是一个新的控制种子休眠性的位点, 多项方差分析表明这4个位点的作用具有累加效应。种子发芽率与开花时间存在显著的负相关关系, 检测到的唯一一个控制抽穗期的QTL与位于第6染色体上的一个控制种子休眠性的QTL连锁或具有多效性, 这可能是造成其显著相关的主要原因。
【英文摘要】The genetic basis of the seed dormancy of a weedy rice was dissected using a segregation population derived from a cross with a japonica cultivar. Two QTLs were located on chromosomes 1 and chromosomes 2, and two on chromosome 6. These QTLs explained 7.8%, 7.1%, 5.5%, and 4.5% of the overall phenotypic variance, respectively. The QTL on chromosome 2 appears to represent a novel source of genetic variation for seed dormancy. A multi-way analysis of variance indicated that the gene action of these

four QTLs was additive. A significant negative correlation was found between germination rate and flowering time. A single heading date QTL was identified, to be either pleiotropic on or linked to a seed dormancy QTL on chromosome 6, thereby accounting for the observed correlation between seed dormancy and flowering time.
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【题目】水稻脂氧合酶-3基因启动子的特性分析
【中文关键词】脂氧合酶-3基因; 启动子; 水稻; 转基因植株; 逆境胁迫
【英文关键词】lipoxygenase-3 gene (Lox-3); promoter; rice; transgenic plants; adversity stress
【中文摘要】从栽培水稻品种越光中克隆了水稻脂氧合酶-3基因(Lox-3)的启动子,长度为1343bp,其序列与日本晴对应的序列完全相同。生物信息学分析表明,该启动子序列中包含受信号诱导的元件(G-box)、温度响应元件(CCGAAA)和水分胁迫响应元件(CACATG)等顺式作用元件;进一步构建了Lox-3基因启动子与gus和gfp基因的融合表达载体并获得转基因植株,发现报告基因在转基因植株的根、茎、叶、花药、种胚及种皮中均有表达,在萌发种子的胚和胚芽中也有表达,但在胚乳中不表达。此外,经ABA、NaCl及人工陈化处理后对报告基因的表达进行了定量分析,发现这些非生物胁迫可能通过诱导启动子顺式元件致使报告基因表达活性增强。
【英文摘要】In this study, the Lox-3 promoter was cloned from the rice cultivar Koshihikari and the length of the promoter is 1343 bp, which absolutely matches the corresponding sequence of Nipponbare genome. Bioinformatics analysis indicated the promoter sequence contained a common signa-l response cis-element (G-box), elements responsive to temperature (CCGAAA) and tomoisture stress (CACATG). Furthermore, transgenic plants driven by this promoter was obtained. Reporter gene expression was detected in roots, stems, leaves, anthers, seed capsules and embryos of transgenic plants, as well as in the embryos and the plumule rather than in endosperm, of germinating transgenic seeds. A quantitative analysis revealed that the reporter gene was induced by exogenous application with ABA, NaCl and artificial aging treatments, and these effects were supposed to be mediated by the cis-elements in the corresponding promoter.
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【题目】水稻抗条纹叶枯病数量性状座位分析
【中文关键词】水稻 抗性 条纹叶枯病 数量性状座位 人工接种 田间自然接种
【英文关键词】rice resistance rice stripe quantitative trait locus artificial inoculation natural infection
【中文摘要】为探明水稻品种窄叶青8号抗条纹叶枯病的数量性状座位,构建了窄叶青8号/武育粳3号F2群体的分子图谱,采用人工接种和田间自然接种两种鉴定方法,以病情指数比率为表型值,对每个F2单株衍生的F2：3家系进行了抗条纹叶枯病鉴定。整个群体的病情指数比率均呈偏向于抗性亲本的连续性分布,表明条纹叶枯病抗性受数量性状基因的控制。进一步的QTL分析发现,两种鉴定方法所检测到的QTL完全不同,人工接种(强迫饲毒)方法仅检测到1个抗性基因位点qSTV7,其增强抗性的等位基因来源于窄叶青8号,而田间自然接种方法检测到2个抗性基因位点qSTV5和qSTV1,其增强抗性的等位基因分别来源于窄叶青8号和武育粳3号,暗示抗性亲本窄叶青8号可能携带耐病毒基因和抗灰飞虱基因,而感病亲本武育粳3号经遗传重组后,其抗性基因也得以表现。比较前人研究结果,发现检测到的QTL为新的抗条纹叶枯病基因位点,这些基因不同于抗条纹叶枯病主基因Stvb i,可为防止单一基因广泛使用造成的遗传脆弱性,提供新的抗性基因资源。

【英文摘要】In order to verify the quantitative trait loci for the resistance to rice stripe in rice variety Zhaiyeqing 8, a molecular linkage map was constructed based on the F2 population derived from the cross of Zhaiyeqing 8 and Wuyujing 3. Reactions of the two parents, F1 individuals and 129 F2：3 lines to the rice stripe were investigated by both artificial inoculation at laboratory and natural infection methods in the field attached the virus, and the ratio of disease rating index were scored. The ratios of disease rating index in Zhaiyeqing 8/Wuyujing 3 F2：3 population ranged from 0 to 134.08 and from 6.25 to 133.6 by artificial inoculation at laboratory and natural infection methods, respectively, with marked bias towards resistant parent, Zhaiyeqing 8. This indicates the resistance to the rice stripe was controlled by quantitative trait loci (QTL). Further QTL analysis showed that the QTLs detected by two inoculation methods were completely different. Only one QTL, qSTV7,was detected by artificial inoculation, at which the Zhaiyeqing 8 allele enhanced the resistance to rice stripe, while the other two QTLs, qSTV5 and qSTV11, were detected by natural infection, and the resistant alleles came from Zhaiyeqing 8 and Wuyujing 3, respectively. These results showed that the resistant parent Zhaiyeqing 8 carried the genes associated with the resistance to the rice stripe virus and small brown planthopper, the resistant gene in Wuyujing 3 was expressed after recombination between Wuyujing 3 and Zhaiyeqing 8. In comparison with the results previously reported, QTLs detected in the study were new resistant genes to rice stripe. This will provide a new resistant resource for avoiding genetic vulnerability for single resistant gene, Stvb-i.
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【题目】水稻品种IR24抗条纹叶枯病相关QTL的检测
【中文关键词】水稻条纹叶枯病　灰飞虱　抗性　数量性状基因座
【英文关键词】Rice stripe　Laodelphax striatellus Fallen　Resistance　Quantitative trait locus (QTL)
【中文摘要】为探明籼稻品种IR24是否携有新的抗条纹叶枯病基因,利用衍生于Asominori/IR24的重组自交系(RIL)群体和以Asominori为遗传背景IR24插入片段的染色体片段置换系(CSSL)群体,进行抗条纹叶枯病相关QTL的检测。利用疫区田间自然条件鉴定的方法,在RIL群体中共检测到4个控制条纹叶枯病的QTL,分别位于第3、5、7、11染色体上(qSTV3、qSTV5、qSTV7、qSTV11),其中qSTV3、qSTV7和qSTV11增强抗性的等位基因来自抗性亲本IR24。采用图示基因型比较法,在CSSL群体中将4个抗条纹叶枯病相关基因位点分别定位在染色体片段置换系CSSL4、L17、L39、L61、L62的IR24插入片段上。对比分析RIL群体和CSSL群体的分子连锁图谱,发现qSTV3所在的标记区间与CSSL17的IR24片段相吻合,qSTV7所在的标记区间与CSSL4的杂合片段、CSSL39的IR24片段相吻合,qSTV11所在的标记区间与 CSSL61的IR24片段以及CSSL62的杂合片段相吻合,表明确实存在这3个位点。与前人的研究结果相比较,发现位于第3染色体上的qSTV3区域存在抗刺吸性害虫的基因簇,是一个表达稳定的抗灰飞虱基因座;位于第7染色体上的qSTV7不同于已报道的抗性基因座,表明IR24携有新的抗性基因,这些基因不同于主基因Stvb-i,为防止广泛使用单一基因而造成的遗传脆弱性提供了新的抗性基因源,并且为利用分子标记辅助选择,聚合不同抗性基因培育抗性稳定的条纹叶枯病抗性品种创造了条件。
【英文摘要】In order to verify the quantitative trait loci for rice stripe in rice cultivar IR24, QTL mapping of resistance to rice stripe was studied using both recombinant inbred lines (RIL) and a series of IR24 chromosome segment substitution lines (CSSLs) with Asominori genetic background. Four QTL were detected and located on chromosome 3, 5, 7,11, respectively, (qSTV3, qSTV5, qSTV7, qSTV11) using RIL population by natural condition test in the infected rice field. The positive resistance effects at qSTV3, qSTV7 and qSTV11 were from IR24. A graphical genotype analysis of the CSSL population indicated that the IR24-derived segments presented in five lines with QTL conferring rice stripe resistance. Comparing RIL with CSSL linkage maps, we found that the marker regions of qSTV3, qSTV7 and qSTV11 coincided with IR24 segment in CSSL17, heterozygous segment in CSSL4 and IR24 segment in CSSL39, and IR24 segment in CSSL61 and heterozygous segment in CSSL62, respectively. Additionally, qSTV3 was arranged on a gene cluster of chromosome 3 associated with sucking insect resistance, suggesting it be a new and stable expression locus, and qSTV7 be another new QTL detected in this research, after comparing with previous reports. These results indicated that IR24 carried several new resistance genes controlling rice stripe. This will provide a new resistance resource for avoiding genetic vulnerability from single resistance gene, Stvb-i, and provide a foundation for breeding rice varieties with stable resistance to rice stripe by diversifying rice stripe virus and small brown planthopper resistance genes in MAS.

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【题目】水稻粒形相关性状及千粒重QTL的稳定性分析
【中文关键词】水稻; 粒形相关性状; 千粒重; QTL; 稳定性分析
【英文关键词】Oryza sativa L.; traits related to grain shape; 1000-gra in weight; QTL; stability analysis
【中文摘要】以Nipponbare(japonica)/Kasalath(indica)//Nipponbare BC1F10的98个家系为材料,在3种环境下对水稻粒形相关性状及千粒重进行数量性状基因位点(quantitative trait loci,QTL)的定位分析。利用QTL mapper 1.6软件在全基因组水平上检测了粒形相关性状及千粒重QTL。结果表明,在3种环境下共检测到4、1、4、5、5个QTL,分别控制粒长、粒厚、粒宽、粒形和千粒重。鉴定了以Nipponbare为背景、Kasalath为置换片段的染色体片段置换系群体在3种环境中的表型值,发现与背景亲本相比,置换片段包含qGL-6的株系NK28、包含qGL-12的株系NK32粒长均明显变长;置换片段包含qGW-1和qGW-7的株系NK9和NK32粒宽均明显变窄;置换片段包含qLWR-5的株系NK22和NK32、包含qLWR-12的株系NK32粒形明显变大;置换片段包含qTGW-1-1的株系NK9千粒重显著降低。上述结果表明,这些QTL是稳定表达的主效QTL。
【英文摘要】Ninety- eight backcross inbred lines derived from Nipponbare (japonica) /Kasalath (indica) //Nipponbare were used to map QTL for grain shape related traits and 1000-grain weight under the three environments. By QTL mapper 116 software, QTL controlling grain shapere lated traits and 1000-grain weight were detected on the whole genome. The number of QTL for grain length, grain thickness, grain width, the ratio of grain length to width, and 1000-grain weight were 4, 1, 4, 5 and 5, respectively. Further stability analysis was conducted using chromosome segment substitution lines (CSSL) with Nipponbare as the genetic background and Kasalath as the donorin three environments. The results showed that significant difference of phenotypic values existed between the recurrent parent, Nipponbare, and the NK28 harboring qGL-6, NK32 harboring qGL-12 alleles. Compared to Nipponbare, the seeds of NK28 and NK32 became longer. The two CSSL both harboring qGW-1 and qGW-7 allele, including NK9 and NK32, had markedly decreased in grain width across the three environments. The same case was for the two CSSL harboring qLWR-5 allele, namely NK22 and NK32, as well as the CSSL NK32 harboring qLWR-12 allele, and the CSSL NK9 harboring qTGW-1-1 allele. These effects of the alleles at above loci were significant and stable. The results provided the foundation for further map-based cloning and marker-assisted selection (MAS) breeding.
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【题目】利用CSSL群体研究稻米加工品质相关QTL表达的稳定性
【中文关键词】水稻 加工品质 染色体片段置换系 QTL定位 稳定性分析
【英文关键词】Rice (oryza stativa L.) Milling quality Chromosome Segment Substitution Line (CSSL) QTL mapping expression stability
【中文摘要】【目的】研究稻米加工品质的分子遗传基础,为遗传改良和分子标记辅助选择提供有用信息。【方法】利用Asominori为遗传背景具有IR24染色体片段的置换系(CSSL)群体,在4个环境下对稻米糙米率、精米率和整精米率进行QTL定位和稳定性分析。【结果】结果共检测到30个QTL与稻米加工品质相关,其中qMR-6、qMR-8、qHR-3和qHR-6在4个环境中都能被重复检测到,影响精米率的qMR-6和qMR-8的平均贡献率分别为21.1%和22.2%;与整精米率相关的qHR-3和qHR-6,平均贡献率分别为34.6%和22.3%;且qMR-6、qMR-8、qHR-3和qHR-6对应的置换系与背景亲本Asominori在4个环境中相应性状的表现型之间都存在显著差异(P<0.05)。【结论】qMR-8、qBR-8b和qHR-8共定位在第8染色体R727-G1149区

间的QTL簇上,在笔者以前的研究中发现该QTL簇包含与稻米蒸煮食味、外观和营养品质等相关的多个主效QTL,这为剖析同一染色体区段内的1个或多个基因协同调控多个品质性状形成的复杂代谢网络提供信息。

【英文摘要】A chromosome segment substitution line (CSSL) population, derived from the cross of Asominori and IR24 with Asominori as the recurrent parent, was planted and phenotyped for brown rice rate (BR), milled rice rate (MR) and head rice rate (HR) in four sites. QTL for milling quality were characterized and expression stability of these QTL was further investigated by using target CSSLs harboring certain QTL. The phenotypic values of these three traits all showed continuous distributions and transgressive segregations in the CSSL population across the four environments.. Meanwhile, a total of 30 QTL were identified for the three quality traits, among which four QTL, qMR-6、qMR-8、qHR-3 and qHR-6, were all consistently detected in the four different environments. Moreover, phenotypic values were different significantly (P<0.05) between Asominori and the target CSSLs harboring any of the four QTL alleles, indicating expression stability of the four QTL was relatively higher. In addition, QTL qMR-8、qBR-8b and qHR-8 were co-located in the G1149-R727 interval on chromosome 8 carrying a QTL cluster. Interestingly, many major QTL affecting rice eating, cooking, appearance and nutrient quality was also mapped into the QTL cluster in our previous studies. These results thus obtained provide us a good chance to elucidate the complex mechanism that formation of many rice quality traits was simultaneously controlled by a gene or a gene cluster on chromosome 8.

【语种】中文

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【题目】与稻米高垩白率相关qPGWC-9生理功能分析

【中文关键词】垩白率;qPGWC-9;净光合速率;淀粉合成关键酶类

【英文关键词】percentage of grains with chalkiness (PGWC); qPGWC-9; net photosynthetic rate; key starch synthesis-associated enzyme

【中文摘要】利用携带qPGWC-9 目标区段而其他置换片段上不带有与垩白率相关QTL (quantitative trait locus)的高垩白染色体片段置换系(chromosomal segment substitution line, CSSL) AIS82,以其轮回亲本Asominori (低垩白)为对照,从源库关系角度探讨qPGWC-9 的生理功能。结果发现,籽粒灌浆期AIS82 与Asominori的剑叶净光合速率没有显著差异,说明光合作用强弱不是AIS82高垩白率产生的直接原因。灌浆前期AIS82的淀粉合成关键酶活性显著高于Asominori,但中后期AIS82 酶活下降快,整个灌浆期变化幅度相对较大,推测qPGWC-9主要影响了淀粉合成关键酶活性的动态变化,从而决定了高垩白表型。

【英文摘要】Percentage of grains with chalkiness (PGWC), one of the important traits assessing rice grain appearance quality, belonged to qualitative trait controlled by many genes. Our previous study identified a novel quantitative trait locus (QTL), namely qPGWC-9, related to high PGWC using chromosomal segment substitution line (CSSL) population. qPGWC-9 was shown to be expressed stably in eight environments. AIS82 which carried a IR24 chromosomal segment corresponding to qPGWC-9 in the Asominori genetic background was selected and analyzed to clarify the physiological function of qPGWC-9 from the relationship of source and sink of carbohydrates. It showed that AIS82 had higher PGWC than Asominori (control variety with low PGWC) (Table 1). The net photosynthetic rate of flag leaf of AIS82 showed no significant difference from that of Asominori (Figs.1,2), so photosynthetic ability in flag leaf was not directly related with high PGWC in AIS82. But, the changes in pattern of activity of the key enzymes associated with starch synthesis were different in these plants. Activities of some key enzymes in starch synthesis in AIS82 changed more radically than those in Asominori (Fig.3). These results suggest that qPGWC-9 might determine the activities of some enzymes associated with starch synthesis and therefore affect the degree of grain chalkiness.

【语种】中文

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【学科分类】农学其他学科

【题目】多环境下稻米粒重的QTL定位
【中文关键词】精米粒重　稻谷粒重　数量性状基因座(QTL)　染色体片段置换系(CSSLs)
【英文关键词】Milled rice weight (MRW)　Paddy rice weight (PRW)　Quantitive trait loci (QTL)　Chromosome segment substitution lines (CSSLs)
【中文摘要】以粳稻Asominori为遗传背景的染色体片段置换系(CSSLs)群体为材料,利用基于性状-标记多元回归分析方法对稻谷粒重和精米粒重进行多环境的QTL定位。结果在5个环境共检测到6个粒重相关QTL,分布于第1、6、7和8染色体上,对表型变异的贡献率介于13%~35%;其中控制精米粒重的qMRW-1a和稻谷粒重的qPRW-1在不同环境中均能稳定表达,且均位于第1染色体RFLP标记XNpb113附近,该基因座还同时控制着粒宽。qMRW-1a和qPRW-1共同对应的置换系AIS8和AIS11与Asominori 的粒重差异在不同环境中均显著(P < 0.05),表明该QTL的等位基因在不同环境中效应显著。比较发现该QTL在不同遗传群体中均能被重复检测到,且与蔗糖磷酸合酶基因(SPS)位置一致,推测该QTL与淀粉合成代谢有关。qMRW-1a 和qPRW-1在不同环境条件和遗传背景中表达,因此可用于进一步的精细定位研究。
【英文摘要】Grain weight is one of the important traits in rice for it determines grain yield and affects appearance quality in some degree. Grain weight is controlled by quantitative trait loci (QTLs) and determined by grain width, length, thickness and plumpness. To date, many QTLs have been identified, however only two QTLs have been fine mapped. It is urgent for identifying more QTLs expressed in different environments and genetic backgrounds so that they could be used in further fine mapping and breeding applications. So a chromosome segment substitution line (CSSL) population consisting of 65 lines, derived from Asominori and IR24 cross with the genetic background of Asominori, were grown in different environments to detect grain-weight related QTLs based on the stepwise regression of the traits and markers. The phenotypic values for milled rice weight (MRW) and brown rice weight (BRW) showed a continuous distribution and some transgressive lines were also observed in the CSSLs population. A total of six QTLs for grain weight were detected in five environments, which located on the chromosomes 1, 6, 7, 8, and explained 13% – 35% of phenotypic variance. The qMRW-1a and qPRW-1 could express stably in all experiment environments, both being in the same chromosome location of nearest marker XNpb113 on chromosome 1. Thus the markers could be used for marker assisted selection (MAS) of rice grain weight. MRW and PRW differed significantly between the CSSLs harboring the QTL allele and Asominori. In comparision with previous studies, they were found to be expressed in various genetic populations, and also had the similar chromosomal location with the gene for sucrose phosphate synthase. Therefore we deduced the QTL was associated with rice starch metabolism. qMRW-1a and qPRW-1, which had highly stable expression characteristic, should be used for fine mapping to elucidate the genetic basis of the rice grain weight.
【语种】中文
【第一作者】吴秀菊
【通讯作者】万建民
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【题目】微囊藻毒素在鲋鱼体内生物富集及其体内的抗氧化反应
【中文关键词】微囊藻毒素;抗氧化反应;鲋鱼;生物富集
【英文关键词】microcystins;antioxidative response;Carassius auratus L;bioaccumulation
【中文摘要】为了解微囊藻毒素在鲋鱼Carassius auratus L. 体内生物富集作用,用 LC/MS监测不同时间的鲋鱼肝脏、肌肉,以及饲养用水中痕量的微囊藻毒素。结果显示,肌肉组织中MC-RR和MC-LR的含量在18 d 时达到峰值,分别为7.87 ng · g-1和2.18 ng · g-1;而肝脏组织中 MC-RR和MC-LR的含量在鲋鱼暴露9 天时达到最高值,分别为 25.30 ng · g-1和33.27 ng · g-1。研究结果支持肝脏组织是MCs 的主要靶向器官,并且表明肝脏组织对 MC-LR的富集量远大于MC-RR,而肌肉组织更易于积累MC-RR。文章还研究了鲋鱼体内的抗氧化酶(SOD、CAT 、GST 、GR酶)的活性变化,对MCs 介导的氧化胁迫进行了评估。通过分别测定暴露不同时间点(3 、9、18 d)肝脏和肌肉组织中的抗氧化酶的活性,发现它们的活性与组织中 MCs 的含量基本呈正相关,可能对 MCs 介导的氧化胁迫有缓解作用。以上表明,MCs 能在鱼体内积累,抗氧化系统虽可缓解,但不能完全降解。因此食用被MCs 污染的鱼类存在潜在的食品安全风险。

【英文摘要】In order to investigate the bioaccumulation of microcystins(MCs) in Carassius auratus L., the level of MCs in liver, muscle and water was monitored by LC/MS at different time after exposure. The results indicated that the level of MC-RR and MC-LR was the highest in muscle on the 18th day after exposure, with each amount of 7.87 ng/g and 2.18 ng/g, and reached the peak in liver on the 9th day with the amount of 25.30 ng/g and 33.27 ng/g respectively. The results showed that the bioaccumulation of MCs is prone to occur in liver than in muscle. The level of MC-LR was higher than MC-RR in liver, and the MC-RR was prone to accumulate in muscle. The oxidative stress of fish mediated by MCs was also evaluated by analyzing the activities of several antioxidases such as superoxide dismutase (SOD), catalase (CAT), Glutathione-S-transferase (GST) and glutathione reductase (GR). The activities of these antioxidases in liver and muscle were measured after exposing to MCs af ter 3, 9 and 18 days. It was demonstrated that the level of MCs was basically positive-correlated to the activity of antioxidase, which probably released the oxidative stress mediated by MCs. Overall, fish can accumulate microcystins and make response to the toxicity with antioxidative system, but cannot de-grade the MCs completely. So it should be noted that people with whose diets contain the fish exposed to MCs, would potentially suffer the health threaten.
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【第一作者】杨静东
【通讯作者】石志琦
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【题目】Expression of Methyl Parathion Hydrolase in Pichia pastoris 12
【中文关键词】毕赤酵母表达系统,基因拷贝数,多拷贝载体
【英文关键词】Pichia pastoris expression system,the copy number of the expression cassette,integration vectors
【中文摘要】在毕赤酵母表达系统中,增加表达基因的拷贝数通常能提高重组蛋白的表达量,蛋白表达的优化往往涉及多拷贝表达株的筛选。为了提高甲基对硫磷水解酶MPH在毕赤酵母中的表达量,本文克隆了甲基对硫磷水解酶编码基因mpd并体外构建多拷贝载体,分两步将至少12拷贝的MPH-表达盒整合到了毕赤酵母的染色体上。拷贝数的增加显著的提高了重组蛋白的表达量,GS-12发酵液中积累的酶活是GS-1中的10倍,在摇瓶发酵条件下,共55 mg/L的重组MPH被分泌到胞外。
【英文摘要】In the Pichia pastoris expression system,increasing the copy number of the expression cassette often has the effect of increasing the amount of protein expressed. To improve the expression level of methyl parathion hydrolase (MPH), we constructed two integration vectorswith four and eight direct repeats of the expression cassette using an in vitro multimerization approach. After two successive integrations, at least 12 copies of the MPHexpression cassette were integrated into the P. pastoris chromosome. Under shake-flask conditions, over 55 mg active MPH/l was secreted into the medium by the multicopy clones. The extracellular enzyme activity was about 10-fold higher for the multicopy clones than for clones containing a single copy of the gene. Further investigations revealed that the multicopy MPH expression cassette could remain stably integrated and functional over five generations. Note that the expression vector pRF constructed in our study can be not only used to construct multiple copies of the expression cassette in vitro, but also integrated into the P. pastoris genome without introducing any antibiotic resistance gene, which is desirable for production of biotherapeutic proteins.
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【第一作者】于豪杰
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【学科分类】微生物学

【题目】Temperature Difference Between the Air and Organs of Rice Plant and Its Relation to Spiklet Fertility

【中文关键词】水稻;气温;植株温度;穗肥
【英文关键词】rice air temperature temperature of organs spikelet fertlity
【中文摘要】气温与水稻植株温度的差异及其对穗肥的调节
【英文摘要】Based on the experiment of measuring panicles and leaves, air temperature, and humidity above the canopy of rice cultivars after heading in 2005 and 2006, we investigated the temperature difference (TD) between the air and organs of rice plant and its relationship with spikelet fertility. The results showed that TDs between the air and organs of rice varied with air temperature, air humidity, and plant type. For similar air humidity, TDs were lower at the air temperature of 28.5 ° C than at higher temperature of 35.5 ° C, whereas for the same air temperature, the TDs decreased as the air humidity increased. TDs were also affected by plant type of the cultivars. Erect panicle cultivars showed higher TDs than those with droopy panicles under similar climatic conditions, and cultivars with panicles abov e flag leaf (PAFL) had higher TDs than those with panicles below the flag leaf (PBFL). Cultivars grown in a location with lower air humidity and higher temperature, such as Taoyuan, China, had higher spikelet fertility than those in higher humidity under the similar air temperature during the grain filling stage. This is partially attributed to the larger TDs under the lower humidity. Rowspacing
【语种】英文
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【题目】Effect of nitrogen fertilizer application on grain phytic acid and protein concentrations in japonica rice and its variations with genotypes
【中文关键词】植酸;贮藏蛋白;氮肥;粳稻
【英文关键词】Phytic acid Storage proteins Nitrogen Japonica rice
【中文摘要】氮肥施用对不同基因型粳稻植酸和蛋白质含量的影响
【英文摘要】and the ratio of basal-tillering to panicle-spikelet fertilizer showed a significant influence on TD and subsequently on spikelet fertility, suggesting the possibility of increasing spikelet fertility by agronomic management.
【语种】英文
【第一作者】Huifeng Ning
【通讯作者】Yanfeng Ding
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【题目】水稻“精苗稳前、控蘖优中、大穗强后”超高产定量化栽培模式
【中文关键词】水稻;精苗稳前、控蘖优中、大穗强后;超高产;定量化栽培模式
【英文关键词】rice SOI super-high yielding model of quantitative cultivation
【中文摘要】【目的】寻求水稻稳定超高产的栽培模式。【方法】以早熟晚粳品种武粳15、常优1 号为供试材料,其它栽培措施统一在最佳技术指标前提下,就氮肥运筹与穗肥施用叶龄期,设置了稳前优中强后、平衡促进和促前控中3 种栽培模式,并以长江中下游地区单季稻大面积生产上的常规栽培模式为CK,对产量及其结构、群体生长发育动态以及根系活力等方面进行系统比较。同时,在江苏东海、兴化、高邮、常熟等地,以徐稻3 号、常优1号、陵香优18、武粳15 等品种为材料,进行(15—50)×667m2 连片的稳前优中强后超高产栽培综合试验与扩大到100×667m2 连片试验田上的生产性验证试验。【结果】2 品种稳前优中强后、平衡促进2 模式的实产均达到了超高产水平(≥750 kg/667m2)。与CK 相比,稳前优中强后、平衡促进2 模式每穗粒数多、群体颖花量大,单位面积穗数、结实率和千粒重则与之相当;2 模式的群体于有效分蘖临界叶龄期准时够苗,高峰苗出现在拔节期,且数量适中(适宜穗数的1.3—1.4 倍),此后群体平缓消减,至抽穗期基本稳定,最终成穗率显著高于CK;其群体LAI 动态与茎蘖动态趋势基本一致,最大LAI 均出现在孕穗期,为8.0—8.5,成熟期仍保持3.5—4.0;群

体光合势与干物质积累,2 模式在生育前期(移栽—拔节期)较CK 低,中期(拔节—抽穗期)与CK 相当,后期(抽穗—成熟期)显著高于CK;2 模式在拔节期的根系干重与CK 相当,抽穗期和成熟期则显著高于CK,而这3 个时期的根冠比均显著高于CK,其抽穗后(抽穗—腊熟期)的根系平均伤流量与颖花根流量均显著高于CK。同时,连续2 年多地的稳前优中强后超高产综合栽培试验以及后3 年扩大到100×667m2 连片试验田上的生产性验证试验,实产均达800 kg/667m2 左右。【结论】揭示了水稻超高产栽培的根本在于“强支撑、扩库容、促充实”;提出了水稻精苗稳前、控蘖优中、大穗强后的超高产定量化栽培模式。

【英文摘要】Thirty-one japonica cultivars with contrasting agronomic traits were used and 5 nitrogen (N) fertilizer treatments of level and timing were performed to determine the effects of N application on grain phytic acid and proteins including albumin, globulin, prolamin, and glutelin. Variance analysis showed a large effect of N and a smaller effect of cultivar on grain phytic acid and proteins. With increased N level, grain phytic acid concentrations progressively reduced whereas concentrations of the 4 proteins and ratios of glutelin to total protein increased, indicating that N level has a beneficial effect on rice nutritional quality. In addition, substantial genotypic differences in response of grain phytic acid and proteins to N treatments were detected. Some cultivars such as Xiushui09, Zhendao10, and Yanjing5 exhibited more stability of grain proteins under ontrasting N treatments, and the significance of this stability is discussed in regard to its use in rice quality improvement.

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【题目】粳型超级稻产量构成因素协同规律及超高产特征的研究
【中文关键词】粳型超级稻;产量及其构成因素;超高产特征
【英文关键词】japonica super rice grain yield and its components character of super-high yielding
【中文摘要】【目的】水稻是中国重要的粮食作物,实现水稻的超高产生产对保证中国粮食安全有重要作用。本研究旨在探讨粳型超级稻产量构成因素协同演进规律及超高产特征。【方法】以具有代表性的4 个超级粳稻品种(武粳15、淮稻9 号、徐稻3 号和常优1 号)为材料,对高产(8 250—9 750 kg · hm-2)、更高产(9 750—11 250 kg · hm-2)和超高产(>11 250 kg · hm-2)3 个产量等级群体的产量及其结构、群体库容量和群体库容的充实进行了系统的比较研究。【结果】由高产到更高产再到超高产,4 个超级稻品种的群体颖花量不断提高(差异显著),而结实率、千粒重在3 个产量等级间略有增减(差异不显著)。在安全成熟的情况下,群体颖花量与产量呈极显著正相关;群体颖花量的提高在由高产提高到更高产的水平上,主要依靠单位面积穗数的增加,而由更高产提高到超高产水平,则主要依靠足穗基础上增加每穗粒数。在安全成熟条件下,群体库容充实度在3 个产量等级间因种略有增减,差异不显著,而群体库容实际充实量则随产量的增加而增加。【结论】以足量大穗构成群体安全大库容(安全成熟的群体高颖花量),通过保持正常的充实度(即保证常年的结实率与千粒重),从而提高群体库容总充实量,是粳型超级稻的超高产特征。

【英文摘要】【Objective】 A model of cultivation for stable yield of super-high-yielding rice was studied. 【Method】 Taking the early-maturing late-japonica varieties, Wujing 15 and Changyou 1, as materials, through the nitrogen fertilizer regimes under other cultivating conditions all being the optimal,three strategic management models of cultivation were examined, i.e. SOI (stabilizing, optimizing, intensifying during the early ,middle, late phase correspondingly to adopt the ratio of basal-tillering and panicle initiating fertilizer of 50:50 and nitrogen applying leaf age of remaining leaf primordium number of 4,3), BP (balance promoting during all phase to adopt the ratio of basal-tillering and panicle initiating fertilizer of 40:60 and nitrogen applying leaf age of remaining leaf primordium number of 5, 4, 3) and PC (promoting, controlling during the early, middle phase correspondingly to adopt the ratio of basal-tillering and panicle initiating fertilizer of 75:25 and nitrogen applying leaf age of remaining leaf primordium number of 5), in contrast to the CK (A model of conventional cultivation management) in field production of one-seasoned rice in the region of the middle and lower reaches of the Yangtze River. Their results were systematically compared in various aspects, such as yielding and its components, dynamics of population stems and tillers, leaf area index, photosynthetic potential, grain-leaf ratio, production of dry matter, root activity after heading, etc. In addition, confirmatory tests on the practicability of the super high yield cultivation of the SOI model on 6.7 hectares of contiguous fields, as well as comprehensive experiments in the scale of 1-3.3 hectares, were performed using other varieties, Xudao 3, Changyou 1, Lingxiangyou 18 and Wujing 15, in the areas of Donghai, Xinghua, Gaoyou and Changshu of Jiangsu. 【Result】 The yields of SOI and BP were ranking up to the level of super-high-yield(≥750 kg/667㎡)in two varieties. Compared with

CK, more spikelets per panicle and population spikelets were observed in the models of SOI and BP,with roughly the same level of panicles per unit area, filled-grain percentage, and 1000-grain-weight. In the models of SOI and BP in comparison with CK, the population of stems and tillers achieved the expected number punctually at the critical leaf-age for productive tillers, and reached the peak with an appropriate value (1.3-1.4 folds of expected panicle number), then decreased gently,ultimately arrived at a significantly higher rate of productive tillers to total tillers than CK. Plants in SOI and BP models developed approximately the same population LAI dynamics and dynamics of stems and tillers, their maximal LAI appeared at the booting stage (8.0-8.5) and remained a level of 3.5-4.0 at the maturity stage. As for the population photosynthesis potential and the dry matter accumulation, the models of SOI and BP showed lower values than CK during the early stages (from transplantation to jointing stage), during the middle stages (from jointing to heading) both two models were roughly the same with CK, showing no statistical significance, and for the later stages in growth and development (from heading to maturity), two models were at remarkably higher levels in these two parameters. The two models developed a nearly dry weight of roots as compared to CK at the stage of jointing, but they developed remarkably higher than CK at heading and maturity. A pattern of evidently higher values than CK in both SOI and BP was found in such parameters as the root-shoot ratio at the stages of jointing, heading and maturity, the average root exudates after heading (from heading to waxy stage), and the ratio of spikelets to root exudates. Besides, an average yield per 667m^2 was achieved, both in the comprehensive super-high-yield cultivation experiment of SOI in more than 2 consecutive years, and in the confirmatory tests for practicality in the contiguous fields of 6.7 hectares. 【Conclusion】 The results revealed that the pivotal principle for super-high-yield cultivation of rice lies in ‘ strengthening the supporting system, enlarging the sink capacity, and guaranteeing the grain-filling ’, and the super-high-yield cultivation mode was proposed, i.e. appropriate number of population stems and tillers with strong seedlings at early stage, high photosynthetic efficiency population structure with controlling ineffective tillers at middle stage, and enriched dry matter production with large panicles, strong stems, high efficiency leaves in proper population configuration at later stage.

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【题目】水稻氮素和叶绿素SPAD 叶位分布特点及氮素诊断叶位选择
【中文关键词】氮素诊断;SPAD 值;叶位;氮含量
【英文关键词】Nitrogen diagnosis SPAD value Leaf position Nitrogen content
【中文摘要】【目的】研究分析水稻氮素和SPAD 值的叶位分布特点,并试图提出SPAD 计诊断氮素营养状况的最佳测定叶位。【方法】在95-38、武育粳3 号、镇稻5394、9915 等4 个粳型品种和1 个籼型品种R161-10 的盆播氮肥试验和宁粳2 号大田氮肥试验的基础上,研究水稻氮素和叶绿素含量(SPAD 值)随叶位的空间分布特征,并对不同叶位叶片的含氮率、叶绿素含量、SPAD 值之间及其与总叶片含氮率和植株含氮率之间的相关性进行分析,比较不同叶位叶片SPAD 测定值的变异系数。【结果】水稻不同叶位叶片含氮率、叶绿素含量、SPAD 值均存在差异,增加施氮量能提高叶片含氮率、叶绿素含量和SPAD 值,同时减少叶位间的差异;SPAD 值对氮素的敏感性顺序为顶4 叶、顶3 叶和顶2 叶,而顶1 叶的敏感性排序因品种不同而不同;穗分化期、齐穗期和成熟期均以顶3 叶与总叶片及植株含氮率相关系数最高;且适宜氮素水平下,穗分化期顶3 叶SPAD 值的变异系数最小。【结论】以某一特定叶片的SPAD 值或以叶色差的大小来诊断水稻氮素营养状况和推荐水稻穗肥施用时,顶3 叶是较为理想的指示叶或参照叶。

【英文摘要】【Objective】This study was conducted to summarize the general formula of panicle number per plant (ES) of rice and establish the function of theoretic number of tillers for effective tillering leaf position, and determine the tiller surviving rate of seedling (s), tiller emerging rate after transplanting (r), missing tiller number after transplanting (bn), and adjusting factor (a).【Method】Field experiments were performed in the special high-yield area at Taoyuan, Yongsheng County, Yunnan province, and tiller number and grain yield were determined. Five transplanting density treatments were conducted with an Indica hybrid rice variety, Eryou 107, in 2005; and six Indica hybrid rice varieties, Eryou 107, Eryou 318, Eryou 7954, Eryou 084, Eryouhang No. 1 and Xieyou 107, were used in high-yield field experiment in 2005 and 2006, respectively. 【Result】 All varieties followed the “ n-3 ” law of synchronously emerging of tiller with leaf. The theoretic number of tillers for effective tillering leaf position (A) was calculated and can be expressed as the function of the number of effective tillering leaf position (E). E was related with the total leaf number (N), leaf age at transplanting (SN), elongated node number (n), missing tiller number after transplanting (bn) and adjusting factor(a), E=(N-n-SN-bn-a). The

adjusting factor (a) for super high-yield rice should be taken as 1.5. For traditional wet-bed seedling,bn was 1.5, surviving rate of tillers with 2 leaves (s2) was 0.8, surviving rate of tillers with 1 leaf (s1) was 0.3; while for seedling tray,bn was 0.5, s2 was 1.0, s1was 0.5. From seedling recovering to stage of tiller equal panicle, r was 80% or so. 【Conclusion】 Fortraditional wet-bed seedling, E=(N-n-SN-3), ES=(1+t3+0.8t2)(1+0.8A)+0.3t1; for seedling tray, E=(N-n-SN-2), ES=(1+t3)(1+0.8A3)+t2(1+0.8A2)+0.5t1, where t1, t2, t3 represents the tillers with 1, 2 and 3 leaves, respectively, A2 and A3 represent the emerged tillernumber after transplanting for tillers with 2 and 3 leaves, respectively. The comparison of theoretical and actual tiller number showed that the formula well depicted the tiller emergence characteristics of super high-yield rice.

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【题目】水稻主茎出叶动态模拟研究
【中文关键词】水稻;叶龄;有效积温;模拟模型
【英文关键词】rice leaf age effective accumulated temperature simulation model
【中文摘要】【目的】研究水稻主茎各叶片出伸与有效积温的关系,建立水稻主茎出叶与有效积温关系的动态模拟模型。【方法】选用16 个水稻品种分别在云南丽江、江苏南京两个生态地区进行播期试验,观察主茎各叶片出伸与有效积温的定量关系。【结果】主茎叶片出伸所需有效积温与叶位的关系总体随叶位的上升而增加,且在整个叶龄进程中出现两个拐点,第一个拐点出现在第3 叶龄期,第二个拐点出现在第N-n-2 叶龄期。据此,对叶龄进程进行分段模拟,建立叶龄模型。利用不同环境下播期试验的出叶动态数据对模型进行检验,不同类型品种模拟叶龄与实测叶龄的根均方差(RMSE)都小于0.1。【结论】以各叶位叶片出伸与有效积温的关系建立的叶龄分段函数模型具有较好的预测性和实用性。
【英文摘要】【Objective】 In order to investigate the spatial distribution characteristics of leaf nitrogen (N) and SPAD (Soil Plant Analysis Development) value, and to determine the best leaf position for N diagnosis in rice with SPAD meter. 【Method】 Based on the rice pot experiment involving five varieties (four were Japonica, one was Indica) and two N treatments and field experiment with different N treatments, the spatial differences of N and Chlorophyll content (SPAD value) in the four upper fully expanded leaves and
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【题目】不同产量类型水稻基因型氮素吸收、利用效率的差异
【中文关键词】水稻;氮素累积量;氮素吸收速率;氮素利用率;基因型;产量类型
【英文关键词】rice N accumulation N uptake rate N use efficiency genotype yield performance
【中文摘要】【目的】明确不同产量基因型水稻氮素营养吸收、利用差异。【方法】采用大田试验,以长江中下游地区5种生育期类型中相对高产和低产的20 个粳稻品种为材料,研究施氮量为225 kg · hm-2 水平下两种产量类型水稻的产量、氮素积累量、氮素吸收速率和氮素利用效率的差异及其之间的相互关系。【结果】随着生育期的延长,高产水稻类型的平均产量分别比低产类型高31.62%、31.94%、39.47%、26.21%和21.82%;氮素生育期累积量和氮素利用率随着生育期的延长呈逐渐增加的趋势,高产类型明显高于低产类型;氮素阶段性积累量和阶段性吸收速率的变化为:移栽至拔节和拔节至抽穗阶段为高产类型高于低产类型;抽穗至成熟阶段部分基因型表现为低产类型高于高产类型,但差异不大。相关分析表明,水稻产量与氮素积累量、氮素利用率呈显著或极显著正相关,与各阶段的氮素吸收速率亦呈正相关关系,其中移栽至拔节阶段达极显著水平,其余阶段未达显著水平。【结论】相对于低产基因型水稻,高产基因型在各个生育阶段的氮素积累量、抽穗前的氮素吸收速率及氮素利用效率均较高。可见,高产与提高氮素的积累和利用在品种本身的改良上可得到统一。

【英文摘要】their relationships with whole leaf and plant N concentration were investigated. Furthermore, the coefficient of variation (CV) of SPAD values at different leaf position was compared. 【Result】 The results showed that leaf N/ Chlorophyll content and SPAD value at different leaf position differed obviously, leaf N, chlorophyll content and SPAD value increased and their difference between different position leaves decreased at high N rates. The sensitivity of the forth leaf from the top to N was highest, then third and
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【题目】不同类型水稻支链淀粉理化特性及与米粉糊化特征的关系
【中文关键词】支链淀粉;结构;糊化特征;米饭质地;水稻
【英文关键词】Amylopectin Structure Pasting properties Cooked-rice texture Rice
【中文摘要】【目的】探索稻米中支链淀粉理化特性及其与米粉的糊化特征的关系。【方法】以不同类型水稻代表性品种为材料,测定支链淀粉的蓝值和最大吸收波长,用Sephadex G75层析柱分析支链淀粉分枝链的链长分配,并分析其与稻米RVA谱和米饭质地间的关系。【结果】不同类型代表品种的支链淀粉的蓝值和最大吸收波长存在显著差异,籼型品种稻米支链淀粉的蓝值和最大吸收波长要高于粳型(巴西陆稻除外),非糯性品种支链淀粉的蓝值和最大吸收波长呈极显著的线性关系(r=0.995**)。经Sephadex G75分离的FrⅠ部分的链长的平均聚合度>100 glucose unite,FrⅡ部分的链长的平均聚合度为44~47 glucose unite,FrⅢ部分的链长的平均聚合度为10~17glucose unite。不同类型代表品种支链淀粉中长分枝链与短分枝链的比率存在明显的差异,在供试的糯性品种中,籼糯含长分枝链比粳糯多;非糯性品种中,籼稻比除粳型偏籼的巴西陆稻以外的粳稻含有更多的长分枝链。在同一类型品种中,供试的籼型杂交稻的支链淀粉中含有的长分枝链要比常规稻多,陆稻品种含的长的分枝链要高于水稻品种。支链淀粉的短链部分(FrⅢ)的比率与最高粘度和崩解值呈极显著的正相关关系(r=0.969**, r=0.949**),而长链部分(Fr(Ⅰ+Ⅱ))与最高粘度和崩解值呈极显著负相关关系(r=-0.969**, r=-0.949**)。【结论】水稻支链淀粉的分枝链长分配与稻米品质关系密切。在非糯性品种中,硬性和凝聚性大、松弛性和粘附性小的品种,米饭的口感表现硬,咀嚼有渣感,其Fr(Ⅰ+Ⅱ)比率大,即支链淀粉所含长分枝链比率高。
【英文摘要】second, while the first leaf varied within the varieties. The SPAD value of the third leaf from the top was most correlated with whole leaf and plant N concentration among the top four leaves through the panicle initiation stage, full-heading stage and mature stage.The CV of SPAD value of the third leaf from the top was smallest at fore-and-aft spike differentiation under optimal N level. 【Conclusion】 It was suggested that the third leaf from the top was the most ideal indicator when using SPAD value or leaf color difference to diagnose N status and make N fertilization recommendation at panicle initiation stage in rice.
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【题目】超级稻群体籽粒库容特征的初步研究
【中文关键词】超级稻;颖花量;最大库容量;库容有效充实度;枝梗;单穗重
【英文关键词】Super rice Total amount of spikelets Peak sink Effective filling rate of sink Branch Weigh of seed per panicle
【中文摘要】【目的】探索超级稻群体库容形成及其构成特征。【方法】以具有代表性的5 个籼型超级稻为材料,用汕优63 为对照,比较研究超级稻群体籽粒库容构成及特征。【结果】(1)不同试点的超级稻品种均显著或极显著比对照增产,群体颖花量的增加是产量增加的直接原因。培育大穗是超级稻扩大库容量、增加颖花量的主要途径,而增穗并不能扩增群体总颖花量。(2)大穗是通过两种途径协调实现的:一是增加一次枝梗数及其上的平均着粒数,二是增加二次枝梗数但稳定二次枝梗上的平均着粒数; 其中增加二次枝梗数及其总粒数是主要的; 超级稻在一、二次枝梗数增加的同时,通过稳定二次枝

梗上的平均着粒数而增加一次枝梗上的平均着粒数,优化颖花分布,提高全穗结实率而增加单穗籽粒重; 超级稻单穗重达4.0 g 以上, 平均比对照增重10.9% 。(3)超级稻产量潜力高,最大库容达870 kg/667m2,显著高于对照,平均增幅近10%;但最高库容有效充实度在品种间、试点间变化较大,并无稳定优势,平均为80.3%,略低于对照,故因种因地栽培是实现超级稻稳定超高产的关键。【结论】超级稻在稳定适宜穗数的基础上通过协调增加一次枝梗数和二次枝梗数及其平均着粒数来增大穗型,通过优化一、二次枝梗上颖花分布来提高结实率从而增加单穗重。

【英文摘要】【Objective】 This study was conducted to investigate the relationship between leaf position on the stem of rice cultivar and effective accumulated temperature and to describe the progress of leaf appearance on main stem of rice. 【Method】 Sixteen rice cultivars were used in this experiment. They were planted with different sowing dates in Nanjing, Jiangsu and Lijiang, Yunnan. The relationship between leaf position on the stem of cultivar and effective accumulated temperature was observed.【Result】 The results indicated that the leaf within one stem appeared more later it would need more effective accumulated temperature. Moreover, there were two turning points during rice growth period. One appeared when leaf number was 3 and the other one emerged while leaf number equaled N-n-2. Therefore, the piecewise function was used to describe the progress of leaf appearance on main stem of rice. Data collected from two regions were used to validate the model. The RMSE between simulated values and measured values were less than 0.1. 【Conclusion】 This study suggested that the model had good forecast ability and practicability for leaf appearance.

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【题目】粳稻小粒穗的症状及其籽粒性状的变化特征
【中文关键词】水稻;粳稻;小粒穗;症状;粒重;分布
【英文关键词】Rice Japonica Shrunk-grain Panicle Symptom Grain weight Distribution

【中文摘要】【目的】系统介绍江苏省近两年来大面积发生的小粒穗异常生长现象,从稻穗、籽粒、糙米等方面对发生症状给出详细的图文说明。【方法】以武育粳3 号为分析对象,对几个代表性地区的小粒穗进行取样,分析了正常籽粒和小粒穗籽粒的形态分布和粒重分布特征。【结果与结论】在正常籽粒中,籽粒的长、宽和粒重均呈较为规律的单峰连续分布,且分布呈一定程度的右偏趋势;小粒穗籽粒的形态分布和粒重分布则较不规则,总体上均呈双峰分布态势。两个峰累计分布的比例与小粒穗发生的严重程度有密切关系。在分析发生症状的基础上,对小粒穗现象的名称、症状以及诊断的指标等一系列问题进行了讨论。

【英文摘要】【Objective】Over the past two years, an abnormal growth phenomenon called shrunk-grain panicle has occurred in a large area in Jiangsu Province. The phenomenon was described in detail by figures and characters in this paper. 【Method】With Japonica rice Wuyujing 3 as the experimental material, characteristics of grain morphology distribution and grain weight were studied. Normal grains and Shrunk-grain Panicle were sampled from several representative areas. 【Result and Conclusion】The length, width, and weight of the normal grains were distributed as regular, continuous and single peaked. Plant growth typically had a right-leaning tendency. On the contrary, the distribution of the grain morphology and weight were irregular and nearly doubled that of the Shrunk-grain Panicle. The proportion of the cumulative distribution in the two kinds of peaks was closely related with the degree of Shrunk-grain Panicle. The paper discusses analysis of the phenomenon's symptoms, problems, and diagnosis.

【语种】中文
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【题目】起身肥改善水稻根际土壤氮素分布与利用的研究
【中文关键词】水稻;塑盘穴播;起身肥;氮肥利用率;产量
【英文关键词】Rice Plastic-plate dotsow Nitrogen fertilizer before transplanting Nitrogen utilization efficiency Yield
【中文摘要】【目的】探讨起身肥对移栽后水稻根际土壤氮素分布与利用的改善作用,为氮肥的精确合理施用奠定基础。【方法】以宁粳2 号为材料,通过塑盘穴播育秧带土、带肥移栽,研究不同起身肥水平下植株周围土壤矿质态氮浓度的时空变化及起身肥对水稻氮肥利用率和产量的影响。【结果】施起身肥后均能显著提高移栽后水稻根际土壤氮素浓度。随移栽后时间推移,距植株1 cm 处土壤氮素浓度呈下降趋势,而距植株4 和7 cm 处土壤氮素浓度呈先升后降态势。与非起身肥处理相比,起身肥能够极显著地促进水稻对氮肥的吸收和利用。水稻吸氮量、基蘖氮肥利用率和水稻产量以施适量起身肥处理最高。其基蘖氮肥利用率高达27.17%,比非起身肥处理高15%,差异极显著。产量为8 814.0 kg · ha-1,比非起身肥处理高529.5 kg · ha-1。【结论】秧田施起身肥310.5 kgN · ha-1,可以提高水稻生育前期根际土壤矿质态氮浓度,促进分蘖的早生发快,增加分蘖成穗率,显著提高氮肥利用率和水稻产量。
【英文摘要】【Objective】The study was conducted to investigate the improvement of the application of nitrogen fertilizer before transplantation on nitrogen distribution and utilization efficiency around the soil of rice and to give guidance for nitrogen fertilizer application. 【Method】The Japonica variety of Ningjing-2 was conducted in this study, and effects of nitrogen before transplanting on spatio-temporal distributing of mineral nitrogen, nitrogen fertilizer utilization efficiency and grain yield were studied with raising seedling by means of plastic-plate and transplanting with soil. 【Result】The results indicated that nitrogen fertilizer before transplantation could improve nitrogen content in the rhizosphere soil of rice. Along with the process days after transplantation, nitrogen content in soil 1 cm apart from the plant declined, while 4, 7 cm apart from plant it increased first and then declined. The study also demonstrated that the application of nitrogen fertilizer before transplantation could promote the nitrogen assimilation and utilization. Scientists compared it with rice and without it. Tests showed itcould achieve the highest nitrogen assimilation, basal-tillering nitrogen fertilizer utilization efficiency and grain yield with proper nitrogen fertilizer before transplantation. With this, there was 27.17% of basal-tillering nitrogen fertilizer utilization efficiency and 8814.0 kg · ha-1 of grain yield. Yield increased 15% and 529.5 kg · ha-1 respectively compared with that of without nitrogen fertilizer before transplantation.【Conclusion】This study suggested that it could increase mineral nitrogen content in the rhizosphere soil of rice, accelerate tiller ’ s development, and enhance the rate of effective tillers with 310.5 kgN · ha-1 in seedling field. It can improve nitrogen utilization efficiency and grain yield distinctly.
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【题目】水培条件下硫素营养对粳稻米质的影响
【中文关键词】硫素;粳稻;米质;蛋白质
【英文关键词】sulfur japonica rice rice quality protein
【中文摘要】【目的】探讨水培条件下,硫素营养对粳稻稻米品质的改善作用,明确其品质指标随硫素浓度改变而变化的规律,以期提高人们对硫肥的重视,为硫肥的精确合理施用奠定理论基础。【方法】以粳稻武粳15 和武育粳3 号为材料,采用水培法,研究硫素营养对粳稻稻米品质指标的影响。【结果】在适宜营养液硫浓度下,武粳15 和武育粳3 号的稻米品质得到显著改善。武粳15 和武育粳3 号分别在200 μmol · L-1和260 μmol · L-1硫浓度处理下,加工品质、外观品质指标得到显著改善,与对照相比,胶稠度分别增加了12.1 mm 和8.4 mm。在米粉糊化特性上,武粳15 在200 μmol · L-1硫处理的米粉峰值粘度较对照增加143 cP,消减值降低290 cP。武育粳3 号在260 μmol · L-1 硫浓度处理下,米粉的峰值粘度较对照增长158 cP,消减值降低34 cP。两个品种籽粒蛋白质含量及总游离氨基酸含量随硫浓度的升高呈增加的趋势,4 种蛋白组分含量与硫浓度总体上呈正相关关系。【结论】200 μmol · L-1硫处理的武粳15 和260 μmol · L-1 硫浓度处理的武育粳3 号,其品质相关理化指标得到较好的改善。
【英文摘要】【Objective】 The study was conducted to investigate the improvement of sulfur nutrition on rice quality of japonica rice cultivar and find out the change tendency of japonica rice cultivar's quality with sulfur concentration increasing in solution culture. And it was also hoped it could make people give enough attention to sulfur fertilizer and give guidance for sulfur fertilizer' accurate and rational application. 【Method】 Solution culture method was used to study the effect of sulfur on physiochemical properties of rice grain of two japonica rice cultivars, Wujing15 and Wuyujing3. 【Result】 The results showed that Wujing15 and Wuyujing3 rice

quality were improved significantly under rational sulfur concentration. Milling quality and appearance quality were improved remarkably, under 200 μmol S · L-1 treatment for Wujing15 and 260 μmol S · L-1 for Wuyujing3, in comparison with 80 μmol S · L-1 treatment. In comparison with 80 μmol S · L-1 treatment, the gel consistency increased by 12.1mm and 8.4mm for Wujing15 and Wuyujing3, respectively. For Wujing15, the peak viscosity increased by 143 cP, setback decreased by 290 cP. For Wuyujing3, the peak viscosity increased by 158 cP, setback value reduced by 34 cP, in comparison with 80 μmol S · L-1 treatment. Additionally, the protein contents and total amino acid contents increased with S concentration increasing for both cultivars, in comparison with 80 μmol S · L-1 treatment. The two rice cultivars' four protein fractions content of the two rice cultivars had positive relationship with sulfur concentrations on the whole. 【Conclusion】 Under 200 μmol S · L-1 treatment for Wujing15 and 260 μmol S · L-1 for Wuyujing3,the physiochemical properties of grain of the two cultivars had substantial improvement.

【语种】中文
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【题目】杂交粳稻13.5thm－2超高产群体动态特征及形成机制的探讨
【中文关键词】杂交粳稻;超高产;群体特征;形成机制
【英文关键词】Hybrid japonica rice Super-high yielding Characteristics of population Formation mechanism
【中文摘要】选用杂交粳稻甬优8号,以国家粮食丰产工程兴化、姜堰实施基地1.0 hm2连片与6.67 hm2连片超高产攻关方为依托,研究了13.5 t hm－2超高产群体特征,并探讨了群体形成机制。结果表明,较之12.0 t hm－2左右群体,13.5 thm－2群体的穗型大,群体颖花量多(60 000×104 hm－2以上),有效穗数、结实率和千粒重与之相当;群体茎蘖于生育前期稳步增长,至有效分蘖临界叶龄期达适宜穗数,高峰苗出现在拔节期,数量少,为预期穗数的1.3倍左右,此后群体平缓下降,至抽穗期达适宜穗数,成穗率高(>75%);群体叶面积指数前期增长相对较缓慢,最大值出现在孕穗期,为8.5左右,此后下降缓慢,成熟期仍保持在4.0以上;群体光合势生育前期较小,中、后期较大,总光合势为675×104m2 d hm－2以上,抽穗至成熟期的光合势占总光合势的45.0%以上;群体拔节前干物质积累速度相对较缓、积累量略低,拔节后积累速度较快,至抽穗期群体生物量为13.5 t hm－2以上,抽穗后积累量亦高,一般为9.75 t hm－2以上,总干物重高达23.25 t hm－2以上。13.5 t hm－2超高产群体形成机制为,依靠精苗,发大蘖,及时够苗,提高够苗期群体质量(有效分蘖临界叶龄期),为中期高质量群体结构的培育奠定生物学基础;依靠合理的群体动态及其规模,培育适宜数量的壮秆大穗,于抽穗期形成具有强抗倒力和巨量安全库容的高光效群体;依靠平稳消退的光合系统,提高抽穗后群体光合物质生产力,增大群体库容的总充实量,并维持较大的茎鞘强度,增强群体的安全抗倒力。

【英文摘要】Population characteristics of super-high-yielding hybrid japonica rice (13.5 t ha－1) were studied and its formation mechanism was explored using Yongyou 8 as material in Xinghua and Jiangyan. Results showed that population of 13.5 t ha－1 had more spikelets per panicle and total spikelets than population of 12.0 t ha－1. There was no significant difference in panicles, filled-grain percentage and 1000-grain weight between populations of 13.5 t ha－1 and 12.0 t ha－1. Population of 13.5 t ha－1 exhibited fewer tillers at the early growth stage and achieved excepted number of stems and tillers at critical leaf-age for productive tillers, whose max number of stems and tillers was at jointing stage and was about 1.3 times of excepted number. Then, the number of population stems and tillers began to decrease stably, which achieved expected number again. At last, ratio of productive tillers to total tillers of 13.5 t ha－1 population was more than 75%, which was higher than that of population of 12.0 t ha－1.The leaf area index of 13.5 t ha－1 population was lower than that of 12.0 t ha－1 population at the early growth stage, and the max leaf area index was about 8.5 at booting, which decreased stably and was above 4.0 at maturity. The photosynthetic potential of population with 13.5 t ha－1 was small at early stage and larger at middle and late stages, as compared with population with 12.0 t ha－1. The total photosynthetic potential was above 675×104 m2 d ha－1, of which most than 45.0% was from heading to maturity. The dry matter accumulation was smaller compared with population with 12.0 t ha－1 before jointing, and the weight of it was above 60 kg ha－1 at heading, which was significantly higher than that of population with 12.0 t ha－1. The total weight of dry matter was above 23.25 t ha－1, of which above 9.75 t ha－1 was accumulated from heading to maturity. Formation mechanism of super-high yielding population (13.5 t ha－1) was that: population quality was enhanced at critical leaf-age for productive tillers through cultivating strong seedlings, germinating low positiontillers and achieved expected number of stems and tillers in time, which formed the biological foundation for high quality population at middle stage; in order to form high photosynthetic efficiency of population structure with strong lodging-resistance and

large population spikeletes at heading, suitable number of strong stems and large panicles was cultivated through establishing suitable dynamic and size of population; in order to enlarge sink-filling and keep strength of stems and sheaths, dry matter accumulation was enriched after heading through photosynthetic system smooth and steady fade away.

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【题目】水稻不同生育期类型品种精确定量施氮参数的初步研究
【中文关键词】水稻;不同生育期类型;施氮量;精确定量施氮;100 kg 籽粒吸氮量
【英文关键词】Rice Different growth type N application rate Precise and quantitative N application N requirement for 100 kg grains
【中文摘要】以长江中下游地区早熟中粳、中熟中粳、迟熟中粳、早熟晚粳和中熟晚粳5 种类型品种为材料, 设置3 种施氮水平(0、225 和300 kg hm − 2 纯氮), 研究精确定量施氮3 个参数的变化规律。结果表明: (1)不施氮条件下的土壤基础供氮量即基础产量吸氮量, 随水稻品种生育期的延长而增加, 计算基础产量吸氮量的参数即100 kg 稻谷吸氮量,在中熟中粳、迟熟中粳和早熟晚粳3 种类型间差异较小, 产量为6 t hm − 2 (4.87~6.58)时为1.58 kg (1.50~1.63)。(2)施氮条件下, 100 kg 籽粒吸氮量在中熟中粳、迟熟中粳和早熟晚粳间的变化较稳定, 平均为7.5 t hm − 2 产量时, 225 kghm − 2 氮素水平为1.86 kg (1.85~1.87), 300 kg hm − 2 氮素水平为2.01 kg (1.98~2.05); 9 t hm − 2 的产量时, 225 kg hm − 2 氮素水平为1.94 kg (1.91~2.04), 300 kg hm − 2 氮素水平为2.08 kg (2.01~2.19); 10.5 t hm − 2 的产量时, 225 kg hm − 2 氮素水平为1.95 kg (1.93~2.01), 300 kg hm − 2 氮素水平为2.09 kg (2.08~2.10)。说明随着施氮量的增加100 kg 籽粒吸氮量呈增加趋势。相关分析表明, 100 kg 籽粒吸氮量与产量呈极显著的二次曲线关系, 其中早熟中粳和中熟晚粳的相关系数小于其他3 种类型。(3)氮肥利用率随施氮量的增加基本呈下降趋势, 除中熟晚粳外表现为随生育期的延长而增加, 即在225kg hm − 2 氮素水平下分别为31.32%、37.64%、38.5%、41.08%和38.11%, 300 kg hm − 2 氮素水平下分别为28.74%、36.13%、37.16%、40.15%和39.42%。(4)欠适宜种植的早熟中粳和中熟晚粳的施氮参数相对于其他类型变异较大; 相对于非主推品种, 主推品种(当家品种)的施氮参数值较高且更趋稳定。说明在合理的品种选择和布局条件下, 施氮参数变化规律较强, 生产上利用斯坦福方程精确计算水稻目标产量施氮量是可行的。
【英文摘要】The objective of this study was to expose the change law of the three parameters of the precise and quantitative N application based on the Stanford equation in different growth types of rice. Three levels of N fertilizer application rates of 0, 225, and 300 kg ha-1 N were designed in a field experiment with early (125 – 135 d), medium (136 – 145 d), late-maturing (146 – 155 d) medium japonica and early (156 – 165 d), medium-maturing (166 – 175 d) late japonica rice in 2007 and 2008 on the farm of Yangzhou university, Jiangsu province, China. The results were as follows: (1) Under zero N application, soil basal N application (N accumulation for basal yield) increased with the extension of the rice growth duration, in which the parameter of calculating N accumulation for basal yield was the N requirement for 100 kg grains. There were only small differences in N requirement for 100 kg grains between medium, late-maturing medium japonica and early-maturing late japonica rice. For an average yield of 6 t ha − 1 (4.87 – 6.58), the N requirement for 100 kg basal yield was 1.58 kg (1.50 – 1.63). (2) Under N application, the N requirements for 100 kg grains were rather stable in medium, late-maturing medium Japonica and early-maturing late Japonica rice. With the average yield of 7.5t ha − 1, N requirement for 100 kg grains was 1.86 kg (1.85 – 1.87) under 225 kg ha-1 N level and 2.01 kg(1.98 – 2.05) under 300 kg ha − 1 N level, respectively. With the average yield of 9 t ha − 1, N requirement for 100 kg grains was 1.94 kg (1.91 – 2.04) under 225 kg ha − 1 N level and 2.08 kg (2.01 – 2.19) under 300 kg ha − 11 N level, respectively. With the average yield of 10.5 t ha − 1, N requirement for 100 kg grains was 1.95 kg (1.93 – 2.01) under 225 kg ha − 1 N level and 2.09 kg (2.08 – 2.10) under 300 kg ha − 1 N level, respectively. These results suggested that N requirement for 100 kg grains increased with the rising of N application rates. Correlation analysis showed that there existed highly significantly positive conic correlation between yield and N requirement for 100 kg grains, and the correlation coefficients for early-maturing medium japonica and medium-maturing late Japonica were less than those for the other three types. (3) The N use efficiency decreased with the increase of N application rate,and increased with the extension of the growth duration except in the medium-maturing late japonica. N use efficiency was 31.32%, 37.64%, 38.5%, 41.08%, and 38.11% under 225 kg ha − 1 N level , and 28.74%, 36.13%, 37.16%, 40.15%, and 39.42% under 300 kg ha − 1 N level, for the five types of rice with extended growth duration respectively. (4) The parameters of N application displayed larger differences in early-maturing medium

japonica and medium-maturing late japonica rice which were less suitable for local cultivation, compared with the other three types, while these parameters values of the prevailing varieties (headed varieties) were higher and more stable than those of common varieties. These results demonstrated that the changes of the parameters of N application were much larger, it is feasible for the N quantity required for target yield to be calculated accurately by using Stanford equation under the condition of reasonable variety selection and planting location.

【语种】中文

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【题目】不同氮肥吸收利用效率水稻基因型叶片衰老特性

【中文关键词】水稻;氮肥利用效率;衰老特性;相关性
【英文关键词】Rice N use efficiency Characteristics of senescence Correlation

【中文摘要】选用氮肥利用高效型和低效型具有代表性的12 个粳稻品种, 研究225 kg hm − 2 施氮条件下其氮素吸收积累特性。与氮低效基因型相比, 氮高效基因型水稻在拔节至抽穗、抽穗至成熟阶段的氮素吸收速率、氮素积累量和积累比例均具有明显优势, 其中以抽穗至成熟阶段的优势尤为显著。该阶段水稻各器官逐渐衰老, 植株各项生理功能逐渐衰退, 为明了水稻衰老与植株中后期氮素吸收与积累、氮肥吸收利用效率的相互关系, 相继研究了花后各基因型水稻的衰老特性。结果表明, 齐穗后的不同时期, 氮高效基因型水稻的超氧化物歧化酶(SOD)、过氧化物酶(POD)和过氧化氢酶(CAT)活性均显著高于氮低效基因型, 而膜脂过氧化产物丙二醛(MDA)的含量却要显著低于氮低效基因型水稻。相关性分析表明, 水稻的氮肥利用效率与齐穗后剑叶中的SOD、POD 和CAT 活性呈极显著正相关, 而与其剑叶中的MDA 含量呈极显著负相关。由此说明, 与氮低效基因型相比, 氮高效基因型水稻生育后期剑叶中用于清除活性氧自由基的SOD、POD、CAT 活性较高, 能有效阻止高浓度氧的积累和膜脂过氧化作用, 降低MDA 的含量, 因而降低叶片的衰老进程, 在维持较长光合功能期的同时能增强物质积累, 促进植株对氮肥的吸收和利用。

【英文摘要】Although excessive use of N fertilizer can result in the rapid decrease of N use efficiency and other serious environment problems, N fertilizer is yet the most important and largest input in modern rice production. Previous researches have been demonstrated that variation in N use efficiency existed among rice genotypes. Therefore, it is of urgent importance to elucidate the physiological mechanism of rice N absorption and utilization for increasing N use efficiency. In this research, field experiment with 225 kg ha − 1 N fertilizer application was carried out in 2006 on the farm of Yangzhou University, Jiangsu province, China. Twelve rice genotypes (six N efficient and six N inefficient) selected from one hundred and twenty rice cultivars grown in Yangzhou during 2004 and 2005 were adopted to investigate the characteristics of N absorption and accumulation. Compared with N inefficient genotypes, N efficient genotypes had more obvious advantages in N absorption rate, the amount and the percentage of N accumulation during the growth phases from elongating to heading and from heading to maturing. And of which the advantage during the growth phase from heading to maturing was particularly significant. Since rice organs aged and the plant physiological functions declined gradually from heading to maturing, the characteristics of rice senescence was then studied to understand the relationships between rice senescence and the N absorption and accumulation, and the N use efficiency. Results showed that, during the period of grain filling, the activities of superoxide dismutase (SOD), peroxidase (POD), and catalase (CAT) in flag leaf of N efficient genotypes were obviously higher than those of N inefficient genotypes. Contrarily, content of malondialdehyde (MDA), which is the product of membrane lipid peroxidation, was lower in N efficient genotypes than in N inefficient genotypes signifi cantly. After the stage of full heading, N use efficiency was positively correlated to the activities of SOD, POD, and CAT in flag leaf of rice and negatively correlated to the content of MDA. So it reveals that, at late growth stages of rice, the activities of SOD, POD, and CAT of N efficient genotypes were higher than those of N inefficient genotypes in flag leaves, which could eliminate reactive oxygen species, inhibit the membrane lipid peroxidation and decrease the content of MDA more efficiently in N efficient rice genotypes. Therefore, compared with the N inefficient genotypes, the leaf senescence of N efficient genotypes was relatively slower, which could prolong the functional period of leaves, enhance the organic matter accumulation and improve the efficiency of N absorption and utilization.

【语种】中文

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【题目】不同基因型水稻苗期对1,2,4-三氯苯胁迫的生理响应
【中文关键词】1,2,4-三氯苯;水稻;耐性基因型;敏感基因型;毒性;抗氧化酶
【英文关键词】1,2,4-trichlorobenzene Rice Tolerant genotype Sensitive genotype Toxicity Antioxidant enzymes
【中文摘要】利用沙培试验, 研究了6 种浓度(0、0.1、0.2、0.4、0.6、0.8 mmol kg－1 沙)的1,2,4-三氯苯(TCB)对两水稻品种香粳20-18(耐性基因型)和泗阳1382(敏感基因型)种子发芽率、发芽指数、幼苗生物量以及叶片和根系的蛋白质含量、丙二醛含量(MDA)、超氧化物歧化酶(SOD)活性、过氧化物酶(POD)活性、过氧化氢酶(CAT)活性等生理指标的影响。结果表明, TCB 胁迫下, 水稻种子发芽率和发芽指数变化不明显, 幼苗的生物量显著下降, 香粳20-18 下降幅度比泗阳1382 小; 随TCB 胁迫程度的增强, 香粳20-18 叶片和根系可溶性蛋白质含量呈增加的趋势, 泗阳1382 叶片蛋白质含量显著下降, 高浓度TCB 胁迫下其根系蛋白质含量显著下降; 两个基因型叶片的.O2- 产生速率先降后升,香粳20-18 根系的.O2- 产生速率先降后升, 高浓度TCB 胁迫下显著高于对照, 而泗阳1382 与对照差异不显著; 香粳20-18 叶片SOD 活性随TCB 胁迫程度的增强呈上升趋势, 低浓度TCB 胁迫下就开始显著高于对照, 根系SOD 活性显著增强, 而泗阳1382 叶片和根系SOD 活性与对照差异不显著; 香粳20-18 叶片POD 活性先升后降, 根系POD 活性显著高于对照, 而泗阳1382 叶片和根系POD 活性均显著下降; 香粳20-18 叶片CAT 活性高于或显著高于对照, 泗阳1382 低于或显著低于对照; 两个基因型叶片的MDA 含量先降后升, 高浓度TCB 胁迫下MDA 含量显著高于对照,根系MDA 含量均随TCB 胁迫程度的增强而显著增加。总之, 生物量降低幅度小、叶片和根系的蛋白质含量高、抗氧化酶系统清除活性氧的能力强、MDA 含量低是耐性基因型的主要生理特征。
【英文摘要】1,2,4-Trichlorobenzene (TCB) has pervaded in industrial and agricultural production. Because of a series of problem scaused by its stableness and fatalness, TCB has been added into the environmental pollutant list. In order to know how TCB affects the rice seed germination, seedling growth and its physiological characteristics, the seed germination, seedling biomass,soluble protein, and malnodialdehyde (MDA) contents, as well as activities of superoxide dismutase (SOD), peroxidase (POD), and catalase (CAT) in leaves and roots of seedlings treated with TCB were investigated in a sand culture experiment using rice cultivars, Xiangjing 20-18 (TCB tolerant genotype)and Siyang 1382 (TCB sensitive genotype). The results indicated that TCB had little effect on the seed germination rate and index, however caused the significant reduction of seedling biomass, with Xiangjing 20-18 being more affected than Siyang 1382. With TCB stress degree strengthening, soluble protein content of Xiangjing 20-18 leaves and roots presented an increasing tendency, while that of Siyang 1382 leaves decreased significantly, and that of its roots decreased too under treatment of high TCB concentration.O2- producing velocity of leaves in two genotypes decreased firstly, then increased with increasing TCB concentration. That of Xiangjing 20-18 roots presented the same tendency, and significantly higher than the control at TCB≥0.6 mmol kg－1, while that of Siyang 1382 roots had no significant difference with that of the control. SOD activity of Xiangjing 20-18 leaves increased, and that of roots increased significantly. After TCB≥0.2 mmol kg－1,SOD activity of Xiangjing 20-18 leaves was significantly higher than that of the control, that of Siyang 1382 leaves and roots was not significantly different with that of the control. POD activity of Xiangjing 20-18 leaves increased firstly, then decreased, and that of roots was significantly higher than the control, while that of Siyang 1382 leaves and roots decreased significantly. CAT activity of Xiangjing 20-18 leaves was higher or significantly higher than that of the control, and that of Siyang 1382 was contrary to the result of Xiangjing 20-18. MDA content of leaves decreased firstly, then increased, being significantly higher than that of the control at high TCB concentration, and that of roots increased significantly in two genotype. In conclusion, lower reduction of seedling biomass, high protein content of leaves and roots, the better active oxygen ’s elimination ability and lower MDA content in plants would be considered as the physiological traits in TCB-tolerant genotypes of rice.
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【题目】超高产常规粳稻宁粳1 号和宁粳3 号群体特征及对氮的响应
【中文关键词】常规粳稻;超级稻;超高产;群体;氮
【英文关键词】Japonica Super rice Super-high yield Population Nitrogen
【中文摘要】2007—2008 年对宁粳1 号和宁粳3 号的丰产示范方进行调查, 2008 年以宁粳3 号为材料进行氮肥用量和前后比例试验, 研究常规粳型超级稻超高产群体特征及对氮的响应。结果表明, 常规粳型超级稻宁粳1 号和宁粳3 号抽穗后干物质积累占籽粒产量的70%~80%, 茎叶等营养器官的表观转运率少, 易高产稳产。足够的颖花量是高产稳产的保证, 要达到11.0 t hm − 2 以上的产量, 颖花数要 ≥ 42 000 m − 2; 要达到11.7 t hm − 2 以上的产量, 颖花数要 ≥ 45 000 m − 2,同时结实率 ≥ 90%, 粒重 ≥ 26 mg。超高产群体抽穗期适宜叶面积指数(LAI)为7.0~7.5, 叶色呈“ 黑黄 ”节奏变化,后期生长速率(CGR)高, 收获指数(HI)≥ 0.5。氮肥的适量施用和适当后移, 不仅可以保证宁粳1 号和宁粳3 号生育期“ 黑黄 ”节奏变化, 建立抽穗期适宜LAI 的群体, 还可以保持超高产株型特征, 提高抽穗后LAI、叶面积维持期、CGR和HI, 最终实现超高产量。
【英文摘要】In order to study the super high-yielding population characteristics of super japonica rice and its responses to nitrogen,two field experiments with five N rate treatments and four N application ratio treatments of Ningjing 3 were carried out in 2008,the 6.7 ha demonstration fields of Ningjing 1 and Ningjing 3 in 2007 and 2008 were also investigated. Results showed that the dry matter accumulation of Ningjing 1 and Ningjing 3 after heading was 70 – 80% of the grain yield, and the apparent translocation ratio of dry matter from stem and leaves to grain was small, which resulted in the high and stable grain yield. Ample spikelets per square meter were the guarantee of super and stable high yield. To achieve the target yield of 11.0 t ha − 1, the spikelets per square meter must be above 42 000 m − 2; to achieve the target yield of 11.7 t ha − 1, the spikelets per square meter must be above 45 000 m − 2, as well as grain filling rate and grain weight must be above 90% and 26 mg. For super high-yielding rice population, the optimal LAI at heading should be 7.0 – 7.5, crop growth rate (CGR) from heading to maturity should be higher and the harvest index (HI) should be above 0.5. The appropriate N rate and relative more N topdressed at panicle initiation stage could not only ensure the optimal LAI at heading, but also maintain the plant type characteristics of super high-yielding rice, improve the LAI after heading, leaf area duration, CGR and HI, therefore achieve the super high grain yield.
【语种】中文
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【题目】超级中籼杂交水稻氮素积累利用特性与物质生产
【中文关键词】超级中籼杂交水稻;氮素;吸收/运转;物质生产
【英文关键词】Middle-season indica super hybrid rice Nitrogen Absorption/translocation Dry matter production
【中文摘要】在大田条件下比较了5个超级稻品种和对照汕优63的物质生产及氮素吸收利用特性。结果表明,超级稻物质生产与积累优势始于拔节期,并随着生育进程而扩大,抽穗以后的干物质量积累优势明显。超级稻对氮素的吸收积累总量达196.5(184.3~200.8)kg hm-2,较对照的176.5kg hm-2增加20.0kg hm-2,其中拔节前与对照相当,拔节至抽穗期增加9.2kg hm-2,抽穗至抽穗后25d增加4.9kg hm-2,抽穗后25d至成熟期增加4.3kg hm-2。氮素吸收速率拔节至孕穗阶段达最高峰,超级稻为3.68(3.44~3.96)kg N hm-2d-1,对照为3.55kg N hm-2d-1;孕穗期以后吸氮速率随着生育进程而逐渐下降,抽穗25d以后,对照基本不具再吸收能力,而超级稻仍具一定吸收能力(0.36kg N hm-2d-1)。超级稻生育中、后期氮素吸收利用能力的提高促进了抽穗和灌浆结实期植株特别是叶片含氮率的提高,孕穗期、抽穗期、抽穗后25d、成熟期叶片含氮率均与相应生育阶段的干物质积累量显著相关,与最终总生物量极显著相关。超级稻在10.5t hm-2产量水平下的百千克籽粒吸氮量在1.83kg左右。
【英文摘要】【Abstract】 The field experiment was conducted in 2006 to research the difference of characteristics of dry matter accumulation and nitrogen uptake and utilization between five super rice cultivars and the control—Shanyou 63. The dry matter production of middle-season indica super hybrid rice was started from the beginning of elongation stage, and with the rice growing, the com- parative advantage of dry matter accumulation was gradually speeded up. The middle-season indica super hybrid rice had apparent advantage in biomass accumulation after heading. Total amount of nitrogen absorption was 196.5 (184.3 – 200.8) kg ha-1 in super rice cultivar, which was 20.0 kg ha-1 higher than that of control. The amount of nitrogen absorption of middle-season indica super hybrid rice cultivar corresponded to that of control before jointing stage, however, increased 9.2 kg ha-1 more than that of CK from

jointing stage to heading stage, 4.9 kg ha-1 more than that of CK at 25 days after heading stage, and 4.3 kg ha-1 more than that of CK from 25 days after heading stage to maturity. The Nitrogen uptake rate reached its peak at booting stage, and the middle-season indica super hybrid rice was 3.68 (3.44 – 3.96) kg N ha-1 d-1 while the control was 3.55 kg N ha-1 d-1. And then, the nitrogen uptake was slower and slower after booting stage, and at 25 days after heading and at maturing stage, the N-uptake rate was 0.36 kg N ha-1 d-1 in super rice, whereas it was almost zero in the control. It can be seen that middle-season indica super hy- brid rice held high N rate in the leaf blade after heading stage, which was beneficial to chlorophyll contents stability and photo- synthate accumulation so that the super high yield of the rice could become true. The result also showed that the super hybrid rice should absorb about 1.83 kg N per hundred kilogram grain when its yielding level was 10.5 t ha-1.

【语种】中文
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【题目】氮肥运筹对超级杂交粳稻产量、品质及氮素利用率的影响
【中文关键词】超级杂交粳稻;氮肥运筹;产量;氮素利用率;品质
【英文关键词】Super japonica hybrid rice Nitrogen application Yield Quality Nitrogen use efficiency
【中文摘要】在高产施氮量条件下(225kghm^-2),按基蘖肥、穗肥不同施氮比例且穗肥依不同叶龄期追氮共设计了20种施氮模式,研究了其对超级杂交粳稻常优1号产量、氮素利用率及主要米质性状的影响。结果表明:氮肥运筹对常优1号产量影响极大,基蘖肥与穗肥施氮比例为58.34:41.66,穗肥以叶龄余数4、2叶等量施氮时,产量最高;产量与总吸氮量、氮肥农学利用率、氮肥表观利用率、生理利用率呈极显著正相关关系,氮收获指数和百千克籽粒需氮量与产量呈二次曲线关系;随着穗肥施氮比例的下降,稻米整精米率、蛋白质含量、垩白率、垩白度逐渐下降;胶稠度、直链淀粉含量呈直线上升趋势;穗肥随追肥叶龄期推迟,整精米率、蛋白质含量提高,而直链淀粉含量下降。胶稠度、外观品质因基蘖肥施氮比例的不同而异。综合来看,基蘖肥、穗肥施氮比例为6:4,穗肥以倒4、2叶期追肥可使该品种超高产、优质、高效得到较好的协调统一。
【英文摘要】Effects of nitrogen application regimes, based on the proportion of base-tillering fertilizer to panicle fertilizer and leaf age of panicle fertilizer supply, were studied on yield, nitrogen use efficiency and quality in supper japonica hybrid rice, cv. Changyou 1, under the high grain yield at 225 kg ha^- 1 of N condition during a whole growth stage. The result indicated that the yield was influenced significantly by nitrogen application regimes. The regime for highest yield was that the ratio of base-tillering fertilizer to panicle fertilizer was 58.34:41.66, and the split panicle fertilizers were equally applicated at fourth and second leaf age from top. There were highly significantly positive correlations between yield and total N uptake, agronomic N use efficiency, apparent N recovery efficiency, physiological N use efficiency, and significantly quadratic relationships between yield and kg N 100 kg^-1 grain yield, N harvest index. With the decreasing of N rate of panicle fertilizer, head milled rice, protein content, chalky ratio and chalkiness were decreased; gel consistency and amylose content increased gradually. With postponing the time of N-applying leaf age, head milled rice and protein content were raised,and amylose content dropped. The gel consistency and apparent features were varied by different application proportions. On the whole, the proportion of N-application at 6:4 and the top dressing of panicle N-fertilizers with equal amount at fourth and second leaf age from top might realize the coordination of supper high-yield, good quality, and high N use efficiency.

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【题目】氮肥运筹对杂交稻主要品质性状及淀粉RVA谱特征的影响
【中文关键词】杂交稻;氮肥;品质;RVA
【英文关键词】Hybrid rice Nitrogen application Quality RVA
【中文摘要】以杂籼K 优818 和杂粳常优1 号为材料, 研究了在高产施氮量条件下(225 kgPhm2) , 前、中期不同施氮比例及中期依不同叶龄期追氮对主要米质性状及淀粉RVA 谱特征的影响。结果表明, 随着施氮比例的前增中减, 两品种稻米整精米率、蛋白质含量、消减值、垩白率、垩白度、糊化温度逐渐下降; 胶稠度、淀粉峰值黏度、崩解值呈直线上升趋势; 而热浆黏度、最终黏度对氮肥运筹的反应因品种而异。说明适当减少中期施氮比例可改善稻米外观、蒸煮品质并提高淀粉黏性, 但同时也对稻米加工、营养品质带来不利的影响; 中期不同叶龄期追氮因前期施氮比例的差异和品种的不同, 效应也不尽一致, 总体而言, 随中期施氮比例的减少, 相应推迟追肥叶龄期可以获得较好的稻米外观品质、蒸煮品质和淀粉黏性。对于胶稠度、淀粉峰值黏度、热浆黏度、最终黏度、崩解值、垩白率、垩白度、消减值等品质指标, 常优1 号较K 优818推迟一个叶龄期施肥最佳。
【英文摘要】Rice quality can be improved through nitrogen fertilizer strategy, such as the rate and the timing of application.The establishment of "the leaf agemodel of development process of rice" makes rice cultivation move accurate in growth and development process modeling, cultivation diagnosis standardization and regularization of technical measures.The objective of this study was to find the suitable way of nitrogen application for improving the rice quality under the condition of the high yield.Using hybrids K-you 818 and Changyou 1 planted with a total applied nitrogen amount of 225 kg/ha in the all growth stage.The different proportion of N-fertilizer at early and middle stages (the ratio of basic- tilling and stem- panicle fertilizer was 3: 7, 5: 5 and 7: 3, respectively) and N-applying leaf age of stem- panicle N- fertilizers (Stage of remaining leaf primordium number 5, 3; 5, 4, 3, 2, 1; 4, 2; 3, 1, respectively) were imposed on the experiment.The results showed that with the increasing of N- application rate at early stages, head milled rice, protein content, setback, chalkiness and pasting temperature were decreased; gel consistency, peak viscosity and breakdown increased gradually; effect of N fertilizer on trough viscosity and final viscosity varied with different cultivars.It suggested that the decrease of the nitrogen application proportion at middle stage improved facial features, cooking quality and viscosity of amylum, but adverse effect on milling quality and nutrient quality were found.Effect of N-applying leaf age on quality varied in different application proportions and cultivars.With the decreasing proportion of N-application at middle stages, good facial features, cooking quality and viscosity of amylum were obtained by postponing the time of N- applying leaf age.Some quality indexes of Changyou 1 reached maximum (such as gel consistency, peak viscosity, trough viscosity, final viscosity and breakdown etc.) or minimum (such as chalkiness percentage, chalkiness degree and setback etc.) when the time of panicle fertilizer application was at a leafage later than that of K-you 818. This may be attributes to Changyou 1 with long days-to-maturity. As a whole, the N-application proportion of 7: 3 at early and middle stages could result in a good performance for quality of the two cultivars, while under this proportion, a much more good performance for quality of K-you 818 and Changyou 1 could be observed when applied stem- panicle N- fertilizers with equal amount in 4 th and 2 nd, 3 rd and 1 st leaf age from top, respectively.
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【题目】氮素穗肥对水稻幼穗细胞分裂素和生长素浓度的影响及其与颖花发育的关系
【中文关键词】水稻;氮素穗肥;激素;每穗颖花数
【英文关键词】Rice Panicle nitrogen fertilizer Hormone Spikelets per panicle
【中文摘要】以粳稻品种武育粳3 号和2401 为研究材料, 在盆栽条件下, 设高(HN)、低(LN)两个穗肥施氮水平, 对幼穗发育过程中(颖花分化至抽穗后7 d)细胞分裂素(ZRs、iPAs)和生长素(IAA)含量及其动态分别进行测定和比较分析。结果表明, 幼穗发育过程中穗中细胞分裂素和生长素含量均表现先降后升的趋势, 穗肥的施用(HN 处理)提高了各个时期细胞分裂素的含量, 尤其是颖花分化期效果最为明显。而生长素的变化情况较为复杂, 从颖花分化期到花粉母细胞减数分裂期前LN 处理稍高于HN 处理, 之后HN 处理又逐渐超过LN 处理。穗发育期间HN 处理的ZRs/IAA 和iPAs/IAA 均高于LN 处理, 颖花分化期差距最大, 随后逐渐减小, 到花粉母细胞减数分裂期差异最小, 抽穗时比值差距又再次扩大, 两个品种表现相似

。水稻氮素穗肥的施用具有延长颖花分化时间、增加每穗颖花数的作用,这可能与其提高幼穗分化期尤其是颖花分化期的细胞分裂素含量及其与生长素的比值有关。

【英文摘要】Panicle N fertilizer, which is nitrogen fertilizer applied at panicle development stage, has great influence on the development of rice panicle. Studies have revealed that the beneficial response of nitrogen fertilizer on spikelet development is associated with the increase of spikelets number per panicle. However, little is known concerning the effect of panicle N fertilizer on endogenous hormones in rice young panicle. In the present study, two japonica rice cultivars (Wuyujing 3 and 2401) were used,and two panicle N fertilizer treatments, 120 kg N ha − 1 as high nitrogen (HN) and 0 kg N ha − 1 as low nitrogen (LN), were conducted to investigate the relationship between spikelets number and hormonal changes during rice panicle differentiation. The results showed that zeatin + zeatin riboside (ZRs), isopen-tenyl adenine (iPAs), and indole-3-acetic acid (IAA) concentrations were the highest at spikelet differentiation stage, sharply declined and remained almost static till heading, and recovered slightly after heading. Panicle N fertilizer treatment resulted in higher concentrations of ZRs and iPAs, especially at the spikelet differentiation stage. Whereas, IAA displayed lower concentration in HN as compared to LN. Moreover, there were higher ratios of ZRs/IAA and iPAs/IAA for HN as compared to LN during the panicle differentiation stage. The difference between them was the maximum at the spikelet differentiation stage and then declined to the minimum before heading, while there was no significant difference between two cultivars. The results suggested that the effect of panicle N fertilizer on spikelet differentiation and numbers per panicle could be associated with the changes of endogenous hormones such as ZRs, iPAs, and IAA, either in their concentrations or in their ratios.

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【题目】机插稻育秧床土的培肥效应研究

【中文关键词】机插水稻;育秧;床土;肥力;秧苗质量
【英文关键词】Mechanical transplanting rice Seedling-raising Seedbed soil Soil fertility Seedling quality

【中文摘要】床土培肥是培育水稻机插秧苗的首要措施。在不同类型床土条件下对培肥水平与床土速效氮磷钾增加的关系及育秧过程中的肥力消耗进行了分析。结果表明,通过添加速效肥料进行床土培肥,随培肥量增加床土速效氮磷钾含量迅速增加,速效氮的增加呈指数关系,高培肥处理的增幅大于低培肥处理,丘陵土的增加快于冲积土;速效磷含量随培肥水平的提高直线上升,床土类型间有显著差异,丘陵土快于冲积土;速效钾的增加趋势与速效磷相似,但增速在不同床土间几近相同。育秧过程中速效养分的消耗也各具特点,总的趋势是高培肥水平下高消耗,速效氮消耗快于速效磷和速效钾。一定肥力范围内,秧苗株高和地上部干物质随床土培肥水平的升高而增加,通过床土培肥措施可以有效地调控秧苗株高。但根P冠比随培肥水平增加而下降。只有在合适的肥力指标范围内,才能育成适宜形态和地上、地下部生长均衡的健壮机插秧苗。

【英文摘要】Seedbed soil fertilizing is one of the key measures for raising mechanical transplanting rice seedling. The relationship of fertilizing levels to the increase of available N, P, K in seedbed soil and their uptake during seedling growth were analyzed, using alluvial soil and hill- paddy field soil as seedbed soil, fertilizing the seedbed soil with 10-10-5 compound fertilizer, with Wuyujing 3 as material. The results showed that contents of available N, P, K were increased quickly by application of inorganic fertilizer. The increase of available N exhibited an exponent curve, and was higher under high level of fert ilization than under low level, and was faster in hill soil thao in alluvial soil1 Available P content was increased linearly with the increase of fert ilizing level, there was significant difference between soil types, and the increased velocity in hill soil was more quickly than that in alluvial soil1 The trend of increase in available K content was similar to that in P, but the difference of increased velocity between different types of soilwas not significant1 After the seedlings grew and consumed, the uptake of nutrients in seedlings was high under a higher fertilizing level of available N, P, K during raising. The available N in seedbed in all treatments was highly correlated with fertility level before fertilizing, indicating that the use of available N by seedling was affected by the fertility level of seedbed soil. The consumption of available P was increased linearly with the increase of the fertilizing levels, and significant difference was found among seedbed soil types. The consumption of available K was similar to that of available P, but it was consistent among different soil types. The seedling growth on various fertilizing levels was observed. The data showed that seedling height was increased while root/shoot ratio was reduced with the increase of the fertilizing level within a suitable range1 From the above results, we can conclude that fertilizing the seedbed can increase available N, P, K contents

rapidly, but the characteristics are different and closely related to the soil types. Only within the range of suitable fertilizing level, the strong seedlings with the suitable shape and root/shoot ratio for mechanical transplanting can be raised.
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【题目】结实期不同时段高温对稻米品质的影响
【中文关键词】水稻;稻米品质;高温;淀粉黏滞性谱
【英文关键词】Rice(Oryza sativa)　Rice quality　Higher temperature　Rapidvisco- analyzer
【中文摘要】选用扬稻6 号(籼稻) 和武育粳3 号(粳稻) 2 个品种, 利用人工气候室进行灌浆结实期阶段控温试验, 探讨结实期高温对稻米品质指标和淀粉RVA 的影响, 以及温度影响的时段效应。结果表明, 结实期温度对稻米品质影响明显, 且不同品种、不同品质指标对温度的反应存在差异。结实期高温, 使2 品种长宽比变小, 垩白粒率、垩白度变大, 糙米率、精米率和整精米率显著降低, 蛋白质含量升高, 淀粉RVA 谱特征值糊化开始温度、冷胶黏度、回复值和消减值升高, 最高黏度、热浆黏度和崩解值下降; 结实期温度对AC 的影响因品种而异, 高温使扬稻6 号AC 升高, 武育粳3 号AC 降低。全结实期高温对稻米品质的影响最大, 结实前期高温次之, 结实后期高温的影响较小。从抽穗到开花后20 d 是温度影响稻米品质的关键时期, 对稻米品质的形成具有决定性作用, 而结实后期(开花20 d 后) 环境温度对稻米品质的影响较弱。
【英文摘要】The temperature of rice grain-filling stage is the primary ecologic factor for rice qualities.Yangdao6(indica rice) and Wuyujing3(japonica rice) were used to study the effects of higher temperatures in different filling stage on rice qualities and characteristic values of Rapidvisco- analyzer with climatic cabinets.The temperature treatments were as follows: higher temperature(30 °C) in whole grain-filling stage(A) ; higher temperature in early grain- filling stage(GFS) and optimum temperature(23°C) in later GFS stage(B) ; optimum temperature in early GFS and higher temperature in later GFS(C) ; optimum temperature in whole GFS(D,CK) (Table 1). The results showed that, different cultivars had different responses to various temperature treatments, and so did the various indexes of rice qualities.With high temperature in GFS, rice grain chalkness rate and grain chalkness was increased, while the brow rice rate, the milled rice rate and the head rice rate decreased significantly(Table 2) ; the effects of GFS temperature on rice AC value were various with cultivars, under high temperature treatments,Yangdao 6's AC value were increased,while Wuyujing3's AC value decreased(Fig11). Under high temperature treatments, both cultivars performed higher protein content (Fig12) , higher Gelatinization temperature, Final viscosity, Consistency and Setback, lower Peak viscosity, Hot viscosity, and Breakdown (Table 3) .Compared with D treatment , the rice qualitieswere affected by A treatment mostly, moderately by B treatment, while least by C treatment. The rice quality indexes under A and B treatments were various greatly with those under C and D treatment;while those under A treatment were various slightly with those under B treatment, and so did those under C treatment with D treatment. It can be concluded that: the period from heading to the 20 days later is the vital stage for whole rice quality in response to higher temperature, which affects rice qualities decisively, while the effect of the temperature in the later stage(beyond 20 days from heading) is slight. And the effect of higher temperature on some parameters of quality differs with cultivar, even though higher temperature degrades whole rice quality in general.
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【题目】结实期水分亏缺对反义Wx基因转化系水稻籽粒淀粉合成关键酶活性及淀粉累积的影响
【中文关键词】水稻;水分亏缺;Q 酶;去分支酶(DBE) ; 直链淀粉含量;结实期

【英文关键词】Rice Water deficiency Q enzyme Debranching enzyme Amylose content Grain- filling period
【中文摘要】以反义Wx 基因转化系水稻及其受体亲本武运粳7 号(9522) 为材料, 研究了结实期水层灌溉和水分亏缺条件下籽粒淀粉合成关键酶活性、淀粉及直支链淀粉含量的变化。结果表明, 以水层灌溉为对照, 结实初期(花后5~ 10 d) 的水分亏缺利于籽粒中腺苷二磷酸葡萄糖焦磷酸化酶(ADPGPase) 和颗粒淀粉合成酶(GBSS) 活性的提高, 但随着水分亏缺时间的延长, 到灌浆后期2 种酶活性降低的速度快于对照。水分亏缺显著降低了可溶性淀粉合成酶(SSS) 的峰值。Q 酶活性于水分胁迫下显著受到抑制, 花后20 d 到成熟期酶活性降低的幅度较大。而2 类去分支酶(异淀粉酶和普鲁兰酶) 于水分亏缺下活性显著升高, 在灌浆后期花后25~ 30 d 普鲁兰酶仍保持着较高的活性。与水层灌溉相比, 水分亏缺下籽粒中总淀粉的积累和支链淀粉含量明显降低。GBSS 最大活性与直链淀粉含量关系最为密切, 呈极显著正相关(r =01981* *) , SSS、Q 酶和DBE 最大酶活性分别与淀粉和支链淀粉含量不显著相关性。由此推测土壤水分对支链淀粉合成和积累的影响并不是由某一种酶调节的, 而是由SSS、Q 酶和DBE 以及其他一些酶共同催化完成的。
【英文摘要】Soil drought is one of the most important factors limiting rice production in China1 Recently, more attention for the inferior quality of rice caused by water stress has been paid in agricultural production1 The previous study showed that the indices of quality, such as chalkiness, gel consistency and RVA profile were changed by soil drought.It is considered that rice quality is related to the process of starch accumulation. Therefore, all changes of rice quality under water deficit conditions are responsible for physiological metabolism of starch accumulation during grain filling1 In present study, the pot experiments were conducted at Yangzhou University.Three transgenic rice plants CA1, CA2 and CA3 carrying antisense Wx gene and a wild type (cv. Wuyunjing 7) were grown under water deficiency at flowering stage. In order to assess the implication of physiological metabolism of starch accumulation to water deficiency, as the indictors of rice quality, the contents of soluble sugar, starch, amylose and amylopect in were measured1 The starch accumulat ion capacity was determined by measuring adenosine diphosphoglucose pyrophosphorylase(ADPGPase) , soluble starch synthase(SSS) , granule-bounding starch synthase(GBSS) , starch branching enzyme(Q-enzyme) and two debranching enzymes(Isoamylase and Pullulanase) in rice grain during filling period.The results showed that the activities of ADPGPase and GBSS were significantly enhanced at initial filling stage(5-10 d) , and then declined rapidly from 20 days after anthesis(DAA) to ripening (Fig11) by drought stress. The maximum activity of SSS significantly decreased, but less affected by water deficiency at the later stage of starch accumulation.Q enzyme catalyzed the formation of a- 1, 6 indican bond involved in the synthesis of amylopectin was most sensitive to water in that it responded earlier, and to a greater extent, than the other enzymes. The significant decrease in activity of Q enzyme was observed under water-deficit conditions, especially in later grain- filling stage(Fig12) . However, under such drought conditions, leading to decrease of starch accumulation, the decline in Q enzyme activity was more than that in ADPGPase and SSS. The activities of two debranching enzymes(DBE, Isoamylase and Pullulanase) were elevated significantly, and the high activity of Pullulanase was substantially observed at 20-30 DAA under water deficiency(Fig13). The total accumulation of starch and the content of amylopectin were reduced under water deficiency compared to well-watered treatments(Fig14, Fig15). A positive correlation between the maximal activity of GBSS and the content of amylosewas observed(r = 01981* *) . However, there were no clear correlations between themaximal activities of SSS,Q enzyme,DBE and starch content or amylopectin content. The results suggested that the influences of soil water potential on starch accumulation and the synthesis of the amylopectin were attributed to changes of activities in SSS,Q-enzyme, DBE and other enzymes, and not regulated by only one of them.
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【题目】结实期水分胁迫对水稻反义WX基因转化系主要米质性状及米饭质地的影响
【中文关键词】水分胁迫;稻米品质;米饭质地;反义Wx 基因
【英文关键词】Water stress Rice quality The textural of cooked rice Antisense Wx gene
【中文摘要】以反义Wx 基因的转化系及其受体亲本武运粳7 号(9522) 为材料, 研究了结实期水分胁迫对主要品质性状及米饭质地的影响。结果表明, 与水层灌溉处理相比, 结实期水分胁迫使整精米率和垩白粒率提高; 崩解值明显降低, 而最终黏度和消减值却明显提高; 米饭的硬性增加, 黏附性减小, 稻米的蒸煮食味品质有着变劣的趋势。
【英文摘要】It is well known that environments have significant effects on the yield and rice quality. In previous study, the indices of quality, such as chalkiness, gel consistency and RVA profile were altered by soil water moisture. Amylose content is always used to

evaluate the rice eating and cooking quality. And now the characteristics of RVA profile are preferred for the prediction of the texture of cooked rice. Our earlier work showed that RVA profile of rice flour was affected by water stress, but there was no obvious difference in amylose content between well water and water stress. The objective of the study was to research the effects of water stress on the texture of cooked rice and grain quality for rice with the same genetic background. Three transgenic rice lines CA1, CA2, CA3 carrying antisense Wx gene and wild type (cultivar Wuyunjing 7) were grown in pots and were subjected to water stress from flowering stage to filling stage. The results showed that the grain qualities of transgenic rice plants and Wuyunjing 7 were affected by water stress at the grain-filling stage, head milled rice and the percentage of chalky grains increased obviously (Table 3). Changes of RVA profile of rice flour were noticed, breakdown was lower under water stress than under well water, and final viscosity and setback under water stress were higher than those under well water (Table 4). Effect of water stress on the texture of cooked rice presented on the hardness and adhesiveness, the former was increased and the latter was reduced (Table 5) , and there was a tendency of low eating and cooking quality.

【语种】中文
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【题目】苗床落谷密度、施肥量和秧龄对机插稻苗质及大田产量影响
【中文关键词】机插水稻育秧;落谷密度;苗床施肥量;秧龄; 秧苗质量;产量
【英文关键词】Mechanical transplanting rice Sowing density Fertilizer amount Seedling age Seedling quality Grain yield
【中文摘要】以迟熟中粳武育粳3 号为材料, 塑料软盘育秧, 进行落谷密度和施肥量二因素试验, 并将各处理秧苗分3 期插入大田, 实收产量, 测定其构成。主要结果如下: (1) 3 试验因素对苗质和产量的影响为秧龄> 施肥量> 落谷密度。(2) 秧龄由16 d 延至21 d, 即使较密的落谷密度、少量施肥(处理编码M1、M2) 或较稀的落谷密度、多量施肥(编码X3) , 均表现减产趋势, 故适龄早栽至关重要。(3) 秧龄21 d 秧苗的发根力和茎鞘淀粉含量等指标均优于秧龄16 d 的(差异显著) , 但因大田苗数和穗数减少, 稻谷产量显著下降。可见机插秧的壮苗指标因秧龄而异。(4) 各产量构成因素对产量效应的通径分析表明, 在本试验条件下, 穗数对产量的影响最大(通径系数为1.1112) , 每穗粒数次之(通径系数为0.6517) 。说明机插稻以争穗数为第一要务。
【英文摘要】An experiment of two factors(sowing density and fertilizer amount in seedbed) was conducted in plastic film seedling nursery using a latematurity japonica cultivar Wuyunjing 3. The seedlings of three different ages were transplanted into paddy field, and yield and yield components were tested. The main results were as follows: (1) The effect of seedling age on seedling quality and yield was predominant, and followed by fertilizer amount and sowing density. (2) The trend of grain yield reduction was obvious when seedling age was extended from 16 d to 21 d after sowing, although under dense sowing with less fertilizer application (treatments code M1 and M2) , or thin sowing with more fertilizing (code X3) . Therefore, transplanting at optimum seedling age is very important for mechanical transplanting. (3) The seedling quality indices, such as root developing ability and sugar content in stem and sheath at seedling age of 21 d were superior to that at seedling age of 16 d (significantly different) , but the grain yield in paddy field of 21 d seedling age was decreased because of plant and panicle number reduction. So the indices of vigorous seedling would be varied with seedling age. (4) Path analysis of yield components on yield showed that panicle number was the most effective (path coefficient 1.1112) followed by grains per panicle (path coefficient 0.6517) for mechanical transplanting rice.
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【题目】起身肥对水稻分蘖和氮素吸收利用的影响
【中文关键词】水稻;塑盘穴播;起身肥;氮肥利用率;产量
【英文关键词】Rice Plastic-plate dotsow Nitrogen fertilizer applied before transplanting Nitrogen utilization efficiency Yield
【中文摘要】以宁粳2 号为材料, 通过塑盘穴播育秧, 带土、带肥移栽, 研究了起身肥对水稻分蘖的发生、氮素积累量、氮肥利用率和产量的影响。结果表明, 移栽后17 d, 基蘖肥水平相同条件下, 起身肥处理 (N-100%) 群体茎蘖数比非起身肥处理 (CK) 高3×105 hm-2。有效分蘖临界叶龄期N-100%处理中, >3 叶龄分蘖比率显著高于CK。与CK 相比,N-100%处理多施5.55 kg N hm－2, 而分蘖成穗率、有效穗数、氮素积累量、氮肥利用率和产量均显著提高。N-75%处理 (施起身肥, 基蘖肥施量为常规的75%) 中, 总施肥量比CK 低32.4 kg N hm－2, 而氮素积累量和氮肥利用率均高于CK。N-50%处理 (施起身肥, 基蘖肥施量为常规的50%) 基蘖肥水平过低, 影响分蘖的发生与生长, 与CK 相比, 氮肥利用率和产量都显著降低。因此, 适量的起身肥可以促进分蘖的早生快发, 提高水稻的分蘖成穗率, 减少基蘖氮肥的施用量, 促进水稻对氮肥的吸收和利用, 提高氮素积累量和氮肥利用率。
【英文摘要】Nitrogen (N) before transplanting, applied in seedling-bed and carried to the paddy field with seedlings is proposed in this paper. The effect of this method on tillering, N accumulation, N fertilizer utilization efficiency (NUE), and grain yield were investigated in a field experiment with a japonica cultivar Ningjing 2. The results indicated that, on the condition of equal basic and tillering N fertilizer, the tillers number in the treatment of nitrogen fertilizer applied before transplanting (N-100%) was 300 thousand ha-1 higher than that in treatment of no N fertilizer applied before transplanting (CK). At the critical stage of productive tiller, the tillers rate with leaf age >3 in N-100% treatment was remarkably higher than that in CK. Compared with CK, the rate of effective tillers, number of effective panicles, N accumulation, NUE, and grain yield of N-100% treatment were markedly increased. But the application of N was only 5.55 kg ha－1 more than that of CK. In N-75% treatment the application of N was 32.4 kg ha－1 lower than that in CK, while N accumulation and NUE were higher than those in CK. Compared with CK, N application of N-50% treatment was too lower, therefore it had negative effect on accelerating tiller’s development. As a result NUE and grain yield of N-50% treatment were observably lower than that of CK. The results suggested that proper N fertilizer applied before transplanting had positive effect on accelerating tiller’s development, and enhancing rate of effective tillers. Moreover, application of N fertilizer before transplanting could reduce the quantity of basic and tillering N fertilizer, speed absorption and utilization of N fertilizer, and increase N accumulation and NUE in rice.
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【题目】生育类型与施氮水平对粳稻加工品质的影响
【中文关键词】水稻; 生育类型; 氮肥水平; 加工品质; 分类
【英文关键词】Rice Growth-development type Nitrogen Milling quality Classify
【中文摘要】以长江中下游地区5 种生育类型中有代表性的57 个粳稻品种为试材, 研究了空白, 低(150 kg hm-2)、中(225kg hm-2)、高(300 kg hm-2) 4 种氮素水平下粳稻加工品质的变化规律, 探讨了粳稻加工品质各项指标在不同氮肥水平和生育类型下的差异以及整精米率对氮素响应的品种差异及其分类。结果表明: (1)所有类型品种, 糙米率、精米率和整精米率均随氮肥水平的增加而增加, 但增加幅度逐渐减小, 其中整精米率在高肥与中肥水平下的差异不显著。(2)总体上各类型品种间生育期越长, 加工品质越好: 晚粳类型的糙米率、精米率和整精米率高于中粳类型, 各类型内迟熟品种高于早熟品种, 其中晚粳品种的平均整精米率比中粳品种高出19.07%。(3)根据水稻整精米率对氮肥响应的敏感程度, 把所有品种分为迟钝型、中间型和敏感型3 种。并据此推荐了利于生产实践中提高加工品质的两类品种, 一类是整精米率较高且在各氮肥水平下均表现比较稳定, 另一类在低氮肥水平下整精米率较低, 但通过增施氮肥, 可把整精米率提高到较高水平。
【英文摘要】Nitrogen is the most important and largest input required in rice production although over use of N causes so many environment problems. The milling quality is one of the important aspects of rice quality. The effect of nitrogen application rate on milling quality is varied in different rice varieties, especially in different types. In this research, the field experiment for milling quality was carried out with 57 japonica rice varieties including five growth-development types, planting in the region of Yangtze River, under four

nitrogen levels (zero, low, medium, and high) to investigate the difference of rice types under four nitrogen levels. Genotypic difference of head rice rate in response to nitrogen levels was discussed and their types were also classified. The main results were as follows: (1) As the increase of nitrogen application, the brown rice rate, milled rice rate and head rice rate of all the rice varieties were improved although the range of improvement decreased gradually. And there was no significant difference in head rice rate between medium and high nitrogen level. (2) In general, the longer of rice growth duration, the better of rice milling quality. According to this research, the milling quality of late japonica rice was better than that of medium japonica rice and the milling quality of late mature rice variety was superior to that of early mature rice varieties. The head rice rate of late japonica rice was higher than that of medium japonica rice by 19.07% on an average. (3) The response of head rice rate to nitrogen varied significantly. According to the variation coefficient of head rice rate under different nitrogen levels, rice varieties could be classified into three types including insensitive type, intermediate type and sensitive type. The varieties with high and stable head rice rate under all nitrogen levels and with high head rice rate at only high nitrogen application rate were recommended to be used in production.
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【学科分类】农艺学

【题目】水稻氮高产高效与低产低效两类品种株型特征的研究
【中文关键词】水稻;株型特征;氮效率;产量
【英文关键词】Rice Plant-type characteristics N use efficiency Yield
【中文摘要】以氮利用高产高效型和低产低效型的 12 个粳稻品种的大田试验研究了 225 kg hm－2纯氮水平下株型特征的类型间差异, 以及株型特征、倒伏性状、产量和氮肥利用率的相互关系。结果表明, 水稻上三叶的叶长、叶披垂度, 氮高产高效型品种显著低于氮低产低效型, 平均分别低 9.29%、65.3%; 上三叶的叶宽、群体 LAI、有效 LAI、高效 LAI和比叶重, 氮高产高效型平均分别比氮低产低效型高 29.25%、8.27%、13.32%、6.66%和 5.82%。相对于氮低产低效型品种, 氮高产高效型品种植株茎秆节间配置合理, 抗倒能力增强。水稻的产量、氮肥利用效率与植株上三叶的叶长、叶披垂度均呈显著或极显著负相关, 与上三叶的叶宽、群体 LAI、有效 LAI、高效 LAI 和比叶重呈显著或极显著正相关, 与抗折力、弯曲力矩和秆型指数呈显著或极显著正相关。尤其是剑叶、倒三叶的叶长和叶宽对氮素利用效率的作用较大。说明良好的株型结构是氮肥利用效率提高的前提.
【英文摘要】A field experiment with 225 kg ha－1N fertilizer application was carried out in 2006 and 2007 on the farm of Yangzhou university, Jiangsu province, China. Using 12 rice genotypes (six N-efficient and six N-inefficient) selected from 120 rice cultivars grown in Yangzhou during 2004 and 2005 to investigate the relationship among the plant-type characteristics, N use efficiency and yield performance. The results showed that the top three leaves length and drop-angle of high yield and N-efficient rice geno-types were 9.29%, 65.30% lower than those of the low yield and N-inefficient ones, and the width of the top three leaves, population LAI, valid LAI, high valid LAI, and LW/LA (leaves weight/leaves area) of the former of were 29.25%, 8.27%, 13.32%,6.66%, and 5.82% higher than those of the latter on average respectively. The high yield and N-efficient genotypes had higher lodging resistance capability and more reasonable distribution for the length of internodes on stem than the low yield and N-inefficient ones. Yield and N use efficiency negatively correlated (significantly at $P<0.05$ or $P<0.01$) with the length and drop-angle of the top three leaves, while positively correlated (significantly at $P<0.05$ or $P<0.01$) with the width of the top three leaves, population LAI, valid LAI, high valid LAI, SLW, anti-broken strength, bender moment, and lodge index. Especially, the length and width of the flag and top 3rd leaves played an important role in the N use efficiency. It was indicated that good plant-type structure is a prerequisite for N use efficiency.
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【学科分类】农艺学

【题目】直链淀粉含量不同的稻米淀粉结构、糊化特性研究
【中文关键词】水稻;直链淀粉含量;糊化特性;相对结晶度
【英文关键词】Rice Amylose content (AC) Paste property Relative crystallinity
【中文摘要】选用直链淀粉含量不同的4个水稻品种,研究其淀粉结构和糊化特性。发现不同品种的淀粉体结构、糊化特性随直链淀粉含量的不同呈现一定的变化规律。直链淀粉含量从3143%至21165%,其晶体类型为A型,相对结晶度呈下降趋势,消减值表现为升高趋势,相对结晶度和消减值与直链淀粉含量分别呈显著负相关和极显著正相关(r=-01964*,r=01997**),消减值与结晶度呈显著负相关(r=-01960*)。米粒的背部和腹部间淀粉体大小和排列有所不同,糯性或低直链淀粉含量与相对非糯性或高直链淀粉稻米的胚乳结构存在差异,淀粉体排列以糯稻较紧,粳稻次之,籼稻最松。淀粉的相对结晶度可能与胚乳中淀粉体的形状和紧密程度有关。
【英文摘要】fertilizer, basic nitrogen recovery efficiency before elongation stage, nitrogen recovery efficiency during the whole growing stage,and nitrogen harvest index were raised significantly, but plant nitrogen productivity was opposite. Grain yield, nitrogen accumulation, nitrogen translocation amount and percentage after anthesis, and nitrogen distribution in different rice organs amounted to the maximum at K2O application rate of 180 kg ha − 1, as well as nitrogen absorption from fertilizer, basic nitrogen recovery efficiency before elongation stage, nitrogen recovery efficiency during the whole growing stage. However, nitrogen absorption percentage from elongation stage to heading stage, nitrogen distribution percentage in culm and sheath, plant nitrogen productivity decreased to the minimum. The yield and nitrogen recovery efficiency of conventional japonica cultivars were higher than those of hybrid japonica cultivars.
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【学科分类】农艺学

【题目】水稻体温与气温的关系
【中文关键词】水稻;体温;气温;气体温差
【英文关键词】rice temperature oforgans air temperature TD
【中文摘要】以15个水稻品种为材料,测定了抽穗后水稻穗和叶的体温及冠层上部的气温,分析了穗和叶片的体温与气温的关系。结果表明:水稻穗和叶的体温始终低于气温,其气温与体温的差值(气体温差)受大气温度、湿度及水稻株型和器官成熟老化程度影响。在大气湿度相同的条件下,气温低时(< 26. 5e),水稻穗和叶的气体温差较小;气温高时(> 33e),气体温差变大;在气温相似的条件下,大气湿度提高,穗和叶的气体温差变小。品种的株型不同,对水稻穗、叶的气体温差有一定程度的影响。在相同的气候条件下,直立穗型品种穗和叶的气体温差较弯曲穗型的大;/谷盖顶0型品种穗和叶的气体温差值较/草盖顶0型的大。水稻抽穗后,穗和叶的气体温差在不同生育时期有明显的差异,器官成熟老化程度越低,其气体温差越大。
【英文摘要】【Abstract】 Panicle,leaf and air temperature above canopy of 15 rice varieties were measured to study the relationship between air temperature and the temperature of rice organs.The results showed that the temperature of panicle and leaf were lower than air temperature,the temperature difference between air and organ of rice(TD) was affected by air temperature,air humidity,plant type and age of organs of rice.Under conditions of similar air humidity,the TD was lower in the low air temperature(below 26.5°C) than in the high(above 33°C) air temperature.At the same air temperature,the TD decreased when the air humidity was high.The TD was also affected by the plant type of the varieties.Under similar climatic conditions,the TD of erect panicle varieties was higher than that of curved panicle varieties;The TD of the varieties whose panicle was higher than the flag leaf was higher than varieties whose flag leaf was higher than the panicle.After heading,there were significant differences between the TDs at different stages of rice growth,the more mature the organs,the higher the TD.
【语种】中文
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【学科分类】农艺学

【题目】外源硅对纹枯病菌(Rhizoctoniasolani)侵染下水稻叶片光合功能的改善
【中文关键词】外源硅;纹枯病菌(Rhizoctonia solani) ;水稻;光合作用;荧光参数;MDA含量
【英文关键词】silicon Rhizoctonia solani rice photosynthesis fluorescence parameters MDA content
【中文摘要】为了进一步探讨外源加硅增强水稻对纹枯病的抗性作用,以抗病品种91SP和感病品种Lemont为材料,研究了人工接种纹枯病菌条件下外源硅对水稻叶片叶绿素含量、光合作用、叶绿素荧光特性和MDA含量的影响。结果表明: (1)外源加硅能降低抗病品种91SP的纹枯病病级和病情指数,显著降低感病品种Lemont的病级和病情指数; (2)接种纹枯病菌后,水稻叶片叶绿素含量、净光合速率(Pn) 、气孔导度(Gs)均明显降低,胞间CO2浓度(Ci)增大,而加硅处理的水稻叶片叶绿素含量、Pn、Gs不同程度增加, Ci有所降低; (3)接种纹枯病菌后,两个品种PSⅡ最大光化学效率(Fv /Fm) 、PSⅡ有效光化学效率(Fv′/Fm ′) 、PSⅡ实际光化学效率(ΦPSⅡ) 、光化学猝灭系数(qP)和表观光合电子传递速率(ETR)均降低,非光化学猝灭系数(qN P)增大,而对于加硅处理的水稻叶片,上述荧光参数在纹枯病菌侵染条件下的变化均受到不同程度的抑制。(4)外源硅可不同程度地减缓纹枯病菌侵染引起的丙二醛(MDA)含量的增加,对感病品种Lemont的缓解作用要大于抗病品种91SP。可见,外源硅处理可以不同程度地缓解纹枯病菌侵染条件下非气孔因素引起的水稻叶片光合速率的下降以及对光合机构的破坏作用,提高光化学效率,改善叶片的光合功能,减轻叶片膜脂过氧化程度,增强水稻对纹枯病的抗性。
【英文摘要】Sheath blight caused by Rhizoctonia solani infection is one of the three major pathogen2caused diseases in rice.Sodium silicate has been reported to imp rove the resistance of rice to sheath bright. In this study, we invested the impacts of sodium silicate on rice photosynthesis under Rhizoctonia solani (R. solani) infection. We hydroponically cultured two rice cultivars with different resistances to R. solani infection (resistant cultivar 91SP, suscep tible cultivar Lemont) and characterized different photosynthetic physiological parameters.Our experiments showed that: (1) After being inoculated with R. solani, the rice with sodium silicate app lication (the Si + rice) had lower (but not statistically significant) disease rating and disease index compared to the Si2 rice p lants in resistant cultivar 91SP, but the Si + rice p lants of suscep tible cultivar Lemont had significantly lower rating and disease index with relative control effect of 27. 42% compared to the Si2 rice p lants. (2) After being inoculated with R. solani,chlorophyll content, net photosynthetic rate (Pn) and stomatal conductance (Gs) of rice leaves were decreased significantly, while intercellular CO2 concentration (Ci) was increased. After treated with exogenous sodium silicate,chlorophyll content, Pn and Gs were increased, while Ci was decreased. (3) After being inoculated with R. solani, PSⅡ maximal quantum efficiency (Fv /Fm) , PSⅡ effective quantum efficiency (Fv′/Fm ′) , PSⅡ actual photochemical efficiency (ΦPSⅡ) , photochemical quenching (qP) and acyclic electron transfer late (ETR) were all decreased, but non2 photochemical quenching (qN P) was increased. The Si + rice p lants showed less changes in these fluorescence parameters. (4) Si + rice p lants showed less boost in MDA contents upon R. solani inoculation in both cultivars. The results suggested that, exogenous sodium silicate app lication can alleviate the decreases of photosynthetic rate induced bynon2stomata factors and the damage of photosynthesis system, increase photochemical efficiency, imp rove the foliarphotosynthetic ability, reduce the degree of leaf lip id peroxidation, and enhance the rice p lants resistance to sheath blight.
【语种】中文
【第一作者】张国良
【通讯作者】戴其根
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【学科分类】农艺学

【题目】施硅增强水稻对纹枯病的抗性
【中文关键词】硅;纹枯病菌;水稻;硅化细胞;抗病相关酶
【英文关键词】silicon Rhizoctonia solani rice siliceous cell defence enzyme

【中文摘要】采用水培的方法,从细胞学和生理生化方面研究了硅增强水稻对纹枯病的抗性作用。结果表明:加硅处理的水稻叶片硅化细胞和叶片表面的硅元素含量均显著高于缺硅处理(对照);接种纹枯病菌后,加硅处理的MDA含量总体上低于缺硅处理,峰值尤为显著;加硅处理的SOD活性始终高于缺硅处理,接种后第 4 天加硅处理 SOD 活性较低时,其 POD 活性较高,而缺硅处理的 POD 活性较低,表明硅增强了 SOD 和 POD 之间的协调性;接种后硅对 CAT 和 PAL 活性没有产生明显影响,但降低了 PPO 活性;加硅能显著降低水稻植株的纹枯病病情指数。

【英文摘要】The enhancing resistance and decreasing incidence to sheath blight (Rhizoctonia solani)by silicon were studied from cytological and physiological aspects by using rice plants solution-cultured with si1icon supplementation or with si1icon-deficience. By an environmental scanning electron coupled with X-ray microanalysis, as well as gravimetric quantification, the number of siliceous cell and Si content of the Si+rice leaf were much more than those of Si-rice leaf (Figs.1,2; Table 1). After being inoculated with R. solani MDA content in Si+rice plants was almost higher than that in Si-rice plants, SOD activity in Si+rice plants was always higher than that in Si-rice plants, SOD activity in Si+rice plants reached a minimum on 4 d,and POD activity was at the maximum, but POD activity in Si-rice plants was lower. These results suggested that silicon could enhance the harmony of SOD and POD. And silicon had no effect on CAT and PAL activity, but weaken PPO activity(Fig.3). After being inoculated with R. solani, the Si+rice plants had significantly lower disease index with relative control effect of 1/4 compared to the Si-rice plants (Table 2).

【语种】中文

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【引文索引类型】其他

【引文索引号】无

【学科分类】农艺学

【题目】机插稻鸭共作系统氮素基蘖肥用量对水稻群体质量与氮素利用的影响

【中文关键词】机插水稻;稻鸭共作;氮素用量;群体质量;氮素利用

【英文关键词】machine-transplanted rice　rice-duck farming system　amount of nitrogen rice population quality　nitrogen utilization

【中文摘要】以武粳巧为试材,研究了氮素基粟肥用量对机插稻鸭共作水稻群体特征和氮素吸收利用的影响。结果表明在稻鸭共作系统中,随氮素基孽肥用量的减少,机插水稻群体最高分孽数减少,最高分孽数前后的分孽发生和消亡速率降低,粒叶比、有效叶面积率、高效叶面积率提高,齐穗期和成熟期干物质积累量降低,各阶段尤其是拔节至齐穗期的吸氮量降低。当氮素基孽肥用量适宜,基、穗肥比4.5:5.5时,机插水稻群体的分孽成穗率较高,叶面积指数适宜,齐穗期至成熟期的干物质积累量最大,拔节前氮素基集肥利用率、氮肥当季利用率、氮素农学利用率、氮素收获指数和氮肥偏因素生产力协同提高,群体穗数合理,产量最高。稻鸭共作不仅提高拔节前氮素基桑肥利用率和氮肥当季利用率,而且改善机插水稻的群体质量,提高抽穗后群体的生产能力和水稻产量。关键词机插水稻稻鸭共作氮素用量群体质量氮素利用。

【英文摘要】Wujing15(japonica rice cultivar)was used, and four different amount of basal and tillering nitrogen fertilizer(BN)were conducted to investigate the effects of nitrogen fertilizer on the population quality and nitrogen utilization of machine-transplanted rice in rice-duck farming system. The results showed as followed:1) In rice-duck farming system, along with the reduction of the amount of BN, the maximum number of tillers and the speed of tiller appearance and dying decreased; the proportion of effective leaf area, high effective leaf area and the ratio of spikelets number to leaf area increased; dry matter and nitrogen accumulated from heading to maturity decreased; nitrogen uptake decreased at each stage especially from jointing to heading. 2)When the amount of BN at a suitable level, and the ratio of BN to topdressing nitrogen was 4.5:5.5, the ratio of effective tiller was higher under the machine-transplanted rice-duck fanning system which at the same time contained a suitable LAI and reached the highest amount of day matter accumulated from heading to maturity. Moreover, higher BN utilization efficiency before jointing stage, nitrogen utilization efficiency, nitrogen harvest index, nitrogen agricultural efficiency and nitrogen partial factor productivity were achieved at that point also. 3)Machine-transplanted rice-duck farming system not only enhanced the nitrogen fertilizer use efficiency before jointing and of the whole planting season, but also improved the population quality and thus strengthen the ability of day matter producing and eventually rice yield.

【语种】中文

【第一作者】余翔

【通讯作者】丁艳锋

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【引文索引号】1008-505X(2009)03-0529-08
【学科分类】农艺学

【题目】粳稻硅素积累与分配对氮素的反应及其基因型差异
【中文关键词】水稻;硅素;积累和分配;氮素;基因型差异
【英文关键词】rice silicon accumulation and distribution nitrogen genotype variation
【中文摘要】以15个常规粳稻品种为材料,设置0、150、225、300 kg/hm2四种氮素水平,研究水稻硅素积累与分配对氮素的反应及其基因型差异。结果表明,不同生育时期,硅在水稻各器官、全株中的积累量均随氮素水平的提高而增加。随氮素水平的提高,水稻在移栽)拔节和抽穗)成熟阶段的积累比例增加,而拔节)抽穗阶段的积累比例减少,在茎鞘中的分配比例减少而叶片和穗中的分配比例增加。不同生育时期,硅在茎鞘、叶片和全株中的含量均随氮素水平的提高而下降,抽穗和成熟期,穗中的硅素含量随氮素水平的提高而下降,至中肥最低,高肥条件下略有回升。不同氮素条件下,水稻硅素的积累与分配特性存在显著的基因型差异,同时各基因型硅素积累与分配对氮素的反应也存在差异。其中,武育粳7号、华粳3号、武香粳9号、香粳20-18、武育粳3号、晚粳4003、早丰9号、华粳2号的硅素积累效率具有随氮素水平的提高保持稳定或相对提高的特性,对于氮肥用量不断增加条件下水稻植株的抗逆性改良具有较好的遗传潜力。
【英文摘要】Field experimentwas conducted in order to investigate the response of silicon accumulation and distribution of 15 rice cultivars (conventionalJaponica) to different N levels (0 kg/ha, 150 kg/ha, 225 kg/ha, 300 kg/ha as urea) and genotype variations. Results indicated that the content of silicon in rice organs and plant increased with N rate at three growth stages including elongation, heading and maturity. The percentage of silicon accumulation increased during the periods from transplanting to elongation and fromheading to maturity, but decreased from elongation to heading. The proportion of silicon distributed in culm and sheath decreased with N rate, while the proportion in leaf and panicle increased with N rate. The concentration of silicon in rice organs and plant all declined continuously with N rate, except that silicon concentration in panicle increased appreciably attheNlevel of 300 kg/ha. At each level ofN, the characteristics of silicon accumulation and distribution differed significantlywith rice genotypes. At the same time, the responses of silicon accumulation and distribution of rice genotypes toN also varied significantly. Among 15 rice cultivars, the silicon accumulation efficiency of Wuyujing 7, Huajing 3,Wuxiangjing 9,Xiangjing 20-18,Wuyujing 3,Wangjing 4003,Zaofeng 9 and Huajing 2 increased with or not significantly affected by N levels, having better genetic potential to en-hance the resistance to multiple stresses with the increasing application of N in rice production.
【语种】中文
【第一作者】魏海燕
【通讯作者】张洪程
【期刊名称、卷期、页码】植物营养与肥料学报2008,14(2):213-220
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【引文索引号】1008-505X(2008)02-0213-08
【学科分类】农艺学

【题目】施氮量对机插杂交粳稻徐优403产量和品质的影响
【中文关键词】机插杂交粳稻;施氮量;产量;品质;RVA谱
【英文关键词】mechanical-transplanted hybrid rice nitrogen application rate yield; quality RVA profile
【中文摘要】软盘旱育机插条件下,以杂交中粳徐优403为材料,研究了里下河地区稻麦两熟制同施氮量对机插杂交稻徐优403产量和品质的影响。结果表明,随施氮量的增加,机插杂交稻徐优403的穗数和每穗颖花数和产量呈先增后减趋势,以N225kg/hm²甘处理最高;结实率和千粒贡表现为随施氮量增加而减小。施氮量主要影响稻米品质中的坐白度和坐白率,其次为消减值,而对其它品质指标影响较小。品质性状中的加工碾磨品质、稻米的表面积、横面积可与产量在一定程度土实现高产优质统一;而其它品质指标则表现为对施氮存在负响应。综合来看,机插杂交稻徐优403适宜施氮量以施N225kg/hm²澎为宜。
【英文摘要】Effects of the different nitrogen rates on yield and quality of mechanical-transplanted hybrid rice were studied under the yearly rice-wheat crop system in the Lixia River area .The cultivar is xuyou403, a mid-season hybrid japonica rice cultivar. With the increase of nitrogen application rate , the harvested panicles per plant , number of grains per panicles, and the grain yield are increased first and then decreased; the 225kg/ha nitrogen application rate is rate for the highest production . The grain filling rate and 1000-grain

weight appear to be decreased along with increase of nitrogen application rate . The nitrogen application rate mainly affected the chalkiness degree and the chalkiness rate , then setback , the other rice qualities were less effected .The milled rice qualities , the surface area , and section area are at their best values at 225kg/ha nitrogen application rate , the same as the grain yield ,while the other grain qualities trended to be bad with the increase of nitrogen application . Considering the grain yield and qualities together , the 225kg/ha of nitrogen fertilizer rate is suitable for rice production.

【语种】中文
【第一作者】钱银飞
【通讯作者】张洪程
【期刊名称、卷期、页码】植物营养与肥料学报2009,15(3):522-528
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【学科分类】农艺学

【题目】氮素穗肥对不同品种稻米品质性状的影响
【中文关键词】水稻;氮素穗肥;黏滞谱;相对结晶度
【英文关键词】rice panicle nitrogen fertilizer RVA profile relative crystallity
【中文摘要】以4种不同类型的稻米为材料,采用4个不同的氮素穗肥处理,利用黏度分析仪和XRD技术测定其淀粉特性,探索氮素穗肥对稻米品质及淀粉特性的影响。试验结果表明,氮素穗肥对稻米蛋白质、直链淀粉含量、支/直比和胶稠度的影响,品种间存在差异。各品种稻米的黏滞谱曲线随着氮肥的增加均呈整体下降趋势;相对粳稻而言,杂交籼稻和糯稻黏滞谱曲线在不同的氮肥处理下降幅度较小。各品种稻米淀粉的相对结晶度均表现为随氮肥施用量的增加而减小,17b和18b的两个衍射峰的分离状态逐渐减小。氮素穗肥施用量与稻米品质和淀粉特性关系密切,可通过调控氮素穗肥水平来改善稻米品质。
【英文摘要】The aim of this studywas to determine the effect of panicle nitrogen fertilizer on starch characters and quality properties of rice. Four different panicle fertilizer levels were set up, Rapid Visco Analyzer and XRDwere used to analyze starch properties of four different rice varieties. The results demonstrated that the effects of panicle nitrogen fertilizer on protein content, amylose content, rate of amylopectin to amylose content and Ge-l consistency differed with rice varieties. Rice RVAprofiles (PKV, HPV and CPV) decreasedwith panicle nitrogen fertilizer rates. However, RVAprofiles of hybrid indica and glutinous rice decreased less than japica. The results also showed that relative crystal rate fell with increasing N rates, withtwo separate peaks at17b and 18b graduallybeingtranslated intoone peak and the heightof peak at 18b being increased. The results implied that starch properties and rice qualitieswere closely related, and proper rate of panicle N-fertilizer could improve rice qualities.
【语种】中文
【第一作者】张艳霞
【通讯作者】王绍华
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【学科分类】农艺学

【题目】花后水稻穗部夜间远红外增温处理对稻米品质的影响
【中文关键词】夜间增温;日间增温;稻米品质;淀粉结构
【英文关键词】elevated night temperature elevated daytime temperature rice grain quality starch structure
【中文摘要】以武育粳3号为材料,在开放环境下使用远红外加热器对水稻穗部进行增温处理,研究了灌浆结实期穗部日间或夜间增温对稻米品质的影响。结果表明,夜间增温降低了糙米率、精米率和整精米率,增加了垩白发生,降低了稻米的加工品质和外观品质,与日间增温影响一致。夜间增温提高了稻米蛋白质含量,与日间增温相似,但夜间增温有降低稻米直链淀粉含量的趋势,与日间增温相反。夜间增温处理淀粉结构与日间增温差异较分明,尤其是胚乳腹部,夜间增温胚乳腹部的淀粉粒个体较大,棱角分明,排列紧密;而日间增温淀粉体较小,呈圆形和椭圆形,但数量较多。夜间增温对淀粉相对结晶度的影响与日间增温相似,但夜间增温增幅较小。总体来说,灌浆结实期夜间增温对稻米的加工品质、外观品质、营养品质影响与日间增温一致,对蒸煮食味品质和淀粉结构的影响与日间增温存在很大的差异,且夜间增温对稻米品质的影响程度整

体上小于日间增温。
【英文摘要】To determine the effects of elevated temperature during grain filling on grain quality of rice, Wuyujing 3 (japonica rice) was planted in pots under elevated night temperature(ENT) and elevated daytime temperature (EDT) at the grain filling stage by using far-infrared heaters. The two treatments both decreased brown rice rate, milled rice rate and head rice rate, while increased chalky rice rate and chalkiness. The effect of EDT was more significant. ENT decreased amylose content, whereas EDT increased it. Under ENT, starch granules were compact in arrangement with larger granule and clearer edge, by contrast, under EDT the starch granules were smaller and spheric-shaped with few gaps. X-ray diffraction patterns revealed larger relative crystallinity under both temperature treatments as compared to control with a less increase under ENT. The results show that compared with EDT, ENT exerted similar but less effects on milling quality, appearance quality and nutritional quality. However, effects of both treatments on starch structure, eating and cooking quality were different.
【语种】中文
【第一作者】戴云云
【通讯作者】王绍华
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【引文索引号】10.3969/j.issn.1001-7216.2009.04.12
【学科分类】农艺学

【题目】江淮流域杂草稻叶绿体DNA的籼粳分化.
【中文关键词】杂草稻;栽培稻;叶绿体DNA;籼粳分化;细胞质来源;分子标记
【英文关键词】weedy rice cultivated rice chloroplast DNA indica-japonica differentiation cytoplasmic origin molecular marker
【中文摘要】为了探明江淮流域杂草稻的细胞质来源,根据水稻叶绿体DNA ORF100(Open Reading Frame 100)序列在籼粳间存在69 bp差异的特征,设计了InDel标记cpDNA69。利用该标记对2个分别以籼稻和粳稻为母本的F2群体、22份栽培稻(Oryza sativaL.)、3份普通野生稻(O. rufipogonGriff.)进行了分析验证。PCR结果可以获得缺失和非缺失两种带型,缺失带型与以籼稻为母本的F2群体、10份籼稻材料完全对应;非缺失带型与以粳稻为母本的F2群体、11份粳稻材料完全对应,3份广西普通野生稻为非缺失带型,属粳型,1份以粳稻为母本的籼粳杂交材料为粳型。因此,cpDNA69可以用作叶绿体籼粳鉴定标记。利用该标记对22份杂草稻的叶绿体DNA鉴定的结果表明,7份早年发现的杂草稻,即江苏省连云港稆稻和安徽省怀远、来安、全椒、肥东的塘稻的叶绿体DNA为非缺失带型,属粳型,而近年来在江苏省扬中、高邮、灌云、洪泽、盐都、兴化、如皋等地直播稻田发现的15份红米杂草稻的叶绿体DNA为缺失带型,属籼型。这为进一步研究江淮流域杂草稻的来源提供了依据。
【英文摘要】To detect the cytoplasmic origin of weedy rice in the Changjiang-Huaihe River Valley of China, an InDel marker cpDNA69 was developed based on the 69 bp deletion in indica chloroplast DNA ORF100(cpDNA Open Reading Frame 100).Three accessions of common wild rice (OryzarufipogonGriff.) from Guangxi, China and 22 cultivars (O. sativaL.) and two F2populations with indica and japonica rice as maternal parent respectively were investigated by the length polymorphism for ORF100 region. The non-deletion cpDNA ORF100 was found in japonica cultivars and the F2plants with japonica rice as maternal parent, and the deletion cpDNA ORF100 was found in the indica cultivars and the F2plants with indica rice as maternal parent. The three accessions of common wild rice carried the non-deletion cpDNA type and one indica-like cultivar developed from the hybrid of japonica and indica carried the same non-deletion cpDNA type. These results confirm that cpDNA69 was a perfect marker to distinguish the indica/japonica cpDNA ORF100. Then the indica-japonica differentiation of chloroplast DNA in 22 accessions of weedy rice from the Changjiang and Huaihe River Valley were investigated with cpDNA69. The cpDNA of Ludao from Lianyungang, Jiangsu Province, and Tangdao from Huaiyuan, Laian, Quanjiao, Feidong, Anhui Province carried nondeletion type ORF100. However the cpDNA of red weedy rice discovered in recent years in Jiangsu Province carried the 69 bp deletion type ORF100. It is suggested that the indica-japonica differentiation of cpDNA has occured in weedy rice in the Changjiang and Huaihe River Valley.
【语种】中文
【第一作者】杨 杰
【通讯作者】仲维功
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【学科分类】农艺学

【题目】两个杂交粳稻组合超高产生长特性的研究
【中文关键词】杂交粳稻;超高产栽培;生长特性;干物质生产
【英文关键词】japonica hybrid rice super-high-yielding cultivation growth characteristics dry matter production
【中文摘要】将两个杂交粳稻组合(陵香优18和常优1号)于大田条件下种植,对超高产(产量>12.0 t/hm2)田块的水稻物质生产和产量形成生长特性进行了分析。结果表明,与高产栽培(CK, 10.5~11.0 t/hm2)水稻相比,超高产栽培水稻穗数、每穗粒数显著高于CK,结实率和千粒重略高于CK,但差异不显著;超高产栽培水稻二次枝梗数、二次枝梗总粒数显著高于CK;有效分蘖临界叶龄期之前,超高产栽培条件下水稻生长比CK快,在有效分蘖临界叶龄期茎蘖数达到预期的穗数,叶面积指数、光合势、干物质积累和群体生长率较CK大;有效分蘖临界叶龄期至拔节期,超高产栽培条件下水稻生长平稳,无效分蘖发生少,高峰苗低,叶面积指数、光合势、干物质积累和群体生长率较CK小;拔节以后,超高产栽培条件下水稻茎蘖数下降平缓,成穗率高,叶面积指数、光合势、干物质积累和群体生长率较CK高,尤其是抽穗以后,超高产栽培条件下水稻具有明显的生长优势,叶面积指数、光合势、干物质积累和群体生长率均极显著高于CK。
【英文摘要】Growth and dry matter production characteristics, yield formation and yield components of rice under super-high-yielding (>12.0 t /hm2) cultivation were analyzed using two japonica hybrid rice combinations (Lingxiangyou 18 and Changyou 1) in paddy field. The results showed that the number of panicles, the number of grains per panicle, the number of secondary branches per panicle and the number of spikelets on secondary branches under super-high-yielding cultivation (SHYC) were significantly higher than those under traditional high yielding (10.5 t/hm2to 11.0 t/hm2) cultivation(CK).The seed-setting rate and 1000-grain weight under SHYC were a little higher than those under CK, but without significant difference. Before the critical lea-f age for productive tillering, rice under SHYC grew faster and at the critical lea-f age for productive tillering the number of stems and tillers was up to the expected value, and leaf area index, photosynthetic potential, dry matter accumulation and crop growth rate were larger than those under CK. From the critical lea-f age for productive tillering to elongation, rice under SHYC had a steady growth with less ineffective tillers and lower peak number of seedlings,and its leaf area index, photosynthetic potential, dry matter accumulation and population growth rate were lower than those under CK. After elongation, with a steady decline in growth and a high productive tiller rate, rice under SHYC had higherleaf area index, photosynthetic potential, dry matter accumulation and population growth rate than under CK. Super-high-yielding rice had an obvious growth superiority. Especially after heading, leaf area index, photosynthetic potential, dry matter accumulation and population growth rate were significantly higher under SHYC than under CK.
【语种】中文
【第一作者】李 杰
【通讯作者】张洪程
【期刊名称、卷期、页码】中国水稻科学2009,23(2):179-185
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【学科分类】农艺学

【题目】三唑磷对稻纵卷叶螟诱导的水稻植株挥发物释放的影响
【中文关键词】水稻;挥发物;三唑磷;稻纵卷叶螟
【英文关键词】rice volatile triazophos Cnaphalocrocis medinalis
【中文摘要】研究了施用三唑磷对稻纵卷叶螟诱导的水稻挥发物的影响。利用固相微萃取法收集水稻挥发物,并通过气相色谱-质谱联用仪对挥发物进行分离和鉴定,共收集到36个水稻挥发物组分,其中已定性的14个,以萜类及其氧化物(11个)为主。在已定性的组分中,异喇叭烯、(-)-α-雪松烯、(+)-β-雪松烯、雪松醇等4个组分在水稻上尚未见报道。不同处理间水稻挥发物种类相同,但挥发物组分相对含量存在差异。三唑磷浓度不同导致5种挥发物组分(占总种类数的13.9%)相对含量的变化;而27种组分(占总种类数的75.0%)相对含量因施药天数不同而存在显著差异;农药与水稻品种、害虫密度等生物因子间的互作使32种水稻挥发物组分(占总种类数的88.9%)相对含量显著改变。
【英文摘要】The volatiles from rice plants infested byCnaphalocrocis medinaliswere studied under triazophos application.Thirty-six components were collected from headspace of rice plants by solid phase microextraction, 14 of which were identified by gas chromatography coupled with mass spectrometry, and the major components are terpenes and their oxides (11 kinds).Four of the identified components including isoledene, (-)-α-cedrene, (+)-β-cedrene and cedrol have not been reported in rice plants. Different

triazophos treatments did not result in the emission of new compounds, but the relative proportions (percent of total peak area) among the compounds in the blend were altered. The proportions of 5 components (13.9%) had significant differences under triazophos treatment at three levels. The proportions of 27 components (75.0%) changed at different days after triazophos treatment. Furthermore, the proportions of 32 components (88.9%) were significantly changed due to the interactions between triazophos and rice varieties, densities ofC. medinalis.

【语种】中文
【第一作者】卢海燕
【通讯作者】刘 芳
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【学科分类】农艺学

【题目】施硅量对粳稻品种武育粳3号产量和品质的影响
【中文关键词】硅;粳稻;稻谷产量;品质性状;淀粉黏滞性(RVA 谱)
【英文关键词】silicon japonica rice grain yield quality traits starch viscosity(RVA profile)
【中文摘要】以迟熟中粳稻武育粳3号为材料,研究了不同硅肥水平对粳稻产量和稻米品质的影响。结果表明,大田基施硅肥0~450kg/hm2 范围内,随着施硅量的增加,穗数、每穗粒数、千粒重、产量先增后降,精米率、回复值有增加的趋势,整精米率显著增加,RVA 谱曲线降低,直链淀粉含量、峰值黏度、热浆黏度、冷胶黏度、到达峰值黏度时间呈下降的趋势,消减值则先下降然后上升。施硅对出糙率、透明度无明显影响。适量施硅可以降低垩白米率、垩白大小和垩白度,改善稻米的外观品质。施硅能提高稻米胶稠度、崩解值,有提高稻米蛋白质含量的趋势。综合产量和品质性状,以施硅肥225kg/hm2 的处理较好。
【英文摘要】The effects of silicon fertilizer rates on yield and quality of rice grain were studied with a mid-season japonica rice cultivar Wuyujing 3. With the increase of Si application rate, number of panicles per plant, number of grains per panicle, 1000-grain weight and grain yield increased firstly and then decreased within the range of Si application rate of 0-450 kg/hm2, while milled rice rate and consistence showed a tendency to increase, and head rice rate increased significantly. The curves of RVA profile decreased, and amylose content, peak viscosity, hot viscosity, cool viscosity, peak time had the trend of descent, while setback decreased firstly and then increased. Meanwhile, brown rice rate and transparency had no obvious difference in the treatments. but proper Si rates decreased the chalky grain rate, chalkiness area and chalkiness, and increased protein content,gel consistency and breakdown. Considering the grain yield and quality together, 225 kg/hm2 of Si fertilizer rate was suitable.
【语种】中文
【第一作者】张国良
【通讯作者】戴其根
【期刊名称、卷期、页码】中国水稻科学2007,21(3):287-293
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【学科分类】农艺学

【题目】水稻超高产栽培模式及系统理论的研究进展
【中文关键词】水稻;超高产栽培;模式;系统理论
【英文关键词】rice supper high yielding cultivation pattern systematic theory
【中文摘要】围绕着超高产, 回顾了水稻超高产栽培模式的发展, 并重点介绍了其中几种水稻超高产栽培模式, 进而分析了水稻超高产形成的系统理论和途径, 探讨了水稻超高产栽培在大面积推广和生产中存在的问题并提出了解决途径, 最后展望了水稻超高产栽培模式的未来发展。
【英文摘要】The development of the patterns of super high yielding cultivation in rice was reviewed. Several new patterns of super high yielding cultivation in rice were highlighted and the systematic theories and approaches of the formation of super high yielding were analyzed. Moreover, the problems existed in the course of large scale extension and production of super high yielding were discussed and the solutions were then put forward. Finally, the development of super high yielding cultivation pattern in the future was

forecasted.
【语种】中文
【第一作者】龚金龙
【通讯作者】张洪程
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【学科分类】农艺学

【题目】行株距配置对水稻茎秆形态生理与群体生态的影响
【中文关键词】水稻;行株距配置;形态特性;生理特性;小气候
【英文关键词】rice row-spacing morphological characteristics physiological characteristics microclimate
【中文摘要】以籼稻品种丰优香占和粳稻品种武运粳7 号为材料,研究了不同行株距配置对茎秆形态生理与群体生态的影响。结果表明,中等行距(30. 0 cm ×13. 3 cm) 处理的产量最高,窄行距产量最低,差异显著(P < 0. 05) 。中等行距配置较宽窄行距处理显著减少了节间长度,增加了节间粗度、茎壁厚度及维管束数目,植株抗折力得到明显的提高,差异达显著水平(P < 0. 05) ;中等行距处理下水稻茎秆在齐穗期和灌浆后期单位长度节间干物质含量及灌浆期干物质转运量最大。此外,中等行距配置群体具有适宜的叶面积指数和较高的剑叶光合速率;不同行距配置群体内部CO2 浓度、光照强度、温度和湿度等微气象因子具有一定差异,中等行距配置具有良好的群体微气象环境。阐述了适当扩大行距是水稻高产的必备条件。
【英文摘要】With japonica rice Wuyunjing 7 and indica rice Fengyouxiangzhan as test materials , effects of row-spacing on morphological and eco-physiological characteristics of rice were studied. The yield of medium row-spacing treatment (30 cm×13. 3 cm) was the highest , while that of narrow row-spacing (20 cm ×20 cm) was the lowest , with a significant difference at 0. 05 level . Medium row-spacing treatment significantly diminished internode length and enhanced internode thickness , wall thickness , the number of vascular bundles of internode , and the lodging resistance compared to wide row-spacing (40 cm ×10cm) and narrow row-spacing treatment s. The content of dry matter in basal internode at the heading stage and the 20th day after heading , and the amount of dry matter transferred to grain at the filling stage were the highest at the medium row-spacing treatment . Moreover , there were appropriate leaf area index and higher photosynthetic rate of flag leaf at medium row-spacing treatment . Furthermore , the distinctive differences were found in the content of CO2 , light intensity , air temperature and humidity in the population among different row-spacing treatments , and medium row-spacing treatment showed ideal microclimate within the population of rice. It clearly suggested that medium row-spacing treatment is necessary for high-yielding cultivation of rice.
【语种】中文
【第一作者】闫川
【通讯作者】王绍华
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【学科分类】农艺学

【题目】增加土壤温度对高海拔生态区水稻分蘖成穗及产量形成的影响
【中文关键词】水稻;成穗率;高海拔;土壤温度;产量
【英文关键词】rice productive till percentage high altitude soil temperature yield
【中文摘要】在高海拔寒冷稻作区,通过晒水池增温进行温水灌溉和垄作栽培提高土壤温度。垄作栽培、温水灌溉在移栽后到有效分蘖临界叶龄期的土壤日平均温差分别比常规栽培(对照) 高2. 94 ℃和0. 57 ℃。通过调查有效分蘖临界叶龄期水稻的分蘖发生数量和质量,探讨增加土壤温度对水稻分蘖发生和产量及其构成因素的影响。结果表明,丽粳10 号垄作栽培、温水灌溉成穗率比对照分别高14. 59 和0. 14 个百分点,大白谷分别高12. 08 和2. 09 个百分点。丽粳10 号垄作栽培、温水灌溉的产量分别比对照高13. 79%和10. 82% ,大白谷分别高13. 35%和11. 54%。土壤增温可促进高寒生态区水稻早发和干物质积累,增加有效分蘖,优化群体质量,提高成穗率和产量。
【英文摘要】To study the effect of increased soil temperature on rice production , three treatment s (ridge cultivation , warm-water irrigation by sunning water pool and conventional cultivation) were arranged in a field experiment . The soil daily average temperature

difference under ridge cultivation and warm-water irrigation by sunning water pool was 2. 94 °C and 0. 57 °Chigher than that under conventional cultivation in the period f rom rice transplanting to critical stage for productive tiller in high-altitude and cold area. The quantity and quality of rice tiller before critical stage for productive tiller as well as the influence of soil warming measures to rice tillering and yield components were studied in high altitude area. The results showed that compared to the conventional cultivation , the productive tiller percentage increased by 14. 59 and 0. 14 percent points under the ridge cultivation and warm-water irrigation , respectively for Lijing 10 , and by 12. 08 and 2. 09 percent points for Dabaigu , respectively . The yield increased by 13. 79 % and 10. 82 % under the ridge cultivation and warm-water irrigation , respectively for Lijing 10 , and by 13.35 % and 11. 54 %for Dabaigu , respectively . The soil warming measures was helpful in promoting rice growth , accelerating tillering , increasing the accumulation of dry matter , optimizing the population quality and increasing productive tiller percentage and yield.

【语种】中文

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【通讯作者】丁艳锋

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【学科分类】农艺学

【题目】不同耕作方式与秸杆还田周年生产力的综合评价

【中文关键词】作物;耕作;秸秆;生产力

【英文关键词】crops cultivation straw productivity

【中文摘要】该文通过3年定位试验,比较研究了稻麦两熟条件下免耕套种秸秆覆盖、免耕套种高茬、翻耕秸秆还田、翻耕秸秆不还田(对照,CK)4 个处理对周年生产力的影响。结果表明:免耕套种的小麦产量降低,水稻产量增加,年产量略降,翻耕秸秆还田具较高产量生产力。如考虑节省的秧田种植小麦,则免耕套种的稻麦年产量可与翻耕秸秆还田持平。经技术经济分析,采用稻麦免耕套种秸秆还田,具有明显的节本增收、提高活劳动净产率的效果,在稻麦周年产量不减的同时,比翻耕秸秆不还田处理增收1874.8 元/hm2,增加18.0%,经济生产力最高。翻耕秸秆还田比不还田有一定的增产增收效果,如果考虑到耕地持续生产力,秸秆还田后所带来的土壤肥力效应和减少肥料用量,其增产增收效果更为明显。从高产、高效、可持续发展等方面,运用综合评分法对稻麦两熟制不同耕作栽培方式周年生产力综合评价,免耕套种秸秆还田得分最高,周年生产力最好,免耕套种高茬和翻耕秸秆还田居中,翻耕秸秆不还田得分最低,周年生产力最差。

【英文摘要】An experiment of four treatments (no-tillage + straw mulching, NTS; no-tillage + high stubble remaining, NTH; conventional tillage + straw incorporation, CTS and conventional tillage + no straw returning, CT) was designed to investigate the effects of tillage and straw returning on yearly productivity in a wheat-rice double cropping system for three consecutive years. Results show that wheat yields under NTS and NTH were low, but rice yield increased to some extent, the total yield of rice and wheat was relatively low. Providing additional wheat yield in rice seedling field needed by the latter two treatments, the total yields of rice and wheat under NTS and NTH were higher than those of CTS and CT. Technically and economically, NTS could reduce the cost, increase the total income by about RMB 1874.8 per hm2, about 18% raising rate, so increase the yearly economic productivity. Compared with CT, CTS achieved a higher yield and productivity. Viewing the effects of CTS on soil fertility and the decreased fertilizer usage, the efficiency was very obvious. Considering yield, quality and sustainable development, a comprehensive appraisal system was proposed to give a fair evaluation of yearly productivity of rice and wheat under different cropping systems. Four tillage and cultivation methods were evaluated according to this evaluation system. The appraisal results show that NTS won the highest score due to its highest yearly productivity. NTH, CTS took the 2nd and 3rd places. CT was the last.

【语种】中文

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【学科分类】农艺学

【题目】稻鸭共作系统的稻田氮素渗漏和径流特征
【中文关键词】稻鸭共作系统;氮素渗漏;氮素径流
【英文关键词】rice-duck farming system N leakage N runoff
【中文摘要】通过田间试验,分析了稻鸭共作(MRD)、常规栽培(MR)和淹灌单作(CK)3种稻作方式的稻田氮素渗漏和径流特征. 结果表明:与MR处理相比,稻鸭共作系统稻田渗漏液氮素浓度尤其是NO3- 2N浓度显著减少,与CK处理相比,稻鸭共作稻田渗漏液氮素浓度有增加趋势;MRD处理在施肥7 ~9 d后,田面水中的NH4+ 2N 和NO3- 2N 浓度高于MR 处理,由于MRD处理不用搁田且田埂较高,田间排水量显著减少,氮素径流损失反而显著少于MR处理;与MR处理相比,MRD处理增加了鸭粪的氮素投入,减少了氮素渗漏和径流损失,减少了化学氮肥用量,增加了水稻地上部吸氮量;MRD系统的氮素输入总量和氮素输出总量均减少,且减少量基本相等.
【英文摘要】A field experimentwas conducted to study the characteristics of paddy field nitrogen (N)leakage and runoff under rice2duck farming (MRD) , conventional farming (MR) , and conventional farming with flooding (CK). Comparing with that under MR, the paddy field under MRD had anotable decrease of N (especially NO3- 2N) concentration in its leaked liquid; but this concentration was tended to be increased, compared with that under CK. After 7- 9 days of fertilization, the NH4+ 2N and NO3- 2N concentrations in paddy field surface water were higher under MRD than under MR. However, owing to the no draining and the higher band, the paddy field under MRD had a notable reduction of drainage, resulting in a marked decrease of N runoff than that under MR.Comparing with MR, the paddy field under MRD had an addition of nitrogen supply from duck dung, a reduction of N leakage and runoff, a lesser application of chemical nitrogen fertilizer, and more nitrogen up take by rice plant. Both the reduction of N input and that of N output in rice-duck farming system were nearly equal in quantity.
【语种】中文
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【通讯作者】丁艳锋
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【学科分类】农艺学

【题目】稻鸭共作下水稻植株的壮秆效应及生理特性
【中文关键词】稻鸭共作;碳氮代谢;茎秆特性;根系活力
【英文关键词】rice-duck farming carbon and nitrogen metabolism stem characters root vitality
【中文摘要】通过田间小区对比试验,分析了稻鸭共作下水稻植株的壮秆效应及其相关生理特性. 结果表明:由于鸭子在稻田的活动使水稻植株形态发生了明显变化,植株碳水化合物含量、植株碳氮比、茎秆干物质输出率都明显增加,茎秆基部节间长度比对照缩短2.88% ,茎粗增加64.90% ,茎秆强度和抗倒伏指数也分别提高了11.78%和10.95%;稻鸭共作提高了水稻深层根系比例和根系活力,黑根比例降低了16.63%. 因此,稻鸭共作对水稻植株有壮秆效应,提高了植株的抗逆性,有利于水稻稳产高产.
【英文摘要】A field plot comparison experiment was conducted to study the strong stem effect and physiological characteristics of rice plant under rice-duck farming. The results showed that under rice-duck farming, themorphology of rice plant changed obviously, and the carbohydrate content and C/N ratio of the plant as well as the drymatter output from rice stem increased significantly, due to the activities of duck in paddy field. In the meantime, the length of basal internodes decreased by 2.88%, while the stem diameter, stem mechanical strength, and stem lodging resistant index increased by 64.90%, 11.78%, and 10.95%, respectively. Rice-duck farming increased the root mass and root vitality in deeper soil layers, and decreased the proportion of black roots by 16.63%. It was indicated that rice-duck farming benefited the formation of strong rice stem and increased the stress resistance of rice plant, which would be favorable to the stable and high-yielding of rice.
【语种】中文
【第一作者】王强盛
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【引文索引号】1001- 9332 (2008) 12- 2661- 05
【学科分类】农艺学

【题目】结实期水分胁迫对不同氮肥水平下水稻产量及品质的影响
【中文关键词】水稻;水分胁迫;品质;产量
【英文关键词】Rice W ater stress Grain quality Yield
【中文摘要】以生产上广泛使用的3个水稻品种为材料, 研究了结实期适度水分胁迫对不同氮肥水平下稻米产量及其品质的影响. 结果表明, 正常施氮水平下, 水分胁迫使3个品种籽粒产量降低11.6% ~ 14. 7%, 虽整精米率有所提高, 但垩白度却显著增加(18. 7% ~ 33.1%), 外观品质变劣; 而高氮水平下, 水分胁迫处理的产量增加18. 8% ~ 22.2%, 垩白粒率和垩白度分别降低15.3% ~ 37.2%和13. 7% ~ 29.9%, 外观品质变优. 稻米RVA谱特征值和米饭质地也明显受到结实期土壤水分和施氮水平的影响. 正常施氮水平下, 水分胁迫处理的最高粘度和崩解值(扬稻6号除外)要低于水层灌溉处理, 而其消减值却明显高于水层灌溉处理, 水分胁迫使得正常施氮处理的米饭口感较硬, 弹性较差, 粘性降低, 且咀嚼有渣感. 而高氮水平下, 水分胁迫利于米粉糊化过程中早期粘度的上升, 最高粘度增加, 崩解值也明显高于水层灌溉, 消减值却明显减小, 米饭的硬性和凝聚性减小, 松弛性和粘附性增大, 米饭质地有变优的趋势.
【英文摘要】To examine the effects of nitrogen (N) supply and water stress on rice grain yield and its quality, a pot experiment was conducted at Yangzhou University. Three rice cultivarsw ere grown under two N levels (high N and normal N) from initial head ing, and two water conditions (wellw ate ring and water stress) were installed for each of the two N levels from flow ering tom aturity. The results showed that when the plants o f test cultivars were grown under normal N level ,water stress markedly reduced the grain-filling percentage and grain weight, resulting in a significant decrease o f grain yield by 11.6% ~ 14.7%. Though the head milled rice had a slight increase, the percentage of chalk iness was significantly increased by 18. 7% ~ 33.1%, w hich resulted in an in ferior performance in grain apparent quality. In contrast, when the plants were grown under high N level,water stress increased the grain yield by 18.8% ~ 22.2% because o f the increase of grain-filling percentage and grain weight. As compared with well watering, water stress decreased the percen tages of chalky grain and chalkiness by 15.3% ~37. 2% and 13.7% ~ 29.9%, respectively, which improved the performance of grain apparent quality. The pronounced effects of N application and water treatment were observed on the RVA profile and cooked quality. Under both two N levels, water stress decreased the peak viscosity and break down (except for Yangdao 6) while in creased the setback. Accord ing to the performance in the indices of cooked quality, the palatability became poor when subjected to water stress under normal N level , as the result of the increase of hardness and cohesiveness.In contrast, under high N level, water stress availed the ascending o f viscosity at the early stage when rice flours were pasting, peak viscosity and break down were increased, and set back was decreased, suggesting that the pal-pability got well .It was concluded that mild water stress during grain filling period was benefit for the development of high quality grain when rice plants were grown under high N level.
【语种】中文
【第一作者】蔡一霞
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【期刊名称、卷期、页码】应用生态学报2006,17(7):1201-1206
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【引文索引号】1001- 9332(2006) 07- 1201- 06
【学科分类】农艺学

【题目】结实期相对高温对稻米淀粉粘滞性谱及镁钾含量的影响
【中文关键词】水稻;结实期;相对高温;Mg /K;淀粉粘滞性谱
【英文关键词】rice grain-filling stage relatively h igh temperature Mg /K starch v iscosity profile.
【中文摘要】选用武育粳3号(粳稻)和扬稻6号(籼稻)两个水稻品种, 利用人工气候室在水稻灌浆结实期进行控温试验, 设置全结实期相对高温、结实前期相对高温、结实后期相对高温、全结实期适温(对照, 日均温23℃)对照4 个处理, 探讨结实期不同时段相对高温(日均温度30℃)对稻米淀粉粘滞性谱和Mg、K 等元素含量的影响. 结果表明: 结实期相对高温使武育粳3号和扬稻6号淀粉粘滞性谱特征值发生改变, 其中糊化开始温度、冷胶粘度、回复值和消减值升高, 最高粘度、热浆粘度和崩解值下降; 结实期相对高温促进了米粉中Mg、K、N 含量的提高, 特别是K含量的大幅提高, 使稻米中Mg/K和Mg/(N · AC · K)明显降低; 而2个水稻品种的直链淀粉含量(AC)对相对高温的反应截然相反, 武育粳3号的AC 降低、扬稻6号的AC升高. 全结实期相对高温对稻米淀粉粘滞性谱和Mg、K 等元素含量的影响最大, 结实前期其次, 结实后期的影响较小,

开花后20 d内是稻米淀粉粘滞性谱和Mg、K等元素含量受温度影响的关键时期. Mg/K和Mg/(N·AC·K)与淀粉粘滞性谱特征值显著相关, 可以作为稻米食味品质评价的参考指标.

【英文摘要】With rice cultivars Yangdao 6 (Indica) and Wuyu jing 3 (Japonica) as test materials, the effects of relatively high temperature (RHT, mean temperature 30 °C) at grain-filling stage (GFS) on the starch viscosity profile and magnesium (Mg) and potassium (K) contents of rice grain were studied in a phytotron. Four temperature treatmentsw ere installed, i.e., RHT at whole GFS, RHT at early GFS and optimum temperature at later GFS, optimum temperature at early GFS and RHT at later GFS, and optimum temperature (CK, mean temperature 23 °C) at whole GFS. The results showed that RHT at GFS significantly influenced the characteristic values of rice grain's starch viscosity profile, e.g., the values of gelatinization temperature, final viscosity, consistency, and setback increased, while those of peak viscosity, hot viscosity, and breakdown decreased, with Yangdao 6 and Wuyujing 3 followed the similar pattern. The RHT increased the contents of Mg, K, and N, especially of K, resulting in a marked decrease of Mg/K and Mg/(N · AC · K) in the grain. The grain's amylase content (AC) of the two cultivars showed contrasting in response to temperature treatments. Wuyujing 3 performed decrease, while Yangdao 6 exhibited increase in AC values. The RHT at whole GFS affected the starch viscosity profile and the Mg and K contents most greatly, followed by the RHT at early GFS, and the RHT at later GFS. The period with in 20 days after flowering was the key period during which temperature affected the grain's starch viscosity profile and Mg and K contents. The Mg/K and Mg/(N · AC · K) in rice grain significant corre lated with the characteristic values of starch viscosity profile, which could be used as the reference indices of rice eating quality.

【语种】中文

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【学科分类】农艺学

【题目】水稻耐1,2,4-三氯苯胁迫基因型的苗期筛选

【中文关键词】水稻;基因型;TCB 胁迫;耐性评定

【英文关键词】rice genotypes TCB stress tolerance evaluation

【中文摘要】为了评定不同水稻基因型对1,2,4- 三氯苯(TCB) 的耐性强弱, 确定合适的筛选指标和筛选浓度, 在人工气候箱条件下, 采用发芽试验和砂培水稻幼苗的方法, 对幼苗期水稻基因型耐TCB 胁迫的差异性进行了鉴定, 并确定了水稻基因型耐TGB 胁迫合适的筛选指标和筛选环境。结果表明, 以0.35 mmol · kg- 1 沙浓度TCB 更适合用于水稻基因型的耐性鉴定。以发芽势、发芽率、最长根长、根数、株高、地上部干重、根干重和总干重的性状相对值(处理测定值/对照测定值×100%) 作为幼苗耐性指数(tolerance index, TI),其中相对最长根长、相对株高、相对地上部分干重、相对根干重和总干重是评价水稻对TCB 胁迫耐性强弱的较好指标。基于耐性指数对各基因型进行聚类分析, 将50 个水稻基因型聚为耐性、较耐、较敏感和敏感4 类。

【英文摘要】1,2,4-Trichlorobenzene (TCB) has pervaded in industrial and agricultural production. Because of a series of problems caused by its stableness and fatalness, TCB has been added into the environmental pollutant list. In order to know how TCB affects the rice seed germination, seedling growth and its physiological characteristics, the seed germination, seedling biomass,soluble protein, and malnodialdehyde (MDA) contents, as well as activities of superoxide dismutase (SOD), peroxidase (POD), and catalase (CAT) in leaves and roots of seedlings treated with TCB were investigated in a sand culture experiment using rice cultivars, Xiangjing 20-18 (TCB tolerant genotype)and Siyang 1382 (TCB sensitive genotype). The results indicated that TCB had little effect on the seed germination rate and index, however caused the significant reduction of seedling biomass, with Xiangjing 20-18 being more affected than Siyang 1382. With TCB stress degree strengthening, soluble protein content of Xiangjing 20-18 leaves and roots presented an increasing tendency, while that of Siyang 1382 leaves decreased significantly, and that of its roots decreased too under treatment of high TCB concentration. .2O producing velocity of leaves in two genotypes decreased firstly, then increased with increasing TCB concentration. That of Xiangjing 20-18 roots presented the same tendency, and significantly higher than the control at TCB≥0.6 mmol kg − 1, while that of Siyang 1382 roots had no significant difference with that of the control. SOD activity of Xiangjing 20-18 leaves increased, and that of roots increased significantly. After TCB≥0.2 mmol kg − 1, SOD activity of Xiangjing 20-18 leaves was significantly higher than that of the control, that of Siyang 1382 leaves and roots was not significantly different with that of the control. POD activity of Xiangjing 20-18 leaves increased firstly, then decreased, and that of roots was significantly higher than the control, while that of Siyang 1382 leaves and roots decreased significantly. CAT activity of Xiangjing 20-18 leaves was higher or significantly higher than that of the control, and

that of Siyang 1382 was contrary to the result of Xiangjing 20-18. MDA content of leaves decreased firstly, then increased, being significantly higher than that of the control at high TCB concentration, and that of roots increased significantly in two genotype. In conclusion, lower reduction of seedling biomass, high protein content of leaves and roots, the better active oxygen ’s elimination ability and lower MDA content in plants would be considered as the physiological traits in TCB-tolerant genotypes of rice.
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【第一作者】陈文军
【通讯作者】张国良
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【学科分类】农艺学

【题目】胁迫和对照条件下水稻品种铅积累的差异
【中文关键词】水稻;铅胁迫;铅积累
【英文关键词】rice(Oryza sativa L.) Pb stress Pb accumulation
【中文摘要】为选育籽粒中对Pb 低积累或低吸收水稻品种提供依据,本研究采用盆栽试验方法,比较了不同类型水稻品种及植株不同部位在胁迫和对照条件下对Pb 的吸收积累特性。结果表明,供试品种不同部位中Pb 含量的变异系数较高,变幅在18.34%~35.57%。不同部位中Pb 的含量差异明显,根系对Pb 具有较强的积累能力。胁迫条件下,根系中Pb 的平均含量为287.616 mg · kg-1,约是茎叶和糙米含量的58 倍和1 267 倍;对照条件下,根系中Pb 的平均含量为9.078 mg · kg-1,约是茎叶和糙米含量的3 倍和50倍;胁迫条件下根系中Pb 的含量是对照的36.34 倍,而茎叶和糙米分别是对照的1.65 倍和1.36 倍。不同品种对Pb 的积累能力存在显著差异,同一品种在胁迫与对照条件下对Pb 的含量也存在明显差异,其中,宁54146 对Pb 胁迫较敏感。相关分析表明,对照和胁迫条件下,植株不同部位中Pb 的含量均不存在相关性。
【英文摘要】To evaluate rice genotypes with low Pb uptaking and low Pb accumulation in grains, for breeding programme, Pb accumulation in different plant parts was tested in a pot experiment by using various types of rice cultivars under Pb stress and the control conditions. The results showed that Pb accumulation differed significantly in various plant parts, varied from 18.34% to 35.57%. The average accumulation of Pb in the roots was 287.616 mg · kg-1 under Pb stress, which was approximately 58 times and 1 267 times higher than that in the shoots and in the brown rice, respectively. Meanwhile, under the control conditions, the average Pb content in the roots was 9.078 mg · kg-1, 3 times and 50 times higher than that in the shoots and in the brown rice. It indicated that roots had good capacity of uptaking Pb under both Pb stress and the control. Under stress, on average, Pb amount in the roots, in the shoots and in the brown rice were 36.34 times, 1.65 times and 1.36 times higher than that in respective plant parts under the control. There was a significant difference in Pb accumulation among rice cultivars . Ning 54146 was sensitive to Pb stress. Pb accumulation in the roots, shoots and the brown rice was not significant correlated in both Pb stress and control conditions.
【语种】中文
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【学科分类】农艺学

【题目】降解菌S113对甲磺隆污染土壤生物修复作用的研究
【中文关键词】S113; 甲磺隆; 生物修复
【英文关键词】S113; Metsulfuron-methyl; Bioremediation
【中文摘要】在室内条件下, 研究了降解菌S113(Methylop ila sp1) 对甲磺隆污染土壤的修复作用。S113 能够以甲磺隆为唯一碳源生长, 72 h 对50 mg L- 1甲磺隆的降解率达98138%。投加降解菌S113 可显著提高土壤中甲磺隆的降解速率。当甲磺隆浓度为10 mg kg- 1干土, S113 接种量为108个g- 1土时, 第30 天土壤中甲磺隆降解率为7619%, 对照土壤中甲磺隆降解率仅为1119%。S113 降解甲磺隆的速率和接种量呈正相关, 当接种量减少为105 个g- 1干土时, 降解菌对甲磺隆的降解作用微弱。在土壤中甲磺隆浓度较低的条件下, S113 的降解效果显著, 而当土壤中甲磺隆浓度达到50 mg kg- 1时, 甲磺隆降解率仅为

3916%。S113 降解土壤中甲磺隆的最适温度为30e , 第30 天的降解率可达7519%。当温度为25 e 、20e 时, 第30 天甲磺隆降解率仅为531 5%和2319%。S113 菌剂灌根, 能不同程度地缓解土壤中浓度为40、80 Lg kg- 1的甲磺隆对玉米生长的抑制作用, 但当甲磺隆浓度增加到120 Lg kg- 1时, 接种S113 对药害解除作用不显著。结果表明, 人工接种降解菌S113, 能有效去除土壤中甲磺隆残留。

【英文摘要】Bioremediation of metsulfuron-methyl contamined soil with S113 (Methylopila sp1) was studied under laboratory conditions1 S113 was capable of utilizingmetsulfuron-methyl as its sole carbon source for growth and degrading 98138% of the 50 mg L- 1metsulfuron-methyl within 72 h1 Addit ion of S113 could prominently accelerate degrading of metsulfuron-methyl1 When S113 was inoculated into the soil at a rate of 108 cells g- 1 dry soil, 7619% of the metsulfuron-methyl (10 mg kg- 1dry soil) in the soil was degraded after 30 days, whereas only 1119% was degraded in CK. When inoculation rate decreased to 105 g- 1 dry soil, the action of S113 degrading metsulfuron-methyl in soil was not distinct, showing that degradation rate was related positively to the amount of inoculation, When metsulfuron-methyl was low in concentration, S113 was effective1 When the concentrat ion ofmetsulfuron-methyl was increased to 50 mg kg- 1, metsulfuron-methyl degradation rate was only 3916%1 Soil temperature also affected metsulfuron-methyl degradation rate1 When it was 30e , the rate reached 7519% in 30 days, whereas when it was 25e and 20e , the rate was lower to 5315% and 2319%, respectively1 Pouring S113 solution around the roots with S113 solution could mitigate the inhibitive effect of metsulfuron-methyl at 40 or 80 Lg kg- 1 on maize growth to a varying degree1 When the concentration of metsulfuron-methyl increased to 120 Lg kg- 1, the mitigating effectswere not distinct1 The findings suggest that art-ificial inoculation of S113 could effectively degrade metsulfuron-methyl in soil

【语种】中文

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【学科分类】微生物学

【题目】微生物菌群JSM004对微囊藻毒素的生物降解

【中文关键词】生物降解;微囊藻毒素;菌群;蓝藻

【英文关键词】biodegradation; mcirocystin; bacterial population; cyanobacteria

【中文摘要】以太湖水华蓝藻中提取纯化的微囊藻毒素(microcystins,MCs)作为微生物生长的碳源和氮源,从富营养化的太湖水体中分离筛选到MCs高效降解菌群JSM004,24h内可以将初始浓度分别为3.64和2.62mg · L^-1的MC—RR和MC—LR完全降解。在研究关于环境因子对JSM004降解效率的影响中,发现菌群JSM004的生长受温度和pH值影响较大,而且其对MCs的降解效率也随之变化。结果表明,在接近实际水体的中性和弱碱性环境中,JSM004对MCs的降解活性最强,加入不同含碳和含氮化合物能够促进混合微生物菌群的生长,但是对MCs的降解却有明显的延滞作用。与对照组相比,MCs被完全降解的时间至少推迟24h。在实验室条件下,JSM004可在72h内完全降解太湖水中高浓度的MCs。研究结果表明微囊藻毒素降解菌群JSM004具有良好的MCs降解效果,有实际应用前景。

【英文摘要】The indigenous mixed bacterial populations JSM004 were isolated from eutrophic waters of Lake Taihu by using the MCs extract from cyanobacteria of blooms as the sole carbon and nitrogen source. This isolate showed high MCs-degrading activity, which could completely degrade 3.64 mg/L of MC-RR and 2.62 mg/L of MC-LR within 24h. Subsequently, the effects of environmental factors on the MCs-degradation by JSM004 were investigated, and the results showed that both temperature and pH value could affect the growth of JSM004 as well as its MCs-degrading rate. It was demonstrated that JSM004 showed highest MCs-degrading activity in natural or slight alkali culture fluids. The addition of other carbon or nitrogen compounds could promote the growth of JSM004, but cause a prolonged lag phase more than 24h to completely degrade MCs as compared to the control group. Under the laboratory conditions, JSM004 could completely degrade high levels of MCs of lake water in 72h. In conclusion, JSM004 could be considered as one of the prospective candidates in the application of MCs removal because of its high efficiency of MCs-degradation.

【语种】中文

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【学科分类】农业基础学科

【题目】藻毒素对青菜生长的影响及其在幼苗体内的积累
【中文关键词】藻毒素;青菜;积累;抗氧化酶
【英文关键词】mcrocystins;Brassica chinensis L.;accumulation;antioxidant enzyme
【中文摘要】以青菜为材料,研究不同浓度藻毒素(MC)对其发芽、生长和抗氧化酶活性的影响,以及MC—LR和MC—RR在幼苗体内的积累。结果表明:随着MC浓度的升高,种子发芽率没有显著差异,但发芽势受到明显抑制。 与对照相比青菜幼苗的株高、根长、鲜重和干重均显著降低。MC对青菜幼苗体内抗氧化酶SOD、POD、CAT活性具有不同影响,高浓度MC对酶活性具有一定抑制作用。幼苗体内MC—LR和MC—RR积累含量随着MC处理浓度的升高而增加;但MC—LR和MC—RR的生物富集系数(BCF)随着MC浓度的增加而减小。结果显示MC可在青菜幼 苗体内积累,这可能产生潜在食品安全风险。
【英文摘要】Effects of different concentrations of microcystins(MC)on the growth and the activities of antioxidant enzymes in Chinese cabbage(Brassica.chinens L.)and the accumulation of MC—LR and MC-RR in seedlings were studied.The results showed that seedling height,root length,fresh weight and dry weight all significantly reduced,compared to contro1.The activities of antioxidant enzymes as SOD,POD and CAT were inhibited by higher concentrations of MC.With the concentration of microcystins increased,the contents of MC—LR and MC—RR accumulated in seedlings were increased,while the bioconcentration factor(BCF)were reduced.The results suggested that MC can be accumulated in Chinese cabbage seedlings,which had potential food safety risk.
【语种】中文
【第一作者】李慧明
【通讯作者】石志琦
【期刊名称、卷期、页码】江苏农业学报. 2009,25(3):680-684
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【引文索引号】null
【学科分类】农业基础学科

【题目】不同地力水平下施氮量对水稻淀粉RVA谱特征的影响
【中文关键词】水稻;施氮量;地力水平;淀粉黏滞性谱
【英文关键词】rice nitrogen rate soil fertility level starch viscosity profile
【中文摘要】以武香粳14和武粳15为材料,研究了不同地力水平下施氮量对稻米淀粉RVA谱特性的影响。结果表明: 1)两供试品种在高、中、低3种地力水平下,RVA谱曲线随施氮量的增加而降低。2)除个别指标外,地力水平、施氮量对RVA谱特征值的影响,均达到显著或极显著的差异。3)在RVA特征值中,热浆黏度、崩解值、最终黏度和回复值存在显著的地力与施氮量互作效应。4)峰值黏度、热浆黏度、崩解值、最终黏度、回复值、峰值黏度时间随施氮量的增加呈显著或极显著下降,每1 hm2追施氮量225 kg是稻米蒸煮食味品质变劣的临界施氮量。
【英文摘要】By using rice varieties Wuxiangjing 14 and Wujing 15 as materials, the effects of nitrogen application on RVA profile characters under different soil fertility levels were studied. The curves of RVA profile decreased with the increased nitrogen rate. Soil fertility level and nitrogen rate had remarkable effects on the RVA profile characteristic value except one or two characteristic values. The interactive effect of soil fertility level and nitrogen was remarkable on hot viscosity, break-down, cool viscosity, and consistence. With the increase of nitrogen rate, peak viscosity, hot viscosity, breakdown, cool viscosity, consistence and peak time decreased remarkably.The nitrogen rate of 225 kg/hm2was the critical on the cooking and eating quality of rice.
【语种】中文
【第一作者】刘艳阳
【通讯作者】张洪程
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【学科分类】园艺学

【题目】Genome-wide genetic dissection of germplasm resources and implications for breeding by design in soybean
【中文关键词】无
【英文关键词】soybean, Breeding by Design, germplasm resources, QTL mapping, type of QTL constitution, association mapping, germplasm genomics.
【中文摘要】无
【英文摘要】“ Breeding by Design ” as a concept described by Peleman and van der Voort aims to bring together superior alleles for all genes of agronomic importance from potential genetic resources. This might be achievable through high-resolution allele detection based on precise QTL (quantitative trait locus/loci) mapping of potential parental resources. The present paper reviews the works at the Chinese National Center for Soybean Improvement (NCSI) on exploration of QTL and their superior alleles of agronomic traits for genetic dissection of germplasm resources in soybeans towards practicing “ Breeding by Design ”. Among the major germplasm resources, i.e. released commercial cultivar (RC), farmers ’ landrace (LR) and annual wild soybean accession (WS), the RC was recognized as the primary potential adapted parental sources, with a great number of new alleles (45.9%) having emerged and accumulated during the 90 years ’ scientific breeding processes. A mapping strategy, i.e. a full model procedure (including additive (A), epistasis (AA), A × environment (E) and AA × E effects), scanning with QTLNetwork2.0 and followed by verification with other procedures, was suggested and used for the experimental data when the underlying genetic model was usually unknown. In total, 110 data sets of 81 agronomically important traits were analyzed for their QTL, with 14.5% of the data sets showing major QTL (contribution rate more than 10.0% for each QTL), 55.5% showing a few major QTL but more small QTL, and 30.0% having only small QTL. In addition to the detected QTL, the collective unmapped minor QTL sometimes accounted for more than 50% of the genetic variation in a number of traits. Integrated with linkage mapping, association mappings were conducted on germplasm populations and validated to be able to provide complete information on multiple QTL and their multiple alleles. Accordingly, the QTL and their alleles of agronomic traits for large samples of RC, LR and WS were identified and thenthe QTL-allele matrices were established. Based on which the parental materials can be chosen for complementary recombination among loci and alleles to make the crossing plans genetically optimized. This approach has provided a way towards breeding by design, but the accuracy will depend on the precision of the loci and allele matrices.
【语种】英文
【第一作者】陈磊
【通讯作者】盖钧镒
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【学科分类】农艺学

【题目】不同施氮水平下稻米品质对日间增温响应的差异
【中文关键词】稻米品质;穗肥;日间增温
【英文关键词】rice quality panicle nitrogen fertilizer high day-time temperature
【中文摘要】以武育粳3号为材料,设置低、中、高3个氮素穗肥处理,开放环境下使用加热器进行日间增温处理,研究灌浆结实期不同施氮水平下稻米品质对日间增温响应的差异。结果表明: 1)灌浆结实期日间增温使各氮肥处理精米率和整精米率下降,垩白粒率和垩白度增加,糙米率和子粒长宽比各氮肥处理变化不一,低氮和中氮处理糙米率和子粒长宽比减小,高氮处理则变大;加工品质和外观品质各指标变化幅度均以中氮处理最大,减少或增加氮肥施用量均可以有效地缓解高温对稻米加工品质和外观品质的负面效应,尤以增施氮肥效果较佳。2)增温条件下,减少和增加氮肥施用量均能降低稻米直链淀粉含量,其中增施氮肥降低幅度较大;增温后各氮肥处理蛋白含量均增加,增加幅度与施氮量呈负相关关系,高温高氮处理直链淀粉含量最低,蛋白含量最高。3)增温后各穗肥处理结实率和千粒重均下降,以中氮处理下降最显著;减少和增加穗氮施用量均能有效地缓解高温对水稻产量的影响,其中也以增施氮肥相对较好。综上所述,适当地增加氮肥施用量能较有效地缓解高温对稻米品质和产量的负面影响。
【英文摘要】Effect of high day-time temperature (HDT) on rice quality under different panicle nitrogen levelswas investigated using japonica rice(Oryza sativacv. Wuyujing 3). There was significant difference in the effect of HDT among different nitrogen levels.

HDTresulted in decreasedmilling quality, milled rice rate and head rice rate. Amongthe nitrogen treatments, effect of medium nitrogen treatment was largest, followed by lowand high nitrogen treatment. For appearance quality, medium nitrogen treatment also exhibited the largest effect, while low nitrogen treatment showed the least. Grain chalkiness rate and grain chalkiness increased in all nitrogen treatments. Low and medium nitrogen treatments had lower brown rice rate and grain length towidth ratio, but high nitrogen treatment had higher ones. Grain protein content increased with HDT regardless of nitrogen treatment. By contrast, the influence of HDT on amylose content varied with nitrogen treatments. Medium nitrogen treatment had higher amylose contentwhereas low and high nitrogen treatments had lower one. In addition, filled grain rate and grain weight was declined in all nitrogen treatments under HDT, with medium treatment having the lowest values. We concluded that suitable N application could effectively alleviate the negative impact of high temperature on the rice quality and yield.

【语种】中文
【第一作者】戴云云
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【学科分类】农艺学

【题目】水稻休眠分蘖芽萌发过程中内源激素水平的变化
【中文关键词】水稻;分蘖芽;萌发;休眠;内源激素
【英文关键词】Rice Tillering bud Sprout Dormancy Phytohormone
【中文摘要】以 2 个籼稻品种 II 优航 1 号、扬稻 6 号为材料, 研究了齐穗后去除顶穗和保留顶穗对倒 2 节间叶腋内休眠分蘖芽(倒 2 芽)的生长动态及倒 2 芽、倒 2 芽着生节(倒 2 节)中内源激素(IAA、Z+ZR、ABA)含量的影响。结果表明, 去除顶穗后, 倒 2 芽休眠解除, 开始萌发生长。在去除顶穗后 1 d 内, 倒 2 节中吲哚-3-乙酸(IAA)水平、倒 2 芽中脱落酸(ABA)水平迅速下降, 其后 2 种激素含量基本保持稳定, 而留穗处理这 2 种激素含量变化不大。去除顶穗后, 倒 2 节和倒 2 芽中玉米素+玉米素核苷(Z+ZR)含量均持续升高, 与留穗处理间的差异不断扩大, 其变化动态与倒 2 芽生长动态相一致。而 2 个处理间倒 2 节中 ABA 水平、倒 2 芽中 IAA 水平相差不大。分蘖芽的萌发生长是多种激素共同作用的结果, 芽中较低的 ABA/(Z+ZR)值、节中较低的 IAA/(Z+ZR)值有利于分蘖芽的生长, 其值较高抑制分蘖芽生长。
【英文摘要】Tiller number is a major factor affecting rice grain yield. The endogenous hormone has substantial regulative effect on tillering of rice. However, little is known on the hormonal changes in releasing tillering bud. In this study, two indica rice cultivars were used with two treatments, removing panicle and retaining panicle, to investigate the pattern of hormonal changes during the period of dormant tillering bud sprouting. The result showed that the dormant tillering bud released and grew quickly after panicle removing. One day after removing panicle, the level of IAA in node and level of ABA in tillering bud decreased significantly, then the contents of these two hormones maintained at a constant level. The contents of Z+ZR in both node and bud increased significantly in panicle removing treatment. However, the content of IAA in the bud and the content of ABA in the node showed no significant difference between the two treatments. Further, the results showed that the ratio of hormones rather than a single hormone has the larger impact on tillering bud growth, with lower values of ABA/(Z+ZR) in bud and IAA/(Z+ZR) ratio in node showing beneficial effect whereas higher values of the two ratios demonstrating deleterious effect on tillering bud growth.
【语种】中文
【第一作者】刘 杨
【通讯作者】王绍华
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【题目】外源一氧化氮缓解微囊藻毒素对青菜幼苗的毒害效应
【中文关键词】一氧化氮;微囊藻毒素;MCs;青菜幼苗;氧化胁迫

【英文关键词】Nitric oxide; Microcystins; MCs; Chinese cabbage seedling; Oxidative stress
【中文摘要】微囊藻毒素(MCs)能够诱导青菜幼苗产生氧化损伤,并进一步抑制青菜幼苗的生长。相比较于单独MCs处理,外源一氧化氮(供体为SNP)预处理能够显著降低青菜幼苗体内活性氧(ROS)水平、减缓脂质过氧化反应,从而在一定程度上缓解了MCs胁迫对青菜幼苗生长的抑制效应。这说明一氧化氮可能作为信号参与了青菜幼苗对MCs的解毒反应。
【英文摘要】Microcystins (MCs) caused severe oxidative damage and growth inhibition of Chinese cabbage seedling. As compared to MCs treatment, exogenous nitic oxide donor SNP alleviated the growth inhibition of Chinese cabbage seedling caused by MCs stress by significantly decreasing the level of reactive oxygen (ROS) as well as the concentration of TBARS that was considered to be an indicator of lipid peroxidation of plasma membrane. These results suggested that nitric oxide might be involved in the antioxidative stress in Chinese cabbage seedling under MCs exposure.
【语种】中文
【第一作者】陈健
【通讯作者】石志琦
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【题目】穗肥施量对水稻植株形态、群体生态及穗叶温度的影响
【中文关键词】水稻;穗肥;形态;群体生态;穗叶温度
【英文关键词】Rice Panicle fertilizer Morphological Microclimate Temperature of panicle and leaf
【中文摘要】以 2 个籼、粳稻品种为材料, 设置高、中、低 3 个穗肥处理, 以空白为对照, 构建不同的群体结构, 研究穗肥施量对植株形态和群体生态及穗叶温度的影响。结果表明, 穗肥施量对穗长、穗弯曲度、叶长和叶角有明显影响; 不同穗肥处理群体内部温度、湿度、光照强度和 CO2浓度等微气象因子具有一定差异, 中肥处理具有良好的群体微气象环境; 此外, 中肥处理群体具有适宜的 LAI、净光合速率和蒸腾速率, 冠层温度较低; 施肥水平显著影响植株器官的温度, 穗叶的温度随穗肥施量的增加而降低, 中肥与高肥处理植株穗叶的温度差异不显著, 但与低肥和空白处理差异显著。研究结果说明通过优化田间管理如合理的施肥来构建良好的群体, 对降低植株穗叶和冠层温度以提高水稻抗热害能力效果显著。
【英文摘要】Using two japonica and indica rice cultivars with three panicle fertilizer application rate treatments and a control, different populations of rice were constructed, and the effect of panicle fertilizer application rate (PFAR) on morphological, ecological characteristics and organ temperature of rice were studied. The results showed that PFAR had a significant effect on length of panicle, panicle camber, length of leaf and leaf angle. It was also observed that air temperature, humidity, light intensity and content of CO2were also affected by different PFAR treatments, medium PFAR was proved to be best for microclimate within rice population. Besides, there were felicitous leaf area index, length of second leaf, photosynthetic rate, transpiration and lower canopy temperature at medium PFAR. The temperature of plant organs was significantly affected by PFAR, the more the PFAR, the lower the temperature of panicle and leaf. The organ temperature was significantly different at the 0.05 level between medium PFAR and lower PFAR, control treatments, while not significantly between medium PFAR and higher PFAR. This study clearly showed that appropriate agronomic practices, such as PFAR, have a significant effect on the temperature of plant organs and canopy, and also enhance the resistance to heat stress.
【语种】中文
【第一作者】闫 川
【通讯作者】王绍华
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【学科分类】农艺学

【题目】氮素和6-BA对水稻分蘖芽发育的影响及其生理机制
【中文关键词】水稻;分蘖芽;发育;氮素;6-BA
【英文关键词】Rice Tillering bud Development Nitrogen 6-BA

【中文摘要】以扬稻 6 号、南粳 44 为材料, 研究了氮素和 6-BA 对水稻分蘖芽萌发的影响及分蘖芽萌发过程中碳氮代谢和细胞分裂素含量的变化。结果表明, 氮素和 6-BA 都能促进分蘖芽的萌发, 但二者维持分蘖芽进一步生长的能力存在明显差异, 氮素能够促进分蘖芽持续生长, 而 6-BA 是无法维持分蘖芽的持续生长。氮素和 6-BA 均提高了分蘖节中细胞分裂素(Z+ZR 和 iP+iPR)含量及叶、根中硝酸还原酶(NR)活性, 但 6-BA 处理无法提高水稻植株体内可溶性蛋白含量及氮素和非结构性碳水化合物的积累, 使水稻植株体内营养物质积累不足。这说明, 氮素和细胞分裂素通过内源激素平衡和碳氮代谢两条生理途径调控分蘖发生。

【英文摘要】Tiller number is a major factor affecting rice yield, nitrogen and cytokinin have substantial regulative effect on tillering of rice. However, little is known on the mechanism of nitrogen and cytokinin regulating tillering bud growth and on the relationship of them during this process. In this study, two rice cultivars (Yangdao 6 and Nanjing 44) were used to investigate the effect of nitrogen and cytokinin on the regulation in tillering bud growth and the changes of nitrogen, carbon and cytokinins in plant during this process. The results showed that both nitrogen and cytokinin promoted the germination of tillering bud, but there was a significant difference in the effect of them on the subsequent outgrowth, nitrogen promoted both germination and outgrowth of tillering bud, however, cytokinin only promoted tillering bud ’s germination. Both nitrogen and 6-BA significantly increased cytokinin (Z+ZR and iP+iPR) content in tillering node and promoted activity of nitrate reductase (NRA) in leaf and root, but 6-BA couldn ’t significantly increase the content of soluble protein, nitrogen and non structural carbohydrate (NSC) in plant. In conclusion, nitrogen and 6-BA may regulate tiller production by two approaches, one is the promotion of endogenous hormones balance and the other is the controlling of carbon and nitrogen metabolism.

【语种】中文

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【学科分类】农艺学

【题目】钾对不同类型水稻氮素吸收利用的影响

【中文关键词】水稻;施钾量;氮素吸收;氮素利用率

【英文关键词】Rice Potassium application rates Nitrogen absorption Nitrogen use efficiency

【中文摘要】以常规粳稻武运粳 7 号、武香粳 14 和杂交粳稻 86 优 8 号、泗优 422 为材料, 研究了钾对水稻氮素吸收、分配和利用的影响。结果表明, 钾对水稻有明显增产效应, 增产率 4.56%~14.77%; 钾提高了水稻不同生育阶段植株吸氮量, 以拔节期到抽穗期氮素积累增量最大, 但吸氮比例下降; 钾促进了抽穗后氮素转运量和转运率, 提高了氮素在不同器官分配量及叶片、穗分配比例, 但降低了茎鞘分配比例; 钾增强了植株对肥料氮吸收, 基肥氮素利用率、全生育期氮素利用率和氮素收获指数显著增长, 但降低了植株氮生产效率; 以 180 kg hm − 2K2O 处理产量最高, 氮素积累量、转运量和转运率以及不同器官分配量最大, 基肥氮素利用效率、植株对肥料氮吸收量和全生育期氮素利用率最大, 但拔节期到抽穗期氮素吸收比例、茎鞘氮素分配比例和植株氮生产效率最低; 常规粳稻产量高于杂交粳稻,其氮素利用率相对较大。

【英文摘要】Potassium, nitrogen and their interaction play important roles in plant growth, development and yield of rice. Appropriate potassium can stimulate nitrogen accumulation and translocation in rice. In order to identify plant nitrogen absorption, distribution and utilization characteristics of rice under potassium supply, a field experiment was conducted with four potassium rates (0, 90, 180, 270 kg ha − 1 K2O) using conventional japonica cultivars (Wuyunjing 7 and Wuxiangjing 14) and hybrid japonica cultivars (86 you 8, Siyou 422) from 2004 to 2005 on Experimental Farm of Nanjing Agricultural University, Jiangsu province,China. Potassium application increased rice yield (4.56 − 14.77%) and nitrogen accumulation during growth stages, with the maximum from elongation stage to heading stage, but nitrogen uptake ratio decreased. Potassium application enhanced nitrogen transport amount and percentage after anthesis, as well as nitrogen accumulation in different rice organs, nitrogen distribution percentage in leaves and panicles, whereas declined nitrogen distribution percentage in culm and sheath.

【语种】中文

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【学科分类】农艺学

【题目】微囊藻毒素多克隆抗体的纯化及F(ab＇)2片段的制备
【中文关键词】多克隆抗体;木瓜蛋白酶;离子交换色谱;F(ab')2片段
【英文关键词】polyclonal—antibody;papain;ion—exchange chromatography;F(ab')2 fragmen
【中文摘要】为制备微囊藻毒素(MCYST—LR)多克隆抗体F(ab) 片段的方法。采用Protein G亲和柱纯化微囊藻毒素多克隆抗体,经木瓜蛋白酶在温和条件下酶切抗体,利用DEAE-52离子交换树脂柱分离抗体酶切片段,获得F(ab) 片段。SDS—PAGE分析表明,MCYST—LR多克隆抗体得到有效纯化,木瓜蛋白酶酶切后出现明显F(ab),片段的对应谱带;利用紫外分光光度计法测得F(ab) 片段的产率为30.6%。采用木瓜蛋白酶法成功制备了MCYST—LR多克隆抗体的F(ab)2片段。
【英文摘要】The polyantibodies against microcystin—LR were purified using afinity chromatography with Protein G.The purified polyclonal antibodies were digested by papain under mild conditions.The antibody fragments were separated by DEAE-52 ion—exchange chromatography to retrieve the F(ab')2 fragments.The SDS—PAGE results showed that the microcystin—LR polyclonal antibodies effectively purified by using Protein G afinity chromatography released the F(ab＇)2 fragments from papain—digested microcystin—LR polyclonal antibodies.The yield rate of F(ab＇)2 fragments was 30.6%by uV—spectrophotometer.F(ab＇)2 fragments of polyclonal antibodies against MCYST—LR were produced successfully by papain enzymolysis method.
【语种】中文
【第一作者】纪炜
【通讯作者】刘贤进
【期刊名称、卷期、页码】江苏农业学报,2010,26(3):641-644
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【题目】GmFtsH9 expression correlates with in vivo photosystem II function: chlorophyll a fl uorescence transient analysis and eQTL mapping in soybean
【中文关键词】无
【英文关键词】Chlorophyll a fl uorescence transient parameters;Expression quantitative trait loci (eQTLs); FtsH protease;JIP-test Soybean
【中文摘要】无
【英文摘要】Filamentation temperature-sensitive H (FtsH) is an ATP-dependent zinc metalloprotease involved indiverse biological functions. There are 12 FtsH proteins in Arabidopsis, among which AtFtsH2 plays an important role in regulating the turnover of photosystem II (PSII) reaction center D1 protein and the development of the photosynthetic apparatus. Here, we have identi fi ed 11 FtsH genes in the soybean genome by a bioinformatics approach. These soybean FtsH genes corresponded to seven Arabidopsis FtsH genes, suggesting that the main characteristics of soybean FtsH genes were formed before the evolutionary split of soybean and Arabidopsis. Phylogenetic analyses allowed us to clone a soybean AtFtsH2-like gene designated as GmFtsH9. The predicted protein of GmFtsH9 consists of 690 amino acids and contains three typical FtsH proteins conserved domains. The expression level of GmFtsH9 was determined in a soybean recombinant inbred line population under a pot experiment conducted for measuring chlorophyll a fl uorescence transient parameters, photosynthetic CO2 fi xation rate (PN), and seed yield. Expression quantitative trait loci (eQTL) mapping revealed two trans-acting eQTLs for GmFtsH9. The signi fi cant correlation of gene expression level with chlorophyll a fl uorescence transient parameters and the presence of overlapping eQTL (QTL) between gene expression level and chlorophyll a fl uorescence transient parameters indicated that GmFtsH9 could be involved in regulating PSII function. These results further lead to the understanding of the mechanism underlying FtsH gene expression, and contribute to the development of marker-assisted selection breeding programs for modulating soybean FtsH gene expression.
【语种】英文
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【通讯作者】喻德跃
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【学科分类】农艺学

【题目】微囊藻毒素降解菌EMB分离鉴定及其降解特性研究
【中文关键词】微囊藻毒素;芽孢杆菌;生物降解;16S rDNA
【英文关键词】microcystin;Bacillus;biodegradation;16S rDNA
【中文摘要】以藻毒素提取液作为唯一碳源和氮源,从太湖蓝藻堆积点底泥中分离筛选高效微囊藻毒素降解菌。结果表明:经过驯化筛选得到1株高效降解菌EMB。在培养温度30℃、pH值为7时其降解毒素效率最高,培养2l h内可将初始浓度为2.99 mg/L和2.15 mg/L的MC—RR和MC—LR完全降解,此外菌株EMB可以将太湖水华样品中的MC—RR和MC—LR在2周内降解到安全饮用水标准范围内。形态、生理特性和16 S rDNA序列分析表明,菌株EMB属于芽孢杆菌属(Bacillus.sp.),与已报道的B.subtilis B—FS06在进化树上距离最近。
【英文摘要】A microcystins—degrading strain was isolated from activated mud of blue—green algae stacking pot of Taihu Lake through acclimatization with microcystins(MCs)extract from algae powder as sole carbon and nitrogen sources.The strain EMB performed the most eficient MCs—biodegradation when incubated at 30°Cand pH 7.0.2.99 mg/L MC—RR and 2.15 mg/L MC—LR were completely degraded by strain EMB within 21 h.Additionally,the concentrations of MC—RR and MC—LR in the water bloom sample from the Taihu Lake decreased to the standard of safe drinking water by applying strain EMB for 2 weeks.The strain EMB was identified as Bacillus sp.which was the closest to the B.subtilis B—FS06 in the phylogenic tree by morphological and physiological properties and 16S rDNA sequence analysis.
【语种】中文
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【通讯作者】石志琦
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【题目】烟叶中高效氯氟氰菊酯残留半定量ELISA筛选方法的建立
【中文关键词】烟叶;氯氟氰菊酯;半定量;ELISA
【英文关键词】tobacco;lambda—cyhalothrin;semi—quantification;enzyme linked immunosorbent assay(EL1SA)
【中文摘要】烟草中农药残留是烟叶品质和出口检验的重要指标。本文以高效氯氟氰菊酯为研究对象,分别在烟叶基质和PBS 缓冲液中建立高效氯氟氰菊酯的ELISA 检测标准曲线。并在线性检测范围内,连续3 天、添加3 个水平的高效氯氟氰菊酯,以此研究烟叶基质对 ELISA 检测的影响。获得的烟叶基质和缓冲液中高效氯氟氰菊酯的回收率分别在94%-157%, 87%-118% ,变异系数分别是 6.8%-22.1%,3.5%-6.6%。结果表明烟叶基质对ELISA 检测干扰较大,在前处理不做净化的条件下,定位为高效氯氟氰菊酯的半定量筛选检测较为合理。试验以空白烟叶添加适当浓度的高效氯氟氰菊酯(如设定的超标限量)为对照,间接竞争ELISA法检测待测样品,制定了结果判断标准,建立了烟叶中高效氯氟氰菊酯的半定量ELISA 筛选方法。对50个高效氯氟氰菊酯施药后的烤烟烟叶同时采用ELISA 和气相色谱法(GC)分析,ELISA 法检测样本超标检出率为34% ,GC法仪器法检出率为22% 。 以GC法为参照,ELISA 法假阳性率为12% ,假阴性率为 0 ,结果表明该方法可以作为大量烟叶样本中的高效氯氟氰菊酯快速筛查使用。
【英文摘要】Pesticides residue is an important quality targets for tobacco. In this article, we have established the ELISA method for lambda-cyhalothrin in tobacco matrix and PBS respectively. To determine the matrix effect to the detection, three different levels concentrations of lam bda-cyhalothrin were spiked into the samples. The overall recoveries for tobacco and PBS were in the range of 94%~157% and 78%~118%, and the coefficients of variation (CVs %) are 6.8-22.1 ,3.5-6.6 respectively. It could be concluded that tobacco matrix has a large influence to the ELISA method, if the samples we re detected without pretreatment, it appeared to be mo re suitable that the ELISA method were performed as semi-quantitative method. We also used the drug-free tobacco spiked with certain concentration lambda-cyhalothrin as the control of over standard and formulated the standard of ELISA result determination. Fifty

tobacco samples were detected by the ELISA and gas chromatography (GC) method; the rates of over standard by ELISA and GC are 34% and 22%. Comparing with GC method, the rate of false positive for ELISA method was 12% and fasle negtive was 0. It is demonstrated that this semi-quantification ELISA method could be used the fast screening for lambda-cyhalothrin in tobacco.
【语种】中文
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【题目】Multiple quantitative trait loci Haseman-Elston regression using all markers on the entire genome
【中文关键词】Haseman – Elston回归,数量性状基因座,标注,基因组
【英文关键词】Haseman – Elston regression,quantitative-trait-loci, markers,genome
【中文摘要】在20世纪70年代开发的Haseman – Elston(HE)回归仍然在普遍使用的检测基因之间的联系一个定量性状和遗传标记,尽管该技术已被多种方式改善,预计较高的误报率积极的数量性状基因座(QTL),因为它是基于一个单一的QTL模型。我们已经扩展的起源HE回归到多QTL他(MQHE)的回归,所以在整个基因组中的所有标记,同时可以利用。参数已被惩罚的最大似然法估计的,并已为了优化程序相比几个响应变量的表型差异。该方法已经过测试,通过模拟已知的祖先的血统人口玉米自交系。这些仿真结果表明,特质产品是最佳的响应变量的表型差异。产生的假阳性率由MQHE回归基本上是低于所产生的任一方差分量分析或原点何回归。 MQHE回归,与性状产品作为响应变量,对现有方法的一组已知的祖先的自交系(或品种)QTL作图表示一个显着的改善。
【英文摘要】The Haseman – Elston (HE) regression, developed in the 1970s, remains in common use to detect genetic linkage between a quantitative trait and a genetic marker.Although the technique has been improved in a number of ways, it predicts a high rate of false positive quantitative trait locus (QTL) because it is based on a single-QTL model. We have extended the origin HE regression to multi-QTL HE (MQHE) regression, so that all markers across the entire genome can be exploited simultaneously. The parameters have been estimated by the penalized maximum likelihood method, and several response variables for phenotypic difference have been compared in order to optimize the procedure. The method has been tested by simulation in a pedigree population of maize inbred lines of known ancestry. These simulations show that the trait product is the optimal response variable for phenotypic difference. The false positive rate produced by the MQHE regression is substantially lower than that generated by either variance component analysis or the origin HE regression. The MQHE regression, with the trait product as the response variable, represents a significant improvement on existing methods for QTL mapping in a set of inbred lines (or cultivars) of known ancestry.
【语种】英文
【第一作者】Yuan-Ming Zhang
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【学科分类】分子生物学

【题目】Multiple loci in silico mapping in inbred lines
【中文关键词】电子定位;连锁不平衡;惩罚最大似然相似性;假阳性率
【英文关键词】in silico mapping; linkage disequilibrium; penalized maximum likelihood; identity-by-state; false-positive rate
【中文摘要】玉米自交系种质资源新基因的发现,在电子定位技术(ISM)及其延伸的重大进展。然而,从一个比较高的假阳性率(FPR)技术受到他们不考虑解决已确定的数量性状位点(QTL)的连锁不平衡(LD)标记的效果。此外,它尚未被确定它是否是最优的使用绝对性状作为响应变量差异。为了解决这些问题,本文提出的多个位点ISM(MLISM)的方法,它使用的整个基因组的所有标志,伴随着被处罚的最大似然。这里提出的方法进行了验证与玉米自交系的已知祖先的血统人口由一系列的仿真实验。模拟研究的结果表明,最好的响应变量是特征的产品。 MLISM FPR大幅减少和虚假QTL的LD的数目的数目的比例围绕所识别的QTL的标记物是充分降低。 MLISM方法,产品作为响应变量的特征,是自交系种质资源的新的

QTL定位在对现有方法的改进。
【英文摘要】The in silico mapping (ISM) technique and its extension represent major advances for novel gene discovery in germplasm resources of inbred lines. However, the techniques suffer from a relatively high false-positive rate(FPR) and they do not consider the effect of linkage disequilibrium (LD) markers around the identified quantitative trait locus (QTL). In addition, it has not yet been established whether it is optimal to use absolute trait differences as the response variable. To address these problems, this article presents the multiple loci ISM (MLISM) approach, which uses all markers on the entire genome, along with a penalized maximum likelihood. The method proposed here was verified by a series of simulation experiments with a maize pedigree population of inbred lines of known ancestry. Results from the simulated studies show that the best response variable is the trait product. The MLISM FPR is substantially decreased and the proportion of the number of false QTL to the number of LD markers around the identified QTL is adequately reduced. The MLISM method, with the trait product as the response variable, is an improvement on the existing methods for novel QTL mapping in germplasm resources of inbred lines.
【语种】英文
【第一作者】H-Y Lu
【通讯作者】Yuan-Ming Zhang
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【题目】Mapping epistatic quantitative trait loci underlying endosperm traits using all markers on the entire genome in a random hybridization design
【中文关键词】胚乳性状;上位,惩罚最大似然法;数量性状位点;三倍体遗传
【英文关键词】endosperm trait; epistasis; penalized maximum likelihood method; quantitative trait loci; triploid inheritance
【中文摘要】三倍体胚乳其营养品质是有重大的经济意义,位图胚乳性状位点(ETL)可以提供一种有效的方法对转基因提高粮食品质.但是最三倍体的ETL映射方法不产生两个主要的影响ETL的无偏估计。一个随机杂交的设计是一种替代方法,也可以使用来克服这个问题。然而,的上位性具有重要的作用在复杂性状的遗传结构的解剖。因此,在这项研究中,试图在随机交配设计的胚乳性状三倍体遗传模型的上位性ETL(eETL)的映射下。胚乳性状是指的随机混合动力线,连同已知的标记基因型信息其相应的亲F2植物,被用来估算,高效和不带偏见的位置和所有的使用惩罚最大似然法的影响eETL。的方法,在这篇文章中提出了一系列的Monte Carlo模拟实验验证。模拟研究的结果表明,该方法提供了准确的估计的eETL参数与低的假阳性率和相对短的运行时间。这种新的方法,使我们能以同样的方式作为二倍体数量性状三倍体eETL映射。
【英文摘要】Triploid endosperm is of great economic importance owing to its nutritious quality. Mapping endosperm trait loci (ETL) can provide an efficient way to genetically improve grain quality.However, most triploid ETL mapping methods do not produce unbiased estimates of the two dominant effects of ETL. A random hybridization design is an alternative method that may be used to overcome this problem. However, epistasis has an important role in the dissection of genetic architecture for complex traits. In this study, therefore, an attempt was made to map epistatic ETL (eETL) under a triploid genetic model of endosperm traits in a random hybridization design. The endosperm trait means of random hybrid lines, together with known marker genotype information from their corresponding parental F2 plants, were used to estimate, efficiently and without bias, the positions and all of the effects of eETL using a penalized maximum likelihood method. The method proposed in this article was verified by a series of Monte Carlo simulation experiments. Results from the simulated studies show that the proposed method provides accurate estimates of eETL parameters with a low false-positive rate and a relatively short running time. This new method enables us to map triploid eETL in the same way as diploid quantitative traits.
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【第一作者】X-H He
【通讯作者】Yuan-Ming Zhang
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【学科分类】分子生物学

【题目】Methodologies for segregation analysis and QTL mapping in plants
【中文关键词】贝叶斯分析,同源性,性状性,芯片定位,惩罚最大似然法,数量性状定位
【英文关键词】Bayesian analysis,Identity-by-descent,Identity-by-state,In silico mapping, Penalized maximum likelihood,Quantitative trait locus
【中文摘要】大多数生物学和经济上的重要性是数量性状。为了发现数量性状的遗传结构,有两种方法已成为在中国的普及。一个是建立一个分析模型的混合主要基因+多基因遗传和数量性状位点(QTL)的发现。在这里,我们回顾我们的进步,采用这两种方法。首先,我们提出了联合分离分析的多代混合主基因+多基因遗传。其次,我们扩展了多位 Lander and Green (1987), Jiang and Zeng (1997)的方法更广义的方法。我们的方法处理扭曲,显性及缺失的标记,包括链接的偏分离位点上的地图距离的估计效果。最后,我们开发了数个QTL作图方法。在Bayesian压缩估计方法(BSE),我们建议的方法来测试的QTL效应的意义和研究的QTL定位QTL效应的方差的先验分布的效果。为了减少运行时间,被处罚的最大似然法获得通过。为了挖掘新基因作物玉米自交系正常的作物育种工作的过程中产生的三种方法进行了介绍。如果有据可查的家谱历史上的线索是可用的,两个阶段的方差成分分析和多QTL的Haseman埃尔斯顿回归的建议,如果不可用,在电子定位,提出了多个位点。
【英文摘要】Most characters of biological interest and economic importance are quantitative traits. To uncover the genetic architecture of quantitative traits, two approaches have become popular in China. One is the establishment of an analytical model for mixed major-gene plus polygenes inheritance and the other the discovery of quantitative trait locus (QTL). Here we review our progress employing these two approaches. First, we proposed joint segregation analysis of multiple generations for mixed major-gene plus polygenes inheritance. Second, we extended the multilocus method of Lander and Green (1987), Jiang and Zeng (1997) to a more generalized approach. Our methodology handles distorted, dominant and missing markers, including the effect of linked segregation distortion loci on the estimation of map distance. Finally, we developed several QTL mapping methods. In the Bayesian shrinkage estimation(BSE) method, we suggested a method to test the significance of QTL effects and studied the effect of the prior distribution of the variance of QTL effect on QTL mapping. To reduce running time, a penalized maximum likelihood method was adopted. To mine novel genes in crop inbred lines generated in the course of normal crop breeding work, three methods were introduced. If a welldocumented genealogical history of the lines is available, two-stage variance component analysis and multi-QTL Haseman-Elston regression were suggested; if unavailable, multiple loci in silico mapping was proposed.
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【学科分类】分子生物学

【题目】Using three overlapped RILs to dissect genetically clustered QTL for Wber strength on Chro.D8 in Upland cotton
【中文关键词】QTL, Wber 强度,染色体D8,陆地棉
【英文关键词】QTL, Wber strength,Chro.D8,Upland cotton
【中文摘要】在不断变化的纺纱技术中纤维强度是棉花Wber质量的一个重要特征。QTL为Wber质量,分子标记辅助选择(MAS)eVectively改善Wber品质棉花品种。我们以前identiWed的主效QTL来自7235陆地棉Wber强度。以WNE-的地图Wber强度QTL,在本研究中,我们选择了三个重组自交系(RIL),7TR-133,7TR-132,和7TR-214,7235和TM-1回交之间的交叉发展TM-1开发三个大的作图群体。为Wber强度性状的表型数据收集在南京(JES/ NAU)和新疆(BES / XJ)在2006年和2007年。使用这三个回交群体构建了三个简单的重复序列(SSR)遗传连锁的地图上Chro.24(D8)。 SSR遗传图谱构建了907个人(7TR-133英镑的TM-1)F2(流行),670(7TR-132英镑的TM-1)F2(流行B),940(7TR-214英镑TM-1)F2(流行乐C)。 SSR位点之间的平均距离为0.62,1.7,和0.56 cM的三个地图。 MapQTL软件检测WVE-聚集的QTL(2.5<LOD<29.8)Chro.D8的Wber强度分析后的3个RIL回交F2/F2:3后代在JES/ NAU和ES/ XJ2年以上的。五QTL为Wber强度总表型变异(PV)的28.8-59.6%。
【英文摘要】Fiber strength is an important trait among cotton Wber qualities due to ongoing changes in spinning technology. Major quantitative trait loci (QTL) for Wber quality enable molecular marker-assisted selection(MAS) to eVectively improve Wber quality of cotton cultivars. We previously identiWed a major QTL for Wber strength derived from 7235 in Upland cotton. In the present study, in order to Wne-map Wber strength QTL, we chose three recombinant inbred lines (RIL), 7TR-133,7TR-132, and 7TR-214, developed

from a cross between 7235 and TM-1 for backcrossing to TM-1 to develop three large mapping populations. Phenotypic data for Wber strength traits were collected in Nanjing (JES/NAU) and Xinjiang (BES/XJ) in 2006 and 2007. Three simple sequence repeat (SSR) genetic linkage maps on Chro.24(D8) were constructed using these three backcrossed populations. The SSR genetic maps were constructed using 907 individuals in (7TR-133 £ TM-1)F2 (Pop A), 670 in (7TR-132 £ TM-1)F2 (Pop B), and 940 in (7TR-214 £ TM-1)F2 (Pop C). The average distance between SSR loci was 0.62, 1.7, and 0.56 cM for the three maps. MapQTL 5 software detected Wve-clustered QTL (2.5 < LOD < 29.8) on Chro.D8 for Wber strength following analysis of three RIL backcrossed F2/F2:3 progenies at JES/NAU and ES/XJ over 2 years. Five QTL for Wber strength exhibited a total phenotypic variance (PV) of 28.8 – 59.6%.

【语种】英文

【第一作者】Hong Chen

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【学科分类】分子生物学

【题目】QTL mapping of agronomic and fiber traits based on a four-way cross population in Gossypium hirsutum L.

【中文关键词】QTL定位 四倍体 陆地棉 纤维品质性状

【英文关键词】QTL mapping, four-way cross population, Gossypium hirsutum L.,fiber traits

【中文摘要】四陪体(4WC),涉及4个不同的自交系经常出现在棉花育种计划。然而,连锁分析和分子标记技术在棉花数量性状位点(QTL)的映射已经在很大程度上被应用到从两岸之间的两个近交系群体,和QTL解剖的结果进行4WC人口在。在这项研究中,试图建立一个遗传连锁图谱,并确定产量和纤维品质性状的QTL来自四个不同的自交系陆地棉的连锁图谱,构建了285个SSR标记和一个形态轨迹,覆盖在4WC 2113.3 cM的,约42%的棉花基因组的总的复合长度。一共有31 QTL5.1-25.8%的表型变异解释进行检测。 24个QTL在不同环境表现出较高的稳定性,6 QTL特定环境下的。几个影响多个性状的基因组片段进行了鉴定。使用4WC的QTL定位的优点进行了讨论。本研究提出的第一个例子QTL定位4WC人口陆地棉使用。这里给出的结果将产量和纤维品质性状的遗传基础,提高认识,使更多的分子标记辅助选择陆地棉品种人群中。

【英文摘要】Four-way cross (4WC) involving four different inbred lines frequently appears in the cotton breeding programs. However, linkage analysis and quantitative trait loci(QTL) mapping with molecular markers in cotton has largely been applied to populations derived from a cross between two inbred lines, and few results of QTL dissection were conducted in a 4WC population. In this study, an attempt was made to construct a linkage map and identify QTL for yield and fiber quality traits in 4WC derived from four different inbred lines in Gossypium hirsutum L. A linkage map was constructed with 285 SSR loci and one morphological locus, covering 2113.3 cM, approximately 42% of the total recombination length of the cotton genome. A total of 31 QTL with 5.1 – 25.8% of the total phenotypic variance explained were detected. Twenty-four common QTL across environments showed high stability, and six QTL were environment-specific. Several genomic segments affecting multiple traits were identified. The advantage of QTL mapping using a 4WC were discussed. This study presents the first example of QTL mapping using a 4WC population in upland cotton. The results presented here will enhance the understanding of the genetic basis of yield and fiber quality traits and enable further marker-assisted selection in cultivar populations in upland cotton.

【语种】英文

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【学科分类】分子生物学

【题目】QTL Mapping for Verticillium wilt resistance at seedling and maturity stages in Gossypium barbadense L.

【中文关键词】四倍体棉花,黄萎病,QTL定位, MAS

【英文关键词】Tetraploid cotton; Verticillium wilt; QTL mapping; MAS

【中文摘要】棉花黄萎病菌是棉花生产商和消费者最关注的。控制棉花抗病品种的发展主要策略是要确定Verticilium耐药基因棉花,产生的F2和BC1群体过一个宽容的海岛棉品种的无功。海岛棉7124,一个敏感的品种,陆地棉 Junmian1。个人植物对疾病的反应进行了量化,用叶性状在苗期和血管组织成熟阶段的特点。遗传连锁图谱构建SSR,RGA和DDRT标记。叶性状的4个QTL,位于字符。 A5,A7,A8和3个QTL的血管组织特征字符。 A5,A7和A9检测复合区间作图法(CIM)接种在F2中与非落叶隔离BP2。种植BC1S2家庭分别接种菌株,BP2,VD8和592。在BP2幼儿园,一个QTL位于字符。 D4的叶性状和两个QTL字符。 D4和A8的血管组织特征detected.We检测到两个QTL字符。 A5和A8的叶性状和3个QTL字符。 A5,D5,D11为血管组织的特征在在VD8苗圃中生长的植物。在592个幼儿园,3个QTL字符。 A5和D5的叶性状和两个QTL字符。 D5和D11的血管组织性状进行检测。本QTL定位结果显示,在不同人群中,4个QTL在苗期和成熟期表示,和一些抗黄萎病QTL控制存在两个稳定的QTL分别位于不同的染色体上,并在不同的发展阶段不同菌株。与这些QTL的标记,可以方便的使用黄萎病抗性基因在棉花抗病育种计划。

【英文摘要】Verticillium wilt (Verticillium dahliae) is a major concern for cotton producers and consumers. The major strategy to control disease has been the development of resistant varieties of Gossypium. To identify Verticilium resistant genes in cotton, we generated F2 and BC1 populations by crossing a tolerant cultivar of Gossypium barbadense var. Hai 7124 with a susceptible cultivar, Gossypium hirsutum var. Junmian 1. Individual plant reaction to disease was quantified using a leaf trait in the seedling stage and a vascular tissue trait in mature stage. Two genetic linkage maps were constructed with SSR, RGA and DDRT markers. Four QTLs for the leaf trait, located on chr. A5, A7 and A8 and three QTLs for the vascular tissue trait on chr. A5, A7 and A9 were detected by composite interval mapping (CIM) in F2 inoculated with a non-defoliating isolate BP2. BC1S2 families were planted separately and inoculated with the isolates, BP2, VD8 and 592. In the BP2 nursery, one QTL located on chr. D4 for the leaf trait and two QTLs on chr. D4 and A8 for the vascular tissue trait were detected.We detected two QTLs on chr. A5 and A8 for the leaf trait and three QTLs on chr. A5, D5 and D11 for the vascular tissue trait in plants grown in the VD8 nursery. In the 592 nursery, three QTLs on chr. A5 and D5 for the leaf trait and two QTLs on chr. D5 and D11 for the vascular tissue trait were detected. The present QTL mapping results revealed that two stable QTLs existed in different populations, four QTLs expressed at both the seedling and mature stages, and some QTLs controlling resistance to Verticillium wilt were located on different chromosomes and in different developmental stages for different isolates. The markers associated with these QTLs may facilitate the use of Verticillium wilt resistant genes in resistant breeding programs for cotton.

【语种】英文

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【学科分类】分子生物学

【题目】Structural elucidation of the polysaccharide moiety of a glycopeptide (GLPCW -II) from Ganoderma lucidum fruiting bodies

【中文关键词】灵芝,糖肽,NMR谱,多糖部分,结构分析

【英文关键词】Ganoderma lucidum; Glycopeptide; NMR spectroscopy; Polysaccharide moiety; Structural analysis

【中文摘要】从灵芝子实体中分离出一种水溶性的糖(GLPCW-II)的DEAESepharose快流和Sephacryl S-300的高分辨率色谱。的糖肽的分子量的1.2x104沓(通过HPLC测定),并包括90%的碳水化合物,8%的蛋白质,使用的苯酚 - 硫酸酸方法和BCATM的蛋白质测定试剂盒,分别确定。多糖部分的组成主要由D-葡萄糖,L-岩藻糖,和D-半乳糖中的比为 1.00:1.09:4.09。为了便于结构 - 活性研究,阐明的GLPCW-II多糖部分的结构使用1H和13C核磁共振光谱包括COSY,TOCSY,HMBC,HSQC,和ROESY,结合的甲基化衍生物用GC-MS,和示出包括具有以下结构的重复单元:

【英文摘要】A water-soluble glycopeptide (GLPCW-II) was isolated from the fruiting bodies of Ganoderma lucidum by DEAESepharose Fast-Flow and Sephacryl S-300 High Resolution Chromatography. The glycopeptide had a molecular weight of 1.2x104 Da (determined by HPLC), and consisted of 90% carbohydrate and 8% protein as determined using the phenol-sulfuric acid method and the BCATM protein assay reagent kit, respectively. The polysaccharide moiety was composed mainly of D-Glc,L-Fuc, and D-Gal in the ratio of 1.00:1.09:4.09. To facilitate structure – activity studies, the structure of the GLPCW-II polysaccharide moiety was elucidated using 1H and 13C NMR spectroscopy including COSY, TOCSY, HMBC, HSQC, and ROESY, combined with GC – MS of methylated derivatives, and shown to consist of repeating units with the following structure:

【语种】英文

【第一作者】LiBin Ye
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【学科分类】分子生物学

【题目】A Microsatellite-Based, Gene-Rich Linkage Map Reveals Genome Structure, Function and Evolution in Gossypium
【中文关键词】SSRs,连锁图谱 棉花 基因组结构,功能,进化
【英文关键词】SSRs,Linkage Map,Gossypium,Genome Structure,Function,Evolution
【中文摘要】功能基因图谱的基因组结构,功能和进化,以及基因的克隆和分子标记辅助选择,在提高农业的重要特征的研究中起着重要的作用。从表达序列标签(EST)开发的简单重复序列(SSR标记),EST-SSR(ESSR),可以作为推定的功能标记位点,轻松地标记相应的功能基因。在本文中,2218 eSSRs,1554 G.雷蒙德和来自754陆地棉衍生无害环境技术的开发和使用屏幕多态性,以提高我们的骨干异源四倍体棉花遗传图谱。 1554 G.的雷蒙德衍生eSSRs中,744 eSSRs能够成功地扩增多态性与我们的两个对映的父母,TM-1和海7124,呈现出多态性比率为47.9%。然而,只有多态性比率为23.9%(159/754)从G.棉花衍生eSSRs的。之间的多态性,主题型,组织起源是没有关系的,但似乎与重复类型的多态性。 ,整合后这些新的eSSRs的,我们的增强遗传图谱包含1790个位点在26个连锁群,,占地面积3425.8厘米,1.91厘米的平均intermarker距离。这种基于微卫星基因丰富的遗传连锁图谱包含71.96%的功能标记位点,其中87.11%是ESSR基因位点。共有132桥接13 / DT对染色体部分同源的复制位点。两个相互易位A2和A3之间的多倍体化后,A4和A5之间的,染色体被进一步证实。的975个EST 1122 ESSR位点标记在地图上显示,60%有明确的的BLASTX点击(1E 10)的UniProt数据库和475相关的主要的三个主要基因本体论ategories的生物的基因的功能分析过程中,细胞组分,和分子功能;许多的ESTs与两个或多个类别的功能。这里给出的结果将提供新的见解,为今后的调查功能和进化基因组学研究,特别是那些与改良棉纤维。
【英文摘要】The mapping of functional genes plays an important role in studies of genome structure, function, and evolution, as well as allowing gene cloning and marker-assisted selection to improve agriculturally important traits. Simple sequence repeats (SSRs) developed from expressed sequence tags (ESTs), EST – SSR (eSSR), can be employed as putative functional marker loci to easily tag corresponding functional genes. In this paper, 2218 eSSRs, 1554 from G. raimondii-derived and 754 from G. hirsutum-derived ESTs, were developed and used to screen polymorphisms to enhance our backbone genetic map in allotetraploid cotton. Of the 1554 G. raimondii-derived eSSRs, 744 eSSRs were able to successfully amplify polymorphisms between our two mapping parents, TM-1 and Hai7124, presenting a polymorphic rate of 47.9%. However, only a 23.9% (159/754) polymorphic rate was produced from G. hirsutum-derived eSSRs. No relationship was observed between the level of polymorphism, motif type, and tissue origin, but the polymorphism appeared to be correlated with repeat type. After integrating these new eSSRs, our enhanced genetic map consists of 1790 loci in 26 linkage groups and covers 3425.8 cM with an average intermarker distance of 1.91 cM. This microsatellite-based, gene-rich linkage map contains 71.96% functional marker loci, of which 87.11% are eSSR loci. There were 132 duplicated loci bridging 13 homeologous At/Dt chromosome pairs. Two reciprocal translocations after polyploidization between A2 and A3, and between A4 and A5, chromosomes were further confirmed. A functional analysis of 975 ESTs producing 1122 eSSR loci tagged in the map revealed that 60% had clear BLASTX hits (,1e 10) to the Uniprot database and that 475 were associated mainly with genes belonging to the three major gene ontology ategories of biological process, cellular component, and molecular function; many of the ESTs were associated with two or more category functions. The results presented here will provide new insights for future investigations of functional and evolutionary genomics, especially those associated with cotton fiber improvement.
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【题目】SSR genetic linkage maps of A-genome diploid cotton (Gossypium arboreum L.)
【中文关键词】二倍体 遗传连锁图谱,亚洲棉分子标记,SSR
【英文关键词】diploid; genetic linkage map; Gossypium arboreum; molecular marker; simple sequence repeat.
【中文摘要】本研究介绍了第一个种内的遗传连锁图谱的A-新开发的简单重复序列(SSR)标记使用派生从两个亚洲棉品种(棉L.)江玲中棉和浙江萧山绿恕的杂交的189个F2植株的基因组二倍体棉。在亲本间的多态性进行检测,使用6 092对SSR引物。两百年68双更好的多态性SSR引物,被挑出来的F2群体进行分析。共有320多态位点的生成和用于构建与JoinMap3.0连锁图谱。两百年和67个位点,其中包括3个表型性状进行映射在对数比值比(LOD)≥3.0的13个连锁群。在地图的总长度为2508.71 cM的,相邻标记之间的平均距离为9.40 cM的。染色体的任务是,根据该协会的骨干四倍体特定地图使用的89个类似的SSR位点的联系。 A-基因组染色体的同源连锁群上的13套房间的比较发现,在和DT亚基因组染色体在很大程度上是共线。与反转的染色体表明,异源多倍体伴随着同源染色体重排。染色体间的复制位点提供分子证据表明,A-基因组二倍体亚洲棉花是多陪体的。
【英文摘要】This study introduces the construction of the first intraspecific genetic linkage map of the A-genome diploid cotton with newly developed simple sequence repeat (SSR) markers using 189 F2 plants derived from the cross of two Asiatic cotton cultivars (Gossypium arboreum L.) Jianglingzhongmian × Zhejiangxiaoshanlushu. Polymorphisms between the two parents were detected using 6 092 pairs of SSR primers. Two-hundred and sixty-eight pairs of SSR primers with better polymorphisms were picked out to analyze the F2 population. In total, 320 polymorphic bands were generated and used to construct a linkage map with JoinMap3.0. Two-hundred and sixty-seven loci, including three phenotypic traits were mapped at a logarithms of odds ratio (LOD)≥3.0 on 13 linkage groups. The total length of the map was 2 508.71 cM, and the average distance between adjacent markers was 9.40 cM. Chromosome assignments were according to the association of linkages with our backbone tetraploid specific map using the 89 similar SSR loci. Comparisons among the 13 suites of orthologous linkage groups revealed that the A-genome chromosomes are largely collinear with the At and Dt subgenome chromosomes. Chromosomes associated with inversions suggested that allopolyploidization was accompanied by homologous chromosomal rearrangement. The inter-chromosomal duplicated loci supply molecular evidence that the A-genome diploid Asiatic cotton is paleopolyploid.
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【学科分类】分子生物学

【题目】Identification and Molecular Mapping of a Fusarium Wilt Resistant Gene in Upland Cotton
【中文关键词】分子定位 枯萎病,抗性基因,棉花
【英文关键词】molecular mapping, Fusarium wilt, resistant gene, upland cotton
【中文摘要】枯萎病(FW)是造成全球经济损失最大的棉花病虫害之一,造成发黄,萎蔫,落叶,血管组织的损伤并最终导致死亡。鉴定是与FW基因的分子标记将电阻为精英棉花品种的关键。陆地棉种内F2是由具有高度抗病品种中棉所35(ZMS35)和感病品种Junmian1,画面简单重复序列(SSR标记)紧密联系在一起的FW抗性基因杂交。 FW被确定在F2:3家通过评估幼苗叶片焊接在自然感染情况症状和血管组织损伤植物成熟2年以上。结果表明,以3:1的比例作为一个简单的单基因性状在F2:3家FW电阻隔离。分子标记鉴定一个FW抗性基因紧密联系在一起的SSR标记JESPR304的“ 280号染色体D3(C17)。我们建议该基因命名为FW ｆ。复合区间作图法检测　　到4个QTL为FW阻力位在Chr.A7(C7),D1(C15),D9(C23)和D3,分别。其中,一个主要的QTL被标记(LOD> 20)的时间间隔内的0.06-0.2 cM的标记JESPR304附近,并解释了52.5-60.9%的表型变异。数据证实了存在的主要基因Chr.D3。这是WRST报告的主要贡献FW阻力在棉花基因的分子定位。因此,本研究提供了一个机会,了解基因控制的抗性,FW并进行分子标记辅助选育发展FW抗病品种的。
【英文摘要】Fusarium wilt (FW) is one of the most economically damaging cotton diseases worldwide, causing yellowing, wilting, defoliation, vascular tissue damage and ultimately death. IdentiWcation of molecular markers linked to FW genes is vital to incorporate resistance into elite cotton cultivars. An intraspeciWc F2 in Gossypium hirsutum L. was developed by crossing with a highly resistant cultivar Zhongmiansuo 35 (ZMS35) and a susceptible cultivar Junmian1 to screen simple sequence repeats (SSRs) closely linked to the FW resistance gene. FW was identified in F2:3 families by evaluating seedling leaf symptoms and vascular tissue damage at plant maturity under natural Weld infection conditions over 2 years. The results showed that FW resistance segregated in a 3:1 ratio as a simple monogenic trait in F2:3 families. Molecular mapping identified a FW resistance gene closely linked with the SSR marker

JESPR304 ¡ 280 in chromosome D3(c17). We proposed to name this gene FWR. A composite interval mapping method detected four QTLs for FW resistance in Chr.A7(c7), D1(c15), D9(c23) and D3, respectively. Among them, one major QTL (LOD > 20) was tagged near marker JESPR304 within an interval of 0.06 – 0.2 cM, and explained over 52.5 – 60.9% of the total phenotypic variance. The data confirmed the existence of a major gene in Chr.D3. This is the Wrst report of molecular mapping of a major gene contributing FW resistance in cotton. The present research therefore provides an opportunity to understand the genetic control of resistance to FW and conduct molecular markerassisted selection breeding to develop FW resistant cultivars.

【语种】英文
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【学科分类】分子生物学

【题目】关联图分析——一种基于连锁图的QTL综合分析方法
【中文关键词】连锁图,数量性状基因座,统合分析,关联图分析
【英文关键词】Linkage map, quantitative trait loci, meta-analysis, the association graph analysis
【中文摘要】通过统合分析整合多个独立实验QTL(quantitative trait locus)定位结果获得的一致性QTL,可为标记辅助育种和基因图位克隆提供坚实基础.但是这种方法没有充足的生物学背景支撑,而且遗传图谱间不同映射会严重影响分析结果.为此,本文提出一种基于连锁图的QTL综合分析法,简称关联图分析.首先,利用连锁群构建图模型;然后,利用非监督分类法来寻找基因组间具有模式性共分离趋势的标记区间;最后,通过频繁集挖掘法对这些标记区间挖掘以获得与QTL紧密连锁的分子标记(区间).新方法通过Monte Carlo模拟研究和3个棉花QTL定位结果的综合分析予以证实.新方法的优点在于:不需要构建参考图谱;利用基因组间的分子标记模式性共分离趋势来查找特异性QTL,在一定程度上排除了初始QTL的干扰;通过非特异性QTL获得的具有潜在育种价值的分子标记,在作物育种上更有利用价值. 更多还原。
【英文摘要】Consistency of QTL meta-analysis to integrate multiple independent experiments QTL (quantitative trait locus) positioning results obtained for marker-assisted breeding and gene map-based cloning to provide a solid foundation, but this approach is not adequate biology background support, and geneticdifferent mapping between the map will seriously affect the analysis of the results of this, this paper proposes a linkage map based QTL analysis, referred to as the association graph analysis. Firstly, the linkage groups to build a graph model; then, the use of non-supervised classification method to find the genomebetween mode sexual trends were isolated marker interval; Finally, these marker interval mining frequent set mining method to obtain molecular markers tightly linked to the QTL (interval) of the new method through Monte Carlo simulation study and three cotton QTL mapping resultsa comprehensive analysis be confirmed. advantage of the new method: There is no need to build a reference map; the mode using genomic molecular markers were isolated from trends to find the specificity of QTL excluded, to a certain extent on the initial QTL interference; through non-specificQTL with molecular markers of potential breeding value, use value in crop breeding more and more to restore.

【语种】中文
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【学科分类】分子生物学

【题目】基于微分的cDNA基因芯片图像自动划格算法
【中文关键词】互补DNA; 基因芯片; 划格; 基因表达; 图像分析
【英文关键词】cDNA; DNA microarray; gridding; gene expression; image analysis
【中文摘要】针对cDNA基因芯片数据分析中划格对提取杂交荧光样点杂交强度信息的重要作用,提出了一种基于微分的cDNA基因芯片图像自动划格算法,采用NCBI上GEO数据库中cDNA基因芯片图像进行划格实验,验证了该算法的有效性。

【英文摘要】Image analysis is an important stage of cDNA microarray data analysis.Gridding is indispensable to accurately identify the location of each spot and extract spot intensities from the microarray images.In this paper,a differential-based automatic gridding algorithm for cDNA microarray images is presented.The experimental results on cDNA microarray images from Gene Expression Omnibus(GEO) Database of National Center for Biotechnology Information(NCBI) demonstrate the effectiveness of this approach.
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【题目】面向对象的H.264码率控制算法
【中文关键词】H.264; 码率控制; 文字对象
【英文关键词】H.264; Rate control; Text object
【中文摘要】提出了H.264码率控制改进算法。首先,基于帧间运动估计残差(mean absolutely difference,MAD)的空间和时间相关性提出了"十字"MAD预测模型;为了平衡缓冲的占有率,在分配帧比特时将前一帧的比特使用情况作为当前帧比特分配时的惩罚因子;最后,结合视频文字对象提取技术实现了基于文字对象的宏块比特分配以及量化步长的计算。实验结果表明,改进算法能在准确控制码率的情况下,提高输出序列的峰值信噪比。
【英文摘要】A new rate control scheme in H.264 coding standard was proposed.The scheme includes + shape MAD prediction model based on space and time relativity of MAD.We used former frame bit usage as penalty factor to modify the bit-allocation rule to balance buffer share.Furthermore,combining video text extraction techniques,the method realized macro bit allocation and quantization step based on text area.Experimental results show that the new rate-control scheme can control the bits very well and the average PSNR is improved.
【语种】中文
【第一作者】薛卫
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【题目】农作物特种遗传资源共享平台的建立
【中文关键词】遗传资源; 种质; 共享平台; 农作物; ASP.NET
【英文关键词】genetic resources; germplasm; sharing platform; crop; ASP.NET
【中文摘要】农作物特种遗传资源共享平台(CGRSP)采用了国家种质资源描述规范和数据标准,整合教育部所属高校农作物特种遗传资源,对其中水稻、大豆等十几种主要作物的创新种质、遗传材料、代表性地方品种等特种遗传资源进行数字化、标准化整理。平台基础是采用ASP.NET框架和C#构建的具有高校特色的农作物特种遗传资源数据库,收集保存了12万份共性品种资源,具有动态创建遗传资源个性表的功能,同时实现了基于Internet的用户角色分配、多种检索、种质图片管理、数据交换和分析统计等功能,使之成为作物育种、生物技术研究以及农业生产所依托的基础平台。
【英文摘要】Several main crops(such as soybean,paddy rice,and so on.)genetic resources including innovation germplasm,heredity materials and representative local varieties,etc.were reorganized digitally and standardized using crop genetic resources sharing platform(CGRSP)which adopted the national germplasm resources description standard,data standard and integrated crop genetic resources of the universities subordinated to Ministry of Education.ASP.NET framework and C# were mainly adopted to construct university characteristic database of CGRSP which preserved 120 thousand general character resources and could create dynamic databases of germplasm individuality.Based on the Internet sharing platform,multifunction such as user role assignment,resource retrieval,pictures process,data exchange and analysis statistics could be executed,along with serving as foundation platform for plant breeding,biological technology research and agricultural production.

【语种】中文
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【题目】基于视频流量特性分析的流量控制机制研究
【中文关键词】网络复用; 突发; 流量控制; 有效带宽; 接纳控制;
【英文关键词】network multiplex; burst; traffic control; effective bandwidth; admission control;
【中文摘要】流量控制是保证服务质量、提高网络资源利用率的有效手段,接纳控制作为流量控制的有效途径之一,与网络的流量特征、网络性能有密切关系,尤其在系统重负载时比拥塞控制更为有效。在基于跟踪流量分析视频流量特性的基础上,研究了基于流量模型的流量控制机制的部署与实现,探讨了基于复杂流量模型进行有效带宽估计的接纳控制机制是否能够提高系统性能和网络的复用性能,并通过仿真对典型机制进行了性能比较,最后给出了今后流量复用研究的建议。
【英文摘要】Traffic control is an efficient means to guarantee quality of service and improve resource using rate, admission control as one efficient way of traffic control is correlative with traffic character and network performance, especially more efficient than congestion control under system heavy load. The performance of admission control which admission judge is based on effective bandwidth through simulation is studied and whether such mechanism could improve the system performance and the multiplex performance are researched on after the property of video traffic through trace is analyzed. In the end, some advice to traffic multiplex research is proposed.
【语种】中文
【第一作者】郭小清
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【题目】农业生物信息学网络资源与检索
【中文关键词】生物信息学; 农业信息; 网络资源; 检索
【英文关键词】bioinformatics,agricultural information,Internet retrieval
【中文摘要】随着生物信息学的不断发展,网络环境下农业生物信息资源呈指数级增长,如何有效检索利用这些资源成为一个突出的问题。从数据库、在线农业生物学文献、生物信息搜索引擎、专业网站这4个方面对网络环境下农业生物信息资源的检索途径进行了整理汇总及介绍。
【英文摘要】With the bioinformatics continuous developing,the agricultural biological information resources under network environment had grown exponentially,how to effectively use these resources crawl into a prominent problem.This article details the retrieval approach of the agricultural biological information from four aspects which are the database,online agricultural biological literature,biological information search engine,and the professional website.
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【题目】基于模型的海浪模拟仿真
【中文关键词】海浪仿真; 几何模型; 波形函数; 衰减函数
【英文关键词】wave simulation; geometric model; wave functions; attenuation functions
【中文摘要】在计算机图形学领域,自然景物的模拟一直都是一项研究重点。由于不规则性和随机性,要对水波特别是波浪进行逼真地模拟较为困难。研究了借助几何模型模拟自然界中海浪的运动,通过图形学中的真实感处理,得到逼真的海浪波动效果。在研究过程中首先是建立简单的海浪模型,通过辅助衰减函数将其改进,以符合海浪运动的物理规律,同时加入了动态变化的影响因子以增加海浪运动的随机性。结果表明,该模型可以较为真实的模拟海浪的基本运动
【英文摘要】In the field of computer graphics,the simulation of natural landscape is a focus of study.As a result of irregularity and ran-domness,it is extremely difficult to simulate ocean waves.The subject of research is to simulate ocean waves with the aid of geometric model.This passage can obtain some realistic simulations of the waves which are in the sea by photorealistic graphics processing.In the course of the study,using some auxiliary and attenuation functions for the creation of a simple model of the wave to improve its simu-lation.And add some changed factors to achieve the optical effects.The results prove that this model can be more realistic simulation for deep-sea wave basic movement.
【语种】中文
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【题目】基于Qos的工作流模型Web服务组合全局优化方法
【中文关键词】Web服务组合; 工作流; 拓扑排序; 服务质量; 服务调度
【英文关键词】Web service composition workflow topology sorting Qos service scheduling
【中文摘要】分析了工作流模型Web服务组合方案缺乏动态选择高质量服务的灵活性,并且随着应用规模增大导致服务调度性能降低,提出了一种服务质量计算模型和拓扑排序优化方案。增强了Web服务的服务质量,优化了服务调度的功能,缩短了服务组合应用的响应时间。
【英文摘要】Web Service Composition based on Workflow lacks agility in searching for better Web Services,and with application enlarging the performance of scheduling will decline. So an optimization method based on calculating model of Qos and topology sorting is proposed. The method improves Qos of Web Service and optimizes Web service scheduling algorithm and shorten the time of application.
【语种】中文
【第一作者】刘金定
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【题目】分布式网络主动防御系统研究
【中文关键词】分布式拒绝服务攻击; 蠕虫; 主动防御; 可疑流量; 服务质量
【英文关键词】DDOS; worm; procative defense; suspicious traffic; QOS
【中文摘要】针对DDOS和蠕虫的特点,提出了一种NeTraMet和QOS相结合的主动防御机制,实现对DDOS和蠕虫经济高效的防治。在蠕虫检测上考虑了无特征蠕虫和有特征蠕虫两种情况;一般基于流量的DOS检测方法预警时,网络实际已经受到一定程度的攻击而且发生阻塞,为了能够更早预警DDOS攻击,提高网络生存性,在DDOS检测中提出了可疑流量线,当流量达到可疑流量和攻击流量之间时,就启动防御机制,利用路由器的QOS功能,尽量减少攻击流的消耗带宽,维持网络正常服务。最后在NS2中进行模拟验证。

【英文摘要】According to characteristics of DDOS and worm,a proactive defense mechanism based on NeTraMet and QOS which im-plements economical and high-efficiency defense of DDOS and worm is presented.They considered two situations of characteristic worm and no characteristic worm on worm detection;usually when DDOS detection method based on traffic warns,network has been attacked and blocked to some degree in fact,so they developed suspicious traffic line in order to find out DDOS attack flows early on DDOS de-tection and improve network survivability,and when traffic is between suspicious traffic and attack traffic,proactive defense system is proposed which can reduce bandwidth consumption by attack flows and maintain network normal service with QOS of router.It is simu-lated and testified in NS2 at last.
【语种】中文
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【题目】安徽省奶业发展对饲草产业的要求及其互促增效途径
【中文关键词】安徽奶业;牧草;栽培;加工;TMR
【英文关键词】Anhui dairy; forage; cultivation; processing; TMR
【中文摘要】安徽省大力扶持奶业生产,给饲草生产带来巨大的机遇和挑战。本文对安徽奶业生产中草业发展现状、问题进行了分析,并提出大力加强草种选育,引进优质高产饲草,开发冬闲田、果林地及建设人工草地,进行青干草、青贮料的加工调制,并基于 TMR技术进行饲草的加工与配置。
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【通讯作者】杨 烈
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【题目】不同穗型小麦花后物质运转及产量对氮肥的响应
【中文关键词】小麦;不同穗型;氮肥运筹;物质运转;产量
【英文关键词】wheat ; different spike-types ; nitrogen management ; assimilates transportation ; yield
【中文摘要】在大田条件下,以多穗型小麦‘烟农19’和大穗型小麦‘兰考矮早8’两个不同穗型的冬小麦为材料,研究了不同施氮量及氮肥基追比例对小麦营养器官花前贮藏同化物再运转,花后同化物输入籽粒量,产量及产量构成因素的影响。结果表明,氮肥水平在225~300kg/hm2范围内,多穗型小麦‘烟农19’和大穗型小麦‘兰考矮早8’籽粒产量的形成均以花后绿色器官光合同化为主,其次才是花前积累干物质的再动员分配。大穗型品种‘兰考矮早8’籽粒产量的形成较多穗型品种‘烟农19’更依赖于花后绿色器官同化,积累干物质再运转分配只占籽粒产量的15%左右。两种穗型品种小麦花前贮存物质再动员分配对籽粒产量的贡献都随着氮肥后移而降低。随着施氮量的增加,运转物质对籽粒产量的贡献率呈降低趋势。综合物质运转和产量表现‘,烟农19’施氮量300kg/hm2,基追比例5:5时较适宜‘;兰考矮早8’施氮量262.5kg/hm2,氮肥基追比例7:3时较适宜。
【英文摘要】无
【语种】中文
【第一作者】邹兵
【通讯作者】董召荣
【期刊名称、卷期、页码】《中国农学通报》 2011年第27卷第12期
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【引文索引号】null
【学科分类】农学其他学科

【题目】Identi fi cation, inheritance and gene mapping of resistance to a virulent Soybean mosaic virus strain SC15 in soybean
【中文关键词】无
【英文关键词】Soybean mosaic virus;virulent strain SC15;screening for resistance sources;genetic analysis;genemapping
【中文摘要】无
【英文摘要】Soybean mosaic virus (SMV) is one of the major pathogens for soybeans worldwide. Among the 21 strains identi fi ed under uniform identi fi cation system in China, SC15 can infect all 10 of the di ff erentials, is the most virulent strain and has been prevalent especially in Southern China. In this study, 10 elite accessions resistant to SC15 were identi fi ed from 205 soybean lines. P1,P2,F1,F2 and 200 recombinant inbred lines (RIL) of the cross RN-9 (resistant, R) • 7605 (susceptible, S) were used to study inheritance of resistance to SC15. F1 was identical to RN-9 ,F2 segregated in a 3R : 1S phenotypic ratio, whereas RILs segregated in a 1R : 1S genotypic ratio. This indicated that a single dominant gene, designated as RSC15, conferred the resistance. A genetic linkage map of a segment of C2 linkage group was constructed using SSR markers identi fi ed by bulked segregant analysis of RIL population, where RSC15 was mapped between Sat_213 and Sat_286 with distances of 8.0 and 6.6 cM to the respective fl anking markers.
【语种】英文
【第一作者】杨清华
【通讯作者】盖钧镒
【期刊名称、卷期、页码】Plant Breeding 130, 128—132 (2011)
【论文发表时间】2010-04-27 00:00:00
【引文索引类型】SCI
【引文索引号】SCI
【学科分类】农艺学

【题目】Isolation and Functional Characterization of a SERK Gene from Soybean (Glycine max (L.) Merr.)
【中文关键词】无
【英文关键词】Phylogenetic analysis;Quantitative real-time PCR;Somatic embryogenesis;Somatic embryogenesis receptor-like kinase;Soybean (Glycine max (L.) Merr.)
【中文摘要】无
【英文摘要】It is well accepted that somatic embryogenesis Nserves a primary role in plant regeneration. However, it is also a model system to explore the regulatory and morphogenetic events in the life of a plant. To date, a suite of genes that serve important roles in somatic embryogenesis have been isolated and identified. In the present study, a novel gene designated as GmSERK1 was isolated from soybean (Glycine max (L.) Merr). Sequence and structural analysis determined that the GmSERK1 protein, which encodes 624 amino acids, belongs to the somatic embryogenesis receptor-like kinase (SERK) gene family. GmSERK1 shared all the characteristic domains of the SERK family, including five leucine-rich repeats, one proline-rich region motif, transmembrane domain, and kinase domains. DNA gel blot analysis indicated that a single copy of the GmSERK1 gene resides in the soybean genome. The GmSERK1 tissue-specific and induced expression patterns were explored using quantitative real-time PCR. Dissimilar expression levels in various tissues under different treatments were found. In addition, transient expression experiments in onion epidermal cells indicated that the GmSERK1 protein was located on the plasma membrane. The results from this study suggested that GmSERK1, a member of the SERK gene family, exhibits a broader role in various aspects of plant development and function, in addition to its basic functions in somatic embryogenesis.
【语种】英文
【第一作者】杨超
【通讯作者】盖钧镒
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【引文索引类型】SCI
【引文索引号】SCI

【学科分类】农艺学

【题目】刈割对皖北地区饲用小黑麦产量及品质的影响
【中文关键词】皖北地区 小黑麦 刈割 产量 品质
【英文关键词】Northern Areas triticale Mowing Yield Quality
【中文摘要】为开发利用新的饲草资源,建设皖北优质饲料作物基地,服务当地畜牧业需求,在安徽阜阳进行小黑麦中饲237和中新830栽培青刈试验。结果表明,所引的两种粮饲兼用型小黑麦品种均能很好地适应当地气候条件,能够刈割1~2次,配合适量追肥,刈割后不影响再生草的草产量和籽粒产量,这两个品种的小黑麦均可作为饲用优良麦类品种在当地大力推广种植,促进饲草生产的可持续发展。
【英文摘要】无
【语种】中文
【第一作者】李焰焰
【通讯作者】李焰焰
【期刊名称、卷期、页码】《种子》 2010年第4期 75-77页
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【学科分类】农学其他学科

【题目】Long-day effects on the terminal in fl orescence development of a photoperiod-sensitive soybean [Glycine max (L.) Merr.] variety
【中文关键词】无
【英文关键词】Soybean (Glycine max (L.) Merr.);Photoperiod;Long-day;Terminal in fl orescence;Reversion;Stem-termination
【中文摘要】无
【英文摘要】The type of terminal in fl orescence is a key component for identifying soybean type. In this study, a late maturity and photoperiod-sensitive determinate soybean, cv. Zigongdongdou, was used to investigate effects of long-day (LD) on the formation and development of the terminal in fl orescence. After emergence, soybean seedlings were subjected to 12 h short-day (SD) photoperiod for 13 days to induce the initiation of terminal in fl orescence. The plants were then moved to 16 h LD treatment (LDT) for 0, 1, 2, 3, 4 and 5 wks, respectively. After LDT, plants were moved back to 12 h SD condition until the end of the experiment. The LDT greatly affected morphological and anatomical features of terminal in fl orescence as well as the developmental rate of plants. Reversed fl owers could be found in the reversed “ in fl orescences ” in plants with 2 – 5 wks LDT. Such changes were con fi rmed through morphological observation and anatomical dissection. In the long-day treatments, the formation of fl owers and the development of terminal in fl orescence could be reversed and plant type of a soybean could be further changed. This long-day effect was a cumulative process, which increased with the increase in the duration of LDT.
【语种】英文
【第一作者】姜妍
【通讯作者】韩天富
【期刊名称、卷期、页码】plantsci.2010.11.006
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【引文索引号】SCI
【学科分类】农艺学

【题目】刈割方式对皖北地区大麦饲用品质的影响
【中文关键词】刈割方式 饲用大麦 饲用品质
【英文关键词】Moving method ; Feed barley ; Forage quality
【中文摘要】在皖北地区对不同刈割方式下大中88-91大麦饲用品质及再生草产量进行研究。结果表明,大中88-91大麦的饲用品质与其刈割方式关系密切:刈割后尿素的最佳追肥水平为75kg/hm2;刈割后最适留茬高度为5cm;根据对蛋白质库、糖库的测定,首次刈割最适时期在3月下旬。

【英文摘要】The impact of different mowing modes on forage quality and production of renewable grass of barley variety "Dazhong 88-91" were studied in northern Anhui.The results showed that the forage quality was greatly affected by mowing modes.The optimal topdressing rate of urea was 75kg/hm2 after moving,and the optimal mowing height was 5cm.Based on protein and sugar total capacities,it was suggested that the optimal time for first moving was in late March.
【语种】中文
【第一作者】李焰焰
【通讯作者】李焰焰
【期刊名称、卷期、页码】《作物杂志》 2010年第1期 76-78页
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【学科分类】农学其他学科

【题目】Low-nitrogen stress tolerance and nitrogen agronomic ef fi ciency among maize inbreds: comparison of multiple indices and evaluation of genetic variation
【中文关键词】无
【英文关键词】Genetic variation;Low-N stress tolerance;N-agronomic ef fi ciency;N-use ef fi ciency;Maiz
【中文摘要】无
【英文摘要】Limited information is available on genetic variation in low-nitrogen (low-N) stress tolerance and N-use ef fi ciency (NUE) among maize inbreds. To unveil this information, a panel of 189 diverse maize inbred lines was evaluated under contrasting levels of N availability over 2 years. Low-N agronomic ef fi ciency (LNAE), absolute grain yield (GY) at low-N conditions, and the ratio betweenGY at low-N and optimum-N conditions were taken into account to represent low-N tolerance. Additionally, N-agronomic ef fi ciency (NAE) along with other agronomic traits was also analyzed. Analysis of variance revealed signi fi cant effects of genotype on LNAE, NAE, and GY. The estimated broad-sense heritability was 0.38 for LNAE while it was only 0.11 for NAE, implying that selection based on LNAE should be more effective than NAE. LNAE exhibited highly positive genotypic and phenotypic correlations with GY, ear kernel number (EKN), kernel weight, plant height (PH), and chlorophyll content at low-N conditions, while it was negatively correlated with grain-N content and anthesis-silking interval. Path analysis indicated that the EKN at low-N stress had the highest positive effects on LNAE.
【语种】英文
【第一作者】吴永升
【通讯作者】谢传晓
【期刊名称、卷期、页码】Euphytica (2011) 180:281 – 290
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【引文索引类型】SCI
【引文索引号】SCI
【学科分类】农艺学

【题目】有机肥对饲用作物产量的影响
【中文关键词】饲用作物 有机肥 产量 生理指标
【英文关键词】Forage Crops Organic fertilizer Yield Physiological indicators
【中文摘要】通过2种饲用作物的有机肥大田定额施入试验,研究了0-16000kg/667m^2有机肥施用量对瑞德2号和皖草3号2个饲用作物的部分生理指标和生物产量的影响。结果表明:随着有机肥施用量的增加,瑞德2号和皖草3号的鲜草产量、干草产量有显著提高。当有机肥施入量为16000kg/667m^2时,瑞德2号和皖草3号的鲜重、干重、株高、叶面积指数、鲜重/干重、茎叶比、叶绿素含量等指标均达最大。增加有机肥施用量有利于提高瑞德2号和皖草3号的产量。
【英文摘要】无
【语种】中文
【第一作者】方 玉
【通讯作者】董召荣
【期刊名称、卷期、页码】《安徽农学通报》 2010年第16卷第9期 121-123页

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【学科分类】农学其他学科

【题目】Mapping of quantitative trait loci for kernel row number in maize across seven environments
【中文关键词】无
【英文关键词】Kernel row numbers;Quantitative trait loci;Mapping;Maize;Major QTL
【中文摘要】无
【英文摘要】Genetic factors controlling quantitative inheritance of grain yield and its components have been intensively investigated during recent decades using diverse populations in maize (Zea mays L.).Notwithstanding this, quantitative trait loci (QTL) for kernel row number (KRN) with large and consistent effect have not been identi fi ed. In this study, a linkage map of 150 simple sequence repeat (SSR) loci was constructed by using a population of 500 F2 individuals derived from a cross between elite inbreds Ye478 and Dan340. The linkage map spanned a total of 1478 cM with an average interval of 10.0 cM. A total of 397 F2:3 lines were evaluated across seven diverse environments for mapping QTL for KRN. Some QTL for grain yield and its components had previously been con fi rmed with this population across environments. A total of 13 QTL for KRN were identi fi ed, with each QTL explaining from 3.0 to 17.9% of phenotypic variance. The gene action forKRN was mainly additive to partial dominance. A large-effect QTL (qkrn7) with partial dominanceeffect accounting for 17.9% of the phenotypic variation for KRN was identi fi ed on chromosome 7near marker umc1865 with consistent gene effect across seven diverse environments. This study has laid a foundation for map-based cloning of this major QTL and for developing molecular markers for marker-assisted selection of high KRN.
【语种】英文
【第一作者】陆明
【通讯作者】谢传晓
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【引文索引类型】SCI
【引文索引号】SCI
【学科分类】农艺学

【题目】有机肥施用量对饲用高粱青贮品质的影响
【中文关键词】有机肥 饲用高粱 青贮 饲用品质 发酵品质
【英文关键词】organic fertilizer ; forage sorghum ; silage ; feeding value ; fermentation quality
【中文摘要】采用田间试验研究有机肥(基肥)施用量对饲用高粱(Sorghum bicolor)青贮饲料品质的影响。结果表明,在施氮量相等的条件下,随着有机肥施用量的增加,青贮饲料的发酵品质先增高后下降,施用量以75和150 t/hm2为最好;同时,青贮饲料的酸性洗涤纤维和中性洗涤纤维含量不断增加,粗蛋白含量和干物质体外消化率不断下降。综合青贮饲料的发酵品质和饲用品质,饲用高粱青贮利用栽培时,施用有机肥基肥75~150 t/hm2较适宜。
【英文摘要】A field experiment was designed to determine the effect of organic fertilizer application on silage quality of forage sorghum(Sorghum bicolor).The results showed that under the same nitrogen application amount,as organic fertilizer addition increasing,the fermentation quality of silage decreased after initial increase,the best fermentation quality was obtained at the organic fertilizer rates of 75 t/ha and 150 t/ha.Meanwhile,the contents of acid detergent fiber and neutral detergent fiber increased,while the content of crude protein and in vitro dry matter digestibility decreased with increasing organic fertilizer addition.In order to obtain both good fermentation quality and feeding value of silage,application of 75-150 t/ha organic fertilizer as the base fertilizer is suitable in forage sorghum growing for silage.
【语种】中文
【第一作者】陆晓燕
【通讯作者】沈益新
【期刊名称、卷期、页码】《草业科学》 2011年第28卷第6期 1187-1189页
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【题目】有机肥施用量对甜高粱饲草产量和品质的影响
【中文关键词】甜高粱 有机肥 尿素 干物质产量 品质
【英文关键词】Sweet sorghum Organic fertilizer Urea DM yield Quality
【中文摘要】通过田间试验研究有机肥施用量对甜高粱(Sorghum saccharatum Moench)饲草产量及品质的影响。结果表明:在有机肥基肥(发酵牛粪)和追肥(尿素)施氮量相等的条件下,随着有机肥基肥施用量的增加,甜高粱的株高、单株鲜重和单株干重、酸性洗涤纤维和中性洗涤纤维含量不断增加,粗蛋白含量和体外消化率不断下降;地上干物质产量和可消化干物质产量随有机肥基肥施用量的增加而显著增加,而单位面积粗蛋白产量在处理间无明显差异;追肥后,株高的生长速度和粗蛋白含量在短时间内随着追肥用量的增加而显著增加,但干物质生产能力以不施有机肥基肥而施较多追肥的处理最差。因此,在甜高粱饲草生产中,施足有机基肥可显著提高产量。
【英文摘要】Effect of organic fertilizer applications on yield and quality of sweet sorghum in the field was studied.Results showed that the plant height,fresh and dry weight of single plant,the content of acid-detergent fiber and neutral detergent fiber increased under the same nitrogen content with increasing organic fertilizer application,whereas crude protein and In vitro dry matter digestibility decreased.Both dry matter yield above-ground and digestible dry matter yield increased with increasing organic fertilizer application.The difference of crude protein yield among treatments had no significant change.Using increased urea,the content of crude protein and the growth rate of plant height were significantly improved in less time,but the productivity of dry matter was lowest for the treatment without organic fertilizer.These results showed that the sufficient organic fertilizer as basal fertilizer should be applied to obtain high yield in sweet sorghum.
【语种】中文
【第一作者】陆晓燕
【通讯作者】沈益新
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【学科分类】农学其他学科

【题目】Overexpression of TaNHX2 enhances salt tolerance of ‘composite’and whole transgenic soybean plants
【中文关键词】无
【英文关键词】TaNHX2;Soybean;Salt tolerance;Transformation;Agrobacterium rhizogenes;Agrobacterium tumefaciens
【中文摘要】无
【英文摘要】Salinity is a major factor resulting in extensive loss of agricultural production. Genetic transformation has become a powerful tool for studying gene function and for improving crop salt tolerance. In this study, a TaNHX2 gene was transformed into a plant cloning vector under the control of cauli fl ower mosaic virus 35S promoter, and then introduced into Agrobacterium rhizogenes strain K599. Explants of soybean were transformed with A. rhizogenes and ‘composite’ plants consisting of wild-type shoots and transgenic hairy roots overexpressing TaNHX2 were produced. When exposed to salt stress, ‘composite’ plants displayed high salinity tolerance at 171 mM NaCl in vermiculite and in solid medium supplemented with up to 200 mM NaCl, whereas control plants displayed chlorosis and died within 15 days under above treatment conditions. We subsequently obtained soybean plants overexpressing TaNHX2 through A. tumefaciens-mediated transformation and studied four homozygous lines of TaNHX2. Transgenic lines displayed an enhanced salt tolerance in plant biomass and fl ower number per plant, compared with wild type plants grown on sand culture containing 150 mM NaCl. Furthermore, transgenic plants of line C12-11 showed longer survival, less growth inhibition and greater number of fl owers than wild type plants. Taken together, theseresults indicated that TaNHX2 gene could enhance salt tolerance of soybean, and A. rhizogenes-mediated transformation system could be used as a complementary tool of A. tumerfaciens-mediated transformation to rapidly investigate candidate gene function in soybean.
【语种】英文
【第一作者】曹东
【通讯作者】韩天富

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【学科分类】农艺学

【题目】主要栽培因素对皖麦52品质的影响
【中文关键词】小麦 品质 栽培因素
【英文关键词】Wheat Quality Property Cultivation factors
【中文摘要】利用正交旋转回归分析研究了氮、磷、钾、种植密度和行距对中筋小麦皖麦52品质的影响。结果表明:施氮量对皖麦52蛋白质含量影响最大,依次是行距、施钾量、施磷量和密度;施氮量对湿面筋含量的影响最大,依次是行距、密度、施钾量和施磷量。蛋白质含量≥15%为目标的栽培技术模式的氮、磷、钾、密度和行距分别为:施氮量283.14~296.04 kg/hm2,施磷量85.08~87.96kg/hm2,施钾量96.83~105.26kg/hm2,基本苗密度2.3268×106~2.4732×106株/hm2,行距17.6~18.3cm。湿面筋含量≥37%为目标的栽培技术模式的氮、磷、钾、密度和行距分别为:施氮量285.96~293.7kg/hm2,施磷量87.9~92.1Kg/hm2,施钾量107.81~112.19 kg/hm2,基本苗密度2.3526×106~2.4474×106株/hm2,行距17.7~18.2cm。
【英文摘要】We used the method of orthogonal rotation to study the effects Nitrogen level,phosphorus level,Potassium level,planting density and row spacing on the quality of wheat Wanmai52.The result showed that the N level affects the quality of wheat Wanmai52 most,followed by row spacing,K level,P level and planting density.With the Protein content target of 15% for Wanmai52,the corresponding application rates of N,P,K,density and row spacing were 283.14~296.04kg/hm2,87.96~85.08kg/hm2,96.83~105.26kg/hm2,2.3268×106~2.4732×106seedling/hm2and 17.6~18.3cm.With the wet gluten content target of 37% for Wanmai52 the corresponding application rates of N,P,K,density and row spacing were 285.96~293.7 kg/hm2,87.9~92.1 kg/hm2,107.81~112.19 kg/hm2,2.3526×106~2.4474×106seedling/hm2,17.7~18.2cm,respectively.
【语种】中文
【第一作者】张健
【通讯作者】董召荣
【期刊名称、卷期、页码】《安徽农学通报》 2011年第17卷第7期 57-59页,93页
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【题目】不同秸秆培养基对平菇生长影响的比较研究
【中文关键词】秸秆 培养基 平菇 比较分析
【英文关键词】straw bales ; substrate ; oyster mushroom ; comparative analysis
【中文摘要】为了解不同作物秸秆主料培养基对栽培平菇所表现出的差异,以便于因地制宜指导生产,特进行试验。设置12种秸秆材料作主料配制培养基栽培平菇,观察并记录。结果表明,平菇菌丝在各培养基中的生长速度、长势及头茬子实体产量都表现出明显差异。根据各培养基的成分特点,主要表现在以下几个方面:当C/N在20~50之间,且培养基中可溶性糖与粗纤维的质量比在1附近时,菌丝生长情况最好,产量最高;当C/N在20~50之间,可溶性糖与粗纤维的质量比大于1.5以上时,菌丝长势差,易死菇或不出菇;当可溶性糖与粗纤维质量比在1附近,但C/N过大,超过50以上,菌丝生长速度慢,长势差,产量低。综上,秸秆成分影响平菇生长,用不同秸秆作主料栽培平菇时,必须根据其成分特点作适当调整。
【英文摘要】In order to know the dissimilar result of using several straw and stalk substrates to plant oyster mushroom and to convenient for adjusting measures to local conditions in yielding mushroom,so the tests were set up especially.Twelve kinds of straw and stalk substrates were put up to plant oyster mushroom,observe and memorize in every period.Results showed that the growth speed,the way corp was growing,the yield for the first time of the oyster mushroom ' s mycelial present remarkable difference.According as the ingredients of the different substrates,there were several aspect characteristics in the tests:First,when the range of C/N was from 20 to 50,and that the ratio between the disolubility glucide and the gross fibrin in the substrate was near the 1,the mycelial ' s growth was the best,the yield for the first time was the highest;Second,when the range of C/N was from 20 to 50,but the ratio between the disolubility glucide and the gross fibrin in the substrate was higher than 1.5,the way corp was growing of the mycelial was worse,the mushroom in small was easy to die;Third,when the ratio between the disolubility glucide and the gross fibrin in the substrate was near the 1,but the range of C/N was more higher than 50,the growth of the mycelial was slow,the way corp was growing was worse,the yield for the first

time was lower.Because the ingredients of straw bale work on the growth of oyster mushroom,the straw and stalk substrate must be adjusted before using it to plant oyster mushroom.
【语种】中文
【第一作者】范可章
【通讯作者】李焰焰
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【学科分类】农学其他学科

【题目】Somatic embryogenesis and plant regeneration in Chinese soybean (Glycine max (L.) Merr.)—impacts of mannitol, abscisic acid, and explant age
【中文关键词】无
【英文关键词】Soybean;Somatic embryogenesis;Mannitol;Abscisic acid;Enzyme-linked immunosorbent assay
【中文摘要】无
【英文摘要】From a preliminary experiment on 98 Chinese soybean varieties, 12 varieties with somatic embryogenesis frequency ranging from 0.0% to 85.7% were selected for further study in order to enhance the efficiency of somatic embryogenesis and plant regeneration. The effects of differentmannitol concentrations, abscisic acid (ABA) concentrations, and embryo explant ages (sizes) were investigated. Significant differences in somatic embryogenesis were found among the 12 soybean varieties, with initiation frequencies varying from 22.1% to 89.0% under suitable mannitol concentration, and with N25281, N25263, and N06499 having the highest somatic embryogenic capacity. The results showed that all three factors were relevant for raising rates of callus initiationand somatic embryogenesis, but with differential responses among the genotypes. The treatment of 3.0% (w/v)mannitol, 5mgl − 1 ABA, and a 4- to 5-mm-sized explant was found to be optimal for somatic embryogenesis, generating the highest explant-based regeneration rate at 83.0%. The greatest average number of plantlets regenerated per explant (1.35) was observed in N25281. The above results provide a basis for efficient regeneration of soybean and are informative for the development of genetic transformation systems in Chinese soybean germplasm.
【语种】英文
【第一作者】杨超
【通讯作者】盖钧镒
【期刊名称、卷期、页码】In Vitro Cell.Dev.Biol.-Plant (2009) 45:180 – 188
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【学科分类】农艺学

【题目】Verification and fine-mapping of QTLs conferring days to flowering in soybean using residual heterozygous lines
【中文关键词】无
【英文关键词】soybean, backcross line, RHL (residual heterozygous line), SSR (simple sequence repeat) marker, flowering date, QTL fine-mapping
【中文摘要】无
【英文摘要】The results of QTL mapping based on a primary mapping population should be further verified and refined for its real utilization in marker-assisted selection or map-based cloning. The primary mapping population contains 114 BC1F1 plants of the backcross between Essex (maturity group V, MG V) as the donor parent and ZDD2315 (MG II) as the recurrent parent. In this study, a genetic linkage map with 250 SSR markers spanning a total length of 2963.5 cM on 25 linkage groups (LG) was constructed using software MAPMAKER3.0. Six kinds of genetic statistical models of 4 softwares, i.e. WinQTL Cartographer Version 2.5, IciMapping Version 2.0, MapQTL Version 5.0 and QTLnetwork Version 2.0, were used to map QTLs conferring days to flowering of the BC1F3 lines. Nine QTLs were mapped on 6 different linkage groups (LG). Of those, 6 QTLs were detected by at least two different genetic statistical models, while the other three were detected by only one procedure. Among the three QTLs, Flwdt7 was mapped between Sat_213 and Satt643 on LG C2 with only 11.0% contribution rate. For confirmation of Flwdt7, 5 RHL populations were developed

through selfing eight BC1F5 plants heterozygous at seven markers around the locus. The RHL populations with the same segregating loci were bulked and used to construct a secondary linkage map of the specific segment using software JoinMap ® 3.0. The genetic distances among the markers on the specific segment became shorter than those of the whole genome map. On the secondary map, Flwdt7 was mapped between Satt277 and Satt489, next to its primary interval Sat_213 – Satt643, with distance 1.40 cM to Satt277 and 0.45 cM to Satt489, confidence interval narrowed to 2.7 cM, and contribution rate increased to 36.8%. The results were confirmed with significance analysis among marker genotypes on individual loci and comparison analysis of target marker intervals among near isogenic lines (plants). Thus the strategy by using residual heterozygous lines for QTL fine-mapping on target segments based on primary whole genome scanning with multiple mapping models was demonstrated to be effective.

【语种】英文
【第一作者】苏成付
【通讯作者】盖钧镒
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【学科分类】农艺学

【题目】紫花苜蓿在林地坡、地及大田苗期生长情况的比较研究
【中文关键词】紫花苜蓿; 不同生境; 形态生理; 比较研究
【英文关键词】Alfalfa; Different growth circumstance;Configuration and physiology;Research on comparion
【中文摘要】为了解紫花苜蓿在不同生境下形态及生理的变化特点,便于指导种植,以发挥其最大的社会和经济效益,特进行比较试验研究 选取堤坝坡地速生杨树林地和农用大田作为不同生境进行苜蓿种植试验,定期检测不同生境苜蓿形态及生理指标 结果表明: 大田苜蓿单棵生物量最大,茎叶生长远大于根系生长,二者不具相关性,叶展相对大,叶绿素总量相对低; 坡地苜蓿单棵生物量较小,茎叶与根系相关性高于大田,但不具显著性; 林地苜蓿单棵生物量相对最小,茎叶与根系相关性极显著,叶绿素总量与坡地苜蓿类似,远高于大田苜蓿,且叶绿素b含量相对高,另外,坡地和林地苜蓿POD活性稍低于大田苜蓿,但POD活性远高于大田苜蓿 结论: 根据苜蓿不同生境下的生长特点,在荒山坡地及遗弃林地采用果林草复合模式,并适当密植苜蓿,可产生可观的生态及经济效益
【英文摘要】紫花苜蓿; 不同生境; 形态生理; 比较研究
【语种】中文
【第一作者】范可章
【通讯作者】李焰焰
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【学科分类】农学其他学科

【题目】4种紫花苜蓿幼苗期抗逆性比较研究
【中文关键词】4种紫花苜蓿 幼苗期 抗逆性 比较研究
【英文关键词】four alfalfa varieties ; young seedling periods ; research on comparison
【中文摘要】为了解4种进口紫花苜蓿品种的抗逆性,用土壤浸出液和H2SO4、NaOH分别配制不同pH值的溶液,pH为7时不同NaCL浓度的溶液,以及不同pH值和不同NaCL浓度的混合溶液,进行了比较试验研究。结果表明,耐酸能力从大到小顺序为金皇后、飞马、阿尔冈金、维多利亚;耐碱能力从大到小顺序为飞马、阿尔冈金、金皇后、维多利亚;耐盐能力从大到小顺序为飞马、金皇后、阿尔冈金、维多利亚;耐盐碱能力表现为飞马与阿尔冈金相同,高于金皇后,维多利亚抗盐碱能力相对较低。
【英文摘要】A comparative experiment is made so as to understand the anti-intimidating traits of four foreign alfalfa varieties.There are three group treatments including solutions of different pH values prepared from soil extract,H2SO4 and NaOH,solutions of different concentrations of NaCl with pH 7,mixed solutions of different pH values and different concentrations of NaCl.The results show that descending order of acid tolerance is Golden Empress,Grangeur,Algonquin and Victoria.For alkali capacity and salt tolerance,the descending order is Grangeur,Algonquin,Golden Empress,Victoria and Grangeur,Golden

Empress,Algonquin,Victoria,respectively.As for salinity capacity,Grangeur and Algonquin are almost the same,being better than Golden Empress,while Victoria is lowest.

【语种】中文
【第一作者】范可章
【通讯作者】李焰焰
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【题目】两种藻胆蛋白对人喉癌Hep-2细胞的光动力杀伤效果
【中文关键词】条斑紫菜藻胆蛋白碘钨灯光动力疗法人喉癌细胞株Hep-2
【英文关键词】Porphyra yezoensis Phycobiliprotein Iodine tungsten lamp Photodynamic Therapy Human laryngeal cancer cell line Hep-2
【中文摘要】从条斑紫菜中提取高纯度R-藻红蛋白(R-PE) 和R-藻蓝蛋白(C-PC) , 采用MTT 法测定主要研究了不同浓度(10、25、50 和100 μg/ml) R-PE 和C-PC 分别介导的光动力效应对人喉癌Hep-2 细胞的生存率的影响。实验结果显示, 两种藻胆蛋白的光动力作用对Hep-2 细胞具有杀伤作用。在浓度为100 μg/ml, 照射剂量为50J/ cm2 的条件下, 藻蓝蛋白对应的细胞存活率为64%, 藻红蛋白对应的仅为57%; 单用碘钨灯处理, Hep-2 细胞的存活率达到86.9%; 而单独使用这两种藻胆蛋白处理Hep-2 细胞, 培养24h 后, 低浓度藻胆蛋白(10、25 μg/ml) 对细胞的抑制效果不明显, 高浓度对细胞生长具有一定的抑制效果, 抑制率为68%。实验证明条斑紫菜R-藻红蛋白和C-藻蓝蛋白具有可开发人喉癌治疗光敏剂应用前景。
【英文摘要】In this paper, high purified R-Phycoerythrin (R-PE) and C-Phycocyanin (C-PC) were extracted fromPorphyra yezoensis, and they were applied as photosensitizer to study on inhibitory effect of photodynamic reaction onhuman laryngeal cancer cell line Hep-2. With MTT assay, effects of R-Phycoerythrin and C-Phycocyanin concentrations(10, 25, 50 and 100 μg/ml) and illumination dose on cancer cell photodynamic therapy reaction with irradiation of iodinetungsten lamp were analyzed. The results showed that the photodynamic effects of these two phycobiliproteins on Hep-2were remarkable. With 100 μg/ml concentration of C-PC and R-PE and 50J/ cm2 illumination dose of iodine tungstenlamp, the survival rates of the cancer cells were 64% and 57%, respectively. The survival rates of the cancer cells onlytreated by illumination of iodine tungsten lamp was 86.9%. The inhibition rates of the cancer cells treated only withhigher concentration of phycobiliproteins (R-PE, C-PC≥50 μg/ml) were about 68% after they cultured for 24hs. It wasindicated that the R-Phycoerythrin and C-Phycocyanin extracted from Porphyra yezoensis would become a new kind ofphotosensitizer and could be applied to photodynamic therapy of cancer.
【语种】中文
【第一作者】王源
【通讯作者】何培民
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【题目】极大螺旋藻藻胆蛋白提纯工艺初试
【中文关键词】极大螺旋藻 藻胆蛋白 提取纯化 纯度 产率
【英文关键词】piru lina nuzx im a Phye o b ilip ro te in s E x tr a e tio n Pu ri fi e a tio n Pu ri ty Yie ld
【中文摘要】目的: 螺旋藻富含藻胆蛋白, 其附加值高, 本实验叶螺旋藻藻胆蛋白提取工艺做初步探索; 方法: 比较了组织捣碎法, 冻融法, 超声波法释放螺旋藻藻胆蛋白的效果, 并用硫酸按盐析, 舟基磷灰石层析进一步提纯, 时结果作了吸收光谱和S D S 电泳鉴定; 结果: 显示超声波法破碎效果好, 两次舟基磷灰石层析所得蛋白纯度较高; 结论: 表明本实验流程相对以往工艺经济, 省力, 省时, 对螺旋藻藻胆蛋白的规模提取有一定实用价值。
【英文摘要】O bj ee tiv e : T h is pa pe r pre se n ts p ilo t stu dy o n ex tr a etio n an d p u ri fi e at io n of e o s tlin e s s phyeo b ilipro tein s a -bo u n d in 助iru lina max ima.Me tho ds : tissu e 一tri tu r a tio n m e tho d , fre e z in 岁u llfr e e z in g m e tho d a n d u ltra so n ie m e tho d w e rea pplie d a n d e o m Par e d to Pre p are e ru de e x tr a e ts .Fu rt h er pu ri 6 e at io n w as p e rfo rm e d by m e a n s

o f a m m o n iu m su lp ha te pre e ip -itatio n a n d h yd ro x yl即a tite (H A) e o lu m n e hro m a to 『a m.Pu ri fi e d Pro te in w e re e x am in e d th r o u gh ab so rp tio n sp e e tru m a n dSD S 一PA CE.R es u lts : T he r es u lts s ho w e d tha r u ltra so n ie m e th od w a s the o ptim al m etho d fo r e x tra etin g Phye o bilipro te in s ,a n d tw ie e hydro x yla pa tite (H A) e o lu m n e hro m ato g ra ll ls ha v e to b e pe rfo rm e d to o bta in fi n e pro du et.Co n e lu sio n : e o n sid e r -in g e o s t o f e e o n o m y , m a n po w e r an d tim e , this te eh n o lo 留15 u s efu l in lar 罗一se a le iso la tio n a n d p u ri fi e a tio n o f p hye o bilipro -te in s in 助lru lina m ax lma ·

【语种】中文
【第一作者】蔡春尔
【通讯作者】何培民
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【学科分类】食品加工技术

【题目】超声辅助同时提取条斑紫菜多糖及藻胆蛋白工艺的优化
【中文关键词】条斑紫菜;多糖;藻胆蛋白;超声辅助同时提取
【英文关键词】Porphyra yezoensis;polysaccharide;phycobiliprotein;synchronous ultrasonic-assisted extraction
【中文摘要】以条斑紫菜为原料,通过单因素和正交试验,确定了超声辅助同时提取条斑紫菜多糖和藻胆蛋白的最佳工艺条件。结果表明,超声辅助同时提取条斑紫菜多糖和藻胆蛋白的最佳工艺条件为:超声60min ,功率880W,水浴30℃,4h,料液比1:50。利用本法优化后的工艺同时提取条斑紫菜多糖和藻胆蛋白,紫菜多糖提取得率为34.03%,藻胆蛋白提取得率为1.2%,藻红蛋白纯度为0.356。
【英文摘要】Using Porphyra yezoensis as the raw material, single factor and orthogonal tests were conducted to obtain the optimumconditions of synchronous ultrasonic-assisted extraction of polysaccharide and phycobiliprotein. The results showed that theoptimum conditions are ultrasonic power 880 W, ultrasonic time 60 min, water extracting temperature 30°C for 4 hours, and ratioofsolid-liquid1:50. Usingtheoptimumconditions, theextractionpercentofpolysaccharideandphycobiliproteinisrespectively34.03% and 1.2%, and phycoerythrin purity is 0.356.
【语种】中文
【第一作者】朱晓君
【通讯作者】安辛欣
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【题目】条斑紫菜R-藻红蛋白荧光探针制备条件优化
【中文关键词】藻红蛋白
【英文关键词】optimization
【中文摘要】通过化学方法
【英文摘要】we optimized
【语种】中文
【第一作者】周铭
【通讯作者】何培民
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【题目】条斑紫菜藻胆蛋白提纯方法优化探索
【中文关键词】条斑紫菜 藻红蛋白 藻蓝蛋白 硫酸氨 盐析 羟基磷灰石
【英文关键词】Porphyra yezoensis Phycoerythrin Phycocyanin Ammonium sulphate precipitation Hydroxylapatite
【中文摘要】采用溶胀法与组织捣碎法相结合的紫菜叶状体细胞破碎方法,研究了不同物液比、缓冲液浸泡时间和硫酸氨盐析次数对藻胆蛋白纯度和产率的影响,对比了各种羟基磷灰石的层析效果,并对所得藻红蛋白和藻蓝蛋白做了吸收光谱、荧光发射光谱和SDS-PAGE 鉴定。结果表明,在物液比为1∶5,浸泡时间为36 h 时,紫菜综合破碎效果最佳;经过4 次硫酸氨盐析后,藻红蛋白和藻蓝蛋白的纯度最高,分别达到1.71 和0.98,采用Siegelman 的方法制备的羟基磷灰石一次层析所得藻红蛋白和藻蓝蛋白的纯度最高,分别达到4.73 和4.42,产率分别为0.144%和0.042%,且光谱和电泳鉴定结果均达到商品化要求。
【英文摘要】The crude extract of phycobiliproteins was prepared from thallus of Porphyra yezoensis withcombination of dissolving-bulging and tissue-homogenator methods. Effects of solvent volume,treating time,ammoniumsulphate precipitation time,and hydroxylapatite (HA)chromatography on purity and yield of phycobiliprotein were studied.The results showed that the optimum conditions for purification,including the ratio of thallus to buffer (1:5),treatmentwith dissolving-bulging,precipitation with ammonium sulphate for four times,all of which increased the purity ofphycoerythrin and phycocyanin up to 1.71 and 0.98,respectively. Due to HAP chromatography according to Siegelman,the phycoerythrin and phycocyanin purity increased to 4.73 and 4.42,with the yield of 0.144% and 0.042%.
【语种】中文
【第一作者】蔡春尔
【通讯作者】何培民
【期刊名称、卷期、页码】生物技术通报,2009,98-102
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【学科分类】食品加工技术

【题目】两种藻胆蛋白激光光敏对人肝癌细胞株SMMC-7721体外杀伤作用研究
【中文关键词】条斑紫菜, R-藻红蛋白, C-藻蓝蛋白, 光敏作用, 细胞凋亡, 肝癌细胞
【英文关键词】Porphyra yezoensis, R-phycoerythrin, C-phycocyanin, photodynamic therapy, cell apoptosis, liver cancer cell
【中文摘要】用3-(4, 5-二甲基噻唑-2)-2, 5-二苯基四氮唑溴盐(MTT)法测定提取自条斑紫菜的R-藻红蛋白(R-PE)和C-藻蓝蛋白(C-PC)经激光介导对人肝癌SMMC-7721 细胞的杀伤率, 并检测细胞凋亡率。结果显示在120 mg/L 浓度下, R-PE 在氩离子激光器100 J/cm2 辐照下对应的细胞存活率为27%, C-PC 在He-Ne 激光器35 J/cm2 辐照下对应的细胞存活率为47%; 单用2 种激光器辐照对应的细胞存活率分别为65%和70%; 单用2 种蛋白处理细胞在72 h 后出现对细胞生长的显著抑制, 最大抑制率分别为31%(R-PE, 120 mg/L)和27%(C-PC, 250 mg/L)。120 mg/L 的2 种藻胆蛋白在对应激光辐照下, 于照后8 h 达到细胞凋亡率最大值, 分别为31.54%(R-PE)和32.54%(C-PC)。本实验证明条斑紫菜R-PE 和C-PC 具有可开发成为光敏剂的应用前景。
【英文摘要】We studied the effect of photodynamic therapy with phycobiliproteins on human liver cancer cells in vitro. With 3-(4,5-Dimethylthiazol-2-yl)-2,5-diphenyltetrazolium bromide assay (MTT assay), we used two phycobiliproteins, R-phycoerythrin(R-PE) and C-phycocyanin (C-PC) prepared from Porphyra yezoensis, to determine the killing rates and apoptosis rates of humanliver cancer cells (SMMC-7721) mediated by laser. When the concentration of R-PE was 120 mg/L, the survival rate of human livercancer cells was 27% after treated by Argon laser with 100 J/cm2 doses, while the survival rate in the control group (without addingR-PE) was 65%. When the C-PC concentration was 120 mg/L, the survival cell rate was 47% after treated by He-Ne laser with35 J/cm2 dose, while the survival rate in the control group (without adding C-PC) was 70%. After handled only with these two kindsof phycobiliproteins for 72 h, the growth of cancer cells presented significant inhibition. The maximal inhibition rates reached up to31% with R-PE (120 mg/L concentration) and 27% with C-PC (250 mg/L concentration) respectively. After irradiated by laser for 8 h,the maximal cell apoptosis rates were 31.54% with R-PE and 32.54% with C-PC, respectively. It indicated that R-PE and C-PC extracted from Porphyra yezoensis could develop to new photosensitizers for cancer photodynamic therapy
【语种】中文
【第一作者】王源
【通讯作者】何培民
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【学科分类】食品加工技术

【题目】缢蛏(Sinonovacula constricta)cDNA 文库的构建及肌动蛋白基因的研究
【中文关键词】缢蛏, cDNA 文库, 序列分析, 肌动蛋白基因
【英文关键词】Sinonovacula constricta; cDNA library; Sequence analysis; Actin gene
【中文摘要】采用SMART(switching metchanism at 5’end of RNA transcript)技术构建缢蛏cDNA基因文库。并对cDNA文库的滴度,重组率和插入片段的大小进行了检测。结果表明,该cDNA文库的滴度为5.50×104cfu/ml,重组率为92.5%,插入片段的长度大多在1kb以上。对478个克隆子进行了测序,共得到430个有效序列,其中166个序列无同源性,264条序列具有同源性。从中得到肌动蛋白(actin)cDNA的全长1538bp,开放阅读框(ORF)为1131bp,编码376个氨基酸,其预测蛋白的分子量为41.78kD,等电点为5.30。该氨基酸序列与其它物种的同源性大都在90%以上。
【英文摘要】SMART (switching mechanism at 5’-end of RNA transcript) technique to construct full-length cDNA library with Sinonovacula constricta was adopted and the library titre, recombinant rate, and the length of inserted cDNA were measured. The results indicate that this library’titre reached 5.50×104 cfu/ml; the percentage of recombination was as high as 92.5%. The PCR results show that the average size of inserts was larger than 1000bp. 478 clones were sequenced and 430 valid sequences were obtained, in which 264 cDNA sequences showed similarity to known genes. Actin was found by aligning it with those of the homologues in the NCBI database’s Blast program. Its full-length was 1538bp, including an open reading frame (ORF) encoding apolyeptide of 376 amino acids with predicted molecular weight of 41.78kD and theoretical isoelectric point of 5.30. The amino acids sequence aligned with other species was higher than 90%, meaning actin is a high conserved gene.
【语种】中文
【第一作者】秦玉明
【通讯作者】苏秀榕
【期刊名称、卷期、页码】海洋与湖沼,Vol.41, No.1,Jan., 2010,54-60
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【学科分类】分子生物学

【题目】海洋经济贝类分子遗传标记及其应用的研究进展
【中文关键词】海洋贝类; 遗传变异; 遗传多样性; 遗传标记; DNA 分子标记
【英文关键词】marine mollusk; genetic variation; genetic diversity; genetic marker; molecular marker
【中文摘要】"分子遗传标记是随着分子生物学技术的发展而出现的遗传标记技术, 它突破了形态和细胞水平上遗传标记的局限性, 发挥着独特的优势。本文简要介绍了同工酶、RFLP、RAPD、AFLP、mtDNA、SSR 等几种常用的分子遗传标记技术方法,并比较了各种技术的优点和局限性; 概述了这些遗传标记技术在海洋经济贝类群体遗传结构和变异、遗传分化、遗传育种、种质鉴定、基因定位和构建遗传图谱研究等方面的应用和取得的研究成果。"
【英文摘要】"With the development of molecular biology, molecular genet ic markers have become an importanttechniques, w hich break through the limitat ion of the t radit ional techniques that are based on the level of morphologyand cytology. T his paper review ed some main genet ic markers such as Allozyme, RFLP, RAPD,AFLP, SSR, mtDNA, SNP, FISH and ISSR, as w ell as the advances of studies on genet ic structure analysis,evolution, heterosis est imat ion, genet ic mapping, and marker assisted selection."
【语种】中文
【第一作者】林志华
【通讯作者】林志华
【期刊名称、卷期、页码】中国海洋大学学报,37(4) ,July, 2007, 533-540
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【学科分类】分子生物学

【题目】Comparison of crop model validation methods
【中文关键词】无
【英文关键词】crop models, validation methods, comparison
【中文摘要】无
【英文摘要】In this paper, the many indices used in validation of crop models, such as RMSE (root mean square errors), Sd (standard error of absolute difference), da (mean absolute difference), dap (ratio of da to the mean observation), r (correlation), and R2 (determination coefficient), are compared for the same rice architectural parameter model, and their advantages and disadvantages are analyzed. A new index for validation of crop models, dap between the observed and the simulated values, is proposed, with dap<5% as the suggested standard for precision of crop models. The different kinds of validation methods in crop models should be combined in the following aspects: (1) calculating da and dap; (2) calculating the RMSE or Sd; (3) calculating r and R2, at the same time, plotting 1:1 diagram.
【语种】英文
【第一作者】曹宏鑫
【通讯作者】曹宏鑫
【期刊名称、卷期、页码】Agricultural Sciences in China 11(8): 1274-1285
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【学科分类】农业基础学科

【题目】Probiotic properties of lactic acid bacteria isolated from stool samples of longevous people in regions of Hotan, Xinjiang and Bama, Guangxi, China.
【中文关键词】Lacticacid bacteria; Longevous peoplestool; Probiotics; Antimicrobial activity
【英文关键词】Lacticacid bacteria; Longevous peoplestool; Probiotics; Antimicrobial activity
【中文摘要】A total of 567 lactic acid bacteria (LAB) strains were isolated from the stool samples of longevous people in regions of Hotan, Xinjiang and Bama, Guangxi, China. In order to reduce the number of strains for further examinations, 36 isolates were screened out for further examination whilst the other strains, which had lower probiotic properties, were not suitable for yogurt production due to the absence of growth in pH 3.5 MRS medium and no curding during fermentation, and so were excluded. The result of identification by API, sequence analysis of 16S rRNA and random amplified polymorphic DNA (RAPD) analysis showed that there were three strains of Lactobacillus acidophilus, 10 strains of Lactobacillus rhamnosus, three strains of Lactobacillus casein, three strains of Lactobacillus brevis, two strains of Enterococcus faecium, two strains of Enterococcus faecalis, four strains of Bifdibacterium infantis, three strains of Bifdibacterium brevise, three strains of Bifdibacterium bifidium, two strains of Bifdibacterium adolecentis and one strain of Bifdibacterium longam among the 36 isolates. These strains were evaluated by in vitro methods including survival upon exposure to pH 2.0, 3.0 and/or 0.3% oxgall and adhesion to the human colon adenocarcinoma cell line Caco-2 as well as antimicrobial activity against potential pathogens. The results presented here show that L. rhamnosus LV108, L. rhamnosus F, B. brevise R39 and B. infantis R42 are acid and bile tolerant, adhere to the cultured human intestinal Caco-2 cell line, antagonistic activity against potential pathogenic bacteria infection in vitro, and so are potential strains for probiotic use.
【英文摘要】A total of 567 lactic acid bacteria (LAB) strains were isolated from the stool samples of longevous people in regions of Hotan, Xinjiang and Bama, Guangxi, China. In order to reduce the number of strains for further examinations, 36 isolates were screened out for further examination whilst the other strains, which had lower probiotic properties, were not suitable for yogurt production due to the absence of growth in pH 3.5 MRS medium and no curding during fermentation, and so were excluded. The result of identification by API, sequence analysis of 16S rRNA and random amplified polymorphic DNA (RAPD) analysis showed that there were three strains of Lactobacillus acidophilus, 10 strains of Lactobacillus rhamnosus, three strains of Lactobacillus casein, three strains of Lactobacillus brevis, two strains of Enterococcus faecium, two strains of Enterococcus faecalis, four strains of Bifdibacterium infantis, three strains of Bifdibacterium brevise, three strains of Bifdibacterium bifidium, two strains of Bifdibacterium adolecentis and one strain of Bifdibacterium longam among the 36 isolates. These strains were evaluated by in vitro methods including survival upon exposure to pH 2.0, 3.0 and/or 0.3% oxgall and adhesion to the human colon adenocarcinoma cell line Caco-2 as well as antimicrobial activity against potential pathogens. The results presented here show that L. rhamnosus LV108, L. rhamnosus F, B. brevise R39 and B. infantis R42 are acid and bile tolerant, adhere to the cultured human intestinal Caco-2 cell line, antagonistic activity against potential pathogenic bacteria infection in vitro, and so are potential strains for probiotic use.

【语种】英文
【第一作者】Rui-Xia Gu
【通讯作者】Rui-Xia Gu
【期刊名称、卷期、页码】Anaerobe 2008,14(6):313-317
【论文发表时间】2008-12-01 00:00:00
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【学科分类】食品科学技术基础学科

【题目】缢蛏微卫星序列分离及特性分析
【中文关键词】缢蛏; 微卫星; 磁珠富集; PCR
【英文关键词】Sinonovacula constricta; microsatellite; enrichment by magnetic beads; PCR
【中文摘要】分析了缢蛏(Sinonovacula constricta)基因组文库中微卫星序列的特性及微卫星引物的遗传特征。采用磁珠富集珐和PCR筛选法,以CA15为探针,快速分离含有微卫星序列的阳性克隆。结果表明,在筛选的210个白色菌落中,得到58个微卫星序列,阳性克隆率为27.6%,核心重复序列为两碱基和三碱基的微卫星居多,其中完美型占39.7%,非完美型39.7%,复合型占10.3%,非完美型与复合型共存的占10.3%。微卫星重复次数主要集中在20~40次之间,占66%,最高为63次。除探针中使用的CA重复单元外,还观察到
AG/TC,AT/TA,AAC/TTG,CAA/GTT,TGA,AAT,AGAA,GTTT/CAAA,AAAT/TTTA,TTTC,CCTA,TCTA,TCCC,TGCC,GTTTCT,CTGTT,CACACC,TATACA,TTTTG的重复序列。利用Primer Premier5.0设计引物24对,经过初步筛选得到适合的微卫星引物18对,为今后未知微卫星标记的开发,群体遗传结构的分析,优良品种的选育提供基础。 更多还原
【英文摘要】The microsatellite sequences and microsatellite primers were analyzed in razor clam(Sinonovacula constricta).The positive clones of microsatellites were isolated using the magnetic bead hybridization selection method and PCR selection method with the(CA)15 prone.A total of 210 white colonies were screened using a PCR-based technique,and there were 58 microsatellite repeat motifs by sequencing(27.6% of white colonies screened).Besides the motif of CA contained in the oligoprobe,we also found other 19 types of microsatellite repeats including
AG/TC,AT/TA,AAC/TTG,CAA/GTT,TGA,AAT,AGAA,GTTT/CAAA,AAAT/TTTA,TTTC,CCTA,TCTA,TCCC,TGCC,GTTTCT,CTGTT,CACACC,TATACA and TTTTG.According to Weber(1990),the microsatellite sequences obtained could be categorized structurally into perfect repeats(39.7%),imperfect repeats(39.7%),and compound repeats(20.6%).Among the microsatellite repeats,20~40 repeats arrays were most abundant,accounting for 66%.The largest length of microsatellites was 63 repeats.Finally,24 microsatellite primers were designed by software Premier Primer 5.0 and 18 pairs were applied for the population genetic studies.They may be applied for the population genetic diversity and developing genetic linkage maps.
【语种】中文
【第一作者】牛东红
【通讯作者】李家乐
【期刊名称、卷期、页码】中国海洋大学学报,38(5),Sep,2008 : 733-738
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【引文索引号】null
【学科分类】分子生物学

【题目】Optimisation of hydrolysis conditions for the production of the angiotensin-I converting enzyme (ACE) inhibitory peptides from whey protein using response surface methodology
【中文关键词】ACE inhibitory peptide; Whey protein hydrolysate; Response surface methodology
【英文关键词】ACE inhibitory peptide; Whey protein hydrolysate; Response surface methodology
【中文摘要】In the present research, the effect of process conditions on the angiotensin-I converting enzyme (ACE) inhibitory activity of whey protein concentrate hydrolysed with crude proteinases preparation from L. helveticus LB13 was investigated systematically using response surface methodology. It was shown that ACE inhibitory activity of the whey hydrolysates could be controlled by regulation of three process conditions (hydrolysis temperature, pH and enzyme to substrate (E/S) ratio). Hydrolysis conditions for optimal ACE inhibition were defined using a response surface model. E/S ratio at 0.60, pH at 9.18 and temperature at 38.9 ° C were found to be the optimal conditions to obtain high ACE inhibitory activity close to 92.2% and DH of the whey protein

was 18.8%.
【英文摘要】In the present research, the effect of process conditions on the angiotensin-I converting enzyme (ACE) inhibitory activity of whey protein concentrate hydrolysed with crude proteinases preparation from L. helveticus LB13 was investigated systematically using response surface methodology. It was shown that ACE inhibitory activity of the whey hydrolysates could be controlled by regulation of three process conditions (hydrolysis temperature, pH and enzyme to substrate (E/S) ratio). Hydrolysis conditions for optimal ACE inhibition were defined using a response surface model. E/S ratio at 0.60, pH at 9.18 and temperature at 38.9 ° C were found to be the optimal conditions to obtain high ACE inhibitory activity close to 92.2% and DH of the whey protein was 18.8%.
【语种】英文
【第一作者】Yuxing Guo
【通讯作者】Daodong Pan
【期刊名称、卷期、页码】Food Chemistry 2009,114(1):328-333
【论文发表时间】2009-01-01 00:00:00
【引文索引类型】SCI
【引文索引号】WOS:000263216000049
【学科分类】食品科学技术基础学科

【题目】Purification and characterization of CEP from Lactococcus lactis ssp. lactis
【中文关键词】CEP; Purification and characterization; Whey protein hydrolysate; ACE-inhibitory activity
【英文关键词】CEP; Purification and characterization; Whey protein hydrolysate; ACE-inhibitory activity
【中文摘要】The cell-envelope proteinase (CEP) of Lactococcus lactis ssp. lactis LB12 was released from cells by treatment with lysozyme, purified by ammonium sulfate precipitation and chromatographed on DEAE-Sephadex A-25 and Sephacryl S-300 HR. The purified CEP is a monomer structure and has molecular mass of about 53 kDa. Optimal activity occurred at pH 7.5 and 40 ° C. It is a metallopeptidase, activated by Mn2+, Mg2+, Ca2+, inhibited by Co2+, Zn2+, Ni2+ and EDTA, and a serine proteinase which is inhibited by PMSF. The sequence of the first 13 amino acids of the N-terminal of the CEP was determined to be Asp-Val-Phe-Ala-Pro-His-Met-Ala-Asn-Val-Ala-Ala-Val, and the whey protein hydrolysate produced by the CEP displayed ACE-inhibitory activity.
【英文摘要】The cell-envelope proteinase (CEP) of Lactococcus lactis ssp. lactis LB12 was released from cells by treatment with lysozyme, purified by ammonium sulfate precipitation and chromatographed on DEAE-Sephadex A-25 and Sephacryl S-300 HR. The purified CEP is a monomer structure and has molecular mass of about 53 kDa. Optimal activity occurred at pH 7.5 and 40 ° C. It is a metallopeptidase, activated by Mn2+, Mg2+, Ca2+, inhibited by Co2+, Zn2+, Ni2+ and EDTA, and a serine proteinase which is inhibited by PMSF. The sequence of the first 13 amino acids of the N-terminal of the CEP was determined to be Asp-Val-Phe-Ala-Pro-His-Met-Ala-Asn-Val-Ala-Ala-Val, and the whey protein hydrolysate produced by the CEP displayed ACE-inhibitory activity.
【语种】英文
【第一作者】Daodong Pan
【通讯作者】Daodong Pan
【期刊名称、卷期、页码】Food Chemistry 2009,112(3):533-538
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【引文索引号】WOS:000259947100002
【学科分类】食品科学技术基础学科

【题目】福建缢蛏野生群体与养殖群体的ITS-1和ITS-2分析
【中文关键词】缢蛏; ITS-1; ITS-2; 遗传多样性
【英文关键词】Sinonovacula constricta; ITS-1; ITS-2; genetic diversity
【中文摘要】采用PCR技术对福建缢蛏的霞浦野生群体(WP)和漳湾养殖群体(CZ)进行了ITS-1和ITS-2的多态性分析。利用贝类通用引物扩增了ITS-1和ITS-2序列,PCR产物经纯化、测序、同源序列比对,获得长度分别为495 bp的ITS-1和485 bp的ITS-2核苷酸序列,其中分别包括25 bp和22 bp的插入缺失。ITS-1和ITS-2片段的T、C、A、G四种碱基的平均含量分别为13.6%、30.2%、28.3%、29.7%(ITS-1),16.2%、33.7%、19.5%、30.6%(ITS-2),A+T含量显著低于G+C含量。序列分析显示,野生群体和养殖群体的单倍型多样性指数、多态位点数、平均核苷酸差异数分别为1.0、40、10.54(ITS-1),0.96、27、11.91(ITS-2)和1.0、28、8.23(ITS-1),0.96、28、10.16(ITS-2),揭示出福建两个缢蛏群体的遗传多样性均较为丰富,其变异主要

源于碱基的插入和缺失,野生群体的多样性较高于养殖群体,但是遗传组成存在着较高的一致性,群体间没有遗传分化。
【英文摘要】ITS-1 and ITS-2 polymorphism were analyzed by PCR technique to Xia-pu wild populations(WP) and Zhang-wan cultured population(CZ) of Sinonovacula constricta in Fujian.The ribosomal internal transcribed spacer regions ITS-1 and ITS 2,were amplified by PCR using universe primers.Two nucleotide sequences were got with very suitable sizes of 495 bp and 485 bp for studies on genetic variation and phylogeny,including 25 bp and 22 bp indels respectively.The mean contents of T,C,A and G were 13.6%,30.2%,28.3% and 29.7% in ITS-1 and 16.2%,33.7%,19.5% and 30.6% in ITS-2.The content of G+C was significantly higher than A+T in the two fragments.The results showed that the haplotype diversity,number of segregating sites and average number of differences were 1.0,40,10.54(ITS-1);0.96,27,11.91(ITS-2)and 1.0,28,8.23(ITS-1);0.96,28,10.16(ITS-2) in the wild population and cultured population,respectively.The genetic diversity of these two populations of S.constricta were high in Fujian and the wild population was a little higher than the cultured population,but the genetic composition was similar between two populations.
【语种】中文
【第一作者】姜志勇
【通讯作者】李家乐
【期刊名称、卷期、页码】海洋渔业,Vo.l 29, No.4,Nov.,2007,314-318
【论文发表时间】2007-11-01 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】分子生物学

【题目】Biomass-based rice (Oryza sativa L.) aboveground architectural parameter models
【中文关键词】无
【英文关键词】biomass, plant architectural parameter, model, rice (Oryza sativa L.)
【中文摘要】无
【英文摘要】To quantify the relationships between rice plant architecture parameters and the corresponding organ biomass, and to research on functional structural plant models of rice plant, this paper presented a biomass-based model of aboveground architectural parameters of rice (Oryza sativa L.) in the young seedling stage, designed to explain effects of cultivars and environmental conditions on rice aboveground morphogenesis at the individual leaf level. Various model variables, including biomass of blade and blade length, were parameterized for rice based on data derived from an outdoor experiment with rice cv. Liangyou 108, 86You 8, Nanjing 43, and Yangdao 6. The organ dimensions of rice aboveground were modelled taking corresponding organ biomass as an independent variable. Various variables in rice showed marked consistency in observation and simulation, suggesting possibilities for a general rice architectural model in the young seedling stage.Our descriptive model was suitable for our objective. However, they can set the stage for connection to physiological model via biomass and development of functional structural rice models (FSRM), and start with the localized production and partitioning of assimilates as affected by abiotic growth factors. The finding of biomass-based rice architectural parameter models also can be used in morphological models of blade, sheath, and tiller of the other stages in rice life.
【语种】英文
【第一作者】曹宏鑫
【通讯作者】曹宏鑫
【期刊名称、卷期、页码】Agricultural Sciences in China 11(10): 1621-1632
【论文发表时间】2012-10-17 00:00:00
【引文索引类型】SCI
【引文索引号】1.423046571e+014
【学科分类】农业基础学科

【题目】Antioxidant activityof an exopolysaccharide purified from Lactococcus lactis subsp. lactis 12
【中文关键词】Lactococcus lactissubsp. lactis12; Exopolysaccharide; Isolation and purification; Antioxidation activities
【英文关键词】Lactococcus lactissubsp. lactis12; Exopolysaccharide; Isolation and purification; Antioxidation activities
【中文摘要】A novel exopolysaccharide (EPS) was obtained by ultra-filtration, ion exchange and sizing chromatography from a culture of Lactococcus lactissubsp. lactis12. The EPS was mainly composed of fructose and rhamnose with a mean molecular weight of 6.9 × 105 Da. The EPS and its antioxidant properties were evaluated in vitro and in vivo. The EPS displayed strong antioxidant effects, exhibited the ability to scavenge hydroxyl and superoxide anion radicals, and significantly decreased the level of malondialdehyde

(MDA), even while increasing the activity of catalase (CAT) and superoxide dismutase (SOD) in mice in a dose-dependent manner. The results suggest that the EPS has direct and potent antioxidant properties.

【英文摘要】A novel exopolysaccharide (EPS) was obtained by ultra-filtration, ion exchange and sizing chromatography from a culture of Lactococcus lactissubsp. lactis12. The EPS was mainly composed of fructose and rhamnose with a mean molecular weight of 6.9 × 105 Da. The EPS and its antioxidant properties were evaluated in vitro and in vivo. The EPS displayed strong antioxidant effects, exhibited the ability to scavenge hydroxyl and superoxide anion radicals, and significantly decreased the level of malondialdehyde (MDA), even while increasing the activity of catalase (CAT) and superoxide dismutase (SOD) in mice in a dose-dependent manner. The results suggest that the EPS has direct and potent antioxidant properties.

【语种】英文

【第一作者】Daodong Pan

【通讯作者】Daodong Pan

【期刊名称、卷期、页码】Carbohydrate Polymers 2010,80(3):908-914

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【引文索引类型】其他

【引文索引号】WOS:000261383600012

【学科分类】食品科学技术基础学科

【题目】缢蛏7群体的形态差异与判别分析

【中文关键词】缢蛏; 地理群体; 形态差异; 判别分析

【英文关键词】Sinonovacu la constricta; geograph ic populations; morpho log ica l variation; d iscr im inant analysis

【中文摘要】运用多变量形态度量学分析方法,对我国沿海庄河、汉沽、海阳、盐城、崇明、宁波、漳州7个地理群体缢蛏的12个形态性状进行了形态差异研究。聚类分析和主成分分析结果表明,汉沽群体和海阳群体首先与庄河群体聚类,之后依次与崇明群体和盐城群体聚类,最后与宁波和漳州群体聚为一支。主成分分析构建了3个主成分,其贡献率:主成分1为36.28%,主成分2为22.23%,主成分3为12.72%,累积贡献率为71.23%。判别分析结果表明,7群体间形态差异显著(P<0.01)。建立7群体缢蛏的判别函数,其判别准确率P1为66.67%~86.67%,P2为68.96%~100%。7群体的综合判别率为77.93%。

【英文摘要】The multivariate morphometrics analysis method was used to study twelve morphological characters of seven geographical populations of Sinonovacula constricta from Zhuang-he,Han-gu,Hai-yang,Yan-cheng,Chong-ming,Ning-bo and Zhang-zhou,along the coast of China.The results of cluster and principal component analysis revealed that Han-gu and Hai-yang populations first clustered with Zhuang-he population,then with Chong-ming and Yan-cheng polulations,finally clustered with Ning-bo and Zhang-zhou populations.In the principal component analysis,three principal components were constructed,the contributory ratios of the three principal components were 36.28%,22.23% and 12.72% respectively,and the cumulative contributory ratio was 71.231%.The results of discriminant analysis revealed that there were significant differences among the seven populations(P<0.01).The discriminant functions of seven populations were established,and the accuracy was 66.67%-86.67%(P1) and 68.96%-100%(P2) respectively.The comprenensive discriminant accuracy was 77.93%.

【语种】中文

【第一作者】刘达博

【通讯作者】李家乐

【期刊名称、卷期、页码】海洋渔业,Vo.l 31, No.4,Nov., 2009,363-368

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【引文索引号】null

【学科分类】分子生物学

【题目】Bacillus macorous合成γ-CGT酶过程中阻遏效应与指数流加发酵

【中文关键词】γ-CGT酶; 直链麦芽低聚糖; 分解代谢阻遏; 最大比生长速率; 指数流加

【英文关键词】γ-CGTase, linear maltooligosacchaeides, catabolite repression, maximal specific growth rate, exponential feeding

【中文摘要】考察了不同搅拌转速、pH值和温度条件下,细胞生长、γ-CGT酶产量与培养液中直链麦芽低聚糖积累的关系.细胞的最大比生长速率为0.2h-1是γ-CGT酶产量从增长到下降的拐点.发酵液中直链麦芽低聚糖的存在能促进细胞生长并引起胞内的FDP,ATP和G6P含量增加,而对产酶显示出分解代谢阻遏效应.指数流加结果显示,通过限制细胞的比生长速率,可将阻遏作用控制在较低水平,酶产量得到了大幅度提高,是分批发酵酶产量的7.9倍,达到2565U/mL.

【英文摘要】The Influences of agitation speed,temperature and pH-controlling strategy on cell growth,linear maltooligosaccharides accumulation in broth and γ -CGTase yield were investigated in the batch culture of Bacillus macorous.When the maximal value of specific growth rate was higher than 0.2 h- 1,the γ -CGTase yield decreased.The linear maltooligosaccharides generated during fermentation can promote the cell growth and elevate the intracellular contents of FDP,ATP and G6P,which demonstrated a repression effect on the production of γ -CGTase.Hence,the exponential feeding mode of nutrients was carried out to control the catabolite repression by limiting the specific cell growth rate.The highest yield of γ -CGTase obtained in fed-batch was 2 565 U/mL,which was 7.9 times of that in batch fermentation

【语种】中文

【第一作者】王峰

【通讯作者】陈坚

【期刊名称、卷期、页码】过程工程学报2008,(1):109-114

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【引文索引类型】其他

【引文索引号】null

【学科分类】分子生物学

【题目】Function and safety assessment of Lactococus lactis subsp. lactis LB12 as potential probiotic strain

【中文关键词】Key words: Yogurt; Lactococus lactis subsp. lactis LB12; acid and bile tolerance; antimicrobial and antibiotic sensitivity; cholesterol-lowering effect

【英文关键词】Key words: Yogurt; Lactococus lactis subsp. lactis LB12; acid and bile tolerance; antimicrobial and antibiotic sensitivity; cholesterol-lowering effect

【中文摘要】The effect of yogurt fermented by Lactococus lactis subsp. lactis LB12 isolated from traditional Chinese pickled cabbage on serum cholesterol and triacylglycerol levels were investigated in mice. In the same, the characterizations of the strain, such as acid-tolerance, bile-tolerance, antimicrobial activity, antibiotic sensitivity and safety were also examined. The serum total cholesterol, triglyceride and bile acid levels significantly decreased of mice given a high-cholesterol diet supplemented with yogurt fermented by Lactococus lactis subsp. lactis LB12. Characterization of L. lactis subsp. lactis LB12 showed that it was bile- and acid-tolerant, resistant to five commercial antibiotics tested, and possessed antimicrobial activity to pathogenic Escherchia coli and Staphylococcus aureus. None of morphological changes was noted as a result of L. lactis subsp. lactis LB12 treatment, nor were there significant differences in the visceral weight indices of the lymph nodes, spleen, bacterial translocation, or aberration rate of sperm of mice compared to control. The results indicated that L. lactis subsp. lactis LB12 might be effective as a probiotic with cholesterol-lowering activities.

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【语种】英文

【第一作者】Daodong Pan

【通讯作者】Daodong Pan

【期刊名称、卷期、页码】African Journal of Biotechnology 2008,7(22):4037-4044

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【引文索引号】WOS:000261383600012

【学科分类】食品科学技术基础学科

【题目】4个群体文蛤的RAPD分析

【中文关键词】RAPD;文蛤;遗传多态性;聚类分析
【英文关键词】Meretrix meretrix;RAPD;genetic diversity;cluster analysis
【中文摘要】用建立的高重复性RAPD优化体系,对文蛤Meretrixmeretrix4个不同地理群体(广西文蛤Gh、白壳文蛤Gb、山东文蛤S、江苏文蛤J)的个体进行RAPD分析,获得了较好的重复性条带。从20个随机引物中筛选出6个引物进行RAPD扩增,结果显示:Gb群体有11条特征带,Gh群体有2条,这些特征性RAPD扩增带可以作为这两个群体的RAPD分子标记;J群体和S群体没有明显特征带,可能预示这两个群体间遗传渐渗导致种质资源趋向同质化;Gh、S、J群体多态比例差别不大,为61.54%~62.86%,而Gb群体仅为33.33%。采用修正后的Shannon多态性指数方程进行遗传多态性分析,结果显示:Gh、S、J群体多态性指数分别为0.189、0.195、0.200、Gb群体仅为0.115。研究结果表明,文蛤不同群体的遗传地理分化明显,Gh、S、J群体遗传多样性水平较高,而Gb群体的遗传多样性较低,可能预示该群体分布范围较小、群体数量不大,应加强对其资源的保护。Gh与Gb群体为同一栖息地,除壳色和壳形态差异外,遗传多态性差距悬殊,已超出种内变异范围,二者是否为不同种或具生殖隔离的地理亚种,还待于深入研究。
【英文摘要】DNA samples of four populations(Gh,Gb,S,J)of clam Meretrix meretrix were analyzed using an optimized RAPD system with high reproducibility.Six primers were amplified bands from 20 primers.The results showed that Gb population had 11 specific bands,and the Gh 2 specific bands,which acted as molecular markers of distinguishing the different populations.The J and S populations had no specific bands.The Gb population had polymorphic locus proportion of 33.33%,and the others had the proportion from 61.54% to 62.86%.The Shannon ’s index of phenotypic diversity(H) of the Gb was 0.115,and the others from 0.189 to 0.200.The results showed that Gh,J,and S populations had high genetic diversity,surely belonging to Meretrix meretrix,but the Gb low,indicating that the Gb would be a small population,an independent species or subspecies.Whether Gb group belongs to Meretrix lusoria,Meretrix larmarckii,or even a new species of genus Meretrix needs further research.
【语种】中文
【第一作者】林志华
【通讯作者】林志华
【期刊名称、卷期、页码】大连水产学院学报,Vol.24 No.1,Feb.2009,66-70
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【引文索引号】null
【学科分类】分子生物学

【题目】The probiotic properties of Lactobacillus buchneri P2
【中文关键词】cholesterol removal; isolation; Lactobacillus buchneri P2; mechanism;probiotics
【英文关键词】cholesterol removal; isolation; Lactobacillus buchneri P2; mechanism;probiotics
【中文摘要】Abstract Aims: To isolate new lactobacilli strain with cholesterol‐lowering effect and analyse its probiotic properties and possible mechanisms of cholesterol removal.Methods and Results: The strain with cholesterol‐lowering effect was isolated from pickled juice. The acid and bile tolerance and antimicrobial activity were tested. The free cholalic acid, the cholesterol in supernatant fluid, washing buffer and cell extract, the cholesterol removed by growing, dead and resting cells were quantified. The isolated strain with high cholesterol‐reducing rate of 43·95% was identified as Lactobacillus buchneri (Lact. Buchneri) P2. It had acid and bile tolerance and antimicrobial activity. Moreover, it could remove cholesterol via coprecipitating with deconjugated bile salts, assimilating and adsorbing by cells. And the assimilation was considered to be the main reason of cholesterol removal. Conclusions: The isolated Lact. buchneri P2 showed probiotic properties of cholesterol reduction, acid and bile tolerance and antimicrobial activity and could remove cholesterol via different ways. Significance and Impact of the Study: A new strain of Lact. buchneri P2 with efficient cholesterol‐reducing ability was isolated to provide species diversity of lactobacilli for functional dairy products. And the possible mechanism of cholesterol removal by Lact. buchneri was discussed.
【英文摘要】Abstract Aims: To isolate new lactobacilli strain with cholesterol‐lowering effect and analyse its probiotic properties and possible mechanisms of cholesterol removal.Methods and Results: The strain with cholesterol‐lowering effect was isolated from pickled juice. The acid and bile tolerance and antimicrobial activity were tested. The free cholalic acid, the cholesterol in supernatant fluid, washing buffer and cell extract, the cholesterol removed by growing, dead and resting cells were quantified. The isolated strain with high cholesterol‐reducing rate of 43·95% was identified as Lactobacillus buchneri (Lact. Buchneri) P2. It had acid and bile tolerance and antimicrobial activity. Moreover, it could remove cholesterol via coprecipitating with deconjugated bile salts, assimilating and adsorbing by cells. And the assimilation was considered to be the main reason of cholesterol removal. Conclusions: The isolated Lact. buchneri P2 showed probiotic properties of cholesterol reduction, acid and bile tolerance and antimicrobial activity and could remove cholesterol via different ways. Significance and Impact of the Study: A new strain of Lact. buchneri P2 with efficient

cholesterol‐reducing ability was isolated to provide species diversity of lactobacilli for functional dairy products. And the possible mechanism of cholesterol removal by Lact. buchneri was discussed.
【语种】英文
【第一作者】X. Q. Zeng
【通讯作者】Daodong Pan
【期刊名称、卷期、页码】Journal of Applied Microbiology 2010,108(6):2059-2066
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【引文索引号】WOS:000277412600021
【学科分类】食品科学技术基础学科

【题目】文蛤不同群体的同工酶分析
【中文关键词】文蛤;地理群体;同工酶
【英文关键词】Meretrix meretrix;electrophoresis;isozyme
【中文摘要】采用聚丙烯酰胺垂直电泳技术(PAGE)对来自山东野生、江苏野生、浙江养殖、广西野生白色壳4个文蛤M eretrix m eretrix群体两种组织(消化腺、闭壳肌)的EST、MDH、ME、ADH、SOD、CAT等6种同工酶进行了分析。结果显示:文蛤不同组织之间、不同群体之间、养殖群体和野生群体之间的同工酶酶谱均有较明显的差别;广西白壳群体的多种同工酶酶谱与其它几个群体相比有较大差异,说明该种群与另外3个群体种质差异较大,亲缘关系较远。对山东野生、广西普通壳色和广西白色壳色3个群体的4种同工酶(EST、AMY、MDH、SOD)进行了研究,结果表明:广西普通壳色群体和山东群体的酶谱相似,而与广西白色壳群体差异明显,初步推测广西白色壳群体为文蛤属的其他种类;在文蛤各群体中均找到了特征性酶带,可以作为区别于文蛤不同群体的蛋白标记,用于文蛤种质资源的分析鉴定,并可为选育优良品种文蛤提供遗传依据。 更多还原
【英文摘要】Vertical polyacrylamide gel electrophoresis(PAGE)technique was used to analyze six isozymes(esterase EST,malate dehydrogenase MDH,malic enzyme ME,alchol dehydrogenase ADH,superoxide dismutase SOD,catalase CAT)in adductor muscles and digestive glands of clam Meretrix meretrix in four populations(three natural populations from Shandongm(S),Jiangshu(J) and Guangxi(G,Gb),and hatched population from Wenzhou(Z)).The basic electrophoretic patterns of the 6 isozymes revealed that Gb population showed a significantly different isozymes phenotypes at EST,SOD,ME and MDH from the other population.The EST and AMY isozymes bands of Z was found to decrease compared with S,indicating that human activities may affect the genetic variation within and between populations.No significant differences in the isozymes phenotypes in SOD,AMY,CAT,ME,and MDH was observed between populations of S and G,but EST demonstrated a significantly different at isozyme phenotypes between S and G,showing distinct specific of geographical population.
【语种】中文
【第一作者】林志华
【通讯作者】林志华
【期刊名称、卷期、页码】大连水产学院学报,Vo1.24 No.6,Dec.2009,525-530
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【引文索引号】null
【学科分类】分子生物学

【题目】Scavenging and anti-fatigue activity of fermented defatted soybean peptides
【中文关键词】Soybean peptides; Fermentation; Radical scavenging; Anti-fatigue; Defatted soybean meal; Bacillus subtilis
【英文关键词】Soybean peptides; Fermentation; Radical scavenging; Anti-fatigue; Defatted soybean meal; Bacillus subtilis
【中文摘要】Many bioactive peptides possess specific biological properties that make these potential ingredients of health-promoting foods. Increasing attention is being focused on physiologically active peptides derived from soybean proteins. In this study, soybean peptides were produced by fermentation of defatted soybean meal with Bacillus subtilis SHZ and purified by ultrafiltration and gel chromatogram. Free radical scavenging property and the effect on anti-fatigue of the peptides were evaluated in vitro and in vivo, respectively. Swimming endurance tests of mice were carried out after 20 days of soybean peptides administration (0, 100, 200, 400 mg/kg BW/day for control, low-dose, middle-dose and high-dose group, respectively). And the blood lactate and hepatic glycogen of mice were determined. Results showed that the purified peptides exhibited significant ($P < 0.01$) scavenging potencies on superoxide

(62%) and hydroxyl (96%) at a concentration of 10 mg/ml. The average swimming time of the low-, middle- and high-dose group was increased by 20.91, 45.45 and 70% compared with that of control group, respectively. And administration with soybean peptides could significantly accelerate the clearance of blood lactate after mice swimming ($P < 0.01$). The hepatic glycogen storage of middle and high dose groups were obviously increased ($P < 0.05$). It suggested that the soybean peptides produced by fermentation could significantly alleviate physical fatigue of the mice.

【英文摘要】Many bioactive peptides possess specific biological properties that make these potential ingredients of health-promoting foods. Increasing attention is being focused on physiologically active peptides derived from soybean proteins. In this study, soybean peptides were produced by fermentation of defatted soybean meal with Bacillus subtilis SHZ and purified by ultrafiltration and gel chromatogram. Free radical scavenging property and the effect on anti-fatigue of the peptides were evaluated in vitro and in vivo, respectively. Swimming endurance tests of mice were carried out after 20 days of soybean peptides administration (0, 100, 200, 400 mg/kg BW/day for control, low-dose, middle-dose and high-dose group, respectively). And the blood lactate and hepatic glycogen of mice were determined. Results showed that the purified peptides exhibited significant ($P < 0.01$) scavenging potencies on superoxide (62%) and hydroxyl (96%) at a concentration of 10 mg/ml. The average swimming time of the low-, middle- and high-dose group was increased by 20.91, 45.45 and 70% compared with that of control group, respectively. And administration with soybean peptides could significantly accelerate the clearance of blood lactate after mice swimming ($P < 0.01$). The hepatic glycogen storage of middle and high dose groups were obviously increased ($P < 0.05$). It suggested that the soybean peptides produced by fermentation could significantly alleviate physical fatigue of the mice.

【语种】英文
【第一作者】Bo Yu
【通讯作者】Zhao-Xin Lu
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【学科分类】食品科学技术基础学科

【题目】大连群体两种壳型菲律宾蛤仔的双列杂交

【中文关键词】菲律宾蛤仔; 双列杂交; 壳型; 杂种优势
【英文关键词】Ruditapes philipp inarum; diallel cross; shell shape; heterosis

【中文摘要】为探讨不同壳型菲律宾蛤仔的杂种优势,于2007年6月开展了壳宽型(W)和壳扁型(P)两种壳型菲律宾蛤仔的双列杂交。实验由2个杂交组PW(P♀×W♂)、WP(W♀×P♂)和2个自交组WW(W♀×W♂)、PP(P♀×P♂)组成。结果表明,杂交子代壳宽与壳长的比值、放射肋数介于两个自交子代之间,表现为中间型。浮游期间,幼虫未表现出生长优势,但表现出一定的存活优势,幼虫大小存在显著的母本效应。PW和WP子代的存活优势分别为(3.43±0.54)和(4.21±0.55)。室内培育阶段,杂交子代稚贝表现出明显的生长、存活优势,但母本效应逐渐减弱,PW和WP子代的生长优势分别为(10.76±2.25)和(8.28±1.88),存活优势分别为(5.52±0.62)和(11.10±2.41)。养成期间,杂交子代的生长、存活优势更加明显,母本效应消失,PW和WP子代的生长优势分别为(16.22±0.23)和(14.80±1.50),体重的杂种优势分别为(50.29±1.13)和(35.27±2.43),存活优势分别为(12.30±1.37)和(17.45±0.75)。以上结果说明两种不同壳型蛤仔杂交可以产生杂交优势,随着个体发育杂交优势越来越明显。

【英文摘要】In order to investigate heterosis of two lines of Manila clam(Ruditapes philippinarum) with different shell shapes,the diallel cross of wide-shell(W) and plate-shell(P) was conducted in June,2007.The experiments consisted of two hybrid groups [PW(P♀×W♂),WP(W♀×P♂)]and two self-fertilized groups [WW(W♀×W♂),PP(P♀×P♂)].The results show that the shell width/shell length(W/L) and numbers of radiocostae of hybrid offspring are between those of offspring of two self-fertilized groups.At planktonic stage,instead of the larval growth heterosis,the larval survival heterosis and maternal effect of larval size are observed,the survival heterosis of offspring of PW and WP are(3.43±0.54) and(4.21±0.55),respectively.At nursing stage indoor,both growth and survival heterosis are found,and the maternal effects decrease,the growth heterosis of offspring of PW and WP are(10.76±2.25) and(8.28±1.88),the survival heterosis are(5.52±0.62) and(11.10±2.41).At grown out stage outdoor,the growth and survival heterosis of offspring is significant,the maternal effects disappeared.The growth heterosis of offspring of PW and WP are(16.22±0.23) and(14.80±1.50),and the weight heterosis are(50.29±1.13) and(35.27±2.43),respectively;the survival heterosis are(12.30±1.37) and(17.45±0.75).The above results indicate crossing of Manila clam with different shell shapes has heterosis which increase with development.The study will lay theoretic basis for utilization of heterosis of Manila clam with different shell shapes.

【语种】中文
【第一作者】闫喜武
【通讯作者】闫喜武
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【学科分类】分子生物学

【题目】Characterization of a novel glutamate decarboxylase from Streptococcus salivarius ssp. thermophilus Y2
【中文关键词】γ-aminobutyric acid; characterization; glutamate decarboxylase; purification
【英文关键词】γ-aminobutyric acid; characterization; glutamate decarboxylase; purification
【中文摘要】BACKGROUND: γ-Aminobutyric acid with several well-known physiological functions is biosynthesized via the irreversible α-decarboxylation of L-glutamate catalysed by glutamate decarboxylase (GAD). Although Streptococcus salivarius ssp. thermophilus has been widely applied to the dairy, the characterization of its GAD has not been reported. In this paper, the purification and the characterization of S. salivarius ssp. thermophilus GAD were investigated.
【英文摘要】BACKGROUND: γ-Aminobutyric acid with several well-known physiological functions is biosynthesized via the irreversible α-decarboxylation of L-glutamate catalysed by glutamate decarboxylase (GAD). Although Streptococcus salivarius ssp. thermophilus has been widely applied to the dairy, the characterization of its GAD has not been reported. In this paper, the purification and the characterization of S. salivarius ssp. thermophilus GAD were investigated.
【语种】英文
【第一作者】Sheng-Yuan Yang
【通讯作者】Zhao-Xin Lu
【期刊名称、卷期、页码】Journal of Chemical Technology & Biotechnology 2008,83(6):855-861
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【学科分类】食品科学技术基础学科

【题目】Mapping quantitative trait loci associated with chlorophyll a fluorescence parameters in soybean [Glycine max (L.) Merr.]
【中文关键词】无
【英文关键词】Chlorophyll a fluorescence parameters
JIP-test Photosynthesis Quantitative trait loci (QTLs)
Recombinant inbred line (RIL)
Soybean (Glycine max (L.) Merr.)
【中文摘要】无
【英文摘要】Chlorophyll a fluorescence parameters canprovide qualitative and quantitative information aboutphotosynthetic processes in chloroplasts. JIP-test andmodulated fluorescence (MF) parameters are commonlyused chlorophyll a fluorescence parameters. This study wasconducted to identify quantitative trait loci (QTLs) associatedwith JIP-test parameters, MF parameters, and photosyntheticrate (PN), and to examine the relationshipsamong them in soybean (Glycine max (L.) Merr.). Pot andfield experiments were performed to evaluate 184 recombinantinbred lines (RILs) for five JIP-test parameters(ABS/RC, TRo/ABS, ETo/TRo, REo/ETo, and PIABS), fourMF parameters (Fv/Fm, Fv0/Fm0, UPSII, and qP), and PN.Significant correlations were commonly observed amongJIP-test parameters, MF parameters, and PN. QTL mappinganalysis identified 13, 9, and 4 QTLs for JIP-test parameters,MF parameters, and PN, respectively, of which 13were stable. Four major genomic regions were detected:LG A2 (19.81 cM) for JIP-test parameters, LG C1 (94.31and 97.61 cM) for PN and MF parameters, LG M(100.51 cM) for JIP-test and MF parameters, and LG O(30.61 – 49.91 cM) for PN, JIP-test, and MF parameters.These results indicate that chlorophyll fluorescenceparameters, especially UPSII and qP, could play animportant role in regulating PN, and that JIP-test and MFparameters could be controlled by the same or differentgenes. The QTLs identified in this study will help in theunderstanding of the genetic basis of photosynthetic processesin plants. They will also contribute to the developmentof marker-assisted selection breeding programs forphotosynthetic capacity in soybean.

【语种】英文
【第一作者】印志同
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【期刊名称、卷期、页码】Planta, 231:875-885
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【学科分类】分子生物学

【题目】菲律宾蛤仔两道红与白斑马品系的三元杂交
【中文关键词】菲律宾蛤仔; 两道红; 白斑马; 三元杂交
【英文关键词】Ruditapes philippinrum; two-band red strains; white zebra strains; three way crosses
【中文摘要】为了提高菲律宾蛤仔壳色品系的生产性能,于2009年8月,以具有较快生长速度的两道红(R)F2和具有显著杂种优势的白斑马(WZ)F2为试验材料,开展了两个蛤仔品系的三元杂交。其中白斑马品系生长快,抗逆性强,是由生长最快的珍珠白(W)和抗逆性最强的斑马蛤(Z)杂交产生的二元品系。试验由RR(♀R×♂B)、RWZ(♀R×♂WZ)、WZR(♀WZ×♂R)、WZWZ(♀WZ×♂WZ)4个试验组组成。获得了三元正反交组合RWZ、WZR,比较了各试验组子代在不同阶段生长、存活的杂种优势并分析了壳色遗传机制。结果表明,正反交组的单亲杂种优势具有明显的不对称性,正交组RWZ的生长与存活性状得到了明显的改良;WZR的存活性状得到了一定程度上的改良。从生长上看,在浮游期,RWZ、WZR的单亲杂种优势分别为+1.70、-2.92;双亲生长优势为-0.68,主要受到卵源与配对策略交互作用的影响,其次为母本效应;在稚贝培育期,RWZ的单亲生长优势为+9.71,WZR单亲生长劣势为-6.57,总体上尚未表现出双亲生长优势,其大小仅为+0.90。从存活上看,RWZ、WZR在浮游期的单亲存活优势分别为+4.47、+3.05;双亲存活优势为+3.60,主要受到配对策略的影响,其次为母本效应;正反交组在稚贝阶段的单亲杂种优势分别为+13.09、+7.30;双亲存活优势为+9.00。R×R、R×WZ、WZ×R、WZ×WZ子代的壳色分别表现为两道红、两道红白斑马、两道红白斑马、白斑马;白斑马自交后代仍然为白斑马,未出现壳色分离,且三元正反交的子代壳色表现一致,说明壳色为非伴性遗传。
【英文摘要】In order to improve the phenotypic character of Manila clam Ruditapes philippinarum,three way crosses between Two-band Red (R:fast growth) and White Zebra strains (WZ:obvious heterosis) were conducted in August 2009.The generation F2 of White Zebra strain was from two way crosses between Pearl White and Zebra strains.The experiments consisted of two self-fertilized groups(RR,WZWZ) and two hybrid groups(RWZ,WZR) .Then the growth,survival,heterosis and shell color genetic mechanism were investigated in the study.The results showed that the single-parental heterosis was asymmetrical between two reciprocal crosses,and the growth and survival were clearly improved in RWZ group,whereas only survival heterosis was observed in another group.Considering growth,the value of mid-parental heterosis was-0.68,and that of single-parental heterosis was + 1.70 for RWZ,and-2.92 for WZR,respectively.It was mainly affected by the interaction between egg origin and mating strategy,next is maternal effect during planktonic stage.The value of mid-parental heterosis was only + 0.90,and that of single-parental heterosis was + 9.71 for RWZ,and-6.57 for WZR during juvenile stage.Considering survival,the value of mid-parental heterosis was + 3.60,and that of single-parental heterosis was + 4.47 for RWZ,and + 3.05 for WZR,respectively.It was mainly affected by the mating strategy,next that is maternal effect during planktonic stage.The value of mid-parental heterosis was + 9.00,and that of single-parental heterosis was + 13.09 for RWZ,and + 7.30 for WZR during juvenile stage.The shell color of generation for R × R,R × WZ,WZ × R,WZ × WZ were two band red,two band red with white zebra,two band red with white zebra and white zebra,respectively.The generation of white zebra was still white zebra on the outer shell color,that is,no shell color separated for two way hybrids.These results indicated that coloring was linked to sex and was not of sex-linked inheritance.
【语种】中文
【第一作者】闫喜武
【通讯作者】闫喜武
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【学科分类】分子生物学

【题目】QTLs associated with soybean tolerance to low phosphorus stress based on flower and pod abscission
【中文关键词】无
【英文关键词】soybean — flower and pod abscission rate — lowphosphorus
tolerance — recombinant inbred line — quantitative
trait loci
【中文摘要】无
【英文摘要】Low phosphorus (P) stress limits soybean production. A population of152 recombinant inbred lines (RILs) derived from a cross between Bogao (P sensitive variety) and Nannong 94-156 (P tolerant variety)and 248 markers were used to map quantitative trait loci (QTLs) forlow-P tolerance. Two pot culture trials were conducted and low-Ptolerance evaluated using flower and pod abscission rate under low Pand normal P. Conditional QTLs and epistasis for tolerance to low Pwere also analysed. A conditional QTL (near Satt274) on linkagegroup D1b+W was identified which conferred low-P toleranceepistatic effects and coincided with previously discovered QTLs. Anadditive QTL, qFARLPG-07, for flower abscission rate under low Pwas detected with a LOD score of 7.79 and explained 32.3% ofphenotypic variation. It was detected at the same interval of thecorresponding QTL for other traits across years. This region coincidedwith two conditional QTLs (cqFARLPG-07 and cqPARLPG-07), fromthe P-tolerant parent Nannong 94-156 related to low-P tolerance.These results will provide a basis for further fine mapping and eventualcloning of the P-efficiency genes in soybean.
【语种】英文
【第一作者】张丹
【通讯作者】喻德跃
【期刊名称、卷期、页码】Plant Breeding, 129, 243-249
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【引文索引号】10.1111/j.1439-0523.2009.01682.x
【学科分类】农业基础学科

【题目】Overexpression of a soybean O-acetylserine (thiol) lyase-encoding gene GmOASTL4 in tobacco increases cysteine levels and enhances tolerance to cadmium stress
【中文关键词】无
【英文关键词】Cadmium Cysteine O-Acetylserine
(thiol) lyase Soybean Transgenic tobacco
【中文摘要】无
【英文摘要】O-Acetylserine (thiol) lyase (OASTL, EC2.5.1.47) catalyzes the final step in cysteine biosynthesis.The soybean GmOASTL4 gene was overexpressedin tobacco. Transgenic plants showedmarkedly increased accumulation of transcripts andhigher cysteine content compared with the wild-type.Upon exposure to cadmium stress, OASTL activityand cysteine levels increased significantly in transgenicplants. Cadmium accumulation and the activityof both superoxide dismutase and catalase enzymeswere enhanced in transformants. These results demonstratethat overexpression of GmOASTL4 in tobaccocan enhance cysteine levels and increase tolerance tocadmium stress.
【语种】英文
【第一作者】宁慧霞
【通讯作者】喻德跃
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【学科分类】农业基础学科

【题目】北方广适型超级稻品种吉粳102高产栽培技术研究
【中文关键词】吉粳102;高产栽培;栽培因素
【英文关键词】Jijing 102; High yielding cultivation; Cultivation factors

【中文摘要】摘要:[目的]为吉粳102的大面积推广提供科学依据。[方法]采用五因素二次回归正交旋转组合设计,研究5个因子(施氮量、施磷量、施钾量、播种密度和每穴苗数)及每个因子的5个水平对吉粳102产量的影响。[结果]各因素对吉粳102的作用表现为:施氮量>施磷量>密度>每穴苗数>施钾量。5个栽培因素与产量均呈明显的抛物线关系。施氮量对产量的效应最为明显。施氮量与每穴苗数呈负的交互作用。模拟结果表明,吉粳102的最高产量10 896 kg/hm2。当吉粳102产量达到10 500 kg/hm2时,要求施氮量为132~167 kg/hm2,施磷量为87~113 kg/hm2,施钾量为51~98 kg/hm2,移栽密度为30 cm×(13.9~19.4) cm,每穴苗数为2~4棵。[结论]建立了吉粳102的高产栽培技术体系。
【英文摘要】Abstract:[Objective] The study aimed to provide the scientific basis for extension of Jijing102 in large scale. [Method]The five factors quadratic regression orthogonal rotational combination design was taken to study the effects of 5 factors (N rate, P rate, K rate, sowing density and seedling number per hole) and 5 levels of each factor on the yield of Jijing 102. [Result] The effects of each factor on Jijing 102 showed as N rate > P rate > sowing density >seedling number per hole> K rate.The relationship between5 cultivation factors and yield all showed a parabola type.The effect of N rate on yield was the most obvious. The N rate and seedling number per hole had a negative interaction.The simulated result showed that the highest yield of Jijing 102 was 10896 kg/hm2. If the yield of Jijing102 reached10 500 kg/hm2, the N rate of132-167 kg/hm2, Prate of87-113 kg/hm2, K rate of 51-98 kg/hm2, sowing density of 30 cm×(13.9-19.4) cm and seedling number per hole of 2-4 plants were required. [Conclusion]The technical system of high yielding cultivation for Jijing 102 was established.
【语种】中文
【第一作者】侯立刚
【通讯作者】赵国臣
【期刊名称、卷期、页码】安徽农业科学.2008,36(31):13523-13524,13526
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【引文索引号】null
【学科分类】农艺学

【题目】不同生态条件对水稻产量及其构成要素的影响
【中文关键词】水稻;产量;构成要素;生态区
【英文关键词】None
【中文摘要】摘要:通过对 6 份水稻杂交后代在 3 个生态区种植 ,研究不同生态条件对水稻产量及其产量构成要素的影响 。结果表明:不同生态条件对水稻产量影响显著 ,不同的生态条件对水稻的每穗粒数没有影响 ,对每穴穗数和千粒重影响显著 ,因此在生产上应根据当地的环境条件采取相应的栽培方式 ,更容易获得高产。
【英文摘要】None
【语种】中文
【第一作者】王红霞
【通讯作者】王红霞
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【学科分类】农艺学

【题目】Mapping of QTL associated with salt tolerance during seedling growth in soybean
【中文关键词】无
【英文关键词】simple sequence repeat (SSR), recombinant inbred line (RIL).
【中文摘要】无
【英文摘要】Salt stress is an important factor affecting the growth and development of soybean. The inheritance andexpression of traits associated with salt tolerance during the seedling stage are complex. The present study was conducted toidentify quantitative trait loci (QTLs) associated with salt tolerance during seedling growth in soybean. Field and greenhouseexperiments were conducted to evaluate 184 recombinant inbred lines (RILs) derived from a cross between Kefeng No. 1 andNannong1138-2 for salt tolerance andQTLsthat are associated with salt tolerance. The molecularmapof this RIL population,covering 2625.9 cM of the genome, converged into 24 linkage groups and consisted of 221 SSR markers and 1 diseaseresistantgene (Rsc-7). QTL mapping was conducted

using WinQTLCart. Eight putative QTLs significantly associated withsalt tolerance were identified. One QTL was identified both in field and greenhouse experiments. In the field, salt tolerancewas assessed (tolerance rating, TR) visually on a 0 (death) to 5 (unaffected by salt stress) scale. Three QTLs were detected ontwo linkage groups explaining 7.1 – 19.7% of the total phenotypic variance for salt tolerance. In the greenhouse, plantsurvival days (PSD) and percentage of plant survival (PPS) under salt stress were measured. Six QTLs were detected on sixlinkage groups, and explained 7.8 – 19.2% of total phenotypic variation for salt tolerance. A major QTL was identifiedbetween markers Sat_164 and Sat_358 on linkage groupGin both the field and greenhouse. ThisQTLqppsN.1 was identifiedin the same location as a salt tolerance QTL previously reported in soybean. The detection of new QTLs will provideimportant information for marker-assisted selection (MAS) and further genetic studies on salt tolerance in soybean.

【语种】英文
【第一作者】陈华涛
【通讯作者】喻德跃
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【学科分类】农业基础学科

【题目】Cytokine gene expression of peripheral blood lymphocytes stimulated by lipopolysaccharide
【中文关键词】Lipopolysaccharide; lymphocytes; TLRs; cytokines
【英文关键词】Lipopolysaccharide; lymphocytes; TLRs; cytokines
【中文摘要】Lipopolysaccharide (LPS) is a predominant glycolipid in the outer membranes of gam-negative bacteria that stimulates monocytes, macrophages, and neutrophils to produce cytokines. The aim was to study the expression profile of TLRs and cytokines and determine the role of LPS in the peripheral blood lymphocytes. Lymphocytes were isolated from the peripheral blood of chickens and induced with LPS, total RNA was extracted and reverse transcribed into cDNA. The mRNA expression level of TLRs and inflammatory cytokines were quantitatively determined by semi-quantitative RT-PCR. The result showed that lymphocytes were expressed mRNA of TLRs (TLR1/6/10, TLR3, TLR4, TLR5 and TLR7) and interleukins (IL-1, IL-8, IL-18 and TGF-4). LPS will significantly (P<0.05) induce the expression of TLR4, IL-1, IL-8 and IL-18, and non significantly (P>0.05) induce the mRNA expression of TLR1/6/10, TLR5 and TGF-4. LPS plays an important role in the innate immune response of lymphocytes to pathogen.
【英文摘要】Lipopolysaccharide (LPS) is a predominant glycolipid in the outer membranes of gam-negative bacteria that stimulates monocytes, macrophages, and neutrophils to produce cytokines. The aim was to study the expression profile of TLRs and cytokines and determine the role of LPS in the peripheral blood lymphocytes. Lymphocytes were isolated from the peripheral blood of chickens and induced with LPS, total RNA was extracted and reverse transcribed into cDNA. The mRNA expression level of TLRs and inflammatory cytokines were quantitatively determined by semi-quantitative RT-PCR. The result showed that lymphocytes were expressed mRNA of TLRs (TLR1/6/10, TLR3, TLR4, TLR5 and TLR7) and interleukins (IL-1, IL-8, IL-18 and TGF-4). LPS will significantly (P<0.05) induce the expression of TLR4, IL-1, IL-8 and IL-18, and non significantly (P>0.05) induce the mRNA expression of TLR1/6/10, TLR5 and TGF-4. LPS plays an important role in the innate immune response of lymphocytes to pathogen.
【语种】英文
【第一作者】Hassan Hussein Musa
【通讯作者】Guoqiang Zhu
【期刊名称、卷期、页码】African Journal of Biotechnology 2009,8(6): 995-999
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【引文索引类型】SCI
【引文索引号】WOS:000264911300017
【学科分类】食品科学技术基础学科

【题目】插秧密度对寒地粳稻的产量及产量构成因素的影响
【中文关键词】密度;寒地粳稻;产量;产量构成因素
【英文关键词】Density; Japonica rice in cold region; Yield component
【中文摘要】摘 要:以松粳6号和超级稻松粳9号两个寒地粳稻品种为试验材料,研究了不同插秧密度对寒地粳稻产量及产量构成因素的影响。结果表明,不同插秧密度对两品种千粒重影响相对较小,而对每穴穗数和每穗粒数的影响相对较大。

在黑龙江省第一积温带地区,松粳6号和超级稻松粳9号的最适插秧行株距为30cm×13.3cm和30cm×16.7cm。
【英文摘要】Abstract: “ Song jing 6 ” and super rice vatiety “ Song jing 9 ” from the cold zone were used in this experiment to study effects of different transplanting density on the yield and yield component of Japonica rice. The results showed that the effects of different transplanting density on their 1000-grain weight was relatively less than those on spike number per hill and kernel number per spike. In the area of the first accumulated temperature zone of Heilongjiang Province, the optimum transplanting density for Song jing 6 was30×13. 3cm, and that for super rice Song jing 9 was 30×16.7cm.
【语种】中文
【第一作者】高扬
【通讯作者】赵宏伟
【期刊名称、卷期、页码】作物杂志.2009(6) :64-68
【论文发表时间】2009-12-15 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农艺学

【题目】文蛤不同地理群体自繁和互交F1代的早期生长性状
【中文关键词】文蛤; 种群; 自繁; 生长; 杂种优势
【英文关键词】Meretrix meretrix; population; mating; growth; heterosis
【中文摘要】为了培育文蛤新品种,开展了不同地理群体文蛤(山东野生群体和江苏野生群体)的自繁和互交实验,获得了2个自繁群体和2个互交群体,运用方差分析对4个群体子一代的浮游幼虫和稚贝(1~12月龄)的主要性状进行了比较。结果表明,各实验组的受精率、受精卵的孵化率、胚胎发育和浮游幼虫生长无明显差异;2个月龄内稚贝各实验组生长发育差异不明显;3-12月龄稚贝生长性状主要表现为S♀×J♂>S♀×S♂>J♀×S♂>J♀×J♂,其中前3个组合之间差异不显著,但均与第四组合差异显著;互交组的杂种优势率范围在6%~168%。杂种优势在不同性状表现不同,活体重的杂种优势高于壳长、壳高和壳厚;同时各性状指标受季节性温度变化影响较大,5-10月份是高速生长期,而12月份以后处于低生长状态。获得的4个群体将作为进一步选育的基础群体,子一代的变异性增加为进一步选育奠定了基础。
【英文摘要】Matings and crosses within and among two different geographic stocks from Shandong and Jiangsu populations in Meretrix meretrix were produced in order to breed new strains for farming. Two populations,designated S♀×S♂ and J♀×J♂,were from matings of wild populations of Shangdong and Jiangsu. Two populations,that was S♀×J♂ and J♀×S♂,were from crosses between Shangdong and Jiangsu respectively. The traits of fertilizing rate,hatching rate,growth of D-larvae and growth of juveniles (1-12 months age) were analyzed by ANOVA. The results showed that the fertilizing rate and hatching rate of matings and crosses were not significantly different at the end of second month. There were great changes of growth of juveniles in early-term (3-12 months). Growth of S♀×J♂,S♀×S♂ and J♀×S♂ had no significant difference from each other,but all had significant difference with J♀×J♂ at the early-term (3-12 months). The results indicated that there was different extent heterosis (6%-68%) for growth in F1 crosses. The uptrend among traits was wet weight being greater than other three traits of shell length,shell width and shell height respectively. There were obviously higher growth rate and lower variation coefficicent in S♀×J♂,which indicated the Shandong population would be a good parental stock as maternal for genetic breeding. Water temperature could affect growth of Meretrix meretrix significantly,and the growth rate reached a peak in October and November,but reached a nadir after December. Four populations gained were considered as the basic populations to breed new strains. Increased variation parameters in first filial generation(F1) of cross could be a very good potential for selection of new strains.
【语种】中文
【第一作者】肖国强
【通讯作者】林志华
【期刊名称、卷期、页码】水产学报,Vo.l 34, No. 2,Feb., 2010,255-263
【论文发表时间】2010-02-01 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】分子生物学

【题目】Hypoglycaemic effect of comatin, an antidiabetic substance separated from Coprinus comatus broth, on alloxan-induced-diabetic rats

【中文关键词】Coprinuscomatus; 4,5-Dihydroxy-2-methoxy-benzaldehyde; Non-enzymatic glycosylation; Hypoglycaemic; Alloxan
【英文关键词】Coprinuscomatus; 4,5-Dihydroxy-2-methoxy-benzaldehyde; Non-enzymatic glycosylation; Hypoglycaemic; Alloxan
【中文摘要】Comatin, an inhibitor of the non-enzymatic glycosylation (NEG) reaction, was isolated from Coprinuscomatus fermentation broth by macroporous resin separation, followed by chromatographic purification using a C18 reversed-phase column. The compound was identified as 4,5-dihydroxy-2-methoxy-benzaldehyde by high-resolution MS, IR, NMR and UV analyses. The hypoglycaemiceffect of comatin, on both normal and alloxan-induced-diabeticrats, was investigated in the paper. The blood glucose concentration of normal rats treated by the comatin at 80 mg/kg body weight was reduced from 5.14 mM to 4.28 mM in 3 h. Also, the concentrations of fructosamine, triglycerides and total cholesterol in induced-diabeticrats were significantly decreased. These results indicated that comatin could maintain a low level of blood glucose and improve glucose tolerance.
【英文摘要】Comatin, an inhibitor of the non-enzymatic glycosylation (NEG) reaction, was isolated from Coprinuscomatus fermentation broth by macroporous resin separation, followed by chromatographic purification using a C18 reversed-phase column. The compound was identified as 4,5-dihydroxy-2-methoxy-benzaldehyde by high-resolution MS, IR, NMR and UV analyses. The hypoglycaemiceffect of comatin, on both normal and alloxan-induced-diabeticrats, was investigated in the paper. The blood glucose concentration of normal rats treated by the comatin at 80 mg/kg body weight was reduced from 5.14 mM to 4.28 mM in 3 h. Also, the concentrations of fructosamine, triglycerides and total cholesterol in induced-diabeticrats were significantly decreased. These results indicated that comatin could maintain a low level of blood glucose and improve glucose tolerance.
【语种】英文
【第一作者】Zhongyang Ding
【通讯作者】Zhao-Xin Lu
【期刊名称、卷期、页码】Food Chemistry 2010,121(1):39-43
【论文发表时间】2010-07-01 00:00:00
【引文索引类型】SCI
【引文索引号】WOS:000275360200005
【学科分类】食品科学技术基础学科

【题目】超级稻品种光合特性研究
【中文关键词】超级稻;净光合速率;蒸腾速率;气孔导度;胞间CO2浓度
【英文关键词】Super rice variety; Net photosynthesis rate; Transpiration rate; Stomatal conductance; Intercellular CO2 concentration
【中文摘要】摘要:[目的]为超级稻品种的推广与应用提供科学依据。[方法]以5个超级稻品种为试材,观察它们的净光合效率、蒸腾速率、气孔导度、胞间CO2浓度的日变化,研究超级稻品种的光合特性。[结果]各参试水稻品种的净光合速率由大到小依次为:吉粳88>农大19>吉粳83>九稻48>吉粳102;各品种蒸腾速率早晨高晚间低,日变幅较小,日均值最高的是吉粳88。吉粳88的气孔导度早晨高,之后下降,15:00时明显升高后又下降,且日均值最高。各水稻品种的胞间CO2浓度均表现为早晨较高,之后下降,下午略有上升,之后呈下降趋势,日均值最低的是吉粳88。[结论]超级稻吉粳88的各项光合生理指标均有利于光合速率的提高,优于其他参试水稻品种。
【英文摘要】Abstract:[Objective] The study aimed to provide the scientific base for popularization and application of super rice varieties. [Method] With 5 super rice varieties as tested materials, their daily change of net photosynthesis rate, transpiration rate, stomatal conductance and intercellular CO2 concn. Were observed to study the photosynthesis characteristic of super rice variety. [Result]The net photosynthesis rate intested rice varieties in order was Jigen88> Nong da 19> Jigen83>Jiudao48> Jigen102.The transpiration rate in each variety was high in the morning and lower in night and their daily variation amplitude was smaller, with the dailymeanvalueofJigen88 being highest. The stomatal conductanceofJigen88washighest in the morning and then was decreased, and was also risen obviously and then reduced at15:00, with highest daily mean value. The intercellular CO2 concn. in each variety was higher in the morning and then was decreased slightly, and was also risen in the afternoon and then was reduced, with the highest daily mean value being for Ji gen 88.[Conclusion] The various photosynthetic physiological indexes of super rice Jigen88 was in favor for increasing the photosynthetic rate, so it excelled to other tested rice varieties.
【语种】中文
【第一作者】赵国臣
【通讯作者】侯立刚

【期刊名称、卷期、页码】安徽农业科学.2008,36(19) :7993~7994,8117
【论文发表时间】2007-07-01 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农艺学

【题目】自压微灌、喷灌工程技术研究
【中文关键词】自压;喷灌;微灌
【英文关键词】无
【中文摘要】我国山地的耕地面积占全国总耕地面积的比重较大,这部分耕地的灌溉问题至今没有得到合理的解决,而自压微灌、喷灌的特点决定了它们是解决这些耕地灌溉问题的好方法。文章就自压微灌、 喷灌对地形高差和坡度的要求、管道系统布置原则及微灌、喷灌的主要技术参数进行探讨分析, 以期对山地自压微灌、喷灌的实施提供参考借鉴作用。
【英文摘要】无
【语种】中文
【第一作者】路建军
【通讯作者】方文熙
【期刊名称、卷期、页码】福建农机,2008(3):42-44
【论文发表时间】2008-09-30 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农业工程

【题目】东北寒地早粳稻品质相关及主成分分析
【中文关键词】寒地;早粳稻;稻米品质;相关分析;主成分分析
【英文关键词】cold region; early japonica rice; quality of mid rice; correlation analysis; principal components analysis
【中文摘要】摘 要:对163份寒地早粳稻品种(系)的主要品质指标进行了分析,并采用相关分析和主成分分析方法研究了品质性状间的关系。结果表明,来自吉林和黑龙江早粳稻品种(系)163个中:有67.5%的品种的整精米率和58.3%品种的直连淀粉含量能够达到国标一级标准;但垩白粒率和垩白度高,分别仅有6.1%和1.2%的品种达到了国家一级优质米标准,达标率低。在选出的4个影响稻米品质的主因子中,粒形因子、碾磨因子和外观因子对稻米品质的累积贡献率为65.7%,为主要因子。由于稻米品质性状间的相关性和主因子的贡献率不同,寒地水稻品质育种应首先注意粒形和碾米品质的选择,以提高品质育种效率。
【英文摘要】Abstract:One hundred and sixty three early japonica rice varieties (or lines) from Heilongjiang August First Land Reclamation University were analyzed by correlation and principal components analyses. The results showed that the variety with 67.5% head milled ratio and amylase content conformed to primary national standard, but the chalky rice rate and chalky degree were high. Based on the high quality rough rice qualitative index of China (GB/T17891-1999),6.1% and 1.2% of the varieties were of First class standard in grain quality score. Compared with other quality traits, chalking should be one of the most important breeding aims. Four principal component factors affecting grain quality were selected. The cumulative contribution rate of grain shape, milling and appearance quality to grain quality was 65.7%. It was suggested that grain shape and milling quality should be particularly considered in rice grain quality breeding.
【语种】中文
【第一作者】张子军
【通讯作者】张子军
【期刊名称、卷期、页码】中国农业大学学报.2008,13(5):35~39
【论文发表时间】2008-10-15 00:00:00
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【引文索引号】null
【学科分类】农艺学

【题目】菲律宾蛤仔家系的建立及早期生长发育

【中文关键词】菲律宾蛤仔; 家系; 生长; 发育
【英文关键词】Ruditapes philippinarum; family; growth; development
【中文摘要】采用不平衡巢式设计建立33个菲律宾蛤仔家系(11个父系半同胞家系和33个全同胞家系),并对各家系蛤仔的卵径、受精率、孵化率及生长、存活和变态的相关指标进行了分析。结果表明:各家系蛤仔的卵径、受精率无显著差异(P>0.05,n=90),但孵化率有明显差异(P<0.05,n=90)。在不同时期各家系蛤仔的生长情况不同。幼虫期间,9日龄C2生长最快比生长最慢的F2平均壳长大28.24%,且差异显著(P<0.05,n=90)。D3绝对生长最大比平均值高37.24%。稚贝期间,40日龄I1生长最快比生长最慢的B3平均壳长大78.29%,且差异显著(P<0.05,n=90)。I1绝对生长也最大比平均值高87.61%,其中400~500μm个体占30%,500μm以上个体占53.33%,家系内个体趋于大型化,而B1、B3家系内个体生长性状出现衰退现象,趋于小型化,300μm以下个体分别占整个家系的83.33%、90%。在相同时期各家系蛤仔的存活率不同。幼虫期间,9日龄I2存活率最高比平均存活率高94.14%,E3存活率最低比平均存活率低72.65%。稚贝期间,40日龄时各家系稚贝的存活率较高,都在85%以上。变态期间,同胞家系出现变态延迟及变态规格小型化现象。附着变态时间从第15天延迟至22天,变态平均规格为(193.18±12.15)μm,K1变态最小规格为(183.00±14.42)μm,以K为父本的3个家系变态规格普遍偏小,表现出父本效应。各家系变态率不同,存在明显差异,E3家系变态率最高为(94.33%±0.58%),B2家系变态率最低为(7.33%±2.08%)。综合33个同胞家系的各项指标,I1早期生长抗逆性状最优,可进一步作为优良品种选育的育种材料。
【英文摘要】A total of 11 half-sib families and 33 full-sib families were generated by using the method of unbanlanced nest design,in Sept. 2007. Phenotypic traits of different families,such as egg sizes,fertilization rates,embryonic hatching rates,larval and juvenile growth,survival and metamorphosis were analyzed. The results showed that the differences in egg sizes and fertilization rates among the full-sib families were not significant,but those in embryonic hatching rates were significant(P>0.05,n=90). The growth of each family was not the same at different stages.The fastest growth family named C2 was significantly larger than the slowest growth family named F2 by 28.24% in average shell length (P<0.05,n=90)at 9 days of larval stage. D3 whose Absolute growth was the largest of all families was bigger than the average Absolute growth by 37.24%.The fastest growth family I1 at 40 days of nursing stage was significantly larger than the slowest growth family B3 by 78.29% in average shell length(P<0.05,n=90). Moreover,I1 was the largest of all families in Absolute growth,and it was bigger than the average Absolute growth by 87.61%,the distributions of shell length between 400-500 μm and above 500 μm accounted for 30% and 53.33% of total shell length among I1 ,respectively. However,the growth trait depression families B1 and B3 involved in miniaturization,the distributions of shell length below 300 μm accounted for 83.33% and 90% of total shell length of B1 and B3 ,respectively. The survival of each family was different at the same stage. The highest suevival family I2 was significantly larger than the average survival by 94.14%,and the lowest growth suevival family F2 was obviously smaller than the average survival by 72.65% at 9 days of larval stage. The survivals of all families at 40 days of nursing stage were higher than 85%. The study of full-sib families at metamorphosis stage presented some phenomena,such as metamorphism time delay and metamorphism individual miniaturization. The metamorphosis time was delayed from 15 to 22 days. The average metamorphic size was (193.18±12.15) μm. The smallest metamorphic size family was K1 with(183.00±14.42) μm of shell length,and the metamorphic sizes of three families which were generated through each female mated with the same male named K were generally smaller than other families,and this was mainly due to paternal effect.The metamorphosis rates were significantly different among the full-sib families.The highest metamorphic rate family was E3 with the rate of (94.33%±0.58%),and the lowest metamorphic rate family was B2 with the rate of (7.33%±2.08%). These results suggest that I1 is a family with the best early growth and development traits,and it could be used to produce high-quality seed which presents short culture cycle,and higher production in artificial selection breeding.
【语种】中文
【第一作者】闫喜武
【通讯作者】闫喜武
【期刊名称、卷期、页码】水产学报,Vol 34, No.1,Jan., 2010,32-40
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【学科分类】分子生物学

【题目】高产抗病水稻松粳5号特征特性及栽培技术
【中文关键词】松粳5号;特征特性;栽培技术
【英文关键词】None
【中文摘要】摘要:本文重点阐述了松粳5号的主要农艺性状、产量表现、稻米品质、抗病性,以及栽培技术要点,为该品种在生产上大面积推广应用和高产栽培提供了依据。

【英文摘要】None
【语种】中文
【第一作者】闫平
【通讯作者】闫平
【期刊名称、卷期、页码】中国稻米.2007(6):38~39
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【引文索引号】null
【学科分类】农艺学

【题目】寒地超级稻龙稻5号株型结构研究
【中文关键词】黑龙江省;超级稻;株型
【英文关键词】Hei long jiang; super rice; plant type
【中文摘要】摘要:通过对黑龙江省超级早粳稻品种龙稻5号的株型研究发现,寒地超级稻龙稻5号根系发达,在根干重、根直径、根表面积和根体积等方面都比对照品种具有较大优势;茎秆粗壮,分蘖力强和抗倒伏性强;叶片肥厚,无论长宽都远高于对照品种,且叶片上举基角明显小于对照品种;从穗部性状来看龙稻5号属于直立大穗型品种,一次枝梗的产量贡献率较大。研究认为寒地超级稻品种龙稻5号具有理想株型模式的特点,并且在品质、抗性等方面都有较大的优势,是适合于黑龙江省寒地稻作区生态特点的优质超级早粳稻品种。
【英文摘要】Abstract: The experiment was conducted with Longdao No.5,the super rice in Heilongjiang province.The results showed that :Longdao No.5 had well developed root system and greater advantage at dry root weight,root diameter,root surface and root volume than the check variety.It had stocky stem,high tillering ability and strong lodging resistance.The leaves were hypertrophy and had a grate longer and wider than the check variety,and its basal angle was narrower than the check variety. Longdao No.5 belonged to the big erect panicle type variety, and the first panicle branches made a higher contribution for yield. It was said that Long dao No.5 had the characteristics of ideal plant type and great advantage at quality and resistance. It was a good quality japonica rice variety in Heilongjiang province.
【语种】中文
【第一作者】王立志
【通讯作者】王立志
【期刊名称、卷期、页码】黑龙江农业科学.2009(3):42~44
【论文发表时间】2008-03-10 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农艺学

【题目】寒地超级稻松粳9号主茎出叶速度与温度的关系
【中文关键词】寒地;超级稻;出叶速度;温度
【英文关键词】cold region; super rice; leaf　appearance; temperature
【中文摘要】摘要:通过研究水稻主茎叶片生长与温度的关系发现,寒地超级稻松粳9号水稻主茎叶片不同叶位的出叶速度不同,基本上表现为前期快后期慢,主茎叶片的生长与温度关系紧密,除剑叶出叶积温有所下降外,主茎叶片出叶所需积温与叶位呈显著正相关(y=19.1036x　60.0214,r=0.8240*)。
【英文摘要】Abstract: The experiment was conducted with Songjing No.9,the super rice in Heilongjiang province,on relationship between f leaves appearance and temperature. The results showed that the leaves grown slowly in prophase and faster in anaphase. There was a close relationship between the leaf appearance and temperature, besides flag leaf, the accumulated temperature had a positive correlation with leaf position (y = 19.1036x60.0214, r =0 · 8240*).
【语种】中文
【第一作者】王立志
【通讯作者】王立志
【期刊名称、卷期、页码】黑龙江农业科学.2008(3):30~31
【论文发表时间】2007-03-10 00:00:00

【引文索引类型】其他
【引文索引号】null
【学科分类】农艺学

【题目】寒地超级稻种子发芽特性的比较研究
【中文关键词】超级稻;发芽;积温;临界温度
【英文关键词】super rice;germination;accumulated temperature;critical temperature
【中文摘要】摘要:通过对寒地超级稻种子在不同温度下的发芽试验,结果表明;超级稻种子发芽率与温度关系密切,随着积温的增加水稻种子的发芽率也增加,但积温对发芽的影响程度因品种而异。超级稻品种龙稻5号发芽受积温的影响最大,临界发芽温度也较高;相比之下超级稻品种松粳9号和龙粳14发芽受积温的影响较小,临界发芽温度也较低。
【英文摘要】Abstract: The experiment of germination of super rice in cold region was carried out under the different air temperatures. The results showed that there was a intimate relationships between the germination percentage and accumulated temperature, the germination percentage improved with the increase of the accumulated temperature, and there was difference among the varieties.The accumulated temperature made the most important effect on the germination of superrice Longdao No.5,and the critical temperature for germination was the highest. The accumulated temperature made less effect on the germinations of superrice Songjing No.9 and Longjing No.14,and the critical temperatures for germinations were lower than Longdao No.5.
【语种】中文
【第一作者】王立志
【通讯作者】王立志
【期刊名称、卷期、页码】黑龙江农业科学.2008(1):30~51
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【引文索引类型】其他
【引文索引号】null
【学科分类】农艺学

【题目】不同壳色菲律宾蛤仔品系F_2的表型性状
【中文关键词】菲律宾蛤仔; 壳色; 品系; 表型性状;
【英文关键词】Ruditapes philippinarum; shell color; stains; phenotypic traits;
【中文摘要】于2007年9月,对选育的菲律宾蛤仔不同壳色品系(C:对照组;Tr:两道红品系;Tw:两道白品系;Ab:玛瑙黑品系;Or:海洋红品系;Pw:珍珠白品系;Z:斑马蛤品系;W:波纹蛤品系)F1和F2的表型性状进行了研究。结果表明,1龄F1的壳长以Pw最大,与Tr差异不显著(P>0.05),明显大于对照组及其它品系,Z壳长最小且与其它品系差异显著(P<0.05),C的壳长明显小于Tw、Ab(P<0.05),但与Or、W差异不显著(P>0.05);F1鲜重也以Pw最大,Z最小,且与其它品系差异显著P<0.05),Tr、Tw、Ab和Or鲜重差异不显著(P>0.05),但明显大于C(P<0.05);F1产卵量Pw、Tr明显高于其它品系,Z、C明显小于其它品系(P>0.05),Tw、Ab、Or和W彼此差异不显著(P>0.05);F2的表型性状,C的孵化率低于其它品系(P<0.05),但与Tw无显著差异(P>0.05),各壳色品系间卵径、受精率和D形幼虫大小差异不显著(P>0.05)。浮游期结束时(9日龄),W与Z幼虫壳长明显大于其它品系(P<0.05),Tw、Ab、Or、Pw、Z彼此间差异不显著(P>0.05);幼虫存活率大小顺序为,Ab、Z>Or、W>Tw、Pw>Tr>C,彼此差异显著(P<0.05)。变态时间和变态规格各品系间无显著差异(P>0.05),变态率大小的顺序为Ab>Z>Tw>Or>Pw>W>Tr>C,彼此差异显著(P<0.05)。室内培育阶段结束时(240日龄),Ab壳长最大,但与Or、Tr差异不显著,Z壳长最小,但与C、W差异不显著(P>0.05),C与Pw、W,Tr、Tw、Or之间,以及Tw与Pw差异也不显著;Z的存活率最高,明显高于除Ab外的其它品系,C的存活率最低,明显低于除Tr、Tw外的其它品系,W>Or>Pw,彼此差异显著(P<0.05)。360日龄时,Pw壳长和鲜重最大,显著大于其它壳色品系(P<0.05),Ab和Z壳长和鲜重显著小于其它壳色品系(P<0.05);Ab和Z的存活率高于其它品系(P<0.05),但与Or、Pw差异不显著(P>0.05),Or存活率高于C(P<0.05),其它各品系存活率无显著差异(P>0.05)。从相对产量上看
,Z(678.63%±56.80%)>Ab(554.88%±69.42%)>Or(527.23%±76.21%)>W(475.97%±90.25%)>Pw(405.90%±55.19%)>Tw(224.89%±47.85%)>Tr(178.50%±34.50%)>C(100.00%±22.10%)。
【英文摘要】The study on phenotypic traits of different shell color strains F1 and F2(C:the control strains;Tr;two-band red strain;Tw:two-band white strain;Ab:agate-black strain;Or:ocean-red strain;Pw:pearl-white strain;Z:zebra strain;W:wave strain.) of Manila clam was conducted in September 2007.The results showed that the shell length of Pw F1 was the greatet,and significantly greater than others except Tr(P<0.05),the shell length of Z was the smallest,and significantly smaller than others(P<0.05),there were no obvious differences in shell length among C,Or,W,between Tr and Tw,among Tw,Ab,Or,among Ab,Or,W(P<0.05).Both fresh weight and

fecundity of Pw F1 were the greatet,that of Tr were the second greatet and significantly greater than others(P<0.05),those of Z were the smallest,and significantly smaller than others(P<0.05),there were no remarkable differences between C and W,among Tw,Ab,Or in fresh weight and between C and Z,among Tr,Ab,Or,W in fecundity(P<0.05).No significant differences in egg-diameter,the fertilized rates and size of D larvae were observed among all strains(P<0.05),the hatching rate of C was significantly lower than those of other strains except Tw(P<0.05).By end of pelagic period(9 d),the shell lengths of W and Z were significantly greater than those of other strains(P<0.05),there were no remarkable differences in shell length among Tw,Ab,Or,Pw,Z,W(P>0.05) ;the sequences of survival rates were following:Ab,Z>Or,W>Tw,Pw>Tr>C,there were significant differences among them(P<0.05).No remarkable difference in both metamorphic time and metamorphic size among all strains was observed(P>0.05).There were such a sequence in metamorphic rates as follows:Ab>Z>Tw>Or>Pw>W>Tr>C,there were significant differences among them(P<0.05).By the end of indoor rearing period(240 d),the shell length of Ab were significantly greater than those of other strains except Or,Tr(P<0.05),the shell length of Z were significantly smaller than those of other strains except C,W(P<0.05),there were no remarkable differences in shell length between C and Pw,W,Tr,Tw,Or,and between Tw and Pw;the survival rate of Z was remarkably higher than those of other strains except Ab(P<0.05),the survival rate of C was remarkably lower than those of other strains except Tr,Tw(P<0.05).On day 360,both shell length and fresh weight were the greatet and remarkably greater than those of other strains(P<0.05),the shell length of Ab and Z were significantly smaller than those of other strains(P<0.05),the survival rate of Ab and Z were significantly higher than those of other strains except Or,Pw(P<0.05),the survival rate of Or was significantly higher than that of C(P<0.05),there was no remarkable difference in survival rate among other strains(P<0.05).The order of relative yields was as follows:Z(678.63%±56.80%)>Ab(554.88%±69.42%)>Or(527.23%±76.21%)>W(475.97%±90.25%)>Pw(405.90%±55.19%)>Tw(224.89%±47.85%)>Tr(178.50%±34.50%)>C(100.00%±22.10%).

【语种】中文
【第一作者】闫喜武
【通讯作者】闫喜武
【期刊名称、卷期、页码】水产学报,Vol.34,No.6,June,2010,881-889
【论文发表时间】2010-06-01 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】分子生物学

【题目】寒地水稻“稳健高产”栽培技术
【中文关键词】寒地水稻;稳定;健壮;高产;栽培技术
【英文关键词】None
【中文摘要】寒地稻区无霜期短、热量资源不足、低温冷害及稻瘟病发生频繁。目前,水稻大面积生产中农民施肥多采用“超量施N肥”、“大头肥”,导致水稻前期长势过旺,植株纤嫩,抗性减弱,后期早衰,成熟度下降,且易发生倒伏、感病而减产,达不到高产目的。寒地水稻“稳健高产”栽培技术主要以提高稻谷成熟度为目的,通过协调当地气候条件、土壤肥力、栽培技术三者之间的平衡关系,依据该生态区优质高产水稻的生长规律、影响因子及调控措施等共性技术,稳定产量构成因子、健壮植株群体素质,以达到高温年创高产甚至超高产、低温年稳产甚至创高产的优质高产目标,为实现寒地水稻创超高产生产提供技术保障。
【英文摘要】None
【语种】中文
【第一作者】杨丽敏
【通讯作者】杨丽敏
【期刊名称、卷期、页码】作物杂志.2010(1):113~114
【论文发表时间】2010-02-25 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农艺学

【题目】Fermentation parameter and partial biochemical characterisation of milk clotting enzyme from Chinese distiller’s yeast
【中文关键词】无

【英文关键词】milk clotting enzyme, fermentation conditions, biochemical characterisation
【中文摘要】无
【英文摘要】A strain F34 producing milk clotting enzyme with high yield was obtained from Chinese distiller ’ s yeast, using casein plate prescreening and fermentation reselection. The optimum fermentation medium for milk clotting enzyme production was as follows: 5.0% rice flour and bran digest, 5.0% bean flour digest, 0.5% CaCl2, 0.5% KCl, initial pH 4.5. The optimal fermentation parameters was at 34 ° C for 60 h. The enzyme action was optimal at 50 ° C and at about pH 5.5. In the absence of substrate the enzyme showed good stability at 40 ° C and pH 3.5. Ca2+, Zn2+, Fe3+ and Fe2+ showed stimulation on the milk clotting activity; K+ and Mg2+ showed weak stimulation; Na+, Cu2+, Co2+ and Li2+ showed inhibition. The results indicate that this milk clotting enzyme may partially substitute calf rennet in the cheese manufacture.
【语种】英文
【第一作者】吴进菊
【通讯作者】陈红兵
【期刊名称、卷期、页码】Annals of Microbiology,2008,58(4),1~6
【论文发表时间】2008-12-01 00:00:00
【引文索引类型】SCI
【引文索引号】不详
【学科分类】食品科学技术基础学科

【题目】寒地水稻产量性状相关及聚类分析
【中文关键词】超高产育种;相关分析;主成分分析;聚类分析
【英文关键词】Super high yield breeding; Correlation analysis; Principal component analysis; Cluster analysis
【中文摘要】摘要:[目的]探究影响水稻超高产育种的相关性状。[方法]应用表型主成分分析法,对黑龙江省20个水稻品种9个产量相关性状进行了相关和聚类分析。[结果]水稻产量相关性状间存在着错综复杂的相关关系。在6个影响水稻产量的主因子中,功能叶因子和产量因子对水稻产量的累积贡献率为96.56%;20个水稻品种被归为3类,显示出遗传距离较近、遗传基础狭窄的特点。[结论]水稻超高产育种中应注意剑叶叶面积和结实率、千粒重的选择。
【英文摘要】Abstract:[Objective] The research aimed to study correlated traits in rice super high yield breeding. [Method] Nine yield properties of20 varieties from Heilongjiang provincial rice regional trial were analyzed with the method of correlation and cluster analysis. [Result] There was a complex relationship among yield properties. Six principal component factors affecting yield were selected. The cumulative contribution rate of factor of function leaf and factorofyieldwas96.56%. Twenty varieties could be classified into three groups according to genetic distance, showing near genetic distance and narrow genetic basis. [Conclusion] Leaf area of the flag leaf rate of seed and 1 000 grains weight should be particularly considered in rice super high yield breeding.
【语种】中文
【第一作者】冯永祥
【通讯作者】冯永祥
【期刊名称、卷期、页码】安徽农业科学.2008,36(23):9925~9928
【论文发表时间】2008-08-10 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农艺学

【题目】寒地水稻优质、高产、抗病新品种龙粳20保优高产栽培技术
【中文关键词】寒地水稻;龙粳20;保优高产;栽培技术
【英文关键词】Rice in the cold regior; Longjing No 20; Quality characteristics ;Cultivation techniques.
【中文摘要】摘要:通过对龙粳20品种特征特性的研究分析,明确了该品种的丰产性、优质性与抗逆性。同时针对该品种历年来在生产中的表现,提出了相应的保优高产栽培管理技术措施,以达到平年高产、丰年超高产的目标。
【英文摘要】Abstract :Yield ability, high-quality and stress tolerance of the rice variety “ Long jing N0. 20" were clarified by analysing various characteristics For the variety ’ s performance in production in the past years the corresponding cultural management measures were put forward in order to achieve the goal of high yield in the ordinary years and super-high yield in the abountiful years.
【语种】中文

【第一作者】孙海正
【通讯作者】杨丽敏
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【引文索引类型】其他
【引文索引号】null
【学科分类】农艺学

【题目】An approach to improve ACE inhibitory activity of casein hydrolysates with plastein reaction catalyzed by Alcalase
【中文关键词】无
【英文关键词】Casein　Hydrolysis; ACE-inhibitory activity; Plastein reaction;　Alcalase
【中文摘要】无
【英文摘要】The preparation method of casein hydrolysates with high ACE-inhibitory activity was studied by Alcalase catalyzed hydrolysis coupled with plastein reaction. Casein hydrolysates with an IC50 value of about 47 lg mL-1 were first prepared by hydrolysis of casein with Alcalase andthen modified with plastein reaction catalyzed by the same enzyme. The impacts of four reaction conditions on plastein reaction of casein hydrolysates were studied, and thenoptimal conditions were determined using response surface methodology with the decrease of free amino groups in the reaction mixture as response. When the concentration ofcasein hydrolysates was fixed at 35% by weight, the maximum decrease of free amino groups in the reaction mixture of 181.8 lmol g-1 proteins was obtained. The optimum conditions for the above decrease were found to be an E/S ratio of 7.7 kU g-1 proteins, reaction temperatureof 42.7　C and reaction time of 6 h. Analysis results showed that ACE-inhibitory activity of casein hydrolysates prepared could be improved significantly by plastein reaction. When casein hydrolysates were modified by plastein reaction, with a decrease of free amino groups in the mixture of about 154.7 lmol g-1 proteins and 181.8 lmol g-1 proteins, their IC50 values could be decreased to 0.6 and 0.5 lg mL-1.
【语种】英文
【第一作者】赵新淮
【通讯作者】赵新淮
【期刊名称、卷期、页码】European Food Research & Technology,2009,229(5),795~805
【论文发表时间】2009-08-08 00:00:00
【引文索引类型】SCI
【引文索引号】不详
【学科分类】食品科学技术基础学科

【题目】不同地理群体菲律宾蛤仔的选择反应及现实遗传力
【中文关键词】菲律宾蛤仔; 地理群体; 选择反应; 现实遗传力
【英文关键词】Ruditapes philippinarum; geographical population; response to selection; realized heritability
【中文摘要】对不同地理群体的3龄菲律宾蛤仔(Pp莆田群体、Dp大连群体、Tp东京群体)进行了混合选择。测量了各实验组的壳长,计算了不同地理群体菲律宾蛤仔的选择反应和现实遗传力。结果表明,3个地群体菲律宾蛤仔子代的上选组壳长显著大于对照组(P<0.05)。在不同生长发育阶段,菲律宾蛤仔的选择反应(R)和现实遗传力(hR2)随着日龄的增大而减小,即R幼虫培育期0.804±0.084>稚贝期0.705±0.039>养成期0.671±0.024;hR2幼虫期0.458±0.051>稚贝期0.402±0.025>养成期0.382±0.013。从总体水平上分析,菲律宾蛤仔R为0.726±0.1074,莆田群体、大连群体、东京群体的R分别为0.758±0.101、0.690±0.049、0.732±0.059;hR2为0.414±0.044,莆田群体、大连群体、东京群体的hR2分别为0.432±0.058、0.393±0.028、0.417±0.033。地理群体间的R和hR2次序为莆田群体>东京群体>大连群体,且彼此间无显著差异。　更多还原
【英文摘要】Three geographical populations (Pp: Putain population; Dp: Dalian population; Tp: Tokyo population) of Manila clam Ruditapes philippinarum of 3-years old were used to test mass selection on growth in July 2006. Shell length of individual was measured by microscope and vernier caliper,moreover,responses to selection and realized heritability were calculated by the methods of Zheng,et al. (2004,2006) among three geographical populations of Manila clam. The results showed that the shell length of selection groups were all significantly higher than that of the control group (P < 0. 05). R and hR2 of Manila clam decreased with increasing days of age during different development stages,that is SR: Larval rearing stage 0. 804 ± 0. 084 > Juvenile nursing stage 0. 705 ± 0. 039 > Youth culture stage 0. 671 ± 0. 024;hR2: Larval rearing stage 0. 458 ± 0. 051 > Juvenile nursing stage 0. 402 ± 0. 025 > Youth culture stage 0. 382 ± 0. 013. R of Manila clam was 0. 726 ± 0. 1074,and Pp,Dp,Tp of that was 0. 758 ± 0. 101,0. 690 ± 0. 049,0. 732 ± 0.

059, respectively. Accordingly,hR2 of Manila clam was 0. 414 ± 0. 044,and Pp,Dp,Tp of that was 0. 432 ± 0. 058,0. 393 ± 0. 028,0. 417 ± 0. 033,respectively. The order of R and hR2 of Manila clam among geographical populations was as follow: Pp > Dp > Tp. Differences in response to selection and realized heritability among the three geographical populations are presumably due to differences in genetic variability.

【语种】中文
【第一作者】闫喜武
【通讯作者】闫喜武
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【学科分类】分子生物学

【题目】黑龙江省水稻冷害Ⅰ冷害发生的时间规律
【中文关键词】水稻;冷害;发生规律
【英文关键词】cooling injury; regularity
【中文摘要】摘要:通过对50余年黑龙江省部分市、县气象资料和产量数据的分析,阐述了黑龙江省水稻低温冷害发生的时间规律。自20世纪80年代以来,全球气候变暖,水稻生育期内的气温也呈明显增加趋势。而在最近的几年间,6~8月份的日平均温度却呈现下降的态势,这正是导致2002年、2003年和2006年部分水稻产区障碍型冷害发生的原因。
【英文摘要】Abstract:By dealing with meteorological data and yield of Heilongjiang province, the time regularity of rice cooling injury was discussed. From 1980,with the global warming, the temperature in rice growth and development stage is increasing. However in recent years,the average temperature between June and August is decreasing. This is the major reason of sterile cooling injury occurred at partial rice production regions in 2002,2003 and 2006.
【语种】中文
【第一作者】王连敏
【通讯作者】王连敏
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【学科分类】农艺学

【题目】Oxidative cross-linking of casein by horseradish peroxidase and its impacts on emulsifying properties and the microstructure of acidified gel
【中文关键词】无
【英文关键词】Casein, horseradish peroxidase, cross-linking, emulsifying property, response surface methodology.
【中文摘要】无
【英文摘要】The cross-linking of food proteins is an interesting topic of food science in recent years and served successfully as an approach to modify protein functional properties. In the presented work, horseradish peroxidase (HRP, EC 1.11.1.7) was used to oxidative cross-link casein in presence of H2O2. The cross-linking of casein was demonstrated by capillary zone electrophoresis analysis. The central composite design using response surface methodology was used to optimize cross-linking conditions of casein. The optimal cross-linking conditions of casein were as follows: the addition level of HRP was 4.73 mkat · g-1 proteins, temperature was 37 ° C and reaction time was 2.9 h when casein concentration and pH of reaction medium were fixed at 5% (w/w) and 9.5, respectively. Cross-linked casein was prepared with these optimal conditions and used to analyze its emulsifying activity index, emulsifying stability index and microstructure of acidified gel. The emulsifying activity index and emulsifying stability index of the cross-linked casein were enhanced about 10 and 6% compared to that of casein.The microstructure of acid-induced gel of the cross-linked casein observed by scanning electron microscopy was more compact and uniform than that of casein without cross-linking. Cross-linking of food proteins induced by horseradish peroxidase might serve as an alternative approach to modify functional property of the proteins.

【语种】英文
【第一作者】李君文
【通讯作者】赵新淮
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【学科分类】食品科学技术基础学科

【题目】黑龙江省水稻冷害II品种间耐障碍型冷害的差异
【中文关键词】水稻;障碍型冷害;不育率;冷积温
【英文关键词】rice; sterile style cooling injury; sterile rate; accumulated cooling temperature
【中文摘要】摘要:利用人工气候室对黑龙江省主栽水稻品种进行耐小孢子阶段低温试验,结果表明:不同水稻品种耐低温的能力有较大的差异。15°C低温处理7 d,不育率降低幅度由3%增至70%。冷积温每增加1°C,不育率由0.002%增至1·898%。由此鉴定出来的耐小孢子阶段低温的水稻品种有:空育131、龙稻3号以及龙稻6号。而对此期低温较敏感的品种是龙粳11、龙粳13、松粳7号、龙稻7号和垦稻12等。
【英文摘要】Abstract: Cooling temperature tolerant experiment on major rice cultivars at microspore stage in Heilongjiang province was conducted in phtotran. The experimental results showed that cooling temperature tolerant ability among cultivars was greatly different. Under cooling temperature(15°C)for 7 days,the spikelets sterile rate ranged from 3% to 70%.When accumulated cooling temperature increased for 1°C,the spikelets sterile rate ranged from 0.002% to 1.989%.Therefore,it could be referred that cooling temperature tolerant cultivars were Kongyu 131,Longdao No.3 and Longdao No.6.While the cooling temperature sensitive cultivars were Long jing 11,Longjing 13,Songjing No.7,Longdao No.7 and Kendao 12.
【语种】中文
【第一作者】王春艳
【通讯作者】王连敏
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【学科分类】农艺学

【题目】黑龙江省水稻冷害III障碍型冷害敏感期的外部形态诊断
【中文关键词】水稻;低温;敏感期;叶枕距;抽穗期
【英文关键词】rice; cooling temperature; sensitive stage; distance between pulvinus; heading day
【中文摘要】摘要:利用人工气候对黑龙江省早、中、晚熟的6个水稻品种在小孢子发育阶段进行低温处理,利用叶枕距和距抽穗期的天数作为标准评价水稻对低温的敏感期。结果表明,叶枕距在-5 cm以前、抽穗前14~18 d水稻就进入了对低温的敏感期。
【英文摘要】Abstract: Cooling temperature treatment on different ripening rice cultivars at microspore stage was conducted in phtotran and the rice sensitive stage to cooling temperature was evaluated by distance between pulvinus and days before heading. The experimental results showed that the sensitive stage to cooling temperature was about 5cm of the distance between pulvinus and 14 to 18 days before heading.
【语种】中文
【第一作者】王连敏
【通讯作者】王连敏
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【学科分类】农艺学

【题目】Hydrogen peroxide and ferulic acid-mediated oxidative cross-linking of casein catalyzed by horseradish peroxidase and the impacts on emulsifying property and microstructure of acidified gel
【中文关键词】无
【英文关键词】Casein, horseradish peroxidase, cross-linking, emulsifying property, ferulic acid, acidified gel, microstructure.
【中文摘要】无
【英文摘要】Horseradish peroxidase (HRP, EC 1.11.1.7) was used in this study to catalyze oxidative cross-linking of casein in the presence of hydrogen peroxide and cross-linker ferulic acid. Cross-linking of casein was demonstrated by sodium dodecylsulfate-polyacrylamide gel electrophoresis (SDS-PAGE) and ultraviolet absorbance analysis. Oxidative cross-linked casein mediated by hydrogen peroxide and ferulic acid was prepared at casein concentration of 5% (w/ w), HRP addition of 3 mkat · g-1 proteins, ferulic acid addition of 6 mmol · l-1, 3% (w/w) H2O2 addition of 1 ml, reaction temperature 37 ° C and reaction time 3 h. Analysis results showed that the emulsifying activity index and emulsifying stability index of cross-linked casein prepared were enhanced compared to that of untreated casein totally. Microstructure of chemical acid-induced gel of cross-linked casein was observed under scanning electron microscopy and appeared to be more compact and uniform than that of casein. Hydrogen peroxide and ferulic acid-mediated oxidative cross-linking of casein catalyzed by horseradish peroxidase might have a beneficial to the emulsifying property or gelation of casein.
【语种】英文
【第一作者】李君文
【通讯作者】赵新淮
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【学科分类】食品科学技术基础学科

【题目】基于ARM和DSP的农田信息实时采集终端设计
【中文关键词】农田信息 实时采集 终端 设计 延时分析
【英文关键词】Agricu ltura l da ta, Rea-l t ime acqu isition, Term ina,l Design, De lay ana lysis
【中文摘要】提出了一种基于ARM和DSP的农田信息实时采集终端设计方案, 主处理器选用S3C2440, 协处理器选用TM S320C6713,在设计的农田信息采集电路基础上设计了H PI驱动程序。利用Multisim 对模拟信号采集电路进行放大倍数可调的仿真验证。并将采集到的农田经纬度、图像、土壤温度、土壤含水率、光照强度等信息进行编码。试验表明,该系统能够实时可靠地采集和上传多个传感器信息。延时试验表明,在GPRS网络延时比较严重的时间段容易出现图像显示不完全的现象。
【英文摘要】Based on ARM and DSP, an rea-l t ime agricultural informat ion sampling term ina l w as designed.S3C2440 and TMS320C6713 w as used as the main processor and the assistant processor, repectively.The principle of HPI interface w as expounded. The HPI device driver and the collection of electricc ircuits for the farm land informat ion w ere designed. By usingMultisim, the emu lation verif ication w hichcould be amplif ied w ere made to the electric circuits. The collected lat itude and the long itude of thefarm land, image inform ation, so il temperature, mo isture, strength of illum ination and other informationw ere encoded. The experim ent on the farm show ed that various sensor information could be co llected anduploaded reliab ly by this system. The time-lapse experim ent show ed that images w ere usua llydemonstrated incomplete ly when GPRS net delayed too much.
【语种】中文
【第一作者】沈明霞
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【学科分类】农业工程

【题目】Preparation of Alcalase-catalyzed casein plasteins in the presence of proline addition and the ACE- inhibitory activity of the plasteins in vitro
【中文关键词】无
【英文关键词】Casein,Casein plasteins,Plastein reaction, ACE-inhibitory activity,Alcalase,Proline
【中文摘要】无
【英文摘要】Casein hydrolysates were prepared by hydrolysis of casein with alkaline protease Alcalase for 6 h and showed the highest ACE-inhibitory activity in vitro with an IC50 value of 47.1 lg mL-1. Casein hydrolysates prepared were subjected to Alcalase-catalyzed plastein reaction in the presence or absence of proline addition to prepare casein plasteins. Some optimal reaction conditions of plastein reaction in the presence of proline addition were studied using response surface methodology with the decrease in free amino groups in the casein plasteins asresponse. When the concentration of casein hydrolysates was fixed at 35% (w w-1) and reaction time at 6 h, the optimal conditions were reaction temperature 48 C, addition level of proline 0.54 mol/mol free amino groups of casein hydrolysates and addition level of Alcalase 9.5 kU g-1 proteins. With these conditions, the maximal decrease in free amino groups in casein plasteins was 195.7 lmol g-1 proteins. The ACE-inhibitory activities of twelve casein plasteins in vitro, prepared in the presence or absence of proline addition with different reaction extents, were evaluated and compared. The results showed that the ACE-inhibitory activity of the casein plasteins prepared in the presence of proline addition changed irregularly, different to that of the casein plasteins prepared in the absence of proline addition, and might relate to the different linking of proline to the peptides in casein hydrolysates during plastein reaction. When the casein plasteins prepared in the presence of proline addition had a decrease in free amino groups 195.7 lmol g-1 proteins, the IC50 value of the casein plasteins was lowered to 0.2 lg mL-1.
【语种】英文
【第一作者】李亚云
【通讯作者】赵新淮
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【学科分类】食品科学技术基础学科

【题目】机插杂交粳稻基本苗数对分蘖发生与成穗的影响
【中文关键词】杂交粳稻 机插秧 分蘖发生率 分蘖成穗率 产量 基本苗 每穗粒数 分孽 单茎重 常规品种
【英文关键词】hybrid japonica rice;machine-transplanted rice;tiller emerging rate;tiller earbearing rate;yeild
【中文摘要】以杂交粳稻常优1号为材料,设置25.05、50.10和75.15万株·hm~(-2) 3个基本苗数,进行机插秧新生分蘖跟踪挂牌,研究各级分蘖的发生率及成穗率特征。结果表明:机插杂交粳稻栽插50.10万株·hm~(-2)基本苗时群体有效穗数最多,产量最高;机插杂交粳稻分蘖发生和成穗主要集中在2/0、3/0、4/0、5/0和6/0的一级分蘖及1/2、1/3和1/4的二级分蘖;随着基本苗数增加,分蘖发生数减少,最终成穗数也减少,同时高位分蘖对产量的贡献也减少,单茎重、各蘖位的每穗粒数和占最终穗数的比例均减小。机插杂交粳稻移栽时以50.10万株·hm~(-2)基本苗为宜,过多或过少都影响机插杂交粳稻分蘖发生、蘖位利用和成穗数。
【英文摘要】Hybird japonica rice Changyou 1 was machine-transplanted in three basic seedlings density,250 500,501 000 and 751 500 seedling per hm2. The tiller emerging rate and tiller earbearing rate were investigated. Rwsults showed that colony of 501 000 seedlings per hm2 had the highest effective panicle number and produced the highest grain yield. With the increasing of basic seedling density, the number of tiller emerging and tiller earbearing decreased. And the upper position tillers had lower dry weight per stem, spikelet number per panicle and tiller earbearing rate, thus having less contribution to grain yeild. This research indicated that seedling density has substantial influence on the tiller emerging and earbearing, and suggested that 501 000 seedling per hm2 was the optimal planting number for machine-transplanted hybird japonica rice.
【语种】中文
【第一作者】乔晶
【通讯作者】丁艳锋
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【学科分类】农业基础学科

【题目】文蛤山东种群与江苏种群杂交及自繁子代的遗传差异分析
【中文关键词】文蛤; 杂交; 遗传差异; 地理种群
【英文关键词】Meretrix meretrix; hybridization; genetic variation; geographical population
【中文摘要】利用fAFLP技术研究了文蛤山东种群与江苏种群的杂交子代(SJ,JS)和自繁子代(SS,JJ)群体的遗传差异。3对荧光引物组合在4个F1群体96个个体中共扩增出255个位点,多态位点比例高达97.65%。Nei’s基因多样性和Shannon信息指数显示,4个群体的遗传多样性大小依次为SJ>SS>JS>JJ,而且两杂交组的变异度都大于自繁组,说明杂交增加了文蛤种群的遗传多样性和变异程度。fAFLP扩增位点分析表明,SJ和JS的显性基因频率有所增加,并且正、反杂交群体在遗传结构上均表现出明显的偏母性特征。从群体间遗传相似性指数来看,JS与JJ间的遗传相似性系数最大(0.976 1),而与SS间的遗传相似性为0.945 0;SJ与SS间的遗传相似性系数为0.950 2,与JJ群体间为0.925 4;SJ群体与JS群体间的遗传相似性系数最小(0.907 5)。在依据群体间相对遗传距离构建的系统树上,JS与JJ间的亲缘关系最近,首先聚在一起,SJ与SS间亲缘关系较近,也能聚为一支,但明显可以看出正交组合SJ与其它3个群体间的亲缘关系较远。综合分析表明,文蛤地理种群杂交增加了遗传多样性和变异度,正、反交群体在遗传结构上都明显地偏向母本,正交组合SJ群体的遗传多样性最高、变异度最大,这与其在生长速度上表现出的杂种优势可能有直接关系。
【英文摘要】The fluorescent amplified fragment length polymorphism(fAFLP) technique was applied to analyze the genetic variation of 4 F1 groups(SS,JJ,SJ,JS) produced from matings and crosses of Shandong stock and Jiangsu stock in Meretrix meretrix.A total of 255 AFLP loci amplified with three pairs of primers were obtained from 96 individuals.The percentage of polymorphic loci ranged from 91.98% to 96.02% of 4 groups and the overall polymorphic loci percentage reached 97.65%.The results of Nei’s gene diversity and Shannon’s information index showed that the level of genetic diversity from high to low was SJ> SS> JS>JJ and the degree of variation of two hybrid groups was greater than that of two mating groups.The analysis of fAFLP loci indicated the frequency of dominant gene of SJ and JS increased and the genetic structure of two hybrid groups was similar to their maternal parent’s.By analyzing genetic similarity between groups,it was found that the genetic similarity was 0.976 1 between JS and JJ,0.945 0 between JS and SS.And the genetic similarity was 0.950 2 between SJ and SS,and 0.925 4 between SJ and JJ.It is obvious that the genetic similarity(0.907 5) between SJ and JS was the lowest.Phylogenetic tree based on the genetic distance of 4 groups with NJ method and UPGMA method showed that JS and JJ were clustered together firstly because of the nearest genetic relationship,and SJ and SS were also clustered together.But it is evident that the phylogenetic relationship between SJ and other groups was more distant.In conclusion,hybridization between different geographical populations in Meretrix meretrix is a dominant approach to increasing genetic diversity and variation degree;two hybrid groups in genetic structure were similar to their maternal parent;high level of genetic diversity and variation degree of SJ group perhaps have a direct relationship with its heterosis in growth.
【语种】中文
【第一作者】董迎辉
【通讯作者】林志华
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【学科分类】分子生物学

【题目】Preparation and radical scavenging activity of papain-catalyzed casein plasteins
【中文关键词】无
【英文关键词】casein ,plastein reaction , papain ,scavenging activity ,antioxidant
【中文摘要】无
【英文摘要】The aim of this study was to prepare papain-catalyzed casein plasteins and to demonstrate the influence of the plastein reaction on the radical scavenging activity. Casein was initially hydrolyzed with papain under selected conditions to give a degree of hydrolysis of 9.6%. The casein hydrolysates were then subjected to papain-catalyzed plastein reaction to prepare casein plasteins. The formation of plasteins in the prepared casein plasteins was confirmed by size exclusion chromatography. The optimal conditions for the plastein reaction, determined by response surface methodology using the decrease of free amino groups in the casein plasteins as the response variable, were as follows: papain addition level was fixed at 500 U · g − 1 proteins, reaction temperature 30 ° C, concentration of casein hydrolysates 50% and reaction time 5.6 h. Six different casein plasteins were prepared and the radical scavenging

activity on two radicals, 2,2-diphenyl- 1-picrylhydrazyl (DPPH) and 2,2′-azino-bis(3-ethyl-benzothiazoline-6-sulfonic acid) (ABTS), was evaluated by the Trolox equivalent antioxidant capacity (TEAC). Analysis showed that all casein plasteins had improved radical scavenging activities. Compared to casein hydrolysates, the scavenging activity of the casein plasteins on DPPH radical had a seven- or ninefold increase, as TEAC increased from 10.45 to 73.41 or 90.31 mmol · g − 1 proteins, while a onefold increase was detected on ABTS+ (TEAC increased from 8.33 μmol · g − 1 to 15.09 or 16.45 μmol · g − 1 proteins). The results of this study clearly showed that the papain-catalyzed plastein reaction could be applied to prepare casein antioxidant peptides with higher activity, and that the plastein reaction may have a new application in dairy science.

【语种】英文
【第一作者】赵新淮
【通讯作者】赵新淮
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【学科分类】食品科学技术基础学科

【题目】东南沿海温室夏季降温的几种方法
【中文关键词】东南沿海温室; 降温; 组合措施
【英文关键词】无
【中文摘要】在分析东南沿海夏季温室小型气候的基础上,结合国内外普遍的降温方式,提出通风降温、遮阳降温、喷雾降温、湿帘风机降温等几种对东南沿海温室降温效果明显的措施。随时施宜,因地制宜地采取有效的组合方法,可达到较好效果,并降低成本。
【英文摘要】无
【语种】中文
【第一作者】郑慧珍
【通讯作者】朱亨银
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【学科分类】农业工程

【题目】Optimization of liquid culture conditions of protease from Mucor by Box-Behnken design
【中文关键词】无
【英文关键词】Mucor spp.; protease; response surface methodology
【中文摘要】无
【英文摘要】the nutritional parameters of protease, which is isolated from mao-tofu and identified as Mucor spp, were studied by response surface methodology (RSM). Glucose, soybean protein and KH2PO4 were analyzed by Box-Behnken design for optimizing their concentrations in the medium and the effect of their mutual interaction on protease activity. Glucose and soybean protein were found in influencing the protease activity highly significant. Glucose and soybean protein also showed an effect on the protease activity in interaction with other variables.The optima values of the parameters obtained through RSM, 0.72% glucose, 2.58% soybean protein and 0.1% KH2PO4 were applied. Actual value of verifiable experimentation was that theprotease activity was 184.42±0.54 U/L at the optima conditions.

【语种】英文
【第一作者】张娜
【通讯作者】赵新淮
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【学科分类】食品科学技术基础学科

【题目】不同壳色菲律宾蛤仔品系间的双列杂交
【中文关键词】菲律宾蛤仔; 壳色; 双列杂交; 杂种优势
【英文关键词】Ruditapes philippinarum; shell color; diallel cross; heterosis
【中文摘要】于2006年秋,以"海洋红"(R)、白蛤(W)、斑马蛤(Z)为材料,开展了不同壳色菲律宾蛤仔品系间3×3的双列杂交。实验由3个自交组R×R、W×W、Z×Z和3个杂交组R×Z、W×Z、W×R,即6个正反交RZ、ZR、WZ、ZW、WR、RW组成,研究了子一代在不同阶段生长、变态、存活的杂种优势及壳色遗传机制。结果表明,在不同阶段,不同杂交组合的杂种优势表现程度不同。浮游期间,各杂交组幼虫生长优势(Hg)随着日龄而增大,存活优势(Hs)与日龄几乎无相关性,其值分别为Hg=6.20±2.43,Hs=14.83±0.28。W×Z杂交组合表现出明显的杂种优势,其值分别为Hg w×z=8.50±2.79,Hs w×z=20.59±0.98,与R×Z、W×R杂交组差异显著(P<0.05)。杂交有效地提高了变态率,缩短了变态时间;变态率的杂种优势为Hm=15.84,平均缩短变态时间2d。室内培育期间,刚刚完成变态的稚贝很快表现出生长优势,而后一段时间才表现出存活优势,其值分别为Hg=8.98±2.91,Hs=8.11±8.18;W×Z杂交组合的杂种优势为Hg w×z=15.93±6.47、Hs w×z=8.78±8.76,Hg w×z与R×Z、W×R杂交组差异显著(P<0.05),Hs w×z与W×R杂交组差异显著(P<0.05)。养成期间,幼贝的杂种优势分别为Hg=12.77±1.20,Hs=49.85±1.93;W×Z杂交组合的杂种优势分别为Hg w×z=20.92±1.98,Hs w×z=61.60±1.38,与其它杂交组的显著性差异程度与稚贝期相同。从总体水平上分析,幼虫、稚贝、幼贝生长速度的杂种优势分别为15.06、17.40、15.77,彼此间无显著性差异(P>0.05);综合各阶段的杂种优势,3个杂交组的杂种优势大小顺次为:W×Z>R×Z>W×R。R×Z、W×Z、W×R的子一代的壳色分别表现为:红斑马、白斑马(左壳背部有一条深色条带)、中红(左壳背部有一条深色条带),且正反交的壳色表现一致,说明壳色表现形式与性别无关,为非伴性遗传。
【英文摘要】The 3×3 diallel crosses of different shell color strains were conducted using "Ocean Red"(R),"White"(W)and "Zebra"(Z) in autumn 2006.The experiments consisted of three self-fertilized groups(R R,W W, Z Z) and three hybrid groups(R Z,W Z,W R),in total six reciprocal crosses(RZ,ZR,WZ,ZW,WR,RW).The heterosis of growth,metamorphosis,survival and shell color determinism for offspring were investigated.The results showed that heterosis varied at different phases for each hybrid groups.At pelagic stage,the growth heterosis(Hg=6.20±2.43) increased with post-days and correlativity between the survival heterosis(Hs=14.83±0.28) and post-days was not observed.The hybridized group(W×Z) presented obvious heterosis(Hg w×z=8.50±2.79,Hs w×z=20.59±0.98) which was significantly different from those of other group(R Z,W R)(P < 0.05).At metamorphic stage,the metamorphosis rates of hybrid groups were higher than those of self-fertilized groups and the metamorphic time was shortened by two days.The metamorphic heterosis was 15.84.At indoor rearing stage,the growth heterosis(Hg=8.98±2.91) was found prior to the survival heterosis(Hs=8.11±8.18).The growth heterosis of hybrid group(W×Z)(Hg w×z=15.93±6.47) was significantly different from that of hybrid group(R×Z,W×R) and the survival heterosis of hybrid group(W×Z) (Hs w×z=8.78±8.76) was remarkably different from(W×R)(P< 0.05).At outdoor rearing stage,the heterosis was Hg=12.77±1.20,Hs=49.8±5 1.93,respectively.The heterosis of hybrid group(W×Z)were Hg w×z=20.92±1.98,Hs w×z=61.60±1.38,the differences of which among hybrid groups were the same as those at the juvenile stage.Generally,the heterosis of growth rate were 15.06,17.40,15.77,respectively at larvae stage,juvenile stage and youth stage and no significant difference at each stages was observed.As a whole,the order of heterosis was W×Z>R×Z>W×R.The shell colors of offspring for R×Z,W×Z,W×R were red zebra,white zebra(a posterior band on the left valve) and middle red(a posterior band on the left valve),respectively.The results of both direct cross and reciprocal cross were the same.Results indicated that coloring was not linked to sex and was not of sex-linked inheritance. 更多
【语种】中文
【第一作者】闫喜武
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【学科分类】分子生物学

【题目】基于嵌入式ZigBee技术的农田信息服务系统设计

【中文关键词】农田信息 服务系统 嵌入式系统 ZigBee 设计
【英文关键词】Agricu ltura l informat ion, Serv ices system, Embedded systems, ZigBee, Design
【中文摘要】针对目前农田信息采集装置功耗大、成本高、定点和移动采集不能同时进行的问题, 设计了一套基于嵌入式ZigBee技术的农田信息服务系统。ZigBee无线传感器模块实现农田信息的无线采集; 基于ARM 9和DSP的嵌入式移动终端使田间生产者随时了解农田信息;W ebG IS农田信息管理系统能同时获得各种农田信息, 帮助管理者与决策者作出农田决策。最后通过实验对系统进行了验证。
【英文摘要】F ie ld inform ation collecting dev ice has the problems o f h igh energy consumption, high cos,t unableto conduct f ixed andmob ile collecting field information simultaneously. In order to so lve these prob lem s,a new type of ag ricultura l informat ion serv ice system w as designed. It is composed of three parts: ZigB eew ire less sensormodules w ith the functions of acqu iring informat ion from farm land; mob ile term inals baseon DSP and ARM9 w ith the function of passing the fie ld informat ion to the agricu ltural producers;W ebG IS agricu ltural informa tion management system w ith the function o f gu id ing the po licy-makersp fordecision-m aking. Fina lly, the experiment w as carried out and some exp lanat ions and ind icat ions w ereg iven to the prob lems o f the system that need to be improved.
【语种】中文
【第一作者】孙玉文
【通讯作者】沈明霞
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【学科分类】农业工程

【题目】农业设施有关环境参数的相应问题
【中文关键词】温度;湿度;光照度;CO2浓度;农业设施控制
【英文关键词】无
【中文摘要】为促进作物更好地生长发育,文章在介绍农业设施的主要环境参数—温度、湿度、光照度、CO2浓度对植物生长发育的重要作用时,提出农业设施有关参数控制要注意的相关问题。最后强调在设施环境控制系统中,要综合考虑各种不同参数对植物生长的影响,并及时记录相应数据、分析数据,得出作物生长的最佳环境。
【英文摘要】无
【语种】中文
【第一作者】何琴
【通讯作者】何琴
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【题目】过氧化物酶催化酪蛋白的交联反应优化与乳化性改善
【中文关键词】酪蛋白,辣根过氧化物酶,交联,乳化性质
【英文关键词】Casein , Horseradish peroxidase , Cross2linking , Emulsifying property
【中文摘要】采用辣根过氧化物酶对酪蛋白进行酶促交联,并经SDS2聚丙烯酰胺凝胶电泳、光谱分析和毛细管电泳验证。利用毛细管电泳、面积归一化方法对交联酪蛋白进行分析并计算交联度;以交联度为指标、应用响应面分 析法对交联条件优化,得出适宜的条件为:温度37 ℃、反应时间219 h、酶添加量为每克蛋白质4173 μkat ,此条件下 酪蛋白交联度达到619 %。与酪蛋白相比,交联酪蛋白的乳化活性在蛋白质质量分数为0101 %时提高了817 % ,而 其乳化稳定性在蛋白质质量分数为0103 %时提高了2111 %。
【英文摘要】Cross-linking of casein catalyzed by horseradish peroxidase was studied , which was demonst rated by SDS-PAGE analysis , spect roscopic analysis and capillary elect rophoresis analysis. The cross2linking degree of casein was measured by capillary elect rophoresis with an area normalization method. Response surface method was applied to optimize the reaction conditions for cross2linked casein. The optimal cross-linking conditions obtained were that enzyme addition level was 4173 μkat per gram protein ,

temperature was 37 °C and reaction time was 219 h. Under these optimal conditions , the cross-linking degree of casein prepared was about 619 %. Evaluation result s show that emulsifying activity index of cross2linked casein at concent ration of 0101 % has an increase of 817 % , while emulsifying stability index of cross-linked casein at concent ration of 0103 % has an increase of 2111 % comparing to that of native casein , which indicates the improvement in emulsifying properties of cross-linked casein.

【语种】中文
【第一作者】赵新淮
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【学科分类】食品科学技术基础学科

【题目】农田信息采集单多跳共存LEACH算法
【中文关键词】农田信息采集 无线传感器网络 LEACH 算法
【英文关键词】Farm fie ld inform ation co llection, W ireless sensor ne tw orks, LEACH a lgorithm
【中文摘要】针对农田环境信息量丰富的特点, 提出一种基于LEACH 算法的改进型无线传感器网络路由算法))) LEACH-SMC。在LEACH-SM C算法的稳态阶段, 簇头节点到基站间通信采用临界距离来判断和选择多跳或单跳方式, 在多跳方式中采用基于最小能量消耗的路由方式。应用M a tlab对LEACH-SMC 算法和LEACH 算法进行仿真对比分析, 结果表明, LEACH-SMC算法能提高网络有效覆盖面积并延长整个网络的寿命。
【英文摘要】An improvement o f LEACH algorithm w as proposed, named LEACH-SMC. The LEACH-SMCpro tocol a lgorithm w as carried out round by round, and every round w as div ided into tw o sections o f setupphase and steady station. A cr itical distance w as specified for every c luster head to judgew hen to use thesing le-hop or themu lt-i hop mode betw een the c luster heads and the base sta tion. The coverage areaw asgrea tly improved by the mu lt-i hop manner, and th is manner also prov ided practical va lue in the nodesdistribu tion in the farm f ie ld. It w as effective for transm itting the message by single-hop mode, and itcould greatly reduce the in format ion delay and packet loss rate too. The coex istence of sing le-hop andmult-i hop can comb ine the advantages. S imu lation results demonstrated that LEACH-SMC protoco l cou ldincrease netw ork effective coverage area and prolong the network lifetime.
【语种】中文
【第一作者】沈明霞
【通讯作者】沈明霞
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【学科分类】农业工程

【题目】菲律宾蛤仔2个壳色品系群体杂交的研究
【中文关键词】菲律宾蛤仔; 群体杂交; 壳色品系; 杂种优势
【英文关键词】Ruditapes philippinarum; population hybridization; shell color strain; heterosis
【中文摘要】于2007年10月,以F1代海洋红(R)和斑马蛤(Z)为材料,开展了2个壳色菲律宾蛤仔(Ruditapes philippinarum)品系的群体杂交。试验由RR(R♀×R♂)、ZZ(Z♀×Z♂)、RZ(R♀×Z♂)和ZR(Z♀×R♂)组成。结果表明,2个壳色品系亲贝壳长、重量和产卵量差异显著(P<0.05)。各试验组卵径、受精率和D形幼虫大小无显著差异(P>0.05),但杂交组孵化率显著高于相应对照组(P<0.05)。浮游期间幼虫未表现出明显的生长优势,但表现出一定的存活优势。RZ和ZR的生长优势平均值分别为(1.63±0.81)%和(2.58±0.67)%;生长速度分别为(8.64±0.32)和(8.67±0.31) μm · d-1,显著高于相应对照组(P<0.05);存活优势分别为(10.30±1.92)%和(16.30±1.04)%。室内培育期间稚贝表现出明显的生长、存活优势。RZ、ZR的生长优势平均值分别为(11.25±2.98)%和(20.31±2.10)%;生长速度分别为(9.88±1.45)和(10.79±1.32) μm · d-1,显著高于相应对照组(P<0.05),存活优势分别为(40.85±9.90)%和(57.08±11.98)%。
【英文摘要】The population hybridization was conducted by using clams of two shell color strains "ocean red"(R),"zebra"(Z) strains in October of 2007. The experiments was consisted of RR (R♀×R♂), ZZ (Z♀×Z♂),RZ(R♀×Z♂), ZR (Z♀×R♂) groups. The results showed that difference of shell length, weight and fecundity of parents were significant between two shell color strains

(P<0.05). There were no difference on egg-diameter, fertilized rate and size of D larvae among each experimental groups (P>0.05).The hatching rates in hybrid groups were higher than in control groups (P<0.05).At the planktonic stage,survival heterosis was obvious instead of growth heterosis for larvae tested. Survival heterosis were(10.30±1.92)%and(16.30±1.04)%,respectively for RZ and ZR, and growth heterosis for RZ, ZR were(1.63±0.81)%and(2.58±0.67)%.Growth rates for RZ, ZR were (8.64±0.32) and (8.67±0.31) μm·d-1, respectively (P<0.05).At indoor rearing stage, obvious growth and survival heterosis were found. The growth heterosis of RZ, ZR were(11.25±2.98)%and(20.31±2.10)%, the growth rates were (9.88±1.45) and (10.79±1.32) μm·d-1, and the survival heterosis were(40.85±9.90)%and(57.08±11.98)%, respectively. There was no significant difference of survival heterosis between RR and ZZ (P<0.05).

【语种】中文

【第一作者】张跃环

【通讯作者】闫喜武

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【学科分类】分子生物学

【题目】酪蛋白水解物的酶法修饰优化与抗氧化活性改善

【中文关键词】酪蛋白水解物,抗氧化活性,类蛋白反应,响应面分析

【英文关键词】casein hydrolysates;antioxidant activity;plastein reaction;reaction condition;response surface analysis

【中文摘要】利用木瓜蛋白酶对酪蛋白水解,并对所得到的水解物进行类蛋白反应修饰,制备高活性抗氧化肽。以水解物的游离氨基含量变化为响应值,利用响应面分析法对类蛋白反应条件进行优化,得到适宜条件为:酶添加量为500U/g,温度30°C,底物质量分数50%,反应时间5　6h。毛细管电泳分析确认,水解物经类蛋白反应修饰后肽分子组成发生变化。抗氧化活性分析结果表明,所制备的3个修饰产物对3种自由基的清除能力显著提高。

【英文摘要】Casein hydrolysates were prepared by hydrolysis of casein with papain, and then modified by plastein reaction to prepare antioxidant peptides with higher activity. Response surface analysis was applied to optimize the conditions of plastein reaction with the variations of free amino groups as index. The optimal conditions obtained were that enzyme addition level was 500 U·g-1 hydrolysates, temperature was 30 °C, concentration of hydrolysates was 50% and reaction time was 5.6 h. The analysis results from capillary electrophoresis confirmed that the peptide compositions of modified products were different from that of casein hydrolysates. The antioxidant activity of three modified products were also analyzed, which indicated that their scavenging activities for three free radicals were enhanced obviously.

【语种】中文

【第一作者】吴丹

【通讯作者】赵新淮

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【学科分类】食品科学技术基础学科

【题目】基于TrueTime 的无线网络功率控制系统

【中文关键词】无线网络控制系统;TrueTime 工具箱;路径损耗;功率控制

【英文关键词】Wireless Network Control System(WNCS); TrueTime tool box; path loss; power control

【中文摘要】介绍一种基于Matlab/Simulink 的联合仿真工具——TrueTime 工具箱,利用该工具箱,并以直流电机为对象,建立一个无线网络控制系统的仿真模型。通过对路径损耗函数的研究,得出信号传输的最远距离。仿真实验结果表明,在信号传输的最远距离内,降低节点的发射功率,可实现对无线网络控制系统节点的功率控制。

【英文摘要】】The paper introduces an associated simulation tool——TrueTime tool box, using the tool box builds a simulation model of DC motor inWireless Network Control System(WNCS). The farthest signal transmission distance is obtained through the investigation of path loss function.Simulation experimental result shows that the node power control of WNCS can be realized by reducing the transmit power within the farthest signaltransmission distance.

【语种】中文
【第一作者】赵贤林
【通讯作者】赵贤林
【期刊名称、卷期、页码】计算机工程,2010,36(10):127~128
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【学科分类】农业工程

【题目】蛋白酶微胶囊制备工艺及在干酪成熟中的应用
【中文关键词】蛋白酶,微胶囊,制备,干酪,降解,质地
【英文关键词】Protease, Microcapsule, Cheese, Protein, Degradation, Texture
【中文摘要】以明胶和阿拉伯胶为壁材,通过Box-Behnken设计响应面优化试验,采用冷冻干燥工艺制备蛋白酶微胶囊。将微胶囊添加到干酪中,测定pH4.6可溶性氮总氮比、水溶性氮总氮比以及12%TCA可溶性氮总氮比,同时进行质构、SDS PAGE、SEM分析。结果表明:明胶质量分数为38%、阿拉伯胶质量分数为37%、芯材添加量为64mg/(100mL)时蛋白酶微胶囊化效率达到93.4%;干酪中应用该微胶囊后使pH4.6可溶性氮总氮比、水溶性氮总氮比以及12%TCA可溶性氮总氮比增加,酪蛋白逐渐被降解为小肽且质地改善,干酪成熟60d后蛋白质微观结构破坏。
【英文摘要】The microencapsulated protease prepared was added to cheese to accelerated maturate. Gelatin and arabic gum were used as wall material to prepare protease microcapsule with freeze drying technique through Box-Behnken design and response surface methodology. The microencapsulated protease were added to cheese to study its influence on the ratio of pH 4.6 soluble nitrogen to total nitrogen, water soluble nitrogen to total nitrogen or 12% TCA soluble nitrogen to total nitrogen in ripened cheese. SDS-PAGE analysis, texture analysis and scanning electron microscope examination were also applied to analyze the ripened cheese. It was shown from the analysis results that the optimum conditions for the preparation of protease microcapsule were that the concentration of gelatin and arabic gum was 3.8% and 3.7%, core material (protease) was 6.4 mg/100 mL and microencapsulation efficiency was 93.4%. The ratio of pH 4.6 soluble nitrogen to total nitrogen, water soluble nitrogen to total nitrogen or 12% TCA soluble nitrogen to total nitrogen in the ripened cheese was increased when protease microcapsule was incorporated into cheese, which indicated that degradation of casein into small peptides was occurred and lead to the improvement in texture. The microstructure of proteins in cheese was destroyed after 60 days of ripening.
【语种】中文
【第一作者】张娜
【通讯作者】赵新淮
【期刊名称、卷期、页码】农业机械学报,2010,41(2),151~156
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【学科分类】食品科学技术基础学科

【题目】缢蛏六群体线粒体DNA-COI基因序列变异及群体遗传结构分析
【中文关键词】缢蛏; 线粒体DNA; COI; 遗传多样性
【英文关键词】Sinonovacula constricta; mtDNA; COI; genetic diversity
【中文摘要】利用线粒体DNA细胞色素氧化酶亚基(COI)基因序列片段对江浙闵沿海地区缢蛏三个野生群体(江苏射阳-WS、浙江象山-WX,福建霞浦-WP)和三个养殖群体(江苏射阳—CS、浙江象山-CX、福建焦城-CJ)的遗传结构进行初步分析。以特异引物进行PCR扩增,经纯化、测序、同源序列比对获得长度为556 bp的核苷酸序列,其中A+T含量为66.2%,显著高于G+C含量。在缢蛏六群体98个个体中共检测到了56个单倍型和66个核苷酸多态位点,多态位点比例为11.7%。野生群体的平均核苷酸差异数和核苷酸多样性指数略高于养殖群体,但是野生群体和养殖群体的单倍型多态性指数均大于0.9,其单倍型较为丰富。此外,六群体均有各自特有的单倍型,但只有射阳野生群体与其他群体无共享单倍型,具有鉴定该群体的特异碱基序列。遗传距离和聚类结果显示,养殖群体与象山野生群体和霞浦野生群体间亲缘关系较近。 更多还原
【英文摘要】The Razor Clam,Sinonovacula constricta,is distributed alo ng the coastal waters of West pacific ocean which is one of the four most valuable and popular shellfish resources in China.To examine the genetic diversity in three wild and three cultured S.constricta populations from Jiangsu,Zhejiang and Fujian Provinces,mitochondrial cytochrome oxidase subunit I gene(COI) was

determined.A 556bp long partial gene segment was acquired and sequences were moderately A+T rich(A+T = 66.2 %),which was higher than G+C content.The results showed that 56 haplotypes and 66 variation sites were found in the sequences of the 98 samples.The nucleotide diversity and average number of differences of wild populations were a few higher than that of cultured populations,but the values of haplotype diversity of six populations were 0.9.Moreover,there were special haplotypes in wild Jiangsu population,which were not shared with others ’.The genetic distance and cluster analysis suggested that the phylogenetic relationship of three cultured populations was closed to the Zhejiang and Fujian wild populations in Zhejiang and Fujian Provinces

【语种】中文
【第一作者】牛东红
【通讯作者】李家乐
【期刊名称、卷期、页码】海洋学报,Vol. 30, No. 3,May 2008,109-116
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【学科分类】分子生物学

【题目】Design of a Wireless Sensor Network for Farmland Monitoring
【中文关键词】无
【英文关键词】Farmland monitoring, precision
agriculture, wireless sensor networks
【中文摘要】无
【英文摘要】Farmland monitoring is of great significance inprecision agriculture. In this paper, we design awireless sensor network to monitor farmlandinformation, including air temperature and humidity,light intensity, soil moisture, soil PH value, and thegrowth of crops. We carry out an experiment in thecornfield of Hongzehu farm. It shows that themonitoring system is effective.
【语种】英文
【第一作者】孙玉文
【通讯作者】沈明霞
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【引文索引号】11531000
【学科分类】农业工程

【题目】农田无线传感器网络的节点部署仿真与实现
【中文关键词】无线传感器网络(WSN),环境监测,传感器,NS2 软件,节点部署
【英文关键词】wireless sensor networks, environmental testing, sensors, NS2 software, node deployment
【中文摘要】应用无线传感器网络进行农田信息采集时,针对农田面积大、传感器节点众多的特点,如何有效地部署节点成为研究的热点之一。利用NS2 软件从丢包率、平均延时、剩余能量和接收信号强度等网络性能角度对随机部署、正六边形部署及正四边形部署方式进行了仿真比较,最终确定正六边形部署方案,并在农田中进行实地试验。结果表明系统能够实现无缝覆盖,稳定可靠的采集农田信息,为无线传感器网络在农田环境中的进一步应用提供了参考。
【英文摘要】In farmland information collection system which based on the wireless sensor networks, effective deploymentof nodes becomes one of the research priorities, due to the is large number of sensor nodes laid in wide area of farmland.NS2 software executed the simulation comparison from the following aspects such as packet loss rate, average delay, theremaining energy of sensor nodes. The hexagonal plan was determined as the final deployment one, and experimentswere carried out in the fields. Results showed that the system could achieve seamless coverage, and acquire the fieldinformation stably and reliably, which laid the solid foundation for further application infield wireless sensor networks.
【语种】中文
【第一作者】孙玉文
【通讯作者】沈明霞
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【学科分类】农业工程

【题目】农田图像采集及与无线传输系统设计
【中文关键词】农田信息 图像无线传输 联合图像专家组 设计
【英文关键词】Farm land inform ation, Im age w ire less transm ission, Jo in t photograph ic expert g roup,
【中文摘要】结合ZigBee和GPRS, 设计了农田图像采集与无线传输系统。系统由MESH 型ZigBee图像采集网络和远程服务器构成, 服务器与ZigBee网络的协调器通过GPRS网络进行数据传输。基于V4L 技术采集了农田图像, 阐述了JPEG压缩和解压缩流程, 使用改进的离散余弦变换减小了图像压缩的运算量, 并对压缩后的图像作了数据分组和校验, 保证了数据传输的可靠性。在选定农田对系统进行实地测试, 系统能够顺利采集图像, 无线传输成功率为76%, 同时分析了传输一幅图像的理论最短时间和实际平均传输时间产生的差异。
【英文摘要】Based on Z igBee and GPRS, a system w as designed to acquire farm land images and transfer theimages w irelessly. The system consisted ofMESH-type ZigBee netw ork for image acquisit ion and a remoteserver wh ich cou ld communicate w ith the Z igBee network coordinator via GPRS network. The imageacquisit ion based on theV4L techno logy w as in troduced firs,t and the process of JPEG compression anddecompression w as described, them ethod o f reducing the computational complex ity o f image compressionby the improved discrete cosine transform (DCT) w as stud ied, then how to improve reliab ility in the datatransm ission by partition ing and check ing image dataw as discussed. A t las,t the system w as tested in theg iven field and it proved that the successful rate of farm land im age acqu isition w as 76% . Furthermore,the difference betw een the theoretical and practica l transm ission tim ew as ana lyzed.
【语种】中文
【第一作者】熊迎军
【通讯作者】沈明霞
【期刊名称、卷期、页码】农业机械学报,2011,42(3):184-187
【论文发表时间】2011-03-23 00:00:00
【引文索引类型】EI
【引文索引号】2.0111913966e+013
【学科分类】农业工程

【题目】农用飞机防治病虫害作业导航系统设计与地面模拟测试
【中文关键词】农用飞机 作业导航系统 嵌入式系统 GPS
【英文关键词】A gricultural aircraf,t Task nav igat ion system, Embedded system, GPS
【中文摘要】基于GPS技术和嵌入式系统技术, 设计了可实现自动规划边界、自动规划航道、计算农田面积、实时显示飞行轨迹和语音提示的农用飞机作业导航系统。阐明了系统硬件平台结构和QT交叉编译过程, 研究了系统各项功能的实现算法。运用最小二乘法实时预测了高速运行环境下的定位数据, 有效减小了高速运动产生的GPS定位延迟。在选定地块手持导航系统进行功能模拟, 实现了作业导航系统的设计功能。
【英文摘要】B ased on the GPS techno logy and the embedded system, a multifunctional ag ricultura l a ircraftnav igation system w as designed. It comb ined the functions o f automatic depict ion of the farm out line,automatic trace p lann ing, farm area ca lculat ion, real time trace-display and vo ice prompts. Systemhardw are platform and QT env ironment w ere introduced, and the system funct ion a lgorithm w asd iscussed. The least squaremethod w as used to pred ict the positioning data in h igh-speed environm ents,it effective ly reduced the posit ion ing de lay generated by the h igh-speedmot ion. Design ing functions w ereach ieved w ith the nav igation system in certain f ie ld.
【语种】中文
【第一作者】熊英俊
【通讯作者】沈明霞
【期刊名称、卷期、页码】农业机械学报,2010,41(7):153-156
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【题目】Cheddar干酪理化性质变化对其质构及微观结构的影响
【中文关键词】干酪; 蛋白质水解; 脂肪水解; 质构; 微观结构
【英文关键词】Cheese,Proteolysis,Lipolysis,Texture,Microstructure
【中文摘要】在贮藏过程中干酪的理化变化对其质构起到重要作用, 由于蛋白质的降解破坏了其网络结构, 脂肪水解和氧化使脂肪球发生聚集融合, 形成脂肪槽, 这些变化促进了干酪质构的变化, 使其质地变软。本文系统研究Cheddar干酪在贮藏期的蛋白质水解程度、脂肪水解和氧化程度、质构及微观结构的变化, 分析蛋白质水解、脂肪水解对质构和微观结构的影响。
【英文摘要】The change of physicochemical properties play important on texture of cheese during storage. Protein degradation damages its network.With the increase in free fatty acid content and degree of oxidation intensified, fat globule aggregated and formed fat groove shape.These changes make it soft. We studied proteolysis, lipolysis, texture and microstructure of Cheddar cheese during storage, analyzed effect of proteolysis on texture and microstructure .
【语种】中文
【第一作者】贺殷媛
【通讯作者】徐红华
【期刊名称、卷期、页码】中国乳品工业,2008,36(8),7-11
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【引文索引号】null
【学科分类】食品科学技术基础学科

【题目】转谷氨酰胺酶交联作用对乳蛋白功能特性的影响
【中文关键词】转谷氨酰胺酶;乳蛋白;交联
【英文关键词】transglutaminase;milk protein;cross-linking
【中文摘要】转谷氨酰胺酶可用于蛋白交联,改性蛋白质的组织结构和功能特性,在食品工业中具有广阔的应用前景。本文介绍了转谷氨酰胺酶的作用机制、对乳蛋白功能特性的影响以及在酸奶生产中的应用等。
【英文摘要】:Cross-linking of proteins by transglutaminase can modify their structure and functional properties, therefore,transglutaminase have good application in food industry. The role mechanism and effects of transglutaminase on functional properties of milk proteins were introduced. In this paper, the application of transglutaminase in yoghurt was also presented.
【语种】中文
【第一作者】吴进菊
【通讯作者】陈红兵
【期刊名称、卷期、页码】食品科学,2007,28 (10),601~604
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【引文索引号】null
【学科分类】食品科学技术基础学科

【题目】大蒜对菲律宾蛤仔早期生长发育的影响
【中文关键词】大蒜; 菲律宾蛤仔; 生长; 存活; 变态;
【英文关键词】garlic extract; Ruditapes philippinarum; growth; survival; metamorphosis;
【中文摘要】实验了不同大蒜汁浓度(0、2、4、8、16、32 mg/L)对菲律宾蛤仔受精卵孵化率,幼虫生长、存活、变态及稚贝生长与存活的影响,总结了室内大规模人工育苗过程中大蒜防病效果。结果表明:随着大蒜汁浓度的增加,孵化率降低;大蒜汁浓度达到16mg/L,胚胎发育延迟;达到32mg/L,受精卵不能孵化为正常幼虫。浮游期间,幼虫的生长受大蒜汁抑制,幼虫的存活率则随着大蒜汁浓度增加先升高后降低;幼虫的变态率随着大蒜汁浓度的增加先升高后降低,以16mg/L为最适浓度;变态规格随着大蒜汁浓度增加而减小。室内培育期间,稚贝生长与存活随着大蒜汁浓度的增加先升高后降低,以8mg/L为最适浓度;室内大规模人工育苗过程中,使用浓度为8-10mg/L大蒜汁可以起到较好的防病效果。 更多还原

【英文摘要】This study investigated effects of various concentrations of garlic extract(0,2,4,8,16,and 32 mg/L) on hatching rate,growth and survival of larvae and juveniles,metamorphosis,and disease prevention for Manila clam Ruditapes philippinarum.The results showed that the hatching rate decreased with increasing concentrations of garlic extract.A garlic extract concentration of 16 mg/L resulted in delayed embryo development,and 32 mg/L resulted in hatching failure of the embryos.During the planktonic stage,larval growth was depressed by garlic extract;larval survival and metamorphosis increased and then decreased as garlic extract concentrations increased.A garlic extract concentration of 16 mg/L appeared to be optimal for larval metamorphosis and survival.The metamorphosis size decreased with increasing garlic extract concentrations.During the indoor rearing period,the growth and survival of juveniles also increased and then decreased as garlic extract concentrations increased,with 8 mg/L being the optimum concentration.Results from the present study demonstrated that garlic extract concentrations of 8-10 mg/L could prevent diseases in the hatchery.
【语种】中文
【第一作者】杨 凤
【通讯作者】闫喜武
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【学科分类】分子生物学

【题目】单宁酸交联处理对明胶性质的影响
【中文关键词】明胶,单宁酸,交联,性质
【英文关键词】Gelatin,Tannic acid,Cross-linking,Property
【中文摘要】采用单宁酸作交联剂对明胶进行交联改性处理, 对其凝胶性、降解性进行分析, 制备, 微胶囊并确定芯材的释放性能。结果表明, 与原料明胶相比, 交联明胶形成凝胶的最低浓度基本未发生改变, 仍为左右,但是在相同浓度下交联明胶的凝胶强度明显降低。体外降解实验表明, 原料明胶和交联明胶在模拟胃液中几乎不发生降解, 但在模拟肠液中都发生降解, 且交联明胶的降解速度更慢。交联明胶为壁材制备的微胶囊, 其芯材在模拟胃液和模拟肠液中有一定的缓释效果。
【英文摘要】Gelatin was crosslinked by tannic acid as cross-linking agent. Gel property, degradation character of cross-linked gelatin was evaluated. A microcapsule was prepared with cross-linked gelatin as wall material and vitamin B1 as core material. Release characters of core material in microcapsules were analyzed. The results showed that minimum concentration of cross-linked gelatin to form gel was same to raw gelatin about 0.6%. However, the gel strengh of cross-linked gelatin was lower than that of raw gelatin at the same concentration. Degradation study in vitro showed that raw gelatin and cross-linked gelatin were nearly not degraded in simulated gastric fluid, but both were degraded in simulated intestinal fluid. Data showed that cross-linked gelatin was degraded slowly than raw gelatin. Microcapsules with cross-linked gelatin as wall material showed that they had a slow-release property in the simulated gastric and intestinal fluid at some extent。
【语种】中文
【第一作者】邵士风
【通讯作者】赵新淮
【期刊名称、卷期、页码】食品科学,2009,30(1),108~111
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【引文索引类型】其他
【引文索引号】null
【学科分类】食品科学技术基础学科

【题目】酪蛋白水解物的酶法修饰与ACE抑制活性变化
【中文关键词】酪蛋白,水解物,类蛋白反应,ACE 抑制
【英文关键词】casein , hydrolysates , plastein , ACE inhibition
【中文摘要】利用枯草杆菌碱性蛋白酶水解酪蛋白制备酪蛋白水解物,其水解度为1112 % , IC50为4711 μg/ mL 。再应用相同的酶对酪蛋白水解物进行类蛋白反应修饰,考察底物浓度、温度和酶添加量对类蛋白反应的影响,并制备5 个不同的修饰产物测定其ACE 抑制活性和IC50值。结果表明,修饰产物的ACE 抑制活性随修饰程度(游离氨基减少量) 的增加而提高,并且都高于未经修饰的酪蛋白水解物。当游离氨基减少量为154165 μmol/ g (蛋白) 时,修饰产物的IC50值可降至016 μg/ mL

。毛细管电泳分析结果显示类蛋白修饰后水解物的多肽组成情况发生明显变化。研究结果证明酪蛋白水解物的ACE 抑制活性可以通过类蛋白反应的修饰作用而提高。

【英文摘要】Casein hydrolysates t hat had t he degree of hydrolysis of 11.2 % and value of IC50 about 38. 6 μg/ mL were prepared f rom casein with B cillus subtilis alkaline p rotease. Casein hysrolysates t hen were modified by plastein reaction wit h t he same protease. The effect s of t he concent ration of casein hydrolysates ,temperature and addition level of p rotease on the plastein reaction were st udied. Five modified casein hydrolysates wit h different modification extent s were prepared and t heir ACE inhibitory activity and value of IC50 were determined. The result s indicated t hat all five modified casein hydrolysates had higher ACE inhibitory activity t han t hat of casein hydrolysates. When modified casein hydrolysates had a decrease in f ree amino groups of 154. 65 μmol/ g protein , their ACE inhibitory activity was decrease to 0. 6 μg/ mL . Analysis result from capillary elect rop horesis indicated t hat the peptide profiles between casein hydrolysates and modified casein hydrolysates were different obviously. The st udy result s showed t hat the ACE inhibitory activity of casein hydrolysates could be effectively improved by plastein reaction.

【语种】中文

【第一作者】李亚云

【通讯作者】赵新淮

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【学科分类】食品科学技术基础学科

【题目】文蛤副溶血弧菌间接ELISA检测技术的研究

【中文关键词】文蛤; 副溶血弧菌; 弧菌病; 间接ELISA; 快速检测

【英文关键词】Meretrix meretrix linnaeus; Vibrio parahaemolyticus; vibriosis; Indirect ELISA; Rapid detection

【中文摘要】从患病文蛤组织内分离出一株细菌,回归感染试验证明是文蛤的致病菌,经鉴定为副溶血弧菌,灭活后(56°C,1h)制成菌苗,用该菌苗制备兔抗血清,以辣根过氧化酶标记的羊抗兔血清(HRP-IgG)为酶标二抗,对副溶血弧菌进行间接ELISA快速检测。结果表明:应用间接ELISA技术检测副溶血弧菌具有较高的灵敏度,其最低检测极限为1×105cfu/mL。患病文蛤内脏团中副溶血弧菌的检出率为80%,无病症带菌文蛤中的检出率为15%,海水中副溶血弧菌的浓度低于最低检测极限。表明间接ELISA检测法不仅可以用于发病文蛤的快速检测,而且能够检测出无病症的带菌的文蛤,为有效预防副溶血弧菌病的暴发提供了检测手段。

【英文摘要】Pathogenic bacterium was isolated form diseased hard clam Meretrix meretrix Linnaeu,and it was identified to be Vibrio parahaemolyticus (Vp),and was confirmed to be the pathogens of the epidemic by artificial infection experiment. This pathogen was inactivated (56°C,1h),to be as vaccine,the antiserum specific for Vp was obtained from rabbits by injecting vaccine; and the anti-rabbit IgG goat was marked by horseradish peroxidase (HRP)and used in an indirect ELISA detection. The results showed the lowest VP suspension detection limit in laboratory was 1×105cfu/ml on worksite. Vp were detected by ELISA form samples of diseased and healthy clam with 80% and 15% respectively,but none for the seawater. This indicated that ELISA could be used not only to diagnose the clinically diseased clam Meretrix meretrix,but also to recognize pathogen—carrier clam Meretrix meretrix Linnaeus,and it can provide basis to preclude the explosion of the vibriosis.

【语种】中文

【第一作者】李国

【通讯作者】林志华

【期刊名称、卷期、页码】海洋通报 ,Vol. 27,No.5,Oct. 2008,85-90

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【引文索引类型】其他

【引文索引号】null

【学科分类】分子生物学

【题目】植物单宁酸交联明胶的条件优化及性质分析

【中文关键词】明胶,交联,单宁酸,性质

【英文关键词】gelatin, cross-linking, tannic acid, property

【中文摘要】该文用单宁酸作交联剂对明胶进行交联改性,通过响应面法优化反应条件并建立回归模型,并对交联前后的明胶进行十二烷基磺酸钠-聚丙烯酰胺凝胶电泳(SDS-PAGE)、紫外光谱和黏度等3 方面的分析测定,确认单宁酸交联对明胶所产生的交联作用,开发新食品配料交联明胶。结果显示:适宜的交联反应条件为反应温度47.5℃,时间50 h,单宁酸添加量80 mg/g 明胶。性质分析表明,与原料明胶相比交联明胶一些性质发生变化,紫外光谱分析发现交联明胶在276 nm 出现新吸收峰,表明交联明胶分子中存在苯环;电泳后交联明胶的蛋白质条带色泽明显变浅,且交联度越大条带色泽越浅,此外,交联明胶溶液的黏度明显增大,说明单宁酸交联处理使交联明胶中有更多的大分子物质生成。

【英文摘要】Gelatin was modified with tannic acid as a cross-linker in this study. Cross-linking conditions of gelatin were optimized by response surface methodology and corresponding regression model was thus established. Sodium dodecyl sulfate-polyacrylamide gel electrophoresis (SDS-PAGE) analysis, ultraviolet absorption spectrum analysis and viscosity determination were conducted to confirm the cross-linking of gelation by tannic acid. The results showed that the optimal cross-linking conditions were as follow: reaction temperature was 47.5℃, reaction time was 50 h and addition level of cross-linker was 80mg · g-1 on gelatin basis. Compared to those of gelatin, some properties of cross-linked gelatin were changed. Ultraviolet absorption spectrum analysis showed that cross-linked gelatin had an additional absorption peak at 276 nm, which indicates the existence of benzene rings in cross-linked gelatin. It was also found that the color of protein bands of cross-linked gelatin in SDS-PAGE analysis became lighter when cross-linking degree of gelatin increased, and relative viscosity of cross-linked gelatin solution increased clearly. All results indicate the formation ofhigher molecules in cross-linked gelatin as the result of treatment of gelatin with tannic acid.

【语种】中文

【第一作者】邵士凤

【通讯作者】赵新淮

【期刊名称、卷期、页码】农业工程学报,2009,25(S1),241~245

【论文发表时间】2009-12-15 00:00:00

【引文索引类型】其他

【引文索引号】null

【学科分类】食品科学技术基础学科

【题目】高活性酪蛋白抗氧化肽的制备方法研究

【中文关键词】酪蛋白水解物;木瓜蛋白酶;抗氧化活性;毛细管电泳

【英文关键词】casein hydrolysates;papain;antioxidant activity;capillary electrophoresis

【中文摘要】采用木瓜蛋白酶对酪蛋白进行水解,得到抗氧化活性较好的酪蛋白水解物,并且水解物在木瓜蛋白酶作用下进行类蛋白反应制备出高活性酪蛋白抗氧化肽。第一步制备酪蛋白水解肽时酶添加量为500U/g 酪蛋白、温度45℃、底物浓度5%、反应时间2h。第二步类蛋白反应的最优条件为:酶添加量为500U/g 水解物、温度30℃,底物浓度50%、作用时间5.5h。毛细管电泳结果确认,类蛋白反应修饰后抗氧化肽的组成情况发生变化。抗氧化活性分析结果表明,类蛋白反应修饰后的酪蛋白抗氧化肽对DPPH 自由基和ABTS+ · 的清除能力显著提高。

【英文摘要】Peptides with high antioxidant activity were prepared from casein by a two-step method, i.e., first preparation of casein hydrolysates by papain-catalyzed, and then modification of these hydrolysates by plastein reaction with papain. The antioxidant activities of casein hydrolysates and their modification products were evaluated by DPPH assay and ABTS assay.The optimum conditions for casein hydrolysis were casein concentration 5%, papain concentration 500 U/g casein, pH 4.5,temperature 45 ℃ for a hydrolysis duration of 2 h, and the optimal plastein reaction conditions were substrate concentration 50%, papain concentration 500U/g substrate, and temperature 30 ℃ for 5.5 h reaction. Capillary electrophoresis analysis confirmed that the compositions of antioxidant peptides were changed as a result of plastein reaction. The DPPH and ABTS scavenging activity of casein peptides were remarkably enhanced after enzymatic modification.

【语种】中文

【第一作者】吴丹

【通讯作者】赵新淮

【期刊名称、卷期、页码】食品科学,2009,30(21),283~287

【论文发表时间】2009-11-08 00:00:00

【引文索引类型】其他

【引文索引号】null

【学科分类】食品科学技术基础学科

【题目】缢蛏6个群体遗传结构的ISSR分析
【中文关键词】缢蛏; 群体遗传; 遗传结构; ISSR
【英文关键词】Sinonovacula constricta; population genetics; genetic structure; ISSR
【中文摘要】采用ISSR分子标记对采自福建宁德(ND)、浙江台州(TZ)、上海崇明(CM)、山东海阳(HY)、天津汉沽(HG)和辽宁庄河(ZH)的缢蛏6个野生群体进行遗传多样性和遗传关系分析.筛选出10条ISSR引物对6个群体共216个样品进行扩增,共得到138个清晰的扩增位点,其中多态性位点135个,多态位点百分率为97.83%,在物种水平上的遗传多样性较为丰富.群体遗传多样性分析结果表明,6个群体的多态位点百分率在61.59%~72.46%之间,基因多样性指数和Shannon’s信息指数分别在0.1043~0.1766和0.1789~0.2808之间,其中ND群体的多样性指数最低.群体间遗传分化、遗传距离和聚类结构显示,ND群体和TZ群体亲缘关系最近,首先聚为一支,之后依次与CM群体及HG群体和HY群体聚类,最后与ZH群体聚在一起,表明地理位置较远的群体,遗传距离也较远.图2表5参27　更多还原
【英文摘要】The genetic structure of six geographic populations of the razor clam Sinonovacula constricta along the coast of China was investigated by the inter-simple sequence repeat(ISSR).The six populations were named as ND in Ningde City of Fujian,TZ in Taizhou City of Zhejiang,CM in Chongming Island of Shanghai,HY in Haiyang City of Shandong,HG in Hangu District of Tianjin and ZH in Zhuanghe City of Liaoning.Of the 138 ISSR loci tested,135(97.83%)were polymorphic with 10 ISSR primers.The number of alleles(N a),effective number of alleles(N e),Shannon’s information index(I),mean Nei’s gene diversity(H),percentage of polymorphic bands(PPB),average values of H t ,H s ,and G st for pairwise subpopulations were analyzed with POPGENE.The results showed that the values of PPB,I and H were 61.59%~72.46%,0.104 3~0.176 6 and 0.178 9~0.280 8,respectively for the six populations with the lowest values in ND population.The UPGMA tree based on the Nei’ genetic identity showed that ND was clustered with TZ into one clad,then with CM,HY and HG,and finally with ZH.Fig 2, Tab 5,Ref 27
【语种】中文
【第一作者】牛东红
【通讯作者】李家乐
【期刊名称、卷期、页码】应用与环境生物学报,2009,15 (3): 332-336
【论文发表时间】2009-06-25 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】分子生物学

【题目】酪氨酸存在下酪蛋白水解物的Plastein反应修饰与抗氧化活性影响
【中文关键词】酪蛋白水解物; Plastein反应;酪氨酸;抗氧化活性
【英文关键词】casein hydrolysates, Plastein reaction, tyrosine, antioxidant activity
【中文摘要】利用木瓜蛋白酶水解酪蛋白,然后添加酪氨酸于酪蛋白水解物并进行Plastein反应修饰。利用响应面分析法对Plastein反应条件进行优化,以反应体系的游离氨基含量减少量为响应值,得到适宜的Plastein反应条件为:酪蛋白水解物浓度50% ,木瓜蛋白酶添加量500 U /g蛋白质,酪氨酸添加量2125 mol/mol水解物游离氨基,反应温度35℃,反应时间415 h。对制备出的3个不同修饰程度的产物的抗氧化活性进行分析,结果表明修饰产物对DPPH游离基和ABTS·+的清除能力有显著提高。排阻色谱分析结果显示,修饰产物中肽分子组成发生了显著变化。
【英文摘要】Casein was hydrolyzed by papain, and the hydrolysates p repared were modified by Plastein reaction inthe presence of tyrosine. Some conditions of Plastein reaction were op timized with response surface methodology, and the decrease of free amino group s in reaction mixture was used as response. The op timal conditions for Plastein reaction were as follows: concentration of casein hydrolysateswas 50% , addition level of papain or tyrosine was 500 U /g proteins or 2125 mol/mol free amino group s in casein hydrolysates, and reaction temperature or time was 35 ℃ or 4.5 h. Three modified casein hydrolysateswere thus p repared with different reaction extents. Analysis results showed that these modified casein hydrolysates had better free radical scavenging activity on DPPH radical orABTS·+ than casein hydrolysates clearly. The p rofiles from size2exclusion chromatography indicated that the compositions of the pep tides in modified casein hydrolysates were obviously different from that of the pep tides in casein hydrolysates.
【语种】中文
【第一作者】吴丹
【通讯作者】赵新淮
【期刊名称、卷期、页码】食品与发酵工业,2009,35(12),28~31

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【引文索引号】null
【学科分类】食品科学技术基础学科

【题目】蛋白交联中多酚氧化酶的酶源筛选及酶学性质研究
【中文关键词】交联;多酚氧化酶;双孢蘑菇;茄子
【英文关键词】cross-linking;polyphenol oxidase(PPO);Agaricus bisporus;eggplant
【中文摘要】从多种植物和真菌中筛选出多酚氧化酶(PPO)活力高的原料,并对其酶学性质进行研究,以利于其在蛋白交联中的应用。双孢蘑菇和茄子中PPO 酶活相对较高,达到11004U/g 和9376U/g。双孢蘑菇PPO 和茄子PPO 的最适温度和pH 值均分别为20℃和7.0;在温度较高时,茄子PPO 比双孢蘑菇PPO 稳定性更好。Zn2+、Mn2+、Ag+对双孢蘑菇PPO 和茄子PPO 活力表现明显的抑制作用,Cu2+ 对双孢蘑菇PPO 活力表现明显的促进作用,而对茄子PPO 却有很强的抑制作用。双孢蘑菇PPO 和茄子PPO 的Km 和Vmax 分别为5.5mmol/L、1666.7U 和8.75mmol/L、2500U。
【英文摘要】The plants and fungus with high polyphenol oxidase (PPO) activity were selected to apply to protein cross-linking,and biochemical nature of this enzyme was characterized. PPOs from Agaricus bisporus and eggplant were observed to be the highest, 11004 U/g and 9376 U/g. The optimum temperature and pH for these two kinds of PPO were found to be 20 ℃ and 7.0, while PPO from A. bisporus showed lower heat stability than that from eggplant at high temperature. Metal ions like Zn2+,Mn2+ and Ag+ showed obvious inhibition on PPOs while Cu2+was able to promote the PPO activity from A. bisporus (140.9%)and inhibit PPO activity from23.4%. The Km and Vmax values of PPOs from A. bisporus and eggplantwere 5.5mmol/L and 1666.7 U,8.75 mmol/L and 2500 U, respectively.
【语种】中文
【第一作者】吴进菊
【通讯作者】高金燕
【期刊名称、卷期、页码】食品科学,2009,30(23), 229~232
【论文发表时间】2009-12-09 00:00:00
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【引文索引号】null
【学科分类】食品科学技术基础学科

【题目】表面毛霉成熟干酪制备工艺优化
【中文关键词】毛霉,干酪,工艺,优化
【英文关键词】Mucor; cheese; process; optimalization
【中文摘要】利用从毛豆腐中分离得到的一株毛霉属菌株,制备得到表面毛霉成熟干酪,并在干酪生产过程中采用乳酸预酸化的方式避免了常规乳酸菌发酵剂对毛霉干酪成熟的影响。单因素实验确定牛乳预酸化pH为517,氯化钙添加量0102% ,凝乳酶的添加量为010035% ,凝固温度33℃,毛霉孢子悬浮液浓度为1 ×104~1 ×105 cfu · mL- 1 。
【英文摘要】Surface Mucor-ripened cheese was produced from a strain of Mucor spp.which was separated from local mao-tofu product.By means of pre-acidification with lactic acid to avoid the effects of lactobacillus to Mucor-ripened cheese during producing,single factor test confirmed that the pH of pre-acidification was 5.7,CaCl2 and chymosin were added at a level of 0.02% and 0.0035% respectively.Coagulate temperature was at 33°C,and the concentration of spore suspension of Mucor was 1×104~1×105cfu.mL-1.
【语种】中文
【第一作者】张娜
【通讯作者】赵新淮
【期刊名称、卷期、页码】食品工业科技,2010,31(1),210-212,217
【论文发表时间】2010-01-15 00:00:00
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【引文索引号】null
【学科分类】食品科学技术基础学科

【题目】贝类壳色多态的研究概况及展望
【中文关键词】贝类; 壳色多态
【英文关键词】mollusk; shell color polymorphism; research advance; prospect
【中文摘要】贝类壳色在一定程度上呈现出多态性,并受环境、遗传等因素的调控,且与生长发育、营养成分有关。近十余年来,贝类在育苗与养殖过程中,病害频发、个体小型化[1]。产生这些问题的原因与海区环境恶化、养殖结构不合理、病原生物增加等有关,也与其种质质量有关[2]。出现长期连续多代的人工近亲繁殖和生产者的逆向选择等问题,引种虽能够使上述问题得到一定程度的解决,但非长久之计。只有深入研究贝类的种质遗传,并以此为基础,培育出新的良种,才能够从根本上解决这些问题。故以壳色作为遗传标记,为贝类的遗传育种提供了新的方向,开辟了种质改良的新篇章。1壳色与环境的关系贝类壳色多样性可以作为许多海产和陆生贝类分类依据,其壳色和
【英文摘要】无
【语种】中文
【第一作者】张跃环
【通讯作者】闫喜武
【期刊名称、卷期、页码】水产科学,Vo.l 27 No. 12,Dec. 2008,680-683
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【引文索引号】null
【学科分类】分子生物学

【题目】阿魏酸存在下酪蛋白的酶促氧化交联与一些性质变化
【中文关键词】酪蛋白;辣根过氧化物酶;阿魏酸;交联;乳化性质
【英文关键词】casein; horseradish peroxidase; ferulic acid; cross-linking; emulsifying property
【中文摘要】在pH值为9.5,阿魏酸存在和37 °C的条件下,利用辣根过氧化物酶(EC 1.11.1.7)和过氧化氢对酪蛋白进行氧化交联,并用十二烷基磺酸钠-聚丙烯酰胺凝胶电泳和紫外吸收分析确认交联作用。在蛋白质质量分数为0.04%时,交联酪蛋白的乳化活性指数、乳化稳定性分别比酪蛋白提高25.2%和7.0%。利用葡萄糖酸 – δ – 内酯制备酪蛋白和交联酪蛋白的酸化凝胶,扫描电子显微镜观察可以看出交联酪蛋白凝胶的微观结构中空穴减少,形成了更为致密的结构。
【英文摘要】Horseradish peroxidase (EC 1.11.1.7) and peroxide hydrogen was used to oxidative cross-link casein in presence of H2O2 and ferulic acid at 37 °C and pH =9.5. Cross-linking of casein occurred was first demonstrated by SDS-PAGE and spectroscopic analysis. Crosslinked casein was then prepared and used to analyze its emulsifying activity index, emulsifying stability index and microstructure of acidified gel. The emulsifying activity index and emulsifying stability index of cross-linked casein at concentration of proteins of 0.04% (w/w) were enhanced about 25.2% and 7% compared to that of casein at same concentration of proteins, respectively. The gel microstructure of cross-linked casein prepared by acidification of glucono- δ -lactone was observed by scanning electron microscopy as more compact and uniform structure.
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【第一作者】李君文
【通讯作者】赵新淮
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【学科分类】食品科学技术基础学科

【题目】TLR2基因多态性与奶牛体细胞评分的相关性研究
【中文关键词】新疆褐牛;TLR2基冈;隐性乳房炎;体细胞评分
【英文关键词】Xinjiang Brown cattle;TLR2 gene;sub-mastitis;SCC
【中文摘要】旨在分析Toll-样受体2在奶牛隐性乳房炎中的作用。本研究以同一牛场内的中国荷斯坦奶牛和新疆褐牛为研究对象,选取奶牛体细胞数小于20万和大于100万的个体各15头,对TLR2基因进行测序,然后对发现的多态位点进行PCR-RFLP检测,分析这些位点与体细胞评分(SCS)的相关性。结果发现了TLR2基因E+189、E+631和E+22603个SNP位点,其中E+631和E+2260位点为本试验首次发现。E+189、E+631和E+22603个SNP位点在2个品种内均处于Hardy-Weinberg平衡状态(P>O.05);3个位点在2个品种间的基因型分布差异都极显著(P<O.01)。分析每个SNP位点与SCS的相关性,最示TLR2E+189位

点AA比BB和AB基因型个体的SCS高(P<0.05),AB与BB基因型个体的SCS差异不显著(P>0.05);说明BB基因型个体的乳房炎发病率低。而TLR2E+631的SCS和TLR2E+189位点表现相似,但各个基因型个体间的SCS差异不足著(P>0.05)。E+2260位点AA基因型个体比AB的SCS低(P>0.05)。新疆褐牛的SCS低于荷斯坦牛(P<O.01),说明新疆褐牛乳房炎发病率比衙斯坦牛低。在发现的3个SNP位点中,E+189位点对奶牛的SCS有显著影响(P<0.05),TLR2基因SNP位点在2个品种内的分布差异町能足新疆褐牛比荷斯坦牛乳房炎发病率低的原因之一。

【英文摘要】This study aims to identify single nucleotide polymorphisms (SNPs) and haplotypes in the TLR2 gene, and analyze the association of SNPs or haplotypes and somatic cell scores in 151 Xinjiang Brown cattle and 138 Holsteins to evaluate the role of TLR2 during intramammary infections. TLR2 coding region was amplified by PCR and screened for SNP sequencing.Genotypes and frequencies of SNPs were identified. Finally, the associations of genotypes or haplotypes and somatic cell scores (SCS) were analyzed. The results showed that: (i) 15 SNPs (E +653, E +945, E +978, E +1010, E+1250, E+1688, E+1707, E+1779, E+1782, E+1891, E+1995, E+2025, E+2055, E+2214 and E +2295) were observed and detected from 289 cows; (ii) distribution of the 14 SNPs were significantly different from Xinjiang Brown cattle and Holstein (P < 0.001) except for the E +945 (P > 0.05); (iii) in 11 SNPs (E+945, E +978, E +1010, E+1688, E+1707, E+1779, E+1782, E+1995, E+2025,E+2055 and E +2214), the SCS of AB genotype was lower than AA (P < 0.05) in Xinjiang Brown cattle; and (iv) haplotypes composed of the above-mentioned 11 SNPs were constructed. The SCS of cattle with Hap5 was lower than that of Hap3(P < 0.05). This suggests that Hap5 might play an important role in sub-mastitis resistance in Xinjiang Brown cattle.

【语种】中文
【第一作者】白杰
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【题目】嵌入式GPS技术的农用飞机作业航线及边界规划研究
【中文关键词】GPS; 航线规划; 边界作业算法
【英文关键词】GPS; Channe l planning; Border opera tions a lgorithm
【中文摘要】就农用飞机作业的航线规划和边界算法提出了一些改进措施,以增强导航系统的性能,有效提高飞机作业的效率。

【英文摘要】Som e mi provements on channel plann ing and border algorithm in agricultural aircraft opera tions w ere put forward, to enhance theperfo rmance of naviga tion systems and effectively mi prove the e fficiency of aircraft operations.

【语种】中文
【第一作者】卢之慧
【通讯作者】姬长英
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【学科分类】农业工程

【题目】脯氨酸存在下酪蛋白ACE抑制肽的Plastein反应修饰
【中文关键词】酪蛋白;类蛋白反应;AC E 抑制肽;碱性蛋白酶;修饰
【英文关键词】casein;plastein reaction;ACE inhibitory peptide;alkaline protease;modification
【中文摘要】利用枯草杆菌碱性蛋白酶水解酪蛋白制备ACE 抑制肽,其IC50 为47.1 μg/mL;采用相同酶催化ACE 抑制肽和脯氨酸进行Plastein 反应,对ACE 抑制肽进一步修饰,并用响应面分析法优化反应条件。在ACE 抑制肽质量分数为35%,反应时间为6h,以反应体系游离氨基减少量为指标,得到适宜的反应条件为:温度为47.8℃、脯氨酸比例为0.54、酶添加量为9.5kU/g pro,此条件下体系游离氨基减少量约195.7 μmol/g pro。在适宜条件下改变反应时间对酪蛋白ACE 抑制肽进行不同程度的Plastein 反应修饰,制备出6 个修饰程度不同的多肽混合物并测定它们的ACE 抑制活性、计算其IC50 值。结果表明:修饰产物的ACE 抑制活性随修饰程度的增加不规则变化,当反应体系的游离氨基减少量为195.7 μmol/g pro 时,修饰产物的

IC50 降低至0.2 μg/mL。
【英文摘要】ACE inhibitory peptides with IC50 value of 47.1 μg/mL were prepared by hydrolyzing casein with alkaline protease from Bacillus subtilis and further modified by plastein reaction under the catalysis of the same protease in the presence of proline. The optimal conditions for plastein reaction were determined using response surface methodology at the fixed concentration of 35% (m/m) peptides and the reaction time of 6 h as follows: reaction temperature 47.8 °C,molar ratio of proline to total free amino groups in ACE inhibitory peptides derived from casein 0.54, and addition level of alkaline protease 9.5 kU/g proteins. Under these optimal reaction conditions, a maximal decrease of free amino groups in reaction mixture of 195.7 μ mol/g proteins was obtained. Six modified products with different modification degrees were prepared by adjusting reaction time. ACE inhibitory activities and IC50 values of these modified peptides were also analyzed. Results indicated that ACE inhibitory activity of modified products revealed irregular change with increasing modification degree.When the reaction mixture had a decrease of free amino groups of 195.7 μ mol/g proteins, there was a decline of IC50 value of modified products to 0.2 μ g/mL.
【语种】中文
【第一作者】李亚云
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【题目】基于遥感和GIS技术的农田信息管理系统
【中文关键词】遥感; GIS; 农田信息; 专题地图
【英文关键词】无
【中文摘要】应用遥感技术和GIS 技术开发农田信息管理系统,系统以3 层B / S 模式结构设计。通过对遥感影像处理方法的研究,得到研究区域分类数据,使用反距离加权插值和样条插值2 种空间内插方法拓展农田无线传感器网络采集的监测点数据,得到整个目标区域连续的农田数据分布专题图,为农田信息管理系统提供宏观的数据。系统能够实现地理信息系统的基本操作功能、农田信息的查询与管理以及农业各种专题图的直观展现。以江苏省洪泽湖农场为案例区,系统能够有效地管理农场数据,为农业生产管理提供指导依据。
【英文摘要】无
【语种】中文
【第一作者】丁红娟
【通讯作者】沈明霞
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【题目】文蛤疾病学研究进展
【中文关键词】文蛤; 疾病; 病理学
【英文关键词】Meretrix meretrix; disease; pathology
【中文摘要】文蛤(Meretrix meretrix)是我国沿海常见的一种重要经济贝类,因其肉质细嫩、营养丰富,深受国内外消费者欢迎,是出口创汇的重要水产品之一。文蛤养殖在我国已有多年的历史,随着国际市场对文蛤需求量的不断增长,我国的文蛤养殖业得到了迅速发展,文蛤养殖也由过去的单一自生自长、自然采捕方式发展成现在的移苗增殖、滩涂网围、池塘蓄水养殖等养殖方式。据不完全统计,全国文蛤养殖面积已达到1.4×105hm2,年产量约6.0×105t,出口量达2.0×105t[1]。但是近十几年来,随着文蛤养殖规模的逐年扩大,由于养殖水域水质环境恶化和各种疾病的流行而引发的养殖文蛤的大规模死亡已造成巨大的经济损失,
【英文摘要】无
【语种】中文

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【通讯作者】林志华
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【学科分类】分子生物学

【题目】酪蛋白水解物的中性蛋白酶修饰及其ACE抑制活性
【中文关键词】酪蛋白水解物, 类蛋白反应, ACE抑制活性, 中性蛋白酶
【英文关键词】casein hydrolysates, Plastein reaction, ACE inhibitory activity, Neutrase
【中文摘要】采用碱性蛋白酶水解酪蛋白,制备水解度为1315%、IC50为45123 μg/mL的酪蛋白水解物,然后利用中性蛋白酶对水解物进行类蛋白反应修饰,并研究酶添加量、底物浓度、反应温度和时间对修饰反应的影响。结果表明,修饰反应体系中水解反应占优势,表现为游离氨基含量增加;酶添加量、底物浓度、反应时间对修饰反应的影响显著,而反应温度的影响不大;在低酶添加量、高底物浓度和短反应时间下,修饰反应体系的游离氨基的增加幅度减少,水解反应相对降低。制备6个不同反应程度的修饰产物,ACE抑制活性分析结果显示,修饰产物的IC50降至15156~19198 μg/mL,表明中性蛋白酶催化的类蛋白反应修饰可以提高酪蛋白水解物的ACE抑制活性。
【英文摘要】Casein hydrolysates that have the degree of hydrolysis of 13. 5 % and IC50 value of 45. 23 μg/mL were prepared from casein with a p rotease Alcalase, and then modified by plastein reaction with another protease Neutrase.The effects of the addition level of Neutrase, the concentration of casein hydrolysates, temperature and time on the plastein reaction of casein hydrolysateswere studied. The results indicated that hydrolysis reaction was the dominantone in the Plastein reaction system as the content of free amino group s in reaction system increased in all conditions. The addition level ofNeutrase, the concentration of casein hydrolysates and reaction time all had significant impact on the plastein reaction of casein hydrolysates, while reaction temperature gave some influence. Under lower addition level of Neutrase, higher concentration of casein hydrolysates and shorter reaction time, the extent of increase in free amino groups in Plastein reaction system tended to decrease which implied that hydrolysis reaction were weakened relatively. Six modified casein hydrolysateswith different reaction extentswere p repared and their ACE inhibitory activities were determined. The results showed that the values of IC50 of the modified products were in range of 15. 56 to19. 98 μg/mL, indicating that the ACE inhibitory activity of casein hydrolysates could be imp roved significantly by plastein reaction catalyzed by Neutrase.
【语种】中文
【第一作者】徐微
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【题目】Medium optimization and structural characterization of exopolysaccharides from endophytic bacterium Paenibacillus polymyxa EJS-3
【中文关键词】Paenibacillus polymyxa; Endophyticbacterium; Exopolysacchrides; Response surface methodology; Structural characterization
【英文关键词】Paenibacillus polymyxa; Endophyticbacterium; Exopolysacchrides; Response surface methodology; Structural characterization
【中文摘要】In this study, response surface methodology was employed to optimize the medium compositions for the production of exopolysaccharides (EPS) from endophyticbacteriumPaenibacilluspolymyxaEJS-3. Firstly, fractional factorial design was applied to evaluate the effects of different components in the medium. It was found that sucrose, yeast extract and CaCl2 influenced significantly the production of EPS. Then, steepest ascent method and central composite design were used to optimize the concentrations of the three variables. As results, the optimal medium compositions were determined as following (g/L): sucrose 188.2, yeast extract 25.8, K2HPO4 5 and CaCl2 0.34, with a corresponding yield of 35.26 g/L. In addition, both polysaccharide fractions (EPS-1 and EPS-2) from crude EPS were mainly composed of (2 → 6)-linked β -d-fructofuranosyl residues backbone with (2 → 1)-linked branches based

on their structural characterization by FT-IR spectroscopy, methylation analysis and 13C NMR spectroscopy.
【英文摘要】In this study, response surface methodology was employed to optimize the medium compositions for the production of exopolysaccharides (EPS) from endophyticbacteriumPaenibacilluspolymyxaEJS-3. Firstly, fractional factorial design was applied to evaluate the effects of different components in the medium. It was found that sucrose, yeast extract and CaCl2 influenced significantly the production of EPS. Then, steepest ascent method and central composite design were used to optimize the concentrations of the three variables. As results, the optimal medium compositions were determined as following (g/L): sucrose 188.2, yeast extract 25.8, K2HPO4 5 and CaCl2 0.34, with a corresponding yield of 35.26 g/L. In addition, both polysaccharide fractions (EPS-1 and EPS-2) from crude EPS were mainly composed of (2 → 6)-linked β-d-fructofuranosyl residues backbone with (2 → 1)-linked branches based on their structural characterization by FT-IR spectroscopy, methylation analysis and 13C NMR spectroscopy.
【语种】英文
【第一作者】Jun Liu
【通讯作者】Xiaoxiong Zeng
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【学科分类】食品科学技术基础学科

【题目】两步法制备高活性酪蛋白ACE抑制肽的工艺参数研究
【中文关键词】酪蛋白;ACE 抑制肽;制备工艺;Plastein 反应
【英文关键词】casein;ACE inhibitory peptides;preparation method;plastein reaction
【中文摘要】为了制备高活性ACE 抑制肽,研究两步法高活性酪蛋白ACE 抑制肽的制备工艺条件参数。利用枯草杆菌碱性蛋白酶55℃水解酪蛋白6h 制备酪蛋白ACE 抑制肽,IC50 为38.6 μg/mL;采用相同的酶进行Plastein 反应来修饰酪蛋白ACE 抑制肽,并应用响应面分析法优化修饰反应条件。固定酪蛋白ACE 抑制肽质量分数为35%,以ACE 抑制肽的游离氨基减少量为指标,优化的修饰反应条件为酶添加量7.7kU/g 蛋白质、温度42.7℃、反应时间6h,在此条件下,酪蛋白ACE 抑制肽的游离氨基减少量达到179.72 μmol/g 蛋白质。ACE 抑制活性分析结果表明,修饰后ACE 抑制肽的抑制活性显著提高且与修饰反应程度相关,IC50 可降至0.5 μg/mL。
【英文摘要】The ACE inhibitory peptides derived fromcasein hydrolyzed with alkaline protease from Bacillus subtilis at 55 ℃ for 6 h exhibited an IC50 of 38.6 μg/mL. To enhance their activity, they weremodified via the plastein reaction catalyzed by the enzyme.Moreover, response surfacemethodology was employed to investigate the optimal values of plastein reaction parameters including enzyme dosage and reaction temperature and time. Results showed that after the optimal reaction for 6 h at 42.7 ℃ and an enzyme dosage of 7.7 kU/g protein, the content of free amino groups in the peptides were decreased by up to 179.72 μmol/g protein. The optimized plastein reaction resulted in an obvious enhancement of casein-derived ACE inhibitory peptides, which was related to the reaction degree and the IC50 of the modified ACE inhibitory peptides was reduced to 0.5 μg/mL.
【语种】中文
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【通讯作者】赵新淮
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【题目】基于农田环境的无线传感器网络节点部署分析
【中文关键词】无线传感器网络; 农田信息; 电池电压; 有效传输距离; 节点部署
【英文关键词】无
【中文摘要】传感器节点能量的消耗和电池电压的降低,会影响节点信息的传输距离和传输质量。根据洪泽湖农场麦田中的实测试验数据,分析节点放置高度、电池电压、有效传输距离与接收信号强度指示之间的关系,最终得出节点部署时的单节点有效传输距离范围。进一步讨论对某一监测区域面积全覆盖时,采用蜂窝网格方式所需部署节点的最少个数,并得出所求节点个数能覆盖的最大面积。

【英文摘要】无
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【题目】海洋经济贝类遗传图谱的相关研究进展
【中文关键词】遗传图谱;分子标记;贝类
【英文关键词】mollusk; genetic map; molecular marker
【中文摘要】遗传连锁图谱的构建,是遗传学研究的一个重要领域,它为人们进一步认识生物基因组组成、克隆染色体的基因及定位重要经济性状的主效基因奠定了基础。遗传图谱的建立为基因定位,特别是一些重要经济性状和数量性状位点(QTL)定位,以至最终为克隆这些基因提供基础。海洋经济贝类养殖在海洋产业中占重要地位,近些年来一些主要养殖种类流行病的蔓延和大规模死亡屡屡发生,迫切需要对养殖贝类进行抗逆性状提高的遗传改良;而未来的遗传改良更多的依赖于分子生物学手段,其中最有效的手段之一是通过筛选和建立有效的分子标记并构建遗传图谱,从而对某些抗病基因进行准确定位,进行分子标记辅助育种,促进海洋经济贝类养殖业的发展。构建贝类遗传图　更多还原
【英文摘要】无
【语种】中文
【第一作者】姚韩韩
【通讯作者】林志华
【期刊名称、卷期、页码】水产科学,Vol . 29 No. 3,Mar. 2010,178-483
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【引文索引号】null
【学科分类】分子生物学

【题目】农田无线传感器网络移动终端数据收集方案
【中文关键词】无线传感器网络,计算机仿真,拓扑,移动终端,数据收集
【英文关键词】wireless sensor networks, computor simulation, topology mobile terminal, data collection
【中文摘要】农田无线传感器网络部具有署面积大、汇聚节点位置不固定的特点,为了解决移动汇聚节点高效、低能耗地收集网络数据的问题,提出了一种基于层次型拓扑结构的移动终端数据收集方案—DCSMT_H。方案综合考虑节点位置及当前剩余能量选举簇头并形成层次型拓扑结构,根据移动终端当前位置灵活构建簇间数据汇聚路由。仿真实验结果表明,DCSMT_H 方案的网络能耗低,该方案与LEACH 相比能有效延长网络生存期约15%,能够较高效地应用于移动终端收集大规模农田生产信息。该研究为提高无线传感器网络在精准农业中的应用水平做出了有益探索。
【英文摘要】Farmland wireless sensor network is characterised by its large deployment area and the unfixed location of sinknode. In order to work out a more efficient and less energy-consuming way for the mobile sink node to collect the data of thenetwork, the paper proposed a data collection scheme for mobile terminal based on hierarchical topology—DCSMT_H.Taking the location of nodes and residual energy into account, a clustering topology was built by selecting the clusterheads in the scheme, and finally a inter-cluster data routing was constructed flexibly according to the current location ofthe mobile terminal. Simulation experiments showed that DCSMT_H possessed low energy-comsumption network andextend the lifetime of the network by about 15% compared with LEACH. So DCSMT_H being appliod to the mobileterminal can well fit for collecting the environmental information of large-scale farmlands. This research can providereferences for improving the application of wireless sensor networks in precision agriculture.
【语种】中文
【第一作者】陆明洲
【通讯作者】沈明霞
【期刊名称、卷期、页码】农业工程学报,2011,27(8):242-246

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【引文索引号】2.0113814344e+013
【学科分类】农业工程

【题目】多种食用菌中多酚氧化酶活性的初步比较
【中文关键词】食用菌;多酚氧化酶;活性
【英文关键词】edible fungi ;polyphenol oxidase ;activity
【中文摘要】以金针菇、双孢磨菇、凤尾菇、杏鲍菇、香菇、花菇和猪肚菇7 种常见食用菌为研究对象,采用磷酸盐缓冲液提取法提取多酚氧化酶(PPO) ,比较食用菌中多酚氧化酶的活性及温度和p H 对多酚氧化酶活性的影响。结果表明,在常温和中性p H 条件下,双孢蘑菇PPO 活性最高,达到942 U/ mL ,金针菇PPO 和猪肚菇PPO 次之,分别为62 ,58 U/ mL 。金针菇和双孢磨菇PPO 活性的最适温度为20 °C,凤尾菇、香菇和花菇PPO 活性的最适温度为25 °C,而猪肚菇PPO 和杏鲍菇PPO 的最适温度较高,分别达到了75 ,80 °C。凤尾菇PPO、杏鲍菇PPO 和猪肚菇PPO 最适p H 值均为3. 5 ,金针菇PPO 为4. 0 ,香菇PPO 为6. 5 ,双孢磨菇PPO 为7. 0 ,而花菇PPO 最适p H 值为8. 0 。
【英文摘要】Polyphenol oxidase (PPO) activity and t he effect of temperature and pH on PPO activity were compared wit hin seven kinds of familiar edible fungi , including Flammulina velutipes , Agaricus bisporus , Pleurot us sajor2caju , Pleurotus eryngii , Lentinus edodes , variegated mushroom and Clitocybe infundibuliformis. PPOs from these edible fungi were ext racted by phosphate buffer . At room temperature and neut ral pH , the activity of A. bisporus PPO was highest (942 U/ mL) , followed by F. velutipes PPO and C. infundibulifor mis PPO (62 and 58 U/ mL , respectively) . The optimum temperature of PPO f rom F. velutipes and A. bisporus were bot h of 20 °C,P. sajor2caju , L. edodes and variegated mushroom 25 °C, while t heoptimum temperature of PPO f rom C. infundibuliformis and P. eryngii were 75 °C and 80 °C, respectively. The optimum p H of PPO from P. sajor2caju , P. eryngii and C. infundibuliformis were all of 3.5. The optimum p H of PPO f rom F. velutipes , L. edodes , A. bisporus and variegated mushroom were 4. 0 , 6. 5 , 7. 0 and 8. 0 , respectively.
【语种】中文
【第一作者】吴进菊
【通讯作者】陈红兵
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【学科分类】食品科学技术基础学科

【题目】Production, characterization and antioxidant activities in vitro of exopolysaccharides from endophytic bacterium Paenibacillus polymyxa EJS-3
【中文关键词】Paenibacillus polymyxa; Endophytic bacterium; Exopolysaccharides; Culture conditions; Antioxidant activity
【英文关键词】Paenibacillus polymyxa; Endophytic bacterium; Exopolysaccharides; Culture conditions; Antioxidant activity
【中文摘要】The production, characterization and antioxidantactivitiesin vitro of exopolysaccharides (EPS) from endophyticbacteriumPaenibacilluspolymyxaEJS-3 were investigated. For EPS production, the preferable culture conditions were 24 ° C and pH 8 for 60 h with sucrose and yeast extract as the carbon and nitrogen sources, respectively. Notably, sucrose concentration was the prominent factor, and the maximum yield of EPS (22.82 g/L) was obtained at a sucrose concentration of 160 g/L. The crude EPS was purified by chromatography of DEAE-52 and Sephadex G-100, affording EPS-1 and EPS-2 with molecular weights of 1.22 × 106 and 8.69 × 105 Da, respectively. They were composed of mannose, fructose and glucose in a molar ratio of 2.59:29.83:1 and 4.23:36.59:1, respectively. In addition, both crude and purified EPS showed strong scavenging activities on superoxide and hydroxyl radicals, and their antioxidantactivities decreased in the order of crude EPS > EPS-2 > EPS-1.
【英文摘要】The production, characterization and antioxidantactivitiesin vitro of exopolysaccharides (EPS) from endophyticbacteriumPaenibacilluspolymyxaEJS-3 were investigated. For EPS production, the preferable culture conditions were 24 ° C and pH 8 for 60 h with sucrose and yeast extract as the carbon and nitrogen sources, respectively. Notably, sucrose concentration was the prominent factor, and the maximum yield of EPS (22.82 g/L) was obtained at a sucrose concentration of 160 g/L. The crude EPS was purified by chromatography of DEAE-52 and Sephadex G-100, affording EPS-1 and EPS-2 with molecular weights of 1.22 × 106 and 8.69 × 105 Da, respectively. They were composed of mannose, fructose and glucose in a molar ratio of 2.59:29.83:1 and

4.23:36.59:1, respectively. In addition, both crude and purified EPS showed strong scavenging activities on superoxide and hydroxyl radicals, and their antioxidantactivities decreased in the order of crude EPS > EPS-2 > EPS-1.
【语种】英文
【第一作者】Jun Liu
【通讯作者】Xiaoxiong Zeng
【期刊名称、卷期、页码】Carbohydrate Polymers 2009,78(2):275-281
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【学科分类】食品科学技术基础学科

【题目】用小球藻进行缢蛏人工繁育技术试验
【中文关键词】小球藻; 缢蛏; 人工繁育
【英文关键词】Chlorella sp.; Sinonovacula constricta; artificial propagation
【中文摘要】利用轮虫培养设施,以小球藻作为缢蛏浮游幼虫的开口饵料,采取贝类育苗的一般工艺进行缢蛏的室内人工育苗,试验结果表明,缢蛏一般于晚上产卵,一直持续至凌晨;2.5 kg亲蛏共获受精卵3.0×107个,缢蛏受精卵在平均水温约15°C时,经25 h发育成2.5×107个D形幼虫,孵化率为83.3%。投喂小球藻后经12 d培育幼虫能够正常变态附着,共获1.0×107个眼点幼虫,幼虫成活率40%,刚附着稚蛏于室内经40 d的培育获得平均壳长为3 mm稚蛏3.0×106粒,平均成活率30%。
【英文摘要】In this study,razor clam(Sinonovacula constricta)seeding was conducted in rotifer cultivation devices,by ordinary process of seed breeding for bivalve and alga Chlorella sp.as live food of the razor clam.The results showed that the razor clam usually spawned at evening and stopped spawning in the early morning.About 3.0×107 zygotes were obtained from 2.5 kg of brood stock.The zygote developed into D-larva in 25 h and the amount of D-larva was about 2.5×107,with the hatching rate of 83.3%.When fed with Chlorella sp.,the larvae was attached in 12 d,the amount of eyespot larva was about 1.0×107 and the survival rate was 40%.After 50 d cultivation,3.0×106 juveniles were obtained,with shell length of up to 3 mm and the average survival rate of about 30%.
【语种】中文
【第一作者】刘广丰
【通讯作者】沈和定
【期刊名称、卷期、页码】水产科学,Vol. 28 No. 4,Apr. 2009,192-195
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【引文索引号】null
【学科分类】分子生物学

【题目】双孢蘑菇多酚氧化酶交联作用对酪蛋白乳化性及其稳定性的影响
【中文关键词】双孢蘑菇多酚氧化酶; 酪蛋白; 交联; 乳化性; 稳定性
【英文关键词】Agaricus bisporus polyphenol oxidase; casein; cross-linking; emulsifying capacity; emulsion stability
【中文摘要】利用双孢蘑菇多酚氧化酶(PPO)对酪蛋白进行交联,考察交联后酪蛋白乳化性和乳化稳定性,并采用SDS-PAGE电泳检测交联物的形成情况。结果表明:当PPO酶比活力为400U/mL,25°C反应4h时,交联后的酪蛋白乳化性和乳化稳定性分别为18.3m2/g和19.8min,较未交联的酪蛋白乳化性和乳化稳定性分别提高了17.3%和37.5%。交联后酪蛋白的乳化性和乳化稳定性得到显著提高,并且与形成的聚合物含量有着密切的关系。
【英文摘要】Cross-linking of food proteins can modify their functional properties.Casein was cross-linked by polyphenol oxidase from Agaricus bisporus.The emulsifying capacity and emulsion stability of cross-linked casein were analyzed and SDS-PAGE was used to detect the amount of polymer formation.The emulsifying capacity and emulsion stability of cross-linked casein obtained after polyphenol oxidase treatment at 25 °C and an enzyme concentration of 400 U/mL for 4 h were 18.3 m2/g and 19.8 min,17.3% and 37.5% higher than those of non-cross-linked casein,respectively.Such significant increments in both emulsifying properties might be tightly related to the amount of formed cross-linked casein.
【语种】中文
【第一作者】吴进菊
【通讯作者】陈红兵

【期刊名称、卷期、页码】食品科学,2010,31(15),117~120
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【学科分类】食品科学技术基础学科

【题目】四种微藻对缢蛏稚贝暂养效果研究
【中文关键词】单胞藻; 缢蛏稚贝; 成活率; 日增长率
【英文关键词】无
【中文摘要】采用实验生态学方法研究了小球藻、牟氏角毛藻、绿色巴夫藻和亚心形扁藻对缢蛏稚贝的暂养效果。结果表明:在20d的实验时间内,4种单胞藻对缢蛏稚贝的暂养成活率为小球藻(0.91±0.05)>亚心形扁藻(0.80±0.06)>牟氏角毛藻(0.79±0.05)>绿色巴夫藻(0.76±0.09),方差分析表明终末成活率并无显著性差异(P>0.05)。4组稚贝的初始壳长无显著性差异(P>0.05),但最终壳长差异显著(P<0.05),就日生长率而言,绿色巴夫藻明显高于小球藻和亚心形扁藻(P<0.05)。牟氏角毛藻和小球藻之间差异显著(P<0.05),其他各组间差异不显著(P>0.05)。因此,绿色巴夫藻和牟氏角毛藻对缢蛏稚贝的暂养效果优于小球藻和亚心形扁藻。
【英文摘要】无
【语种】中文
【第一作者】刘广丰
【通讯作者】沈和定
【期刊名称、卷期、页码】水产科技情报,2009, 36(1)44-47
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【学科分类】分子生物学

【题目】Cloning, characterization and expression of two new polyphenol oxidase cDNAs from Agaricus bisporus
【中文关键词】无
【英文关键词】Agaricus bisporus,Cloning,Expression, Polyphenol oxidase
【中文摘要】无
【英文摘要】Two new polyphenol oxidase (PPO) cDNAs (PPO3 and PPO4 cDNAs, accession numbers GQ354801 and GQ354802, respectively) were obtained by RACE-PCR from Agaricus bisporus. PPO3 cDNA was 1844 bp in length with an open reading frame of 1731 bp, while PPO4 cDNA was 2042 bp with an open reading frame of 1836 bp. PPO3 and PPO4 cDNAs, with 52% identity at the nucleic acid level, encoded a 576-amino acid protein of 66.3 kDa and 611-amino acid protein of 68.3 kDa, respectively. Mature forms of PPO3 and PPO4 were characterized after removing the specific C-terminal region and expressed in Escherichia coli BL21 (DE3) RIPL using pGEX-4T-1 vector. The expressed proteins were probed by the anti-A. bisporus PPO antibody but without PPO activity. This indicated that the recombinant mature PPO3 and mature PPO4 could not form an active center in prokaryotic expression system.
【语种】英文
【第一作者】吴进菊
【通讯作者】陈红兵
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【引文索引号】不详
【学科分类】食品科学技术基础学科

【题目】不同芯材的海藻酸-壳聚糖微球的体外模拟释放
【中文关键词】海藻酸钠; 壳聚糖; 包埋; 酪氨酸; 维生素B1; 牛血清白蛋白; 释放
【英文关键词】alginate; chitosan; encapsulation; tyrosine; vitamin B1; bovine serum albumin; release
【中文摘要】以酪氨酸、维生素B1或牛血清白蛋白为芯材,在芯材/壁材比为1∶10、pH5·0的条件下,采用锐孔法制备Ca2+单一交联和双重交联海藻酸-壳聚糖凝胶微球,测定芯材的包埋率,并考察芯材在模拟胃肠液中的释放。结果表明,牛血

清白蛋白包埋率最大,超过83%;模拟胃液中芯材的释放速率低于其在模拟肠液中的释放速率,释放速度与分子质量有关;模拟胃液中双重交联微球比Ca2+单一交联微球的芯材释放速率更慢,释放速度也与分子质量有关,30min时芯材释放率低于50%。结果表明,双重交联海藻酸-壳聚糖微球在酸性条件下可限制性释放芯材,在中性条件下较快地释放芯材。

【英文摘要】Alginate-chitosan microcapsules were prepared in this study by piercing method basing on Ca2+ single or dual crosslinking treatment,with tyrosine,vitamin B1 and bovine serum albumin as core materials and the selected conditions of the ratio of core material to wall material of 1：10 and pH5.0. The encapsulation efficiency of core materials in the microcapsules prepared was evaluated,and the releasing behaviors of core materials in the simulated gastrointestinal conditions were also determined. The results showed that the encapsulation efficiency of bovine serum albumin was the highest and up to 83%. It was found that core materials in the microcapsules released slowly in simulated gastric fluid than in simulated intestinal fluid,and the releasing rate was related to the molecular weights of core materials. Meanwhile,it was also shown that core materials in dual crosslinked microcapsules released more slowly than that in Ca2+ single crosslinked microcapsules in simulated gastric fluid,for the amount of core materials released from dual crosslinked microcapsules was less than 50% in 30min duration. The results indicated that dual crosslinked microcapsules could release core materials in a limited behavior in acidic medium,but in a rapidly behavior in mild alkali medium.

【语种】中文

【第一作者】占英英

【通讯作者】赵新淮

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【学科分类】食品科学技术基础学科

【题目】Screening of bifidobacteria with acquired tolerance to human gastrointestinal tract

【中文关键词】无

【英文关键词】bifidobacteria; tolerance; adhesion; screening

【中文摘要】无

【英文摘要】Tolerance capabilities of 38 Bifidobacterium strains were achieved by Simulating the micro-environment of human gastrointestinal tract using modified MRSC broth (pH 3.0). Fourteen strains of them with high Viability were obtained in MRSC with 0.3% bile salts. Sequently, six strains of bifidobacteria with higher survivability were picked in MRSC broth (pH 3.0) supplemented with 1-20mg/ml bile salt. Finally, strain A04 with the optimal ability was chosen for further studies. It had been seen that Bifidobacterium? breve A04 had better Survival capability to 0.5% pepsin (w/v) or 1% pancreatin (w/v) than other bifidobacteria, and viable bacteria were above 8.00logcfu/ml after incubation for 24h. Meanwhile, it had higher adhesive capability to HT-29 cells in vitro and average adhesive bacteria numbers reached 12.8 +/- 0.9 for each HT-29 cell. The results indicated that the ability to tolerate gastroenteric environment and the adhesive capacity to HT-29 cells among Bifidobacterium strains was different. B. breve A04 has several aspects of advantages and may be regarded as potential probiotics. (c) 2007 Elsevier Ltd. All rights reserved.

【语种】英文

【第一作者】Liu Ziyu

【通讯作者】Li Pinglan

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【学科分类】食品科学技术基础学科

【题目】Studies on time-related changes of dipeptidyl peptidase during processing of Jinhua ham using response surface methodology

【中文关键词】无

【英文关键词】jinhua ham; dipeptidyl peptidase; dipeptidyl peptidase 1; dipeptidyl peptidase IV; Response Surface Methodology

【中文摘要】无

【英文摘要】Sixty experimental Jinhua hams were processed by traditional methods using green hams from local cross-bred pigs of Lanxi, Zhejiang province, PR China. Biceps femoris was sampled from five hams randomly taken after each processing stage. Potential activities of DPP I and IV in addition to the changes of some enzyme influencing factors were determined. The effects of temperature, sodium chloride content, sodium nitrate content and pH value on the activities of muscle DPP I and IV were evaluated using Response Surface Methodology (RSM) and the actual activities of muscle DPP I and IV during Jinhua ham processing were estimated. The results showed that potential activity of muscle DPP I decreased gradually from 8608.23 to 1842.06 U g(-1) before loft-aging and then increased gradually from 1842.06 to 12196.60 U g(-1) at the end, while that of muscle DPP IV decreased continuously and about 11% of the initial potential activity was left at the end of processing. Most of the chemical components analyzed in Biceps femoris as well as physical parameters changed greatly during processing. Temperature, sodium chloride concentration and pH value influenced DPP I and IV activities significantly. However, nitrate concentration from 0 to 50 mg kg(-1) showed little effect. By regression analysis, two quadratic regression equation models were built. The models showed that DPP I could have strong activity during Jinhua ham processing, whereas the activity of DPP IV was always very weak despite its strong potential for activity. In conclusion, muscle DPP I may be a key enzyme responsible for the generation of dipeptides in Jinhua ham processing while the effect of DPP IV was possibly very limited. (C) 2004 Elsevier Ltd. All rights reserved.
【语种】英文
【第一作者】Zhao, GM
【通讯作者】Xu Xinglian
【期刊名称、卷期、页码】Meat Science,2005,69:165 – 174
【论文发表时间】2005-10-01 00:00:00
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【学科分类】食品科学技术基础学科

【题目】两种蛋白水解物的Fenton反应修饰与抗氧化活性变化
【中文关键词】大豆分离蛋白; 酪蛋白; 水解物; Fenton反应; 抗氧化活性
【英文关键词】soy protein isolate; casein; hydrolysates; Fenton reaction; antioxidant activity
【中文摘要】利用碱性蛋白酶分别水解大豆分离蛋白、酪蛋白,对两种水解物进行Fenton反应修饰。用紫外吸收及Lowry法评价修饰反应对两种水解物的影响,结果表明,修饰后产物与原水解物显著不同,表明修饰反应对水解物组成产生影响。抗氧化活性分析发现,大豆分离蛋白水解物的修饰产物的IC50从2.92mg/mL降低至1.36~2.28mg/mL,酪蛋白水解物的修饰产物的IC50从2.80mg/mL降低至0.89~2.12mg/mL,表明Fenton反应可提高修饰产物对DPPH自由基的清除能力。
【英文摘要】Soy protein isolate hydrolysates or casein hydrolysates were prepared by hydrolysis of soy protein isolate or casein with alcalase 2. 4L FG respectively,and then modified by Fenton reaction. Ultraviolet absorption and Lowry assay were applied to estimate the effects of Fenton reaction on the two hydrolysates. The results indicated that the modified hydrolysates were different from the original ones and showed the impacts of Fenton reaction on the compositions of two protein hydrolysates. The antioxidant activities of the modified protein hydrolysates were analyzed for DPPH radical scavenging activity. The analysis results showed that the IC50 values of the modified soy protein isolate hydrolysates or casein hydrolysates on DPPH radical were decreased from 2. 92 or 2. 80mg/mL to 1. 36 ~ 2. 28 or 0. 89 ~ 2. 12mg/mL,which clearly indicated that modification of two protein hydrolysates by Fenton reaction improved their free radical scavenging activities.
【语种】中文
【第一作者】高博
【通讯作者】赵新淮
【期刊名称、卷期、页码】食品工业科技,2010,31(11),104-107
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【学科分类】食品科学技术基础学科

【题目】缢蛏线粒体DNA提取方法的比较
【中文关键词】线粒体; 缢蛏; mtDNA

【英文关键词】Sinonovacula constricta; mitochondria; mtDNA
【中文摘要】分离缢蛏肌肉组织,液氮磨碎后,用3种方法提取线粒体DNA,紫外分光光度法定量.用琼脂糖凝胶电泳和线粒体COI基因PCR扩增产物鉴定所提取的线粒体DNA.结果显示OD260/OD280均在1.69~1.85之间.高盐沉淀法提取的线粒体DNA量最多
【英文摘要】To compare the isolation methods of sinonovacula constricta mitochondrial DNA,three methods were used including the alkaline lysis procedure,proteinase K method and high-concentration-salt precipitation method to find the most suitable one.The isolated mtDNA was identified by UV spectrophotometer.Agarose gel electrophoresis and polymerase chain reaction of mitochondria gene COI were used to identify the obtained mtDNA.The purity of mtDNA was 1.69~1.85 from OD260/OD280,high-concentration-salt precipitation method obtains the highest quantity of mtDNA.High-concentration-salt precipitation method is suitable for the isolation of Sinonovacula constricta mtDNA,for it is easy to operate and have a considerable amount.
【语种】中文
【第一作者】郑润玲
【通讯作者】李家乐
【期刊名称、卷期、页码】分子科学学报,Vol. 24 No. 5,October 2008,312-315
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【学科分类】分子生物学

【题目】酪蛋白水解物的Plastein反应修饰及ACE抑制活性变化
【中文关键词】酪蛋白水解物; 中性蛋白酶; plastein反应; ACE抑制活性
【英文关键词】casein hydrolysates; Neutrase; plastein reaction; ACE inhibitory activity
【中文摘要】采用中性蛋白酶水解酪蛋白,一定条件下制备水解度为13.0%、IC50质量浓度为40.4 mg/L的酪蛋白水解物。利用中性蛋白酶对所制备出的水解物进行plastein反应修饰,以反应体系的游离氨基量的变化为评价指标,通过单一因素试验研究酶添加量、底物质量分数、反应时间和反应温度对修饰反应的影响。结果表明,适宜的反应条件为中性蛋白酶添加量3 kU/g蛋白质、底物质量分数60%、反应时间6 h、反应温度20℃。制备5个不同反应程度的修饰产物,ACE抑制活性分析结果显示,修饰产物的IC50降至14.7~31.1 mg/L,表明中性蛋白酶催化的plastein反应修饰提高酪蛋白水解物的ACE抑制活性,且ACE抑制活性的提高程度与plastein反应程度有关。
【英文摘要】Casein was hydrolyzed by Neutrase under the fixed conditions to prepare casein hydrolysates that had the degree of hydrolysis of 13.0 % and value of IC50 about 40.4 μg/mL.The obtained hydrolysates then were modified by plastein reaction catalyzed by Neutrase.The effects of the addition level of Neutrase,the concentration of casein hydrolysates,reaction time and temperature on the plastein reaction of casein hydrolysates were studied by single factor experiments,with the decreased amount of free amino groups of the hydrolysates as the evaluation index.The results indicated that the suitable reaction conditions were addition level of Neutrase of 3 ku/g proteins,substrate concentration of 60%,reaction time of 6 h and reaction temperature of 20 ℃.Five modified casein hydrolysates were prepared with the selected reaction conditions but different reaction times.The analysis results showed that the modified hydrolysates had an improved ACE-inhibitory activity because their values of IC50 ranged from 14.7 to 31.1 μg/mL.Our results indicated that Neutrase-catalyzed plastein reaction could be applied to enhance the ACE-inhibitory activity of casein hydrolysates,and reaction extent of plastein reaction showed impact on the ACE-inhibitory activity of the modified product.
【语种】中文
【第一作者】徐微
【通讯作者】赵新淮
【期刊名称、卷期、页码】中国乳品工业, 2011,39(4),8-11, 35
【论文发表时间】2011-04-11 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】食品科学技术基础学科

【题目】喷雾干燥法制备可控释微胶囊及其释放性能研究
【中文关键词】聚丙烯酸树脂Ⅱ; 乙基纤维素水分散体; 喷雾干燥; 微胶囊; 控制释放

【英文关键词】eeudragitⅡ; surelease; spray-drying; microcapsules; controlled release
【中文摘要】分别以VB1、ACE抑制肽和牛血清白蛋白为芯材,以聚丙烯酸树脂Ⅱ和乙基纤维素水分散体为壁材,按芯材/壁材比为1:10,喷雾干燥法制备微胶囊,并研究芯材在模拟胃肠液中的释放性能。分析结果表明,聚丙烯酸树脂Ⅱ微胶囊为表面光滑的圆球,乙基纤维素水分散体微胶囊表面有凹陷,芯材包埋率均大于98%。聚丙烯酸树脂Ⅱ微胶囊在模拟胃液中120 min芯材累计释放率小于10%,在模拟肠液中60 min则完全释放;乙基纤维素水分散体微胶囊在模拟胃肠液中芯材释放速率基本一致,120 min累计释放率达70%以上。以聚丙烯酸树脂Ⅱ为壁材的微胶囊可以实现在胃肠液中可控制释放芯材。
【英文摘要】Microcapsules containing vitamin B1,ACE inhibitory peptides and bovine serum albumin were prepared by the spray-drying technique using EudragitⅡ and Surelease as coating materials at the selected conditions of the ratio of core material to wall material 1∶10.The release behaviors of core materials of microcapsules in the simulated gastrointestinal condition were evaluated.The analysis results showed that the microcapsules prepared with EudragitⅡ had smooth surface,while the microcapsules prepared with Surelease were depressed microcapsules.The encapsulation efficiencies of the microcapsules prepared were larger than 98%.The accumulated release of core materials from the microcapsules prepared by EudragitⅡ was less than 10% after 120 min in simulated gastric fluid,but near to 100% after 1 h in simulated intestinal fluid.Also,the accumulated release of core materials from the microcapsules prepared by Surelease was more than 70% after 120 min in the simulated gastric fluid or intestinal fluid.The result indicated that microcapsules prepared with EudragitⅡ as wall material could release core materials in a controlled behavior in gastrointestinal conditions.
【语种】中文
【第一作者】占英英
【通讯作者】赵新淮
【期刊名称、卷期、页码】食品与发酵工业, 2011,37(1),12-15
【论文发表时间】2011-01-12 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】食品科学技术基础学科

【题目】食物蛋白质的酶法改性研究进展
【中文关键词】食物蛋白质; 共价交联作用; 水解作用; 脱酰胺作用; 磷酸化作用
【英文关键词】food protein; covalent cross-linking; proteolysis; deamidation; phosphorylation
【中文摘要】酶法改性技术是改善食物蛋白质功能特性的一种重要手段。本文主要从共价交联作用、水解作用、脱酰胺作用和磷酸化作用4个方面阐述酶法改性食物蛋白质的机制及应用,其中共价交联作用研究前景广阔,水解作用是一种较为成熟的方法,脱酰胺作用近年来引起了学者的广泛关注,而酶法磷酸化的研究则相对较少。
【英文摘要】The enzymatic modification is an important method for improving functional properties of food proteins. In this paper,four modification methods including covalent cross-linking,proteolysis,deamidation and phosphorylation are intro-duced to explore the mechanisms and applications of enzymatic modification in food proteins. Covalent cross-linking exhibits a promising application and proteolysis is a matured method to modify food proteins; deamidation has received extensive attention,while phosphorylation is rarely used in enzymatic modification of food proteins.
【语种】中文
【第一作者】刘潇
【通讯作者】陈红兵
【期刊名称、卷期、页码】食品科学, 2010, 31(19),409-413
【论文发表时间】2010-10-13 00:00:00
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【引文索引号】null
【学科分类】食品科学技术基础学科

【题目】我国沿海缢蛏群体遗传结构的mtDNA-CO Ⅰ分析
【中文关键词】缢蛏; 线粒体DNA; 群体遗传; 遗传结构
【英文关键词】Sinonovacula constricta; mtDNA; Population genetics; Genetic structure
【中文摘要】采集了我国沿海共计9个缢蛏(Sinonovacula constricta)地理群体的197个样本,分别是北部组群的3个群体:辽宁省庄河群体(ZH),天津市汉沽群体(HG),山东省海阳群体(HY);中部组群的3个群体:江苏省盐城群体(YC),上海市崇明县东滩

群体(DT)和堡镇群体(BZ);以及南部组群的3个群体:浙江省宁波群体(NB),浙江省台州群体(TZ)以及福建省宁德群体(ND)。利用线粒体CO Ⅰ标记分析了9个群体的遗传多样性和遗传分化。结果表明,在共计197个个体中检测到125个单倍型和96个变异位点,核苷酸多样性指数位于2.1764~7.4970之间,其中中部组群的群体遗传多样性指数最高。AMOVA分析结果显示,组间遗传变异量占总变异的80.27%,18.74%来自于群体内,只有0.99%来自于组内群体间。群体间遗传分化系数位于0.0219~0.8706之间,不同群体间具有一定的遗传分化,尤其是中部群体与其他群体间遗传分化值达到了0.8以上,为极高度分化。遗传距离和聚类结果显示,北部3群体和南部3群体首先聚在一起,之后与中部3群体聚类。

【英文摘要】The Razor Clam (Sinonovacula constricta)is an important shellfish in China,Japan and Korea. We sequenced mitochondrial cytochrome oxidase Ⅰ (CO Ⅰ) genes of 197 individuals from nine populations to investigate population genetic structure of the northern (ZH,HG,HY),the mid-regional(YC,DT,BZ) and the southern(NB,TZ,ND)groups of S. constricta along the coast of China. We identified 125 haplotypes and 96 variable sites from 556 bp of CO Ⅰ. Nucleotide diversity ranged from 2. 176 4 to 7. 497 0. Analysis of molecular variance (AMOVA) showed that interpopulation variance accounted for 80. 27% (P < 0. 05), whereas the remaining 18. 74% and 0. 99% were detected within population and among populations of same groups respectively,indicating significant genetic differentiation among populations. Phylogenetic tree analysis and genetic distance analysis showed that the nine populations were clustered into three distinct groups,with the northern group clustering first with the southern group and then with the mid-regional group.

【语种】中文

【第一作者】牛东红

【通讯作者】李家乐

【期刊名称、卷期、页码】动物学杂志,2010,45(2) :11 -18

【论文发表时间】2010-02-01 00:00:00

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【引文索引号】null

【学科分类】分子生物学

【题目】Limited deamidation of soybean protein isolates by glutaminase and its impacts on the selected properties

【中文关键词】无

【英文关键词】Glutaminase, Soybean protein isolates, Emulsify property, Rheological property, Iron (II)-chelating activity.

【中文摘要】无

【英文摘要】Glutaminase (EC 3.2.1.5) was applied in the present work to deamidate soybean proteinisolates with limited extent, and some reaction conditions were selected. Three deamidatedsoybean protein isolates products with degree of deamidation of 3.5, 5.6, and 6.6% werepreprared with reaction conditions as follows: soybean protein isolates concentration of 5%(w/v), glutaminase addition level of 400 U/kg soybean protein isolates, reaction temperatureof 37 ◦ C, and reaction times of 12, 24, and 36 h, respectively. SDS-PAGE and size exclusionchromatography analysis showed that glutaminase exhibited weak ability to catalyzethe hydrolysis of the peptide bonds in soybean protein isolates. The results indicated that thedeamidated soybean protein isolates prepared showed improved solubility in a pH range of3 to 10, and had higher emulsion stability on the oil-in-water dispersions when compared tothe original soybean protein isolates, but had poor emulsifying activity. Rheological assayrevealed that the suspensions prepared by the deamidated soybean protein isolates productsshowed higher apparent viscosity, and the values of apparent viscosity depended on thedegree of deamidation of the deamidated soybean protein isolates product and the additionlevel of Ca2+ in the suspensions. The storage modulus G and viscous modulus G of theprepared suspensions gave similar behaviors as apparent viscosity. Three deamidated soybeanprotein isolates products prepared contained better iron (II)-chelating activity than theoriginal soybean protein isolates as the evaluated index showed an increase of 19 to 30%.Limited deamidation of soybean protein isolates by glutaminase showed beneficial impactson the selected properties of deamidated soybean protein isolates totally, and might be servedas a practical approach to prepare multifunctional ingredients for the food industry.

【语种】德文

【第一作者】李丹

【通讯作者】赵新淮

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【引文索引类型】SCI

【引文索引号】不详
【学科分类】食品科学技术基础学科

【题目】Applicability of bacteriocinogenic Lactobacillus pentosus 31-1 as a novel functional starter culture or co-culture for fermented sausage manufacture
【中文关键词】无
【英文关键词】Meat product; Pork product; Lactic acid bacteria; Bacteria; Lactobacillaceae; Microorganism interrelationships; Sausage; Fermented product; Lactobacillus; Bacteriocin;
【中文摘要】无
【英文摘要】The technological feasibility of producing fermented sausages using the bacteriocin-producing Lactobacillus pentosus 31-1,isolated from a traditional Chinese fermented meat product (Xuanwei ham), was evaluated. Strain 31-1 was used both as a single starter and in coculture for manufacture of fermented sausages. The microbiological and physicochemical properties (color,texture, and sensory quality) and the production of bacteriocin during ripening of these products were compared with those characteristics of sausages produced with a commercial meat starter. Challenge tests were performed using Listeria innocua or Staphylococcus aureus as target strains. The addition of L. pentosus 31-1 can significantly reduce L. innocua and S. Aureus populations during all ripening phases. Free amino acid and free fatty acid analysis suggested that strain 31-1 might have proteolytic and lipolytic activity. The use of this strain resulted in a final product with a brighter surface and better texture and sensory profiles. A maximum bacteriocin (pentocin 31-1) concentration of 640 AU/g was detected in homogenized sausages with added L. pentosus 31-1. The bacteriocin-producing strain L. pentosus 31-1 could be used as a novel functional starter culture or coculture for sausage fermentation.
【语种】英文
【第一作者】GUORONG LIU
【通讯作者】PINGLAN LI
【期刊名称、卷期、页码】Journal of Food Protection,2010,73:292-298(7)
【论文发表时间】2010-07-15 00:00:00
【引文索引类型】SCI
【引文索引号】2.75E+11
【学科分类】食品科学技术基础学科

【题目】Characterization of the dominant microflora in naturally fermented camel milk shubat
【中文关键词】无
【英文关键词】shubat,Camel milk,Lactic acid bacteria,Yeasts,Characterization
【中文摘要】无
【英文摘要】This study aimed to characterize the dominant microflora in shubat, a special fermented product prepared from unheated two-humped camel milk. In the seven investigated samples of shubat, lactic acid bacteria and yeasts were the dominant microorganisms with the number ranging from log 6.8 to 7.6 cfu/ml and from log 4.3 to 4.7 cfu/ml, respectively. Using phenotypic and molecular methods, a total of 48 LAB isolates were identified as Lactobacillus sakei, Enterococcus faecium, Lactobacillus helveticus, Leuconstoc lactis, Enterococcus feacalis, Lactobacillus brevis and Weissella hellenica, whereas 15 yeast isolates were identified as Kluyveromyces marxianus, Kazahstan uiosporus, and Candida ethanolica. Results showed also that Lactobacillus and Enterococcus as well as Kluyveromyces were the predominant genera, with the most frequently isolated species being Lactobacillus sakei and Enterococcus faecium as well as Kluyveromyces maxius, respectively. This is the first report on the characterization of dominant microflora of shubat in China.
【语种】英文
【第一作者】Nurgul Rahman
【通讯作者】Dong Mingsheng
【期刊名称、卷期、页码】World J Microbiol Biotechnol,2009,25:1941-1946
【论文发表时间】2009-03-01 00:00:00
【引文索引类型】SCI
【引文索引号】2.70E+11
【学科分类】食品科学技术基础学科

【题目】A survey of biogenic amines in Chinese rice wines
【中文关键词】无
【英文关键词】biogenic amines; Chinese rice wines; histamine; tyramine; HPLC
【中文摘要】无
【英文摘要】Fourteen Chinese rice wines from four rice wine-making regions of China were analyzed for the first time, using HPLC with diode array detection after pre-column derivatization with dansyl chloride. The results showed that Chinese rice wines contained the five biogenic amines histamine, tyramine, cadaverine, spermine and spermidine. Histamine was detected in all samples (100%), followed by spermine (93%), cadaverine (87%), tyramine (79%) and spermidine (79%). The mean total level of biogenic amines in samples was 107 mg/l with a range from 39.30 to 241 mg/l. These levels are below the level that may elicit direct adverse reactions for most consumers. However, patients being treated with monoamine oxidase inhibitors should be aware of the presence of amines in rice wines and limit their consumption. (c) 2005 Elsevier Ltd. All rights reserved.
【语种】英文
【第一作者】Lu Yongmei
【通讯作者】Dong Mingsheng
【期刊名称、卷期、页码】Food Chemistry,2007, 100: 1424-1428
【论文发表时间】2007-10-15 00:00:00
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【引文索引号】2.41E+11
【学科分类】食品科学技术基础学科

【题目】Purification and partial amino acid sequence of pentocin 31-1, an anti-Listeria bacteriocin produced by Lactobacillus pentosus 31-1
【中文关键词】无
【英文关键词】PEDIOCOCCUS-ACIDILACTICI; ENTEROCOCCUS-FAECIUM; FOOD PRESERVATION; STARTER CULTURES; IIA BACTERIOCINS; SDS-PAGE; MODE; CHEESE; STRAIN; BOZA
【中文摘要】无
【英文摘要】Pentocin 31-1, an anti-Listeria bacteriocin produced by Lactobacillus pentosus 31-1 from the traditional Chinese fermented Xuan-Wei ham, was Successfully purified by the pH-mediated cell adsorption-desorption method and then purified by gel chromatography with Sephadex G-10. The purification resulted in a 1,381.9-fold increase in specific activity with a yield of 76.8% of the original activity. Using Tricine-sodium dodecyl sulfate-polyacrylamide gel electrophoresis (SDS-PAGE), the molecular mass of the purified peptide was found to be between 3,500 and 6,400 Da, and bacteriocin activity was confirmed by overlayer techniques. When subjected to mass spectrometry analysis, the protein was highly pure and its molecular mass was 5,592.225 Da. The partial N-terminal sequence of pentocin 31-1 was the following: NH2-VIADYGNGVRXATLL. Compared with the sequence of other bacteriocins, pentocin 31-1 has the consensus sequence YGNGV in its N-terminal region, and therefore it belongs to the class IIa of bacteriocins.
【语种】英文
【第一作者】Zhang, Jinlan
【通讯作者】Li Pinglan
【期刊名称、卷期、页码】Journal of Food Protection,2007,72:2524-2529
【论文发表时间】2009-05-01 00:00:00
【引文索引类型】SCI
【引文索引号】2.73E+11
【学科分类】食品科学技术基础学科

【题目】Accumulation and species distribution of selenium in Se-enriched bacterial cell of the Bifidobacterium animals
【中文关键词】无
【英文关键词】Bifidobacteria; Selenium; Accumulation; Species distribution; Selenomethionine; LC-MS
【中文摘要】无
【英文摘要】Bifidobacterium animalis 01 (B. animalis 01) could absorb 16.7-39.6% of inorganic selenium in the medium and transform most of it into organic selenium. Most of the organic selenium (50.7-63.0%) was found in the protein fraction, 9.62-18.7% in

the polysaccharide fraction, 0.273-0.754% in the nucleic acid fraction, and 20.8-30.9% in other components. Furthermore, the selenium content of different protein extractions was in the following order: Alkaline-soluble protein-bound Se (46.5-53.4%) > Water-soluble protein-bound Se (27.4-30.8%) > Salt-soluble protein-bound Se (7.79-11.9%) > Alcohol-soluble protein-bound Se (not detected). Additionally, the molecular mass of most proteins or protein subunits containing selenium was about 10-20 kDa. Analysis by LC-MS showed that selenomethionine (SeMet) is the major selenocompound in protein. (C) 2008 Elsevier Ltd. All rights reserved.
【语种】英文
【第一作者】Zhang Bowen
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【学科分类】食品科学技术基础学科

【题目】屎肠球菌M-2产细菌素的纯化与特性研究
【中文关键词】屎肠球菌;细菌素;纯化;特性
【英文关键词】Enterococcus faecium;bacteriocin ； purification ； characterization
【中文摘要】从内蒙古传统干酪中分离到的 1 株产细菌素屎肠球菌(Enterococcus faecium)M-2为试材,对 其所产细菌素进行提取、纯 化和理化特性分析。经80%硫酸铵盐析及SP Sepharose Fast Flow 阳离子交换树脂层析得到纯化的细菌素,其比活力可达411.204 AU/mg;T ricine SDSPAGE电泳结果显示其分子量约为 3400 D;特性分析发现该细菌素有很好耐热和酸碱性,经121 ℃处理 20 min 后仍有活性残留,且在 pH 2~10 的范围内活性稳定;吐温 20 和吐温 80 对其活性无影响,而 SDS、司本 80和尿素可导致活性损失 40%~50%;蛋白酶 K 和胰蛋白酶处理可使其完全失活,而木瓜蛋白酶和中性蛋白酶仅可导致部分失活;8 71 AU/mL肠球菌素 M2对单增李斯特氏菌(Listeria monocytogenes)的作用方式为杀菌;该细菌素抑菌谱较广,不仅对李斯特氏菌(Listeria spp.),葡萄球菌(Staphylococcus spp.),芽胞杆菌(Bacillus spp.)等革兰氏阳性菌有明显抑制作用,同时对大肠杆菌(Escherichia coil)及假单胞菌(Pseudomonas spp.)等阴性菌也表现出抑菌活性,有作为食品防腐剂的良好应用前景。
【英文摘要】Purification and characterization of an antilisteria bacteriocin produced by Enterococcus faecium M-2,isolated from Inner Mongolia traditional cheese, were studied. Enterocin M2 was purified by 80% ammonium sulphate precipitation, followed by SPSepharose FF cation exchange chromatography. And the specific activity of purified bacteriocin was 411.204 AU/mg. The inhibitory activity was heatstable and still remained after 20 min at 121 °C . The activity remained stable at pH values from 2 to 10.Tween 20 and tween 80 did not decrease the activity. However, SDS, span 80 and urea induced 40%~50% activity loss. Enterocin M-2 could be inactivated by proteinase K and trypsin, and partially inactivated by papain and neutral proteinase. Mode of action of enterocin M-2 against Listeria monocytogenes is bactericidal at 871 AU/mL. In addition, the bacteriocin had a broad inhibitory spectrum.It not only had a strong effect on grampositive,such as Escherichia spp., Staphylococcus spp.,Bacillus spp. and etc, but also could inhibited several gramnegative bacteria, such as ,Listeria spp. and Staphylococcus etc. These results show that the bacteriocin has a potential application as food additives and biopreservatives in food industry.
【语种】中文
【第一作者】刘国荣
【通讯作者】Li Pinglan
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【学科分类】食品科学技术基础学科

【题目】长寿老人源产细菌素乳酸菌的筛选与分子生物学鉴定
【中文关键词】长寿老人;细菌素;乳酸菌;筛选;鉴定
【英文关键词】Centenarians; Bacteriocin; LAB; Screening; Identification
【中文摘要】本研究以124株我国广西巴马百岁以上长寿老人源乳酸菌菌株为试材,采用双层琼脂平板扩散法筛选产细菌素的优良菌株。在排除有机酸、H2O2 等的干扰后,菌株B02、B03、B04、B07、B11、B25、B24和B78的发酵上清液对受试的大肠埃希菌、金黄色葡萄球菌等5株指示菌都表现出很强的抑制作用;进一步硫酸铵沉淀、透析及浓缩处理后,其抑菌活

性显著增强,同时蛋白酶敏感性试验显示其具有蛋白质性质,这些结果共同确定其为乳酸菌细菌素。最后,通过16S rRNA序列分析鉴定后确定B02为副干酪乳杆菌; B03为植物乳杆菌; B04为动物双歧杆菌; B07为干酪乳杆菌; B11为德氏乳杆菌保加利亚亚种; B24为鼠李糖乳杆菌; B25为粪肠球菌; B78为植物乳杆菌。

【英文摘要】124 strains of lactic acid bacteria (LAB) isolated from centenarians ′ intestine were examined for production of bacteriocin by agar diffusion method. After eliminating the effects of organic acid and H2O2 , cell2free supernatants from strains(B02,B03,B04,B07,B11,B25,B24 and B78) exhibited inhibitory activity against Escherichia coli, Staphylococcus aureus, Bacillus coagulans, B. cereus and Clostridium buty ricum tested. The activity was enhanced after ammonium sulphate p recipitation, dialysis and concentration, and these substances were sensitive to p roteinase. The protein properties and antimicrobial activity indicated they belong to bacteriocins. With 16S rRNA sequence analysis, the above 8 bacteriocinp roducing strains were identified as Lactobacillus paracasei(B02) , L. plantarum (B03, B78) , B if idobacterium anim als(B04) , L. casei (B07) , L. delbrueckii subsp. bulgaricus (B11) , L. rham nosus (B24) and Enterococcus faecail (B25).

【语种】中文

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【学科分类】食品科学技术基础学科

【题目】太空搭载对短双歧杆菌A04体外抗氧化能力的影响

【中文关键词】双歧杆菌;太空搭载;体外抗氧化;清除自由基能力

【英文关键词】Bifidobacterium;spaceship-carried;antioxidationactivity;freeradicalscavengingability

【中文摘要】为了研究太空搭载对长寿老人源短双歧杆菌 A04(B.breve A04)体外抗氧化能力的影响,本实验以长寿老人源短双歧杆菌A04以及神州6号飞船搭载后的短双歧杆菌A04菌株为研究对象,进行了抗脂质过氧化试验、还原力测定试验、铁离子螯合试验、清除DPPH自由基试验、电子共振自旋捕集(ESR)法检测清除羟自由基和超氧阴离子的能力试验,并对其体外抗氧化能力进行了比较研究。实验结果表明,长寿老人源短双歧杆菌 A04在太空搭载前后均具有较好的抗氧化活性,并且经太空搭载后,无论是活菌体还是菌体无细胞提取物,搭载后的短双歧杆菌A04菌株的抗氧化活性都得到了一定程度的提高。

【英文摘要】In order to study the effects of spaceship-carried induction on the antioxidant activity of B.breve A04 invitro, inhibition of linoleic acid peroxidation, reducing power, chelating ability, 1,1-diphenyl-2-picryhydrazyl (DPPH) free radical scavenging ability, hydroxy lradical and reactive oxygen species scavenging activityof B.breve A04and B.breve HA04 were experimentized. The results showed that both the B.breve A04andthe B.breve HA04havestrongactivityofantioxidation. And after compared with the antioxidant activity of B.breve A04and B.breve HA04, we found that the antioxidant activity of B.breve HA04 was strongerth an that of B.breve A04. It was indicated the antioxidant activity of B.breve A04wasenhancedafterspaceshipcarried.

【语种】中文

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【通讯作者】Li Pinglan

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【引文索引号】08-0261-06

【学科分类】食品科学技术基础学科

【题目】胆盐水解酶的分离纯化与部分特性研究

【中文关键词】胆盐水解酶;分离;纯化;特性

【英文关键词】无

【中文摘要】为了给胆盐水解酶结构分析及降低血液胆固醇的机理研究提供理论基础, 采用硫酸铵分级沉淀、透析、阴离子交换树脂层析等方法对分离自我国传统开菲尔粒中的1 株干酪乳杆菌KTx(lactobillus casei KTx) 产生的胆盐水解酶进行了纯化, 并对其部分特性进行了研究。结果表明: 在70%的硫酸铵条件下酶蛋白能最大程度地沉淀。采用DEAE-

Sepharose Fast Flow阴离子交换树脂层析, 流速1.0 mL/min, 用0.1 mol/L NaCl- 50 mmol/L磷酸缓冲液(pH 6.5) 洗脱, 比活力可达到115(AU/mg) , 是原粗酶液的17 倍。纯化后的样品经SDS- PAGE 电泳,初步确定了胆盐水解酶的分子质量约30 kDa。该酶的最适反应温度35 ℃, 最适pH 6.0, 最适反应底物浓度6mmol/L, 酶促反应动力学常数4.57 mmol/L。抑制剂对此酶的抑制作用强弱顺序依次为: 尿素>SDS>EDTA。Al3+对此酶的激活能力最强, 其次是Fe3+, Zn2+对酶活无激活作用。

【英文摘要】无

【语种】中文

【第一作者】王玉文

【通讯作者】Li Pinglan

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【学科分类】食品科学技术基础学科

【题目】pH吸附法纯化戊糖乳杆菌素31-1的研究

【中文关键词】细菌素;吸附- 解吸;纯化;Tricine-SDS-PAGE

【英文关键词】bacteriocin;adsorption-desorption;purification;Tricine-SDS-PAGE

【中文摘要】戊糖乳杆菌素31-1,由分离自宣威火腿的戊糖乳杆菌31-1 产生,随pH 的改变可以选择性的吸附于产生菌细胞表面,pH5.0 时吸附率达75%,而在pH3.0 以下,7.0 以上吸附率为0。基于以上规律,通过调整pH 值,戊糖乳杆菌素31-1 在pH5.0 吸附、pH7.0 释放于产生菌细胞,达到了较好的分离纯化效果,戊糖乳杆菌素31-1 回收率为45%,纯化倍数为33。经Tricine-SDS-PAGE 进行分子量的估测及纯度鉴定,证实戊糖乳杆菌素31-1 的分子量在6400~14000D 之间。该纯化方法简便、高效,具有工业生产的潜力。

【英文摘要】Pentocin 31-1, produced by Lactobacilluspentosus 31-1 isolated from the traditional China fermented Xuan-Wei Ham, coud be adsorbed selectively on its producer at different pH conditions. At pH5.0, the adsorption rate was 75%, while below pH 3.0 or above pH7.0, Pentocin 31-1 wasn't adsorbed at all. On the basis of this property, by changing pH, Pentocin 31-1 was adsorbedatpH5.0andreleasedatpH7.0. The efficiency of isolation and purification was high. The specific activity of Pentocin 31-1was increased 33 fold with a yield of 45%. The active extract was further subjected to Tricine-SDS-PAGE. The result showed that two bands appeared, where most of the activity corresponded to the band with molecular weight between 6400~14000 D. It is simple and effective, could be used as commercial preparations for food industry.

【语种】中文

【第一作者】张金兰

【通讯作者】Li Pinglan

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【学科分类】食品科学技术基础学科

【题目】藏灵菇发酵奶发酵特性的研究

【中文关键词】藏灵菇;发酵;有机酸;挥发性风味物质;微生物

【英文关键词】Tibetan kefir:ferm entation:organic acids:volatile flavor:microbial count

【中文摘要】本文研究了藏灵菇发酵奶发酵过程中酸度、有机酸、挥发性风味物质及微生物数量的变化,在发酵0、4、8、1 2、16、20h时采样,用高效液相色谱(HPLC)跟踪发酵过程中乳酸、乙酸和柠檬酸的变化:用气相色谱(GC)跟踪了发酵过程中乙醇、丁二酮、乙醛和丙酮的变化。实验结果表明, 乳酸和乙酸在发酵过程中都呈L升趋势,发酵4h时,乳酸的生成量约是乙酸的2O倍,发酵结束乳酸的量为8.56g/L(TK1),7.73g/L(TK2):乙酸的量为O.71g/L(TK1),O.81g/L(TK2),乳酸的量约是乙酸的9412倍。柠檬酸从发酵开始就呈下降趋势。挥发性风味物质中乙醇的生成量最大,发酵结束分别达到3134mg/L(TK1),4994mg/L(TK2):丁二酮和乙醛的量较普通酸奶高,分别达到62.4mg/L(TK1)~tl 37.8mg/L(TK1)。本研究也对发酵过程中微生物进行了分析,发酵纯束,发酵奶中乳杆菌达到2.3× 10。CFU/ml(TK1),1.3×10。CFU/ml(TK2): 乳球荫达到1.3×10 CFU/ml(TK1),1.1×108CFU/ml(TK2);酵母菌1.6×10 CFU/ml(TK1),6.6× 106CFU/ml(TK2)。TK1和TK2之间存 较大差异,TK1的风味好rTK2。

【英文摘要】The changes of pH,organic acids,volatile flavor and microbial counts were studied on Tibetan kefir fermentation. Sampleswerecollectedat0,4,8,l2,16and20hofferm entationre spectively. Lactic,acetic,and citricacids were analyzed by HPLC.Ethanol,diacetvl,acetaldehyde and acetone were monitored with GC.Th e results showed that the content of lactic and acetic acids is increasing during ferm entation.Th eproduction of lactic acidis 20 times more than acetic acid at4h,and 94 12times at the end offer mentation,reaching respectively 8.56gn~frK1)and 7.73g/L(TK2),while the acetic acid reaches 0.71g/L(TK1)and 0.81 g/L(TK2)respectively.Th e concentration of citric acid gradually decreases with ferm entation time.Among volatile flavors.ethanol is produced most,reaching 3134mg/L(TK1)and 4994mg/L(TK2)respectively at the end of ferm entation.The production of diacetyl and acetaldehyde is higher than common yoghourt, with the concentration reaching 62.4mg/L(TK1)and37.8mgn~frK1) respectively.In addition,mi crobial counts were evaluated in the paper.At the end of ferm entation,the colony counts of lactococcus reach respectively 2.3× 10 CFU/ml(TK1)and 1.3× 10。CFU/mI(TK2),lactococcus 1.3×10 CFU/ml(TK1)and 1.1×10 CFU/mI(TIC2),and yeasts 1.6×10 CFU/ml(TK1)and 6.6×10 CFU/ml(TK2).The results show the great differences between TKl and TK2.

【语种】中文

【第一作者】周剑忠

【通讯作者】Dong Mingsheng

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【学科分类】食品科学技术基础学科

【题目】PCR-DGGE指纹技术与分离技术结合筛选藏灵菇奶发酵过程的优势菌

【中文关键词】藏灵菇;PCR-DGGE;微生物多样性;优势菌;筛选

【英文关键词】Tibetan kefir;PCR-DGGE;Microbial diversity;Dominating microbial species;Screen

【中文摘要】【目的】获得藏灵菇发酵奶发酵过程的优势菌,并开发出纯培养发酵剂替代藏灵菇进行这类新型发酵奶的工业化生产。【方法】将PCR-DGGE指纹技术和传统培养方法结合,对藏灵菇发酵奶中微生物种群结构进行研究。【结果】DGGE指纹图谱显示混合菌群中细菌有4条条带无对应的纯菌株,而纯菌株中有2株在混合菌群的图谱上没有相应的条带。通过对150株分离菌的PCR-DGGE指纹图谱分析,获得了8组乳酸菌和5组酵母菌,进一步的序列分析和相似性比较,确立了藏灵菇发酵奶中的优势菌为肠膜明串珠菌、乳酸乳球菌、开菲尔乳杆菌、干酪乳杆菌和克鲁维酵母,单孢酵母、啤酒酵母、假丝酵母发酵后期成为优势菌。【结论】本研究建立了一种基于分子生态的微生物高效筛选技术,为藏灵菇纯培养发酵剂的开发提供了理论依据及丰富的菌种资源。

【英文摘要】[Objective]To screen dominating microbial species isolated from Tibetan Kefir and develop pure.culture starter.[Method]PCR-DGGE and traditional culture.depending methods were combined to examine the microbial community of Tibetan kefir.[Result] Four bands in the DGGE profiles of total bacterial DNA of Tibetan kefir were not recovered by cultivation.Conversely,two bacterial species did not exhibit bands in DGGE fingerprints of total bacterial DNA of Tibetan kefir.150 strains isolated were screened and grouped by PCR-DGGE,eight lactic acid bacteria and five yeasts were obtained.Comparison of 16S rDNA(bacteria)and 26S rDNA(yeast)partial sequence similarity revealed that the dominating microbial species of Tibetan kefir were Leuconostoc mesenteroides,Lactococcus lactis,Lactobacillus kefirL Lactobacillus casei and Kluyveromyces marxianus,Saccharomyces unisporus,Saccharomyces cerevisiae and Candida humilis were dominating during last fermentation.[Conclusion]An effective microbial screening technology based on molecular microbiology was established in this study,providing theoretical basis an d rich microbial resources for the development of Tibetan Kefir pure-culture starter

【语种】中文

【第一作者】周剑忠

【通讯作者】Dong Mingsheng

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【学科分类】食品科学技术基础学科

【题目】抗真菌乳酸菌的筛选及菌种鉴定
【中文关键词】抗真菌:乳酸菌:生物防腐;鉴定
【英文关键词】Anti-fungal,Lacic acid bacteria,Biopreservation,Identificatio
【中文摘要】采用双层培养基法从中国传统发酵食品(发酵乳、泡菜、发酵肉)中筛选到20株对真茼有拮抗作用的乳酸茼菌株。对其中7株具有明显拮抗作用菌株的抑菌谱进行了初步研究,这7株茼对啤酒酵母、汉逊酵母、枯草芽胞杆茵等有明显的抑制作用,对黑曲霉可明显抑制其孢子的成熟。对其中2株茵进行了常规生理生化及16S rI A分子鉴定。鉴定结果为干酪乳杆菌鼠李糖亚种。
【英文摘要】Twenty antifungal lactic acid bacteria strains were screened by di-layer medium method from traditional Chinese fermented food (tibet kefir,pickled vegetables,fermented meat). I11e antifungal and antibacterial spectrum was studied,it was found that seven strains have obvious antagonistic efect on Saccharomyces cerevisiae,Debaryomyces hansenii,Bacillus subtilis,etc.and they can also inhibit the spore maturation of Aspergillus niger. Then the traditional identification an d 16S rRNA molecular identification were clone for two strains.the result showed that they were Lactobacillus casei ssp.Rhamnosus.
【语种】中文
【第一作者】吕欣
【通讯作者】Dong Mingsheng
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【学科分类】食品科学技术基础学科

【题目】功能性乳酸菌发酵剂在食品发酵工业中的应用
【中文关键词】功能性发酵荆;乳酸茵:应用
【英文关键词】functional starter cultures;lactic acid bacteria;application
【中文摘要】功能性乳酸茼发酵刑是具有一种或几种固有功能特性的发酵制,其在感官、技术、营养或健康方面的各种优势使之在食品发酵工业中的应用潜力巨大:它可用于食品防腐、提高食品安全性,改善食品质构和风味,加速奶酪成熟,可产生功能因子、去除毒副因子从而使食品具有保健功效:某些抗噬茵体发酵剂还可解决乳品工业中的噬菌体污染问题。通过基因工程或菌株筛选可以获得所需的功能性发酵剂.它使人们可以更好地控制发酵过程。为消费者提供新型健康食品,此外还有利于食品企业的多样化生产。
【英文摘要】Functional starter cultures are starters that possess at least one inherent functional property.They can ofer several organoleptic,technological,nutritional or health advantages and have great potential in food fermentation industry:they can be applied for food preservation,improve food safety,texture and flavour,accelerate the maturation process of cheese and give functionalities tO the end product by producing nutraceuticals and reducing toxic or antinutritive factors.The use of phage resistant starter cultures also ofers a solution for phage contamination in dairy industry.The desired functional starters may be obtained by genetic engineering or as wild—type organisms.They provide better control during fernlentation and new healthy food for consumers.They may further contribute to the development and product diversification offood com panies.
【语种】中文
【第一作者】李元莉
【通讯作者】Dong Mingsheng
【期刊名称、卷期、页码】中国乳品工业,2006, 34(1):35-38
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【学科分类】食品科学技术基础学科

【题目】全子叶生物活性豆腐凝胶特性的研究
【中文关键词】全子叶;豆腐;凝胶;MTG;乳酸茵;响应曲面;数学模型
【英文关键词】who1e cowedon;Tofu;Gel;MTG;LactobaciUus;Response Surface M~hoddogy (RSM);Mathematics mode
【中文摘要】通过因子筛选实验,确定了接种量、微生物转谷氨酰胺酶(MTG)用量和水豆比是影响全子叶生物活性豆腐凝胶特性的关键因子。在此基础上,采用响应曲面法(Response Surface Mehodology,RSM)分别建立了豆腐硬度和持水率的二次

多项数学模型,验证了模型的有效性并探讨了上述3个因子的交互作用。从产品成本和凝胶特性综合考虑,选择出最佳配比,即乳酸菌接种量为10 cfu/mL,MTG用量为347 u/L,水豆比为8.5,其硬度和持水率实测值分别为44.8g和89.2% ,可生产出富含乳酸菌和几乎全部大豆营养的健康豆腐。

【英文摘要】The results of factorial experiment showed that the significant external factors affecting the gel characteristic of LAB-contained tofu made in whole cotyledon were the amount of inoculation,microbial transglutaminase (MTG)concentration and the ratio of water to bean.Based on the results,Response Surface Methodology (RSM)was employed and a quadratic polynomial equation for the hardness and water holding capacity of tofu Was built in the present work.The applicability of the model equation for predicting the optimum response values Was verified efectively by the validation data an d the interaction of the 3 factors was also discussed .Consid-eringthe costof the productan dthetofu gd properties,the best solution was found,namely theam ountof inoculationWas 10 ofu/mL,MTG concentration was 347U/L,the ratio of water to bean Was 8.5,and the corresponding hardness and water holding capacity of tofu was 44.8g and 89.2% respectively.Hygienical tofu,which was rich in LA B and almost the whole nutrition of beans,could be produced.

【语种】中文

【第一作者】王长存

【通讯作者】Dong Mingsheng

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【引文索引号】06-0092-05

【学科分类】食品科学技术基础学科

【题目】响应曲面法优化鼠李糖乳杆菌Ls- 8菌株产抑真菌活性物质的条件

【中文关键词】乳酸菌;拮抗活性;响应曲面法;优化

【英文关键词】LAB;antagonic activity;response surface methodology;optimization

【中文摘要】在使用Plackett-Burman设计试验的基础上,筛选出发酵时间、乳清粉、蔗糖和乙酸钠为鼠李糖乳杆菌Ls-8菌株发酵产抑真菌活性物质的4个关键影响因子。采用响应曲面法对这4个关键因子进行了优化,根据二次多项式回归方程求解得出,在发酵时间为82h、乳清粉添加量为29 L、蔗糖添加量为25.5g/L、乙酸钠添加量为10.7g/L时、Ls-8发酵液的抑菌活性可达0.66AU/mL。

【英文摘要】Based on the results of the previous Plackett-Burman design,four key factors was chosen,namely fermentation time,whey powder,saccharose and sodium acetate.Response surface methodology was used to optimize the optimal levels of the four impo~ant factors.Response surface model computed by guadraic re-gression methodology show the optimal condition for obtaining 0,66AU antifungal activity per milliliter were: fermentation time 82h,whey powder 29g/L,saccharose 25.5g/L,sodium acetate 10.7g/L.

【语种】中文

【第一作者】高宇

【通讯作者】Dong Mingsheng

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【引文索引类型】其他

【引文索引号】08-0059-04

【学科分类】食品科学技术基础学科

【题目】液芯包囊制备条件的研究

【中文关键词】液芯包囊;挤压法;制备条件

【英文关键词】liquid-core microcapsules:extrusion technique;preparation conditions

【中文摘要】采用挤压法,结合正交试验设计,优化了液芯包囊的制备条件。其中重点考察了一些制囊参数如海藻酸钠浓度、氯化钙浓度以及氯化钙浸泡时间、壳聚糖浓度、包覆时间等对液芯包囊的直径、膜厚和机械强度的影响,从而得到了制备液芯包囊的基本操作条件。

【英文摘要】In this paper. based on the extrusion technique and combined with orthogonal test method,the conditions for preparing the liquid-core microcapsules were optimized. And this paper mainly focused GR the efects of operation conditions (concentrations of sodium alginate or CaCl2, CaCl2 incubating time, chitosan concentration and coating time) on the diameter, membrane thickness and

compression intensity of the microcapsules.The Optimal operation conditions for microcapsules preparation were determined.
【语种】中文
【第一作者】包永华
【通讯作者】Dong Mingsheng
【期刊名称、卷期、页码】食品科技,2007,10:49- 52
【论文发表时间】2007-05-01 00:00:00
【引文索引类型】其他
【引文索引号】10-0049-03
【学科分类】食品科学技术基础学科

【题目】开菲尔粒和西藏灵菇中细菌和酵母群落结构的比较
【中文关键词】开菲尔;西藏灵菇;细菌;酵母菌;群落结构;PCR—DGGE
【英文关键词】kefir;Tibetan kefir;bacterium;yeast;community structure;PCR—DGGE
【中文摘要】用PCR—DGGE指纹图谱比较了开菲尔粒和西藏灵菇中微生物的群落结构。图谱相似性分析,来自不同家庭西藏灵菇中细菌群落的相似性为78%-84% ,酵母群落的相似性为80%-2% ;不同地区开菲尔粒中细菌群落的相似性为50%-70% ,酵母群落的相似性为50%-75% 。序列比对显示,开菲尔粒和西藏灵菇中细菌的16S rDNA的V3区序列与乳酸菌16S rDNA序列十分接近,其中最亮条带的序列与乳酸乳球菌的相似性为100%,其它共性条带所对应的为开菲尔囊乳杆菌、肠膜明串珠菌、嗜酸乳杆菌、干酪乳杆菌。酵母的26S rDNA的D1区序列分析表明,开菲尔粒和西藏灵菇中存在单孢酵母和假丝酵母。
【英文摘要】Microbial community structures of Tibetan kefir and Kefir were compared by using PCR—DGGE.Through clustering analysis of microbe DGGE,bacteria community showed a 78%-84% similarity among different Tibetan kefir,and 50%-70% among kefir from different regions.DGGE profiles of yeast indicated 80%-92% similarity of yeast conmunity among 3 Tibetan kefirs,and a 50%-75% similarity among kefir from different regions.The comparison analysis showed that Tibetan kefir is likely to be one of the Kefir series.The results of sequence alignment exhibited that V3 region in 16SrDNA was highly similar between bacteria from Tibetan kefir and lactic acid bacteria,and the sequence data of the strongest band showed a 100% homology to Lactococcus lactis,others to Lactobacillus kefiranofaciens,Leuconostoc mesenteroides,Lactobacillus acidophilus,LactobaciUus casei.The sequence analysis of yeast showed that there existed Saccharomyces unisporus and Candida humi in Tibetan kefir.
【语种】中文
【第一作者】周剑忠
【通讯作者】Dong Mingsheng
【期刊名称、卷期、页码】江苏农业学报,2008,24(5):634- 639
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【引文索引号】05-0634-06
【学科分类】食品科学技术基础学科

【题目】乳酸菌高密度培养技术研究进展
【中文关键词】高密度培养;乳酸菌;进展
【英文关键词】无
【中文摘要】乳酸菌高密度培养是制备高活性乳酸菌发酵剂的核心技术。影响乳酸菌高密度培养的因素主要有以下几个方面:培养基成分、培养条件、培养模式及培养过程中抑制性代谢产物的调控等。本综述从以上几个方面讨论了乳酸菌的高密度培养技术,并对其前景进行了展望。
【英文摘要】无
【语种】中文
【第一作者】李莹
【通讯作者】Dong Mingsheng
【期刊名称、卷期、页码】中国乳业,2008,10:44- 46
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【引文索引号】无
【学科分类】食品科学技术基础学科

【题目】Chemical composition and rheological properties of set yoghurt prepared from skimmed milk treated with horseradish peroxidase
【中文关键词】无
【英文关键词】skimmed milk, set yoghurt, horseradish peroxidase, ferulic acid, rheological properties
【中文摘要】无
【英文摘要】The aim of this work is to determine the impact of an enzymatic treatment on the fermentation and rheological properties of set yoghurt prepared from skimmed milk. Skimmed bovine milk was treated with horseradish peroxidase added at the level of 645 U/g proteins in the presence or absence of cross-linker ferulic acid (addition level of 7.8 mmol/L milk) as a cross-linking agent, and used to prepare set yoghurt with commercial direct vat set starter culture. The evaluation showed that the treatment of skimmed milk with horseradish peroxidase enhanced its apparent viscosity and storage and loss modulus. The prepared yoghurt contained protein, fat and total solids at 3.49-3.59, 0.46-0.52 and 15.23-15.43 %, respectively, had titratable acidity of 0.83-0.88 %, and no significant difference in the composition was found among the yoghurt samples ($p>0.05$). Compared to the control yoghurt, the yoghurt prepared from the milk treated with horseradish peroxidase had a higher apparent viscosity, storage and loss modulus and flow behavior indices, especially when ferulic acid was added. Yoghurt samples from the skimmed milk treated either with horseradish peroxidase only or with the additional ferulic acid treatment had better structural reversibility, because their hysteresis loop area during rheological analysis was larger ($p<0.05$).
【语种】英文
【第一作者】温研
【通讯作者】赵新淮
【期刊名称、卷期、页码】Food Technology and Biotechnology
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【引文索引号】不详
【学科分类】食品科学技术基础学科

【题目】两种缢蛏线粒体基因全序列扩增方法的比较
【中文关键词】长PCR; 缢蛏; 线粒体全序列
【英文关键词】LA-PCR Sinonovacula constricta Complete mitochondrial genome
【中文摘要】介绍了应用长PCR技术扩增缢蛏线粒体全序列的两种方法,并进行了比较。一种方法是使用通用引物扩增COI基因和16S基因并测序后,在两基因的两端分别设计两对引物扩增两基因中间的大片段,分别得到了9.7 kb和7.3 kb的扩增产物。另一种方法是在COI基因序列两端设计一对引物,扩增整个线粒体全序列,得到了17.1 kb的扩增产物。两种方法在缢蛏的研究中进行比较后发现,前一种方法在操作实用性和后期测序方面都比后者好。
【英文摘要】The Razor Clam(Sinonovacula constricta) is one of the most widely cultured and valuable shellfishes.Two methods were introduced and compared to amplify the complete mitochondrial genomes of the Razor Clam using LA-PCR.One method was to amplify and sequence the genes of 16S and COI with universal primers.The two products of amplification were obtained,the length of which were 9.7 kb and 7.3 kb respectively.The other method was to design one pair of primers which amplified the whole mitochondrial genomes.The length of the amplification product was 17.1 kb.The first method was better in the practical operation and the sequence work than the other one.
【语种】中文
【第一作者】郑润玲
【通讯作者】李家乐
【期刊名称、卷期、页码】生物技术通报,2009年第4期
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【学科分类】分子生物学

【题目】Dynamical partition of photosynthates in tillers of rice (Oryza sativa L.) during late growth period and its correlation with feeding value of rice straw at harvest

【中文关键词】非结构碳水化合物;波动;半纤维素;粗蛋白;稻草;相关性

【英文关键词】Nonstructural carbohydrates;Rebounding rate;Hemicellulose;Acid detergent fiber;Crude protein; Freehand section;Rice straw;Correlation

【中文摘要】本研究旨在探讨摘除穗的水稻在生长后期的光合产物的动态分布及其与稻草饲用价值的相关性本实验有四个水稻品种(两优108,淮稻6,南京43,南京44),分别在江苏南京地区同一管理条件下种植,从开花后的第1周至第5周取样,并分别在2008年,2009年和2010年收割。然后,测定每株的非结构碳水化合物(NSC),半纤维素,和酸性洗涤纤维(排除残留的灰分,ADFom)。粗蛋白(CP)含量在2009年和2010年测定。在2010年开花期的1、3、5周通过徒手画的第四茎节的薄壁细胞来测定的淀粉颗粒。结果表明,非结构碳水化合物的含量从第1周到第3周急剧下降,然后开始增加;半纤维素的含量第5周和第1周近似;酸性洗涤纤维从第1周到第3周稍微增加,到第5周保持不变;茎的薄壁细胞的淀粉颗粒从第1周到第3周减少,一直到第5周又稍微增加。非结构碳水化合物的波动和非结构碳水化合物的含量和粗蛋白的含量呈正相关,而和半纤维素和酸性洗涤纤维含量负相关。

【英文摘要】This study was to investigate the dynamical partition of photosynthates in panicle-removed tillers of rice (Oryza sativa L.) during late growth period and its correlation with the feeding value of rice straw at harvest. Four rice cultivars (Liangyou 108,Huaidao6,Nanjing 43, Nanjing 44) were cultivated in Nanjing under the same management of Jiangsu area,and were sampled from weeks 1 to 5 after anthesis and at harvest in 2008, 2009 and 2010. Then, the content of nonstructural carbohydrates NSC),hemicellulose,and acid detergent fiber(exclusive of residual ash, ADFom) in tillers were determined. The crude protein(CP)content in tillers at harvest was assayed in 2009and2010. Freehand sections of the fourth internodeof main culm were made to visualize the starch particles in parenchyma cells in week 1,3 and 5 after anthesis in 2010. The results showed that the content of NSC decreased sharply from week 1to3and then increased to week 5 after anthesis; hemicellulose in week 5 remained at an approximate level with that of week 1; ADFom increased slightly from week 1 to 3,and then stayed constant till week 5 after anthesis. The starch particles in parenchyma cells of stems decreased from week 1 to 3and increased slightly till week 5 after anthesis again. The rebounding rate of NSC (NSCRR) was positively correlated with the content of NSC and CP at harvest while negatively correlated with the content of hemicellulose and ADFomat harvest.

【语种】英文

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【通讯作者】沈益新

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【学科分类】农学其他学科

【题目】不同微藻对缢蛏稚贝摄食和生长的影响

【中文关键词】缢蛏稚贝; 微藻; 清滤率; 存活率; 壳长增长率; 日生长率

【英文关键词】juvenile Sinonovacula constricta; microalgae; clearance rate; survival rate; daily growth rate; shell growth rate

【中文摘要】用实验生态学方法研究了小球藻(Chlorella sp.)、绿色巴夫藻(Pavlova viridis)、小新月菱形藻(Nitzschia closterium f.minutissima)、亚心形扁藻(Platymonas subcordiformis)、微绿球藻(Nannochloropsis oculata)和湛江等鞭金藻(Isochrysis zhanjiangensis)对缢蛏稚贝摄食和生长的影响。结果表明:缢蛏稚贝对6种微藻的清滤率随浓度的增加而增大,当达到一定浓度时清滤率反而下降;在相同浓度下,稚贝对中规格的绿色巴夫藻、小新月菱形藻和湛江等鞭金藻的清滤率显著高于小规格的小球藻、微绿球藻和大规格的亚心形扁藻(P<0.05)。不同微藻对缢蛏稚贝的存活率顺序为微绿球藻<小球藻+亚心形扁藻+微绿球藻<小球藻<湛江等鞭金藻<亚心形扁藻<小新月菱形藻<绿色巴夫藻+小新月菱形藻+湛江等边金藻<绿色巴夫藻。初始壳长无显著性差异的稚贝经30 d的生长试验,8个饵料组稚贝的壳长出现明显差异(P<0.05);亚心形扁藻组的日生长率均明显高于其他组(P<0.05),壳长增长率和绿色巴夫藻组无显著性差异(P<0.05)。从本试验可知,小球藻、绿色巴夫藻、小新月菱形藻、亚心形扁藻、微绿球藻和湛江等鞭金藻的适宜投喂浓度为30×104、15×104、10×104、6×104、40×104和10×104cell/mL,绿色巴夫藻和亚心形扁藻对缢蛏稚贝的生长效果要好于其他微藻。

【英文摘要】Using the method of experimental ecology,the effects of Chlorella sp.,Pavlova viridis,Nitzschia closterium f.minutissima,Platymonas subcordiformis,Nannochloropsis oculata and Isochrysi zhanjiangensis on ingestion and growth rate of

juvenile Sinonovacula constricta were studied.The results showed that: the clearance rate of juvenile S.constricta increased with the concentration of the six species of microalgae.But when it reached a certain concentration,the filtration rate decreased.At the same concentration,the filtration rate of P.viridis,N.closterium f.minutissima and I.zhanjiangensis which had the medium size was much higher than P.subcordiformis which had the big size,Chlorella sp.and N.oculata which had the small size.The order of the microalgae for their feeding effects on the juvenile S.constricta with the increasing survival rate was N.oculata< Chlorella sp.+P.subcordiformis+N.oculata<Chlorella sp.<I.zhanjiangensis<P.subcordiformis<N.closterium f.minutissima<P.viridis+N.closterium f.minutissima+I.zhanjiangensis<P.viridis.The initial shell length of juvenile S.constricta had no significant difference(P>0.05),but through growth experiment of 30 d,the difference of final shell length for the eight groups was significant(P<0.05).Fed with P.subcordiformis,the daily growth rate of juvenile S.constricta was much higher than other groups(P<0.05),but the shell growth rate had no significant difference with the groups which was fed with P.viridis(P>0.05).From this experiment,we can see that the best feeding concentration of Chlorella sp.,P.viridis,N.closterium f. minutissima,P.subcordiformis,N.oculata and I.zhanjiangensis were 30×104cell/mL,15×104cell/mL,10×104cell/mL,6×104cell/mL,40×104cell/mL and 10×104cell/mL.By feeding with P.viridis and P.subcordiformis,the growth effect was better than other microalgae.

【语种】中文
【第一作者】刘广丰
【通讯作者】沈和定
【期刊名称、卷期、页码】上海海洋大学学报,Vol 18, No. 6,Nov.,2009,708-714
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【引文索引号】null
【学科分类】分子生物学

【题目】不同群体缢蛏营养成分的多元性分析
【中文关键词】缢蛏; 脂肪酸; 氨基酸; 多元分析
【英文关键词】Sinonovaculla constricta; fatty acids; amino acids; multivariation analysis
【中文摘要】本实验研究不同地区缢蛏的总蛋白、脂肪、氨基酸、脂肪酸、灰分、呈味核苷酸、甜菜碱、游离总糖、肌球蛋白等与品质密切相关的各类指标。其中,脂肪酸、游离总糖、外套膜中呈味核苷酸及肌球蛋白含量均呈现出春季含量明显高于秋季的规律(p<0.05),氨基酸总量、必需氨基酸、呈味氨基酸、总蛋白、脂肪、灰分含量则呈现出相反的规律(p<0.05),甜菜碱含量无显著差异。春季的长街种群优势主要体现在甜菜碱、氨基酸总量、必需氨基酸、呈味氨基酸、呈味核苷酸的含量;秋季的长街种群缢蛏优势主要体现在游离总糖、脂肪、肌球蛋白明显高于当季的其他种群(p<0.05)。由于养殖方式的不同造成了缢蛏营养的多样性,从总体上可以看出,不管是春季还是秋季养殖缢蛏,滩涂养殖方式的缢蛏品质上明显优于围塘养殖缢蛏,聚类分析结果也可以看出,各样品最终可以聚为两类,即滩涂养殖和围塘养殖。
【英文摘要】This study aimed to analyze several indexes of Sinonovaculla constricta Lamarck in different populations concerning to nutrition and flavour,including total protein,fat,amino acid,fatty acid,ash,flavour nucleotide,lycine,sugar and myosin and so on.Compared with Sinonovaculla constricta cultivated in autumn,the S.constricta cultivated in spring has more fatty acid,sugar,flavour nucleotide in mantle and myosin.However,total amino acid,essential amino acid,flavour amino acid,total protein,fat and ash come to the inverse disciplinarian.But lycine has no significant differences among these samples.Changjie population cultivated in spring has significant advantage in lycine,total amino acid,essential amino acid,flavour amino acid and flavour nucleotide in foot.The population cultivated in autumn has significant advantage in sugar,fat and myosin.The quality of S.constricta varies due to different cultivations.Regardless of different cultivating seasons,tidal-flat aquaculture is significantly better than pond aquaculture.It was concluded that all the samples can be clustered into the above-mentioned two aquacultures according to clustering analysis. 更多
【语种】中文
【第一作者】李太武
【通讯作者】李太武
【期刊名称、卷期、页码】食品科学,2008, Vol. 29, No. 11,548-551
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【引文索引号】null
【学科分类】分子生物学

【题目】基于cDNA微阵列数据对乳酸菌生长及应激代谢转录组特征的研究
【中文关键词】乳酸菌;cDNA 微阵列;应激代谢;转录组特征
【英文关键词】lactic acid bacteria;cDNA microarray;stress response;transcriptome property
【中文摘要】应用本实验室编写的perl 程序包将GEO 数据库中乳酸菌生长、应激代谢相关实验数据和相应的基因组数据整合,构建易于本地查询和访问的MySQL 数据库,利用该数据库研究乳酸菌在生长、衰亡及应对不利环境(如胆盐、过氧化氢、碳氮源饥饿)时的转录组特征,并利用MEME 软件寻找到了各种情况下部分协同表达基因前导序列的共有motif,即潜在的调控蛋白作用位点。结果表明:除了胆汁和草酸铵对嗜酸乳杆菌细胞代谢特征的影响具有较高的一致性外,面对其他压力环境乳酸菌细胞的应激模式具有较大的差异,有着各自受到特异性诱导表达或抑制的基因群,但在各种情况下翻译(J)、脂类运输和代谢(I)、细胞内运输和分泌(U)相关因的转录水平变化都比较显著,特别是蛋白质翻译相关基因变化最为明显,说明细胞主要通过调控蛋白质翻译相关基因的种类和表达量来对细胞的状态进行调整。
【英文摘要】A local MySQL database of lactic acid bacteria (LAB) was built through integrating genome data and chip data from gene expression profile used perl program written by our laboratory. The local database was used to investigate transcriptome properties of LAB in different growth phases or stress environments such as the presence of bile salts, hydrogen peroxide and starvation. Meanwhile, MEME software was also used for searching the common motif located in upstream of transcription starting point in co-expression genes under certain stress environments. Results indicated that no obvious difference was observed in transcriptome properties of LAB under the stress from bile and ammonium oxalate. However, a significant difference was observed in transcriptome properties of LAB under the stress from other factors. These responses to stress exhibited specific induced or inhibition gene expression. In addition, gene expression associated with translation (J), lipid transport and metabolism (I), intracellular transport and secretion (U) revealed a high level, especially for translation-related genes, which indicating that modulation of cell metabolism was mainly achieved through regulating the expression of translation-related genes.
【语种】中文
【第一作者】李家鹏
【通讯作者】Qiao Xiaoling
【期刊名称、卷期、页码】23-0370-07
【论文发表时间】2009-08-01 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】食品科学技术基础学科

【题目】一种检测革兰氏阴性菌群体感应抑制剂的简便方法
【中文关键词】群体感应;群体感应抑制剂;N- 酰基- 高丝氨酸内酯;检测
【英文关键词】quorum sensing;quorum sensing inhibitor;n-acyl-homoserine lactones;detection
【中文摘要】许多革兰氏阴性菌通过产生N- 酰基- 高丝氨酸内酯类(AHLs)化合物介导的群体感应(QS)现象来调控特定生理性状的表达。而AHL 类似物作为群体感应抑制剂(QSI)可使由QS 所调控的生理特性不表达或表达水平下降。本研究的目的是建立检测AHL 类似物方法。基于QS 抑制原理,建立了平板法及TLC 方法从微生物中筛选AHL 类似物。该方法简便有效,费用低廉,为筛选群体感应抑制剂提供了一种新方法。
【英文摘要】Many Gram-negative bacteria regulate the expression of some physiological traits in quorum sensing (QS) mediated by N-acyl-homoserine lactones (AHLs). Quorum sensing inhibitor (QSI)of AHL antagonists can block or attenuate the expression of characteristic associated with QS. Based on the above inhibitory principle, this study developed an agar plate and TLC assay to detect the antagonists for N-acyl-homoserine in microorganism. This new method is simple, inexpensive and easy to application.
【语种】中文
【第一作者】綦国红
【通讯作者】Dong Mingsheng
【期刊名称、卷期、页码】04-0142-03
【论文发表时间】2009-05-01 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】食品科学技术基础学科

【题目】Effects of gibberellic acid application after anthesis on the feeding value of double-purpose rice (Oryza sativa L.) straw at harvest

【中文关键词】非结构碳水化合物;粗蛋白;发酵品质;稻草;穗重;赤霉素

【英文关键词】Nonstructural carbohydrat;Crude protein;Fermentation quality;Rice straw;Panicle weight;Gibberellic acid

【中文摘要】本研究旨在探讨开花后喷洒赤霉素对两用水稻(人类食物和动物粗饲料)饲用价值的影响。本实验在江苏南京地区同一管理条件分别于2009年种植淮稻6,南京43,南京46三个水稻品种和2010年种植淮稻6,南京43,杨福静8三个水稻品种。并在2009年水稻开花后的第15天和2010年水稻开花后的第1天、第7天、第15天分别喷洒45g hm-2 的赤霉素。收获后,测定两年水稻的秸秆的饲用特征、单株穗重、1000粒稻米重。2010年测定青贮稻草的发酵品质。开花后喷洒赤霉素,稻草中的非结构碳水化合物和粗蛋白的含量明显增加,特别是在开花后的第15天喷洒赤霉素,其含量更高。 随着非结构碳水化合物和粗蛋白含量的增加,青贮稻草的发酵品质也得到了改善。单株穗重也在开花后喷洒赤霉素后明显增加。结果表明开花后喷洒赤霉素能够显著的改善稻草的饲用价值和水稻的穗重。

【英文摘要】This study was to investigate the effects of gibberellic acid (GA) application after anthesis on the feeding value of double-purpose (grains as human food and straw as animal roughage) rice (Oryza sativa L.) straw at harvest. Three japonica rice cultivars Huaidao 6, Nanjing 43 and Nanjing 46 in 2009 and Huaidao 6,Nanjing 43 and Yangfujing 8 in 2010 were cultivated in Nanjing under the same management of Jiangsu area. They were sprayed GA with 45ghm − 2 on the 15thd after anthesis in 2009 and on the 1st, 7th and 15thd after anthesis in 2010. At harvest, the feeding value related traits of rice straw,single panicle weight (PW) and 1000-grain weight were determined in 2 years. The fermentation quality related trait of fresh rice straw silage were determined in 2010. Nonstructural carbohydrates (NSC) and crude protein(CP)contents in rice straw were significantly increased by spraying GA,especially on the 15thd after anthesis,and the fermentation quality of rice straw silage was improved with the increase of NSC and CPcontents.PW was also significantly increased by spraying GA after anthesis. The results indicated that spraying GA after anthesis could significantly improve the feeding value of straw and the panicle weightfor double-purpose rice.

【语种】英文

【第一作者】董臣飞

【通讯作者】沈益新

【期刊名称、卷期、页码】Field Crops Research 131 (2012):75 – 80

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【引文索引类型】SCI

【引文索引号】doi:10.1016/j.fcr.2012.02.018

【学科分类】农学其他学科

【题目】侗族酸肉中硝酸盐还原菌的分离筛选及其特性研究

【中文关键词】侗族酸肉;肉葡萄球菌;硝酸还原酶;肉品发酵剂

【英文关键词】Nanx wudl;Staphylococcus carnosus;nitrate reductase;meat starter

【中文摘要】从传统侗族酸肉中分离到216 个菌株,通过快速半定量平板法结合液体培养基产酶实验筛选出具有硝酸盐还原能力的菌株9 株,其中1708 和1709 两个菌株活性最高。该菌株硝酸盐还原能力强、耐盐、不溶血、不产生异味,有开发为肉品发酵剂的潜力。进而对筛选的两个高活性菌株进行生理生化与分子生物学鉴定,结果表明两株菌均为肉葡萄球菌(Staphylococcus carnosus)。

【英文摘要】Total 216 bacterial strains were isolated from the traditional fermented meat products “ Nanx wudl ”, and 9 nitrate reducing strains were screened by the liquid media method combined with fast semi-quantitative plate method according to the conversion ability of nitrate to nitrite. Among them, the strains No. 1708 and No. 1709 had the highest reducing activity.Furthermore, these two strains were salt-tolerant and non-hemolytic and did not cause the generation of peculiar smell.Therefore they might be developed as a potential meat starter. According to the physiological-biochemical and molecular biological identification, both of them were Staphylococcus carnosus.

【语种】中文

【第一作者】董 竞

【通讯作者】Dong Mingsheng

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【引文索引号】null
【学科分类】食品科学技术基础学科

【题目】海峡西岸经济区山地农业机械化发展现状与对策
【中文关键词】农业机械化;发展研究;山地
【英文关键词】无
【中文摘要】本文分析了海峡西岸经济区山地农业机械化的发展现状,并对海峡两岸农业机械化发展技术水平进行比较,表明海峡西岸经济区山地农业生产机械化水平与全国平均水平有较大差距。文中提出了突破对山地农业机械化认识的误区、增加农机具购机补贴种类、加强海峡两岸农机合作引进实用山地生产机械、加大山地农业机械化科研投入、发展农业适度规模经营、加大农业工程技术人才的培养力度等发展海峡西岸经济区山地农业机械化的措施与建议。
【英文摘要】无
【语种】中文
【第一作者】方文熙
【通讯作者】张德晖
【期刊名称、卷期、页码】福建农机,2009(3):1-3
【论文发表时间】2009-09-30 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农业工程

【题目】Quantitative trait loci analysis for the developmental behavior of Soybean(Glycine max L. Merr.)
【中文关键词】大豆,株高,发育动态QTL
【英文关键词】soybean, Plant height, developmental QTL
【中文摘要】数量性状位点(QTL)可以确定了大豆发育最终时期的遗传效应,但这并不表示在一个特定的发展阶段的遗传效应段。因此,本研究的目的是确定条件QTL与产量相关性状在特定发育时期的遗传效应。143个重组自交系父母本大豆品种‘ Charlesdon ’和‘ 东农594 ”被用于发展的QTL分析群体,主要通过区间作图法结合的混合遗传模型来分析荚数和株高。结果表明:数量和QTL类型的定位及其遗传效应在不同的测定阶段并不相同,共有10个条件QTL连锁群6和5个条件QTL在3个连锁群被确定与荚数相关,而13个条件QTL7个连锁群和12个条件QTL在6个连锁群被确定为与株高相关。许多数量性状位点被发现的早期阶段,而不在稍后阶段。一些数量性状位点只存在在一个时期和其他存在于两年或三时期。5标记区间(satt509-satt251,sat_099-sat_113,sat_113-opaw19_4,satt457-opc10_85,sat_095-opba08_5)被证明在2个发育时期与主茎荚数和株高相关。本研究表明,大豆豆荚和植株高度发育受基因的时空表达影响。
【英文摘要】Quantitative trait loci (QTLs) identified so far in soybean were mainly derived in the final stage of plant development, which did not apply to the exploitation of genetic effects that were expressed during a specific developmental stage. Thus, the aim of this study was to identify conditional QTLs associated with yield traits at a specific developmental interval of soybean plant. The 143 recombinant inbred lines developed from the cross of soybean cultivars ‘ Charleston ’ and ‘ Dongnong 594 ’ were used for the developmental QTLs analysis of pod number in the main stem and plant height by compositeinterval mapping method combined with mixed genetic model. The results indicated that the number and type of QTLs and their genetic effects for the two agronomic traits were different in a series of measuring stages. A total of 10 unconditional QTLs in 6 linkage groups and 5 conditional QTLs in 3 linkage groups were identified for the pod number of the main stem, while 13 unconditional QTLs in 7 linkage groups and 12 conditional QTLs in 6 linkage groups were identified for plant height. Many QTLs that were detected in the early stages were different from those detected at the later stages. Some QTLs existed only at one stage and others existed across two or three stages. Five marker intervals (satt509-satt251, sat_099-sat_113, sat_113-OPAW19_4, satt457-OPC10_85, sat_095-OPBA08_5) were proven to be associated both with the development of pod number in the main stem and the development of plant height. The present study suggested that the development of pods and plant height in soybean were governed by time-dependent gene expression.
【语种】英文
【第一作者】孙德生
【通讯作者】李文滨
【期刊名称、卷期、页码】Theor Appl Genet (2006) 112: 665 – 673

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【引文索引类型】SCI
【引文索引号】DOI 10.1007/s00122-005-0169-y
【学科分类】农艺学

【题目】发酵过程对橙皮渣中农药残留的影响
【中文关键词】发酵,甜橙,皮渣饲料,农药残留
【英文关键词】fermentation,sweet orange,peel feed,pesticide residues
【中文摘要】热带假丝酵母(Candida tropicalis)1254和宇佐美曲霉(Aspergillususamii)对甜橙皮渣进行发酵处理,研究发酵过程对皮渣中16种农药残留含量的影响。结果显示:酵母和曲霉发酵处理对甜橙皮渣中百菌清和敌敌畏残留的降解最显著,降解率达到了72.87%~100%;除氧化乐果外,其他有机磷农药残留的降解率为27.95%~62.28%,显著高于对照,也高于相应处理中的三氯杀螨醇、腐霉利和菊酯类农药残留的降解率。此外,酵母发酵处理对皮渣中农药残留降解的总体效果要好于曲霉处理。
【英文摘要】The effects of Candida tropicalis and Aspergillus usamii fermentation on pesticide residues in sweet orange peel were investigated in this paper.Among the 1 6 pesticide residues,the reduction rates of chlorothalonil and dichlorvos residues in these peels were the highest by two fermentation courses,and their values ranged from 72.87%to 100%;on the other hand,the reduction rates(27.95%~62.28%)of organophosphorus pesticide residues without omethoate in the two fermenting courses were generally higher than those of pyrethroid,dicofol and procymidone pesticides,as well as significantly higher than CK;furthermore,the effects of Candida tropicalis on reducing pesticide residues in the fermented peels were generally superior to the Aspergillus usamii treatment.
【语种】中文
【第一作者】毛雪飞
【通讯作者】焦必宁
【期刊名称、卷期、页码】食品与发酵工业,2008,34(7):59-63
【论文发表时间】2008-07-01 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】食品加工的副产品加工与利用

【题目】单孔PVC微喷灌管喷水量的分布特性
【中文关键词】PVC;喷水特性;微喷灌
【英文关键词】PVC(polyvinyl chloride);spray characteristic;micro-spraying irrigation
【中文摘要】在5种不同的工作压力下,采用直径为40mm,壁厚为2.4mm,孔径分别为0.9、1.1、1.3、1.5mm的PVC微喷灌管,进行单孔流量及近似射程试验,根据试验结果选择近似射程最远的孔径为1.3mm的微喷灌管进行研究试验。结果表明:PVC微喷灌管单孔喷水量分布的基本特征与旋转式喷灌有本质区别,但与微喷带相似。为此,采用微喷带的评价指标来描述PVC微喷灌管的喷水量分布特性。
【英文摘要】The single hole flow and spraying range of the PVC pipes with 40 mm diameters and 2.4 mm wall thickness and different hole diameters such as 0.9, 1.1, 1.3, 1.5 mm under different work pressures,were studied,and the hole diameter of 1.3 mm with the furthest approximate spraying range was choosed as experiment object. The result showed the basic characteristics of spraying water distribution of PVC micro-spray pipe with single hole Was different from rotary spray,and was similar to the thin-soft spray tape,and the distribution characteristics of spraying water of PVC micro.spray pipe was described by using evaluation index of thin-soft spray tape.
【语种】中文
【第一作者】张德晖
【通讯作者】方文熙
【期刊名称、卷期、页码】福建农林大学学报(自然科学版),2010(1):102-106
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【引文索引类型】其他
【引文索引号】null
【学科分类】农业工程

【题目】中棉所12及其选系配制4个杂交棉幼苗期基因差异表达
【中文关键词】中棉所12及其选系配制的4个杂交棉幼苗期基因差异表达
【英文关键词】中棉所12及其选系配制的4个杂交棉幼苗期基因差异表达
【中文摘要】中棉所12及其选系配制的4个杂交棉幼苗期基因差异表达
【英文摘要】中棉所12及其选系配制的4个杂交棉幼苗期基因差异表达
【语种】中文
【第一作者】张天真
【通讯作者】张天真
【期刊名称、卷期、页码】作物学报,2009, 35(9): 1637-1645
【论文发表时间】2009-05-01 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农业基础学科

【题目】中棉所12配制2个杂交棉DNA甲基化遗传与传递
【中文关键词】中棉所12配制的2个杂交棉DNA甲基化遗传与传递
【英文关键词】中棉所12配制的2个杂交棉DNA甲基化遗传与传递
【中文摘要】中棉所12配制的2个杂交棉DNA甲基化遗传与传递
【英文摘要】中棉所12配制的2个杂交棉DNA甲基化遗传与传递
【语种】中文
【第一作者】朱新霞
【通讯作者】张天真
【期刊名称、卷期、页码】作物学报,,2009, 35(12): 2150-2158
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【引文索引类型】其他
【引文索引号】null
【学科分类】农业基础学科

【题目】Relationships Between Differential Gene Expression and Heterosis in Cotton Hybrids Developed from the Foundation Parent CRI-12 and its Pedigree Derived Lines.
【中文关键词】Relationships Between Differential Gene Expression and Heterosis in Cotton Hybrids Developed from the Foundation Parent CRI-12 and its Pedigree Derived Lines.
【英文关键词】Relationships Between Differential Gene Expression and Heterosis in Cotton Hybrids Developed from the Foundation Parent CRI-12 and its Pedigree Derived Lines.
【中文摘要】Relationships Between Differential Gene Expression and Heterosis in Cotton Hybrids Developed from the Foundation Parent CRI-12 and its Pedigree Derived Lines.
【英文摘要】Relationships Between Differential Gene Expression and Heterosis in Cotton Hybrids Developed from the Foundation Parent CRI-12 and its Pedigree Derived Lines.
【语种】英文
【第一作者】Xinxia Zhu
【通讯作者】张天真
【期刊名称、卷期、页码】Plant Science,已接受
【论文发表时间】2012-10-01 00:00:00
【引文索引类型】SCI
【引文索引号】null
【学科分类】农业基础学科

【题目】基于AutoCAD二次开发的微喷灌规划系统

【中文关键词】微喷灌;规划系统;AutoCAD;VBA;二次开发
【英文关键词】无
【中文摘要】为了解决微喷灌工程手工规划效率低的问题,本系统以微喷灌规划理论为基础,对AutoCAD进行了二次开发,设计了微喷灌规划系统.实践结果表明该系统提供了友好的人机交互界面,只要点击系统相关的菜单或者工具栏按钮,按照一定的步骤便可以完成微喷灌工程的规划,输出相关的材料、参数报表及图纸,提高了微喷灌规划的效率。
【英文摘要】无
【语种】中文
【第一作者】张德晖
【通讯作者】方文熙
【期刊名称、卷期、页码】集美大学学报(自然科学版),2010,15(1):48-52
【论文发表时间】2010-01-30 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农业工程

【题目】高产抗虫杂交棉—华杂棉H318
【中文关键词】高产抗虫杂交棉—华杂棉H318
【英文关键词】高产抗虫杂交棉—华杂棉H318
【中文摘要】高产抗虫杂交棉—华杂棉H318
【英文摘要】高产抗虫杂交棉—华杂棉H318
【语种】中文
【第一作者】聂以春
【通讯作者】张献龙
【期刊名称、卷期、页码】中国棉花,2010, 37(2):26
【论文发表时间】2010-06-01 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农业基础学科

【题目】Quantitative trait loci underlying the development of seed composition in soybean
【中文关键词】条件QTL,大豆品质性状,SSR标记,RAPD标记,基因与环境互作
【英文关键词】conditional QTL, soybean seed-quality traits, SSR, RAPD, G E interaction
【中文摘要】143个F2:7重组自交系(重组自交系)从父母本'charleston ’和‘ 东农594在6个不同发育阶段地进行与蛋白质和油含量相关QTL的分析。基因型与环境相互作用的QTL也在评价。19(2004)和33(2005)非条件QTL在8和9个连锁群与种子蛋白或油含量相关。这些QTL能够解释6.26%-30.52%和5.38%- 28.47%的表现型变异。14(2004)和21(2005)条件QTL在5和8个连锁群与种子蛋白或油含量相关。这些QTL能够解释2.97%-29.68%和5.42%-31.96%的表现型变异。QTL数量和类型及遗传效应在不同的发育阶段与这2个性状相关。然而,一些QTL同时控制发展的2个性状进行检测。satt335 – ssatt334同时影响蛋白质含量和脂肪含量,其反映了蛋白质含量和脂肪含量的负相关。
【英文摘要】One hundred and forty-three F2:7 recombinant inbred lines (RILs) developed from the cross of soybean cultivars ‘ Charleston ’ and ‘ Dongnong 594 ’ were analyzed for the quantitative trait loci (QTLs) underlying protein or oil content at 6 different developmental stages by composite interval mapping with a mixed genetic model. The genotype _ environment (G _ E) interactions of the QTLs were also evaluated. Nineteen (2004) and 33 (2005) unconditional QTLs underlying seed protein or oil content at the different developmental stages were mapped onto 8 and 9 linkage groups, respectively. The proportion of phenotypic variation explained by these QTLs ranged from 6.26% to 30.52% and from 5.38% to 28.47%, respectively. Fourteen (2004) and 21 (2005) conditional QTLs underlying seed protein or oil content were mapped onto 5 and 8 linkage groups, respectively. The proportion of phenotypic variation explained by these QTLs ranged from 2.97% to 29.68% and from 5.42% to 31.96%, respectively. The numbers and types of QTLs and the genetic effect for the two traits were different at each developmental stage. However, several genomic regions that simultaneously control the development of both traits were detected. The genetic effect on protein content and oil content was opposite for loci in the marker interval Satt335 – SSatt334, reflecting a negative correlation of protein content and oil content. A G _ E interaction effect of some QTLs underlying protein or oil content at different growth periods was observed.

【语种】英文
【第一作者】李文滨
【通讯作者】李文滨
【期刊名称、卷期、页码】Genome 50: 1067 – 1077
【论文发表时间】2007-11-20 00:00:00
【引文索引类型】SCI
【引文索引号】doi:10.1139/G07-080
【学科分类】农艺学

【题目】转基因三系杂交棉邯杂301丰产性分析
【中文关键词】转基因三系杂交棉邯杂301丰产性分析
【英文关键词】转基因三系杂交棉邯杂301丰产性分析
【中文摘要】转基因三系杂交棉邯杂301丰产性分析
【英文摘要】转基因三系杂交棉邯杂301丰产性分析
【语种】中文
【第一作者】马维军
【通讯作者】宋玉田
【期刊名称、卷期、页码】河北农业科学,2009, 14(6):
【论文发表时间】2009-10-01 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农业基础学科

【题目】留蔓数和留果数对厚皮甜瓜植株根系活力及抗氧化
【中文关键词】留蔓数; 留果数; 甜瓜; 根系活力; 抗氧化特性
【英文关键词】vine num ber ; fruit num ber ; muskmelon ; root vigor ; antioxidant characteristic
【中文摘要】探讨留蔓和留果数对厚皮甜瓜根系衰老的影响, 确定能延缓根系衰老的适宜留蔓数和留果数。本研究以厚皮甜瓜品种中甜 1号和众天翠玉为试材, 设计了留 1蔓 2果 (V1F2)、 留 2蔓 2果 (V2F2)、 留 3蔓 2果(V3F2)、 留 1蔓 3果 (V1F3)、 留 2蔓 3果 (V2F3)和留 3蔓 3果 (V3F3)共 6个处理, 以不留侧蔓、 留 1果为对照(CK), 分析不同留蔓数和留果数对厚皮甜瓜植株根系活力及抗氧化特性的影响。结果显示: 适宜的留蔓数和留果数能显著减缓厚皮甜瓜植株根系活力和可溶性蛋白质含量的下降;降低根系超氧阴离子自由基 (O2 -)产生速率和丙二醛 (MDA)含量;提高超氧化物歧化酶 (SOD)、过氧化氢酶 (CAT)活性和抗坏血酸 (AsA)含量; 降低过氧化物酶(POD)活性。表明留蔓数和留果数与厚皮甜瓜植株的根系活力及抗氧化特性密切相关, 每株留 2条果同时保留 2条或 3条侧蔓能提高厚皮甜瓜植株根系的抗衰老能力。中甜 1号每株留 2蔓 2果、 众天翠玉每株留 3蔓 2果,植株根系生长状况最好。
【英文摘要】To investigate the desirable numbers of vine and fruit beneficialtode lay root senescence , two muskmelon varieties , Zhong tian No . 1 and Zhongtiancui yu, were used as the materials to study the root vigor and antioxidant characteristics of muskmelon. The two muskmelon varieties were applied with six treatments , . i e . , 1 vine and 2 fruits , 2 vines and 2 fruits , 3 vines and 2 fruits , 1 vine and 3fruits , 2 vi nes and 3 fruits , and 3 v i nes and 3 fru its , and 1 fruitw i thout any v i new as set as CK. The results revealed that proper numbers of v i ne and fruit could significantly slow down decline of root vigor and the soluble prote incontent reduce the production rate of O2-and the content of malondial dehyde (MDA), improve the activities of superoxide dismutase (SOD), catalase (CAT) and the content of ascorbicacid (AsA) , decrease the activity of peroxidase(POD). The results indicated that the numbers of vineand fruit had a closed relati on with root vigor and anti oxidant characteristics of muskmelon plants . Two or three vines w ith two fruits remained could enhance senescence resistant ability of muskmelon roots . Two vines with 2 fruits remained for Zhong tian No . 1 and 3 vines and 2 fruits for Zhongtiancui yu could achieve the best growth of muskmelon root.
【语种】中文
【第一作者】范伯圣
【通讯作者】吴震
【期刊名称、卷期、页码】江苏农业学报,2011,27(2):382-389
【论文发表时间】2010-05-04 00:00:00

【引文索引类型】其他
【引文索引号】null
【学科分类】园艺学

【题目】Comparison of Muscle Fiber Growth from F1 Generations of Large Yorkshire Pig and Erhualian Pig by Reciprocal Cross
【中文关键词】大约克猪; 二花脸猪,正反交,肌纤维
【英文关键词】Large Yorkshire pig; Erhualian pig; Reciprocal combination; Muscle fiber growth
【中文摘要】[目的]为了比较大白猪和二花脸猪正反交的F1代之间的肌肉纤维的生长,为养殖的合理利用,杂交组合肉质性状和生长性能提供了理论依据。 [方法]在相同的条件下,大白猪和二花脸猪的杂交猪的饲养和管理。正反交为二花脸猪♀×约克夏猪♂和大约克夏猪♀×二花脸猪♂,。在20,70,120和180天的年龄,背最长肌和大腿肌肉,收集,制成冷冻切片的苏木精和曙红(HE)染色,然后测定肌纤维区域。 [结果]随着年龄的增加,肌纤维逐渐增厚,以及“ S ”形曲线的肌纤维面积的绝对增长。的直径,周长和面积的背最长肌和大腿肌肉纤维的相互结合约克夏猪♀×二花脸猪♂均高于那些在相互结合的二花脸猪♀×约克夏猪♂(P <0.01)。大腿肌肉增长的速度比背最长肌的年龄为20-120 ð,但在年龄为120-180 D,背最长肌的增长速度高于大腿肌肉;在180天的年龄之间的背最长肌和大腿肌肉,肌纤维面积没有显着性差异。肌纤维区域之间的相互组合,在20天的年龄有非常显著的差异,但无显着差异,在180天的年龄。 [结论]相互组合的杂交猪,约克夏猪和二花脸猪,可以影响肌肉纤维的生长年龄的增加,但影响程度降低。
【英文摘要】Abstract [Objective]To compare the muscle fiber growth between F1 generations of large Yorkshire pig and Erhualian pig by reciprocal cross, and provide a theoretical basis for the integrated breeding of meat quality traits and growth performances by rational utilization of hybrid combination. [Method]The hybrid pigs of large Yorkshire pig and Erhualian pig were fed and managed in the same conditions. The reciprocal combinations wereErhualian pig ♀ × Yorkshire pig ♂ and Yorkshire pig ♀ × Erhualian pig ♂,respectively. At the age of 20,70,120 and 180 d,the longissimus dorsi muscle and thigh muscle were collected and made into frozen sections for hematoxylin and eosin (HE) staining,and then the muscle fiber area was determined. [Result]The muscle fiber was thickened gradually with increasing age; and the absolute growth curve of muscle fiber area was presented as “ S ” shape. The diameter,perimeter and area of longissimus dorsi muscle and thigh muscle fibers in the reciprocal combination of Yorkshire pig ♀ × Erhualian pig ♂ were higher than those in the reciprocal combination of Erhualian pig ♀ × Yorkshire pig ♂(P < 0.01) . The thigh muscle grew faster than longissimus dorsi muscle at the age of 20 -120 d; but at the age of 120 -180 d,the growth rate of longissimus dorsi muscle was higher than that of thigh muscle; and at the age of 180 d,the muscle fiber area had no significant difference between the longissimus dorsi muscle and the thigh muscle. The muscle fiber area had extremely significant difference between the reciprocal combinations at the age of 20 d; but no significant difference was found at the age of 180 d. [Conclusion]The reciprocal combinations can affect the muscle fiber growth of hybrid pigs of Yorkshire pig and Erhualian pig,but the affect degree reduces with the increasing age.
【语种】英文
【第一作者】丁仁博
【通讯作者】王丽娟
【期刊名称、卷期、页码】Animal Husbandry and Feed Science, 2010, 2 (10-12): 1-3,10
【论文发表时间】2010-12-31 00:00:00
【引文索引类型】SCI
【引文索引号】SCI
【学科分类】畜牧学

【题目】不同生态环境下短季棉早熟及相关性状的混合遗传
【中文关键词】不同生态环境下短季棉早熟及相关性状的混合遗传
【英文关键词】不同生态环境下短季棉早熟及相关性状的混合遗传
【中文摘要】不同生态环境下短季棉早熟及相关性状的混合遗传
【英文摘要】不同生态环境下短季棉早熟及相关性状的混合遗传
【语种】中文
【第一作者】董娜
【通讯作者】王清连
【期刊名称、卷期、页码】棉花学报,2010, 22(4): 304-311
【论文发表时间】2010-10-01 00:00:00

【引文索引类型】其他
【引文索引号】null
【学科分类】农业基础学科

【题目】草铵膦对棉花根系发育影响及其生理机制
【中文关键词】草铵膦对棉花根系发育影响及其生理机制
【英文关键词】草铵膦对棉花根系发育影响及其生理机制
【中文摘要】草铵膦对棉花根系发育影响及其生理机制
【英文摘要】草铵膦对棉花根系发育影响及其生理机制
【语种】中文
【第一作者】冯艳
【通讯作者】王清连
【期刊名称、卷期、页码】中国农学通报,2009, 25(9):
【论文发表时间】2009-11-02 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农业基础学科

【题目】湘杂棉SSR指纹图谱的构建及应用
【中文关键词】湘杂棉SSR指纹图谱的构建及应用
【英文关键词】湘杂棉SSR指纹图谱的构建及应用
【中文摘要】湘杂棉SSR指纹图谱的构建及应用
【英文摘要】湘杂棉SSR指纹图谱的构建及应用
【语种】中文
【第一作者】李育强
【通讯作者】卢翰
【期刊名称、卷期、页码】棉花学报,2009, 21(3):175-178
【论文发表时间】2009-11-01 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农业基础学科

【题目】陆地棉HB红花近等基因系杂种优势利用研究
【中文关键词】陆地棉HB红花近等基因系杂种优势利用研究
【英文关键词】陆地棉HB红花近等基因系杂种优势利用研究
【中文摘要】陆地棉HB红花近等基因系杂种优势利用研究
【英文摘要】陆地棉HB红花近等基因系杂种优势利用研究
【语种】中文
【第一作者】王留明
【通讯作者】王留明
【期刊名称、卷期、页码】中国棉花学会2010年年会论文汇编,2010: 203-208
【论文发表时间】2009-06-01 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农业基础学科

【题目】优质高产抗虫杂交棉—湘杂棉20号
【中文关键词】优质高产抗虫杂交棉—湘杂棉20号
【英文关键词】优质高产抗虫杂交棉—湘杂棉20号

【中文摘要】优质高产抗虫杂交棉—湘杂棉20号
【英文摘要】优质高产抗虫杂交棉—湘杂棉20号
【语种】中文
【第一作者】杨春安
【通讯作者】卢翰
【期刊名称、卷期、页码】中国棉花,2009, (6): 22
【论文发表时间】2009-11-02 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农业基础学科

【题目】陆地棉两个同源基因GhBlind 的克隆与表达分析
【中文关键词】陆地棉两个同源基因GhBlind 的克隆与表达分析
【英文关键词】陆地棉两个同源基因GhBlind 的克隆与表达分析
【中文摘要】陆地棉两个同源基因GhBlind 的克隆与表达分析
【英文摘要】陆地棉两个同源基因GhBlind 的克隆与表达分析
【语种】中文
【第一作者】熊冠军
【通讯作者】华金平
【期刊名称、卷期、页码】作物学报,2010, 已接受
【论文发表时间】2010-11-01 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农业基础学科

【题目】Mapping QTL tolerance to Phytophthora root rot in soybean using microsatellite and RAPD/SCAR derived markers.
【中文关键词】数量遗传位点,SSR分子标记,SCAR分子标记,分子辅助育种,疫霉根腐病,大豆
【英文关键词】Quantitative trait loci, SSR marker,SCAR marker, Marker-assistant selection,Phytophthora root rot, Soybean
【中文摘要】广泛的耐大豆疫霉根腐病的生理小种(PRR)引起的大豆疫霉菌已成为一个重要的大豆育种目标。本研究的目的是确定在“Conrad”耐病QTL的位置,Conrad(能耐多个生理小种)和ox760-6-1(感病品种)。通过单粒传法112个F2:7家系被选出,共有39多态性PAPD和89个SSR标记被用来构建遗传连锁图谱。在温室中,重组自交系被接种四株大豆疫霉菌株。3个(qgp1,qgp2,qgp3)QTL被winqtlcart 2.1软件检测出来。qgp1(satt509附近)位于连锁群F和能够解释鸡西和双鸭山的13.2%,5.9%表现型变异,qgp2(satt334附近)位于不同的连锁群和解释5.1%和2.4%能够鸡西和双鸭山分离株的表型变异。qgp3位于连锁群入D1b + W(Wopl18800 /scl18659附件)和解释10.2%的表型变异woodslee的变异。qgp1和qgp2似乎能够抗不同的菌株,但qgp3抗性只针对woodslee的菌株。该研究检测得到的 QTL,对标记辅助选择耐病品种有很大的益处。
【英文摘要】Broad tolerance to phytophthora root rot (PRR) caused by Phytophthora sojae has become an important goal for the improvement of soybean (Glycine max) because of the rapid spread of races that defeat the available resistance genes. The aim of this research was to identify the location of quantitative trait loci (QTL) in ‘ Conrad ’, a soybean cultivar with broad tolerance to many races of P. sojae. A PRR susceptible breeding line ‘ OX760-6-1 ’ was crossed with Conrad. Through single-seed-descent,112, F2 derived, F7 recombinant inbred lines (RILs) were advanced. A total of 39 random ampliWed polymorphic DNA bands (RAPDs) and 89 type 1 microsatellite (simple sequence repeat; SSR) markers were used to construct a genetic linkage map. In the greenhouse, RILs were inoculated with four P. sojae isolates (three from China and one from Canada). Disease was measured as the percent of dead plants 20 days after germination in P. sojae inoculated vermiculite in the greenhouse. Three QTLs (QGP1, QGP2, QGP3) for PRR tolerance in the greenhouse were detected using WinQTLCart 2.0 with a log-likelihood (LOD) score 27.14 acquired through permutations (1,000 at P • 0.05). QGP1 (near Satt509) was located at linkage group F and explained 13.2%, 5.9%, and 6.7% of the phenotypic variance for tolerance to the JiXi, JianSanJiang and ShuangYaShan isolates, respectively. QGP2 (near Satt334) was located in a different interval on linkage group F and explained 5.1% and 2.4% of the phenotypic variance for JiXi and ShuangYaShan isolates, respectively. QGP3 was located on linkage group D1b + W (near OPL18800/SCL18659) and explained 10.2% of the phenotypic variance for Woodslee isolate. QGP1 and QGP2 appeared to be associated with PRR tolerance across a range of isolates but QGP3 was active only against the Woodslee isolate. At Woodslee and Weaver (in Ontario) in 2000, the interval associated with QGP3 explained

21.6% and 16.7% of phenotypic variance in resistance to PRR, respectively and was referred as QFP1. The identiWed QTLs would be beneWcial for marker assistant selection of PRR tolerance varieties against both China and North America P. sojae races
【语种】英文
【第一作者】韩英鹏
【通讯作者】李文滨
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【学科分类】农艺学

【题目】Analysis of the microflora in Tibetan kefir grains using denaturing gradient gel electrophoresis
【中文关键词】无
【英文关键词】16S rDNA 26S rDNA Denaturing gradient gel electrophoresis Tibetan kefir grains Microflora
【中文摘要】无
【英文摘要】The microflora of Tibetan kefir grains was investigated by culture-independent methods. Denaturing gradient gel electrophoresis (DGGE) of partially amplified 16S rRNA for bacteria and 26S rRNA for yeasts,followed by sequencing of the most intense bands, showed that the dominant microorganisms werePseudomonas sp., Leuconostoc mesenteroides, Lactobacillus helveticus , Lactobacillus kefiranofaciens, Lactococcus lactis , Lactobacillus kefiri, Lactobacillus casei, Kazachstania unispora , Kluyveromyces marxianus, Saccharomyces cerevisiae, and Kazachstania exigua. The bacterial communities between three kinds of Tibetan kefir grains showed 78 – 84% similarity, and yeasts 80 – 92%. The microflora is held together in the matrix of fibrillar material composed largely of a water-insoluble polysaccharide.
【语种】英文
【第一作者】周剑忠
【通讯作者】董明盛
【期刊名称、卷期、页码】Food Microbiology,(2009) 1 – 6
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【引文索引类型】SCI
【引文索引号】2.72E+11
【学科分类】微生物学

【题目】Antioxidant activity and phenolics of an endophytic Xylaria sp. from Ginkgo biloba
【中文关键词】无
【英文关键词】Endophyte; Xylariasp.; Phenolic; Flavanoid; Antioxidant activity
【中文摘要】无
【英文摘要】
The objective of this study was to evaluate the antioxidant activity of cultivated fruiting bodies of an endophytic Xylariasp. (strain number YX-28), from Ginkgo biloba . The results indicated that the methanol extract exhibited strong antioxidant capacity in both 2,2-diphenyl-1-picrylhydrazyl (DPPH) analysis and b -carotene – linoleic acid model system. Total phenolic and flavonoid contents extracted by different solvents were determined using Folin – Ciocalteu procedure and the flavonoid – aluminium method. The results showed that total phenolic and flavonoid contents were the highest in methanol extract (54.51 ± 1.05 mg gallic acid equivalent/g dry weight and
【语种】英文
【第一作者】Xiaoli Liu
【通讯作者】Mingsheng Dong
【期刊名称、卷期、页码】Food Chemistry

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【引文索引号】2.49E+11
【学科分类】微生物学

【题目】Antimicrobial activity of an endophytic Xylariasp.YX-28and identification of its antimicrobial compound7-amino-4-methylcoumarin
【中文关键词】无
【英文关键词】End ophytes
.
Xyl aria
.
7-Ami no-4-meth ylcoum arin
.
Ant imicrobial activity
.
Ginkgo bilo ba
【中文摘要】无
【英文摘要】An endophyt ic Xylaria sp., having broad anti mi-crobi al acti vity, was isol ated and charact erized from Ginkgobiloba L. From the cult ure extra cts of this fungus , abioact ive compo und P3 was isolated by bioactivi ty-guidedfractionat ion and ident ified as 7-am ino-4 -methylc oumarinby nuclea r magne tic resona nce, infrared, and mass spec-trom etry spec tral data. The compound showed s trongantibacterial and antifunga l a cti viti es in vit ro againstStaphy lococc us aureus [mi nimal inhibit ory concent rations(MIC) 1 6 μ g · ml − 1], Escherichia coli (MIC, 10 μ g · ml − 1),Salmonel la typhi a (MIC, 20 μ g · ml − 1), Salm onella typhi-murium(MIC, 15 μ g · ml − 1), Salmone lla enteriti dis (MIC,8.5 μ g · ml − 1), Aeromonas hydrophila (MIC, 4 μ g · ml − 1),Ye r s i n i a sp . (MI C, 12. 5 μ g · ml − 1), Vi brio anguillarum(MIC, 25 μ g · ml − 1), Shigella sp. (MIC, 6.3 μ g · ml − 1), Vibrioparahae molyti cus (MIC, 12.5 μ g · ml − 1), Can dida albicans(MIC, 15 μ g · ml − 1), Penicillium expan sum (MIC,40 μ g · ml − 1), and Aspergillus niger (MIC, 2 5 μ g · ml − 1).This is the first report of 7-amino-4 -methylc oumar in infungus and of the anti microbia l activity of this met abolite.The obtai ned results provi de prom ising baseline informa-tion for the potential use of this unusual endophytic fungusand its compon ents in the control of food spoilage andfood-b orne diseases.
【语种】英文
【第一作者】Xiaoli Liu
【通讯作者】Mingsheng Dong
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【引文索引号】2.42E+09
【学科分类】食品科学技术基础学科

【题目】Biogenic amines in Chinese soy sauce
【中文关键词】无
【英文关键词】Biogenic amine Chinese soy sauce Amino nitrogen
【中文摘要】无
【英文摘要】The biogenic amine contents in 40 samples of Chinese soy sauce from different manufactures were deter-mined using HPLC after pre-column derivatization with dansyl chloride. Also, the amino nitrogen levels and pH values of these samples were analyzed. Of the five biogenic amines under study, tyramine was the most prevailing amine and was detected in 97.5% of the samples, followed by spermidine (95%), hista-mine (92.5%), cadaverine (82.5%) and spermine (80%). The total content for the five biogenic amines in these samples was 497 mg/l with a range from 41.7 to 1357 mg/l. The pH and amino nitrogen levels in soy sauce samples were between 3.86 and 4.98 and between 0.25 and 1.26 mg/100 g, respectively. In general, total content for the five biogenic amines was high in samples that had high amino nitrogen levels

【语种】英文
【第一作者】Lu Yongmei
【通讯作者】Mingsheng Dong
【期刊名称、卷期、页码】Food Control
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【引文索引号】2.64E+11
【学科分类】食品科学技术基础学科

【题目】A novel fibrinolytic enzyme from Cordyceps militaris, a Chinese traditional medicinal mushroom
【中文关键词】无
【英文关键词】Cordyceps militaris CMase Entomogenous fungus Fibrinolytic activity Medicinal mushroom
【中文摘要】无
【英文摘要】An endophyt ic Xylaria sp., having broad anti mi-crobi al acti vity, was isol ated and charact erized from Ginkgobiloba L. From the cult ure extra cts of this fungus , abioact ive compo und P3 was isolated by bioactivi ty-guidedfractionat ion and ident ified as 7-am ino-4 -methylc oumarinby nuclea r magne tic resona nce, infrared, and mass spec-trom etry spec tral data. The compoundshowed s trongantibacterial and antifunga l a cti viti es in vit ro againstStaphy lococc us aureus [mi nimal inhibit ory concent rations(MIC) 1 6 μ g · ml − 1], Escherichia coli (MIC, 10 μg · ml − 1),Salmonel la typhi a (MIC, 20 μ g · ml − 1), Salm onella typhi-murium(MIC, 15 μ g · ml − 1), Salmone lla enteriti dis (MIC,8.5 μ g · ml − 1), Aeromonas hydrophila (MIC, 4 μ g · ml − 1),Ye r s i nia sp . (MI C, 12. 5 μ g · ml − 1), Vi brio anguillarum(MIC, 25 μ g · ml − 1), Shigella sp. (MIC, 6.3 μg · ml − 1), Vibrioparahae molyti cus (MIC, 12.5 μ g · ml − 1), Can dida albicans(MIC, 15 μ g · ml − 1), Penicillium expan sum (MIC,40 μ g · ml − 1), and Aspergillus niger (MIC, 2 5 μ g · ml − 1).This is the first report of 7-amino-4 -methylc oumar in infungus and of the anti microbia l activity of this met abolite.The obtai ned results provi de prom ising baseline informa-tion for the potential use of this unusual endophytic fungusand its compon ents in the control of food spoilage andfood-b orne diseases.
【语种】英文
【第一作者】Li Cui
【通讯作者】Mingsheng Dong
【期刊名称、卷期、页码】World J Microbiol Biotechnol,24: 483-489
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【引文索引类型】SCI
【引文索引号】2.55E+11
【学科分类】食品科学技术基础学科

【题目】Pentocin 31-1, a novel meat-borne bacteriocin and its application as biopreservative in chill-stored tray-packaged pork meat
【中文关键词】无
【英文关键词】Cordyceps militaris CMase
Entomogenous fungus Fibrinolytic activity
Medicinal mushroom
【中文摘要】无
【英文摘要】A novel fibrinolytic enzyme from Cordyceps militaris was purified and partially characterized for the first time, which was designated C. militaris fibrinolytic enzyme (CMase). This extracellular enzyme from C. mil-itaris was isolated by ammonium sulphate fraction, and purified to electrophoretic homogeneity using gel filtration chromatography. The apparent molecular mass of the purified enzyme was estimated to be 27.3 kDa by SDS-PAGE. The optimum pH and temperature for the enzyme activity were pH 6.0 and 25 C, respectively. In the pres-ence of metal ions such as Mg 2+ and Fe 2+ ions the activity of the enzyme increased, whereas EDTA and Cu2+ ion inhibited the enzyme activity. Interestingly the N-terminal amino acid sequences of the enzyme is extremely similar to those of the trypsin proteinases from insects, and has no significant homology with those of the fibrinolytic enzyme from other medicinal mushroom. In conclusion, C. mili-taris produces a strong fibrinolytic enzyme CMase and may be considered as a new source for thrombolytic agents.
【语种】英文

【第一作者】Li Cui
【通讯作者】Mingsheng Dong
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【引文索引号】2.71E+11
【学科分类】食品科学技术基础学科

【题目】Effects of low-voltage electrical stimulation and rapid chilling on meat quality characteristics of Chinese Yellow crossbred bulls
【中文关键词】无
【英文关键词】low-voltage electrical stimulation; rapid chilling; beef quality; Chinese yellow cattle
【中文摘要】无
【英文摘要】In this study, the effects of low-voltage electrical stimulation (LVES) and rapid chilling (RC) treatments on the quality characteristics of beef carcasses were evaluated, including the rate of pH and temperature decline, evaporative loss of carcasses, purge loss, cooking loss, and shear force values of m. longissimus steaks. Each carcass of 28 Chinese Yellow crossbred (Simmental x Yanbian) bulls was subjected to one of the four treatments, i.e., electrical stimulation and conventional chilling (ES/NR), electrical stimulation and rapid chilling (ES/RC), no electrical stimulation and rapid chilling (NE/RC), or no electrical stimulation and conventional chilling (NE/NR). Carcass pH and temperature were measured at 1, 3, 5, 7, 9, 11, and 24 h post-mortem. After that, a 2.5-cm-thick m. longissimus steak was taken from the right side of each carcass and used for analyses of purge loss, cooking loss and Warner-Bratzler shear force (WBSF). The results showed that LVES accelerated the rate of carcass pH decline ($P < 0.05$) and rapid chilling increased the rate of carcass temperature decline ($P < 0.05$). There was no significant difference found for the mean carcass evaporative losses from all treatments ($P > 0.05$). Mean purge losses for m. longissinius steaks from rapidly chilled carcasses were lower ($P < 0.05$) than those from conventionally chilled carcasses. Electrical stimulation had no impact on m. longissimus steak purge losses ($P > 0.05$). Rapid chilling significantly decreased ($P < 0.05$) the cooking loss of in. longissitnus steaks from electrically stimulated carcasses whilst it increased the cooking loss of m. longissimus steaks from carcasses without stimulation ($P < 0.05$). LVES increased ($P < 0.05$) cooking loss of m. longissimus steaks from conventionally chilled carcasses, but had no effect under the procedure of pre-rigor rapid chilling ($P > 0.05$). The lowest mean shear force value was found for the ES/NR-treated m. longissimus steaks, whilst the highest one for the NE/RC-treated carcasses ($P < 0.05$). Regression analyses indicated that carcass pH at 1 h post-mortem was the most useful predictor for beef shear force. Abattoirs processing Chinese Yellow bulls could optimize meat quality by using low-voltage stimulation together with pre-rigor rapid chilling. (c) 2005 Published by Elsevier Ltd.
【语种】英文
【第一作者】C.B. Li
【通讯作者】G.H. Zhou
【期刊名称、卷期、页码】Meat Science,72 (2006) 9 – 17
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【学科分类】食品科学技术基础学科

【题目】Study of the Lactobacillus sakei protective effect towards spoilage bacteria in vacuum packed cooked ham analyzed by PCR-DGGE
【中文关键词】无
【英文关键词】Lactobacillus sakei; protective effect; cooked ham; PCR-DGGE
【中文摘要】无
【英文摘要】The effectiveness of Lactobacillus sakei B-2 inoculated as a protective culture on the inhibition of spoilage bacteria on sliced vacuum packed cooked ham was investigated by using culture-dependent and -independent approaches. Total microbial DNA was directly extracted from both control and treatment samples, and subjected to a nested PCR protocol, PCR-DGGE analysis was used to identify and monitor the dynamic changes in the microbial population, followed by partial 16S rDNA sequencing. The DGGE profile demonstrated that the protective culture effectively suppressed growth of predominant spoilage bacteria L. sakei, Lactobacillus

curvatus and Leuconostoc mesenteroides in cooked ham during storage at 4 degrees C, however, growth of uncultured Leuconostoc was not inhibited. The shelf-life of this product inoculated with L. sakei B-2, at levels of 5.91 +/- 0.04 log(10) CFU g(-1) was 35 days, compared to 15 days of control samples, when the ham was stored at 4 degrees C. (C) 2008 Elsevier Ltd. All rights reserved.
【语种】英文
【第一作者】Hu, P.
【通讯作者】Xu, XL
【期刊名称、卷期、页码】Meat Science,80 (2008) 462 – 469
【论文发表时间】2006-11-22 00:00:00
【引文索引类型】SCI
【引文索引号】2.60E+11
【学科分类】食品科学技术基础学科

【题目】Optimizing palm oil and palm stearin utilization for sensory and textural properties of chicken frankfurters.
【中文关键词】无
【英文关键词】Frankfurter; palm oils; palm stearin; emulsion; texture; sensory
【中文摘要】无
【英文摘要】This study was designed to explore the potential of refined, bleached and deodorized (RBD) palm oil (PO) and palm stearin (POs) utilization in chicken frankfurters. A 10 points augmented simplex-centroid design was used to Study the effect of chicken fat (CF), PO and POs as well as the interaction of these fats on the emulsion, textural and sensory properties of chicken frankfurters. All frankfurters were formulated to contain approx 25% fat, 52% Moisture and 10% protein. No significant difference was found in end chopping temperatures of all meat batters even though the temperature of PO and POs upon incorporation into meat batters was 50 degrees C higher than CF. Strong emulsions were formed as no fluid losses were observed in all the meat batters tested after heating. Texture profiles of the frankfurters containing PO and/or CF were quite similar, but increment of POs raised hardness, chewiness, and shear hardness of the frankfurters. Acceptability of the frankfurters was evaluated using hedonic test. Panelists found no difference in hardness preference between frankfurters made from totally CF and PO, while frankfurters made from POs were rated as hard and brittle. CF was important in determining acceptability of the frankfurters, as reduction of CF in formulation resulted in lower scores in chicken flavor, juiciness, oiliness and overall acceptance of the frankfurters. Frankfurters with sensory acceptability comparable to a commercial one were found to comprise of more than 17%, CF, and less than 67% PO and 17% POs of the fat blend. (c) 2005 Elsevier Ltd. All rights reserved.
【语种】英文
【第一作者】Tan, SS
【通讯作者】Zhang, XG
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【引文索引号】2.35E+11
【学科分类】食品科学技术基础学科

【题目】植物乳杆菌耐酸耐胆盐的体外试验及其降胆固醇作用
【中文关键词】植物乳杆菌 胆盐水解酶 降胆固醇 共沉淀
【英文关键词】lactobacillus plantarum ; bile salt hydrolase ; cholesterol-reducing ; coprecipitation ;
【中文摘要】目的:研究产胆盐水解酶植物乳杆菌H13的耐酸、耐胆盐特性,在此基础上对其可能的降胆固醇作用机理进行体外试验研究。方法:采用MRS培养基,模拟人体胃酸环境(pH=3)和胆盐环境(0.3%),测定H13菌株在酸性及高胆盐环境作用后的存活菌数,并在此胆盐浓度下测定植物乳杆菌H13的胆盐水解酶活力、降解胆盐能力和胆固醇沉淀量。结果:菌体能够耐受pH3的环境和0.3%的胆盐环境;该菌产生的胆盐水解酶在降低胆固醇方面具有重要作用,酶活性与游离胆酸量、胆固醇沉淀量呈正相关,而且胆盐水解酶对反应底物的特异性不同,以甘氨胆酸钠为佳。结论:植物乳杆菌H13体外降胆固醇作用的机理主要是其产生的胆盐水解酶使胆盐失去共轭作用,在酸性(pH〈6.0)条件下,解共轭胆盐与胆固醇形成复合物共同沉淀下来。
【英文摘要】Objective : In this study, the acid and bile salt resistant ability of L. plantarum H13 producing bile salt hydrolase and its possible cholesterol-reducing mechanism in vitro were investigated. Methods: By stimulating human gastric acid and intestinal bile salt

condition, the viability of H13 strain during exposure to acid MRS broth (pH=3) and bile salt MRS broth (0.3%) were determined respectively. Then the bile salt hydrolase activity of H13 strain, degradation of bile salt and cholesterol precipitation were measured in this bile salt concentration. Results: H13 strain had tolerance capability to the pH=3 environment and 0.3% concentration of bile salt. Bile salt hydrelase produced by H13 strain had an significant impact on reducing cholesterol. It showed that there was positive correlation with enzymic activity, free bile acid and cholesterol precipitation. This bile salt hydrolase showed substrate specificity and sodium glycocholate was better. Conclusion: The main mechanism for the in vitro reducing cholesterol by LactobaciUus plantarum H13 was related to the bile salt hydrolase activity of the cells, and releasing unconjugated bile acids induced cholesterol coprecipitation at low pH values.

【语种】中文

【第一作者】靳志强

【通讯作者】靳志强

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【学科分类】食品科学技术基础学科

【题目】培养基、保护剂和饥饿处理对冻干乳酸菌存活性的影响

【中文关键词】乳酸菌 存活性 培养基 保护剂 饥饿处理

【英文关键词】lactic acid bacteria ; survival ; growth medium ; cryoprotector ; starvation

【中文摘要】研究了培养基、冻干保护剂、饥饿处理对冻干乳酸菌存活性的交互影响.结果表明,培养液中加入NaCl、干燥介质中添加冻干保护剂蔗糖、冻干前对L.bulgaricus S-1细胞饥饿,这三种处理都可以提高冻干菌体在贮藏期的存活性;然而当培养液中含有NaCl时,保护剂蔗糖以及对细胞饥饿处理并不能进一步提高该培养液中生长的细胞在贮藏期的存活性.

【英文摘要】Interactive effects of growth medium, cryoprotector and starvation treatment on bacterial survival during the storage of freeze-dried lactic acid bacteria have been studied. Three factors, including addition of NaCl to the growth medium, addition of sucrose to the drying medium and starvation of S-1 in the stationary phase, could help survive during storage in the dried state. However, in the case of NaCl in the growth medium, not only sucrose in the drying medium seemed to be largely ineffective in further increasing the survival rate of dried cells throughout storage, but also starvation was rather inadequate in protecting dried cells survival during storage.

【语种】中文

【第一作者】靳志强

【通讯作者】李平兰

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【学科分类】食品科学技术基础学科

【题目】植物乳杆菌在人体肠道的益生特性

【中文关键词】植物乳杆菌; 人体肠道; 益生特性; 活疫苗; 分子研究

【英文关键词】Lactobacillus plantarum; human intestinal tract; probiotic property; living vaccine; molecular study

【中文摘要】植物乳杆菌能够通过胃, 并定植于肠道, 对人体安全。服用植物乳杆菌后, 对健康人群和病患者具有特定的医疗保健作用。同时, 植物乳杆菌分泌生物活性分子, 激发免疫反应, 可作为活疫苗在医学上广泛应用。另外, 随着L. plantarum WCFS1 全基因组序列的测出, 可用分子手段(如启动子筛选、R - IVET 、DNA微矩阵) 研究肠道微生态系统的机制和探索植物乳杆菌更深层次的益生特性。

【英文摘要】L. plantarum has a proven ability to survive gastric transit and colonize the gut, with an apparent safety to the consumer. Many studies describe health promoting effects of consumption of L. plantarum on healthy volunteers and patients. L. plantarum can secrete bioactive molecules that evoke an immune response, therefore as a living vaccine offers a large range of therapeutic possibilities. The availability of the complete genome sequence of L. plantarum WCFS1 makes it a suitable model to study with molecular approaches such as promoter screens, R - IVET, and DNA micro- arrays. This is expected to contribute to unraveling more mechanisms behind the targeted intestinal microbial e-cosystem and possible further probiotic properties of L. plantarum.

【语种】中文
【第一作者】靳志强
【通讯作者】靳志强
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【学科分类】食品科学技术基础学科

【题目】利用16S rRNA序列鉴定分离自开菲尔粒的一株乳杆菌
【中文关键词】开菲尔粒; 16SrRNA; 植物乳杆菌; 系统发育树
【英文关键词】Kefir grains; 16SrRNA; Lactobacillus plantarum; phylogenetic tree
【中文摘要】对菌株H13的16SrRNA序列进行克隆和测序,并以此为基础构建菌株H13的系统发育树,对菌株H13进行鉴定。应用PCR技术,扩增H13菌株的16SrRNA基因,将其与pEASY2T载体相连接,用Sanger双脱氧链终止法测定序列并将16SrRNA序列与GenBank所选择的同属及非同属的菌进行同源性比较。结果表明:H13菌株16SrRNA基因序列同源性与乳杆菌属10株菌均在89%以上,与所选的植物乳杆菌和类植物乳杆菌的同源性高达99.5%和9912%,与其他8株乳杆菌属菌株的同源性都小于97%,可进一步确定其为植物乳杆菌或类植物乳杆菌。系统发育进化树结果表明,H13与植物乳杆菌的同源性最为接近。H13最终鉴定为植物乳杆菌,该菌株现在已被中国微生物菌种保藏管理委员会普通微生物中心收录保存,编号为CGMCC1357。
【英文摘要】The strain H13isolated fromKefir , which can reduce cholesterol in blood, was primarily identified as Lactococcus byphysiological2biochemical characteristics. 16S rRNAgene of H13was amplifiedin vitro using PCR technology and was sequenced. Comparedwithother tenstrains of LactococcusfromGenBank, the homologyof 16S rRNA gene of H13was above89%. EspeciallycomparedwithLactobacillus plantarum, Lactobacillus paraplantarum, the homologywas evenhigher to9915%, 9912%respectively, andlower than97%comparedwithother eight strains of Lactococcus. Thus we couldfurther identifythat it was Lactobacillus plantarumor Lactobacillus paraplantarum. Accordingtothe phylogenetic tree of H1316S rRNAgene, the homology of strain H13was closer to Lactobacillus plantarum. In conclusion, the strain H13 belongs to Lactobacillus plantarum, and has been preserved and designated as CGMCC1357byChina General MicrobiologyCulture CollectionCenter
【语种】中文
【第一作者】王延祥
【通讯作者】李平兰
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【学科分类】食品科学技术基础学科

【题目】藏灵菇微生物种群结构的分子特性研究
【中文关键词】藏灵菇,PCR—DGGE,微生物多样性,16S rDNA,26S rDNA
【英文关键词】Tibetan kefir grains,PCR—DGGE,Microbial diversity,16S rDNA,26S rDNA
【中文摘要】用PCR—DGGE指纹技术,研究了藏灵菇中微生物多样性及藏灵菇发酵奶发酵过程微生物种群动力学。结果表明,藏灵菇中细菌的种群结构较酵母菌的复杂,不同来源的藏灵菇中细菌种群结构的相似性为78%一84%,酵母菌种群结构的相似性为80%一92%。发酵过程中细菌种群结构变化图谱中的条带B和条带E,以及酵母菌种群结构变化图谱中的条带N贯穿于整个发酵过程,是发酵过程的优势菌。序列分析表明,细菌种群结构的DGGE图谱中的绝大多数条带与乳酸菌相对应,其中最亮条带(条带E)的序列与乳酸乳球菌的相似性为100%
【英文摘要】The diversity in Tibetan kefir and grains and dynamics of the microbial community during the fermentation of Tibetan kefir by PCR—DGGE fingerprinting technique were studied.The results showed that bacterial community of Tibetan kefir grains was more complex than that of yeast.The bacteria communities between different Tibetan kefir and grains showed 78%~84%similarity,and yeast80%-92%.Bands B,EandNofDGGE profiles of the microbial COlllnullity during fermentation of Tibetan kefir were present throughout the fermentation.Analysis of sequence date showed them majority of the DGGE bands of bacteria comunity correspondedto LAB,and the most intense band(band E)was completely homology to Lactococcus lactis.

【语种】中文
【第一作者】周剑忠
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【期刊名称、卷期、页码】微生物学通报 、2006年33(4)、64-68
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【学科分类】微生物学

【题目】纳豆菌DUll5菌株发酵豆乳产酶条件的优化
【中文关键词】纳豆激酶,豆乳,优化
【英文关键词】wu
【中文摘要】采用JMP软件(version 4.0.5,SAS Institute Inc.)筛选出影响DU115发酵豆乳产酶的关键因子。通过 旋转中心组合设计得出产酶量最优多元线性回归方程(0t=0.05)为: =787.96+48.48x2—8.96x3— 55.83x2z3—81.56x1 一90.19x2 一129.24x3,方程中z1=(装液量一25)/1o,z2=(发酵时间一72)0-4,z3= (温度一28.5)/3.5。当发酵时间为79h,温度为28℃,装液量为23 mL,酶活可达800.50 IU詹 。
【英文摘要】无
【语种】中文
【第一作者】董明盛
【通讯作者】董明盛
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【学科分类】食品科学技术基础学科

【题目】真空浸渍法制备固定化乳酸菌苹果粒的研究
【中文关键词】乳酸菌;苹果;真空浸渍;条件优化
【英文关键词】lactic acid bacteria apple:vacuum impregnation:optimization
【中文摘要】真空浸渍可将保加利亚乳杆菌和嗜热链球菌富集到苹果组织间隙,从而获得富集乳酸菌的苹果粒制品。本实验采用响应曲面法结合单因素实验对抽真空温度、抽真空时间和浸渍时间等因素进行了优化。结果表明,温 度35℃,抽真空时间10min,浸渍时间80min时,苹果粒对乳酸菌吸附率最高,达到80%以上。同时实验表明冷冻干燥的效果明显优于热风干燥。冷冻干燥的苹果粒色泽鲜亮,外形饱满,口感松脆,具有苹果的芳香,乳酸菌活菌达≥10 ’ CFU/g。
【英文摘要】
Vacuumimpregnationisanewtechnologyofimmobilization Itcalincorporatelacticacidbacteriaintoappletissueswithoutdestroyingtheinitialfoodmatrix.Inthispaper,threefactors aleoptimizedusingresponse surfacemethod.Whenthe vacuumtemperaturewaskept 35"C,airpumpworked fortenminutes andthetimeofexposureinnormalatmosphericpressureis80minutes,thetotalcountsofLactobacillus delbrueckiisubsp.Bulgaricus and Streptococcusthermophilusinapplepieceswere around109CFU/g.It can also be found that frozen drying is better than hot-air drying methods.It can keep the sensing qualities ingoodcondition.
【语种】中文
【第一作者】高蕙文
【通讯作者】董明盛
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【学科分类】食品科学技术基础学科

【题目】高效液相色谱法测定黄酒中生物胺的含量

【中文关键词】高效液相色谱(HPLC);生物胺;黄酒
【英文关键词】HPLC;biogenic amine;rice wine
【中文摘要】本文建立了测定酿造酒(黄酒)中生物胺含量的高效液相色谱法,优化的测定条件为:样品经0.4mol/L高氯酸提取后用丹磺酰氯柱前衍生,流动相为乙腈和水,采用梯度洗脱,流速为0.8ml/min,二极管阵列检测器,检测波长为254nm。该方法检测限为:尸胺、组胺和亚精胺为0.05 ml,酪胺为0.1ug/ml,精胺为0.25ug/ml。线性范围为2.O~40.0tag/ml(R>0.99),回收率分别为尸胺96.6%、组胺101.94%、酪胺101.90%、亚精胺98.65%、精胺107.4% 首次采用该法测定了黄酒中的生物胺,结果表明黄酒中生物胺的种类及含冒因酒的品种而异,5种生物胺平均总量为l14.45 g/ml,变异范围为39.27~241.07 g/ml
【英文摘要】The me~od of detecting the contents of biogenic amine in alcoholic beverages(rice wine)by HPLC was developed. The optimized condition was"samples were extracted by 0.4mol/L HC104,andthen derived using Dns—C1.The mobile phase was agradientelutionprogramwithabinarymixtureofacetonitrileandwater.Theflowlatewas0.8ml/min. Diode arraydetectorwas usedinthefmaldeterminationwitll =254nm.Thedetectionlimitswere0.05ug/mlforcadaverine,histamineand spermidine0.1 g nlfortyramine,andO.25 g/Illlfor spermine.Itislinearove,~the rangeofconcentrationsbetween2. 0and4O pJml(R >0.99).The recovery of the method were 96.6%,101.94%,101.90%,98.65%,107.4%for cadaverine.histamine. tyramine,spermidine and spermine,respectively.By this method the kinds and contents of biogenic amine in rice wine wasfirstlydetermined.Itwasnoticedthatthebiogenic aminekindsandcontentsvariedwithdiferentricewine.The averageoftotal biogenic aminein rice wine was 114.45 g/m1.The variation was 39.27~241.07la g/ml。
【语种】中文
【第一作者】陆永梅
【通讯作者】董明盛
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【学科分类】食品科学技术基础学科

【题目】纳豆菌原生质体制备与再生条件的研究
【中文关键词】纳豆菌;原生质体制备;再生
【英文关键词】Bacillus subtilis hallo;protoplast preparation;regeneration
【中文摘要】研究了菌体培养时间、溶菌酶作用条件(酶作用温度、浓度和时间)对纳豆菌BNK菌株原生质体制备和再生的影响。在此基础之上,考察了不同再生培养基、渗透压稳定剂及原生质体保护剂对再生率的影响。确定了菌株BNK原生质体制备和再生最佳条件为:菌体培养9h收集,0.8mg/ml溶菌酶,30~C作用40rain制备原生质体,将原生质体液涂布于以甘露醇为渗透压稳定剂、添加有淀粉的PYG培养基中再生,此时原生质体制备率达98.2%,再生率为28.4%。
【英文摘要】The effects of natto strain BNK cultivation time,operational times,temperature and concentration of lysozyme on protoplast production and regeneration were studied.In addition,different operational methods,regeneration media,osmotic stabilizers and protective additives were also investigated.The appropriate conditions of cultur are 9 h,BNK treated by 0.8 mg/ml lysozyme for 40 min at 30°C,then spreaded on PYG medium with mannitol as stabilizer and starch as a protector.Under these conditions the protoplast formation achieves 98.2%and regeneration~equency 28.4%.
【语种】中文
【第一作者】刘新梅
【通讯作者】董明盛
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【学科分类】食品科学技术基础学科

【题目】微囊化纯培养发酵剂发酵奶与藏灵菇奶的比较研究
【中文关键词】藏灵菇 发酵剂 风味成分
【英文关键词】Tibetan kefir grains, culture starter, flavour and aroma

【中文摘要】利用从藏灵菇中分离出的优势菌,进行混合发酵,比较了这种纯培养菌种发酵的酸奶与藏灵菇发酵奶在感官、主要风味成分以及优势菌株数量的差异。HPLC检测结果表明,这2种发酵奶的乳酸产量分别为7.62g/L和7.85g/L,无显著差异;GC检测结果表明,微囊化纯培养发酵剂发酵奶中丁二酮的含量明显高于传统藏灵菇奶;GC-MS检测结果表明,2种发酵奶中挥发性风味成分有90%相同;感官评定表明微囊化纯培养发酵剂发酵奶的可接受程度显著高于藏灵菇奶。表明,微囊化纯培养发酵剂发酵奶既保持了藏灵菇奶原有的特征,又在风味上得到了进一步的提高,表明微囊化纯培养发酵剂可以替代藏灵菇进行这类发酵奶的规模化生产。

【英文摘要】Fermented milk using mixed microcapsule pure cultures compared with traditional Tibetan Kefir on sensory elaluation, flavour and preponderant microbial counts. According to the results of HPLC, the content of lactic acid of the two was close 7.62 g/L and 7.85 g/L respectively. The results of GC showed that the content of diacetyl in the fermented milk using mixed microcapsule starter was clearly higher than that in traditional fermented milk. The results of GC-MS showed that volatile flavor substances of the two had a 90% similarity. The results of sensory elaluation showed the fermented milk using mixed microcapsule pure cultures was more acceptant than the traditional fermented milk. In conclusion, mixed microcapsule cultures makes fermented milk retaining the flavor of traditional Tibetan kefir and will be a novel and valuable pure cultures

【语种】中文

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【题目】液芯包囊化乳酸菌应用于酸奶连续接种的研究

【中文关键词】液芯包囊,连续发酵,稀释率,唾液链球菌嗜热亚种,德氏乳杆菌保加利亚亚种

【英文关键词】无

【中文摘要】在一个连续搅拌生物反应器中,对实验室规模的酸奶连续接种过程进行了研究。试验结果表明,在44°C、pH 6.2、150 r/min的搅拌速度和2O 的包囊添加比率时,生物反应器取得的稀释率大约是7.87/h。稀释率随着温度和pH的增加而增加。另外,在pH 5.7、40°C或pH 6.2、44°C的条件下,稀释率都随着包囊添加比率的增加而增加。

【英文摘要】无

【语种】中文

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【学科分类】食品科学技术基础学科

【题目】混料设计在藏灵菇奶纯培养发酵剂配方设计中的应用

【中文关键词】混料设计;藏灵菇奶;纯培养发酵剂;优化

【英文关键词】Mixture design;Tibetan kefir;Pure cultures;Optimization

【中文摘要】【目的】寻求藏灵菇奶纯培养发酵剂中各组分的最佳组合。【方法】采用混料设计研究了发酵剂中5种 菌种的不同组合对发酵奶风味成分的影响,建立各菌种在混合发酵剂中配比与发酵的主要代谢产物之间的回归模型,考查配方中各组分的互作效应。【结果】分析得出乳酸的最大预测值为8.16 g.L~;丁二酮的最大预测值为77.2 3mg.L~;乙醇的最大预测值为4 2 59 mg.L;二氧化碳的最大预测值为2.12 g. 。对满足所有期望的响应值的条件进行优化,获得藏灵菇奶纯培养发酵剂的最优组合为乳酸乳球菌(27%)、明串珠菌(37%)、开菲尔乳杆菌(11%)、干酪乳杆菌(1 0%)、克鲁维酵母(1 5%)。【结论】混料设计和调优软件可用于混合发酵剂中多组分和多目标参数优化,获得最优的发酵剂组合。

【英文摘要】[Objective]In order to obtain optimum formulation of pure cultures in Tibetan kefir.Method]The influence of the diferent mixtures of five strains in pure cultures in Tibetan kefir on flavor components in fermented milk were studied using mixture design.Regression model on microorganism composition and main metabolites was established.[Result]The predictable production of

lactic acid reached the maximum,8.16 g.L-1,the most predictable production of diacetyl was 77.23 mg-L-1,the most predictable production of ethanol was 4 259 mg · L-1.and the production of CO2 was 2.12 g-L-1.Based on these.response values satisfied all expectation were optimized,and the most excellent combinations of Lactococcus lactis,Leuconostoc mesenteroides, Lactobacillus kefiri,Lactobacillus casei,and Kluyveromyces marxianus were 27%,37%,1 1%,10%,and 15%,respectively[Conclusion]With the aid of analysis software(Design—Expert 6.0.5),formulation of pure cultures in Tibetan kefir could be optimized for several responses and the best formulation could be obtained.

【语种】中文
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【通讯作者】董明盛
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【学科分类】食品科学技术基础学科

【题目】纳豆激酶第36位氨基酸突变对其活性及热稳定性的影响
【中文关键词】纳豆激酶 nk基因 序列分析 毕赤酵母 热稳定性
【英文关键词】nattokinase ; nk gene ; sequence analysis ; Pichia pastoris ; thermostability
【中文摘要】为了解纳豆激酶分子结构与其功能的关系,研究了纳豆菌诱变株DU115的纳豆激酶基因突变对其酶活性和热稳定性的影响。从原生质体紫外诱变纳豆菌DU115和野生纳豆菌BN10基因组DNA中扩增纳豆激酶成熟肽基因nkD和nkB,构建重组表达载体pPICZα-A—nkD和pPICZα-A—nkB,在毕赤酵母X33中实现了表达,并对表达产物进行分离纯化、酶活性测定及热稳定性检测。结果表明,与nkB基因序列相比,nkD基因有两处的核苷酸发生了突变(A107G和C396T),A107G碱基突变导致氨基酸的替代D36G(Asp→Gly);诱变菌株纳豆激酶DNK与野生菌的BNK在65℃处理15min后,前者的热稳定性提高20%,比活力提高16.6%。由此可推断,第36位氨基酸残基的突变可能与其酶热稳定性及活性提高密切相关。
【英文摘要】The effect of mutational nattokinase (NK) gene on the activity and thermostability in Bacillus natto mutant induced mutagenesis by UV on protoplasts was researched to reveal the relation between their molecular structure and function. The mature peptide gene of NK was obtained by PCR amplification from Bacillus natto mutant strain DU115 which was protoplast mutagenesis with UV and wild-type strain BN10 genomic DNA, and sub-cloned into pPICZα-A. The recombinants pPICZα-A-nkD and pPICZα-A- nkB were expressed in Pichia pastoris X-33. The results showed that sequencing of the amplified fragment revealed a synonymous mutation C396T and a nonsynonymous mutation A107G leading to amino-acid substitution D36G (Asp→Gly). The comparison experiments of purified mutant enzymes DNK with natural BNK showed that the thermostability of the former increased by 20% , when it was exposed for 15 min at 65 ℃ and specific activity increased by 16. 6%. The mutation of the 36th amino acid of nattokinase was positive for the thermostability and activity.
【语种】中文
【第一作者】刘朔
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【学科分类】食品科学技术基础学科

【题目】山羊酸奶加工工艺研究
【中文关键词】响应曲面法;山羊酸奶;加工工艺
【英文关键词】Response Surface Methodology;goat yogurt;processing technology
【中文摘要】山羊奶含有丰富的蛋白质、脂肪、乳糖、矿物质及多种维生素,Ca、P及某些生物活性物质(如cAMP,cGMP等)含量高于牛奶。采用响应曲面法研究了山羊酸奶的发酵温度、加糖量、球杆菌比例和接 种量。结果表明:在38 oC,蔗糖添加量6%,嗜热链球菌接种量1.5%,保加利亚乳杆菌接种量0.5%的条件下,山羊酸奶品质最好。

【英文摘要】Goat milk is rich in protein,fat,Jactose,minerals and many kinds of vitamins,the content of Ca,P and biological activity substances like AMP,GMP iS higher than that of COW milk.The fermentation temperature,the quantity of sugar,the proportion and quantity of Streptococcus thermophilus and Lactobacillus bulgaricus were studied by the Response Surface Methodology.The results showed that the quality of goat yogurt was best at the conditions of 38 oC、6% sugar 1.5% Streptococcus thermophilus and 0.5%Lactobacillus bulgaricus.
【语种】中文
【第一作者】李莹
【通讯作者】董明盛
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【学科分类】食品科学技术基础学科

【题目】液芯包囊化嗜热链球菌增殖培养的研究
【中文关键词】液芯包囊,嗜热链球菌,增殖培养
【英文关键词】liquid—core capsule;Streptococcus Thermophilus;proliferation culture
【中文摘要】以乳清粉为基础培养基,适当补充碳源、氮源、无机盐,pH缓冲剂,对液芯包囊中的嗜热链球菌的浓缩培养进行了研究。首先经单因子实验确定了最适碳源和氮源,然后通过正交实验优化了嗜热链球菌的增殖培养基。结果证明,在优化条件下,嗜热链球菌其囊内细胞密度可达到10.21 log(cfu/g)
【英文摘要】Based on whey culture medium,and supplemented with carbon source,nitrogen source,inorganic salts,pH—buffer,the optimum culture medium was determined by single factor tests of proliferators and orthogonal designs.The experiment result indicate:at the optimized condition,the cel concentration in the liquid—core capsules was increased to 10.21 log(cfu/g)for S.t
【语种】中文
【第一作者】包永华
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【学科分类】食品科学技术基础学科

【题目】响应面法优化植物乳杆菌冷冻干燥保护剂配方的研究
【中文关键词】响应面法 植物乳杆菌 冷冻干燥保护剂 直投式发酵剂
【英文关键词】response surface methodology (RSM) ; Lactobacillus plantarum ; cryprotectants: direct-to-vat starter (DVS)
【中文摘要】本实验应用二水平部分因子设计和响应面中心组合设计联用的方法筛选并优化了植物乳杆菌冷冻干燥的保护剂配方。实验结果表明,众多保护剂当中脱脂乳、海藻糖、硫酸锰的作用最为突出,能够显著提高细胞对冷冻和干燥的环境的耐受能力。以冻干后的细胞存活率为响应目标,响应面法优化的结果为:脱脂乳3.34%、海藻糖1.85%、硫酸锰0.25%。用此配方保护剂冻干样品时,能使细胞存活率达到96.8%±1.3%,与理论预测值较为接近
【英文摘要】The formula of cryprotectants for Lactobacillus plantarum was optimized by 2-Level factorial design and central composite design (CCD). The resuks indicated that the skim milk, trehalose, and MnSO4 are three key factors, which contribute to the survival of the cells after cryodesiccation. By CCD design and response surface analysis, the quadratic model for the three significant factors was established with cell survival rate as the target response. The optLrnal formula obtained is skim milk 3.34%, trehalose 1.85% and MnSO4 0.25%, and the cell survival rate reaches 96.8% ± 1.3%.
【语种】中文
【第一作者】李家鹏
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【题目】含水量对植物乳杆菌冻干粉细胞活性的影响及其贮藏稳定性的研究
【中文关键词】真空冷冻干燥技术 植物乳杆菌发酵剂 含水量 存活率 复苏活力
【英文关键词】vacuum freeze-drying ; Lactobacillus plantarum ; water capacity ; cell survival rate ; viability
【中文摘要】应用真空冷冻干燥技术,研究不同含水量对冻干产品中植物乳杆菌细胞活性的影响和不同保藏温度条件下样品中细胞存活率与复苏活力随时间变化的规律,并建立适用于判定菌体细胞冷冻干燥工艺终点的有效方法。结果表明:具有不同含水量的样品中,植物乳杆菌细胞的存活率间无显著性差异,但随着样品中含水量的降低,植物乳杆菌细胞进入对数生长期的时间逐渐延长,复苏活力也呈下降趋势。贮藏稳定性实验结果表明,-20℃条件下,植物乳杆菌细胞的存活率一直呈现上升趋势,到第515天可达91.46%;4℃条件下,28d内植物乳杆菌细胞的存活率呈上升趋势,到第515天其存活率又下降到53.16%。综上所述,解析干燥初期是植物乳杆菌菌体冻干工艺理想的终点,比较适于植物乳杆菌发酵剂短期和长期保藏的温度条件分别是4℃和-20℃。
【英文摘要】Lactobacillus plantarum starter cultures were freeze-dried under vacuum, and the effect of water capacity on cell survival rate and viability of Lactobacillus plantarum during storage were studied. Results showed that there was no significant difference among the cell survival rates of Lactobacillus plantarum of different water capacity, but with the decrease of water capacity of Lactobacillus plantarum, the time of Lactobacillus plantarum logarithmic growth phase was postponed and the cell viability declined. The cell survival rate of Lactobacillus plantarum increased during storage under -20℃ and up to 91.46% on day of 515th, while the cell survival increased under 4℃ before 28d, and drop to 53.16% on day of 515th. In conclusion, the early stage of secondary drying phase was the ideal terminal point of freeze-drying. 4℃ was good for short time storage for Lactobacillus plantarum, while -20℃ was a better choice for longer time storage.
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【第一作者】任 琳
【通讯作者】乔晓玲
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【题目】豆腐生产质量控制与保鲜研究
【中文关键词】豆腐;质量控制;保鲜;微生物;菌落总数;香兰素;HACCP
【英文关键词】Tofu;Quality control;Preservation;Microorganism;Total bacteria;Vanilin;HACCP
【中文摘要】实验通过对豆腐生产过程中微生物数量及各主要接触物上菌落总数的测定,获悉了各环节微生物的动态变化及主 要来源,分析并确立了质量控制的关键点;通过浸泡和直接添加研究了香兰素对豆腐的保鲜作用。实验表明,香兰素能有效抑制豆腐中微生物的生长繁殖,降低最大比生长速率,减少最大生长量;直接添加法较浸泡法对豆腐的保鲜效果更加明显,10mmol/L的香兰素可使微生物的延滞期增至19 h.
【英文摘要】The total bacteria in all proeedttres and surface facilities in Tofu processing line were analyzed in this article tO establish critical limits for qu~ity control of IIofu.The results showed that Vanillin had marked antimicrobial activity during IIofu storage.so vaniRin could be used in IIofu as a food preservative.Adding vanillin directly Was better than impregnation.and adding 10mmol/L vanil1in could extend the lag phase ofmieroorganisms to 19 h.
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【第一作者】高蕙文
【通讯作者】董明盛
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【学科分类】食品加工技术

【题目】柑橘多甲氧基黄酮的检测及分离纯化技术研究进展
【中文关键词】柑橘;多甲氧基黄酮;检测;分离纯化
【英文关键词】citrus;polymethoxylated flavones;determination;separation and purification
【中文摘要】多甲氧基黄酮(polymethoxylated flavones,PMFs)是柑橘属水果中特有的类黄酮,主要存在于柑橘果皮的油胞层,比其他植物类黄酮有更强的生理活性,尤其是其抗癌活性。由于PMFs 的重要功能,它已成为目前柑橘精深加工研究方面的重点和热点之一。本文简要概述了柑橘PMFs 的性质、结构、含量与分布,综述了PMFs 的检测及分离纯化技术研究进展,并对未来研究开发趋势进行了展望。
【英文摘要】Polymethoxylated flavones (PMFs) are one of several distinctive classes of flavonoids in citrus fruit, mainly existing in citrus essential oil. PMFs have significant biological activities especially anti-cancer activity, and become a key and hot topic of further processing researches on citrus byproduct recently. This paper summarized properties, structures, contents and distribution of PMFs in citrus, reviewed the technological progresses of analysis, separation and purification of PMFs, and finally discussed the research and development tendency of PMFs in the future.
【语种】中文
【第一作者】黄明发
【通讯作者】焦必宁
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【学科分类】食品科学技术基础学科

【题目】A RAV-like transcription factor controls photosynthesis and senescence in soybean.
【中文关键词】大豆,短光照,RAV
【英文关键词】soybean, SD, RAV
【中文摘要】基因文库富集了大量在短期内从光敏感大豆叶组织的编码EST。Gmrav全长基因编码同源转录因子被从大豆中分离,含有一个1056的开放阅读框。Gmrav家族的蛋白质包括AP2/ERF域和B3域. 在短光照或BR处理下Gmrav表达丰度增加。转基因烟草Gmrav过表达显示形态和生理改变植物的生长速度缓慢,减少根伸长,开花延迟时间和减少光合速率,减少叶片叶绿素含量。因此Gmrav可能是负调节作用在光合作用和生长。转基因烟草也显示加速衰老。分析了大豆叶,根和茎器官表明,Gmrav表达丰度较高。因此,增强表达Gmrav可抑制大豆叶,根和茎的生长。
【英文摘要】A cDNA library enriched for mRNAs encoding ESTs that increased in abundance during short days was constructed by SSH from leaf tissues of a photoperiod sensitive soybean. The proteins predicted to be encoded by the mRNAs were inferred to be involved in diverse functions. A full-length mRNA that encoded a soybean ortholog of the transcription factor RAV was isolated by RACE, containing an open reading frame of 1,056 bp. The GmRAV protein included an AP2/ERF domain and a B3 domain.GmRAV mRNA abundance was increased in SDs following leaf treatments with ABA and decreased following BR treatment. Transgenic tobacco overexpressing GmRAV showed morphological and physiological alterations such as slower plant growth rate (dwarWng), reduced root elongation, delayed Xowering time and reduced photosynthetic rate, reduced chlorophyll contents in leaves. Therefore GmRAV may be a negative regulator acting on both photosynthesis and growth. Transgenic tobacco also showed accelerated senescence with both dark and ABA treatments versus the longer longevity compared to the wild type in LDs. The analyses of soybean leaf, root and stem organs showed that GmRAV mRNA abundances were higher in SDs than in LDs. Therefore, the enhanced expression of GmRAV in SDs compared to LDs may have caused the inhibited growth of soybean leaf, root and stem.
【语种】英文
【第一作者】赵琳
【通讯作者】李文滨
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【学科分类】农业基础学科

【题目】2001~ 2010 年福建水稻品种现状分析
【中文关键词】水稻; 品种; 分析
【英文关键词】Rice; var iety; analysis
【中文摘要】分析比较2001~ 2010 年福建省审定152 个水稻品种的育种途径、主要不育系以及审定品种的产量、抗性、品质等主要性状。结果表明: 三系法杂交稻组合133 个, 占871 5%; 二系法杂交稻组合13 个, 占81 6%;常规稻品种6 个, 占31 9%。三系法仍然是当前福建省水稻育种主要方法。146 个杂交稻组合使用了55 个不育系, 其中三系法不育系47 个, 占851 5%, 二系法不育系8 个, 占141 5%; 有Ò-32A、龙特甫A、冈46A、D62A、谷丰A、天丰A、金23A、和SE21S 等8 个不育系配组5 个杂交稻组合以上, 是目前福建省杂交稻育种的主要不育系。稻谷单产比对照增产6%以上(含6%) 、中感稻瘟病以上(含中感) 、米质达三等部颁食用籼米标准以上(含三等) 和直链淀粉含量在15%~ 20%之间等4 项品种性状, 其中3 项品种性状达标的有: Ò 优沈98, 乐优94, e Ò 优315, Ò 优039, 闽丰优3301, 秋优125、玉优一号, 江优明62、两优航2 号和金农2 优3 号等10 个品种; 4 项品种性状达标的有金农2 优3 号。
【英文摘要】Breeding o f the 152 r ice v arieties that w ere ex amined and approv ed dur ing 2001 and 2010 in Fujian mainlyinvolved with sterile lines and var ieties wit h g ood compr ehensiv e tr aits. Our analysis indicated that : There wer e 133three- line- hybr id combinations (i. e. , 871 5% of t otal) , 13 t wo- line- hybrid combinatio ns (i. e. , 81 6%) , 6co nv entional new v arieties (i. e. , 31 9%) , and the three- line method remained to be the major br eeding method forrice; Of 146 hy br id rice combinatio ns, 55 ster ile lines wer e used, among w hich three- line- ster ile lines w ere 47 (i.e. , 851 5%) , tw o- line- st erile lines wer e 8 (i. e. , 141 5%) , and each o f the 8 sterile lines, such as II- 32 A, LongTefu A, Gang 46A, D62A, GufengA, TianfengA, Jin23A, SE21S, etc. , w as applied to make o ver 5 hybrid r icecombinat ions, w hich wer e t he majo r sterile lines in the pr ov ince; and According to t he established criteria, t he y ieldof a new ly bred var iety should at least incr ease by 6%, its resistance to rice blast be abo ve moderate lev el, the r icequalit y be equal or better t han the third- class eating I ndica r ice standar d issued by the Department o f Agr iculture,and its amy lose content be 15% - 20%; by compar ing to CK, there w ere 10 var ieties, i. e. , IIy oushen98, Ley ou94, eIIy ou 315, I Iyou 039, Minfeng yo u 3301, Qiuy ou 125, Yuy ou No . 1, Jiang youming 62, Liang yo uhang No1 2,Jinnon 2 y ou 3, etc. , that met three of t he cr iteria, and o nly Jinnon 2 y ou 3 met all four cr iter ia. T hese va rieties,due to their gr eat yield po tential and hig h eco nomic values, co uld be recommended fo r la rge- scale plantation.
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【第一作者】黄达彪
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【题目】柑橘栽培品种(系)DNA指纹图谱库的构建
【中文关键词】柑橘;品种鉴定;SSR;ISSR;指纹图谱库
【英文关键词】citrus; cultivar identification; SSR; ISSR; fingerprinting database
【中文摘要】【目的】构建柑橘栽培品种(系)的DNA指纹图谱数据库,为建立柑橘种苗纯度及真实性鉴定技术体系和技术规范奠定基础。【方法】利用SSR标记和ISSR标记对102个柑橘栽培品种(系)进行DNA指纹分析,筛选适合的特征引物,构建柑橘栽培品种(系)的指纹图谱数据库。【结果】从200对SSR引物中筛选到重复性好、多态性丰富的12对引物作为柑橘品种(系)鉴定的特征引物,12对SSR特征引物组合可鉴别42个品种(系);在此基础上,对未出现SSR特征指纹的60个品种(系)进行ISSR指纹分析,从40个ISSR引物中筛选到2个可用于品种鉴定的特征引物,结合SSR标记,可快速、准确地鉴别70个柑橘的品种(系)。并利用这12对SSR特征引物和2个ISSR特征引物构建了70个柑橘栽培品种(系)的DNA特征指纹图谱数据库。【结论】SSR和ISSR标记适于构建柑橘栽培品种DNA指纹图谱库;指纹图谱库的建立为柑橘种苗纯度及真实性鉴定奠定了基础。
【英文摘要】【Objective】 The aims of this study were to construct a DNA fingerprinting database of major citrus cultivars, which could provide a possibility of establishment of a technical standard system for purity and authenticity identification of citrus nursery trees. 【Method】 Simple sequence repeat (SSR) and inter-simple sequence repeat (ISSR) markers were used to analyze the DNA fingerprinting of 102 citrus cultivars(lines) and then to choose suitable primers for the construction of DNA fingerprinting database of

citrus cultivars (lines). 【Result】 12 SSR primer pairs, with high polymorphisms and good repeatability, regarded as specific primers, which could identify 42 cultivars (lines), were selected from 200 SSR primer pairs. Meanwhile, 40 ISSR primers were used to analyze the DNA fingerprinting of 60 cultivars (lines) that can not be distinguished by SSR markers and 2 ISSR specific primers were chosen. As a result, a total of 70 citrus cultivars (lines) could be identified by the 12 SSR primers and 2 ISSR primers. Finally, a DNA fingerprinting database containing 70 major citrus cultivars (lines) was constructed by using those 12 SSR and 2 ISSR primers.【Conclusion】 The results indicated that SSR and ISSR markers are suitable for the construction of DNA fingerprinting database of citrus cultivars (lines). Moreover, the fingerprinting database will provide a basis for genetic purity and authenticity fast evaluation of citrus nursery trees.
【语种】中文
【第一作者】雷天刚
【通讯作者】陈善春
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【学科分类】分子生物学

【题目】柑橘中多甲氧基黄酮生物活性及应用研究进展
【中文关键词】多甲氧基黄酮;结构;生物活性;分类;掺假
【英文关键词】polymethoxyflavonoids (PMFs);structure;biological activity; taxonomy;adulteration
【中文摘要】芸香科柑橘属中的多甲氧基黄酮(PMFs),由于具有抗炎、抗氧化、抗诱变、抗癌等生物活性而备受青睐。而且PMFs的提取使得柑橘果汁加工中的果皮得到充分利用,对其深入研究具有重大的经济效益和社会效益。本文对PMFs的结构及其生物活性,在柑橘分类学研究、柑橘果汁掺假和保健食品中的应用进行了综述。
【英文摘要】Recently polymethoxyflavonoids (PMFs) from citrus of rutaceae genus have been given extra attention because of their broad biological activities, including anti-oxidant, anti-inflammatory, anti-mutagenesis, anti-cancer (gastric cancer, liver cancer, and lung cancer and so on) properties. The extraction of PMFs makes full use of citrus peel from the process of orange juice and has huge economic and social benefits. This paper mainly reviewed their molecular structure, biological activities and applications in taxonomic study of citrus, adulteration identification of orange juice and production of health food.
【语种】中文
【第一作者】王磊
【通讯作者】焦必宁
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【学科分类】食品科学技术基础学科

【题目】OsCRY2 基因抑制表达对水稻主要农艺性状的影响
【中文关键词】水稻; OsCRY2 基因; ihpRNA 表达载体; 转化
【英文关键词】rice; OsCRY2 gene; ihpRNA expression vector; transformation
【中文摘要】利用已公布的水稻OsCRY2 基因序列设计引物,扩增部分基因片段,成功构建了ihpRNA 植物表达载体pSC1301-347-OsCRY2,并通过农杆菌介导法将OsCRY2 干扰片段导入水稻获得了转基因植株。根据转基因植株主要农艺性状的表现,分析了该基因的功能。结果表明,抑制OsCRY2 基因表达会强烈延迟水稻开花与成熟; 转基因植株穗与剑叶变短,结实率下降,粒增长,其他农艺性状未见明显变化。
【英文摘要】According to the published rice OsCRY2 gene sequence,we designed the related primers to obtain part of thegene by PCR and constructed an ihpRNA plant expression vector named pSC1301-347-OsCRY2. The OsCRY2 geneinterference fragment was then introduced into rice by Agrobacterium-mediated transformation. The functions of the genewas preliminarily analyzed by the performance of the transformants. The results indicated that the transgenic plants inwhich the expression of OsCRY2 gene was suppressed give rise to both retarded flowering and maturing. Moreover ,thetransgenic plants have short panicles and flag leaves,lower seed-set percent with the grain becoming longer while theother agronomic traits do not change apparently.

【语种】中文
【第一作者】李毓
【通讯作者】庄伟建
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【学科分类】农学其他学科

【题目】乡村建设中的村民认知与意愿表达分析
【中文关键词】新农村建设 康居示范村 村民认知 意愿表达
【英文关键词】New countryside construction, Livable model village, The recognition of peasants, The willingness expression
【中文摘要】以江苏省宿迁市为例,通过问卷调研和深入访谈走入村组,针对“康居示范村”规划建设的现状和内在问题进行调研、分析,主要内容包括:规划实施的现状;农村居民对现有农村生活环境改善的意愿;农村居民的利益变化以及对宅基地置换的意愿表达;农村居民对公共政策及政府作为的认知。最后从规划管理、多渠道筹资、农村宅基地补偿标准、公众参与保障农民的权利等方面提出了政策建议。
【英文摘要】Taking Suqian city of Jiangsu province as an example, Tools of the questionnaire investigation and in-depth interviews with villages have be used in order to understand the actual condition of the country planning of modern villages and its existing problems. Several problems have been explored, including the condition of enforcement of the country planning, the willingness of peasants to improve the current residential environment, the willingness of peasants to replacement of rural housing land with changing peasant ’s advantages, and peasant ’s recognition to public policy and government. It reached a conclusion that some policies should be brought out for the management of the country planning, raising finance through various channels, making out the standard of compensation for rural housing land and peasants participation to safeguard the legal rights and security of peasants.
【语种】中文
【第一作者】王雷
【通讯作者】王雷
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【学科分类】公共管理

【题目】果蔬总抗氧化能力间接测定法及其影响因素
【中文关键词】间接测定法;ABTS;DPPH;抗氧化能力
【英文关键词】indirect method;ABTS;DPPH;antioxidant activity
【中文摘要】果蔬抗氧化能力是衡量果蔬抗氧化成分作用强弱的主要参数,评价总抗氧化能力的方法有直接法和间接法,其中,间接法是最为快捷、简便的分析方法。ABTS法和DPPH法是目前应用最为普遍的间接测定方法;间接测定的影响因素有底物及其相互之间的作用、体系中的干扰物质、pH值、反应时间、自由基产生体系等。研究人员试图用HPLC等方法与间接法联用以减少外界因素对检测结果的影响。
【英文摘要】The total activity is the main parameter to value the antioxidant ability of objects. Methods to measure total antioxidant activity can be divided into indirect and direct methods according to priciple, and indirect methods were fast and simple ways to determine the total antioxidant activity. At present, ABTS and DPPH were applied widely. The results of indirect methods were influenced by factors such as antioxidants and interactions, interference materials, pH, action time, producing system for free radicals and so on. Researchers tried to use the other advanced methods such as HPLC to decrease the environmental influence on the indirect method.
【语种】中文
【第一作者】付陈梅
【通讯作者】焦必宁
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【学科分类】食品科学技术基础学科

【题目】干扰隐花色素Cry1a 与Cry1b 基因的表达对水稻若干农艺性状的影响
【中文关键词】水稻; 隐花色素; Cry1a /Cry1b 基因; ihpRNA; 农艺性状
【英文关键词】rice; cryptochrome; Cry1a /Cry1b gene; ihpRNA; agronomic traits
【中文摘要】利用已公布的水稻Cry1a 与Cry1b 基因序列设计引物,PCR 扩增基因部分片段,构建了一个包含2 个隐花色素基因片段的ihpRNA 表达载体pSC1301-347-Cry1aCry1b,并通过农杆菌介导转化水稻,以期同时导致这2 个基因功能缺失. 根据转基因植株主要农艺性状的表现,初步分析了Cry1a 与Cry1b 对水稻重要农艺性状的影响. 结果表明,转基因水稻开花期推迟16 d,株高增加明显,粒型显著变长,而其他所观察的性状无明显改变.
【英文摘要】According to the published rice Cry1a and Cry1b gene sequences,we designed the related primers to get part of the genefragments by PCR and constructed an ihpRNA plant expression vector named pSC1301-347-Cry1aCry1b,then introduced it into riceby Agrobacterium-mediated genetic transformation so as to cause the functional loss of the two genes at the same time. The effects ofrice Cry1a and Cry1b on important agronomic traits were preliminarily analyzed based on the performance of the transformants. Theresults indicated that the transgenic plants retarded flowering over 16 d; the plant height increased significantly with the grain shapeevidently becoming longer while the other traits observed did not change apparently.
【语种】中文
【第一作者】李毓
【通讯作者】庄伟建
【期刊名称、卷期、页码】福建农林大学学报(自然科学版) 第41卷第2 期
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【题目】新农村建设下农民集中居住满意度的调查与研究-以常州、 镇江、南京为例
【中文关键词】新农村;农民集中居住; Logistics回归分析;影响;满意度
【英文关键词】无
【中文摘要】基于常州、 镇江、 南京农户的调查基础上,运用 Log i sti cs回归模型,分析了影响农户集中居住满意度的主要因素以及相应因素的影响程度,针对分析结果,提出了一些相关的建议。
【英文摘要】无
【语种】中文
【第一作者】李鹏
【通讯作者】瞿忠琼
【期刊名称、卷期、页码】江西农业学报,2012,22(2):210-214
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【学科分类】公共管理

【题目】果汁中脂环酸芽孢杆菌研究进展
【中文关键词】脂环酸芽孢杆菌; 果汁; 腐败微生物;
【英文关键词】Alicyclobacillus spp.; characteristics; separation; detection; control methods;
【中文摘要】脂环酸芽孢杆菌(Alicyclobacillus spp.)能在巴氏灭菌果汁中存活、适宜的条件下可代谢产生愈创木酚、2,6-二溴苯酚和2,6-二氯苯酚等难闻的气味物质,而成为果汁生产中的棘手问题。文中结合国内外对脂环酸芽孢杆菌的研究进展,对该菌的生理生化特性、分离和检测、控制方法进行了综述。
【英文摘要】Alicyclobacillus spp. is the main organism of fruit spoilage. The bacteria can survive in juice pasteurization and produce offensive smelling such as guaiacol,2,6-dibromophenol (2,6-DBP) and 2,6-dichlorophenol (2,6-DCP),which becomes the thorny

issues of juice production. Based on the research progress of Alicyclobacillus spp.,this paper reviewed the physiological and biochemical characteristics,separation and detection of Alicyclobacillus spp. and control methods.
【语种】中文
【第一作者】王梅
【通讯作者】焦必宁
【期刊名称、卷期、页码】食品与发酵工业,2009, 35(10): 37-43
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【学科分类】食品科学技术其他学科

【题目】水稻新质源(CMS-FA)雄性不育恢复基因的遗传
【中文关键词】杂交稻; 新质源CMS-FA; 雄性不育; 育性恢复基因; 遗传
【英文关键词】Hybrid rice; New cytoplasmic resource CMS-FA; Male sterility; Restorer gene; Inheritance
【中文摘要】发掘水稻新型雄性不育细胞质源CMS-FA, 育成系列优质米不育系和系列新质源恢复系, 在组配成强优势杂交稻组合的基础上, 研究新质源雄性不育恢复系的恢复基因遗传。采用新质源(CMS-FA)不育系金农1A 与恢复系金恢3 号杂交获得杂交F1 和F2 代种子。用F1 分别与不育系或保持系回交, 获得(不育系//不育系/恢复系和不育系/恢复系//保持系)2 个测交群体。同时种植P1、P2、P3、F1、F2、B1F1 和B2F1 等群体, 考察花粉染色率、套袋结实率和自然结实率, 卡平方测验遗传分离适合度。结果表明, 不育系与恢复系杂交F1 代正常可育, 育性恢复(可育)基因为显性遗传。F2代分离出可育∶不育适合 3∶1, 育性恢复(可育)基因为 1 对显性基因控制。B1F1和 B2F1代 2 个测交群体的可育∶不育都适合 1∶1 分离规律, 验证了 F2代育性恢复(可育)单基因的遗传模式。暂时确定新质源(CMS-FA)核质互作三系的基因型为不育系S(SS)、保持系F(SS)和恢复系S(FF)。
【英文摘要】Based on identification of new male sterile cytoplasm (CMS-FA) from wild rice, a series of CMS-FA male sterile linesand restorer lines as well as their hybrid combinations with good quality and strong heterosis were developed. The cross ofJinnong 1A (A line) × Jinhui 3 (R line) was made to study the fertility inheritance of CMA-FA hybrid rice. The F1 generation wasbackcrossed with the A line and maintainer line (B line) to get two test cross populations (A line//A line/R line and A line/R line//Bline). Totally six populations, namely, P1, P2, P3, F1, F2, B1F1, and B2F2, were planted at the same time to evaluate fertility usingindexes of stained pollen rate, bagged seed-setting percent, and natural seed-setting percent. The F1 generation showed a normalcondition in fertility, and the F2 generation had a segregation ratio of 3 (fertile):1 (sterile) according to Chi-square test. Moreover,the two test-cross populations both had a segregation ratio of 1 (fertile):1 (sterile). The results indicated there was only one dominantgene controlling the fertility in the restorer line. Therefore, the genotypes of the three lines of CMS-FA hybrid rice could betentatively determined as S(SS) for the male sterile line, F(SS) for the maintainer line, and S(FF) for the restorer line.
【语种】中文
【第一作者】王乃元
【通讯作者】王乃元
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【学科分类】农学其他学科

【题目】基于层次分析法的农民集中居住满意度研究-以南京、 常州、 镇江为例
【中文关键词】农民集中居住;层次分析法;影响因素;满意度
【英文关键词】Centralized resi dence of far mers ; Ana l yt icH i erarchy Process ; Infl uential fact ors ; Sat isfaction
【中文摘要】基于对南京、 常州、 镇江农户的调查,运用层次分析法分析了影响农户集中居住满意度的主要因素,计算了各因素的影响权重,并提出了相关政策性建议。
【英文摘要】Based on t he i nvestiga ti on of t he far mers i n Nanj i ng , Changzhou and Zhenji ang , Ana l yt i cH ierarchy Processwas adopted to analyze them ai n fact o rs t ha t a ffect f amers csatisfaction of central i zed residence and ca l cu l ate the we i ght o f each f actor . So m e re l ated po li cy proposa l swere also put f orward .

【语种】中文
【第一作者】李鹏
【通讯作者】瞿忠琼
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【学科分类】公共管理

【题目】Identification of QTL underlying the resistance of soybean to pod borer, Leguminivora glycinivorella (Mats.) obraztsov, and correlations with plant, pod and seed traits.
【中文关键词】大豆,食心虫,SSR标记,QTL
【英文关键词】soybean, pod boer, SSR marker, QTL
【中文摘要】大豆食心虫在世界某些地区导致大豆的产量和质量的严重损失,特别是北部中国,日本和俄罗斯。本文的目的是利用东农1068 ’9 “ 东农8004衍生的129个F5:6重组自交系并且利用131个SSR标记。相关分析表明食心虫抗性与植株高度,熟期,荚色,茸毛密度,百粒重和蛋白质含量,即矮茎,浅色的豆荚,小种子,密度较低的短柔毛,成熟早、低蛋白质含量似乎有更高的抗性。3个QTLqrspb-1(satt541 – satt253)和qrspb-2(satt253 – satt314)在2个连锁群(LG)和qrspb-3(satt288 – satt199)能够解释10.96,9.73和11.59%。这些能够检测到的QTL共同提供潜在的标记辅助选择改良品种抗性。
【英文摘要】Soybean (Glycine max L. Merr.) pod borer (Leguminivora glycinivorella (Mats.) Obraztsov)(SPB) results in severe loss in soybean yield and quality in certain regions of the world, especially inNortheastern China, Japan and Russia. The aim here was to evaluate the inheritance of pod borer resistance and to identify quantitative trait loci (QTL) underlying SPB resistance for the acceleration of the control of this pest. Used were the 129 recombinant inbred lines (RILs) of the F5:6 derived population from ‘ Dong Nong 1068 ’ 9 ‘ Dong Nong 8004 ’ and 131 SSR markers. Correlations between the percentage of damaged seeds (PDS) by pod borer and plant, pod and seed traits that were potentially related to SPB resistance were analyzed. The results showed highly significant correlations between PDS by pod borer and plant height (PH), maturity date (MA), pod color (PC), pubescence density (PB), 100-seed weight (SW) and protein content existed. Soybeans with dwarf stem, light color of pod coat, small seeds, lower density of pubescence, early maturity and low content of protein seemed to have higher resistance to SPB. The correlated traits had potential to inhibit egg deposition and thereby to decrease the damage by SPB. Three QTL directly associated with the resistance to SPB judged by PDS at harvest were identified. qRspb-1 (Satt541 – Satt253) and qRspb-2 (Satt253 – Satt314) were both on linkage group (LG) H and qRspb-3 (Satt288 – Satt199) on LG G. The three QTL explained 10.96, 9.73 and 11.59% of the phenotypic variation for PDS, respectively. In addition,12 QTL that underlay 10 of 13 traits potentially related with SPB resistance were found. These QTL detected jointly provide potential for marker assisted selection to improve cultivar resistance to SPB
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【第一作者】赵桂云
【通讯作者】李文滨
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【学科分类】农艺学

【题目】农村居民点整理的驱动机制研究-以江西省全南县为例
【中文关键词】农村居民点整理;驱动机制; 全南县; 政策;社会、 经济指标
【英文关键词】无
【中文摘要】农村居民点整理是农村土地整理的一项重要内容, 在我国社会主义新农村建设中发挥着重要作用。本文以中部地区的江西省全南县为例, 从政策方面通过定性分析,在社会、 经济等方面则利用相关指标, 采取灰色关联度分析法进行定量分析,从而找到推动居民点整理的驱动因素。
【英文摘要】无
【语种】中文

【第一作者】文 博
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【题目】两株橙汁酵母菌落发育的动态特征及鉴定意义
【中文关键词】橙汁; 酵母; 菌落; 动态发育特征; 鉴定意义;
【英文关键词】orange juice; yeast; colony; dynamic development features; significance of identification;
【中文摘要】利用体式镜对分离自橙汁的两株酵母菌YA2和Y17-2菌落形态发育的动态特征进行了细致观察,结果表明:不同菌株的菌落具有各自稳定且特定的发育特征.同一菌株不同培养时期的菌落,其形态结构有差异,早期的菌落呈半球形,随着培养时间的延长,菌落中央部分生长速度由快到趋于稳定或下降,由半球形隆起逐渐平缓至塌陷成凹坑;同时,菌落的大小、色泽和质地都将发生较大的变化,具有多样性;同一菌株在不同培养基上的菌落形态特征也有较大的差异.用菌落的发育动态特征来描述菌株,对菌株鉴定具有更为直观和重要的意义.结合菌落特征与细胞形态、子囊孢子、假菌丝等特征的分析,将分离自橙汁的酵母菌株YA2和Y17-2分别鉴定为Hansenias-pora和Pichia.
【英文摘要】Two yeast strains isolated from orange juice,YA2 and Y17-2,were examined with a stereoscopic microscope.The results showed that the colonies of different strains had their respective stable and specific development features.The morphological structures of colonies for the same strain were different in different culture periods.Young colonies were hemispheroid in shape,and over the time of culture the growth the central part of the colony changed from fast to stable or slow,and the hemispherical colonies gradually flattened and,finally,caved in.At the same time,the size,texture,color and gloss of the colonies changed extensively,resulting in great diversity in appearance.The morphological features of the same strain growing in different media were also different.It is of intuitional and important significance to identify the yeast strains by the dynamic characteristics of the growing colonies.Based on an analysis of the colony features and the characteristics of cell shape,ascospores and pseudo-hyphae,YA2 and Y17-2 were identified as Hanseniaspora and Pichia.
【语种】中文
【第一作者】郭冬琴
【通讯作者】杨晓红
【期刊名称、卷期、页码】西南大学学报(自然科学版),2009,31(10):73-76
【论文发表时间】2009-10-16 00:00:00
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【引文索引号】null
【学科分类】食品科学技术其他学科

【题目】水稻隐花色素基因Cry1a/Cry2/Cry1b RNAi表达载体构建及遗传转化研究
【中文关键词】水稻; 隐花色素基因; RNAi; 载体构建; 遗传转化
【英文关键词】Rice; Cryptochrome gene; RNAi; Vector conrtruction; Genetic transformation
【中文摘要】构建一个包含3 个水稻隐花色素基因片段的RNAi 表达载体pSC1301-347-Cry1aCry2Cry1b 并转化水稻,以期导致Cry1a、Cry1b 与Cry2 集体沉默, 观察它们对水稻重要农艺性状的影响。结果表明, 转基因水稻开花期显著延迟, 结实率骤降, 株高增加, 剑叶变短, 谷粒变长、变宽; 而剑叶宽、穗长与对照无显著差异。
【英文摘要】A RNAi expression vector with three rice cryptochrome genes (Cry1a/Cry2/Cry1b)fragments wasconstructed and transformed into rice so as to cause all of the three genes to be silent collectively, based onwhich the effects of these genes on rice important agronomic traits were analysed. The results showed thattransgenic plants significantly delayed flowering time with a drastically declined seed-set percent, increased plantheight, shortened flag leaves, elongated and widened grain, but the flag leaf width and the panicle length were notsignificantly different from the control variety.
【语种】中文
【第一作者】李毓
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【引文索引号】null
【学科分类】农学其他学科

【题目】农村居民点整理区域联动机制的原则与实现途径-以江苏省为例
【中文关键词】区域联动机制;农村居民点整理指标;江苏省;补偿;信息共享;利益协调
【英文关键词】regional concatenation mechanism; rural residential consolidation index; Jiangsu province; compensation; sharing information; benefits coordination
【中文摘要】农村居民点用地整理是优化农村居民点布局和实现耕地占补平衡的有效途径,也是建设现代乡村社区的必然选择 本文以江苏省为例,简要分析其区域不平衡现状及建立农村居民点整理区域联动机制的迫切性和可行性,提出从四个方面实现农村居民点整理的区域联动机制的新思路:建立区域间农村居民点整理指标流动补偿机制 建立区域间农村居民点整理的信息共享体系 建立区域间农村居民点整理的联动预警机制 建立区域间的联动利益分配机制
【英文摘要】The rural residential areas consolidation has become one of the effective means of readjusting rural land use structure and of keeping the dynamic balance of cultivated land. At the same time, it is also an inevitable choice for developing modern rural community. Taking Jiangsu province as an example, the author analyzes briefly itsdisequilibrium situation and tries to justify it is feasible to construct regional concatenation mechanism of the rural residential areas consolidation. Then the author put forwards some new ideals. Such as setting up a regional flow compensation mechanism of the consolidation index, a regional sharing information system, a regional concatenationearly warning system, a regional distribution economic benefit of interconnected parts.
【语种】中文
【第一作者】瞿忠琼
【通讯作者】欧名豪
【期刊名称、卷期、页码】农业现代化研究,2009,30(6):688-691
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【题目】免疫分析技术在杀菌剂残留检测中的应用
【中文关键词】免疫分析, 杀菌剂残留, 检测
【英文关键词】waxy corn OSA modified starch, paste propertiesimmunoassay, fungicide residues, determination
【中文摘要】免疫分析技术具有灵敏度高、特异性强、简单快速等优点,已成为检测食品中杀菌剂残留的一种重要手段。文中简要介绍了免疫分析技术原理,综述了近年来在杀菌剂残留检测中的应用研究进展,并对该技术的发展前景作了展望。
【英文摘要】With the advantages of high sensitiv ity, high specificity, easy handling and rapid response, immunoassay has been play ing an important role in fungicide residue detection1 In this paper, not only the principle of immunoassay technique, but also the applications and development prospects in fungicide residues detection are reviewed.
【语种】中文
【第一作者】周映霞
【通讯作者】焦必宁
【期刊名称、卷期、页码】食品与发酵工业,2009(35)10:103-107.
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【引文索引号】null
【学科分类】食品科学技术基础学科

【题目】浅析住区时代的景观文化
【中文关键词】住区;景观;文化;多元;营造

【英文关键词】Settlement; Landscape ; Culture ; Multiple ; Build
【中文摘要】分析了我国计划经济时代、 商品经济时代、 新时期住区的文化,包括:文化生活、 景观文化、 生态文化、传统文化等。
【英文摘要】The culture in era of planned econo my , tmie of commodit y economy and new era were analyzed , which including cult ura l life ,l andscape cult ure , ecological culture , traditional culture , etc .
【语种】中文
【第一作者】翁达来
【通讯作者】翁达来
【期刊名称、卷期、页码】安徽农业科学,2010,38(6):3058-3061
【论文发表时间】2009-11-02 00:00:00
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【引文索引号】null
【学科分类】农业史

【题目】纳米食品的分析检测进展
【中文关键词】纳米材料; 纳米食品; 分析手段;
【英文关键词】nanomaterials; nanofood; analytical method;
【中文摘要】介绍了纳米材料的安全性,重点对纳米食品的3种分析检测手段(成像、分离和表征技术)进行了较为详细的综述,并对该领域的工作进行了展望。
【英文摘要】In this paper,the safety of Nanofood and its three analytical methods including separation,imaging and characterization techniques were reviewed. Based on the above,future exploration and development on this field were proposed.
【语种】中文
【第一作者】张耀海
【通讯作者】张耀海
【期刊名称、卷期、页码】食品与发酵工业,2009, 35(12):100-106
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【学科分类】食品科学技术基础学科

【题目】Genetic diversity in soybean genotypes from north-eastern China and identification of candidate markers associated with maturity rating.
【中文关键词】大豆,熟期,SSR标记,RAPD标记
【英文关键词】soybean, HU, SSR ,RAPD
【中文摘要】RAPD和SSR标记被用来估计在中国东北101个大豆品种遗传之间的关系,。在101个大豆品种多态性的53个PAPD片段和35个多态性SSR标记,些大豆品种相似性系数在45.2%-100%之间,和 36.1%-100%之间。相似矩阵分析表明这些品种中度相关 (r = 0.31, P < 0.05)。聚类分析表明,相同育成单位育成的品种大多聚在一起。在主成分分析的基础上,结合分子分子和表现型的数据,HU< 2200和HU> 2200的品种分离较为明显。
【英文摘要】Random amplified polymorphic DNA (RAPD) and simple sequence repeat (SSR) markers were used to estimate the genetic relationships among 101 soybean cultivars developed in north-eastern China. Fifty-three fragments of the 100 RAPD markers and 35 SSR markers tested were polymorphic across the 101 soybean cultivars. Similarity values among these soybean cultivars ranged from 45.2% to 100% for RAPD data, and ranged from 36.1% to 100% for SSR data. The similarity matrices for SSR data and RAPD data were moderately correlated (r = 0.31, P < 0.05). Cluster analyses indicated that the cultivars released from the same seed company weremostly grouped together. A principal component analysis, based on the combined RAPD and SSR data, yielded a good separation of soybean varieties with different maturity ratings [represented by soybean Heat Unit (HU)]. The varieties with HU < 2200 were well separated from those with HU > 2200. Four RAPD markers and eight SSR markers were significantly associated with the maturity ratings of soybean.
【语种】英文
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【期刊名称、卷期、页码】Plant Breeding 127:494—500
【论文发表时间】2008-04-29 00:00:00
【引文索引类型】SCI
【引文索引号】doi:10.1111/j.1439-0523.2008.01489.x
【学科分类】农艺学

【题目】新疆褐牛与荷斯坦牛隐性乳房炎与体细胞数、病原菌种类的比较
【中文关键词】隐性乳房炎;体细胞数;菌落形成单位
【英文关键词】subclinical mastitis;SCC;CFU
【中文摘要】本试验以新疆乌鲁木齐市地区一大中型奶牛场的新疆褐牛、荷斯坦牛奶样为研究对象,对奶样进行了病原菌分离培养,同时对不同品种牛体细胞数与菌落形成单位(colony-forming unit,CFU)、体细胞数与不同年龄进行了统计分析。结果表明,2个品种牛感染病原菌种类稍有差别且新疆褐牛感染葡萄球菌的机率明显高于荷斯坦牛;荷斯坦牛比新疆褐牛更容易患乳房炎;新疆褐牛、荷斯坦牛体细胞在小于20万/mL时均与体细胞大于50万/mL时的CFU值呈显著差异(P<0.05),而这2个品种牛的体细胞在20~50万/mL时分别与体细胞小于20万/mL、大于50万/m1 时的CFU值均无显著差异(P> 0.05),初步推测体细胞数和细菌总数之间没有必然联系,还受其它因素影响;此外,随着年龄增长,褐牛和荷斯坦牛的体细胞评分(somatic cell score,SCS)都呈上升趋势,且不同品种间的SCS差异显著。
【英文摘要】Milk samples of Xinjiang Brown cattle and Chinese Holstein cattle from Urumqi breeding cattle farm were collected and isolated culture.The effects of subclinical mastitis on different varieties were compared,information of somatic cell counts(SCC)and colony forming units(CFU),SCC and different ages from different varieties were analyzed.The results showed that there was difference on category of pathogenic bacteria and Xinjiang Brown cattle was prior to Chinese Holstein cattle on the infected rate of Staphylococci;the former has a stronger resistance to disease than the latter;there was a extremely significant association two varieties between CFU of SCC<200 thousand/mL and CFU of SCC >500 thousand/mL (P<0.05),while there was no significant correlation between CFU of 200 thousand/mL<SCC<500 thousand/mL and CFU of SCC<200 thousand/mL,SCC>500 thousand/mL(P>0.05),statistical analysis on complete SCC and cuhure data showed no association between SCC and bacterial isolation and there was other factors:there was the trend of escalation on SCS of Xinjiang Brown cattle and Chinese Holstein cattle and there was significant correlation on SCS of different varieties.
【语种】中文
【第一作者】张雪梅
【通讯作者】刘明军
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【学科分类】微生物学

【题目】新质源(CMS-FA)杂交稻产量相关性状的相关性分析
【中文关键词】杂交稻;新质源(CMS-FA);加性相关;显性相关;产量相关性状
【英文关键词】hybrid rice;new cytoplasmic resource(CMS-FA);additive correlation;dominance correlation;yieldrelated trait
【中文摘要】以新质源(CMS-FA)杂交稻遗传系统的5个不育系和5个恢复系进行不完全双列杂交,采用加性-显性遗传模型和MINQUE (1)法,对新质源(CMS-FA)杂交稻产量相关性状进行多种相关分析。结果表明,新质源(CMS-FA)杂交稻产量相关性状间的相关性为:株高与结实率,剑叶长与生育期、结实率,生育期与每穗实粒数,结实率与千粒重,千粒重与单株产量等性状之间的遗传相关以基因的加性正相关为主;单株穗数与株高、剑叶长、每穗总粒数、每穗实粒数、结实率,千粒重与每穗总粒数等性状之间的遗传相关以基因的加性负相关为主。株高与穗长、剑叶长、每穗总粒数、千粒重,穗长与每穗总粒数、每穗实粒数、单株产量等性状之间具有显著或极显著的显性相关。利用加性相关为主的性状进行间接选择可取得较好的育种效果。
【英文摘要】Using 5CMS-FA sterile lines as female parents and 5corresponding restorers as male parents,25crosseswere bred with the incomplete diallel cross design for the experiment.Their parents and F1generations were plantedto generate data on the yield-related traits.By the additive-dominant model and MINQUE(1)method,the geneticcorrelations among 10yield-related traits of CMS-FA

hybrid rice were analyzed.The results showed significantcorrelations among the traits.The genetic correlations between the plant height(PH)and seed-set percent(SSP),between the flag-leaf length(FLL)and growth duration(GD)or SSP,between GD and filled grain number perpanicle(FGNPP),between SSP and 1000-grain-weight(TGW),and between TGW and yield per plant(YPP)werebasically positive and additive.Those between the panicle number per plant(PNPP)and PH,between FLL,totalgrain number per plant(TGNPP),FGNPP,SSP,and between TGW and TGNPP were mainly negative andadditive.There were also significant or very significant positive dominance correlations between traits of PH andpanicle length(PL),between FLL,TGNPP,TGW,PL and TGNPP,FGNPP,YPP.Consequently,in breeding,it would be advisable to choose the traits that showed high additive correlations.

【语种】中文

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【学科分类】农学其他学科

【题目】农产品产地溯源技术研究进展

【中文关键词】农产品;产地溯源;光谱;质谱

【英文关键词】agricultural product;geographical origin traceability;spectroscopy;mass spectrometry

【中文摘要】农产品产地溯源是建立农产品质量安全追溯制度的重要组成部分,也是保障农产品质量安全的有效手段。通过物理学、化学和生物学方法,分析农产品的有机组成、挥发性成分、同位素含量与比率、DNA 图谱等特征成分或指标,结合化学计量学研究,建立起能区分农产品产地来源的特征指纹图谱。本文综述了近年来几种常用农产品产地溯源技术在不同种类农产品中的应用研究进展,并展望了今后农产品产地溯源技术研究的发展趋势。

【英文摘要】The geographical origin traceability of agricultural products, an important part of traceability system, is effective in protecting the quality and safety of agricultural products. Using physical, chemical and biological methods, geographical origin of agricultural products can be analyzed according to specific indexes such as organic constituents, volatile compounds, isotope content and ratio, and DNA mapping. Combined with chemometrics, fingerprint profiles of agricultural products can be established by analyzing component data related to geographical origin of samples. Current analytical techniques used for determining geographical origin of agricultural products are reviewed in this paper. Furthermore, the future development trends are also discussed.

【语种】中文

【第一作者】张晓焱

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【学科分类】食品科学技术基础学科

【题目】中国土地生态安全评价研究进展与展望

【中文关键词】土地生态安全评价; 研究进展; 展望; 中国

【英文关键词】Land ecological security evaluation ; Research progress ; Prospect ; China

【中文摘要】土地生态安全评价是土地生态安全研究的一个重要方向。诠释了土地生态安全及相关概念, 综述了当前土地生态安全评价研究的重点内容及研究进展, 指出存在的主要问题, 包括: 土地生态安全定义的差异对土地生态安全评价的内容影响明显; 很多有价值的研究对象评价工作目前还未展开; 相同区域多尺度的评价研究进行的很少; 从针对性和普适性看, 评价指标体系的构建仍值得深入探讨; 评价方法很多, 并且有新的方法不断引入, 但提高研究方法的适用性、合理性和针对性依然值得深入探讨; 预测评价与预警评价工作还有待拓展。整体上, 土地生态安全评价在研究的对象、尺度及尺度推绎、方法、指标体系以及基础理论体系等方面均有待不断完善和深入探讨。

【英文摘要】The land ecolog ical security evaluation is very important.The land ecological security and related concepts areintroduced.The research emphas is and progress of land ecolog i cal securi ty eval uation are reviewed.The problems are pointed out such as t he di fferent concepts of land ecological sec uri ty have obv i ous i nfl ue nce on the evaluation content , the evaluation on m

any valuable researc h objects is not carried out , the multi-scale evaluation on same region is little , the establishment of evaluation index system needs to be further studied , there are many evaluation methods , while the applicability , rationality and pertinence should be further studied , and the forecast evaluation and forewarning evaluation need to be developed The research objects , scales , yardstick reasoning , methods , index syste m and basic theoretical。system remain to be perfected and discussed deeply
【语种】中文
【第一作者】吴未
【通讯作者】吴未
【期刊名称、卷期、页码】河北农业科学,2010,14(5):99-102,159
【论文发表时间】2010-04-18 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】公共管理

【题目】培养与制备条件对酵母菌基因组DNA提取质量的影响
【中文关键词】橙汁; 酵母菌; 培养; 制备; DNA提取;
【英文关键词】orange juice; yeast; culture; preparation; DNA extraction;
【中文摘要】以自橙汁中分离的酵母菌株为材料,从培养与制备条件出发,研究不同的培养基、培养容器、培养时间、菌液量和菌液浓度对酵母菌基因组DNA提取质量的影响,建立了酵母菌基因组DNA优良提取体系.即以YPD为液体培养基,三角瓶(100 mL)为培养容器,在30℃下震荡培养12~16 h至菌液OD600=1.5左右,然后用此菌液10 mL以上按试剂盒提供的方法提取基因组DNA.电泳结果表明,采用该体系提取的酵母菌基因组DNA量大、质量好.
【英文摘要】Thirty yeast strains were separated from orange juice and used as the experimental materials.Based on the culture and preparation conditions,the effects of different culture vessels,culture time,yeast-liquid volume and yeast-liquid optical density on the extraction quality of genome DNA from yeast were studied,and an improved yeast genome extraction system was set up successfully.The yeast strains were cultured in YPD liquid medium enclosed in conical flasks at 30 ℃ for 12~16 hours until the OD600 of the yeast cultural liquid was close to 1.5.More than 10 mL of the yeast liquid was taken for extracting the genomic DNA according to the procedures of the kit.The results of electrophoresis showed that both the mass and quality of the genomic DNA harvested were highly satisfactory.
【语种】中文
【第一作者】陈吉裕
【通讯作者】杨晓红
【期刊名称、卷期、页码】西南大学学报(自然科学版),2009,31(10):79-82
【论文发表时间】2009-10-16 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】食品科学技术其他学科

【题目】浅谈柑桔农药残留检测的质量控制
【中文关键词】柑桔;农药残留;检测
【英文关键词】无
【中文摘要】概述了柑桔农药残留检测的质量控制,包括实验室残留检测基本条件,柑桔样本的采集、处理和贮存,农药标准物质的采购、配制与贮存,分析方法的选择与确认,定量以及检测过程质量控制等。
【英文摘要】无
【语种】中文
【第一作者】赵其阳
【通讯作者】焦必宁
【期刊名称、卷期、页码】中国南方果树,2009,38(3):65-68
【论文发表时间】2009-06-16 00:00:00
【引文索引类型】其他
【引文索引号】null

【学科分类】食品科学技术基础学科

【题目】Impact of epistasis and QTLrenvironment interaction on the accumulation of seed mass of soybean(Glycine max L. Merr.)
【中文关键词】大豆,籽粒重,发育动态QTL
【英文关键词】soybean, seed weight, developmental QTL
【中文摘要】大豆种子的积累受基因型与环境互作的影响。本研究的目的是分析上位性和QTL与环境互作对大豆籽粒重积累的影响。143个父母本大豆品种‘Charles东’和‘东农594”衍生的重组自交系。百粒重的广义遗传力从30天到80天为0.58,0.52,0.62,0.60,0.66和0.57。共有17个非条件QTL和/或条件QTL的加性效应与环境互作效应在10个连锁群上发现。其中,只有4个在不同阶段有显着影响大豆种子发育的条件QTL。一共有35对QTL在不同的发育阶段影响大豆籽粒重。5对QTL检测到加性与加性互作效应,16个QTL具有AAE效应。总之,大豆百粒重下发育受遗传和环境控制。
【英文摘要】The accumulation of seed mass in soybean is affected by both genotype and environment. The aim of the present study was to measure additive, epistatic and quantitative trait locus (QTL)renvironment (QE) interaction effects of QTLs on the development of 100-seed weight in a population of 143 F5 derived recombinant inbred lines (RILs) developed from the cross between the soybean cultivars‘Charleston’and‘Dong Nong 594’. Broad-sense heritability of 100-seedweight from 30 days (30D) to 80D stages was 0.58, 0.52, 0.62, 0.60, 0.66 and 0.57, respectively. A total of 17 QTLs with conditional additive (a) effect and/or conditional additiverenvironment interaction (ae) effect at specific stages were identified in ten linkage groups by conditional mapping. Of them, only 4 QTLs had significant a effect or ae effect at different stages of seed development. Among QTLs with significant a effect, five acted positively and six acted negatively on seed development. A total of 35 epistatic pairwise QTLs of 100-seed weight were identified by conditional mapping at different developmental stages. Five pairs of QTL showed the additiveradditive epistatic (aa) effect and 16 QTLs showed the aarenvironment interaction (aae) effect at the different developmental stages. QTLs with aa effect as well with their environmental interaction effect appeared to vary at different developmental stages. Overall, the results indicated that 100-seed weight in soybean is under developmental, genetic and environmental control.
【语种】英文
【第一作者】韩英鹏
【通讯作者】李文滨
【期刊名称、卷期、页码】Genet. Res 90:481 – 491
【论文发表时间】2007-11-26 00:00:00
【引文索引类型】SCI
【引文索引号】doi:10.1017/S0016672308009865
【学科分类】农艺学

【题目】奶牛隐性乳房炎的病原检测与小白鼠致病性研究
【中文关键词】奶牛隐性乳房炎;病原菌;分离鉴定;致病性;药敏试验
【英文关键词】dairy cow subclinical mastifs;pathogenic bacteria;isolation and identification;pathogenicity;drug sensitivity
【中文摘要】本研究以新疆乌鲁木齐地区的2个奶牛场隐性乳房炎患牛为试验对象,共分离鉴定出21种91株引起奶牛乳房炎的主要病原菌,其中葡萄球菌28株(30.78%),链球菌21株(23.07%),杆菌25株(27.48%),其他细菌17株(18.67%)。对主要病原菌通过动物试验确定致病力较强的菌为金黄色葡萄球菌、克雷伯氏菌和大肠杆菌。同时对l7大类主要病原菌共3O种药物的药敏试验结果表明,在奶牛隐性乳房炎中应用较多的青霉素、四环素等抗生素对常见致病菌几乎无效,而左氧氟沙星、呋喃妥因、头孢噻肟、阿米卡星则显示出较好的抑菌作用。
【英文摘要】Milk samples of subclinical mastitis were collected from two dairy cow farms in Xinjiang,91 strains of bacteria which contain 2 1 species were isolated and identificated from milk specimens.There were 28 strains of Staphylococci,21 strains of Streptococcus,25 strains of bacillus and 17 other strains,the rate was 30.78%,23.07% ,27.48% and 18.67%respectively.Animal test of the main pathogenic bacteria had certained that the higher pathogenicity strains were Sta phylococcusaureus, Klebsiella and E.coli.The results of 30 drugs sensitivity test showed pathogenic bacteria almost were ineffective to penicillin and tetracycline frequently used,while levofloxacin,furadantin,cefotaxim and amikacin had a fairly good bacteriostasis.
【语种】中文
【第一作者】张雪梅
【通讯作者】刘明军
【期刊名称、卷期、页码】中国畜牧兽医,2009,36(6)

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【引文索引号】null
【学科分类】微生物学

【题目】杀菌剂抑霉唑人工抗原的合成和鉴定
【中文关键词】抑霉唑;半抗原;人工抗原;合成;鉴定
【英文关键词】imazalil;hapten;antigen;synthesis;identification
【中文摘要】以咪唑乙醇为原料,与6- 溴己酸乙酯发生取代反应后再经水解反应合成抑霉唑半抗原(6-[1-(2,4- 二氯苯基)-2-(1- 咪唑基)乙氧基]己酸)。产物经薄层层析和1H-NMR 鉴定后,采用活化酯法分别与牛血清蛋白(BSA)和卵清白蛋白(OVA)偶联得到免疫原(HIA-BSA)和包被原(HIA-OVA),紫外光谱分析法计算得其偶联比分别为13:1 和7:1,初步说明人工抗原合成成功。通过免疫动物获得效价为1:64000 的抗体,采用间接竞争ELISA 法测定抗体的IC50 值为1.76 μg/mL,从而进一步证明人工抗原合成成功,所得的抗体可用于ELISA 检测试剂盒的研制。
【英文摘要】Abstract:In this study, imazalil (6-[1-(2,4-dichloro-phenyl)-2-(1-imidazolyl) ethoxy] hexanoic acid) was synthesized via substitution reaction between imidazole ethanol and 6-bromo-ethyl followed by hydrolysis reaction to provide a hapten. The synthesized product was identified by thin-layer chromatography (TLC) and 1H-NMR. The hapten was conjugated with bovine serum albumin (BSA) and ovalbumin (OVA) to obtain artificial immune antigen and artificial coating antigen, respectively. The coupling molar ratios were calculated to be 13:1 and 7:1 according to UV spectroscopy analysis, which suggests that artificialantigens are both synthesized successfully. The titer of the antibodies secreted by immunized animals was 1:64000 and the IC50 value was 1.76 μg/L determined by indirect ELISA, which further confirms successful synthesis of artificial antigens. The obtained antibodies can be used for the development of ELISA test kit.
【语种】中文
【第一作者】周映霞
【通讯作者】焦必宁
【期刊名称、卷期、页码】食品科学,2010,31(03):271-278.
【论文发表时间】2010-02-01 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】食品科学技术基础学科

【题目】手工磨碎和机械粉碎制样对柑桔叶片金属元素测试结果的影响
【中文关键词】柑桔叶片;制样方式;金属元素;测试
【英文关键词】无
【中文摘要】采用手工碾钵磨制和不锈钢质粉碎机制备柑桔叶片样品!用火焰原子吸收分光光度法测试钾、钙、镁、铁、锰、铜、锌等7种金属元素含量.结果表明,柑桔叶样中上述7种元素含量测试数据经t测验分析,各自t值均小于t0.10,14值,同种元素的测试值之间不存在显著性差异,即柑桔叶片中7种金属元素测试,机械粉碎与手工磨碎两种方式制样,其测试结果具有一致性。
【英文摘要】无
【语种】中文
【第一作者】陈爱华
【通讯作者】焦必宁
【期刊名称、卷期、页码】中国南方果树,2009,38(5):5-6
【论文发表时间】2009-11-16 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】食品科学技术基础学科

【题目】一种基于形状文法的产品设计DNA推理方法
【中文关键词】工业设计; 推理方法;形状文法;产品设计 DNA

【英文关键词】industrial design; reasoning method ; shape grammar ; design deoxyribonucleic acid
【中文摘要】为在较短周期内产生系列化设计方案并保持品牌风格的继承性, 提出了基于形状文法的产品设计 DNA推理方法.将显性特征作为初始形状, 并通过样本收集、 专家访谈、 设计形态分析3个步骤进行提取. 形状规则分为生成性规则和修改性规则, 对应遗传和变异.进一步提出生成性规则为产品造型特征的添加和置换,修改性规则为仿射变换和贝塞尔曲线变换,同时指出具体形状规则应根据产品造型特征与感性意象之间的匹配关系以及约束规则加以确定.最后以摩托罗拉手机改款设计为例,用语意差异法检验设计方案.结果表明:分别有 88 %和 71 %的受试者认为新设计方案　符合原有品牌风格,具有运动感, 基本满足设计要求,从而验证了该方法的有效性和实用性.
【英文摘要】Abst ract : A m ethod o f design deoxy ri bonuc l e ic acid (DNA) reasoni ng based on shape g ramm ar ispropo sed fo r generati ng series of ne w de sign s and m ainta i n i ng the brand sty le . The explic i t cues o fdesign DNA are def i ned as the initial shapew hich can be ex t racted t hrough the co l lection o f samp l e s ,expert interv ie w and de sign fo r m ana l y sis . Shape ru l e s are div ided i nto generation r u les andm od i f i　cat i on rules w h ich co rre spond to hered i ties and v ari a ti on s . Furt her m ore , the generation rules i nc l udeacce s si ons and replacem ents o f forma l features and mod i f icat i on ru l e s are i m plem ented thr o ugh theaff ine transfo r m and Bez i er curve s t rans fo r m. On this basis , t he spec i f ic shape r u les are conf i rmedacco rding to the con s tra i nt r u l e s and the m atch i ng bet w een i mage cognition and forma l fea ture s . F i　nally , tak i ngMOTOROLA mobile phone face lift design as an example which was tested by semanticd if ferentialm ethod, the result shows that 88% subjects considered the new design accorded w ith the origina l brand style and 71 % subjects had the image of sporty . So the ef fectiveness and practicality of the method were verif ied .
【语种】中文
【第一作者】卢兆麟
【通讯作者】卢兆麟
【期刊名称、卷期、页码】东南大学学报(自然科学版),2010, 40 (4) : 704-711
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【引文索引号】10.3969
【学科分类】工程控制论

【题目】Size effect of Se-enriched green tea particles on in vitro antioxidant and antitumor activities
【中文关键词】Superfine Se-enriched green tea; particle size; antioxidant; antitumor
【英文关键词】Superfine Se-enriched green tea; particle size; antioxidant; antitumor
【中文摘要】The antioxidant and antitumor activities (in vitro) of superfine regular and Se-enriched green tea particles with different sizes (3.52 μm and 220 nm) were investigated in this paper. The vitamin C and tea polyphenol contents of green tea in different sizes were significantly different, and amino acid and chlorophyll just changed a little. The antioxidant activity of green tea particles was evaluated by DPPH radical scavenging and linoleic acid peroxidation inhibition methods, and the antitumor activity was evaluated by antiproliferation assay on HepG2, A549, and MGC803 cells. The results indicated that enrichment of selenium endowed green tea with higher antioxidant activity and antitumor activity on HepG2 and A549 cells but not on MGC803 cells. The DPPH radical scavenging rates of regular and Se-enriched green tea of 220 nm (67.87% and 69.49%, respectively) were significantly greater than that of 3.52 μm, but the inhibition of linoleic acid peroxidation for green tea of 220 nm was lower. The inhibitory rates of green tea of 220 nm on HepG2, A549, and MGC803 cells achieved 77.35%, 80.76%, and 87.54% for regular green tea, and 82.51%, 88.09%, and 74.48% for Se-enriched green tea at the dose of 100 μgmL-1, values that were all significantly higher compared to that of 3.52 μm.
【英文摘要】The antioxidant and antitumor activities (in vitro) of superfine regular and Se-enriched green tea particles with different sizes (3.52 μm and 220 nm) were investigated in this paper. The vitamin C and tea polyphenol contents of green tea in different sizes were significantly different, and amino acid and chlorophyll just changed a little. The antioxidant activity of green tea particles was evaluated by DPPH radical scavenging and linoleic acid peroxidation inhibition methods, and the antitumor activity was evaluated by antiproliferation assay on HepG2, A549, and MGC803 cells. The results indicated that enrichment of selenium endowed green tea with higher antioxidant activity and antitumor activity on HepG2 and A549 cells but not on MGC803 cells. The DPPH radical scavenging rates of regular and Se-enriched green tea of 220 nm (67.87% and 69.49%, respectively) were significantly greater than that of 3.52 μm, but the inhibition of linoleic acid peroxidation for green tea of 220 nm was lower. The inhibitory rates of green tea of 220 nm on HepG2, A549, and MGC803 cells achieved 77.35%, 80.76%, and 87.54% for regular green tea, and 82.51%, 88.09%, and 74.48% for Se-enriched green tea at the dose of 100 μgmL-1, values that were all significantly higher compared to that of 3.52 μm.
【语种】英文

【第一作者】李华佳
【通讯作者】胡秋辉
【期刊名称、卷期、页码】Journal of Agricultural and Food Chemistry,2008,56(12):4529-4533
【论文发表时间】2008-05-21 00:00:00
【引文索引类型】SCI
【引文索引号】10.1021/jf0731200
【学科分类】食品科学技术基础学科

【题目】Optimization of Fabrication Parameters To Produce Chitosan-Tripolyphosphate Nanoparticles for Delivery of Tea Catechins
【中文关键词】Chitosan; chitosan-tripolyphosphate nanoparticles; controlled release; encapsulation;nanoparticle surface charge; nanoparticle size; tea catechins
【英文关键词】Chitosan; chitosan-tripolyphosphate nanoparticles; controlled release; encapsulation;nanoparticle surface charge; nanoparticle size; tea catechins
【中文摘要】This work investigated the polyanion-initiated gelation process in fabricating chitosan-tripolyphosphate (CS-TPP) nanoparticles intended to be used as carriers for delivering tea catechins. The results demonstrated that the particle size and surface charge of CS-TPP nanoparticles could be controlled by fabrication conditions. For preparation of CS-TPP nanoparticles loaded with tea catechins, the effects of modulating conditions including contact time between CS and tea catechins, CS molecular mass, CS concentration, CS-TPP mass ratio, initial pH value of CS solution, and concentration of tea catechins on encapsulation efficiency and the release profile of tea catechins in vitro were examined systematically. The study found that the encapsulation efficiency of tea catechins in CSTPP nanoparticles ranged from 24 to 53%. In addition, FT-IR analysis showed that the covalent bonding and hydrogen bonding between tea catechins and CS occurred during the formation of CSTPP nanoparticles loaded with tea catechins. Furthermore, studies on the release profile of tea catechins in vitro demonstrated that the controlled release of tea catechins using CS-TPP nanoparticles was achievable.
【英文摘要】This work investigated the polyanion-initiated gelation process in fabricating chitosan-tripolyphosphate (CS-TPP) nanoparticles intended to be used as carriers for delivering tea catechins. The results demonstrated that the particle size and surface charge of CS-TPP nanoparticles could be controlled by fabrication conditions. For preparation of CS-TPP nanoparticles loaded with tea catechins, the effects of modulating conditions including contact time between CS and tea catechins, CS molecular mass, CS concentration, CS-TPP mass ratio, initial pH value of CS solution, and concentration of tea catechins on encapsulation efficiency and the release profile of tea catechins in vitro were examined systematically. The study found that the encapsulation efficiency of tea catechins in CSTPP nanoparticles ranged from 24 to 53%. In addition, FT-IR analysis showed that the covalent bonding and hydrogen bonding between tea catechins and CS occurred during the formation of CSTPP nanoparticles loaded with tea catechins. Furthermore, studies on the release profile of tea catechins in vitro demonstrated that the controlled release of tea catechins using CS-TPP nanoparticles was achievable.
【语种】英文
【第一作者】胡兵
【通讯作者】曾晓雄
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【引文索引类型】SCI
【引文索引号】10.1021/jf801111c
【学科分类】食品科学技术基础学科

【题目】液相色谱法测定柑橘果实中类黄酮的方法研究
【中文关键词】高效液相色谱;柑桔;类黄酮
【英文关键词】high performance liquid chromatography;citrus;flavonoids
【中文摘要】文中以柑橘中常见的、含量丰富的柚皮素-7-β-芸香糖苷等10种类黄酮为研究对象,建立了同时测定柑橘中黄烷酮和多甲氧基黄酮含量的高效液相色谱分析方法。采用Waters Symmetry C_(18)色谱柱(250 mm×4.6 mm,5 μm),流动相为0.2%乙酸水溶液和乙腈,梯度洗脱,二极管阵列检测器,检测波长为287 nm和330 nm,柱温25°C,流速1.0 mL/min。外标法定量,柚皮素-7-β-芸香糖苷、柚皮苷、橙皮苷、新橙皮苷、香风草苷、柚皮素、橙皮素、甜橙黄酮、川皮苷和桔黄酮等

10种类黄酮的线性范围为0.01~27.00 mg/L(r≥0.99),检出限为0.01~0.02 mg/L。果汁的平均加标回收率为在94.20%~106.58%之间,相对标准偏差为1.15%~5.41%;果皮的平均加标回收率为95.15%~101.19%,相对标准偏差为1.47%~3.78%。

【英文摘要】Flavonoids,which are rich in citrus fruits,are good to health.Therefore,studies on how todetermine the amount of flavonoids had become fl hot research field.A method was established for the identification and quantification of flavonoids including flavanones and polymethoxyflavones in citrus fruits by reverse—phase HPLC coupled with photodiode array detection using Waters Symmetry C18 column.The mobile phase used was 0.2%acetic acid solvent and acetonitrile,in a concentration gradient,and the column temperature was 25°C.the UV detection wavelengths were 287 nm and 330 nm.The flavonoids were quantifled by external standard method.The linear ranges of 10 flavonoids were 0.01~27.00 mg/L(r≥O.99),and the detection 1imits were 0.0 1~O.02 mg/L.The average recoveries of flavonoids in juice and dry peeI powder were 94.20%~106.58%and 95.15%~101.19%,RSD were 1.15%~5.41%and 1.47%~3.78% respectively.The analytic parameters showed that the method was sensitive,reliable,accurate and reproducible.

【语种】中文

【第一作者】付陈梅

【通讯作者】焦必宁

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【引文索引类型】其他

【引文索引号】null

【学科分类】食品科学技术基础学科

【题目】奶牛乳房炎与核转录因子KB基因的表达调控

【中文关键词】NF-ｋB;奶牛乳房炎;奶牛

【英文关键词】nuclear factor ｋB;mastitis;dairy cow

【中文摘要】核转录因子(nuclear{actor-ｋB,NF-ｋB)是一个广泛存在于哺乳动物细胞中的转录因子,参与机体的免疫反应、细胞黏附、细胞分化、细胞增殖与凋亡及应激反应等。在奶牛感染乳房炎时,大部分涉及中性白细胞移行和激活的炎性蛋白质的编码基因在他们的启动子区都包含一个可结合NF-ｋB的ｋ B位点,因此在一定程度上依赖NF-ｋB调控这些基因的表达。笔者 详细的阐述NF-ｋB基因在奶牛乳房炎发病过程中的特点、作用和表达机制,为从分子水平认识和治疗奶牛乳房炎提供一定的文献支持。

【英文摘要】Nuclear factor-ｋB(NF-ｋB)is widespread in mammal which is responsible for immune response,cell adhesion, differentiation,proliferation and apoptosis.Most of the genes encoding inflammatory proteins involved in neutrophil migration and activation have been shown to contain KB sites for the NF-ｋB within their promoter region and therefore partly depend on NF-ｋB for their expression,suggesting that this transcription factor might play a critical roles in the pathophysioIogy of mastitis.This paper summarized NF-ｋB characteristic,function and expression mechanism,for the purpose to give some fundamental messages to understand the mechanisms of dairy mastitis.

【语种】中文

【第一作者】袁芳

【通讯作者】刘明军

【期刊名称、卷期、页码】中国畜牧兽医,2009,36(7)

【论文发表时间】2009-07-01 00:00:00

【引文索引类型】其他

【引文索引号】null

【学科分类】畜牧、兽医科学基础学科

【题目】Effect of nano-packing on preservation quality of Chinese jujube

【中文关键词】Chinese jujube (Ziziphus jujuba Mill. var.inermis (Bunge) Rehd);Nano-packing;Preservation

【英文关键词】Chinese jujube (Ziziphus jujuba Mill. var.inermis (Bunge) Rehd);Nano-packing;Preservation

【中文摘要】The effect of a novel nano-packing material on preservation quality of Chinese jujube (Ziziphus jujuba Mill.var. inermis (Bunge) Rehd) during room temperature storage was investigated. The nano-packing material with lower relative humidity, oxygen transmission rate and high longitudinal strength (2.05 g/m2 24 h,12.56 cm3/m2 24 h 0.1 MPa and 40.16 MPa, respectively) was

synthesized by blending polyethylene with nano-powder (nano-Ag, kaolin, anatase TiO2, rutile TiO2). The results showed that the nano-packing material had a quite beneficial effect on physicochemical and sensory quality compared with normal packing material. After 12-day storage, fruit softening, weight loss, browning and climatic evolution of nano-packing were significantly inhibited. Meanwhile, the contents of titrable acid and ascorbic acid were decreased to 0.21%, 251 mg/100 g, for nano-packing and 0.15%, 198 mg/100 g, for normal packing;The contents of total soluble sugar, reducing sugar, total soluble solids and malondialdehyde were increased to 28.4%, 5.2%, 19.5% and 98.9 lmol/g for nano-packing and 30.0%, 6.3%, 23.1% and 149 lmol/g for normal packing. Therefore, the nano-packing could be applied for preservation of Chinese jujube to expand its shelf life and improve preservation quality.

【英文摘要】The effect of a novel nano-packing material on preservation quality of Chinese jujube (Ziziphus jujuba Mill.var. inermis (Bunge) Rehd) during room temperature storage was investigated. The nano-packing material with lower relative humidity, oxygen transmission rate and high longitudinal strength (2.05 g/m2 24 h,12.56 cm3/m2 24 h 0.1 MPa and 40.16 MPa, respectively) was synthesized by blending polyethylene with nano-powder (nano-Ag, kaolin, anatase TiO2, rutile TiO2). The results showed that the nano-packing material had a quite beneficial effect on physicochemical and sensory quality compared with normal packing material. After 12-day storage, fruit softening, weight loss, browning and climatic evolution of nano-packing were significantly inhibited. Meanwhile, the contents of titrable acid and ascorbic acid were decreased to 0.21%, 251 mg/100 g, for nano-packing and 0.15%, 198 mg/100 g, for normal packing;The contents of total soluble sugar, reducing sugar, total soluble solids and malondialdehyde were increased to 28.4%, 5.2%, 19.5% and 98.9 lmol/g for nano-packing and 30.0%, 6.3%, 23.1% and 149 lmol/g for normal packing. Therefore, the nano-packing could be applied for preservation of Chinese jujube to expand its shelf life and improve preservation quality.

【语种】英文
【第一作者】李红梅
【通讯作者】胡秋辉
【期刊名称、卷期、页码】Food Chemistry,2009,114:547-552
【论文发表时间】2008-09-08 00:00:00
【引文索引类型】SCI
【引文索引号】10.1016/j.foodchem.2008.09.085
【学科分类】食品科学技术基础学科

【题目】Inhibition of mitomycin C-induced chromosomal aberrations by micrometer powder of selenium-enriched green tea in mice spermatocytes

【中文关键词】Micrometer powder of Se-enriched greentea;Chromosomal aberration assay;Anticlastogenicity;Mitomycin C;Antioxidant enzymes
【英文关键词】Micrometer powder of Se-enriched greentea;Chromosomal aberration assay;Anticlastogenicity;Mitomycin C;Antioxidant enzymes

【中文摘要】The anticlastogenic effect of micrometer powder of selenium-enriched green tea (MSTP) was evaluated by using a chromosomal aberration assay in mouse testicular cells. Animals fed with a Se-deficient diet were treated with MSTP, micrometer powder of regular green tea (MRTP), selenite, and MRTP+ selenite for 30 days by an intragastric route, followed by treatment of mitomycin C (MMC) on day 19 through intraperitoneal injection (ip). Selenium status and antioxidant enzymes were measured. Results indicated that MSTP showed a significant capability to reduce the incidence of MMC-induced chromosomal aberrations in spermatocytes from 22.7% to 6.7%. This inhibitory was highest, for MSTP, at 73.1%, whileit was only 38.4% for MRTP. After 30 days of a Se-deficient diet, mice, either with or without the MMC treatment, showed a lower selenium concentration in blood and liver as well as lower enzyme activity of the antioxidants, GPx and SOD. Supplementation with MSTP, selenite, or selenite +MRTP enhanced the activities of these antioxidant enzymes. This enhancement was accompanied with a concomitant elevation of selenium levels, which favored the synthesis of the seleno-enzyme GPx and protected the cells from the MMC-induced oxidative stress. Our results indicate that MSTP is both able to prevent the chromosomal aberrations induced byMMCin mouse spermatocytes and to enhance GPx and SOD activityin blood serum and liver.

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【语种】英文

【第一作者】李峰

【通讯作者】胡秋辉

【期刊名称、卷期、页码】Mutation Research,2009,675:11 – 16

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【引文索引号】10.1016/j.mrgentox.2009.01.004

【学科分类】食品科学技术基础学科

【题目】Determination of polyphenolic content and antioxidant activity of kudingcha made from Ilex kudingcha C.J.Tseng

【中文关键词】Antioxidant activity; DPPH;FRAP;HPLC;Ilex kudingcha C.J. Tseng;Kudingcha;Polyphenol content;TEAC

【英文关键词】Antioxidant activity; DPPH;FRAP;HPLC;Ilex kudingcha C.J. Tseng;Kudingcha;Polyphenol content;TEAC

【中文摘要】The total polyphenol content and the antioxidant activity of kudingcha made from Ilex kudingcha C.J. Tseng were determined by Folin – Ciocalteu reagent, and DPPH, FRAP, and TEAC methods, respectively. The crude extract (CE) of kudingcha and its four fractions of chloroform (CfF), ethyl acetate (EaF), n-butanol (nBF), and water (WtF) were prepared and subjected to antioxidant evaluation and analysis by high performance liquid chromatography. The extracts of kudingcha contained large amounts of caffeoylquinic acid (CQA) derivatives, including 3-CQA, 5-CQA, 3,4-diCQA, 3,5-diCQA, and 4,5-diCQA, and showed potent antioxidant activity. The antioxidant activities of CE and its fractions decreased in the order of EaF > nBF > CE > WtF > CfF, according to the DPPH assay and FRAP assay, which were the same, with the exception of the rank order of CfF and WtF, as the TEAC assay. Furthermore, a satisfactory correlation between total polyphenol content and antioxidant activity was observed.

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【语种】英文

【第一作者】刘丽香

【通讯作者】曾晓雄

【期刊名称、卷期、页码】Food Chemistry,2009,(112):35-41

【论文发表时间】2008-05-11 00:00:00

【引文索引类型】SCI

【引文索引号】10.1016/j.foodchem.2008.05.038

【学科分类】食品科学技术基础学科

【题目】Effect of superfine grinding on properties of ginger powder

【中文关键词】Ginger;Superfine grinding;Particle size;Physical and chemical properties

【英文关键词】Ginger;Superfine grinding;Particle size;Physical and chemical properties

【中文摘要】The superfine grinding could produce a narrow and uniform particle size distribution in dry ginger. The physical – chemical properties of five types of ginger powders with particles size of 300, 149, 74, 37 and 8.34 lm were investigated. The size was smaller for ginger powders, greater for the surface area (from 0.331 to 1.320 m2/g) and bulk density (from 0.3069 to 0.3426

g/ml) and smaller for the angle of repose (from 51.50_ to 46.33_) and slide (from 45.80_ to 39.50_). The values of water absorption index (WAI), water solubility index (WSI) and protein content significantly increased with decreasing the size of ginger particles ($p < 0.05$). Interestingly, the values of WAI, WSI and protein content of ginger powder with a particle size of 8.34 lm during soaking reached 0.52 g/g, 33.70% and 84.93% for 60 min, respectively. SEM observations revealed the shape and surface morphology of five types of ginger powders.

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【语种】英文

【第一作者】赵晓燕

【通讯作者】盖国胜

【期刊名称、卷期、页码】Journal of Food Engineering,2009,91:217-222.

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【引文索引号】10.1016/j.jfoodeng.2008.08.024

【学科分类】食品科学技术基础学科

【题目】Application of superfine pulverization technology in Biomaterial Industry

【中文关键词】Biological powder technology; Superfine powder; Biomaterials; Characteristics; Application; Sterilizing

【英文关键词】Biological powder technology; Superfine powder; Biomaterials; Characteristics; Application; Sterilizing

【中文摘要】Biological powder technology is a new type of biomaterial processing, including plant material, animal material, mineral and microorganism, tc. With the rapid and steady development of superfine power, the scientists have realized that biological powder technology can be applied many imilarly basic process-unit operations. This paper intends to analyze characteristics, functions, study methods, the development of superfine ulverization technology in biomaterial industry and sterilizing of biomaterial superfine powder.

【英文摘要】Biological powder technology is a new type of biomaterial processing, including plant material, animal material, mineral and microorganism, tc. With the rapid and steady development of superfine power, the scientists have realized that biological powder technology can be applied many imilarly basic process-unit operations. This paper intends to analyze characteristics, functions, study methods, the development of superfine ulverization technology in biomaterial industry and sterilizing of biomaterial superfine powder.

【语种】英文

【第一作者】赵晓燕

【通讯作者】盖国胜

【期刊名称、卷期、页码】Journal of the Taiwan Institute of Chemical Engineers,2009,40:337-343

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【引文索引类型】SCI

【引文索引号】10.1016/j.jtice.2008.10.001

【学科分类】食品科学技术基础学科

【题目】Characterization and High-Pressure Microfluidization-induced Activation of Polyphenoloxidase from Chinese Pear (Pyrus pyrifolia Nakai)

【中文关键词】Polyphenoloxidase; Pyrus pyrifolia Nakai; catechol; characterization; high-pressure microfluidization; activation

【英文关键词】Polyphenoloxidase; Pyrus pyrifolia Nakai; catechol; characterization; high-pressure microfluidization; activation

【中文摘要】Polyphenoloxidase (PPO) from Chinese pear (Pyrus pyrifolia Nakai) was characterized using catechol as a substrate. PPO had a Vmax of 289.2 units/min and a Km of 3.8 mmol/L, which indicates that P. pyrifolia Nakai PPO has a great affinity for catechol. The catalyzing reaction velocity was proportional to the PPO concentration. The optimum pH and temperature for PPO activity were 4.5 and 45 C, respectively. In addition, an investigation was made on the effect of high-pressure microfluidization of

treatment pressure, treatment pass, and enzyme solution temperature on P. pyrifolia Nakai PPO. As the treatment pressure increased, the PPO relative activity was elevated from 100% untreated to 182.57% treated at 180 MPa. PPO relative activity was enhanced as the treatment pass increased. PPO solution temperature (25, 35, and 45 C) had a significant effect on PPO relative activity when treated at 120 and 140 MPa.
【英文摘要】Polyphenoloxidase (PPO) from Chinese pear (Pyrus pyrifolia Nakai) was characterized using catechol as a substrate. PPO had a Vmax of 289.2 units/min and a Km of 3.8 mmol/L, which indicates that P. pyrifolia Nakai PPO has a great affinity for catechol. The catalyzing reaction velocity was proportional to the PPO concentration. The optimum pH and temperature for PPO activity were 4.5 and 45 C, respectively. In addition, an investigation was made on the effect of high-pressure microfluidization of treatment pressure, treatment pass, and enzyme solution temperature on P. pyrifolia Nakai PPO. As the treatment pressure increased, the PPO relative activity was elevated from 100% untreated to 182.57% treated at 180 MPa. PPO relative activity was enhanced as the treatment pass increased. PPO solution temperature (25, 35, and 45 C) had a significant effect on PPO relative activity when treated at 120 and 140 MPa.
【语种】英文
【第一作者】刘伟
【通讯作者】谢明勇
【期刊名称、卷期、页码】Journal of Agricultural and Food Chemistry,2009,57(12):5376-5380
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【引文索引号】10.1021/jf9006642
【学科分类】食品科学技术基础学科

【题目】Activation and Conformational Changes of Mushroom Polyphenoloxidase by High Pressure Microfluidization Treatment
【中文关键词】High pressure microfluidization;Activation;Mushroom PPO;Conformation
【英文关键词】High pressure microfluidization;Activation;Mushroom PPO;Conformation
【中文摘要】Activation and conformational changes of mushroom polyphenoloxidase (PPO) after high pressure microfluidization treatment were observed by means of UV spectrophotometer, far-UV circular dichroism,fluorescence emission spectra, UV absorption spectra and sulphydryl groups detection. The results indicated that, treated under pressures of 90 MPa, 110 MPa, 130 MPa and 150 MPa one pass, and 150 MPa 1, 2 and 3 passes, respectively, mushroom PPO exhibited an increase in activity. The circular dichroism (CD) analysis demonstrated that some of secondary structures such as α-helix were destroyed. There were some indices that the increase of relative activity was accompanied by a decrease in α-helix content. The fluorescence emission spectra analysis indicated that Trp and Tyr residues in mushroom PPO were more or less exposed tosolvent, and the result was in good agreement with that of UV absorption spectra analysis. The sulphydryl groups detection showed that the sulphydryl groups content on the surface of mushroom PPO was increased. Industrial relevance: Results of the present study show that high pressure microfluidization can not be used to inactivate mushroom PPO. However, it provides a new way for enzyme preparation, such as enzymemodification, with higher activity. High pressure microfluidization can be easily operated, with shorter treatment time and higher food safety compared with chemical methods.
【英文摘要】Activation and conformational changes of mushroom polyphenoloxidase (PPO) after high pressure microfluidization treatment were observed by means of UV spectrophotometer, far-UV circular dichroism,fluorescence emission spectra, UV absorption spectra and sulphydryl groups detection. The results indicated that, treated under pressures of 90 MPa, 110 MPa, 130 MPa and 150 MPa one pass, and 150 MPa 1, 2 and 3 passes, respectively, mushroom PPO exhibited an increase in activity. The circular dichroism (CD) analysis demonstrated that some of secondary structures such as α-helix were destroyed. There were some indices that the increase of relative activity was accompanied by a decrease in α-helix content. The fluorescence emission spectra analysis indicated that Trp and Tyr residues in mushroom PPO were more or less exposed tosolvent, and the result was in good agreement with that of UV absorption spectra analysis. The sulphydryl groups detection showed that the sulphydryl groups content on the surface of mushroom PPO was increased. Industrial relevance: Results of the present study show that high pressure microfluidization can not be used to inactivate mushroom PPO. However, it provides a new way for enzyme preparation, such as enzymemodification, with higher activity. High pressure microfluidization can be easily operated, with shorter treatment time and higher food safety compared with chemical methods.
【语种】英文
【第一作者】刘伟

【通讯作者】刘成梅
【期刊名称、卷期、页码】Innovative Food Science and Emerging Technologies,2009,10(2):142-147
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【引文索引号】10.1016/j.ifset.2008.11.009
【学科分类】食品科学技术基础学科

【题目】Efficient procedure for isolating methylated catechins from green tea and effective simultaneous analysis of ten catechins, three purine alkaloids, and gallic acid in tea by high-performance liquid chromatography with diode array detection
【中文关键词】HPLC-DAD;Methylated catechin;Purine alkaloid;Tea;Toyopearl HW-40S column chromatography
【英文关键词】HPLC-DAD;Methylated catechin;Purine alkaloid;Tea;Toyopearl HW-40S column chromatography
【中文摘要】Monomers of (−)-epigallocatechin (EGC), (−)-epigallocatechin gallate (EGCG), (−)-epicatechin (EC), (−)-epicatechin gallate (ECG), (−)-epigallocatechin 3-O-(3-O-methyl) gallate (EGCG3__Me) and (−)-3-Omethyl epicatechin gallate (ECG3_Me) (purity, >97%) were successfully prepared from extract of green tea by two-time separation with Toyopearl HW-40S column chromatography eluted by 80% ethanol. In addition, monomers of (−)-catechin (C), (−)-gallocatechin (GC), (−)-gallocatechin gallate (GCG), and (−)catechin gallate (CG) (purity, >98%) were prepared from EC, EGC, EGCG, and ECG by heat-epimerization and semi-preparative HPLC chromatography. With the prepared catechin standards, an effective and simultaneous HPLC method for the analysis of gallic acid, tea catechins, and purine alkaloids in tea was developed in the present study. Using an ODS-100Z C18 reversed-phase column, fourteen compounds were rapidly separated within 15 min by a linear gradient elution of formic acid solution (pH 2.5) and methanol. A 2.5 – 7-fold reduction in HPLC analysis time was obtained from existing analytical methods (40 – 105 min) for gallic acid, tea catechins including O-methylated catechins and epimers of epicatechins, aswell as purine alkaloids. Detection limitswere generally on the order of 0.1 – 1.0 ng for most components at the appliedwavelength of 280 nm. Method replication generally resulted in intraday and interday peak area variation of <6% for most tested components in green, Oolong, black, and pu-erh teas. Recovery rates were generally within the range of 92 – 106% with RSDs less than 4.39%. Therefore, advancement has been readily achievable with commonly used chromatography equipments in the present study, which will facilitate the analytical, clinical, and other studies of tea catechins.
【英文摘要】Monomers of (−)-epigallocatechin (EGC), (−)-epigallocatechin gallate (EGCG), (−)-epicatechin (EC), (−)-epicatechin gallate (ECG), (−)-epigallocatechin 3-O-(3-O-methyl) gallate (EGCG3__Me) and (−)-3-Omethyl epicatechin gallate (ECG3_Me) (purity, >97%) were successfully prepared from extract of green tea by two-time separation with Toyopearl HW-40S column chromatography eluted by 80% ethanol. In addition, monomers of (−)-catechin (C), (−)-gallocatechin (GC), (−)-gallocatechin gallate (GCG), and (−)catechin gallate (CG) (purity, >98%) were prepared from EC, EGC, EGCG, and ECG by heat-epimerization and semi-preparative HPLC chromatography. With the prepared catechin standards, an effective and simultaneous HPLC method for the analysis of gallic acid, tea catechins, and purine alkaloids in tea was developed in the present study. Using an ODS-100Z C18 reversed-phase column, fourteen compounds were rapidly separated within 15 min by a linear gradient elution of formic acid solution (pH 2.5) and methanol. A 2.5 – 7-fold reduction in HPLC analysis time was obtained from existing analytical methods (40 – 105 min) for gallic acid, tea catechins including O-methylated catechins and epimers of epicatechins, aswell as purine alkaloids. Detection limitswere generally on the order of 0.1 – 1.0 ng for most components at the appliedwavelength of 280 nm. Method replication generally resulted in intraday and interday peak area variation of <6% for most tested components in green, Oolong, black, and pu-erh teas. Recovery rates were generally within the range of 92 – 106% with RSDs less than 4.39%. Therefore, advancement has been readily achievable with commonly used chromatography equipments in the present study, which will facilitate the analytical, clinical, and other studies of tea catechins.
【语种】英文
【第一作者】胡兵
【通讯作者】曾晓雄
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【学科分类】食品科学技术基础学科

【题目】Preparation and pH stability of ferrous glycinate liposomes
【中文关键词】Ferrous glycinate; liposomes; encapsulation efficiency; stability; gastrointestinal juice
【英文关键词】Ferrous glycinate; liposomes; encapsulation efficiency; stability; gastrointestinal juice
【中文摘要】Ferrous glycinate liposomes were prepared by reverse phase evaporation method. The effects of cholesterol, Tween 80, ferrous glycinate concentration, hydrating medium, pH of hydrating medium, and sonication strength on the encapsulation efficiency of liposomes were investigated. Encapsulation efficiency was significantly influenced by the different technique parameters. Ferrous glycinate liposomes might be obtained with high encapsulation efficiency of 84.80% under the conditions of optimized technique parameters. The zeta potential and average particle size of liposomes in the hydrating medium of pH 7.0 were 9.6 mV and 559.2 nm, respectively. The release property of ferrous glycinate liposomes in vitro was investigated in simulated gastrointestinal juice. A small amount of ferrous glycinate was released from liposomes in the first 4 h in simulated gastrointestinal juice. The mean diameters of liposomes increased from 559.2 to 692.9, 677.8, and 599.3 nm after incubation in simulated gastrointestinal juice of pH 1.3, 7.5, and 7.5 in the presence of bile salts, respectively. Results showed that the stability of ferrous glycinate in strong acid environment was greatly improved by encapsulation in liposomes, which protected ferrous glycinate from disrupting the extracapsular environment by lipid bilayer. The bioavailability of ferrous glycinate, as the iron source for biological activity including hemoglobin formation, may be increased. The ferrous glycinate liposomes may be a kind of promising iron fortifier.
【英文摘要】Ferrous glycinate liposomes were prepared by reverse phase evaporation method. The effects of cholesterol, Tween 80, ferrous glycinate concentration, hydrating medium, pH of hydrating medium, and sonication strength on the encapsulation efficiency of liposomes were investigated. Encapsulation efficiency was significantly influenced by the different technique parameters. Ferrous glycinate liposomes might be obtained with high encapsulation efficiency of 84.80% under the conditions of optimized technique parameters. The zeta potential and average particle size of liposomes in the hydrating medium of pH 7.0 were 9.6 mV and 559.2 nm, respectively. The release property of ferrous glycinate liposomes in vitro was investigated in simulated gastrointestinal juice. A small amount of ferrous glycinate was released from liposomes in the first 4 h in simulated gastrointestinal juice. The mean diameters of liposomes increased from 559.2 to 692.9, 677.8, and 599.3 nm after incubation in simulated gastrointestinal juice of pH 1.3, 7.5, and 7.5 in the presence of bile salts, respectively. Results showed that the stability of ferrous glycinate in strong acid environment was greatly improved by encapsulation in liposomes, which protected ferrous glycinate from disrupting the extracapsular environment by lipid bilayer. The bioavailability of ferrous glycinate, as the iron source for biological activity including hemoglobin formation, may be increased. The ferrous glycinate liposomes may be a kind of promising iron fortifier.
【语种】英文
【第一作者】丁保苗
【通讯作者】张晓鸣
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【学科分类】食品科学技术基础学科

【题目】Novel and efficient method for immobilization and stabilization of β-D-galactosidase by covalent attachment onto magnetic Fe3O4 – Chitosan nanoparticles
【中文关键词】Magnetic Fe3O4 nanoparticle;Chitosan;_-d-Galactosidase;Immobilization;Galactooligosaccharide
【英文关键词】Magnetic Fe3O4 nanoparticle;Chitosan;_-d-Galactosidase;Immobilization;Galactooligosaccharide
【中文摘要】A novel and efficient immobilization of -d-galactosidase from Aspergillus oryzae has been developed by using magnetic Fe3O4 – chitosan (Fe3O4 – CS) nanoparticles as support. The magnetic Fe3O4 – CS nanoparticles were prepared by electrostatic adsorption of chitosan onto the surface of Fe3O4 nanoparticles made through co-precipitation of Fe2+ and Fe3+. The resultant material was characterized by transmission electron microscopy, X-ray diffraction, Fourier transform infrared spectroscopy, vibrating sample magnetometry and thermogravimetric analysis. -d-Galactosidase was covalently immobilized onto the nanocomposites using glutaraldehyde as activating agent. The immobilization process was optimized by examining immobilized time, cross-linking time, enzyme concentration, glutaraldehyde concentration,the initial pH values of glutaraldehyde and the enzyme solution. As a result, the immobilized enzyme presented a higher storage, pH and thermal stability than the soluble enzyme. Galactooligosaccharide was formed with lactose as substrate by using the immobilized enzyme as biocatalyst, and amaximumyield of 15.5% (w/v) was achieved when about

50% lactose was hydrolyzed. Hence, the magnetic Fe3O4 – chitosan nanoparticles are proved to be an effective support for the immobilization of -d-galactosidase.

【英文摘要】A novel and efficient immobilization of -d-galactosidase from Aspergillus oryzae has been developed by using magnetic Fe3O4 – chitosan (Fe3O4 – CS) nanoparticles as support. The magnetic Fe3O4 – CS nanoparticles were prepared by electrostatic adsorption of chitosan onto the surface of Fe3O4 nanoparticles made through co-precipitation of Fe2+ and Fe3+. The resultant material was characterized by transmission electron microscopy, X-ray diffraction, Fourier transform infrared spectroscopy, vibrating sample magnetometry and thermogravimetric analysis. -d-Galactosidase was covalently immobilized onto the nanocomposites using glutaraldehyde as activating agent. The immobilization process was optimized by examining immobilized time, cross-linking time, enzyme concentration, glutaraldehyde concentration,the initial pH values of glutaraldehyde and the enzyme solution. As a result, the immobilized enzyme presented a higher storage, pH and thermal stability than the soluble enzyme. Galactooligosaccharide was formed with lactose as substrate by using the immobilized enzyme as biocatalyst, and amaximumyield of 15.5% (w/v) was achieved when about 50% lactose was hydrolyzed. Hence, the magnetic Fe3O4 – chitosan nanoparticles are proved to be an effective support for the immobilization of -d-galactosidase.

【语种】英文

【第一作者】潘成玲

【通讯作者】曾晓雄

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【学科分类】食品科学技术基础学科

【题目】Antioxidative activity and properties of gelatin films incorporated with tea polyphenol-loaded chitosan nanoparticles

【中文关键词】gelatin; tea polyphenols; chitosan nanoparticles; film; antioxidant activity

【英文关键词】gelatin; tea polyphenols; chitosan nanoparticles; film; antioxidant activity

【中文摘要】BACKGROUND: Gelatin film is widely used for the protection of food quality. In order to improve its antioxidant activity,natural antioxidant tea polyphenol-loaded chitosan nanoparticles (TPCN) were prepared and incorporated into gelatin film.The antioxidant effect of TPCN against the oxidation of fish oil was investigated, as well as the release of TP from nanoparticles in the film.RESULTS: The incorporation of TPCN greatly decreased the tensile strength and oxygen permeability but increased the water vapour permeability and affected the transparency of gelatin film. Scanning electron microscopy images indicated that extensive interference was embedded with TPCN in the film microstructure. The peroxide value of fish oil packaged with films incorporated with TPCN was lower than that of fish oil packaged with control films during the incubation period. The radicalscavenging activity of films incorporated with TPCN was higher than that of control films, and increasing radical-scavenging activity of the former was observed during the storage period.CONCLUSION: The antioxidant activity and properties of gelatin film were affectedy TPCN incorporation and storage time.Also, the oxidation of fish oil was retarded. The addition of TPCN could improve the antioxidant activity of gelatin film, and the release of TP from nanoparticles in the film was achieved during the storage period.

【英文摘要】BACKGROUND: Gelatin film is widely used for the protection of food quality. In order to improve its antioxidant activity,natural antioxidant tea polyphenol-loaded chitosan nanoparticles (TPCN) were prepared and incorporated into gelatin film.The antioxidant effect of TPCN against the oxidation of fish oil was investigated, as well as the release of TP from nanoparticles in the film.RESULTS: The incorporation of TPCN greatly decreased the tensile strength and oxygen permeability but increased the water vapour permeability and affected the transparency of gelatin film. Scanning electron microscopy images indicated that extensive interference was embedded with TPCN in the film microstructure. The peroxide value of fish oil packaged with films incorporated with TPCN was lower than that of fish oil packaged with control films during the incubation period. The radicalscavenging activity of films incorporated with TPCN was higher than that of control films, and increasing radical-scavenging activity of the former was observed during the storage period.CONCLUSION: The antioxidant activity and properties of gelatin film were affectedy TPCN incorporation and storage time.Also, the oxidation of fish oil was retarded. The addition of TPCN could improve the antioxidant activity of gelatin film, and the release of TP from nanoparticles in the film was achieved during the storage period.

【语种】英文

【第一作者】包世宝

【通讯作者】王章

【期刊名称、卷期、页码】Journal of the Science of Food and Agriculture,2009,89:2692-2700
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【引文索引号】10.1002/jsfa.3775
【学科分类】食品科学技术基础学科

【题目】Nanoliposomes mediate coenzyme Q10 transport and accumulation across human intestinal Caco-2 cell monolayer
【中文关键词】Coenzyme Q10; nanoliposomes; transport; accumulation; Caco-2 cells
【英文关键词】Coenzyme Q10; nanoliposomes; transport; accumulation; Caco-2 cells
【中文摘要】The feasibility of using nanoliposomes as an oral delivery system to improve the intestinal absorption of coenzyme Q10 (CoQ10, ubiquinone-10) was examined using Caco-2 cell monolayers as the model of human intestinal epithelium. The apparent permeability coefficient of CoQ10 with nanoliposomes as vehicles was increased to be 4.19(0.76 10-6 cm/s, which was higher than the favorable intestinal absorption value (1 10-6 cm/s). The kinetic data demonstrated that nanoliposomal CoQ10 transport occurred via passive diffusion and carrier mediation routes. anoliposomes might suppress the modulation activity of the peptide transporter, organic anion transporter, and P-glycoprotein through fluidizing cell membrane. The transported CoQ10 was still in the original oxidative form as ubiquinone-10. However, 70-80% of coenzyme Q10 accumulated by the cells was in the reduced form (ubiquinol-10, CoQ10H2), suggesting that the conversion of CoQ10 to CoQ10H2 takes place in the enterocytes during its absorption. These results indicated that the absorption behavior of CoQ10 was modified through nanoliposomes. The bioavailability of CoQ10 following its oral administration might be improved with nanoliposomes as the delivery system.
【英文摘要】The feasibility of using nanoliposomes as an oral delivery system to improve the intestinal absorption of coenzyme Q10 (CoQ10, ubiquinone-10) was examined using Caco-2 cell monolayers as the model of human intestinal epithelium. The apparent permeability coefficient of CoQ10 with nanoliposomes as vehicles was increased to be 4.19(0.76 10-6 cm/s, which was higher than the favorable intestinal absorption value (1 10-6 cm/s). The kinetic data demonstrated that nanoliposomal CoQ10 transport occurred via passive diffusion and carrier mediation routes. anoliposomes might suppress the modulation activity of the peptide transporter, organic anion transporter, and P-glycoprotein through fluidizing cell membrane. The transported CoQ10 was still in the original oxidative form as ubiquinone-10. However, 70-80% of coenzyme Q10 accumulated by the cells was in the reduced form (ubiquinol-10, CoQ10H2), suggesting that the conversion of CoQ10 to CoQ10H2 takes place in the enterocytes during its absorption. These results indicated that the absorption behavior of CoQ10 was modified through nanoliposomes. The bioavailability of CoQ10 following its oral administration might be improved with nanoliposomes as the delivery system.
【语种】英文
【第一作者】夏书芹
【通讯作者】许时婴
【期刊名称、卷期、页码】Journal of Agricultural and Food Chemistry,2009,57(17):7989-7996
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【学科分类】食品科学技术基础学科

【题目】Formation and characterization of mint oil/S and CS/water microemulsions
【中文关键词】Mint oil;Microemulsion;Phase diagram;Encapsulation efficiency
【英文关键词】Mint oil;Microemulsion;Phase diagram;Encapsulation efficiency
【中文摘要】Preparation and characterisation of microemulsions (ME) with mint oil (MO) as the oil phase were conducted to find a system which could provide a controlled, sustained, and prolonged delivery of MO. The influence of surfactant type and processing parameters on the formation of MO-ME ’ s was studied by comparing the areas of the monophase ME regions in pseudoternary phase diagrams. A 1:1 mixture of the surfactants, AOT and CrEL, was found to be the most effective, and it produced a ME monophase area of about 70%. The monophase regions were analysed by conductivity measurements; the results suggested that O/W regions within the ME phases were formed when the water content was higher than 60 – 65%. As tested with dynamic light scattering (DLS) and head space (HS) GC analysis, the particle size of O/W ME, with 60% water and AOT/CrEL = 1:1 as surfactants, was 20.0 nm and the encapsulation efficiency was 78.4%. The results indicated that a ME of MO/AOT and CrEL/ethanol/water, may be a promising dispersion for the protection of MO in food products.

【英文摘要】Preparation and characterisation of microemulsions (ME) with mint oil (MO) as the oil phase were conducted to find a system which could provide a controlled, sustained, and prolonged delivery of MO. The influence of surfactant type and processing parameters on the formation of MO-ME ’ s was studied by comparing the areas of the monophase ME regions in pseudoternary phase diagrams. A 1:1 mixture of the surfactants, AOT and CrEL, was found to be the most effective, and it produced a ME monophase area of about 70%. The monophase regions were analysed by conductivity measurements; the results suggested that O/W regions within the ME phases were formed when the water content was higher than 60 – 65%. As tested with dynamic light scattering (DLS) and head space (HS) GC analysis, the particle size of O/W ME, with 60% water and AOT/CrEL = 1:1 as surfactants, was 20.0 nm and the encapsulation efficiency was 78.4%. The results indicated that a ME of MO/AOT and CrEL/ethanol/water, may be a promising dispersion for the protection of MO in food products.
【语种】英文
【第一作者】钟芳
【通讯作者】钟芳
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【学科分类】食品科学技术基础学科

【题目】The effect of dynamic high-pressure microfluidization on the activity, stability and conformation of trypsin
【中文关键词】Trypsin;Dynamic high-pressure microfluidization;(DHPM);Activity;pH and thermal stability;Conformation
【英文关键词】Trypsin;Dynamic high-pressure microfluidization;(DHPM);Activity;pH and thermal stability;Conformation
【中文摘要】Dynamic high-pressure microfluidization (DHPM) treatment of trypsin showed no significant effects with relative activities of 98.5% (80 MPa), 98.3% (100 MPa), 97.8% (120 MPa) and 97% (160 MPa). However,DHPM treatment enhanced the pH and thermal stability of trypsin. After 100 min of incubation at 45 C, the residual activity of trypsin treated at 80 MPa was still as high as 96% while the untreated trypsin retained only 86% of its original activity. The optimum pH of trypsin maintained surprising consistency (pH = 7.6); nevertheless, the relative activities were about 97%, 102% and 103% at 80, 100 and 120 MPa, respectively. In addition, DHPM-induced conformational changes of trypsin were observed.The unfolding of trypsin, induced by DHPM treatment, was reflected in the increase in maximum emission fluorescence intensity and exposed SH ontents, as well as the decrease in total SH contents, UV absorbance and a-helix intensity.
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【语种】英文
【第一作者】刘伟
【通讯作者】谢明勇
【期刊名称、卷期、页码】Food Chemistry,2010,123:616-621
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【学科分类】食品科学技术基础学科

【题目】Effect of ultrafine grinding on hydration and antioxidant properties of wheat bran dietary fiber
【中文关键词】Ultrafine grinding;Submicron;Hydration properties;Antioxidant properties;Dietary fiber
【英文关键词】Ultrafine grinding;Submicron;Hydration properties;Antioxidant properties;Dietary fiber

【中文摘要】Wheat bran dietary fiber (DF) powders was prepared by ultrafine grinding, whose effects were investigated on the composition, hydration and antioxidant properties of the wheat bran DF products. The results showed that ultrafine grinding could effectively pulverize the fiber particles to submicron scale.As particle size decrease, the hydration properties (water holding capacity, water retention capacity and swelling capacity) of wheat bran DF were significantly ($p < 0.05$) decreased and a redistribution of fiber components from insoluble to soluble fractions was observed. The antioxidant activities of wheat bran and DF before and after grinding were in terms of 1,1-diphenyl-2-picrylhydrazyl (DPPH) radical scavenging activity, ferrous ion-chelating activity, reducing power and total phenolic content (TPC). Compared with DF before and after grinding, micronized insoluble DF showed increased chelating activity,reducing power and TPC yet decreased DPPH_ radical scavenging activity. Positive correlations were detected between chelating activity, reducing power and TPC.
【英文摘要】Wheat bran dietary fiber (DF) powders was prepared by ultrafine grinding, whose effects were investigated on the composition, hydration and antioxidant properties of the wheat bran DF products. The results showed that ultrafine grinding could effectively pulverize the fiber particles to submicron scale.As particle size decrease, the hydration properties (water holding capacity, water retention capacity and swelling capacity) of wheat bran DF were significantly ($p < 0.05$) decreased and a redistribution of fiber components from insoluble to soluble fractions was observed. The antioxidant activities of wheat bran and DF before and after grinding were in terms of 1,1-diphenyl-2-picrylhydrazyl (DPPH) radical scavenging activity, ferrous ion-chelating activity, reducing power and total phenolic content (TPC). Compared with DF before and after grinding, micronized insoluble DF showed increased chelating activity,reducing power and TPC yet decreased DPPH_ radical scavenging activity. Positive correlations were detected between chelating activity, reducing power and TPC.
【语种】英文
【第一作者】诸科学
【通讯作者】周惠明
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【学科分类】食品科学技术基础学科

【题目】Effect of Nano-Packing on Preservation Quality of Fresh Strawberry (Fragaria ananassa Duch. cv Fengxiang) during Storage at 4°C

【中文关键词】nano-packaging, preservation quality, shelf life, storage, strawberry
【英文关键词】nano-packaging, preservation quality, shelf life, storage, strawberry

【中文摘要】A novel nano-packing material with lower relative humidity, oxygen transmission rate and high longitudinal strength was synthesized by blending polyethylene with nano-powder (nano-Ag, kaolin, anatase TiO2, rutile TiO2), and its effect on preservation quality of strawberry fruits (Fragaria ananassa Duch. cv Fengxiang) was investigated during storage at 4 ◦ C. Results showed that nano-packaging was able to maintain the sensory, physicochemical, and physiological quality of strawberry fruits at a higher level compared with the normal packing (polyethylene bags). After a 12-d storage, decreases in the contents of total soluble solids, titratable acidity, and ascorbic acid of nano-packing were significantly inhibited. Meanwhile, decay rate, anthocyanin, and malondialdehyde contents were decreased to 16.7%, 26.3 mg/100g, 66.3 μ mol/g for nano-packing and 26.8%, 31.9 mg/100g, 75.4 μ mol/g for normal packing; polyphenoloxidase (PPO) and pyrogallol peroxidase (POD) activities were significantly lower in nano-packing than the control. These data indicated that the nano-packaging might provide an attractive alternative to improve preservation quality of the strawberry fruits during extended storage.
【英文摘要】A novel nano-packing material with lower relative humidity, oxygen transmission rate and high longitudinal strength was synthesized by blending polyethylene with nano-powder (nano-Ag, kaolin, anatase TiO2, rutile TiO2), and its effect on preservation quality of strawberry fruits (Fragaria ananassa Duch. cv Fengxiang) was investigated during storage at 4 ◦ C. Results showed that nano-packaging was able to maintain the sensory, physicochemical, and physiological quality of strawberry fruits at a higher level compared with the normal packing (polyethylene bags). After a 12-d storage, decreases in the contents of total soluble solids, titratable acidity, and ascorbic acid of nano-packing were significantly inhibited. Meanwhile, decay rate, anthocyanin, and malondialdehyde contents were decreased to 16.7%, 26.3 mg/100g, 66.3 μ mol/g for nano-packing and 26.8%, 31.9 mg/100g, 75.4 μ mol/g for normal packing; polyphenoloxidase (PPO) and pyrogallol peroxidase (POD) activities were significantly lower in nano-packing than the control. These data indicated that the nano-packaging might provide an attractive alternative to improve preservation quality of the strawberry fruits during extended storage.

【语种】英文
【第一作者】F.M. YANG
【通讯作者】胡秋辉
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【学科分类】食品科学技术基础学科

【题目】Response surface methodology in the optimization of tea polyphenols-loaded chitosan nanoclusters formulations
【中文关键词】Tea polyphenols;Carboxymethyl chitosan;Chitosan hydrochloride;Nanoclusters;Box – Behnken design
【英文关键词】Tea polyphenols;Carboxymethyl chitosan;Chitosan hydrochloride;Nanoclusters;Box – Behnken design
【中文摘要】Response surface methodology was used to optimize tea polyphenols-loaded chitosan nanoclusters preparation conditions, including carboxymethyl chitosan concentration, chitosan hydrochloride concentration and amount of tea polyphenols. The responses particle size and entrapment efficiency of nanoclusters were studied. The optimum conditions of carboxymethyl chitosan concentration,chitosan hydrochloride concentration and amount of tea polyphenols were found to be 3.63, 1.19 and 10.94 mg/mL, respectively. The optimized particle size was 301 nm, and entrapment efficacy of nanoclusters was added up to 83.7%. The results demonstrated that Box – Behnken design methodology was an effective way to obtain the optimal formulation of tea polyphenols-loaded chitosan nanoclusters, and the nanoclusters complexation synthesizing through ionic gelation between carboxymethyl chitosan and chitosan hydrochloride was good biomaterials, which could be successfully used to encapsulate tea olyphenols.
【英文摘要】Response surface methodology was used to optimize tea polyphenols-loaded chitosan nanoclusters preparation conditions, including carboxymethyl chitosan concentration, chitosan hydrochloride concentration and amount of tea polyphenols. The responses particle size and entrapment efficiency of nanoclusters were studied. The optimum conditions of carboxymethyl chitosan concentration,chitosan hydrochloride concentration and amount of tea polyphenols were found to be 3.63, 1.19 and 10.94 mg/mL, respectively. The optimized particle size was 301 nm, and entrapment efficacy of nanoclusters was added up to 83.7%. The results demonstrated that Box – Behnken design methodology was an effective way to obtain the optimal formulation of tea polyphenols-loaded chitosan nanoclusters, and the nanoclusters complexation synthesizing through ionic gelation between carboxymethyl chitosan and chitosan hydrochloride was good biomaterials, which could be successfully used to encapsulate tea olyphenols.
【语种】英文
【第一作者】梁进
【通讯作者】胡秋辉
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【学科分类】食品科学技术基础学科

【题目】Preparation and characterization of Medium-Chain Fatty Acid Liposomes by Lyophilization
【中文关键词】edium chain fatty acid, liposomes, entrapment efficiency, lyophilization
【英文关键词】edium chain fatty acid, liposomes, entrapment efficiency, lyophilization
【中文摘要】In this study, medium-chain fatty acid (MCFA) liposomes were prepared by the film ultrasonic dispersion, modified ethanol injection, and everse-phase evaporate methods. The results indicated that the liposomes prepared by the thin-film ultrasonic dispersion method had a high ntrapment efficiency of 82.7% and a good distribution in size diameters. The MCFA liposomes were freeze-dried and the optimal preparation onditions of freeze-drying were as follows: The cryoprotectants were mannitol and sucrose (1:1 w/w), the hydrated medium was distilled ater,and the freeze-drying time was 48 hours. Under these conditions, the freeze-dried MCFA liposomes had a perfect appearance, a small particle size, nd high encapsulation efficiency. The mean diameters were 251.1 and 265.3 nm, and the encapsulation efficiencies were 80.5 and 79.2% for reshly prepared and reconstituted liposomes, respectively.

【英文摘要】In this study, medium-chain fatty acid (MCFA) liposomes were prepared by the film ultrasonic dispersion, modified ethanol injection, and everse-phase evaporate methods. The results indicated that the liposomes prepared by the thin-film ultrasonic dispersion method had a high ntrapment efficiency of 82.7% and a good distribution in size diameters. The MCFA liposomes were freeze-dried and the optimal preparation onditions of freeze-drying were as follows: The cryoprotectants were mannitol and sucrose (1:1 w/w), the hydrated medium was distilled ater,and the freeze-drying time was 48 hours. Under these conditions, the freeze-dried MCFA liposomes had a perfect appearance, a small particle size, nd high encapsulation efficiency. The mean diameters were 251.1 and 265.3 nm, and the encapsulation efficiencies were 80.5 and 79.2% for reshly prepared and reconstituted liposomes, respectively.
【语种】英文
【第一作者】刘成梅
【通讯作者】刘成梅
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【学科分类】食品科学技术基础学科

【题目】Medium-chain Fatty Acid Nanoliposomes for Easy Energy Supply
【中文关键词】Medium-chain fatty acids, Nanoliposomes, High-pressure microfluidization, Easy energy supply, Stability
【英文关键词】Medium-chain fatty acids, Nanoliposomes, High-pressure microfluidization, Easy energy supply, Stability
【中文摘要】Objective Developing a nanoliposome delivery system for an easy energy supply of medium-chain fatty acids (MCFAs) to improve oral doses and bioavailability. Methods Bangham ’ s method and high-pressure microfluidization were used to prepare MCFA liposomes. The easy energy-supply property of MCFA anoliposomes was estimated by the anti-fatigue experiments of mice including a weight-loaded swimming test and its corresponding parameters serum urea nitrogen, blood lactic acid, and hepatic glycogen). For comparison, nanoliposomes without MCFAs and MCFAs not entrapped in anoliposomes were used throughout. Results Compared with crude MCFA liposomes according to Bangham ’ s method, the MCFA nanoliposomes made by high-pressure microfluidization xhibited great advantages in their characteristics, with a small average diameter (76.2 ± 34.7 nm), narrow size distribution (polydispersity ndex 0.207), high ζ -potential (− 50.51 mV), great entrapment efficiency (70.5%) and drug loading (9.4%), and good stability. The high-dose roup and the MCFA group (680 mg/kg) showed a longer weight-loaded swimming time (104 ± 29 min, P = 0.087, and 108 ± 11 min, P = 0.047, espectively) and significantly higher hepatic glycogen (16.40 ± 1.45 mg/g, P < 0.001 and 17.27 ± 2.13 mg/g, P < 0.001, respectively) than the ontrol group (59 ± 11 min and 8.79 ± 2.76 mg/g, respectively). Moreover, serum urea nitrogen (891.5 ± 113.4 mg/L, P = 0.024, and 876.6 ± 0.8 mg/L, P = 0.015, respectively) and blood lactic acid (6.05 ± 1.40 mmol/L, P = 0.001, and 5.95 ± 1.27 mmol/L, P < 0.001, respectively) in he high-dose group and the group with an equivalent MCFA dose were significantly lower than those in the control group (1153.6 ± 102.5 mg/L nd 12.53 ± 1.86 mmol/L, respectively).Conclusion Similar to MCFAs, MCFA nanoliposomes prepared by high-pressure microfluidization showed a strong easy energy-supply property, which suggested that MCFA nanoliposomes could be a potential drug candidate for an easy energy supply.
【英文摘要】Objective Developing a nanoliposome delivery system for an easy energy supply of medium-chain fatty acids (MCFAs) to improve oral doses and bioavailability. Methods Bangham ’ s method and high-pressure microfluidization were used to prepare MCFA liposomes. The easy energy-supply property of MCFA anoliposomes was estimated by the anti-fatigue experiments of mice including a weight-loaded swimming test and its corresponding parameters serum urea nitrogen, blood lactic acid, and hepatic glycogen). For comparison, nanoliposomes without MCFAs and MCFAs not entrapped in anoliposomes were used throughout. Results Compared with crude MCFA liposomes according to Bangham ’ s method, the MCFA nanoliposomes made by high-pressure microfluidization xhibited great advantages in their characteristics, with a small average diameter (76.2 ± 34.7 nm), narrow size distribution (polydispersity ndex 0.207), high ζ -potential (− 50.51 mV), great entrapment efficiency (70.5%) and drug loading (9.4%), and good stability. The high-dose roup and the MCFA group (680 mg/kg) showed a longer weight-loaded swimming time (104 ± 29 min, P = 0.087, and 108 ± 11 min, P = 0.047, espectively) and significantly higher hepatic glycogen (16.40 ± 1.45 mg/g, P < 0.001 and 17.27 ± 2.13 mg/g, P < 0.001, respectively) than the ontrol group (59 ± 11 min and 8.79 ± 2.76 mg/g, respectively). Moreover, serum urea nitrogen (891.5 ± 113.4 mg/L, P = 0.024, and 876.6 ± 0.8 mg/L, P = 0.015, respectively) and blood lactic acid (6.05 ± 1.40 mmol/L, P = 0.001, and 5.95 ± 1.27 mmol/L, P < 0.001, respectively) in he high-dose group and the group with an equivalent MCFA dose were significantly lower than those in the control group (1153.6 ± 102.5 mg/L nd 12.53 ± 1.86 mmol/L, respectively).Conclusion Similar to MCFAs, MCFA nanoliposomes prepared by high-pressure microfluidization showed a strong easy energy-supply property, which suggested that MCFA nanoliposomes could be a potential drug candidate for an easy energy supply.

【语种】英文
【第一作者】刘伟
【通讯作者】刘成梅
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【学科分类】食品科学技术基础学科

【题目】The Effect of Dynamic High Pressure Microfluidization on the Activity of Papain
【中文关键词】dynamic high pressure microfluidization (DHPM), fluorescence spectra, papain, molecular conformation
【英文关键词】dynamic high pressure microfluidization (DHPM), fluorescence spectra, papain, molecular conformation
【中文摘要】The effect of dynamic high pressure microfluidization (DHPM) on the activity of papain had been investigated, and the molecular conformation hanges of papain had been detected by fluorescence spectra. The results showed that after DHPM (120~180 MPa) treatment, the enzyme activity ecreased in different degrees. The papain activity reduced to 90.04% after 180 MPa treatment. With the increasing of treatment pressure, the luorescence emission peaks of papain, Tyr and Trp residues gradually red shifted from 334, 285 and 277.5 nm for untreated sample to 335.5, 85.5 and 278.5 nm for 140 MPa treated sample, and then returned to 334, 285 and 278 nm for 180 MPa treated sample, respectively. After 24 h placing t 0~4 °C, papain activity further decreased and the fluorescence intensity of papain and Tyr residue showed oscillate (down, up and down), hich indicated that DHPM treatment (120~180 MPa) changed the molecular conformation of papain visibly with low stability of the new formed onformation.
【英文摘要】The effect of dynamic high pressure microfluidization (DHPM) on the activity of papain had been investigated, and the molecular conformation hanges of papain had been detected by fluorescence spectra. The results showed that after DHPM (120~180 MPa) treatment, the enzyme activity ecreased in different degrees. The papain activity reduced to 90.04% after 180 MPa treatment. With the increasing of treatment pressure, the luorescence emission peaks of papain, Tyr and Trp residues gradually red shifted from 334, 285 and 277.5 nm for untreated sample to 335.5, 85.5 and 278.5 nm for 140 MPa treated sample, and then returned to 334, 285 and 278 nm for 180 MPa treated sample, respectively. After 24 h placing t 0~4 °C, papain activity further decreased and the fluorescence intensity of papain and Tyr residue showed oscillate (down, up and down), hich indicated that DHPM treatment (120~180 MPa) changed the molecular conformation of papain visibly with low stability of the new formed onformation.
【语种】英文
【第一作者】刘伟
【通讯作者】刘成梅
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【引文索引号】0
【学科分类】食品科学技术基础学科

【题目】动态瞬时高压作用对膳食纤维酶解速度的影响
【中文关键词】膳食纤维,瞬时高压作用,粒度分布,密度,酶解速度
【英文关键词】dietary fiber,instantaneous high pressure (IHP),size distribution,density,enzymolysis rates
【中文摘要】对纤维素酶在动态瞬时高压处理后膳食纤维的酶解速度进行了研究.豆渣膳食纤维(Dietary Fiber,DF)经微射流均质机的瞬时高压作用(Instantaneous High Pressure,IHP),在不同的压力以及同一压力的不同作用次数下产生不同粒径和密度,它们对应的酶解速度是不同的.纤维素酶水解膳食纤维产生纤维二糖和葡萄糖等还原糖,通过测定水解后还原糖的含量判断不同粒径和密度的膳食纤维的酶解速度.结果表明,在40~90 MPa的压力范围内,物料粒径随压力的增大呈显著下降,物料密度随之增大,酶解速度增大,在90 MPa的均质压力下物料粒径达到最小,为202.4 nm;当压力继续增大时,物料因膨化作用,物料粒径呈增大趋势,但其密度开始减小,酶解速度继续增大,在140 MPa的均质压力下物料密度达到最小,为1.027 g/mL,此时酶解后还原糖含量最高,酶解速度最快.压力超过140 MPa 后,由于超微颗粒间的团聚,物料的密度和粒径均增大,酶解速度减小.在90 MPa和140 MPa下分别对物料进行多次的瞬时高压处理,发现随处理次数的增多,物料粒径增大,体系密度先减小

后增大,酶解速度减小.
【英文摘要】The enzymolysis rates of cellulase on dietary fiber under dynamic Instantaneous High Pressure (IHP) were studied in the paper. Utilizing the Microfluidizer machinery as the carrier of Instantaneous High Pressure treatment to deal with dietary fiber from bean dregs, we got dietary fiber of different granularities and densities under different pressures and different times with the same pressure. The corresponding enzymolysis rates of cellulase on dietary fiber were different. The hydrolysates of cellulase on dietary fiber were some reducing sugars, such as cellobiose and glucose. The enzymolysis rates could be judged by measuring the contents of the reducing sugars in the dietary fiber of different granularities and densities. The results indicated that with the increase of the pressure in the range of 40~90 MPa, the granularities of the materials reduced greatly, the densities of the materials and the enzymolysis rates increased. And the granularity of the materials was in minimum at 202.4 nm; when the pressure went on increasing, the granularities of the materials tended to increase because of the occurrence of expanding in the system, but the densities started to decreased and the enzymolysis rates kept increasing. The density of the materials was in minimum at 1.027 g/mL, the contents of the reducing sugars after enzyme hydrolysis was maximal at this time. When the pressure higher than 140 MPa, the granularities and density of the materials increased, the enzymolysis rates decreased. It could be due to the reuniting of particles in the system. When the materials were treated separately with instantaneous high pressure between 90 MPa and 140 MPa for several times, the granularities of the materials increased as the increase of dealing times, the density decreased at the start and then increased, and the enzymolysis rates decreased.
【语种】中文
【第一作者】万捷
【通讯作者】刘成梅
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【学科分类】食品科学技术基础学科

【题目】壳聚糖添加纳米碳酸钙助剂对鲜切山药品质的影响
【中文关键词】山药,保鲜,纳米碳酸钙,壳聚糖,试验
【英文关键词】Yam;Preservation;Nano2CaCO3;Chitosan;Experiment
【中文摘要】为了探索纳米碳酸钙助剂对鲜切山药保鲜效果的影响,研究了壳聚糖添加纳米碳酸钙助剂对鲜切山药在10 ℃下品质的影响。结果表明,壳聚糖添加纳米碳酸钙助剂处理后鲜切山药的总酸度、Vc 含量和L 值分别比单独使用壳聚糖高1015 %、814 %和619 %;失重率和总酚含量分别比单独使用壳聚糖低912 %和813 %。壳聚糖添加纳米碳酸钙助剂可显著抑制多酚氧化酶和过氧化物酶活性,延缓果实褐变,延长货架期。添加纳米碳酸钙助剂可显著提高壳聚糖对鲜切山药的保鲜效果。
【英文摘要】In order to determine the effectiveness of nano2CaCO3 appendix on chitosan , f resh cut yam were t reated by chitosan coating with nano2CaCO3 appendix before stored at 10 ℃. The result s indicate the tit ratable acidity (TA) , Vitamin C content and L value of t reated f ruit by chitosan coating with nano2 CaCO3 appendix was 1015 % , 814 % and 619 % higher than that of chitosan coating f ruit , while the weigh loss and total phenolic content were 912 % and 813 % less than that of chitosan coating f ruit . It also inhibited the activities of polyphenol oxidase (PPO) and peroxidase (POD) maintained lower level of BI and prolonged shelf2life. Therefore , chitosan modified with nano2CaCO3 have potential use in f resh cut yam storage.
【语种】中文
【第一作者】罗自生
【通讯作者】罗自生
【期刊名称、卷期、页码】农业机械学报,2009,40(4):125-128
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【学科分类】食品科学技术基础学科

【题目】动态高压微射流对茎菠萝蛋白酶性质和构象的影响
【中文关键词】动态高压微射流技术;茎菠萝蛋白酶;最适pH 值;最适反应温度;pH 值稳定性;热稳定性;构象

【英文关键词】dynamic high-pressure microfluidization (DHPM);bromelain;optimal pH;optimal reaction temperature;pH stability;thermal stability;conformation

【中文摘要】以茎菠萝蛋白酶为原料,研究动态高压微射流(DHPM)对其活性、稳定性和构象的影响。结果显示:DHPM对茎菠萝蛋白酶具有钝化作用,但活力并不随着压力的升高而降低。压力为60、80、100、120MPa时,茎菠萝蛋白酶的相对酶活力分别是94%、93%、98%及92%。DHPM不同压力对茎菠萝蛋白酶的最适反应温度的影响不同,但对最适pH值几乎没有影响。然而经DHPM 60、120MPa处理后,茎菠萝蛋白酶在pH8.0的稳定性显著增强。在pH8.0保温40min后,60、120MPa处理的茎菠萝蛋白酶相对酶活力分别为85%和82%,分别比未经处理的高14%和11%。可见,DHPM 60、120MPa处理极大地提高了茎菠萝蛋白酶在pH8.0时的稳定性。此外,紫外光谱和荧光光谱的结果表明:DHPM导致茎菠萝蛋白酶部分去折叠,分子中赖氨酸和色氨酸残基所处的微环境发生了变化;红外光谱结果显示:DHPM处理后茎菠萝蛋白酶二级或三级结构发生了变化。

【英文摘要】The effect of dynamic high-pressure microfluidization (DHPM) treatment on activity, stability, and conformation of stem bromelain was studied. Results indicated that bromelain activity was inhibited by DHPM treatment although the residual activity did not decrease with increasing pressure. Under the pressures of 60, 80, 100 MPa and 120 MPa, 94%, 93%, 98% and 92% of bromelain activity were remained, respectively. The optimal temperature of bromelain treated under different pressures exhibited a significant difference, whereas, the optimal pHwas not affected. However,DHPMtreatments under 60 MPa and 120 MPa resulted in an obvious increase of pH stability. After incubation at pH 8.0 for 40 min, the residual rates of bromelain activity treated under 60MPa and 120 MPa were 85% and 82%, respectively, which exhibited increases of 14% and 11% compared with untreated bromelain. In addition, conformational change of bromelain induced by DHPM treatment was observed in the change of spectra. Ultraviolet and fluorescence spectra indicated that DHPM treatment induced the unfolding of bromelain and microenvironment changes of tryptophan and tyrosine residues. FTIR spectral analysis indicated that the secondary or tertiary structure of bromelain also disturbed by DHPM.

【语种】中文

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【学科分类】食品科学技术基础学科

【题目】纳米碳酸钙改性壳聚糖涂膜对鲜切茄子生理生化指标的影响

【中文关键词】壳聚糖;纳米碳酸钙;茄子

【英文关键词】chitosan;nano-CaCO3;eggplant fruit

【中文摘要】以茄子作为材料,研究了纳米碳酸钙改性壳聚糖对鲜切茄子在10℃下品质和生理的影响。结果表明,纳米碳酸改性壳聚糖涂膜鲜切茄子的硬度和总可溶性固形物分别比未改性壳聚糖的高5%和7%,而细菌总数和水分损失比未改性壳聚糖的少32%和10%,纳米碳酸钙改性壳聚糖涂膜比未改性壳聚糖更能有效抑制鲜切茄子多酚氧化酶和过氧化物酶活性,从而维持果实的L值,抑制褐变。这表明纳米碳酸钙改性壳聚糖具有用于鲜切茄子保鲜的潜在价值。

【英文摘要】After stored at 10 °C for 5 days, the firmness and total soluble solid (TSS) content of eggplant fruits treated with modified chitosan are higher than those of fruits treated with unmodified chitosan by 5% and 7% respectively, while the total bacteria and weigh loss of fruits treated with modified chitosan are less than those of fruits treated with unmodified chitosan by 32% and 10% respectively. Also, modified chitosan more effectively inhibits activities of polyphenol oxidase and peroxidase, and maintain the higher level of L and the lower level of BI. Therefore, chitosan modified with nano-CaCO3 has potential value in fresh cut eggplant fruit storage.

【语种】中文

【第一作者】徐庭巧

【通讯作者】罗自生

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【学科分类】食品科学技术基础学科

【题目】奶牛乳房炎金黄色葡萄球菌毒力因子检测与基因分型
【中文关键词】乳房炎;金黄色葡萄球菌;毒力基因;ERIC-PCR
【英文关键词】Mastifs;Staphylococcus aureus;Virulence determinants;ERIC-PCR
【中文摘要】用PCR方法对新疆乌鲁木齐周边3个奶牛场奶牛乳汁中分离到的49株金黄色葡萄球菌的entA、 tsst-1、nuc、clfA、fnbA、fnbB、hla、hlb 8种毒力基因进行分子流行病学调查,并用肠道细菌基因间重复序列-PCR(ERIC-PCR)法对这49株金黄色葡萄球菌进行基因分型。结果:tsst-1、nuc、clfA、fnbA、fnbB、hla、hlb、entA毒力基因的检出率分别为4%、59.2%、63.3%、69.4%、22.5%、46.9%、53.1%、0,且以clfA、fnbA为主要检出毒力基因。ERIC-PCR分型结果显示:49株金黄色葡萄球菌可扩增出3~7条带,共分为4个聚类群,在同一牛场中的分离株存在不同基因型;而不同牛场中的分离株也可属于同一基因型。这种结果提示,在不同环境下同一种病原菌的基因型存在一定差异,可能存在多个金黄色葡萄球菌的流行株。
【英文摘要】Molecular investigations on the genes encoding virulence determinants entA,tsst-1,nuc,clfA,fnbA,fnbB、hla,hlb were conducted within 49 strains of Staphylococcus aureus isolated from subclinical mastitis by means of PCR and typed by Enterobacterial Repetitive Intergenic Consens-PCR (ERIC-PCR).The results revealed that the positive rate of tsst-1,nuc,clfA,fnbA,fnbB,hla,hlb,entA were 4%,59.2%,63.3%,69.4%,22.5%,46.9%,53.1%,0.ClfA and fnbA are predominant virulence determinants.ERIC-PCR could be amplified out 3~7 straps,revealing 4 genotype.Isolates from the same cow farm belonged to the different gene type,and isolates from different farms belonged to the same gene type.This suggested that the different genotypes of pathogenic bacteria can exist in different environments.
【语种】中文
【第一作者】杨波
【通讯作者】刘明军
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【学科分类】分子生物学

【题目】QTL analyses of seed weight during the development of soybean
【中文关键词】大豆,籽粒重,QTL
【英文关键词】soybean, seed weight, QTL
【中文摘要】象大豆籽粒重这样的收获性状通常都是受整个发育阶段的综合遗传效应的影响的,特别是生殖生长阶段。本研究的目的是检测从发育早期到发育终止期的大豆籽粒发育动态变化。本研究主要通过143个父母本大豆品种‘Charles东’和‘东农594”衍生的重组自交系来研究。结果表明68个非条件QTL与大豆籽粒发育相关,94个条件QTL受环境影响很大。在C2连锁群上,swC2-1, swC2-2 and swC2-3在6个发育时期影响大豆的籽粒重。QTL数量、位置和类型的基因和环境在不同发育是影响大豆籽粒重。
【英文摘要】At harvest traits such as seed weight are the sum of development and responses to stresses over the growing season and particularly during the reproductive phase of growth. The aim here was to measure quantitative trait loci (QTL) underlying the seed weight from early development to drying post harvest. One hundred forty-three F5 derived recombinant inbred lines (RILs) developed from the cross of soybean cultivars ‘Charleston’ and ‘Dongnong 594’ were used for the analysis of QTL underlying mean 100-seed weight at six different developmental stages. QTL_Environment interactions (QE) were analyzed by a mixed genetic mode based on 3 years’ data. At an experiment-wise threshold of a¼0.05 and by single-point analysis 94 QTL unaffected by QE underlay the mean seed weight at different developmental stages. Sixty-eight QTL affected by QE that also underlay mean seed weight were identified. From the 162 QTL 42 could be located on 12 linkage groups by composite interval mapping (LOD42.0). The numbers, locations and types of the QTL and the genetic effects were different at each developmental stage. On linkage group C2 the distantly linked QTL swC2-1, swC2-2 and swC2-3 eachaffected mean seed weight throughout the different developmental stages. The DNA markers linked to the QTL possessed potential for use in marker-assisted selection for soybean seed size. The identification of QTL with genetic main effects and QE interaction effects suggested that such interactions might significantly alter seed weight during seed development.
【语种】英文

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【题目】新质源(CMS-FA)杂交稻产量相关性状的遗传效应与杂种优势分析
【中文关键词】杂交稻;新质源(CMS-FA);杂种优势;遗传效应;产量相关性状
【英文关键词】hybrid rice; new cytoplasmic resource(CMS-FA); heterosis; genetic effects; yield-related traits
【中文摘要】:【目的】研究水稻新质源(CMS-FA)不育系和恢复系的产量相关性状遗传效应和杂种优势水平,评价新型细胞质源杂交稻亲本的育种潜力。【方法】采用不完全双列杂交设计,以新质源(CMS-FA)杂交稻系统的5 个不育系为母本,5 个恢复系为父本配制25 个杂交组合,种植亲本和F1获得产量相关性状的试验数据。利用加性-显性遗传模型和MINQUE(1)法对10 个产量相关性状遗传方差分量比率、遗传率、亲本加性效应和组合显性效应以及杂种优势进行剖析。【结果】新质源杂交稻产量相关性状同时受加性效应和显性效应的控制,单株穗数、每穗总粒数、每穗实粒数、结实率、千粒重、剑叶长和生育期等性状以加性效应占主导,单株产量、株高和穗长等性状则以显性效应控制为主;狭义遗传率以千粒重表现最高,生育期次之,单株产量最低;加性效应最好的不育系是金农2A,恢复系是金恢3 号和金恢1 号;显性效应最强的4 个组合为金农2A×金恢5 号、金农2A×金恢2 号、金农4A×金恢5 号和金农5A×金恢5 号;单株产量、株高、穗长3 个产量相关性状F1 具有很强的群体平均优势(7.351%—16.330%)和群体超亲优势(4.233%—10.507%),强优势组合杂种优势可达10.307%—49.462%。【结论】供试不育系以金农2A 较好,恢复系以金恢3 号和金恢1 号最好,金恢5 号在配制生育期较短的杂交稻高产组合中是一个很好的亲本。
【英文摘要】【Objective】 This study aimed at detecting the genetic effects and heterosis level of yield-related traits of CMS-FAsterile lines and restorers as well as the breeding potential of CMS-FA hybrid rice parents. 【Method】 By incomplete diallel crossdesign, using five CMS-FA sterile lines as female parents and five corresponding restorers as male parents, twenty-five crosses weremade. The parents and F1 generations were planted to obtain the data of yield-related traits. By using the additive-dominant modeland MINQUE(1) method, the genetic variance, heritability, parent additional effects and combination dominant effects, and heterosisof ten yield-related traits were analyzed. 【Result】 Yield-related traits of CMA-FA hybrid rice were controlled by both additive anddominant effects, among which panicle number per plant, total grain number per panicle, filled grains per panicle, seed-set percent,1000-grain-weight, flag-leaf length and growth duration and so on were mainly controlled by additive effects. The dominant effectsprevailed in the traits of yield per plant, plant height, and panicle length and so on. As for narrow heritabilities, the dominant effectsof 1000-grain-weight were the highest, the growth duration was the next, and the yield per plant was the lowest. Sterile line Jinnong2A and restorers Jinhui 3 and Jinhui 5 had the best additive effects. The four combinations with the strongest dominant effects wereJinnong 2A×Jinhui 5, Jinnong 2A×Jinhui 2, Jinnong 4A×Jinhui 5 and Jinnong 5A×Jinhui 5. Three yield-related trais yield per plant,plant height and panicle length had stronger population mean heterosis of 7.351%-16.330% and population over-parent heterosis of4.233%-10.507% in F1 with the highest heterosis reaching 10.307-49.462%. 【Conclusion】 Jinnong 2A was the best one of all thesterile lines tested, Jinhui 3 and Jinhui 1 were the best ones of restorers tested, and Jinhui 5 was a good parent for the development ofhigh-yielding hybrid rice combination with short growth duration.
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【题目】基于Web与模拟模型的水稻栽培数字化设计
【中文关键词】WEB;模拟模型;水稻栽培;决策支持系统;数字化设计

【英文关键词】WEB; Simulation model; Rice cultivation; Decision-making support system; Digital design
【中文摘要】【目的】集成作物生长模拟、决策支持系统与WEB技术,实现作物栽培数字决策技术的网络化。【方法】以武运粳7号、扬稻6号、粤优948及南粳41为供试材料,2005年在江苏省农科院试验区进行了不同基肥田间试验,采集和更新了品种参数;采用SQLServer2000建立水稻品种、土壤及气象资料数据库;采用VS.NET进行了水稻生长模拟、决策支持系统与WEB的集成和页面设计,包括登录、系统主界面、品种参数管理、地点气象数据管理、参数调整以及水稻栽培决策等功能。【结果和结论】基于WEB与模拟模型的水稻栽培数字化设计符合TCP/IP协议,可在服务器上(IIS5.0)安装、运行和在任何Internet浏览器上调用,它继承了RCSODS的机理性、普适性和实用性,将水稻生长模型与WEB技术相结合,形成了水稻模拟优化决策的网络平台,使水稻主产区农业技术人员通过INTERNET因地、因种、因时制定具有动态、目标和数字化特征、可下载的播前优化方案,提供当年调控建议,对作物生长模型的网络化具有重要意义。
【英文摘要】In order to integrate WEB with crop growth simulation and decision-making support system, the field experiment of different basal levels was carried out in experiment area of Jiangsu Academy of Agricultural Sciences in 2005 adopting 4 cultivars such as “ Wuyungeng 7 ”, “ Yangdao 6 ”, “ Yueyou 948 ” and “ Nanggeng 41 ”, which mainly was used in collecting cultivar parameters and updating database of them. The database of rice cultivars, soil and weather data were developed using SQL Server 2000. The pages of digital design of rice cultivation based on web and simulation model (DDRCBWSM) were designed using Visual Studio.Net, which included register, the main page, cultivar parameter management, site data management, parameter adjustment, decision making for rice cultivation, and so on. The DDRCBWSM accorded with TCP/IP agreements, which could be installed and run in server (IIS5.0), and be browsed on internet, it inherited mechanism, universal adaptability and utility of rice cultivation simulation-optimization-decision making system(RCSODS), combined web techniques with research of rice growth models, set up web system of rice simulation-optimization-decision making, made agricultural technicians of main rice production area of china gain pre-sowing optimization cases and rice management suggestion of the current year with dynamic, goal and digital characteristic in accordance with soil, cultivar and weather conditions online, and to fulfill technical direction through many kind manner such as paper, internet, email, television, wall newspaper, and so on, eventually.
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【题目】新疆褐牛Toll样受体基因(TLR4)外显子III 2021位点突变与奶牛体细胞评分的相关性研究
【中文关键词】新疆褐牛,Toll样受体4(TLR4)基因,基因型,定量PCR,奶牛乳房炎,体细胞评分
【英文关键词】XinJiang brown cattle,TLR4 gene,Genotype,Quantitative RT-PCR, Mastiffs,SCS
【中文摘要】Toll-样受体(toll like receptors,TLRs)可以通过识别病原微生物启动天然免疫并激活适应性免疫。以中国荷斯坦奶牛和新疆褐牛为研究对象,对TLR4基因外显子3进行了序列分析,并对发现的多态性位点进行PCR-RFLP分析,共发现TLR4 E3+1656、TLR4 E3+2021和TLR4 E3+2414三个多态位点。对TLR4 E3+1656和TLR4 E3+2021位点x2检验表明:2个品种的突变均处于Hardy-Weinberg平衡状态(P>0.05)。运用最小二乘法分析表明,TLR4 E3+1656位点的各基因型个体间的体细胞评分(SCS)差异不显著(P>0.05);而TLR4 E3+2021位点中AA与AB基因型SCS水平差异显著(P<0.05),AA与BB基因型SCS水平差异极显著(p<0.01),但AB与BB基因型SCS水平差异不显著(P>0.05)。研究结果提示,TLR4 E3+2021位点的AA基因型可能与抗乳房炎的抗性有关,A等位基因是乳房炎抗性的有利基因。采用RT-PCR技术检测了不同基因型的新疆褐牛个体中TLRs信号通路下游的部分基因mRNA的表达水平,结果显示,NF-κB1、NF-κB2和IL-1β基因mRNA表达水平与TLR4 E3+2021位点AB和BB两种基因型差异显著(P<0.05),TLR4、IL-10和IL-8基因mRNA表达水平与TLR4 E3+2021位点AB和BB两种基因型差异不显著(P>0.05)。
【英文摘要】Toll like receptors(TLRs) recognize pathogen ligands and mediates signaling to initiate innate and adaptive immune responses.In this experiment.Chinese holstei and Xinjiang brown cattle were used as experimental example.Their genetic polymorphisms of TLR4 gene exon IIIwere detected by sequencing first and by PCR-RFLP in the second.Results showed that threePoiymorphism loci,TLR4 E3+l656,TLR4 E3+2021 and TLR4 E3+2414,were discovered.Statistical results of X2 test indicated that two polymorphism sites(TLR4 E3+1656 and TLR4 E3+2021)in the three populations fixed with Hardy-Weinberg equilibrium(P>0.05).The associations were observed between genotypes and SCS by the least square analysis.The results showed that SCS was not significantly affected by different genotypes in TLR4 E3+1656(P>0.05);the significantdifferent effect between genotype AA

and AB was found(P<0.05),the difference was significantbetween genotype AA and BB was found(P<0.01) and no significant difference were detectedbetween genotype AB and BB(P>0.05) in TLR4 E3+2021 site.In conclusion,the AA genotypeinTLR4 E3+2021 site may be the best genotype to resist mastitis,the allele A may play an important role in mastiffs resistance in bovine.To research the effect of different genotypesof TLR4 E3+2021 site on SCS,part of the mRNA of the gene expression wherein TLRs signalingpathway downstream of Xinjiang brown cattle were detected by Real-Time PCR.The level of Nuclear Factor-kappa b1(NF-KB1),Nuclear Factor-kappa b2(NF-KB2)and Interleukin-1β (IL-1β)transcripts was significantly correlated with genotype of AA and BB in TLR4 E3+2021(P<0.05),but the level of TLR4,IL-10 and IL-8 transcripts was no significantly correlated with genotype of AA and BB in TLR4 E3+2021(P>0.05).

【语种】中文

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【学科分类】生物学其他学科

【题目】新质源(CMS-FA)杂交稻谷粒性状的遗传效应分析

【中文关键词】杂交稻;新质源(CMS-FA);谷粒性状;遗传效应

【英文关键词】无

【中文摘要】:采用加性- 显性遗传模型(AD),对新质源杂交稻(CMS-FA)遗传系统的10 个亲本和25 个杂种一代的谷粒性状进行遗传分析。结果表明,新质源杂交稻的千粒重和粒长的遗传主要受加性效应控制,它们的狭义遗传率较大且均达极显著水平,在早代对这2 性状进行选择可达到较好的效果,而粒宽、长宽比各项遗传方差分量均不显著。亲本加性遗传效应预测值表明,金恢3 号是改良水稻谷粒性状的优良亲本,其能显著的提高千粒重、增加粒长和长宽比。杂交组合显性效应在千粒重性状上有较大的差异,而在粒长、粒宽和长宽比性状上差异较小。

【英文摘要】无

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【学科分类】农学其他学科

【题目】新质源(CMS-FA)杂交稻育种技术探索与研究

【中文关键词】杂交稻; 新质源(CM S-FA)雄性不育系; 高产兼优质

【英文关键词】hybr id r ice; CMS-FA m ale sterile line; h igh y ield w ith fine qua lity

【中文摘要】依据/ 植物细胞质- 细胞核多育性基因基础上的核质互作雄性不育0遗传学原理, 通过系统探索研究, 从野生稻中发掘一种与野败(CMS-WA)型、红莲(CMS-H L)型恢保关系不同的新型雄性不育细胞质, 称为新质源(CM S-FA) 。选育鉴定了系列新质源优质米不育系。育成首个新质源杂交稻金农2优3号参加福建省水稻新品种区域试验, 2007- 2008两年平均比对照增产9. 07%, 稻米品质符合三等食用籼稻品种品质规定要求。新质源杂交稻丰富了杂交稻细胞质遗传多样性, 提高杂交稻稻米品质和产量潜力, 实现杂交稻高产和优质统一, 为继续推进杂交稻创新和发展提供了新的动力。

【英文摘要】Based on the genectic theory of / mu ltiple fe rtility genes cy toplasm ic-nuclear interac tion m ale sterility0,through system ic exp lorations and stud ies, a new ma le sterile cy top lasm ca lled new cytoplasm ic resource (CMS-FA)w as d iscoverd and identified from a common w ild rice, which is different from the types o f CMS-WA and CMS-HL inthe relationsh ip o f restoration and m a intenance. A se ries o f fine qua litym a le ster ile lines for CMS-FA hyb rid rice havebeen deve loped and iden tified. Jinnong Òyou3, the first deve loped CMS-FA hybrid rice com bination took part inFujian prov ince rice new cu ltivar reg iona l tria l fo r tw o years in 2007 and 2008. The average y ie ld w as 9. 025% h igherthan that of the contro l and its rice qua lity reached th ird class ind ica r ice qua lity standa rds. CMS-FA hybrid ricecontr ibu tes to the genetic d iversity of hybr id r ice cytoplasms, the improvem ent of hybr

id r ice quality and y ie ld ingpotentia ,l and the un ification of hyb rid r ice h igh y ie ld and supe rio r qua lity. Itw ill add new strength to the innov ationand deve lopm ent o f hybrid r ice.

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【题目】新质源CMS-FA 杂交稻系统的亲本资源筛选
【中文关键词】CMS-FA; 保持系; 杂交稻亲本资源利用率; 花粉染色率; 套袋结实率; 自然结实率
【英文关键词】CMS-FA; Maintainer line; Utilization rate of parental resources of hybrid rice; Pollen dyeability percentage; Bagged seed-setting percentage; Self-setting percentage
【中文摘要】用新质源雄性不育系金农1A(CMS-FA)作母本, 分别与来自10 个国家和国内13 个省份的220 个水稻品种组配成杂交种, 考察F1 代的花粉染色率、套袋结实率和自然结实率。在F1 代中, 当这3 项育性指标均≤10%时, 显示父本品种具有雄性不育保持能力, 因而将其划分为保持系资源; 当3 项育性指标均≥80%时, 显示父本品种具有雄性不育恢复能力, 将其划分为恢复系资源; 此外的其他父本品种, 即3 项育性指标中任何一项指标>10%或<80%, 既不能作为保持系, 也不能作为恢复系, 被划分为非杂交稻亲本资源。在220 个水稻品种中, 可作为金农1A 保持系的有122 个, 占55.5%; 未发现恢复系亲本; 非杂交稻亲本品种有98 个, 占44.5%。CMS-FA 型的杂交稻亲本资源利用率为55.5%。对照野败型不育系珍汕97A(CMS-WA)的保持系亲本品种有44 个, 占20.0%; 恢复系亲本品种42 个, 占19.1%; 非杂交稻亲本品种134 个, 占60.9%。CMS-WA 型的杂交稻亲本资源利用率为39.1%。CMS-FA 系统比CMS-WA 系统的亲本稻种资源利用率高16.4 个百分点, 尤其是保持系资源利用率高35.5 个百分点(近1.8 倍)。国外品种的育性普遍低于国内品种。
【英文摘要】Jinnong 1A is a new type of cytoplasm male sterile (CMS) line in three-line hybrid rice (Oryza sativa L.). It is completelydifferent from the sterile line of CMS-WA and CMS-HL types, and designated as CMS-FA type. In this study, Jinnong 1A,as the female parent, was crossed with 220 rice varieties originated from 10 countries and 13 provinces of China. The fertility ofthe F1 generation was evaluated with F1 pollen dye ability rate, bagged seed-setting rate, and natural seed-setting rate. The maleparent was classified into maintainer or restorer lines when all the three fertility indices were ≤10% or ≥80% in the F1 generation.Otherwise, it was regarded as non-parental variety for CMS-FA hybrid rice. In the total 220 varieties, 122 were identified asmaintainer lines of Jinnong 1A, which accounted for 55.5%, but no varieties could be used as restorer lines. The other 98 varieties(accounting for 45.5%) were non-parent for CMS-FA hybrid rice. With regard to CMS-WA sterile line, Zhenshan 97A taken as thecontrol in the study, the maintainer and restorer lines were 44 (20.0%) and 42 (19.1%), respectively. Compared with CMS-WAhybrid system, the CMS-FA system had a higher parent utilization rate by 16.4 percentile, especially the maintainer line utilizationwas higher by 35.5 percentile (up to 1.8 folds). Generally, the fertility abilities of domestic varieties were higher that those of introducedvarieties in the F1 generation.
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【题目】野生稻在种间杂交育种中利用的研究进展*
【中文关键词】野生稻资源; 种间杂交; 水稻育种; 应用
【英文关键词】w ild rice resource; in terspecif ic cross; rice breed ing; utilization
【中文摘要】野生稻在漫长的进化过程中, 拥有了极其丰富的遗传多样性和许多优良特性, 是水稻育种重要的基因库, 对解决粮食安全与维护人类生存发展具有十分重要的意义。通过野生稻与栽培稻种间杂交, 可以把野生稻的优异基因转移到栽培稻中, 提高栽培稻的育种和生产水平。本文综述了野生稻资源在种间杂交育种上的成就、野生稻利用的主要途径

、稻种间杂交的困难、解决方法及今后的研究展望。
【英文摘要】A fter a long period of evo lution, w ild rice possesses rich gene tic d iversity andmany super iorcharacter istics, wh ich is an important gene bank for rice breeding and has greatm ean ing for securityand human being s' deve lopmen.t The good genes from w ild rice can be introduced into the cultivatedrice cu ltivars through the interspecific cross betw een w ild rice and cult ivated rice so as to enhance thebreed ing and product ion level of the cu ltivated r ice. In th is paper, the ach ievem ents, the chief ut ilization w ay, the d ifficu lties and its so lu tion w ay, and the future research prospects in the interspecificcross breed ing w ere summ arized.
【语种】中文
【第一作者】仇秀丽
【通讯作者】王乃元
【期刊名称、卷期、页码】云南农业大学学报第24卷 第1期 2009年 1月
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【学科分类】农学其他学科

【题目】黑龙江省水稻品种现状分析及研发对策
【中文关键词】水稻品种;品质;产量;对策;黑龙江省
【英文关键词】rice variety;quality;yield;tactic;Heilongjiang province
【中文摘要】摘要:黑龙江省是我国北方重要的粳稻生产区,“ 九五 ”至“ 十一五 ”前3 a共审定推广水稻新品种110个,“ 九五 ”期间第一年审定推广的品种只有3个,至“ 十一五 ”期间的2008年增加到19个,年审定推广品种成倍增加。13年来,品种的米质总体有了较大程度的提高,但整精米率改善不大,育成的品种较多,但具有突破性的品种较少。根据育成品种中存在的问题,提出了研发对策。
【英文摘要】Abstract:Heilongjiang province is the importantjaponicarice production area in north of China.From 1996 to 2008,110 rice varieties had been bred and popularized in Heilongjiang province,only 3 rice varieties had been bred and popularized in 1996, while till 2008,the bred and popularized rice varieties have increased to 19,bred and popularized rice varieties had multiplied every year.Quality had been improved,head rice rate hadn't been improvedtrom 1996 to 2008.Despite there were large quantity of rice varieties in Heilongjiang province,there were small quantity of wonderful rice varieties.According to the present questions,some tactics of study and exploitation had been put forward.
【语种】中文
【第一作者】黄晓群
【通讯作者】黄晓群
【期刊名称、卷期、页码】黑龙江农业科学.2009(6):40~43
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【引文索引号】null
【学科分类】农艺学

【题目】IdentiWcation of QTL underlying isoXavone contents in soybean seeds among multiple environments
【中文关键词】大豆,异黄酮,QTL
【英文关键词】Soybean, isoflavone, QTL
【中文摘要】大豆异黄酮在某些药品,化妆品,食品和饲料的价值。选择高异黄酮含量与农艺性状的种子是许多大豆育种目标。该研究的目的是在中国的7个环境与种子异黄酮含量相关的QTL。一个高异黄酮中豆27和低异黄酮九农20的130个F5重组自交系。 共有99个SSR标记构建了开一个遗传连锁图谱。种子异黄酮含量分析采用高效液相色谱法的多个年份和地点(哈尔滨2005,2006和2007,呼兰2006,2007,和绥化的2006和2007)。3个QTL与DZ,3个QTL与GC,4个QTL与GT,5个QTL与Ti。1个在F连锁群上的QTL与DZ、GT、TI能够在7个环境与异黄酮相关。这些QTL具有巨大的分子育种潜在的价值。
【英文摘要】Soybean isoXavones are valued in certain medicines, cosmetics, foods and feeds. Selection for high-isoflavone content in seeds along with agronomic traits is a goal of many soybean breeders. The aim of the study was to identify the quantitative trait loci (QTL) underlying seed isoflavone content in soybean among seven environments in China. A cross was made between ‘ Zhongdou 27 ’, a soybean cultivar with higher mean isoXavone content in the seven environments (daidzein, DZ, 1,865 _g g ¡ 1; genistein, GT, 1,614 _g g ¡ 1; glycitein, GC, 311 _g g ¡ 1 and total isoflavone, TI, 3,791 _g g ¡ 1) and ‘ Jiunong 20 ’, a soybean cultivar with lower

isoXavone content (DZ, 844 _g g ¡ 1; GT, 1,046 _g g ¡ 1; GC, 193 _g g ¡ 1 and TI, 2,061 _g g ¡ 1). Through single-seed-descent, 130 F5-derived F6 recombinant inbred lines were advanced. A total of 99 simple sequence repeat markers were used to construct a genetic linkage map. Seed isoflavone contents were analyzed using high-performance liquid chromatography for multiple years and locations (Harbin in 2005, 2006 and 2007, Hulan in 2006 and 2007, and Suihua in 2006 and 2007). Three QTL were associated with DZ content, four with GT content, three with GC content, and Wve with TI content. For a QTL detected the beneWcial allele was from Zhongdou 27. QTL were located on three (DZ), three (GC), four (GT) and five (TI) molecular linkage groups (LG). A novel QTL was detected with marker Satt144 on LG F that was associated with DZ (0.0014 > P > 0.0001, 5% < R2 < 11%; 254 <DZ < 552 _g g ¡ 1), GT (0.0027 > P > 0.0001; 4% < R2< 9%; 262 < GT < 391 _g g ¡ 1), and TI (0.0011 > P > 0.0001;4% < R2 < 15%; 195 < TI < 871 _g g ¡ 1) across the various environments. A previously reported QTL on LG M detected by Satt540 was associated with TI across four environments and TI mean (0.0022 > P > 0.0001; 3% < R2 < 8%; 182 < TI < 334 _g g ¡ 1) in China. Because both beneficial alleles were from Zhongdou 27, it was concluded that these two QTL would have the greatest potential value for marker-assisted selection for high-isoflavone content in soybean seed in China.

【语种】英文
【第一作者】曾国良
【通讯作者】李文滨
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【引文索引号】DOI 10.1007/s00122-009-0994-5
【学科分类】农艺学

【题目】黑龙江省水稻稳产高产基本策略
【中文关键词】黑龙江;水稻;生产现状;稳产;高产;影响因素;策略
【英文关键词】None
【中文摘要】摘要:针对黑龙江省近几年水稻生产灾害发生频繁、发生范围广,致使稻谷产量及品质都发生了大幅度下降的这一现象,研究分析了黑龙江省稻作发展的现状及影响稻谷产量、品质的主要因素,提出了黑龙江省水稻稳产、高产的基本策略。
【英文摘要】None
【语种】中文
【第一作者】杨丽敏
【通讯作者】杨丽敏
【期刊名称、卷期、页码】中国稻米.2007,13　(1):　68~69
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【学科分类】农艺学

【题目】黑龙江水稻冷害IV分蘖期低温对水稻分蘖的影响
【中文关键词】水稻;低温;分蘖;黑龙江
【英文关键词】rice; low temperature; tiller; Heilongjiang
【中文摘要】摘要:通过对水稻低温处理条件下的分蘖情况调查,结果表明低温处理对分蘖的发生具有明显的抑制作用,不同品种对低温的敏感度不同,3~6 d的低温处理严重影响水稻分蘖的发生,而低温处理时间低于3 d对水稻的最大分蘖数影响不大。
【英文摘要】Abstract: Under the low temperature, the rice tillering was surveyed. The results showed that:the low temperature lead to a low tiller occurring. The effect of low temperature was different among the different rice varieties. The number of tillers of the rice treated in low temperature for 3 to 6 days was significantly lower than the ck. The maximum number of rice tiller was not significantly affected by low temperature within 3 days.
【语种】中文
【第一作者】王立志

【通讯作者】王立志
【期刊名称、卷期、页码】黑龙江农业科学.2009(4):18~20
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【学科分类】农艺学

【题目】抑制水稻隐花色素基因OsCRY1a 表达对水稻农艺性状的影响
【中文关键词】水稻;隐花色素基因;OsCRY1a;农艺性状;基因表达
【英文关键词】ice;cryptochrome gene;OsCRY1a;agronomic trait;gene expression
【中文摘要】利用已公布的OsCRY1a 基因的序列设计引物,扩增部分基因片段,构建RNAi植物表达载体并转化水稻,导致该基因表达水平下降和功能缺失。根据转基因植株重要农艺性状的表现,分析该基因的功能。结果表明,抑制OsCRY1a 基因的表达,水稻开花期推迟16d,株高和粒长明显增加,而其他重要农艺性状如剑叶长、宽和穗长等无明显变化。
【英文摘要】Using primers designed according to the published sequence of OsCRY1a gene,part of the gene fragment wasobtained by PCR and a RNAi expression vector was constructed.The vector was then introduced into rice,leading to thedownregulation of the expression level and loss-of-function of the gene.Based on the performance of the transgenic plants,thefunctions of OsCRY1a was analyzed and deduced.The results indicated that suppressing the expression of OsCRY1aretardedflowering for 16dwith the plant height and grain length significantly increased while other important agronomic traits remainedunchanged apparently
【语种】中文
【第一作者】李 毓
【通讯作者】庄伟健
【期刊名称、卷期、页码】中国水稻科学(Chin J Rice Sci),2011,25(6):575-579
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【题目】黑龙江水稻冷害VI寒地水稻障碍型冷害鉴定过程的启发
【中文关键词】水稻;障碍型冷害;温度;敏感期
【英文关键词】rice; sterile type cooling injury ;temperature; sensitive period
【中文摘要】摘要:针对寒地水稻障碍型冷害研究中发现的问题,提出了水稻障碍型冷害温度、敏感时期的确定依据并解释了容易混淆的专业术语。
【英文摘要】Abstract: According to the problem in the study on sterile type cooling injury in cold region, the basis for temperature and sensitive period of sterile type cooling injury was put forward. A few easily confused terms was explained.
【语种】中文
【第一作者】王连敏
【通讯作者】王连敏
【期刊名称、卷期、页码】黑龙江农业科学.2009(5):20~21
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【学科分类】农艺学

【题目】黑龙江水稻冷害VII苗期低温对水稻秧苗电导率及可溶性糖含量的影响
【中文关键词】水稻;苗期;低温;可溶性糖;相对电导率
【英文关键词】seedling stage; low temperature; soluble sugar; relative electric conductivity
【中文摘要】摘要:利用人工气候室在苗期对水稻秧苗进行6°C和15°C低温处理,2 d后,检测植株体内可溶性糖及电导率的变化。结果表明:低温特别是强度较大的低温可导致电解质大量渗出和可溶性糖含量显著降低,且品种之间存在较大差异。
【英文摘要】Abstract: The soluble sugar content and relative electric conductivity were analyzed after 36 h under 6°Cand15°Clow temperature treatments on rice seedlings in phytotran. The result showed that soluble sugar content could be decreased and relative

electric conductivity was increased under low temperature especially heavy low temperature condition. In another hand, great difference was found among varieties.
【语种】中文
【第一作者】王春艳
【通讯作者】王春艳
【期刊名称、卷期、页码】黑龙江农业科学.2010(5):21~22
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【学科分类】农艺学

【题目】杂交水稻细胞质遗传效应的研究进展
【中文关键词】杂交水稻; 胞质效应; 农艺性状; 品质性状
【英文关键词】hybrid rice; cytop lasm ic effec;t agronom ic character; qua lity character
【中文摘要】杂交稻细胞质具有一定的遗传效应, 表现在同一细胞质在不同性状上的效应不同, 不同细胞质在同一性状上的效应也不同。多数研究结果认为, 雄性不育细胞质对大多数性状表现负效应。综述了杂交稻细胞质的分类、细胞质效应的研究方法、不育系细胞质对杂交稻F1 代的遗传效应以及今后的研究展望。
【英文摘要】The cy toplasm of hybrid r ice has some genetic effects, wh ich show s in that the sam e cy toplasm cou ld have different e ffects on different traits, and tha t the different cytoplasm could have differenteffects on the sam e trai.t Most of research resu lts ind icated that thema le sterile cytoplasm had negativeeffects onmost of the traits. In th is paper, the c lassification of hybrid rice cy top lasms, the researchmethods for cytop lasm genet ic effects, the genetic effects ofma le sterile cytoplasms on F1 hybridrice as w ell as the fu ture research prospects w ere summarized.
【语种】中文
【第一作者】仇秀丽
【通讯作者】王乃元
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【学科分类】农学其他学科

【题目】Identi fi cation of QTL underlying soluble pigment content in soybean stems related to resistance to soybean white mold(Sclerotinia sclerotiorum)
【中文关键词】大豆,菌核病,QTL
【英文关键词】soybean, SWM, QTL
【中文摘要】自从1978年大豆菌核病爆发以后,这个病害已经在全世界爆发了。在这个研究中我们利用一个茎中色素含量作为QTL判定的标准。我们利用感病品种和丰25和抗病品种Maple Arrow杂交衍生的149个F5:6重组自交系,和109个SSR标记构建了一个遗传连锁图谱,一共3个QTL Qsp-1 (Satt502-Sat_159), Qsp-2 (Sat_156-Satt251), and Qsp-3 (Satt525-Satt233), 被定位在D1a+q, B1 和 A2连锁群上。其分别能够解释6.29-15.37%的表现型变异。这3个QTL对于分子育种是十分重要的。.
【英文摘要】The frequency of soybean white mold(Sclerotinia sclerotiorum, SWM) outbreaks hasincreased since 1978, and this disease is currently considered to be the second most important cause of soybean yield loss worldwide. We have studied SWM in stems of soybean cultivar Maple Arrow, which shows partial resistance to SWM, in an attempt to identify the quantitative trait loci (QTLs) underlying soluble pigment(s) content, which is associated with SWM resistance. A SWM-susceptible cultivar, Hefeng25, was crossed with Maple Arrow, and 149 F5:6 recombinant inbred lines were subsequently advanced through single-seed-descent. A total of 109 simple sequence repeat (SSR) markers were used to construct a genetic linkage map. Three QTLs for soluble pigment content in soybean stems associated with the resistance to SWM, namely, Qsp-1 (Satt502-Sat_159), Qsp-2 (Sat_156-Satt251), and Qsp-3 (Satt525-Satt233), were identified in 2007 and 2008 and located onto linkage groups D1a+q, B1 and A2, respectively. The phenotypic variation (R2) explained by these QTLs ranged from 6.29 to 15.37%. These three QTLs were not significantly related to known QTLs associated with escape resistant mechanisms. The use of these QTLs in marker-assisted selection may contribute to improved soybean resistance to SWM.

【语种】英文
【第一作者】李冬梅
【通讯作者】李文滨
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【引文索引类型】SCI
【引文索引号】DOI 10.1007/s10681-009-0036-z
【学科分类】农艺学

【题目】龙粳26的选育及寒地水稻“三高”理论研究
【中文关键词】早熟;优质;丰产;多抗;选育
【英文关键词】None
【中文摘要】摘要:龙粳26是以垦稻7号为母本,以空育150为父本经有性杂交选育而成的新品种。区域试验平均产量8 703.7 kg·hm2,比对照品种空育131增产7.4%,生产试验平均产量为9 210.4 kg·hm2,比对照空育131增产10.0%,属于早熟、优质、丰产、多抗水稻新品种。2009年1月经黑龙江省农作物品种审定委员会审定推广。2009年全省种植面积预计30万hm2。“三高”是高成穗率、高结实率、高成熟度,是寒地水稻育种重要研究内容。
【英文摘要】None
【语种】中文
【第一作者】徐希德
【通讯作者】徐希德
【期刊名称、卷期、页码】黑龙江农业科学.2009(5):165~166
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【引文索引号】null
【学科分类】农艺学

【题目】水稻苗期耐冷QTL的图谱整合
【中文关键词】水稻;苗期耐冷;QTL映射;元分析
【英文关键词】Rice; Cold tolerance at seedling stage; QTL projection; Meta analysis
【中文摘要】摘 要:提高水稻苗期耐冷性是寒地水稻育种的主要目标之一。本研究利用生物信息学手段,收集整理了来自11个作图群体共96个与水稻苗期耐冷性相关的QTL信息。通过Biomercator2·1和共有标记映射,将QTLs 整合到参考图谱cornell2001上,并通过元分析的方法计算真实QTLs。建立了水稻苗期耐冷QTLs的一致性图谱,共发现18个“真实QTLs”及其连锁标记。为水稻苗期耐冷基因的精细定位、图位克隆以及分子辅助育种奠定基础。
【英文摘要】Abstract:Cold tolerance at seedling stage is a critical trait for rice growth.A total of 96 QTLs related to seedling cold tolerance of rice from 11 mapping populations were collected and arranged by bioinformatics tools. These QTLs and their common markers were integrated with the reference map cornell2001 by Biomercator2.1,The real QTLs were calculated by the method of meta analysis. Moreover, a consensus map of rice QTLs conferring seedlings cold tolerance was constructed. Totally, 18 real QTLs and their linked markers were found. This research offers a basis for fine mapping, map based cloning and marker assisted breeding of rice seedling cold tolerance genes.
【语种】中文
【第一作者】刘涛
【通讯作者】邹德堂
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【学科分类】农艺学

【题目】水稻新品种龙粳20号的选育

【中文关键词】新品种;龙粳20;选育
【英文关键词】None
【中文摘要】针对黑龙江省水稻生产特点与存在的问题,积极选育早熟、优质、丰产、抗病、适应性广的新品种,对发展水稻生产具有重要意义。依据上述育种目标,我们育成了早熟、优质、丰产、抗病、耐寒性强、适应性广的水稻新品种龙粳20号。
【英文摘要】None
【语种】中文
【第一作者】徐希德
【通讯作者】徐希德
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【学科分类】农艺学

【题目】水稻株型与品质关系的研究
【中文关键词】水稻;品质;株型;相关性
【英文关键词】None
【中文摘要】摘要:以黑龙江八一农垦大学水稻研究中心保存的163个寒地早粳稻品种(系)为试材进行相关和通径分析,研究茎、叶、穗株型指标与稻米品质的关系。结果表明,穗下节间长和倒3节间粗分别与稻米品质综合评分呈极显著和显著正相关;剑叶长而窄,叶基角小的品种品质较优;二次枝梗结实率与品质总评分呈极显著正相关。理想品质株型模式特征为:茎秆粗壮,穗下节间较长;倒2叶长宽比适宜、叶面积不能过大,剑叶长而窄、叶基角小,倒3叶宽较大;单穗重较小,着粒密度适中,二次枝梗结实率高。
【英文摘要】None
【语种】中文
【第一作者】张子军
【通讯作者】冯永祥
【期刊名称、卷期、页码】江苏农业科学.2009(1):62~64
【论文发表时间】2009-02-15 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农艺学

【题目】叶面喷施调节肥对寒地水稻生长及产量形成的影响
【中文关键词】水稻;调节肥;生长;产量
【英文关键词】Rice; Regulating fertilizer; Growth; Yield
【中文摘要】摘要:以水稻空育131(主茎11叶)为材料,通过叶面喷施调节肥,比较了不同处理之间水稻生长及产量形成的差异,确定了适宜的调节肥施用量及喷叶期。结果表明:调节肥叶喷施用量为整个生育期氮肥用量的10%和15%更有利于提高水稻成穗率和增加平方米茎数,其中15%施用量对各节间长度的配比效果最佳;3个处理均显著提高了抽穗后15~20 d干物质积累量,其中6.1 ~6.5叶期喷干物质积累为最多,8.1~8.5叶期喷次之。
【英文摘要】Abstract: In the experiment, we used a rice cultivar 'Kongyul3l ’ by spraying in a field experiment. The aim of this experiment was to discover difference of growth and the formation of production in rice plant by spraying regulating fertilizer, determine the appropriate application and period of regulate fertilizer. The results showed that the application of 10 percent and 15 percent of N significantly enhanced effective panicle rate and increased stems per square meter, in which the 15 percent of N was a best selection in the ratio between the inter node lengths. On the other hand, three treatments were significantly increased dry matter accumulation 15 to 20 days after heading, of which 6.1 to 6.5 leaves of the spraying period was a maximum of dry matter accumulation, next was 8.1 to 8.5 leaves of the spraying period. However, variance analysis showed that the application and period of regulating fertilizer on rice yield components and rice quality did not reach significant levels. The above results indicated that the appropriate application of regulate fertilizer was 15 percent of the total N throughout the season, and the period of regulating fertilizer was 6.1 to 6.5 leaves.

【语种】中文
【第一作者】顾春梅
【通讯作者】顾春梅
【期刊名称、卷期、页码】北方水稻. 2009,39 (2):16~19
【论文发表时间】2009-03-15 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农艺学

【题目】QTL in mega-environments: II. Agronomic trait QTL co-localized with seed yield QTL detected in a population derived from a cross of high-yielding adapted high-yielding exotic soybean lines.
【中文关键词】大豆, QTL, 普适QTL
【英文关键词】soybean, QTL, universal QTL
【中文摘要】多环境普遍适用的与种子产量相关的QTL(qtlu),其分别与satt100,satt130,satt162,satt194,satt259 satt277和sat_126相关。这些QTL主要通过加拿大与中国主栽大豆品种。因此,本研究的目的是确定性状与产量的相关性和确定产量qtlu。4个标记satt100,satt277,satt162和sat_126,共本地化与性状与农艺性状,表现为qtlu或qtlsp的农艺性状。例如,产量qtlu与satt100有关,也与百粒重,单株荚,荚节,株高,R 1,R 5,R 8,含油率和蛋白质含量,但只有与单株荚,荚节,株高,R 1,R 5,但其与一个或多个中国环境。
【英文摘要】Seed yield mega-environment-universal and specific QTL (QTLU and QTLSP, respectively) linked to Satt100, Satt130, Satt162, Satt194, Satt259 Satt277 and Sat_126, have been identiWed in a population derived from a cross between a Chinese and a Canadian soybeanelite line. The variation observed in yield could be the consequence of the variation of agronomic traits. Yield-component traits have been reported in the literature, but a better understanding of their impact at the molecular level is still lacking. Therefore, the objectives of this study were to identify traits correlated with yield and to determine if the yield QTLU and QTLSP were co-localized with QTLU and QTLSP associated with an agronomic trait. A recombinant inbred line (RIL) population was developed from a cross between a high-yielding adapted Canadian and a high-yielding exotic Chinese soybean elite line. The RIL were evaluated in multiple environments in China and Canada during the period from 2004 to 2006. Four yield QTLU, tagged by markers Satt100, Satt277, Satt162 and Sat_126, were co-localized with a QTL associated with an agronomic trait, behaving as either QTLU or QTLSP for the agronomic trait. For example, the yield QTLU, tagged by marker Satt100 was associated also with 100 seed weight, pods per plant, pods per node, plant height, R1, R5, R8, oil content and protein content in all Canadian environments, but only with pods per plant, pods per node, plant height, R1, R5, R8 and oil content in two or more Chinese environments. No agronomic traits QTL were co-localized with the yield QTLU tagged by the marker Satt139 or the yield QTLSP tagged by Satt259, suggesting a physiological basis of the yield in these QTL. The results suggest that a successful introgression of crop productivity alleles from plant introductions into an adapted germplasm could be facilitated by the use of both the QTLU and QTLSP because each type of QTL contributed either directly or indirectly through yield-component traits to seed yield of RILs.
【语种】英文
【第一作者】Laura Palomeque
【通讯作者】李文滨
【期刊名称、卷期、页码】Theor Appl Genet 119:429 – 436
【论文发表时间】2010-07-05 00:00:00
【引文索引类型】SCI
【引文索引号】DOI 10.1007/s00122-009-1048-8
【学科分类】农艺学

【题目】优质超级稻松粳9号籽粒灌浆动态研究
【中文关键词】超级稻;松粳9号;灌浆动态
【英文关键词】super rice; Song jing No. 9; dynamic of seed filling
【中文摘要】摘要:通过对不同水稻品种籽粒灌浆动态的研究,结果表明:与两个对照品种相比,优质超级稻松粳9号籽粒灌浆具有启动早、灌浆速率高而且平稳的特点。上部籽粒和下部籽粒灌浆速率平稳,抽穗后25 d灌浆速率达到最大值,与两个对照品种一致;中部籽粒在抽穗后30 d灌浆速率达到最大,晚于两个对照品种。不同部位的籽粒灌浆差异明显,灌浆速率和粒重由大到小依次是上部籽粒、中部籽粒、下部籽粒。

【英文摘要】Abstract: Dynamic study of seed filling on Song jing No. 9 was conducted. The results showed that: The seed filling character of Song jing No. 9 was earlier, faster and more stable than the two contract varieties. It was the same as CKs that the seeds filling velocity on top and low were stable, and reached the maximum after 25 days of heading, but the middle seeds were 5 days later than the top and low. The difference was evident that the filling velocity of seeds on different part, the sequence of fill2ing velocity and seed weight from strong to weak was top, middle and low.
【语种】中文
【第一作者】闫平
【通讯作者】闫平
【期刊名称、卷期、页码】黑龙江农业科学.2007(5):5~6
【论文发表时间】2007-05-10 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农艺学

【题目】优质超级稻松粳9号干物质积累动态研究
【中文关键词】超级稻;松粳9号;干物质
【英文关键词】super rice; Songjing No.9; dry matter
【中文摘要】摘要:松粳9号齐穗期单茎干重、齐穗期地上部干物重、成熟期稻穗干物重均极显著高于两个对照品种。通过相关分析,成熟期单茎干物重、齐穗期和成熟期地上部干物重、成熟期稻穗干物重与产量呈极显著正相关
【英文摘要】Abstract: The dry matter weight of single stem ,shoot in full heeding stage and spikes in mature stage of Songjing No.9 were significant higher than those of the other two check varieties. According to the correlation analysis, the dry mater weight of single stem in mature stage, dry mater weight of shoot in full heading time and dry matter weight of spikes in mature stage were very significant positive correlated to yield
【语种】中文
【第一作者】闫平
【通讯作者】闫平
【期刊名称、卷期、页码】黑龙江农业科学.2007(4):5~7
【论文发表时间】2007-04-10 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农艺学

【题目】优质高产水稻新品种龙粳25的选育
【中文关键词】水稻;新品种;龙粳25;选育
【英文关键词】None
【中文摘要】龙粳25(原代号龙花01-806)由黑龙江省农业科学院水稻研究所育成。该品种熟期与黑龙江省目前主栽品种空育131相仿,株穗形与空育131相似,品质、产量、抗病性均优于空育131。2007年,在黑龙江省农业良种化工程评选中被评为中标品种。2009年1月,经黑龙江省农作物品种审定委员会审定推广,审定编号为黑审稻2009009。审定当年推广种植面积1.27万hm2。大面积种植表现出产量高、米质优、耐寒性强、抗稻瘟病性强、出米率高等优点。
【英文摘要】None
【语种】中文
【第一作者】王瑞英
【通讯作者】王瑞英
【期刊名称、卷期、页码】作物杂志.2010(2) :112~113
【论文发表时间】2010-04-15 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农艺学

【题目】增施氮肥对寒地水稻产量性状的影响
【中文关键词】氮肥;移栽密度;产量
【英文关键词】N fertilizer; Planting density; Yield
【中文摘要】摘要:[目的]研究氮肥用量对寒地水稻产量性状的影响。[方法]以龙粳14、龙粳18、龙粳20为材料,研究不同种植密度(18、20穴/m2)下氮肥用量(150、165、180、195 kg/hm2)对水稻产量性状的影响。[结果]增加N肥用量可提高3个水稻品种的有效穗数;2种密度下,龙粳20的有效穗数最多,龙粳14和龙粳18的有效穗数差异不大;20穴/m2种植密度下,各施肥处理水稻产量均高于18穴/m2密度下相应施肥处理;氮肥用量为165 kg/hm2时龙粳14和龙粳18的产量最高,氮肥用量为180 kg/hm2时龙粳20的产量最高;龙粳14和龙粳18的出米率与施肥量无明显关系,而龙粳20的出米率随施氮量的增加略有升高。[结论]施氮量为165~180 kg/hm2时,3个品种的最佳移栽密度为20穴/m2
【英文摘要】Abstract:[Objective] The aim was to study the effects of N application amount on yield traits of rice in cold area. [Method]With Longjing14, Long jing 18, Long jing 20 as the materials, the effects of N application amount(150, 165, 180 and 195 kg/hm2) on their yield traits under 2 planting densities(18, 20 points/m2) were studied. [Result] Increasing N application amount could mi prove the effective panicle number of 3 varieties. Under2 planting densities, the effective panicle number of Longjing20 was the most and those of Longjing14 and 18 had little difference. Rice yield in all N treatments under 20 points /m2 were all higher than those under 18 points /m2. When N application amount was 165 kg/hm2, the yields of Longjing14 and 18 were the highest and that of Longjing 20 was the highest when N application amount was180 kg/hm2. The white rice yield of Longjing14 and Longjing18 had no obvious relationship with fertilization amount But the white rice yield of Long jing 20 was slightly increased with the increment of N application amount [Conclusion]When N application amountwas165-180 kg/hm2, the optimum planting densities of 3 varieties were 20 points/m2
【语种】中文
【第一作者】王翠
【通讯作者】王翠
【期刊名称、卷期、页码】安徽农业科学.2009,37(22):10441~10442,10453
【论文发表时间】2009-08-01 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农艺学

【题目】不同氮磷钾营养水平对超级稻产量及产量构成的影响
【中文关键词】超级稻;营养水平;产量;构成因素
【英文关键词】Super- rice; Nutrition level; Yield; Yield components
【中文摘要】摘 要:不同氮磷钾营养水平,对耐肥型和广适型超级稻叶面积指数、干物重和产量构成因素影响不同。耐肥型超级稻吉粳 88 以 N200 kg/hm2、P100 kg/hm2、K120 kg/hm2时,叶面积指数和干物重表现最好。广适型超级稻吉粳 83 以 N100 kg/hm2、P750 kg/hm2、K90 kg/hm2叶面积指数和干物重表现最好。耐肥型超级稻吉粳88 以 N250 kg/hm2、P100 kg/hm2、K60 kg/hm2时产量构成因素最好,广适型超级稻吉粳 83 以 N100 kg/hm2、P75 kg/hm2、K90 kg/hm2产量构成因素表现最好。
【英文摘要】Abstract: Effect of different levels of nitrogen, phosphorus and potassium nutrition on the leaf area index, dry matter weight and yield components of super- rice Jijing88 and Jijing83 was different. The leaf area index and dry matter weight of Jijing88, a fertilizer tolerant super- rice variety, was the best when nutrition levels was N200kg/ha, P 100kg/ha and K 120kg/ha. The leaf area index and dry matter weight of Jijing83, a wide suitability super- rice variety, was the best when nutrition levels wasN100kg/ha, P750kg/ha and K90kg/ha. The yield components of super- rice Jijing88 was the best when nutrition levels was N250kg/ha, P100kg/ha and K60kg/ha. The yield components of super- rice ‘ Jijing83was the best when nutrition levels was N100kg/ha, P75kg/ha and K90kg/ha.
【语种】中文
【第一作者】刘 亮
【通讯作者】赵国臣
【期刊名称、卷期、页码】吉林农业科学.2009,34(5):20-24
【论文发表时间】2009-10-25 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农艺学

【题目】不同施肥处理对水稻生长发育及产量的影响
【中文关键词】水稻; 有机肥; 不同肥料处理; 产量
【英文关键词】Continuous cropping; Protected soil; Soil nutrients
【中文摘要】摘 要: 通过连3年定位对水稻施肥, 明确了不同肥料处理的应用效果及最佳使用方法。试验结果表明: 在不同处理中, 以Bokashi+化肥处理水稻生长发育及产量构成与常规水稻生产相比差异不明显。对减少化肥使用量, 提高化肥利用率, 发展绿色水稻生产有重大意义。
【英文摘要】Abstract: Thirty- six soil samples of different years of continuous cropping of protected cultivation and controls in the near open ground were collected and their nutrients determined in this study. The results showed that the contents of organic matter, total N, total P, total K and alkali- hydrolysable N, available P and available K in the soil of continuous cropping of protected cultivation of tomato were obviously higher.
【语种】中文
【第一作者】郭晞明
【通讯作者】郭晞明
【期刊名称、卷期、页码】吉林农业科学.2007,32(1):29~30,39
【论文发表时间】2007-02-25 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农艺学

【题目】超级稻龙粳 21 特征特性及高产栽培技术
【中文关键词】超级稻;龙粳 21;选育;特征特性;高产栽培技术要点
【英文关键词】None
【中文摘要】摘 要:超级稻龙粳 21 具有产量高、米质优、抗瘟性强、耐寒性强、秆强抗倒、后熟快、适应性广等特点。2007 年 9 月通过国家农业部超级稻专家组验收,7.3 hm2连片种植,实收 780.7 m2,产量达到 11 791.5 kg/hm2,龙粳 21 为黑龙江省优质超级稻新品种,2008 年通过黑龙江省农作物品种审定委员会审定,并被列为国家农业科技成果转化资金项目。
【英文摘要】None
【语种】中文
【第一作者】褚国江
【通讯作者】褚国江
【期刊名称、卷期、页码】北方水稻.2009,39(4) :56-57
【论文发表时间】2009-07-15 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农艺学

【题目】氮肥基追不同分施比例对寒地粳稻产量及氮肥利用率的影响
【中文关键词】寒地粳稻;氮肥利用率;产量;施氮比例
【英文关键词】cold rice; nitrogen use efficiency; yield; nitrogen proportion
【中文摘要】摘 要:在基础地力和施氮总量相同的条件下,氮肥基追不同分施比例对寒地粳稻产量及氮肥利用率的影响。以11叶品种空育131和12叶品种垦鉴稻6号为材料,设基肥、蘖肥、调节肥和穗肥9种施肥比例。表明:氮肥基追不同分施比例对各时期植株体内氮素积累量差异显著,其中成熟期氮素积累量与产量呈显著正相关,相关系数r=0.67-0.75*。氮肥基追不同分施比例对氮肥利用率和产量差异显著正相关,相关系数为r=0.63-0.68*。在基础地力和施氮总量相同的条件下,基肥、蘖肥、调节肥和穗肥的最佳分施比例为4:2:2:2和4:3:1:2,这种施肥比例下氮肥利用率和产量高。
【英文摘要】Abstract:The aim of this experiment was to discount fertilizing nitrogen in different proportion between base fertilizer and top dressing fertilizer affects yield and efficiency of nitrogen fertilizer utilization of Japonica rice in cold region at the same level of soil fertilizer content and the same amount of nitrogen fertilizer application. In this paper, we used two rice cultivars ‘ Kongyu 131 ’ and ‘ Kenjiandao 6 ’. The results were as followed, at every stage of rice plant growing, there is significantly different among the amount of nitrogen accumulation of plant. In the maturity, the amount of nitrogen accumulation with yield was positive correlation (r=0.67-0.75*).Fertilizing nitrogen in different proportion between base fertilizer and top dressing fertilizer was positive correlation with

yield (r=0.63-0.68*). When the nitrogen was fertilizer in the base fertilizer, tillering fertilizer, regulation fertilizer, panicle fertilize of 4:2:2:2, and 4:3:1:2, the efficiency of nitrogen fertilizer utilization and the yield were respectively the highest.
【语种】中文
【第一作者】王丽萍
【通讯作者】那永光
【期刊名称、卷期、页码】中国农学通报. 2010(13):235~238
【论文发表时间】2010-07-05 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农艺学

【题目】氮素用量对寒地水稻氮代谢关键酶活性的影响
【中文关键词】寒地水稻;氮素用量;硝酸还原酶;谷氨酰胺合成酶;核酮糖 - 1,5- 二磷酸羧化酶
【英文关键词】rice in cold region; nitrogen level; NR; GS; RuBP carboxylase
【中文摘要】摘 要:本试验以寒地水稻松粳 6 号和松粳 9 号为材料,研究了氮素用量对寒地水稻功能叶片氮代谢关键酶活性的影响。研究结果表明:寒地水稻功能叶片 NR、GS 活性在整个生育期均呈单峰曲线变化,峰值均出现在抽穗期,氮素用量对功能叶片 NR、GS 活性的影响因品种和时期而异;寒地水稻功能叶片RuBP羧化酶活性从齐穗后呈下降趋势,并且随施氮量的增加而提高;不同生育时期 NR、GS、RuBP羧化酶活性与产量及产量构成因子相关关系和相关程度不一致;在一定范围内,水稻产量随着氮量增加而增加,氮素用量与产量间呈一元二次曲线关系。
【英文摘要】Effects of Nitrogen Level on Key Enzyme to Nitrogen Metabolism of Rice in Cold Region GANG Shuang, WANG Jing-guo, YANG Liang, GAO Yang, ZANG Jia-xiang, ZHAO Hong-wei(Agricultural College, Northeast Agricultural University, Harbin, Heilongjiang 150030, China)Abstract:This experiment with two varieties of rice (Song jing 6 and Song jing 9) in cold region for test materials to study the effect of nitrogen application on nitrogen metabolism key enzyme activity of rice functional leaves. The results show that NR, GS activity of rice function leaves appeared with single peak curve in the whole growth period, the peak value occurred in the heading stage. The effect of nitrogen application on NR and GS activity in functional leaves of rice in cold region were different on different varieties and growth stages, RuBP carboxylase activity of rice functional leaves emerged downtrend from heading stage, moreover the activity improved with the nitrogen application rate increased. The NR, GS and RuBP carboxylase activity with yield and yield components and associated factors related to the degree of inconsistency in different growth stages. In certain extent, the rice yield increased with nitrogen application improved, the relationship between nitrogen consumption and yield was monadic quadratic curve.
【语种】中文
【第一作者】刚 爽
【通讯作者】赵宏伟
【期刊名称、卷期、页码】农业现代化研究.2010,31(2):224-227
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【学科分类】农艺学

【题目】氮素用量对水稻籽粒谷氨酰胺合成酶活性及产量的影响
【中文关键词】氮素;水稻;籽粒;谷氨酰胺合成酶活性;产量
【英文关键词】nitrogen; rice; grain; glutamine synthetase; yield
【中文摘要】摘 要:以东农 423、东农 425、松粳 6 号和松粳 9 号 4 个水稻品种为试验材料,研究了不同氮素处理对水稻籽粒谷氨酰胺合成酶活性及产量的影响。结果表明,籽粒谷氨酰胺合成酶活性在抽穗后呈下降趋势,适量施氮对谷氨酰胺合成酶活性有明显的促进作用;对 4 个品种来说,东农 425 和松粳 9 号以 N150 处理下有较高的酶活性,东农 423 和松粳 6 号则以 N100 处理为最佳;在一定范围内,籽粒产量随施氮量的增加而增加,对东农 423、东农 425 和松粳 6 号而言,N150 是保证高产最佳施肥量;松粳 9 号以 N200 处理为最佳。籽粒谷氨酰胺合成酶活性与籽粒产量呈正相关关系,其中抽穗后 7,35 d 酶活性与产量呈极显著正相关
【英文摘要】Abstract: This experiment utilized Dongnong423, Dongnong425, Songjing6 and Songjing9 as the tested varieties , the effect of different nitrogen levels on the glutamine synthetase (GS) activity in grains and the yield of rice was studied. The results showed that dynamics of GS activities gradually declined since the heading, the effect nitrogen application could increase the GS activities ,

when the best GS activity apply nitrogen was 150 kg · hm-2for Dongnong425 and Songjing9, but the treatment of 100 kg · hm-2was the best for Dongnong423 and Songjing6. To a certain extent, the yield of rice increased with the increasing of nitrogenous fertilizer. N150 treatment was the best for Dongnong423, Dongnong425 and Songjing6 ton sure a high yield, while N200 was a prime treatment for Songjing9. The GS activities in grains were positively related to the yield. The GS activities at 7, 35 d after heading showed significantly positive correlation with the yield.
【语种】中文
【第一作者】刘 丽
【通讯作者】邹德堂
【期刊名称、卷期、页码】东北农业大学学报.2009,40(10):1-4
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【引文索引号】null
【学科分类】农艺学

【题目】稻米成分与品质的关系
【中文关键词】水稻;品质;淀粉;蛋白质
【英文关键词】Rice; Quality;Starch;Drotein
【中文摘要】摘 要:本文重点从稻米化学成分对水稻品质的影响进行探讨,综述了稻米中淀粉、蛋白质以及脂肪的分布和分类情况,着重讨论了它们与稻米品质之间的关系,较全面讨论了水稻品质的涵盖范围,为今后的水稻高产、调优提供参考。
【英文摘要】Abstract: In this paper, the distribution and classification of starch, protein and fat in rice grain were reviewed and the relationship between these elements and quality was discussed so as to provide reference for high -yielding and better quality breeding in rice in the future.
【语种】中文
【第一作者】赵黎明
【通讯作者】赵黎明
【期刊名称、卷期、页码】北方水稻.2009,39(6):65~71
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【学科分类】农艺学

【题目】东农3489水稻新品种的选育
【中文关键词】水稻;东农 3489;选育;特征特性
【英文关键词】None
【中文摘要】摘要:东农 3489 为优质、高产和抗逆性强的水稻新品种,本文介绍了东农 3489 的选育目标、选育经过、特征特性以及栽培要点。
【英文摘要】None
【语种】中文
【第一作者】邹德堂
【通讯作者】邹德堂
【期刊名称、卷期、页码】农产品加工(创新版).2009(1):90
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【引文索引号】null
【学科分类】农艺学

【题目】防御寒地水稻冷害的施肥技术研究现状
【中文关键词】水稻;冷害;寒地;施肥技术

【英文关键词】Rice;Cold injury;Cold region;Fertilization techniques
【中文摘要】摘 要:冷害是水稻减产的主要原因之一,也是全世界普遍关注的问题,尤其寒地稻作区,低温冷害频繁发生。本文简要介绍了测土配方施肥、控制氮肥的施入、增施磷肥、增施钾肥、施用有机肥和微肥对防御低温冷害的作用,并对今后寒地水稻冷害防御的施肥技术方面研究提出了一些建议。
【英文摘要】Abstract: Cold injury is one of the most important factors to decrease the yield of rice,which is the concerns of world rice production.Cool injury of rice occurs often in cold region.The problems concerning fertilization techniques of cold injury prevention were discussed in cold regions,and the suggestion was put forward for the prevention of cold injury to rice.
【语种】中文
【第一作者】王士强
【通讯作者】王士强
【期刊名称、卷期、页码】北方水稻.2009,39(5):77~80
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【引文索引号】null
【学科分类】农艺学

【题目】肥密措施对寒地不同类型水稻品种产量的影响
【中文关键词】寒地;水稻;肥力;密度
【英文关键词】None
【中文摘要】摘 要:选用典型的穗数型和穗重型品种,研究肥密因素对寒地不同类型水稻品种产量的影响。结果表明,穗数型品种垦鉴稻 6 号在中等肥力较密(尿素 300 kg/hm2、23 丛/m2)条件下产量达到 682.2 kg/667 m2,高产原因是单位面积获得较多穗数;而穗重型品种龙粳 18 在较高肥力略稀(尿素 350 kg/hm2、20 丛/m2)条件下产量达到 658.8 kg/667m2,高产原因是穗较大、穗粒数较多。
【英文摘要】None
【语种】中文
【第一作者】陈锐
【通讯作者】陈书强
【期刊名称、卷期、页码】中国稻米.2010,16(1):36-39
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【学科分类】农艺学

【题目】寒地超级稻S S酶ADPG焦磷酸化酶及光合特性与灌浆速率关系研究
【中文关键词】寒地超级稻;蔗糖合成酶;ADPG 焦磷酸化酶;RuBP 羧化酶;灌浆速率
【英文关键词】cold super-rice;sucrose synthase; ADP-glucose pyrophosphorylase; RuBP carboxylase; grain-filling rate
【中文摘要】摘 要:试验对黑龙江省寒地超级稻品种松粳 9 号的蔗糖合成酶、ADPG 焦磷酸化酶、光合特性及其与灌浆速率的关系进行了研究。结果表明:籽粒 ADPG 焦磷酸化酶活性、蔗合成酶活性与灌浆速率极显著正相关,功能叶蔗糖合成酶活性和RuBP 羧化酶活性、净光合速率与灌浆速率分别呈显著正相关和极显著正相关,高产寒地超级稻品种松粳9 号的酶活性与净光合速率均高于常规品种松粳 6 号,且差异达极显著水平。将蔗糖合成酶和 ADPG焦磷酸化酶、RuBP 羧化酶活性、净光合速率的高低作为超级稻品种选育的生理指标是可行的。
【英文摘要】Abstract:The relationship between sucrose synthase(SS), ADP-glucose Pyrophosphorylase (AGPP) and photosynthetic characteristics and the grain-filling rate of Heilongjiang Province super rice Song jing 9 in cold region were investigated. The results showed that: SS activity,AGPP activity of seeds with the filling rate was highly significant positive correlation,SS activity, RuBP carboxylase activity and net photosynthetic rate of functional leaves with the grain-filling rate was significantly positively correlated and highly significant positive correlation, the enzyme activity and net photosynthetic rates of high-yield super rice Songjing 9 in cold region were higher than conventional rice Song jing 6, inter-species differences was extremely significant. It is feasible to regard the level of SS,AGPP,RuBP carboxylase activity and net photosynthetic rate as physiological indicators of super rice breeding.
【语种】中文

【第一作者】臧家祥
【通讯作者】邹德堂
【期刊名称、卷期、页码】农业现代化研究.2010,31(1):105~109
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【学科分类】农艺学

【题目】寒地粳稻生育后期剑叶光合特性变化的研究
【中文关键词】寒地粳稻; 剑叶; 叶绿素含量; 净光合速率; 硝酸还原酶活性
【英文关键词】Japonica rice in cold region; chlorophyll content; net photosynthetic rate; nitrate reductase ac-Tivity
【中文摘要】摘 要: 文章研究了黑龙江省第一积温带 5 个主栽品种生育后期剑叶叶绿素含量、净光合速率和硝酸还原酶(Nitrate Reductase, NR) 活性的变化规律。结果表明, 产量高的品种其生育后期剑叶叶绿素含量、光合速率和 NR活性均高于产量低的品种, 品种间差异显著。因此, 将剑叶生育后期叶绿素含量、净光合速率和 NR 活性作为寒地粳稻高光效育种和超高产育种中的一项生理选育指标是可行的。
【英文摘要】Abstract: The change rules of chlorophyll content, net photosynthetic rate and nitrate reductase activity in flag leaf after full heading stage of five varieties with different yield levels in the First Accumulated Temperature Zone of Heilongjiang Province were studied in this experiment. The results showed that the chlorophyll content, net photosynthetic rate and nitrate reductase activity in flag leaf of varieties of high yield were higher than those of the varieties of low yield and had great difference in these varieties. So chlorophyll content, net photosynthetic rate and nitrate reductase activity in flag leaf after full heading stage of different varieties as indicators in breeding of high photosynthetic efficiency and super high yield of Japonica rice were useful in cold region.
【语种】中文
【第一作者】刘化龙
【通讯作者】邹德堂
【期刊名称、卷期、页码】东 北 农 业 大 学 学 报. 2008 ,39(6): 17~21
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【引文索引号】null
【学科分类】农艺学

【题目】寒地水稻氮磷钾营养诊断技术的研究
【中文关键词】水稻;营养;诊断技术
【英文关键词】rice, nutrition, technique of diagnosis
【中文摘要】摘 要:采用多点田间生物试验法,在2006—2007年对寒地水稻进行了两年营养诊断技术研究,形成了寒地水稻氮、磷、钾的土壤和植株营养诊断技术与方法。氮素诊断在分蘖期和孕穗期均以叶片叶绿素相对含量作为诊断指标最好;磷素营养诊断在分蘖期土壤全磷和植株全磷均可作为诊断指标,在孕穗期以植株全磷为诊断指标最好;钾素诊断在分蘖期土壤速效钾和植株全钾均可作为这个时期的诊断指标,在孕穗期以土壤速效钾进行钾营养诊断最能反映生产实际。
【英文摘要】Abstract: Two years studies on the technique of rice nutritional diagnosis were conducted during 2006-2007by the method of field multi-sited experiments in cold region of northeast China. The N, P, K diagnostic technique and methods were formed in both plant and soil. For the nutrient of nitrogen, the chlorophyll content of blade was the best indicator to the nutritional state in both tillering and spike formation stage. To the nutrient of phosphorus, both plant and soil total P could be used for P nutritional diagnosis in tillering stage, but plant total P was the best one to indicate the rice phosphorus status in spike formation stage. Concerning the potassium, either soil available K or plant total K could be used in the diagnosis of tillering stage, and in spike formation stage, only the soil available K was the most suitable characteristic in the practice of K diagnosis.
【语种】中文
【第一作者】王 艳
【通讯作者】周建朝
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【学科分类】农艺学

【题目】寒地早粳稻稻种资源品质状况评价
【中文关键词】寒地; 早粳稻; 稻种资源; 品质
【英文关键词】cold region; early japonica rice; rice germplasm resuource; quality of mid rice
【中文摘要】摘 要: 以黑龙江八一农垦大学水稻中心保存的 180 份寒地早粳稻品种(系) 为试材, 对其品质性状进行分析, 并做出评价。研究结果表明, 寒地早粳稻的营养品质和蒸煮品质普遍较优, 但仅有 1.7 %的品种综合品质性状达到了国家一级米标准; 垩白粒率和垩白度的品种间差异较大, 在参试材料中仅有 6.1 %和 1.2 %的品种达到了国家一级优质米标准, 是今后水稻品质育种改良的重点, 在今后寒地水稻品质改良和育种中, 应注意改善稻米的外观品质; 特别在育种中应首先注意粒形和碾米品质的选择, 以提高品质育种效率。
【英文摘要】Abstract: 180 early japonica rice varieties (lines) from Heilongjiang August First Land Reclamation University were analyzed and evaluation. The results showed that most of them had better nutritional and cooking quality, but only 1.7 % varieties reached First class's standard of grain quality. The differences of CR and CD among varieties were significant. According to high quality rough rice qualitative index, 6.1 % and 1.2 % varieties reached First class's standard of grain quality score. CR and CD would be the emphases of rice quality breeding in future. It was suggested that appearance quality, especially grain shape and milling quality should be particularly considered in rice grain quality breeding.
【语种】中文
【第一作者】张子军
【通讯作者】冯永祥
【期刊名称、卷期、页码】黑龙江八一农垦大学学报.2008,20(3):30~33
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【学科分类】农艺学

【题目】Validation of mega-environment universal and specific QTL
【中文关键词】大豆,产量,QTL
【英文关键词】soybean, yield, QTL
【中文摘要】有价值的QTL是依赖于标记与性状联系程度,等位基因多样性的QTL影响遗传背景中的表达数量性状位点表达。最近的一些研究已经确定的基因与性状的关系,似乎是独立于环境而依赖于遗传背景。因此,本研究的目的是验证普遍和/或多环境的产量性状,此前已在一个独立的中国与加拿大的优良品种进行创造重组自交系。在2005和2006的中国和加拿大在5个环境,这7个分子标记与种子产量性状, qtlu satt162与几个农艺性状相关。因此,PI已被确认为来源的有利等位基因可能增加遗传变异的大豆种子资源,导致进一步改良产量等农艺性状。
【英文摘要】The value of quantitative trait loci (QTL) is dependant on the strength of association with the traits of interest, allelic diversity at the QTL and the effect of the genetic background on the expression of the QTL. A number of recent studies have identified QTL associated with traits of interest that appear to be independent of the environment but dependant on the genetic background in which they are found. Therefore, the objective of this study was to validate universal and/or mega-environment-specific seed yield QTL that have been previously reported in an independent recombinant inbred line (RIL) population derived from the cross between an elite Chinese and Canadian parent. The population was evaluated at two field environments in China and in five environments in Canada in 2005 and 2006. Of the seven markers linked to seed yield QTL reported by our group in a previous study, four were polymorphic between the two parents. No association between seed yield and QTL was observed. The result could imply that seed yield QTL were either not stable in this particular genetic background or harboured different alleles than the ones in the original mapping population. QTLU Satt162 was associated with several agronomic traitsof which lodging was validated. Both the non-adapted and adapted parent contributed favourable alleles to the progeny. Therefore, plant introductions have been validated as a source of favourable alleles that could increase the genetic variability of the soybean germplasm pool and lead to further improvements in seed yield and other agronomic traits.
【语种】英文

【第一作者】Laura Palomeque
【通讯作者】李文滨
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【引文索引号】DOI 10.1007/s00122-009-1227-7
【学科分类】农艺学

【题目】寒地早粳稻叶部性状与产量关系的研究
【中文关键词】早粳稻; 叶部性状; 产量
【英文关键词】early japonica rice; leaf characters; output
【中文摘要】摘 要: 针对寒地特殊的生态环境, 以 180 份不同基因型早粳稻为材料, 探讨了叶部性状与产量的关系。研究表明, 随着产量水平的提高, 各叶位叶片的长、宽均表现为减小的趋势; 在一定范围之内减小剑叶、倒 2 叶叶基角, 适当增加倒 3 叶叶基角有利于光能利用, 提高群体生物量, 从而提高产量, 在育种选择时, 选择剑叶叶基角、倒 2 叶叶基角的角度更为有效; 在一定范围之内增加倒 1、倒 2 叶鞘的长度, 减小倒 3 叶鞘长度有利于产量的提高; 保持足够的上三叶面积是获得高产、超高产的主要途径, 对剑叶和倒 2 叶叶面积的选择也十分重要。在进行叶部性状综合评价时, 倒二叶面积、单株上三叶面积、倒三叶叶基角和剑叶叶基角 4 个因子就足以代表 17 个叶部性状的全部信息量。
【英文摘要】Abstract: 180 early japonica rice varieties (or lines) were studied in special ecological environment of cold region. The relations of the leaf characters and output were discussed systematically. The main results were as follows: With the increasing of yield, the length and width of leaf showed a down tendency. In a restricted range, reducing angle between stem and flag leaf (ABSFL) and angle between stem and 2nd leaf from the top (ABS2LFT), appropriately increasing angle between stem and 3rd leaf from the top (ABS3LFT) were favourable to use light energy, improving biomass of population and raising out put. Moreover, choosing ABSFL and ABS2LFTwas most effective. In-creasing vaginal length off lag leaf and 2nd leaf from the top, reducing vaginal length of 3rd leaf from the top were in favor of raising out-put. Keeping enough top 3 leaf area (T3LA) was an important mean for high- yielding or super- high yielding. Especially, choosing flag leaf area and area of 2nd leaf from the top (A2LFT) was very important. A2LFT, T3LA per plant, ABS3LFT and ABSFL were enough tost and for the whole amount of information about seventeen leaf characters when making overall evaluation on leaf characters.
【语种】中文
【第一作者】吕艳东
【通讯作者】郑桂萍
【期刊名称、卷期、页码】黑龙江八一农垦大学学报.2008,20(2):5~10
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【学科分类】农艺学

【题目】施用SODm增效剂对水稻茎蘖动态与节间形态的影响性研究
【中文关键词】SODm增效剂;分蘖;生长量;茎秆形态
【英文关键词】SODm synergist; tillering; growth amount; culm morphology
【中文摘要】摘 要:通过设置不同 SODm增效剂施肥量梯度,研究 SODm增效剂调控水稻茎蘖动态和生长量以及节间形态等方面的作用,表明 SODm增效剂可以促进水稻分蘖早生快发,提高植株分蘖能力和生长量,同时对于调控植株茎秆形态,减小低节位节间长度、增加低节位节间充实度等茎节性状具有明显的作用。
【英文摘要】Abstract: Through setting different SODm synergist gradients, the effect of SODm synergist on tillering dynamics and internode morphology in rice were studied. The results indicated that SODm synergist was bale to accelerate early and rapid emergence of tillers, and increase tillering capacity and growth amount, meanwhile, the SODm could also adjust plant morphology, shorten the internode length of low nodes and increase internode firmness significantly.
【语种】中文
【第一作者】侯立刚
【通讯作者】侯立刚

【期刊名称、卷期、页码】北方水稻.2008(2):31~33
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【学科分类】农艺学

【题目】水稻倒伏研究及其影响因素分析
【中文关键词】水稻;倒伏;影响因素
【英文关键词】Rice; Lodging; Affecting factors
【中文摘要】摘 要:倒伏是水稻生产中普遍存在的问题,已成为高产稳产的重要限制因素之一。 倒伏所造成的损失与水稻生长环境和倒伏的发生时期有关。倒伏是一个综合的、复杂的现象,它受到外界环境、栽培技术以及本身特性等多重影响。适宜的生长环境可以促进水稻生长和产量的提高,但会引发倒伏或使倒伏程度加重。 鉴于倒伏对产量、品质的严重影响。 本文综述了近年来国内外关于水稻倒伏的类型、水稻倒伏构成因素以及提高水稻抗倒伏能力的各种措施,展望了水稻抗倒性研究的方向。
【英文摘要】Abstract:As a prevalent problem in rice production, lodging has become one of important limiting factors for stable and high yield of rice. The yield loss due to lodging is correlated to rice growing environment and growth period. Lodging of rice is very complicated and affected by many factors, such as environment, variety character and cultivation skills. The reason and types of rice lodging and lodging resistance measures are reviewed in this article and the prospects for rice lodging resistance research are discussed.
【语种】中文
【第一作者】赵黎明
【通讯作者】赵黎明
【期刊名称、卷期、页码】北方水稻. 2009,39(5):66~70
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【学科分类】农艺学

【题目】水稻抗倒伏施肥技术研究进展
【中文关键词】水稻;抗倒伏;施肥技术
【英文关键词】Rice;Lodging resistance;Fertilization techniques
【中文摘要】摘要:倒伏是水稻生产中的一个严重问题,水稻茎秆倒伏严重影响水稻产量和稻谷品质,倒伏发生越早,损失越大。从施肥方法和肥料组成等方面,综述了防止水稻倒伏施肥技术研究进展,提出了有待拓宽和深化研究的内容。
【英文摘要】Abstract:The lodging is one of the serious problems in rice production and it affects yield and quality seriously. The earlier the lodging appears,the more the yield loss is.The research progress in the lodging resistance of rice was reviewed from the aspects such as the method of fertilization and the composition of fertilization.The research issues to be widened and deepened in lodging resistance of rice were also put forward.
【语种】中文
【第一作者】王士强
【通讯作者】王士强
【期刊名称、卷期、页码】北方水稻. 2009,39(6):70~74
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【学科分类】农艺学

【题目】稀播壮秧对水稻生长发育及产量性状的影响研究
【中文关键词】稀播壮秧;水稻;生长发育;产量性状
【英文关键词】None
【中文摘要】摘 要:针对目前黑龙江省水稻生产中秧田播种量过大、秧苗素质较低这一普遍现象,笔者研究了不同播种密度的秧苗在本田插植密度、肥水管理等条件相同的情况下,对水稻生长发育、分蘖动态、产量构成因子等方面的影响,为

降低秧田播种量提供理论依据。
【英文摘要】None
【语种】中文
【第一作者】杨丽敏
【通讯作者】杨丽敏
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【学科分类】农艺学

【题目】植物激素及其对水稻植株发育调控的研究进展
【中文关键词】植物激素;水稻;调控
【英文关键词】Plant hormones; Rice; Regulation
【中文摘要】摘 要:随着我国科技力量的飞速发展,科学家们在激素受体基因分离鉴定、激素控制株型以及激素间的相互作用等方面取得了突破性进展,其中生长素(IAA)在协调体内外调节机制中起着不可或缺的作用;细胞分裂素(CTK)可以通过对细胞分裂与分化的调节而参与对水稻生长发育的调控;赤霉素作为植物生长的必需激素之一,调控植物生长发育的各个方面,如:种子萌发,下胚轴的伸长,叶片的生长和水稻开花时间等;脱落酸(ABA)同样也是一种重要的植物激素,受到生物胁迫和非生物胁迫的调控,在水稻对胁迫耐受性和抗性中发挥着重要作用;乙烯(ETH)则是一种多功能的植物激素,它在水稻生长发育和应对生物及非生物胁迫过程中起着重要作用。 本文着重阐述了近几年植物激素在生理学研究方面的研究进展,提出了我国在植物激素研究领域的未来发展方向与趋势,同时也展望了植物激素研究对水稻重要农业性状改良的意义。
【英文摘要】Abstract: With rapid development of Chinese science and technology, scientists has been able to make significant progress in identification of hormone receptors, the hormone-regulated plant architecture formation as well as interactions among different hormone signaling pathways. Auxin (IAA) plays essential roles in coordination of these two regulation mechanisms. The plant phytohormone cytokinin (CTK) regulates numerous growth and developmental processes of rice by regulating cell division and cell differentiation. The phytohormone gibberellins (GA) play an important role in controlling and modulating diverse developmental processes, such as seed germination, hypocotyls elongation, leaf expansion and flowering time of rice. Abscisic acid (ABA), an important phytohormone induced by biotic stress and abiotic stress, plays great roles in rice tolerance to stresses. The gaseous plant hormone ethylene (ETH) is a versatile phytohormone, and it regulates a variety of developmental process andbiotic and abiotic stress response in rice. In this review, we summarize the recent advances in the study of plant hormones in China mainly focusing on physiological studies and offer a prospective view on the future studies on plant hormones in china. Prospects are also made on possible improvement of important agricultural traits in rice by manipulating the hormones.
【语种】中文
【第一作者】赵黎明
【通讯作者】赵黎明
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【题目】植物生长调节剂在水稻倒伏上的研究进展
【中文关键词】植物生长调节剂;水稻;倒伏;研究进展
【英文关键词】Plant growth regulators; Rice; Lodging; Research progress
【中文摘要】摘 要:针对水稻倒伏问题,从化控角度出发,介绍了几种植物生长调节剂在水稻倒伏上的应用情况。 其中着重从水稻株高、茎粗、节间长等形态指标上诠释了植物生长调节剂的调控作用及机制,简要的分析了植物生长调节剂对水稻形态解剖微结构的影响,展望了化控技术的先进性,同时也提出了应用植物生长调节剂的不足之处。
【英文摘要】Abstract:In this paper, rice lodging problem in recent years and an overview of several plant growth regulators on lodging of rice from the chemical control perspective were introduced. The mechanisms of plant growth regulators were introduced through the analysis of rice morphology standard, such as plant height, stem diameter, inter node length, and so on. The effects of plant

growth regulators micro-structure of morphology anatomy in rice were briefly analyzed, advance of control technology was prospected, the inadequacies in the application of plant growth regulators were raised, and finally a theoretical basis on lodging resistance of rice for the future study of chemical regulation was provided.
【语种】中文
【第一作者】赵黎明
【通讯作者】赵黎明
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【学科分类】农艺学

【题目】保水剂施用方式对土壤水分及向日葵生长的影响
【中文关键词】BJ2101- L 保水剂; 施用方式; 土壤水分; 向日葵; 生长状况
【英文关键词】BJ2101-L super absorbent ; application methods; soil moisture; sunflower; growth status
【中文摘要】为鉴别BJ2101- L 保水剂不同施用方式对土壤水分和向日葵生长的影响效果, 在内蒙古河套灌区以不施为对照, 开展了沟施、混施和撒施BJ2101- L 保水剂的田间试验。结果表明, 沟施、混施和撒施均提高了0- 80 cm 土层土壤水分, 特别是在向日葵开花期分别提高了10. 71%, 8. 24%, 6. 63% 。不同施用方式均促进了向日葵根系向深层土壤分布, 促进了茎秆增高和增粗, 提高了根、茎、叶、花盘生物量。沟施、混施、撒施籽粒产量分别较对照提高了26. 80%, 24. 52% , 10. 86%, 水分利用效率分别提高了49. 29%,46. 94%, 25. 06%, 水分产出率分别提高了33. 02%, 29. 79%, 13. 11%。河套灌区向日葵生产中BJ2101- L保水剂应以沟施或混施为主。
【英文摘要】In or der to determine the ef fect s of BJ2101-L super absor bent with various application methods, field ex periment s were conducted to inv est ig ate their effects on soil moisture and sunf low er g row th in Hetao irrigat io n dist rict, Inner Mongo lia. BJ2101-L super absorbent w as applied w ith three t reatmet s of furrow ing, mixing and broadcast ing . T he result s show ed that thr ee application metho ds increased soil moisture ag ainst the cont rol (no applicat ion BJ2101-L super absorbent) , part icular ly there w ere significant effect s during sunf low er flor escence stag e, and so il moisture in furrow ing, mix ing and broadcast ing t reatmet s incr eased by 10. 71%, 8. 24%, and 6. 63% in 0- 80 cm so il lay er compared to the co nt rol. Three applicatio n methods improve ed sunflow er ro ot s g row th to deeper so il, improved sunf low er stem higher and thicker, and incr eased b-I mass of r oot s, stem, leaves, and head against the co nt rol. T he yields in furrow ing, mix ing and bro adcastingt reatmet s increased 26. 80% , 24. 52% , and 10. 86% , w ater use ef f iciency increased 49. 29% , 46. 94% ,and 25. 06% , w ater output rate increased 33. 02% , 29. 79% , and 13. 11% against the cont rol. Opt imum application method of BJ2101-L super absorbent sho uld be fur row ing or mix ing in H etao irrig at ion distr ict in sunf low er production.
【语种】中文
【第一作者】杜社妮
【通讯作者】杜社妮
【期刊名称、卷期、页码】水土保持学报、第25卷第4期、139-143
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【引文索引号】null
【学科分类】农业工程

【题目】节水灌溉技术研究综述
【中文关键词】节水灌溉;灌溉方法;节水效果
【英文关键词】Water-saving irrigation; Irrigation methods; water- saving effects;
【中文摘要】节水灌溉理论研究越来越深入, 节水灌溉技术也越来越成熟, 但对于其广泛推广还存在一系列难题。节水灌溉研究由最初的灌水均匀度、灌溉效率、田间灌溉水储存率等方面的研究到现在的与作物生长机理、田间灌溉微环境研究相结合, 本文归纳总结了众多学者对节水灌溉理论、灌水方法、节水技术的研究, 特别对灌水方法的研究进展进行了较详细的综述, 针对节水灌溉技术推广存在的问题, 提出了自己的观点及解决该问题应采取的措施。
【英文摘要】The study of wate r- saving irrigation the ories are embedded, and water- saving irrigation techniques are sophisticated increasingly. but a series of problem s are ex it for generalizing widely. The water- saving study is combined from the degree of

neity,efficiency, storage ratio to the present with the crop growth mechanism of micro- irrigation field combining environmental The water-saving theory, method and techno logy are summarized in this paper. E specially, the methods o f irrigation are summarized in detail Viewpoints and measure are presented for exiting generalized problem.
【语种】中文
【第一作者】周春生
【通讯作者】史海滨
【期刊名称、卷期、页码】内蒙古农业大学学报、第30卷第4期、314-320
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【引文索引号】null
【学科分类】农业工程

【题目】河套灌区套种粮油作物耗水规律的试验研究
【中文关键词】套种; 蒸发蒸腾量; ET 0 ; 产量; 水分利用效率
【英文关键词】intercropping; water requirement ; ET 0 ; yield; water use efficiency
【中文摘要】2009—2010年河套灌区磴口项目区试验结果表明,小麦套种玉米与小麦套种油葵2种立体种植模式下,生育期内作物日平均蒸发蒸腾量分别为:小麦4.31 mm、覆膜玉米4.43 mm、不覆膜玉米4.39 mm、油葵3.42 mm。根据田间波文比系统监测数据,通过多种方法确定项目区ET0比较,FAO-56推荐Penman-Monteith方法与Ir-mark-Allen拟合法计算的结果较符合当地实际。研究表明,3种套种模式中,套种不覆膜玉米小麦的生物学产量略占优势,与不覆膜玉米的产量有此消彼长的关系;并且3种套种模式下,灌水模式为52 mm、97 mm交替灌溉模式的经济系数相比其他灌溉模式的经济系数均表现较大,套种作物经历一定程度的水分亏缺,后期及时补偿可提高经济系数。
【英文摘要】The results o f the experiment in Hetao irrigated regions of Dengkou in 2009、 2010 show that in the pat tern of stereo planting of Wheat Corn relay intercropping and Wheat Sunflower relay intercropping, the daily average water requirement in growth period of wheat, plastic film Corn , none plastic film Corn and sunflower are respectively 4. 31 mm, 4. 43 mm, 4. 39 mm, 3. 42 mm. Through analyzing monitoring data by Bowen Ratio System and E T0 determined by various methods, the Penman Monteith method recommended by FA O56 and the Irmark Allen f it ting method accord with local reality. T he research shows that the pat tern the o f Wheat and none plastic film Corn relay intercropping predominate in biological yield in above three stereo planting pat tern and w hen the yield of Wheat is rising , one of plastic film Corn is falling . T he economic coefficient of the alternative irrigation mode of 52 mm and 97 mm is superior. It is visible that tmely water compensation for oil crop undergoing water deficit can improve economic coefficient.
【语种】中文
【第一作者】戴佳信
【通讯作者】史海滨
【期刊名称、卷期、页码】灌溉排水学报、第30卷第1期、
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【学科分类】农业工程

【题目】内蒙古河套灌区主要粮油作物系数的确定
【中文关键词】作物系数; ET; FAO 56; 春小麦; 夏玉米; 油料向日葵
【英文关键词】crop coefficient ; ET; FAO56; spring wheat; summer maize; oil sunflower
【中文摘要】根据FAO56作物需水量指南推荐的作物系数计算方法, 分别计算内蒙古河套灌区磴口试验站小麦、玉米(覆膜与未覆膜) 、油料向日葵3 种作物的单、双值作物系数。结果表明, 磴口试验站单值作物系数较双值作物系数值计算的ET 值偏低, 双值作物系数计算的ET 值与实测结果更为接近, 验证了双值作物系数在河套灌区的适用性。
【英文摘要】Accor ding to FAO Ir rigatio n and Dr ainage Paper No . 56 Cr op Ev apot ranspirat ion (guidelines for comput ing cr op w ater requirements) recommend calculat ion of crop coeff icient were calculated H etao Irrigation Deng ko u Experiment Stat io n 3 cr ops such as spring w heat , summer maize (plast ic mulched and unplast ic mulched) , oil sunf low er of single and dual cr op coeff icient . The results show that E T calculated by single crop coeff icient than the low dual crop co ef ficient. And the value o f ET calculated by dual crop coefficient much closer to measur ed values for in the ex perimental stat io n of Dengkou in Hetao irrigated area.

【语种】中文
【第一作者】戴佳信
【通讯作者】史海滨
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【学科分类】农业工程

【题目】含盐土壤水肥耦合对向日葵生理生态因子影响
【中文关键词】水; 肥; 含盐土壤; 向日葵
【英文关键词】water; fertilization; saline soil; sunflower
【中文摘要】盆栽试验在内蒙古河套灌区沙濠渠试验站进行, 采用三因素五水平二次通用旋转组合设计, 以土壤含水率、施氮肥量、土壤EC 值为因子, 对向日葵生理生态影响展开研究。结果表明, 含盐土壤EC 值0. 1~ 0. 45 mS/ cm时, 幼苗出土在播种后5~ 7 d; E C 值为0. 45~ 0. 8 mS/ cm 时, 幼苗出土在播种后8~ 12 d; 盐渍化土壤水肥对向日葵影响因素排序由大到小依次为水、盐、肥。施肥可以在一定程度上提高土壤水势, 降低叶水势, 达到 以肥调水的目的; 土壤相对含水率70% f c , EC 值0. 45 mS/ cm, 施氮肥337. 5 kg/ hm2 组合处理最佳。
【英文摘要】Pot exper iment had been do ne in Inner Mo ng olia Hetao irr ig ation Shahaoqu Ex periment Stat ion,used the Po rt fo lio desig n of three facto rs and f ive levels of secondary general rotat ion, to the factor of soil moisture, nit rog en content, soil EC value, did the research of phy siolo gical and eco logical impacts of the sunflower, the results show that: when the EC o f soil salinity is 0. 1~ 0. 45 mS/ cm, seedling unearth about 5 to 7 days af ter sow ing; w hen the EC is 0. 45~ 0. 8 mS/ cm, seedling unearth about 8 to 12 days af ter sowing ; the sequence facto rs of the so il salinizat ion ef fect to sunf low er is w ater> salt> fert ilizer. To some extent, fert ilization can improve soil w ater potent ial and low er leaf w ater po tential to achieve the purpose of water by fertilizer; when relative soil moisture content is 70%fc and the EC is 0. 45 mS/ cm, nit rogen337. 5 kg/ hm2 is the best combinat ion of t reatment.
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【第一作者】田德龙
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【学科分类】农业工程

【题目】复合土工膨润土垫用于寒旱区渠道衬砌的实验研究
【中文关键词】复合土工膨润土垫; 流变性; 滤矢量; 力学性能
【英文关键词】GCL; flow characteristic; filter vector ; mechanical performance
【中文摘要】通过室内外试验, 分析了膨润土自由膨胀体积、滤矢量、粘度与盐溶液浓度及阳离子化合价的关系, 得出盐溶液浓度、化合价与膨润土自由膨胀体积呈负相关, 与滤矢量、渗透系数呈正相关。0. 01 mol/ L AlCl3 使3 试样滤矢量分别增加了291. 9%、404. 8%、367. 3%; NaCl 溶液对GCL 渗透系数的影响最小, 溶液浓度由0. 01 mo l/ L 升高到0. 25 mol/ L 时, 1 号、2 号、3 号3 种GCL 的渗透系数分别增加了193. 4 倍、205. 1 倍、3 1. 3 倍。而CaCl2 浓度由0. 01mol/ L 增加到0. 25 mo l/ L 时, 3 种GCL 试样的渗透系数分别增加了3 289. 7 倍、1 8461. 6 倍、3 57. 9 倍; GCL 力学性能主要影响因素为紫外线照射及空气中氧化, 其老化主要发生在第1 年, 1 年后3 试样第一峰值分别下降了2. 10%、18. 35%、2 4. 13%; 第二峰值下降了12. 13%、- 179. 10%、24. 04%。黄河水中阳离子使其自由膨胀体积减小, 滤矢量增大, 塑性粘度减小, 3 试样滤矢量分别增加了26. 4%、1 6. 7%、26. 8%。对GCL 的防渗性能也有一定影响, 但影响较小, GCL 在寒旱盐渍化地区仍能满足渠道防渗要求, 在类似地区可用于渠道防渗。
【英文摘要】In this paper, the relat ionship o f free swelling vo lume of bentonite, filter v ecto r, visco sity and salt concentrat ion and valence of cation wer e analyzed thro ug h indoor and outdoor ex periment. The r esult indicated that the co ncentrat ion o f salts, valence were neg atively cor related w ith the free swelling vo lume of bento nite. While they were positive co rr elated with the filter v ecto r and permeabilit y. T he so lution of 0. 01 mo l/ L AlCl3 made t he v ecto r filter of 3 samples increased by 291. 9%, 404. 8%, 367. 3%. Theeffect o f NaCl solution o n the permeabilit y of GCL was the minimum. When the so lutio n concentr atio n w as increased fr

om 0. 01mol/ L to 0. 25 mo l/ L, t he permeability coefficients o f 1 # , 2 # , 3 # w ere incr eased by 193. 4 t imes, 205. 1 times, and 31. 3times, respectiv ely . When the CaCl2 solution concentr atio n w as increased from 0. 01 mol/ L to 0. 25 mo l/ L, the permeabilit y of thee GCL samples w as incr eased by 3 289. 7 times. The main influencing factor s of GCL mechanical pr operties w ere ult rav iolet radiationand air ox idat ion. T he ag ing occur ed mainly in the first year . After one year, the fir st peak of sample 3 decr eased by 2. 10%,18. 35%, 24. 13%, and t he second peak decreased by 12. 13%, - 179. 10%, 24. 04%. T he cat ion in Yellow River water made the free swelling volume reduced, filter vector increased, the plast ic visco sity decreased, v ecto r filter o f three sample increased by26. 4%, 16. 7%, 26. 8%. It also had effect on the perfo rmance o f GCL, but the effect w as little. GCL could meet t he demands of seepage in cold, arid, salty distr ict and could be used for channel seepag e in similar region.

【语种】中文
【第一作者】周春生
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【题目】盐渍化土壤水肥耦合对向日葵叶水势的影响
【中文关键词】盐渍化土壤; 叶水势; 向日葵; 施肥
【英文关键词】saline soil; leaf water potential; sunflower; fertilization
【中文摘要】采用312- D 最优饱和设计方案进行田间对比试验。对盐渍化土壤水肥耦合效应下向日葵叶水势的影响因素及变化规律进行了研究。结果表明, 盐渍化地区油料向日葵叶水势的主要影响因素除气象因素外。还包括土壤盐分、土壤水分和施肥量。叶水势与大气水势、叶温呈线性关系。土壤基质势越高, 叶水势越高; 土壤基质势越低叶水势也越低。施肥在一定程度上可以缓解水盐的胁迫, 施肥量的增加使叶水势降低。
【英文摘要】With 312- D optimized saturation design, field ex per iments are conducted to study influencing factor s and tempor al and spat ial v ariation of sunflow er' s leaf w ater pot ential. Besides meteor olog ical facto rs, the r esult show s that the key influencing fact ors of sunflower 's leaf w ater potential include soil salt , soil mo isture and r ate o f fert ilizer application. The relat ionship bet ween leaf water potential and atmo sphere water pot entia l is linearity, the relatio nship betw een leaf water pot entia l and leaf surface temper atur e is linearity.The leaf w ater potential and matric potential has a positive relatio nship. Fer tilization can release the compel o f water and salt,increase in fertilizer can reduce the leaf w ater pot ential.
【语种】中文
【第一作者】田德龙
【通讯作者】史海滨
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【题目】GCL用于寒旱区渠道防渗的实验研究
【中文关键词】膨润土;流变性;滤矢量;力学性能
【英文关键词】Bentonite;gradient flow;filter vector;mechanical properties
【中文摘要】我国西北灌区干旱、寒冷、盐渍化严重,普通防渗材料在该地区用于渠道防渗有一定局限性。研究GCL在该地区用于渠道防渗有重要意义。本文通过室内外试验,研究了老化因素对GCL力学性能的影响、水化液对膨润土溶液滤矢量的影响,膨润土在黄河水中的自由膨胀体积、塑性黏度、屈服值、虑矢量指标;研究表明:高温、低温、紫外线照射老化使1号、2号、3号最大承载力分别下降了34.3%、18.7%、32.5%;35.8%、31.5%、39.6%;45.0%、18.4%、48.9%。现场试验自然老化影响主要发生在第1年,影响随之减小。不同离子的水化液均可使膨润土溶液滤矢量增加,高价阳离子的影响大于低价阳离子的影响,0.01mol/L Al 3+ 较蒸馏水水化液相比三试样滤矢量分别增加了291.9%、404.8%、367.3%;不同离子的膨润土水化液均表现出切稠现象,Na+水化液表现较明显。在黄河水中其自由膨胀体积减小,虑矢量增大,塑性黏度减小,三试样滤矢量分别增加了26.4%、16.7%、26.8%。寒旱盐渍化地区特殊的外部环境对GCL防渗效果有一定的影响,但仍满足防渗

要求,可用于渠道防渗。
【英文摘要】The drought,cold and salinization of irrigation districts in Northwest China is serious.Common impervious material in theregion has some limitations for the channel seepage.So to study GCL in the region is important for anti-seepage.In this paper,research is done on the mechanical properties of GCL,hydration solution on bentonite solution vector of filter,and the free expansionvolume of GCL,plastic viscosity,yield value and vector index of bentonite in the Yellow River is considered.The results show thatheat,cold,ultraviolet radiation and aging made No.1,No.2,No.3maximum capacity decrease by 34.3%,18.7%,32.5%;35.8%,31.5%,39.6%;45.0%,18.4%,48.9%.The major impact of the natural aging field test occurs in the first year,and theeffect decreases as the effect increases.Hydration of different ions can be made liquid.Bentonite solution vector filter increases.Theimpact of high cat ion than low cation.The concentration of 0.01mol/L Al 3+ more than three samples of distilled water of hydrationfluid filter vector increases by 291.9%,404.8%,367.3%.Different ionic liquid bentonite hydration have shown the phenomenonof shear thickening,Na+hydration fluid performance is obvious.In Yellow River,the free swelling volume is reduced.If vector increases,plastic viscosity decreases,filter vector of three samples increases by 26.4%,16.7%,26.8%.The external environment inthe region,the effect of special external environment to the GCL anti-seepage effect have a certain extent,but it can still meet the requirements of the seepage,and can be used to channel seepage.
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【第一作者】周春生
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【题目】GCL用于内蒙古河套灌区渠道防渗的适用性研究
【中文关键词】GCL; 渗透系数; 渠道; 防渗
【英文关键词】GCL; Infiltration coefficient; canal Seepage control
【中文摘要】内蒙古河套灌区是我国3 个特大型灌区之一, 该地区共有渠道8 365条, 渠系水利用系数仅为0. 42, 渠道防渗节水有较大潜力。该地区干旱寒冷、盐渍化严重, 普通防渗材料有一定局限性, GCL为防渗新材料, 有防渗效果好、施工简单、抗冻胀性能好等优点, 研究GCL在该地区的适用性有重要的意义。本文针对GCL在内蒙古河套灌区渠道防渗的适用性进行了研究; 研究表明, 离子、浓度、初始水化液水质对GCL渗透系数有一定的影响, 溶液矿化度由0. 5g /L增大到10g /L时, 钙、镁、钾、钠离子溶液对应渗透系数约增大1 000倍、100倍、30倍、100倍。用自来水进行预先充分水化, 则渗透系数减小100倍。GCL在该地区用于渠道防渗, 离子及冻融作用会对防渗效果有一定影响,但影响较小, 可满足渠道防渗要求, 提高渠道水利用系数。
【英文摘要】H etao Irrig ation D istrict is one of the three largest districts in Ch ina. The district w ith the to tal of cana ls is 8, 365; the coefficient of watere fficiency in canal system only is 0. 42; the seepag e contro l of cana l is o f g rea t potentia l forw ater sav ing. The general mater ia l of seepage contro l is of som e lim itation in the distr ict due to the distr ict located in ar id co ld area and w ith sa linization hazard.The GCL is a new material for seepage con tro ,l and it is of the charac teristics o f better effic iency o f seepage con tro ,lsimp le bu ilding,and better perform ance o f freezing resistance and so on. So research the applicab ility of the GCL is a great sign ificance in the district.This research was carried out on the applicab ility of GCL for seepage con tro l of canal in Hetao Irr iga tion D istrict. The results obta ined from th is study indicated that the ions, concentration, and wa ter qua lity of in itia l liquefactions impacted obv iously on the in filtration coefficien t, these influences w ere tha t the in filtration coefficient increasing w ith the m ine ra liza tion deg ree from 0. 5g / l to 10g / l was about 1000 tim es for the calc ium ion so lution, 100 tim es for m agnesium ion, 30 times fo r potass ium ion so lution, and 100 times for sodiumion so lution, respective ly. H ow ev er, if the initial liquefaction was tap w ater, the infiltration coeffic ient dec reased to 100 tim es. The -ions and freeze thaw ing may im pact on the effic iency o f seepage contro l in the d istrict under apply ing the GCL conditions, but the influence was little and then could se ttle to the requ irem ent of seepage contro l o f cana l and improved the coeffic ient o fw ater effic iency in canal system.
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【题目】盐渍化土壤向日葵水　　肥耦合试验研究
【中文关键词】盐渍化土壤; 水肥耦合; 向日葵
【英文关键词】rice; key w ater requir ement per io d; low est o pt imal irr ig ation bound
【中文摘要】以内蒙古河套灌区主要作物油料向日葵为研究对象, 进行了田间试验, 采用312　　D 最优饱和试验设计方案, 随机排列, 2 次重复, 以产量为目标函数建立了不同盐分水平下的回归模型, 并进行分析。研究结果表明, 在盐渍化地区土壤中水肥因子的影响效应轻度盐渍化土壤依次为水分、磷、氮, 中度盐渍化土壤依次为水分、氮、磷。最佳水肥配比范围轻度灌水量为1 581~ 2 116 m3 / hm2 , 中度灌水量为1 088~ 1 549 m3 / hm2 , 氮为225 kg/ hm2 , 磷为150 kg/ hm2 。
【英文摘要】T his paper studies on the influence o f the irrigat ion schedule, leakag e and yield of the jointing boot ing stage and the full heading stag e under the condit ion of cont inuous irr ig ation w ith 70 to 90 percent saturated soil moisture content in the 5 m2 test　　pits. T he result s show ed that the irrigat ion times, mo dulus and quota changed in the differ ent irrig at ion condit io ns. T he ir rigat io n times w ere fr om 28 to 30, the irrigation quota w as 8 190 to 9 450 m3 / hm2 , during rice g row th period. The leakage of different treatment decreased w ith the irrigat ion quant ity decr easing. The leakage w as f rom 54. 22 to 64. 25 percent o f the irrigat ion quality. The ir rig atio n requirement of the jointing　　bo ot ing stag e w as more sensit ive than the full heading stage. T he joint ing　　boo ting stage should keep w etness state and the low est o pt imal irrig at ion bound of the full heading stag e w as 90 percent .
【语种】中文
【第一作者】田德龙
【通讯作者】史海滨
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【题目】Microarray analysis of gene expression profiles in the bovine mammary gland during lactation
【中文关键词】乳腺;微阵列;泌乳;基因组;基因表达谱
【英文关键词】mammary gland, microarray, lactation, genomics, gene expression profile
【中文摘要】从青春期到泌乳期以至干乳期, 奶牛乳腺经历复杂的生物学功能和代谢水平的变化.通过基因芯片分析奶牛乳腺的基因表达谱, 通过泌乳旺盛的泌乳期与不泌乳的青春期和干乳期相比较, 共筛选出122 个差异表达的基因, 其中包括79 个泌乳期上调基因和43 个泌乳期下调基因. GO 分析表明, 在泌乳期奶牛乳腺中上调的基因主要与物质转运、生物合成、信号转导、催化活性、免疫防御、细胞凋亡以及促进发育相关. 这些数据提示了奶牛乳腺泌乳期所发生的分子事件.
【英文摘要】Mammary glands undergo functional and metabolic changes during virgin, lactation and dry periods. A total of 122 genes were identified as differentially expressed, including 79 up-regulated and 43 down-regulated genes during lactation compared with virgin and dry periods. Gene ontology analysis showed the functional classification of the up-regulated genes in lactation, including transport, biosynthetic process, signal transduction, catalytic activity, immune system process, cell death, and positive regulation of the developmental process. Microarray data clarified molecular events in bovine mammary gland lactation.
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【第一作者】侯晓明
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【题目】平地缩块改造小麦畦田技术研究
【中文关键词】畦田改造; 小麦; 畦灌; 水分利用效率
【英文关键词】border farmland reform; w heat ; bor der irr ig ation; w ater ut ilizatio n ef ficiency
【中文摘要】为保证河套灌区田块平整的顺利进行与可操作性, 针对灌区小麦畦田改造技术进行了研究。得出畦长45 m, 畦宽分别为5. 0 m 和7. 5 m 的畦田在获得较高产量的条件下, 水分利用效率由现状的1. 10 kg/ m3 分别提高到1. 31 kg / m3 和1. 27 kg / m3 , 从田间试验角度论证了对灌区较大规格畦田进行缩块改造的必要性。
【英文摘要】T his paper r esearch on the technolog y aims at w heat border farmland reform in order to g uaranteeingthat the farmland level is prog ress and maneuverability. It can be concluded that w ater product ivityratio increase separately from present 1. 10 to 1. 31 kg/ m3 and 1. 27 kg/ m3 on the condition of that farmland. slength is 45 m and w ide ar e 5. 0 m and 7. 5 m, and the necessity that the sizes of larg e bo rder sho uld be reducedin irr ig ated area w as demonst rated f rom the field test aspect .
【语种】中文
【第一作者】郑和祥
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【题目】秋灌定额对越冬期土壤水盐运移分布的影响
【中文关键词】秋灌定额; 土壤含水率; 冻融土壤; 越冬期
【英文关键词】autumn irr ig ation norm; soil moisture; freezing-thaw ing soil; w inter period
【中文摘要】通过盐渍化冻融土壤秋灌试验, 研究了不同秋灌定额下越冬期间土壤含水率、盐分的变化情况。结果表明, 秋灌定额为150~ 200 mm 时, 春播期土壤含水率基本适宜。秋灌定额对土壤盐分的动态影响较大, 秋灌能够起到冲洗压盐的作用。但是秋灌定额不宜过大, 秋灌前不实施耕作措施更有利于储水保墒。
【英文摘要】Based o n the autumn irrigat io n ex periment on saline soil, the chang e of soil w ater and salt under different autumn irr ig ation r equirement s w ere studied. The result s show ed: w hen autumn ir rigat io n requirement is f rom 150 mm to 200 mm, soil w ater is suitable to spr ing planting. A utumn ir rigatio n can play role o n the leaching salt. H ow ev er the r equirement is g enerally not too large. T he so il w ater on unt illed land is lar ger that on plo ug hed land. Befo re autumn irrig at ing, not to plough is mo re helpful to w ater sto rage and mo istur e conserv at ion.
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【第一作者】李瑞平
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【题目】河套灌区节水农业发展现状及其近期重点
【中文关键词】节水农业; 发展现状; 近期重点
【英文关键词】w ater- saving agr iculture; cur rent dev elopment situat ion; fo cal points in the sho rt term
【中文摘要】我国水资源短缺, 农业用水形势严峻, 发展节水农业是唯一的选择。河套灌区是我国3 个特大型灌区之一,灌区总面积119. 03 万hm2 , 近年来实际引黄灌溉用水量在40~ 45 亿m3 , 引黄灌溉面积57. 4 万hm2, 灌溉用水在流域用水总量占有较大比例。通过研究河套灌区节水农业科技发展现状, 意在寻找灌区节水薄弱环节, 结合灌区实际情况和经济水平, 提出节水农业近期发展重点, 以促进灌区的可持续发展。
【英文摘要】Develo ping w ater- saving agr iculature is the o nly choice, for t her e is a sho rtag e of w ater resources and a g rave situation of water fo r farm ing . H etao Irr igat ion Distr ict , o ne o f the t hr ee ultra- larg e- sca le ir rig atio n canals, occupies an area of 1190328 hectares.In r ecent y ear s, the actua l w ater quant ities Hetao I rr igation District diver ted fr om Yellow Riv er are 4 000~ 4 500 millions cubicmeters, and the irr igat ion ar ea is 574 000 hectar es. So , irr ig ation water o ccupies larg e pro po rtio ns of the tot al water

vo lumes used in this drainag e a rea. T he aim o f this paper is to f ind out the w eaknesses of wat er- saving in this ir rig atio n ar ea and put fo rw ard thefocal development points of w ater- saving ag r iculture in the sho rt term, combining the actual situatio n w ith t he economy of this irrigat ion ar ea, so that the sustainable development of this irr ig ation area can be pr omoted by means of studying the cur rent develo pmentsituatio n o f water- saving agr iculture in H etao Ir rig atio n District.

【语种】中文
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【题目】内蒙古河套灌区耕地与荒地间水盐补排规律的研究
【中文关键词】水盐运移; 耕地; 荒地; 土壤盐渍化; 侧向渗流; 饱和　　非饱和
【英文关键词】w ater and salt t ransport ; farmland, w asteland; so il stalinizat io n; lateral t ransfusion; saturated and non　　saturated
【中文摘要】在野外实测资料的基础上, 针对内蒙古河套灌区耕地与荒地间水盐补排关系与水盐运移规律, 利用水盐平衡原理, 对灌区内耕地间隙分布的荒地进行水分和盐分运移平衡研究。研究显示, 耕地盐分部分向荒地迁移, 荒地对灌区盐分分布具有调节作用。耕地每年平均有28. 1%的灌溉水浸入荒地, 荒地每年积盐268. 5 g/ m2 , 为灌溉水盐分的38. 3%。研究为灌区水盐科学及区域水盐管理提供科学依据, 对河套灌区可持续发展具有重要意义。
【英文摘要】T his paper o n the basis of surv ey ing the materials in the f ield, carrying on the research to the farmland and w asteland in Inner Mongolia Hetao irrigat ion dist rict later als irrigat ion w ater supply and drainag e relationship betw een the salt and w ater and w ater　　salt mig rat io n r eg ularity. The research using water and salt balance pr inciple, car rying out the study for w ater and salt t ranspor t equilibrium of waste land distributed in the inter val of the farmland in irr ig ation area. The research demonstrated that some offarmland salt are moved to w asteland, the w asteland has the cont ro l act io n to the salinity distr ibution of irrig atio n ar ea. The farmland has 28. 1% irrigat ion w ater which immerse to the w asteland on average every year , the w asteland accumulates salinity 268. 5 g/ m2 per year , this pr opo rt io n is about 38. 3%in the salinity quant ity of irrigat ion w ater. T he r esearch provides the scientif ic basis fo r the w ater and salt science of irrigat io n area and the r eg io n w ater and salt management , and it is sig nif icant to the sustainable development o f the Hetao irrig at ion area.

【语种】中文
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【题目】不同灌水参数组合时田面坡度对灌水质量的影响研究
【中文关键词】畦灌; 灌水质量; 田面坡度; 单宽流量; 田面糙率
【英文关键词】border irrigation; irrigation efficiency; field surface slope; flux per width; land roughness
【中文摘要】田面坡度是影响畦灌灌水质量的重要因素, 研究田面坡度对灌水性能的影响时, 要结合灌水定额、平整精度、田面糙率和单宽流量等参数进行分析。通过对常规平地技术条件下多组合灌溉参数模拟分析得出: 不同灌水定额、平整精度、田面糙率和单宽流量组合对应不同的最佳田面坡度, 当灌水定额为60. 00 mm, 平整精度为4. 25 cm, 田面糙率为0. 12, 单宽流量分别为4、3 L/ (s　　m) 和2 L/ (s　　m) 时, 反向模拟出最佳的田面坡度分别为1. 6、1.8和2.2; 并通过研究田面坡度对水流推进和消退过程的影响得出: 田面坡度为2.0的水流推进和消退过程曲线明显比1.6和1.2的曲线平滑, 说明在较小的单宽流量条件下, 相对较大的田面坡度可使田面水流运动更加稳定, 有利于改善灌水质量。
【英文摘要】As field surface slope is an important factor which influences irrigation efficiency in border irrigation, it is necessary to study its influence on irrigation capability in combinat ion with irrigation quota, land leveling precision,land roughness and flux per

width. Irrigation simulation in different irrigation factors by general technical level off border indicates: different irrigation quota, land leveling precision, land roughness and flux per width are corresponding to different optimum field surface slop, optimization slopes are 1.6 ,1.8and 2.2by reverse simulation when irrigation quota is 60mm, land leveling precision is 4. 25 cm, land roughness is 0. 12 and flux per width are respectively 4L/ (s m) , 3 L/ (s m) and 2 L/ (s m) . The study of water flux advance and gression process in different field surface slopes concludes that the curve of water flux advance and regression of process field surface slopes in 2. 0 is more smooth than in 1. 6 and 1. 2 , indicating that water flux advance in relatively larger field surface slope is stable and and is favorable for the improvement of irrigation quality in smaller flux per width.

【语种】中文
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【题目】基于Meta-Analysis的气象与环境因素对玉米氮素利用的研究
【中文关键词】Meta-Analysis;气象影响;玉米氮素响应;响应比
【英文关键词】NFT;high temperature stress;tomato;water p

otential
【中文摘要】运用Meta-Analysis法研究玉米氮肥利用与气象和环境因素的关系。结果表明,在砂质粘壤土和粉砂壤土中玉米氮素利用的响应比最大;地理纬度为39°—42°N时,玉米氮素利用的响应比最大;气象因素对玉米氮素利用的影响为:在玉米生长前2个月,降雨均匀度对玉米氮素利用的影响较气温和降雨量大,在玉米生长中期,降雨量对玉米氮素利用的影响最大;在玉米生长后期,降雨均匀度、气温和降雨量都对玉米氮素利用的响应比有重要影响。
【英文摘要】The influence of high temperature stress on several physiological indices of cherry tomato in NFT and in soil was studied in this paper.The variation of physiological indices,including leaf water potential,photosynthetic rate and superoxide dismutase of cherry tomato under high temperature stress was measured.The results showed that the physiological indices above mentioned decreased dramatically when the plants were planted in soil under high temperature condition,while only a slight decrease was found from the plants planted in NFT.It can be concluded that the heat resistance of tomato seeding under NFT was stronger than that under soil culture.
【语种】中文
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【题目】河套灌区节水抗旱玉米品种田间鉴选
【中文关键词】玉米; 节水; 抗旱; 河套灌区
【英文关键词】Corn; Water - saving; Drought - resistance; Hetao irrigation district
【中文摘要】在节水灌溉和常规充分灌溉条件下,对20 个北方玉米主产区品种的形态及生理指标、产量形成、水分利用等进行了系统测定,并比较了相关抗旱节水性能评价指标。结果表明,节水灌溉条件下,多数品种的产量和水分利用效率(WUE) 表现一般,通过隶属函数法筛选出5 个经济产量和WUE 都表现较好的玉米品种并进行田间验证。以WUE 和抗旱指数综合评价证明,郑单958、内单314 和科河10 号3 个品种的节水抗旱性能均优于对照品种益丰29号和潞玉13 号,适宜在内蒙古河套灌区引进推广。抗旱指数及其修订式与2 水处理下的产量和水分利用效率均呈极显著正相关,是筛选节水抗旱玉米品种的有效指标。节水、抗旱、高产玉米品种的共同特征是株高中等、茎秆粗壮、穗位较低、单株叶面积较大; 叶片叶绿素含量较高,光合速率和水分利用效率均较高; 穗型中等、粒重较大,且单位面积穗数多等。

【英文摘要】The morphological and physiological characters,yield formation,water use efficiency (WUE) of 20 corn varieties planted in northern corn region were studied systematically under water - saving irrigation and conventional sufficient irrigation conditions. The different drought - resistance and water - saving indices were compared at the same time. The results showed that both the yield formation and WUE in most varieties were ordinary under water saving irrigation condition,five corn varieties were selected through the dependence function analysis for their better economic yield and WUE. Through the drought - resistant index (DRI) and WUE evaluation,the drought - resistant performance of Zhengdan958,Neidan314 and Kehe10 were better than that of Yifeng29 and Luyu13. Three of these were drought - resistance,water - saving and high - yielding corn varieties,which could be introduced to plant in Hetao irrigation region,Inner Mongolia. The drought - resistant index of corn varieties are correlated positively with economic yield and WUE,therefore DRI is an effective way to select the drought - resistance and water - saving corn variety. The main characteristic of drought -resistance,water - saving and high yield corn variety are 1) the medium plant height,thicker stalk and bigger leaves area of single plant; 2) higher SPAD value,photosynthetic efficiency and WUE of leaf blade; 3) the medium corn ear,high grains weight and major number of ears per unit area etc.
【语种】中文
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【题目】河套灌区套种模式下田间灌水有效性评价
【中文关键词】套种模式; SPAC 系统; 双作物系数法; 田间灌溉; 河套灌区
【英文关键词】interplanting mode; SPAC system; dual crop coefficient method; field irrigation; Hetao Irrigation Area
【中文摘要】针对河套灌区典型的套种模式以及地下水位较浅的情况,基于SPAC 系统应用土壤水动力学理论定量分析了作物生育期内大气水、灌溉水、作物水、土壤水和地下水的相互转化关系。应用FAO 推荐的Penman-Monteith 法及双作物系数法,对小麦套种玉米、小麦套种向日葵模式的实际腾发量进行了计算。从动态观点出发,在时间尺度上考虑深层渗漏量和根系层储水量对作物的有效性,对灌区田间灌溉水的有效性进行了评价。结果表明: 小麦套种玉米的实际腾发量为635. 8 mm,小麦套种向日葵的实际腾发量为428. 2 mm; 小麦套种玉米灌溉水利用率为91. 9%,小麦套种向日葵的灌水利用效率为88. 4%。
【英文摘要】For the typical intercropping mode and the unique situation of shallow groundwater level in Hetao Irrigation Area,by using the theory of soil water dynamics at the base of SPAC system,this paper quantitatively analyzed interchangeable relations of atmospheric water,irrigation water,crop water,soil water and groundwater during crop growth period,then calculate the actual evapotranspiration of wheat intercropping maize and wheat intercropping sunflower mode by using the Penman-Monteith method recommend by FAO and dual crop coefficient method. From the dynamicpoint of view,the availability of field irrigation water in Hetao Irrigation Area were estimated in the scale of time to consider the availability of deeppercolation and the soil water storage of root zone to crops. The results show that the actual evapotranspiration of wheat intercropping maize and wheat intercropping sunflower is 635. 8 mm and 428. 2 mm respectively; irrigation water use efficiency of wheat intercropping maize and wheat intercropping sunflower is 91. 9% and 88. 4% respectively.
【语种】中文
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【题目】小麦间作向日葵耗水量与优化灌溉制度研究

【中文关键词】作物耗水量;WIN ISAREG模型;灌溉制度;小麦间作向日葵
【英文关键词】crop water requirement;WIN ISAREG model;irrigation schedule;wheat intercropping sunflower
【中文摘要】小麦间作向日葵是一种典型的河套灌区种植模式,研究运用WIN ISAREG模型确定了参考作物蒸发蒸腾量,结合立体种植特征,采用综合作物系数法确定小麦间作向日葵全生育期作物耗水量。同时通过实际处理结果对模型参数进行率定与验证,最终对小麦间作向日葵实际灌溉制度进行准确的评价并进行不同方案的优化,得到试验区如配有井灌等条件,优选灌溉方案为土壤含水率下降至适宜含水率70%时实施灌溉,灌水量为补充根系层水量至田间持水量85%所需水量;若灌水水源仅为黄河水,则优选灌溉方案为整个生育期灌5水,灌水量为达到根系层中总有效水量的80%。
【英文摘要】Wheat interplanting sunflower is a typical planting mode in Hetao Irrigation Area.By using WIN ISAREG model,this study calculates the reference crop evapotranspiration on the basis of the characteristics of intercropping planting,using the integrated crop coefficient method to determine the wheat intercropping sunflower crop water consumption in whole growth stages.And at the same time through practical results of verified model parameters,finally,actual irrigation system and optimized different scheme of wheat intercropping sunflower evaluated accurately.Optimization irrigation scheme is implementing irrigation when the soil watercontent down to 70%of the appropriate moisture content,the water of the root layer reaches 85%of field capacity then stop the irrigation.If only the Yellow River water for irrigation water,the optimization scheme is irrigation five times in the whole growth period,then irrigation stops when water reaches 80%of the total effective water in the root layer.
【语种】中文
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【题目】基于水热耦合模型的干旱寒冷地区冻融土壤水热盐运移规律研究
【中文关键词】河套灌区; 冻融土壤; 水热盐运移; 秋浇; SHAW 模型
【英文关键词】Hetao Irrigation District ; freezing-thawing of soil; water-hea-t salt transfer; Simultaneous Heat and Water (SHAW) model; autumn irrigation
【中文摘要】运用水热耦合模型(SHAW) 对内蒙古河套灌区3 种盐渍化土壤冻融期水热盐的动态变化进行了模拟研究。研究结果表明: 重度盐渍化土壤累积蒸发量最大, 主要是由于土壤中盐分含量较大, 降低了土壤的冰点, 延长了土壤的冻结时间, 从而增大了土壤的蒸发量, 导致翌年土壤水分大量损失, 影响作物播种出苗和发芽。而且重度盐渍化土壤在冻结和融解过程中表层盐分聚积严重, 而中度和轻度盐化土壤在冻结期和融解期盐分增加幅度略小一些; 当秋浇定额大于150mm 时, 其中30%~ 50%水量储存于0~ 1m 土层中, 具有明显的储水保墒作用。秋浇定额和秋浇时间对于土壤蒸发量以及1m 土层的储水量和含盐量的影响只是在冻结前影响较大。
【英文摘要】The Simultaneous Heat and Water model (SHAW) was used to simulate the dynamic variationof water-hea-t salt in the process of soil freezing-thawing for three kinds of salinized soil, with different degrees of saline, in the Inner Mongolia Hetao Irrigation District. The results show that the accumulated evaporation of serious saline soil is the largest among the three kinds of soils. It is caused by the high content of salt which can depress the ice point and prolong the period of soil freezing. Consequently, it results in the loss of soil moisture in next year and affects the germination of crop. The 30% ~ 50% of quota irrigation water in autumn will be deposited in soil layer within the depth of 110m when it excesses150mm. The effect of autumn irrigation quota and schedule affecting the soil evaporation and water stored in soil layer happen to the period before freezing of soil only.
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【题目】冻融作用对膨润土防渗毯防渗特性的影响
【中文关键词】膨润土,剪切应力,试验,冻融循环,滤失量,渗透系数
【英文关键词】bentonite, shear stress, expiment, freeze-thaw cycle, filtrate loss, permeability coefficient
【中文摘要】为研究膨润土防渗毯(Geosynthetic Clay Liner)在寒旱区渠道衬砌应用中的防渗性能,该文采用室内模拟方法对3 种膨润土防渗毯(分别为韩国、中国生产,编号为1#、2#、3#)的抗冻特性进行了研究,结果表明:采用黄河水水化31 次冻融后,1#、2#、3#膨润土防渗毯自由膨胀体积增加了16.7%、4.5%、8.0%,滤失量降低了31.1%、28.9%、27.0%,屈服值增加了200.0%、23.3%、90.6%。31 次冻融循环后滤出液EC 值分别降低27.3%、27.0%、31.0%,渗透系数均增加了1 个数量级,但渗透系数仍较小,仅为渠床土壤渗透系数的0.35%~0.72%;研究表明,膨润土防渗毯可用于西北干旱盐渍化地区渠道衬砌。
【英文摘要】In order to study the seepage control performance of Geosynthetic Clay Liner (GCL) in lining channel in thecold and arid regions, the antifreeze characteristics of three different GCL (produced in Korea and China, 1#、2#、3#)were studied with indoor simulation method. The results showed that by hydrating with the Yellow River water and after 31 times of freeze-thaws , the free swelling volume of 1#、2#、3# GCL increased by 16.7%、4.5% and 8.0%respectively;The filtration loss reduced by 31.1%、28.9% and 27.0% respectively; The yield value increased by 200.0%, 23.3% and 90.6% respectively, and the EC values of the filtrate reduced by 27.3%、27.0% and 31.0% respectively. The permeability coefficient increased by one order of magnitude, but was still small, which was 0.35-0.72% in canal bed. These indicatedthe GCL can be used in canal lining in the northwest arid and saline regions.
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【题目】膨润土防渗毯用于渠道衬砌及其老化因素对力学性能的影响
【中文关键词】渠道衬砌,压力测试,力学性能,GCL,老化因素
【英文关键词】canal linings, stress measurements, mechanical properties, geosynthentic clay liners, aging factors
【中文摘要】膨润土防水毯(GCL)在渠道衬砌工程有较大的应用价值。为了测试膨润土防渗毯用于渠道衬砌其老化因素对力学性能的影响,以内蒙古河套灌区为研究区域,采用室内模拟及工程现场试验相结合,对5 种老化因素的3 种GCL 力学性能影响进行了测试。结果表明:温度、湿度、紫外线照射都会对GCL 的力学性能造成影响。高温对GCL 力学性能影响大于低温,高低温循环对GCL 力学性能影响小于高温或低温单独的影响。60℃高温老化72 h,3 种试样力学性能值(最大荷载)降低了34.27%、35.77%、45.02%;-40℃低温老化72 h,降低了19.51%、31.49%、18.40%;高低温循环10 次(低温-40℃下保持12 h,高温60℃下保持12 h),降低19.32%、32.62%与38.28%。紫外线照射1 200 h,降低了29.08%、18.31%与36.17%。GCL 含水率从50%增加到100%在60℃下老化24 h,2#与3#的力学性能值下降12.41%、13.08%,1#没有变化。野外GCL 第1 年老化速度较快,3 试样力学性能值下降12.1%、18.5%和17.8%,1 年后力学性能变化减缓。该研究可为GCL 在渠道衬砌中大面积推广应用提供依据。
【英文摘要】Geosynthentic clay liners (GCL) have great application value in canal lining projects. In order to estimate the effects of aging factors on the mechanical properties of GCL as canal lining materials, a series of laboratory simulation and field experiments in Inner Mongolian Hetao irrigation district were conducted to test effects of the five aging factorson the mechanical indexes of three kinds of GCL. The results indicated that temperature, humidity and ultraviolet radiation had some effects on the mechanical properties of GCL. The effects of high temperature on mechanical properties of GCL were more significant than those of low temperature, and the effects of high-low temperature cycling were weaker than effects of high or low temperature separately. Three kinds of mechanical properties of GCL sampleswas decreased by 34.27%, 35.77%, 45.02% after high temperature (60°C) aging 72 h and 19.51%, 31.49%, 18.40% after low temperature(-40°C) aging 72 h, 19.32%, 32.62% and 38.28% after high-low temperature cycling(-40°C for 12h and 60°C for 12h) 10 times and 29.08%, 18.31% and 36.17% after Ultraviolet radiation 1200 h, respectively. The mechanical properties of 2 # and 3 # decreased by 12.41%, 13.08%, but 1# has no change with GCL moisture content from 50% to 100% after high temperature (60°C) aging 24 h. GCL in field aged faster in the first year, and the mechanical properties of the three samples decreased by 12.1%, 18.5% and 17.8% respectively while mechanical properties varied mitigatively after one year. This research can provide references for the application of GCL as canal lining materials.

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【题目】基于SHAW 模型的内蒙古河套灌区秋浇节水灌溉制度
【中文关键词】灌溉,冻结,融化,节水灌溉,SHAW 模型
【英文关键词】irrigation, freezing, thawing, water saving irrigation, simultaneous heat and water model
【中文摘要】根据内蒙古河套灌区秋浇节水与土壤盐渍化防治的需要,利用SHAW 模型模拟确定了不同盐渍化土壤合理的秋浇节水灌溉制度。结果表明:对于轻度盐渍化土壤,秋浇定额一般为142~183 mm,秋浇时间为9 月28 日-10 月23 日;对于中度盐渍化土壤,定额应该为180~200 mm,时间在10 月14 日-18 日;对于重度盐渍化土壤,一般不种小麦,而种葵花等耐盐作物,定额为200~225 mm。因此,对于该灌区应该根据不同的土壤盐渍化程度,合理地安排秋浇。
【英文摘要】In accordance with the prevention of soil salination and water-saving irrigation in autumn in Inner Mongolia Hetao irrigation district, the reasonable water-saving irrigation scheme in autumn was quantificationally established by using SHAW model in theory, which aimed at the different salinized soils. For slight salinized soils,autumn irrigation quota was from 142 to183 mm between September 28 and October 23. For moderate salinized soils,autumn irrigation quota was from 180 to 200 mm between October 14 and 18. For serious salinized soils, plantingsunflower instead of wheat, autumn irrigation quota was from 200 to 225 mm. In the studied irrigation district, autumn irrigation is supposed to be reasonably arranged according to the different salinized soils.
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【题目】内蒙古河套灌区荒地水盐运移规律模拟
【中文关键词】灌溉,土壤含水率,盐,运移,HYDRUS-1D 模型,荒地
【英文关键词】irrigation, soil moisture, salts, transport, HYDRUS-1D model, uncultivated land
【中文摘要】:该文以内蒙古河套灌区为背景展开荒地水盐运移规律研究。在田间试验基础上,分析荒地土壤水盐的运移机理,利用HYDRUS-1D 模型对荒地土壤水盐的迁移规律进行了模拟。荒地做为灌区盐分的贮存地,成为灌区水盐平衡的重要调节因素,荒地水盐动态研究对于干旱灌区具有重要意义。结果表明,强蒸发是荒地水盐运移的原动力,5 cm 土层EC值上升了66.10%,20 cm 土层EC 值上升了63.89%。荒地在作物生育期是积盐的过程,在秋浇期是流失盐分的过程。经检验,HYDRUS-1D 模型对盐渍化地区荒地水盐在垂直方向运移的模拟具有较高的精度,为区域水盐管理和灌区的可持续发展提供科学依据。
【英文摘要】Water and salt transport was studied in the uncultivated land of Hetao Irrigation District in Inner Mongolia.Based on field experiment, mechanism of water and salt transport of the uncultivated land in the irrigation district was analyzed, and its water and salt transport dynamics were simulated with HYDRUS-1D model. The uncultivated land in the irrigation district had become salt storage area and the important regulator for water and salt balance in the irrigation district, and study on water and salt dynamic in uncultivated land was of significance for uncultivated irrigation district. The results showed that strong evaporation was the driving force for water and salt transport, EC values in soil layers of 5 cm had increased by 66.10%, and EC values in soil layers of 20 cm had increased by 63.89%. The uncultivated land underwent salt accumulating process in crop growing period but salt losing process in autumn irrigation period. Verification using the experiment data indicated thatHYDRUS-1D model had a high precision for the simulation of water and salt transport of the uncultivated land in vertical direction. The results can serve as a scientific basis for regional water and salt management and sustainable development of the irrigation districts.

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【题目】环丙沙星残留量对嗜热链球菌grx02发酵乳品质的影响
【中文关键词】环丙沙星; 发酵乳; 嗜热链球菌
【英文关键词】ciprofloxacin; fermented milk; S.thermophilus
【中文摘要】研究不同环丙沙星残留量对S.thermophilus grx02发酵乳的感官性状、酸度、组织状态和挥发性风味物质的影响。结果显示:当环丙沙星的残留量高于0.4μg/mL时,会对发酵乳的感官质量产生显著的不利影响。当发酵乳中环丙沙星残留量高于0.2μg/mL时会显著降低发酵乳的黏度,增大其脱水收缩性;且环丙沙星残留量为0.1μg/mL时就会降低发酵乳挥发性风味物质的总含量。可见,用于发酵乳制品生产的原料乳中环丙沙星的残留限量应该控制在0.1μg/mL以下。
【英文摘要】The effect of ciprofloxacin residue on sensory properties, acidity, texture and volatile flavor substances in S.thermophilus fermented milk was studied. The results showed that the sensory quality of the fermented milk was significantly affected by ciprofloxacin at concentrations higher than 0.4 μg/mL. The viscosity of the fermented milk revealed a reduction and more severe dehydration and shrinkage was found at ciprofloxacin concentrations higher than 0.2 μg/mL. The content of volatile components in the fermented milk obviously decreased when the ciprofloxacin concentration was 0.1 μg/mL. These findings show that ciprofloxacin residue in raw milk used for preparing fermented dairy products should be less than 0.1 μg/mL.
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【题目】内蒙古河套灌区解放闸灌域
【中文关键词】土壤含水率; EC; 空间变异性; 半方差函数; 克立格法
【英文关键词】soil water content; soil salt; spatial variability; semi variance function; Krigin method
【中文摘要】以河套灌区解放闸灌域的节水改造项目区作为研究对象, 从统计特征值、半方差函数和克立格法绘制的分布图几个方面对比分析了节水改造前后的土壤水分和盐分的空间变异性。结果表明: 2007 年与2008 年土壤水分和盐分可分别用球状模型和指数模型进行拟合, 空间自相关距离表明二者具有中等强度的空间自相关性, 且2008 年土壤水分和盐分的相关性都大于2007 年, 2008 年较2007 年土壤水盐的空间变化趋于连续。对克里格插值结果分析可知: 土壤水分和盐分在空间上的分布都具有明显的逐渐变化趋势, 表现为相近值的局部聚集; 而且2008 年的土壤水分和盐分分布与2007 年相比在较大的范围内颜色变化幅度小且较连续。通过对灌区节水改造前后大尺度采样分析,了解区域土壤水盐分布状况和空间变异情况, 为灌区今后的节水灌溉、盐碱地分区治理、区域化水资源管理提供一定得理论依据。
【英文摘要】Dates of soil water salt used in this study were collected from the water saving renovation project in Jiefangzha irrigation field of the Hetao irrigation district. Statistical and geost atistical analy sis w ere conducted to analyze and compare the spatial variability o f soil water salt before and after water saving renovation project. The dates o f soil water salt in 2007 and 2008 could be individu ally analyzed by spherical model and ex ponential function. The spatial auto correlation distances indicated that the auto correlations of soil water salt were belonged to medium intensity, and the correlations , as w ell as the space variation continuous trend , of soil water salt in 2008 were greater than that in 2007. The end value of Kriging showed the graded t rend of space variation of soil water - salt was obvious and could be considered as local focusing of approximant, and what's more, in major range, the color vary o f space distribution of soil water salt in 2008 within narrower and more continuous limits when compared with that in 2007. Based on the larg escale sampling before and after water saving renovation project, the distribution and spatial variation of soil water salt were comprehended. All the

achievements of this study are important for the water saving irrigation, zone management of salt lick and management of water resources.
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【题目】7个紫花苜蓿品种开花习性与结荚关系的动态研究
【中文关键词】紫花苜蓿;开花动态;结荚动态
【英文关键词】Medicago sativaL.;flowering dynamics;podding dynamic
【中文摘要】【目的】探讨紫花苜蓿品种开花习性与结荚性的关系,为进行科学杂交和提高种子品质及产量提供依据。【方法】采用田间调查的方法,分别对7个紫花苜蓿品种的单个花絮小花数、开花与结荚动态、单个花序结荚数、单个荚内种子数及其相关性进行了观察研究。【结果】晴天时,7个紫花苜蓿品种开花均始于7:00左右,终于19:00左右;龙骨瓣一般9:00以后开放,10:00~15:00是龙骨瓣开放高峰期,也是昆虫活动的高峰时期; 7个紫花苜蓿品种结荚过程呈现类似规律,即开始时结荚数不断增加,达到一定水平后保持稳定,而后基本不再变化。关中苜蓿、固原紫花的单个花序小花数、单个花序结荚数和单个荚内种子数较国外引进的5个紫花苜蓿品种低,单个花序小花数与单个花序结荚数呈显著正相关,与单个荚内种子数呈极显著正相关;单个花序结荚数与单个荚内种子数相关不显著。【结论】10:00-15:00是苜蓿授粉的高峰时期,也是进行苜蓿杂交的最佳时期。
【英文摘要】【Objective】The study was to provide a basis for scientific hybrid and improve seed qualityand yield ofMedicago sativaL..【Method】A field survey method is used in this paper to conduct a studyon the relationship between the flowering and pod ding in 7Medicago sativaL.varieties.【Result】Theflowers ofMedicagosativaL.bloomed from 7:00 to 19:00 in daytime only.The time of keel ’ s blooming isgenerally after 9:00,while the flowering peak ofMedicago sativaL.which is insect activity peak falls on10:00-15:00.There is a similar law in the podding process of 7Medicago sativaL.varieties,namely thenumber of pods of 7Medicago sativaL.keeps in creasing until reaching maximum,and then keep stable.7varieties ofMedicagosativaL.have obvious flowering peaks.7MedicagosativaL.varieties'single inflores-cence florets is remarkably correlated with a single inflorescence pods number,and was significantly posi-tive correlation with the number of single pod seeds.But the correlated is not significant between the num-ber of single inflorescence pods with a single pod seed.【Conclusion】The peak period ofMedicago sativaL.pollination is 10:00-15:00,which is the best time for cross-breeding.
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【题目】22个紫花苜蓿品种遗传关系的RAPD分析
【中文关键词】紫花苜蓿; RAPD;遗传距离;聚类分析;杂种优势
【英文关键词】alfalfa;RAPD;genetic distance;cluster analysis;higher heterosis
【中文摘要】【目的】为不同品种苜蓿亲缘关系的判断和最大限度地利用杂种优势提供理论依据。【方法】采用RAPD(Random amplified polymorphic DNA)标记方法,利用NTSYS软件,对22个紫花苜蓿(MedicagosativaL.)品种的遗传距离进行聚类,并对其亲缘关系进行分析。【结果】供试苜蓿品种之间的遗传基础较广,22个随机引物共检出289条扩增片段,其中多态性条带占88.93%;平均每个引物扩增的DNA条带数为4~18条,其中多态性谱带为2~17条;品种间遗传距离的变异为0.135 6~0.361 1,平均遗传距离为0.209 5,其中变异最大的是WL252HQ和“ 阿尔冈金 ”,最小的是“ 德福 ”和“ 赛特 ”,22个紫花苜蓿品种中以“ 德福 ”和“ 赛特 ”间的亲缘关系最近。【结论】“ 阿尔冈金 ”与“ 三得利 ”之间及二者与其他品种之间亲

缘关系较远,二者之间杂交或分别与其他品种之间杂交,可能会产生较大的杂种优势;引自加拿大的“放牧者”与其他21个苜蓿品种的遗传距离较远,其与这21种苜蓿品种杂交,亦可能会产生较大的杂种优势。

【英文摘要】【Objective】The study was done to judge genetic relationship of different varieties of alfalfa,making the most of heterosis and gaining good hybrid offspring.【Method】With RAPD markers,NTSYSsoftware was used for cluster analysis of 22 alfalfa varieties genetic distance and kinship analysis betweenthem.【Result】The 22 alfalfa varieties of genomic DNA were amplified with 22 random primers,and therewere 257 polymorphism fragments in the 289 amplified fragment found,accounting for 88.93%.The rangeof DNA bands amplified of each primer was 4 to 18,an average of 13.1,polymorphism bands 2 to 17,an av-erage of 11.7.The variation range of genetic distance of 22 alfalfa varieties was 0.135 6-0.361 1,and theaverage value was 0.209 5.Evidently,a larger genetic variation happened between varieties,and the largestwas“WL252HQ”and“Algonquin”,the Smallest“Derby”and“Sitel”.【Conclusion】“Algonquin”and“Sandity”and the other 21 varieties show more distant relationship,the crossing between them and theother 21 varieties crossing can gain higher heterosis.“Haygrazer”crossing with the other 21 varieties canalso gain higher heterosis.

【语种】中文

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【中文关键词】入渗,参数估算,模型,灌溉,效率,灌水均匀度

【英文关键词】infiltration, parameter estimation, models, irrigation, efficiency, irrigation distribution uniformity

【中文摘要】土壤入渗参数是地面灌溉中制定灌溉制度、评价灌水质量的重要指标。针对现有估算方法存在计算工作量较大、精度不高的现状,根据田间实测资料,利用SIRMOD模型,对小麦畦灌条件下田间土壤入渗参数进行了估算。与用Maheshwari法计算结果较为接近,差异均在2.0%以内。根据估算的土壤入渗参数,应用SIRMOD模型进行了多组合灌溉模拟,在保证灌水质量较高的条件下,得出了在不同亏缺水量时的适宜灌水量和灌水流量,通过田间实例验证表明模拟效果较好。

【英文摘要】Infiltration parameter is one of the most important indexes in both irrigation schedule design and irrigation efficiency evaluation for surface irrigation. Most methods used currently to estimate the parameters have the disadvantages in low efficiency and precision. SIRMOD method was employed to estimate the infiltration parameters for border irrigation under the condition of wheat planting. The results showed that the errors of the infiltration rates were less than 2.0% calculated by Maheshwari and SIRMOD methods, respectively. Multi-irrigation alternatives were modeled by SIRMOD and the optimum irrigation quota and irrigation flow with high irrigation efficiency different water deficient conditions. The field experiments were carried out using the modeled results. The observed data from the field experiments verified the agreement with the modeled results.

【语种】中文

【第一作者】郑和祥

【通讯作者】史海滨

【期刊名称、卷期、页码】农业工程学报、第25卷、第11期、29-34页

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【引文索引号】null

【学科分类】农业工程

【题目】多年生黑麦草叶片长度数量性状位点(QTLs)研究

【中文关键词】多年生黑麦草;叶片长度;数量性状位点(QTLs);遗传图;分子标记

【英文关键词】Lolium perenne; Lamina length; Quantitative trait loci; Genetic mapping; Molecular markers

【中文摘要】选择固定有益等位基因,研究多年生黑麦草叶片长度数量性状位点,结果表明:与叶长最为相关的3个标记所表达的变异占表型总变异的50.9%(r2);在选择中如能将这3个标记最优化地组合在一起,其综合共同作用有望使叶片长度延长和缩短26 mm;鉴于供试材料在最初3个世代的群体选择中所估测到叶片长度的遗传力为0.32,这样在今后的选择工作中,即

使只使用现有的两个标记,其效果亦优于传统的表型选择法。
【英文摘要】Quantitative trait loci (QTLs) of the lamina length ofLolium perennehave been studied to betterunderstand the genetic control of growth in grasses and to help the fixation of favorable alleles. Thus, amapping population was built by crossing a ‘ long-leave' genotype and a ‘ short-leaf' one. Genetic maps wereconstructed at LOD=5.5 by the mean of 178 molecular markers, including 167 AFLP, 6 RAPD and 5 iso-enzyme loci. Lamina length was measured first in the greenhouse at the early germination stage, and later inthe field at the late germination stage. Over all, 10 markers significantly associated with lamina length werefound, its mean single genetic effect ranging from 6 mm to 19.1 mm. Only 3 markers appeared to be QTLs oflamina length at the early stage , the other 7 were related to the lamina length measured in the field. To avoidredundancy of QTLs found in each parent, a multiple regression analysis with all significant markers(ANOVA,P<0.005) from both parents was then carried out on the average lamina length in the field. Threemarkers closely related to the lamina length explained 50.9% (r2) of the total phenotypic variance of which amarker is expected to respond. The interaction of the most favorable combination of these markers could extendor shorten the lamina length by 26 mm. As the realized heritability over the 3 cycles of mass selection forlamina length was estimated to be 0.32, it is suggested that selection of even only 2 markers could be moreefficient than phenotypic selection.
【语种】中文
【第一作者】米福贵
【通讯作者】米福贵
【期刊名称、卷期、页码】草地学报,2004,12(4)
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【学科分类】农学其他学科

【题目】微咸水灌溉对土壤环境效应的预测研究
【中文关键词】微咸水灌溉;淋洗灌溉定额;SWAP 模型;预测
【英文关键词】light saline water irrigation; leaching quota; SWAP model; Prediction
【中文摘要】利用识别后的SWAP 模型,探讨了微咸水灌溉条件下土壤水盐及其均衡要素的转化关系和土壤的积盐趋势预测。结果显示,两种灌溉定额下土壤盐分都有所增加,但淋洗灌溉定额下比正常灌溉定额下小麦、葵花和玉米模型土壤盐分分别降低了6.5%、0.7%、4%;小麦、葵花和玉米的相对减产率分别比正常灌溉定额下降低了1%、2%、6%。微咸水灌溉后在灌溉定额和灌溉水浓度不变的前提下,土壤盐分的积累随着时间的推移而呈递减趋势,大约在10 a 后盐分达到进出平衡状态,此时土壤的含盐量达到0.185 2 mg · cm-3,比微咸水灌溉前增加0.082 2 mg · cm-3。但仍属于轻度盐渍土(土壤含盐量0.126%),不会对土壤水土环境产生较大的影响。
【英文摘要】There are many researches on salt water irrigation technology, salt water utilization pattern, impact on crop yield and quality using salt water irrigation, adaptability of salt water irrigation, and salt water irrigation amelioration of soils, etc.Inrecent,environmental effect caused by light salt water irrigation at the regional scale is concerned. Based on the field experiment in the Inner Mongolia Hongwei testing station, this paper introduced the SWAP model and discussed the conversion relation of soil water salt balance elements and soil salt accumulation trends on the conditions of light salt water irrigation. The prediction results indicated that both in the leaching quota and in the normal irrigation could lead to the increase of soil salt. But, in the leaching quota, the soil salt in the wheat model decreased 6.5%, 0.7% in the sunflower model, and 4% in the maize model comparing with the corresponding values in the normal irrigation quota. The decreasing rate of yield in the wheat, sunflower and maize decreased 1%, 2%, and 6%, respectively. On the condition of the saline water irrigation, unchanging the irrigation quota and the irrigation water concentration, the soil salt accumulation decreased as trend goes. After about 10 years, soil salt could reach the recharging and discharging balance. At that time, the soil salt content was 0.185 2 mg • cm-3, and increased amount was 0.082 2 mg • cm-3. But the soil still was belongs to the light salinity, and the light saline water irrigation couldn ′ t affect the soil water environment significantly. Through analyzing the simulation results, this paper indicated that light salt water irrigation was feasible in arid or semi-arid regions.
【语种】中文
【第一作者】杨树青
【通讯作者】史海滨
【期刊名称、卷期、页码】农业环境科学学报、2009,28(5):961-966
【论文发表时间】2009-05-20 00:00:00
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【引文索引号】null
【学科分类】农业工程

【题目】化学诱变对羊草与灰色赖草杂种 F1 愈伤组织生长和分化的影响
【中文关键词】羊草;灰色赖草;秋水仙素;氟乐灵;组织培养
【英文关键词】无
【中文摘要】以羊草与灰色赖草杂种F1愈伤组织为材料,用秋水仙素和氟乐灵(Trifluralin)两种化学诱变剂对其进行加倍处理。不同加倍途径、诱导剂、诱导剂浓度、处理时间以及不同的诱导剂灭菌方法对愈伤组织生长和分化有不同的影响。试验中秋水仙素处理愈伤组织绿芽分化率为0~80%;氟乐灵处理愈伤组织绿芽分化率为6%~93%。
【英文摘要】无
【语种】中文
【第一作者】刘 芳
【通讯作者】侯建华
【期刊名称、卷期、页码】内蒙古农业科技 2009(3):39-41
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【引文索引号】null
【学科分类】农学其他学科

【题目】氮肥对小麦生育指标及水分利用效率的影响
【中文关键词】小麦; 氮肥; 株高; 产量; 水分利用效率
【英文关键词】Wheat; Nitrogen fertilizer : Plant height : Y ie ld ; W a te r u s e e fi e ie n ey
【中文摘要】针对河套灌区盐渍化的特点, 研究五种水平下的氮肥对小麦株高、干物质量、产量和水分利用效率的影响。结果表明各处理的株高、干物质积累量、产量都随施氮量的增加而增加。氮肥增施增加了小麦耗水量, 但水分利用效率依然增加, 说明施用氮肥对小麦的同化作用和生长的促进作用要大于耗水的促进作用, 合理的分期施肥和控制好追肥量可以提高小麦生长的各项指标。本试验初步确定N 3 处理(播前5 kg N爪时, 拔节10 kg N小澎, 开花7 0 k g N /h m Z , 总施肥量2 2 5 kg N/h m ,) 的施肥量和施肥时期最为适宜。
【英文摘要】According to the characteristies of salinization of he tao irigation area .influencing the Plant height, dry matte r , yield and water use efficiency of wheat in five kind of diferent nitrogen fertilizer evel was conducted.The results showed that the processing of Plant height, dry matter accumulation, yield increase with the increase of nitrogen .The water consumption of wheat increased along with the nitrogenous fertilizer increases but water use efficiency still increased ,The result showed that applying nitrogenous fertilizer influenced on assimilation of w heat and Promoting wheat geowth much more import ant than promotion of water consumption .Reasonable fertilization stages and the control of fertilization quantity can increase the growth index of wheat. The experiment initially determined that fertilization quantity and fertilization time of N 3 treatment(pre 一sowing 55 kg N/h m Z ,join ting stage l0() kg N/h m Z flowering stage 7 0 k g N /hm Z, total nitro g e n 2 2 5 k g N/h m Z)was appropriate .
【语种】中文
【第一作者】闫建文
【通讯作者】史海滨
【期刊名称、卷期、页码】农业高效用水理论与技术
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【引文索引类型】其他
【引文索引号】null
【学科分类】农业工程

【题目】Expression of bovine trypsin in Lactococcus lactis
【中文关键词】Bovine trypsin,Lactococcus lactis,expression of trypsin
【英文关键词】Bovine trypsin,Lactococcus lactis,expression of trypsin
【中文摘要】Bovine trypsin is widely used in the production of bioactive peptides from milk proteins. The objective of this study was to express bovine trypsin in Lactococcus lactis to produce peptides by fermentation. The bovine trypsin with bias codon of L. lactis was synthesized, cloned into a secretory expressive vector pSEC-E7, and then introduced to L. lactis strain NZ9000 by electroporation. The

expression of trypsin induced by nisin was identified by Western blot. Western blot analysis revealed a band in the protoplast fraction corresponding to SPUsp45 (signal peptide of usp45)-trypsin. Biological activity of expressed trypsin was confirmed by the single substrate overlay assay. These results suggest that the expression ofbiologically active bovine trypsin has been detected in the protoplast fraction of L. lactis strain NZ9000(pSEC:trypsin).

【英文摘要】Bovine trypsin is widely used in the production of bioactive peptides from milk proteins. The objective of this study was to express bovine trypsin in Lactococcus lactis to produce peptides by fermentation. The bovine trypsin with bias codon of L. lactis was synthesized, cloned into a secretory expressive vector pSEC-E7, and then introduced to L. lactis strain NZ9000 by electroporation. The expression of trypsin induced by nisin was identified by Western blot. Western blot analysis revealed a band in the protoplast fraction corresponding to SPUsp45 (signal peptide of usp45)-trypsin. Biological activity of expressed trypsin was confirmed by the single substrate overlay assay. These results suggest that the expression ofbiologically active bovine trypsin has been detected in the protoplast fraction of L. lactis strain NZ9000(pSEC:trypsin).

【语种】英文

【第一作者】姚丽燕

【通讯作者】姜毓君

【期刊名称、卷期、页码】International Dairy Journal 20(2010)806-809

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【引文索引号】null

【学科分类】食品科学技术基础学科

【题目】蒙古冰草与航道冰草正、反交F1及其染色体加倍植株同工酶分析

【中文关键词】蒙古冰草;航道冰草;正反交杂种;染色体加倍植株;同工酶酶谱表征

【英文关键词】Agropyron mongolicum; A · cristatumcv · Fairway; Reciprocal hybrid; Chromosome doubling plant; Isozyme zymograms phenotypes

【中文摘要】采用聚丙烯酰胺垂直板电泳技术对蒙古冰草与航道冰草正、反交杂种F1与其染色体加倍植株的POD和EST同工酶酶谱表征进行了分析。结果表明:在分蘖期、抽穗期不同发育阶段,蒙古冰草×航道冰草正交杂种F1、航道冰草×蒙古冰草反交杂种F1及其染色体加倍植株的POD和EST同工酶酶带的数目、位点及强弱均存在一定差异,同工酶酶谱表征可作为正、反交杂种F1与其染色体加倍植株在蛋白质水平相互识别的重要依据;在对不同植物材料鉴定时,从几个不同的生育阶段做同工酶酶谱对比分析,要比单一生育阶段更能反映各材料间酶谱的遗传差异性,提高其鉴定结果的可靠性。

【英文摘要】The proxidase (POD) and esterase (EST) isozyme characteristics of reciprocal hybrids F1be-tweenAgropyron mongolicumandA · cristatumcv · Fairway and its chromosome doubling plant were analyzed by vertical slab polyacrylamide gel electrophoresis technology · The results showed that there werecertain differences in the number, locus and intensity of the proxidase (POD) and esterase (EST) isozymebands among the reciprocal hybrids F1betweenA · mongolicumandA · cristatumcv · Fairway and its chromosome doubling plant at tillering and earing stages · The isozymes were important genetic markers in protein level to the reciprocal hybrids F1betweenA · mongolicumandA · cristatumcv · Fairway and its chromosome doubling plants; to analyze and compare isozyme zymograms of tested plant at different developing stages could reflect the genetic differences more accurately to enhance the reliability of identified result by isozyme electrophoresis than at only one stage

【语种】中文

【第一作者】郝 峰

【通讯作者】于 卓

【期刊名称、卷期、页码】中国草地学报,2008,30(4):1-6

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【学科分类】农学其他学科

【题目】Expression of Bovine Prochymosin Gene in Lactococcus Lactis

【中文关键词】Bovine prochymosin , NICE ,lactococcus lactis

【英文关键词】Bovine prochymosin , NICE ,lactococcus lactis

【中文摘要】Bovine prochymosin (bPC) could act to initiate milk clotting. NICE (Nisin Controlled gene Expression system) in lactococcus lactis was one of the most successful and widely using Grampositive gene expression systems. It was composed by six experiments in this study. They are cloning of bovine preprochymosin gene, electrotransformation in lactococcus lactis, construction of expression vector of bPC gene, detection of mRNA after recombinant bPC transcription, identification of recombinant bPC by SDS-PAGE and Western blot. Through the above method, we successfully constructed expression vector of recombinant bPC in lactococcus lactis by using NICE successfully, as well as achieved its expression and identified to immunocompetence of recombinant bPC.

【英文摘要】Bovine prochymosin (bPC) could act to initiate milk clotting. NICE (Nisin Controlled gene Expression system) in lactococcus lactis was one of the most successful and widely using Grampositive gene expression systems. It was composed by six experiments in this study. They are cloning of bovine preprochymosin gene, electrotransformation in lactococcus lactis, construction of expression vector of bPC gene, detection of mRNA after recombinant bPC transcription, identification of recombinant bPC by SDS-PAGE and Western blot. Through the above method, we successfully constructed expression vector of recombinant bPC in lactococcus lactis by using NICE successfully, as well as achieved its expression and identified to immunocompetence of recombinant bPC.

【语种】英文

【第一作者】孙大庆

【通讯作者】姜毓君

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【学科分类】食品科学技术基础学科

【题目】苜蓿雄性不育系MS-4回交早代雌蕊育性分析

【中文关键词】苜蓿雄性不育系;蕊育性;代选择

【英文关键词】Male sterile lines ofAlfalfa; Pistil fertility; Selection in early generation

【中文摘要】:以苜蓿雄性不育系MS-4为母本, 4个具有优良性状的苜蓿材料为父本,进行杂交和连续回交,转育苜蓿雄性不育系。本文对回交早代不育株雌蕊育性进行了分析,结果表明: BC 1 A 1-21和BC 1 A 1-22雌蕊育性提高且雄性不育性稳定。

【英文摘要】In this paper, cross and backcrosswere studied.Male sterile linesMS-4 and four alfalfa materialswith better characterswere used respectively as female andmale paren.t The pistil fertility in early generationofbackcrosswas analyzed.The results showed: the pistil fertility ofBC 1A 1-21 and BC 1A 1-22 were improved and have steadymale sterility.

【语种】中文

【第一作者】高翠萍

【通讯作者】石凤翎

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【学科分类】农学其他学科

【题目】抗旱节水春小麦品种鉴选指标比较研究

【中文关键词】春小麦; 抗旱; 节水; 评价指标

【英文关键词】Spring w heat ; Dro ug ht-resistance; Water-saving ; Selection index

【中文摘要】为给抗旱节水春小麦新品种的选育提供参考依据, 在节水灌溉和常规充分灌溉条件下, 对20 个北方春麦区主栽品种的形态及生理指标、产量形成、水分利用效率(WU E) 进行了系统测定和分析, 并比较了相关抗旱节水性能评价指标。结果表明, 节水灌溉条件下, 多数品种的产量和WUE 都表现一般, 通过系统聚类筛选出5 个经济产量和WU E 都表现较好的小麦品种。以抗旱指数评价, 宁春41 号、龙麦32 号和农鉴7号抗旱性优于对照永良4 号, 而巴优2 号和农鉴1 号表现不及永良4 号; 以产量- 水分高效利用指数评价, 5 个品种的节水性能均优于永良4 号。产量- 水分高效利用指数与经济产量、WUE 均呈显著正相关, 而抗旱指数及其修订式与产量、WUE 的相关不显著, 产量- 水分高效利用指数结合抗旱指数是筛选抗旱节水春小麦品种的有效方法。抗旱、节水、高产春小麦品种的共同特征是株高较高、上部节间长且株高构成指数

较大; 叶型中等, 叶片高光效; 根系发达, 分布合理; 贮藏物质高转运等。宁春41 号是兼具抗旱、节水、高产潜力的春小麦品种, 适宜在内蒙古河套灌区引进推广。

【英文摘要】The morpho logical and physiolog ical characters, yield component s, w ater use ef f iciency(WUE) of 20 spr ing w heat variet ies planted in no rthern spr ing w heat region were studied systemat-i cally under w ater-sav ing ir rigatio n and convent ional suff icient irrigat ion condit ions. Different dro ug htresistance and w ater-sav ing indices w ere compared. The result s show ed that both the y ield and WUE of most variet ies w ere ordinary under water saving irrigat ion, f ive w heat variet ies were selected thro ug h systematic cluster analysis for their better economic yield and WU E. Based on drought-r esistant index (DRI) ev aluat io n, the drought resistance of Ningchun 41, Longmai 32 and Nong jian 7 w ere bet ter than that of Yongliang 4, the drought-r esistance o f Bay ou 2 and N ong jian 1 w ere w o rse than that of Yo ng liang 4. By the yield-hig h w ater use ef ficiency index (YHWUEI) evaluat io n, the w ater use eff iciency of all five variet ies w as better than that of Yongliang 4. The YHWUEI of spring w heat variet ies w as correlated posit iv ely with economic yield and WUE, but bo th the drought-resistant index(DRI) and the r ev ised drought-r esistant index (DI) w ere not r emarkable co rrelated w ith economic yield and WUE, YHWU EI w ith DRI w as an ef fect ive way to select spr ing w heat variety w ith dro ug htresistantand w ater-saving. T he main characterist ic of drought-r esistance, w ater-saving and hig h y ield spring w heat v ar iety w ere: 1) hig her plant height , longer upper internodes length and bigger index of plant heig ht composition; 2) medium f lag leaf and high photosy nthetic eff iciency; 3) w el-l developmed and feasible dist ribut ion of ro ot s; 4) hig h t ranspor tat ion rat io of the reserves in vegetative o rgans before the anthesis stag e etc. Ningchun41 is a dro ug ht- resistant , w ater-saving and hig h-yielding spring wheat variety , w hich could be int roduced to plant in Hetao irrig at ion reg io n, Inner Mongo lia.

【语种】中文

【第一作者】韩开明

【通讯作者】张永平

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【学科分类】农业工程

【题目】Comparison of Volatile Compounds in Multi- strains Douchi Fermented in Different Salinity and Strains

【中文关键词】Volatile compounds,multi-strains,salinity

【英文关键词】Volatile compounds,multi-strains,salinity

【中文摘要】Volatile compounds were extracted with a simultaneous steam distillation and extraction (SDE) from multi-strains douchi fermented in different conditions, and analyzed by continued investigations of gas chromatography-mass spectrometry (GC-MS). A combined total of 150 volatile compounds were identified from 11 samples. Arranged according to the sequence of salinity and strains inoculated, the numbers of components were 42, 51, 45, 36, 39, 34, 35, 36, 39, 38, and 44 respectively, which were divided into 13 compound classes. These 13 classes of compounds include alcohols (23), acids (7), esters (30), aldehydes (5), ketones (10), phenols (8), pyrazines (11), furans (4), sulphur-containing compounds (3), furan ketones (3), acid amides (10) and other compounds (36). The six common flavor compounds that played an important role in soybean fermented condiment flavor, which was reported, were all detected from these 20 samples. Different fermentation conditions led to a great changes in kind and concentration of total volatile compounds. Based on initial research, it was supposed that salinity had a direct or indirect effect to furans and pyrazines, and strains to furans.

【英文摘要】Volatile compounds were extracted with a simultaneous steam distillation and extraction (SDE) from multi-strains douchi fermented in different conditions, and analyzed by continued investigations of gas chromatography-mass spectrometry (GC-MS). A combined total of 150 volatile compounds were identified from 11 samples. Arranged according to the sequence of salinity and strains inoculated, the numbers of components were 42, 51, 45, 36, 39, 34, 35, 36, 39, 38, and 44 respectively, which were divided into 13 compound classes. These 13 classes of compounds include alcohols (23), acids (7), esters (30), aldehydes (5), ketones (10), phenols (8), pyrazines (11), furans (4), sulphur-containing compounds (3), furan ketones (3), acid amides (10) and other compounds (36). The six common flavor compounds that played an important role in soybean fermented condiment flavor, which was reported, were all detected from these 20 samples. Different fermentation conditions led to a great changes in kind and concentration of total volatile compounds. Based on initial research, it was supposed that salinity had a direct or indirect effect to furans and pyrazines, and strains to furans.

【语种】英文

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【学科分类】食品科学技术基础学科

【题目】苜蓿雄性不育系杂交制种产量灰色关联度分析
【中文关键词】苜蓿雄性不育;种子产量;灰色关联度;相关分析;农艺性状
【英文关键词】male sterile of alfalfa; yield of seed; grey correlative degree; correlation analysis;agronomic characters
【中文摘要】利用灰色关联度法和相关分析法,对7份苜蓿雄性不育材料的单株种子产量及其与7个主要产量性状的关系进行了分析。结果表明:单株种子产量与各产量性状关联度的大小顺序为:生殖枝数>花序数/枝>株高>种子数/荚>千粒重>小花数/花>荚果数/花序。其中对苜蓿雄性不育杂交制种产量影响最大的因素是单株的生殖枝数,其次是花序数/枝和株高,这为提高雄性不育系的种子产量提供了理论依据。
【英文摘要】The correlation of single plan seed yield t andmain yield traits of7 alfalfamale sterilewas studiedwith the analysis of grey correlation degree and correlation analysis.The results showed that the sequence ofeverymain yield traits correlation degree and single plantseed yield behaved: numberofreproductive branch>inflorescence number/branch>plantheight>seed number/pod>1 000 grainweight>floretnumber/inflorescence>pod/inflorescence.The numberof reproductive branch ofsingle plantwas themost influential factor to the seed-production yield ofMale sterile ofalfalfa, the nextwas inflorescence number/branch and plantheight.This study provided theoreticalbasis for improving alfalfamale sterile seed yield.
【语种】中文
【第一作者】蔡丽艳
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【题目】地表覆盖对河套灌区土壤水热和番茄生长的影响
【中文关键词】河套灌区;地面覆盖;番茄;土壤水分;土壤温度
【英文关键词】Hetao irrigation area;soil surface mulching;tomato;soil moisture;soil temperature
【中文摘要】在河套灌区以不覆盖为对照,测定了地膜覆盖、秸秆覆盖、地膜+秸秆覆盖对土壤水热和番茄生长的影响。结果表明,地膜覆盖提高了土壤温度,而秸秆覆盖、地膜+秸秆覆盖降低了土壤温度,其中秸秆覆盖降低的幅度较大。在番茄生育前期不同覆盖可提高0—50cm土层的土壤水分含量,其中地膜覆盖效果最好。地膜覆盖使番茄产量提高了222.61%,地膜+秸秆覆盖使产量提高了17.04%,而秸秆覆盖则使产量降低了3.06%。地膜覆盖使水分利用效率提高了93.83%,地膜+秸秆覆盖使之提高了5.90%,秸秆覆盖则使水分利用效率降低了19.29%。河套灌区番茄播种时以地膜覆盖为宜,不宜采用秸秆覆盖。
【英文摘要】Compared with the control of bare surface,the effects of plastic-film mulching,corn-straw-only mulching,and film-plus-straw mulching on the soil temperature,soil moisture and the growth of tomato were monitored in Hetao irrigation area.The results showed that the plastic-film mulching increased the soil temperature,and cornstraw mulching and film-plus-straw mulching reduced the soil temperature.In comparison,corn-straw-only mulching exerted stronger effects than film-plus-straw mulching.All the mulching treatments resulted in increases of soil moisture within 0—50cm in the early stage of tomato growth,while the plastic-film mulching was the best.The yields of tomato with plastic-film mulching and film-plus-straw mulching were 222.61%and 17.04%higher than the control,respectively.However,the yield with corn-straw mulching was 3.06%lower than the control.The water use efficiency under plastic-film mulching and film-plus-straw mulching were 93.83% and 5.90%higher than the ,respectively.Similarly,water use efficiency of corn-straw-only mulching was 19.29%lower than the control.The results indicated that the plastic-film mulching was suitable,and thecorn-straw mulching was undesirable in sowing time for tomato production in Hetao irrigation area.

【语种】中文
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【题目】河套灌区春小麦高产栽培水氮高效利用研究
【中文关键词】水分利用效率(WUE); 氮素利用效率(NUE); 高产; 春小麦; 河套灌区
【英文关键词】Water use efficiency; nitrogen use efficiency; high yield; spring wheat; Hetao Irrigation Region
【中文摘要】在内蒙古河套灌区解放闸灌域沙壕渠实验站,通过田间试验,对节水灌溉模式(拔节+ 抽穗2 水)和常规充分灌溉模式(分蘖+ 拔节+ 抽穗+ 灌浆4 水) 下,不同施氮量对春小麦产量形成、水分利用和氮素利用等方面进行了研究。结果表明:2 水与4 水处理间小麦产量及其构成因素均无显著差异,而水分利用效率(WUE)比4 水处理提高7. 8%。在较低施氮量范围内,随着施氮量的增加,小麦产量、耗水量和WUE 同步提高,当施氮量超过一定值后,产量和WUE 开始下降。两种灌溉模式下,增施氮肥均能促进植株对氮素的吸收,但氮素利用效率明显降低。与4 水处理相比,2 水处理下小麦氮素利用效率显著提高。小麦的经济产量、水分利用效率及氮素农学利用效率与总施氮量均呈一元二次曲线关系,河套平原春小麦实现节水、省肥、高产相统一的适宜施氮量(纯N)为8 ~ 10 kg /667m2。
【英文摘要】The effect of nitrogen - application amount on yield formation,water use and nitrogen use were studied under water - saving irrigation model and conventional sufficient irrigation model in Shahaoqu experimental station of Hetao irrigation region,Inner Mongolia. Of water - saving irrigation model,wheat was irrigated at jointing and heading stage; while of conventional sufficient irrigation,wheat was irrigated at tillering,jointing,heading and grain - filling stage. The results showed that there were no significant difference of wheat yield and yield component between water - saving irrigation model and conventional sufficient irrigation model. But of water use efficiency (WUE) the former was higher than the latter by 7. 8%. In the range of lower nitrogen - application amount,wheat yield,water consumption amount and WUE increased with the increasing of nitrogen - application amount. However,wheat yield and WUE would decrease when the nitrogen - application amount reached some level. Nitrogen - application could promote the nitrogen absorbing of plant and decrease nitrogen use efficiency (NUE) obviously under both two model. Comparing with conventional sufficient irrigation model,wheat WUE of water - saving model was increased significantly. It was conic section between Wheat economic yield, WUE and NUE and total nitrogen - application amount. The suitable nitrogen - application amount of spring wheat for water - saving,fertilizer - saving and high yield was about 8 - 10 kg N/667m2 in Hetao irrigation region.
【语种】中文
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【期刊名称、卷期、页码】干旱区资源与环境、第25卷第6期、127-131
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【题目】牛凝乳酶原基因在乳酸乳球菌中的表达
【中文关键词】牛凝乳酶原;乳酸乳球菌;蛋白印迹;凝乳活性
【英文关键词】Bovine prochymosin; Lactococcus lactis; Western blot; milk-clotting activity
【中文摘要】【目的】利用乳酸乳球菌nisin 诱导基因表达系统(the NIsin Controlled gene Expression system,NICE) 表达牛凝乳酶原。【方法】从克隆载体pS19-PPC 中获得牛凝乳酶原基因,将该基因与表达载体pNZ8148 连接并电转化乳酸乳球菌NZ9000,转化子经酶切、PCR 和测序鉴定后,用nisin 进行诱导表达,表达产物利用SDSPAGE和Western blot 鉴定,表达产物纯化后检测凝乳活性。【结果】重组牛凝乳酶原与天然牛凝乳酶原比较,其分子量大小、免疫性质、生物活性和抑制剂敏感性没有发现显著差异,其凝乳活性可达2 × 103 IMCU/mL。【结论】在乳酸乳球菌中表达了具有凝乳活性的牛凝乳酶原,同时乳酸乳球菌作为发酵剂和凝乳酶产生菌双重角色的实现,为奶酪加工提供了新思路和新方法。

【英文摘要】[Objective]Bovine prochymosin was expressed by the nisin controlled gene expression system in Lactococcus lactis. [Methods]We amplified bovine prochymosin gene from pS19-PPC vector by PCR,and ligated the gene with expression vector pNZ8148. Ligated products were electrotransformated into Lactococcus lactis NZ9000. Then we identified transformants by restriction,PCR and sequencing,and molecular weight and immune characteristics of expression product by SDS-PAGE and Western blot after inducting using nisin. We tested milk-clotting activity after purification. [Results]Recombinant bovine prochymosin was not significantly different in molecular weight,immune characteristics,bioactivity and sensitivity of inhibitors comparison from nature bovine prochymosin. The milk-clotting activity of recombinant bovine prochymosin was 2 × 103 international milk-clotting unit per milliliter. [Conclusion]We expressed recombinant bovine prochymosin of milk-clotting activity in Lactococcus lactis. This study suggested potential application in cheese manufacture as a new method,which could regard Lactococcus lactis as starter of milk and host of expression bovine prochymosin.
【语种】中文
【第一作者】孙大庆
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【题目】河套灌区加工型番茄膜下滴灌技术研究
【中文关键词】加工型番茄; 膜下滴灌; 灌溉制度
【英文关键词】processed tomato; under mulching drip ir rigat io n; irrigat ion schedule
【中文摘要】试验设计采用9 个水分处理, 探讨对加工型番茄产量的影响, 从而寻求最佳的膜下滴灌灌溉制度。结果表明, 随着灌溉定额和滴水次数的增加, 产量随之增加, 但在番茄需水敏感期(开花期、结果期) 滴水次数过少, 会严重影响产量。建议试验区加工型番茄膜下滴灌灌溉制度为: 滴水10~ 12 次, 灌溉定额2 100~ 3 000 m3 / hm2 。
【英文摘要】T he ex periment set up nine t reatments, to invest igate the influence of product ion and to f ind thebest irrigat io n schedule o f under mulching dr ip irrig at ion. The experiment r esult show that tomato y ield increase w ith the irrig at ion quota and irrigation times, but tomato y ield is affected seriously w hen few er irr ig atio n t imes in w ater demand sensitive period of pr ocessed tomato (f low er ing period, fruit ing period) .The sug gest ions ir rigatio n schedule of processed tomato in under mulching drip irrig at ion inexper imental area: is ir rigatio n 10~ 12 times, irr ig ation quo ta 2 100 to 3 000 m3 / hm2 .
【语种】中文
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【题目】苜蓿杂种优势研究进展。
【中文关键词】苜蓿;杂种优势;研究;利用
【英文关键词】Alfalfa;Heterosis;Research;Utilization
【中文摘要】对当前国内外苜蓿杂种优势的基础研究、遗传特性及优势形成机理进行了概述,并对其发展方向进行了初步展望,旨为苜蓿杂种优势利用的深入研究和高产优质苜蓿种质的创新提供参考
【英文摘要】The basic research, hereditary property and heterosis mechanism of alfalfa in China and a-broad were introduced, and its development direction was prospected to provide reference for the furtherresearch and utilization of alfalfa heterosis and the innovation of high yield and quality of alfalfa germplasm.
【语种】中文
【第一作者】蔡丽艳

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【题目】河套灌区农业节水技术集成研究
【中文关键词】河套灌区;农田灌溉;节水技术;集成模式
【英文关键词】Hetao irrigation district;field irrigation;water-saving technology;intergration model
【中文摘要】河套灌区是中国乃至亚洲最大的一首制自流灌区。目前河套灌区农田灌溉中存在的主要问题是灌溉水源不足,水利工程老化,田间工程标准低,节水灌溉推广缓慢,灌溉水浪费严重等。为了解决这些问题,河套灌区应从工程节水、农业节水、化学节水、管理节水等综合技术方面考虑。工程节水主要从渠道衬砌、激光平地、小畦灌溉等方面着手,同时积极开展节水灌溉,合理利用地下水。农业节水主要是做好种植区划,加强农艺节水,深耕蓄墒与秸秆还田,减少地面蒸发。化学节水是积极推广应用抗旱剂、保水剂和其它化学调控试剂。管理节水主要是加强用水管理,完善管理制度,建立“农民用水者协会”。
【英文摘要】Hetao irrigation district is the largest single gravity irrigation district in China and even Asia.At present,the main problems of field irrigation in Hetao irrigation district are lack of water source,irrigation structure aging,low engineering standards,slow promotion of water-saving irrigation techniques,serious waste of irrigation water and others.To solve these problems,Hetao irrigation district should take account of some integrated technologies,such as engineering,agricultural,chemical,and management water saving,etc.Engineering water saving should start from channel lining,laser land leveling,small plot irrigation and others.At the same time,water-saving irrigation should be promoted actively and the groundwater should be use rationally.Agricultural water saving should focus on cultivation planning,agronomic water saving,deep plowing,straw returning,and surface evaporation reduction.Chemical water saving could be active promotion and application of drought-resistant reagents,super absorbent polymers,and other chemical regulation agents.Management water saving could include water management strengthening,system improving,and establishment of water user associations.
【语种】中文
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【题目】影响中苜2号苜蓿愈伤组织诱导的主要因素分析
【中文关键词】紫花苜蓿;愈伤组织;诱导;影响因素
【英文关键词】Radiation induction;Festuca arundinacea; Variation in phenotypic characteristics; Off-spring variation
【中文摘要】以MS为基本培养基,采用L16(45)正交试验设计,研究不同外植体类型及植物生长调节物质对中苜2号愈伤组织生长情况、诱导率的影响,筛选适合中苜2号愈伤组织诱导的最佳外植体类型和最优激素配比。结果表明,以下胚轴为外植体诱导的愈伤组织生长状况良好,诱导率高,为诱导愈伤组织的最佳外植体;2,4-D浓度是影响愈伤组织诱导率的最主要因素,其次是外植体类型;诱导中苜2号愈伤组织的最佳培养基为:MS+2,4-D 0·2mg/L+NAA 0·01mg/L+6-BA 1mg/L+KT 0·2mg/L。
【英文摘要】Seeds ofFestucaarundinaceacv. Houndog V were radiated with Co60ray to study variation in phenotypic characteristics and offspring growth rate, tillering capacity and phenotypic characteristics.The results showed that: 1)Festuca arundinaceacv. Houndog V radiated had an obvious variation in plant height, leaf length, leaf width, leaf thickness. Among them, plant height, leaf length, tiller number, number of grains per plant, density were decreased more than control; leaf width was significantly narrower than control; leaf thickness was very significantly thicker than control; 1000-grain weight was reduced; leaf color was not changed. 2) Growth rate and tillering capacity of offspring radiated were reduced. Growth rate was reduced most in jointing stage. 3) The offspring radiated had

obvious variation inphenotypic characteristics compared with control offspring.
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【第一作者】李芳
【通讯作者】赵金梅
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【题目】中间偃麦草、长穗偃麦草及其杂交种抗旱性评价
【中文关键词】中间偃麦草;长穗偃麦草;杂交种;抗旱性评价
【英文关键词】Elytrigria intermedium; Elytrigria elongata; hybirds; evaluation of drought resistance
【中文摘要】:测定了杂交种植物组织相对含水量、脯氨酸、叶绿素、可溶蛋白、丙二醛生理指标,利用主成分分析、隶属函数综合评价偃麦草属不同材料[中间偃麦草(Elytrigia intermedia)、长穗偃麦草(E.elongata)及其杂交种]的抗旱性。结果表明,5个单项生理指标可综合为3个相互独立的综合指标;正交杂种(E.intermedia×E.elongata)的抗旱综合值为0.529,反交杂种(E.elongata×E.intermedia)为0.702,而其2个亲本中间偃麦草和长穗偃麦草仅为0.308和0.191,杂交种材料的抗旱能力远高于2个亲本,其中反交杂种的抗旱性最强。
【英文摘要】The principal components and membership functions analysis methods were used to evaluated the he drought resistance of three varieties inElytrigia genus (Elytrigria intermedium, E.elongataand their hybrids) by measuring relative water content, proline, chlorophyll, protein and malonaldehyde content of the shoots in this study. The results of this study showed that the 5 indexes could be classified into 3 kinds of independent comprehensive groups. The comprehensive value of drought tolerance for the hybrid ofE.intermedium×E.elongatawas 0.529, and that ofE.elongata×E.intermediumwas 0.702; however, the comprehensive values of drought tolerance ofE.intermediumandE.elongatawere 0.308 and 0.191 respectively. Drought tolerance of the hybrids was obviously stronger than that of their parents, and the drought tolerance of the hybrid betweenE.elongata×E.intermediumwas the best.
【语种】中文
【第一作者】马小廷
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【学科分类】农学其他学科

【题目】中间偃麦草、长穗偃麦草及其杂种F1代同工酶研究
【中文关键词】:中间偃麦草;长穗偃麦草;同工酶
【英文关键词】Elytrigia elongata(Host) Nevski;E. intermedia(Host) Nevski; Isoenzyme
【中文摘要】:通过对过氧化物酶(POD)、酯酶(EST)、超氧化物歧化酶(SOD)和多酚氧化酶(PPO)同工酶谱的分析,探讨中间偃麦草(Elytrigia elongata(Host) Nevski)、长穗偃麦草(E. intermedia(Host) Nevski)及其杂种F1代的酶谱特征和亲缘关系。结果表明:亲本同工酶酶带数目、迁移率、着色程度等差异不大,二者亲缘关系较近。与亲本相比,杂种F1代存在POD、SOD、PPO酶带丢失现象,但正、反交植株中均产生了一些亲本没有的新生带。杂种F1代EST酶谱与亲本基本相同,仅着色程度略有差异。杂种F1代植株的POD、PPO酶谱特征有偏向中间偃麦草的倾向,而SOD酶谱特征倾向于长穗偃麦草。杂种F1代同工酶具有多态性,可作为遗传标记用于杂种鉴定和后代株系目标性状的选择。
【英文摘要】Through the analysis of isozyme zymograms of peroxidase (POD), esterase (EST), superoxidedismutase (SOD), and polyphenol oxidase (PPO), the zymogram characteristics and relationship of Elytrigiahybrids,E. elongate×E. intermedia, and their parents were studied. The results are as follows: the band number, migration rate, and pigmentation degree of isoenzymes between parents had slight differences and their genetic relationship could be close. F1hybrids lacked of some bands of POD, SOD,and PPO isoenzyme as compared to their parents, but had some new bands in descendant of reciprocal cross; EST bands of hybrid F1were almost the same as the parents except the pigmentation degree. The characteristic of isozyme bands of POD and PPO of hybrid F1had the tendency toE. elongata, and the SOD isozyme band toE. intermedia. Isozyme Polymorphisms existed in hybrid F1which could be used

as the genetic marker to identify hybrids and determine the plants with target characteristics in descendant strains.
【语种】中文
【第一作者】撒多文
【通讯作者】米福贵
【期刊名称、卷期、页码】草地学报,2009,17(5):349-353
【论文发表时间】2009-05-24 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农学其他学科

【题目】河套灌区番茄根腐病的发生与防治
【中文关键词】番茄根腐病; 病情症状; 发病因素; 防治方法
【英文关键词】tomato root rot; symptoms; pathogenic factors; control methods
【中文摘要】简述了番茄根腐病的发病症状、病原菌、传播途径和影响发病的因素; 指出了河套灌区番茄根腐病发生较重的主要原因是重茬严重, 大水漫灌, 缺乏有机肥; 提出了防治番茄根腐病应减少重茬, 高垄栽培, 合理调整土壤温湿度, 增施有机肥和苗床消毒, 培育壮苗、大苗等, 并积极开展化学防治。
【英文摘要】The symptoms, pathogens, disease transmission and impact of the factors of tomato root rot were brief described. The main reason of tomato root rot took place serious in Hetao irrigation district w ere mainly due to cont inuous cropping, flood irrigation, lack of organic manure. In order to control tomato root rot, continuous cropping should be reduced, deep furrow planting should be promoted, soil temperature and humidity should be ationalized, and organic manure should be added, seedbed should be disinfected, robust seedlings and large seedlings should be nurtured,chemical control should be actively carried out.
【语种】中文
【第一作者】耿桂俊
【通讯作者】耿桂俊
【期刊名称、卷期、页码】北方园艺、2010(23):154-156
【论文发表时间】2010-12-15 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农业工程

【题目】盐分条件下水氮对向日葵影响及其产量模型研究
【中文关键词】水氮盐耦合;产量模型;向日葵
【英文关键词】Salt water and nitrogen coupling;yield model;sunflower
【中文摘要】为了提高盐渍化地区水肥利用效率,在内蒙古河套灌区沙濠渠试验站利用盆栽试验,采用三因素五水平二次通用旋转组合设计,以土壤含水量、施氮肥量、土壤EC 值为因子,对水氮盐耦合效应展开了试验研究,并构建了水氮盐产量模型,结果表明:水氮盐最优组合方案为土壤水分为相对田间持水率58.4%~78.03%,施氮量392.25~414.75kg/hm2,土壤EC 值0.25~0.45ms/cm。
【英文摘要】Pot experiment Hetao irrigation area in Inner Mongolia was sand canal experiment stations,the use of three factors level five general rotatory composed design,by soil moisture content,nitrogen amount,and the soil ECvalue for factor to salt water and nitrogen on coupling effect,the results show that the optimal combination of salt water and nitrogen scheme for the soil moisture for relative field hold water rate 58.4%~78.03%,and nitrogen 392.25~414.75kg/hm2,soil ECvalue 0.25~0.45ms/cm.
【语种】中文
【第一作者】霍星
【通讯作者】史海滨
【期刊名称、卷期、页码】节水灌溉、2012年第6期、22-26
【论文发表时间】2012-06-05 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农业工程

【题目】蒸发条件下脱盐吹填土的水盐动态
【中文关键词】吹填土;蒸发;水盐动态;碱化
【英文关键词】dredger fill ;evaporation ;water and salt t ransport ;alkalization
【中文摘要】使用吹填土进行围海造地是当前拓展沿海地区土地空间的主要方法。河北曹妃甸陆面基本上为吹填土围海造陆而成,针对该地区地下水埋深较浅和矿化度高、土质单一等特点,通过室内土柱模拟试验,研究了稳定蒸发条件下,不同地下水埋深脱盐土柱剖面的含水量变化规律、地下水通过土壤毛管上升作用的返盐规律、主要盐分离子的迁移行为以及土壤碱化问题。研究结果表明,地下水埋深50 cm(B1) 和100 cm(B2) 分别在15 天和51 天时达到埋深30 cm 处0. 3 %的设定含盐量,B1 表层返盐速率高于B2 ;试验中土柱B1 表面和B2 埋深为5 cm 处出现盐壳,且B1 和B2 地下水累计消耗量随时间线性变化;试验结束时B1 和B2 的平均含水量为18. 8 %和20. 1 % ,B1 和B2 的平均含盐量为0. 5 %和0. 4 %;在返盐过程中B1 和B2 的阳离子迁移速度均为Na + > Ca2 + > Mg2 + ,阴离子为Cl - > HCO3- > SO42 - ,且试验结束时土柱中未出现碱化现象,说明了土体能提供给植物生长一个良好的生境。该研究结果为曹妃甸以及类似地区进行生态建设和发展农业生产等方面提供吹填土的改良、盐分控制等方面的依据。
【英文摘要】Hebei Caofeidian region was formed by reclaiming dredger fill , and here has a single coarse sand soil2profile , and ot her feat ures which are disadvantage to ecumenical plant . Based on soil column simulation experiment in door , changes of water content of soil column profile and laws of salt accumulation when groundwater rose through capillary , the migration of salt ions , as well as t he problem of soil alkalization had been analyzed under t he condition of evaporation and different groundwater levels. St udies had shown t hat when groundwater level were 50 cm and 100 cm , t he test s had continued for 15 d and 51 d , and the ionmi2 gration speed is Na + > Ca2 + > Mg2 + ,Cl - > HCO3 - > SO42 - . Soil water content , wastage of groundwater and soil salt content were researched. St udied al so showed t hat soil can supplied plant a good habitat at t he end of test s. The result s can sever as a reference for ecological const ruction and afforestation of land which is made from dredger fill .
【语种】中文
【第一作者】刘虎
【通讯作者】黄明勇
【期刊名称、卷期、页码】水土保持学报、第24卷第2期、87-91
【论文发表时间】2010-04-15 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农业工程

【题目】稳定流条件下曹妃甸地区吹填土脱盐过程
【中文关键词】脱盐碱化,盐度测量,清盐,吹填土,淋洗脱盐,盐分运移
【英文关键词】desalination, salinity measurement, salt remove, dredger fill, salt leaching, salt transport
【中文摘要】使用吹填土进行围海造地是当前拓展沿海地区土地空间的主要方法。该研究在室内土柱模拟试验基础上,分析了曹妃甸围海造陆地区吹填土在固定水头条件下淋洗脱盐过程的技术指标,得出了吹填土的淋洗用水量、脱盐时间等参数,同时探讨了研究区域内土壤在淋洗脱盐时的盐分运移规律、脱盐碱化等问题。该研究可为直接利用吹填土进行生态建设、园林绿化等方面提供参考。
【英文摘要】Using dredger fill to reclaim land from sea is a primary way for expanding expand land space in coastal areas.Based on soil column simulation experiment, the salt leaching process by dredge fill in Caofeidian area was analyzed under constant water head. The leaching requirement and the desalination time of the dredge fill were obtained. The salt transport and desalination mechanism during salt leaching process were discussed in the study area. The results can provide a reference for ecological construction and afforestation of land which is made from dredger fill.
【语种】中文
【第一作者】刘虎
【通讯作者】魏占民
【期刊名称、卷期、页码】农业工程学报、第25卷第9期、62-68
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【学科分类】农业工程

【题目】对计算机模拟在作物生长发育研究中应用的评价
【中文关键词】计算机模拟;作物生长发育;应用;评价
【英文关键词】Computer simulation; Crop growth and development research;Application; Evaluation
【中文摘要】【研究目的】为了全面、公正地分析与评价作物模拟这一研究方法,【方法】本文以系统学思想为指导,采用系统分析、比较及认识论挖掘等方法,【结果】从作物模拟在农业系统学中的地位、模拟的分类与最新发展趋势、模型与模拟的异同、模拟的步骤、认识论价值及其在实际应用中的一些问题等视角阐述了对计算机模拟在作物生长发育研究中应用的评价,【结论】作物模拟技术在增加作物系统可观察量、过程与步骤的认识论思想体现、提高了”实践—认识—实践”的速度等方面具有深刻的认识论价值。应进一步加大其研究和应用力度,使之在粮食安全与现代农业中发挥技术支撑作用。
【英文摘要】The objectives of this paper were to analyse and evaluate the method of computer simulation for crop growth and development (CSCGD) completely and justly,and further promote its research and application. Under directing for theory of system sciences, this paper evaluated applying computer simulation in crop growth and development research from the following area: the role of CSCGD in agricultural system science; classification and the newest development trend of CSCGD; similarities and differences between model and simulation;simulation steps; the values of epistemology for CSCGD and some questions in application,and so on. The result showed that the CSCGD had profound values in epistemology in the following areas: increasing the observed factors in crop system; reflecting thought of epistemology in processes and steps of the CSCGD; increasing velocity of practice – know – practice, and so on. Its research and application should be increased so that it will play an important role in food safety and modern agriculture.
【语种】中文
【第一作者】曹宏鑫
【通讯作者】曹宏鑫
【期刊名称、卷期、页码】麦类作物学报,2010, 30 (1): 183-187
【论文发表时间】2010-02-28 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农业基础学科

【题目】基于多元指示克立格方法的土壤盐分空间分布评价
【中文关键词】土壤盐分;单元指示克立格;多元指示克立格;空间变异性
【英文关键词】soil salinity ;univariate indicator Kriging ;indicator Kriging ; spatial variability
【中文摘要】以内蒙古河套灌区农田为例,分别运用单元指示克立格和多元指示克立格对河套灌区中游约0. 8 万hm2农田0~20 cm、20~40 cm 深度内的土壤盐分的空间变异性进行了评价,并绘制了基于设定阈值土壤电导率概率分布图。结果表明:各层土壤盐分均不符合正态分布且存在特异值, 但采用指示克立格方法可以获得较为稳健的变异函数;受结构性因素影响, 各层土壤盐分的指示半方差均表现为强空间自相关性。依据综合概率分布图对土地资源利用的风险性进行了评价,对评价区域土地资源质量的决策管理提供了指导。
【英文摘要】An example was given for the farm field of Hetao irrigation area of Inner Mongolia. Univariate indicator Kriging and mutiple2variable indicator Kriging was applied to evaluate spatial variability of soil salinity at depth of 0~20cm and 20~40cm layers ,which was performed in the 12 million mu farm field of the middle course of Hetao irrigation area ,form the probability dist ribution map of soil salinity based on setting threshold value. The result s indicated that soil salinity didn ’ t follow normal dist ribution because of the existence of outliers , but robust semivariogram could be obtained by using indicator Kriging ; Two layers soil salinity exhibited intensive spatial autocorrelation due to compound impact of st ructural factors. In terms of the combined probability map , the risk ofutilizing land resources was further evaluated and the guide for the decision2making and management of the land resources quality at scales was supplied.
【语种】中文
【第一作者】李彬
【通讯作者】史海滨
【期刊名称、卷期、页码】节水灌溉、2010年第5期、31-34
【论文发表时间】2010-05-15 00:00:00

【引文索引类型】其他
【引文索引号】null
【学科分类】农业工程

【题目】不同品种和氮肥条件下水稻根系主要几何参数动态的量化研究
【中文关键词】水稻根系;生物量;形态;几何参数;模型
【英文关键词】rice root system; biomass; morphology; geometric parameters; models
【中文摘要】【目的】建立基于生物量的水稻根系主要几何参数动态模型,为水稻功能-结构模型的研究奠定基础。【方法】于2008和2009年采用3个品种[两优108(V1,杂籼)、86优8(V2,杂粳)和南粳43(V3,常规粳稻)]和2个氮肥水平盆栽试验获取根系形态(加拿大Legent根系分析仪)及根干重等指标,利用SPSS v13.0与Excel. 2007处理试验数据,模型检验方法为RMSE。【结果】利用2008年观测资料,通过分析不同品种与施肥处理下水稻单株总根长及根直径与生物量间的定量关系,建立了基于生物量的水稻单株总根长动态模型;根据立体几何原理,构建了基于生物量的水稻总根体积与总根表面积动态模型。经2009年独立试验资料检验,单株总根长、总根体积及总根表面积实测值与模拟值的RMSE分别为490.660 cm/plant、131.859 cm2/plant和2. 532 cm3/plant,说明模型拟合度较好。【结论】所建水稻根系主要几何参数模型具有一定机理性、解释性和通用性,为功能-结构水稻模型研究及水稻可视化奠定了基础。
【英文摘要】【Objective】 The aim of this study was to build the biomass-based main geometric parameter dynamic models of rice root system. 【Method】 Three rice cultivars, “ Liangyou108 ” (Hybrid long-shaped rice, V1), “ 86you8 ” (Hybrid round-shaped rice, V2), and “ Nanjing43 ” (Round-shaped rice,V3), were planted in pots with two fertilizer levels in 2008 and 2009, fertilizer (N:3.6g/pot, P2O5:0.8g/pot, K2O:3.6g/pot in2008; N:4.4g/pot, P2O5:0.8g/pot, K2O:3.6g/pot in2009) , and no fertilizer (with loamy soil), to obtain the root system morphological characteristics (by Legent Root System Analysis Instrument made in Canada), the dry weight, etc., which were processed by SPSS v13.0 and Excel 2007. The models developed in this paper were verified using RSME.【Result】The biomass-based dynamic models of the total root length were set up through analyzing relationships between the total root length and the biomass per plant from the experimental data in 2008, and then, the biomass-based dynamic models of the total root volume and the total root surface area per plant also were developed according to the principles of solid geometry, which were tested by using the experiment data in 2009. The results showed that the RMSE between the simulated values and the observed values of the total root length, the total root volume, and the total root surface area per plant were 490.660 cm/plant, 131.859 cm2 / plant, and 2. 532 cm3 / plant, respectively. 【Conclusion】The models developed in this paper were reliable with mechanics, general adaptability, and interpretative characteristics in a certain extent, which would lay a basis for developing Functional-Structure Rice Models.
【语种】中文
【第一作者】刘永霞
【通讯作者】曹宏鑫
【期刊名称、卷期、页码】中国农业科学,2010, 43(9): 1782-1790
【论文发表时间】2010-10-30 00:00:00
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【引文索引号】null
【学科分类】农业基础学科

【题目】农田大尺度表层土壤电导率的序贯高斯模拟
【中文关键词】空间分布;克立格插值;条件模拟;表层土壤电导率;序贯高斯
【英文关键词】spatial dist ribution ; Kriging interpolation ;conditional simulation ; specific conductivity of surface soil ; sequential Gaussian
【中文摘要】以内蒙古河套灌区部分农田为例,将克立格插值法和序贯高斯条件模拟法分别应用于农田大尺度下表层土壤电导率的空间分布估值和模拟,并将1 次实现和多次实现取平均的条件模拟结果与克立格插值结果和实测数据进行了对比分析。结果表明:克立格法具有明显的平滑效应,它改变了电导率数据的空间结构,而条件模拟则能够在尊重实测数据情况下,再现变量的空间变化特点,而且模拟次数在2~3 次时可以更好的与原始数据符合。在进行变量的空间分布研究时,可用克立格法来估计,用条件模拟来重现波动性,两者结合才能充分发挥各自的优势,为生产实践提供全面的科学根据。
【英文摘要】An example is given for the farm field of Hetao Irrigation Area of Inner Mongolia. Kriging Interpolation Method and Se2 quential Gaussian Conditional Simulation Method is used to evaluate and simulate spatial dist ribution of specific conductivity of sur2face soil at large field2scale. The mean value af ter simulating 1 time , the mean value af ter simulating many times , the estimated value by Kriging Method and the measured value are compared. The result s indicate that the estimated value by Kriging Method show

ob2 viously smoothing effect and the original data configuration have been changed , while the simulated values had the same data configu2 ration as the measured values. When studying spatial dist ribution of variables , we use Kriging to estimate the variable and use condi2tional simulation to reconst ruct wave characters ,and 2~3 times simulation agree with original data better. When Kriging and conditional simulation are combined , they can supply overall scientific basis for production and experience better.
【语种】中文
【第一作者】李彬
【通讯作者】史海滨
【期刊名称、卷期、页码】中国农村水利水电、2010年第3期、57-61
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【引文索引类型】其他
【引文索引号】null
【学科分类】农业工程

【题目】不同产量水平小麦最适叶面积指数动态模型的研究
【中文关键词】小麦;最适叶面积指数;模拟模型
【英文关键词】wheat; optimum LAI; simulation model
【中文摘要】根据最适叶面积定义和小麦栽培优化原理建立了不同产量水平小麦最适叶面积指数动态模拟模型,经用南京与济南地区气象、品种及试验资料验证,两地点、两品种最适叶面积指数测定值与模拟值间相关系数、差值标准误及平均绝对误差分别为0.9761和0.9620、0.5891和0.7094以及0.12和0.43,相关性达极显著,证明所建模型可行。所建模型可以利用当地常年气象资料(30年平均值,如月平均气温、月平均最高和最低气温以及月日照时数、纬度),确定不同地区、产量水平与品种最适叶面积指数动态,为小麦优化数字栽培提供科学依据。
【英文摘要】Simulation models were developed to describe the optimum leaf area index(LAI) during wheat growth and development based on the rules for wheat cultivation-optimization and the optimum leaf area definition. The models were validated adopting local weather(average temperature per month, average maximum temperature per month, average minimum temperature per month, sunlight times per month, and latitude), varieties, and experiment data from different yielding levels in Nanjing and Jinan areas, the correlation coefficient, standard error of absolute deviation, and average absolute deviation between the observed and the stimulated were 0.9761and 0.9620 with 0.01significant level, 0.5891 and 0.7094, and 0.12 and 0.43, respectively.
【语种】中文
【第一作者】曹宏鑫
【通讯作者】曹宏鑫
【期刊名称、卷期、页码】麦类作物学报,26(3):128-131,139
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【引文索引号】null
【学科分类】农业基础学科

【题目】电磁感应式大地电导率仪在土壤学领域中的应用研究
【中文关键词】磁感式大地电导率仪;土壤信息;3S 技术
【英文关键词】electromagnetic induction type soil electrical conductivity meter;soil information;3S technology
【中文摘要】介绍了电磁感应式大地电导率仪的工作原理,回顾和总结了这种仪器在土壤学领域中土壤水分、盐分、粘粒含量等的测定预测方面的研究现状,最后展望了电磁感应式土壤性质测评技术与3S技术相结合后带来的土壤信息动态变化方面的革命。
【英文摘要】The working principle of electromagnetic induction type soil conductivity meter was first explained. Then, the using of this instrument on measuring the soil moisture, the salinity, the clay content and so on in the field of soil science was reviewed and summarized.Finally, the revolution after combination technology of electromagnetic induction measuring and appraising of soil nature with 3S technology was forecasted.
【语种】中文
【第一作者】刘虎
【通讯作者】张金龙

【期刊名称、卷期、页码】天津农业科学,2009,15(1):55-58
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【引文索引号】null
【学科分类】农业工程

【题目】RAPD标记法鉴定加拿大披碱草×老芒麦杂种F1纯度的研究
【中文关键词】加拿大披碱草;老芒麦;杂种F1; RAPD
【英文关键词】E. canadensis; E. sibiricus; hybrid F1; RAPD
【中文摘要】通过RAPD分子标记方法,对加拿大披碱草×老芒麦的杂种F1进行了鉴定,结果表明:F1是真杂种,而且F1的遗传物质偏向母本加拿大披碱草;双亲的亲缘关系相对较远;RAPD可快速灵活检测杂种的纯度。
【英文摘要】Purity of hybrid F1ofE. canadensisi×E. sibiricuswas identified by RAPD marker. The resultsshowed thatF1was true hybrids.And geneticmaterialofF1tended to thatof female parentE. canadensisi.The relationship betweenmale parent and female parentwasmore further. Purity of hybrid could be identified by RAPD marker rapidly.
【语种】中文
【第一作者】李景环
【通讯作者】云锦凤
【期刊名称、卷期、页码】种子,2009,28(11):65-68
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【引文索引号】null
【学科分类】农学其他学科

【题目】Development of a model-based digital and visual wheat growth system
【中文关键词】无
【英文关键词】wheat, growth model, FSPM, visualization
【中文摘要】无
【英文摘要】Driven by soil, variety, weather and management database and integrating process-based growth simulation model, morphological model and visualization model, a model-based digital and visual wheat growth system (MDVWGS) was developed using component-based software and visualization techniques.
【语种】英文
【第一作者】Liang Tang
【通讯作者】Liang Tang
【期刊名称、卷期、页码】Computer and Computing Technologies in Agriculture,Vol.2,1113-1120
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【学科分类】农业基础学科

【题目】扁蓿豆不同品系ISSR标记遗传差异和遗传多样性。
【中文关键词】扁蓿豆;品系;ISSR;遗传差异;遗传多样性
【英文关键词】Melilotoides ruthenica;Srtains; ISSR; Genetic difference; Genetic diversity
【中文摘要】采用ISSR分子标记技术对扁蓿豆4个品系的遗传多样性、遗传差异和遗传结构进行了研究。用7个有效引物对4个品系进行PCR扩增,共获得73个等位基因位点,每条引物平均检测出10·4个位点,其中多态性位点69个,多态位点百分率为94·5%。各品系的Nei’s遗传多样性为0·2569,Shannon’s信息指数为0·4046。Nei’s指数估算和分子方差分析均表明,扁蓿豆4个品系的遗传多样性主要存在于品系内,4个品系间亦出现了较大的遗传分化(Gst=0·1324)。品系00-61、90-36、00-81和93-21的多态位点百分率分别为73·97%、79·45%、82·19%和83·56%;Nei’s遗传多样性(H)分别为0·2050、0·2153、0·2264和0·2474;Shannon’s信息指数(I)分别为0·3222、0·3396、0·3538和0·3821。各品系的遗传参数大小排序均为品系93-21>品系00-81>品系90-36>品系00-61。采用系统聚类和主坐标分析(PCA)两种方法所获得的聚类结果一致,即品系00-61和00-81遗传差异相对较小,其次是品系90-36,品系93-21与各品系的遗传差异较大。

【英文摘要】The genetic diversity, genetic difference and genetic structure of four strains ofMelilotoidesruthenicawere investigated with ISSR marker. Seven ISSR primers generated highly reproducible and stable DNA fragments. 69 of 73 loci were polymorphic (PPB=94.5%). The results of Popgen32 analysis indicated that Nei ’ s gene diversity(H) was 0.2569, Shannon information index(I) was 0.4046. Nei ’ s analysis and AMOVA analysis both indicated that the majority genetic variation ofM. ruthenicastrains occurred within strains, higher variations also occurred among the strains (Gst=0.1324). The PPB of strains 00-61,90-36,00-81 and 93-21 was 73.97%, 79.45%, 82.19% and 83.56%, respectively;Nei ’ s gene diversity(H) was 0.2050, 0.2153, 0.2264 and 0.2474, respectively;Shannon information index(I) was 0 · 3222, 0 · 3396, 0.3538 and 0.3821, respectively. The sequence of all genetic index above was 93-21>00-81>90-36>00-61.The results of cluster analysis and principal coordinate analysis (PCA) were similar. The genetic difference between strain 00-61 and 00-81 was relatively lower, second was strain 90-36, and strain 93-21 had higher genetic difference from other strains.
【语种】中文
【第一作者】王照兰
【通讯作者】杨持
【期刊名称、卷期、页码】中国草地学报,2010,32(1):11-17
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【学科分类】农学其他学科

【题目】扁蓿豆新品系的多倍体诱导研究
【中文关键词】扁蓿豆;新品系;秋水仙素;染色体;诱变
【英文关键词】Melilotoides ruthenica;New strain; Colchicines; Chromosome; Induction
【中文摘要】以扁蓿豆新品系90-36种子为材料,以秋水仙素为诱变剂进行多倍体诱导,种子萌发率、幼苗胚轴增粗率和根尖细胞染色体数检测结果表明:秋水仙素处理扁蓿豆新品系90-36种子,以浓度0.10%、处理时间1~2d效果较好,四倍体细胞诱变率分别为36.7%和35.8%。
【英文摘要】Seeds ofMelilotoides ruthenicastrain 90-36 were treated with colchicines of 0. 05%,0.10%, 0.20% in concentration for 1d, 2d and 3d. Seedling morphologies and chromosomes detecting results indicated that the treating the seeds with 0.10% colchicines for 1d or 2d had better effect on inducing tetraploid, the rate of induction were 36.7% and 35.8% respectively.
【语种】中文
【第一作者】孔舒颖
【通讯作者】王照兰
【期刊名称、卷期、页码】中国草地学报,2010,32(4):31-34
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【引文索引号】null
【学科分类】农学其他学科

【题目】扁蓿豆育成品系遗传多样性的RAPD研究。
【中文关键词】扁蓿豆;RAPD;遗传多样性;聚类分析;主坐标分析
【英文关键词】Medicago ruthenica;RAPD;genetic diversity;cluster analysis;principal coordinate analysis
【中文摘要】:用RAPD分子标记对4个扁蓿豆育成品系进行遗传多样性分析。结果表明:筛选的12条多态性RAPD引物共检测出126个等位基因位点,平均每条引物检测到10.5个位点,多态位点比率占94.4%。扁蓿豆品系的Nei ’ s遗传多样性指数(H)为0.266 2,Shannon多样性指数(I)为0.414 5。Nei ’ s指数估算和分子方差分析(AMO-VA)均证实扁蓿豆品系的遗传多样性主要存在于品系内,品系间有一定的基因交流(基因流为2.756 7)。聚类结果表明,品系00-61和00-81遗传差异相对较小,品系90-36与前两者之间的遗传差异较大,品系93-21与各品系的遗传差异最大。
【英文摘要】FourMedicago ruthenicabreeding strains were studied for the analysis of genetic diversity byRAPD markers.Twelve effective primers were screened and totally 126 alleles were detected.The average number of alleles amplified by per primer was 10.5,and the polymorphism percentage was 94.4%.The result indicated that Nei ’ s gene diversity (H) was 0.266 2,Shannon information index (I) was 0.414 5.Nei ’ s analysis and AMOVA analysis both indicated that the majority genetic variation ofM.ruthenicastrains occurred within strains.Gene flow among strains (Nm) was 2.756 7,which proved that there was some gene intercommunion amongM.ruthenicastrains.The result of cluster analysis indicated that the genetic difference between strain 00-61 and 00-81 was

relatively lower,second was strain 00-61 and 00-81 withstrain 90-36,and strain 93-21 has high genetic difference with other strains.
【语种】中文
【第一作者】赵丽丽
【通讯作者】王照兰
【期刊名称、卷期、页码】西北植物学报,2009,29(12):2415-2420
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【学科分类】农学其他学科

【题目】扁蓿豆愈伤组织诱导和分化条件的研究
【中文关键词】扁蓿豆;组织培养;愈伤组织诱导;激素;愈伤组织分化
【英文关键词】Melilotoides ruthenica;Tissue culture;Callus induction;Exogenous hormones;Callus differentiation
【中文摘要】以扁蓿豆3个品系的下胚轴和子叶为外植体,研究不同培养基、不同激素种类和配比对愈伤组织诱导的影响,以及不同分化培养基对愈伤组织分化的影响。结果表明:下胚轴的愈伤组织诱导率普遍高于子叶;品系B1、B2最佳愈伤组织诱导培养基为MS+ 0・5mg/L 2,4-D+0・5mg/L 6-BA,品系B3最佳愈伤组织诱导培养基为MS+ 0・5mg/L 2,4-D+0・7mg/L 6-BA;适宜分化的培养基均为MS+1mg/L KT+1mg/L 6-BA。
【英文摘要】The cotyledon and hypocotyls of three strains ofMelilotoides ruthenicawere used to studythe effect of different mediums, different hormones in different concentration on callus induction and callus differentiation. The results indicated that the callus induction rate with hypocotyls was higher than cotyledons. The best medium for callus induction with hypocotyls of strain B1 and B2 was MS+ 0.5mg/L 2,4-D+0.5mg/L 6-BA, the best medium for callus induction with hypocotyls of B3 was MS+ 0.5mg/L 2,4-D+0.7mg/L 6-BA. The best medium for callus differentiation was MS+1mg/L KT+1mg/L 6-BA.
【语种】中文
【第一作者】张彦艳
【通讯作者】王照兰
【期刊名称、卷期、页码】中国草地学报,2009,31(4):74-79
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【题目】不同品系扁蓿豆种子蛋白指纹图谱研究.
【中文关键词】扁蓿豆;不同品系;种子贮藏蛋白;指纹图谱
【英文关键词】Melilotoides ruthenica;Different strains;Seed storage proteins;Fingerprints
【中文摘要】采用10%SDS-聚丙烯酰胺凝胶电泳,对扁蓿豆4个品系的种子可溶性蛋白和盐溶蛋白进行了研究,结果表明:扁蓿豆4个品系种子可溶性蛋白和盐溶蛋白总带数分别为62和31;相对迁移率分别在11・3%~92・6%和7・4%~92%之间;谱带分子量分别在5・90~107・62KD和14・64~107・38KD之间。4个品系在种子可溶性蛋白电泳图谱上都具有自己的特征带,品系之间在谱带数目、位置、宽窄和颜色深浅方面存在不同程度的差异。盐溶蛋白指纹图谱谱带数目相对较多,但依据带的出现、缺失、宽窄和颜色深浅差异,同样可以鉴定扁蓿豆不同品系。可溶性蛋白和盐溶蛋白指纹图谱一致表明,品系90-36具有较高的品系特异性。
【英文摘要】:Using 10% gel SDS-PAGE, the seed dissoluble proteins and seed salt soluble proteins offourMelilotoides ruthenicastrains were studied. The results showed that the total dissoluble protein bands and total salt soluble protein bands of the strains were 62 and 31,respectively;the relatively mobile rates were 11.3%~92.6% and 7.4%~92%, respectively;and the molecular weight of bands were 5.90~107.62KD and 14.64~107.38KD, respectively. All of the four strains have its own characteristic bands of seed dissoluble proteins. Bands were different in number, distribution, width, and concentration among strains. The band number of the seed salt soluble proteins were less than the seed dissoluble proteins,while the four strains could also be identified based on the appearance, lose, width and concentration of the bands. Both the seed dissoluble proteins and seed salt soluble proteins showed that the strain 90-36 was more distinctive.
【语种】中文

【第一作者】毛小涛
【通讯作者】王照兰
【期刊名称、卷期、页码】中国草地学报,2009,31(6):45-51
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【题目】不同秋眠级紫花苜蓿品种的生产性能 在郑州地区的表现
【中文关键词】紫花苜蓿;秋眠性;生产性能;产量
【英文关键词】alfalfa; fall dormancy; productivity; yield
【中文摘要】试验研究了2,3,4,5,7,8共6个秋眠级18个紫花苜蓿Medicago stiva品种的重要农艺性状表现。结果表明,秋眠级对紫花苜蓿的年鲜草产量、株高等有较大影响,其中秋眠级别为4级的紫花苜蓿品种的年鲜草产量极显著高于5级(P<0.01),显著高于7级品种(P<0.05),但与2,3,8级品种产量差异不显著(P>0.05),综合考虑,秋眠级为2,3,4的紫花苜蓿品种较适合在郑州地区种植;不同茬次对其生长性能有更大的影响,其中第1茬的产量和株高最大,其次为第2,3茬,第4,5茬最低,前3茬占全年产量的80%左右,应加强对前3茬的管理。
【英文摘要】The agronomic traits of 18 alfalfa varieties with different fall-dormancy classes ranging from2 to 8(except 6) were studied in two growing years. The result showed that fall-dormancy classes had significant influence on annual fresh yield and plant height. Fresh yield of class 4 was significantly higher than class 5(P<0.01)and class 7(P<0.05), but no significant difference was observed with classes 2, 3, and class8(P>0.05). It was concluded that alfalfa with classes 2, 3, 4 fall dormancy were suitable for Zhengzhou. Different cuttings had important influence on growth performance. The first cutting gave the highest yield and plant height, followed by the second, third, forth, and fifth cutting accordingly; The first three cuttings made up 80% of the total yield, so management should be focused on them.
【语种】中文
【第一作者】李明凤
【通讯作者】李平
【期刊名称、卷期、页码】草业科学,2008,25(6):45-50
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【学科分类】农学其他学科

【题目】不同秋眠类型苜蓿品种的生产性能研究
【中文关键词】苜蓿;生产性能;秋眠;干物质产量
【英文关键词】Alfalfa;Production performance;Fall dormancy;DM yield
【中文摘要】通过对国内外42个秋眠级为2~9级的紫花苜蓿品种4个生产年的研究,探讨苜蓿秋眠级与生产性能的关系。结果表明:(1)不同秋眠级苜蓿的干物质产量均呈第4年≈第3年>第1年>第2年的趋势,其中第2生长年(2003年)天气温度较低和降雨过量是其低产的直接原因;(2)在郑州地区,4、2秋眠级苜蓿干物质产量显著高于非秋眠品种,其他秋眠或半秋眠苜蓿产量也程度不同地高于非秋眠苜蓿;(3)不同秋眠级的苜蓿品种第1茬产量最高,其次为第2、3、4茬,第5茬产量最低;(4)苜蓿的秋眠级与年干物质产量、粗蛋白质(CP)含量呈负相关,与粗纤维(CF)呈正相关,认为郑州地区不宜选用非秋眠品种。
【英文摘要】Fall dormancy(FD)in alfalfa is related to regrowth,yield and plant height in autumn.The objectives of this research were to evaluate variability for agronomical traits among 42 alfalfa varieties with fall dormancy classes ranging from 2 to 9 in Zhengzhou,China.The results were as follows:(1)The dry matter yields(DM)of 42 varieties in 2004 and 2005 were higher than those in 2002,and the yield in 2002 was higher than that in 2003,due to the low temperature and high rainfall in 2003;(2)DM yields of fall dormant and semi-fall dormant alfalfa were higher than those of non-fall dormant alfalfa;(3)Cutting times had a significant effect on DM herbage yield,with the highest yield in the first cutting and the lowest in the fifth.The first 3 cuttings in the spring and early summer should be paid attention for the alfalfa yield;(4)The non-fall dormant alfalfa should not be selected in the production of Zhengzhou,because FD classes had extremely significant negative correlation with CP content and DM yield (P<0.01),and positive correlation with CF.

【语种】中文
【第一作者】王成章
【通讯作者】韩锦峰
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【题目】基因芯片在益生菌筛选及功能性分析方面的应用
【中文关键词】基因芯片;益生菌;筛选;功能分析
【英文关键词】gene chip;probiotics;screen;functional analysis
【中文摘要】基因芯片技术是鉴别微生物最有效的手段之一,它不仅可以高效、快速、准确地筛选出益生菌,而且可以对其作用宿主后产生的益生功能进行分析。本文阐明了基因芯片的原理以及近年来基因芯片技术在益生菌筛选和功能性分析方面的应用。
【英文摘要】Probiotics are a flock of microorganism which live in organism and make host healthy. Traditional method and molecular biology method, such as PCR, can only screen probiotics to aim directly at one or more functions, but gene chip technology is a high-flux detectionmethod that not only can screen probiotics efficiently, quickly and correctly from the unknown samples, also analyze their beneficial characters. This paper introduced the principle of gene chip and its application in probiotics screening and functional analysis.
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【第一作者】王明娜
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【题目】Metabolic Regulation of Mammary Gland Epithelial Cells of Dairy Cow by Galactopoietic Compound Isolated from Vaccariae segetalis
【中文关键词】Vaccaria segetalis, DBP, dairy cow, mammary gland epithelial cell, metabolic regulation
【英文关键词】Vaccaria segetalis, DBP, dairy cow, mammary gland epithelial cell, metabolic regulation
【中文摘要】In previous experiment, we isolated a compound dibutyl phthalate (DBP) from Vaccaria segetalis which had galactopoietic function on mammary gland epithelial cells of dairy cow (DCMECs). In this experiment, we ascertained the metabolic regulation function of DBP on DCMECs. Many genes related to lactation including Stat5, AMPK, -casein, Glut1, SREBP-1, PEPCK, and ACC were detected by real-time PCR. Furthermore, Stat5 and AMPK were detected by Western blot and immunofluorescence co-localization, respectively. The results showed that DBP stimulates the expression of Stat5 and p-Stat5, thus activates Stat5 cell signal transduction pathway and stimulates -casein synthesis. DBP also raises the activities of Glut1 and AMPK to stimulate glucose uptake and glycometabolism and activates the expression of AMPK downstream target genes PEPCK and ACC and expression of SREBP-1 to stimulate milk fat synthesis. In addition, the activities of HK, G-6-PDH, ICDH, ATPase, and energy charges were stimulated by DBP to increase the energy metabolism level of DCMECs. The results showed DBP stimulates energy metabolism related to galactopoietic function in DCMECs.
【英文摘要】In previous experiment, we isolated a compound dibutyl phthalate (DBP) from Vaccaria segetalis which had galactopoietic function on mammary gland epithelial cells of dairy cow (DCMECs). In this experiment, we ascertained the metabolic regulation function of DBP on DCMECs. Many genes related to lactation including Stat5, AMPK, -casein, Glut1, SREBP-1, PEPCK, and ACC were detected by real-time PCR. Furthermore, Stat5 and AMPK were detected by Western blot and immunofluorescence co-localization, respectively. The results showed that DBP stimulates the expression of Stat5 and p-Stat5, thus activates Stat5 cell signal transduction pathway and stimulates -casein synthesis. DBP also raises the activities of Glut1 and AMPK to stimulate glucose uptake and glycometabolism and activates the expression of AMPK downstream target genes PEPCK and ACC and expression of SREBP-1 to

stimulate milk fat synthesis. In addition, the activities of HK, G-6-PDH, ICDH, ATPase, and energy charges were stimulated by DBP to increase the energy metabolism level of DCMECs. The results showed DBP stimulates energy metabolism related to galactopoietic function in DCMECs.

【语种】英文
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【学科分类】分子生物学

【题目】干旱胁迫对苗期紫花苜蓿3种生理指标的影响
【中文关键词】干旱胁迫;紫花苜蓿;丙二醛;抗坏血酸;过氧化物酶
【英文关键词】drought stress; alfalfa; MDA; AsA; POD
【中文摘要】:以紫花苜蓿Medicago sativa金皇后盆栽苗为试验材料,用改良空气干旱法进行0~6 h的干旱胁迫,试剂盒测定地上部分和地下部分的丙二醛(MDA)含量,抗坏血酸(AsA)含量和过氧化物酶(POD)活性的变化。结果表明:轻度干旱胁迫下,随着干旱时间的延长,紫花苜蓿地上部分和地下部分的MDA含量、AsA含量均在短时间内增加,地下部分的POD活性也在较短时间内增强,地上部分则无明显变化;紫花苜蓿地下部分比地上部分对干旱胁迫反应更为敏感;改良空气干旱法模拟干旱胁迫效果明显,可以作为一种模拟方法选用。
【英文摘要】The seedling of alfalfa (Golden Empress) were treated for 0 to 6 hours with the improvedair-drought method and the AsA content, MDA content and POD activity in aboveground and under-ground parts were tested. The results showed that under the condition of slight drought stress in a short time, the MDA content and AsA content increased along with the progress of drought stress.The POD activity also increased in underground parts, however, there was no significant change in aboveground parts. The underground parts were more sensitive to drought stress than aboveground parts. The improved air-drought method was proper to simulate the drought stress conditions.
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【题目】嗜酸乳杆菌NCFM对Caco-2细胞基因表达谱的影响
【中文关键词】嗜酸乳杆菌NCFM; Caco-2 细胞; 基因芯片技术;Rea-l time RT PCR
【英文关键词】Lactobacillus acidophilus NCFM; Caco-2 cell; microarray technology; Real-time RT PCR
【中文摘要】《目的》嗜酸乳杆菌NCFM 作为一株具有良好益生功能的模式菌株, 采用基因芯片技术对其作用后的宿主细胞基因的变化情况进行分析, 在生物、食品等领域具有较大研究价值。《方法》将嗜酸乳杆菌NCFM 和Caco-2 细胞共同培养2h, 提取Caco-2 细胞的总RNA, 并将RNA 反转录成cDNA, 与Human Genome U133 Plus210 Array 基因表达谱芯片杂交, 杂交后进行图像扫描和数据分析, 并采用Rea-l t ime RT PCR 方法对差异表达的基因进行验证。《结果》采用基因芯片方法检测了Caco-2 细胞经嗜酸乳杆菌NCFM 作用2h 后的基因表达变化, 发现差异表达基因为508 个, 其中有473个基因上调, 35个基因下调, 初步推测Caco-2 细胞能诱导多个基因的表达, 以发挥嗜酸乳杆菌NCFM 的益生功能。并且经Rea-l time RT PCR 验证, 表达差异显著的3个免疫调节相关基因CCL2、PTX3 和TNFRSF9 的确在嗜酸乳杆菌NCFM 作用期间高表达。《结论》以上这些结果促进了对嗜酸乳杆菌NCFM 益生功能的认识, 也为揭示该乳酸菌的作用机理提供了理论基础。
【英文摘要】[Objective] Lactobacillus acidophilus NCFM is a probiot ic strain that promotes human health. We evaluated the influence of Lactobacillus acidophilus NCFM on the genetic expression patterns in the Caco- 2 cells. [Methods] Caco- 2 cells were treated with Lactobacillus acidophilus NCFM for 2h. The total RNA of cells was extracted. Hybridizat ion with Human GenomeU133 Plus 210 Array was performed. The image scanning and data analysis were performed subsequently. Genes with significant expression

changes were selected and analyzed. To support the microarray data, three striking difference genes were studied using Rea-l time RT PCR. [Results] Microarrays analysis showed that the expression levels of 508 genes were altered as compared with the control 473 of them were up-regulated, and 35 were down-regulated. It was supposed that many genes in Caco- 2 cell were induced, so that Lactobacillus acidophilus NCFM could play a part in immune system process, antioxidantact ivity, biological adhesion, cholesterol absorption and so on. Three striking difference genes CCL2, PTX3 and TNFRSF9 which involved immune system process were validated by Rea-l time RT PCR. And the results of Rea-l time RT PCR showed the same expression trend as in microarray. [Conclusion] Based on the results of gene expression alterations, the beneficial function of Lactobacillus acidophilus NCFM could be more greatly and deeply understood than ever before, and the mechanism of lactic acid bacteria would be revealed.
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【第一作者】王明娜
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【题目】光受体的研究进展
【中文关键词】光周期;光敏色素;隐花色素;向光素
【英文关键词】Photoperiod; Phytochrome; Cryptochrome; Phototropin
【中文摘要】光是植物生活中最重要的环境因子之一,它不仅给植物提供辐射能,而且可作为信号调节植物生命周期中的各种生理过程。植物的光周期反应主要是通过光受体接收或传递光信号来完成。介绍了植物光周期和几种光受体红光或远红光受体光敏色素、蓝光受体隐花色素、向光素、紫外光受体UV-B的研究进展
【英文摘要】Light is one of themost important environmental factors for the life of plant, it provides radical energy and regulatory system of signals forplant. Photoperiodic response ofplants ismainly completed through the receiving or transmitting ofoptical signals by photoreceptors. Photoreceptors consist of phytochrome, which is red or far-red light receptor, cryptochrome and phototropin,which are blue light receptors, and ultra-violetUV-B receptor. The papermainly introduces the photoperiodic response of plants and the research progress in several photoreceptors.
【语种】中文
【第一作者】吴鹏举
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【题目】化学杂交剂在植物育种中的应用现状
【中文关键词】植物育种;化学杂交剂;作用机理
【英文关键词】plant breeding; chemical hybridizing agent;mechanism
【中文摘要】对化学杂交剂的主要研究工作进行了综述,重点讨论化学杂交剂作用机理、存在问题及在牧草杂交育种中应用的可能性。化学杂交剂的发展经历了对已知植物生长调节剂诱导作物雄性不育的研究、专门开发新化学杂交剂化合物和应用化学杂交剂育种3个阶段。化学杂交剂的作用机理目前还不是很清楚。资料表明,化学杂交剂EXP可以阻止油菜Brassica campestris体内支链氨基酸缬氨酸、亮氨酸和异亮氨酸的合成,致使雄性败育;SC2053、BAU-2、GENESIS使小麦Triticum aestivum花粉生活力下降、降低花药脯氨酸含量和酶活性等可致雄性不育。化学杂交剂在牧草育种上应用不多,主要集中在去雄效率的探讨上,在杂交育种获得杂交种子方面研究不多。
【英文摘要】The research results on chemical hybridizing agent were summarized, which included themechanism and existing problems of chemical hybridizing agent and its application possibility in forage hybridization breeding. The developing of chemical hybridizing agent experienced three stages such as research on growth regulator induced male sterility, exploitation new chemical hybridizing agent compounds and application of chemical hybridizing agent in plant breeding. The mechanism of chemical hybridizing

agent was not very clear at present, the information showed that EXP of chemical hybridizing agent could restrain the synthesis of branched-chain amino acids valine, leucine and isoleucine in vivo of rape, finally lead to male sterility. SC2053, BAU-2, GENESIS could induce male sterility by declining pollen viability on wheat, decreasing anther proline content and enzymic activity and so on.Chemical hybridizing agent had few applications on the forage breeding, they mainly focused on the discussion of the emasculation effective, however few study were about getting the forage hybrid seeds by this method.

【语种】中文
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【题目】加拿大披碱草_老芒麦杂种加倍一代群体的聚类分析
【中文关键词】加拿大披碱草;老芒麦;加倍一代;分子标记;聚类分析
【英文关键词】E.canadensisi;E.sibiricus;C1Ⅱ;Molecularmarkers;Cluster analysis
【中文摘要】通过EST同工酶和RAPD标记,对加拿大披碱草与老芒麦加倍一代的70个单株进行了聚类分析.结果表明,用EST标记的单株之间的相似系数在0·4和1·0之间; RAPD标记,单株之间的相似系数在0·286 0和0·991 8之间;加倍一代群体分为三类:分别为偏向母本加拿大披碱草的、偏向父本老芒麦的和变异较大的类群;对加倍一代群体的70个单株进行抽样研究时,应从这三个类群中按比例抽取样本,以便科学全面地对其进行研究。
【英文摘要】Cluster analysis of70 individuals in C1ⅡofE. canadensisiandandE. sibiricuswas done through ESTandmolecularmarkers.The results showed that the genetic similarity coefficientof70 individuals varied from 0·4 to 1 byEST, and the genetic similarity coefficientvaried from 0·286 0 to 0·991 8 byRAPD.AccodingRAPD and EST markers,C1Ⅱ population can be classified into three groups: one tended tomaternalE.canadensisi, the other tended to paternalE.sibiricus, and anotherwasgreatvariabilities.Sampling on 70 individuls inC1Ⅱ population,we can notSample at random,butproportional samplingmustbe used,whichwas beneficial to studyC1Ⅱscientifically and entirely.
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【第一作者】李景环
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【题目】乳源生物活性肽构效关系的研究进展
【中文关键词】生物活性肽; ACEI; IC50; 抗菌肽; 抗氧化肽
【英文关键词】Biocative Peptides; ACEI; IC50; antibacterial peptides; antioxidative pepides
【中文摘要】乳源性抗高血压肽、抑菌肽和抗氧化肽的结构对它们的功能性质有重要的影响, 尤其是在一级结构和二级结构方面。综述了一级结构中氨基酸个数、种类、含量、排布以及脯氨酸、疏水性氨基酸、碱性氨基酸等含量的高低,它们在肽段中所处的位置; 二级结构中α-螺旋与β-片层等结构的改变对生物活性的具体影响。
【英文摘要】Structure of milk- derived antihypertension peptides, antibacterial peptides and antioxidative pepides have some important effect on their function, especially primary structure and secondary structure. This paper summarizes the amounts, contents, types, positions of amino acids and the amounts of proline, hydrophobicity amino acids, alkalinity amino acids, and their position as well as the change of α- helix and β- sheet how to effect on their activity.
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【题目】加拿大披碱草_老芒麦杂种新种质的研究
【中文关键词】加拿大披碱草;老芒麦;杂种新种质;农艺性状
【英文关键词】E. canadensis; E. sibiricus; new germplasm; agronomy traits
【中文摘要】:对加拿大披碱草×老芒麦杂交后代的农艺学性状进行了比较研究,结果表明:F1和C1Ⅱ的生育期比母本加拿大披碱草短,其他杂种后代生育期偏向加拿大披碱草;在植株高度上,双亲和后代的株高排序依次为C1Ⅱ>老芒麦>F1>C1Ⅰ>加拿大披碱草>C0Ⅰ>C0Ⅱ;从分蘖数来看,C1Ⅱ>老芒麦>C1Ⅰ>C0Ⅱ>C0Ⅰ>F1>加拿大披碱草;产草量排序为C1Ⅱ>C0Ⅱ>C1Ⅰ>F1>C0Ⅰ>老芒麦=加拿大披碱草。杂交后代在产草量方面都体现了较强的杂种优势;在叶长、叶宽、叶面积、节间数和节间粗等方面,F1的各项指标介于双亲之间, C0Ⅰ、C1Ⅰ、C0Ⅱ和C1Ⅱ的茎叶指标也很高,接近或者超过了加拿大披碱草的指标;穗型上,杂种F1代、C0Ⅰ、C0Ⅱ介于双亲之间,半弯穗。C1Ⅰ和C1Ⅱ的穗形发生分离现象;杂种后代的蛋白质、粗脂肪的含量不同程度的体现了杂种优势。
【英文摘要】Agronomy traits ofhybrids ofElymus canadensis×Elymus sibiricuswas studied.The results showedthatgrowth period ofF1and C1Ⅱwere shorter than E. canadensis.Growth period of other hybrids tended to E. canadensis.The sequence ofplantheight form high to low was C1Ⅱ,Esibiricus, C1Ⅰ, C0Ⅱ, C0Ⅰ, F1and E. canadensis.And tillering ability form high to lowwasC1Ⅱ,E. sibiricus,C1Ⅰ,C0Ⅱ,C0Ⅰ, F1and E. canadensis.Yield ofgrass from high to lowwasC1Ⅱ,C0Ⅱ,C1Ⅰ,F1,C0Ⅰ,E. sibiricusandE. canadensis.Hybrids exhibited strong heterosis in yield ofgrass;The leaf length, leafwidth, leafarea,numberof internode and thick of internode ofF1were between parents.C0Ⅰ、C1Ⅰ、C0Ⅱand C1Ⅱwere close to orhigher thanE.canadensis.Spike type ofF1,C0Ⅰand C0Ⅱbelonged to se-mi-curedwhichwasbetween parents.Character segregationwere found in Spike type ofC1Ⅰand C1Ⅱ.Heterosis ofhybrids showed in crude protein and fat atdifferentdegrees.
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【题目】加拿大披碱草与老芒麦及其杂种后代同工酶和RAPD遗传分析
【中文关键词】加拿大披碱草;老芒麦;杂交后代;遗传分析
【英文关键词】E.canadensis;E.sibiricus;Hybrids; Genetic analysis
【中文摘要】对加拿大披碱草、老芒麦、杂种F1、C0Ⅰ、C1Ⅰ、C0Ⅱ和C1Ⅱ7种材料进行了同工酶和RAPD的分析,旨在通过分子标记方法探讨供试材料的亲缘关系。结果表明:在不同的生育期,EST同工酶酶谱具有较高的多态性,酶谱差异较大,在分蘖期杂种的EST酶谱偏向母本加拿大披碱草,根据该生育时期的酶谱特征可以鉴定杂种后代的的真实性,其他生育时期,EST酶带偏向父本老芒麦,而且没有明显的差异。SOD酶谱的差异只是体现在表达量的多少上,并没有出现特异性的条带。RAPD分析表明,加拿大披碱草与老芒麦的遗传一致度为0·72,遗传距离为0·328 5,在7种材料中亲缘关系最远;杂种后代与母本加拿大披碱草的遗传距离较近,而与父本老芒麦的亲缘关系相对较远;因此用RAPD分析材料的遗传关系更为合适。
【英文摘要】Genetic analysis on isozymes and RAPD ofE.canadensis,E.sibiricus,F1,C0Ⅰ,C1Ⅰ,C0Ⅱand C1Ⅱwere done.The results showed that the polymorphism of EST isozymes were much more than that of SOD during the four breeding periods. Attillering stage,the results of esterase isozymes also showed thattrue hybrid could be identificate,and zymogram characteristics of esterase isozymes tended to thatof female parentE.canadensis. Atotherthree breeding periods,zymogram characteristics of esterase isozymes tended to that of male parent and there were little differences . Differences of SOD isozyme only lied in expression level,and there were no specific band. Analysis on RAPD showed that genetic identity and genetic distance ofE.canadensisandE.sibiricuswere 0.72 and 0.328 5 . Their genetic relationship was most furthest among 7 materials.And genetic relationship between hybrids and parents showed that

hybrids tended to female parentE.canadensis. But thatwas very far to maleE.sibiricus.Itwas much appropriate that RAPDwas used to analyze genetic relationship.
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【学科分类】农学其他学科

【题目】加拿大披碱草与老芒麦种间杂种F1的染色体遗传分析
【中文关键词】加拿大披碱草;老芒麦;远缘杂种;染色体
【英文关键词】E.canadensis;E. sibiricus;Distanthybrid; Chromosome
【中文摘要】对加拿大披碱草与老芒麦种间杂种F1的形态学和细胞学特征进行研究。结果表明,F1生长势明显超过双亲,穗型呈双亲中间型;杂种F1的体细胞染色体核型公式为2n=22m+6sm;F1为真杂种;F1花粉母细胞后期Ⅰ有落后染色体出现,落后染色体细胞频率达87·37%,减数分裂中期染色体配对紊乱,形成较多的棒状二价体。
【英文摘要】Morphologic and cytological characteristics ofhybrid F1betweenE. canadensisandE. sibiricuswere studied. The results showed thathybrid F1were obviously exceeded parents in plantgrowth vigor, and spike type ofF1wasbetween parents. The karyotype formula ofhybrid F1whichwas true hybridwas2n=22m+6sm. Atmeiotic anaphase, chromosome lagging behaviorswere frequently observed. The frequency of lagging chromosomes ofF1was87.37%. Atmeioticmetaphase, thereweremany univalents andmultivalents, and the rod bivalent formed greatly.
【语种】中文
【第一作者】李景环
【通讯作者】云锦凤
【期刊名称、卷期、页码】安徽农业科学,2010,38(1):103-106
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【引文索引号】null
【学科分类】农学其他学科

【题目】皱纹盘鲍的遗传育种与养殖技术研究
【中文关键词】皱纹盘鲍; 遗传; 育种; 贝壳颜色; 食物; 贝壳形态; 生长; 存活; 遗传参数; 选育系; 杂交; 杂种优势; 配合力; 基因型; 环境; 互作; 养殖; 中间培育; 密度; 规格; 分选;
【英文关键词】Pacific abalone; Haliotis discus hannai; genetics; breeding; shell color; diets; shell morphology; growth; survival; genetic parameter; selective lines; cross; heterosis; combining ability; genotype; environment; interaction; cultivation; intermediate cul
【中文摘要】优良的种质是产业发展的重要保证,品种更新和养殖技术的发展已经给世界农业带来了令人瞩目的成就,然而我国水产生物的育种工作刚处于起步阶段,而育种技术的研究则更是滞后。借鉴陆生生物中发展起来的相对成熟的研究方法,可以帮助加快海洋生物遗传育种相关研究的进度。本研究以我国北方海区重要的海洋经济动物-皱纹盘鲍为研究对象,从表型遗传、数量性状遗传等2个方面开展了皱纹盘鲍的遗传育种研究,同时从幼鲍培育密度与分选效应等方面研究了皱纹盘鲍的中间培育技术。
【英文摘要】Implementations of genetic improved varieties are fundamentals to agriculture. Looking back to the development of agriculture, genetic breeding together with cultivation techniques have brought great prosperities worldwide. However, the genetic breeding programs of aquatic organisms initiated recently, while researches on breeding techniques in aquaculture field are lacking in China. Establishment of genetic breeding system of marine animals should be based on the biological characteristics of objective animals and quantitative genetic models constructed in agricultural organisms. Pacific abalone, Haliotis discus hannai Ino is one of the most important mariculture species in northern China. Researches on gentic control of shell color, quantitative genetics relating to genetic improvement of Pacific abalone, and cultivation techniques on combined effects of sizes, stocking density and sorting on juvenile growths were reported in this study.

【语种】中文
【第一作者】吴富村
【通讯作者】刘晓
【期刊名称、卷期、页码】博士生论文
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【引文索引号】null
【学科分类】水产养殖学

【题目】Genetic Analysis on Chromosome ofHybrid F1 betweenElymus canadensisandElymus sibiricus
【中文关键词】无
【英文关键词】E.canadensis;E.sibiricus; D istant hybrid; Chromosome
【中文摘要】无
【英文摘要】Morphologic and cytologicalcharacteristics ofhybrid F1betweenE.canadensisandE.sibiricuswere studied. The results showed that hybrid F1were obviously exceeded parents in plantgrowth vigor, and spike type ofF1was between parents. The karyotype formula of hybrid F1 which was true hybrid was 2n=4x=16M+10m+2s.t Atmeiotic anaphase, chromosome lagging behaviors were frequently observed. The frequency of lagging chromosomes ofF1was 87.37%. Atmeiotic metaphase, there were many univalents and multivalents, and the rod bivalent formed greatly.
【语种】英文
【第一作者】李景环
【通讯作者】云锦凤
【期刊名称、卷期、页码】AgriculturalScience& Technology,2009,10(5):67-71
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【引文索引号】null
【学科分类】农学其他学科

【题目】Agronomic Characters ofElymus dahuricus, Hordeum brevisubulatumand Their BC1F3
【中文关键词】无
【英文关键词】Elymus dahuricus;Hordeum brevisubulatum; Backcross posterity; Agronomic characters
【中文摘要】无
【英文摘要】This study was to explore the inheritance of BC1F3to excellent characteristics of parents(Elymus dahuricus,Hordeum brevisubulatum),heterosis and fertility restoration.[Method]The agronomic characters such as growth period, growth rate, pollen fertility, fecundity, reproducibility and fresh grass output ofElymusdahuricus,HordeumbrevisubulatumandBC1F3werecomparativelystudied.[Result]Thegrowthdynamicof theBC1F3linedtendedtolike that of its parentHordeum brevisubulatum; although growing periods of various lines were different, they were close to that ofHordeum brevisubulatum. There were differences in pollen fertility and seed setting, the pollen fertility rate of YF3-93 was higher than recurrent parentHordeum brevisubulatum, its seed setting rate in openpollinationwasalsohigher. Somelineshadlowpollenfertilityrateandseedsettingrate, suchasthepollenfertilityrateof PF3-52. Thereweresignificant differences in the output among BC1F3lines, e.g. the heterosis (HP) of YF3-64, YF3-74 and YF3-83 were 75.53%, 75.12% and 66.16%, respectively;however, the yieldsof PF3-52, PF3-15 andPF3-42 werelower thantheir parents [Conclusion]Thisstudyprovidedreferencefor breedingnewvarietiesof forage which is suitable to drought and saline environment.
【语种】英文
【第一作者】李伟伟
【通讯作者】李造哲
【期刊名称、卷期、页码】Agricultural Science & Technology,2009,10(2):15-19
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【学科分类】农学其他学科

【题目】酪蛋白肽对小鼠抗氧化酶作用的研究
【中文关键词】酪蛋白肽;GSH-PX;SOD ;MDA
【英文关键词】casein peptides; GSH – Px; SOD; MDA
【中文摘要】目的 研究不同分子量范围酪蛋白肽对小鼠肝脏组织中抗氧化酶活性的影响。方法 将48 只雌雄各半的昆明种小鼠,平均分成肽分子量大于3ku、1k~3ku、小于1ku 和对照四个组。样品组每天灌胃10mg/ml 多肽溶液0.2ml,对照组灌胃蒸馏水。各组随机选取6 只,分别灌胃15d 和30d,断颈处死后取其脾脏和肝脏进行抗氧化指标测定。结果 酪蛋白肽能够使小鼠肝脏组织中谷胱甘肽过氧化物酶(GSH-Px)和超氧化物歧化酶(SOD)活性增强,使丙二醛(MDA)含量下降,且灌胃15d 与30d 时抗氧化酶活性差异显著。结论 酪蛋白肽可增强小鼠抗氧化性作用,肽分子量1ku 以下对小鼠抗氧化酶系作用显著。
【英文摘要】Objective To study the antioxidant effects of casein peptides with different molecular weights on liver tissue in mice. Methods Forty-eight mice were divided into four groups, and fed ig casein peptides in different molecular weights, <1ku, 1-3ku, >3ku and distilled water as control. Results Casein peptides could improve the antioxidation ability ofthe mice, as to increase glutathione peroxidase (GSH-Px) and superoxide dismutase (SOD) activities of liver tissue, and reduce malondialdehyde (MDA). The antioxidant enzymes activities after giving casein peptides for 30d and 15d were significantly different. Conclusions Casein peptides can enhance the antioxidation of the mice and especially more effect with the molecular weight <1000u.
【语种】中文
【第一作者】陈东平
【通讯作者】牟光庆
【期刊名称、卷期、页码】营养学报2010.32(3):242-244
【论文发表时间】2010-06-30 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】食品科学技术基础学科

【题目】披碱草与野大麦杂交种BC1F2代的同工酶分析
【中文关键词】披碱草;野大麦;杂种BC1F2;同工酶酶谱
【英文关键词】Bentgrass; Greens; Covering in winter
【中文摘要】采用不连续聚丙烯酰胺凝胶垂直平板电泳方法,对披碱草、野大麦及其杂种BC1F2代分蘖期叶片的过氧化物酶(POD)和酯酶(EST)同工酶进行分析,结果表明:杂种BC1F2代的POD、EST同工酶谱表现为双亲的互补类型;杂种BC1F2代的POD和EST同工酶谱中亲本的个别酶带有丢失现象,在EST同工酶谱中产生了1条杂种带(Rf=0.11);BC1F2代POD同工酶谱的酶带基本相同,EST酶带特征差异较大,出现双亲互补带和杂种带;BC1F2代的POD和EST同工酶谱明显地受轮回亲本野大麦的影响,说明回交使野大麦的某些性状在BC1F2代进一步加强。聚类分析结果表明,Y1F2-5(7号)与P1F2-1(12号)及Y1F2-3(5号)与Y1F2-4(6号)有极其近的遗传关系,野大麦与BC1F2代多数株系有较近的遗传关系;POD与EST同工酶具多态性,可作为遗传标记用于杂种鉴定和目标性状植株的检测。
【英文摘要】Under low irrigation frequency(30d each time), the bentgrass(Agrostis stolonifera) greenwas covered with green quilt, straw matting, leaves and plastic film in winter. The influence of these four kinds of materials on moisture content, soil temperature, turf appearance quality, underground biomass and aboveground biomass was studied. It indicated that the ability of water retention and heat preservation of green increased in difference extent under all four kinds of treatments. Heat preservation under straw matting and leaves was the best, water retention under leaves and plastic film was the best. Turf appearance quality was the best under straw matting, and then leaves and plastic film. Green quilt had poor ability to improve turf appearance quality. Underground biomass under four kinds of treatment showed that green quilt>straw matting>leaves>plastic film.
【语种】中文
【第一作者】李强
【通讯作者】李造哲
【期刊名称、卷期、页码】中国草地学报,2010,32(4):45-51
【论文发表时间】2010-07-24 00:00:00
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【学科分类】农学其他学科

【题目】紫花苜蓿抗热性鉴定与评价的研究进展
【中文关键词】紫花苜蓿;高温;抗热性;鉴定方法;评价
【英文关键词】alfalfa; high temperature; heat resistance; identification; evaluation
【中文摘要】紫花苜蓿Medicago sativa因其营养丰富被广泛栽培,已成为草食家畜和奶牛养殖业的重要饲草,更是一种重要的生态改良草,在我国畜牧业发展和生态保护中起着不可比拟的作用。高温是影响紫花苜蓿生长的重要限制因子,研究发现高温胁迫致使植物发生一系列生理、生化及形态上的响应。在河南省,由于夏季高温的胁迫,致使紫花苜蓿夏眠,甚至死亡,严重影响其品质和产量。结合植物自身的调节机制,从植物形态及抗氧化系统综合阐述了高温条件下紫花苜蓿的抗热性鉴定方法和评价指标,旨为其抗热性鉴定和选育工作提供一定的科学参考。
【英文摘要】High temperature is one of the limiting factors in alfalfa production, which induces a seriesof responses in physiology and morphology. Alfalfa in Henan Province usually aestivate or died because of the high temperature stress, which affects quality and yield of the forage greatly. The progress of identification methods and evaluation indexes for heat resistance of alfalfa were summarized in this paper.
【语种】中文
【第一作者】张晓霞
【通讯作者】王成章
【期刊名称、卷期、页码】草业科学,2010,27(2):113-118
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【引文索引号】null
【学科分类】农学其他学科

【题目】透析法制备载羟基喜树碱-聚乳酸纳米粒及其理化性质研究
【中文关键词】羟基喜树碱; 聚乳酸纳米粒; 体外释放; 细胞毒性试验;
【英文关键词】hydroxycamptothecin; polylactide nanoparticles; in vitro release study; cytotoxicity assay;
【中文摘要】采用直接透析法制备载羟基喜树碱-聚乳酸(HCPT-PLA)纳米粒并研究其理化性质、体外释放和细胞毒性.以HCPT-PLA纳米粒的载药率为评价标准,通过正交设计考察PLA浓度、HCPT与PLA的质量比和不同截留分子质量透析袋对其指标的影响.利用Malvern nano-zs粒度测定仪、XRD、DSC和激光共聚焦显微镜(CLSM)对HCPT-PLA纳米粒的理化性质进行表征.薄膜透析法考察体外释药特性;MTT试验检测细胞毒作用.在优化条件下制备的载药纳米粒为实心球形,平均粒径为226.8 nm,多分散系数为0.270,载药率为7.49%.HCPT是以晶体状态均匀分布于PLA纳米粒中.药物体外释药符合Higuchi方程Q=2.000 6X1/2-2.593 4,r=0.989 2.MTT试验显示HCPT-PLA纳米粒呈现明显细胞毒作用.透析法制备HCPT-PLA纳米粒,粒径小且分布均匀,具有较好的缓释特性;细胞毒性试验表明HCPT-PLA纳米粒具有较强的抑瘤作用且抑瘤效果优于HCPT.
【英文摘要】In this paper,HCPT-loaded PLA nanoparticles of desired size range for treating liver cancer were successfully prepared by using the facile dialysis method without the additional surfactants.Effect of experimental parameters on preparation of HCPT-loaded PLA nanoparticles was evaluated.The results of orthogonal test showd that the mass ratio of HCPT to PLA was the most important determinant of drug-loaded content.The obtained HCPT-loaded PLA nanoparticles had spherical shape and smooth surface with a mean diameter of about 226.8 nm.The distribution of HCPT in PLA nanoparticles was uniform and HCPT was a crystalline state existed in PLA nanoparticles.In vitro release study indicated that HCPT in PLA nanoparticles showed a sustained release trend over a period of 30 days with no burst release at initial stage.The mean in vitro cumulative release percentage of HCPT from HCPT-loaded PLA nanoparticles vs time curve fit well with the Higuchi equation(Q=2.000 6X1/2-2.593 4,r=0.989 2).Cytotoxicity assay against BEL-7402 show that,compared to HCPT,the HCPT-loaded PLA nanoparticles have higher cytotoxicity.
【语种】中文
【第一作者】罗颖
【通讯作者】张其清
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【学科分类】细胞生物学

【题目】不同分子量酪蛋白肽对自由基清除作用研究
【中文关键词】酪蛋白肽;自由基;分子量
【英文关键词】casein peptides; free radical; molecular weight
【中文摘要】采用超滤法结合凝胶过滤色谱法,分析了不同分子量范围酪蛋白肽对生物体内自由基清除效果的影响。结果表明:酪蛋白肽分子量越小,对生物体内自由基清除率越高,抗氧化效果越好。分子量<1ku时,对羟自由基最高清除率为73.33%,DPPH最高清除率为90.94%。
【英文摘要】The ultrafiltration method combining with gel filtration chromatography were used to analyze the effect of casein peptides with different molecular weight range on biological free radical scavenging. The results showed that the smaller the molecular weight, the higher clearance of biological free radical, the better anti-oxidant effect of casein peptides. When the molecular weight was less than 1ku, the hydroxyl radical scavenging rate was up to 73.33 %; DPPH clearance rate was up to 90.94 %.
【语种】中文
【第一作者】陈东平
【通讯作者】牟光庆
【期刊名称、卷期、页码】中国酿造2010.217(4):33-35
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【学科分类】食品科学技术基础学科

【题目】紫花苜蓿杂交种适应性分析
【中文关键词】紫花苜蓿;德钦野生苜蓿;品比试验
【英文关键词】无
【中文摘要】2002年对云南德钦地区的野生紫花苜蓿的优良无性系、云南昆明地区的逸散种紫花苜蓿优良无性系和引进紫花苜蓿品种(牧歌701、Acrora、GT13R)的优良无性系进行了杂交。2006~2007年在云南省偏酸性土壤中对8个杂交种进行了品比试验,对生育期、茎叶比、产草量、越冬性等指标的测定表明,杂交种13、138、196表现优异,可作为优良候选杂交种,也为继续选育新品种提供了宝贵的种质资源。
【英文摘要】无
【语种】中文
【第一作者】马凯恒
【通讯作者】毕玉芬
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【题目】高压脉冲电场处理菠萝汁及其贮藏期间微生物变化研究
【中文关键词】菠萝汁 高压脉冲电场 冷冻浓缩 微生物 贮藏
【英文关键词】pineapple juice pulsed electric field freeze concentration microbiology storage
【中文摘要】探讨特定场强下脉宽、流速对高压脉冲电场杀菌的影响,确定合适的高压脉冲电场(PEF)处理菠萝汁的参数,并探讨菠萝原汁、热处理菠萝汁、PEF处理菠萝汁以及PEF处理冷冻浓缩菠萝汁在- 18℃下贮藏期间微生物的变化情况。结果表明:接受PEF处理时,冷冻浓缩菠萝汁比菠萝原汁能够获得更高的电压参数,在- 18℃下贮藏80d,热处理和经PEF处理菠萝汁的菌落总数和霉菌总数均下降。PEF处理和冷冻浓缩+PEF处理的菠萝汁,两者的菌落总数和霉菌总数相差不大,且变化趋势基本一致。
【英文摘要】Effects of pulse width and flow rate on Pulsed Electric Field(PEF) sterilization were discussed under Specific electric field strength. The appropriate parameters of PEF were determined in the process of pineapple juice. And the changes of Microbiology at 218°Cduring storage were discussed based on raw, heat treatment, PEF treatment, freeze concentrated treatment and freeze

concentrated with PEF treatment Pineapple juice respectively. The results indicate that freeze concentrated Pineapple juice could get a higher voltage parameter than Pineapple juice with PEF. The total number of Colonies and Streptomyces were reduced in Pineapple juice treated by heat and PEF respectively at 218°Cafter 80days, and which was less different between Pineapple juice with PEF and Freeze concentration +PEF and their changing trend was the same basically.

【语种】中文
【第一作者】方婷
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【期刊名称、卷期、页码】贵州大学学报(自然科学版),ISSN:1000-9795,26(6),70-74
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【引文索引号】无
【学科分类】食品加工技术

【题目】不同方法处理荔枝汁的品质研究
【中文关键词】荔枝汁 冷冻浓缩 高压脉冲电场 理化指标 感官评价
【英文关键词】Litchi juice;Freeze concentration;Pulsed electric field;Physical chemical properties;Sensory evaluation
【中文摘要】研究了荔枝原汁、热处理荔枝汁、冷冻浓缩荔枝汁和PEF结合冷冻浓缩荔枝汁Vc、总酸、总糖等理化指标在贮藏期间的变化情况并利用加权评分法对不同处理荔枝汁进行感官评价。结果表明,利用PEF处理能够较好的保持冷冻浓缩荔枝汁的营养物质,热处理荔枝汁营养成分损失较大。贮藏期间,4种不同处理的荔枝汁其Vc含量随着贮藏时间的延长而下降,总酸随着站藏时间的延长先减少后增加。而总糖随贮藏时间的延长先增加后减少。感官评定从高到低为:PEF-4-冷冻浓缩处理荔枝汁>冷冻浓缩荔枝汁>荔枝原汁>热处理荔枝汁。可见冷冻浓缩再经高压脉冲电场处理是荔枝汁处理的最佳方法之一。
【英文摘要】In this paper we are going to observe and discover the physical chemical properties And evaluation for the untreated Litchi juice,heat treatment Litchi juice,freeze concentration Litchi juice and PEF combined with freeze concentration Litchi juice.Then comparing their Vc,amine add,total sugar under these different treatments.The experimental results are showed as follows:The quality of Litchi juice treated by pulsed electric field is in the best condition by comparing to other three treatments.On the other hand,the nutrient compositions Of Litchi juice are destroyed badly under heat treatment; therefore,we can conclude the combination of PEF technology and freeze concentration is a better treatment to remain agood Quality for Litchi juice than the heating treatment.During storages,As time increases the Vc Of litchi Juices is decreasing,a-mine acid with Storage time after the first reduction.The total Sugar with the extension of storage time following the first in-crease.The sensory Evaluation of this four fresh litchi juice Made by different treatment methods from high to low is:freeze concentrated litchi juice>high pressure pulse electric field processing Of litchi juice>litchi juice>hot processing litchi juice.The method which takes into account all Assessment factors and overcomes the influence of artificial factors call acquire more objective conclusions.We find out that if we take into account of these two technologies,the product Obtain the color,flavor and taste of the fruit and Vegetable juice,the quality Of it is better than that heated by thermal pasteurization.

【语种】中文
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【学科分类】食品加工技术

【题目】高压脉冲电场对冷冻浓缩荔枝汁非热杀菌的研究
【中文关键词】荔枝汁 高压脉冲电场 冷冻浓缩 巴氏杀菌 微生物
【英文关键词】litchi juice; pulsed electric field(PEF); freeze concentration; Pasteurization; microbial
【中文摘要】研究了温度 、电导率对大肠杆菌高压脉冲电场处理效果的影响以及温度对电导率的影响, 并在此基础上探讨了冷冻浓缩前后荔枝汁高压脉冲电场处理结果,最后分析了荔枝原汁 、 巴氏杀菌荔枝汁、高压脉冲电场处理的浓缩荔枝汁-18 ℃下贮藏期间的微生物变化情况。结果显示低电导率更有利于高压脉冲电场处理。采用冷冻浓缩技术制得的荔枝浓缩汁,在低温下能够获得更低的电导率,在接受脉冲电场处理时较原汁能够获得更高的处理参数,3 种不同处理果汁在

贮藏期间微生物变化趋势基本相同。
【英文摘要】In this paper, the steriliaztion effect of E. coli, on temperature and electrical conductivity had been studied, the impact of temperature on the conductivity was analyzed, and then the results of frozen concentration litchi juice treated by high-voltage pulsed electric field were also explored. Finally, changes of microorganisms in litchi juice, pasteurized litchi juice, and freeze concentration treated litchi juice by pulsed electric field was analyzed during storage under -18 °C. The results showed that the low conductivity was more conducive to the processing of pulsed electric field. Conductivity could be lower with the low temperature in concentration litchi juice by freezing concentration. And the processing parameters of frozen concentration litchi juice were higher than those of untreated litchi juice in a pulsed electric field processing. Three different litchi juices had roughly the same changing trend of the microorganisms during storage.
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【通讯作者】方婷
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【学科分类】食品加工技术

【题目】高压脉冲电场对微生物的致死动力学模型
【中文关键词】高压脉冲电场; 电场强度; 动力学模型
【英文关键词】Pulsed electric fields; Field intensity; Inactivation model
【中文摘要】通过建立微生物存活率与脉冲电场强度的数学模型, 电场强度从 25 kV /cm 到 20 kV / cm, 获得青霉的临界电场强度 Ec= 202kV / cm > 大 杆菌E c= 180kV / cm > 酵母菌 Ec= 0339 kV / cm; 而且比较模型的回归系数 k, 青霉的k值是最小的, 酵母菌的 k值是最大的, 说明酵母菌对电场最敏感, 而青霉菌对电场耐受力最强。
【英文摘要】The kinetics of microbial inactivation by PEF was studied, electric field intensity varied from 25- 20 kV / cm. The experimental data showed that different microbial have different critical electric field intensity, penicillium w as 202kV / cm, yeast was 0339 kV /cm and E. Col i was 180kV / cm, so it is easy to see that the yeast w much more sensitive to PEF than that of penicillium and E. col.i
【语种】中文
【第一作者】严志明
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【期刊名称、卷期、页码】安徽农学通报,ISSN: 1007-7731,15(19),51-53
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【学科分类】食品科学技术基础学科

【题目】APPLICATION OF PEF AND FREEZE CONCENTRATION PROCESSING TECHNOLOGY ON LITCHI JUICE
【中文关键词】无
【英文关键词】non-thermal processing, PEF, freeze concentration, litchi juice
【中文摘要】无
【英文摘要】Pulsed electric field (PEF) is a technology that can effectively kill microorganism at ambient temperature, but it fails to inactivate enzymes that are responsible for the deterioration of quality. The present research treatment of PEF was attempted to utilize combination with freeze concentration to alleviate enzymatic degradation. Litchi juice was firstly treated by PEF at field strength of 20 kV/cm for 6.8 ms to eliminate food borne pathogens and other background flora, and then treated by freeze concentration so as to remove excess water. Under the condition of -1.5-4.7 ° C, litchi juice was concentrated from 14 to 40 ° Brix and stored at -18 ° C. The low temperature significantly reduced the enzymatic activities, and extended the shelf-life. After stored for 6 months, the concentrated juice was reconstituted with distilled water for sensory evaluation by the triangle method. The results showed that there were no significant differences between the freshly prepared juice ($p<0.01$) and the one treated by PEF and reconstituted.

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【第一作者】方婷
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【题目】Studies on inactivation dynamics of Saccharomyces cerevisiae, E.coli and Penicillium by PEF
【中文关键词】无
【英文关键词】longan fruit, controlled atmosphere, storage, water loss, browning
【中文摘要】无
【英文摘要】Fresh longan (Dimocarpus Longan) fruits were utilized as materials in this paper. And the effects of controlled atmosphere and low temperature on fruit quality loss, especially on color change (browning) and water loss were studied. Of the conditions studied, quality was retained for a longer period at 4 oC. At this temperature, the effects of CA were not significant. At 8 oC, however, CA reduced quality loss, especially fruit browning.
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【第一作者】方婷
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【学科分类】食品加工技术

【题目】Combination of PEF and Freeze Concentration Processing Technology and its Application on Orange Juice
【中文关键词】无
【英文关键词】Non-thermal Processing; PEF; Freeze concentration; Litchi juice
【中文摘要】无
【英文摘要】Pulsed Electric Field (PEF) is a technique that can effectively kill microorganism at ambient temperatures, but it fails to inactivate enzymes that are responsible for the deterioration of quality. In this paper, the PEF treatment was attempted to utilize, combined with freeze concentration to alleviate enzymatic degradation. Litchi juice was first treated by PEF at the field strength of 20 kV/cm for 6.8 ms to eliminate food borne pathogens, and then followed by freeze concentration to remove excess water. Under -1.5~-4.7 ° C, litchi juice was concentrated from 14 º to 40 º Brix and stored at a temperature of -18 ° C. The low temperature significantly reduced the enzymatic activities, and thus led to the extension of shelf-life.
【语种】英文
【第一作者】陈锦权
【通讯作者】方婷
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【学科分类】食品加工技术

【题目】西红柿汁的多级冷冻浓缩研究
【中文关键词】冷冻浓缩 西红柿汁 冰晶生长模型
【英文关键词】freezing concentration Tomato juice Crystal growth model

【中文摘要】在果汁的悬浮式冷冻浓缩过程中,对于低浓度的果汁为避免冰晶夹带过多,减少能耗和原材料的损失,通常采用多级浓缩的方式得到高浓度果汁。本文以西红柿汁为原料,先后进行了四级的冷冻浓缩,将西红柿原汁从4.2。Bx浓缩5.8倍到24.4。Bx,对试验数据回归模型参数,采用龙格一库塔法进行数值积分求得模型解,建立了西红柿汁的四级冰晶生长动力学模型。模犁建证后再对四级浓缩的生长曲线进行综合比较。试验结果表明:在每级的浓缩过程中都经历了缓慢浓缩,加速浓缩,缓慢浓缩三个阶段,同时随着冷冻浓缩的级数增加,浓缩速度逐级放缓,浓缩时间逐级延长,特别是在较高级别的浓缩的中后期,出现了试验数据部分低于拟合数据的现象,该阶段可以认为是冷冻浓缩过程中的一个“ 关键控制点 ”,这点为指导工业生产中的冷冻浓缩提供一定的理论依据和实践参考。

【英文摘要】After storage for 6 months, the concentrated juice was reconstituted with distilled water for sensory evaluation using the triangle method. Results showed that the PEF treated and reconstituted juice was not significantly different from the freshly prepared juice ($p< 0.01$).

【语种】中文

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【学科分类】食品加工技术

【题目】高压脉冲电场处理瓶装饮用水的研究

【中文关键词】高压脉冲电场;杀菌效果;微生物;瓶装水

【英文关键词】pulsed electric field sterilization effect microbiology bottled water

【中文摘要】探讨高压脉冲电场处理瓶装水中大肠杆菌、啤酒酵母、青霉、金黄色葡萄球菌和沙门氏菌的杀菌效果。结果表明,PEF可以有效地杀灭瓶装水中常见微生物,其中大肠杆菌、啤酒酵母和青霉菌经48.39kV/cm场强的PEF处理,在不同时间之后均未有活菌检出,金黄色葡萄球菌和沙门氏菌在此场强下处理经295μs之后,活菌数分别减少了6.6和5.5个对数。另外在电场强度为48.39kV/cm、其他条件一致的情况下,处理时间分别为94μs、114μs、155μs、203μs、295μs,探讨不同处理时间对不同微生物的杀灭效果。结果表明,随着处理时间的延长,PEF的杀菌效果也有明显增强的现象。以大肠杆菌为例,通过方差分析可知处理时间和电场强度对杀菌效果的影响都是极显著的,其中场强较之更显著,是起主导作用的因素。

【英文摘要】To explore high pressure pulse electric field treatment bottled water E coli, beer yeast, blue mould, staphylococcus aureus and salmonella sterilization effect. The results show that PEF can effectively kill bottled water common microorganisms, including E coli, beer yeast and penicillium by 48.39 kV/cm field strength of PEF treatment, in different time after all no viable detection, staphylococcus aureus and salmonella in this field by 295 μ s under treatment after viable count are reduced to 6.6 and 5.5 logarithm. In the electric field intensity is 48.39 kV/cm, other conditions consistent with the case, the processing time is respectively 94 μ s, 114 μ s, 155 μ s, 203 μ s, 295 μ s, this paper discusses the different processing time for different microbial kill effect. The results show that, with the deal with the extension of time, PEF sterilization effect also has the obvious enhancement phenomenon. To E coli as an example, through the analysis of variance know the processing time and electric field intensity on the sterilization effect is very significant, the field strength than the more significant, is a leading role factors.

【语种】中文

【第一作者】方婷

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【学科分类】食品加工技术

【题目】牡蛎壳纳米羟基磷灰石的制备与表征

【中文关键词】牡蛎壳; 纳米羟基磷灰石; 水热反应; 反应机理; 生物相容性

【英文关键词】oyster shell; nano hydr ox yapatite; hy dr othermal conversion; reaction mechanism; bio compat ibility
【中文摘要】以僧帽牡蛎壳粉末为原料, 通过水热反应合成纳米羟基磷灰石(n HA) , 考察反应时间、反应温度、反应物摩尔比及牡蛎壳粉末的微结构对反应的影响. 运用X 射线衍射(XRD) 、扫描电子显微镜(SEM) 、红外光谱(FTIR) 、X 射线能谱仪(EDS) 及MTT 实验表征产物的晶相组成、形貌、化学组成及细胞相容性. 结果显示, 牡蛎壳粉末经水热反应后仍保持其原有形貌, 产物为部分CO32- 取代的片状n H A, 其Ca/ P 摩尔比约为1. 5, 其结构及组成与人骨H A 相似, 细胞相容性良好. 牡蛎壳粉末外表面方解石通过溶解重结晶过程转化为片状n HA, 内部方解石则经由固态局部规整离子交换反应转化为n HA. 最佳水热反应条件为220 下反应6 h, 牡蛎壳中Ca 与(NH4) 2HPO4 中P 摩尔比为5 6.
【英文摘要】Nano hydro x yapat ite (n H A) fr om Ostrea cucullat a Bo rn w as obtained by hy dr otherma l sy nthesis method. The inf luence o freactio n time, temperatur e, mola r ratio of r eactants and micr ostr ucture o f oy ster shell powder o n the reaction w as investig ated. X raydiff ractio n (XRD) , scanning electr on microscopy (SEM) , Fourier t ransf orm infrar ed spectr osco py (FTIR) , energ y dispersiv e spectr os co py (EDS) and M TT wer e employ ed to char acter ize the pro ducts. The r esult s indicated that sheet st ructur e of carbonated n H A were successfully pro duced via hy dr othermal t ransformat ion. n H A r etained the mo rpholog y of the o rig inal calcite. The mo lar r atio o f Ca/ P was abo ut 1. 5. T he st ruct ur e and com ponent w ere much mor e similar t o bone H A w ith g ood cell compatibility . T he exter ior calcite co nv erts to n H A via dissolution r ecrystallization. The int erio r calcite conver ts to n H A by a solid state to pot act ic ion exchang e reac t ion. The best hy dr othermal transformation conditio n is reacting at 200 for 6 h, the mo lar ratio of Ca in o yster shell to P in(NH4) 2H PO4 is 5 6.
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【第一作者】蔡汝汝
【通讯作者】张其清
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【学科分类】纳米材料

【题目】壳聚糖-羟基磷灰石复合骨修复材料的制备及细胞相容性初步研究
【中文关键词】壳聚糖; 羟基磷灰石; 原位沉析; 内固定; 细胞相容性
【英文关键词】chit osan; hydrox y apatite; in situ precipitation; inter nal fix ation; cell com patibilit y
【中文摘要】采用原位沉析法以壳聚糖(CS) 为基体, 乙酸钙及磷酸作为钙磷源制备壳聚糖/ 羟基磷灰石(CS/ HA) 复合棒材,并用三聚磷酸钠(TPP) 磷酸钠(T SP) 混合溶液进行交联. 通过燃烧试验、FTIR、XRD、T EM 和弯曲强度测试对材料进行理化表征, MTT 法检测材料的细胞相容性. 燃烧试验结果表明, 无机成分均匀分散于CS 中, FTIR、XRD 和TEM 测试结果证实原位生成H A. 经弯曲强度测试, 复合材料弯曲强度达133 M Pa, 弯曲模量6. 8 GPa. MT T 实验结果表明, 材料可以促进成骨细胞增殖, 具有良好的细胞相容性. 所制得的CS/ H A 复合棒材力学性能得到很大提高, 并且具有良好的细胞相容性, 有望作为一种新型的骨折内固定材料
【英文摘要】Chit osan/ hydrox y apatite (CS/ H A) composite w ith ex cellent mechanical pr operties w as prepared via in situ pr ecipitatio n.In this method, t he calcium and phospho rus precur sors w ere firstly added into t he chito san so lution, dispersed homog eneo usly. Thenthe solution w as pr ecipitated in 6%(by mass) NaOH so lutio n. The precipit ated hy dr og el r ods wer e then cr oss linked in sodium tr i polyphosphate tr isodium pho sphate (T PP T SP) solut ion. T he propert ies of the composites wer e characterized by means of TEM, FT IR, XRD and the three po int bending test. Additio nally , burn out tests w ere also car ried out to det ermine the disper sive uniformity o fthe two phases. The results showed t hat the sy nthesized H A w as nanometer cry stals and dispersed uniformly in chito san matrix. Thebending strength and mo dulus of CS/ H A wer e 133 MPa and 6. 8 GPa, respectiv ely . Cell com patibilit y w as studied by cult ur ing pr e osteoblasts (MC3T3 E1) in ex tractio n of the mater ial, throug h MTT assay. Results o f MT T assay indicated that the CS/ H A mater ialwas g ood in bio compatibility w ith pr e osteoblasts. All of the results indicated t hat the CS/ HA composite is a potential material as in ter na l fix atio n o f bo ne fr actur e.
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【第一作者】蔡汝汝
【通讯作者】张其清
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【学科分类】材料合成与加工工艺

【题目】壳聚糖/羟基磷灰石复合骨折内固定棒材的制备与性能研究
【中文关键词】壳聚糖;羟基磷灰石;原位沉析;内固定
【英文关键词】:chitosan;hydroxyapatite;in situ precipitation;internal fixation
【中文摘要】采用原位沉析法制备了壳聚糖/羟基磷灰石(CS/HA)复合棒材。用预先沉积的壳聚糖膜将含有Ca、P源的壳聚糖溶液与凝固液隔离,同时控制壳聚糖沉积与羟基磷灰石前驱体转化为羟基磷灰石的过程,使二者得以均匀复合。燃烧试验结果表明无机成分均匀分散于壳聚糖中,FT-IR、XRD和TEM 测试证实原位生成羟基磷灰石,弯曲强度测试结果表明,原位沉析法制备的材料具有层状结构,CS/HA(质量比20/4)复合材料弯曲强度达133MPa,弯曲模量6.8GPa。
【英文摘要】Abstract:The CS/HA composites with a high performance were prepared via in situ precipitation.In this method,the calcium and phosphorus precursors were added into the solution of chitosan firstly,dispersed homogeneously.The pre-precipitated CS membrane controlled the process of CS precipitation and transformation of HAfrom the precursors.The results of burn-out tests indicated that the inorganic component was dispersed uniformly in chitosan matrix.FT-IR,XRD and TEM were carried out to determine the components and morphologyof CS/HA.The results showed that the inorganic component was exactly nano-sized HA.The mechanical properties of CS/HA were evaluated by the three point bending test.The bending strength and modulus of CS/HA(mass ratio 20/4)were 133MPa and 6.8GPa.
【语种】中文
【第一作者】孙珍珍
【通讯作者】张其清
【期刊名称、卷期、页码】功能材料,ISSN:1001-9731,42(1),128-131
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【学科分类】生物材料

【题目】In vitro and in vivo evaluation of novel implantable collagen-chitosan-soybean phosphatidylcholine composite film for the sustained delivery of mitomycin C
【中文关键词】无
【英文关键词】chitosan; mitomycin c; film; implant; drug delivery
【中文摘要】无
【英文摘要】An implantable mitomycin C (MMC) delivery system (MMC-film), incorporating polylactide(PLA) – MMC nanoparticles in a composite film from blends of collagen – chitosan – soybean phosphatidylcholine(SPC) with a mass ratio of 4:1:1, was developed and evaluated. PLA – MMC nanoparticles were preparedusing an improved emulsion/solvent evaporation technique and then dispersed uniformly within the film toresult in a final MMC loading content of 0.8 mg/cm2. Drug release studies were performed in pH 7.4 PBS at371C with drug analysis using UV/vis spectrometer at 366nm. The MMC-film exhibited more fractionaldrug release and a longer time to reach release equilibrium as compared with PLA-MMC nanoparticles. Invivo, the MMC-film was implanted at subcutaneous tumor sites of hepatoma-bearing mice, and the curativeeffect was compared with those of drug-free film. The growth of the tumors was dose-dependently inhibitedby MMC-film. Histopathological analysis of specimens taken from tumor tissues harvested indicated thatMMC-film was lethal to hepatoma cells. Additionally, post mortem visual examination and microscopicimages showed no sign of internal infection and fibrous encapsulation in any animals after 20 days ofimplantation of the MMC-film or drug-free film. It was concluded that the system provides great potentialfor local sustained delivery of MMC at the site of tumor or tumor resection for therapeutic purposes.
【语种】英文
【第一作者】Zhenqing Hou,
【通讯作者】张其清
【期刊名称、卷期、页码】Drug Development Research. 2009, 70(3), 206-213
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【引文索引号】10.1002/ddr.20296
【学科分类】药剂学

【题目】New Method to Prepare Mitomycin C Loaded PLA-Nanoparticleswith High Drug Entrapment Efficiency
【中文关键词】无
【英文关键词】Mitomycin C PLA Nanoparticles
Drug release
【中文摘要】无
【英文摘要】The classical utilized double emulsion solventdiffusion technique for encapsulating water soluble MitomycinC (MMC) in PLA nanoparticles suffers from lowencapsulation efficiency because of the drug rapid partitioningto the external aqueous phase. In this paper, MMCloaded PLA nanoparticles were prepared by a new singleemulsion solvent evaporation method, in which soybeanphosphatidylcholine (SPC) was employed to improve theliposolubility of MMC by formation of MMC – SPC complex.Four main influential factors based on the results of asingle-factor test, namely, PLA molecular weight, ratio ofPLA to SPC (wt/wt) and MMC to SPC (wt/wt), volumeratio of oil phase to water phase, were evaluated using anorthogonal design with respect to drug entrapment efficiency.The drug release study was performed in pH 7.2PBS at 37 C with drug analysis using UV/vis spectrometerat 365 nm. MMC – PLA particles prepared by classicalmethod were used as comparison. The formulated MMC – SPC – PLA nanoparticles under optimized condition arefound to be relatively uniform in size (594 nm) with up to94.8% of drug entrapment efficiency compared to 6.44 lmof PLA – MMC microparticles with 34.5% of drugentrapment efficiency. The release of MMC shows biphasicwith an initial burst effect, followed by a cumulated drugrelease over 30 days is 50.17% for PLA – MMC – SPCnanoparticles, and 74.1% for PLA – MMC particles. The IRanalysis of MMC – SPC complex shows that their highliposolubility may be attributed to some weak physicalinteraction between MMC and SPC during the formation ofthe complex. It is concluded that the new method isadvantageous in terms of smaller size, lower size distribution,higher encapsulation yield, and longer sustaineddrug release in comparison to classical method.
【语种】英文
【第一作者】Zhenqing Hou
【通讯作者】张其清
【期刊名称、卷期、页码】Nanoscale Research Letters. 2009, 4(7), 732-737
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【引文索引类型】SCI
【引文索引号】10.1007/s11671-009-9312-z
【学科分类】药剂学

【题目】Non-spherical racemic polylactide microarchitectures formation via solvent evaporation method
【中文关键词】无
【英文关键词】PDLLA; Non-sphericalmicroarchitectures; Assembly
【中文摘要】无
【英文摘要】Usually, amphiphilic or crystalline structure is necessary to prepare nano- or micro-structured materials with various morphologies. Racemic random polylactide (PDLLA) is completely amorphous in nature and was mainly prepared to be of spherical form for the use of sustained drug release. In this paper, we observed novel lath-, sheaf-like morphologies of PDLLA microarchitectures fabricated by the double emulsion-solventevaporationmethod in the presence of glycerol or epirubicin. These non-sphericalmicroarchitectures coexisted with amorphous PDLLA microspheres and crystallized poly(vinyl alcohol) (PVA) nanoparticles. On the basis of our experiments, the formation of lath-like microarchitectures is due to glycerol, while the formation of sheaf-like microarchitectures is owing to both glycerol and epirubicin. Therefore, novel assemblies of PDLLA have been developed and the formation mechanism is different from those of well-defined amphiphilic or crystalline polymers. These PDLLA non-sphericalmicroarchitectures might have potential application as non-spherical carriers in drug delivery system.
【语种】英文
【第一作者】Zhimin Zhou
【通讯作者】张其清

【期刊名称、卷期、页码】Polymer. 2009, 50(15), 3841-3850
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【引文索引类型】SCI
【引文索引号】10.1016/j.polymer.2009.05.047
【学科分类】生物材料

【题目】多壁碳纳米管活化A549细胞核转录子-κB的机制
【中文关键词】多壁碳纳米管; 氧化应激; 核转录因子-κB
【英文关键词】Multi-walled carbon nanotube; Oxidative stress; Nuclear factor-κB
【中文摘要】探讨多壁碳纳米管对人肺上皮细胞A549核转录因子-κB(NF-κB)活性的影响及其活化机制.不同浓度的多壁碳纳米管作用于A549细胞后,用活性氧(ROS)敏感探针2′,7′-二氯荧光素二乙酸酯结合流式细胞仪检测细胞内氧化应激状态;用凝胶电泳迁移率改变这一分析技术检测A549细胞NF-κB DNA结合活性;用蛋白印迹检测A549细胞NF-κB p65蛋白和IκBα蛋白表达;用免疫荧光结合共聚焦显微镜观察A549细胞NF-κB p65蛋白的核转位情况.结果表明,多壁碳纳米管诱导A549细胞内ROS过量产生和NF-κB DNA结合活性;同时伴有p65蛋白核移位和IκBα蛋白胞浆降解.抗氧化剂N-乙酰半胱氨酸(NAC)可抑制多壁碳纳米管诱导的A549细胞内ROS产生、NF-κB DNA结合活性、p65蛋白核移位以及IκBα蛋白降解.结果表明,多壁碳纳米管可以通过诱导A549细胞氧化应激机制从而活化核转录因子NF-κB活性
【英文摘要】The present study was undertaken to examine the effects of multi-walled carbon nanotubes(MWCNTs) on nuclear factor(NF)-κB activation in human A549 lung epithelial cells. Cultured A549 cells were stimulated with various concentrations of MWCNTs in the presence or absence of antioxidants. The intracellular generation of reactive oxygen species(ROS) was detected by means of flow cytometry analysis with a redox-sensitive fluorescent probe 2′,7′-dichlorfluorescein-diacetate. NF-κB activity was measured by electrophoretic mobility shift assay(EMSA). The protein levels of p65 and IκBα were assessed by Western blot analysis. Translocation of p65 into the nucleus was examined by immunofluorescence confocal microscopy. The results showed increased ROS and NF-κB activity in response to treatment of A549 cells with MWCNTs. MWCNTs stimulated nuclear translocation of the p65 subunit of NF-κB, IκBα phosphorylation in A549 cells. Treatment of A549 cells with antioxidants prior to adding MWCNTs resulted in a significant reduction in ROS generation, NF-κB activity, p65 translocation and IκBα phosphorylation in A549 cells. These results indicate that MWCNTs are able to induce NF-κB activation in A549 cells mediated by oxidative stress.
【语种】中文
【第一作者】叶社房
【通讯作者】张其清
【期刊名称、卷期、页码】CHEMICAL JOURNAL OF CHINESE UNIVERSITIES-CHINESE,2010,497-501
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【引文索引号】0251-0790(2010)03-0497-05
【学科分类】生物材料

【题目】纳米级载药微泡的制备及其超声介导下的抑瘤研究
【中文关键词】超声造影剂; 纳米级微泡; 聚乳酸　　卵磷脂; 紫杉醇
【英文关键词】ultrasound contr ast agent; nano　　sca led bubble; poly lactid acid (PLA)　　lecithin; paclitax el
【中文摘要】具有超声造影剂和药物载体双重功能的聚乳酸(PLA) 微泡存在着载药率较低以及不能有效地透过肿瘤组织等缺点. 对此, 以PLA 和卵磷脂为药物载体, 采用改良的超声复乳法制备载紫杉醇的PLA　　卵磷脂纳米级微泡.考察了卵磷脂对载药微泡理化特性(包括: 形态、粒径、载药量、包封率和体外释药特性) 的影响, 利用X　　射线衍射分析(XRD) 考察了药物在微泡中的状态, 最后在超声介导下对荷瘤小鼠的抑瘤率进行了研究. 结果表明, 卵磷脂与PLA 质量比为50　　250 时可制备得到平均粒径615 nm、内部空心的纳米级微泡, 药物包封率达(90. 90 5. 79)%, 载药率为(8. 260. 53) %, 紫杉醇以无定型状态分布在微泡的壳中. 微泡的体外药物释放具有缓释、零级释放以及超声介导加快药物释放的特性, 而通过对H 22 肝癌荷瘤小鼠的实验研究表明, 相对于紫杉醇针剂而言, 超声介导下载药PLA　　卵磷脂纳米级微泡注射剂能减小对小鼠的毒副作用, 提高抑瘤率.
【英文摘要】Dr ug lo aded PLA micr obubbles t hat combine pr operties of ultr aso und imaging co ntr ast ag ent s and drug carr iers sufferfrom low encapsulatio n efficiency and do no t allow effectiv e ex trav asation into tumor tissue. In this paper, paclitax el　　lo aded PLA　　leci　　thin nano bubbles wer e developed w ith t he method o f modified ultrasonic double emulsion　　so lv ent evapor atio n techno lo gy . The impactof lecithin content o n phy sical and chemical propert ies of drug　　loaded bubbles including

mo rpholog y, par ticle size, dr ug lo ading , encap sulation efficiency and in v itro drug r elease character istics w ere investig ated, encapsulated dr ug state in the bubbles was detected, anddr ug lo aded bubbles combining ultr aso und treatment of H22 tumor bear ed mice w as car ried out. The results show ed that thenanobubbles prepared with t he mass ratio of PLA and lecithin at 250 50 wer e char acter ized to be inner hollow , t he size was aro und615 nm, and the dr ug lo ading and encapsulat ion efficiency reached (8. 26 0. 53)% and (90. 90 5. 79)% r espectiv ely. X r ay diffrac t ion analysis (XRD) show ed paclit axel was amo rpho usly dispersed w ithin the shell of t he nanobubble. The in vitro dr ug r eleaseshow ed r etained, zero or der r elease and ultrasound tr ig ger ed propert ies. Paclitaxel lo aded nanobubbles combining ultr aso und t reat ment o f H22 tumor beared mice pr esented enhanced antitumor r ate and r educed side effects compared w ith the paclit axel injectio n.The results illustrated that the PLA lecithin nano bubbles have gr eat potentia l in tar geted delivery t o tumo r tissue and ultr aso und me diated ant icancer ther apy .

【语种】中文

【第一作者】刘欣欣

【通讯作者】张其清

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【学科分类】药剂学

【题目】ComparisonsontheFunctionalPropertiesandAntioxidant ActivityofSpray-DriedandFreeze-DriedEggWhite ProteinHydrolysate

【中文关键词】Keywords:Eggwhiteproteinhydrolysate . Freeze-drying . Spray-drying . Antioxidant . Functionalproperties

【英文关键词】Keywords:Eggwhiteproteinhydrolysate . Freeze-drying . Spray-drying . Antioxidant . Functionalproperties

【中文摘要】Abstract:Freeze-driedandspray-driedeggwhiteproteinhydrolysates(FD-EWPH,SD-EWPH)preparedbypapainwereevaluatedfortheirproximatecomposition,color,molecularweightdistribution,physicalstructures,functionalproperties,andantioxidantactivity.FD-EWPHandSD-EWPHhadsimilarproximatecompositionandmolecularweightdistribution,buttheyhaddifferentcolorandphysicalstructures.Therewasnosignificantdifference(P>0.05)insolubilityamongeggwhiteproteinhydrolysate(EWPH)beforedrying(UD-EWPH),FD-EWPH,andSD-EWPH.ThefoamingpropertiesofEWPHwereimprovedbyfreeze-dryingbutreducedbyspray-drying(P<0.05).Freeze-dryingdidnotinfluencetheemulsifyingpropertiesofEWPHwhilespray-dryinghadharmfuleffectsonit.Intheantioxidanttest,nosignificantdifferences(P>0.05)in1,1-diphenyl-2-picryl-hydrazylradical-scavengingactivity,reducingpower,andlipidperoxidationinhibitionwasfoundamongUD-EWPH,FD-EWPH,andSD-EWPH.Theresultsindicatedthatspray-dryingmightbesuitabletodryantioxidanthydrolysatesfor itssimple,cost-effective,andtime-savingprocess.Moreover,furthermodelingstudyofoptimizedspray-dryingprocessingparametersisneededinordertominimizetheemulsifyingandfoamingpropertydamage.

【英文摘要】Abstract:Freeze-driedandspray-driedeggwhiteproteinhydrolysates(FD-EWPH,SD-EWPH)preparedbypapainwereevaluatedfortheirproximatecomposition,color,molecularweightdistribution,physicalstructures,functionalproperties,andantioxidantactivity.FD-EWPHandSD-EWPHhadsimilarproximatecompositionandmolecularweightdistribution,buttheyhaddifferentcolorandphysicalstructures.Therewasnosignificantdifference(P>0.05)insolubilityamongeggwhiteproteinhydrolysate(EWPH)beforedrying(UD-EWPH),FD-EWPH,andSD-EWPH.ThefoamingpropertiesofEWPHwereimprovedbyfreeze-dryingbutreducedbyspray-drying(P<0.05).Freeze-dryingdidnotinfluencetheemulsifyingpropertiesofEWPHwhilespray-dryinghadharmfuleffectsonit.Intheantioxidanttest,nosignificantdifferences(P>0.05)in1,1-diphenyl-2-picryl-hydrazylradical-scavengingactivity,reducingpower,andlipidperoxidationinhibitionwasfoundamongUD-EWPH,FD-EWPH,andSD-EWPH.Theresultsindicatedthatspray-dryingmightbesuitabletodryantioxidanthydrolysatesfor itssimple,cost-effective,andtime-savingprocess.Moreover,furthermodelingstudyofoptimizedspray-dryingprocessingparametersisneededinordertominimizetheemulsifyingandfoamingpropertydamage.

【语种】中文

【第一作者】陈晨
【通讯作者】迟玉杰
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【引文索引号】null
【学科分类】食品加工技术

【题目】Influence of Degree of Hydrolysis on Functional Properties, Antioxidant and ACE Inhibitory Activities of Egg White Protein Hydrolysate
【中文关键词】egg white protein hydrolysate, antioxidant,
ACE inhibition, functional property, ultrafiltration
【英文关键词】egg white protein hydrolysate, antioxidant,
ACE inhibition, functional property, ultrafiltration
【中文摘要】Functional properties, antioxidant, and angiotensin-I converting enzyme (ACE) inhibitory activities of eggwhite protein hydrolysate (EWPH) prepared with trypsin atdifferent degree of hydrolysis (DH) were investigated. TheDPPH radical scavenging activity, reducing power, lipidperoxidation inhibitory activity, and ACE inhibitory activityincreased with DH at first and then decreased gradually.Hydrolysates with 12.4% DH had the highest antioxidantand ACE inhibitory activities. As DH increased, thesolubility of EWPH increased while the emulsifying andfoaming properties decreased. The functional properties ofEWPH were also controlled by pH. Ultrafiltration of thehydrolysate with 12.4% DH revealed that the fractions ofmolecular weight lower than 3 kDa exhibited the highestantioxidant and ACE inhibitory activities. The resultsindicated that EWPH with different DH have differentbioactive and functional properties and EWPH by controlledhydrolysis may be useful ingredients in food and nutraceuticalapplications with potential bioactive properties.
【英文摘要】Functional properties, antioxidant, and angiotensin-I converting enzyme (ACE) inhibitory activities of eggwhite protein hydrolysate (EWPH) prepared with trypsin atdifferent degree of hydrolysis (DH) were investigated. TheDPPH radical scavenging activity, reducing power, lipidperoxidation inhibitory activity, and ACE inhibitory activityincreased with DH at first and then decreased gradually.Hydrolysates with 12.4% DH had the highest antioxidantand ACE inhibitory activities. As DH increased, thesolubility of EWPH increased while the emulsifying andfoaming properties decreased. The functional properties ofEWPH were also controlled by pH. Ultrafiltration of thehydrolysate with 12.4% DH revealed that the fractions ofmolecular weight lower than 3 kDa exhibited the highestantioxidant and ACE inhibitory activities. The resultsindicated that EWPH with different DH have differentbioactive and functional properties and EWPH by controlledhydrolysis may be useful ingredients in food and nutraceuticalapplications with potential bioactive properties.
【语种】英文
【第一作者】陈晨
【通讯作者】迟玉杰
【期刊名称、卷期、页码】Food Sci. Biotechnol. 21(1): 27-34 (2012)
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【引文索引号】10.1007/s10068-012-0004-6
【学科分类】食品加工技术

【题目】Kinetics of Hydrolysis of Egg White Protein by Pepsin
【中文关键词】egg white protein; pepsin; enzymatic hydrolysis; kinetics; bioactive peptides
【英文关键词】egg white protein; pepsin; enzymatic hydrolysis; kinetics; bioactive peptides
【中文摘要】Taking into account the enzyme inactivation and substrate inhibition, the bioreaction mechanism and kinetics characteristic of egg white protein (EWP) enzymatic hydrolysis by pepsin were investigated. A logarithmic equation h = (1/b) ln (1 + abt) indicating the relationship between the degree of hydrolysis (DH) and time was established. For EWP-pepsin system, the reaction mechanism could be deduced from a series of experimental results at diferent temperatures, pH values, substrate concentrations, and enzyme concentrations. Te reaction kinetics and thermodynamic constants (KS =

3916.5 g/l, k2 = 17 202.86 min – 1, kd = 21 962.03, Ea = 56.89 kJ/mol, Ed = 51.99 kJ/mol) were responsible for the empirical equations. Te results of nonlinear regression of the proposed kinetic model agreed with the experimental data, i.e. the average relative error was less than 5%. As a conclusion, the kinetic equations can be used to ft the enzymatic hydrolysis process of egg white protein and to optimise the operating parameters of bioactive peptides preparation for the bioreactor design. Taking into account the enzyme inactivation and substrate inhibition, the bioreaction mechanism and kinetics characteristic of egg white protein (EWP) enzymatic hydrolysis by pepsin were investigated. A logarithmic equation h = (1/b) ln (1 + abt) indicating the relationship between the degree of hydrolysis (DH) and time was established. For EWP-pepsin system, the reaction mechanism could be deduced from a series of experimental results at diferent temperatures, pH values, substrate concentrations, and enzyme concentrations. Te reaction kinetics and thermodynamic constants (KS = 3916.5 g/l, k2 = 17 202.86 min – 1, kd = 21 962.03, Ea = 56.89 kJ/mol, Ed = 51.99 kJ/mol) were responsible for the empirical equations. Te results of nonlinear regression of the proposed kinetic model agreed with the experimental data, i.e. the average relative error was less than 5%. As a conclusion, the kinetic equations can be used to ft the enzymatic hydrolysis process of egg white protein and to optimise the operating parameters of bioactive peptides preparation for the bioreactor design.

【英文摘要】Taking into account the enzyme inactivation and substrate inhibition, the bioreaction mechanism and kinetics characteristic of egg white protein (EWP) enzymatic hydrolysis by pepsin were investigated. A logarithmic equation h = (1/b) ln (1 + abt) indicating the relationship between the degree of hydrolysis (DH) and time was established. For EWP-pepsin system, the reaction mechanism could be deduced from a series of experimental results at diferent temperatures, pH values, substrate concentrations, and enzyme concentrations. Te reaction kinetics and thermodynamic constants (KS = 3916.5 g/l, k2 = 17 202.86 min – 1, kd = 21 962.03, Ea = 56.89 kJ/mol, Ed = 51.99 kJ/mol) were responsible for the empirical equations. Te results of nonlinear regression of the proposed kinetic model agreed with the experimental data, i.e. the average relative error was less than 5%. As a conclusion, the kinetic equations can be used to ft the enzymatic hydrolysis process of egg white protein and to optimise the operating parameters of bioactive peptides preparation for the bioreactor design. Taking into account the enzyme inactivation and substrate inhibition, the bioreaction mechanism and kinetics characteristic of egg white protein (EWP) enzymatic hydrolysis by pepsin were investigated. A logarithmic equation h = (1/b) ln (1 + abt) indicating the relationship between the degree of hydrolysis (DH) and time was established. For EWP-pepsin system, the reaction mechanism could be deduced from a series of experimental results at diferent temperatures, pH values, substrate concentrations, and enzyme concentrations. Te reaction kinetics and thermodynamic constants (KS = 3916.5 g/l, k2 = 17 202.86 min – 1, kd = 21 962.03, Ea = 56.89 kJ/mol, Ed = 51.99 kJ/mol) were responsible for the empirical equations. Te results of nonlinear regression of the proposed kinetic model agreed with the experimental data, i.e. the average relative error was less than 5%. As a conclusion, the kinetic equations can be used to ft the enzymatic hydrolysis process of egg white protein and to optimise the operating parameters of bioactive peptides preparation for the bioreactor design.

【语种】英文
【第一作者】阮常青
【通讯作者】迟玉杰
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【学科分类】食品加工技术

【题目】Isolationandidenti fi cationofangiotensin-convertingenzymeinhibitory peptidesfromeggwhiteproteinhydrolysates
【中文关键词】ACE-inhibitoryactivitypeptides;
Eggwhiteprotein;
Tandemmassspectrometry
【英文关键词】ACE-inhibitoryactivitypeptides;
Eggwhiteprotein;
Tandemmassspectrometry
【中文摘要】TheaimofthisstudywastoidentifypotentialangiotensinI-convertingenzyme(ACE)inhibitorypeptidefromeggwhiteprotein.TheproteinwashydrolysedbyAlcalaseandthehydrolysateswereisolatedwithGel fi ltrationtogetthehighactivityfraction.Thefractionwasidenti fi edbyLCtandemmassspectrometric4000QTrapMS.Inthecurrentwork,19peptideswerediscoveredinthefractions, fi veofwhichsourcedfromovotransferrinandweresynthesisedbyFmocsolidphasemethod.ACE-inhibitoryactivitywasmeasuredbyHPLCassay.The50%inhibitoryconcentrationsofArg – Val – Pro – Ser – Leu(RVPSL)was20 lM.BasedonthisremarkableACE-inhibitoryactivity,itissuggestedthatRVPSLmayhavepotentialapplicationsasafunctionalfood,whichcouldbeusedasnutraceuticalcompounds.
【英文摘要】TheaimofthisstudywastoidentifypotentialangiotensinI-convertingenzyme(ACE)inhibitorypeptidefromeggwhiteprotein.TheproteinwashydrolysedbyAlcalaseandthehydrolysateswereisolatedwithGel fi ltrationtogetthehighactivityfraction.Thefractionwasidenti fi edbyLCtandemmassspectrometric4000QTrapMS.Inthecurrentwork,19peptideswerediscoveredinthefractions, fi veofwhichsourcedfromovotransferrinandweresynthesisedbyFmocsolidphasemethod.ACE-inhibitoryactivitywasmeasuredbyHPLCassay.The50%inhibitoryconcentrationsofArg – Val – Pro – Ser – Leu(RVPSL)was20 lM.BasedonthisremarkableACE-inhibitoryactivity,itissuggestedthatRVPSLmayhavepotentialapplicationsasafunctionalfood,whichcouldbeusedasnutraceuticalcompounds.
【语种】英文
【第一作者】刘静波
【通讯作者】于志鹏
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【题目】酪蛋白源ACE抑制肽的评价方法和研究进展
【中文关键词】酪蛋白,ACE,ACE抑制肽
【英文关键词】bovine casein,angiotensin converting enzyme,ACE-inhibitory peptides
【中文摘要】血管紧张素转化酶在血压调节方面起着重要作用。近年来,ACE抑制肽已成为生物活性肽研究领域的热点。文章综述了ACE 抑制肽的作用机制、评价方法和酪蛋白源ACE抑制肽的国内外研究进展。
【英文摘要】Angiotensin converting enzyme plays an important physiologic role in the blood pressure regulation. In the recent years,antihypertensive peptides have been the hotspot in the physiologicl bioactive peptides.The effective principle ,estimate method and research progress in ACE-inhibitory peptides from bevine casein at home and abroad were reviewed.
【语种】中文
【第一作者】申晓文
【通讯作者】牟光庆
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【题目】蛋清蛋白酶解物抗氧化与血管紧张素转换酶抑制活性的研究
【中文关键词】蛋清蛋白酶解物;抗氧化;ACE;超滤
【英文关键词】egg white protein hydrolysates; antioxidant; ACE; ultrafiltration
【中文摘要】目的 研究三种蛋白酶的蛋清蛋白酶解物(EWPH)的抗氧化及血管紧张素转换酶(ACE)抑制活性。方法 分别采用Fenton 体系、邻苯三酚自氧化体系和亚油酸自氧化体系测定胰蛋白酶、木瓜蛋白酶及alcalase碱性蛋白酶的EWPH清除羟自由基、超氧阴离子及抑制脂质过氧化的能力。利用高效液相色谱法测定ACE抑制活性。超滤分离上述三种蛋白酶的EWPH,检测各组分的抗氧化和ACE抑制活性。结果 抗氧化活性最强的是木瓜蛋白酶的EWPH,在浓度10mg/ml时,对羟自由基和超氧阴离子清除率分别为53.14%和27.87%,在浓度0.8mg/ml时,对亚油酸自氧化的抑制率73.72%(D7) 。ACE抑制效果最明显的是胰蛋白酶的EWPH,其IC50 值为0.985mg/ml。低分子量(Mw<3ku)组分酶解物的活性优于高分子量(Mw>3ku)组分。结论 三种蛋白酶的EWPHs均具有抗氧化和ACE抑制活性,但两种活性之间无明显的相关,且小分子组分的活性最强。
【英文摘要】Objective To find the impact of proteases and molecular weight on the antioxidant and angiotensin-I converting enzyne(ACE) inhibitory activities of egg white protein hydrolysates (EWPH). Method The hydroxyl radical, superoxide anion scavenging activities and lipid peroxidation inhibition of EWPH produced by trypsin, papain and alcalase were detected by the methods related to Fenton system, pyrogallol autoxidation, and linoleic acid emulsion system. The ACE inhibitory activity of EWPHs was measured by HPLC. Ultrafiltration was used to separate EWPHs and the antioxidant and ACE inhibitory activities of each fraction were measured. Results The EWPHs prepared by papain exhibited the highest antioxidant activity, The values of hydroxyl radical and superoxide radical scavenging activities were 53.14% and 27.87% at the concentration 10 mg/ml respectively. The percentages of inhibition of lipid peroxidation was 73.72% at the concentration 0.8mg/ml on D 7. The EWPHs of trypsin had much higher ACE inhibitory activity with IC50 0.985mg/ml. The fractions of low molecular weight owned the strongest antioxidant and ACE inhibitory activities. Conclusion EWPHs produced by these three proteases possessed the antioxidant and ACE inhibitory properties, but the two activities were not apparently related. Moreover, the antioxidant and ACE-inhibitory activities of EWPHs may be associated with its low molecular weight.
【语种】中文
【第一作者】张瑞东
【通讯作者】迟玉杰
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【题目】蛋清蛋白水解物体内抗氧化作用的实验研究
【中文关键词】蛋清蛋白;肽;抗氧化;MDA;GSH-PX;HYP
【英文关键词】albumen;peptide;antioxidant activity;malondialdehyde (MDA);glutathione peroxidase (GSH-PX);hydroxyproline (HYP)
【中文摘要】重点开展蛋清蛋白水解物体内抗氧化作用的实验研究,对比分析了2种蛋清蛋白水解物对受试30d小鼠的皮肤羟脯氨酸含量(HYP)、血清微量丙二醛(MDA)含量、血清谷胱甘肽过氧化物酶(GSH-PX)活性等指标的影响情况。结果表明:与灌胃蒸馏水的空白对照组比,蛋清蛋白水解物Ⅰ即5%浓度蛋清高F值寡肽能够提高受试小鼠血清中GAH-PX活性(p>0.05);能够显著提高受试小鼠皮肤中羟脯氨酸含量(p<0.01);能够显著降低(p<0.01)受试小鼠血清中MDA含量;能够显著提高受试小鼠免疫器官——脾脏的脏器系数(p<0.05),具有一定的抗氧化功效。
【英文摘要】Our aim was to study the antioxidant activity of egg white protein hydrolysate in vivo. The activity ofglutathione peroxidase (GSH-PX), the content of malondialdehyde (MDA) in mice blood serum and the content ofhydroxyproline (HYP) in skin of mice were determined to analysis the difference of antioxidant activity betweentwo kinds of egg white protein hydrolysates. The results showed that egg white protein hydrolysate Ⅰ which was 5%concentration of high Fisher ratio oligopeptide derived from egg white protein could promote the activity of GSH-PX(p>0.05), increase the content of hydroxyproline (HYP), decrease the content of malondialdehyde (MDA) inmice blood serum significantly(p<0.01)and increase the organ coefficient of spleen(p<0.05)which is the immuneorgan compared to the control group which mean it possessed the antioxidant activity.

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【通讯作者】林松毅
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【题目】蛋清蛋白肽体外血管紧张素转化酶 抑制活性及其消化稳定性
【中文关键词】蛋清蛋白肽;超滤;血管紧张素转化酶;氨基酸组成;胃肠道消化
【英文关键词】egg white-derived peptides; ACE; amino acid composition; gastrointestinal digestion
【中文摘要】目的 研究蛋清蛋白肽体外血管紧张素转化酶(ACE)抑制活性以及耐胃肠道消化稳定性。方法 采用超滤分离蛋清蛋白酶解产物;利用高效液相色谱法测定蛋白酶水解物及其超滤各组分的体外ACE抑制活性。氨基酸自动分析仪测定ACE抑制活性较高组分 (EWPH-III) 的氨基酸组成。 体外模拟胃肠道消化试验测定EWPH-III的消化稳定性。RP-HPLC法分析消化产物的组成变化。结果 蛋清蛋白水解物的ACE抑制活性随着分子量的降低而增强(P<0.05) ,分子量小于3ku组分(EWPH-III)的ACE抑制效果最好,其IC50 值为0.049 mg/ml。EWPH-III中疏水性氨基酸和必需氨基酸总量分别为49.51%和50.26%。经过胃肠道消化作用后,EWPH-III的ACE抑制活性有所降低,消化产物的RP-HPLC分析结果显示EWPH-III中多肽组分发生了明显的变化,胰酶消化产物中疏水性较强的多肽组分含量有所减少。结论 蛋清蛋白肽具有较强的ACE抑制活性并且具有很高的营养价值,其ACE抑制活性随着阶段性的胃肠道消化而发生改变。
【英文摘要】【Abstract】Objective To investigate the angiotensin I-converting enzyme (ACE) inhibitory activity of egg white-derived peptides and the impact of simulated gastrointestinal digestion on their stability in vitro. Method The egg white protein hydrolysate (EWPH) was separated by ultrafiltration. The ACE inhibitory activity of EWPH was measured by HPLC. Amino acid compositions of the most active compounds (EWPH-III) were detected by the automatic amino acid analyzer. In vitro simulated gastrointestinal digestion was carried out to study the stability of EWPH-III and the changes of composition were analyzed by RP-HPLC. Results EWPH showed significant decrease (P<0.05) in ACE inhibitory activity with an increase in molecular weight (MW) of fractions values. The fractions with MW <3000u (EWPH-III) exhibited the highest ACE inhibitory activity with IC50 values of 0.049 mg/ml. The total hydrophobic amino acids and essential amino acid contents were 49.51% and 50.26% respectively. After the simulated gastrointestinal digestion, the ACE inhibitory activity of EWPH-III decreased and the hydrophobic components of EWPH-III almost disappeared. Conclusion Egg white-derived peptides possessed potent ACE inhibitory activity and high nutritional value. The ACE inhibitory activity could be changed after the gastrointestinal digestion in vitro. [ACTA NUTRIMENTA SINICA, 2012,34(3):274-271,281]
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【第一作者】陈晨
【通讯作者】迟玉杰
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【题目】分子生物学技术在产甲烷古菌研究中的应用
【中文关键词】产甲烷古菌;基因克隆;DGGE;TGGE;FISH
【英文关键词】:Methanoarchaea;gene cloning;denaturing gradient gel electrophoresis(DGGE);temperature gradient gel electrophoresis(TGGE);floresc
【中文摘要】摘 要: 鉴于产甲烷古菌在环境和能源两大方面的特殊作用, 对它的研究一直是微生物学研究的焦点之一。现代 分子生物学技术的发展与应用, 进一步推动了对产甲烷古菌的研究。本文将综述产甲烷古菌基因克隆研究进展以 及几项有代表性的分子生物学技术在产甲烷古菌研究中的应用。

【英文摘要】:In view of the fact that the Methanoarchaea has the special functions in the environment and energy aspect,its research has been one of focal points of microbiology research .The modern molecular biology technology~development and the applications further impeUed Methanoarchaea research.This article summarized research development of gene cloning of Methanoarchaea,as well as several representative molecular biology techniques applied in the Methanoarchaea research Key words:Methanoarchaea;gene cloning;denaturing gradient gel electrophoresis(DGGE);temperature gradient gel e-lectrophoresis(TGGE);florescence in situ hybridization(r]SH)
【语种】中文
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【题目】中温木质纤维素降解复合菌系BYND-8的筛选及其培养条件优化
【中文关键词】复合菌系;木质纤维素分解;培养条件;二次通用旋转组合设计
【英文关键词】microbial community; lignocellulose degradation; cultural conditions; universal quadratic rotation combination
【中文摘要】利用限制性培养技术,从沼液中筛选出1组木质纤维素降解复合菌系 采用木质纤维素失重法,对复合菌系的培养条件进行研究 单因素试验结果表明,稻秆经碱液浸泡后降解率最高,最佳氮源为蛋白胨+酵母浸粉+硝酸铵的复合氮源 采用五因素二次通用旋转组合设计进行培养条件的优化组合试验及分析,建立了碳源添加量 氮源添加量 pH 温度 接种量与秸秆降解率间的数学模型,确定最佳的碳 氮源添加量和培养条件为:稻秆 3.0 g L-1蛋白胨 4.0 g L-1酵母浸粉 0.8 g L-1硝酸铵1.2 g L-1,初始 pH7.5 8.0,接种量 7% (体积比),培养温度30 ,在此条件下,稻秆的降解率可达到64.98%
【英文摘要】A microbial community with capacity of degrading lignocellulose effectively was enriched from biogas slurry by the methodof limited cultivation. The effect of cultural conditions on the capability of lignocellulose degradation was investigated with gravimetry of rice straw. The results of single factor design indicated that the rice straw degradation ratio was the highest under the condition of pretreatment with sodium hydroxide among all pretreatments. The percentage of straw degradation was the highest by using peptone,yeast powder and ammonium nitrate as multiple nitrogen source. The five factors design of universal quadratic rotation combination was used to optimize cultural conditions. A mathematical model of the relation among carbon source, nitrogen source, pH,temperature, quantity of inoculation and percentage of straw degradation was established. The optimum cultural conditions were straw 3.0 g L-1 of carbon source, peptone 4.0 g L-1 plus yeast powder 0.8 g L-1 plus ammonium nitrate 1.2 g L-1 of nitrogen source, the pH value 7.5 to 8.0, 7% (v/v) of inoculation quantity and at 30 , respectively. The percentage of straw degradation was up to 64.98% under above conditions.
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【题目】厌氧蛋白质氨化细菌筛选及对酸化液pH的影响
【中文关键词】厌氧蛋白质氨化细菌;氨态氮产生量;酸化液
【英文关键词】anaerobic protein-ammonifying bacteria; ammonia-N production; acidizing fluid
【中文摘要】将筛选的5株R/r大于3,酶活力200 300 U mL-1,氨态氮产生量大于100 mg L-1,且适宜在起始pH 5.0 6.0 35下生长的厌氧蛋白质氨化细菌应用于pH 5.5的酸化液 其中产低温酸性蛋白酶的k3B37和产低温偏酸性蛋白酶m1B94菌株,生物量为0.315和0.643时产酶活性达到302.2 271.7 U mL-1;使酸化液氨态氮含量分别提高了373.47 302.89 mg L-1,从而将酸

化液pH调至7.29 7.03,为产甲烷菌创造适宜生长 产气条件

【英文摘要】Five anaerobic protei n-ammonifying bacterias were isolated. The strains could produce larger hydrolysis cycles with R/r more than 3, their high enzymes activity reached 200 -300 U mL -1, ammonia -N production were higher than 100 mg L-1, and grew well in initial pH 5.0-6.0, temperature 35 . The islationswere applied at pH 5.5 acidizing fluid. The results showed that biomass of k3B37 produced low temperature acid protease and m1B94 produced low temperature partial acid protease were respectively 0.315, 0.643. Their enzyme activities reached 302.2 and 271.7 U mL -1. The strains made the contents of nitrogen ammunia increased by 373.47, 302.89 mg L-1 of acidizing fluid. Consequently, pH of acidizing fluid were adjusted to 7.29 and 7.03, respectively, the condition was suitable for growth and producing gas of methanogen.

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【题目】高效木质纤维素分解菌复合系的发酵特性

【中文关键词】木质纤维素分解菌;复合菌系;分批发酵;分批补料发酵;

【英文关键词】lignocellulose degradation bacteria; compos ite bacteria sys tem; batch fermentation; fed-batch fermentation; pH

【中文摘要】试验以稻草为唯一碳源,50 静置培养,通过批次发酵和批次补料发酵的培养方式,对复合菌系的pH 溶解氧浓度(DO) 分解效率和发酵产物组成进行了研究 结果表明,批次发酵时,pH 由初始值 8.59 降为6.03 后回升,10 d 后稳定在 8.0 左右;培养 1 d 的 DO 值由初始的 4.34 mg L-1迅速下降到 0.22 mg L-1,此后一直维持在 0.07 0.10 mg L-1的范围内;发酵 3 d 时稻草的分解率达到 42.5%,随着发酵的进行,稻草分解速率显示逐渐降低的趋势;主要液相末端产物是挥发性脂肪酸(VFA),其中乙酸质量浓度占总 VFA 质量浓度的 90%以上 连续补料发酵时,每次添加稻草 24 h 后 pH 降到最低, 乙酸的含量也达到最大值,随后逐渐升高直到下一次添加稻草;而发酵体系内的 DO 值的变化与批次加料发酵相似

【英文摘要】To research the pH and dis solved oxygen concentration(DO) value, degradation ratio, pro-ducts from degradation of fermentation sys tem of an efficient microbial sys tem with cellulose degradation bacteria, we cultured them in the media used rice s traw as the limiting carbon source by means of batch fermentation and fed-batch fermentation under s tatic condition at 50 . The results showed that when the sys tems were cultivated by means of batch fermentation, the pH of fermentation sys tem decreased from initial 8.59 to 6.03, and after 10 d cultivation, it increased to 8.0 and was s table. The DO value was decreased from initial 4.34 to 0.22 mg L-1 within firs t day inoculation. Then the value was maintained at range of 0.07 to 0.1 mg L-1. The degradation ratio of rice s traw was 42.5% at the third day. Then the ratio decreased gradually. The main liquid phase products were volatile fatty acid (VFA). Over 90% VFA was acetic acid. Every time we had added rice s traw, the pH value decreased minimum and the content of acetic acid increased maximum after 24 h. Then the pH value had increased gradually until we added rices traw next time. The rule of DO changed as same as that of batch fermentation.

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【题目】不同高径比反应器对厌氧发酵产气特性的影响

【中文关键词】高径比;反应器;厌氧发酵;产气特性

【英文关键词】H/D; reactor; anaerobic fermentation; biogas production

【中文摘要】圆柱形反应器的 H/D (高径比)是影响厌氧发酵效率的一个重要因素,为此研究了在发酵液浓度 接种量一定的情况下,对H/D为2.18 4.66 5.00 6.66四种不同高径比反应器对 COD (Chemical oxygen demand)去除率 容积气率及平均容积产气率的影响 结果表明, H/D为 2.18 的反应器COD去除率最大,容积产气率 平均容积产气率也大
【英文摘要】The ratio of height to diameter (H/D)of cylindrical reactor is an important factor to improve the efficiency of anaerobic fermentation. In this paper, the effect of four reactors with H/D of 2.18, 4.66, 5.00 and 6.66 on removal of chemical oxygen demand (COD), biogas production rate per volume and the average biogas production rate per volume was studied. It is shown that the reactor with H/D of 2.18 is optimal, with highest removal of COD and average biogas production rate per volume.
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【第一作者】张波
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【题目】低温条件下的甲烷生成与嗜冷产甲烷古菌
【中文关键词】低温; 嗜冷厌氧消化; 甲烷产生; 嗜冷产甲烷古菌
【英文关键词】lo w- te mperture ; psychrophilic anerob ic d i gesti on ; m ethanogenesis ; psychroph ili c m et hanogens
【中文摘要】综述了低温条件下的甲烷生成,包括自然界低温环境甲烷的形成和低温厌氧消化器中甲烷的形成。同时阐述了嗜产甲烷古菌的分离、 适冷机制及分子生物学研究进展。
【英文摘要】The arti c le summ arizes m e t hanogenesis under lo w- te m perature conditions , inc l udi ng m ethanogenesis in na t ura l co l d env ironments and in artificial anaerob ic digeste r s by psychroph ilicm ethanog en . The i so lati on o f psychrophili cm e t hano -gens , the m echan is m s of co l d adaptation , and the m olecu lar b i o l ogy , were a lso discussed .
【语种】中文
【第一作者】袁 敏
【通讯作者】胡国全
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【学科分类】农学其他学科

【题目】沼气高产菌群保藏条件的比较
【中文关键词】沼气; 菌群;保藏方法
【英文关键词】biogas; flora; preserved condition
【中文摘要】目的: 利用不同方法对沼气高产菌群进行保藏,比较各方法不同时间的保藏效果。方法:应用液体低温冷藏法、 液石蜡封存法、 液氮冷冻保藏法和低温冷冻干燥保藏法保藏的菌种, 分别在保藏后 1 个月、 3 个月、 6 个月及 1 年复苏菌种, 测定其产气速度、 产气量。结果: 以上几种方法均能够保证所保藏菌群在 1 个月内得到复苏并产气,低冷冻干燥法及液氮冷冻法保藏沼气产生菌菌群可达 1年以上, 产气速度、 产气量较为理想,优于液体低温冷藏法及液体石蜡法。
【英文摘要】Object ive: Compared different preservation methods of biogas yield flora. Method: Liquid low- temperature freezing method, paraff inwax preservation, liquid ni trogen freezing preservation and the low- temperature freeze- drying preservation preserved strains were tested. After one mon th, three months, six months and one year the recovery gas production were compared. Result : Those methods were more than able to guarantee the flora preserved withi n one month. Low- temperature freeze- drying method and liquid nitrogen freezing p reservation of biogas flora can last for up to one year, gas production rate and gas producing per formance is much better than those of the previous methods.
【语种】中文
【第一作者】沙长青
【通讯作者】沙长青

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【学科分类】农学其他学科

【题目】一株分离自高海拔土壤的梭菌的鉴定及代谢产物
【中文关键词】象牙海岸梭菌; 鉴定; 对甲苯磺酸盐
【英文关键词】Clostridium lituseburens; identification; p- toluene sulfonate
【中文摘要】目的 了解土壤环境中细菌的生理生化特性及代谢产物 方法 采用厌氧操作技术从西藏纳木错分离到一株厌氧梭状芽孢杆菌 P4- 1 采用生理生化鉴定结合 16S rDNA 序列的系统发育学分析确定该菌株的系统发育地位, 用气相色谱分析其代谢产物 结果 菌株 P4- 1 为严格厌氧革兰氏阳性菌, 菌体大小为0. 3 m × 1 m - 3 m, 单生或成对生长, 产生芽孢 生长温度范围是 13 - 40℃(最适温度 37℃) ;NaCl 浓度0% - 5% (最适为 0. 5% - 1%) ;pH 范围 5. 0 - 10. 0 (最适生长 pH 为 7. 5 - 8. 0) 能够利用葡萄糖 密二糖 甘露糖醇等多种碳水化合物, 发酵葡萄糖的产物是乙酸, 丙酸, 丁酸, CO2 , H2 菌株 P4- 1 的(G + C)mol%含为 30. 9%, 与 Clostridium lituseburense DSM 797(M59107)的相似性达 98. 7% 菌株 P4- 1 能够降解对甲苯磺酸盐, 并且在有酵母粉的情况下能明显提高其降解能力 结论 菌株 P4- 1 是从土壤中分离出的一株耐低温, 耐盐的厌氧菌, 其发酵葡萄糖产生的代谢产物有利于改善土壤中的微环境, 而且能够降解对甲苯磺酸盐, 在废水处理中有重要意义
【英文摘要】[Objective]We studied the physiological,biochemical properties and metabolism of Clostridium lituseburenseP4- 1 from soil in Namucuo. [Methods]We adopted Hungate anaerobic technique to get Strain P4- 1 from soil inNamucuo. Through physiological,biochemical and phylogenetic analysis,we identified the strain P4- 1. [Results]Cellswere Gram- positive and spore-forming. It grew between 13 and 40℃ (optimum at 37℃),between pH value 5. 0 and10. 0 (optimum at 7. 5 - 8. 0),and with the presence of NaCl between 0% - 5% . Strain P4- 1 could metabolize manycarbon sources including glucose,melibiose and mannitol. Metabolites of glucose were acetate,butyrate,propionate,CO2 ,and little H2 . Based on 16S rDNA studies,strain P4- 1 was most close to Clostridium lituseburense DSM 797(M59107) with 98. 7% similarity. Strain P4- 1 could degrade p- toluene sulfonate. [Conclusion]Strain P4- 1 toleratedlow temperature,salt and could degrade p- toluene sulfonate. Its metabolites produced by fermentation of glucose couldimprove the soil micro- environment. It was significant for strain P4- 1 to be utilized in the wastewater treatment.
【语种】中文
【第一作者】刘全全
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【题目】蛋清蛋白源血管紧张素转化酶抑制肽研究进展
【中文关键词】蛋清蛋白;血管紧张素转化酶抑制肽;制备;降压活性;动力学;结构修饰
【英文关键词】Key words:egg white proteins;ACE inhibitory peptides;preparation;kinetics;antihypertensive activity; structural modification
【中文摘要】在分析蛋清蛋白的组成及酶解性质的基础上,综述了国外蛋清血管紧张素转化酶抑制肽来源、制备方法、降压活性、酶解动力学、结构修饰和包埋技术的研究现状,并对其在食品、医药领域研究和应用的方向进行了展望。以期为我国蛋清蛋白降压肽的研究与开发提供参考。
【英文摘要】:Egg proteins are an excellent source of biofunctional peptides which inhibit angiotensin I converting enzyme (ACE)in the cardiovascular system can contribute to the prevention and treatment of hypertension. These ACE inhibitory peptides arederived from many food proteins, especially egg white proteins. This paper reviewed the recent research progresses onpreparation methods, antihypertensive activity, enzymolysis kinetics, structural modification and embedding techniques ofACE inhibitory peptides from egg white proteins, as well as future study and application directs in food and medicine fields,hoping to provide some references for the study and development of egg white protein

【语种】中文
【第一作者】阮长青
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【题目】蛋清的蛋白酶解物清除自由基能力的研究
【中文关键词】蛋清蛋白酶解物;水解度;羟自由基;超氧阴离子
【英文关键词】hydrolysates of egg white protein; degree of hydrolysis; hydroxyl radical; superoxide radical
【中文摘要】的 研究胃蛋白酶、胰蛋白酶、木瓜蛋白酶、中性蛋白酶及Alcalase碱性蛋白酶对蛋清蛋白的水解效果以及其酶解物对自由基的清除能力。方法 采用茚三酮法分析五种蛋白酶对蛋清蛋白的水解效果;通过Fenton 体系和邻苯三酚自氧化体系测定五种蛋白酶水解产物对羟自由基及超氧阴离子的清除能力。结果 五种蛋白酶在其最适反应条件下,水解度大小依次为:alcalase碱性蛋白酶>胰蛋白酶>木瓜蛋白酶>中性蛋白酶>胃蛋白酶;羟自由基清除能力强弱依次为:木瓜蛋白酶>alcalase碱性蛋白酶>胰蛋白酶>中性蛋白酶>胃蛋白酶;超氧阴离子清除能力强弱依次为:木瓜蛋白酶>alcalase碱性蛋白酶>中性蛋白酶>胃蛋白酶>胰蛋白酶。木瓜蛋白酶水解3h的产物对两种自由基清除能力最强,对羟自由基的清除率为65.63%,对超氧阴离子的清除率为38.40%。结论 蛋清的蛋白酶解物具有清除羟自由基及超氧阴离子的能力,且对羟自由基的清除能力大于超氧阴离子。
【英文摘要】Objective To determine the degree of hydrolysis (DH) and free radical scavenging activity of the hydrolysates of egg white protein (EWPHs) with pepsin, trypsin, papain, neutrase and Alcalase. Method The degree of hydrolysis of EWPH was measured by ninhydrin colorimetric method. The hydroxyl radical and superoxide anion scavenging activity was detected by the methods related to pyrogallol autoxidation and Fenton system. Results Under the optimal conditions the sequence of enzyme hydrolysis capacity was: alcalase>typsin>papain>neutrase>pepsin. The order of hydroxyl radical scavenging activity was: papain>alcalase>trypsin>neutrase>pepsin and the order of superoxide radical scavenging activity was: papain>alcalase>neutrase>pepsin>trypsin. The EWPHs with papain for 3h displayed the strongest radical scavenging activity. The values of hydroxyl radical and superoxide free radical scavenging activity were 65.63% and 38.40% respectively. Conclusion EWPHs exhibited free radical scavenging activity and the activity of scavenging hydroxyl radical were stronger than superoxide radical.
【语种】中文
【第一作者】陈晨
【通讯作者】迟玉杰
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【学科分类】食品加工技术

【题目】Effect of Trans10, cis12-conjugated linoleic acid on glucose consumption of insulin resistance chang liver cells
【中文关键词】conjugated linoleic acid ,insulin resistance ,t10, c12-CLA
【英文关键词】conjugated linoleic acid ,insulin resistance ,t10, c12-CLA
【中文摘要】The effect of conjugated linoleic acid (CLA) on insulin resistance (IR) was isomer specific. In the present study, we induced IR Chang liver cells by incubating cells with 100 nmol/L insulin for 24 h. Then the effect of trans10, cis12-conjugated linoleic acid (t10, c12-CLA) and cis9, trans11-conjugated linoleic acid (c9, t11-CLA) on IR cells were studied. 1 μmol/L, 2 μmol/L, 5 μmol/L and 10 μmol/L t10, c12-CLA, but not c9, t11-CLA were found to enhance glucose consumption of IR cells in a dose-dependent way. 2 μmol/L t10, c12-CLA for 12 h incubation significantly improved glucose consumption of IR cells and increased phospho-protein kinase B (p-PKB/p-Akt) protein level. The enhancement of glucose consumption of IR cells by t10, c12-CLA and the level of p-Akt was strongly inhibited by phosphatidylinositol 3-kinase (PI3K) inhibitor LY294002, indicating that PI3K/Akt insulin signaling pathway may be involved in the beneficial effect of t10, c12-CLA on alleviating IR.

【英文摘要】The effect of conjugated linoleic acid (CLA) on insulin resistance (IR) was isomer specific. In the present study, we induced IR Chang liver cells by incubating cells with 100 nmol/L insulin for 24 h. Then the effect of trans10, cis12-conjugated linoleic acid (t10, c12-CLA) and cis9, trans11-conjugated linoleic acid (c9, t11-CLA) on IR cells were studied. 1 μmol/L, 2 μmol/L, 5 μmol/L and 10 μmol/L t10, c12-CLA, but not c9, t11-CLA were found to enhance glucose consumption of IR cells in a dose-dependent way. 2 μmol/L t10, c12-CLA for 12 h incubation significantly improved glucose consumption of IR cells and increased phospho-protein kinase B (p-PKB/p-Akt) protein level. The enhancement of glucose consumption of IR cells by t10, c12-CLA and the level of p-Akt was strongly inhibited by phosphatidylinositol 3-kinase (PI3K) inhibitor LY294002, indicating that PI3K/Akt insulin signaling pathway may be involved in the beneficial effect of t10, c12-CLA on alleviating IR.
【语种】英文
【第一作者】CHENGCHENG LI
【通讯作者】CHENGCHENG LI
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【学科分类】食品科学技术基础学科

【题目】蛋清肽酶解工艺及血管紧张素转化酶抑制活性研究*
【中文关键词】蛋清;ACE抑制肽;酶解;优化;纯化;鉴定
【英文关键词】Egg white protein, ACE-inhibitory peptides, Enzymatic hydrolysis, Optimization, Purification, Characterization
【中文摘要】采用酶法制备蛋清肽,色谱纯化ACE抑制活性组分并鉴定其一级结构。通过考察底物质量分数、加酶量、酶解温度和pH值对水解度的影响,结合多元线性回归设计和二次回归正交组合设计建立蛋清ACE抑制肽酶解工艺模型,并经液相色谱串联质谱鉴定其一级结构。结果表明:最佳酶解工艺为底物质量分数8%、pH值10·73、加酶量12·14%及酶解温度56·80℃,酶解物纯化后半抑制质量浓度为0·18 mg/mL。液相色谱串联质谱鉴定高活性组分中3种活性肽一级结构,氨基酸序列分别为Arg-Val-Pro-Ser-Leu-Met、Thr-Pro-Ser-Pro-Arg和Asp-Leu-Gln-Gly-Lys。
【英文摘要】Antihypertensive peptideswere derived from egg white, and then were purified and their primarystructurewas identified. Eggwhite hydrolysis processmodelwas established by examining the substrateconcentration, E/S, hydrolysis temperature and pH value on the impact of the hydrolysis degree,combinedwith multivariate linear regression combination of design and quadratic regression orthogonaldesign. Hydrolysates were purified by gel chromatography, and were characterized by liquidchromatography tandem mass spectrometry. The results showed that the optimal enzymatic hydrolysisprocesswas the substrate concentration of8%, pH value of10·73, E/S of12·14% and temperature of56·80℃. Hydrolysates were purified by sephadex G - 25, the 50% inhibitory concentration as0·18mg/mL. Liquid chromatography-quadrupole-linear ion trap tandem mass spectrometry confirmed thestructure of the active peptides in the componen,t the amino acid sequenceswere Arg-Val-Pro-Ser-Leu-Me,t Thr-Pro-Ser-Pro-Arg, andAsp-Leu-Gln-Gly-Lys, respectively.
【语种】中文
【第一作者】刘静波
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【学科分类】食品加工技术

【题目】酶解蛋清蛋白制备ACE抑制肽的工艺研究
【中文关键词】蛋清蛋白;酶解工艺;A C E 抑制肽;响应面法;胰蛋白酶
【英文关键词】egg white protein;enzymatic hydrolysis;ACE inhibitory peptides;response surface methodology;trypsin
【中文摘要】:为获取酶解蛋清蛋白制备血管紧张素转化酶(ACE)抑制肽的工艺参数,研究4 种蛋白酶酶解蛋清蛋白所得产物对ACE 的抑制活性,筛选出胰蛋白酶作为制备蛋清蛋白ACE 抑制肽的适宜用酶。运用响应曲面法研究酶解时间、底物浓度([S])和酶与底物质量比([E]/[S])对制备ACE抑制肽工艺的影响,建立以上3因素与ACE抑制率关系的数学模型。结果确

定胰蛋白酶酶解蛋清蛋白制备ACE 抑制肽的适宜酶解条件为酶解时间4.87h、 [S] 3.06%、 [E]/[S]2.91%、酶解温度45℃、pH7.4,此条件下制备的蛋清蛋白酶解产物ACE 抑制率达到50.73%。

【英文摘要】:In order to develop an enzymatic hydrolysis procedure for the preparation of egg white protein derived angiotensinconverting enzyme (ACE) inhibitory peptides, 4 proteases were used to hydrolyze egg white protein alone, and trypsin was theselected enzyme due to the largest ACE inhibitory ratio of hydrolyzed egg white protein. In order to optimize 3 parameters(namely hydrolysis time, substrate concentration and enzyme-to-substrate ratio) affecting the trypsin hydrolysis of egg whiteprotein, central composite design was employed to establish a mathematical regression model for the ACE inhibitory ratio ofhydrolyzed egg white protein with respect to the parameters, followed by employing response surface methodology (RSM) toinvestigate the interactive effects among the independent variables on the function. The results showed that the optimum valuesof the independent variables were found to be: hydrolysis time 4.87 h, substrate concentration 3.06% and enzyme-to-substrateratio 2.91% and that the corresponding value of the function was 50.73%.

【语种】中文

【第一作者】张瑞东

【通讯作者】迟玉杰

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【学科分类】食品加工技术

【题目】乳源血管紧张素转移酶抑制肽在乳酸乳球菌中的表达

【中文关键词】乳源血管紧张素转移酶抑制肽, 乳酸乳球菌, 表达

【英文关键词】microcapsule, coacervation, orange oi,lmorphology, release

【中文摘要】在乳酸乳球菌中表达乳源血管紧张素转移酶抑制肽。选取了4种不同的来源于牛酪蛋白的血管紧张素转移酶(ACE) 抑制肽, 为了确保能够在人体消化液作用下正常发挥它们的ACE 抑制活性, 4种短肽以串联多肽(TP)的形式进行表达, 并在各短肽单体间引入了人体内主要消化酶的酶切位点。根据TP的氨基酸序列和乳酸乳球菌的偏爱密码子, 人工合成TP基因。然后将TP基因和绿色荧光蛋白(GFP)基因串联于载体pSEC E7,从而构建了pSEC TP: GFP质粒, 实现了2种蛋白在乳酸乳球菌中的共表达。经电击转化, 将该重组质粒转入乳酸乳球菌NZ9000中, 获得重组菌株NZ9000(pSEC TP: GFP)。用N isin诱导TP: GFP蛋白表达。RT PCR、激光共聚焦扫描显微镜和SDS PAGE 鉴定表达产物。RT PCR 结果表明, TP: GFP蛋白在RNA 水平表达成功; SDS PAGE表明目标产物是35 ku的条带。在乳酸乳球菌中实现了乳源血管紧张素转移酶抑制肽的表达。

【英文摘要】Themorphology changes during preparing process of coacervatem icrocapsules was mainly investigated in the paper. Furthermore, the effect of morphology and loading of microcapsules on the release was extensively discussed. The experimental results showed that when wallmaterial concentration was not more than 1% , coacervatem icrocapsules remained spherical andmu ltinuclear structure during the whole preparing process. However, the microcapsu les accumu lated during concention and gelation process made the morphology of microcapsules turn irregular. Compared with loading, the effect of morphology of microcapsules on orange oil releasew asmoresign ifican.t O vera l,l with excellent controlled release characteristics of the coacervate spherical multinuclear microcapsules, the optimum wallmaterial concentration was 1%.

【语种】中文

【第一作者】曲行光

【通讯作者】姜毓君

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【题目】乌审召滩地草场生产力与气候因素的灰色关联度分析

【中文关键词】草场,生产力,灰色关联分析,气候因素

【英文关键词】Grassland Productivity Grey correlation analysis Climatic factor
【中文摘要】应用灰色关联度方法, 对鄂尔多斯市乌审旗乌审召镇滩地草场1985- 2005 年天然草地产量与各年3- 7 月份降雨量、温度、相对湿度、日照时数的关联度进行分析, 以探讨气候因子对草地生产力的影响, 为草地合理管理和持续利用提供理论支持。结果表明: 降雨量和温度与草产量的关联度高, 是影响该地区天然草地产量的主要生态因子; 其中3 月份降雨量与草地产量的关联度最高; 5、6、7 月份在降雨量和温度均较好的情况下, 日照时数是影响草地产量的主要生态因子。
【英文摘要】In order to explore the effect of climatic factors on grassland yield and provide theoretical support for rational management and sustainable utilization of grassland, the correlation between grassland yield and monthly climatic factors including rainfall, sunshine hour, average temperature, and relative humidity was analyzed using grey correlation analysis for grassland in Wushengzhao Town, Erdos, Inner Mongolia Autonomous Region from March to July during 1985 to 2005. Results show that the grassland yield had highest correlation degree with temperature and rainfall amount and temperature and rainfall amount were the main ecology factors influencing grassland yield. The correlation degree between rainfall and yield was highest in March, while sunshine hour w as the main ecology factor affecting grassland yield from May to July when preferable rainfall and temperature conditions were available.
【语种】中文
【第一作者】刘秀梅
【通讯作者】韩国栋
【期刊名称、卷期、页码】草地学报,2010, 18(2): 302-307
【论文发表时间】2010-03-09 00:00:00
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【引文索引号】1007-0435
【学科分类】畜牧、兽医科学基础学科

【题目】土地利用方式对陇中黄土高原土壤理化性状的影响
【中文关键词】草地,农田,土壤理化性状,黄土高原
【英文关键词】grassland cropland soil physical and chemical properties Loess plateau
【中文摘要】本文对陇中黄土高原至少50年传统耕作历史的农耕地和退耕20年的草地土壤理化性状进行了比较研究,探讨土地利用方式对土壤理化性状的影响,为该区土地的合理利用和保护提供技术支撑。
【英文摘要】In this study we analyzed soil physical and chemical properties in croplands which were cultivated under traditional tillage for ar least 50 years and grasslands which had been restored form cropping for 20 years in the Loess Plateau in Gansu Longzhou. 1) Different land uses resulted in significant differences in siol organic carbon (SOC), total nitrogen, total phosphorous, available phosphorous, soil bulk density and soil pH. In surface soil(0-10cm), SOC contents were significantlu higer in grasslands than those in croplands, while total nirtogen wea not significantly different, In the sol layers from 20 to 100 cm, SOC and total nirtogen contents were significantly ($P<0.05$) higher in croplands than those in grasslands. The soil total phosphorous was higher incroplands than that in grasslands but not significantly so. in the soil profile down to 100 cm, the C/N ratios in cropland were much higher than those in grasslands, except for the 0-10 cm layer. The soil pH in grasslands was significantly ($P<0.05$) higher than thar in croplands in each layer. The siol bulk densities in the grasslands were higher than in croplands, except for the 10-20cm layer. 2) The SOC and total nitrogen decreased with siol depth in grasslands, but this was only found in the soil layers below 30 cm in croplands; In the upper 30 cm soil layers, SOC increased with depth. Total phosphorous did not show significant differences in different soil layers in grasslands while in croplands, the changes of total phosphorous showed the same trends as those of SOC and total nitrogen. The available phosphorous contents decreased with soil depth in both grasslands and croplands while the siol pH was the reverse. 3) In both grasslands and croplands, soil organic carbon, total nitrogen, total phosphorous and available phosphorous showed significant negative corrlations with soil BD and soil pH. There were significant positive correlation between soil BD and soil pH. Significant positive correlations were also found between SOC, total nitrogen, total phosphorous and available phosphorous.
【语种】中文
【第一作者】李晓东
【通讯作者】傅华
【期刊名称、卷期、页码】草业学报, 2009,18(4):103-110
【论文发表时间】2008-11-14 00:00:00
【引文索引类型】其他

【引文索引号】1004-5759
【学科分类】畜牧、兽医科学基础学科

【题目】元素分析仪(Elementar Vario MACRO)测定石灰性土壤 C、 N 时存在问题的探讨
【中文关键词】元素分析仪; 土壤有机质; 土壤全氮; 灼烧测定土壤C、N
【英文关键词】Elementar Vario Macro Soil organic matter Soil total nitrogen Calcination measuring soil C N
【中文摘要】本文通过对比研究,探讨了元素分析仪在测定不同石灰性土壤C和N时存在的问题,为今后该方法在测定不同类型土壤C和N的使用提供了一定参考。
【英文摘要】The measure of soil total nitrogen and soil organic matter are extremly significant for agricultural production and scientific research. So in many laboratories,analysis of soil total nitrogen and soil organic matter were as a routine analysis of project.Handreds of years,it still use the way of Dumas and Kjeldahl determination to measure the Soil total nitrogen. Determination of soil organic matter method basically has 3 ways: dry heating method,chemical oxidation and burning method. In 1989,agriculture government promulgated the encoding standard GB9843 - 88," the determination method of soil organic matter" . Elementar Vario Macro is an automatic analysis machine which been used to measure C,H,N,S quantitative. In recent years,it is used more abroad in measuring C,N.The methods which use Elementar Vario Macro determine C,H,N belong to burn method,calcination temperature is 960 degrees,besides,it is undoubtedly the best way to measure of acid or neutral soil. Because it has some carbonate exist in lime soil,and carbonate will decomposed in high temperature burning which then formed to CO2,this process will made the result of soil organic become a little higher. Another way to measure is the reduce combustion tube temperature measurement,because the sample with the foil is packaged,foil in burning pipe burn for generating oxide tin exothermic reaction,it is an exothermic reaction when silver paper been burned in the combustion tube which also produced jewellers putty. Made the combustion tube's inside temperature higher than the settled temperature,and made the value of calcarea carbonica resolve measurement much higher,if the it is not exactly tight when settle of combustion tube's temperature is lower than carbonate's decomposition point,the result will lower than the truth. Using hydrochloric acid treat on soil organic matter,then measuring the organic matter,because the fulvic acid in soil is soluble in acid,the determined result were be lower. Therefore,Elementar Vario Macro is not suitable to determine of lime soil organic matter.
【语种】中文
【第一作者】魏晓军
【通讯作者】红梅
【期刊名称、卷期、页码】内蒙古农业大学学报,2011, 32(3):161-167
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【引文索引号】1009-4458
【学科分类】畜牧、兽医科学基础学科

【题目】ANTIOXIDANT,ACEIN HIBITORY ACTIVITIES AND FUNCTIONAL PROPERTIES OF EGG WHITE PROTEIN HYDROLYSATE
【中文关键词】鸡蛋;抗氧化;ACE
【英文关键词】EGG,ANTIOXIDANT,ACE
【中文摘要】Theantioxidant,angiotensin-I-convertingenzyme(ACE)inhibitoryactivitiesandfunctionalpropertiesofeggwhiteproteinhydrolysate(EWPH)preparedbypapainunderdifferentconcentrationsandpHwereinvestigated.TheantioxidantactivityofEWPHincreasedwithincreasingconcentrationanddecreasedattheal kalinepHvalue(P < 0.05),whilepHdidnotaffecttheACEinhibitoryactivityofEWPH(P > 0.05).Hydrolysissigni fi cantlyenhancedthefunctionalpropertiesofeggwhiteproteins(P < 0.05).EWPHhadanexcellentsolubility(>93%)overawidepHandpossessedinterfacialproperties(emulsifyingandfoamingproperties),which weregovernedbytheconcentrationandpH.Theseresultssuggestthat EWPHmaybeusefulingredientsinfoodandnutraceuticalapplicationswit hpotentialbioactiveproperties.
【英文摘要】Theantioxidant,angiotensin-I-convertingenzyme(ACE)inhibitoryactivitiesandfunctionalpropertiesofeggwhiteproteinhydrolysate(EWPH)preparedbypapainunderdifferentconcentrationsandpHwereinvestigated.TheantioxidantactivityofEWPHincreasedwithincreasingconcentrationanddecreasedattheal kalinepHvalue(P < 0.05),whilepHdidnotaffecttheACEinhibitoryactivityofEWPH(P > 0.05).Hydrolysissigni fi cantlyenhancedthefunctionalpropertiesofeggwhiteproteins(P <

0.05).EWPHhadanexcellentsolubility(>93%)overawidepHandpossessedinterfacialproperties(emulsifyingandfoamingproperties),which weregovernedbytheconcentrationandpH.TheseresultssuggestthatEWPHmaybeusefulingredientsinfoodandnutraceuticalapplicationswit hpotentialbioactiveproperties.

【语种】英文
【第一作者】陈晨
【通讯作者】迟玉杰
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【学科分类】食品加工技术

【题目】Puri fi cation and identi fi cation of antioxidant peptides from egg white protein hydrolysate
【中文关键词】蛋清,水解物,抗氧化,纯化,抗氧化肽
【英文关键词】Egg white protein,hydrolysate,Antioxidant activity,Puri fi cation,Antioxidantpeptide
【中文摘要】Egg white proteins were hydrolysed separatelyusing fi ve different proteases to obtain antioxidant pep-tides.The antioxidant activity of egg white proteinhydrolysates was in fl uenced by the time of hydrolysis andthe type of enzyme.Of the various hydrolysates produced,papain hydrolysate obtained by 3-hhydrolysis (PEWPH)displayed the highest DPPH radical scavenging activity.PEWPH could also quench the super oxideanion andhydroxylradicals,effectively inhibit lipidper oxidation andexhibitreducing power.Then,PEWPHwaspuri fi edsequentially by ultra fi ltration,gel fi ltration,RP-HPL Candtwo fractions with relatively stronganti oxidant activitywere subsequently subjected to LC – MS/MS forpeptidesequence identi fi cation.The sequences of the two antiox-idant peptides were identi fi ed to be Tyr-Leu-Gly-Ala-Lys(551.54Da) and Gly-Gly-Leu-Glu-Pro-Ile-Asn-Phe-Gln(974.55Da),andtheywereidenti fi ed for the fi rst timefromfood-derivedproteinhydrolysates.Last,the twopuri fi ed peptides were synthesized and they showed 7.48-and6.02-fold higher DPPH radical scavenging activitycompared with the crude PEWPH, respectively. TheseresultsindicatethatPEWPHand/oritsisolatedpeptidesmay be use fuling redients in food and nutraceuticalapplications.
【英文摘要】Egg white proteins were hydrolysed separatelyusing fi ve different proteases to obtain antioxidant pep-tides.The antioxidant activity of egg white proteinhydrolysates was in fl uenced by the time of hydrolysis andthe type of enzyme.Of the various hydrolysates produced,papain hydrolysate obtained by 3-hhydrolysis (PEWPH)displayed the highest DPPH radical scavenging activity.PEWPH could also quench the super oxideanion andhydroxylradicals,effectively inhibit lipidper oxidation andexhibitreducing power.Then,PEWPHwaspuri fi edsequentially by ultra fi ltration,gel fi ltration,RP-HPL Candtwo fractions with relatively stronganti oxidant activitywere subsequently subjected to LC – MS/MS forpeptidesequence identi fi cation.The sequences of the two antiox-idant peptides were identi fi ed to be Tyr-Leu-Gly-Ala-Lys(551.54Da) and Gly-Gly-Leu-Glu-Pro-Ile-Asn-Phe-Gln(974.55Da),andtheywereidenti fi ed for the fi rst timefromfood-derivedproteinhydrolysates.Last,the twopuri fi ed peptides were synthesized and they showed 7.48-and6.02-fold higher DPPH radical scavenging activitycompared with the crude PEWPH, respectively. TheseresultsindicatethatPEWPHand/oritsisolatedpeptidesmay be use fuling redients in food and nutraceuticalapplications.
【语种】英文
【第一作者】陈晨
【通讯作者】迟玉杰
【期刊名称、卷期、页码】AminoAcids(2012)43:457 – 466
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【学科分类】食品加工技术

【题目】Expression profile analysis of intestinal cells effected by Lactobacillus acidophilus NCFM
【中文关键词】Lactobacillus acidophilus NCFM ,Caco-2 cells, reveale
【英文关键词】Lactobacillus acidophilus NCFM ,Caco-2 cells, reveale
【中文摘要】OBJECTIVE: Lactobacillus acidophilus NCFM is a probiotic strain that promotes human health. We evaluated the influence of Lactobacillus acidophilus NCFM on the genetic expression patterns in the Caco-2 cells.METHODS: Caco-2 cells were

treated with Lactobacillus acidophilus NCFM for 2h. The total RNA of cells was extracted. Hybridization with Human Genome U133 Plus 2.0 Array was performed. The image scanning and data analysis were performed subsequently. Genes with significant expression changes were selected and analyzed. To support the microarray data, three striking difference genes were studied using Real-time RT PCR.RESULTS: Microarrays analysis showed that the expression levels of 508 genes were altered as compared with the control 473 of them were up-regulated, and 35 were down-regulated. It was supposed that many genes in Caco-2 cell were induced, so that Lactobacillus acidophilus NCFM could play a part in immune system process, antioxidant activity, biological adhesion, cholesterol absorption and so on. Three striking difference genes CCL2, PTX3 and TNFRSF9 which involved immune system process were validated by Real-time RT PCR. And the results of Real-time RT PCR showed the same expression trend as in microarray.CONCLUSION: Based on the results of gene expression alterations, the beneficial function of Lactobacillus acidophilus NCFM could be more greatly and deeply understood than ever before, and the mechanism of lactic acid bacteria would be revealed.

【英文摘要】OBJECTIVE: Lactobacillus acidophilus NCFM is a probiotic strain that promotes human health. We evaluated the influence of Lactobacillus acidophilus NCFM on the genetic expression patterns in the Caco-2 cells.METHODS: Caco-2 cells were treated with Lactobacillus acidophilus NCFM for 2h. The total RNA of cells was extracted. Hybridization with Human Genome U133 Plus 2.0 Array was performed. The image scanning and data analysis were performed subsequently. Genes with significant expression changes were selected and analyzed. To support the microarray data, three striking difference genes were studied using Real-time RT PCR.RESULTS: Microarrays analysis showed that the expression levels of 508 genes were altered as compared with the control 473 of them were up-regulated, and 35 were down-regulated. It was supposed that many genes in Caco-2 cell were induced, so that Lactobacillus acidophilus NCFM could play a part in immune system process, antioxidant activity, biological adhesion, cholesterol absorption and so on. Three striking difference genes CCL2, PTX3 and TNFRSF9 which involved immune system process were validated by Real-time RT PCR. And the results of Real-time RT PCR showed the same expression trend as in microarray.CONCLUSION: Based on the results of gene expression alterations, the beneficial function of Lactobacillus acidophilus NCFM could be more greatly and deeply understood than ever before, and the mechanism of lactic acid bacteria would be revealed.

【语种】英文

【第一作者】王明娜

【通讯作者】姜毓君

【期刊名称、卷期、页码】Journal of Dairy Science2009. 92(Suppl. 1): 213-214

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【学科分类】食品科学技术基础学科

【题目】沼泥及其富集物中微生物多样性和区系变化的分析

【中文关键词】沼泥; 富集培养; 微生物多样性; DGGE

【英文关键词】b i ogas s l udge ; enrichment culture ; m icrob i a l diversit y; DGGE

【中文摘要】对从北京周边地区户用沼气池中采集的沼泥进行了富集培养及基因组 DNA 的提取,以古菌和细菌的通用引物 PCR扩增 16S rDNA基因的 V3可变区, 结合应用变性梯度凝胶电泳 (DGGE)技术分析沼气池中微生物种群基因的多样性, 以及富集前后的微生物群落区系变化, 并回收优势的 DNA 片段进行序列分析。结果表明, 微生物群落在沼气池的不同层次上呈现出空间分布多样性的差异, 经过富集培养后,微生物种群的多样性及特异性发生了很大的差别。序列比对的结果显示,沼气池中的优势古菌菌群为甲烷鬃菌属 (M ethanosaeta)与甲烷螺菌属(Met hanosp iril lum),细菌为梭菌目 (C l o st r i diales)和互养菌属 (Syntrop hus)。经过富集培养后, 古菌以甲烷八叠球菌属 (Met hanosarcinamazei)为主,细菌除保持了原有的优势菌群外， 变形菌纲(Gamma p ro teobacterium)也占有绝对的优势。

【英文摘要】Geno m icDNA w as extracted fro m enr ichm ent o f b i ogas sludgewh ich w as co llected from househo ld biog as d i gest e r s i n surroundi ng areas o f Be iji ng . V3 va riab l e fragm ents o f 16S rDNA genew ere a m plifi ed by PCR i n co m bina ti on w ithDGGE techno logy to ana l y ze the g enetic poly m orph i sm of m icrob i a l popu l ations and t he ir var i a ti ons befo re and afte r enrich m ent , and predom inant DNA frag m ents w ere recovered for sequenc i ng . The res u lts i nd i cated prom i nentm icrob i a l d i ve r sityin d ifferen t laye r o f b i ogas di g ester , and t he m icrob i a l diversit y and spec ificity var i ed sign ifi cantl y a fter enrichment . Se quence a li gnm ent showed tha t theM ethano saeta , M et hanosp irillum, C lostr i diales and Syntrophusw ere the predo m i nant pop u l ations i n b i ogas digeste r s . A fte r enr ichm ent , the predo m i nant popu lati ons beco m eM et hanosarci na mazei , C lostridiales ,Syntrophus and Gamma p roteobacterium.

【语种】中文

【第一作者】宋金龙
【通讯作者】徐凤花
【期刊名称、卷期、页码】中国沼气
【论文发表时间】2010-02-07 00:00:00
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【学科分类】农学其他学科

【题目】应用RFLP和DGGE技术对沼气池中产甲烷菌多样性的研究
【中文关键词】产甲烷菌; 群落多态性; m c rA克隆文库; RFLP ; DGGE
【英文关键词】M ethanogen; Co mmun it y d i vers it y ; m cr A cl on i ng li brary ; RFLP ; DGGE
【中文摘要】利用 PCR RFLP和 PCR DGGE技术对处于正常运行阶段的 4口农村户用沼气池进行研究, 考查其中产甲烷菌的种群结构并对其进行系统发育分析。特异性地扩增产甲烷菌 m cr A片段和 16S r DNA序列分别进行 RFLP分析和 DGGE分析。对 RFLP得到的每一个独特的 OTU(operat i onal taxono m ic un i ts)和 DGGE中的优势条带进行测序及序列分析。结果表明, 不同发酵原料的沼气池中产甲烷菌的优势类群存在差异性, 但又有一定的相似性。同时研究结果显示, 2种不同实验方法得出的结论有着某些一致性。
【英文摘要】Fou r B i ogas digesters of nor m al phase i n rural aera by PCR RFLP andDGGE w ere s t ud i ed to anal yze them et h anogen i c co mmun ityand its phyl ogen et i c degen erat i on. RELP mcrA f rag m en t ofm ethanogenw as a m pl ifi ed and 16S r DNA frag m en t ofm ethanogenw as analyzed byRFLP and DGGE. E very un i que OT U (operational t axonom ic un its) ofRFLP and the edge band i ng i n DGGE anal ysis w ere sequenced andana l yz ed . The resu l ts i nd i cated that t he do m i nan tm et h anogen species w ere d isti n ct i n d ifferen t b i ogas d i gesters . A t t h e sa m e ti m e , t he tw od ifferentm et hods got s o m e si m il ar res u lts .
【语种】中文
【第一作者】徐彦胜
【通讯作者】胡国全
【期刊名称、卷期、页码】西南农业学报
【论文发表时间】2010-02-01 00:00:00
【引文索引类型】其他
【引文索引号】1001- 4829(2010) 04- 1319- 06
【学科分类】农学其他学科

【题目】一株兼性嗜冷小甲烷粒菌的生物学特性及系统发育学研究
【中文关键词】小甲烷粒菌; 产甲烷菌; 16S rDNA;系 统 发 育分 析
【英文关键词】Methanocorpusculum parvum; methanogen; 16S rDNA; phylogenetic analysis
【中文摘要】采用改进的亨盖特(Hungate)厌氧技术,从西藏林芝厌氧消化系统中分离到一株产甲烷菌菌株LZ-6. 该菌株为革兰氏阴性,不运动,球形,直径约0.3~0.6 μm. 该菌株利用H2/CO2, 微利用甲酸生长,不利用乙酸、 甲醇、 甲醇/H2、三甲胺、 甲胺,最适生长pH为6.8~7.2,最 适 生长 温 度25 ℃,最适Na +浓度0.2 mol/L. 菌株LZ-6 的16S rRNA基因序列与小甲烷粒菌(Methanocorpusculum parvum)相似性为99%. 生理、形态结构特征等生物学特性研究表明此株产甲烷古菌为兼性嗜冷产甲烷古菌.
【英文摘要】A strain of methanogen LZ-6 was isolated from an anaerobic digester in Tibet, China by Hungate anaerobic technique. Of the strain, the cells were Gram negative, nonmotile, cocci of 0.3~0.6 μm in diameter. The catabolic substrates used included H2 /CO2 and formate, but no acetate, methanol, methanol/H2 or methylated amines. Its growth was observed in a temperature range between 4 ℃ and 35 ℃ with an optimum at 25 ℃. The NaCl optimum for growth was 0.2 mol/L, and the fastest growth occurred within a pH range of 6. 8~7.2. Strain LZ-6 was 99% similar in 16S rRNA gene sequence to Methanocorpusculum parvum. Its physiological, morphological and structural characteristics reveal that the strain is a eurypsychrophile methanogen.
【语种】中文
【第一作者】袁 敏
【通讯作者】胡国全
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【学科分类】农学其他学科

【题目】沼气发酵菌株的分离与性质分析
【中文关键词】甲烷菌; 分离方法; 沼气
【英文关键词】methanogen; isolation; biogas
【中文摘要】目的:从沼气发酵菌群出发, 尝试简便易行的分离纯化甲烷菌新方法 方法: 利用 Hungate 滚管法和反复研究的包埋产气法, 对甲烷菌分离纯化及初步鉴定, 并对分离菌株性质进行分析 结果: 分离得到甲烷菌菌株, 并对所分离菌株进行生理生化分析 染色及荧光观察 产气量及产气成分测定
【英文摘要】Objective: Methane fermentation materials as raw materials were researched for a relatively low demands on the experimentalconditions,easily and efficient new method for separation and purification of methanogen was studied. Method: Using Hungate roll - tubemethod and embedding gas production method for methane purification, preliminary identification of bacteria,analysed the characterizationof strains. Result: Methane bacteria strains were isolated,analysis physiological and biochemical features of isolated strains,observationwas done under staining and fluorescent microscope,gas production and gas composition was measured.
【语种】中文
【第一作者】沙长青
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【期刊名称、卷期、页码】生物技术
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【学科分类】农学其他学科

【题目】畜禽粪便固液分离研究
【中文关键词】畜禽粪便; 固液分离; 分离效率
【英文关键词】ecological agriculture with commodity economy; coupling effect; agricultural eco - economic system; loess hilly and gully region
【中文摘要】畜禽粪便的固液分离是处理和利用畜禽粪便的重要环节之一 为此, 论述了固液分离在畜禽粪便处理中的作用, 介绍了几种主要的分离方法及其基本原理;综合分析了国内外各种分离设备的特点 结构形式 适用范围及不足之处;并就开发新的分离设备提出建议 此研究有助于在畜禽粪便的处理中合理选择固液分离设备, 对提高固液分离的技术水平提供参考
【英文摘要】Ecological Agriculture with Commodity Economy is a higher level body of Structure and function which is based on the inherent relationship among the traditional Crop system, Orchard system and Grass grazing system, that is to say, it is Coupling system. the Ecological Agriculture with Commodity Economy has three mode models, the system coupling effects is mainly revealed in the industrial structure adjustment and optimization,improvement of the ecological environ- ment,social factors and the improvement of infrastructure and so on. During the construction process of Ecological Agri- culture with Commodity Economy in Loess Hilly and Gully Region,the industrial structure of Ecological Agriculture with Commodity Economy should be optimized to improve the function of the coupling effects,the related industries should besupported and the appropriate measures should be developed.
【语种】中文
【第一作者】杨柏松
【通讯作者】关正军
【期刊名称、卷期、页码】农机化研究
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【题目】生物滴滤塔去除沼气中H2S过程的压降分析
【中文关键词】沼气; 生物滴滤塔; 硫化氢; 压降; 载体
【英文关键词】biogas; bio - trickling filter; hydrogen sulfide; pressure drop; model
【中文摘要】分别以活性炭 陶粒和聚氨酯为载体, 在连续运行条件下, 探讨了生物滴滤塔去除沼气中硫化氢过程中压降的变化规律 试验结果表明:随着运行时间延长, 各载体组的压降逐渐增大, 最后活性炭产生的压降最大(520 Pa), 其次为陶粒(480 Pa), 聚氨酯(343 Pa)最小 压降沿载体层不均匀分布, 其中滴滤塔底层的压降增加幅度最大, 向上依次降低 聚氨酯压缩严重引起了压降较大的变化 3 种载体的压降随着进气量的增大都成正比增加
【英文摘要】The changes of pressure drop of bio - trickling filter on removal of hydrogen Sulfide in biogas was analyzed,under the condition of continuous operation with activated carbon,ceramist,and polyurethane as carriers. The resultsshowed that the pressure drop of all the three systems increased with time,in the end of operation the activated carbonsystem achieved the maximum pressure drop of 520 Pa,followed by ceramist of 480 Pa,and polyurethane minimum of343 Pa. The bottom layer of bio - trickling reactor got the maximum of pressure drop,and the pressure drop decreasedwith the increasing of height. The compression of polyurethane played an important role in its pressure drop. The pressuredrop of all the three systems increased proportional with the increasing inlet flow.
【语种】中文
【第一作者】王春影
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【期刊名称、卷期、页码】农机化研究
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【题目】高效木质纤维素分解复合菌系降解稻草特性的研究
【中文关键词】木质纤维素 复合菌系 降解性能 挥发酸
【英文关键词】li gnoce l lulose ; m icrobia l community ; degradation characterist ics ; vo latile fatty ac i ds
【中文摘要】以 1%稻草为惟一碳源, 利用间歇实验,在 50 的静置培养条件下, 对特异驯化获得的一组高效木质纤维素复合菌系的生长及降解特性进行了深入的探讨。实验结果表明, 复合菌系的优势菌是杆菌, 其生长曲线显示典型的 3阶段, 即 0~ 108 h的对数生长期、108~ 144 h的稳定期、144~ 216 h的衰亡期。当发酵结束时, 稻草的降解效率达到 75 %,90%以上的产物是乙酸, 其次是少量的乙醇、 丁酸和丙酸, 这种发酵类型为下游两相厌氧消化的产甲烷相的稳定、 高效运行提供重要物质基础。
【英文摘要】In or der to i nvest i gate the gro w th and degradation characterist ics of a m icrob ial commun i ty w i thhigh degradation ef f iciency on li gnoce ll u l oses , a batch test w as carried out under static condi t i on at 50 , and1 % rice st ra w w as the on ly carbon source . The result i ndicates tha t dom i nant bacteria o f them icrob i a l communi ty are bac i ll, i and gro w th curve sho w s typ ica l three stages , they are 0~ 108 h logari thm ic stage , 108~ 144 h stab le stage and 144~ 216 h dec li ne stage , respectively . The degradation rate o f rice stra w may reach 75 % w hen fer mentation ter m inated . Over 90 % metabo l ite is acet ic ac i d , and there is li tt l e ethano , l buty ric ac i d and pr opion ic acid i n fer m entat i ve products . Th is fer men tation type w i ll prov i de es sent ialmateria l base for stable and effectiveoperation of downstream methanogenic phase i n t wo phase anaerob ic digesti on pr ocess .
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【学科分类】农学其他学科

【题目】沼气发酵复合菌系的筛选及培养条件优化
【中文关键词】复合菌系;沼气发酵;培养条件
【英文关键词】microbial community; biogas; cultural conditions

【中文摘要】利用限制性培养技术,构建了1组35 下遗传稳定的 产甲烷量高的沼气发酵复合菌系 采用单因素及正交试验分析方法,研究了 pH 接种量 底物浓度三个因素的培养条件对沼气复合菌系甲烷产率的影响 试验结果表明,在单一因素的影响下,发酵初始的pH值为7.0,接种量为10%,底物浓度为8%时产甲烷效果最好 采用正交试验进行培养条件的优化组合试验分析,确定最佳的沼气复合菌系发酵条件为:以牛粪为底物,复合菌系接种量5%,底物浓度为10%, pH自然,培养温度为35

【英文摘要】A microbial community capability of biogas production with genetic stability at 35 was enriched from biogas slurry withthe method of limited culture technique,and the optimum cultural conditions of microbial community were investigated with singlefactor analysis and orthogonal test analysis. The effect of different pH,inoculation quantities,substrate concentrations of microbialcommunity were investigated .The results of single factor design indicated that the optimum cultural conditions of microbialcommunity for biogas production were the pH value 7.0,10% of inoculation quantity,and 8% of substrate concentration,respectively. At the same time,the results of orthogonal test analysis showed that the optimum cultural conditions of microbialcommunity for biogas production using the cattle manure as material were 5% of inoculation quantity,10% of concentration ofsubstrate, natural pH and temperature 35 ,respectively.

【语种】中文

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【学科分类】农学其他学科

【题目】Application of A/O-MBR for treatment of digestate from anaerobic digestion of cow manure

【中文关键词】anoxic/aerobic-membrane bioreactor(A/O-MBR);anaerobic digestion(AD);digestate;manure

【英文关键词】anoxic/aerobic-membrane bioreactor(A/O-MBR);anaerobic digestion(AD);digestate;manure

【中文摘要】anoxic/aerobic-membrane bioreactor(A/O-MBR);anaerobic digestion(AD);digestate;manure

【英文摘要】anoxic/aerobic-membrane bioreactor(A/O-MBR);anaerobic digestion(AD);digestate;manure

【语种】英文

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【期刊名称、卷期、页码】JournalofChemical Technology& Biotechnology

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【学科分类】农学其他学科

【题目】牛粪螺旋压榨固液分离工艺参数优化

【中文关键词】粪,压榨机,分离,螺旋压榨,优化

【英文关键词】manures, presses, separation, screw press, optimization

【中文摘要】为了优化粪便固液分离工艺,用作者研制的固液分离机对鲜牛粪进行固液分离,以进料水料比、榨条间隙、螺旋转速作为影响因素,以分离后固形物料中总固体(TS)含量为主要考察指标,以处理牛粪生产率、液料中固体去除率为参考指标,采用 3 因素 5 水平进行二次正交旋转组合试验设计,探讨了螺旋压榨工艺参数对固液分离效果的影响,得到了优化的工艺参数:进料水料比为0.65,榨条间隙为1.5 mm,螺旋转速68 r/min时,分离后固形物料中总固体(TS)质量分数可以达到40%以上,研究结果可为牛粪固液分离提供参考依据。

【英文摘要】In order to optimizing the process of solid-liquid separation of manure, fresh dairy manure was separated using the developed solid-liquid separator. The water-food ratio, article squeeze gap and screw speed were selected as influence factors, total solid content (TS) after separation was as main inspected target, meantime, productivity of treated dairy manure and solid removal ratio of solid-liquid mixture were selected as independent variables. Based on the quadratic orthogonal rotating combinatorial method with three factors and five levels employed to design the experimental procedure, the effects of independent variables of screw extruded process on solid-liquid separation were analyzed. An optimum independent parameters combination for highest solid TS value of 40% was obtained with water-food ratio of 0.65, article squeeze gap of 1.5 mm and screw speed of 68 r/min. The research results can provide

a reference for solid-liquid separation process of dairy manure.
【语种】中文
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【引文索引类型】EI
【引文索引号】1002-6819(2010)-12-0276-04
【学科分类】农学其他学科

【题目】复合菌系BYND-8的菌种组成多样性及其对沼气产量的影响
【中文关键词】木质纤维素降解; 中温复合菌系; 菌种组成多样性; 变性梯度胶凝胶电泳; 沼气发酵
【英文关键词】lignocellulose degradation; mesophilic microbial community; bacterial diversity; denaturing gradient gel electrophoresis(DGGE) ; biogas fermentation
【中文摘要】为了明确1组在中温下(30°C)高效分解木质纤维素的复合菌系的菌群组成, 研究复合菌系预处理秸秆对沼气发酵的影响, 利用平板分离法和变性梯度凝胶电泳(DGGE)法研究了中温木质纤维素降解复合菌系 BYND-8 的菌种组成多样性, 通过添加该复合系菌液到以牛粪为原料的沼气发酵体系, 研究了添加秸秆降解液对沼气产量的影响. 利用平板法分离得到了 6 株细菌, 它们与 Serratia sp. PSGB 13 Serratia marcescens strain UFLA-25LS Serratia marcescens strain DAP33 Alcaligenes sp. YcX-20 Stenotrophomonas maltophilia strain C6 和 Bacillus cereus isolate BRL02-71 的相似率分别达到了 99% 100% 96% 100%100% 和 99% . 同时利用 DGGE 方法还检测到了 1 株利用平板分离法没有获得到的细菌, 它的 16S rDNA V3 区的序列与Uncultured bacterium clone ATB- KS-1446 具有 100% 的同源性. 稻秆经复合菌系 BYND-8 预处理后应用于沼气发酵中, 在发酵的前 15d 内, 累积产气量达到13 167 mL, 甲烷产量达到7 248 mL, 比对照分别提高了 44. 5% 和 95. 3% . 复合菌系具有较高的菌种组成多样性, 将复合菌系应用于沼气发酵的原料预处理过程中, 可以将产气时间提前, 并提高产气量.
【英文摘要】The biodiversity of a mesophilic microbial community BYND- 8 capable of degrading lignocellulose at 30°C was detected using denaturing gradient gel electrophoresis(DGGE) and the isolation of pure cultures,and the effect of the liquid of rice straw degradation by BYND-8 on biogas production was measured. Six bacterial strains were isolated using peptone cellulose solution medium,and the highest similarities of their 16S rDNA gene sequences to Serratia sp. PSGB 13,S. marcescens strain UFLA- 25LS,S. marcescens strain DAP33,Alcaligenes sp. YcX- 20,Stenotrophomonas maltophilia strain C6,Bacillus cereus isolate BRL02- 71 were 99% ,100% ,96% ,100% ,100% and 99% ,respectively. In addition,one band was detected besides six bands of cultured isolates on the DGGE gel,and it showed 100% sequence similarity to uncultured bacterium clone ATB- KS-1446. The cumulative biogas and methane productions ofbiogas fermentation system added with the liquid of rice straw degraded by BYND-8 were 13 167 mL and 7 248 mL,44. 5% and 95. 3% higher than those of the control,respectively,in the early 15 days of fermentation. The results showed that the biodiversity of microbial community BYND-8 was very high,and the time of producing biogas was put forward and biogas production was increased with application of microbial community for rice straw pretreatment during the biogas fermentation.
【语种】中文
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【期刊名称、卷期、页码】环境科学
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【学科分类】农学其他学科

【题目】固液分离对牛粪资源化利用效果的影响
【中文关键词】厌氧发酵,沼气,固液分离,牛粪,压块成型
【英文关键词】anaerobic fermentation, biogas, solid-liquid separation, dairy manure, press mounding
【中文摘要】预处理可以提高牛粪利用的效果,该文研究了利用螺旋压榨固液分离机对牛粪加水固液分离后固形物和分离液的纤维含量,固形物的热值、分离液的黏度和碳氮比。利用压块成型机对分离后固形物进行压块,为沼气发酵增温保温提供燃料,并将分离液与未分离的原牛粪进行厌氧发酵对比试验,结果表明,分离液发酵可提高甲烷产率,缩短发酵水力停留时间。在(35±2)°C条件下,原料挥发性固体含量(VS)分别为 4.86%和 4.98%时,30%接种量,分离液的产气率比原牛粪提高

32.68%。研究结果对高寒地区牛粪资源化利用具有参考价值。
【英文摘要】Pretreatment may increase the effect of dairy manure utilization, In this paper, dairy manure with water was separated using screw solid-liquid separator, fiber content of solid matter and separated liquid, heat value of solid matter and viscosity coefficient and C/N ratio of separated liquid were investigated. Solid matters were pressed into block by press mounding machine, providing fuel for temperature raising and maintaining in biogas fermentation. Anaerobic fermentation tests were carried and contrasted by using separated liquid and integrated original dairy manure. Results showed that methane-producing rate could be improved and hydraulic retention time decreased for separated liquid fermentation. Gas-producing rate of separated liquid increased by 32.68% than that of original dairy manure when materials VS were 4.86% and 4.98% with 30% inoculums at (35±2)°C, respectively. The results can provide references for reclamation of dairy manure in high-cold areas.
【语种】中文
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【题目】Variations in bioactivity and conformation of trypsin adsorbed on different size nanoparticles
【中文关键词】trypsin;silica particles;adsorption;enzyme activity;surface hydrophobicity
【英文关键词】trypsin;silica particles;adsorption;enzyme activity;surface hydrophobicity
【中文摘要】The variations of conformation and enzyme activity of trypsin adsorbed on silica particles of various sizes (20 nm, 100 nm, 300 nm and amorphous level) had been studied. The adsorption amount of trypsin clearly decreased with the increase of silica particle size. The enzyme stability was strongly dependent on the size of the particles. Smaller silica particles enhanced trypsin stabilities in strongly denaturing environments to a greater extent than that of larger ones. When the silica-trypsin bioconjugates incubated at 80 °C for 1 h, the activity for trypsin adsorbed onto 20 nm, 100 nm, 300 nm and amorphous particles increased by 96.3%, 70.8%, 45.7% and 19.7% of its native activity, respectively. The effect of particle size on enzyme activity was depended on the change of enzyme structure after adsorption. And the fraction of activity lost correlated well with the increase of surface hydrophobicity, greater increase in surface hydrophobicity and lower retentive enzyme activity was observed for trypsin adsorbed onto larger nanoparticles under otherwise similar conditions.
【英文摘要】The variations of conformation and enzyme activity of trypsin adsorbed on silica particles of various sizes (20 nm, 100 nm, 300 nm and amorphous level) had been studied. The adsorption amount of trypsin clearly decreased with the increase of silica particle size. The enzyme stability was strongly dependent on the size of the particles. Smaller silica particles enhanced trypsin stabilities in strongly denaturing environments to a greater extent than that of larger ones. When the silica-trypsin bioconjugates incubated at 80 °C for 1 h, the activity for trypsin adsorbed onto 20 nm, 100 nm, 300 nm and amorphous particles increased by 96.3%, 70.8%, 45.7% and 19.7% of its native activity, respectively. The effect of particle size on enzyme activity was depended on the change of enzyme structure after adsorption. And the fraction of activity lost correlated well with the increase of surface hydrophobicity, greater increase in surface hydrophobicity and lower retentive enzyme activity was observed for trypsin adsorbed onto larger nanoparticles under otherwise similar conditions.
【语种】英文
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【学科分类】食品科学技术基础学科

【题目】Food sources of three bivalves living in two habitats of jiaozhou Bay (qingdao, china): indicated by lipid biomarkers and Stable isotope analysis

【中文关键词】bivalve, food sources, lipid biomarker, stable isotope
【英文关键词】bivalve, food sources, lipid biomarker, stable isotope
【中文摘要】In the present study, we selected three representative bivalve species living in intertidal area and subtidal raft-culturing farm in Jiaozhou Bay and determined their food sources using lipid biomarker and stable carbon isotope analysis. The relationship between bivalve ’ s diet composition and the potential food sources in the habitat was also discussed.
【英文摘要】Food sources of three filter-feeding bivalves from two habitats (intertidal oyster Crassostrea gigas, mussel Mytilus galloprovincialis, and subtidal cultured scallop Chlamys farreri) of Jiaozhou Bay (Qingdao, China) were determined by fatty acid and stable isotope analysis. Cultured scallop was characterized by significant diatom markers such as 16:1/16:0 close to 1 and high ratio of 20:5(n − 3)/22:6(n − 3), hence we assume that the scallop mainly feeds on diatoms. Fatty acid biomarkers specific to bacteria and terrestrial materials were also found in considerable amounts in scallop tissue, which suggested that there were substantial bacterial and terrestrial input into the food of the species. Intertidal oyster and mussel, however, exhibited significant flagellate marker, 22:6(n − 3), and lower level of diatom markers, which indicated that flagellates are also part of intertidal bivalves_planktonic food sources; meanwhile, high level of Chlorophyta fatty acid marker, S18:2(n − 6) + 18:3(n − 3), suggested that Ulva pertusa (Chlorophyta) seaweed bed supplied important food sources to intertidal bivalves. Additionally, result of stable isotope analysis showed that phytoplankton contributed 86.2 to 89.0% to intertidal bivalves_ carbon budget; macroalga U. pertusa origin source had a contribution of 8.7% to 11.0%, which indicated its role as an important supplemental food source to intertidal bivalves. From this study, it is concluded that the dietary difference of three bivalves probably relates to the different potential food sources in the scallop farm and intertidal zone in Jiaozhou Bay.
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【学科分类】生态学

【题目】Observations on the spawning behavior of artificially matured Japanese eels Anguilla japonica in captivity
【中文关键词】Courtship; Anguillid; Hormone induction; Off-bottom swimming; Shelter
【英文关键词】Courtship; Anguillid; Hormone induction; Off-bottom swimming; Shelter
【中文摘要】In an attempt to better understand the spawning ecology of the Japanese eel in the wild and also to provide useful information for improving their artificial reproduction techniques, we made the first reported observation on the spawning behavior of artificially induced Japanese eels in a laboratory setting. This includes their general behavior, activity and off-bottom swimming behavior at spawning. Since almost all artificially matured eels were observed to stay in shelters if available prior to releasing eggs and ejecting sperm in captivity, and moreover, wild eels are estimated to spawn in a seamount area where maturing eels may use as shelters, we observed the maturing eels ’ behavioral response to shelter availability in this study in order to investigate if shelter is an effective elemental cue influencing their spawning.
【英文摘要】Spawning behavior of artificially matured Japanese eels Anguilla japonica in captivity was investigated using a DVDVideo image system. Following a routine hormone treatment technique for this fish, female eels were artificially matured by weekly intramuscular injections of salmon pituitary extracts (SPE) at a dosage of 40 mg kg − 1 BW for a total of 7 – 11 doses to induce ovarian maturation, while male eels received weekly intramuscular injections of human chorionic gonadotropin (HCG) at a dosage of 1000 IU kg − 1 BW for a total of 6 – 11 doses at 18 ° C to induce testicular maturation in a separate aquarium. In this experiment, three pairs of such hormone-treated matured eels were acclimatized in seawater in 1.5m3 experimental aquaria with or without shelters at 20 ° C for 24 h. Twenty four hours after the acclimatization terminated, the females received SPE injections to boost maturation and ovulation. Twenty four hours following these injections, the females received injections of HCG (1000 IU per fish, HCG injection) and 17 α - hydroxyprogesterone (2 mg per fish) to induce ovulation, while males were givenHCGinjections (1000 IU per fish, HCGinjection) to induce spermiation. Video taping started after the 24 h acclimatization terminated and last for a total of 96 h. Before the HCG injections, both sexes were inactive, staying on the bottom or in shelters if available. Following these HCG injections, they became active and frequently left the bottom swimming in the water column. During the 24 h following HCG injections, activity accounted for 67% and 45% of the total activity in no shelter treatment for females and males, respectively, in comparison with 77% and 78% in shelter treatment. Activity was significantly more pronounced during this phase than during other phases for each sex in either

shelter treatment. Egg release and sperm ejection occurred in the water column around the time eels ' activity reached peaks. Eels either returned into the shelters or stayed motionlessly on the bottom of the aquaria after egg release and sperm ejection. Eight out of nine (89%) females in no shelter treatment spontaneously released eggs with a total of 11 batches 14 – 18 h following HCG injections, in contrast with four out of nine (44%) females releasing eggs for 4 batches 16 – 20 h in shelter treatment. Males arrived at activity peaks 11 – 13 h following HCG injections in no shelter treatment, 2 – 4 h ahead of the females (14 – 16 h), in comparison with 8 – 11 h in shelter treatment with 5 – 6 h ahead of the females (14 – 17 h). Courtship behavior indicative of spawning such as pairing, chasing and touching bodies was not observed in the eels in this study. However, on many occasions, eels of both sexes (male – female or female – female) were found to " cruise together " in water column for a short time period or frequently come together prior to releasing eggs and ejecting sperm, suggesting the possibility of group mating in artificially matured Japanese eels.

【语种】英文

【第一作者】S.Z. Dou

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【学科分类】生态学

【题目】Temperature influence on the spawning performance of artificially-matured Japanese eel, Anguilla japonica, in captivity

【中文关键词】Activity Off-bottom swimming Hormone-treated maturation Anguillid eel

【英文关键词】Activity Off-bottom swimming Hormone-treated maturation Anguillid eel

【中文摘要】In an attempt to better understand the spawning ecology of the Japanese eel in the wild and also to provide useful information for improving their artificial reproduction techniques, we have recently conducted a series of behavioral studies to look at how environmental factors like shelter availability (Dou et al. 2007) and temperature may affect the spawning performance of the artificially-matured eels in captivity. The current study focused on examining their behavioral responses to temperature changes at spawning. This includes their general spawning performance, activity and off-bottom swimming behavior. Since spawning of this eel was successfully triggered only at 20 – 228C (obviously a too narrow thermal range) in a laboratory setting, we set the temperatures at 14, 18, 22, and 278C for egg ovulating and releasing in this study to explore the possibility that spontaneous spawning can be realized at a wider thermal range.

【英文摘要】We studied the influence of temperature on the spawning performance of artificially matured Japanese eels, Anguilla japonica, in captivity. We used routine hormone injections to bring females and males to maturity in separate aquaria. We recorded the behavior of three pairs of such hormone-treated matured eels in an aquarium (2 replicates) at four temperatures: 14, 18, 22, and 278C, respectively. They became active and frequently left the bottom swimming in the water column, and spawning events occurred. Females released eggs in the water column around the activity peaks. Males preceded females in reaching activity peaks (presumably the timing of sperm ejection and egg release), possibly resulting in the low fertilization we observed in this experiment. Males and females returned back to the aquarium bottoms and became quiet after spawning. On several occasions, male-female or female-female pairs were observed to ' cruise together ' in the water column for several to tens of seconds prior to egg releasing, but no courtship behavior indicative of spawning such as pairing and chasing was observed in the eels in our study. Our results suggest that 18 – 228C might be the thermal preference for spawning for Japanese eels, which approximates the temperature range of the 500 m deep water layer around the Mariana Islands seamount area, the presumed spawning site for the Japanese eel.

【语种】英文

【第一作者】S.Z. Dou

【通讯作者】S.Z. Dou

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【学科分类】生态学

【题目】Toxicity of lead, cadmium and mercury on embryogenesis, survival, growth and metamorphosis of Meretrix meretrix larvae
【中文关键词】Mercury Cadmium Lead Early development Meretrix meretrix Larvae
【英文关键词】Mercury Cadmium Lead Early development Meretrix meretrix Larvae
【中文摘要】it is necessary to find out how these heavy metals affect the entire early development of M. meretrix. Moreover, in contrast to the majority of bioassays which usually use embryos or larval stages, the sensitivity of the entire early life stages of bivalves to heavy metals has been less studied. This data will help us to establish dose-response relationships for each metal tested, and give biological criteria for the implementation of marine water quality standards to protect these organisms.
【英文摘要】In order to assess the toxicity of heavy metals onthe early development of Meretrix meretrix, the effects ofmercury (Hg), cadmium (Cd) and lead (Pb) on embryogenesis,survival, growth and metamorphosis of larvae wereinvestigated. TheEC50 for embryogenesis was 5.4 lg l-1 forHg, 1014 lg l-1 for Cd and 297 lg l-1 for Pb, respectively.The 96 h LC50 for D-shaped larvae was 14.0 lg l-1 for Hg,68 lg l-1 for Cd and 353 lg l-1 for Pb, respectively.Growth was significantly retarded at 18.5 lg l-1 (0.1 lM)for Hg, 104 lg l-1 (1 lM) for Cd and 197 lg l-1 (1 lM) forPb, respectively. The EC50 for metamorphosis, similar to48 h LC50, was higher than 96 h LC50. Our results indicatethat the early development of M. meretrix is highly sensitiveto heavy metals and can be used as a test organism for ecotoxicologybioassays in temperate and subtropical regions.
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【第一作者】Qing Wang
【通讯作者】Yang Hongsheng
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【学科分类】生态学

【题目】Toxic Effects of Zinc on the Development, Growth, and Survival of Red Sea Bream Pagrus major Embryos and Larvae
【中文关键词】Vertebrata ; Pisces ; Aquatic environment ; Developmental stage ; Heavy metal ; Pagrus major ; Pollutant ; Marine environment ; Environment ; Ecotoxicology ; Pollution ; Larva ; Embryo ; Survival ; Growth ; Zinc ; Toxicity ;
【英文关键词】Vertebrata ; Pisces ; Aquatic environment ; Developmental stage ; Heavy metal ; Pagrus major ; Pollutant ; Marine environment ; Environment ; Ecotoxicology ; Pollution ; Larva ; Embryo ; Survival ; Growth ; Zinc ; Toxicity ;
【中文摘要】In this study, we investigated the acute and subchronic toxicity of zinc to the development, survival, and growth of red sea bream during embryonic and larval stages in order to achieve two goals: (1) to investigate the mechanism underlining zinc toxicity to their ELS and (2) to clarify whether embryogenesis and larval development (e.g., hatching, survival, growth, and morphological abnormality) are sensitive bioindicators for evaluating waterborne zinc toxicity to their ELS
【英文摘要】This study investigated the zinc toxicity to red sea bream Pagrus major embryos and larvae at 18 ± 1_C (33 ± 1% in salinity) under laboratory conditions. The acute toxicity tests indicated that zinc 48-h LC50 to embryos and 96-h LC50 to larvae were 4.3 (3.3 – 6.3; 95% confidence limits) and 10.1 (9.0 – 11.4) mg l-1, respectively, suggesting that embryos were more sensitive than larvae to zinc exposure. The subchronic toxicity test, in which embryos and larvae were continuously exposed to 0, 0.1, 0.3, 0.5, 0.7, 1.0, 1.5, 2.0, and 2.5 mg Zn2? l-1 solutions for 10 days, demonstrated that waterborne zinc had distinctly toxic effects on the development, growth, and survival of red sea bream embryos and larvae. Zinc exposure at concentrations C 0.5 mg l-1 would lead to a low hatching rate (19 – 78%, vs. 98% in controls), high mortality (29 – 91%, vs. 10% in controls), and morphological abnormality (12 – 77%, vs. 0.3% in controls) in embryos and larvae, while it caused delay in time-to-hatch in embryos at concentrations C 1.0 mg l-1. These four biological parameters were zinc concentration dependent and could be effective bioindicators for evaluating the toxicity of zinc to the early life stage of this fish. Heartbeats of embryos (9 – 13 beats 10 s-1) were relatively low and were not significantly influenced by zinc concentration, although they rose remarkably with elevated zinc concentration in larvae at the end of the test, particularly when it was C 1.0 mg l-1 (36 – 38, vs. 31 beats 10 s-1 in controls). The total length (LT) of the larvae at the end of the test was reduced by 12.2% and 15.6% in the 1.0 and 2.0 mg l-1 solutions but did not vary significantly in other solutions in comparison with the controls. Heartbeat and LT were less sensitive to zinc exposure and might not be good biological parameters for determining the toxicity of zinc to the early life stage of red sea bream.
【语种】英文
【第一作者】Wei Huang
【通讯作者】S.Z. Dou

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【学科分类】生态学

【题目】Feeding, morphological changes and allometric growth during starvation in miiuy croaker larvae
【中文关键词】Miichthys miiuy larvae . Delayed feeding Morphometrics . Growth and survival
【英文关键词】Miichthys miiuy larvae . Delayed feeding Morphometrics . Growth and survival
【中文摘要】The miiuy croaker, Miichthys miiuy, is an important commercial species that inhabits the coastal waters of China, Japan and Korea (Zhang and Hong 2000; Choi et al. 2002). Due to overexploitation, wild populations of this fish have drastically decreased in recent years. On the other hand, morphological deformity and high mortality in the artificially bred fingerlings have hindered their commercial mass production. So far, few studies have dealt with the morphological development (Zhong et al. 2005; Luo et al. 2006), growth, survival and digestive enzymes of miiuy croaker during their early life stage (Shan and Dou 2008; Shan et al. 2008a,b). Little information is available at present to understand how starvation may affect the development, growth and survival of the larvae. This study is to investigate the effects of delayed first feeding on these biological parameters in order to better understand their larval growth and survival strategies during starvation and provide information for feeding management in larval rearing.
【英文摘要】We investigated the effects of the timing of first feeding (larvae in F0, F1, F2, F3 and S were first fed on day 3, 4, 5, 6 days after hatching (DAH) and unfed, respectively) on feeding, morphological changes, survival and growth in miiuy croaker larvae at 24 ° C. The fed larvae initiated feeding on 3 DAH and reached point of no return (PNR) on 6 DAH. Larvae in F0 and F1 groups survived apparently better than F2 group at the end of the experiment on 36 DAH. High larval mortality occurred from 3 to 7 DAH in all feeding groups, accounting for 40% (F0, F1 and F2 groups) to 90% (F3 and S groups) of the total mortality. Larvae in F0 and F1 groups grew better than F2 group throughout the experiment. Eye diameter, body height, head height and mouth gape of the first feeding larvae were more sensitive to starvation than other morphometrics and could be used as indicators for evaluating their nutritional status. Results indicated that delayed first feeding over 1 day after yolk exhaustion could lead to poor larval survival and growth. To avoid starvation and obtain good growth in culturing, larvae feeding should be initiated within 1 day after yolk exhaustion at 24 ° C.
【语种】英文
【第一作者】Xiu-Juan Shan
【通讯作者】S.Z. Dou
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【学科分类】生态学

【题目】Ontogenetic development of digestive enzymes and effect of starvation in miiuy croaker Miichthys miiuy larvae
【中文关键词】Amylase Alkaline phosphatase Lipase Trypsin Delayed feeding Miichthys miiuy larvae
【英文关键词】Amylase Alkaline phosphatase Lipase Trypsin Delayed feeding Miichthys miiuy larvae
【中文摘要】The objective of this study was to investigate the effect of starvation on the ontogenetic development of amylase, lipase, trypsin, and alkaline phosphatase in miiuy croaker larvae. To accomplish this, we quantified and examined the development of the specific activities of these digestive enzymes in miiuy croaker larvae at different ages of first feeding.
【英文摘要】The ontogenetic development of the digestive enzymes amylase, lipase, trypsin, and alkaline phosphatase and the effect of starvation in miiuy croaker Miichthys miiuy larvae were studied. The activities of these enzymes were detected prior to exogenous feeding, but their developmental patterns differed remarkably. Trypsin activity continuously increased from 2 days after hatching (dah), peaked on 20 dah, and decreased to 25 dah at weaning. Alkaline phosphatase activity oscillated at low levels within a small range after the first feeding on 3 dah. In contrast, amylase and lipase activities followed the general developmental pattern that has been characterized in fish larvae, with a succession of increases or decreases. Amylase, lipase, and trypsin activities generally started to increase or decrease at transitions from endogenous to exogenous feeding or diet changes, suggesting that these enzymatic activities can

be modulated by feeding modes. The activities of all the enzymes remained stable from 25 dah onwards, coinciding with the formation of gastric glands and pyloric caecum. These results imply that specific activities of these enzymes underwent changes due to morphological and physiological modifications or diet shift during larval development but that they became stable after the development of the digestive organs and associated glands was fully completed and the organs/glands functioned. Trypsin and alkaline phosphatase were more sensitive to starvation than amylase and lipase because delayed feeding up to 2 days after mouth opening was able to adversely affect their activities. Enzyme activities did not significantly differ among feeding groups during endogenous feeding; however, all activities were remarkably reduced when delayed feeding was within 3 days after mouth opening. Initiation of larvae feeding should occur within 2 days after mouth opening so that good growth and survival can be obtained in the culture.

【语种】英文

【第一作者】Xiu-Juan Shan

【通讯作者】S.Z. Dou

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【学科分类】生态学

【题目】Effects of photoperiod on growth, mortality and digestive enzymes in miiuy croaker larvae and juveniles

【中文关键词】Miichthys miiuy ;Light regime ;Survival ;Growth; Enzymatic activity

【英文关键词】Miichthys miiuy ;Light regime ;Survival ;Growth; Enzymatic activity

【中文摘要】Miiuy croaker Miichthys miiuy is a promising candidate for culturing in China. However, high mortality and morphological deformity during larval development have hindered the industrialization and commercialization of this species (Shan and Dou, 2008). The purpose of this study is to investigate the effects of photoperiod on the growth, mortality and digestive enzymes of the miiuy croaker larvae and juveniles. This will help understand their growth and survival strategies at different photoperiods during early life stage and provide information about the photoperiod manipulation for fry culturing.

【英文摘要】The growth, mortality and digestive enzymes (trypsin, amylase and lipase) in miiuy croaker Miichthys miiuy larvae and juveniles (2 – 53 dph) were investigated at four photoperiods: 24L:0D, 18L:6D, 12L:12D and 0L:24D. Larvae could not feed at 0L:24D and did not survive up to 7 dph. In the 24L:0D, 18L:6D, 12L:12D groups, photoperiod had not significant effects on the growth of the miiuy croaker younger than 20 dph. However, their total length and specific growth rate (SGR) were significantly larger at 18L:6D and 24L:0D than 12L:12D after 20 dph. Photoperiod also affected the mortality of the first feeding larvae (5 dph), being apparently higher in 5 dph larvae at 0L:24D (60%) than at other photoperiods (20 – 27%), but no significant differences in mortality were found among other photoperiods. High mortality of the miiuy croaker in 12L:12D, 18L:6D and 24 L:0D groups mainly occurred from 5 (20 – 27%) to 11 dph (11 – 16%) and tended to decrease gradually from 15 dph onwards. Digestive enzymes activities in the miiuy croaker larvae and juveniles had a similar change trend with age at all photoperiods. They underwent drastic changes with age. The specific activity of lipase was significantly higher at 18L:6D and 24L:0D than 12L:12D, but there were no significant differences in specific activities of either trypsin or amylase among photoperiods. With regard to the total length, SGR, survival and digestive enzyme activities, our findings suggested that the optimal light regime for the culture of miiuy croaker during the early life stage was 18L:6D.

【语种】英文

【第一作者】Xiu-Juan Shan

【通讯作者】S.Z. Dou

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【学科分类】生态学

【题目】Potential of the seaweed Gracilaria lemaneiformis for integrated multi-trophic aquaculture with scallop Chlamys farreri in North China

【中文关键词】Gracilaria lemaneiformis ;Integrated Multi-trophic Aquaculture (IMTA) ;Nutrient uptake rate ; Nutrient reduction efficiency . Scallop

【英文关键词】Gracilaria lemaneiformis ;Integrated Multi-trophic Aquaculture (IMTA) ;Nutrient uptake rate ; Nutrient reduction efficiency . Scallop

【中文摘要】In this study, the nutrient (ammonium and phosphorus) uptake rates and nutrient reduction efficiency of G. lemaneiformis was determined in an IMTA system with the scallop Chlamys farreri. The objective of this study was to (1) determine if G. lemaneiformis can efficiently take up the dissolved ammonium and phosphorus from C. farreri excretion; and (2) evaluate the optimum ratio of seaweed to scallop for IMTA systems.

【英文摘要】In this study the red alga, Gracilaria lemaneiformis, was cultivated with the scallop Chlamys farreri in an integrated multi-trophic aquaculture (IMTA) system for 3 weeks at the Marine Aquaculture Laboratory of the Institute of Oceanology, Chinese Academy of Sciences (IOCAS) in Qingdao, Shandong Province, North China. The nutrient uptake rate and nutrient reduction efficiency of ammonium and phosphorus from scallop excretion were determined. The experiment included four treatments each with three replicates, and three scallop monoculture systems served as the control. Scallop density (407.9±2.84 g m − 3) remained the same in all treatments while seaweed density differed. The seaweed density was set at four levels (treatments 1, 2, 3, 4) with thallus wet weight of 69.3± 3.21, 139.1±3.80, 263.5±6.83, and 347.6±6.30 g m − 3, respectively. There were no significant differences in the initial nitrogen and phosphorus concentration between each treatment and the control group (ANOVA, p>0.05). The results showed that at the end of the experiment, the nitrogen concentration in the control group and treatment 1 was significantly higher than in the other treatments. There was also a significant difference in phosphorus concentration between the control group and the IMTA treatments (ANOVA, p<0.05). Growth rate, C and N content of the thallus, and mortality of scallop was different between the IMTA treatments. The nutrient uptake rate and nutrient reduction efficiency of ammonium and phosphorus changed with different cultivation density and time. The maximum reduction efficiency of ammonium and phosphorus was 83.7% and 70.4%, respectively. The maximum uptake rate of ammonium and phosphorus was 6.3 and 3.3 μ mol g − 1 DW h − 1. A bivalve/seaweed biomass ratio from 1:0.33 to 1:0.80 (treatments 2, 3, and 4) was preferable for efficient nutrient uptake and for maintaining lower nutrient levels. Results indicate that G. lemaneiformis can efficiently absorb the ammonium and phosphorus from scallop excretion and is a suitable candidate for IMTA.

【语种】英文

【第一作者】Yuze Mao

【通讯作者】Baozhong Liu

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【学科分类】生态学

【题目】Relationship between differential retention of Escherichia coli and Enterococcus faecalis and variations in enzyme activity in the scallop Patinopecten yessoensis

【中文关键词】Patinopecten yessoensis;Escherichia coli;Enterococcus faecalis;Bacterial retention;Enzyme activity

【英文关键词】Patinopecten yessoensis;Escherichia coli;Enterococcus faecalis;Bacterial retention;Enzyme activity

【中文摘要】The Japanese scallop Patinopecten yessoensis is now widely cultivated in northern parts of the Yellow Sea (China). In 2007, production of P. yessoensis in the Dalian area of Liaoning Province reached 1 _ 105 tons (Li et al., 2007). But in summer in recent years high mortality rates have resulted in an abrupt decrease in aquacultural outcome and profit. Heavy occurrence of bacteria may constitute a significant health risk to cultured animals at high temperature or in other specific conditions (Bonadonna et al., 2002). However, the roles of E. coli and E. faecalis in digestion of scallops remain unclear, and information relating to a host ’ s growth performance, innate immunity and disease outbreaks after a long-term exposure to non-pathogenic fecal bacteria is limited. Bacterial accumulation and variation in digestive and immune enzymes in scallop tissues must be better understood to clarify the interaction between marine microbes and bivalves, and to improve aquaculture environment and seafood safety. Integration of analyzing mollusc digestion and immune response also makes the thorough knowledge of two dominant approaches of bivalves to dealing with the microbial invasion emphasized. The objectives of this study were to investigate the difference of retention of two fecal indicators in scallops, and determine effects of long-term exposure on digestive and immune enzyme activities in P. yessoensis, and evaluate digestive response as a supplement to innate immunity in regulation of bivalve adoptions to a changing intestinal microflora.

【英文摘要】Uptake of Escherichia coli and Enterococcus faecalis and variations of trypsin amylase activity acid phosphatase and superoxide dismutase in tissue of the scallop Patinopecten yessoensis were detected. The results showed that P. yessoensis accumulated E. faecalis in larger numbers and more rapidly than E. coli, both with the highest concentration in the digestive tract and lowest in hemolymph. Compared to E. coli, all scallops exposed to E. faecalis showed significantly higher trypsin and AMS activity. SOD activity

in hemocytes and ACP activity in hemolymph was significantly higher in the treatments with 5 log10CFU/ml E. coli than with E. faecalis. But no significant differences in ACP activity of P. yessoensis exposed to a 3 log10CFU/ml inoculum of both bacteria were recorded. In conclusion, the mass retention of gut microflora in P. yessoensis is positively correlated with digestive enzymes activity and negatively correlated with ACP activity in the hemocyte.
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【第一作者】Bin Li
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【学科分类】生态学

【题目】Effects of salinity on energy budget in pond-cultured sea cucumber Apostichopus japonicus (Selenka) (Echinodermata: Holothuroidea)
【中文关键词】Apostichopus japonicus;Pond culture;Salinity]Food consumption;Scope for growth; Energy budget
【英文关键词】Apostichopus japonicus;Pond culture;Salinity]Food consumption;Scope for growth; Energy budget
【中文摘要】Compared with the coastal areas, culture ponds are limited in space and water exchange. Sea cucumbers inhabiting a pond are exposed to seasonal fluctuations in salinity due to several factors, such as water exchange, precipitation and evaporation, and icing and thawing. For example, salinity insea cucumber ponds inDalian varied from25 practical salinity units (psu) in summer to 36 psu inwinter and spring (Chang et al., 2004; Cai, 2007). The physio-ecological responses of holothurians to salinitymay be influenced by ontogeny. In general, A. japonicus larvae are more sensitive to salinity compared with those in the juvenile and adult stages (Sui and Liao, 1988). Some previous studies focused on the salinity tolerance limit of A. japonicus (e.g., Kashenko, 1992, 1997, 2000; Yuan et al., 2006b). However, no information is available on the effects of salinity on its energy budget. This study was designed to compare the bioenergetic responses of pond-cultured A. japonicus under different salinities. Such information could be helpful in understanding its physioecological regulation and improving pond aquaculture management
【英文摘要】Pond farming for sea cucumber has developed rapidly along the northern coast of China in the recent years. Holothurians inhabiting ponds undergo seasonal fluctuations of salinity. This study deals with the bioenergetic responses of pond-cultured sea cucumbers Apostichopus japonicus (wet weight of 37.5±1.8 g) to different water salinities [22, 27, 31.5, and 36 practical salinity units (psu)] at 15 ° C in the laboratory to determine the influence of water salinity on growth and energy allocation in this species. Results show that ingested energy and scope for growth (SFG) were highest at 31.5 psu and then decreased when water salinity was below or above this point. Although energy ingested was lowest at 36 psu, the lowest SFG occurred at 22 psu (only 102.68±14.26 J g − 1 d − 1) because animals reared at 22 psu spent much more consumed energy on feces (72.19%), respiration (21.70%), and excretion (2.59%), leaving less energy for growth (3.52%). Results suggest that pond-cultured sea cucumbers could tolerate chronic salinity fluctuations at a range of 22 to 36 psu and grew better between 27 and 31.5 psu, but decreased at salinities above and below the mentioned salinity range.
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【第一作者】Xiutang Yuan
【通讯作者】Hongsheng Yang
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【题目】日本蟳捕食栉孔扇贝机制的初步研究
【中文关键词】日本蟳(Charybdis japonica); 栉孔扇贝(Chlamys farreri); 捕食; 水温
【英文关键词】Charybdis japonica; Chlamys farreri; predation; water temperature
【中文摘要】本研究在现场和室内条件下考察水温和扇贝规格对日本蟳捕食强度的影响, 以期为该海区进行栉孔扇贝底播生产提供科学依据。

【英文摘要】Predation of scallop Chlamys farreri by crab Charybdis japonica was examined in situ and in the laboratory at different water temperatures. It was found that the predation rate of small scallop (shell height < 5.0 cm) was increased with increasing water temperature, and the predation was negligible either when the shell height of scallop exceeded 5.9 cm or when the water temperature was blow 10 ° C. In situ predation rate was higher than that in the laboratory at the same seawater temperature; however, the Q10 values were similar at the two different situations. Our results indicate that the best way to enhance the survival of the bottom cultured C. farreri is to seed large scallops in autumn and winter, when the water temperature is low, and some mussels should also be put in the culture area as a sacrifice to reduce the predation of scallop by crab.
【语种】中文
【第一作者】于宗赫
【通讯作者】杨红生
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【题目】中国北方海域扇贝重金属含量的比较与质量评价
【中文关键词】重金属;质量评价;海湾扇贝(Argopecten irradians);栉孔扇贝(Chlamys farreri);北方海域
【英文关键词】Heavy metals;quality evaluation;Argopecten irradians;Chlamys farreri;northern China seas
【中文摘要】目前,产品质量安全问题已经成为发达国家对中 国水产品出口进行限制的主要借口,中国出口水产品 内在品质和卫生标准仍然处于弱势,致使水产品出口 难以突破国际贸易中的绿色壁垒。扇贝产品品质的调 查和质量评价十分迫切,具有重要的现实意义。作者 从中国北方7 个具有代表性的海域同步取样,从重金 属富集的角度对扇贝的品质进行调查,比较研究海域 扇贝的重金属含量,评估产品质量,为产品质量的控 制提供科学依据。
【英文摘要】Argopecten irradians and Chlamys farreri were collected in 7 mariculture areas in northern China seas, including Dalian Bay, Qinhuangdao, Laizhou Bay, Yantai, Weihai, Jiaozhou Bay and Jiaonan from Oct. to Nov., 2005. Contents of five kinds of heavy metals including As, Hg, Pb, Cu and Zn were investigated via atomic absorption spectrophotometry. The results indicated as follows: (1) The heavy metal contents in scallop leftover were usually higher than that in scallop adductor; (2) In the same area, the heavy metal contents in C. farreri were higher than that in A. irradians; (3) The average contents of five heavy metals can be arranged as: Zn>Cu>As>Pb>Hg; (4) In Jiaozhou Bay, the Zn contents in the adductor and leftover of C. farreri were 1.24 and 1.59 times that of legal limit, respectively, whereas in other areas, the levels of five heavy metals were below the legal limit.
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【第一作者】王红
【通讯作者】杨红生
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【题目】刺参体壁脂肪酸组成的季节变化分析
【中文关键词】脂肪酸; 刺参(A p ostichop us j ap onicus) ; 季节变化
【英文关键词】fat ty acid; A p ostichop us j ap onicus ; seasonal v ariat ion
【中文摘要】研究表明水生生物(如鱼类、贝类) 的脂肪 酸组成和含量受季节、饵料等因素影响[。向怡卉等[12] 研究了刺参体壁和消化道的脂肪酸组成, 李 丹彤等对1 月和5 月獐子岛野生刺参体壁的脂肪 酸组成进行了分析, 隋锡林[14] 报道了刺参体壁和消 化道成分(水分、全氮量、粗脂肪、灰分) 的月别变化。 然而刺参体壁脂肪酸组成和质量分数的季节变化的 研究却未见报道。作者在春、夏、秋、冬4 个季节取 样, 研究刺参体壁脂肪酸组成和质量分数的季节变化。
【英文摘要】T he seasonal v ariat ions o f fat ty acid composition in A p osti chop us j ap onicus bo dy w all w er e determined. Po lyunsaturated fat ty acids (PU FA) content s w ere found to be hig hest in w inter and spring, next w ere monounsaturated fatty acids (MU FA) and saturated fat ty acids (SFA) r espect ively. MUFA w er e hig her than PU FA and SFA in spring . In summer, MU FA content s were highest , next w ere SFA and PUFA respect ively. T he major SFA and MU FA w ere 16: 0 and 16: 1n-7 in all seasons. 20:

5n-3, 20: 4n-6 and 22: 6n-3 w ere the main PUFA in all seasons. T he n-3PUFA/ n-6PUFA rat io w as betw een 1. 87 and 2. 42 during the y ear, and the rat io w as significant ly higher in w inter and spring than that in w inter and autumn. It w as show n that the fat ty acid composit ion in body w all o f A . j ap oni cus w as sig nif icant ly affected by seasons

【语种】中文
【第一作者】高 菲
【通讯作者】杨红生
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【题目】獐子岛养殖水域叶绿素含量时空分布特征及初级生产力季节变化
【中文关键词】獐子岛;叶绿素;初级生产力;虾夷扇贝
【英文关键词】Zhangzidao Island; Chlorophyll a; Primary production; Japanese scallop Patino pecten yessoensis
【中文摘要】2005 年对大连璋子岛养殖海域叶绿素浓度和初级生产力进行一年四个季度的调查, 对叶绿素水平、 垂直 分布及季节变化进行了分析研究。同时, 结合所调查的营养盐分布特征, 分析了营养盐与浮游植物的关系, 为 深人了解该养殖海域的环境质量状况, 为养殖容量的评估和健康养殖模式的建立提供基础数据。
【英文摘要】Zhangzidao Island is the largest mariculture base for Japanese scallop Patinopecten yessoensis in China. Chlorophyll a (chLa) around this area (at 18 sampling stations) was investigated in March, May, July and October, 2005. Results showed that chLa concentrations in the area varied between 1. 23------2. 85mg/ m3 , with an annual average of 1. 78±0. 57mg/m3 • There was a significant seasonal variation in chla during the investigation period. The highest and lowest values of chla appeared in March and July, respectively; while the spatial distribution of chla did not vary significantly throughout the year, except in October. In October, The concentration of chla near the island was higher than that in the off-shore areas, which might be related to the feeding impact of cultivated scallops. The vertical distribution of chla was more uniform, with chla concentration a little higher at the surface than in the bottom. Seasonal variation of primary production was significant and differed to that of chla concentration. From March to October, the primary production increased from 30.4 mgC/m2 • d to 117.0 mgC/m2 • d,with an annual average of 76. 6±41. 9 mgC/m2 • d. Correlation analysis revealed significant positive correlations between primary production and water temperature or the concentration of dissolved inorganic nitrogen.
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【第一作者】张继红
【通讯作者】孙松
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【学科分类】生态学

【题目】水稻冠层结构的动态模拟研究
【中文关键词】水稻; 冠层; 结构; 伸长模型; 虚拟生长
【英文关键词】Rice ; Canopy ; Structure ; Elongation model ; Virtual growth
【中文摘要】根据水稻器官生长的生物学规律,在试验研究的基础上,结合生长模型相关输出,构建了普适性的水稻冠层拓扑结构模型。以节间及其着生叶或穗为单位,将水稻植株分解成若干生长单元,来描述水稻植株的冠层拓扑结构;利用 Logistic 曲线模拟器官伸长过程,并结合器官发育与叶龄关系,确定了各器官的初始伸长时间和伸长历期,构建了水稻植株冠层动态生长模型;最后对模型进行了检验,初步实现了以日为单位的虚拟水稻生长。
【英文摘要】Simulating crop growth visually on comp uter can help to better understand crop growth pattern and analyze the relationship between architecture and function1 Some architecture models were developed to simulate development of crops in a given time interval , such as leaf age and growth unit1Most of them di dn ’ t discuss the organ elongation processes anddaily architecture change1 So i n order to realize more accurate and delicate crop growth , it is important to develop more applicable models to describe the dynamic change of crop architecture1 On the basis of rice biological laws and field experiments , combined with the output of rice

growth model , a general organ elongation model and structural model for rice were developed1 Firstly , growth unit , containing internode and itsadjacent leaf or ear , was used to describe topological structure of rice plant1 Then , with logistic curve for simulating organ elongation and according to the relationship of organ elongation and leaf age , that is , synchronous emerging among the nth leaf blade , the n - 1st leaf sheath and the internode between n - 2th and n - 3rd leaf , a dynamical structural model of rice plant was developed utilizing daily output of growth model and leaf age model1 The model could give initial elongation GDD , elongation duration in degree days and curve parameters for each organ1 So plant architecture could be simulated at any GDD with geometrical parameters of organs1 The model was validated with the data fromfield experiments1 The results showed that the model could well simulate plant architecture and organ elongation of rice with RMSE01284 cm, applicable to different varieties and environments1 Finally using L2system to describe and simulate plant structure , morphologicalrepresentation of rice plant and canopy at seedling , elongation and anthesis stages was realized1 Combinedwith the output of rice growth model , a general model was developed to simulate the daily architecture change in rice canopy1 The model could offer more accurate and delicate rice growth visually.

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【第一作者】石春林

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【学科分类】农业基础学科

【题目】水稻叶曲线特征的机理模型

【中文关键词】水稻;叶形;叶曲线;定量模型;虚拟作物

【英文关键词】Rice; af shape; af curvature;Quantitative model;Virtual crop

【中文摘要】:通过对水稻叶片的受力分析,推导了叶曲线方程,并进行了影响系数的参数化和方程求解。对叶曲线方程的灵敏度分析表明,方程较好地体现了叶长、叶宽、叶形、比叶重和叶片形变系数等参数对叶曲线的综合影响,与生产中水稻株型特征变化相一致。进一步利用三维数字化仪获得的不同品种类型水稻拔节期和孕穗期叶脉空间坐标试验数据对叶曲线方程进行了模拟分析,结果表明叶曲线方程可以合理而可靠地定量描述水稻叶曲线特征的动态变化规律。

【英文摘要】Abstract:With the development of computer graphics and crop simulation,virtual crop study,intuitionally expressing crop growth on computer,attracted many scientists to focus on this field. Some scientists have made great progress on the visualization of wheat,maize,soybean,rice and cotton,etc. af shape is a very important characteristic in virtual cropgrowth modeling,and some empirical curves have been used to describe leaf morphology based on field experiments in the previous study.The fitting curves can help to understand organ morphogenesis,but the fitting parameters obtained from the ven leaves and time cannot suit to changed growth process of leaves. So developing a mechanism model to simulate theleaf morphology is critical for virtual crop growth.Organ morphogenesis of plant is decided to its forces.After force analysis on a flee leaf,the gravity fraction in leafnormal direction keeps equilibrium with elasticity,and then a dynamic leaf curvature equation was deduced with some assumption.Th e equation included the synthetic efect of leaf blade length,leaf blade width,initial leaf angle,specific leaf weight and deformation coeficient on leaf space shape.Th en the equation was solved with parameterization.Th e sensitivity analysis showed that the equ ation could well reflect the integrated effects of leaf length,leaf width,specific leaf weight and leaf deform ation coefficient,consistent with rice plant architecture in practice.A field experiment was conducted at the Nanjing Agricultural University for validating the equation.Two cultivars(SU63 and WYJ7)were nursed in dry—bed on May 20,and transplanted on June 20 with single seedling.Water and nutrients were supplied according to high yielding rice management.At jointing and booting stages of rice,the 3-dimension coordinates of several points in leaf midrib were measured with the 3D digitizer,and at the same time leaf blade length,width.initial leaf angle were obtained. I1len simulation analyses were conducted on the equation with the expe riment data.Th e results indicated that the leaf curvature equation could reasonably and reliably describe the change pattern of leaf shape characteristics of rice under different conditions.Th e leaf curve equation could dynamically simulate the space shape of leaves with diferent initial leaf angles andspecial leaf weights by reduced parameters of rice leaf,espe cially in modeling day-to-day crop growth.

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【题目】水稻穗结构的定量特征与虚拟表达的初步研究
【中文关键词】水稻;穗;结构;虚拟
【英文关键词】Rice;Panicle;Architecture;Virtual
【中文摘要】连续观察了不同品种和不同氮肥处理条件下水稻穗结构,并对其进行了定量分析及参数化处理。结果表明,一次枝梗长与穗长之比随穗轴节位呈两次函数变化,不同品种类型之间的参数变异较大;一次枝梗上的二次枝梗数与一次枝梗长度呈线性变化;一次枝梗基本均匀着生于穗轴上,一次枝梗和二次枝梗的节间距离变化不大。进一步利用水稻生长模型输出的穗粒数和一次枝梗数分析了二次枝梗的空间分布。最后结合上述结构特征,进行了水稻穗结构的计算机模拟。
【英文摘要】Abstract:Visual simulation on crop architecture can help to better understan d crop growth processes and analyze the relationship between architecture an d fun ction.Panicle of rice is the critical organ for yield formation.Its architecture depends deeply on ecological environment and cultivation methods,and most crop growth models on rice can simulate theefects of ecological environment and cultivation methods on yield components,such as panicle number, ain number per panicle,seed—setting pe rcentage, 1000一 ain weight,an d number of primary branch.Therefore,combination t}l the OHtputs of crop growth mode1.developing architecture model will impmve its applicability.On the field expe riments t}ldiferent cultivars an d nitrogen applications.we analyzed the quan titative chamcteristics of panicle architecture in rice. e msults were as follows: e ratio of primary branch to panicle in length could be characterized by a qu adratic equation expressed in terms of nodal number of branch on panicle axis;these was a linear relationship be tween the number ofsecondary branch an d the length of primaty branch;the primary branch grew uniformly on panicle axis and the nodal distan ces of primary and secondary branch also had no significan t diference.Furthermore.based on the stability of spikelet number of primary branch and secondary branch,the outputs of growth model,such as ain number pe r panicle an d thenumber of primary branch,were used to analyze total number of secondary branch per panicle an d its space distribution.Thus panicle architecture could be described clearly. en the model of total number of secondary branch per panicle and panicle architecture were validated with indepe ndent da ta.Th e results indicate that the sim~ated values of total number of secondary branch pe r panicle are accordan t with the observed values ,and the simulated panicle architectures are similar with the observed.Panicle architecture can be simulated visually un der diferent conditions.
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【题目】农业模型与数字农业发展探讨
【中文关键词】农业模型;数字农业;发展;探讨
【英文关键词】agricultural models;digital agriculture;development;discussion
【中文摘要】【目的】为了进一步深化与促进农业模型与数字农业发展,并融入国际潮流,【方法】本文以系统学思想为指导,采用系统分析及认识论挖掘等方法,【结果】提出并进一步明晰了农业模型概念与分类,农业模型与数字农业的相互关系、意义与评价,综述了国内外农业模型研究与应用新动态,通过分析存在问题,提出了进一步发展的对策和建议。广义上,农业模型是为研究农业问题的定量规律所建立数学模型的总称,包括农业生物模型、农业环境模型、农业技术模型以及农业经济管理模型等;狭义上,农业模型主要包括农业植物模型、农业动物模型、农业微生物模型、农产品贮藏与加工模型等。数字农业体系分为数字种植业、数字林业、数字畜牧业、数字渔业、数字农村工业以及数字农产品市场与管理等。【结论】农业模型之间发展不平衡但各有特色;农业模型间的协同较少;不同学科背景下农业模型之间缺乏开放源式的整合与互操作框架;农业模型的检验方法还需进一步完善;虽然目前数字农业的应用还较少,但随着中国农业的发展,特别是城乡结构比例的变化,未来它将具有广阔的应用和发展前景。

【英文摘要】【Objective】In order to deepen the studies of agricultural models (AMs) and digital agriculture (DA), promote its development, and be joined into international development tide,【Method】the methods of systematic analysis, classifying, and dig of epistemology, etc were used. 【Results】This paper put forward clearly the concepts and classifying of AMs, described the correlation, significant, and value between AMs and DA, reviewed the newest studies and application progresses of them in internal and abroad, analysed issues of their current studies and application, and some countermeasures and suggestions for their further development under guidance of idea from system science were presented. In broad sense, AMs are mathematics models on agricultural biology, agricultural environment, agricultural technology, and agricultural economics, and in narrow sense, AMs involve in agricultural plant models, agricultural animal models, agricultural microbe models, preservation and processing models for agricultural products, and agricultural management models. In that there are empirical, partially mechanistic, and mechanistic model in various AMs. The system for DA can be divided into digital cropping, digital forestry, digital husbandry, digital fishery, digital rural industry, and digital agricultural product markets and management.【Conclusion】The analysis showed that there were a imbalance development among various kinds of AMs, but the development of each kind of AMs had its own characteristics on ranges and depth of its studies and application; there was little links among various kinds of AMs; there was no a frame with open source for integrating and interoperability among AMs; the current validation methods for AMs still were not perfect; at present, though application for DA is little, it will have wide development and application foreground with development of agriculture in China, especially, changes in proportion of town and countryside.
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【中文关键词】菌活菌浓度,琼脂,降解
【英文关键词】bacterium;alive bacteria concentration;agar;degradation
【中文摘要】从堆肥中分离的58株细菌中只有琼脂和水的介质平板上生长的几天后表现出明显的殖民地。水悬浮液中只含有琼脂(2克・L-1,8克・L-1)的两个控制(生理盐水,LB培养基)接种的细菌(BR5-1),以查看是否有活着细菌浓度的增长在48小时后。结果表明,有显着上升琼脂悬浮液中的活菌浓度(6.5×103 CFU・mL-1的6.0×103 CFU・mL-1的)相比,在正常生理盐水对照组(6.1×102 CFU・mL的-1),远低于在LB(的Luria-Bertani)对照组(1.1×108个菌落形成单位・mL-1的)。最后,该细菌菌株(BR5-1)可降解琼脂。
【英文摘要】One among 58 strains of bacteria isolated from compost showed clear colonies after a few days of growth on the plates containing medium made of only agar and water. Water suspension contain only agar (2 g・L-1,8 g・L-1) with the two control (normal saline, LB medium) were inoculated with the bacterium (BR5-1) to see whether there are increasement of the alive bacteria concentration after 48 hours of growth. Results showed that there are significant rising of the alive bacteria concentration in the agar suspension(6.5×103 cfu・mL-1, 6.0×103 cfu・mL-1) compared to that in the normal saline control(6.1×102 cfu・mL-1), and far lower than that in LB(Luria-Bertani) control (1.1×108 cfu・mL-1). In conclusion, the bacteria strain(BR5-1) could degrade agar.
【语种】英文
【第一作者】刘保平
【通讯作者】刘保平
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【学科分类】微生物学

【题目】尖孢镰刀菌发酵混合糖产乙醇
【中文关键词】尖孢镰刀菌; 混合糖发酵;木糖;葡萄糖; 乙醇

【英文关键词】Fusarium oxysporum; mixed sugar fermentation; xylose; glucose; ethanol
【中文摘要】以尖孢镰刀菌(Fusariumoxysporum) cs- 28为研究对象,设置不同比例的葡萄糖木糖混合发酵生产乙醇。结果表明: 葡萄糖在混合糖中被优先利用。葡萄糖的存在限制了木糖的利用, 并且当葡萄糖消耗完,尖孢镰刀菌对木糖的利用也有个适应过程。在单糖发酵中,葡萄糖的消耗速率(0. 248g!L- 1!h- 1)高于木糖的消耗速率(0. 159g!L- 1!h- 1)。在葡萄糖发酵中, 最大乙醇产量为8. 50g!L- 1, 而木糖发酵中, 最大乙醇产量为5. 77g!L- 1。但菌体干质量正好相反, 在葡萄糖上最大菌体干质量为4. 67g!L- 1, 而在木糖上最大菌体干质量为6. 18g!L- 1。葡萄糖发酵周期(3d)比木糖发酵周期(7d)短。
【英文摘要】In order to Fusarium oxysporum (Fusariumoxysporum) cs- 28 as the research object, setting different ratios of glucose and xylose fermentationEthanol. The results showed that: in the mixed sugar glucose were preferentially use. In the presence of glucose limitation of xylose utilization, and when glucose is consumed, Fusarium oxysporum on xylose utilization also have a process of adaptation. In the fermentation of sugars, glucose consumption rate (0 248g 1 h-! L-! 1) higher than that of the xylose consumption rate (0 159G L- 1 h- 1!!). In the fermentation of glucose, the maximum yield of ethanol is 8 50g! L- 1, and xylose fermentation ethanol yield, maximum is 5 77g! L- 1. But the cell dry mass on the contrary, in glucose on maximum cell dry mass is 4 67g! L- 1, while in the xylose on maximum cell dry mass is 6 18G! L- 1. Glucose fermentation cycle (3D) than xylose fermentation cycle (7D) short.
【语种】中文
【第一作者】范金霞
【通讯作者】范金霞
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【学科分类】微生物学

【题目】Molecular and biochemical evidence for phenylpropanoid synthesis and presence of wall-linked phenolics in cotton fibers
【中文关键词】细胞壁;棉纤维;基因表达;酚类;苯丙烷类化合物合成代谢
【英文关键词】cell wall; cotton fiber; gene expression; phenolics;phenylpropanoid biosynthesis pathway
【中文摘要】成熟的棉花纤维是由单细胞发育而成,拥有特化加厚的次生细胞壁。本研究的目的是利用分子生物学技术,光谱分析和化学分析技术去探索棉纤维次生细胞壁发育过程中酚类物质的积累。定量RT-PCR分析表明棉花七个CAD同源基因中,GhCAD6和GhCAD1在纤维中显著的表达,并且GhCAD6与纤维次生细胞壁的发育时期上调表达。系统发生分析表明GhCAD6处于直接参与木质素单体合成的第I类CAD基因家族分支上,GhCAD1处于木质素单体补偿代谢的第III类CAD基因家族分支上。氨基酸序列比对分析表明GhCADs具有作为CAD蛋白特征的的辅助因子结合位点。而GhCAD1蛋白的底物结合位点同GhCAD6不尽一致,同时酶活分析也表明GhCAD1和GhCAD2具有不同的底物催化活性。细胞壁自发荧光,FTIR,HPLC以及化学分析都表明酚类物质附着于成熟棉纤维的细胞壁中。上述发现为棉纤维品质的遗传改良提供了新的思路。
【英文摘要】The mature cotton (Gossypium hirsutum L.) fiber is a single cell with a typically thickened secondary cell wall. The aim of this research was to use molecular, spectroscopic and chemical techniques to investigate the possible occurrence of previously overlooked accumulation of phenolics during secondary cell wall formation in cotton fibers. Relative quantitative reverse transcription-polymerase chain reaction analysis showed that GhCAD6 and GhCAD1 were predominantly expressed among seven gene homologs, only GhCAD6 was up-regulated during secondary wall formation in cotton fibers. Phylogenic analysis revealed that GhCAD6 belonged to Class I and was proposed to have a major role in monolignol biosynthesis, and GhCAD1 belonged to Class III and was proposed to have a compensatory mechanism for monolignol biosynthesis. Amino acid sequence comparison showed that the cofactor binding sites of GhCADs were highly conserved with high similarity and identity to bona fide cinnamyl alcohol dehydrogenases. The substrate binding site of GhCAD1 is different from GhCAD6. This difference was confirmed by the different catalytic activities observed with the enzymes. Cell wall auto-fluorescence, Fourier transform infrared spectroscopy (FTIR), high-performance liquid chromatography (HPLC) and chemical analyses confirmed that phenolic compounds were bound to the cell walls of mature cotton fibers. Our findings may suggest a potential for genetic manipulation of cotton fiber properties, which are of central importance to agricultural, cotton processing and textile industries.
【语种】英文
【第一作者】范玲
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【学科分类】分子生物学

【题目】棉花咖啡酸-O-甲基转移酶基因的克隆及特征分析
【中文关键词】棉花;咖啡酸-O-甲基转移酶基因;基因克隆;表达分析;原核表达
【英文关键词】Gossypium hirsuturm L.; caffeic acid O-methyltransferase; gene cloning; expression analysis; prokaryotic expression
【中文摘要】【目的】克隆棉花木质素合成关键酶基因GhCOMT1、GhCOMT2和GhCOMT3全长cDNA序列,分析其在不同组织部位的表达情况并进行原核表达研究。【方法】根据棉花纤维特异表达cDNA文库分析得到的EST序列设计引物,采用RT-PCR技术克隆基因,用生物信息学方法对获得的cDNA序列及推定的氨基酸序列进行分析。采用半定量RT-PCR方法研究GhCOMT1、GhCOMT2和GhCOMT3在不同组织中的表达。构建了基因的原核表达载体,经酶切鉴定后转化到大肠杆菌BL21(DE3)中并诱导表达。【结果】从发育的棉花纤维中克隆了3个COMT基因cDNAs, GhCOMT1(GenBank登录号为FJ479708)、GhCOMT2(GenBank登录号为FJ479709)和GhCOMT3(GenBank 登录号为FJ848869)分别具有1 101 bp、1 098 bp、1 071 bp的开放阅读框,各自编码366、365和356个氨基酸。GhCOMT1、GhCOMT2和GhCOMT3在棉花各个组织中都有表达,GhCOMT1和GhCOMT2在根部的表达量最高,GhCOMT3在茎中表达量最高。SDS-PAGE电泳分析表明,3个蛋白的最佳诱导表达条件均为0.2 mmol·L-1IPTG在37℃下诱导6 h。【结论】从棉花中克隆了3个木质素合成关键酶基因GhCOMT1、GhCOMT2和GhCOMT3,为进一步的生物学功能研究及其应用奠定了基础。
【英文摘要】【Objective】 In this study, full-length cDNA of a key enzyme genes GhCOMT1, GhCOMT2 and GhCOMT3 related to lignin metabolism in cotton (Gossypium hirsuturm L.) were isolated. Analysis of the expression of GhCOMT1, GhCOMT2 and GhCOMT3 genes in different tissues of cotton was carried out and the genes were also expressed in the prokaryote. 【Method】 According to the results of cotton fibre preferentially expressed cDNA library analysis, the primers of EST sequence were designed. RT-PCR method was used to clone GhCOMT1, GhCOMT2 and GhCOMT3 genes, bioinformatics methods were used to analyze the obtained cDNAs sequence and the amino acid sequences were deduced. The expression of GhCOMT1, GhCOMT2 and GhCOMT3 genes in different tissues of cotton was analyzed by semi-quantitative RT-PCR. The full-length open reading frames were fused into a prokaryotic expression vector pET-28a, and then introduced into E.coli BL21(DE3)cells. 【Result】 Three genes coding for COMT, designated as GhCOMT1 (GenBank accession no.FJ479708), GhCOMT2 (GenBank accession no.FJ479709) and GhCOMT3 (GenBank accession no.FJ848869) were isolated from the developing cotton fibres. GhCOMT1, GhCOMT2 and GhCOMT3 contain open reading frames of 1 101 bp, 1 098 bp and 1 071 bp encoding proteins of 366, 365 and 356 amino acid residues, respectively. Semi-quantitative RT-PCR analysis revealed that GhCOMT1, GhCOMT2 and GhCOMT3 were differentially expressed in different tissues, and GhCOMT1 and GhCOMT2 mRNA accumulated most abundantly in root, GhCOMT3 was highly expressed in stem. Analysis of SDS-PAGE indicated that the highest expression quantity of the three proteins were induced by 0.2 mmol·L-1 IPTG treatment for 6 h at 37°C. 【Conclusion】 This paper reported the isolation and characterization of three COMT cDNAs clones involved in the lignin biosynthesis of cotton plants. Furthermore, the structure and function of these genes were analyzed and predicted.
【语种】中文
【第一作者】倪志勇
【通讯作者】范玲
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【引文索引号】null
【学科分类】分子生物学

【题目】农作物秸秆多功能粉碎机的试验研究
【中文关键词】秸秆;粉碎机;试验;研究
【英文关键词】Straw; Muller; Test; Research
【中文摘要】在分析多功能秸秆粉碎机技术原理的基础上,利用稻草 麦秸 油菜秆 花生壳 玉米秸秆等原料,分别对秸秆原料粉碎前后的含水率 原料和成品容重 空载转速 空载功率 负荷转速 生产率 吨料电耗等技术性能进行了试验研究,通过研究得知,多功能秸秆粉碎机性能好,适应性广,吨料能耗低,生产率稳定,是用于农作物秸秆粉碎的理想机械。

【英文摘要】Under the base of analyzing the theory of mutli- function muller. Use the strawof rice and wheat ,straw of cole , hull of earthnut and straw of corn as the material, to test the capability ,suitability , moisture content of material before it been crush, bulk density of material and product, no load rotational speed, no load power, load rotational speed ,productivity, electricity power consume per ton and so on of this machine to get its capability. We lean from those trial that this mutli- function muller is an idea machine to crush the crop straw, because its good capability, wide flexibility, lowelectricity consume and stable productivity.
【语种】中文
【第一作者】肖宏儒
【通讯作者】肖宏儒
【期刊名称、卷期、页码】农业装备技术,2009,35(5):8-12
【论文发表时间】2009-10-01 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农学其他学科

【题目】Influences of grassland degradation on forage availability by sheep in the Inner Mongolian steppes of China
【中文关键词】forage availability Inner Mongolian steppes rumen degradation sheep
【英文关键词】forage availability Inner Mongolian steppes rumen degradation sheep
【中文摘要】The objectives of this experiment were: (i) to investigate the effects of maturing stages and grassland degradationon the chemical composition of forages, and their rumen degradability of organic matter (OM), CP, NDF, non-fiber carbohydrates (NFC), and carbohydrates (CHO) using nylon bags incubated in sheep rumen; and (ii) to evaluate the forage availability for the undegraded and degraded grasslands in the Inner Mongolian steppes, China, based on effective degraded nutrients.
【英文摘要】In China and throughout the world, evaluation of the nutrient values of forages has always lagged behind research regarding the nutrient requirements of animals. In this study, the effective degradability and availability of forages wereevaluated on undegraded and degraded grassland using a technique where nylon bags were incubated in sheep rumen.We found that the concentrations of organic matter (OM), neutral detergent fiber (NDF), non-fiber carbohydrates (NFC) and carbohydrates (CHO) of forage were higher ($P < 0.05$) and the crude protein (CP) concentration was lower ($P < 0.05$)in the degraded grassland than in the undegraded grassland. The effective degradability (ED) of NFC (EDNFC) was higher ($P < 0.05$) and EDCHO and EDNDF were lower in the undegraded grassland than in the degraded grassland. The EDOM and EDCP were not affected by the type of grassland, which may explain why ED is an inadequate parameter for the evaluation of forage availability. According to an analysis of the ratio of effectively degraded N to OM and NFC, plants of the undegraded grassland can provide more digestive nutrients to meet the requirements of grazing animals compared to plants of the degraded grassland. Results suggested that it is inadequate to consider only chemical composition and effective degradability when evaluating forage availability with grassland degradation. The ratio of effectively degraded N to OM and NFC was an appropriate indicator.
【语种】英文
【第一作者】王成杰
【通讯作者】Shiping Wang
【期刊名称、卷期、页码】Animal Science Journal, 2011, 82: 537-542
【论文发表时间】2010-08-18 00:00:00
【引文索引类型】SCI
【引文索引号】1344-3941
【学科分类】畜牧学

【题目】Impact of Stocking Rate and Rainfall on Sheep Performance in a Desert Steppe
【中文关键词】live weight gain optimal stocking rate grazing management sheep Stipa breviflora Griseb. Inner Mongolia
【英文关键词】live weight gain optimal stocking rate grazing management sheep Stipa breviflora Griseb. Inner Mongolia
【中文摘要】本文章主要研究了内蒙古荒漠草原不同载畜率对放牧家畜生产性能的影响,并基于家畜的体重变化,提出了荒漠草原适宜的载畜率,为内蒙古荒漠草原草地管理提供了一定的理论参考。
【英文摘要】Livestock performance is a critical indicator of grassland production systems, and is influenced strongly by precipitation and stocking rates. However, these relationships require further investigation in the arid Desert Steppe region of northeastern China. We employed a randomized complete block design with three replications and four grazing treatments (non-grazed exclosure

[Control]), lightly grazed [LG], moderately grazed [MG] and heavily grazed [HG]) by sheep in a continuously grazed system (June to November), to test the effect of stocking rate on sheep performance. The planned stocking rates were 0, 0.15, 0.30 and 0.45 sheep · ha-1 · mo-1, for the control, LG, MG and HG treatments, respectively. However, actual stocking rates were calculated for each paddock in each year based on a 50 kg sheep equivalent (SE). Annual net primary production (ANPP) was determined at peak standing crop in August, 2004 to 2008. Live weight gain was determined for the summer and fall periods, as well as the total grazing period, in each year. ANPP decreased with increasing stocking rate and daily live weight gain per head decreased linearly with increasing stocking rates over the total grazing period but in a quadratic manner over the summer period with a plateau at the lower rates. Maximum sheep production per unit area over the total grazing season occurred at about 2 SE ha-1 for about a 5 month grazing period but individual gains per sheep were predicted to decline after about 1 SE ha-1 presumably because of forage limitations. However, in order to achieve stable annual production, we recommend that the Desert Steppe be grazed at about 0.77 SE ha-1 for a 5-month period (0.15 SE ha-1 mo-1). This estimate is based on published grazing strategies that consider an average ANPP with a recommended utilization rate of 30%.

【语种】英文
【第一作者】王忠武
【通讯作者】韩国栋
【期刊名称、卷期、页码】Rangeland ecology and management, 2011, 64:249-256
【论文发表时间】2011-01-14 00:00:00
【引文索引类型】SCI
【引文索引号】1550-7424
【学科分类】生态学

【题目】Influence of increasing temperature and nitrogen input on greenhouse gas emissions from a desert steppe soil in Inner Mongolia
【中文关键词】Desert steppe Increasing temperature Methane N fertilizer application Nitrous oxide
【英文关键词】Desert steppe Increasing temperature Methane N fertilizer application Nitrous oxide
【中文摘要】本文章主要对内蒙古荒漠草原在增温和施氮条件下,温室气体排放的变化规律和趋势,对荒漠草原温室气体的研究具有一定的理论意义。
【英文摘要】We investigated the effect of increasing soil temperature and nitrogen on greenhouse gas (GHG: CO2, CH4 and N2O) emissions from a desert steppe soil in Inner Mongolia, China. Two temperature levels (heating vs. no heating) and two N fertilizer application levels (0 and 100 kg N ha-1 yr-1) were examined in a complete randomized design with 6 replications. The GHG surface fluxes and their concentrations in soil (0 to 50 cm) were collected bi-weekly from June 2006 to November 2007. CO2 and N2O emissions were not affected by heating or N treatment, but compared with other seasons, CO2 was higher in summer (average of 29.6 vs 8.6 mg C m-2 hr-1 over all other seasons) and N2O was lower in winter (average of 2.6 vs 4.0 mg N m-2 hr-1 over all other seasons). Desert steppe soil is a CH4 sink with the highest rate of consumption occurring in summer. Heating decreased CH4 consumption only in the summer. Increasing surface soil temperature by 1.3 ° C or applying 100 kg ha-1 yr-1 N fertilizer had no effect on the overall GHG emissions. Seasonal variability in GHG emission reflected changes in temperature and soil moisture content. At a average CH4 consumption rate of 31.65 μg C m-2 hr-1, the 30.73 million ha of desert steppe soil in Inner Mongolia can consume (sequestrate) about 85 *106 kg CH4-C, an offset equivalent to 711 *106 kg CO2-C emissions annually. Thus, desert steppe soil should be considered an important CH4 sink and its potential in reducing GHG emission and mitigating climate change warrants further investigation.
【语种】英文
【第一作者】王忠武
【通讯作者】韩国栋
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【引文索引号】0718-9516
【学科分类】生态学

【题目】Grazer exclusion increases carbon storage in the world ’ s largest grassland (Inner Mongolia, China.

【中文关键词】grazing exclusion vegetation soil properties soil microbial biomass soil organic carbon soil inorganic carbon
【英文关键词】grazing exclusion vegetation soil properties soil microbial biomass soil organic carbon soil inorganic carbon
【中文摘要】This study used the establishment of the 5400km2 Helan Mountain Reserve as an opportunity to study the consequences of grazer exclusion on SOC and SIC pools within the plant soil system and to relate differences insoil C to changes in vegetation and soil properties.
【英文摘要】The Alxa desert steppe has been strongly degraded by overgrazing, contributing c. 22% of the total springtime dust originating from Asia. Previous work in this region has focused on the impacts of grazer exclusion on restoration of vegetation and soil fertility, yet carbon dynamics are not well known. The effects of 7 years of grazer exclusion on carbon dynamics were studied and related to changes in vegetation and soil properties. Removal of grazing resulted in a significantly greater plant cover and aboveground plant biomass compared with areas that had been subject to grazing, but this had no effects on belowground plant biomass. Removal of grazing resulted in significantly decreased soil bulk density in the 0_10 cm layer, increased soil water content (7% cf. 40%) and greater soil microbial biomass C (6% cf. 73%) compared with soils in the grazed area. Soil organic carbon (SOC) pools were lower and soil inorganic carbon (SIC) pools were higher in areas that were excluded from grazing. After 7 years of grazer exclusion, the total C pool in the plant_soil system was 10% greater (primarily due to 21% greater in SIC) than that in the area that had been grazed over that time period.
【语种】英文
【第一作者】D Niu
【通讯作者】Fu Hua
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【引文索引号】0028-8233
【学科分类】生态学

【题目】Can plant litter affect net primary production of a typical steppe in Inner Mongolia?
【中文关键词】Growing degree-days Leymus chinensis Litter addition Litter removal Soil moisture Stipa grandis
【英文关键词】Growing degree-days Leymus chinensis Litter addition Litter removal Soil moisture Stipa grandis
【中文摘要】本文章主要通过对比研究,得出添加和移除凋落物对内蒙古典型草原净初级生产力以及土壤水分和温度的影响,以期为草地的合理利用和可持续管理提供基础数据。
【英文摘要】Question: Litter (dead leaves or stems) affects production by conserving soil moisture. However, that role is not clear for grasslands where most precipitation falls during the growing season when the demand for water is high. Our question was: Does litter affect forage production in such an environment? Location: Typical steppe, Inner Mongolia. Methods: We examined the role of plant litter in two experiments where litter was either removed or added in a protected or heavily grazed site, respectively, in autumn and in spring in a split plot design. The treatments (control, moderate and heavy litter application) were applied once in five replications but repeated at new locations in each of 3 years. This was done to examine only the direct effect of litter on annual net primary production and selected plant characteristics and not potential secondary effects. We also measured soil moisture and soil temperature. Results: Removing litter caused a reduction in the amount of grass (Leymus chinensis) that was produced, but litter addition caused an inconsistent effect among years, with moderate applications producing the most positive effects. Litter removal resulted in shorter and less dense plants of L. chinensis and Carex duriuscula, while heavy litter addition in autumn reduced plant height of both Cleistogenes squarrosa and C. duriuscula. Conclusions: Litter was effective for enhancing soil moisture status and reducing soil heat units in the typical steppe of Inner Mongolia. Therefore, litter mass may serve as an index of grassland health in such environments.
【语种】英文
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【学科分类】畜牧学

【题目】Partitioning soil respiration and assessing the carbon balance in a Setaria italica (L.) Beauv. cropland on the Loess Plateau, Northern China

【中文关键词】Soil respiration Microbial respiration Root respiration Carbon balance Cropland Loess Plateau

【英文关键词】Soil respiration Microbial respiration Root respiration Carbon balance Cropland Loess Plateau

【中文摘要】A study was conducted in a Setaria italica (L.) Beauv. cropland on the Loess Plateau in order to partition total soil respiration (Rt) into microbial respiration (Rm) and root respiration (Rr) and to determine the carbon balance of the cropland ecosystem. This study aimed to (1) quantify the contribution of root respiration to total soil respiration (Rr/Rt ratios) during the different phenological stages, and for the whole growing season with trenching method; (2) describe the diurnal and seasonal variation in total soil respiration, microbial respiration, root respiration and Rr/Rt ratio; (3) analyze the main factors influencing each component of soil respiration; (4) calculate the C balance in the cropland system.

【英文摘要】A study was conducted in a Setaria italica (L.) Beauv. cropland on the Loess Plateau in order to partition total soil respiration (Rt) into microbial respiration (Rm) and root respiration (Rr) and to determine the carbon balance of the cropland ecosystem. A trenching method with micro-pore mesh was used to create root-free soil cores. Differences between mesh and non-mesh treatments were used to determine root respiration. Similar pattern was found in the diurnal variation of Rt and Rm with the minimum values at 3:00e6:00 h and the maximum at 13:00e15:00 h. The diurnal pattern of Rr was ompletely different, the minimum values appeared at 11:00e13:00 h and the maximum at 0:00e3:00 h. Soil temperature exerted predominant control over the diurnal variations of Rt and Rm. The daily mean values of Rt, Rm and Rr were close to the measurements taken at 9:00 h. On the seasonal scale, Rm was strongly dependent on soil temperature, with higher correlation with 2-cm-depth temperature (r2=0.79, P < 0.001) than with 5-cm-depth temperature. When the effects of both soil temperature and moisture were considered, a linear model provided more accurate prediction of Rm (r2 = 0.83, P < 0.0001). Root respiration (Rr) exhibited pronounced daily variation corresponding to changes in photosynthesis and seasonal variation related to crop phonological development. The seasonal variation in Rr was strongly correlated with leaf area index (LAI) (r2 ? 0.85, P < 0.05), and also positively, but marginally correlated with root biomass (RB, P = 0.073). Contribution of root respiration to total soil respiration (Rr/Rt ratio) showed pronounced diurnal and seasonal variations. The daily mean values of Rr/Rt ratios were close to the values obtained at 9:00 h. In different phenological stages, Rr/Rt ratios ranged from 22.3% to 86.6%; over the entire growing season, the mean Rr/Rt ratio was 67.3%. Total annual loss of C due to Rm in 2007 was estimated to be 121.3 g C m_2 at the study site, while the annual NPP (net primary production) was 262.1 g C m-2. The cropland system thus showed net carbon input of 140.8 g C m-2.

【语种】英文

【第一作者】Xudong Li

【通讯作者】Xudong Li, Fuhua

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【学科分类】畜牧、兽医科学基础学科

【题目】氮素添加对黄土高原典型草原长芒草氮磷重吸收效率及C:N:P化学计量特征的影响

【中文关键词】生态化学计量学, 黄土高原, 氮素添加,养分限制, 养分重吸收率

【英文关键词】ecological stoichiometry Loess Plateau nitrogen addition nutrient limitation nutrient resorption efficiency

【中文摘要】为了解氮素沉降对草地群落的影响, 通过人工氮肥添加模拟试验, 研究了黄土高原天然草地优势植物长芒草(Stipa bungeana)在不同施氮水平下叶片和立枯物碳(C)、氮(N)、磷(P)元素含量的变化特征, 探讨了N素增加对N、P重吸收率和C : N :P化学计量比的影响及其内在联系。进一步探讨土壤N、P养分格局对植物生长的相对限制性作用, 为科学管理草地提供依据。

【英文摘要】Aims Our purpose was to study the effects of deposition of nitrogen (N) on plant carbon (C), N, phosphorus (P), N and P nutrient resorption efficiencies, C : N : P stoichiometry and their internal relations on Stipa bungeana of Loess Plateau natural grassland. Methods Deposition of N was simulated by N fertilization at four levels. Changes of C, N and P contents were detected, and C : N : P and the N and P nutrient resorption efficiencies were estimated for S. bungeana. Important findings The C and N contents of leaves and N and P contents of standing litter increased significantly with N addition. However, the P content of leaves and C content of standing litter did not response to N addition. The N and P resorption efficiencies of S. bungeana decreased significantly with N

addition. When there was no N addition, N and P resorption efficiencies were highest (60.35% and 71.75%, respectively). Meanwhile, the P resorption efficiency was greater than that of N in same treatment. The C : N of S. bungeana decreased gradually with N addition, but the N : P and C : P increased with N addition. Values of the N : P were 18.25 – 29.01. The results showed the Loess Plateau natural grassland was mainly limited by P, and the strength of P limitation was enhanced with N deposition. Higher N and P resorption efficiencies were an important strategy for S. bungeana to survive soil infertility.

【语种】中文
【第一作者】安卓
【通讯作者】傅华
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【学科分类】生态学

【题目】长芒草不同季节碳氮磷生态化学计量特征
【中文关键词】养分含量,生育阶段,生长速率,生态化学计量特征,内稳性
【英文关键词】nutrient dynamics growth phase specific growth rate stoichiometry homeostasis
【中文摘要】本文为探讨高等植物不同发育阶段碳(C) 、氮(N) 、磷(P) 元素含量及其计量比的内稳性特征以及与生长速率的关系, 研究了黄土高原天然草地建群种植物长芒草(S tip a bungeana) 地上组织C、N、P含量季节动态及其化学计量比的变化, 探讨家畜采食对植物体内元素内稳性的影响。
【英文摘要】Less is known about whether the Homeostasis Theory and Growth Rate Hypothesis work in higher plants. Our objective was to study the seasonal dynamics of carbon (C) 、 nitrogen (N) and phosphorus (P) content s and test the Growth Rate Hypothesis in wild higher plant s. Additionally, w e tried to explore the influence of grazing on plants homeostasis traits. T his study w as conducted at Semi Arid Climate and Environment Obwervatory of Lanzhou University in Loess Plateau (35 ° 57' N, 104 ° 09' E). We collected the above ground biomass o f Stip abungeana in the grazed and ex closure treatments in different seasons and quantified the C, N and P content s in the leaf t issue. The specific growth rates of plant S. bungeana were calculated and seasonal dynamics of C: N, C:P and N :P ratios were described. In the ex closure (1) the aboveground biomass of S. bungeana accumulated graduall, and the maximum specific growth rate occurred during the period from March to May. Meanwhile, during this period, plant grew with higher C : N, C :P, N : P ratios. Combined, these results did not support the Growth Rate Hypothesis; (2) the C content in S. bungeana increased significantly from March to May, but there were no differences among the C contents from May to September. The maximum values of N and P contents occurred in March, but the N and P contents decreased gradually from May to September. From March to September, the C :N and C : P ratios increased gradually , but N:P ratio increased firstly and then decreased. Finally, there w ere small variations in C content and N : P ratios (3. 65% and 6. 60% , respectively) during these four seasons, which showed strong homeostasis in both above parameters. However, there w ere huge variations in N、 P content s and C: N、 C :P ratios, and all of these values w ere bigger than 30% . In the grazed treatment (1) the dynamics of C and N content s in S . bungeana were similar to those in the ex closure, but the P content in September w as bigger than that in July. Additionally, grazing resulted in higher N and P content s compared to those in the ex closure, and lower C :N and C :P ratios in the grazed site. While, N :P ratios were bigger in grazed site than those in the excosure in both May and July. (2) there were also small variations in C content and N P ratios during these four seasons in the grazed treatment, but the variation of N :P ratios (21. 30%) is markedly bigger than that in the ex closure (6. 60%) .
【语种】中文
【第一作者】牛得草
【通讯作者】傅华
【期刊名称、卷期、页码】草业科学,2011,28(6):913-920
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【引文索引号】1001-0629
【学科分类】植物学

【题目】施肥对玛曲县高寒草甸植物多样性及生产力的影响

【中文关键词】施肥,高寒草甸,生产力,植物多样性
【英文关键词】fertilization alpine meadow productivity plant diversity
【中文摘要】本研究比较了4 个不同施肥处理(S0 不施肥, S1 施肥11. 25 t/ hm2 , S2 施肥22. 50 t/ hm2 , S3 施肥33. 75 t/ hm2) 下玛曲高寒草甸植物群落的响应特征。探讨了短时间内植物群落对不同施肥梯度下的响应特征, 为高寒草甸生态系统的恢复提供了一定的技术与理论依据。
【英文摘要】fertilization of 33. 75 t/ ha) .The result s showed that: (1) the vegetation cover degrees o f S1 and S3 were significantly higher than that of S0 , the vegetation heights of S1 and S2 w ere less than S0 ; (2) The total biomass o f plant communities showed an increasing t rend but with no significant difference, as far as the response of functional groups was different of Sedge biomass of S1 , S2 , and S3 , and the proportion o f total biomass were significantly different with the S0 in which Cyperaceae and Graminea biomass showed a decline t rends. (3) T he Pielou index of S1 , S2 , S3 decreased compared with that o f S0 , T he Simpson index o f S1 and S3 decreased significantly compared with that o f S0 .
【语种】中文
【第一作者】韩潼
【通讯作者】牛得草
【期刊名称、卷期、页码】草业科学,2011,28(6):926-930
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【引文索引号】1001-0629
【学科分类】畜牧、兽医科学基础学科

【题目】放牧强度对内蒙古大针茅典型草原地下生物量及其垂直分布的影响
【中文关键词】放牧强度,地下生物量,垂直分布
【英文关键词】Grazing intensity underground biomass vertical distribution
【中文摘要】本文以内蒙古大针茅典型草原为研究对象,通过测定不同放牧强度下土壤各个层次中的地下生物量,探讨随放牧强度增加植物地下生物量及其垂直分布的变化情况,目的是研究植物地下生物量对放牧强度的响应,为草地合理管理提供基础数据。
【英文摘要】This paper takes Typical Stipa Grandis Steppe as research object,based on the change of the underground biomass in different grazing intensities of all soil layers,we discussed the underground biomass and its vertical distribution change with increasing grazing intensities ,in order to analyze the response of vegetation underground biomass to grazing intensities,and provide basic data for rational utilization of grassland. The results showed that,with increasing grazing intensity total underground biomass reduced in 0 - 100cm soil layer . By analyzing the vegetation underground biomass layer - by - layer ,we found underground biomass of surface layer increased in light grazing,while it decreased in moderate and heavy grazing. With increasing depth vegetation underground biomass reduced in all grazing intensities,however the reduced range gradually decreased . Grazing will influence vertical distribution of vegetation underground biomass,and increase inhomogeneity of vertical distribution of underground biomass,meanwhile the phenomenon of underground biomass tends to surface becomes more obvious.
【语种】中文
【第一作者】李怡
【通讯作者】韩国栋
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【学科分类】生态学

【题目】载畜率对短花针茅荒漠草原植物群落和绵羊体重的影响
【中文关键词】荒漠草原,载畜率,群落特征,绵羊体重
【英文关键词】Desert steppe stocking rate community characteristics sheep weight
【中文摘要】本文在不同载畜率条件下对生长旺季荒漠草原植物群落特性和绵羊体重进行了比较,旨在为草地适宜载畜率的确定提供基础数据。研究结果表明: 植物群落总盖度、高度、地上生物量随着绵羊载畜率增大均普遍降低; 植物重要值无芒隐子草、短花针茅、冷蒿、阿氏旋花始终占优; 绵羊个体增重和日增重均表现为轻牧>中牧>重牧,公顷增重随载畜率

升高表现为先增加后减小的趋势。
【英文摘要】This study compared the vegetation community condition on desert steppe in August under different stocking rate,and analyzed the influence of stocking rate on vegetation condition and sheep weight,aiming to provide theoretical basis for rational utilization on grassland grazing. The result shows that: with increasing stoking pressure,the plant total coverage,height,aboveground biomass decreased respectively; the IV of Stipa breviflora,Artemisia frigida,Cleistogenes songorica,Convolvulus ammannii approached dominance all the time. the sheep weight gain and daily weight gain both are light grazing > moderate grazing > heavy grazing,the weight gain per ha increased at first and the decreased with increasing stocking rate.
【语种】中文
【第一作者】张亮亮
【通讯作者】韩国栋
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【题目】载畜率对荒漠草原植物群落影响的研究
【中文关键词】荒漠草原,载畜率,多样性指数,重要值
【英文关键词】Desert steppe Stocking rate Diversity index Importance value
【中文摘要】本文对不同载畜率下短花针茅荒漠草原植物群落特征进行了比较,对比了不同载畜率下不同植物种的变化特征,并通过计算不同物种的重要值及群落的多样性指数,揭示了载畜率对内蒙古荒漠草原植被生态系统的综合影响。为草原生物多样性保护和草原生物资源的可持续利用提供依据。
【英文摘要】Through the research on the compare of the characteristics of plant community under different stocking rates on Stipa breviflora in desert steppe, the results showed that the coverage of different plant populations had the different response to the different stocking rates, the coverage of Cleistogenes songorica under light g razing w as the highest, and the highest coverages of Neopallasia pectinata in July and August were found in medium grazing areas and light g razing areas. The height of Stipa breviflora, Artemisia frigida, Convolvulus ammannii, Allium tenuissimum, Kochia prostrate decreased significantly as the stocking rate increasing. While there is no significant difference in height of Salsola collina under these four stocking rates. With the increasing stocking rate, the aboveground biomass of the plant community decreased, and it had a significant difference among different stocking rates. The status of community constructive species and dominant species were not significant different on different stocking rate. However, the importance value o f annual Salsola collina enhanced and reached the maximum under heavy grazing; Shannon- wiener index, Simpson index and Pielou evenness index reached the maximum under light grazing, the value of Shannon - wiener index and Simpson index showed that light grazing> moderate grazing> heavy g razing> no g razing, and there w ere significant differences between no grazing and light grazing.
【语种】中文
【第一作者】贾乐
【通讯作者】赵萌莉
【期刊名称、卷期、页码】中国草地学报, 2011, 33(4):111-116
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【学科分类】生态学

【题目】放牧强度对草甸草原地下生物量及碳密度的影响
【中文关键词】放牧强度,植物根系,碳密度
【英文关键词】grazing intensity plant root root carbon density
【中文摘要】本文选取草甸草原上的三家牧户作为样地, 研究了在不同的放牧强度对草甸草原植物根系碳密度的影响。研究结果表明植物根系碳密度在轻度放牧显著高于中度和重度放牧草地。根系碳密度与根系深度之间呈幂函数关系。
【英文摘要】This paper selected three households in the meadow steppe as the study sample, and study the effects of different grazing intensities on the root carbon density in the meadow steppe. The results showed that the root carbon density was significant higher in

the light grazing intensity than the moderate and heavy grazing intensities. There is a power function relationship between root carbon density and the root depth in the soil.
【语种】中文
【第一作者】包尔吉干·安齐尔
【通讯作者】韩国栋
【期刊名称、卷期、页码】内蒙古草业, 2011, 23(2):42-45
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【学科分类】生态学

【题目】放牧与围封对黄土高原典型草原植物生物量及其碳氮磷贮量的影响
【中文关键词】典型草原,放牧,植物生物量,碳,氮,磷
【英文关键词】typical steppe grazing plant biomass C N P
【中文摘要】本文将黄土高原典型草原植物亚生态系分为地上活体、立枯物、凋落物和地下根系4 个部分,进行放牧与围封草地植物生物量及其碳、氮、磷贮量的研究。结果表明,放牧与围封草地各组分碳、氮、磷贮量的季节动态模式与其对应生物量变化规律一致。放牧草地主要通过地上幼嫩器官生物量和氮、磷含量的增加来获得较大氮磷贮量,并以此提高草地利用率。
【英文摘要】The plant subsystem in typical steppe grassland of the Loess Plateau was divided into four components: live shoots, standing dead matter, litter, and underground roots. The plant biomass of these four components and t heir C, N, and P contents were studied in grazed (GG) and fenced (FG) grasslands. The seasonal dynamics of each component biomass was correlated with t heir C , N and P content s both in grazed and fenced grasslands. There were significant positive correlations between plant biomass and C, N , and P content s , with correlation coefficient s of 0.990, 0.899, 0.936(FG) and 0.990, 0. 891, 0.936 (GG), respectively. The differences in C, N, and P content s of each plant component were caused by t he difference in plant biomass. The total biomass , aboveground and underground biomass , standing dead matter and litter , and t heir C , N , and P content s were significantly (P < 0. 05) higher in fenced grassland than t hose in grazed grassland. The N and P content s in live shoot s were highest in July, and significantly (P < 0. 05) lower in fenced (1. 291 8 and 0. 083 7 g/ m2 for N and P respectively) than in grazed (1. 529 7 and 0. 100 2 g/ m2 for N and P respectively) grassland. The result s indicate t hat t he higher plant N , P storages in grazed grassland were mainly attributed to the in2 creases of young organ biomass and t heir N , P contents , which further improve t he utilization of grassland.
【语种】中文
【第一作者】董晓玉
【通讯作者】傅华
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【学科分类】畜牧学

【题目】虾夷扇贝养殖群体数量性状遗传研究
【中文关键词】虾夷扇贝; 养殖群体; 家系; 数量性状; 遗传参数; 遗传力; 选择反应; 遗传获得; 自体受精; 近交衰退; 杂种优势;
【英文关键词】Japanese scallop; Patinopecten yessoensis Jay; Cultured Populations; Families; Quantitative traits; Genetic parameters; Heretability; Response to selection; Genetic gain; Self-fertilization; Inbreeding depression; Heterosis;
【中文摘要】本论文以虾夷扇贝养殖群体为对象,在评估其形态指标遗传参数的基础上,通过建立各种家系和群体,研究了生长、存活等生产性状的遗传力、选择反应、遗传获得、近交衰退、杂种优势,主要结果如下:1、养殖群体形态指标遗传参数的评估:采用相关分析研究了壳高、壳长、壳宽、闭壳肌重和全湿重等表型性状之间的相关性,发现各表型性状间均存在显著的相关,其中壳高与全湿重之间的相关系数最大;采用通径分析方法计算表型性状为自变量对全湿重为依变量的通经系数,结果表明:全湿重受壳高的直接影响为最大,闭壳肌重受壳宽的直接影响最大。此外,采用回归分析建立了全湿重/闭壳肌重与壳长、壳高、壳宽之间的方程。2、大群选择及遗传获得:利用截头选择法对养殖群体的壳高进行了双向选择。从第10天开始,显著性的差异始终存在于选择组与对照组间,壳高大小依次为上选组>对照组>下选组。一代选择后,上选

组和下选组的选择反应分别是0.473和0.380,现实遗传力分别是0.269和0.217,遗传获得分别为7.85%和6.60%。这些结果表明对于虾夷扇贝养殖群体生长进行群体选择是有效的。3、群体遗传力的估算:采用平衡巢式设计通过建立8个半同胞家系和32个全同胞家系,估算了虾夷扇贝养殖群体的狭义遗传力。1日龄幼虫壳长、壳高的遗传力为0.521±0.104和0.307±0.097,10日龄幼虫壳长、壳高的遗传力为0.307±0.074和0.311±0.075;20日龄幼虫壳长、壳高的遗传力为0.336±0.079和0.314±0.075;40日龄稚贝壳长、壳高的遗传力为0.318±0.081和0.280±0.075;60日龄稚贝壳长、壳高的遗传力为0.383±0.091和0.423±0.097;500日龄成贝的壳长、壳高、壳宽、全湿重的遗传力分别为0.375±0.096、0.358±0.094、0.513±0.116、0.420±0.103。4、自交与近交衰退的研究:利用虾夷扇贝养殖群体中的雌雄同体个体建立了10个自交系,并利用群体中的雌雄异体个体建立了1个混交对照系研究了虾夷扇贝雌雄同体的自交建系与近交衰退。结果表明,雌雄同体的虾夷扇贝能够自体受精,并可培育到养成期,但自交导致生产性状显著的近交衰退。壳长与壳高的近交衰退率在幼虫期、稚贝期、幼贝养成期中分别为7.73%、13.72%、15.14%和8.03%、13.90%、15.96%,存活的近交衰退率在幼虫期和养成期分别为35.52%和52.58%。5、群体间杂交及杂种优势的研究:对来自中国长海的亲本群体(C)和日本仙台的亲本群体(J)进行了完全双列杂交,研究了虾夷扇贝远不同养殖群体间的杂交。结果表明,虾夷扇贝不同养殖群体之间不但能够杂交,而且在受精、孵化、生长、存活等方面均能够产生明显的杂种优势。受精率和孵化率的杂种优势率分别为2.27%和5.35%;在各生长期,组合CJ壳长、壳高的杂种优势率分别为0.82%~13.33%、1.32%~14.28%,组合JC壳长、壳高的杂种优势率分别为1.72%~2.94%、2.35%~4.28%;稚贝期、养成期群体间杂交的中亲杂种优势居于群体C的单亲杂种优势和群体J的单亲杂种优势之间。

【英文摘要】Based on the estimation of genetic parameters in morphological traits, heritability,responses to selection, genetic gain, inbreeding depression, and heterosis for quantitative traits in growth and survival on the Japanese scallop Patinopecten yessoensis Jay were studied by establishing various cultured populations and families in this study. The main results were as the following:1. Estimation of genetic parameters in morphological traitsRelativity among shell length, shell width, shell height, adductor muscle weight and total weight was analysed and significant correlation was found among the five traits. Correlation coefficient between shell height and total weight is of the highest value. Meanwhile, path coefficients between dependent variable for total weight and adductor muscle weight and independent variable for the other traits were calculated by method of path analysis. Total weight was directly affected by shell height, whereas adductor muscle weight was directly affected by shell width. Moreover, the regression equations are calculated to estimate total weight and adductor muscle weight.2. Mass selection and genetic gainDivergent selection for growth in shell height was conducted in a cultured population. From 15 to 400 days, differences in shell length among the selected groups and control group were always significant and in the order of Up > Control > Down, indicating that divergent selection for growth is effective. Standardized response to selection (SR) and realized heritability (hR2) (0.473 and 0.269, respectively) for the upward selection line were significantly higher than that for downward selection (0.380 and 0.217, respectively), providing evidence for asymmetric response in two directions. Selection resulted in significant differences between the lines. It is a very promising that performance in shell height is improved by 7.85% in the Fast selection direction after one generation selection, suggesting that mass selection for faster growth in a cultured population of the Japanese scallop is effective.3. Estimation of heritability for a cultured populationEight half-sib families and thirty two full-sib families were obtained by a nested design of each male mated with four females. Heritability for shell length and shell height is 0.521±0.104 and 0.307±0.097 on day1, 0.307±0.074 and 0.311±0.075 on day 10, 0.336±0.079 and 0.314±0.075 on day 20, and 0.318±0.081 and 0.280±0.075 on day 40, 0.383±0.091 and 0.423±0.097 on day 60, respectively. Heritability for production traits including shell length, shell height, shell width, and total weight at harvest on day 500 is 0.375±0.096, 0.358±0.094, 0.513±0.116, 0.420±0.103, respectively.4. Self-fertilization and inbreeding depressionTen selfing families were established by self-fertilization using hermaphrodites and one mass-spawning family was established by crossing among ten dioecious individuals in order to study inbreeding depression. The results showed that self-fertilization was able to conduct in hermaphroditic Japanese scallop and selfing families were able to be reared to adult stage However, self-fertilization can cause inbreeding depression. The magnitude of inbreeding depression for shell length and shell height at larvae, spat and adult stage is 7.73%, 13.72%, 15.14% and 8.03%,13.90%,15.96%, respectively, which for survival at larvae and adult stage is 35.52% and 52.58%, respectively.5. Crosses between cultured populations and heterosisCrosses between different cultured populations were studied by a full diallel design with parents from two populations (Changhai in China and Xiantai in Japan) and four genetic groups (CC, CJ, JC and JJ) were produced. Crosses were not only conducted between different cultured populations but also can cause obvious heterosis for fertilization rate, hatching rate, survial rate and growth. The heterosis for fertilization rate and hatching rate was 2.27% and 5.35%, respectively. At different ages, the heterosis for growth (shell length, shell height) of CJ ranged from 0.82% to 13.33% and 1.32% to 14.28%, JC ranged from 1.72% to 2.94% and 2.35% to 4.28%. For crosses between two stocks C and J, mid-parent heterosis was smaller than single-parent heterosis of Stock C, but bigger than single-parent heterosis of Stock J

【语种】中文

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【题目】海湾扇贝微卫星标记的开发及遗传连锁图谱的构建
【中文关键词】海湾扇贝; 微卫星; 富集文库; 遗传多样性; 种群分化; 遗传连锁图谱; QTL;
【英文关键词】Bay scallop; Argopecten irradian; Microsatellite; Enrichment library; Genetic diversity; Linkage maps; QTLs;
【中文摘要】海湾扇贝(Argopecten irradians)不连续分布于美国大西洋沿岸和墨西哥湾沿岸,自1982年以来北部亚种(A. i. irradians)和南部亚种(A. i. concentricus)被先后引进到中国,由于其生长速度快、繁殖周期短和适宜温度范围广的特点,迅速成为我国海水养殖的重要品种。近年来飞速发展的分子标记技术为优良品种的选育注入了新的活力,相对于传统的表型选择来说,标记辅助选择不易受环境的影响,尤其是对于低遗传力性状和后期表达的性状,能增强选择效率,提高选择的准确度,缩短育种周期。本文通过构建海湾扇贝微卫星富集文库获得大量的微卫星DNA序列,筛选多态的微卫星标记构建了海湾扇贝的遗传连锁图谱,并应用复合区间作图法对生长相关性状进行了QTL定位。本研究利用富集文库-菌落原位杂交法筛选海湾扇贝微卫星DNA,吸附(AC)15和(AG)15探针的尼龙膜捕捉并富集含有微卫星序列的片段,菌落原位杂交结果显示阳性克隆率达到40%,测序比对后获得521个独立的阳性克隆,其中微卫星506个,小卫星15个。微卫星中,完美型248个,占49.0%,非完美型216个,占42.7%;复合型42个,占8.3%;AG/TC重复占大多数(356个,70.4%),AC/TG重复有150个(29.6%)。设计合成了382对引物,利用38个海湾扇贝个体对其中15个微卫星位点进行了遗传多样性评价,不同位点扩增得到的等位基因数从3到7个不等,期望杂合度和观测杂合度的范围分别为0.198~0.813和0.083~0.833,实验结果表明富集文库-菌落原位杂交法适合大规模筛选微卫星标记。利用8个微卫星标记对海湾扇贝1个野生种群和3个养殖群体的遗传多样性与分化进行了比较和分析。8个位点共扩增得到35个等位基因,平均每个位点4.38个等位基因,平均有效等位基因数为2.30,平均观测杂合度和期望杂合度分别为0.41和0.46。相比于野生群体(美国),养殖群体(北卡罗来那、浙江和胶南)的等位基因数和杂合度都有所降低,在封闭环境下养殖19代的浙江群体等位基因数丢失最严重,共有9个等位基因丢失(25.7%)。经过多代人工养殖后,海湾扇贝养殖与野生群体之间和养殖群体之间出现了明显的遗传分化,胶南群体与野生群体的遗传距离最大,而胶南群体与浙江群体的遗传距离已经超过了胶南群体(北部亚种)和北卡罗来那(南部亚种)群体的遗传距离,这种分化将有利于海湾扇贝的杂交选育。利用167个微卫星标记和1个壳色标记,以海湾扇贝2个全同胞F1代为作图群体,构建了海湾扇贝的性别遗传连锁图谱。整合的雌性连锁图谱含有118个标记,覆盖了16个连锁群,每个连锁群含有的标记数目从4到16个不等,平均每个连锁群上有7.4个标记,图谱总长度为761.0 cM,标记间的平均间隔为8.55 cM,图谱的覆盖率为73.5%;整合雄性连锁图谱含有126个标记,覆盖了17个连锁群,每个连锁群含有的标记数目从2到11个不等,平均每个连锁群上有7.4个标记,图谱总长度为729.1 cM,标记间的平均间隔为6.75 cM,图谱的覆盖率为74.7%。雌性亲本的重组率高于雄性,雌雄亲本共享标记间的重组率比值为1.18:1。偏分离标记在性别间呈现不对称分布,雄性亲本的偏分离高于雌性亲本,可能与雄性亲本来源于亚种间杂交的遗传背景相关。利用海湾扇贝微卫星遗传连锁图谱在两个作图家系中对5个生长性状的QTL进行了定位,5个生长性状的表型相关均达到极显著水平(P < 0.01),Pearson相关系数均超过0.781,总重、壳长、壳宽、壳高和壳重的QTL(LOD > 2.0)的数目分别为8、6、6、7和6个。这些QTL成簇分布于CC5家系的LG1、LG3、LG4、LG8和CC10家系的LG1、LG3、LG6、LG8、LG9连锁群,单个QTL可解释的表型方差为5.5%到29.2%,QTL成簇分布现象说明这些生长相关的性状可能具有共同的遗传基础,家系特异性QTL暗示在不同的遗传背景和环境下存在不同的主效QTL。本研究定位的QTL,尤其在两个家系中共享的QTL为下一步分子标记辅助选择提供了参考区间。
【英文摘要】The molecular genetic linkage map of bay scallop is essential for the identification and localization of quantitative trait loci (QTL) as well as for the maker-assisted selection program, which is great useful in enhancing breeding efficiency in this aquaculture important species. The purpose of this study includes four aspects. The first is to isolate lots of microsatellite DNA sequences by microsatellite-enrichment libraries. Second is to investigate the level of genetic differentiation between one wild population and three hatchery stocks of bay scallop. Third is to construct the genetic linkage map for bay scallop based on microsatellite DNA markers. The last is to localize some growth related QTLs by composite interval mapping.Microsatellite-enriched libraries, which enriched for (AC)15 and (AG)15 were constructed using the protocol of nylon membrane hybridization and colony hybridization. More than 1000 positive clones were sequenced, of which 516 were independent containing microsatellites after sequence alignment. The microsatellite sequences were divided into four categories: perfect repeats (49.0%), imperfect repeats (42.7%), and compound repeats (8.3%). Primers were designed and synthesized using sequence information from 382 clones. The polymorphisms of 15 markers were assessed with 38 individuals, and the results showed the number of alleles ranged from 3 to 7. The values of He and Ho ranged from 0.198 to

0.813 and 0.083 to 0.833 respectively. The results indicated that the method of screening microsatellite-enriched library is efficient and suitable to isolate a large number of microsatellite markers, and the markers developed will contribute significantly for the population genetic and linkage mapping study of bay scallop.Eight simple sequence repeats (SSR) were employed to investigate the level of genetic variation within one wild population and three hatchery stocks of bay scallop, and compare the degree of genetic differentiation between them. High polymorphism at the microsatellite loci was found within both wild and hatchery scallops. Compared to wild population, all the hatchery stocks showed less genetic variation as revealed in lower number of alleles and lower observed heterozygosity. The ZJ population lost 9 of out of 35 allels (25.7%) after 19 generations of isolation and genetic drift. Significant differentiation was found between the hatchery stocks and wild populations, and between the hatchery stocks. This study indicated that genetic compostion of cultured bay scallop population in China have been significantly affected by hatchery performance.We constructed sex-specific linkage maps for bay scallop (Argopecten irradians) based on 167 microsatellite DNA markers and one morphological character marker (shell color). Linkage mapping was performed on two unrelated families, and a composite linkage map for each sex was constructed by combining linkage information from the two reference families. The composite female map contained 118 markers in 16 linkage groups, spanning 761.0 cM; the male parent map had 126 markers in 18 linkage groups, covering 729.1 cM with an average interval 6.75 cM. Analysis of markers informative in both parents showed a higher recombination rate in the female parent, with an average female-to-male recombination ratio of 1.18: 1 between adjacent paired markers. Segregation distortion was asymmetrical between the sexes (9% in the female and 19% in the male), which supported the hypothesis that distortion resulted from heterospecific interactions between genome of the two subspecies of A. irradians.The location and effects of QTLs were estimated for five growth related traits in bay scallop based on two reference families. In total, 33 putative QTL (LOD > 2.0) were detected and mapped on sex-specific maps, including 8 for total weight, 6 for shell length, 6 for shell width,7 for shell height and 6 for shell weight. These QTLs were on LG1, LG3, LG4 and LG8 in family CC5 and on LG1, LG3, LG6, LG8 and LG9 in family CC10, explaining 5.5% to 29.2% of the trait variation. The common QTLs shared between two families would be very useful for improving growth related traits though marker-assisted selection in the future.

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【题目】基于微卫星和SNP标记的皱纹盘鲍遗传连锁图谱及其应用
【中文关键词】皱纹盘鲍(Haliotis discus hannai); SSR; SNP; EST; 富集文库; 遗传连锁图谱; QTL定位; 基因定位;
【英文关键词】Pacific abalone (Haliotis discus hannai); microsatellite; single nucleotide polymorphism; expressed sequence tag; enrichment library; genetic linkage map; QTL; gene location;
【中文摘要】本研究通过构建皱纹盘鲍微卫星富集文库、筛查EST文库获得301个微卫星(SSR)标记,利用含有37个个体的皱纹盘鲍野生群体对其多态性进行评价,其中245个位点多态,扩增得到的等位基因数目从2到18个不等,期望杂合度和观测杂合度的范围分别为0.053~0.873和0.054~1.000。实验验证了EST文库筛查法是简便、低耗的方法,但不适合大规模筛选目标物种的微卫星标记,而富集文库法则是规模化开发微卫星标记的首选方案。通过筛查皱纹盘鲍的EST序列、PCR直接测序并借助多特异性等位基因PCR(PMASA)方法开发了15个单核苷酸多态(SNP)标记,其中核基因组SNP14个。利用上述野生群体对其多态性的评价,结果表明:最小等位基因频率范围为0.1216~0.4865。14个核基因组SNP的观测杂合度和期望杂合度的范围分别为0.189~0.865和0.217~0.507。经Bonferroni校正后,只有位点HdS82偏离哈迪-温博格平衡(Hardy-Weinberg equilibrium,HWE)。本研究开发的这些多态的分子标记为皱纹盘鲍的种群遗传学、系谱分析、遗传图谱构建和分子标记辅助育种提供有力工具。利用342个SSR标记、11个SNP标记和一个壳色标记,以皱纹盘鲍2个作图家系成功构建了皱纹盘鲍遗传连锁图谱。经过Bonferroni校正之后,整合的皱纹盘鲍连锁图谱含有324个标记,覆盖了18个连锁群,每个连锁群含有的标记数目从6到29个不等,平均每个连锁群上有18.0个标记,图谱总长度为810.32 cM,标记间的平均间隔为2.65 cM,图谱的覆盖率为88.8%。壳色标记被定位到LG9。利用该图谱进行了生长相关性状的QTL定位。在整合图谱上共定位了11个关于壳长、壳宽、全湿重和软体部重相关的QTLs。其中检测得到的壳长、壳宽、全湿重和软体部重相关的QTLs的数目分别为3、2、2和4个。这些QTLs成簇的分布于2个连锁群上,单个QTL可以解释表型方差范围为13.4%~29.1%。对该图谱上所有标记的原始序列进行分析,皱纹盘鲍14个的功能基因被定位在图谱上。这些生长相关性状的QTL及功能基因的定位为我们从事分子标记辅助育种和功能基因的图位克隆提供了参考区间。

【英文摘要】A total of 301 novel microsatellite markers (SSR) of the Pacific abalone were developed by microsatellite-enriched libraries and Expressed Sequence Tag (EST) database mining. The polymorphisms of 245 markers were characterized by genotyping a wild population comprising 37 unrelated individuals. The result showed the number of allele ranged from two to 18, and the values of expected and observed heterozygosities ranged from 0.053 to 0.873 and from 0.054 to 1.000, respectively. EST database mining was proven to be efficient and low-costly approach to obtaining new microsatellite markers, and microsatellite enrichment libraries construction was efficient and suitable to develop a large number of microsatellite markers.Fifteen single nucleotide polymorphism (SNP) markers were developed by EST database mining and PCR direct sequencing. The PCR Primers were designed by the method of polymerase chain reaction amplification of multiple specific alleles (PMASA). The polymorphisms of 15 markers were assessed with 37 unrelated individuals and the result showed that the minor allele frequency ranged from 0.1216 to 0.4865. For the fourteen nuclear SNPs, the value of observed heterozygosity ranged from 0.189 to 0.865, while the expected heterozygosity ranged from 0.217 to 0.507. Only one locus (HdS82) deviated significantly from Hardy-Weinberg equilibrium after Bonferroni correction.These polymorphic markers presented in this study provide a useful tool for population genetics, pedigree analysis, linkage map construction and marker-assisted selection (MAS) of H. discus hannai.The genetic linkage map of H. discus hannai was constructed using 342 microsatellite markers, 11 SNP markers and one shell color marker. Linkage mapping was performed using two F1 outbred families, and the integrated linkage map was generated by incorporating map information from the two families. The integrated linkage map contained 324 markers covering 810.32 cM with an average spacing of 2.65 cM and 88.8% of genome coverage. The number of linkage groups in the integrated linkage map was 18, which was consistent with the haploid chromosome number of H. discus hannai. The shell color marker was located in LG 9. The detection and location of QTLs were performed based on the composite linkage map. Ten putative QTLs (LOD≥3.8) associated with the growth of Pacific abalone were detected and located in the composite linkage map, among which three QTLs for the shell length, two for the shell width, two for the gross weight and four for the flesh weight, respectively. They were scattered on LG5 and LG6, explaining 13.4% to 29.1% of the trait variation. A total of 14 functional genes were located in the composite linkage map through the molecular markers. The location of functional genes and QTLs associated with the growth would be very useful for molecular marker-assisted selection and map-based cloning of functional genes.

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【学科分类】水产学基础学科

【题目】皱纹盘鲍和杂色鲍的线粒体编码区序列分析

【中文关键词】皱纹盘鲍; 杂色鲍; 线粒体基因组; 编码区序列; SNP;

【英文关键词】Haliotis discus hannai Ino; Haliotis diversicolor Reeve; mitochondrial genome; sequences of coding region; SNP;

【中文摘要】本研究以腹足纲(Gastropoda),前鳃亚纲(Prosobranch),原始腹足目(Archaeogastropoda),鲍科(Haliotidae),鲍属(Haliotis)的皱纹盘鲍(H. discus hannai Ino)和杂色鲍(H. diversicolor Reeve)为研究对象,旨在通过对其线粒体编码区序列以及种内可变位点分布的测定,从而深入了解皱纹盘鲍线粒体基因组编码区SNP位点的数量与分布,以及杂色鲍线粒体基因组编码区序列的特点。本研究的主要内容分为以下两部分:一、皱纹盘鲍线粒体编码区序列的单核苷酸多态性(SNP)研究采用DNA测序技术分析了取自中国和日本16个皱纹盘鲍个体的线粒体基因组编码区全序列,在总长度为15,914-15,916bp的序列中共检测到单核苷酸多态性(Single Nucleotide Polymorphism, SNP)位点370个,其中有26个SNP位点导致了线粒体基因组编码氨基酸残基的改变。由SNP位点在蛋白编码区的分布可知,编码NADH复合体和ATP合成酶的基因进化速度较快,而编码细胞色素C氧化酶复合体和细胞色素b酶原的基因则更保守。本实验共发现26个地理群体间特异的SNP位点,可能为鉴定皱纹盘鲍不同地理群体的分子标记开发提供启示。二、杂色鲍线粒体基因组编码区研究本研究测定了全长15863bp的杂色鲍的线粒体编码区序列,与其他后生动物相似,编码区含有13个蛋白编码基因、2个rRNA基因和21个tRNA基因。杂色鲍线粒体基因排布顺序独特,与多板纲石鳖十分相似,仅有4个tRNA易位和trnP反转的不同,但却与同为腹足纲原鳃亚纲的Apogastropoda有较大差别。根据杂色鲍与Genbank中公布的3种鲍的Ka/Ks值的比较可知,相对于cox1和cox2这些保守基因来说,基因nad2、nad4L、nad6和atp8有更小的负选择压力。本研究还测定了另外两枚杂色鲍个体的线粒体编码区序列,并进行了比对分析,在3个个体的线粒体序列中共找到可变位点114个,其中绝大多数可变位点都未造成序列所编码氨基酸的改变。本研究表明,线粒体基因组可作为种内不同地理群体鉴别的工具。

【英文摘要】H. discus hannai Ino and H. diversicolor Reeve belong to Gastropoda, Prosobranch, Archaeogastropoda, Haliotidae, Haliotis. Their coding regions of mitochondrial genome have been researched. We investigated the sequences and variable nucleotide sites of coding regions of mitochondrial genome in order to find out the distribution and quantity of SNPs in coding region of mitochondrial genome of H.discus hannai Ino, and to find out the features of coding region of mitochondrial genome of H. diversicolor Reeve.1. Research on single nucleotide polymorphism(SNP) distributing in coding region of mitochondrial genome of Pacific abalone Haliotis discus hannai InoSampling from China and Japan, sixteen individuals ’ coding region of mitochondrial genomes of Pacific abalone Haliotis discus hannai Ino were sequenced in this study.370 Single Nucleotide Polymorphisms(SNPs) were found out of these sequences from 15914bp to 15916bp in length. Twenty-five amino acid residues are replaced owing to Twenty-six SNPs. According to distribution of SNPs in protein-coding genes we elicit that genes coding for the NADH complex is fast evolving, whereas genes for cytochrome c oxidase complex and cytochrome b apoenzyme are more conserved. Twenty-five SNPs differential in populations were gained in this study, some of them may be developmental for research of Molecular Markers identifying different populations of Pacific abalone Haliotis discus hannai Ino.2. Research on coding region of mitochondrial genome of Haliotis diversicolor ReeveThe coding region of mitochondrial genomes of the small abalone Haliotis diversicolor Reeve,15863bp in length, was sequenced in this research. The sequence contains 13 protein-coding genes,2 ribosomal RNAs, and 21 transfer RNAs found in other metazoan mtDNA. The H. diversicolor mtDNA gene order is novel, separated from the black chiton Katharina tunicata by the individual translocations of 4 tRNAs and reversion of trnP. Moreover, H. diversicolor and many species of Apogastropoda, all of which belong to Orthogastropoda, put up with distinct feature in gene order. To detect the influence of selection pressure in Haliotis, the numbers of Ka and Ks were calculated and their ratios have been plotted for comparisons. It suggests a relaxation of purifying selection in the nad2, nad4L, nad6 and atp8 genes compared with the more conservative genes such as coxl, cox2 and cob.The coding regions of mitochondrial genome of two other individuals of H. diversicolor were also sequenced and compared in the study.114 variable nucleotide sites were found in mtDNA genome of the three individuals, and most of the variable sites don ’ t change the amino acid coded by mtDNA. The research suggests that mitochondrial genome can be used for identification of different populations in H. diversicolor.

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【题目】皱纹盘鲍配套杂交体系的建立、评价及应用

【中文关键词】皱纹盘鲍; 选育系; 配套杂交; 群体遗传; SSR; Hsp70; Hp90;

【英文关键词】Pacific abalone; selective breeding; crossbreeding; population genetics; SSR; Hsp70; Hsp90;

【中文摘要】皱纹盘鲍是国内经济价值最高的贝类,自然分布于山东和辽东半岛,现在我国大部分沿海均有养殖。过去15年,中日地理群体杂交育种取得了巨大的成就,但随着野生资源的逐渐匮乏及种质控制机制欠缺,此育种模式需大幅改进。一如畜禽育种,培育特性明显、品质稳定的优良选育系,建立选系间配套杂交的育种模式是皱纹盘鲍育种的未来。无论南方还是北方沿海,夏季高温对皱纹盘鲍都是死亡胁迫,因此增强其高温耐受能力可有效提高产量。据此现实,本研究以高温度耐受能力强的“ S ”南方选系和低温耐受能力强、生长迅速的“ 97 ”和“ 98 ”北方选系为材料研究了不同选系间配套杂交对皱纹盘鲍温度耐受能力的影响。2008年建立了97×S、98×S两个双列杂交体系,建立了9797、97S、S97、SS、9898、98S、S98这7个后代群体。早期生长发育阶段,配套杂交系统的杂交群体的壳长增长速率相对于中日杂交鲍具有明显的优势。首个度夏阶段,配套杂交群体的高温期存活率比北方选系高33.9%,说明与“ S ”选系的杂交显著提高了北方选系的高温耐受能力。在首个越冬阶段,所有杂交组合的存活率都高于“ S ”选系,说明与北方群体的杂交也显著提高了南方选系的低温耐受能力。在进行生产评价的同时,我们在室内对11月龄和20月龄的配套杂交稚鲍的温度适应能力进行了评价。11月龄配套杂交稚鲍在适宜温度中没有高于纯繁群体的生长优势,但在高温和低温中杂交稚鲍则表现出了显著的生长优势。杂交组合(除了98S)出现的最大壳长增长率的温度为24 ° C,高于9797,9898两个纯繁北方组合出现最大壳长增长率的温度(22 ° C)。20月龄稚鲍的生长速率及存活率受温度及遗传背景的影响下降,纯繁群体及杂交群体的生长及存活率在所有培育水温下(8 ° C-30 ° C)都没有显著的差异(P > 0.05)。多代不同地区的选育对来自同一祖先群体的“ 97 ”和“ S ”选系的遗传结构影响显著,两选系已经产生了显著的差异。北方选系(“ 97 ”)与南方选系(S)的实际杂合度(Ho)均小于预期杂合度(He),两个群体的预期杂合度相同(0.64),但是观测杂合度相差较大,北方选系的杂合度要比南方选系的杂合度高30%。南方

选系的观测杂合度显著小于其预期杂合度,这种明显的杂合子缺失可能与南方选系经历的高水温选择压力有关。长期的温度适应对皱纹盘鲍热激蛋白(Hsp70、Hsp90)基因的表达规律有显著的影响。长期的低温培育会降低皱纹盘鲍对外界温度刺激的敏感性,长期较高水温培育则提升鲍个体应对升温刺激的敏感性。Hsp70和Hsp90应对瞬时和长期温度刺激时表现出差异的表达规律,Hsp70在应对瞬时刺激时反应迅速,但在长期培育中Hsp90的调节作用更加显著。皱纹盘鲍根据所处的水温环境改变了其热激蛋白基因的表达规律,这提示我们可以在基因表达方面进一步探讨冷水适应性皱纹盘鲍适应南方海域高水温的机制。

【英文摘要】Pacific abalone (Haliotis discus hannai Ino) is the most valuable mollusk of economic important in China. Its wild population distributed in Shandong and Liaodong peninsula while the abalone aquaculture spread along most part of the coastline of China. In the past 15 years, great achievement has been made by hybriding between Pacific abalone from Chinese and Japanese wild populations. Today, the Chinese wild Pacific abalones are using up and little attention is paid on abalone genetic seeding. Following the successful breeding program of agriculture, crossbreeding should be introduced to the breeding of elite abalone seeds which will be the future of abalone breeding system. Stressful high temperature in summer could cause heavy mortality both in Northern and Southern Chinese abalone aquaculture regions. We established the crossbreeding system by reciprocal hybriding between “ 97 ”, “ 98 ” strains with high growth rate and S strain with high temperature acclamation ability.The hybriding F1 of the crossbreeding system grow faster than the traditional hybriding F1 of Chinese and Japanese wild populations. Hybriding progenies acquired 33.9% higher survival rate than pure “ 97 ” and “ 98 ” strain during the oversummer while they have higher survival rate than pure S strain during the overwinter. Abalones gained extended range of acclimation temperature through crossbreeding. Hybriding juveniles of 11 month old had highest growth rate at 24 ° C which is 2 ° C higher than that of pure “ 97 ” and “ 98 ” strains. Hybriding abalones performed almost the same growth rate under normal temperature, but they showed better growth rate under extreme high and low temperature. There was no significant difference (P>0.05) on growth and survival between hybriding and pure bred abalones under all the experimental temperature (8-30 ° C).We detected genetic differentiation between Northern stain (“ 97 ”) and Southern strain (“ S ”) after four generations of diverging selective breeding under different temperature environments. The heterozygosity is lower in S strain than that in “ 97 ” strain which probably caused by the extreme high culture temperature stress for S strain.Chronic acclimation to different temperature changed the expression patter of Hsp70 and Hsp90 in Pacific abalone drastically. Abalones acclimated to low temperature response slowly compared to the fast response of high temperature acclimated ones. Hsp70 and Hsp90 play different roles in acute and chronic thermal incubation. Abalones could vary their expression pattern according to the environment which enlighted us to find out how could Pacific abalone managed to survive in Southern China.

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【题目】皱纹盘鲍4种多糖裂解基因的表达研究

【中文关键词】皱纹盘鲍; 褐藻酸酶; 纤维素酶; 淀粉酶; 实时荧光定量PCR; 胚胎发育和饵料转换; 温度因素; 基因表达;

【英文关键词】Haliotis discus hannai Ino; alginate lyase; cellulase; amylase; Real-time RT-PCR; embryonic development period; food conversion period; thermal gradient; mRNA expression;

【中文摘要】皱纹盘鲍(Haliotis discus hannai Ino)是名贵养殖贝类。皱纹盘鲍主要以藻类为食,幼体皱纹盘鲍主要摄食卵形藻(Cocconeis sp)、舟形藻(Navicula sp)、菱形藻(Nitzschia sp)等底栖硅藻、而成体皱纹盘鲍则主要摄食大型海藻,尤其喜食海带(Laminaria japonica)。多糖类物质是藻类的主要组分,比如硅藻含纤维素和淀粉,海带含纤维素、褐藻胶和海带淀粉。本研究利用实时荧光定量PCR技术在转录水平研究不同生长、发育阶段皱纹盘鲍体内褐藻酸酶(hdaly)、纤维素酶(hdcel)、α-淀粉酶(hdamyl)和海带淀粉酶(hdlam)等多糖裂解酶基因的定量表达,同时分析了不同温度下长期培育的皱纹盘鲍体内多糖裂解酶基因的表达变化。旨在通过对4种多糖裂解酶基因表达的定量研究,揭示皱纹盘鲍在不同发育阶段和生理状态下对食物中各种多糖类物质的利用情况。现将主要结果摘要如下:1.皱纹盘鲍4种多糖裂解酶基因序列及表达的组织特异性根据已发表的盘鲍或皱纹盘鲍多糖裂解酶基因及皱纹盘鲍内参基因β-actin的cDNA序列信息设计适合实时荧光定量分析的特异性扩增引物,以皱纹盘鲍的DNA和cDNA为模板分别进行扩增,将扩增产物克隆、测序。以cDNA为模板分别得到褐藻酸酶、纤维素酶、α-淀粉酶、海带淀粉酶和β-actin基因的扩增产物116、162、188、177和175bp,及以DNA为模板的扩增产物116、829、626、177和175bp。生物信息学分析表明:(1)以cDNA为模板扩增得到的褐藻酸酶、α-

淀粉酶、海带淀粉酶及β-actin基因的序列与已发表的盘鲍(Haliotis discus discus Reeve)或皱纹盘鲍的相应序列完全一致,而纤维素酶基因则存在2个潜在的SNP位点,结果表明,我们设计的引物扩增到了相应的目的产物;(2)在纤维素酶和α-淀粉酶的基因组序列中分别扩增得到667bp,438bp的内含子序列。采用上述引物分别对成体皱纹盘鲍的鳃、肌肉、触角、外套膜和消化腺等组织样本进行定量分析,结果表明,4种多糖裂解酶基因均主要在消化腺中表达,其他组织中未检测到产物或表达量极低。2.皱纹盘鲍多糖裂解酶基因在不同发育阶段的表达变化我们比较了皱纹盘鲍幼体、幼鲍和成体阶段4种多糖裂解酶基因的表达变化。从受精卵到45日龄稚鲍的发育过程中,4种多糖裂解酶基因均有表达,且表达量在整个过程中均表现为先下降后上升的趋势,上升阶段基因的表达量分为三个水平。结果如下:0h-6d的早期胚胎发育阶段,4种多糖裂解酶基因的表达量均处于较低的表达水平,表现为先下降后上升的趋势,在24h处于最低点。7d-22d和30d-45d发育阶段,基因的表达量增加缓慢,但7d-22d表达量显著高于0h-6d的表达量,30d-45d表达量显著高于7d-22d的表达量。饵料转换期4种多糖裂解酶基因的表达量呈现先下降后上升的趋势,其表达量在剥离后24h内急剧下降,24h后表达量开始上升。3.不同温度下长期培育的皱纹盘鲍体内多糖裂解酶基因的表达变化设置7个温度处理:分别为8℃、12℃、16℃、20℃、22℃、24℃和30℃处理组,每个温度内设置3个重复。每个重复初始投放壳长在2.3cm左右的稚鲍70头,循环水系统中自然海水温度下适应一周之后,开始逐渐升/降温(1℃/日)操作,直至达到实验要求的目标温度,之后恒温培养。取消化腺RNA,采用实时荧光定量PCR技术,对4种多糖裂解酶基因的相对表达量进行分析。结果显示:不同温度下长期培育的皱纹盘鲍体内4个多糖裂解酶基因的表达量具有显著差异。在7个温度处理中,24℃时具有最高的相对表达量,8℃~24℃时,随着温度的升高,基因的相对表达量也随着升高,而24℃~30℃时,各基因的表达量呈下降趋势。

【英文摘要】Polysaccharides are major components of algae which adult abalone is naturally feed on. Diatoms includs cellulose and starch, kelp contains cellulose, alginate and laminarin, for example.The mRNA expression of alginate lyase, cellulase, α-amylase and laminarinase gene in Pacific abalone, Haliotis discus hannai Ino, on the process of growth and development has been researched with the Real-time RT-PCR technology in this article. We also analyzed the effect of temperature on mRNA expression of these four genes. We investigated mRNA expression of these four polysaccharidase genes in order to reveal utilization of polysaccharide in abalone at different developmental stages and physiological state.1. The sequence and tissue-specific expression of four polysaccharide lyase genes in Pacific abalone, Haliotis discus hannai InoReal-time PCR primers of polysaccharidase genes and β-actin gene were designed based on the cDNA sequences of Haliotis discus hannai Ino or Haliotis discus discus Reeve. Sequnences of cDNA PCR products of alginate lyase, cellulase, α-amylase, laminarinase gene and β-actin gene were 116bp, 162bp, 188bp, 177bp and 175bp, and the DNA PCR products of these genes were 116bp, 829bp, 626bp, 177bp and 175bp respectively. The results of bioinformatics analysis indicated that, (1) Sequences of cDNA PCR products of alginate lyase, cellulase, α-amylase, laminarinase gene and β-actin gene were almost the same as compared with the published sequences of certain corresponding gene, while two SNPs were found in intron of cellulase gene. (2) The DNA PCR products of the cellulase and α-amylase gene contain introns of 667bp and 438bp respectively.The mRNA expression of these genes has been researched in gill, muscle, antenna, pallium and digestive gland of Pacific abalone, Haliotis discus hannai Ino. The results show that these four genes have the highest mRNA expression in digestive gland there are low or no expression in other organizations. The distribution of these four polysaccharide lyase genes has the significant tissue-specific.2. The mRNA expression of four polysaccharide lyase genes on embryonic development period and food conversion period of Pacific abaloneThe expression of these four genes on the embryonic development period were decreased first and then increased. The results are as follows. 0h-6d in the early stages of embryonic development, the expression level of these four genes are at a low volume, and there was the lowest level at 24h. During the period of 7d-22d and 30d-45d, the expression was increased slowly. However the expression of these four genes on period of 7d-22d ware significantly higher than the expression of 0h-6d, and the expression of 30d-45d ware significantly higher than the expression of 7d-22d.The expression of these four genes was decreased sharply during 24 hours after spin-off on the food conversion period, and then increased after 24 hours.3. The effect of different temperature on mRNA expression of four polysaccharide lyase genes in Pacific abaloneWe set up seven treated groups. They were 8°C, 12°C, 16°C, 20°C, 22°C, 24°Cand 30°Cgroup. There were three repeats in every one group. And each repeat, there were seventy ones in the shell length of 2.3cm. We began to up/down (1°C/day) operation after a week of natural water temperature, until reached the target. The expression of these four genes from digestive gland of Haliotis discus hannai was researched with Real-time RT-PCR technology. The results showed that there was significant effect on the expression of these four genes. The expression of the 24°Cgroup was significant higher than that of the others.

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【中文关键词】皱纹盘鲍; 盐度; 耐受性; 生理变化;
【英文关键词】Haliotis discus hannai Ino; salinity; tolerance; physiological change;
【中文摘要】皱纹盘鲍(Haliotis discus hannai Ino)是名贵养殖贝类,在我国仅黄海北部的辽东和胶东半岛近岸有皱纹盘鲍自然分布。目前皱纹盘鲍在辽东半岛、胶东半岛、福建沿海、广东东部沿海均有较大规模的养殖。鲍是狭盐性海洋生物,但是目前有关盐度对皱纹盘鲍影响的确切实验数据较少见。本研究旨在初步探讨盐度对皱纹盘鲍幼鲍的影响及幼鲍在适应盐度变化过程中的调节机制,包括皱纹盘鲍的盐度耐受能力,特别是对低盐的耐受力,并根据实验结果拟合出幼鲍存活率与盐度变化的函数式;低盐对皱纹盘鲍幼鲍生长的影响;皱纹盘鲍幼鲍在适应盐度变化过程中部分生理指标方面的变化。现将主要结果摘要如下:1幼鲍的盐度-存活率剂量效应曲线设置16、20、24、26、28、29、30、32、34、36、40、44共12个盐度梯度,每个盐度设置3个重复,每重复30个个体。培育42d时统计各组平均存活率如下:26、29、30、32和34盐度组幼鲍的存活率100%;28、24、20、16盐度组幼鲍的存活率分别是97.8%、85.6%、10%、0;36、40、44盐度组幼鲍的存活率分别是94.4%、88.9%、27.8%。上述结果表明:幼鲍对低盐更敏感;24及更低盐度的海水和40及更高盐度的海水均不适宜皱纹盘鲍幼鲍生存。同时,根据上述结果可拟合得到幼鲍培育42d后的盐度-存活率函数,如下所示,通过计算可得,幼鲍起始致死低盐和高盐分别为19和51,还可获得非实验点盐度的幼鲍存活率,能够更全面地探讨盐度对幼鲍生存的影响。2幼鲍在不同盐度下的死亡动力曲线幼鲍在16的低盐海水中48h,即有53%的个体死亡;11d时死亡率100%。在20的低盐海水中48h,幼鲍死亡率为15.6%;10d、20d、40d时死亡率分别为25.6%、51.1%、90%。在盐度44的高盐海水中10d,幼鲍死亡率为7.8%,20d和40d时死亡率分别为44.4%和71.1%。盐度24、28、36的海水中养殖的幼鲍大约4w才首次观察到个体死亡。3幼鲍对低盐的适应能力研究每5d左右降1个盐度,从32缓慢降到20,则幼鲍可逐渐适应低盐20的海水。在盐度20的低盐海水中培育15d才发现第一个死亡个体,培育40d,死亡率仅8.9%;养殖100d,死亡率仅24.4%。而从32直接降低盐度到20的对照组,则培育40d时死亡率已达90%。4幼鲍在不同盐度下长期培育的生长情况实验设置26、28、29、30、32共5个盐度梯度,每个梯度设3组重复,每组重复40个个体,初始壳长控制在40.4~43.0mm范围内。养殖65d后测量幼鲍的壳长、壳宽及体重。结果显示,所有盐度组幼鲍的存活率均达到97%以上,1龄幼鲍在盐度28~30的海水中生长最好,在盐度26的海水中,幼鲍的摄食率及壳长增长显著降低。5幼鲍在降盐过程中的血淋巴可溶性总蛋白及血蓝蛋白含量变化情况评价从自然海水盐度(30)降至不同低盐(26、20)及从低盐26降至更低盐度20,幼鲍的生理变化情况。取适应盐度30的幼鲍分别放入26和20的低盐海水中,同时将适应盐度26的幼鲍放入20的低盐海水中,均在21、24、27h取样测定血淋巴中可溶性总蛋白、血蓝蛋白的含量变化。结果显示,30降至26时幼鲍血淋巴总蛋白、血蓝蛋白含量均在21h出现峰值;而30降至20及26降至20时幼鲍均在24h出现峰值,且盐度降低的幅度越大,可溶性总蛋白、血蓝蛋白含量的变化幅度越小。初步表明幼鲍响应盐度胁迫的生理调节机制可能存在一定的限度。
【英文摘要】Pacific abalone (Haliotis discus hannai Ino) is one of the most commerciallyimportant cultured shellfishes, which naturally inhabit in Liaodong and Jiaodongpeninsula. Currently, H. discus hannai was cultivated in large-scale in Liaoning,Qingdao, Fujian and Guangdong coast areas in our country. H. discus hannai isstenohaline.While the exact experimental data on the salinity effects was quite limited.So, this study was aimed to exploit the effects of salinity on H. discus hannai and theregulatory mechanism of juvenile abalones adjusting to the different salinities,including the abalone ’s tolerance to salinity, especially low salinity and a piecewisefunction was fitted out according to our experimental data to fully evaluate the salinityeffects on abalone survive; the influence of low salinity on the abalone ’s growth; thechange of some physiological indexes by the stimulation of low salinity in short term.Main results were listed as follows:1salinity-survival curve of juvenile abalones, Haliotis discus hannai InoSalinity gradient:16,20,24,26,28,29,30,32,34,36,40,44. Ninety individualswere used in each gradient (3×30). After six weeks ’ cultivation, the survival rates areas follows: the survival rates of26,29,30,32and34groups were100%; the survivalrates of28,24,20and16were97.8%,85.6%,10%and0respectively; the survivalrates of36,40,44were94.4%,88.9%,27.8%. So it could be concluded that juvenileswere more sensitive to low salinity and the salinity lower than24or higher than40were not suitable for abalones. At the same time, a piecewise function was fitted outaccording to the above results to better describe the relationship between the survivalrate of juvenile abalones and different salinities. It could be calculated that theminimum salinity was19and maximum salinity was51for abalone. More survivalrates of juvenile abalones at different salinities could be calculated to help us studythe effects of salinity on abalones more comprehensively. 2dynamic death curve of juvenile abalones in different salinitiesIn salinity16, the mortality of juvenile abalones reached53.0%after48h and allindividuals died after11d; in salinity20, the mortality of juvenile abalones was15.6%after48h and reached25.6%,51.1%and90.0%respectively after10d,20d, and40d;in salinity44, the mortality were7.8%,44.4%and71.1%respectively after10d,20d,and40d. The first dead individual was observed after four weeks when transferred theabalones to24,28and36respectively.3the adaptive capacity of juvenile abalones to low salinityWhen the salinity of sea water gradually decreased1every5d, the juvenileabalones may adjust to low salinity20. The first dead individual was found after15d.The mortality rates

were only8.9%and24.4%after40d and100d. While the controlgroups, being transferred directly from32to20suddenly, nearly died totally (90.0%).4the growth rate of juvenile abalones in different salinities for long periodSalinity gradient:26,28,29,30,32.120individuals (3×40) were used in eachtreatment. The length of shells were controlled in the range of40.4~43.0mm. After65d, length and width of shells, and wet weight of abalones were measured. The survivalrates of all groups were more than97%. It was showed that individuals grew best atsalinity28to30. However, the feeding rate and shell growth rate of the individuals atsalinity26decreased significantly.5change of total soluble protein and hemocyanin in hemolymph ofjuvenile abalones when salinity decreasedThe change of total soluble protein and hemocyanin in hemolymph wereevaluated when the abalones were transferred directly to different low salinities. Threetest groups were set (salinity from30to26,30to20h,26to20). It showed that totalsoluble protein and hemocyanin in hemolymph maximized at21h when abalonestransferred from salinity30to26. Other abalones of the rest groups maximized at24h.The more decreasing of the salinity, the smaller change appearing of the total solubleprotein and hemocyanin in hemolymph. It suggested that the extent of the regulatorymechanism of abalone was limited.

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【题目】Mapping of SMV resistance gene Rsc-7 by SSR markers in soybean
【中文关键词】无
【英文关键词】cM – centimorgan; MAS – marker-assisted selection; MLG – molecular linkage group; PCR – polymerase chain reaction; QTL – quantitative trait loci; R – resistant; RFLP – restriction fragment length polymorphism; RIL – recombinant inbred line; S – suscepti
【中文摘要】无
【英文摘要】Soybean mosaic virus (SMV) is one of the most prevalent pathogens that limit soybean production. In thisstudy, segregation ratios of resistant plants to susceptible plants in P1, P2, F1, F2 populations of Kefeng No.1 (P1) Nannong 1138-2 (P2) and derived RIL populations, were used to study the inheritance of resistanceto the SMV strain SC-7. Populations Kefeng No. 1 and F1 were found to be completely resistant to thisSMV strain while Nannong 1138-2 was susceptible to it. The F2 and RIL populations segregated to fit aratio of 3:1 and 1:1for resistant plants to susceptible ones, respectively. These results indicated that a singledominant gene, designated as Rsc-7, controlled resistance to the SMV strain SC-7 in Kefeng No.1. SSRmarkers were used to analyze the RIL population and MAPMAKER/EXP 3.0b was employed to establishlinkage between markers and this resistance gene. Combining the data of SSRs and resistance identification,a soybean genetic map was constructed. This map, covering 2625.9 cM of the genome, converged into 24linkage groups, consisted of 221 SSR markers and the resistance gene Rsc-7. The Rsc-7 gene was mapped tothe molecular linkage group G8-D1b+W. SSR markers Satt266, Satt634, Satt558, Satt157, and Satt698were found linked to Rsc-7 with distances of 43.7, 18.1, 26.6, 36.4 and 37.9 cM, respectively.
【语种】英文
【第一作者】付三雄
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【学科分类】农业基础学科

【题目】影响马铃薯原原种节本增效生产的几种因素探讨
【中文关键词】马铃薯; 原原种; 因素; 增效
【英文关键词】Potato ;Original seed; Factors; Synergism;

【中文摘要】通过生长调节剂、试管苗、扦插苗和蛭石铺覆厚度的研究, 探讨马铃薯原原种生产技术, 以达到节本增效的目的。试验结果表明: 多效唑可有效抑制马铃薯苗的生长高度; 扦插苗比试管苗单薯重, 薯重最高可达4.02 g; 蛭石厚度应以5 cm为宜。
【英文摘要】无
【语种】中文
【第一作者】陈彦云
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【题目】Estimates of relative contribution of biomass, harvest index and yield components to soybean yield improvements in China
【中文关键词】无
【英文关键词】biomass — Glycine max — harvest index — yield components — yield improvement
【中文摘要】无
【英文摘要】A method was developed to estimate the relative contribution ofincreased biomass, harvest index and yield components to seed yield gainof soybean. Data from four field experiments conducted in three soybeanproduction regions in China were used to measure the role of differenttraits (such as harvest index) in seed yield improvement by applying thismethod. The results indicated that harvest index was a larger contributorto the progress of soybean yield improvements than biomass in China.However, the estimates of improvements of yield components suggestedthat there could be several strategies for obtaining high yield. Highyielding would be achieved by improving all of the three yieldcomponents (pods per plant, seeds per pod and seed weight) simultaneously,or significantly improving one or two of the three components.
【语种】英文
【第一作者】崔士友
【通讯作者】喻德跃
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【学科分类】农业基础学科

【题目】GmZFP1 encoding a single zinc finger protein is expressed with enhancement in reproductive organs and late seed development in soybean (Glycine max)
【中文关键词】无
【英文关键词】cDNA cloning mRNA expression Soybean GmZFP1 Zinc finger Development
【中文摘要】无
【英文摘要】The plant TFIIIA zinc finger proteins playimportant roles in plant growth and development. Inthis report, we isolated a single zinc finger gene,designated as GmZFP1, from soybean flowers by insilico mRNA subtraction strategy and RT-PCR.GmZFP1 is an intronless gene and encodes a proteinof 210 amino acid residues with a predicted molecularmass of 23.5 KDa. GmZFP1 contains a single zincfinger domain and a DLN-box/EAR-motif at theC-terminus. To localize GmZFP1 mRNA in varioustissues, semi-quantative RT-PCR assay was performed.GmZFP1 is expressed in all detected reproductiveorgans including flowers, developing seeds,pods, sepals, pistils with a low level, and more accumulatedin petals, stamens, but not found in alldetected vegetative organs with except of stem tips.Further, we found that the expression of GmZFP1was higher in late seed development than in earlyseed development. To our knowledge, GmZFP1 is thefirst characterized gene encoding for single zinc fingerprotein in soybean, and may play a role as a transcriptionalfactor in reproductive organs development,especially functioning in petals, stamens and latedeveloping seeds.

【语种】英文
【第一作者】黄方
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【学科分类】发育生物学

【题目】Genome-wide identification and characterization of putative cytochrome P450 genes in the model legume Medicago truncatula
【中文关键词】无
【英文关键词】ESTs · In silico · Medicago truncatula · P450 · TCs
【中文摘要】无
【英文摘要】In plants, cytochrome P450 is a group ofmonooxygenases existing as a gene superfamily andplays important roles in metabolizing physiologicallyimportant compounds. However, to date only a limitednumber of P450s have been identiWed and characterizedin legumes. In this study, data mining methodswere used, and 151 putative P450 genes in the modellegume Medicago truncatula were identiWed, including135 novel sequences. These genes were classiWed into 9clans and 44 families by sequence similarity, andamong those 4 new clans and 21 new families notreported previously in legumes. By comparison ofthese genes with P450 genes in Arabidopsis and rice, itwas found that most of the known P450 families indicot species exist in M. truncatula. The representativeprotein sequences of putative P450s were aligned, andthe secondary elements were assigned based on theknown structure P450BM3. Putative substrate recognitionsites (SRSs) and substrate binding sites were alsoidentiWed in these sequences. In addition, the ESTsderivedexpression proWles (digital Northern) of theputative P450 genes were analyzed, which was con-Wrmed by semi-quantitative RT-PCR analyses of severalselected P450 genes. These results will provide abase for catalogue information on P450 genes in M.truncatula and for further functional analysis of P450superfamily genes in legumes.Keywords ESTs · In silico · Medicago
【语种】英文
【第一作者】李令勇
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【学科分类】分子生物学

【题目】宁夏马铃薯脱毒种薯产业的发展现状及对策
【中文关键词】马铃薯; 脱毒种薯产业; 发展现状; 对策; 宁夏自治区
【英文关键词】Potato; Virus-f ree seed potato indust ry; Present situat ion; Countermeasure; Ningxia
【中文摘要】为宁夏自治区马铃薯种薯产业的发展提供理论依据和实践参考, 介绍了宁夏马铃薯脱毒种薯产业的发展现状, 详细分析了该产业在不断发展的过程中出现的主要问题, 并提出了相应的对策措施。
【英文摘要】T his paper brief ly intr oduces the development situat ion of the v ir us-f ree seed potato indust ry in Ningx ia, analyzes the main pro blems in the process of development and put s forw ard some cor respo nding countermeasur es to pro vide the theor et ical basis and pract ical r eference for the development of the seed potato indust ry in Ning xia.
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【第一作者】刘亚武
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【题目】Molecular cloning, sequence characterization and tissue-specific expression of six NAC-like genes in soybean (Glycine max (L.) Merr.).
【中文关键词】无
【英文关键词】NAC gene;
Phylogeny;
Seed development;
Soybean (Glycine
max (L.) Merr.);
Transcription factors
【中文摘要】无
【英文摘要】NAC proteins have been considered as one of the novel classes of plant-specifictranscription factors functioning in diverse and vital physiological processes duringplant development. In this study, six NAC-like genes from soybean, designated asGmNAC1 – GmNAC6, were cloned and characterized. They each contained two intronsand three exons and shared conservative structure of genomic organization. Thepredicted proteins, GmNAC1 – GmNAC6, were similar in sequences, especially in NACdomain regions. However, RT-PCR analysis indicated that each GmNAC geneexhibited a specific expression pattern in tissues examined. GmNAC2, 3, 4, and 6were expressed in most tested tissues while GmNAC1 and GmNAC5 were limited to afew tissues. In addition, expression patterns of GmNAC genes were characterizedduring seed filling and coordinated expression was observed between GmNAC genes.Finally, based on phylogenetic analysis, six GmNAC proteins were classed into fivesubgroups with different putative functions. To our knowledge, this is the first reporton molecular cloning and initial characterization of NAC-like genes in soybean. Ourresults may provide the basis for future investigations of NAC-like genes ’ roles inseed development and other physiological processes in this important crop.
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【第一作者】孟庆长
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【学科分类】分子生物学

【题目】Molecular cloning and characterization of a novel microsomal oleate desaturase gene from soybean
【中文关键词】无
【英文关键词】FAD2;
Microsomal oleate
desaturase;
Polyunsaturated
fatty acids (PUFAs);
Soybean (Glycine
max Merr. L)
【中文摘要】无
【英文摘要】In plants, the endoplasmic reticulum (ER)-associated oleate desaturase (FAD2) is thekey enzyme responsible for the production of linoleic acid in non-photosynthetictissues. In soybean three FAD2-like genes have been reported including two seedspecificgenes, FAD2-1A and FAD2-1B, and a house-keeping gene FAD2-2. In this study,we isolated a novel gene encoding FAD2 isoform, designated as FAD2-3. The deducedamino acid sequences of the FAD2-3 displayed the typical three histidine boxescharacteristic of all membrane-bound desaturases, and possessed a C-terminal signalfor ER retention. Phylogenetic analysis showed that FAD2-3 is grouped within planthouse-keeping FAD2 sequences. Yeast cells transformed with a plasmid constructcontaining the FAD2-3 coding region accumulated a considerable amount of linoleicacid (18:2), normally not present in

wild-type yeast cells, suggesting that theisolated gene encodes a functional FAD2 enzyme. Semi-quantitative RT-PCR and insilico analysis showed that FAD2-3 gene is constitutively expressed in both vegetativetissues and developing seeds. In soybean leaves, the level of linolenic acid (18:3)increases with the decrease of linoleic aicd (18:2) under cold treatment. However,no significant change of transcript levels of FAD2-2 and FAD2-3 genes was detected.These results indicated that the altered polyunsaturated fatty acid levels in leavestreated with cold stress have no direct correlation with the expression of these twomicrosomal oleate desaturase genes.

【语种】英文
【第一作者】李令勇
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【题目】Polymorphisms of IFS1 and IFS2 gene are associated with isoflavone concentrations in soybean seeds
【中文关键词】无
【英文关键词】Association analysis
Isoflavone synthase
Linkage disequilibrium
Isoflavone
Soybean
【中文摘要】无
【英文摘要】Soybean isoflavones are associated with many health benefits of soy consumption, and isoflavone levelsare one of the most important output traits of soybean. Isoflavones are synthesized from thephenylpropanoid pathway. Isoflavone synthase (IFS) acts as the key metabolic entry point for theformation of all kinds of isoflavones. We have cloned, sequenced, and analyzed the IFS1 and IFS2 genomicregions from 33 Chinese soybean accessions including 16 Glycine soja and 17 Glycine max. The isoflavonelevels in these accessions vary greatly, ranging from 536.6 mg/g to 5509.1 mg/g dry seed weight. Highnucleotide diversity and low extent of linkage disequilibrium (LD) in these two genes provided sufficientgenetic resolution for association analysis of polymorphisms in these genes and soybean seed isoflavonelevels. As a result, three single nucleotide polymorphisms (SNPs) in IFS1 gene and two SNPs in IFS2 genewere found closely associated ($P < 0.05$) with all individual and total isoflavone levels in seeds, regardlessof population structure. These results indicated that IFS1 and IFS2 gene both contributed to the levels ofisoflavones in seeds. These polymorphisms may serve as important molecular markers for breeding.

【语种】英文
【第一作者】程浩
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【题目】4个太湖流域粳稻地方品种抗稻瘟病性的遗传分析
【中文关键词】粳稻; 地方品种; 稻瘟病; 抗性遗传; 等位性测定
【英文关键词】Oryza sativa subs. japonica ; landraces; Magnaporthe grisa; resistance genetics; allelism test
【中文摘要】以太湖流域粳稻地方品种薄稻、铁杆青、江南晚和缺儿糯等广谱、高抗稻瘟病为材料，与高感稻瘟病品种苏御糯杂交，获得杂交F1 、F2，分别接种日本稻瘟病鉴别菌系北1 和中国稻瘟病菌生理小种ZE3 、ZG1，根据P1 、P2 、F1 和F2 等不同世代植株的抗、感反应，分析地方品种对不同稻瘟病菌生理小种(菌系) 的抗性遗传机理。结果表明: 薄稻、铁杆青及缺儿糯对北1 菌系的抗性均可能由一对显性基因控制，江南晚对北1 的抗性则可能由两对抑制基因互作控制; 铁杆青及缺儿糯对ZE3 小种的抗性均可能由一对显性基因控制，薄稻和江南晚对ZE3 小种的抗性可能分别由两对显性基因和两对抑制基因互作控制; 铁杆青对ZG1 小种的抗性可能是由一对显性主基因控制，薄稻和江南晚对ZG1 小种的抗性则

可能由两对抑制基因互作控制。进一步将薄稻与12个日本稻瘟病菌鉴别品种杂交,用北1菌系接种不同组合的F1和F2,进行抗病基因的等位性测定。结果表明,薄稻对北1菌系的抗性基因与12个鉴别品种所携带的已知抗稻瘟病基因是不等位,将该基因暂定为Pi-bd1(t)。

【英文摘要】The crosses were made between four japonica rice (Oryza sativa L.) landraces Bodao, Tieganqing, Jiangnanwan and Queernuo from Taihu Lake region, which were highly resistant to the blast (Magnaporthe grisa), and a susceptible ja-ponica variety Suyunuo to produce F1 and F2 generations. The P1, P2, F1 and F2 generation from various combinations were inoculated separately with Japanese blast strain Hoku 1 and Chinese races ZE3 and ZG1 to study genetic patterns of resis-tance in the four landraces to the blast. Resistance in Bodao, Tieganqing or Queernuo to blast Hoku 1 might be controlled by a dominant gene, and in Jiangnanwan by two inhibiting effect genes. Resistance in Tieganqing or Queernuo to blast ZE3 might be controlled by one dominant gene, and in Bodao and Jiangnanwan by two independently dominant genes and two inhibiting effect genes, respectively. Resistance in Tieganqing to blast ZG1 might be controlled by a dominant gene, but in Bodao and Jiangnanwan by two inhibiting effect genes. The crosses were further made between landrace Bodao and 12 Japanese differential varieties possessing the known resistance genes to the blast to produce F1 and F2 generations. The plants of various generations were inoculated with strain Hoku 1 to confirm the resistance gene in Bodao was allelic with known resistance genes. The results show that the resistance gene in Bodao to strain Hoku 1 was non allelic with known resistance genes, and tentatively designated Pi-bd1 (t).

【语种】中文

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【学科分类】农业基础学科

【题目】Overexpression of the Qc-SNARE geneOsSYP71 enhances tolerance to oxidative stress and resistance to rice blast in rice (Oryza sativa L.)

【中文关键词】无

【英文关键词】Oryza sativa L.;Qc-SNARE gene family;Expression pattern;Transgenic rice;Oxidative stress;Rice blast

【中文摘要】无

【英文摘要】OsSYP71 is an oxidative stress and rice blast response gene that encodes a Qc-SNARE protein in rice. Qc-SNARE proteins belong to the superfamily of SNAREs (soluble N-ethylmaleimide‐sensitive factor attachment protein receptors), which function as important components of the vesicle trafficking machinery in eukaryotic cells. In this paper, 12 Qc-SNARE genes were isolated from rice, and expression patterns of 9 genes were detected in various tissues and in seedlings challenge d with oxidative stresses and inoculated with rice blast. The expression of OsSYP71 was clearly up-regulated under these stresses.Overexpres sion of OsSYP71 in rice showed more tolerance to oxidative stress and resistance to rice blast than wild-type plants. These results indicate that Qc-SNAREs play an important role in rice response to environmental stresses, and OsSYP71 is useful in engineering crop plants with enhanced tolerance to oxidative stress and resistance to rice blast.

【语种】英文

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【学科分类】农业基础学科

【题目】The g.243A>G mutation in intron 17 of MUC4 is significantly associated with susceptibility/resistance to ETEC F4ab/ac infection in pigs

【中文关键词】黏附;关联性;感染;MUC4;猪;SNP

【英文关键词】adhesion; association; infection; MUC4; porcine; SNP
【中文摘要】本研究通过扫描猪-苍鼠辐射杂交细胞克隆板将MUC4基因定位于SSC13q41,鉴别到内含子18中的两个SNPs(A243G和A334G),开展了白色杜洛克♂×二花脸♀资源家系F2代820头猪小肠刷状缘的ETEC F4ab/ac/ad黏附表型的测定,根据测定结果从中选择了20个全同胞家系的40个黏附表型极端个体,检测了这些个体在A243G和A334G位点的基因型,并分析了基因型与黏附表型的相关性分析。结果表明:A334G位点的多态性与ETEC F4ab/ac黏附表型无相关,A243G位点的多态性与ETEC F4ab/ac黏附表型相关性极显著,这种相关性在820个F2代个体分析中也得到了进一步验证($p<0.0001$),支持了ETEC F4ab/ac受体基因存在于SSC13q41的结论。
【英文摘要】Using a porcine radiation hybrid panel, we assigned the mucin 4 (MUC4) gene to SSC13q41, which harbours the enterotoxigenic Escherichia coli (ETEC) F4ab/ac receptor locus. In addition, we identified two SNPs in intron 17 of MUC4 (DQ124298:g.243A > G and DQ124298:g.334A > G) in the parental population of a White Duroc x Erhualian cross. Association analysis showed that the MUC4 g.243A > G mutation was strongly associated with ETEC F4ab/ac, and especially with F4ac adhesion phenotypes in the White Duroc x Erhualian resource population, indicating that this polymorphism was in a significant linkage disequlibrium with the ETEC F4ab/ac receptor locus. Because of different linkage disequlibrium values between the ETEC F4ab and F4ac adhesion phenotypes and the MUC4 g.243A > G mutation, we argue that the inheritance of F4ab and F4ac receptors might be under the control of two closely linked loci.
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【学科分类】畜牧学

【题目】Characterization of polymorphisms of transferrin receptor and their association with susceptibility to ETEC F4ab/ac in pigs
【中文关键词】猪,ETEC F4ab/ac,TFRC,SNP,相关性
【英文关键词】association; ETEC F4ab/ac susceptibility; pig; polymorphism; transferrin receptor
【中文摘要】本研究以白色杜洛克×二花脸资源家系为实验材料,在F2群体中提取小肠刷状缘,开展ETEC F4ab/ac黏附实验。挑选4对全同胞黏附表型极端个体的小肠样本提取总RNA,通过一步法RT-PCR扩增获得含TFRC编码区的2.3 kb cDNA序列,经PCR产物直接测序搜寻到两个cSNP(SNP A330G和SNP A371G)和两个内含子区域的SNP(SNP G47C和SNPC291T),并建立了相应的基于基因组DNA的判型法。选择了56个F2个体,采用PCR-SSCP法对两个cSNP进行基因型判定;并且采用PCR-AluI-RFLP判定了40个F2极端个体在SNP C291T的基因型。相关性分析表明TFRC的多态变异与ETEC F4ab/ac受体基因存在较强的相关性。
【英文摘要】Diarrhoea caused by enterotoxigenic Escherichia coli (ETEC) expressing F4 (F4ab, F4ac and F4ad) fimbriae is a significant cause of mortality and morbidity in newborn and weaned pigs. The locus controlling susceptibility towards ETEC F4ab/ac has been mapped to SSC13q41, in which TFRC (transferrin receptor) was localized and considered as a positional candidate gene for ETEC F4ab/ac receptor. In this study we, determined susceptibility/resistance to ETEC F4ab/ac in a total of 755 F-2 animals from a White Duroc x Erhualian intercross using a microscopic enterocyte adhesion assay. We identified two TFRC polymorphisms (SNPs 591 A>G and 632 A>G) in a single exon after comparative sequencing analysis of 2371-bp amplicons containing the complete coding region of TFRC using RNA of eight full-sib F-2 animals with susceptible and resistant phenotypes. The intron sequences flanking the two exon polymorphisms were obtained, revealing an intron polymorphism (SNP 291 C>T). We genotyped the 19 founder animals of the White Duroc x Erhualian intercross for the identified polymorphisms, showing that only the 291 C>T polymorphism is a highly informative marker. We further genotyped all 59 F-1 and 755 F-2 animals for the 291 C>T polymorphism, and the association of this polymorphism with susceptibility/resistance to ETEC F4ab/ac in these F-2 animals was evaluated by the transmission disequilibrium test. The result showed that the 291 C>T polymorphism is not a causal mutation, however, has a significant linkage disequilibrium with the ETEC F4ab/ac, especially F4ac receptor locus.
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【学科分类】畜牧学

【题目】Polymorphisms of three gene-derived STS on pig chromosome 13q41 are associated with susceptibility to enterotoxigenic Escherichia coli F4ab/ac in pigs
【中文关键词】ETEC;猪13号染色体长臂41区;F4;序列标签位点;主效位点
【英文关键词】pig; SSC13q41; sequence tagged sites (STS); Escherichia coli (ETEC) F4ab/ac; susceptibility
【中文摘要】本实验利用比较基因组学研究手段,选定了遗传标记S0075附近约1~2cM的范围,确定人3号染色体长臂21区段的11个已知基因(ADCY5、PTPLB、MYLK、CCDC14、ROPN1、KALRN、ITGB5、HEG1、SLC12A8、ZNF148和KPNA1),通过生物信息学方法在猪基因组上开发序列标签位点(Sequence tagged sites,STS),通过PCR-RFLP以及RH-Panel的方法进行基因判型和定位,从而确定以上11个基因在猪染色体上的基因分型和排列顺序,为以后进行单倍型分析、寻找致病基因的同源片断(Identical by descent,IBD)以及最终找到该致病基因的主效位点(Causative mutation)奠定了基础。
【英文摘要】Neonatal diarrhea caused by enterotoxigenic Escherichia coli (ETEC) F4 is a common and serious disease, resulting in significant economical loss in the pig industry. The locus encoding ETEC F4 receptor has been mapped to pig chromosome (SSC) 13q41, and one of the most significantly linked markers is S0075. In this study, we selected three genes including SLC12A8, MYLK and KPNA1 from a chromosomal region flanking S0075 on SSC13 to develop pig specific sequence tagged sites (STS). Seven single nucleotide polymorphisms were identified in the three pig STS using DNA of four full-sib susceptible and resistant animals in a White Duroc x Erhualian intercross. All grandparents, parents and 755 offspring in the intercross were genotyped for three polymorphisms, including SLC12A8 g.159A > G, MYLK g.1673A > G and KPNA1 g.306A > G. Family-based transmission disequilibrium test (TDT) revealed that all polymorphisms and the corresponding haplotypes are significantly associated with ETEC F4ab/ac (especially F4ac) brush border adhesion phenotypes, indicating that these polymorphism are in linkage disequlibrium with causal mutation(s) of the gene encoding ETEC F4ab/ac receptor. Our results strengthen the evidence for the involvement of SSC13q41 in high acquiring risk of ETEC F4ab/ac infection, and provide novel polymorphic markers for fine mapping of the ETEC F4ab/ac receptor locus.
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【题目】Investigation of the porcine MUC13 gene: isolation, expression, polymorphisms and strong association with susceptibility to enterotoxigenic Escherichia coli F4ab/ac
【中文关键词】ETEC F4ac;易感性;MUC13;克隆;相关性
【英文关键词】ETEC F4ab/ac; MUC13; pig; susceptibility
【中文摘要】本文选取MUC13基因作为一个位置候选基因在白色杜洛克×二花脸资源家系中进行研究。通过扫描猪-仓鼠辐射杂交细胞克隆板的90个克隆将该基因定位到SSC13q41,应用比较基因组学和RACE分离得到其长2679 bp的cDNA序列,该基因编码320个氨基酸组成的粘液素蛋白。半定量RT-PCR分析表明MUC13为广谱表达基因,在小肠中高量表达,在气管、胃和肝中中度表达。通过测序分析在MUC13基因内鉴定到13个多态位点,其中7个错义突变位点、3个同义突变位点和3个内含子中的突变位点,选择c.576C>T、c.908A>G(Asp303Gly)和c.935A>C(Gln312Pro)3个多态位点检测其在资源家系个体中的基因型。2LD软件分析表明,所选的三个位点处于紧密连锁状态,经TRANSMIT软件构建出4种常见单倍型,Haplore软件鉴定出10种常见单倍型对。χ2检验表明,所有位点的纯合基因型和8种单倍型对均与ETEC F4ac的易感性极显著相关,而杂合基因型均未表现出相关性。传递不平衡检测表明,除c.908A>G位点和单倍型CAA外,所有的等位基因和单倍型均与ETEC F4ac的易感性极显著相关。以上结果表明,MUC13基因所在的单倍型区域与ETEC F4ac受体基因紧密连锁,进一步证明了SSC13q41存在控制ETEC F4ac易感性的因果基因,并为ETEC F4ac受体基因的精细定位提供了重要的分子标记。
【英文摘要】Enterotoxigenic Escherichia coli (ETEC) F4ab and F4ac are major determinants of piglet diarrhoea. The locus for the ETEC F4ab/ac receptor has been mapped to SSC13q41. MUC13 is a transmembrane mucin expressed predominantly in the epithelial

surface of the gastrointestinal tract and the MUC13 gene was assigned to SSC13q41, supporting it as a positional candidate gene for the ETEC F4ab/ac receptor. We herein determined the complete 2679-bp cDNA of pig MUC13, and proved that it was most highly expressed in the jejunum and moderately expressed in the trachea, stomach and liver. Furthermore, 13 MUC13 polymorphisms were identified in 19 founder animals of a White Duroc x Erhualian resource population, and a total of 727 F(2) animals with in vitro ETEC F4ab/ac adhesion phenotypes in this population were genotyped for three identified MUC13 polymorphisms including c.576C > T, c.908A > G and c.935A > C. The transmission disequilibrium test showed that the MUC13 alleles and haplotypes were significantly associated with susceptibility/resistance to ETEC F4ab/ac, especially between haplotype [C;G;A] and susceptibility to ETEC F4ac (P = 8.0e-18). Animals inheriting this haplotype were predominantly susceptible to ETEC F4ac (n = 291/303). Moreover, nearly all animals homozygous for haplotype [T;G;C] (n = 39/41) and a majority of those with the [C;A;A]/[T;G;C] haplotype pair (n = 79/88) were resistant to ETEC F4ab. Our results indicated that MUC13 is in strong linkage disequilibrium with the ETEC F4ab/ac receptor locus and provided potential markers for selection of ETEC F4ab/ac-resistant animals in the pig breeding scheme.

【语种】英文

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【学科分类】畜牧学

【题目】A pig-human comparative RH map comprising 20 genes on pig chromosome 13q41 that harbours the ETEC F4ac receptor locus

【中文关键词】猪13号染色体q41区,人3号染色体q21和q29区,保守的同线性断点

【英文关键词】Comparative map; ETEC F4ac receptor; SSC13q41

【中文摘要】猪13号染色体q41区(SSC13q41)与人3号染色体q21和q29区(HSA3q21和q29)同源。为了更精确地了解SSC13q41和HSA3之间的比较图谱,从HSA3上选择9个基因在猪基因组中定位,9个基因分别是ADCY5、MYLK、CCDC14、ROPN1B、KLF15、PLXNA1、SENP5、DLG1和LMLN。其中ADCY5、MYLK、CCDC14、ROPN1B、KLF15、PLXNA1共6个基因位于HSA3q21上,SENP5、DLG1、LMLN这3个基因位于HSA3q29上。根据UCSC网站上提供的相关信息,设计引物,在猪的基因组中克隆和分离目的基因,将克隆片段测序,并作BLAST比对验证克隆片段即为目的基因的一部分,然后用猪辐射杂交板(IMpRH panel)将上述9个基因定位在猪的染色体上。实验结果与迄今为止已发表的定位数据作比较,初步揭示了SSC13q41与HSA3q21和q29具有保守的同线性,但是发生了基因顺序的重排,同时认为SSC13q41与HSA3q21和q29保守的同线性断点就发生在ROPN1B和KLF15基因之间。本实验的研究结果不仅能够丰富猪的比较图谱,而且对定位在SSC13q41区的重要经济性状的候选基因的研究提供了方便。

【英文摘要】The enterotoxigenic Escherichia coli (ETEC) F4ac is a major cause of diarrhoea in newborn and young pigs. The locus for the intestinal ETEC F4ac receptor (F4acR) has been mapped to pig chromosome (SSC) 13q41 with known homology to human chromosome (HSA) 3q21 and q29. However, the causative gene and mutation(s) remain unknown. The aim of this study was to characterize gene-derived markers on SSC13q41 for fine mapping of the F4acR locus, and construct a high-resolution pig-human comparative map to select positional candidate genes for F4acR. Pig-specific sequence-tagged site markers were developed for 20 genes that are located in a 6.8-Mb region on HSA3q21 and q29, and a total of 34 single-nucleotide polymorphisms (SNPs) were identified in 14 of 20 markers developed. Eighteen markers were mapped to SSC13q41, while the other two markers (PLXNA1 and KLF15) were assigned to SSC13q32 and SSC7q13, respectively, by radiation hybrid mapping. This result showed that there was a small conserved segment on SSC7 corresponding to HSA3q21. A framework map comprising 18 markers on SSC13q41 was established, refining the synteny breakpoint on SSC13q41 to a region of 12.3 centiRay. The comparative radiation hybrid (RH) map revealed three interesting candidate genes for F4acR from the human genome, viz. MUC4, MUC13 and MUC20. Linkage analysis with six marker polymorphisms revealed that MUC4 had the most significant linkage with the F4acR locus.

【语种】英文

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【题目】Comparison of production traits between pigs with and without the Escherichia coli F4 receptors in a White Duroc x Erhualian intercross F-2 population
【中文关键词】ETEC F4黏附表型;生长性状;相关性;猪
【英文关键词】enterotoxigenic Escherichia coli F4 adhesion phenotype; performance; pig; relationship
【中文摘要】探讨了ETEC F4黏附性状与部分生长表型性状间的相关性,发现F4ac受体的存在在肥育期更加有利于个体的生长,但对肉质,脂肪沉积以及小肠长度等表型性状无显著影响。这表明F4ab/ac受体具有两面性:一方面易导致腹泻病而对个体早期活力产生不利影响,另外其在肥育期促进个体生长。推断F4ac黏附型表型的在西方商业猪种中的广泛存在是由长期选择平衡效应所致。
【英文摘要】To evaluate the influence of enterotoxigenic Escherichia coli (ETEC) F4 receptors on production traits in pigs, ETEC F4ab, F4ac, and F4ad adhesion phenotypes and 27 traits related to growth, carcass, meat quality, and length of the small intestine in a White Duroc x Erhualian intercross population were measured. Performance data revealed that pigs with the F4ab or F4ac receptor (adhesive phenotypes) had greater ($P < 0.01$) ADG during the fattening period (from 46 to 240 d) and carcass weight and length at 240 d than pigs lacking the receptors (nonadhesive phenotype). Conversely, animals having the F4ad receptor had less ($P < 0.01$) ADG during the fattening period and carcass weight than those lacking the receptor. In total, 8 adhesion patterns (A to H) for the 3 F4 strains were observed in this experimental population. Pigs with both F4ab and F4ac receptors (phenotype B) had greater ($P < 0.01$) ADG, carcass weight, and length at 240 d compared with pigs without the F4 receptors. No difference was found ($P > 0.05$) in traits related to meat quality, fatness, and length of the small intestine between pigs with or without the receptors. On the basis of the antagonistic relationship between susceptibility to F4ab/ac and production traits, we speculate that the prevalence of the ETEC F4ab/ac adhesive phenotype in pig populations is attributable to balanced natural and artificial selection.
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【第一作者】晏学明
【通讯作者】黄路生
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【题目】
Distribution of Escherichia coli F4 adhesion phenotypes in pigs of 15 Chinese and Western breeds and a White DurocxErhualian intercross
【中文关键词】猪;ETEC F4;黏附表型;分布
【英文关键词】Swine;ETEC F4; adhension phenotype;distribution
【中文摘要】分析了三种ETEC F4血清型在10个中国地方品种、3个西方引进商业品种以及白色杜洛克×二花脸资源家系1093个F2/F3代个体中的流行情况,在中国地方品种及F2/F3代群体中鉴别到二种新的黏附表型(G和H),由此推论,在中国地方品种中,三种F4受体可能由不同基因位点所控制。另外,三种F4血清型的弱黏附在小猪及成年猪中均存在,但其遗传机制及其是否引发疾病目前尚不清楚。
【英文摘要】Diarrhoea in newborn and weaned piglets is mainly caused by enterotoxigenic Escherichia coli (ETEC) with fimbriae F4. To investigate the prevalence of resistance to three fimbrial strains, F4ab, F4ac and F4ad, among Chinese indigenous pigs and Western commercial pigs introduced into China, we determined the ETEC F4 adhesion phenotypes in 292 pure-bred piglets from three Western commercial breeds and 12 Chinese indigenous breeds, and a total of 1093 adult pigs in a White DurocxErhualian intercross, by an in vitro microscopic adhesion assay. All the Tibet and Lantang pigs and a majority of the Erhualian and Rongchang pigs were resistant (nonadherent) to ETEC F4 whereas all the Laiwu pigs and most of the Jiangquhai and Tongcheng pigs were susceptible (adhesive) to at least one of the F4 strains. Yushan Black pigs were uniformly resistant to F4ab, and Jinhua pigs were predominantly resistant to F4ac. Susceptible and resistant animals were observed in the other breeds, indicating that diarrhoea caused by ETEC F4 could be prevalent in these breeds. This study confirmed the existence of eight previously reported F4 adhesion patterns,

and supported the assumption that the three F4 receptors are encoded by distinct loci. Expression of the weakly adherent phenotype was observed in six pure-bred piglets and 90 adult F(2)/F(3) animals, and the inheritance of this phenotype and its correlation with susceptibility to disease are still not known.

【语种】英文
【第一作者】晏学明
【通讯作者】黄路生
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【题目】Detection of quantitative trait loci for porcine susceptibility to enterotoxigenic Escherichia coli F41 in a White Duroc x Chinese Erhualian resource population

【中文关键词】产肠毒素大肠杆菌,F41,987P,K99,菌毛,数量性状位点
【英文关键词】ETEC F41 987P K99 fimbriae QTL
【中文摘要】本实验利用显微镜观察小肠上皮细胞刷状缘与细菌的黏附情况,并以每个个体20个刷状缘微粒黏附细菌数作为该个体易感程度的表型。在白色杜洛克和二花脸杂交的F2群体中,一共检测了976头F2个体K99和835头F2个体F41、987P的黏附表型,并利用覆盖整个猪基因组的183个微卫星标记,进行全基因组QTL扫描来定位ETEC F41、987P和K99的受体基因位点。一共检测到1个1%基因组显著的QTL和4个5%染色体显著水平的QTL,分别位于4、5、7、13和15号染色体上。其中3个影响F41的黏附(位于4、5和15号染色体上),2个影响987P黏附的QTL(位于7和13号染色体),没有检测到影响K99黏附的QTL。4号染色体上的QTL受体基因来自杜洛克,而5号染色体的受体基因来自二花脸,这表明存在多个基因影响猪对F41的易感性,而且杜洛克和二花脸的受体基因分别位于两条不同的染色体上。
【英文摘要】Enterotoxigenic Escherichia coli (ETEC) is a major cause of diarrhoea in neonatal and postweaning pigs. F41 is one of ETEC fimbriae that adhere to the small intestinal epithelium and lead to development of diarrhoea. The genetic architecture of susceptibility to ETEC F41 remains elusive in pigs. In this study, we determined the in vitro adhesion phenotypes of ETEC F41 in a total of 835 F(2) animals from a White Duroc x Erhualian intercross, and performed a genome scan using both F(2) and half-sib analyses with 183 microsatellite markers to detect quantitative trait loci (QTL) for porcine susceptibility to ETEC F41. The two analyses consistently revealed a 1 genome-wide significant QTL on pig chromosome 4. Moreover, we determined F41 adhesion phenotypes in 14 purebred Erhualian and 14 White Duroc pigs. The results showed that both the founder breeds are segregating for the F41 adhesion phenotype, while less percentage of Erhualian pigs were adhesive to ETEC F41 compared to White Duroc pigs.
【语种】英文
【第一作者】杨斌
【通讯作者】黄路生
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【题目】Adhesion phenotypes of pigs of Chinese and Western breeds and a White Duroc-Erhualian crossbreed with regard to susceptibility to enterotoxigenic Escherichia coli with fimbrial adhesins K99, 987P, and F41

【中文关键词】ETEC K99、987P和F41菌株;黏附表型;猪
【英文关键词】ETEC K99 (F5),987P (F6) and F41 (F7); adhension phenotype; pig
【中文摘要】本研究利用6 - 8周龄的猪只,包括3个西方品种(n = 144)和12个中国地方品种(n =148)以及1330白色杜洛克猪和二花脸猪资源群体后代,开展小肠上皮细胞刷状缘黏附实验, ETEC菌株包括K99、987P和F41,以 ETEC K88-菌株作为阴性对照。研究结果表明绝大部分纯种猪以及杂交猪均对ETEC K99、987P表现为不黏附;而对于F41菌株,在纯种猪中黏附和不黏附个体分别占34.9% 和 65.1%,而在杂交群体中黏附和不黏附个体分别占39. 2%和 60.8%。同时表明F41黏附表型在西方猪种比在中国地方猪种中占有更高的比例。结论为在中国引起6 - 8周龄的猪只腹泻的主要菌株为ETEC F41而非K99或987P。

【英文摘要】Objective-To investigate adhesion phenotypes of pigs of Chinese and Western breeds and a specific crossbreed with regard to enterotoxigenic Escherichia coli (ETEC) with fimbrial adhesins K99 (F5) 987P (F6) and F41 (F7)Animals-Purebred 6- to 8-week-old pigs of 3 Western breeds introduced into China (n = 144) and 12 Chinese breeds (148) and 1 330 adult White Duroc-Erhualian crossbred pigs Procedures-Brush border preparations were prepared from jejunal specimens collected from each pig following euthanasia Each preparation was incubated with ETEC strains that had fimbrial adhesins K99 987P or F41 an ETEC K88(-) strain was used as a negative control sample The mean number of brush border bound bacteria in aliquots of the bacteria brush border suspensions (determined via phase-contrast microscopy) was used to determine each pigs adhesion phenotype for ETEC K99 987P and F41 strains the phenotype was classified as adhesive (susceptible) if >= 10% of examined brush borders bound >2 bacteria Results-Most purebred and crossbred pigs had nonadhesive phenotypes with regard to ETEC K99 and 987P strains For the F41 strain 34 9% and 65 1% of all purebred pigs had adhesive and nonadhesive phenotypes respectively among crossbred pigs these values were 39 2% and 60 8% respectively The percentage of pigs with the F41 adhesive phenotype was higher among Western breeds than it was among Chinese breeds (38 9% vs 31 1%) Conclusions and Clinical Relevance-Results suggested that the ETEC F41 strain but not the K99 or 987P strain might be a cause of diarrhea in 6- to 8 week-old pigs in China (Am J Vet Res 2011 72 80-84)
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【第一作者】晏学明
【通讯作者】黄路生
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【题目】Association of B3GNT5 Polymorphisms with Susceptibility to ETEC F4ab/ac in the White Duroc x Erhualian Intercross and 15 Outbred Pig Breeds
【中文关键词】猪;ETEC F4ac;易感性;B3GnT5;B3GALT3;相关性
【英文关键词】Association; B3GNT5; ETEC F4ab/ac; Pig; Susceptibility
【中文摘要】本研究以白色杜洛克×二花脸资源家系以及293头中、西方猪种远缘群体仔猪为实验材料,开展猪小肠上皮细胞刷状缘的体外ETEC F4ac黏附实验。采用比较基因组法结合生物信息学法设计引物,开发序列标签位点(STS),同时利用资源家系F1代9头公猪每3个个体为一组构建3个DNA池为样本进行PCR扩增、产物纯化直接测序法搜寻单核苷酸多态位点(SNP),选择B3GnT5基因的g.668A>G、g.821C>T、g.908C>A、g.1055T>C位点和B3GALT3基因的g.245C>T、g.1180G>A位点采用PCR-RFLP法及SNaPshot法进行多态性检测。实验数据经Case Control分析、连锁不平衡检测及传递不平衡检测分析,结果显示:g.668A>G 、g.908C>A和g.1055T>C三个多态位点紧密连锁,处于同一连锁相,资源家系F2代群体g.908 C>A、g.245C>T和g.1180G>A位点的等位基因与ETEC F4ac易感性TDT分析的P值分别为3.19E-04、6.90E-05和5.16E-05,其余多态位点不显著。而在中、西方猪种远缘群体中仅g.821C>T位点与黏附表型存在相关性,本实验虽未在表明B3GnT5基因和B3GALT3基因鉴别到与表型共分离的多态位点,不能证实这两个基因是否为ETEC F4ac受体基因,但为进一步开展精细定位鉴别目的基因奠定了良好的工作基础。
【英文摘要】The B3GNT5 gene is a candidate for the F4ab/ac receptor conferring susceptibility to enterotoxigenic Escherichia coli (ETEC) F4ab/ac in pigs. In this study, we screened mutations in the complete coding region of the porcine B3GNT5 gene and identified four SNPs in the 30 untranslated regions. We genotyped the four SNPs across a large-scale White Duroc x Chinese Erhualian F-2 resource population (total F-2 = 755) and 292 purebred piglets representing 15 Chinese and Western breeds. We found that the g. 1476G -> A locus and haplotypes [A; T; G; T] and [A; G; G; T] had significant association with susceptibility to ETEC F4ac in the resource population. None of the B3GNT5 polymorphisms and haplotypes was associated with susceptibility to ETEC F4ab/ac in outbred piglets. This result, together with other reports, supports the conclusion that B3GNT5 is not the responsible gene encoding the ETEC F4ab/ac receptors.
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【第一作者】欧阳婧
【通讯作者】黄路生
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【题目】Predicting the protein content of grain in winter wheat with meteorological and genotypic factors
【中文关键词】基因型的参数;降水;蛋白质含量的谷物;阳光小时;温度;冬小麦
【英文关键词】genotypic parameter; precipitation; protein content of grain; sunshine hours; temperature; winter wheat
【中文摘要】气象条件,包括温度、阳光和沉淀在晶粒生长的主要因素确定变化的蛋白质含量的谷物(PC)在小麦。田间试验的基础上,开发了一个简化的回归模型预测PC在冬小麦。从逐步回归分析,发现PC的高蛋白品种之间的区别是与每日最高和最低气温(δT)当δT变化环境下是重要的,但与交互的平均温度(Tmean)x总日照时间从开花到成熟(兽形杯)环境下与△T变异小于5%。在中等蛋白质品种,PC是与兽形杯,在低蛋白相结合的品种,总降雨量Tmean,从开花到成熟(TR)和兽形杯。气候因素影响PC进一步量化将五个遗传参数。δT和兽形杯呈线性相关,与PC,是quadratically Tmean与PC。降水量线性相关,与电脑如果它还不到50毫米,否则quadratically。一般的均方根误差(RMSE)值的估计PC相对于观测值小于7%,表明一个适合估计和观察之间的个人电脑。因此,得出目前的模型可以预测PC不同的冬小麦品种在不同气候环境。
【英文摘要】Meteorological conditions including temperature, sunshine and precipitation during grain growth are the primary factors determining the variation of the protein content of grain (PC) in wheat. On the basis of field experiments, a simplified regression model was developed for predicting the PC in winter wheat. From stepwise regression analysis, it was found that the PC of high-protein cultivars was correlated with the difference between daily maximum and minimum temperatures (Delta T) when Delta T variation under the environment was significant, but with the interaction of mean temperature (Tmean) x total sunshine hours from anthesis to maturity (TSUN) under the environment with Delta T variation less than 5%. In medium-protein cultivars, the PC was correlated with TSUN, and in low-protein cultivars, with the combination of Tmean, total rainfall from anthesis to maturity (TR) and TSUN. The climatic factors influencing PC were further quantified incorporating five genetic parameters. The Delta T and TSUN were linearly correlated with PC, and Tmean was quadratically correlated with PC. The precipitation was linearly correlated with PC if it was less than 50mm, otherwise quadratically. The average root mean square error (RMSE) values of the estimated PC relative to the observed value were less than 7 percent, indicating a good fit between the estimated and observed PC. Thus, it is concluded that the present model can predict the PC of different winter wheat cultivars under various climate environments.
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【第一作者】潘洁
【通讯作者】朱艳
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【学科分类】农艺学

【题目】Modeling plant nitrogen uptake and grain nitrogen accumulation in wheat
【中文关键词】小麦;氮吸收;再活化;谷物氮;动态建模
【英文关键词】wheat; nitrogen uptake; remobilization; grain nitrogen; dynamic modeling
【中文摘要】谷物氮(N)浓度是一个主要的质量参数的小麦谷物。因为一些报道量化的过程在两个粮食和N积累营养部分小麦(小麦l .),该研究旨在开发一个动态模型来模拟植物氮素吸收和谷物N积累在小麦通过关注的变异N堆积速率在个人谷物。五个不同基因型实验中,施用氮肥率和水政权支持模型进行开发和模型评价。该模型提出率的个人谷物N积累由N可用性和相互作用的影响因素作为温度、水和氮条件在植物在时间进程。N可用性的个人谷物的总额氮素吸收和重新活动从营养部分职位开花。邮报开花期氮素吸收表现出一个指数关系谷粒重量和N积累在开花期是取决于pre开花期氮素吸收。N重新活动从叶子被假定为减少与叶面积指数(LAI)。N重新活动从茎和chaffs(峰值没有谷物)是依赖于曲线和直线下降的N浓度和权重的茎和chaffs灌浆期间。两个基因型的参数被纳入到模型,即最高税率个人谷物N积累和生理充填时间的特定品种。的总体性能模型,验证了独立的数据集从三场实验跨越三年,包括各种基因型、氮和水位。RMSE模型组件的值与所有的治疗方式是平均为11%,表明一个合适的模拟和观测数据之间。看来,该模型可以给一个可靠的预测谷物N积累和蛋白质形成不同的小麦品种的各种生长条件下。(c),于2006年由爱思唯尔帐面价值
【英文摘要】Grain nitrogen (N) concentration is one of the main quality parameters of wheat grains. Since few reports have quantified the processes of N accumulation in both grain and vegetative parts in wheat (Triticum aestivum L.), this study was undertaken to develop a dynamic model for simulating plant N uptake and grain N accumulation in wheat by focusing on the variation

of N accumulation rate in individual grains. Five different experiments involving genotypes, N fertilization rates and water regimes were conducted to support model development and model evaluation. The model proposed that the rate of individual grain N accumulation was determined by the N availability and the interaction of influencing factors as temperature, water and nitrogen conditions within plants over the time course. N availability of individual grain was the sum of N uptake and remobilization from the vegetative parts post-anthesis. Post-anthesis N uptake exhibited an exponential relationship to grain weight and N accumulation at the time of anthesis which was determined by pre-anthesis N uptake. N remobilization from the leaves was assumed to decrease with leaf area index (LAI). N remobilization from the stems and chaffs (spikes without grains) was dependent on the curvilinear or linear decreases of the N concentrations and the weights of stems and chaffs during grain filling. Two genotypic parameters were incorporated into the model, i.e. the maximum rate of individual grain N accumulation and physiological filling duration of specific cultivars. The overall performance of the model was validated with independent data sets from three field experiments spanning 3 years and comprising various genotypes, nitrogen and water levels. The RMSE values for model components with all treatments were averaged 11%, indicating a good fit between the simulated and observed data. It appears that the model can give a reliable prediction for grain N accumulation and protein formation in different wheat cultivars under various growing conditions. (c) 2006 Published by Elsevier B.V.

【语种】英文
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【学科分类】农艺学

【题目】Modelling leaf shape dynamics in rice

【中文关键词】水稻;增长动力;叶形态;叶长度;叶宽度;叶子形状;仿真模型;亚洲栽培稻印度
【英文关键词】Rice; Growth dynamics; Leaf morphology; Leaf length; Leaf width; Leaf shape; Simulation model; Oryza sativa

【中文摘要】造型树叶的形状是一个有用的工具,用于设计优化植物的形状和可视化植物生长本研究的目的在于分析模式的改变叶片生长特性在植物开发、模型中的变化形态不同的叶子的水稻高产soma L)植物。在四个实验,观察时间进程在湿e的长度和宽度的叶子和惰轮的主茎水稻种植的植物在不同实验条件下三个实验提供了数据开发一个模型结果表明,膨胀过程的单个叶在主街和分蘖面对越来越多的学位天(GDD)遵循了一个缓慢的快速减缓模式,是很好的描述的物流功能的改变最终长度的普通叶放置在主茎被描述的二次函数,不同于函数的旗叶。最终叶长度的懒汉跟着的长度比同时扩大树叶舵柄的长度相应的叶子在主茎。叶宽度的变化与叶长度与GDD为单个叶在主街和潮流的是被一个二次函数的一般关系最终叶长度、最终叶宽度第一完全展开叶和旗叶在主茎和分蘖被描述的指数函数,而对于其他叶二次函数需要氮水平的影响和水的政权叶增长是通过使用叶氮量化和叶水内容模型。这是与独立验证数据从第四次实验,预测时间课程形态变化的叶子在主街和分蘖稻米与不同的氮和水位以及这项研究的结果可以导致更准确地描述具体稻叶在3 d空间的整合模型与形态发生模型的鞘。国米节点和圆锥花序的框架内植物拓扑此外,目前的叶体系结构模型可能加上一片叶子出现模型和叶曲率模型的数字表示光拦截和利用在叶林冠大米(C),于2009年由爱思唯尔B诉代表荷兰皇家农业科学学会。

【英文摘要】Modelling leaf shape is a helpful tool for designing optimal plant shape and visualizing plant growth The objectives of this study were to characterize the changes in patterns of leaf growth characteristics during plant development, and to model the changes in morphology of the different leaves of the rice (Oryza soma L) plant. In four experiments, time course observations wet e made on length and width of the leaves on the main stem and idlers of rice plants grown under different experimental conditions Three experiments provided the data for developing a model The results show that the expansion process of a single leaf on the main stem and tillers against growing degree days (GDD) followed a slow-rapid-slow pattern that was described well by a logistic function The changes in final length of the regular leaves positioned on the main stem were described by a quadratic function that differed from the function for the flag leaf. Final leaf length on the idlers followed the ratio of the length of the simultaneously expanding leaves on the tiller to the length of the corresponding leaves on the main stem. The changes in leaf width with leaf length in relation to GDD for a single leaf on the main stem and tide's were described by a quadratic function The general relationships between final leaf length and final leaf width for the first fully expanded leaves and the flag leaves on the main stem and tillers were described by exponential functions, whereas for the other leaves quadratic functions were needed The effects of nitrogen level and water regime on leaf growth were quantified by using leaf-nitrogen and leaf-water contents The model. which was validated with the independent data from the fourth experiment, predicted the time course morphological changes of leaves on the main stem and tillers of rice grown with different nitrogen and water levels well The results of this study can lead to a more accurate description of the rice leaf in a 3D space by integrating the model with the

morphogenesis models of sheath. inter node and panicle within the framework of plant topology In addition, the present leaf architecture model may be combined with a leaf emergence model and a leaf curvature model for digital representation of light interception and utilization within the leaf canopy of rice (C) 2009 Published by Elsevier B V. on behalf of Royal Netherlands Society for Agricultural Sciences.

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【第一作者】朱艳
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【题目】Modeling plant carbon flow and grain starch accumulation in wheat
【中文关键词】仿真模型;碳流;淀粉积累;;冬小麦籽粒产量
【英文关键词】simulation model; carbon flow; starch accumulation; grain yield; winter wheat
【中文摘要】淀粉的积累的过程在粮食直接影响小麦产量和品质的形成。因为很少有研究是旨在建模谷物淀粉的积累,本研究旨在开发一个简化的流程模型预测的速度在小麦籽粒淀粉的积累通过关注植物碳的变化动态邮报开花。五个不同的实验中,基因型、氮率和水政权支持模型进行开发和模型评价。该模型提出淀粉积累速率(STR)在个体粮食是由碳源的可用性在植物(GCA(我))和淀粉合成的能力在谷物(f(一个(我))),如温度等诸多因素的影响,水和氮条件在植物。f(一个(我))可以被描述在一个双节的曲线与邮报开花期发育程度天(GDD),第一个指数增加,然后线性降低。甘氨胆酸的(我)是由碳同化和碳开花期后再活化从营养器官谷物。一个基因型的参数被纳入模型算法,即最高税率个人谷物淀粉的积累,区分的能力在品种淀粉的积累。的总体性能模型不同的数据集,验证了从三个领域跨越3年,组成的实验不同基因型、氮和水位。所有的治疗方式的RMSE值是平均为12.51%,这表明一个合适的模拟和观测数据之间。看来,该模型可以给一个可靠的预测谷物淀粉的积累在各种不同的小麦品种的生长环境。(c)2006爱思唯尔帐面价值保留所有权利。
【英文摘要】The process of starch accumulation in grain directly influences the yield and quality formation in wheat. Since few studies have been aimed at modeling the grain starch accumulation, this study was undertaken to develop a simplified process model for predicting the rate of starch accumulation in wheat grain by focusing on the variation of plant carbon dynamics post-anthesis. Five different experiments involving genotypes, nitrogen rates and water regimes were conducted to support model development and model evaluation. The model proposed that the starch accumulation rate (STR) in individual grain was determined by the availability of carbon source in plant (GCA(i)) and the ability of starch synthesis in grain (f(A(i))), as influenced by the factors of temperature, water and nitrogen conditions within plants. The f(A(i)) could be described in a two-section curve with post-anthesis growing degree days (GDD), first exponential increase and then linear decrease. The GCA(i) was determined by post-anthesis carbon assimilation and carbon remobilization from vegetative organs to grains. A genotypic parameter was incorporated into the model algorithm, i.e. the maximum rate of individual grain starch accumulation, to differentiate the ability of starch accumulation among cultivars. The overall performance of the model was validated with different data sets from three field experiments spanning 3 years and comprising various genotypes, nitrogen and water levels. The RMSE values for all treatments were averaged as 12.51%, indicating a good fit between the simulated and observed data. It appears that the model can give a reliable prediction for grain starch accumulation of different wheat cultivars under various growing conditions. (c) 2006 Elsevier B.V. All rights reserved.
【语种】英文
【第一作者】潘洁
【通讯作者】曹卫星
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【学科分类】农艺学

【题目】Spatial distribution of leaf area index and leaf N content in relation to grain yield and nitrogen uptake in rice

【中文关键词】粮食产量;叶面积指数、叶N内容;N吸收;空间分布
【英文关键词】grain yield; leaf area index; leaf N content; N uptake; spatial distribution
【中文摘要】探索方法来优化空间分布的叶面积指数(LAI)和叶片氮含量(LNC)应该被用于增加粮食产量在水稻高产唾液)。摘要本研究的主要目的是为了描述的变化和LNC内赖分布林冠与籽粒产量和氮素吸收在大米。两个实验不同N施肥利率在常规和间歇灌溉(CI和二世,分别在2002年和2003年进行,使用Wuyujing9粳米品种。结果表明:籽粒产量和氮素吸收明显不同应用程序之间比率的N(N利率),但没有差别CI和II。全赖分布影响显著的标题N率但并不的灌溉方法。个人LAI与N率增加。达到一个高收益,合理分配赖在树冠上可以被设计为最大的2(nd)叶从顶部,其次是3(rd)和4(th)的叶子,最小的在顶部的叶。LNC两地区的基础上和干物质在15日内完整标题减少从上到较低的叶子在树冠上,与N率明显增加。粮食产量提高了线性随着N含量翻斗两叶,可是因为高N含量较低的叶子。这些结果表明,空间分布情况,都可以优化LNC和赖以获得最大的树冠光合作用和产量在大米。
【英文摘要】Exploring approaches to optimizing spatial distributions of leaf area index (LAI) and leaf nitrogen content (LNC) should be useful for increasing grain yield in rice (Oryza saliva). The primary objective of this study was to characterize the variation of LAI and LNC distributions within the canopy in relation to grain yield and N uptake in rice. Two experiments with different N fertilization rates under conventional and intermittent irrigation (CI and II, respectively) were conducted in 2002 and 2003, using Japonica rice cultivar Wuyujing9. The results showed that grain yield and N uptake were significantly different among application rates of N (N rates), but did not differ between CI and II. LAI distribution at full heading was affected significantly by N rate but hardly by the irrigation method. Individual LAI increased with the N rate. To achieve a high yield, the proper distribution of LAI in the canopy can be designed as the largest in the 2(nd) leaf from the top, followed by the 3(rd) and 4(th) leaves, and the smallest in the top leaf. LNC on the base of both area and dry matter at 15 days after full heading decreased from the top to lower leaves in the canopy, and significantly increased with the N rate. Grain yield was enhanced linearly with the increasing N content of the tipper two leaves, but hindered by the high N content of lower leaves. These results indicate that the spatial distributions of both LNC and LAI could be optimized to achieve maximum canopy photosynthesis and grain yield in rice.
【语种】英文
【第一作者】荆奇
【通讯作者】曹卫星
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【引文索引号】2.44E+11
【学科分类】农艺学

【题目】RiceGrow:A rice growth and productivity model
【中文关键词】水稻;增长模式;生理发育时间;分区索引;ORYZA2000
【英文关键词】Rice; Growth model; Physiological development time; Partitioning index; ORYZA2000
【中文摘要】水稻;增长模式;生理发育时间;分区索引;ORYZA2000
【英文摘要】在水稻生长发育及产量形成(亚洲栽培稻印度l .)取决于综合影响的基因型、环境和管理。一个水稻生长模拟模型可以提供一个系统和定量工具预测增长、发展和生产力的大米在不断变化的环境条件。现有的大米模型表现良好,但有些难以使用,因为有许多用户必须估计的参数。经验表明使用生理造型小麦开发时间(PDT)作为定标器对物候和一个分区索引器官生长可能导致更少的参数,同时提供良好的可预测性和适用性。RiceGrow是开发一个分区索引使用PDT和量化水稻增长和环境之间的关系因素,基因型的参数和管理实践。RiceGrow包括七个子为模拟生物气候学、形态和器官形成、光合作用和生物产量,干物质分区,产量和品质形成、水和养分平衡的关系。该模型校准的三个数据集涉及各种品种、播种日期和N利率在多个吗网站。验证与独立的数据集显示模型具有良好的可预测性和适用性。这个RiceGrow模型比较了该ORYZA2000模型,表明两提供令人满意的估计物候学,射击生物量和产量。总的来说,RiceGrow可以用来预测水稻生长和发展不同基因型、环境条件和管理实践多种用途包括科学认识、政策制定和优化农作物管理。
【语种】英文
【第一作者】汤亮
【通讯作者】曹卫星
【期刊名称、卷期、页码】NJAS -Wageningen Journal of Life Sciences. 57: 83-92
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【学科分类】农艺学

【题目】Design and implementation of a model and 3S-based digital rice farming system.
【中文关键词】水稻;3 s;增长;管理知识模型仿真模型;决策支持系统
【英文关键词】rice; 3S; growth simulation model; management knowledge model; decision support system
【中文摘要】本文的目的是整合和利用这些优势的3 s(GIS、RS、GPS)技术,水稻生长模拟模型和大米管理知识模型,研究方法和应用模式的精确农业技术适应中国的情况。因此,通过使用软件开发方法论的理论的基础上,对水稻生长模拟模型,大米管理知识模型和3 s技术,数字水稻种植系统是通过ASP开发的。净和c#语言。基于数据的品种、气候、土壤和农业条件,系统实现的功能分区、种植大米范宁计划,增长预测和模拟实时调节。该系统提供了一个数字和科学决策支持农民,农学家和研究人员。
【英文摘要】The purpose of this paper was to integrate and use these advantages of 3S (GIS, RS, GPS) technologies, rice growth simulation model and rice management knowledge model, research the method and applying mode of precise farming technologies adapted to Chinese circumstance. So, by using the theory of software development methodology, on the basis of rice growth simulation model, rice management knowledge model and 3S technologies, the digital rice farming system was developed through ASP. NET and C# language. Based on the data of variety, climate, soil and farming condition, the system realized the functions as rice fanning zoning, cultivated plan, growth simulate forecast and real-time regulation. The system has offered a digital and scientific decision support for farmers, agronomists and researchers.
【语种】英文
【第一作者】姜晓剑
【通讯作者】曹卫星
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【学科分类】农艺学

【题目】Development of a model-based digital and visual wheat growth system.
【中文关键词】小麦;增长模式;形态模型;功能结构植物模型;可视化
【英文关键词】wheat; growth model; morphological model; functional-structural plant model; visualization
【中文摘要】由土壤、品种、天气和管理数据库和集成基于流程的增长模型,模拟形态模型和可视化模型,提出一种基于数字和视觉小麦生长系统(MDVWGS)是使用基于组件的软件开发和可视化技术。该系统是由网络编程框架和语言的c#和CsGL库是用于实现2 d和3 d图形应用程序和可视化。实现的系统可以用于预测增长过程和可视化的小麦植株形态结构在各种环境中,基因型和管理策略,并有函数作为数据管理、动态模拟、战略评估,实时预测,时间和空间分析,可视化输出、专家咨询和系统的帮助。这个MDVWGS应该用于建设和应用数字农业系统和提供精确的和科学的工具品种设计、文化监管和生产力评估在不同的生长条件。
【英文摘要】Driven by soil, variety, weather and management databases and integrating process-based growth simulation model, morphological model and visualization model, a model-based digital and visual wheat growth system (MDVWGS) was developed using component-based software and visualization techniques. The system was programmed by the Net framework with the language of C# and CsGL Library was used for realizing 2D and 3D graphics application and visualization. The implemented system could be used for predicting growth processes and visualizing morphological architecture of wheat plant under various environments, genotypes and management strategies, and has the functions as data management, dynamic simulation, strategy evaluation, real-time prediction, temporal and spatial analysis,visualization output, expert consultation and system help. The MDVWGS should be useful for construction and application of digital farming system and provide a precise and scientific tool for cultivar design, cultural regulation and productivity evaluation under different growing conditions.
【语种】英文
【第一作者】汤亮
【通讯作者】曹卫星
【期刊名称、卷期、页码】Computer And Computing Technologies In Agriculture, Volume II. 1113-1120

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【学科分类】农艺学

【题目】Development of a growth model-based decision support system for crop management.
【中文关键词】模拟
【英文关键词】SIMULATION
【中文摘要】增长基于模型的决策支持系统的开发GMDSSCM作物管理(包括基于流程模型的4不同的作物,如小麦、水稻、油菜和棉花。这个系统的目标是在促进仿真和应用的作物模型为不同的目的。个人模型模拟为每个包括六子形势的发展,器官形成、生物质生产、产量和品质的形成,作物水分关系、营养(N,P,K)平衡。实现的系统可以用于评估个体和综合管理策略基于作物生长模拟的结果在不同环境和不同基因型。4单机版(GMDSSCM,4)是建立在平台vc++和VB的特点,采用面向对象和基于组件的软件和与有效的集成和耦合的增长预测与决策功能。4基于web的系统(GMDSSCW是进一步发展在一个网络平台使用c#语言。这些GMDSSCM系统已被用于预测动态作物生长和做出决策对于管理系统。这个工具应该有利于建设和应用信息和数字农业系统。
【英文摘要】Growth model-based decision support system for crop management (GMDSSCM was developed including process based models of 4 different crops, i.e. wheat, rice, rapeseed and cotton. This system aims in facilitating simulation and application of crop models for different purposes. Individual models each include six submodels for simulating phasic development, organ formation, biomass production, yield and quality formation, soil-crop water relations, and nutrient (N, P, K) balance. The implemented system can be used for evaluating individual and comprehensive management strategies based on the results of crop growth simulation under various environments and different genotypes. 4 Stand-alone version (GMDSSCM,4) was established under the platforms VC++ and VB by adopting the characteristics of object-oriented and component-based software and with the effective integration and coupling of the growth-prediction and decision-making functions. 4 web-based system (GMDSSCW was further developed on a net platform using C# language. These GMDSSCM systems have been used to predict dynamically crop growth and to make decisions regarding to management systems. This tool should be helpful for construction and application of informational and digital farming systems.
【语种】英文
【第一作者】朱艳
【通讯作者】曹卫星
【期刊名称、卷期、页码】Frontiers in Agriculture of China, 2007, 1(3): 296-300
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【引文索引号】0
【学科分类】农艺学

【题目】Modeling grain protein formation in relation to nitrogen uptake and remobilization in rice plant
【中文关键词】生物化学和分子生物物理学;模型和模拟(计算生物学);农业(农业)
【英文关键词】Biochemistry and Molecular Biophysics; Models and Simulations (Computational Biology); Agronomy (Agriculture)
【中文摘要】04500年,生物数学和统计方法;10060年,生物化学的研究——一般;10064年,生物化学的研究——蛋白质、多肽和氨基酸;10515年,生物物理学——生物控制论;51522年,植物生理学-化学成分;52502年,农学——杂项和混合作物;52504年,农学——粮食作物
【英文摘要】04500, Mathematical biology and statistical methods; 10060, Biochemistry studies - General; 10064, Biochemistry studies - Proteins, peptides and amino acids; 10515, Biophysics - Biocybernetics; 51522, Plant physiology - Chemical constituents; 52502, Agronomy - Miscellaneous and mixed crops; 52504, Agronomy - Grain crops
【语种】英文
【第一作者】朱艳
【通讯作者】朱艳
【期刊名称、卷期、页码】Frontiers in Agriculture of China, 2007, 1(1): 8 – 16
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【引文索引类型】其他
【引文索引号】0
【学科分类】农艺学

【题目】水稻籽粒蛋白质积累的模拟模型研究
【中文关键词】水稻; 氮素积累; 氮素转运; 籽粒蛋白质; 模拟模型;
【英文关键词】Rice; Nitrogen accumulation; Nitrogen translocation; Grain protein; Simulation model;
【中文摘要】【目的】蛋白质含量是稻米的重要品质指标。通过解析和综合水稻植株氮素积累和转运的动态规律及其与环境因子和基因型的定量关系,构建一个基于氮流生理过程的水稻籽粒蛋白质形成模拟模型,以期为水稻生产中籽粒蛋白质指标的动态预测和管理决策提供量化工具。【方法】以田间试验资料为基础,结合已有水稻生长模型,采用生理发育时间作为定量生育进程的尺度,通过解析和综合水稻植株氮素积累和转运动态的基本规律及其与环境因子和基因型的定量关系,构建花前植株氮素吸收与积累、花后氮素吸收与转运及籽粒蛋白质形成过程的模拟模型。【结果】利用不同年份、不同生态点、不同品种类型和不同肥水条件下的大田试验资料对籽粒蛋白质形成模型进行了检验,籽粒蛋白质含量模拟值与观测值之间的决定系数大于0.84,根均方差(RMSE)小于0.26%。表明模型具有较好的通用性和可靠性,可以较准确地预测不同条件下的水稻籽粒蛋白质含量与蛋白质产量【。结论】基于植株氮素积累和转运的生理生态过程,以生理发育时间为主线,建立了较为简化的水稻籽粒蛋白质积累动态的模拟模型,模型的研究不仅为定量预测不同生态与肥水条件下不同水稻品种籽粒蛋白质含量与蛋白质产量的动态变化奠定了基础,而且是对国内外现有水稻生长与产量模拟模型的发展和完善。
【英文摘要】【Objective】Protein content of grain is an important quality index of rice product. Analyzing the dynamic rule of nitrogen assimilation and translocation in rice plant and relationship, this study will development a simulation model on formation of grain protein based on the development process to predict rice grain protein content and yield under different ecological environmental conditions.【Method】On the basis of the field experiments with different cultivars and nitrogen levels, using physiological development time (PDT) as general time scale of development progress, the fundamental dynamic relationships between plant nitrogen accumulation and translocation and environmental and genetic factors were quantified and a simplified and explanatory simulation model was established to predict the processes of nitrogen uptake and partitioning in plant and protein formation in grain of rice by integrating with a rice growth model (RiceGrow).【Result】The model was validated using the data sets of different years, eco-sites, varieties, N fertilization and irrigation conditions with the RMSE 0.22%-0.26%. The results indicate that the model is accurate and applicable for predicting grain protein content and grain protein yield of rice under various environments.【Conclusion】Using PDT as general time scale of development progress, this study developed the simulation model on rice grain protein formation based on nitrogen assimilation and translocation, which might predict rice grain protein content and yield under different ecological environment conditions, and expanded and perfected the exist rice growth models on quality prediction
【语种】中文
【第一作者】李卫国
【通讯作者】曹卫星
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【引文索引类型】其他
【引文索引号】0
【学科分类】农艺学

【题目】基于生长模型的稻麦轮作生产管理决策支持系统的研究
【中文关键词】稻麦轮作; 生长模拟模型; 生产管理; 决策支持系统;
【英文关键词】Rice-wheat rotation; Growth simulation model; Crop production management; Decision support system;
【中文摘要】为建立一种具有时空适应性、适用于稻麦轮作生产的管理决策支持系统,运用系统分析原理和数学建模技术,构建了具有较强机理性和预测性的稻麦轮作生长模拟模型,并进一步结合气象生成模型与策略分析评价模型,以C#.net为编程语言,应用面向对象的程序设计与软件技术,建立了综合性的稻麦轮作生产管理决策支持系统。系统具有农田信息管理、专家咨询、动态模拟、方案评估、因苗预测和系统维护等功能,实现了模拟预测、决策支持和人机交互技术的有机耦合。系统的建立为稻麦轮作生产管理和策略制定提供了定量化的辅助决策工具。 更多还原
【英文摘要】In order to develop a growth model-based decision support system for rice-wheat rotation production adapting to different temporal and spatial environments,Firstly,a rice-wheat rotation growth simulation model with strong mechanism and forecasting characteristics was developed by using system analysis theory and mathematics modeling method,in this study.Secondly, a

growth model-based integrated decision support system for rice-wheat rotation production(GMDSSRWP) was developed based on the rice-wheat rotation growth simulation model,weather generation model,and strategy evaluation model,on the platform of Visual C#.net by using the technologies of object-oriented programming and software component.With the effective coupling of the growth prediction,decision-making and alternating technology,the system realized the functions as field information management,expert knowledge consultation,dynamic growth simulation for wheat and rice,strategy evaluation,real-time forecasting,and system maintenance.The system also provides aids for decision-making on rice-wheat rotation farming management and strategy design.
【语种】中文
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【学科分类】农艺学

【题目】基于模型和3S技术的数字麦作系统的设计与实现
【中文关键词】小麦; 3S技术; 生长模型; 管理知识模型; 决策支持系统;
【英文关键词】Wheat; 3S; Growth simulation model; Management knowledge model; Decision support system;
【中文摘要】为了充分发挥和利用3S技术、生长模型和管理知识模型的优势,探索适合中国国情的精准农业关键技术集成方法及应用模式,以软件开发方法论为指导,充分结合小麦生长模型、管理知识模型和3S技术,应用ASP.NET和C#开发Web应用程序,建立了基于模型和3S技术的网络化数字麦作系统。该系统以品种、气候、土壤及生产条件等为基本输入,具有麦作区划、栽培方案设计、模拟预测、策略分析、动态调控、生长监测、精确麦作、生产力评价、病虫草害管理、智能学习、系统管理和系统帮助等功能。以江苏省部分县市的气象、土壤、品种和生产资料为基础,对本系统进行了初步测试与应用,表明该系统可为农业生产者、管理人员和科技人员提供麦作数字化和科学化的决策支持。
【英文摘要】To fully utilize the advantages of 3S(GIS,RS,GPS) technologies,crop growth simulation model and crop management knowledge model,and to grope into the integration method and application mode of key technologies in precise farming adapted to Chinese circumstance,a model and 3S-based digital wheat farming system was developed based on plentitude combination of wheat growth simulation model,wheat management knowledge model and 3S technologies.Guided by the methodology of software development,the system was programmed with the languages of ASP.NET and C#.By inputting the parameters of varieties,climate,soil and production condition,the system realized the functions of wheat farming zone,cultivation strategy design,growth prediction,strategy evaluation, dynamic regulation,growth monitoring,precision management,productivity evaluation,management of disease,insect and weed,intelligent learning,system management and system help.The case study of the system with the datasets in some eco-sites of Jiangsu province indicated that the system can provide digital and scientific decision supports in wheat farming for farmers,agronomists and researchers.
【语种】中文
【第一作者】蒋红军
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【题目】基于构件化生长模型的作物管理决策支持系统
【中文关键词】通用算法; 生长模型; 决策支持系统; 框架; 构件;
【英文关键词】general algorithm; growth simulation model; decision support system; framework; component;
【中文摘要】运用系统分析原理和数学建模技术,通过分析不同作物生长模型的共性及特点,初步创建了基于通用算法框架的作物生长模型。并进一步结合气象生成模型、品种参数生成模型及策略分析评价模型,以C#为编程语言,应用面向对象的程序设计与软构件技术,建立了基于构件化生长模型的作物管理决策支持系统。系统实现了农作模拟预测、决策支持和人机交互技术的有机耦合,具有农作信息管理、动态模拟、方案评估、因苗预测、时空分析及系统维护等功能。系统的

建立可为通用性、综合性数字化作物管理决策支持系统的构建奠定基础。 更多还原

【英文摘要】By using system analysis theory and mathematics modeling method,and analyzing the commonness and character of different crop growth models,a crop growth model based on general algorithm framework was developed.By intgerating weather generation model,variety parameter generation model and strategy evaluation model,with Visual C# as programming platform,and using the technology of object-oriented programming and software component,a growth model and component-based decision support system for crop management was developed.With the effective coupling of the crop simulating estimation,decision-making and alternating technology,the system realized the functions as farming information management,dynamic simulation,project assessment,real-time forecast,time and spatial analysis and system maintenance.This study provides a foundation for establishing general and digital crop management decision support system. 更多

【语种】中文

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【学科分类】农艺学

【题目】水稻叶龄与叶面积指数动态的模拟研究

【中文关键词】水稻; 叶龄; 叶面积指数; 比叶面积; 模拟模型;

【英文关键词】rice; leaf age; leaf area index; specific leaf area; simulation model;

【中文摘要】依据不同类型品种的播期试验和氮肥试验结果,建立了水稻叶龄与叶面积指数(LAI)的模拟模型。叶龄模型采用幂函数描述叶片出生与播后累积热时间(TTS)的关系,TTS的计算定量了温度与出叶速率之间的非线性关系。叶面积指数模拟包括两个阶段:在指数生长阶段,LAI随播后累积生长度日(GDD)呈指数式增长,同时受到氮素营养水平调节;当LAI≥1.6时进入非指数生长阶段,采用比叶面积法模拟,LAI是比叶面积与绿叶干物质量的乘积。绿叶干物质量是绿叶分配指数与地上部干物质量的乘积,比叶面积(SLA)为GDD的函数,同时考虑植株氮素营养因子对SLA的影响。利用生态条件和栽培条件差异较大的试验资料对模型进行了验证。结果表明,模型能较好地模拟不同条件下叶片的出生动态和LAI变化动态,表现出较强的适用性,具有参数少、易确定、简便实用的特点。 更多还原

【英文摘要】Based on the field experiments using different type rice varieties under different sowing dates and nitrogen application levels,the leaf age and leaf area index(LAI)simulation models were established.A power function was used to describe the non-linear relationship between leaf appearance and accumulated thermal time after sowing(TTS).The LAI model contained two consecutive phases:at exponential expansion phase(LAI<1.6),LAI increased exponentially with the accumulated growing degree days after sowing(GDD)and was regulated by the nitrogen level;when LAI≥1.6,leaf area expansion was quantified on the bases of specific leaf area(SLA)and green leaf dry weight.SLA was mainly determined by GDD and nitrogen nutrition index,and green leaf dry weight was calculated as the product of its partitioning index and shoot dry weight.Validation of the models using the experiment data with a wide range of ecological and cultivated conditions showed that the two models could accurately simulate the leaf appearance and LAI dynamic under different environments.Thus,the models might be widely adaptable and applicable,which needs only a few and simple parameters.

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【学科分类】农艺学

【题目】基于生长元模型的智能化作物集成建模辅助系统研究

【中文关键词】关键字:作物生长模拟; 元模型; 通用过程; 集成建模; 模型结构; 模板;

【英文关键词】Crop growth simulation; Meta-model; Generic process; Integrated modeling; Model framework; Template;
【中文摘要】【目的】探索智能化作物集成建模方法和开发实用辅助建模工具。【方法】在综合分析麦、稻、棉等作物的生长模拟模型算法及模拟系统的基础上,提炼作物通用建模流程、模型结构、模型接口和模型模板,构建作物生长元模型;在模型资源库、组件、描述脚本和引擎等技术的支撑下,设计层次化、组件化和智能化作物集成建模辅助系统(IICMSS)结构及核心部件。【结果】基于.Net平台,使用C#语言和SQL Server数据库开发原型系统;以小麦为对象,重构了生长模型和模拟系统。与基于代码编程的小麦生长模拟系统相比,开发方法有所改进,方便了作物模型及模拟系统的开发、测试、维护和共享。【结论】基于生长元模型的智能化作物集成建模辅助系统实现了作物建模的工作流程化、手段工业化、接口通用化及模型透明化,促进了作物建模过程的自动化;作物模型研究者使用学习、定制、设计、配置、组装、评估和扩展等手段,即可无编程、智能化地构建作物模型。 更多还原
【英文摘要】【Objective】The method of intelligent crop integrated modeling was explored and a supported tools of modeling was developed. 【Method】By analyzing and extracting the crop (wheat, rice and cotton) growth models algorithm and simulation systems, the generic modeling flow, model framework, model interface and model template were extracted, and a growth meta-model for agronomic crops were developed. Based on the techniques of crop model resource library, model components, description script and engine, the structure and core parts of Intelligent and Integrated Crop Modeling Support System (IICMSS) with layer and component characteristics were designed.【Result】Based on .Net platform and SQL Server database,the prototype system was developed with C#, and a wheat growth simulation model and system was reconstructed using the IICMSS. Compared with the code-based wheat growth simulation system, the development approach of the model system reconstructed by the IICMSS has been improved, which facilitates crop model and system development, testing, maintenance and sharing.【Conclusion】The IICMSS realized flowchart process of crop modeling industrialization of modeling method, generalization of interface and transparent of models. In IICMSS, a crop model can be developed by scientists/modelers with no-code automatic approach through studying, customizing, designing, configuration, assembling, evaluation and extension.
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【第一作者】姜海燕
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【题目】水稻叶片伸长过程的模拟模型
【中文关键词】水稻; 叶长; 叶宽; 叶型; 动态; 模拟模型;
【英文关键词】Rice; Leaf length; Leaf width; Leaf shape; Dynamic; Simulation model;
【中文摘要】水稻叶片生长过程的动态模拟,对于实现水稻生长的数字化和可视化表达具有重要的理论意义和应用价值。本研究以4个不同株型的水稻品种为试验材料,通过对水分试验、氮素试验条件下不同叶位叶片的叶长、叶宽特征进行连续观测,综合分析了水稻叶片几何形态指标随生育进程和环境条件的变化规律,进而构建了水稻叶片生长过程的动态模拟模型。模型采用Logistic方程描述了水稻主茎及分蘖叶片随生长度日(GDD)的动态伸长过程;利用二次曲线描述了叶宽随GDD的动态变化过程;分别用幂函数和一元二次方程描述了叶形(不同叶长处的叶宽)的动态变化过程;另外,以叶片氮素和水分因子分别描述了不同水氮水平对叶片形态建成过程的定量影响。同时利用独立的水稻田间试验资料对所建模型进行了测试和检验,主茎和分蘖动态变化叶长、叶宽的均方根差(RMSE)分别为3.6cm、3.96cm以及3.15cm、3.56cm。表明本模型对水稻叶片的动态伸长过程具有较好的预测性和解释性。 更多还原
【英文摘要】Modeling leaf growth dynamics in rice is of significant importance for realizing virtual and digital plant growth. Based on time-course observations on leaf morphological properties (leaf length and leaf width) on main stems and tillers under different nitrogen rates and water regimes with four rice cultivars, the change patterns of leaf morphology with growth progress and environmental factors were characterized, and a dynamic model was developed to simulate time-course growth characters of different leaves on rice plant. The growth dynamics of leaf length on stem and tiller could be described with a logistic model, leaf width with conic equation, and leaf shape with exponential function and quadratic equation. The effects of nitrogen and water conditions on leaf growth were quantified by the effective values of leaf nitrogen concentration and water content. The model was validated with independent field experiment data of different nitrogen rates, and the mean RMSEs of dynamic leaf length were 3.60 cm and 3.96 cm, those of leaf width were 3.15 cm and 3.56 cm on main stem and tillers, respectively. The results indicated that the present model had a good performance in predicting morphological growth of leaf on stem and tiller in rice plant. 更多

【语种】中文
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【题目】基于模型和GIS的小麦空间生产力预测研究
【中文关键词】小麦; 模拟模型; 地理信息系统; 生产力;
【英文关键词】wheat; simulation model; GIS; productivity;
【中文摘要】【目的】准确预测区域小麦生产力,可以为农业生产的定量评价、环境变化影响的评估等提供关键技术支持。【方法】基于课题组研制的小麦生长模拟模型,探讨生长模型在区域化应用过程中升尺度连接的方法,进一步将模型与GIS相耦合,建立小麦区域生产力预测模拟模型;并以江苏省2000年小麦产量的区域模拟为例,借助GIS技术完成了气象、土壤特性、管理措施等模型基本输入数据的空间栅格化预处理,通过将研究区域划分为许多均质栅格,解决了研究区域内环境条件的空间变异,实现了小麦生产力的区域模拟;并将江苏省内的栅格模拟产量空间变异图和平均模拟结果同实际产量变异和统计产量进行了比较。【结果】模型模拟的产量空间分布图可以较好的反映江苏省区域内实际小麦产量的变化规律,通过归并得到的江苏省县市平均产量与统计产量的均方根差为496.48kg · hm-2。【结论】表明基于模型和GIS对不同生态条件下的小麦生产力进行模拟,具有较好的可行性。 更多还原
【英文摘要】【Objective】 The objective of this study was to predict regional wheat productivity,which would lay a foundation for quantitative evaluating agricultural productivity and precision management.【Method】 Considering the approaches related to scaling-up the crop model from plot to region level,a regional wheat model was developed by integrating the WheatGrow model with GIS.To address the spatial variability,grid-based data as model input were generated in advance by interpolation and overlaying with the aid of GIS.When all the necessary input data were available,the target region was partitioned into smaller and relatively homogeneous spatial grids,and crop yields were simulated with WheatGrow for each grid cell.The regional wheat productivity of Jiangsu Province in 2000 was simulated.【Result】 The distribution of wheat yield that simulated by the regional wheat model based on grid input data,was coincident with statistic data.The mean RMSE of wheat yield between simulated result and statistics was 496.48 kg · hm-2.【Conclusion】 The results indicated that the GIS based regional wheat model has a good performance in predicting regional wheat productivity.
【语种】中文
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【题目】基于模型与GIS的小麦籽粒品质空间差异分析
【中文关键词】小麦; 籽粒品质; 预测模型; GIS; 空间变异;
【英文关键词】wheat; grain quality; prediction model; GIS; spatial variation;
【中文摘要】【目的】基于小麦籽粒品质预测模型和GIS技术,探索主要籽粒品质指标区域模拟与空间变异分析的方法。【方法】首先利用文献资料对已有小麦籽粒品质预测模型进行验证和评价,并基于江苏省40个生态点2000-2003年逐日气象数据和5个生态点、6个品种类型的小麦田间试验数据,对籽粒品质预测模型进行先计算后插值(calculate first,interpolate later,CI)和先插值后计算(interpolate first,calculate later,IC)两种升尺度方法的研究与评价;在此基础上进行小麦籽粒蛋白质含量、湿面筋含量和沉降值3项籽粒品质指标的区域模拟;最后,运用GIS和地统计学方法,分析江苏省3项籽粒品质指标的空间变异,获取3项籽粒品质指标的空间分布栅格图。【结果】IC方法的模拟精度较高,3项籽粒品质指标在不同地点、不同品种上的模拟值与实测值的RMSE基本小于20%;江苏省3项小麦籽粒品质指标在最大变程7.16km范围内显著相关,表现为东西经向和南北纬向变异较大的各向异性分布;空间栅格图能直观显示3项籽粒品质指标的空间分布以及纬度和经度方向的变

异趋势。【结论】利用基于IC的小麦籽粒品质模型升尺度方法进行区域籽粒品质模拟和空间变异分析是可行的,为小麦籽粒品质的生态变异研究提供了参考。

【英文摘要】Objective The aim of this study is to explore the method of simulating the grain quality index and analyzing the spatial variation characteristics based on GIS and wheat quality index prediction model.Method Firstly,literature data with five varieties at five eco-sites were used for the evaluation of grain quality model at site scale.Secondly,based on the weather data sets of 2000-2003 at 40 eco-sites in Jiangsu province and experimental data from five eco-sites and six wheat cultivars,three main wheat grain quality indices at regional scale were calculated with two methods such as ’calculate first,interpolate later’(CI)and ’interpolate first,calculate later’(IC).Finally,the spatial variation characteristics of three wheat grain quality indices in Jiangsu province were analyzed,and three spatial distribution raster maps for grain protein content,wet gluten content and sedimentation were made based on the geo-statistics and GIS.Result The IC was suggested to be preferable for up scaling the grain quality model,with the RMSE less than 20% between simulated and observed values for three quality indices.The spatial autocorrelation of grain protein content,wet gluten content and sedimentation under research region was significant within the 7.16 km variation range,and the anisotropic structure varies more evidently in longitudinal and latitudinal directions.The spatial raster maps could show the distribution and the variation trend of regional grain quality effectively.Conclusion The result indicated that the IC based simulation on regional spatial variation of wheat grain quality is feasible.This study might provide reference for analysis of ecological variation on crop quality.

【语种】中文

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【学科分类】农艺学

【题目】基于本体的作物系统模拟框架构建研究

【中文关键词】作物; 模拟模型; 本体; 建模框架; 组分框架; 算法框架;

【英文关键词】crop; simulation model; ontology; modeling framework; component framework; algorithm framework;

【中文摘要】【目的】研究作物系统模拟框架(CSSF)可以为构建作物生长模型及设计可重用的作物系统模拟软件提供基础框架。【方法】将本体技术应用于作物模拟模型领域,以作物生长的基础生理生态过程为主线,基于仿真本体和作物模拟本体,综合分析与提炼稻麦棉油等作物的建模流程、生长模拟模型算法及模型参数中的共性概念及概念之间的相互关系,构建了CSSF。【结果】CSSF包括作物建模外部知识框架(CMOKF)和作物模型内部知识框架(CMIKF),其中CMOKF提炼了作物系统受时间、空间和自然环境共同驱动的共享特征,CMIKF描述了生育期、生物量积累、干物质分配与产量形成、器官建成、作物-土壤水分动态和养分平衡等作物模型组分与模型算法的共性特征。【结论】CSSF实现了作物建模概念、流程、结构和方法的知识级共享,对设计可重用的作物模型软件体系结构具有指导作用。 更多还原

【英文摘要】【Objective】 The Crop System Simulation Framework (CSSF) is the basis of the reconfigurable simulation software about the crop model resource mapping and design. 【Method】 This research bring the technology of ontology into the field of crop system simulation. Based on the physiological and ecological processes of crop growth, the common characteristics and relationships of crop system (wheat, rice, cotton, rapeseed) modeling processes, model algorithm and model parameters were analyzed and extracted with the ontologies of simulation and crop simulation, the CSSF were constructed. 【Result】 CSSF includes outer (CMOKF) and inner (CMIKF) knowledge frameworks of crop modeling. CMOKF describes the outer common characteristics driven by time, space and environment, while CMIKF describes the inner common characteristics of models components and models algorithm about phasic and phenological development, biomass accumulation, dry matter distribution and yield formation, organ built, plant-soil water dynamics and nutrient balance simulation. 【Conclusion】 CSFF realized the knowledge level sharing the crop modeling concepts, processes, structures and methods, and could play a guiding role on designing the reusable crop model software architecture.

【语种】中文

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【引文索引号】0
【学科分类】农艺学

【题目】水稻冠层光合有效辐射的时空分布特征
【中文关键词】水稻; 光分布; 透光率; 光合有效辐射; 消光系数;
【英文关键词】rice(Oryza sativa L.); light distribution; transmittance; photosynthetically active radiation(PAR); extinction coefficient.;
【中文摘要】以2个不同株型水稻品种为材料,设置高、中、低3个施氮水平,利用SunScan冠层分析仪于灌浆期系统测定了不同施氮水平下不同株型水稻品种植株形态和冠层内光合有效辐射(PAR)的时空分布状况.结果表明:施氮量对水稻株高、穗弯曲度和茎叶夹角有明显影响;群体叶面积的垂直分布呈中部>上部>下部的分布特征,最大分层叶面积指数(LAI)出现在0.60相对高度处.冠层内平均PAR透光率从顶部向下递减,且在冠层上中部递减迅速,下部递减缓慢;平均PAR透光率随施氮量的增加而递减;平均PAR透光率日变化表现为早晚较低,中午较高;平均PAR透光率随向下累积LAI的增加呈指数递减,群体消光系数K的日变化表现为早晚较高,中午较低,灌浆期的K值介于0.35~0.50.水稻冠层内PAR的三维空间分布表现为冠层上中部水平面上PAR透光率高,光斑面积大;下部水平面上PAR透光率低,光斑少;同一冠层高度水平面上的PAR光强呈不均匀分布.株型紧凑的水稻品种,冠层透光率高,透光率日变化大,群体消光系数小.　更多还原
【英文摘要】Field experiments were conducted in Nanjing in 2007 and 2008,involving two rice cultivars and three nitrogen application rates.The plant morphology and spatiotemporal distribution of PAR at different canopy heights were measured at filling stage with SunScan canopy analysis system.Nitrogen application rate had significant effects on the plant height,panicle curvature,and leaf angle of rice.The leaf area was greater in mid canopy than in upper and basal canopy.The maximum leaf area index(LAI) layer appeared at 0.60 of relative canopy height.The average PAR transmittance decreased from top to bottom in rice canopy,exhibiting a quick attenuation within the upper and mid canopy and a slow reduction within the basal canopy.In addition,the average PAR transmittance at different canopy heights decreased with increasing nitrogen application rate.The diurnal variation of average PAR transmittance was greater at noon than in the morning and afternoon.With increasing LAI accumulation,the average PAR transmittance at different canopy heights decreased in an exponential pattern.The diurnal variation of population extinction coefficient(K) was smaller at noon than in the morning and afternoon,and the K value was in the range of 0.35 -0.50.The 3-dimensional distribution of PAR in rice canopy indicated that the PAR transmittance on horizontal plane was greater,and exhibited much more light flecks in upper and mid canopy than in basal canopy.The PAR density distribution at the same canopy height was non-uniform on the horizontal plane.Higher PAR transmittance,greater diurnal variation of PAR transmittance,and smaller population extinction coefficient were observed for the erect plant type rice cultivar.
【语种】中文
【第一作者】李艳大
【通讯作者】朱艳
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【引文索引号】0
【学科分类】农艺学

【题目】小麦生长模拟模型(WheatGrow)的适应性评价
【中文关键词】小麦; WheatGrow模型; 适应性; 评价;
【英文关键词】Wheat; Model of WheatGrow; Adaptability; Evaluation;
【中文摘要】为对小麦生长模拟模型(WheatGrow)的稳定性和适应性进行测试与评价,基于IoA(一致性系数)、MAE(绝对平均误差)和NRMSE(标准根均方差)等指标,利用不同地点、年份、品种、氮素及播期的小麦田间试验资料对模型进行校正和检验。结果表明,WheatGrow模型对小麦生育期模拟值与实测值的误差为0~9 d,在南京、徐州、泰安和保定地区对叶面积指数、地上部干物重和产量的模拟值与实测值比较的NRMSE平均值分别为12.56%~20.78%、11.37%~20.85%和2.37%~6.99%,说明模型对各生态点具有较好的模拟效果,能较好地应用于区域适应性验证的研究。
【英文摘要】The objective of this study was to test and evaluate the stability and applicability of the model using the datasets involved various conditions based on WheatGrow model.WheatGrow model was calibrated and validated by datasets from different ecological sites,years,cultivars and treatments using statistics methods,i.e.,IoA,MAE,NRMSE,etc.The results showed that the errors between simulated and observed main development stage were 0-9 days,the mean NRMSE between simulated and observed LAI,dry matter

weight and yield were 12.56%~27.37%,11.37%~28.43% and 2.37~6.99% in Nanjing,Xuzhou,Tai＇an,and Baoding,respectively,which indicated that WheatGrow had a good predictability on various sites and would lay a foundation for wheat productivity and its early warning.

【语种】中文
【第一作者】赵扬辉
【通讯作者】朱艳
【期刊名称、卷期、页码】麦类作物学报, 2010, 30(3): 443-448
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【引文索引号】0
【学科分类】农艺学

【题目】水稻地上部干物质积累动态的定量模拟
【中文关键词】水稻; 干物质积累; 辐热积; 生长分析; Richards方程;
【英文关键词】rice (Oryza sativa L.); dry matter accumulation; product of thermal effectiveness and PAR; growth analysis; Richards equation.;
【中文摘要】选用4个不同株型水稻品种进行不同施氮水平的田间试验,于主要生育期测定植株地上部干物质积累量(DMA),并对DMA及出苗至成熟期累积辐热积(TEP)进行归一化处理,建立了基于相对DMA(RDMA)和相对TEP(RTEP)的水稻相对干物质积累(RDMA)动态模型,进而定量分析了水稻干物质积累过程的动态特征.结果表明:Richards方程能够准确描述水稻地上部干物质积累的动态模式,具有明确的生物学意义,具体方程式为RDMA=1.0157/(1+e3.6329-7.5907×RTEP)1/0.5574,r=0.9938;利用独立的水稻田间试验资料对所建模型进行了检验,水稻不同RTEP所对应的DMA观测值与模拟值之间的根均方差为0.86t.hm-2.根据水稻地上部干物质积累速率方程的2个拐点,可将整个干物质积累过程划分为前、中和后期3个阶段,发现水稻干物质最大积累速率及其出现时的相对辐热积和相对干物质积累量分别为2.24、0.56和0.46. 更多还原
【英文摘要】A field experiment with four rice (Oryza sativa L.) cultivars and different nitrogen application rates was conducted,with the dry matter accumulation (DMA) in the cultivars aboveground part measured at their main growth stages. The dynamic model of relative dry matter accumulation (RDMA) was established with the normalized DMA and TEP (product of thermal effectiveness and PAR) from emergence to maturity,and the temporal characteristics of DMA changes was quantitatively analyzed based on the RDMA model. The dynamic changes of the RDMA could be well described with Richards equation,i.e.,RDMA=1.0157/(1+e3.6329-7.5907×RTEP)1/0.5574 (r=0.9938). The model was validated with independent field experiment datasets,involving different eco-sites,cultivars,and nitrogen application rates. The RMSE (root mean square error) between the simulated and observed values of DMA at varied RTEP was 0.86 t · hm-2. According to the two inflexion points of dry matter accumulation rate equation,the whole process of dry matter accumulation could be divided into early,middle,and late phases. The maximum dry matter accumulation rate (ARmax),relative TEP at ARmax,and relative dry matter accumulation at ARmax were found to be 2.24,0.56,and 0.46,respectively.
【语种】中文
【第一作者】李艳大
【通讯作者】朱艳
【期刊名称、卷期、页码】应用生态学报, 2010,21(6):1504-1510
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【引文索引号】0
【学科分类】农艺学

【题目】逐日气象要素空间插值方法的比较
【中文关键词】逐日气象要素; 空间插值方法; 栅格化;
【英文关键词】daily meteorological elements; spatial interpolation method; rasterization;
【中文摘要】采用距离反比权重法(IDW)、协克里格法(CK)和薄盘样条法(TPS)3种不同的空间插值方法,对我国1951—2005年气象数据完整的559个气象站点逐月第15日的平均基本气象要素(最高气温、最低气温、日照时数和降水量)进行了插值分析与评价.结果表明:3种插值方法中,TPS法对最高气温和最低气温插值的根均方差(RMSE)最小(1.02℃和1.12℃)、R2最大(0.9916和0.9913);不同季节中,TPS法对秋季最高气温、夏季最低气温进行插值的RMSE均最小(0.83℃、

0.86°C),R2均为秋季最高.对于日照时数和降水量而言,TPS法的RMSE最小(0.59h和1.01mm)、R2最大(0.9118和0.8135);不同季节中,TPS法对冬季日照时数进行插值的RMSE最小(0.49h)、R2最大(0.9293),TPS法对冬季降水量进行插值的RMSE最小(0.33mm),IDW法对夏季降水量进行插值的RMSE最小(2.01mm),CK法对春季降水量进行插值的R2最大(0.8781).TPS法可作为我国大量逐日基本气象要素的最优空间插值方法. 更多还原

【英文摘要】A comparative study was made to evaluate the methods of inverse distance weighting (IDW), co-kriging (CK), and thin plate spline (TPS) in interpolating the average meteorological elements (including maximum air temperature, minimum air temperature, sunshine hours, and precipitation) of the 15th day per month from the 1951-2005 comprehensive observation data of 559 meteorological stations in China. The results showed that the RMSEs for the maximum and minimum air temperature in a year interpolated by TPS were the smallest (1.02 °C and 1.12 °C, respectively), and the R2 between the observed and predicted values were the highest (0.9916 and 0.9913, respectively), compared with those interpolated by IDW and CK. In four seasons, the smallest RMSEs for the maximum and minimum air temperature interpolated by TPS were observed in autumn (0.83 °C) and summer (0.86 °C), respectively, and the R2 between the observed and predicted values interpolated by TPS were higher in autumn than in other seasons. The RMSEs for the sunshine hours and precipitation in a year interpolated by TPS were the smallest (0.59 h and 1.01 mm, respectively), and the R2 between the observed and predicted values were the highest (0.9118 and 0.8135, respectively), compared with those interpolated by IDW and CK. In four seasons, the RMSE for the sunshine hours in winter interpolated by TPS was the smallest (0.49 h), and the R2 between the observed and predicted sunshine hours was the smallest (0.9293). The RMSE for the precipitation in winter interpolated by TPS was the smallest (0.33 mm), while the RMSE for the precipitation in summer interpolated by IDW was the smallest (2.01 mm). The R2 between the observed and predicted precipitation in winter interpolated by CK was the highest (0.8781). It was suggested that TPS could be the optimal spatial interpolation method in interpolating and rasterizing the daily meteorological elements in China.

【语种】中文

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【引文索引号】0

【学科分类】农艺学

【题目】3 种基础培养液对昆明小鼠ESC 生长的影响

【中文关键词】昆明小鼠; 胎干细胞; 础培养基

【英文关键词】Kunming mo use; embryonic stem cell; basal media

【中文摘要】以昆明小鼠的囊胚及胚胎干细胞为材料, 用组成成份清楚的培养体系, 研究不同的基础培养液(h DMEM, DM EM/ F12, Knockout DM EM) 对昆明小鼠胚胎干细胞生长的影响。分别将小鼠囊胚置于以上3 种培养液为基础的培养液(M1、M2、M3) 中, 4 d 后观察原代集落形成率; 取正常培养较小的胚胎干细胞集落, 分别接种在上述培养液中培养观察; 单细胞传代并观察结果; 以碱性磷酸酶染色及OCT 4 免疫荧光染色鉴定。3 种基础培养基中原代集落形成率分别为100%, 100%, 96. 3%; Kno cko ut DMEM 与DM EM/ F12 中的胚胎干细胞增殖的速度远快于h DMEM 中的增殖速度; 单细胞传代的昆明小鼠胚胎干细胞都能形成集落; 经AKP 染色和OCT 4 免疫荧光染色, 证明3 种培养体系中的胚胎干细胞均符合胚胎干细胞的特性。Kno ckout DMEM 与DMEM/ F12 较DMEM 更有利于胚胎干细胞的生长。

【英文摘要】T he present study invest igated the ef fect s of 3 basal media (h DMEM, DMEM/ F12, Kno ckoutDMEM) o n g row th of Kunming mouse embry onic stem cells. T he blastulas of Kunming mouse w ere inocu lated in media that composed of 3 basal media r espect ively. Format ion rate of primit ive embryonic stem cel lcolo ny w ere observ ed after 4 days. T hen the r esult of cultur ed mo no lpast t ransmited from g eneratio n togenerat ion w er e observed. The small embry onic stem cell co lony w as co llected and respect ively ino culatedin the abo ve culture solut io n for further observat ion, and the result s o f stem cell tr ansmiting from g enera t ion to gener at ion also w as observed, w hich w ere ident ified by basic phosphatase dye and OCT 4 immun o fluoressence dy e. Dev elo pment rate of primit ive co lony f rom 3 basal media w er e 100%, 100% and 96. 3%respectively . T he incr easing speed o f embry onic stem cell in Knockout DMEM and DMEM/ F12 w er e muchfaster than that in h DMEM, o therw ese the embry onic stem cell of Kunming mouse with t ransmit ing f romgenerat ion to g enerat io n by mono plast w ay s can develop colony. The exper iment demost rated that the em bry onic stem cell fr om 3 culture systems jco nform w ith the characters of embr yonic stem cell by using AKPdye and OCT 4 immuno fluorescence dy e. Knockout DMEM and DMEM/ F12 w ere mor e advantag eo us tothe g row th of embry onic stem cell than DMEM.

【语种】中文
【第一作者】陈世彬
【通讯作者】黄俊成
【期刊名称、卷期、页码】新疆农业大学学报　　2010, 33(4) : 289~ 293
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【引文索引号】null
【学科分类】细胞生物学

【题目】蚯蚓对果皮、菜叶混合垃圾堆制产物生物学性状的影响
【中文关键词】蚯蚓堆制;赤子爱胜蚓;果皮、菜叶混合垃圾;生物学性状
【英文关键词】Vermicomposting;Eisenia foetida;Pericarp and vegetable offal;Biological properties
【中文摘要】采自南京市卫岗菜市场的果皮、菜叶,加入不同比例木屑后,接种赤子爱胜蚓(Eisenia foetida)进行室内堆制处理,在室内堆制60 d后,分析了接种蚯蚓对堆制产物主要生物学性状的影响。结果表明:蚯蚓堆制处理显著增加了堆制产物的呼吸强度、脱氢酶活性和微生物量碳、氮含量;提高了堆制产物真菌的数量,降低了堆制产物细菌和放线菌的数量。木屑的加入进一步提高了微生物的活性,增加微生物的数量。其中,加入40%木屑处理接种蚯蚓后综合效果最佳,是提高和改善果皮、菜叶混合垃圾的生物学特性,并进而使其转化为作物生长基质的有效措施。
【英文摘要】Saw dusts were added to mixed waste of pericarp and vegetable offal sampled from Weigang food market of Nanjing. Eisenia foetida was used and inoculated in the mixture of pericarp, vegetable and saw dusts under optimal moisture, propriety temperature and inoculation density in laboratory. Effects of vermicomposting on biological properties of vermicomposts were studied. The results showed that Eisenia foetida significantly increased respiration intensity, dehydrogenase activity, microbial biomass C and microbial biomass N, increased the number of fungi, and decreased the numbers of bacteria and actinomyces of the vermicomposts. Furthermore, addition of saw dusts had improved the number and activities of microorganisms, and the effect of 40% saw dusts treatment was the best. That indicated that the addition of 40% saw dusts and inoculation of earthworms were effective measures to improve the biological properties of vermicomposts.
【语种】中文
【第一作者】杨文霞
【通讯作者】焦加国
【期刊名称、卷期、页码】土壤通报
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【引文索引号】null
【学科分类】农学其他学科

【题目】贮藏温度对马铃薯营养物质含量及酶活性的影响
【中文关键词】马铃薯;贮藏;温度;营养物质;酶活性
【英文关键词】Potato; Storage; Temperature; Nutrients; Enzyme activity
【中文摘要】研究不同贮藏温度(O一4、5—8,9一12、13一16、17-20℃)对马铃薯克新品种的营养物质含量及酶活性的影响。结果表明,马铃薯的还原糖和可溶性糖含量在0-4℃贮藏下含量最高。马铃薯在9—12℃贮藏时,块茎中淀粉及于物质的含量最高。O一4℃低温贮藏可以促进蛋白质的合成,增加蛋白质的含盈。马铃薯的淀粉酶惩性在贮藏前期时,0—4℃贮藏温度下最高。
【英文摘要】无
【语种】中文
【第一作者】吴晓玲
【通讯作者】陈彦云
【期刊名称、卷期、页码】江苏农业科学2012年第40卷第5期
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【引文索引号】null

【学科分类】农产品贮藏与加工

【题目】Mice Cloned from Induced Pluripotent Stem Cells (iPSCs)1
【中文关键词】无 无
【英文关键词】cloning, developmental biology, embryo, induced pluripotent
stem cell, nuclear transfer, reprogramming, stem cell
【中文摘要】无
【英文摘要】Differentiated somatic cells of various species can bereprogrammed into induced pluripotent stem cells (iPSCs) byectopically expressing a combination of several transcriptionfactors that are highly enriched in embryonic stem cells (ESCs).The generation of iPSCs in large animals has raised the possibilityof producing genetically modified large animals through thenuclear transplantation approach. However, it remains unknownwhether iPSCs could be used for generating clonedanimals through the nuclear transfer method. Here, we show thesuccessful production of viable cloned mice from inducibleiPSCs through the nuclear transfer approach, and the efficiencyis similar to that of using ESCs derived via normal fertilization.Furthermore, the cloned mice are fertile and can producesecond-generation offspring. These efforts strengthen the possibilityof utilizing iPSCs to generate gene-modified large animalsfor pharmaceutical purposes in the future.
【语种】英文
【第一作者】Zhaohui Kou,
【通讯作者】Shaorong Gao
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【学科分类】细胞生物学

【题目】钾钙元素对脱毒马铃薯费乌瑞它产量的影响
【中文关键词】脱毒马铃薯;费乌瑞它;钾钙;产量
【英文关键词】Potato; Favorita; Calcium Potassium; Yield;
【中文摘要】采用2因素3水平随机区组实验设计,通过叶面配合喷施钾钙肥的实验观察对脱毒马铃薯费乌瑞它薯产业的影响。结果表明,施钙量、施钾量、施钙量x施钾量显著差异。每次喷施0.27kg/667m2纯钙肥、0.27kg/667m2纯钾肥的混合液为增产佳组合,可达2165.90kg/667m2.
【英文摘要】无
【语种】中文
【第一作者】刘喜平
【通讯作者】陈彦云
【期刊名称、卷期、页码】技术装备:农产品加工业36-38
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【学科分类】农产品贮藏与加工

【题目】新农村绿地景观建设研究进展与可持续发展战略
【中文关键词】新农村;绿地景观;可持续发展
【英文关键词】New rural;Green space landscape;Sustainable development
【中文摘要】绿地景观是新农村建设的重要内容,我国新农村绿地景观是一个新兴的研究领域。该文通过对我国新农村绿地建设的现状进行分析,从新农村的绿地景观特征、绿地分类、绿地景观综合功能和绿化规划等4个方面,剖析了我国新农村绿地景观研究的主要内容、状况和存在的问题,指出了未来的研究趋势和可持续发展策略与建议,以期为我国新农村绿地景观的建设提供理论参考。
【英文摘要】The landscape construction of green space is an important element and a newresearch field in Chinese new rural construction.The current situation of the new rural green space construction was analyzed from green space landscape leatures,green space classification,green space comprehensive functions and green space planning.The main contacts,statusand problems of the

research of the new rural green space landscape were analyzed,and the research trend,sustainable development strategies were proposed to provide theoretical reference.
【语种】中文
【第一作者】刘亚亮
【通讯作者】祝遵凌
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【学科分类】林学其他学科

【题目】Cloning of Tryptophan Monoxygenase Gene in Pseudomonas syringaeand Transformation into Cucumber
【中文关键词】iaaM基因 基因克隆 载体构建 黄瓜 转化
【英文关键词】iaaM gene, gene clone, vector construction, cucumber, transformation
【中文摘要】通过PCR从假单胞杆菌P. syringae pv. Syringae 3023中克隆得到色氨酸单加氧酶iaaM基因,结果表明克隆序列全长为1674 bp,GENBANK登录号为AY530536。采用同样的方法从番茄栽培种东农706中克隆得到启动子2A12。本试验构建了携带iaaM基因的载体pCAM-2AiaaT,该载体由果实特异性启动子2A12驱动。通过根癌农杆菌将iaaM基因转入黄瓜栽培种649中,并采用PCR和Southern杂交技术验证转基因黄瓜。
【英文摘要】Tryptophan monoxygenase iaaM gene was cloned from P. syringae pv. syringae3023 by PCR. The results of nucleotide sequence determination showed that thecomplete nucleotide sequence was 1674 bp in length, and the GENBANK accessionnumber was AY530536. The 2A12 promoter gene was cloned from tomato cultivarDongnong 706 by using the same method. We constructed the expression vectorpCAM-2AiaaT with the iaaM gene, and driven by fruit specific promoter 2A12. TheiaaM gene was transferred into cucumber cultivar 649 mediated by Agrobacteriumtumefaciens, and transgenic cucumber plants were confirmed by PCR and Southernblot.
【语种】英文
【第一作者】刘宏宇
【通讯作者】秦智伟
【期刊名称、卷期、页码】Acta Horticulturae,2007 ISHS;Number 731:95-97
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【学科分类】分子生物学

【题目】黄瓜性别分化研究进展
【中文关键词】黄瓜 性别分化 研究进展
【英文关键词】Cucumber, sexual sorting, research progress
【中文摘要】概述了黄瓜性别分化的遗传、生理生化基础以及分子生物学研究现状, 并提出了有待解决的问题及今后研究的重点。
【英文摘要】This article summarized the heredity of sexual sorting, physiological and biochemical basis and current molecular biology of Cucumber. In addition, some unresolved problems and further studies on the subject are also outline.
【语种】中文
【第一作者】金晓霞
【通讯作者】秦智伟
【期刊名称、卷期、页码】中国蔬菜,2007;(2):38-42
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【学科分类】园艺学

【题目】黄瓜DNA提取及优化SSR反应体系的建立
【中文关键词】黄瓜 基因组 DNA SSR PCR
【英文关键词】Cucumber, Genomic DNA, SSR, PCR
【中文摘要】本文简化了黄瓜DNA提取程序并探讨了黄瓜SSR反应程序体系。反应体系25ul:10xbuffer 2.5ul,25mmol/L MgCI 2.0ul,2mmol/L Dntp 2.5ul,gDNA模板(10ng/uL)2uL,forward primer (10pmol/uL)0.5uL.ddH2O 14ul,Taq DNA聚合酶(1U/uL)1uL。反应程序:95°C预变性5min,94°C变性30sec,49°C退火1min,72°C延伸90sec,循环次数35,72°C延伸5min。
【英文摘要】In this paper we simplified the DNA extraction procedures of cucumber and optimaized the SSR-PCR reaction system. The SSR-PCR reaction was optimized in 25ul mixes containing 2uL of genomic DNA (10ng/uL),2.5Ul MgCL2 (25mmol/L),2.5uL dNTP mxtures (2mmol/L), 10xbuffer 2.5ul, forward primer (10pmol/uL)0.5uL,0.5uL reverse SSR primer (2umol/L),1Ul Taq polymerase enzyme (1units/uL),and then added 14uL ddH2O to the total volume. The amplification temperature profiles were as following: 5min at 95°C for pre-denaturing, followed by 35 cycles of 30 sec at 95°C for denaturing,30sec at 49°C for annealing, 90sec at 72°C for extending, and finally 5 min at 72°C.
【语种】中文
【第一作者】王桂玲
【通讯作者】秦智伟
【期刊名称、卷期、页码】分子植物育种,2007;5(6):196-200
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【学科分类】分子生物学

【题目】腌渍用小型黄瓜新品种“东农805”
【中文关键词】黄瓜 一代杂种
【英文关键词】cucumber,hybrid
【中文摘要】“东农805”是适于腌渍加工的小型黄瓜一代杂种。植株生长旺盛, 主蔓结瓜, 强雌性系, 第一雌花着生在4~5节。瓜长8~9 cm, 横径2.0~2.5 cm, 单瓜质量35~ 40g,瓜皮有稀小刺瘤,白刺。鲜瓜维生素C含量0.13 mg/g, 可溶性固形物含量5.23%。丰产、稳产性好, 产量74~ 76 t/ hm2.抗细菌性角斑病、霜霉病、白粉病和枯萎病。
【英文摘要】“ Dongnong 805 ” is a small size of cucumber which is ahybrid suitable for pickling. It grow svigorously and stresses on a female line. The first female flow er is grow ing on the forth and fifth node and the fruits are produced mainly on the stem. The fruit is 8-9 cm in length and 2.0-2.5 cm in diam eter with a few white prickles. The single fruit weight is 35- 40 g. The content of vitam in C is 0.13 mg/g and the soluble solids content is 5.23% . The yield is 74-76 t/hm. It is resistant to angu lar leaf spot Fusarium wilt downy, and pow dery mildew.
【语种】中文
【第一作者】秦智伟
【通讯作者】秦智伟
【期刊名称、卷期、页码】园艺学报,2008;35(10):1557
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【引文索引号】2.42E+09
【学科分类】园艺学

【题目】黄瓜叶片细菌性角斑病侵染初期cDNA文库分析
【中文关键词】黄瓜 叶片 cDNA文库 细菌性角斑病
【英文关键词】Cucumis sativus L.,leaf,cDNA library, Pseudomonas syringae pv. Lachrymans
【中文摘要】文章以接种细菌性角斑病原菌48h的抗病品种‘D0462’黄瓜叶片为材料, 构建了黄瓜叶片cDNA文库,文库插入片段大小为0.45~2.1 kb 之间, 平均长度为1 kb。随机选取2966个克隆进行测序, 共拼接出2352个假定独立转录本(TUTs), 其中包括282个重叠群(Contigs), 2070个单拷贝EST(Singlets)。经BlastX 分析共获得已知功能和未知功能基因1848个,无序列相似性新基因504 个。文库中含有大量防御/抗病基因, 如金属硫蛋白、谷胱甘肽-S-转移酶、泛素、 β -1, 3-葡聚糖酶、锌指蛋白和半胱氨酸蛋白酶等, 这些基因很可能参与了植物与病原菌互作过程。

【英文摘要】A cDNA library was constructed from the leaves of the disease-resistant cucumber (Cucumis sativus L.) cultivar ‘ D0462 ’ challenged by Pseudomonas syringae pv. Lachrymans for 48 h. The inserted fragment sizes ranged from 0.45 to2.1 kb and the average inserted size was 1 kb. Sequencing analysis showed that 2 352 TUTs (Tentative unique transcripts),282 contigs, and 2 070 singlets were identified in the 2 966 ESTs derived from the cDNA library. The result of the BlastX analysis indicated that there were 1 848 ESTs with known or unknown function, 504 ESTs with no significant similarity matching with any protein or DNA sequence in the databases. In this library, many defense/disease-resistant related genes,such as metallothionein, glutathione S-transferase, ubiquitin, β - 1, 3-glucanase, zinc finger protein, and cysteine protease, which might participate in the plant and the pathogens, are inclued.
【语种】中文
【第一作者】刘关君
【通讯作者】秦智伟
【期刊名称、卷期、页码】遗传,2009;31(9):1-7
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【引文索引号】2.42E+09
【学科分类】分子生物学

【题目】黄瓜叶片大小解剖结构的对比研究
【中文关键词】黄瓜叶片 解剖结构 对比
【英文关键词】words: cucumber leaf, anatomical structures, contrast
【中文摘要】通过制作石蜡切片对4个黄瓜品种在3个时期的解剖结构进行了观察。其中D9320、D2005 为叶面积大品种,D0455、D0401为叶面积小品种。结果表明,D9320、D2005叶面积大的原因是细胞平均面积大,而非数量多;D0401、D0455叶面积小的原因是细胞平均面积小,而非数量少。黄瓜叶为典型异面叶,表皮由一层紧密的形状不规则的表皮细胞组成,维管组织较发达,导管分布较多,上下表皮均分布有表皮毛,但以下表皮为主。
【英文摘要】Through the production of paraffin sections, anatomical structures of the four cucumber varietiesin three period were observed. D9320 and D2005 were big leaf area varieties, D0455 and D0401 were small leaf area varieties. The results showed that the big leaf area of D9320 and D2005 was the result of big average cell area, rather than cell quantity. Cucumber leaf was typical bifacial leaf, epidermis composed with cells that were close and irregular shapes, had more developed vascular tissue and more vessel, there were trichomes in upper epidermis and lower epidermis, but mainly in lower epidermis.
【语种】中文
【第一作者】吴鹏
【通讯作者】秦智伟
【期刊名称、卷期、页码】东北农业大学学报,2009;40(4):29-32
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【引文索引号】2.42E+09
【学科分类】园艺学

【题目】水果型黄瓜新品种东农804的选育
【中文关键词】水果型黄瓜 东农804 一代杂种
【英文关键词】Mini-cucumber, Dongnong 804, F1 hybrid
【中文摘要】东农804是利用优势育种法选育的水果型黄瓜一代杂种。母本D0420是强雌性自交系, 父本D0202是高代稳定自交系。植株长势强,叶片深绿色,茎秆粗壮,分枝少、主蔓结瓜,节成性好,第7~8节以上每节有瓜,高抗细菌性角斑病和枯萎病, 抗霜霉病、白粉病。瓜长22 ~ 24 cm, 瓜粗3cm左右,单瓜质量150~180g,标准瓜率大于85%。果实深绿色,有光泽,瓜腔小于瓜横径1/2,每667m2产量3800~ 4300kg。适宜在华北、东北地区春秋保护地栽培。
【英文摘要】“ Dongnong804 ”is a new mini-cucumber F1 hybrid bred by using heterosis breeding. Thefemale D0420 is strong female inbred line, and the male D0202 is inbred line. It grows vigo rously. Itsleaf is dark green and the vine is thick and strong. It bears fruits main ly in its main stem with high rate of fruit-setting and low rate of branch ing. It is highly resistant to bacterial augu lar leaf spot and Fusarium wilt,resistant to downy mildew and pow dery mildew. Its fruit is dark g reen,lustrous, 22 - 24 cm in length,about 3cm in diameter, and 150- 180 g in weight The standard fruit rate is above 85% . The length of fru it cavity is below 1/2. It yields 57.0- 64.5 t/ hm-2.

【语种】中文
【第一作者】周秀艳
【通讯作者】秦智伟
【期刊名称、卷期、页码】中国蔬菜,2009;(22):74-75
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【引文索引号】2.42E+09
【学科分类】园艺学

【题目】Transcriptome profile analysis of floral sex determination in cucumber
【中文关键词】黄瓜 雌性突变体 性别分化 Solexa测序 转录谱
【英文关键词】Cucumber Gynoecious Sex determination Solexa sequencing Transcriptome profile
【中文摘要】黄瓜作为一种花朵性别的模式植物被广泛研究。本试验采用Solexa技术,研究了雌性变种(Csg-G)和雌雄同株(Gsg-M)黄瓜根尖组织的全基因转录谱,以分离性别分化相关基因。图谱分析表明大部分基因表达的改变归因于突变,突变导致600个基因下降调节,143个基因上升调节。RT-PCR和qRT-PVR进一步证明了Solexa的数据结果。Geneontology(GO)分析表明基因表达的差异主要表现在细胞成分的发生、转化及形成,大分子和细胞生物合成、定位、确立、转化等活动。此外,雌性突变体一些相关基因的主要在花朵的发育阶段及花朵组织中表达。这些结果反映出调控黄瓜性别的两个重要改性,第一,相关基因的差异表达作用于植物的激素信号途径,如ACS, Asr1, CsIAA2, CS-AUX1和TLP,说明植物激素及其干扰作用在性别分化过程起到重要作用;第二,包括EREBP-9在内的转录因子的调控可能在发育过程中起到一定的作用。
【英文摘要】Cucumberhasbeenwidelystudiedasamodelforfloralsexdetermination.Inthisinvestigation,we performed genome-wide transcriptional profiling of apical tissue of a gynoecious mutant(Csg-G) and the monoecious wild-type(Csg-M) of cucumber in an attempt to isolate genes involved in sex determination,using the Solexa technology.The profiling analysis revealed numerous changes in gene expression attributable to the mutation,which resulted in the down-regulation of 600 genes and the up-regulation of 143 genes.The Solexa data were confirmed by reverse transcription polymerase chain reaction(RT-PCR) and real-time quantitative RT-PCR(qRT-PCR).Gene ontology(GO) analysis revealed that the differentially expressed genes were mainly involved in biogenesis,transport and organization of cellular component,macromolecular and cellular biosynthesis,localization,establishment of localization,translation and other processes.Furthermore,the expression of some of these genes depended upon the tissue and the developmental stage of the flowers of gynoecious mutant.The results of this study suggest two important concepts,which govern sex determination in cucumber.First,the differential expression of genes involved in plant hormone signaling pathways,such as ACS, Asr1, CsIAA2, CS-AUX1 and TLP,indicate that phytohormones and their crosstalk might play a critical role in the sex determination.Second,the regulation of some transcription factors,including EREBP-9, may also be involved in this developmental process.
【语种】英文
【第一作者】武涛
【通讯作者】秦智伟
【期刊名称、卷期、页码】Journal of Plant Physiology,2010;167: 905-913 .
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【引文索引号】2.7907310001e+011
【学科分类】分子生物学

【题目】黄瓜果实成熟衰老过程中几种物质的变化
【中文关键词】黄瓜果实 衰老 生理生化变化 膜脂过氧化
【英文关键词】Cucumber fruit, Senescence, Physiological and biochemical changes, Membrane lipid peroxidationw
【中文摘要】以黄瓜品种D0313 和649 为试材,对果实自然成熟衰老过程中外观形态和若干重要生理生化指标进行了研究。结果表明,两个黄瓜品种的脂氧合酶(LOX)活性前期上升后期下降;可溶性蛋白质含量有个迅速下降过程;谷氨酰胺合成酶(GS)活性前期保持稳定,衰老后期急剧上升。两个品种之间变化趋势基本一致,其中存在的差异可能是造成两个品种果实衰老表现不同的原因所在。初步认为,膜脂过氧化作用是导致黄瓜果实衰老的主要生理原因之一。
【英文摘要】In this paper, fruit morphology and several important physiological and biochemicalidentification indexes correlating with ripening and senescence were monitored for cucumber(Cucumis sativus L.)fruits from two different cucumber cultivars D0313

and 649. The results showed that LOX activities were increasing in early stage and decreasing later. The contents of soluble protein in these two varieties had a speedily decreasing process. GS activity was stabilizing in early stage and increasing rapidly in later stage of senescence. The changing trends of these two cucumber varieties were identical,but the existing differences between them may be the causes for their fruit different senescence conducts.The peroxidation of membrane lipid was considered to be one of the major physiological causes leading to senescence of cucumber fruit.
【语种】中文
【第一作者】王志坤
【通讯作者】秦智伟
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【学科分类】园艺学

【题目】黄瓜不同品种盐渍的适应性评价
【中文关键词】黄瓜 盐渍 适应性 品质
【英文关键词】cucumber,pickling, adaptability,quality
【中文摘要】以45份黄瓜品种为试材,采用相同工艺进行盐渍对比试验,对盐渍成品的感官品质、安全品质和营养品质进行分析测定,采用模糊综合评判法统计分析其综合品质。结果表明,适合盐渍的黄瓜品种有D0847、HN53-61-1-3、D0842、津春5 号、HN53-61-1-2,同时对适宜品种的植物学性状进行总结归纳。
【英文摘要】Total 45 cucumber cultivars were used for contrasting research in this study under the same pickled condition. The sensory quality, safety quality and nutritive quality of the production were analyzed and the comprehensive quality of pickled cucumber was evaluated by fuzzy comprehensive evaluating method. The results showed that D0847, HN53-61-1-3, D0842, Jinchun5, and HN53-61-1-2 were suitable for pickled, and also summed up their botanical characters.
【语种】中文
【第一作者】员金鑫
【通讯作者】秦智伟
【期刊名称、卷期、页码】东北农业大学学报,2010;41(6):41-48
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【学科分类】园艺学

【题目】黄瓜抗病基因同源序列的表达分析
【中文关键词】黄瓜 RGAs cDNA 表达
【英文关键词】cucumber, RGAs,cDNA,expression
【中文摘要】对黄瓜抗霜霉病品种东农129进行霜霉菌诱导,以稳定表达的18S RNA基因做对照,用RT-PCR半定量的方法分析黄瓜抗病基因同源序列(RGAs)的表达情况。结果表明,霜霉菌能诱导RGA 基因的表达,经霜霉菌诱导后多数RGA基因相对表达量增强。说明了RGA 基因的表达情况和霜霉菌密切相关。用半定量RT-PCR研究RGA基因的表达具有操作简单,特异性高,可靠性强的优点。
【英文摘要】Downy mildew resistance of cucumber Dongnong129 was induced with P. cubensis byusing 18S gene of stable expression as the control. The experiment used RT-PCR semi-quantitative method to analyze the expression of cucumber resistance gene analogs (RGAs). The results showed that the P.cubensis could induce the expression of RGA gene. The relative expression of the majority of RGA gene enhanced after inducement. It illuminated that the gene expression of RGA was closely related with the P.cubensis . The method of semi-quantitative RT-PCR was simple, high specificity and reliability so as to study the RGAgene expression.
【语种】中文
【第一作者】许春梅
【通讯作者】秦智伟

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【学科分类】园艺学

【题目】土壤环境因素对残留农药降解的影响
【中文关键词】农药残留 土壤 影响因素
【英文关键词】pesticide residue,soil, influence factor
【中文摘要】农药在土壤中的残留是对农业环境造成污染的一大根源。研究农药在土壤环境中的残留降解规律,探讨外界因素对其降解和转化的影响,对于采取有效措施、清除和减轻农药污染具有重要意义。本文介绍了农药在土壤中降解转化的主要途径及机理,包括微生物降解、水解和光解,分析了土壤中不同环境因素(有机质、湿度、温度、pH 值、根系分泌物和粒径等)对农药降解和转化过程的影响,展望了今后的研究方向,旨在为进一步治理和修复土壤的农药污染提供依据。
【英文摘要】Residue of pesticide in soil is an important reason for pollution of agricultural environment. It is essentially important to study the residue and degradation law of the pesticide in the soil and to investigate the influence factors, which aid in preventing soil pollution by pesticide. In this paper, the main path for pesticide degradation, including microbiological deterioration, hydrolysis and photolysis was introduced. Moreover, the influence, such as organic matter, humidity, temperature, pH, root exudates, soil particle size, and so on, were analyzed, and the research direction was prospected in future. It aims to provide data for the further remediationof contaminated soil by pesticide.
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【题目】Genetic analysis and the SSR-based genetic linkage map of Blunted with Blossom trait in Cucumis sativus L
【中文关键词】黄瓜 花打顶 遗传 SSR
【英文关键词】Cucumis sativus L,inheritance,SSR,Blunted with blossom
【中文摘要】通过对极易花打顶黄瓜(Cucumis sativus L)品种D0462(dede)与正常黄瓜品系东农129(DeDe)的杂交后代BC1、F1和F2的统计分析,结果表明:在F1代,杂交组合的植株为正常植株,花打顶为隐性;BC1中花打顶与正常植株呈现1:1.12的分离,F2代花打顶与正常植株呈现分离,其比例为1:2.69,表明de基因是独立遗传的,即花打顶(de)对正常(De)为隐性。为了获得与黄瓜花打顶基因连锁的SSR分子(simple sequence repeat)标记,以129×D0462的F2代群体为试材,并利用BSA法构建基因池。对86对SSR引物亲本及DNA混合池之间进行筛选,得到了4对与化打顶性状相关的SSR引物,其中CWGATT01A、CSWGATT01C和CSWTAAA01三个标记位于同一连锁群上de基因位于这3个标记构建的连锁群中,具体位置为CSWGATT01C-de-CSWTAAA01 距离两侧标记的遗传距离分别为9.5cM和21.5 cM。
【英文摘要】In order to reveal the heredity of the “ blunt with blossom ” cucumbers (BBCs), the genetic analysis of BBCs traits and a genetic linkage map using simple sequence repeat (SSR) markers were constructed. Besides an F2 population consisting of 288 individuals, from a cross between D0462, a blossom cucumbers (BBCs) ecotype, and normal ecotype 129, the BC1 and F1 populations were used for the genetic analysis and genetic mapping. The results indicated that heterozygous F1 was not the BBCs, which indicated that the BBCs trait was recessive. In addition, the segregation rate between BBCs species and normal species in the BC1 and F2 populations was 1:1.2 and 1:2.69, respectively, which confirmed that the BBCs trait (de) is recessive to the normal trait (De). Further more, a total of 86 SSR markers were screened for loci and polymorphism using DNA from two parents and 288 F2 of the mapping population, and only 4 primer pairs were demonstrated to produce fragments of expected size. Of the 4 products, 3 (CWGATT01A、CSWGATT01C and CSWTAAA01) were mapped to the same linkage group by use of MAPMAKER/EXP, version 3.0b, and de was illustrated in the linkage group located between CSWGATT01C and CSWTAAA01 at 9.5 cM and 21.5 cM from the markers, respectively.

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【第一作者】辛明
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【题目】黄瓜基因组EST-SSRs 的分布规律及EST-SSR标记开发
【中文关键词】黄瓜,EST-SSR,分布, 多态性
【英文关键词】cucumber, EST-SSR, distr ibution, polymorphism
【中文摘要】从NCBI网站下载黄瓜EST序列6344条及本课题组对黄瓜叶片cDNA 文库测序研究所得的EST 163条,在除去载体、po lyA/T等序列后得到6129条无冗余EST序列,全长为2.98 ×106 bp.采用网络软件SSRIT从这些序列中搜索到784个SSR,分布于673条EST中,出现频率为12.79%,平均分布距离为3.80kb;单、二和三核苷酸重复是主导类型, 分别占EST-SSRs 总数的32. 91%、28. 19% 和29. 34%; A/ T 、AG/ CT 和AAG/ CT T 分别是单、二和三核苷酸的优势重复基元, 分别占EST-SSRs 总数的32. 40%、2 0. 66%和14. 41%. 经现已报道的评价方法分析表明,这些EST-SSRs具有较好的多态性和可用性.设计了30对EST-SSR引物对22份黄瓜材料进行PCR检测,18对引物检测到多态性.根据PCR结果,这些材料被聚为三类,聚类结果与材料本身特性一致.结果说明通过黄瓜EST数据库发掘SSR标记是一条可行的途径.
【英文摘要】A total of 6344 cucumber ESTs were obtained from NCBI database and sequencing cDNA libraryof cucumber leaf previously . Removal of vector sequence and poly A/T of the EST sequences gave 6129 non-redundant ESTs with total length of 2.98 ×106bp.SSRIT, a web tool for SSR hunting, was used to an alyze the sequences. 784 SSRs were obtained, dist ributing throughout 673 ESTs. The frequency of these EST-SSRs was 12.79% and mean distance was 3.80 kb in the non-redundant ESTs. Mononucleotide, dinucleot ide and trinucleotide repeats were major types, accounting for 32.91% , 28.19% and 29.34%, respect ively. A/T, AG/CT and AAG/CTT were respectively most frequent mot ifs in mononucleotide, dinucleot ide and trinucleotide repeats, accounting for 32.40% , 20.66% and 14.41%, respectively. Several criterio ns,which has been used to evaluate SSR polymorphism in currently reported literatures, were applied to analyze polymorphism of the EST-SSRs. The results showed that these EST-SSRs were polymorphic and applicable.Thirty EST-SSR primer pairs were designed and used for PCR amplification from 22 cucumber materials, of which eighteen primer pairs detected polymorphism. Based on the patterns of PCR amplif ication, the cucumber materials were clustered into three groups that agreed with the characteristic of the materials. All the results mentioned above revealeda practicable method for development of EST-SSR marker from cucumber EST database.
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【题目】黄瓜叶绿体基因组全序列微卫星分布特征与标记开发
【中文关键词】黄瓜 叶绿体基因组 微卫星 标记
【英文关键词】cucumber (Cucumis sativus), chloroplast genome, microsatellites, makers
【中文摘要】对黄瓜叶绿体基因组 (chloroplast genomic DNA, cpDNA) 全序列中微卫星(chloroplastsimple sequence repeat,cpSSR) 的分布特征进行了全面分析。结果发现,cpSSR主要分布在25~40kb和100~130kb两个区域, 主要以完全重复和间隔重复为主。单碱基重复最多,占总数的79.3%,二碱基重复占10.1%, 三碱基和三碱基以上重复仅占10.6%。单碱基重复主要以(A)n和(T)n为主,二者共占总数的78.8%, 二碱基重复主要是(AT)n, 占总数的9.3%。在重复次数分布上,完全重复的(A)n和(T)n 均以最低重复次数为主, 而间隔重复的(A)n 和(T)n 以14 次或15 次为多。设计了6对引物,对7份黄瓜自交系cpDNA进行扩增。结果发现, 6对引物均有扩增产物, 每对引物平均能检测到2.2个等位基因。几乎所有引物都能在甜瓜、西瓜、葫芦和栝楼中通用, 5对引物在1~4 种远缘种中有扩增产物。上述结果表明, 从黄瓜cpDNA 中发掘cpSSR 标记是一条

可行的途径。
【英文摘要】Characterization of microsatellites in complete sequence of chloroplast genome (cpDNA) ofcucumber (Cucumis sativus) was analyzed in the round. The results showed that chloroplast simple sequence repeats (cpSSR) were mainly distributed in the two regions of cpDNA, 25-40 kb and 100-130 kb, most of the cpSSRs belonging to complete repeats and interrupted repeats. Of these cpSSRs, mononucleotide repeats were maximum types with the frequency of 79.3%, and dinucleotide repeats accounted for 10.1%, and all of the trinucleotide repeats and those repeats over trinucleotide in length only accounted for 10.6%. (A)n and (T)n were major repeats in mononucleotides, totally accounting for 78.8%. (AT)n was dominant dinucleotide repeats with frequency of 9.3%. As for repeat number, most of the complete repeats of (A)n and (T)n had the lowest repeat mumber, while 14or15 repeats were major for interrupted repeats of (A)n and (T)n. Six primer pairs were designed and used for PCR amplification of the cpDNA of 7 cucumber inbred lines. The results showed that all primer pairs had amplified fragments in cucumber materials and each of the primers detected mean 2.2 alleles. All of the primer pairs were almost transferable to melon, watermelon, gourd and Trichosanthes kirilowii. Five primer pairs could successfully amplify in 1-4 distantly related species. These results indicated that exploitation of cpSSR markers from cucumber cpDNA is practicable.
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【题目】黄瓜cpSSR-PCR反应体系优化与应用
【中文关键词】黄瓜 cpSSR 体系优化 单倍型
【英文关键词】Cucumber, cpSSR, Optimization of system, Haplotype
【中文摘要】叶绿体微卫星(chloroplast microsatellite, cpSSR)是近几年发展起来的新型高效分子标记,在植物系统发育和基因漂移研究中有广泛应用。在前期开发黄瓜cpSSR引物的研究基础上,本文研究了Taq 酶量、MgCl2浓度、dNTPs 浓度、模板DNA 质量和浓度、循环次数等参数对cpSSR-PCR 扩增效果的影响,获得优化的反应体系,即15 μL体积包括:1×Taq酶缓冲液,0.5UTaq 聚合酶,0.2 μmol/L 引物,0.2mmol/LdNTPs,1.5mmol/L MgCl2,约10ng 模板DNA,循环25次。采用该优化体系,以已开发的黄瓜cpSSR引物,对12份黄瓜材料进行了重复性PCR 扩增。结果发现国外种质中存在3 种单倍型,而在国内种质中只检测到2种单倍型,说明在本研究所用的材料中,国外种质叶绿体遗传差异明显大于国内栽培种。此结果说明优化的cpSSR反应体系具有稳定性和可靠性。
【英文摘要】Chloroplast microsatellite (cpSSR), a newly developed efficient molecular marker, has been widely used in the field of plant phylogenetic development and gene flow. Based on the previous research on development of cucumber cpSSR primers, this article documented the effect of influencing factors, i.e., Taq polymerase dosage,MgCl2 concentration, dNTPs concentration, template DNA quality and concentration and cycle number, on cpSSR-PCR amplification; the optimized cpSSR reaction system was obtained as follows: 15 μL reaction volume containing 1× Taq polymerase buffer, 0.5U Taq polymerase, 0.2 μmol/L of each primer pairs, 0.2mmol/L of eachdNTPs,1.5mmol/L MgCl2, about 10ng template DNA and 25times of cycles. Using the optimized system as well as newly developed cucumber cpSSR markers, 12cucumber accessions were used for PCR amplification. The results showed that three haplotypes existed among exotic cucumber accessions but only two were detected in domestic accessions.That indicated that among the accessions used in this study, exotic accessions had higher-frequency variance in chloroplast DNA than domestic cultivated accessions. Also, this finding revealed stability and reliability of the optimized cpSSR reaction system.
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【题目】甜瓜EST-SSR位点信息及标记开发
【中文关键词】甜瓜 EST-SSR 信息 标记
【英文关键词】melon,Cucumis melo L.,EST-SSR,information,marker
【中文摘要】对GenBank中35 547 条甜瓜EST 进行净化处理, 得到总长度为21 5 @ 107 bp 的无冗余EST 34408条。从这些序列中发现2877个SSR,分布于2119条EST中,出现频率为8136%, 分布密度为1/8172kb。单碱基、二碱基和三碱基重复是主导重复类型,分别占EST-SSR总数的16.61%、22.49%和46.09%。A /T、AG /CT和AAG /CTT分别是单碱基、二碱基和三碱基的优势重复基元,分别占15.88%、16.02%和28.61%。在所有的EST-SSR中,69.10%的重复次数为4 ~ 10次, 51.34%的长度为12~20bp。设计了30对EST-SSR引物, 分别对33份甜瓜自交系进行了PCR扩增, 24对引物能够扩增出期望长度的条带,22对引物产物表现多态性, 平均每对引物能检测到2173个等位基因。这些引物能比较准确地将甜瓜材料聚为不同类别。24对引物中, 有19对、16 对和15对分别在黄瓜、西瓜和葫芦中通用。以上结果说明,从甜瓜EST中开发SSR标记是一条简便、可行的途径。
【英文摘要】A total of 35547 melon ESTs were downloaded from GenBank (http: www.ncbi.nlm.nih.gov)and cleaned resulting in production of 34408 non-redundant ESTs with a total length of 2.5x107bp. From hese sequences, 2877 SSRs were sought out distributing in 2119 ESTs. The frequency of the EST-SSRs was 8.36% and mean distance was 8.72 kb in 34408 ESTs. Mononucleotide, dinucleo tide and trinucleotide repeats were major types, respectively accounting for 16.61%, 22.49% and 46.09%. A /T, AG /CT andAAG /CTT were most frequent motifs in mononucleo tide, dinucleo tide and trinuc leot ide, accounting for 15.88%, 16.02% and 28.61% , respectively. The frequency of the EST-SSR s w ith a repeat number of 4-10 was 69.10% and 51.34% of them had a length of 12- 20 bp. Thirty prim repairs were designed for partial EST-SSRs and used for PCR amplification of 33 melon inbred lines. Among the primer pairs, 24 pairs gave distinct bands with expected length and 22 pairs generated polymorphic bands with 2.73 alleles per primer pair. With the primers, melon materials could be exactly divided in to different groups, which accorded withthe actual situation of the materials. Among the 24 primer pairs, 19 pairs could be transferable to cucumber and 16 pairs to watermelon and 15 pairs to gourd. All these results indicated that exploitation of SSR markers from melon ESTs was convenient and practicable.
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【题目】甜瓜EST 序列中微卫星的分布特征
【中文关键词】甜瓜 EST序列 微卫星 特征
【英文关键词】melon (Cucumis melo L.), EST sequence, microsatellite, characteristic
【中文摘要】GenBank 中35 547 条甜瓜EST 经去冗余处理后, 得到总长度为250.3 Mb 的无冗余EST 34 438 条。这些序列中有2813 个微卫星简单重复序列(Simple sequence repeat, SSR), 分布于2 107 条EST 中, 出现频率为8.16%, 平均分布距离为8.90kb。三核苷酸重复是主导重复类型, 占SSR总数的47.14%; 其次是二核苷酸和单核苷酸重复,分别占SSR总数的20.72%和16.99%。AAG/TTC 是优势重复基元, 占微卫星总数的29.26%, AG/CT 和A/T 分别占14.61%16.25%。在所有的SSR中,重复次数为4~10 次的占70.32%, 长度为12~20 bp 的占51.12%。并对这些SSR的多态性潜能进行了评价。
【英文摘要】34438 melon expressed sequence tags (ESTs) were obtained after the removal of redundant sequences from 35547 melon ESTs deposited in GenBank. In these ESTs, 2813 microsatellites (simple sequence repeat, SSR) were tested and distributed in 2107 ESTs. The occurrence frequency of SSR was 8.16% and the average distribution distance was 8.90 kb. Trinucleotide repeats were dominant repeat types and accounted for 47.14%. Dinucleotide and mononucleotide repeats accounted for 20.72% and 16.99%, respectively. AAG/TTC was most frequent repeat motif and accounted for 29.26% in all SSRs. AG/CT and A/T accounted for 14.61% and 16.25%, respectively. Among all SSRs, SSRs which repeated 4 to 10 times accounted for 70.32%, and SSRs which was 12 to 20 bp long accounted for 51.12%. The potential polymorphism of these SSRs was also analyzed.
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【题目】鲜食切片黄瓜新品种夏炎的选育
【中文关键词】鲜食切片 黄瓜 夏炎 品种选育
【英文关键词】Fresh market and slicing,Cucumber,Xiayan,Variety breeding
【中文摘要】黄瓜新品种“夏炎”是以高代自交系HA-1-1-6-y为母本、8113-1-1-6-y为父本,杂交配制而成的一代杂种。该品种具有早熟、丰产、抗病、果实商品性好等特点。第一雌花节位4~6节,瓜长35cm,横径2.8~3.0 cm,果形指数大于12,果实硬度11.4 kg/cm2,腔径14.7 mm,单瓜鲜重226 g,产量约90000 kg/hm2,适宜于鲜食切片。该品种高抗霜霉病、白粉病、枯萎病等病害,耐高温,适宜于北方春季、夏茬或南方越夏栽培。
【英文摘要】New cucumber variety“Xia yan”is a hybrid which is bred through using high-generation inbred line HA-1-1-6-y as female parent and 8113-1-1-6-y as male parent. This variety is characterized by early maturity, high yield, disease resist ance and good commodity. Its main characteristics are as follow s: 4~6 joint in the first fem ale flower position, 35cm in fruit length,2. 8~3.0 cm in diameter, L/D being over 12, 11. 4 kg/cm2 in fruit hardness, 14.7 mm in cavity diameter, 226 g in fresh weight of sing le fruit, and approximately 90000 kg/hm2 in yield. This variety is suitable for fresh market and slicing. In addition, this variety is highly resistant to downy mildew, powdery mildew, blight and heat, and suitable for spring and summer cultivation in north China and over- summering cultivation in south China.
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【题目】保护地黄瓜新品种旺世
【中文关键词】黄瓜 品种
【英文关键词】cucumber,cultivar
【中文摘要】‘旺世’为耐低温弱光,适于鲜食切片型黄瓜新品种。植株生长势强,耐低温弱光,早熟,主蔓节瓜为主,平均单瓜质量200g,产量可达150t·hm-2。瓜棒形,长约35cm,平均横径2.8~3.0cm,果形指数约12,瓜把短。瓜皮深绿色,稍有光泽,无棱,瘤小,刺密。果实脆甜清香,硬度10kg·cm-2。高抗枯萎病、白粉病,较抗霜霉病。适合河南、山东、河北、安徽、江苏、湖北、湖南等黄瓜产区早春保护地和秋延后保护地栽培。
【英文摘要】Wangshi’is a cucumber hybrid. The cultivar has strong growth vigor and moderatedark-green leaves. Fruits are produced mainly on the stem with the average per fruit 200g weight,and the yield is 150t·hm-2. The cultivar typically has long fruits(length/diameter ratio = 12)with dark-green epidermis,more tubercles and fine white spines. The fruit tastes very deliciously with about 10 kg·cm-2 fruit firmness. It is strongly resistant to powery mildew and wilt,moderately resistant to downy mildew.The cultivar is suitable in greenhouse and plastic channel in early spring and late-autumn in main cucumber production areas in China.
【语种】中文
【第一作者】胡建斌
【通讯作者】李健吾
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【学科分类】园艺学

【题目】Analysis of cytoplasmic variation in a cucumber germplasm collection using chloroplast microsatellite markers
【中文关键词】黄瓜 叶绿体微卫星 细胞质变异 PCR标记
【英文关键词】Cucumber,Chloroplast microsatellite,Cytoplasmic variation,PCR marker
【中文摘要】从黄瓜叶绿体基因组非编码区域的微卫星中得到9条PCR标记,并用以检测叶绿体DNA的多态性,这些标记成功的得到了37种中国本土种质(CNG)和非中国本土种质(NCG)黄瓜的中间多态性。每个标记均发现了2和4个等位基因,这些标记的多样性指数为0.105到0.528.基于等位基因的大小,共有17个单体型从35种黄瓜品种(其中两个含有空白基因)。其中3个体倍体普遍存在于CNG中,而多数NCG仅含有一个单体型。在CNG和NCG中没有发现相同的单体型,反映出进一个世纪CNG和其他品种交换的缺失。研究发现野生种C. hystrix Chakr.与多种CNGs含有相同的单体型。本试验基于等位基因的Jaccard相似性指数通过构建系统发育树进一步分析了37种黄瓜亲缘关系,所有的CNGs鬼为一个类群(包括野生种),并明显区别与其他四个类群的NCGs,该结果也验证了单体型的分析结论。本研究为黄瓜育种提供了科学的材料与依据。
【英文摘要】Nine PCR-based markers were developed from the microsatellites in non-coding regions of chloroplast genome of Cucumis sativus and used to detect chloroplast DNA variation. These markers successfully detected intraspecific polymorphism among 37 cucumber accessions containing Chinese native germplasms (CNGs) and non-Chinese germplasms (NCGs). Each marker detected between two and four alleles and the diversity value of the makers ranged from 0.105 to 0.528. Based on the data from allele size variation, a total of 17 distinct haplotypes were identified from the 35 accessions (excluding the two accessions possessing null genes). Three haplotypes were prevalent among CNGs but most NCGs had unique haplotype. No identical haplotype was found between CNGs and NCGs, reflecting lack of exchange of CNGs with others in the 60 – 80s of last century. A wild species (C. hystrix Chakr.) tested herein shared a haplotype with some CNGs, suggesting that it could be the ancestry of C. sativus or at least had a common ancestral lineage. The genetic relationship among the 37 cucumber accessions was further analyzed through construction of dendrogram based on Jaccard coefficient of similarity obtained from the allele sizes. All the CNGs were clustered into a group (containing the wild accession) that distinctly differed from the other four groups containing NCGs. This result agreed with the findings above obtained from haplotype analysis. Our research documented here will offer useful information for cucumber breeding.
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【学科分类】分子生物学

【题目】Development of novel chloroplast microsatellite markers for Cucumis (Cucurbitaceae) from sequence database
【中文关键词】葫芦科 单态性 多态性 转移性
【英文关键词】Cucurbitaceae,monomorphism, polymorphism, transferability
【中文摘要】本试验报道了葫芦科植物叶绿体微卫星(cpSSR)标记的研究进展,并对其多态性和转移性进行了分析。从Cucumis sativus叶绿体基因组全序列得到单核苷酸重复序列构成的15个微卫星标记,成功的检测到C. sativus和C. melo的中间差异,并得到每个cpSSR位点间的平均为1.6和1.9等位基因。C. sativus和C. melo中,除了cpSSR标记有两个外显子区域为单态性,其它的均为均为多态性片段。通过cpSSR标记在两个品种植物共得到34个多态性位点。通过41中葫芦科植物(属于12个不同的品种)检测了cpSSR标记的转移性,除了两个标记并未葫芦科植物均有扩增产物,其他标记在所有品种中均有发现。15个cpSSR标记中,有14个标记片段大小达到预期值,13个标记在品种中得到种内多态性,种内多态性在四个葫芦科植物中也有发现(除了C. sativus and C. melo)。
【英文摘要】The development of chloroplast microsatellite (cpSSR) markers in Cucumis species and analysis of their polymorphism and transferability were reported. Fifteen microsatellite markers, represented by mononucleotide repeats, were developed from the complete sequence of Cucumis sativus chloroplast genome. Intraspecific variation was successfully detected in C. sativus and C. melo and revealed mean 1.6 and 1.9 alleles per cpSSR locus, respectively. With the exception of two exon region-located cpSSR markers being monomorphic, each of the others amplified polymorphic fragments in C. sativus or C. melo. A total of 34 polymorphic loci were detected with these cpSSR markers in the two species. Transferability of the newly developed cpSSR markers was checked on an additional set of 41 Cucurbitaceae accessions (belonging to 12 different species), and except for two markers with no amplification in

Cucurbita maxima, the others could be transferable to all the accessions tested. Of the 15 cpSSR markers, 14 markers generated fragments with expected band sizes and 13 markers detected interspecific polymorphism among the accessions. Intraspecific polymorphism was also observed within four Cucurbitaceae species excluding C. sativus and C. melo.
【语种】英文
【第一作者】胡建斌
【通讯作者】李健吾
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【学科分类】分子生物学

【题目】Development of novel EST-SSR markers for cucumber (Cucumis sativus) and their transferability to related species
【中文关键词】黄瓜 表达序列标签(ESTs) 微卫星序列(SSRs) 多态性 转移性
【英文关键词】Cucumber, Expressed sequence tags (ESTs), Microsatellites (SSRs), Polymorphism, Transferability
【中文摘要】本试验报道了由黄瓜变种ESTs得到的SSR的研究进展,及其在相关品种的应用。根据GenBank,从6344个黄瓜ESTs共鉴定得到了533di到penta-的SSRs。大多数SSRs主要由di-和tri-核苷酸重复序列构成,其中以AG和AAG居多。共有392条含有unigene的SSR(非冗长ESTs/共有序列)适合作为引物。从中挑选35对因为作为代表,共有28条可利用标记,其中26条标记表明多态性分析得到21种黄瓜存在2-7个等位基因(均值=3.77),并且多态性信息含量(PIC)为0.091-0.748(均值=0.388)。本研究得到的多态性部分归因于零等位基因,该等位基因多发生于标记检测到的多同源位点。28个转移性EST-SSR标记在其他四种葫芦科植物(甜瓜、西瓜、南瓜和葫芦)进行了验证,其发生频率分别为92.9%, 57.1%, 53.6%和60.7%。EST-SSR标记可以补充常使用的基因组SSR标记,甚至可能在黄瓜及其相关品种的遗传研究中更有效用。
【英文摘要】We report on the development of novel simple sequence repeat (SSR) markers from publicly available Cucumis sativus expressed sequence tags (ESTs) and on their transferability among related species. In total, 533 di- to penta-type SSRs were identified from 6344 cucumber ESTs retrieved from GenBank. Identified SSRs mainly comprised of di- and tri-nucleotide repeats, of which AG and AAG motifs were much abundant. Atotal of 392 SSR-containing unigenes (non-redundant ESTs/consensus sequences) were suitable for primer design. From these, 35 primer pairs were designed as representative samples and 28 were usable markers. Twenty-six out of 28 usable markers revealed polymorphism among 21 cucumber accessions with 2 – 7 alleles detected (mean = 3.77) and their polymorphism information content (PIC) values ranged from 0.091 to 0.748 (mean = 0.388). The polymorphism observed herein partially arose from the null alleles which occurred at the multiple homoeoloci detected by the markers. Transferability of the 28 EST-SSR markers was investigated in four other cucurbits: melon, watermelon, pumpkin and gourd which showed frequency of 92.9%, 57.1%, 53.6% and 60.7%, respectively. The EST-SSR markers developed herein will complement the currently available genomic SSR markers and may be useful for genetic studies in cucumber and related species.
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【学科分类】分子生物学

【题目】Utilization of a set of high-polymorphism DAMD markers for genetic analysis of a cucumber germplasm collection
【中文关键词】黄瓜 DAMD标记 遗传分析 多态性
【英文关键词】Cucumber ,DAMD marker,Genetic analysis,Polymorphism
【中文摘要】利用从水稻、人体和M13噬菌体得到的18条微卫星序列作DNA微卫星区域DNA(DAMD)扩增为引物,分析19中黄瓜品种的种植资源多态性。共扩增得到165条的多态性条带中,129条具有78.2%的多态性,引物的多态性负平均信息量为0.844,说明黄瓜有很大的差别。根据DAMD标记的accard相似度指数及矩阵分析,利用非权重配租法构建系统树状图,将19个分枝归为四个不同组,从而说明不同类型的种质之间的遗传关联。六个多态性扩增条带的测序得到了1个微卫星位点,说明微卫星数量的改变并非是DAMD多态性的唯一产生要素。

【英文摘要】Eighteen minisatellite core sequences, derived from rice, human and phage M13, were used as primers in a PCR technique, known as directed amplification of minisatellite-region DNA (DAMD), to genotype 19 cucumber (Cucumis sativus L.) accessions from a wide collection. All the primers amplified polymorphic bands across the accessions. Out of 165 bands scored, 129 were polymorphic with 78.2% polymorphism. The average of polymorphism information content of the primers was 0.844, revealing a high discrimination power in cucumber. Based on Jaccard ’ s similarity indices and matrix generated by the DAMD markers, a dendrogram was constructed using the unweighted pair group method using arithmetic averages and allowed for separation of the 19 accessions into four distinct groups which demonstrated genetic relationship among the different types of germplasms. Sequencing of six polymorphic amplicons resulted in the identification of only one minisatellite locus, which indicated that variation in minisatellite number was not always the factor underlying DAMD polymorphism.
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【第一作者】胡建斌
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【学科分类】分子生物学

【题目】A Study on the Overwintering of Cucumber Downy Mildew Oospores in China
【中文关键词】霜霉病 孢子 植物残片 土壤 生存力
【英文关键词】Pseudoperonospora cubensis, oospore, plant debris, soil, viability
【中文摘要】调查研究了中国10个地区(漠河、哈尔滨、长春、北京、聊城、银川、杨陵和海口)黄瓜霜霉病的孢子形态。除了海口,其他地区均发现了霜霉病孢子。研究了哈尔滨2009年1月10日到7月10日孢子的生存能力。包子的活力指数从4月10日开始上升,至5月末达到峰值(2009年5月25日达到14%),继而下降,这与哈尔滨每年霜霉病爆发的时间相一致(5月20-30日)。对哈尔滨地区孢子越冬进行了孵育试验,结果表明不论在温室还是户外,孢子均能够越冬,发病率为26.6-95.0%。在寒冷的中国北方地区,越冬孢子是霜霉病的原发感染源。
【英文摘要】Oospore formation of Pseudoperonospora cubensis was investigated in 10 Chinese locations: Mohe, Harbin,Changchun, Shenyang, Beijing, Liaocheng, Yinchuan,Xining, Yangling and Haikou. Oospores were observed in all but Haikou. Oospore viability was monitored from 10 January to 10 July 2009, in Harbin. Percentages of activated oospores increased from 10 April with a peak in late May (14.0% on 25 May 2009), and then decreased. This is in accordance with the usual time of downy mildew appearance in Harbin, 20 – 30 May. Inoculation tests using the oospores overwintered in Harbin, whether in the greenhouse or outdoors, showed that these were viable, with a disease occurrence of 26.6 – 95.0%. Oospores overwintering locally could be primary infection sources of downy mildew in cool temperate northern China.
【语种】英文
【第一作者】张艳菊
【通讯作者】秦智伟
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【学科分类】分子生物学

【题目】不同滴灌方式对棉田土壤盐分的影响
【中文关键词】棉田;地下滴灌;膜下滴灌;土壤盐分;盐分离子
【英文关键词】cotton field;subsurface drip fertigation;mulched drip fertigation;soil salinity;salt ions
【中文摘要】采用田间抽样调查分析的方法,研究了不同滴灌方式对新疆棉田土壤盐分的影响。结果表明,采用滴灌施肥8年后,0~100cm土体土壤总盐平均质量分数膜下滴灌比地下滴灌高10.98%;在20cm以上土层,土壤总盐平均质量分数地下滴灌比膜下滴灌高出23.35%;在60~100cm土层,土壤总盐平均质量分数膜下滴灌比地下滴灌高出85.99%。造成不同灌溉方式下土壤总盐质量分数差异的主要离子为Cl-和Na+。膜下滴灌条件下,土壤Cl-和Na+的质量分数较高。试验区采用地下滴灌时,应防止地表盐分的积累,同时,应结合喷灌或地面灌溉,解决棉花苗期的土壤水和盐的问题。

【英文摘要】The method of field sampling and analysis was adopted to study the effect of different drip fertigation on soil salinity in cotton field in Xinjiang Uygur Autonomous Region, China. The results show tha tthe average total soil salinity in depth ranging from 0 to 100cm under the condition of mulched drip fertigation is 10.98%higher than that of subsurface drip irrigation,after 8 years fertilization by drip irrigation. The average total soil salinity in the shallow layers(above 20cm)is 23.35%higher,while it is 85.99% lower in the deep layers(60~100cm)for subsurface drip irrigation,compared with mulched drip fertigation.The major salt ions which cause the difference of total soil salinity between two irrigation methods are regarded as Cl- and Na+.Sprinkler and surface irrigation should be adopted to combined with drip irrigation for preventing the surface accumulation of soil salinity.
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【第一作者】宰松梅
【通讯作者】仵峰
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【学科分类】土壤学

【题目】基于田间定位观测的地下滴灌毛管性能评价
【中文关键词】地下滴灌;毛管性能;毛管流量;降低率;使用寿命;评价
【英文关键词】subsurface drip irrigation (SDI) system; performance of drip line; variation of flux reductionrate; service duration; evaluation
【中文摘要】以新疆大田棉花地下滴灌系统(SDI)为研究对象,采用定量计时法对使用1~7年的SDI毛管的压力和流量进行了定位观测,研究了毛管水力性能的年内和年际变化规律。结果表明,在同一使用年限(灌水季节)内,随着灌水次数的增加和灌水时间的延长,毛管的流量降低率增加。毛管的性能变化与其所在的位置有关,靠近小区进口(支管首部)处毛管的流量降低率较小,随着距小区进口距离的增加,毛管流量降低率增大。毛管的流量降低率随使用年限的增加而增大。对设计使用寿命为3年的SDI毛管,使用3~4年时,毛管的流量降低率均未超过20%;使用6年时,80%以上毛管的流量降低率超过20%,1/3的毛管流量降低率超过25%,最大降低率为29·13%,此时,应加强系统运行管理,尽可能恢复SDI毛管水力性能,提高系统运行效率。
【英文摘要】The observation of drip line performance in subsurface drip irrigation system(SDl),serviced for 1 to 7 years,was carried out at fixed positions in cotton field of the xinjiang UygurAutonomous Region, China. The duration of given water volume were used to calculate the flux of drip line. The discharge of drip lines was surveyed under different pressure to evaluate the annual and inter-annual variation of performance. The results show that the drip line flux reduction rate increases with irrigation times and service hours of the SDI system in the same irrigation season or the same service year. The reduction rate varies with locations of line, it is smallerwhen the drip line is located closer to the inlet of sub-main and increaseswith service years. For the design life of a 3-year SDI system lateral, the reduction rate is within 10% and 20% from 1 to 4 years of service duration. After 6 years reduction rate of about 1/3 of total lineas will be higher than 25%. Management should be enhanced to recover the hydraulic performance of the drip lines on time for improving the efficiency of the irrigation system
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【学科分类】农业工程

【题目】微灌过滤器用水压驱动反冲洗阀启闭机构的力学计算
【中文关键词】换向阀 过滤器 水压驱动 反冲洗 力学计算
【英文关键词】no
【中文摘要】从工业用液压系统换向阀的结构设计、所用液压介质类型等技术出发,分析影响换向阀各方面稳定性能的因素,针对性地设计出一种微灌系统过滤器用的新型换向阀——水压驱动反冲洗阀,通过介绍产品的结构和工作原理,提出了

反冲洗时所需驱动力的计算方法,并结合过滤器的正常压力条件,对驱动力进行了校核,得出水压驱动反冲洗阀在0.18 MPa以上的水流压力下即可正常工作,满足产品靠过滤系统管路的自身压力实现反冲洗的要求。
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【学科分类】农业工程

【题目】不同滴灌形式对棉田土壤理化性状的影响
【中文关键词】灌溉,土壤,养分,棉田,地下滴灌,膜下滴灌,土壤盐分,土壤PH值
【英文关键词】irrigation,soils,nutrients,cotton field,subsurface drip irrigation,mulched drip irrigation,soil salinity,soil PH value
【中文摘要】为研究长期滴灌对土壤性质的影响,采用田间抽样调查的方法,对新疆棉田膜下滴灌和地下滴灌进行了对比分析,研究了滴灌形式对棉田土壤理化性状的影响。结果表明,采用滴灌8年后,膜下滴灌在10 cm处土壤体积质量相对较高,而地下滴灌的高体积质量土壤下移至60 cm上下。土壤盐分的分布规律与之相反,地下滴灌表层(0~20 cm)土壤的含盐量略高于膜下滴灌,而在20~100 cm土层,膜下滴灌的土壤含盐量明显高于地下滴灌;0~100 cm土体土壤平均电导率(EC值)膜下滴灌比地下滴灌高出19.2%。与膜下滴灌相比,地下滴灌条件下20 cm以上土层土壤PH值较低,0~100 cm土体土壤碱解氮的残留量也较少,而不同滴灌方式间土壤有效磷和有效钾的质量分数差异不明显。
【英文摘要】To investigate long-term impacts of drip irrigation on soil properties,fields sampling were adapted in the cotton field after 8 years fertigation with mulched drip irrigation(MDI)and subsurface drip irrigation(SDI)in Xinjiang, Northwest China.Results showed that soil bulk density at 10 cm was relatively higher in MDI,while higher soil bulk density of soil layers appears at 60 cm in SDI field.For soil EC,it had a slight lower in shallower soil layers and a significantly higher from 20 to 100 cm in MDI than that in SDI.The average soil EC value from 0 to 100 cm soil layer in MDI was 19.2%higher.The soil PH value in SDI was lower in shallower soil layers,and the residual of soil nitrogen was less than that in MDI.The differences of soil available P ’s and soil available K ’s content were not significant under two fertigation methods.
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【第一作者】宰松梅
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【学科分类】农业工程

【题目】基于支持向量机模型和图像处理技术的甜椒叶面积测定
【中文关键词】支持向量机,模型,图像处理,甜椒,叶面积,测定
【英文关键词】support vector machine,models,image processing,sweet pepper,leaf area,determination
【中文摘要】叶片是作物进行光合作用的重要器官,是研究作物对光能吸收的一个主要的生物学指标。应用支持向量机理论,建立了支持向量机叶面积模型,输入参数为叶片长度、叶片最大宽度,输出参数为叶面积。通过对应用计算机图像处理技术测量所得到的样本数据进行训练,以叶片的长度、宽度作为输入参数对叶面积进行模拟及检验,并将模拟结果与线性回归和人工神经网络模型进行了对比。结果表明,支持向量机叶面积模型的最大误差为6.09%,平均误差为2.73%,模拟精度达到0.996。该方法能较真实地反映甜椒叶面积的实际大小,具有较好的实用价值和应用前景。
【英文摘要】As a vital organ for crop photosynthesis,leaf is one of the major biological indicators in the study on light absorption by crops.Support Vector Machine(SVM)theory was used to set up a SVM model for determination of leaf area of sweet pepper,the input parameters were the leaf length,maximum width of the leaf,and the output parameters were the leaf areas.Data measured by computer image processing technology were trained as samples,the length,maximum width of the leaf were used as input parameters to simulate and test the leaf area.The results were compared with those of linear regression and artificial neural network model.The results showed

that the maximum error of leaf area determined by support vector machine model was 6.09%,and the average error was 2.73%,the simulation accuracy was 0.996.This method can well reflect the actual size of leaf area of sweet pepper,and has good practical value and application prospect.

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【题目】地下滴灌条件下土壤水能态研究
【中文关键词】地下滴灌,灌水器,正压,土壤水势
【英文关键词】subsurface drip irrigation,emitter,positive pressure,soil water potential
【中文摘要】研究灌水器与土壤界面处的能态是研究地下滴灌土壤水分运动的关键之一。该文通过理论和试验相结合的方法,探讨了地下滴灌土壤水势的分布状况。结果表明:根据灌水器的流量和土壤的导水性之间的关系,将其分为两种情况,在灌水器流量不大于土壤扩散能力时,灌水器出口处的土壤水势等于该处的土壤吸力,为非正压状态;否则,灌水器出口处的土壤水势为正。理论分析和室内试验结果均表明,对同一土壤,影响地下滴灌土壤水势分布的主要因素是灌水器的额定流量和土壤初始含水率,在一定的流量范围内,灌水器出口的稳定正压随灌水器流量的增大而增加,随土壤初始含水率的增大而降低。在此基础上,提出地下滴灌条件下土壤水势分布的近似计算式,并简要分析了这一特殊土壤水分分布对地下滴灌系统的影响。
【英文摘要】The research on the state of soil water potential adjacent to emitters(SWPAE)is the key to study soil water movement under subsurface drip irrigation(SDI).Distribution of soil water potential energy under SDI was studied by theoretical analyses and tests.The results showed that there were two kinds of SWPAE according to the relationship between emitter flow and soil water conductivity.The SWPAE equaled to the soil suction,which was negative,when
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【题目】微灌用石英砂滤料的过滤与反冲洗试验
【中文关键词】微灌;过滤与反冲洗;出水浊度;石英砂滤料
【英文关键词】micro-irrigation; filtrate and backwashing; filtrated water turbidity; quartz sand media
【中文摘要】通过对微灌用砂石过滤器滤料的过滤和反冲洗试验,分别对5种泥沙含量的原水在5个过滤速度和5个反冲洗速度条件下,测定分析了出水浊度随时间的变化规律,提出了滤料对浊度的滤除比率的计算方法,试验结果表明:冲洗流速加大,出水浊度接近清水浊度的时间缩短,正常速度范围内反冲洗在6~7 min内完成;原水浊度与滤后水浊度成正比,过滤速度与滤后水的浊度成正比,浓度在0.1‰~1‰范围内,浊度的滤除比率在40%~60%之间;滤层同样有一个成熟期,在此期间滤后水浊度是变化的。
【英文摘要】Through the experiment of filtrating and backwashing of grit filter media in micro-irrigation, the change rule of water turbidity with the filter time was analyzed and the calculation method of the filter ratio of media to water turbidity from five different raw water concentrations was put forward at the condition of five filter rates and five backwashing rates. Results show that it can shorten the time of the backwashing water turbidity closing to the clear water turbidity by increasing the backwashing rates. The process of backwashing can be completed in 6~7 minutes at the normal rates. It is in direct relationships between raw water turbidity and filter water turbidity, between the turbidity of filtrated water and filtrate rates. The filtrate ratio of turbidity is in 40%~60% when raw water concentration changes from 0.1‰to 1‰. Similarly, the filter layer has a mature stage and the turbidity of filter water is changing.

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【题目】全补偿微灌系统灌水均匀度参数之间的关系分析
【中文关键词】灌水均匀度;流量偏差系数;微灌系统
【英文关键词】irrigation uniformity; flow deviational coefficient; micro-irrigation system
【中文摘要】该文采用数理统计学方差估计理论,针对全补偿微灌系统的灌水均匀度系数进行了研究分析,从理论上推导出全补偿微灌系统均匀度系数与流量偏差系数之间基本关系式,同时采用传统的随机数字模拟方式对导出的公式进行了验证和分析,并且探讨了均匀度系数和流量偏差率之间的关系规律,最后通过实例说明了上述公式的运用价值。该研究成果为全补偿微灌系统的设计、工程灌水均匀度评价和补偿式灌水器制造偏差控制等提供了参考依据。
【英文摘要】Based on the theory of variance estimation of mathematical statistics, the parameters of irrigation uniformity in full equalizing micro-irrigation system were studied and the relational expression between coeffi- cients of the irrigation uniformity and the flow deviation were proposed. At the same time, the formula was vali- dated using simulation method with conventional random numbers and the relationships between the coefficients of irrigation uniformity and the flow deviation were discussed. The application worth of the formula was indicated through an example. The research provides reference for the plan of micro-irrigation system, appraising irrigation uniformity and controlling manufactuerable deviation of equalizing emitter.
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【题目】滴灌施肥对棉田土壤速效养分的影响研究
【中文关键词】棉田;地下滴灌;膜下滴灌;土壤速效养分;影响
【英文关键词】cotton field; subsurface drip irrigation; mulched drip irrigation; soil available nutrient; effect
【中文摘要】采用田间抽样调查分析的方法,研究了滴灌施肥对西北内陆地区棉田土壤速效养分的影响。结果表明,地下滴灌条件下,土壤碱解氮和有效钾的含量随距离毛管位置增加而增加,而有效磷的趋势则相反;膜下滴灌施肥条件下,有效钾和有效磷的趋势与地下滴灌一致,而碱解氮的趋势则是毛管处最高;滴灌施肥条件下,0~100 cm土体中土壤养分残留量膜下滴灌一般高于地下滴灌,尤其是氮的残留量较高。
【英文摘要】Method of field sampling and analysis was adopted to study the effect of fertigation on soil available nutrients in the inland cotton field of Northwest China. The results showed that under the conditions of subsurface drip irrigation, content of soil alkali dissolved nitrogen and available potassium increased with the distance from drip line increasing, while the opposite trend in available phosphorus. Under the conditions of mulched drip irrigation, the trends of soil available potassium and available phosphorus were consistent with those of subsurface drip irrigation, while the trend of the nitrogen was higher near the drip line. The residual soil nutrients from 0 to 100 cm of mulched drip irrigation were generally higher than those of subsurface drip irrigation, especially the residual nitrogen.
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【题目】作物灌水量随机模拟研究
【中文关键词】降雨;蒸发蒸腾量;随机模拟;灌溉
【英文关键词】rainfall; evapotranspiration; stochastic simulation; irrigation
【中文摘要】针对降雨、蒸发蒸腾量的随机性,在制定作物灌溉计划时,将降雨、蒸发蒸腾量进行随机化处理,采用基于时间序列的随机水文学方法对降雨和蒸发过程进行了模拟,将随机模拟出的降水、蒸发蒸腾结果代入水量平衡方程,从而确定灌溉时间和灌水量。经过和实测序列进行对比,模拟值和实际值拟合较好,最大误差仅为4.74%,可为科学制定作物灌溉计划提供参考。
【英文摘要】Aiming at the randomicity of precipitation and evapotranspiration in the formulation of crop irrigation schemes, the precipitation and evapotranspiration were randomly treated, and simulated using random hydrology methods based on time-series. The simulated values were used into the water balance equation to determine the irrigation time and amount, and compared with the measured sequence. The result indicates that the simulated values and actual values fit well, the maximum error was only 4.74%. It can provide a reference for the scientific crop irrigation schemes.
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【第一作者】宰松梅
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【学科分类】农业工程

【题目】微灌过滤系统反冲洗阀的性能参数试验
【中文关键词】过滤器;过滤;反冲洗;水动阀;微灌
【英文关键词】filter; filtering; back-flushing; hydraulically operated valve; micro-irrigation
【中文摘要】简述了微灌反冲洗过滤器的水动三向阀的结构和工作原理,并试验测试了水动三向阀在不同工作压力条件下的过流量、水头损失等水力性能指标及阀正常工作时的最小启闭压力、启闭时间和最大启闭次数等参数。测试结果表明:在过滤、反冲洗2个工作状态下,水动三向阀的水头损失值在合理的范围内,符合工程设计指标;启闭时的灵敏度较高,水压在0.05 MPa以上即可实现正常启闭,完成一个启闭过程需3~16 s的时间不等;最大启闭次数平均在1690次以上。以上指标均能满足过滤系统的规定要求,并达到较好的实际使用效果。
【英文摘要】In this article,it is introduced briefly the structure and the working principle of the back-flushing valve operated by water. We tested the current capacity and the loss of water head under the different working pressure condition. At the same time, we also tested the minimum pressure and the time needed in realizing a complete open-shut stage and the maximum in a normal open-shut. The test result indicates that the loss of water head produced during the filter and back-flushing statute is in reasonable rang and conforms to the design target; the sensitivity of open-shut is high, the valve can realizes work normally when the hydraulic pressure above 0.05 MPa, it needs 3~16 second different in completing a open-shut process; the average number of the greatest normal open-shut times is above 1690. All of the indexes can satisfied the stipulation request of the filter system and achieves good use effect in actual.
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【题目】齿形迷宫流道滴头消能过程的试验研究
【中文关键词】滴头;齿形流道;消能过程
【英文关键词】emitter; flow path of gear profile; energy dissipation
【中文摘要】由于齿形迷宫流道滴头的内部尺寸很小,利用常规仪器难以对其流道内的水压力分布规律直接进行测量。利用自行研制的试验装置,对迷宫式滴头齿形流道内部的压力分布状况直接进行测量,结果表明:该装置切实可行。实测的齿形迷宫式滴头流道内能量损失并非均匀降低,在不同工作压力区间段内压力损失比例存在差异,且随工作压力的变化,各齿段的消能比例也在不断的变化;当压力达到一定范围后,各齿段间的消能比例系数基本稳定不变。
【英文摘要】The maze flow profile of the internal emitter is tiny, difficult to measure the hydraulic distribution directly with conventional equipments. Using self-developed test equipment, the distribution of pres- sure was measured in maze flow path of emitter. Results show that this device is practical. Energy loss is not uniform within the maze flow path. The reduction ratio of different pressure loss varies with the work- ing pressure range. The energy dissipation ratio among the maze flow path is changing by the working pressure. When the working pressure reaches a certain scope, the coefficient of energy dissipation ratio is stable among the internal maze flow path of emitter.
【语种】中文
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【题目】发丝滴头出流规律试验研究
【中文关键词】发丝滴头;出流规律;微管长度;缠绕直径
【英文关键词】microtube; flow rule; microtube length; winding diameter
【中文摘要】发丝滴头出流流量与工作压力成正比,与发丝微管长度成反比,与发丝微管缠绕直径成正比,并分析了各影响因素与出流量之间的关系。根据试验分析结果,得出了发丝滴头新的出流公式,经实测验证,该公式具有较高的应用价值。
【英文摘要】A free-flowing experiment of microtube was carried out in the laboratory. The results show that the discharge of microtube was positive to the operating pressure and the winding diameter. At the same time, it was negative to the microtube length. The relations between influence factors and discharge were analyzed too.A new flow formula of microtube flux was given. Some applications have proved that the new formula has higher practical value.
【语种】中文
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【题目】地下滴灌条件下棉花土壤水分运移田间试验研究
【中文关键词】地下滴灌;土壤水分运移;田间试验;增产效果
【英文关键词】subsurface drip irrigation; changing of soil moisture; field experiment; effect of increasing production
【中文摘要】在棉花大田实地测量的基础上,对地下滴灌条件下棉花不同生育期内土壤含水量进行分析,同时对实际应用效果进行监测,结果表明:地下滴灌影响土壤水分变化深度主要为20~60 cm,棉花根系主要集中在15~50 cm。通过对棉花常规地面沟灌、膜下滴灌和地下滴灌土壤水分变化试验研究分析和应用效果监测,棉花地下滴灌节水增产效果显著。
【英文摘要】Basing the practise measure data in cotton field, the changing of soil moisture in different grow- ing period of cotton under subsurface drip irrigation was analyzed, and the application effect of subsurface drip irrigation was surveyed. The results show that the cotton root mostly concentrated in 15~50 cm, and the soil moisture changing depth of cotton field is mainly in 20~60 cm

under subsurface drip irrigation. Compared with routine furrow irrigation and drip irrigation under plastic film, subsurface drip irrigation saves water and increases production obviously.
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【题目】从灌溉发展历史看灌溉的未来
【中文关键词】灌溉;发展史;发展方向
【英文关键词】no
【中文摘要】无
【英文摘要】no
【语种】中文
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【题目】引黄灌区土壤次生盐碱化防治对策研究
【中文关键词】引黄灌区;土壤次生盐碱化;节水灌溉;组合排水
【英文关键词】no
【中文摘要】作物产量;人工神经网络;模型;预测对引黄灌区盐碱地的成因、现状、危害进行了分析。在水资源紧缺的形势下,盐碱土治理必须采用水利、农业、生物、化学等综合技术措施。在次生盐碱化土地和潜在盐碱化地区发展节水灌溉,还应建立长期监测制度,并适时地对改良措施加以调整和完善。应从节水灌溉技术、节水防盐灌溉制度、劣质水在盐碱地的应用、生物措施等方面,加强盐碱地灌溉管理的研究。
【英文摘要】no
【语种】中文
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【题目】地下滴灌施肥条件下土壤中氮行为模拟
【中文关键词】地下滴灌;施肥灌溉;氮
【英文关键词】subsurface drip irrigation; fertigation; nitrogen
【中文摘要】以土壤水分运动的动力学方程和溶质运移的对流-弥散方程为基础,结合灌溉施肥过程中的初始和边界条件,建立了地下滴灌施肥条件下土壤水肥运动模拟模型,以SWM-2源代码为蓝本,模拟了新疆棉花地下滴灌施肥后土壤中氮的分布与变化过程。结果表明,地下滴灌条件下,施肥时机直接影响到土壤中氮的分布,施肥后冲洗管道1 h,使氮的运动在剖面上呈双峰曲线,以毛管为中心,氨态氮的运动局限于20 cm以内,其含量随时间延长而减少,同时向下层土壤运动;与氨态氮相比,硝态氮的运动范围略有增加,在垂直方向上向上运动大于向下运动。

【英文摘要】The dynamic equations of soil water movement and convection, diffusion equation of solute transport are used as the govern equation, combing the initial and boundary conditions of irrigation and fertilization process. A model is established to simulate the movement of soil water and fertilizer under subsurface drip fertigation. It is solved by a revised SWM-2 source code. Using this model, the distribution and process of soil nitrogen in cotton field is simulated with 1 hour flush under subsurface drip fertigation. Results show that the movement of nitrogen appears in a double front on such a condition. The movement area of ammonia nitrogen is confined from 20 cm to the center of drip line, and its consistence decreases slightly with timeincreasing while it moves to the sub- soil. Compared with the movement of ammonia nitrogen, the active area of nitrate increases slightly, and its upward movement is greater than the downward movement.
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【题目】地下滴灌湿润比计算方法探讨
【中文关键词】地下滴灌;湿润比;计划湿润深度;灌水器;计算方法
【英文关键词】subsurface drip irrigation;wetting proportion;scheming wetted soil layer depth;emitter;calculation method
【中文摘要】最近几年地下滴灌在国内推广迅速,但其工程设计仍按地表滴灌模式进行,一定程度上阻碍了其应用。湿润比是微灌系统设计的重要参数之一,在前人研究的基础上,对地下滴灌湿润比计算方法进行了理论推导,给出了理论计算公式,并进行了相关误差分析。认为:地下滴灌湿润比计算公式与地表滴灌类似,但与计划湿润深度、灌水器埋深等参数相关;继续使用地表滴灌湿润比计算公式会产生误差,误差大小与计划湿润深度和湿润体形状密切相关;只有在一定取值范围内才可继续沿用20~30 cm深处土层的湿润面积来计算湿润比。
【英文摘要】Subsurface drip irrigation has been developed very fast in China in recent years, but its design is still based on the drip irrigation model, which has to some extent. Hindered application wetting proportion is one of the important parameters of the micro-irrigation system design. Based on previous studies, a theoretical research on wetted percentage of subsurface drip irrigation design is carried out in this paper. The computation formula has been got and its relevant error analysis has also been made. The results show that the formula of the wetting proportion of the subsurface drip irrigation is similar to that of the drip irrigation, but the value is related to the scheming wetted soil layer depth and buried depth of the emitter and so on. The errors will be produced when the computation formula of drip irrigation model is still applied to the subsurface and the value is related to the scheming wetted soil layer depth and shape of wetting soil. The wetting area of 20~30 cm deep soil layer may also be used to calculate the wetting proportion, but only within the range of some fixed value.
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【题目】人工神经网络在土壤含盐量预测中的应用
【中文关键词】土壤含盐量;次生盐碱化;BP模型
【英文关键词】soil salinity; secondary salinization; BP model
【中文摘要】土壤含盐量的预测对合理配置水资源,防治土壤次生盐碱化等具有重要的指导意义。在阐述BP人工神经网络原理的基础上,针对影响土壤含盐量的主要因素,建立了多因子土壤含盐量的3层BP网络模型,以土壤含水率、地下水矿化度、地下水pH值、地下水埋深、相对湿度、降雨量、蒸发量作为模型输入参数,土壤含盐量作为模型输出,对土壤含盐量进行了预测。结果表明,BP神经网络模型预测土壤含盐量的最大误差为8.78%,平均误差为5.99%,模型具有较高的预测精度

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【英文摘要】The prediction of soil salinity has a significance effect on the allocation of water resources, and prevention of secondary soil salinization. Aimed at the main facts of soil salinity, a multi-factor 3-layer BP network model was set up using BP artificial neural network for the prediction of soil salinity, with soil moisture, groundwater salinity, groundwater pH value, groundwater table, relative humidity, rainfall, and evaporation as the model input parameters, and soil salinity as the model output parameter. The results show that the maximum predicted error of BP neural network model is 8.78%, the average error is 5.99%, and the soil salinity artificial neural network model has higher prediction accuracy.
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【题目】移动插入式灌水器的结构研究与抗堵塞试验分析
【中文关键词】插入式;地下滴灌;移动滴灌;抗堵塞
【英文关键词】inserted; subsurface drip irrigation; movable drip irrigation; anti-jamming
【中文摘要】通过对现有滴头、滴箭等产品结构的研究、改进与优化,设计开发出一种抗堵塞功能较强的插入式地下灌水器产品,整体上具有快速装拆、移动灵活、滴流量偏差小、水力性能稳定等特点。为检验其抗堵塞功能的优劣,分别进行了自由出流和插地出流条件的滴水试验。结果表明:移动插入式灌水器出流均匀,具有较强的抗堵塞性能,自由出流时的平均滴水量与多次间歇式插地出流时的平均滴水量相当,其波动范围在5%以内,较适合于在移动式地下滴灌系统中应用。
【英文摘要】Based on structural research, improvement and optimization of emitters, drip arrows and other existential drip products, a new kind of movable insertion subsurface emitters are studied and developed, which have a good function of anti-jamming and characteristics of being assembled and disassembled quickly, being moved easily, small deviation of flow rates and stable hydraulic performance. In order to test the effect of anti-jamming, we have tested its drip discharge at status of the free flow and the subsurface flow. Results show that the movable insertion subsurface emitters have high uniformity of drip flow and good performance of anti-jamming. The rang of the flow average data deviation is 5% at the both status, and the emitter adapts to the system of movable subsurface drip irrigation.
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【题目】蓄水灌溉管网水力性能试验研究
【中文关键词】蓄水灌溉;管网;水力性能
【英文关键词】water storage irrigation;pipe network;hydraulic characteristics
【中文摘要】为蓄水灌溉田间应用提供理论依据,试验对不同管网的水力性能进行了试验研究。结果表明:随着供水管径的减小,各出水口的流量偏差率在逐渐增大,但对于同一管径的供水毛管,流量偏差率均随着供水压力的增大而逐渐减小。在相同供水时间内,蓄水袋的容量随着供水管口径、供水压力的增大而增大,并基本呈线性变化关系。蓄水袋的最大实际蓄水量与系统的供水压力有关,与供水管口径的关系不明显,提出当蓄水袋的供水管口径为Φ5 mm时较合适。
【英文摘要】The hydraulic characteristic of different pipe networks is studied in this paper to supply the theory basis for storage irrigation application in field. The results of experiment show that the flow percentage of deviation increases slowly with the decrease of the tube diameter, while it decreases slowly with the increase of the water supplying pressure under the same tube diameter. Under the same water supplying time, the volume of storage sack increases with the increasing of tube diameter and water supplying pressure, and

it changes as linear relationship. The maximum practical water retention capacity of storage sack is mainly linked to water supplying pressure while not water tube diameter. In the end, it is proposed that the appropriate water tube diameter of storage sack is Φ5.
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【题目】滴灌系统CAD技术的研究与开发
【中文关键词】滴灌系统;规划设计;计算机辅助设计;数据通讯
【英文关键词】drip irrigation system; planning and design; computer-aided design; data communication
【中文摘要】依据现有的滴灌工程设计标准和规范,采用模块化技术,以Visual Basic作为开发平台,充分发挥GDI+的绘图功能、Crystal Reports的报表制作功能以及Access数据库功能,研发了滴灌工程规划辅助设计系统。可用于不同地形、不同形状、不同形式的滴灌工程设计,实现了从灌水器基本参数选择,到提供各类工程图和材料表的整个过程的自动化设计,提高了滴灌系统规划设计的效率。
【英文摘要】Based on the existing drip irrigation engineering design standards and norms, using modular technology, taking Visual Basic software as development platform, fully using the graphics functions of GDI+, the report forms functions of Crystal Reports, and the database functions of Access, a computer-aided design system (CAD) for drip irrigation engineering was researched and developed. It can be used in drip irrigation engineering design for different terrain, different shapes and different forms. Using this soft- ware, the whole process of design, from the choosing for basic parameters of emitter to the providing for various types of engineering drawings and material forms, can be designed automatically. The planning and design efficiency of drip irrigation system were improved.
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【题目】灌溉管网优化设计研究进展
【中文关键词】管网;优化设计;算法;计算机
【英文关键词】pipe network; optimal design; algorithm; computer
【中文摘要】总结了经典数学规划理论在灌溉管网优化上的应用,对新型智能优化算法、多种数学规划方法横向结合及分级优化等一批新兴的优化理论和技术在管网设计中的最新进展,进行了归纳和分类,对不同方法的优劣进行了简单的评价,在灌溉管网的分支———微灌管网的田间优化方面进行了归纳,也对利用计算机工具在灌溉管网优化设计中的应用和前景提出粗浅的认识,并提出了未来管网优化设计中亟待解决的一些问题。
【英文摘要】In this paper, the application of classical mathematical programming theory in the irrigation network optimization is summed up. The latest developments of a new batch of optimization theory and technology in the network design, such as new type of intelligent optimization algorithms, combining and classification optimization of many mathematical programming, are summarized and classified. The merits and demerits of different ways are evaluated simply. The optimization of field pipe network of micro-irrigation project is summarized, too. Superficial suggestions for the application of computer tools in the design of irrigation pipe network optimization and its prospect are put forward. Some problems needing to be solved urgently for the future network optimization design are proposed.
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【题目】高含沙水滴灌技术研究
【中文关键词】含沙水;滴灌;明暗结合式取水;抗堵塞
【英文关键词】high sediment-laden water; drip irrigation; combine open and hidden water intake; mitigating-clogging
【中文摘要】:滴头堵塞是滴灌系统运行中的一大难题,对于高含沙水来说更为突出。针对多泥沙河道取水时引水必将引沙的现状,在分析了我国主要河道水沙分布特点的基础上,结合天然河道“水小沙少、水大沙多”的特点,提出了明暗结合式取水模式,采用枯水期明引与洪水期暗引相结合的方式,为解决多泥沙河道取水提供了新思路。利用研发的小型移动式过滤设备、简易过滤装置、可拆式灌水器等高含沙水滴灌专用设备进行组装配套,形成了适合于高含沙水的滴灌系统,使系统配套性能和运行效率均得以提高。与现有滴灌系统相比,系统造价大幅降低,堵塞率控制在5%以内,为解决高含沙水滴灌系统的易堵塞、投资高的难题提供了新途径。
【英文摘要】Emitter-clogging is a puzzle in drip irrigation systems, especially with high sediment water resources. Based on analyzing the rule of water and sand distribution in nature river, a mode of open and hidden water intake from river was put forward, which can intake water and control sediment in flood and dry seasons. It provides a new way of water intake from a high sediment-laden river. Key equipments and products of drip irrigation systems were developed, such as movable filters, simple filters and renewable emitters. Patterns of field drip irrigation systems, which using high-sandy water, were assembled. The performance and efficiency of irrigation systems were improved. Compared with the existing drip irrigation system, cost of the system lower greatly, and clog ratio is less 5%. This model can be applied in the high-sandy water areas with mitigation clog state and lower investments.
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【题目】自适应地下滴灌灌水器的设计开发
【中文关键词】土壤负压;灌水器;自适应地下滴灌
【英文关键词】self-adaptation; subsurface drip irrigation; emitter; soil negative pressure
【中文摘要】针对最为节水、高效用水的地下滴灌技术,主要分析了目前地下灌水器产品的结构、使用特点和功能,并运用土-水系统中土壤水分理论知识,提出并设计了一种非电子控制的地下滴灌灌水器产品。该产品以土壤负压为控制动力,以土壤水分为控制条件,当灌水器附近土壤发生干湿变化时,土壤表现出不同大小的负压,并作用于灌水器内部的弹性膜囊,使之发生变形,从而改变灌水器内部流道的通断,使灌水器的出流状况始终与土壤含水量自动相适应,具有出流量自调节的功能。
【英文摘要】Aiming at the subsurface drip irrigation technology, which is the most water-saving and the highest efficient water-using irrigation technology, the structure, use characteristic and functions of current subsurface emitter are analyzed in this paper. And u- sing the soil water theory in soil-water system, a type of non-electronic controlled subsurface emitter is designed. This product takes the soil negative pressure as control power, the soil moisture as control condition. When the soil moisture around the emitter changes, the soil will show different negative pressure, which affects and deforms the elastic membrane in the inner of emitter to change the open or close condition of its interior flow passage. So the flow condition of the emitter can automatically adapted to the soil moisture and the emitter has the function of self-adjusting flow capacity.
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【题目】滴头流道内部水流流动机理研究的进展与问题
【中文关键词】滴头流道;流动机理;理论分析;实验研究;数值模拟
【英文关键词】flow passage of emitter; flow mechanism; theory analysis; experiment research; numerical simulation
【中文摘要】总结了滴头流道内水流流动机理研究的进展情况,分析了研究滴头流道内水流流动机理的3种方法(理论分析方法实验研究方法及数值模拟方法)的具体内容和存在的问题。针对这些问题,对滴头流道内流动机理的研究方向提出了建议。
【英文摘要】The advance of research on the inner flow mechanism in the flow passage of emitter is summarized in this paper. The de- tailed content and existing questions of three research methods, namely theory analysis, experiment research and numerical simulation, are analyzed too. Aimed at these questions, some suggestions for the research on inner flow mechanism in the flow passage of emitter are brought forward in the end.
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【题目】不同植物生长调节剂对新疆棉花干物质积累、产量和品质的影响
【中文关键词】植物生长调节剂;干物质积累;棉花产量;品质
【英文关键词】plant growth regulator; dry matter accumulation; cotton yield; quality
【中文摘要】通过大田试验研究了3种不同的植物生长调节剂及其施用方法对棉花干物质积累特性以及品质和产量的影响效应。试验设计为叶面喷施缩节胺、随水滴施多效唑、随水滴施促根剂和随水滴施多效唑+促根剂。结果表明:不同的化控处理棉株干物质积累均随生育期延长而持续增加,动态变化可用“S”曲线方程拟合。干物质积累速率呈单峰曲线变化,峰值出现在出苗后约75 d左右。多效唑与促根剂混合滴施,棉株地上部总干物质、茎叶干物质和蕾铃干物质生长的最快时期提前,关键时期持续期长,干物质积累量和积累速率增加,棉花单株铃数和单铃重显著增加,产量达到6 941.13 kg/hm2,分别较滴施促根剂处理、滴施多效唑处理和叶面喷施缩节胺处理提高了7.7%、9.6%和10.4%。从棉纤维品质性状来分析,多效唑与促根剂混合滴施进行综合调控,有效地改善了棉花的经济性状,提高了麦克隆值和衣分率,增强了纤维的断裂比强度。叶面喷施缩节胺在促进棉株干物质积累、产量和纤维品质方面均为最低。
【英文摘要】This paper, through experiment in farmland, studied the dry matter accumulation characteristics, quality and yield of cotton affected by 3 different kinds of plant growth regulators as well as application methods. Four treatments were designed in the experiment: spraying DPC on leaf, dripping PP333withwater, dripping rooting agent with water and mixed dripping PP333and rooting agent with water. The results showed that the dry matter accumulation of cotton was increasing with growth stage extending and appeared “S” curve. The dry matter accumulation rate changed as a single-peak curve and the peak value emerged about 75 d after seed emergence. The fast-growing period of total dry matter of shoot, stem and leaf dry matter and bud and boll dry matter were all advanced through the measures of mixed drippingPP333and rooting agent, and had a long time of crucial period, effectively increased dry matter accumulation amount and rate, significantly improved boll number per plant and single boll weight of cotton, so the yield came to 6 941.13 kg/hm2, in- creasing respectively by 7.7%, 9.6% and 10.4% compared to rooting agent treatment, PP333treatment and DPC treatment. Analyzing from the traits of cotton fiber quality, the micron value and lint button percent were increased under the measure of mixed dripping PP333and rooting agent, specific breaking strength was also strengthened, and economic characters of cotton were availably perfected. The treatment of spaying DPC had the lowest effect on increasing dry matter accumulation, yield and fiber quality of cotton.

【语种】中文
【第一作者】邓忠
【通讯作者】白丹
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【学科分类】农业工程

【题目】基于人工神经网络理论的土壤水分预测研究
【中文关键词】土壤含水率;气象因子;BP模型;预测
【英文关键词】soil moisture;meteorological factor;BP model;prediction
【中文摘要】土壤水分含量是影响作物生长的重要因素,精确的预测技术对水资源的合理利用与管理具有重要的指导意义。利用人工神经网络理论,建立了以降水量、蒸发量、相对湿度和地下水埋深为输入因子,土壤水分含量为输出因子的预测模型,并对其预测精度进行了评价。结果表明,BP神经网络模型预测土壤含水率的最大误差为8.66%,平均误差为4.27%,预测精度达到0.989。模型具有较高的预测精度,其结果可为制定合理的水资源调配方案和调度计划提供科学依据。
【英文摘要】Soil water content is an important factor affecting crop growth, and the accurate prediction of water resources is an important guiding on their reasonable utilization and management. An artificial neural net work model was established, with rainfall, evaporation, relative humidity and groundwater table as the input factors, and soil moisture as the output factors and its prediction accuracy was evaluated in this paper. The results showed that the maximum error of predicting soil moisture for BP neural network model was 8.66%, average error was 4.27%, and prediction accuracy of 0.989.BP neural network model had higher prediction accuracy for the prediction of soil moisture. The results can be used for the allocation of irrigation water resources.
【语种】中文
【第一作者】宰松梅
【通讯作者】温季
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【题目】微灌用砂石过滤器反冲洗参数试验
【中文关键词】过滤器;反冲洗;反冲洗三向阀;微灌
【英文关键词】filter; backwashing; backwashing three-way valve; micro-irrigation
【中文摘要】介绍了AFS—600型双罐全自动反冲洗过滤器的工作模式和控制原理等,测定了过滤器在过滤、反冲洗状况下的压力流量关系、反冲洗时间和冲洗周期等主要参数。同时对反冲洗三向阀的耐久性、启闭时间和压力流量关系进行测试,首次提出了反冲洗时压降比率的概念和计算方法,为双罐全自动过滤器的研制和应用提供了技术资料和范例。
【英文摘要】This paper introduced the working pattern and the control principle of the type of AFS— 600 double pots automatic filters. We tested the relationship of pressure discharge and the parameters of backwashing time and washing circle under the filtering and back washing conditions. At the same time, we measured the durability, open and shut time of the backwashing three-way valve .At last, we put forward the conception of pressure difference ratio and the calculated method, and provided the technology data and example for the manufacture and application of the AFS—600 double pots automatic filters.
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【第一作者】翟国亮
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【学科分类】农业工程

【题目】基于最小二乘支持向量机的灌区粮食产量预测研究(英文)
【中文关键词】无
【英文关键词】Yield; Prediction; LS-SVM; Model
【中文摘要】无
【英文摘要】Commonly used grain yield forecasting models were briefly reviewed, and a yield prediction model of irrigation district was established based on least squares support vector machines(LS-SVM).The grain yield in irrigation district was analog calculated. And the test samples were used to compare with gray prediction, and neural network model. The maximum predicted error of least squares SVM was 7.12%,with an average error of 4.81%.The results showed that LS-SVM model has high prediction accuracy and strong generalization ability. So it could be used as a new method for irrigation district yield prediction.
【语种】英文
【第一作者】宰松梅
【通讯作者】宰松梅
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【题目】滴灌方式下库尔勒香梨生长特性及产量和品质试验研究
【中文关键词】库尔勒香梨;滴灌;生长特性;果实品质;产量
【英文关键词】Korla fragrant pear; Drip irrigation; Growing characteristics; Fruit quality; Yield
【中文摘要】在滴灌与漫灌方式下,通过覆盖地膜的栽培方式研究了库尔勒香梨生长特性以及对果实品质和产量的影响,试验结果表明:地膜覆盖处理显著提高了根际区土壤水分含量,特别是0~60cm层土壤含水量显著高于未覆盖处理和CK约0.9%和2.5%,且该土层含水量与叶片含水量之间的相关性显著高于60cm}100cm层。土壤含水量的提高增加了叶片含水量和叶绿素含量,且二者之间呈正相关关系。滴灌显著地促进了香梨枝条粗度的增加,这种促进作用明显地表现在进入果实膨大期以后,而大水漫灌则显著地促进了枝条长度的增加。覆盖地膜有利于果实体积的增大,尤其促进了果实纵径的增大,提高了一级果率和改善了果形指数,同时提高了果实品质,产量较不覆盖处理和CK提高15.5%和38.9%
【英文摘要】The dynamic change of growth and development of Korla fragrant pear and the effect on fruit quality and yield under drip irrigation and flood irrigation by film mulched mode. The result showed that the soil water content of the root zone of film mulched treatment is. Higher than non-covered treatment and CK 0.9% and 2.5%,especially in 0}60cm layers,in which the relationship between soil water content and leaf water content is higher than 60cm-100cm layer. Leaf water content and chlorophyll content appeared positive correlation and increased with soil water content increased. Drip irrigation treatment markedly increased shoot coarseness growth, while flood irrigation increased shoot length stretch, and the promotion effect appeared after the fruit expanding period. Film covered treatment increased the fruit volume enlarge especially accelerated the fruit vertical diameter. The ratio of the first grade fruit and fruit shape index are all improved. In the meantime, fruit quality is promoted and yield is increased 15.5% and 38.9% compared with non-covered treatment and CK.
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【第一作者】邓忠
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【题目】节水灌溉条件下土壤次生盐碱化趋势与对策
【中文关键词】节水灌溉;土壤;盐碱化;次生

【英文关键词】no
【中文摘要】土壤次生盐碱化是人类面临的一个世界性生态环境问题。通过对盐碱地的成因、现状、危害及防治的阐述,分析节水灌溉和土壤次生盐碱化成因及治理的关系,提出易盐碱化地区发展节水灌溉和盐碱地治理中应当注意的问题。
【英文摘要】no
【语种】中文
【第一作者】宰松梅
【通讯作者】宰松梅
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【题目】冬小麦地下滴灌氟乐灵注入制度对根系生长及作物产量影响的试验研究
【中文关键词】地下滴灌;氟乐灵;根系入侵;根长密度;冬小麦
【英文关键词】subsurface drip irrigation; treflan; root intrusion; root length density; winter wheat
【中文摘要】通过田间试验,研究了地下滴灌施加氟乐灵对滴头根系入侵堵塞的控制效应及其对冬小麦产量、品质和根系分布的影响。试验选取施药日期和施药浓度2因素。施药日期取返青末期和抽穗初期2个水平,施药浓度取0,50,75mg/l和150mg/l共4个水平。冬小麦收获后,采用土钻法在滴头附近沿垂直方向分层取样,测定各土层的根长密度和氟乐灵含量,并统计各小区的产量。同时,在每个小区内随机抽取25个滴头,观测滴头流道内是否有根系残留,从而判断滴头是否发生根系入侵堵塞。试验结果表明,施药可以有效地削减滴头附近区域的根密度,从而减小根系入侵堵塞的发生。在对照小区内(0mg/l)抽取的25个滴头中有4个出现了根系堵塞现象(堵塞率16%),而在施药的各个处理中均未发现根系堵塞的滴头(堵塞率0)。施药浓度对根系分布及作物的产量、品质均无显著影响。而施药日期对冬小麦根系的垂直分布影响较为显著,晚期施药导致滴头埋设深度处小范围内(15~30cm深度)的根系有所减少,而早期施药则使滴头下方较大区域内(15~40cm深度)的根长密度显著减小。
【英文摘要】Field experiment was conducted to investigate the effects of treflan injection on dripper clogging and root distribution, yield and quality of winter wheat. Two treflan injection dates and four injection concentrations were designed as the experimental conditions. At harvest, root length density and treflan concentration at different soil layer were evaluated using soil auger method. The flow passages in 25 drippers randomly selected were carefully observed to check whether the root residue was existed to estimate the root clogging situation. The results show that treflan injection can reduce the root length density in the vicinity of dripper resulted in reduction of potential of root clogging. Four drippers with root intrusion problem were found for those without treflan injection but no intrusion problem happened for the drippers with application of treflan. Trefian concentration had insignificant effect on winter wheat root distribution, yield and quality. However, injection date influence the root vertical distribution significantly. Injection of treflan in latter growing season will influence the root distribution in close vicinity of the drippers only.
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【第一作者】于颖多
【通讯作者】于颖多
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【学科分类】农业工程

【题目】地下滴灌条件下水热运移数学模型与验证
【中文关键词】地下滴灌;水热运移;数学模型;验证
【英文关键词】subsurface drip irrigation; water-heat transport; mathematical model; verification
【中文摘要】基于土壤水、热运动基本方程,结合地下滴灌水分运动特点,建立了地下滴灌水热运移数学模型。利用HYDRUS-2D软件对模型进行了求解,并用田间实测数据进行验证。模拟和验证结果表明,模型对地下滴灌条件下的土壤水分和土壤温度运移变化动态的模拟效果较好,该水热运移数学模型可以用来监测和调控作物生长所需的土壤水、热环境条件。模拟值和实测值的结果对比表明,上层土壤的水分和温度的模拟值较下层土壤值差异较明显,且数值波动大,主要原因

是上层土壤易受到土壤蒸发和大气温度剧烈波动的影响。
【英文摘要】A mathematical model was set up by integrating the basic equation of soil water and heat movement with characteristics of water movement under subsurface drip irrigation,The HYDRUS-2D software was used to solve the mathematical model. The comparison of simulation value with observation data obtained from field measurement showes that the mathematical model can be satisfactorily used to describe the soil water and heat transport properties and can be used for monitoring and adjusting soil water and heat distribution. Finally,the comparison result between simulation value and the observation value reveales that the soil water and heat value in the upper soil layer exhibit the characteristics of obvious fluctuation and deviation comparing with those in lower soil layer,the main reason is that the water and heat transport in the upper soil layer is easily affected by soil evaporation and atmosphere temperature fluctuation.
【语种】中文
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【题目】滴灌模式对农田土壤水氮空间分布及冬小麦产量的影响
【中文关键词】灌溉,土壤,氮,滴灌模式,冬小麦,水分利用效率
【英文关键词】irrigation, soils, nitrogen, drip irrigation mode, winter wheat, water use efficiency
【中文摘要】大田作物最优滴灌模式的研究是滴灌技术深入推广应用过程中的重要研究内容,通过田间试验,选取地表滴灌和地下滴灌两种滴灌类型,研究其在4种不同灌溉制度下农田水、氮空间分布规律以及冬小麦产量的差异。试验结果表明,在土壤水分控制范围相同时,不同滴灌类型下冬小麦生育期内所需的灌水总量和灌水频率不存在显著差异;在施肥量和灌水定额基本相同时,地下滴灌较地表滴灌促使硝态氮向深层土壤运移的几率更大。但总体而言,不同滴灌类型相同灌溉制度下,硝态氮运移规律基本相似;同种滴灌类型不同滴灌制度下的各处理冬小麦产量存在显著差异。而且,在充分灌时,不同滴灌模式下的冬小麦产量差异性不显著;非充分灌时,滴灌模式对冬小麦产量存在显著影响。
【英文摘要】Study on best drip irrigation mode applied in field plants plays an important role in the promotion process of drip irrigation technology. Field experiments which choose two drip irrigation types and four different irrigation schedules were carried out to assess the effects of drip irrigation mode on spatial distribution of soil water, soil nitrogen and winter wheat yield. The results showed that drip irrigation mode had little effect on irrigation quantum and irrigation frequency in the period of winter wheat growth on the basis of the same soil water controlling range. And based on the same fertilizing amount and irrigation quota, subsurface drip irrigation impeled nitrogen to deep soil obviously compared with drip irrigation. The nitrate nitrogen transport had similar rules with different drip irrigation types but same irrigation schedules, and the irrigation schedule had obvious effect on winter wheat yield when adopted same drip irrigation types but different drip irrigation schedules. The drip irrigation mode exerted little effect on winter wheat yield under sufficient irrigation and had obvious effect on winter wheat yield under deficit irrigation.
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【第一作者】王建东
【通讯作者】龚时宏
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【题目】额定压力及低压下内镶片式滴头抗堵塞性能试验
【中文关键词】灌水器,低压抗,堵塞性能
【英文关键词】Emitter,Low operating pressure,Anti-clogging performance
【中文摘要】依据ISO短周期滴头堵塞测试方法,测试了12种内镶片式齿型迷宫滴头在额定压力和低压情况下的抗堵塞性能。结果表明:滴头抗堵塞性能随着流道断面最小尺寸增加而提高,当滴头流道断面最小尺寸大于等于0.6 mm时滴头将获

得较好的抗堵塞性能,但在0.04 MPa时滴头流道设计形式对滴头抗堵塞性能有更为明显的影响。在过滤器滤网孔径大小选择方面,压力为0.10 MPa时,可选用流道断面最小尺寸的1/5作为有效孔径,而压力为0.04 MPa时,则应按流道最小断面尺寸的1/7来选择。研究还表明,滴灌系统在低压运行时,可通过间歇灌溉的方式来预防和减少滴头的堵塞。

【英文摘要】Based on short term clogging test procedure in ISO clogging test methods for drip emitters,twelve kinds of dental labyrinth emitters were tested for anti-clogging ability under different operating pressures. The results showed that as the minimum size of labyrinth passage section increased,the anti-clogging ability of emitters was improved.When the minimum size of labyrinth passage section was greater than 0.6 mm,the anti-clogging ability of emitters would be better.However,the design of labyrinth passage section showed more significant effect on the anti-clogging ability of emitters under 0.04 MPa operating pressure.Aperture of the filter can select 1/5 of the effective aperture of minimum size of labyrinth passage section under 0.10 MPa,and 1/7 of the minimum size of labyrinth passage section under 0.04 MPa.In addition,the results also showed that intermittent irrigation could contribute to the improvement of anti-clogging performance of emitters under low operating pressure.

【语种】中文

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【题目】常压灌水器在低压条件下水力性能试验研究

【中文关键词】灌水器;低压;水力性能;制造偏差

【英文关键词】emitters; low operating pressure; hydraulic performance; manufacturer’s variation

【中文摘要】鉴于目前国内低压滴灌系统中的滴灌带(管)基本沿用常压滴灌下使用的滴灌带(管),对常压滴灌系统中使用较多的国内6种单翼迷宫和内镶片式滴灌带在低压下的水力性能进行了试验研究,试验结果表明,在2~8 m和6~14 m水头压力范围拟合的流量与压力关系式不相同,在2~8 m水头压力范围的流态指数明显高于在6~14 m水头压力范围的流态指数。在较低压力下测定灌水器的制造偏差时,相比额定压力下所测定的结果表现出增大的趋势,即由于灌水器制造工艺和材料配方引起的制造偏差,在工作压力较低时表现的更为明显。

【英文摘要】According to common drip tape used low operating pressure of drip irrigation system, hydraulic performance of the different types of the emitters which are very popular on the market at present. The results show that the relationship of emitter discharge and pressure under low operating pressure(2~8 m water) was different from that under conventional pressure(7~12 m water). Low operating pressure of the manufacturer’s variation of emitters which compared with under operating pressure of the manufacturer’s variation of emitters trend to increase, because the manufacturer’s variation of emitters which resulted from materials and manufacturing processes is more obvious.

【语种】中文

【第一作者】马晓鹏

【通讯作者】马晓鹏

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【学科分类】农业工程

【题目】低压条件下滴灌带灌水均匀系数试验研究

【中文关键词】低压;滴灌带;灌水均匀系数;制造偏差

【英文关键词】low operating pressure; drip irrigation tape; uniformity coefficient; manufacturer’s variation

【中文摘要】对常压滴灌系统中使用较多的6种国产单翼迷宫和内镶片式滴灌带,在低压条件下进行了滴灌带铺设长度、压力水头、地形坡度3个因素对滴灌带灌水均匀系数影响规律的试验研究,试验结果表明,0坡低压条件下,在试验的滴灌带铺设长度范围内(60~120 m),滴灌带长度较短时,影响滴灌带均匀系数的主要因素为制造偏差,随着滴灌带长度的增加,滴灌带流量大小成为影响滴灌带灌水均匀系数的主要因素,而制造偏差变为次要因素;随着滴灌带进口压力的增大,各规格滴灌

带均匀系数也有所增加,当滴灌带铺设长度较大时,滴灌带的规格类型对滴灌带的灌水均匀系数存在显著影响;试验结果还表明,当滴灌带铺设坡度从逆坡-1%到顺坡1%变化时,灌水均匀系数呈逐渐增加的趋势,低压条件下逆坡对滴灌带灌水均匀系数影响尤为显著。

【英文摘要】Uniformity coefficient has been one of the most frequently used criteria for micro-irrigation de- sign and evaluation. A series of experiments about the effect of tapes ’ length, entrance pressure and slope gradient working on the emission uniformity were carried out in laboratory under low operating pressure. The experiment results show that uniformity coefficient declined with the increase of the drip tape length, when the drip tapes length changed form 60 m to 120 m in zero slope. When drip irrigation tapes are not very long, the main factor effecting uniformity coefficient is manufacturer ’ s variation, as drip irrigation tapes extending, the main factor goes to the flow of emitters while manufacturer ’ s variation becomes minor factor. Uniformity coefficient increased as the downhill slope increased with the increase of the slope in experimental range, especially the effect of uniformity coefficient was significant on the uphill slope.

【语种】中文

【第一作者】马晓鹏

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【引文索引号】其他

【学科分类】农业工程

【题目】地表滴灌条件下水热运移数值模拟与验证

【中文关键词】地表滴灌;水热运移;数值模拟;验证

【英文关键词】no

【中文摘要】土壤水热分布状况是作物优质高产的关键环境条件之一,鉴于采取田间试验手段实时监测土壤水热条件存在难以长时间持续的问题,基于土壤水、热运动基本方程,结合地表滴灌水分运动特点,建立了地表滴灌水、热运移数学模型,利用HYDRUS-2D软件对构建的数学模型进行了数值求解,并对数值模拟得到的土壤水热值与田间实测数值进行了时比验证。结果表明,所构建的数学模型对地表滴灌条件下的土壤水分和土壤温度运移及分布的动态变化具有较好的模拟效果;当土壤、气象以及灌水资料等可知时,利用该数学模型可以较准确地预测地表滴灌条件下水热运移与分布规律,模型可用来适时监测和调控地表滴灌条件下作物生长所需的土壤水热环境条件。此外,数值模拟值和实测结果都显示,地表滴灌条件下上层土壤的水分和温度值较下层土壤易受到土壤蒸发和大气温度剧烈波动的影响。

【英文摘要】no

【语种】中文

【第一作者】王建东

【通讯作者】王建东

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【引文索引号】其他

【学科分类】农业工程

【题目】地下滴灌条件下湿润体特性的试验研究

【中文关键词】地下滴灌;滴头流量;灌水量;湿润体

【英文关键词】subsurface drip irrigation; dripper discharge; irrigation quantity; soil wetted front

【中文摘要】滴头流量与灌水量影响土壤湿润体的大小形状等特性,从而影响作物的生长生产。通过室内试验,研究了地下滴灌条件下不同滴头流量不同灌水量对湿润体特性的影响。结果表明:湿润锋运移与滴头流量的时间变化呈正相关;灌水量为5L时湿润体的横向和纵向尺寸达到50cm;湿润体含水率与滴头的距离具有良好的二次幂函数关系。这对于开展地下滴灌试验与设计具有一定的参考价值。

【英文摘要】The dripper discharge and irrigation quantity can affect the shape and size of soil wetted front, then the growth and production of crop can be affected. In this paper, dripper discharges and irrigation quantity affecting the soil wetted front is studied through subsurface drip irrigation laboratory experiments. The results show that there is a positive correlation between the soil wetted

front migration and the temporal variation of dripper discharge. When the dripper water is 5 L, both horizontal and vertical distances of wetted front reaches 50 cm. The moisture content of soil wetted front and its distance from the dripper have a good quadratic function. All these results arc valuable for designing subsurface drip irrigations carrying on relative experiments.
【语种】中文
【第一作者】王超
【通讯作者】李援农
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【学科分类】农业工程

【题目】低压孔口式滴灌管出流规律试验分析
【中文关键词】低压滴灌;孔口式滴灌管;出流规律
【英文关键词】no
【中文摘要】在0. 25~5 m的水头下对孔口式滴灌管的出流规律进行了试验分析。结果表明:试验条件下孔口式滴灌管的出流均为紊流式出流,孔口流量随孔径增大而增大,增幅随管径的增大而增大。在相同的工作压力下, 0. 6 mm孔径滴灌管,孔距33 cm的孔口流量大于孔距100 cm的; 0. 9、1. 2 mm孔径滴灌管,孔距100 cm的孔口流量大于孔距33 cm的,孔距50 cm的孔口流量均最小。测试滴灌管灌水均匀度随工作水头有2种变化关系:一种是灌水均匀度随工作水头的增大而增大;另一种是灌水均匀度随工作水头的增大先增大后减小。当滴灌管处理与试验条件相似时,工作水头宜控制在1~2. 5 m。
【英文摘要】no
【语种】中文
【第一作者】洪明
【通讯作者】李援农
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【引文索引号】其他
【学科分类】农业工程

【题目】不同流态条件下低压滴灌灌水器工作水头与灌水均匀度关系的研究
【中文关键词】低压滴灌;灌水器工作水头;流态;灌水均匀度
【英文关键词】low pressure drip irrigation; emitter working head; flow regime; irrigation uniformity
【中文摘要】依据滴灌灌水器的水力特性,基于水力学基本原理,分析研究了水平铺设的低压滴灌毛管在不同流态条件下灌水均匀度Cu与灌水器工作水头hd的关系,并通过实验验证了理论分析的结论;结果表明:在试验条件下滴灌毛管内不同水流流态、灌水器流态指数x时,Cu与hd的变化关系不尽相同,层流时不论x为何值, Cu随hd的增大而增大。层紊流共存时当0<x≤1/1.75,Cu随hd的增大而增大;当1/1.75<x<1,Cu随hd的增大而先增大后减小。紊流时,当0<x<1/1.75, Cu随hd的增大而增大,当x=1/1.75, Cu不随hd的变化而变化;当1/1.75<x<1, Cu随hd的增大而减小。
【英文摘要】Based on the hydraulic characteristics and the basic principles of hydraulics, the relationship between irrigation uniformity Cu and emitter working head hd in drip irrigation laterals of low pressure under different fluent regime conditions is analyzed, and relevant experiments have verified theoretical results. Results show that under experimental conditions, the change rule of irrigation uniformity Cu and emitter working head hd is different under different flow regime and emitter discharge exponent x conditions. Under laminar conditions, Cu increases along with hd increases and they are independent of x. Under laminar conditions with turbulence, Cu increases as hd increases when 0<x≤1/1.75; Cu increases first and then decreases as hd increases when 1/1.75<x<1. Under turbulent conditions, Cu increases as hd increases when 0.5<x<1/1.75;Cudoes not change as hd increases when x=1/1.75;Cu decreases as hd increases when 1/1.75<x<1.
【语种】中文
【第一作者】洪明
【通讯作者】李援农

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【引文索引号】其他
【学科分类】农业工程

【题目】低压条件下滴灌毛管水头损失试验研究
【中文关键词】低压滴灌;水头损失计算;滴灌毛管
【英文关键词】plastic mulched drip irrigation; space of drip-lines; cotton; distribution of root system; root length density
【中文摘要】对孔径0.9、1.2 mm,孔间距33 cm,管径为Φ12、Φ16PE滴灌毛管进行了0.25~2.4 m入口工作水头条件下的水力性能试验和分析。结果表明,在试验的工作水头下,使用达西-韦斯巴赫公式、经验公式计算出管道总水头损失值与实测值比较都有很大的偏差,通过对试验数据的回归分析,对常用的水头损失计算经验公式用以入口工作水头为变量的参数进行了修正,取得较好的计算精度。
【英文摘要】The experiments were carried out under plastic mulched drip irrigation to study the effects of the space of drip-lines on the distribution of cotton root and plant growing. With the space of drip-lines of 130 cm and 90 cm respectively, the distribution of cotton root system, height of cotton stem, and cotton leaves area were observed in cotton growing stages. The experiments results indicated that a large space of drip-lines resulted in large irrigation and soil deep seepage; soil moisture was non-uniform horizontally and the cottons at inside and outside rows grew non-uniformly; cotton root was thin, the density of root length was single-peak-parabolic distribution in horizontal and was largest in 14~28 cm soil layer over the soil depth. While a little space of drip-lines resulted in uniform soil moisture as well as the cottons planting at inside and outside rows; cotton root was thick, the density of root length was double-peak-parabolic distribution in horizontal and was largest in 0~14 cm soil layer over the soil depth Nevertheless, the growing performances of the cotton root, plant and leaves under the different space of drip-lines were similar respectively. These efforts are helpful to select the percentage of wetted soil volume and the space of drip- lines in the design of drip irrigation technique.
【语种】中文
【第一作者】洪明
【通讯作者】李援农
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【学科分类】农业工程

【题目】地下滴灌土壤水分运移分布规律试验研究
【中文关键词】地下滴灌;滴头流量;湿润体;平均含水率
【英文关键词】subsurface drip irrigation; dripper discharge; volume of soil wetting front; average soil moisture
【中文摘要】通过地下滴灌的室内试验,研究了不同滴头流量对土壤湿润体特性的影响。试验采用杨凌粘壤土,滴头流量分别为0.3、0.5、0.7、0.8 L/h,埋深为25 cm。结果表明,湿润体为轮廓线近似于抛物线的不规则形体;湿润锋运移与时间的变化呈显著幂函数关系;滴头流量0.7 L/h为平均含水率由稳态到紊乱态的拐点,该点可以作为地下滴灌设计的依据。
【英文摘要】Through subsurface drip irrigation laboratory experiments, different dripper discharge on the soil wetting front were analyzed. The experiment take the Yangling clay loam soil, and the experimental dripper discharges were 0.3,0.5,0.7,0.8 L/h, and the dripper was 25 cm deeply buried. The results indicated that the soil wetting front was irregular front which outline was irregular parabola; the soil bulk density and the change of time is a power function relation; dripper discharges 0.7 L/h express the average soil moisture from content to increase, and it can be as the design basis of subsurface drip irrigation.
【语种】中文
【第一作者】王超
【通讯作者】李援农
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【题目】滴灌土壤湿润体含水率分布规律的试验研究
【中文关键词】滴灌;滴头流量;湿润体体积;含水率增量
【英文关键词】drip irrigation; dripper discharge; volume of soil wetting front; increment in water content
【中文摘要】通过室内滴灌试验,研究了不同滴头流量对土壤湿润体变化过程的影响。试验所用的土壤为杨凌塿土,滴头流量分别为0.08、0.16、0.24、0.40、0.60、1.20、2.00、3.60 L/h。结果表明,从0.08~0.6 L/h的滴头流量,其湿润体体积和灌水量之间存在显著的线性关系,说明平均含水率是一定值;从1.2~3.6 L/h的滴头流量,其湿润体体积和灌水量之间存在显著的幂函数关系,说明平均含水率是逐渐增大的。
【英文摘要】Through drip irrigation laboratory experiments, different dripper discharge on the soil wetting front were analyzed. The experimental soils was Yangling Lou soil, while the experimental dripper discharges were 0.08,0.16, 0.24, 0.40, 0.60, 1.20, 2.00, 3.60 L/h, respectively. The results indicate that the dripper discharges from 0.08~0.6 L/h, the volume of wetted solum did not vary much with the dripping rate, description the average soil moisture was constant value. The dripper discharges from 1.2~3.6 L/h, the volume of wetted solum was vary much with the dripping rate, description the average soil moisture was increasing gradually. Through analysis, the dripper discharges was 0.65 L/h express the average soil moisture from content to increase.
【语种】中文
【第一作者】岳海英
【通讯作者】李援农
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【论文发表时间】2010-04-15 00:00:00
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【学科分类】农业工程

【题目】不同覆盖对梨枣树萌芽展叶期和开花坐果期生长的影响
【中文关键词】梨枣树;地膜覆盖;秸秆覆盖;果树生长
【英文关键词】pear-jujube tree; plastic mulching; straw mulching; fruit tree growth
【中文摘要】通过桶栽试验,研究了地膜和秸秆2种覆盖方式对梨枣树生长的影响。结果表明,覆盖处理提高了桶内的土壤含水率,其中地膜覆盖的保水效应更为明显。受温度及果树自身生长的影响,保水效应在萌芽展叶期更显著。覆盖处理有明显的促进梨枣树生长的作用,新梢和枣吊等指标生长量大,且持续生长时间长,以地膜覆盖最为显著。不同处理对叶绿素相对质量分数影响较大,3个处理的叶绿素相对质量分数均呈增大趋势,其中秸秆覆盖在2个生育期中增量最大,达到了16.5%。
【英文摘要】Through the barrel planted test. The effects of plastic and straw mulching on pear-jujube tree growth was studied. The results show that mulching treatments increase the soil moisture content. And the water-saving effect of plastic mulching was more obvious. Influenced by the temperature and the fruit trees ’ own grow, the water-saving effect in sprouting-leaf unfolding stage was obvious. The treatments of mulching can promote fruit trees growth. the volume of new shoot and panicle growth was more. Continuous growth time was longer. the plastic mulching was the most significant. Effect of different treatments on SPAD value was huge. the three treatments SPAD value all presented trend of increase. During the two growth periods, the straw mulching's increase value was the most, reached 16. 5%.
【语种】中文
【第一作者】白麟
【通讯作者】李援农
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【论文发表时间】2012-04-15 00:00:00
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【学科分类】农业工程

【题目】非充分供水条件下滴灌入渗特征研究
【中文关键词】滴灌;点源入渗;湿润锋;累计入渗量
【英文关键词】no
【中文摘要】为了推求点源入渗条件下垂直湿润锋的运移规律,根据非饱和土壤水分运动的达西定律及其相应的假定,研究了点源入渗情况下,垂直湿润锋运移距离与入渗率和累计入渗量的关系,以及湿润锋随入渗时间的变化规律。结果表明:入渗率与湿润锋倒数间存在明显的线性关系;累计入渗量与湿润锋呈线性关系;湿润锋与时间存在明显的多项式关系。
【英文摘要】no
【语种】中文
【第一作者】岳海英
【通讯作者】李援农
【期刊名称、卷期、页码】人民黄河
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【学科分类】农业工程

【题目】低压PE滴灌毛管水头损失试验
【中文关键词】低压滴灌;毛管;水头损失计算
【英文关键词】low pressure trickle irrigation; laterals; calculation of head losses
【中文摘要】对内径为20 mm,壁厚1.36 mm,承压能力为0.2 MPa,60 cm孔距,出水孔径0.6 mm的PE滴灌管进行了低压条件下的水力性能试验和分析,结果表明:在试验的工作水头下,不考虑滴灌管出水孔水流扰动影响条件,测试滴灌管内的水流有层流和紊流两种流态,但主要以层流为主。用传统的水力学经验公式计算水头损失存在较大的误差,与实际情况差0~14.29%。
【英文摘要】Experiment carried with laterals which internal diameter is 20 mm and tube wall is 1.36 mm under low pressure condition. It can bear pressure which equals to 0.2 MPa and there are orifices which pore size is 0.6 mm spacing at 60 cm. Result indicated that under test condition, and do not taking into account of influence of orifices water disturbance, flow regimes are both laminar and turbulence. But main flow regime is laminar. Head losses calculated by traditional empirical hydraulics formula produces great error, and do not accord with the fact, the range of deviation is 0~14.29%.
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【题目】亏水灌溉对开花坐果期梨枣树生长的影响
【中文关键词】梨枣;开花坐果期;含水率;直径;新梢;叶绿素
【英文关键词】pear-pjujube tree; flowering to fruit-setting stage; soil moisture content; diameter; shoot; SPAD value
【中文摘要】以2 a生梨枣为试材,采用桶栽的栽培形式,研究了不同灌水量对枣树开花坐果期生长的影响。试验设置了中度T2和重度T3两个亏水处理,对照为充分供水T1。结果表明:对桶栽进行复水后,T1(对照)和T2的土壤含水率下降明显,且明显分为两个阶段,T3下降速率缓慢;亏水抑制了直径的增粗;亏水处理同样抑制了新梢的增长,新梢生长呈现线性关系;由本试验可以看出:在亏水期间,亏水与对照处理之间叶绿素含量的变化并没有显著性差异。
【英文摘要】Jujube Mills of 2a was used in a barrel planting experiment to study the effects of different water deficit treatments on soil moisture and growth of the trees at the flowering to fruit-setting stage. Two deficit treatments were set in the experiment. The result indicated that after irrigation, the moisture of T1 (CK) and T2 dropped obviously, in addition, the process can be divided into two stages, and the descend rate ofT3 ’ s moisture was slow; Deficit irrigation re- strained the growth of the trees ’ diameter significantly; Deficit irrigation also restrained the growth of branches, and the growth of branches in three treatments presented linear relation. In the period of deficit irrigation, the spad value between the CK and the other treatments had no significant difference.

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【题目】低压滴灌小孔出流孔前压力变化研究
【中文关键词】低压滴灌;毛管;毛管水头损失
【英文关键词】low pressure trickle irrigation; lateral; lateral head loss
【中文摘要】为了研究低压滴灌毛管压力变化规律,本试验对Φ16孔口式滴灌管在不同的入口水头(0.5~2.0 m)和不同管道铺设长度(20、40、60 m)状态下沿程压力进行了测定。结果表明,运用规范中给定的计算结果与试验测试结果进行比较,相差较大,规范中的沿程水头损失计算公式不能满足孔口式滴灌管在低压条件下的损失。在管道长度为20 m和40 m,工作水头为0.5 m时,试验测试水头损失约为规范公式计算结果的30倍多,但随着入口工作水头的增加,两者之间的比值有趋于减少的趋势。同时,Excel软件的拟合表明,低压滴灌孔口式出流沿程压力分布符合以入口水头为基本参数的指数函数关系,并给定了相关参数的经验取值范围,其中水头损失修正系数k=1.004~1.0183;指数修正系数θ的取值为0.004到0.021。
【英文摘要】In order to study the variation law of low pressure trickle irrigation laterals, under 0.5~2.0 m work head and different laterals with the length of 20, 40 and 60 m, orifice outlet drip irrigation laterals ’ linear pressure with a diameter of Φ16 are measured. The results show that there are great differences between calculation results calculated by formula according to the specifications and measured value. Linear head loss calculation formula in specifications can not meet the orifice outlet drip irrigation laterals ’ head losses calculation under low pressure condition. Head losses of measured values is bigger than that calculated by formula for more than 30 times under condition of 0.5 m work head and lateral with the length of 20 and 40 m, and the ratio of them has the tendency of reducing with the increasing of inlet work head. After fitting by excel, it shows that pressure distribution carried with laterals conforms to an exponent function relation which considers inlet pressure as a basic parameter, and gives the experimental value range of related parameters as: head losses correction coefficient k=1.004~1.0183 and exponent correction coefficient θ=0.004~0.021.
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【题目】滴头埋设深度对土壤水分运移及草坪草生长的影响
【中文关键词】地下滴灌;埋设深度;湿润锋;含水率;高羊茅
【英文关键词】Subsurface drip irrigation, Emitter burying depth, Wetting front, Soil water content, Tall fescue
【中文摘要】草坪地下滴灌与喷灌相比,具有节水、方便管理等优点。为了掌握滴灌中滴头的适宜埋设深度,通过模拟及实地试验,对地下滴灌土壤水分分布及其对草坪生长的影响进行了观测分析。结果表明:在流量和灌水时间一定的情况下,随着埋深的增加,湿润锋在水平方向的运移距离减小,在垂直方向上增大;相同埋深时,滴头两侧的含水率分布对称。在高羊茅((Festuca arundinaceaSchreb. cv. Pixie))生长旺季,不同埋深处理对地上生物量影响显著(P<0.05),埋深20 cm显著高于其他处理(P<0.05);不同埋深处理植株密度差异不显著;不同埋设深度对高羊茅根系分布有一定的影响,在每个滴头附近的根系密度和重量明显增加。
【英文摘要】Subsurface drip irrigation is better in water saving and management for lawn in comparison with the spray irrigation. In order to explore the appropriate emitter burying depth of subsurface drip irrigation, the soil water distribution and turf grass growth characteristics under subsurface drip irrigation were observed and analyzed by the simulative experiment and filed test. The results show that the wetting front migration distance decreased in the vertical direction and increased in horizontal direction along with the increase in emitter burying depth at a given flow rate and irrigation time. For the same emitter burying depth, the water content

distribution was symmetrical on both sides from the emitter. The aboveground biomass under the treatment of 20 cm emitter burying depth was significantly higher than those under other treatments in quick growth stage (P<0.05). No significant effect of emitter burying depth on sward density was detected. Emitter burying depth affected root distribution to some degree, the root density and underground biomass increased obviously nearby the emitter of drip irrigation system.

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【题目】基于AutoCADVBA的滴灌系统设计软件的开发
【中文关键词】AutoCAD; Excel; 滴灌; VBA
【英文关键词】AutoCAD; excel; drip irrigation; VBA
【中文摘要】VBA作为一个集成的开发环境,能够使AutoCAD数据与其他的VBA应用程序直接共享,实现无缝连接,交换处理数据.通过AutoCAD内嵌的VBA语言实现滴灌软件的设计,用户可以在此软件环境下对滴灌系统各参数进行筛选和计算.该软件主要有查询模块,计算设计模块,文档的管理模块.用户可以充分利用该软件的各功能,完成设计工作,也可通过电子表格进行数据信息的传输,此外还为以后的完善提供了设计接口。
【英文摘要】VBA as the environment of develop software can share the data with other program, this makes connecting and processing more easily. Using VBA which is embedded in Auto CAD, this paper developed the software for the automatic design of drip irrigation. With this program the users can finish the design work easily. This software contains three modules, knowledge module, calculating module and document module. Through these facilities, the users can finish the work of design. It produces the Excel to transmit the data, which is necessary for the design and choosing equipments. Furthermore the software provides the ports for exchanging information.
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【题目】地下滴灌对返青期高羊茅草坪生长状况的影响
【中文关键词】地下滴灌;高羊茅;生长状况
【英文关键词】Subsurface drip irrigation(SDI); Tall fescue; Growth
【中文摘要】为了发展节水灌溉,提高草坪灌溉水分的利用率,以高羊茅为研究对象,结合其生长发育特点,探讨了地下滴灌对返青期高羊茅的生长变化特征的影响。试验采用5种处理:滴头埋深10 cm,无水分扩散装置;滴头埋深15cm,有水分扩散装置;滴头埋深15cm,无水分扩散装置;毛管埋深15cm,无水分扩散装置;毛管埋深15cm,有水分扩散装置。研究表明,不同处理下高羊茅生长速度、地上生物量差异显著,且生长速度与地上生物量成正比例关系,两者受水分影响较大,而地下生物量和根冠比差异不明显。
【英文摘要】In order to develop the water -saving irrigation and increase the water use efficiency in lawn irrigation, taking the tall fescue as the object of study, discussed the impact of subsurface drip irrigation(SDI) on the period of returning green of tall fescue growth characteristics of changes. Test using five kinds of treatments: emitter depth of 10 cm, no water- proliferation devices; emitter depth of 15cm, a water -proliferation devices; emitter depth of 15cm, no water-proliferation devices; capillary depth of l5cm, no water-proliferation devices; capillary depth of 15cm,a water-proliferation devices. Research shows that the differences were remarkable on the growth rate and the above -ground biomass of tall fescue under different treatments, and the positive correlations were found between the growth rate and the above- ground biomass, and water great impact on the growth rate and the above-ground biomass, but the

under-ground biomass and the root/ shoot ratios had no significant differences among the different treatments.
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【题目】滴灌模式和灌水下限对甜瓜耗水量和产量的影响
【中文关键词】甜瓜; 滴灌模式; 灌水下限; 耗水量; 产量
【英文关键词】Sweet melon, Drip irrigation mode l, Irrigation start point, Water consumption, Yield
【中文摘要】以膜下滴灌(MDI)、地表滴灌(DI)和地下滴灌(SDI)3种滴灌模式与4种不同灌水下限组合,在我国西北地区进行了滴灌模式和灌水下限对甜瓜耗水量和产量影响的试验研究。结果表明:同一灌水下限下,MDI较DI平均增产16・0%,较SDI平均增产7・5%, SDI较DI平均增产7・9%, 3种滴灌模式的单产均高于当地地面灌溉的单产(40・97 t/hm2);DI耗水量最大(平均239・3 mm), SDI次之(平均217・3 mm),MDI最小(平均193・0 mm)。同一滴灌模式下:伸蔓期灌水下限为60%田间持水量的处理较灌水下限为40%田间持水量的处理平均增产21・0%,耗水量平均增加9・2%;果实膨大期灌水下限为80%田间持水量的处理较灌水下限为70%田间持水量的处理平均增产9・3%,耗水量平均增加6・7%。甜瓜各生育阶段适宜土壤含水率下限(占田间持水量的百分比)分别为:苗期65%,伸蔓和开花坐果期60%,果实膨大期80%,成熟期55%。
【英文摘要】The field experiment was conducted to investigate the effect of irrigation models (drip irrigation under plastic mulching (MDI), drip irrigation (DI) and subsurface drip irrigation (SDI)) and irrigation start point on water consumption and yield of sweet melon. The results showed that under the same irrigation start point MDI increased the yield by 16・0% compared with DI; MDI increased the yield by 7・5% compared with SDI; SDI increased the yield by 7・9% compared with DI. The average water consumption for MDI, SDI and DI were 193・0mm, 217・3mm, 239・3mm respectively. Under the same drip irrigation model, the treatment of irrigation start point of60% field capacity in extension vine and flowering fruit stage, yield increased by 21・0% compared with the treatmentof40% field capacity; the treatment of irrigation start point of 80% field capacity in fruitage stage, yield increased by 9・3% compared with the treatmentof70% field capacity. The appropriate irrigation start points (the percentage of field capacity) for the sweet melon were: seedling stage (65%), extension vine and flowering fruit stage (60%), fruitage stage (80%), mature stage (55%).
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【题目】不同施肥条件和滴灌方式对青椒生长的影响
【中文关键词】水分,灌溉,肥料,水肥耦合,青椒,地下滴灌,地表滴灌
【英文关键词】water, irrigation, fertilizers, water and nitrogen coupling, bell pepper, subsurface drip irrigation, surface drip irrigation
【中文摘要】该文通过大田试验,比较了地下滴灌与地表滴灌及其不同施肥量对青椒生长的响应。试验设置地下滴灌和地表滴灌2 个灌水处理和0、75、150、300 kg/hm2 4 个施肥水平,灌水周期为4 d。另外设1 个畦灌对照处理。结果表明,2 a中地下滴灌产量均高于地表滴灌,2007 年平均高4%,2008 年平均高13%。而地下滴灌耗水量低于地表滴灌,2007 年平均低6.7%,2008 年平均低7.3%。地下滴灌和地表滴灌0~40 cm 土层的根系总根长分别是畦灌的2.44 和1.46 倍,且地下滴灌10 cm 以下各层的根长占总根长的百分比,比地表滴灌高7%,这说明地下滴灌不仅促进作物根系的生长,而且使根系更多的扎入较深土层。地下滴灌150 kg/hm2 施氮量为青椒的最优灌溉施肥策略。
【英文摘要】A 2-year field experiment was conducted in 2007, 2008 to study the response of bell pepper to subsurface drip irrigation (SDI) and surface drip irrigation (DI). Four nitrogen levels of 0, 75, 150, 300 kg/hm-2 (N0, N75, N150, N300) comprised the fertigation treatments. The irrigation interval was 4 days. The results showed that, bell pepper yields for treatment SDI were higher than

that for DI by 4% in 2007, and 13% in 2008, respectively. The water consumption of SDI was lower than that of DI by 6.7% in 2007, and 7.3% in 2008, respectively. The root length density of SDI and DI was 1.46 and 2.44 times BI (border irrigation). The percent of root length under 10 cm of SDI were higher than that of DI by 7 percent, which means SDI not only promote the growth of crop root system, but also promote deep insertion of the root system. Treatment SDI N150 was recommended as the optimal strategy for improving bell pepper yield and WUE, reducing NO3--N leaching.

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【题目】地下滴灌施氮及灌水周期对青椒根系分布及产量的影响
【中文关键词】地下滴灌,氮肥,产量,灌水周期,根系
【英文关键词】subirrigation, nitrogen fertilizers, yield, irrigation interval, root system
【中文摘要】地下滴灌是一项十分节水的灌溉技术,该文通过大田试验,研究了地下滴灌灌水周期和施氮量对青椒根系分布和产量的影响,以期获得较优的灌溉施氮制度。试验设置4、8 d两种灌水周期和0、75、150、300 kg/hm24个施氮水平。结果表明,当施氮量小于150 kg/hm2时,随着施氮量的增加,整根的根长、根表面积、根体积和根干质量和各层土壤的根密度均显著增加,但当施氮量增加到300 kg/hm2,整根特征参数均减少。施氮量一定时,4 d灌水周期条件下的青椒根系特征参数和产量高于8 d灌水周期。青椒产量与施氮量之间呈二次曲线关系,4 d灌水周期和150 kg/hm2施氮量组合获得最高产量。并发现小于2 mm的根系总长与产量之间呈明显的线性相关关系。
【英文摘要】Subsurface drip irrigation is a water-saving technology. A 2-year field experiment was conducted in 2007 and 2008 to investigate the effects of subsurface drip fertigation strategies on bell pepper yield and root distribution. Two irrigation cycles of four days and eight days(C4,C8)and four nitrogen application levels of 0, 75, 150, 300 kg/hm2(N0, N75,N150,N300)comprised the irrigation and fertigation treatments. The experimental results showed that the length, surface area, volume, weight, density of the roots significantly increased with the application rate of nitrogen less than 150 kg/hm2. The characteristic parameter of roots decreased with the nitrogen application rate increased to 300 kg/hm2. Four days irrigation cycle promoted the growth of root system and obtained higher yield than eight days irrigation cycle. The conics relationship between yield and nitrogen application rate was found. Maximum yield were obtained by treatment of 150 kg/hm 2 nitrogen application rate and four days irrigation cycle. The results show that there is remarkable linear relation between yield and total root length which is less than 2 mm.

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【题目】水分调亏对地下滴灌夏玉米田水热动态的影响!
【中文关键词】夏玉米,地下滴灌,调亏灌溉,水热动态,水分利用效率
【英文关键词】Summer corn,Subsurface drip irrigation,Deficit irrigation,Soil moisture and temperature regimes,Water use efficiency
【中文摘要】通过北京地区地下滴灌夏玉米田间试验,研究了前期不同程度水分亏缺对土壤水热和夏玉米冠层温度、株高、叶面积指数及产量的影响。结果表明:在20~60 cm土层,除重度亏水处理外,其他处理的土壤含水率均在高位平稳变化;在60~100 cm土层,丰水处理的土壤含水率最大;对不同深度的土层,轻度与中度亏水处理两者间的土壤含水率差异较小。受作物覆盖度和亏水程度的影响,拔节期各处理间土壤温度和冠层温度有明显差异;在较浅土层(距地表30 cm和50 cm处)中,拔节期之前丰水处理的土壤温度较低,拔节期之后各处理间差异逐渐减小;在较深土层(距地表80 cm处)中,水分亏缺程度越大,土壤温度越高。轻度亏水处理能获得较高的产量,中度亏水处理能提高水分利用效率。

【英文摘要】In order to study the effects of regulated water deficit irrigation on soil moisture and temperature regimes in summer corn field of North China under subsurface drip irrigation,soil moisture and temperature,as well as canopy temperature,plant height,leaf area index,yield of summer corn in the ole growth stage were analyzed on the basis of a field experiment in Beijing.The results showed that treatments,except for severe water deficit treatment,kept soil moistures in 20~60 cm soil layer within a high and stable range; soil moistures for the well-watered control were higher than that for other water deficit treatments in 60~100 cm soil layer; in all different soil layers,soil moistures had little differences for low and moderate water deficit treatments.Influenced by the degree of crop cover and water deficit,differences of soil temperatures and canopy temperatures among treatments were remarkable the jointing stage; in upper soil layers(30~50 cm),soil temperatures for the well-watered control re lower than those for other water deficit treatments before the jointing stage,but the differences among treatments were reduced after that; in deeper soil layers(80 cm),the higher the deficit degree s,the higher the soil temperature would be.Finally,low water deficit treatment had higher corn yields,and moderate water deficit treatment greatly raised irrigation water use efficiency.
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【第一作者】邹慧
【通讯作者】黄兴法
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【题目】基于双线性理论的参考作物蒸发蒸腾量估算
【中文关键词】Penman-Monteith;ET0;双线性模型;简化双线性模型
【英文关键词】Penman Monteith; ET0; bilinear model; simplified bilinear model
【中文摘要】利用成都、乐山、内江和雅安在1951—2000年的气象资料和地理参数,用Penman-Monteith公式计算蒸发蒸腾量(ET0),将双线性理论用于ET0的计算,建立了多个计算ET0的双线性模型,进一步利用双线性模型计算的ET0再建立双线性模型,在已建立的双线性模型基础上,又建立了简化双线性模型。各双线性模型与P-M计算的ET0对比研究表明,空气温度与太阳净辐射、空气湿度与太阳净辐射所建立的ET0双线性模型计算精度较高;简化后的双线性模型的计算精度较低。
【英文摘要】According to the meteorological data and geographical parameters in 1951-2000, calculating crop the evapotranspiration (ET0)for Penman-Monteith model. Calculated of the ET0 in the bilinear theory .establishing the calculation of ET0 calculated by bilinear model, and to further utilize step bilinear model establishment of ET0 calculated by bilinear model, by analogy, establishing the simplified bilinear model. Through comparing the relative error of the absolute value of mean and the root-mean-square error with the different bilinear model, the bilinear model precision is high. Through mean absolute error and the average relative error are smaller in the simplified bilinear model. Therefore, in practice, we may use the simplified bilinear model for calculation of the ETA calculated based the precise demand.
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【第一作者】战国隆
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【题目】基于模型的可视化水稻生长系统的构建与实现
【中文关键词】生长,模型,可视化,水稻,形态模型,显示模型
【英文关键词】Growth, model, visualization, rice, form model, display model
【中文摘要】在气象因子、土壤条件、品种参数和栽培措施等基础数据的支持下,通过耦合水稻生长模拟模型、形态结构建成模型和虚拟显示模型及策略分析评价模型、气象资料生成模型、品种参数调试模型,利用计算机软构件技术和动态图形技术,建立了基于模型的可视化水稻生长系统。系统在.NET 平台上运用 C#语言进行开发,接入 OpenGL 作图工具,初步实现了不同生态环境、品种类型、生产技术条件下水稻生长的动态模拟和逼真显示,具有数据管理、生长模拟、方案评估

、因苗预测、时空分析、系统帮助等功能。研究结果将有助于提升农作生长系统表达的数字化和可视化水平,为虚拟农业的发展奠定基础。

【英文摘要】In the meteorological factors, soil conditions, variety parameters and cultivation measures under the support of basic data, through the coupling rice growth simulation model, shape structure built model and virtual display model and strategy analysis and evaluation model, meteorological data generation model, variety parameter debugging model, making use of the computer software component technology and dynamic graphics technology, based on model of rice growth visualization system. System in the.net platform on the use of c # development, access OpenGL mapping tools, preliminary realized the different ecological environment, cultivar type, production technology conditions of rice growth dynamic simulation and vivid display, with data management, growth modeling, scheme evaluation, because of the miao forecasting, time and space analysis, the system helps the functions. The results of the study will be helpful to improve farming growth system expression of digitalization and visualization level, for the development of the virtual agriculture lay the foundation.

【语种】中文

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【学科分类】农艺学

【题目】基于形态参数的水稻根系三维建模及可视化

【中文关键词】水稻; 根系; 三维建模; 可视化;

【英文关键词】rice; roots; 3D modeling; visualization;

【中文摘要】构建基于形态特征参数的水稻根系几何模型,实现不同生长条件下水稻根系生长动态的三维可视化。本文通过分析水稻根尖生长随生育进程的变化模式,构建了水稻单根三维显示模型,包括根节点初始位置和生长方向的确定以及根轴的空间模拟等;进一步结合水稻根系拓扑结构,以生长度日(GDD)为驱动因子,建立了水稻根系三维重构模型,包括不定根初始发生时间和位置、不定根初始伸展角度、不定根伸长速率、不定根空间分布模型等;然后在Visual C++环境下,结合可视化显示模块、场景控制模块、人机交互界面和数据库模块等,研制了水稻根系三维可视化生长系统,并基于三维可视化生长系统模拟了不同条件下水稻根系的三维形态。研究结果为建立完整水稻植株可视化生长系统奠定了基础,同时也有助于为其他作物根系的可视化研究提供参考。

【英文摘要】The objective of this paper was to develop a morphological parameter-based root geometric model of rice and realize the dynamic three-dimensional visualization of rice roots under different growth conditions.The three-dimensional display model of single root of rice was developed by analyzing the change patterns of root-tip growth with development progress,including the sub-models of initial location and growth orientation of root node,and the spatial elongation curve of root axis.By integrating the topological structure of rice root,the whole three-dimensional visualization model of rice root was established using GDD as driving factor,including the sub-models of the initial emergence time and location,initial extension angle,elongation rate and spatial distribution of adventitious root in rice.Finally,by integrating the sub-modules of visualization display,scene control,human-machine interface and database management on the platform of Visual C++,the three-dimensional visualization system of rice root was established,and the three-dimensional morphology of rice root under different growth conditions was simulated based on this system.These results could lay a foundation for development of visual rice growth system,and for reference to visualization studies in other crops.

【语种】中文

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【学科分类】农艺学

【题目】水稻叶鞘和节间生长过程的动态模拟
【中文关键词】水稻; 叶鞘; 节间; 模拟模型;
【英文关键词】rice; leaf sheath; internode; simulation model;
【中文摘要】通过对不同水分和氮素水平下不同类型水稻品种叶鞘和节间伸长过程的连续观测和定量分析,构建了水稻主茎和分蘖叶鞘与节间生长的模拟模型。采用Logistic方程描述了主茎和分蘖叶鞘及节间的动态伸长过程;基于同伸叶鞘间的关系用二次曲线描述了分蘖叶鞘长度的变化;基于节间长度与直径的线性关系描述了节间直径的变化。另外,用叶片含水量和含氮量描述了不同水分和氮素水平对叶鞘和节间生长的影响。利用独立的水稻田间试验资料对所建模型进行了测试和检验,结果显示,主茎和分蘖叶鞘(一级分蘖和二级分蘖)长度模拟值的根均方差(RMSE)分别为0.65、0.52和0.46 cm;节间长度和直径模拟值的RMSE分别为0.42、0.15 cm。本模型具有较好的预测性,能定量描述不同品种和环境条件下水稻叶鞘和节间的动态伸长过程。
【英文摘要】This study was conducted to build a dynamic simulation model on growth processes of leaf sheath and internode by making time-course observation and quantitative analysis of leaf sheath and internode growth at different leaf positions with the experiments of different varieties,Water regimes and nitrogen rates.The growth dynamics of leaf sheath and internode on main stem and tiller could be described with Logistic equation:the changes in leaf sheath length of tiller was described with quadratic equation based on the relationship of synchronous leaf sheaths,and the changes in internode diameter was described with linear equation on the relationship of length and diameter of internode.The effects of nitrogen and water conditions on leaf sheath and internode growth were quantified by the effectiveness values of nitrogen concentration and water content in leaf sheath and internode.The models were validated with the independent field experiment data involving different nitrogen rates.The root mean square error(RMSE)of leaf sheath length on the main stem,the primary tiller and the second tiller were 0.65 cm,0.52 cm and 0.46 cm,respectively,and the RMSE of length and diameter of internode were 0.42 cm and 0.15 cm,respectively.The results indicated that the present models had a good performance in predicting morphological growth of leaf sheath and internode on main stem and tiller in rice plant.
【语种】中文
【第一作者】常丽英
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【学科分类】农艺学

【题目】基于形态特征参数的稻穗几何建模及可视化研究
【中文关键词】水稻; 穗; 几何建模; 可视化;
【英文关键词】rice; panicle; geometry modeling; visualization;
【中文摘要】【目的】建立基于形态特征参数的稻穗几何模型,实现稻穗的可视化。【方法】通过对稻穗形态建成过程中关键特征的观测分析,利用三维几何建模技术,构建基于形态特征参数的稻穗几何模型,包括穗曲线、穗轴、次枝梗和小穗几何模型;用Bezier曲线来拟合穗曲线,将二维空间的穗曲线映射到三维空间,构建穗轴几何模型;用一段穗轴及圆柱体模拟一次枝梗和二次枝梗;并分别用椭球体及圆柱体模拟小穗的谷粒及小枝梗,最后基于稻穗的拓扑结构,构建稻穗几何模型。模型参数主要有穗长、穗倾角、一次枝梗长、一次枝梗数目、二次枝梗长、二次枝梗数目、谷粒大小等。【结果】在稻穗几何模型基础上,基于OpenGL图形平台,实现了稻穗生长过程的三维可视化,较好地描述了稻穗形态建成过程。【结论】稻穗的可视化为建立可视化水稻生长系统奠定了基础,同时对其它作物的可视化表达也有很好的借鉴意义。 更多还原
【英文摘要】【Objective】 The aim of the study was to develop an architectural parameter-based geometrical model and realize the visualization of panicle in rice. 【Method】 Based on measuring and analysing morphological structure of rice panicle, an architectural parameter-based geometrical model for rice panicle was developed by using 3D geometric modeling technology. The model included 4 submodels: panicle axis curve, panicle axis geometry, primary and secondary branch geometry, and spikelet geometry submodels. Bezier curves were used to simulate dynamics of the panicle axis curve, panicle axis geometry submodel was developed by mapping panicle axis curve to 3D, primary and secondary branch geometry submodel was developed with a part of panicle axis and a cylinder, spikelet geometry submodel was developed by a ellipsoid and a cylinder. Based on topographic structure of rice panicle, the rice panicle geometrical model was developed. The main parameters of the model were the length of panicle, the angle of panicle-neck, the length and number of primary and secondary branches, the grain size and so on. 【Result】 Based on the geometrical model for rice panicle and the platform of OpenGL, the dynamic growth processes of three-dimensional morphological structure of rice panicle was realized on the computer. 【Conclusion】 Rice panicle visualization could lay a foundation for development of visual growth system in rice

and be used for reference to the visualization of other crops.
【语种】中文
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【学科分类】农艺学

【题目】基于图像分析的水稻根系形态特征指标的定量分析
【中文关键词】水稻; 根系形态; 定量分析; WinRhizo; 图像分析;
【英文关键词】Rice; Root morphology; Quantitative analysis; WinRhizo; Image analysis;
【中文摘要】利用图像分析方法定量研究水稻根系形态特征指标的变化规律。通过实施不同水氮处理和不同品种的水稻桶栽试验,选用WinRhizo(WR)软件的不同模式(LM和T200)分析根系图像,分别提取根直径范围0~0.30mm和0.25~1.80mm的根系形态数据,并与基于Image-Pro Plus6.0软件(IP)的根直径和不定根长的测量结果进行比较分析;确定了3种水稻品种不同类型根直径的范围;对不同生育时期水稻根长、根体积、根表面积、根系干重和不定根数量等水稻根系形态特征指标变化差异,以及分枝特征进行了分析。结果表明:(1)基于WR软件LM和T200模式下的根直径测量结果与基于IP软件的测量结果之间NRMSE分别为5.44%和10.95%。(2)界定细分枝根直径范围为0.03~0.10mm,扬稻6号(V3)粗分枝根和不定根分别为0.10~0.30mm和0.30~1.65mm,而日本晴(V1)和武香粳14(V2)分别为0.10~0.25mm和0.25~1.40mm,不定根长与IP测量结果进行比较,其NRMSE为10.78%~12.01%。(3)各指标抽穗前增长迅速,之后增长减缓或衰老下降;不同氮肥处理间各指标分蘖至成熟均差异显著,增施氮肥可促进根系生长,明显提高不定根比例;适当控水可促进根系生长,明显提高分枝根比例;品种V3自分蘖期到成熟期各指标均显著高于V1和V2,V1与V2间差异不显著。本研究表明,本方法具有较好的精度和可行性,为推进水稻或其他作物根系的定量研究提供了参考。
【英文摘要】The objective of this study was to quantitatively analyze the change patterns of rice root morphological characteristics based on image analysis method in pot experiments with different nitrogen rates,water regimes,and rice cultivars in different years.WinRhizo software (WR) was used as the root image analysis tool,and two modes of LM and T200 were used to measure the root diameter and adventitious root length under two ranges of root diameter as 0 – 0.30 mm and 0.25 – 1.80 mm,respectively.The measurement results from WR were compared with those from Image-Pro Plus 6.0 software (IP).Then,the diameter ranges of different types of root were determined.On the basis of the dataset from WR,the statistical analysis were performed on rice root morphological characteristic indices,including dry weight,total volume,total surface area,total adventitious root length and number per plant at different growth stages.The results were as follows: (1) The average NRMSEs between WR (LM and T200) and IP for root diameters were 5.44% and 10.95%.(2) The diameter range of fine lateral root was circumscribed within 0.03 – 0.10 mm for all the experiments,coarse lateral and adventitious root were circumscribed within 0.10-0.30 and 0.30 – 1.40 mm for V1 (Nipponbare) and V2 (Wuxiangjing 14),but 0.10 – 0.25 and 0.25 – 1.65 mm for V3 (Yangdao 6).Following this method,the NRMSEs for adventitious root length measured by WR and IP were 10.78 – 12.01%.(3) All indices increased rapidly in the growth process and reached or approached the maximum at heading,then increased slowly or decreased after heading.There were significant differences between treatments with different nitrogen rates from tillering to maturing on all indices.Increasing nitrogen rate accelerated the growth of roots,and especially enhanced the proportion of adventitious roots.Properly control of irrigation could promote the growth of roots and increase the proportion of lateral roots.All indices of V3 were significantly higher than these of other cultivars,and there were no significant differences between V1 and V2.The results indicated that it was feasible to measure morphological indices of different types of rice root by WR with different modes,and the methods used in this paper have a good accuracy and reliability.These results could provide a support for the quantitative analysis on root morphology of rice or other crops.
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【学科分类】农艺学

【题目】水稻冠层光截获与叶面积和产量的关系
【中文关键词】水稻; 冠层; 光合有效辐射; 光截获; 叶面积; 产量;
【英文关键词】rice (Oryza sativa L.); canopy; photosynthetically active radiation (PAR); light interception; leaf area; yield;
【中文摘要】【目的】旨在解析水稻(Oryza sativa L.)冠层光合有效辐射(PAR)截获量及其分布与叶面积和产量的关系。【方法】以2个不同株型水稻品种为材料,设置高、中、低3个施氮水平,构建不同的群体冠层结构,于拔节至成熟期系统测定水稻冠层PAR截获量及其分布、以及叶面积和产量。【结果】水稻群体向上累积叶面积指数的垂直分布呈S型曲线,符合Logistic方程(R2>0.99);抽穗期、抽穗后17d和成熟期的冠层最大叶面积密度分别出现在0.53、0.56和0.60的相对冠层高度左右;随生育进程的推进,冠层上中部的相对叶面积密度呈递增趋势,而冠层下部的相对叶面积密度呈递减趋势。PAR截获率(FIPAR)与向下累积叶面积指数之间的关系可用方程FIPAR=α×(1-e-K×LAI)来定量描述(R2>0.86);消光系数K随生育进程的推进而递减,其日变化表现为早晚较高、中午较低。冠层PAR截获量(AIPAR)随生育进程的推进呈多峰分布,最高峰出现在移栽后58-70d,即孕穗至抽穗期,且随施氮量的增加而增大;在典型晴天下,冠层PAR截获量的日变化呈单峰分布,最大值出现在11:00-13:00。【结论】水稻群体叶面积的垂直分布影响冠层光截获;水稻产量与PAR利用率呈正相关,而PAR转化率随PAR截获量的增加呈先增大后减小的趋势,因此维持一定的漏光损失量对水稻高产有利。
【英文摘要】【Objective】 The amount of photosynthetically active radiation (PAR) interception and distribution within canopy affects crop photosynthesis and biomass production. The primary objective of this study was to elucidate the relationship of PAR interception of canopy to leaf area and yield of rice (Oryza sativa L.) under different nitrogen rates for different cultivar types. 【Method】 Two field experiments were conducted at Nanjing in 2007 and 2008 rice growing seasons,involving two rice cultivars and three nitrogen rates. The amount of PAR interception and its distribution at different canopy heights,leaf area and yield of two cultivars were measured from jointing to maturity. 【Result】 The results indicated that the vertical distribution of upward cumulative leaf area index (LAI) followed a sigmoid curve,which could be described well with Logistic equation (R2>0.99). The maximum leaf area density in heading,17 days after heading and maturity stages appeared at 0.53,0.56 and 0.60 of relative canopy height,respectively. The relative leaf area density of upper and middle canopy increased with rice development progress,but the relative leaf area density of basal canopy decreased with rice development progress. The relationship between fraction of PAR interception (FIPAR) and downward cumulative LAI could be described with a negative exponential equation as FIPAR=α×(1-e-K×LAI) (R2>0.86). Diurnal variation of extinction coefficient (K) at noon was smaller than in the morning and afternoon,and the value of K decreased with rice development progress. The amount of PAR interception (AIPAR) showed multi-peaks distribution during rice development period,and the maximum peak appeared at 58-70 d after transplanting,around booting to heading stages. The AIPAR increased with increasing nitrogen application rate. Diurnal variation of AIPAR showed one peak distribution on the clear days,and the maximum AIPAR appeared at 11:00-13:00 in rice canopy. 【Conclusion】 The vertical distribution of leaf area affects PAR interception within rice canopy. The grain yield of rice was positively related to the PAR use efficiency,while PAR conversion efficiency first increased and then decreased with increasing PAR interception,thus it is benefit to have some penetration loss of PAR in rice canopy for high grain yield. 更多
【语种】中文
【第一作者】李艳大
【通讯作者】朱艳
【期刊名称、卷期、页码】中国农业科学,2010,43(16):3296-3305
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【学科分类】农艺学

【题目】三峡库区柑桔园土壤供肥特性及其对柑桔植株营养影响研究
【中文关键词】土壤;供肥特性;柑桔;营养
【英文关键词】Soil;Supplying fertility property;Citrus;nutrition
【中文摘要】分析研究了三峡库区柑桔园不同土层营养元素含量状况,柑桔植株体营养特征,岩石-土壤-柑桔三者之间的元素迁移与富集规律。结果表明,三峡库区柑桔园土壤呈微酸至微碱性,由于受母岩、降雨及生产措施等综合影响,从土壤表层到母质层其pH值呈升高趋势,土壤有效磷、速效钾、有效铜、有效锌、有效锰和砷的全量及有效含量则随土壤深度的增加而降低,交换性钙和镁的含量则随土壤深度的增加而升高;表层土壤速效钾与pH值、水解氮、有效磷呈极显著正相关,有效铜与水解氮、速效钾、有效铁呈显著正相关,有效铜与有效锌呈极显著正相关,交换性钙与有效铁、有效铜、有效锰

呈显著至极显著负相关,交换性镁与水解氮、速效钾呈显著至极显著负相关;柑桔果实中钾与氮含量最高,钙最低,营养元素含量钾 、 氮 > 镁 >鳞 > 钙;柑桔叶片和枝条中则是钙> 氮 >钾 > 镁 > 磷,柑桔根系中次序为钙 > 氮 >镁 > 钾 >磷。柑桔果实中N、K、Ca 、Mn、Zn、Fe和Cu随土壤中的元素有效含量增加而增加。

【英文摘要】The study on the content status of nutrient element of the different soil layers of citrus orchards, nutritional character of citrus plants and element migration and enrichment regularity of rock-soil-citrus system in the Three Gorges reservoir, was performed. The main results are described as follows. The range of soil pH of citrus orchards was from weak acid to weak alkaline. There was an increasing trend of pH from upper soil layer to parent material layer, which resulted from comprehensive influence, such as parent rock, rainfall and production measure. Therefore, the raising of the soil depth made the decrease of the total and effective contents of available P, K, Cu, Zn, Mn and As, and the increase of the contents of exchangeable Ca and Mg. There was a significant positive correlation between available K of upper soil layer and pH, hydrolyzable nitrogen and available P; there was a significant positive correlation between available Cu and hydrolyzable nitrogen, available K and Fe; there was a significant positive correlation between available Cu and Zn. Contrarily, there was a significant negative correlation between exchangeable Ca and available Fe, Cu and Mn; there was a significant negative correlation between exchangeable Mg and hydrolyzable nitrogen and available K. The contents of K and N in citrus fruits were highest and the content of Ca was lowest. The order of nutrient element contents was K, N>Mg>P>Ca, Ca>N>K>Mg>P in leaves and twigs and Ca>N>Mg>K>P in roots. The contents of N, K, Ca, Mn, Zn, Fe and Cu in citrus fruits increased with increasing corresponding effective contents of soil elements.

【语种】中文

【第一作者】王成秋

【通讯作者】谢德体

【期刊名称、卷期、页码】第六届博士生学术年会论文集,中国科学技术出版社,2009:545-555

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【引文索引号】null

【学科分类】土壤学

【题目】长三角现代农业区乡村绿地景观特征分析及保护与开发建议

【中文关键词】乡村绿地景观;特征分析;长三角现代农业区

【英文关键词】rural green landscape;characteristic analysis;modern agriculture zone of Yangtze River Delt

【中文摘要】对江苏常熟市李市的绿地景观进行调查,以继承和发扬传统江南水乡绿地景观特色为目标,分析绿化号观现状,剖析目前乡村绿地景观中存在的缺乏公共绿地和防护用地,庭院绿地管理粗放,自然景观退化,乡土风貌丧失等问题.提出加大对乡村绿地景观价值的宣传力度,重视乡村绿地景观的地方特色,健全乡村绿地景观的政策法规,加强乡村绿地景观与经济发展的结合等乡村绿地保护与开发建议。

【英文摘要】Based on investigation of green landscape in Lishi village,Changshu,Jiangsu,in order to in—herit and carry forward the tradition of landscape features of the south of Yangtze River, analyzed on problems emerged in current rural green landscape,which include lack of public green space and protection land,green garden management extensive,landscape degradation,loss of rural character and otherissues.This paper proposed to increase awareness of the value of rural green landscap,place emphasis onlocal village green landscape features and improve the village green landscape policies and regulations,enhance the combination of green landscape and rural economic development,and other suggestions on protection and development of rural green landscape.

【语种】中文

【第一作者】祝遵凌

【通讯作者】祝遵凌

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【学科分类】农业史

【题目】长三角新农村庭院植物多样性与配置模式

【中文关键词】新农村;庭院;植物多样性;植物配置

【英文关键词】New countryside;Courtyards:P1ant diversity;P1ant allocatio
【中文摘要】选择长三角地区代表性新农村,研究其农户庭院植物多样性和配置,分析庭院植物物种组成、多样性和相似性。按不同庭院类型分析了植物配置模式。结果表明:在被调查的400户庭院中,共栽种134种植物,隶属于68科113属,60户没有栽种任何植物;新建的农民集中居住区物种丰富度不高;不同地区庭院木本植物物种的相似性较高;庭院植物配置可以划分为3种庭院类型和16种配置模式。认为长三角地区新农村庭院已具备一定的绿化基础,乡土植物的应用和物种多样性有待提高,植物配置模式有待丰富,提出了相应的对策与建议。
【英文摘要】The purpose of this paper is to study the diversity and allocation pattern of courtyard plants in the representative new countryside in Yahgtze Rkrer Delta.Tile composition,diversity and similarity of plant species and the'allocation patternsfor difierent courtyard types were analyzed.A total of 1 34 species of plants.belonging to l】3 genera and 68 families.wereplanted in the 400 courtyards being surveyed,and 60 households didn ’ t plant anything in their courtyards.In the newlybuilt communities.the plant species is scarce.A big similarity in woody plant species was observed in the courtyards betweendiferent areas.The courtyards can be divided into three types.and the courtyard plants can be divided into 16 allocationpatterns.It is concluded that some green spaces already exist in the courtyardS of the Yangtze River Deha.but theapplication of the indigenous plants and the diversity of plant species still need to be improved,and the allocation patterns should be enriched.Some suggestions and countermeasures are proposed.
【语种】中文
【第一作者】祝遵凌
【通讯作者】祝遵凌
【期刊名称、卷期、页码】东北林业大学学报,2011,Vo1.39 No.7:35-37
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【引文索引号】null
【学科分类】农学其他学科

【题目】解析·保护·传承-李市古村空间解析与保护更新
【中文关键词】古村落;街巷空间;滨水空间;保护更新
【英文关键词】无
【中文摘要】江南水乡古村落是中国优秀人居环境的典型代表,李市古村作为江南众多历史村镇中的一个,由于良好的自然条件、密集的水网体系、悠久的历史文化和繁荣的经济条件等,形成了独特的空间格局。本论文通过对其街巷空间和滨水空间的解析,来阐述李市古村的村落肌理特征。同时,由于各种因素的影响,李市村出现了功能性衰退和各种设施的物质性老化,因此本论文尝试在分析的基础上,为激活古村活力、改善村民生活质量和生活环境,进行整体研究和思考。
【英文摘要】无
【语种】中文
【第一作者】王鹏
【通讯作者】张青萍
【期刊名称、卷期、页码】中国风景园林学会论文集,2010,05:130-132
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【引文索引类型】其他
【引文索引号】null
【学科分类】园艺学

【题目】我国果园植保机械现状与技术需求
【中文关键词】果园 植保机械 施药技术 现状 技术需求
【英文关键词】orchard, plant protection machinery, pesticide application technology, present state, technical requirement
【中文摘要】无论果园种植面积还是水果产量, 我国均居世界第一, 但由于我国果园植保机械发展较晚, 机械化水平较低, 严重制约了我国水果产业的发展。本文在分析我国果园种植现状、植保机械使用及研发现状的基础上, 分析我国果园植保机械发展存在的问题, 并提出果园植保机械研发及技术需求。
【英文摘要】The planting area o f orchard and fruit production in China is first place in the world, but the late development of orchard plant protection machinery and the relatively low level of mechanization, that have ser iously hampered the development of Chinese fruit industry. In this paper, on the basis of an analysis of the present state o f orchard mi planting, and using actuality and developing status o f orchard plant protection machinery, the research and technical requirements were proposed according to the

analysis of orchard plant protection machinery development problems in China.
【语种】中文
【第一作者】傅锡敏
【通讯作者】傅锡敏
【期刊名称、卷期、页码】中国农机化,2009 6:10-13
【论文发表时间】2009-12-01 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农业工程

【题目】生物质粉碎技术的发展与机具选型
【中文关键词】生物质 粉碎技术 研究进展
【英文关键词】无
【中文摘要】生物质能是当前能源和生态环境领域研究的热点,随着生物质利用广度和力度的加大,需要粉碎的生物质也越来越多,生物质的破碎是生物质能源利用转化的前提条件。本文概述了我国生物质粉碎加工技术的发展现状、粉碎原理与存在的问题,分析了目前我国生质粉碎加工技术发展的趋势与对策。以推动我国生物质粉碎加工技术的持续、健康发展。
【英文摘要】无
【语种】中文
【第一作者】陈永生
【通讯作者】陈永生
【期刊名称、卷期、页码】2008年国际沼气学术研讨会,2008年
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【引文索引类型】其他
【引文索引号】null
【学科分类】机械制造工艺与设备

【题目】果树喷雾用圆盘风扇三维气流速度场数值模拟与验证
【中文关键词】果树; 仿形喷雾; 圆盘风扇; 气流速度场; CFD模拟; 试验;
【英文关键词】Orchard; Profile modeling sprayer; Disk fan; Air-velocity field; CFD simulation; Experiment;
【中文摘要】为研究用于果树风送喷雾的圆盘风扇气流速度场分布特性,采用k-ε紊流模型和稳态求解方法,设置合适的边界条件,对单、双风扇不同出口风速的气流速度场进行三维稳态数值模拟和试验验证。结果表明,双风扇同时送风时,在离两风扇中心1~3m的范围内,中心区域的风速明显小于两边的风速,在3~5m的范围内中心区域的风速和两边的风速相差不大。模拟值与试验值对比表明变化趋势一致,二者的拟合直线决定系数R2分别为0.8044和0.7957,所建模型可以比较准确地模拟风扇气流速度场的分布。
【英文摘要】In order to investigate the characteristics of air-velocity field of disk fan used in orchard sprayer,a turbulence model by means of the standard sub-model with appropriate boundary condition was developed and 3-D steady state of air-velocity field of single and double fans was simulated and verified. The results showed that in the distance of 1m to 3m from the double fans center,the velocities of the center region were lower than the both sides,but in the distance of 3m to 5m,the air-velocity distribution of double fans was uniform. The results of comparison showed that the trends of simulated and measured curves were coincident,the correlation determination (R2) of single and double fans were 0.8044 and 0.7957,respectively. The model could accurately predict air-velocity distribution pattern.
【语种】中文
【第一作者】陈发元
【通讯作者】汪小旦
【期刊名称、卷期、页码】农业机械学报,2010 41(8):51-55
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【引文索引号】2.0103513195e+013

【学科分类】农业工程

【题目】长三角地区古民居保护中木构件修复初探
【中文关键词】木构;保护;建构;修复技术
【英文关键词】wood structure;conservation;construction;repair technolog
【中文摘要】分析了在新农村建设过程中长三角地区木构古民居的现状,强调了保护修复古民居的重要性和意义。从建构的角度出发,制定了保护的原则,并以江苏省常熟市李市地区的木构古民居为研究案例,针对木构民居保护中存在的不同问题提出了具体的修复措施。
【英文摘要】This paper analyzed the current situation of traditional vernacular dwellings in the Yangtze River delta region during New Rural Construction,and emphasized the importance and significance of protecting and repairing traditional vernaculardwellings.Based on construction theory,the paper advanced the principle of protecting technology. A study was made in Lishi town located in Changshu,Jiangsu Province,and detailed repair technologies were presented after considering various problems existing in dwelling conservation.
【语种】中文
【第一作者】张玲
【通讯作者】张青萍
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【论文发表时间】2011-01-31 00:00:00
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【引文索引号】null
【学科分类】林学其他学科

【题目】绵羊羊膜上皮细胞分离培养及鉴定
【中文关键词】关键词:绵羊羊膜上皮细胞;分离;培养;细胞免疫荧光;RT-PCR
【英文关键词】无
【中文摘要】摘要背景:目前有研究发现人羊膜和大鼠羊膜分离消化培养后,可成功获得具有干细胞特性的人羊膜上皮细胞和鼠羊膜上皮细胞,在体外一些外源因子作用下具有向三胚层细胞分化的潜能。目的:获取绵羊羊膜上皮细胞,并对其干细胞特性进行鉴定。方法:采用机械方法剥离绵羊羊膜组织,运用低速旋转TrypLE(胰酶替代物)消化法对绵羊羊膜进行分离培养获得绵羊羊膜上皮细胞。结果与结论:细胞免疫荧光检测结果表明绵羊羊膜上皮细胞表达Oct-4、SSEA-1、SSEA-3、SSEA-4、TRA-1-60、TRA-1-81等胚胎干细胞标记蛋白;RT-PCR 技术鉴定结果显示绵羊羊膜上皮细胞的Oct-4、Sox-2、Rex-1 全能性相关基因表达,而Nanog 基因不表达。检测结果提示实验成功获得具有干细胞特性的绵羊羊膜上皮细胞。
【英文摘要】AbstractBACKGROUND: The amnion epithelial cells (AECs) with stem cells properties have been successfully obtained after isolating,digesting and culturing human and rat amnion and AECs have the potential to differentiate into cells of the endoderm (liver, lung,epithelium), mesoderm (bone, fat), and ectoderm (neural cells),OBJECTIVE: To obtain the Ovis aries AECs and detect the stem cell characteristics.METHODS: Ovis aries amnion tissue was peeled off by mechanical way and the low velocity-trypLE (pancreatic enzymereplacement) digestion method was used to isolate and culture the Ovis aries amnion, and the Ovis aries AECs were obtained.RESULTS AND CONCLUSION: The immunofluorescence observation showed that the labeled protein of AECs such as Oct-4,SSEA-1, SSEA-3, SSEA-4, TRA-1-60, TRA-1-81 could be expressed on Ovis aries AECs. RT-PCR experiments confirmed thatthe genes of Oct-4, Sox-2 and Rex-1 were expressed and Nanog was not expressed. The results indicate that the Ovis ariesAECs with stem cells properties have been achieved successfully.
【语种】中文
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【学科分类】生物化学

【题目】Extraction of Wing Venation Characteristics by Image Analysis
【中文关键词】骨架,翅脉,分水岭变换
【英文关键词】Skeleton, Venation, Watershed transform ;
【中文摘要】翅脉是昆虫特有的且常用于昆虫识别的特征,包括翅脉节点坐标和翅脉骨架图。准确快速提取这些特征常采用图像分析方法。本文提出的图像分析算法能够同时提取翅脉骨架图并自动提取翅脉节点。该算法的主要过程为:首先采用阈值法将彩色图像转换为二值图,然后采用欧氏距离变换将二值图转换为距离变换图。随后采用分水岭算法提取翅脉骨架,最后采用查找表法从骨架图上自动获取翅脉的节点坐标。这种算法简单,且对图像质量的要求不高,同时试验结果表明本文算法的重复性较好,适用于翅脉特征的分析。
【英文摘要】Wing venation characteristics, such as the wing diagram and coordinates of vein junctions, are species-specific and are usually used in studies of insect identification. Image analysis methods are quick and precise means to measure these characteristics. An image analysis method is proposed that enables extraction of the wing diagram and automatic identification of vein junctions. A color image of an insect wing is converted to a binary image of wing venation based on thresholding. A distance-to-boundary map of the complement of the binary image is computed using a distance transform function. The vein skeleton is obtained by a watershed transform. The lookup table method is applied to find coordinates of vein junctions. The proposed method is capable of producing a smooth vein skeleton diagram and can extract the coordinates of vein junctions. This approach is not limited to high-quality images and is simple because the characteristics are obtained almost simultaneously. The experimental results showed that the proposed method is repeatable and useful for wing analysis.
【语种】英文
【第一作者】赵三琴
【通讯作者】丁为民
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【学科分类】农业工程

【题目】圆盘风扇辅助喷雾对雾滴沉积分布影响试验研究
【中文关键词】圆盘风扇; 风送喷雾; 雾滴分布; 雾滴覆盖率;
【英文关键词】disk fan; air-assisted spraying; droplets distribution; spraying coverage;
【中文摘要】采用立体布样的方法,用5mg/L的"丽春红?2R"稀释水溶液代替农药在室内进行了圆盘风扇辅助喷雾雾滴沉积分布试验,研究了用于仿形喷雾的圆盘风扇的雾滴沉积分布影响规律。试验结果表明,无风助喷雾时,雾滴沉积在短距离内急剧下降,射程短。纸卡反面,雾滴沉积明显少于有风助喷雾的雾滴沉积。有风助喷雾时,沿射程方向雾滴沉积有急剧下降和缓慢下降两个阶段。不同采样高度上,出口风速对雾滴沉积分布影响不同。纸卡正面,采样高度1.8m时,出口风速对雾滴沉积影响不大,采样高度1.5m和1.2m时,雾滴覆盖率与风机转速成正比。纸卡反面,不同的采样高度上雾滴沉积覆盖率与出口风速线性关系均显著。
【英文摘要】By setting up three dimensional samples,and using the solution mixed biological dye of Ponceau-2R with water in concentration of 5mg/L,the droplets deposition and distribution of air-assisted spraying of disk fan in the laboratory was experimentally tested to study the droplets deposition and distribution of air-assisted spraying of disk fan used for simulation spray.The spraying coverage was attained by specialized software.Results showed that without any outlet wind velocity,the droplets deposition sharp descended with a short range.And the droplets deposition was less than it with a outlet wind velocity on the wrong side of cards.When there was a outlet wind velocity,the droplets deposition was divided into two stages in the range of spraying: sharp decline and slow decline.And the outlet wind velocity had different effects on the droplets deposition and distribution in different sampling heights.On the right side of cards,the outlet wind velocity had little effect on the droplets deposition on the upside(1.8m),in the meanwhile,the spraying coverage was proportional to the outlet wind velocity on the middle(1.5m) and lower(1.2m).On the wrong side of cards,the correlativity is remarkable between the outlet wind velocity and the spraying coverage in three sampling heights.
【语种】中文
【第一作者】闫惠娟
【通讯作者】丁为民
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【学科分类】农业工程

【题目】特色民居生态化改造-秸秆板在长三角地区民居围护结构中的应用研究
【中文关键词】秸秆板;长三角地区;民居;构造
【英文关键词】straw board; Yangtze river delta region; Houses; tectonic
【中文摘要】农作物秸秆板墙体材料作为一种新型建材,既往的研究主要集中在对它的加工工艺和物理性能研究,很少涉及其在民居建设中的构造技术研究。本研究综述国内外在农作物秸秆板墙体材料方面的研究进展以及我国利用农作物秸秆建造生态住宅主要存在的问题,实地调研南京林业大学试建的轻质麦秸复合墙体样板房及长三角地区的相关因素,综合分析农作物秸秆板复合墙体的物理和机械性能,评价其作为围护结构的各项性能参数,参照农作物纤维块作为围护结构的构造技术规范,类比制定出适用于长三角地区的秸秆板墙体建筑的构造技术体系,及施工工艺的技术要求和注意事项。
【英文摘要】Crops straw board wall materials as a kind of new-style building materials, previous research mainly concentrated on its processing technology and physical properties, rarely on the study of the structure in residence construction technical research. This study stated the main problems about the crops straw board wall material and the advances in the research of the crops straw in China to build ecological residence by major problems, and investigation of nanjing forestry university ShiJian light straw composite wall example room and the related factors in Yangtze river delta. At the same time, comprehensive analysis crops straw board composite wall of physical and mechanical performance, and evaluate its as palisade structure of various performance parameters, and take the crop fiber chunks as palisade structure and the tectonic technical specifications as references. Finally, a structure technology system is worked out which is suitable for the straw board wall structure in this region.
【语种】中文
【第一作者】汤猛
【通讯作者】汤猛
【期刊名称、卷期、页码】南京林业大学硕士学位论文
【论文发表时间】2011-05-31 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农业基础学科

【题目】基于霍特林变换的稻米彩色图像粒形检测算法
【中文关键词】霍特林变换; 稻米; 彩色图像; 颜色通道; 粒形检测;
【英文关键词】Hotelling transform; rice; color image; color bands; grain type detection;
【中文摘要】利用稻米分割后轮廓灰度图与背景灰度图的灰度均值之差和灰度方差之差进行米粒图像分割效果定量评价,对7个彩色通道的稻米图像进行分割评判,选取I1(红色、绿色、蓝色通道的平均值)通道进行稻米图像分割。提取分割后标注的单粒米粒边界的二维坐标向量,对坐标向量进行霍特林变换,通过计算变换后米粒最小外接矩阵来表征稻米粒形,简化了现有的稻米粒形检测算法。检测稻米粒型时,算法在MATLAB7.5.0环境下运行。该算法所得米粒长宽比与人工检测结果的平均相对误差为1.65%,每幅图像平均耗时0.323s;而最小外接矩形算法的平均相对误差为2.24%,每幅图像平均耗时2.837s。
【英文摘要】An algorithm for rice grain type detection using color image segmentation and the Hotelling transform was proposed. The rice grain images were segmented in I1 band(the average of red, green and blue color bands) chosen from seven color bands according to quantitative analysis of segmentation performance. The coordinate vector of segmented image edge was converted by the Hotelling transform. Grain size features were extracted in the new coordinate system using minimum enclosing rectangle. This algorithm was run in MATLAB 7.5.0 to count rice grain ratio. The relative error compared with manual measurement were 1.65% and 2.24%, and the running times were 0.323 s and 2.837 s per image, respectively, for this algorithm and algorithm using minimum enclosing rectangle.
【语种】中文
【第一作者】刘璎瑛
【通讯作者】丁为民
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【学科分类】农业工程

【题目】圆盘风扇风送喷雾气流速度场的CFD模拟及试验验证
【中文关键词】圆盘风扇; CFD模拟; 气流速度场; 风送喷雾;
【英文关键词】Disk fan; CFD simulation; Air-velocity field; Air-assisted spraying;
【中文摘要】为了研究圆盘风扇气流速度场分布特性及各因素的影响规律,建立了基于CFD模拟的沈力SF-4型风机气流速度场分布模型,并且设计实验验证了模拟结果。研究表明,进口气流速度变化对气流场分布特性无明显影响,但与风扇轴中心距离不同的截面上气流场速度分布规律有较大差异。双风扇同时送风时,对彼此气流场影响显著,且双风扇气流场气流速度分布均匀。模拟值与试验值对比表明,所建模型可以比较准确地模拟圆盘风扇气流场的分布。
【英文摘要】In order to investigate the characteristics of air-velocity distribution in the air-velocity field of air-assisted spraying of disk fan and effect pattern of various factors,a simulative model of air-velocity distribution on Shenli SF-4 type fan was developed based on CFD technology,and the relative errors of simulated results were confirmed through corresponding experiments under the same conditions.The simulative results showed that inlet velocity had little effect on the distribution pattern,but the distance to fan center had a great effect on it.Double fan flow field had significant influence on each other,and the air-velocity distribution of double fan was uniform.The results of comparison showed that the model could accurately predict the air-velocity distribution pattern of Shenli SF-4 type fan.
【语种】中文
【第一作者】陈发元
【通讯作者】汪小旵
【期刊名称、卷期、页码】江西农业学报 2009 21(11):87-89
【论文发表时间】2009-11-01 00:00:00
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【引文索引号】null
【学科分类】农业工程

【题目】常熟地区传统村落空间形态演变研究_以李市村为例
【中文关键词】李市村 传统村落 空间形态 演变
【英文关键词】LiShi village; tridtional village; space; evolution
【中文摘要】江南地区自古就是经济文化发达之地,江南水乡更是闻名遐迩。常熟地区地处江南,分布着大量的村落,在长期的演变过程中形成了极富地域特色的村落空间形态。本文将以对传统村落空间形态演变过程的记录和尝试性探究为出发点,对常熟地区富有典型意义的传统村落空间形态的演变过程进行研究。
【英文摘要】Southern China has always been economically and culturally developed land, south of Yangtze River is famous. Located in Changshu Jiangnan region, distributed in a large number of villages, in the long-term evolution of the formation of the very geographical features of the village space form. This will form the traditional village space evolution of the record typical of Changshu region rich tradition of village space to study the evolution of form.
【语种】中文
【第一作者】掌少波
【通讯作者】张青萍
【期刊名称、卷期、页码】南京林业大学硕士学位论文,2010,06
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【引文索引号】null
【学科分类】园林学

【题目】变量穴施水穴播机的变量施施水数学模型
【中文关键词】穴施水穴播机;变量施水;数学模型;人工神经网络

【英文关键词】Hil-l seeder, Variable rate irrigat ing, Mathematic model, Artif icial neural networks
【中文摘要】根据变量穴施水穴播机使用要求,建立了最小施水量数学模型和电磁阀控制时间数学模型。在自行开发的变量穴施水穴播机上进行静态试验,通过改变水箱水量、施水时间,获得不同的施水量。分别采用回归分析和人工神经网络预测2种方法,研究了水箱水量、施水时间及施水量之间的关系,建立了电磁阀控制时间的数学模型。回归试验表明,在水箱水量处于满箱、半箱和1/8 箱容积3种状态时,所对应的电磁阀控制时间线性回归模型的调整判定系数R2依次为0.992、0.991 和0.998,具有较高的拟合度。对回归方程进行的F检验结果表明,F计算值远大于查表值,回归方程极显著。采用2-5-1 型拓扑结构的人工神经网络对施水时间进行预测,结果表明,拟合的最大偏差为3.95ms,平均偏差仅为1.46ms,网络结构具有较高的预测精度。
【英文摘要】"Variable rate irrigating hill-seeder can automat ically adjust the amount of the irrigating water according to the variation in soil moisture content in the field to alleviate drought and save water. Mathematical models for minimizing water application and determining the control time of the electromagnetic valve are developed. Static experiment is conducted with the developed variable rate irrigating hill seeder. Changing water amount in tank and irrigating time, the water amount ejected from the electromagnetic valve varies. The mathematical models for the control time of the electromagnetic valve are established based on the relations among w ater amount in tank, irrigating time and water amount supplied using linear regression and artificial neural networks. Regression results show that the adjusted coefficients of determinat ion for the linear regression models are 0.992, 0.991 and 0.998 when the tank is 100% full, 1/2 full and 1/8 full, respectively. A 2-5-1 artificial neural network is used to predict irrigat ing time. The network provides high prediction accuracy with a maximum deviation of 3.95ms and an average deviation of 1.46 ms.
【语种】中文
【第一作者】杨术明
【通讯作者】杨青
【期刊名称、卷期、页码】农业机械学报 2009 40 (增刊): 41-44
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【学科分类】农业工程

【题目】常熟古村落空间形态分析及其保护更新研究
【中文关键词】常熟古村落;空间形态;保护更新
【英文关键词】Changshu ancient villages; Space form; Update and protection
【中文摘要】本论文从空间形态学、城市规划学、人文地理学、文化遗产保护学等几个学科交叉对常熟古村落的空间形态进行全面解析,提炼出其空间形态的特色价值。同时,由于各种因素的影响,常熟古村落大多出现了功能性衰退和各种设施的物质性老化,因此本论文尝试在分析的基础上,为激活古村活力、改善村民生活质量和生活环境,进行整体研究和思考。并以此作为长江三角洲地区其他古村落保护与发展的借鉴与参考。
【英文摘要】From various perspectives such as space morphology, urban landscape, anthropogeography and cultural relic protection, the paper carries out a comprehensive analysis of the affecting factors, composition and ways of composition on the space morphology of old rural areas of Changshu. Some special traits will also be summarized about the space morphology. Meanwhile, influenced by various factors, there emerge some funtional decline and aging problems of a number of facilities in the old rural areas of Changshu. Hence, based on analysis, the paper conducts entire study and thinking to activate the vigor of the old rural areas and to enhance the life quality of villagers and living condition. What ’s more, the paper wants to provide references to the protection and development of old rural areas of the Yangtze River Delta.
【语种】中文
【第一作者】王鹏
【通讯作者】王鹏
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【学科分类】园林学

【题目】IMPROVED METHOD FOR ELIMINATION OF THE INTERFERENCEFROM NITRATE IONS ON OXALIC ACID IN RP-HPLC BYSOLID-PHASE EXTRACTION WITH NANOSIZED LaPO4
【中文关键词】干扰消除
【英文关键词】interference elimination, nanosized LaPO4, oxalic acid, RP-HPLC,
solid-phase extraction, xylem sap
【中文摘要】利用纳米磷酸镧消除反相色谱中硝酸对草酸的干扰
【英文摘要】An improved method using nanosized LaPO4 as solid-phase extractor for avoiding the interferencefrom nitrate ions on oxalic acid in RP-HPLC was developed. Nanosized LaPO4 possessed lowersolubility and higher adsorption ability for oxalic acid than previous adsorbent. Oxalic acid could beadsorbed selectively by nanosized LaPO4 rather than nitrate, formic acid, malic acid, lactic acid, orcitric acid, so the interference from nitrate ions was eliminated, and then the oxalic acid was determinedby RP-HPLC at the optimum chromatographic conditions after the solid-phase extraction procedure.The accuracy of the method was confirmed with an average recovery ranging between 97.7%and 107.3%, the relative standard deviations (RSD) were less than 3.0%. Thismethod improved theprevious work and was successfully applied to determine the oxalic acid in xylem saps of tomato.
【语种】英文
【第一作者】徐旻
【通讯作者】魏正贵
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【引文索引号】WOS:000308024300004
【学科分类】土壤学

【题目】牛雄性生殖系干细胞的体外诱导分化
【中文关键词】关键词: 牛, 雄性生殖系干细胞, 诱导分化, 长形精子
【英文关键词】Keywords: bovine, male germ-line stem cells (mGSCs), inducing differentiation, long sperm
【中文摘要】摘 要: 雄性生殖系干细胞(Male germ-line stem cells, mGSCs)是一群具有高度自我更新能力和分化潜能的细胞, 是雄性成体内唯一可复制的二倍体永生细胞。转基因技术与雄性生殖系干细胞异体及异种移植技术相结合, 将会为克隆动物、转基因动物生产及一些人类遗传性疾病的基因治疗提供新的机遇与途径。本试验采用组合酶消化和选择贴壁法, 对5 月龄、6 月龄牛胎儿及新生牛雄性生殖系干细胞体外培养及分化进行了研究。试验结果显示, 睾丸支持细胞对雄性生殖系干细胞体外增殖、分化所必需的, 同时对数期睾丸支持细胞对雄性生殖系干细胞贴壁、增殖与分化效果明显; 共培养16 d 后, 牛雄性生殖系干细胞分化为长形精子细胞, 试验建立了牛雄性生殖系干细胞体外诱导培养分化体系。
【英文摘要】Abstract: Male germ-line stem cells (mGSCs) have the capability of self-renewal and latent capability of differentiation. mGSCs isthe unique diploid immortal cell which can transfer genetic information to filial generation. The combination of transgenictechnology and mGSCs heterotransplanting will supply new opportunities and paths to cloning animal, transgenic animal and genetherapy of some human hereditary disease. We studied the isolation and cultivation of mGSCs that were isolated and purified from5 – 6 month old bovine fetal testis, new born bovine testis by adopting mixed enzymes digestion and different attaching velocitiesmethods. The results showed that sertoli cells were indispensable to mGSC ’ s proliferation and differentiation in vitro. The sertolicells in logarithmic phase have a significant effect on mGSC ’ s attaching, proliferation and differentiation. Co-culture with Sertolicells, mGSCs differentiated to long sperm after 16 days. A preliminary system for mGSC ’ s inducing differentiation was established.
【语种】中文
【第一作者】赵云程
【通讯作者】陈静波
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【学科分类】细胞生物学

【题目】基于颜色和形状特征的茶叶嫩芽识别方法
【中文关键词】茶叶嫩芽 识别 颜色特征 形状特征
【英文关键词】Tea sprout , Recognition, Color feature, Shape feature
【中文摘要】与人工采摘茶叶相比, 现有采茶机械虽能提高采摘速度, 但采摘时老叶、嫩叶一起采, 缺乏选择性, 并有部分叶片遭破损, 降低了原料品质。为此, 需要研究具有选择性、低损伤率的自动采摘方法。本文采用基于颜色和形状特征的图像处理方法, 实现茶叶嫩芽的计算机识别和检测。针对清明期陕西名茶“午子仙豪”茶叶, 首先在RGB颜色空间中提取茶叶图像的G分量, 并采用双阈值方法对图像进行分割; 然后根据茶叶嫩芽的形状特征, 检测茶叶嫩芽的边缘。实验结果表明: 基于颜色和形状特征的识别方法能有效分辨出茶叶嫩芽, 识别准确率为94%, 为实现茶叶嫩芽的自动采摘提供了一种有效方法。
【英文摘要】It is a big problem for China to have not enough workforces in picking tea sprout today, which usually result in missing the tea sprout’s optimum picking period. The picking machine currently used improves the picking efficiency indeed. However, the old leaves are picked together with the sprout, and the sprout is damaged at some time. Hence it is necessary to develop an intelligent picking machine that can recognize and pick the sprout with the minimum sprout damage. This paper presents an image process method based on the tea sprout color and shape features, which was used to recognize the “Wuzi Xianhao”(a famous green tea of Shaanxi, China) tea sprout grow n at Xixiang County of Shaanxi Province. Firstly, the green component of the tea leaf image in RGB color space w as extracted. Secondly, green component image w as segmented using double threshold method. Finally, the edge of tea sprout is detected according to it s shape feature. Experimental results indicate that this recognizing method of the tea sprout based on color and shape features can reach the right detect ion rate of 94%, and provide an effective method for automatic tea sprout picking .
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【学科分类】农业工程

【题目】Interaction between low molecular weight organic acids and hydroxyapatite with different degrees of crystallinity.
【中文关键词】吸收 溶解 结晶度 作用机理
【英文关键词】Adsorption Dissolution Crystallinity Interaction mechanism
【中文摘要】低分子量有机酸与不同晶化程度羟基磷灰石的相互作用
【英文摘要】In this study, two types of hydroxyapatite (HAP) with different degrees of crystallinity were prepared bya sol – gel method and a chemical precipitation method. Influences of crystallinity on the adsorption anddissolution properties of HAP, and the release of phosphorus (total phosphorus) during the adsorptionof organic acid were investigated. Results showed that crystallinity had a great effect on the adsorptioncapacity and dissolution properties of HAP, as well as the adsorption mechanisms of organic acids on HAPsurfaces. The poorly crystallized (the degree of crystallinity Xc = 0.23) HAP adsorbed greater amounts ofoxalic, citric, or malic acid than the well crystallized (Xc = 0.86) HAP, and the former could release morephosphorus in the presence of organic acids. The adsorption capacity of oxalic acid was much higherthan citric and malic acids on both the well and the poorly crystallized HAP, which was due to the strongcoordination of oxalic acid with calcium on HAP surface, and that physical adsorption was more inclinedto dominate the adsorption of malic or citric acid on the well crystallized HAP. These findings might beof importance in understanding the effects of crystallinity and organic acid binding on the dissolution ofcalcium phosphates and the adsorption characteristics of HAP.
【语种】英文
【第一作者】魏巍
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【学科分类】土壤学

【题目】山羊原始生殖细胞分离与培养的影响因素
【中文关键词】关键词:白山羊;胚胎干细胞;原始生殖细胞;分离培养
【英文关键词】Keywords :White goat; embryonic stem cells; primordial germ cells; isolation and culture
【中文摘要】摘要:以本地白山羊胎儿的生殖嵴为试验材料,从原始生殖细胞(primordial germ cells,PGCs)中分离培养得到胚胎生殖细胞(embryonic germ cells,EGCs),对其进行体外培养和鉴定等。胎儿生殖嵴在室温(25°C)下消化15 min,使用0.125%胰酶+0.02% EDTA 比0.25%胰酶+0.04% EDTA 效果好,差异显著(P<0.05);“ 挑取集落法 ”和“ 胰酶消化法 ”均能将PGCs 传至第2 代,两种方法差异不显著(P>0.05);以GEF 为饲养层,在培养液中添加不同浓度和种类的细胞因子:①LIF:10 ng/mL;②LIF:20 ng/mL;③LIF(10 ng/mL)+SCF(10 ng/mL);④LIF(20 ng/mL)+SCF(20 ng/mL)。4 种情况对于原代集落形成率的影响差异不显著(P>0.05),均能得到传至第2 代的EGCs;研究不同胎龄胎儿分离培养PGCs 的效果,结果发现4 例冠臀长小于15 mm 的胎儿仅观察到一个原代集落,6 例大于30 mm 的胎儿没有观察到原代集落。
【英文摘要】Abstract:In this study,the fetal genital ridge from local White goats were used to isolate and culture EGCs from PGCs.The digestion of the fetal genital ridge at 25°C for 15 min with 0.125% Tryosin+0.02%EDTA was better (P<0.05) thanthat with 0.250%Trypsin +0.04%EDTA;PGCs could be transmitted to the second generation in both “ picked colonymethod ” and “ Trypsin digestion method ” ,and there was no significant difference (P>0.05) in two methods; By addingdifferent cytokines in different concentrations,the effects on the transmission of PGCs with GEF as the feeder layer werestudied under four conditions(①LIF 10 ng/mL;② LIF 20 ng/mL;③LIF 10 ng/mL+SCF 10 ng/mL;④LIF 20 ng/mL+SCF 20 ng/mL),and no differences (P>0.05) in the primary colony rates and the transmission to the second generationwere found in the four conditions. Effects of different gestational ages on isolation and passage of PGCs were studied,onlya primary colon was observed in 4 fetus with crown -rump length less than 15 mm,and no primary colon was observedin 6 fetus with crown-rump length more than 30 mm.
【语种】中文
【第一作者】熊浩
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【题目】农药使用的污染因素及控制途径
【中文关键词】农药使用; 污染因素; 控制途径;
【英文关键词】applications of pesticide; pollution factor; Control route;
【中文摘要】农药对农业的生产发展作用巨大,随着农药的广泛使用,农药对水体、土壤以及大气环境造成了严重污染。本文主要对农药污染因素进行分析,提出农药污染的控制途径,为今后更好的控制化学农药对生态环境污染提供依据。
【英文摘要】The pesticides is vidly used to agricultural production and play important roles.At the same time,the water、 soil and environment was polluted seriously.The factors of the pesticide pollution was mainly analyzed in this paper,and the way to control the pesticide pollution and scientific countermeasures was put forward to reduce the environmental pollution by using chemical pesticides in the future.
【语种】中文
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【学科分类】农业工程

【题目】双筛选标记打靶载体的构建及其功能鉴定
【中文关键词】关键词: 同源重组,绿色荧光标记,打靶载体,Cre-LoxP

【英文关键词】Keywords: homologous recombination, green fluorescent protein gene, gene targeting vector, Cre-LoxP
【中文摘要】摘 要: 利用DNA 同源重组方法 (基因打靶) 对动物基因组进行修饰是转基因研究的重要手段之一。为了构建一个高效的通用型基因打靶载体,本研究以pBS246 质粒为骨架,在两个LoxP 序列之间插入正筛选标记新霉素磷酸转移酶 (neo)基因和绿色荧光蛋白 (EGFP) 基因;在两个LoxP 序列外侧分别插入两组携带“ 8 碱基 ”酶切位点的多克隆位点序列 (MCS-1 和MCS-2) 和负筛选标记单纯疱疹病毒胸苷激酶 (HSV-tk) 基因,构建成通用型基因打靶载体pGT-V1,并且在C2C12 细胞中验证了载体中各个元件的功能。该载体具有如下特点:1) 在载体中引入绿色荧光标记,可以实时监控载体的转染效率,而转染效率的提高为高效基因打靶提供了保证;2) 在两个LoxP 位点间插入绿色荧光标记,可以直观监测打靶后遗留的筛选标记的去除情况,并且可以通过流式细胞仪或免疫磁珠法,将最终去除了筛选标记的阳性细胞(即丢失绿色荧光的细胞) 分选出来,降低筛选标记在中靶细胞中可能产生的负面影响;3) 采用“ 8 碱基 ”酶切位点的MCS 序列,便于DNA 大片段的连接和重组,极大提高了该载体的通用性。总之,该载体优化了基因打靶的技术手段,为有效开展基因打靶和转基因动物研究提供了新平台。
【英文摘要】Abstract: Homologous recombination is an important technique that is used to modify mammalian genome. Here, we constructedan efficient common gene targeting vector based on the plasmid pBS246. The vector consisted two positive selection markers,neomycin resistance gene (neo) and enhanced green fluorescent protein gene (EGFP) flanked by locus of X-over P1 (LoxP) sites.Two synthesized multiple cloning sequences MCS-1 and MCS-2 that contain several “ 8 bp cutter ” enzyme sites were placed inoutside of LoxP sites. Additionally, a negative selection marker HSV-tk (herpes simplex virus thymidine kinase) gene was locatedadjacent to MCS-1 site. The constructed vector was named pGT-V1, and its functions were characterized in C2C12 cells. The vectorhad the following unique features: 1) EGFP was used to monitor instantly the transfection rate that was essential for increasing theefficiency of gene knockout (KO); 2) The EGFP marker located between two LoxP sites was able to be removed from KO positivecells to avoid the potential damage of selection markers to the recipient cells. The process could be monitored visually and thepositive cells without selecting markers (the loss of green fluorescent cells) could be sorted out by either flow cytometry orimmunomagnetic beads; 3) “ 8 bp cutter ” restriction sites were embedded in MCS sequences, which then enhanced the versatility ofthis vector. In summary, the constructed plasmid optimized the vector of gene targeting and provided a new technique means for thetransgenic animal research.
【语种】中文
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【题目】喷雾技术参数对雾滴沉积分布影响试验研究
【中文关键词】风送式喷雾机; 雾滴覆盖率; 雾滴沉积; 技术参数;
【英文关键词】Air-assisted sprayer; Droplet coverage; Droplet deposition; Operating parameters;
【中文摘要】为了研究果园轴流风机风送喷雾机喷雾技术参数对雾滴沉积分布的影响,分别设置了4种喷雾压力、风机出口风速和行驶速度,3种采样高度,对稀疏靶标(沉积架)和仿真树靶标进行了喷雾试验并进行回归分析。试验结果表明,喷雾压力对雾滴沉积无明显影响,减小行驶速度可增加枝叶正反面雾滴的沉积,增大风机出口风速可有效增加雾滴在枝叶反面的沉积;各喷雾技术参数均对冠层内的雾滴沉积覆盖率有显著性影响,其影响程度由强到弱依次为采样高度、行驶速度、风机出口风速、喷雾压力。
【英文摘要】In order to research on influence of spray operating parameters on droplet deposition,four kinds of spray pressure,air-blast velocity,travel speed,and three kinds of sampling height,were set to testing droplet coverage in artificial tree canopy and deposition shelf(sparse canopy),using orchard axial-fan air-assisted sprayer.Results showed that spray pressure had no significant effect on droplet deposition.To reduce travel speed could increase droplet deposition on leaves frontside and backside.To increase air-blast velocity could increase droplet deposition effectively on leaves backside.According to the regression analysis,all the spraying parameters had significant effect on droplets deposition.But influence degree was different,the parameters order from strong to weak by influence degree were sample height,speed,air-blast velocity and spraying pressure.
【语种】中文
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【题目】喷雾技术参数对雾滴飘移特性的影响
【中文关键词】喷雾 参数 雾滴 漂移指数 风洞
【英文关键词】Spray, Parameters, Droplet, Drift index, Wind tunnel
【中文摘要】为了研究不同技术参数对雾滴漂移特性的影响,在可控风洞环境条件下测试了不同型号喷头在不同喷雾技术参数下的抗飘失能力,结果表明:喷头型号变小、喷雾压力和风速增大都增加了飘失对于喷雾高度变化的敏感程度,LU喷头的敏感程度大于ID喷头;改变喷雾方向角对雾滴飘失的影响相对于风速、喷头型号并不显著。
【英文摘要】In order to do the research on the influences of the parameters on spray drift,measurements of the drift potential under different wind tunnel conditions were made for different typical nozzles.The results showed that smaller type nozzle,larger spray pressure and wind speed could enhance the drift sensitivity along with the change of spray height,and the sensitivity of LU nozzles was more obvious than ID nozzles.Relative to the wind speed and nozzle type,the spray orientation has an inapparent influence on spray drift.
【语种】中文
【第一作者】吕晓兰
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【题目】果园风送式喷雾机仿形喷雾试验研究
【中文关键词】风送式;仿形喷雾;果园;雾滴沉积;风速分布;
【英文关键词】air-assisted; profiling spray; orchard; droplet deposition; wind velocity distribution;
【中文摘要】为研究果园风送式喷雾机风速及雾量垂直分布对雾滴在果树冠层内穿透沉积的影响,本文通过调整喷雾机导流板角度及喷头喷雾角度,并测量风速及雾量的垂直分布,使其分布曲线与果树冠层轮廓匹配。试验结果表明,当风速及雾量垂直分布呈单边纺锤形、并与现代化种植模式果树纺锤形树冠轮廓吻合时,雾滴在果树冠层中各部分枝叶正反面都有充分而均匀的沉积,因此,通过调节风速及雾量垂直分布使与果树冠形匹配,是提高雾滴在冠层中沉积分布均匀性的有效途径。
【英文摘要】In order to research influence of distribution of wind velocity and spray volume in vertical position on droplet deposition and penetration in canopy with orchard air-assisted sprayer,through adjusting angles of guide plate and nozzles,and testing distribution of wind velocity and spray volume in vertical position,to make their distributions match with fruit canopy contour.Tests results show that,wind velocity and droplet distribution was spindle shaped and coincident with spindle fruit canopy outline,droplets deposited effectively on upper and lower leaves in canopy,so to adjust wind velocity and spray volume vertical distribution to match with tree canopy shape is an effective way to improve droplets distribution uniformity in canopy.
【语种】中文
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【题目】Simultaneous determination of organic acids and nitrate in xylem saps of the hyperaccumulator Alyssum murale by RP-HPLC after solid-phase extraction with nanosized hydroxyapatite
【中文关键词】草酸 木质部伤流液 超富集植物
【英文关键词】PERFORMANCE LIQUID-CHROMATOGRAPHY; INDIRECT UV DETECTION; CAPILLARY-ELECTROPHORESIS; CONTAMINATED SOILS; MASS SPECTROMETRY; BRASSICA-JUNCEA; CITRIC-ACID; OXALIC-ACID; PLANTS; NICKEL
【中文摘要】超富集植物Alyssum murale 木质部伤流液中有机酸和硝酸的同时测定
【英文摘要】An analytical approach based on solid-phase extraction (SPE) withnanosized hydroxyapatite and reversed-phase high performanceliquid chromatography (RP-HPLC) for the simultaneousdetermination of organic acids (oxalic, malic, malonic, citric, andfumaric) and nitrate in xylem saps of the hyperaccumulatorAlyssum murale is presented in this study. The optimumexperimental conditions for the separation and determination oforganic acids and nitrate are studied. The interference from nitrateon oxalic acid in RP-HPLC is eliminated by SPE with nanosizedhydroxyapatite, and the simultaneous determination of organicacids and nitrate is achieved by RP-HPLC at the optimumchromatographic conditions. The accuracy of the method isconfirmed with an average recovery ranging between 95.2% and99.8%, the relative standard deviations (RSD) are less than 2.0%.This method is successfully applied to determine the organic acidsand nitrate in xylem saps of the hyperaccumulator Alyssum murale.
【语种】英文
【第一作者】魏巍
【通讯作者】魏正贵
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【学科分类】土壤学

【题目】Simultaneous extraction and determination of organic acids in xylem saps by RP-HPLC after solid-phase extraction with smaller particle sized hydroxyapatite nanocrystals.
【中文关键词】更小粒径纳米羟基磷灰石 木质部伤流液 有机酸
【英文关键词】hydroxyapatite nanocrystals, RP-HPLC, simultaneous extraction, smaller particle sized, solid-phase extraction, xylem sap
【中文摘要】更小粒径纳米羟基磷灰石用于同时分离测定木质部伤流液中有机酸
【英文摘要】A simple and reliable RP-HPLC method based on solid-phase extraction with smallerparticle sized hydroxyapatite nanocrystals was developed for the simultaneous extraction anddetermination of oxalic, malic, and citric acids in xylem saps of pokeweed. The smaller particlesized hydroxyapatite nanocrystals exhibited greater surface area and more active sites on thesurface, consequently, higher adsorption ability to organic acids, which was proved to be aneffective solid-phase extractor for the simultaneous extraction of organic acids in xylem saps.Oxalic, malic, and citric acids were determined by RP-HPLC at the optimum chromatographicconditions after the solid-phase extraction procedure. The accuracy of the method was confirmedwith an average recovery ranging between 94.2% and 97.9%, the relative standard deviations(RSD) were less than 2.0%. This method was successfully applied to determine the organic acidsin xylem saps of pokeweed.
【语种】英文
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【学科分类】土壤学

【题目】Enhanced adsorption of fluoride from aqueous solution onto nanosized hydroxyapatite by low-molecular-weight organic acids

【中文关键词】脱氟 低分子量有机酸 纳米羟基磷灰石 吸附
【英文关键词】Defluoridation capacity
Low-molecular-weight organic acids
Nanosized hydroxyapatite
Adsorption
【中文摘要】低分子量有机酸促进纳米羟基磷灰石对氟的吸附
【英文摘要】In this study, the nanocrystalline hydroxyapatite (HAP) prepared by thermal decomposition of precursorswas used as the adsorbent, and the potential of nanocrystalline HAP for nitrobenzene removal from aqueoussolution was evaluated. Results indicated that nitrobenzene adsorption was initially rapid and the adsorptionprocess reached a steady state after 1 min. The adsorption isotherms were well described by the Langmuirand the Freundlich models, the latter being found to provide the better fit with the experimental data. Thenitrobenzene adsorption capability of the nanocrystalline HAP was investigated as a function of temperature,pH, ionic strength, fulvic acid, and the presence of solvent. According to the experimental results, decrease inpH and temperature resulted in increase in nitrobenzene adsorption capacity; Increasing ionic strength andthe presence of fulvic acid decreased the adsorption of nitrobenzene by nanocrystalline HAP; Acetoneappeared to inhibit nitrobenzene adsorption to an extent greater than the presence of methanol.Thermodynamics studied revealed that the adsorption of nitrobenzene by nanocrystalline HAP wasphysisorption, spontaneous and endothermic in nature. This study showed that nanocrystalline HAP could beused as an efficient adsorbent material for the removal of nitrobenzene from aqueous solution.
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【引文索引类型】SCI
【引文索引号】WOS:000293312800021
【学科分类】土壤学

【题目】The antimicrobial properties and strain identification of Lactobacillus acidophilus NX2-6 screened from chigeee
【中文关键词】无
【英文关键词】No keywords available.
【中文摘要】略
【英文摘要】Chigee, a natural fermented dairy product and traditional food of Mongolian nomads, has received much attention for its various probiotic and antimicrobial substances. In this study, a strain of Lactobacillus acidophilus, NX2-6, was screened from Chigee. Morphological characteristics were assessed and physiological – biochemical analysis, carbohydrate fer-mentation and 16S rDNA sequence analysis were conducted. NX2-6 showed antibacterial activity at the beginning of the logarithmic growth phase. The production of the antibacterial substance increased continuously until 24 h in the stationary phase, and reached a maximum after 36 h, and then decreased. A 1480-bp 16S rDNA sequence was deposited in Gen-Bank under accession No. EU878007. An antimicrobial substance was purified by acetate and methanol extraction method from the fermented product of L. acidophilus NX2-6 grown in MRS broth, and strongly inhibited growth of Grampositive, Gram-negative bacteria and fungi. This antimicrobial substance has potential as a natural and safe preservative.
【语种】英文
【第一作者】乌云达来
【通讯作者】陆兆新
【期刊名称、卷期、页码】Milk Science International.65(2),144-148
【论文发表时间】2008-03-08 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】微生物学

【题目】Discovery and transmission of functional QTL in the pedigree of elite soybean cultivar Suinong14

【中文关键词】无
【英文关键词】in silico mapping — soybean cultivar — ancestral line — QTL — transmission
【中文摘要】无
【英文摘要】Abs tractIn this study, we extended in silico mapping for single trait to analyse data from multiple environments by calculating intraclass correlations and to mapping pleiotropic QTL for multiple traits by defining new statistic to measure the correlation between multiple traits and the marker. Data sets include phenotypes of eight agronomic traits obtained from six different ecologic environments and years, and genotypic information from 477 polymorphic markers on 14 ancestral lines in the pedigree of Suinong14 . With in silico mapping, a total of 39 markers distributed on 14 linkage groups are detected as QTL responsible for eight agronomic traits and 10 QTL are identified as having pleiotropic effects. Tracing transmission of functional QTL in the pedigree indicated that certain QTL, such as Sat_036 on linkage group D1a, Satt182 on linkage group L, and Satt726 on linkage group B2 may be responsible for the contribution of exotic germ plasm to the improved cultivars.
【语种】英文
【第一作者】秦君
【通讯作者】秦君
【期刊名称、卷期、页码】Plant Breeding 2009 128 1-8
【论文发表时间】2009-09-01 00:00:00
【引文索引类型】SCI
【引文索引号】SCI
【学科分类】林学其他学科

【题目】Optimization of inactivation of endospores of Bacillus cereus by antimicrobial lipopetides from Bacillus subtilis fmbj strains using a response surface method
【中文关键词】略
【英文关键词】Lipopept ides; Bacillus cereus; Bacillus subtilis; Surfactin; Fengycin
【中文摘要】略
【英文摘要】Bacillus subtilis fmbj can produce a lipope ptide antimi crobia l substance, the main components of which are surfactin and fengycin. In this paper, the sensitivity of Bacillus cereus to antimicrobial lipopeptides from B.subtilis fmbj was observed, and the effect of the microstructure of antimicrobial lipopeptide on spores of B. cereus was inves-tigated. At the same time, the optimization of the inactivation of antimicrobial lipopeptides to spores of B. cereus by a response surface methodology was studied. Results showed that B. cereus had high sensitivity to it, whose minimal inhibitory concentration was 156.25 μg/ml. It could result in the death of spores by destroying the structure of resting spores and sprouting spores, as was observed by transmission electron microscopy. The optimization result indicated that spores of B. cereus could be inactivated by 2 orders of magnitude when the temperature was 9.6 ° C, the action time was 7.6 h, and the concentration was 3.46 mg · ml^ − 1.
【语种】英文
【第一作者】黄现青
【通讯作者】陆兆新
【期刊名称、卷期、页码】Appl Microbiol Biot. 74:454-461
【论文发表时间】2006-09-12 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】微生物学

【题目】Size-dependent defluoridation properties of synthetic hydroxyapatite
【中文关键词】纳米羟基磷灰石 脱氟 粒度效应
【英文关键词】Hydroxyapatite; Size-dependent; Defluoridation; Adsorption
【中文摘要】纳米羟基磷灰石脱氟的粒度效应
【英文摘要】Batch adsorption experiments were conducted to investigate the removal of fluoride from aqueous solution by the addition of synthetic hydroxyapatites (HAps) with different particle sizes. Results showed that size-dependent defluoridation properties of HAps. Better performances were obtained with smaller particle sized HAps, which presented higher adsorption efficiency. Bulk HAp, the HAp sample with the largest particle size, presented the lowest percentage of fluoride removal. The isotherm studies showed

that the Freundlich model was the best choice to describe the adsorption behaviors of nanosized HAps. However, the adsorption pattern of the bulk sample followed both Langmuir and Freundlich isotherms. All parameters that might influence the defluoridation process were assessed, which included the effect of adsorbent dose, initial fluoride concentration, contact time and the effect of temperature. The removal efficiency of fluoride increased with increasing adsorbent dose. Decrease of the initial fluoride concentration resulted in the increase of fluoride removal efficiency. The percentage of fluoride removal increased as the ambient pH decreased. Thermodynamic parameters suggested that the adsorption of fluoride onto HAp samples was physisorption and endothermic in nature. Moreover, adsorption kinetic study revealed that the adsorption process followed pseudo-second-order kinetics. This work indicated that synthetic hydroxyapatites, especially the smaller particle sized HAps, were efficient defluoridation materials.

【语种】英文

【第一作者】高姗

【通讯作者】魏正贵

【期刊名称、卷期、页码】Journal of Fluorine Chemistry, 2009, 130 (6), 550-556.

【论文发表时间】2009-06-26 00:00:00

【引文索引类型】SCI

【引文索引号】WOS:000267085000007

【学科分类】土壤学

【题目】Study on the fluoride adsorption of various apatite materials in aqueous solution

【中文关键词】水溶液 磷灰石材料 吸附 氟

【英文关键词】Adsorption; Apatite; n-HAp; Bone meal; Defluoridation capacity

【中文摘要】水溶液中不同磷灰石材料吸附氟的研究

【英文摘要】The aim of this study was to evaluate the defluoridation efficiencies of various sorbents in aqueous solution. These sorbents include synthetic nano-hydroxyapatite (n-HAp), biogenic apatite (bone meal), treated biogenic apatite (bone meal prepared by H(2)O(2) oxidation) and geogenic apatite (rock phosphate), which were characterized by XRD, FTIR, TEM and SEM. It has been observed that the defluoridation capacities follow the order: n-HAp > BH(2)O(2) > B > rock phosphate. The controlling factors, sorbent dose, initial fluoride concentration, pH, contact time and temperature were investigated. The defluoridation capacities increased with the increase in the initial fluoride concentration and contact time, decreased with the increase in the sorbent dose. The optimum pH range for removal of fluoride on various apatite sorbents was considered to be 5.0-6.0. The fluoride adsorption can be explained by Langmuir, Freundlich isotherms, and the adsorption kinetic data follow the pseudo-second-order model. Thermodynamic parameters such as Delta H(0), Delta S(0) and Delta G(0) indicated that the adsorption on various apatite sorbents was spontaneous and endothermic. These results showed that bone meal is a promising material for fluoride adsorption.

【语种】中文

【第一作者】高姗

【通讯作者】魏正贵

【期刊名称、卷期、页码】Journal of Fluorine Chemistry, 2009, 130 (11), 1035-1041.

【论文发表时间】2009-11-26 00:00:00

【引文索引类型】SCI

【引文索引号】WOS:000271878000007

【学科分类】土壤学

【题目】Separation and extraction of antimicrobial lipopetides produced by Bacillus amyloliquefaciens ES-2 with macroporous resin

【中文关键词】略

【英文关键词】Antibiotic lipopeptide; Bacillus amyloliquefaciens; Macroporous resin; Separation extraction

【中文摘要】略

【英文摘要】A new method for separation and extraction of antibiotic lipopeptides produced by Bacillus amylolique-faciens ES-2 with macroporous resin was carried out in this study. Among widely used twelve macroporous resins, X-5 resin had the highest adsorption capacity in static anddynamic tests, its non-polarity and configuration were suited for the lipopeptides (surfactin and fengycin). Dynamic adsorption and desorption experiments were performed using a column packed with X-5 resin to obtain optimal conditions, with 30 g/L resin concentration, 0.5 BV/h feed flow rate, 80% aqueous ethanol at 1 BV/h elute flow rate as eluant agent, the total content of lipopeptides in final product was 79.5% (surfactin content was 33.2% while fengycin content was 23.4%), which had

been improved about 150% compared with that of lipopeptide infermentation broth. Because of its low cost, high efficiency,procedural simplicity and scale up ease, the adsorptiondesorption method could be more efficient for the preparative eparation and extraction of antibiotic lipopeptide than the conventional acid precipitation method, which could provide scientific references for antibiotic lipopeptide production.

【语种】英文
【第一作者】王煜
【通讯作者】陆兆新
【期刊名称、卷期、页码】Biochemical Engineering Journal.
【论文发表时间】2010-04-08 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】生物化学

【题目】Mapping quantitative trait loci associated with chlorophyll a fluorescence parameters in soybean [Glycine max (L.) Merr.].
【中文关键词】无
【英文关键词】Chlorophyll a fluorescence parameters JIP-test Photosynthesis Quantitative trait loci (QTLs) Recombinant inbred line (RIL)Soybean (Glycine max(L.) Merr.)
【中文摘要】无
【英文摘要】Abstract Chlorophyll a fluorescence parameters can provide qualitative and quantitative information about photosynthetic processes in chloroplasts. JIP-test and modulated fluorescence (MF) parameters are commonly used chlorophyll a fluorescence parameters. This study was conducted to identify quantitative trait loci (QTLs) associated with JIP-test parameters, MF parameters, and photosynthetic rate (PN), and to examine the relationships among them in soybean (Glycine max(L.) Merr.). Pot and field experiments were performed to evaluate 184 recombinant inbred lines (RILs) for five JIP-test parameters (ABS/RC, TR o/ABS, ET o/TR o, RE o/ET O, and PI ABS), four MF parameters (Fv/Fm, Fv 0/Fm 0, U PSII, and qP), and P N .Significant correlations were commonly observed among JIP-test parameters, MF parameters, and PN. QTL mapping analysis identified 13, 9, and 4 QTLs for JIP-test parameters, MF parameters, and PN , respectively, of which 13 were stable. Four major genomic regions were detected: LG A2 (19.81 cM) for JIP-test parameters, LG C1 (94.31and 97.61 cM) for PN and MF parameters, LG M(100.51 cM) for JIP-test and MF parameters, and LG O(30.61 – 49.91 cM) for PN, JIP-test, and MF parameters. These results indicate that chlorophyll fluorescence parameters, especially UPSII and qP, could play an important role in regulating PN, and that JIP-test and MF parameters could be controlled by the same or different genes. The QTLs identified in this study will help in the understanding of the genetic basis of photosynthetic processes in plants. They will also contribute to the development of marker-assisted selection breeding programs for photosynthetic capacity in soybean.
【语种】英文
【第一作者】印志同
【通讯作者】喻德跃
【期刊名称、卷期、页码】Planta (accepted) 2009. DOI: 10.1007/s00425-009-1094-0
【论文发表时间】2010-01-07 00:00:00
【引文索引类型】SCI
【引文索引号】SCI
【学科分类】林学其他学科

【题目】不同耕作措施对土壤水解酶活性的影响
【中文关键词】耕作措施; 土壤水解酶; 蛋白酶; 脲酶; 转化酶
【英文关键词】tillage measures; soil hydrolase activity; protease activity; urease activity; invertase activity;
【中文摘要】以龙原288为材料,采用4种耕作方式,在玉米生育的关键时期,通过对3种土壤水解酶——蛋白酶、脲酶、转化酶活性的测定,研究不同耕作方式对土壤水解酶活性的影响及其与玉米生长发育间的相关关系。结果表明:土壤酶活性与玉米生长发育密切相关,与翻耕处理相比,少免耕处理能有效提高土壤水解酶活性;在促进土壤水解酶协调性方面,免耕处理表现出明显优势。
【英文摘要】Taking Longyuan 288 as materials,using four tillage measures to study the effects of different tillage measures on soil hydrolase activity and the relationship between soil hydrolase activity and growth and development of maize by soil hydrolase activity-

protease activity,urease activity,invertase activity during the key period of maize growth.The results showed that:soil hydrolase activity was related with growth and development of maize,and compared with plowing treatment,minimum tillage and no-tillage treatment could improve the soil hydrolase activity;On the coordination of increasing soil hydrolase activity,no-tillage treatment showed obvious advantages.

【语种】中文

【第一作者】张冰

【通讯作者】刘丽君

【期刊名称、卷期、页码】黑龙江农业科学,2010(11) : 27-29

【论文发表时间】2010-11-10 00:00:00

【引文索引类型】其他

【引文索引号】null

【学科分类】农业基础学科

【题目】Isolation and characterization of a co-producer of fengycins and surfactins, endophytic Bacillus amyloliquefaciens ES-2 from Scutellaria baicalensis Georgi

【中文关键词】略

【英文关键词】Fengycin; Surfactin; Bacillus amyloliquefaciens; Antimicrobial activity; Endophyte.

【中文摘要】略

【英文摘要】An endophytic bacterium was isolated from Chinese medicinal plant Scutellaria baicalensis Georgi. The phylogenetic and physiological characzterization indicated that the isolate, strain ES-2, was Bacillus amyloliquefaciens , which produced two families of secondary metabolites with broad-spectrum antibacte-rial and antifungal activities. Culture filtrate of ES-2 displayed antagonism against some phytopathogenic, food-borne pathogenic and spoilage bacteria and fungi owing to the existence of antimicrobial compounds. A HPLC-MS analysis showed two series of ion peaks from the culture filtrate. A further electrospray ionirzation/collision-induced dissociation spectrum revealed that the two series ion peaks represented different fengycin homologues and surfactin homologues, respectively, which had a potential for food preserva-tion and the control of several fungal plant diseases.

【语种】英文

【第一作者】孙力军

【通讯作者】陆兆新

【期刊名称、卷期、页码】World J Microbiol Biotechnol (2006) 22:1259 – 1266

【论文发表时间】2006-04-20 00:00:00

【引文索引类型】其他

【引文索引号】null

【学科分类】微生物学

【题目】Roles of Organic Acids and Nitrate in the Long-Distance Transport of Cobalt in Xylem Saps of Alyssum murale and Trifolium subterraneum

【中文关键词】超积累植物 长距离运输 有机酸 硝酸 羟基磷灰石

【英文关键词】Cobalt; Xylem sap; Organic acids; Nitrate; Alyssum murale; Trifolium subterraneum

【中文摘要】超积累植物长距离运输钴过程中有机酸和硝酸的作用

【英文摘要】Roles of organic acids and nitrate in the long-distance transport of cobalt (Co) in xylem saps of hyperaccumulator Alyssum murale and non-hyperaccumulator Trifolium subterraneum were studied under hydroponic conditions. Organic acids (oxalic, malic, malonic, citric, and fumaric) and nitrate in xylem sap samples were separated and determined simultaneously by reversed-phase high performance liquid chromatography after solid-phase extraction with nanosized hydroxyapatite. Results indicated that Co treatment significantly increased the concentrations of xylem oxalic and malic acids for the hyperaccumulator A. murale compared to the control but significantly decreased the concentrations of xylem nitrate and malonic acid; concentrations of citric acid in xylem sap samples did not show significant difference between the control and Co treatments. By analyzing the relationship between the concentrations of organic acids, nitrate, and concentrations of Co in xylem saps, it could be concluded that oxalic and malic acids in xylem saps seemed to participate in the long-distance Co translocation process, and citric acid did not relate to the xylem Co transport of A. murale and T. subterraneum. Our work might be very useful for understanding the mechanism of long-distance transport of heavy metals in hyperaccumulator.

【语种】英文
【第一作者】魏巍
【通讯作者】魏正贵
【期刊名称、卷期、页码】Biological Trace Element Research, 2009, 131 (2), 165-176.
【论文发表时间】2009-09-26 00:00:00
【引文索引类型】SCI
【引文索引号】WOS:000270323100007
【学科分类】土壤学

【题目】不同还田方式下 大豆秸秆腐解特征研究
【中文关键词】大豆; 秸秆还田; 腐解规律;
【英文关键词】Soybean; Stalk returning; Decomposition regularity;
【中文摘要】利用网袋法模拟秸秆还田方式,研究不同还田方式不同阶段大豆秸秆有机碳、氮、磷、钾养分释放特征。结果表明:经过150d的分解,大豆秸秆生物量有39.2%~55.9%被分解,埋于土壤的大豆秸秆分解速度明显高于露天处理。腐解后大豆秸秆从组织结构上变得松散。露天与土埋处理秸秆有机碳分解率均随着时间的延长而增加,150d时大豆秸秆分解了40.7%~59.2%,加入腐熟剂效果不明显。经150d腐解后,大豆秸秆的氮、磷、钾养分释放率分别为60.1%~65.4%、18.3%~39.4%和74.6%~86.4%。
【英文摘要】Net bag method was used to determine nutrition decomposing characteristics of organic carbon,N,P,and K of soybean stalks under two different crop stalk returning approaches.The results showed that after 150 days,decomposition rate of soybean stalks were between 39.2% ~ 55.9%.The trend of stalk decomposition of soil coverage treatment was higher than open-air treatment.Tissue of soybean stalk became loose after decomposing.Organic carbon decomposition rate of straw was increased with time under open-air and soil coverage treatments.The soybean straw decomposition rate was 40.7% ~ 59.2% after 150 days.Adding decomposition accelerator had not improved the speed of organic C decomposing.The decomposition rate of N,P and K were 60.1% ~ 65.4%,15.4% ~ 39.4%,74.6% ~ 86.4%,respectively.
【语种】中文
【第一作者】匡恩俊
【通讯作者】匡恩俊
【期刊名称、卷期、页码】大豆科学、29(3):479-482
【论文发表时间】2010-06-25 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农业基础学科

【题目】limination of the Interference from Nitrate Ions on Oxalic Acid in RP-HPLC by Solid-Phase Extraction with Nanosized Hydroxyapatite
【中文关键词】纳米羟基磷灰石 反相液相色谱 硝酸根离子 草酸 干扰
【英文关键词】Determination; HPLC; Interference elimination; Nanosized hydroxyapatite; Oxalic acid; Solid phase extraction
【中文摘要】利用纳米羟基磷灰石消除反相液相色谱中硝酸根离子对草酸的干扰
【英文摘要】A new method using solid phase extraction with nanosized hydroxyapatite for solving interference from nitrate ions on oxalic acid in reversed phase high performance liquid chromatography (RP-HPLC) was developed. The optimum experimental conditions for the separation and determination of oxalic acid were studied. After the interference was eliminated, oxalic acid was determined by RP-HPLC at the optimum chromatographic conditions with an average recovery ranging between 94.8% and 99.3%, and the relative standard deviations were less than 3.0%. This method was successfully applied to determine the oxalic acid in the xylem saps of tomato.
【语种】英文
【第一作者】魏巍
【通讯作者】魏正贵
【期刊名称、卷期、页码】Journal of Liquid Chromatography and Related Technologies, 2009, 32 (1), 106-124.
【论文发表时间】2009-02-26 00:00:00

【引文索引类型】SCI
【引文索引号】WOS:000261016400008
【学科分类】土壤学

【题目】Genetic location and evaluation of chromosomal segments for drought tolerance at flowering stage in maize using selected backcross populations.
【中文关键词】无
【英文关键词】Zea mays— selected introgression lines — drought tolerance — maize
【中文摘要】无
【英文摘要】AbstractDevelopment and evaluation of introgression lines have become one of the promising approaches to understanding genetic mechanisms of important traits in crops. In this study, three sets of drought tolerance (DT) selected backcross populations in maize, including two BC 2S1 populations and one BC 3S1population, from a cross of Qi319 and Huangzaosi (recurrent parent) were developed by selecting for short anthesis-silking interval (ASI) under the condition of serious water stress at flowering stage. The introgression of chromosome segments was identified using microsatellite markers. The results showed that the marker allele introgression frequencies in the three DT populations significantly increased compared with the expected value under no selection. There was a notable increase of introgression frequency for the most of these markers which were located on all chromosomes except chromosome 8, but most concentrated on some chromosomes, especially on chromosomes 4 and 5. For example, chromosome 4 harboured the largest number of introgression regions, on which five segments were detected. The ASI in the DT populations significantly shortened compared with the initial BC 2 population.
【语种】英文
【第一作者】李永祥
【通讯作者】王天宇
【期刊名称、卷期、页码】Plant Breeding 2009 128 342-347.
【论文发表时间】2009-04-21 00:00:00
【引文索引类型】SCI
【引文索引号】SCI
【学科分类】林学其他学科

【题目】种植大豆对土壤氮素盈亏影响的估算
【中文关键词】大豆; 15N示踪方法; 氮素; 盈亏估算;
【英文关键词】soybean; 15N isotope tracing technique; nitrogen; estimation of profit and loss;
【中文摘要】应用15N示踪方法,研究了种植大豆对土壤氮素盈亏的影响,并对土壤氮素盈亏进行了估算。结果表明:大豆成熟期70.4%~88.6%的氮素转移到籽粒中,大豆氮素收获率很高,导致土壤氮素亏损;秸秆还田时土壤氮素亏损量平均为39.2kg/hm2,秸秆不还田时土壤氮素亏损量平均为49.2kg/hm2;大豆根瘤固氮率与土壤氮素盈亏量呈直线相关,根瘤固氮率越高,土壤氮素亏损量越少;秸秆还田条件下,根瘤固氮率71.5%是土壤氮素盈亏平衡点,秸秆不还田时根瘤固氮率要达到80.9%才能保障土壤氮素盈亏平衡。
【英文摘要】15N isotope tracing technique was used to estimate the effect of planting soybean on the profit and loss of soil nitrogen.Results showed that the nitrogen harvest rate of soybean was quite high and 70.4%~88.6% of total nitrogen was transported to seeds,which led to the loss of soil nitrogen;and the average loss of soil nitrogen were 39.2kg/hm2 for straw returning and 49.2kg/hm2 for no straw returning treatments,respectively.A significant linear correlation was found between nitrogen fixation rate and the profit/loss of soil nitrogen.The loss of soil nitrogen was less with higher nitrogen fixation rate,which would reach the breakeven point of the profit and loss of soil nitrogen when nitrogen fixation rate was 71.5% for straw returning treatment,and 80.9% for no straw returning treatment.
【语种】中文
【第一作者】龚振平
【通讯作者】龚振平
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【学科分类】农业基础学科

【题目】Enhancement of surfactin production of Bacillus subtilis fmbR by replacement of the native promoter with Pspac promoter
【中文关键词】略
【英文关键词】surfactin; promoter; replacement; enhancement;Bacillus subtilis.
【中文摘要】略
【英文摘要】Bacillus subtillis fmbR-1 was obtained from wild-type B. subtilis fmbR by replacement of the native promoter of the surfactin operon with the inducible promoter Pspac. The recombinat B. subtillis fmbR-1 produced more antibacterial substances than the wild-type strain. The overproducing phenotype was related to the enhancement of antagonistic activities against Bacillus cereus. HPLC peaks of surfacin for recombinant fmbR-1 showed patterns of lipopeptides similar to those of the wild-type strain, and surfactin production of the recombinant fmbR-1 was up to about fivefold greater than that of the wild-type strain without inductioin by isopropyl β - α -1-thiogalactopyranoside. However, the production of surfactin increased to about 10-fold more than that of the wild-type strain when it was induced by isopropyl β - α -1-thiogalactopyranoside.
【语种】英文
【第一作者】孙会刚
【通讯作者】陆兆新
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【学科分类】分子生物学

【题目】Screening and applying wheat microsatellite markers totrace individual Haynaldia villosa Chromosomes
【中文关键词】Triticum aestivurn; Haynaldia villosa; wheat microsatellites
【英文关键词】Triticum aestivurn; Haynaldia villosa; wheat microsatellites
【中文摘要】Wheat (Triticum aestivum L.) microsatellitemarkers were screened for detecting Haynaldiavillosa L. chromosomes introduced into wheat background. Two hundred and seventy six primer pairs mapped on 7 homeologous groups of wheat were used to amplify the gDNA of T. aestivum and H. villosa. The results showed that 148 of 276 microsatellite primers amplified polymorphic bands between common wheat cv. Chinese Spring and H. villosa. Primers wmc49 (1BS), wmc25 (2BS), gdm36 (3DS), gdm145 (4AL), wmc233 (5DS), wmc256 (6AL) and gwm344 (7BL) produced a specific polymorphic DNA fragment on chromosome IV to 7V of H. villosa, respectively. In addition, gwm469 (6DS) detected a specific band on 2V; gdm107 (2DS) amplified a specific band on 6V. These microsatellitemarkers were effective in identifying individualH. villosachromosomes in other T. aestivum-H. villosachromosome addition, substitution and translocation lines involved in different H. villosa accessions and wheat backgrounds. Therefore, these chromosome-specific microsatellitemarkers could be used as molecular markers for detection of chromosomes of H. villosa in common wheat.
【英文摘要】Wheat (Triticum aestivum L.) microsatellitemarkers were screened for detecting Haynaldiavillosa L. chromosomes introduced into wheat background. Two hundred and seventy six primer pairs mapped on 7 homeologous groups of wheat were used to amplify the gDNA of T. aestivum and H. villosa. The results showed that 148 of 276 microsatellite primers amplified polymorphic bands between common wheat cv. Chinese Spring and H. villosa. Primers wmc49 (1BS), wmc25 (2BS), gdm36 (3DS), gdm145 (4AL), wmc233 (5DS), wmc256 (6AL) and gwm344 (7BL) produced a specific polymorphic DNA fragment on chromosome IV to 7V of H. villosa, respectively. In addition, gwm469 (6DS) detected a specific band on 2V; gdm107 (2DS) amplified a specific band on 6V. These microsatellitemarkers were effective in identifying individualH. villosachromosomes in other T. aestivum-H. villosachromosome addition, substitution and translocation lines involved in different H. villosa accessions and wheat backgrounds. Therefore, these chromosome-specific microsatellitemarkers could be used as molecular markers for detection of chromosomes of H. villosa in common wheat.
【语种】英文
【第一作者】张伟
【通讯作者】陈佩度
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【学科分类】农学其他学科

【题目】8 个大赖草材料的C2分带和RAPD分析
【中文关键词】大赖草;C2带核型分析;RAPD ;聚类分析
【英文关键词】L eymus racemosus ; C-banding analysis ; RAPD ; cluster analysis
【中文摘要】利用C-分带和RAPD对小麦族赖草属的8个材料进行了比较研究。结果发现,大部分染色体都显示较强的末端带,着丝粒带和中间带则不丰富,除02I2191 号材料外,其他几种材料之间变异不大。RAPD 结果表明,45条随机引物中的35条(占77. 8 %) 扩增出131 条具有多态性的条带,其中22条为特异性条带,可以分别追踪8个大赖草材料。另外,OPC05 还可以特异性追踪大赖草添加系中的第7和第14号染色体。
【英文摘要】Eight accessions of L . racemosus in Triticeae were compared by C-banding and RAPD analysis. C-banding showed that most chromosomes of t he eight tested accessions share strong terminal bands , but lack cent romeric and intercalary bands. There was a lit tle differences among t he eight accessions except 02I-191.The genetic diver sity among the eight accessions was surveyed by RAPD analysis. Out of 45 arbit rary decamer primer s tested , 35 (77. 8 %) p rimer s could amplify a total of 169 bands , including 131 polymorp hic bands and 22 specific bands , which can be used to t race t his eight L . racemosus accessions expectedly. Moreover , primer OPC05 could be used to t race t he 7t h and 14th chromosomes of L eymus in t he wheat - L eymus addition lines
【语种】中文
【第一作者】刘光欣
【通讯作者】陈佩度
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【学科分类】农学其他学科

【题目】小麦-大赖草易位系对赤霉病抗性的聚合
【中文关键词】普通小麦;小麦- 大赖草易位系;赤霉病抗性
【英文关键词】Triticum aestivum; Wheat-Leymus racemosus translocation lines; Wheat scab resistance
【中文摘要】利用C-分带、FISH、SSR技术,从小麦-大赖草易位系T01~T14中筛选出8个纯合易位系。将不同易位系相互进行杂交,配制了11个杂交组合,并对各易位系及其杂种后代进行赤霉病抗性鉴定。结果表明,大赖草各易位系对赤霉病的抗性接近于苏麦3号,但不同地点及年份间差异较大。涉及不同大赖草染色体的易位系间的杂种F1与其抗性较高的易位系亲本相比抗性有所提高,但涉及大赖草Lr.7或5Lr#1同一条染色体的不同易住系间杂种F1的抗性仅位于两亲本之间。这表明位于不同大赖草染色体上的抗赤霉病基因具有累加效应,通过不同大赖草染色体易位系的聚合,可提高赤霉病的抗性。
【英文摘要】Eight different homozygous wheat-Leymus. racemosus translocation lines were selected from T01~T14 by C-banding , FISH and SSR. Eleven different crosses were made between these w heat-L. racemosus translocation lines. Fusarium head blight (FHB, w heat scab) resistance of different homozygous translocation lines and their hybrids was evaluated. All these translocation lines showed scab resistance nearly as high as that of Sumai3, but the resistances were unstable in different years or different places. T he resistance level of hybrid F1 between the translocation lines involved different L.racemosus chromosomes was higher than that of the parent with higher resistance. But resistance level of the F1 between different translocation lines involved the same L . racemosus chromosome 5Lr# 1 o r Lr .7 was only between two parents in the crosses. It indicated that there w ere several FHB resistance genes located on different chromosomes of L . racemosus, and showed additive effect s. So FHB resistance could be enhanced by combining the resistance genes o n different L .racemosus chromosomes.
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【第一作者】刘光欣
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【题目】Cloning of a Resistance Gene Analog from Wheat and Development of a Codominant PCR Marker for Pm21
【中文关键词】Chromosome assignment; molecular marker; suppression subtractive hybridization(SSH); Ta-LRR2; Triticum aestivum-Haynaldia villosa 6VS/6AL translocation line.
【英文关键词】Chromosome assignment; molecular marker; suppression subtractive hybridization(SSH); Ta-LRR2; Triticum aestivum-Haynaldia villosa 6VS/6AL translocation line.
【中文摘要】To investigate the mechanism of resistance to wheat(Tricum aestivum L.)powdery mildew, suppression subtractive hybridization was conducted between an isogenic resistant line carrying Pm21 and itsreeur-rent parent Yangmai5 to isolate the resistance relative genes, A cDNA fragment specifically expressed in the resistant line was obtained and its full length was cloned by in silico cloning and RT-PCR. This gene encoded a deduced protein of 219 amino acids with a leuclne-rich repeat(LRR)motif, often found in plant resistance genes, and was designated as Ta-LRR2. Ta-LRR2 had an increased expression level in the resistant line after inoculation with Ervsiphegram Dc. f.sp. tritici Marchal. PCR analysis with different cytogenetic stocks suggested that Ta-LRR2 was specifically associated with chromosome arms 6VS and 6AS. Linkage analysis further showed that Ta-LRR2 could be used as a resistance gene analog polymer-phism marker of Pm21 for marker-assisted selection in germplasm enhancement and breeding practice. Moreover, how to isolated Pm21 based on the information obtained for Ta-LRR2 is discussed.
【英文摘要】To investigate the mechanism of resistance to wheat(Tricum aestivum L.)powdery mildew, suppression subtractive hybridization was conducted between an isogenic resistant line carrying Pm21 and itsreeur-rent parent Yangmai5 to isolate the resistance relative genes, A cDNA fragment specifically expressed in the resistant line was obtained and its full length was cloned by in silico cloning and RT-PCR. This gene encoded a deduced protein of 219 amino acids with a leuclne-rich repeat(LRR)motif, often found in plant resistance genes, and was designated as Ta-LRR2. Ta-LRR2 had an increased expression level in the resistant line after inoculation with Ervsiphegram Dc. f.sp. tritici Marchal. PCR analysis with different cytogenetic stocks suggested that Ta-LRR2 was specifically associated with chromosome arms 6VS and 6AS. Linkage analysis further showed that Ta-LRR2 could be used as a resistance gene analog polymer-phism marker of Pm21 for marker-assisted selection in germplasm enhancement and breeding practice. Moreover, how to isolated Pm21 based on the information obtained for Ta-LRR2 is discussed.
【语种】英文
【第一作者】陈雅平
【通讯作者】陈佩度
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【学科分类】农学其他学科

【题目】A sequence-specific PCR marker linked with Pm21 distinguishes chromosomes 6AS, 6BS, 6DS of Triticum aestivum and 6VS of Haynaldia villosa
【中文关键词】Haynaldia villosa -Triticum aestivum - homoeologous group 6 chromosomes - polymerase chain reaction marker - Pm21
【英文关键词】Haynaldia villosa -Triticum aestivum - homoeologous group 6 chromosomes - polymerase chain reaction marker - Pm21
【中文摘要】To investigate the mechanism of resistance to wheat(Tricum aestivum L.)powdery mildew, suppression subtractive hybridization was conducted between an isogenic resistant line carrying Pm21 and itsreeur-rent parent Yangmai5 to isolate the resistance relative genes, A cDNA fragment specifically expressed in the resistant line was obtained and its full length was cloned by in silico cloning and RT-PCR. This gene encoded a deduced protein of 219 amino acids with a leuclne-rich repeat(LRR)motif, often found in plant resistance genes, and was designated as Ta-LRR2. Ta-LRR2 had an increased expression level in the resistant line after inoculation with Ervsiphegram Dc. f.sp. tritici Marchal. PCR analysis with different cytogenetic stocks suggested that Ta-LRR2 was specifically associated with chromosome arms 6VS and 6AS. Linkage analysis further showed that Ta-LRR2 could be used as a resistance gene analog polymer-phism marker of Pm21 for marker-assisted selection in germplasm enhancement and breeding practice.

Moreover, how to isolated Pm21 based on the information obtained for Ta-LRR2 is discussed.
【英文摘要】To develop markers linked with Pm21 located on chromosome 6VS of Haynaldia villosa, a pair of primers (NAU/xibao15F and NAU/xibao15R) were designed according to the sequence of a serine/ threonine kinase gene (Contig17515), whose expression was induced by Blumeria graminis and selected from the gene expression experiment using the Barley GeneChip. Using genomic DNA of various genetic stocks including the wheat variety ‘ Yangmai#5 ’, H. villosa, Triticum durum – H. villosa amphiploid, seven T. aestivum – H. villosa addition lines involving chromosomes 1V – 7V, the translocation line T6VS • 6AL, and 21 nullisomic – tetrasomic and eight deletion lines of T. aestivum _Chinese Spring_ as templates, four amplicons specific for 6VS, 6AS, 6BS and 6DS, respectively, were produced. F2 individuals derived from the cross of ‘ Yangmai#5 ’ • T6VS • 6AL were analysed, and data indicate that NAU/xibao15902 could be used as a co-dominant marker for selecting Pm21 located on 6VS.
【语种】英文
【第一作者】曹爱忠
【通讯作者】陈佩度
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【题目】Genotypic and spike positional difference in grain phytase activity, phytate, inorganic phosphorus, iron, and zinc contents in wheat (Triticum aestivum L.)
【中文关键词】Wheat (Triticum aestivum L.); Phytase; Phytate; Iron; Zinc
【英文关键词】Wheat (Triticum aestivum L.); Phytase; Phytate; Iron; Zinc
【中文摘要】One hundred and eighty-six wheat genotypes from different areas of China were selected to evaluate the genotypic and positional differences in grain phytase activity, phytate, inorganic phosphorus, iron, and zinc contents. Results showed substantial differences in these chemical components among genotypes. Grain weight and phytate (r=-0.34**), inorganic phosphorus (r=-0.23**), and phytase activity (r= -0.43 **) were negatively correlated. In contrast, grain weight and iron (r=0.20**), phytate and zinc (r=0.37**), and iron and zinc (r=0.29**) were positively correlated. The effect of grain position on all these components was significant. Generally, grains on the third florets of the central spikelets had the lowest zinc and phytate contents within a spike. The significance of these results is discussed in relation to the improvement of wheat micronutrient quality.
【英文摘要】One hundred and eighty-six wheat genotypes from different areas of China were selected to evaluate the genotypic and positional differences in grain phytase activity, phytate, inorganic phosphorus, iron, and zinc contents. Results showed substantial differences in these chemical components among genotypes. Grain weight and phytate (r=-0.34**), inorganic phosphorus (r=-0.23**), and phytase activity (r= -0.43 **) were negatively correlated. In contrast, grain weight and iron (r=0.20**), phytate and zinc (r=0.37**), and iron and zinc (r=0.29**) were positively correlated. The effect of grain position on all these components was significant. Generally, grains on the third florets of the central spikelets had the lowest zinc and phytate contents within a spike. The significance of these results is discussed in relation to the improvement of wheat micronutrient quality.
【语种】英文
【第一作者】刘正辉
【通讯作者】刘大钧
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【学科分类】农学其他学科

【题目】两种检测小麦DON 含量方法的比较与应用
【中文关键词】小麦; 赤霉病; 脱氧雪腐镰刀菌烯醇; 液相色谱; 气质联用
【英文关键词】Triticum aestivum; Fusarium head blight or scab; Deoxynivalenol; HPLC; GC-MS
【中文摘要】为选育赤霉病毒素含量低的小麦品种, 减轻赤霉病危害, 在比较了免疫亲和柱液相色谱法(DON test-H PLC) 和气质联用法(GC-MS) 测定小麦中毒素含量的特点的基础上, 利用两种方法对自然发病和赤霉 病菌人工接种的小麦籽粒

DON含量进行测定。结果表明, DON test-H PLC 方法线性检测下限为0.1ng • l- 1 , 在添加0. 1~ 5. 0 mg • kg--1 DON 标准品时, 其平均回收率为85. 80%; GC-MS 方法提高了检测的可靠性, 灵敏度更高, 其线性检测下限为0. 025 ng L- 1 , 在添加0. 1~ 10. 0 mg • kg- 1 DON 标准品时, 其平均回收率为94. 68%, 而且能够同时检测多种毒素。相关性分析表明, 两种方法检测结果相关显著(R2 = 0. 9928) 。DON test-H PLC 简便、安全, 比较适宜于DON 含量较低品种或品系大样品的检测。GC-M S 更适宜小样品DON 及其衍生物含量的检测。

【英文摘要】Breeding wheat cultivars with low deoxynivalenol (DON) content is an effectiv e approach tocontrol the toxin contamination in wheat g rains caused by w heat scab. In this paper, two methods for the determination of DON content in wheat grains, DON test-HPLC and GC-MS, were compared. The result s indicated that both methods were fast and accurate, with the latter more credible and sensitive. T he linear lowest limit o f DON test-H PLC w as 0. 1 ng / L, it s average recovery rate w as 85.80% w hen 0.1~ 5.0 mg kg- 1 DON was added into the wheat grains. GC-MS method could detect as low as 0. 025 ng/ DON, with a recovery rate o f 94. 68% when 0. 1~ 10. 0 mg kg- 1 DON was added into the wheat grains. Moreover, GC-MS method could detect various toxin forms of DON, including 3-ADON, 15-A DON etc. in the same experiment , while DON test-H PLC could not distinguish different toxin forms. The two methods showed significant correlation (R 2 = 0. 9928) . Based on the present result s, DON test- HPLC w as suggested to be used in large samples for DON analysis, and GC- MS should be more helpful in small samples for both analysis on DON and it s derivatives.

【语种】中文
【第一作者】裴自友
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【题目】小麦-簇毛麦6VS/6AL易位染色体在不同小麦背景中的遗传稳定性及其在配子中的传递
【中文关键词】小麦; 簇毛麦; P m21; 荧光原位杂交; 配子传递率
【英文关键词】Wheat ; Haynaldia villosa; Pm21 gene; FISH; Transmission frequency

【中文摘要】为研究小麦- 簇毛麦6VS/ 6AL 易位染色体在不同小麦背景中的遗传稳定性及其在配子中的传递, 利用高抗白粉病的普通小麦- 簇毛麦6VS/ 6AL 易位系92R137 与不抗白粉病的栽培品种百农64、百农9310、邯5310、小偃54、淮麦20、徐麦856 进行杂交, 并用这些品种分别与杂种F1 进行正反回交。对杂种F1 花粉母细胞减数分裂中期 I 的细胞学观察表明, 在减数分裂中期 I 易位染色体6VS/ 6AL 通常以6AL 与6A染色体配对形成棒状二价体。各杂种F1 高抗白粉病, 位于6VS 上的抗白粉病基因Pm21 呈显性, 在F2 中有69. 0%~ 74. 0%的植株抗白粉病, 接近1 对显性基因遗传的理论值。由于6VS 与6AS 在通常情况下不发生配对交换, 因此可通过白粉病抗性鉴定并结合利用6VS 上的分子标记来跟踪6VS/ 6AL 易位染色体的传递。测交结果表明, 以F1 作母本6VS/ 6AL 易位染色体通过雌配子的传递率为49. 2%(45. 8%~ 54. 9%) ; 以F1作父本6VS/ 6AL 易位染色体通过雄配子的传递率为44. 7% (43. 1%~ 46. 8%) , 均接近50%的理论值。但在各组合中, 6VS/ 6AL 易位染色体通过雄配子的传递率均低于通过雌配子的传递率。

【英文摘要】In order to study transmission o f 6VS/ 6AL chromo some through gametes and its genetic stability in different genetic backgound, the 6VS/ 6AL translocation line 92R137 (highly resistant to powdery mildew) w ere respectively crossed to common w heat varieties Bainong 64, Bainong 9310, Han 5310, Xiaoyan 54, Huaimai 20 and Xumai 856 introduced from different areas of China and the hybrids F1 w ere backcrossed as male and female. Fluorescence in situ hybridization (FISH) on hybrid F1 PMC MI w as used to study the pairing o f 6VS/ 6AL translocation chromosome o f hybrid F1 in different w heat background. The rod bivalent formed by 6AL of translocation chromosome and chromosome 6A w as observed in (translocation line different variety) F1 plants. All the F1 plant s expressed high resistance to powdery mildew. It indicated that Pm21 gene on 6VS inherited dominantly and expressed w ell w hen transferred to different w heat genotype. In hybrid F2 , there w ere 69. 0%~74. 0% plants highly resistant to powdery mildew , close to the transmission o f o ne dominant gene expected value o f 75%. In general situation, 6VS can not pair and crossover with 6AS, so powdery mildew resistance and molecular marker o n 6VS can be used to t race the transmission of 6VS/ 6AL translocation through gametes. The result of testcrosses showed that translocation chromosome 6VS/ 6AL can transmit to off spring s stably , and the transmission frequency of 6VS/ 6AL was higher through female gametes (49. 2%) than through male gametes (44. 7%) , but all o f them had not significant difference with expected value of 50% .

【语种】中文

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【题目】普通小麦籽粒DON 含量的配合力分析
【中文关键词】小麦; 赤霉病; 配合力; 脱氧雪腐镰刀菌烯醇; 遗传
【英文关键词】Triticum aestivum; Fusarium head blight (FHB) ; Combining ability; Deoxynivalenol (DON) ; Heritability
【中文摘要】为了选育抗赤霉病且籽粒毒素含量低的小麦品种以减轻赤霉病危害, 在对我国南方麦区地方品种进行赤霉病抗性鉴定的基础上, 选用8 个籽粒中脱氧雪腐镰刀菌烯醇(deoxynivalenol, DON) 含量水平不同的小麦品种作亲本, 按8×8半双列杂交配制28 个杂交组合, 以接种后成熟籽粒中DON 含量、病小穗数、病小穗率和病粒率为指标, 进行赤霉病抗性、一般配合力(GCA) 和特殊配合力(SCA) 遗传分析, 以及不同鉴定指标间比较和相关性分析。结果表明, 8 个品种中籽粒DON 含量以苏麦3 号最低(0. 5715 mg kg- 1) , Alondra ’ s 最高(13. 5560 mg kg- 1) , 各组合F1 的籽粒DON 含量均低于感病品种Alondra ’ s。品种间GCA 和SCA 存在显著差异, 籽粒DON 含量以加性效应为主, 存在部分显性效应。苏麦3 号、望水白和翻山小麦表现出较好的一般配合力效应。以苏麦3 号为亲本的5 个组合、望水白为亲本的4 个组合特殊配合力效应较大。扬麦158 一般配合力效应较小, 但有4 个组合表现较好的特殊配合力效应。籽粒DON 含量和病小穗数、病小穗率、病粒率呈极显著的正相关关系。感病品种Alondra s 和绵阳8545 的各个抗性鉴定指标的一般配合力在8 个品种的排序中表现一致, 抗病品种各个抗性指标的一般配合力在8 个参试材料间的排序有所差异。DON 含量的狭义遗传力为74.54%, 因此以抗DON 积累为指标的赤霉病抗性育种, 可以在早期世代进行选择。
【英文摘要】Fusarium head blight (FHB) caused by Fusarium spp. is an important disease of wheat in warm and humid areas in the world. In China, frequent epidemics of wheat FHB occurred mainly in the middle and lower reaches of the Yangtze River and the northeastern spring wheat growing area. FHB causes decrease of grain yield and quality. Moreover mycotoxins contamination of diseased wheat grains is harmful to humans and livestock. Deoxynivalenol (DON) is the main toxin in wheat in China. Many countries had regulations for DON contents in both food and feed. Development of scab resistant cultivars with minimizing DON content can reduce the damage from FHB. In the present research, to understand the inheritance of DON content in wheat grains, an 8 8 diallel crossing of Griffing analysis of DON content involving four landraces (Wangshuibai, Chimianxiaomai, Fanshanxiaomai, and Qiangweimai) and four cultivars (Alondra ’ s, Mianyang 8545, Sumai 3, and Yangmai 158) with different DON content was performed. F1 of 28 combinations and their parental lines were planted with two replications and artificially inoculated by single floret inoculation with a high DON producing isolate. Disease severity was evaluated by the number of diseased spikelets, percentages of diseased spikelets and diseased grains, and DON content in grains was analyzed by gas chromatography with mass spectrometry (GC MS) . The above four indices were compared and their correlation coefficients were estimated. General combining ability (GCA) and special combining ability (SCA) were also analyzed. Significant differences of DON content, GCA and SCA of DON content in wheat grains were measured among the eight parents. All F1 hybrids showed less DON contents than the susceptible cultivar Alondra s. The resistant cultivar Sumai 3 showed the lowest DON content (0. 5715 mg kg- 1) and the highest negative GCA values (- 1. 26) , and Alondra ’ s showed the highest grain DON content (13. 5560 mg kg- 1) and highest posit ive GCA values (2. 96) . Negative GCA effects of Sumai 3 (- 1. 26) , Wangshuibai (- 1. 16) and Fanshanxiaomai (- 1. 13) were similar and significant for decreasing DON content. Five combinations derived from Sumai 3, four from Wangshuibai and four from Yangmai 158 showed higher SCA for DON content reduction. From the results of the current research, the DON content in grains is mainly controlled by additive genetic components, with partial dominance effects. There were significant positive correlations among DON content, number of the diseased spikelets, percentages of diseased spikelets and diseased grains (r = 0. 5980- 0. 9889) . In addition, GCA of four parameters in susceptible cultivars(Alondra ’ s, Mianyang 8545) showed the same trend in the eight parents, while it varied among different resistant cultivars. The narrow sense heritability of DON content in grains was 74. 54%, indicating that it is feasible to select lines with low DON content in earlier generations.
【语种】中文
【第一作者】裴自友
【通讯作者】刘大钧
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【题目】加州野大麦染色体C-分带、荧光原位杂交及其核型分析
【中文关键词】双二倍体; 染色体C-分带; 荧光原位杂交; 核型分析; 加州野大麦;
【英文关键词】Anlphiploid; Sequential chromosome C—banding; Fluorescence in situ“ hybridization;Karyotype analysis;California barley(Hordeum californicum)
【中文摘要】以二倍体加州野大麦(Hordeum californicum)及普通小麦中国春(Chinese spring,CS)-加州野大麦的双二倍体为材料,进行依次染色体C-分带和荧光原位杂交(FISH)分析。结果表明:小麦背景中的加州野大麦染色体都显示较强的末端带,7对染色体之间带的数目和强弱均存在明显差异,可以和普通小麦染色体相互区分开来;以45srDNA为探针进行荧光原位杂交发现,二倍体和双二倍体中加州野大麦的NOR位点均位于第7对染色体短臂上;基于根尖细胞有丝分裂中期染色体C-分带和原位杂交结果,利用Motic images plus 2.0 ML软件“ 数码显微图像处理系统 ”进行核型分析,确定加州野大麦的核型为2n=2x=10 m(2SAT)+4 sm,属于较为对称性核型(A);加州野大麦染色体核型的建立,为利用远缘杂交和染色体工程转移加州野大麦的有利基因奠定了基础。
【英文摘要】Sequential chromosome C-banding/F1uorescence in situ hybridization was conducted on root—tip cell chromosomes of California barley(H.californicum),and wheat(Trticum aestivum c.v. Chinese Spring)-H.californicum amphiploid.The results show that most chromosomes of H.californicum had strong terminal bands. Different chromosomes could be distinguished by their unique band pattern and could be identified in the wheat background.The FISH results using labeled 45S rDAN as a probe revealed that there were two hybridized signals on a pair of H7 chromosomes of H.H.californicum.Based on the chromosome C-banding and FISH results,karyotype analysis was conducted using Motic images plus 2.O ML software.The karyotype formula of H.californicum was 2n一2x一10 m(2SAT)+4 sm.
【语种】中文
【第一作者】孔芳
【通讯作者】王秀娥
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【题目】分子标记辅助选育小麦抗白粉病、优质高分子量麦谷蛋白亚基聚合体
【中文关键词】小麦, 白粉病, 品质, 聚合体, 分子标记辅助选择
【英文关键词】Triticum aestivum L., Powdery mildew, Quality, Pyramided traits, Marker-assisted selection (MAS)
【中文摘要】现代小麦育种的目标是选育丰产、综合抗逆性好的优质小麦新品种,将分子标记技术与传统育种方法相结合可以大大提高育种效率。本研究利用与小麦抗白粉病基因Pm21紧密连锁的共显性PCR标记、以及优质高分子量麦谷蛋白亚基1Dx5+1Dy10特异的PCR标记对以小麦品种安农94212、安农92484为优质亲本和以抗白粉病小麦—簇毛麦易位系为抗病亲本的杂交高代材料进行标记位点的检测,结合田间抗病性鉴定结果,筛选、培育出聚合有Pm21和1Dx5+1Dy10的抗白粉病小麦聚合体,为小麦抗病、优质育种提供了具有重要利用价值的中间材料。
【英文摘要】Development of germplasms with pyramided high yield, good quality and disease resistance genesis very important for wheat breeding. The combination of marker-assisted selection (MAS) and conventional breeding methods will greatly improve the breeding effi ciency. In this research, one sequence tagged sites (STS) marker linked to wheat powdery mildew resistant gene Pm21, and two specifi c markers for high molecular weight glutin (HMWG) subunit 1Dx5+1Dy10 were used to identify new germplasms with pyramided traits by MAS combined with field resistance evaluation. One elite line with pyramided Pm21 and 1Dx5+1Dy10 was identified, and should be good parents in wheat improvement for disease resistance and good bread quality.
【语种】中文
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【通讯作者】王秀娥

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【题目】普通小麦-簇毛麦易位系T4VS#4VL-4AL 的选育与鉴定
【中文关键词】普通小麦; 簇毛麦; T4VS#4VL-4AL 易位; C- 分带; 荧光原位杂交; 分子标记
【英文关键词】Triticum aestivum; Haynaldia villosa; T4VS # 4VL-4AL translocation; C-banding; Fluorescent in situ
【中文摘要】利用染色体C- 分带和基因组原位杂交分析, 从普通小麦- 簇毛麦4V 染色体二体异附加系(DA4V) 与普通小麦农林26- 离果山羊草3C 染色体二体异附加系(DA3C) 杂种后代中选育出小麦- 簇毛麦纯合易位系T4VS#4VL- 4AL。SSR 和RFLP 标记分析表明, 该易位染色体包括4VS、4VL 近着丝粒部分区段和4AL 顶端区段; 该易位系具有良好的细胞学稳定性, 结实正常, 为杀配子染色体诱发形成的补偿型易位; 易位系T4VS#4VL- 4AL 高抗梭条花叶病, 是小麦抗病育种新种质。
【英文摘要】Chromosome 3C of Aegilops triuncialis are of the ability to be transferred preferentially in the case of its monosomic status in wheat background. Whereas, those gametes without 3C would result in chromosome structural changes including deletion and translocation. Haynaldia villosa is reported to be resistant to several wheat diseases, such as powderymildew, rust, take- all, eyespot, and wheat spindle streak mosaic viruses. Chromosome disomic addition lines involving all seven H . villosa chromosomes, disomic substitut ion lines involving chromosomes 4V have been developed and characterized. Eyespot and take- all resistance gene is mapped on chromosome 4VL. The objectives of this study were to develop more translocation lines involving chromosome 4V, and supply new germplasm for wheat breeding. Triticum aestivum-Haynaldia villosa 4V disomic addition line was crossed to T . aestivum / Norin 260-Ae. triuncialis 3C disomic addition line , and the hybrids F1 were then self pollinated. Both chromosome C- banding and fluorescent in situ hybridization (FISH) were applied to screen chromosome variations of 4V. In this case, total genomic DNA of H. villosa was labelled by fluorescein-t 12-dUTP as probes and total genomic DNA of Chinese Spring as the block. One heterozygous translocation line involved in 4V and 4A (J176- 33) was identified from F2, and a homozygous translocation line (CQZ55) was selected from the offspring of J176- 33 and confirmed by chromosome pairing analysis at meiosis Ñ of pollen mother cells (PMC) . The results of simple sequence repeat (SSR) and restrict ion fragment length polymorphism (RFLP) analyses indicated that CQZ55 is consisted of 4VS, a part of 4VL near the centromere and distal part of 4AL, and designated as T4VS#4VL-4AL. This translocation line showed high resistance to wheat spindle streak mosaic virus.
【语种】中文
【第一作者】陈全战
【通讯作者】陈佩度
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【题目】Effects of the 6VS.6AL translocation on agronomic traits and dough properties of wheat
【中文关键词】Grain yield Pm21 Powdery
mildew Triticum aestivum L Wide crosses
【英文关键词】Grain yield Pm21 Powdery
mildew Triticum aestivum L Wide crosses
【中文摘要】Nineteen common wheat cultivars and advanced lines carrying a 6VS.6AL translocation and five parents were sown at two locations in Jiangsu in 2004 – 05 season to assess the effects of the translocation on grain yield and dough properties. In general, there were no significant differences between 6VS.6AL lines and their recurrent parents in agronomic, mixograph and starch pasting traits, including grain yield, grains/spike, grain weight/spike, mixing time and peak viscosity. 6VS.6AL lines showed slightly but significantly higher thousand-kernel weight and plant height, and small negative effects on test weight, flour yield and flour colour. However, significant variation occurred for all traits among sister lines from the same cross, indicating that additional selection could lead to further improvement. It was concluded that the 6VS.6AL translocation can be used in wheat breeding programs as a donor of resistance to powdery mildew with no obvious undesirable effects on agronomic and quality traits.

【英文摘要】Nineteen common wheat cultivars and advanced lines carrying a 6VS.6AL translocation and five parents were sown at two locations in Jiangsu in 2004 – 05 season to assess the effects of the translocation on grain yield and dough properties. In general, there were no significant differences between 6VS.6AL lines and their recurrent parents in agronomic, mixograph and starch pasting traits, including grain yield, grains/spike, grain weight/spike, mixing time and peak viscosity. 6VS.6AL lines showed slightly but significantly higher thousand-kernel weight and plant height, and small negative effects on test weight, flour yield and flour colour. However, significant variation occurred for all traits among sister lines from the same cross, indicating that additional selection could lead to further improvement. It was concluded that the 6VS.6AL translocation can be used in wheat breeding programs as a donor of resistance to powdery mildew with no obvious undesirable effects on agronomic and quality traits.
【语种】英文
【第一作者】李桂萍
【通讯作者】陈佩度
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【题目】Assessment of Genetic Diversity of Yunnan, Tibetan, andXinjiang Wheat Using SSR Markers
【中文关键词】Yunnan wheat; Tibetan wheat; Xinjiang wheat; genetic diversity; SSR markers
【英文关键词】Yunnan wheat; Tibetan wheat; Xinjiang wheat; genetic diversity; SSR markers
【中文摘要】A total of 206 SSR (Simple Sequence Repeats) primer pairs were used to detect genetic diversity in 52 accessions of three unique wheat varieties of western China. A total of 488, 472, and 308 allelic variants were detected in 31 Yunnan, 15 Tibetan and 6 Xinjiang wheat accessions with an average of PIC values 0.2764, 0.3082, and 0.1944, respectively. Substantial differences in allelic polymorphisms were detected by SSR markers in all the 21 chromosomes, the 7 homoeologous groups, and the three genomes (A, B, and D) in Yunnan, Tibetan, and Xinjiang wheat. The highest and lowest allelic polymorphisms in all the 21 chromosomes were observed in 3B and 1D chromosomes, respectively. The lowest and highest allelic polymorphisms among the seven homoeologous groups was observed in 6 and 3 homoeologous groups, respectively. Among the three genomes, B genome showed the highest, A the intermediate, and D the lowest allelic polymorphism. The genetic distance (GD) indexes within Yunnan, Tibetan, and Xinjiang wheat, and between different wheat types were calculated. The GD value was found to be much higher within Yunnan and Tibetan wheat than within Xinjiang wheat, but the GD value between Yunnan and Tibetan wheat was lower than those between Yunnan and Xinjiang wheat, and between Tibetan and Xinjiang wheat. The cluster analysis indicated a closer relationship between Yunnan and Tibetan wheat than that between Yunnan and Xinjiang wheat or between Tibetan and Xinjiang wheat.
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【语种】英文
【第一作者】王海燕
【通讯作者】刘大钧
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【题目】Phytase activity, phytate, iron, and zinc contents in wheat pearlingfractions and their variation across production locations
【中文关键词】Phytase; Phytate; Iron; Zinc; Pearling; Production locations; Wheat
【英文关键词】Phytase; Phytate; Iron; Zinc; Pearling; Production locations; Wheat
【中文摘要】Pearling is an effective method for evaluating the distribution of chemical components in wheat grain. Twelve pearling fractions(P1 – P12) of wheat grain were obtained using two rice polishers for 10 cultivars (six soft red wheats and four hard white wheats) grown attwo locations with different environmental conditions in Jiangsu Province, China. The results show that the effects of cultivar, location, and pearling on wheat flour phytase activity, phytate, iron, and zinc contents were all significant, with pearling having the greatest effect.All the four components showed a diminishing trend as pearling progressed from the outer layers to the inner part of wheat grain.Generally, the P2 fraction (the outer 4 – 8% layer of wheat grain) had the highest phytase activity and phytate and iron contents, whereasthe P1 fraction (the outer 0 – 4% layer) ranked the highest for zinc content. Growing location had a large influence on grain phytase,phytate, and iron, but the differences between locations decreased as pearling level increased.
【英文摘要】Pearling is an effective method for evaluating the distribution of chemical components in wheat grain. Twelve pearling fractions(P1 – P12) of wheat grain were obtained using two rice polishers for 10 cultivars (six soft red wheats and four hard white wheats) grown attwo locations with different environmental conditions in Jiangsu Province, China. The results show that the effects of cultivar, location, and pearling on wheat flour phytase activity, phytate, iron, and zinc contents were all significant, with pearling having the greatest effect.All the four components showed a diminishing trend as pearling progressed from the outer layers to the inner part of wheat grain.Generally, the P2 fraction (the outer 4 – 8% layer of wheat grain) had the highest phytase activity and phytate and iron contents, whereasthe P1 fraction (the outer 0 – 4% layer) ranked the highest for zinc content. Growing location had a large influence on grain phytase,phytate, and iron, but the differences between locations decreased as pearling level increased.
【语种】英文
【第一作者】刘正辉
【通讯作者】刘大钧
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【题目】云南、西藏及新疆小麦研究进展
【中文关键词】云南小麦; 西藏小麦; 新疆小麦; 分类学; 起源; 遗传多样性;
【英文关键词】Yunnan wheat; Tibetan wheat; Xinjiang wheat
【中文摘要】为了解目前云南、西藏和新疆小麦的研究现状,就三者的分类学地位、起源进化、独特性状和遗传多样性的研究进展进行了综述,并提出了进一步研究的问题和意见。分类学,形态学,染色体组组成,SSR分子标记等研究结果表明,云南、西藏小麦是普通小麦的一个亚种,而新疆小麦被划分为六倍体小麦内的一个独立的种(Tr.petropavlovskyio),推测云南小麦和西藏小麦可能是由中东等地传入中国的原始六倍体小麦的后代,而新疆小麦或许是外来原始六倍体小麦传入中国新疆后,再与新疆本地的波兰小麦杂交的后代。研究还表明,西藏小麦和云南小麦群体内的遗传多样性要大于新疆小麦。 更多还原
【英文摘要】To understand the research progresses of these three unique w heats including Yunnan wheat(Triticum aestivum ssp. yunnanense King) , Tibetan w heat (Triticum aestivum ssp. tibetanum Shao) and Xinjiang w heat (T.petropavloski Udats et Migusch) , the research progresses of these three unique w heat s in classification, origin and evolution, unique characters, genetic diversity w ere reviewed and further research directions and advices w ere pro posed. Based on morphology, chromo some constitution and SSR molecular markers analysis, Yunnan wheat and Tibetan wheat have been taxonomically classified as a subspecies in T.aestivum, and Xinjiang w heat has been taxonomically classified as an absolute species in T.aestivum. Yunnan wheat and Tibetan wheat might be the progenitor of the ancestor T. aestivum introduced from the Middle East. Xinjiang w eat might be the progenitor of the ancestor T.aestivum introduced from the Middle East and Chinese Polonicum. Yunnan w heat and Tibetan wheat have higher genetic diversity than Xinjiang wheat .

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【题目】利用基于PCR的分子标记区分普通小麦—提莫菲维小麦渐渗系
【中文关键词】小麦; 提莫菲维小麦; 白粉病; Pm6; 渐渗系;
【英文关键词】wheat; Triticum timopheevii; powdery mildew; Pm6; introgression lines
【中文摘要】采用定位于小麦2B染色体上的72对分子标记对含小麦抗白粉病基因Pm6的8份普通小麦(T.aestivum L.)-提莫菲维(T.timopheevii zhuk.)渐渗系材料进行分析,通过分子标记标图确定8份材料中渗入的提莫菲维小麦染色体片段的大小,同时结合连锁图谱对这些材料进行了遗传和物理标图。参考本研究所用的分子标记在染色体2B上的定位结果,Pm6基因被位于2B染色体长臂近末端2BL-6区域,提莫菲维小麦2G染色体渐渗片断长度由短到长排列顺序为:IGV1-465<IGV1-464<IGV1-463<IGV1-468<(IGV1-448、IGV1-458)<IGV1-474<IGV1-466。研究结果与陶文静(1999)采用RFLP标记标图的结果基本吻合,进一步确认IGV1-465渐渗片段最小。本研究所鉴定的基于PCR的分子标记还可以用于区分该套渐渗系,这为这套材料在育种中的分子标记辅助选择和Pm6基因的克隆奠定了基础。
【英文摘要】In order to determine the fragment size of Triticum timopheevii chromosome segments introduced into wheat background and physically map the Pm6 gene, a total of 72 primers (including SSR and STS primers) were used to analyze the eight introduced introgression lines containing Pm6 gene. Referring to the available mapping information of the analyzed markers on chromosome 2B, Pm6 was physically located in distal part of the long arm of chromosome 2B at the region of Bin 2BL-6. The introgressed fragment sizes of the chromosome 2G in different introgression lines was determined to be as follow (from short to long): IGV1-465<IGV1-464<IGV1-463< IGV1-468<(IGV1-448,IGV1-458)<IGV1-474<IGV1-466. The results were coincide with the RFLP results and further confirmed that line IGV1-465 contained the minimum introgression segment. Using the 10 polymorphism PCR markers identified in the present research, it is feasible to differentiate seven introgression lines. This information will be helpful for marker assistant identification of these lines in wheat breeding program and for further isolation of the Pm6 gene.
【语种】中文
【第一作者】纪剑辉
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【题目】小麦铁锌营养品质研究进展
【中文关键词】小麦; 铁; 锌; 营养品质;
【英文关键词】Wheat ; Iron; Zinc; Nut ritional quality
【中文摘要】“隐性饥饿”,即铁、锌等微量元素缺乏症,已成为困扰我国居民的首要营养不良问题。选育高铁、锌含量、强植酸酶活性或低植酸含量的“微量营养强化型”小麦品种对于改善我国西部居民的营养状况具有重要的意义。本文主要介绍小麦铁锌营养品质的遗传改良研究进展,包括铁锌营养品质的相关化学组分(铁、锌、植酸和植酸酶)及改善小麦铁锌营养品质的遗传途径等两方面,并指出了小麦铁锌营养品质的研究方向和工作重点。
【英文摘要】Micronutrient malnutrition, of ten called -Hidden Hunger. , now afflict s mo re than two billion people worldwide, and results in low working efficiency, high healthcare cost, increased rates of mortality and morbidity and permanent impairment o f cognitive abilities o f infants. People in developing countries are especially at risk, because they are inability to buy enough meat , poultry, fish, fruit s, and vegetables that are rich in micro nutrient s such as iron, vitamin A, iodine, and zinc. Wheat is a highly consumed cereal crop. On a worldwide scale, it contributes approximately 30% of the total cereal product ion, making it a major source of minerals for many people. Wheat is also o ne o f the most important food crops in China. In Western China, w here people are still

relatively poor, more than 50% children in the rural areas are iron or zinc deficient. So it is imperative to develop w heat cultivars with improved iron and zinc quality to alleviate malnutrition in these areas. The three major factors affecting the utilization o f iron and zinc in w eat grains are the content o f iron and zinc, the content of phytic acid and the activity of endogenous phytase. In this paper, pr ogress in studies o n biological aspect s of w heat micronutrient quality is reviewed. The main content includes the introduction of the significance o f iron, zinc, phytic acid, and phytase for human nutrition, and the molecular approaches to improve w heat micronutrient quality. Additionally, the perspective of research on w heat micronutrient quality is out lined.

【语种】中文

【第一作者】刘正辉

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【学科分类】农学其他学科

【题目】簇毛麦6V染色体短臂特异分子标记的开发和应用

【中文关键词】簇毛麦; 抗病基因类似物(RGA); 位点标签序列(STS); 染色体特异分子标记; 缺失系

【英文关键词】Haynaldia villosa; Resistance gene analog (RGA) ; Site tagged sequence (STS) ; Chromosome-specific molecular marker; Deletion line

【中文摘要】为开发簇毛麦6V染色体短臂特异的分子标记,并利用这些标记对缺失系进行鉴定,选用11个RGA和17对STS引物进行多态性分析,其中1个RGA引物和1对STS引物在对普通小麦扬麦5号、簇毛麦及普通小麦-簇毛麦6VS/6AL易位系进行多态性分析时,分别检测到一条约1000bp和约800bp的多态性片段,将这两个标记转化为稳定的特异性分子标记,分别命名为CINAU17-1086和CINAU18-723。运用这两对引物对一系列材料进行扩增,只有含6V染色体短臂的材料才能扩增出相应的特异条带,表明这两个标记均位于簇毛麦6VS上。进一步利用簇毛麦6VS缺失添加系、易位系将CINAU17-1086标记定位在簇毛麦6VSFL0.58与FL0.70之间,将CINAU18-723标记定位在簇毛麦6VSFL0.45与着丝粒之间。利用这两个特异标记对通过花粉辐射获得的部分簇毛麦6VS结构变异材料进行PCR鉴定,其结果与细胞学鉴定结果一致。CINAU17-1086和CINAU18-723标记可用来快速检测和追踪导入普通小麦背景中的簇毛麦6VS染色体片段,并对缺失系的断点进行了初步界定。

【英文摘要】The resistance gene of powdery mildew was introduced from Haynaldia villosa into common wheat (Triticum aestivum) and located on 6VS and designated as Pm21 . In order to precisely map and clone Pm21 , more molecular markers and chromosome structural variants need to be developed. RGA and STS markers, usually from expressed sequences, have proved to be very effective DNA markers. In order to development and application of molecular markers specific to chromosome 6VS of H . villosa, the DNA polymorphic analysiswas performed on common wheat Yangmai 5, H. villosa and whea-t H . villosa 6VSP6AL translocation lines with 11 RGA and 17 pairs of STS primers. Two polymorphic fragments, about 1 000 bp and 800 bp, were amplified by a RGA primer Pto kin4 and a pair of STS primer, and then were cloned and sequenced, respectively. Based on the cloning sequences, two pairs of specific markers, CINAU17-1086 and CINAU18-723, were developed, and used to amplify common wheat Chinese Spring, Yangmai 5, Yangmai 158, H . villosa and T . durum-H. villosa amphiploid, whea-t H. villosa alien addition lines (1V- 7V) , whea-t H. villosa 6VSP6AL translocation line 92R137. The results indicated that two markers, CINAU17-1086 and CINAU18-723, were located on chromosome 6VS because only the materials with 6VS chromosome could amplify the specific patterns. Furthermore, CINAU17-1086 was located between FL0. 58 and FL0. 70 and CINAU18-723 between FL0. 45 and centromere on chromosome 6VS by using 6VS deletion addition lines and translocation lines. The results obtained from these two markers were consistent with those from the cytogenetic ident ification to variant materials of chromosome 6VS obtained by radiating pollen. Therefore, CINAU17- 1086 and CINAU18-723 markers could be used to rapidly detect the correspondent chromosome segments of 6V in common wheat and primarily identify the breakage points of delet ion lines.

【语种】中文

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【题目】Mass production of intergeneric chromosomal translocation through pollen irradiation of Triticum durum-Haynaldia villosa amphiploid

【中文关键词】genomic in situ hybridization; intergeneric chromosomal translocation; mass production; pollen irradiation; Triticum durum-Haynaldia
villosa amphiploid.

【英文关键词】genomic in situ hybridization; intergeneric chromosomal translocation; mass production; pollen irradiation; Triticum durum-Haynaldia
villosa amphiploid.

【中文摘要】Haynaldia villosa possesses a lot of important agronomic traits and has been a powerful gene resource for wheatimprovement. However, only several wheat – H. villosa translocation lines have been reported so far. In this study, weattempted to develop an efficient method for inducing wheat – H. villosa chromosomal translocations. Triticum durum-Haynaldia villosa amphiploid pollen treated with 1 200 rad 60Co- γ -rays was pollinated to Triticum aestivum cv. ‘ ChineseSpring ’. Ninety-eight intergeneric translocated chromosomes between T. durum and H. villosa were detected by genomicin situ hybridization in 44 of 61M1 plants, indicating a translocation occurrence frequency of 72.1%; much higher than everreported. There were 26, 62 and 10 translocated chromosomes involving whole arm translocations, terminal translocations,and intercarlary translocations, respectively. Of the total 108 breakage-fusion events, 79 involved interstitial regions and29 involved centric regions. The ratio of small segment terminal translocations (W • W-V) was much higher than that oflarge segment terminal translocations (W-V • V). All of the M1 plants were self-sterile, and their backcross progeny wasall obtained with ‘ Chinese Spring ’ as pollen donors. Transmission analysis showed that most of the translocations weretransmittable. This study provides a new strategy for rapid mass production of wheat-alien chromosomal translocations,especially terminal translocations that will be more significant for wheat improvement.

【英文摘要】Haynaldia villosa possesses a lot of important agronomic traits and has been a powerful gene resource for wheatimprovement. However, only several wheat – H. villosa translocation lines have been reported so far. In this study, weattempted to develop an efficient method for inducing wheat – H. villosa chromosomal translocations. Triticum durum-Haynaldia villosa amphiploid pollen treated with 1 200 rad 60Co- γ -rays was pollinated to Triticum aestivum cv. ‘ ChineseSpring ’. Ninety-eight intergeneric translocated chromosomes between T. durum and H. villosa were detected by genomicin situ hybridization in 44 of 61M1 plants, indicating a translocation occurrence frequency of 72.1%; much higher than everreported. There were 26, 62 and 10 translocated chromosomes involving whole arm translocations, terminal translocations,and intercarlary translocations, respectively. Of the total 108 breakage-fusion events, 79 involved interstitial regions and29 involved centric regions. The ratio of small segment terminal translocations (W • W-V) was much higher than that oflarge segment terminal translocations (W-V • V). All of the M1 plants were self-sterile, and their backcross progeny wasall obtained with ‘ Chinese Spring ’ as pollen donors. Transmission analysis showed that most of the translocations weretransmittable. This study provides a new strategy for rapid mass production of wheat-alien chromosomal translocations,especially terminal translocations that will be more significant for wheat improvement.

【语种】英文

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【学科分类】农学其他学科

【题目】普通小麦近缘物种黑麦1R、簇毛麦1V及鹅观草1Rk#1染色体特异分子标记的筛选

【中文关键词】染色体特异分子标记; 表达序列标签; 位点标签序列; 黑麦(Secale cereale); 簇毛麦(Haynaldia villosa); 鹅观草(Roegneria kamoji); 小麦(Triticum aestivum);

【英文关键词】Chromosome specific marker ; Expressed sequence tag (EST) ; Site tagged sequence (STS) ; Secale cereale ; Haynaldia villosa ; Roegneria kamoji ; Triticum aestivum

【中文摘要】为筛选普通小麦近缘物种黑麦1R、簇毛麦1V及鹅观草1Rk#1染色体特异分子标记,根据已定位于普通小麦第一部分同源群的EST序列设计104对STS引物,对中国春、鹅观草、黑麦及簇毛麦进行多态性分析。在104对STS引物中,有

53对在对照普通小麦中国春与鹅观草、黑麦及簇毛麦之间存在多态性。利用普通小麦-黑麦1R~7R二体异附加系筛选出5对黑麦1R染色体特异标记,分别是CINAU 19-500、CINAU20-950、CINAU21-1500、CINAU22-310和CINAU23-2000;利用普通小麦-簇毛麦1V~7V二体异附加系筛选出5对簇毛麦1V染色体特异标记,分别是CINAU23-1700、CINAU24-1050、CINAU25-1650、CINAU26-500和CINAU27-620;利用鹅观草二体异附加系DA1Rk#1、异代换系DS1Rk#1(1A)、端体系DA1Rk#1L、易位系T1Rk#1S.W、长臂缺失系Del1Rk#1L筛选出5对鹅观草1Rk#1特异标记,分别是CINAU27-960、CINAU28-1360、CINAU29-480、CINAU30-560和CINAU31-520。研究表明,可以利用普通小麦的EST序列设计PCR引物,转化成STS标记,筛选普通小麦近缘物种黑麦、簇毛麦及鹅观草等染色体特异的分子标记,快速检测和追踪导入普通小麦背景中的黑麦1R、簇毛麦1V及鹅观草1Rk#1染色体或染色体片段,为深入研究普通小麦远缘杂种材料提供新的工具。

【英文摘要】Many useful genes of wheat2relative species have been transferred to common wheat by chromosome addition , substituation and translocation and need to be identified. The comparative genomics shows obvious colinearity between wheat and its relative species.A lot of molecular makers have been developed and used to identify alien chromosomes , chromosome segments and genes. Wheat EST sequences are especially valuable as molecular markers because they are derived from gene transcripts and are more likely to be conserved among species. In the present study , in order to develop chromosome-specific markers for chromosome 1R of Secale cereale , 1V of Haynaldia villosa and 1Rk # 1 of Roegneria kamoji , 104 STS primers were designed based on EST sequences downloaded from Graingenes distributed on chromosome 1A , 1B , and 1D of Triticum aestivum using software primer 5.10. Out of them, fifty-three pairs of primers amplified polymorphic bands between T.aestivum " Chinese Spring (CS) " and S. cereale , H. villosa , and R. kamoji. Five STS markers , CINAU 19-500 , CINAU20-950 , CINAU21-1500 , CINAU22-310 and CINAU23-2000 amplified specific fragments from S.cereal , T. aestivum-S. cereale amphiploid and 1R addition line , but not from CS and 2R-7R addition lines , were specificto 1R of S. cereale. Five STS markers , CINAU23- 1700 , CINAU24-1050 , CINAU25- 1650 , CINAU26- 500 and CINAU27-620 were specific to 1V of H. villosa because they amplified corresponding patterns from H. villosa , T. durum-H. villosa amphiploid, and 1V addition , not from CS and 2V-7V addition lines. And five STS markers , CINAU27- 960 , CINAU28- 1360 , CINAU29- 480 , CINAU30-560 and CINAU31- 520 specific to 1Rk# 1 of R. kamoji were screened by amplifying specific fragments from R. kamoji , Wheat-R. kamoji DA1Rk # 1 and DS1Rk # 1 (1A) . Furthermore , markers CINAU272960 and CINAU29-480 were located on the short arm, CINAU28-1360 and CINAU31-520 on the long arm and CINAU30-560 close to the region of centremere of chromosome 1Rk# 1 , respectively1 This result indicated that STS markers derived from the EST of common wheat are useful for identifying corresponding specific chromosomes of wheat relatives.

【语种】中文

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【学科分类】农学其他学科

【题目】一个花粉辐射诱导的小麦-簇毛麦相互易位染色体系的分子细胞遗传学研究

【中文关键词】普通小麦;簇毛麦;6V;相互易位;外源大片段易位;外源小片段易位;小片段插入易位;白粉病抗性

【英文关键词】Triticum aestivum ; Haynaldia villosa ; 6V; Reciprocal translocation ; Large alien segment translocation ; Small alien segment translocation ; Intercalary translocation ; Powdery mildew resistance

【中文摘要】利用60Co γ --射线处理小麦-簇毛麦6V单体添加系花粉,并给中国春授粉,在一个M1单株减数分裂中期Ⅰ检测到一个由2条小麦-簇毛麦易位染色体和一条完整小麦染色体构成的三价体,说明参与易位的2个小麦片段均来自同一条小麦染色体,推测两条易位染色体由相互易位产生。将其中涉及外源大片段的易位染色体称为外源大片段易位(largealien segment translocation,LAST),涉及外源小片段的称为外源小片段易位(small alien segment translocation,SAST)。对后代中两个易位染色体均纯合的植株(LAST〞+SAST〞,2n=44)进行顺次C-分带和GISH研究,结果表明外源大片段易位染色体为T7BS-6VS.6VL,外源小片段易位染色体为T6VS-7BS.7BL,易位断点分别位于7B染色体短臂约FL0.60处及6V染色体短臂约FL0.70处。在M2代群体中检测到7种染色体组成类型,比例为
3(LAST〞+SAST〞):20(LAST′+SAST′):2(LAST〞+SAST′):1(LAST′+SAST〞):1LAST′:2SAST′:22(0型),其中外源大片段和外源小片段易位染色体往往相伴出现。抗病鉴定结果显示抗白粉病基因位于外源大片段易位染色体T7BS-6VS.6VL上。对LAST′+SAST′型(2n=43)M2代单株花粉母细胞减数分裂的GISH研究结果显示,88.5%的后期Ⅰ或末期Ⅰ细胞中出现T6VS-7BS.7BL和T7BS-6VS.6VL的共分离。此外,在个别后期Ⅰ细胞中观察到外源大片段易位染色体T7BS-6VS.6VL发生落后和着丝粒断裂现象,并在LAST′型单株(2n=42)的自交后代中筛选到一个通过着丝粒断裂-融合产生的外

源小片段插入易位T7BL.6VS-7BS,这为利用外源大片段易位进一步创制携带抗病基因的小片段插入易位提供了新的思路。还分别获得了T7BS-6VS.6VL和T6VS-7BS.7BL的纯合易位系。 更多

【英文摘要】The short arm of Haynaldia villosa chromosome 6V confers Pm21 that conditions immunity from or high resistance to almost all known powdery mildew races. In the middle of the 1990s , Cytogenetic Institute , Nanjing Agricultural University (CINAU) has obtained the T6VS・6AL translocation line by which some wheat cultivars with high yield and powdery mildew resistance have been developed. However , this translocation obviously has a large amount of redundant alien genes. To develop terminal and Por intercalary translocations with as short as possible alien chromosomal segments conferring Pm21 is more important in wheat breeding. In addition , the more translocations with different breakpoint positions at the length of 6VS are , the higher resolution of physical mapping of Pm21 is. In this research , our objective is to induce new translocations involving H.villosa chromosome 6V through pollen irradiation. Pollen of Triticum aestivum-Haynaldia villosa 6V monosomic addition lines (2 n = 43) , treated with 1 000 rad 60Co- γ - rays , was pollinated to T. aestivum cv. ‘ Chinese Spring ’. Pollen mother cells (PMCs) of M1 plants at meiotic metaphase Ⅰ were used for GISH analysis. A trivalent observed was formed by two T. aestivum-H. villosa translocation chromosomes and a wheat chromosome in a M1 plant , indicating that the translocation chromosomes might be resulted from a reciprocal translocation event. The translocation involving the large alien segment was called ‘ large alien segment translocation ’ (LAST) while the translocation involving the small alien segment was called ‘ small alien segment translocation ’ (SAST) .Sequential C- banding and GISH technique were used to identify a homozygous M2 plant (LAST ″ + SAST ″ , 2 n = 44) . The results showed that the reciprocal translocation involved T. aestivum chromosome 7B and H1 villosa chromosome 6V with the translocation breakpoints at about FL0.60 of 7BS and about FL0.70 of 6VS , respectively. The LAST chromosome was identified as T7BS-6VS・6VL while the SAST chromosome was identified as T6VS-7BS・7BL. Seven chromosome constitution types were observed in the M2 population with the ratio of 3(LAST ″ + SAST ″) :20 (LAST ′ + SAST ′) :2 (LAST ″ + SAST ′) :1(LAST ′ + SAST ″) :1LAST ′ :2SAST ′ : 22 (none alien) 1 The LAST chromosome occurred accompanied by the SAST chromosome at most times. Resistance analysis showed that the plant with a single LAST chromosome was resistant to powdery mildew. Then , Pm21 was located at the proximal region of FL0170 of 6VS.Meiotic analysis of M2 plants with the genome of 20 ⅡW + Ⅰ7B + Ⅰ T7BS26VS・6VL + Ⅰ T6VS27BS・7BL (2 n = 43) showed that T7BS-6VS・6VL and T6VS-7BS・7BL co- segregated at meiotic anaphase Ⅰ or telophase Ⅰ in 88.5 % of PMCs. The LAST chromosome T7BS-6VS・6VL stayed late or centric-misdivided in several PMCs at anaphase Ⅰ. An intercalary translocation , T7BL・6VS-7BS , arising from the centric breakage2fusion of 7B and T7BS26VS・6VL , was then detected in a progeny of a plant with the genome of 20 ⅡW + Ⅰ7B + Ⅰ T7BS26VS・6VL . It provided a new strategy for inducing intercalary translocations with alien chromosomal segments conferring resistance genes. Homozygous T7BS-6VS16VL and T6VS-7BS・7BL translocation lines were obtained in M3 generation.

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【学科分类】农学其他学科

【题目】SSR and STS markers for wheat stripe rust resistance gene Yr26

【中文关键词】Wheat ・ STS ・ SSR ・ Stripe rust resistance ・ Marker-assisted selection
【英文关键词】Wheat ・ STS ・ SSR ・ Stripe rust resistance ・ Marker-assisted selection

【中文摘要】Stripe (yellow) rust, caused by Puccinia striiformis f. sp. tritici (Pst), is one of the most devastating wheat diseases worldwide. Triticum aestivum-Haynaldia villosa 6VS/6AL translocation lines carrying the Yr26 gene on chromosome 1B, are resistant to most races of Pst used in virulence tests. In order to better utilize Yr26 for wheat improvement, we attempted to screen SSR and EST-based STS markers closely linked with Yr26. A total of 500 F2plants and the F2:3 progenies derived from a cross between 92R137 and susceptible cultivar Yangmai 5were inoculated with race CYR32. The analysis con-firmed that stripe rust resistance was controlled by asingle dominant gene, Yr26. Among 35 pairs of genomic SSR markers and 81 pairs of STS marker sderived from EST sequences located on chromosome1B, Yr26 was flanked by 5 SSR and 7 STS markers. The markers were mapped in deletion bins using CS aneuploid and deletion lines. The closest flanking marker loci, Xwe173 and Xbarc181, mapped in 1BLand the genetic distances from

Yr26 were 1.4 cM and6.7 cM, respectively. Some of these markers werepreviously reported on 1BS. Eight common wheat cultivars and lines developed from the T. aestivum-H.villosa 6VS/6AL translocation lines by different research groups were tested for presence of the markers .Five lines with Yr26 carried the flanking markers whereas three lines without Yr26 did not. The results indicated that the flanking markers should be useful in marker-assisted selection for incorporating Yr26 into wheat cultivars.

【英文摘要】Stripe (yellow) rust, caused by Pucciniastriiformis f. sp. tritici (Pst), is one of the most devastating wheat diseases worldwide. Triticum aestivum-Haynaldia villosa 6VS/6AL translocation lines carrying the Yr26 gene on chromosome 1B, are resistant to most races of Pst used in virulence tests. In order to better utilize Yr26 for wheat improvement, we attempted to screen SSR and EST-based STS markers closely linked with Yr26. A total of 500 F2plants and the F2:3 progenies derived from a cross between 92R137 and susceptible cultivar Yangmai 5were inoculated with race CYR32. The analysis con-firmed that stripe rust resistance was controlled by asingle dominant gene, Yr26. Among 35 pairs of genomic SSR markers and 81 pairs of STS marker sderived from EST sequences located on chromosome1B, Yr26 was flanked by 5 SSR and 7 STS markers. The markers were mapped in deletion bins using CS aneuploid and deletion lines. The closest flanking marker loci, Xwe173 and Xbarc181, mapped in 1BLand the genetic distances from Yr26 were 1.4 cM and6.7 cM, respectively. Some of these markers werepreviously reported on 1BS. Eight common wheat cultivars and lines developed from the T. aestivum-H.villosa 6VS/6AL translocation lines by different research groups were tested for presence of the markers .Five lines with Yr26 carried the flanking markers whereas three lines without Yr26 did not. The results indicated that the flanking markers should be useful in marker-assisted selection for incorporating Yr26 into wheat cultivars.

【语种】英文
【第一作者】王春梅
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【学科分类】农学其他学科

【题目】Inducement of chromosome translocation with small alien segments by irradiating mature female gametes of the whole arm translocation line

【中文关键词】irradiation, mature female gametes, small fragment translocation chromosome, wheat, Haynaldia villosa, genomic in situ hybridization
【英文关键词】irradiation, mature female gametes, small fragment translocation chromosome, wheat, Haynaldia villosa, genomic in situ hybridization

【中文摘要】Haynaldia villosa Schur. (syn. Dasypyrum villosum Candargy, 2n=14, VV) has been proved to be an important genetic resource for wheat improvement. The development of translocation with small alien chromosome segments, especially interstitial translocation, will be helpful for better utilization of its useful genes. Up to now, most of the reported Triticum aestivum – H. villosa translocation lines are involved in a whole arm or large alien fragments. In this paper, we report a highly efficient approach for the creation of small chromosome segment translocation lines. Before flowering, the female gametes of wheat-H. villosa 6VS/6AL translocation line were irradiated by 60CO- γ ray at 160 Rad/M dosage rate and three dosages (1600, 1920, 2240 Rad). Anthers were removed from the irradiated florets on the sameday and the florets were pollinated with normal fresh pollens of T. aestivum cv. Chinese Spring after 2-3 days. Genomic in situ hybridization (GISH) at mitosis metaphase of root-tip cell of M1 plants was used to detect the chromosome structural changes involving 6VS of H. villosa. Among the 534 M1 plants screened, 97 plants contained small segment chromosome structural changes of 6VS, including 80interstitial translocation chromosomes, 57 terminal translocation chromosomes and 55 deletion chromosomes. For the 2240 Rad dosage treatment, the inducement frequencies of interstitial translocation, terminal translocation and deletion were 21.02%, 14.01%, and 14.65%, respectively, which were much higher than those previously reported. The M2 seeds were obtained by backcrossing of 74 M1 plants involving 146 chromosomes structural changes of 6VS, and it was found that the structural aberrations in the M1 plants could be transmitted to their progenies. Irradiating mature female gametes of whole arm translocation is a new and highly efficient approach for creation of small segment chromosome structural changes, especially for interstitial translocations.

【英文摘要】Haynaldia villosa Schur. (syn. Dasypyrum villosum Candargy, 2n=14, VV) has been proved to be an important genetic resource for wheat improvement. The development of translocation with small alien chromosome segments, especially interstitial translocation, will be helpful for better utilization of its useful genes. Up to now, most of the reported Triticum aestivum – H. villosa translocation lines are involved in a whole arm or large alien fragments. In this paper, we report a highly efficient approach for the

creation of small chromosome segment translocation lines. Before flowering, the female gametes of wheat-H. villosa 6VS/6AL translocation line were irradiated by 60CO- γ ray at 160 Rad/M dosage rate and three dosages (1600, 1920, 2240 Rad). Anthers were removed from the irradiated florets on the sameday and the florets were pollinated with normal fresh pollens of T. aestivum cv. Chinese Spring after 2-3 days. Genomic in situ hybridization (GISH) at mitosis metaphase of root-tip cell of M1 plants was used to detect the chromosome structural changes involving 6VS of H. villosa. Among the 534 M1 plants screened, 97 plants contained small segment chromosome structural changes of 6VS, including 80interstitial translocation chromosomes, 57 terminal translocation chromosomes and 55 deletion chromosomes. For the 2240 Rad dosage treatment, the inducement frequencies of interstitial translocation, terminal translocation and deletion were 21.02%, 14.01%, and 14.65%, respectively, which were much higher than those previously reported. The M2 seeds were obtained by backcrossing of 74 M1 plants involving 146 chromosomes structural changes of 6VS, and it was found that the structural aberrations in the M1 plants could be transmitted to their progenies. Irradiating mature female gametes of whole arm translocation is a new and highly efficient approach for creation of small segment chromosome structural changes, especially for interstitial translocations.

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【题目】小麦抗赤霉病、优质高分子量麦谷蛋白亚基聚合体的分子标记辅助选育
【中文关键词】小麦; 赤霉病; 高分子量麦谷蛋白亚基; 聚合体; 分子标记;
【英文关键词】Fusarium Head Blight; Quality ; Pyramided traits; Molecular marker
【中文摘要】为了创制小麦抗病、优质育种的重要中间材料,加速丰产、优质、综合抗逆性好的小麦新品种选育进程,以抗赤霉病小麦品种苏麦3号和优质面包小麦安农94212、扬麦158等为亲本配置杂交组合,利用覆盖苏麦3号抗赤霉病主效QTL(Qfhs.ndsu-3BS)的4个SSR标记和优质高分子量麦谷蛋白亚基5+10特异分子标记在杂交F3代进行标记辅助选择,F4代选育到纯合的含有Qfhs.ndsu-3BS和5+10亚基的聚合体2个(J3316-8和J3316-10)。经田间赤霉病抗性鉴定,J3316-8自交后代的8个株系赤霉病抗性表现优于苏麦3号,J3316-10自交后代的2个株系赤霉病抗性与苏麦3号相当。两个聚合体农艺性状比苏麦3号有明显的改良,加之它们含有优质面包小麦高分子量麦谷蛋白亚基,因此可以作为小麦抗病和优质育种的中间材料。本研究结果进一步证明,将现代分子标记技术与传统育种方法相结合可以大大提高育种效率。
【英文摘要】Wheat scab is a destructive disease of wheat . The incoordinate of high yield, goo d quality and high resistance has been the main problem in w heat breeding for scab resistance. The purpose of this research is to develop parental materials and accelerate the process for breeding new varieties with high yield, good quality and high resistance. T he scab resistant w heat variety Sumai 3 w as crossed to Annong 94212 o r Yangmai 158, w hich are good for bread-making quality. Four simple sequence repeat s (SSR) markers flanking the major Q TL (Qfhs. ndsu-3BS) from Sumai 3 and two specific markers for high molecular weight (HMW) glutein subunit 1Dx 5+ 1Dy 10 w ere used for marker assisted selection (MAS) . Two pyramided lines with both homozygous Qfhs. dsu-3BS and 1Dx 5+ 1Dy10 were identified. Field identification o f scab resistance indicated that 8 pro genies o f line J3316-8 showed better scab resistance than Sumai 3, and 2 progenies of line J3316-10 showed similar scab resistance as Sumai 3. These lines also showed improved agronomic trait s than Sumai 3 and contain the good breadmaking HMW-GS, 1Dx5+ 1Dy10 , hence could be good parental materials for w heat breeding. These result s further proved that the combination o f MAS and traditional breeding methods would greatly enhance the breeding efficiency.

【语种】中文
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【题目】Structural changes of 2V chromosome of Haynaldia villosa induced by gametocidal chromosome 3C of Aegilops triuncialis.
【中文关键词】Triticum aestivum; Haynaldia villosa; gametocidal chromosome 3C; chromosome aberration; C-banding; genomic in situ hybridization; molecular marker
【英文关键词】Triticum aestivum; Haynaldia villosa; gametocidal chromosome 3C; chromosome aberration; C-banding; genomic in situ hybridization; molecular marker
【中文摘要】Haynaldia villosa (2n = 2X = 14, VV), a relative of wheat, plays important roles in wheat improvement mainly owing to itsdisease resistance. Powdery mildew resistance gene Pm21 has been successfully transferred into wheat by CytogeneticInstitute, Nanjing Agricultural University, China, and is widely used in the current wheat breeding programs. In thisresearch, our objective is to further transfer and utilize the beneficial genes such as eye-spot resistance, yellow rustresistance, and gene of the tufted bristles on the glume ridge (a remarkable morphology) mapped on 2V of Haynaldiavillosa. A disomic addition line with gametocidal chromosome 3C of Aegilops triuncialis added in Norin-26 was crossedto the wheat-H. villosa disomic substitution 2V(2D) and the hybrid F1 was then self-crossed. Chromosome C-banding,genomic in situ hybridization (GISH), and meiotic analysis in combination with molecular markers were applied to detectthe chromosome variations derived from hybrids F2 and F3. To date, four translocations including one small segmentaltranslocation T6BS · 6BL-2VS, two whole arm translocations (preliminarily designed as T3DS · 2VL and T2VS · 7DL) and oneintercalary translocation T2VS · 2VL-W-2VL, one deletion Del. 2VS · 2VL-, one monotelosomic Mt2VS, and one iso-chromosome 2VS · 2VS line have been developed and characterized. One wheat SSR marker Xwmc25-120 tagging 2VS andone wheat STS marker NAU/STSBCD135-1 (2BL) tagging 2VL were successfully used to confirm the alien chromosomesegments involved in the seven lines. The tufted bristles on the glume ridge appeared in lines T2VS · 7DL, Mt2VS,2VS · 2VS as well as the parent DS2V(2D), whereas in T3DS · 2VL, this trait did not appear. The gene controlling the tuftedbristles was located on 2VS. Gametocidal chromosome 3C of Aegilops triuncialis could successfully induce chromosome2V structural changes.
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【第一作者】陈全战
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【学科分类】农学其他学科

【题目】STS markers for powdery mildew resistance gene Pm6 in wheat
【中文关键词】Marker assisted selection
【英文关键词】Marker assisted selection
MAS Powdery mildew Sequence Tagged Site
STS Triticum aestivum Triticum timopheevii

【中文摘要】The powdery mildew resistance genePm6, transferred to common wheat from the tetraploid Triticum timopheevii, is effective in most epidemic areas for powdery mildew in China. RFLP probe BCD135 was previously associated with Pm6.In the present research, four STS primers (NAU/STSBCD135-1, NAU/STSBCD135-2, STS003 andSTS004) were designed from the sequence data ofBCD135. These primers were used for PCR amplification using the genomic DNA of resistant near-isogenic lines with Pm6 and their recurrent parent, cv. Prins. No polymorphic product was observed using primers STS003 and STS004; however, primersNAU/STSBCD135-1 and NAU/STSBCD135-2 amplified two and one bands, respectively, polymorphic between the resistant near-isogenic-lines and Prins. The two primers were then used to amplify the F2population from the cross IGV1-465 (FAO163b/7*Prins) • Prins. The amplification and the powdery mildew resistance identification data were analyzed using the software Mapmaker 3.0. The results indicated that both NAU/STSBCD135-1 and NAU/STSBCD135-2 were closely linked to Pm6 with a genetic distance of 0.8 cM. A total of 175 commercial varieties without Pm6 from different ecological areas of China were tested using marker NAU/STSBCD135-2and none of them amplified the 230 bp-specific band. This marker thus has high practicability and can be used in MAS of Pm6 in wheat breeding programs for powdery mildew resistance.

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【语种】英文

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【学科分类】农学其他学科

【题目】Development of Triticum aestivum - Leymus racemosus ditelosomic substitution line7Lr#1S (7A) with resistance to wheat scab and its meiotic behavior analysis

【中文关键词】Triticum aestivum, Leymus racemosus, telosomic substitution line, meiotic behavior analysis, scab resistance

【英文关键词】Triticum aestivum, Leymus racemosus, telosomic substitution line, meiotic behavior analysis, scab resistance

【中文摘要】Leymus racemosus is highly resistant to wheat scab (Fusarum head bright). The transfer of scab resistant gene from L. racemosus to Triticum aestivum is of great significance for broadening the base of wheat resistance. In the present study, the pollen of T. aestivum-L. racemosus monosomic addition line with scab resistance was treated by irradiation with 1200 R 60Co- γ -rays prior to pollinating to emasculated wheat cv. Mianyang 85-45. Nine plants with a telocentric chromosome 7Lr#1S were observed in M1, and one ditelosomic substitution line 7Lr#1S was selected from selfcrossing progenies and confirmed by chromosome C-banding and GISH. Furthermore, a co-dominant EST-SSR marker CINAU 31 was employed to identify this substitution line. A pair of chromosome 7A of common wheat were found to be replaced by a pair of telocentric chromosome 7Lr#1S, and further investigation showed that chromosome configuration of the substitution line at MI of PMCs after GISH was 17.50 II W + 2.19 II W + 0.42 II 7Lr#1S + 1.08 I7Lr#1S + 0.69 IW. Two telocentric chromosomes paired as a bivalent in 59.7% of PMCs. Abnormal chromosome behaviors of telocentric chromosomes were observed in part of PMCs at anaphase I and telophase I, including the moving of two telocentric chromosomes to the same pole, lagging and earlier separation of their sister chromatid. All these abnormal behaviors can be grouped into three distinct types of tetrads according to different numbers of 7Lr#1S in their daughter cells and various micronucleus in some tetrads. However, due to the high transmission frequency of the female and male gametes with a 7Lr#1S, 84% of the selfcrossing progeny plants had ditelosomic substitution. The substitution line showed high resistance to wheat scab in a successive two-year test

both in the greenhouse and field; hence, the line will be particularly valuable for alien gene mapping, small fragment translocation induction and telosomic cytological behavior analysis.

【英文摘要】Leymus racemosus is highly resistant to wheat scab (Fusarum head bright). The transfer of scab resistant gene from L. racemosus to Triticum aestivum is of great significance for broadening the base of wheat resistance. In the present study, the pollen of T. aestivum-L. racemosus monosomic addition line with scab resistance was treated by irradiation with 1200 R 60Co- γ -rays prior to pollinating to emasculated wheat cv. Mianyang 85-45. Nine plants with a telocentric chromosome 7Lr#1S were observed in M1, and one ditelosomic substitution line 7Lr#1S was selected from selfcrossing progenies and confirmed by chromosome C-banding and GISH. Furthermore, a co-dominant EST-SSR marker CINAU 31 was employed to identify this substitution line. A pair of chromosome 7A of common wheat were found to be replaced by a pair of telocentric chromosome 7Lr#1S, and further investigation showed that chromosome configuration of the substitution line at MI of PMCs after GISH was 17.50 II W + 2.19 II W + 0.42 II 7Lr#1S + 1.08 I7Lr#1S + 0.69 IW. Two telocentric chromosomes paired as a bivalent in 59.7% of PMCs. Abnormal chromosome behaviors of telocentric chromosomes were observed in part of PMCs at anaphase I and telophase I, including the moving of two telocentric chromosomes to the same pole, lagging and earlier separation of their sister chromatid. All these abnormal behaviors can be grouped into three distinct types of tetrads according to different numbers of 7Lr#1S in their daughter cells and various micronucleus in some tetrads. However, due to the high transmission frequency of the female and male gametes with a 7Lr#1S, 84% of the selfcrossing progeny plants had ditelosomic substitution. The substitution line showed high resistance to wheat scab in a successive two-year test both in the greenhouse and field; hence, the line will be particularly valuable for alien gene mapping, small fragment translocation induction and telosomic cytological behavior analysis.

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【学科分类】农学其他学科

【题目】Characterization of T.aestivum - H.caifornicum chromosome addition lines DA2H and MA5H

【中文关键词】wheat; Hordeum californicum; alien addition lines; powdery mildew; sequential C-banding/FISH; sequence-tag-sites (STS)

【英文关键词】wheat; Hordeum californicum; alien addition lines; powdery mildew; sequential C-banding/FISH; sequence-tag-sites (STS)

【中文摘要】In order to transfer useful genes of Hordeum californicum into common wheat (Triticum aestivum L.), the T. aestivum c.v. Chinese Spring (CS)-H. californicum amphiploid was crossed to CS, and its backcrossing and self-fertilized progenies were analyzed by morphological observation, cytological, biochemical and molecular marker techniques. Alien addition lines with two H. californicum chromosomes were identified and their genetic constitution was characterized. STS-PCR analysis using chromosome 2B specific markers indicated that chromosome H3 of H. californicum belongs to homoeologous group 2, and was thus designated 2H. SDS-PAGE showed that chromosome H2 of H. californicum belongs to homoeologous group 5, and was designated 5H. The CS-H. californicum amphiploid and the chromosome addition lines (DA2H and MA5H) identified were evaluated for powdery mildew (Erysiphe graminis f. sp. triticii) resistance in field. The preliminary results indicated that the amphiploid showed higher powdery mildew resistance than CS. However, chromosome addition lines DA2H and MA5H were highly susceptible to powdery mildew, indicating that major powdery mildew resistant genes of H. californicum should be located on chromosomes other than 2H and 5H.

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【学科分类】农学其他学科

【题目】普通小麦-纤毛鹅观草染色体异附加系的分子标记鉴定
【中文关键词】小麦; 纤毛鹅观草; 异附加系; 部分同源群; EST; STS;
【英文关键词】Triticum aestivum L.; Roegneria ciliaris (Trin) Nevski; addition line; homoeologous group; EST; STS
【中文摘要】随机选取定位于小麦和大麦7个部分同源群上的135对EST、27对STS和253对SSR引物对24个可能的普通小麦-纤毛鹅观草二体异附加系的基因组DNA进行扩增。结果表明,55对引物在亲本普通小麦中国春、Inayama Komugi、纤毛鹅观草和Inayama Komugi-纤毛鹅观草双二倍体间有多态性扩增,其中31对引物可以在异附加系中扩增到纤毛鹅观草特异条带。根据PCR扩增结果,异附加系07K02、07K06、07K39、07K201、07K202、07K255和07K256所添加的纤毛鹅观草染色体归属小麦第1部分同源群;07K07、07K08、07K09、07K11、07K14和07K17所添加的纤毛鹅观草染色体归属小麦第2部分同源群;07K15、07K16、07K21和07K47所添加的纤毛鹅观草染色体归属小麦第6部分同源群。
【英文摘要】A total of 135 EST, 27 STS, and 253 SSR primer pairs located in 7 homoeologous groups of wheat and barly were used for amplification of 24 possible Wheat-R. ciliaris disomic addition lines. Fifty-five primer pairs could amplified polymorphic bands between common wheat variety “ Inayama Komugi ” and the Inayama Komugi- R. ciliaris amphiploid, and 31 of the 55 could amplify the specific bands of R. ciliaris in the addition lines. According to the PCR (polymerase Chain Reaction) results, the added R. ciliaris chromosomes in lines 07K02, 07K06, 07K39, 07K201, 07K202, 07K255, and 07K256 belong to homoeologous group 1 of wheat; the added R. ciliaris chromosomes in lines 07K07, 07K08, 07K09, 07K11, 07K14, and 07K17 belong to homoeologous group 2 of wheat; the added R. ciliaris chromosomes in lines 07K15, 07K16, 07K21, and 07K47 belong to homoeologous group 6 of wheat.
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【第一作者】孔令娜
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【学科分类】农学其他学科

【题目】DNA分子原位杂交(in situ hybridization)在植物分子细胞遗传学研究中的应用
【中文关键词】FISH; GISH; ISH; 分子细胞遗传学; 植物
【英文关键词】FISH, GISH, ISH, molecular cytogenetics, plant
【中文摘要】DNA分子原位杂交(in situ hybridization,ISH)是植物分子细胞遗传学研究的重要工具。简要回顾了DNA分子原位杂交的起源和发展,详细综述了基因组原位杂交(genomic in situ hybridization,GISH)在植物细胞遗传学研究中的应用以及荧光原位杂交(Fluorescence in situ hybridization,FISH)在植物物理作图和染色体识别中的应用。还介绍了Fiber-FISH、BAC-FISH以及Immuno-FISH等新兴技术,最后对FISH技术进行了展望。
【英文摘要】In situ hybridization is one of the most important techniques in plant molecular cytogenetics research. In this paper, we briefly introduced the origin and development of in situ hybridization, firstly. Then, application of genomic in situ hybridization (GISH) in plant cytogenetics research as well as fluorescence in situ hybridization (FISH) in plant physical mapping and chromosome identification were detailed reviewed. Some new techniques such as fiber-FISH, BAC-FISH, and immuno-FISH were also introduced in this paper. And a prospect about FISH was given out.
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【题目】基于EST-PCR的簇毛麦染色体特异分子标记筛选及应用
【中文关键词】小麦; 簇毛麦; EST-STS标记; 小麦-簇毛麦异染色体系; 小麦-簇毛麦易位染色体;
【英文关键词】Wheat; Haynaldia villosa; EST-STS marker; Wheat-H. villosa alien chromosome line; Wheat-H. villosa translocation chromosome
【中文摘要】为定位、转移和利用簇毛麦有益基因,通过花粉辐射,获得一批包括小麦-簇毛麦易位染色体的异染色体系。为了鉴定这批材料中的簇毛麦染色体身份,根据水稻、小麦的EST序列合成了240对STS引物,其中34对引物在普通小麦中国春与簇毛麦间存在多态性;进一步对亲本及簇毛麦二体异附加系进行PCR扩增分析,标记CINAU32-300可追踪簇毛麦1V染色体,标记CINAU33-280、CINAU34-510、CINAU35-1100、CINAU36-380和CINAU37-400可追踪簇毛麦2V染色体,标记CINAU38-250可追踪簇毛麦3V染色体,标记CINAU39-950和CINAU40-800可追踪簇毛麦4V染色体,标记CINAU41-745和CINAU42-1050可追踪簇毛麦5V染色体,标记CINAU44-765和CINAU45-495可追踪簇毛麦7V染色体。加上本室已开发的2个6V染色体特异标记,用这些簇毛麦特异分子标记鉴定辐射诱导材料的部分回交后代,选育出小麦背景中只包含单条簇毛麦染色体的整套1V至7V染色体系,同时有18条易位染色体的簇毛麦身份得到确定,表明这些标记可以用来快速检测普通小麦背景中的簇毛麦染色体或染色体片段。
【英文摘要】To localize, transfer, and use interested genes of Haynaldia villosa, a series of wheat-H. villosa alien chromosome lines including translocation lines induced by irradiation have been developed. To identify H. villosa chromosomes or chromosome segments in these materials, 240 STS primer pairs were designed based on EST sequences of rice and wheat, and 34 of them could amplify specific polymorphic bands between common wheat cv. Chinese Spring and H. villosa. These 34 STS primer pairs were further used for screening markers specific to individual chromosomes of H. villosa using 1V to 7V disomic additional lines and their parents. The results showed that the marker CINAU32-300 could be used to trace chromosome 1V, CINAU33-280, CINAU34-510, CINAU35-1100, CINAU36-380 and CINAU37-400 to 2V, CINAU38-250 to 3V, CINAU39-950 and CINAU40-800 to 4V, CINAU41-745 and CINAU42-1050 to 5V, CINAU44-765 and CINAU45-495 to 7V. These EST-STS markers combined with the two 6V specific markers previously in our institute were used to identify the H. villosa chromosome and chromosome segments of backcrossed generations derived from pollen irradiation. A set of 1V to 7V addition lines and 18 translocation chromosomes involved in different H. villosa chromosomes were identified. Therefore, these chromosome-specific EST-STS markers could be used to detect chromosomes and chromosome segments of H. villosa in common wheat background.
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【题目】Induction and transmission of wheat-Haynaldia villosa chromosomal
【中文关键词】Triticum durum-Haynaldia villosa amphiploid; pollen irradiation; chromosomal translocation; translocation transmission; genomic in situ hybridization
【英文关键词】Triticum durum-Haynaldia villosa amphiploid; pollen irradiation; chromosomal translocation; translocation transmission; genomic in situ hybridization
【中文摘要】In order to develop more wheat-Haynaldia villosa translocations involving different chromosomes and chromosome segments of H.villosa, T. durum-H. villosa amphiploid was irradiated with 60Co r-rays at doses of 800, 1,200, and 1,600 rad. Pollen collected from the spikes 1, 2, and 3 days after irradiation were transferred to emasculated spikes of the common wheat cv. ‘ Chinese Spring ’. Genomic in situ hybridization was used to identify wheat-H. villosa chromosome translocations in the M1 generation.

Transmission of the identified translocation chromosomes was analyzed in the BC1, BC2, and BC3 generations. The results indicated that all three irradiation doses were highly efficient for inducing wheat-alien translocations without affecting the viability of the M1 seeds. Within the range of 800 – 1,600 rad, both the efficiency of translocation induction and the frequency of interstitial chromosome breakage-fusion increased as the irradiation dosage increased. A higher translocation induction frequency was observed using pollen collected from the spikes 1 day after irradiation over that of 2 or 3 days after irradiation. More than 70% of the translocations detected in the M1 generation were transmitted to the BC1 through the female gametes. All translocations recovered in the BC1 generation were recovered in the following BC2, and BC3 generations. The transmission ability of different translocation types in different genetic backgrounds showed an order of ‘whole-arm translocation > small alien segment translocation > large alien segment translocation’, through either male or female gametes. In general, the transmission ability through the female gametes was higher than that through the male gametes. By this approach, 14 translocation lines that involved different H. villosa chromosomes have been identified in the BC3 using EST-STS markers, and eight of them were homozygous.

【英文摘要】In order to develop more wheat-Haynaldia villosa translocations involving different chromosomes and chromosome segments of H.villosa, T. durum-H. villosa amphiploid was irradiated with 60Co r-rays at doses of 800, 1,200, and 1,600 rad. Pollen collected from the spikes 1, 2, and 3 days after irradiation were transferred to emasculated spikes of the common wheat cv. ‘Chinese Spring’. Genomic in situ hybridization was used to identify wheat-H. villosa chromosome translocations in the M1 generation. Transmission of the identified translocation chromosomes was analyzed in the BC1, BC2, and BC3 generations. The results indicated that all three irradiation doses were highly efficient for inducing wheat-alien translocations without affecting the viability of the M1 seeds. Within the range of 800 – 1,600 rad, both the efficiency of translocation induction and the frequency of interstitial chromosome breakage-fusion increased as the irradiation dosage increased. A higher translocation induction frequency was observed using pollen collected from the spikes 1 day after irradiation over that of 2 or 3 days after irradiation. More than 70% of the translocations detected in the M1 generation were transmitted to the BC1 through the female gametes. All translocations recovered in the BC1 generation were recovered in the following BC2, and BC3 generations. The transmission ability of different translocation types in different genetic backgrounds showed an order of ‘whole-arm translocation > small alien segment translocation > large alien segment translocation’, through either male or female gametes. In general, the transmission ability through the female gametes was higher than that through the male gametes. By this approach, 14 translocation lines that involved different H. villosa chromosomes have been identified in the BC3 using EST-STS markers, and eight of them were homozygous.

【语种】英文
【第一作者】曹亚萍
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【题目】Characterization of a PDR type ABC transporter genefrom wheat (Triticum aestivum L.)

【中文关键词】wheat, deoxynivalenol (DON), ABC transporter, PDR (pleiotropic drug resistance)
【英文关键词】wheat, deoxynivalenol (DON), ABC transporter, PDR (pleiotropic drug resistance)

【中文摘要】DON, as a virulence factor, plays an important role in the infection of Fusarium graminearum in wheat. The infection ability of F. graminearum depends on its capacity of producing DON. The production of DON by F. graminearum is significantly decreased in the wheat varieties with scab resistance. In this study, GeneChip analysis indicated that an EST encoding an ATP-binding cassette (ABC) transporter was up-regulated by 45 times in a wheat landrace Wangshuibai, which is resistant to DON accumulation. A pair of EST-derived primers were designed based on the EST sequence, and a clone was then isolated from a wheat genomic DNA TAC library. The TAC clone was sequenced using chromosome walking and gene prediction was conducted using Softberry. A cDNA clone of this gene was subsequently isolated from Wangshuibai induced by DON using gene-specific primers designed according to the untranslated sequence of the gene. The genome size of the gene is 7377 bp, consisting of 19 exons with coding sequences of 4308 bp. It encodes a protein with 1435 amino acid residues and the calculated molecular weight is about 161 kD. BLAST analysis indicated that the gene may belong to pleiotropic drug resistance (PDR) sub-family, and hence designated as TaPDR1 (Triticum aestivum pleiotropic drug resistance). TaPDR1 was located on chromosome 5A of wheat using nullisomic-tetrasomic lines of Chinese Spring. TaPDR1 was up-regulated by induction of both DON and F. graminearum. Expression patterns of TaPDR1 were different in wild-type Wangshuibai and the fast-neutron induced Wangshuibai mutant lacking FHB1, a major QTL of FHB resistance and DON resistance in chromosome

arm 3BS. These results suggested that TaPDR1 might be a candidate gene responsible for DON accumulation resistance. The expression profile showed that TaPDR1 expression was neither induced by hormones typically involved in biotic stress, such as JA and SA, nor by abiotic stresses, such as heat, cold, wounding and NaCl. However, TaPDR1 expression was regulated by Al3+ and [Ca2+], indicating that [Ca2+]i might mediate the signal of TaPDR1 expression.

【英文摘要】DON, as a virulence factor, plays an important role in the infection of Fusarium graminearum in wheat. The infection ability of F. graminearum depends on its capacity of producing DON. The production of DON by F. graminearum is significantly decreased in the wheat varieties with scab resistance. In this study, GeneChip analysis indicated that an EST encoding an ATP-binding cassette (ABC) transporter was up-regulated by 45 times in a wheat landrace Wangshuibai, which is resistant to DON accumulation. A pair of EST-derived primers were designed based on the EST sequence, and a clone was then isolated from a wheat genomic DNA TAC library. The TAC clone was sequenced using chromosome walking and gene prediction was conducted using Softberry. A cDNA clone of this gene was subsequently isolated from Wangshuibai induced by DON using gene-specific primers designed according to the untranslated sequence of the gene. The genome size of the gene is 7377 bp, consisting of 19 exons with coding sequences of 4308 bp. It encodes a protein with 1435 amino acid residues and the calculated molecular weight is about 161 kD. BLAST analysis indicated that the gene may belong to pleiotropic drug resistance (PDR) sub-family, and hence designated as TaPDR1 (Triticum aestivum pleiotropic drug resistance). TaPDR1 was located on chromosome 5A of wheat using nullisomic-tetrasomic lines of Chinese Spring. TaPDR1 was up-regulated by induction of both DON and F. graminearum. Expression patterns of TaPDR1 were different in wild-type Wangshuibai and the fast-neutron induced Wangshuibai mutant lacking FHB1, a major QTL of FHB resistance and DON resistance in chromosome arm 3BS. These results suggested that TaPDR1 might be a candidate gene responsible for DON accumulation resistance. The expression profile showed that TaPDR1 expression was neither induced by hormones typically involved in biotic stress, such as JA and SA, nor by abiotic stresses, such as heat, cold, wounding and NaCl. However, TaPDR1 expression was regulated by Al3+ and [Ca2+], indicating that [Ca2+]i might mediate the signal of TaPDR1 expression.

【语种】英文

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【学科分类】农学其他学科

【题目】不同品质类型小麦戊聚糖含量及其与品质的关系

【中文关键词】普通小麦; 密穗小麦; 戊聚糖; 品质; 饼干;

【英文关键词】Triticum aestivum ; Triticum compactum ; Quality ; Pentosans ; Biscuit

【中文摘要】为给小麦品质的遗传改良提供依据,选用不同品质类型的7个小麦推广品种和1个密穗小麦,研究了戊聚糖含量及其与品质的关系。结果发现,中强筋小麦品种具有比弱筋小麦品种更高的戊聚糖含量,且不同筋力的推广品种戊聚糖含量表现出较大差异。弱筋小麦的水溶性戊聚糖含量与延展性、饼干直径呈极显著和显著负相关;非水溶性戊聚糖、总戊聚糖与饼干直径亦呈极显著负相关;与吹泡示功仪参数、RVA参数也具有较为丰富的相关性。本研究进一步证实宁麦9号和扬麦13具有良好的饼干品质。密穗小麦具有较低的戊聚糖含量,同时其饼干直径、厚度、直径/厚度均与弱筋小麦品种相近,可能是一个优良的弱筋、低戊聚糖含量的饼干小麦资源。

【英文摘要】The objective of this paper is to establish t he basis for wheat improvement of quality traits. Seven wheat varieties and an accession of Triticum compactum were used to elucidate t he relationship between pentosens content s and t heir end-use qualities. The pentosans content s were different among these cultivars , wit h higher pentosans content in high-gluten wheat varieties than that in t he low-gluten varieties. In low-gluten varieties, an inverse correlation between t he content of water-soluble pentosan and t he ductility and t he biscuit diameter was observed. The water-insoluble pentosan and the total pentosans content also showed a remarkable inverse correlation wit h t he biscuit diameter besides a higher relevance with Alveograph parameters and the RVA parameter s. This research also confirmed t hat Ningmai 9 and Yangmai 13 had good biscuit2making quality. In addition , t he biscuit diameter , thickness , diameter/ thickness of T. com p act um was similar as t hose of Ningmai 9 and Yangmai 13 , while T. com p act um had lower pentosan content and higher protein content . Thus, t he T. com p act um could be a new resource for high protein content and biscuit making quality.

【语种】英文

【第一作者】胥红研
【通讯作者】王秀娥
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【题目】不同基因型大豆GS1基因的克隆与分析
【中文关键词】大豆; GS1基因; 克隆;
【英文关键词】soybean; GS1 genes; clone;
【中文摘要】克隆了6个不同基因型大豆的GS1基因,序列比对分析结果表明,不同基因型大豆的GS1基因序列相似性较高。不同基因型大豆GS1基因序列间仍存在显著的差异,主要集中在非编码区。GS1基因分子进化树显示东农42、半野生大豆基因序列进化距离较近。不同基因型大豆GS1蛋白质序列具有很高的相似性,并且都具有两个保守的结构域、催化结构域(Gln-synt_N)和结合结构域(Gln-synt_C),说明它们都具有催化功能。GS1蛋白质序列的分子进化树显示东农46和东农42 GS1蛋白质序列进化距离较近,垦丰9和黑农35 GS1蛋白质序列进化距离较近。克隆了东农42 GS1基因的基因组序列,NetGene2软件、DNAMan软件的Dot metrix功能和NCBI在线spidey软件预测和分析结果表明,该基因具有12个外显子和11个内含子,外显子侧翼序列都符合GT、AG规则。
【英文摘要】GS1 genes from six different soybean varieties were cloned.The compare analysis of gene sequence showed that: sequence of GS1 genes from different soybean varieties were very identical.GS1 gene sequence from different soybean varieties still existed distinct difference which site mostly in non-coding region.Molecular evolutionary tree showed that evolution distance of GS1 genes sequence from DN42 and G.gracili were relatively near,they all had two conserved domains,catalyse domain(Gln-synt_N)and combine domain(Gln-synt_C),and showed that they all had function of catalyse.Molecular evolution tree showed that evolution distance of GS1 protein sequence of DN42 and DN46 was near,KF9 and HN35 was near.GS1 genome sequence of DN42 was cloned.The forecast result through NetGene2 software,Dot metrix function of DNAMan software and NCBI online spidey software showed that this gene had 12 exons and 11 introns,the flank sequence of exon were all accord with GT,AG rule.
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【第一作者】陈丽华
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【题目】Antifungal activity and mechanism of fengycin and surfactin from Bacillus subtilis fmbJ against Rhizopus stolonifer,
【中文关键词】略
【英文关键词】Rhizopus stolonifer, lipopeptide, antifungal activity, mechanism, fengycin, commercial surfactin
【中文摘要】略
【英文摘要】The antifungal activity and mech anism of fengycin in the presence and absence of commercial surfactin against Rhizopus stolonifer were investigated. The MIC (minimal inhibitory concentration) o f fengycin with-out commercial surfactin added was 0.4 mg/ml while the MIC of fengycin with commercial surfactin added was 2.0 mg/ml. Fengycin acted on cell membrane and cellular org ans and inhibited DNA synthesis. The antifungal effect of fengycin was reduced after commercial surf actin was added. All these results suggest that the fungal cell membrane may be the primary target of fengycin action and commercial surfactin may reduce the antifungal activity of fengycin
【语种】英文
【第一作者】陶阳
【通讯作者】陆兆新
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【题目】大豆对大豆疫霉根腐病抗性的遗传分析
【中文关键词】大豆;疫霉根腐病;遗传
【英文关键词】soybean; phytophthora root rot; inheritance
【中文摘要】摘要:【目的】研究大豆对大豆疫霉根腐病完全抗性和部分抗性两种抗性的遗传方式。【方法】利用不同抗性类型的品种(系)配置4个杂交组合,在分别采用下胚轴伤口接种法和根部接种法接种大豆疫霉菌株PNJ1条件下,研究两种抗性的遗传模式。【结果】豫豆25和郑92116对大豆疫霉菌的抗性由一对显性单基因控制,General和 Conrad对大豆疫霉菌的部分抗性由1对加性主基因+加性-显性多基因控制,F2 代主基因和多基因遗传率分别为41.31%~74.84%和15.60%~50.36%,F2:3 代主基因和多基因遗传率分别为54.21%~77.05%和13.52%~38.24%。大豆对疫霉根腐病完全抗性和部分抗性分别属于不同的遗传体系。【结论】两类抗性都有育种价值,并且在早世代选择是有效的。选育聚合有完全抗性和部分抗性的品种是使大豆获得疫霉根腐病高水平抗性和持久抗性的最佳途径。
【英文摘要】Abstract: 【Objective 】 The objective of this study was to reveal the mechanisms of resistance to Phytophthora sojae in soybean [Glycine max (L.) Merr]. 【Method】 Four crosses between materials with complete or partial resistance were used to reveal the inheritance of resistance using the hypocotyl s inoculation or root inoculation technique. 【Result】 The complete resistance in soybean cultivars (lines) Yudou25 and Zheng92116 was controlled by a single dominant gene (Rps), while the partial resistance in General and Conrad by one additive major gene plus additive- dominant polygene. The heritability values of resistance in development were about 90%, those of major and polygene were 41.31%-74.84% and 15.60%-50.36% in F2, and 54.21%-77.05% and 13.52%-38.24% in F2:3, respectively. The complete resistance and partial resistance were controlled by different genetic systems.【 Conclusion】 Both kinds of resistance can be used in soybean improveme nt, and it would be effective to conduct selection in early generations for high resistance in breeding, combining partial resistance with specific Rps genes to provide long term management of Phytophthora root rot as well as to avoid the boom-and-bust cycle of single gene deployment.
【语种】中文
【第一作者】孙石
【通讯作者】邢邯
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【题目】Preservative effect of the antimicrobial substance from Bacillus subtilis fmbJ on pasteurized milk during storage
【中文关键词】略
【英文关键词】Bacillus subtilis fmbJ, pasteurised milk, inhibition, preservation
【中文摘要】略
【英文摘要】Bacillus subtilis fmbJ was found to produce an antimicrobial substance, which exhibited inhibitory activ-ity against food spoilage microbes and pathogens. The inhibitory effect of the antimicrobial extracts ontwo Gram-positive bacteria, seven Gram-negative bacteria and five moulds had been identified. Pas-teurised milk samples with different concentrations of the antimicrobial substance ranging from 0 to2 mg/mL were stored at 4 ° C and 20 ° C. The preservative effect of the antimicrobial substance on pas-teurised milk was evaluated. The result indicated that 0.25 – 2.0 mg antimicrobial substance per mL can reduce significantly mesophilic bacteria in milk by 1 – 4 log units at 20 ° C, and 1 – 5 log units at 4 ° C after 15 days storage compared with control milk. Under the same experimental conditions, sensory quality of pasteurised milk with added 0.25 – 2 mg antimicrobial substance per mL could remain acceptable for 6 – 15 days at 20 ° C and 9 – 15 days at 4 ° C.
【语种】英文
【第一作者】别小妹
【通讯作者】陆兆新

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【学科分类】微生物学

【题目】用分离群体中的残余杂合系定位大豆C1连锁群的分枝数qBN-c1-1位点
【中文关键词】大豆;分枝数;残余杂合系;QTL
【英文关键词】soybean; branch number; residual heterozygous line; quantitative trait locus (QTL)
【中文摘要】摘要:【目的】大豆分枝数与大豆株型及产量关系密切,检测世代间可稳定遗传的大豆分枝数QTL,为大豆株型和产量育种的分子标记辅助选择奠定基础。【方法】根据科新3号×中黄20杂交组合F2 群体构建的分子遗传图谱,对F2:4 群体进行QTL定位,并利用定位QTL两侧的标记选择残余杂合个体,构建残余杂合系,对分枝数相关的QTL进行验证。【结果】在F2:4 群体将分枝数QTL(qBN-c1-1)定位在C1连锁群区间Satt294-Satt399,贡献率为12.01%,来自于科新3号亲本的加性效应为-0.51;用F 2:5 选出残余杂合系,将控制大豆分枝数QTL定位在C1连锁群Satt399-Satt361区间,贡献率为11.16%,来自于科新3号的加性效应为-1.74,研究结果与F2:4 群体一致。【结论】位于C1连锁群的与分枝数相关的QTL在该遗传背景下可稳定遗传。
【英文摘要】Abstract: 【Objective 】 Branch number is one of the major factors related to both plant type and yield in soybean. The objective of this study was to map the branch number related Q TL, and analyze the inheritance stability over generations for the improvement of yield in marker assi stant selection (MAS) in soybean. 【Method】 A molecular genetic map was constructed by using the F2 population derived from KeXin3 ×ZhongHuang20, which was used to map th e branch number related QTL with F2:4 population. Residual heterozygous lines were selected from F2:5 population by two markers flanking the QTL, to construct secondary separated population. 【Result】 The QTL related to branch number was located at the interval of Satt294 and Satt399 on linkage group C1, explained 12.01% of the variance and the a dditive effect is -0.51, and the effect originated from KeXin3. QTL analysis by the residual heterozygous line mapped the QTL of soybean branch number between Satt399 and Satt361, with R2 of 11.16% and additive effect of -1.74, and the inhibited effect also originated fro m Kexin3, which was the sa me with result of F2:4population. 【Conclusion】 The branch number related QTL was mapped on soybean linka ge group C1 and could be stably inherited in different generations from the same cross.
【语种】中文
【第一作者】何冉
【通讯作者】邱丽娟
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【题目】小鼠胚胎成纤维细胞饲养层制备条件的研究
【中文关键词】关键词: 胚胎成纤维细胞;饲养层;丝裂霉素C ;小鼠
【英文关键词】wu
【中文摘要】为了建立活力稳定的小鼠胚胎成纤维细胞饲养层,本实验以13. 5~14. 5 d 的ICR 小鼠胚胎为实验材料,以MTT法测定细胞活力,探讨了不同浓度的丝裂霉素C、丝裂霉素C 不同处理时间及不同的成纤维细胞接种密度对MEF 活力的影响。结果表明: 10 μg/ ml 的丝裂霉素C 处理后的MEF 活力比其他浓度(1 μg/ ml 、5 μg/ ml 、20 μg/ ml 、30 μg/ ml) 丝裂霉素C 处理后的MEF 活力稳定;用10 μg/ ml 的丝裂霉素C 处理2. 5 h ,MEF 活力比处理1. 5 h、3. 5 h、4. 5 h 稳定;以2. 5~3. 5 ×105/ ml 密度接种于96 孔板上,每孔200 μl ,MEF 活力较接种密度为1. 5 ×105/ ml、4. 5 ×105/ ml 、7. 5 ×105/ ml 稳定。结论:用10 μg/ ml 丝裂霉素C 处理MEF 2. 5 h ,2. 5~3. 5 ×105/ ml 密度接种于96 孔板上,每孔200 μl ,以10 %的胎牛血清培养液培养能得到活力稳定高效的小鼠胚胎成纤维细胞饲养层。
【英文摘要】wu
【语种】中文
【第一作者】崔雯

【通讯作者】王杏龙
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【学科分类】细胞生物学

【题目】广适应大豆品种中黄13的光周期反应
【中文关键词】大豆 中黄13 广适应性 光周期反应
【英文关键词】Soybean Zhonghuang 13 Adaptability Photoperiod response
【中文摘要】中黄13是我国目前种植面积最大的大豆品种,适宜推广范围覆盖黄淮海流域夏大豆区、北方春大豆区、南部和南方多作大豆区部分区域,表现出较强的适应能力。为分析中黄13广适应的机制,在不同光周期条件下研究中黄13开花期、成熟期等生育期性状,株高、节数、分枝数等农艺性状和蛋白质含量、脂肪含量等品质性状对光周期的反应,比较中黄13不同性状间以及中黄13与成熟期相近的品种中黄24和凤交66—12间光周期反应敏感性的差异,并分析中黄13在各级区域试验中的产量稳定性,以期为中黄13的进一步推广和广适应大豆新品种选育提供理论依据。结果表明:中黄13在短日照(12h)、长日照(16h)和北京自然光照条件下均能正常开花结实,生育期性状的光周期反应敏感性弱于中黄24和凤交66—12。随光照长度的增加,中黄13的株型和农艺性状变化较为明显,但与中黄24和凤交66—12相比,其株高、主茎节数、分枝数、顶端花序荚数、单株有效荚数、单株粒数和单株粒重等性状的光周期反应敏感性均较弱,表现出较好的稳定性,但其蛋白质含量受光周期影响较大。综合分析光照处理和区域试验的结果,认为光周期反应相对钝感是中黄13广适应的重要原因。
【英文摘要】Zhonghuang 13. is the most widely-grown soybean varieties in China in recent years. It adapted to grow in the broad area of Yellow and Huaihe River Valleys, the southern part of North Spring Soybean Planting Area, and some part of South Multi-Planting Soybean Area in this country. In order to analyze the mechanism of its adaptability to changing environments ,the plants were treated with 12 h short-days (SD) , 16 h long-days (LD)and natural photoperiod treatments respectively, the experiments were conducted to study the photoperiodic responses of Zhonghuang 13 in growth period traits, agronomic traits and quality traits under different photoperiod conditions. Comparisons of photoperiod sensitivity were also made between the different traits of Zhonghuang 13 and between Zhonghuang 13 and other two varieties, Zhonghuang 24 and Fengjiao 66-12, with similar maturity;the performances of Zhonghuang 13 in different provincial uniform tests were analyzed as well. Zhonghuang 13 could bloom and mature normally under short-day (12 h), long-day (16 h), and natural photoperiod treatments. Photoperiod sensitivity of its growth period traits was weaker than that of Zhonghuang 24 and Fengjiao 66- 12. With increase of day length, the plant type and agronomic traits of Zhonghuang 13 changed significantly. However, the photo- period responses of the traits like plant height, node number on main stem, branch number, pod number on terminal raceme, seed number and seed weight per plant in Zhonghuang 13 were weaker than those of Zhonghuang 24 and Fengjiao 66-12, but its protein content was more sensitive to photoperiod than that in the other two varieties. From the above results,it was drawn that the less photoperiod sensitivity was the major reason for Zhonghuang 13 to adapt to wide areas.
【语种】中文
【第一作者】姜妍
【通讯作者】吴存祥
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【题目】Characterization and Identification of a Novel Marine Streptomyces sp. Produced Antibacterial Substance
【中文关键词】略
【英文关键词】Streptom yces. Antibac terial subst ance. Ident ification. Sisomicin
【中文摘要】略
【英文摘要】Abstr act Strai n GB-2 is a mari ne microbe with broad-spect rum antimi crobial activity, isol ated from soil taken from the coastal city Lianyung ang in the JiangSu province of China . Analysi s of its morp hological, physiologi cal, and biochemical characteri stics as well as chemical components of the cell wall strongly sugges ted that the strain GB-2 belong ed to theStreptomyces sp.

Analysi s of the nucleo tide sequenc e of the 16S rRNA gene of treptomyces sp. GB-2 strain show ed a stro ng similarit y (98%) with the 16 rRNA gene of Streptomyces fradiae . Application to a ntibacterial substance o f strain Strepto m yce s s p . GB-2 by variousse parations tepsled toisolation of one activ e m ole cule having a retention time of 9.4 95 min, P9.4 95 min , which possessed an ti ba ct e rial act ivity ag ai n st Bacillus cereus an d Escherichia coli. Through analysis by liquid chrom atography mass spectrometry and mass/mass spectrometry of the peak, the molecular weight of the antibacterial substance (P9.495 min sample) was 447.5 Da and it was determined to be sisomicin according to the ana lysi s of ionfrag ments. Nucle armagnetic resonance spectrum of the peak also demonstrated that theantibacterial substance was sisomicin . Thisstudy is the first tointroduce the finding of sisomicin produced from marine Stre pt omy ce s sp . T his work pro- vides a preference for the production of siso micin in pha rm ac eu ti cal in dus tries a nd apr obability for studying the biodiversity of marine microbe.

【语种】英文
【第一作者】陆颖健
【通讯作者】陆兆新
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【引文索引号】null
【学科分类】微生物学

【题目】诱导多能干细胞 (iPS) 的诱导培养与鉴定
【中文关键词】关键词: 诱导多能干细胞,转录因子,细胞重编程,诱导,胚胎干细胞
【英文关键词】Keywords: iPS, transcription factor, reprogramming, induction, embryonic stem cell
【中文摘要】摘 要: 通过外源转录调控因子的诱导,使成体细胞重编程为胚胎干细胞 (ES 细胞) 样的多能细胞,这种细胞称为诱导多能干细胞 (iPS 细胞),这一方法被称为iPS 技术。目前,iPS 技术已先后在小鼠、人、猕猴、大鼠和猪中成功应用,建立了相应的iPS 细胞系,并获得了iPS 细胞嵌合小鼠和四倍体克隆小鼠。尽管iPS 与ES 细胞在形态和生长特性上有许多相同之处,但iPS 细胞的建立需要较独特的诱导培养体系和鉴定方法。以下结合近年来iPS 技术的发展和本实验室的相关研究,对iPS 细胞的建立和培养体系的优化进行了深入探讨。
【英文摘要】Abstract: The somatic cells can be induced into ES-like stem cells when retrovirally infected the defined transcription factorsincluding Oct4, Sox2, Klf4 and c-Myc. These ES-like cells are named induced pluripotent stem (iPS) cells and this method is callediPS technology. Until the end of 2009, iPS cell lines have been generated in various animal species, such as mouse, human, rhesusmonkey, rat and pig. Mouse iPS cells are also used to generate chimera mice and viable mice through the tetraploid complementation.Although iPS cells are extremely similar to ES cells in both morphology and growth features, to generate iPS cells do need thedefined culture procedures. Based on the update global iPS technology development and the iPS studies in our laboratory, this paperfocused on the establishment of iPS cell lines and improvement of iPS cell culture condition.
【语种】中文
【第一作者】成德
【通讯作者】王华岩
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【学科分类】细胞生物学

【题目】RNAi-mediated Stable Silencing of HGPRT Expression in Rabbit Fibroblastsand SCNT Embryo Production
【中文关键词】无
【英文关键词】Key words RNA interference, rabbit fibroblast, HGPRT, nuclear transfer
【中文摘要】无
【英文摘要】Abstract The hypoxanthine-guanine phosphoribosyl transferase (HGPRT) gene mutation is responsible for gouty arthritis, kidneystone, and Lesch-Nyhan Syndrome (LNS). It has been reported that the expression of HGPRT is decreased or even absent in thesediseases. Rabbits are an ideal model for studying the pathology of these diseases. Therefore, the development of an HGPRT-knockdownrabbit model will be highly beneficial in such studies. Stable HGPRT-knockdown transgenic fibroblast lines were

generated bytransfecting rabbit fibroblasts with RNA interference (RNAi) plasmids. Polymerase chain reaction (PCR) analyses indicated that theaverage positive rate was 83.3%. The mRNA and protein levels of HGPRT in the transgenic fibroblast lines were significantly lowerthan that in the control. Transgenic rabbit blastocysts were derived after performing nuclear transfer. The results show that RNAi can beused to stably knock down expression of the HGPRT in rabbit fibroblasts and further improvements in related technologies willfacilitate the use of this method for the generation of HGPRT-knockdown rabbits.
【语种】英文
【第一作者】GUOYi
【通讯作者】CHENXue-Jin
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【学科分类】细胞生物学

【题目】以两种不同成纤维细胞为饲养层培养牛胚胎干细胞的比较
【中文关键词】关键词: 饲养层; 胚胎干细胞; 牛; 成纤维细胞
【英文关键词】wu
【中文摘要】摘要: 牛胚胎干细胞的培养一直未能确定最适合的饲养层, 寻找一种适合于其生长的饲养层对于成功培养牛胚胎干细胞有重要意义。本研究以胎鼠和牛胎儿为材料, 分别以含10% FBS 的高糖DMEM 和含10% FBS的DMEM F12为培养液, 分离并且获得2~ 5代的胎鼠成纤维细胞和5~ 6 代的牛胎儿成纤维细胞。在上述两种成纤维细胞为饲养层的条件下, 采用含10%胎牛血清、0 1 mm ol/L 巯基乙醇、0 1 mm ol /L 非必须氨基酸、100 U /mL青霉素、0 05 mg /mL链霉素、20 ng /m L LIF和10 ng/mL bFGF的DMEM F12 培养液培养牛胚胎干细胞, 来寻找一种适合于牛胚胎干细胞培养的饲养层。结果表明, 在相同的培养体系条件下培养牛胚胎干细胞, 以胎鼠成纤维细胞为饲养层的贴壁率显著高于以牛胎儿成纤维细胞为饲养层的贴壁率(P < 0 05), 以牛胎儿成纤维细胞为饲养层更利于胚胎滋养层的去除。
【英文摘要】wu
【语种】中文
【第一作者】靳木子
【通讯作者】刘东军
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【学科分类】细胞生物学

【题目】FFT快速整序算法的对比、改进及实现
【中文关键词】FFT整序; 组号; 组员; 序号分组; 逆序
【英文关键词】FFT permutation; group-index; group-member; indices grouping; inverse order
【中文摘要】提出了一种改进的用于基2的FFT整序算法。改进算法对逆序表的生成进行改进,同时给出另一种数据交换的方案。首先,将顺序号分成组号和组员两部分,采用两个数组存储各组号及组员的数,以(0,2,1,3)为初始逆序表,利用已知组员与组号对应的逆序号的大小关系,求出任意更高阶的逆序表。其次,在数据交换时,避免了常规整序中顺序号与逆序号的比较运算。在Windows操作系统下编制了相关算法的C++程序,比较了运行效率,实验表明,改进算法效率最高。
【英文摘要】A new improved permutation algorithm for radix 2 fast Fourier transforms(FFTs)is discribed.The algorithm provides an improved way for obtaining the bit reversal index table and affords an altemative data permutation methods.First,the algorithm divides an index with two parts,one is called group-index,which represents the index belonging to some group.and the other is called group-member which represents the order in the group.And then two arrays are used to store the values of the group-index and group-member power.According to the relationship between the bit reversal values of group.index and group-member,any bit reversal table can be obtained with the known one,which is(0,2,l,3).Second,when the data are needed to permute,the improved algorithm avoids the comparison operations between the index and its corresponding bit reversal value. which are required in tlle general permutation algorithm.In order to test its performance in the windows operation systems,several algorithms are programmed wim C++ language.and their operaion times are compared.The experiments show that the performance of the improved algorithm introduced in

this paper is superior to that of the relative algorithms.
【语种】中文
【第一作者】贾 渊
【通讯作者】贾 渊
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【学科分类】信息与系统科学相关工程与技术其他学科

【题目】基于SOM神经网络实现猪肉颜色的自动分级
【中文关键词】猪肉颜色;自动分级;图像处理;自组织映射神经网络
【英文关键词】pork color; automatic grading; image processing; self-organizing map neural network;
【中文摘要】结合图像处理和SOM神经网络对猪肉背最长肌断面颜色的分级进行了研究。通过摄像头采集猪肉背最长肌断面图像,对图像进行均值滤波后,将图像背景、脂肪去除,在此基础上,得到了肌肉颜色特征值向量H、S和L值。将H、S和L值输入自组织映射(SOM)神经网络进行聚类分析,以实现对猪肉颜色等级的划分。结果表明,对6个颜色等级分级准确率分别为73.2%、80.1%、90.5%、65.8%、54.7%和33.1%。大量的实验表明,计算机智能化分级系统具有很好的稳定性和一定的准确率,可以作为有效的猪肉颜色分级工具,但分级准确率还有待于进一步提高。
【英文摘要】The pork color was graded with Self-Organizing Map(SOM)neural network after processing the pork image.First,images of porcine longissimus dorsi muscle profile were captured by a camera,then the images were filtered with average weights template and the muscle pixels were separated by removing the background and fat pixels,at last the feature vector of the pork color was expressed by H,S,L values.The H value was a new value rather than the hue of the pork color,and the S,L values were saturation and luminance values respectively.By entering the H,S and L values of muscle into SOM neural network,73.2%,80.1%,90.5%,65.8%,54.7%,33.1% grading accuracy were obtained for each grade respectively.These results showed the grading results were credible in some certain extent,the computer intelligent automatic grading system can be used in the processing effectually,but accuracy rate need to be improved further.
【语种】中文
【第一作者】王蓉蓉
【通讯作者】彭增起
【期刊名称、卷期、页码】食品工业科技, 2010; 31(9): 65-67
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【学科分类】食品科学技术其他学科

【题目】计算机视觉技术预测肉糜斩拌终点的初步研究
【中文关键词】计算机视觉技术; 肉糜; 颜色; 斩拌终点
【英文关键词】computer vision; meat emulsion; color; chopping endpoint
【中文摘要】利用计算机视觉技术研究肉糜斩拌终点的判定方法,防止斩拌过程中斩拌不足或斩拌过度而引起的产品质量下降。本研究以猪后腿肉和背膘为主要原料,按照肥瘦比3/7 添加比例进行斩拌,分别于第6、7、8、9、10、12、14、16和18min取样,测定肉糜颜色和加工特性指标。结果表明:斩拌时间对肉糜的颜色、蒸煮损失、脂肪损失、硬度、弹性、Purge损失以及贮能模量(G’)均有影响,肉糜HSL颜色空间变量中亮度值(L)与蒸煮损失、脂肪损失、硬度等加工特性指标之间的相关性显著。因而,利用计算机视觉技术测定的肉糜亮度值用于预测肉糜斩拌终点是可行的。
【英文摘要】Prediction method of the chopping endpoint of meat emulsion was studied by computer vision to prevent excessive fat and water separation,and the subsequent decrease in quality of the final products.Porcine hindquarter and back fat were used to chop for meat emulsion with the fat/lean ratio of 3/7.During chopping,emulsion samples were obtained at each control time(at time intervals of 1min from 6min to 10min and then at time intervals of 2min up to 18min).The color and processing properties of meat emulsion were determined.The results showed that chopping time influenced color,cooking loss,fat loss,hardness,springiness Purge loss and Storage Modulus(G’).Moreover,L value of HSL’s color space of meat emulsion was significantly correlated with the index of processing properties,such as cooking loss,fat loss and hardness.As a result,it is feasible that L value of meat emulsion was used to

evaluate the chopping endpoint of meat emulsion by computer vision.
【语种】中文
【第一作者】胡志军
【通讯作者】彭增起
【期刊名称、卷期、页码】食品工业科技, 2010; 31(9): 68-72
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【学科分类】食品科学技术其他学科

【题目】基于概率密度梯度方向的角点重定位技术
【中文关键词】概率密度梯度方向; 模糊定位; 角点重定位
【英文关键词】density gradient direction; fuzzy location positioning; corners relocation
【中文摘要】由于各种外界因素的影响, 角点检测算法检测的角点可能出现位置偏移。在分析该现象的基础上, 提出对角点进行重新的定位。首先, 通过计算角点的二阶模板值来进行角点模糊定位; 其次, 引入像素点的概率密度梯度方向, 通过比较角点和角点邻域内的像素点的概率密度梯度方向的关系来判断错误角点, 并找出所有的候选替代点;最后, 根据角点和候选像素点之间的关系, 寻找出新的角点。通过实验对比发现该算法能正确地对发生位置偏移的角点进行重新定位。
【英文摘要】As a result of the impact of external factors, corners detected by corner detection algorithm may be offset.Based on the analysis of this phenomenon, this paper proposed a new algorithm for corner relocation. Firstly, through calculating the second-order template value for every corner, the fuzzy corner relocation was carried out; secondly, the density gradient direction of pixel was introduced. Comparing the density gradient directions of the corners and the neighborhood pixels of the corners, the wrong corners were determined precisely and all candidates were found; finally, according to the relationship between the corner and the candidate pixels, new corner was found. Exper im enta l results show that the algorithmcan accurately relocate the wrong corners.
【语种】中文
【第一作者】汪旭东
【通讯作者】汪旭东
【期刊名称、卷期、页码】计算机应用, 2010, 30(2): 359-361
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【引文索引号】null
【学科分类】食品科学技术其他学科

【题目】改进的样本块修补算法去除肉品图像反光
【中文关键词】肉品图像; 图像修复; 二次匹配; 接缝效应
【英文关键词】meat image; image inpainting; twice matching; seam effect
【中文摘要】由于肉品中存在水分,在可见光下采集图像就会产生反光区域,进而导致肌肉信息部分丢失。为了提高获取肉品图像相关信息的准确性,需尽量还原反光区域。在基于样本块的图像修补算法基础上,结合肉品图像特点,提出改进算法: 用Prewitt 算子代替Robert 算子,使信息缺损区域的线性结构得到更好的保持; 采用二次匹配法减少搜索最佳匹配块过程中的扫描数据量,比原算法节约约2/3 的修复时间; 在修复过程中加入α剪裁均值滤波消除接缝效应,使得修复结果更好地满足视觉心理学要求。实验结果表明,改进的修补算法在效率和修复效果上优于原算法,不仅可用于肉品图像反光区域的修复,对其他图像的修复也有效。
【英文摘要】Because of moisture in meat,there would be reflective area in the meat image under visible light,which lead tothe loss of some muscle information. In order to improve the accuracy of obtaining meat image ’s related information,it is necessary to restore the reflective area as much as possible. Based on the algorithm of image completion by exemplar path,with the feature of meat image,an improved algorithm is presented in this paper. First,replacing Robert operator with Prewitt,so that the LISREL of information lost area get better preserved. Then,by using twice matching method,the amount of scanning data is reduced in the process of searching the best matched block,and the repair time is saved about2/3 of original algorithm. After that,to eliminate seam effects,adding α-cut Mean Filter in the process of inpainting,it makes the repair results meet the requirements of visual psychology better.The experimental results show that both the inpainting efficiency and effect of improved algorithm are better than the original,and the method can not only repair thereflective area of meat image,but also be useful for other images ’inpainting.

【语种】中文
【第一作者】刘鹏程
【通讯作者】刘鹏程
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【学科分类】食品科学技术其他学科

【题目】肉糜的乳化及斩拌终点的研究进展
【中文关键词】肉糜制品; 乳化; 斩拌终点;
【英文关键词】"meat emulsion products; emulsification; chopping endpoint;
"
【中文摘要】介绍了肉糜乳化的基本原理,阐述了斩拌时间、斩拌温度、肥瘦比、淀粉添加量、pH等因素对肉糜乳化的影响,并在此基础上综合讨论了斩拌终点的研究方法,为肉糜制品实际生产提供参考。
【英文摘要】The fundamental principle of emulsification of the comminuted meat was introduced,some important factors impacting formation and stability of meat emulsions were discussed,such as chopping time,chopping temperature,fat/lean ratio,starch,pH,etc,and on the basis,prediction methods of chopping endpoint were also discussed,which offered reference for practical processing of meat emulsion products.
【语种】中文
【第一作者】胡志军
【通讯作者】彭增起
【期刊名称、卷期、页码】食品工业科技, 2010, 31(6): 353-357
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【引文索引号】null
【学科分类】食品加工技术

【题目】大理石花纹评分与淮南猪背最长肌感官特性的关系研究
【中文关键词】大理石花纹;肉色;肌内脂肪;剪切力;多汁性;风味
【英文关键词】marbling; meat color; intramuscular fat; shear force; juiciness; flavor
【中文摘要】通过研究不同大理石花纹猪肉的感官特性,进一步阐明大理石花纹与猪肉感官特性的内在联系。根据第5~6根肋骨背最长肌横切面的大理石花纹分布程度,进行感官评分;以肉色相近且含有不同大理石花纹的淮南猪背最长肌腰段为原料,各大理石花纹等级随机选择10条,测定它们的肉色、肌内脂肪含量、剪切力、多汁性和风味等。结果表明:大理石花纹分为3 级, 1级、2 级和3 级的肌内脂肪含量范围分别是<2%、2%~4%和 > 4%。随着大理石花纹等级的增加,L* 值、b* 值和肌内脂肪含量明显增加(P<0.01),剪切力值明显降低(P<0.01)。大理石花纹等级3与等级1、等级2 之间的风味和多汁性存在显著性差异(P<0.05)。因此,大理石花纹评分越高,则肌内脂肪含量越高,剪切力值越低。多汁性和风味随着大理石花纹评分的增加而得到改善。
【英文摘要】The sensory properties of Huainan pig longissimus dorsi with marbling scores were investigated,and further to elucidate internal relation between marbling and pork sensory properties. Sensory scores were conducted on marbling of cut surface of the loin eye muscle between 5th and 6th rib. Huainan pig longissimus lumborum with similar color and different marbling were used. Meat color, intramuscular fat content, shear force, juiciness and flavor of 10 strips longissimus lumborum in every marbling grades were investigated. The marbling was divided into 3 grades, and the range of intramuscular fat content of every marbling grades :Grade 1(IMF: <2%), Grade2 (IMF:2%~4%) and Grade 3(IMF: > 4%). With marbling grades increased, L*-value、b*-value and the intramuscular fat content increased significantly (P<0.01), shear force decreased significantly (P<0.01). Significant difference were found in flavor and juiciness between grade 3 and grade 1, grade 2(P<0.05).With marbling scores increased, intramuscular fat content increased significantly and shear force decreased significantly. In addition, flavor and juiciness were improved, with marbling scores increased.
【语种】中文
【第一作者】刘强

【通讯作者】彭增起
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【学科分类】食品科学技术基础学科

【题目】海峡西岸山地现代农业装备技术发展思考——以福建省为例
【中文关键词】现代农业装备; 海峡西岸;山地
【英文关键词】modernagricultural equipment; west side of the Straits; mountainous
【中文摘要】在分析海峡西岸山地现代农业装备技术发展现状,比较海峡两岸农业机械化发展水平的基础上,提出了发展海峡西岸经济区山地现代农业装备技术的思路:(1)坚持农机科技创新,实施山地现代农业装备重大技术专项研究;(2)加强海峡两岸农机合作,引进实用山地生产机械;(3)增加山地现代农业装备技术科研投入;(4)重视现代农业装备技术人才的培养等。同时,对海峡西岸山地现代农业装备技术的发展方向提出了建议。
【英文摘要】Based on analysis of the current status of modern mountainous agricultural equipment and technology on the west side of the Straits and comparison of the development level of agricultural mechanization between two sides of the Straits,the approach to develop modern mountainous agricultural equipment and technology in the economic zone on the west side of the Straits is proposed as follows.(1)Insist on science and technology innovation in agricultural machinery and undertake the research on the major technology projects of modern mountainou sagricultural equipment. (2) Strengthen agricultural machinery cooperation between two sides of the Straits and introduce feasible mountainous production machines. (3) Increase the input for scientific research of modern mountainous agricultural equipment and technology. (4) Bring up the talents for modern agricultural equipment and technology. Meanwhile development trend of modern mountainous agricultural equipment and technology on the west side of the Straits is elaborated.
【语种】中文
【第一作者】方文熙
【通讯作者】张德晖
【期刊名称、卷期、页码】福建农林大学学报(哲学社会科学版),2010,13(4):5-9
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【学科分类】农业工程

【题目】大理石花纹评分与猪背最长肌凝胶特性的关系研究
【中文关键词】大理石花纹;凝胶特性;离子强度;冷却方式
【英文关键词】marbling;gel properties;ionic strength;cooling method
【中文摘要】以猪背最长肌为材料,对第5~6 根肋骨背最长肌横切面的大理石花纹进行等级评定,在不同离子强度和冷却方式下,研究大理石花纹评分与猪背最长肌凝胶特性的关系。结果表明:在0.60mol/L NaCl 条件下,各等级花纹肉的凝胶特性好于同条件下离子强度0.45mol/L 的凝胶(P < 0.05)。在0.60mol/L NaCl 和同一冷却方式下,各等级之间的凝胶保水性(P < 0.01)和凝胶强度(P < 0.05)差异显著;而凝胶弹性差异不显著(P > 0.05)。在0.60mol/L NaCl和10℃冷却时,等级3 具有最好的凝胶特性。此外,花纹等级与凝胶保水性呈显著正相关(P < 0.05),与蛋白溶解度和凝胶强度达到极显著正相关(P < 0.01)。大理石花纹分为3 个等级,猪背最长肌的凝胶特性随着大理石花纹评分的增加而提高。
【英文摘要】The marbling in pig longissimus dorsi cross-section between the 5th and 6th ribswas evaluated by scoring. Along with this, the relationship between marbling score and gel properties of pig longissimus dorsi under varying ionic strength and cooling methods was addressed. Longissimus dorsi muscles between the 5th and 6th ribs could be divided into 3 grades by marbling score.Various marbling grades of longissimus dorsi muscles had better gel properties at 0.60 mol/L NaCl than at 0.45 mol/L NaCl (P<0.05). Significant differences in gel water-holding capacity (WHC) (P<0.01) and gel strength (P<0.05) were found among variousmarbling grades under the conditions of 0.60 mol/L NaCl and the same cooling methods, while gel elasticity did not show significance (P>0.05). Gel properties of grade 3 were the best under 0.60 mol/L NaCl and 10 °C cooling. In addition, marblinggrades had significantly positive correlation with gelWHC (P<0.05), and the correlationswith protein solubility and gel strength reached an extremely significantly positive level (P<0.01). Higher marbling grade of longissimus dorsi muscle had improved gel properties.

【语种】中文
【第一作者】刘强
【通讯作者】彭增起
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【学科分类】食品科学技术基础学科

【题目】结合LLE流形学习和支持向量机的猪肉颜色分级
【中文关键词】机器视觉;支持向量机;无损检测;流形学习;局部线性嵌入;猪肉颜色分级
【英文关键词】computer vision;support vector machine; nondestructive detection; manifold learning; locally liner embedding; pork color grading
【中文摘要】猪肉颜色分级是肉品品质无损检测的重要内容。该文通过对猪肉彩色数字图像颜色规律的分析,结合猪肉红(R)、绿(G)、蓝(B)颜色分量及其亮度和饱和度值,构建了一个新的颜色维度。将采集的1070 份猪肉图像样本进行专家分级和标记后,给出了猪肉颜色的特征表示,并利用支持向量机(SVM)进行了颜色分级。试验结果表明,随着训练集样本数的增加,分级准确率有所提高。当将所有样本作为训练集时,分级准确率高达96.5%。针对SVM 分级后泛化能力不强的问题,采用流形学习LLE 维数变换,使其泛化能力由37%提高近1倍。结果表明LLE 可有效改善SVM 的分级准确率。该方法可为猪肉品质无损检测的研究与应用提供参考。
【英文摘要】Pork color grading is an important task of nondestructive detection of meat quality. With analyzing the colorfeature of pork image and combining its color component value of red, green and blue and its luminance and saturation values converted by RGB color format, a new color feature value was created for the purpose of better expression of pork color. Then, 1070 collected pork samples were graded and marked by experts, and the color feature values of each pork image with special grade mark was obtained after image processing. A series of experiments were conducted to test the pork color grading accuracy rate based on support vector machine. The results showed that along with the increment of training sample number, the pork color grading accuracy rate increased. When all samples were selected as training set, the accuracy reached up to 96.5%. In order to improve the prediction accuracy of SVM (about 37%), locally linerembedding (LLE), a manifold learning method, was applied to reduce or increase the dimensions of pork color feature.The results showed that the prediction accuracy rate of the grading procedure based on LLE and SVM was nearly twice as high as that of the procedure only relying on SVM. Hence, combining the LLE manifold learning method and SVM,pork color grading accuracy will be improved. This method can provide a reference for study and application of nondestructive detection of pork quality.
【语种】中文
【第一作者】贾渊
【通讯作者】贾渊
【期刊名称、卷期、页码】农业工程学报, 2012, 28(9): 147-152
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【学科分类】食品科学技术基础学科

【题目】基于改进型FCM算法的牛肉大理石花纹提取方法
【中文关键词】牛肉;大理石花纹; 提取; 模糊C均值
【英文关键词】Beef Marbling;Extraction;Fuzzy C-means
【中文摘要】提出了一种基于改进型模糊C均值聚类算法的牛肉大理石花纹提取方法。该方法结合了快速模糊C均值(FCM)聚类算法, 对传统FCM 算法中的隶属函数、聚类数C 和初始聚类中心点选取方法进行了优化。试验表明, 该方法使牛肉大理石花纹提取的准确度由76.2%提高到85.7%。
【英文摘要】"Beef marbling extraction method based on modified fuzzy C-means clustering algorithm wasproposed. The proposed method combined with the fast fuzzy C-means clustering a lgorithm. The membership function, number of clusters C and the selection of initial cluster center in traditional fuzzy C-means clustering algorithm were modified. Experiments showed that with the proposed method, theaccuracy of marbling extract ion was increased from 76.2% to 85.7%"

【语种】中文
【第一作者】仇金宏
【通讯作者】沈明霞
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【学科分类】食品科学技术其他学科

【题目】福建省山地农业机械化发展研究
【中文关键词】农业机械化;发展研究;山地
【英文关键词】无
【中文摘要】本文分析了福建省山地农业生产的基本情况及农业机械化的发展现状,并对闽台农业机械化发展技术水平进行比较,表明福建省农业生产机械化水平与全国平均水平有较大差距。文中根据福建省“十一五”农机化发展规划的主要发展目标与重点,提出了突破对山地农业机械化认识的误区、增加农机具购机补贴种类、加强闽台农机合作引进实用山地生产机械、加大山地农业机械化科研投入、发展农业适度规模经营、加大农业工程技术人才的培养力度等发展福建省山地农业机械化的措施与建议。
【英文摘要】无
【语种】中文
【第一作者】方文熙
【通讯作者】朱亨银
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【学科分类】农业工程

【题目】穴盘育苗精密播种装置的研究设计
【中文关键词】精密播种装置;穴盘育苗;振动;四连杆;行程可调气缸;吸种针头
【英文关键词】无
【中文摘要】本文介绍一种穴盘育苗精密播种装置的设计方案,详细介绍了该装置的组成、真空吸种点胶针头的布置方式及其运动轨迹,同时介绍了振动种子盘的设计思路和方法。
【英文摘要】无
【语种】中文
【第一作者】林景斌
【通讯作者】林景斌
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【学科分类】农业工程

【题目】Cloning and functional characterization of an O -acetylserine(thiol)lyase-encoding gene in wild soybean (Glycine soja)
【中文关键词】无
【英文关键词】Cysteine synthesis,Gene cloning,GsOAS-TL1,Soybean (Glycine soja)
【中文摘要】无
【英文摘要】Abstract The terminal step of soybean cysteine synthesis is catalyzed by O -acetylserine(thiol)lyase (OAS-TL, EC 2.5.1.47). In this study, we isolated and characterized an OAS-TLgene from a wild soybean material (designated as GsOAS-TL1). GsOAS-TL1 cDNA sequence showed strict conservation at both nucleotide and amino acid levels compared with that from cultivated soybean. Genomic structure analysis ofGsOAS-TL1 indicated that it contained 10 exons and 9 introns in the coding region with

conserved exon sizes and intron locations compared with Arabidopsis thaliana OAS-TL -like genes. Among the complete GsOAS-TL1 cDNA and three part-deletion fragments, only expression of the full-length cDNA could rescue the NK3 cys-Escherichia coli auxotroph, which was coherent with the assayed enzyme activity of purified fusion proteins. For RT-PCR analysis in different wild soybean tissues,GsOAS-TL1 showed lower expression in roots and developing seeds, whereas total OAS-TL activity of corresponding tissues showed significantly higher level in seeds than other tissues. To our knowledge, this is the first report on cloning and characterization of an OAS-TL gene from wild soy-bean. Our results are informative to further elucidate the function and evolution of OAS-TL in soybean.
【语种】英文
【第一作者】张春红
【通讯作者】喻德跃
【期刊名称、卷期、页码】Mol Biol Rep(2008) 35:527 – 534
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【学科分类】植物学

【题目】2BSX300型真空穴盘育苗播种生产线系统参数设计
【中文关键词】穴盘育苗;精密播种;参数;设计
【英文关键词】无
【中文摘要】本文对时产300盘以上的蔬菜、花卉真空穴盘育苗播种生产线的系统参数进行设计.试验结果表明,研制出的生产线播种精度高、配套合理、产量高、整体性能良好。
【英文摘要】无
【语种】中文
【第一作者】沈美雄
【通讯作者】沈美雄
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【学科分类】农业工程

【题目】不同基因型大豆叶片蔗糖合成酶活性变化动态的研究
【中文关键词】大豆; 叶片; 蔗糖合成酶(SS); 活性; 动态;
【英文关键词】Soybean; Leaf; Sucrose synthase; Activity; Dynamics;
【中文摘要】选用6个不同基因型的大豆品种,运用框栽的方法,研究了大豆蔗糖合成酶(SS)含量的变化动态。结果表明:大豆叶片SS分解方向的活性在幼嫩叶片中呈先升高后降低的趋势,成熟叶片仅表现出有下降的趋势,但不同品种间没有显著差异;合成方向的酶活性在不同品种间、不同叶位上未表现出一致的规律性;SS分解方向的酶活性极显著高于合成方向的酶活性,说明在大豆叶片中SS主要起分解蔗糖的调节作用;SS活性与大豆叶片中的蔗糖含量间具有正相关性,其中绥农14和不结瘤大豆的幼嫩叶片中SS合成方向的酶活性与蔗糖含量间达到了显著水平(r值分别为0.765和0.732);不结瘤大豆成熟叶片的SS分解方向的酶活性与蔗糖含量间具有极显著的正相关性(r=0.986)。
【英文摘要】Six soybean varieties were used to investigate dynamic changes of sucrose synthase(SS) in soybean leaves.The results showed that the activity of SS(cleavage direction) increased at first and decreased in tender leaves,while decreased in mature leaves.However,no significant difference were observed among different varieties.There was no consistent regularity for the activity of SS(synthetic direction) among different varieties and different leaf positions.The activity of SS(cleavage direction) was significantly higher than that of synthetic direction,indicating that the role of SS was mainly decomposition in soybean leaves.The activity of SS and sucrose content showed a positive correlation in soybean leaves.The activity of SS(synthetic direction) had significant positive correlation with the sucrose content in tender leaves of SN14 and NON-NOD(r=0.765,r=0.732,respectively) and the activity of SS(cleavage direction) was very significantly correlated with the sucrose content in mature leaves of NON-NOD(r=0.986).
【语种】中文

【第一作者】马春梅
【通讯作者】马春梅
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【学科分类】农业基础学科

【题目】DNA fingerprinting and genetic diversity analysis of late-bolting radish cultivars with RAPD, ISSR and SRAP markers
【中文关键词】无
【英文关键词】Radish; Fingerprinting; Genetic diversity; SRAP; RAPD; ISSR
【中文摘要】无
【英文摘要】Three molecular marker systems, RAPD (random amplified polymorphic DNA), ISSR (inter-simple sequence repeat) and SRAP (sequence-related amplified polymorphism), were employed for identification and genetic diversity analysis of 35 elite late-bolting radish cultivars. Detected by 35 RAPD primers, 22 ISSR primers and 17 SRAP primer combinations, the proportions of polymorphic bands were 85.44%, 85.2% and 85.41%, respectively, and the mean genetic similarity coefficients between pairs of genotypes were 0.781, 0.787 and 0.764, respectively. Each of the three molecular marker systems can identify all the cultivars. Five sets of three-RAPD primers, 3 sets of three-ISSR primers and 16 sets of three-SRAP primer combinations were able to distinguish all the cultivars. A linear relationship was observed between Resolving power (Rp) of a primer and its ability to distinguish genotypes. The 35 cultivars were clustered into three major groups based on the RAPD, ISSR and marker combination data with UPGMA, which are in high accordance with their own origins and main characteristics. The results demonstrated that these three marker systems could be useful for identification and genetic diversity analysis of radish cultivars.
【语种】英文
【第一作者】Liwang Liu
【通讯作者】Liwang Liu
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【学科分类】园艺学

【题目】Characterization ofO-Acetylserine(Thiol)Lyase-Encoding Genes Reveals Their Distinct but Cooperative Expression in Cysteine Synthesis of Soybean [Glycine max(L.) Merr.]
【中文关键词】无
【英文关键词】Cysteine synthesis,Expression,O-acetylserine(thiol)lyase,Soybean [Glycine max(L .) Merr.]
【中文摘要】无
【英文摘要】In plants, the terminal step of cysteine biosynthesis is catalyzed by O-acetylserine(thiol)lyase (OAS-TL, EC 2.5.1.47). However, to date, there is limited information on those genes involved in this pathway in soybean. In this study, six soybean OAS-TL-like genes were obtained and designated as GmOAS-TL1, 2, 3, 4, 6, and 7. Phylogenetic analysis indicated that GmOAS-TL1, 2, 6, and 7 were similar and showed homology to cytosolic isoforms, while GmOAS-TL3 and 4 were homologous to β-cyanoalanine synthase (CAS, EC 4.4.1.9)-like and a plastidic isoform, respectively. Both genes seemed to belong to a small gene family as confirmed by Southern blot analysis. Expression of GmOAS-TL1, 3, 4, and 6 in the Escherichia coli cys − auxotroph resulted in bacterial growth and exhibited high enzymatic activity. Reverse transcription polymerase chain reaction analysis indicated that varying levels of expression were detected in different tissues and with distinct profiles. During the stage of seed-filling, expression patterns showed a cooperative trend that corresponded with total OAS-TL enzymatic activity. However, the enzymatic activity was highly negatively correlated with cysteine content in the developing seeds. These results suggest that cysteine synthesis in soybean might be an operation of multiple OAS-TL genes with homeostasis mechanisms for self-regulation. This finding should enhance our understanding of the molecular basis of soybean cysteine biosynthesis.
【语种】英文

【第一作者】张春红
【通讯作者】喻德跃
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【学科分类】植物学

【题目】不同条件下有机物料在黑土中分解规律的 研究
【中文关键词】有机物料; 黑土; 分解规律;
【英文关键词】organic materials; black soil; decomposed regularity;
【中文摘要】通过在土壤中埋置砂滤管的方法明确不同积温、水分、pH以及有机物料与黑土不同配比条件下有机物料的分解情况。结果表明:小麦和草木樨秸秆分解不受温度高低的影响,低温条件下分解较快,分解速率为草木樨>小麦秸秆;在浇水条件下小麦和草木樨秸秆易于分解,表现为第一年分解速率较高,比正常条件下分解率高出20%左右,第二年分解缓慢平均分解率只有10%左右;玉米秸秆加入量最少分解最快。当加入量为1%时,第一年就分解了75.6%,第二年达88.8%;小麦秸秆在pH7时分解率为63.1%,在pH8.7时的分解率为75.6%,其余也都相差10%左右。埋管第二年,各种物料分解速率趋于平稳。因此,土壤有机物质的分解不仅因有机物料的种类而有差异,而且也受土壤的某些性质(如水分,pH)和气候(如温度)以及还田数量等因素影响。
【英文摘要】The method of sand strainer tube was used in this trial for studying the decomposing regularity of organic materials on the condition of different accumulated temperature, moisture, pH, materials and soil proportion. The result shows that: wheat and sweet clover straw were prone to decompose at low temperature, decomposition rate was sweet clover higher than wheat straw. In water condition, sweet clover and wheat straw were prone to decompose in the first year were 20% higher than normal, average decomposition rate was only 10% in the second year. The fastest decomposition, the least addition. When adding amount of 1% straw, the decomposition rate is 75.6% in first year, and the second year up to 88.8%. Wheat straw decomposition rate is 63.1% at pH 7 and 75.6% in pH 8.7, the remaining also have a difference of about 10%. Pipes next year, decomposition rate of various materials were stabilized. Therefore, soil organic matter decomposition not only because of the type of organic materials there are differences, but also by some properties of the soil (such as moisture, pH) and climate (such as temperature) as well as to field the quantity of factors.
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【第一作者】迟凤琴
【通讯作者】迟凤琴
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【学科分类】农业基础学科

【题目】不同还田方式下有机物料有机碳分解规律 研究
【中文关键词】有机物料; 秸秆还田方式; 有机碳; 分解率;
【英文关键词】organic material; incorporation method; organic carbon; decomposition rate;
【中文摘要】利用网袋法和砂滤管法模拟田间还田方式,研究不同处理下各有机物料有机碳的腐解特征。结果表明,网袋法玉米、大豆秸秆经过150 d后,其秸秆生物量有38.9%~46.6%被分解。秸秆还田分解趋势为:土埋处理>露天处理;土埋玉米秸秆>土埋大豆秸秆;露天大豆秸秆和玉米秸秆分解规律一致。从组织结构上看,玉米秸秆随着还田时间的增加,组织结构模糊、松散,基本组织和维管束遭到破坏,大豆秸秆组织结构变化不明显。不同还田方式下秸秆有机碳的分解规律为:玉米秸秆>大豆秸秆。在砂滤管模拟条件下玉米、大豆秸秆和根茬有机碳分解趋势基本相似,均表现为埋管初期分解较快,后期分解较慢,其有机碳分解率趋势为:玉米秸秆>大豆秸秆;降低C/N后,各有机物料有机碳分解率均高于不调节C/N。
【英文摘要】Net bag method and sand strainer tube were used to determine decomposition characteristics of corn and soybean stalks of organic carbon under different incorporation methods into the field.The results showed that after 150 d in net bag method,biology quantity of corn and soybean stalks were decomposed from 38.9% to 46.6%.The decomposition trend of stalks was soil coverage treatment >open air treatment,and corn stalk of soil coverage>soybean stalk of soil coverage,decomposing regularities of soybean and corn stalk in the open air were almost the same.From the view of tissue structure,tissue had become blurred and loose,when the basic

tissue and vascular bundle were broken in corn stalk the following time.But tissue structure of soybean stalk did not change significantly.The decomposition regularity of stalksorganic carbon in different incorporation methods was corn stalk>soybean stalk.Under simulated conditions of the sand strainer tubes,corn,soybean stalk and root stubble were similar trends in organic carbon decomposition.All the decomposition regularities were faster at the beginning of buried tubes,and slower at the later.The decomposition rate of organic carbon was corn stalk>soybean stalk.After reducing C/N,the organic carbon decomposition rate of various organic materials was higher than that of no adjusting.

【语种】中文
【第一作者】迟凤琴
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【题目】不同株行距下大豆性状的因子分析
【中文关键词】大豆; 株行距配置; 变异系数; 公因子; 综合得分;
【英文关键词】Soybean; Configuration of plant and row space; Coefficient of variation; Common factor; Composite Score;
【中文摘要】研究不同株行距配置对大豆农艺性状及产量的影响,为大豆高产栽培提供理论依据。以合丰45、红丰11为试材,设计了9个不同的群体分布进行田间试验,用统计及因子分析法对14个性状分析。结果表明:(1)株行距配置对有效分枝影响最大(其变异系数62%),其次是结荚高度、单株粒数、单株粒重、有效节数、节间长度。(2)单株粒重与单株粒数呈极显著正相关,株高同节间长、有效分枝等性状呈极显著正相关,同有效节数、主茎节数呈极显著的负相关。(3)提取3个公因子:生长性状因子、产量性状因子、含水量因子,累计贡献率93.59%。因子综合得分表明,合丰45的综合得分均高于红丰11在9个行株距配置下。(4)合丰45获得高产的田间最佳株行距配置是:垄上行距12 cm×株距14 cm。
【英文摘要】The effect of group distrabution for agronomic traits and yield of soybean was proving Studied for valuable information for high-yield cultivation of soybean.The research was carried out with soybean cultivars Hefeng45,Hongfeng11 by setting 9 different group distribution.Statistics and factor analysis method was used to comparatively analyse 14 traits in the different group distribution.The results showed that:(1) Valid branches were the most changing under different configuration of plant and row space,its coefficient of variation was 62%,followed by changing on height of lowest pod,seeds per plant,weight of seeds per plant,valid nodes,length between nodes.(2) Highly significant positive correlation was showed between weight and numbers of seeds per plant,and was showed among plant height and length between nodes,valid branches and so on.The significant negative correlation was appeared among plant height and valid nodes,nodes on main stem.(3) Three common factors were extracted: growth traits factor,yield traits factor,moisture factor,the cumulative contribution rate was 93.59%.Factor composite scores showed that: factor scores of Hefeng 45 were higher than Hongfeng 11 in 9 group distribution.(4) The highest yield of Hefeng 45 was found in row spacing on the ridge 12 cm × plant spacing 14 cm.

【语种】中文
【第一作者】于凤瑶
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【题目】萝卜干物重和可溶性总糖含量的遗传分析
【中文关键词】萝卜;营养品质;遗传模型;干物重;可溶性总糖含量
【英文关键词】radish; nutritional qualities; inheritance model; dry matter (DM) weight; total soluble sugar (TSS)
【中文摘要】以干物重、可溶性总糖含量差异显著的萝卜品种Nau17-XWH和Nau20-LHZ为材料,采用植物数量性状主基因+多基因混合遗传模型多世代联合分析方法,分析了萝卜干物重和可溶性总糖含量性状的遗传规律。结果表明:干物重的最适遗传模型为两对完全显性主基因+加性-显性多基因混合遗传模型,干物重的主基因遗传率为35.00% ,多基因遗传率为

55.00% ,因此,应在控制环境因素条件下进行轮回选择以使萝卜干物重性状的基因累积;可溶性总糖含量的最适遗传模型为两对加性-显性主基因+加性-显性多基因模型,可溶性总糖含量的主基因遗传率为98.33% ,因此,萝卜可溶性总糖含量性状的遗传受环境因素影响较小,可以在早期世代进行选择。

【英文摘要】Genetic analysis was conducted on dry matter (DM) weight and total soluble sugar (TSS) content of multip le generations, P1, P2, F1 and F2 derived from a cross between Nau17-XWH with higher DM weight and TSS content and Nau20-LHZ with lower DM weight and TSS content, using the method of major gene p lus polygenes m ixed inheritance model in quantitative traits of plants. It was concluded that the op timal model of DM weight was two complete-dom inant major genes plus additive-dom inant polygenes m ixed inheritance model, and the heritability of major genes in DM was 35.00% , and that of polygenes was 55.00%. They indicated that the loci for high DM weight could be pyramided with recurrent selection under the controlled conditions. The optimal model of TSS content was two additive-dom inant major genes plus additive-dom inant polygenes m ixed inheritance model, and the heritability of major genes in TSS was 98.33%. Therefore, the individuals w ith high TSS content, which was affected to a lower degree by environment, could be selected in early generation for the high heritability.

【语种】中文

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【学科分类】园艺学

【题目】常温高效纤维素分解菌的筛选

【中文关键词】纤维素分解菌; 纤维素酶; 常温; 筛选;

【英文关键词】cellulose decomposition bacteria microbes; cellulase; normal temperature; screening;

【中文摘要】从长期堆放稻草的土壤中分离出12株常温纤维素分解菌。采用Hutchison液体培养基,对12株纤维素分解菌进行发酵产酶试验。结果表明,通过纤维素酶活力测定,最终筛选出对纤维素分解能力较强的霉菌菌株NM5,其C1酶活力、羧甲基纤维素酶活力、滤纸酶活力分别为0.0170、0.7174、1.3435IU · mL-1。根据菌落特征和形态特征,将NM5鉴定为木霉菌属(Trichoderma)。

【英文摘要】Total 12 cellulolytic strains under the normal temperature were isolated from the soil that stacked the straw for a long term.The enzyme production experiments were carried out in Hutchison liquid medium and NM5,which had the strongest cellulose decomposing ability among 12 cellulose decompos-ing strains was screened.The results showed that the C1 enzyme activity,CMCase activity and FPA(filter paper activity) of the strain NM5 was 0.0170,0.7174 and 1.3435 IU · mL-1,respectively.According to the colonial and morphological characteristics,strain NM5 was identified as Trichoderma.

【语种】中文

【第一作者】马怀良

【通讯作者】马怀良

【期刊名称、卷期、页码】东北农业大学学报,2010,41(1): 52-55

【论文发表时间】2010-01-25 00:00:00

【引文索引类型】其他

【引文索引号】null

【学科分类】农业基础学科

【题目】初期保护性耕作和秸秆还田对土壤物理特性及大豆玉米产量的影响

【中文关键词】免耕; 土壤含水量; 土壤温度; 土壤容重; 土壤机械阻力; 大豆; 玉米

【英文关键词】No-tillage; Soil water content; Soil temperature; Soil bulk density; Soil penetration resistance; Soybean; Corn;

【中文摘要】在黑龙江垦区852农场研究了初期保护性耕作和秸秆还田对土壤温度、土壤水分、土壤容重和机械阻力等土壤物理特性及对玉米、大豆产量的影响,为中长期保护性耕作和秸秆还田的应用提供理论依据。试验于2009年进行,轮作顺序为大豆-玉米-玉米;大豆试验圃(前茬为玉米)和玉米试验圃(前茬为玉米)处理为免耕、灭茬还田、旋耕还田和传统耕作;玉米试验圃(前茬为大豆)处理包括免耕、直播还田、旋耕还田和传统耕作。结果表明:大豆试验圃(前茬为玉米)免耕和灭茬还田处理生育前期的土壤温度分别比传统耕作低3.38°C和2.6°C,玉米圃(前茬为大豆)免耕和直播处理同期的土壤温

度分别比传统耕作低1.93℃和1.39℃;春季播种期大豆试验圃(前茬为玉米)免耕和灭茬还田处理的土壤体积含水量分别高于传统耕作9.3%和4.8%,玉米试验圃(前作为大豆)免耕和直播还田处理的土壤体积含水量分别高于传统耕作16.0%和12.6%;此外,免耕模式的5~20 cm深度的土壤容重和0~25 cm的土壤机械阻力均显著高于传统耕作模式,但是均未达到对作物根系生长产生抑制的阀值;免耕和灭茬/直播还田模式前期的耕层低温并未对产量构成不利影响,与传统耕作相比并未显著减产。

【英文摘要】The objective of this work in Heilongjiang Reclamation Area was to study the effects of conservation tillage and stubble retention on soil temperature,soil water content,some other soil physical properties and yield performances of corn and soybean.This work would provide theoretical basis for mid-and long-term conservation tillage and stubble retention programs.The experiment was conducted in 2009 with the crop sequence of soybean-corn-corn.The experiment consisted of tillage treatments(no till,NT;root-stubble chopped off with stubble retention,RCSR;rotary tillage with stubble retention,RTSR;conventional tillage,CT) in soybean(corn as previous crop),corn(corn as previous crop) and corn(soybean as previous crop) plots.The soil temperatures were 3.38°C and 2.6°C lower under NT and RCSR than CT in soybean plots(corn as previous crop),and were 1.93°C and 1.39°C lower under NT and DDSR than CT in corn plots(soybean as previous crop),respectively.Soil volumetric water content,during the planting season,were 9.3 % and 4.8% higher on both NT and RCSR than on CT in soybean plots(corn as previous crop),and were 16.0 % and 12.6 % higher on NT and DDSR than on CT in corn plots(soybean as previous crop).Bulk density at 5-20 cm soil depth and penetration resistance at 0-25 cm were higher significantly on NT and SRRC/ DDSR than CT,however,they did not exceed their threshold values respectively.Lower temperature under NT and RCSR/ DDSR did not impact on soybean/corn yield adversely in contrast with CT during their first growing periods.

【语种】中文

【第一作者】林蔚刚

【通讯作者】林蔚刚

【期刊名称、卷期、页码】大豆科学,2010,29(5): 760-766

【论文发表时间】2010-10-25 00:00:00

【引文索引类型】其他

【引文索引号】null

【学科分类】农业基础学科

【题目】两个萝卜雄性不育材料胞质的细胞学与分子鉴定

【中文关键词】萝卜(Raphanus sativus L.), 胞质雄性不育, 小孢子发生, 胞质鉴定

【英文关键词】Radish (Raphanus sativus L.), Cytoplasmic male sterility, Microsporogenesis, Cytoplasm identification

【中文摘要】本研究以晚抽薹萝卜雄性不育系及其相应保持系为试材,石蜡切片法显微观察小孢子发生的细胞学结果表明:不育系NAURWA01、NAURWA13 败育方式相似,在四分体之前的小孢子与保持系没有明显差 别;单核小孢子早期绒毡层出现小液泡,逐渐汇集成大液泡,外粉壁变薄,绒毡层径向伸长异常膨大,挤压小 孢子,细胞质紧缩,绒毡层延迟解体,不能为核有丝分裂提供能量,致使小孢子败育,最后一同降解。利用2 对 特异引物扩增Ogura 相关基因,在不育系NAURWA01、NAURWA13 中扩增出与Ogura 相关基因分子量相 同的特异条带,而在保持系没有任何条带出现。对特异条带回收克隆测序发现与orf138 同源性很高,但是在 编码区有3 个碱基的差异。推测两个萝卜不育系属于Ogura CMS 的变异类型。

【英文摘要】Cytological and molecular study was conducted for identification of cytoplasm in late-bolting radish male-sterile line. The cytological results indicated that the microspore abortion of NAURWA01 was similar to that of NAURWA13. During the pollen mother cell and tetrad stages, no abnormality was detected. After the microspores were released, the tapetum cells bulged by severe cytoplasmic vacuolation, elongated in a radial manner and enlarged abnormally, pressing microspores seriously. The vacuolated and lagged disintegration of the tapetum could not provide energy for mitosis, which result in the microspore degenerated. The related gene conditioning Ogura cytoplasmic male sterility in radish was amplified with two primers. The amplification patterns from the Ogura specific primers were identical between the two CMS lines. The sequence of specific fragment showed highly identity with orf138 besides three nucleotides in the coding region. It could be concluded that the two cytoplasms in CMS lines were variants of Ogura CMS.

【语种】中文

【第一作者】陈黎明

【通讯作者】Liwang Liu

【期刊名称、卷期、页码】分子植物育种 2009 年,第7 卷,第4 期,第757-762 页

【论文发表时间】2009-03-18 00:00:00

【引文索引类型】null

【引文索引号】null
【学科分类】园艺学

【题目】薄壁孔口PE滴灌管出流特性实验研究
【中文关键词】薄壁孔口;出流特性;水力计算
【英文关键词】thin-walled orifice;orifice characteristics;hydraulic calculation
【中文摘要】本文研究设计了一种以PE塑料管为材料的无滴头滴灌节水设备,即薄壁孔口PE滴灌管。实验材料采用直径为16mm,壁厚为1.5mm,最大爆破压力为0.25MPa的PE管。首先,通过采用长度为15mm、30mm、50mm的同径小管套作为消能方式,测量出孔口间距为0.33m,工作压力分别为120kPa、100kPa、80kPa、60kPa、50kPa,孔口直径分别为0.5mm、0.7mm、0.9mm的短管孔口出流量。通过同一管路孔口出流量的20%原则,初步判断实验数据是否合理,然后用excel回归得出不同孔口直径、不同工作压力、不同小管套长度时的流量-压力方程式q=k×hx,通过q=k×hx中的流量指数k和流态指数x比较,得出小管套长度为15mm时消能效果较好,因此,长管实验中消能小管套的长度便采用15mm。然后,对此种薄壁孔口的制造偏差进行分析,本课题中孔口满足了孔口制造偏差的要求。并对短管实验数据进行分析,包括孔口的类型,水头损失计算和水头损失与管首尾压差的关系三个方面,得出了短管出流时,水头损失与管首尾压差相等的结论。最后,对薄壁孔口主要性能指标进行分析,得出了薄壁孔口的主要性能指标满足滴头性能指标的要求的结论。 本文对短管实验及数据处理之后,对同样条件下的长管进行验证实验,测定孔口出流量,测三次取平均值,分析数据,剔除可疑数据。并且对长管进行灌水均匀度的分析和管道水力计算,包括灌水器设计允许工作水头偏差率、最大出水孔数和设计最大长度的计算。然后,根据不同作物的种植间距,用插值法得出作物种植间距时的孔口出流量。最后,对薄壁孔口的灌溉制度进行设计。 通过对薄壁孔口出流量的测量及数据处理,证明薄壁孔口确实可行,并把此薄壁孔口应用于莆田市涵江区松岭现代生态农业基地,其孔口出流量满足了茶树的需水量要求,这对薄壁孔口PE滴灌管的推广提供了参考借鉴意义。
【英文摘要】A kind of water-saving irrigation equipment that is called as punched drip irrigation tubingwas studied and designed in this paper.The experimental pipes were PE plastic tubings.Thediameter of experimental PE tubings is 16mm,the wall thickness is 1.5mm and the maximalbursting pressure is 0.25MPa.Firstly,Small tube sets which's length is 15mm,30mm and 50mmwere used to reduce energy.There were three PE tubings.Each has a single hole with diameter of0.5mm、0.7mm and 0.9mm and orifice spacing of 0.33m.Under120kPa、100kPa、80kPa、60kPa、50kPa work pressure,the flow of these three tubings were studied in this paper.By the 20%principle of orifice flow,whether the experimental data is reasonable was judged,and the flow-pressure equation(q=k×hx)was regressed.Comparing k and x,the way of reducing energy was the best when the length of small tube set was 15mm.After analyzing manufacture deviation ofthin-wall orifice,it was feasible.By analyzing flow of orifice,including orifice type,head losscalculation and the relationship between head loss and differential pressure of inlet and end.Values of head loss and differential pressure of inlet and end were the same.After analyzing mainperformance indexes of thin-wall orifice,they satisfied requirement of drippers. Based on the experiment of short tube and experimental data processing,the sameexperiment of long tube was did,including measuring the flow,taking average in three times,analyzing data and eliminating suspicious data.Then irrigation evenness of long tube wasanalyzed and hydraulic calculation was did,including design work rate of deviation,maximumnumber of the orifice and calculation of the maximum design length.Then,according to thedifferent crops,the flow was calculated in interpolation method.Finally,irrigation system of thethin-walled orifice was designed. Through this kind of thin-walled orifice of the flow measurement and data processing,feasibility of the thin-wall orifice was proved,and was applied in HanJiang PuTian modernecological agriculture base.The flow of orifice satified water requirement of tea.In order toprovide reference for the popularization of thin-walled orifice.
【语种】中文
【第一作者】路建军
【通讯作者】方文熙
【期刊名称、卷期、页码】福建农林大学硕士学位论文,2010:1-73
【论文发表时间】2010-04-30 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农业工程

【题目】萝卜扩展蛋白基因RsEXPB1 克隆与表达特征分析
【中文关键词】萝卜(Raphanus sativus L.), 扩展蛋白, 基因克隆, 表达特征
【英文关键词】Radish (Raphanus sativus L.), Expansin, Gene cloning, Expression characterization

【中文摘要】本文根据GenBank 中扩展蛋白序列设计特异引物,从萝卜高代自交系“ NAU-LVYH06 ”中克隆到一个扩展蛋白基因RsEXPB1 (GenBank accession No. GQ387363, GQ387364)。其编码区基因组序列长度为1 430bp,包括4 个外显子和3 个内含子;RT-PCR 获得长度为898 bp 的cDNA,开放读码框(ORF)为29~820 bp,推　导编码263 个氨基酸,含有1 个组氨酸(His-Phe-Asp, HFD)功能域,ORF 和推导蛋白序列与拟南芥AtEXPB3 (GenBank accession No. NM118965)同源性分别为87%、92%。半定量RT-PCR 检测到该基因主要在萝卜生育前期的幼叶、肉质根木质部和韧皮部中表达,且表达丰度可能与该部位细胞生长分裂状态相关,差异较明显。

【英文摘要】Using the specific primers derived from the sequence of expansins in GenBank, the RsEXPB1 gene(GenBank accession No. GQ387363, GQ387364) was cloned from radish advanced inbred line NAU-LVYH06 in this study. The genome sequence of coding region was 1 430 bp including four exons and three introns. The cDNA consisted of 898 bp with an open reading frame (ORF) between 29 bp and 820 bp by RT-PCR, and the predicted protein of 263 amino acids, residues contained histidine function domain (His-Phe-Asp, HFD). The sequence of coding region and predicated amino acids showed the high homology of 87% and 92% with AtEXPB3 (GenBank accession No. NM118965) in Arabidopsis, respectively. With semi-Q RT-PCR the temporal and spatial expressionwere conducted. It was found that RsEXPB1 gene was expressed in young leaf, phloem and xylem of tap root with the significantly different abundant of transcript over early developmental stages, and gene expression may correlate with the cell development state.

【语种】中文

【第一作者】荆赞革

【通讯作者】Liwang Liu

【期刊名称、卷期、页码】分子植物育种 2009 年,第7 卷,第4 期,第801-805 页

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【引文索引类型】null

【引文索引号】null

【学科分类】园艺学

【题目】Overexpression of a soybean O-acetylserine (thiol) lyase-encoding gene GmOASTL4 in tobacco increases cysteine levels and enhances tolerance to cadmium stress

【中文关键词】无

【英文关键词】Cadmium,Cysteine,O-Acetylserine,(thiol) lyase,Soybean,Transgenic tobacco

【中文摘要】无

【英文摘要】O-Acetylserine (thiol) lyase (OASTL, EC 2.5.1.47) catalyzes the final step in cysteine biosynthesis. The soybean GmOASTL4 gene was overexpressed in tobacco. Transgenic plants showed markedly increased accumulation of transcripts and higher cysteine content compared with the wild-type. Upon exposure to cadmium stress, OASTL activity and cysteine levels increased significantly in transgenic plants. Cadmium accumulation and the activity of both superoxide dismutase and catalase enzymes were enhanced in transformants. These results demonstrate that overexpression of GmOASTL4 in tobacco can enhance cysteine levels and increase tolerance to cadmium stress.

【语种】英文

【第一作者】宁慧霞

【通讯作者】喻德跃

【期刊名称、卷期、页码】Biotechnol Lett (2010) 32:557 – 564

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【引文索引类型】SCI

【引文索引号】2.7545550002e+011

【学科分类】植物学

【题目】除芒稻种摩擦特性测定

【中文关键词】除芒; 稻谷种子; 物料特性;

【英文关键词】deawning; paddy keneral; material characteristics;

【中文摘要】以东北农业大学培育的4种稻谷品种为试验材料,在测量装置上分别测定稻谷种子除芒前、后滑动摩擦角、休止角、内摩擦角。结果表明,稻谷种子滑动摩擦角、休止角、内摩擦角有差异,且除芒后其值均比除芒前小。除芒稻种在铁板、尼龙板、橡胶板三种材料上滑动时橡胶板摩擦力最大,可以考虑用橡胶材料作为除芒机的动杆。

【英文摘要】Gliding friction angle,stop-angle,inner friction angle of awned seeds of four kinds of rices were measured and analyzed.The results showed that the gliding friction angle,stop-angle,inner friction angle of rice seeds were higher than awned rice seeds.These parameters can be used as the basis to design the awner for paddy keneral.
【语种】中文
【第一作者】郭胜
【通讯作者】赵淑红
【期刊名称、卷期、页码】东北农业大学学报,2010,41(7):118-121
【论文发表时间】2010-07-25 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农业基础学科

【题目】Effect of long-term fertilization on organic carbon and nitrogen contents in a black soil of northeast China.
【中文关键词】土壤氮
【英文关键词】Soil nitrogen
【中文摘要】土壤肥力
【英文摘要】fertility
【语种】英文
【第一作者】姜勇
【通讯作者】姜勇
【期刊名称、卷期、页码】Agricultural Journal
【论文发表时间】2008-12-31 00:00:00
【引文索引类型】其他
【引文索引号】3(3)216-219
【学科分类】土壤学

【题目】Geostatistical analyses of soil electrical conductivity in a vegetable greenhouse field with different data sets.
【中文关键词】土壤电导率
【英文关键词】soil electrical conductivity
【中文摘要】施肥影响
【英文摘要】soil electrical conductivity
【语种】英文
【第一作者】姜勇
【通讯作者】姜勇
【期刊名称、卷期、页码】Journal of Environmental Research
【论文发表时间】2008-12-31 00:00:00
【引文索引类型】其他
【引文索引号】2(3)125-130
【学科分类】土壤学

【题目】Evaluating nitrogen management of farm systems in the steep—mountainous KARST region.
【中文关键词】区域氮平衡
【英文关键词】nitrogen management
【中文摘要】区域N平衡
【英文摘要】Evaluating nitrogen management of farm systems in the steep—mountainous KARST region
【语种】英文
【第一作者】梁雷
【通讯作者】梁雷
【期刊名称、卷期、页码】American—Eurasian Journal of Sustainable Agriculture

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【引文索引类型】其他
【引文索引号】2(2)180-186
【学科分类】土壤学

【题目】东北玉米带农田土壤磷素分布特征
【中文关键词】磷,玉米,施肥
【英文关键词】phosphorus, corn
【中文摘要】东北玉米带农田土壤磷素分布特征
【英文摘要】P dynamics
【语种】中文
【第一作者】姜勇
【通讯作者】姜勇
【期刊名称、卷期、页码】应用生态学报
【论文发表时间】2008-12-31 00:00:00
【引文索引类型】其他
【引文索引号】19(9)1931-1936
【学科分类】土壤学

【题目】长期施肥对棕壤氧化还原酶活性和动力学特征的影响
【中文关键词】长期施肥试验; 过氧化氢酶; 脱氢酶; 活性; 动力学特性;
【英文关键词】Long-term fertilization experiment; Catalase; Dehydrogenase; Activity; Kinetic characteristics
【中文摘要】土壤质量与土壤的生物学性质密切相关,施肥制度对土壤生物学特性的影响研究对土壤质量管理具有重要的意义。本文以沈阳农业大学长期肥料定位试验为基地,研究长期不同施肥制度对土壤理化性质,过氧化氢酶、脱氢酶活性和动力学特征的影响。主要研究结果:施用化肥、有机肥配施化肥降低土壤pH值,提高4种土壤全量养分(全C、全P、全S、全N)含量,有机肥配施化肥提高土壤速效N含量;低量化肥配施有机肥显著提高土壤过氧化氢酶活性及Vmax/Km值和Vmax值,低量化肥配施有机肥显著提高脱氢酶活性及Vmax/Km值,降低脱氢酶Km值。本文的研究表明,合理的化肥施用量及配施有机肥是提高土壤生物学活性的有效手段。 更多还原
【英文摘要】Our objective was to study the changes in oxidoreductase activity and kinetic parameters of brown earth under a long-term (30 years) field experiment involving fertility treatments(inorganic fertilizers and organic matter with fertilizers). The result showed that application of mineral and organic-mineral fertilizer decreased soil pH and increased the soil total C, P, S and N contents while application of organic-mineral fertilizer increased soil rapidly available N. Lower mineral fertilizer combined organic fertilizer increased catalase activity, its Vmax/Km and Vmax in these treatments increased dehydrogenase activity and its Vmax/Km value and decreased Km value. The research showed that reasonable application of fertilizes was effective methods to improve the soil biological activity
【语种】中文
【第一作者】张丽莉
【通讯作者】陈利军
【期刊名称、卷期、页码】土壤通报
【论文发表时间】2008-12-31 00:00:00
【引文索引类型】其他
【引文索引号】39(4)845-848
【学科分类】土壤学

【题目】潮棕壤不同利用方式下交换性钙镁剖面分布研究
【中文关键词】潮棕壤, 利用方式下,交换性钙镁,剖面分布
【英文关键词】Land use ,soil exchangeable cations
【中文摘要】潮棕壤不同利用方式下交换性钙镁剖面分布研究
【英文摘要】Land use on soil exchangeable cations
【语种】中文

【第一作者】张玉革
【通讯作者】姜勇
【期刊名称、卷期、页码】应用生态学报
【论文发表时间】2008-12-31 00:00:00
【引文索引类型】其他
【引文索引号】19(4)813-818
【学科分类】土壤学

【题目】Nematode faunal response to long-term application of nitrogen fertilizer and organic manure in Northeast China
【中文关键词】土壤线虫,长期施肥
【英文关键词】Nematode , nitrogen fertilizer , organic manure , Northeast China
【中文摘要】土壤线虫对长期施肥的响应
【英文摘要】Nematode faunal response to long-term application of nitrogen fertilizer and organic manure in Northeast China
【语种】英文
【第一作者】梁文举
【通讯作者】梁文举
【期刊名称、卷期、页码】Soil Biology and Biochemistry
【论文发表时间】2009-12-31 00:00:00
【引文索引类型】SCI
【引文索引号】41:883-890
【学科分类】土壤学

【题目】Profile distribution of micronutrients in an aquic brown soil as affected by land use
【中文关键词】微量元素,剖面分布
【英文关键词】Profile distribution,micronutrients,aquic brown soil, land use
【中文摘要】微量元素剖面分布
【英文摘要】Profile distribution of micronutrients in an aquic brown soil as affected by land use
【语种】英文
【第一作者】姜勇
【通讯作者】姜勇
【期刊名称、卷期、页码】Plant Soil & Environment
【论文发表时间】2009-12-31 00:00:00
【引文索引类型】SCI
【引文索引号】55(11)
【学科分类】土壤学

【题目】Kinetics of Catalase and Dehydrogenase in Main Soils of Northeast China under Different Soil Moisture Conditions
【中文关键词】土壤,脱氢酶
【英文关键词】Kinetics of Catalase and Dehydrogenase in Main Soils of Northeast China under Different Soil Moisture Conditions
【中文摘要】土壤脱氢酶
【英文摘要】Kinetics of Catalase and Dehydrogenase in Main Soils of Northeast China under Different Soil Moisture Conditions
【语种】英文
【第一作者】张丽莉
【通讯作者】陈利军
【期刊名称、卷期、页码】Agricultural Journal
【论文发表时间】2009-12-31 00:00:00
【引文索引类型】其他
【引文索引号】4(2)113-120
【学科分类】土壤学

【题目】Response of soil nematode communities to long-term application of inorganic fertilizers in the black soil of Northeast China
【中文关键词】土壤,线虫,肥料
【英文关键词】soil nematode communities ,inorganic fertilizers, black soil of Northeast China
【中文摘要】土壤线虫对肥料的响应
【英文摘要】Response of soil nematode communities to long-term application of inorganic fertilizers in the black soil of Northeast China
【语种】英文
【第一作者】张晓珂
【通讯作者】姜勇
【期刊名称、卷期、页码】Frontiers of Biology in China
【论文发表时间】2009-12-31 00:00:00
【引文索引类型】其他
【引文索引号】4(1)111-116
【学科分类】土壤学

【题目】森林生态系统微量元素循环及其影响因素分析
【中文关键词】微量元素,循环
【英文关键词】micronutrients cycling
【中文摘要】生态系统微量元素循环及其影响因素分析
【英文摘要】micronutrients cycling
【语种】中文
【第一作者】姜勇
【通讯作者】姜勇
【期刊名称、卷期、页码】应用生态学报
【论文发表时间】2009-12-31 00:00:00
【引文索引类型】其他
【引文索引号】20(1)197-204
【学科分类】土壤学

【题目】不同利用方式对潮棕壤交换性钾钠及盐基总量的影响
【中文关键词】潮棕壤; 交换性钾; 交换性钠; 土地利用; 土壤交换性盐基;
【英文关键词】Aquic brown earth; Exchangeable potassium; Exchangeable sodium; Land use; Soil exchangeable base
【中文摘要】为深刻认识土地利用变化对土壤交换性离子的影响,本文对潮棕壤水稻田、玉米地、撂荒地和人工林地4种土地利用方式经过14年后,在0~150cm剖面中土壤交换性钾、钠、交换性盐基总量的剖面分布及交换性钾钠比值变化进行了比较研究。结果表明,林地和撂荒地各土层交换性K含量及土体中交换性K储量具有高于水稻田和玉米地的趋势;水稻田和撂荒地0~20cm各土层的交换性Na含量显著高于林地和玉米地;林地0~150cm深度土壤交换性Na储量显著高于其他三种利用方式(P<0.05);0~150cm深度内土壤交换性盐基总储量大小依次为林地、玉米地、撂荒地、水稻田;水稻田剖面土壤交换性K/Na随土层深度增加而增大,其他3种土地利用方式则是随土层深度增加而降低。土壤管理和植物自身的特性在土壤剖面中交换性离子的构成以及土壤交换性盐基库的重建等方面可能起到重要作用。
【英文摘要】Aimed to further understand the effect of land use pattern on soil exchangeable cations, this study examined the profile variation and storage of soil exchangeable K, Na, the sum of exchangeable base cations, and K/Na ratios at 0-150cm depth of an aquic brown earth under four land use patterns over 14 years. Results showed that soil exchangeable K in each layer and K storage were tended to be higher in woodland and fallow field than in paddy and maize fields. Soil exchangeable Na was significant..
【语种】中文
【第一作者】张玉革
【通讯作者】姜勇
【期刊名称、卷期、页码】土壤通报
【论文发表时间】2008-08-06 00:00:00

【引文索引类型】其他
【引文索引号】15(1)48-54
【学科分类】土壤学

【题目】稻麦轮作农田氮素循环的DNDC模型分析
【中文关键词】优化施肥, 夏玉米,农田氨挥发
【英文关键词】fertilization, ammonia
【中文摘要】稻麦轮作农田氮素循环的DNDC模型分析
【英文摘要】fertilization on ammonia
【语种】中文
【第一作者】夏文建
【通讯作者】周卫
【期刊名称、卷期、页码】植物营养与肥料学报
【论文发表时间】2009-12-31 00:00:00
【引文索引类型】其他
【引文索引号】15(2)344-351
【学科分类】土壤学

【题目】Long-term effect of fertility management on the soil nematode community in vegetable production under greenhouse conditions
【中文关键词】施肥管理,线虫生态
【英文关键词】fertility management, soil nematode community , vegetable production
【中文摘要】施肥管理与线虫生态
【英文摘要】Long-term effect of fertility management on the soil nematode community in vegetable production under greenhouse conditions
【语种】英文
【第一作者】李琪
【通讯作者】梁文举
【期刊名称、卷期、页码】Applied Soil Ecology
【论文发表时间】2010-12-31 00:00:00
【引文索引类型】SCI
【引文索引号】46:111-118
【学科分类】土壤学

【题目】红外光谱法测定肥料施用26年棕壤的腐殖质组分特征
【中文关键词】棕壤,腐殖质组分
【英文关键词】brown soil humid
【中文摘要】红外光谱法测定肥料施用26年棕壤的腐殖质组分特征
【英文摘要】brown soil humid
【语种】中文
【第一作者】张玉兰
【通讯作者】陈利军
【期刊名称、卷期、页码】光谱学与光谱分析
【论文发表时间】2010-12-31 00:00:00
【引文索引类型】SCI
【引文索引号】30(1)79-83
【学科分类】土壤学

【题目】优化施氮下稻麦轮作体系氮肥反硝化损失研究

【中文关键词】优化施氮,稻麦轮作,反硝化
【英文关键词】nitrogen fertilization, rice wheat systems
【中文摘要】优化施氮下稻-麦轮作体系土壤N2O排放研究
【英文摘要】nitrogen fertilization in rice wheat systems
【语种】英文
【第一作者】梁国庆
【通讯作者】梁国庆
【期刊名称、卷期、页码】植物营养与肥料学报
【论文发表时间】2010-12-31 00:00:00
【引文索引类型】其他
【引文索引号】30(5)3211-3233
【学科分类】土壤学

【题目】优化施氮下稻麦轮作体系氮肥氨挥发损失研究
【中文关键词】稻麦轮作,氨挥发
【英文关键词】fertilization , NH3 loss
【中文摘要】优化施氮下稻麦轮作体系氮肥氨挥发损失研究
【英文摘要】fertilization on NH3 loss
【语种】中文
【第一作者】夏文建
【通讯作者】周卫
【期刊名称、卷期、页码】植物营养与肥料学报
【论文发表时间】2010-12-31 00:00:00
【引文索引类型】其他
【引文索引号】16(2)298-304
【学科分类】土壤学

【题目】长期施肥对黄棕壤性水稻土生物学特性的影响
【中文关键词】黄棕壤性,水稻土,生物学特性
【英文关键词】fertilization, biodiversity, paddy field
【中文摘要】长期施肥对黄棕壤性水稻土生物学特性的影响
【英文摘要】fertilization and biodiversity in paddy field
【语种】中文
【第一作者】裴雪霞
【通讯作者】周卫
【期刊名称、卷期、页码】中国农业科学
【论文发表时间】2010-12-31 00:00:00
【引文索引类型】其他
【引文索引号】16(1)6-14
【学科分类】土壤学

【题目】长期施肥对黑土磷酸酶活性的影响
【中文关键词】长期定位施肥; 中性磷酸单酯酶; 磷酸二酯酶; 磷酸三酯酶
【英文关键词】Long-term fertilization; Phosphomonoesterase; Phosphodiesterase; Phosphotries
【中文摘要】对长期不同培肥制度下黑土磷酸酶活性进行研究。结果表明,中性磷酸单酯酶活性最高,磷酸二酯酶活性次之,磷酸三酯酶活性最低。不同施肥处理中性磷酸单酯酶活性顺序为:NPK>NK>M1+N2PK>秸秆+N3PK>CK>M2+N1PK。磷酸二酯酶活性顺序为:M1+N2PK>M2+N1PK>秸秆+N3PK>CK>NK>NPK。磷酸三酯酶活性各处理间无显著差异。 更多还原
【英文摘要】Organic phosphorus turnover is regulated by phosphatase.As most of the organic P inputs to soil are phosphate diesters and monoesters,it therefore seems likely that phosphomonoesterase and phosphodiesterase activities regulate organic P turnover in

black soils.A long-term experiment was set up in Gongzhuling Long-term Fertilization Station of Jilin Province to investigate application of six fertilization treatments on soil phosphase enzyme activities.Treatments included Control,NP,NPK,NPK+M1
【语种】中文
【第一作者】刘耀鹏
【通讯作者】武志杰
【期刊名称、卷期、页码】土壤通报
【论文发表时间】2010-12-31 00:00:00
【引文索引类型】其他
【引文索引号】43(20)4278-4285
【学科分类】土壤学

【题目】典型潮土N2O排放的DNDC模型田间验证研究
【中文关键词】潮土, N2O, DNDC
【英文关键词】N2O, DNDC
【中文摘要】典型潮土N2O排放的DNDC模型田间验证研究
【英文摘要】N2O and DNDC
【语种】中文
【第一作者】王秀斌
【通讯作者】周卫
【期刊名称、卷期、页码】植物营养与肥料学报
【论文发表时间】2011-06-30 00:00:00
【引文索引类型】其他
【引文索引号】41(1)60-63
【学科分类】土壤学

【题目】长期施肥对黄棕壤性水稻土氨氧化细菌多样性的影响
【中文关键词】水稻土, 氨氧化细菌
【英文关键词】fertilization and biodiversity
【中文摘要】长期施肥对黄棕壤性水稻土氨氧化细菌多样性的影响
【英文摘要】fertilization and biodiversity
【语种】中文
【第一作者】裴雪霞
【通讯作者】周卫
【期刊名称、卷期、页码】植物营养与肥料学报
【论文发表时间】2011-06-30 00:00:00
【引文索引类型】其他
【引文索引号】17(4)925-933
【学科分类】土壤学

【题目】氮肥运筹对农大108 产量、氮肥利用率及土壤氮素平衡的影响
【中文关键词】氮肥运筹, 氮肥利用率
【英文关键词】fertilization, crop yield
【中文摘要】氮肥运筹对农大108 产量、氮肥利用率及土壤氮素平衡的影响
【英文摘要】fertilization and crop yield
【语种】中文
【第一作者】王秀斌
【通讯作者】周卫
【期刊名称、卷期、页码】玉米科学
【论文发表时间】2011-06-30 00:00:00

【引文索引类型】其他
【引文索引号】17(3)724-730
【学科分类】土壤学

【题目】春大豆荚果发育过程中脂肪含量及其组分变化研究
【中文关键词】春大豆; 脂肪; 相关分析;
【英文关键词】Soybean; Oil; Correlation analysis;
【中文摘要】本研究选用了3个品质类型的5个春大豆品种,研究荚果发育过程中脂肪含量及其组分的动态变化。结果表明:脂肪含量随着开花天数的增加呈上升趋势,始花后68d达到最大值,5个品种表现一致的规律性;26~32d脂肪含量增加较为缓慢,开花32~50d是脂肪含量快速增加时期,50~68d增长缓慢;脂肪酸组分中亚麻酸、硬脂酸、棕榈酸所占比例呈降低趋势,亚油酸呈升高趋势,油酸先升高后降低;5个品种脂肪含量和油酸所占比例与始花后天数都呈极显著正相关关系;亚油酸所占比例与始花后天数没有达到显著正相关水平;硬脂酸、棕榈酸、亚麻酸所占比例与始花后天数呈负相关,但个别品种未达到显著水平;脂肪及其组分所占比例表现不同程度的相关性,脂肪与亚油酸、油酸呈显著或极显著正相关,脂肪与亚麻酸、硬脂酸、棕榈酸呈显著或极显著负相关关系。
【英文摘要】Five spring soybean varieties with three quality types were used to understand dynamic changes of content and components of fat during pod development.The results showed that the content of fat increased with the increase of the days after flowering,with maximum in 68 days after flowering.The content of fat slowly increased during 26~32 days after flowering,and fast increased during 32~50 days after flowering and then slowly increased during 50~68 days after flowering.The proportion of palmitic acid,stearic acid,linolenic acid decreased.Linoleic acid increased.Oleic acid increased first and then reduced.and the content and the proportion of oleic acid had significant correlation with the days after flowering.The proportion of stearic acid,palmitic acid and linolenic acid was negatively correlated with the days after flowering in some varieties.Linoleic acid,oleic acid had significant positive correlation with fat content.Linolenic acid,stearic acid and Palmitic acid had significant positive negative correlation with fat content.
【语种】中文
【第一作者】宫纪娟
【通讯作者】龚振平
【期刊名称、卷期、页码】作物杂志2010,1:53-56
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【引文索引类型】其他
【引文索引号】null
【学科分类】农业基础学科

【题目】春大豆荚果发育过程中酯酶同工酶酶谱分析
【中文关键词】春大豆; 酯酶(EST)同工酶; 酶谱分析;
【英文关键词】Soybean; Esterase isozymes; Zymogram analysis;
【中文摘要】本研究采用聚丙烯酰胺凝胶电泳(PAGE)技术,对3种品质类型的5个春大豆品种荚果发育过程中的酯酶(EST)同工酶进行分析。结果表明,5个春大豆品种从开花20~62d的发育过程中共出现23条酶带,Rf值集中在0.170~0.795间,可分为3个区,即A区(0.170~0.338)、B区(0.371~0.695)和C区(0.719~0.795)。不同品种、不同时期酯酶同工酶活性和条带数均有所差异;大豆荚果发育前期条带数少,集中在B区;随着荚果发育进程的进行,条带数明显增加,出现C区;接近成熟期时条带数减少,B区活性减弱,A区明显出现条带。
【英文摘要】This study was conducted with polyacrylamide gel electrophoresis(PAGE)to estimate the esterase(EST)isozymes of three quality types of five spring soybean varieties during the process of pod development.The results indicated that 23 enzymic bands appeared during the period from 20 days to 62 days after flowering.Rf values ranged from 0.170 to 0.795,which could be divided into three regions,i.e.A(0.170~0.338),B(0.371~0.695)and C(0.719~0.795).There were difference between esterase isozymes activities and bands at different stages or for varieties.At the first period of pod development,a few bands appeared and concentrated in the Bregion;then more bands appeared in the middle period of pod development and concentrated in the Cregion;and less bands appeared and concentrated in the A region at the end period of pod development.
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【题目】高温胁迫下不同耐热性萝卜幼苗生理响应分析
【中文关键词】萝卜;高温胁迫;耐热性;生化指标
【英文关键词】Radish; Heat stress; Heat resistance; Biochemical index
【中文摘要】利用耐热性差异显著的萝卜自交系为材料,研究了高温(38 ℃)胁迫下萝卜幼苗丙二醛(MDA)、游离脯氨酸、可溶性蛋白和可溶性糖含量变化与耐热性的关系。结果表明:高温处理前耐热材料中可溶性蛋白含量高于不耐热材料;可溶性糖、游离脯氨酸和MDA 含量无显著差异。处理24、48、72 h, 耐热材料中可溶性蛋白、可溶性糖和游离脯氨酸含量均显著高于不耐热材料,MDA 含量显著低于不耐热材料。处理24 h,4 个指标的含量都比处理前显著增加,可溶性蛋白含量在处理48、72 h 时逐渐降低,但耐热材料下降得较慢。与处理24 h 相比,处理48、72 h 时可溶性糖、游离脯氨酸和MDA 含量在耐热材料中没有显著变化,而在不耐热材料中处理48 h 显著高于处理24 h 时的含量。表明这4 个指标的含量变化能准确反映萝卜幼苗耐热性差异,可考虑用于萝卜幼苗的耐热性鉴定评价。
【英文摘要】Under high temperature stress(38 ℃), the variation of MDA, soluble protein, solublesugar, free proline contents in radish(Raphanus sativus L.)seedling with different heat resistance were analyzed. The soluble protein content was higher in heat resistant inbred lines than that in heat-sensitive ones, while the content of soluble sugar, free proline and MDA exhibited no significant difference among inbred lines. Under the treatments of 38 ℃ for 24 h, 48 h and 72 h, the contents of soluble protein,soluble sugar and free proline in heat resistant inbred lines were significantly higher than those in heat-sensitive ones, while the MDA content was significantly lower in heat resistant materials. Under the treatment of 38 ℃ for 24 h, the contents of all the 4 indexes were significantly increased. The soluble protein content declined continuously for 48 h and 72 h, but it declined much slowly in heat resistantinbred lines. As compared with the treatment of 38 ℃ for 24 h, the contents of soluble sugar, free proline and MDA were significantly higher for 48 h in heat-sensitive materials, while in heat resistant materials,there were no significant increases for 48 h and 72 h. It was suggested that the variation of these 4 indexes was related with the heat resistance and could be used for evaluation of heat resistance in radish seedlings.
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【题目】东南型温室降温智能控制系统
【中文关键词】温室降温;自动控制;温湿度;光照度;RS-485串口通信
【英文关键词】greenhouse cooling;control;temperature and humidity;illumination;RS-485 serial communication
【中文摘要】为了解决东南沿海地区的高温高湿天气造成温室降温控制难的问题,本课题研发了一套适合东南地区温室降温的以STC89C54RD+单片机为核心的控制系统。该系统利用温湿度传感器和光照度传感器对温室环境进行实时监测,实现半自动控制或自动控制温室内的相关设备,调节温室内的温湿度和光照度等微气候条件因子,为温室作物提供一个适合生长的环境。 该系统以各种环境因子为控制参数,控制温室内降温除湿设备的启停,如风机的开启与关闭、遮阳网的展开和折叠等。系统由PC终端机、RS485工业总线组网和主控制器组成,主控制器包括STC89C54RD+控制模块,温湿度及光照度采集模块、人机交互界面和驱动电路单元等模块电路。软件系统采用多模式独立运行并可互相切换的设计思路,同时引进多任务的编程思路,提高了程序运行的效率。本系统利用主从式多机通信数据采集方式,实现远程监控,从而为用户提供了一个便捷的控制平台。 本课题是计算机技术、通信技术与微机程序设计技术在现代农业自动化过程中的典型应用。通过实验验证,本文提出的控制方案能使所设计的系统有效、正常地运行。
【英文摘要】In order to solve the difficult problem of greenhouse cooling control which is caused byhot and humid weather in the southeast coastal areas,this subject develop a control systembased on STC89C54RD+MCU to suit the areas.The system uses the

temperature&humidity sensor and illumination sensor to monitor the greenhouse environment in real-time,realize the aim of semi-automatic or automatic control of the devices in greenhouse.It alsoadjusts the climatic factors like temperature,humidity and illumination in the greenhouse,sothe system can provide the crop with a suitable growing environment. The system uses environmental factors as control parameters to control the greenhousecooling dehumidification equipments,such as:the on/off status of the fan,the expansion andfolding of the shading networks,etc.The system is mainly made up of the following parts:PC,RS485 industrial bus network and the host controller,including temperature&humidityand illumination acquisition module,human-computer interaction interface,drive circuit unitand other peripheral circuits.The design idea of the software system applies a variety ofmodels which can operate independently of each other switch.Meanwhile,the multi-taskingprogramming ideas is also applied to improve the efficiency of the program.The system usesthe method of collecting data by master-slave multi-machine communication to achieveremote monitoring,so it can offer the customer a convenient control platform. This design is a typical application of 51 MCU and computer communications inautomation of modern agriculture.It proves that this system base on the control scheme in thethesis can run normally and reliably.

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【题目】春大豆植株钾素积累与转运的研究
【中文关键词】大豆; 钾素; 积累与转运;
【英文关键词】Soybean; Potassium; Accumulation and Transport;
【中文摘要】钾是大豆植株的重要营养元素之一,对大豆的产量形成有重要作用。试验以小金黄、绥农14和秣食豆为试验材料,对大豆不同生育时期不同器官的钾素含量动态变化和钾素积累分配与转运规律进行研究。结果表明:(1)大豆各营养器官中钾的百分含量以苗期最高,随着生长发育进程的推进,大豆各营养器官中钾百分含量的变化均呈下降趋势;(2)在整个生育期内,大豆植株钾素积累量呈现逐渐升高的趋势,其中营养器官呈现先升高后降低的趋势,荚果钾素积累量一直升高;(3)出苗至始花期(R1)、始花期(R1)至始粒期(R5)、始粒期(R5)至成熟期(R8)的钾素积累量占总积累量的比例3个供试品种平均为29.15%±5.47%、49.44%±5.66%、21.41%±6.86%;(4)在大豆生育前期叶片为钾素积累中心,其次为茎部,而到生育后期积累中心转移至荚果,成熟期荚果的钾素积累量占植株的钾素积累量的85.49%±1.67%;(5)荚果中的钾素63.49%±1.45%来自营养器官的转入,其中,来自叶片、叶柄、茎、根转移的比例分别为24.07%±1.02%、11.14%±1.32%、22.51%±1.03%、5.78%±1.30%。
【英文摘要】Potassium is one of the most important nutrient elements for soybean plant,and plays an important role in soybean production.Experimental materials of XJH,SN14,and MSD were used to determine dynamics of potassium content of different organs in different development periods and regulation of transport.The results showed that:(1) Potassium content in various vegetative organs was high at seedling period,and decreased with the soybean growth and development process.(2) Potassium accumulation increased with growth of soybean plant,and increased at first then decreased for vegetative organs,and increased all the time for legume.(3) The mean of three breeds ratio of potassium accumulation in different development periods and total potassium accumulation was 29.15%±5.47%,49.44%±5.66% and 21.41%±6.86%.(4) Leaf was the center of potassium accumulation in earlier growth stage,and next was stem.In later growth stage,legume was the center of potassium accumulation,and potassium remobilization from vegetative organs to legume occurred during the reproductive growth stage.The percent legume accounted for 85.49%±1.67% of the whole plant.(5) In legume,63.49%±1.45% potassium was from vegetative organs of leaf,petiole,stem and root,which amounting to 24.07%±1.02%,11.14%±1.32%,22.51%±1.03% and 5.78%±1.30%,respectively.

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【题目】春大豆植株磷素积累与转运动态的研究
【中文关键词】大豆; 磷素; 积累与转运;
【英文关键词】Soybean; Phosphorus; Accumulation and Transport;
【中文摘要】磷是大豆植株的重要组成元素,对大豆的产量形成有重要作用。试验以绥农14、小金黄和秣食豆为试验材料,对大豆不同生育时期不同器官的磷素含量动态变化和磷素积累分配与转运规律进行研究。结果表明:(1)大豆叶片、叶柄、茎、根中的磷素含量随生育进程而下降,荚果中磷素含量呈先降低后升高的变化动态;(2)大豆植株磷素积累量随着生育进程而增加,叶片、叶柄、茎、根的磷素积累量呈单峰曲线变化,荚果的磷素积累量一直增加;(3)出苗至初花期(R1)、初花期(R1)至鼓粒初期(R5)、鼓粒初期(R5)至成熟期(R8)的磷素积累量占总积累量的比例3个供试品种平均为27.83%±12.57%、38.47%±3.87%、33.70%±8.93%;(4)在大豆生育前期叶片为磷素积累中心,其次为茎部,而到生育后期积累中心转移至荚果;(5)荚果中的磷素40.04%来自营养器官的转入,其中,来自叶片、叶柄、茎、根转移的比例分别为9.64%±3.95%、6.89%±3.16%、19.97%±3.97%、3.53%±1.27%。
【英文摘要】Phosphorus is an important composition elements in soybean,and also very important for yield formation.Experimental materials were SN14,XJH and MSD,the dynamics of phosphorus content of different organs was determined in different development periods and regulation of transport.The results showed that:(1)Phosphorus content in leaf,petiole,stem,root decreased with growth of soybean plant,dynamics of phosphorus content in legume decreased and then increased.(2)Phosphorus accumulation increased with growth of soybean plant,and it changed as a single peak curve in leaf,petiole,stem,root,respectively,phosphorus accumulation in legume increased all the time.(3) The mean of three breeds ratio of phosphorus accumulation in different development periods and total phosphorus accumulation was 27.83%±12.57%,38.47%±3.87%,33.70%±8.93%.(4) Leaf was the center of phosphorus accumulation in earlier growth stage,next was stem,legume was the center of phosphorus accumulation in late growth stage.(5)In legume,40.04% phosphorus was from vegetative organs,ratio of phosphorus which was from leaf,petiole,stem,root,was 9.64%±3.95%、6.89%±3.16%、19.97%±3.97%、3.53%±1.27%,respectively.
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【题目】大豆不同碳代谢产物含量变化研究
【中文关键词】大豆; 可溶性糖; 蔗糖; 淀粉;
【英文关键词】Soybean; Soluble sugar; Sucrose; Starch;
【中文摘要】为明确不同碳代谢产物在大豆不同器官变化规律,在大田条件下,以三个栽培大豆品种为材料,测定不同生育时期不同器官可溶性糖、蔗糖、淀粉的含量。结果表明:随着生育进程推进,可溶性糖在茎秆、叶片、叶柄中及蔗糖在叶片、叶柄中含量呈"V"型变化,淀粉在茎杆中含量呈倒"V"型变化,R3期为转折点;可溶型糖在荚皮中含量及蔗糖在茎秆、荚皮中含量、淀粉在叶柄、荚皮含量呈逐渐升高趋势,叶片淀粉含量表现为升高-降低-升高趋势;不同品种大豆碳水化合物在植株体内变化规律相似。三种碳代谢产物含量在叶片中均表现为极显著正相关,而在茎秆中不同碳代谢产物含量相关性因品种而异。
【英文摘要】Carbon metabolism is an important process in soybean,however,there are few research on the variable rule of carbon metabolism product in different organs of soybean.Three soybean varieties were used to test the content of soluble sugar,sucrose and starch in different growing stages.With the growing process,the soluble sugar content appeared"V"-type changes in stem,leaves,and petioles,starch content also presented the same type in stem.The starch content presented inverted" V"-type changes in stem,and there was a turning point in R3 period.The soluble sugar content in pod shell,the sucrose content in stem and pod shell,the starch content in petioles and pod shell all appeared a gradually rising trend.The starch content appeared a trend of rising-decreasing-rising in leaves.It had familiar rules of carbohydrate accumulation in different varieties.The content of these three carbon metabolism products appeared significant positive correlation in leaves,while presented difference in stem for different varieties.

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【题目】温室计算机监控系统的设计
【中文关键词】环境参数;温室监控;FX2N-8AD;五段变温
【英文关键词】Environmental parameters;greenhouse control;FX2N-8AD;five-paragraph changing temperature
【中文摘要】本文通过对农用温室的控制特点和主要参数要求的分析,提出采用PLC来实现温室主要参数控制的方法,该方法可同时对温室内的温度、湿度、光照度、CO2浓度进行有效的控制。 本文以中小型农用温室内的黄瓜栽培为例,阐述以PLC为核心的控制系统,该系统由信息采集系统、智能控制单元和执行机构三部分构成,信息采集系统利用FX2N-8AD模拟模块完成环境参数的采集和输入;主控单元FX2-32MT将传感器检测值与设定的温室参数值进行比较,输出相应的控制信号;执行机构根据控制信号,带动电机、电磁阀、风机等设备,以实现对温室的智能控制。通过GX-Simulator仿真软件的测试表明,该控制系统能够对相关环境参数在不同时段的控制要求方便地进行调节。 针对特定地区的气候条件,本文研究了以PLC为核心的温室计算机监控系统,该系统的主要特点是:首先,PLC的接口线路简单,外围元器件较少,整个系统运行可靠,可以保证温室的控制要求;其次,采用五段变温的控制方法,即在不同的时间段内设定不同的最适温度值,以便于最大限度的利用自然资源;最后,根据时间的不同及环境因子重要性的不同,在每一时段设置不同的优先级,以保证作物的优质发展。
【英文摘要】Based on the analysis of the control characteristics of agricultural greenhouse andrequirements of the main parameters,PLC is used to achieve controlling method of the mainparameters in greenhouse in this paper,this method could effectively control the greenhousetemperature,humidity,light intensity,CO2 concentration simultaneously. Taking cucumber cultivation in small and medium agricultural greenhouse as an example,thispaper presented control system which used PLC as a core,the system was consisted of threeparts,including information collection system,intelligent control unit and executive body,theinformation collection system used FX2N-8AD analog module to accomplish the environmentalparameters ’ collection and input;compared the values of sensor detections with greenhouse ’ sparameter,master control unit FX2-32MT outputted corresponding control signal;according tothe control signal,executive body drove motors,solenoid valves,fans and other equipments toachieve the intelligent control of greenhouse.GX-Simulator simulation software tests showedthat the control system could be adjusted easily relative environmental parameters which arebased on the different periods of control requirements. In the light of climatic conditions for a particular region,this paper studied computermonitoring system in greenhouse which used PLC as a core,The main feature of the system is:in the first place,PLC has a simple interface circuit and less external components,the systemensured the control requirements of greenhouse since it was reliable;Secondly,the system usedthe control method of five-paragraph changing temperature,in other words,the system set upspecial optimum temperature in different period to make use of maximum natural resources;Finally,according to the difference time and the different importance of environmental factors,the system set up different priorities slots in each time,so it could ensure high qualitydevelopment of crops.
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【题目】大豆生育期间土壤无机态氮与植株硝态氮变化规律的研究
【中文关键词】大豆; 硝态氮; 铵态氮; 变化规律;
【英文关键词】Soybean; NO3--N; NH4+-N; Change Rule;

【中文摘要】试验以2个大豆品种,3种施氮肥水平(N0:0 kg hm-2、N75:75 kg hm-2、N150:150 kg hm-2),对大豆生育期间土壤无机态氮(铵态氮、硝态氮)与植株硝态氮含量及变化规律加以研究,结果表明,土壤中无机态氮与大豆植株中硝态氮含量均呈下降趋势,三种施氮肥水平相比,除土壤铵态氮含量表现为N150>N75>N0,土壤硝态氮与植株硝态氮含量在各氮肥水平处理间未表现出明显的差异,并且大豆茎、叶柄中硝态氮含量与土壤中硝态氮含量呈极显著正相关(r=0.9316**;r=0.9355**),土壤铵态氮与土壤硝态氮含量呈极显著正相关(r=0.8746**,)可以用茎、叶柄中硝态氮含量来表征土壤无机态氮营养状况。
【英文摘要】This study was conducted with two soybean cultivars and nitrogen treatments(N0:0 kg hm-2,N75:75 kg hm-2,N150:150 kg hm-2)t,o study the content of NO3--N in the soil and plant during the growth period.The results showed that the contents of NO3--N in the soil and plant were downtrend,and the contents of NH4+-N in the soil were N150>N75>N0.The contents of NO3--N in the soil and plant were no obvious differences among different nitrogen treatments,and there were highly significant correlations between the contents of NO3--N in stem and petioles and in soil(r=0.9316** and r=0.9355** respectively),and the correlation between the contents of NH4+-N and NO3--N in soil reached the positive correlative level(r=0.8746**.) In conclusion,the contents of NO3--N in stem and petioles could be used to characterize the nitrogen nutritional status.
【语种】中文
【第一作者】马春梅
【通讯作者】龚振平
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【题目】不同氮源对大豆生长发育的影响
【中文关键词】大豆, 氮素, 生物量, 产量
【英文关键词】soybean,nitrogen,growth,production
【中文摘要】试验以东农47为材料,利用砂培方法研究了氮素对大豆生长及产量构成的影响。结果表明:高氮促进了大豆营养器官生长,以NH4+的效果最明显,NO3- 没有明显促进作用;以NH4+作为氮源,R5期之前高氮水平下干物质积累量显著高于低氮处理,R5期以后低氮条件下荚果干物质积累量显著高于高氮处理,致使R6 – R8期低氮条件下干物质积累量显著高于高氮;低氮促进了大豆根系的生长,以NO3- 效果明显;根冠比随生育进程呈下降趋势,V4 – R4期低氮水平下根冠显著高于高氮处理,R4期以后根冠比差异不大。 高氮条件下株高、节数显著高于低氮处理,单株粒数、单株子粒重显著低于低氮处理,收获指数和表观收获指数显著降低,高氮条件下促进了植株生长,但不利于产量形成
【英文摘要】This work was conducted using DN47 which was cultivated by sand culture to study the effects of nitrogen on the growth and production of soybean, the results were shown as follows: High nitrogen levels stimulated the growth of vegetative organs of soybean, especially with NH4+, but not significantly with NO3-. Dry matter accumulation of treatments with high nitrogen were higher than that of treatments with low nitrogen level during the period from V4 to R5. Pod dry matter accumulation of low nitrogen treatments were higher significantly than that of high nitrogen treatments from R5 to R8, so the dry matter accumulation of low nitrogen treatments were higher than that of high nitrogen treatments from R6 to R8. Low nitrogen levels stimulated the growth of root, especially with NO3-. The root/shoot ratio decreased along with growing stage, and the ratio of low nitrogen treatments was higher than that of high nitrogen treatments from V4 to R4, but there was no significant difference after R4. The height, nod number of high nitrogen treatments were higher than that of low nitrogen treatments, but the seed number and seed weight per plant were lower than that of low nitrogen treatments, harvest index and apparent index decreased along with growing stage. High nitrogen promoted the growth of soybean plant, but were not in favour of production.
【语种】中文
【第一作者】董守坤
【通讯作者】龚振平
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【题目】生物发酵式猪舍缓解热应激小气候智能化调控系统的研究
【中文关键词】猪舍;温湿度指数(THI);垫料;单片机;RS485串口通讯
【英文关键词】Pigsty;THI;Litter;Single chip;RS485 Serial communication
【中文摘要】本课题针对我国南方夏季高温高湿气候对猪的影响及猪舍内的粪便以及废弃物对环境造成的污染,开发了一套适应我国南方气候的猪舍小气候环境调控系统。该调控系统的目的是以温湿度指数(THI)结合湿度、垫料温度以及氨气浓度为主控参数,并结合猪的生理特性,为猪舍环境制定出更为合理的控制方案,从而有效地改善猪舍环境,同时减轻猪舍对环境造成的污染。为此,本文运用传感器技术、自动检测技术、通讯技术和微型计算机技术实现对猪舍环境因子(包括空气温湿度、垫料温度以及氨气浓度)的监测管理,完成了猪舍环境参数采集子系统和数据综合管理子系统的开发。其中,采集子系统以STC8958RD+单片机为核心,通过设计的外围电路以及编写的功能程序实现对环境参数的采集、显示以及对猪舍内的降温设备(包括喷淋、湿帘、风机)进行控制;数据综合管理子系统,通过RS485接口与采集子系统进行通讯,实现对猪舍环境参数数据的显示、存储、查询以及统计,并且能够对猪舍内的降温设备进行远程手动控制,数据综合管理系统提供了简洁的人机交互界面,使用户操作更加直观、便捷。　　本文对调控系统的下位机控制单元的软硬件设计以及上位机数据综合管理系统的主要内容进行阐述,也对驱动单元进行了简单的介绍。整个调控系统最后安装到实际现场当中进行调试运行,系统各个功能都运行正常。
【英文摘要】The topic discusses about the influence on pig in the hot and humid climate in summer insouthern China,and the environmental pollution made from feces and waste in pigsty.We developa microclimate environmental control system which fit to the climate in South China.The purposeof the control system is based on temperature and humidity index(THI)combined with humidity,litter temperature and ammonia concentration as the main control parameters,and also combinewith the physiological characteristics of pigs to make up a rational control program to effectivelyimprove pig environment and reduce the environmental pollution caused by pigsty.Therefore,thispaper makes use of technology of sensor,automatic detection,communications andmicro-computer to keep monitoring environmental factors in the pigsty(including air temperature,humidity,litter temperature and ammonia concentration),and succesfully develop a sub-system forcollection of environmental parameters in pigsty,and a data management sub-system.Thecollection subsystem which used STC8958RD as the core realize function of collection anddisplay of environmental parameters,controling cooling equipment(including spray,curtain andfan)by programming and designing of peripheral circuits.Integrated data management subsystemrealize function of display storage,query and statistic for environmental parameters in pigsty byusing RS485 interface to communicate with the subsystem,and can realize a function of remotemanual control for those cool equipments in pigsty.Integrated data management system provides asimple interactive interface help users to operate more intuitive and convenient.　In this paper,we elaborate hardware and software design for lower machine unit in controlsystems and PC data management system,and also give a brief mention about drive units.Thewhole system operate smoothly and normally after setting up on-site and debugging for run.
【语种】中文
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【题目】稻草还田配施化学氮肥 对水稻生长发育、产量和品质的影响
【中文关键词】水稻; 秸秆还田; 产量; 品质;
【英文关键词】rice; straw return; yield; quality;
【中文摘要】研究寒地稻草还田对寒地水稻生长发育、产量和品质的影响。结果表明,不同还田量处理的水稻株高、地上部植株干重、叶绿素含量和叶面积指数在生育转换期较对照低,长穗期和结实期与对照无明显差异;不同还田量处理在每穗粒数和结实率上与对照相比均达到显著水平,产量、穗数和千粒重均未达到显著水平;秸秆还田处理的稻米出糙率和精米率高于对照,垩白率和垩白度低于对照。还田9t/hm2处理提高了蛋白质含量,同时也提高了直链淀粉含量,但降低了食味品质。
【英文摘要】The effects of straw return plus nitrogen fertilizer on growth and development,yield and quality in rice were studied.In comparison with the rice-straw removal treatment,the rice-straw return treatment reduced the plant height,dry matter

weight,chlorophyll content and leaf area index during growth transition period,whereas no significant differences between both the treatments were observed during the heading period and the grain-filling period.There were no significant differences in yield components (grain filed,Panicles and 1000-grain weight) except the spikelets per panicle and seed-setting rate between the two treatments.The rates of brown and milled rice increased while chalky rice rate and chalkiness decreased in the rice-straw return compared with those in the rice-straw removal treatment.Rice – straw return with 9t hm2 increased both the protein and amylose contents,which resulted in the decline of cooked rice quality.

【语种】中文
【第一作者】单提波
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【题目】典型黑土侵蚀区不同耕作措施的水土保持功效研究
【中文关键词】植被恢复; 径流量; 侵蚀量; 土壤储水量;
【英文关键词】vegetation recovery; runoff; sediment loss; soil moisture;
【中文摘要】利用田间定位实验来分析植被恢复措施的自我恢复能力和其水土保持功效,目的为黑土区土壤侵蚀治理和生态环境建设提供依据。结果表明,植被恢复措施从5月份开始,在4个月的时间内覆盖率可达100%,植物种类丰富。2007年和2008年植被恢复措施年径流水深分别比传统耕作低64.7%和99.7%,比裸地低98.1和99.9%;2008年植被恢复措施径流系数是2007年的19%。2007和2008年植被恢复措施侵蚀模数都少于传统耕作和裸地。2008年植被恢复措施侵蚀模数比2007年低97.2%。自然植被恢复措施能够有效的抑制土壤侵蚀和地表径流的发生,为植物生长提供更多的有效水分。相关分析表明,3种管理措施径流水深与I30和I60都达到极显著水平,地表径流主要发生在6-9月份,土壤侵蚀主要发生在6-7月份。
【英文摘要】Soil erosion is threatening the development of agriculture in black soil region Northeast China,and has been increased more pressure to local environment. The object of this study is to declare the recovery of natural vegetation affecting soil loss and provide method to manage local agriculture and protect environment. In this project,rainfall,runoff,soil loss,and soil moisture from 5 m×12 m plots were recorded in an experimental field under three management systems in 2007 and 2008. The Vegetation recovery management (VR) system,Keeping the land growing naturally; Conventional tillage management (CT) system,furrows were cultivated three times down slope in growing season,then rotated the whole field and rebuild the ridges; Bare management (B) Keeping the field bare from spring to fall. The runoff of Vegetation recovery in a year was reduced 99.7% and 64.7%,99.9% and 98.1%,than CT and B in 2008 and 2007,respectively. Sediment in VR was less than both CT and B in the two years. There were significant different between runoff and precipitation,runoff and I30,and runoff and I60 in all treatments. The most of runoff took place from June to September,and soil loss from June to July because higher density precipitations were mainly condensed in these months with lower residual cover rate in July. VR system reduced the runoff,saved much water for plants growing,and was strongly recommended as a good management to reduce soil loss in field. These results indicated VR was the feasible soil and water conservation practice in typical black soil Northeast China. VR adopted in local field can recover quickly and effectively reduce runoff and soil loss.

【语种】中文
【第一作者】张少良
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【题目】Association of toll-like receptor 2 polymorphisms with somatic cell score in Xinjiang Brown cattle
【中文关键词】新疆褐牛;TLR2基因;奶牛乳房炎;体细胞评分
【英文关键词】haplotype , SCS , SNP , TLR2, Xinjiang Brown cattle .

【中文摘要】本研究是为了寻找牛TLR2基因的多态性位点及单倍型,并分析基因型或单倍型个体间体细胞数的差异,了解TLR2基因在荷斯坦牛和新疆褐牛抗乳房炎中的作用。实验首先对TLR2基因的编码区序列进行扩增、测序和序列比对,接着分析TLR2基因型或单倍型间体细胞数的差异。结果显示TLR2基因中存在15个 SNPs (E+653, E+945, E+978, E+1010, E+1250, E+1688, E+1707, E+1779, E+1782, E+1891, E+1995, E+2025, E+2055, E+2214和E+2295),这些SNP位点在两个品种内均处于Hardy-Weinberg平衡状态(P >0.05);除E+945(P >0.05)位点外,其他10个位点在两个品种间的基因型分布差异都极显著(P <0.01)。分析每个SNP位点与SCS的相关性,显示在 11 SNPs (E+945, E+978, E+1010, E+1688, E+1707, E+1779, E+1782, E+1995, E+2025, E+2055 和E+2214)中, AB 基因型个体的SCS 显著低于AA基因型个体 (P < 0.05);由上面的11个位点构建单倍型进行分析,结果显示Hap5个体的SCS比 Hap3个体低 (P < 0.05)。提示Hap5可能在奶牛抗隐性乳房炎中其重要作用。

【英文摘要】This study aims to identify single nucleotide polymorphisms (SNPs) and haplotypes in the TLR2 gene, and analyze the association of SNPs or haplotypes and somatic cell scores in 151 Xinjiang Brown cattle and 138 Holsteins to evaluate the role of TLR2 during intramammary infections. TLR2 coding region was amplified by PCR and screened for SNP sequencing.Genotypes and frequencies of SNPs were identified. Finally, the associations of genotypes or haplotypes and somatic cell scores (SCS) were analyzed. The results showed that: (i) 15 SNPs (E +653, E +945, E +978, E +1010, E+1250, E+1688, E+1707, E+1779, E+1782, E+1891, E+1995, E+2025, E+2055, E+2214 and E +2295) were observed and detected from 289 cows; (ii) distribution of the 14 SNPs were significantly different from Xinjiang Brown cattle and Holstein (P < 0.001) except for the E +945 (P > 0.05); (iii) in 11 SNPs (E+945, E +978, E +1010, E+1688, E+1707, E+1779, E+1782, E+1995, E+2025,E+2055 and E +2214), the SCS of AB genotype was lower than AA (P < 0.05) in Xinjiang Brown cattle; and (iv) haplotypes composed of the above-mentioned 11 SNPs were constructed. The SCS of cattle with Hap5 was lower than that of Hap3(P < 0.05). This suggests that Hap5 might play an important role in sub-mastitis resistance in Xinjiang Brown cattle.

【语种】英文
【第一作者】白杰
【通讯作者】刘明军
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【题目】东北地区不同耕作方式下土壤温度的动态变化
【中文关键词】耕作方式; 土壤温度; 留茬覆盖; 东北地区;
【英文关键词】tillage methods; soil temperature; stubble with cover;
【中文摘要】针对东北地区常见的4种耕作方式(留茬覆盖、留茬无覆盖、旋耕和翻耕起垄),测定了玉米田土壤温度的动态变化。结果表明:留茬覆盖处理土壤温度较低,但并未低于出苗的最低界限温度;由于土壤含水量较高,出苗效果良好,秸秆全量还田,有利于土壤肥力的恢复与提高。

【英文摘要】Dynamic change of soil temperature in corn field in the Northeast under four kinds of tillage methods(stubble with cover,stubble without cover,rotary tillage,plowing and ridging)were determined,the results showed that the soil temperature of stubble with cover was lower,but it was higher than the lowest limit temperature for emergence,and emergence was good because of higher soil water content,total returning of crop straw was beneficial to recover and improve the soil fertility.

【语种】中文
【第一作者】马春梅
【通讯作者】龚振平
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【题目】基于边缘流的水平集牛胴体眼肌图像分割
【中文关键词】水平集;边缘流;3-向概率;眼肌图像

【英文关键词】level set;edge flow;direction probability;rib—eye image
【中文摘要】牛肉在切割过程中常存在残留血液覆盖在脂肪表面,使得脂肪和肌肉对比减弱。针对生物体弱对比图像分割问题,采用了结合边缘流的水平集方法对牛肉眼肌图像进行分割,准确提取了眼肌边缘,分离出了眼肌内部脂肪与肌肉组织,准确率高。该方法避免了单纯边缘流算法提取边界不连续的问题,降低了水平集算法的迭代时间复杂度,避免了初始轮廓选取的主观性。并将实验结果与水平集方法进行了对比,基于边缘流的水平集方法避免了水平集方法在分割中小区域分割的准确性不高,不能准确分离脂肪与肌肉组织的弱点。实验结果证明,基于边缘流的水平集方法是对牛肉眼肌图像进行分割的有效新方法。
【英文摘要】In beef cutting process.residua1 blood usually covered on the fat surface.It caused the fat and muscle ’s contrast weaken.In the view of biologic weak image segmentation question,used level set method based on edge flow technology to carry on the segmentation of rib—eye image of beef carcass.It extracted the edge of rib—eye image.separated the muscle and fat tissue accurately.The rate of accuracy is high.This method avoided the disadvantage of edge flow method which could ’t gain continuous edge.Also it debased the time cornplexity of level set method and avoided subjectivity of selecting initially contour.To contrast the experimental result with level set method,this method avoided the disadvantage of level set methods which couldn ’t separate the fat and muscle tissue accurately,get the edge clearly and the veracity is not high in small region.The experiment result shows that level set method based on edge flow technology is the new effective method for the segmentation of rib—eye image of beef carcass.
【语种】中文
【第一作者】赵文琦
【通讯作者】贾渊
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【题目】发展高端大豆产品应对国际大豆危机
【中文关键词】大豆产业; 危机; 高端产品; 发展策略; 中国;
【英文关键词】soybean industry; crisis; top products; development strategy; China;
【中文摘要】当前,国际市场对大豆价格的操控及中国大豆生产现状使中国大豆产业陷入危机。通过分析中国大豆产业的发展和现状,结合国内外大豆消费市场需求,提出通过利用国产非转基因大豆发展无公害、绿色高端大豆产品来发展中国大豆产业,摆脱产业危机的思路,并对其发展策略进行了系统分析。
【英文摘要】Because of influence from international market soybean price and the present Chinese soybean production situation, Chinese soybean industry has been brought to a crisis. This paper firstly showed present situation analysis of Chinese soybean industry, and then, combine with domestic and international market demand, the authors proposed a new path to develop the soybean industry of China and get rid of crisis, which emphasized the development of organic soybean products and top soybean products by utilizing domestic non-transgenic soybean. Meanwhile, its development strategy was also analyzed.
【语种】中文
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【题目】果园环境智能监控系统设计
【中文关键词】果园;智能温湿度传感器;RS-485通信;自动调控系统
【英文关键词】orchard; intelligent sensor; RS-485 communication; auto-controlling system
【中文摘要】我国幅员辽阔,气候条件多样化,有些地区夏天炎热,冬天发生霜冻灾害,严重影响了农作物的生长。与传统的防止果园霜冻等灾害采用的物理或化学方法不同,本文提出并设计了一种实用型的果园防霜冻和抗高温的小气候自动调控系统。　根据果园内影响果树生长的环境因子,如温度、湿度等条件,提出系统的环境因子自动调控方案。由于不同的果

园,不同地区,不同的用户需求不同,本自动调控系统设计了三种组成模式,供用户根据需要合适地选择。 本文以STC89C51超强抗干扰、超低功耗微处理器为核心,使用DHT81智能温湿度传感器现场采集数据,采用红外遥控技术,方便用户操作。系统提供了时钟、温湿度显示、参数设置三种显示模式。运用RS-485多机通信技术,实现对果园的分区域控制。 系统对接收到的数据,进行去极值数字滤波等抗干扰的处理后,发送输出控制信号。软件方面,完成了各个模块的程序编写,完成了多任务时钟的设计,产生了可变时间的延时,为每个任务块调度时间。 本文的另一个模块是喷雾系统和防霜扇系统。提供了进行果园的整体规划,输配水管道系统、喷头及附属设备的设计方案,并说明了防霜扇系统的作用原理及使用前景。 通过实验验证,本文提出的果园防霜冻和抗高温的小气候自动调控系统能有效、正常地运行。最后,总结了全文,介绍了已完成的主要工作,说明了本文的主要特点和意义。同时,指出了系统设计的不足和改进思路,为今后课题的进一步深入研究做准备。

【英文摘要】With a vast territory, various types of climates, complicated natural conditions of hot summer and cold winter, what effects the growth of agricultural crops seriously. The thesis present and design a kind of auto-controlling system for the orchard environment of frost and high temperature resistance what is different from the traditional method auto-controlling system. According to the condition, control characteristics and control method of environment factors such as temperature, humidity which influence agricultural crops growing in orchard. The thesis put forward the project controlling these environment factors intelligently that was fit for this system. Considering different orchards, different areas, different request of different customers, the intelligent monitor and control system for environment was designed for the three kinds of constituting mode. According to actual demand, the customers can choose the fit mode. Adopting STC89C51 of strong anti-jamming and ultra-low-power consumption microcontroller as a core, the intelligent temperature and humidity sensors were used to collect data in spot , infrared remote control techniques was used to facility consumer use. There were three displaying modes of calendar, parameter setting, temperature and humidity. RS-485 multiprocessor communication was designed in the thesis to establish communication in the different parts of orchard. With the receiving data being coped with the method of digital filter such as extreme value controlling, the control signal was set out. In the aspect of software, program block design was given. The multi-task clock by which different delay time was set was adopted when designed, and the reliability and expansibility of the system was improved. It is another emphasis that sprinkler irrigation system and frost fans were designed in the thesis. It put forward system general layout in orchard, the method of selecting pipelines and water sprayers and prospect of the application of frost fans. Based on the device, lots of experiments prove that the system was right and viable. Finally, the thesis was summarized, the main work that the thesis completed was introduced, the main work that characteristics and the significance was explained, at the same time, the shortage and the improved idea were pointed out and the preparation was made for the further research in future.

【语种】中文

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【学科分类】农业工程

【题目】高温纤维素分解菌的分离、筛选及鉴定

【中文关键词】高温纤维素分解菌; 纤维素酶; 热酸菌属; 链孢霉菌属;

【英文关键词】High-temperature cellulolytic microbes; Cellulase; Acidothermus; Neurospora;

【中文摘要】[目的]为研制堆肥高温菌剂和生产高温纤维素酶奠定基础。[方法]从牛粪自然堆肥中分离出高温纤维素分解纤维素菌,并测定其外切纤维素酶活(C1酶)、羧甲基纤维素酶活(CMCase)、FPA酶活(FPase)。[结果]从5种高温纤维素分解菌中,筛选出分解纤维素较强的高温细菌HB4和高温霉菌HM。[结论]高温细菌HB4的C1酶、CMCase、最高,分别为0.0161 IU/m、l0.9238 IU/ml;高温霉菌HM的FPA酶活最高,为1.0535 IU/m。l经初步鉴定HB4为热酸菌属(Acidothermus),HM为链孢霉菌属(Neurospora)。

【英文摘要】[Objective]The research aimed to lay the foundation for high-temperature inoculant for composting and high-temperature cellulose production.[Method] High-temperature cellulolytic microbes were isolated from cow dung unartificial compost and were determined the enzyme activity of C1,CMCase and Fpase.[Result] Strain HB4 and srain HM that decomposing cellulose was comparatively strong were screened from five strains of high-temperature cellulolytic microbes.[Conclusion] C1 and CMCase enzyme activity of strain HB4 were maximal among the five strains and were 0.0161 IU/ml and 0.9238 IU/ml respectively.The FPase enzyme activity of strain HM was maximal among the five strains and was 1.0535 IU/ml.The strain HB4 was identified as Acidothermus and the

strain HM was identified as Neurospora.
【语种】中文
【第一作者】马怀良
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【题目】黑土区耕作措施对春季耕层温度的 影响
【中文关键词】地温; 容积热容量; 净辐射通量; 土壤热通量;
【英文关键词】soil temperature; bulk heat capacity; net radiation flux; soil heat flux;
【中文摘要】本文通过长期定位试验,分析了免耕、少耕和旋松三种耕作措施下耕层黑土土壤容积热容量、土壤热通量、净辐射的变化,进而阐明了耕作措施对耕层土壤温度日变化的影响。研究表明:各处理0cm和5cm处土壤温度变化与净辐射通量变化存在极显著相关关系。5cm处土壤热通量日变化各处理均表现为"S"型波动曲线,日变化相对较大,10cm处相对较小。免耕秸秆覆盖日净辐射平均值为0.58MJ/m2,比少耕和旋松小0.04MJ/m2,受净辐射、容积热容量和5cm处热通量影响,0cm和5cm处土壤温度日变化较大,且有波动现象;受深层较低地温、容积热容量和10cm处热通量影响,10cm和15cm处土壤温度变化较小,且较平稳。所有耕作措施土壤温度随深度的增加出现滞后现象。免耕秸秆覆盖措施各耕层相对于其他处理地温均较低,影响春季地温的升高。
【英文摘要】This study determined soil temperature of spring under different tillage systems by analyzing heat transferred in soil under a long-term experiment.Soil moisture,bulk density,radiation,and soil temperatures were measured at the same time,and then they could be used to calculate bulk heat capacity,net radiation flux,soil heat flux,which were contributed to analyze the changing of soil temperature in the whole day.The results showed that there were significantly relationship between net radiation and temperature at the depth of 0cm and 10cm at P=0.01 level.The daily soil heat flux changed as "S"curves at the depth of 5cm,and this kind of variation were bigger than the depth of 10cm.The net radiations of minimum tillage and rotary tillage were more 0.04 MJ/m2 than no tillage.Based on the effect of soil heat flux and the net radiation,the temperatures fluctuated at the depth of 0cm,5cm were stronger than 10cm and 15cm,and the heat in the topper layer transferred faster than deeper layer.Compared with upper layers,soil temperatures variation were lag in deeper layer.Top layers soil temperatures of no tillage were the lowest among all treatments,which impacted the seeds burgeon during spring,in black soil area,Northeast of China.
【语种】中文
【第一作者】张少良
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【题目】滑子蘑菌渣粗纤维素酶浸提及其酶学特性研究
【中文关键词】纤维素酶; 浸提工艺; 菌渣; 滑子蘑; 酶学特性;
【英文关键词】Cellulase; Extraction Technology; Mushroom Residue; Pholiota nameko; Enzymological Properties;
【中文摘要】利用水浸提法浸提滑子蘑菌渣纤维素酶,选取浸提时间、液料比和温度做单因素试验,然后通过正交试验优化滑子蘑菌渣纤维素酶的浸提工艺,并对结果进行了统计分析。结果表明,浸提时间、液料比和温度对纤维素酶浸提均有极显著性影响,最佳浸提条件为温度30°C、时间1.5 h、液料比50∶1。滑子蘑菌渣羧甲基纤维素酶活力最适pH为4.4,最适温度为70°C;滤纸酶活力最适pH为6.0,最适温度为60°C。
【英文摘要】In this study,water extract method was adopted to extract crude cellulase from Pholiota nameko residue.While liquid-material ratio and temperature were selected as single factor experiment,and then orthogonal experiments of extracting cellulase were conducted and its results were statistically analyzed.Results indicated that extraction time,extraction liquid-material ratio and extraction temperature exhibited a highly significant effect on crude cellulase from Pholiota nameko residue.It was the optimal condition that

extraction temperature was 30°C,extraction time was 1.5 h and extraction liquid-material ratio was 50∶1.The optimum pH and temperature of CMCase activity were 4.4 and 70°C,and that of FPA(Filter Paper Activity) were 6.0 and 60°C.
【语种】中文
【第一作者】马怀良
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【题目】基于AHP和模糊评判的生物质秸秆发电的效益评价
【中文关键词】生物质秸秆资源; 发电; 综合效益;
【英文关键词】biomass straw; power generation; synthetic benefit;
【中文摘要】农作物秸杆是世界第一大可再生资源,中国拥有量居世界首位。由于未高效合理利用,不仅浪费了可利用的宝贵资源,对生态环境也产生了不良的影响。采用模糊数学的原理对生物质秸秆发电效益进行层次分析和综合评价,并从经济、社会和生态效益3个方面评价秸秆发电项目的综合效益。结果显示,生物质秸秆发电综合效益较好。最后以国能望奎生物质秸秆发电有限公司为例说明秸秆发电的所带来的综合效益。
【英文摘要】China leads the world in the production of straw,which is considered as the largest renewable resource.The irrational use of such resource not only results in a significant wasting of precious resources,but also jeopardizes the ecological environment.Based on the fuzzy mathematics theory,this paper implements an Analytic Hierarchy Process-based(AHP-based)analysis with a synthetic evaluation on the benefits of biomasss traw fired power generation.The synthetic benefit of biomass straw fired power generation is evaluated under the consideration of three aspects:economic benefit,societal benefit as well as the ecological benefit.As indicated by the result,the overall benefit brought by biomass straw fired power generation is satisfactory.In the end,the Wankui biomass power generation Co.,Ltd is taken case as a study case to illustrate the synthetic benefit of straw-fired power generation.
【语种】中文
【第一作者】于春燕
【通讯作者】孟军
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【题目】萝卜SRAP-PCR反应体系的建立与优化
【中文关键词】萝卜; SRAP- PCR; 反应体系
【英文关键词】Radish(Raphanus sativusL.);SRAP-PCR;Reaction system
【中文摘要】以萝卜基因组DNA为模板, 对其SRAP- PCR反应体系的各个主要影响因子进行了系统的优化, 建立了重复性好、多态性丰富的萝卜SRAP- PCR反应体系: 20uL反应体系中, DNA 50 ng、Mg2+ 2. 25 mmol/ L、dNTP 0. 2 mmol/ L、Taq 1 U、Primer0、7umol/ L。扩增程序为: 94°C预变性5 min; 94°C变性1 min、35°C复性1 min、72°C延伸1 min, 5 个循环;94°C变性1 min、50°C 复性1 min、72°C延伸1 min, 35 个循环, 72°C延伸10 min, 4°C保温。该反应体系在不同萝卜种质资源遗传多样性分析、遗传图谱构建、分子标记辅助选择育种等方面都有重要作用。
【英文摘要】:In this study,radishgenomic DNAwas used forthe PCRtemplate tooptimize radishSRAP-PCRreactionsystem.A SRAP-PCR systemwith good stabilitywas established.In the 20 μL reaction system,DNA 50 ng,Mg2+2.25mmol/L,dNTP 0.2 mmol/L,Taq1 U,Primer 0．7 μmol/L.PCR procedure:initially denaturing at 94°Cfor 5 min;then94°C,1 min,35°C,1 min and 72°C,1 min for the first five cycles,then the annealing temperature was raised to 50°Cforanother 35 cycles;At last,72°C10 min and 4°Cfor ever.The optimumSRAP-PCR reaction system is adaptive to differ-ent radish variety.It laid a good foundation forgenetic diversity analysis, genetics map construction and molecularmarkerassisted breeding in radish.
【语种】中文

【第一作者】李红双
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【题目】秸秆还田对白浆土养分含量的影响
【中文关键词】秸秆还田; 大豆; 白浆土; 土壤养分;
【英文关键词】Straw returning; Soybean; Planosol; Soil nutrient;
【中文摘要】秸秆还田可以减少环境污染,培肥土壤,是未来农业生产的发展趋势。本试验研究了不同秸秆还田方式及数量对白浆土养分含量的影响。结果表明,两年的玉米秸秆还田能够增加土壤有机质含量,秸秆还田量越大效果越明显,但对土壤全氮的影响不大;秸秆全量还田可以增加大豆生长后期的土壤全磷和全钾含量,而根茬还田对其影响较小。秸秆还田增加了土壤碱解氮含量;而对土壤有效磷含量影响不大;秸秆全量还田增加了土壤速效钾含量,而根茬还田对土壤速效钾含量没有表现明显影响。
【英文摘要】Straw returning could reduce environmental pollution and improve the fertility of soil.The effects of straw returning on the Planosol nutrient content was investigated in this experiment.The results showed that the organic matter content of soil increased when straw of maize was returned for two years,and the effect became more obvious as the crop-residue incorporation increased,while there was no significant influence on soil total nitrogen.Whole straw returning could increase the content of soil total P and K in later growth stage of soybean,while stubble remaining in field had little effect on them.Straw returning increased the content of available nitrogen,while it had little effect on the content of available phosphorus.Whole straw returning increased the content of available potassium,while stubble remaining in field had little effect on it.
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【通讯作者】龚振平
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【题目】秸秆还田对水稻病虫害发生的影响
【中文关键词】水稻; 秸秆还田; 三病二虫; 调查分析;
【英文关键词】paddy rice; the straw stalk return the field; diagnosis;
【中文摘要】通过小区试验和大面积生产田试验,研究不同秸秆还田时间对水稻病虫害的影响。结果表明:稻瘟病、纹枯病和叶鞘腐病的发生与田间孢子捕捉镜检呈正相关,孢子数量越大的品种感染该孢子菌的病害越重,说明直接用携带病稻草和未腐熟的病稻草的水稻秸秆还田,第2年复种水稻发生各类病害的机率和比例都较高。虫害中潜叶蝇产卵期、幼虫危害期与水稻缓苗期基本吻合;负泥虫点查叶片被害指数最高值为1.2%,危害较轻。
【英文摘要】The effect of different time of rice straw back to field on rice pest was studied through trial and large production field experiment.The results showed that:there was positive correlation with microscopic catching spores and the diseases of blast,sheath blight and rice sheath rot.The variety with more spore quantity,the disease was more seriously,that was to say,using the straw which with the desease and not well-composted back to the field,the disease would serious when cropping rice in the second year.The leucoptera flies spawning period and the larvae damage period were in coinsidence with rice seedling come around period.The maximum leaf damage index of oulema oryzae kuwayama was 1.2%,the damage was not serouse.
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【第一作者】刘凤艳
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【题目】秸秆还田对水稻生育期间土壤溶液中养分变化的影响
【中文关键词】水稻; 秸秆还田; 养分;
【英文关键词】rice; straw returning; nutrient;
【中文摘要】水稻秸秆还田可以减少环境污染、培肥土壤,是未来水稻生产的发展趋势。试验设置水稻秸秆还田和不还田两个处理,研究了水稻生育期内土壤溶液中的无机氮(NH4+-N和NO3--N)、磷(P2O5)、钾(K2O)的含量变化。结果表明,秸秆还田使土壤溶液中铵态氮(NH4+-N)含量增加,而对硝态氮(NO3--N)含量的影响则是前期两个处理含量相近,而后期秸秆还田处理降低了土壤溶液中硝态氮(NO3--N)含量。秸秆的施入降低了水稻生育前期土壤溶液中磷的浓度,而随着生育期的推进,秸秆还田处理中磷的含量逐渐增加,并超过不还田处理中的含量。土壤溶液中钾的含量因秸秆施入变化最为明显,在整个生育期内,始终表现为秸秆还田处理高于不还田处理。
【英文摘要】Rice straw returning can reduce environmental pollution and improve the fertility of soil.This research was conducted in experiment and practical base of Northeast Agricultural University with two treatments,straw returning and no straw returning to rice field and study the change of inorganic nitrogen,phosphorus and potassium content in soil solution.The results showed that the content of NH4+-N increased in the treatment of straw returning,and the concentration of NO3--N showed as two main respects: two treatments were similar in earlier stage and NO3--N was reduced by straw returning in later period.The concentration of P was decreased by application of straws at earlier stage,and the content of P increased gradually and exceeded the content of no returning with growth stage progressing.The change of K was the most obvious because of straw application.The content of K in the straw returning treatment was higher than that of no returning during the whole growth period.
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【第一作者】刁晓林
【通讯作者】龚振平
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【题目】秸秆还田下不同氮肥处理对玉米生长发育的影响
【中文关键词】秸秆还田; 氮肥; 玉米;
【英文关键词】straw residues incorporation; N-fertilizer; maize;
【中文摘要】通过对秸秆还田条件下6个氮肥处理对玉米生长发育的研究,探讨氮肥对玉米农艺性状和产量的影响。结果表明:在秸秆还田条件下,处理3的干物质、经济系数及产量性状在6个处理中表现最好,产量达9 027 kg · hm-2,而且比同一施肥水平秸秆不还田的产量高4.7%,说明合理的轮作制度配合秸秆还田是一项值得推广的技术模式。
【英文摘要】The effects of six N-fertilization on the yield and agronomic traits of maize with straw in the field were studied.The results showed that treatment 3 had the highest dry matter,economic factors and yield.The treatment 3 obtained yield 9 027 kg · hm-2,it was increased 4.7%compared to the control.The results suggested that the rational rotation system in combination with straw should be polulalized.
【语种】中文
【第一作者】王麒
【通讯作者】冯延江
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【学科分类】农业基础学科

【题目】Over-expression of osa-MIR396c decreases salt and alkali stress tolerance
【中文关键词】无
【英文关键词】Alkali stress,Arabidopsis,miRNA target,osa-MIR396c,Rice,Salt stress
【中文摘要】无
【英文摘要】Salt and alkali stress are two of the main environmental factors limiting rice production. Thus, understanding the mechanisms of salinity and alkali stress tolerance is necessary to modify rice to increase its resistance to salinity and alkaline stress. MicroRNAs (miRNAs) are ~21-nucleotide RNAs that are ubiquitous regulators of gene expression in eukaryotic organisms. In plants, miRNAs constitute one of five classes of small RNAs that function primarily as negative regulators for gene expression at the posttranscriptional level. Several plant miRNAs, such as miR396, play vital roles in plant growth, development and resistance to stresses. In this study, we identified osa-MIR396c, which shows dramatic transcript change under salt and alkali stress conditions in Oryza sativa. We designed an experiment to detect miRNA – target interaction and demonstrated that several transcription factors related to growth, development, and stress tolerance are targeted by osa-MIR396c. Transgenic rice and Arabidopsis thaliana plants constitutively over-expressing osa-MIR396c showed reduced salt and alkali stress tolerance compared to that of wild-type plants. Overall, this study further established a link between salt and alkali stress and osa-MIR396c in rice.
【语种】英文
【第一作者】高鹏
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【期刊名称、卷期、页码】Planta,231:991 – 1001
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【学科分类】植物学

【题目】A Single-repeat R3-MYB Transcription Factor MYBC1 Negatively Regulates Freezing Tolerance in Arabidopsis
【中文关键词】无
【英文关键词】R3-MYB; MYBC1; Transgenic plant; Mutant; Freezing; Arabidopsis thaliana
【中文摘要】无
【英文摘要】We had previously identified the MYBC1 gene, which encodes asingle-repeatR3-MYB protein, as a putative osmotic responding gene; however, no R3-MYBtranscriptionfactor has been reported to regulate osmotic stress tolerance. Thus, we sought to elucidate the function of MYBC1 in response to osmotic stresses. Real-time RT-PCR analysis indicated that MYBC1 expression responded to cold, dehydration, salinity and exogenous ABA at the transcript level. mybc1 mutants exhibited an increased tolerance to freezing stress, whereas 35S::MYBC1 transgenic plants exhibited decreased cold tolerance. Transcript levels of some cold-responsive genes, including CBF/DREB genes, KIN1, ADC1, ADC2 and ZAT12, though, were not altered in the mybc1 mutants or the 35S::MYBC1 transgenic plants in response to cold stress, as compared to the wild type. Microarray analysis results that are publically available were investigated and found transcript level of MYBC1 was not altered by overexpression of CBF1, CBF2, and CBF3, suggesting that MYBC1 is not down regulated by these CBF family members. Together, these results suggested that MYBC1is capable of negatively regulating the freezingtolerance of Arabidopsis in the CBF-independent pathway. In transgenic Arabidopsis carrying an MYBC1 promoter driven β-glucuronidase (GUS) construct, GUS activity was observed in all tissues and was relatively stronger in the vascular tissues. Fused MYBC1 and GFP protein revealed that MYBC1 was localized exclusively in the nuclear compartment.Gadget timed out while loading
【语种】英文
【第一作者】翟红
【通讯作者】朱延明
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【学科分类】植物学

【题目】适应条件对鱼类续航游泳能力的影响
【中文关键词】美国红鱼,黑鲷,适应流速,适应时间,加速时间,续航时间
【英文关键词】Sciaenops ocellatus,Acanthopagrus schlegel,acclimation flow velocity,acclimation time period,acceleration time period,sustained swimming time
【中文摘要】以续航时间作为鱼类游泳能力的评测指标,就适应流速、适应时间、加速时间等适应条件以及测试流速4种因素对美国红鱼及黑鲷续航游泳时间的影响进行了研究。试验采用均匀设计,其中美国红鱼采用4因素8水平试验方案,黑鲷采用4因素7水平试验方案。试验研究和理论分析表明,加速时间对大流速条件下的续航时间有较大影响,而对小流速条件下的续航时间影响可以忽略,具体影响大小与鱼类的品种和规格、流速大小、加速时间等有关;适应流速建议控制在1.5BL/s以内,以避免测试前鱼类过多的能量损失。尽管较长的适应时间更有利于鱼进行充分的调整以适应新的环境,但适应时间仍建议控制在60min以内;测试流速对鱼类的续航时间有极为显著的影响,两种鱼的续航时间均随测试流速的增加呈幂函数规律衰减。 更多还原
【英文摘要】Swimming performance is considered a critical character determining survival in many fishes in the natural circumstances.For many fishes,swimming is the main way to avoid the attack from their predators, obtain food,find a mate,and so on.Experimental tests are important means for measuring the swimming performance of fish.Many influence factors on fish ’s swimming performance have been studied extensively.However,important as they are,no study has been carried out on the influence of acclimation time period, acclimation flow velocity and acceleration flow velocity on fish ’s swimming performance.Experimental results measured under different acclimation conditions are incomparable and are always open to question.In this paper,the effects of acclimation flow velocity,acclimation time period,acceleration time period and testing flow velocity on the sustained swimming time of Sciaenops ocellatus and Acanthopagrus schlegel were studied.The Uniform Design method was used in the experiments where a 4-factor and 8-level design was applied to Sciaenops ocellatus tests and a 4-factor and 7-level design was applied to Acanthopagrus schlegel tests.The experimental results and theoretical analysis showed that the acceleration time period has greater effect on the sustained swimming time under stronger flow velocities than that under slower flow velocities.The influence of acceleration time period on the sustained swimming time is also related to fish species,fish size,current velocity,etc.It is suggested that the maximal acclimation velocity should be limited to 1.5 BL/s to avoid significant energy loss of testing fish.The acclimation time is recommended not to exceed 60 min though a longer time may be better for the fish to adjust itself to a new environment.A well-fitted power-function relationship was found between the sustained swimming time and the testing flow velocities.The sustained swimming time decreases significantly as the flow velocity increases.The conclusions obtained in this paper may give an important guidance to the testing approaches of fish ’s swimming performance
【语种】中文
【第一作者】桂福坤
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【学科分类】动物学

【题目】鱼类游泳速度分类方法的探讨
【中文关键词】游泳能力,最优巡航速度,最大续航速度,临界游泳速度,最大探顶游泳速度,冲刺游泳速度
【英文关键词】swimming performance,optimum swimming speed,maximum sustained swimming speed,critical swimming speed,maximum domed swimming speed,burst swimming speed
【中文摘要】游泳速度是评价鱼类游泳能力的重要指标。本文对常用的几种鱼类游泳速度概念和分类方法进行了总结。目前,以时间长度作为分类标准可将游泳速度分为巡航游泳速度(Cruising swimming speed,T>200min)、长时游泳速度(Prolonged swimming speed,200min>T>20s)、冲刺游泳速度(Burst swimming speed,T<20s)3类。但由于时间长度的选择缺乏令人信服的依据,很多学者并未遵循这一时间界定标准进行各类试验,致使游泳速度的界定出现混乱,从而使以时间长度作为分类依据的方法失去意义。作者综合多数学者的研究方法,以鱼类的游泳状态作为依据,重新对鱼类游泳速度进行分类,并在这一分类基础上拓展引申出最大探顶游泳速度这一新概念,并对其推求方法和实际意义进行了探讨。根据新的分类方法,鱼类游泳速度主要分为5大类:最优巡航速度(Optimum swimming speed)、最大续航速度(Maximum sustained swimming speed)、临界游泳速度(Critical swimming speed)、最大探顶游泳速度(Maximum domed swimming speed)、冲刺游泳速度

(Burst swimming speed)。其他游泳速度概念基本可以按照上述分类进行归并。借助最大探顶游泳速度这一概念,作者进一步探讨了其与最大续航速度、临界游泳速度3者之间的联系,认为在某种程度上这3种游泳速度作为评价鱼类游泳能力的指标具有一致性。

【英文摘要】Swimming speeds are the most important indices for evaluation of fish swimming performance.The terminologies and classification of fish swimming performance were summarized in this paper.Based on the duration times for which fishes swam,fish swimming speeds can be divided into cruising swimming speed(T>200min),prolonged swimming speed(200 min>T>20 s)and burst swimming speed(T<20 s)by a recommended classification method.However,this classification method has not been generally accepted due to lack of convincible physiological and ecological evidence.Much wider time range has been used by many researchers,which makes the definition confusing and the classification be of little meaning.Taking most evaluation methods of fish swimming performance uesd by different researches into consideration,a new classification method of fish swimming performance is proposed in the paper.And a new concept of swimming speed,maximum domed swimming speed,is introduced into this new classification framework together with a discussion on its calculation method and practical significance.According to the new classification system,fish swimming speeds are classified into five kinds:optimum swimming speed,maximum sustained swimming speed,critical swimming speed,maximum domed swimming speed and burst swimming speed.Other concepts of swimming speeds can be ultimately merged into the above five kinds respectively.Furthermore,possible relevance among maximum sustained swimming speed,critical swimming speed,and maximum domed swimming speed was discussed.It is regarded that common consistence may exist among these three swimming speeds.

【语种】中文
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【学科分类】动物学

【题目】SNPs discovery and CAPS marker conversion in soybean
【中文关键词】无
【英文关键词】Soybean,SNP,High-through sequences,CAPS,Association analysis
【中文摘要】无
【英文摘要】To discover new SNPs and develop an easy assay method in soybean, we compared the high-throughput pyrosequencing ESTs with whole genome sequences in different soybean varieties and identified 3899 SNPs. Transitions were found to be much more frequent than transversions in these SNPs. We found that SNPs were widely distributed in the soybean genome, targeting numerous genes involved in various physiological and biochemical processes influencing important agronomic traits. A set of 16 SNPs were validated in nine soybean varieties, and seven SNPs were converted into CAPS. From functional gene association analysis, the marker CAPS282 on the 3′-UTR of gene Glyma07g03490 was identified as associated with 100-seed weight in soybean. The SNP discovery and CAPS markers conversion system developed in this study is fast and cost effective, and holds great promise for molecular-assisted breeding of soybean.

【语种】英文
【第一作者】束永俊
【通讯作者】朱延明
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【学科分类】植物学

【题目】Profiling of cold-stress-responsive miRNAs in rice by microarrays
【中文关键词】无

【英文关键词】MicroRNA,Cold stress,Microarray,Oryza sativa
【中文摘要】无
【英文摘要】MicroRNAs (miRNAs) are small single-stranded RNAs with a length of about 21 nt; these non-coding RNAs regulate developmental and stress responses in plants by cleaving mRNAs. Coldstress is one of the most severe abiotic stresses and adversely affects rice yields by restraining sowing time, causing tissue damage, and stunting growth. Although many miRNAs have been identified in rice, little is known about the role of miRNAs in the response to coldstress. In this study, we identified 18 cold-responsivericemiRNAs using microarrays. Most were down-regulated. Members of the miR-167 and miR-319 families showed similar profiles. Intriguingly, members of miR-171 family showed diverse expression patterns. Three miRNAs derived from transposable element sequence were clustered within an intron and proved to be co-transcribed with the host gene only under coldstress. The existence of hormone-responsive elements in the upstream regions of the cold-responsivemiRNAs indicates the importance of hormones in this defense system mediated by miRNAs. Two miRNA target pairs validated by 5′ RACE showed opposite expression profiles under coldstress. Finally, the predicted stress-related targets of these miRNAs provided further evidence supporting our results. These findings confirm the role of miRNAs as ubiquitous regulators in rice.
【语种】英文
【第一作者】吕德康
【通讯作者】朱延明
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【学科分类】植物学

【题目】Over-expression of a glutathione S-transferase gene,GsGST, from wild soybean (Glycine soja) enhances drought and salt tolerance in transgenic tobacco
【中文关键词】无
【英文关键词】Glutathione S -transferase,Soybean,Stress tolerance,Transgenic tobacco,Wild soybean
【中文摘要】无
【英文摘要】Glycine soja is a species of soybean that survives in adverse environments including high salt and drought conditions. We constructed a cDNA library from G. soja seedlings treated with NaCl and isolated a glutathione S-transferase gene (GsGST: GQ265911) from the library. The cDNA encoding GsGST contains an open reading frame of 660 bp and the predicted protein belongs to the tau class of GST family proteins. Tobacco plants over-expressing the GsGST gene showed sixfold higher GST activity than wild-type plants. Transgenic tobacco plants exhibited enhanced dehydration tolerance. T-2 transgenic tobacco plants showed higher tolerance at the seedling stage than wild-type plants to salt and mannitol as demonstrated by longer root length and less growth retardation.
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【第一作者】纪巍
【通讯作者】朱延明
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【学科分类】植物学

【题目】Genome-wide analysis of FK506-Binding protein genes in Populus trichocarpa
【中文关键词】生物信息学;叶绿体;FK506结合蛋白;肽基-脯氨酰顺反异构酶;毛果杨;温度应力
【英文关键词】Bioinformatics ;Chloroplast ;FK506 -binding proteins ;Peptidyl – prolylcis/trans isomerization activity;Populus trichocarpa;Temperature stress
【中文摘要】FK506结合蛋白(FKBPs)具有肽基-脯氨酰顺反异构酶活性,在不同的生物体中肽基-脯氨酰顺反异构酶具有类似分子伴侣的作用。本实验对毛果杨中的FKBP基因进行了全基因组分析,发现31个FKBP基因,分别分布在11条染色体上。运用了生物信息学的方法对对毛果杨中的FKBP基因进行了亚细胞的定位、和其他植物中该基因的进化关系以及亚族的功

能验证。根据FKBP基因的蛋白序列构建了进化树,同时研究了毛果杨FKBP基因与其他植物中FKBP家族基因的进化关系,包括拟南芥和水稻。FKBP基因复制在其进化过程中起到重要的作用。对叶绿体中的FKBP基因进行了不同光照处理的表达,同时对所有的FKBP基因进行了不同温度处理的表达。本实验为进一步研究毛果杨和其他植物中FKBP基因的特征提供的信息。

【英文摘要】FK506 -binding proteins (FKBPs) are characterized by peptidyl – prolylcis/transisom erization activity that may confer analogous functions to molecular chaperones invarious organisms. In this study, genome-wide analysis of FKBP genes in Populus trichocarpa was performed. A totalof 31 genes were identified to encode FK506 -binding proteins in P.trichocarpa . These genes were distributed on chomosomes. The subcelluar locations and evolutionary relations hips of FKBPs in P. trihocarp a and other plant were analyzed, and the functions of the FKBPs isofo rms were deter mined bioi nformatic ally. A phylog enetic tree was geneated from alignments of PtFK BP prote in sequenc es,while phylogenetic relationships were also examined betweenPtFKBPs an d FKBP in Arab idop si s t halia naan d Ory za s ativ a.Duplication played a significant role in poplar FKBP gene family evolution and expansion . The expression patterns of chloroplastic FKBP genes inresponse to different periods ofillumination were measured , indicating that many FKBP genes are regulated by light. Meanwhile, several PtFKBPs were differentially regulated at the transcriptional level under cold and heat stress. This study provides new information that should permit further studies to characterize the functions of FKBPs i n P.trichocarpa and other plants.

【语种】英文

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【学科分类】农学其他学科

【题目】Genome-wide analysis of BURP domain-containing genes in Populus trichocarpa.

【中文关键词】生物胁迫;生物信息学;BURP基因;毛果杨

【英文关键词】abiotic stress; bioinformatics; BURP gene; Populus trichocarpa .

【中文摘要】基因的不同表达控制着生物的不同性状,BURP蛋白家族是植物界中广泛存在的基因家族,具有保守结构域。在植物性状表达中起着多种重要功能,但在毛果杨中尚不清晰。本文利用生物信息学对毛果杨进行全基因组分析,18个PtBURP基因被确定,根据它们在染色体上的定位被命名为PtBURPs,并对这18个基因进行相关特征分析;通过PtBURP蛋白的序列比对构建了毛果杨PtBURP基因的进化树,同时研究了毛果杨PtBURP基因与其他植物中BURP家族基因的进化关系,包括水稻、大豆、玉米和高粱。依据同源关系PtBURP基因可分为PG1β-like, BNM2-like, USP-like, RD22-like 及 BURP V五大类。对PtBURP序列进行了MEME基序分布及多重序列比对分析,并根据10个PtBURP基因在不同处理下的表达水平分析对毛果杨BURP家族基因的复制和进化,以及表达模式和功能进行了讨论。

【英文摘要】BURP domain-containing proteins have a conserved structure and are found extensively in plants. The functions of the proteins i n t his f amily are diverse, but remain unknown in Populus trichocarpa .In the present study, a complete genome of P. trichocarpa was analyzed bioinformatically. A total of 18BURP family genes, named PtBURPs, were identified and characterized according t o t heir physical positions on theP. trichocarpa chromosomes. A phylogenetic tree was generated f rom alignments of PtBURP protein sequences, while phylogenetic r elationships were also examined betweenPtBURP s and BURP family genes in other plants, including rice, soybean, maize and sorghum. BURP genes in P. trichocarpawere classified i nto five classes, namely PG1β-like, BNM2-like, USP-like, RD22-like and BURP V. The multiple expectation maximization f or motif elicitation (MEME) and multiple protein sequence alignments of PtBURPs were also performed. Results from the transcript level analyses of 10 PtBURP genes under different stress conditions revealed the expression patterns in poplar and led to a discussion on genome duplication and evolution, expression profiles and f unction of PtBURP genes.

【语种】英文

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【学科分类】农学其他学科

【题目】Genome-wide survey and characterization of the WRKY gene family in Populus trichocarpa.
【中文关键词】WRKY;杨树;基因复制;系统进化;表达谱分析
【英文关键词】WRKY; Poplar ;Phylogenetic analysis ;Duplication ;Expression patterns
【中文摘要】WRKY蛋白是一类广泛参与植物生长和发育过程的转录因子家族,其序列的N端含有高度保守的WRKYGQK序列,在其序列的C端,含有一个C2H2或C2HC型的新型锌指结构。近年来,有关WRKY基因家族在草本植物全基因组中研究较多,对木本植物基因组WRKY基因进行鉴定和分析,将有助于完善该家族的功能及进化信息。本研究以杨树最新基因组序列为材料,利用生物信息学方法分析杨树全基因组WRKY转录因子基因的数目、种类、基因复制现象和表达谱。结果表明,杨树中共预测到104个可能的WRKY基因。以WRKY保守结构域进化树的结果以及锌指结构特征为基础对杨树WRKY基因进行分类,共分为三个组和7个亚组,即III组,II组包括IIa、IIb、IIc、IId和IIe亚组,I组包括Ia亚组和Ib亚组。通过对全基因组WRKY基因进行物理位置和基因家族分析,发现杨树第14号染色体上存在WRKY基因聚集热点,其大小为2.3Mb。统计学分析表明大约有83 %的WRKY基因在进化过程中存在明显的基因复制现象,其中有69%的基因参与了片段复制事件,说明杨树WRKY基因增多主要是由于基因片段复制现象频繁造成的。利用半定量RT-PCR技术,对杨树WRKY第III组基因进行了逆境胁迫下(低温、干旱、高盐和水杨酸)的表达谱分析。结果表明WRKY基因在不同胁迫处理下表达量存在明显差异。同时,PtWRKY76基因在0.1mM水杨酸或25 %PEG-6000胁迫后,表达量显著升高。这一发现将为下一步克隆重要功能基因奠定基础。
【英文摘要】Abstract WRKY transcription factors participate in diverse physiological and developmental processes in plants. They have highly conserved WRKYGQK amino acid sequences in their N-termini, followed by the novel zinc-finger-like motifs, Cys2His2 or Cys2 HisCys. To date, numerous WRKY genes have been identified and characterized in a number of herbaceous species. Survey and characterization of WRKY genes in a ligneous species would facilitate a better understanding of the evolutionary processes and functions of this gene family. In this study,104 poplar WRKY genes (PtWRKY) were identified in the latest poplar genome sequence. According to their structural features, the predicted members were divided into thepreviously defined groups I – III, as described in rice. In addition, chromosomal localization of the genes demonstrated that there might be WRKY gene hot spots in 2.3 Mb regions on chromosome 14. Furthermore, approximately 83% (86 out of 104) WRKY genes participated in geneduplication events, including 69% (29 out of 42) gene pairs which exhibited segmental duplication. Using semi-quantitative RT-PCR, the expression patterns of subgroup IIIgenes were investigated under different stresses [cold,drought, salinity and salicylic acid (SA)]. The data revealed that these genes presented different expression levels in response to various stress conditions. Expression analysis exhibited PtWRKY76 gene induced markedly in 0.1 mM SA or 25% PEG-6000 treatment. The results presented here provide a fundamental clue for cloning specific function genes in further studies and applications.Key message This study identified 104 poplar WRKY genes and demonstrated WRKY gene hot spots on chromosome 14. Furthermore, semi-quantitative RT-PCR showed variable stress responses in subgroup III.
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【第一作者】Hongsheng He
【通讯作者】项艳
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【题目】Genome-wide analysis of the heat shock transcription factors in Populus trichocarpa and Medicago truncatula
【中文关键词】热激蛋白转录因子;杨树;苜蓿;半定量PCR技术
【英文关键词】Bioinformatics analysis;DBD domain;HSFs;RT-PCR
【中文摘要】研究表明热激蛋白在植物耐逆方面起着重要的作用,热激蛋白转录因子是一类重要的调控热激蛋白表达的基因,而且其功能尚未研究清楚,尤其是杨树和苜蓿这两种植物中。本研究中,我们运用多种生物信息学的理论和方法,对杨树和苜蓿热激蛋白转录因子进行全基因组分析,分别获得28和16个家族成员,并且依据保守结构域的特征将这些成员归为3种不同类型的转录因子。RT-PCR实验表明,在杨树热激蛋白转录因子中有6个家族成员的表达明显受到逆境的诱导。这些结果为以后杨树和苜蓿热激蛋白转录因子的克隆、表达和功能分析提供借鉴。

【英文摘要】Abstract Research has provided substantial evidences that heat shock proteins (HSPs) play essential roles in extreme physiological conditions. Heat shock transcription factors (HSFs) are important HSPs regulators, but their functions are poorly understood, particularly in Populus and Medicago. In this study, a comprehensive bioinformatics analysis of the HSFs was performed inPopulus trichocarpa and Medicago truncatula. Twenty-eight Populus HSFs and 16 MedicagoHSFs were identified, and comparative analyzes of the two plants were carried outsubsequently. HSFs were divided into three different classes and they were diverse and complicated transcription factors. The results of semi-quantitative RT-PCR inPopulus suggested six genes (PtHSF - 03, PtHSF - 13,PtHSF -15, PtHSF -21, PtHSF - 22 and PtHSF -23) were markedly increased by heat stress. The results presented here provide an important clue for cloning, expression and functional studies of the HSFs in Populus and Medicago.
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【第一作者】Fangming Wang
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【题目】Genome wide identification and characterization of the cyclin gene family in Populus trichocarpa.
【中文关键词】周期蛋白基因,杨树,进化分析,表达模式
【英文关键词】Cyclins;Poplar;Phylogenetic analysis;Expression pattern
【中文摘要】细胞周期过程由许多不同分子相互作用来完成,其中周期蛋白家族与周期蛋白依赖性蛋白激酶相互作用,在细胞周期过程中起重要作用。目前,对拟南芥,水稻和人类的细胞周期和周期蛋白家族的功能研究比较广泛与完善,然而在杨树中研究较少。在本研究中,通过与拟南芥全基因家族比较,从进化树、染色体定位,蛋白结构域以及表达模式四个方面进行了分析和比较。 以cyclin_N为周期蛋白保守结构域,将45个周期蛋白基因分为A-, B-, C-, D-, Q-, T-, 和Z七个类群。进化分析表明,杨树周期蛋白基因有五个和拟南芥相同, 其中D基因家族类群绞拟南芥和水稻要大,Q和Z基因家族作为一类新型蛋白基因家族,仅含有一个基因。选择特殊的周期蛋白基因Q和 Z类群以及D3 亚群基因进行半定量分析发现,D3亚家族蛋白基因在不同的组织中都表达,Q周期蛋白基因在根和茎中表达,而Z基因仅在根中表达。对杨树周期蛋白家族的分析为细胞周期蛋白机理与功能研究提供参考和依据。
【英文摘要】The cell cycle is controlled by the interplay of many different molecules. Foremost in this process are the cyclin family of proteins that serve to regulate the cell cycle by interacting with cyclin-dependent kinases (CDKs). To date, the cell cycle and functions of the cyclin gene family have been extensively analyzed in Arabidopsis, rice, and humans. However, the cyclin gene family in poplar has rarely been researched. In the present study,cyclin genes were predicted in the poplar draft genome sequence by comparison with Arabidopsis cyclin genes, and analyzed by phylogenetic relationships, chromosomal distributions, protein motifs, and expression patterns. A conserved cyclin_N domain distinguished poplar, and 45predicted cyclin genes were classified into seven types,including A-, B-, C-, D-, Q-, T-, and Z-types. Phylogenetic analyses indicated that five of the seven cyclin types were consistent withArabidopsis types, the poplar cyclin D genesubfamily exhibited more classes than observed in Arabidopsis and rice, and Q- and Z-types each possessed only one cyclin gene, which we defined as new putative types of poplar cyclin genes. We selected the special cyclin genes (Q- and Z-types and D3 subgroups) to study the expression patterns in different tissues by semiquantitative reversetranscription polymerase chain reaction (RT-PCR). The outcomes indicated that almost all of the D3 subgroupgenes were expressed in various tissues, the Q cyclin gene was detected in roots and stems, and the Z cyclin gene was only identified in roots. Analysis of the poplar cyclin gene family provides insights into cell cycle mechanisms and cyclin gene functions.
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【第一作者】Qing Dong
【通讯作者】项艳
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【题目】大豆植株氮素营养日变化动态
【中文关键词】大豆; 氮素营养; 日变化
【英文关键词】Soybean; nitrogen nutrition; diurnal variation,
【中文摘要】试验选用高油大豆品种东农47, 于R1 和R4 期分别测定了大豆植株中氨态氮、硝态氮和酰脲含量的日变化动态。结果表明: 氨态氮含量日变化呈单峰曲线, 峰值出现于中午; 硝态氮含量也呈单峰曲线, 峰值出现在10h, R1 期硝态氮含量大于R4 期; R1 期茎酰脲含量从早晨开始呈降低趋势, 并于18h 达到最低值, 叶片、叶柄酰脲含量日变化幅度小, 酰脲含量以茎最高, 叶柄次之, 叶片最低; R4 期荚酰脲含量明显高于其它部位, 总的趋势是早晨最高, 各部位酰脲含量均大于R1 期。
【英文摘要】Test made of high oil soybean Dongnong 47, R1 and R4 were measured daily dynamics of soybean plants, ammonia nitrogen, nitrate and ureide content.The results show that: the content of ammonia nitrogen diurnal variation showed a single peak curve peaks at noon; nitrate content showed a single peak curve, the peak in 10h R1 of nitrate nitrogen content of more than R4 of; R1 of stem ureidecontent from early in the morning was decreased and reached the lowest value at 18h, the leaf petiole ureide content diurnal variation, the ureide content to stem the highest petiole followed by blade minimum; R4 pod ureide content was significantly higher than otherpart of the general trend is morning highest ureide content of the various parts are greater than R1 period.
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【题目】利用15 N标记确定氮素营养水平对大豆籽粒氮素构成的影响
【中文关键词】大豆; 外源氮; 15N标记; 根瘤固氮; 产量
【英文关键词】Soybean; Exogenous-N; 15N labeling; Nodulation-N; Yield
【中文摘要】以东农47为试材,采用15N标记的(NH4)2SO4为氮源,利用砂培方式研究了氮素营养水平对大豆籽粒氮素构成和产量的影响。结果表明:随外源氮水平增加,大豆产量呈先增加后降低的变化趋势,营养液中氮为50 mg.L-1时产量最高;前期高氮后期低氮处理时,随高氮处理的时间延长产量降低;于R4或R5期提高外源氮水平可以增加大豆产量。对大豆产量与籽粒中肥料氮所占比例、大豆产量与根瘤固氮所占比例分别作回归分析,经求导分析得出大豆籽粒中外源氮所占比例为39.1%、根瘤固氮所占比例为61.5%时大豆产量最高。由此推断,当外源氮对籽粒的贡献率为40%左右、根瘤固氮贡献率为60%左右时,能够同时满足大豆对根瘤固氮和外源氮的需求,有利于大豆产量的提高。
【英文摘要】Labeled 15N ammonium sulfate was used as nitrogen source to study the effects of nitrogen nutrition levels on soybean(cultivar Dongnong 47) nitrogenous constitution and yields by sand culture.The results were shown as following: the crop yield increased at first and decreased later as the exogenous-N level heightened.When the nitrogen concentration was 50 mg · L-1,crop yield was the highest.Heightened exogenous nitrogen level between R4 and R5 could increase yield of soybean.The regression between yield and proportion of fertilizer-N in seed,yield and proportion of nodulation-N were analyzed.The result of derivation analysis showed that highest yield could be obtained when the proportion of soil-N and nodulation-N was 39.1% and 61.5%,respectively.We could deduce that when the contribution rate of exogenous nitrogen and nodulation-N was about 40% and 60% in seeds,respectively,these would satisfy the requirement of soybean seeds and benefit soybean yield formation.
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【题目】嫩江县土壤速效养分差异性分析
【中文关键词】空间异质性; 黑土; 土壤养分; 地统计学
【英文关键词】spatial heterogeneity; black soil; soil nutrients; geostatistics
【中文摘要】利用地统计学和GIS相结合的方法分析了嫩江县土壤速效养分空间异质性。采集土壤表层0~20 cm土样6 900个,采集土地利用类型为耕地,面积约35.6万hm2,进行化验分析和空间分析。结果表明:速效氮、速效磷、速效钾变异系数均在0.1~1.0,为中等变异;土壤速效磷的理论模型均为指数模型;速效氮和速效钾理论模型为球状模型;速效磷、速效钾的C0/(C0+C)分别为49.9%、50.2%,在25%~75%,变量具有中等空间相关性,而速效氮的C0/(C0+C)为79.5%,变量空间相关性较弱,表明土壤养分速效氮受随机性因子影响较大。
【英文摘要】Geostatistics method and Geographic information systems(GIS) were introduced to study soil nutrient spatial heterogeneity in Nenjiang county of Heilongjiang province.6 900 soil samples at the depth 0~20 cm were collected over 356 000 hm2 farmland and measured with routine chemical methods and spatial analysis.The results showed that the soil available N,available P and available K were medium variation,and the coefficients of variation(CV) were all between 0.1 and 0.9;The theoretic model of available P is exponent;The theoretic models of available N and available K are spheroid;The ratios between C0 and C0+C of available P and available K were 49.9% and 50.2%,between 25% and 75%,respectively,which indicates the medium spatial correlation of these two nutrients;The ratios between C0 and C0+C of available N was 79.5%,it indicates weak spatial correlation,and available N was strongly affected by random factors.
【语种】中文
【第一作者】张久明
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【题目】群体分布与大豆农艺性状关系的研究
【中文关键词】大豆; 群体分布; 农艺性状; 补偿效应; 产量
【英文关键词】Clycine max; group distribution; agronomic traits; compensation effect; yield
【中文摘要】研究了大豆(Clycine max)群体分布与其生长农艺性状的关系,为构建合理的群体分布提供理论依据。2009年以合丰45、红丰11为材料,设计6个不同的群体分布进行田间试验,采用LSD法比较分析群体分布对农艺性状的影响,计算了单位面积茎数的补偿效应,分析了产量变化趋势及其与农艺性状和群体分布的关系,并对农艺性状进行主成分分析。结果表明:1)群体分布显著影响农艺性状,株距较行距对农艺性状的影响更显著,无品种株型差异。2)株距减小产生的单位面积茎数补偿效应值随行距增大呈二次抛物线变化趋势;行距增大产生的2组单位面积茎数补偿效应值随株距增大变化趋势不一致,且单位面积茎数补偿效应值存在株型差异。3)群体分布显著影响产量,获得产量极值的群体分布存在品种差异;产量与茎粗、行距显著正相关。4)本研究分析得到2个主成分生长性状因子、产量性状因子,其中,生长性状因子具有较强的品种特异性,群体分布对2因子的影响不同。
【英文摘要】The relationship between group distribution and agronomic traits in Clycine max was studied to provide a theoretical basis for constructing a reasonable group distribution.The field experiment was carried out with C.max cultivar Hefeng45,Hongfeng11 by setting 6 different group distributions in 2009,LSD method was used to compare and analyze change of agronomic traits in the different group distribution,compensation effect of stem numbers in unit area was calculated,the change trend of yield and its relationships with agronomic traits and group distribution were studied,and agronomic traits were analyzed by principal component.The results showed that,1) Significant effect of group distribution was acquired for agronomic traits,effect of plant spacing significantly higher than that of row spacing,there were not difference of genotype.2) Change with compensation effect value of stem numbers in unit area by decreasing of plant spacing showed the quadratic parabola curve with increasing row spacing;the two group compensation effect by increasing row spacing were not consistent with increasing plant spacing;there was difference of genotype on the compensation effect.3) Group distribution had significant effect on yield,the group distribution which was found for the highest yield showed difference of varieties;there were significant positive correlation between plot yield with stem thickness and row spacing.4) Two principal components were obtained as growth traits factor and yield traits factor,growth traits factor had higher specificity in varieties,and effects of group distribution were different on the two factors.
【语种】中文

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【题目】施氮水平对大豆氮素积累与产量影响的研究
【中文关键词】大豆; 氮素积累; 产量;
【英文关键词】soybean; nitrogen accumulation; yeild
【中文摘要】以绥农14为材料,利用砂培和15N标记的方法研究了施氮水平对大豆氮素积累及产量的影响。结果表明:随着施氮水平的提高,大豆全株氮素积累量及叶柄、荚皮、籽粒中氮素积累量呈现先增加后下降的趋势;高氮水平增加了叶片和茎中氮素积累量,N150较N0处理叶片的氮素积累量增加了3倍,而茎增加了5倍,但减少了根中氮素积累,降低了大豆全株和籽粒中根瘤固氮量及其所占比例,降低了肥料氮和根瘤氮的收获指数,其中根中氮素积累N150较N50处理降低了60.3%,全株根瘤氮和籽粒中根瘤氮N150较N0分别降低了74.9%、85.7%,肥料氮的收获指数N150较N50降低19.8%,根瘤氮的收获指数N150较N0降低25.5%。随着施氮水平的增加,大豆产量也呈现先增加后下降的趋势,施氮水平的增加促进了大豆植株株高、结荚高度和始荚节位的显著增加,但对节数没有明显影响,N150和N0比较株高增加了55.2%,结荚高度增加了199.7%,始荚节位增加了142.9%。
【英文摘要】Methods of sand cultre and 15N tracing were used to study the effects of nitrogen application on yield and nitrogen accumulation in soybean variety SN14. The results showed as follows: accumulated nitrogen in the whole plant, petiole,pod shell and seed increased at the beginning and then decreased with the increase of nitrogen levels; Nitrogen accumulation in leaf and stem increased in 3 and 5 times for N150 than that of N0,which indicated that high nitrogen levels promoted the nitrogen accumulation in leaf and stem,however compared with N0,nitrogen accumulation in root, Nodulation-N accumulated in the whole plant and seed of N150 decreased by 60. 3% ,74. 9% and 85. 7% respectively, and Fertilizer-N harvest index of N150 decreased,which was 19. 8% lower than that of N50,as well as Nodulation-N harvest index 25. 5% lower than that of N50. The nitrogen levels of soybean yield also firstly increased and then decreased; Compared with N0,plant height,pod height and lowest pod nodes of soybean treated with N150 increased by 55. 2% ,199. 7% and 142. 9% respectively,while no effects were found on node number.
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【通讯作者】龚振平
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【学科分类】农业基础学科

【题目】施肥深度对大豆氮磷钾吸收及产量的影响
【中文关键词】大豆; 施肥深度; 产量
【英文关键词】soybean; fertilization depth; yield
【中文摘要】采用分层施肥和15N示踪方法,研究施肥深度对大豆氮磷钾吸收及产量的影响,为大豆合理施肥深度的确定提供理论依据。研究表明,施肥深度对大豆前、中期植株干物质、氮磷钾的积累影响较大,而对植株成熟期影响较小;大豆苗期(V3)与种子同层施肥处理植株干物质和氮磷钾的积累量最大;盛花期(R2)以种下6cm处理效果最明显。施肥深度对大豆产量的影响也表现为种下6cm处理最高,但与种子同层施肥、种下12、18和24cm施肥处理差异不显著;施于种子同层至种下6cm最有利于大豆苗期氮肥吸收,表层施肥、种下24cm施肥处理氮肥吸收效果不好。
【英文摘要】Layered fertilization and15N tracer method were applied to investigate,the experiment researched the effect of fertilization depth on N,P,K absorption and yield in soybean,which provides theoretical basis for the determination of reasonable fertilization depth.Affected the accumulation of N,P,K and plant dry matter in early and medium period than that in maturity period;in seedling stage(V3) the accumulation of plant dry matter and N,P,K were the largest which the fertilizer treatment was the same depth with seeds;At blooming stage(R2),the treatment of 6cm below the seeds was the most obvious.Effect of fertilization depth on yield also

presented that the treatment of 6cm below the seeds was the largest,but not significant with the treatment of the same depth with seeds and 12,18 and 24cm below the seeds.Fertilization from the same depth with seeds to 6cm below the seeds was the most beneficial to absorption of nitrogen at seedling stage,surface fertilization and 24cm below seeds was the most unfavorable to absorption of nitrogen.
【语种】中文
【第一作者】张晓雪
【通讯作者】龚振平
【期刊名称、卷期、页码】核农学报2012,26(2):0364-0368
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【引文索引类型】其他
【引文索引号】null
【学科分类】农业基础学科

【题目】Effects of sulfated polysaccharides and their prescriptions on immune response of ND vaccine in chicken
【中文关键词】无
【英文关键词】Sulfated polysaccharide prescription; peripheral lymphocyte proliferation; serum antibody titer; Newcastle disease vaccine
【中文摘要】无
【英文摘要】In order to select the sulfated polysaccharide prescription (sPSP) with the best immunoenhancement, 270 14-day-old chickens were averagely divided into nine groups and vaccinated with ND-IV vaccine. The chickens in seven experimental groups were intramuscularly injected with three sulfated polysaccharides and their four prescriptions (sPSPs). The serum antibody and peripheral lymphocyte proliferation were measured. On day 23 after vaccination, all chickens except for Negative control group were challenged with Newcastle disease virus. The morbidity, mortality and immune protective rate were calculated and their serum antibody titers were determined. The results showed that all sulfated polysaccharides and their prescriptions could obviously or significantly enhance the immune response of ND vaccine in vaccinated chicken and increase the immune protective rate in challenged chicken. sPSP1 possessed the best efficacy, stronger than its components as well, and would be expected as a candidate of new-type immune adjuvant.
【语种】英文
【第一作者】Xia Ma
【通讯作者】Xia Ma
【期刊名称、卷期、页码】Carbohydrate Polymers, 2010,82(1):9-13
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【引文索引号】10.1016/j.carbpol.2010.04.013
【学科分类】兽医学

【题目】小区水稻除芒机的设计与仿真
【中文关键词】小区; 水稻; 除芒机
【英文关键词】plot; rice; awner
【中文摘要】为了减轻育种人员的劳动强度,提高育种工作效率,设计了小区水稻除芒机,并对主要工作部件进行了设计,同时进行了机构的运动模拟仿真,以便发现设计中出现的问题。该机结构简单、,操作方便、易于清种,为进一步研究小区水稻除芒机具提供了依据。
【英文摘要】In order to reduce labor intensity,breeding personnel and improve breeding efficiency,rice awner of plot was designed.And the importance parts were designed.This paper makes awning device virtual manufacture and move simulation by applying relative modules of Pro/E software in order to find the problems in the produce of design.It is simple in structure,easy to clear and easy operation.The study results provide for further research on awner.
【语种】中文
【第一作者】赵淑红
【通讯作者】赵淑红
【期刊名称、卷期、页码】农机化研究,2011(9):110-116
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【引文索引号】null
【学科分类】农业基础学科

【题目】Adjuvant activities of saponins from traditional Chinese medicinal herbs
【中文关键词】Saponin, Medicinal herb, Adjuvant, Traditional Chinese medicine (TCM)
【英文关键词】Saponin, Medicinal herb, Adjuvant, Traditional Chinese medicine (TCM)
【中文摘要】New generation vaccines such as recombinant, antigen purified and DNA vaccines are poorly immunogenic due to the lack of an innate immune stimulus. Therefore, search of newadjuvants for these vaccines has become a topic of interesting. In new adjuvant development, saponins are outstanding candidates. Recently, increased attention has been received on plant-derived saponins in search of new adjuvant candidates fromtraditional Chinesemedicinal herbs such as Panax ginseng, Astragalus species, Panax notoginseng, Cochinchina momordica, Glycyrrhiza uralensis and Achyranthes bidentata. Many of the saponins have been found to have adjuvant effects on purified protein antigens. The chemical structures of the saponins are related to their adjuvant activities, and influence the nature of the immune responses. Saponin adjuvants have been reported to stimulate secretion of a broad range of cytokines, suggesting that saponins may act by triggering innate immunity. As these plant-originated adjuvants may promote different branches of the immune system, they have the potential to be used in design of new vaccines so as to induce a desired immune response.
【英文摘要】New generation vaccines such as recombinant, antigen purified and DNA vaccines are poorly immunogenic due to the lack of an innate immune stimulus. Therefore, search of newadjuvants for these vaccines has become a topic of interesting. In new adjuvant development, saponins are outstanding candidates. Recently, increased attention has been received on plant-derived saponins in search of new adjuvant candidates fromtraditional Chinesemedicinal herbs such as Panax ginseng, Astragalus species, Panax notoginseng, Cochinchina momordica, Glycyrrhiza uralensis and Achyranthes bidentata. Many of the saponins have been found to have adjuvant effects on purified protein antigens. The chemical structures of the saponins are related to their adjuvant activities, and influence the nature of the immune responses. Saponin adjuvants have been reported to stimulate secretion of a broad range of cytokines, suggesting that saponins may act by triggering innate immunity. As these plant-originated adjuvants may promote different branches of the immune system, they have the potential to be used in design of new vaccines so as to induce a desired immune response.
【语种】英文
【第一作者】Xiaoming Song
【通讯作者】胡松华
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【学科分类】兽医学

【题目】Effect of the extract made from Cochinchina momordica seeds on the humoral immune responses of mice to a commercial foot-and-mouth disease vaccine (serotypes O and Asia 1)
【中文关键词】Cochinchina momordica seeds, foot-and-mouth disease, vaccine
【英文关键词】Cochinchina momordica seeds, foot-and-mouth disease, vaccine
【中文摘要】This study was designed to evaluate the adjuvant effect of ginsenoside Re isolated from the root of Panax ginseng on the immune responses elicited by split inactivated H3N2 in fl uenza virus antigen in a mouse model. Forty-eight ICR mice were randomly distributed into six groups with 8 mice in each group. All animals were subcutaneously (s.c.) immunized twice on weeks 0 and 3 with 50 μg Re, inactivated H3N2 in fl uenza virus antigen equivalent to 10 or 100 ng of hemogglutinin (HA) or inactivated H3N2 in fl uenza virus antigen equivalent to 10 ng HA adjuvanted with Re (25, 50 or 100 μg). Two weeks after the boost, blood samples were collected for measurement of serum IgG, the IgG isotypes and HI titers. Splenocytes were separated for the detection of lymphocyte proliferation and production of IFN- γ and IL-5 in vitro. Results showed that co-administration of Re signi fi cantly enhanced serum speci fi c IgG, IgG1, IgG2a and IgG2b responses, HI titers, lymphocyte proliferation responses as well as IFN- γ and IL-5 secretions, indicating that both Th1 and Th2 were activated. Considering the adjuvant effect demonstrated in this study, Re deserve further studies for improving the quality of vaccines where mixed Th1/Th2 immune responses are needed.

【英文摘要】The extract from ECMS was investigated for its effect on the humoral immune responses to foot-and-mouth disease vaccination. Fifty-sixmicewere randomly divided into seven groupswith eight animals in each.Mice in groups 5 to 7 were subcutaneously (s.c.) injected with 0.5mgDEX daily for 4 days to induce immunosuppression. The animals were then orally given ECMS (200 μg in 250 μl saline) in groups 3 and 6 or 250 μl saline in group 2, or s.c. injected with ECMS (50 μg in 100 μl saline) in groups 4 and 7 or 100 μl saline in group 5. After that, the animals in groups 2 to 7 were s.c. immunized twice with 100 μl of commercial oil-adjuvanted bivalent FMDV vaccine (serotypes O and Asia 1) at intervals of 21 days. Mice in group 1 received injection of 100 μl saline only. After 2 weeks, blood was sampled to determine FMDV-specific IgG and isotype IgG1, IgG2a, IgG2b and IgG3. Results indicated that oral administration or s.c. injection of ECMS augmented responses of specific IgG and most IgG isotypes. Giving ECMS tended to enhance serum-specific IgG and IgG isotype responses of mice immunosuppressed by s.c. injection of DEX. Considering the safety and immunomodulatory effect of ECMS in both normal and immunosuppressed mice demonstrated in the present study, this extract deserves further investigation to evaluate its potential in improving FMD vaccination in farmanimals such as pigs, sheep and cattle.

【语种】英文

【第一作者】Kedsirin Sakwiwatkul

【通讯作者】胡松华

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【学科分类】兽医学

【题目】Enhancement of immune responses to influenza vaccine (H3N2) by ginsenoside Re

【中文关键词】Ginsenoside, Re, Influenza, Th1/Th2

【英文关键词】Ginsenoside, Re, Influenza, Th1/Th2

【中文摘要】This study was designed to evaluate the adjuvant effect of ginsenoside Re isolated from the root of Panax ginseng on the immune responses elicited by split inactivated H3N2 influenza virus antigen in a mouse model. Forty-eight ICR mice were randomly distributed into six groups with 8 mice in each group. All animals were subcutaneously (s.c.) immunized twice on weeks 0 and 3 with 50 μg Re, inactivated H3N2 influenza virus antigen equivalent to 10 or 100 ng of hemogglutinin (HA) or inactivated H3N2 influenza virus antigen equivalent to 10 ng HA adjuvanted with Re (25, 50 or 100 μg). Two weeks after the boost, blood samples were collected for measurement of serum IgG, the IgG isotypes and HI titers. Splenocytes were separated for the detection of lymphocyte proliferation and production of IFN-γ and IL-5 in vitro. Results showed that co-administration of Re significantly enhanced serum specific IgG, IgG1, IgG2a and IgG2b responses, HI titers, lymphocyte proliferation responses as well as IFN-γ and IL-5 secretions, indicating that both Th1 and Th2 were activated. Considering the adjuvant effect demonstrated in this study, Re deserve further studies for improving the quality of vaccines where mixed Th1/Th2 immune responses are needed.

【英文摘要】This study was designed to evaluate the adjuvant effect of ginsenoside Re isolated from the root of Panax ginseng on the immune responses elicited by split inactivated H3N2 influenza virus antigen in a mouse model. Forty-eight ICR mice were randomly distributed into six groups with 8 mice in each group. All animals were subcutaneously (s.c.) immunized twice on weeks 0 and 3 with 50 μg Re, inactivated H3N2 influenza virus antigen equivalent to 10 or 100 ng of hemogglutinin (HA) or inactivated H3N2 influenza virus antigen equivalent to 10 ng HA adjuvanted with Re (25, 50 or 100 μg). Two weeks after the boost, blood samples were collected for measurement of serum IgG, the IgG isotypes and HI titers. Splenocytes were separated for the detection of lymphocyte proliferation and production of IFN-γ and IL-5 in vitro. Results showed that co-administration of Re significantly enhanced serum specific IgG, IgG1, IgG2a and IgG2b responses, HI titers, lymphocyte proliferation responses as well as IFN-γ and IL-5 secretions, indicating that both Th1 and Th2 were activated. Considering the adjuvant effect demonstrated in this study, Re deserve further studies for improving the quality of vaccines where mixed Th1/Th2 immune responses are needed.

【语种】英文

【第一作者】Xiaoming Song

【通讯作者】胡松华

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【引文索引号】doi:10.1016/j.intimp.2009.12.009
【学科分类】兽医学

【题目】Enhancement of the immune responses to vaccination against foot-and-mouth
【中文关键词】Foot-and-mouth disease; Rhizoma Atractylodis Macrocephalae; Adjuvants
【英文关键词】Foot-and-mouth disease; Rhizoma Atractylodis Macrocephalae; Adjuvants
【中文摘要】This study was designed to evaluate the effects of oral administration of a water extract made from the Rhizoma Atractylodis Macrocephalae (RAM) on the immune responses in mice immunized withFMDV type O vaccine. Thirty-five ICR micewere randomly divided into five groups with seven animals in each group, and orally administered daily for 4 days at a dose equivalent to 0, 0.0625, 0.125, 0.25 or 0.5 g of dried RAM, respectively. After that, the animals were subcutaneously immunized twice with FMDV vaccine at 2-week intervals. Blood samples were collected 3 weeks after boosting for measurement of FMDVspecific
【英文摘要】This study was designed to evaluate the effects of oral administration of a water extract made from the Rhizoma Atractylodis Macrocephalae (RAM) on the immune responses in mice immunized withFMDV type O vaccine. Thirty-five ICR micewere randomly divided into five groups with seven animals in each group, and orally administered daily for 4 days at a dose equivalent to 0, 0.0625, 0.125, 0.25 or 0.5 g of dried RAM, respectively. After that, the animals were subcutaneously immunized twice with FMDV vaccine at 2-week intervals. Blood samples were collected 3 weeks after boosting for measurement of FMDVspecific
【语种】英文
【第一作者】Ruili Li
【通讯作者】胡松华
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【学科分类】兽医学

【题目】Ginseng stem-leaf saponins (GSLS) and mineral oil act synergistically to enhance the immune responses to vaccination against foot-and-mouth disease in mice.
【中文关键词】Foot-and-mouth disease; Adjuvant; Ginseng Saponin
【英文关键词】Foot-and-mouth disease; Adjuvant; Ginseng Saponin
【中文摘要】Saponins extracted from ginseng stems and leaves (GSLS) as well as the synergistic effect between GSLS and oil emulsion were investigated for their adjuvant effects on the immune responses of mice to vaccination against foot-and-mouth disease virus (FMDV) serotype Asia 1. In experiment A, ICR mice were subcutaneously immunized twice with FMDV antigen with or without GSLS (0, 1, 5, 10 and 20_g) at 3 week intervals. Highest FMDV-specific IgG level was observed 2 weeks after the boosting in mice immunized with FMDV antigen plus 10_g of GSLS. In experiment B, mice were subcutaneously injected with FMDV antigen with or without GSLS (10_g), or in oil emulsion with or without GSLS (10_g) on days 1 and 21. Results indicated that when co-administered with a mixture of oil and GSLS, FMDV antigen induced significantly higher IgG titer and IgG1, IgG2a, IgG2b and IgG3 responses, production of IFN- γ (Th1 cytokine) and IL-5 (Th2 cytokine) by splenocytes, as well as T and B lymphocyte proliferation in response to Con A and LPS than when FMDV antigen was used alone or mixed with either GSLS or oil. This suggests that GSLS and oil adjuvant synergistically promote both Th1 and Th2 immune responses. As protection against FMDV requires both cellular and humoral immune responses, the combined effects of GSLS and oil deserve further study in other animals such as cattle and pigs in order to induce effective immunity against FMDV infection.
【英文摘要】Saponins extracted from ginseng stems and leaves (GSLS) as well as the synergistic effect between GSLS and oil emulsion were investigated for their adjuvant effects on the immune responses of mice to vaccination against foot-and-mouth disease virus (FMDV) serotype Asia 1. In experiment A, ICR mice were subcutaneously immunized twice with FMDV antigen with or without GSLS (0, 1, 5, 10 and 20_g) at 3 week intervals. Highest FMDV-specific IgG level was observed 2 weeks after the boosting in mice immunized with FMDV antigen plus 10_g of GSLS. In experiment B, mice were subcutaneously injected with FMDV antigen with or without GSLS (10_g), or in oil emulsion with or without GSLS (10_g) on days 1 and 21. Results indicated that when co-administered with a mixture of oil and GSLS, FMDV antigen induced significantly higher IgG titer and IgG1, IgG2a, IgG2b and IgG3 responses, production of IFN- γ (Th1 cytokine) and IL-5 (Th2 cytokine) by splenocytes, as well as T and B lymphocyte proliferation in response to Con A and LPS than when FMDV antigen was used alone or mixed with either GSLS or oil. This suggests that GSLS and oil adjuvant

synergistically promote both Th1 and Th2 immune responses. As protection against FMDV requires both cellular and humoral immune responses, the combined effects of GSLS and oil deserve further study in other animals such as cattle and pigs in order to induce effective immunity against FMDV infection.
【语种】英文
【第一作者】Xiaoming Song
【通讯作者】胡松华
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【学科分类】兽医学

【题目】ISCOMs and ISCOMATRIXTM
【中文关键词】ISCOMs; ISCOMATRIXTM; Adjuvant Preparation; Immune responses; Protection Mechanism
【英文关键词】ISCOMs; ISCOMATRIXTM; Adjuvant Preparation; Immune responses; Protection Mechanism
【中文摘要】mmunostimulatory complexes (ISCOMs) are particulate antigen delivery systems composed of antigen, cholesterol, phospholipid and saponin, while ISCOMATRIXTM is a particulate adjuvant comprising cholesterol, phospholipid and saponin but without antigen. The combination of an antigen with ISCOMATRIXTM is called an ISCOMATRIXTM vaccine. ISCOMs and ISCOMATRIXTM combine the advantages of a particulate carrier system with the presence of an in-built adjuvant (Quil A) and consequently have been found to be more immunogenic, while removing its haemolytic activity of the saponin, producing less toxicity. ISCOMs and ISCOMATRIXTM vaccines have now been shown to induce strong antigen-specific cellular or humoral immune responses to a broad range of antigens of viral, bacterial, parasite origin or tumor in a number of animal species including non-human primates and humans. These vaccines produced by well controlled and reproducible processes have also been evaluated in human clinical trials. In this review, we summarize the recent progress of ISCOMs and ISCOMATRIXTM, including preparation technology as well as their application in humans and veterinary vaccine designs with particular emphasis on the current understanding of the properties and features of ISCOMs and ISCOMATRIXTM vaccines to induce immune responses. The mechanisms of adjuvanticity are also discussed in the light of recent findings.
【英文摘要】mmunostimulatory complexes (ISCOMs) are particulate antigen delivery systems composed of antigen, cholesterol, phospholipid and saponin, while ISCOMATRIXTM is a particulate adjuvant comprising cholesterol, phospholipid and saponin but without antigen. The combination of an antigen with ISCOMATRIXTM is called an ISCOMATRIXTM vaccine. ISCOMs and ISCOMATRIXTM combine the advantages of a particulate carrier system with the presence of an in-built adjuvant (Quil A) and consequently have been found to be more immunogenic, while removing its haemolytic activity of the saponin, producing less toxicity. ISCOMs and ISCOMATRIXTM vaccines have now been shown to induce strong antigen-specific cellular or humoral immune responses to a broad range of antigens of viral, bacterial, parasite origin or tumor in a number of animal species including non-human primates and humans. These vaccines produced by well controlled and reproducible processes have also been evaluated in human clinical trials. In this review, we summarize the recent progress of ISCOMs and ISCOMATRIXTM, including preparation technology as well as their application in humans and veterinary vaccine designs with particular emphasis on the current understanding of the properties and features of ISCOMs and ISCOMATRIXTM vaccines to induce immune responses. The mechanisms of adjuvanticity are also discussed in the light of recent findings.
【语种】英文
【第一作者】Hongxiang Sun
【通讯作者】孙红祥
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【学科分类】兽医学

【题目】Platycodin D Improves the Immunogenicity of Newcastle Disease Virus-Based Recombinant Avian Influenza Vaccine in Mice

【中文关键词】Platycodin D; Immunogenicity; Newcastle Disease Virus
【英文关键词】Platycodin D; Immunogenicity; Newcastle Disease Virus
【中文摘要】The development of an effective influenza vaccine is urgently important for controlling outbreaks of the highly pathogenic avian influenza virus (HPAIV) and reducing the impact of pandemics. The use of an adjuvant in such a vaccine can significantly contribute to improve the immunogenicity. To explore a novel and safe adjuvant for improving the potency of influenza vaccines, platycodinD(1), a saponin from the root of Platycodon grandiflorum, was evaluated for the adjuvant potentials on the specific cellular and humoral immune responses to Newcastle disease virus-based recombinant avian influenza vaccine (rL-H5) in mice. Compound 1 significantly promoted the concanavalin A (Con A)-, the lipopolysaccharide (LPS), and the antigen-induced splenocyte proliferation and enhanced the serum antigenspecific IgG, IgG1, IgG2a, and IgG2b antibody titers ($P<0.05$, $P<0.01$, or $P<0.001$) in mice immunized with rL-H5. The mRNA expressions of Th1/Th2 cytokines (IFN-g and IL-10) and transcription factors (T-bet and GATA-3) in splenocytes were also markedly up-regulated by 1, compared with the control group immunized with rL-H5 alone ($P<0.01$ or $P<0.001$). In addition, 1 remarkably increased the killing activities of natural killer (NK) cells from splenocytes in the immunized mice ($P<0.05$), which may have important implications for the vaccination against the avian influenza virus.We concluded that 1 could improve the immunogenicity of the rL-H5 vaccine by enhancing both humoral and cellular immune responses in mice, and that 1 is a promising adjuvant for influenza vaccines.
【英文摘要】The development of an effective influenza vaccine is urgently important for controlling outbreaks of the highly pathogenic avian influenza virus (HPAIV) and reducing the impact of pandemics. The use of an adjuvant in such a vaccine can significantly contribute to improve the immunogenicity. To explore a novel and safe adjuvant for improving the potency of influenza vaccines, platycodinD(1), a saponin from the root of Platycodon grandiflorum, was evaluated for the adjuvant potentials on the specific cellular and humoral immune responses to Newcastle disease virus-based recombinant avian influenza vaccine (rL-H5) in mice. Compound 1 significantly promoted the concanavalin A (Con A)-, the lipopolysaccharide (LPS), and the antigen-induced splenocyte proliferation and enhanced the serum antigenspecific IgG, IgG1, IgG2a, and IgG2b antibody titers ($P<0.05$, $P<0.01$, or $P<0.001$) in mice immunized with rL-H5. The mRNA expressions of Th1/Th2 cytokines (IFN-g and IL-10) and transcription factors (T-bet and GATA-3) in splenocytes were also markedly up-regulated by 1, compared with the control group immunized with rL-H5 alone ($P<0.01$ or $P<0.001$). In addition, 1 remarkably increased the killing activities of natural killer (NK) cells from splenocytes in the immunized mice ($P<0.05$), which may have important implications for the vaccination against the avian influenza virus.We concluded that 1 could improve the immunogenicity of the rL-H5 vaccine by enhancing both humoral and cellular immune responses in mice, and that 1 is a promising adjuvant for influenza vaccines.
【语种】英文
【第一作者】Yong Xie
【通讯作者】孙红祥
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【引文索引号】2010 Verlag Helvetica Chimica Acta AG, Z ü rich
【学科分类】兽医学

【题目】人参茎叶皂甙对口蹄疫病毒灭活疫苗免疫后抗体产生的影响
【中文关键词】人参茎叶皂甙;白油;口蹄疫;疫苗;佐剂
【英文关键词】ginsenosides of stems and leaves, oil, foot and mouth disease, vaccine, adjuvant
【中文摘要】分别用人参茎叶皂甙(GSL)、白油或两者混合物作为免疫佐剂,与Asia—I型口蹄疫病毒(FMDV)灭活疫苗混合免疫小鼠,检测免疫后的血清特异性抗体水平。结果表明,GSL具有佐剂作用,能显著促进机体产生抗FMDV抗体的水平,其佐剂作用呈量效关系。当GSL和白油混合形成复合佐剂时,具有组合效应,能产生比2种佐剂单独应用时更强的抗体效价;且GSI和白油混合产生的组合效应主要促进IgG2a和IgG2b的产生。
【英文摘要】ICR mice were injected with porcine foot and mouth disease (FMD) attenuated vaccine combined with the mice for determination of antibody responses. The results indicated GSI had significant adjuvant activities on theginsenosides of stems and leaves (GSI), oil or GSL+oil. After vaccination, the blood samples were collected from production of antibodies against FMD with dose dependent effect. Combination of GSI and oil promoted significantly higher antibody level than that of GSI or oil alone, especially in the production of IgG2a and IgG2b.
【语种】中文

【第一作者】包省军
【通讯作者】胡松华
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【学科分类】兽医学

【题目】Epimedium polysaccharide and propolis flavone can synergistically stimulate lymphocyte proliferation in vitro and enhance the immune responses to ND vaccine in chickens
【中文关键词】Prescription; Lymphocyte proliferation; Serum antibody titer; Newcastle disease vaccine; Immune protection
【英文关键词】Prescription; Lymphocyte proliferation; Serum antibody titer; Newcastle disease vaccine; Immune protection
【中文摘要】Four prescriptions, epimedium flavone plus propolis flavone (EF – PF), epimedium flavone plus propolis extracts (EF – PE), epimedium polysaccharide plus propolis flavone (EP – PF) and epimedium polysaccharide plus propolis extracts (EP – PE), were prepared and their immune-enhancing effects were compared. In test in vitro, the effects of them on chicken peripheral lymphocyte proliferation were determined by MTT method. The results showed that EP – PF group presented the highest stimulating index at most concentrations. In immune test, 300 14-day-old chickens were randomly divided into six groups and vaccinated with ND vaccine except for blank control (BC) group, re-challenged at 28 days of age. At the same time of the first vaccination, the chickens in four experimental groups were injected, respectively, with four prescriptions. The changes of the lymphocyte proliferation and antibody titer were determined. On day 28 after the first vaccination, the chickens except for BC group were challenged with NDV, the immune protective effect was observed. The results displayed that in EP – PF group, the antibody titers, lymphocyte proliferation and protective rate were the highest, the morbidity and mortality were the lowest. In dose test, 14-day-old chickens were randomly divided into five groups. The treatment and determinations were the same as the immune test except that the chickens in experimental groups were injected, respectively, with high, medium and low doses of EP – PF. The results revealed that in medium dose group, the antibody titers, lymphocyte proliferation and protective rate were the highest, the morbidity and mortality were the lowest. These results indicated that EP and PF possessed synergistically immune enhancement, EP – PF had the best efficacy, especially at medium dose, and would be expected to exploit into a new-type immunopotentiator.
【英文摘要】Four prescriptions, epimedium flavone plus propolis flavone (EF – PF), epimedium flavone plus propolis extracts (EF – PE), epimedium polysaccharide plus propolis flavone (EP – PF) and epimedium polysaccharide plus propolis extracts (EP – PE), were prepared and their immune-enhancing effects were compared. In test in vitro, the effects of them on chicken peripheral lymphocyte proliferation were determined by MTT method. The results showed that EP – PF group presented the highest stimulating index at most concentrations. In immune test, 300 14-day-old chickens were randomly divided into six groups and vaccinated with ND vaccine except for blank control (BC) group, re-challenged at 28 days of age. At the same time of the first vaccination, the chickens in four experimental groups were injected, respectively, with four prescriptions. The changes of the lymphocyte proliferation and antibody titer were determined. On day 28 after the first vaccination, the chickens except for BC group were challenged with NDV, the immune protective effect was observed. The results displayed that in EP – PF group, the antibody titers, lymphocyte proliferation and protective rate were the highest, the morbidity and mortality were the lowest. In dose test, 14-day-old chickens were randomly divided into five groups. The treatment and determinations were the same as the immune test except that the chickens in experimental groups were injected, respectively, with high, medium and low doses of EP – PF. The results revealed that in medium dose group, the antibody titers, lymphocyte proliferation and protective rate were the highest, the morbidity and mortality were the lowest. These results indicated that EP and PF possessed synergistically immune enhancement, EP – PF had the best efficacy, especially at medium dose, and would be expected to exploit into a new-type immunopotentiator.
【语种】英文
【第一作者】Yunpeng Fan
【通讯作者】胡元亮
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【学科分类】药理学

【题目】Astragalus polysaccharide and oxymatrine can synergistically improve the immune efficacy of Newcastle disease vaccine in chicken

【中文关键词】Astragalus polysaccharide; Oxymatrine; Newcastle disease vaccine; Lymphocyte proliferation; Antibody titer; Interleukin-2

【英文关键词】Astragalus polysaccharide; Oxymatrine; Newcastle disease vaccine; Lymphocyte proliferation; Antibody titer; Interleukin-2

【中文摘要】Three hundred and sixty 14-day-old chickens were divided into seven groups. The chickens, except for blank control group, were vaccinated with Newcastle disease vaccine, repeated at 28 days old. At the same time of the first vaccination, the chickens in three astragalus polysaccharide-oxymatrine (AP-OM) groups were orally administrated respectively with the mixture of AP-OM at high, medium and low concentrations, in astragalus polysaccharide (AP) group and oxymatrine (OM) group, with corresponding medicine, in non-medicine (NM) control group, with equal volume of physiological saline, once a day for 3 successive days. On 14, 21, 28, 35 and 42 days after the first vaccination, the changes of peripheral lymphocyte proliferation and serum antibody titers of the chickens were determined by MTT method and hemagglutination inhibition test. On 14, 28 and 42 days after the first vaccination, the serum IL-2 concentration was determined by Enzyme-linked Immunosorbent Assay (ELISA). The results showed that at most time points, the lymphocyte proliferation, antibody titers and IL-2 concentrations of 5 medicineadministrating groups were significantly higher than that of corresponding NM group. At some time points, the lymphocyte proliferation, antibody titers and IL-2 concentrations in high and medium doses of AP-OM groups were significantly or numberly higher than those in AP group andOMgroup. It indicated that AP-OM could significantly improve the immune efficacy of Newcastle disease vaccine, astragalus polysaccharide and oxymatrine possessed synergistical immunoenhancement.

【英文摘要】Three hundred and sixty 14-day-old chickens were divided into seven groups. The chickens, except for blank control group, were vaccinated with Newcastle disease vaccine, repeated at 28 days old. At the same time of the first vaccination, the chickens in three astragalus polysaccharide-oxymatrine (AP-OM) groups were orally administrated respectively with the mixture of AP-OM at high, medium and low concentrations, in astragalus polysaccharide (AP) group and oxymatrine (OM) group, with corresponding medicine, in non-medicine (NM) control group, with equal volume of physiological saline, once a day for 3 successive days. On 14, 21, 28, 35 and 42 days after the first vaccination, the changes of peripheral lymphocyte proliferation and serum antibody titers of the chickens were determined by MTT method and hemagglutination inhibition test. On 14, 28 and 42 days after the first vaccination, the serum IL-2 concentration was determined by Enzyme-linked Immunosorbent Assay (ELISA). The results showed that at most time points, the lymphocyte proliferation, antibody titers and IL-2 concentrations of 5 medicineadministrating groups were significantly higher than that of corresponding NM group. At some time points, the lymphocyte proliferation, antibody titers and IL-2 concentrations in high and medium doses of AP-OM groups were significantly or numberly higher than those in AP group andOMgroup. It indicated that AP-OM could significantly improve the immune efficacy of Newcastle disease vaccine, astragalus polysaccharide and oxymatrine possessed synergistical immunoenhancement.

【语种】英文

【第一作者】Yuku Chen

【通讯作者】胡元亮

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【学科分类】药理学

【题目】Sulfated modification can enhance the immune-enhancing activity of lycium barbarum polysaccharides

【中文关键词】Sulfated lycium barbarum polysaccharides; Lymphocyte Proliferation rate;Serum antibody titer

【英文关键词】Sulfated lycium barbarum polysaccharides; Lymphocyte Proliferation rate;Serum antibody titer

【中文摘要】In test in vitro, four sulfated lycium barbarum polysaccharides (sLBPSs) with different degrees of sulfation (DS), sLBPS0.7, sLBPS1.1, sLBPS1.5 and sLBPS1.9, were added into cultured chicken peripheral lymphocytes and the changes of lymphocytes proliferation were compared by MTT assay taking the nonmodified LBPS as control. Two sLBPSs with better efficacy, sLBPS1.5 and sLBPS1.9 were selected. In test in vivo, one hundred 14-day-old chickens were averagely divided into five groups randomly. The chickens except blank control group were vaccinated with Newcastle disease vaccine, repeated vaccination at 28 days

old. At the same time of the first vaccination, the chickens in three experimental groups were injected with 0.5 mL of sLBPS1.5, sLBPS1.9 and LBPS at 4 mg mL_1, in vaccination control group, with 0.5 mL of physiological saline, once a day for three successive days. On days 7, 14, 21 and 28 after the first vaccination, the changes of peripheral lymphocytes proliferation and serum HI antibody titer were determined. The result showed that two sLBPSs could significantly promote lymphocytes proliferation and enhance serum antibody titer. These results indicated that sulfated modification could enhance the immune-enhancing activity of LBPS, which there was a certain relativity with the DS of sulfated polysaccharide. sLBPS1.5 possessed the best efficacy and would be expected as the component drug of a new-type immunopotentiator.

【英文摘要】In test in vitro, four sulfated lycium barbarum polysaccharides (sLBPSs) with different degrees of sulfation (DS), sLBPS0.7, sLBPS1.1, sLBPS1.5 and sLBPS1.9, were added into cultured chicken peripheral lymphocytes and the changes of lymphocytes proliferation were compared by MTT assay taking the nonmodified LBPS as control. Two sLBPSs with better efficacy, sLBPS1.5 and sLBPS1.9 were selected. In test in vivo, one hundred 14-day-old chickens were averagely divided into five groups randomly. The chickens except blank control group were vaccinated with Newcastle disease vaccine, repeated vaccination at 28 days old. At the same time of the first vaccination, the chickens in three experimental groups were injected with 0.5 mL of sLBPS1.5, sLBPS1.9 and LBPS at 4 mg mL_1, in vaccination control group, with 0.5 mL of physiological saline, once a day for three successive days. On days 7, 14, 21 and 28 after the first vaccination, the changes of peripheral lymphocytes proliferation and serum HI antibody titer were determined. The result showed that two sLBPSs could significantly promote lymphocytes proliferation and enhance serum antibody titer. These results indicated that sulfated modification could enhance the immune-enhancing activity of LBPS, which there was a certain relativity with the DS of sulfated polysaccharide. sLBPS1.5 possessed the best efficacy and would be expected as the component drug of a new-type immunopotentiator.

【语种】英文
【第一作者】Junmin Wang
【通讯作者】胡元亮
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【学科分类】药理学

【题目】Effects of sulfated lentinan on cellular infectivity of avian infectious bronchitis virus

【中文关键词】Lentinan; Sulfated modification; Infectious bronchitis virus; Chicken embryo fibroblast (CEF); Cellular infectivity
【英文关键词】Lentinan; Sulfated modification; Infectious bronchitis virus; Chicken embryo fibroblast (CEF); Cellular infectivity

【中文摘要】In order to investigate the possibility of sulfating modification in improving the anti-viral activity of lentinan (LNT), three kinds of sulfated LNTs (sLNT), sLNT1, sLNT2 and sLNT3 with the degree of substitution of 0.69, 0.98 and 1.37 were prepared by chlorosulfonic acid – pyridine method with three modification condition, respectively. The sLNTs and avain infectious bronchitis virus (IBV) were added into chicken embryo fibroblast (CEF) in three manners, pre-adding polysaccharide, post-adding polysaccharide and mixed adding polysaccharide with IBV, respectively, taking non-modified LNT as control. The anti-viral activities of three sLNTs were compared by MTT method. The results showed that all of sLNTs and LNT at a certain concentration could significantly inhibit IBV growth in three manners. The effects of modified sLNTs were better than that of non-modified LNT. It indicated that sulfated modification could enhance the anti-viral activity of LNT.

【英文摘要】In order to investigate the possibility of sulfating modification in improving the anti-viral activity of lentinan (LNT), three kinds of sulfated LNTs (sLNT), sLNT1, sLNT2 and sLNT3 with the degree of substitution of 0.69, 0.98 and 1.37 were prepared by chlorosulfonic acid – pyridine method with three modification condition, respectively. The sLNTs and avain infectious bronchitis virus (IBV) were added into chicken embryo fibroblast (CEF) in three manners, pre-adding polysaccharide, post-adding polysaccharide and mixed adding polysaccharide with IBV, respectively, taking non-modified LNT as control. The anti-viral activities of three sLNTs were compared by MTT method. The results showed that all of sLNTs and LNT at a certain concentration could significantly inhibit IBV growth in three manners. The effects of modified sLNTs were better than that of non-modified LNT. It indicated that sulfated modification could enhance the anti-viral activity of LNT.

【语种】英文
【第一作者】Deyun Wang
【通讯作者】胡元亮

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【学科分类】药理学

【题目】Lycium barbarum polysaccharide inhibits the infectivity of New castle disease virus to chicken embryo fibroblast
【中文关键词】Sulfated lycium barbarum polysaccharide; Newcastle disease virus; Cellular infectivity; Virus inhibitory rate
【英文关键词】Sulfated lycium barbarum polysaccharide; Newcastle disease virus; Cellular infectivity; Virus inhibitory rate
【中文摘要】Lycium barbarum polysaccharide (LBPS) was extracted by water decoction and ethanol precipitation. After purification, four sulfated lycium barbarum polysaccharides (sLBPSs), sLBPS0.7, sLBPS1.1, sLBPS1.5 and sLBPS1.9, were prepared by chlorosulfonic acid – pyridine method respectively at four designed modification conditions. Four sLBPSs at 5 concentrations, within the safety concentration scope, and Newcastle disease virus (NDV) were added into cultivating system of chick embryo fibroblast (CEF) respectively in three modes, pre- and post-adding polysaccharide and simultaneous adding polysaccharide and virus after being mixed. The effects of sLBPSs on cellular infectivity of NDV were assayed by MTT method taking the non-modified LBPS as control. The results showed that sLBPS1.5, sLBPS1.9 and sLBPS1.1 in three sample-adding modes, sLBPS0.7 in simultaneous adding after being mixed could significantly inhibit the infectivity ofNDVto CEF. The viral inhibitory rate of sLBPS1.5 in pre- and simultaneous adding and sLBPS1.9 in post-addingwasthe highest. Non-modified LBPS did not present significant effect in any sample-adding mode. These results indicated that sulfated modification could significantly enhance the antiviral activity of LBPS, which was correlated with the degree of sulfation (DS) of sLBPS. sLBPS1.5 and sLBPS1.9 possessed better activity and would be as the compositions of antiviral prescription.
【英文摘要】Lycium barbarum polysaccharide (LBPS) was extracted by water decoction and ethanol precipitation. After purification, four sulfated lycium barbarum polysaccharides (sLBPSs), sLBPS0.7, sLBPS1.1, sLBPS1.5 and sLBPS1.9, were prepared by chlorosulfonic acid – pyridine method respectively at four designed modification conditions. Four sLBPSs at 5 concentrations, within the safety concentration scope, and Newcastle disease virus (NDV) were added into cultivating system of chick embryo fibroblast (CEF) respectively in three modes, pre- and post-adding polysaccharide and simultaneous adding polysaccharide and virus after being mixed. The effects of sLBPSs on cellular infectivity of NDV were assayed by MTT method taking the non-modified LBPS as control. The results showed that sLBPS1.5, sLBPS1.9 and sLBPS1.1 in three sample-adding modes, sLBPS0.7 in simultaneous adding after being mixed could significantly inhibit the infectivity ofNDVto CEF. The viral inhibitory rate of sLBPS1.5 in pre- and simultaneous adding and sLBPS1.9 in post-addingwasthe highest. Non-modified LBPS did not present significant effect in any sample-adding mode. These results indicated that sulfated modification could significantly enhance the antiviral activity of LBPS, which was correlated with the degree of sulfation (DS) of sLBPS. sLBPS1.5 and sLBPS1.9 possessed better activity and would be as the compositions of antiviral prescription.
【语种】英文
【第一作者】Junmin Wang
【通讯作者】胡元亮
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【学科分类】药理学

【题目】Epimedium polysaccharide and propolis flavone can synergistically inhibit the cellular infectivity of NDV and improve the curative effect of ND in chicken
【中文关键词】Epimedium polysaccharide; Propolis flavone; Newcastle disease virus; Cellular infectivity; Curative effect
【英文关键词】Epimedium polysaccharide; Propolis flavone; Newcastle disease virus; Cellular infectivity; Curative effect
【中文摘要】Four prescriptions, epimedium flavone plus propolis flavone (EF-PF), epimedium flavone plus propolis extracts (EF-PE), epimedium polysaccharide plus propolis flavone (EP-PF) and epimedium polysaccharide plus propolis extracts (EP-PE), were prepared and their antiviral effects were compared. In test in vitro, the four prescriptions within safety concentration scope and Newcastle disease virus (NDV) were added into cultured chick embryo fibroblast (CEF) in three modes, pre-, post-adding drug and

simultaneousadding drug and virus after being mixed, the cellular A570 values were determined by MTT method and the highest virus inhibitory rates were calculated to compare the antiviral activity of four prescriptions. In test in vivo, three hundred 21-day-old chickens were randomly divided into 6 groups and challenged with NDV except for blank control group. After 24 h the chickens in four prescription groups were injected with corresponding drugs respectively, in virus control and blank control groups, with physiological saline, once a day for three successive days. On days 3, 7 and 14 after challenge, the serum antibody titer was determined. On day 15 after challenge, the mortality, morbidity and cure rate in every group were counted. The results showed that the most of A570 values in EP-PF group were numberly or significantly larger than those of the corresponding virus control group and the highest virus inhibitory rates of EP-PF at optimal concentration group were the highest among four prescription groups in three drug-adding modes, which confirmed that EP-PF could significantly inhibit the infectivity of NDV to CEF, its action was stronger than those of other three prescriptions; in EP-PF group, the antibody titers and cure rate were the highest and the mortality and morbidity were lowest presenting numberly or significantly differences in comparison with other three prescription groups. These results indicated that epimedium polysaccharide and propolis flavone possessed synergistical action, EP-PF prescription could significantly inhibit the cellular infectivity of NDV, improve the curative effect of ND in chicken and would be expected to exploit into a new-type antiviral drug.

【英文摘要】Four prescriptions, epimedium flavone plus propolis flavone (EF-PF), epimedium flavone plus propolis extracts (EF-PE), epimedium polysaccharide plus propolis flavone (EP-PF) and epimedium polysaccharide plus propolis extracts (EP-PE), were prepared and their antiviral effects were compared. In test in vitro, the four prescriptions within safety concentration scope and Newcastle disease virus (NDV) were added into cultured chick embryo fibroblast (CEF) in three modes, pre-, post-adding drug and simultaneousadding drug and virus after being mixed, the cellular A570 values were determined by MTT method and the highest virus inhibitory rates were calculated to compare the antiviral activity of four prescriptions. In test in vivo, three hundred 21-day-old chickens were randomly divided into 6 groups and challenged with NDV except for blank control group. After 24 h the chickens in four prescription groups were injected with corresponding drugs respectively, in virus control and blank control groups, with physiological saline, once a day for three successive days. On days 3, 7 and 14 after challenge, the serum antibody titer was determined. On day 15 after challenge, the mortality, morbidity and cure rate in every group were counted. The results showed that the most of A570 values in EP-PF group were numberly or significantly larger than those of the corresponding virus control group and the highest virus inhibitory rates of EP-PF at optimal concentration group were the highest among four prescription groups in three drug-adding modes, which confirmed that EP-PF could significantly inhibit the infectivity of NDV to CEF, its action was stronger than those of other three prescriptions; in EP-PF group, the antibody titers and cure rate were the highest and the mortality and morbidity were lowest presenting numberly or significantly differences in comparison with other three prescription groups. These results indicated that epimedium polysaccharide and propolis flavone possessed synergistical action, EP-PF prescription could significantly inhibit the cellular infectivity of NDV, improve the curative effect of ND in chicken and would be expected to exploit into a new-type antiviral drug.

【语种】英文

【第一作者】Yunpeng Fan

【通讯作者】胡元亮

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【学科分类】药理学

【题目】Screening on the immune-enhancing active site of Siberian solomonseal rhizome polysaccharide

【中文关键词】Siberian solomonseal rhizome polysaccharide; Immunoenhancement; Active site; Antibody titer; Lymphocyte proliferation

【英文关键词】Siberian solomonseal rhizome polysaccharide; Immunoenhancement; Active site; Antibody titer; Lymphocyte proliferation

【中文摘要】The total Siberian solomonseal rhizome polysaccharide (SRPSt) and four fractional SRPS30, SRPS50, SRPS70 and SRPS80, were extracted by one-step or stepwise ethanol precipitation method. In test in vitro, their effects on chicken peripheral lymphocytes proliferation were compared. The result showed that SRPS70 and SRPS50 presented better effect. In test in vivo, 14-day-old chickens were injected, respectively, with SRPS50, SRPS70 and SRPSt, at the first vaccination of ND vaccine, once a day for three successive days. On days 7, 14, 21 and 28 after the first vaccination, the peripheral lymphocytes proliferation and antibody titer were determined. The result indicated that lymphocyte proliferation and antibody titers in SRPS50 group at all time points were the highest, significantly higher than those of non-adjuvant control group and most of another two SRPSs groups. These results confirmed that

SRPS50 possessed the strongest action and was the immune-enhancing active site of SRPS

【英文摘要】The total Siberian solomonseal rhizome polysaccharide (SRPSt) and four fractional SRPS30, SRPS50, SRPS70 and SRPS80, were extracted by one-step or stepwise ethanol precipitation method. In test in vitro, their effects on chicken peripheral lymphocytes proliferation were compared. The result showed that SRPS70 and SRPS50 presented better effect. In test in vivo, 14-day-old chickens were injected, respectively, with SRPS50, SRPS70 and SRPSt, at the first vaccination of ND vaccine, once a day for three successive days. On days 7, 14, 21 and 28 after the first vaccination, the peripheral lymphocytes proliferation and antibody titer were determined. The result indicated that lymphocyte proliferation and antibody titers in SRPS50 group at all time points were the highest, significantly higher than those of non-adjuvant control group and most of another two SRPSs groups. These results confirmed that SRPS50 possessed the strongest action and was the immune-enhancing active site of SRPS

【语种】英文
【第一作者】Saifuding Abula
【通讯作者】胡元亮
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【学科分类】药理学

【题目】Optimization of sulfated modification conditions of tremella polysaccharide and effects of modifiers on cellular infectivity of NDV

【中文关键词】Tremella polysaccharide (TPS); Sulfated modification; Newcastle disease virus (NDV); Virus inhibitory rate
【英文关键词】Tremella polysaccharide (TPS); Sulfated modification; Newcastle disease virus (NDV); Virus inhibitory rate

【中文摘要】Based on our previous research, sulfated modification conditions of Tremella polysaccharide (TPS), the chlorosulfonic acid to pyridine (CSA-Pry) ratio, reaction temperature and time, were optimized by L9 (34) orthogonal design taking the yield and degree of sulfation (DS) of modifiers as indexes. Two TPSs, TPStp and TPS70c, were modified under optimized conditions. The effects of two modifiers, sTPStp and sTPS70c, on cellular infectivity of NDV were determined by MTT method taking the non-modified TPStp, TPStc and TPS70c as controls. The results showed that the optimized modification conditions were reaction temperature of 80 oC, CSA-Pry ratio of 1:6 and reaction time of 1.5 h. Five polysaccharides at proper concentrations could significantly inhibit the infectivity of NDV to CEF. The virus inhibitory rates of sTPStp at 1.563_gmL − 1 group were the highest and significantly higher than those of other three non-modified polysaccharide groups in three sample-adding modes. This indicated that sulfated modification could significantly improve the antiviral activity of TPS. sTPStp possessed the best efficacy and would be as a component of antiviral polysaccharide drug.

【英文摘要】Based on our previous research, sulfated modification conditions of Tremella polysaccharide (TPS), the chlorosulfonic acid to pyridine (CSA-Pry) ratio, reaction temperature and time, were optimized by L9 (34) orthogonal design taking the yield and degree of sulfation (DS) of modifiers as indexes. Two TPSs, TPStp and TPS70c, were modified under optimized conditions. The effects of two modifiers, sTPStp and sTPS70c, on cellular infectivity of NDV were determined by MTT method taking the non-modified TPStp, TPStc and TPS70c as controls. The results showed that the optimized modification conditions were reaction temperature of 80 oC, CSA-Pry ratio of 1:6 and reaction time of 1.5 h. Five polysaccharides at proper concentrations could significantly inhibit the infectivity of NDV to CEF. The virus inhibitory rates of sTPStp at 1.563_gmL − 1 group were the highest and significantly higher than those of other three non-modified polysaccharide groups in three sample-adding modes. This indicated that sulfated modification could significantly improve the antiviral activity of TPS. sTPStp possessed the best efficacy and would be as a component of antiviral polysaccharide drug.

【语种】英文
【第一作者】Xiaona Zhao
【通讯作者】胡元亮
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【学科分类】药理学

【题目】正交试验优选党参多糖的硫酸化修饰条件
【中文关键词】党参多糖;硫酸化修饰;正交试验
【英文关键词】Codonopsis pilosulapolysaccharides (CPPS); sulfated modification; orthogonal test
【中文摘要】目的 优选党参多糖硫酸化工艺。方法 用氯磺酸-吡啶法对党参多糖进行硫酸化修饰,以取代度和产物得率为指标,用L9(34)正交试验对试剂配比、反应温度、反应时间进行优选,用氯化钡-明胶法测定硫酸基的取代度。结果 试剂配比和反应时间分别对产物得率和取代度的影响最大,氯磺酸与吡啶配比为1∶6时产物得率最高;反应时间为3 h时取代度最高,达1.83;各因素不同水平对产物得率和取代度的影响无显著差异。结论 综合考虑最适宜的修饰条件为氯磺酸与吡啶配比为1∶6、反应温度80℃、反应时间3 h。
【英文摘要】Objective To optimize the sulfated modification conditions ofCodonopsis pilosulapolysaccharides (CPPS). Methods CPPS was modified by chlorosulfonic acid-pyridine L9(34) Orthogonal test was used to optimize reagent ratio, reaction temperature, and reaction time, taking substitution degree and productivity as index. Results The effects of reagent ratio and reaction time respectively on productivity and substitution degree were the strongest · When the ratio of chlorosulfonic acid to pyridine was 1∶6, the productivity was the highest. When reaction time was 3 h, the substitution degree was the highest reaching 1.83. There were no significant differences among different levels of each factor. Conclusion The optimum modification conditions are the ratio of chlorosulfonic acid to pyridine of 1∶6, reaction temperature of 80℃, and reaction time of 3 h in synthetical consideration.
【语种】中文
【第一作者】杨淑娟
【通讯作者】胡元亮
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【引文索引号】0253-2670(2010)07-1091-04
【学科分类】中药学

【题目】硫酸化多糖复方和中药成分复方的鸡新城疫疫苗免疫增强效果比较
【中文关键词】硫酸化多糖复方;中药成分复方;雏鸡;新城疫疫苗;免疫效果
【英文关键词】sulfated polysaccharide prescriptions;chicken; ND vaccine; immune effects
【中文摘要】为了筛选增强免疫效果最好的硫酸化多糖复方和中药成分复方,以前期筛选出的硫酸化黄芪多糖sAPS60、硫酸化淫羊藿多糖sEPS5和硫酸化香菇多糖sLNT2组成4个复方:复方1 (sEPS-sAPS)、复方2 (sEPS-sAPS-sLNT)、复方3 (sAPS-sLNT)、复方4 (sEPS-sLNT),以及前期筛选的2个中药成分复方——复方5 (EPS-PF) 和复方6 (APS-GS),在14日龄雏鸡接种新城疫疫苗时注射,分别于免疫前和免疫后7、14、21 d,每组随机抽取6羽雏鸡翼下静脉采血,用β-微量法检测血清HI抗体效价;于免疫后14、21 d每组随机抽取4羽心脏采血,用MTT法测定外周血淋巴细胞增殖;于免疫后23 d各组用新城疫病毒攻毒,攻毒后14 d统计发病率、死亡率和免疫保护率,并测定血清抗体效价。结果表明,各复方均能明显或显著提高新城疫疫苗的免疫应答,提高血清HI抗体效价,促进淋巴细胞增殖,降低攻毒后的发病率和死亡率,提高免疫保护率。复方1和复方5的作用最为显著,可分别作为硫酸化多糖复方和中药成分复方免疫增强剂的候选方。
【英文摘要】without
【语种】中文
【第一作者】颜新艳
【通讯作者】胡元亮
【期刊名称、卷期、页码】江苏农业科学,2010,(3):273-275
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【引文索引类型】其他
【引文索引号】1002-1302(2010)03-0273-02
【学科分类】兽医学

【题目】硫酸化多糖复方对鸡脾脏和外周血淋巴细胞增殖的影响
【中文关键词】硫酸化多糖复方;鸡;淋巴细胞增殖
【英文关键词】sulfated polysaccharide prescription; chicken; lymphocyte proliferation

【中文摘要】筛选出具有增强鸡淋巴细胞增殖作用的硫酸化多糖复方。以前期筛选出的硫酸化黄芪多糖sAPS60、硫酸化淫羊藿多糖sEPS5和硫酸化香菇多糖sLNT2组成4个复方sPSP1、sPSP2、sPSP3和sPSP4,测定它们对鸡脾淋巴细胞的安全浓度后,取安全浓度范围内的各复方分别单独或与植物血凝素(PHA)、细菌脂多糖(LPS)或伴刀豆素球蛋白(ConA)加入到培养的鸡脾脏或外周血淋巴细胞的培养体系中,培养48 h后,用四甲基偶氮唑蓝(MTT)法测定淋巴细胞增殖的变化。4种硫酸化多糖复方可以单独或协同PHA、LPS显著刺激鸡脾淋巴细胞增殖、协同ConA显著刺激外周血淋巴细胞,且有一定的浓度依赖关系,综合评价以sPSP1、sPSP2的作用最强。

【英文摘要】To select the effective sulfated polysaccharide prescriptions (sPSPs) on enhancing the lymphocyte proliferations, four sPSPs (sPSP1, sPSP2, sPSP3and sPSP4) were preparedwith sulfated astragalus polysaccharides (sAPS60), sulfated epimedium polysaccharide (sEPS5) and sulfated lentinan (sLNT2) selected in previous experiment. After the safe concentrationswere tested, the four sPSPswere added into the cultivation system of chicken splenic or peripheral lymphocyte, singly or synergisticallywith PHA, LPS or ConA. After cultivated for 48 h, the lymphocyte proliferationswere determined by MTT method. The results showed that the four sPSPs could significantly stimulate the splenic lymphocyte proliferation singly or synergistically with PHA and LPS, and stimulate peripheral lymphocyte proliferation synergistically with ConA. There were definite dose-effect relationships beween the concentrations of sPSPs and the stimulation effects. In comprehensive evaluation, sPSP1 and sPSP2 possessed the best efficacy.

【语种】中文

【第一作者】郭振环

【通讯作者】胡元亮

【期刊名称、卷期、页码】江苏农业学报,2010,26(5):1015-1019

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【学科分类】兽医学

【题目】8种硫酸化多糖对新城疫病毒感染鸡胚成纤维细胞能力的影响

【中文关键词】硫酸化修饰;当归多糖;枸杞多糖;新城疫病毒;感染细胞能力;鸡胚成纤维细胞

【英文关键词】Sulfatedmodification; Chinese angelica polysaccharide; lycium barbarum polysaccharide; Newcastle disease virus; cellular infectivity; chicken embryo fibroblast

【中文摘要】用氯磺酸-吡啶法修饰当归多糖(CAPS)和枸杞多糖(LBPS),得到4种硫酸化当归多糖sCAPS0.6、sCAPS1.1、sCAPS1.9、sCAPS2.2和4种硫酸化枸杞多糖sLBPS0.7、sLBPS1.1、sLBPS1.5和sLBPS1.9。分别以CAPS和LBPS为对照,采用MTT法比较了这8种硫酸化多糖对新城疫病毒感染鸡胚成纤维细胞能力的影响。结果表明,硫酸化修饰能显著提高当归多糖和枸杞多糖的抗病毒活性,且与硫酸基取代度有一定的相关性。sCAPS2.2、sLBPS1.5、sCAPS1.9和sLBPS1.9的活性较好,可以作为进一步研究的材料。

【英文摘要】Chinese angelica polysaccharide (CAPS) and lycium barbarum polysaccharide (LBPS) were modified by chlrulfonic-pyridine method to obtain four sulfated CAPS, sCAPS0.6, sCAPS1.1, sCAPS1.9 and sCAPS2.2, and four sulfated LBPS, sLBPS0.7, sLBPS1.1, sLBPS1.5 and sLBPS1.9. The effects of eight sulfated polysaccharides on cellular infectivity of Newcastle disease virus (NDV) were compared by MTT method taking the non-modified CAPS and LBPS as controls. The results showed that sulfated modification could significantly enhance the anti-virus activity of CAPS and LBPS, which was correlated with the degree of sulfation of sulfated polysaccharide. sCAPS2.2, sLBPS1.5, sCAPS1.9 and sLBPS1.9 possessed better activity and would be as thematerials for further research.

【语种】中文

【第一作者】王君敏

【通讯作者】胡元亮

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【引文索引号】1000-2030(2011)01-0118-05

【学科分类】兽医学

【题目】作物秸秆栽培滑子菇配方筛选试验

【中文关键词】滑子菇; 豆秸; 玉米芯; 作物秸杆; 配方筛选
【英文关键词】Slider mushrooms; soybean straw; corn cob; crop straw; formulation screening
【中文摘要】以玉米芯和豆秸分别替代部分木屑进行滑子菇生产性栽培试验。结果表明,各配方栽培所得生物学转化率和投入产出比均高于纯木屑栽培,其中豆秸替代比例为30%时生物学转化率最高,投入产出比最大;玉米芯配方中以替代比例为40%时生物学转化率最高,投入产出比最大。
【英文摘要】Corn cobs and soybean straw, respectively, instead of part of the sawdust cultivation experiment slider mushroom production. The results show that the cultivation proceeds biology of each recipe conversion and input-output ratio are higher than that of pure sawdust cultivation which Doujie replacement ratio for the highest conversion rate of 30% biological, input-output ratio maximum; the corncob recipe to substitute The ratio of the biological conversion of 40% the highest rate of the input-output ratio maximum.
【语种】中文
【第一作者】伦志明
【通讯作者】伦志明
【期刊名称、卷期、页码】食用菌,2010(4):33-34
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【引文索引号】null
【学科分类】农业基础学科

【题目】Molecular Phylogeny of Tree Citrus Fruit Trees Group (Aurantioideae, Rutaceae) as Inferred from AFLP Marker and Chloroplast DNA Sequence
【中文关键词】无
【英文关键词】Rutaceae, Aurantioideae, true citrus fruit trees group, molecular phylogenetics, cpDNA sequence
【中文摘要】无
【英文摘要】The genus Citrus L. has a long controversial taxonomy history, and a well-resolved molecular phylogeny of the“ true citrus fruit trees ” group in the future will provide new information for advancing breeding techniques and developing better conservation strategies. In the present study, three cpDNA fragments (TrnL-TrnF, PsbH-PetB, and TrnS-TrnG) of 30 genotypes chosen from the six genera of the“ true citrus fruit trees ” group were analyzed. A molecular phylogenetic tree of the“ true citrus fruit trees ” group was reconstructed based on plastid DNA sequences. The results confirmed that the“ true citrus fruit trees ” group was monophyletic, and thereby the group was divided into genera as previously suggested based on morphological characters. The cpDNA data also suggested that Poncirus might be the first genus separated from the other five genera in the group. The genus Fortunella were of hybrid origin and Citrus might be as its putative paternal parent. The genera Microcitrus, Eremocitrus, and Clymenia were possibly monophyletic and their common ancestor might branch out from Citrus. Furthermore, the phylogenetic relationships within the Citrus genus were discussed.
【语种】英文
【第一作者】鲁振华
【通讯作者】周志钦
【期刊名称、卷期、页码】The 11th Int. Citrus Congress, Oral Session S2-18, Oct. 26-30, 2008
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【引文索引类型】其他
【引文索引号】null
【学科分类】园艺学

【题目】Taxonomic and phylogenetic Relationships among the Genera of True Citrus Fruit Trees Group (Aurantioideae, Rutaceae) based on AFLP markers
【中文关键词】无
【英文关键词】AFLP, evolution, molecular phylogeny, the True Citrus Fruit Trees Group
【中文摘要】无
【英文摘要】Fifty-nine genotypes representing six genera of the True Citrus Fruit Trees Group(Aurantioideae, Rutaceae) were analyzed using AFLP technique to study their taxonomic and phylogenetic relationships. Fifteen primer combinations (out of 64

screened) were selected based on the polymorphism and quality of the bands produced by the primer and used in the present study. A total of 312 bands were obtained, of which 305 (97.8%) were polymorphic. The UPGMA tree of all genotypes was constructed based on the AFLP data using PAUP* beta version 4.0b8 software. Our AFLP molecular tree clearly confirms that the True Citrus Fruit Trees Group is monophyletic and supports the division of the group into genera mainly based on morphological characters, except that the genus Fortunella was nested within the genus Citrus cluster (as a monophyletic sub-branch). The subdivision of the genus Citrus into subgen. Papeda and subgen. Eucitrus as suggested by W. T. Swingle based on morphological characters and the point of view that C. medica, C. grandis and C. reticulata are the three basic species of the subgen. Eucitrus were also supported by our molecular data. In addition, contrary to the expectation based on morphological data, however, our molecular data demonstrated that C. ichangensis is more closely related to C. junos of the subgen. Eucitrus than to the C. hystrix of the subgen. Papeda. Furthermore, our study provided the first evidence that C. mangshanensis is basal to all the loose-skin citrus types. Finally, the taxonomic and phylogenetic relationships among the six genera and the important genotypes of the genus Citrus were discussed in detail.
【语种】英文
【第一作者】谢让金
【通讯作者】周志钦
【期刊名称、卷期、页码】The 11th Int. Citrus Congress, Poster Session, S1-P78, Wuhan China, Oct. 26-30, 2008
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【引文索引类型】其他
【引文索引号】null
【学科分类】园林学

【题目】Construction of DNA Fingerprinting Database for Citrus Cultivars
【中文关键词】无
【英文关键词】Citrus; Cultivar identification; SSR; ISSR; Fingerprinting database
【中文摘要】无
【英文摘要】【Objective】 The aims of this study were to construct a DNA fingerprinting database for major citrus cultivars, which could provide the possibility to establish a technical standard system for purity and authenticity identification of citrus nursery trees.【Method】Simple Sequence Repeat (SSR) and Inter-Simple Sequence Repeat (ISSR) markers were used to analyze the DNA fingerprinting of 102 citrus cultivars(lines) and then to choose suitable primers for the construction of DNA fingerprinting database for citrus cultivars (lines).【Result】12 SSR primer pairs, with high polymorphisms and good repeatability, regarded as specific primers, which could identify 42 cultivars (lines), were selected from 200 SSR primer pairs. Meanwhile, 40 ISSR primers were used to analyze the DNA fingerprinting of 60 cultivars (lines) that can not be distinguished by SSR markers and 2 ISSR specific primers were chosen. As a result, a total of 70 citrus cultivars (lines) could be identified by the 12 SSR primers and 2 ISSR primers. Finally, a DNA fingerprinting database containing 70 major citrus cultivars (lines) was constructed by using those 12 SSR and 2 ISSR primers.【Conclusion】The results indicated that SSR and ISSR markers are suitable for the construction of DNA fingerprinting database for citrus cultivars (lines). Moreover, the fingerprinting database will provide the basis for genetic purity and authenticity fast evaluation of citrus nursery trees.
【语种】英文
【第一作者】雷天刚
【通讯作者】陈善春
【期刊名称、卷期、页码】The 11th Int. Citrus Congress, Poster Session, S2-P125, Wuhan China, Oct. 26-30, 2008
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【引文索引类型】其他
【引文索引号】null
【学科分类】园艺学

【题目】Agrobacterium-mediated trandformation of citrus with Hepatitis A virus Capsid protein fusion gene
【中文关键词】无
【英文关键词】Citrus reticulata Banco; Agrobacterium tumefaciens; HAV protein fusion gene; Genetic transformation;
【中文摘要】无
【英文摘要】Citrus cultivar Shinanui (Citrus reticulate×Citrus sinensis) was transformed through agrobacterium and the plantlets were obtained which carried the foreign Hepatitis A virus capsid protein fusion gene. The results showed that survival of mature axillary

buds of Shinanui in graft was related to the culture time of orange rootstocks in virto. The survival ratio in graft was highest, up to 90% when the orange rootstocks were cultured 15 days; Furthermore the identified by the 2 ISSR primers combining with the 12 SSR makers. Finally, a standard DNA fingerprinting database containing 70 major citrus cultivars was constructed using 12 SSR primers and 2 ISSR primers. The results indicated that SSR and ISSR makers were suitable for the fingerprinting analysis of citrus cultivars. Moreover, the database wikk provide a powerfull tool for evaluating the genetic purity and authenticity of citrus seedling.

【语种】英文

【第一作者】彭爱红

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【学科分类】林业基础学科

【题目】桉树炼苗温湿度控制系统的设计研究

【中文关键词】桉树;炼苗;温度控制;湿度控制

【英文关键词】Eucalyptus;acclimatization;temperature control;humidity control

【中文摘要】伴桉树(Eucalyptus) 是世界4大速生树种之一。其具有速生、适应性强、轮伐期短、木材用途广、经济效益高等优点而成为最重要的人工用材林造林树种之一,是我国国家工业原料林造林的首选树种,也是福建省建设绿色海峡西岸的主要造林树种之一。 目前桉树苗是从桉树瓶苗(试管苗)开始,实验室培育一段时间后把桉树瓶苗移植到温室苗床,生长到一定程度再移植到生长地。本论文研究桉树瓶苗在温室苗床生长这个时间段的生长控制。拟建造大棚,开发和研制温室环境监控系统,对桉树组培苗的温湿度以及光照进行控制,模拟适于桉树苗生长的气候条件,创造人工环境,使之适合于从试管瓶移植出来的桉树苗生长,并可以提高桉树苗移植到场地的成活率、加快练苗的成长速度,降低育苗成本。 由于普通温室设施比较简单,环境调控能力比较差,难以满足以上控制要求。为了实现桉树苗的高效和高产,开发和研制环境智能监控系统适是十分必要的。 为了实现上述目的,首先通过查资料并对特定的桉树苗进行初步的实验,找出桉树苗生长的最佳温度、湿度与光照。进而开发一种低成本,低价格、功能齐全、集数据采集和环境检测、控制于一体的温室环境智能监控系统。此系统适合于桉树苗的生长,并有价格优势,可为普通农户所接受。 论文详细描述了大棚温湿度控制系统总体设计和低成本温室智能环境监控系统功能模块设计。实验验证了该温湿度控制系统运行稳定,满足桉树苗所要求的温湿度条件。并将该系统控制下的桉树苗生长与普通的温室进行对比实验,实验证明该系统对提高桉树苗的成活率,增加其生长速度,具有明显的效果。

【英文摘要】Eucalyptus is one of the world's fourth fast-growing tree species. For the advantages of its rapid growth、strong adaptability、short rotation and the broad use、high economic efficiency of the lumber and so on, it has become the most important tree species of artificial forest afforestation tree, and is the first choice of industry forest afforestation tree species for our country national industrial raw materials afforestation, and is also one of the main tree species to construct a green coast for the West Bank of Taiwan Strait in Fujian province. At present, the eucalyptus seedling starts from the eucalyptus bottle seedling (test tube seedling). After a period time of the laboratory cultivation, the eucalyptus bottle seedling is transplanted to the greenhouse seedbed, and then is transplanted again to growth place after a certain degree growth. The growth control of this time section in the greenhouse seedbed of the eucalyptus bottle seedling is investigated in this thesis. Because the outside climatic environment is bad, it does not favor the transplant of the Eucalyptus container seedlings. The research and the practice indicated that Eucalyptus container seedlings are the test tube seedlings, which are quite immature, and the temperature of nature is not to the will of man, that is why the Eucalyptus seedlings' survival rate reduces significantly and the growth speed is relatively slow, causing human and material resources are wasting a lot. After the greenhouse control cultivation on the greenhouse of the container seeding, we will be able to transplant the eucalyptus seedlings to the ground and improve the survival rate of Eucalyptus seedlings, saving costs, and smooth development of eucalyptus plantations. Because of the simpler establishments and the poorer abilities to regulate the environments, the ordinary greenhouses are difficult to meet the requirements for controlling above. In order to realize the high effectiveness and the high production of the eucalyptus seeding, developing an intelligent environment monitored control system is very necessary. In order to achieve the above purposes, we first consult the relative materials and make preliminary experiments for the specific eucalyptus seeding, then find out the optimal temperature, humidity and light. Then we develop a kind of low-cost, low-price intelligent monitored control system for the environment in the greenhouses further, which must has the completely functions and must set the data sampling, environment checking and controlling in one. This system is suitable for the growth of the eucalyptus seeding and has its advantage in the price, so it can be accepted by the ordinary farmers. The thesis detail described of the temperature and humidity control system design and low-

cost greenhouse smart environmental monitoring system function module designs. Experimental results show that the temperature and humidity control system running stable, and the required temperature and humidity conditions for the growth of the eucalyptus seedlings are met. And the result of comparing the growth of the eucalyptus seedling under the control of this system to the nominal greenhouse experiment proves that the system to improve the survival rate of eucalyptus seedlings and to increase their growth speed has significant effect.

【语种】中文
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【引文索引类型】其他
【引文索引号】null
【学科分类】农业工程

【题目】Variation of flavonoids in different juices of citrus cultivated in China
【中文关键词】无
【英文关键词】Orange, flavanone glycosides, polymethoxylated flavones
【中文摘要】无
【英文摘要】The aim of this study was to determine the levels of ten flavonoids in hand-squeezed juices from 51 citrus varieties (15 mandarins, 21 sweet oranges, 2 lemons, 4 grapefruits, 3 pumelos and 6 citrus hybrids) cultivated in China. Hesperidin was found to be the major flavonoid followed by narirutin and didymin in orange juice and mandarin juice. The contents of narirutin and didymin in orange juice were considerably higher than those in mandarin juice, respectively. Naringin and narirutin were the major flavonoids in grapefruit juice and pumelo juice, and the total FGs content in grapefruit juice was observably higher than pumelo juice. Only hesperidin and narirutin were detected in lemon juice, which the total FGs content was the lowest among all the citrus juices. PMFs were only detected in orange juices and mandarin juices. The major PMFs in orange juice were sinensetin, nobiletin, and tangeretin, while nobiletin, tangeretin and sinensetin in mandarin juice. The ratios of flavonoids in different species were compared, and there were great differences among different species. For example, the ratios of hesperidin to narirutin in common sweet orange, navel orange, Ponkan and Satsuma mandarins were 6.59, 3.74, 12.26 and 2.59, respectively. The results showed the flavonoids could be used as marker for orange juice adulteration.

【语种】英文
【第一作者】焦必宁
【通讯作者】焦必宁
【期刊名称、卷期、页码】The 11th Int. Citrus Congress, Oral Session S2-110, Wuhan China, Oct. 26-30, 2008
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【引文索引号】null
【学科分类】食品科学技术基础学科

【题目】Efficient procedure for isolating methylated catechins from green tea and effective simultaneous analysis of ten catechins, three purine alkaloids,and gallic acid in tea by high-performance liquid chromatography with diode array detection
【中文关键词】儿茶素;高效液相色谱,甲基化儿茶素;嘌呤生物碱,茶,TOYOPEARL HW-40S柱层析
【英文关键词】Catechin;HPLC-DAD;Methylated catechin;Purine alkaloid;Tea;Toyopearl HW-40S column chromatography
【中文摘要】用80%的乙醇两次洗脱Toyopearl HW-40S柱色谱,成功地制备了表没食子儿茶素(EGC),表没食子儿茶素没食子儿茶素没食子酸酯(EGCG),表儿茶素(EC)和儿茶素没食子酸单体。通过热异构化EC, EGC, EGCG,和ECG,应用半制备色谱分离纯化得到C,GC,GCG,CG。本研究以制备得到的儿茶素单体为标准品,建立了茶叶中没食子酸、茶叶儿茶素和嘌呤碱的高效的HPLC分离分析方法。以pH 2.5的甲酸溶液作为流动相梯度洗脱ODS-100Z C18反相液相色谱柱,实现了14种茶叶成分在15分钟内的快速分离。与现有的没食子酸、茶叶儿茶素(包括甲基化儿茶素)和嘌呤碱分析方法(40 – 105 min)相比,本HPLC 分析方法的分析时间缩短了2.5-7倍。在波长280nm条件下,绝大多数成分的检测限在0.1-1.0ng之间。应用此方法分析绿茶、乌龙茶、红茶和普洱茶样品,方法的重现性很高,同一天内多次进样和不同天不同此进样后测得的峰面积偏差<6%。回收率一般在92 – 106%之间,其标准偏差小于4.39%。因此,本方法应用常规使用的液相色谱实现了在分离分析方

法上的进步,将有助于茶叶儿茶素类物质的分析、临床和其他研究。

【英文摘要】Monomers of (-)-epigallocatechin (EGC), (-)-epigallocatechin gallate (EGCG), (-)-epicatechin (EC),(-)-epicatechin gallate (ECG), (-)-epigallocatechin 3-O-(3-O-methyl) gallate (EGCG3 Me) and (-)-3-O-methyl epicatechin gallate (ECG3 Me) (purity, >97%) were successfully prepared from extract of green tea by two-time separation with Toyopearl HW-40S column chromatography eluted by 80% ethanol. In addition, monomers of (-)-catechin (C), (-)-gallocatechin (GC), (-)-gallocatechin gallate (GCG), and (-)-catechin gallate (CG) (purity, >98%) were prepared from EC, EGC, EGCG, and ECG by heat-epimerization and semi-preparative HPLC chromatography. With the prepared catechin standards, an effective and simultaneous HPLC method for the analysis of gallic acid, tea catechins, and purine alkaloids in tea was developed in the present study. Using an ODS-100Z C18 reversed-phase column, fourteen compounds were rapidly separated within 15 min by a linear gradient elution of formic acid solution (pH 2.5) and methanol. A 2.5 – 7-fold reduction in HPLC analysis time was obtained from existing analytical methods(40 – 105 min) for gallic acid, tea catechins including O-methylated catechins and epimers of epicatechins,as well as purine alkaloids. Detection limits were generally on the order of 0.1 – 1.0 ng for most components at the applied wavelength of 280 nm. Method replication generally resulted in intraday and interday peak area variation of <6% for most tested components in green, Oolong, black, and pu-erh teas. Recovery rates were generally within the range of 92 – 106% with RSDs less than 4.39%. Therefore, advancement has been readily achievable with commonly used chromatography equipments in the present study, which willfacilitate the analytical, clinical, and other studies of tea catechins.

【语种】英文

【第一作者】Bing Hu

【通讯作者】Xiaoxiong Zeng

【期刊名称、卷期、页码】Journal of Chromatography A, 1216 (2009) 3223 – 3231

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【学科分类】食品科学技术基础学科

【题目】Evaluation of Characters in Transgenic Citrus Containing Bivalent Anti-bacterial Peptide Genes ShivaA-CecropinB

【中文关键词】无

【英文关键词】Mature axillary bud;Transformation;Horticultural characteristics;Canker resistance

【中文摘要】无

【英文摘要】The axillary buds from mature branch of Jicheng Orange (Citrus sinenis Osbeck) and Newhall navel orange (C. sinenis Osbeck) were used for Agrobacterinm-based transformation. PCR and Southern blotting analysis verified that the ShivaA and CecropinB genes had been integrated into the genome of transgenic plants. The transgenic plants began to blossom and to bear fruits in the 3rd year after grafted on trifoliate orange (Poncirus trifoliate Raf) rootstocks in greenhouse. Through evaluating in greenhouse, no significant differences were observed on the total soluble solids, total acidity, reducing sugar and fruit shape index of characteristics between transgenic and non-transgenic mature lines. Extract of transgenic citrus leaves could suppress the growth of citrus canker pathogen (Xanthomonas axonopodis pv. citri) in vitro, which suggests that the ShivaA and CecropinB had expressed efficiently in some transgenic citrus and exhibited anti-bacterial activity. By artificially inoculating with the canker pathogen in greenhouse and field, the different resistance capabilities to canker were observed among transgenic and control lines, and we had selected 11 significantly enhanced canker resistance lines from 40 transgenic lines.

【语种】英文

【第一作者】何永睿

【通讯作者】陈善春

【期刊名称、卷期、页码】The 11th Int. Citrus Congress, Oral Session S2-18, Wuhan China, Oct. 26-30, 2008

【论文发表时间】2008-10-26 00:00:00

【引文索引类型】其他

【引文索引号】null

【学科分类】农业基础学科

【题目】一株铅镉抗性菌株WS34的生物学特性及其对植物修复铅镉污染土壤的强化作用

【中文关键词】重金属抗性细菌;生物学特性;铅;镉;植物修复
【英文关键词】heavymetal-resistant bacterium; biological characteristics; lead; cadmium; phytoremediation
【中文摘要】从土壤样品中筛选出一株对碳酸铅、碳酸镉活化能力最强的铅镉抗性细菌WS34,并研究其生物学特性. 经生理生化特征及16S rDNA序列分析,菌株WS34被鉴定为伯克霍尔德氏菌属(B urkholderia sp. WS34) . 菌株WS34对多种重金属和抗生素具有抗性,具有溶磷、分泌吲哚乙酸、产生铁载体和ACC脱氨酶的能力,并对温度、pH、盐浓度具有一定耐受性. 利用盆栽试验研究了菌株WS34、EDTA及EDTA和WS34复合3种处理下对印度芥菜和油菜生长及富集铅镉能力的影响. 结果表明,菌株WS34能促进供试植物生长,使印度芥菜和油菜的干重分别比对照增加21. 4%~76. 3%和18. 0%~236% ,铅镉积累量比对照增加9. 0% ~46. 4%和13. 9% ~329%,且油菜中的增加量大于印度芥菜. EDTA能使印度芥菜和油菜的铅镉积累量比对照分别增加25. 1% ~475%和10. 1%~84. 5%. 0. 5mmol · kg- 1 EDTA +菌株WS34的复合处理下,植物的重金属吸收量与EDTA处理相当甚至高于EDTA处理.
【英文摘要】Microbe2enhanced phytoremediation has been considered as a p romisingmeasure for the remediation of heavymetal2contaminated soils. In thisstudy, the lead and cadmium2resistant bacteriumWS34 was isolated from heavymetal2contaminated soil and identified asB urkholderia sp. WS34 based onthe analysis of its physical and biochemical characteristics and its 16S rDNA gene sequence. The biological characteristics of the strainWS34 were alsocharacterized. The effects of the strain WS34 and ethylenediaminetetraacetic acid (EDTA) or their combination on the growth and heavy metalaccumulation by India mustard and rape were evaluated in pot experiments. StrainWS34 could p roduce indole acetic acid (IAA) , a siderophore, and12aminocyclop ropane212carboxylate deaminase. It could also solubilize inorganic phosphate. Strain WS34 also showed resistance to high levels of heavymetals and antibiotics and solubilized carbonic lead and carbonic cadmium. StrainWS34 was temperature resistant and pH and salt tolerant. Inoculationwith strainWS34 p romoted the p lant growth and the accumulation of Pb and Cd in root and shoot tissues. Compared to the non2inoculated control, the dryweights of the India mustard and rape treated with strainWS34 were increased from 21. 4% to 76. 3% and from 18. 0% to 236% and the Pb and Cdcontents of the India mustard and rape increased from 9. 0% to 46. 4% and from 13. 9% to 329%, respectively. The Pb and Cd contents of the Indiamustard and rape treated with EDTA were increased from 25. 1% to 475% and from 10. 1% to 84. 5% , respectively compared to the control. Treatmentwith the combination of one2half dose of the tested bacterium and EDTA helped the p lants to accumulate the same or more Pb and Cd compared to theEDTA treatment alone.
【语种】中文
【第一作者】江春玉
【通讯作者】盛下放
【期刊名称、卷期、页码】环境科学学报,2008,28(10):1961-1968
【论文发表时间】2008-10-15 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】资源科学技术

【题目】影响新疆细毛羊羔羊超排及体外受精效果因素研究
【中文关键词】新疆细毛羊羔羊; 超数排卵; 体外受精; 胚胎移植;
【英文关键词】Xinjiang fine wool lamb; superovulation; IVF; embryo transplantation;
【中文摘要】本试验研究了不同FSH来源、羔羊日龄、不同诱导方法对细胞质量及卵母细胞成熟时间对卵裂率的影响,以及不同激素诱导卵母细胞的IVF效果和卵母细胞级别对体外发育效果的影响。结果表明,用加拿大产FSH对羔羊进行处理,与宁波所产FSH相比获得卵母细胞数差异不显著,但是加拿大超排后回收的卵母细胞可用率及卵裂率都高于国产激素;卵母细胞成熟培养26~30 h效果较好,不同级别卵母细胞体外发育效果差异不显著。
【英文摘要】his experiment was carried out to study the cell quality of different FSH source,different lamb age and induction with different hormone.The IVF quality influenced by the oocyte mature time and the influence of different level of cell were studied.The results indicated that the number of oocyte obtained from lambs doesn ’t differ obviously whether using FSH made in Canada or Ningbo,but the former will resulted in a better quality and higher cleavage rate.The best cultivating time was 26 to 30 h.The development of oocyte in different stage showed no significant difference
【语种】中文
【第一作者】吴伟伟
【通讯作者】田可川
【期刊名称、卷期、页码】中国畜牧兽医

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【引文索引类型】其他
【引文索引号】S826.81
【学科分类】畜牧学

【题目】羊毛供求趋势及我国毛用羊产业发展的思考
【中文关键词】羊毛生产； 需求； 细毛羊改良； 羊毛价格保护;
【英文关键词】no
【中文摘要】本文论述了国内外羊毛供求现状、趋势,分析了我国原料毛短缺原因,提出我国应坚持细羊毛生产为主的羊毛生产方向,实施长期的细毛羊改良计划,通过联合育种、良种繁育体系建设等工作的开展,提高细毛羊生产性能。建议国家实施羊毛价格保护,促进细毛羊产业平稳发展
【英文摘要】no
【语种】中文
【第一作者】张艳花
【通讯作者】张沅
【期刊名称、卷期、页码】中国畜牧杂志
【论文发表时间】2010-08-25 00:00:00
【引文索引类型】其他
【引文索引号】F326.3
【学科分类】畜牧学

【题目】利用SMART技术构建新吉细毛羊皮肤组织全长cDNA文库
【中文关键词】新吉细毛羊; 皮肤组织; cDNA文库; SMART技术;
【英文关键词】Xinji Fine-wool Sheep; skin tissue; cDNA library; SMART technique
【中文摘要】探寻控制羊毛性状的相关基因,构建了新吉细毛羊皮肤组织全长cDNA文库。【方法】采用Clontech公司的CreaterTM SMARTTM cDNA library construction kit,用Biozol试剂提取新吉细毛羊皮肤组织总RNA后,以反转录酶SuperscriptTM II反转录为第一链cDNA,然后通过LD-PCR合成并扩增ds cDNA,扩增产物经纯化、Sfi Ⅰ酶切、过CHROMA SPIN-400柱去除小片段后,连接到Sfi Ⅰ消化过的pDNR-LIB(带有Sfi Ⅰ A和B 2个位点)质粒载体中,最后用热击转化法将重组质粒转化到E.coliDH5α内,得到新吉细毛羊皮肤组织全长cDNA原始文库,扩增后的文库分装后用50 mL离心管保存。【结果】构建的cDNA文库约含4.2×105个独立克隆,重组效率为100%,插入片段多为0.5~3.0 kb,平均插入片段长度为1.3 kb,符合建库要求。【结论】经检测所构建的文库库容量满足基因筛选要求,可用于特异表达基因全长序列。
【英文摘要】he study was to construct a long-length cDNA library of skin tissue for Xinji Fine-wool Sheep to seek for genes related to wool trait.
【语种】中文
【第一作者】吴茜
【通讯作者】黄锡霞
【期刊名称、卷期、页码】西北农林科技大学学报(自然科学版)
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【引文索引号】S826.89
【学科分类】畜牧学

【题目】利用澳康羊杂交改良中国美利奴羊效果的分析
【中文关键词】澳康公羊; 中国美利奴羊新疆型; 杂交改良; 体大品系; 细度;
【英文关键词】no
【中文摘要】新疆巩乃斯种羊场引进澳康公羊,利用杂交改良等培育了中国美利奴羊新疆型体大品系,能够在保持羊毛细度不变粗的情况下,剪毛量、毛长、剪毛后体重等主要生产性能得到了较大的提高。
【英文摘要】no
【语种】中文

【第一作者】李武臣
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【期刊名称、卷期、页码】新疆畜牧业
【论文发表时间】2010-09-20 00:00:00
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【引文索引号】S826.2
【学科分类】畜牧学

【题目】日粮硫水平对生绒期辽宁绒山羊瘤胃发酵的影响
【中文关键词】硫;　瘤胃发酵;　辽宁绒山羊;
【英文关键词】no
【中文摘要】为了研究日粮硫水平对生绒期辽宁绒山羊瘤胃发酵的影响,试验选用4只装有瘤胃和十二指肠近端瘘管的辽宁绒山羊羯羊(2周岁左右),按4×4拉丁方设计,系统研究了4种硫水平(0.11%、0.17%、0.23%、0.29%)日粮对生绒期辽宁绒山羊瘤胃发酵的影响。结果表明:日粮添加硫显著提高了绒山羊瘤胃pH值(P<0.05),使绒山羊瘤胃NH3-N浓度显著降低(P<0.05)。说明提高日粮硫水平可促进瘤胃发酵。
【英文摘要】no
【语种】中文
【第一作者】丛玉艳
【通讯作者】丛玉艳
【期刊名称、卷期、页码】黑龙江畜牧兽医
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【引文索引号】S827.4
【学科分类】畜牧学

【题目】中国美利奴羊(新疆型)毛密品系主要生产性能遗传力估测
【中文关键词】中国美利奴羊(新疆型); 遗传力; 生产性能; 羊毛密度;
【英文关键词】no
【中文摘要】本文通过对新疆巩乃斯种羊场中国美利奴羊(新疆型)毛密品系8个主要生产性能参数进行遗传力估测。结果表明:初生重、断奶重、细度、羊毛长度、羊毛密度和剪毛后体重都是高遗传力生产性能,也是今后中国美利奴羊(新疆型)育种过程中鉴定选种、组群的主要选择依据。周岁体重、断奶毛长遗传性能较低,可作为早期选择的生产性能指标。
【英文摘要】no
【语种】中文
【第一作者】李武臣
【通讯作者】李武臣
【期刊名称、卷期、页码】新疆畜牧业
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【学科分类】畜牧学

【题目】HMBi对生绒期辽宁绒山羊氮、硫代谢的影响
【中文关键词】HMBi;氮硫代谢;辽宁绒山羊
【英文关键词】HMBi;nitrogen; sulfur; Liaoning cashmere goats
【中文摘要】试验研究不同水平HMBi对生绒期辽宁绒山羊氮、硫代谢的影响。采用4×4拉丁方设计,选择4只辽宁绒山羊羯羊为试验动物,配制HMBi水平为0%(对照日粮)、0.85%(试验日粮A)、1.27%(试验日粮B)、1.70%(试验日粮C)的4种日粮,试验分4个时期进行。试验期每日收集粪、尿,测定其中的氮、硫。试验结果显示,生绒期辽宁绒山羊日粮中添加HMBi能显著减少粪氮和尿氮,增加沉积氮和可消化氮(P<0.05);添加HMBi粪硫和尿硫显著增加,但可消化硫、沉积硫亦显著增加(P<0.05);添加HMBi能显著提高氮、硫的表观消化率、总利用率及生物学价值(P<0.05)。综合分析认为,生绒期辽宁绒山羊日粮中HMBi的适宜添加量为1.27%

【英文摘要】This experiment was conducted to study the effect of HMBi on Nitrogen&Sulfur Metabolism in Liaoning cashmere goats during cashmere growing period. In a 4×4 Latin-square experiment design, four wether Liaoning cashmere goats were selected, fed one of diets formulated with HMBi 0% (Control diet), 0.85% (Experimental diet A), 1.27% (Experimental diet B), 1.70% (Experimental diet C) respectively in four stages. Fecal and urine were collected every day and nitrogen and sulfur content were determined. The results showed that: HMBi decreased fecal nitrogen and urine nitrogen and increased retained nitrogen and digestible nitrogen significantly (P<0.05), and increased fecal sulfur, urine sulfur, digestible sulfur and retained sulfur (P <0.05); HMBi increased apparent digestibility, total utilization ratio and biological value of nitrogen and sulfur (P<0.05). The findings indicate that the optimum dietary HMBi level is 1.27 % in Liaoning cashmere goats during cashmere growing period.
【语种】中文
【第一作者】丛玉艳
【通讯作者】丛玉艳
【期刊名称、卷期、页码】饲料工业
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【学科分类】畜牧学

【题目】两种细度测量仪对羊毛纤维直径测定的对比分析
【中文关键词】奥达2000动物纤维自动测量仪; OFDA100细度仪; 羊毛纤维直径测定; 对比分析
【英文关键词】AODA2000; OFDA100; measurement of wool-fiber diameter; comparative analysis;
【中文摘要】为了检验国产动物纤维细度自动测量仪奥达2000的稳定性和准确性,分别用进口的OFDA100细度仪和国产动物纤维细度自动测量仪对来自314只细毛羊的毛样进行测定,再对两者测得的数据作配对性t检验。检验结果表明,二者间差异不显著(P>0.05)。因此,国产动物纤维细度自动测量仪奥达2000性能与OFDA100细度仪没有差异,可以代替进口细度仪OFDA100。
【英文摘要】To test the accuracy of domestic fibre diameter measurement instrument,AODA2000,wool samples from 314 wool sheep and foreign fibre diameter measurement instrument,OFDA100,were used.Each sample was measured by the tow instruments(AODA 2000,domestic;OFDA100,imported),respectively.Then,the Paired-Sample T Test was done.The results showed that there was no significant difference(P>0.05) in fineness measurement between the two instruments.
【语种】中文
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【引文索引号】TP216.1
【学科分类】畜牧学

【题目】日粮硫水平对辽宁绒山羊产绒性能及绒品质的影响
【中文关键词】硫; 产绒性能; 绒品质; 辽宁绒山羊
【英文关键词】sulfur; cashmere production performance; cashmere quality; Liaoning cashmere goats
【中文摘要】选用4只装有瘤胃和十二指肠近端瘘管的辽宁绒山羊羯羊(2周岁左右),按4×4拉丁方设计,系统研究了4种不同日粮硫水平(0.11%、0.17%、0.23%、0.29%)对辽宁绒山羊产绒性能的影响。研究结果表明:日粮硫水平对辽宁绒山羊的产绒性能及羊绒品质影响显著(P<0.05);日粮添加硫可显著提高辽宁绒山羊绒生长速度、产绒量、绒长度(P<0.05),但对绒的细度没有显著影响(P>0.05);综合分析认为,日粮硫水平为0.23%(N:S为7.39:1)对提高辽宁绒山产绒性能较为适宜。
【英文摘要】In a 4×4 Latin-square experiment design, four castrated Liaoning cashmere goats aged two years old and installed with permanent ruminal cannulas and duodenal cannulas, were used to study the effects of dietary sulfur levels (0.11%, 0.17%, 0.23%, 0.29%)on cashmere production performance and cashmere quality in Liaoning cashmere goats. The results showed that: there were significant effects of dietary sulfur levels on cashmere production performance and cashmere quality (P<0.05).
【语种】中文

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【学科分类】畜牧学

【题目】利用DDRT-PCR技术筛选新疆超细型细毛羊毛用性状相关基因
【中文关键词】新吉细毛羊;　DDRT-PCR;　差异表达基因
【英文关键词】no
【中文摘要】新吉细毛羊是我国生产优质羊毛的主要品种。羊毛纤维细度是评定羊毛品质的重要指标,在同一品种,同一年龄,相同的环境和饲养管理条件下,个体的遗传差异对羊毛的生长起到了决定性作用。
【英文摘要】no
【语种】中文
【第一作者】劳权衡
【通讯作者】黄锡霞
【期刊名称、卷期、页码】中国动物遗传育种研究进展——第十五次全国动物遗传育种学术讨论会论文集
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【学科分类】畜牧学

【题目】IGF-1和EGF对辽宁绒山羊初级毛囊体外培养的影响
【中文关键词】IGF-1;EGF;毛囊;体外培养;绒山羊
【英文关键词】IGF-1; EGF; hair follicles; in vitro; cashmere goat
【中文摘要】为研究不同剂量的IGF-1 和EGF 对辽宁绒山羊毛囊体外生长及毛囊形态的影响,采用显微分离法分离绒山羊初级毛囊, 分别测定不同浓度IGF-1(0.1,1,10,100ng · mL-1)、不同浓度EGF(0.2,2,20,100ng · mL-1)和联合添加IGF-1 与EGF(分别添加10 ng · mL-1 和20ng · mL-1)对毛囊形态变化及生长长度的影响。结果表明:IGF-1 刺激毛乳头和毛母质细胞分裂增殖;EGF 促进毛囊 外根鞘细胞分化;联合添加刺激毛球部增大。IGF-1 和EGF 对毛囊体外生长均具有正向调节作用,作用大小与剂量有关,最适宜 浓度IGF-1 为10ng · mL-1,EGF 为20ng · mL-1,10d 后生长长度分别达1.075mm 和1.117mm;IGF-1(10ng · mL-1)和EGF(20ng · mL-1) 联合添加对毛囊生长促进作用优于单独添加,10d 后生长长度达1.413mm
【英文摘要】The experiment was aimed to study the effects of IGF-1 and EGF on the fibre growth and follicle morphology of primary follicle from Liaoning cashmere goat in vitro. Microdissection separation method was used to isolate primary follicles. The follicle morphology and fibre growth were observed to investigate the effects of different concentrations of IGF-1 (0.1, 1, 10, 100 ng • mL-1), or different concentrations of EGF (0.2, 2, 20, 100 ng • mL-1), or addition of IGF-1(10 ng • mL-1) and EGF (20 ng • mL-1) in combination. The division of dermal papilla and matrix cell were proliferated by IGF-1, the cell differentiation of outer root sheath was regulated by EGF and hair bigger bulb was stimulated by IGF-1 and EGF in combination.The positive effect was promoted by IGF-1 or EGF, the most suitable concentration was 10 ng • mL-1 and 20 ng • mL-1for IGF-1 and EGF respectively. Compared with supplementation of only IGF-1 or EGF, the supplementation of IGF-1 (10 ng • mL-1) and EGF (20 ng • mL-1) in combination in vitro could significantly stimulate hair follicle growth.
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【题目】基因打靶技术的研究进展
【中文关键词】基因打靶; 载体构建; 筛选策略
【英文关键词】gene targeting; vector construction; selecting strategy
【中文摘要】基因打靶技术是通过外源基因与受体细胞染色体基因组上的序列之间发生同源重组,将外源基因整合到某一特定位点上,从而实现外源基因的定点整合、修饰和改造受体细胞遗传特性的技术。作者简要介绍基因打靶技术的基本原理、产生、筛选策略及该技术的应用等研究进展
【英文摘要】The gene targeting technology can modify and change the genetic character of recipient cell by integrating foreign gene into specific site.The basic principle and the development of gene targeting technology is briefly reviewed,and the strategy of gene selection is discussed in this paper.
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【学科分类】畜牧学

【题目】中国美利奴羊(新疆型)皮肤组织GAPDH基因实时荧光定量PCR方法的建立
【中文关键词】中国美利奴羊(新疆型); GAPDH基因; RT-PCR; 内参基因
【英文关键词】no
【中文摘要】建立GAPDH内参基因实时荧光定量PCR方法,为进一步研究中国美利奴羊(新疆型)相关基因的定量表达奠定基础。
【英文摘要】no
【语种】中文
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【学科分类】畜牧学

【题目】4个绵羊品种双肌臀基因基因型的检测
【中文关键词】PCR2RFL P ;双肌臀基因;单核苷酸多态性;绵羊
【英文关键词】PCR2RFL P ; Cal l i p y ge gene ; SNP ; sheep
【中文摘要】绵羊的双肌臀(Callipyge , CL PG) 基因表型为后臀肌肉增大近30 % ,是由位于绵羊18 号染色体GTL2 基因上游32. 8 kb处存在1 个A →G的单核苷酸多态性(SNP) 标记(命名为SNPCLPG) 产生的,该SNP 标记的存在与CL PG表型完全吻合。通过对SNPCLPG的分子检测,期望发现CL PG基因型种羊,为今后选育肉用性状更优异的新品系奠定基础。为此,选择设 计合成了1 对引物,采用聚合酶链式反应2限制性片段长度多态性(PCR2RFL P) 方法,分别以引进的纯种陶塞特羊、特克塞尔 羊、夏洛莱羊和美利奴羊作为研究样本,进行了SNPCLPG位点的PCR 检测。获得了预期的493 bp 扩增片段,并检测到CL PG 基因型特征性的SNPCLPG突变(A →G) 。
【英文摘要】The buttocks muscle can be increased about 30 % by Callipyge (CL PG) , resulting f rom an apparent A →G muta2 tion in 32. 8 kb upst ream of GTL2 in the ovine chromosome 18. The mutation polymorphism is referred to as SNPCLPG , which was later shown to be the only difference between the callipyge and wild2type chromosome. The objective of the research is to select carriers of the callipyge gene by the molecular biological techniques , which is the basis of selection of the excellent meat t rait s. The SNPs were detected by PCR2rest riction f ragment length polymorphisms (PCR2RFL P) with one pairs of primers in genome of Dorset sheep , Texel sheep , Charolais sheep and Merino sheep. A →G substitution was found and one special prod2 uct s (493 bp) were amplified.

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【学科分类】畜牧学

【题目】微卫星标记OarFCB128在10个绵羊品种中的遗传多样性
【中文关键词】绵羊;　微卫星标记;　OarFCB128;　遗传多样性;
【英文关键词】no
【中文摘要】　利用微卫星标记OarFCB128对10个绵羊品种,即甘肃高山细毛羊、滩羊、蒙古羊、小尾寒羊、无角陶赛特、澳洲美利奴、德国美利奴、白萨福克、特克赛尔和波德代等羊的基因频率、多态性信息含量、有效等位基因数和杂合度进行了分析。结果表明,微卫星标记OarFCB128在10个绵羊品种中的平均多态信息含量、平均有效等位基因数及平均群体杂合度分别是0.901 2、12.544和0.919 8。微卫星标记OarFCB128在绵羊品种中的多态性丰富,该微卫星位点可以用于绵羊遗传多样性的评估。
【英文摘要】no
【语种】中文
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【学科分类】畜牧学

【题目】应激诱导对体外培养早期胚胎细胞凋亡的影响
【中文关键词】应激诱导; 早期胚胎; 凋亡
【英文关键词】Sterss-induced Early embryos Apoptosis
【中文摘要】细胞凋亡是早期胚胎清除由于自身或外界环境影响产生的不良细胞的主要途径之一。体外培养的早期胚胎易受一些环境及外源刺激,如氧化剂、机械刺激、重金属和生物类的毒素等产生一系列的刺激性反应,包括细胞转导路径,基因的表达和蛋白的合成,细胞的分裂增殖及凋亡,甚至是坏死;维生素E,维生素C,金属硫蛋白对细胞的凋亡起抑制作用。从凋亡的分子机制进行深入研究,利于从根本上改变胚胎质量,提高囊胚率和附植率。
【英文摘要】Cell apoptosis is one of the main ways for early embryonic cells to remove bad cells which produced by its adverse or external environment.Early embryos in vitro is easily affected by some of the environmental and exogenous stimuli,such as oxidants,mechanical stimulation,heavy metals,biological toxins,which produce a series of irritation,including cell transduction path,gene expression and protein synthesis,cell division and proliferation,cell apoptosis,or even necrosis.Vitamin E,vitamin C
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【学科分类】畜牧学

【题目】影响中国美利奴羊(新疆型)羔羊初生重的非遗传因素分析
【中文关键词】中国美利奴羊(新疆型); 非遗传因素; 初生重;

【英文关键词】Chinese Merino sheep(Xinjiang type); non-genetic factors; birth weight
【中文摘要】【目的】为了探讨主要非遗传因素对中国美利奴羊(新疆型)羔羊初生重的影响,收集2×104条中国美利奴羊(新疆型)羔羊鉴定记录。【方法】利用SAS8.1软件的GLM程序,分析出生类型、性别、群别、出生年以及月份对中国美利奴羊(新疆型)羔羊初生重的影响。【结果】公母羔的平均初生重分别为3.609和3.501 kg;性别对羔羊初生重有极显著影响(P<0.01);产羔数对羔羊初生重也有极显著影响(P<0.01),单羔的初生重高于双羔。群别和出生年对羔羊初生重也存在着极显著影响(P<0.01);出生月份对羔羊初生重无显著影响(P>0.05)。【结论】分析大量的记录资料讨论了出生类型等5个非遗传因素对中国美利奴羊羔羊(新疆型)初生重的影响,以期为今后估计美利奴羊遗传参数和育种值时固定效应的划分和选育提供一定的依据。
【英文摘要】【Objective】This study was carried out to discuss the influence of non-genetic factors the lamb birth weight collected from 2 million sheep identification record.【Method】The Effect of non-genetic factors such as birth type,birth sex,group,birth year and birth month on the birth weight of Chinese merino sheep(Xinjiang type) was studied form 1999 to 2008.In this study,a total number of 11,893 records were analyzed by use of GLM procedure in SAS(8.1)software.【Result】 The statistical analysis indicated that the average birth weight between male lambs and female lambs were 3.609 and 3.501 respectively.The influences of birth sex on lambs birth weight were significant(P<0.01).The influences of the number of lambs on birth weight also was significant(P<0.01),and the birth weight of single lamb was higher than that of double lamb.The influence of birth month on birth weight was not significant(P>0.05).【Conclusion】The influence of 5 non-genetic factors on Chinese merino sheep(Xinjiang type)to provide the key basis for estimating merino sheep genetic parameters and breeding value fixed efficient of breeding value.
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【题目】新疆绒山羊细度资源调查及保护利用建议
【中文关键词】新疆; 山羊绒; 细度; 资源
【英文关键词】Xinjiang; cashmere; fineness; resource
【中文摘要】本文对新疆南北疆四个地区的绒山羊细度品质进行了连续检测,结果表明:新疆山羊绒细度比较理想,14.5μm特细型以及细度小于13μm的超细型所占比例较高,是细型绒山羊培育的良好种质资源。作者提出了对细绒资源的利用和保护的建议。
【英文摘要】Three-year continuous test of the diameter of cashmere samples from 4 areas in southern and northern Xinjiang was analyzed.The results show that cashmere produced in Xinjiang has better fineness quality,the proportion of super fine cashmere with the average diameter 14.5 μm are higher.Suggestions on protecting and utilizing the superfine cashmere goat resource were also given in this paper.
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【题目】不同因素对北山羊—山羊核移植重构胚融合率的影响
【中文关键词】北山羊;　山羊;　核移植;　融合率
【英文关键词】Capra ibex; goat; nuclear transfer; fusion rate
【中文摘要】通过对融合方式、融合场强、体细胞与透明带切口位置及重构后是否修复等条件对北山羊—山羊体细胞核移植重构胚融合率的影响进行了研究。结果表明,不同融合方式能显著影响融合率(67.57%和42.15%,P<0.05);场强在1.3~1.9

kV/cm范围内对融合率和死亡率都没有影响;体细胞在透明带的切口处对融合率影响不显著,但融合过程中死亡率高于对照组(8.25%和2.3%,P>0.05);重构后立即融合与修复2 h后再融合对融合率没有影响(67.29%和68.33%,P>0.05)。

【英文摘要】This paper investigated the effects of different conditions on the fusing rate of Capra ibex-goat somatic cell nuclear transfer reconstructed embryo,including fusion means,fusion strength,incision site between Somatic and zona pellucida as well as it whether repaired after reconstructed and so on.The results showed that different fusion means had significant effects on the fusing rate(67.57% and 42.15%,P<0.05);it had no effect on the fusing rate and death rate when the fusing strength IS between 1.3 to 1.9 kV/cm;the incision site between Somatic and zona pellucida had no significant influence on fusing rate,but the oocyte ’ dead rate was higher than the control ’ s during fusion(8.25% and 2.3%,P>0.05);it had no effect on fusing rate between immediately fusion after reconstructed and fusion after repairing 2 h(67.29% and 68.33%,P>0.05).

【语种】中文

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【学科分类】畜牧学

【题目】8个微卫星位点在甘肃高山细毛羊肉毛兼用品系中的遗传多样性研究

【中文关键词】微卫星; 甘肃高山细毛羊肉毛兼用品系; 遗传多样性

【英文关键词】microsatellite; Gansu alpine fine wool sheep that used for both mutton and wool; genetic polymorphism

【中文摘要】利用8个微卫星位点对甘肃高山细毛羊肉毛兼用品系进行遗传检测,计算了等位基因频率、有效等位基因数、群体杂合度和多态信息含量。结果表明,位点BM3501的有效等位基因数、群体杂合度和多态信息含量都最高(Ne=7.30,H=0.866,PIC=0.848);位点BM3413的有效等位基因数、群体杂合度和多态信息含量都最低(Ne=2.33,H=0.573,PIC=0.478);8个微卫星位点在甘肃高山细毛羊肉毛兼用品系中多态性丰富,除位点BM3413表现为中度多态外,其余位点均表现为高度多态。因此,甘肃高山细毛羊肉毛兼用品系遗传杂合度较高,遗传多样性丰富,选择余地较大;8个微卫星位点可用于甘肃高山细毛羊肉毛兼用品系遗传多样性评估,并可用于对其羊毛性状和肉用性状的进一步研究

【英文摘要】The polymorphism of eight microsatellite loci were analysed in Gansu alpine fine wool sheep that used for both mutton and wool.Allele frequencies,effective number of alleles,heterozygosity and polymorphisms information content were calculated for all microsatellite loci.The results indicated that Ne,H,PIC at BM3501 were the highest(Ne=7.30,H=0.866,PIC=0.848).Ne,H,PIC at BM3413 were the lowest(Ne=2.33,H=0.573,PIC=0.478).There were remarkable polymorphism at eight microsatellite loci in Gansu alpine fine wool sheep that used for both mutton and wool.The eight microsatellite loci were highly genetic polymorphism except BM3413 intermediately genetic polymorphism.Therefore,genetic heterozygosity of Gansu alpine fine wool sheep that used for both mutton and wool was higher,genetic polymorphism was plentiful.There has a vast leeway to be selected.And not only could these eight microsatellite loci be used for genetic polymorphism evaluation in Gansu alpine fine wool sheep that used for both mutton and wool,but also those loci could be applied in further study about wool and meat traits.

【语种】中文

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【学科分类】畜牧学

【题目】敖汉细毛羊育种目标性状的确定及边际效益的计算

【中文关键词】敖汉细毛羊; 育种目标; 边际效益

【英文关键词】Aohan merino sheep; Breeding objective; Marginal benefit

【中文摘要】[目的]为敖汉细毛羊的遗传选育提供理论依据。[方法]根据内蒙古赤峰市敖汉种羊场细毛羊群1997~2004年的早期性状和母羊产毛性状的鉴定记录,确定敖汉细毛羊的育种目标性状,并利用"差额法"对各育种目标性状的边际效益进

行计算。[结果]从敖汉细毛羊3类性状(产毛性状、繁殖性状和生长发育性状)中共确定了6个育种目标性状,即净毛量、羊毛细度、羊毛长度、育成羊剪毛后体重、成年羊剪毛后体重、断奶羔羊数。其中成年母羊和育成羊净毛量的边际效益和相对重要性较大,分别为32.081、30.477和43.137%、36.870%。敖汉细毛羊产毛性状、繁殖性状、生长发育性状的相对重要性之比为7∶2∶1。[结论]净毛量是敖汉细毛羊最重要的育种目标性状。

【英文摘要】[Objective] The aim was to provide the theoretical basis for genetic breeding of Aohan merino sheep.[Method] According to the identification record of early traits of merino sheep herd and wool traits of female merino sheeps from Aohan sheep breeding farm in Chifeng City of Inner Mongolia in 1997-2004,the breeding objective traits of Aohan merino sheep were determined.And the marginal benefit of different breeding objective traits was calculated with difference method.[Result] From 3 kinds of characteristics(wool trait,reproductive traits, growth and development trait) of Aohan merino sheep,6 breeding objective traits such as wool yield,fiber diameter,fiber length,body weight after shearing of yeanling group and adult sheep,number of weaned lambs were determined.Among which,the marginal benefit and relative value of wool yield of adult female sheep and yeanling sheep were bigger,being 32.081,30.477 and 43.137%,36.870% resp.The ratio of relative value of wool traits,productive trait and growth traits was 7∶2∶1.[Conclusion] Wool yield was the most important breeding objective traits of Aohan merino sheep.

【语种】中文

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【学科分类】畜牧学

【题目】不同保存条件对绵羊卵巢组织卵泡存活的影响

【中文关键词】保存条件; 卵泡存活; 绵羊; 卵巢

【英文关键词】no

【中文摘要】研究旨在通过组织学方法评估卵巢保存形式、温度、时间、保存液对绵羊卵巢组织短期保存以及培养后卵泡存活的影响。结果表明:碎块或整个卵巢组织39°C保存6 h或12 h后,正常卵泡比例与新鲜组织和其他组比较显著下降(P<0.05)。经过6 d的组织培养后,在生理盐水中4、20°C保存6、12 h和39°C保存2 h以及在MEM中39°C保存2 h的组织碎块中正常卵泡比例显著低于整个卵巢保存后组织中正常卵泡比例(P<0.05)。在MEM中4°C保存6 h或12 h,培养后卵泡存活率显著高于相同条件保存于生理盐水中的组织(P<0.05)。此外保存12 h培养后正常卵泡比例显著低于保存2 h处理组(P<0.05)。表明在生理盐水和MEM中整个卵巢4、20°C保存2~6 h,或者卵巢碎块20°C保存在MEM中2~6 h都可以用于卵巢体外培养的研究。

【英文摘要】no

【语种】中文

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【学科分类】畜牧学

【题目】不同因素对绵羊卵母细胞体外受精效果的影响

【中文关键词】绵羊; 体外受精; 发情血清; 卵裂率; 囊胚率;

【英文关键词】sheep; IVF; heat serum; cleavage rate; blastocyst rate

【中文摘要】本试验研究了发情羊血清、不同个体的冷冻精液和新鲜精液、精子密度、受精时颗粒细胞的有无及不同培养液对绵羊体外受精效果的影响。结果表明,发情3d的血清与发情当天的血清相比,对卵裂率和囊胚率有极显著的影响(P<0.01);不同个体的冷冻精子对卵裂率和囊胚率都有显著的影响(P<0.05),但鲜精和冷冻精子的受精效果与个体有关;精子密度在2×106~6×106个/mL之间对受精效果没有影响(P>0.05);颗粒细胞对受精的作用不明显(P>0.05);不同的培养液对受精效果没有显著影响(P>0.05)。因此,选用好的公羊个体精子,用发情3d的发情羊血清能显著提高受精效果。

【英文摘要】The study was conducted to determine the effect of diffent heat serum, diffent sheep individuals,sperm density,cumulus ’effect and different culture media on the development of embryos from in vitro fertilization.The results showed that heat three days serum affect greatly the cleavage rate (CR) and the blastocyst rate (BR)(P<0.01);and the different sperm how ever they are freezed or fresh have significant affect on CR and BR. No significant differences in CR and BR were found both sperm densities of 2×106 to 6×106 sperms/mL.The cumulus of oocyte have no effect on IVF;there were no different effect on BR and CR of the culture media of SOF and CRLaa.
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【学科分类】畜牧学

【题目】发展现代养羊业生产的社会生态学
【中文关键词】发展; 现代养羊业生产; 社会生态学
【英文关键词】developing; modern sheep and goats industry; The society ecology
【中文摘要】重点研究了市场需求,经营管理体制,经济效益,科学技术,农牧业环境,社会生活中的腐败行为,民族、宗教、习惯和自然、人为灾害等非自然生态因素对发展现代养羊业生产的作用和影响,并指出在上述社会生态因素中,其中可能某一因素或某几个因素同时起作用,作用有直接的也有间接的;在不同的国家不同的地区,不同的历史发展阶段,有的因素起的作用是主要的,有的则是次要的,有的甚至起着决定性的作用
【英文摘要】The influence of the society factors to development of modern sheep and goats industry,such as market need,management system,economic benefit,science and technology,environment of agriculture,malversation in society,nationality,religion,custom,and natural and human disaster were studied on this paper.All these factors influence the sheep and goats industry,sometime only one factor and sometime several factors effect the sheep and goats industry directly or indirectly.The influence are not same in different country,area and history seedtime,some factors play an important role in sheep and goats industry.
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【题目】家畜体外受精技术与研究方法
【中文关键词】家畜; IVF; 技术; 方法
【英文关键词】livestock; IVF; technology; methods
【中文摘要】本文综述了家畜体外受精技术的研究方法和意义,着重介绍了体外受精技术流程、技术要点和操作手法,简述了家畜体外受精主要技术内容的理论基础,并展望了牛体外受精技术的发展前景
【英文摘要】This article summarized the research methods and significance of IVF in livestock, emphatically introduced the techniqueflow, technique essential and operational approach of IVF, discussed the theoretical basis of IVF main technology in livestock, and forecasted the prospect of IVF technology in bovine.
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【学科分类】畜牧学

【题目】抗坏血酸、表皮生长因子和促卵泡素对绵羊卵巢皮质体外培养的影响
【中文关键词】绵羊; 原始卵泡培养; 抗坏血酸; 促卵泡素; 表皮生长因子
【英文关键词】sheep; ovarian tissue; ascorbic acid; follicle stimulating hormone; epidermal growth factor
【中文摘要】本研究旨在评估抗坏血酸(VC)、表皮生长因子(EGF)、促卵泡素(FSH)对绵羊原始卵泡体外培养的影响以及它们之间的相互关系。实验按照2×2×2因子试验设计分为8组,分别为:MEM(对照组),MEM+VC(50 μg/mL),MEM+EGF(100ng/mL),MEM+FSH(50ng/mL),MEM+VC+EGF,MEM+VC+FSH,MEM+EGF+FSH,MEM+VC+EGF+FSH。在培养0(未培养对照组)、2、6、12d后,对培养的卵巢皮质薄片进行组织学和增殖细胞核抗原(PCNA)检测以及透射电镜(TEM)观察。结果表明,与未培养组(发育卵泡比例15.4%±1.9%,正常卵泡比例88.2%±4.6%)比较,所有培养组中发育卵泡比例显著增加(P<0.05),正常卵泡比例下降(P<0.05)。培养12d后,与对照组(卵泡直径(34.5±3.3) μm,卵泡存活比例(38.9%±3.9%))比较,MEM+VC+FSH和MEM+EGF+FSH组中卵泡直径(分别为(39.7±3.4) μm和(42.5±5.1) μm)和卵泡存活比例(分别为58.5%±4.3%和59.3%±3.7%
【英文摘要】In this study,we evaluated the effects of ascorbic acid (VC),epidermal growth factor (EGF) and follicle stimulating hormone (FSH) on in vitro culture of sheep ovarian cortical tissue.Using 2×2×2 factor experimental design,we cultured sheep ovarian cortex fragments in 8 media with MEM (control),MEM+VC (50 μg/mL),MEM +EGF (100 ng/mL),MEM+FSH (50 ng/mL),MEM+VC+EGF,MEM+VC+FSH,MEM+EGF+FSH,MEM+VC+EGF+FSH.After 0 (non-cultured control),2,6,12 days of culture,the pieces of ovarian cortex were proceed to histological and proliferating cell nuclear antigen (PCNA) examination,or observed by transmission electron microscopy (TEM).The percentages of developing follicles were increased (P<0.05) and the percentages of healthy follicles were reduced (P<0.05).When compared to the MEM group,the addition of FSH with VC or EGF promoted a significant increase of follicles diameter and follicles survival rate (P<0.05),and stimulated the proliferation of granulosa cells.After 12 days of culture,medium supplemented with MEM+VC+EGF resulted the lowest proportion of developing follicles (49.3%±3.2%),follicles diameter((32.3±2.3) μm),follicles survival rate (41.6%±3.1%) and the proportion of PCNA stained follicles (26.4%±1.2%,P<0.05).In contrast,MEM+VC+EGF+FSH resulted the highest follicles diameter ((42.5±5.1) μm),follicles survival rate (59.7%±6.1%) and proportion of PCNA stained follicles (43.5%±4.1%,P<0.05).Ultrastructural analysis confirmed the integrity of follicles cultured in VC+EGF+FSH group,while follicles cultured in MEM+VC+EGF groups showed more degeneration characters.In conclusion,the addition of VC and EGF to culture medium inhibited follicular development,VC+EGF+FSH was the most effective treatment to maintain follicular integrity and promote sheep primordial follicular activation and growth during in vitro culture.
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【题目】辽宁绒山羊胚胎冷冻保存方法与技术研究
【中文关键词】辽宁绒山羊;胚胎;冷冻保存;方法;保存效果
【英文关键词】no
【中文摘要】本研究探讨了不同冷冻方法、不同冷冻液和冷冻前cB处理对辽宁绒山羊胚胎低温保存效果的影响,以筛选适合于辽宁绒山羊胚胎冷冻保存的方法与技术。常规冷冻时以1.5 moL/L EG为保护液的保护效果较好,解冻后胚胎发育率为62.86%,孵化率为54.29%;玻璃化冷冻(细管法和OPS法)以EFs40为保护液可以获得较好的冷冻效果,玻璃化细管法和0PS法解冻后胚胎的发育率分别为65.79%和57.89%;冷冻前cB处理能改善辽宁绒山羊胚胎低温保存的效果。
【英文摘要】no
【语种】中文

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【题目】内蒙古阿尔巴斯型白绒山羊主要生产性状的非遗传因素分析
【中文关键词】内蒙古阿尔巴斯型白绒山羊; 产绒性状; 非遗传因素
【英文关键词】Inner Mongolian Arbas cashmere goats; traits of producing cashmere; non-genetic factors
【中文摘要】通过分析内蒙古白绒山羊场1997—2007年21569只阿尔巴斯型白绒山羊的生产记录,利用SAS9.0软件的GLM程序进行方差分析,并用Duncan氏法进行了主效应的多重比较分析,并研究了9个非遗传因素对内蒙古白绒山羊5个产绒性状的影响。结果表明,测定年份、年龄、母亲年龄、牧场显著影响内蒙古白绒山羊的所有性状,性别除了对绒细度没有影响外,对产绒量、产绒后体重影响显著,对绒厚、毛长影响极显著;出生胎次对产绒量、毛长及早期生长性状均有显著的影响;出生类型对绒细度、产绒后体重均有显著的影响;出生月份对产绒量影响显著
【英文摘要】The production records of 21 569 Arbas cashmere goats during from 1997 to 2007 were collected,the variance analysis was made by using GLM program of SARS 9.0 software,and multiple comparison of main effect was carried out with Duncan methods to determinate effects of nine non-genetic factors (tested year,sex,age,mother age,birth type,birth month,weaned age,birth order and field) on 5 traits of producing cashmere (cashmere yield,cashmere fineness,body weight,cashmere and length).The results indicated that there were significant effects of the tested year,field,age and mother age on the all traits of cashmere goats (P<0.05).Except for cashmere fineness,the sex significantly affected the cashmere yield and body weight after producing cashmere (P<0.05),specifically it had markedly significant effects on cashmere thick and wool length(P<0.01).The birth order had a significant effects on cashmere yield,wool length and early growth traits (P<0.05);the birth type had a significant effect on degree of cashmere fineness and body weight after producing cashmere (P>0.05);the birth month had a significant influences on cashmere yield(P<0.05).
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【题目】内蒙古敖汉细毛羊育种目标性状边际效益的计算
【中文关键词】内蒙古敖汉细毛羊; 育种目标; 边际效益; 差额法
【英文关键词】Inner Mongolian Aohan merino sheep; Breeding target; Marginal utility; Difference method
【中文摘要】根据内蒙古敖汉细毛羊现行育种和生产条件下的育种技术参数、营养学参数和生产与市场经济学参数,采用"差额法"对内蒙古敖汉细毛羊的育种目标性状的边际效益进行了计算。通过各目标性状的边际效益标准化计算得到产毛性状、繁殖性状和生长发育性状之间的相对经济重要性之比约为7∶2∶1。若按照各类羊分别选择分开对待,则成年母羊约为10∶5∶1,育成羊则约为5∶2∶1。
【英文摘要】We have calculated marginal utility of breeding target characters of Inner Mongolian Aohan Merino Sheep with "difference method" acoording to breeding technique parameter、nutriology parameter as well as product and market parameter under breeding and production conditions at prese.We heve obtianed the results that the relative economic importance proportion is about 7∶2∶1 by standard calculating marginal utility of every target characters.
【语种】中文
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【题目】浅析高寒牧区细毛羊优质毛品系饲养管理技术
【中文关键词】高寒牧区; 甘肃高山细毛羊; 饲养管理技术; 品系; 配种期; 优质羊毛; 种公羊; 放牧加补饲; 生产性能; 绵羊育种
【英文关键词】no
【中文摘要】现代毛纺工业对羊毛质量的要求越来越高,尤其对70~100支的羊毛看好,市场价格昂贵。为满足毛纺工业的需求,细毛羊生产经营者必须生产优质羊毛。为获得高产优质羊毛,不仅要加强品种改良选育力度,而且还要对优质毛品系细毛羊进行科学的饲养管理。甘肃省皇城绵羊育种试验场从1996年进行中国美利奴细毛羊优质毛品系的育种研究,经过多年的育种工作,已初具规模,现就高寒牧区如何提高细毛羊优质毛品系的饲养管理技术作简要分析。1高寒牧区细毛羊优质毛品系的基本生产性能细毛羊优质毛品系必须是毛纤维直径小于20μm。羊毛为白色油汗,小弯曲,羊只被毛闭合性、密度、腹毛着生均理想。对与细度呈负遗传相关的性状如毛长、体重的选择标
【英文摘要】no
【语种】中文
【第一作者】黄殿选
【通讯作者】郎侠
【期刊名称、卷期、页码】中国草食动物
【论文发表时间】2009-08-15 00:00:00
【引文索引类型】其他
【引文索引号】S826
【学科分类】畜牧学

【题目】养殖小区在我国绵山羊育种繁育体系建设中的地位
【中文关键词】养殖小区; 繁育体系; 杂交育种; 品种
【英文关键词】Farming regions; Breeding system; Crossbreeding; Breed
【中文摘要】繁育体系已成为养羊业全面、协调、可持续发展的重要支撑体系。建设一个良好的育种繁育体系已成为现代化养羊业发展中一项重要的工作。养殖小区已成为我国育种繁育体系建设的重要载体。在未来我国养羊业发展中,养殖小区将在繁育体系的建设中具有更为突出的作用。
【英文摘要】The domestic animal breeding system has become the proped-up system of the livestock husbandry,which can completely and moderate keep on development.To build a good breeding system has already become an important work in the modern livestock husbandry.The farming region has become an important carrier of breeding system construction.It will do a more outstanding function for the breeding system of the livestock husbandry development in future.
【语种】中文
【第一作者】赵欣
【通讯作者】赵有璋
【期刊名称、卷期、页码】山西农业大学学报(自然科学版)
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【引文索引号】S815.2
【学科分类】畜牧学

【题目】影响中国美利奴羊(新疆型)主要经济性状的非遗传因素分析
【中文关键词】中国美利奴羊(新疆型); 非遗传因素; 经济性状
【英文关键词】Chinese merino sheep(Xinjiang type); non-genetic factor; economic trait
【中文摘要】【目的】探究主要非遗传因素对中国美利奴羊(新疆型)14月龄鉴定性状的影响,收集9 942条母羊鉴定记录。【方法】利用SAS(8.1)软件的GLM程序,分析了鉴定时年份和群别对被毛性状、剪毛性状、体型外貌、品种等级评分和鉴定时体重等性状的影响。【结果】鉴定时年份和群别对头毛评分、毛长度、毛密度评分、毛细度评分、剪毛后体重、剪

毛量、体型外貌评分、品种等级评分、鉴定时体重均有极显著影响(P<0.01)。【结论】在估计中国美利奴羊(新疆型)遗传参数和育种值时,鉴定时年份和群别可以作为固定效应放到模型中

【英文摘要】Objective】 The objective of this study was to investigate the effect of main non-genetic factors on 9 traits in Chinese merino sheep(Xinjiang type) based on 9 942 tested records of dam.【Method】 The effect of main non-genetic factors(including the measuring year and group) was analyzed on covered wool trait,shearing trait,body condition score,breed grade and measuring weight by least squares means with SAS(8.1) program.

【语种】中文

【第一作者】田可川

【通讯作者】黄锡霞

【期刊名称、卷期、页码】新疆农业科学

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【引文索引号】S826.86

【学科分类】畜牧学

【题目】海州香薷(Elsholtzia splendens)根际铜抗性细菌的筛选及生物多样性

【中文关键词】铜抗性细菌;生物多样性;ACC 脱氨酶;海州香薷

【英文关键词】Rhizosphere Cu-resistant bacteria ; biodiversity ; ACC deaminase ; Elsholtzia splendens

【中文摘要】【: 目的】重金属耐性植物海州香薷根际铜抗性细菌的筛选及生物多样性研究将有助于了解微生物- 超富集植物相互关系和植物修复机理、开发微生物- 香薷重金属修复新技术。【方法】采用稀释平板涂布法从海州香薷根际筛选铜抗性菌株,测定菌株溶磷和产生吲哚乙酸、铁载体、12氨基环丙烷212羧酸(ACC) 脱氨酶的特性,采用16S rDNA 限制性酶切多态性分析(amplified rDNA restriction analysis , ARDRA) 研究铜抗性细菌的遗传多样性,根据16S rDNA 相似性对产ACC 脱氨酶的菌株进行了鉴定。【结果】分离纯化到27 株抗Cu2 +20 mgPL 的细菌,所有菌株均能产生吲哚乙酸或其衍生物,4414 %的分离菌株能够分泌高量的铁载体。分离菌株在60 %相似性水平上可聚类分为7 个群。5 株细菌具ACC 脱氨酶活性,菌株2EBS12、2EBS13、2EBS15、3EBS11 属于不动杆菌属(Acinetobacter) ,菌株2EBS14 属于产碱菌属(Alcaligenes) 。【结论】海州香薷根际铜抗性细菌具有丰富多样的生物学特性和遗传多样性,不动杆菌属和产碱杆菌属细菌具ACC 脱氨酶活性。

【英文摘要】[Objective] Isolation and characterization of rhizosphere copper2resistant bacteria from a copper accumulator plantElsholtzia splendens were investigated. [Methods] Cultivable Cu2resistant bacteria were isolated by plating and screening fromrhizosphere soils of Elsholtzia splendens growing on a copper mine tailing. Bacteria were characterized regarding characteristicsthat may be relevant for a beneficial plant2microbe interaction —Cu tolerance , phosphate2solubilizing , 12aminocyclopropane212carboxylic acid (ACC) deaminase , siderophore and indoleacetic acid production , and further classified by restriction analysis of16S rDNA (ARDRA) . Strains that produced ACC deaminase were identified by 16S rDNA sequence analysis. [Results]Twenty2seven Cu2resistant strains were isolated from rhizosphere soil of Elsholtzia splendens and classified by ARDRA in 7different taxonomic groups at the similarity level of 60 %. All strains produced IAA or their derivatives , 4414 % of the strainsproduced a very high level of siderophores , and five strains were able to grow on ACC as the sole nitrogen source. Strains2EBS12 , 2EBS13 , 2EBS15 and 3EBS11 were identified as Acinetobacter , strain 2EBS14 was essentially consistent Alcaligenes .[Conclusion] Cu2resistant rhizobacteria isolated from Elsholtzia splendens have abundant characteristics relative to promotingplant growth and genetic diversity , rhizobacteria Acinetobacter sp. and Alcaligenes sp. contained ACC deaminase activity.

【语种】中文

【第一作者】孙乐妮

【通讯作者】盛下放

【期刊名称、卷期、页码】微生物学报,2009,49(10):1360-1366

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【引文索引号】null

【学科分类】环境科学技术基础学科

【题目】osa-MIR393: a salinity-and alkaline stress-related microRNA gene

【中文关键词】无
【英文关键词】MicroRNA,Rice,Arabidopsis,Salinity stress,Alkaline stress,miR393
【中文摘要】无
【英文摘要】Salinity and alkalinity are the two main environmental factors that limit rice production. Better understanding of the mechanisms responsible for salinity and alkaline stress tolerance would allow researchers to modify rice to increase its resistance to salinity and alkaline stress. MicroRNAs (miRNAs) are ~21-nucleotide RNAs that are ubiquitous regulators of gene expression in eukaryotic organisms. Some miRNAs acts as an important endogenous regulator in plant responses to abiotic stressors. miR393 is a conservative miRNA family that occurs in a variety of different plants. The two members of the miR393 family found in rice are named osa-MIR393 and osa-MIR393b. We found that the osa-MIR393 expression level changed under salinity and alkaline stress, whereas that of osa-MIR393b did not. Target genes of osa-MIR393 were predicted, and some of these putative targets are abiotic related genes. Furthermore, we generated transgenic rice and Arabidopsis thaliana that over-expressed osa-MIR393, and the phenotype analysis showed that these transgenic plants were more sensitive to salt and alkali treatment compared to wild-type plants. These results illustrate that over-expression of osa-MIR393 can negatively regulate rice salt-alkali stress tolerance.
【语种】英文
【第一作者】高鹏
【通讯作者】朱延明
【期刊名称、卷期、页码】Mol Biol Rep (2011) 38:237 – 242
【论文发表时间】2010-03-25 00:00:00
【引文索引类型】SCI
【引文索引号】2.8489620003e+011
【学科分类】植物学

【题目】A novel Glycine soja tonoplast intrinsic protein gene responds to abiotic and dehydration tolerance in transgenic Arabidopsis thaliana
【中文关键词】无
【英文关键词】Abiotic stress tolerance,Aquaporin (AQP),Glycine soja,Major intrinsic protein (MIP),Tonoplast intrinsic protein (TIP)
【中文摘要】无
【英文摘要】Tonoplastintrinsicprotein (TIP) is a subfamily of the aquaporin (AQP), also known as major intrinsicprotein (MIP) family, and regulates water movement across vacuolar membranes. Some reports have implied that TIP genes are associated with plant tolerance to some abiotic stresses that cause water loss, such as drought and high salinity. In our previous work, we found that an expressed sequence tag (EST) representing a TIP gene in our Glycinesoja EST library was inducible by abiotic stresses. This TIP was subsequently isolated from G. soja with cDNA library screening, EST assembly and PCR, and named as GsTIP2;1. The expression patterns of GsTIP2;1 in G. soja under low temperature, salt and dehydration stress were different in leaves and roots. Though GsTIP2;1 is a stress-induced gene, overexpression of GsTIP2;1 in Arabidopsisthaliana depressed tolerance to salt and dehydration stress, but did not affect seedling growth under cold or favorable conditions. Higher dehydration speed was detected in Arabidopsis plants overexpressing GsTIP2;1, implying GsTIP2;1 might mediate stress sensitivity by enhancing water loss in the plant. Such a result is not identical to previous reports, providing some new information about the relationship between TIP and plant abiotic stress tolerance.
【语种】英文
【第一作者】王希
【通讯作者】朱延明
【期刊名称、卷期、页码】Journal of Plant Physiology (2011) 168:1241 – 1248
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【引文索引类型】SCI
【引文索引号】2.9314910001e+011
【学科分类】植物学

【题目】GsGASA1 mediated root growth inhibition in response to chronic cold stress is marked by the accumulation of DELLAs
【中文关键词】无

【英文关键词】Chronic cold response,DELLA,GASA,Glycine soja,Root elongation limitation
【中文摘要】无
【英文摘要】Low, but not freezing temperatures are a major factor limiting plant vegetative growth and development. It is not clear what signaling mechanism is used to limit plant growth in response to chronic low temperatures, thus it is important to continue to isolate and characterize genes whose activity/expression correlate well with coldresponses. In this study, a novel GASA gene was isolated from Glycine soja and named GsGASA1. Quantitative real-time PCR analysis indicated that GsGASA1 expression responded to exogenous gibberellic acid (GA) and abscisic acid (ABA) treatments. Compared with wild-type plants under long-term cold treatment, the constitutive expression of GsGASA1 in transgenic Arabidopsis plants enhanced the inhibition of root elongation, while also increasing the transcript levels of RGL2 and RGL3, two of five DELLA genes in Arabidopsis. DELLA is a class of transcriptional regulators in GA signaling pathway restraining plant growth. Our results imply that GsGASA1 participates in chroniccold-induced rootgrowthinhibition with the accumulation of DELLA genes. Lastly, a subcellular localization study using a yellow fluorescent protein (YFP) fusion protein indicated that GsGASA1 was localized to the plasma membrane, cytoplasm and nucleus.
【语种】英文
【第一作者】李昆仑
【通讯作者】朱延明
【期刊名称、卷期、页码】Journal of Plant Physiology (2011) 168:2153 – 2160
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【学科分类】植物学

【题目】GsTIFY10,a novel positive regulator of plant tolerance to bicarbonate stress and a repressor of jasmonate signaling
【中文关键词】无
【英文关键词】Bicarbonate stress tolerance,GsTIFY10,Jasmonate signaling,Repressor,Glycine soja
【中文摘要】无
【英文摘要】Recent discoveries show that TIFY family genes are plant-specific genes involved in the response to several abiotic stresses, also acting as key regulators of jasmonate signaling in Arabidopsis thaliana. However, there is limited information about this gene family in wild soybean, nor is its role in plant bicarbonate stress adaptation completely understood. Here, we isolated and characterized a novel TIFY family gene, GsTIFY10, from Glycine soja. GsTIFY10 could be induced by bicarbonate, salinity stress and the phytohormone JA, both in the leaves and roots of wild soybean. Over-expression of GsTIFY10 in Arabidopsis resulted in enhanced plant tolerance to bicarbonate stress during seed germination, early seedling and adult seedling developmental stages, and the expression levels of some bicarbonate stress response and stress-inducible marker genes were significantly higher in the GsTIFY10 overexpression lines than in wild-type plants. It was also found that GsTIFY10 could repress JA signal transduction. The roots of plants overexpressing GsTIFY10 grew longer than wild-type in the presence of MeJA, and some JA response and JA biosynthesis marker genes were suppressed in the GsTIFY10 overexpression lines. Subcellular localization studies using a GFP fusion protein showed that GsTIFY10 is localized to the nucleus. These results suggest that the newly isolated wild soybean GsTIFY10 is a positive regulator of plant bicarbonate stress tolerance and is also a repressor of jasmonate signaling, from hormone perception to transcriptional activity.
【语种】英文
【第一作者】朱丹
【通讯作者】朱延明
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【学科分类】植物学

【题目】Identification and characterization of a new member of the SINE Au retroposon family (GmAu1) in the soybean, Glycine max(L.) Merr., genome and its potential application
【中文关键词】无

【英文关键词】Glycine maxsoybean,Retroposon,Short interspersed element (SINE),SCAR markers
【中文摘要】无
【英文摘要】A plant short interspersed element (SINE) was identified in Glycine max after re-sequencing of the soybean sequence characterized amplified region (SCAR) markers. Detailed analysis revealed that this newly recognized SINE element consisted of a tRNA-related region, a tRNA non-related region, direct flanking repeat sequences, and a short stretch of Ts at the 3′-terminal region. These features are similar to previously characterized SINEs. To investigate the evolution of the SINE retroposon, BLASTN was used to search against genome sequences of other plants. Since it is homologous with the retroposon Au in Aegilops umbellulata (wheat) and its homology in soybean, the SINE is named as GmAu1. Genome analysis of the Glycine max var. Willimas 82 uncovered more than 847 copies of GmAu1 per haploid genome of soybean. Examination of the regions flanking the inserted GmAu1 sequences indicated a preference for introns over exons or other noncoding regions. Considering the flanking insertion sequences, 146 primers were designed in order to detect insertion mutations by a PCR-based method. Seventy-seven primers displayed polymorphism and were used to develop corresponding GmAu1-based SCAR markers. The retroposon GmAu1 and its related SCAR markers identified in this study will prove valuable to future investigations into the genetic mapping, phylogeny, and evolution of the Glycine genus.
【语种】英文
【第一作者】束永俊
【通讯作者】朱延明
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【引文索引号】2.9715240001e+011
【学科分类】植物学

【题目】东海区带鱼底拖网昼夜渔获率差异的统计分析
【中文关键词】东海区;带鱼;昼夜差异;渔获率;底拖网;LSD检验
【英文关键词】Hairtail;the East China Sea;bottom trawl;circadian moving regularity;catch rate;LSD test
【中文摘要】以2004年和2005年东海区重点渔场底拖网渔业资源监测资料,从中选取带鱼渔获率作为指标值,并将昼夜不同网次渔获率分成4组,应用最小显著性差异法(LSD)对东海区带鱼昼夜渔获率进行了统计学分析,以揭示带鱼昼夜的活动规律,并利用样本均值的95% 置信区间法估算带鱼昼夜渔获率的差异程度,为东海区渔业资源大面定点调查带鱼昼夜网次间渔获率的差异修正提供量化指标。结果表明,东海区带鱼昼间与夜间的渔获率具有统计学上的显著性差异,昼间的渔获率显著地高于夜间的渔获率,带鱼昼间栖息于底层和近底层,夜间垂直移动到中上层;使用拖网规格为100。×4 m/88 m、网囊网目为25 mm的调查网具,2004年昼间和夜间带鱼渔获率均值的95% 置信区间分别为:220.89±12.94和128.23±10.75;2005年昼间和夜间带鱼渔获率均值的95%置信区间分别为:176。28±20.63和105.23±9.71;取2年带鱼昼夜差异程度的平均值,最保守的估计是昼间网次的渔获率均值是夜间的1.69倍。本研究从统计学分析角度证实了以往的无量化的带鱼昼夜渔获率存在差异的观察结果,推断了带鱼具有昼夜垂直移动的习性,其意义在于利用LSD法可以分析其它鱼种的昼夜栖息特征并提供昼夜渔获率均值差异程度的量化指标。
【英文摘要】Abstract:Based on the data collected from bottom trawl surveys conducted in the East China Sea during 2004.2005.this paper iS discussed on the analysis of the circadian difference related with the catch rate of hairtail inthe East China Sea.The catch rates obtained at the different time points of one day were divided into fourgroups.W ith a confidence level of 95% ,the difference between the four groups was tested statistically byusing LSD test.It could be recognize the circadian moving regularity of hairtail and grasp the method how totransforiB the survey data collected at different time of one day.The results showed that there was significant difierenee of diel catch rate variation. Hairtail inhabited at the bottom or near bottom.while it migratedvertically to surface of the water.The catch rate obtained in the daytime was significantly greater than thatobtained at night.The 95% confidence interval for the mean catch rate of hairtail in the daytime and nightwere 220.89± 12.94 and 128.23 ±10.75 respectively in 2004 .176.28±20.63 and 105.23 ±9.71respectively in 2005,the conservatively estimated average catch rate of hairtai conducted with the pair—trawlersin the day was I.69 times greater than that conducted at night. It could be inferred there diel verticalmigration patterns. The analysis was statistically confirmed that there may be deviation of form er researchresults with lack of quantitative analysis of value differences of mean catch rate.The significance of this paperwas that a quantitative index was proposed to evaluate differences degree of the mean values of catch ratebetween daytime and night,and it could be used to analyse the diel distribution patterns for other species byusing LSD test
【语种】中文
【第一作者】严利平

【通讯作者】严利平
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【学科分类】水产资源学

【题目】菲律宾蛤仔(Ruditapes philippinarum)海洋橙品系两个世代的杂交与近交效应
【中文关键词】菲律宾蛤仔, 海洋橙品系, 世代, 杂种优势, 近交衰退
【英文关键词】Ruditapes philippinarum, Ocean orange strains, Generation, Heterosis, Inbreeding depression
【中文摘要】于2009年8月以菲律宾蛤仔海洋橙品系的全同胞子一代和子二代上选10%的个体作为亲本,通过建立近交组合(F22、F33)、杂交组合(F23、F32)和设置对照组(C22、C33),研究了两个近交世代的杂交效应及近交效应,以提高菲律宾蛤仔海洋橙品系的表型性状。结果表明,杂交使幼虫和稚贝的生长性状得到了部分改良,但存活性状尚未得到提高。幼虫和稚贝表现出微弱的生长优势,正反交组单亲生长优势表现出正负不对称性。杂交效应主要受到母本效应的影响,母本效应贯穿于幼虫期及稚贝期。近交使世代F33的生长性状得到了改良,且两个世代的存活性状均有不同程度的提高。表型性状的近交效应在幼虫期主要受到交配方式的影响,而在稚贝期主要受到世代效应的影响。通过上选,杂交与近交的有机结合,有效改良了海洋橙品系的表型性状。 更多还原
【英文摘要】In order to improve the phenotypic characteristics of Ocean Orange strain of Manila clam Ruditapes philippinarum, the effect of hybridization and inbreeding between two generations on this strain were investigated by establishing inbreeding groups (F22, F33), hybrid groups (F23, F32), and control groups (C22, C33) with the parent of full-sib F1 and F2 (the up-selection rate 10%), in August of 2009. The results showed that the characteristics on growth of larvae and juveniles were partially improved, whereas the survival rate did not show any sign of improvement through hybridization. The slight improvement in growth through heterosis was observed on larvae (1.68) and juvenile (2.40); Single-parents heterosis of reciprocal groups were asymmetry, the heterosis of larval and juvenile for F23 were 3.64 and 11.71, for F32 were -0.13 and -5.02, respectively. The mid-parent survival weakness of larvae and juvenile were -1.54 and -5.59; the survival weakness of F23 for larvae and juveniles were -3.37 and -7.65, for F32 were -0.55 and -3.61, respectively. Influences from maternal mainly impacted hybrid from larvae to juvenile. Survival rate of two generations and growth of F33 were improved by inbreeding. The inbreeding depression rate of growth for larval and juvenile for F22 was 2.33 and 7.59, whereas for F33 was -3.09 and -8.05, respectively. The inbreeding depression rate of survival for larval and juvenile for F22 were -4.75 and -1.04, and for F33 were -11.09 and -7.63, respectively. The mating strategy was the major factor for inbreeding effects during the larval period, then the generation effect became the major factor during juvenile period. The phenotypic characteristics of this strain were effectively improved by close combination among up-selection, hybridization and inbreeding.
【语种】中文
【第一作者】闫喜武
【通讯作者】闫喜武
【期刊名称、卷期、页码】海洋与湖沼,Vol.42, No.2,Mar., 2011,309-316
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【学科分类】分子生物学

【题目】南黄海族小黄鱼昼夜渔获率差异的统计学分析
【中文关键词】小黄鱼;南黄海族;昼夜栖息;渔获率;LSD法
【英文关键词】words:Small yellow croaker;the southern Yellow Sea school;circadian moving regularity;catch rata;LSD test
【中文摘要】利用2004年度东海区重点渔场底曳拖网渔业资源监测资料,从中选用小黄鱼网次渔获率作为指标值,应用LSD方法对南黄海族小黄鱼昼夜渔获率差异进行了统计学分析,以揭示小黄鱼昼夜的活动规律。结果表明,小黄鱼在不同的洄游阶段昼夜网次间渔获率无显著性差异,昼夜无垂直移动现象,常年处于底层,为典型的底层鱼类;在利用底曳拖网船进行渔业资源调查时,无需修正昼夜网次间小黄鱼的渔获率,用获取的调查数据即可估算资源量。
【英文摘要】Abstract:Based on the data collected from bottom trawl surveys conducted in 2004.the paper dealed with theanalysis on the circadian difference of the catch rate of small yellow croaker in the southern Yellow Sea shcoolused LSD test.Through the analysis.It could be recognized the circadian moving regularity of small yellowcroaker. The results showed that small yellow croaker iS a demersal

fish inhabited at the bottom of seaperennially and don ’ t migrate vertically.Statistically,there were no significant differences in the catch rate ofsmall yellow croaker between day and night.So there are no need to transform the survey data when one evaluatesthe resources of small yellow croaker used the survey data from different colleting time on the same day.
【语种】中文
【第一作者】严利平
【通讯作者】严利平
【期刊名称、卷期、页码】海洋渔业、30(2)、114-119
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【引文索引号】null
【学科分类】水产资源学

【题目】GsZFP1,a new Cys2/His2-type zinc-finger protein, is a positive regulator of plant tolerance to cold and drought stress
【中文关键词】无
【英文关键词】C2H2-type zinc-finger protein (ZFP),Functional analysis, Marker gene,Stress tolerance,Transcription factor,Wild soybean
【中文摘要】无
【英文摘要】Plant acclimation to environmental stress is controlled by a complex network of regulatory genes that compose distinct stress-response regulons. The C2H2-type zinc-finger proteins (ZFPs) have been implicated in different cellular processes involved in plant development and stress responses. Through microarray analysis, an alkaline (NaHCO3)-responsive ZFP gene GsZFP1 was identified and subsequently cloned from Glyycine soja. GsZFP1 encodes a 35.14 kDa protein with one C2H2-type zinc-finger motif. The QALGGH domain, conserved in most plant C2H2-type ZFPs, is absent in the GsZFP1 protein sequence. A subcellular localization study using a GFP fusion protein indicated that GsZFP1 is localized to the nucleus. Real-time RT-PCR analysis showed that GsZFP1 was induced in the leaf by ABA (100 μM), salt (200 mM NaCl), and cold (4 ° C), and in the root by ABA (100 μM), cold (4 ° C), and drought (30% PEG 6000). Over-expression of GsZFP1 in transgenic Arabidopsis resulted in a greater tolerance to cold and drought stress, a decreased water loss rate, and an increase in proline irrespective of environmental conditions. The over-expression of GsZFP1 also increased the expression of a number of stress-response marker genes, including CBF1, CBF2, CBF3, NCED3, COR47, and RD29A in response to cold stress and RAB18, NCED3, P5CS, RD22, and RD29A in response to drought stress, especially early during stress treatments. Our studies suggest that GsZFP1 plays a crucial role in the plant response to cold and drought stress.
【语种】英文
【第一作者】罗晓
【通讯作者】朱延明
【期刊名称、卷期、页码】Planta (2012) 235:1141 – 1155
【论文发表时间】2011-12-09 00:00:00
【引文索引类型】SCI
【引文索引号】3.046212e+011
【学科分类】植物学

【题目】miR167c is Induced by High Alkaline Stress and Inhibits two Auxin Response Factors in Glycine soja
【中文关键词】无
【英文关键词】ABA, Alkaline stress, ARF, Glycine soja,MicroRNA
【中文摘要】无
【英文摘要】Soil alkalinity is one of the major environmental factors limiting crop productivity worldwide. MicroRNAs (miRNAs) are small (21 – 25 nucleotides) single-stranded non-coding RNAs that regulate developmental and stress responses in plants by cleaving target mRNAs. However, little is known about the role of miRNAs in the response to alkaline stress. In this study, we identified the miR167c as a high alkaline-responsive miRNAs in wild soybean based on genome microarray and RNA gel blot. The presence of a cis-acting abscisic acid (ABA) responsive element (ABRE) in the upstream region and the ABA inducement of primiR167c suggested that miR167c might be regulated by ABA. We also showed that two auxin response factors (ARF), Gs14g03650 and Gs18g05330, were target genes of the alkaline-inducible miR167c and rapidly down-regulated following alkaline treatment. Our results reveal that miR167c regulated the expression pattern of ARFs, which could be vital for both development and stress adaptation.

【语种】英文
【第一作者】吕德康
【通讯作者】朱延明
【期刊名称、卷期、页码】J. Plant Biol. (2012) 55:373-380
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【学科分类】植物学

【题目】Over-expression of a novel JAZ family gene from Glycine soja, increases salt and alkali stress tolerance
【中文关键词】无
【英文关键词】GsJAZ2,Functional analysis,Salt and alkali stress tolerance,Marker gene,Glycine soja
【中文摘要】无
【英文摘要】Salt and alkalistress are two of the main environmental factors limiting crop production. Recent discoveries show that the JAZfamily encodes plant-specific genes involved in jasmonate signaling. However, there is only limited information about this genefamily in abiotic stress response, and in wild soybean (Glycinesoja), which is a species noted for its tolerance to alkali and salinity. Here, we isolated and characterized anovelJAZfamilygene, GsJAZ2, from G. soja. Transcript abundance of GsJAZ2 increased following exposure to salt, alkali, cold and drought. Over-expression of GsJAZ2 in Arabidopsis resulted in enhanced plant tolerance to salt and alkalistress. The expression levels of some alkalistress response and stress-inducible marker genes were significantly higher in the GsJAZ2 overexpression lines as compared to wild-type plants. Subcellular localization studies using a GFP fusion protein showed that GsJAZ2 was localized to the nucleus. These results suggest that the newly isolated wild soybean GsJAZ2 is a positive regulator of plant salt and alkalistresstolerance.
【语种】英文
【第一作者】朱丹
【通讯作者】朱延明
【期刊名称、卷期、页码】Biochemical and Biophysical Research Communications (2012) 426:273 – 279
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【学科分类】植物学

【题目】Identification of wild soybean (Glycine soja) TIFY family genes and their expression profiling analysis under bicarbonate stress
【中文关键词】无
【英文关键词】TIFY gene family,Sequence analysis,Bicarbonate stress response,Expression comparison,Glycine soja
【中文摘要】无
【英文摘要】Wild soybean (Glycine soja L. G07256) exhibits a greater adaptability to soil bicarbonate stress than cultivated soybean, and recent discoveries show that TIFY family genes are involved in the response to several abiotic stresses. A genomic and transcriptomic analysis of all TIFY genes in G. soja, compared with G. max, will provide insight into the function of this gene family in plant bicarbonate stress response. This article identified and characterized 34 TIFY genes in G. soja. Sequence analyses indicated that most GsTIFY proteins had two conserved domains: TIFY and Jas. Phylogenetic analyses suggested that these GsTIFY genes could be classified into two groups. A clustering analysis of all GsTIFY transcript expression profiles from bicarbonate stress treated G. soja showed that there were five different transcript patterns in leaves and six different transcript patterns in roots when the GsTIFY family responds to bicarbonate stress. Moreover, the expression level changes of all TIFY genes in cultivated soybean, treated with bicarbonate stress, were also verified. The expression comparison analysis of TIFYs between wild and cultivated soybeans confirmed that, different from the cultivated soybean, GsTIFY (10a, 10b, 10c, 10d, 10e, 10f, 11a, and 11b) were dramatically up-regulated at the early stage of stress, while GsTIFY 1c and 2b were significantly up-regulated at the later period of stress. The frequently stress responsive and diverse expression profiles of the GsTIFY gene family suggests that this family may play important roles in plant environmental stress responses and adaptation.

【语种】英文
【第一作者】朱丹
【通讯作者】朱延明
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【学科分类】植物学

【题目】西藏农业经济的空间差异分析
【中文关键词】农业经济; 空间差异; 农牧结合; 西藏
【英文关键词】agricultural economy ; spatial difference ; coupling of farming and animal husbandry ; Tibet
【中文摘要】西藏农业经济区域差异是影响经济发展与社会稳定的重要因素. 利用Theil 系数对西藏农业经济结构及区域差异的演变进行了定量分析,研究发现:种植业经济差异值大于牧业,县际间畜牧业差异有所减缓,而农业县域之间的差距拉大;依据三个类型区和行政区划两种空间分层尺度计算的总体差异值相同,但二者的地区内和地区间差异值差别很大. 研究认为,农牧结合可增强农业经济风险抵御能力,基于县域农业均衡发展,提出了缩小农业经济差异的政策性建议.
【英文摘要】The regional difference of Tibet ′ s agricultural economy plays an important role in economic development and social stability. The components and evolution of economic development gap of Tibetan agriculture are quantitatively analyzed by using Theil coefficient. It shows that the value of economic disparities of animal husbandry is less than that of farming ,and it slows down among countries , which is opposite to farming. Through dividing the Tibet autonomous region with three regions and administ rative divisions , the agricultural economic differences are the same between two spatial scales in Tibet , but both of regional and interregional differences vary greatly. The coupling of farming and animal husbandry can enhance the resilience of agricultural economic risk. Based on the balanced agricultural development among countries , a few suggestions in order to reduce the agricultural economic disparities in Tibet are finally put forward.
【语种】中文
【第一作者】余成群
【通讯作者】余成群
【期刊名称、卷期、页码】陕西师范大学学报(自然科学版),2009,37(6):87-92
【论文发表时间】2009-11-01 00:00:00
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【引文索引号】null
【学科分类】农业经济学

【题目】南京栖霞重金属污染区植物富集重金属效应及其根际微生物特性分析
【中文关键词】土壤重金属污染; 根际细菌; 超积累植物
【英文关键词】Heavy metal contaminated soil; Rhizospere bacteria;Hyperaccumulator plant
【中文摘要】以南京栖霞重金属污染区5 种植物及其根际土壤为研究对象,对植物富集重金属特征以及重金属含量与根际土壤细菌数量、土壤酶活性等的相关性进行了调查分析。结果发现,植物根际重金属污染物以Zn 和Cd 为主; 重金属污染地区的植物有较强的吸收重金属能力,龙葵和茼草具备了超积累植物的基本特征; 植物根际细菌和Pb 抗性细菌的数量达到了107 CFU g - 1 土; 根际土壤酶活性未受到重金属的毒害或受到的毒害很小; 植物体中重金属含量与土壤重金属含量及其存在状态、土壤酶、土壤重金属抗性细菌有显著的正相关性。根际土壤细菌尤其是具有重金属抗性的活性细菌可能会促进土壤重金属的活化,由此促进植物体对重金属的吸收和转运。
【英文摘要】Five species of plants and their rhizospheric soils were sampled and collected from heavy metal contaminatedsoils in Qixia,Nanjing for analysis and exploration of characteristics of phyto-accumulation and relationships of contentsof heavy metals with population of bacteria and activity of soil enzymes in the soil. It was found that the heavy metalpollutant in the rhizosphere was dominated with Zn and Cd; and the plants growing therein were quite high in heavy metalabsorbing capacity. Beckmannia grass and Solanum nigrum featured the characteristics of a heavy metal hyperaccumulatorplant. The numbers of bacteria and Pb-resistant bacteria in the rhizospheric soil both reached up to 107 CFU g - 1 ofsoil. The activities of soil enzymes were little inhibited. Significant positive relationships were observed of heavy metals contentsin the plant with contents and forms of the heavy metals in the soil,soil enzymes activity,and Pb-resistant bacteria.Soil bacteria in the rhizosphere,heavy metal-resistant bacteria in particular,may improve bioavailability

of heavy metals insoil,thus promoting uptake and transport of heavy metals by plants.
【语种】中文
【第一作者】孙瑞波
【通讯作者】何琳燕
【期刊名称、卷期、页码】土壤学报,2011,48(5):1013-1020
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【引文索引号】null
【学科分类】微生物学

【题目】铜耐性优势植物根际土壤铜抗性菌株的筛选及其对铜的促溶作用
【中文关键词】铜矿废弃地;铜抗性菌株;铜促溶作用;有机酸;节杆菌属;微杆菌属
【英文关键词】Copper mining wasteland; Copper-resistant strains; Copper solubilization; Organic acids; Arthrobacter sp.; Microbacterium sp.
【中文摘要】从铜矿废弃地重金属耐性优势植物根际土壤中分离筛选到两株抗高浓度Cu 的细菌菌株HQN2 和JYC17。对菌株HQN2 和JYC17 溶解难溶性Cu 的作用进行了研究。结果表明:菌株HQN2 和JYC17 具有明显的溶解碳酸铜的能力,与接灭活菌对照相比,菌株HQN2 和JYC17 分别使培养液中水溶性Cu 含量增加306%和136%,培养液的pH 由初始的7.00 分别降低到4.08和4.46,另外,Cu 能促进供试菌株有机酸(葡萄糖酸、苹果酸和乙酸等)的合成。菌株HQN2 和JYC17 对土壤中难溶性Cu 亦有明显的促溶作用。与接灭活菌对照相比,菌株JYC17 和HQN2 分别使土壤中交换态Cu 含量增加110%和270%。经生理生化特征分析及16S rDNA 序列分析,菌株HQN2 和JYC17 分别被鉴定为节杆菌属(Arthrobacter sp.)和微杆菌属(Microbacterium sp.)。
【英文摘要】In this study two copper-resistant bacterial strains, HQN2 and JYC17, were isolated from rhizospheric soils of heavymetal-tolerant dominant plants growing in copper mining wasteland. Copper solubilization of strains HQN2 and JYC17 were investigated insolution culture and copper-contaminated soil. Compared to the control treatment (CK), water-soluble Cu concentrations released fromCu2(OH)2CO3 by strains HQN2 and JYC17 increased by 306% and 136%, respectively. pH values in the bacterial inoculation treatments decreasedfrom 7.00 to 4.08 (strain HQN2) and 4.46 (strain JYC17) respectively. Copper could promote the production of organic acids (such as gluconic,malic and acetic acids) by the tested strains. The two strains could significantly increase the exchangeable Cu compared to CK. The exchangeableCu concentrations increased by 110% and 270% respectively compared to CK. Based on the physiological and biochemical tests as well as 16SrDNA gene sequence analysis, the bacterial strains HQN2 and JYC17 were identified as Arthrobacter sp. and Microbacterium sp. respectively.
【语种】中文
【第一作者】马海艳
【通讯作者】盛下放
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【引文索引号】null
【学科分类】环境科学技术基础学科

【题目】西藏农业结构特征及调整效应研究
【中文关键词】农业结构; 偏离份额; 农业经济增长; 西藏
【英文关键词】agricultural structure ;shift-share method ;agricultural economic growth ;Tibet
【中文摘要】在简要总结西藏农业产业结构演进特征的基础上, 运用偏离份额方法深入分析了1987~1996 年、1997~2006 年两个时段西藏农业产业结构和内部各部门的偏离程度及其对农业经济增长的影响变化, 并测算了农业结构变动对西藏农业经济增长的贡献份额。结论如下: 西藏农业在全国农业中的竞争力弱, 农业产业、种植业与畜牧业结构渐趋合理, 近几年农业增长的结构效应显著, 农业结构调整初现成效, 但对政策优惠与资金投入的依赖性较大, 结构效应的后续潜力不足。最后提出了实现西藏农业跨越式发展的一些措施。
【英文摘要】Based on the summary of the evolutional character of agriculture structure in Tibet ,this paper analyses the quantitative deviation and its impact on the agricultural economic growth of the agricultural structure and its internal four departments in the two typical periods of 1987 - 1996 and 1997 - 2006 by using the SSM method ,then calculates the contributive share that the structural

alteration affects the agricultural economic growth. The conclusions are as follows : Tibet ’s agriculture has weak competitiveness comparing with the other regions. The structures of agricultural industry and farming and animal husbandry have gradually become rational and the structural effect on agricultural economic growth is distinct in recent years ,but it has great dependence on the preferential policies and investment. Finally ,the writer put forward a few suggestions in order to achieve a leap forward development of agriculture in Tibet.

【语种】中文
【第一作者】李少伟
【通讯作者】余成群
【期刊名称、卷期、页码】农业系统科学与综合研究 ,2009,25(3),257-262
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【学科分类】农业经济学

【题目】日喀则市农业生态足迹研究
【中文关键词】日喀则; 农业; 生态足迹; 资源产量法
【英文关键词】Shigatse City ; agriculture ; ecological footprint ; Resource Yield method
【中文摘要】采用水资源足迹和化石能源供给地概念,对日喀则市2005 年农业活动的生态足迹进行实证分析. 结果表明:日喀则市农业综合足迹为334153.27 hm2 ,占日喀则市总足迹的77.6 % ,其中,化石能源地足迹仅占农业综合足迹的13.3 % ,表明农业现代化程度不高. 对农业综合足迹贡献最大的是耕地和牧草地,二者合占65.6 % ,主要原因是大量使用农用化学品和牧草地严重超载;生产足迹占农业综合足迹的82.8 % ,说明农村占用的大部分资源主要用来进行资源再生产. 对日喀则市农业综合足迹的实证研究表明,资源产量法可以有效减小土地面积法引起的生态赤字扩大化现象,将肉、蛋、奶产品作为次级产品更能反映牧草地利用现状.
【英文摘要】The concepts of water resource footprint and fossil energy supplying areas were adopted to calculate the agricultural footprint of Shigatse City in 2005. It indicates that the agricultural footprint is 334153.27 hm2 , accounting for 77.6 % of the total ecological footprint in the city. Among them , the fossil fuel footprint is only 13.3 %. This shows the low level of agricultural modernization. Arable land and grazing land are the largest two contributors of agricultural footprint , accounting for 65.6 % of the total. This is due to the use of mass agrochemicals and serious overloading. The farmer's agricultural producing footprint accounts for 82.8 % of the total agricultural footprint , indicating that themost resources are used for resource-reproducing in the countryside. It also indicates that Resource Yield method could effectively reduce the expansion of ecological deficit which results from Land Area method , and better reflect the grazing land use status if taking livestock products as secondary products.
【语种】中文
【第一作者】孙维
【通讯作者】余成群
【期刊名称、卷期、页码】环境科学研究,2008,21(5):214-218
【论文发表时间】2008-05-01 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】生态学

【题目】西藏一江两河地区种植业比较优势分析
【中文关键词】西藏;一江两河地区;比较优势;农作物
【英文关键词】Tibet;Three Rivers area; Comparative advantage; Crops
【中文摘要】分析了西藏一江两河地区农作物的生产效率优势、生产规模优势和综合比较优势。结果表明,拉萨市具有综合比较优势的农作物依次是小麦、油菜籽、蔬菜和青饲料,山南地区具有综合比较优势的农作物依次是小麦、青饲料、油菜籽、豆类,日喀则地区具有综合比较优势的农作物依次是豆类、青稞、蔬菜。除粮食作物外,其他作物空间布局尚未符合比较优势原则,但粮食种植比例偏高,作物间种植比例有待调整。提出未来几年种植业发展应该以提高粮食品质和生产效率为突破点,压缩发展粮食作物,适度发展经济作物,大力发展饲料作物。
【英文摘要】The efficiency advantage indicators, scale advantage indicators, and aggregate advantage indicators of crops in different areas are analyzed. The results show that the aggregate advantage crops are wheat, cole, vegetable and fodder in Lhasa, wheat, fodder,

cole and bean in Lhoka, bean, highland barley and vegetable in Shigatse. The research also shows that only food crops' layout is according with the comparative advantage principle,so it is necessary to adjust the major planting structure. Then, some proposals for planting industry in the future are put forward, such as improving the quality of food production and productivity, decreasing the planting area of food crops, developing economic crops moderately, developing fodder crops vigorously.
【语种】中文
【第一作者】孙维
【通讯作者】余成群
【期刊名称、卷期、页码】安徽农业科学 ,2008,36(8),3416-3418
【论文发表时间】2008-04-01 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农业经济学

【题目】Isolation and characterization of a heavy metal-resistant Burkholderia sp.from heavy metal-contaminated paddy field soil and its potential in promoting plant growth and heavy metal accumulation in metal-polluted soil.
【中文关键词】伯克霍尔德氏菌J62菌株;重金属;植物促生根际细菌;生物有效性;植物提取
【英文关键词】Burkholderia sp. J62; Heavy metals; Plant growth promoting rhizobacteria; Bioavailability; Phytoextraction
【中文摘要】从重金属污染土壤中分离筛选到一株伯克霍尔德氏菌.对该菌株的重金属和抗生素抗性,溶解难溶性重金属的能力以及在盆栽条件下对植物生长,富集重金属的影响进行了研究.结果表明,该菌株对多种重金属,抗生素均具有抗性,能溶磷和难溶性铅和镉,菌株可以产生生长素,铁载体,ACC脱氨酶.盆栽试验表明,该菌株可以显著促进植物生长和对重金属铅,镉的富集.该研究结果表明,重金属抗性和植物促生细菌对于促进植物生长和对重金属的修复有重要作用.
【英文摘要】A heavy metal-resistant bacterial strain was isolated from heavy metal-contaminated soils and identified as Burkholderia sp. J62 basedon the 16S rDNA gene sequence analysis. The heavy metal- and antibiotic resistance, heavy metal solubilization of the isolate were investigated.The isolate was also evaluated for promoting plant growth and Pb and Cd uptakes of the plants from heavy metal-contaminatedsoils in pot experiments. The isolate was found to exhibit different multiple heavy metal and antibiotic resistance characteristics. Atomicabsorption spectrometer analysis showed increased bacterial solubilization of lead and cadmium in solution culture and in soils. Theisolate produced indole acetic acid, siderophore and 1-aminocyclopropane-1-carboxylate deaminase. The isolate also solubilized inorganicphosphate. Inoculation with the isolate was found to significantly ($p < 0.05$) increase the biomass of maize and tomato plants.Increase in tissue Pb and Cd contents varied from 38% to 192% and from 5% to 191% in inoculated plants growing in heavy metal-contaminatedsoils compared to the uninoculated control, respectively. These results show that heavy metal-solubilizing and plant growthpromoting bacteria are important for plant growth and heavy metal uptake which may provide a new microbial enhanced-phytoremediationof metal-polluted soils.
【语种】英文
【第一作者】江春玉
【通讯作者】盛下放
【期刊名称、卷期、页码】Chemosphere, 2008, 72: 157-164
【论文发表时间】2008-05-15 00:00:00
【引文索引类型】SCI
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【学科分类】环境科学技术基础学科

【题目】大豆鼓粒期对肥料氮的吸收与分配研究
【中文关键词】大豆; 鼓粒期; 肥料氮; 根瘤固氮;
【英文关键词】soybean; seed filling stage; fertilizer-N; nodulation-N;
【中文摘要】采用15N分阶段标记的方法,研究了鼓粒期间大豆植株对氮素的同化吸收,尤其是肥料氮在各器官中的积累与分配。结果表明:1)5次标记试验期间积累的氮素总量为291.4 mg/plant,占标记试验Ⅴ结束时(鼓粒末期)大豆植株氮素积累总量的48.9%,说明鼓粒期间的氮素积累对于大豆氮素积累具有重要作用;2)从鼓粒始期到鼓粒末期,大豆植株氮素阶段积累量急剧降低,由标记试验Ⅰ的109.5 mg/plant下降到标记试验Ⅴ的19.6 mg/plant;3)鼓粒期大豆植株所吸收的氮素主要来自根瘤固氮,该部分氮占总同化量的67.4%,而肥料氮只占32.6%;4)根瘤固氮和肥料氮的同化量均随着鼓粒进程的推进而下降,分别由标记试验Ⅰ的67.5和42.0 mg/plant下降到标记试验Ⅴ的10.8和8.8 mg/plant;5)5次标记试验中,不同器官中肥料氮的积累

量均表现出一致的规律性,为子粒>叶片>茎>根系>荚皮,并且分配到子粒中的肥料氮比例是逐渐增加的,由标记试验Ⅰ的27.9%增加到标记试验Ⅴ的85.0%。

【英文摘要】This experiment was conducted by using15N labeling method with staged design to study nitrogen assimilation and absorption by the soybean plant during the seed-filling period,especially the distribution of fertilizer N among different organs of soybean.The results show that total nitrogen accumulation during the five labeling experiments(0-25 d after beginning of seed-filling) plays an important role in nitrogen accumulation in soybean plant,which is about 291.4 mg/plant,occupies 48.9% to the total nitrogen accumulation in the labeling experiment Ⅴ.The nitrogen accumulation is decreased sharply during the seed filling period,which is from 109.5 mg/plant in the labeling experiment Ⅰ(0-5 d after beginning of seed-filling) to 19.6 mg/plant in the labeling experiment Ⅴ. Nodulation-N is the main source of the plan assimilated N,which is about 67.4%,and nodulations-N accumulation is decreased from 67.5 mg/plant in the labeling experiment Ⅰ to 10.8 mg/plant in the labeling experiment Ⅴ.Fertilizer-N accumulation is also decreased with the seed-filling process,from 42.0 mg/plant in the labeling experiment Ⅰ to 8.8 mg/plant in the labeling experiment Ⅴ.Fertilizer-N accumulation in different organs of soybean in different labeling experiments exhibits the same orders: seeds>leaves>stems>roots>pod walls,and the proportion of seed N accumulation from the fertilizer is increased from 27.9% to 85.0% during the labeling period.

【语种】中文

【第一作者】金喜军

【通讯作者】龚振平

【期刊名称、卷期、页码】植物营养与肥料学报2010 ,16 (2) : 395 - 399

【论文发表时间】2010-03-25 00:00:00

【引文索引类型】其他

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【学科分类】农业基础学科

【题目】不同基因型大豆糖分积累规律的研究——(Ⅱ)蔗糖含量积累规律研究

【中文关键词】大豆; 蔗糖; 积累规律

【英文关键词】Soybean; Sucrose content; Accumulation;

【中文摘要】选用6个不同基因型的大豆品种,运用框栽的方法,研究了大豆蔗糖含量的动态变化。结果表明,大豆植株营养器官中蔗糖含量呈单峰曲线变化,峰值出现在开花期;荚果中的蔗糖含量先升高后降低,叶部和根中的蔗糖含量较高,是合成和贮藏蔗糖的主要部位;茎部蔗糖含量处于最低水平,不同大豆品种间的蔗糖含量没有表现出明显的规律性;绥农14叶片和叶柄的蔗糖积累呈极显著正相关(r=0.945**),丰收10和秣食豆叶片和叶柄蔗糖含量呈显著正相关(r=0.754*,r=0.823*),绥农14和龙选1号叶片和茎的蔗糖含量达到显著正相关水平(r值分别为0.724、0.791)。

【英文摘要】Dynamics of sucrose accumulation in soybean were investigated with six soybean varieties.The results showed that the sucrose content in vegetative organs showed a single peak curve,arriving the maximum in flowering period.The sucrose content in pods increased first and then decreased.The sucrose content in leaves and roots were high and the sucrose content was the lowest level in stem.There were not significant difference among soybean genotypes.Sucrose accumulation in leaf and petiole were significantly positively correlated in Suinong14(r=0.945**) and Fengshou10 and Moshidou(r=0.754*,r=0.823*).Sucrose content in stem and leaf were significantly positively correlated in Suinong14 and Longxuan 1(r=0.724* and r=0.791*,respectively).

【语种】中文

【第一作者】马春梅

【通讯作者】龚振平

【期刊名称、卷期、页码】作物杂志,2011(1):25-29

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【引文索引号】null

【学科分类】农业基础学科

【题目】苔藓植物分布及其物种多样性的研究评述

【中文关键词】苔藓植物; 物种多样性; 分布; 分析方法

【英文关键词】Bryophytes; Species diversity; Spatial distribution; Analyzing methods

【中文摘要】苔藓植物由于其重要的生态功能及其在植物界中的系统位置而日益受到人们的重视, 但是随着全球气候的变化, 其多样性受到严重的威胁。文中综述了苔藓植物分布和物种多样性的研究进展, 并对其影响因素作了分析, 认为环

境条件, 包括植被、气候、干扰度等均对分布和多样性产生重要影响。对苔藓植物研究方法进行了探讨,认为应对研究方法进行广泛深入的研究, 引入新的研究方法和思路, 为开展大尺度的苔藓植物综合研究和为生物多样性保护奠定基础。
【英文摘要】Due to their important ecological function and systematic position in the plant kingdom,bryophytes have been studied widely. Changes in the global climate, however, have seriouslythreatened bryophyte diversity. We reviewed the latest advanced study on the diversity anddistribution of bryophytes, the environmental factors involved, vegetation, climate, and humanactivities. The methods for analyzing bryophytes distribution and diversity, including quantitative ecological analysis, modeling, and GIS are discussed in this paper. It is important that Chinese researchers advance their methodology and utilize new techniques, so as to develop large spatial scale studies of bryophytes to help increase the foundation of information for biodiversity protection.
【语种】中文
【第一作者】姜炎彬
【通讯作者】邵小明
【期刊名称、卷期、页码】武汉植物学研究 ,2010,28(3):385-390
【论文发表时间】2010-03-01 00:00:00
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【引文索引号】null
【学科分类】生态学

【题目】保护性耕作对土壤部分物理特性及大豆产量的影响(英文)
【中文关键词】耕作; 土壤水分; 土壤温度; 土壤物理特性; 大豆产量;
【英文关键词】Tillage; Soil water; Soil temperature; Soil physical properties; Soybean yields;
【中文摘要】研究了免耕和少耕对松嫩平原地区农田土壤温度、土壤水分、土壤紧实性等物理特性和大豆产量的影响。结果表明:在春季大豆播种期,免耕处理(NT)土壤含水量高于少耕(RT)和传统耕作(CT)。在大豆生长前期,免耕条件下的土壤平均温度低于传统耕作和少耕,传统耕作和少耕接近,免耕模式的土壤温度日较差低于少耕和传统耕作。5~20 cm深度内,免耕条件下的土壤容重高于传统耕作,在10~20 cm深度内,免耕和少耕接近。不同模式间的土壤机械阻力表现出差异,在0~20 cm深度内,免耕高于少耕和传统耕作。不同耕作模式间的大豆产量差异不显著。短期保护性耕作试验结果表明:在当地气候和土壤条件下应用少免耕模式,能够减少春季播种期间土壤水分损失和沙尘暴侵袭造成的危害,同时对大豆产量并没有造成不利影响。
【英文摘要】The great challenge in north Songnen Plain,China is soil degradation and dry period and sandstorm attacking during soybean planting season.The objective of this work is to assess the effects of no-tillage and reduced tillage systems on soil temperature,soil water storage,soil compaction and its effects on soybean yields in a productive soil.The determinations were carried out in 2008.Notillage(NT) showed higher water storage than both reduced tillage(RT) and conventional tillage(CT) during the soybean planting season.Mean soil temperatures were lower under NT than under both RT and CT,and similar between RT and CT during the initial period.Thermal amplitude was lower under NT than under both RT and CT,and was similar between RT and CT during the first growing stage(June 4 to June 19).Bulk density was higher under NT than under CT at 5-20 cm depth,and no different between RT and NT at 10-20 cm soil depth.Penetration resistance performed differences between tillage systems,being higher under NT than under RT and CT at 0-20 cm depth.Grain yields showed no significant differences between tillage systems.Results suggested that application of NT/RT at local climatic and soil conditions could reduce soil water deficiency/sandstorm-attacking during soybean growing season without affecting soybean grain yields in short terms of conservation tillage.
【语种】中文
【第一作者】林蔚刚
【通讯作者】林蔚刚
【期刊名称、卷期、页码】大豆科学,
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【学科分类】农业基础学科

【题目】不同株型大豆群体分布对产量形成的影响
【中文关键词】大豆; 群体分布; 补偿效应; 密度效应; 产量;

【英文关键词】soybean; group distribution; compensation effect; density effect; yield;
【中文摘要】以合丰45和红丰11为材料,设计6个不同的群体分布,株距(cm)×垄上行距(cm)分别为:8×8,8×10,8×12,10×8,10×10和10×12进行田间试验。采用LSD法比较分析群体分布对产量及其性状的影响。结果表明:群体分布显著影响合丰45和红丰11的产量及其性状;合丰45的补偿效应值大于红丰11,红丰11的密度效应值则高于合丰45;补偿效应值和密度效应值均受群体分布影响;8 cm株距时,2个品种的产量与行距呈线性回归关系,10 cm株距时,2个品种的产量与行距表现出开口向下的抛物线回归关系;株型的差异导致产量极值出现在不同的群体分布水平上,具体表现为合丰45和红丰11分别在10 cm×10 cm和8 cm×12 cm群体分布时产量最大。
【英文摘要】The propose of this study was to analyze the effect of population distrabution on yield formation of different soybean types to provide valuable information for soybean high-yield cultivation.This research was carried out with Hefeng45 and Hongfeng11 soybean cultivars by setting 6 different population distributions,which were 8×8,8×10,8×12,10×8,10×10 and 10×12 in plant spacing(cm) ×row spacing(cm),respectively.LSD method was used to analyse changes of yields and yield traits.The values of compensation effect and density effect were calculated.The results showed population distribution had significant effect on yield and yield traits,the value of compensation effect of Hefeng 45 was higher than that of Hongfeng 11 and the value of density effect of Hongfeng 11 was higher than that of Hefeng 45.Population distribution had effects on both compensation and density effect value.Yields of the 2 cultivars changes showed a linear regression relationship and downward convex quadratic parabola regression relationship respectively in plant spacing of 8 cm and 10 cm.The yield extreme value varied with plant type,and that of Hefeng 45 and Hongfeng 11 appeared in the 10 cm×10 cm and 8 cm×12 cm population distribution level,respectively.
【语种】中文
【第一作者】于凤瑶
【通讯作者】于凤瑶
【期刊名称、卷期、页码】大豆科学2010,29(4): 634-637
【论文发表时间】2010-08-25 00:00:00
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【引文索引号】null
【学科分类】农业基础学科

【题目】Biosynthesis and immobilization of biofunctional allophycocyanin
【中文关键词】His标签蛋白,一步法纯化,纳米磁颗粒,亲合层析,螺旋藻,大肠杆菌,结合肽,红藻,藻胆体
【英文关键词】His-tiding-tagged proteins; one-step purification; coated magnetic nanoparticles; affinity-chromatography; Spirulina platensis; Escherichia coli; binding peptide; red algae; phycobilisomes
【中文摘要】别藻蓝蛋白的α亚基据报告有多种药理用途,通过大肠杆菌发酵发达的方法制备出具有StrepⅡ和His双标签的别藻蓝蛋白。由StrepⅡ标签获得的链霉亲和素结合能力经Western blot验证证实。另外,由His标签获得的金属螯合能力不仅能够促进对别藻蓝蛋白的纯化而且可以增强Zn离子在硅胶磁性纳米颗粒上的固定。磁性纳米颗粒将来可以用作药物载体。因此,在基因技术和纳米技术的基础上,我们获得一种很有前景的方法对药理性的蛋白进行生物改造并进行有目的的载送。
【英文摘要】The holo-allophycocyanin-α subunit, which has various reported pharmacological uses, was biosynthesized with both StrepII-tag and His-tag at the N-terminal in E.coli. The streptavidin-binding ability resulting from the Strep II-tag was confirmed by Western blot. Additionally, the metal-chelating ability deriving from the His-tag not only facilitated its purification by immobilized metal-ion affinity chromatography but also promoted its immobilization on Zn(II)-decorated silica-coated magnetic nanoparticles. The holo-allophycocyanin-α subunit with streptacidin-binding ability was thereby immobilized on magnetic nanoparticles. Magnetic nanoparticles are promising as drug delivery vehicles for targeting and locating at tumors. Thus, based on genetic engineering and nanotechnology, we provide a potential strategy to facilitate the biomodification and targeted delivery of pharmacological proteins.
【语种】英文
【第一作者】陈英杰
【通讯作者】姜鹏,秦松
【期刊名称、卷期、页码】Evidence-Based Complementary and Alternative Medicine
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【学科分类】海洋科学

【题目】Purification of 6×His-tagged phycobiliprotein using zinc-decorated silica-coated magnetic nanoparticles
【中文关键词】His标签;藻胆蛋白;硅壳磁性纳米颗粒;Zn(Ⅱ);纯化;吸附行为
【英文关键词】6×His tag; Phycobiliprotein; Silica-coated magnetic nanoparticles; Zn(II); Purification; Adsorption behavior
【中文摘要】通过将Zn离子吸附在硅胶上制备成Zn离子修饰硅壳磁性纳米颗粒。这些纳米颗粒被证明可以应用于对组氨酸标签藻胆蛋白的快速分离。用透射电子显微镜可以表征经过Zn离子吸附修饰后的磁性纳米颗粒表面发生的变化。该颗粒对组氨酸标签藻胆蛋白的等温吸附曲线满足Langmuir吸附定律。通过十二烷基硫磺钠聚丙烯酰胺凝胶电泳显示,在不影响藻胆蛋白光谱特性的情况下,该颗粒可以实现菌体破碎液中组氨酸标签藻胆蛋白的单条带纯化。因此,Zn离子修饰硅壳磁性纳米颗粒对组氨酸标签藻胆蛋白的分离和载送可以作为一种有效的工具。
【英文摘要】Zinc-decorated silica-coated magnetic nanoparticles were prepared by adsorbing zinc onto colloidal silica. These nanoparticles were used for the rapid purification of 6×His-tagged recombinant phycobiliprotein. The surface changes in the magnetic nanoparticles after zinc adsorption were characterized by transmission electron microscopy. The adsorption of the 6×His-tagged phycobiliprotein onto ZnSiMNPs in 10mM PBS at 25°C was found to follow the Langmuir isotherm. ZnSiMNPs could be used to extract 6×His-tagged phycobiliprotein from lysate to single-band purity, as determined by sodium dodecyl sulfate-polyacrylamide gel electrophoresis. No spectral variation was observed in the purified phycobiliprotein. Thus, ZnSiMNPs serverd as a useful tool for the magnetic separation and delivery of the 6×His-tagged phycobiliprotein.
【语种】英文
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【学科分类】海洋科学

【题目】Genetic and marine cyclonic eddy analyses on the largest macroalgal bloom in the world
【中文关键词】东海,绿潮,黄海,浒苔,rDNA间区,石莼科,多样性,沉积物
【英文关键词】East China Sea; green tides, Yellow Sea, Enteromorpha prolifera; rDNA spacer; Ulvophyceae; diversity; sediments
【中文摘要】2008年5月到7月,大量漂浮浒苔(Ulva prolifera)迅速出现在中国黄海南部,在其发展的顶峰时,生物量达到300万吨,覆盖了大约1.29×104 km2 的海域。浒苔生物量快速增长的机理已经得到阐释。黄海浒苔样品的分子系统发生分析表明这些漂浮浒苔属于一个单一的种群,另外黄海海域在春末夏初形成的暂时的冷涡可能通过为浒苔提供足够的生长时间、丰富的营养盐和理想的发育环境而促进了浒苔的生长。对于海洋冷涡和漂浮海藻运动路径之间的关系的首次研究,扩展了我们对漂浮大型海藻由出现到爆发的机理的认识。
【英文摘要】In 2008, a massive Ulva prolifera bloom, with a 3-million-ton biomass covering an area of 1.29×104 km2 at its largest, suddenly appeared from May to July in South Yellow Sea. The mechanism behind the rapid growth of these seaweeds was investigated. Molecular phylogenetic analysis of free-floating algal samples from the Yellow Sea suggested that U.prolifera belong to one population, and that temporary cyclonic eddies in the Yellow Sea in late spring and early summer may help promote the proliferation of this bloom by providing seaweeds with sufficient growth time, abundant nutrition, and favorable habitats. The initial investigation on the relationship between marine cyclonic eddies and the route of free-floating algae extends our knowledge on how the emergence of free-floating macroalgal blooms in coastal areas could yield a large biomass.
【语种】英文
【第一作者】林瀚智
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【题目】Optimization of dilute acid hydrolysis in Enteromorpha
【中文关键词】浒苔;酸水解;酒精可发酵性糖
【英文关键词】Enteromorpha ; acid hydrolysis; ethanol fermentable sugars
【中文摘要】酸水解是将生物多糖水解成可发酵的糖类的一种简单便捷的方法。为了提高发酵糖类的生产效率以及将其转化成燃料酒精的经济开发型,我们对浒苔分别用H2SO4, HCl, H3PO4 和C4H4O4进行了酸水解。在121°C下,分别对其进行了不同时间梯度(30,60,90分钟)和不同酸浓度(0.6, 1.0, 1.4, 1.8, and 2.2%, w/w)的试验处理。通过实验得出,H2SO4的酸水解效率最高。于是,我们通过高效液相色谱仪继续对H2SO4的酸水解特性进行了更详细分析研究。当硫酸的浓度为1.8%处理时间为60分钟时,酒精可发酵性糖类的产量很高,在总还原性糖中可达到48.6%。因此,浒苔是一种很好的生产可燃性酒精的生物。在接下来的工作中,我们会继续研究温度、生物量浓度对酸水解的影响以及将水解产物转变成可燃性酒精的发酵方法。
【英文摘要】Acid hydrolysis is a simple and direct way to hydrolyze polysaccharides in biomass into fermentable sugars. To produce fermentable sugars effectively and economically for fuel ethanol, we have investigated the hydrolysis of Enteromorpha using acids that are typically used to hydrolyze biomass: H2SO4, HCl, H3PO4 and C4H4O4 (maleic acid). 5%(w/w) Enteromorpha biomass was treated for different times (30, 60, and 90 min) and with different acid concentrations (0.6, 1.0, 1.4, 1.8, and 2.2%, w/w) at 121 ° C. H2SO4 was the most effective acid in this experiment. We then analyzed the hydrolysis process in H2SO4 in detail using high performance liquid chromatography. At a sulfuric acid concentration of 1.8% and treatment time of 60 min, the yield of ethanol fermentable sugars (glucose and xylose) was high, (230.5 mg/g dry biomass, comprising 175.2 mg/g glucose and 55.3 mg/g xylose), with 48.6% of total reducing sugars being ethanol fermentable. Therefore, Enteromorpha could be a good candidate for production of fuel ethanol. In future work, the effects of temperature and biomass concentration on hydrolysis, and also the fermentation of the hydrolysates to ethanol fuel should be focused on.
【语种】英文
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【题目】Ulva and Enteromorpha (Ulvaceae, Chlorophyta) from two sides of the Yellow Sea: analyses of nuclear rDNA ITS and plastid rbcL sequence data
【中文关键词】ITS;生物亲缘地理;rbcL;石莼科;暖流;黄海
【英文关键词】ITS; phylogeography; rbcL; Ulvaceae; warm current; Yellow Sea
【中文摘要】石莼科绿藻在世界各地都有分布;最近几年,它们在黄海大量爆发形成绿潮,不仅导致了许多海洋生态问题,这也是一个社会问题。我们调查了石莼科两个主要的属,石莼属和浒苔属,采集并分析了黄海两侧这两个属样品的质体rbcL序列和细胞核的ITS序列。通过rbcL序列构建的进化树显示,采集的样品中浒苔属有五个种(扁浒苔、曲浒苔、肠浒苔、缘管浒苔和浒苔),石莼属有三个种(孔石莼、硬石莼、U.ohnoi)。我们在韩国济州岛的两个地方发现了U.ohnoi,而这种石莼本应该是一种亚热带或热带种。另外,在扁浒苔的5.8S rDNA 和ITS2序列中我们发现了四种核酸型。核酸型进化网络揭示中国、韩国和欧洲种群所拥有的共同的核酸型与欧洲和中国/日本的有联系。虽然采集的是黄海两侧同种的样品,但是每个种的种内遗传多态性在世界各地的样品中水平是比较低的。
【英文摘要】Ulvacean green seaweeds are common worldwide; they formed massive green tides in the Yellow Sea in recent years, which caused marine ecological problems as well as a social issue. We investigated two major genera of the Ulvaceae, Ulva and Enteromorpha, and collected the plastid rbcL and nuclear ITS sequences of specimens of the genera in two sides of the Yellow Sea and analyzed them. Phylogenetic trees of rbcL data show the occurrence of five species of Enteromorpha (E.compressa, E.flexuosa, E.intestinalis, E.linza and E.prolifera) and three species of Ulva (U.pertusa, U.rigida and U.ohnoi). However, we found U.ohnoi, which is known as a subtropical to tropical species, at two sites on Jeju Island, Korea. Four ribotypes in partial sequences of 5.8S rDNA and ITS2 from E.compressa were also found. Ribotype network analysis revealed that the common ribotype, occurring in China, Korea and Europe, is connected with ribotypes from Europe and China/Japan. Although samples of the same species were collected from both sides of the Yellow Sea, intraspecific genetic polymorphism of each species was low among samples collected worldwide.
【语种】英文

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【学科分类】海洋科学

【题目】Genetic transformation of Platymonas (Tetraselmis) subcordiformis (Prasinophyceae, Chlorophyta) using particle bombardment and glass-bead agitation
【中文关键词】bar基因,珠磨法,细胞核转化,粒子轰击,亚心形扁藻
【英文关键词】bar; glass-bead agitation; nuclear transformation; particle bombardment; Platymonas subcordiformis
【中文摘要】扁藻属(Tetraselmis)亚心形扁藻(Platymonas subcordiformis)是单细胞海洋绿藻。通过敏感性测试发现亚心形扁藻对除草剂Basta非常敏感,表明Basta可以作为一种选择剂,bar基因是可行可靠的标记基因。包含bar基因表达盒的载体通过粒子轰击法和珠磨法导入亚心形扁藻,转化株利用Basta进行筛选。最终,DNA杂交印记分析表明这两种转化方法中bar基因都已经成功融合至亚心形扁藻的核基因组中,而且珠磨法转化方法效率略高于粒子轰击法。这是亚心形扁藻稳定转化的第一次报导,并且将会促进其的基础研究以及扩大其的应用。
【英文摘要】Platymonas (Tetraselmis) subcordiformis is a unicellular marine green alga. It was found to be very sensitive to the herbicide Basta through a sensitivity test indicating it could be employed as a selective agent. The bar gene is a practicable and selectable marker gene. The vector containing the expression cassette of the bar gene was transferred to P. subcordiformis by both particle bombardment and glass-bead agitation and transformants were then selected using Basta. Finally, Southern blotting analysis indicated that the bar gene had been successfully integrated into the nuclear genome of P. subcordiformis using both of the transgenic techniques, with the transformation efficiency of the glass-bead method being slightly higher than that of particle bombardment. This is the first report on stable transformation of P. subcordiformis, and will improve fundamental research and enlarge application of this alga.
【语种】英文
【第一作者】崔玉琳
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【学科分类】海洋科学

【题目】Transformation of Platymonas (Tetraselmis) subcordiformis (Prasinophyceae, Chlorophyta) by agitation with glass beads
【中文关键词】珠磨法,绿色荧光蛋白,亚心形扁藻,原生质体,转基因
【英文关键词】Glass-bead method, Green fluorescent protein, Platymonas subcordiformis, Protoplast, Transgenosis
【中文摘要】本文构建了单细胞海洋绿藻亚心形扁藻(Platymonas subcordiformis)的瞬时转化系统。我们通过珠磨法将pEGFP-N1载体导入亚心形扁藻。亚心形扁藻利用溶壁酶(鲍鱼丙酮粉和纤维素酶溶液)降解细胞壁,制作可行的原生质体条件为pH 6.5,25℃,酶解3h,当酶解液中初始亚心形扁藻的添加浓度为107 ml-1,原生质产率为61.2%,原生质体立即通过珠磨法导入pEGFP-N1载体,转化效率约为10-5,在阴性或空白对照组中并未观察到绿色荧光蛋白活性。这项研究表明绿色荧光蛋白是亚心形扁藻的灵敏的转化报告标记,并且细胞壁酶解法和珠磨法是亚心形扁藻转化的可行方案。
【英文摘要】A transient transformation system for the unicellular marine green alga, Platymonas subcordiformis, was established in this study. We introduced the pEGFP-N1 vector into P. subcordiformis with a glass bead method. P. subcordiformis was incubated in cell wall lytic enzymes (abalone acetone powder and cellulase solutions) to degrade the cell wall. The applicable conditions for production of viable protoplasts were pH 6.5, 25°C, and 3h of enzyme treatment. The protoplast yield was 61.2% when P. subcordiformis cells were added to the enzyme solution at a concentration of 107cell ml-1. The protoplasts were immediately transformed with the pEGFP-N1 vector using glass-bead method. The transformation frequency was about 10-5, and there was no GFP activity observed in either the negative or the blank controls. This study indicated that GFP was a sensitively transgenic reporter for P. subcordiformis, and the method of cell wall enzymolysis followed by glass bead agitation was applicable for the transformation of P. subcordiformis.

【语种】英文
【第一作者】崔玉琳
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【学科分类】海洋科学

【题目】Establishment of a concocelis-mediated transformation system for Porphyra by biolistic PDS 1000/He
【中文关键词】紫菜,丝状体,基因枪,lacZ报告基因,SV40启动子
【英文关键词】Porphyra,concocelis,particle delivery system,lacZ reporter gene,SV40 promoter
【中文摘要】以坛紫菜和条斑紫菜的自由丝状体为材料,利用基因枪法分别转化CaMV35S、 SV40、FCP、Amt、Ubi 5种启动子与报告基因组合,转化后48h进行原位组织化学染色检测, 首次针对重要经济红藻紫菜的自由丝状体建立并优化遗传转化技术,为紫菜研究提供了 新工具。结果显示,SV40启动子可以驱动lacZ报告基因(编码J3一半乳糖苷酶)在紫菜丝 状体中的瞬间表达,空白与阴性对照未检测到本底;其它4种启动子未检测到基因表达。 进一步优化实验发现,在可裂膜650psi、轰击距离6cm下获得最高转化效率为8.0×10_。, 经定量检测与双因子方差分析,是最佳转化参数,提示基因枪参数对外源基因转化效率具 显著影响。
【英文摘要】Using a biolistic PDS lO00/He system,free—living conchocelis of Porphyra haitanensis(Rhodophyta)and P. yezoensis are bombarded respectively to test five heterologous promoter--reporter gene cassettes under different biolistic parameters.According to the results of in situ histochemical staining 48 hours after transformation,this is the first report on optimization of Porphyra coneocelis.mediated transfonnation.The established transient expression technique could serve as a new tool for Porphyra research in the concocelis stage,and be ready to set up a stable expression system.It is showed that only the SV40 promoter could drive the transient expression of/LacZ reporter gene without background in either blank control or negative control,whereas CaMV35S,FCP,Amt and Ubi promoters all failed to be recognized effectively by Porphyra concocelis.The highest transformation efficiency of SV40.1acZ is obtained as 8. 0×10-5.suggesting that 650 psi rupture—disc pressure and 6cm of bombardment distance are optimal biolistic parameters for Porphyra conco. cells,and it is also proved by quantitative determination to Lac Z expression.
【语种】英文
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【学科分类】海洋科学

【题目】导入bar基因获得草丁膦抗性裙带菜配子体
【中文关键词】裙带菜(Undaria pinnatifida) 配子体; 基因工程; 草丁膦抗性基因
【英文关键词】Undaria pinnatifida gametophyte; genetic engineeri ng; phosphiothrici resistance gene
【中文摘要】裙带菜(Undaria pinnatifida) 配子体经2.5 L气升式光生物反应器快速营养增殖, 通过基因枪法将携带草丁膦抗性基因(bar) 的载体转入扩增后的配子体, 经草丁膦筛选, 获得抗性克隆。提取抗性克隆配子体基因组总DNA, 经PCR和PCR Southern 检测, 结果显示60% 的抗性克隆可检出bar 基因, 表明bar 基因是裙带菜配子体基因工程有效的筛选标记。
【英文摘要】Undaria pinnatifida gametophytes were cultured in a 2.5 L airlift photobioreactor, and were transformed with phosphiothrici resistance gene (bar) by particle bombardment. After phosphiothrici screening, resistance colonies appeared. PCR and PCR Southern blotting results showed that bar gene had integrated into the genome of 60% of the U. pinnatifida gametophytes and could be a suitable selective marker for U. pinnatifida gametophyte genetic engineering.
【语种】中文
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【题目】三角褐指藻(Phaeodactylum tricornutum)通用转化载体的构建
【中文关键词】bar基因; 三角褐指藻; 通用转化载体
【英文关键词】bar gene; Phaeodactylum tricornutum; general transformatin vector
【中文摘要】三角褐指藻(Phaeodactylum tricorutum)是开展微藻生物柴油研究的理想材料。克隆了内源fcp基因簇的多个调控序列(启动子终止子) ,构建了包括fcpB启动子bar基因fcpA终止子以及 启动子多克隆位点(MCS) fcpA终止子、两个表达盒的通用转化载体pfcpA-MCS/fcpB-bar,其特征是以bar基因作为选择标记,MCS区方便插入一至多个目的基因。新载体可用于三角褐指藻的重组蛋白表达、或油脂代谢相关基因的功能验证和代谢调控研究。
【英文摘要】Phaeodactylum tricorutum is an ideal material for biodiesel research. In this paper, several endogenous elements, i.e. promoters and terminators, from fcp (fucoxanthin, chlorophyll a/c-binding protein) gene clusters were cloned, and a transformation vector pfcpA-MCS/fcpB-bar including two expression cassettes which were fcpB promoter-bar gene-fcpA termination and fcpA promoter-MCS (multiple cloning site)-fcpA termination was constructed and characterized by using bar gene as selection marker. It carried a large MCS easy for insertion of one or more funciton genes. This vector will be used for lipid metabolic engineering for Phaeodactylum tricornutum.
【语种】中文
【第一作者】郑国庭
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【学科分类】海洋科学

【题目】Settlement of vegetative fragments of Ulva prolifera confirmed as an important seed source for succession of a large-scale green tide bloom
【中文关键词】大型藻藻华,微繁体库,浒苔,绿藻,石莼,水产业,多样性
【英文关键词】Macroalgal blooms; propagule banks; Enteromorpha; Chlorophyta; Ulvophyceae; aquaculture; diversity
【中文摘要】在过去三年的中国黄海水域发生的绿潮中浒苔是最多的大型藻。从卫星图像中可以清楚的看到绿潮的形成,但对于他们的起源地仍然还是不清楚。2009年对江苏省的沿海岸的调查和两艘船的跟踪调查显示纤维状的石莼藻在江苏省的各环境中都分布广泛,其包括紫菜养殖的浮筏,池塘,河口,堤坝,潮间带的石头,码头以及湿地海岸。通过5S进化性分析知黄海上的绿潮并不是陆源生物。
【英文摘要】Methodology Principal Findings:To identify miRNAs in Porphyra yezoensis, a small RNA library was constructed. Solexa technology was used to perform high throughput sequencing of the library and subsequent bioinformatics analysis to identify novel miRNAs. Specifically, 180,557,942 reads produced 13,324 unique miRNAs representing 224 conserved miRNA families that have been identified in other plants species. In addition, seven novel putative miRNAs were predicted from a limited number of ESTs. The potential targets of these putative miRNAs were also predicted based on sequence homology search. Conclusions/Significance: This study provides a first large scale cloning and characterization of Porphyra miRNAs and their potential targets. These miRNAs belong to 224 conserved miRNA families and 7 miRNAs are novel in Porphyra. These miRNAs add to the growing database of new miRNA and lay the foundation for further understanding of miRNA function in the regulation of Porphyra yezoensis development.
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【第一作者】张晓雯
【通讯作者】叶乃好
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【学科分类】海洋科学

【题目】‘Green tides’ are overwhelming the coastline of our blue planet: taking the world’s largest example
【中文关键词】绿潮,多样性,环境波动
【英文关键词】Green tide Diversity Environmental fluctuation
【中文摘要】在全世界范围内普遍发生的绿潮是由于沿海地区的海水营养盐水平升高引起的。绿潮发生在许许多多的地点,涉及各种各样种类的藻,引发了不同的后果,以及存在很多可能的原因。关于绿潮发生的频率以及明显的蔓延,我们研究了自然以及人为的环境波动对其产生的影响。本文着重介绍了跨学科研究的需要,旨在揭示绿藻在沿海海域的发生和蔓延的基本机制并进行有效控制。这将导致更有效地管理和减缓的绿潮的影响,从而保障沿海海洋生态系统的内在价值和商业价值。
【英文摘要】A broad spectrum of events that come under the category of green tide are recognized world-wide as a response to elevated levels of seawater nutrients in coastal areas. Green tides involve a wide diversity of sites, macroalgal species, consequences, and possible causes. Here we review the effect of natural and maninduced environmental fluctuations on the frequency and apparent spread of green tides. This article highlights the need for interdisciplinary research aimed at shedding light on the basic mechanisms governing the occurrence and succession of green algae in coastal seas. This will result in more effective management and mitigation of the effects of green tides, thus safeguarding the intrinsic and commercial value of coastal marine ecosystems.
【语种】英文
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【学科分类】海洋科学

【题目】Pyrolytic characteristics and kinetic studies of three kinds of red algae
【中文关键词】藻,单细胞,海红头,热解动力学分析
【英文关键词】Algae, Pophyra yezoensis, Plocamium telfairiae Harv, Corallina pilulifera, Pyrolysis, Kinetic analysis
【中文摘要】海洋藻类具有成为第三代生物燃料原料的巨大潜能。在惰性气体中,我们对三种红藻(条斑紫菜、海红头和小珊瑚藻)研究在10、30和50°C条件下每分钟的加热率。最可能的作用机理和活化能指前因子通过Popescu, FWO and KAS计算。热解包括三部分:水分蒸发、初步液化处理和剩余残渣分解。不同藻类样品的平均活化能、热稳定性、剩余残渣和反应速率具有显著性差异。不同样品的第二状态可用Avramic-Erofeev 方程式描述。通过不同的方法计算发现,所有样品具有相似的平均活化能。同时发现前指因子和活化能的动力学补偿效应。
【英文摘要】Marine algae have great potential as a third generation biofuel feedstock. The pyrolyt ic and kinetic characteristics of three kinds of red algae (Pophyra yezoensis, Plocamium telfairiae Harv and Corallina pilulifera) were studied at heating rates of 10, 30 and 50°C min-1 under an inert atmosphere. The most probable mechanism function and activation energy pre-exponential factors were calculated by the Popescu, FWO and KAS methods. Three stages appeared during pyrolysis: moisture evaporation, primary devolatilization and residual decomposition. Significant differences in the average activation energy, thermal stability, final residuals and reaction rates of the algae samples were observed. Stage II of the samples could be described by the Avrami c-Erofeev equation. The average activation energy of all samples was similar when calculated by different methods. Kinetic compensation effects of the pre-exponential factors and activation energy were also observed
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【第一作者】李德茂
【通讯作者】叶乃好
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【学科分类】海洋科学

【题目】Rapid estimation of lipid content in an Antarctic ice alga (Chlamydomonas sp.) using the lipophilic fluorescent dye BODIPY505/515
【中文关键词】南极衣藻ICE-L,油脂含量,BODIPY505/515,快速估算
【英文关键词】Chlamydomonas sp. ICE-L . Lipid content . BODIPY505/515 . Rapid estimation
【中文摘要】从南极海洋环境中分离得到一株高产油的藻株为ICE-L,它可以用于生产生物能源。荧光染料BODIPY505/515可用于估算藻体中油脂的含量。油脂颗粒经荧光染料染色后发出绿色荧光,可以通过计算球体体积的方程来估算这些油脂颗粒的体积。本研究主要探讨了在缺氮和紫外照射条件下油脂含量的变化。结果表明缺氮和紫外照射均可促进油脂颗粒的聚集。在完全培养基中培养12天可以收获到最大油脂含量即84 μL L－1,但在缺氮条件下不能达到。接种需要在对数期的后期进行接种。主要原因是在缺氮培养基中细胞数量基本上不增加,总油脂含量的增加被低生长速率所抵消。南极衣藻ICE-L中油脂含量高,在后期中可以考虑作为生物能源的原料。
【英文摘要】Chlamydomonas sp. ICE-L, isolated from Antarctic coastal marine environments, was selected as a high lipid producer, which may be useful for biodiesel production. The lipophilic fluorescent dye BODIPY505/515 was used to determine the algal lipid content. Lipid bodies stained with BODIPY505/515 have a characteristic green fluorescence, and their volumes were determined using the sphere volume formula. In this study, lipid accumulation by Chlamydomonas ICE-L was analyzed under different cultivation conditions (nitrogen deficiency and UV-B radiation). The results demonstrated that nitrogen deficiency and UV-B radiation could significantly promote the accumulation of lipid content per cell. The highest yields of total lipid content (reaching 84 μL L − 1) were obtained in full Provasoli medium after 12 days of cultivation, but not in the nitrogendeficient medium. The inoculum used in this experiment was obtained from the late-exponential growth phase. The main reason was that the cell numbers in nitrogendeficient medium had not increased and total lipid contents were offset by the lower growth rate. Considering the high lipid content in Chlamydomonas sp. ICE-L, this alga might be a promising alternative species for production of microalgal oil for the production of renewable biodiesel in the future.
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【第一作者】牟善莉
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【学科分类】海洋科学

【题目】A multidomain galectin involved in innate immune response of pearl oyster Pinctada fucata
【中文关键词】合浦珠母贝;珍珠贝;凝集素;β-半乳糖苷;先天性免疫
【英文关键词】Pinctada fucata;Pearl oyster;Lectin; β-Galactoside;Innate immunity
【中文摘要】半乳凝素能够特异地结合β-半乳糖苷,并在脊椎动物和无脊椎动物的先天免疫中起到重要作用。本研究中,在合浦珠母贝中克隆获得一个含有多个糖基识别区域(CRDS)的半乳凝素cDNA序列(PoGal)。半乳凝素PoGal基因全长2138bp,包括120bp的5’非编码区(UTR)、350bp的3’非编码区以及2个细胞激素RNA不稳定序列(ATTTA)。开放阅读框(ORF)为1668bp,编码555个氨基酸,分子量为63.4 KDa,等电点为4.8。PoGal含有4个糖基识别区域CRDs,每一个CRDs都含有保守的糖基结合序列H-NPR和WG-ER。同源性分析表明,PoGal与仅含有4个多个糖基识别区域(CRDS)的海湾扇贝和东部牡蛎的相似性分别为43.7%和62.9%。系统树分析表明所有含有4个多个糖基识别区域(CRDS)的半乳凝素形成一个分支。组织表达结果表明,PoGal mRNA在所有检测的组织中均有表达。在溶藻弧菌(Vibrio alginolyticus)刺激下,PoGal mRNA在消化腺、外套膜、血液、性腺以及肠中的表达量均显著上调。应急实验表明,在溶藻弧菌(Vibrio alginolyticus)刺激下,在4h、8h以及12h合浦珠母贝消化腺中PoGal基因的表达量显著上调。这些结果表明PoGal是一种可诱导的急性期蛋白质,可能参与了合浦珠母贝先天性免疫反应。
【英文摘要】Galectins could specifically bind to β-galactoside residues and play crucial roles in innate immune responses of vertebrates and invertebrates. In this study, the cDNA of a galectin with multiple carbohydrate-recognition domains (CRDs) was cloned from pearl oyster Pinctada fucata (designated as PoGal). PoGal cDNA was 2138 bp long and consisted of a 5′-untranslated region (UTR) of 120 bp, a 3′-UTR of 350 bp with two cytokine RNA instability motifs (ATTTA), and an open reading frame (ORF)

of 1668 bp encoding a polypeptide of 555 amino acids with an estimated molecular mass of 63.4 kDa and a theoretical isoelectric point of 4.8. PoGal contained four CRDs, each CRD of PoGal all had the conserved carbohydrate-binding motifs H-NPR and WG-ER. PoGal shared 43.7% and 62.9% identity to those of bay scallop and eastern oyster, respectively, which were only two galectins with four CRDs. The phylogenetic analysis revealed that all galectins with four CRDs formed a single clade. PoGal mRNA was constitutively expressed in all detected tissues, and the expression level of PoGal mRNA was significantly up-regulated in digestive gland, mantle, haemocyte, gonad and intestine after Vibrio alginolyticus stimulation. The expression profile analysis showed that the expression level of PoGal mRNA was significantly up-regulated at 4, 8 and 12 h after V. alginolyticus stimulation. These results suggested that PoGal was a constitutive and inducible acute-phase protein that perhaps involved in innate immune response of pearl oyster.

【语种】英文

【第一作者】张殿昌

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【学科分类】海洋科学

【题目】Molecular characterization and expression analysis of cathepsin L1 cysteine protease from pearl oyster Pinctada fucata

【中文关键词】珍珠贝;合浦珠母贝;组织蛋白酶L;半胱氨酸蛋白酶;免疫应答

【英文关键词】Pearl oyster;Pinctada fucata;Cathepsin L;Cysteine protease;Immune responses

【中文摘要】组织蛋白酶L是一种参与免疫应答的重要超家族酶。在本研究中,从合浦珠母贝获得一个组织蛋白L cDNA全长(poCL1),合浦珠母poCL1 cDNA全长1160bp,5’非编码区(Untranslated region,UTR)长15bp,3’-UTR长149bp,polyA尾巴前11bp出有聚腺苷酸化信号序列(AATAAA),开放阅读框(Open reading frame,ORF)为996bp,编码331个氨基酸组成的多肽链。poCL1蛋白由信号肽(Met1-Ala16),前体域(Thr17-Asp113)和成熟域(Leu114-Val331)组成,存在一个潜在的糖基化位点(Asn98),六个底物结合位点(Leu182,Met183,Ala249,Leu276,Gly279和Cys325),以及半胱氨酸(Cys138)、组氨酸(His278)和天冬酰胺(Asn298)残基构成的催化三联体。poCL1含有两个组织蛋白酶L保守签名序列ERFNIN和GNYD。同源性分析表明,poCL1与其他物种的相似性为62.5%~72.5%,同源性为42.9%~56.0%。系统树分析表明poCL1与无脊椎动物的组织蛋白酶L聚为一类,与淡水螺(Radix peregra),海参(Stichopus japonicus),海胆(Strongylocentrotus sala)组织蛋白酶L亲缘关系最近。组织表达分析表明,poCL1 mRNA在消化腺、外套膜、性腺、闭壳肌、肠、血淋巴、鳃组织中均表达,其中在消化腺表达量最高。应激实验表明,在溶藻弧菌(Vibrio alginolyticus)刺激下,肝脏中poCL1 mRNA在4h和8h显著上调,在12h和24h后显著下调,表明poCL1可能参与了合浦珠母贝的先天免疫应答反应,暗示其在合浦珠母贝先天免疫调控中发挥重要作用。

【英文摘要】Cathepsin L is one of the crucial enzyme superfamilies and involved in the immu ne responses. In this study, a cDNA encoding cathepsin L cysteine protease was identified and characterized from pearl oyster Pinctada fucata (designated as poCL 1). The poCL1 cDNA was 1160 bp lon g and consis ted of a 5,-untranslated region (UTR) of 15 bp, a 3,-UTR of 149 bp with a polyadenylation signal (AATAAA) at 11 nucleotides upstream of the poly(A) t ail, and an open reading frame (ORF) of 996 bp encoding a polypeptide of 331 amino acids, which contained a typical signal peptide sequence (Met1 -Ala16), a prodo-main (Thr17-Asp113) , and a mature domain (Leu114-Val331). The preproprotein contained the oxyanion hole(Gln), the active triad formed by Cys, His and Asn, and the conserved ERFNIN, GNFD motifs, which is characteristic for cathepsin L protease s. Homology analysis revealed tha t the poCL1 shared 62.5-72.5%similarity and 42.9-56.0% identity to other known cathepsin L sequences. The phylogenetic tree showed that the poCL 1 clustered with the invertebrate cathepsin L cysteine proteases and was closely related to Stichopus japonicus CL, Strongylocentrotus salar CL1 and Radix peregra CL. The mRNA expression of the poCL1 in blank group and bacterial challenge group could be detected in all studied tissues with the higher level in digestive gland. The expression level of poCL1 mRNA was significantly up-regulated at 4 h and 8 h, and then significantly down-regulated at 12 h and 24 h in digestive gland after Vibrio alginolyticus stimulation. These results provided important information for further exploring the roles of pearl oyster cathepsin L in t he immune responses.

【语种】英文

【第一作者】麻建军

【通讯作者】江世贵

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【学科分类】海洋科学

【题目】Molecular characterization and expression analysis of interferon- γ -inducible lysosomal thiol reductase (GILT) gene from pearl oyster Pinctada fucata
【中文关键词】珍珠贝;合浦珠母贝;干扰素 – γ -诱导溶酶体硫醇还原酶;先天免疫
【英文关键词】Pearl oyster; Pinctada fucata; Interferon- γ -inducible lysosomal thiol reductase; Innate immunity.
【中文摘要】干扰素 – γ -诱导溶酶体硫醇还原酶(GILT)是一个重要的巯基还原酶,它参与物种MHC限制的抗原在哺乳动物中的二硫键还原催化处理。本文中,我们鉴定和描述了合浦珠母贝的干扰素 – γ -诱导溶酶体硫醇还原酶基因,命名为poGILT。poGILT基因全长为1273bp,包括一个24bp的5’UTR,一个484 bp的3’UTR,3’UTR包括两个RNA细胞不稳定因子ATTTA,开放阅读框为765bp。预测poGILT蛋白包含254个氨基酸,分子量大小为28.9KDa,理论等电点为7.4。poGILT基因的N-末端推测有一个裂解位点在19-20氨基酸的信号肽。SMART分析显示,poGILT包含一个GILT活化位点C69PDC72区域和一个GILT标签序C115QHGKEECIGNLIETC130。利用Mat-GAT软件对poGILT以及其他已知物种的GILT序列进行同源性分析,结果显示,poGILT跟其他物种分别有42.9 – 67.3%的相似性和22.9 – 49.8%的同源性。poGILT 的mRNA表达水平显示,其在消化腺的表达量最高,在闭壳肌,鳃,性腺,肠和外套膜的表达量次之,在血细胞中的表达量最低。应激表达实验表明,在脂多糖或溶藻弧菌的刺激下,合浦珠母贝poGILT基因在鳃和消化腺中的表达均显著上调。这一结果表明,合浦珠母贝poGILT基因受脂多糖或溶藻弧菌的刺激而激活,是一种可诱导的急性期蛋白质,可能参与了合浦珠母贝的先天免疫反应。
【英文摘要】Interferon- γ --inducible lysosomal thiol reductase (GILT) is an important thiol reductase, involved in class, MHC-restricted antigen processing by catalyzing disulfide bond reduction in mammals. Herein, we describe the identification and characterization of pearl oysterPinctada fucataGILT (designated as poGILT). The poGILT cDNA was 1273 bp long and consisted of a 5,-untranslated region (UTR) of 24 bp, a 3’-UTR of 484 bp with two cytokine RNA instability motifs (ATTTA), and an open reading frame (ORF) of 765 bp encoding a polypeptide of 254 amino acids with an estimated molecular mass of 28.9 kDa and a theoretical isoelectric point of 7.4. The N-terminus of the poGILT was found to have a putative signal peptide with a cleavage site amino acid position at 19 – 20. SMART analysis showed that the poGILT contained a GILT active-site C69PDC72
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【第一作者】张殿昌
【通讯作者】江世贵
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【学科分类】海洋科学

【题目】cDNA cloning and mRNA expression of a tandem-repeat galectin (PoGal2) from the pearl oyster, Pinctada fucata
【中文关键词】合浦珠母贝;珍珠贝;凝集素; β -半乳糖苷;先天免疫
【英文关键词】Pinctada fucata; Pearl oyster; Lectin; β -galactoside; Innate immunity
【中文摘要】半乳凝素能够特异地识别和结合 β -半乳糖苷,并在脊椎动物和无脊椎动物的先天免疫中起到重要作用。本文克隆了一个合浦珠母贝合浦珠母贝半乳凝素基因(PoGal2)。半乳凝素PoGal2基因序列全长1347bp,包括3p的5’非编码区(UTR)、297bp的3’非编码区以及1个细胞激素RNA不稳定序列(ATTTA)。开放阅读框(ORF)为1047bp,编码349个氨基酸,分子量为38.1KDa,等电点为8.5。PoGal2含有2个糖基识别区域CRDs,均含有保守的糖基结合序列H-NPR和WG-EE。 同源性分析表明,PoGal 2与皱纹盘鲍(Haliotis discus)和菲律宾蛤(Venerupis philippinarum)的相似性分别为50.6%和50.9%。系统树分析所检测的不同物种半乳凝素形成两个分支,其中软体动物的聚为一支,线性虫类的聚为一支。每个分支中CRD-N 和CRD-C聚类到不同的分支中。组织表达结果表明,PoGal 2 mRNA 在所有检测的组织中均有表达。在溶藻弧菌(Vibrio alginolyticus)刺激下,PoGal2 mRNA在消化腺、鳃以及血液中的表达量均显著上调。应急实验表明,在溶藻弧菌(Vibrio alginolyticus)刺激下, 在8h、12h以及24h合浦珠母贝消化腺中PoGal2基因的表达量显著上调。这些结果表明PoGal 2是一种可诱导的急性期蛋白质,可能参与了合浦珠母贝先天性免疫反应。

【英文摘要】Galectins can recognize and specifically bind to β-galactoside residues, playing crucial roles in innate immune responses of vertebrates and invertebrates. We cloned the cDNA of a tandem-repeat galectin from the pearl oyster Pinctada fucata (designated as PoGal2). PoGal2 cDNA is 1347 bp long and consists of a 5 ' -untranslated region (UTR) of 3 bp, a 3 ' -UTR of 297 bp with one cytokine RNA instability motif (ATTTA), and an open reading frame of 1047 bp, encoding a polypeptide of 349 amino acids, with an estimated molecular mass of 38.1 kDa and a theoretical isoelectric point of 8.5. PoGal2 contains two carbohydrate recognition domains (CRDs); both have the conserved carbohydrate-binding motifs H-NPR and WG-EE. PoGal2 shares 50.6 and 50.9% identity with those of abalone (Haliotis discus) and the Manila clam (Venerupis philippinarum), respectively.Phylogenetic analysis revealed that the tandem-repeat galectins formed two clades for the different species. Molluscan tandem-repeat galectins were clustered into a single clade, and nematode tandem-repeat galectins were clustered into another single clade. In both clades, CRD-N and CRD-C were divided into different groups. PoGal2 mRNA was constitutively expressed in all tissues analyzed, and the expression level of PoGal2 mRNA was found to be significantly up-regulated in digestive glands, gills and hemocytes after Vibrio alginolyticus stimulation/infection. Expression profile analysis showed that the expression level of PoGal2 mRNA was significantly up-regulated at 8, 12 and 24 h after V. alginolyticus infection. These results suggest that PoGal2 is a constitutive and inducible acute-phase protein involved in the innate immune response of pearl oysters.

【语种】英文
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【学科分类】海洋科学

【题目】Molecular characterization and mRNA expression of catalase from pearl oyster Pinctada fucata
【中文关键词】合浦珠母贝;珍珠贝;过氧化氢酶;活性氧;免疫应答
【英文关键词】Pincatada fucata;Pearl oyster;Catalase;Reactive oxygen species
Immune response

【中文摘要】过氧化氢酶(Catalase)是机体内一类重要的抗氧化酶,能保护细胞免受活性氧的破坏,在生物体抗氧化能力以及免疫防御方面起到重要作用。本文研究了合浦珠母贝过氧化氢酶基因结构特征和在应激状态下的表达调控机制,合浦珠母贝过氧化氢酶基因PoCAT的cDNA序列全长为2428bp,其中5’-UTR为140 bp,3’-UTR为749 bp,ORF为1539 bp,可编码512个氨基酸,分子量大约为58.05 kDa,等电点为8.4。利用MatGAT软件对PoCAT氨基酸序列和其它物种CAT序列进行同源性和相似性分析,结果表明PoCAT与其它物种CAT序列具有较高的保守性,同源性为62.3%-82.2%,相似性为73%-92%。序列分析表明PoCAT中存在CAT家族的签名序列351RLFSYSDT358、活性位点序列61FNRERIPERVVHAKGAGA78、三个催化位点His72, Asn145 和Tyr355、两个N糖基化位点N436YS438 、 N478FS480以及过氧化物酶体导向信号ASL。组织表达模式分析表明PoCAT mRNA在消化腺、鳃、性腺、肠和外套膜中都有表达。免疫应激实验结果显示,在2 h、4 h和12h时PoCAT基因在肠中的表达显著上调,表明PoCAT可能参与了合浦珠母贝的先天免疫应答反应。

【英文摘要】Catalase (EC 1.11.1.6) is an important antioxidant enzyme that protects aerobic organisms against oxidative damage by degrading hydrogen peroxide to water and oxygen. In the present study, a catalase cDNA of peal oyster Pincatada fucata (designated as PoCAT) is cloned and characteri zed by expressed sequence tag (EST) and rapid amplification of cDNA ends (RACE) methods. PoCAT is 2428 bp long and consists of a 5 ′ -UTR of 140 bp, an unusually long 3 ′ -UTR of 749 bp, and an open readi ng frame (ORF) of 1539 bp. The ORF of PoCAT encodes a polypeptide of 512 amino acids with molecular weight of 58.1 kDa and the theore tical isoelectric point of 8.4 . PoCAT shares 62.3 – 82. 2% ide ntity and 73.0 – 92 .0% similarity to other catalase amino acid sequences. Sequence alignment indicates that PoCAT contains the proximal heme-ligand signature sequence(R351LFSYSDT358), the proximal active site signature (F61NRER IPERVVHAKGGGA78), and the three catalytic amino acid residues (His72, Asn145, and Tyr355). PoCAT has two potential glycosylation sites (N436YS438andN478FS480) and a peroxisome targeting signal (ASL). PoCAT mRNA was ubiquitously expressed in all detected tissues, and the expression level of PoCAT mRNA was higher in intestine and mantle. The expression profile analysis showed that the expression level of PoCAT mRNA in intestine was significantly up-regulated at 2, 4 and 12 h after Vibrio alginolyticus stimulation. These results demonstrated that PoCAT is a typical member of catalase family and might be involved in innate immune responses of pearl oyster.

【语种】英文

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【学科分类】海洋科学

【题目】A macrophage migration inhibitory factor like oxidoreductase from pearl oyster Pinctada fucata involved in innate immune responses
【中文关键词】珍珠贝;合浦珠母贝;巨噬细胞迁移抑制因子;氧化还原活性
【英文关键词】Pearl oyster;Pinctada fucata;Macrophage migration inhibitory factor;Oxidoreductase activity
【中文摘要】巨噬细胞迁移抑制因子是一种重要的细胞因子并在先天性免疫反应中起着关键调控作用。PoMIF cDNA全长1544 bp,5’-非编码区(Untranslated region,UTR)长45 bp,3’-非编码区长1139 bp包括polyA 尾巴及其上游15核苷酸处有一个多核苷酸加尾信号(AATAAA)。开放阅读框(Open reading fragment,ORF)为360 bp,编码120个氨基酸组成的多肽链,分子量是13.3 kDa,理论等电点为6.1。SMART分析表明PoMIF 蛋白包含拓扑异构酶活性位点(Pro2 和 Lys33)、氧化还原酶活性功能域C57GSV60以及MIF家族的特征序列D55PCGSVEVYSIGALG69。同源性分析PoMIF与其他MIF已知序列的相似性是40.3%-65.5%,同源性是26.9%-45.0%。组织表达分析说明,PoMIF在消化腺、腮、外套膜、性腺、血细胞、闭壳肌和肠七个组织中均有表达,其中在消化腺中表达量最高。在溶藻弧菌(Vibrio alginolyticus)刺激8 h时,PoMIF在消化腺、腮、血细胞和肠中表达量显著上调。在PoMIF蛋白活性研究中,将编码PoMIF成熟蛋白的PCR产物连接到质粒pREST上构建重组表达载体pREST-PoMIF,转化到大肠杆菌,经IPTG诱导,产生融合蛋白rPoMIF。功能分析显示rPoMIF具有氧化还原酶活性并能利用二硫苏糖醇(Dithiothreitol,DTT)还原胰岛素。
【英文摘要】Macrophage migration inhibitory factor (MIF) is an important cytokine and plays a crucial role as a pivotal regulator of innate immunity. In this study, a MIF cDNA was identified and characterized from the pearl oyster Pinctada fucata (designated as PoMIF). The full-length of PoMIF was 1544 bp and consisted of a 5′-untranslated region (UTR) of 45 bp, a 3′-UTR of 1139 bp with a polyadenylation signal (AATAAA) at 12 nucleotides upstream of the poly (A) tail. The open reading frame (ORF) of PoMIF was 360 bp which encoded a polypeptide of 120 amino acids with an estimated molecular mass of 13.3 kDa and a predicted pI of 6.1. SMART analysis showed that PoMIF contained the catalytic-sites P2 and K33 for tautomerase activity, a motif C57GSV60 for oxidoreductase activity and a MIF family signature D55PCGSVEVYSIGALG69. Homology analysis revealed that the PoMIF shared 40.3-65.5% similarity and 26.9-45.0% identity to other known MIF sequences. PoMIF mRNA was constitutively expressed in seven selected tissues of healthy pearl oysters, with the highest expression level in digestive gland. Eight hours after P. fucata was injected with Vibrio alginolyticus, the expression of PoMIF mRNA was significantly upregulated in digestive gland, gills, hemocytes and intestine. The cDNA fragment encoding mature protein of PoMIF was subcloned to expression vector pRSET and transformed into Escherichia coli BL21 (DE3). The recombinant PoMIF (rPoMIF) was expressed and purified under optimized conditions. Function analysis showed that rPoMIF had oxidoreductase activity and could utilize dithiothreitol (DTT) as reductant to reduce insulin.
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【第一作者】崔淑歌
【通讯作者】江世贵
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【学科分类】海洋科学

【题目】Photosynthetic responses of thalli and isolated protoplasts of Bryopsis hypnoides (Bryopsidales, Chlorophyta) during dehydration
【中文关键词】鲜羽藻;叶绿素荧光法;脱水;原生质体;脉冲放大;调制荧光系统。
【英文关键词】Bryopsis hypnoides; chlorophyll fluorescence; dehydration; protoplasts pulse amplifiedmodulation fluorescence system.

【中文摘要】鲜羽藻是潮间带一种特殊的绿藻,它挤压出的原生质能够在海水中自发的聚集产生许多新的细胞,能够发育为成熟的藻体。在研究中,使用脉冲调制的荧光剂来检测藻体和孤立原生质体在脱水状态下的反应。结果显示,初始阶段,藻体的光合作用速率保持,初始阶段之后,持续的干燥使得光系统I和光系统II的速率明显下降。然而,暴露在空气中(CO2浓度为600±700 mg/L)的原生质体在脱水20%时光合作用速率轻微增大,但是随着水分的继续流失,其光合作用速率逐渐减小。当原生质体暴露在CO2(浓度为40±80 mg/L)缺乏的条件中时,其光合作用速率稳定的减少,并没有初始增大的现象。这些结果表明了藻体和孤立的原生质体能够有效的利用周围环境中的CO2,而藻体和原生质体在脱水状态下的光合性能有明显的差别。因此原生质体可能是研究压力耐受性很好的一个体系。

【英文摘要】Bryopsis hypnoides Lamouroux is a unique intertidal siphonous green alga whose extruded protoplasm can aggregate spontaneously in seawater to form numerous new cells that can develop into mature algal thalli. In this study, the photosynthetic responses during dehydration of both the thalli and protoplasts isolated from B.hypnoides were measured using a Dual-PAM(pulse amplitude modulation)-100 fluorometer. The results show that the photosynthetic rates of B. hypnoides thalli were maintained for an initial period, beyond which continued desiccation resulted in reduced rates of PSI and PSII. However, the photosynthetic performances of the isolated protoplasts dehydrated in air (CO2 concentration 600±700 mg/L) showed a slight increase of Y(II) at 20% water loss, but the rates decreased thereafter with declining water content. When protoplasts were dehydrated in CO2 deficient conditions (CO2 concentration 40±80 mg/L), the values of Y(II) declined steadily with increased dehydration without an initial rise. These results indicated that the thalli and isolated protoplasts of this alga can utilize CO2 in ambient air effectively, and the photosynthetic performances of the isolated protoplasts were significantly different from that of the thalli during dehydration. Thus the protoplasts may be an excellent system for the study of stress tolerance.

【语种】英文

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【学科分类】海洋科学

【题目】Sequence and phylogenetic analyses of the chloroplast 16S rRNA, tufA, and rbcL genes from Bryopsis hypnoides

【中文关键词】鲜羽藻;羽藻目;生物地理差异;进化分析;tufA基因。

【英文关键词】Bryopsis hypnoides; Bryopsidales; biogeographic divergence; phylogenetic analysis; tufA gene.

【中文摘要】使用鸟枪法序列数据,获得青岛本地种鲜羽藻的叶绿体16S rRNA和tufA基因的全长。在16S rRNA基因上有两个内含子区,跟羽毛藻在结构上有很大的相似性。叶绿体编码的tufA基因长度为1230bp,富含AT序列,为61.5%,与以前发表的羽藻属的基因很相似。基于叶绿体16S rRNA和tufA基因的进化分析证实了初始的假设,绒羽藻属不属于钙羽藻科。生物进化分析显示了羽藻属与德氏藻是姐妹种,然而这个进化枝缺乏有力证据。此外,根据Genbank 数据库获得的rbcL序列构建的系统进化树,结合羽藻属的地理分布,鉴定了亚洲三个不同分布的羽藻属种,初步结果显示它们是完全不同的种。

【英文摘要】Using shotgun sequencing data, the complete sequences of chloroplast 16S rRNA and tufA genes were acquired from native specimens of Bryopsis hypnoides (Qingdao, China). There are two group I introns in the 16S rRNA gene, which is structurally similar to that of Caulerpa sertularioides (Bryopsidales, Chlorophyta). The chloroplast-encoded tufA gene sequence is 1 230 bp long, very AT-rich (61.5%), and is similar to previously published 16S rRNA sequences of bryopsidinean algae. Phylogenetic analyses based on chloroplast 16S rRNA and tufA gene sequence data support previous hypotheses that the Bryopsidineae, Halimedineae, and Ostreobidineae are three distinct lineages. These results also confirmed the exclusion of Avrainvillea from the family Udoteaceae. Phylogenetic analyses inferred that the genus Bryopsis as sister to Derbesia; however, this clade lacked robust nodal support. Moreover, the phylogenetic tree inferred from rbcL GenBank sequences, combined with the geographical distributions of Bryopsis species, identified a strongly supportive clade for three differently distributed Asian Bryopsis species. The preliminary results suggesting that these organisms are of distinct regional endemism.

【语种】英文

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【学科分类】海洋科学

【题目】Photosynthetic performance of regenerated protoplasts from disintegrated cells of Bryopsis hypnoides (Chlorophyta)
【中文关键词】鲜羽藻;叶绿素荧光法;全叶片荧光成像;氧测量;原生质体;光合作用。
【英文关键词】Bryopsis hypnoides; chlorophyll fluorescence; imaging-PAM; oxygen measurements; protoplasts; Photosynthesis
【中文摘要】用叶绿素荧光法和氧测量法分别测定海水里培养了1小时,6小时,12小时和24小时鲜羽藻再生原生质体的光合作用。结果显示,对于再生原生质体,色素含量,光合作用速率与呼吸作用的比率,最大PSII量子产率和有效PSII量子产率,随着原生质体的重建过程逐渐降低,暗示了这些新形成的原生质体的PSII系统活动在24小时的重建过程中有一个显著地降低。我们假定在再生原生质体的重建过程中有不同的光合作用活力,而他们其中仅仅有一小部分能够成长为成熟的藻体。总的来说,上述结果显示了再建原生质体在每个时间段的光合作用特点,而不是单独的再建原生质体的光合作用活力。进一步的研究表明原生质体的大小和它们活力之间存在一定关系。实验结果显示中等大小的群体在培养24小时之后占总数的大部分。四个直径大小不同的原生质体群体(i.e. < 20, 20 – 60, 60 – 100, and > 100 μm)在最大光系统II量子产率和有效光系统II量子产率的不同显示了20 – 60 μm直径的原生质体有几个小时的最大的吸收和转化光能的潜能。
【英文摘要】The photosynthetic performances of regenerated protoplasts of Bryopsis hypnoides, which were incubated in seawater for 1, 6, 12, and 24 h, were studied using chlorophyll (Chl) fluorescence and oxygen measurements. Results showed that for the regenerated protoplasts, the pigment content, the ratios of photosynthetic rate to respiration rate, the maximal photosystem II (PSII) quantum yield (Fv/Fm), and the effective PSII quantum yield (ΦPSII) decreased gradually along with the regeneration progress, indicated that during 24 h of regeneration there was a remarkable reduction in PSII activity of those newly formed protoplasts. We assumed that during the cultivation progress the regenerated protoplasts had different photosynthetic vigor, with only some of them able to germinate and develop into mature thalli. The above results only reflected the photosynthetic features of the regenerated protoplasts at each time point as a whole, rather than the actual photosynthetic activity of individual aggregations. Further investigation suggested a relationship between the size of regenerated protoplasts and their viability. The results showed that the middle-sized group (diameter 20 – 60 μm) retained the largest number of protoplasts for 24 h of growth. The changes in Fv/Fm and ΦPSII of the four groups of differently sized protoplasts (i.e. < 20, 20 – 60, 60 – 100, and > 100 μm) revealed that the protoplasts 20 – 60 μm in diameter had the highest potential activity of the photosynthetic light energy absorption and conversion for several hours.
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【第一作者】吕芳
【通讯作者】王广策
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【学科分类】海洋科学

【题目】The Bryopsis hypnoides plastid genome: multimeric forms and complete nucleotide sequence
【中文关键词】绿藻门,细胞质,基因组,质体,细胞器,系统发育,序列分析,DNA
【英文关键词】Chlorophyta; Cytoplasm; Genome, Plastid; Plastid, Organelles; Phylogeny; Sequence Analysis, DNA
【中文摘要】背景:薛羽藻是一种管状绿藻,它挤出的原生质体能够在海水中自发的聚集并发育成成熟的个体。薛羽藻的叶绿体是细胞中最大的细胞器,它有很强的自主性。为了更好地的了解薛羽藻的叶绿体,我们对这种绿藻的叶绿体基因组进行测序和分析。主要发现:薛羽藻叶绿体基因组共鉴定出111个功能基因,包括69个可能的蛋白编码基因,5个核糖体RNA基因,37个tRNA基因。薛羽藻叶绿体DNA的基因组的大小(153,429 bp),基因排列顺序和反向重复缺失结构与小球藻叶绿体基因组相似。此外,我们利用脉冲场电泳(pulsed-field gel electrophoresis ,PFGE)和Southern杂交技术所做的细胞遗传学分析表明,薛羽藻叶绿体DNA存在多聚体结构,包括单体、二聚体、三聚体、四聚体甚至多聚体,这与之前在高等植物叶绿体基因组中发现的高级组织结构是相似的。根据分子杂交分析结果,四种多聚叶绿体DNA的相对数量关系约为1、1/2、1/4和1/8。基于叶绿体蛋白序列排列顺序的系统发生分析表明薛羽藻与绿藻纲所有种都是相似的,并且这种位置关系也得到了一些支持。结论:所有的结果表明薛羽藻叶绿体的自主性与叶绿体DNA的大小和所含的基因并无多大关系,叶绿体的反向重复缺失结构间接表明多聚体分子可能是由复制中间体的随机剪切和接合形成的,而不是DNA重组产生的。

【英文摘要】Background: Bryopsis hypnoides Lamouroux is a siphonous green alga, and its extruded protoplasm can aggregate spontaneously in seawater and develop into mature individuals. The chloroplast of B.hypnoides is the biggest organelle in the cell and shows strong autonomy. To better understand this organelle, we sequenced and analyzed the chloroplast genome of this green alga. Principal Findings: A total of 111 functional genes, including 69 potential protein-coding genes, 5 ribosomal RNA genes, and 37 tRNA genes were identified. The genome size (153,429 bp), arrangement, and inverted-repeat (IR)-lacking structure of the B.hypnoides chloroplast DNA (cpDNA) closely resembles that of Chlorella vulgaris. Furthermore, our cytogenomic investigations using pulsed-field gel electrophoresis (PFGE) and southern blotting methods showed that the B.hypnoides cpDNA had multimeric forms, including monomer, dimer, trimer, tetramer, and even higher multimers, which is similar to the higher order organization observed previously for higher plant cpDNA. The relative amounts of the four multimeric cpDNA forms were estimated to be about 1, 1/2, 1/4, and 1/8 based on molecular hybridization analysis. Phylogenetic analyses based on a concatenated alignment of chloroplast protein sequences suggested that B.hypnoides is sister to all Chlorophyceae and this placement received moderate support. Conclusion: All of the results suggest that the autonomy of the chloroplasts of B.hypnoides has little to do with the size and gene content of the cpDNA, and the IR-lacking structure of the chloroplasts indirectly demonstrated that the multimeric molecules might result from the random cleavage and fusion of replication intermediates instead of recombinational events.
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【第一作者】吕芳
【通讯作者】王广策
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【题目】苜蓿水溶性膳食纤维提取工艺的研究
【中文关键词】苜蓿,水溶性膳食纤维,提取工艺
【英文关键词】alfalfa; water - soluble dietary fiber; extraction technique
【中文摘要】苜蓿具有丰富的营养价值,富含多种营养素。本试验以苜蓿为材料,采用单因素(pH值、水浴温度、时间、提取液用量)和正交试验探讨了不同提取工艺对水溶性膳食纤维得率的影响。结果表明:影响苜蓿水溶性膳食纤维得率的各因素主次关系依次为: pH值(A) 、水浴温度(B) 、提取液用量(C) 、提取时间(D) ,最优得率的工艺参数为:A1B2C3D2 即pH值为6.5、水浴温度为40 ℃、料液比1∶25、提取时间为90 min。
【英文摘要】Alfalfa has high nutrition value and is riched in many nutrients. In order to investigate different extraction techniques for the recovery rate of the water - soluble dietary fiber from alfalfa, single - factor (pH value, extraction temperature, extraction time and material to water ratio) and orthogonal experimentwere designed. The results showed that the order of the four factors affecting the recovery rate was: pH value (A) 、bathing temperatuer (B) 、water to material ratio (C) 、extraction time (D) ; and the optimium condition was A1B2C3D2 : pH value was 5.5, bathing temperature was 40 ℃, extraction time was 90 min, and material to water ratio was 1∶25.
【语种】中文
【第一作者】欧阳克蕙
【通讯作者】王文君
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【题目】白车轴草多糖提取工艺的研究
【中文关键词】白车轴草;多糖;水提法;正交试验
【英文关键词】white clover;polysaccharide;water extraction;orthogonal experiment
【中文摘要】本试验采取热水浸提法提取白车轴草多糖,研究其最佳提取工艺。以白车轴草为原料,多糖提取得率为指标,分别对4 个提取参数:浸提温度、料液比、浸提时间和浸提液pH 值进行了单因素试验;然后对上述4 个因素采用L9(3X4)正

交试验进行优化。结果表明,白车轴草多糖提取得率随着温度的升高而提高,在100 ℃时达到最大;料液比、浸提时间和浸提液pH 值对多糖得率的影响为单峰曲线,上述条件分别为1∶15、4 h 和8 时多糖得率最高。pH 值、料液比、温度和提取时间对白车轴草多糖得率的影响都存在极显著差异(P < 0.001),影响多糖得率的各因素主次关系为:pH 值> 料液比> 温度> 提取时间,浸提液pH 值对白车轴草多糖得率的影响最大。白车轴草多糖的最佳提取工艺参数为:提取时间5 h,料液比1∶15,温度100 ℃,浸提液pH 值为9。经验证试验测得,此条件下白车轴草多糖得率为2.26 %。试验结果揭示,白车轴草多糖的提取得率受提取工艺(浸提温度、料液比、浸提时间和浸提液pH 值)的影响显著,调整提取工艺可获得更高的多糖得率。

【英文摘要】The experiment was conducted to study the optimum water extraction condition for polysaccharide from white clover by single-factor experiment (extraction temperature,material to water ratio,extraction time and pH value)and L9 (3X4) orthogonal experiment.The results showed that the recovery rate of polysaccharide from white clover increased with the extraction temperature and get the highest recovery rate at the temperature of 100 ℃.The material to water ratio,extraction time and pH to the recovery rate were expressed in a single peak curve with the peak of material to water ratio at1∶15,extraction time at 4 h and pH value at 8.The recovery rate of polysaccharide was significantly affected by extraction temperature,material to water ratio,extraction time and pH value (P < 0.001).The sequence of the primary relation of the different factors were pH value > material to water ratio > extraction temperature > extraction time.And the results of ANOVA for L9(34)orthogonal experiment showed that the optimium condition was extraction time 5 h,material to water ratio 1∶15,extraction temperature 100 ℃,and at a pH of 9,under this condition,the recovery rate was 2.26 %.These results indicated that the recovery rate of polysaccharide from white clover was changed with the water extraction condition significantly and could be increased by adjusting the extract condition.

【语种】中文
【第一作者】欧阳克蕙
【通讯作者】王文君
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【题目】高密度聚乙烯圆形网箱锚绳受力实测研究
【中文关键词】:深水网箱;锚绳;受力状况;实测研究
【英文关键词】deep-water net cage;mooring line;force;in-situ test
【中文摘要】选择广东省湛江市深水网箱养殖基地作为实测地点。通过实测试验测量深水网箱在实际海流条件下的锚绳受力状况,给出了单个网箱和组合网箱分别在3种不同网衣方案情况下的锚绳受力结果,旨在为深水网箱的设计及其锚泊系统的优化提供重要参考数据。结果表明,锚绳力随流速的增大而增大,锚绳受力与流速具有一定的正比关系;在3种不同网衣方案条件下,小网目网衣方案(网目40 mm)的锚绳受力最大,单个网箱的锚绳力峰值和锚绳合力分别为3.73 kN和5.01 kN,组合网箱的锚绳力峰值和锚绳合力分别为5.67 kN和20.83 kN;单纯浮架受力在整体网箱的受力中所占比重较小。结论认为,鉴于实际海况下网箱同侧各道锚绳的受力差异较大,在评价锚绳的安全性能时,应取各道锚绳受力峰值中的最大值作为单锚绳的允许受力值

【英文摘要】Mooring system,a component of deep-water net cage,need to have adequate safety and reliability to ensure cage culture production with severe conditions such as strong winds,currents and storms in deep-water offshore area. The loading of mooring lines of net cage located in open ocean is the focus of concern to cage designers.Based on the in-situ measurement of forces on mooring lines of full-scale cages in sea current,the data of mooringline forces from three different net modes for single net cage and composite net cage(a group of 4 cages) were presented in this paper,which will provide an important reference data to deep-water net cage designing as well as mooring system optimization. The geometry shape of test net was truncated cone with upper perimeter of 39 m,lower perimeter of 29 m and height of 5.8 m. The test results from this study showed that with the increase of current velocity,the mooring line forces increased obviously and had a certain proportional relationship with current velocity;among the three different net modes(no net,net with small mesh size of 40 mm,net with large mesh size of 75 mm),the mooring line forces under the net mode with small mesh size of 40 mm was the largest. The peak value of mooring line forces and composite force of mooring lines for the single net cage were 3.73 kN and 5.01 kN,while both of them were 5.67 kN and 20.83 kN for the composite net cage;circular floating system accounted for low proportion ofmooring line forces of whole net cage. According to the fact that the forces on different mooring lines on the same side of net cage in practical sea conditions have great difference,in the evaluation of the safety performance of mooring line,it was recommended that the maximum value of forces on the different mooring lines be taken as the load permission of single rope.

【语种】中文
【第一作者】郭根喜
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【题目】三叶草中水溶性膳食纤维的提取工艺研究
【中文关键词】胡萝卜;真空;脉动压;干燥
【英文关键词】T.repens; water-soluble dietary fiber; extraction technology; recovery rate
【中文摘要】以三叶草为材料,主要研究化学法对三叶草中水溶性膳食纤维的提取。影响三叶草中水溶性膳食纤维的单因素有pH 值、水浴温度、料液比、提取时间,并对这4 种因素采用L9 (3X4)进行正交实验,由正交实验极差分析得出最佳提取工艺条件为:pH 值为6.5,水浴温度T 为60°C,料液比为15 mL/g,提取时间为120 min,提取率可达3.65%,正交实验分析最佳的条件结合为A2B3C1D2。
【英文摘要】The paper mainly investigated the chemical extraction methods on the recover rate of water-soluble dietary fiber from T. repens. Single-factor(pH value, water-bath temperature, material to water ratio and extraction time) and orthogonal experiments were used to detect the recover rate of the fiber from T.repens.The result of orthogonal experiment showed that the optium condition for extraction were as follows: pH value was 6.5, water-bath temperature was 60 °C, material to water ratio was 1∶15, extraction time was 120 min, and under this condition, the recovery rate was 3.65%, orthogonal experiment showed that the optimized condition was A2B3C1D2.
【语种】中文
【第一作者】欧阳克蕙
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【题目】蛇接骨草水溶性膳食纤维提取工艺研究
【中文关键词】蛇接骨草;水溶性膳食纤维:提取工艺;得率
【英文关键词】Sambucus chinensis; water-soluble dietary fiber; extraction technology; recovery rate
【中文摘要】试验以蛇接骨草为材料,主要研究了化学法对蛇接骨草中水溶性膳食纤维的提取。影响蛇接骨草中水溶性膳食纤维的单因素有pH 值、水浴温度、提取时间、料液比,并对这4 种因素采用了L9(3X4)进行正交试验,由正交试验极差分析得出最佳提取工艺条件为:pH 值为6.5,水浴温度为70 °C,料液比为1∶15,提取时间为120 min,提取率可达到4.765%,正交试验分析最佳的条件结合为A2B3C1D2。
【英文摘要】The paper mainly investigated the chemical extraction methods on the Recovery rate of water -soluble dietary fiber from Sambucus chinensis. Single-factor (pH value, water-bath temperature, material to water ratio and extraction time) and orthogonal experiments were used to detect the recovery rate of the fiber from Sambucus chinensis. The result of orthogonal experiment showed that the opitimum condition for extraction were as follows: pH value was 6.5, water-bath temperature was 70 °C, material to water ratio was 1∶15,extraction time was 120 min, and under this condition, the recovery rate was 4.765%, orthogonal experiment showed that the optimized condition was A2B3C1D2.
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【第一作者】陈婷婷
【通讯作者】欧阳克蕙
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【题目】Down-regulated expression of RACK1 gene by RNA interference enhances drought tolerance in rice.
【中文关键词】水稻;RACK1基因;RNA干涉;转基因植株;抗旱性;实时荧光定量PCR;基因表达
【英文关键词】Oryza sativa; receptor for activated C-kinase 1 gene; RNA interference; transgenic plant; drought stress; real-time quantitative RT-PCR; gene expression
【中文摘要】RACK1是一种多功能支架蛋白,广泛参与植物生长发育过程的调节。利用RNA 干涉技术抑制水稻RACK1基因的表达,分析了RACK1基因在响应干旱胁迫中的功能。实时定量PCR对获得的转基因植株的RACK1基因表达分析结果表明,转基因水稻RACK1基因表达受抑制程度达5O 左右。与非转基因水稻(对照)相比,转基因水稻耐干旱能力显著强于对照,其膜的过氧化酶和丙二醛的产生显著低于对照,而超氧化物歧化酶活性极显著高于对照。表明RACK1蛋白质调节水稻对干旱胁迫的耐性,并且这种调节在很大程度上与植株体内的氧化还原系统有关。
【英文摘要】The receptor for activated C-kinase 1 (RACK1) is a highly conserved scaffold protein with versatile functions, and plays important roles in the regulation of plant growth and development. Transgenic rice plants, in which the expression of RACK1 gene was inhibited by RNA interference (RNAi), were studied to elucidate the possible functions of RACK1 inresponses to drought stress in rice. Real-time PCR analysis showed that the expression of RACK1 in transgenic rice plants was inhibited by more than 50%. The tolerance to drought stress of the transgenic rice plants was higher as compared with the non-transgenic rice plants. The peroxidation of membrane and the production of malondialdehyde were significantly lower,and the superoxide dismutase activity in transgenic rice plants was significantly higher than those in non-trangenic rice plants. It is suggested that RACK1 negatively regulated the redox system-related tolerance to drought stress of rice plants.
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【第一作者】李大红
【通讯作者】梁建生
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【题目】水提法提取雪松松针多糖
【中文关键词】雪松松针;多糖;水提法;正交试验
【英文关键词】cedar pine needles; polysaccharide; water extraction; orthogonal experiment
【中文摘要】:对水提法提取雪松松针多糖的提取条件进行研究。以雪松松针为原料,雪松多糖提取得率为指标,分别从对它有影响的4 个单因素(提取温度、料液比、提取时间、pH)进行探讨;然后对上述4 个因素采用L9 (3X4)正交试验进行优化,得出结论雪松松针多糖提取的最佳提取条件为:提取时间、料液比、温度和pH 值分别为4 h、1∶30、90 ℃和6.0,在此条件下的得率为4.907 %。而正交试验的方差分析表明最佳组合为A3B3C3D1,即最佳提取时间为4 h,料液比为1∶30,温度为100 ℃,pH 为6.0。
【英文摘要】The article studied the water extraction condition for polysaccharide from cedar pine needles. Single factor experiment (extraction temperature, material to water ratio, extraction time and pH) and orthogonal experiment L9 were designed to optimize the extraction condition. The results showed that the optimum condition for extraction were: extraction time was 4 h, material to water ratio was 1∶30, extraction temperature was 90 ℃,and at a pH of 6.0, under this condition, the recovery rate was 4.907 %. And the results of ANOVA for L9 orthogonal experiment showed that the optimum condition was the combination of A3B3C3D1(extraction time was 4 h, material to water ratio was 1∶30, extraction temperature was 100 ℃,and at a pH of 6.0).
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【题目】圆形网衣在水流作用下的运动变形特性
【中文关键词】圆形网衣;水流;运动变形;集中质量法;数值模拟
【英文关键词】cylinder net;current;movement and deformation;lumped mass method;numerical simulation
【中文摘要】研究网衣在水流作用下的运动变形是深入了解网箱耐流特性的关键。本研究基于集中质量点法,建立了圆形网衣在水流作用下的数值计算模型,并利用前人的试验结果对数值模型进行了验证。验证结果表明,无论是网衣的变形还是受力情况,模拟结果都与试验结果吻合良好。在此基础上,针对实际应用中的圆形网衣,在不同配重(GW1=400 kg、GW2=800 kg)和流速(U=0.3 ~ 0.9 m/s)条件下,对网衣变形、网衣底端前后点位移、网衣底端倾角进行了数值模拟,探讨了流速、配重大小对网衣运动变形特性的影响。结果表明,水流速度的增大会加剧网衣的变形,在配重GW1、流速U=0.75 m/s时,网衣容积损失率达到50% 以上。网衣底端前点的水平位移大于后点的水平位移,前点的垂直位移则小于后点的垂直位移,随着流速的增大,网衣底端前后点的位移差异将更为明显。当配重增加时,网衣底端位移、倾角以及网衣容积损失率可相应减小,网衣变形得到一定改善。数值模拟证明,本研究所建立的数值计算模式具有较好的稳定性和解的收敛性,可为下一步波浪、流联合作用下的整体网箱模拟奠定良好的理论基础
【英文摘要】Flexible net,an important component of deep-water net cage,is the most complex loading part of cage system. Studying the movement characteristics of cylinder net exposed to current is a key to deeply understand the properties of withstanding strong current about net cage. In this paper,based on the lumped mass method,a numerical model for 3-D nets in steady current was set up. To verify the validity of the numerical model,model test results made by other authors were cited and compared with the numerical results. The numerical results for the drag force on the net and the net deformation agreed well with experimental ones. On the basis of that,accordingto practical cylinder net,under the conditions of two weight modes(GW1=400 kg,GW2=800 kg) and five kinds of current velocities(U=0.3-0.9 m/s),the net deformation,the displacement and the pitch angles of the net bottom were calculated,and the influences of current velocity and weight size on the movement and deformation characteristics of the net were discussed. The calculated results indicated that the increasing of current velocity could intensify the net deformation. The volume reduction rate of the net with weight mode GW1 when U=0.75m/s reached more than 50%. For different weight modes and current velocities,the horizontal displacement of the fore point at the bottom of the net was great than that of the rear one,while the vertical displacement of the fore point was less than that of the rear one. With current velocity increasing,the displacement difference between the two points had become more obvious. When the weight increases,the displacement,the pitch angles of the net bottom and the volume reduction rate of the net could all decrease accordingly
【语种】中文
【第一作者】黄小华
【通讯作者】郭根喜
【期刊名称、卷期、页码】中国水产科学,2010,17(2):312-319
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【学科分类】水产工程学

【题目】重庆市巫溪县畜牧生产粪尿污染现状分析
【中文关键词】畜禽粪便; 排泄参数; 粪尿耕地负荷; 巫溪县
【英文关键词】无
【中文摘要】利用统计资料和文献数据, 结合国内外研究, 估算了重庆市巫溪县畜禽粪尿产生量及其排出的氮磷养分、生化需氧量(BOD5)、化学需氧量(COD cr)、氨态氮(NH 3-N) 总量和单位耕地污染物承载量。结果表明: 2006年巫溪县畜禽粪尿BOD5、COD cr、NH3-N 排出总量分别为2.55 万t、2.76万t、0.24万t; 畜禽粪尿耕地承载量为42.97 t /hm2、单位耕地粪尿N承载量为179.28 kg/hm2、单位耕地粪尿P承载量为57.34kg /hm2。全县耕地畜禽粪尿承载量在空间上分布极不平衡, 承载量大的主要分布在徐家镇、花台乡、城厢镇等地。
【英文摘要】无
【语种】中文

【第一作者】欧阳克蕙
【通讯作者】欧阳克蕙
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【学科分类】畜牧、兽医科学其他学科

【题目】高盐低温胁迫下水稻转录因子基因表达谱分析
【中文关键词】转录因子;表达谱;高盐;低温;水稻
【英文关键词】transcription factor;expression profile;salt stress;low temperature stress;rice
【中文摘要】为探索水稻响应高盐低温逆境胁迫的分子调控机制,采用Affymetrix 水稻表达谱芯片,分析研究了高盐低温胁迫下水稻转录因子基因的表达谱。检测到491 个差异表达的水稻转录因子基因,属于56 个转录因子家族。其中17 个转录因子基因,高盐低温处理后表达均显著上调,4 个转录因子基因,高盐低温下表达均显著下调,9 个转录因子基因经高盐、低温处理后表达水平向相反方向变化。进一步采用实时荧光定量PCR,验证了6 个转录因子基因在高盐低温胁迫条件下的差异表达变化,其结果和芯片杂交结果基本一致。
【英文摘要】Numerous studies have shown that transcription factors play important roles in regulating plant responses to environmental stresses. In this study,we used the Affymetrix Rice GeneChip to deduce the expression profiling of rice transcription factor genes under salt-stress or low temperature-stress treatment. A total of 491 differentially expressed ricetranscription factor genes were identified under high salt or low temperature,these genes could be classified into 56 transcription factor families,of which 17 transcription factor genes were consistently up-regulated and 4 consistently downregulated under high salt or low temperature stress,while 9 genes showed opposite expression change directions under high salt or low temperature stress. In addition,the differential expression patterns of six representative candidate genes were confirmed by real-time quantitative RT-PCR and the results showed that the expression changes of these candidates were generally consistent with the microarray results detected by Affymetrix Rice GeneChip.
【语种】中文
【第一作者】朱素琴
【通讯作者】梁建生
【期刊名称、卷期、页码】科技通报
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【学科分类】农业基础学科

【题目】高压水射流水下洗网机旋转射流打击力计算
【中文关键词】水射流;洗网机;旋转;射流打击力;网衣
【英文关键词】water2jet; net2washingmachine; rotating; jet hitting force; net
【中文摘要】依据水力学公式计算出歧管式高压水射流水下洗网机旋转的射流角速度和射流打击力。分析结果表明:旋转的射流打击力随偏转角增大而递减,但随射流压力、旋转半径和喷嘴孔径增大而增大;合理选择喷嘴孔径对旋转的射流打击力的增强作用明显,而增大旋转半径对射流打击力的增强作用较弱;旋转的射流打击力比非旋转的射流打击力更有利于提高清洗网衣的效率。海上清洗试验表明,在合理的压力和流量条件下,旋转的射流打击力清洗网衣的效果良好
【英文摘要】The paper obtained the rotating jet angular velocity and hitting force of the high2p ressure water2jet manifold underwater net2washingmachine, according to hydraulic dynamics and the self2rotating of the model. Analyses showed that the rotating hitting force F diminished with the deflection angle α increasing, but in2 creased with the p ressure p, gyration radius R and the nozzle diameter d increasing; a reasonable choice of nozzle diameter d would significantly enhanced the role of the rotating hitting force F, while the increase of the gyration radius R had not good effect of the jet hitting force F; the rotating jet hitting force ismore conducive to raising the efficiency of washing net than that of the non2rotating jet hitting force. Sea washing experiments demonstrated that the rotating jet hitting force washed net well under the suitable p ressure and flux.
【语种】中文
【第一作者】张小明

【通讯作者】郭根喜
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【学科分类】水产工程学

【题目】Soybean GmPHD-Type Transcription Regulators Improve Stress Tolerance in Transgenic Arabidopsis Plants
【中文关键词】空
【英文关键词】soybean;stress tolerance;transcription
【中文摘要】空
【英文摘要】Background: Soybean [Glycine max (L.) Merr.] is one of the most important crops for oil and protein resource. Improvement of stress tolerance will be beneficial for soybean seed production. Principal Findings: Six GmPHD genes encoding Alfin1-type PHD finger protein were identified and their expressions differentially responded to drought, salt, cold and ABA treatments. The six GmPHDs were nuclear proteins and showed ability to bind the cis-element ‘‘GTGGAG’’. The N-terminal domain of GmPHD played a major role in DNA binding. Using a protoplast assay system, we find that GmPHD1 to GmPHD5 had transcriptional suppression activity whereas GmPHD6 did not have. In yeast assay, the GmPHD6 can form homodimer and heterodimer with the other GmPHDs except GmPHD2. The N-terminal plus the variable regions but not the PHD-finger is required for the dimerization. Transgenic Arabidopsis plants overexpressing the GmPHD2 showed salt tolerance when compared with the wild type plants. This tolerance was likely achieved by diminishing the oxidative stress through regulation of downstream genes. Significance: These results provide important clues for soybean stress tolerance through manipulation of PHD-type transcription regulator.
【语种】英文
【第一作者】Wei Wei,Jian Huang
【通讯作者】Jin-Song Zhang,Shou-Yi Chen
【期刊名称、卷期、页码】PLoS ONE,2009,4(9),e7209.
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【学科分类】分子生物学

【题目】GmDREB2, a soybean DRE-binding transcription factor, conferred drought and high-salt tolerance in transgenic plants
【中文关键词】空
【英文关键词】Abiotic stress; DREB transcription factor; Glycine max L.; Drought tolerance; High-salt tolerance; Free proline
【中文摘要】空
【英文摘要】A novel DREB (dehydration responsive element binding protein) homologous gene, GmDREB2, was isolated from soybean. Based on its similarity with AP2 domains, GmDREB2 was classified into A-5 subgroup in DREB subfamily in AP2/EREBP family. Expression of GmDREB2 gene was induced by drought, high salt, and low temperature stresses and abscisic acid treatment. The GmDREB2 bound specifically to DRE element in vitro. Furthermore, the overexpression of GmDREB2 activated expression of downstream genes in transgenic Arabidopsis, resulting in enhanced tolerance to drought and high-salt stresses and did not cause growth retardation. Analysis of free proline contents in transgenic tobacco indicated that the overexpression of GmDREB2 accumulated higher level of free proline compared to the wild type plants under drought condition. The results from this study indicate that this novel soybean GmDREB2 gene functions as an important transcriptional activator and may be useful in improving of plant tolerance to abiotic stresses in plants.
【语种】英文
【第一作者】Ming Chen
【通讯作者】You-Zhi Ma
【期刊名称、卷期、页码】Biochemical and Biophysical Research Communications,2007, 353:299-305
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【学科分类】分子生物学

【题目】Isolation and characterization of a novel EAR-motif-containing gene GmERF4 from soybean
【中文关键词】空
【英文关键词】Abiotic stress Ethylene responsive factor Soybean Transcriptional repressor
【中文摘要】空
【英文摘要】Transcriptional repressors are emerging as central regulators of development and stress responses in different organisms. The ERF-associated amphiphilic repression (EAR) motif was identified as essential for transcriptional repression. To gain a better understanding of this type of protein, we reported here a novel GmERF4 protein from soybean. Sequence alignment showed that GmERF4 contains one AP2/ERF domain, two putative nuclear localization signal regions and one EAR motif. The GmERF4 protein was preferentially localized to the nucleus of onion epidermis cells and bound specifically to the GCC box and DRE/CRT element in vitro. Furthermore, the expression of GmERF4 was induced by ethylene, JA, SA, cold, salt, drought, and soybean mosaic virus, and repressed by ABA. Constitutive expression of GmERF4 in transgenic tobacco plants increased tolerance to salt and drought stresses compared with wild-type plants, but did not exhibit detectable resistance against bacterial infection.
【语种】英文
【第一作者】Gaiyun Zhang and Ming Chen
【通讯作者】Xueping Chen,Youzhi Ma
【期刊名称、卷期、页码】Molecular Biology Reports,2010, 37:809-818
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【学科分类】分子生物学

【题目】核蛋白筛选系统(NTT)的建立及鉴定
【中文关键词】核蛋白;核定位信号;酵母筛选系统
【英文关键词】Nuclear proteins;Nuclear localization signals;Yeast selective system
【中文摘要】为了研究植物核蛋白的组成及其在各种环境条件下的动态变化,利用核蛋白的核定位信号(nu—clear localization signals,NLS)筛选编码核蛋白的基因,建立了一套快速、省力、低成本的核蛋白筛选系统(nuclear transportation trap,NTT)。通过鉴定发现,将合成的SV4O蛋白大T抗原的核定位信号序列插入筛选载体的多克隆位点,转化酵母EGY48,插入核定位信号的筛选载体转化酵母后可以在选择性培养基(SD/His一/Leu-)上生长,而没有插入核定位信号的筛选载体转化酵母后不能在选择性培养基上生长,从而证明此核蛋白筛选系统有效。比较实验表明,本研究构建的核蛋白筛选系统与已报道的系统相比筛选效率更高。利用此系统从cDNA文库中分离编码核蛋白的基因,对于研究核蛋白的动态组成、了解核蛋白基因在调控细胞发育及其环境胁迫条件下的作用机制具有重要的意义。
【英文摘要】To study the composition of nuclear proteins and its dynamic variation under various environmental conditions,a high efficiency nuclear transportation trap (NTT)system was constructed toclone genes encoding nuclear proteins that contain all kind of nuclear localization signals (NLS)sequence in this research.To identify the nuclear transportation trap system ,NLS sequence of the large T antigen of SV40 protein was synthesized,inserted into multi—cloning site of selective vector of NTT system and transferred into yeast strain EGY48.The results showed that yeast transferred with selective vector with NLS sequence could grow on SD/His一/Leu—selective medium,whereas yeast without NLS sequence couldn't grow,which indicated that NTT system could work.Moreover,comparing analysis showed that the selective efficiency of the vector constructed in this study is higher than that of the vectors reported.The NTT system will be helpful in the screening of genes encoding nuclear proteins from cDNA library,which is very important to study the dynamic changes of nuclear proteins and the modulating network of all genes in nuclear.
【语种】中文
【第一作者】刘阳娜
【通讯作者】陈明
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【学科分类】分子生物学

【题目】Association of the circadian rhythmic expression of GmCRY1a with a latitudinal cline in photoperiodic flowering of soybean
【中文关键词】空
【英文关键词】blue light , cryptochrome ,photoperiodism , photoreceptor
【中文摘要】空
【英文摘要】Photoperiodic control of flowering time is believed to affect latitudinal distribution of plants. The blue light receptor CRY2 regulates photoperiodic flowering in the experimental model plant Arabidopsis thaliana. However, it is unclear whether genetic variations affecting cryptochrome activity or expression is broadly associated with latitudinal distribution of plants. We report here an investigation of the function and expression of two cryptochromes in soybean, GmCRY1a and GmCRY2a. Soybean is a short-day (SD) crop commonly cultivated according to the photoperiodic sensitivity of cultivars. Both cultivated soybean (Glycine max) and its wild relative (G. soja) exhibit a strong latitudinal cline in photoperiodic flowering. Similar to their Arabidopsis counterparts, both GmCRY1a and GmCRY2a affected blue light inhibition of cell elongation, but only GmCRY2a underwent blue light- and 26S proteasome-dependent degradation. However, in contrast to Arabidopsis cryptochromes, soybean GmCRY1a, but not GmCRY2a, exhibited a strong activity promoting floral initiation, and the level of protein expression of GmCRY1a, but not GmCRY 2a, oscillated with a circadian rhythm that has different phase characteristics in different photoperiods. Consistent with the hypothesis that GmCRY1a is a major regulator of photoperiodic flowering in soybean, the photoperiod-dependent circadian rhythmic expression of the GmCRY1a protein correlates with photoperiodic flowering and latitudinal distribution of soybean cultivars.We propose that genes affecting protein expression of the GmCRY1a protein play an important role in determining latitudinal distribution of soybeans.
【语种】英文
【第一作者】Qingzhu Zhanga,
【通讯作者】Yongfu Fu, Chentao Lin
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【学科分类】分子生物学

【题目】Over-expression of an AT-hook gene, AHL22, delays flowering and inhibits the elongation of the hypocotyl in Arabidopsis thaliana
【中文关键词】空
【英文关键词】Arabidopsis thaliana ,AT-hook ,Flowering time ,Hypocotyl ,Photomorphogenesis
【中文摘要】空
【英文摘要】The Arabidopsis genome encodes 29 AHL (AT-hook motif nuclear localized) proteins, but the function for most of them remains unknown. We report here a study of the AHL22 gene, which was originally identified as a gain-of-function allele that enhanced the phenotype of the cry1 cry2 mutant. AHL22 is a nuclear protein with the binding activity for an AT-rich DNA sequence. AHL22 overexpression delayed flowering and caused a constitutive photomorphogenic phenotype. The loss-of-function AHL22 mutant showed no clear phenotype on flowering, but slightly longer hypocotyls. However, silencing four AHL genes (AHL22, AHL18, AHL27, and AHL29) resulted in early flowering and enhanced ahl22-1 mutant phenotype on the growth of hypocotyls, suggesting genetic redundancy of AHL22 with other AHL genes on these plant developmental events. Further analysis showed that AHL22 controlled flowering and hypocotyl elongation might result from primarily the regulation of FT and PIF4 expression, respectively.
【语种】英文
【第一作者】Chaowen Xiao,Xuhong Yu
【通讯作者】Chentao Lin , Yong-Fu Fu
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【学科分类】分子生物学

【题目】Evaluation of putative reference genes for gene expression normalization in soybean by quantitative real-time RT-PCR
【中文关键词】空
【英文关键词】gene expression;Qrt-pcr
【中文摘要】空
【英文摘要】Background Real-time quantitative reverse transcription PCR (RT-qPCR) data needs to be normalized for its proper interpretation. Housekeeping genes are routinely employed for this purpose, but their expression level cannot be assumed to remain constant under all possible experimental conditions. Thus, a systematic validation of reference genes is required to ensure proper normalization. For soybean, only a small number of validated reference genes are available to date. Results A systematic comparison of 14 potential reference genes for soybean is presented. These included seven commonly used (ACT2, ACT11, TUB4, TUA5, CYP, UBQ10, EF1b) and seven new candidates (SKIP16, MTP, PEPKR1, HDC, TIP41, UKN1, UKN2). Expression stability was examined by RT-qPCR across 116 biological samples, representing tissues at various developmental stages, varied photoperiodic treatments, and a range of soybean cultivars. Expression of all 14 genes was variable to some extent, but that of SKIP16, UKN1 and UKN2 was overall the most stable. A combination of ACT11, UKN1 and UKN2 would be appropriate as a reference panel for normalizing gene expression data among different tissues, whereas the combination SKIP16, UKN1 and MTP was most suitable for developmental stages. ACT11, TUA5 and TIP41 were the most stably expressed when the photoperiod was altered, and TIP41, UKN1 and UKN2 when the light quality was changed. For six different cultivars in long day (LD) and short day (SD), their expression stability did not vary significantly with ACT11, UKN2 and TUB4 being the most stable genes. The relative gene expression level of GmFTL3, an ortholog of Arabidopsis FT (FLOWERING LOCUS T) was detected to validate the reference genes selected in this study. Conclusion None of the candidate reference genes was uniformly expressed across all experimental conditions, and the most suitable reference genes are conditional-, tissue-specific-, developmental-, and cultivar-dependent. Most of the new reference genes performed better than the conventional housekeeping genes. These results should guide the selection of reference genes for gene expression studies in soybean.
【语种】英文
【第一作者】Ruibo Hu
【通讯作者】Yong-Fu Fu
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【学科分类】分子生物学

【题目】Analysis of Clock Gene Homologs Using Unifoliolates as Target Organs in Soybean (Glycine max)
【中文关键词】空
【英文关键词】Flowering; LHY/CCA1; Soybean (Glycinemax); TOC1; Unifoliolates
【中文摘要】空
【英文摘要】Soybean is a typical short-day crop, and its photoperiodic response of flowering is critical to its yield. This phenomenon was well studied during the last century, but the molecular mechanism governing it is unknown. The clock-genehomologs, GmLCL1 and GmLCL2 (Glycinemax LHY/CCA1 Like 1 and 2) and GmTOC1 (Glycinemax TOC1) were cloned from Glycinemax L. KN18, and their expression patterns were analyzed using a system developed in this study. We employed 8 h light/16 h dark and 18 h light/6 h dark as short- and long-day conditions, respectively, because in these conditions soybean plants had significant indexes of flowering time. We also used unifoliolates, not the whole plant as Arabidopsis, as targetorgans for gene expression analysis. GmLCL1 and GmLCL2 had similar circadian expression patterns and both were morning genes, while GmTOC1 was an evening gene and peaked in the evening. The expressions of GmLCL1 and GmLCL2 were obviously antiphase to that of GmTOC1.Our study provided a system that simplified the experiments without compromising the quality of data obtained and was suitable for analyzing the molecular mechanism of flowering in soybean. GmLCL1, GmLCL2 and GmTOC1 may be the components of central clock in soybean
【语种】英文
【第一作者】Hua Liu

【通讯作者】Yong-FuFu
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【学科分类】分子生物学

【题目】大豆GmCOL4基因的克隆与分析
【中文关键词】CONSTANS; 生物信息学; 生物节律钟; 光周期; 大豆
【英文关键词】CONSTANS; Bioinformatics; Circadian clock; Photoperiod; Glycine max L.
【中文摘要】CONSTANS (CO)是植物光周期开花途径中的关键基因之一。通过RT-PCR 和生物信息学的方法, 克隆了大豆GmCOL4 基因并分析其结构特征, 用实时荧光定量PCR (quantitative real-time RT-PCR, qRT-PCR)研究了其转录特点。结果表明, GmCOL4 的4 个外显子编码一个具有B-box 和CCT 保守结构域的CO-like 蛋白, 在序列上与拟南芥(Arabidopsis thaliana) COL9 相似性最高, 为64.3%。分析其转录特征发现, GmCOL4 表达主要受生物节律的影响, 受光的调节作用较弱。器官特异性表达分析发现, GmCOL4 主要在大豆叶片中表达, 表达模式与COL9 相似。这为大豆中CO 基因家族的功能研究提供了重要的依据
【英文摘要】The model plant Arabidopsis thaliana has been identified to have four major flowering pathways. Among them, the photoperiod pathway integrates the light signal including light/dark cycle, light spectrum, light intensity, and light duration, to mediate flower initiation. CONSTANS (CO) is a key gene in photoperiodic flowering pathway and acts between genes of the circadian clock and meristem identity. CO encodes a protein containing two zinc finger regions (B-box I and II) near the amino terminus and a CCT (CO, CO-like, TOC1) domain near the carboxy terminus. The CO from Arabidopsis thaliana is one member of the family comprised of 17 members, which can be classed into three subgroups based on their characters of functional domains. To elucidate the function of CO in flowering in soybean, cloned one of CO-like gene, named as GmCOL4, from Glycine max L. Kennong 18. Bioinformatics analysis revealed that GmCOL4 encoded a protein embedded two conserved domains, B-box and CCT, and belonged to subgroup III. Phylogenetic analysis based on the critical amino acid sequences indicated that GmCOL4 was much close to COL9 with similarity of 64.3%. The expression profiles of GmCOL4 by quantitative real-time RT-PCR (qRT-PCR) showed a similar pattern to that of COL9. GmCOL4 was largely regulated by biological circadian, while the light appeared weak effect on it. And GmCOL4 expressed mainly in leaves and had its highest amount in anthesis. The results suggested that GmCOL4 is one of the important genes in the regulation of flowering and photoperiodic in soybean. It paves a way to study the function of CO family in soybean and its application in soybean molecular breeding.
【语种】中文
【第一作者】张清哲
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【学科分类】分子生物学

【题目】大豆GmCOL8基因的克隆及表达分析
【中文关键词】大豆; CONSTANS-like; 生物钟节律; 生物信息学;
【英文关键词】Glycine max; CONSTANS-like; circadian clock; bioinformatics
【中文摘要】从大豆品种‘ 垦农18 ’中克隆了一个CONSTANS-like基因,命名为GmCOL8。进化树分析表明它属于CONSTANS-like亚家族1的成员。mRNA表达分析显示,GmCOL8在短日下具有明显的生物钟节律性表达特性,其表达高峰出现在凌晨。GmCOL8主要在复叶中表达,表达高峰出现在开花时期。 更多还原
【英文摘要】A CONSTANS-like gene,named GmCOL8,was cloned from soybean(Glycine max) cultivar ‘ Kennong 18 ’ in the study.The analysis of phylogenetic tree showed that GmCOL8 was a member of soybean CONSTANS-like subfamily group 1.The mRNA expression pattern revealed that GmCOL8 had rhythmicity of circadian clock under the condition of short day,and reached a peak at dawn.It expressed mainly in trifoliolates,and the maximum level appeared at the stage of flowering.

【语种】中文
【第一作者】马锦华
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【学科分类】分子生物学

【题目】植物实时荧光定量PCR内参基因的选择
【中文关键词】实时荧光定量RT-PCR 内参基因 geNorm 基因表达
【英文关键词】real-time quantitative reverse transcription PCR reference genes geNorm gene expression
【中文摘要】实时荧光定量RT-PCR(real-time quantitative reverse transcription PCR,qRT-PCR)具有定量准确、灵敏度高和高通量等特点,已被广泛应用于基因的表达分析.常规qRT-PCR采用相对定量进行分析,其关键步骤是选择合适的稳定内参基因进行校正和标准化.持家基因被广泛用作内参基因,但在所有生理条件下均稳定表达的理想内参基因并不存在.大多数传统内参基因已不能满足qRT-PCR准确定量的要求.基于基因芯片表达数据和EST数据库并结合qRT-PCR,可以筛选稳定性好的新的内参基因.简要综述了植物qRT-PCR内参基因的研究进展,并就内参基因的选择中应注意的问题进行了探讨.
【英文摘要】Real-time quantitative RT-PCR(qRT-PCR) technology,with quantitative accuracy,high sensitivity and high-throughput characteristics,has been widely used in gene expression analysis.Based on the relative quantitative analysis,qRT-PCR data must be normalized with one or more proper and stable internal reference genes.House-keeping genes are customarily used as endogenous references for relative quantification.But not a single gene can act as a universal reference reported so far.Most of the traditional housekeeping genes are unable to ensure accurate normalization in qRT-PCR.Based on the tremendous gene-chip expression data and public deposited EST data,new reference genes with superior stability were selected and verified with qRT-PCR.The research progress of reference genes in plant qRT-PCR was reviewed and aspects to be considered in future reference gene selection were also discussed.
【语种】中文
【第一作者】胡瑞波
【通讯作者】傅永福
【期刊名称、卷期、页码】中国农业科技导报,2009,11 (6): 30-36
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【学科分类】分子生物学

【题目】Identification, inheritance and gene mapping of resistance to a virulent Soybean mosaic virus strain SC15 in soybean
【中文关键词】空
【英文关键词】Soybean mosaic virus ,virulent strain SC15 ,screening for resistance sources , genetic analysis ,gene mapping
【中文摘要】空
【英文摘要】Soybean mosaic virus (SMV) is one of the major pathogens for soybeans worldwide. Among the 21 strains identified under uniform identification system in China, SC15 can infect all 10 of the differentials, is the most virulent strain and has been prevalent especially in Southern China. In this study, 10 elite accessions resistant to SC15 were identified from 205 soybean lines. P1, P2, F1, F2 and 200 recombinant inbred lines (RIL) of the cross _RN-9_ (resistant, R) · _7605_ (susceptible, S) were used to study inheritance of resistance to SC15. F1 was identical to _RN-9_, F2 segregated in a 3R : 1S phenotypic ratio, whereas RILs segregated in a 1R : 1S genotypic ratio. This indicated that a single dominant gene, designated as RSC15, conferred the resistance. A genetic linkage map of a segment of C2 linkage group was constructed using SSR markers identified by bulked segregant analysis of RIL population, where RSC15 was mappedbetween Sat_213 and Sat_286 with distances of 8.0 and 6.6 cM to the respective flanking markers.

【语种】英文
【第一作者】Q. H. YANG
【通讯作者】J. Y. GAI
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【学科分类】农业基础学科

【题目】Identification and Distribution of Soybean mosaic virus Strains in Southern China
【中文关键词】空
【英文关键词】Soybean mosaic virus (SMV), strain identification, strain distribution, strain clustering
【中文摘要】空
【英文摘要】From 1,417 leaf samples with Soybean mosaic virus (SMV)-like symptoms collected from about1,500 fields of 117 counties of 13 provinces in Southern China during 2004 to 2006, 201 SMVisolates were obtained after biological purification with single-lesion isolation and serologicaldetermination. Based on disease reactions on 10 differentials used in China as a representativefrom various reported differential cultivar systems, the isolates were grouped into 12 strains.Among them, eight were the same as those previously reported from Northeast China and theHuang-Huai Valleys while the other four were new and were designated as SC18, SC19, SC20,and SC21. Strains SC15 and SC18, which were predominant and widespread in Southern China,accounted for 32.3 and 26.4% of the total isolates and were distributed in 9 and 10 provinces,respectively. Thus far, 21 strains have been identified in the three soybean-producing regions inChina under the uniform differentials system. According to their responses on the 10 differentials,the strains were clustered into five groups at similarity coefficient 0.6. Among them, SC15in cluster V is the most virulent strain because it infects all differentials. Therefore, specificattention should be placed on control of its prevalence in soybean production.
【语种】英文
【第一作者】Kai Li
【通讯作者】J. Y. GAI
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【学科分类】农业基础学科

【题目】Fine mapping of resistance gene RSC14 to soybean mosaic virus by residual heterozygous lines derived from a recombinant inbred line
【中文关键词】空
【英文关键词】Fine mapping Resistance gene
Soybean mosaic virus (SMV)
Residual heterozygous line (RHL)
【中文摘要】空
【英文摘要】Soybean mosaic virus (SMV) disease isone of the most destructive soybean (Glycine max(L.) Merr.) diseases worldwide, causing yield lossesand significant deterioration in seed quality. ‘ QihuangNo.1 ’ has a wide resistance spectrum and is extensivelyused in breeding programs in China. Thedominant SMV resistance gene RSC14Q from thecultivar Qihuang No.1 was previously mapped to a4.2 cM region on soybean chromosome 13 (formerlylinkage group (LG) F). Fine mapping of RSC14Q isessential for high efficiency of marker-assistedselection (MAS) and its map-based cloning. Residualheterozygous lines (RHLs) derived from a soybeanrecombinant inbred line (RIL) were used to finemap RSC14Q. The RILs were obtained from across between ‘ Qihuang No.1 ’ (resistant) and ‘ Nannong1138-2 ’ (susceptible). The genomic sequence inan approximately 6 cM interval between the markersSatt334 and Sct_033 flanking RSC14Q was used todevelop five simple sequence repeats and two InDelmarkers. Linkage analysis between inoculation phenotypeand genetic markers localized RSC14Q to theinterval between Satt334 and MY750, with geneticdistances of 0.6 and 0.5 cM, respectively, correspondingto a physical distance on the ‘ Williams 82 ’ draft assembly (Glyma1.13) of 1.18 Mb. Based onthe genes sequences in the RSC14Q locus region withpredicted functions for resistance, one SNP

marker,MY525, was developed between Satt334 andMY750. Thus, the genomic region containing theRSC14Q was further narrowed to a 616 kb interval.
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【第一作者】Ying Ma
【通讯作者】Hai-Jian Zhi
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【学科分类】分子生物学

【题目】大豆对SMVSC-13株系群的抗性遗传及基因定位的研究
【中文关键词】大豆;大豆花叶病毒;抗性遗传;基因定位
【英文关键词】Soybean;Soybean Mosaic Virus;Resistance inheritance;Gene mapping
【中文摘要】在接种Sc_13株系群的情况下,鉴定了科丰1号×南农1138—2的Pl、P2、Fl、F2和184个重组自交家系(RIL)的抗性,结果显示,科丰1号(P。)与F,全部表现抗病,南农1138-2(P2)全部表现感病,表明抗性为显性;F2群体和184个重组自交家系出现抗感分离,卡方适合性检测表明F2群体抗感分离符合3:1的比例,重组自交家系抗、感符合1 t 1分离比率。表明对Sc.13株系群的抗性由一对基因控制,以Rsrl3表示。利用已建立的遗传连锁图对RsPl3进行了连锁分析,结果将抗病基因Rsc-13定位于N8一D1b+W连锁群上,并与抗性基因Rnl、R,z3、Rsc-7连锁。
【英文摘要】The Pl,P2,F1 ’ F2 and 184 RILs of Kefeng No.1×Nannongl 138—2 were inoculated with the SMV strain group SC-13 to evaluate their resistance。The results showed that Kefeng No.1 and F1 were resistant to SC-13,Nannong 1 138—2 was susceptible.F2 segregated in a 3:1 ratio and the RILs in a 1:1 ratio。which indicated a dominant gene controlled the resistance toSC-13.Through linkage analysis,the resistance gene Rsc-13 was mapped on the linkage group N8一Dlb+W and linked with Rnl、Rn3、Rsc-7.
【语种】中文
【第一作者】郭东全
【通讯作者】盖钧镒,智海剑
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【学科分类】农业基础学科

【题目】致病性不同的大豆花叶病毒分离物外壳蛋白的基因序列分析
【中文关键词】大豆花叶病毒; 致病性; 外壳蛋白; 同源性
【英文关键词】Soybean mosaic virus (SMV) ; Virulence; Coat p rotein (CP) ; Homology
【中文摘要】鉴定了致病性差异明显的6个大豆花叶病毒分离物,对这些分离物外壳蛋白(CP)基因进行了测序。6个分离物CP基因全长均为795bp,推测的CP全长均为265个氨基酸残基。序列同源性比较表明,症状反应相同的各SMV分离物间,CP基因核苷酸和推测的氨基酸序列同源性分别为98. 2%~99. 6%、99. 6%~100. 0%;而症状反应不同的分离物间,CP基因核苷酸和推测的氨基酸序列同源性分别为90. 4% ~96. 7%和97. 7% ~99. 6%。结果显示,致病范围相近的分离物,序列同源性较高。
【英文摘要】Six isolates of soybean mosaic virus (SMV) were identified and coat p rotein (CP) gene was sequenced. The whole length of the CP gene was 795bp and the deduced length of CP was 265 amino acid residues.The alignment of sequence identity showed that there was a higher sequence identity (98. 2%~99. 6% for nucleotide , 99. 6%~100. 0% for amino acid) between isolateswith the same virulence than sequence identity (90. 4%~96. 7% for nucleotide, 97. 7%~99. 6% for amino acid) between isolates with different virulence
【语种】中文
【第一作者】王延伟
【通讯作者】盖钧镒,智海剑
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【题目】大豆对SMV株系SC-11的抗性遗传及抗病基因的等位性研究
【中文关键词】大豆; 大豆花叶病毒; 抗性遗传; 等位性
【英文关键词】Soy bean; Soy bean mosaic v ir us (SMV) ; Inheritance o f resistance; Al lelism
【中文摘要】利用对我国北方大豆产区流行株系SC-11 表现抗病的材料科丰1 号、邳县茶豆、大白麻、齐黄22、诱变30、PI96983、Kwangg yo 和感病材料南农1138-2、南农18-6 配制的抗感和抗抗杂交组合, 研究了对SC-11 的抗性遗传以及不同材料的抗病基因间的等位性关系。结果表明, 科丰1 号、邳县茶豆、大白麻、PI96983、Kw angg yo、齐黄22、诱变30 与感病品种杂交的F1 表现抗病, F2 呈3抗B 1 感分离比例, F2 B 3 家系呈1 抗B2 分离B 1 感病的分离比率, 证明它们对SC-11 的抗性由单显性基因控制。PI96983 @ Kw ang gyo 和齐黄22 @ 诱变30 杂交后的F2 群体未发现抗感分离, 表明PI96983 与Kwangg yo 以及齐黄22 与诱变30 对SC-11 的抗性基因是等位或紧密连锁的。大白麻与科丰1 号、邳县茶豆、诱变30, 科丰1 号与Kw ang gyo, PI96983 与邳县茶豆杂交的F2 呈15 抗B1感的比例分离, 初步表明大白麻与科丰1 号、邳县茶豆、诱变30, 科丰1 号与Kw ang gyo, PI96983与邳县茶豆所携带的抗SC-11 的基因是不等位的, 而且2 个抗性基因独立遗传。
【英文摘要】Sev en soybean (Gly cine max (L) Merr) cult iv ar s w ith resistance to SMV st rain SC-11, Kefeng1, Pix ianchadou, Dabaima, Qihuang 22, Yo ubian30, PI96983 and Kw ang gyo w as cro ssed respectively with a susceptible (S) cultivar (N annong 1138-2 o r Nannong18-6) to determine the inheritance of their resistance (R) reactio n to SC-11. Each R parent s w ere also crossed w ith each other to test the allelism of the resistance genes. T he result s showed that a dominant g ene cont rolled the resistance to SC-11 in each of Kefeng 1, Pixianchadou, Dabaima, Q ihuang22, Yo ubian30, PI96983 and Kw ang gy o r espect ively. The absence of S segregat ion in F2 populat ions of the crosses PI96983 @ Kw angg yo and Qihuang 22 @ Yo ubian30,indicated that the single dominant gene in them w ere alleles at a common locus or very closely linked. Segregation in the F2 po pulations fr om Dabaima @ Kefeng 1, Kefeng1 @ Kwangg yo, PI96983 @ Pixianchadou,Dabaima @ Pixianchadou, Dabaima @ Youbian30 w as consistent w ith a rat io o f 15R : 1S. It was inferred that the resistance g enes betw een Dabaima and Kefeng1, Pix ianchado u, Youbian30; betw een Kefeng1 and Kwangg yo; between PI96983 and Pixianchadou w ere not at same locus.
【语种】中文
【第一作者】李海朝
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【学科分类】农业基础学科

【题目】大豆对大豆花叶病毒SC-11株系抗性的遗传及基因定位
【中文关键词】大豆花叶病毒; 抗性遗传; 等位性; 基因定位; 分子遗传连锁图
【英文关键词】Soybean mosaic v irus(SMV); Res istance inhe ritance; A lle lism; Genem apping; M olecu lar g enetic linkagem ap
【中文摘要】大豆花叶病毒病(soybean m osa ic v irus, SMV)是世界性大豆病害, 严重危害大豆的产量和质量。SC- 11为我国黄淮夏大豆区以及北方春大豆区SMV主要流行株系。研究大豆品种对SC- 11的抗性遗传方式, 不同大豆材料对SC- 11抗性位点的等位性关系, 并对抗性基因进行了SSR标记定位。结果表明: 齐黄1号对SC- 11的抗性由一对显性基因(RSC- 11)控制; 齐黄1号、齐黄22、广吉和早熟18对SC- 11 的抗病基因是等位的或紧密连锁的; 经分离群体组群分析法研究发现, 齐黄1号抗SC- 11的位点RSC- 11位于F连锁群, 与SSR 标记Satt114、Sa tt334、Sa t_234和Sct_033紧密连锁, 距离分别为11. 1 cM、8. 9 cM、4. 6 cM 和4. 7 cM; 选取F连锁群上亲本间有多态的18对引物构建了F连锁群的遗传图谱, 全长254. 8cM, 标记间平均距离为13. 41cM。研究结果为大豆抗病育种以及抗性基因的精细定位和图位克隆奠定了基础。
【英文摘要】Soybean m osa ic v irus(SMV) is one of major viral diseases in soybean production worldwide. It causes yield loss and seed quality de fic iency ser ious ly. SMV stra in SC- 11 is a common prevalent strain in both of theH uang-H uai summer planting soybean region and the northern China spring plan ting soybean region. The major objectives of this research were to determine the inheritance o f resistance, test the allelism o f the resistance genes among the resistant cultivars, map the resistant gene to SC- 11. The results show ed that Q ihuang No. 1 has a single dom inant resistance gene to SC- 11. The resistance genes to SC- 11 am ong Q ihuang

No. 1, Q ihuang 22, Kw anggyo and Zaoshu 18 w ere a lle lic. Bulk seg regan t analysis(BSA) demonstrated that in the F2 mapping population from Q ihuang No. 1 @ Nannong1138- 2, Four SSR m arkers Sa tt114, Satt334,Sat_234 and Sct_033 in F linkage group w ere found close ly linked toRSC-11, w ith gene tic distances of 11. 1cM, 8. 9 cM, 4. 6cM and 4. 7 cM, respectively. RSC- 11 w as located between Sa t_234 and Sct_033 in F linkage g roup. Us ing 18 SSR m arkers locating in F linkage group o f the integrated jo intm ap and expressing po lym orphism betw een the tw o paren ts, the gene ticmap o f the F linkage group w as constructed. The full length o f the linkage group is 245. 8cM with an average interval of 13. 41cM between two markers.

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【学科分类】农业基础学科

【题目】大豆品种成熟期基因型推测的研究
【中文关键词】大豆; 成熟期; 近等基因系; SSR 分子标记
【英文关键词】Soybean; Maturity; Near-Isogenic Lines; SSR markers
【中文摘要】选择不同来源中国大豆品种23 份和国外引进的成熟期近等基因系35 份进行SSR 分析, 目的是鉴定与成熟期基因型紧密连锁的标记, 进而推测中国大豆品种的成熟期基因型。结果表明, (1)210 对SSR 标记中125 对在成熟期近等基因型中具有多态性, 推测与成熟期有关的标记有8 个; (2)在Clark 近等基因系中, 筛选出成熟期基因E3/e3 特异性标记Satt229, E4/e4 的特异SSR 标记Sct_010、Satt294、Satt247、Satt452 和Satt156; 在Clark 和Harosoy 近等基因系中, 筛选出E7/e7 的特异性SSR 标记为Satt071、Satt178; (3)根据8 个与成熟期相关的标记的分子数据, 构建了国外大豆近等基因系的UPGMA 聚类图, 共聚为4 类, 背景来源相同或相似的品系被聚为一类, 明显分为Clark 近等基因系和Harosoy 近等基因系。(4)与近等基因系成熟期基因(E7)分子标记比对, 推测出25 份中国大豆品种的成熟期基因。
【英文摘要】In order to find the tightly linked diagnostic SSR (simple sequence repeat) markers on soybean LG related to the maturity genotype and further deduce the maturity genotype of Chinese varieties, 215 pairs of SSR marker were selected to analyze 23 Chinese soybean varieties and 35 introduced maturity Near-Isogenic Lines (NIL) from U.S.A. Among them, 125 SSR markers were polymorphic and 8 SSR markers were related to the maturity genotype. In detail, on Clark background, Satt229 tightly linked to E3/e3 locus, five markers including Sct_010, Satt294, Satt247, Satt452, and Satt156 tightly linked to E4/e4 locus; on both Clark and Harosoy background, Satt071 and Satt178 tightly linked to E7/e7 locus. Anyway, considered the NILs on Harosoy background, only two markers (Satt071and Satt178) could be used to deduce the genotype of Chinese soybean varieties. Therefore,the maturity genotypes of 25 varieties from China were deduced. The clustering tree based on UPGMA was constructed with the molecular data of 8 SSR markers correlated to maturity genes, and four groups were formed The result showed that the NILs with the same genetic background were clustered together, in which the NILs with Clark background were clearly different from those with the Harosoy background.
【语种】中文
【第一作者】宁慧霞
【通讯作者】邱丽娟
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【学科分类】农业基础学科

【题目】Artificial selection for determinate growth habit in soybean
【中文关键词】空
【英文关键词】comparative genomics | domestication | diversification | point mutation
【中文摘要】空
【英文摘要】Determinacy is an agronomically important trait associated with the domestication in soybean (Glycine max). Most soybean cultivars are classifiable into indeterminate and determinate growth habit, whereas Glycine soja, the wild progenitor of soybean,

is indeterminate. Indeterminate (Dt1/Dt1) and determinate (dt1/dt1) genotypes, when mated, produce progeny that segregate in a monogenic pattern. Here, we show evidence that Dt1 is a homolog (designated as GmTfl1) of Arabidopsis terminal flower 1 (TFL1), a regulatory gene encoding a signaling protein of shoot meristems. The transition from indeterminate to determinate phenotypes in soybean is associated with independent human selections of four distinct singlenucleotide substitutions in the GmTfl1 gene, each of which led to a single amino acid change. Genetic diversity of a minicore collection of Chinese soybean landraces assessed by simple sequence repeat (SSR) markers and allelic variation at the GmTfl1 locus suggest that human selection for determinacy took place at early stages of landrace radiation. TheGmTfl1 allele introduced into a determinate-type (tfl1/tfl1) Arabidopsis mutants fully restored the wild-type (TFL1/ TFL1) phenotype, but the Gmtfl1 allele in tfl1/tfl1 mutants did not result in apparent phenotypic change. These observations indicate that GmTfl1 complements the functions of TFL1 in Arabidopsis. However, theGmTfl1 homeolog, despite its more recent divergence from GmTfl1 than from Arabidopsis TFL1, appears to be sub- or neofunctionalized, as revealed by the differential expression of the two genes at multiple plant developmental stages and by allelic analysisat both loci.
【语种】英文
【第一作者】Zhixi Tian,Xiaobo Wang
【通讯作者】Phillip E. McClean,Lijuan Qiu and Jianxin Ma
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【学科分类】农业基础学科

【题目】青藏高原高寒草甸植株性状和生物量分配的海拔梯度变异
【中文关键词】青藏高原 气候胁迫 生物量分配 地上/地下比值 植物性状 细根
【英文关键词】无
【中文摘要】通过亚高山带(3700 m)、高山带(4300 m)和亚冰雪带(5000 m 以上)3 个海拔常见的双子叶草本、禾草和莎草3种功能型57 种草本植物单株植物性状和生物量分配模式来检验假设:随海拔升高植物将更多的生物量分配到地下部分, 特别是地下储存器官, 以利于萌发再生和抵御高寒环境胁迫. 结果基本验证了这一假设, 但不同器官分配存在一定差异. 随着海拔升高地上生物量呈减少的趋势, 亚高山带植物分配给储存器官的生物量比例((7±2)%)显著低于高山带((23±6)%)和亚冰雪带((21±6)%), 而分配给叶的生物量比例随海拔升高变化不大. 从亚高山带到亚冰雪带, 茎、花的生物量分别下降45%和41%, 细根的生物量却升高86%和102%.随着海拔的升高, 双子叶草本、禾草比叶面积、单株叶面积均减小, 莎草则呈现相反趋势, 3种功能型植物叶面积比、叶根比随海拔升高降低而细根生物量增加. 高山植物生物量分配随海拔的变化主要表现在地上繁殖器官的降低和地下细根增加, 而叶生物量分配比例比较稳定,表明高山植物通过稳定光合器官的投入和增加细根的吸收表面积, 以补偿高山低温和养分限制环境下的碳供给和养分吸收. 与双子叶草本和禾草相比, 莎草类植物在高海拔地区, 叶、根性状和生物量分配模式对其获取资源更加有利, 细根生物量在高山带显著升高是对莎草菌根形成能力弱的一种补偿.
【英文摘要】无
【语种】中文
【第一作者】马维玲
【通讯作者】石培礼
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【学科分类】生态学

【题目】基于ANSYS的水下洗网机流场模拟仿真
【中文关键词】洗网机; 流场; 模拟仿真
【英文关键词】net cleaningmachine; flow field; numerical simulation
【中文摘要】摘要: 建立了水下洗网机内部流动的CFD计算模型, 用计算流体力学软件ANSYS2FLOTRAN对水下洗网机内部的流场进行了模拟分析, 得到了洗网机内部流体的速度分布曲线及压力分布曲线。分析结果为研究洗网机结构参数的优化设计提供了重要参考。

【英文摘要】Abstract: The paper established a CFD simulation model of flow field inside the net cleaningmachine, which was then analyzed by using CFD software ofANSYS2FLOTRAN1 The distribution of flow velocity and that of flow p ressure were obtained1 The results p rovided important references for op timizing the structure of net cleaning machine
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【第一作者】胡昱
【通讯作者】郭根喜
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【学科分类】水产工程学

【题目】波浪作用下圆形网箱浮架系统的运动特性分析
【中文关键词】深水网箱;波浪;浮架系统;运动特性;数值模拟
【英文关键词】deep-water net cage; wave; floating collar; movement characteristics; numerical simulation
【中文摘要】摘要:作为深水养殖网箱的重要组成部分,浮架系统在网箱抗风浪性能中扮演着极为重要的角色,研究浮架系统在波浪作用下的运动特性是深入了解网箱抗风浪性能的关键。基于集中质量法将圆形浮架离散成众多微元,并运用线性波浪理论和刚体运动学原理,建立了波浪作用下网箱浮架系统的运动响应数学模型。针对圆形浮架的实际尺寸参数,在不同波高(H = 4. 2~7. 0 m)和周期(T = 7. 2, 8. 6 s)条件下,采用计算机数值模拟方法,对浮架前后点运动轨迹、浮架质心水平和垂直位移、浮架倾角进行了数值计算。通过对计算结果的比较及分析表明: (1)浮架垂直位移幅度大于水平位移幅度,波浪周期对浮架垂直位移的影响要小于对水平位移的影响; (2)浮架水平位移、垂直位移以及倾角都和波高具有显著的正比关系。在波高H = 4. 2~7. 0 m 范围内,周期T = 7. 2 s时,水平位移、垂直位移和倾角的增量分别为1. 84 m、1. 0 m 和7. 18 °;周期T = 8. 6 s时,三者的增量分别为1. 66 m、1. 05 m 和5. 43 °; (3)周期增大,浮架垂直位移增加,水平位移和倾角减小。
【英文摘要】Abstract: Floating collar, an important component of deep-water net cage, plays a great important role in the performance of withstanding strong winds and waves for net cage, studying the movement characteristics of floating collar exposed to waves is a key to deeply understand the properties of withstanding strong winds and waves about net cage. In this paper, based on the lumped mass method, floating circular collar is discreted with lots of micro-elements, and by using the linear wave theory and the rigid body kinematics principle, a numerical model for movement response of floating collar exposed to waves is set up. Reference to practical floating collar parameters: 40m in circumference, 12.7kN in total weight, 15m in water depth, r=125mm, t=15mm, ρ =953kg • m-3. under the conditions of different wave heights(H=4.2~7.0m)and wave periods(T=7.2s、8.6s), the motion trajectories of the fore and rear points of the floating collar、the horizontal and vertical displacement of the central point of floating collar、pitch angles of floating collar are calculated in the way of computer numerical simulation method. By comparing and analyzing, the calculated results show that:(1)The vertical motion amplitude of the collar is larger than the horizontal one, and the influence of wave period on the vertical displacement of the collar is less than that of the horizontal one;(2)The horizontal displacement, the vertical displacement and the pitch angle of the collar all have direct proportional relation with wave height. Under the condition of wave height of 4.2~7.0m, the increase of the horizontal displacement, the vertical displacement and the pitch angle of the collar are 1.84m, 1.0m and 7.18 ° when T=7.2s, while they are 1.66m, 1.05m and 5.43 ° when T=8.6s;(3)When wave period increase, the vertical displacement of the collar increase accordingly, while the horizontal displacement and the pitch angle of the collar decrease.
【语种】中文
【第一作者】黄小华
【通讯作者】郭根喜
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【学科分类】水产工程学

【题目】Changes in individual plant traits and biomass allocation in alpine meadow with elevation variation on the Qinghai-Tibetan Plateau

【中文关键词】无
【英文关键词】Qinghai-Tibetan Plateau, climate stress, biomass allocation, shoot/root ratio, plant traits, fine roots
【中文摘要】无
【英文摘要】Plant traits and individual plant biomass allocation of 57 perennial herbaceous species, belonging to three common functional groups (forbs, grasses and sedges) at subalpine (3700 m ASL), alpine (4300 m ASL) and subnival (≥5000 m ASL) sites were examined to test the hypothesis that at high altitudes, plants reduce the proportion of aboveground parts and allocate more biomass to belowground parts, especially storage organs, as altitude increases, so as to geminate and resist environmental stress. However, results indicate that some divergence in biomass allocation exists among organs. With increasing altitude, the mean fractions of total biomass allocated to aboveground parts decreased. The mean fractions of total biomass allocation to storage organs at the subalpine site (7%±2% S.E.) were distinct from those at the alpine (23%±6%) and subnival (21%±6%) sites, while the proportions of green leaves at all altitudes remained almost constant. At 4300 m and 5000 m, the mean fractions of flower stems decreased by 45% and 41%, respectively, while fine roots increased by 86% and 102%, respectively. Specific leaf areas and leaf areas of forbs and grasses deceased with rising elevation, while sedges showed opposite trends. For all three functional groups, leaf area ratio and leaf area root mass ratio decreased, while fine root biomass increased at higher altitudes. Biomass allocation patterns of alpine plants were characterized by a reduction in aboveground reproductive organs and enlargement of fine roots, while the proportion of leaves remained stable. It was beneficial for high altitude plants to compensate carbon gain and nutrient uptake under low temperature and limited nutrients by stabilizing biomass investment to photosynthetic structures and increasing the absorption surface area of fine roots. In contrast to forbs and grasses that had highmycorrhizal infection, sedges had higher single leaf area and more root fraction, especially fine roots.
【语种】英文
【第一作者】马维玲
【通讯作者】石培礼
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【学科分类】生态学

【题目】农机通用动态遥测系统的开发
【中文关键词】农机动态遥测;可编程控制器;嵌入式电脑;无线数据传输
【英文关键词】null
【中文摘要】针对农业机械田间工作时涉及到的牵引力、拉力、压力、功率和转速等参数测量的情况,开发了农机通用动态遥测仪。以可编程控制器(PLC)嵌入式电脑为核心,采用无线数据传输技术配合通用传感组件,有效地解决了测量不便、测量数据不精确和同步性不高的问题。为此,主要介绍了系统硬件的设计方案,数据采集原理和数据采集方法。同时农机动态分析了数据误差产生的原因。
【英文摘要】无
【语种】中文
【第一作者】程睿
【通讯作者】蔡晓华
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【学科分类】农业工程

【题目】国产HDPE升降式深水网箱下沉关键技术的研究
【中文关键词】HDPE 升降式 深水网箱 下沉 关键技术
【英文关键词】HDPE Submersible Deep—sea cage Submergence
【中文摘要】摘 要 通过大量的海上网箱沉浮试验和分析,阐述了国产HDPE升降式网箱在自然海洋环境状态中,受风、浪和流等客观因素的作用与影响,使其在下沉过程中各浮管舱间下沉速度不一致,导致升降式网箱最终不能完全沉入水下,形成外在成因;而浮管舱内进水水体的流动则是造成网箱重心偏移和整体倾斜的内在因素,控制网箱下沉倾角,清除排气管路

进水阻塞是升降网箱下沉的关键技术。
【英文摘要】ABSTRACT The interaction between HDPE submersible deep——sea cage and wave。。currentwas analyzed by a number of in situ tests for cage submergence.The submersible cage could notsink completely because the sinking speed of the pipe cabins was different.And another impor—tant reason was the cage barycenter drift due to the water flow in the pipe cabins.The key tech—nology of net cage sinking is controlling the sinking obliquity and eliminating block of the ex—haust pipeline.
【语种】中文
【第一作者】黄 滨
【通讯作者】黄 滨
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【学科分类】水产工程学

【题目】平面网衣在水流作用下的受力和变形特性数值模拟研究
【中文关键词】平面网衣; 数值模拟; 水流; 集中质量
【英文关键词】p lane net; numerical simulation; current; lumped mass
【中文摘要】基于集中质量点法和牛顿第二定律, 建立了网衣在水流作用下的受力和运动响应数学模型。采用计算机数值模拟方法, 研究了水流作用下网衣的动态变形情况以及网衣受力平衡后的空间分布形状。在2 种配重(GW1 = 4112 N、GW2 = 16138 N) 和6种流速(U = 0117、0122、0128、0133、0139和0144 m·s- 1) 条件下对网衣稳定后沿水流方向的总水流力、网衣底端的水平及垂直位移进行了数值计算。计算结果表明, 配重及流速大小对网衣受力和变形特性具有较大的影响。随着水流速度的增大, 网衣在水流作用下的运动变形加剧, 且当配重增大时, 网衣变形减小, 网衣受力随流速的变化增幅明显加快。为了验证模型的正确性和有效性, 文章还将数值模拟结果与前人的试验结果进行了比较, 效果良好。
【英文摘要】Abstract: Based on the lumped massmethod and Newton ′s second law, the numericalmodel of the force and movement response for fishing nets in currentwas set up, and then the dynamic deformation and the equilibrium configuration of the p lane net in current along the positive direction of x2axis were studied bymeans of computer numerical simulation method1 In this paper, under the conditions of two weightmodes (GW1 = 4112 N, GW2 = 16138 N) and six current velocities (U = 0117, 0122, 0128, 0133, 0139 and 0144 m · s- 1) , the total drag force in the forward flow and the horizontal and vertical disp lacements of the net bottom were calculated after the plane net getting equilibrium in current1 The calculated results showed that the influences ofweight system and current velocity on the characteristics of drag force and deformation of p lane net are significant1With the increase of flow velocity, the motion deformation of the p lane net in currentwas intensified obviously1Moreover, when the weight increased, the deformation of the net decreased accord2 ingly, and the enhancement of the total drag force accelerated apparently with the flow velocity increasing1 Simulated results consisted well with other investigator ′s experimental data, which verified the accuracy and efficiency of the model1
【语种】中文
【第一作者】黄小华
【通讯作者】郭根喜
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【题目】西藏河谷区人工牧草地的苔藓植物群落研究
【中文关键词】人工牧草地; 苔藓植物群落; 物种多样性; CCA; 西藏
【英文关键词】planted pasture; bryophyte community; species diversity; CCA; Tibet
【中文摘要】在西藏河谷区拉萨、山南、日喀则的6 个人工牧草地及其边界共设置了28 个样地, 通过样方调查和标本采集, 鉴定得到苔藓植物2 科6 属13 种, 其中真藓(Bryum argenteum) 为调查区广布种。该地苔藓植物群落的特点表现为各试验地之间物种丰富度区别明显, 而物种均匀度的变化较小; CCA 分析表明, 小生境的温度与相对湿度对苔藓生长与分布的影响较大。在人工牧草地边界、种植一年以上的牧草地和一年以内的牧草地等3 种类型样地中, 由于人为干扰程度的差异, 人工牧草地边界的苔藓物种最丰富, 而一年内的牧草地几乎没有苔藓植物; 随着土壤稳定时间的延长, 才逐渐形成以真藓

属为优势的苔藓植物群落。在牧草种植过程中, 1 年内采用刈割方法而不进行放牧活动, 将有助于保障人工牧草的正常生长和防止水土流失, 降低荒漠化发生的可能性。

【英文摘要】28 plots of 6 sites were invest igated to ident ify the bryophytes communities on planted pastures in valley area of Tibet , China. 3~ 5 quadrates of 25 cm ∀ 25 cm with 100 grids were selected to count the coverage of bryophytes in each plot. The result showed that there were 13 species of bryophytes (including 2 varieties) , belonging to 6 genera and 2 families, and Bryum argenteum was widely distributed in the whole research area. The bryophytes communities were obviously different on species richness among the plots, but on species evenness. The similarity between any two communities was higher if their niches were more similar to each other. Based on Canonical Correspondence Analysis (CCA) of relationship between bryophytes and environmental factors, it indicated that the distribution of bryophytes was more affected by temperature and relative humidity of the niche. The highest species diversity was located around planted pastures and the lowest (almost no bryophyte) was located inside the planted pastures which were planted this year. As time went on, the bryophyte communities, dominated by genera Bryum, would be formed in the new planted pastureswith decrease of the disturbances and stabilization of the topsoil. It consented that the results above can be applied for avoiding soil and water erosion, and reducing the possibility of desertification as well if the planted pasture will be cut in stead of being grazed around the first planted year.

【语种】中文

【第一作者】李融

【通讯作者】邵小明

【期刊名称、卷期、页码】干旱地区农业研究,2010,28(5):228-232

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【引文索引类型】其他

【引文索引号】null

【学科分类】畜牧、兽医科学其他学科

【题目】西藏农业科技进步贡献率的测算1990—2015年

【中文关键词】西藏 农业科技进步贡献率 索洛余值法 最小二乘法

【英文关键词】无

【中文摘要】以Cobb- Doug las函数为核心, 以西藏自治区1990~ 2008年的农业统计数据为基础, 综合运用最小二乘法回归(ord inary least squares, OLS)和经验法估计出资本和劳动力产出弹性。继而运用索洛余值法测算和预测1990~ 2015年西藏自治区的农业科技进步贡献率。计算结果表明, 西藏自治区农业科技进步贡献率稳步上升, 2008年达到了37.4% , 预计2015年达到45.4% ~ 49% , 但投资拉动特征明显。最后, 基于测算与预测结果向自治区有关部门提出相关建议。

【英文摘要】无

【语种】中文

【第一作者】朱帆

【通讯作者】余成群

【期刊名称、卷期、页码】西藏科技,2010(10):22-26

【论文发表时间】2010-10-01 00:00:00

【引文索引类型】其他

【引文索引号】null

【学科分类】农村经济学

【题目】西藏自治区科技进步贡献率的测算与预测

【中文关键词】西藏　　科技进步贡献率　　索洛余值法　　最小二乘法　　势分析法

【英文关键词】无

【中文摘要】以Cobb- Douglas 函数为核心, 以西藏自治区1990~ 2008 年的统计数据为基础, 综合运用最小二乘法回归(ordinary least squares, OLS) 、势分析法、调整法和经验法估计出资本和劳动力产出弹性。继而运用索洛余值法测算和预测2009~ 2015 年西藏自治区的科技进步贡献率。计算结果表明, 西藏自治区科技进步贡献率稳步上升, 2008 年达到了30.8%, 预计2015 年达到40.7% , 但投资拉动特征明显。最后, 基于测算与预测结果向自治区有关部门提出相关建议。

【英文摘要】无

【语种】中文

【第一作者】朱帆
【通讯作者】余成群
【期刊名称、卷期、页码】西藏科技,2010(11):13-18
【论文发表时间】2010-11-01 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】区域经济管理

【题目】农业机械动力学参数田间试验遥测系统的研究
【中文关键词】农机测试;田间试验;遥测;传感器
【英文关键词】null
【中文摘要】针对播种、收获、整地、植保等农业机械的研发需要依靠大量季节性田间试验,而相关试验检测手段却相对薄弱的现状,笔者研制了该系统。系统各传感器全面采用无线传输技术,上悬挂杆传感器和牵引拉力板分别配用角度传感器检测瞬时空间位置,并结合动态应变测试、嵌入式计算机等技术,在牵引车内无线实时接收机具扭矩、水平牵引力与垂直分力、机架载荷、转速等动力学信号,处理、分析并显示旋转功率、全功率等测试结果。同时,简单介绍了遥测系统的组成结构,对传感器电桥、应变片、电源、平衡元件等的参数选择进行了理论分析,介绍了电桥调零、正负极性判断、弹性元件材料确定、标定等采用的技术方法。最后,以动力输出轴一体化扭矩传感器为例详细阐述了农机测试专用传感器的设计与计算依据。
【英文摘要】无
【语种】中文
【第一作者】蔡晓华
【通讯作者】蔡晓华
【期刊名称、卷期、页码】《农计化研究》、2010年第9期、146-149
【论文发表时间】2010-09-15 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农业工程

【题目】覆膜对青饲玉米生长发育及杂草的影响
【中文关键词】青饲玉米; 覆膜; 杂草; 日喀则
【英文关键词】Silage maize; Film mulching; Weed; Shigatse
【中文摘要】[目的]为西藏相关地区青饲玉米生产提供参考。[方法]研究了覆膜对青饲玉米生育期、生长性状和产量的影响及对杂草的作用。[结果]覆膜能够促使青饲玉米各生长期提前7~ 16 d,使植株高度、茎围、叶面积等增加, 使产量提高了75. 9%, 按2008年市场青饲玉米价格可增收22 500元/hm2; 青饲玉米田中共有13种杂草, 分属于8科13属, 其中禾本科杂草共6种, 稗(E chinochloa crusgalli)和狗尾草(Setaria vir idis)为该研究区优势杂草; 覆膜可完全防除平车前(P lantago depressa)、画眉草(Eragrostis p ilosa)和中华野葵(Malva verti cillata var. chinensis), 并对除稗以外的其他杂草具有一定防效。[结论]覆膜青饲玉米对西藏畜牧业发展和农牧民增收具有积极意义。
【英文摘要】[Objective] The aim was to provide scientific reference for the production of silage maize in correlated regions of Tibet. [Method] Effects of film mulching on the growth period, growth traits and yield of silage maize and weed were analyzed. [Result] Under the treatment of film mulching, the growth period of silage maize could be advanced for 7- 16 d; the plant length, stem diameter and leaf area were increased;and the grain output was increased by 75.9%. According to the market price of silage maize in 2008, 22500 Yuan/hm2 was increased. There were 13 kinds of weeds in silage maize field, which belonged to 13 genus, 8 family. Among them, 6 kinds of weeds belonged to gramineae, among which Echinochloa crusgalli and Setaria viridis were dominated in the weed communities. Plantago depressa, Eragrostis p ilosa and Malva verticillata var. chinensis could be totally controlled by the film mulching, meanwhile the others could be also controlled in a certain degree except E chinochloa crusgalli. [Conclusion] The plastic mulching planting is worth popularizing for the developing of anmial husbandry and the incoming of the local farmers in Tibe.
【语种】中文
【第一作者】郭米娟
【通讯作者】邵小明

【期刊名称、卷期、页码】安徽农业科学,2010,38(35):19975-19976
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【引文索引类型】其他
【引文索引号】null
【学科分类】畜牧、兽医科学其他学科

【题目】西藏拉萨河谷地区紫花苜蓿刈割管理
【中文关键词】西藏;紫花苜蓿;刈割管理
【英文关键词】Tibet;Medicago sativa;cutting management
【中文摘要】通过对西藏拉萨河谷地区紫花苜蓿的刈割试验,构建了拉萨河谷地区紫花苜蓿刈割生长动态模型,并分析了刈割次数对紫花苜蓿干鲜草积累量、刈割高度、干鲜比、营养成分的影响。分析结果表明,紫花苜蓿在西藏拉萨河谷地区具有很大的发展潜力,在管理措施保障条件下,紫花苜蓿刈割1次的干草年积累量可达1645g/m2,刈割2次达2128g/m2,刈割3次达2201g/m2;多次刈割可提高紫花苜蓿鲜草年积累量90%以上,而对干草年积累量提高约55%;同时,建议拉萨河谷地区紫花苜蓿宜采用分枝期一年刈割3次的刈割方案,分别于5月下旬、7月中旬和9月初实施,可获得干草积累量最大,草产品质量最好的紫花苜蓿干草。
【英文摘要】Through systematic research of the cutting areas in the Lhasa river valley,dynamic models of Medicago sativa growth were structured to simulate and forecast the accumulation of dry matter and fresh forage of M.sativain different cutting schemes.The effects of cutting times on accumulation of dry matter and fresh forage,height,dry weight/fresh weight ratio,nutrient component of M.sativa were studied and different cutting schemes were developed to suit different objectives.Cutting three times a year at branching for M.sativa pasture gave the maximum dry matter and best quality of M.sativa hay in the Lhasa river valley.
【语种】中文
【第一作者】余成群
【通讯作者】钟华平
【期刊名称、卷期、页码】草业学报,2011,20(1):38-45
【论文发表时间】2011-02-01 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】畜牧、兽医科学其他学科

【题目】Highly Efficient Shoot Regeneration from Cotyledonary Nodes of Vegetable Soybean
【中文关键词】无
【英文关键词】cotyledonary node, genotype, multiple shoot, regeneration frequency, thidiazuron (TDZ)
【中文摘要】无
【英文摘要】To establish a highly efficient system for shoot regeneration in vegetable soybean (Glycine max (L.) Merrill), explants were obtained from six genotypes and adventitious shoots were regenerated from cotyledonary nodes cultured on medium supplemented with different concentrations of N-phenyl-N′-1, 2, 3-thiadiazol-5-ylurea (thidiazuron TDZ) and 1-naphthylacetic acid (NAA). The most effective combination of plant growth regulators was selected first and then the effects of medium types, inoculation methods and genotypic differences on shoot regeneration were studied. The explants were inserted either vertically or horizontally into the medium and five basal media, including B5, ½ B5, MS, ½ MS, and MSB (MS salts and B5 organics), were tested. The shoot regeneration frequency of the six genotypes ranged from 53.5% to 88.9% and three of them reached 88.9%, 87.5% and 83.3%, respectively, on B5 medium supplemented with 1 mg L-1 TDZ, 0.05 mg L-1 NAA, and 5 mg L-1 AgNO3. The shoot regeneration frequency of explants cultured on B5 medium was significantly higher than that of the other four basal media. The vertically inserted explants were found to yield a higher shoot regeneration frequency than that of horizontally inserted ones; the maximum difference of regenerating percentages between the two methods was 37.5%. In summary, TDZ was an efficient plant growth regulator for shoot induction. B5 medium and vertically inserted explants promoted shoot regeneration. We believe this highly efficient shoot regeneration system will provide foundation for the further transgenic studies in vegetable soybean.
【语种】英文
【第一作者】刘倩倩
【通讯作者】朱月林

【期刊名称、卷期、页码】Kor. J. Hort. Sci. Technol. 2010, 28(2):307-313
【论文发表时间】2009-11-23 00:00:00
【引文索引类型】SCI
【引文索引号】2.7769660002e+011
【学科分类】植物学

【题目】双齿围沙蚕人工育苗和虾池养殖技术研究
【中文关键词】双齿围沙蚕;人工育苗;虾池养殖
【英文关键词】Perinereis aibnhitensis Grube;artificial breeding;pond culture
【中文摘要】开展了双齿围沙蚕人工育苗和虾池养殖研究试验,获得了成功。受精率达97%,幼体成活率达70%以上。
【英文摘要】Technique for Artificial Breeding and Culture of Perinereis aibnhitensis Grube in ponds
【语种】中文
【第一作者】周一兵
【通讯作者】周一兵
【期刊名称、卷期、页码】水产科学,2007,26(3):150-153
【论文发表时间】2007-03-01 00:00:00
【引文索引类型】其他
【引文索引号】726315053
【学科分类】水产养殖学

【题目】遗传标记及其在沙蚕遗传多样性研究中的应用
【中文关键词】沙蚕;遗传标记;遗传多样性
【英文关键词】Nereis;genetic marker;genetic diversity
【中文摘要】综述了遗传标记并开展了其在沙蚕遗传多样性研究中的应用
【英文摘要】Genetic Markers and its application in genetic diversity of nereis
【语种】中文
【第一作者】李莉
【通讯作者】周一兵
【期刊名称、卷期、页码】水产科学,2008,27(6):312-315
【论文发表时间】2008-06-01 00:00:00
【引文索引类型】其他
【引文索引号】827531215
【学科分类】水产养殖学

【题目】温度和光照对双齿围沙蚕卵细胞生长的影响
【中文关键词】双齿围沙蚕;温度;光照;卵细胞;生长
【英文关键词】Perinereis aibuhitensis;temperature;photoperiod;oocyte;growth
【中文摘要】通过研究不同温度和光照时间条件下双齿围沙蚕Perinereis aibuhitensis卵细胞的生长状况,分析了沙蚕卵细胞发育与环境因子的关系。结果表明:对于卵黄合成期的双齿围沙蚕,升温和延长光照时间可以加速卵细胞生长。在直接升温且光照周期为L:D=16:8和L:D=8:16的条件下,沙蚕卵细胞的生长速度分别为(2.46±O.O6)×10~、(2.26±0.1)X10~ Il3/d;在经历低温后再升温且光照周期为L:D=16:8和L:D=8:16的条件下,沙蚕卵细胞的生长速度分别为(3.21 4-0.09)×10~、(2.56-t-O.05)×10 Jn3/d。双因素方差分析结果显示:恒定低温对卵黄合成期的沙蚕卵细胞快速生长有促进作用,其与未经历低温的沙蚕卵细胞生长速度比较差异极显著(P<0.01);光照对卵细胞生长速度的影响差异极显著(P <0.01);低温和光照的交互作用对沙蚕卵细胞的生长速度影响差异极显著(P<0.01)。另外,低温对沙蚕卵径变异系数影响极显著(P<0.01),光照对沙蚕卵细胞变异系数影响不显著(P>0.05),低温和光照对卵细胞变异系数的交互影响不显著(P>0.05)。
【英文摘要】The growth of germ cells in sludge worm Perinereis aibuhitensis was determined at various temperature and photoperiods.The growth ofthe germ cells in the direct wanning group was found to be(2.46 4-0.06)×10 m /d and(2.26±0.1)×10_ m /d at L:D=16:8 and L:D=8:16,respectively.In the cooling group,however,the germ cells had growth rate of(3.21±0.09)×10—2p.m /d and(2.56±0.05)×10一 m。/d at L:D = 16:8 and L:D=8:16.respectively.Two factor analysis of variance indicated that the diference in growth of germ cells in stages of vitellogenesis in constant low temperature was very significant(P<0.01),and that the diference in

photoperiod was significant(P<0.01).The effect of growth of germ cels on the interaction between low temperature and photoperiod was very significant(P<0.01).In addition,the effect of the low temperature on variation in diameters of germ cells was very significant(P<0.01).The effect of the photoperiod on diameters of germ cells was not significant(P>0.05),and the efect of the interaction between low temperature and photoperiod on variation in growth of germ cells was not significant(P>0.05).

【语种】中文
【第一作者】杨大佐
【通讯作者】周一兵
【期刊名称、卷期、页码】大连水产学院报,2009,24(6):509-513
【论文发表时间】2009-12-01 00:00:00
【引文索引类型】其他
【引文索引号】924650913
【学科分类】水产养殖学

【题目】双齿围沙蚕主要器官组织学的研究
【中文关键词】双齿围沙蚕;体壁;疣足;消化器官;肾管
【英文关键词】Perinereis aibuhitensis;tegument;parapodium;digestive organ;renal tubule
【中文摘要】采用组织切片法对双齿围沙蚕Perinereis aibuhitensis的组织结构进行了系统观察。结果表明,双齿围沙蚕主要由体壁、疣足、消化系统和排泄系统组成 体壁从内向外分为壁体腔膜、肌肉层、表皮层和角质层,壁体腔膜是一层扁平细胞,肌肉层由环行、纵行 1斜行的平滑肌组成,表皮层为单层柱状细胞,其中夹有腺细胞和感觉细胞;疣足的壁与体壁一致,疣足内充满毛细血管、间充质细胞、黏液细胞和血细胞,在性腺发育期间,有大量生殖细胞着生于疣足壁上;消化系统包括消化管和消化腺两部分,消化管为从口到肛门的直管,包括口、口腔、咽、食道、胃和肠,在食道两侧有一对食道腺;排泄系统由肾管构成。
【英文摘要】The histological structures of the sluge worm Perinereis aibuhitensis was systemically observed by light microscopy.Results showed that the WO/TI1 consists of body wall,parapodium,digestive and emunctory systems.The body walls comprise of parietal peritoneum of a simple squamous epithelium,smooth muscular layers including circular muscle,longitudinal muscle and diagonal muscle,epidermis of single—layered columnar cells containing gland cells and sense cells and horniness layers.The cuticle layer is a non—chitin albuminoid velum secreted from the epidermal cells.The epidermis of parapodium,consistent with body wall,contain capillary vessels,connective tissue,mucilage cells and blood corpuscles.During the period of gonad development,a large number of germ cells are found in the parapldium walls.The digestive system includes the digestive tract,which is a straight tube from the mouth to the anal,buccal cavity,pharynx,esophagus,stomach and intestines.and the digestive gland on both sides of the esophagus.The excretory system is made up of nephridium.
【语种】中文
【第一作者】宋贞坪
【通讯作者】李霞
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【题目】雌激素对双齿围沙蚕性比、生长和 卵母细胞发育的影响
【中文关键词】双齿围沙蚕;1713一雌二醇;双酚A;生长;雌雄比例;卵母细胞发育
【英文关键词】Perinereis aibuhitensis;1 7—13estradiol;bisphenol—A;growth;sex proportion;ooeyte development
【中文摘要】将性未分化的双齿围沙蚕Perinereis aibuhitensis暴露在双酚A和1713一雌二醇两种雌激素下,研究了雌激素对双齿围沙蚕雌雄比例、个体生长、死亡率及卵母细胞发育的影响。结果表明,两种雌激素各浓度下的试验组沙蚕均为雌性。与对照组相比,双酚A浓度为50、100 L时,对沙蚕有极显著的促生长作用(P<0.O1);浓度为10、150 g/L时,对沙蚕的促生长作用显著(P<0.05);浓度为200 g/L时,对沙蚕的促生长作用不明显;沙蚕的死亡率随双酚A浓度的提高而增加。与对照组相比,当17一B雌二醇浓度为1、5、15 mg/L时,对沙蚕有极显著的促生长作用(P<0.O1);浓度为30 mg/L时,对沙蚕的促生长作用显著(P<0.05);浓度为45 mg/L时,对沙蚕的促生长作用不明显;随着浓度的提高,沙蚕的死亡率明显加大。双酚A浓度为1O~150 g/L、l7B一雌二醇浓度为1~30 mg/L时,对沙蚕卵母细胞的生长有明显的促进作用(P<0.01);而双酚A浓度为200 L(P<0.05)和

1713一雌二醇浓度为45 mg/L(P<0.01)时对卵母细胞的生长有抑制作用。

【英文摘要】The sex ratio,growth,mortality and oocyte development were studied in sluge worln Perinereis aibuhitensis exposed to bisphenol A(at concentration of 0,10,50,100,150,and 200 g/L)and 17 13estradiol(at conceltration of0,1,5,15,30,and 45 mg/L.The results showed t}lat all females were observed in the sluge WODTI exposed to the two estrogens.Compared with the sluge wornq in the control group,the sluge WOI'IHS had very significandy better growth in the bisphenol A groups at a concentration of50 and 100 g/L(P<0.01),and significandy better growth in the bisphenol A groups at a concentration of 10 and 150 g/L(P<0.05),without significant difference at a concentration of 200 g/L.However,there were significantly higher mortality in the experimental groups as the increase in concentration of bispheno1.The sluge WOITIIS had very significantly better growth in the groups with 1713estradiol concentrations of 1,5 and 15 mg/L(P<0.01),while the sluge worm in the group with 30 mg/L showed a significant increase(P<0.05).The mortality of the sluge WOrlTtS was found to be increased witIl increase in concentrations of 17 pestradiol in the experimental groups.There were very significantly higher growth of the oocytes in the Bisphenol A groups(at a concentration of 10—150 g/L),and in the 1713 estradiol groups(at a concentration of 130 mg/L)(P<0.01),but growth of the oocyte was inhibited in the groups with 200 g/L bisphenol A and 45 mg/L 17B estradio1.

【语种】中文

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【学科分类】水产养殖学

【题目】双齿围沙蚕金属结合蛋白(MpII)基因克隆与表达

【中文关键词】双齿围沙蚕;MP//cDNA;RACE;Cd2+;realtime PCR

【英文关键词】Perinereis aibuhitensis; MP//cDNA;RACE;Cd 2+:quantitative PCR

【中文摘要】根据已知杂色沙蚕(Nereisdiversicolor)金属结合蛋白II(MPII)部分基因序列设计引物,应用RACE技术从双齿围沙蚕(Perinereis aibuhitensis)中克隆得到]/eDNA序列全长为904 bp,其中,开放阅读框为357 bp,编码119个氨基酸。Blast比对结果显示,由双齿围沙蚕MP]/eDNA序列推导的氨基酸序列与多毛类Periserrula leucophryna 蚯蚓血红蛋白(Hr)、杂色沙蚕(Nereis vP fc0for)蚯蚓肌血红蛋白(MHr)及星虫类Themiste zostericola Hr氨基酸序 列的同源性分别为81.51%、77.12%和61.02%,由此推断该cDNA序列可能属于血红蛋白家族。应用Rea1.time PCR方法,分别研究了沙蚕暴露于Cd 质量浓度为40 mg/L的环境中l2、24、48和72 h后MP 基因表达水平的变化,以及3种质量浓度5、10和20 mg/L Cd2 暴露15 d后MP 基因的表达水平。实验结果表明:(1)沙蚕暴露于40mg/LCd 72 h后,MP//mRNA表达量显著增加,为空白对照组的12.6倍,表现出极显著差异(尸l<0.01);(2)不同质量浓度cd 诱导15 d后,各组J=l]/mRNA表达量均呈显著升高(0.05),达到空白对照组的4.8倍以上,且随Cd2浓度增大,MP]/mRNA表达量增加。据此认为,MPII对cd2+的应激调控发生于转录水平。本研究为海洋沉积环境早期污染的生态风险预测提供了分子生物学依据。

【英文摘要】:In the present study,the partia1 cDNA of metalloprotein II(MPI/)was amplified from the total RNA of epidermis muscle of the polychaete,Perinereis aibuhitensis,by reverse transcription polymerase chain reaction wim the primers designed based upon the homologous eDNA sequence of MP11 from reis versicolor.Other primers were designed according to the partia sequence of Perinereis aibuhitensis MPlI and two fragments of approximately 600 bp and 250 bp were obtained using 3 and 5 .RACE.andsequenced.Sequence analysis revealed a 904 bp eDNA containing an 81 bp 5 untranslated region,463 bp 3'-untranslated regions,and 357 bp open reading frame putatively encoding a protein of 1 1 9 amino acids.The deduced amino acid sequence of MPI1 was subjected to BLAST search for similarity with published sequences and it was found that MPII shared high identity(8 1.5 1%1 with Periserrula leucophryna hemerythrin,also with myohemerythrin of reis diversicolor (77.12%1,and with the hemerythrin of zemiste zostericola(61.02%).Furthermore,the deduced amino acid sequence of MPII contained the conserved motif(HX29HX3EX16HX3HX23/28HX4D)of the hemerythrin family of proteins.suggesting that MPII belongs to the hemerythrin family.The expression levels of尸erinereis aibuhitensis MPI1 were detected after exposure to 40 mg/L Cd2 for l2,24,48,and 72 h using quantitative PCR.The expression levels of MPII mRNA during 1 5 d were also detected under three concentrations of Cd .The current study showed that the expression levels of the MPI1 were approximately 12.6一fold higher(P<0.01)than control group at 40 mg/L Cdz+after 72 h. The level of P mRNA produced in the muscle tissue of sandworm increased significantly following exposure to Cd2 of 5,1 0,and 20 mg/L after 1 5 d,and were above 4.8一fold than control grouprP<0.05).Therefore。the expression level of the MPII increased with increasing concentrations of C .We suggest that heavy metal Cd is associated with the induction of MPII expression.and

the present study provided molecular support for the assessment of early ecological risks for monitoring the marine sediment environment based on the health of clamworm.
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【第一作者】杨大佐
【通讯作者】周一兵
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【题目】双齿围沙蚕CYP4基因的克隆及序列分析
【中文关键词】双齿围沙蚕;CYP4;RACE;生物信息学分析
【英文关键词】P nereis aibuhitensis;CYP4;RACE;sequence analysis
【中文摘要】根据已知的绿沙蚕Nereis virens细胞色素氧化酶CYP342A1保守区设计引物,采用RACE技术首次从双齿围沙蚕Perinereis aibuhitensis体壁肌肉中克隆出细胞色素氧化酶CYP4基因全长序列。分析结果表明, 该序列全长为1 857 bp,5 端非翻译区为186 bp,3 端非翻译区为225 bp,阅读框为1 446 bp,编码为481 个氨基酸。第422~431氨基酸序列符合P450所具有的结构保守共有序列FxxGxxxCxG,第319~322氨基酸序列为K螺旋特征基序ExxR区,第282~294氨基酸序列含有CYP4家族特征序列EVDTFMFEGHDTF。经Blast与GenBank中已知物种的氨基酸序列进行同源性比对,CYP4与多毛类绿沙蚕Nereis CYP4BB1、CYP342A1(AY453408)氨基酸同源性为73%、36%,与多毛类小头虫CapiteUa capitata CYP4ATI(AY574044)同源性为39%。据此推断,双齿围沙蚕CYP4基因属于CYP4B亚家族。
【英文摘要】In the present study,the partial cDNA of CYP4 was amplified from the tota. RNA of epidermis muscle of the polychaete。Perinereis aibuhitensis。by reverse transcription with the primers based upon the CYP342A1 from ereis virens.Then other primers were designed according to the partial gene of Peri~reis aibuhitensis CYP4,and two fragments about 37 1 bp and 1044 bp were obtained by using 3 RACE and 5 RACE.Sequence analysis revealed a 1857 bp eDNA containing the 186 bp 5 -untranslated region.225 bp 3 -untranslated regions and 1 446 bp open reading frame encoding 48 1 amino acid.The identity rate of deduced amino acid sequence of CYP4 was subjected to Blast searching in NCBI.The results showed that the CYP4 shared 73%identity with CYP4BB1,36%identity with CYP342A1 of Nere/s virens and 39%identity with cYPgAT1 of Capitella capitate.The deduced amino acid se— quence of CYP4 contained the conserved motifs of P450 family(FxxGxxxCxG)and had K-helix motifs of P450 family(ExxR).In addition,it has the characteristic sequences of CYP4 family(EVDTFMFEGHDTr).So it is inferred that the cDNA sequence might belong to the subfamily of CYP4B.
【语种】中文
【第一作者】周一兵
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【学科分类】水产养殖学

【题目】The influence of cadmium on the antioxidant enzyme activities in polychaete Perinereis aibuhitensis Grube (Annelida: Polychaeta)
【中文关键词】双齿围沙蚕,镉,抗氧化酶,生物标记物,生物检测
【英文关键词】Polychaete (Perinereis aibuhitensis)
cadmium
antioxidant enzyme
biomarker
biomonitoring
【中文摘要】本文论述了抗氧化酶活性,包括超氧化物歧化酶(SOD),过氧化氢酶(CAT),谷胱甘肽过氧化物酶(GSH-Px)的中底内动物多毛类的P.双齿围沙蚕暴露了一系列的亚致死浓度,并开展了短期暴露(1-8 D的急性毒性试验。结果表明,在双齿

围沙蚕的SOD和GSH-Px活性受刺激先降低再升高,然后更新到原来的水平。 CAT活性的蠕虫病毒在早前曝光时间减少,但会增加在以后的曝光时间的控制值。实验结果对海洋沉积质污染的早起风险评价具有指导作用。

【英文摘要】The infaunal polychaete Perinereis aibuhitensis Grube, distributed widely along Asian coasts and estuaries, is considered a useful animal model in ecotoxicological tests and a promising candidate in biomonitoring programs. This paper deals with the activities of antioxidant enzymes including superoxide dismutase (SOD), catalase (CAT), and glutathione peroxidases (GSH-Px) in infaunal polychaete P. aibuhitensis exposed to a series of sublethal water-bound cadmium (Cd) concentrations (0, 0.34, 1.72, 3.44, 6.89, and 17.22 mg L − 1) under a short-term exposure (1 – 8 d). The results indicate that the SOD and GSH-Px activities in P. aibuhitensis are stimulated first and then renewed to the original level. The CAT activity of worms decreases at an earlier exposure time but increases to the control values at a later exposure time. Our study suggests that Cd can interfere with the antioxidant defense system of P. aibuhitensis. However, the changes in antioxidant enzyme activities for this species do not show the best promise as biomarkers in Cd biomonitoring of estuarine and coastal zones because weak or non-dose-effect relationships between the antioxidant enzymes activities and Cd levels are found.

【语种】英文

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【学科分类】水产养殖学

【题目】石油对翅碱蓬生长及生理特性的影响

【中文关键词】翅碱蓬;石油污染;生理指标;抗氧化酶系统

【英文关键词】Suaeda heteroptera; oil contamination; physiological indexes; antioxidant enzymes

【中文摘要】通过盆栽试验,测定不同石油浓度下翅碱蓬的生长生理指标及土壤中石油含量的变化,研究石油对翅碱蓬萌发、生长、生理 特性和抗氧化酶系统的影响及翅碱蓬对土壤中石油的降解。结果表明,随着石油含量的升高,翅碱蓬种子发芽率、苗高、苗重和苗中叶绿素、粗蛋白含量逐渐下降,电导率上升,石油浓度在 5 000 mg ・kg-1以上,影响显著。石油对翅碱蓬糖的合成有明显抑制作用。当石油浓度为 1 000~5 000 mg・kg-1 时,翅碱蓬抗氧化酶能够快速、长效地提高活性来抵御逆境,使其不受到伤害或减轻伤害,可溶性蛋白保持在高水平;当石油浓度达到 10 000 mg・kg-1 时,抗氧化酶系统迅速作出反应,酶活性急剧提高,但因毒性超出了其可以承受的范围,而无法维持较长时间,随后会降至对照组以下,同时可溶性蛋白也急剧下降,仅为对照组的 9% 。石油浓度为 1 000~5 000mg ・kg-1 时,石油去除率在 63.53%~83.21%,达到 10 000 mg・kg-1 时,则下降到 40.14% 。

【英文摘要】The aim of this paper was to determine some growth and physiological indexes of Suaeda heteroptera at different oil concentration and variation of oil concentration of soil, and study the effects of oil on germination, growth, physiological characteristic and the antioxidant system of Suaeda heteroptera and the removal of oil in soil by the experiment. The results indicated that with the concentration of oil increasing, the germination rates of the seed, the heights and weights of the plant, the contents of chlorophyll and crude protein in the plants decreased gradually, and the data of electrical conductivity increased, the harms of Suaeda heteroptera were significant in the concentration of oil over 5 000 mg ・kg-1 or more. The synthesis of soluble sugar of Suaeda heteroptera was remarkable restrained by oil. The antioxidant enzymes could improve activity rapidly and long-term to against adversity rapid in the concentration of oil 1 000~5 000 mg ・kg-1, it could make Suaeda heteroptera to avoid or reduce the damages, and make the contents of soluble protein keep a high level.The antioxidant enzymes activity was increased sharply, but no lasting longer owing to oil toxicity beyond the scope of Suaeda heteroptera ′s affordable in the concentra- tion of oil 10 000 mg ・kg -1, the enzymes activity would decrease below the control groups soon, meanwhile the contents of soluble protein sharply dropped to only 9% of the control groups. The removal rates of oil were 63.53%~83.21% in the concentration of oil 1 000~5 000 mg ・ kg-1, but it was only 40.14% in 10 000 mg ・kg-1.

【语种】中文

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【题目】雄激素受体干扰物的活性预测模型的研究
【中文关键词】雄激素受体;干扰物活性;分子参数,;多元线性回归; 主成分分析方法
【英文关键词】androgen receptor, molecular indices, PCR
【中文摘要】目的在于定量预测雄激素受体干扰物活性,并确定最佳建模方法。选择150个分子作为数据集,随机选38个分子作为检验集,其它分子为训练集。每个化合物分子计算了193个分子参数。通过采用多元线性回归和主成分回归等方法,建立数学模型,并用验证集检验了所建模型的预测能力。结果发现逐步筛选法和主成分分析方法所建模型都表现出较强的预测能力应用于检验集的相关系数分别为R=0.61,R=0.52。以上研究将有助于新药雄激素受体抑制剂的筛选和开发。
【英文摘要】To quantitatively predict the activity of androgen receptor ligands. A dataset composed of 150 diversified compounds was built based on multivariate linear regression analysis and principal component analysis(PCA). 38 compounds served as test set and the rest as training set. For eash molecule ,193 molecular indices were calculated. From the analysis of the models , the predictability of stepwise method(R=0.61)for molecular descriptors and PCA(R=0,52) are satisfactory. All these models are helpfull for aiding screening and development of androgenic compounds.
【语种】中文
【第一作者】贾艳平
【通讯作者】周一兵
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【学科分类】水产养殖学

【题目】沿海滩涂镉吸附细菌的分离、 鉴定及生长特性的研究
【中文关键词】镉 ; 细菌吸附 ; 细菌鉴定 ; 生长特性
【英文关键词】Cd2 + ; bacterial adsorption ; identification of bacterium ; growth
【中文摘要】采用常规细菌分离技术从沿海滩涂的泥样中分离出两株对重金属 Cd 具有吸附作用的细菌 (编号为 J2 和 J6) ,并采用原子吸收法测定了菌株及培养液中 Cd2 +的含量。结果表明 : 两株菌在培养液中培养 7d 后 ,上清液中 Cd2 + 的含量与对照组相比显著降低 (P < 0. 05) ,菌体细胞中 Cd2 + 含量与对照组相比显著增加 (P < 0. 05) ; 电镜下观测,两株菌均为短杆状 ,革兰氏染色为阴性 ,有鞭毛 。生理生化特征测定结果 显示,两株菌均符合弧菌属的特征,用 O / 129 纸片测试为敏感 ,TCBS 中生长变为黄色,与过氧化氢酶、氧化酶 、硝酸盐还原反应为阳性 ,生长均需要 Na+。结合 16S rDNA 序列分析 ,J2 菌株被鉴定为 Vibrio p aci- nii ,J6 菌株被鉴定为溶藻弧菌 Vibrio alginnolyticus 。J2 菌株生长的最适 pH 为 7 ,温度为 20 ℃ ,NaCl 为 30 g / L ; J6 菌株生长的最适 pH 为 7. 5 ,温度为 30 ℃ ,NaCl 为 40 g / L 。
【英文摘要】Two Cd2 + adsorption strains of bacteria J2 and J6 were isolated from coastal beach by general technique , and the adsorption of Cd2 + was detected by Atomic Absorption Spectroscopy (AAS) . The growth and biological char- acteristics of J2 and J6 were tested to identify the strains. The results showed that they can reduce Cd2+ consistency in culture medium ,while the amount of Cd2 + in bacterial cells was found to be increased compared with the control (P < 0 . 05) 7 days after culture. The J2 and J6 showed gram negative ,rod shape ,O129 paper sensitive ,yellow colony in TCBS ,catalase positive ,oxidase positive ,nitrate reduction positive and requirement of Na + for growth. The J2 and J6 were identified as genus Vibrio. The sequence of 16S rRNA gene of J2 was found to be accorded with Vibrio p acinii with identity of 99% ,and J6 was accorded with Vibrio alginnolyticus with identity of 99% . The opti- mum growth of J2 was observed under the conditions of pH 7 ,20 ℃ ,NaCl of 3% and J6 pH 7 . 5 ,30 ℃ ,and NaCl of 40% .
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【第一作者】王斌
【通讯作者】周一兵
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【学科分类】水产养殖学

【题目】有机污染物生物富集因子的预测模型
【中文关键词】生物富集因子(BCF); 分子参数; 多元线性回归; QSAR
【英文关键词】BCF; Molecular indices; MLR; QSAR
【中文摘要】为了定量预测鱼体内生物富集因子(BCF) , 确定其最佳预测模型, 将214个有机物分子作为数据集, 其中随机选取54个分子作为检验集, 其它160个分子为训练集, 构建了定量构效关系模型(QSAR)。每个分子计算了193个分子参数, 采用多元线性回归分析中逐步筛选法获得最佳模型(应用于训练集与检验集的相关系数分别为R2=0181、R2=0166)。此外, lgBCF与lgP (油水分配系数) 的关联结果也显示出较强的相关性(R2=0162)。
【英文摘要】AQSAR(QuantitativeStructure- ActivityRelationship) model was put for ward to quantitatively predict bioaccumulation of organic compounds infish on the basisof a dataset of 214 diversified compounds in which 54 compounds servedas test set and the rest as trainingset.About 193molecular indiceswere calculatedfor each compound. Fromthe analysis of the models, the predictabilityof stepwiseMLRwas satisfactory(R2=0. 81,R2=0. 66) for thepresentwork. Inaddition, the relationshipbetweenlogBCFandlgPwasalsoreasonable (R2=0. 62), indicating that all these studies was helpful for prediction of bioaccumulation of organic compounds in fish.
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【第一作者】贾艳平
【通讯作者】周一兵
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【学科分类】水产养殖学

【题目】Effects of Perinereis aibuhitensis activities on biomass and absorption of heavy metals of Suaeda heteroptera kitagawa
【中文关键词】双齿围沙蚕,翅碱蓬,重金属,生物修复
【英文关键词】Perinereis aibuhitensis; Suaeda heteroptera kitagawa; heavy metal contaminated sedment; bioremediation
【中文摘要】重金属污染不仅破坏环境,植物的生长,而且还通过食物链危害动物健康。本文的实验通过测定沙蚕、沿海沉积物,生物量的影响,并进行了研究和Cu和Pb,沉积物中可用N,速效P,总的有机碳含量和pH值进行测定。结果表明,pH值的沉积物增加,可用的N和P的沉积物可用提出了在对照组中,由双齿围沙蚕的活动,蠕虫和植物的生物量得到改善分别为134.1。双齿围沙蚕活动可以增强金属的生物利用度。这为植物修复的重金属污染提高了工作效率提供了基础。
【英文摘要】Heavy metal pollution is not only damaging to the environment, plant growth, but also harming animal and hunman health through the food chain. The experimental environment in this paper was coastal sediment, the effects of the biomass and the absorption of heavy metal of Suaeda heteroptera kitagawa by perinereis aibuhitensis activities were studied by the concentration of Cu and Pb in the body of Suaeda heteroptera kitagawa and the concentration of Cu and Pb,the available N, the available P,the total organic carbon and pH value in the sediment were measured. The results showed that the pH value of sediment was increased, the available N and the available P of sediment were raised and the biomass of the plant were improved in control groups by Perinereis aibuhitensis activities, the differece of fresh weight between with worm and without worm were 134.1. Perinereis aibuhitensis activities raised the concentrations of CaCl2-Cu snd DTPA-Pb in the sedment,enhanced metal bioavailability and promoted the Cu and Pb absorption of Suaeda heteroptera kitagawa, the Cu concentrations and the PB concentrations in the body of plant of under ground with worm was 1.14-2.89 times and 1.33-7.57 times that of without worm. Those provided the basis for improving the efficiency of phytoremediation of the heavy metal contaminated sedment.
【语种】英文
【第一作者】Jie He
【通讯作者】周一兵
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【学科分类】水产养殖学

【题目】日粮铜钼水平对绒山羊产绒性能和血液相关激素的影响
【中文关键词】绒山羊; 铜; 钼; 激素; 产绒性能
【英文关键词】Cashmere goat; copper; molybdenum; hormone; cashmere; performance;
【中文摘要】研究日粮铜(Cu)钼(Mo)添加水平对快速长绒期绒山羊产绒性能和血液相关激素的影响。采用2×3完全随机试验设计,选取36只1.5周岁辽宁绒山羊,随机分为6组,每组6只,分别在基础日粮中添加3个水平的Cu(0、19和38mg/kg,DM)和2个水平的Mo(0和5mg/kg,DM)进行饲喂。结果表明:基础日粮中添加Cu19mg/kg绒山羊绒毛长度和绒生长速率明显增加(P<0.05),而对绒纤维细度没有影响(P>0.05);添加38mg/kg的Cu有抑制羊绒生长的趋势(P>0.05),且显著降低了羊绒细度(P<0.05)。Cu与Mo的互作对细度的影响极显著(P<0.01)。日粮Cu、Mo水平对血液褪黑激素(MT)、甲状腺激素(T3和T4)水平均无影响(P>0.05);在日粮不加Mo和添加5mg/kg的条件下,添加Cu19mg/kg均明显提高血液类胰岛素生长因子-Ⅰ(IGF-Ⅰ)的水平(P<0.05);低Mo水平下,添加19mg/kg的Cu,提高血液MT的水平(P>0.05)。高Mo则抑制IGF-Ⅰ的分泌(P>0.05),且显著降低了催乳素(PRL)(P<0.05)。未观测到Cu、Mo的互作对血液相关激素的影响(P>0.05)。在绒山羊长绒期,日粮低Mo水平下,适宜添加19mg/kg,DM的Cu;高Mo时,添加38mg/kg,DM的Cu对绒山羊产绒性能效果最好。Cu促进山羊绒生长除与MT分泌有关外,还与IGF-Ⅰ有关,可能与PRL、T3和T4无关。
【英文摘要】This research was conducted to study the effect of adding copper and molybdenum either singly or in combination in diets on cashmere performance and blood hormone in cashmere goats during the cashmere growing period. A 2×3 factorial completely randomized experiment design was used. Thirty-six (1.5-year-old) Liaoning cashmere goats were randomly selected by weight into six groups fed with diets at different levels of copper (0,19 and 38 mg/kg,DM) and molybdenum (0 and 5 mg/kg,DM).
【语种】中文
【第一作者】张永升
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【题目】日粮不同铜、钼水平对辽宁绒山羊机体抗氧化性能的影响
【中文关键词】铜; 钼; 抗氧化; 绒山羊
【英文关键词】copper; molybdenum; anti-oxidation; cashmere goats
【中文摘要】试验选用性别一致、年龄、体重相近的36只健康辽宁绒山羊,研究日粮中添加不同水平的铜(01、9mg/kgDM和38 mg/kg DM)和钼(0、5 mg/kg DM)对绒山羊机体抗氧化性能的影响。结果表明:日粮添加铜可显著增强绒山羊机体抗氧化性能,显著提高血铜浓度、铜蓝蛋白、铜-锌-SOD及谷胱甘肽过氧化物酶活性(P<0.01),显著降低丙二醛含量(P<0.01),但添加铜19 mg/kg DM和38 mg/kg DM差异不显著(P>0.05)。日粮添加钼5 mg/kgDM显著提高谷胱甘肽过氧化物酶活性(P<0.01),对其他指标无影响(P>0.05)。铜钼对上述指标无显著互作效应(P<0.05),但在铜蓝蛋白、铜-锌-SOD和谷胱甘肽过氧化物酶上存在互作趋势。
【英文摘要】The experiment was employed with three levels of copper(0,19 and 38 mg/kg DM) and two levels of molybdenum(0 and 5 mg/kg DM) to study the effects of different levels of dietary copper and molybdenum on the function of anti-oxidation in Liaoning cashmere goats.The results indicated that supplementation of dietary copper could enhance the function of anti-oxidation in Liaoning cashmere goats significantly.And the concentration of plasma copper and the activity of serum Cp,Cu-Zn-SOD and GSH-Px were increased significantly(P < 0.01);the concentration of serum MDA was decreased significantly(P < 0.01).But the difference was not evident between the addition levels of copper(19 and 38 mg/kg DM)(P > 0.05).With the supplementation of dietary molybdenum the activity of GSH-Px increased significantly(P < 0.01).There was no impact of copper-molybdenum interaction on the function of anti-oxidation(P > 0.05).However,there was a trend of copper-molybdenum interaction on the activity of serum Cu-Zn-SOD,GSH-Px and Cp(P < 0.10).
【语种】中文

【第一作者】张瑜
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【学科分类】畜牧学

【题目】阿克苏红富士苹果在贮期总糖的变化
【中文关键词】苹果;总糖;冷藏;常温
【英文关键词】Apple; total sugar; refrigeration; room temperature
【中文摘要】摘要:对苹果采后利用现代化贮藏保鲜技术进行保鲜,在这过程中对总糖变化进行研究。定期测量不同保鲜处理与常温处理的总糖变化。其结果表明,各种冷藏保鲜处理苹果总糖贮藏后期明显提高,而常温储存苹果总糖量一直呈下降现象。
【英文摘要】无
【语种】中文
【第一作者】艾尔麦克
【通讯作者】车凤斌
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【学科分类】食品包装与储藏

【题目】Potential of the seaweed Gracilaria lemaneiformis for integrated multi trophic aquaculture with scallop Chlamys farreri in North China.
【中文关键词】无
【英文关键词】Gracilaria lemaneiformis - Integrated Multi-trophic Aquaculture (IMTA) - Nutrient uptake rate - Nutrient reduction efficiency - Scallop
【中文摘要】In this study the red alga, Gracilaria lemaneiformis, was cultivated with the scallop Chlamys farreri in an integrated multi-trophic aquaculture (IMTA) system for 3 weeks at the Marine Aquaculture Laboratory of the Institute of Oceanology, Chinese Academy of Sciences (IOCAS) in Qingdao, Shandong Province, North China. The nutrient uptake rate and nutrient reduction efficiency of ammonium and phosphorus from scallop excretion were determined. The experiment included four treatments each with three replicates, and three scallop monoculture systems served as the control. Scallop density (407.9 ± 2.84 g m − 3) remained the same in all treatments while seaweed density differed. The seaweed density was set at four levels (treatments 1, 2, 3, 4) with thallus wet weight of 69.3 ± 3.21, 139.1 ± 3.80, 263.5 ± 6.83, and 347.6 ± 6.30 g m − 3, respectively. There were no significant differences in the initial nitrogen and phosphorus concentration between each treatment and the control group (ANOVA, $p > 0.05$). The results showed that at the end of the experiment, the nitrogen concentration in the control group and treatment 1 was significantly higher than in the other treatments. There was also a significant difference in phosphorus concentration between the control group and the IMTA treatments (ANOVA, $p < 0.05$). Growth rate, C and N content of the thallus, and mortality of scallop was different between the IMTA treatments. The nutrient uptake rate and nutrient reduction efficiency of ammonium and phosphorus changed with different cultivation density and time. The maximum reduction efficiency of ammonium and phosphorus was 83.7% and 70.4%, respectively. The maximum uptake rate of ammonium and phosphorus was 6.3 and 3.3 μ mol g − 1 DW h − 1. A bivalve/seaweed biomass ratio from 1:0.33 to 1:0.80 (treatments 2, 3, and 4) was preferable for efficient nutrient uptake and for maintaining lower nutrient levels. Results indicate that G. lemaneiformis can efficiently absorb the ammonium and phosphorus from scallop excretion and is a suitable candidate for IMTA.
【英文摘要】In this study the red alga, Gracilaria lemaneiformis, was cultivated with the scallop Chlamys farreri in an integrated multi-trophic aquaculture (IMTA) system for 3 weeks at the Marine Aquaculture Laboratory of the Institute of Oceanology, Chinese Academy of Sciences (IOCAS) in Qingdao, Shandong Province, North China. The nutrient uptake rate and nutrient reduction efficiency of ammonium and phosphorus from scallop excretion were determined. The experiment included four treatments each with

three replicates, and three scallop monoculture systems served as the control. Scallop density (407.9 ± 2.84 g m − 3) remained the same in all treatments while seaweed density differed. The seaweed density was set at four levels (treatments 1, 2, 3, 4) with thallus wet weight of 69.3 ± 3.21, 139.1 ± 3.80, 263.5 ± 6.83, and 347.6 ± 6.30 g m − 3, respectively. There were no significant differences in the initial nitrogen and phosphorus concentration between each treatment and the control group (ANOVA, $p > 0.05$). The results showed that at the end of the experiment, the nitrogen concentration in the control group and treatment 1 was significantly higher than in the other treatments. There was also a significant difference in phosphorus concentration between the control group and the IMTA treatments (ANOVA, $p < 0.05$). Growth rate, C and N content of the thallus, and mortality of scallop was different between the IMTA treatments. The nutrient uptake rate and nutrient reduction efficiency of ammonium and phosphorus changed with different cultivation density and time. The maximum reduction efficiency of ammonium and phosphorus was 83.7% and 70.4%, respectively. The maximum uptake rate of ammonium and phosphorus was 6.3 and 3.3 μ mol g − 1 DW h − 1. A bivalve/seaweed biomass ratio from 1:0.33 to 1:0.80 (treatments 2, 3, and 4) was preferable for efficient nutrient uptake and for maintaining lower nutrient levels. Results indicate that G. lemaneiformis can efficiently absorb the ammonium and phosphorus from scallop excretion and is a suitable candidate for IMTA.

【语种】英文

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【学科分类】水产养殖学

【题目】The potential for utilizing fouling macroalgae as feed for abalone Haliotis discus hannai.

【中文关键词】fouling macroalgae; abalone Haliotis discus hannai; diet; nutritional value

【英文关键词】fouling macroalgae; abalone Haliotis discus hannai; diet; nutritional value

【中文摘要】In order to assess the potential of utilizing fouling macroalgae as feed for abalone Haliotis discus hannai, the species, biomass and total stock of fouling macroalgae attached on the aquaculture facility-lines were investigated and assessed at Sungo Bay, China, in August 2007. The nutritional value of four fouling macroalgae (Codium fragile, Sargassum muticum, Ulva pertusa and Laminaria japonica) and one cultured macroalgae (Gracilaria lemaneiformis) as the diet of abalone was assessed by analysis of the chemical composition of the macroalgae and by measuring bioavailability and digestibility to abalone H. discus hannai under laboratory conditions in August 2007. The results showed that the biomass of fouling macroalgae at the two sites was 243.61 ± 26.23 and 1078.15 ± 50.28 g m − 1 respectively. The contents of protein of G. lemaneiformis and C. fragile were 18.30% and 17.60%, respectively, which were significantly higher than the others. The five macroalgae were accepted by the abalone, and growth energies (P) and growth efficiency (%) were positive. However, significant differences were found among the different macroalgae. The growth efficiencies of abalone show a negative relationship with the levels of dietary lipid and a positive relationship with the protein contents. These results suggest that fouling macroalgae have a great potential to be used as diets of abalone.

【英文摘要】In order to assess the potential of utilizing fouling macroalgae as feed for abalone Haliotis discus hannai, the species, biomass and total stock of fouling macroalgae attached on the aquaculture facility-lines were investigated and assessed at Sungo Bay, China, in August 2007. The nutritional value of four fouling macroalgae (Codium fragile, Sargassum muticum, Ulva pertusa and Laminaria japonica) and one cultured macroalgae (Gracilaria lemaneiformis) as the diet of abalone was assessed by analysis of the chemical composition of the macroalgae and by measuring bioavailability and digestibility to abalone H. discus hannai under laboratory conditions in August 2007. The results showed that the biomass of fouling macroalgae at the two sites was 243.61 ± 26.23 and 1078.15 ± 50.28 g m − 1 respectively. The contents of protein of G. lemaneiformis and C. fragile were 18.30% and 17.60%, respectively, which were significantly higher than the others. The five macroalgae were accepted by the abalone, and growth energies (P) and growth efficiency (%) were positive. However, significant differences were found among the different macroalgae. The growth efficiencies of abalone show a negative relationship with the levels of dietary lipid and a positive relationship with the protein contents. These results suggest that fouling macroalgae have a great potential to be used as diets of abalone.

【语种】英文

【第一作者】张继红

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【学科分类】水产养殖学

【题目】獐子岛养殖海域氮磷的分布特征
【中文关键词】营养盐 营养盐结构 叶绿素 獐子岛 底播养殖
【英文关键词】Nutrient Nutrient composition Chlorophyll Zhangzi Island Bottom mariculture
【中文摘要】根据2005年4个季节的调查资料,研究了獐子岛养殖海区的氮、磷营养盐的季节变化及平面分布特性,重点分析了7月营养盐、叶绿素及环境因子的相关性,探讨了与底播养殖的可能内在联系。结果表明,溶解性无机氮、活性磷酸盐的平面分布和垂直分布较均匀,仅在7月,表底层的氨氮浓度及磷酸盐浓度存在显著性差异。根据氮磷摩尔比和浮游植物生长的阈值分析,在该海区氮、磷营养盐限制呈季节性交替变化,7月磷限制的潜在性较大,3月和5月氮限制的潜在性较大。尽管目前的养殖生产活动并未对该海区的营养盐浓度产生较大的影响或压力,但是,3、5和7月底层水的无机氮以氨氮为主以及贝类养殖密度较大的区域叶绿素浓度较低的现象,可能与养殖活动有关,应引起关注
【英文摘要】
The distribution and composition of dissolved nutrients in Zhangzi Island maricultural areas were discussed based on the data collected in March, May, July and October, 2005. The results showed that because of large current velocity,the horizontal distribution of nitrogen and phosphorous were symmetrical and there were no obvious stratification between surface and bottom water(except in July). The nutrient level of DIN and PO4^3- in the surveyed areas belong to oligothrophic state. Nutrient limitations were assessed according to the ratio of Nitrogen/Phosphorus(N/P) and the concentration threshold,results showed that the limiting nutrients may change with seasons. There was high potential for phosphorous limitation of the photosynthesis of phytoplankton in July and nitrogen limitation in March and May. Though this survey revealed that there was little effect or impact of mariculture on the environment,the nutrients structure had change somewhat. For example, in March, May and July, DIN were the major component of ammonia the bottom water,and the relatively low concentrations of chlorophyll usually found at the extensive bottom culture areas may all reflect the activity of mariculture, which needs further study in the future.
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【第一作者】张继红
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【学科分类】水产养殖学

【题目】大连獐子岛海域虾夷扇贝养殖容量.
【中文关键词】虾夷扇贝 养殖容量 食物限制性指标 獐子岛 初级生产力 滤水率 浮游植物 养殖海域 叶绿素浓度 滤水效率
【英文关键词】Patinopecten yessoensis carrying capacity food limited index Zhang Zidao Island
【中文摘要】现场测定了獐子岛海域的叶绿素a浓度、初级生产力的季节性变化和养殖虾夷扇贝的种群结构;采用生物沉积法,测定了不同规格的虾夷扇贝的滤水率和虾夷扇贝的基本生物学特性。调查结果显示,叶绿素浓度在1.23~2.85mg·m-3范围内,均值为(1.78±0.57)mg·m-3;初级生产力的平均值为(76.6±41.9)mgC·m-2·d-1,虾夷扇贝单位个体的滤水率为(0.55±0.25)L·h-1。结合虾夷扇贝的年产量、海域面积和有关的水文状况等数据,计算了食物限制性指标的数值,摄食压力和调节比率在0.05和1.0之间,而滤水效率小于0.05。结果显示,由于该海域的叶绿素浓度和初级生产力水平较低,海水流速大,因此,水交换带来的悬浮颗粒物为主要食物来源。目前的虾夷扇贝的养殖量(32亿粒)接近生态容量,如果开展筏式养殖,利用整个海域的水体,养殖量增大20倍的空间并达到养殖容量,预计年产量将达到256亿粒。
【英文摘要】
Zhang Zidao Island became the largest base for mariculture of Japanese scallop Patinopecten yessoensis fro

m 1995. Total culture areas of the scallops are about 47 000 hm^2, annual yields arrived at 40 000 t in this area. In order to keep the aquaculture industry sustainability and to utilize the limited water areas reasonably and sufficiently, the carrying capacity of the scallop for Zhang Zidao Island was assessed by the methods of food limited indexes. Environment factors (tide change, water movement), chlorophyll a and primary production were measured. The clearance rates of different size scallop Patinopecten yessoensis were determined with flow-through system and its population shell height-frequency distributions of the scallop within the areas were measured in July and October. Results showed the average concentration of chlorophyll a was at the range of 1.23 - 2.85 mg-m^-3 [with the annual average of (1.78±0.57) mg · m^-3], primary production was (76.6±41.9) mg C · m^-2 · d^-1. The average clearance rate of the scallop was (0.55±0.25) L · h^-1 · ind^-1. Based on the above investigated data and annual yields and mariculture areas etc, food limited indexes (clearance efficiency, filtration pressure and regulation ratio) were calculated and the ecological carrying capacity and production carrying capacity were assessed. Both food limited indexes: filtration pressure and regulation ratio were between 0.05 and 1.0, clearance efficiency was lower than 0.05, which mean the suspended particle organic materials mainly come from the water exchange. Results showed that if the total water volume is used by the cultivated scallops, current cultured biomass of the scallop in Zhang Zidao Island was at the level of ecological carrying capacity (total individual is 12.8×10^8), which means at current status, the scallop cultivated behaviour has not great influence on the environment and there will be 20 times developing potential to get the level of production carrying capacity, the potential annual yield will be 32×10^8 individual.

【语种】中文
【第一作者】张继红
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【题目】不同光照强度对刺参幼参生长的影响
【中文关键词】刺参 光照强度 饵料 生长 幼参
【英文关键词】Apostichopus japonicus Light intensity Feedstuff Growth Juvenile sea cucumber
【中文摘要】采用室内受控的实验方法研究了不同光照强度对刺参幼参生长的影响。实验设暗光、微强光、强光3个光照处理,同时每个光照处理组分别投喂两种饵料(人工配合饲料、人工配合饲料加底栖硅藻)。研究结果表明,不同光照强度下,幼参的生长差异显著(P〈0.05),每种饵料处理下强光处理组幼参的特定生长率和日增重明显高于暗光处理组,而相同光照强度下两种饵料处理对幼参生长的影响差异不显著(P〉0.05)。3个光照处理下幼参的特定生长率平均分别为0.26%、0.63%、0.98%/d,日增重为0.53、1.39、2.26g/d
【英文摘要】The effects of three light intensities(0. 77-5. 57lx, 650-2 900lx, 2 700-11 000lx)on the growth of juvenile sea cucumbers Apostichopus japonicus were studied. Two diets were fed to the animals in each light intensity treatment groups, respectively. Results showed that the daily weight gain (DWG) and specific growth rate (SGR) of juvenile A. japonicus were significantly affected by light intensity (P〈0. 05). The SGR and DWG of the higher light intensity treatments were greater than the lower light intensity treatments. But the DWG and SGR were not significantly affected by feedstuff (P〉0.05). The SGR of different light intensity treatments was 0.26%,0.63% and 0.98%/d, respectively, and the DWG was 0.53,1.39 and 2.26 g/d, respectively.
【语种】中文
【第一作者】薛素燕
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【题目】高温下不同盐度对刺参幼参和1龄参呼吸排泄的影响.
【中文关键词】刺参 盐度 呼吸 排泄
【英文关键词】Apostichopus japonicus salinity respiration ammonia excretion
【中文摘要】在实验室中模拟研究了高温(25.3~26.5℃)条件下,不同盐度对刺参(Apostichopus japonicus)幼参和1龄刺参呼吸排泄的影响。根据对盐度的耐受性不同,分别将体质量为(0.03±0.002)g的幼参暴露于盐度梯度为20、23、26、30、35的水体中,体质量为(22.73±9.46)g的1龄刺参暴露于盐度梯度为16、20、25、30、35的水体中进行盐度变化对其呼吸排泄的影响实验,测定其耗氧率和排氨率。结果表明,盐度变化对刺参的呼吸排泄影响显著(P〈0.05)。幼参在23~30盐度、1龄参20~30盐度范围内,耗氧率[Rwr,mg/(g·h)]和排氨率[Rwe,μmol/(g·h)]随着盐度的升高而降低,当盐度升高至35时,两者都明显升高(以盐度30为对照),当盐度降至20(幼参)、16(1龄参)时,刺参耗氧率和排氨率均降低。盐度对刺参O:N比值的影响不显著(P〉0.05),各盐度条件下,2种规格刺参的O:N比值平均在14左右,表明本实验条件下该刺参代谢所需要的能量主要由脂肪和碳水化合物提供。从呼吸和排泄的角度来看,在本实验高温(25.3~26.5℃)条件下,幼参在23~35盐度、1龄参20~35盐度范围内具有较好的渗透压调节能力,而幼参在20盐度、1龄参在16盐度下代谢功能较弱。
【英文摘要】Effects of salinity on the respiration and ammonia excretion of A.japonicus between the temperature of 25.3-26.5°Cwere studied in the laboratory.The animals were divided into two size groups with body weight o(0.03±0.002) g and(22.73±9.46)g respectively.Because of different salinity tolerance of the animals,the trail was set up with five salinity gradients(20,23,26,30,35 for juveniles and 16,20,25,30,35 for bigger ones)on a series of sudden and gradual salinity changes.The weight specific respiration rate[Rwr,mg/(g·h)]and the weight specific excretion rate[Rwe,μmol/(g·h)]were determined in order to investigate the impact of salinity changes on the respiration and ammonia excretion of A.japonicus.Results showed that the respiration and ammonia excretion were significantly affected by the salinity changes(P〈0.05).At the salinity of 30,the animals respired and excreted at a low level.The respiration rate and ammonia excretion rate increased significantly at higher salinity of 35 and at lower salinity of 23 for the juvenile group or 20 for the one year old group.The salinity had no significant impacts on the ratio of O:N(P〉0.05). The values of O:N ratios were 14.21±2.37(mean±SD),which indicated that the sea cucumbers in the experiment mainly utilized carbohydrate and lipid as their energy sources.Results indicated that the sea cucumbers in the optimum salinity range have the ability of osmoregulation at temperature of 25.3-26.5°Cwhile metabolic function weakened at the critical salinity.
【语种】中文
【第一作者】薛素燕
【通讯作者】方建光
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【题目】贝类食源性传染病病原及其消除方法的研究进展
【中文关键词】贝类 食源性病原 种类 消除方法
【英文关键词】molluscan shellfish food-borne pathogen classification elimination technique
【中文摘要】人们为了追求口味和营养习惯于食用生的或半熟的贝类食品,容易受到生物(如细菌、病毒和寄生虫等)危害,并有感染疾病的危险,尤其是贝类等食源性传染病。因食用贝类而引起的传染病首次记载于1894年美国的伤寒热,此后很长的时期内,由于缺乏合适的检测方法,致使有15000起由贝类引起的传染性疾病事件中,有50%的病原不能被确定
【英文摘要】无
【语种】中文
【第一作者】李斌
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【题目】虾夷扇贝摄食生理研究
【中文关键词】虾夷扇贝 温度 体重 摄食率 吸收率
【英文关键词】Patinopecten yessoensis Temperature Dry tissue weightFeeding rate Assimilation efficiency
【中文摘要】在实验室条件下,采用静水法测定了温度、体重对虾夷扇贝摄食率的影响。分别对5、10、15、20、25℃5个温度梯度下,A、B、C、D、E5个规格虾夷扇贝的摄食率进行了测定。实验结果表明,软体部干重对虾夷扇贝的摄食率影响显著(P〈0.05),且相关回归分析表明,体重(X)与摄食率(Y)呈正相关幂指数关系:Y=aXb。扇贝个体吸收率随着体重的增加而减小,但是不同规格扇贝吸收率差异不显著(P〉0.05);在实验温度5~25℃范围内,温度对虾夷扇贝的摄食率和吸收率影响极显著(P〈0.01),温度(T)与摄食率之间的相关方程为:FR=b0+b1T+b2T2+b3T3,虾夷扇贝最大摄食率的温度值为15℃,最大吸收率的温度值为10℃
【英文摘要】
The experiment was carried out under laboratory conditions to study the effects of temperature and body weight on feeding rate of scallop Patinopecten yessoensis. The feeding rate of the scallop of 5 levels of dry tissue weight was determined at temperatures of 5,10,15,20 and 25 ℃. The results showed that the feeding rate of P. yessoensis was affected significantly by temperature and body weight (P0.05). The relationship between feeding rate and temperature or dry tissue weight can be described as FR=b0+b1T+b2T2+b3T3 and Y=aXb. The assimilation efficiency of P. yessoensis was affected significantly by temperature (P0.01),but not significantly by dry tissue weight (P0.05). The maximum feeding rate of P. yessoensis occured at 15 ℃,and the maximum assimilation efficiency was found at 10 ℃.
【语种】中文
【第一作者】徐东
【通讯作者】张继红
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【学科分类】水产养殖学

【题目】温度变化对虾夷扇贝耗氧率和排氨率的影响
【中文关键词】虾夷扇贝 温度骤变 温度缓变 耗氧率 排氨率
【英文关键词】Patinopecten yessoensis acute temperature change chronic temperature change oxygen consumption rate ammonium excretion rate
【中文摘要】为探索虾夷扇贝(Datinopecten yessoensis)夏季大量死亡的生理原因,模拟虾夷扇贝筏式养殖区夏季水温变化情况,采用室内控温实验,研究了温度剧烈和缓慢变化对虾夷扇贝耗氧率和排氨率的影响及其影响的差异性。实验设置10℃、15℃、20℃、25℃4个温度梯度,设计温度骤变(每小时升温5℃)和温度缓变(每天升温1℃)2种温度处理方式,测定升温前后耗氧率和排氨率。结果显示,温度变化对虾夷扇贝耗氧率和排氨率影响显著(P〈0.05)。温度缓变组耗氧率变化范围为1.910~2.722mg(/g·h),排氨率变化范围为1.499~5.003μm/(g·h),耗氧率(OR)和排氨率(NR)与温度(T)之间的相关方程为OR=2.303+0.425T-0.133T^2(R^2=0.941)和NR=-1.536+4.384T-0.893T^2(R^2=0.435)。温度骤变组耗氧率和排氨率大于温度缓变组,且温度骤变组耗氧率在15℃、20℃和25℃,排氨率在20℃和25℃与温度缓变组差异显著(P〈0.05)。
【英文摘要】
In order to investigate the reason of massive mortality of scallop,Patinopectenyessoensis in summer,the effects of water temperature variation on oxygen consumption and ammonium excretion rates of scallops were studied in laboratory by simulating changes of water temperature in raft culture area in summer.Scallops were exposed under four temperature of 10℃,15℃,20℃and 25℃.Each temperature was achieved by rapid(5℃/h)and chronic(1℃/day) changing respectively.Oxygen consumption rate and ammonia excretion rate were

measured before and after chang.The result showed that the rates of oxygen consumption and ammonium excretion of P.yessoensis were affected significantly by temperature variation(P〈0.05).In the test with chronic temperature variation,the oxygen consumption rates ranged from 1.910mg(/g·h)to 2.722mg(/g·h)and the excretion rates ranged from 1.499 to 5.003μm(/g·h).The relationship between temperatur(eT)and oxygen consumption rat(eOR)or ammonia excretion rate(NR)were described as ORmg(/g·h)=2.303+0.425T-0.133T^2(R^2=0.941)and NRμmol(/g·h)=-1.536+4.384T-0.893T^2(R^2=0.435),respectively.In the test with acute temperature variation,the oxygen consumption rates at 15°C,20°Cand 25°Cand ammonia execretion rates at 20°Cand 25°Cwere significantly higher than those of chronic temperature test(P〈0.05).

【语种】中文
【第一作者】徐东
【通讯作者】张继红
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【题目】Effects of Source of Supplemental Zinc on Performance, Nutrient Digestibility and Plasma Mineral Profile in Cashmere Goats
【中文关键词】无
【英文关键词】Cashmere Goat, Nutrient Digestibility, Performance, Plasma Mineral Profile, Zinc
【中文摘要】无
【英文摘要】This experiment was designed to evaluate the effects of source of supplemental zinc (Zn) on performance, nutrient digestibility and plasma mineral profile in Cashmere goats during the cashmere fiber growing period. Twenty-seven Liao Ning Cashmere wether goats (9-10 month of age; initial BW = 19.31±0.32 kg) were fed a basal diet (containing 22.3 mg Zn/kg DM) with no supplemental Zn (control) or 20 mg of supplemental Zn/kg of DM from Zn sulfate (ZnSO4) or Zn methionine (ZnMet) for 60 days including a 10-day metabolism trial. Average daily gain (ADG) ($p<0.05$) and gain:feed (G/F) ($p<0.05$) were increased by Zn supplementation, but no differences were noted between Zn sources ($p>0.05$). The length and diameter of cashmere fiber did not differ among treatments ($p>0.05$). Zn supplementation had no influence on digestibility of DM, CP, EE and NDF ($p>0.05$). However,ADF digestibility in the group supplemented with ZnMet was significantly higher than in other treatments ($p<0.05$). Plasma Zn was increased ($p<0.05$) and Cu tended to be decreased ($p = 0.057$) by Zn supplementation, but no differences were found between Zn sources ($p>0.05$). Plasma alkaline phosphatase activity (AKP) was improved by Zn supplementation ($p<0.05$) and was higher in the ZnSO4than the ZnMet group ($p<0.05$). Zn retention was increased ($p<0.05$) and apparent absorption rate was decreased ($p<0.05$) by Znsupplementation. The results indicate that supplementation of 20 mg Zn/kg DM either as ZnSO4or ZnMet in the basal diet containing 22.3 mg Zn/kg DM can improve growth performance in Cashmere goats, and effectiveness of the two sources is similar on performance measurements.
【语种】英文
【第一作者】贾文斌
【通讯作者】贾志海
【期刊名称、卷期、页码】Asian-Aust. J. Anim. Sci.
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【引文索引号】no
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【题目】Effects of dietary copper on growth performance, nutrient digestibility and fiber characteristics in cashmere goats during the cashmere slow-growing period
【中文关键词】无

【英文关键词】Copper; Growth performance; Nutrient digestibility; Fiber characteristics; Cashmere goats;
【中文摘要】无
【英文摘要】Thirty-six 2.5-year-old wether Inner Mongolian White Cashmere Goats (IMWG) (BW= 42.7±3.44 kg) were used to determine the effects of dietary copper (Cu) concentration on growth performance, nutrient digestibility and fiber characteristics during the cashmere slow-growing period. Wethers were stratified by weight and randomly assigned to four dietary treatments, which included a control diet containing 5.60mgCu/kg DM, the control diet supplied, respectively, with 10, 20 and 30mgCu/kg DM (total dietary Cu level of 5.60, 15.6, 25.6 and 35.6 mg/kg DM). The experiment lasted 50 days including a 10-day preliminary trial and 10-day metabolism trial. Average daily feed intake (ADFI) did not differ among treatment groups (P > 0.05), except that the supplement providing 30mgCu/kg DM decreased average daily gain and gain efficiency (P < 0.05). Copper supplementation had no influence on digestibility of DM, CP and ADF (P > 0.05), however, NDF digestibility of the treatment group supplemented with 30mgCu/kgDMwas lower compared with that of other groups (P < 0.05). Length and growth rate of cashmere fiber were higher in the treatment group supplemented with 20mgCu/kg DM compared with other groups (P < 0.05), but cashmere diameter was not affected by Cu supplementation (P > 0.05). In conclusion, supplementation of Cu at the levels of 10, 20 and 30 mg/kg DM to the basal diet containing 5.60mgCu/kg DM had no influence on ADFI or nutrient digestibility of DM, CP and ADF in cashmere goats, while 30mgCu/kg DM supplementation had a negative effect on growth performance and NDF digestibility. However, 20mgCu/kg DM supplementation of the basal diet enhanced cashmere growth. Hence, the appropriate supplemental level during the cashmere slow-growing period is deemed to be 20mgCu/kg DM (total dietary Cu level of 25.6 mg/kg DM).
【语种】英文
【第一作者】张微
【通讯作者】贾志海
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【学科分类】畜牧学

【题目】圆形网箱浮架系统的受力特性研究
【中文关键词】深水网箱; 波浪; 浮架系统; 受力特性; 数值模拟
【英文关键词】deep-water net cage; wave; floating collar; force characteristics; numerical simulation
【中文摘要】摘要: 运用线性波浪理论和刚体运动学原理, 建立了波浪作用下网箱浮架系统的计算模型。在不同波高(H =412~710 m) 和周期(T = 712、816 s) 条件下, 采用计算机数值模拟方法, 分别对浮架系统所受的锚绳力、波浪力以及合力矩进行了数值计算。通过计算结果的比较及分析表明, 三者都随波高的增大而有所增大, 其中迎浪侧锚绳力和水平波浪力与波高都有显著的正比关系。在各种不同波况下, 迎浪侧锚绳力要大于背浪侧锚绳力,水平波浪力要大于垂直波浪力。
【英文摘要】Abstract: A numerical model for floating collar exposed to waves was set up by using the linear wave theory and the rigid body kinematics p rincip le1 In this paper, under the conditions of different wave heights (H = 412~710 m) and wave periods (T = 712, 816s) , employing computer numerical simulation method, the forces on the mooring lines of the floating collar, the wave forces and the driving moments for the collar were calculated respectively1 By comparing and analyzing, the calculated results showed that with wave height increasing, the forces on the mooring lines of the collar, the wave forces and the resultant moments for the collar all increased to some extent, and the force on the mooring line on wave2side and the horizontal wave force for the floating collar all had direct p ropor2tional relation with wave height1 Under the conditions of different waves, the force on the mooring line on wave2side was far larger than that on lee2side, and the horizontal wave force was far larger than the vertical one
【语种】中文
【第一作者】黄小华
【通讯作者】郭根喜
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【题目】AD8310在网箱声学监测中的应用
【中文关键词】声学监测;信号压缩;AD8310;传播损失补偿
【英文关键词】acoustic monitoring;signal compression;AD83 10;propagation loss compensatio
【中文摘要】摘要:分析了网箱声学监测系统接收信号的特点,研究了利用对数放大器AD8310进行动态信号压缩的方法。给出了AD8310的工作原理。并将其应用于网箱声学监测系统中,设计了相应的电路,最后给出了对数压缩后传播损失补偿的计算方法。
【英文摘要】Abstract:The features of the signals received by acoustic monitoring system are analyzed,investigates methods used to con—press signals dynamically by means of logarithmic amplifier are researched.Operation principle of logarithmic amplifier AD8310 and its application in acoustic monitoring system are introduced.The corresponding circuit is designed.Lastly,it is also shown how to calculate the compensation for the propagation loss in compression
【语种】中文
【第一作者】汤涛林
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【题目】多波束深水网箱声学监测仪的研究
【中文关键词】多波束;深水网箱;声学监测仪;生物量评估
【英文关键词】multi · beam ;deep water cages;acoustic monitor;biomass estimation
【中文摘要】摘要:研究了一种声学监测设备,使网箱养殖者能在海水能见度较低时实现对鱼群的实时监测,进而掌握深水网箱中鱼群的生存状况。该声学监测仪由7个独立通道构成,能同时输出探测图像并通过监测仪的评估软件对数据进行分析。试验结果表明该设备能够对深水网箱中的生物量进行估计,可用于鱼类生长情况研究并监测鱼群的逃逸情况。
【英文摘要】Abstract:This paper has made study on an acoustic monitor,which enables cage cuhurists to assure real-time monitoring of fish in cages in case of poor visibility and to know the living situation of fish in cages. The acoustic monitor is made up of seven separate channels,from which detection images could be sent out and shown on screen simultaneously. The data is analyzed by software in the monitor. Results show that the monitor could make biomass estimation in the deep water cages,it also can be used to study the growth of the fish and to monitor the escape of fish.
【语种】中文
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【题目】轻型移动式水下洗网装置设计
【中文关键词】深水网箱;洗网装置;设计计算;叶轮
【英文关键词】deep2water sea cages; net-washing equipment; design and calculation; impeller
【中文摘要】摘要: 针对深水网箱特殊的工作环境,依据高速水流驱动叶轮旋转的工作原理,研制出一种用于养殖网箱的便携式水下网衣清洗装置。根据驱动叶轮的结构形式以及设计参数,基于动量定理及力矩平衡方程,对洗网装置的动力参数进行了理论计算,得到的喷嘴出口流速值为50. 04 m / s,水流对叶轮的冲击力为28. 56 N。在此基础上,结合能量方程,确定出所需工作泵的相关性能参数分别为流量37. 71 L /min、压力2. 9 MPa、功率2. 95 kW。试验测试结果表明,在工作泵选型满足工作压力条件下,该装置的综合性能达到了设计要求。
【英文摘要】Abstract: Taking into consideration the special working conditions of deep2water sea cages, based on the working principle of the impeller rotation driven by the high2velocity flow, a portable underwater net2washing equipment is designed for

aquaculture cages. According to the structure forms and design parameters of driving impeller coupled with the momentum theorem and the torque equilibrium equation, the paper theoretically calculates the dynamic parameters of the net2washing equipment. The calculated results of nozzle exit velocity and the impact force of the impeller given by the high2velocity flow are 50. 04 m / s and 28. 56 N, respectively. Furthermore, the performance parameters such as pressure and required power are ascertained on the basis of the energy equation. the data are as follows: capacity 37. 71 L /min, working pressure 2. 9MPa, power 2. 95kW. The testing results show that composite performances of the underwater net2washing equipment has reached the design requirement when the selected working pump satisfy the condition of working pressure

【语种】中文
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【题目】远程气力输送自动投饵系统分配器设计初步研究
【中文关键词】自动投饵 分配器 气力输送 多路换向阀 S形弯管
【英文关键词】Automatic feeding Distribution valve Pneumatic conveying
【中文摘要】摘要 设计制造了一套远程压力输送自动投饵系统,简要介绍了其基本原理、工作流程和功能特点。详细阐释了系统配备的分配器设计原则和设计方法。在分析S形弯管内物料运动状态的基础上初步确定了滑管式分配器的基本设计原则:将分配器的类型根据支管布置形式的不同区分为上半圆式和下半圆式;再选择合适的“弯曲半径一管径一支管数”组合使S形弯管的物料流动性能最优,且使分配板上的支管孔边缘距离符合电子定位器件和密封器件的安装要求;使弯管管径小于前端直管管径;使分配器的全尺寸尽可能地小。根据基本设计原则进行了计算公式推导和设计演示,获得了弯曲半径、孔边距和全尺寸的计算公式及其与管径、支管数组合的优化选择方法,进而确定了分配器的基本设计流程和方法,为同类型分配器的设计提供参考。
【英文摘要】ABSTRACT The principle,work flow and functions of the centralized air—powered feeding systems were briefly introduced.The principle and method for designing distribution valve of the feeding systems were discussed in detail.The movement of particles in S—shaped pipes was analyzed.The analysis showed that the influence of bending radius on velocity reduction was different when position of the pipe changed,and velocity reduction could be minimized by choo—sing an appropriate radius at the same pipe diameter.The friction factor between inner surface of pipes and the particles was also an important parameter for velocity reduction. According to the results of the analysis,the design principle of the distribution valve was obtained:there were two types of partition distribution valves according to the different disposal of the offset pipes,the upper—half circularity and the lower—half circularity valves;to optimize the performance of feed bullets moving in S-shaped pipes and to make sure that the space between each neighboring offset pipes was sufficient for fitting electro—localization system and seal components by choosing right combination of “ bend diameter+ pipe diameter+ number of offset pipes ” :tO guarantee that the diameter of S-shaped pipe is smaller than the front straight pipes';and then to minimize the dimension of the distribution valve,etc.Based on the design principle,mathematical calculations and design demonstration were done.Bend diameter,space between each neighboring offset pipes and dimension of the distribution valve were obtained,then the work flow and method for designing the distribution valve were achieved.
【语种】中文
【第一作者】庄宝路
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【题目】The LCB2 subunit of the sphingolip biosynthesis enzyme serine palmitoyltransferase can function as an attenuator of the hypersensitive response and Bax-induced cell death

【中文关键词】农杆菌介导瞬时表达;激发子;过敏反应;程序化细胞死亡;病毒诱导基因沉默
【英文关键词】Agrobacterium-mediated transient expression; elicitor; hypersensitive response (HR); programmed cell death (PCD); virus-induced gene silencing (VIGS)
【中文摘要】丝氨酸棕榈转移酶(serine palmitoyltransferase, SPT)含有两个亚基(LCB1,LCB2),参与合成神经鞘脂的第一步,且该神经鞘脂参与调节细胞凋亡(Perry et a., 2000)。神经鞘脂及其代谢产物神经酰胺, 鞘氨醇和鞘氨醇-1-磷酸调控植物细胞许多生理生化过程,如抗病反应、膜的加固和抗干旱(Hannun et al., 2000; Ng et al., 2001)。在本试验中,我们用从Phytophthora boehmeriae中获得的PB90处理不结球白菜(Brassica campestris ssp.chinensis), 在早期过敏反应时上调的基因中筛选到一个LCB2基因,该基因编码SPT的一个亚基。在本试验中该基因在PB90处理不结球白菜后上调表达。我们通过RACE的方法获得了BcLCB2的全长并在植物叶片中过量表达发现LCB2(BcLCB2)可抑制PB90、elicitin、 MgNEP1、 hrf1xoo等激发子及烟草野火病菌、诱导的过敏反应。而烟草植株经过病毒诱导基因沉默后,发现激发子诱导的过敏反应有所加快。同时我们也发现BcLCB2也可以抑制Bax引起的酵母细胞凋亡和提高酵母细胞对氧化剂t-BHP的耐受性。该结果表明BcLCB2在植物和酵母中都参与了细胞凋亡进程,且有可能是通过阻止活性氧的积累来抑制细胞凋亡,提示植物过敏反应和酵母细胞凋亡的信号传导有相同的通路。
【英文摘要】 • Previous results showed that expression of the gene encoding the LONG-CHAINBASE2 (LCB2) subunit of serine palmitoyltransferase (SPT), designated BcLCB2, fromnonheading Chinese cabbage (Brassica campestris ssp. chinensis) was up-regulatedduring hypersensitive cell death (HCD) induced by the Phytophthora boehmeriaeelicitor PB90. • Overexpression of BcLCB2 in Nicotiana tabacum leaves suppressed the HCDnormally initiated by elicitors and PB90-triggered H2O2 accumulation. BcLCB2also functioned as a suppressor of mouse Bcl-2 associated X (Bax) protein-mediatedHCD and cell death caused by Ralstonia solanacearum. BcLCB2 overexpressionsuppressed Bax- and oxidant stress-triggered yeast cell death. Reactive oxygen species(ROS) accumulation induced by Bax was compromised in BcLCB2-overexpressingyeast cells. • The findings that NbLCB2 silencing in Nicotiana benthamiana enhanced elicitor-triggered HCD, combined with the fact that myriocin, a potent inhibitor of SPT,had no effect on Bax-induced programmed cell death, suggested that suppressionof cell death was not involved in the dominant-negative effect that resulted fromBcLCB2 overexpression. A BcLCB2 mutant assay showed that the suppression was notinvolved in SPT activity. • The results suggest that plant HCD and stress-induced yeast cell death mightshare a common signal transduction pathway involving LCB2, and that LCB2 protectsagainst cell death by inhibiting ROS accumulation, this inhibition being independentof SPT activity.
【语种】英文
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【题目】基于单回波检测跟踪的深水网箱生物量评估模型研究
【中文关键词】单回波检测;低通滤波;深水网箱;生物量评估
【英文关键词】single echo detection;low-pass filter;deep water net cages;biomass estimation
【中文摘要】摘要:构造了基于声纳信号处理的深水网箱生物量评估数学模型。运用单回波脉宽检测和跟踪方法,结合二维低通滤波器,对声纳数据进行处理,去除背景噪声和其他回波,在单体鱼连续的回波踪迹中可以检测出鱼的游速和方向。同时,结合图像分析有效压缩噪声,提取有用特征来识别检测到的鱼迹,形成一种自动计数方法,提高生物量的检测概率。该方法通过提取和使用原始的回声图像,检测出运动目标,同时压缩回声图中的噪声,从而在低信噪比数据中实现对网箱中生物量的检测和估计,适合实际工程应用。
【英文摘要】Abstract:The mathematiea1 model for biomass estimation in deep water net cages is constructed based on so.nar signal processing.Signal echo detection and tracking method for pulse width together with 2-D low—pass fil—ter is applied to process sonar data in order to dismiss background noises and other echoes.The swimmingspeed and direction of a single fish can be detected from its continuous echo track.Image analysis is also add—ed to compress noises eficiently and pick up useful features to identify detected fish tracks,and then producean automatic counting method to improve the biomass detection probability.This method is used to detect nov—ing objects and compress image noises by picking up and employing original echo images,and accordingly achieves the detection and estimation for the biomass by means of low signal to noise ratio data,which is suitable for engineering application
【语种】中文

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【题目】Determination of flavanone glycosides and polymethoxylated flavones in peels of selected citrus cultivars by high-performance liquid chromatography
【中文关键词】无
【英文关键词】flavanone glycosides;polymethoxylated flavones;high-performance liquid chromatography
【中文摘要】无
【英文摘要】A reversed-phase high-performance liquid chromatographic method has been developed for the simultaneous determination of 5 flavanone glycosides (FGs) and 3 polymethoxylated flavones (PMFs) in different citrus fruit peels. This technique permits the quantitation of five FGs (narirutin, naringin, hesperidin, neohesperidin, didymin,) and three PMFs (sinensetin, nobiletin, and tangeretin). This eight flavonoids were separated using 0.2% acetic acid solvent and acetonitrile as the mobile phase at 25 °C, using a C18 reversed-phase column. The method was linear in the 0.01~20 mg/L concentration range for all eight flavonoids. The concentrations of the 5 FGs and 3 PMFs in peels of selected citrus cultivars (15 mandarins, 17 sweet oranges, 2 citrus hybrids) grown in China were determined by this method. The results showed that all the citrus cultivars analysed contained at least six of the eight major flavonoids quantified, and the total contents of citrus flavonoids were ranged from 151.14 mg/g to 30.27 mg/g (DW). The major FGs in peels were hesperidin, followed by narirutin and didymin, and the major PMFs was nobiletin. Naringin and neohesperidin were only detected in citrus hybrids peels. Ponkan peel contained the highest quantity of PMFs (104.01 mg/g) among all the varieties, which was considerably higher than the average content (14.62 mg/g). The content of FGs (146.9 mg/g) of Jinshancheng orange (C.reticulata Blanco × C.grandis Blanco × C.grandis) was highest, and it also contained the highest quantity of neohesperidin (113.85 mg/L), which was not detected in peels of other varieties. This study suggests that the peels obtained from citrus juice production might serve as potential sources of relatively large quantities of flavonoids, which could be used as the functional materials for the nutraceutical and pharmaceutical industries.
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【通讯作者】焦必宁
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【学科分类】食品科学技术基础学科

【题目】高压射流式水下洗网机喷嘴的设计
【中文关键词】水下洗网机; 水射流; 喷嘴; 深水网箱
【英文关键词】submarine net cleaningmachine; water free jet; nozzle; deep2water cage
【中文摘要】摘要: 为解决深水网箱养殖过程中因网衣附着生物而影响水体交换, 并给换网及网衣清洗带来极大困难等问题,开发水下洗网机并提高水下洗网机的清洗效率, 是深水网箱养殖的重要配套装备与技术。通过对高压射流水下洗网机工作原理的分析, 基于能量方程, 推导出洗网机关键部件喷嘴的结构几何参数计算表达式。合理选择高压水发生系统的压力和流量, 计算出喷嘴的孔径与长径比。在此基础上计算高压射流水下洗网机的水力参数,为进一步优化洗网机结构提供理论依据。
【英文摘要】Abstract: In order to solve the problem of fouling organisms blocking water exchange for deep2water cage and thus caused great difficulty in net changing and cleaning, developing submarine net cleaning machine and imp roving its cleaning efficiency were the important supporting facilities and technology for deep2water cage culture1Through analysis of operation principle of high pressure submarine net cleaning machine, the structure geometric parameters calculation expression of nozzle were deduced based on energy equation1Optimal pressure and flow in high pressure water generating system were selected, and aperture / slenderness ratio of

nozzle was calculated Hydraulic parameters were calculated1These parameters supplied theoretical support for optimizing the structure of net washing machine1

【语种】中文
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【题目】水产养殖自动投饵装备研究进展与应用
【中文关键词】自动投饵; 深水网箱; 工业化养殖; 养殖设施
【英文关键词】automatic feeding; offshore cage; industrialized aquaculture; aquaculture apparatus
【中文摘要】摘要: 自动投饵系统可应用于大型网箱养殖和高密度工厂化养殖等, 是提高饲料利用率, 控制养殖成本和强化产品质量控制的重要手段。文章概述了国内外自动投饵装备的发展进程, 着重介绍了国外深水网箱自动投饵装备的研究进展与应用情况, 分析了国内自动投饵装备研究使用现状, 对国内自动投饵装备的发展提出了建议。
【英文摘要】Abstract: The evolution of aquaculture automatic feeding system was briefly reviewed1Research progress on automatic feeding system and its application in offshore cage culture in foreign countries was emphasized in this paper1The status of automatic feeding system and its application in China was addressed as well, and some suggestions were given for the development of the national automatic feeding system1

【语种】中文
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【题目】多视角深水网箱水下监视器的研制
【中文关键词】深水网箱;多视角;水下监视器
【英文关键词】deep—sea cage;multi—angle view;underw ater monitor
【中文摘要】摘要:为适应深水网箱养殖状况观察和安全监控,研制一种由外罩壳体、水下密封探头、控制器、发射机、接收机等部件组成的深水网箱水下监视器。外罩壳体将4个水下密封探头呈多视角布设,通过手持遥控器可随时按键切换观察不同方位水下探头拍摄的图像。试验与应用结果表明,该监视器的耐压水深可达50 m;当海水能见度为5 m以上时,在半径8 m范围内可比较清晰地观察到网箱内的鱼类活动和网箱状态,为养殖用户提供经济、实用的水下观察设备。
【英文摘要】Abstract:Aiming at the problems of monitoring the working status and safety of deep—sea cage farming,an underwater monitor composed of an enclosure case,sealed camera units,video control device,sending and receiving sets,etc.was developed.The four sealed camera units are mounted in multi—angle view in accordance with the designated position of the enclosure case and the working images from different camera units can bechanged simply by pressing the number key of the remote controller.Test and trial application demons~ated that the monitor could be used in water depth of 50 meters and within a radius of 8 meters when the~ansparency of sea water more than 5 meters,clear images of the fish and the net shape could be obtained.Therefore,a practical underwater monitoring device with lower cost can be supplied to meet the present demands of thedeep—sea cage farmers.

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【第一作者】关长涛
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【题目】基于PLC的远程气力输送自动投饵控制系统的设计与实现
【中文关键词】投饵机;可编程序控制器; 自动控制;养殖设施;气力输送
【英文关键词】feeding system;programmable logic controller(PLC);automatic control;aquacuhure facilities;pneumatic conveying
【中文摘要】摘要:为提高水产养殖投饵的自动化和工业化水平,满足现代水产养殖精确投饵的需要,研发了国内第一套远程气力输送自动投饵系统,并设计了以PLC为控制核心,集编程、传感器等技术为一体的自动化控制系统。介绍了设备的主要结构、工作原理、控制系统硬件选型及编程方法。在GX—DEVELOPER一8.34环境下采用梯形图语言编制系统运行和监控软件,实现投饵作业的精确计量、自动控制和人性化操作。检测结果表明,该自动投饵系统基本达到设计要求,风机排气压力在49.0 kPa时管道远程输送距离达到300 m以上,投饵速率达1 586 kg·h~,证明该设备能有效提高投饵效率和质量。
【英文摘要】Abstract:In order to improve feeding automatization and industrialization level of feeding and meet the needs for fish feeding during modern aquaculture production,remote pneumatic conveying automatic feeding system was developed,and the automatic control for thefeeding system integrated with programmable logic controller(PLC)and sensor was successfully designed.PLC was used as control core in the system,which was integrated kinds of techniques including programming and sensors,etc. The primary structure,and working principle of the feeding system,selection of controlling system hardware and measures for programming methods were also in— troduced. Feeding operation with accurate quantification,automatic control and humanization operation man—machine friendliness was realized and monitored through the system software programmed with the ladder diagram language,which run in the environment of GX一DEVELOPER一8.34.Test results on feeding system showed that it can handle up to 300 m feeding pipe at 1 586 kg·h一 when discharge pressure was 49.0 kPa,which proved that the feeding system could can improve feeding efficiency and meet quality effectively.
【语种】中文
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【题目】The role of respiratory burst oxidase homologues in elicitor-induced stomatal closure and hypersensitive response in Nicotiana benthamiana
【中文关键词】活性氧;过敏反应;本氏烟;气孔运动;病毒诱导基因沉默
【英文关键词】AOS; elicitor; hypersensitive response; Nicotiana benthamiana; stomatal closure; virus-induced gene silencing
【中文摘要】活性氧是一类重要的信号分子,和细胞死亡紧密相连;且外源和内源的AOS都能诱导气孔关闭。激发子被非寄主识别后,产生活性氧;大量的活性氧如不能及时被植物自身的抗氧化系统清除,会产生毒害效应,经过一系列信号的传递,导致过敏性反应和气孔关闭。前人研究表明植物NADPH氧化酶,RBOH是植物体内负责AOS产生的一类重要的酶。本实验室采用VIGS技术分别获得了NbrbohA、NbrbohB单基因沉默,以及NbrbohA和NbrbohB双基因沉默的本氏烟植株,分别以激发子boehmerin (Phytophthora boehmeriae),INF1 (Phytophthora infestans)和harpin (Xanthomonas oryzae)处理上述烟草,3-24小时内进行H2O2染色观察,发现H2O2的迸发减少,2天后均观察到过敏反应,且基因沉默对激发子诱发的PR基因的表达和胞内Ca2+没有影响;表明RBOH是激发子诱发的氧迸发中一类主要的酶,但在激发子诱发的过敏性细胞死亡并不是个关键因子。同时基因沉默的植株抑制了激发子诱发的气孔关闭且保卫细胞中NO的迸发减少,进一步对上述基因沉默的烟草表皮的保卫细胞进行AOS染色观察,发现所有的激发子均能激发上述烟草保卫细胞中AOS的产生。 综上,RBOH引起的H2O2和NO减少和激发子诱导的气孔关闭相关,而由于植物体内还存在其它的活性氧产生的途径,且AOS/NO之间的平衡状态决定了植物细胞的存亡。
【英文摘要】Active oxygen species (AOS) are central components of the defence reactions of plants against pathogens. Plant respiratory burst oxidase homologues (RBOH) of gp91(phox), a plasma membrane protein of the neutrophil nicotinamide adenine dinucleotide phosphate (NADPH) oxidase, play a prominent role in AOS production. The role of two RBOH from Nicotiana benthamiana, NbrbohA and NbrbohB that encode plant NADPH oxidase in the process of elicitor-induced stomatal closure and

hypersensitive cell death is described here. NbrbohA was constitutively expressed at a low level, whereas NbrbohB was induced when protein elicitors exist (such as boehmerin, harpin, or INF1). The virus-induced gene-silencing (VIGS) method was used to produce single-silenced (NbrbohA or NbrbohB) and double-silenced (NbrbohA and NbrbohB) N. benthamiana plants. The hypersensitive response (HR) of cell death and pathogenesis-related (PR) gene expression of these gene-silenced N. benthamiana plants, induced by various elicitors, are examined. The HR cell death and transcript accumulation of genes related to the defence response (PR1) were slightly affected, suggesting that RBOH are not essential for elicitor-induced HR and activation of these genes. Interestingly, gene-silenced plants impaired elicitor-induced stomatal closure and elicitor-promoted nitric oxide (NO) production, but not elicitor-induced cytosolic calcium ion accumulation and elicitor-triggered AOS production in guard cells. These results indicate that RBOH from N. benthamiana function in elicitor-induced stomatal closure, but not in elicitor-induced HR.

【语种】英文
【第一作者】张华建
【通讯作者】张正光
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【学科分类】植物保护学

【题目】转反义OsRACK1基因增强水稻抗旱能力
【中文关键词】反义RNA,干旱胁迫,水稻,RACK1基因,转基因植株
【英文关键词】anti-sense RNA,drought stress,Oryza sativa,RACK1 gene, transgenic plants
【中文摘要】RACK1是一种多功能支架蛋白,广泛参与植物生长发育过程的调节。利用反义RNA技术抑制水稻(Oryza sativa)RACK1基因的表达,分析了RACK1基因在响应干旱胁迫中的功能。采用实时定量PCR对获得的转基因植株的RACK1基因表达进行分析,结果表明转基因水稻RACK1基因表达受抑制程度达到50%左右。与非转基因水稻(对照)相比,转基因水稻耐干旱能力强,膜脂过氧化程度低且丙二醛的含量少,SOD活性高。这些结果表明,RACK1蛋白负调节水稻对干旱胁迫的耐受过程,并且这种调节作用在很大程度上与植株体内的氧化还原系统有关。
【英文摘要】RACK1 is a scaffold protein with versatile functions and plays important roles in the regulation of plant growth and development.Transgenic rice(Oryza sativa),with the expression of OsRACK1 anti-sense construct.was used to study possible functions of OsRACK1 in response of rice to drought stress.Real—time PCR analysis showed that the expression of OsRACK1 in transgenic rice plants was reduced by more than 50% .The tolerance to drought stress was stronger in transgenic than in nontransgenic rice plants.The epioxidation of membrane and production of malonaldehyde were significantly lower and the superoxide dismutase(SOD)activity was significantly higher in transgenic plants than in non—transgenic plants.OsRACK1 may negatively regulates tolerance of rice to drought stress,which is associated with the redox system in rice.
【语种】中文
【第一作者】李大红
【通讯作者】梁建生
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【题目】波浪变态模型试验相似关系探讨
【中文关键词】变态模型;相似关系;折射;绕射
【英文关键词】distorted model; similitude relationship; wave refraction; wave diffraction
【中文摘要】摘 要: 对于波浪折射、绕射和反射的影响都较显著的情形,考虑到按传统的波浪变态模型相似关系将模型中的试验数据换算到原型后的偏差较大,论文尝试采用将正态模型时间比尺应用到变态模型中并反推出变态模型波长比尺的方法提出了一种不同的波浪运动相似关系即λL=λl·λthkh。通过工程实例计算表明,该相似关系条件下的变态模型计算结果与原型数值计算结果的偏差要明显小于传统的波浪折射和绕射相似的情况。

【英文摘要】Abstract: When the influence of wave refraction, diffraction and reflection is significant in case of large wave movement, the method based on traditional similitude relationship converting the test results of a distorted model to full2scale case, may cause larger deviations. A new similitude relationship (λL = λl • λthkh) ofwave movement is p resented in a way that the time scale of undistorted model is app lied to calculate the wavelength scale of distorted model. The calculated results of a p roject case show that the error between distorted model and prototype under λL = λl • λthkh is less than that under wave refraction and diffraction similitude
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【第一作者】黄小华
【通讯作者】黄小华
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【题目】射流式吸鱼泵关键技术研究及设计
【中文关键词】射流式吸鱼泵; 设计计算; 射流器; 深水网箱
【英文关键词】jet fish pump; design and calculation; jet apparatus; deep2water cage
【中文摘要】摘要: 为实现深水网箱规模化养殖渔获的自动起捕, 依据射流泵的工作原理, 提出了射流式吸鱼泵的结构优化设计方案。基于能量方程, 对工作泵的压力计算表达式进行了推导, 并对射流式吸鱼泵的性能参数进行了计算。射流泵压力校核结果表明, 选配的工作泵可满足设计要求。
【英文摘要】deep2water cage, according to the working principle of jet pump,an op timized design p lan about jet fish pump is proposed in this paper1 And based on the energy equation, the pressure calcula2tion expression for working pump is obtained and the calculations on performance parameters of jet fish pump are done1 The calibration results for jet pump indicate that the selected working pump could satisfy design request
【语种】中文
【第一作者】黄小华
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【题目】应用现代设计制造技术研制我国畜牧业装备产品关键技术与装置
【中文关键词】畜牧业装备 关键技术 装置 研制
【英文关键词】null
【中文摘要】我国畜牧业装备普遍存在质量差、可靠性低、寿命短、品种少、市场竞争力差的问题,成为制约行业发展的瓶颈。将虚拟建模仿真、逆向工程等现代设计技术;数控加工、智能制造等现代制造方法应用到行业中,通过关键技术与协调发展装置的研制,自主创新开发优质节能高效的现代机具,解决行业发展瓶颈问题,提升产业核心竞争力,促进经济社会发展。
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【语种】中文
【第一作者】王瑞先
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【题目】顺流式网箱试验数据可视化方法的研究
【中文关键词】网箱;可视化;数据处理;虚拟现实;虚拟现实建模语言(VRML);外部程序接El(EA1
【英文关键词】net cage;visualization;data processing;virtual reality;virtual reality modeling language(VRML);external autho—ring interfac
【中文摘要】摘要:将网箱模型在水槽实验中获得的不同波高、流速状态下的实验数据,还原成网箱在水中空间6自由度运动,通过虚拟现实建模语言(VRML)和Java的联合使用,开发了可视化系统,使得网络用户不仅能访问该系统,且可选择不同实验数据进行交互访问。系统运行时,可实时切换场景的视角,进行多方位观察和研究。
【英文摘要】Abstract:This paper presents a visualization in scientific computing(ViSC)technique that could be used in dynamic simulation ofnet cage.The experiments on the mooring system under regular—wave condition and all kinds of currents were performed. According to above experiments,a new ViSC technique based on 3-Dimensi0n surface rendering and dynamic coloration is put forward and implemented.This technique is efficient.The visual system was developed,based on the joint use of virtual reality modeling language(VRMI)and Java.Internet usel~3 can browse出e system and select diferent experimental data to obselwe and research it.
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【第一作者】江涛
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【题目】The role of vacuolar processing enzyme (VPE) from Nicotiana benthamiana in the elicitor-triggered hypersensitive response and stomatal closure
【中文关键词】活性氧;激发子;过敏反应;本氏烟;气孔运动;病毒诱导基因沉默
【英文关键词】AOS; elicitor; hypersensitive response; Nicotiana benthamiana; stomatal closure; virus-induced gene silencing
【中文摘要】激发子诱导的过敏性反应和气孔关闭是植物的一种免疫机制。VPEs位于植物液泡中,是种半胱氨酸蛋白酶,属于豆类天冬氨酸蛋白内切酶(legumain) 家族,对天冬氨酸和天冬酰胺残基羧基端的肽键具有底物专一性。最初认为VPEs负责种子贮藏性液泡中大多数蛋白质的加工活性,通过裂解前体的天冬酰胺和谷氨酰胺间的肽键产生多种有功能的蛋白质.最近又发现VPEs通过促进液泡中蛋白质的水解进而导致液泡的破裂而发挥类似动物caspases调控程序化细胞死亡(PCD)的功能。本实验研究了本氏烟VPE1a、VPE1b在不同来源的激发子(harpin, Nep1 and boehmerin)信号中的功能,这些激发子分别来自于细菌、真菌和卵菌的PAMP。通过基因沉默的方法,我们得到了单基因(NbVPE1a-和NbVPE1b-)和双基因沉默(NbVPE1a/1b-)的植株,VPE沉默不影响激发子诱发的H2O2积累,NbVPE1a-和NbVPE1a/1b-沉默的植株抑制了harpin诱发的HR;而其它VPE沉默的植株,在boehmerin 和Nep1处理后,均产生了正常的过敏反应。说明harpin诱发的过敏反应是依赖于VPE的。同时基因沉默的植株抑制激发子诱发的气孔关闭且保卫细胞中NO积累减少。通过保卫细胞AOS染色观察显示所有的激发子均能激发上述烟草保卫细胞中AOS的产生,且双沉默负调控保卫细胞中AOS的积累。转录分析显示VPE调节了活性氧相关的基因NbrbohB和转录因子WRKY2的转录。综上,VPE是第一个报道的具有caspase 活性的基因参与了激发子诱发气孔关闭。结合气孔在植物免疫中的功能,说明VPE参与病原触发的抗性(PAMP-triggered immunity (PTI))。
【英文摘要】Elicitors/pathogen-associated molecular patterns (PAMPs) trigger the plant immune system, leading to rapid programmed cell death (hypersensitive response, HR) and stomatal closure. Previous reports have shown that the vacuolar processing enzyme (VPE), a cysteine proteinase responsible for the maturation of vacuolar proteins, has caspase-1-like activity and mediates TMV- and mycotoxin-induced cell death. The role of VPE from Nicotiana benthamiana in the response to three elicitors: bacterial harpin, fungal Nep1, and oomycete boehmerin, is described here. Single-silenced (NbVPE1a or NbVPE1b) and dual-silenced (NbVPE1a/1b) N. benthamiana plants were produced by virus-induced gene silencing. Although NbVPE silencing does not affect H(2)O(2) accumulation triggered by boehmerin, harpin, or Nep1, the HR is absent in NbVPE1a- and NbVPE1a/1b-silenced plants treated with harpin alone. However, NbVPE-silenced plants develop a normal HR after boehmerin and Nep1 treatment. These results suggest that harpin-triggered HR is VPE-dependent. Surprisingly, all gene-silenced plants show significantly impaired elicitor-induced stomatal closure and elicitor-promoted nitric oxide (NO) production in guard cells. Dual-silenced plants show increased elicitor-triggered AOS production in guard cells. The accumulation of transcripts associated with defence and cell redox is modified by VPE

silencing in elicitor signalling. Overall, these results indicate that VPE from N. benthamiana functions not only in elicitor-induced HR, but also in elicitor-induced stomatal closure, suggesting that VPE may be involved in elicitor-triggered immunity.
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【第一作者】张华建
【通讯作者】张正光
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【题目】In vitro and in vivo Studies on the Antioxidant Effects of Soymilk Fermented with Streptococcus thermophilus grx02
【中文关键词】S. thermophilus; fermented soymilk; antioxidant; acute alcohol-induced liver injury
【英文关键词】S. thermophilus; fermented soymilk; antioxidant; acute alcohol-induced liver injury
【中文摘要】Soymilk fermented with Streptococcus thermophilus grx02 (FSM) was evaluated for its antioxidant properties. Antioxidant effects of FSM in vitro were measured with 2, 2-diphenyl-1-picrylhydrazyl (DPPH) based assay and by determining the inhibitory 15 effect on the formation for malonyldialdehyde (MDA), and on the ability to chelate ferrous ions; the respective average IC50 values were 49.5, 24.2 and 8.7 mg/mL. Antioxidant enzymatic activities in liver of alcohol-fed mice, biochemical markers in serum and an index of lipid peroxidation were determined, and additionally the changes in hepatocytes of ICR mice were compared. The results showed that, compared with 20 the control group, alanine transaminase (ALT) activity, aspartate transaminase (AST) activity and triglycerides (TG) of negative group increased ($p < 0.05$). Moreover, the serum ALT and AST activities of FSM group was lower than negative group ($p < 0.05$). However, there was no significant difference ($p > 0.05$) in the albumin (ALB) and total protein (TP) values (in positive, negative, control, and FSM groups) in the serum. 25Compared with the negative group, alcohol dehydrogenase (ADH), superoxide dismutase (SOD) activities and glutathione (GSH) content increased in liver ($p < 0.05$) in FSM group. The MDA of FSM group in liver was lower than the negative group ($p < 0.05$).
【英文摘要】Soymilk fermented with Streptococcus thermophilus grx02 (FSM) was evaluated for its antioxidant properties. Antioxidant effects of FSM in vitro were measured with 2, 2-diphenyl-1-picrylhydrazyl (DPPH) based assay and by determining the inhibitory 15 effect on the formation for malonyldialdehyde (MDA), and on the ability to chelate ferrous ions; the respective average IC50 values were 49.5, 24.2 and 8.7 mg/mL. Antioxidant enzymatic activities in liver of alcohol-fed mice, biochemical markers in serum and an index of lipid peroxidation were determined, and additionally the changes in hepatocytes of ICR mice were compared. The results showed that, compared with 20 the control group, alanine transaminase (ALT) activity, aspartate transaminase (AST) activity and triglycerides (TG) of negative group increased ($p < 0.05$). Moreover, the serum ALT and AST activities of FSM group was lower than negative group ($p < 0.05$). However, there was no significant difference ($p > 0.05$) in the albumin (ALB) and total protein (TP) values (in positive, negative, control, and FSM groups) in the serum. 25Compared with the negative group, alcohol dehydrogenase (ADH), superoxide dismutase (SOD) activities and glutathione (GSH) content increased in liver ($p < 0.05$) in FSM group. The MDA of FSM group in liver was lower than the negative group ($p < 0.05$).
【语种】英文
【第一作者】Yin Xu
【通讯作者】Rui-Xia Gu
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【学科分类】食品科学技术基础学科

【题目】深水抗风浪网箱监测系统研制方案的探讨
【中文关键词】深水网箱;声学监测;目标强度;分裂波束
【英文关键词】Net—cage;acoustic monitoring;target;split beam
【中文摘要】摘要:探讨一种声学监测方案,用高频、窄脉冲和分裂波束技术,实时监测养殖鱼的进食、生长情况,随时评估网箱内总量的增长情况,并且从水产行业的成本可承受性的实际出发,将成本控制在用户可接受的水平上。

【英文摘要】Abstract:The deepwater net—cage acoustic monitoring scheme described in this paper can monitor the feeding and growing of the reared fish in real time and can evaluate the total biomass increasing in the cage at all times,by using high frequency,narrow impluse,split beam and computer technology.This scheme also can control the cost at the user ’ s acceptable level in view of the actual cost affordable situation of the current aquaculture industry.
【语种】中文
【第一作者】刘丽珍
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【题目】我国畜牧业机械化发展浅析
【中文关键词】畜牧业 畜牧业机械
【英文关键词】null
【中文摘要】我国的畜牧业和畜牧业机械已取得了长足的发展。近年来畜牧业的快速兴起,要求畜牧业机械发展顺应当前形势,彻底改变过去产品质量差、可靠性低、寿命短、产品结构不合理的局面,走技术创新引领行业发展,制定正确的发展战略,快速发展的道路。
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【语种】中文
【第一作者】王瑞先
【通讯作者】王瑞先
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【学科分类】农业工程

【题目】Novel and efficient method for immobilization and stabilization of beta-D-galactosidase by covalent attachment onto magnetic Fe3O4-chitosan nanoparticles
【中文关键词】磁性Fe3O4纳米粒子;壳聚糖;β-D-半乳糖苷酶的固定化;低聚半乳糖
【英文关键词】Magnetic Fe3O4 nanoparticle; Chitosan; beta-D-Galactosidase; Immobilization; Galactooligosaccharide
【中文摘要】本研究制备了磁性Fe3O4-壳聚糖纳米颗粒作为一种新型、高效的米曲霉来源的β-D-半乳糖苷酶的固定化载体。通过Fe2+和Fe3+共沉淀的方法制备磁性Fe3O4纳米颗粒。通过壳聚糖在磁性Fe3O4纳米颗粒表面的静电相互作用制备Fe3O4-壳聚糖复合纳米颗粒。通过透射电子显微镜,X射线衍射,傅里叶变换红外光谱仪,振动样品磁分析和热重分析表征制备得到的材料。应用戊二醛作为活化剂将β-D-半乳糖苷酶通过共价键固定在的纳米复合材料表面。通过试验固定化时间,交联时间,酶浓度,戊二醛浓度,戊二醛的初始pH值和酶溶液优化酶固定化的过程中。结果,固定化酶比游离酶表现出更高的存储,pH值和热稳定性。以果糖为底物,用这种磁性纳米材料固定化酶是,当乳糖的水解率达到50%时,低聚半乳糖的合成产率达到最高15.5% (w/v)。因此,磁性Fe3O4-壳聚糖纳米颗粒是一种有效的β-D-半乳糖苷酶的固定化载体。
【英文摘要】A novel and efficient immobilization of beta-D-galactosidase from Aspergillus oryzae has been developed by using magnetic Fe3O4-chitosan (Fe3O4-CS) nanoparticles as support. The magnetic Fe3O4-CS nanoparticles were prepared by electrostatic adsorption of chitosan onto the surface of Fe3O4 nanoparticles made through co-precipitation of Fe2+ and Fe3+. The resultant material was characterized by transmission electron microscopy. X-ray diffraction, Fourier transform infrared spectroscopy, vibrating sample magnetometry and thermogravimetric analysis. beta-D-Galactosidase was covalently immobilized onto the nanocomposites using glutaraldehyde as activating agent. The immobilization process was optimized by examining immobilized time, cross-linking time, enzyme concentration, glutaraldehyde concentration, the initial pH values of glutaraldehyde and the enzyme solution. As a result. the immobilized enzyme presented a higher storage, pH and thermal stability than the soluble enzyme. Calactooligosaccharide was formed with lactose as substrate by using the immobilized enzyme as biocatalyst, and a maximum yield of 15.5% (w/v) was achieved when about 50% lactose was hydrolyzed. Hence, the magnetic Fe3O4-chitosan nanoparticles are proved to be an effective support for

the immobilization of beta-D-galactosidase.
【语种】英文
【第一作者】Chenliang Pan
【通讯作者】Xiaoxiong Zeng
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【学科分类】食品科学技术基础学科

【题目】Determination of polyphenolic content and antioxidant activity of kudingcha made from Ilex kudingcha C.J. Tseng
【中文关键词】抗氧化活性,DPPH,FRAP,高效液相色谱法;苦丁茶CJ曾苦丁茶多酚含量; TEAC
【英文关键词】antioxidant activity; DPPH; FRAP; HPLC; Ilex kudingcha CJ Tseng; kudingcha; Polyphenol content; TEAC
【中文摘要】本研究应用 Folin-Ciocalteu试剂法测定了苦丁茶中的总多酚含量,并且分别应用DPPH, FRAP 和 TEAC法测定了苦丁茶的抗氧化活性。本研究制备了苦丁茶初提物,对初提物进行分部萃取,制备得到了其氯仿(CFF),乙酸乙酯(EAF),正丁醇(NBF),和水(WTF)萃取物,应用高效液相色谱法分析、测定了苦丁茶初提物及其分部萃取组分中的抗氧化物的组成。研究发现苦丁茶提取物中含有大量的咖啡酰奎尼酸(CQA)的衍生物,包括3-CQA,5-CQA,3,4-diCQA,3,5-diCQA,和4,5-diCQA,表现出较强的抗氧化活性。用DPPH 法和 FRAP法测得的苦丁茶及其各萃取组分的抗氧化活性强弱从高到低排列顺序如下:EaF > nBF > CE > WtF > CfF。用TEAC法测得的实验结果中CfF的抗氧化活性要高于WtF。更重要的是苦丁茶总酚含量与抗氧化活性之间具有很强的相关性。
【英文摘要】The total polyphenol content and the antioxidant activity of kudingcha made from flex kudingcha C.J. Tseng were determined by Folin-Ciocalteu reagent, and DPPH, FRAP, and TEAC methods, respectively. The crude extract (CE) of kudingcha and its four fractions of chloroform (CfF), ethyl acetate (EaF), n-butanol (nBF), and water (WtF) were prepared and subjected to antioxidant evaluation and analysis by high performance liquid chromatography. The extracts of kudingcha contained large amounts of caffeoylquinic acid (CQA) derivatives, including 3-CQA, 5-CQA, 3,4-diCQA, 3,5-diCQA, and 4,5-diCQA, and showed potent antioxidant activity. The antioxidant activities of CE and its fractions decreased in the order of EaF > nBF > CE > WtF > CfF, according to the DPPH assay and FRAP assay, which were the same, with the exception of the rank order of CfF and WtF, as the TEAC assay. Furthermore, a satisfactory correlation between total polyphenol content and antioxidant activity was observed.
【语种】英文
【第一作者】Lixiang Liu
【通讯作者】Xiaoxiong Zeng
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【学科分类】食品科学技术基础学科

【题目】我国苜蓿种子收获机械研究的现状与发展
【中文关键词】苜蓿 种子 收获 联合收获机
【英文关键词】null
【中文摘要】总结了我配套机具的研究国30年来对苜蓿种子收获工艺及研究,展示了目前苜蓿种子收获工艺及配套机具研究成果,通过分析国外苜蓿种子的收获情况和国内现有水平,对今后的工作提出一些建议。
【英文摘要】无
【语种】中文
【第一作者】贾红燕
【通讯作者】贾红燕
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【学科分类】农业工程

【题目】我国现代草原畜牧业装备与设施研制浅论
【中文关键词】现代草原畜牧业 装备与设施 研制
【英文关键词】null
【中文摘要】现代草原畜牧业装备与设施是生物、信息等高技术得以实施推广的有效载体。研制具有自主知识产权的现代草原畜牧业装备与设施,重点解决生产过程的重大关键技术、工艺难题和开发市场急需的新产品,可全面提升我国草原畜牧业装备制造业的自主创新能力和技术水平,满足我国生态畜牧业发展因环境及经营方式变化等对装备与设施的要求,推进畜牧业现代化。
【英文摘要】无
【语种】中文
【第一作者】王瑞先
【通讯作者】王瑞先
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【学科分类】农业工程

【题目】The role of vacuolar processing enzymes
【中文关键词】过敏性细胞死亡;激发子;气孔运动;病程相关分子模式;植物先天免疫;程序化细胞死亡
【英文关键词】hypersensitive cell death, elicitor, stomatal closure, pathogen-associated molecular patterns, plant innate immunity, programmed cell death
【中文摘要】蛋白酶在植物先天免疫反应中具有非常重要作用。本文就液泡蛋白酶VPE在植物先天免疫中作用的最新研究进展进行了综述。该蛋白酶是植物中最早鉴定的与caspase-1类似的一种蛋白酶,过去几年中发现该酶植物多种细胞死亡中具有非常重要的作用。早期发现该VPE作为液泡中一种水解酶参与液泡中蛋白的成熟。后来发现本氏烟中的VPE通过调控细胞膜的塌陷调控TMV诱导N基因烟草的过敏性细胞死亡。拟南芥中VPE参与真菌毒素诱导的细胞死亡。然而VPE在激发子诱导的细胞死亡中的信号途径尚不清楚。我们最近的研究证明VPE在激发子诱发的植物免疫中具有非常重要作用,它参与激发子诱发气孔关闭、防卫反应和过敏性细胞死亡。
【英文摘要】Proteases play important roles in plant innate immunity. In this mini-review, we describe the current view on the role of a plant protease, vacuolar processing enzyme (VPE), and the first identified plant caspase-1-like protein, in plant immunity. In the past several years, VPEs were determined to play important roles in various types of cell death in plants. Early studies demonstrated the identification of VPE as a vacuolar hydrolytic protein responsible for maturation of vacuolar proteins. Later, Nicotiana benthamiana VPE was reported to mediate virus- induced hypersensitive response by regulating membrane collapse. The ortholog of VPE in Arabidopsis is also suggested to be involved in both mycotoxin-induced cell death and developmental cell death. However, the role of VPE in elicitor- signaling is still unclear. Our recent studies demonstrated the involvement of VPE in elicitor signal transduction to induce stomatal closure and defense responses, including defense gene expression and hypersensitive cell death.
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【第一作者】张华建
【通讯作者】张正光
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【引文索引号】null
【学科分类】植物保护学

【题目】多功能高效牧草种子收获机的试验性能分析
【中文关键词】多功能;牧草种子;试验性能

【英文关键词】multifunction, grass seed, performance experiment
【中文摘要】简述了多功能高效牧草种子收获机的结构及收获工艺,对多功能高效牧草种子收获机进行了生产性能试验,试验试验结果为:工作幅宽2.0m、生产率0.3~0.4hm2/h(披碱草)、0.15~0.2hm2/h(苜蓿)、梳脱损失率≤6.0%、破碎率≤1%。
【英文摘要】The structure and harvesting technics of Multifunctional High-efficiency Seed Harvester were describedsimply. And the performance experiment was carried out. The results were listed as follows: working breadth is2.0 meter; productivity for elymus sibiricus is 0.3-0.4 hm2/h; productivity for clover is 0.15-0.2 hm2/h; strippingloss rate is equal or less than 6.0%; percentage of damage is equal or less than 1%.
【语种】中文
【第一作者】王强
【通讯作者】王强
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【学科分类】农业工程

【题目】茶叶中甲基化儿茶素的分离、纯化和高效液相色谱法分析
【中文关键词】茶叶,儿茶素,甲基化儿茶素,高效液相色谱法
【英文关键词】Tea, catechin, methylated catechin, high performance liquid chromatography
【中文摘要】以日本 Benifuji绿茶为原料,用 50%乙腈提取茶叶有效成分,提取液经氯仿脱咖啡碱和色素、乙酸乙酯和 HP-20大孔树脂富集儿茶素,得多酚含量高于 80%的茶多酚粗品,再经 ToyopearHW-40S柱层析分离纯化,得 EGC、ECG、EGCG、EC及两种未知成分。经。H—NMR、MS和 HPLC等分析,两种未知成分为(一)一表没食子儿茶素 3-O(3-O · 甲基)没食子酸酯(EGCG3Me)和(一).3-O.甲基一表儿茶素没食子酸酯(ECG3Me)。采用TsKgelODS—lOOZ色谱柱和二极管阵列检测器(DAD),建立了一种快速、灵敏分析茶叶中儿茶素和甲基化儿茶素的高效液相色谱法。色谱条件 :TSKgelODS一100Z色谱柱,流动相为 KH:P0(pH2.5).甲醇系统 ,采用梯度洗脱,流速 1.0mL/min,柱温40°C,进样量20 。结果表明,6种儿茶素在一定范围内线性良好,相关系数为 0.9996~1.0000,平均加标回收率在 90.8% ~105.9%之间,相对标准偏差均小于 3.5%。
【英文摘要】Order to green tea Japan Benifuji as the raw material, an active ingredient of tea is extracted with 50% acetonitrile to extract caffeine and pigments by chloroform off, ethyl acetate, and the enrichment of HP-20 macroporous resin catechin obtained polyphenol content higher than 80%tea polyphenols crude, may be isolated and purified by column chromatography ToyopearHW-40S EGC, ECG, EGCG, EC and two unknown ingredients. By. H-NMR, MS and HPLC analysis of the two unknown ingredient catechin 3-O (3-O methyl) gallate (EGCG3Me) and (a) (a) a table gallic. 3-O. Methyl epicatechin gallate (ECG3Me). TsKgelODS-lOOZ column and diode array detector (DAD), the establishment of a rapid and sensitive analysis in tea catechins and methylation childrenTea prime high-performance liquid chromatography. Chromatographic conditions: TSKgelODS a 100Z column, the mobile phase of KH: P0 (pH2.5). Methanol system, using a gradient elution, flow rate 1.0mL/min, column temperature 40 ° C, injection volume 20. The results show that the six kinds of catechins in a certain range linear correlation coefficient of 0.9996 to 1.0000, the average recoveries between 90.8% to 105.9%, the relative standard deviations were less than 3.5%.
【语种】中文
【第一作者】周蓓
【通讯作者】曾晓雄
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【学科分类】食品科学技术基础学科

【题目】Immunological evaluation of Lactobacillus casei Zhang: a newly isolated strain from koumiss in Inner Mongolia, China
【中文关键词】乳酸菌 免疫学
【英文关键词】MOUSE LYMPHOCYTE-PROLIFERATION; HUMAN DENDRITIC CELLS; LACTIC-ACID BACTERIA; IMMUNE FUNCTION; MILK DRINK; SHIROTA; IMMUNOMODULATION; INFECTION

【中文摘要】lactic acid bacteria fermented milk
【英文摘要】Background: There is increasing evidence to suggest an immunomodulation function both within the intestines and systemically upon consuming probiotic species. We recently isolated a novel LAB, Lactobacillus caseiZhang (LcZhang) from koumiss. LcZhang exhibited favorable probiotic properties, such as acid resistance, bile resistance, gastrointestinal (GI) colonization ability, etc. In order to examine the immunomodulatory qualities of LcZhang, we administered LcZhang to healthy mice with varying doses of either live or heat-killed LcZhang and measured various parameters of the host immune response. Results: The study was performed in four separate experiments via oral administration of live and heat-killed LcZhang to BALB/c mice for several consecutive days. We investigated the immunomodulating capacity of LcZhang in vivo by analyzing the profile of cytokines, T cell subpopulations, and immunoglobulin concentrations induced in blood serum and intestinal fluid in BALB/c mice. Only live bacteria elicited a wide range of immune responses, which include the increased production of interferon-gamma (IFN-gamma), and depression of tumor necrosis factor-alpha (TNF-alpha) levels. In addition, interleukin-2 (IL-2) and IL-2 receptor gene transcription increased significantly, but the proportion of T cell subsets appeared to be unaffected. We also observed that LcZhang was capable of inducing gut mucosal responses by enhancing the production of secretory Immunoglobulin A (sIgA) as well influencing the systemic immunity via the cytokines released to the circulating blood
【语种】英文
【第一作者】托娅
【通讯作者】张和平
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【学科分类】食品科学技术基础学科

【题目】A Survey on Chemical and Microbiological Composition of Kurut,Naturally Fermented Yak Milk from Qinghai in China
【中文关键词】乳酸菌 牦牛奶 理化成分 微生物组成
【英文关键词】kurut; Qinghai; chemical composition; microbiological composition
【中文摘要】bacteria
【英文摘要】Thirty-two batches of samples of kurut (naturally fermented yak milk) were collected at four locations in Qinghai, China, and their chemical and microbiological composition was analyzed. Average levels of major components were: total solids 14.3 +/- 1.52 g/100 ml, fat 5.37 +/- 1.04 g/100 ml, total protein 5.44 +/- 1.06 g/100 ml, lactose 2.34 +/- 0.172 g/100 ml, ash 0.860 +/- 0.080 g/100 ml and titratable acidity 158 +/- 16.3 degrees T. Results showed that the kurut had richer nutrients than the yoghurt. The HP (kurut samples from Plateau yaks in the northwest of Qinghai) had better chemical nutrients density than the MH (kurut samples from Huanhu yaks in the south of Qinghai) and LH (kurut samples from Huanhu yaks in the east of Qinghai). Sodium dodecyl sulfate-PAGE and densitometry analysis results demonstrated that kurut was rich in casein, immunoglobulins, serum albumin, beta-lactoglobulin, alpha-lactallburnin, and two unknown fractions in part samples. Microbiological enumeration revealed that the kurut contained larger lactic acid bacteria and yeast than those of the traditional fermented milk referred, with the average counts of lactic acid bacteria of 9.18 +/- 0.851 log cfu/ml and the yeast 8.33 +/- 0.624 log cfu/ml. The lactic acid bacteria dominated in the HP and LH kurut while the yeast dominated in MH kurut. The kurut was judged nutritional and indicates the latent value for people's health.
【语种】英文
【第一作者】张和平
【通讯作者】张和平
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【学科分类】食品科学技术基础学科

【题目】In vitro comparation of probiotic properties of Lactobacillus casei Zhang, a potential new probiotic, with selected probiotic strains.

【中文关键词】乳酸菌 发酵乳
【英文关键词】Probiotic properties; Lactic acid bacteria; Fermentation characterization
【中文摘要】bacteria
【英文摘要】Since 2004, our research group has isolated 240 Lactobacillus strains from Koumiss, a traditional fermented alcoholic beverage prepared from mare's milk in Inner Mongolia, Xinjiang of China and Mongolia. Among these Lactobacillus strains a novel strain with potential probiotic properties, Lactobacillus casei Zhang, was screened out and studied extensively for its probiotic properties, health-promoting effects and fermentation characteristics. In vitro tests indicated that L casei Zhang had high tolerance to simulated gastric, intestine juices and bile salts, similar to commercial probiotic strains such as Lactobacillus acidophilus NCFM, Lactobacillus rhamnosus GG, L casei Shirota and Bifidobacterium animalis Bb12. Higher acid-production activity and proteolytic activity was observed in the fermented milk inoculated with L casei Zhang during the refrigerated storage than in the samples inoculated with the selected commercial probiotics. The yogurt samples fermented with L casei Zhang exhibited similarer viable count (1.0 x 10(9) cfu/mL) as the other samples after 28 d of refrigerated storage. The results suggested that L casei Zhang showed good potential for application in functional foods and health-related products. (C) 2009 Elsevier Ltd. All rights reserved.
【语种】英文
【第一作者】郭壮
【通讯作者】张和平
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【学科分类】食品科学技术基础学科

【题目】ACE-inhibitory activity and gamma-aminobutyric acid content of fermented skim milk by Lactobacillus helveticus isolated from Xinjiang koumiss in China
【中文关键词】乳酸菌 血管紧张素转化酶 高血压
【英文关键词】ACE-inhibitory activity; Lactobacillus helveticus; gamma-Aminobutyric acid; Fermented milk; Koumiss
【中文摘要】lactic acid bacteria
【英文摘要】Eighty-one strains of Lactobacillus were isolated from the koumiss collected in Xinjiang, China. The strains were cultivated in skim milk medium, ACE inhibitory activity and GABA concentrations in the culture supernatants were measured. Screening results revealed that ACE inhibitory activity of 16 strains was higher than 50% and two strains produced GABA. The Lactobacillus-ND01 strain produces both the high ACE inhibitory activity and GABA. The sequence of 16S rDNA of the Lactobacillus-ND01 showed 99% homology to L. helveticus. The first identification of the newly isolated Lactobacillus-ND01 strain which produces both high ACE inhibitory activity and GABA revealed differences from reported species in our study. The L. helveticus ND01 was resistant to acidic condition. The results suggest that L. helveticus ND01 showed good potential for application in the management of hypertension.
【语种】英文
【第一作者】孙天松
【通讯作者】张和平
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【题目】Analysis of microbial composition in acid whey for dairy fan making in Yunnan by conventional method and 16S rRNA sequencing
【中文关键词】乳酸菌 乳扇
【英文关键词】TRADITIONAL FERMENTED MILK; LACTOBACILLUS; CHEESE; CULTURES; STRAINS; MICROORGANISMS; IDENTIFICATION; BIODIVERSITY; DIVERSITY; BACTERIA

【中文摘要】lactic acid bacteria
【英文摘要】Dairy fan is a traditional milk product made by adding 'acid juice' and heating up. It has been consumed by people of minority ethnic region in Yunnan Province of China for over 1,000 years. In order to improve the quality of dairy fan for further industrial-scale production, we investigated the microbial composition, especially Lactic Acid Bacteria (LAB), by conventional method and 16S rRNA sequences analysis in acid whey, which was the starter culture for traditional dairy fan making. Twenty samples of acid whey were collected from Yunnan. Ninety-one phylotypes of LAB were isolated from these samples and identified by conventional method and 16S rRNA sequencing analysis. The results showed that all isolates belonged to three genera and nine different species. Moreover, Lactobacillus helveticus was the predominant population among these samples, mesophilic and thermophilic LAB could be considered as the major microbial composition of acid whey in the Yunnan Province of China. This paper systematically studied the LAB composition of acid whey, which may be valuable for designing starter culture for dairy fan production
【语种】英文
【第一作者】刘文俊
【通讯作者】张和平
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【学科分类】食品科学技术基础学科

【题目】Complete nucleotide sequence of plasmid plca36 isolated from Lactobacillus casei Zhang
【中文关键词】乳酸菌 质粒
【英文关键词】Lactobacillus casei zhang; toxin-antitoxin system; relBE; comparative analysis
【中文摘要】lactic acid bacteria
【英文摘要】The complete 36,487 bp sequence of plasmid plca36 from Lactobacillus casei Zhang was determined. Plca36 contains 44 predicted coding regions, and to 23 of them functions could be assigned. For the first time, we identified a relBE toxin-antitoxin (TA) locus in a Lactobacillus genus, perhaps indicating a potential role for plca36 in host survival under extreme nutritional stress. A region encoding a cluster of conjugation genes (tra) was also identified. The cluster showed high similarity and co-linearity with tra regions of pWCFS103 and pMRC01 from Lactobacillus plantarum and Lactococcus lactis, respectively. Comparative gene analysis revealed that plasmids from the genus Lactobacillus may have contributed to the environmental adaptation mainly by providing carbohydrate and amino acid transporters. In addition, two chromosome-encoded relBE systems in Lactobacillus johnsonii and Lactobacillus gasseri were identified. (C) 2008 Elsevier Inc. All rights reserved.
【语种】英文
【第一作者】张文羿
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【学科分类】食品科学技术基础学科

【题目】Identification of Lactobacillus from Koumiss by Conventional and Molecular Methods
【中文关键词】乳酸菌 降血脂
【英文关键词】lactobacilli; koumiss; identification; 16S rRNA sequencing analysis
【中文摘要】bacteria
【英文摘要】Lactobacilli are considered to be one of the most important potential probiotics in the dairy industry. Twelve strains of Lactobacillus were isolated from home-made koumiss samples, a traditionally fermented mare milk in China. The isolates were identified based on physiological and biochemical characteristics and analysis of 16S RNA sequences. They were proven to be Lactobacillus helveticus, Lactobacillus fermentum, Lactobacillus casei and Lactobacillus plantarum. The results demonstrated that both methods were essential to identify an isolate accurately.

【语种】英文
【第一作者】王俊国
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【学科分类】食品科学技术基础学科

【题目】Fermentation characteristics and transit tolerance of probiotic Lactobacillus casei Zhang in mare milk during storage
【中文关键词】乳酸菌 发酵乳
【英文关键词】Lactobacillus casei Zhang; Mare milk; Fermentation characteristics; Transit tolerance
【中文摘要】lactic acid bacteria fermentation
【英文摘要】The fermentation characteristics of Lactobacillus casei Zhang in mare milk and transit tolerance during refrigerated storage for 28 days were evaluated. There were no dramatic changes in the viable counts of L. casei Zhang in the fermented mare milk samples during storage at various inoculation levels. L. casei Zhang showed good tolerance to the simulated transit juice and maintained high viability in mare milk (above 10(8)cfu/g) during storage. Our results showed that L. casei Zhang had good probiotic properties, and suggest that mare milk could serve as the vehicle for the delivery of L. casei Zhang.
【语种】英文
【第一作者】周琦
【通讯作者】张和平
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【学科分类】食品科学技术基础学科

【题目】The acid tolerance association with expression of H+-ATPase in Lactobacillus casei
【中文关键词】乳酸菌 基因
【英文关键词】Acid tolerance; H+-ATPase; RT-PCR; Lactobacillus casei
【中文摘要】lactic acid bacteria
【英文摘要】Acid and bile salt tolerance are considered as important properties for lactic acid bacteria to act as probiotics. Moreover, H+-ATPase is acting for the production of ATP to the transmembrane proton motive force and can either generate ATP or generate a PMF using ATP produced by fermentative substrate-level phosphorylation. In this work, we isolated a potential probiotic organism from home-made koumiss and detected the expression of H+-ATPase in distinct acid conditions using the reverse transcription polymerase chain reaction method. The results show that Lactobacillus casei Zhang can be considered as potentially probiotic to some extent: and that the expression of H+-ATPase is associated with the acidity of the environment in L. casei.
【语种】英文
【第一作者】陈霞
【通讯作者】张和平
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【学科分类】食品科学技术基础学科

【题目】Comparison of nutrition and microbiological compositions between two types of fermented milk from Tibet in China
【中文关键词】乳酸菌 理化成分 微生物组成
【英文关键词】Tibet; Yak milk; fermented milk; chemical composition; microbiological

【中文摘要】lactic acid bacteria
【英文摘要】Twenty-nine traditional fermented yak milk (kurut) and 15 traditional fermented Mongolian cow milk (FMCM) samples were collected from three regions of Tibet in China, and their chemical composition and microbiological properties were analyzed. Average levels of the major composition of kurut and FMCM, respectively, were as follows: total solid, 16.91 +/- 1.30 g/100 g and 12.65 +/- 1.14 g/100 g; fat, 6.83 +/- 1.18 g/100 g and 3.92 +/- 0.92 g/100 g; total protein, 4.93 +/- 0.36 g/100 g and 3.33 +/- 0.71 g/100 g; free amino acid, 8.57 +/- 3.22 mmol/l and 2.23 +/- 0.62 mmol/l; calcamin, 117.26 +/- 9.66 mg/100 g and 86.51 +/- 7.55 mg/100 g; and phosphorus, 109.28 +/- 7.97 mg/100 g and 78.86 +/- 6.99 mg/100 g. The average bacteria count of lactic acid bacteria in kurut and FMCM were 7.66 +/- 0.71 and 8.03 +/- 0.68 log colony-forming units (cfu)/ml, respectively. Moreover, the average yeast counts of these two samples were 6.48 +/- 0.81 and 5.92 +/- 0.52 log cfu/ml, respectively. The result showed that the major nutritional composition content of kurut was significantly higher than that of FMCM, which indicated that kurut can be considered an invaluable fermentation product for human being
【语种】英文
【第一作者】陈永福
【通讯作者】张和平
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【学科分类】食品科学技术基础学科

【题目】Rapid identification of Lactic Acid Bacteria Isolated from Home-made Fermented Milk in Tibet
【中文关键词】乳酸菌 多态性
【英文关键词】identification; lactic acid bacteria; restriction fragment length polymorphism (RFLP); 16S rDNA sequence analysis
【中文摘要】lactic acid bacteria
【英文摘要】Fermented milk is a very delicious and nutritional food distributed in the international markets. Rapid preliminary identification of lactic acid bacteria to the species level is an important issue for the fermentation industry. One hundred seventy-one strains of lactic acid bacteria (LAB) were isolated from twenty-nine kurut samples and fifteen traditional fermented mongolian cattle milk (FMCM) samples in Tibet, China. All of the strains were isolated and divided into bacilli or cocci by phenotype, and then differentiated by restriction fragment length polymorphism (RFLP) analysis using a set of restriction enzymes, AluI, HaeIII, BsmaI, TspRI and HinfI. Restriction pattern analyses indicated that the lactobacilli could be clearly identified at the species level and the LAB cocci at the genera level by the five restriction enzymes. Further studies on 16S rDNA sequences of representative and undefined strains showed that the combination of RFLP analysis of polymerase chain reaction (PCR) for amplifying 16S rDNA and 16S rDNA sequence analysis is rapid, easy to perform, and effective for large-scale preliminary identification of LAB.
【语种】英文
【第一作者】于洁
【通讯作者】张和平
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【学科分类】食品科学技术基础学科

【题目】Molecular Cloning and Characterisation of Alpha Subunit of H+-ATPase in Lactobacillus casei Zhang
【中文关键词】乳酸菌 水解酶
【英文关键词】H+-ATPase; clone; sequence; Lactobacillus casei Zhang; phylogenic trees
【中文摘要】lactic acid bacteria
【英文摘要】The acid tolerance is an important property of Lactic acid bacteria as potential probiotics. H+-ATPase is considered a key gene in several bacteria with the ability of acid tolerance. We cloned and sequenced the full length cDNA of alpha subunit of H+-ATPase gene in Lactobacillus casei Zhang, which had been isolated from traditional home-made koumiss in Inner Mongolia of China. The results showed that the respective cDNA sequence is composed of 1530 nucleotides and codes a putative protein including 509

amino acids. In addition, we also reconstructed the phylogenic trees for H+-ATPase gene based on amino acids sequences of diverse strains of Lactic acid bacteria
【语种】英文
【第一作者】陈霞
【通讯作者】张和平
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【学科分类】食品科学技术基础学科

【题目】Evaluation of potential probiotics properties of the screened Lactobacilli isolated from home-made koumiss in Mongolia
【中文关键词】乳酸菌 嗜酸乳杆菌
【英文关键词】koumiss; Lactobacillus; cholesterol removal; adhesiveness; probiotics
【中文摘要】lactic acid bacteria
【英文摘要】Among thirty Lactobacillus strains, which were isolated and identified from the home-made koumiss in Mongolia, Lactobacillus helveticus MG2-1 was screened out for the best acid tolerance in artificial gastric juice at pH 3.0 after incubating for 3 h with the survival rate 96.15 +/- 4.22%. Further in vitro assessment revealed MG2-1 showed high tolerance to the artificial gastrointestinal juice and bile salts. Moreover, other desired probiotic proper-ties, including the ability of sodium taurocholate deconjugation (with the amount of cholic acid liberated 2.95 +/- 0.11 mu M), cholesterol removal (cholesterol removal rate 51.74 +/- 0.04%) and adhesion to Caco-2 cells (the adhesive rate 1.51 +/- 0.11%), were also observed. The results highlighted the probiotic potential of MG2-1, which deserved further investigation in in vivo studies to elucidate its health benefits
【语种】英文
【第一作者】孟和毕力格
【通讯作者】张和平
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【学科分类】食品科学技术基础学科

【题目】Isolation and Identification of Dominant Microorganisms Involved in Naturally Fermented Goat Milk in Haixi Region of Qinghai, China
【中文关键词】乳酸菌 青海
【英文关键词】isolation; identification; lactic acid bacteria; traditional fermented goat milk; Qinghai
【中文摘要】lactic acid bacteria fermentation
【英文摘要】Based upon morphological, physiological and biochemical analysis, 33 strains of lactic acid bacteria were isolated and identified from 11 samples of traditional natural fermented goat milk collected from different individual households in Haixi region of Qinghai. The counts of lactic acid bacteria were 2.5 x 108 similar to 3.0 x 10(9) CFU/mL, while yeasts were 2.6 x 10(6)similar to 1.6 x 10(8) CFU/mL. Strains were identified as follows: 7 strains of Lactobacillus delbrueckii subsp. lactis, 4 strains of Lactobacillus delbrueckii subsp. bulgaricus, 3 strains of Lactobacillus acidophilus, I strain of Lactobacillus coryniformis subsp. coryniformis, 12 strains of Streptococcus thermophilus, I strain of Leuconostoc mesenteroides subsp. mesenteroides, 3 strains of Pediococcus acidilactici, and 2 strains of Aerococcus urinaeequi comb. nov.
【语种】英文
【第一作者】张文羿
【通讯作者】张和平
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【学科分类】食品科学技术基础学科

【题目】Molecular cloning and characterization of gamma subunit of H+-ATPase in Lactobacillus acidophilus MG2-9
【中文关键词】乳酸菌 嗜酸乳杆菌
【英文关键词】H+-ATPase gene; acid tolerance; Lactobacillus acidophilus MG2-9
【中文摘要】lactic acid bacteria fermented milk
【英文摘要】The acid tolerance is considered as one of the most important properties of lactic acid bacteria as probiotics. H+-ATPase is one of the genes associated with the ability of acid tolerance. We have cloned and sequenced full length cDNA of gamma subunit of H+-ATPase gene in Lactobacillus acidophilus MG2-9. The cDNA sequence consists of 975 nucleotides; the putative protein has 320 amino acids
【语种】英文
【第一作者】陈霞
【通讯作者】张和平
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【学科分类】食品科学技术基础学科

【题目】Analysis of free amino acids in Chinese teas and flower of tea plant by high performance liquid chromatography combined with solid-phase extraction
【中文关键词】茶叶游离氨基酸;衍生HPLC-DAD;固相萃取
【英文关键词】Tea; Free amino acids; Derivatisation; HPLC-DAD; Solid-phase extraction
【中文摘要】应用O-phthaladehyde柱前衍生化结合固相萃取,本研究制定了高效地用于测定茶叶中游离氨基酸含量的高效液相色谱法。茶汤在进行衍生化之前,先通过C18预柱处理,结果显示在ZORBAX Eclipse XDB-C(18)柱分离效果得到了很大的改进。然后,应用这种方法,我们测定了中国的绿茶,红茶,乌龙茶和茶树花中的游离氨基酸的含量。结果表明,茶氨酸是茶叶中含量最丰富的一种氨基酸,与发酵茶相比,绿茶含有更高含量的游离氨基酸。然而,茶树花中的游离氨基酸的含量和组成与茶叶中完全不同。茶花中含有含量更高的游离氨基酸。在绿茶中,组氨酸是仅次于茶氨酸第二大类氨基酸。
【英文摘要】An effective liquid chromatographic method that involved precolumn derivatisation with o-phthaladehyde combined with solid-phase extraction has been developed for the determination of free amino acids in tea. Firstly, tea infusion was treated by C18 cartridge before derivatisation, resulting in great improvement of separation by Zorbax Eclipse XDB-C(18) column. Then, the contents of free amino acids in Chinese green, black, and Oolong teas and the flower of plant Camellia sinensis have been determined. The results showed that theanine was the most abundant amino acid in teas, and green tea contained much higher amounts of free amino acids than fermented ones. While the contents and composition of free amino acids in tea flower were quite different from those of teas. The tea flower contained much higher content of free amino acids. Furthermore, although theanine was the most abundant amino acid in tea flower as tea, histidine became the second one.
【语种】英文
【第一作者】Lin Wang
【通讯作者】Xiaoxiong Zeng
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【学科分类】食品科学技术基础学科

【题目】Expression of a harpin- encoding gene in rice confers durable nonspecific resistance to Magnaporthe grisea
【中文关键词】附着胞, 防卫反应基因,持久非小种专化抗性,hrf1基因, 稻瘟病菌
【英文关键词】appressorium, defence-related genes, durable nonspecific resistance,hrf1 gene,Magnaporthe grisea,rice

【中文摘要】通过基因工程研究获得持久的非小种专化抗性的品种是植物育种工作的最终目标。由于稻瘟病小种变异频繁,虽然人们经采用多种途径致力于这方面的研究,至今还是没有达到预期的研究目标。在本研究中,我们在水稻中表达了来自水稻白叶枯病菌编码蛋白类激发子harpin 的基因hrf1,获得了对稻瘟病菌多个小种非专化抗性的转基因水稻。这些转基因水稻在T1-T7代高抗长江中下游地区的主要稻瘟病菌小种。在转基因抗病水稻中,多种防卫反应基因诱导表达;侵染稻瘟病菌的重要结构—附着胞不能形成。这些结果表明,harpin 蛋白可能为作物产生广谱抗病性提供新的机会。已经获得广谱抗稻瘟病水稻经过转基因抗病水稻通过安全性评价后,可以作为抗病品种直接用于生产,也可以作为抗病种质资源改良其他品种的稻瘟病抗性。目前,正在用稻瘟病菌诱导表达启动子代替组成性表达启动子,获得的稻瘟病抗性转基因系将更加经济和符合生产应用需求。

【英文摘要】Engineering durable nonspecific resistance to phytopathogens is one of the ultimate goalsof plant breeding. However, most attempts to reach this goal fail as a result of rapid changesin pathogen populations and the sheer diversity of pathogen infection mechanisms. In thisstudy, we show that the expression of a harpin-encoding gene (hrf1), derived fromXanthomonas oryzaepv.oryzae,confers nonspecific resistance in rice to the blast fungusMagnaporthe grisea. Transgenic plants and their T1 – T7progenies were highly resistant to allmajorM. grisearaces in rice-growing areas along the Yangtze River, China. The expressionof defence-related genes was activated in resistant transgenic plants, and the formation ofmelanized appressoria, which is essential for foliar infection, was inhibited on plant leaves.These results suggest that harpins may offer new opportunities for generating broadspectrumdisease resistance in other crops.

【语种】英文

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【学科分类】分子生物学

【题目】Overexpression of a Harpin-encoding gene hrf1 in rice enhances drought tolerance

【中文关键词】Harpin;hrf1;抗旱性;脱落酸;转基因水稻

【英文关键词】Abscisic acid, drought tolerance, Harpin, hrf1, transgenic rice.

【中文摘要】Harpin蛋白作为激发子,能够植物的多种反应,如系统获得抗病性(system acquired resistance,SAR)、过敏反应(hypersensitive response,HR)、促进植物生长以及增强植物对蚜虫和干旱的抗性等。超表达Harpin编码基因增强了烟草、水稻、油菜和棉花等作物的抗病性。然而,至今仍未有内源表达Harpin编码基因增强植物抗非生物胁迫能力的报道。本研究证实,超表达Harpin编码基因hrf能激发水稻ABA信号通路,增强水稻植物抗旱性。超表达hrf1诱导水稻植株ABA浓度的升高,促进气孔关闭。转基因系的保水能力显著增强,脯氨酸和可溶性糖水平显著升高,抗氧化胁迫和清除活性氧的能力显著增强,四个干旱相关基因,OsLEA3-1、OsP5CS、Mn-SOD和NM_001074345在干旱条件下的表达水平比对照明显上升。这些结果证明,超表达hrf1赋予了转基因系对干旱的抗性,表明Harpin蛋白为农作物抗旱性改良提供了新的契机。

【英文摘要】Harpin proteins are well known as eliciters that induce multiple responses in plants, such as systemic acquired resistance, hypersensitive response, enhancement of growth, resistance to the green peach aphid, and tolerance to drought. Overexpression of Harpin-encoding genes enhances plant resistance to diseases in tobacco, rice,rape, and cotton; however, it is not yet known whether the expression of Harpin-encoding genes in vivo improves plant tolerance to abiotic stresses. The results of this study showed that overexpression of a Harpin-encodinggene hrf1 in rice increased drought tolerance through abscisic acid (ABA) signalling. hrf1-overexpression induces an increase in ABA content and promotes stomatal closure in rice. The hrf1 transgenic rice lines exhibited a significant increase in water retention ability, levels of free proline and soluble sugars, tolerance to oxidative stress, reactive oxygen species-scavenging ability, and expression levels of four stress-related genes, OsLEA3-1,OsP5CS, Mn-SOD, and NM_001074345, under drought stress. The study confirmed that hrf1 conferred enhanced tolerance to drought stress on transgenic crops. These results suggest that Harpins may offer new opportunities for generating drought resistance in other crops.

【语种】英文

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【学科分类】分子生物学

【题目】Systematic examination of various fabrication parameters for chitosan-tripolyphosphate nanoparticles as delivery of tea catechins
【中文关键词】壳聚糖,壳聚糖 - 三聚磷酸钠纳米颗粒;控制释放;封装;纳米粒子表面电荷的纳米粒子的大小,茶叶中的儿茶素
【英文关键词】chitosan; chitosan-tripolyphosphate nanoparticles; controlled release; encapsulation; nanoparticle surface charge; nanoparticle size; tea catechins
【中文摘要】本研究的目的在于制备壳聚糖(CS)-三聚磷酸钠(TPP)纳米颗粒作为茶叶儿茶素的输送载体。系统地研究了在制备CS-TPP纳米颗粒的过程中由聚阴离子引发的凝胶化过程。结果表明,CS-TPP纳米粒子的粒径和表面电荷可以通过改变制备条件得以控制和调节。 系统地研究了在制备负载有茶叶儿茶素的CS-TPP的纳米颗粒过程中,调制CS与茶叶儿茶素共混时间、CS分子质量、CS浓度、CS-TPP质量比、CS溶液的初始pH值、茶叶儿茶素初始浓度等对包封率和体外释放性能的影响。研究发现,茶叶儿茶素在CS-TPP纳米颗粒中的包封率从24%到53%之间。此外,FT-IR分析表明, 在制备负载有儿茶素的CS-TPP纳米颗粒子的过程中儿茶素和CS之间相互作用形成了共价键和氢键。更重要的是,儿茶素的体外释放曲线研究表明,使用CS-TPP纳米颗粒包封儿茶素能够实现儿茶素的控制释放。
【英文摘要】This work investigated the polyanion-initiated gelation process in fabricating chitosan-tripolyphosphate (CS-TPP) nanoparticles intended to be used as carriers for delivering tea catechins. The results demonstrated that the particle size and surface charge of CS-TPP nanoparticles could be controlled by fabrication conditions. For preparation of CS-TPP nanoparticles loaded with tea catechins, the effects of modulating conditions including contact time between CS and tea catechins, CS molecular mass, CS concentration, CS-TPP mass ratio, initial pH value of CS solution, and concentration of tea catechins on encapsulation efficiency and the release profile of tea catechins in vitro were examined systematically. The study found that the encapsulation efficiency of tea catechins in CS-TPP nanoparticles ranged from 24 to 53%. In addition, FT-IR analysis showed that the covalent bonding and hydrogen bonding between tea catechins and CS occurred during the formation of CS-TPP nanoparticles loaded with tea catechins. Furthermore, studies on the release profile of tea catechins in vitro demonstrated that the controlled release of tea catechins using CS-TPP nanoparticles was achievable.
【语种】英文
【第一作者】BING HU
【通讯作者】XIAOXIONG ZENG
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【学科分类】食品科学技术基础学科

【题目】TPC in the leaves of 116 sweet potato (Ipomoea batatas L.) varieties and Pushu 53 leaf extracts
【中文关键词】红薯叶多酚含量,抗氧化活性,DPPH,ABTS,FRAP;高效液相色谱法;生物多样性未充分利用的绿叶蔬菜,食品分析,食品成分
【英文关键词】Sweet potato leaf; Polyphenol content; Antioxidant activity; DPPH; ABTS; FRAP; HPLC; Biodiversity; Underutilized green leafy vegetable; Food analysis; Food composition
【中文摘要】本研究应用Folin-Ciocalteu方法测定了116种中国红薯叶提取物中的总多酚的含量(TPC)。Pushu 53号红薯叶中的总酚含量最高。制备得到Pushu 53号红薯叶的粗提物,进行分部萃取,得到氯仿,乙酸乙酯,正丁醇和水的萃取组分。测定了初提物和个分部萃取组分的总多酚含量,应用DPPH。 ABTS和FRAP法测定了其抗氧化活性,并且用高效液相色谱法(HPLC)和高效液相色谱-质谱联用技术分析鉴定了多酚类物质的组成。我们的研究结果表明,提取物表现出很强的抗氧化活性,其抗氧化活性与总多酚含量之间存在显著的相关性。此外,研究表明红薯叶中发挥抗氧化活性的主要的生物活性物质是多酚类化合物,尤其是其中的咖啡酰奎尼酸(CQA)的衍生物,如5-CQA,3,4-diCQA,3,5-diCQA,和4,5-diCQA 。他们的含量分别为0.41,3.41,4.09,和1.04%,占粗提物总多酚含量的79.6%。
【英文摘要】The total polyphenol contents (TPC) of leaf extracts from 116 varieties of sweet potato cultivated in China were determined by Folin-Ciocalteu method. In addition, the crude extract (CE) of Pushu 53 leaves, with relatively higher TPC and its

fractions of chloroform, ethyl acetate, n-butanol and water, were prepared and subjected to the determination of TPC, evaluation of antioxidant activities in vitro by assays of DPPH. ABTS and FRAP, and analysis of phenolic constituents by high performance liquid chromatography (HPLC) and HPLC-mass spectrometry. Our results show that the extracts demonstrated potential antioxidant activity, and that a satisfactory correlation between TPC and antioxidant activity was observed. In addition, the main bioactive compounds for the antioxidant activity of the extract were polyphenols, especially derivatives of caffeoylquinic acid (CQA), such as 5-CQA, 3,4-diCQA, 3,5-diCQA, and 4,5-diCQA. Their contents (8.95%) were 0.41, 3.41, 4.09, and 1.04%, respectively, accounting for 79.6% of TPC in CE (11.24%).

【语种】英文

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【学科分类】食品科学技术基础学科

【题目】水稻稻瘟病菌诱导表达启动子OsQ16p的克隆与功能分析

【中文关键词】转基因水稻; 诱导型启动子; OsQ16p; GUS; 稻瘟病菌

【英文关键词】Transgenic rice; Inducible promoter; OsQ16p; GUS; Magnaporthe grisea

【中文摘要】qRT-PCR 分析表明, 日本晴OsQ16 基因受稻瘟病菌诱导表达。利用PCR 技术从日本晴基因组中克隆了该基因编码区5′端上游1 229 bp 的启动子序列, 命名为OsQ16p。用其取代pBI121 中gus 基因上游的CaMV35S 启动子, 构建重组表达载体pBIQ16p, 经农杆菌介导转化日本晴, 获得转基因植株。GUS 组织化学染色和qRT-PCR 分析表明: gus 基因在抗性愈伤组织和阳性转基因植株中均能表达; 转基因植株在接种稻瘟病菌后12 h, GUS表达量是处理前的2.7 倍;抗病相关信号分子水杨酸(salicylic acid, SA)和茉莉酸甲酯(methyl jasmonate, MeJA)喷施转基因植株叶面后12 h, GUS表达量分别为处理前的3.1 倍和3.5 倍。以上结果表明, OsQ16p 启动子具有启动活性, 并明显受稻瘟病菌、MeJA 和SA 诱导表达。

【英文摘要】The qRT-PCR analysis showed that, in Nipponbare (Oryza sativa L. ssp japonica), the expression of OsQ16 gene was induced by Magnaporthe grisea. The 1 299 bp-fragment of 5'-end of OsQ16 gene, named as OsQ16p, was amplified by PCR from Nipponbare. The plasmids pBIQ16p was constructed by replacing the CaMV35S promoter of pBI121 with the OsQ16p, and transformed into Nipponbare through Agrobacterium-mediated transformation. The analysis of GUS activity and qRT-PCR showed that gus gene could express in transgenic plants and calli. The expression of gus gene in transgenic plants was obviously enhanced by M. grisea. After treatment with the resistance-related signaling molecules SA and MeJA, the GUS activities in transgenicplants were increased by 3.1- and 3.5-fold, respectively. It suggested that M. grisea, SA, and MeJA were inductive factors of OsQ16p promoter.

【语种】中文

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【学科分类】分子生物学

【题目】芯.壳复合纳米颗粒及其纳米营养物制备技术的研究

【中文关键词】儿茶素;纳米胶囊;纳米营养物

【英文关键词】tea catechins;nanocapsules;nano—nutraceuticals

【中文摘要】利用分子自组装原理制备包封有儿茶素的壳聚糖纳米胶囊,探讨了 pH值和壳聚糖与三聚磷酸钠(TPP)质量比对纳米颗粒形成及其性质的影响.通过控制壳聚糖与 TPP质量比为 l-3~3.0,可制备形态规则 、分散性好 、平均粒径为 l0~50nm的球形纳米颗粒.经高效液相色谱法分析,儿茶素的包封率为 30.54%~50.46%.本研究结果为进一步研制壳聚糖一功能蛋白芯一壳复合纳米颗粒及纳米营养物奠定了基础.

【英文摘要】Uniform tea catechin—loading nanocapsules were successfully prepared by self-assembly ofchitosan with sodium tripolyphosphate(TPP). The effect of pH and the initial mass ratio of chitosan/TPP on the formation and properties of the

nanopatricles were investigated.The average size of the particles was in the rang of10~50nm ,based on the mass ratio of chitosan/TPP is 1.3—3.0.The association efficiencies of tea catechins, determined by HPLC, spanned abroad range, from 30.54% to 50.46% . Therefore the results are quite beneifcial to our further works,developing biocompatible core-shell nanoparticles composed with chitosan and functional protein asmulti-nutraceuticals carriers.

【语种】中文
【第一作者】胡冰
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【学科分类】食品科学技术基础学科

【题目】水稻启动子OsN1p的克隆与功能分析
【中文关键词】诱导型启动子OsN1p;转基因水稻;gus 基因;稻瘟病菌
【英文关键词】Induced promoter OsN1p;transgenic rice;gus gene;Magnaporthe grisea
【中文摘要】将OsN1 基因上游881 bp 启动子(OsN1p) 序列取代pBI121 中gus 基因上游的35S 启动子,构建植物表达载体pBIN1p,经农杆菌介导转化水稻品种‘日本晴爷,获得转基因植株。GUS 组织化学染色结果表明,由该启动子驱动的gus 基因能在愈伤组织中较低水平地表达;稻瘟病菌接种转基因植株24 h 后,GUS 活性为未接种前的4. 2 倍;5 mmol · L-1 水杨酸(SA)和0. 5 mmol · L-1 茉莉酸甲酯(MeJA)分别喷施转基因植株叶面6 h 后,GUS 活性分别为处理前的5. 9 和2. 4 倍。表明,OsN1p 启动子具有启动活性,同时明显具有受稻瘟病菌、SA 和MeJA 诱导表达的特性。
【英文摘要】The 881 bp putative promoter region of OsN1 gene was isolated from the genomic DNA of ‘ Nipponbare爷,named as OsN1p.OsN1p substituted for the 35S promoter in vector pBI121 to construct a new plant expression vector pBIN1p. Transgenic plants were obtained through Agrobacterium鄴mediated transformation. The analysis of GUS activity showed that the gus expressed low level in transgenic callus. GUS activity in transgenic plants was 4. 2 times higher than untreated control when they inoculated 24 h with Magnaporthe grisea;6 h after spraying with 5 mmol · L-1 salicylic acid(SA)or 0. 5 mmol · L-1 methyl jasmonate(MeJA),GUS activity in leaves of the transgenic plants was 5.9 and 2.4 times respectively higher than untreated control. It suggested that M. grisea,SA and MeJA were inductive factors for OsN1p promoter.
【语种】中文
【第一作者】吴智丹
【通讯作者】邵敏
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【学科分类】分子生物学

【题目】东北地区部分细毛羊羊毛品质检测分析
【中文关键词】羊毛; 品质; 检测
【英文关键词】wool; quality; test
【中文摘要】为了深入了解东北地区细毛羊的羊毛品质状况,更好地开展细毛羊品种选育与推广工作,试验进行了东北部分地区细毛羊毛样的长度、长度离散度、细度、细度离散度、净毛率、油脂含量、色度以及部分毛样的毛尖、毛中、毛根细度检测及羊毛品质分级。结果表明:所测毛样组成为细羊毛(71.97%)、半细羊毛(2.28%)、等外级(7.19%)和超细型(18.56%)4类。说明东北地区拥有符合细羊毛纺织标准的当地细毛羊品种和符合高档毛纺原料需求的超细型细毛羊种群,同时广泛分布着以毛肉兼用为主的细毛羊生产群。
【英文摘要】To understand the wool quality of fine wool sheep in northeastern China,and get better development of fine-wool sheep breeding and promotion,the wool samples were tested including length,length dispersion,fineness,fineness dispersion,clean wool yield,oil content and color,etc.were tested.The grading method of wool quality was also used,the results showed that the measured samples composed four types with fine wool(71.97%),half fine wool(2.28%),class outer(7.19%) and superfine wool(18.56%).

【语种】中文
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【题目】水稻中与水稻白叶枯病菌harpin编码基因同源序列hpfr的克隆与表达
【中文关键词】hrf1 基因; hpf r1 基因; 过敏反应; 烟草花叶病毒; 抗性
【英文关键词】hrf1 gene ; hpf r1 gene ; hypersensitive response ; tobacco mosaic virus ; resistance
【中文摘要】利用PCR 技术从粳稻R109 中克隆到与hrf1 同源的序列,命名为hpf r1 ,与hrf1 基因的同源性为92 %。推导的氨基酸同源性为7418 %。hpf r1 基因连接到含T7 启动子的高表达载体pET30a(+) 上构建重组质粒pHOSJ4 ,并转化宿主菌BL21 (DE3) 产生表达菌株BL21 (DE3) /pHOSJ4。hpf r1 与hrf1 基因在起始密码子ATG至225 个碱基处完全相同。将ATG至225 碱基的序列克隆,并构建表达载体pHOSJ42225 ,表达产物注射烟草能引起过敏反应。BL21 (DE3) /pHOSJ4 和BL21 (DE3) / pHOSJ42225 的蛋白抽提物诱导烟草抗烟草花叶病毒病均达极显著水平,浓度为60 μl/ ml 时防效最显著,分别为96135 %、9514 % ,与harpinXoo防效(9519 %) 相近。
【英文摘要】Hpf r1 , a homological sequence of hrf1 , was cloned from a japonica cultivar R109 by PCRanalysis. The homologies of hpf r1 compared with hrf1 are 92 % and inferred homologies of amino acid from hpf r1 compared with that from hrf1 are 7418 %. Hpf r1 gene was ligated into expression vector pET30a (+) which has T7 promoter to construct recombinant plasmid pHOSJ41 The function of this protein is similar to harpinXoo and causes HR in non2host plant . The seguences of hpf r1 and hrf1 are the same from the initiation code ATGto 225 bp site. The sequences from ATG to 225 bp site were cloned and constructed expression vector pHOSJ422251 The crude recombinant proteins also cause HR in Xanthi tobacco. Sprays of the proteins onto Xanthi tobacco induce the resistance of tobacco to TMV remarkably.The contrast analyses of LSD indicate that the protein extraction of BL21 (DE3) / pHOSJ4 and BL21 (DE3) / pHOSJ42225 can dramatically enhance tobacco resistance to TMV.
【语种】中文
【第一作者】郭玲
【通讯作者】邵敏
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【学科分类】分子生物学

【题目】Phosphatidic acid mediates salt stress response by regulation of MPK6 in Arabidopsis thaliana
【中文关键词】拟南芥,促分裂原活化蛋白激酶6,磷脂酸, 磷脂酶D, 盐胁迫
【英文关键词】Arabidopsis thaliana, mitogen-activated protein kinase 6, phosphatidic acid, phospholipase D, salt stress
【中文摘要】磷脂酶D(PLD)催化磷脂产生磷脂酸和一个头部基团,参与各种环境胁迫反应,包括盐胁迫。本文中,我们确定了拟南芥磷脂酶Dα(PLDα)和磷脂酸(PA)在通过调节促分裂蛋白激酶(MAPK或MPK)介导盐胁迫信号中的作用。用电喷雾串联质谱法对NaCl诱导的磷脂酸含量和组成变化(ESI-MS／MS)进行了定量分析。一个特殊的磷脂酸分子种(a MAPK 16:0 – 18:2 PA)在NaCl处理后大量增加,亲和力分析和ELISA发现其与MPK6结合。磷脂酸对MPK6活性的作用通过凝胶分析得到证实。16:0 – 18:2磷脂酸激活拟南芥叶片提取液中MPK6免疫沉淀反应的活性。NaCl处理能够诱导野生型植株中MPK6的瞬时激活,但是在plda1突变体植株中未出现此现象。一个质膜Na+／H+逆向转运蛋白(SOS1)被鉴定为MPK6的下游靶标。MPK6磷酸化SOS1的羧端部分。MPK6对SOS1的磷酸化受NaCl处理促进,并直接被磷脂酸激活。这些结果表明磷脂酸在耦合MAPK级联反应参与盐胁迫反应中具有重要作用。
【英文摘要】Phospholipase D (PLD) hydrolyzes phospholipids to produce phosphatidic acid (PA) and a head group, and is involved in the response to various environmental stresses, including salinity. Here, we determined the roles of PLDa and PA in the mediation of salt (NaCl)-stress signaling through the regulation of mitogen-activated protein kinase (MAPK or MPK) inArabidopsis thaliana. NaCl-induced changes in the content and composition of PA were quantitatively profiled by electrospray ionization – tandem

mass spectrometry (ESI-MS／ MS). A specific PA species (a MAPK 16:0 – 18:2 PA), which was increased in abundance by exposure to NaCl, bound to a MPK6, according to filter binding and ELISA. The effect of PA on MPK6 activity was tested using in-gel analysis. 16:0 – 18:2 PA stimulated the activity of MPK6 immunoprecipitated from Arabidopsisleaf extracts. Treatment with NaCl induced a transient activation of MPK6 in wild-type plant, but the activation was abolished in the plda1 plant mutant. A plasma membrane Na+／H+ antiporter (SOS1) was identified as a down-stream target of MPK6. MPK6 phosphorylated the C-terminal fragment of SOS1. The MPK6 phosphorylation of SOS1 was stimulated by treatment with NaCl, as well as directly by PA. These results suggest that PA plays a critical role in coupling MAPK cascades in response to salt stress.

【语种】英文
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【通讯作者】章文华
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【题目】Rice Phospholipase Dα is involved in salt tolerance by the mediation of H+-ATPase activity and transcription
【中文关键词】磷脂酶Dα,盐胁迫,液泡膜H+-ATPase,质膜H+-ATPase,水稻
【英文关键词】Phospholipase Dα, Salt Tolerance,TP H+-ATPase,PM H+-ATPase, rice
【中文摘要】磷脂酶Dα(PLDα)参与植物对盐胁迫的响应,但其作用机制仍不清楚。我们研究了水稻PLDα(OsPLDα)的定位及在响应NaCl过程中对液泡膜(TP)和质膜(PM)H+-ATP酶活性及转录的影响。用100 mM NaCl处理水稻悬浮培养细胞,细胞提取物中PLDα的活性被瞬时激活,在处理1小时后增加了三倍。NaCl处理后,细胞质组分中OsPLDα蛋白数量略有下降,而在TP中该蛋白数量显著增加。我们利用RNA干扰(RNAi)的方法获得了OsPLDα1敲除突变体的细胞。NaCl诱导的液泡膜和质膜H+-ATP酶活性的增加在OsPLDα1-RNAi 细胞中显著受到抑制。OsPLDα1的敲除抑制了由NaCl诱导的OsVHA-A (编码液泡膜H+-ATP酶)、OSA2 (编码质膜H+-ATP酶)和OsNHX1 (编码液泡膜Na+/H+逆向转运蛋白)转录水平的增加。NaCl处理时,OsPLDα1-RNAi突变体中死亡细胞的数目比野生型中的多。这些结果表明,OsPLDα通过调节H +-ATP酶的活性和转录参与水稻耐盐性。
【英文摘要】Phospholipase Dα (PLDα) i s i nvolved in plant r esponse t o salt stress, but the m echanisms remain unclear.We investigated rice PLD α (OsPLD α) l ocalization and its effect on tonoplast (TP) and plasma m embrane(PM) H+-ATPase activity and transcription in response t o NaCl. When rice suspension-cultured cells weretreated with 100 mM NaCl, PLD α activity i n cell extracts showed a t ransient activation with a threefoldincrease at 1 h. The amount of OsPLD α protein decreased slightly in the cytosolic fractions, whereasit increased significantly i n t he TP after NaCl t reatment. OsPLDα1 knockdown cells were developedusing RNA interference (RNAi) m ethods. The increase in TP and PM H+-ATPase activity i nduced by NaClwas significantly i nhibited i n OsPLDα1-RNAi cells. Knockdown of OsPLDα1 prevented t he NaCl-inducedincrease in the t ranscript l evel of OsVHA-A(encodes TP H+-ATPase) and OSA2 (encodes PM H+-ATPase),as well as OsNHX1 (encodes TP Na+/H+antiporter). The cells died more in OsPLDα1-RNAi mutant thanin wild type when they were treated with NaCl. These results suggest that OsPLD α is involved in salttolerance i n r ice t hrough the mediation of H+-ATPase activity and transcription.

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【第一作者】沈鹏
【通讯作者】章文华
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【学科分类】生理学

【题目】Quantitative dissection of lipid degradation in rice seeds during accelerated aging.
【中文关键词】加速老化,脂谱,磷脂酶D,脂氧合酶
【英文关键词】Accelerated aging, Lipid profiling, Phospholipase D, Lipoxygenase

【中文摘要】水稻种子储存过程中会因自然老化而降低种子活力和营养品质。在拟南芥中,磷脂酶D(PLD)作用造成的脂质降解是造成种子老化的原因,但单子叶植物水稻中该过程的机制尚不清楚。在本研究中,我们对水稻种子进行了脂谱分析,发现主要膜脂包括磷脂酰胆碱(PC),磷脂酰乙醇胺(PE)和磷脂酰甘油(PG)在加速老化过程中含量降低,而由PLD催化的水解产物磷脂酸(PA)的含量则增加。有趣的是,在水稻中由加速老化(2天)引起的PA增加的程度比在拟南芥中高得多(200% vs. 30%)。此外,PC和PE中含量降低的分子种在PA中含量有所增加,表明PA可能来自由PLD介导的脂质水解。OsPLDα1和α3是水稻种子中主要的PLD,其转录在种子老化过程中显着增加。老化处理诱导了OsPLDα蛋白的表达和活化。对三个脂氧合酶(LOXs)的分析发现,OsLOX2的转录水平在种子老化过程中显著升高。我们的研究结果显示水稻种子老化过程中多种磷脂出现降解,并讨论了种子老化过程中脂质降解与过氧化之间的关系

【英文摘要】Aging during storage negatively affects riceseed viability and nutrition quality. Lipid degradationcaused by phospholipase D (PLD) activity is known to beresponsible for seed deterioration in Arabidopsis , but themechanisms of this process in monocotyledonous plant riceremain unclear. In this study, we carried out lipid profilinganalysis for rice seeds, and found that the main membranelipids phosphatidylcholine (PC), phosphatidylethanolamine(PE) and phosphatidylglycerol (PG) declined duringaccelerated aging. In contrast, phosphatidic acid (PA), ahydrolysis product produced by PLD, increased. Interest-ingly, the degree of PA increase induced by acceleratedaging (at 2 days) was much higher in rice than that inArabidopsis (200% vs. 30%). Moreover, the decreasedmolecular species in PC and PE were well fit with thosethat were increased in PA, suggesting that PA may bederived from PLD-mediated lipid hydrolysis. OsPLD a 1and a 3 were the major PLD a s in rice seeds, and theirtranscription increased significantly during the agingprocess. The aging treatment induced OsPLD a proteinexpression and activation. Three lipoxygenases (LOXs)were analyzed, and OsLOX2 transcription was inducedsignificantly during seed aging. Our results reveal detailedinformation regarding lipid degradation during rice seedaging, and we go on to discuss the relationship betweenlipid degradation and peroxidation during seed aging.

【语种】英文

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【学科分类】生理学

【题目】转hrf1基因水稻对稻瘟病多小种非专化的稳定抗性

【中文关键词】转基因水稻;harpin编码基因;稻瘟病;非专化抗性;抗性机制

【英文关键词】Transgenic rice, harpin-encoding gene, rice blast, nonspecific resistance, mechanism of resistance

【中文摘要】以表达水稻白叶枯病菌(Xanthomonasoryzaepv.oryzae)编码harpin广谱抗性激发子的hrf1基因的转基因系为材料,在温室和田间病圃鉴定它们对稻瘟病菌的抗性,分析转基因水稻抗稻瘟病的作用机制。研究结果显示,转hrf1基因水稻对稻瘟病菌ZC3、ZD1和ZG1小种表现高抗,对ZB13表现中抗,表明hrf1基因在水稻中表达可以产生非小种专化抗性。在稻瘟病圃中对水稻稻瘟病抗性鉴定结果显示,转hrf1基因水稻在T1、T3、T5和T7代对稻瘟病菌都表现很好的抗性,表明转hrf1基因水稻对稻瘟病菌的抗性能稳定遗传。转hrf1基因抗病水稻中防卫反应基因OsPR1a、OsPR1b、PAL和 Chia4a以及正向调控水杨酸介导信号传导的NPR1基因的表达显著增强。转基因抗病水稻中硅含量显著提高。Harpin 编码基因在水稻中表达,可能通过激发水稻中防卫反应基因的表达,提高水稻中硅含量等,从而使水稻产生对稻瘟病菌的广谱抗性。

【英文摘要】The harpin-encoding gene (hrf1), derived from Xanthomonas oryza pv. Oryzae, was transferred into a rice variety R109. Expressing hrf1 in rice enhanced the resistance to ZC3, ZD1 and ZG1 races of M.grisea, and only a few lesions developed on leaves of transgenic plants infested with ZB13 races, showing that the expression of hrf1 confers non-specific resistance in rice to M. grisea. Transgenic plants and their T1, T3, T5 and T7 progenies were highly resistant to major M. grisea groups in rice-growing areas. The expression of several key defense genes (OsPR1a, OsPR1b, PAL, and Chia4a) and signal transduction gene NPR1 (non-expressor of PR geness) were enhanced in transgenic lines which were resistant to rice b last. Silicon content, which often correlates with resistance to M. grisea, was increased in transgenic lines. The results indicated that expressing harpin-encoding gene in rice exhibited stable non-specific resistance, suggesting that the expression of harpin-encoding genes may provide effective controls on rice blast and offer new hope for generating broad spectrum resistance in other crops.

【语种】中文

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【题目】人工诱导杂色鲍雌核发育受精细胞学观察
【中文关键词】杂色鲍;雌核发育;受精细胞学;紫外线辐射;细胞松弛素B
【英文关键词】Holiotis diversicolor; gynogenesis; cytology; UV-irradiation; cytochalasin B
【中文摘要】应用组织切片方法,比较观察了杂色鲍普通二倍体、人工诱导三倍体、人工诱导雌核发育单倍体和雌核发育二倍体在成熟分裂和第一次卵裂期间的细胞学变化,以探讨人工诱导杂色鲍雌核发育的细胞学机制。结果表明,精子经紫外线辐射进行遗传失活处理后,仍然能够进入卵子,并激动卵子发育,卵子能够正常完成两次减数分裂,与普通受精卵没有明显差别。精子入卵后形成精核,大多能够逐渐解凝、液化并膨大,最终形成形态正常的雄性原核,但在第一次卵裂早期退化成浓缩的染色质小体(DCB),并在胞质分裂时随机地分配到其中一个子细胞里的分裂沟附近。在人工诱导三倍体和雌核发育二倍体受精卵中,受精卵经细胞松弛素B处理后,染色单体在第二次成熟分裂期分离,但胞质分离受抑制,留在卵质中的两套染色体形成两个染色质团,并发育成两个雌性原核。
【英文摘要】To obtain useful information about the mechanism of the artificial induction of gynogenesis in Haliotis diversicolor,we observed the cytological images of diploid control group,triploid group,haploid gynogenetic group and diploid gynogenetic group during meiosis and first cleavage.After being incorporated into the egg cytoplasm,the UV-irradiated sperm nuclei could activate eggs to complete meiosis,and sperm nuclei discondensed gradually,liquefied and expanded.Most sperm nuclei eventually developed into the male pronuclei, just like the normal sperms, excpet that sperm nuclei in a few zygotes kept dense throughout the fertilization process. Dense chromosome body (DCB) was seen at the nuclear area during the prophase of first mitosis, and in the middle of spindle at metaphase of first mitosis. At completion of cytokinesis of first cleavae, the DCB was seen in the cytoplasm of one of the two blastmeres near the cleavage furrow. In the cytochalasin B-treated group, both sets of female chromosomes hold in cytoplasm for chromosomes segregated as in normal zygote but the cytoplasm division was inhibited, formed two chromatin bodies and eventually developed into two pronuclei.
【语种】中文
【第一作者】陈菲
【通讯作者】柯才焕
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【题目】苦丁茶提取物多酚含量与抗氧化活性的测定
【中文关键词】苦丁茶;多酚;抗氧化;比色法;相关性
【英文关键词】kudingcha,polyphenol,antioxidna tactivity,colorim etry,corelation
【中文摘要】首先用不同的有机溶剂分部萃取苦丁茶 (1lexkudinchaC.J.Tseng)热水提取物 (粗提物),得到氯仿萃取物、乙酸乙酯萃取物、正丁醇萃取物及萃取剩余物 ,然后采用 Folin.Ciocalteu比色法测定粗提物和各萃取物的多酚含量 ,同时应用 DPPH法、TEAC法和 FRAP法分别测定粗提物和各萃取物的 自由基清除能力和还原Fe 能力 。结果表 明,苦 丁茶提取物具有较高的多酚含量和较强的抗氧化能力 ;DPPH法和 FRAP法测定各提取物抗氧化能力的结果为乙酸乙酯萃取物 >正丁醇萃取物 >粗提物 >萃取剩余物 >氯仿萃取物TEAC法测定结果为乙酸乙酯萃取物 >正丁醇萃取物 >粗提物 >氯仿萃取物 >萃取剩余 物;多酚含量与抗氧化能力之间、所用抗氧化测定方法之间均存在较好的相关性。
【英文摘要】The hot water extract(crudeexrtact)of kudingcha made from llexkudinchaC.J.Tsengand its four rfacitons of chloroform ,ethylacetate,n-butanol,and water were prepared The total polyphenol contents and the antioxidant activity of the exrtacts were determined by Folin-Ciocalteu method and DPPH assay,FRAP assay,and TEAC assay.respectively.The results showed that kudingcha exrtacts contained high polyphenol content and showd potentan tioxidant acitvity.The antioxidant activities of crude extract and its fractions decreased in the orderof ehtyl acetater faction>butanolrfaction>curde exrtact>waterfraciton>chloroofrm fraciton according

to the DPPH assay an dFRAP assay.which were the same with the exception of the rank order of water fraciton and chloroform fraction obtianed from TEAC assay Satisfactory correlations between the total polyphenol content and antioxidant activity and between measuring methods of antioxidnat acitvity were observed.It suggests that the polyphenols in the extracts are largely responsible for the antioxidant activiites.

【语种】中文
【第一作者】刘丽香
【通讯作者】曾晓雄
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【题目】转hrf1基因水稻对稻曲病抗性分析
【中文关键词】hrf1 转基因水稻, 稻曲病抗病性, 防卫反应基因表达
【英文关键词】Hrf1 transgenic lines, Ustilaginoidea virens, resistant, defense gene expression
【中文摘要】用注射接种法测定9个转hrf1基因水稻品系对稻曲病的抗性, 结果表明B12-2m,B12、HPRT2 和NJH12、和转基因系对稻曲病的抗性有显著提高, 其中NJH12对稻曲病的抗性表现最突出。在江苏南京和安徽潜山两地的田间测定结果显示对稻曲病的抗性表现明显, 与对照相比防效提高65%以上。用RT-PCR测定抗病转基因系中防卫基因的表达, 在抗病转基因系中Ospr1a 、Ospr1b 和 PAL 等防卫反应基因的表达明显增强。转hrf1 基因水稻可能通过诱导防卫反应基因的表达提高水稻对稻曲病的抗性。
【英文摘要】Nine hrf1 transgenic lines and un-transgenic variety R109 were tested for resistance to Ustilaginoidea virens by inoculating with conidia. Injection inoculation in lab showed that transgenic lines B12-2, B12, HTRP2 and NJH12 were more resistant. Field test in Nanjing of Jiangsu province and Qianshan of Anhui province confirmed that NJH12 was resistance to U. virens in the field with control effective 65%. RT-PCR analysis showed that expression of Ospr1a, Ospr1b and PAL were enhanced in transgenic lines.
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【题目】Folin.Ciocalteu比色法测定苦丁茶 中多酚含量
【中文关键词】苦丁茶 ;多酚;Folin-Ciocalteu比色法
【英文关键词】kudincha,polyphenol,Folin—Ciocalteucolorimetry
【中文摘要】以绿原酸为标准品 ,研究了 Folin.Ciocalteu比色法测定苦丁茶中多酚含量的适宜条件。结果表明,苦丁茶提取液在 Folin.Ciocalteu试剂 3.0ml、饱 和 Na2CO3溶液 4.5ml、反应温度 30℃、反应时间 30min的条件下,测定其 747nm处的吸光值,多酚浓度在 20.0~100.0mg/L范围内与吸光值呈 良好的线性关系 ;稳定性、精密度、重现性和回收率实验的相对标准偏差为 0.887%一1.416%;与酒石酸亚铁 比色法的测定结果无显著差异。该法是一种简便 、快速、准确测定苦丁茶多酚含量的可靠方法。
【英文摘要】A quantitative method for the determination of the total content of polyphenols in kudincha was studied by using FC method(Folin—Ciocalteucolorimetry)with chlorogenic acid as standard The results showed that the total polyphenol contents of kudincha could be well calculated according to their colorimetric absorption at 747am by applying Folin—Ciocalteureagent3.0ml and saturated Na2CO3 4.5ml at 30℃ for 30 min,and the line arrange of standard curve was 20.0~100.0mg/L.Stability,precision,repetition and recovery rate were in the range of0.887%~1.416% by RSD (relativestandarddeviation).There are not any differences for the results obtained by FC method and ferrous tratrate colourimetry.Therefore,FC method is convenient,fast,and accurate to determine thetotal polyphenols of kudincha.

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【第一作者】刘丽香
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【题目】不同单胞藻饵料培养九孔鲍早期稚贝的研究
【中文关键词】九孔鲍;稚贝;底栖硅藻;亚心形扁藻;生长;存活
【英文关键词】Haliotis diversicolor supertexta; post larva; benthic diatom; Platymonas subcordiformis.; growth; survival
【中文摘要】以单种培养的6种底栖硅藻和具有底栖习性的亚心形扁藻(Platymoras sp.)为饵料,培养九孔鲍(Haliotis diversicolor supertexta)受精后12 d的早期稚贝并观察其生长和存活,培养期为28 d,目的是筛选能维持早期稚贝高存活率和生长率的藻种。实验结果表明,培养稚贝成活率最高的3个藻种由大到小依次是爪哇曲壳藻亚缢变种(Achnanthes javanica var.)、流水双眉藻(Amphora fluninensis)和亚历山大菱形藻(Nitzschia alexandrina),使稚贝生长最快的3个藻种由大到小依次是流水双眉藻、爪哇曲壳藻亚缢变种和亚历山大菱形藻。研究结果揭示了适宜的底栖硅藻种类对鲍早期稚贝阶段生长和存活的重要性。个体小或者胞外产物量大的藻类很可能对九孔鲍早期稚贝的培养是有利的。
【英文摘要】Haliotis diversicolor supertexta was one of the most important economic mollusca in south China. Because of high motality of this specie in their postlarval phase, which almost destroyed its seedling breeding, it is an urge to study the postlarval feeding ecology for its culture. In this study, six species of benthic diatom and Platymonas sp. with deposit ing habitat w ere assayed to evaluate their food value for the post larvae of Haliotis diversicolor supertexta. Survival rate and growth of 12 day age post larvae were recorded continuously by rearing with the seven species alega for 28 d. The high survival rates of post larvae of Haliotis diversicolor supertexta were found in the treatment s of Achnanthes javani cavar. , Amphora fluninensis and Nitzschia alexandrina with the relative potency progressively weaker in order. On the other hand, post larvae of Haliotis diversicolor supertexta grew fast in the treatments of Amphora fluninensis , Achnanthes javanicavar. and Nitzschia al exandrina with the relative potency progressively weaker in order. The result s of present work suggest s that rearing with appropriate marine benthic diatom species be important to growth and survival of abalone post larvae. Algae with small size or high extracellular polymers production should be good to post larvae culture of Haliotis diversicolor supertexta.
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【中文关键词】OsDUF500;转基因水稻;白叶枯病;抗性
【英文关键词】OsDUF500 gene;transgenic rice;Xanthomonas oryzaepv.oryzae;resistance
【中文摘要】:以编码HarpinXoo 的hrf1 转基因水稻NJH12的cDNA 为模板,克隆到了DUF500 的保守功能区。序列分析表明,OsDUF500 是DUF500 家族成员,功能未知。构建OsDUF500 的沉默载体,用土壤根癌农杆菌介导的方法转化粳稻R109,用Hpt抗生素做抗性筛选,获得9个再生株系。经分子鉴定,8个为沉默株系(ABD-2~9)。与野生型相比,ABD株系株高变矮,叶片变短,出现白色空秕谷。白叶枯病抗性鉴定结果表明,OsDUF500 沉默株系对水稻白叶枯病的抗性存在差异,病斑长度比野生型明显缩短,病斑面积均在30%以下,株系ABD-3和ABD-5病斑面积分别为12.3%和15.7%,显示出较好的抗性。推测在稻瘟病抗性中上调表达基因OsDUF500 对水稻白叶枯病抗性起负调控作用。
【英文摘要】Conserved functional region of DUF500 was cloned by PCR from cDNA of expression HarpinXoo (hrf1)transgenic rice NJH12.OsDUF500 encodes an unknown function member of DUF500 family. Calli from mature embryos of rice cultivar R109 were transformed by Agrobacterium tumefacienss train EHA105/ABD::pVec8. There were eight OsDUF500 transgenic lines from nine

hygromycin resistant lines by PCR analysis. Compared with the wild type,the down-expressed lines ABD are characterized by reduced plant height,shortened leaf and white blighted grain.Disease assays of transgenic rice plants infected by Xanthomonasoryzae pv.oryzae (PXO99)indicated that different transgenic lines had different resistance to rice leaf blight.Lesion length of the down-expression lines reduced significantly and lesion area all bellowed 30%. Lesion areas of the ABD-3and ABD-5 were 12.3% and 15.7%,respectively.Thus,we predicted OsDUF500 gene,which was up-regulated in rice blast,maybe was a negative regulator on bacterial blight resistance.

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【题目】水稻OsN1基因5`端启动子不同区域序列分析
【中文关键词】启动子;转基因水稻;GUS
【英文关键词】promoter; transgenic plant; GUS
【中文摘要】研究启动子有助于了解基因转录调控表达模式及其调控机制,对更好的控制外源基因在转基因植物中的表达具有重要意义。本研究将OsN1基因ATG(ATG中的A为+0)上游-1089bp、-881bp、-489bp和-245bp的启动子序列分别取代pBI121中的35S启动子,构建植物表达载体pBIN1.1p、pBIN0.9p、pBIN0.5p和pBI0.2p。将构建好的重组载体经农杆菌介导转化水稻日本晴,获得转基因植株。此外,本研究对启动子的表达特点和启动活性进行分析。结果表明,由启动子(-1089bp、-881bp和-489bp)驱动的gus基因能在愈伤组织中表达,启动子(-245bp)不能驱动gus基因在愈伤组织中表达,表明启动子OsN1p具有启动活性的最小启动序列为ATG上游的-489bp。启动子(-489bp)驱动的gus基因在转基因植株的根中表达,在根冠不表达。用5mM SA喷施转基因植株叶片,GUS定量分析表明转基因植株的GUS活性增高,启动子(-881bp)的GUS活性比启动子(-1089bp)活性高。由此表明,启动子OsN1p具有组织特异性表达和受SA诱导表达的特性。
【英文摘要】Study promoters helps to understand the mechanisms of gene expression and it is of great significance to control exogenous gene expression in transgenic plants. The fragments of -1089bp, -881bp, -489bp, -245bp putative promoter region of OsN1 gene was isolated from the genomic DNA of Nipponbare, were amplified using PCR, and then substituted for the 35S promoter upstream of gus gene in vector pBI121 to construct a new plant expression vector pBIN1.1p, pBIN0.9p, pBIN0.5p and pBI0.2p. Transgenic plants were obtained through Agrobacterium-mediated transformation. Analysis of GUS activity showed that the gus expressed in transgenic callus, it had been found that the minimal promoter was mapped at the region from -489bp. Promoter(-489bp) drived gus gene express in the root of transgenic plant but not in the root cap. After spraying with 5mM SA, GUS activity in leaves of the transgenic plants (-881bp) was higher than that of transgenic plants (-1089bp). It suggested that promoter had tissue-specific expression characteristics and SA was inductive factor for OsN1p promoter.
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【题目】水稻OsSsr1基因的生物信息学分析、亚细胞定位及其表达模式
【中文关键词】水稻;OsSsr1;启动子;亚细胞定位;表达分析
【英文关键词】rice; OsSsr1; promoter; subcellular localization ; expression analysis
【中文摘要】实验室前期芯片数据显示,OsSsr1基因表达量上调。对其进行序列分析表明,OsSsr1的开放阅读框为2004 bp,编码一个由667个氨基酸组成并含有5个跨膜区的蛋白,该蛋白N端含有一个信号肽。其启动子序列包含TGACG-motif、ABRE、TCA-element、Box-W1、W box和Box S等多个与胁迫相关的顺式作用元件。GFP融合表达显示,OsSsr1蛋白定位于

细胞膜。RiceXPro database中数据分析表明,OsSsr1基因在水稻不同发育期的不同组织中均有表达,但在叶和根中的表达量最高,胚中的表达量最低。Real-Time PCR结果表明,OsSsr1表达水平受干旱、高温、高盐、低温、机械伤害、稻瘟病菌、MeJA和ABA的诱导上调。

【英文摘要】According to our previous survey, OsSsr1 gene was up-regulated. The sequence analysis showed that OsSsr1 consisted of an ORF with a length of 2004 bp, encoding a 667 amino acids protein containg five transmembrane regions, and also contained a signal peptide in the N-terminal domain. The promoter sequence contained several stress-related cis-acting elements, such as TGACG-motif, ABRE, TCA-element, Box-W1, W box, Box S etc. The expression of OsSsr1-GFP fusion protein shown that OsSsr1 protein mainly appeared in cell membrane. The analysis of expression data in RiceXPro database revealed that OsSsr1 was expressed in rice different tissues and different periods, but the highest expression level was in leaf and root, the lowest was in embryo. The Real-time PCR analysis indicated that OsSsr1 was up-regulated under kinds of environmental stimulus, including drought, drought, high temperature, high salt, low temperature, wound, Magnaporthe grisea, MeJA and ABA.

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【题目】超表达OsSsr1基因增强烟草耐盐性

【中文关键词】OsSsr1;转基因烟草;盐胁迫;活性氧;耐盐性

【英文关键词】OsSsr1; Transgenic tobacco; Salt stress; Reactive oxygen species; Salt tolerance

【中文摘要】本研究从水稻品种R109中克隆了OsSsr1基因(GenBank Accession No. NM_001065574),并用土壤根癌杆菌介导的方法,把OsSsr1基因转入本氏烟(Nicotiana benthamiana)中,提高了转基因植株的耐盐性。生理指标测定结果表明:在盐胁迫下,转基因和野生型植株中的丙二醛(MDA)、脯氨酸的含量以及 过氧化物酶(POD)和超氧化物歧化酶(SOD)的活性都呈上升趋势,但转基因烟草中MDA含量升高速率明显低于野生型,而脯氨酸的含量以及POD、SOD活性的升高速率明显高于野生型烟草。因此,OsSsr1转基因烟草耐盐性的增强,可能是脯氨酸含量和活性氧清除能力的提高引起的。

【英文摘要】OsSsr1 gene (GenBank Accession No. NM_001065574), isolated from rice R109 by RT-PCR , was transferred into tobacco (Nicotiana benthamiana) by Agrobacterium tumefaciens, enhanced Salt Tolerance of transgenic tobacco. The results of physiological and biochemical indices showed that the contents of proline, MDA and POD activity increased with the salt treating time In the 5-week-old tobacco plants. But the MDA content in transgenic tobacco was lower than wild type tobacco. The accumulation of proline, SOD and POD activity were higher than wild type tobacco. Therefore, we speculate that the salt tolerance of transgenic tobacco lines is due to improving proline content, and increasing the metabolism of reactive oxygen species.

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【题目】根癌农杆菌介导hrf1基因转化小麦增强赤霉病抗性

【中文关键词】农杆菌介导;转hrf1基因小麦;赤霉病抗性

【英文关键词】Agrobacterium-mediated transformation, hrf1 transgenic wheat, Scab resistance;

【中文摘要】将hrf1基因由根癌农杆菌(Agrobacterium tumefaciens)EHA105介导,采用剪去颖壳和直接注射小穗两种侵染方法,转入江苏省重要小麦品种扬麦158。经硫酸卡那霉素抗性筛选和PCR检测,获得转基因阳性株系599个,两种侵染方法的转化率分别为0.8%和1.5%,本方法不需要诱导愈伤组织,相对于传统的花粉管通道法也不需要侵染时去雄,操作简便易行。经抗性分析表明,T1代对小麦赤霉病防效为28.3%,其中高抗株系78个;这78个株系的T2代对赤霉病防效为59.7%,高抗株系

34个。结果表明,转hrf1基因小麦株系对小麦赤霉病有较好的抗病性。
【英文摘要】Wheat scab (Fusarium head blight, FHB) ,Caused Fusarium graminearum (Fusarium graminearum Schw.), is a worldwide wheat fungal diseases. The disease is not only lead to decline, but also can produce a variety of toxins, poisoning people and livestock, seriously affecting the quality and commercial value of wheat. With the continuous development of plant genetic transformation technology in recent years,pollen tube pathway, Agrobacterium tumefaciens, gene gun bombardment can be successfully used for wheat genetic transformation, which makes improveing wheat varieties by genetic technology is possible. hrp gene cluster encoding a particular gene product ,that is a unique nature harpins protein elicitor. Exogenous application of harpins can stimulate many useful phenotypes. In this study,we combination of Agrobacterium and the pollen tube firstly, used two infection methods of cutting hull and directing injection spike. In Agrobacterium EHA105-mediated, we first time harpins gene hrf1 into important wheat in Jiangsu Province in Yangmai 158.599 transgenic lines were positive detected by PCR analysis and Kanamycin Sulfate resistance selection. The transformation efficiency of two infection methods was 0.8% and 1.5%,respectively.This method didn`t require induct callus,compared with traditional pollen tube pathway method didn`t require emasculation.The analysis results showed that the control efficacy of T1 generation to F.graminearum was 28.3% and 78 strains were 0-class disease resistance. The control efficacy of T2 generation was 59.7% and 34 strains were 0-class disease resistance. These results suggested that hrf1 gene might offer new opportunities for disease resistance to F.graminearum
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【题目】杂色鲍肌动蛋白启动子的克隆与序列分析
【中文关键词】杂色鲍; 肌动蛋白; 启动子; 序列特征
【英文关键词】H.diversicolor diversicolor; Actin; promoter; sequence character
【中文摘要】杂色鲍(H.diversicolor diversicolor)是我国华南地区重要的海水养殖对象,作为利用转基因技术改良杂色鲍品质研究工作的首要部分,作者利用PCR和染色体步移(Genome Walking)方法克隆了杂色鲍肌动蛋白基因编码区部分序列和启动子序列(GenBank登陆号:EU622901).所分离的肌动蛋白基因DNA序列片段全长为1 990 bp,与GenBank中彩虹鲍(Haliotis iris)肌动蛋白A1基因序列和肌动蛋白A1a基因序列有非常高的相似性(99%和96%).在基因编码区中间发现了一个内含子区,在编码区之前发现一个类启动子区,经过Promoter Prediction在线软件分析,发现了该启动子序列和转录起始位点,同时也发现了该启动子特有的启动元件两个标准的CAAT BOX和一个TATA BOX.这些实验结果表明所克隆的杂色鲍肌动蛋白和启动子序列符合实验的目的,并且这一实验的成功也为下一步利用所分离的启动子做杂色鲍转基因工作打下基础.
【英文摘要】H.diversicolor diversicolor(the small abalone) is the important aquaculture species in South China.As the primary part of the study in the transgenic small abalone,the sequence fragment of the Actin gene and its promoter was cloned and characterized by using the technique of PCR and Genome Walking(GenBank Accession No.EU622901).The length of the isolated sequence fragment of the small abalone Actin is 1990 bp,which has high similarity with the A1 gene and A1a gene(99% and 96%) of the Haliotis iris.A Promoter-like sequence and an intron sequence before the Actin gene coding region was conjectured by sequence analysis. Starting element s ,two CAAT BOXes and a TATA BOX ,have also been identified by using online software Promoter Prediction. All these experimental result s show that the sequence of the Actin gene we cloned f rom the small abalone is in according with the experiment purpose ,and these result s could be the foundation for transgenic operation.
【语种】中文
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【题目】转杂色鲍抗冻肽-Ⅲ基因表达载体pIRES2-EGFP－AFP -HdiActinP的构建
【中文关键词】杂色鲍; 抗冻肽; 启动子; 载体构建
【英文关键词】Haliotis diversicolor; antifreeze peptide; promoter; construction vector
【中文摘要】现代转基因技术是一种快速改良品种特性的有效方法.采用转基因技术提高我国南方重要贝类经济养殖品种——杂色鲍的耐低温特性是扩大其养殖范围的重要手段.以pIRES2 EGFP为基本载体,以合成并经过功能鉴定的抗冻肽(AFP)和杂色鲍肌动蛋白启动子(HdiActinP)为插入元件,首先用限制性内切酶BamHⅠ和 EcoRⅠ对基本载体pIRES2 EGFP和AFP Ⅲ进行双酶切,目的酶切产物被回收后再连接得到载体pIRES2 EGFP AFP.随后利用限制性内切酶SacⅠ和 EcoRⅠ对载体pIRES2 EGFP AFP和HdiActinP进行双酶切,目的酶切产物被回收后再连接最终得到杂色鲍转AFP Ⅲ的表达载体pIRES2 EGFP AFP HdiActinP,经过聚合酶链式反应和测序验证证明载体构建成功.
【英文摘要】Small abalone,Haliotis diversicolor is one of important maricultural species which distributes in South China.Modern transgenic technique is a rapid and direct way to improve characterization of aquaculture species.It enables us to breed a new line of small abalone which has a low temperature resistant feature so that it can be cultured in wider areas than now.In this study,pIRES2 EGFP was used as the basic vector,and the antifreeze peptide Ⅲ and HdiactinP were used as inserting elements.Firstly the vector pIRES2 EGFP and segment AFP were digested with the restriction endonuclease BamHⅠ and EcoRⅠ.The target components of the digested product were ligated consequently and the vector pIRES2 EGFP AFP was constructed.Secondly the vector pIRES2 EGFP AFP and segment HdiactinP were digested with restriction endonuclease SacⅠand EcoRⅠ.Then the target components of the digestion product were ligated.Finally the transgenic H.diversicolor antifreeze peptide expression vector pIRES2 EGFP AFP HdiActinP was constructed,which was confirmed by polymerase chain reaction (PCR) and sequencing.In summary,our result provided a potential basis for the consequent development of the transgenic H.diversicolor researches.
【语种】中文
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【题目】杂色鲍×盘鲍杂交及亲本自繁群体的AFLP分析
【中文关键词】杂色鲍; 盘鲍; 种间杂交; AFLP
【英文关键词】Haliotis diversicolor ; H. discus; interspecific hybridization; AFLP
【中文摘要】应用AFLP 技术研究了杂色鲍(SS) 、盘鲍(JJ) 及其正反交群体(SJ 和JS) 的遗传关系, 并比较了各群体内的遗传多样性. 3 对选择性引物共扩增出344 个位点. 双亲自繁群体SS 和JJ 的AFLP 图谱差异很大, 平均遗传距离达1. 425.因此, AFLP 图谱可以用于两物种及其杂交种的种质鉴别. 正反交群体SJ 与JS 的AFLP 图谱很接近于母本自繁群体,平均遗传距离分别为0. 111(SJ 与SS 之间) 和0. 134(JS 与JJ 之间) , 而与父本自繁群体则有较大区别, 平均遗传距离分别达1. 408(SJ 与JJ 之间) 和1. 394(JS 与SS 之间) . 将4 个群体分为SS/ SJ 和JS/ JJ 两组, 进行三水平的AMOVA 分析,结果显示: 84. 74%遗传变异来源于母本不同的两组之间(SS/ SJ 组和JS/ JJ 组之间) , 12. 66%变异存在于群体内个体之间, 正反交群体与母本之间的变异仅有2. 60%. 另一方面, 正反交F1 群体的多态性位点比例、Nei s 遗传多样度、香农多样性指数均低于母本自繁群体. 综合群体内多样性和群体间遗传关系分析结果, 杂色鲍与盘鲍正反交F1 的遗传物质组成有别于同时含有双亲基因组的实质性杂交, 而与母本有着高度的遗传同质性, 且遗传多样性水平略低于母本自繁群体.
【英文摘要】In this paper, genetic relationship iter-populations and genetic diversity intra-populations from reciprocal hybrid and pure crosses of Haliotis diversicolor (S) and H. discus discus(J) were investigated with AFLP.Totally,344 loci were detected with 3 pairs of selective primers. AFLP could be served as a tool to distinguish genetic material of Haliotis diversicolor, H. discus discus and their hybrid, since the AFLP band patterns of SS population and JJ population were quite different. The genetic distance between SS and JJ populations were calculated as 1. 425. The AFLP band patterns of hybrid F1 were similar to those of the female parent but quite different from those of t he male parent. The mean genetic distances between hybrid F1 and their female parent were 0. 111(between SJ and SS) and 0. 134 (between JS and JJ) , while those between hybrid F1 and their male parent w ere 1. 408 (between SJ and JJ) and 1. 394 (between JS and SS) respectively. The results of AMOVA analysis showed that 84. 74% of variance was between two groups (with different female parent) , 12. 66% of variance was among individuals in groups, and only 2. 60% of variance w as between hybrid

population and female population. On the other hand, all examined diversity indexes of the hybrid populations, including of the proportion of polymorphic loci, Nei's genetic diversity and Shannon diversity index , were lower than those o f the population from pure crossof female parent. Above all, the hybrid F1 were different from true hybrid composed of genome from both parent, but shared high genetic similarity with their female parent.

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【题目】水稻侧根发育及分蘖相关基因OsO2g0198200的初步研究
【中文关键词】钙结合EF手型结构蛋白;侧根;分蘖;顶端发育
【英文关键词】Lateral root;Tiller;Calcium-binding EF hand-like protein; Apex development
【中文摘要】Os02g0198200基因编码1个钙结合EF手型蛋白,以农杆菌转化Os02g0198200基因到水稻R109中,成功获得转基因植株。转基因植株苗期根部无侧根,茎部分蘖;随着植株生长,部分冠根部生出侧根,茎部苗期的分蘖死亡。这表明Os02g0198200基因参与了侧根发育及分蘖的调控,进一步研究Os02g0198200基因的功能,对揭示侧生组织发生机理和相关基因的网络调控,促进农业、林业、果树、蔬菜和花卉等生产实践的发展有重大的意义。
【英文摘要】Comparing gene expression of harf1 transgenic rice with its Initial plant, we found a differentially expressed gene which is called Os02g0198200. Os02g0198200 encodes a Calcium-binding EF hand-like protein. We transformed this gene into rice R109, and obtained transgenic plants. In the seedling stage, the transgenic rice lines have no lateral roots, and have a large number of tillers, but when it grew up, lateral roots growth from some crown roots, and it almost lost all of its tillers. This indicates that,Os02g0198200 gene involved in genes regulation of rice ’s apex development. It is probably that it is associated with the regulation of plant hormone.
【语种】中文
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【学科分类】分子生物学

【题目】家蚕中肠组织抗核型多角体病毒病的相关蛋白分析
【中文关键词】家蚕; 中肠; 家蚕核型多角体病毒; 近等基因系; 二维电泳; 质谱
【英文关键词】Bombyx mori ; midgut ; BmNPV ; near2isogenic line ; 22DE; mass spectrometry
【中文摘要】家蚕中肠上皮是病毒经口侵入遇到的第一个组织。昆虫幼虫抵御杆状病毒的感染,可通过选择性的使感染的中肠上皮细胞发生调亡并在释放病毒粒子进入血淋巴之前使感染的细胞从中肠脱落。为研究家蚕抗核型多角体病毒(Bombyx mori nucleopolyhedrovirus , BmNPV) 病的机制,通过对BmNPV 高度抗性和高度敏感性的家蚕品系杂交和回交构建了近等基因系。本文对家蚕高抗,敏感及近等基因系5 龄起蚕中肠组织的蛋白质表达谱进行了二维电泳(two2dimensional gel electrophoresis , 22DE) 分析,并利用基质辅助激光解吸电离飞行时间(matrix2assisted laserdesorptionP ionization2time of flight , MALDI2TOF) 质谱对差异蛋白进行鉴定。结果发现了5 个差异表达的蛋白。推测这些蛋白可能与家蚕中肠对BmNPV 的抗性或感性有关。
【英文摘要】The midgut epithelium is the first tissue of silkworm (Bombyx mori) which the virus confronts ;larvae resist baculovirus infection by selective apoptosis of infected midgut epithelial cells and by sloughing offinfected cells from the midgut before they release virions into the hemocoel . To research the mechanism ofnucleopolyhedrovirus resistance of silkworm midgut tissue , we constructed a near2isogenic silkworm line withBmNPV resistance through highly resistant and highly susceptible parent strains. In this study , proteome mapsand differences of protein patterns of the midgut tissues of the highly resistant , highly susceptible and near2isogenic silkworm strains were investigated by two2dimensional gel electrophoresis (22DE) and matrix2assistedlaser desorptionP ionization

time2of2flight (MALDI2TOF) mass spectrometry. We compared the proteomicexpression of the midgut in these three silkworm strains , and identified five differently expressed proteins. It isinferred that these proteins may be involved in the resistance or susceptibility of BmNPV.

【语种】中文
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【学科分类】昆虫学

【题目】Determination of protein composition and host-derived proteins of Bombyx mori nucleopolyhedrovirus by two-dimensional electrophoresis and mass spectrometry
【中文关键词】家蚕
【英文关键词】Bombyx mori nucleopolyhedrovirus Occlusion-derived virus 2-dimensional electrophoresis Mass spectrometry
【中文摘要】家蚕
【英文摘要】Objective: The occlusion-derived form of baculovirus is speciallyadapted for primary infection of host midgut epithelialcells. The virion contains proteins essential for host-rangedetermination and initiation of infection. Determination ofprotein composition of the occlusion-derived virus (ODV)will help us to understand this virion ’ s infection mechanism.Methods: We obtained the ODV virion of Bombyx mori nucleopolyhedrovirus(BmNPV) by sucrose density gradientcentrifugation, and used SDS-PAGE, 2-dimensional electrophoresisand mass spectrometry to identify – for the firsttime – proteins present within or associated with the ODVvirion. Results: 20 proteins, including 16 major proteins ofthe virion encoded by BmNPV and 4 proteins of the silkworm,were identified with confidence. Conclusion: ThreeBmNPV proteins (orf40, P95 and protein tyrosine phosphatase),which had not been detected as components of ODVpreviously, were identified in this study. We propose that thehost-derived proteins may be important for the assemblyand maturation of the ODV capsid.
【语种】英文
【第一作者】刘晓勇
【通讯作者】陈克平
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【学科分类】昆虫学

【题目】一株高产琼胶酶菌株MA-B22的分子鉴定与产酶条件优化
【中文关键词】琼胶酶; 酶活力; 培养基;
【英文关键词】agarase; enzyme activity; culture medium;
【中文摘要】琼胶酶在多糖降解应用中的作用日益重要,而从海洋微生物中筛选琼胶酶高产菌株成为一个重要途径。本研究从养殖的杂色鲍体内分离到一株高产琼胶酶的菌株MA-B22。该菌为革兰氏阴性菌,经16S rRNA序列鉴定表明,与Tamlana agarivorans sp.nov.具有99%同源性,因此初步定为Tamlana sp.。在2216E培养基中该菌株在培养时间60h,温度25℃,起始pH为6.0条件下产酶活性最高。基于上述培养条件,通过单因素和正交实验确定了培养基的最佳基本组成:氮源为牛肉膏(其最适浓度为6.0‰),碳源为琼脂(其最适浓度为2.5‰),配制培养基的人工海水的最适盐度为25。经培养条件优化后,该菌胞外琼胶酶活力可达1021.79U/mL,较优化前提高8.82倍。实验首次对Tamlana sp.属的琼胶酶活性进行确定并优化其产酶条件,为构建琼胶酶高产工程菌株提供了基础,并可能为今后鲍养殖提供潜在的益生菌。
【英文摘要】Agarase plays a key role in degrading many complex polysaccharides. The screening of agar-degrading bacteria from marine environment and organisms becomes an important means. A gram-negative bacteria strain,MA-B22 with high agarase activity was isolated from small abalone Haliotis diversicolor. By 16S rRNA analysis,this strain has 99% homology to Tamlana agarivorans sp. nov.,it was named Tamlana sp. in this report. Under 2216E medium, the optimal temperature, pH value and culture time are 25 °C,6.0

and 60h respectively. With one-factor-at-a-time method and orthogonal designed experiment, the optimal compositions of the ferment medium were confirmed. It contained 2. 5‰ agar, 6. 0‰ beef extract based on the salinity of 25. The highest enzyme activity of agarase was detected by DNS method at 1021. 79U /mL , which is 8. 82 times higher than before. MA-B22 demonstrated high-performance characteristics of enzyme production. This is the first report on the agar-degrading Tamlana sp. and optimal cultivation to enhance its enzyme activity. The results provide a bas is for constructing engineering bacterium for express ion agarase genes and potential probiotics of abalone aquaculture in the future.

【语种】中文
【第一作者】卢斌
【通讯作者】赵晶
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【学科分类】水产养殖学

【题目】Characterization of Bombyx mori nucleopolyhedrovirus orf74,a novel gene involved in virulence of virus
【中文关键词】家蚕病毒
【英文关键词】Bombyx mori nucleopolyhedrovirus
BmNPV orf74 Baculovirus DNA virus
【中文摘要】家蚕病毒
【英文摘要】orf74 of Bombyx mori nucleopolyhedrovirus(BmNPV) is a homologue of uncharacterized orf91 ofAutographa californica multicapsid NPV, predicted toencode a protein of 17.3 kDa. RT-PCR showed that thetranscription of orf74 was initiated at 12 h post-infectionstage. Expression assay indicated that ORF74 localized inthe nucleus of infected BmN cells. To study the function ofORF74, an orf74-knockout virus was constructed usingbacmid technology. Analysis of the production of buddedvirions and occlusion bodies, the formation of nucleocapsids,and the level of viral DNA revealed no significantdifference among the mutant, the control, and the orf74-repaired virus. Interestingly, bioassay showed that themedian lethal time of the orf74-knockout virus was 14.7 hlonger than the control virus, but the virus yield was similarto that of control virus. Thus, our data indicated that ORF74is most likely implicated in the virulence of BmNPV, and isnot essential for virus replication.
【语种】英文
【第一作者】申红星
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【学科分类】昆虫学

【题目】对构建的家蚕抗核型多角体病毒病近等基因系的评估
【中文关键词】家蚕; 家蚕核型多角体; 近等基因系; 随机多态性DNA
【英文关键词】silkworm
【中文摘要】为了从DNA、RNA和蛋白质水平上研究家蚕抗核型多角体病毒病的抗性基因紧密连锁的分子标记及相关的抗性基因和蛋白,选用抗性和感性的亲本,通过杂交和回交技术构建了近等基因系。为了从分子水平上评估这个模型的准确性,尤其是对构建的抗性近等基因系与感性的轮回亲本之间遗传背景的高度相似性的评估。本研究中我们对随机多态性DNA和双向电泳的一些结果进行了分析,比较了以前构建的近等基因系和轮回亲本之间在DNA 和蛋白质水平的差异,证明其相似性虽比理论值低,但这个模型对研究抗性仍然是有价值的,对研究家蚕其他的差异基因是有借鉴作用的。
【英文摘要】silkworm
【语种】中文
【第一作者】刘晓勇
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【学科分类】昆虫学

【题目】Transcription and Expression of Major VP Gene of Bombyx Mori Parvo-like Virus
【中文关键词】家蚕
【英文关键词】Bombyx mori parvo-like virus, Major VP protein gene, Transcription, Expression, qPCR
【中文摘要】家蚕
【英文摘要】The Bombyx mori parvo-like virus (China Zhenjiang isolate), termed as BmDNV-Z, replicates only in host’s midgutcolumnar cells and causes flacherie disease. The viral genome is composed of two sets of different single-strandedlinear DNA molecules, Viral DNA 1(VD1) and Viral DNA 2(VD2). Here we cloned the major VP gene from theplasmid contained viral DNA fragments. The gene consists of 1500 nucleotides and the deduced protein has 499 aminoacid residues, with the predicted molecular weight of 54934.24Da, isoelectric point of 6.73. The coding sequence wasinserted into expression plasmid vector pET-30a and expressed in Escherichia coli BL21 (DE3) under the inducible promoter LacZ. The expressed product was detected by Western blotting with anti-His antibody. Interestingly, there arefour laddered band instead of one. We speculated that this virus may use leaky scanning mechanism to express fourproteins in one ORF. And we investigated the major VP gene transcriptional time phase in susceptible silkworm throughreal time quantitative PCR (qPCR). The result showed that the mRNA level of VP gene increased greatly after 24 hourspost inoculation.
【语种】英文
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【通讯作者】陈克平
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【学科分类】昆虫学

【题目】Sedimentation in the Riparian Zone of the Three Gorges Reservoir, China
【中文关键词】三峡库区,消落带,侵蚀
【英文关键词】sedimentation; riparian zone; water level fluctuation; Three Gorges Reservoir
【中文摘要】三峡库区消落带泥沙沉积和侵蚀研究
【英文摘要】Annual water levels in the Three Gorges Reservoir (TGR) fluctuate by approx. 30 m, which can influence the riparian zone. Such changes include soil stabilization or restoration, re-vegetation, landscape management and environmental sanitation. However, there is a lack of information on the rates, magnitude and variability of sedimentation processes in this riparian zone. A field monitoring programme was conducted along the middle reach of the TGR during 2007-2009. Fifteen monitoring transects were instrumented with columnar sediment traps and erosion pins. Mean sediment deposition rates were 5.8 cm year-1 at the 145-150 m level and 2.3 cm year-1 at the 150-175 m level. The mean sediment deposition rate was approx. 12 cm year -1 at tributary inlets and shoals and a maximum of 18 cm year -1 occurred at the 145-150 m level. Sedimentation processes in riparian areas along the TGR will likely have an impact on the ecology and long-term operation of the TGR
【语种】英文
【第一作者】鲍玉海
【通讯作者】贺秀斌
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【学科分类】土壤学

【题目】水库消落带消浪植生型生态护坡技术应用
【中文关键词】消浪植生型; 生态护坡; 波浪冲刷力; 水库消落带
【英文关键词】three gorges region, ecological sloping land
【中文摘要】以消浪固土为生态护坡目标,通过设计一种自锁定消浪植生型生态护坡构件,最大限度地降低波浪冲刷力,保护消落带表层土壤,并在构件植物栽植孔中种植牛鞭草、狗牙根、野地瓜等水土保持植物,在水陆交界面形成一个连续的波浪缓冲带,同时有效发挥植物根系的固土护坡作用,从而实现生物—工程相结合的消落带坡面防护。该技术具有稳定性高、适应性强、消浪作用好以及环境友好的特点,可显著减轻波浪对消落带坡面的侵蚀作用,提高植被保存率。
【英文摘要】the ecological technique was applied in the three gorges reservior region
【语种】中文
【第一作者】鲍玉海
【通讯作者】鲍玉海
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【学科分类】地球科学其他学科

【题目】Three-dimensional fluorescence spectral characterization of soil dissolved organic matters in the fluctuating water-level zone of Kai County, Three Gorges Reservoir
【中文关键词】土壤,不可溶性,有机碳
【英文关键词】water-level-fluctuation zone (WLFZ); soil; dissolved organic matter (DOM); three-dimensional fluorescence spectra
【中文摘要】土壤不可溶性有机碳研究
【英文摘要】Three-dimensional fluorescence spectroscopy was used to investigate the fluorescent properties of soil dissolved organic matter (DOM) in the water-level-fluctuation zone (WLFZ) of Kai County, Three Gorges Reservoir (TGR). Most of the soil DOM analyzed in this study was found to contain four fluorescence peaks. Peaks A and C represent humic-like fluorescence, whereas peaks B and D represent tryptophan-like fluorescence. Peaks E and F, which represent tyrosine-like fluorescence, only appeared in certain soils. Soil humus was the main source of DOM in soil, and higher concentration of soil DOM was found in the exposed soil than submerged soil. Compared to the peaks A and B, the fluorescence intensities of peaks C and D were strongly influenced by the fluctuating water level. Analysis of fluorescence intensities of different peaks in soil DOM showed that WLFZ soil was not contaminated significantly. Soil DOM contained at least two types of humic-like fluorescence groups and two types of protein-like fluorescence groups. The proportion of the content of peak A in soil organic matter was quite stable. The soil DOM in exposed soil had relatively high humification and aromaticity, and periodic submerging and exposure of soil had an impact on the humification of soil DOM.
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【第一作者】方芳
【通讯作者】郭劲松
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【学科分类】环境科学技术及资源科学技术其他学科

【题目】三峡库区腹心地带消落带土壤氮磷含量调查研究
【中文关键词】三峡库区,消落区,土壤全氮,土壤全磷
【英文关键词】Three Gorges Reservoir area; water fluctuation zone; soil total nitrogen; soil total phosphorus
【中文摘要】消落区土壤中氮磷是上覆水体营养物质的潜在来源之一。在2008年底三峡蓄水至172 m之前,采样分析了小江(澎溪河)等库区5条典型支流淹没前的消落区土壤氮磷含量分布情况。在研究样区范围内,消落区土壤全氮均值为1.317±0.484 mg/g,变化范围在0.459-2.735 mg/g,而土壤全磷均值为0.676±0.282 mg/g,变化范围在0.314-2.799 mg/g。不同的土地利用方式消落区土壤全氮含量有明显差异,耕地消落区和园林地消落区的全氮值明显高于河滩地消落区。不同流域之间氮素差异也达到极显著水平,朱衣河和大宁河流域消落区土壤氮素要明显高于其他3条支流。但是,不同土地利用方式的消

落区之间全磷差异不显著,不同流域之间磷素差异也不显著。相比长江中下游一些浅水湖泊的底泥,库区消落区土壤中全氮和全磷含量水平已处于偏高状态,向上覆水体释放的风险较大。小江流域的丰乐镇和养鹿镇、朱衣河的胡家坝地区是研究范围内释放风险高的区域

【英文摘要】Soil nitrogen and phosphorus in water fluctuation zone are one of the potential sources and the nutrients for the upper layer water column.Nitrogen and phosphorus concentration among five representative tributary in Three Gorges Reservoir Area were analyzed before the impoundment of Three Gorges Reservoir to a water level of 172 m at the end of 2008.It was found that mean of soil total nitrogen in study area was 1.317±0.484 mg/g with variation range of 0.459~2.735 mg/g,while that of phosphorus was 0.676±0.282 mg/g with a range of 0.314~2.799 mg/g.Soil total nitrogen from different type of land-use showed significant difference.Soil nitrogen in agriculture farmland and fruit gardens was remarkably higher than those in riverbank and flood plains.Difference of soil nitrogen was also observed among different tributaries,the soil nitrogen in Zhuyi Basin and Daning Basin was obviously higher than in the other basins.However,the soil phosphorus among various types of land-use in the study area as well as different basins showed no significant difference.Compared with some shallow lakes in the downstream plain of the Yangtze basin,soil total nitrogen and total phosphorus were high relatively,and had a potential risk of releasing to the upper layer water column.Fengle town and Yanglu town in Xiaojiang River and Hujiaba town in Zhuyi River were the highest risk to release nitrogen and phosphorus in study areas.

【语种】中文

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【学科分类】土壤学

【题目】三峡库区典型小流域坡地土壤营养物含量研究

【中文关键词】三峡库区; 小流域; 坡地; 土壤营养物;

【英文关键词】Three Gorges Reservoir area; small watershed; sloping field; soilnutrient;

【中文摘要】以三峡库区重庆忠县石宝镇新政村小流域为研究区域,分析不同土地种植模式下坡地土壤营养物含量分布规律。结果表明:(1)不同土地种植模式下,土壤营养物质含量差异显著。林地和旱地土壤TN和有机质显著低于水稻田,TP显著高于水稻田;林地和旱地土壤营养物指标水平差异不显著。(2)在小流域从坡上经果林到坡下水稻田顺坡方向上,土壤有机质含量先增加后减小,总体上呈上升趋势;土壤TN的含量依次增加;土壤TP含量曲折降低,且变化幅度较小。(3)与其它地区小流域研究结果相比,新政村小流域土壤TN、TP水平与三峡库区其它小流域情况相当,低于太湖流域和滇池流域,土壤营养物质含量整体处于较低水平。 更多还原

【英文摘要】A small watershed in Zhongxian county,Chongqing,was chosen to study the soil nutrient content distribution in sloping field of different planting modes.The results show that the differences of soil nutrient content between diverse planting modes are remarkable.The difference of soil nutrient content between woodland and dryland is not significant.However,the soil nitrogen and organic matters of woodland and dryland are significantly lower than that of paddy land.Soil phosphorus is significantly higher than that of paddy land.Along the top of the slope to base of the slope in the watershed,the soil nutrients show different disciplines.Soil organic matter totally increased with a relatively slower decrease after the increase.Soil nitrogen is showing an trend of gradual increase.Whereas,soil phosphorus is totally decreasing with a relatively slower increase after the decrease.Compared with the research results of watershed in other areas,the soil nitrogen and phosphorus level of this watershed are relatively lower than that of other watersheds such as Taihu lake area,Dianchi lake area and Dongting lake area.

【语种】中文

【第一作者】郭劲松

【通讯作者】郭劲松

【期刊名称、卷期、页码】长江流域资源与环境, 19(Z1):144-148

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【引文索引类型】其他

【引文索引号】1004-8227-(2010)z1-0143-05

【学科分类】土壤学

【题目】Tillage Pedogenesis of Purple Soils in Southwestern China
【中文关键词】耕作,西南地区,成土作用
【英文关键词】Tillage impact; pedogenesis; purple soil; micromorphology; southwestern China
【中文摘要】中国西南部耕作成土作用研究
【英文摘要】Land cultivation and tillage process, and their consequent impacts on soil erosion, have been criticized as the main cause of degradation of land or soil quality. However, purple soils, classified as Regosols in FAO Taxonomy or Entisols in USDA Taxonomy, are formed from purple rocks of the Trias-Cretaceous system, have been developed or at least accelerated the development due to continual tillage operation, especially digging and ridging. The present study took micromorphological investigation on the sedimentary rocks and the soils under different operations of tillage. Results show that the purple rock of Feixiangguan Formation of the Trias system (T1f) is the easiest to physical weathering and the most fertile soil material enriched in nutrients, and it has been, therefore, mostly cultivated and intensively tilled around the year. It has the fastest soil formation rate. Soil formation rate in the cropland with conventional tillage is higher than that in the forestland and the grassland. It implies that the artificial brokenness and tillage disturbance play a great role in physical weathering and initiating soil formation processes.
【语种】英文
【第一作者】贺秀斌
【通讯作者】贺秀斌
【期刊名称、卷期、页码】Journal of Mountain Science, 2009, 6(2): 205-210
【论文发表时间】2009-06-01 00:00:00
【引文索引类型】SCI
【引文索引号】2.6596420001e+011
【学科分类】土壤学

【题目】岷江上游土壤侵蚀与土地利用的耦合关系研究
【中文关键词】土壤侵蚀; 土地利用; GIS; 耦合关系; 岷江上游; 土壤侵蚀强度指数
【英文关键词】soil erosion; land use; GIS; coupling relationship; upper reache of Minjiang River; soil erosion intensity index;
【中文摘要】利用岷江上游地区2005年土地利用数据和土壤侵蚀数据,在GIS技术支持下,研究了该地区土壤侵蚀强度与土地利用类型之间的耦合关系。结果表明,土壤侵蚀与土地利用具有很大的关系,土地利用直接影响着土壤侵蚀强度及空间分布。岷江上游土地利用以林地和草地为主,裸岩和建设用地侵蚀面积仅占0.11%。不同土地利用方式下的土壤侵蚀强度指数不同,依次为:旱地(低盖度草地(其他林地(中盖度草地(水域(高盖度草地(建设用地(疏林地(灌木林地(有林地(水田(裸岩。土壤侵蚀以微度水蚀为主,占35.43%,主要发生在有林地和灌木林地,分别占研究区总面积14.24%和11.70%;轻度及中强度水蚀则多发生在中盖度草地;随着土壤侵蚀强度增加,旱地侵蚀面积逐渐增大,且远远大于水田;冻融侵蚀占研究区总面积26.96%,多分布在中盖度草地,为20.89%。因此,合理土地利用方式的选择,土地利用格局的优化,对于减轻水土流失,控制土壤侵蚀,提高土地利用效益至关重要,也对促进该流域社会经济发展具有重要意义。
【英文摘要】Coupling relationship between soil erosion intensity and land use types in the upper reaches of Minjiang River was studied by using the data of land use and soil erosion in 2005 with the support of GIS technology.Close relationship was found between soil erosion and land use,and the soil erosion intensity and spatial distribution were directly influenced by land use.Forests and grassland were the main land use types,bare rock and construction land area accounted for only 0.11%.Different land use patterns had different soil erosion intensity indices,and in the order of dry land>grass land with low coverage >other forest land>moderate coverage grass>water area>high coverage grass>construction land>open forest land>shrub land> forest land>paddy field>bare rock.Slight water erosion was the main type of soil erosion,accounting for 35.43%,and mainly occurring in forest land and shrub land,accounting for 14.24% and 11.70% of the study area respectively.Low and moderate intensive water erosion occurred in the grass land with moderate coverage.With the increase of the soil erosion intensity,erosion area of dry land gradually increased,and far greater than paddy fields.Frozen erosion accounted for 26.96% and mainly occurred in the grass land with moderate coverage,accounting for 20.89%.Therefore,reasonable land use type and optimized land-use pattern are essential for the control of soil erosion,protection of land resources and improvement land use efficiency,as well as for the promotion of socio-economic development of the basin.
【语种】中文
【第一作者】刘艳锋
【通讯作者】陈学华

【期刊名称、卷期、页码】西北林学院学报, 24(5): 161-165.
【论文发表时间】2009-05-01 00:00:00
【引文索引类型】其他
【引文索引号】1001-7461(2009) 05-0161-05
【学科分类】土壤学

【题目】Phosphorus fractions and soil release in alternately waterlogged and drained environments at the water-fluctuation-zone of the Three Gorges Reservoir
【中文关键词】三峡库区,消落带
【英文关键词】Three Gorges Reservoir; water-fluctuation-zone; P fractions; phosphorus release
【中文摘要】三峡库区消落带相关研究
【英文摘要】The Water-Fluctuation-Zone (WFZ) of the Three Gorges Reservoir (TGR) has a special combination of aquatic and terrestrial ecological systems that are exposed to human activity. In this work, three kinds of soil were sampled along the Yangzi River in the TGR-WFZ. Our study focused on phosphorus (P) sorption characteristics and the change in inorganic P fractions for soils in alternately waterlogged and drained environments in the TGR-WFZ. Experiments were carried out to assess P sorption capacities and their relation to chemical properties in different soils. Concentration changes for different P fractions (e.g. Ca-2-P, Ca-8-P, Al-P, Fe-P, O-P and Ca-10-P) in soils were investigated to study P sorption and desorption characteristics in the soil and to assess effective factors in alternately waterlogged and drained environments. Results showed that, for different soil types, the maximum P-sorption capacities (Q(m)) had the following order: yellow earth > purple soil > fluvo-aquic soil. Under cyclic waterlogged and drained conditions, the Q. of waterlogged soil was higher than for drained soil. There was a decreasing trend for Olsen-P concentrations in soils after each draining process. The concentration of Ca-10-P in purple, yellow and fluvo-aquic soil increased from 31.3%, 40.0% and 42.6% (before inundating) to 38.7%, 48.9% and 51.5%, respectively, after three inundating-draining processes. The percent of stable fractions in soils increased after the inundating-draining process. Total P levels for all types of fractions decreased after every inundating-draining process. This suggests the existence of a P release trend from WFZ soils into the TGR water body, making P in soils a potential threat toward water eutrophication in the TGR.
【语种】英文
【第一作者】马利民
【通讯作者】马利民
【期刊名称、卷期、页码】Journal of Food, Agriculture & Environment, 8(3&4): 1329-1335
【论文发表时间】2010-10-01 00:00:00
【引文索引类型】SCI
【引文索引号】2.8604010012e+011
【学科分类】土壤学

【题目】三峡库区消落带几种两栖植物的适生性评价
【中文关键词】三峡库区; 消落带; 生态重建; 植物筛选;
【英文关键词】Three Gorges Reservoir; water-fluctuation-zone; restoration and reconstruction of ecosystems; adaptability of plants growth;
【中文摘要】根据三峡库区消落区的环境特征,两年间通过在库区消落区山地实验基地的种植及实地淹没试验,对几种备选用于生态修复的两栖植物进行适生性评价筛选研究。结果表明:狗牙根(Cynodon dactylon)、野地瓜藤(Ficus tikoua)、尼泊尔蓼(Polygonum nepalense)、水花生(Alternanthera philoxeroides)、百喜草(Paspalum Notatum)、香根草(Vetiveria zizanioides)、苏丹草(Sorghum sudanense)在100~150d的低水位出露期内均可完成生长、发育成熟过程,可作为消落区生态恢复的备选物种。其中,苏丹草可作为速生物种,能迅速恢复水位下降后消落区的植被覆盖率;复合群落在生长期间比单一种群提前5~10d完成对地表的覆盖,群落的稳定性、耐淤积性及抗干扰性较强,次年的萌发也更好,有利于构建稳定的生态系统;狗牙根、尼泊尔蓼和野地瓜藤根系生长良好,其中狗牙根在一个生长季内根系最长可达75cm,有利于消落区控制水土流失;在自然水淹最深为15m,淹没时间6d的情况下,复合群落组植物、尼泊尔蓼、野地瓜藤、狗牙根和苏丹草的植物均能短期耐水淹和淤泥,水花生则是在水淹较深处能够生长良好;180d水下1.0~1.5m的连续淹水实验结果表明,狗牙根和野地瓜藤的耐淹性较强,经过长达半年的淹水过程能够成活,并在次年自然萌发;同时5~25m的深部淹水实验表明,随着深度增加,狗牙根的落叶率逐步提高,在180d的淹没后能够成活,并在次年自然萌发,可作为构建消落区生态系统的两栖植物物种。

【英文摘要】Experiments were conducted for the purpose of choosing adaptable plants to restore and reconstruct the ecosystem in Water-Fluctuation-Zone(WFZ)of the Three Gorges Reservoir in Wenzhou,Chongqin.Nine species including Cynodon dactylon,Ficus tikoua,Polygonum nepalense,Alternanthera philoxeroides,Vetiveria zizanioides,Trifolium repens,Lolium perrnne,Paspalum Notatum and Sorghum sudanense were selected for in situ growth and submerging tests for 2 years according to the characteristics of local ecological conditions.Results indicated that C.dactylon,F.tikoua,P.nepalense,A.philoxeroides,P.notatum,V.zizanioides and S.sudanense could complete their growth during 100-120 days under low water level conditions in the WFZ of the Three Gorges Reservoir and were considered as the candidate species for ecosystem restoration.Among the candidate species,S.sudanense could quickly restore the vegetation cover ratio after flooding due to its rapid growth.The complex plant community was better than a single specie community for reconstructing a stable ecosystem,as the complex community could develop a complete vegetation cover during growth period 5-10 days ahead and could have a greater tolerance to siltation after flooding compared to the single specie community.C.dactylon,F.tikoua and P.nepalense developed a strong root system which benefited soil erosion control.The flooding experiment showed that the complex community plants,C.dactylon,F.tikoua,P.nepalense,and S.sudanense could survive and recover after being submerged under 15 m of water for 6 days,indicating their high tolerance for flooding and siltation.C.dactylon and F.tikoua survived under 1.0-1.5m of water during the 180 day submerging experiment and matured under non-flooding conditions the following year.The ratio of shed leaves of C.dactylon increased with increase of water depth at the level from 5-25 m.Having survived for the 180 day submerged experiment and subsequent maturation under non-flooding conditions the following year,C.dactylon was considered a promising aquatic specie for re-vegetation in WFZ of the Three Gorges Reservoir.

【语种】中文

【第一作者】马利民

【通讯作者】马利民

【期刊名称、卷期、页码】生态学报, 4:1885-1892.

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【引文索引类型】其他

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【学科分类】林学其他学科

【题目】Intensive tillage effects on wheat production on a steep hillslope in the Sichuan Basin, China

【中文关键词】深耕,陡坡耕地,小麦

【英文关键词】Soil erosion; intensive tillage; crop production

【中文摘要】深耕对陡坡耕地小麦产量影响研究

【英文摘要】Two treatments (5- and 15-tillage operations) were conducted to assess intensive tillage effects on wheat production in the Sichuan Basin, China. After intensive tillage, wheat grain yields were 55% and 41% in areas of soil loss lower than those in areas of soil accumulation by 5- and 15-tillage operations, respectively. The redistribution pattern in soil depth affected wheat production with a logarithmic correlation between them, resulting in wheat aboveground biomass and grain yield increased along the downslope transect. A much larger decline in production with loss of soil depth than the increase in production with increase in depth was found. Therefore, fields subject to these patterns of soil redistribution could be expected to be subject to decline in average yield. The variations suggest that over time crop production reduction would gradually become serious in areas of soil loss by tillage.

【语种】英文

【第一作者】聂小军

【通讯作者】张建辉

【期刊名称、卷期、页码】Proceedings of 2009 International Conference on Environmental Science and Information Application Technology, July 4-5, 2009. 1: 635-638

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【引文索引类型】EI

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【学科分类】土壤学

【题目】紫色丘陵区土壤侵蚀对土壤生物学肥力的影响

【中文关键词】土壤侵蚀,微生物活性,耕作侵蚀,137Cs技术,土壤微生物量碳,土壤酶

【英文关键词】soil erosion, microbial activity, tillage erosion, 137Cs technique, soil microbial carbon, soil enemy
【中文摘要】为更好地理解侵蚀土壤质量变化,该文利用137Cs技术探讨了川中丘陵区紫色土陡坡耕地土壤侵蚀对土壤生物学肥力的影响。结果表明,与无侵蚀的坡地相比,陡坡耕地土壤微生物量碳含量及碱性磷酸酶、蔗糖酶活性分别显著降低41%、44%、17%,土壤生物学肥力退化指数MFDI达-35%。陡坡耕地土壤蔗糖酶活性与137Cs浓度显著正相关(r=0.643,p=0.024),表明蔗糖酶活性随土壤侵蚀强度增大而降低。耕作侵蚀造成的陡坡耕地上坡土壤损失导致土壤微生物量碳含量、碱性磷酸酶、脲酶及蔗糖酶活性最低,而耕作侵蚀造成的陡坡耕地坡底土壤堆积导致这4个微生物特性最高,结果陡坡耕地这些微生物特性的空间变异分别增大2.8、0.8、1.4、4.5倍。紫色土陡坡耕地土壤生物学肥力退化与空间变异性增大在今后的土地管理中应引起关注。
【英文摘要】In order to better understand erosion-induced changes in soil quality, soil erosion impacts on soil microbial fertility of a purple soil with steep sloping farmland were explored in the Sichuan Basin of China by using 137Cs technique. Results showed that the contents of soil microbial carbon (MBC) and activities of soil alkaline phosphate and invertase significantly decreased by 41%, 44% and 17%, respectively, in these farmlands compared to a control slope, resulting in an obvious deterioration in soil microbial fertility with a 35% decrease in MFDI (soil microbial fertility degradation index). A significantly positive correlation was found between soil invertase activity and 137Cs inventory (r=0.643, p=0.024), suggesting soil invertase activity decreases with increasing soil erosion. Soil erosion by tillage resulted in the lowest soil MBC contents and enzyme activities in upslope positions, whereas soil accumulation by tillage created the highest soil MBC contents and enzyme activities in bottom positions. As a result of soil redistribution, the variations in soil MBC, alkaline phosphate, urease and invertase increased by 2.8, 0.8, 1.4 and 4.5 times, respectively, in these farmlands than those in the control slope. Land management strategies should involve combating the deterioration and increased spatial variation in soil microbial fertility in purple soil with steep sloping farmland
【语种】中文
【第一作者】聂小军
【通讯作者】张建辉
【期刊名称、卷期、页码】农业工程学报, 26 (7): 32-37
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【引文索引类型】EI
【引文索引号】2.0103713223e+013
【学科分类】土壤学

【题目】Effect of soil erosion on soil properties and crop yields on slopes in the Sichuan Basin, China
【中文关键词】土壤侵蚀,产量,土壤性质
【英文关键词】(137)Cs inventory; linear slope; soil degradation; tillage erosion; water erosion
【中文摘要】土壤侵蚀对作物产量和土壤特性影响研究
【英文摘要】Roles of tillage erosion and water erosion in the development of within-field spatial variation of surface soil properties and soil degradation and their contributions to the reduction of crop yields were studied on three linear slopes in the Sichuan Basin, southwestern China. Tillage erosion was found to be the dominant erosion process at upper slope positions of each linear slope and on the whole short slope (20 m). On the long slope (110 m) and medium slope (40 m), water erosion was the dominant erosion process. Soil organic matter and soil nutrients in the tillage layer were significantly related to slope length and (137)Cs inventories on the long slope; however, there was no significant correlation among them on the short slope, suggesting that water erosion lowered soil quality by transporting SOM and surface soil nutrients selectively from the upper to lower slope positions, while tillage erosion transported soil materials unselectively. On the medium slope, SOM, total N, and available N in the tillage layer were correlated with slope length and the other properties were distributed evenly on the slope, indicating that water erosion on this slope was still the dominant soil redistribution process. Similar patterns were found for the responses of grain yield, aboveground biomass, and harvest index for slopes. These results indicated that tillage erosion was a major cause for soil degradation and grain yield reduction on the linear slopes because it resulted in displacement of the tillage layer soil required for maintaining soil quality and plant growth.
【语种】英文
【第一作者】苏正安
【通讯作者】张建辉
【期刊名称、卷期、页码】Pedosphere, 20(6), 736-746
【论文发表时间】2010-06-01 00:00:00
【引文索引类型】SCI

【引文索引号】2.8466800001e+011
【学科分类】土壤学

【题目】Effects of tillage erosion on soil redistribution in a purple soil with steep sloping terraces
【中文关键词】耕作侵蚀,土壤再分布,西南地区
【英文关键词】Compensatory tillage; Tillage erosion model; Cs-137; Three Gorges Reservoir region; China
【中文摘要】耕作侵蚀对土壤再分布影响研究
【英文摘要】This study sought to contribute to the understanding of soil redistribution by tillage erosion, the extent and causes of soil erosion and the contribution of tillage erosion to total soil erosion on the sloping terraces. The total soil erosion derived from caesium-137 (137Cs), while tillage erosion was assessed using tillage erosion model within four sloping terraces. Tillage erosion rates were estimated at 77.34, 38.67, 28.84, 24.60 t ha-1 yr-1 for Terraces A, B, C, D, respectively, while the total soil erosion rates were 90.93, 52.80, 44.75 and 37.41 t ha-1 yr -1 on Terraces A, B, C and D, respectively. The contribution of tillage erosion to thetotal erosion were 85.05%, 73.23%, 64.43% and 65.75% on Terraces A, B, C, D, respectively, indicating that tillage erosion could be a dominant process of soil erosion. To prove the truth of soil erosion rates derived from tillage erosion model, high resolution digital elevation models (DEMs) were also used to assess tillage erosion rates on the one of sloping terraces. Mean soil flux rate due to tillage erosion which obtained by the DEMs was 25.02 t ha-1 yr-1 on Terrace C, suggesting that the tillage erosion models is a reliable method to investigate rates and patterns of tillage erosion on the sloping terraces. This study indicates that tillage erosion redistributes soil in amounts that dwarf the effect of water erosion on the steep sloping terraces. Therefore, the results of our study confirm that tillage erosion is one of the important soil redistribution processes on the sloping terraces.
【语种】英文
【第一作者】苏正安
【通讯作者】张建辉
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【引文索引号】2.0104813439e+013
【学科分类】土壤学

【题目】紫色土坡耕地土壤物理性质空间变异对土壤侵蚀的响应
【中文关键词】水力侵蚀,耕作侵蚀,空间变异,物理特性
【英文关键词】water erosion, tillage erosion, spatial variability, physical properties
【中文摘要】为了研究不同坡度和坡长的耕地上土壤侵蚀对土壤物理性质空间变异的影响,通过地形测量、137Cs示踪、土壤物理性质分析等方法对川中丘陵紫色土区土壤物理性质对土壤侵蚀的响应进行了研究,结果表明:在中等坡度(16.60%~25.10%)的梯坡地上,耕作侵蚀处于主导地位,是导致耕层土壤物理性黏粒含量和容重在梯坡地上总体差异不大(CV〈6.3%),且与137Cs含量不相关的主要原因;在已退耕还林的陡梯坡地上(35.60%),水蚀占据主导地位,导致耕层土壤物理性黏粒含量和容重均与137Cs的含量显著相关。在长坡耕地上(10.10%),具有分选搬运能力的水力侵蚀占据主导地位,致使耕层土壤物理性黏粒含量与137Cs的含量具有显著的相关关系,而容重却与137Cs含量没有显著的相关关系。川中丘陵区坡耕地上,耕作侵蚀和水蚀共同作用于土层深度,使土层深度在坡顶、上坡最浅,在坡脚最深,顺坡向下逐渐增加。因此,在川中丘陵区不同坡长的坡耕地上,占主导地位的土壤侵蚀类型导致坡耕地上土壤物理性质出现相应的变化
【英文摘要】In order to study the effects of soil erosion on spatial variability of soil physical properties in farmlands with different lengths and slopes, the response of spatial variability of soil physical properties to soil erosion was explored in the Sichuan Basin of China, with topography measurement, 137Cs tracer method and analysis of soil physical properties. The results showed that tillage erosion, which was the dominant erosion process on the short slopes with the gradients of 16.6%~25.1%, played an important role in redistributing soil and resulted in no significant variation in soil physical properties (i.e., soil texture and bulk density) of tillage layer along the slope (CV<6.3%). Meanwhile, the soil physical properties of tillage layer had insignificant correlation with 137Cs contents due to tillage erosion. On the steep slope (35.6%), water erosion was the predominant erosion process due to reforestation, with evidence of 137Cs contents correlated closely with soil physical properties of tillage layer. Furthermore, on the long slope (10.1%), water erosion with separation and transport capacity was the predominant erosion process, which resulted in significant variation in soil physical properties with 137Cs contents, but there was no significant correlation between bulk density and 137Cs contents. Soil depth was affected both by tillage erosion and water erosion in slope farmlands in the Sichuan Basin of China. The erosion resulted in the fact

that the thinnest soil layer was present at the summit and upper slope positions, and there was the thickest soil layer at the foot of the slope. In general, soil depth increased towards the downslope direction. Therefore, due to the differences in the predominant soil erosion process the soil physical properties varied with slope lengths in the Sichuan Basin.
【语种】中文
【第一作者】苏正安
【通讯作者】张建辉
【期刊名称、卷期、页码】农业工程学报, 25 (5): 54-60
【论文发表时间】2009-05-01 00:00:00
【引文索引类型】EI
【引文索引号】2.0092712173e+013
【学科分类】土壤学

【题目】耕作导致的土壤再分布对土壤水分入渗的影响
【中文关键词】耕作侵蚀 耕层深度 土壤紧实度 入渗 坡耕地
【英文关键词】tillage erosion depth of tillage layer soil compaction infiltration sloping farmland
【中文摘要】利用梯级法、DEM和模型法研究三峡库区传统锄耕条件下的耕作侵蚀速率,同时采用双环法测定未进行耕作扰动区、耕作侵蚀区和堆积区土壤入渗特性的变异。结果表明,本研究区坡度为12.63%的线性坡的单次耕作侵蚀速率为25.02 t/hm2;各小区的土壤入渗速率和入渗时间均可以用Kostiakov公式(f=a · t-b)进行很好的拟合,然而耕作侵蚀区、耕作堆积区和未扰动区之间由于土壤紧实度和耕层深度变化而对土壤水分的入渗特性具有非常显著的影响。相对于耕作堆积区,耕作侵蚀区的土壤初始入渗速率、稳定入渗速率和累计入渗量均具显著减低,因而会显著地加强水蚀作用。与此同时,单纯耕作松土导致的土壤紧实度变小被证明能够显著增强土壤入渗能力,因而能够显著地增加入渗量,从而减少水蚀强度。
【英文摘要】Tillage erosion rates under conventional hoeing tillage on the linear slope were assessed using the digital elevation model(DEM),trapezoid-step method and tillage erosion model.And the field double-ring method was used to examine soil infiltration on a purple soil of the uncultivated plot,tillage erosive region and accumulative region.The results showed that mean soil flux rates due to tillage erosion which obtained by DEM and trapezoid-step method was 25.02 t/hm2 on the linear slope.Meanwhile,the process of infiltration in the uncultivated land,tillage erosive region and accumulative region could be well described with the equation of Kostiakov(f=a · t-b).Since soil compaction and depth of tillage layer has significant difference between the tillage erosive region and accumulative region,there were significant differences in the process of infiltration between two regions.Compared to the accumulative region,there is a significant reduction of initial infiltration rate,steady infiltration rate,and cumulative infiltration in the tillage erosive region,resulting in more serious water erosion.Meanwhile,tillage operation which decreases soil compaction will increase water infiltration and reduce water erosion.
【语种】中文
【第一作者】苏正安
【通讯作者】张建辉
【期刊名称、卷期、页码】水土保持学报,24(3): 194-198
【论文发表时间】2010-06-01 00:00:00
【引文索引类型】其他
【引文索引号】:1009-2242(2010)03-0194-0
【学科分类】土壤学

【题目】氯氰菊酯在土壤环境中的存在行为及分析研究进展
【中文关键词】氯氰菊酯; 土壤; 存在; 行为; 残留分析
【英文关键词】cypermethrin; soil; existence; behavior; residue analysis;
【中文摘要】氯氰菊酯作为一种使用广泛的拟除虫菊酯类农药,已经在土壤中造成了一定量的残留,作为一种可能的人类致癌物,它在土壤中的存在行为及残留受到关注。目前由于土壤自身成分复杂以及其他农药组分的残留,使得氯氰菊酯的提取、分离、净化与富集的难度加大,因此有关土壤中氯氰菊酯残留量检测的报道非常少。详细介绍了氯氰菊酯的基本性质并初步总结了它在土壤中的存在行为及分析研究进展情况。
【英文摘要】Cypermethrin, as a kind of synthetic pyrethroid pesticides which have an increasingly widespread use, has caused a certain amount of residue in the soil. Due to its possibly carcinogenic to human, its residues in the soil should be concerned. And for its complex composition of soil as well as other components of pesticide residues, making the extraction, separation, purification and

enrichment of cypermethrin more difficult, the reports about cypermethrin residues in soil was very small. This paper described the fundamental nature of cypermethrin, and preliminarily sum up its existence, behavior and analysis progress in soil.
【语种】中文
【第一作者】孙小静
【通讯作者】马利民
【期刊名称、卷期、页码】农药, 49(1): 17-19
【论文发表时间】2010-01-10 00:00:00
【引文索引类型】其他
【引文索引号】1006-0413(2010)01-0016-03
【学科分类】环境科学技术及资源科学技术其他学科

【题目】三峡库区柑橘园生态复合经营模式
【中文关键词】柑橘园; 生态复合经营; 水土流失; 面源污染; 三峡库区;
【英文关键词】orange orchard, ecological management, soil and water loess
【中文摘要】柑橘是三峡库区农业支柱产业,库区柑橘园在抗旱排涝、物种搭配、果园管理、水土流失和农业面源污染防治方面存在一定问题。三峡库区柑橘园生态复合经营模式包括坡地+排水沟的土地整治方式、柑橘+间作套种的物种配置技术和少耕免耕及柑橘病虫害生态防治的管理措施,可在投入低、充分利用资源的前提下达到抗旱排涝、固土保肥和减少农业面源污染的生态目标,增加库区柑橘园经济产出。 更多还原
【英文摘要】study on the orange orchard management and its ecological modes in the three gorges region
【语种】中文
【第一作者】唐强
【通讯作者】贺秀斌
【期刊名称、卷期、页码】中国水土保持, 10: 10-12
【论文发表时间】2010-10-05 00:00:00
【引文索引类型】其他
【引文索引号】1000-0941(2010)10-0010-03
【学科分类】地球科学其他学科

【题目】Error Analysis on Gradient Information of Sloping Land Derived from the Low-resolution DEM
【中文关键词】坡耕地; DEM分辨率; 土地利用; 水土流失;
【英文关键词】Sloping land Resolution of DEM Land use Soil erosion
【中文摘要】利用数字高程模型(DEM)实现坡耕地数据的自动提取和侵蚀状况调查,并与实地勘察及相关研究结果进行对比。结果表明,三峡库区平行岭谷地貌、出露的侏罗纪紫色泥(页)岩和砂岩互层结构及人为活动是小尺度坡耕地地形的关键控制因素。
【英文摘要】By using DEM,slope information was extracted automatically and soil erosion situation was investigated.Then compared with field survey and related research.The results showed that parallel ridge valley in Three Gorges Reservoir Area,the interbedded structures formed by Jurassic purple clay(page) rocks and human activities are the key controlling factors of small-scale sloping terrain.
【语种】英文
【第一作者】王莉
【通讯作者】贺秀斌
【期刊名称、卷期、页码】Agricultural Science & Technology, 11(1): 109-112
【论文发表时间】1905-07-02 00:00:00
【引文索引类型】其他
【引文索引号】2010 11(1)109-11
【学科分类】土壤学

【题目】利用中低分辨率DEM提取坡耕地坡度信息的误差分析
【中文关键词】坡耕地; DEM分辨率; 土地利用; 水土流失;

【英文关键词】Sloping land; Resolution of DEM; Land use; Soil erosion;
【中文摘要】利用数字高程模型(DEM)实现坡耕地数据的自动提取和侵蚀状况调查,并与实地勘察及相关研究结果进行对比。结果表明,三峡库区平行岭谷地貌、出露的侏罗纪紫色泥(页)岩和砂岩互层结构及人为活动是小尺度坡耕地地形的关键控制因素。
【英文摘要】By using DEM,slope information was extracted automatically and soil erosion situation was investigated.Then compared with field survey and related research.The results showed that parallel ridge valley in Three Gorges Reservoir Area,the interbedded structures formed by Jurassic purple clay(page) rocks and human activities are the key controlling factors of small-scale sloping terrain. 更多还原
【语种】中文
【第一作者】王莉
【通讯作者】贺秀斌
【期刊名称、卷期、页码】安徽农业科学, 38(7): 3644-3646.
【论文发表时间】2010-03-01 00:00:00
【引文索引类型】其他
【引文索引号】1000-0941(2010)10-0010-01
【学科分类】地球科学其他学科

【题目】人类活动对嘉陵江流域泥沙负荷变化的影响
【中文关键词】人类活动; 嘉陵江; 泥沙负荷; 通径分析
【英文关键词】human activities; Jialing River; sediment load; path analysis;
【中文摘要】河流泥沙负荷是人类活动影响下侵蚀产沙的重要反映。选择人类活动对嘉陵江流域泥沙负荷变化影响较大的7个表征变量,通过应用SPSS15.0进行通径分析,结果表明:抑制土壤侵蚀的各个因子作用大小依次为:新修塘库、农村劳动力转移、累计治理面积、森林覆盖率、农村用电量、公路通车里程及旱地比例。对嘉陵江河流泥沙负荷减少的直接贡献由大至小分别为:新修塘库、农村劳动力转移、累计治理面积、农村用电量、旱地比例、公路通车里程及森林覆盖率。各影响因子的间接作用由大至小分别为:森林覆盖率、公路通车里程、农村用电量、累计治理面积、旱地比例、农村劳动力转移及新修塘库。 更多还原
【英文摘要】The amount of river sediment load represents an important measure of soil erosion in the context of human activities.Seven factors were selected to indicate the human activities that have significant impacts on the sediment load in the Jialing River Basin.The results from the path analysis by the software SPSS 15.0 showed that the sequences of the general human effects were as follows:reservoir construction,rural labor transfer,cumulative erosion control area,forest cover,rural electro-power consumption,road length,and ratio of slope land to cultivated land.The sequences of the direct impacts were reservoir construction,rural labor transfer,cumulative erosion control area,rural electro-power consumption,ratio of slope land to cultivated land,road length and forest cover.And the indirect impacts were followed the order:forest cover,road length,rural electro-power consumption,cumulative erosion control area,ratio of slope land to cultivated land,rural labor transfer and reservoir construction
【语种】中文
【第一作者】韦杰
【通讯作者】韦杰
【期刊名称、卷期、页码】长江流域资源与环境, 19(2): 197-202.
【论文发表时间】2010-02-15 00:00:00
【引文索引类型】其他
【引文索引号】1004-8227(2010)02-0196-06
【学科分类】水文学

【题目】三峡库区农村劳动力转移对水土保持的影响
【中文关键词】水土保持; 生态建设; 劳动力转移; 侵蚀产沙; 三峡库区;
【英文关键词】soil and water conservaiton, laborhood, ecological construction
【中文摘要】三峡库区水土保持生态建设的逐步深入使得侵蚀产沙得到了局部的初步控制,但治理面积与水土流失面积相比所占比例太小。农业机械化程度的提高与城市化进程的加快,"两工"取消后农村大量的劳动力进入城市挣钱,这种劳动力转移可以减少对库区土地生产的压力,从而减少侵蚀产沙的可能性,但大量劳动力转移后农村剩下的劳动力紧缺,致使劳动力成本提高,对水土保持工程建设的实施又带来了负面影响。在此背景下,应激励农民积极参与水土保持生态建设,同时积

极吸纳民间资本,构建专业水土保持施工队伍,以确保水土保持工作顺利开展并取得实效。 更多还原
【英文摘要】study on the village laborhood of the three gorges reservior region
【语种】中文
【第一作者】韦杰
【通讯作者】韦杰
【期刊名称、卷期、页码】中国水土保持, 10: 18-20
【论文发表时间】2010-10-05 00:00:00
【引文索引类型】其他
【引文索引号】1000-0941(2010)10-0018-0
【学科分类】地球科学其他学科

【题目】三峡库区坡耕地水土保持措施研究进展
【中文关键词】坡耕地,水土保持措施,减蚀,进展,三峡库区
【英文关键词】sloping cultivated land, soil and water conservation ,three gorges region
【中文摘要】结合野外调查和文献报道,对三峡库区坡改梯、坡面水系工程、保土耕作、种植模式优化、植物篱建设、退耕还林等坡耕地水土保持措施的特点、设计、类型、减蚀效益进行了综述。从水土保持措施的适宜条件、措施的优缺点、农民采纳意愿等方面分析了不同措施的适宜性。在此基础上,对三峡库区坡耕地这一特殊地域单元水土保持传统措施理论、组合措施、措施适宜性、原位观测等方面的研究进行了展望。
【英文摘要】study on the reviews of the soil and water conservation of the three gorges reservior region
【语种】中文
【第一作者】韦杰
【通讯作者】韦杰
【期刊名称、卷期、页码】世界科技研究与发展, 32(1):41-45
【论文发表时间】2011-02-15 00:00:00
【引文索引类型】其他
【引文索引号】2011331-41-45
【学科分类】地球科学其他学科

【题目】Chemical and Strontium Isotopic Compositions of the Hanjiang Basin Rivers in China: Anthropogenic Impacts and Chemical Weathering
【中文关键词】汉江平原,同位素
【英文关键词】Hanjiang River; South-to-North water transfer project; Sr isotopic ratio; Chemical weathering; CO(2) consumption
【中文摘要】汉江平原化学和同位素组成特征
【英文摘要】The Hanjiang River, the largest tributaries of the Changjiang (Yangtze) River, is the water source area of the Middle Route of China's South-to-North Water Transfer Project. The chemical and strontium isotopic compositions of the river waters are determined with the main purpose of understanding the contribution of chemical weathering processes and anthropogenic inputs on river solutes, as well as the associated CO(2) consumption in the carbonate-dominated basin. The major ion compositions of the Hanjiang River waters are characterized by the dominance of Ca(2+) and HCO(3) (-), followed by Mg(2+) and SO(4) (2-). The increase in TDS and major anions (Cl(-), NO(3) (-), and SO(4) (2-)) concentrations from upstream to downstream is ascribed to both extensive influences from agriculture and domestic activities over the Hanjiang basin. The chemical and Sr isotopic analyses indicate that three major weathering sources (dolomite, limestone, and silicates) contribute to the total dissolved loads. The contributions of the different end-members to the dissolved load are calculated with the mass balance approach. The calculated results show that the dissolved load is dominated by carbonates weathering, the contribution of which accounts for about 79.4% for the Hanjiang River. The silicate weathering and anthropogenic contributions are approximately 12.3 and 6.87%, respectively. The total TDS fluxes from chemical weathering calculated for the water source area (the upper Hanjiang basin) and the whole Hanjiang basin are approximately 3.8 x 10(6) and 6.1 x 10(6) ton/year, respectively. The total chemical weathering (carbonate and silicate) rate for the Hanjiang basin is approximately 38.5 ton/km(2)/year or 18.6 mm/k year, which is higher than global mean values. The fluxes of CO(2) consumption by carbonate and silicate weathering are estimated to be 56.4 x 10(9) and 12.9 x 10(9) mol/year, respectively.
【语种】英文

【第一作者】徐志芳
【通讯作者】徐志芳
【期刊名称、卷期、页码】AQUATIC GEOCHEMISTRY 17(3): 243-264
【论文发表时间】2011-05-01 00:00:00
【引文索引类型】SCI
【引文索引号】2.909132e+011
【学科分类】环境科学技术及资源科学技术其他学科

【题目】植物化感抑藻的作用机理
【中文关键词】水华; 化感作用; 抑藻机理;
【英文关键词】water bloom; allelopathy; algal inhibition mechanism.;
【中文摘要】对植物化感物质抑藻机理,即化感物质影响藻细胞的光合作用、破坏细胞膜、改变细胞酶活性、影响细胞超微结构及基因表达等几个方面进行了综合评述。研究表明,化感物质主要通过降低叶绿素a含量,破坏光合系统Ⅱ,使细胞膜结构裂解,酶活性改变,抗氧化系统破坏,细胞膜内超微结构受损,基因表达异常等几个方面来抑制藻细胞的分裂或直接杀死藻细胞,从而减少藻细胞数量,抑制藻类的生长。未来应该从更微观角度,即基因表达、分子和遗传机制等方面对化感抑藻机理进行深入研究,以期为开发安全、高效的抑藻化感物质提供理论基础。 更多还原
【英文摘要】This paper summarized the research progress on the action mechanisms of allelopathy in inhibiting algae,i.e.,affecting the photosynthesis of algal cell,destroying algal cell membrane,changing the antioxidant enzyme activities in algal cells,and affecting algal cell ultrastructure and gene expression,etc. Mainly through reducing chlorophyll a content,destroying photosystem II and cell ultrastructure,making cell membrane structure lysis and gene expression abnormal,changing enzyme activities,and damaging antioxidant system,allelochemicals can reduce the number of algal cells and inhibit the growth of algae. The prospective research issues in this field were also proposed,with the focus on gene expression and molecular and genetic mechanisms,aimed to provide theoretical bases for developing safe and efficient allelochemicals in algal inhibition. 更多
【语种】中文
【第一作者】张彬
【通讯作者】郭劲松
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【学科分类】环境科学技术及资源科学技术其他学科

【题目】Effects of terracing and agroforestry on soil and water loss in hilly areas of the Sichuan Basin, China
【中文关键词】梯田,农林,四川盆地,土壤侵蚀
【英文关键词】agroforestry; sediment transport; runoff; sloping terrace; soil and water conservation
【中文摘要】梯田和农林措施对四川盆地坡耕地的影响研究
【英文摘要】Soil erosion in hilly areas of the Sichuan Basin is a serious concern over sustainable crop production and sound ecosystem. A 3-year experiment was conducted using the method of runoff plots to examine the effects of terracing and agroforestry in farmland systems on soil and water conservation of slope fields in the hilly areas in Jianyang County, Sichuan Province, Southwestern China. A power function (Y = aX(b)) can statistically describe the relationship between water runoff (Y) and rainfall (X). The regression equation for the treatment of sloping terraces with crops (Plot 2) is remarkably different from that for the treatment of sloping terraces with grasses and trees (Plot 1) and the conventional up-and down-slope crop system (Plot 3) regarding equation coefficients, while regression equations are similar between Plot 1 and Plot 3. Water runoff amount and runoff coefficient of slope fields increased by 21.5 similar to 41.0 % and 27.5 similar to 69.7 % respectively, compared to those of sloping terraces, suggesting that terracing notably reduced the water runoff in the field. In the case of sloping terraces, lower amount of water runoff was observed on sloping terraces with crops than on sloping terraces with grasses and trees. Sediment yields on the slope fields in the normal year of rainfall distribution were notably higher (34.41 similar to 331.67 % and 37.06 similar to 403.44 % for Plot 1 and Plot 2, respectively) than those on sloping terraces, implying that terracing also plays a significant role in the reduction in soil erosion. It is suggested that terracing with crops is significantly effective for soil and water conservation in cultivated farmland, while the conventional practice of up-and down-slope cultivation creates high rates of water runoff and soil sediment transport. Terracing with grasses and fruit trees shows a less reduction in

water runoff than terracing with crops, which was observed in the 3-year experiments.
【语种】英文
【第一作者】张建辉
【通讯作者】张建辉
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【引文索引号】2.5884890001e+011
【学科分类】土壤学

【题目】An investigation of soil translocation and erosion by conservation hoeing tillage on steep lands using a magnetic tracer
【中文关键词】磁性示踪剂,犁耕侵蚀,四川
【英文关键词】Tillage erosion; Tillage translocation; Conservation tillage; Hoeing tillage; Magnetic tracer
【中文摘要】利用磁性示踪剂研究犁耕侵蚀
【英文摘要】The mechanism of tillage erosion has been increasingly recognized for nearly two decades, irrespective of mechanized or non-mechanized agriculture areas. Yet, control measures on tillage erosion were relatively less studied. A type of conservation tillage approach, referred to as "non-overturning hoeing tillage" was studied in comparison with conventional tillage in hilly areas of Chongqing, near the Yangtse Gorges reservoir areas, southwestern China. The magnetic tracer was used to label experimental plots of soil to measure soil translocation in the tillage direction. A comparison experiment between conventional and conservation tillage was conducted on a series of hillslopes with slope gradients ranging from 0.08 to 0.65 m m(-1), with paired plots at neighboring sites on the same hillslope. Mean soil displacement in the downslope direction by conservation tillage, being 0.11 m was much shorter than that by conventional tillage with 0.33 m. Tillage transport coefficients were 17 and 35 kg m(-1) tillage pass(-1) when conservation tillage was conducted, and 37 and 118 kg m(-1) tillage pass(-1) under conventional tillage, respectively, for k(3) and k(4). Tillage erosion rates by conservation tillage, estimated at 28 Mg ha(-1) year(-1) significantly decreased with a reduction of 63%, when compared to those by conventional tillage estimated at 78 Mg ha(-1) year(-1). The magnetic tracer method is an efficient and effective one for measuring tillage translocation, and therefore, estimating tillage erosion rate. It is suggested that non-overturning hoeing tillage largely diminishes soil downslope translocation and results in a significant reduction in tillage erosion. (C) 2009 Elsevier B.V. All rights reserved.
【语种】英文
【第一作者】张建辉
【通讯作者】张建辉
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【引文索引号】2.720624e+011
【学科分类】土壤学

【题目】Heating treatment schemes for enhancing chelant-assisted phytoextraction of heavy metals from contaminated soils
【中文关键词】土壤温度;植物修复;重金属;玉米;螯合剂
【英文关键词】Soil temperature; Phytoremediation; Heavy metals; Zea mays L.; Chelant
【中文摘要】近来研究表明,螯合剂强化植物提取方法常常需要高剂量的螯合剂应用到土壤中。本研究主要集中在研究减少螯合剂的使用提高植物提取效率的修复过程。利用盆栽试验研究提高土壤温度对玉米和绿豆茎吸收重金属的效果。在使用EDDS或EDTA后,土壤用2种高温处理(50 或80 ° C)3小时可以显著提高植物茎中重金属浓度。在螯合剂加入后热处理2天比热处理前或同时加入螯合剂然后热处理2天植物吸收更多的重金属。与用25 ° C螯合剂溶液相比,在螯合剂施用2天后用沸水灌溉或直接灌溉100 ° C螯合剂溶液也可以显著提高植物对重金属的提取效率。另外,与常温处理相比,一种新的利用地下聚氯乙烯管来提高土壤温度的方法可以提高螯合剂强化玉米提取铜的效率达10-14倍,和强化绿豆提取铜的效率达5倍。这种新的技术可能为金属污染土壤的植物修复提供一种有效的途径。
【英文摘要】Recent research has shown that chelant-assisted phytoextraction approaches often require a high dosage of chelant applied to soil. The present study focused on optimization of phytoremediation processes to increase the phytoextraction efficiency of metals at reduced chelant applications. Pot experiments were carried out to investigate the effects of increased soil temperature on shoot uptake of heavy metals by corn (Zea mays L.) and mung bean (Vigna radiat L. Wilczek) from heavy metal – contaminated soils. After

the application of S,S-ethylenediaminedisuccinic acid or ethylenediaminetetra-acetic acid, soils were exposed to high temperatures (50 or 80 ° C) for 3 h, which significantly increased the concentration of heavy metals in shoots. The heating treatment2 d after the chelant addition resulted in higher concentrations of metals compared with those treatments 2 d before or simultaneously with the chelant application. Irrigation with 100 ° C water 2 d after the chelant addition, or irrigation with 100 ° C chelant solutions directly, also resulted in significantly higher phytoextraction of metals in the two crops compared with 25 ° C chelant solutions. In addition, a novel application method to increase soil temperature using underground polyvinyl chloride tubes would increase the chelant-assisted extraction efficiency of Cu approximately 10- to 14-fold in corn and fivefold in mung bean compared with those non heating treatments. In a field experiment, increasing soil temperature 2 d after chelant addition also increased the shoot Cu uptake approximately fivefold compared with those non heating treatments. This new technique may represent a potential, engineering oriented approach for phytoremediation of metal-polluted soils.

【语种】英文

【第一作者】陈亚华

【通讯作者】沈振国

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【学科分类】环境科学技术及资源科学技术其他学科

【题目】不同饵料对杂色鲍幼鲍生长及存活的影响

【中文关键词】杂色鲍; 饵料; 生长; 存活率;

【英文关键词】Haliotis diversicolor; diets; growth; survival rate;

【中文摘要】选用南方鲍养殖业中常用的4种大型海藻细基江蓠、菊花江蓠、龙须菜和海带,研究在单一饵料、混合饵料、轮流饵料3种不同的投喂方式下共12个饵料处理组对杂色鲍(Haliotis diversicolor)幼鲍生长、存活的影响.实验进行40 d,结果表明:1)不同饵料处理组幼鲍均保持较高的存活率,其中细基江蓠组的存活率最低;2)不同饵料处理组的生长存在显著性差异(p<0.05).在单一饵料组中,海带组的特定生长率显著高于其他3种单一饵料组(p<0.05).在混合饵料组和轮流饵料组中,细基江蓠和菊花江蓠饵料组合的特定生长率明显低于其他的饵料组合(p<0.05).而相同的饵料组合在混合、轮流两种投喂方式下特定生长率无明显差异(p>0.05).另外常用的表征生长速度的指标如壳长日增长、日增重、壳长增长率、增重率均具有相似的趋势;3)海带组的日摄食率和体质量壳长比显著大于细基江蓠组(p<0.05),各饵料处理组的食物转化率无显著差异(p>0.05).实验结果表明:采用混合饵料和轮流饵料与单一饵料的投喂方式相比,可明显提高鲍的生长速度.

【英文摘要】The experiment lasted 40 days was conducted to assess the effects of twelve different diet treatments on the survival and growth of juvenile small abalone Haliotis diversicolor. The four marine microalgae which are commonly used in the south china abalone aquaculture industry were used in this research: Gracilaria tenuistipitata , G. lichenoides, G. lemaneiformis and salted Lamina2 ria japonica . Three feeding methods used in the experiment were single diet, mixed diets and rotaion diets. The results showed that the juvenile abalone under different diet treatments all maintained high survival rate, among them, the survival r ate of the juvenile abalone fed with G. tenuistipitata was lowest. Among the single diet groups, the specific growth r ate (SGR) of the juvenile abalone fed with salted L. j aponica was significantly higher than other s(p < 0. 05) . Among the mixed diet and rotation diet groups, the SGR of the juvenile abalone fed with a diet combination of G. tenuistipitata and G. lichenoides was significantly lower than the other groups (p< 0. 05) . However , there was not significant difference of the SGR(p> 0. 05) of the juvenile abalone fed with the same diet combination in different feeding methods. T he differences of some other growth index, for example, daily length growth(DLG) , daily weight growth (DWG) , length growth rate (LGR) and weight growth r ate(WGR) were also significant(p < 0. 05) under the twelve diet treatments. The daily feeding rate (DFR) and body weight to shell length ratio(BW/ SL) of the juvenile abalone fed with salted L. japonica were significantly higher than the group fed with G. tenuistipitata (p < 0. 05) . T he food conversion efficiency (FCE) did not have significant differences under the twelve diet treatments(p > 0. 05) . T he results indicated t hat mixed diet s and rotation diet s can improve growth rate of the juvenile abalone compared to single diet.

【语种】中文

【第一作者】王波

【通讯作者】柯才焕

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【学科分类】水产养殖学

【题目】Bioinformatics of NS3 Gene and Inverted Terminal repeats (ITR) of Bombyx Mori Parvo-like Virus (China Zhenjiang Isolate)
【中文关键词】家蚕
【英文关键词】BmDNV-Z, NS3, Bioinformatics, ITR
【中文摘要】家蚕
【英文摘要】Bombyx mori Parvo-like virus (China Zhenjiang isolate) had termed as BmDNV-Z.NS3 is one of the three nonstructuralproteins that is responsible for the replication of virus DNA. To explore the nature of NS3 and determine how it differsfrom other NS3 sequence, we extracted amino acid sequences of NS3 from four sequenced DNV genomes, and carriedout sequence-based phylogenetic and structural analyses. In addition, to investigate the importance of the ITR as asignal for some viral and /or cellular factors further, we performed a computer analysis for prediction of secondarystructure. We found that Comparisons of protein sequence with those of the databases showed low homologies withNS-3 of JcDNV (30% identity), GmDNV (26% identity), MlDNV (26% identity). But zinc-finger motifs appear to beconserved greatly. Further the structural importance of the terminal sequence (CTS) common to VD1 and VD2 was alsopredicted by a DNA folding web.
【语种】英文
【第一作者】孙晨
【通讯作者】陈克平
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【学科分类】昆虫学

【题目】利用流式细胞仪技术研究杂色鲍血细胞的吞噬率
【中文关键词】海洋生物学;流式细胞仪技术;杂色鲍;吞噬;胁迫
【英文关键词】Marine biology; Flow cytometry; Haliotis diversicolor; Phagocytosis; Intimidation
【中文摘要】利用流式细胞仪技术(FCM)检测了杂色鲍血细胞在体内和体外对不同含量荧光微球悬液的吞噬率(%)。证明体内注射法测定吞噬率的方法不可行。体外吞噬中,荧光微球为血细胞含量的68.2倍时吞噬率达98.43%±1.27%,随着荧光微球含量的降低血细胞吞噬率也随着降低。荧光微球为血细胞含量的6.82倍时吞噬率为63.45%±6.05%,以这一含量进行血细胞吞噬率的测定恰当。利用这一含量测定了正常鲍与经过低盐海水胁迫24h后鲍的血细胞吞噬率的变化,正常鲍的吞噬率为68.71%±10.05%,低盐海水胁迫后鲍的吞噬率为49.49%±10.18%,吞噬率出现了显著的下降($p<0.05$)。实验结果表明利用流式细胞仪技术检测杂色鲍血细胞吞噬活性是方便可靠的。
【英文摘要】Flow cytometry was used to test the phagocytizing activity of blood corpuscles in suspensions with different fluorescent microsphere concentrations in Haliotis diversicolor in vivo or in vitro. The results showed that induction of phagocytosis in vivo via injection was not feasible. During in vitro testing, when the microsphere concentration was 68.2 fold that of blood cells, the phagocytizing rate (PR) was 98.43%±1.27%. In addition, the PR of blood corpuscles decreased as the level of microspheres decreased. Specifically, the PR was reduced to 63.45%±6.05% if the proportion was 6.82 to 1, which is a suitable value for evaluation of the phagocytizing activity of blood corpuscles in Haliotis diversicolor. Under this proportion, we determined the PR of normal and low salinity seawater intimidated abalones. The PR of treated abalones was 49.49%±10.18%, which was significantly ($p<0.05$) lower than that of the normal abalones (68.71%±10.05%). These results showed that flow cytometry is a feasible and convenient method of evaluating the phagocytizing activity of blood corpuscles in abalone.
【语种】中文
【第一作者】李进寿
【通讯作者】柯才焕
【期刊名称、卷期、页码】台湾海峡,2010;卷:29;期:4;页码:460-465, 593
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【学科分类】水产养殖学

【题目】Characterization of the Bm61 of the Bombyx mori Nucleopolyhedrovirus
【中文关键词】家蚕
【英文关键词】silkworm
【中文摘要】家蚕
【英文摘要】orf61 (bm61) of Bombyx mori Nucleopolyhedrovirus(BmNPV) is a highly conserved baculovirus gene,suggesting that it performs an important role in the viruslife cycle whose function is unknown. In this study, wedescribe the characterization of bm61. Quantitative polymerasechain reaction (qPCR) and western blot analysisdemonstrated that bm61 was expressed as a late gene.Immunofluorescence analysis by confocal microscopyshowed that BM61 protein was localized on nuclearmembrane and in intranuclear ring zone of infected cells.Structure localization of the BM61 in BV and ODV bywestern analysis demonstrated that BM61 was the proteinof both BV and ODV. In addition, our data indicated thatBM61 was a late structure protein localized in nucleus.
【语种】英文
【第一作者】申红星
【通讯作者】陈克平
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【学科分类】昆虫学

【题目】Promotion of growth and Cu accumulation of bio-energy crop (Zea mays) by bacteria: Implications for energy plant biomass production and phytoremediation
【中文关键词】金属抗性和植物促生细菌;能源植物;细菌种群;植物提取;玉米
【英文关键词】Metal-resistant and plant growth promoting bacteria; Energy plant; Bacterial communities; Phytoextraction; Maize
【中文摘要】对3株金属抗性和植物促生细菌(Burkholderia sp. GL12, Bacillus megaterium JL35 和 Sphingomonas sp. YM22)溶解碱式碳酸铜的能力以及对生长在高浓度铜污染土壤中的玉米(一种能源植物)的生长和铜的吸收效应进行了研究。同时对菌株对土壤中有效态铜和玉米根际土壤细菌种群的影响也进行了分析。研究表明,供试菌株可以溶解碱式碳酸铜并增加溶液中水溶性铜含量(20.5 to 227 mg L-1),与对照相比,接菌处理不仅显著提高了玉米根(48-83%)和地上部(33-86%)干重,而且提高了根(69-107%)和地上部(16-86%)铜含量。与对照相比,接菌处理也显著地提高了玉米根际土壤中水溶性铜含量(63-94%)。DGGE和基因序列分析表明,供试菌株可以在玉米根际土壤定殖并改变土壤细菌种群组成。这些结果表明,金属抗性和植物促生细菌可以用于高度铜污染土壤中能源植物生产和植物修复。
【英文摘要】Three metal-resistant and plant growth-promoting bacteria (Burkholderia sp. GL12, Bacillus megaterium JL35 and Sphingomonas sp. YM22) were evaluated for their potential to solubilize Cu2 (OH)2CO3 in solution culture and their plant growth promotion and Cu uptake in maize (Zea mays, an energy crop) grown in a natural highly Cu-contaminated soil. The impacts of the bacteria on the Cu availability and the bacterial community in rhizosphere soils of maize were also investigated. Inductively coupled-plasma optical emission spectrometer analysis showed variable amounts of water-soluble Cu (ranging from 20.5 to 227 mg L-1) released by the bacteria from Cu2 (OH)2CO3 in solution culture. Inoculation with the bacteria was found to significantly increase root (ranging from 48% to 83%) and above-ground tissue (ranging from 33% to 56%) dry weights of maize compared to the uninoculated controls. Increases in Cu contents of roots and above-ground tissues varied from 69% to 107% and from 16% to 86% in the bacterial-inoculated plants compared to the uninoculated controls, respectively. Inoculation with the bacteria was also found to significantly increase the water-extractive Cu concentrations (ranging from 63 to 94%) in the rhizosphere soils of the maize plants compared to the uninoculated controls in pot experiments. Denaturing gradient gel electrophoresis and sequence analyses showed that the bacteria could colonize the rhizosphere soils and significantly change the bacterial community compositions inthe rhizosphere soils. These results suggest that the metal-resistant and plant growth-promotingbacteria may be exploited for promoting the maize (energy crop) biomass production and Cu phytoremediation in a natural highly Cu-contaminated soil.

【语种】英文
【第一作者】盛下放
【通讯作者】盛下放
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【学科分类】环境科学技术基础学科

【题目】Characterization of Bombyx mori parvo-like virus non-structural protein NS1
【中文关键词】家蚕
【英文关键词】Bombyx mori parvo-like virus NS1
Helicase
【中文摘要】家蚕
【英文摘要】NS1 gene of Bombyx mori parvo-like virus(China Zhenjiang isolate, BmDNV-Z) codes a predicted316-amino acid protein, but its function remains unknown.Results of the current study showed that purified recombinant69His-NS1 protein possesses ATP binding, ATPase,DNA binding, and helicase activities. Only one proteinwas captured in infected Bombyx mori midgut cells againstNS1 target protein by employing co-immunoprecipitation,which was identified to be a viral protein by mass spectrometry.The NS1-interacting protein is encoded byBmDNV-Z ORF4 and its molecular is about 100 kD.Analysis of His pull-down confirmed that binding ofidentified viral protein to purified recombinant 69His-NS1protein in vitro. Taken together, our results indicated thatBmDNV-Z NS1 was a multifunctional protein, which maybe involved with virus replication.
【语种】英文
【第一作者】李国辉
【通讯作者】陈克平
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【学科分类】昆虫学

【题目】Characterization of lead-resistant and ACC deaminase-producing endophytic bacteria and their potential in promoting lead accumulation of rape
【中文关键词】鸭跖草;金属抗性植物内生细菌;植物生长促进作用;ACC脱氨酶;铅;油菜;植物提取
【英文关键词】Commelina communis; Metal-resistant endophytic bacteria; Plant growth promotion;
ACC deaminase; Pb; Rape; Phytoextraction
【中文摘要】从生长在铅锌尾矿废弃地中的鸭跖草中分离到49株铅抗性细菌,其中筛选到7株具ACC脱氨酶活性菌株并对菌株的重金属抗性,产ACC脱氨酶、生长素、铁载体能力进行了分析。选择了2株高产ACC脱氨酶菌株研究了菌株在添加不同含量(0 and 100mg kg − 1 of Pb)铅的石英砂中促进油菜生长和铅吸收的能力。供试菌株对多种重金属具有抗性,不同的菌株具有不同的ACC脱氨酶活性,供试菌株中有6株产生长素,5株产铁载体。在添加铅(100 mg kg − 1)的砂培试验中,接菌处理油菜地上部和根的干重分别比对照增加39-71%和35-123%,油菜地上部铅的含量比对照增加58-62%。
【英文摘要】Forty-nine lead (Pb)-resistant endophytic bacteria were isolated from metal-tolerant Commelina communis plants grown on lead and zinc mine tailing, of which, seven 1-aminocyclopropane-1-carboxylate (ACC) deaminase-producing endophytic bacteria were initially obtained and characterized with respect to heavy metal resistance and production of ACC deaminase, indole-3-acetic acid (IAA) as well as siderophores. Two isolates (Q2BJ2 and Q2BG1) showing higher ACC deaminase activity were evaluated for promoting plant growth and Pb uptake of rape grown in quartz sand containing 0 and 100mg kg − 1 of Pb in pot experiments. The seven Pb-resistant and ACC deaminase-producing endophytic bacterial isolates were found to exhibit different multiple heavy metal resistance characteristics and to show different levels of ACC deaminase activity (ranging from 12.8 μM α-KB mg − 1 h − 1 to 121 μM α-KB mg − 1 h − 1). Among the seven isolates, six isolates produced indole acetic acid, whilst five isolates produced siderophores. In experiments involving rape plants grown in quartz sand containing 100 mg kg − 1 of Pb, inoculation with the isolates resulted in the increased dry weights of above-ground tissues (ranging from 39% to 71%) and roots (ranging from 35% to 123%)

compared to the uninoculated control. Increases in above-ground tissue Pb contents of rape cultivated in 100 mg kg − 1 of Pb-contaminated substrates varied from 58% to 62% in inoculated-rape plants compared to the uninoculated control.
【语种】英文
【第一作者】张艳峰
【通讯作者】盛下放
【期刊名称、卷期、页码】Journal of Hazardous Materials, 2011, 186: 1720-1725
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【学科分类】环境科学技术及资源科学技术其他学科

【题目】Cloning and characterization of the densoviruses susceptible gene +nsd-2 in the silkworm, Bombyx mori
【中文关键词】家蚕
【英文关键词】BmDNV-Z, +nsd-2, RT-PCR, transporter protein, baculovirus expression
【中文摘要】家蚕
【英文摘要】Recently, a silkworm gene responsible for the susceptibility to BmDNV-2 (a parvo-like virus) has beendiscovered and designated as +nsd-2, which encodes a 12-pass transmembrane protein. BmDNV-Z,isolated in Zhenjiang of China, has a high homology with BmDNV-2 in serological characteristics andgenome structure. However, it is still uncertain whether +nsd-2 is also responsible for susceptibility toBmDNV-Z. In this study, we cloned +nsd-2 gene from Chinese silkworm strain (HuaBa35) that issusceptible to BmDNV-Z. DNA sequencing confirmed that +nsd-2 from HuaBa35 is the same with that fromNO.908 susceptible to BmDNV-2. RT-PCR analysis showed that the gene +nsd-2 was only expressed inlarval midgut and widely expressed in every instar of larva. Bioinformatic study showed that +nsd-2 is aputative amino acid transporter with three glycosylation sites and located on chromosome 11. Inaddition, +nsd-2 gene was also expressed by baculovirus expression system in Sf9 cell. Our analysis willcontribute to the detailed investigation on the infection mechanism of BmDNV.
【语种】英文
【第一作者】李晓刚
【通讯作者】姚勤
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【学科分类】昆虫学

【题目】Overexpression and characterization in Bacillus subtilis of a positionally non-specific lipase from Proteus vulgaris.
【中文关键词】普通变形杆菌脂肪酶;位置非特异性脂肪酶;外源过表达;诱导;枯草芽孢杆菌
【英文关键词】Proteus vulgaris lipase;Positionally nonspecific lipase;Heterologous overexpression;
Induction;Bacillus subtilis
【中文摘要】普通变形杆菌T6是本实验室筛选保存的另一个产脂肪酶的菌株,所产脂肪酶具有位置非特异性,对长链脂肪酸醋具有较好的亲和性。本实验将T6脂肪酶基因(pvL)与pET-DsbA载体连接,转化到大肠杆菌BL21(DE3)内表达,成功获得了重组脂肪酶,并对表达条件进行了优化。
【英文摘要】A Proteus vulgaris strain named T6 which produced lipase (PVL) with nonpositional specificity hadbeen isolated in our laboratory. To produce the lipase in large quantities, we cloned its gene, which had an opening reading frame of 864 base pairs and encoded a deduced 287-amino-acid protein. The PVL gene was inserted into the Escherichia coli expression vector pET-DsbA, and active lipase was expressed in E. coli BL21 cells. The secretive expression of PVL gene in Bacillus subtilis was examined. Three vectors, i.e., pMM1525 (xylose-inducible), pMMP43 (constitutive vector, derivative of pMM1525), and pHPQ (sucrose-inducible, constructed based on pHB201), were used to produce lipase in B. subtilis. Recombinant B. subtilis WB800 cells harboring the pHPQ-PVL plasmid could synthesize and secrete the PVL protein in high yield. The lipase activity reached 356.8 U/mL after induction with sucrose for 72 h in shakeflask culture, representing a 12-fold increase over the native lipase activity in P. vulgaris. The characteristics of the heterologously expressed lipase were identical to those of the native one.

【语种】英文
【第一作者】卢亚萍
【通讯作者】陆兆新
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【学科分类】分子生物学

【题目】Characterization of ACC deaminase-producing endophytic bacteria isolated from copper-tolerant plants and their potential in promoting the growth and copper accumulation of Brassica napus
【中文关键词】重金属抗性植物内生细菌;植物促生作用;ACC脱氨酶;油菜;植物提取
【英文关键词】Heavy metal-resistant-endophytic bacteria; Plant growth promotion; ACC deaminase; Rape; Phytoextraction
【中文摘要】从铜耐性植物中分离到100株铜抗性内生细菌,其中筛选到8株具ACC脱氨酶活性菌株并对菌株的重金属抗性,产ACC脱氨酶、生长素、铁载体以及溶磷能力进行了分析。利用高产ACC脱氨酶(213 to 370 μ M a-ketobutyrate mg-1 h-1)菌株Ralstonia sp. J1-22-2, Pantoea agglomerans Jp3-3, 和 Pseudomonas thivervalensis Y1-3-9 研究菌株在添加不同含量(0, 2.5, and 5 mg kg-1 of Cu)铜的石英砂中促进油菜生长和铜吸收的能力。供试菌株对多种重金属表现出抗性、具有不同的ACC脱氨酶活性和产生长素的能力,有些菌株产铁载体并能够溶解无机磷。盆栽试验表明,供试菌株(J1-22-2, Jp3-3, 和 Y1-3-9)能够提高油菜生物量。接菌处理油菜地上部铜含量比对照处理增加9-31%和3-4倍。接P. agglomerans Jp3-3处理油菜吸收的铜最大。这些结果表明,重金属抗性和植物促生内生细菌在植物生长和铜富集中起着重要的作用,该研究结果还可能为铜污染土壤内生细菌强化植物修复提供新的途径。
【英文摘要】One hundred Cu-resistant-endophytic bacteria were isolated from Cu-tolerant plants grown on Cu mine wasteland, of which, eight Cu-resistant and 1-aminocyclopropane-1-carboxylate (ACC) deaminase-producing endophytic bacteria were obtained based on the ACC deaminase activity of the bacteria and characterized with respect to metal resistance, production of ACC deaminase, indole-3-acetic acid (IAA) as well as siderophores and mineral phosphate solubilization. Ralstonia sp. J1-22-2, Pantoea agglomerans Jp3-3, and Pseudomonas thivervalensis Y1-3-9 with higher ACC deaminase activity (ranging from 213 to 370 μ M a-ketobutyrate mg-1 h-1) were evaluated for promoting plant growth and Cu uptake of rape grown in quartz sand containing 0, 2.5, and 5 mg kg-1 of Cu in pot experiments. The eight bacteria were found to exhibit different multiple heavy metal resistance characteristics, to show different levels of ACC deaminase activity and to produce indole acetic acid. Seven bacteria produced siderophores and solubilized inorganic phosphate. Pot experiments showed that inoculation with the strains (J1-22-2, Jp3-3, and Y1-3-9) was found to increase the biomass of rape. Increases in above-ground tissue Cu contents of rape cultivated in 2.5 and 5 mg kg-1 of Cu-contaminated substrates varied from 9% to 31% and from 3 to 4-fold respectively in inoculated-rape plants compared to the uninoculated control. The maximum Cu uptake of rape was observed after inoculation with P. agglomerans Jp3-3. The results show that metal-resistant and plant growth promoting endophytic bacteria play an important role in plant growth and Cu uptake which may provide a new endophytic bacterial-assisted phytoremediation of Cu-contaminated environment.
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【第一作者】张艳峰
【通讯作者】盛下放
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【学科分类】环境科学技术及资源科学技术其他学科

【题目】Proteomic analysis of nucleopolyhedrovirus infection resistance in silkworm,
【中文关键词】家蚕
【英文关键词】Silkworm
Nucleopolyhedrovirus
Near-isogenic line

Two-dimensional gel electrophoresis
Mass spectrometry
Hemolymph
Beta-N-acetylglucosaminidase 2
【中文摘要】家蚕
【英文摘要】Silkworm hemolymph is an important defense tissue to resist bacteria and virus infections. To study theresponse of silkworm hemolymph in the resistance of Bombyx mori L. nucleopolyhedrovirus (BmNPV), weconstructed a near-isogenic silkworm line with BmNPV resistance using highly resistant and highly susceptibleparental strains. In this paper, two-dimensional gel electrophoresis (2-DE) and Matrix-AssistedLaser Desorption/Ionization (MALDI)-mass spectrometry were employed to investigate the differences ofprotein patterns in the hemolymph of the highly resistant, highly susceptible and near-isogenic silkwormstrains after BmNPV was administrated to the larvae. A comparison between the proteomes of these threesilkworm strains led us to identify two differentially expressed proteins, beta-N-acetylglucosaminidase 2and aminoacylase. The expression levels of these proteins were higher in the BmNPV resistant strains.
【语种】英文
【第一作者】刘晓勇
【通讯作者】陈克平
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【学科分类】昆虫学

【题目】Identification of Structural Proteins of Bombyx mori Parvo-like Virus (China Zhenjiang isolate)
【中文关键词】家蚕
【英文关键词】Bombyx mori　Parvo-like virus　Viral structural protein
【中文摘要】家蚕
【英文摘要】Objective: Bombyx mori parvo-like virus is a type of viruscontaining two single-stranded linear DNA molecules (VD1,VD2). In the present work, the structural proteins of B. moriparvo-like virus (China Zhenjiang isolate) (BmDNV-Z) wereidentified. Methods: The virions were purified by cesiumchloride density gradient centrifugation from the feces of B.mori larvae infected with BmDNV-Z and analyzed by SDSPAGE,Western blotting and MALDI-TOF/mass spectometry.Results: There were seven polypeptides of the virions,named P1 to P7, which reacted with the anti-virion serum. Inaddition, two polypeptides, P5 and P6, were recognized bythe antibody against a viral protein encoded by VD1-ORF3.Conclusion: The results showed that the viral polypeptideswere mainly composed of 7 proteins named P1 to P7. Westernblotting with anti-virion serum indicated that structuralproteins P5, P6 and P7 had molecular weights of around 50,55 and 130 kDa, respectively. They were the major immunogensof the virion. Among them, P5 and P6 were coded byVD1-ORF3 and P7 was encoded by VD2-ORF1. Taken together,three viral structural proteins encoded by VD1-ORF3 andVD2-ORF1 were identified in BmDNV-Z for the first time.
【语种】英文
【第一作者】吕盟
【通讯作者】姚勤
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【学科分类】昆虫学

【题目】Genetic diversity and characterization of heavy metal-resistant-endophytic bacteria from two copper-tolerant plant species on copper mine wasteland
【中文关键词】重金属抗性植物内生细菌;多样性;特性;海州香薷;鸭趾草
【英文关键词】Heavy metal-resistant-endophytic bacteria; Diversity; Characteristics; Elsholtzia splendens; Commelina communis

【中文摘要】利用可培养和未培养技术对海州香薷和鸭趾草内生细菌的多样性进行了研究。基于16S rDNA 序列分析的系统发育分析表明,分离的铜抗性细菌属于3个主要的细菌门:厚壁菌门、放线菌门和变形菌门。Bacillus 和 Acinetobacter是主要种属。克隆文库和基因测序分析表明,植物根部的种群为Alpha-, Beta-, Gamma-变形菌门,厚壁菌门、放线菌门和拟杆菌门,其中Gamma-变形菌门是主要的细菌种群。对分离到的32株植物内生细菌的重金属抗性和植物促生特性进行了研究。在添加4 mg kg-1铜的蛭石培养试验中,接菌处理的根和地上部干重分别比对照增加132-155%和71-83%,油菜地上部铜含量比对照增加63-125%。

【英文摘要】The diversity of endophytic bacteria from the copper-tolerant species Elsholtzia splendens and Commelina communis was evaluated by using cultivation and cultivation-independent techniques. Phylogenetic analysis based on 16S rDNA sequences showed that the Cu-resistant isolates belonged to three major phylogenetic groups: Firmicutes, Actinobacteria and Proteobacteria. Bacillus and Acinetobacter were predominant among the Cu-resistant isolates. Sequence analysis from the 16S rDNA clone libraries of the two plant roots revealed sequences of Alpha-, Beta-, Gamma-Proteobacteria, Firmicutes, Actinobacteria and Bacteroidetes. Gammaproteobacteria was predominant in the two 16S rDNA clone libraries. Thirty-two endophytic bacteria were isolated and characterized with respect to heavy metal resistance and production of plant growth-promoting factors. In experiments involving rape plants grown in vermiculite containing4 mg kg-1 of Cu, inoculation with the isolates was found to increase the dry weights of roots (ranging from 132% to 155%) and above-ground tissues (ranging from 71% to 83%) compared to the uninoculated control. Increase in above-ground tissue Cu content varied from 63% to 125% in inoculated-rape plants cultivated in Cu-contaminated substrate compared to the uninoculated control.

【语种】英文

【第一作者】孙乐妮

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【学科分类】环境科学技术及资源科学技术其他学科

【题目】Characterization and Localization of the Vacuolar-Type ATPase in the Midgut Cells of Silkworm (Bombyx mori)

【中文关键词】家蚕

【英文关键词】Bombyx mori, Midgut, V-ATPase B Subunit

【中文摘要】家蚕

【英文摘要】The vacuolar ATPase (V-ATPase) is a multifunctional enzyme that consists of severalsubunits. Subunit B is a part of the catalytic domain of the enzyme. The result of the RTPCRsuggested that the V-ATPase B subunit is a ubiquitous gene. 24 h after the larvae wereinfected with the Bombyx mori nucleopolyhedrovirus (BmNPV), the expression level ofthe V-ATPase B subunit in the midgut of the resistant strain NB was about 3 times higherthan in the susceptible strain 306, and then the expression level of the V-ATPase B subunitdecreased rapidly to a very low level. This indicated that the virus may cause a lot ofchanges of physiological conditions in the midgut. Localization of the V-ATPase B subunitwas attempted in midgut cells of Bombyx mori by immunohistochemistry. The immunohistochemicallocalization with the antibody against the B subunit revealed a positive stainingin goblet cell apical membranes of Bombyx mori midgut cells as well as in the midgut ofManduca sexta. This sequence has been registered in GenBank under the accession numberEU727173.

【语种】英文

【第一作者】杨华军

【通讯作者】陈克平

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【学科分类】昆虫学

【题目】Characterization of copper-resistant bacteria and assessment of bacterial communities in rhizosphere soils of copper-tolerant plants

【中文关键词】重金属抗性根际细菌;变性梯度凝胶电泳;细菌种群;铜耐性植物;铜矿废弃地

【英文关键词】Heavy metal-resistant rhizobacteria; DGGE; Bacterial community; Copper-tolerant plants; Copper mining wasteland

【中文摘要】从生长在铜矿废弃地上的铜耐性植物中分离到13株铜抗性细菌。并对分离菌株进行了16S rRNA 基因序列分析,同时对菌株重金属抗性和植物促生特性进行了研究。采用DGGE技术分析了铜耐性植物根际土壤细菌种群结构。结果表明,分离菌株对多种抗生素都具有抗性。菌株SZY6, YJ7 和JYC17能够产生生长素、铁载体、ACC脱氨酶并能溶磷。平皿促生试验表明,菌株MT16, JYC17, SZY6, GZC24, 和YJ7能够增加(16-41%)油菜幼苗根长。根际土壤细菌种群结构相似,同时DGGE图谱表明,根际土壤有效态铜浓度对细菌种群结构没有明显的影响。

【英文摘要】Thirteen copper-resistant bacteria were isolated from copper-tolerant plant species growing on a copper mine wasteland. The isolates were identified by 16S rRNA gene sequence analysis and characterized by their resistance to heavy metals and plant growth-promoting characteristics. The assessment of the bacterial communities in the rhizosphere soils of copper-tolerant plants was measured as bands in denaturing gradient gel electrophoresis (DGGE) obtained directly from rhizosphere soil DNA extracts. The isolates were found to exhibit different multiple heavy metal resistance characteristics. Strains SZY6, YJ7 and JYC17 were found to produce indole acetic acid (IAA), siderophore, 1-aminocyclopropane-1- carboxylate (ACC) deaminase or to solubilize phosphate. Root elongation assay conducted on rape under gnotobiotic conditions with strains MT16, JYC17, SZY6, GZC24, and YJ7 demonstrated increase (from 16 to 41%) in root elongation of inoculated rape seedlings compared to the control plants. In the rhizosphere soil samples the DGGE profiles of the direct DNA extracts were similar. The DGGE profiles indicated that there was no significant correlation between the concentration of available copper in the rhizosphere soils and the number of the visible bands in the DGGE pattern.

【语种】英文

【第一作者】何琳燕

【通讯作者】盛下放

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【学科分类】环境科学技术及资源科学技术其他学科

【题目】“东优1号”杂色鲍及其亲本群体的形态特征和养殖性能比较

【中文关键词】杂色鲍;“东优1号”;形态特征;存活率;生长速度;

【英文关键词】Haliotis diversicolor; "Dongyou No.1"; morphological characteristics; survival rate; growth rate;

【中文摘要】以杂交种"东优1号"杂色鲍及其亲本群体为研究对象,对三者的外形特征和养殖性能进行了比较。结果表明,在壳形和密度相关的参数中,壳宽/壳长指标差异最为显著,日本群体的壳宽/壳长指标显著地大于台湾群体(P<0.05),而"东优1号"的值则介于双亲群体之间。采用海区延绳式吊养和陆地工厂化养殖两种养成模式,分别在福建、广东和海南对"东优1号"杂色鲍及其亲本群体进行为期一年的养殖对比试验。结果表明,杂色鲍台湾群体受养成期暴发性死亡症的严重影响,存活率极低;日本群体虽然具有较好的抗病能力,但生长速度却显著慢于"东优1号"和台湾群体;"东优1号"杂色鲍的生长速度和存活率在3个实验点都表现出较为显著的优势。研究结果表明"东优1号"杂色鲍是适合在亚热带和热带地区进行养殖的优良鲍新品种。

【英文摘要】Small abalone Haliotis diversicolor is an economically important shellfish speices in southern China. The new variety"Dongyou No. 1"was crossbred by Japan selective strain as male and Taiwan selective strain as female. Morphological characteristics and grow-out performance in "Dongyou No. 1 "and its parental populations of small abalone were studied recently. The results for morphological characteristics showed that parameter of W/L was significantly different among three groups. The W/L for Japan population was significantly larger than Taiwan population(P <0.05) and the value for “ Dongyou No.1 ” was between them.These three groups were cultured in the coast of Fujian with suspended long-line cages farming model,Guangdong and Hainan with land-based intensive farming model for one year.The survival rate and shell length for three groups were calculated each three months. The results showed that Taiwan population experienced high mortality during grow-out period in the whole three areas.Japan population showed high disease-resistantability with high survival rate. But the growth rate for Japan population was significantly slower than Taiwan population(P <0.05) . “ Dongyou No. 1 ” showed excellent grow-out performance in all three areas.The results indicated that “ Dongyou No.1 ” was the suitable new variety of small abalone for farming in the subtropical and tropical areas.

【语种】中文
【第一作者】游伟伟,骆轩,王德祥
【通讯作者】柯才焕
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【学科分类】水产养殖学

【题目】Increased cadmium and lead uptake of a cadmium hyperaccumulator tomato by cadmium-resistant bacteria
【中文关键词】镉抗性细菌;特性;金属溶解;镉;铅;植物提取;镉超富集番茄
【英文关键词】Cd-resistant bacteria; Characterization; Solubilization of metals; Cd; Pb; Phytoextraction; Cd-hyperaccumulator tomato
【中文摘要】对两株镉抗性细菌假单胞菌RJ10和芽胞杆菌J16对镉、铅的溶解能力以及对镉超富集植物番茄的生长和吸收镉、铅的效应进行了研究。结果表明,与对照相比,接菌处理土壤中CaCl2提取态镉、铅的含量分别增加了58-104% 和67-93%。供试菌株能够产生生长素、铁载体、ACC脱氨酶。平皿促生试验表明,接菌处理可以增加植物根长。接菌处理比对照植物地上部镉、铅含量分别增加92-113%和73-79%。这些结果表明,供试菌株可以用于镉、铅污染土壤细菌强化植物修复中。
【英文摘要】Two cadmium (Cd)-resistantstrains Pseudomonas sp. RJ10 and Bacillus sp. J16 were investigated for their effects on the soil Cd and lead (Pb) solubilization and promotion of plant growth and Cd and Pb uptakes of a Cd-hyperaccumulator tomato. In the heavy metal-contaminated inoculated soil, the CaCl2-extractable Cd and Pb were increased by 58 – 104% and 67 – 93%, respectively, compared to the uninoculation control. The bacteria produced indole acetic acid, siderophore and 1-aminocyclopropane-1-carboxylatedeaminase. Root elongation assay conducted on tomato under gnotobiotic conditions demonstrated increase in root elongation of inoculated tomato seedlings compared to the control plants. An increase in Cd and Pb contents of above-ground tissues varied from 92% to 113% and from 73% to 79% ininoculated plants growing in heavy metal-contaminated soil compared to the uninoculation control, respectively. These results show that the bacteria could be exploited for bacteria enhanced- phytoextraction of Cd-and Pb-polluted soils.
【语种】英文
【第一作者】何琳燕
【通讯作者】盛下放
【期刊名称、卷期、页码】Ecotoxicology and Environmental Safety, 2009, 72: 1343 – 1348
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【学科分类】环境科学技术及资源科学技术其他学科

【题目】温度对杂色鲍不同群体生长率与存活率的影响
【中文关键词】海洋生物学; 杂色鲍; 群体; 温度; 生长; 基因型与环境互作;
【英文关键词】marine biology; Haliotis diversicolor; population; temperature; growth; genotype×environment interaction;
【中文摘要】在16、20、24和28℃这4个设定的水温下,以杂色鲍(Haliotis diversicolor)日本群体、台湾群体、越南群体和"东优1号"为材料,进行为期40 d的养殖试验,对4个杂色鲍群体在不同温度下的壳长日增长率(LGR)和体重日增长率(WGR)进行比较.结果表明,"东优1号"杂色鲍群体在28℃时的LGR和WGR值分别达到162.23±15.79 μm/d和46.52±6.89 mg/d,在4个温度下的LGR和WGR值都优于其他3个群体,台湾群体在较高温度(24和28℃)条件下的LGR和WGR值要高于日本群体,而日本群体在较低温度(16和20℃)时的值则高于台湾群体.双因素方差分析的结果进一步表明,温度对杂色鲍不同群体的生长率指标具有显著影响.
【英文摘要】The small abalone, Haliotis diversicolor, is naturally distributed along the coastal waters of East Asia and is a commercially important species cultured along the coast of southern China. The current study genetically characterized four different small abalone populations(Japan, Taiwan, Vietnam, and "Dong You No.1") that were reared at 16,20,24,and 28°C for 40 days, and the values of length growth rate(LGR) and weight growth rate(WGR) were investigated. The study revealed that the Dong You No.1 and the Vietnam populations had the highestand lowest values of LGR and WGR,respectively.Dong You No.1 reached 162.23 ± 15.79

μm/d for LGR and 46. 52 ± 6.89 mg /d for WGR at 28℃. In terms of LGR and WGR,the Taiwan population performed better than the Japan population at higher temperatures (24 and 28℃) ,while the Japan population performed better than the Taiwan population at lower temperatures (16 and 20℃).The impact of population and temperature on LGR and WGR was investigated by two-way analysis of variance. The current study indicated that the impact of population and temperature on growth were both highly significant ($p < 0.01$) ,and a significant association ($p < 0.05$) between population and temperature was also found. The results provide useful information for optimal growth conditions for thesmall abalone industry.

【语种】中文
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【期刊名称、卷期、页码】台湾海峡,2011;卷:30;期:4;页码:583-588
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【题目】小球藻和光合细菌在大菱鲆育苗中对水质调节作用的研究
【中文关键词】苗种培育　小球藻　光合细菌
【英文关键词】Larvae culture　Chlorella pyrenoidosa Chick　Photosynthetic bacteria(PSB)
【中文摘要】在大菱鲆苗种培育池中添加小球藻和光合细菌,通过测定开口后0~16d以及第8天全天池水中氨氮和亚硝酸盐浓度的变化,证明小球藻和光合细菌能显著吸收和抑制这两种营养盐,净化苗池水质;而小球藻对这两种营养盐的抑制作用更为明显。同时,在苗池中添加小球藻和光合细菌也能满足仔鱼及其活饵料的营养需求,促进仔鱼生长发育,是一种值得推广应用的方法。
【英文摘要】Chlorella pyrenoidosa was added separately or in combination with photosynthetic bacteria(PSB) Rhodobacter sphaeroides to larvae rearing tanks for turbot Scophthalmus maximus, and the concentrations of NH+4 andNO-2 were measured every two days during 0~16 d and every two hours on day 8. It was found that Chlorella and PSB assimilated and thus suppressed the increase of these two nutrients, so that the water quality of the treatment tanks was improved. And it was found that Chlorella played a major role in absorbing these two nutrients. At the same time, these micro algae and microbes were good nutritional supplements for the fish larvae or their live feed, and would duly improve the growth performance of the larvae. It is suggested that Chlorella and PSB are effective in water quality control and should be widely applied in hatchery.
【语种】中文
【第一作者】朱建新
【通讯作者】朱建新
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【学科分类】水产饲料学

【题目】海水对虾工厂化循环水养殖系统模式分析
【中文关键词】循环水养殖系统　工厂化养殖　对虾养殖　海水养殖
【英文关键词】recirculating aquaculture systems　industrial aquaculture　shrimp culture　mariculture
【中文摘要】对虾养殖由于受到水资源和虾病的困扰,工厂化循环水养殖已经成为今后对虾养殖的一个重要方向。对虾工厂化循环水养殖系统的结构包括了养虾池、水处理技术、消毒杀菌、增氧技术、水温调节装置等。目前,典型的养殖模式有美国德州跑道式对虾养殖系统、台南室内自动化循环水养虾系统、美国佛罗里达三阶段养殖系统和美国夏威夷基于微藻的循环水对虾养殖系统。文中对这4种典型的对虾工厂化循环水养殖系统的养殖试验情况进行分析比较。
【英文摘要】The shrimp cultivation are getting in trouble of water consumption and diseases, so the recirculating marine shrimp cultivation has been playing an important part of shrimp cultivation. The recirculating marine shrimp cultivation systems' structure includes culture tank, water treatment technology, disinfection or sterilization, aeration technology, water temperature adjusting device and so on. At present the paper introduces 4 typical cultivation models, that is the American Texas recirculating raceway shrimp cultivation system, the Taiwan indoor shrimp culture system, the American Florida 3-phase shrimp production system and the

American Hawaii microalgae-based recirculating shrimp cultivation system. The paper analyses and compares the experimental results of these 4 kinds of typical shrimp cultivation systems
【语种】中文
【第一作者】刘 晃
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【学科分类】水产工程学

【题目】Influence of several non-nutrient additives on nonspecific immunity and growth of juvenile turbot,Scophthalmus maximus L.
【中文关键词】无
【英文关键词】Growth
non-nutrient additives
nonspecific immunity
turbot
【中文摘要】无
【英文摘要】The effects of three non-nutrient additives on nonspecific immunity and growth of juvenile turbot (Scophthalmus maximus L.) were studied in this feeding experiment. The five treatments are basal diet alone, basal diets containing three different additives [0.4 g kg - 1of xylo-oligosaccharides (XOS), 1.3 g kg- 1 of yeast cell wall and 0.8 g kg- 1 of bile acids] individually or in combination. Two hundred and twenty-five turbots (average initial weight 151.3 ± 11.3 g) were randomly allotted in five treatments with three replicates within each treatment in a 72-day period. Comparing with basal diet group, activities of C3, C4, phagocyte, lysozyme, specific growth rate and feed conversion rate in yeast cell wall, XOS and the combined groups was enhanced significantly (P < 0.05); however, these parameters in bile acid groups were increased slightly (P > 0.05) except for phagocyte (P < 0.05); superoxide dismutase activity in additive groups was not significantly increased (P > 0.05) except for the combined group (P < 0.05). In conclusion, supplementation of yeast cell wall and XOS enhanced the nonspecific immunity of juvenile turbot. Synergistic or additive effect of the three additives was not observed.
【语种】英文
【第一作者】Dr Yong Li
【通讯作者】Dr Yong Li
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【学科分类】水产饲料学

【题目】Influence of dietary protein levels on growth,digestibility,digestive enzyme activity and stress tolerance in white-legshrimp,Litopenaeus vannamei(Boone,1991)reared in high density tank trial
【中文关键词】无
【英文关键词】Litopenaeus vannamei
dietary protein
growth
digestive enzymes
digestibility
【中文摘要】无
【英文摘要】The effects of dietary protein (DP) levels on the growth, digestibility, digestive enzyme activity and stress tolerance of Litopenaeus vannamei (Boone, 1931) were investigated in high-density (375 m-3) tank trials. Shrimps (6.2 ±0.2 g) were fed diets with five different protein levels (31 % , 35 % , 39 % , 43 % and 47 %) for 60 days. The results showed that variations in DP significantly (

P<0.05) influenced the growth performance, digestibility, enzyme activity and their ability to tolerate stress. Weight gain showed a linear increase in relation to crude protein (CP) up to 43 % and showed as light decrease with a further increase to 47 % . Feed convers ion ratio was observed to be the lowest in C P 43 % : 2.53. A higher protein efficiency ratio was observed with the low-protein diet CP 31(1.07); however, it was not significantly different from the rest of the dietary treatments. Protein digestibility was the highest (75.71 %) i n CP 47 and the lowest (71.94 %) i n C P 31. Protease activity ranged between 63.7 and 70.2(U Protein-1), and showed a positive correlation with the DP levels. Shrimp fed CP43 well tolerated a sudden decline in salinity and survived for 548.3 min in fresh water. Observations from this study indicate that a DP level around 43% could be optimum for L.vannamei in high-density culture systems in the absence of natural productivity.

【语种】英文

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【学科分类】水产饲料学

【题目】高密度养殖凡纳滨对虾蛋白质生态营养需要量与水质及消化特征

【中文关键词】凡纳滨对虾 生态营养需要量 高密度养殖 水环境 消化率

【英文关键词】Litopenaeus vannamei eco-nutrition requirement high density environment factors digestibility

【中文摘要】在高密度养殖条件(平均养殖密度 3.1 kg/m3)下 ,用5种蛋白质水平(31%、35%、39%、43%、47%,分别以 A ~E组表示)的饲料,投喂体质量(6.2±0.2)g 的凡纳滨对虾 (Litopenaeus vannamei),每个处理组设3个重复,每个重复30尾虾,实验期 60 d,探讨蛋白质营养对生长、环境因子、排泄与饲料消化特征的影响。结果表明:(1)饲料蛋白水平>39% 时具有显著促进对虾生长的效果。随着蛋白水平的提高,增重率先增加后降低,饲料系数则相反。(2)养殖水体中氨氮、亚硝氮和磷酸盐浓度随饲料蛋白质水平增加而显著升高,E 组与其他各组差异显著(P<0.05)或极显著(P<0.01)。(3)随着饲料蛋白质含量增加 ,饲料总消化率显著下降,而蛋白质消化率显著升高。(4)创新建立的对虾日粮蛋白质水平与日增氮、日排有害氮的定量动态变化关系,使蛋白质生态营养需要量得以量化确定。高密度养殖凡纳滨对虾获得最大增重的蛋白质需要量为 43.73%,获得最佳生长和氮减排的蛋白质需要量为 40.42%。

【英文摘要】An experiment was conducted for 60 days to determine the relationship between different dietary protein levels and growth performance,environment factors and digestive characteristics of white shrimp Litopenaeus vannamei in high density culture system. Four hundred and fifty white shrimps with average initial weight of 6.2±0.2g were assigned randomly to five treatments groups with three replicates and were fed diets with 5 different protein levels which were 31%,35%,39%,43% and 47%,respectively in average stock density of 3.1 kg/m3. The results were as follows:(1)As the protein levels increased,the weight gain rate rose at first and then decreased,while the feed conversion ratio had the opposite tendency. Shrimps fed with 43% dietary protein got the best growth performance. (2)Seawater factors such as NH4+-N,NO2--N,PO43--P and suspended substance (SS) were affected significantly by dietary protein levels(P < 0.05),and all of them increased with protein levels increasing. The environmental factors of the group fed with 47% dietary protein were different from those of other groups significantly(P < 0.05). (3) Total apparent digestion rate decreased with the increase of protein level,while the protein digestion rate increased significantly(P <0.05). (4) We have innovatively qualified the dynamic relationship between nitrogen excretion or nitrogen gain and the increasing dietary protein levels,so that the exact requirement of protein can be calculated. Based on the growth performance,43.73% may be recommended as the conventional requirement of protein with the biggest growth rate for adult white shrimps in high density culture system. However,40.42% may be recommended as the eco-nutrition requirement of protein with the optimum growth and nitrogen excretion

【语种】中文

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【学科分类】水产养殖学

【题目】蛋白质与饱食度对工厂化养殖半滑舌鳎生长与免疫的影响
【中文关键词】半滑舌鳎　蛋白水平　饱食度　生长性能　免疫力
【英文关键词】Cynoglossus semilaevis G　nther　Protein levels　Satiation degree　Growth performance　Immunity activity
【中文摘要】海水养殖鲽形目鱼的营养需求研究和生产提供科学参考。
【英文摘要】The 5×3 two-factor random animal experiment was conducted for 108 days to determine the effects of protein levels and satiation degrees on growth performance and immunity activity of juvenile Cynoglossus semilaevis G　nther (with average initial weight of 110±25g) in the industrial culture condition with closed recirculation seawater. The trial fish were randomly allocated into 15 triplicated treatments, with five diets at protein levels of 43%, 46%, 49%, 52%, 56%(A-E groups) and three satiation degrees of feeding(100%, 90%and80%, as Ⅰ Ⅱand Ⅲ degree). The results indicated that: (1)the best weight gain were found in both the highest protein level and the highest satiation degree. Weight gain ratio in group E was significantly higher than the other groups (13.75%~50.16%), and that of degree Ⅰ was significant higher than degree Ⅱand Ⅲ(7.57% and 14.08%), respectively; higher protein efficiency ratio and the minimum mortality appeared in the intermediate protein level , mortality ratio of group C was lower than the others (50%~75%) the highest feed conversion ratio and protein efficiency ratio were present in the lowest satiation degree, for which degree Ⅲ was higher than the others (4.78% and 5.32%), respectively. (2) the intermediate protein level and the highest satiation degree were stimulative to enhancing SOD activity, group C was significantly higher than the other groups (4.2%~ 34.79%) degree Ⅰ was significant higher than degree Ⅱand Ⅲ (15.27% and 25.70%), respectively; the intermediate protein level and 90%satiation were good for promoting LZM activity, group C was significant higher than the other groups(4.61%~18.07%), degree Ⅱwas significant higher than degree Ⅰ and Ⅲ(12.03% and 4.58%), respectively; the intermediate and higher protein level and the highest satiation degree were stimulative to enhancing complement C3, C4 activity; (3) the protein level of feed for maximum growth of juvenile C. semilaevis G　nther in the industrial culture condition was 56%, but for optimal immunity activity and protein efficiency ratio was 49%~52%.
【语种】中文
【第一作者】王美琴
【通讯作者】李勇
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【学科分类】水产饲料学

【题目】蛋白质营养对高密度养殖南美白对虾生长与免疫力的影响
【中文关键词】凡纳滨对虾(Litopenaeus vannamei)　蛋白质水平　生长性能　免疫力　抗胁迫　水质因子
【英文关键词】Litopenaeus vannamei　proteinlevels　growthperformance　immunity　anti-stress ability
【中文摘要】在高密度养殖条件下, 进行单因素随机设计动物试验。用5种饲料(蛋白质水平31%、35%、39%、43%、47%,以A~ E组表示) 分别投喂平均体质量6. 2g? 0. 2g、平均养殖密度3. 1kg/ m3的凡纳滨对虾(Litopenaeus vannamei) ,探寻蛋白质营养对虾生长、免疫、水质、抗胁迫的影响特征。结果表明:(1) 中高蛋白质水平具有显著促进对虾生长的效果,随着蛋白水平的提高, 特定生长率先增加后降低, 饲料系数正好相反, D组两指标最佳, 分别为110.98%和2.54; C、D、E组差异不显著。(2) 中高蛋白质水平有利于提高对虾多数免疫指标的活力,血淋巴中血细胞浓度、T-AOC活力、POD活力、总蛋白含量、白蛋白、血蓝蛋白含量, 随着蛋白质水平提高先增加后降低,前5指标含量均以D组最高,比A组显著提高16.8%~33.9%;而血蓝蛋白含量C组最高,比A组提高15.0%。(3) 高蛋白质水平有利于提高对虾SOD活力,也显著增强抗低盐胁迫的能力, 但同时极显著加大了水环境中氨氮和亚硝氮的污染。(4) 在我国北方集约化高密度养殖条件下,凡纳滨对虾中后期生长阶段适宜的饲料蛋白质营养水平为39%~ 43%。
【英文摘要】An experiment was conducted for 60 days to determine the relationship between the different dietary protein content and the growth and immunity of Litopenaeus vannamei in high density culture system.450 white shrimps(average initial weight 6. 2±0. 2g) were assigned randomly to five treatments with three replicates within each treatment and were fed diets with 5 different protein levels 31%, 35%, 39%, 43% and 47% respectively in average density 3. 1kg/m3. The results were as follows: (1) Shrimps fed 43% dietary protein had the maximal special growth rate and the minimal feed conversion, there was no significant difference when the protein level was above39%. (2) The total hemocyte counts, T-AOC activity, POD activity, total protein content, and white protein content in haemolymph were increased at first and then decreased with the increase of protein content in the diet. Compared with 31% protein content, the above 5 indicators of 43% protein content which was the best group were enhanced from 16. 8% to 33. 9%(P<0.05). The

SOD activity and oxyhemoly content reached a peak in 47% and 39% protein content respectively.(3) The concentrations of total ammonia, nitrite in the feeding water were increased significantly with the increasing of dietary protein level. The best group under low salinity stress has 43% protein content and had a significant difference with the shrimps fed 31% protein content. (4) Based on the results of the special growth rate, immune indicators, water quality and anti stress abilities, the optimum protein requirement in the diet for sub-adult white shrimps in high density culture is 39%~ 43%.

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【题目】工厂化养殖半滑舌鳎生长、摄食和水质的变化特征及规律
【中文关键词】半滑舌鳎 工厂化养殖 生长 摄食 水质
【英文关键词】Cynoglossus semilaevis Industrial culture Growth characteristics Feed intake Water quality
【中文摘要】在封闭循环水养殖条件下,进行6×2双因素随机设计动物试验, 即6个体重阶段(45~550g)和2个密度水平(高密度比正常密度提高20%~30%), 共形成12个处理, 每处理3个重复, 试验期44d。探寻我国北方工厂化养殖半滑舌鳎生长、摄食和水质的变化特征及规律。结果表明: (1)日增重、日均摄食量、饲料系数等绝对指标与体重阶段呈正相关;氨氮、COD等水质指标相对浓度与体重阶段呈负相关; (2)常规水质条件下, 高密度养殖不利于生长、摄食和降低水体有害物, 其副作用起初并不明显, 随着试验时间的推移不断加大; (3)新发现半滑舌鳎的日摄食率为0. 43%~0. 92%, 对常规鱼类投饲率推荐范围(2%~ 5%)提出了质疑, 为现代海水养殖精准饲喂和清洁生产提供了科学依据; (4)本试验条件下, 体重45~ 550g阶段半滑舌鳎的特定生长率为(1. 42%~0150%) /d,饲料系数为0. 68~ 0. 86,水中氨氮为8. 45~ 1. 51mg/(kg • h)。
【英文摘要】The 6×2 bi-factor random experiment was conducted to investigate the effect of bodyweight (6 groups, 45~550g) and stocking density (two levels, normal and high-added 20~30% on normal level) on growth performance, feed intake and water quality for Cynoglossus semilaevis G nther intensively cultured in recirculation aquaculture system for 44d. Totally 345 individuals of fish were randomly allotted into 12 treatments with triplicate per treatment The results shown that: (1) daily weight gain, daily feed intake and FCR were positively correlated to body weight but SGR and daily feeding rate negatively; the comparative concentration of water quality parameters(NH4+-N, NO2 --N, COD, PO4-) also negatively; (2) under the condition of general water quality, highStocking density resulted in a decrease in growth and intake of the fish, and an increase in the content of harmful waste in water; (3) in this study it is found that daily feeding rate(0. 43%~0. 92%) was significantly lower than the conventional one (2%~5%) recommended by previous studies; (4) under conditions of this experiment the SGR of C. semilaevis was(1. 42%~0. 50%) /d, the FCR 0. 68~0. 86, the ammonia concentration in water 8. 45 ~1. 51mg/(kg • h).
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【题目】弧菌拮抗菌的筛选及其对凡纳滨对虾的抑菌防病作用
【中文关键词】凡纳滨对虾 弧菌病 需钠弧菌FS-1 弧菌拮抗菌 短小芽孢杆菌H2
【英文关键词】Litopenaeus vannamei vibriosis Vibrio natriegens FS-1 probiotics Bacillus pumilus H2
【中文摘要】从海洋沉积物中分离到 2 株弧菌拮抗菌 (H2 和H4), 经生理生化特性、16S rRNA 基因序列分析分别鉴定为短小芽孢杆菌(Bacillus pumilus H2) 和地衣芽孢杆菌(Bacillus licheniformis H4). H2和H4菌株均对需钠弧菌的生长有显著的抑制作用; 但只有 H2菌株在模拟养殖动物小肠环境中生长良好. 选择H2进行模拟试验(20尾凡纳滨对虾虾苗为1 组). 结果表明,对照组 (不接种) 虾苗存活 32h, 接种弧菌的试验组虾苗仅存活 16h, 同时接种 H2菌株和弧菌的试验组虾苗存活48h, 而仅

接种 H2菌株的试验组虾苗存活了72h, 说明菌株 H2可显著提高凡纳滨对虾的存活时间 .现场试验中,100L 养殖池中(50尾虾/池), 分别接种 0 (对照), 103, 104 CFU/mL 的H2菌株并养殖14d, 再用 104 CFU/mL需钠弧菌处理 14d. 接种104 CFU/mL H2菌株的试验组,虾的死亡率仅为 12.5%, 显著低于对照组的30.8%(P<0.05). 接种104 CFU/mL 菌株H2的试验组, 虾的体长、体重都略高于对照组,但各试验组之间差异不显著(P >0.05).

【英文摘要】Two bacterial strains, H2 and H4, were isolated from marine sediment and identified as Bacillus pumilus H2 and Bacillus licheniformis H4, respectively, based on their physiological properties and the analysis of 16S rRNA gene sequence. Both strains showed significantly inhibitory effects against the growth of Vibrio natriegens by antimicrobial activity assay. However, only strain H2 could survive in th e intestinal conditions as revealed by the simulated gastro intestinal tract (GIT) test, keeping cell number stably at 1010 CFU/mL. B. pumilus H2 was also benefit to the survival of juvenile shrimp (Litopenaeus vannamei) as revealed by the flask bottle test (20 shrimp fries for every bottle as a group). Probiotic effect of B. pumilus H2 to juvenile shrimp was carried out in aqu aculture tanks with 100L each with 50 shrimps. Juvenile shrimp were exposed to B. pumilus H2 at 0 (as control), 103 and 104 CFU/mL for 14d before a challenge with Vibrio natriegens at 104CFU/mL for 1 d infection. The final mortality of the shrimp group treated with 104CFU/mL B. pumilus H2 was only 12.5%, much lower than the group treated with 103 CFU/mL B. pumilus H2 (28.3%) and the control group (30.8%, P<0.05); and the average weight and length of the shrimp group treated with 104 CFU/mL B. pumilus H2 were also a bit higher than those of the control group.

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【题目】循环海水养殖中生物滤器生物膜研究现状与分析
【中文关键词】生物膜 生物滤器 微生物生态 循环海水养殖系统
【英文关键词】biofilm biofilter microbial ecology recirculating marine aquaculture system
【中文摘要】综述了循环海水养殖中生物滤器生物膜的研究进展, 包括生物膜的形成、结构、原理、生物多样性以及功能, 重点阐述生物膜的微生物学特征, 介绍微生物生态学方法,特别是分子生态学方法在生物膜研究中的应用及其在生物膜微生物群落结构与功能研究的最新成果。

【英文摘要】In this paper, the formation, structure, mechanism, biodiversity and the function of biofilm in recirculating marine aquaculture wastewater treatment were introduced, mainly focused on the microbiological characteristics of biofilm, the application of some microbial ecology techniques, especially molecular ecological techniques in the research on biofilm and some novel results about the microbial community structure and functions of biofilm obtained by these techniques

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【题目】竹子填料海水生物滤器除氮性能和硝化细菌群落变化研究
【中文关键词】海水生物滤器 竹子填料 氨氮去除 硝化细菌 养殖废水
【英文关键词】Marine biofilters Bamboo medium NH+4-N removal Nitrifying bacteria Aquaculture wastewater
【中文摘要】生物滤器是循环水养殖系统的关键水处理单元, 主要用于去除水体中水溶性的氮化物。采用人工模拟海水养殖废水, 在系统运行的水力停留时间HRT为1h, 水温为18~25℃ , 气水比为3:1, 初始C/ N=3:1, pH为8.05~ 8.53条件下, 对竹子填料浸没式生物滤器的挂膜过程和稳定运行阶段系统去除氨氮的运行特性, 以及挂膜过程中的硝化细菌群落变化进行了实验研究。结果表明, 在较低的NH+4-N浓度条件下, 采用竹子填料的生物滤器有较快的挂膜速度, 挂膜成功后滤料表面

上生长的氨氧化细菌和亚硝酸氧化细菌的数量分别为4.5×105、1.5×105(光面)和1.1×106CFU/ml(粗面)。具有较高且稳定的氨氮去除效果,氨氮去除效率达到80%,出水浓度小于0.06mg/L,满足海水循环养殖系统中的应用要求。

【英文摘要】Biofilter is the key water treatment unit of marine RAS(Recirculating Aquaculture System), and it plays an important role in water-soluble nitrogen removal. A pilot-scale experiment study was systematically carried out with synthetic aquaculture wastewater. The performances of ammonia removal in start-up and steady-state period were examined in the marine biofilters packed with bamboo medium. The hydraulic retention time, temperature, gas/water ratio, C/N and pH were 1 hour, 18~25℃, 3:1, 3:1 and 8.05~8.53, respectively. Results showed that marine biofilter packed with bamboo substrate enabled the nitrifying bacteria to grow rapidly, and the number of ammonia-oxidizing bacteria and nitrite-oxidizing bacteria was 4.5×105CFU/ml、1.5×105 CFU/ml(smooth) and 1.1×106 CFU/ml(crude) in steady-state period, respectively. The ammonia removal rate of biofilter was highly efficient. The ammonia nitrogen concentration in the effluent of bamboo biofilters was below 0.06mg/L, which was much lower than the toxic level for almost all the aquaculture species.

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【中文关键词】循环水养殖系统 自然微生物 生物膜 生物载体

【英文关键词】recirculating aquaculture systems naturalmicrobes bio-film microbialcarrier

【中文摘要】进行了不同初始NH4-N浓度,在实验水温20~24℃条件下,利用微生态制剂辅助,循环水养殖系统中自然微生物生物膜形成过程的实验研究。结果表明:不同NH4-N浓度对自然微生物生物膜形成产生显著影响,5、10和20mg/L高浓度NH4-N更易于微生物的扩繁生长和生物膜形成,其生物膜达到预期水质净化效果的形成周期,即生物挂膜成熟周期,约需要35~40 d。生物挂膜成功后,形成很好的硝化作用,实验生物滤池中的NH4-N、NO2-N浓度均保持低于0.05mg/L,COD浓度低于3mg/L,显示出对NH4-N、NO2-N和COD很高的去处效果,但对PO4-P处理效果不明显。而1和2mg/L低浓度NH4-N不易于微生物的扩繁生长,难以形成具有较好水质净化效果的生物膜,即生物挂膜难以成功。

【英文摘要】The studied on the experiment of process of formed bio-film of the natural microbes was conducted by the microbial ecological agent assisted in different tammonia-nitrogen concentrations in re-circulating aquaculture systems, under the condition of water temperature 20 to 24°C. The results of experiments showed that different ammonia-nitrogen concentrations had a significant impact on bio-film formation of natural microbes in bio-filter. The bio-film was prone to expand, grow and for min high ammonia-nitrogen concentrations 5mg/L, 10mg/L, 20mg/L, and could complete the formation period of anticipating purifying effect of water quality, mature periods of bio-film formation were needed about 35~40 days. After the bio-film formation, the complete nitrification was established, ammonia-nitrogen and nitrite-nitrogen concentrations kept below 0.05mg/L, and COD concentration was under 3mg/L, but the treatment effect of phosphate was not obvious in experimental bio-filter. Contrarily, in the low ammonia concentrations of 1mg/L, 2mg/L, the microbes were not prone to expand and grow, and were difficult to form the bio-film of preferable purifying effect of water quality, that was to say, it was difficult to form the bio-film successfully.

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【题目】微生态制剂对生物挂膜及牙鲆生长的影响研究

【中文关键词】循环水养殖 生物挂膜 微生态制剂 牙鲆(Paralichthys olivaceus)
【英文关键词】re-circulating aquaculture bio-film formation microbial ecological agent Paralichthys olivaceus
【中文摘要】针对工厂化循环水养殖系统中生物滤池去除有害污染物质的核心问题, 采用单因素梯度设计,添加50(1#), 100(2#), 250(3#), 500(4#), 1 000(5#), 1 500(6#)g 微生态制剂辅助自然微生物在生物载体上进行人工挂膜, 挂膜2 周后, 进行40 d 循环水养殖牙鲆(Paralichthys olivaceus), 培养生物膜去除NH4+-N,NO2－-N 模拟实验。结果表明:不同质量浓度微生态制剂有利于自然微生物挂膜,与对照组相比, 在进水中较低的NH4+-N, NO2－-N质量浓度下, 生物膜能够显著地降低NH4+-N, NO2－-N质量浓度;除1#组NH4+-N, NO2－-N平均去除率分别为13.0%, 14.4%外, 其余组都在20% 以上, 但去除效果差异不显著(P >0.05); 实验组牙鲆平均体质量、体长、体质量增长率、饵料系数与对照组相比, 呈显著性差异(P <0.05), 且4#组牙鲆体质量增长效果最明显, 与对照组相比, 牙鲆的平均体质量增长量比对照组多增长了76%, 饵料系数最低,为1.16; 对照组牙鲆成活率为72%, 各实验组在76%~84% 之间。4#生物滤池处理水质效果较好, 能够有效地将养殖水中的NH4+-N, NO2－-N转化为 NO3－-N, 且养殖效果较好, 可作为工厂化循环水养殖系统生物滤池中添加微生态制剂辅助自然微生物挂膜的参考依据。
【英文摘要】To solve the core issue of removal of harmful pollutants in bio-filter of industrial re-circulating aquaculture system, by a single factor gradient design, artificially bio-film formation was conducted on the biological carrier packing by adding 50(1#), 100(2#), 250(3#), 500(4#), 1000(5#) and 1500(6#) g microbial ecological agent to assist natural microbe. After two weeks bio-film formation, simulation experiment that Paralichthys olivaceus were reared in re-circulating water to ex amine the removal of ammonia-nitrogen and nitrite-nitrogen by culturing bio-film were carried out for forty days. The results showed that different concentrations of microbial ecological agent were beneficial to the bio-film formed by natural microbes, leading to more efficient removal of mmonia-nitrogen and nitrite-nitrogen concentrations; except that the mean removal rates of ammonia-nitrogen and nitrite-nitrogen in group 1# were 13.0% and 14.4%, respectively, the other experimental groups were more than 20%, but no significant difference between their removal effect being seen (P > 0.05); compared with control group, the mean body weight, body length, weight gain rate, and feed conversion rate of P. olivaceus were significantly difference in experimental groups, the effect of weight gain being obviously significant (P <0.05) for group 4#, with the mean body weight of P. olivaceus increased by 76% over than control group, and the lowest feed conversion rate being 1.16 in experimental groups; the control group ’s survival rate of P. olivaceus was 72% ,and the experimental groups were between 76% and 84%. The better water quality was associated with 4# bio-filter, which effectively conversed ammonia-nitrogen and nitrite-nitrogen into nitrate-nitrogen, leading to better farming. The 4# sys-tem can be used as a reference of bio-film formation aided the addition of microbial ecological agent in industrial re-circulating aquaculture system.
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【中文关键词】工厂化海水养殖 悬浮颗粒物 滤食性双壳贝类 半滑舌鳎 生物滤除 沉积物
【英文关键词】industrial seawater aquaculture suspended particles filter-feeding bivalve Cynoglossus semilaevis G ü nther bio-filter sediment
【中文摘要】针对海水鱼类半滑舌鳎养殖池排出水中大量絮状悬浮物难以用常规机械过滤法去除的问题,选择适应能力强的滤食性双壳贝类长牡蛎(Crassostrea gigas)和紫贻贝(Mytilus galloprovincialis),通过现场实验测定了它们对鱼类养殖排出水中悬浮物的生物滤除能力。结果表明,在海水流速为100L · h-1条件下,牡蛎[壳高(9.80±0.45)cm,湿重(117.0±10.0)g]和贻贝[壳高(6.54±0.26)cm,湿重(29.7±2.4)g]对养殖排出水悬浮物的生物沉积速率分别为40.28~45.30mg · ind-1 · d-1[平均(43.40±2.16)mg · ind-1 · d-1]和6.96~8.87mg · ind-1 · d-1[平均(7.66±0.99)mg · ind-1 · d-1];在实验海水流速为150L · h-1条件下,牡蛎[壳高(9.33±0.99)cm,湿重(95.8±31.4)g]和贻贝[壳高(6.39±0.91)cm,湿重(28.0±15.4)g]对悬浮物的生物沉积速率分别为13.68~22.50mg · ind-1 · d-1[平均(17.35±4.59)mg · ind-1 · d-1]和5.37~5.67mg · ind-1 · d-1[平均(5.55±0.15)mg · ind-1 · d-1]。表明长牡蛎和贻贝两种双壳贝类对半滑舌鳎养殖池出水中悬浮物具备很强的生物滤除潜力,且能吸收和利用悬浮物中的有机质实现养殖废物的生物资源化利用。
【英文摘要】In industrial aquaculture wastewater, there occur large quantities of suspended particles from undigested remains and fish feces that are easily physically broken up. Especially it is difficult to remove the flocculent suspended solids from culture pond of

Cynoglossus semilaevis G ü nther with conventional mechanical filter methods. In this study, we chose two kinds of filter-feeding bivalves, the Pacific oyster Crassostrea gigas and the blue mussel Mytilus galloprovincialis to remove the suspended solids from fish aquaculture wastewater in flow through systems. Results showed that when water flow speed was 100L · h-1,the biologically filter-removing rate of suspended particles by C. gigas (shell height 9.80±0.45 cm; individual wet weight 117.0±10.0 g)and M. galloprovincialis (shell height 6.54±0.26 cm; individual wet weight 29.70±2.44 g)were 40.28~45.30 mg · ind-1 · d-1 (average 43.37 mg · ind-1 · d-1) and 6.96~8.87 mg · ind-1 · d-1 (average7. 66 mg · ind-1 · d-1),respectively; and when the flow waste-water speed was 150 L · h-1,the biologically filter-removing rate of suspended particles by oysters(shell height 9.33±0.99 cm; individual wet weight 95.78±31.44 g)and mussels(shell height 6.39±0.91 cm; individual wet weight 28.03±15.4 g) were 13.68~22.50(average 17.35) mg · ind-1 · d-1and 5.37~5.67(average 5.55) mg · ind-1 · d-1,respectively. Also, we found that the POM, and C, N, and P in sediments of oyster system were significantly lower than those of the control system. We conclude that the two species C. Gigas and M. galloprovincialis have a considerable potential to filter and remove suspended particles from aquaculture wastewater, and simultaneously yield the biological resource use.

【语种】中文

【第一作者】张少军

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【学科分类】水产资源学

【题目】国内外渔业装备与工程技术研究进展综述

【中文关键词】渔业装备与工程 研究进展 发展趋势

【英文关键词】fishery equipment and engineering research progress development trend

【中文摘要】概要介绍包括循环水技术、池塘生态养殖工程、深水网箱设施、人工鱼礁、渔船捕捞装备、水产品加工设备等在内的渔业装备与养殖工程技术领域,国内的最新研究成果以及国外近几年的研发进展,通过国内外比较分析,提出主要的热点和难点问题,简述该领域的科技前沿及发展趋势

【英文摘要】The lastest research results in China and the recent research progress in the world in the field of fishery equipment and aquaculture engineering technology was briefly introduced in this paper, including recirculating water treatment technology, pond ecological culture engineering, offshore cage facilities, artificial fish reef, fishing equipment and aquatic product processing, etc. Through comparative analysis between domestic and abroad, this paper pointed out the hot and difficult issues, and summarized the development trend and the leading edge of science and technology in this field

【语种】中文

【第一作者】徐 皓

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【学科分类】水产工程学

【题目】2010世界水产大会对水产养殖工程发展提出新见解

【中文关键词】水产养殖业 循环水 养殖系统 絮团 可持续发展 研究与应用 封闭循环 生物 养殖池 世界

【英文关键词】无

【中文摘要】2010年3月1—5日,在美国加州美丽的海滨城市圣迭戈(San Diego)召开了三年一届的世界水产大会,本次大会由世界水产学会(World Aquaculture Society)、国际贝类联合会(National Shell fisheries Association)、北美渔业协会养殖分会(Fish Culture Section of the American Fisheries Society)主办,大会主题是“ 持续=获利(Sustainable=Profitable) ”。本次大会有来自60余个国家的1 000余名专家学者、管理人员和生产企业代表参会,会议内容涉及鱼虾贝藻人工繁育、遗传育种.

【英文摘要】无

【语种】中文
【第一作者】刘鹰
【通讯作者】刘鹰
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【学科分类】水产工程学

【题目】凡纳滨对虾幼体采食不同蛋白日粮的免疫与消化率特征研究
【中文关键词】凡纳滨对虾 蛋白质营养 免疫力 蛋白质消化率 生长性能
【英文关键词】Litopenaeus vannamei Protein levels Immunity Protein digestibility Growth performance
【中文摘要】在室内养殖条件下,进行单因素随机设计动物试验,即5种饲料蛋白质水平(31%、35%、39%、43%、47%,以A~E组表示)处理,投喂平均体重0.2g的凡纳滨对虾(Litoenaeus vannamei)幼体,养殖60d。研究结果表明,蛋白质营养对幼虾的生长、免疫与抗氧化指标和消化率特征影响显著。随着饲料蛋白水平的升高,特定生长率显著增加,饲料系数下降,E组的2项指标最好,分别为5.52%/d和1.96。高蛋白质含量饲料有利于提高对虾免疫指标水平,血淋巴中血细胞浓度、T-AOC活力、POD活力、溶菌酶活力、总蛋白含量随着饲料蛋白质水平提高而显著增加,各项指标E组最高,比A组分别显著提高133.7%、21.1%、16.8%、20.8%、19.7%(P<0.05);而SOD活力C组最高,与A组差异显著。凡纳滨幼虾对蛋白质的消化率随饲料蛋白质含量增加显著升高(P<0.05),E组比A组提高8.2%。通过饲料蛋白质水平与特定生长的回归分析,获得凡纳滨对虾幼体最大生长饲料蛋白质需要量为46.5%。
【英文摘要】The consequences of dietary protein levels on growth performance, immunity, anti-oxidation and feed digestibility of Litopenaeus vannamei were investigated in tank trials. Shrimps (0.2 g) were fed diets with five different protein levels (31%, 35%, 39%, 43% and 47%) for 60 days. The results showed that variations in dietary protein significantly (P<0.05) influenced growth performance, immunity, anti-oxidation and feed digestibility. As the increasing of dietary protein levels, the SGR increased significantly and the FCR decreased significantly; Shrimps fed 47% dietary protein diet had the maximal special growth rate (5.52% /d) and the minimal feed conversion(1.96). The total hemocyte counts, T-AOC activity, POD activity, LZM and total protein content in haemolymph were enhanced with the increase of protein content in the diet. Comparing with 31% protein content group, the above 5 indicators of 47% protein content which was the best group were enhanced by 133.7%、 21.1%、16.8%、20.8%、19.7% respectively (P < 0.05).The protein digestibility ranged between 75.06% and 81.20%,and showed a positive correlation with the dietary protein levels. Based on the regression of the special growth rate and dietary protein levels, the optimum protein requirement for juvenile white-leg shrimps is 46.5%.
【语种】中文
【第一作者】夏苏东
【通讯作者】李勇
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【学科分类】水产饲料学

【题目】生物滤器处理海水养殖水过程中亚氮积累与影响因素
【中文关键词】生物滤器 海水养殖水体 亚硝酸盐氮积累 溶解氧 反硝化作用
【英文关键词】Biofilter Cynoglossus semilaevis mariculture wastewater accumulation of nitrite nitrogen dissolved oxygen denitrification
【中文摘要】实验研究了竹环填料曝气生物滤器在处理高盐度、低氨氮负荷的海水养殖水体过程中NO2--N的积累现象,考察了进水有机负荷、NH4+-N负荷、温度、pH值和溶解氧等运行条件以及反硝化作用对NO2--N积累的影响.结果表明,在进水有机负荷为0.65~0.75kg/(m3·d)、NH4+-N负荷为0.058~0.077kg/(m3·d)、温度为20.9~22.2℃、pH值为7.50~8.14和溶解氧为7.43~9.73mg/L条件下,生物滤器内较低的溶解氧(0.91~1.36mg/L)是NO2--N积累的主要原因.同时,研究了反硝化过程中低溶解氧、不同碳氮比(C/N)及碳源类型等因素对NO2--N积累的影响,查明了生物滤器内含氮化合物的浓度变化与反硝化细菌的数量和功能,验证了反硝化过程对NO2--N积累的影响,明确了反硝化作用对NO2--N积累的促进作用.

【英文摘要】The experiment studied the accumulation of nitrite nitrogen in biofilter packed with bamboo ring while treating Cynoglossus semilaevis mariculture wastewater with high salinity and low ammonia nitrogen loading. Some operating parameters were carried out, including influent organic loading, ammonia nitrogen loading, temperature, pH and dissolved oxygen as well as the denitrification to the influence of nitrite nitrogen accumulation. When the influent organic loading was 0.65~0.75kg/(m3 · d),the ammonia nitrogen loading was 0.058~0.077kg/(m3 · d),the temperature for 20.9~22.2°C ,pH for 7.50~8.14°C and the dissolved oxygen was under 7.43~9.73mg/L, the low dissolved oxygen in biofilter was the primary cause for nitrite nitrogen accumulation. Meanwhile, the influential factors on nitrite nitrogen accumulation were investigated, including the low dissolved oxygen, the carbon nitrogen ratio (C/N) and the carbon source type in the denitrification process. The denitrification process was potential to create nitrite nitrogen accumulation under the operating conditions. It was confirmed that the denitrification process was affected in the nitrite nitrogen accumulates through further study on nitrogen compounds concentration variation in the biofilter and the denitrifying bacteria. The conclusion showed clearly that the denitrification promoted the nitrite nitrogen accumulates.
【语种】中文
【第一作者】张延青
【通讯作者】刘鹰
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【学科分类】水产工程学

【题目】世界橙汁供求状况和我国橙汁产业竞争力分析
【中文关键词】世界和中国;橙汁;生产和消费;产业竞争力
【英文关键词】world and china;orange juice;production and consumption;industry competitive force
【中文摘要】对2000年以来世界橙汁生产和消费的变化情况做了介绍和分析,也描述了中国橙汁生产和消费变化,并对中国今后橙汁生产和消费做了预测;作者还比较和分析了中国橙汁产业竞争力,指出中国生产的橙汁同美国和巴西的相比,在价格、色泽和加工成本上具有明显优势,在原料生产规模、单产和供应期、吨耗率、品质和冷链贮运销系统等方面有劣势。但是改变劣势的潜力很大,一旦化劣势为优势,中国的橙汁生产会像苹果汁生产一样,跃居世界第一。
【英文摘要】Supply and demand situation of orange juice in world since 2000 was discussed,including change and outlook of the situation in China.The competitive force of orange juice industry in China was analyzed and compared with that in USA and Brazil.Chinese orange juice industry had obvious competitive advantages on juice price,color and cost,but disadvantages onProduction scale,productivity and supply term of juice oranges,juice yield by unit oranges,juice quality and storage,transport and sale system under refrigeration condition comparing with that in USA and Brazil.However,the possibility to improve the disadvantages was great, as long as they become advantages,production of orange juice would be the same as apple juice production.Chinese orange juice production would be No one in the world.So it was projected that Chinese orange juice production had gotten into a speedy development stage.
【语种】中文
【第一作者】吴厚玖
【通讯作者】吴厚玖
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【学科分类】农产品贮藏与加工

【题目】杂色鲍的遗传育种研究进展
【中文关键词】杂色鲍; 遗传; 育种; 生物技术;
【英文关键词】Haliotis diversicolor; genetics; breeding; biotechnology;
【中文摘要】杂色鲍是我国南方重要的海水养殖种,但近年来因种质退化等原因导致暴发性病害频发,杂色鲍的遗传改良研究对于杂色鲍养殖产业的可持续健康发展十分重要.综合厦门大学贝类遗传育种课题组近10年的研究成果,评述了近年来杂色鲍的生物学特征、选择育种、杂交育种、雌核发育、DNA分子标记开发和利用、遗传图谱构建和QTL定位、功能基因及转基因鲍等方面的研究进展,并提出了今后杂色鲍遗传育种研究的发展思路.

【英文摘要】Haliotis diversicolor is an economically important shellfish species in southern China. However,massive mortality of the Haliotis diversicolor has occurred at post-larval and grow-out stages and production of Haliotis diversicolor has dramatically reduced in recent years. Genetic improvement plays an important role in sustainable development for Haliotis diversicolor aquaculture industry. This review concentrated on advances in genetic and breeding in Haliotis diversicolor, such as biological characteristics, selective breeding, crossbreeding , gynogenesis, molecular markers, genetic linkage map and QTL mapping, functional genes and transgenosis. The further research directions in these topics were also proposed.
【语种】中文
【第一作者】柯才焕
【通讯作者】柯才焕
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【学科分类】水产养殖学

【题目】杂色鲍与盘鲍杂交F_1的早期生物学表现
【中文关键词】杂色鲍(Haliotis diversicolor); 盘鲍(H. discus discus); 种间杂交; 卵裂间隔时间; 成活率
【英文关键词】Haliotis diversicolor; Haliotis discus discus; interspecific hybridization; mitotic cycle;survival rate
【中文摘要】比较研究杂色鲍(Haliotis diversicolor)(S)与盘鲍(H. discus discus) (J)正反交F1 及其亲本自繁后代的卵裂速度和孵化速度, 以及杂色鲍与盘鲍杂交F1 及杂色鲍自繁幼体的成活率。在22~23 °C下, 杂色鲍自繁后代的早期发育速度快于盘鲍自繁后代。杂色鲍和盘鲍2 细胞期分别为授精后45.3 min±8.9 min和59.3 min±8.9 min, 卵裂间隔时间分别为21.7 min±2.9 min 和27.0 min±2.6 min, 孵化时间分别为授精后563.4 min 和711.8 min。SJ 和JS 杂交F1 的第一次卵裂速度均比他们的双亲慢, 2 细胞期分别为69.3min±17.5 min 和71.7 min±5.8 min; 而卵裂间隔时间(τ 0)表现出较强的母本效应, 略长于母本, 分别为22.2 min±4.7 min 和31.3 min±6.1 min; 孵化速度均慢于其母本自繁后代, 分别为授精后632.7 min 和授精后874.3 min。计算结果表明, 自繁和杂交胚胎过程发育经历细胞周期数相当, SS、SJ、JJ 和JS 的从2 细胞到孵化经历时间分别相当于23.9 τ 0、25.4 τ 0、24.1 τ 0 和24.8 τ 0。另一方面, SJ 杂交F1 在附着变态阶段大量畸形、死亡, 变态后成活率仅为母本自繁组合的1.2 %, 显现出较高程度的杂交不亲和。本文的研究结果为杂色鲍与盘鲍杂交F1的后续应用开发提供了依据, 也为进一步研究杂交F1的遗传本质及父母本的基因互作关系奠定基础。
【英文摘要】In present study, mitotic intervals, hatching speed and survival rate of embryos produced from reciprocal hybrid cross and pure cross of small abalone (S, Haliotis diversicolor) and Japanese abalone (J, H. discus discus) were investigated. At 22~23 °C, the small abalone developed faster than the Japanese abalone at early stage. The times to reach the two-cell stage were 45.3 min ± 8.9 min post insemination (p.i.) for the small abalone and 59.3 min ± 8.9 min for the Japanese abalone. The small abalone took 21.7 min ± 2.9 min to complete a cleavage cycle and 563.4 min to hatch out, while the Japanese abalone took 31.3 min ± 6.1 min and 711.8 min, respectively. SJ and JS hybrid F1 took more time to two-cell stage than the offspring from both of the control crosses, while their cleavage speed and the hatching speed manifested maternal effect and slower than those of the offspring from the pure cross of their female parent. The calculation result showed that the numbers of mitotic cycles among the crosses were almost equivalent, 23.9 τ 0 for SS, 25.4 τ 0 for SJ, 24.8 τ 0 for JS, and 24.1 τ for JJ. On the other hand, the survival rate of SJ hybrid F1 was very low, only 1.19% relative to the larvae of pure cross of small abalone after attachment and metamorphosis, showing strong hybridization incompatibility. The results of present study would provide essential data for developing further application of hybrid F1 between Haliotis diversicolor and H. discus discus.
【语种】中文
【第一作者】蔡明夷
【通讯作者】柯才焕
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【题目】太湖流域粳稻地方品种黑壳子粳抗稻瘟病基因的分子定位
【中文关键词】水稻; 地方品种; 稻瘟病菌; 抗性遗传; 基因定位
【英文关键词】rice; landrace; Magnaporthegrisea; resistance inheritance; genemapping
【中文摘要】以广谱、高抗稻瘟病的太湖流域粳稻地方品种黑壳子粳与感病品种苏御糯杂交,产生F1、F2、F2B3及F5B6重组自交系群体,用日本稻瘟病鉴别菌系北1接种鉴定。黑壳子粳对北1的抗性是由1对显性主效基因控制的,定名为P-i hk1(t)。根据不同杂交世代群体对北1的抗、感反应,结合SSR分子标记,将黑壳子粳中的P-i hk1(t) 基因定位在水稻第11染色体长臂末端,与RM7654和RM27381两个标记的遗传距离分别为0.9cM和1.6cM。
【英文摘要】Abstract: A japonica landrace Heikezijing from the Taihu Lake area, with high resistance to rice blast (Magnaporthe grisea), was crossed with a susceptible variety Suyunuo to get F1, F2 andF2B3 populations. The recombined inbred lines F5:6 were obtained from F2 generation by means of single seed descendant method. The parents, F1, F2, F2:3 andF5:6 populations were inoculated with Japanese blast strain Hoku1 to illustrate the inheritance of resistance to the rice blast in Heikezijing. The resistance toHoku1inHeikezijing was controlled by one dominant gene, tentatively designated as P-i hk1(t). The gene P-i hk1(t) was further mapped based on the reaction to the rice blast in various generations, combined with SSR molecular markers. It was located on the end of long arm of chromosome11 and linked to the markers RM7654 and RM27381, with a distance of 0.9cM and 1.6cM, respectively.
【语种】中文
【第一作者】李培富
【通讯作者】张红生
【期刊名称、卷期、页码】中国水稻科学(ChineseJ RiceSci) , 2007, 21(6):579~584
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【引文索引号】null
【学科分类】农业基础学科

【题目】中国美利奴羊(新疆型)主要性状的主成分分析和聚类分析
【中文关键词】中国美利奴羊(新疆型); 主成分分析; 聚类分析
【英文关键词】Chinese Merino Sheep(Xinjiang type); principal components analysis; clustering
【中文摘要】收集了新疆巩乃斯种羊场1999-2008年的中国美利奴羊(新疆型)母羊鉴定记录,采用多元分析方法,对一个品种5个品系(中美体格大品系、中国美利奴羊品系、肉用型多赛特品系、多胎品系、毛密品系)的14个主要性状(头毛评分、毛长度、毛细度评分、毛弯曲评分、毛密度评分、毛油汗评分、毛匀度评分、毛光泽评分、体型外貌评分、鉴定时体重、剪毛后体重、剪毛量)进行主成分分析和聚类分析。结果表明,14个主要性状按不同品系可简化为7~10个主成分因子,所提供信息量占14个主要性状信息量的85%。在主成分的基础上把14个性状划分为2个大类群。
【英文摘要】The study was used to collect the detected data of Chinese Merino Sheep(Xinjiang type) in Xinjiang Gongnasi Tupping Ram Farm in 1999-2008 in order to reveal the main traits of Chinese Merino Sheep(Xinjiang type) and to provide the basic materials for selection and breeding of Chinese Merino Sheep,the principal component analysis and cluster analysis were carried out on five strains including 14 main straints.The results showed that 14 main straits can be simplified into 7-10 main component factors according to different straits,the information capacity provided was 85% of 14 main characteristic information capacity.Based on principal component,14 straits were divided into two big groups.
【语种】中文
【第一作者】努尔比亚·吾布力
【通讯作者】田可川
【期刊名称、卷期、页码】新疆农业大学学报
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【引文索引号】null
【学科分类】畜牧学

【题目】金华火腿中挥发性风味物质形成过程及变化规律研究
【中文关键词】金华火腿,挥发性风味化合物,风味物质类型,风味形成过程
【英文关键词】Jinhua ham,volatile flavor compound,flavor compound family,flavor forming process

【中文摘要】本文主要研究金华火腿成品中羧酸、支链化合物、芳香族化合物及杂环化合物种类和含量较多,可能是金华火腿的风味特征。
【英文摘要】The research's main aim was to determine which might be the flavor character of Jinhua ham.
【语种】中文
【第一作者】赵改名
【通讯作者】赵改名
【期刊名称、卷期、页码】食品与发酵工业,2007,33(5):120-125
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【学科分类】食品加工技术

【题目】水稻与稻瘟病菌互作机制研究进展
【中文关键词】水稻;稻瘟病菌;互作
【英文关键词】rice;Magnaporthe oryzae;interaction
【中文摘要】水稻-稻瘟病菌互作已成为研究植物与病原物互作的模式系统,本文从稻瘟病菌侵入机制、效应分子功能、水稻抗稻瘟病免疫系统及抗病基因和无毒基因的互作等方面对水稻与稻瘟病菌互作机制研究进展进行了综述,并对有待进一步研究的问题进行了讨论和展望。
【英文摘要】The interaction between plant and pathogens is a hot spot in the field of plant pathology in recent years, and the corresponding results establish the theoretic foundation for the plant resistance mechanism and resistance breeding. The specific interaction between rice and blast fungus, Magnaporthe oryzae has become the model system for studying the plant pathogen interaction mechanisms. This paper reviewed the advances on interaction mechanism between rice and M. oryzae including the mechanisms of the rice blast infection, the function of effector, the rice immune system and the interaction between resistance gene in rice and avirulence gene in M. oryzae.
【语种】中文
【第一作者】张红生
【通讯作者】张红生
【期刊名称、卷期、页码】南京农业大学学报 2012,35(5):1-8
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【引文索引号】null
【学科分类】农业基础学科

【题目】提高石榴坐果率及不同负载量对果实横径、单果重的影响初报
【中文关键词】石榴、坐果率、果实纵横经、单果重
【英文关键词】Kashi,pomegranate,setting percentage,fruit diameter,fruit weight
【中文摘要】【目的】提高喀什噶尔甜石榴坐果率、增大单果重及果实横径,以增加其商品性。【方法】以6年生喀什噶尔甜石榴为试材,调查春季施肥、花期喷施不同药剂和不同负载量对石榴坐果率、平均单果重、果实横径的影响。【结果】GA3可显著提高坐果率,高于CK29.0%以上,不同浓度GA3以20和30mg/L表现最好;GA3与花蕾保、硼砂、磷酸二氢钾及CK之间差异显著。8种施肥组合对头茬花坐果率影响差异不显著;施肥组合a、A可显著提高二茬花的坐果率,分别较CK高5.37%和6.00%。不同负载量对果实横径及单果重的增大效果均为20>30>40(果),单株留20、30与40果的果实横径间差异显著,3种留果量的单果重之间无差异。单株留20、30果的单果重均在400g以上,达到一级优质果。8种施肥组合对单果重的影响无差异。【结论】花期喷施20和30mg/L的GA3可显著提高坐果率;施肥组合a、A可显著提高二茬花的坐果率;3种负载量对单果重和果实横径的增大效果依次为20>30>40(果)。
【英文摘要】Abstract: Objective ,To raise setting percentage, increase fruit diameter and weight per f rui t to improve fruit quality. Method, The effect of spring fertilizer application, spraying dif ferent a gents and load quantity on these thing percentage, fruit diameter and weight per fruit were investigated based on 6 year old Kashi pomegranate.Result,GA3 can raise the setting percentage significantly, which were 29.0% higher than CK. Both 20 mg/ L and30 mg/ L GA3 were sui table to raise setting percentage. There were significant differences between GA3, other treatments (Hualeibao, Borat, KH2PO4) and CK. The fertilizer combination a, A can raise setting percentage significantly, it was 5. 37% and 6. 00% higher than CK. Augment effect of different load quantity on f rui t diameter and

weight per fruit both were 20 fruits> 30 fru ts> 40 fruits. The weight per fruit of retained 20, 30 fruits per plant both were over 400 g, which reached high class. The effect of 8 fertilizer combinations on weight per plant showed no difference. Conclus -ion,The setting percentage were raised significantly by GA3 (20 mg/L and 30 mg/ L) and fertilizer combination(a , A) . Augment effect of 3 crop loads on weight per fruit and fruit diameter was sequenced as follows: 20 fruits> 30 fruits> 40 fruits.
【语种】中文
【第一作者】杨磊
【通讯作者】卢春生
【期刊名称、卷期、页码】新疆农业科学、47(8)1492-1496
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【学科分类】园艺学

【题目】扁桃棉花间作对棉花品质的影响
【中文关键词】扁桃棉花间作,品质,影响
【英文关键词】almond and cotton intercropping, quality, influence
【中文摘要】目的:探明扁桃棉花间作对棉花品质的影响。方法:以大田棉花为对照(CK) , 与 22 年生扁桃树下间作棉花品质进行比较研究。结果:扁棉间作降低了树冠附近棉花的品质, 棉花的棉纤维长度、 整齐度、 强度、 伸长率、 可纺系数和成熟度指数 6个指标 CK> 树冠外侧 2 m 处> 垂直树冠处> 树冠内侧第一行, 距离树干越近,棉花各指标数值越小; 棉花短绒指数和马克隆值 2 个指标 CK< 树冠外侧 2 m处< 垂直树冠处< 树冠内侧第一行,距离树干越近, 数值越大。=结论>扁桃棉花间作系统中扁桃树冠对棉花品质影响显著, 距离树干越近,影响越大, 测试的 8个指标中扁棉间作对棉纤维长度、 纤维强度和马克隆值的影响最为显著。
【英文摘要】Abstract: Objective, To investigate the effect of almond and cot ton intercropping quality on the quality of cotton . Method, Using field cotton as CK, the quality of the cot ton intercropped under the 22- year old almond tree was compared and analyzed. =Result>Almond and cotton intercropping decreased the quality of cotton close to the tree canopy. When comparing the six indexes of the cotton fiber length, uniformity, CN/ tex elongation, SCI and maturity, the result was that CK> cotton around 2 m at the external canopy > vertical canopy> firs t row inside canopy. The closer to the tree trunk, the samller of the value of each index . For the cotton SFI and Micronaire values, the result was CK< cotton around 2 m at the external canopy< vertical canopy< first row inside canopy. The closer the tree trunk, the bigger of the value of each index. Conclusion, Quality of cotton was influenced by almond and cotton intercropping, and the almond tree canopy has significant effect on cotton quality. The closer to the tree trunk, the bigger the effect is . For the eight tested indexes, almond and cotton intercropping has the most significantimpact on the length, CN/ tex and Micronaire of cotton fiber.
【语种】中文
【第一作者】杨波
【通讯作者】卢春生
【期刊名称、卷期、页码】新疆农业科学、47(9)1754-1758
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【引文索引类型】其他
【引文索引号】1001- 4330(2010) 09- 1754- 05
【学科分类】园艺学

【题目】引进美国扁桃品种间授粉坐果率的比较
【中文关键词】美国扁桃; 授粉方式;坐果率
【英文关键词】American almond; pollination method; fruit setting percentage;
【中文摘要】目的,确定引进美国扁桃品种间授粉搭配最佳的组合。方法,以 Nonpareil、 Sonora、 Mission、 Thompson、 Nepulusultera、 Butte 6个品种花粉对其坐果率的影响为研究对象。结果,用 Nonpareil、 Sonora、 Mission、 Thompson、 Butte对 Nepulusultera 授粉, 其平 均坐 果率为 31%、 19%、 14%、 15% 和 29%。用 Sonora、 Mission、 Thompson、 Nepulusultera、 Butte对 Nonpareil 授粉, 其平均坐果率为 35%、 32%、 22%、 31% 和 38%。用 Nonpareil、 Mission、 Thompson、 Nepulusultera、 Butte 对 Sonora 授粉, 其平均坐果率为 37%、 31%、 31%、 33% 和 20%。结论, Sonora、 Butte、 Nonpareil 为 Nepulusultera最佳授粉品种, Missi on、 Sonora、 Butte、 Nepulusultera 为 Nonpareil 最佳授粉品种,Nonpareil、

Thompson、 Nepulusul tera、 Mission 为 Sonora最佳授粉品种。
【英文摘要】Abstract : Objective, To confirm the optimum combination of the introduced American almonds with pollination between varieties. Method, Taking the six varieties of Nonpareil, Sonora, Mission, Thompson, Nepulusultera and Butte and study the effect of their pollens on fruit setting percentage. Result, The result shows that: the average fruit setting percentage were 31%, 19%, 14% , 15% and 29% respectively, by Nepulusultera pollinated with Nonpareil, Sonora, Mission, Thompson and Butte; the average fruit setting precentage were 35%,32% , 22%, 31% and 38%, by Nonpareil pollinated with Sonora, Mission, Thompson, Nepulusultera and Butte;the average fruit setting percentage were 37% , 31%, 31%, 33% and 20% , by Sonora pollinated with Nonpareil ,Mission, Thompson, Nepulusultera and Butte. Conclusion, Sonora, Butte and Nonpareil are the optimum pollination varieties for Nepulusultera; Mission, Sonora, Butte and Nepulusultera are the optimum pollination varieties for Nonpareil; Nonpareil, Thompson, Nepulusultera and Mission are the optimum pollination varieties for Sonora.
【语种】中文
【第一作者】龚鹏
【通讯作者】卢春生
【期刊名称、卷期、页码】新疆农业科学 2010, 47(6) : 1098- 1101
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【引文索引类型】其他
【引文索引号】1001- 4330(2010) 06- 1098- 04
【学科分类】园艺学

【题目】影响喀什石榴裂果相关因素的初步研究
【中文关键词】喀什; 石榴;裂果
【英文关键词】Kashi; Punicaceae punica L. ; frui t cracking
【中文摘要】目的,探寻降低喀什石榴裂果率的措施, 以提高其商品性。方法,以 6年生喀什噶尔甜石榴为试材,研究间作、套袋、 喷施 CaCl2和激素、 树盘覆盖及土壤负压等对裂果的影响。=结果>果实膨大期果面喷 GA3 可显著降低裂果率, GA3较 CK 可降低裂果率近 20%, GA3 各浓度间无差异;果面喷 20 mg/ L NAA 的裂果率高于CK 并与 GA3 差异显著, 其余浓度与GA3间均无差异。果实膨大期树冠喷施 CaCl2 溶液有利于降低裂果率, 可降低 7%左右。树盘覆草、 覆膜对降低成熟期石榴裂果率有一定效果,其中覆膜的效果较好,可降低裂果率近9%。套袋可较 CK 降低裂果率 7. 4%。不同间作物对石榴裂果的影响略有不同。初步认为 64 kPa 是石榴裂果明显增加的土壤负压阈值,在出现裂果之前将土壤负压控制在 64 kPa以下有利于控制裂果。结论,果实膨大期果面喷GA3可显著降低裂果率, 果面喷 NAA 亦可降低裂果率,但其效果明显逊于 GA3; 果实膨大期树冠喷施 CaCl2溶液可降低裂果率 7%左右;套袋有利于降低裂果率,可较 CK 降低 7. 4%; 树盘覆盖杂草和薄膜对降低成熟期石榴裂果率有一定效果。
【英文摘要】Abstract: Objective, The main aim of this study was to depress the percentage of fruit cracking to improve fruit quality. Method, The experimentation such as intercropping, bagging, spraying CaCl2 and hormone, covering ridge, soil under pressure were studied by using 6 years old Kashi pomegranate. Result, Spraying GA3 on fruit can reduce fruit cracking percentage in fruit expansion period by 20% by comparison with CK. The fruit cracking percentage of the fruit sprayed with NAA 20mg/ l was higher than that CK and was significantly diferent with GA3.Spraying CaCl2 on tree crown can decrease the fruit cracking percentage by 7% than CK. Covering ridge with weeds and plastic f i lm are helpful to reduce the fruit cracking percentage, plastic film can decrease the fruit cracking percentage by 9% . Bagging paper bag can reduce by 7. 4% compared with CK. Initial result showed that 64 kPa is threshold value of soil under pressure that fruit cracking percentage increase obviously. Control ling the soil under pressure under 64 kPa is of help of reducing the fruit cracking percentage before fruit cracking. Conclusion,Spraying GA3 on fruit at expansion stage can reduce fruit cracking percentage significantly. Spraying NAA is advantageous effectively to depress fruit cracking percentage but it inferior to GA3. Spraying CaCl2 on tree crown can depress the fruit cracking percentage by 7% than CK. Bagging can depress the fruit cracking percentage by 7. 4% than CK. Covering ridge with weeds and plastic film are helpful to depress the fruit cracking pecentage.
【语种】中文
【第一作者】杨磊
【通讯作者】卢春生
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【学科分类】园艺学

【题目】蜜蜂辅助授粉对新疆扁桃坐果率的影响
【中文关键词】蜜蜂; 辅助授粉;扁桃; 坐果率
【英文关键词】honeybees; assistant pollination; almond; fruit setting percentage
【中文摘要】目的,利用蜜蜂辅助授粉提高新疆扁桃的坐果率。=方法>以不放蜜蜂扁桃园为对照(CK) , 通过对扁桃园花期蜜蜂的放蜂量、 放蜂时间和蜜蜂的传粉距离的比较研究。结果,放蜂量越大,扁桃的坐果率越高,花蕾露红期放蜂量为1箱/ 1 334 m2 (2 亩)时效果最宜,扁桃坐果率比对照提高了 7. 47倍, 差异显著; 蜜蜂是沿花行进行采蜜的,距蜂箱越远扁桃坐果率越低,蜜蜂的传粉距离在 100 m 左右。=结论>新疆扁桃园放蜂可显著提高扁桃的坐果率,在扁桃花蕾露红期放蜂,放蜂量不少于 1 箱/ 1 334 m2(2亩) ,且每隔 100 m 摆放蜂箱。
【英文摘要】Abstract: Objective, In order to raise fruit setting percentage of Xinjiang Almond. Method, The comparative study was conducted on scalar and deliver time of honeybee and dislance of pollination using the almond garden without honeybee as CK. =Result>the result showed that (1) the more honeybee scalar there are in the almond garden , the higher the fruit setting percentage is. The delivering amount of honeybee in one box every two mu is the most suitable at initial budding stage. The fruit setting percentage of almond is 7. 47 times higher than that of CK; (2)Honeybee gather nectar from flowers along the flower rows. The longer the distance between boxes there is , the lower the fruit setting percentage is. Usually, honeybee gather pollination from flowers within distance of 100 m. Conclusion, The delivering honeybee in almond garden could raise fruit setting percentage in Xin jiang. The suitable method is as follows: Honeybee are delivered at initial budding stage. There is one honeybee box every two 100 m.
【语种】中文
【第一作者】龚鹏
【通讯作者】卢春生
【期刊名称、卷期、页码】新疆农业科学 2010, 47(4) : 689- 691
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【学科分类】园艺学

【题目】欧洲李不同品种授粉结实性试验研究
【中文关键词】欧洲李; 品种;授粉; 坐果率
【英文关键词】P . domestica L. ; variety; pollination; fruit setting percentage
【中文摘要】摘 要:目的,筛选欧洲李适宜授粉品种, 为新疆欧洲李研究和生产上合理配置授粉品种提供技术依据。方法,以法兰西、 斯泰勒和女神 3个欧洲李品种为试材,对不同品种自花坐果率、 自然坐果率和人工异花授粉坐果率进行了试验研究。结果,(1) 3 个欧洲李品种自花坐果率为 0%~ 3. 05%; (2) 不同的人工异花授粉组合坐果率比对照提高了- 4. 59% ~ 11. 49%;结论,3 个品种自花坐果率低或极低, 均为自交不亲和品种;法兰西自然坐果率低,斯泰勒和女神中等; 最佳授粉组合为法兰西和女神, 斯泰勒和女神可互为授粉品种。
【英文摘要】Abstract: Objective and Method,The self-pollination setting percentage, natural setting percentage, and artificial cross-pollination setting percentage were stuidied on three varieties of P . domestical. (France, Stanley, Empres s) to select the suitable pollinator and provide technology basis for the research on P. domestica L. in Xinjiang and the reasonable disposal of pollination varieties for its production. Result, The result showed that the self-pollination fruit setting percentage of three P . domestica L. were 0% ~ 3. 05% . The setting percentage of artificial cross-pollination combination were - 4. 59~ 11. 49% higher than CK. =Conclusion>Three varieties show self- incompatibility, they have a very low self- pollination setting percentage. The natural setting percentage of France was low, Stanley and Empress were better than France. The best combinations are France @ Empress, Stanley and Empress can pollinate effectively with each other.
【语种】中文
【第一作者】王斐
【通讯作者】卢春生
【期刊名称、卷期、页码】新疆农业科学 2010, 47(6) : 1081- 1083
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【学科分类】园艺学

【题目】欧洲李不同品种晾晒制干特性研究
【中文关键词】欧洲李; 品种;晾晒制干
【英文关键词】Prunus domestica; variety; open sun drying
【中文摘要】目的,研究欧洲李不同品种在南疆地区晾晒制干特性,为欧洲李干制品种选择和制干提供借鉴。方法,以新疆喀什地区伽师县种植的 3 个欧洲李品种法兰西、 斯泰勒、 女神为试验材料,在果实成熟后进行自然晾晒制干,分析 3 个品种果实经济性状、 成熟期、 失水率等对晾晒制干的影响, 对 3 个品种晾晒制干特性进行评价。结果,品种法兰西由于成熟早、 可溶性固形物含量高, 自然晾晒 30 d 能够干燥; 斯泰勒较法兰西晚熟10~ 15 d, 果实较大,自然晾晒 36 d能够干燥; 女神成熟最晚, 果实最大, 自然晾晒需要的时间长且不易干燥。结论,在南疆地区采用自然晾晒的方法,法兰西和斯泰勒 2 个欧洲李品种适宜自然晾晒制干,品种女神则不适宜自然晾晒制干。
【英文摘要】Abstracts : Objective, To study the open sun drying characteristics of different European plums (Prunus dome stica L.) varieties in the southern part of Xinjiang in order to provide references for the drying of European plums and variety selection. Method,Using three varieties of European plums of France, Stanley and Empress which were planted in Peyziwat county of Kashi Prefecture as the experimental materials, collected different varieties fruits on the harvest date and using the method of open sun drying, analysed the effect of fruit economic characteristics, harvest date and dehydration rate on open sun drying, and then evaluated the drying characteristics of different varieties. Result, The research results demons trated that as France has early harvest date and higher soluble solids content , it dries in 30 days; the harvest date of Stanley was 10- 15 days later than France and its fruit was bigger than France, drying days was 36 days; Empress has latest harvest date and biggest fruit , which makes drying difficult and takes longer time. Conclusion,It can be concluded that when using the method of open sun drying in the southern part of Xinjiang, France and Stanley are suitable for natural open sun drying, while Empress is not suitable for such drying.
【语种】中文
【第一作者】马凯
【通讯作者】卢春生
【期刊名称、卷期、页码】新疆农业科学 2010, 47(11) : 2184- 2188
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【引文索引号】1001- 4330(2010) 11- 2184- 05
【学科分类】园艺学

【题目】阿月浑子快速建园技术研究初报
【中文关键词】阿月浑子,层积处理,直播
【英文关键词】Pistachio, stratification, direct seeding
【中文摘要】以阿月浑子种子为试材,研究不同层积处理时间对种子发芽的影响,探讨阿月浑子直播、小营养钵移栽、大营养袋移栽3种建园方式对苗木生长及嫁接成园的影响。提出适合于南疆地区的阿月浑子快速建园方式和技术操作要点。结果表明:阿月浑子种子层积40d的发芽率可达90%以上,延长层积时间能够促进未开裂种子开裂发芽。3种建园方式中,直播建园具有操作简便,建园成本低等优点,同时直播建园和小营养钵移栽建园方式的苗木成活率、嫁接成苗率都较大营养袋移栽建园方式更高。以阿月浑子快速建园为目标,实际生产中以直播建园为主,配合小营养钵移栽补苗的方式为最佳建园方式。
【英文摘要】Using pistachio seeds as the experimental materials, the effect of different stratification time on seed germination were studied and the influence of three orchard establishing methods direct seeding, small nutrition pot transplanting and nutrition pot transplanting on seeding growth and grafting were investigated, then the methods and major technologies of rapid establishing pistachio orchard which was suitable for the area of southern xinjiang was developed.As a goal of rapid establishing orchard of pistachio, in actual production, direct seeding primarily, coordinate small nutrition pot transplanting was the best recommendation.
【语种】中文
【第一作者】马凯
【通讯作者】卢春生
【期刊名称、卷期、页码】西北农业学报 2012, 21(3): 170 - 174

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【学科分类】园艺学

【题目】鲍体表黏液的几种免疫酶比活力的比较
【中文关键词】鲍; 杂色鲍; 体表黏液; ACP; AKP; T-SOD;
【英文关键词】abalone; H.diversicolor; body surface mucus; ACP; AKP; T-SOD;
【中文摘要】为探索鲍体表黏液的免疫机制,利用生化测定的方法对杂色鲍(Haliotis diversicolor)、皱纹盘鲍(Haliotis discus)、西氏鲍(Haliotis sieboldii Reeve)及杂色鲍不同杂交群体鲍体表黏液中的酸性磷酸酶(ACP)、碱性磷酸酶(AKP)、总超氧化物歧化酶(T-SOD)的比活力进行了测定,并比较了它们之间的差异.结果表明在3种不同鲍中,西氏鲍体表黏液中AKP、T-SOD的比活力最强,显著高于杂色鲍台湾群体,这与生产实践中西氏鲍抗逆性强、存活量高相吻合,推测AKP、T-SOD是较好的免疫指标性酶;而在杂色鲍不同的杂交群体间,台湾♀×F1♂杂交群体与F1♀×台湾♂杂交群体体表黏液中3种酶比活力均最高,推测这种杂交方式能够产生较强的杂种优势.本研究有助于为鲍的选育和病害的防治提供参考.
【英文摘要】Abalone is the most important breeding species in south of China, in recent years, because of aggravated germplasm, environmental pollution and degradation, abalone farms face serious disease threat. Need to understand mucus immunity. In this paper,using the method of biochemical, in Haliotis diversicolor, Haliotis discus hannai, Haliotis sieboldii Reeve and different hybrid populations of H.diversicolor abalone body surface mucus,the specific activities of total superoxide dismutase(T-SOD), acid phosphatase(ACP), alkaline phosphatase(AKP) were measured and compared. The results show that AKP and T-SOD specific activity of the H. sieboldii Reeve are highest in three different species abalones body surface musus, significantly higher than that of Taiwan abalone populations, the results consistent with strong resistance and high survival rates of H. sieboldii Reeve during production practices. The results suggest that AKP and T-SOD are better indicator of immune activity. In different hybrid populations of H. diversicolor, the body surface mucus are the highest enzyme specific activity in the hybrid populations of F1♂× ♀ Taiwan and Taiwan♂× F1♀, it suggest that this hybrid approach maybe produce strong heterosis. This study contributes to abalone breeding and disease prevention.
【语种】中文
【第一作者】狄桂兰
【通讯作者】柯才焕
【期刊名称、卷期、页码】厦门大学学报(自然科学版),2011;卷:50;期:6;页码:1080-1086
【论文发表时间】2011-11-25 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】水产养殖学

【题目】2-A Mutation at Exon 3 of KIF-1 Gene of Three Goat Breeds in China
【中文关键词】无
【英文关键词】KIF ; PCR-RFLP, SNP, genotype
【中文摘要】无
【英文摘要】Keratin Intermediate-Filament (KIF) proteins form the main structural elements of a wool fibre. In this study, PCR-RFLP and DNA sequencing methods were used to detect polymorphisms of KIF-1 gene in 786 samples of 3 Xinjiang local goat breeds (Xinjiang, Nanjiang Cashmere and Bogeda Cashmere goat). The results showed that KIF-1-P3 locus has polymorphisms. The frequencies of genotype AA were 0.675, 0.577 and 0.766, genotype AB were 0.296, 0.400 and 0.234, genotype BB were 0.030, 0.023 and 0.000 for Xinjiang, Nanjiang Cashmere and Bogeda Cashmere goat breeds, respectively. The genotypic distributions were in disagreement with Hardy-Weinberg equilibrium in Nanjiang Cashmere goat breed. In addition, the mutation was detected at KIF-1-P3 locus by DNA sequencing method, a novel of SNP was revealed in exon 3 (Genebank M23912: c.3212 C>T) and it belongs to synonymous mutation. However, there is no significant difference in Xinjiang goat breed between polymorphisms of the KIF-1 gene and cashmere production traits (fineness, thickness, yield and body weight after combing). Moreover, analysis of variance indicated that various genotypes in the 3 Xinjiang goat breeds were highly significant ($p<0.01$).
【语种】英文

【第一作者】刘武军
【通讯作者】田可川
【期刊名称、卷期、页码】Journal of Animal and Veterinary Advances 10(5):610-613
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【学科分类】畜牧学

【题目】氯霉素暴露对杂色鲍免疫活性的影响
【中文关键词】海洋生物学; 杂色鲍; 氯霉素; 免疫; 吞噬; 高温胁迫
【英文关键词】marine biology; Haliotis diversicolor; chloromycetin; immunity; phagocytosis; high temperature stress
【中文摘要】杂色鲍的免疫机能主要是由血细胞以吞噬的方式来完成.本研究将杂色鲍分别暴露在1、2、5μg/cm3不同含量氯霉素的水体中60 d(每天暴露4 h),检测其主要免疫指标的变化.实验结果表明,经氯霉素暴露实验后,杂色鲍的主要免疫指标出现了下降.对照组与各药物含量组(1、2、5μg/cm3)中杂色鲍血细胞对溶藻弧菌的吞噬率分别为89.83%±3.66%、75.33%±4.89%、68.67%±5.05%和37.00%±9.21%;其吞噬指数分别为3.84±0.27、2.54±0.35、2.12±0.47和1.18±0.32;其血细胞密度分别为(2.72±0.33)×107、(1.87±0.09)×107、(1.46±0.17)×107、(1.03±0.14)×107个/cm3.对照组与各药物含量组在水温31°C高温胁迫下杂色鲍半致死时间(LT50)分别为10、8、6、4 h.各实验组的壳长、体重生长率、成活率与对照组比较,高含量组均显著小于对照组.含量为1μg/cm3和2μg/cm3的氯霉素暴露对杂色鲍的生长有轻微的促进作用.各实验组酸性磷酸酶(ACP)、碱性磷酸酶(AKP)、超氧化物歧化酶(SOD)的酶活指标变化与氯霉素的暴露含量无明显相关性。
【英文摘要】Antibiotics are often used for disease prevention in the breeding of abalone.However,the effect of antibiotics on abalone disease prevention is often unstable,and the abuse of antibiotics has had adverse effects on the ecological environment,and may in fact endanger food safety. Furthermore,antibiotics may damage the immune system of abalone and increase the death rate of abalone. Therefore,studying the influence of antibiotics on immune characteristics in Haliotis diversicolor has important practical significance and application value.After exposure in 0,1,2,and 5 μg /cm3 chloromycetin for 60 days (4 h every day) ,the main immune indices of H.diversicolor were measured. Our study indicated that some indices declined upon treatment with antibiotics.The phagocytosisrate (%) of blood corpuscles to Vibiro alginolyticus in 0,1,2,and 5 μg /cm3 were 89.83 ± 3.66,75.33 ± 4.89,68.67 ± 5.05,and 37.00 ± 9.21,respectively. The phagocytosis index for each treatment was 3.84 ± 0. 27,2.54 ± 0.35,2.12 ± 0.47,and 1.18 ± 0.32,respectively. The blood corpuscles density also decreased after chloromycetin exposure,with (2.72 ± 0.33) × 107 cells /cm3,(1.87 ± 0.09) × 107 cells /cm3,(1.46 ± 0. 17) × 107 cells /cm3,and (1.03 ± 0.14) × 107 cells /cm3 for 0,1,2,and 5 μg /cm3 chloromycetin,respectively.The activity of the exposed abalone was determined by stressing at 31°C water temperature. The LT50 for 0,1,2,and 5 μg /cm3 treatments were determined to be 10,8,6,and 4 h,respectively. The shell growth,weight growth and survival rate,under treatments were significantly lower than those of the control group. The 1 and 2 μg /cm3chloromycetin exposures were observed to have a slight positive effect on the growth of H. diversicolor.However,changes in activities of ACP,AKP,and SOD had no correlation with chloromycetin exposure. The current study showed thatmultiple immune indices all declined in H.diversicolor after the treatment with chloramphenicol; therefore,longtermuse of antibiotics is likely to have adverse effects on immune and other physiological functions important for the breeding of abalone.
【语种】中文
【第一作者】李进寿
【通讯作者】柯才焕
【期刊名称、卷期、页码】台湾海峡,2011;卷:30;期:3;页码:405-411
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【学科分类】水产养殖学

【题目】Characterization of plant growth-promoting Bacillus edaphicus NBT and its effect on lead uptake by Indian mustard in a lead-amended soil
【中文关键词】土壤芽胞杆菌;铅;特性;印度芥菜;铅积累
【英文关键词】Bacillus edaphicus NBT; Pb; Characteristics; Indian mustard; Lead accumulation

【中文摘要】对重金属抗性细菌土壤芽胞杆菌NBT菌株的特性进行了分析。同时在添加不同含量铅的土壤中分析了该菌株对印度芥菜生长和富集土壤铅的影响。研究表明,该菌株能够溶解碳酸铅和活化土壤中的铅,产生生长素、铁载体和ACC脱氨酶。在铅污染土壤中该菌株增加印度芥菜根和地上部生物量。接菌处理可以显著提高植物对铅的富集能力。该菌株能够在印度芥菜根际土壤中成功定殖。

【英文摘要】The plant growth promotion characteristics of a heavy metal-resistant strain of Bacillus edaphicus NBT was characterized. The strain was also evaluated for promoting plant growth and lead uptake of Brassica juncea L. Czern (Indian mustard) in soil artificially contaminated with 0, 400 and 800 mg • kg-1 of Pb. Atomic absorption spectrometer (AAS) analysis demonstrated that strain NBT could release water-soluble Pb from lead carbonate in the solution. Strain NBT had the capacity to produce indole acetic acid (IAA), siderophores and 1-aminocyclopropane-1-carboxylate (ACC) deaminase. Low and high Pb treatments significantly decreased the growth of Indian mustard. Inoculation with strain NBT was found to increase root dry weight (ranging from 16% to 22%) and above-ground tissue dry weight (ranging from 24% to 30%) of Indian mustard in the Pb amended soil. Strain NBT was able to mobilize Pb efficiently in plants in Pb-amended soil. In the soil treated with 400 mg and 800 mg Pb • kg-1, increase in Pb uptake varied from 18 to 46% in live bacterium-inoculated Indian mustard plants compared to dead bacterium-inoculated control. The strain was also able to colonize and develop in the rhizosphere soil of Indian mustard after root inoculation.

【语种】英文

【第一作者】盛下放

【通讯作者】盛下放

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【论文发表时间】2008-06-25 00:00:00

【引文索引类型】SCI

【引文索引号】doi:10.1139/W08-20

【学科分类】环境科学技术及资源科学技术其他学科

【题目】Characterization of heavy metal-resistant endophytic bacteria from rape (Brassica napus) roots and their potential in promoting the growth and lead accumulation of rape

【中文关键词】重金属抗性植物内生细菌;植物促生作用;生长素;铁载体;1-氨基-环丙烷-1-羧酸;油菜;植物提取

【英文关键词】Heavy metal-resistant endophytic bacteria; Plant growth promotion; IAA; Siderophore; ACC; Rape; Phytoextraction

【中文摘要】从重金属污染土壤中生长的油菜根内分离筛选到两株内生细菌并对其特性进行了分析。盆栽条件下研究了菌株对油菜生长与富集铅的影响。经16S rDNA 分析该菌株被鉴定为荧光假单胞菌和微杆菌。供试菌株对多种重金属和抗生素均表现出抗性,能够溶解难溶性铅,产生生长素、铁载体和1-氨基-环丙烷-1-羧酸脱氨酶,试验表明供试菌株可以显著促进植物生长和对重金属铅的吸收能力。另外,供试菌株可以在油菜根际土壤中成功定殖。

【英文摘要】Two lead (Pb)-resistant endophytic bacteria were isolated from rape roots grown in heavy metal-contaminated soils and characterized. A pot experiment was conducted for investigating the capability of the two isolates to promote the growth and Pb uptake of rape from Pb-amended soil. The two isolates were identified as Pseudomonas fluorescens G10 and Microbacterium sp. G16 based on the 16S rDNA gene sequence analysis. Strains G10 and G16 exhibited different multiple heavy metal and antibiotic resistance characteristics and increased water-soluble Pb in solution and in Pb-added soil. Root elongation assays demonstrated increases in root elongation of inoculated rape seedlings compared to the control plants. Strain G16 produced indole acetic acid, siderophores and 1-aminocyclopropane-1-carboxylate deaminase. Increases in biomass production and total Pb uptake in the bacteria-inoculated plants were obtained compared to the control. The two strains could colonize the root interior and rhizosphere soil of rape after root inoculation.

【语种】英文

【第一作者】盛下放

【通讯作者】盛下放

【期刊名称、卷期、页码】Environmental Pollution, 2008, 156: 1164-1170

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【引文索引类型】SCI

【引文索引号】doi:10.1016/j.envpol.2008.04.007

【学科分类】环境科学技术及资源科学技术其他学科

【题目】用MTDFREML估计中国美利奴羊(新疆型)产毛性状的遗传参数
【中文关键词】中国美利奴羊(新疆型); 产毛性状; 遗传参数; 动物模型;
【英文关键词】Chinese Merino sheep(Xinjiang type); wool traits; genetic parameters; animal model;
【中文摘要】利用新疆巩乃斯种羊场饲养的2001-2005年出生的5425只中国美利奴羊(新疆型)周岁资料,采用动物模型多性状非求导约束最大似然法(MTDFREML),估计了中国美利奴羊(新疆型)在新疆自然条件下产毛性状的遗传参数。结果表明:毛长度、剪毛后体重、产毛量和纤维直径的遗传力估计值分别为0.13、0.29、0.22和0.36。
【英文摘要】Data on 5 425 Chinese Merino sheep(Xinjiang type) of 12 months of age,born between 2001-2005,maintained at the Gongnaisi Sheep Breeding Farm in Xinjiang.MTDFREML software was used to estimate their genetic parameters of wool traits in the natural ecological conditions of Xinjiang.The results showed that the estimated values of heritability were 0.13,0.29,0.22 and 0.36 for staple length,live weight after shearing,greasy weight and fibre diameter respectively.
【语种】中文
【第一作者】张亚军
【通讯作者】张亚军
【期刊名称、卷期、页码】中国草食动物
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【学科分类】畜牧学

【题目】Effects of inoculation of biosurfactant-producing Bacillus sp. J119 on plant growth and cadmium uptake in a cadmium-amended soil
【中文关键词】表面活性剂产生菌;镉;植物修复;油菜;玉米;苏丹草;番茄
【英文关键词】Biosurfactant-producing bacterium; Cd; Phytoremediation; Rape; Maize; Sudangrass; Tomato
【中文摘要】对一株分离自重金属污染土壤中的产生物表面活性剂芽胞杆菌J119菌株的植物促生特性和重金属、抗生素抗性进行了分析。盆栽条件下研究了该菌株对油菜、玉米、苏丹草和番茄生长和吸收重金属镉的效应。结果表明,该菌株对多种重金属(铅、镉、铜、镍和锌)和抗生素(卡那霉素、链霉素、氨卞青霉素、四环素和利福平)表现出抗性。菌株能够产生长素和铁载体。镉处理没有显著降低番茄、玉米和油菜的生长,但显著降低了苏丹草的生长。在镉污染土壤中,接菌处理番茄地上部和根生物量分别比对照增加24%和59%。接菌处理与接灭活菌对照相比,玉米和苏丹草地上部和根的生物量没有明显差异。在镉含量为50 mg Cd kg − 1的土壤中,接活菌处理的植物地上部镉含量比接灭活菌对照增加39-70%。另外,在供试植物中番茄对镉的富集能力最好。该菌株能够在植物根际土壤成功定殖。
【英文摘要】A biosurfactant-producing Bacillus sp. J119 isolated from heavy metal contaminated soils was investigated for its effects on the plant growth promoting characteristics and heavy metal and antibiotic resistance. A pot experiment was conducted for investigating the capability of the biosurfactant-producing bacterial strain Bacillus sp. J119 to promote the plant growth and cadmium uptake of rape, maize, sudangrass and tomato in soil artificially contaminated with different levels of cadmium (Cd) (0 and 50 mg kg − 1). The strain was found to exhibit different multiple heavy metal (Pb, Cd, Cu, Ni and Zn) and antibiotic (kanamycin, streptomycin, ampicillin, tetracycline and rifampin) resistance characteristics. The strain had the capacity to produce indole acetic acid (IAA) and siderophores. Cd treatment did not significantly decreased growth of tomato, maize and rape plants, but Cd treatment significantly decreased growth of sudangrass ($p < 0.05$). In the Cd-added soil, above-ground biomass and root dry weights of tomatoes were increased by 24 and 59%, respectively, in live bacterial inoculation compared to dead bacterial inoculation control. There were no obvious differences in the above-ground tissue and root dry weight of maize and sudangrass between live bacterial inoculation and dead bacterial inoculation. In the soil treated with 50 mg Cd kg − 1, increase in above-ground tissue Cd content varied from 39 to 70% in live bacterium-inoculated plants compared to dead bacterium-inoculated control. In addition, among the inoculated plants, tomato was the greatest Cd accumulator. The bacterial strain was also able to colonize and develop in the rhizosphere soils after root inoculation.
【语种】英文
【第一作者】盛下放
【通讯作者】盛下放
【期刊名称、卷期、页码】Journal of Hazardous Materials, 2008, 155: 17-22
【论文发表时间】2008-02-20 00:00:00
【引文索引类型】SCI
【引文索引号】doi:10.1016/j.jhazmat.2007.10.107

【学科分类】环境科学技术及资源科学技术其他学科

【题目】中国美利奴羊CTNNB1基因SNP与羊毛直径关联分析
【中文关键词】中国美利奴羊; CTNNB1; 多态性; 羊毛纤维直径
【英文关键词】Chinese Merino sheep; CTNNB1; polymorphism; wool fiber diameter
【中文摘要】以874只中国美利奴羊为研究对象,通过对与毛囊发生相关的CTNNB1基因SNP检测,应用SAS软件拟合线性模型,对CTNNB1基因SNP位点与羊毛直径性状进行关联分析。发现CTNNB1基因的819G>A、974A>G等2个位点与羊毛纤维直径显著相关,其中819G>A位点中,GA基因型对羊毛纤维直径是优势基因;974A>G位点中AA对羊毛纤维直径是优势基因型。上述结果为CTNNB1基因819G>A、974A>G位点作为细毛羊羊毛直径性状的分子标记提供了理论依据。
【英文摘要】874 Chinese Merino sheep were used to examine the SNP(single nucleotide polymorphism)of CTNNB1 gene.A G/A mutation was identified at position of 819G>A in CTNNB1 gene,another A/G mutation was identified at position of 974A>G.The effects of the mutations on the WFB(wool fiber diameter)traits were analyzed.The results showed that genotype GA was dominant for WFD at position of 819G>A.The AA genotype of 974A>G was the dominant genotype for WFD.The two mutations might be good markers for the wool fiber diameter of fine wool sheep
【语种】中文
【第一作者】张艳花
【通讯作者】田可川
【期刊名称、卷期、页码】中国草食动物
【论文发表时间】2011-10-01 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】畜牧学

【题目】利用数字图像分析法评价油菜种子颜色
【中文关键词】油菜;种子颜色;数字图像分析;颜色空间
【英文关键词】rape;seed color;digital image analysis;color space
【中文摘要】为了客观方便地评价油菜种子颜色,研究探索了数字图像分析评价方法.随机选取籽粒颜色不同的甘蓝型油菜30份,采用扫描仪获取种子的数字图像,通过建立色彩描述文件(ICC Profile)对图像进行颜色校正后,再运用自行编制软件"RSCA"采集种子颜色值.主要对油菜种子颜色在颜色空间RGB、CIEL*a*b*、HSB中的特征,目测颜色等级与各颜色分量的相关性进行了分析.结果表明:RGB颜色模型的R分量是一个理想的油菜种子颜色等级衡量尺度,数字图像分析法评价油菜种子颜色是可行的.
【英文摘要】In order tO evaluate rape seed color obj ectively and conveniently,a method for evaluating rapeseed color by digital image analysis was explored.The sample consisted of thirty accessions of randomlyselected rape seed with different color.The seed digital images were obtained by a scanner and the colorvalues of the seeds were colleted by self—written software “ RSCA ’ ’after the digital images were calibratedby ICC Profile.The characteristics of rape seed color in color space RGB,CIEL a b and HSB,and thecorrelation between color index(CI)and each color factor were discussed.The result indicated that R fac—tor of color ’ space RGB is an ideal scale for evaluating the color index of rape seed,and Using digital imageanalysis tO evaluate the color of rape seed is feasible.
【语种】中文
【第一作者】张合
【通讯作者】李加纳
【期刊名称、卷期、页码】西南师范大学出版社第30卷第4期67-72
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【引文索引类型】SCI
【引文索引号】1673-9868(2008)04-0067-06
【学科分类】园艺学

【题目】我国绵羊与山羊品种资源的研究进展
【中文关键词】品种资源; 绵羊; 山羊品种; 遗传多样性; 山羊育种; 波尔山羊; 亲缘关系; 研究进展; 本地山羊; 小尾寒羊;
【英文关键词】no

【中文摘要】在国际市场上,中国绵羊、山羊的饲养量、出栏量、羊肉产量、羊皮产量、羊绒产量均居世界首位。中国绵羊、山羊品种资源类型十分丰富,分布范围广泛,经数千年来的驯化、培养和选育,在不同的生态类型下形成了对当地自然环境适应性很强的品种和类群,包括有繁殖率高、产绒量高、羔皮用和裘皮用等专门化的品种,在生产性能方面表现出了各自的特点,满足了不同的社会需求。改革开放之后,我国更是加强了对绵羊、山羊品种资源的基础性研究工作,并随着近年的分子生物学、分子遗传学、基因工程等科技手段的广泛运用,开展了对重要品种种质特性、开发利用、遗传特性等方面的系统研究。
【英文摘要】no
【语种】中文
【第一作者】蒲亚斌
【通讯作者】马月辉
【期刊名称、卷期、页码】中国牧业通讯
【论文发表时间】2008-01-10 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】畜牧学

【题目】Bacillus amyloliquefaciens ES-2液体发酵抗菌脂肽培养基及其主要影响因子筛选
【中文关键词】淀粉液化芽孢杆菌;抗菌脂肽;培养基;Plackett-Burman实验设计;
【英文关键词】Bacillus amyloliquefaciens;antimicrobial lipopeptide;medium;Plackett-Burman design;
【中文摘要】对淀粉液化芽孢杆菌ES-2抗菌脂肽深层液体发酵培养基及其主要影响因子进行了筛选。首先采用单因子实验,确定了Landy培养基为起始培养基,再采用Plackett-Burman设计法,对影响抗菌肽发酵的显著因素进行筛选。结果表明,在所选取的12个相关因素中,对抗菌肽的产量具有显著影响的因子是KC、lFeSO4、温度。
【英文摘要】无
【语种】中文
【第一作者】孙力军
【通讯作者】陆兆新
【期刊名称、卷期、页码】食品工业科技,29(5):60-64
【论文发表时间】2007-09-18 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】食品科学技术其他学科

【题目】吉林省超细毛羊选育与羊毛分级拍卖
【中文关键词】超细毛羊选育 羊毛分级 拍卖
【英文关键词】no
【中文摘要】自90 年代初开始,人们对毛纺服饰需求发生了显著变化,轻薄高档毛织品受到青睐,毛纺企业对细型毛和超细毛需求逐渐增加,羊毛细度对价格的形响程度也不断扩大,羊毛越细纺织加工附加值越高。在肉毛比价方面,近十年来羊毛价格一直处于劣势。在与化学纤维的竞争当中,普通类型羊毛没有优势。 世界主要细毛羊生产国都积极发展细毛型和超细型细毛羊,使毛纺织品在高端纺织品市场能够继续占有份顿,促进细毛羊业发展。在农业部的组织下,新疆和吉林两地区于2002 年培育成功新吉细毛羊,属于细毛型。在选育过程当中也出现了被毛细度为80支的个体,吉林省以此为基础开展超细型选育,在细毛羊优势地区向生产细型、超细型精品细羊毛方向发展,提高饲养细毛羊生产经济效益
【英文摘要】no
【语种】中文
【第一作者】张明新
【通讯作者】张明新
【期刊名称、卷期、页码】全国养羊生产与学术研讨会议论文集(2007-2008)
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【引文索引号】null

【学科分类】畜牧学

【题目】枯草芽孢杆菌fmbJ株产生的脂肽抗球虫作用研究
【中文关键词】枯草芽孢杆菌;脂肽;抗球虫指数;溶血;柔嫩艾美耳球虫;
【英文关键词】Bacillus subtilis;lipopeptide;anticoccidial index;hemolysis;Eimeria tenella;
【中文摘要】目的探讨枯草芽孢杆菌fmbJ株产生的脂肽抗鸡柔嫩艾美耳球虫的效果,并对其溶血活性进行测定。方法选取7 d龄雏鸡75只随机分为5组,分别为感染不用药组、抗球虫药(氨丙啉)饮水组、灌胃脂肽组、肌肉注射脂肽组及不感染不用药组。除不感染不用药组外各组均人工感染1×105个孢子化卵囊。于感染后第7 d收集粪便、第9 d剖杀观察各组抗球虫效果。脂肽的溶血活性利用比色法测定。结果感染不用药组、抗球虫药饮水组、灌胃和肌肉注射脂肽组对柔嫩艾美耳球虫的抗球虫指数(ACI)分别为18.71、185.45、161.40和109.83。溶血活性测定表明,其溶血程度随着脂肽浓度的增加而升高。结论口服枯草芽孢杆菌fmbJ株产生的脂肽具有中效抗柔嫩艾美耳球虫效果,但低于已知的抗球虫药氨丙啉,并且多次口服给药效果要高于一次肌肉注射给药。溶血实验表明其具有溶血活性。
【英文摘要】无
【语种】中文
【第一作者】黄现青
【通讯作者】陆兆新
【期刊名称、卷期、页码】中国病原生物学杂志.1(4):269-272
【论文发表时间】2006-03-15 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】畜牧、兽医科学基础学科

【题目】Molecular cloning, characterization and expression of two orthologs of Arabidopsis thaliana phenylalanine ammonia-lyase 1 (AtPAL1) from rapeseed (Brassica napus L.)
【中文关键词】无
【英文关键词】Arabidopsis thaliana Brassica napus L. Cloning Expression Phenylalanine ammonialyase (PAL)
【中文摘要】无
【英文摘要】Phenylalanine ammonia-lyase (PAL) plays important roles in determining flavonoid- and lignin-related traits. Two PAL full-length cDNAs,BnPAL1-1 and BnPAL1-2, were isolated from Brassica napus. BnPAL1-1 is 2460 bp encoding a 722-aa protein, while BnPAL1-2 is 2396 bp encoding a 719-aa protein. BnPAL1-1 shares 86.8% nucleotideidentities and 94.9%/97.0% identities/positives at protein level to BnPAL1-2. NCBI BLAST, pairwise alignment and preferential amino acid analysisindicated that they are orthologs of Arabidopsis thaliana PAL1 (AtPAL1), suggesting that the divergenceof AtPAL1 and AtPAL2 preceded the divergenceof genera Arabidopsis and Brassica. Southernhybridization and EST analysis showed that B. napushas 2 – 6 orthologs of AtPAL1. High ratios of synonymousto non-synonymous substitutions suggest thatin Brassicaceae PAL1 orthologs evolve under high pressure of purification selection, while among PAL1paralogs this pressure is a little lower. Escherichia coli-expressed 6 • His-tagged BnPAL1-1 and BnPAL1-2 were both bioactive, but BnPAL1-2 was much higher in tested catalytic activity. BnPAL1-1 and BnPAL1-2 are transcribed in all the 11 organs tested, but most abundant in flower. BnPAL1-1 shows declined expression in late-stage seed, and BnPAL1-2 shows stronger organ specificity. Transcription of these two genes in middle and late stages of seed development of yellow-seeded line L2 is obviously lower than near-isogenic black-seeded line L1, indicatingthe correlation of yellow-seed trait to down regulation of PAL transcription, but this is probably caused by suppressed seed-specific upstream regulatory signal or by seed-specific feedback inhibition from downstream pathways
【语种】英文
【第一作者】倪郁
【通讯作者】李加纳
【期刊名称、卷期、页码】Euphytica (2008) 159:1 – 16
【论文发表时间】2007-06-09 00:00:00
【引文索引类型】SCI

【引文索引号】10.1007/s10681-007-9448-9
【学科分类】分子生物学

【题目】Screening the main factors affecting extraction of the antimicrobial substance from Bacillussp. fmbJ using the Plackett – Burman method
【中文关键词】略
【英文关键词】Antimicrobial substance, Bacillus sp. fmbJ, extraction, JMP software, Plackett-Burman design, main factors
【中文摘要】略
【英文摘要】The Plackett – Burman screening method was utilized as a tool to evaluate the importance of the selected six factors, including methanol, ethanol, propanol, butanol, pH and time, which are relevant to the extraction of the antimicrobial substance produced by Bacillus sp. fmbJ. The main factors that affected the extraction of the antimicrobial substance were determined as methanol (P < 0.0001), ethanol (P < 0.0001), pH (P ¼ 0.0032), and time (P < 0.0001) by using the JMP soft ware. Within the test ranges, methanol, ethanol , and tim e showe d a significant positive relativity to the total extracted amounts respectively; while pH had a significant negative effect. The maximum prediction profile indicated that the total extra cted amounts for the antimicrobial substance would reach 50.21 mg/1 00 ml with 99.64% proba bility.
【语种】英文
【第一作者】别小妹
【通讯作者】陆兆新
【期刊名称、卷期、页码】World Journal of Microbiology & Biotechnology (2005) 21: 925 – 928
【论文发表时间】2004-12-24 00:00:00
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【引文索引号】null
【学科分类】微生物学

【题目】KAP1.3基因与绵羊产毛性能的相关分析
【中文关键词】KAP基因; 细毛羊; 产毛性能
【英文关键词】KAP; Fine wool sheep; wool production
【中文摘要】本实验采用PCR-SSCP的标记技术,对羊毛纤维组成蛋白中的KAP1.3的部分序列进行多态性的研究。结果表明,在引物1中,BB基因型的产毛量性状极显著高于其他基因型(<0.01),在拉伸长度性状上,AB基因型与BB基因型差异极显著(<0.01),AA基因型与BB基因型差异显著(0.01<<0.05)。在引物2中,各基因型不存在显著差异。
【英文摘要】By the micro-mark technology of PCR-SSCP, this experiment select the part of kap1.3,which are the constitute protein of wool as the candidate gene.According to the research of polymorphism, the result shows that the BB genotype of primer 1 of KAP1.3 (the high sulfur protein associated-protein) of keratin associated-protein family has apparent relationship with the yield of wool (< 0.01) and the wool length(0.01< < 0.05).
【语种】中文
【第一作者】王春昕
【通讯作者】张明新
【期刊名称、卷期、页码】吉林畜牧兽医
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【引文索引号】null
【学科分类】畜牧学

【题目】甘蓝型油菜胚色素成分的QTL定位
【中文关键词】甘蓝型油菜;种胚;色素;QTLs;重组自交系
【英文关键词】Brassica napus L.;Embryo pigment;Quantitative trait locus(QTL);Recombinant inbred lines(RILs)
【中文摘要】以甘蓝型黄籽油菜GH06和甘蓝型黑籽油菜中油821为亲本杂交,后代通过“一粒传法”连续自交7代构建重组自交系,2007年分别在重庆市北碚区和万州区两个试验基地种植重组自交系群体,利用本实验室已构建的遗传连锁图谱和复合区间作图法(CIM),分析种胚色素的4种主要成分的QTL。结果共检测到31个QTL,分别位于14个不同的连锁群,其中5个花色素含量有QTL,分别位于第1、5、10、16和20连锁群,单个QTL解释表型变异的6.08%~11.67%;10个类黄酮含量有

QTL,分别位于第1、3、6、7、12、20和25连锁群,单个QTL解释表型变异的4.48%~11.10%;8个总酚含量有QTL,分别位于第1、2、12、16和20连锁群,单个QTL解释表型变异的5.24%~10.37%;8个黑色素含量检测到QTL,分别位于第5、8、10、12、14和22连锁群,单个QTL解释表型变异的5.44%一11.32%。解释表型变异大于10%的5个QTL,包括2个类黄酮含量QTL,色素含量、总酚含量和黑色素含量QTL各1个,它们分别解释11.10%、10.20%、l1.67%、10.37%和11.32%的表型变异。研究结果表明胚色素表现为多基因控制的数量性状,基因表达受环境影响较大,胚与种皮色素的QTL吻合度不高,推测种皮和胚色素合成可能受不同遗传体系控制,与这些QTL紧密相关的分子标记可以用于胚主要色素的分子标记辅助选择。

【英文摘要】The quality of rapeseed oil is greatly afected by embryonic pigments.However it has been little research report on theOTL of embryonic pigment components.The objective of this study was to identify QTL controlling embryonic pigment compo—nents in Brassica napus using the composite interval mapping(CIM)method.The recombinant inbred lines(RIL1 populationselfed for 7 successive generations by single seed propagating was derived from a cross between black..seeded male parent culti—.var Zhongyou 821 and yellow—seeded female parent line GH06.The population was grown at Beibei an d W anzhou in Chongqingin 2007.Four kinds of embryonic pigment components were identified by constructed genetic map.A total of 3 l OTL were detected on 14 different linkage groups.Five QTL for anthocyanidin content were located on linkage groups 1,5,10,16,and 20,respectively,explaining 6.08-1 1.67%of phenotypic variation;ten QTL for flavonoid content were located on linkage groups l,3,6,7,12,20,and 25,respectively,explaining 4.48—1 1.10% of phenotypic variation;eight QTL for total phenol content werelocated on linkage groups l,2,12,16,and 20,respectively,accounting for 5.24—10.37%of phenotypic variation;and eight QTLfor melanin content were located on linkage groups 5,8,10,12,14,and 22,respectively,explaining 5.44一-l1-32% of phenotypicvariation.Five major QTL explaining over 10% of phenotypic variation were found,including 2,1,l,and 1 for flavonoid,antho—cyanidin,total pheno1 and melanin content(qFCB一3—2,qFCW-1—1,qACW-IO.1,口 C ’ J2—1,and qMCB一22.5),which accountedfor 11.1O% ,l0.20% ,l1.67% ,1O-37% ,an d l1.32% of phenotypic variation respectively.These results suggest that the embryonicpigments are controlled by several minor-efect genes,with a paRem of quantitative trait inheritance。and出e expression of theOTL is afected by environmental factors.QTL for seed coat pigments showed little overlapping with those for embryonic pig.ments,implying that seed coat pigments and embryonic pigments might be controlled by diferent genetic systems.M olecularmarkers closely linked with these QTLs could be applied in marker-assisted selection of embryonic pigment components in Bras—sica napus

【语种】中文

【第一作者】曲存民

【通讯作者】李加纳

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【引文索引类型】SCI

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【学科分类】农学其他学科

【题目】吉林省细毛羊产业技术需求调研报告

【中文关键词】细毛羊; 技术需求; 调查报告;

【英文关键词】Fine-wool Sheep; technical Needs; Findingsreport

【中文摘要】受肉毛比价严重失调影响,吉林省细毛羊产业资源正处于萎缩时期。尽管如此,由于吉林省养羊业是以细毛羊生产为基础的,细毛羊产业优势仍然存在,2007年细羊毛产量比例占全国12%。目前,大部分养羊户采取肉毛兼用生产模式,细毛羊繁育技术没有得到广泛应用。从产业发展出发,根据调研归纳整理,技术需求主要表现在细毛羊品种、繁育技术、质量管理、疫病防治、羊毛分级整理、圈舍设计与环境控制等方面。本文还归纳了细毛羊产业今后五年需要解决的关键技术。

【英文摘要】As the effect of serious price imbalance between meat and wool, the fine wool sheep industry resources are shrinking in Jilin Province.Nevertheless, as a result of the sheep industry in Jilin Province is based on the production of fine wool sheep, there are still advantages of fine-wool sheep industry, fine wool production in 2007 accounted for 12% of the country.At present, the majority of household production patterns is for meat as well as wool, fine-wool sheep breeding technology has not been widely used.For the industry developing, according to survey and analyze, main technology needs are:Fine-wool sheep breeds, breeding technology, quality management, disease prevention and control, wool grading, sheepcot design and environment control.This article also summarizes the key technologies need to be resolved in the sheep industry of the next five years.

【语种】中文

【第一作者】张明新

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【期刊名称、卷期、页码】吉林省畜牧兽医
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【引文索引号】null
【学科分类】畜牧学

【题目】甘蓝型油菜种子发芽率QTL定位及相关生理性状
【中文关键词】甘蓝型油菜; 数量性状基因座(QTL); 发芽率; 生理性状
【英文关键词】Brassica napus L.; quantitative trait locus (QTLs); germination rate (GR); physiological traits
【中文摘要】利用 GH06×P174 组合衍生的183 个重组自交系进行种子发芽率遗传分析及种子发芽期间种子生理性状分析。用复合区间作图法对在室温下保存两年的种子(STY)、保存1 年的种子(SOY)与新收获种子(FS)发芽率进行QTL 定位。另外对保存两年的种子及新收获的种子萌发期间脂肪酶活性、电导率、还原糖含量、总糖含量及根系活力进行了测定,并对结果进行分析。结果表明3 批种子的发芽率QTL 位点各不相同, 保存两年的种子在第9、14、17 条连锁群上分别检测到1 个位点, 保存1 年的种子在第5、9 条连锁群上各检测到1 个位点, 新收获的种子在第4、18 条连锁群上分别测检到1 个位点。研究发现, 3 批种子的发芽率相关性不显著, 发芽率差异达到极显著水平, 同时保存不同年份种子的发芽率QTL 各不相同, 这表明甘蓝型油菜发芽率受很多不同因素所控制。保存两年及新收获种子的发芽率与电导率之间的相关性均达到极显著负相关, 表明可以通过电导率的测定估测发芽率, 电导率的研究对种子发芽率的研究具有重要意义。
【英文摘要】One hundred and eighty-three recombinant inbred lines from the cross between GH06 and P174 were used forgenetic analysis of seed germination rate and physiological trait analysis of Brassica napus L. Composite interval mapping(CIM) was applied to identify QTL associated with seed germination rate (GR) of the seeds that stored for two years (STY),one year (SOY), and fresh seeds (FS), respectively. The activity of lipases, seed conductivity, reducing sugar content, totalsugar content, and root vitality of STY and FS were investigated. The QTL for seed GR of various stored seeds were different.Three QTLs for STY were detected on the linkage group (LG) 9, 14, and 17. Two QTL for SOY were mined on LG 5and 9. Two QTLs for FS were detected on LG 4 and 18. The germination rate of seeds from three years was significantlydifferent, and the QTL of GR was not identical, which indicated that the seed germination was controlled by many loci.Furthermore, the seed germination rate was negatively correlated with seed conductivity, which means that measurement ofseed conductivity can be used to estimate GR, and the study of conductivity is important for GR research.
【语种】中文
【第一作者】马爱芬
【通讯作者】刘列钊
【期刊名称、卷期、页码】遗传HEREDITAS (Beijing) 2009 年2 月, 31(2): 206—212
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【引文索引号】0253-9772
【学科分类】遗传学

【题目】中国苜蓿市场分析
【中文关键词】苜蓿;市场分析;产业;苜蓿进口
【英文关键词】null
【中文摘要】本文阐述了我国现代苜蓿产业的发展历史,将产业发展分为三个阶段,辩证分析了7个主要因素对苜蓿市场变化的影响,对今后我国苜蓿市场发展趋势做了分析,结果表明基于奶牛规模化,集约化,标准化和一体化养殖的发展和苜蓿收购价的提高,国产苜蓿数量会明显增加;由于美国优质苜蓿在中国奶牛饲养方面的影响力和市场开拓,国产苜蓿在外压之下,将会彻底改变以往只注重产量,而忘却质量的生产观念,国产苜蓿质量和销售价格会逐步提高,产业会走上一个新的台阶;由于我国土地资源匮乏,国产苜蓿在数量和质量上不可能满足日益增长的市场需求,国外苜蓿凭借在质量和稳定供货数量方面的优势,将长期占据我国一定份额的苜蓿市场,中国终将成为世界苜蓿进口大国,中国苜蓿市场将会出现中外企业相互竞争、相互关联和相互融合的新局面。
【英文摘要】无
【语种】中文
【第一作者】杨茁萌

【通讯作者】杨茁萌
【期刊名称、卷期、页码】《奶牛》、2010年03期、28-31
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【引文索引类型】其他
【引文索引号】null
【学科分类】农业工程

【题目】甘蓝和白菜紫色酸性磷酸酶17 基因家族的克隆和比较分析
【中文关键词】白菜; 甘蓝; 紫色酸性磷酸酶; 基因家族; 磷饥饿
【英文关键词】Brassica rapa; Brassica oleracea; Purple acid phosphatase; Gene family; Phosphate starvation
【中文摘要】从甘蓝和白菜中分别克隆到2 个PAP17, 根据序列相似性, 将PAP17 分为类型I (BoPAP17-1 和BrPAP17-1)和类型II (BoPAP17-2 和BrPAP17-2)。Southern 杂交表明, 白菜和甘蓝中均只存在2 个PAP17 成员, 与克隆结果吻合。系统发育和分子进化分析表明, PAP17 基因家族受纯化选择, 编码低分子量PAP 蛋白。荧光定量PCR 结果表明, PAP17在所检测的9 个组织器官中均有表达, 尤以花和蕾中的表达量特别高, 种子中也有一定程度的表达, 表明其与体内储备态磷的动用有关, 尤其在花和蕾的发育阶段。磷饥饿诱导表达结果表明, 除BrPAP17-2 在幼苗叶片中表达受抑制外, BrPAP17 和BoPAP17 在幼苗根部和叶片中均受磷饥饿诱导, 表达量先降后升, 诱导4 d 或8 d 后达到峰值; 恢复供磷4 d 后, 表达量迅速降低至基础表达水平以下。与幼苗叶片相比, 白菜和甘蓝幼苗根部的PAP17 磷饥饿诱导表达似乎更为强烈。这些结果表明PAP17 在白菜和甘蓝根部可能参与了根外磷的活化与吸收及无机磷由根部向其他组织器官的转运。
【英文摘要】Two PAP17 genes were cloned from parent species of Brassica napus, B. oleracea, and B. rapa, respectively. Accordingto sequence similarity, PAP17 genes could be divided into two types, type I (BoPAP17-1 and BrPAP17-1) and type II(BoPAP17-2 and BrPAP17-2). Southern hybridization resulted in two bands both in B. oleracea and B. rapa, this is accordancewith former cloning results. Phytogenetic and molecular evolution analysis indicated that PAP17 genes in Brassica species underwentpurifying selection, and their deduced proteins are typical low molecular weight PAP proteins. Expression patterns ofBoPAP17 and BrPAP17 genes were assayed by fluorescent quantitative PCR. The results revealed that PAP17 genes expressed inall nine tested tissues and organs, with the extremely high expression in flower and bud, and certain expression in seeds at differentstages, implying these PAP17 genes most likely mobilize phosphorus reserves in plants, particularly during flower and buddevelopment stages. Under phosphate starvation conditions, expression of BrPAP17-2 in seedling leaf was restrained, while thatof BrPAP17 and BoPAP17 in seedling root and leaf was induced, the expression levels declined in the first 24 hours, and thencontinuously increased with the maximal levels between four days and eight days after treatment. After four days of Pi-resupply,their expression declined below un-induced basal levels. In comparison with seedling leaf, it seems that BrPAP17 and BoPAP17showed stronger phosphate starvation induced expression in seedling root. These results thus suggested that PAP17 genes in B.oleracea and B. rapa may be involved in external phosphorus assimilation and transferring inorganic phosphate from root to othertissues or organs.
【语种】中文
【第一作者】卢坤
【通讯作者】李加纳
【期刊名称、卷期、页码】作物学报2010, 36(3): 517　525
【论文发表时间】2010-03-27 00:00:00
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【引文索引号】0496-3490
【学科分类】农学其他学科

【题目】Genomic relationships between wild and cultivated Brassica oleracea L. with emphasis on the origination of cultivated crops
【中文关键词】无
【英文关键词】Brassica oleracea　Cultivated form Genomic relationships　Sicily　Wild taxa
【中文摘要】无
【英文摘要】Wild taxa in Brassica oleracea L. play animportant role to improve cultivated crops, but thegenomic relationships between wild and cultivatedforms have not been well clarified. An overall surveyof genomic relationships among 39 accessions covering10 wild and 7 cultivared types in B. oleraceawas performed using amplified fragment lengthpolymorphism and simple sequence repeat. Thecultivated types were clustered together withB. oleracea ssp. oleracea, B. incana, B. bourgeaui,B. montana, B. cretica and B. hilarionis, while 4wild taxa from Sicily, B. rupestris, B. insularis,B. macrocarpa and B. villosa formed the other group.It implies the low

possibility that current B. oleraceacrops originated in Sicily.
【语种】英文
【第一作者】梅家琴
【通讯作者】钱伟
【期刊名称、卷期、页码】Genet Resour Crop Evol (2010) 57:687 – 692
【论文发表时间】2010-02-22 00:00:00
【引文索引类型】SCI
【引文索引号】10.1007/s10722-009-9504-5
【学科分类】分子生物学

【题目】新疆的细毛羊育种回顾与展望
【中文关键词】细毛羊; 育种; 回顾; 展望
【英文关键词】no
【中文摘要】本文回顾了新疆的细毛羊育种历程,从新疆细毛羊的育成到新吉细毛羊新品种的育成,对各阶段细毛羊品种(系)的育种背景、育种过程、各细毛羊品种(系)的生产性能、参加的科学家及科技工作者分别进行了阐述。对今后新疆的细毛羊业发展的战略与措施,提出一些观点和建议。
【英文摘要】no
【语种】中文
【第一作者】田可川
【通讯作者】田可川
【期刊名称、卷期、页码】《2008中国羊业进展》论文集
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【引文索引类型】其他
【引文索引号】null
【学科分类】畜牧学

【题目】金华火腿加工过程中内源脂肪酶活力变化特点研究
【中文关键词】金华火腿, 干腌火腿, 脂肪晦, 响应曲面
【英文关键词】Jinghua ham, dye-cured ham,lipase, response surface, methodology
【中文摘要】"测定中性脂肪醉、酸性脂肪晦的活力变化, 以及测定p H 5.8 时脂肪醉综合活力的变化; 同时, 利用响应曲面法研究温度、盐含t 、硝酸盐含t 、亚硝酸盐含t 对脂肪晦活力的影响, 并利用所得回归方程预测金华火腿加工过程中脂肪降的实际表现活力."
【英文摘要】The reseach was to study the changing on characteristics of endogenous lipase during procwssing of jinghua ham.
【语种】中文
【第一作者】郁延军
【通讯作者】周光宏
【期刊名称、卷期、页码】食品与发酵工业,2007,33(8):1-6
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【引文索引号】null
【学科分类】食品加工技术

【题目】基于计算机视觉的牛肉分级技术研究进展
【中文关键词】计算机视觉牛肉分级技术,牛肉分级,眼肌横切面,脂肪
【英文关键词】b e e f g ra d ing te c hn iq ue s b y c om p u te r vis ion; b e e f g ra d ing; tra ns ve rs e s e c tion of rib e ye; fa t
【中文摘要】本文概述了目前世界上主要的牛肉分级体系,着重论述了国内外计算机视觉牛肉分级技术的发展情况,提出了现行的计算机视觉牛肉分级技术面临的主要问题及其发展方向。
【英文摘要】This paper summarized several prevalent beef grading systems in the world, mainly introduced the development of beef grading techniques by the c omputer vision.

【语种】中文
【第一作者】沈振宁
【通讯作者】周光宏
【期刊名称、卷期、页码】食品工业科技,2008,(6):304-309
【论文发表时间】2007-07-13 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】食品科学技术基础学科

【题目】如皋火腿晾晒终点研究
【中文关键词】如皋火腿。晾晒终点。客观指标
【英文关键词】Rugao ham;the end point of solarization;objective index
【中文摘要】"本文系统研究了如皋火腿晾晒工艺终点的各个客观指标,包括失重、基本化学成分、颜色和质构等。"
【英文摘要】"The various objective index including weight loss,basic chemical component,chromatism and physicalindex based on the experience Of famous ham engineers were studied.with hams after curing as control."
【语种】中文
【第一作者】张新亮
【通讯作者】徐幸莲
【期刊名称、卷期、页码】食品工业科技,2008,(5):86-91
【论文发表时间】2007-08-30 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】食品加工技术

【题目】冷冻贮藏对冻猪肉冰晶形态、TVB-N及TBARS的影响
【中文关键词】冻藏, 猪肉, 冰晶, 挥发性盐基氮含量, 硫代巴比妥酸还原值
【英文关键词】frozen storage; pork muscle; ice crysta ;l TVB- N conten;t TBARS value
【中文摘要】本文主要研究了冻藏(- 10、 - 15、 - 19、 - 22e , 150d)对猪肉品质的影响。
【英文摘要】The research was to study the effect of frozen storage (-10, -15, -19, -22°Cand 150d) on quality of pork muscle was studied.
【语种】中文
【第一作者】黄鸿兵
【通讯作者】徐幸莲
【期刊名称、卷期、页码】食品工业科技,2008,(2):117-122
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【引文索引类型】其他
【引文索引号】null
【学科分类】食品加工技术

【题目】温和条件下的美拉德反应对干腌肉品风味的贡献
【中文关键词】干腌肉制品, 美拉德反应, 挥发性化合物, 固相微萃取, 气/质联用
【英文关键词】dry- cured meat; Ma illa rd reaction; volatile compounds; SPME; GC /MS
【中文摘要】"本文主要研究干腌肉制品风味形成机理, 建立了核糖与氨基酸(Leu, I le, V a,lM et)在温和(微酸性pH及非加热)条件下的美拉德反应模型。"
【英文摘要】"The research was to study themechanism of dry- cured meat flavor formation. "
【语种】中文
【第一作者】宋永
【通讯作者】马长伟
【期刊名称、卷期、页码】食品工业科技,2008,29(7):69-71

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【引文索引号】null
【学科分类】食品加工技术

【题目】光照条件对冷却猪肉MetMb还原活性及色泽稳定性的影响
【中文关键词】冷却猪肉, 褪色, 光照, M eMt b还原酶
【英文关键词】ch illed me a ;t d is co lo ra tion; lig h;t M e tMb red uc ta se
【中文摘要】"本文采用猪冷却肉为原料, 在相同光照强度(40~ 80Lux)下, 研究不同波长光照对冷却猪肉肉糜中M eMt b还原酶活性及肉色稳定性的影响。"
【英文摘要】"The research was to study the effect of different lights on the chang es of the meat reduction system and the color stability of thechilled meat during storage were studied."
【语种】中文
【第一作者】迟雅宁
【通讯作者】戴瑞彤
【期刊名称、卷期、页码】食品工业科技,2008.2:77-80
【论文发表时间】2007-05-25 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】食品加工技术

【题目】Types and distribution of mucous cells of the abalone Haliotis diversicolor
【中文关键词】杂色鲍;粘液细胞;类型;分布
【英文关键词】Haliotis diversicolor; mucous cells, types, distribution.
【中文摘要】采用阿尔辛蓝和高碘酸-希夫染色(AB-PAS)反应和组织学方法对杂色鲍粘液细胞的种类和分布进行观察和分析。根据粘液细胞的染色反应,可分为四种类型: Ⅰ型,纯红细胞,II型,纯蓝细胞,III型,紫色偏红细胞; IV型,蓝紫色细胞。外套膜内绝大部分粘液细胞为粘液细胞类型II,呈杯状或棒状。鳃轴和鳃丝上皮细胞富含粘液细胞,其中大部分是II型和III型,呈圆状,杯状和棒状。在斧足存在粘液细胞,主要是II型上皮细胞,而足腺分布高密度的粘液细胞,或大或小,主要是II型和IV。在口周围分布很多粘液细胞,其中大部分为中型大小,呈杯形的II型。在食道从前端到后端粘液细胞的数目逐渐减少,而在远肠端粘液细胞数目比近肠端多,且大部分呈多呈杯形和圆形,主要是II型。
【英文摘要】The types and distribution of mucous cells of Haliotis diversicolor were observed and analyzed using the alcian blue and periodic acid schiffs (AB-PAS) reaction and histological procedures. According to the color of the mucous cells, they were divided into four types: Type I, pure red; type II, pure blue; type III, purple reddish; type IV, blue purple. Most of the mucous cells in the mantle were type II, with cup- or stick-like shape. Gill axis and gill filament epithelia were rich in mucous cells and most of them were type II and III, with circle-, cup- and stick-like shapes. There were a few mucous cells in the pedal epithelia, mainly type II, whereas, the pedal gland had a great density of mucous cells, which were large or small and mainly type II and IV. There were many mucous cells in the epithelia around the mouth, most of which were medium-sized cup-shaped type II. In the esophagus, the number of mucous cells decreased gradually from the anterior to posterior, whereas in the distal intestine mucous cells, there were more than in the proximal one and they were more cup – shaped and circle – shaped, mainly type II.
【语种】英文
【第一作者】狄桂兰
【通讯作者】柯才焕
【期刊名称、卷期、页码】African Journal of Biotechnology2012; 卷:11; 期:37;页码:9127-9140
【论文发表时间】2012-05-08 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】水产养殖学

【题目】不同苗龄叶柄插接对西瓜嫁接苗生长发育的影响

【中文关键词】西瓜;苗龄;叶柄插接
【英文关键词】Studied the different seedling age of watermelon with petiole insertion grafting, through to measure living rate, plant height, stem diameter, upside fresh weight and dry weight, root fresh weight and dry weight, leaf area and chlorophyll content in water
【中文摘要】试验对西瓜不同苗龄进行叶柄插接,通过对嫁接苗的成活率、株高、茎粗、 地上部鲜重、地上部干重、地下部鲜重、地下部干重、叶面积、叶绿素含量的测定。结果表明:西瓜苗待子叶展平时;子叶展平,生长点稍有突起时;西瓜苗第一片真叶半展开时这3 个时期进行西瓜叶柄插接比较适宜。
【英文摘要】Watermelon; Different seedling age; Petiole insertion grafting
【语种】中文
【第一作者】李建设
【通讯作者】李建设
【期刊名称、卷期、页码】北方园艺,2008(10):5-7
【论文发表时间】2008-05-16 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】园艺学

【题目】不同规格穴盘及保水剂用量对甘蓝幼苗生长的影响
【中文关键词】保水剂;穴盘;黄瓜育苗
【英文关键词】Sky gel water conservation; Cell plug; Chloroplast of cabbage (Brassica oleracea L. var. capitata L.) seedling
【中文摘要】研究了Sky gel保水剂对不同规格穴盘(72 孔和128 孔)甘蓝育苗用量的影响。结果表明: 2种规格穴盘,在测定的3个育苗时期内,基质含水量都随着保水剂浓度的增加而增加,呈线形正相关;基质含水量在测定周期内变化范围较小,说明Skygel 保水剂的反复吸水能力较强。通过对甘蓝幼苗各形态指标进行测定,表明72 孔穴盘较128孔穴盘更适合甘蓝幼苗的生长,保水剂浓度为基质中加入2 g/ L 保水剂较适合甘蓝幼苗生长。综合各因素表明,采用72孔穴盘、 保水剂浓度为2 g/ L 时,甘蓝幼苗生长茁壮,商品出苗率高。
【英文摘要】Through studied on the different used amount of skygel water conservation on different plug size(72 cell and 128 cell) of chloroplast of cabbage seedling, it showed that : among the days of sowing, water content of substrate w as always increasing by the amount of skygel water conservation increased, it showed the positive linear correlation, The water retention capacity was also preserved very well and repeatedly in an small size adjustment . Though studied on the different index of chloroplast of cabbage seedling, it showed that: the treatment of 72 cell plug and 2 kg/ L sky gel water conservation was the best.
【语种】中文
【第一作者】曹云娥
【通讯作者】曹云娥
【期刊名称、卷期、页码】北方园艺,2009(11):57—59
【论文发表时间】2009-06-03 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】园艺学

【题目】保水剂与养分交互作用对茄子幼苗生长的影响
【中文关键词】保水剂;全营养肥;茄子育苗
【英文关键词】Water retaining gel ; Full nutrition fertilizers ; Eggplant seedling
【中文摘要】研究了不同保水剂浓度与不同的全营养液肥浓度的交互条件下对茄子育苗生长的影响。结果表明:基质持水量随着保水剂浓度的增加而增加,但随养分供应浓度的增加,基质持水量并未随着保水剂浓度的增加而呈直线上升。基质EC值随养分浓度增加而极显著增加(P=0. 01) ,随保水剂浓度增加而显著下降(P = 0. 05)。基质pH值随着养分浓度的变化范围较小(P< 0. 05) ,随着保水剂浓度的变化而发生极显著变化(P = 0. 01) ,表现为随着保水剂浓度的增加,基质pH值增加。通过对茄子幼苗的形态指标测定,表明在每升基质中加入2 g全营养肥,茄子幼苗生长较为茁壮;保水剂浓度在每升基质中加入2g较为适宜茄子幼苗生长。在养分浓度和保水剂浓度适中的条件下,两者的交互作用可提高茄子幼苗的根系活力和叶片的叶绿素含量。综合各因素认为,A2B2处理为最优处理,即全营养肥2g/L ,保水剂浓度2g/L时,较适合茄子幼苗生长。
【英文摘要】Through studied on the interaction effects of water retaining gel and full nutrition fertilizers of eggplant seedling , it showed that : Among the days of sowing , water content of substrate was always increasing by the amount of skygel water retaining gel

increased , but it showed not the exactly positive linear correlation when the content of fertilizers increased , The water retention capacity preserved showed a little bit of declination when the content of fertilizers increased. The EC of substrate was increasing while the content of fertilizers increased(P=0. 01) , meanwhile pH of substrate was declining while the content of fertilizers increased(P < 0. 05) and pH of substrate was increasing while the content of water retaining gel increased(P = 0.01) , Though studied on the different index of eggplant seedling , it showed that : the treatment of 2 g/ L full nutrition fertilizers and 2 g/ L sky gel water retaining gel was the best , the interaction of them helped the growing of eggplant seedling.

【语种】中文
【第一作者】曹云娥
【通讯作者】曹云娥
【期刊名称、卷期、页码】北方园艺,2009(10):54-57
【论文发表时间】2009-05-16 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】园艺学

【题目】sky gel保水剂对不同规格穴盘番茄育苗用量的研究
【中文关键词】保水剂 穴盘 番茄育苗
【英文关键词】Sky gel water conservation; Cell plug; Tomato seedling
【中文摘要】进行了 sky gel 保水剂对不同规格穴盘(72孔和128孔)番茄育苗用量的研究。研究结果表明,2 种规格穴盘,在测定的3个育苗时期(苗龄为16d,19d,22d)内,基质含水量都随着保水剂浓度的增加而增加,呈线形正相关;基质含水量在测定时间内变化范围较小,说明sky gel保水剂的反复吸水能力较强。通过对番茄幼苗各形态指标进行测定,表明 72 孔穴盘较 128 孔穴盘更适合番茄幼苗的生长,保水剂浓度为每 1 L 基质加 2 g 保水剂较适合。综合各因素表明,采用72孔穴盘、保水剂浓度为2g/L时,番茄幼苗生长茁壮,商品出苗率高。
【英文摘要】Different amount of water retaining agent sky gel on different plug size (72 cell and 128 cell) of tomato seedling was studied. The results showed that: among the days of sowing, water content of substrate was always increased with the amount of water retaining Agent sky gel, it showed that the positive linear correlation, the water retention capacity is also preserved very well and repeatedly in an small-size adjustment. Different index of tomato seedling showed that: the treatment of 72 cell plug and 2 g/L sky gel water conservation was the best.
【语种】中文
【第一作者】曹云娥
【通讯作者】曹云娥
【期刊名称、卷期、页码】长江蔬菜学术版,2009(22):59-61
【论文发表时间】2009-11-26 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】园艺学

【题目】水分胁迫对辣椒光合作用及相关生理特性的影响
【中文关键词】辣椒;水分胁迫;光合作用;叶绿素荧光;气孔;叶绿体
【英文关键词】water stress; photosynthesis; chlorophyll fluorescence; stomata; chloroplast
【中文摘要】【目的】研究水分胁迫对辣椒光合作用及相关生理特性的影响, 揭示水分胁迫与辣椒光合作用及生理指标之间的关系,为辣椒栽培管理,抗性筛选提供理论参考。【方法】采用盆栽的方式,分别在正常供水和水分胁迫条件下,研究辣椒生长形态及相关生理指标,光合参数,叶绿素荧光参数,叶片气孔特征及叶绿体超微结构的变化。【结果】水分胁迫显著抑制了辣椒的生长,植株总的干物质含量下降,并且干物质含量向根的分配比例增加,向茎叶的分配比例减少。叶片水势(Ψ)、叶片相对含水量(RWC)、叶绿素(Chl.)及类胡萝卜素(Car.)的含量显著下降,叶片中丙二醛(MDA)含量,游离脯氨酸(Pro)的含量,超氧化物歧化酶(SOD),过氧化物酶(POD)的活性均有所提高。叶片净光合速率(Pn)、气孔导度(Gs)、蒸腾速率(Tr)、胞间 CO2浓度(Ci)、PSⅡ光化学量子效率 (ΦPSⅡ) 、 光化学猝灭系数 (qP) 及光合电子传递速率 (ETR) 均下降,非光化学猝灭系数 (NPQ)和水分利用效率(WUE)提高。水分胁迫后叶片气孔密度、气孔长度、气孔宽度均有所下降,大部分气孔关闭深陷。叶绿体变圆,基粒片层和基质片层弯曲排列紊乱,淀粉粒减少或消失。【结论】水分胁迫下辣椒光合速率的下降主要是由气孔限制引起的。光合参数、叶绿素荧光参数、叶片气孔特征以及叶绿体超微结构的变化与品种的

抗性密切相关。
【英文摘要】【Objective】 The effects of water stress on photosynthesis and associated physiological characters of capsicum were studied, the aims were to reveal the relationship between photosynthetic traits and drought tolerance of two cultivars. 【Method】 The experiment was conducted under two water levels: no stress (75%-80% of field capacity) and stress (30%-40% of field capacity). The responses of plants growth, physiological changes, photosynthetic parameters, chlorophyll fluorescence, stomatal characters, ultrastructure of chloroplast were investigated. 【Result】 The results showed that, under the water stress condition, the growth of the plants was inhibited, the total plant dry weight declined significantly, and root/ shoot increased. Leaf water potential, leaf relative water content and leaf pigment decreased, the contents of malondialdehyde, the proline as well as the activities of superoxide dismutase and peroxidase increased. The Pn, Gs, Tr, Ci, ΦPSII, ETR and qP decreased, but the NPQ and WUE increased. The stomata became smaller and the density decreased, and most of them closed. The chloroplasts became round in shape, the lamellae arranged disorderly and the number of starch grain decreased or disappeared. 【Conclusion】 The decrease of net photosynthetic rate was considered as a result of stomatal restriction. The changes of photosynthetic parameters, chlorophyll luorescence, stomata characters and the ultrastructure of chloroplast correlated significantly to drought resistance.
【语种】中文
【第一作者】付秋实
【通讯作者】赵冰
【期刊名称、卷期、页码】中国农业科学,2009,42(5):1859-1866
【论文发表时间】2009-05-14 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】园艺学

【题目】宁夏日光温室番茄高密度早熟栽培研究
【中文关键词】番茄;高密度;早熟栽培;正交试验
【英文关键词】tomato; high density; early maturing culture; orthogonal test
【中文摘要】通过3因素3 水平正交试验,研究了宁夏日光温室番茄密度、留果穗数、行距对产量的影响,并对高密度早熟栽培进行了经济效益分析。结果表明:影响番茄总产量的最主要因素是留果穗数,其次是密度,最小是行距,最优组合是A3B3C1 ;处理8的经济效益最高,每667 m2可增加收入1 341. 8元。
【英文摘要】Through three factors and three levels orthogonal test, the planting density, fruit quantity and row spacing on yield of tomato of solar greenhouse in Ningxia w ere studied, and analyzed the economic benefit of high density and early maturing culture. The results showed that the largest influencing factor w as fruits number left, second was density, and the smallest influenceing factor was row spacing, the best optimal combination was A3B3C1 ; the maximum economic benefit was treatment 8, and income was increased by 1341.89 yuan/ 667m2.
【语种】中文
【第一作者】李文甲
【通讯作者】李建设
【期刊名称、卷期、页码】北方园艺,2010(2):62-64
【论文发表时间】2010-01-16 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】园艺学

【题目】不同贮藏温度下辣椒中丙二醛含量的变化
【中文关键词】辣椒;贮藏温度;MDA;变化
【英文关键词】pepper;storage temperature;MDA
【中文摘要】以宁夏某设施蔬菜基地的辣椒为试材,将辣椒采收后立即进行预冷处理,分别在 2,4,7,10,12,20 的条件下贮藏30 d,每隔3 d 测定 MDA含量 结果表明,在不同的贮藏温度下,随着贮藏时间的延长,MDA含量呈规律性变化趋势,说明这种变化与贮藏温度 贮藏时间及耐寒性有关系 同时考虑其他生理生化指标 (如过氧化物酶电导率 硬度等)的变化,在 7,10,12 贮藏温度下,辣椒的贮藏性能好,这可以作为辣椒贮藏保鲜时选择合适贮藏温度的依据。

【英文摘要】Pepper of a vegetable- based in Ningxia was chose as raw materials. Pepper were precoolinged immediately after harvest. Then,pepper were storaged respectively at 2,4,7,10,12,20 for 30 days. MDA content were determined every 3 days. As a result,at different storage temperatures,with the extension of storage time,change trends of MDA contentshowed regularity. It was to demonstrate the change with storage temperature, time and cold resistance related. When temperature of storage was at 7,10,12 ,at the same time,changes of other physiological and biochemical indicators such as peroxidase,conductivity,hardness,etc. were considered,storage performances of pepper were good. So,these temperature points can be used as the selection conditions of appropriate temperature of storage and preservation.
【语种】中文
【第一作者】方海田
【通讯作者】方海田
【期刊名称、卷期、页码】农产品加工·创新版,2010,209(5):29-35
【论文发表时间】2010-05-07 00:00:00
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【引文索引号】0
【学科分类】园艺学

【题目】Skygel保水剂与供水方式对黄瓜幼苗生长的影响
【中文关键词】保水剂; 供水方式; 黄瓜; 穴盘育苗
【英文关键词】Aquasorb; Water supply mo de; Cucumber; Plug seeding
【中文摘要】采用穴盘育苗, 研究了不同质量浓度 Sky gel保水剂与供水方式对黄瓜幼苗生长的影响。结果表明,不同供水方式与不同质量浓度保水剂对黄瓜幼苗生长、 生理指标等均有不同程度的促进作用。保水剂在一定范围内可以促进黄瓜幼苗生长,提高秧苗质量和生理活性。黄瓜整个幼苗期,在相同的管理条件下, 底部供水保水剂质量浓度为 4g/L 的处理明显优于传统的上部供水方式, 可减少供水次数与灌水量, 节水率达到40%,而且对株高、 茎粗、 叶绿素含量、 根系活力均有明显的促进作用,秧苗质量也得到了进一步增强
【英文摘要】Aquasorb; Water supply mo de; Cucumber; Plug seeding
【语种】中文
【第一作者】李建设
【通讯作者】李建设
【期刊名称、卷期、页码】西北农业学报,2010,19(6):134-138
【论文发表时间】2010-06-03 00:00:00
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【引文索引号】0
【学科分类】园艺学

【题目】氮素供应对土壤酶活性及设施番茄生理抗性和产量的影响
【中文关键词】设施;氮素供应;生理抗性;酶活性;番茄
【英文关键词】greenhouse ;N application ;physiological activity ;enzyme activity ;tomato
【中文摘要】以土壤酶活性及保护酶系统作为反馈指标,以产量为最终评价因素,探讨宁夏设施栽培条件下,氮素胁迫对土壤生境及植株生理抗性的影响。结果表明:除过氧化氢酶外,供氮量对土壤酶活性影响显著,其中,土壤蔗糖酶活性随施氮量增加而极显著下降,土壤磷酸酶和脲酶活性在低氮供应下增高,高氮供应下(> 600 kg/ hm2)遭胁迫;设施番茄体内保护酶系统对氮肥施用量反应敏感,适量施氮CAT 活性显著回升,但高施氮量(> 600 kg/ hm2)胁迫使番茄 SOD、 CAT和 POD活性显著下降,而 PRO活性显著增加。施氮量的差异最终显著影响番茄产量,供试条件下,设施番茄最高产量施氮量为479. 41 kg/ hm2,最大利润施氮量为364. 71 kg/ hm2。
【英文摘要】Soil and plant enzyme activities, as well as yield of tomato were adopted to evaluate the influence of Nitrogen over application on soil and tomato. The results showed that N application significantly effects soil enzyme activities except soil catalase. Invertase activity was significantly decreased along with increased N application rate. Phosphatase and urease activity were increased under low N application rate , yet severe restrained under high amount of N application(> 600 kg/ hm2) . The inner protective enzyme system was sensitive to N application. Reasonable N application ratestimulate catalase of tomato. High rate of N application(> 600 kg/ hm2) severe restrict SOD , CAT and POD activities ,but significantly promote Pro activity. Tomato yield was significantly effected by N application. The maximum N application rate for the highest yield of tomato was 479. 41 kg/ hm2. The reasonable application rate for

the highest profit yieldof tomato was 364. 71 kg/ hm2.
【语种】中文
【第一作者】沙海宁
【通讯作者】孙权
【期刊名称、卷期、页码】北方园艺,2010(7):9-11
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【学科分类】园艺学

【题目】保水剂与供水方式对辣椒幼苗生长的影响
【中文关键词】保水剂;供水方式;辣椒幼苗
【英文关键词】water retaining agent; water supply mode; pepper seedlings
【中文摘要】采用穴盘育苗,研究不同浓度下旱露植宝多功能保水剂与供水方式交互对辣椒幼苗生长的影响。结果表明:辣椒穴盘苗底部供水方式下灌水次数及灌水量均少于上部供水,可节约用水,最高节水率为36. 98%;底部供水方式下保水剂浓度为4 g/ L 时对辣椒幼苗的生长量、 形态指标及生理指标差异影响显著,可促进辣椒出苗,提高秧苗质量。
【英文摘要】The effect s on the seeding growth of pepper(Cap sicum Annuum L.) by using different content of skygel water retention agent s and water supply modes through adopting plug seedling were studied. The result s showed that the irrigation times and irrigation quantity of pepper plug seedling under bottom water supply w ere less than upper watersupply, it can save water, and the water saving rate reached 36. 98%; There w as concentration of water retention agents with 4 g/L on pepper's growth, morphological index and physiological index, and the seedling emergence rate and seedling quality were promoted.
【语种】中文
【第一作者】李建设
【通讯作者】李建设
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【引文索引号】0
【学科分类】园艺学

【题目】黑暗条件下不同贮藏方式和温度对辣椒穴盘苗质量的影响
【中文关键词】黑暗;辣椒;贮藏方式;温度;穴盘苗质量
【英文关键词】darkness; pepper; storage means; temperature; seedling quality
【中文摘要】以中椒22号辣椒为试材,在黑暗条件下研究不同贮藏方式及25、 15、 7°C 温度对辣椒秧苗主要形态及生理指标的影响。结果表明:在贮藏过程中,辣椒秧苗的干重/ 鲜重、 根冠比、 根系活力、 叶绿素含量明显下降,且7°C 处理的下降幅度小于15 °C 和25°C 处理;穴盘秧苗贮藏的横放效果好于竖放。贮藏结束后(9 d) , 15°C 和25°C 处理秧苗顶端会出现褐化现象。当秧苗定植到大田后, 7 °C处理的秧苗整体较其它处理生长速度快。表明7 °C 处理更适宜辣椒穴盘秧苗的贮藏。
【英文摘要】The growth and physiological changes of pepper seedlings by different storage methods and temperatures in the darkness were studied. Seedlings were stored vertically and horizontally. For vertical storage, seedlings w ere not removed from the plug. For horizontally storage, seedlings were removed from the plug and placed horizontally. The pepper plug seedlings w ere treated of 25 °C (control) , 15 °C and 6 °C , respect ively. The results showed that dry mass/ fresh mass, root/shoot ratio, root activity, chlorophyll content decreased significantly, and the minimum decline was observed at 7 °C .From the results of the some of the modality and physiological indexes, we can conclude that the quality of seedlings stored horizontally w as higher than that of vertical seedlings. After a long storage(9 d) period, the seedlings appeared browning in the top. When transplanted to the field, the growth of seedlings treated under 7°C were faster than those of other treatments. The current study indicated that the opt imal storage temperature for the pepper seedlings w as 7 °C .
【语种】中文
【第一作者】程琳
【通讯作者】赵冰

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【学科分类】园艺学

【题目】番茄侧枝扦插研究进展
【中文关键词】番茄;侧枝扦插;研究进展
【英文关键词】Tomato; Lateral branch cutting; Progress
【中文摘要】总结了番茄侧枝扦插的几种类型及其优缺点、扦插方法、扦插后的调控管理、插条的生理生化等研究进展进而探讨了番茄侧枝扦插的应用前景。
【英文摘要】Progress on several types of tomato lateral branch cuttings, advantages and disadvantages, cutting method, regulation management after cutting, physiological anatomy structure and physiological mechanism are introduced. The application of tomato cutting propagation in the future are also discussed.
【语种】中文
【第一作者】李文甲
【通讯作者】李建设
【期刊名称、卷期、页码】长江蔬菜,学术版,2010,12:4-7
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【学科分类】园艺学

【题目】不同规格穴盘及保水剂用量对黄瓜幼苗生长及生理研究
【中文关键词】保水剂; 穴盘;黄瓜育苗
【英文关键词】sky gel water conservation; cells plate; culture of cucumber seedling
【中文摘要】通过 sky gel 保水剂对不同规格穴盘(72孔和 128孔) 黄瓜育苗用量的研究表明, 2 种规格穴盘, 在测定的3 个育苗时期内, 基质含水量都随着保水剂质量浓度的增加而增加,呈线形正相关;基质含水量在测定周期内变化范围较小,说明保水剂的反复吸水能力较强. 通过对黄瓜幼苗各形态指标进行测定, 表明 72 孔穴盘较 128 孔穴盘更适合黄瓜幼苗的生长,保水剂质量浓度为 2 g / L 较适合黄瓜幼苗生长. 综合各因素表明, 采用 72 孔穴盘、 保水剂质量浓度为 2 g/ L 时,黄瓜幼苗生长茁壮, 出苗率高.
【英文摘要】Through different amount o f sky gel water conservation in different size of cells plates (72 cell and 128 cells) for culturing cucumber seedlings, the result s showed that during 3 stages for culturing seedling s, water content s in substrates w ere increasing with the increase of the amount of sky gel water conservation, which showed linear positive correlation. The water content s in substrates had small variation during testing period, which illustrated that sky gel water conservation had strong capability for repeated absorption of water. Though testing different indices of cucumber seedlings, it showed that the cell plate of 72 cells was better than the cell plate of 128 cells and strong and more seedlings could be cultured in the cell plate of 72 cells with the concentration o f 2 kg / L sky g el water conservation.
【语种】中文
【第一作者】曹云娥
【通讯作者】曹云娥
【期刊名称、卷期、页码】农业科学研究, 2010,31(2):24—26
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【引文索引号】0
【学科分类】园艺学

【题目】水分胁迫对番茄生长及光合系统结构性能的影响
【中文关键词】番茄; 水分胁迫; 光合作用; 叶绿素荧光; 气孔特性; 叶绿体超微结构

【英文关键词】chlorophyll fluorescence; chloroplast ultra-structure; photosynthesis; stomata character ; tomato; water stress
【中文摘要】以普通番茄和樱桃番茄为试材,分别在正常供水和水分胁迫条件下,研究不同生态型番茄生长指标及光合系统结构的变化。水分胁迫显著抑制了番茄的生长,叶片水势及叶片相对含水量显著下降,普通番茄和樱桃番茄单株总干重分别下降了59.36%和51.17%,二者的根冠比分别上升了37.93%和29.17%。水分胁迫后,叶片净光合速率(Pn)、气孔导度(Gs)、蒸腾速率(Tr)、胞间CO2浓度(Ci)、PSII光化学量子效率(5PSII)、光化学猝灭系数(qP)及光合电子传递速率(ETR)均下降,非光化学猝灭系数(NPQ)和水分利用效率(WUE)提高。水分胁迫后叶片气孔密度、气孔大小均有所下降,大部分气孔关闭且深陷。叶绿体变大变圆,基粒片层排列紊乱,淀粉粒减少或消失。
【英文摘要】The experiment was conducted under two water levels: no stress (75% - 80% of field capacity), stress (30% - 40% of field capacity). The changes of growth and photosynthetic system characters of tomato were investigated. The results showed that, under the water stress condition, the growth of the plants was inhibited, leaf water potential and leaf relative water content decreased. The total plant dry weight declined significantly and the reduction was 59.36% for Meifen 22 and 51.17% for Hongsheng, respectively. The root/shoot ratio increased 37.93% for Meifen 22 and 29.17% for Hongsheng. The net photosynthesis rate (Pn), stomata conductance (Gs), transpiration rate (Tr), intercellular CO2 concentration (Ci), the actual photosynthesis efficiency of PSII in the light (5PSII), the electron transport rate (ETR) and photochemical quenching (qP) decreased where as the non 2photochemical quenching (NPQ) and water use efficiency (WUE) increased. The stomata became smaller and the density decreased, most of them closed. The chloroplasts became round in shape, the lamella e arranged disorderly and the number of starch grain decreased or disappeared.
【语种】中文
【第一作者】王学文
【通讯作者】路河
【期刊名称、卷期、页码】中国农业大学学报,2010,15(1):7-13
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【学科分类】园艺学

【题目】干旱胁迫对黄瓜幼苗生长、光合生理及气孔特征的影响
【中文关键词】干旱胁迫;光合作用;叶绿素荧光;气孔特征
【英文关键词】drought stress; photosynthesis; chlorophyll fluorescence; stomata characters
【中文摘要】采用盆栽方式研究不同干旱程度(对照的基质含水量为田间持水量的70%~80%,轻度胁迫的基质含水量为田间持水量的40%~50%,重度胁迫的基质含水量为田间持水量的20%~30%)对2个不同黄瓜品种(千秋五号和千春七号)的形态指标、叶片气体交换参数、叶绿素荧光参数、生理生化指标和气孔特征的影响。结果表明:干旱胁迫下,2个品种的生长都受到显著抑制,叶片相对含水率、净光合速率(Pn)、气孔导度(Gs)和蒸腾速率(Tr)显著降低;在轻度干旱胁迫下,光合速率的下降主要是由气孔因素引起;而在重度干旱胁迫下,胞间CO2含量(Ci)升高,表明此时光合速率的下降是由非气孔因素引起的。干旱胁迫下,PSII光化学量子效率(ΦPSII)、光化学猝灭系数(qP)、光合电子传递速率(ETR)和PSII吸收的光能用于光化学反应的份额(P)也都显著下降,而非光化学猝灭系数(NPQ)和用于天线热耗散的份额(D)显著增加。光合色素含量呈下降趋势,叶片中丙二醛(MDA)含量、游离脯氨酸(Pro)含量、超氧化物歧化酶(SOD)、过氧化物酶(POD)和过氧化氢酶(CAT)的活性显著升高。叶片气孔密度,开放气孔的比例,开度大小都呈下降趋势,胁迫后的叶片下表皮气孔变圆并且下陷,表皮毛的密度增加。试验显示,千春七号比千秋五号表现出更强的抗旱性。
【英文摘要】The responses of morphological indexes, photo synthetic gas exchange, chlorophyll fluorescence, physiological indexes and stomata characters to different water stress (70%-80% of field capacity as no stress, 40%-50% of field capacity as light stress, 20%-30% of field capacity as high stress) in seedlings of two cucumber cultivars (var. ‘Qianqiu No. 5’ and var. ‘Qianchun No. 7’). The growth of the two cultivars was inhibited under the drought stress. The water stress resulted in progressively decreases in relative water content of leaves, net photo synthesis rate (Pn), stomatal conductance (Gs), transpiration rate (Tr), the actual photo synthesis efficiency of PSII in the light (ΦPSII), the electron transport rate (ETR), photo chemical quenching (qP) and proportion of PSII photochemistry (P), but the non-photo chemical quenching (NPQ) and proportion of antenna heat dissipation (D) increased. The intercellular CO2 concentration (Ci) decreased at light stress, but increased at high stress, which indicated that the decline of Pn was considered as a result of stomatal restriction under light stress, but non-stomatal restriction under high stress. The leaf pigment decreased, but increased for the contents of alondialdehyde, the proline as well as the activities of superoxide dismutase, peroxidase and catalase. The density of leaf stomata, open stomata proportion decreased progressively. The stomata were of smaller, low density, and most closed. Density of trichomes decreased. The cucumber cv. ‘Qianchun No. 7’ was more drought-tolerant than

var. ‘ Qianqiu No. 5 ’.
【语种】中文
【第一作者】王玉珏
【通讯作者】郭仰东
【期刊名称、卷期、页码】中国农业大学学报,2010,15(5):12-18
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【学科分类】园艺学

【题目】不同物料及配比对设施土壤与番茄产量、品质的影响
【中文关键词】日光温室;有机肥;化肥;沙土;土壤酶活性;番茄
【英文关键词】Greenhouse; Organic fertilizer; Inorganic fertilizer; Sandy soil; Enzyme activity; Tomato
【中文摘要】研究了有机肥、化肥、青沙等不同物料及配比对二代日光节能温室内土壤营养状况,番茄生长、产量及品质的影响。研究结果表明,施有机肥的土壤 pH 值和容重显著降低,土壤全盐、有机质、速效氮、磷、钾、田间持水量和总孔隙度均增加;单施化肥的,土壤 pH 值和容重也显著降低,除土壤田间持水量外,全盐、有机质、速效氮、磷、钾,总孔隙度均增加。在施有机肥的基础上进一步配施化肥和沙子等物料,全盐、速效氮、磷、钾均显著增加。化肥和有机肥施用都显著提高了土壤磷酸酶、脲酶和蔗糖酶的活性,显著增加了番茄的株高和冠幅,最终显著增产;化肥加沙和有机肥加沙处理增加了土壤通气性,显著促进了茎粗的增长,有利于植株健壮,不同物料处下番茄果实中可溶性糖显著增加,总酸度显著下降,糖酸比显著增大,改善了番茄的风味,尤其是在化肥和有机肥配合并掺和沙子的情况下,番茄 VC 含量最高,但也显著增加了番茄的硝态氮含量。
【英文摘要】Field experiments were adopted to study the effects of different materials and their mixtures on soil properties, growth, yield and quality of tomato in secondary generation greenhouse of Ningxia. The results showed that soil pH and bulk density was significantly decreased but soil total salt, available N, P and K, as well as total porosity was increased under organic and inorganic fertilizer application. Field capacity was significantly decreased for organic fertilization but for inorganic fertilization. Soil total salt, available N, P and K also was increased under application the mixture of organic, in organic fertilizer and fine sand particles. Soil phosphatase, urease, and invertase activities, as well as height, width of shoots and thus yield of tomato were increased after applied organic and inorganic fertilizer. Stem thick was significantlypromoted due to increased soil porosity by application mixture of organic and inorganic fertilizer with fine sand. Increased solvable sugar content but decreased total acidity of tomato significantly augment ratio of sugar and acidity duo to the application of different materials, which improve the quality of tomato. Both VC and NO3--N content was promoted by application the mixtures of organic and inorganic fertilizer with sandy soil.
【语种】中文
【第一作者】沙海宁
【通讯作者】孙权
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【学科分类】园艺学

【题目】宁夏机修日光温室建棚导致的土壤板结问题的研究
【中文关键词】重型机械; 日光温室;土壤退化; 土壤板结
【英文关键词】heavy machinery; greenhouse; soil degradation; soil compaction
【中文摘要】针对当前二代节能日光温室大型机械打墙所产生的土壤板结、 渗透性变差等问题, 系统分析了机修温室内土壤紧实度、 容重、 孔隙度、 田间持水量等土壤物理性质的变化。结果表明:大型机械碾压和夯实后, 土壤物理性质退化严重,从大田到墙边水平方向上土壤紧实度最高达到 150 kg, 增加了 90 k g , 田间持水量降低了35 g, 容重增加了0.42 g/cm3、 总孔隙度减少了17 个百分点,非毛管孔隙度降低了 14 个百分点;垂直方向上, 打墙后 0~ 60 cm 土壤耕作层紧实度、容重、 总孔隙度、 非毛管孔隙度均随着深度增加而降低,田间持水量增加,60cm 以下层土壤紧实度和田间持水量受机械碾压和夯实的影响不大、 土壤容重增加、 总孔隙度和非毛管孔隙度降低。

【英文摘要】Caused by the second- generation greenhouse wall constructed by heavy machine. This article was designed to study soil compaction, permeability deterioration and other problems caused by . This article analyzed the soil compaction, bulk density, porosity, field water holding capacity and other soil physical properties changes in greenhouse. The results showed that : After large mechanical rolling and compaction, from the field to the horizontal wall the soil physical properties were seriously degenerated , the soil compact ion increased by 90 kg, field water capacity decreased by 35 g and bulk density increased by 0. 42 g/ cm3, the total porosity decreased by 17% , non-capillary porosity decreased by 14%. On the vertical direction, from 0- 60 cm, bulk density ofplough layer, porosity, non- capillary porosity decreased with increasing of the depth. The soil bulk density below60 cm plough layer and field water capacity were little affected by mechanical operation.
【语种】中文
【第一作者】王锐
【通讯作者】王锐
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【题目】宁夏南部山区设施园艺发展现状、问题与对策
【中文关键词】现状;问题; 对策;宁南山区
【英文关键词】facility horticulture; present status; problems; measures; southern mountain area of Ningxia
【中文摘要】在广泛深入生产一线调研的基础上, 通过大量翔实的数据, 分析了宁夏南部山区设施园艺发展的现状、存在问题,并根据当地实际, 针对性提出宁夏南部山区(以下简称“宁南山区”) 设施园艺发展的对策建议, 为促进宁夏设施园艺产业的可持续发展提供理论依据。
【英文摘要】Based o n a great deal o f t rue data from rural investigation, present status and problems existed on the development of facility horticulture in southern mountain area o f Ningxia were analyzed. Reasonable measures w ere pro posed according to the regional practicality. These proposals could be used as theoretical guide for sustainable development of facility horticulture in Ningxia.
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【第一作者】孙权
【通讯作者】孙权
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【学科分类】园艺学

【题目】Creatine kinase is a bacteriostatic factor with a lectin-like activity
【中文关键词】文昌鱼,肌酸激酶,急性时相反应
【英文关键词】Amphioxus; Lancelet; Cephalochordate; Creatine kinase; Acute phase response
【中文摘要】肌酸激酶(CK)是一种催化ADP转化成ATP的酶,这种酶与文昌鱼的急性免疫有关,但是它的免疫功能特性并不清楚。然而我们已经证明,文昌鱼的CK基因(BbCK)可以被LPS诱导,重组的BbCK可以结合革兰氏阴性大肠杆菌并抑制大肠杆菌的生长。然而这种抑制作用可以被以下几种糖类打破:N-乙酰基-D-甘露糖胺,N-乙酰基-D-葡糖胺,升-岩藻糖,D-甘露糖,D-果糖和D-葡萄糖。相反BbCK基因对革兰氏阳性金黄葡萄球菌的抑制作用并不明显。这些实验证据表明,BbCK基因在抑菌过程中起着一种类似于凝集素的作用,能够抑制革兰氏阴性大肠杆菌的生长。这是我们第一次发表关于CK基因在免疫系统中的作用,而CK基因正是通过识别并且抑制革兰氏阴性大肠杆菌来发挥作用的。
【英文摘要】Creatine kinase (CK), an enzyme catalyzing the conversion of adenosine diphosphate (ADP) to adenosine triphosphate (ATP), has been shown to be an acute phase reactant in the amphioxus Branchiostoma belcheri. However, immune and functional characterization of this protein remains lacking. Here we demonstrate clearly that the expression of B. belcheri gene, BbCK, was inducible by the challenge with LPS, and the recombinant BbCK was capable of binding to the Gram-negative bacterium Escherichia coli and inhibiting the bacterial growth. Moreover, the bacteriostatic activity of the recombinant BbCK against E. coli was able to be suppressed by some sugars including N-acetyl-d-mannosamine, N-acetyl-d-glucosamine, l-fucose, d-mannose, d-fructose and d-

glucose. In contrast, BbCK exerted little effect on the growth of the Gram-positive bactterium Staphylococcus aureus. Taken together, these data suggest that CK is a bacteriostatic factor with a lectin-like activity, capable of specifically inhibiting the growth of the Gram-negative bacteria like E. coli. This is the first report exhibiting the integrative role of CK in immunity via its pleiotropic effects on recognizing the Gram-negative bacterium E. coli and inhibiting its growth.

【语种】英文

【第一作者】An, Yan

【通讯作者】张士璀

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【学科分类】免疫学

【题目】Functional characterization of the ELR motif in piscine ELR+CXC-like chemokine

【中文关键词】类ELR+CXC趋化因子,重组,突变,ELR结构域;

【英文关键词】ELR+CXC-like chemokine; Recombinant; Mutant; ELR motif; Chemotaxis

【中文摘要】为了阐明鱼类中不完全ELR的活性位点,我们在大肠杆菌M15中合成了它的CXC重组体ELR(+)CXC和其突变体(mELR and mLoop),合成时我们参考黑鲷中编码CXC趋化因子(BS rCXC)的氨基酸序列。实验显示,不同剂量的BS rCXC在黑鲷和鲤鱼中可以诱导中性粒细胞和头肾巨噬细胞的迁移(10 to 200 ng)。虽然ELR活性位点和ELR(+)CXC氨基酸的N末端在趋化因子的活动和与受体结合过程中起着必要的作用,但是相识剂量下,与完全rCXC相比,(mELR and mLoop)突变体并没有显示出对中性粒细胞有明显的影响。人类的突变体IL-8能够明显诱导鱼类中中性粒细胞的迁移却并不影响巨噬细胞,即使ELR(+)CXC突变成ELR,BS rCXC在高等脊椎动物中却做不到这一点。BS rCXC和它的突变体能够促进黑鲷和鲤鱼中中性粒细胞和头肾巨噬细胞的作用,而在小鼠体内却不起作用。实验结果证明,ELR(+)CXC起着类似于CXC祖先的作用,在哺乳动物中ELR并没有表现出很明显的功能。

【英文摘要】To elucidate the functional role of piscine incomplete ELR motif, the recombinant CXC and its mutants (mELR and mLoop) were produced in Escherichia coli M15 based on the predicted mature peptide coding sequence of the black sea bream CXC (BS CXC) chemokine. Assays showed that the BS rCXC proteins displayed strong ability to induce fish blood neutrophils and head kidney (HK) macrophage migration in a dose-independent manner (10 to 200 ng), both in black sea bream and common carp. Although the ELR motif and the N-terminal loop of ELR(+)CXC chemokines are essential for chemotactic activity and receptor binding in mammals, the mELR and mLoop mutants showed no significant difference in their induction of chemotaxis of fish blood neutrophils compared with the full-length rCXC at the same dose. Human recombinant IL-8 (hrIL-8) can clearly induce piscine blood neutrophil migration and has no effect on macrophages, whereas the BS rCXC cannot induce chemotaxis in higher vertebrates, such as rat blood neutrophils or macrophages, even if the incomplete ELR motif in rCXC was mutated to ELR. The BS CXC and its mutants can promote the phagocytosis ability of piscine blood neutrophils and HK macrophages both in black sea bream and common carp, but have no effect on rat neutrophils or macrophages. Results showed that the piscine ELR(+)CXC-like chemokine represents an ancient version of a CXC chemokine; the ELR motif still does not show the higher specific polarization of function as found in mammalian.

【语种】英文

【第一作者】Cai, Z.

【通讯作者】蔡中华

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【学科分类】免疫学

【题目】Bipolar properties of red seabream (Pagrus major) transforming growth factor-beta in induction of the leucocytes migration

【中文关键词】嘉鲷 TGF-beta 生物极性,免疫调控

【英文关键词】Red seabream (Pagrus major); TGF-beta; Bipolar property; Immune regulatory

【中文摘要】TGF-β是一种多效性细胞因子,在免疫调节和随后的愈合反应中起着重要的作用。我们在体外表达并纯化了TGF-β重组体(rTGF-β)。rTGF-β能够诱导头肾和周边白细胞与的迁移且这种迁移与rTGF-β的剂量有关。然而当白细胞是由LPS(脂多糖)激活时,这种迁移活动就会受到抑制。rTGF-β的这种抑制和激活作用表明,鱼类的TGF-β和哺乳动物的一样,具有两极性。此外,结果还表明TGF-β对白细胞迁移的诱导作用不是先天的,而是需要趋化因子的诱导。这是第一次有关于TGF-β两极性的报道。

【英文摘要】TGF-beta is one of the pleiotropic cytokines and plays a pivotal role in immune regulation and orchestrating the subsequent healing response. Recombinant red seabream TGF-beta (rTGF-beta) mature peptide was expressed and purified under native conditions in vitro. Bio-assay showed that the rTGF-beta could significantly induce head kidney (HK) and peripheral blood (PB) leucocytes migration in a dose dependent manner, whereas the rTGF-beta suppressed HK and PB leucocyte migration when the leucocytes was activated by primed with lipopolysaccharide (LPS). Both enhancing and suppressing roles of rTGF-beta on the HKL and PBL chemotactic activity indicated that the fish TGF-beta shared the similar bipolar nature with mammalian TGF-beta. Furthermore, the results indicated that the activity of TGF-beta induction of leucocyte migration appears not to be an innate feature but function by regulation the chemokines activity. This is the first time we reported that fish TGF-beta has innate bipolar property in regulation of fish immune function. (C) 2010 Elsevier Ltd. All rights reserved.

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【第一作者】Cai, Z.

【通讯作者】蔡中华

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【学科分类】免疫学

【题目】Identification and analysis of a Cu/Zn superoxide dismutase from Haliotis diversicolor supertexta with abalone juvenile detached syndrome

【中文关键词】SOD,AJDS,Cu,Zn,环境压力

【英文关键词】Haliotis diversicolor supertexta; Cu/Zn superoxide dismutase; Abalone juvenile detached syndrome (AJDS)

【中文摘要】通过文库筛选,我们获得了AJDS综合症鲍鱼中含有Cu/Zn超氧化物歧化酶的一段cDNA序列。通过RACE我们可以用这段Cu/Zn SOD cDNA序列扩增出全长为988bp的cDNA,这段全长包括462bp的开放阅读框(ORF)(编码154个氨基酸),49bp的5'-和477bp的非翻译区。编码区与已知的Cu/Zn SODs相似性很高。我们推测编码的氨基酸序列包括一些保守的几何功能域和两个典型的Cu/Zn SOD结构域(Cu/Zn结构域较为保守),此外半胱氨酸参与了二级结构的形成。我们让abSOD(鲍鱼Cu/Zn SOD重组体)在大肠杆菌中表达,在蛋白变性的条件下将其纯化,然后让其在缓冲液或者凝胶中复性。纯化后的蛋白功能可以在有1 mu M Cu(2+)或1 mu M Cu(2+) + 1 mu M Zn(2+)的情况下得到加强。在AJDS鲍鱼中,与对照组相比abSOD的转录显著增加。但是蛋白的表达和SOD酶的活性却显著降低。这些都表明在AJDS鲍鱼中,SOD发挥了重要作用,且这种疾病与环境压力有关。

【英文摘要】A partial cDNA sequence of a putative Cu/Zn Superoxide dismutase (SOD) from Haliotis diversicolor supertexta with abalone juvenile detached syndrome (AJDS) was isolated by suppression subtractive hybridization library screening. The full 988 base pair (bp) abalone Cu/Zn SOD cDNA representing full cDNA coding sequence was obtained by rapid amplification of cDNA ends (RACE), and included a 462-bp open reading frame encoding 154 amino acids, plus 49 bp of 5'-, and 477 bp of T-untranslated region. The coding sequence shared high similarity and identity with known Cu/Zn SODs. The deduced amino acids contained two typical Cu/Zn SOD motifs and the conserved geometry active sites. Moreover, the cysteines involved in dimer formation, and the copper- and zinc-binding sites were conserved. Recombinant abalone Cu/Zn SOD (abSOD) was expressed in Escherichia coli, purified under denaturing conditions, and refolded by direct buffer exchange or gel gradient recovery. The activity of the purified protein was enhanced by 1 mu M Cu(2+) or 1 mu M Cu(2+) plus 1 mu M Zn(2+). The transcription of abSOD was significantly increased in AJDS abalones compared to controls, while protein expression and SOD enzyme activity both decreased significantly, suggesting that SOD may play an important role in AJDS, and that the disease etiology may be related to environmental stress.

【语种】英文

【第一作者】Li, H

【通讯作者】蔡中华

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【学科分类】免疫学

【题目】Cloning and bioactivity analysis of a CXC ligand in black seabream Acanthopagrus schlegeli: the evolutionary clues of ELR+CXC chemokines
【中文关键词】ELR+CXC趋化因子,黑鲷
【英文关键词】ELR(+)CXC chemokines black seabream Acanthopagrus schlegeli
【中文摘要】ELR+CXC趋化因子有多种功能,它与将白细胞补充到有炎症感染的地方有关。因为ELR+CXC的序列与哺乳动物的IL-8很相似,所以鱼类中与IL-8相似的CXC基因被命名为鱼类IL-8,并且有ELR前缀。但是这个命名并没有功能相似或者进化上的依据。在这篇文章中,我们克隆了黑鲷的类似于IL-8的同源基因BS CXC。分析表明,它与鱼类和哺乳类的CXC趋化因子的基因和三级结构都很相似,无论是ELR-CXC 还是ELR+CXC,即使它与ELR-CXC相似性要比ELR+CXC低。与其它IL-8相似,BS CXC有一个不完全ELR活性位点,对于哺乳动物来说,这个位点是ELR+CXC能够攻击粒细胞所必备的。生物活性分析表明,大肠杆菌产生的BS rCXC能够显著抑制鱼类体内中性粒细胞和巨噬细胞的迁移,但在小鼠体内对两种细胞却没有影响。然而hrIL-8在鱼类体内诱导中性粒细胞产生了很强的趋药性,但对巨噬细胞却没有影响。BS CXC的功能似乎介于ELR-CXC和ELR+CXC之间。这些实验表明,BS CXC在ELR-CXC向ELR+CXC进化过程中,处在进化的中间阶段,所以把它称作piscine CXC with an incomplete ELR是比较合适的。
【英文摘要】The ELR+CXC chemokines are multifunctional mediators that are mainly responsible for the recruitment of leucocytes to sites of inflammation and infection. Because of their high sequence identity with mammalian IL-8, fish IL-8-like CXCs have been named as piscine 'IL-8' and included in the ELR+ subgroup, even though there is no reliable functional or evolutionary evidence to support this classification. RESULTS: In this investigation, a homologue of piscine 'IL-8' from black seabream (Acanthopagrus schlegeli), called BS CXC, has been cloned and analyzed. The results revealed that BS CXC has a high gene similarity and tertiary structure similarity with piscine and mammalian CXC chemokines, both ELR-CXC and ELR+CXC, although it has a lower identity with ELR-CXC, compared with ELR+CXC chemokines. Like other piscine IL-8, BS CXC has only an incomplete ELR motif, which is essential for the mammalian ELR+CXC ability to attract granulocytes. Bioactivity assay demonstrated that the BS rCXC produced in E. coli significantly stimulated migration of fish neutrophils and macrophages, but had no effect on rat neutrophils and macrophages, whereas hrIL-8 induced strong chemotaxis of fish neutrophils but did not affect fish macrophages. BS CXC seems show some structural and functional properties of the intermediate between ELR-CXC and ELR+CXC. CONCLUSION: As an incomplete ELR+CXC chemokine from a modern fish, BS CXC provides some clues on the evolution from ancient ELR-CXC to ELR+CXC by retaining some properties of the intermediate stage in evolution, and it may be more appropriate to call this molecule 'piscine CXC with an incomplete ELR', instead of terming it fish 'IL-8'.
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【第一作者】Cai, Z.
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【学科分类】免疫学

【题目】Molecular cloning, characterization and expression analysis of an ILF2 homologue from Tetraodon nigroviridis
【中文关键词】黑青斑河豚 细胞介素2增强子结合因子 克隆 体内表达 共线性
【英文关键词】chromosome synteny; cloning; gene organization; interleukin-2 enhancer binding factor 2; in vivo expression study; Tetraodon nigroviridis
【中文摘要】白细胞介素-2 (IL-2)是T细胞反应的中央细胞因子。ILF2是在人类和哺乳动物的功能进行了鉴定。但在硬骨鱼所知甚少。在这篇文章中,从黑青斑河豚克隆ILF2基因,并进行鉴定,是为了进一步研究ILF2在硬骨鱼中的功能。其全长1380bp,包含1164bp的一个开放阅读框(ORF),编码 387个氨基酸的蛋白质,分子量42.9kDa,含有一个5 '的57 bp非翻译区和一个3 '的159bp非翻译区,含有polyA的尾巴。推导的多肽序列与其它已知的序列有58% - 93%的相似度,并包含两个N糖基化位点,两N-乙酰化位点,一个RGD细胞附件序列,六蛋白激酶C磷酸化位点,一个富含RGG的氨基末端的单链RNA结合域和一个

DZF锌指核酸结合域,其中大多数是通过物种序列比对而高度保守。ILF2的组织表达检测了以下部位:腮、肠道、头肾、脾、肝、脑和心脏。最高的表达量是在心脏,其次是肝脏、肾脏和大脑。LPS刺激并不能显著改变其表达。基因组织分析表明: ILF2基因有15个外显子,多于已知人类和老鼠的ILF2基因,上游和下游序列分别与Rpa12, Peroxin-11b, Smad4, Snapap and Txnip 同源,这不同于人类和老鼠。

【英文摘要】nterleukin-2 enhancer binding factor 2 (ILF2) was reported to regulate transcription of interleukin-2 (IL-2), a central cytokine in the regulation of T-cell responses. This property of ILF2 was well characterized in human and mammals, but little is known in bony fish. In this paper, an ILF2 homologue was cloned and well characterized from Tetraodon nigrovirid is for the further investigation of the function of ILF2 in bony fish. The full-length Tetraodon ILF2 cDNA was 1380 by in size and contained an open reading frame (ORF) of 1164 by that translates into a 387 amino-acid peptide with a molecular weight of 42.9 kDa, a 5' untranslated region (UTR) of 57 bp, and a 3' UTR of 159 by containing a poly A tail. The deduced peptide of Tetraodon ILF2 shared an overall identity of 58%-93% with other known ILF2 sequences, and contained two N-glycosylation sites, two N-myristoylation sites, one RGD cell attachment sequence, six protein kinase C phosphorylation sites, one amino-terminal RGG-rich single-stranded RNA-binding domain, and a DZF zinc-finger nucleic acid binding domain, most of which were highly conserved through species compared. Constitutive expression of Tetraodon ILF2 was observed in all tissues examined, including gill, gut, head kidney, spleen, liver, brain and heart. The highest expression was detected in heart, followed by liver, head kidney and brain. Stimulation with LPS did not significantly alter the expression of Tetraodon ILF2. Gene organization analysis showed that the Tetraodon ILF2 gene have fifteen exons, one more than other known ILF2 genes in human and mouse. Genes up- and down-stream from the Tetraodon ILF2 were Rpa12, Peroxin-11b, Smad4, Snapap and Txnip homologue, which were different from that in human and mouse.

【语种】英文

【第一作者】Wang, Hui-Ju
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【学科分类】免疫学

【题目】Molecular cloning, characterization and expression analysis of an IL-21 homologue from Tetraodon nigroviridis

【中文关键词】青斑河豚,白细胞介素21;分子克隆;鉴定,表达量分析
【英文关键词】Tetraodon nigroviridis; interleukin-21; molecular cloning; characterization; expression analysis

【中文摘要】白介素21(IL- 21)是一个重要的免疫细胞因子,是在人类和哺乳动物中进行了鉴定,但在鱼类所知甚少。此研究,从青斑河豚克隆了IL-21,并进行了鉴定。全长为849bp,包括一个438bp的开放阅读框,编码145个氨基酸的多肽,含有一个5 '的69 bp非翻译区和一个3 '的342bp非翻译区。推导的多肽序列与其它已知的序列有20%-49%的相似度。IL-21基因有6个外显子,人类和河豚的IL-21基因只包含五个外显子。共线性分析表明在进化过程中基因是非常保守的。体内研究表明,此基因只在健康的鱼的有限的组织,包括肠道、鳃和性腺低水平表达,LPS刺激会增加这些组织的表达量,可以诱导肾、脾和皮肤的表达,表明IL- 21是一种炎性应力诱导基因,起到抗菌防御的作用。我们的研究提供了进一步的证据,证明鱼中存在IL-21,并为进一步研究IL- 21基因的免疫功能提供了参考。

【英文摘要】Interleukin-21 (IL-21) is an important immune cytokine that was well characterized in human and mammals, but little is known in fish. In present study, an IL-21 homologue was cloned and well characterized from Tetraodon nigroviridis. The full-length Tetraodon IL-21 cDNA was 849 bp in size, containing an open reading frame (ORF) of 438 bp that translated a 145 amino-acid peptide, a 5' untranslated region (UTR) of 69 bp, and a 3' UTR of 342 bp. The deduced peptide shared identity of 20-49% with other known IL-21 sequences. The Tetraodon IL-21 gene had six exons while both human and Takifugu IL-21 gene contained only five exons. However, the level of synteny between human, Takifugu and Tetraodon genomes was well conserved during evolution. In vivo expression study showed that Tetraodon IL-21 mRNAs were constitutively expressed at a low level and only in limited tissues, including gut, gill and gonad in healthy fish, and stimulation with LPS increased the expression of IL-21 in these tissues and induced the expression of IL-21 in kidney, spleen and skin, indicating that IL-21 is an inflammatory stress inducible gene associated with the anti-bacterial defense in fish. Our study provided further evidence for the existence of IL-21 in fish, and gained further insight into the immunological functions of IL-21 gene in fish. (c) 2006 Elsevier Ltd. All rights reserved.

【语种】英文

【第一作者】Wang, Hui-Ju

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【学科分类】免疫学

【题目】Construction of a recombinant plasmid containing multi-copy CpG motifs and its effects on the innate immune responses of aquatic animals
【中文关键词】CpG序列;重组质粒;先天免疫反应;鲫鱼;日本尖吻鲈;太平洋白虾
【英文关键词】CpG motif; recombinant plasmid; innate immune responses; Crucian carp; Japanese seabass; Pacific white shrimp
【中文摘要】细菌的DNA合成的寡脱氧核苷酸包含未甲基化的CpG 二核苷酸,已经证明了它能够引发潜在的免疫反应。在本研究中,我们设计了一个重组质粒包含多拷贝CpG序列。并观察对鱼和虾的先天免疫反应的效果。结果表明,这样的质粒DNA相对空质粒而言,可以在体外高度诱导鲫鱼和鲈鱼的头肾巨噬细胞的激活和的外周血白细胞的增殖。可以在凡纳滨对虾体内激活蛋白防御机制和血淋巴的抗菌活性。这意味着含有多拷贝CpG序列的质粒可以有潜在提高宿主抵抗水中病原体的能力,并在水产养殖方面有高效、经济和应用广泛的优势。
【英文摘要】Bacterial DNA and synthetic oligodeoxynucleotides (ODNs) containing unmethylated CpG dinucleotides (CpG motifs) have been shown to induce potential immune responses. In this study, we designed a recombinant plasmid containing multi-copy CpG motifs. and observed its effects on innate immune responses of fish and prawn. The results showed that such plasmid DNA, compared to the vacant vector, can highly induce the activation of head kidney macrophages and the proliferation of peripheral blood leukocytes in Carassius auratus and Lateolabrax japonicus in vitro, as well as the activity of Immoral defense proteins and the antibacterial activity of haemolymph in Litopenaeus vannamei in vivo. It implies that the multi-copy CpG motifs harboured in plasmid could contribute to these innate immunostimulatory effects. Therefore, the study suggested that the plasmid containing multi-copy CpG motifs might have its potential application in improving host resistance to pathogen insults in aquaculture, and have its notable advantages of high efficacy, economical cost and application to a broad range of aquatic species.
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【第一作者】Chen, Ying
【通讯作者】邵建忠
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【学科分类】免疫学

【题目】Cloning and characterisation of two natural killer enhancing factor genes (NKEF-A and NKEF-B) in pufferfish, Tetraodon nigroviridis
【中文关键词】自然杀伤细胞;比较基因定位分析;组织特异性表达;绿色斑点河豚;青斑河豚
【英文关键词】Spotted green pufferfish; Tetraodon nigroviridis; NKEF-A; NKEF-B; Gene cloning; Characterization
【中文摘要】自然杀伤细胞增强因子(自然杀伤性细胞)属于高度保守的过氧化物还原酶(Prx)家族。它的功能是参与免疫细胞毒性、凋亡、细胞增殖、分化和抗氧化活性。本研究从绿色斑点河豚和青斑河豚分离了两个自然杀伤性细胞基因,自然杀伤性细胞-A和自然杀伤性细胞-B,并进行了鉴定。比较基因定位方法进行鲀类和人的自然杀伤性细胞-A 和自然杀伤性细胞-B的共线性分析,表明自然杀伤性细胞-A和自然杀伤性细胞-B基因与哺乳动物自然杀伤性细胞-A和自然杀伤性细胞-B分别编码的基因同源。在不同物种中这两个基因的染色体类似,包含一个非编码的外显子,5个编码外显子和5个内含子。推导出的两个基因的氨基酸序列与哺乳动物自然杀伤性细胞-A和自然杀伤性细胞-B是高度同源,包括两个非常保守的缬氨酸-半胱氨酸-脯氨酸序列。组织特异性的表达分析显示:这两个基因在整个机体表达。LPS刺激后会抑制大多数组织的自然杀伤性细胞-A 和自然杀伤性细胞-B的表达,但是会增加这两个基因在脾脏中的转录。这是首次报道自然杀伤性细胞-B存在于鱼中。
【英文摘要】Natural killer cell enhancing factor (NKEF) belongs to a highly conserved peroxiredoxin (Prx) family. Its functions are involved in immune cytotoxicity, apoptosis, cell proliferation, differentiation and antioxidant activity. In present paper, two NKEF genes, NKEF-A and NKEF-B, were isolated and characterised in spotted green pufferfish, Tetraodon nigroviridis. Comparative

genomic location analysis shows conserved syntenies within the NKEF-A and NKEF-B regions between Tetraodon and human, indicating that the Tetraodon NKEF-A and NKEF-B genes are orthologs for mammalian NKEF-A and NKEF-B encoding genes, respectively. The genomic organisation of the two genes is similar in different species, containing one non-coding exon, five coding exons and five introns. The deduced amino acids of the two genes are highly homologous with mammalian NKEF-A and NKEF-B proteins, including two well conserved Val-Cys-Pro (VCP) motifs. Tissue specific expression analysis by RT-PCR reveals that both genes are globally expressed. Stimulation with LPS inhibits both NKEF-A and NKEF-B gene expression in most tissues but enhances NKEF-A and NKEF-B transcriptions in spleen. This is the first report on the existence of a NKEF-B homologue in fish.
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【题目】Molecular cloning and characterization of IL-15R alpha gene in rainbow trout (Oncorhynchus mykiss)
【中文关键词】虹鳟;IL-15受体α链;分子克隆;组织分布;选择性剪切
【英文关键词】rainbow trout; IL-15R alpha; molecular cloning; tissue distribution; alternative splice
【中文摘要】IL-15受体复合物的α链是高亲和力的,与IL-15结合的特异的亚单位。它与IL-2受体α链有共同的结构和功能特性。这里我们首次报道了大麻哈鱼的IL-15的α链的分子克隆、鉴定和序列分析。基因全长包括167bp的5 '的非翻译区,732bp的开放阅读框和3 '的630bp的非翻译区,在所有组织中都有表达。另外两个变异体来自选择性剪切。通过southern 印记得到虹鳟的IL-15的α链有两个拷贝。而且,在其它鱼类中有表达序列标签的追踪证据。推导得的虹鳟的IL-15的α链有243个氨基酸,包含N端的17个氨基酸的信号肽和C端的一个重复序列,并且有一个典型的胞外区。系统进化树分析将虹鳟的IL-15的α链与其它物种的IL-1的α链聚为一类,但是没有与IL-2的α链聚为一类。除此之外,在胞外区发现了一个假定的序列,这个序列在所有物种中是保守的和功能多样的,并且可能与细胞因子识别有关。
【英文摘要】The alpha-chain of IL-15 receptor complex serves as a high-affinity, specific subunit for IL-15 binding. It shares functional and structural features with IL-2 receptor alpha-chain. Here we report for the first time that the molecular cloning, characterization and sequence analysis of the teleostean IL-15R alpha from Oncorhynchus rnykiss. The full-length cDNA comprises of a 5' untranslated region (UTR) of 167 bp, an open reading frame of 732 bp and a large 3'UTR of 630 bp, constitutively expressed in all the tissues examined. Another two variants are found derived from alternative splicing. Two copies of rainbow trout IL-15Ra (rtIL-15R alpha) were detected in the genome by Southern blot hybridization. Moreover, EST evidence is also traced from other fishes. The deduced rtIL-15R alpha of 243 amino acids contains a 17aa signal peptide at N-terminus and a transmembrane region at C-terminus, as well as a typical sushi domain included in the extracellular region. Phylogenetic tree analysis groups rtIL-15R alpha with other IL-1R alpha s but separates it from IL-2R alpha s. In addition, a putative sequence was found in the sushi domain which is conserved and versatile among all species and this might relate to cytokine recognition.
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【第一作者】Fang, Wei
【通讯作者】邵建忠
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【学科分类】免疫学

【题目】Identification and characterization of suppressor of cytokine signaling 3 (SOCS-3) homologues in teleost fish
【中文关键词】SOCS-3(3-型细胞信号抑制因子),克隆,等电点,进化树
【英文关键词】Socs-3,clone evolution tree
【中文摘要】3-型细胞信号抑制因子(SOCS-3)属于一类新发现的蛋白家族的成员,这类蛋白家族调控着诸多免疫因子反应,诸如:干扰素,白细胞介素2,白细胞介素6等等,它们通过抑制JAK信号转导以及激活途径来进行调控。尽管3-型细胞信号抑

制因子在哺乳动物中已得到了详尽的研究,但其在鱼类中任鲜有研究。在最近的研究中,我们在三种鱼中检测并确定了SOCS-3的基因,它们分别是河豚,斑马鱼,红鳍东方纯。结果显示,河豚鱼的SOCS-3基因长度为2666bp,位于3号染色体上,转录得到长度为1445bp的信使RNA,该RNA包含5’端273bp的非翻译区,606bp的开放读码框,3’端566bp的非翻译区。河豚鱼的SOCS-3是一段具有201个氨基酸残基,相对分子量为22.76kDa,理论等电点为8.99的蛋白质。斑马鱼的SOCS-3基因长度为3617bp,位于3号染色体上,转录得到1927bp的信使RNA,该RNA包含178bp的5’端非翻译区,624bp的开放读码框,1125bp的3’端非翻译区,其蛋白质有207的氨基酸残基,其相对分子量为23.68kDa,其理论等电点为9.19。红鳍东方纯的SOCS-3基因长度为2842bp,转录得到1528bp的信使RNA,包含有5’端209bp的非翻译区,606bp的开放读码框,713bp的3’端非翻译区,其蛋白质含有201个氨基酸残基,其相对分子质量22.76kDa,理论为等电点8.18。鱼类编码的SOCS-3基因与哺乳动物的结构相同,,包含有两个外显子,一个包含在5’端非翻译区的单一内含子。据此可以推断出,鱼类SOCS-3与哺乳动物有60.7%-61.7%的相似性,与鸟类有62.3%-63.2%的相似性,与两栖类有55.3%-57.8%的相似性。由进化树分析可知,鱼类SOCS-3属于一单一类群。在河豚鱼中,SOCS-3在其10种组织中的表达结果显示,它在10种特定组织中均有表达,且能够显著的被LPS诱导。以上这些结果说明,SOCS-3作用存在于炎症反应中。本文首次阐述了SOCS-3基因在鱼类中的克隆及功能鉴定。

【英文摘要】Although SOCS-3 was well characterized in several mammal species, there was still no report in fish. In present study, we initially identified and characterized the SOCS-3 genes from three fishes. Phylogenetic analysis separates the fish SOCS-3s into an exclusive group. Expression study of Tetraodon SOCS-3 mRNA in ten selected tissues showed that it was constitutively expressed and induced by lipopolysaccharide, (LPS) strikingly. These results indicated that SOCS-3s in fish may be involved in inflammatory responses. This is the first report of cloning and characterization of SOCS-3 cDNAs and genes in fish

【语种】英文

【第一作者】Jin, Hong-Jian

【通讯作者】邵建忠

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【学科分类】免疫学

【题目】Molecular cloning and identification of macrophage migration inhibitory factor (MIF) in teleost fish

【中文关键词】鱼,MIF,克隆,表达,实时定量PCR

【英文关键词】fish; MIF; cloning; characterization; expression; gene organization; real time PCR

【中文摘要】我们在凹鼻鮰中克隆得到了MIF基因并从其他六种硬骨鱼中得到了相应的MIF基因。该结果说明鱼类的MIF基因与哺乳动物MIF基因拥有相同的结构,包括:3个外显子和2个内含子。凹鼻鮰MIF基因定位于1号染色体上,长度为1091bp,转录得到500bp的信使RNA序列,其中包含14bp的5’端非翻译区,348bp的开放读码框,138bp的3’端非翻译区。凹鼻鮰MIF蛋白质还有115个氨基酸残基,相对分子量为12.5kDa,理论等电点为6.81。据此得到的硬骨鱼氨基酸序列与哺乳动物MIF蛋白质有64.1%-73.5%的相似性,与鸟类有61.5%-70.1%的相似性,与两栖动物有55.6%-62.5%的相似性,在硬骨鱼中有着74.4%-97.4%的种内相似性。进化树分析表明,硬骨鱼MIF基因属于唯一的类群。通过Southern杂交的方法确定了凹鼻鮰MIF基因只有一种拷贝。RT-PCR和real-time PCR分析表明在所选10种特定组织中其均有表达,该基因在肾脏及脾脏中表达能显著被LPS诱导。其生物活性通过MMI得以被检测。MMI的结果显示TnMIF的结合作用能抑制巨噬细胞的吞噬作用。以上个结果表明MIF蛋白在鱼类中的作用可能与免疫反应相关。

【英文摘要】Macrophage migration inhibitory factor (MIF) is one of the first cytokines to be identified, which have been emerged to be an important mediator of the innate and adaptive immune system. Although MIF was well characterized in several mammal species, there was still little report in fish. In present study, we cloned the MIF gene from Tetraodon nigroviridis, and identified other six MIF genes from other teleost fishes, Fundulus heteroclitu, Oncorhynchus mykiss, Ictalurus punctatus, Danio rerio, Salmo salar and Haplochromis chilotes. The results showed that the fish MIF genes with the same organization as the mammalians consist of three exons and two introns. Tetraodon MIF gene located within a 1091bp genomic fragment of chromosome 1, transcribed into a 500bp mRNA including 14bp 5' untranslated region (UTR), 348bp ORF and 138bp 3'-UTR. Tetraodon MIF with 115aa has a calculated molecular mass of 12.5kDa and a theoretical pI of 6.81. The deduced amino-acid sequences of the teleost fish MIFs showed 64.1-73.5% sequence identity to mammalian MIFs, 61.5-70.1% to avian MIFs, 55.6-62.4% to amphibian MIFs, 74.4-97.4% among the teleost fishes. Phylogenetic analysis separates the teleost fish MIFs into an exclusive group. Genomic Southern blotting analyses suggest that Tetraodon has one copy of the MIF gene. RT-PCR and real-time PCR analyses reveal that Tetraodon MIF (TnMIF) mRNA was constitutively expressed in 10 selected tissues and induced by lipopolysaccharide (LPS) strikingly in head kidney and spleen. The bioactivity of recombinant TnMIF was tested by macrophage migration inhibition (MMI) assay. The result of MMI assay showed that

the recombinant TnMIF inhibited the macrophage cells migration at rate of 35% (P<0.04). These results indicated that MIFs in fish may be involved in immune responses.
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【第一作者】Jin, Hong-Jian
【通讯作者】邵建忠
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【学科分类】免疫学

【题目】Identification and characterization of suppressor of cytokine signaling 1 (SOCS-1) homologues in teleost fish
【中文关键词】河豚,斑马鱼,SOCS-1,选择性剪切,细胞信号
【英文关键词】Tetraodon nigroviridis; Danio rerio; Fugu rubripes; Gasterosteus aculeatus; SOCS-1; alternative splicing; cytokine signaling
【中文摘要】1-型细胞信号细胞因子(SOCS-1),正如其名所示,是调节细胞信号转导途径的一种蛋白质,它通过抑制在转到哪途径中其关键作用的络氨酸磷酸化酶的受体及信号分子来实现调控作用。尽管哺乳动物SOCS-1同源蛋白在很多物种被得以研究,但在鱼类中还没进行类似的研究。在本文中,我们首次在河豚和斑马鱼内克隆得到了SOCS-1基因,而后在红鳍东方纯及三刺鱼内得到 另外两种SOCS-1蛋白。本结果显示,鱼类SOC-1蛋白编码的基因包含两个外显子和一个独立的内含子,这种结构在SOCS家族中是独有的结构特征。另外,两种剪切体编码的蛋白含有220个氨基酸残基和196个氨基酸残基也在河豚鱼中被发现,这证明了这两种剪切体的存在于鱼中与高等脊椎动物有所不同。经过反转录和实时定量PCR研究基因表达表明,这两种剪切体在主要组织中均广泛表达,同时我们还发现其表达量能够被体外注射LPS诱导而显著增加,这说明其与炎症反应有关系。本研究首次进行了对鱼类socs-1蛋白基因全序列的克隆及分析
【英文摘要】The suppressor of cytokine signaling 1 (SOCS-1), as the name implies, is a member of proteins that regulate cytokine signaling pathways by inhibiting the events of key tyrosine phosphorylation on cytokine receptors and signaling molecules such as Janus kinase family members. Although mammalian SOCS-1 homologues were characterized in several species, no similar research work has been reported in fish yet. In this paper, we initially cloned the SOCS-1 genes from 4 fishes. By PCR and real-time quantitative PCR, gene expression studies indicated that both two alternatively spliced transcripts of Tetraodon SOCS-1 were expressed extensively in major tissues as we examined and their corresponding expression levels could be strikingly raised at 3 h postinjection with lipopolysaccharide, which strongly suggested that SOCS-1 proteins in fish might be involved in inflammatory responses. This is the first report of cloning and characterization of SOCS-1 complementary deoxyribonucleic acids and genes in fish.
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【第一作者】Jin, Hong-Jian
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【学科分类】免疫学

【题目】Cloning, characterization and expression analysis of pufferfish interleukin-4 cDNA: the first evidence of Th2-type cytokine in fish
【中文关键词】河豚,IL-4,克隆,组织表达,Th-2型细胞素
【英文关键词】Tetraodon nigroviridis; IL-4; cloning; characterization; tissue expression; Th2-type cytokine
【中文摘要】4-型白细胞介素(IF-4)是Th2介导的免疫反义中起关键作用的细胞因子之一,它用来调节许多免疫因子的反应诸如:r-干扰素,1-型白细胞介素,还有a-TNF。对于IL-4的研究在哺乳动物以及人类中已经做了很多,唯有在鱼类中却鲜有研究。在本研究中,我们在河豚鱼中克隆并确定了IL-4 cDNA全长,其包长度为834bp,5’端39bp的非翻译区,3’端375bp的非翻译区,以及420bp的开放读码框,转录得到139个氨基酸残基,现对分子量为16.131kDa的蛋白质。河豚鱼IL-4基因与哺乳动物有着相同的结构,及四个外显子和三个内含子,该蛋白与其他物种有着11%-16%的相似性,我们用RT-PCR的方法确定其表达情况,结果显示它在头肾,脾,肝脏,脑,胸鳍,肌肉心脏中广泛表达,其中在头肾,肝脏,脾脏中表达量较低,IL-4的广泛表达性与其

免疫作用有着很大的关系,将鱼经过ConA,PHA,PMA刺激后能够显著增加IL-4的表达量,从而间接促进IL-4炎症免疫反应。本文首次在鱼类中克隆及确定得到IL-4基因及分析其功能。

【英文摘要】Interleukin-4 (IL-4) is one of the key cytokines in Th2 mediated immune responses, which has been shown to regulate the responses of many immune cytokines, such as interferon-gamma (IFN-gamma), interleukin-1 (IL-1) and TNF-alpha. Much work on IL-4 has been done in human and several mammal species while little in fish. In this study, we have cloned and characterized the full-length cDNA of IL-4 in Tetraodon. The Tetraodon IL-4 cDNA is 834 bp in length and contains a short 5'UTR of 39 bp, a 3'UTR of 375 bp and an open reading frame of 420 bp translating into a protein of 139 aa with a predicted molecular mass of 16.131 kDa. The Tetraodon IL-4-encoding gene with the same organization as the mammalians and birds consists of four exons and three introns. The encoded protein shows 11-16% identities to other homologues. RT-PCR was optimized to estimate the expression level of IL-4 in Tetraodon. The results showed that IL-4 is constitutively expressed in all selected tissues, including head kidney, spleen, liver, brain, gill, muscle and heart, although low levels were observed in head kidney, spleen, and liver. The ubiquitous expression of IL-4 is consistent with a postulated role in immune cytokines regulation. Stimulating the fish with a mixed stimulant that contained 2 mu g ConA, 2 mu g PHA, and 2 mu g PMA, significantly up-regulated the expression of IL-4 in most tissues examined, which potentially indicated that IL-4 was involved in the immune inflammatory responses triggered by mitogens. This is the first report of cloning and characterization of IL-4 cDNA and gene in fish.

【语种】英文

【第一作者】Li, Jia-Hui

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【学科分类】免疫学

【题目】Global identification and comparative analysis of SOCS genes in fish: insights into the molecular evolution of SOCS family

【中文关键词】SOCS,鱼类进化,基因组复制

【英文关键词】suppressors of cytokine signaling (SOCS); fish; evolution; gene duplication

【中文摘要】SOCS家族基因在免疫、发育和生长过程中很重要,但其进化史并不清楚。本文研究了120个socs基因,66个新发现,55个鱼类的,11个来自两栖类昆虫和鸟类。分析表明,鱼类至少有12个SOCS家族吗,包括哺乳动物已知的8个成员(CISH, SOCS-1-7)以及4个新成员(SOCS-3b, -5b, -8 and -9)。鱼类SOCS高度保守。LPS处理后CISH, SOCS-1-5 and SOCS-9上调表达,可能与免疫反应有关。进化分析表明可分为两个亚家族,且SOCS祖先基因经过了至少3基因组复制产生现在的基因家族。

【英文摘要】The suppressors of cytokine signaling (SOCS) family play important roles in regulating a variety of signal transduction pathways that are involved in immunity, growth and development of organisms. However, the family members in early vertebrate species and their evolutionary history and relationships remain largely unknown. In present study, totally 120 SOCS genes from various species were globally investigated, among of which 66 new SOCS genes were identified, including 55 SOCS genes from five fish species, Tetraodon nigroviridis, Danio rerio, Takifugu rubripes, Gasterosteus aculeatus and Oryzias latipes, 11 from amphibian, avian and insects. The results showed that fish possess at least 12 SOCS family members, including eight known mammalian SOCS members (CISH, SOCS-1 - 7) and four. novel members (SOCS-3b, -5b, -8 and -9). Fish SOCS proteins share strikingly high levels of sequence similarity in SH2 domain and SOCS box region with higher vertebrate counterparts, and the organization of SOCS genes are conserved during vertebrate SOCS evolution. The expression levels of the most fish SOCS genes, such as CISH, SOCS-1 - 5 and SOCS-9, were increased after LPS challenge, indicating that they are involved in inflammatory response. Phylogenetic analyses clearly showed that the SOCS gene family could be divided into two subfamilies (named as types I and II subfamily). Type I subfamily consists of vertebrate SOCS-4 - 7, SOCS-5b, SOCS-9 and all invertebrate SOCS genes. Type II subfamily contains vertebrate CISH, SOCS-1 - 3, SOCS-3b and SOCS-8. Only SOCS-5, -6 and -7 like genes existed in invertebrate, which may be generated by twice-ancient duplication events. Type II subfamily members were likely derived from a certain type I member by gene duplication in the vertebrate lineages after the divergence of vertebrate from invertebrate. In type II subfamily, SOCS genes formed two separate monophyletic groups, respectively, which suggests that another duplication event occurred in the early stage of evolution. The fact that SOCS-9, SOCS-5b, SOCS-3b and SOCS-8 present only in teleostei suggests that even more duplication events occurred before teleostei and higher vertebrates diverged. Results suggest that the SOCS multi-gene family derived from the expansion of an ancestral SOCS gene through at least cubical duplication events during evolution process.

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【第一作者】Jin, Hong-Jian
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【题目】Characterization, expression and evolution analysis of Toll-like receptor 1 gene in pufferfish (Tetraodon nigroviridis)
【中文关键词】Toll样受体(TLR);鲀属;生物学分析
【英文关键词】Toll like receptor pufferfish bioanalysis
【中文摘要】Toll 样受体(TLR)家族是病原体关联的模式识别受体家族的一种分子,它在先天性免疫系统激活中有很重要的作用。TLR1作为TLR的一个重要成员,可以与TLR2形成异质二聚体参与酰基化脂蛋白和非典型的分支杆菌代谢物的识别。虽然TLR1的部分序列通过生物信息学分析已经在河豚和鲀鱼中预测出来,但是这个基因在鱼类中的分子克隆和特征描述仍然很不清楚。这里我们报道了一种河豚的TLR1基因全长序列,并为它在鱼类中存在提供了实验证据。已经克隆出的鲀属TLR1(TnTLR1)的cDNA片段长2587个碱基,它包括一个122个碱基的5’非翻译区、2391个碱基的开放阅读框和一个74个碱基的3’非翻译区。TLR1在大多数组织中的表达量比较低,然而,被脂多糖刺激后在脾脏中的表达量有很明显的上升(3倍,这说明鱼类中的TLR1可能和与细菌内毒素或革兰氏阴性菌感染引起的炎症反应有关系。TnTLR1的基因结构和哺乳动物及鸟类很相似,并且与他们的染色体共线性高度保守。蛋白序列与已知的TLR1成员有33.7-77.3%的同一性。TnTLR1与其他鱼类TLRs的进化树分析结果表明,他们与哺乳类和鸟类的TLR1不在同一支上,且他们也不在同一分支上。TnTLR1的氨基酸数为796,预测的分子量为90.69kDa,理论等电点为8.43。在结构上,TnTLR1有一个T1R结构域(是一个跨膜结构域)和富含亮氨酸重复的结构域(标记TLR家族的结构域)。进化树分析证明TnTLR1与哺乳类TLR1、TLR6及TLR10很相似,并且看起来是他们的共同的祖先。总体上来说,这篇鲀属TLR1基因的报道将有助于我们进一步研究鱼类TLRs的功能和进化。
【英文摘要】Here we report the full-length sequence of TLR1 gene in the pufferfish (Tetraodon nigroviridis), providing experimental evidence to its existence in fish. The cloned Tetraodon TLR1 (TnTLR1) cDNA exhibited 2587 bp in length and contains a 122-bp 5' untranslated region (UTR), a 2391-bp open reading frame and a 74-bp 3' UTR. Expression of TLR1 transcripts in most selected tissues were detected at lower levels; however, the transcripts in spleen was markedly increased (threefold) after stimulation with lipopolysaccharide, indicating that TLR1 in fish may be involved in the inflammatory responses to bacterial endotoxin or Gram-negative bacteria infection. Gene organization of TnTLR1 is similar to mammalian and avian, and a high degree of conservation of chromosome synteny exists between them. The protein sequence shares 33.7-77.3% identity with known TLR1 members. Phylogenetic analysis grouped TnTLR1 with other fish TLRs on a separated branch, excluded from mammalian and avian TLR1s. TnTLR1 with 796 amino acids has a calculated molecular mass of 90.69 kDa and a theoretical pI of 8.43. Structurally, TnTLR1 has a Toll/interleukin-1 receptor (TIR) domain, a transmembrane domain and leucine-rich repeat domain which are the hallmarks of TLR family. Phylogenetic analysis provided evidence that the TnTLR1 was very close to mammalian TLR1, TLR6 and TLR10 and seemed to be their common ancestor. This report of the full-length TLR1 gene in Tetraodon will provide us further insights into the study of both function and evolution of fish TLRs as a whole.
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【第一作者】Wu, X-Y
【通讯作者】邵建忠
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【学科分类】免疫学

【题目】Lipopolysaccharide induces apoptosis in Carassius auratus lymphocytes, a possible role in pathogenesis of bacterial infection in fish
【中文关键词】脂多糖(LPS);淋巴细胞;细胞凋亡; 信号通路

【英文关键词】lipopolysaccharide (LPS); lymphocyte; apoptosis; signaling pathway
【中文摘要】脂多糖是革兰氏阴性细菌的内毒素。在人和动物中,脂多糖能够引起一系列病理学效应,包括内毒素休克,组织损伤和死亡。它也能潜在的刺激B淋巴细胞及巨噬细胞起始增殖,分化和激活,结果造成像TNF-alpha,IL1-beta,IL6,IL-8和IL-12等免疫因子的变化,也可以增强免疫反应。但是,对于脂多糖诱导淋巴细胞凋亡的作用还鲜为人知。在目前的研究中,鲫鱼的淋巴细胞被应用于此次凋亡的研究中。细胞在不同的时间段被暴露在各种不同剂量的脂多糖中,然后通过仔细的凋亡特征分析,例如还染色质凝集,基因组DNA破碎和凋亡小体的形成,此次研究第一次证实了脂多糖按时间和剂量依赖性的方式诱导鱼的淋巴细胞凋亡。脂多糖可以诱导细胞内活性氧增加,线粒体膜电位丢失,ATP产量损耗,Bcl-2表达下调,Bax和线粒体NO合成酶表达上调以及选择性激活caspase-9而不是caspase-8.每一个观察结果都暗示了脂多糖主要是通过线粒体凋亡途径诱导鲫鱼淋巴细胞凋亡。这个发现不同于脂多糖通过TNF-alpha介导的死亡受体途径诱导哺乳动物巨噬细胞或胸腺细胞凋亡。我们的研究暗示了革兰氏阴性细菌在感染鱼甚至哺乳动物中可能存在一个新的治病机理,这个发现或许有助于细菌性疾病的治疗。同时,这个研究也可以提供对于感染性休克和脂多糖诱导的免疫抑制和自主免疫的机制更多的见解。
【英文摘要】In the present study, the lymphocytes from Carassius auratus were employed for this purpose. The cells were exposed to LPS at various doses for different time periods. By careful apoptotic characteristic analysis, such as condensation of nuclear chromatin, fragmentation of genomic DNA and formation of apoptotic bodies, it provided the first evidence that LPS had apoptotic-inducing effect on fish lymphocytes in a time- and dose-dependent manner. LPS exposure induced significant increase of intracellular reactive oxygen species (ROS), loss of mitochondrial transmembrane potential (DeltaPsi), depletion of ATP production, down-regulation of Bcl-2 expression, up-regulation of Bax and mitochondrial NO-synthase (mNOS) expression, and selective activation of caspase-9 rather than caspase-8. Each of these observations suggests that the LPS-induced apoptosis in C. auratus lymphocytes occurs largely via the mitochondrial apoptotic pathway. This observation was different from the mechanism behind the LPS-induced apoptosis in mammalian macrophages/thymocytes that occurs via the TNF-alpha-mediated death-receptor pathway. Our study suggested the existence of a possible novel role in the pathogenesis of Gram-negative bacterial infection in fish and even in mammals, which may contribute to the therapy of bacterial diseases. Also, it will help to gain more insights into the mechanisms of septic shock and of LPS-induced immunosuppression and autoimmunity.
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【第一作者】Xiang, Li-Xin
【通讯作者】邵建忠
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【题目】Pre-B cell colony-enhancing factor in lower vertebrates: first evidence of this cytokine being involved in antioxidant activity by reconstruction of a novel NAD salvage pathway in E. coli
【中文关键词】B细胞前体增强因子;抗氧化活性;河豚
【英文关键词】pre-B cell colony-enhancing factor pufferfish antioxidant activity
【中文摘要】在哺乳类中已被鉴定的B细胞前体增强因子是一种很重要的细胞因子,它涉及到很多功能,比如,免疫调节,细胞增殖和分化。然而,他们在低等脊椎动物中的存在和功能所知甚少。因此,我们研究了它在低等脊椎动物模式生物河豚中的特征、表达和生物功能。我们关注的问题是低等脊椎动物的B细胞前体增强因子是否通过吡啶核苷酸循环参与NAD的生物合成过程进而参与NAD介导的抗氧化作用。实验结果证明,通过转化鱼B细胞前体增强因子到大肠杆菌,NAD和NADP的量有显著的升高,细胞抗氧化活性也有很大的提高。这是关于脊椎动物B细胞前体增强因子在大肠杆菌中作为烟酰胺转磷酸核糖酶行使功能重建吡啶核苷酸循环途径三的首次报道,并且通过上调NAD生物合成在抗氧压力中起重要的作用。我们希望我们的发现可以丰富B细胞前体增强因子的研究,并且有助于对低等脊椎动物和哺乳动物的B细胞前体增强因子的分子和功能进化有一个更好的理解。
【英文摘要】The pre-B cell colony-enhancing factor identified in mammals is an important cytokine involved in multiple functions, such as immunoregulation, cellular proliferation and differentiation. However, little is known about its existence and function in lower vertebrates; therefore, we investigated the characterization, expression and especially the biofunction of this factor in Tetraodon nigroviridis, a model organism of lower vertebrates. We focus on the question of whether the pre-B cell colony-enhancing factor of lower vertebrates contributes to the NAD mediated antioxidant activity by its involvement in the biosynthesis of NAD through pyridine nucleotide cycles. Experimental data demonstrated that by transforming fish pre-B cell colony-enhancing factor into Escherichia coli

cells, the amounts of NAD and NADP significantly increased, and cellular antioxidant activity greatly improved. This is the first report about vertebrate pre-B cell colony-enhancing factor acting as a nicotinamide phosphoribosyltransferase to reconstruct a pyridine nucleotide cycle III pathway in E. coli and playing an important role in antioxidant stress by up-regulation of NAD biosynthesis. We hope that our observations may enrich the study of pre-B cell colony-enhancing factor, and contribute to a better understanding of the molecular and functional evolution of the pre-B cell colony-enhancing factor family in both lower vertebrates and mammals as a whole.
【语种】英文
【第一作者】Dong, Wei-Ren
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【学科分类】免疫学

【题目】CD154-CD40 interactions are essential for thymus-dependent antibody production in zebrafish: insights into the origin of costimulatory pathway in helper T cell-regulated adaptive immunity in early vertebrates
【中文关键词】CD154;CD40;斑马鱼
【英文关键词】CD154 CD40 ZEBRAFISH
【中文摘要】CD154-CD40介导的共同刺激通路在哺乳动物T-B细胞在胸腺依赖的免疫反应中起关键的作用。然而,关于它在低等脊椎动物中的存在和发生了解不多。这里,我们关于来源于斑马鱼的CD154和CD40的同系物的鉴别和功能描述做了报道。斑马鱼CD154是一种类型2膜约束蛋白,在它的细胞外C端区域有一个TNF同源结构域,这个结构域和人类的TNF成员一样有一个三明治结构包括两个“果冻卷”拓扑学饥结构,斑马鱼CD40是类型1的膜约束蛋白,它有在细胞外N端有四个富含半胱氨酸的结构域。在斑马鱼CD40中也存在和哺乳类的CD40一致的TNFR相关因子2和TRAF6结合模体,这说明它也有和高等脊椎动物相似的信号转导机制。斑马鱼CD154和CD40是广泛分布的,并且可以被胸腺依赖的抗原上调。IgM的产生可以被抗CD154的抗体和可溶的CD40显著的降低,但是它可以被可溶的CD154或体外编码CD154的质粒促进。胸腺依赖的抗原诱导的CD154表达可以被环孢素A抑制,这说明CD154在功能上和T细胞有联系。双荧光染色表面CD40和膜IgM在B细胞中共存。CD154-CD40结合实验表明在同株已核形式中CD154特异性的结合CD40。我们的结果首次为鱼类中CD154-CD40介导的共激活途径和基于适应性免疫的辅助T细胞调节机制的存在提供了证据。
【英文摘要】The CD154-CD40-mediated costimulatory pathway is critical for T-B cell cooperation in thymus-dependent (TD) immune response in mammals. However, little is known about its existence and occurrence in lower vertebrates. Here, we report on the identification and functional characterization of CD154 and CD40 homologs from the zebrafish (Danio rerio) model. Zebrafish CD154 is a type II membrane-bound protein with a TNF homology domain in its extracellular C-terminal region, whose tertiary structure is a sandwich containing two stacked sheets with "jelly roll" topology, just as the human TNF members do. The zebrafish CD40 is a type I membrane-bound protein with a sequence pattern of four cysteine-rich domains in its extracellular N-terminal region. The consensus TNFR-associated factor (TRAF)2- and TRAF6-binding motifs in mammalian CD40 are found in the cytoplasmic tail of zebrafish CD40, which indicates similar signal transduction mechanisms to higher vertebrates. Zebrafish CD154 and CD40 are widely distributed and can be up-regulated by thymus-dependent Ag. The production of IgM was dramatically decreased by anti-CD154 or soluble CD40, and it was enhanced by soluble CD154 or CD154-encoding plasmid in vivo. Thymus-dependent Ag-induced CD154 expression was inhibited by cyclosporin A, suggesting that CD154 functionally associates with T cells. Double immunofluorescence staining showed that CD40 and membrane IgM colocalized in B cells. CD154-CD40 binding assays showed that CD154 specifically binds to CD40 at homodimeric form. Our results provide the first evidence for the existence of the functional CD154-CD40-mediated costimulatory pathway and helper T cell regulatory mechanism underlying adaptive immunity in a fish species.
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【第一作者】Gong, Yong-Feng
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【题目】The DC-SIGN of zebrafish: insights into the existence of a CD209 homologue in a lower vertebrate and its involvement in adaptive immunity
【中文关键词】DC-SIGN; 斑马鱼
【英文关键词】DC-SIGN ZEBRAFISH
【中文摘要】由于树突状细胞特异ICAM-3抓斗式非整合素(DC-SIGN/CD209)在免疫应答和免疫逃逸中的非常重要的作用,DC-SICN/CD209已经成为近来研究中很热的话题。CD209在人和其他几个哺乳动物中已经有了详细的报道,但是在低等脊椎动物中却很少有报道。这个研究第一次报道了鉴别和功能特征一个鱼的DC-SIGN/CD209分子。斑马鱼的C-SIGN/CD209 cDNA翻译成一个含有3个结构保守的343个氨基酸的蛋白。一个必需与Ca2+结合的的EPN基序和一个包含识别甘露糖的基序已经别鉴定了。几个保守的对于内在化和信号转导的关键的基序也存在尾端的羧基端。系统进化树分析支持CD209家族成员从一个共同祖先分歧。DC-SIGN/CD209在免疫组织组织中可以被外源的Ags和IL-4上调表达。这个分子与许多APCs有关,包括巨噬细胞,B淋巴细胞和一个可能的树突状细胞样(CD8(+)CD80(+)CD209(+))群体。CD209可以显著地抑制T细胞激活,Ab(IgM)产生和细菌疫苗接种引起的免疫保护,同时体内钥孔戚血蓝素的刺激或者受到嗜水气单胞菌的威胁都可以封锁CD209的这些抑制功能,这些暗示了DC-SIGN/CD209对于斑马鱼适应性免疫的起始和发育非常关键。吞噬实验表明DC-SIGN/CD209并没有参与吞噬KLH Ag, 暗示了另外的机制或许参与到DC-SIGN/CD209的下游。我们希望目前的研究将助于个更好的理解DC-SIGN/CD209家族在不同物种间的进化。
【英文摘要】This is the first report on the identification and functional characterization of a fish DC-SIGN/CD209 molecule. The zebrafish DC-SIGN/CD209 cDNA translates into 343 aa organized into three domains structurally conserved among vertebrates. An EPN motif essential for interacting with Ca(2+) and for recognizing mannose-containing motifs has been identified. Several conserved motifs crucial for internalization and signal transduction are also present within the cytoplasmic tail. Phylogenetic analysis supports the hypothesis that CD209 family members diverged from a common ancestor. The expression of DC-SIGN/CD209 in immune-related tissues can be significantly up-regulated by exogenous Ags and IL-4. This molecule associates with various APCs, including macrophages, B lymphocytes, and a possible dendritie cell-like (CD83(+)/CD80(+)CD209(+)) population. Functionally, T cell activation, Ab (IgM) production, and bacterial vaccination-elicited immunoprotection can be dramatically inhibited by a CD209 blockade after stimulation with keyhole limpet hemocyanin (KLH) in vivo or challenged with Aeromonas hydrophila, suggesting that DC-SIGN/CD209 in zebrafish is crucial for the initiation and development of adaptive immunity. Phagocytosis analysis showed that DC-SIGN/CD209 does not participate in the uptake of KLH Ag, suggesting that other mechanisms might exist that underlie DC-SIGN/CD209 involvement. We hope that the present study will contribute to a better cross-species understanding of the evolutionary history of the DC-SIGN/CD209 family.
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【学科分类】免疫学

【题目】Novel antibiotic-free plasmid selection system based on complementation of host auxotrophy in the NAD de novo synthesis pathway
【中文关键词】喹啉酸磷酸核糖转移酶基因;可选择标记;大肠杆菌
【英文关键词】QAPRTase GENE A SELECTABLE MARKER E. COLI
【中文摘要】抗生素抗性基因的质粒会引起潜在的生物安全和临床危险,例如抗性基因的横向传播,或者感染多重抗药致病菌。本文介绍了一种新的营养缺陷性补充系统,该系统能够高效地选择质粒和宿主细胞,并且不需要抗生素。质粒上的抗性基因被大肠杆菌或者老鼠的喹啉酸磷酸核糖转移酶基因替换。这样只有喹啉酸磷酸核糖转移酶的表达才能保证大肠杆菌在基本培养基中存活。这是首次用脊椎动物基因构建非抗生素选择系统,并且能够广泛用于DNA疫苗和基因治疗。因为从细菌到脊椎动物,喹啉酸磷酸核糖转移酶基因是普遍存在,所以不存在基因水平转移的问题。
【英文摘要】The use of antibiotic resistance genes in plasmids causes potential biosafety and clinical hazards, such as the possibility of horizontal spread of resistance genes or the rapid emergence of multidrug-resistant pathogens. This paper introduces a novel auxotrophy complementation system that allowed plasmids and host cells to be effectively selected and maintained without the use of

antibiotics. An Escherichia coli strain carrying a defect in NAD de novo biosynthesis was constructed by knocking out the chromosomal quinolinic acid phosphoribosyltransferase (QAPRTase) gene. The resistance gene in the plasmids was replaced by the QAPRTase gene of E. coli or the mouse. As a result, only expression of the QAPRTase gene from plasmids can complement and rescue E. coli host cells in minimal medium. This is the first time that a vertebrate gene has been used to construct a nonantibiotic selection system, and it can be widely applied in DNA vaccine and gene therapy. As the QAPRTase gene is ubiquitous in species ranging from bacteria to mammals, the potential environmental biosafety problems caused by horizontal gene transfer can be eliminated.
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【通讯作者】邵建忠
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【学科分类】免疫学

【题目】Characterization of C1q in teleosts: insight into the molecular and functional evolution of C1q family and classical pathway
【中文关键词】C1q;经典补体途径;斑马鱼
【英文关键词】C1q classical complement pathway zebrafish
【中文摘要】C1q是补体系统的关键成分。在人类及哺乳动物中,人们已经对C1q进行了深入的研究,但鱼体内C1q的功能尚未有报道。我们克隆了斑马鱼(Danio rerio) 的C1qA、C1qB和C1qC全长,并且证实斑马鱼C1q高度保守。我们利用大肠杆菌体外表达了它们的球状结构域。溶血抑制试验显示,鲤鱼血清的溶血活性能够被斑马鱼C1qA、C1qB和C1qC的抗体抑制,这表明它们参与经典补体途径,并且在功能上从鱼到人类高度保守。斑马鱼C1q还能够特异性结合热聚的斑马鱼IgM以及人的IgG和IgM。在C1q依赖的经典补体途径中,由哺乳动物C1q球状结构域参与C1q与IgG或IgM的结合,斑马鱼的C1q同样如此,表明了其功能在进化上的保守性。本文拓展了人们对C1q家族及C1q介导的免疫反应的理解。
【英文摘要】C1qs are key components of the classical complement pathway. They have been well documented in human and mammals, but little is known about their molecular and functional characteristics in fish. In the present study, full-length cDNAs of c1qA, c1qB, and c1qC from zebrafish (Danio rerio) were cloned, revealing the conservation of their chromosomal synteny and organization between zebrafish and other species. For functional analysis, the globular heads of C1qA (ghA), C1qB (ghB), and C1qC (ghC) were expressed in Escherichia coli as soluble proteins. Hemolytic inhibitory assays showed that hemolytic activity in carp serum can be inhibited significantly by anti-C1qA, -C1qB, and -C1qC of zebrafish, respectively, indicating that C1qA, C1qB, and C1qC are involved in the classical pathway and are conserved functionally from fish to human. Zebrafish C1qs also could specifically bind to heat-aggregated zebrafish IgM, human IgG, and IgM. The involvement of globular head modules in the C1q-dependent classical pathway demonstrates the structural and functional conservation of these molecules in the classical pathway and their IgM or IgG binding sites during evolution. Phylogenetic analysis revealed that c1qA, c1qB, and c1qC may be formed by duplications of a single copy of c1qB and that the C1q family is, evolutionarily, closely related to the Emu family. This study improves current understanding of the evolutionary history of the C1q family and C1q-mediated immunity.
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【第一作者】Hu, Yu-Lan
【通讯作者】邵建忠
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【学科分类】免疫学

【题目】Identification and characterization of a novel immunoglobulin Z isotype in zebrafish: implications for a distinct B cell receptor in lower vertebrates
【中文关键词】斑马鱼;免疫球蛋白;IgZ-2;B细胞受体
【英文关键词】Zebrafish; Immunoglobulin; IgZ-2; BCR

【中文摘要】普遍认为,硬骨鱼只存在IgM和IgD,而在斑马鱼及其它鱼类体内新发现的IgZ/类IgZ分子丰富了我们对低等脊椎动物免疫球蛋白家族的认识。此次,我们在斑马鱼体内发现了第二种IgZ相似类型,命名为IgZ-2,增加了硬骨鱼免疫球蛋白成员。IgZ-2的重链编码基因与先前报道的IgZ基因有着76.5%的一致度。该IgZ蛋白包括胞外的四个恒定区,一个跨膜区,还有一个短的胞质尾区。我们在序列中找到了一系列的保守区域或保守氨基酸残基,例如四个Ig域,Ig折叠需要的半胱氨酸,符合CART域的亲疏水氨基酸等等。进化分析显示,IgZ-2可以归为IgZ类基因。IgZ-2在免疫相关组织广泛表达,并且在LPS刺激是显著上调。然而在胚胎发育过程中,直到受精两周后,IgZ-2才开始表达。我们证实IgZ-2与IgM共作于B细胞表面。流式细胞分析显示,白细胞介素4会剧烈刺激表达有IgZ-2的细胞。以上结果显示,IgZ-2可以视为一种新的B细胞受体。这增加了硬骨鱼免疫球蛋白家族的多样性,帮助人们更好地理解获得性免疫的进化历史。

【英文摘要】It was generally believed that teleost fish possess only few immunoglobulin isotypes such as IgM and IgD. The newly discovered IgZ/IgZ-like molecules in zebrafish and several other fish species greatly enriched our knowledge of immunoglobulin family in lower vertebrates. In the present study, we report a second IgZ-like isotype in zebrafish, which was designated as IgZ-2, adding a novel member to the immunoglobulin family in teleost fish. The IgZ-2 heavy chain encoding gene exhibited 76.5% nucleotide sequence identity to the previously reported IgZ. The putative IgZ-2 protein consists of four constant regions in its extracellular region, a transmembrane domain, and a short cytoplasmic tail. A number of conserved domains or residues such as the four Ig domains, cysteines required for Ig fold, hydrophobic and hydrophilic residues consistent with the CART domain, and Thr, Set, Tyr residues known to be essential for association with the B cell co-receptors CD79A/B, were identified. Phylogenetic analysis showed that IgZ-2 grouped with IgZ and other known teleost IgZ-like sequences. The IgZ-2 transcripts were widely expressed in immune-related tissues, and could be significantly up-regulated by in vivo stimulation with LIPS in various tissues including head kidney, spleen, intestine, skin, and gill. However, hardly IgZ-2 transcripts were detected during embryonic development until 2 weeks after fertilization. Double immunofluorescence staining showed that IgZ-2 and IgM were co-localized on B cell surfaces. Flow cytometric analysis showed the percentage of IgZ-2-positive cells could be dramatically up-regulated by interleukin-4 (IL-4), a cytokine known to activate the proliferation and differentiation of B cells. These observations indicated that the newly cloned IgZ-2 could be a novel B cell receptor. Our results will add new insights into the immunoglobulin class diversity of teleost fish, and also help us understand better the evolutionary history of adaptive immunity from fish to mammals as a whole

【语种】英文

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【学科分类】免疫学

【题目】Deep sequencing-based transcriptome profiling analysis of bacteria-challenged Lateolabrax japonicus reveals insight into the immune-relevant genes in marine fish

【中文关键词】海水鱼 深度测序 免疫相关

【英文关键词】marine fish deep sequencing immune related gene

【中文摘要】在研究免疫系统的起源过程中,对鱼类免疫基因的系统研究是必不可少的,受到测序技术的限制,这一直是一项艰巨的任务。新开发的Solexa/Illumina RNA-seq和Digital gene expression (DGE)技术是一种高通量测序技术并已发展为转录组水平上的有力工具。我们用RNA-seq和DGE对细菌刺激的鲈鱼转录组进行了测序,发现:RNA-seq在48,987个功能转录本测序中产生了169,950个非冗余序列。其中超过52%的转录本可能涉及大约219种已知的新陈代谢或信号通路,而2673个转录本与免疫有关。另外,大约8%的转录本是之前未被发现的鱼类特异性基因。DGE分析显示,哈氏弧菌刺激的鲈鱼转录组可能发生了改变,有1224个强烈的感染应答转录本。以上结果说明,在鱼类及其它脊椎动物先天和获得性免疫中,所有成分保守但转录组发生了改变。结论:本文提供了一个宿主抵抗细菌入侵的研究方法,研究结果对深入研究鱼类免疫相关基因提供了帮助。

【英文摘要】Background: Systematic research on fish immunogenetics is indispensable in understanding the origin and evolution of immune systems. This has long been a challenging task because of the limited number of deep sequencing technologies and genome backgrounds of non-model fish available. The newly developed Solexa/Illumina RNA-seq and Digital gene expression (DGE) are high-throughput sequencing approaches and are powerful tools for genomic studies at the transcriptome level. This study reports the transcriptome profiling analysis of bacteria-challenged Lateolabrax japonicus using RNA-seq and DGE in an attempt to gain insights into the immunogenetics of marine fish.Results: RNA-seq analysis generated 169,950 non-redundant consensus sequences, among

which 48,987 functional transcripts with complete or various length encoding regions were identified. More than 52% of these transcripts are possibly involved in approximately 219 known metabolic or signalling pathways, while 2,673 transcripts were associated with immune-relevant genes. In addition, approximately 8% of the transcripts appeared to be fish-specific genes that have never been described before. DGE analysis revealed that the host transcriptome profile of Vibrio harveyi-challenged L. japonicus is considerably altered, as indicated by the significant up-or down-regulation of 1,224 strong infection-responsive transcripts. Results indicated an overall conservation of the components and transcriptome alterations underlying innate and adaptive immunity in fish and other vertebrate models. Analysis suggested the acquisition of numerous fish-specific immune system components during early vertebrate evolution.Conclusion: This study provided a global survey of host defence gene activities against bacterial challenge in a non-model marine fish. Results can contribute to the in-depth study of candidate genes in marine fish immunity, and help improve current understanding of host-pathogen interactions and evolutionary history of immunogenetics from fish to mammals.

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【第一作者】Xiang, Li-xin

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【学科分类】免疫学

【题目】Cloning, expression, purification, and characterization of AmphiTip30, a member of short-chain dehydrogenases/reductases family from the amphioxus Branchiostoma belcheri tsingtauense

【中文关键词】文昌鱼;鉴定;克隆;脱氢酶活性;表达;TIP30

【英文关键词】amphioxus Branchiostoma belcheri; characterization; cloning; dehydrogenases/reductases activity; expression; TIP30

【中文摘要】我们克隆并体外表达了青岛文昌鱼TIP30基因,并进行了功能分析。青岛文昌鱼TIP30cDNA为1499bp长,由一个开放阅读框编码,含有23个氨基酸的信号肽,147bp的5’非翻译区和638bp的3’非翻译区。多序列比对显示,青岛文昌鱼TIP30高度保守。进化树分析显示脊椎动物TIP30源于AmphiTIP30。我们重组表达并用组氨酸亲和层析纯化了TIP30蛋白,进行了结合试验和酶活测定,蛋白质印迹和免疫组化分析显示文昌鱼天然TIP30大约26kDa,在卵中大量表达。最后,我们讨论了TIP30的原始功能。

【英文摘要】In this paper we describe the cloning, expression and identification study of the TIP30 gene from amphioxus (Branchiostoma belcheri). The amphioxus TIP30 cDNA is comprised of 1499 bp and is translated in one open-reading frame to give a protein of 237 amino acids, with a predicted 23 amino acids signal peptide, a 147 bp 5'-UTR and a 638 bp 3'-UTR. A multiple alignment of TIP30 from amphioxus with other known TIP30 sequences shows the conservation of most amino acid residues involved in the peculiar structural domains found within TIP30's. Phylogenetic analysis places AmphiTIP30 at the base of the phylogenetic tree, suggesting that AmphiTIP30 is the archetype of the vertebrate TIP30 genes. We express the amphioxus TIP30 gene in Escherichia coli. driven by T7 promoter. The recombinant amphioxus TIP30 protein was purified by HisTrap affinity column. Subsequently, the binding constant and enzyme activity was mensurated. Western blot and immunohistochemistry analysis confirmed that amphioxus has a native molecular mass of approximately 26 kDa, and TIP30 was strongly expressed in ovary. Finally, the initial function of TIP30 is discussed.

【语种】英文

【第一作者】Wang, Shaohui

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【学科分类】免疫学

【题目】Expression, mitogenic activity and regulation by growth hormone of growth hormone/insulin-like growth factor in Branchiostoma belcheri

【中文关键词】生长激素;胰岛素样生长因子;肝盲囊;文昌鱼;文昌鱼;青岛文昌鱼
【英文关键词】Growth hormone; Insulin-like growth factor; Hepatic caecum; Amphioxus; Lancelet; Branchiostoma belcheri
【中文摘要】生长激素(GH)/胰岛素样生长因子(IGF)轴在所有脊椎动物物种中是独一无二的,但它的进化起源尚清楚。因此,我们克隆了编码文昌鱼IGF(BbIGF)的cDNA。 BbIGF以组织特异性的方式表达,在假定肝脏前体肝盲囊表达最丰富。体外表达的重组BbIGF能够刺激牙鲆鳃细胞增殖显示有丝分裂的活性,这是脊椎动物IGF的一个特点。实时定量PCR显示,重组大鼠GH能显着上调BbIGF在肝盲囊表达。此外,Western印迹揭示了在肝盲囊存在大鼠GH受体相似分子。这些结果表明,BbIGF的表达是由外源性哺乳动物生长激素诱导,表明在青岛文昌鱼中存在一个GH / IGF轴。文章对BbIFG的表达和脊椎动物肝脏的起源之间的关系进行了探讨。
【英文摘要】The growth hormone (GH)/insulin-like growth factor (IGF) axis is unique to all the vertebrate species but its evolutionary origin is ill-defined. We therefore cloned a cDNA encoding Branchiostoma belcheri IGF (BbIGF). BbIGF was expressed in a tissue-specific manner, with the most abundant expression in the hepatic caecum, the putative liver precursor. The recombinant BbIGF expressed in vitro showed mitogenic activity capable of stimulating cell proliferation in the flounder gill, a characteristic of vertebrate IGF. Quantitative real-time polymerase chain reaction demonstrated that the recombinant rat GH was able to induce a significant up-regulation of BbIGF expression in the hepatic caecum. Moreover, Western blotting revealed the presence of a molecule similar to rat GH receptor in the hepatic caecum. These results suggest that BbIGF expression is inducible by exogenous mammalian GH, suggesting the presence of a GH/IGF axis in B. belcheri. The relationship between BbIFG expression and the origin of the vertebrate liver is discussed.
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【第一作者】Guo, Bin
【通讯作者】张士璀
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【学科分类】免疫学

【题目】Identification and expression of a novel class of glutathione-S-transferase from amphioxus Branchiostoma belcheri with implications to the origin of vertebrate liver
【中文关键词】谷胱甘肽-S-转移酶;文昌鱼;原位杂交;免疫组化;肝盲囊
【英文关键词】glutathione-S-transferases; amphioxus; in situ hybridization; immunohistochemistry; hepatic caecum
【中文摘要】到目前为止,胱甘肽-S-转移酶已经在研究的所有生物物种中被发现,但是它们在能了解脊椎动物的起源和进化的模式生物文昌鱼中的起源鲜有人知。我们已经从肠道cDNA文库分离出编码一个文昌鱼预测分子量为约26 kDa的谷胱甘肽-S-转移酶的cDNA。它与包括鱼类和绿藻的水生生物中发现的谷胱甘肽-S-转移酶有43.7-51.8%的同源性,但是它与其他胞浆谷胱甘肽-S-转移酶类有少得多的同源性(<27%)。进行系统发育分析表明文昌鱼谷胱甘肽-S-转移酶与大多数鱼和藻类的谷胱甘肽-S-转移酶相聚集,与其他胞浆谷胱甘肽-S-转移酶类相分离。此外,文昌鱼谷胱甘肽-S-转移酶有一个斑马鱼公认的GST基因,红鲷鱼GSTR1基因和鲽鱼GSTA1基因的外显子-内含子的组织结构。重组谷胱甘肽-S-转移酶已经成功地表达纯化,并表现出对1 - 氯-2,4 - 二硝基苯比较高的催化活性(3.37±0.1u/ mg)和对依他尼酸的中度活性(0.41±0.01u/ mg),没有检测到其对1,2 - 二氯-4 - 硝基苯,4 - 羟基,4 - 硝基苄基氯和氢过氧化异丙苯的活性。此外,我们已经发现了一个在青岛文昌鱼中组织特异性表达模式的谷胱甘肽-S-转移酶基因,其在肝盲肠表达量最丰富。所有这些表明文昌鱼谷胱甘肽-S-转移酶属于一种谷胱甘肽-S-转移酶新颖的rho类型,并且具有组织特异性表达模式。谷胱甘肽-S-转移酶在文昌鱼肝盲囊的表达和脊椎动物肝脏起源之间的关系也进行了讨论。
【英文摘要】Glutathione-S-transferases have been identified in all the living species examined so far, yet little is known to date about them in amphioxus, a model organism for insights into the origin and evolution of vertebrates. We have isolated a cDNA encoding an amphioxus (Branchiostoma belcheri) glutathione-S-transferase with a predicted molecular mass of approximately 26 kDa, from the gut cDNA library. The glutathione-S-transferase had 43.7-51.8% identity to most glutathione-S-transferases identified from aquatic organisms including fish and green alga, but it was much less identical (<27%) to other cytosolic glutathione-S-transferase classes. The phylogenetic analysis revealed that the glutathione-S-transferase was grouped together with most piscine and algal glutathione-S-transferases, separating from other cytosolic glutathione-S-transferase classes. Moreover, the glutathione-S-transferase had an exon-intron organization typical of zebrafish putative GST, red sea bream GSTR1 and plaice GSTA1 genes. The recombinant glutathione-S-transferase has been successfully expressed and purified, which showed a relatively high catalytic activity (3.37+/-0.1 unit/mg) toward 1-chloro-2, 4-dinitrobenzene and a moderate activity toward ethacrynic acid (0.41+/-0.01 unit/mg), although it had no detectable activity

toward 1, 2-dichloro-4-nitrobenzene, 4-hydroxynonenal, 4-nitrobenzyl chloride and cumene hydroperoxide. In addition, we have revealed a tissue-specific expression pattern of the glutathione-S-transferase gene in B. belcheri, with the most abundant expression in the hepatic caecum. All these indicate that the amphioxus glutathione-S-transferase belongs to a novel rho-class of glutathione-S-transferases with a tissue-specific expression pattern. The relation between the glutathione-S-transferase expression in amphioxus hepatic caecum and the origin of vertebrate liver is also discussed.

【语种】英文

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【学科分类】免疫学

【题目】Fibrinogen-related protein from amphioxus Branchiostoma belcheri is a multivalent pattern recognition receptor with a bacteriolytic activity

【中文关键词】文昌鱼;FREP;溶菌活力;模式识别受体

【英文关键词】Branchiostoma; amphioxus; FREP; bacteriolytic activity; pattern recognition receptor

【中文摘要】包括类血纤维蛋白原(FBG)区域的血纤维蛋白原相关蛋白(FREPs)已被证明参与无脊椎动物和脊椎动物的免疫反应,但潜在的机制仍然待定义。在这项研究中,我们分离出编码文昌鱼FREP同源物的cDNA--BbFREP。 BbFREP编码一个286个氨基酸组成的蛋白质,其中包括一个C-末端的FBG域,这个蛋白质与人纤维蛋白原β和γ链聚集在一起。实时定量PCR结果显示,BbFREP在脂多糖(LPS)或脂磷壁酸(LTA)的刺激下表达量显著上调。在巴斯德毕赤酵母(Pichia pastoris)中表达的重组BbFREP能够特异性地识别细菌表面的包括LPS,肽聚糖(PGN)和LTA的病原体相关分子模型(PAMPS),并对革兰氏阴性细菌的大肠埃希氏菌和革兰氏阳性菌金黄色葡萄球菌显示强烈的溶菌活动。BbFREP还能够绑定到大肠杆菌和金黄色葡萄球菌上。原位杂交表明,BbFREP主要在肝盲囊和后肠表达,与脊椎动物的FREP在肝脏的基本表达相一致。所有这些都表明,BbFREP可以通过与LPS,LTA和PGN作用具有溶菌活性来充当一个模式识别受体。它支持文昌鱼肝盲囊相当于脊椎动物肝的概念,在急性期作为一个主要组织。

【英文摘要】Fibrinogen-related proteins (FREPs) containing fibrinogen-like (FBG) domain have been shown to be involved in immune responses in both invertebrates and vertebrates, but the underlying mechanisms remain ill-defined. In this study we isolated a cDNA encoding amphioxus (Branchiostoma belcheri) FREP homolog, BbFREP. BbFREP encoded a protein of 286 amino acids, which included a C-terminal FBG domain and clustered together with human fibrinogen beta and gamma chains. Quantitative real time PCR revealed that the expression of BbFREP was significantly up-regulated following challenge with lipopolysaccharides (LPS) or lipoteichoic acid (LTA). The recombinant BbFREP expressed in Pichia pastoris was able to specifically recognize the pathogen-associated molecular patterns (PAMPs) on the bacterial surfaces including LPS, peptidoglycan (PGN) and LTA, and displayed strong bacteriolytic activities against both Gram-negative bacterium Escherichia coli and Gram-positive bacterium Staphylococcus aureus. BbFREP was also able to bind to both E. coli and S. aureus. In situ hybridization indicated that BbFREP was mainly expressed in the hepatic caecum and hind-gut, agreeing basically with the primary expression of vertebrate FREP genes in the liver. All these suggest that BbFREP can function as a pattern recognition receptor with a bacteriolytic activity via interaction with LPS, LTA and PGN. It also bolsters the notion that the hepatic caecum of amphioxus is equivalent to the vertebrate liver, acting as a major tissue in acute phase response.

【语种】英文

【第一作者】Fan, Chunxin

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【学科分类】免疫学

【题目】Ovochymase in amphioxus Branchiostoma belcheri is an ovary-specific trypsin-like serine protease with an antibacterial activity

【中文关键词】文昌鱼,卵糜酶 抑菌

【英文关键词】Amphioxus; Lancelet; Branchiostoma; Ovochymase; Antibacterial activity

【中文摘要】卵糜酶在脊椎动物中存在,但在无脊椎动物中是否存在不清楚。本研究在文昌鱼中克隆了文昌鱼卵糜酶BbOvc,其cDNA长1248bp,编码415氨基酸。演化分析表明BbOvc与脊椎动物聚为一枝,说明它属于脊椎动物类型的卵糜酶。组织表达分析表明它分布于成熟卵中,胚胎原位分析表明在1-16细胞期BbOvc表达也较强。体外表达和功能分析表明BbOvc有类似胰蛋白酶的功能;除此以外,BbOvc抑制大肠杆菌和副溶血弧菌的生长,因此,BbOvc属于新型卵糜酶具有抑菌活性,可能参与母源免疫。

【英文摘要】Ovochymases have been shown to be present in vertebrates; little information is available at present regarding ovochymase in invertebrates. Here we isolated a cDNA encoding an ovochymase homolog from amphioxus Branchiostoma belcheri, named BbOvc. The cDNA contained a 1248bp open reading frame corresponding to a deduced protein of 415 amino acids with a predicted molecular mass of approximately 44.4kDa. Phylogenetic analysis showed that BbOvc was located at the base of its vertebrate counterparts, suggesting that it represents the archetype of vertebrate ovochymases. BbOvc is found to display a tissue- and stage-specific expression pattern, with a predominant expression in the ovary of sexually matured females and in the early stage embryos (1-16-cell embryos). The recombinant ovochymase expressed in vitro shows a trypsin-like activity capable of hydrolysing the trypsin prototypic substrate N(a)-benzoyl-l-arginine ethyl ester (60UBAEE/mg), which can be inhibited by the trypsin-specific inhibitor soybean trypsin inhibitor. It also exhibits an antibacterial activity capable of inhibiting the growth of bacteria like E. coli and V. parahaemolyticus. Taken together, these data indicate that BbOvc is a novel ovochymase with an antibacterial activity and offer first clues to its role as an immune-relevant molecule which may protect the early embryos from pathogenic attacks.

【语种】英文

【第一作者】Gao, Kun

【通讯作者】张士璀

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【学科分类】免疫学

【题目】Molecular and immunochemical demonstration of a novel member of Bf/C2 homolog in amphioxus Branchiostoma belcheri: implications for involvement of hepatic cecum in acute phase response

【中文关键词】文昌鱼;补体;B因子;肝

【英文关键词】amphioxus; Branchiostoma; complement; factor B (Bf); liver

【中文摘要】在文昌鱼中已经证实存在与脊椎动物类似的补体替代途径,但B因子作为这一途径中的关键因子在文昌鱼中是否存在还不清楚。本研究通过免疫印迹和基因克隆证实了在文昌中肝盲囊存在类B因子。青岛文昌鱼类B因子包含CCP结构域,vWFA结构域以及一个丝氨酸蛋白酶结构域。而且在CCP1和CCP2结构域之间还含有EGF_CA结构域,因此BbBf/C2含有CCP-EGF_CA-CCP-CCP-vWFA-SP复杂结构域,是BbBf/C2家族新成员,LPS处理后BbBf/C2在肝盲囊中的表达迅速上调,同时这一分子在后肠瞬时较高表达。同时,印记杂交显示肝盲囊和后肠中表达量较高。所有这些结果表明,在LPS处理后文昌鱼的肝盲囊和后肠都参与免疫反应,而前者在急性时相反应中起主要作用。

【英文摘要】A complement system operating via the alternative pathway (AP) similar to that of vertebrates has been demonstrated in the primitive chordate amphioxus. However, the factor B (Bf), a key specific protease in the AP, remains elusive in amphioxus to date. We demonstrate in this study the presence of a factor B-like protein in amphioxus Branchiostoma belcheri by both immunoblotting and molecular cloning. The factor B-like protein was immunohistochemically localized in the hepatic cecum. The B. belcheri factor B-like gene, BbBf/C2, encoded a mosaic protein with three complement control protein (CCP) domains, a von Willebrand factor A (vWFA) domain and a serine protease (SP) domain. Peculiarly, BbBf/C2 had an epidermal growth factor-like domain (EGF_CA) located between CCP1 and CCP2, therefore BbBf/C2 had a modular structure of CCP-EGF_CA-CCP-CCP-vWFA-SP, making it a novel member of Bf/C2 family proteins. Real-time PCR assay revealed that lipopolysaccharide (LPS) challenge resulted in a quick and continuously significant up-regulation of BbBf/C2 expression in the hepatic cecum, while BbBf/C2 was only expressed for a short time in the hind-gut following LPS challenge though the expression level was temporarily higher than that in the hepatic cecum. Similarly, immuno-dot blotting showed that challenge with LPS triggered a significant elevation of BbBf/C2 synthesis in the hepatic cecum and hind-gut, with a higher rise in the former tissue. These results indicate that both hepatic cecum and hind-gut may be involved in the

immune response induced by LPS, but the hepatic cecum, like the vertebrate liver, is the primary tissue synthesizing BbBf/C2 in response to LPS challenge, thereby playing a major role in the acute phase response.
【语种】英文
【第一作者】He, Yanan
【通讯作者】张士璀
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【学科分类】免疫学

【题目】Human TRP14 gene homologue from amphioxus Branchiostoma belcheri: identification, evolution, expression and functional characterization
【中文关键词】文昌鱼;进化;表达;硫氧还蛋白相关蛋白
【英文关键词】amphioxus; Branchiostoma; evolution; expression; thioredoxin-related protein
【中文摘要】TRP14是分子质量为14kDa的硫氧还蛋白相关蛋白,先前只在人类中被确定。在此我们报道了文昌鱼TRP14基因的克隆和表达,命名为AmphiTRP14,这是在非哺乳动物中的第一个这样的数据。AmphiTRP14包含一个372bp的开放阅读框,编码123个氨基酸,预测的相对分子质量是14.kDa。它和人的TRP14有56%的相似性并且有一个高度保守的CPDC结构域。通过序列的比较显示TPR14基因有4个外显子和3个内含子,这是非常保守的。AmphiTRP14成功的在大肠杆菌中表达并已纯化。重组蛋白具有和人TRP14相同的特性,包括对胰岛素的还原酶活性。原位杂交和免疫组化分析显示AmphiTRP14具有组织特异性的表达方式,在肝盲囊,卵巢和肠中大量表达。这显示了AmphiTRP14具有一个基础的而不是组织特异的角色,或者有选择性的不同在容易被氧化破坏的组织中。
【英文摘要】Thioredoxin-related protein of 14 kDa, TRP14, has previously been identified only in humans. Here we report the identification and expression of an amphioxus TRP14 gene, named AmphiTRP14, the first such data in a non-mammalian organism. AmphiTRP14 consists of a 372-bp open reading frame coding for a 123-amino-acid protein with a calculated molecular weight of 14 kDa. It shares 56% identity with human TRP14 and possesses a highly conserved motif CPDC. Sequence comparison suggests the evolutionary appearance of the four-exon-three-intron organization of TRP14 genes after the split of protostome/deuterostome, which is highly conserved since then. AmphiTRP14 has been successfully expressed in Escherichia coli and purified. The recombinant protein exhibited features characteristic of human TRP14, including a reductase activity towards insulin. Both in situ hybridization histochemistry and immunohistochemistry revealed that AmphiTRP14 was expressed in a tissue-specific manner, with the most abundant expression in the hepatic caecum, ovary and hind-gut. This suggests that AmphiTRP14 plays a fundamental but tissue-specific role, or alternatively reflects differences in the tissue susceptibility to oxidative damage.
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【第一作者】Jiang, Shengjuan
【通讯作者】张士璀
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【学科分类】免疫学

【题目】The ycaC-related protein from the amphioxus Branchiostoma belcheri (BbycaCR) interacts with creatine kinase
【中文关键词】文昌鱼;肌酸激酶;异解酶超家族;ycaC相关蛋白
【英文关键词】amphioxus; Branchiostoma; creatine kinase; isochorismatase superfamily; ycaC-related protein
【中文摘要】ycaC相关的基因,ycaCR,直到现在都没有很清楚的被认识。在此我们报道了文昌鱼的ycaC相关基因,BbycaCR,编码一个新的异解酶家族,主要定位在染色体片段上。Pull-down 和反向Pull-down分析显示了BbycaCR能和肌酸激酶起作用,它涉及能量传导功能,还能结合到相同的分子上形成一个同源二聚体。有趣的是,BbycaCR没有异分支酸酶和烟酰胺酶及酰胺水解酶的活性,尽管它具有预测的催化三分子:19位的天冬氨酸,84位的亮氨酸和118位的半胱氨酸。组织原位杂交和免疫组化分析显示BbycaCR在文昌鱼中广泛的表达,尽管表达水平不一样,说明了BbycaCR在文昌鱼中具有保守的基础性的细胞内角色。推测BbycaCR可能间接的设计能量转化。

【英文摘要】The ycaC-related gene, ycaCR, is uncharacterized, and has no assigned function to date. Here we clearly showed that the ycaC-related gene from the amphioxus Branchiostoma belcheri, BbycaCR, coded for a novel member of the isochorismatase superfamily, which is mainly localized in the mitochondrial fraction. Both pull-down and reverse pull-down analyses revealed that BbycaCR was able to interact with creatine kinase, an enzyme involved in energy transduction, in addition to binding to native ycaCR, forming a homopolymer. Surprisingly, neither isochorismatase, nicotinamidase nor N-carbamoylsarcosine amidohydrolase activity was detected for BbycaCR, although it possessed the putative catalytic triad of Asp19, Arg(Lys)84 and Cys118 that is found in ycaC proteins. Both tissue section in situ hybridization and immunohistochemistry showed that BbycaCR was ubiquitously expressed in amphioxus, although at different expression levels, suggesting that BbycaCR plays a conserved fundamental cellular role in amphioxus. It is proposed that BbycaCR may be indirectly involved in energy transduction.
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【第一作者】Jiang, Shengjuan
【通讯作者】张士璀
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【学科分类】免疫学

【题目】Identification, expression and antibacterial activity of a tachylectin-related homolog in amphioxus Branchiostoma belcheri with implications for involvement of the digestive system in acute phase response
【中文关键词】文昌鱼;原索动物;凝集素;消化系统
【英文关键词】Amphioxus; Protochordate; Branchiostoma; Lectin; Digestive system
【中文摘要】Tachylectin相关的蛋白已经在粘液菌到海绵到多骨鱼的各种各样的组织中被界定,但至今在处于脊椎动物和无脊椎动物之间的文昌鱼中很少被认识。另外,这个蛋白是否作为一个免疫相关的分子仍然存在争议。在此我们在文昌鱼中阐述了tachylectin相关基因的表现。预测的基因产物,命名为BbTL,由305个氨基酸组成,有一个推测的N端信号肽和6个30-33个氨基酸的tachylectin型串联重复序列。原位杂交和免疫组化表达模型分析在成体文昌鱼显示在肝盲囊和肠中大量表达。实时定量PCR揭示了LPS刺激导致了BbTL在肠中的重要上调,另外,在毕赤酵母中重组表达的BbTL能抑制革兰氏阴性菌大肠杆菌的生长在一个剂量依赖性的方式。所有的这些结果显示BbTL,像更多的其他tachylectin相关蛋白一样,涉及寄主的免疫保护,并且文昌鱼的消化系统显示出是主要的免疫组织在回应LPS的刺激。
【英文摘要】Tachylectin-related proteins have been identified in various organisms from slime molds to sponges to bony fish, yet little is known to date about it in protochordate amphioxus, an important organism occupying a nodal position from invertebrates to vertebrates. Moreover, if the protein acts as an immune-relevant molecule remains controversial. Here we demonstrated the presence of a tachylectin-related gene in Branchiostoma belcheri. The predicted gene product, termed BbTL, consists of 305 amino acids with a putative N-terminal signal peptide and 6 tachylectin-typical tandem repeats of 30-33 amino acids. In situ hybridization histochemistry indicates a tissue-specific expression pattern of BbTL in adult amphioxus with the most abundant expression in the hepatic caecum and hind-gut. Quantitative real-time PCR reveals that challenge with LPS results in a significant up-regulation of BbTL expression in the guts. In addition, the recombinant BbTL expressed in Pichia pastoris is able to inhibit the growth of Gram-negative bacterium Escherichia coli in a dose-dependent manner. All these suggest that BbTL, like most other tachylectin-related proteins, is involved in the host immune defense, and the digestive system of B. belcheri appears the major immune tissue responding to LPS challenge.
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【第一作者】Ju, Lingyan
【通讯作者】张士璀
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【学科分类】免疫学

【题目】Identification and expression of a ferritin homolog in amphioxus Branchiostoma belcheri: evidence for its dual role in immune response and iron metabolism

【中文关键词】文昌鱼;铁蛋白;LPS;铁
【英文关键词】amphioxus; Branchiostoma; ferritin; lipopolysaccharide; iron
【中文摘要】铁蛋白在细胞铁代谢过程中扮演了一个重要的角色包括铁的贮存和解毒,铁蛋白已经在许多物种中包括细菌,真菌,植物和动物中被界定,但很少在原睡物类中被发现。在此我们在文昌鱼中阐述了铁蛋白的同源蛋白BbFRT的表现。分析BbFRT的序列发现它存在一个假设的铁反应原件和一个假设的颈环结构。BbFRT编码172个氨基酸包含保守的亚铁氧化酶类型的motif,它存在于脊椎动物铁蛋白的重链上。序列比较显示BbFRT和脊椎动物的铁蛋白的轻链有更多的相似性为68%,比重链的46-51%更多。原位杂交和免疫组化揭示了BbFRT在文昌鱼中广泛的表达,另外,LPS刺激后,BbFRT的表达在转录水平上上升了1.6倍,在翻译水平上上升了1.5倍。相似的结果显示了在人的体液中上升了1.6倍。这些结果说明BbFRT是一个双重功能的蛋白在免疫反应和铁代谢中起重要作用。
【英文摘要】Ferritin plays a key role in cellular iron metabolism including iron storage and detoxification, which has been identified in a wide range of organisms including bacteria, fungi, plants and animals. However, little information is available regarding ferritin in the protochordates to date. Here we demonstrate the presence of a ferritin gene homolog, BbFRT, in amphioxus Branchiostoma belcheri. Analysis of the BbFRT 5'-UTR indicated the existence of a putative iron-responsive element (IRE) with a predicated stem-loop structure. BbFRT encoded a deduced protein of 172 amino acids with the conserved motif for ferroxidase center typical of heavy chains of vertebrate ferritins. Sequence comparison showed that BbFRT shared more identity to H-chains (68%) of vertebrate ferritins than to the L-chains (46-51%). Both in situ hybridization histochemistry and immunohistochemical staining revealed that BbFRT was ubiquitously expressed in B. belcheri. In addition, BbFRT expression was up-regulated by 1.6-fold and 1.5-fold, respectively, following exposure to LPS at both transcriptional and translational levels. Similarly, exposure to iron resulted in about 1.6-fold increase in BbFRT in the humoral fluids. These suggest that BbFRT seems a protein with a dual function functioning in both immune response and iron metabolism.
【语种】英文
【第一作者】Li, Min
【通讯作者】张士璀
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【学科分类】免疫学

【题目】Vitellogenin functions as a multivalent pattern recognition receptor with an opsonic activity
【中文关键词】卵黄蛋白原;免疫;母体;吞噬
【英文关键词】Vg immune, maternal, phagocytosis
【中文摘要】卵黄蛋白原(Vg),一个重要的母体蛋白,在鱼类中已经和感染联系在一起。然而,Vg在涉及抗感染反应的潜在机制还不是很清楚。通过蛋白-微生物的相互作用分析和酶联免疫分析,我们第一次阐明了Vg作为一个模式识别受体具有多特异性能识别细菌和真菌并区分自身因子,并且作为调理素起作用来加强巨噬细胞的吞噬活性。这个研究显示了鱼的Vg作为一个综合的功能在调节免疫反应通过多向性的效应在识别病原相关的分子和促进巨噬细胞的吞噬活性。这个结果也支持这些因子涉及雌性生产过程中依赖Vg来促进卵母细胞的发育这个这个结果。
【英文摘要】BACKGROUND: Vitellogenin (Vg), a major reproductive protein, has been associated with infection-resistant response in fish. However, the underlying mechanisms by which Vg is involved in anti-infectious response are not understood. METHODOLOGY/RESULTS: By both protein-microbe interaction analysis and enzyme-linked immunosorbent assay as well as phagocytosis test, we demonstrate for the first time that fish Vg acts as a pattern recognition molecule with multiple specificities that can recognize bacteria as well as fungus rather than self components from fish, and functions as an opsonin that can enhance macrophage phagocytosis. CONCLUSIONS: This study shows that fish Vg plays an integrative function in regulating immunity via its pleiotropic effects on both recognizing pathogen-associated molecular patterns and promoting macrophage phagocytosis. It also supports the notion that factors normally involved in control of female reproduction are associated with immunity in organisms that rely on Vg for oocyte development.
【语种】英文
【第一作者】Li, Zhaojie
【通讯作者】张士璀
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【学科分类】免疫学

【题目】Vitellogenin is a cidal factor capable of killing bacteria via interaction with lipopolysaccharide and lipoteichoic acid
【中文关键词】卵黄蛋白原;免疫;杀菌
【英文关键词】Vitellogenin; Antibacterial activity; Protoplasts; Fish immunity; Hexagrammos otakii
【中文摘要】已有研究表明卵黄蛋白原(Vg)参与宿主的免疫防御。然而,Vg潜在的作用机制研究得还远远不够,Vg中发挥免疫作用的组分也未知。此文中,我们清楚地证明Vg能够杀死革兰氏阴性菌大肠杆菌和革兰氏阳性菌金黄色葡萄球菌的整个细胞而不是它们的原生质体:Vg有特异性结合LPS、LTA和PGN的直接位点。有趣的是,Vg和细菌细胞壁的不同结合位点结合会产生不同的影响:Vg通过LPS与大肠杆菌的结合以及通过LTA与金黄色葡萄球菌的结合是致死的,然而Vg通过PGN与金黄色葡萄球菌的结合却不致死。此外,Vg显示类似凝集素的活性,因为它的抗菌活性能被D型甘露糖、氮-乙酰氨基葡萄糖和D型海藻糖所抑制。另外,Vg多肽链的完整性和糖类残基对其抗菌活性来说是必不可少的,但脂化和磷酸化是不起作用的。总之,Vg是一个杀菌因子,它是通过与细菌细胞壁表面的LPS和LTA相互作用来杀死大肠杆菌和金黄色葡萄球菌的,而不是通过攻击细菌的质膜。
【英文摘要】Vitellogenin (Vg) has been shown to be involved in host immune defense. However, the underlying mechanism by which Vg functions is largely unknown, and which component in Vg is essential for the execution of its immune role remains lacking. Here, we demonstrate clearly that fish Vg is capable of killing the whole cells of Gram-negative bacterium Escherichia coli and Gram-positive bacterium Staphylococcus aureus rather than their protoplasts: and that Vg has distinct binding sites specific for lipopolysaccharide (LPS), lipoteichoic acid (LTA) and peptidoglycan (PGN), respectively. Of note, the interaction between Vg and bacterial cells via the different binding sites results in distinct effects: the binding of Vg to E. coli via LPS and to S. aureus via LTA is lethal, whereas the binding of Vg to S, aureus via PGN is not. Moreover, Vg exhibits a lectin-like activity because its antibacterial activities can be suppressed by the carbohydrates like D-mannose, N-acetyl-D-glucosamine and D-fucose. Finally, the polypeptide chain integrity and carbohydrate residues of Vg are indispensable for its antibacterial activity, but the lipidation and phosphorylation are not necessary. Taken together, Vg is a bacteriocidal factor capable of killing E. coli and S. aureus whole cells via interaction with LPS and LTA existing in the bacterial cell walls rather than attacking their plasma membranes.
【语种】英文
【第一作者】Li, Zhaojie
【通讯作者】张士璀
【期刊名称、卷期、页码】Mol Immunol. 2009 Oct;46(16):3232-9.
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【学科分类】免疫学

【题目】Alternative complement activity in the egg cytosol of amphioxus Branchiostoma belcheri: evidence for the defense role of maternal complement components
【中文关键词】文昌鱼 卵 母体 免疫
【英文关键词】Amphioxus egg maternal immunity
【中文摘要】背景:大多数无脊椎动物的卵是体外发育的,因此它们的胚胎是暴露在充满微生物的环境中的,而其中很多微生物是能杀死配的致病菌。无脊椎动物发育中的胚胎怎样抵抗病原菌的攻击是生物学家非常感兴趣的问题,而且研究的不多。方法和结果:我们的研究表明,无脊椎动物文昌鱼新孵化的卵所制得的卵浆能抑制革兰氏阴性菌鳗弧菌和革兰氏阳性菌葡萄球菌的生长。所有的实验结果都表明:补体系统通过选择性途径来起抑菌作用。结论和意义:这是首次证明无脊椎动物卵中的母源性补体组分有功能,这为其他体外发育的无脊椎动物的母源性免疫研究提供的基础。这也与早期发育的胚胎享有成体的一些防御机制的观点是一致的。
【英文摘要】BACKGROUND: The eggs in most invertebrates are fertilized externally, and therefore their resulting embryos are exposed to an environment full of microbes, many of which are pathogens capable of killing other organisms. How the developing embryos of invertebrates defend themselves against pathogenic attacks is an intriguing question to biologists, and remains largely unknown. METHODOLOGY/PRINCIPAL FINDINGS: Here we clearly demonstrated that the egg cytosol prepared from the newly

fertilized eggs of amphioxus Branchiostoma belcheri, an invertebrate chordate, was able to inhibit the growth of both the Gram-negative bacterium Vibrio anguillarum and the Gram-positive bacterium Staphylococcus aureus. All findings point to that it is the complement system operating via the alternative pathway that is attributable to the bacteriostatic activity. CONCLUSIONS/SIGNIFICANCE: This appears to be the first report providing the evidence for the functional role of the maternal complement components in the eggs of invertebrate species, paving the way for the study of maternal immunity in other invertebrate organisms whose eggs are fertilized in vitro. It also supports the notion that the early developing embryos share some defense mechanisms common with the adult species.
【语种】英文
【第一作者】Liang, Yujun
【通讯作者】张士璀
【期刊名称、卷期、页码】PLoS One. 2009;4(1):e4234.
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【引文索引类型】SCI
【引文索引号】2.6548210001e+011
【学科分类】免疫学

【题目】Characterization and expression of gamma-interferon-inducible lysosomal thiol reductase (GILT) gene in amphioxus Branchiostoma belcheri with implications for GILT in innate immune response
【中文关键词】文昌鱼 GILT蛋白 先天性免疫
【英文关键词】amphioxus; Branchiostoma; characterization; expression; gamma-interferon-inducible lysosomal thiol reductase (GILT); gamma-interferon (IFN-gamma)
【中文摘要】本文从文昌鱼肠中克隆出编码GILT蛋白的文昌鱼GILT基因。它编码含254个氨基酸的蛋白,这个蛋白具有GILT蛋白的所有主要特点,如信号序列CQHGX(2)CX(2)NX(4)C、CXXC基序和11个保守的半胱氨酸。系统进化分析表明文昌鱼GILT基因和海胆GILT基因亲缘关系最近,都处于脊椎动物GILT基因分支上,这表明文昌鱼GILT和海胆GILT可能具有与脊椎动物GILT蛋白原型相似的一些特征。弗罗里达文昌鱼的基因组DNA包含七个外显子和六个内含子,这与脊椎动物GILT外显子—内含子的分布是相似的。文昌鱼GILT基因的表达是组织特异的,在消化系统中表达最多,如肝和肠。我们还发现,哺乳动物gamma干扰素对文昌鱼GILT基因的表达量影响很小,而人和小鼠的GILT基因在gamma干扰素的影响下表达量变化却很大。由于文昌鱼缺乏适应性免疫系统(包括MHC二类分子和淋巴细胞),所以文昌鱼GILT很有可能在文昌鱼的先天性免疫应答中发挥作用。
【英文摘要】An amphioxus cDNA, AmphiGILT, encoding GILT protein was isolated from the gut cDNA library of Branchiostoma belcheri. It codes for a deduced protein of 254 amino acids, which has all the main features typical of GILT proteins including the signature sequence CQHGX(2)CX(2)NX(4)C, CXXC motif and 11 conserved cysteines. Phylogenetic analysis showed that AmphiGILT and sea urchin GILT clubbed together and positioned at the base of vertebrate GILT clade, suggesting that both AmphiGILT and sea urchin GILT might share some characteristics of the archetype of vertebrate GILT proteins. The genomic DNA sequence of B. floridae contains seven exons and six introns, which is similar to vertebrate GILT exon-intron organization. AmphiGILT was expressed in a tissue-specific manner with the most abundant mRNA in the digestive system including hepatic caecum and hind-gut. It was also found that mammalian IFN-gamma only exerted a slight effect on the expression of GILT gene in amphioxus, forming a contrast to the marked induction of human and mouse GILT expression by IFN-gamma. Taken the absence of the adaptive immune system including MHC class II molecules and lymphocytes into consideration, these results suggest that AmphiGILT is highly likely to play a role in the innate immune responses in amphioxus.
【语种】英文
【第一作者】Liu, Naiguo
【通讯作者】张士璀
【期刊名称、卷期、页码】Mol Immunol. 2007 Apr;44(10):2631-7.
【论文发表时间】2007-04-01 00:00:00
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【引文索引号】2.4568120002e+011
【学科分类】免疫学

【题目】A transferrin-like homolog in amphioxus Branchiostoma belcheri: Identification, expression and functional characterization

【中文关键词】转铁蛋白 文昌鱼 抑菌 急性反应
【英文关键词】Amphioxus; Lancelet; Branchiostoma; Transferrin; Antibacterial activity
【中文摘要】先前的研究表明transferrin (Tf)在无脊椎动物和脊椎动物中都是普遍存在的,但是还没有关于处于无脊椎动物和脊椎动物边界的原索动物文昌鱼的Tf的研究。我们从文昌鱼中分离得到一个Tf-like基因,这个基因编码含1256个氨基酸的蛋白,含一个氨基端信号肽、一个位于氨基端的保守的转铁蛋白区域(此区域有一个由63位的天冬氨酸和188位的酪氨酸组成的离子结合位点)、一个位于羧基端的转铁蛋白区域(此区域包含305个氨基酸)。系统进化分析表明文昌鱼Tf1与所有无脊椎动物的Tf处于同一个分支。实时定量PCR结果显示大肠杆菌和鳗弧菌能使BbTfl在文昌鱼肠内的表达量在12-24小时时显著升高,这表明BbTfl在文昌鱼的免疫防御中是一种阳性的急性期反应物。重组表达的BbTfl氨基端能结合离子,并且能抑制大肠杆菌和金黄色葡萄球菌的生长。另外,在高离子浓度条件下,BbTfl的抗菌活性显著地被抑制。所有这些结果为离子结合和抑制细菌生长之间的联系提供了直接的实验证据。这也显示BbTfl的表达具有组织特异性,在肝盲囊、后肠和卵巢中表达量最高,这与消化系统是急性期应答的初生组织的观点是一致的。
【英文摘要】Previous studies have shown the universal presence of transferrin (Tf) in both invertebrates and vertebrates, but little information is available regarding Tf in amphioxus, a protochordate on the evolutionary boundary between invertebrates and vertebrates. Here we isolated a Tf-like homolog from Branchiostoma belcheri, which encodes a deduced protein, BbTfl, of 1256 amino acids containing a N-terminal signal peptide, a conserved transferrin domain in its N-terminal lobe, with a putative iron-binding site consisting of Asp63 and Try188 and another transferrin domain in its C-terminal lobe with an long intervening sequence of 305 amino acids. Phylogenetic analysis shows BbTfl is grouped together with all the invertebrate Tfs and located at the base of melanotransferrins and other Tfs. Quantitative PCR analysis reveals that exposure to Escherichia coli and Vibrio anguillarum causes a significant increase in BbTfl expression mainly in the gut within 12-24h, suggesting that BbTfl is a positive acute phase reactant involved in the immune defense of B. belcheri. The recombinant N-terminal lobe, BbTflN, is able to bind iron and to inhibit E. coli and Staphylococcus aureus growth. Moreover, the antibacterial activity of BbTflN markedly decreases in the presence of excess iron. All these results provide a direct empirical evidence establishing a definitive link between binding to iron and bacterial growth-inhibiting activity. It is also shown that BbTfl is expressed in a tissue-specific manner, with the most abundant expression in the hepatic caecum, hind-gut and ovary, supporting the idea that the digestive system including the hepatic caecum of amphioxus is the primary tissue involved in acute phase response.
【语种】英文
【第一作者】Liu, Jia
【通讯作者】张士璀
【期刊名称、卷期、页码】Mol Immunol. 2009 Sep;46(15):3117-24
【论文发表时间】2009-09-01 00:00:00
【引文索引类型】SCI
【引文索引号】2.7048980003e+011
【学科分类】免疫学

【题目】Characterization of a pattern recognition molecule vitellogenin from carp (Cyprinus carpio)
【中文关键词】模式识别分子 Vg 抑菌 调理
【英文关键词】Vitellogenin; Antibacterial activity; Agglutinating; Phagocytosis; Opsonin; Pattern recognition
【中文摘要】模式识别蛋白通过与病原菌表面的分子结合而在先天性免疫应答中发挥作用,并起始宿主的防御。为了研究卵黄蛋白原(Vg)在鱼类先天性免疫中的作用,我们用亲和层析的方法从鲤鱼中纯化出了Vg。抗菌活性分析表明Vg能抑制大肠杆菌和金黄色葡萄球菌的活性。Vg能结合到革兰氏阴性菌和革兰氏阳性菌的表面。Vg也能凝集大肠杆菌和金黄色葡萄球菌,也能轻微地凝集酵母菌。Vg与革兰氏阴性菌表面的脂多糖结合力很强。Vg能促进巨噬细胞对大肠杆菌和金黄色葡萄球菌的吞噬作用。Vg能与巨噬细胞结合而作为调理素来促进嗜菌作用。这些结果表明Vg在抗菌防护中作为模式识别分子起作用,并是鱼类先天性免疫中的效应器。
【英文摘要】Pattern recognition proteins function in innate immune responses by binding to molecules on the surface of invading pathogens and initiating host defense reactions. To explore the role of vitellogenin (Vg) in fish innate immunity, we purified Vg from Carp by gel filtration combined with diethylaminoethyl (DEAE) chromatography. The purified Vg was confirmed by MALDI-TOF mass spectrometry. Antibacterial activity analysis showed that Vg inhibited bacterial activity to Escherichia coli and Staphylococcus aureus in a dose-dependent manner. Vg bound to the surface of Gram-negative and Gram-positive bacteria. It also agglutinated E. coli and S. aureus and weakly to Saccharomyces cerevisiae. Vg showed a strong binding activity to lipopolysaccharides from Gram-negative bacteria. Vg-treated macrophage enhanced phagocytosis to E. coli and S. aureus. Vg also bind with macrophage function as opsonins to promote phagocytosis. The results suggest that Vg serves as a pattern recognition molecule and opsonins in antibacterial defense and

as an effector in fish innate immunity.
【语种】英文
【第一作者】Liu, Qing-Hui
【通讯作者】张士璀
【期刊名称、卷期、页码】Immunobiology. 2009;214(4):257-67.
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【引文索引号】2.653628e+011
【学科分类】免疫学

【题目】Immune parameters in the humoral fluids of amphioxus Branchiostoma belcheri challenged with Vibrio alginolyticus
【中文关键词】文昌鱼;体液;溶藻弧菌;溶菌酶;抗菌活性;凝集素;血凝素
【英文关键词】Amphioxus; Branchiostoma belcheri; Humoral fluid; Vibrio alginolyticus; Lysozyme; Antimicrobial activity; Microbial agglutinin; Haemagglutinin
【中文摘要】对于文昌鱼的体液免疫我们了解甚少。本文测量了在溶藻弧菌感染文昌鱼之前和之后体液中的几个参数包括溶菌酶,抗菌活性,凝集素和血凝素。当感染溶藻弧菌后,溶菌酶活性、对大肠杆菌、溶藻弧菌的抗生长活性和对微球菌、枯草杆菌和金黄色葡萄球菌的粘合能力都显著增强,并且,对兔子和人体液中的A 和O红细胞的凝集能力过早的增强了。相反,对体液中的哈维弧菌和大肠杆菌的黏合能力降低了,而且对人红细胞B的凝集能力在之后的时间里氏增强的。
【英文摘要】The knowledge concerning the humoral immunity is scarce in amphioxus Branchiostoma belcheri. This study measured the humoral parameters including lysozyme, antimicrobial activity, microbial agglutinin and haemagglutinin in amphioxus humoral fluids before and after Vibrio alginolyticus challenge. After challenged with V. alginolyticus, the lysozyme activity, growth inhibiting activities against Escherichia coli and V. alginolyticus and microbial agglutinating activities against Micrococcus lysodeikticus, Bacillus subtilis and Staphylococcus aureus were all increased significantly and haemagglutinating activities against rabbit and human A and O erythrocytes in the humoral fluids were all increased earlier. In contrast, the agglutinating activities against Vibrio harvey and E. coli in the humoral fluids were reduced in response to V. alginolyticus challenge and the haemagglutinating activity against human B erythrocytes increased later.
【语种】英文
【第一作者】Pang, Qiuxiang
【通讯作者】张士璀
【期刊名称、卷期、页码】Fish Shellfish Immunol. 2010 Jan;28(1):232-4.
【论文发表时间】2010-01-23 00:00:00
【引文索引类型】SCI
【引文索引号】2.7423510003e+011
【学科分类】免疫学

【题目】Vitellogenin is an acute phase protein with bacterial-binding and inhibiting activities
【中文关键词】Vg;大肠杆菌;金黄色酿脓葡萄球菌;抗菌活性
【英文关键词】Vg E,coli, Sp, antibacteria
【中文摘要】之前有报道称卵黄蛋白原是一种免疫相关分子,但是它在体内的免疫学功能仍是不清楚的。我们把LPS和LTA迅速的注射到雄性的斑马鱼中,诱导Vg在转录水平和翻译水平上迅速增强。之后,血清中的Vg产生会抑制大肠杆菌和金黄色酿脓葡萄球菌的生长。这些数据表明斑马鱼血清中Vg是一种与细菌相关的急性蛋白并有抗菌作用。这也支持了在卵母细胞发育中依赖Vg的生物中,一些控制雌性生殖的因子可能是与免疫相关的概念
【英文摘要】Previous studies have shown that vitellogenin (Vg) is an immune-relevant molecule, but its potential immunological role in vivo remains obscure. We demonstrated here that injection of lipopolysaccharide (LPS) and lipoteichoic acid (LTA) into male Danio rerio rapidly induced a significant up-regulation of Vg at both transcriptional and translational levels, and that serum Vg produced was able to bind to both Escherichia coli and Staphylococcus aureus and to inhibit their growth in a dose-dependent manner. All these data suggest that serum Vg in zebrafish D. rerio is an acute phase protein with bacterial-binding and inhibiting activities. It also bolsters the notion that factors normally involved in control of female reproduction are linked with immunity in organisms that rely on Vg for oocyte development.

【语种】英文
【第一作者】Tong, Zhou
【通讯作者】张士璀
【期刊名称、卷期、页码】Immunobiology. 2010 Nov;215(11):898-902
【论文发表时间】2010-11-01 00:00:00
【引文索引类型】SCI
【引文索引号】2.8451950001e+011
【学科分类】免疫学

【题目】Complement activity in the egg cytosol of zebrafish Danio rerio: evidence for the defense role of maternal complement components
【中文关键词】鱼卵;微生物侵袭;革兰氏阴性菌;补体系统;母源性免疫
【英文关键词】fish egg, microbes, Gram- complement system
【中文摘要】大部分鱼的胚胎在充满微生物的暴露的环境中发育。对于它们是怎么样抵御微生物的,我们至今还不知道。本文中我们事先准备的斑马鱼卵液可以杀死革兰氏阴性菌,通过已建立的离体分析系统得知。这些发现都表明是补体系统通过一些溶菌的活性通路在发挥作用。这是第一篇对于在鱼卵中母性补体系统发挥作用能提供证据的文献,为其他体外孵化胚胎的物种的母源性免疫做了一些准备
【英文摘要】Most fish embryos that develop externally are exposed to an environment full of microbes. How they survive microbial attacks are not understood to date. Here we demonstrated that the egg cytosol prepared from the newly fertilized eggs of zebrafish Danio rerio is capable of killing the Gram-negative bacterium Escherichia coli, via in vitro assay system of the complement activity established. All findings indicate that it is the complement system operating via the alternative pathway that is attributable to the bacteriolytic activity. This is the first report providing the evidence for the functional role of the maternal complement components in fish eggs, paving the way for study of maternal immunity in other organisms whose eggs are fertilized in vitro.
【语种】英文
【第一作者】Wang, Zhiping
【通讯作者】张士璀
【期刊名称、卷期、页码】PLoS One. 2008 Jan 23;3(1):e1463.
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【引文索引号】2.6050390001e+011
【学科分类】免疫学

【题目】Response of complement expression to challenge with lipopolysaccharide in embryos/larvae of zebrafish Danio rerio: acquisition of immunocompetent complement
【中文关键词】斑马鱼;补体;个体发育;免疫活性;成熟
【英文关键词】zebrafish; complement; ontogeny; immunocompetence; maturation
【中文摘要】补体的发展在鱼类中认识很少,并且很少信息能够利用关于获得全部补体活性。在这个研究中,我们阐述了经典途径、可选择途径、凝集素途径和细胞溶解酶途径中关键补体基因(C3, C1r/s, C4, C6, Bf, MBL and MASP)的个体发育和不同的表达,和它们在发育过程中回应LPS刺激的反应。除了C6以外,所有的成分表现出了表达量升高的相同趋势在影线期以后。Bf和C3的转录本标志性的增加通过LPS刺激,然而C1r/s和MASP的表达没有提高。LPS刺激后C4的表达是先降低在升高。在受精18天后LPS刺激引起MBL的表达上升。在回应LPS的刺激时,C6异常的表达:在影线期前减少,然后有大量的上调在影线期后。总之,这些结果显示在斑马鱼卵影线期补体已经有能力回应LPS的刺激。
【英文摘要】The development of complement in fish is poorly understood, and little information is available about the acquisition of full complement capacities. In this study we demonstrated the ontogenic and differential expression of complement key component genes (C3, C1r/s, C4, C6, Bf, MBL and MASP) of the classical pathway (CP), alternative pathway (AP), lectin pathway (LP) and lytic pathway, and their responses to challenge with LPS during development. All components, except C6, showed a similar trend of increasing expression after hatching. The contents of Bf and C3 transcripts were both markedly increased by challenge with LPS soon after hatching, while the expression levels of C1r/s and MASP transcripts were not elevated. The expression of C4 mRNA was first down-regulated by LPS challenge and then fluctuated. The expression of MBL mRNA was up-regulated by LPS challenge after 18 days post fertilization. In response to LPS challenge, C6 was peculiarly expressed: it was significantly decreased before hatching, followed by a

significant up-regulation post hatching. Taken together, these suggest that the complement operating via the AP is already competent by responding to challenge with LPS in the hatched larvae of Danio rerio.
【语种】英文
【第一作者】Wang, Zhiping
【通讯作者】张士璀
【期刊名称、卷期、页码】Fish Shellfish Immunol. 2008 Sep;25(3):264-70.
【论文发表时间】2008-09-26 00:00:00
【引文索引类型】SCI
【引文索引号】2.5975970001e+011
【学科分类】免疫学

【题目】Maternal transfer and protective role of the alternative complement components in zebrafish Danio rerio
【中文关键词】斑马鱼;胚胎;母体;免疫;补体
【英文关键词】zebrafish, complement maternal immunity complement
【中文摘要】绝大多数鱼的胚胎发育过程中都暴露在水生环境中,这些环境中充满了病原体,然而胚胎仅有有限的能力来掌控有效的免疫反应。鱼的胚胎怎样在病原体的攻击下保持完好没有被很好的认识。这篇文章中我们报道了雌性斑马鱼的母体免疫用福尔马林杀死的嗜水汽单胞菌能引起C3和Bf大量的表达,并且在子代有相应的上升,并且诱导母体和子代的胚胎活性大量上升。另外,从被免疫的母体产下的胚胎比没有免疫的母体产下的胚胎对嗜水汽单胞菌有更多的耐受力。这些结果清晰的显示了斑马鱼胚胎抵抗嗜水汽单胞菌的保护能力能通过母体的转移通过可选择途径来体现。这篇文章第一次提供了在体内可选择途径在斑马鱼早期胚胎中的保护角色的证据,引出了研究体内其他母体转移因子功能的思路
【英文摘要】Embryos of most fish develop externally and are exposed to an aquatic environment full of potential pathogens, whereas they have little or only limited ability to mount an efficient and protective response. How fish embryos survive pathogenic attacks remains poorly defined. Here we demonstrate that the maternal immunization of female zebrafish with formalin-killed Aeromonas hydrophila causes a significant increase in C3 and Bf contents in the mother, a corresponding rise in the offspring, and induces a remarkable increase in the hemolytic activities in both the mother and offspring. In addition, the embryos derived from the immunized mother are significantly more tolerant to A. hydrophila challenge than those from the unimmunized fish, and blocking C3 and Bf activities by injection of the antibodies against C3 and Bf into the embryos render them more susceptible to A. hydrophila. These results clearly show that the protection of zebrafish embryos against A. hydrophila can be achieved by the maternally-transferred immunity of the complement system operating via the alternative pathway. This appears to be the first report providing in vivo evidences for the protective role of the alternative complement components in the early embryos of zebrafish, paving the way for insights into the in vivo function of other maternally-transferred factors in fish.
【语种】英文
【第一作者】Wang, Zhiping
【通讯作者】张士璀
【期刊名称、卷期、页码】PLoS One. 2009;4(2):e4498.
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【学科分类】免疫学

【题目】Responses of alternative complement expression to challenge with different combinations of Vibrio anguillarum, Escherichia coli and Staphylococcus aureus: evidence for specific immune priming in amphioxus Branchiostoma belcheri
【中文关键词】文昌鱼;补体;免疫刺激
【英文关键词】Amphioxus; Lancelet; Branchiostoma; Complement; Immunological priming
【中文摘要】关于特异性免疫在第二次被侵染的保护作用在无脊椎动物中的存在仍然存在争议。通过探索文昌鱼的C3和C6,这两个关键基因涉及可选择的补体途径,在不同的3种细菌的侵染下的表达模式的改变,显示了重新暴露在相同的细菌中导致文昌鱼C3和C6的一个重要的上升。并且在第二次表达时表达最高峰比第一次要提前。相反,重新暴露在不同的细菌中没有这样的反应。这些特征显示了和脊椎动物中的免疫记忆相类似的现象,说明文昌鱼有区分不同微生物的能力。另外,我们的结果第一次第一次建立了可选择补体途径和特异性免疫之间的联系

【英文摘要】The existence of specific immunological priming in protection upon secondary exposure in invertebrates remains controversial. By exploring the changes in the expression patterns of Bf, C3 and C6, key genes involved in the alternative complement pathway (AP), after challenge with different combinations of three bacteria Vibrio anguillarum, Escherichia coli and Staphylococcus aureus, we show that re-exposure to the same species of bacteria or the different species of the same (Gram-negative or Gram-positive) class of bacteria results in a significant increase in the expression of Bf, C3 and C6, and an earlier occurrence of gene expression peak compared with the first exposure in amphioxus Branchiostoma belcheri; in contrast, re-exposure to the different class of bacteria did not induce such responses. These characteristics appear to bear some analogy to the immunological memory in vertebrates, suggesting that amphioxus B. belcheri possesses the ability to discriminate between classes of microorganisms. Moreover, our results for the first time establish a link between the alternative complement components and the specific immune priming.
【语种】英文
【第一作者】Wang, Guangfeng
【通讯作者】张士璀
【期刊名称、卷期、页码】Fish Shellfish Immunol. 2009 Jan;26(1):33-9
【论文发表时间】2009-01-28 00:00:00
【引文索引类型】SCI
【引文索引号】2.6401570001e+011
【学科分类】免疫学

【题目】Structural analysis of SNARE motifs from sea perch, Lateolabrax japonicus by computerized approaches
【中文关键词】鲈鱼;SNARE蛋白;7S核复合体;蛋白结构分析
【英文关键词】sea perch; SNARE proteins; motif; 7S core complex; protein structure analysis
【中文摘要】三个cDNA序列编码4个SNARE motif在鲈鱼中被克隆,并且翻译的氨基酸序列用来进行结构预测用14个不同的网站和软件。SNARE 7S核复合体的离子层结构,三维延伸和构象特点用生物数学的方法来比较。结果显示鱼类SNARE核复合体的形式和稳定性可能被氢键所驱动,这揭示了SNARE蛋白在鱼内的反应可能有和哺乳动物相同的分子机制,显示了SNARE核复合体理论的普遍性和可靠性。这项工作也显示了一个可能性,用计算机的方法得到蛋白的3D结构信息
【英文摘要】Three cDNA sequences encoding four SNARE (N-ethylmaleimide-sensitive fusion protein attachment protein receptors) motifs were cloned from sea perch, and the deduced peptide sequences were analyzed for structural prediction by using 14 different web servers and softwares. The "ionic layer" structure, the three dimensional extension and conformational characters of the SNARE 7S core complex by using bioinformatics approaches were compared respectively with those from mammalian X-ray crystallographic investigations. The result suggested that the formation and stabilization of fish SNARE core complex might be driven by hydrophobic association, hydrogen bond among R group of core amino acids and electrostatic attraction at molecular level. This revealed that the SNARE proteins interaction of the fish may share the same molecular mechanism with that of mammal, indicating the universality and solidity of SNARE core complex theory. This work is also an attempt to get the protein 3D structural information which appears to be similar to that obtained through X-ray crystallography, only by using computerized approaches.
【语种】英文
【第一作者】Chen, Kui
【通讯作者】黄晓航
【期刊名称、卷期、页码】Comput Biol Chem. 2007 Oct;31(5-6):378-83
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【引文索引号】2.5091240001e+011
【学科分类】免疫学

【题目】Molecular cloning and tissue expression patterns of a small conductance calcium-activated potassium channel gene in turbot (Scophthalmus maximus L.)
【中文关键词】大菱鲆 钾离子通道 与免疫
【英文关键词】Calcium-activated potassium channel; Gene expression; Immune response; Turbot
【中文摘要】细胞膜上钙激活的钾通道使得钾离子流入细胞,同时造成膜电势的变化以及随之而来的细胞代谢功能的变化。最近有报道钾离子通道可调控哺乳动物免疫细胞的反应。本研究中报道了鱼类免疫细胞中的钾离子通道及其与免疫功

能的关系。从大菱鲆血清中克隆了新的钙激活的钾通道TSKCa。此基因长1698bp,编码544个氨基酸,其表达于几乎所有组织中。用鳗弧菌处理大菱鲆后发现头肾、脾脏和血液表达较高,而肠道和肝脏中没有明显变化,说明前者与免疫相关

【英文摘要】Calcium-activated potassium channels on plasma membrane enable potassium influx into the cell with ensuing changes in plasma membrane potential and consequent effects on cellular metabolic functions. Recently, this potassium channel was reported to regulate the cellular responses of mammalian immune cells. We have postulated the presence of such a channel in fish immune cells and its potential role in immunoregulation in fish. Employing specific primers and RNA template, we cloned a segment of novel gene from turbot blood sample and subsequently obtained a full cDNA sequence using RACE approaches. Bioinformatic analysis revealed structural and phylogenetic characteristics of a novel small conductance calcium-activated potassium channel gene, we called TSKCa, which exhibits homologous domains to other species particularly in the transmembrane regions. Full-length TSKCa cDNA is 1698 bp with a 1632 bp open reading frame encoding a protein of 544 amino acids. TSKCa gene is expressed in majority of the tested organs and tissues of turbot. To assess the postulated immune function of TSKCa, we infected turbot with the pathogen Vibrio anguillarum. Here, semi-quantitative RT-PCR analysis demonstrated increased mRNA expression of TSKCa in head kidney, spleen and blood, indicating an important role of TSKCa in these organ tissues that mediate the immune defense response of turbot. In contrast, there was less change in expression in the turbot intestines and liver which were less implicated in the immune response in present study.

【语种】英文

【第一作者】Cong, Bailin

【通讯作者】黄晓航

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【学科分类】免疫学

【题目】Interleukin-1beta gene in orange-spotted grouper, Epinephelus coioides: molecular cloning, expression, biological activities and signal transduction

【中文关键词】IL-1 beta; 橙色斑点石斑鱼; 基因结构; 组织分布; 重组蛋白; 信号转导

【英文关键词】IL-1 beta; orange-spotted grouper; gene organization; tissue distribution; mitogen; recombinant protein; signal transduction

【中文摘要】IL-1β,一个关键的炎症中介,通过启动基因表达协调各种免疫反应。在此,我们克隆得到在橙色斑点石斑鱼(Epinephelus coioides) IL-1β的序列,在大肠杆菌中表达可溶性成熟重组IL-1β蛋白,并鉴定了其生物学特性和下游转导信号。石斑鱼IL-1β cDNA全长1364个碱基,包含一个765个碱基的开放阅读框。这个预测蛋白含有254个氨基酸,存在IL-1家族特征序列位点,并且确实常规的ICE剪切位点。系统发生分析表明石斑鱼IL-1beta聚集成一组,与硬骨鱼的鲈形目相近,与哺乳动物相距较远。IL-1beta组分布在几乎所有的检测组织中,当在PBL中添加LPS或Poly I:C刺激后表达量倍增。原核表达的rIL-1beta明显的刺激头肾细胞增殖,促进IL-1beta和COX-2基因表达。另外,p38 MAPK抑制剂(SB203580)和JNK抑制剂(SP600125)都能减少rIL-1beta蛋白诱导的IL-1beta和cox – 2的表达。综上所述,目前的研究表明,石斑鱼IL-1beta和哺乳动物一样可能会起到重要作用在石斑鱼的免疫系统和激活类似下游级联反应

【英文摘要】IL-1beta, a key mediator of inflammation, orchestrates a variety of immune responses by initiating gene expression. Herein, we have cloned and sequenced the IL-1beta in orange-spotted grouper (Epinephelus coioides), produced soluble mature recombinant IL-1beta in Escherichia coli, and characterized its biological properties and downstream signal transduction. The grouper IL-1beta cDNA was 1364bp in length, containing an open reading frame of 765bp. The predicted protein of 254 amino acids revealed the presence of the IL-1 family signature motif and the absence of a conventional ICE cut site. Phylogenetically, the grouper IL-1beta clustered closely with those of teleost belonging to Perciformes and apart from those of mammals. The grouper IL-1beta was constitutively expressed in almost all tissues examined, and was augmented in PBL after the addition of LPS or Poly I:C in vitro. The prokaryotically produced rIL-1beta significantly stimulated the proliferation of grouper head kidney cells, and activated gene expression of IL-1beta and COX-2. Moreover, the rIL-1beta-induced IL-1beta and COX-2 expression were reduced by p38 MAPK inhibitor (SB203580) and JNK inhibitor (SP600125), respectively. Taken together, the present study indicated that grouper IL-1beta may have an important role in grouper immune system and activate similar downstream cascades as its mammalian counterparts.

【语种】英文

【第一作者】Lu, Dan-Qi

【通讯作者】林浩然

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【引文索引类型】SCI
【引文索引号】2.522324e+011
【学科分类】免疫学

【题目】Analyzing S-Adenosylhomocysteine Hydrolase Gene Sequences in Deuterostome Genomes
【中文关键词】SAHH;文昌鱼;外显子;系统进化分析
【英文关键词】Sahh, amphioxus exon phylogenetic analysis
【中文摘要】本文就海胆,两个文昌鱼,海鞘和八个脊椎动物的S—腺苷高半胱氨酸水解酶(SAHH)基因序列进行比较分析。尽管SHAA蛋白序列在这些物种中非常保守,他们的核苷酸序列差别很大,从文昌鱼的5446个碱基到斑马鱼的40174个碱基。一部分物种长度的差异主要是由于不同的外显子基因引起的。SAHH基因在文昌鱼(或者海胆)、海鞘和脊椎动物中分别由八、九、十个外显子组成。序列比对表明,外显子3在文昌鱼和海胆类似于外显子3 + 4在脊椎动物中,外显子5在文昌鱼和海胆类似于外显子5 + 6在海鞘中,这两个外显子结合成脊椎动物的外显子6。此外,外显子7在海鞘类似于外显子7 + 8在脊椎动物,表明SAHH基因外显子分裂和外显子融合事件在后口的演化过程已经发生。在文昌鱼中,活性的位点和NAD +结合位点位于外显子2 7,在脊椎动物的进化过程分散到更多外显子。推测SAHH基因十个外显子的结构发生在无脊椎动物和脊椎动物分离后。同义突变和非同义替代分析表明, 在SAHH基因演变中负选择起着主导作用。进化分析表明,基因SAHH在文昌鱼,海胆和海鞘形成一枝,位于进化树底部,这表明它们是脊椎动物SAHH基因的原型。
【英文摘要】S-adenosylhomocysteine hydrolase (SAHH) gene sequences of sea-urchin, two amphioxus, sea-squirt and eight vertebrates are comparatively analyzed in the current analysis. Although SAHH protein sequences are highly conserved in these species, their nucleotide sequences are much different, ranging from 5,446 bp in amphioxus to 40,174 bp in zebra fish. The length divergence is mainly caused by distinct introns in some species. SAHH genes in amphioxus (or sea-urchin), sea-squirt and vertebrates are composed of eight, nine and ten exons, respectively. Sequence alignment shows that exon 3 in amphioxus and sea-urchin is similar to exons 3 + 4 in vertebrates, exon 5 in amphioxus and sea-urchin is similar to exons 5 + 6 in sea-squirt, and the two exons are fused into exon 6 in vertebrates. Furthermore, exon 7 in sea-squirt is similar to exons 7 + 8 in vertebrates, indicating that exon-fission and exon-fusion events have been taken place during the evolution of deuterostome SAHH genes. Active sites and NAD+-binding sites are located in exons 2 7 in amphioxus, which are dispersed into much more exons along with the evolution of vertebrates. It is speculated that ten-exon organization of SAHH gene occurred after the separation of invertebrates and vertebrates. Synonymous and non-synonymous substitution analysis shows that negative selection plays a dominant role in the evolution of SAHH genes. Phylogenetic analysis shows that SAHH genes in amphioxus, sea-urchin and sea-squirt form a cluster and locate at the base of neighbor-joining tree, suggesting that they are the archetype of vertebrate SAHH genes.
【语种】英文
【第一作者】Zhao, Jing-Nan
【通讯作者】赵博生
【期刊名称、卷期、页码】J Biomol Struct Dyn. 2009 Dec;27(3):371-80.
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【引文索引号】2.7130630001e+011
【学科分类】免疫学

【题目】DEAE-Sephacel和DEAE-Sepharose-FF对牛肉中Calpains分离纯化的比较研究
【中文关键词】钙激活酶, 离子交换层析, 分离纯化
【英文关键词】"Calpain activities ; ion- exchange chromatography;
abruption and purification"
【中文摘要】"本文通过DEAE 离子交换层析对牛背长肌中钙激活酶(Calpains) 的分离研究, 比较了DEAE- Sepharose- FF 和DEAE- Sephacel 对钙激活酶(Calpains) 的分离效果, 确定了Calpains 分离纯化的条件。"
【英文摘要】"The objective of this experiment was to s tudyCalpains activities of bovine M. longis s imus and findconditions of purification of Calpain sys tem by ion -exchange chromatography. "
【语种】中文

【第一作者】许永平
【通讯作者】罗欣
【期刊名称、卷期、页码】食品工业科技2007,28(05): 176-177
【论文发表时间】2006-11-27 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】食品科学技术基础学科

【题目】低压电刺激和冷却方式对猪肉品质特性的影响
【中文关键词】"低压电刺激,常规冷却,二阶段冷却,肉汁损失,煮制损失,剪切力"
【英文关键词】low voltage electrical stimulation;conventionally chilling;two stage chilling;drip loss;cooking loss;shear force.
【中文摘要】"本文研究了低压电刺激和冷却方式对猪肉品质特性,包括背最长肌温度、肉汁损失、煮制损失和剪切力的影响"
【英文摘要】The reseach was to study the effects of low voltage electrical stimulation,chilling on pork quality characteristics.
【语种】中文
【第一作者】张文红
【通讯作者】彭增起
【期刊名称、卷期、页码】食品工业科技,2006,(7),89-92
【论文发表时间】2005-12-05 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】食品加工技术

【题目】如皋火腿中挥发性N-亚硝胺种类和含量分析
【中文关键词】N - 亚硝基化合物;N - 亚硝胺;如皋火腿
【英文关键词】N-nitroso compound;N-nitrosamine;Rugao ham
【中文摘要】本文主要研究如皋火腿中挥发性N- 亚硝胺种类和含量分析。
【英文摘要】The research was to analysis the Style and Contents of Volatile N-nitrosamines in Rugao Ham.
【语种】中文
【第一作者】魏法山
【通讯作者】徐幸莲
【期刊名称、卷期、页码】食品科学,2008,(5):400-404
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【引文索引类型】其他
【引文索引号】null
【学科分类】食品科学技术基础学科

【题目】膜下小管出流压砂地西瓜水肥耦合产量效应研究
【中文关键词】压砂地; 西瓜; 水肥耦合; 生产效应;
【英文关键词】gravel mulched field; watermelon; water and fertilizer coupling; production effect
【中文摘要】采用三因素五水平二次回归通用旋转组合设计方法进行了试验研究,得出了宁夏中部干旱带压砂地西瓜小管出流条件下,不同灌水量、施油渣量和施复合肥量与产量的回归模型,并进行了主因素效应、单因素效应和交互作用分析。研究结果表明:在本试验条件下各因素对产量影响的顺序为灌水定额(x1)>施油渣量(x2)>施复合肥量(x3),通过交互作用分析可知,施油渣量与灌水量较高的组合产量较高。经模型寻优,求出了不同目标产量下的水、油渣、复合肥最佳组合方案,可以为宁夏中部干旱地区压砂地西瓜补灌和施肥提供参考。 更多还原
【英文摘要】The quadratic regression general rotary combination design method with three factors and five levels is adopted to carry out experiment research in this paper.And the regression model of gravel-mulched field watermelon production effect with irrigation quota,the amount of oil residue and compound fertilizer under the condition of small pipe outflow irrigation under plastic film in central arid region of Ningxia is established.The main effect,single factor effect and interaction are studied,too.The results show that the

order from large to little of influence on yield is irrigation quota,the amount of oil residue,compound fertilize,subsequently.Through interaction analysis,it can be found that the yield is higher when the amounts of oil residue and irrigation quota are higher.The optimal combination schemes of water with oil residue and compound fertilizer under different yields are obtained through model optimization.This will provided consultation for supplied irrigation and fertilization of gravel mulched field watermelon in central arid region of Ningxia.
【语种】中文
【第一作者】马波
【通讯作者】田军仓
【期刊名称、卷期、页码】节水灌溉,2009年第10期,6-9页
【论文发表时间】2009-10-01 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】水利工程其他学科

【题目】空气集热器与厂房一体化的太阳能牧草干燥成套设备的研究
【中文关键词】太阳能;空气集热器;厂房;一体化
【英文关键词】null
【中文摘要】为了解决我国牧草干燥技术中的这一瓶颈问题,我们开展了全面的研究工作,采用了独创的将太阳能空气集热器与厂房进行一体化设计,并获得成功。这使利用太阳能干燥牧草的技术上了一新的台阶,同时将改变牧草干燥落后的现状,太阳能干燥牧草将大大减少环境污染,降低能耗,并干燥出高质量的牧草,展示出良好的推广应用前景。
【英文摘要】无
【语种】中文
【第一作者】王强
【通讯作者】王强
【期刊名称、卷期、页码】《2010 年国际农业工程大会》2010.09
【论文发表时间】2010-09-01 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农业工程

【题目】工厂化太阳能草捆干燥设备的自动控制系统
【中文关键词】太阳能干燥;自动控制系统;触摸屏嵌入式电脑和PLC
【英文关键词】null
【中文摘要】利用嵌入式电脑作为上位机,PLC 作为现场控制部件的工厂化牧草干燥设备的自动控制系统,为利用太阳能干燥牧草的工艺实现,提供了多样的工艺模式和操作方式的选择,使得使用者和设计研究人员能够随心所欲的设计干燥的流程和实验的方案,使得干燥的过程能够快速、节能。在线可以测量数据,为研究干燥过程的复杂机理,改进和设计更加合理的干燥流程提供了可靠的基础信息。
【英文摘要】无
【语种】中文
【第一作者】张欣
【通讯作者】张欣
【期刊名称、卷期、页码】《2010 年国际农业工程大会》2010.09
【论文发表时间】2010-09-01 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农业工程

【题目】兔肌球蛋白热诱导凝胶过程中的物理化学变化 .
【中文关键词】肌球蛋白;凝胶;物化特性

【英文关键词】myosin;gelation;physico-chemical characteristics
【中文摘要】本文主要研究在pH6.5、高离子强度(0.6mol/L KCl)下兔肌球蛋白热诱导凝胶过程中的物理化学特性的变化。
【英文摘要】"The research was to study the mechanism of heat-induced gelation of myosin was investigated by studying physico-chemical changes of rabbitmyosin during at pH 6.5, high ionic strength of 0.6mol/L KCl."
【语种】中文
【第一作者】曾宪明
【通讯作者】徐幸莲
【期刊名称、卷期、页码】食品科学,2008,(4):149-153
【论文发表时间】2009-01-22 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】食品科学技术基础学科

【题目】9YFZ-1.9 型自走式方草捆捡拾压捆机的研制
【中文关键词】自走式方草捆压捆机;饲草;压捆
【英文关键词】null
【中文摘要】研制开发了一种9YFZ-1.9型自走式方草捆捡拾压捆机。主要适用于割倒后田间晾晒降到一定含水率的草条进行捡拾和压捆,也可通过更换割台对站立稻杆进行切割、捡拾和打捆。该机作业转弯半径小,适合于各种种植面积的草场进行饲草的捡拾打捆作业,具有不受地理和气候条件限制、适应性强、工作效率高、饲草损失率小、作业效果好、工作运行平稳、安全系数大、易于调整和操作维护、主要易损件耐久性强等优点,一人操作,省工省力。
【英文摘要】无
【语种】中文
【第一作者】杜建强
【通讯作者】杜建强
【期刊名称、卷期、页码】《2010 年国际农业工程大会》2010.09
【论文发表时间】2009-09-01 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农业工程

【题目】PIC 单片机在农业机械控制系统上的应用研究
【中文关键词】单片机 灵活控制 屏蔽执行元件干扰 继电器
【英文关键词】null
【中文摘要】现代农业机械发展的基本形式是融合机械、电控、液压于一体。本文主要研究电控部分,设计了基于PIC 单片机的控制系统。该系统利用继电器隔离技术,屏蔽了执行元件(电磁阀)对控制模块的干扰,提高了控制系统的稳定性。通过编程可以解决生产生活中很多自动控制问题。此外,通过扩展其他模块,可以和PIC 单片机进行并、串行通信,还可以进行温度、A/D 转换及D/A 转换的分析、处理。
【英文摘要】无
【语种】中文
【第一作者】李志杰
【通讯作者】李志杰
【期刊名称、卷期、页码】《2010 年国际农业工程大会》2010.09
【论文发表时间】2009-09-01 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农业工程

【题目】不同加工对鸭肉滋味成分的作用研究

【中文关键词】鸭肉;加工;滋味成分
【英文关键词】duck meat;processe;taste compounds
【中文摘要】本文主要采用高效液相色谱和氨基酸自动分析仪分析比较了不同加工鸭肉的滋味成分
【英文摘要】"The research was to taste compounds of different processed duck meats were analyzed by high performance liquid chromatography(HPLC) and amino acid auto-analyzer."
【语种】中文
【第一作者】刘 源
【通讯作者】刘 源
【期刊名称、卷期、页码】食品科学,2008,(3):127-130
【论文发表时间】2008-03-12 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】食品加工技术

【题目】9CJ-3.0 型散草捡拾运输车捡拾器的原理分析
【中文关键词】畜牧业机械 散草捡拾运输车 捡拾器 喂入器
【英文关键词】null
【中文摘要】9CJ-3.0型散草捡拾运输车是由中国农业机械化科学研究院呼和浩特分院国家草原畜牧业装备工程技术研究中心自主开发的新产品。该产品借鉴过去科研成果中的成熟技术,吸收了国外设备适合我国生产条件的相关技术,以可靠性指标作为主攻方向,使主要经济指标和总体质量水平接近或达到国外同类产品水平,而性价比则优于进口产品。本文对9CJ-3.0型散草捡拾运输车的关键部件—捡拾器和喂入器的原理进行了着重介绍。
【英文摘要】无
【语种】中文
【第一作者】马赛
【通讯作者】马赛
【期刊名称、卷期、页码】《2010 年国际农业工程大会》2010.09
【论文发表时间】2009-09-01 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农业工程

【题目】金华火腿现代化工艺过程中失重情况研究
【中文关键词】金华火腿;失重;现代化工艺
【英文关键词】Jinhua ham;weight loss;modern technology
【中文摘要】本文采用现代化工艺加工金华火腿,研究了不同原料腿加工过程中的失重变化规律
【英文摘要】"The research was to study the effects of green ham type on changes of weight loss duringprocessing."
【语种】中文
【第一作者】柳艳霞
【通讯作者】赵改名
【期刊名称、卷期、页码】食品科学,2008,29(8):145-150
【论文发表时间】2008-05-25 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】食品加工技术

【题目】甘蔗遗传转化中膦丝菌素(PPT)筛选效率的比较
【中文关键词】甘蔗;筛选效率;转化
【英文关键词】sugarcane
【中文摘要】从PCR检测水平评价了PPT在再生过程,再生植株喷施和体外浸泡中筛选方法的效率,结果表明PPT浸泡方式效率最高,能够准确鉴定出转Bar基因甘蔗

【英文摘要】Bar gene as a common marker is widely used in transgenic sugarcane. The research was conducted to evaluate the screening efficiency of PPT used at the stage of regeneration and the regeneration plants by spraying or in vitro soaking. The results showed that the highest screening efficiency was found in the regenerated plants by soaking in vitro which could accurately identify the transgenic sugarcane mediated with Bar gene.
【语种】中文
【第一作者】王继华
【通讯作者】张木清
【期刊名称、卷期、页码】中国糖料
【论文发表时间】2011-06-01 00:00:00
【引文索引类型】其他
【引文索引号】S566.101 Q78
【学科分类】农艺学

【题目】Cloning and identification of promoter Prd29A and its application in
【中文关键词】甘蔗;RD29A启动子
【英文关键词】rd29A, promoter, Saccharum officinarum,
【中文摘要】RD29A 抗旱诱导启动子的使用
【英文摘要】The 420 bp upstream regulatory region of rd29A gene from Arabidopsis thaliana genome was amplified by PCR. Sequence analysis showed that it shared 100% identity with the reported rd29A promoter and contained several cisacting elements including dehydration responsive elements (DRE), ABA responsive elements (ABRE) and so on. The plant expression vector prd29A-S65T was constructed with this fragment linked up with green fluorescent protein (GFP) gene controlled by rd29A promoter, which was transferred to sugarcane callus by bombardment. The expressions of gfp in the transformed sugarcane callus and leaves treated with 6g/L PEG and 40%PEG, respectively, were detected by fluorescent microscope. The results showed that the expression vector had been transferred into sugarcane callus and GFP gene could be induced by PEG treatment. Through PCR analysis, 5 plants were identified to be the transgenic. At the same time, plant expression vector rd29a-dreb-hyg was constructed with this fragment linked up with DREB2B gene controlled by inducible promoter rd29A, which will lay the foundation for drought resistant transgenic breeding in sugarcane. Molecular analysis showed that the rd29a-dreb-hyg has been successfully integrated into corresponding sugarcane variety.
【语种】英文
【第一作者】吴杨
【通讯作者】张木清
【期刊名称、卷期、页码】Sugar Tech (2008) 10(1) : 36-41
【论文发表时间】2008-11-01 00:00:00
【引文索引类型】SSCI
【引文索引号】10.1007/s12355-008-0006-0
【学科分类】农艺学

【题目】转Bt 基因甘蔗的生理研究
【中文关键词】转基因甘蔗; 生理; 变化
【英文关键词】transgenic sugarcane; Bt gene
【中文摘要】选取3个含有Bt基因甘蔗株系进行光合系统和抗氧化系统的研究。转基因株系的净光合速率、胞间二氧化碳浓度、气孔导度、蒸腾速率和对照相比没有明显的差异;转基因株系中的SOD、POD、CAT和MDA的变化较小。结果表明:Bt基因的插入导致部分甘蔗的生理指标发生变化,不同的株系生理变化不一致。
【英文摘要】The photosynthetic system and antioxidant systems in three Bt transgenic sugarcane strains were studied. The changes of net photosynthetic rate, stomatal conductance, transpiration rate and intercellular CO2 concentration in the leaves of Bt transgenic sugarcane strains were not obviously different with non – transgenic sugarcane strains(ROC20). The SOD, POD, CAT activity and MDA content in transgenic sugarcane strains had a little change. The results showed that Bt gene in sugarcane partially led to the change of photosynthetic and antioxidant systems, and the physiological changes of different strains were inconsistent.
【语种】中文
【第一作者】王继华

【通讯作者】张木清
【期刊名称、卷期、页码】热带作物学报2011, 32(10): 1864-1867
【论文发表时间】2011-04-02 00:00:00
【引文索引类型】其他
【引文索引号】S566.101
【学科分类】农艺学

【题目】抗除草剂转基因甘蔗农艺性状调查
【中文关键词】转基因甘蔗;Bar基因
【英文关键词】transgenic sugarcane; Bar gene
【中文摘要】对5个抗草丁膦的转Bar基因甘蔗株系进行了田间农艺性状调查,结果表明:在外形上转基因株系和受体对照没有差异,在锤度、茎径、茎长等农艺性状上部分株系存在差异
【英文摘要】The research was conducted on evaluation the agronomic characteristics in 5 transgenic sugarcane lines mediated with Bar gene.The results showed that there were not differences in the shape between transgenic plants and its wild. However, there existed some differences in brix, stalk diameter, stalk length and other agronomic traits.
【语种】中文
【第一作者】王继华
【通讯作者】张木清
【期刊名称、卷期、页码】广东农业科学2011 年第9 期
【论文发表时间】2012-03-05 00:00:00
【引文索引类型】其他
【引文索引号】F566.1
【学科分类】农艺学

【题目】甘蔗△^1-吡咯啉-5-羧酸合成酶基因(P5CS)的克隆及其表达分析
【中文关键词】甘蔗;脯氨酸;△^1-吡咯啉-5-羧酸合成酶;荧光实时PCR
【英文关键词】sugarcane;P5CS
【中文摘要】△L吡咯琳一5一羧酸合成酶是植物脯氨酸合成过程的关键酶。应用同源性克隆结合RACE技术获得甘蔗P5CS基因cDNA全长序列2 714 bp,其中5 端非编码区为226 bp,3 端非编码区340 bp,poly(A)上游有1个聚腺苷酸五碱基AATAAA;开放读码框为2 148 bp编码715个氨基酸,含双功能域;其编码的蛋白分子量为77.7 ku,等电点为6.47。序列比对分析结果表明, cs基因的4个主要功能区(doraain)中亮氨酸功能区(Leucine domain)相对不保守.其它功能区均较为保守。对17个物种的P5CS基因进行聚类分析。结果与公认的生物学分类及进化关系吻合。对甘蔗P5CS在根、茎、叶的表达进行实时PCR分析,结果表明,该基因在茎、叶表达量相近,但在根的表达量极低
【英文摘要】Most plants synthesize and accumulate proline under osmotic stress. A pyrroline-5-carboxylate synthetase (PSCS) plays a key role for proline biosynthesis.The P5CS was obtained from sugarcane Saccharum officinarum L. through homology-based cloning and rapid amplification of cDNA ends (RACE). The full-length cDNA of P5Cs term ed as Sc-P5CS from sugarcane was 2714 bp,containing a 2148 bp open reading frame(ORF)that encoded a 715 amino acids protein,with a 226 bp UTR at the 5 end and a 340 bp UTR at the 3 end,and included 2 poly(A)signals at the 2 571st position.The molecular weight of Sc-PSCS was 77.7 ku.with a theoretical isoelectriec point of 6.47.The alignment of the sequences showed that the P5CS genes from different species were not conserved in the leucine domain,but were highly conserved in the other functional domains such as the ATP binding site,Glu-5-kinase domain,NAD(P)H binding site and GSA-DH domain.The phylogenetic tree of the P5Cs from 17 species was consistent with putative evolutionary relationships within these 17 species.The expression of the Sc-P5CS in roots,stalks and leaves of sugarcane seedling was analyzed by Real-time PCR.The result indicated that the expression of the Sc-PSCS was very low in roots but normal in leaves and stems.This study provides theoretical basis of the molecular mechanism for Sc-PSCS regulation in sugarcane.
【语种】中文
【第一作者】张积森
【通讯作者】张木清
【期刊名称、卷期、页码】热带作物学报
【论文发表时间】2009-08-01 00:00:00

【引文索引类型】其他
【引文索引号】s566.1
【学科分类】农艺学

【题目】甘蔗水分胁迫响应的δ-鸟氨酸转氨酶基因克隆及分子特征分析
【中文关键词】甘蔗;水分胁迫;δ-鸟氨酸转氨酶;荧光实时PCR
【英文关键词】Saccharum officinarum L. water stress ornithine-δ-aminotransferase real-time PCR
【中文摘要】通过消减文库技术,结合cDNA芯片技术筛选到1个明显受水分胁迫诱导的EST序列(Ratio值为8.1),比对分析推测其为δ-OAT基因的片段,进而通过RACE结合PCR技术获得该基因全长cDNA序列为1782bp,其中5′端非编码区150bp,开放阅读框为1362bp,3′端非编码区为270bp且存在2个终止加A信号AATAA。预测其编码的蛋白质分子量为49.5ku,等电点为6.5,为一个跨膜蛋白。序列比对分析结果表明,δ-OAT基因家族N末端和C末端相对不保守,而主要功能区均表现保守。基因进化分析显示,单子叶禾本科植物和双子叶植物鸟氨酸转氨酶编码基因分别由各自祖先进化而来,而微生物的鸟氨酸转氨酶编码基因表现出复杂的进化关系。荧光实时PCR分析δ-OAT在根、茎、叶的表达,该基因在茎的表达较高,其次是叶而后为根,但没有明显的组织表达特异性。本文首次报道甘蔗δ-OAT基因克隆研究结果,为该基因的深入研究和应用奠定一定基础
【英文摘要】An obvious up-regulated EST of ornithine-δ-aminotransferase (δ-OAT) was obtained from Saccharum officinarum L. under drought treatment through cDNA microarray hybridization. The full-length cDNA of δ-OAT termed as Sc-δ-OAT from sugarcane was 1 782 bp, containing a 1 362 bp open readingframe(ORF) that encoded a 454 amino acid protein with 150 bp UTR in the 5′ and 270 bp UTR in the 3′, and included 2 poly(A) signals at 1 676 and 1 737 positions. The molecular weight of δ-OAT was 49.5 ku with a theoretical isoelectric point of 6.5, and was presumed to be a transmembrane protein. The alignmentof the sequences showed that the δ-OAT genes of different species were not conserved in N-terminal and C-terminal, but highly conserved in the functional domain. The expression of Sc-δ-OAT in roots, stalks and leaves of sugarcane seedling was investigated with Real-time PCR and found that it was higher in stalks, followed by leaves and roots, but not tissue specific. This study provides references for further studyof molecular mechanism for δ-OAT regulation in sugarcane.
【语种】中文
【第一作者】张积森
【通讯作者】张木清
【期刊名称、卷期、页码】热带作物学报
【论文发表时间】2009-08-04 00:00:00
【引文索引类型】其他
【引文索引号】S512.101
【学科分类】农艺学

【题目】斑茅SAMDC基因的克隆及其原核表达分析
【中文关键词】斑茅 samdc 表达载体构建 基因表达
【英文关键词】Erianthus arundinaceus SAMDC cDNA cloning vectors gene expression
【中文摘要】以斑茅(Erianthus arundinaceus)samdc基因的cDNA为基础,采用基因重组技术,将该基因按正确的阅读框架定向克隆于原核表达载体pET-29a(+)中,转化大肠杆菌BL21(DE3),用IPTG诱导表达,并对表达产物进行SDS—PAGE分析。结果表明:重组斑茅samdc基因在大肠杆菌中获得高效表达,其分子量约为43.281kDa。斑茅samdc基因原核表达载体的成功构建和重组斑茅SAMDC蛋白在大肠杆菌中的高效表达,为进一步研究其生物学功能奠定了基础
【英文摘要】Prokaryotic expression vector pET-SAMDC of Erianthus arundinaceus samdc gene cDNA was constructed by means of recombinant gene technology and expressed in Escherichia coil BL21 under induction of IPTG, the expressed products were detected by SDS-PAGE analysis. Result show: Recombinant samdc was efficiently expressed in E.coli BL21,it molecular weight

was about 43.281Kda. The successful construction of prokaryotic expression vector containing Erianthus arundinaceus samdc gene and effective expression of recombinant SAMDC in E.coli BL21 laid the foundation for further study on its biological function.

【语种】中文
【第一作者】蔡秋华
【通讯作者】张木清
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【引文索引号】Q78
【学科分类】农艺学

【题目】甘蔗斑茅属间远缘杂种真实性的ITS鉴定及其抗旱性分析
【中文关键词】甘蔗 抗旱 斑茅
【英文关键词】Saccharum L. drought resistance E. arundinaceum(Retz.) Jeswiet
【中文摘要】对甘蔗斑茅属间远缘杂种真实性进行ITS鉴定。同时在水分胁迫下对斑茅及其杂种后代的生理进行研究,参照已建立的甘蔗抗旱鉴定技术体系进行筛选和评价。结果表明:崖城96—40、崖21号、崖城01—3和崖城01—6等都是斑茅的真实杂种;海南92—105(斑茅)、崖城92—77(斑茅)都表现为高抗或特抗。可见斑茅具有很强的抗旱性
【英文摘要】
The genuine hybrids from the cross of Saccharum and E. arundinaceum were identified by ITS analysis, the physiological characteristics orE. arundinaceum and their hybrid progenies under water stress were studied and then screened and evaluated based on the techniques of identification for drought resistance in sugarcane. The results showed that Yacheng 96 - 40, Yacheng 21, Yacheng 01 - 3 and Yacheng 01 - 6 were all the real genuine hybrids from the cross of Saccharum and E. arundinaceum. Both Hainan 92 - 105 and Yacheng92- 77 showed high resistance, which indicated that E. arundinaceum has strong drought -resist-ance.
【语种】中文
【第一作者】吴水金
【通讯作者】张木清
【期刊名称、卷期、页码】江西农业大学学报
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【引文索引类型】其他
【引文索引号】S566.103.51
【学科分类】农艺学

【题目】外源ABA和乙烯利胁迫下斑茅ACO基因表达的实时PCR分析
【中文关键词】斑茅 1-氨基环丙烷-1-羧酸氧化酶基因(ACO基因) 脱落酸 乙烯利 实时荧光PCR
【英文关键词】Erianthus arundinaceus, 1-aminocyclopropane-l-carboxylate oxidase gene (ACO gene), abscisic acid (ABA), ethephon, Real-time fluorescence PCR
【中文摘要】研究了外源ABA和乙烯利胁迫处理对斑茅1-氨基环丙烷-1-羧酸氧化酶基因(ACO基因)表达情况的影响。在项目组克隆斑茅ACO基因的基础上,应用实时荧光PCR技术分析斑茅ACO基因在ABA、乙烯利胁迫下的表达。结果表明,斑茅ACO基因在ABA的胁迫下,在3h有微弱上调表达,而6h日寸明显抑制,其后表达趋向平缓;在乙烯利的胁迫下,ACO基因在前期受抑制,其后呈明显上调表达,在24h后ACO基因的表达趋向平缓。斑茅ACO基因的表达受乙烯利诱导,而不受外源ABA诱导
【英文摘要】
In order to study the molecular mechanism of A CO gene from Erianthus arundinaceum under exogenous ABA and ethephon stress. In this paper, based on the cloning of A CO gene in Erianthus arundi - naceus, the expression of A CO gene in Erianthus arundinaceus under ABA and ethephon treatments

was investigated by Real-time fluorescence PCR. The results showed that the expression of A CO gene was slightly up-regulated at the beginning and continuous inhibited, then became normal by ABA stress . Under the tr eatment of ethephon, the expression of A CO gene was prohibited at the earlier stage along with the subsequent continuous more obvious up-regulation. The results showed that the expression of A CO gene in Erianthus arundinaceus could be i nduced by ethephon, but not by ABA.

【语种】中文
【第一作者】郭春芳
【通讯作者】张木清
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【引文索引类型】其他
【引文索引号】S786
【学科分类】农艺学

【题目】蒸煮与微波加热对牛肉肌内脂肪中脂肪酸组成的影响
【中文关键词】牛肉;脂肪酸;蒸煮;微波加热
【英文关键词】beef;fatty acid;cooking;microwave heating
【中文摘要】"本文测定不同加工方式(蒸煮和微波加热)处理在不同中心温度水平(60、70、80 ℃) 条件下脂肪酸组成的变化。"
【英文摘要】The research was to determine fatty acids changes with beef cooked or microwave heated to different internal temperature (60 ℃, 70 ℃ or 80 ℃).
【语种】中文
【第一作者】陈银基
【通讯作者】陈银基
【期刊名称、卷期、页码】食品科学,2008,(2):130-136
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【引文索引类型】其他
【引文索引号】null
【学科分类】食品加工技术

【题目】充入N2和CO2对贮藏橙汁品质的影响研究
【中文关键词】充入;氮气;二氧化碳;贮藏橙汁;品质
【英文关键词】filling;N2;CO2;"Olinda"valencia orange juice;quality
【中文摘要】主要探讨充入N2 和CO2,并控制温度和压力条件下,贮藏橙汁的品质变化。研究结果表明:分别充入N2 或CO2 气体0.2、0.4MPa,15℃贮藏6个月,L值增加,a值、b值减少;与对照组比充气0.4MPa的两个处理组对色差值变化有一定抑制作用,橙汁可溶性固形物保存率在97%以上,菌落总数前期升高后期下降(总数<40CFU/ml),VC损失均小于6mg/100g,以0.4MPa、N2 组的损失最小,0.4MPa、N2 处理组主要香气成分保有量为1001μg/ml。由此可见,充气加压贮藏能够有效保持橙汁原有的风味和品质,综合各项指标测定结果以0.4MPa、N2处理组效果最好。
【英文摘要】“ Olinda ” Valencia orange juice was stored for 6 months in a container filled with N2 or CO2 to 0.2 or 0.4 MPa at 15 ℃. Quality changes of four “ Olinda ” valencia orange juice samples (sample P-1: N2, 0.4 MPa; sample P-2: CO2, 0.4 MPa; sample P-3: N2, 0.2 MPa; and sample P-4: CO2, 0.2 MPa) during the storage were investigated. A slight increase of L* value wasobserved in all the samples while the a* and b* values decreased dramatically. An obvious inhibition was found in color difference of the two orange juice samples stored under 0.4 MPa when compared to the control sample stored hermetically in a PET bottle at -5 ℃. Over 97% of soluble solids were preserved in the orange juice samples and the total bacterial count showed a changing trend of first increase and then decrease and the loss of vitamin C was less than 6 mg/100 g during the storage, which was the least in the sample P-1. The content of major aroma components in the sample P-1 was 1001 μg/ml. In general, the original quality and flavor of the orange juice can be preserved when stored under N2 or CO2 pressure environment.

【语种】中文
【第一作者】蒋和体
【通讯作者】蒋和体
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【论文发表时间】2009-07-16 00:00:00
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【引文索引号】null
【学科分类】食品包装与储藏

【题目】高浓度CaCl2溶液对某些肌原纤维蛋白的作用研究
【中文关键词】C a C l 2;肌原纤维骨架蛋白;降解
【英文关键词】calciumchloride;myofibrillar skeletal proteins;degradation
【中文摘要】"本文主要研究在不同高浓度CaCl2 溶液处理下肌球蛋白、肌动蛋白、α - 肌动素和肌钙蛋白-T队蛋白降解的影响。
【英文摘要】The research was to study the effects of high concentration of calcium chloride solution on myofibrillar proteins.
【语种】中文
【第一作者】汤晓艳
【通讯作者】汤晓艳
【期刊名称、卷期、页码】食品科学,2007,(12):117-121
【论文发表时间】2007-10-31 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】食品加工技术

【题目】南京板鸭生产过程中脂肪酶和磷脂酶的活力变化研究
【中文关键词】板鸭;酸性脂肪酶;中性脂肪酶;磷脂酶
【英文关键词】dry-cured duck;acid lipases;neutral lipases;phospholipase
【中文摘要】本文主要研究了板鸭生产过程中各工艺点样品肌肉中酸性脂肪酶、中性脂肪酶和磷脂酶活力的变化趋势。
【英文摘要】"The research was to study the changes of acid and neutral lipases activity, and phospholipase activity in the muscle of dry-cured duck duringprocessing ."
【语种】中文
【第一作者】徐为民
【通讯作者】周光宏
【期刊名称、卷期、页码】食品科学,2007,(11):302-305
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【引文索引类型】其他
【引文索引号】null
【学科分类】食品加工技术

【题目】超高压处理对橙汁品质影响研究
【中文关键词】超高压;橙汁;品质
【英文关键词】ultra high pressure;orange juice;quality
【中文摘要】研究比较超高压杀菌和热力杀菌处理对橙汁品质的影响。结果表明:超高压杀菌对橙汁色泽参数的影响程度较小(P>0.05);杀菌处理后,橙汁主要成分都出现程度不同的损失,但超高压杀菌处理橙汁主要成分的下降普遍低于热力杀菌处理;杀菌处理后,橙汁中挥发性风味组成成分发生变化,醇类、酯类、烃类总含量变化相对较少,醛类热杀菌与鲜榨橙汁比较无明显变化,而超高压杀菌与鲜榨橙汁相比醛类增加3倍以上。
【英文摘要】Two samples of orange juice were sterilized by ultra high pressure (UHP) and thermal treatments, respectively and their qualities were analyzed and compared by sensory and chemical evaluation. Less influence of UHP was observed on the color quality of orange juice (P < 0.05). Both the two sterilization ways led to the loss of main constituents in orange juice to different degrees. However, the decrease degree of main components in orange juice sterilized by UHP was lower than that by thermal treatment. After sterilization,

the relative contents of alcohols, ester and hydrocarbons in orange juice slightly decreased. There was no significant change in the relative content of aldehydes. However, the relative content of aldehydes in UHP-sterilized orange juice was more than three times higher than that in fresh orange juice.
【语种】中文
【第一作者】蒋和体
【通讯作者】蒋和体
【期刊名称、卷期、页码】食品科学,200930(17):24-29
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【引文索引号】null
【学科分类】食品包装与储藏

【题目】正压式气流排种器排种效果试验
【中文关键词】气流式,排种器,牧草种子,试验
【英文关键词】null
【中文摘要】为了探讨正压式气流播种器的排种均匀性,论文对具有有代表性的苜蓿种子、拨碱草种子和玉米种子进行了排种试验。结果表明,该排种器排种均匀性和通用性较好,对豆科牧草种子(苜蓿)、禾本科牧草种子(披碱草)和大田作物种子(玉米)均可较均匀的排种,且达到了行业标准要求。风速和喂入速度对各行排种量一致性交异系数v和总排种量变异系数V有显著影响,相关系数都高达0.97左右。最后,濮过优化试验方案,提出各种种子最佳工作条件:披碱草种子,喂入速度为470~500 g/rain,风速为27~30 m/s:莒苜蓿种子,喂入速度为505~525 g/min,对应的风速为30—33 m/s;玉米种子,喂入速度为5200^v5500〃min,风速为32~35 m/s。
【英文摘要】无
【语种】中文
【第一作者】李中华
【通讯作者】李中华
【期刊名称、卷期、页码】农业工程学报,2009
【论文发表时间】2009-09-01 00:00:00
【引文索引类型】EI
【引文索引号】s812.6
【学科分类】农业工程

【题目】不同工艺参数乳酸处理对猪肉肉色及去微生物污染的影响
【中文关键词】乳酸处理;猪肉肉色;大肠杆菌;沙门氏菌
【英文关键词】lactic acid treatment;pork color;Escherichia coli;Salmonella spp.
【中文摘要】本文主要研究了研究了不同工艺参数乳酸处理对猪肉肉色以及去微生物污染的影响。
【英文摘要】The research was to study the effects of different lactic acid treatments on pork color and microbial decontamination.
【语种】中文
【第一作者】孙京新
【通讯作者】周光宏
【期刊名称、卷期、页码】食品科学,2007,(11):276-270
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【引文索引号】null
【学科分类】食品加工技术

【题目】新型气力输送式免耕播种机的排种性能分析
【中文关键词】免耕 气力式排种器 均匀性
【英文关键词】null
【中文摘要】本文对国内外播种机具的发展现状及国外少免耕法的历史和现状做了简要介绍。牧草种子品种繁多、结构复杂,严重制约了牧草种子播种机具的研究和应用,本文介绍了一种新型气力输送式免耕播种机的结构及工作原理,着重分

析了该设备气流输送式排种装置的排种均匀性及各种类型种子播种的适应性。结果表明,该排种装置通用性良好,对牧草种子和大田作物种子均可较好的排种,其各项指标均达到了要求。
【英文摘要】无
【语种】中文
【第一作者】王振华
【通讯作者】王振华
【期刊名称、卷期、页码】中国农业机械学会2008年学术年会论文集
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【引文索引号】null
【学科分类】农业工程

【题目】肌球蛋白与胶原蛋白和明胶混合凝胶质构特性的研究
【中文关键词】肌球蛋白;胶原蛋白;明胶;质构特性 保水性
【英文关键词】myosin;collagenous protein;gelatin;textural properties;water holding capacity
【中文摘要】本文主要研究了肌球蛋白与胶原蛋白、肌球蛋白和明胶混合凝胶的质构特性和保水性。
【英文摘要】"Textural properties and water holding capacities(WHC) of myosin- collagenous protein and myosin-gelatin mixedgels were studied."
【语种】中文
【第一作者】杨玉玲
【通讯作者】周光宏
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【引文索引号】null
【学科分类】食品科学技术基础学科

【题目】中国甜橙果汁色泽的定量评价
【中文关键词】甜橙;果汁色泽;定量评价
【英文关键词】orange;juice color;quantitative evaluation
【中文摘要】色泽是甜橙及其橙汁的一项重要的感官指标,直接影响到消费者的选择。本研究采用国际公认的色差法定量测定我国主要甜橙产区目前栽培的具有代表性的94个甜橙样品果汁的色泽参数,建立了我国橙汁色泽特征数据库。统计结果表明:我国的甜橙果汁的色泽普遍高于36,优于美国和巴西的同类品种;不同品种、不同产区甜橙果汁色泽差异显著,但不同年度采收的甜橙果汁色泽差异不显著(P>0.05)。
【英文摘要】Color is very important sensory feature of oranges and orange juice, which directly affects the choice of consumers. Color parameters of orange juice made from 94 kinds of orange samples collected from major orange production area in China were quantitatively determined using chromatic aberration method to establish the color database for color properties of orange juice in China. Statistical analysis indicated that color values of orange juice in China were over 36 points, which was higher and better than that of orange juice from USA and Brazil. An obvious difference in color values of orange juice from different varieties and production areas was observed, however, the color values of orange juice produced in different years didn’t exhibit a significant difference (P > 0.05).
【语种】中文
【第一作者】韩燕
【通讯作者】吴厚玖
【期刊名称、卷期、页码】食品科学,2010,31(9):16-18
【论文发表时间】2010-05-06 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农产品贮藏与加工

【题目】鸡胸大肌中焦磷酸酶的分离纯化及特性研究
【中文关键词】鸡胸肉;焦磷酸酶;分离纯化;性质
【英文关键词】chicken breast;pyrophosphatase;isolation and purification;properties
【中文摘要】本文主要研究了鸡胸大肌中焦磷酸酶的分离纯化及特性研究。
【英文摘要】The research was to study on isolation and purification of pyrophosphatase from chicken breast and its properties.
【语种】中文
【第一作者】姚蕊
【通讯作者】彭增起
【期刊名称、卷期、页码】食品科学,2007,(7):299-304
【论文发表时间】2008-01-26 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】食品科学技术基础学科

【题目】9CJ-3 型散草捡拾运输车浅析
【中文关键词】散草捡拾运输车 捡拾器 喂入 切碎装置
【英文关键词】null
【中文摘要】设计了散草捡拾运输车的整机结构,阐述了散草车的工作原理、作业流程以及关键部件的结构设计等。整机主要由牵引杆、捡拾器、喂入切碎装置、车厢、装卸传输装置、液压系统、电器系统、传动系统和机架等组成,是一台高度自动化的饲草收获机械,可以完成从捡拾、切碎、装载、运输、到卸料等作业。通过切刀的灵活调整,实现了切碎长度的可调,提高了整机的经济性。
【英文摘要】无
【语种】中文
【第一作者】刘宝军
【通讯作者】刘宝军
【期刊名称、卷期、页码】《2010 年国际农业工程大会》2010.09
【论文发表时间】2010-09-01 00:00:00
【引文索引类型】其他
【引文索引号】S223.2+5
【学科分类】农业工程

【题目】雾化喷淋冷却对猪半胴体干耗及品质的影响
【中文关键词】雾化喷淋冷却;猪胴体;干耗;胴体品质
【英文关键词】spray-chilling;pig carcass;shrinkage;pork quality
【中文摘要】本文主要研究了不同持续时间(4、8、12、16h)的雾化喷淋冷却处理对猪半胴体干耗及各项品质指标的影响。
【英文摘要】The research was to study the effects of Spray-chilling on Carcass Shrinage and Pork Quality.
【语种】中文
【第一作者】张向前
【通讯作者】徐幸莲
【期刊名称、卷期、页码】食品科学,2007,(7):100-104
【论文发表时间】2006-08-06 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】食品加工技术

【题目】金华火腿发酵过程中微生物区系研究
【中文关键词】金华火腿;发酵;微生物区系变化;鉴定
【英文关键词】Jinhua ham;fermentation;microbal flora;identification

【中文摘要】"本实验对金华火腿传统工艺发酵过程中微生物的数量及种类的变化进行了较详细深入的研究,检测了一年中金华火腿表面和深部微生物的数量变化规律、微生物的种类,并检测了发酵过程中水分、含盐量和pH 值的动态变化。"
【英文摘要】"This experiment studied the microorganisms flora carefully during Jinhua ham fermentation. The numbers and varietiesof microorganisms were assayed regularly, and also the water, salt and pH as well."
【语种】中文
【第一作者】贺稚非
【通讯作者】贺稚非
【期刊名称、卷期、页码】食品科学.2008,29(1).-190-195
【论文发表时间】2006-11-04 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】食品加工技术

【题目】橙汁的果汁含量测定及与其6种特征指标相关性的比较
【中文关键词】橙汁, 6项特征成分, 果汁含量, 相关性
【英文关键词】orange juice; the six characteristic mark composition; juice content; correlation
【中文摘要】测定了19个橙汁样品的果汁含量,并比较了GB/T16771-19975橙、柑、桔汁及其饮料中果汁含量的测定6中所规定的6个特征指标(钾、总磷、氨基酸态氮、L-脯氨酸、D-异柠檬酸、总黄酮)含量与果汁含量的相关性。结果表明, 6个特征指标的含量和果汁含量都具有不同程度的相关性, 其中钾含量与果汁含量相关性最大, 相关系数达0.6873; 氨基酸态氮含量与果汁含量相关性最小, 相关系数为013768,但均未达到显著相关水平。
【英文摘要】The juice content of nineteen orange juice samples was determined, correlation between the six characteristic mark compositions(K, P, amino acid N, L-proline, D- isocitric, flavonoids) tested and juice content according to the national standard/ GB/T16771-1997 Determination of juice content in orange and mandarin juice and their drinks0was compared1The results showed that there were correlation indifferent degree between the six characteristic mark composition tested and juice content K and juice content in the samples had the maximum correlation with a coefficient 0.6873, and amino acid N and juice content in the samples had the minimum correlation with a coefficient013768, but all of them had not reached at significant level.
【语种】中文
【第一作者】杨秀佳
【通讯作者】吴厚玖
【期刊名称、卷期、页码】食品工业科技,2010,31(1):384-387
【论文发表时间】2010-01-05 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农产品贮藏与加工

【题目】确定食品关键风味化合物的一种新方法:“ ROAV ”法
【中文关键词】关键风味化合物;方法;如皋火腿
【英文关键词】key odor compounds;method;Rugao Ham
【中文摘要】"本文主要用新定义的指标“ ROAV ”量化评价各组分对如皋火腿总体风味的贡献程度,进而确定关键风味化合物。"
【英文摘要】The research use a new method for determining key odor compounds of rugao ham.
【语种】中文
【第一作者】刘登勇
【通讯作者】周光宏
【期刊名称、卷期、页码】食品科学,2008,29(7):370-374
【论文发表时间】2007-11-30 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】食品科学技术基础学科

【题目】金华火腿生产过程中脂质氧化及脂肪氧合酶变化特点研究
【中文关键词】干腌火腿;金华火腿;脂肪氧化;脂肪氧合酶
【英文关键词】dry-cured ham;Jinhua ham;lipid oxidation;lipoxygenase
【中文摘要】"本文主要研究了不同成熟天数TBA 值、羰基值、共轭二烯值及脂肪氧合酶活力的变化,同时用响应曲面法研究加工过程中主要因子对脂肪氧合酶活力的影响。"
【英文摘要】"The research was to analyze the changes of TBA value, carbonyl value, conjugateddiene value and lipoxygenase activity, while the effects of main influencing factors on the lipoxygenase activity were studiedusing response surface methodology."
【语种】中文
【第一作者】郇延军
【通讯作者】周光宏
【期刊名称、卷期、页码】食品科学,2008,29(3):60-65
【论文发表时间】2008-02-21 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】食品加工技术

【题目】免耕播种机的中央排种槽轮装置
【中文关键词】气力式;免耕;中央排种槽轮装置;适应性
【英文关键词】null
【中文摘要】为了广泛应用于大田作物种子和牧草种子等多种作物的免耕播种作业。农机院工程师通过反复试验研制出了带有浮动槽轮的中央排种槽轮装置,这种分配器在气流作用下能够均匀分配种子进入输送管,流动性好,不易产生管内的堵塞。因此带有浮动槽轮的中央种子分配器更加适应免耕播种机的排种机构要求。在9BQM-3.0型气力输送式免耕播种机上首次应用了这种装置。本文对新型气力输送式免耕播种机的播量调整机构做了详尽的介绍。
【英文摘要】无
【语种】中文
【第一作者】李文广
【通讯作者】李文广
【期刊名称、卷期、页码】《中国农机学会畜牧机械分会2009 年学术年会》2009.10
【论文发表时间】2009-10-01 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农业工程

【题目】鲜橙汁冷藏期间色泽变化研究
【中文关键词】冷藏;橙汁色泽参数;类胡萝卜素;VC
【英文关键词】orange juice;color change;refrigerated storage;carotenoids;VC
【中文摘要】在4℃条件下贮藏鲜橙汁12周期间,橙汁的红绿值a*、色泽指数OJ值减小,亮度值L*、黄蓝值b*,饱和度C*以及色调Hue增大,ΔE*值显著增大(P<0.05),橙汁色泽显著变差。同时,橙汁中类胡萝卜素和VC含量不断降低,褐变指数上升。橙汁色泽参数变化与类胡萝卜素和VC含量的变化呈显著正相关,与褐变指数呈显著负相关。在4℃冷藏条件下贮藏鲜橙汁,其色泽的保质期为7~9周。
【英文摘要】Orange juices derived from 3 orange cultivars were stored at 4 °C for 12 weeks, and their color, carotenoids and vitamin C contents were determined at intervals of 2 weeks. Color changes of the orange juices and their possible relationships with the changes of carotenoids and ascorbic acid contents were investigated. Results showed that during storage, CIE1976 a* value (red-green) and OJ value decreased and CIE1976 L* value (brightness), b* value (yellow-blue), C* and Hue values increased, and overall color change (ΔE*) increased significantly (P < 0.05). Simultaneously, the content of carotenoids and vitamin C decreased and browning index increased. The color of orange juice was significantly positively correlated with the content of carotenoids and vitamin C, and significantly negatively correlated with the browning index. From the viewpoint of color, the expiration time of the orange juices is 7-9 weeks.

【语种】中文
【第一作者】韩燕
【通讯作者】吴厚玖
【期刊名称、卷期、页码】食品科学,2010,31(2):269-272
【论文发表时间】2010-01-18 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农产品贮藏与加工

【题目】太阳能草捆干燥技术在牧草烘干领域中的应用前景
【中文关键词】太阳能 牧草 草捆 干燥
【英文关键词】null
【中文摘要】依据我国的实际情况,从对牧草的需求、我国的草原资源、太阳能资源和目前我国牧草干燥的方法和工艺等几方面分析,来阐述在我国太阳能草捆干燥技术在牧草烘干领域中的应用前景。
【英文摘要】无
【语种】中文
【第一作者】杜建强
【通讯作者】杜建强
【期刊名称、卷期、页码】《中国农机学会畜牧机械分会2009 年学术年会》2009.09
【论文发表时间】2009-10-01 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农业工程

【题目】冷冻贮藏过程中温度波动对猪肉肌间冰晶、颜色和新鲜度的影响
【中文关键词】温度波动;冰晶;颜色;挥发性盐基氮;硫代巴比妥酸还原值
【英文关键词】temperature fluctuation;ice crystal;color;TVB-N;TBARS
【中文摘要】本文主要研究了冻藏过程中温度波动对猪肉肌间冰晶、颜色和新鲜度的影响。
【英文摘要】The research was to study the effects of temperature fluctuation on ice crystal, color and quality of pork muscle during frozen storage .
【语种】中文
【第一作者】黄鸿兵
【通讯作者】徐幸莲
【期刊名称、卷期、页码】食品科学,2006,(8),49-52
【论文发表时间】2005-09-14 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】食品加工技术

【题目】绒山羊皮肤毛囊的研究进展与前景
【中文关键词】绒山羊; 毛囊; 研究进展
【英文关键词】cashmere goat; hair follicle; research progress
【中文摘要】作者从绒山羊毛囊的结构特征、发育规律、体外培养、毛囊干细胞及毛囊发育相关的基因等方面概述了目前国内外绒山羊皮肤毛囊的研究进展,并对其前景进行了展望。
【英文摘要】The author reviewed research progress and perspective of skin follicle in cashmere goat from five aspects that include structure,development regularity,culture in vitro,hair follicle stem cell and genes related hair follicle development.Finally,the development of goat in future was prospected.
【语种】中文
【第一作者】吕雪峰

【通讯作者】郑文新
【期刊名称、卷期、页码】中国畜牧兽医
【论文发表时间】2010-11-20 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】畜牧学

【题目】肌浆蛋白对牛肉匀浆物凝胶特性的影响
【中文关键词】肌浆蛋白;牛肉匀浆物;凝胶特性
【英文关键词】sarcoplasmic proteins;beef homogenate;gel properties
【中文摘要】本文主要研究了3 种不同肌浆蛋白含量的牛肉匀浆物的凝胶特性。
【英文摘要】This article studied the effect of sarcoplasmic proteins on gel properties of beef homogenate.
【语种】中文
【第一作者】何燕
【通讯作者】彭增起
【期刊名称、卷期、页码】食品科学,2006,(10),193-196
【论文发表时间】2006-07-15 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】食品科学技术基础学科

【题目】反应型火腿香精的制备
【中文关键词】宣威火腿;美拉德反应;气相色谱- 吸闻(G C / O)技术;调香
【英文关键词】Xuanwei ham;Maillard reaction;GC/O technology;flavor blending
【中文摘要】"本文主要通过香味分析技术(GC/O)对火腿主体配方的香味成分进行分析,同时,采用稀释技术(AEDA)筛选其关键芳香化物,从而确定其缺少的物质,最后加入单品调香得到终产品——火腿香精。"
【英文摘要】PThe aim of this research was to study th preparation of Ham Flavor by Maillard Reaction
【语种】中文
【第一作者】张振波
【通讯作者】宋焕禄
【期刊名称、卷期、页码】食品科学(已录用)
【论文发表时间】2008-09-22 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】食品科学技术基础学科

【题目】几种柑橘品种制汁适应性评价研究
【中文关键词】制汁;适应性;理化指标
【英文关键词】juicing;suitability;physico-chemical parameters
【中文摘要】利用感官及理化指标的综合评价研究北碚447#锦橙、中育七号#甜橙、雪柑#锦橙、江津长叶橙、溆浦哈姆林甜橙、洪江大红甜橙、无核大红甜橙和溆浦长型无核甜橙的制汁适应性,其中,感官评价使用百分法进行评定,理化指标的评定包括出汁率、可溶性固形物、可滴定酸、总黄酮、精油、柠檬苦素等12项。通过实验得出北碚447#锦橙、中育七号#甜橙、江津长叶橙、雪柑#锦橙、溆浦哈姆林甜橙、无核大红甜橙综合评分均高于80分,为适宜制汁品种;而洪江大红甜橙和溆浦长型无核甜橙固酸比均低于10,综合评分均高于75分,为可以制汁品种。
【英文摘要】Comprehensive assessment of sensory and physico-chemical parameters was used for suitability study of several citrus varieties (namely, Beibei Jincheng orange No. 447, Zhongyu sweet orange No. 7, Xuegan Jincheng orange, Jiangjin long-leaf orange, Xupu Hamlin sweet orange, Hongjiang Dahong sweet orange, Dahong seedless sweet orange and Xupu oval-shaped seedless sweet orange) for juicing. Sensory evaluation score was on 100 scale. The physico-chemical parameters assessed were juice percentage, the contents of soluble solids, total flavonoids, volatile oil and limonin, titratable acidity and so on. Beibei Jincheng orange No. 447, Zhongyu sweet orange No. 7, Jiangjin long-leaf orange, Xuegan Jincheng orange, Xupu Hamlin sweet orange and Dahong seedless

sweet orange scored a comprehensive score over 80, indicating excellent suitability for juicing. The soluble solids-to-acid ratios of Hongjiang Dahong sweet orange and Xupu oval-shaped seedless sweet orange were both less than 10, but the comprehensive scores exceeded 75; therefore, the two varieties have good suitability for juicing.
【语种】中文
【第一作者】谢姣
【通讯作者】王华
【期刊名称、卷期、页码】食品科学,2010,31(17):153-157
【论文发表时间】2010-09-03 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农产品贮藏与加工

【题目】北京烤鸭香味气相指纹图谱技术研究初探
【中文关键词】北京烤鸭, 同时蒸馏提取, 气相色谱-质谱, 气相指纹图谱
【英文关键词】Beijing roast ducks; SDE; GC-MS; gas chromatographic fing er prin t
【中文摘要】本文通过待测样品实验与参兑实验考察了气相指纹图谱用于风味质量控制的可行性。
【英文摘要】The research was to study the feasibility of gas chromatographic finger print in quality control .
【语种】中文
【第一作者】陈耿俊
【通讯作者】宋焕禄
【期刊名称、卷期、页码】食品工业科技,2008年第11期
【论文发表时间】2008-09-17 00:00:00
【引文索引类型】其他
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【学科分类】食品科学技术基础学科

【题目】新疆细毛羊业质量安全预警系统构建的思考
【中文关键词】细羊毛业; 质量安全; 预警系统
【英文关键词】Xinjiang fine wool industry; continuous development; alarm system
【中文摘要】本文从系统观的角度出发,研究并说明新疆细羊毛业质量安全预警系统构建的必要性及其结构的设计要素和特点,从理论上设计了预警系统的结构图,为今后的实际建模做了前期性思考。
【英文摘要】The necessity of the alarm system for Xinjiang fine wool industry was discussed in this paper,the essentials of alarm system design was illustrated and characters of which was discussed.The alarm system structure was schemed out based on theory and some basic work for the later application was done.
【语种】中文
【第一作者】路立里
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【期刊名称、卷期、页码】草食家畜
【论文发表时间】2010-09-25 00:00:00
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【引文索引号】null
【学科分类】畜牧学

【题目】冷却猪肉中微生物与生物胺的关系研究
【中文关键词】冷却猪肉; 微生物; 生物胺
【英文关键词】Chilled pork; microbial; biogenic amineslled pork; microbial; biogenic amines
【中文摘要】"本文主要是把冷却猪肉中的腐败菌接种到无污染冷却猪肉中, 分别托盘包装贮藏1、3、5、7、9、11 d, 研究生物胺及各品质指标的变化。"
【英文摘要】The research was to study the changes of biogenic amines and pork quality.

【语种】中文
【第一作者】李苗云
【通讯作者】李苗云
【期刊名称、卷期、页码】浙江农业科技,2008,(3):365-367
【论文发表时间】2007-11-16 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】食品科学技术基础学科

【题目】酶法处理柑橘果渣回收果汁技术与中试试验
【中文关键词】农业废弃物,果汁,酶,柑橘果渣,理论浓缩耗能
【英文关键词】agriculture wastes, fruit juices, enzymes, citrus pulp, theoretical condense energy
【中文摘要】以柑橘果渣为原料,研究酶法回收果汁工艺,并对工艺进行优化。通过单因素分析和响应面设计,考察酶用量、酶解时间、酶解温度、渣水比对酶法回收柑橘果汁的影响,确定了酶法回收柑橘果汁回归方程,当酶用量213.38 μg/L,酶解时间164.02min,酶解温度53.76℃,渣水比1∶1.05时,预测的综合指标最佳,达到0.0138,验证试验的综合指标为0.0137,与预测的综合指标接近。利用优化后的工艺进行中试试验,动态跟踪了果汁的可溶性固形物、酸度、pH值和氨基酸的变化,将中试的回收果汁与柑橘还原汁进行感官评价,评价结果相似,可部分替代柑橘还原汁应用于橙汁饮料。
【英文摘要】Citrus juice was recovered from pulp by enzyme. Taking composite indicator as the main index, the technology was optimized with enzyme dosage, reaction time, reaction temperature, and ratio of pulp to water dilution through single-factor test and responsible surface design. Best predicted composite indicator 0.0138 was got under the conditions: enzyme dosage of 213.38 μg/L, reaction time of 164.02 min, reaction temperature of 53.76℃, and ration of pulp to water 1:1.05 (by weight). And it was proved correct that the composite indicator 0.0137 was got by the confirmative test. Meanwhile pilot plant tests were carried out based on the optimized technology. Changes of solid soluble, acid, pH and amino acids were studied during the tests. Recovered juice in the tests can alternatively replace restored juice in citrus beverage, since the similar results of the sensory evaluation.
【语种】中文
【第一作者】张其圣
【通讯作者】余文华
【期刊名称、卷期、页码】农业工程学报,2010,26(4):340-346
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【引文索引类型】其他
【引文索引号】null
【学科分类】农产品贮藏与加工

【题目】影响羊毛品质的因素及控制措施
【中文关键词】羊毛; 细度; 毛丛长度; 弹性; 影响因素
【英文关键词】wool; fiber diameter; staple length; elasticity; factors
【中文摘要】本文从羊毛检测的参数出发,包括纤维细度与离散、毛丛长度、净毛率、强力、弹性、色度六个方面,分析了影响羊毛品质的因素,并提出了相应的控制措施。
【英文摘要】The article analyzed factors affecting quality of wool in testing parameters.The testing parameters of wool included fiber diameter and coefficient of variation,staple length,yield,strength,elasticity and color.Finally,corresponding measures were proposed to control the quality of wool.
【语种】中文
【第一作者】张敏
【通讯作者】郑文新
【期刊名称、卷期、页码】草食家畜
【论文发表时间】2010-09-25 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】畜牧学

【题目】牛排食用品质保证关键控制点研究
【中文关键词】牛肉, 食用品质关键控制点
【英文关键词】beef; palatability assurance critica l control point(PACCP)
【中文摘要】"本文主要研究了大理石花纹等级对牛排食用品质的影响, 以及不同分割部位肉食用品质的差异。"
【英文摘要】The research was to study the weight of tenderness, flavor and juiciness in edible quality of steak, the relationship between shear force and tenderness was discussed.
【语种】中文
【第一作者】毛衍伟
【通讯作者】罗欣
【期刊名称、卷期、页码】食品工业科技(已录用)
【论文发表时间】2008-07-22 00:00:00
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【引文索引号】null
【学科分类】食品加工技术

【题目】毛绒纤维结构特征及鉴别方法
【中文关键词】山羊绒; 细羊毛; 结构; 鉴别
【英文关键词】cashmere; fine wool; structure; identification
【中文摘要】文章从山羊绒和细羊毛纤维结构特征出发,分析了两种纤维结构特征的区别;比较分析了目前使用的几种主要鉴别方法的原理、优缺点,为山羊绒及细羊毛纤维的鉴别检测,提供技术参考。
【英文摘要】This article analyzed the fiber structural characteristics and difference of cashmere and fine wool,Compared and analyzed the principle,advantages and disadvantages of several major identification method at present,it provided technical reference for the identification and test of cashmere and fine wool fiber
【语种】中文
【第一作者】王乐
【通讯作者】王乐
【期刊名称、卷期、页码】草食家畜
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【引文索引类型】其他
【引文索引号】null
【学科分类】畜牧学

【题目】Bioaccumulation of silver, cadmium and mercury in the abalone Haliotis diversicolor from water and food sources
【中文关键词】鲍,金属,生物放大,生物累积,大型海藻
【英文关键词】Abalone; Metal; Biomagnification; Bioaccumulation; Macroalgae
【中文摘要】在中国,大部分鲍鱼场面临着与日俱增的污染,其中包括重金属污染。大型藻类,如现在广泛作为鲍鱼饵料的江蓠,能够吸附相当可观的重金属,因此,关于鲍鱼中重金属营养转移的担忧也日益增加。通过测定杂色鲍对各溶解态金属的吸附收率,以及杂色鲍对不同藻类的同化效率和输出速率常数,可以量化得出杂色鲍对Ag、Cd、Hg等金属的吸收途径和速率。鲍鱼对溶解态的Ag、Cd、Hg的吸收速率常数分别为1.78Lg-1d-1,0.056Lg-1d-1,0.32Lg-1d-1,相关的吸收效率分别是58-83%,33-59%,65-78%。随着摄食藻类中重金属溶度的增加,Ag,Hg的吸收效率却出现显著性的降低,这可能是肠道对于重金属吸收的减弱的缘故。而当摄食中Cd浓度发生变化时,Cd的吸收效率却没有显著变化。Ag、Cd、Hg的输出速率常数分别是0.003d,0.010-0.011d,0.010-0.011d,这与下文从水体和食物的吸收具有一定可比性。Ag低的输出速率主要是因为其与大颗粒金属和细胞碎片的结合作用。模拟计算表明,在典型的条件下,摄食同化是鲍鱼对Ag、Cd、Hg富集的主导途径。三种重金属的营养转移因子都大于一,这是由于其高摄食同化而表现出的生物放缩潜力。这些结果表明,由于来自大型藻类中潜在的营养传递而使得鲍鱼中的重金属成为一个食品安全问题。
【英文摘要】Most abalone farms in China are confronted with increasing pollution, including metal pollution. Macroalgae such as Gracilaria, widely used as abalone forage, can very appreciably concentrate metals, thus there is an increasing concern for metal trophic transfer in abalones. The route and rate of Ag, Cd and Hg uptake in the abaloneHaliotisdiversicolor were quantified by determining each metal's uptake rate from the dissolved phase, its assimilation efficiency (AE) from different macroalgae and its efflux rate constant.

The uptake rate constants in abalones from the dissolved phase were 1.78 L g − 1 d − 1 for Ag, 0.056 L g − 1 d − 1 for Cd and 0.32 L g − 1 d − 1 for Hg. The corresponding AEs were 58 – 83%, 33 – 59%, and 65 – 78%. The AEs of Ag and Hg decreased significantly with increasing metal concentration in the ingested macroalgae, which may be caused by the decreasing desorption of metals in the gut. The AEs for Cd varied little when the Cd concentration in the diet varied. The efflux rate constants were 0.003 d − 1 for Ag, and 0.010 – 0.011 d − 1 for Cd and Hg, respectively, and were comparable following uptake from water and food. The low efflux rate of Ag was mainly due to its binding with metal-rich granules and cellular debris. Modeling calculations suggest that, under typical conditions, dietary uptake is the dominant route for Ag, Cd and Hg accumulation in abalones. The trophic transfer factors for all three metals were greater than one, implying a potential for biomagnification due to their high dietary assimilation. These results suggest that metals in abalones can be afood safety issue due to the potential for trophic transfer from macroalgae.

【语种】英文
【第一作者】黄栩
【通讯作者】王文雄
【期刊名称、卷期、页码】Aquaculture,2008;卷:283; 期:4; 页码:194-202
【论文发表时间】2008-10-01 00:00:00
【引文索引类型】SCI
【引文索引号】2.6056760003e+011
【学科分类】水产养殖学

【题目】苜蓿转筒干燥时茎叶分离出口气流场模拟与优化
【中文关键词】苜蓿;悬浮速度;风场模拟;计算流体力学;模拟;优化
【英文关键词】Alfalfa,Terminal velocity,Wind field simulation ,CFD,Simulation,OPtinization
【中文摘要】针对转筒干燥苜蓿的茎叶垂直分离原理,基于90度左右干燥气流的风速条件,应用CFD技术对三回程苜蓿干燥分离转筒出口附近的气流场进行了模拟和优化设计。通过速度云图分析,获得了在总体结构不变的情况下中筒末端和外筒末端之间相对适宜的尺寸。通过气流场速度矢量分析,提出了改进茎叶分离效率的方案。
【英文摘要】The vertical separation principle of alfalfa in alfalfa rotary drum dryer was studied,and the wind field of sepration exit of the three pass rotary drum dryer was optimized by using CFD based on the range of separation velocity when the gas temperature was about 90°C An optimum structural dimension between the bottoms of the middle and outer drums of a triple pass rotary drum dryer,modified to achieve drying and leaf-stern separation of alfalfa in one process,was recommended based on the CFD simulation results of a series of the contours of velocity and wind field of velocity vectors at different dimensional conditions.
【语种】中文
【第一作者】罗小燕
【通讯作者】罗小燕
【期刊名称、卷期、页码】《农业机械学报》、2009年 40卷 10期
【论文发表时间】2009-10-15 00:00:00
【引文索引类型】EI
【引文索引号】S223
【学科分类】农业工程

【题目】A monoclonal antibody-based sensitive enzyme-linked immunosorbent assay (ELISA) for the analysis of the organophosphorous pesticides chlorpyrifos-methyl in real samples
【中文关键词】甲基毒死蜱;单克隆抗体;酶联免疫检测
【英文关键词】Chlopyrifos-methyl; Monoclonal antibody; ELISA
【中文摘要】本文合成了甲基毒死蜱的半抗原(H1),并通过活泼酯法与BSA和OVA偶联。其中以H1-OVA作为包被原,H1-BSA作为免疫原来制备单克隆抗体。通过一系列条件优化,建立了一套高效竞争性间接ELISA体系。其中IC50值为75.22 ppb, 检测限为0.32ppb。该体系除了与毒死蜱有1.4%的交叉反应外,与其余受测农药的交叉反应均小于1%。同时,将该体系应用于实际样品的添加回收实验,回收率在82.4%-110.2%之间。
【英文摘要】Chlorpyrifos-methyl hapten, O-methyl-O-(3,5,6-trichloro-2-pyridinyl)-N-(2-carboxyethyl)-phosphoramidothionte (H1), was synthesized and conjugated with bovine serum albumin (BSA) and ovalbumin (OVA) by the active ester method. Then H1 – OVA conjugate was used as coating antigen, while H1 – BSA conjugate was used as immunogen for producing monoclonal antibody. After optimisation, a monoclonal antibody-based effective competitive indirect enzyme-linked immunsorbent assay (ELISA)

was developed and applied for determination of chlorpyrifos-methyl with a novel combination of antibody/antigen, I50 of which was 75.22 ng/ml, limit detection (LD) was 0.32 ng/ml, and there was relative high cross-reactivity (CR) only with chlorpyrifos (1.4%), and CRs with other tested pesticides were all below 1% and regarded as negligible. The recoveries obtained by standard chlorpyrifos-methyl addition to real samples, including grape, Chinese cabbages, water and soil were all from 82.4% to 110.2%. Therefore, theoptimised ELISA might become a convenient and satisfied analytical tool for monitoring chlorpyrifosmethyl residues in agriculture ecosystem.
【语种】英文
【第一作者】钱国良
【通讯作者】刘凤权
【期刊名称、卷期、页码】Food Chemistry, 2009, 117, 364-370
【论文发表时间】2009-11-15 00:00:00
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【引文索引号】10.1016/j.foodchem.2009.03.097
【学科分类】植物保护学

【题目】Development of 11 polymorphic microsatellite loci in the small abalone (Haliotisdiversicolor Reeve)
【中文关键词】遗传标记,杂色鲍,微卫星,九孔
【英文关键词】genetic marker; Haliotis diversicolor; microsatellites; small abalone
【中文摘要】我们从杂色鲍中分离出11个多态微卫星基因位点,并在(CT)n和(AC)n库中表征。本研究将这些基因位点检测了自然群体中24个个体。结果显示,所有个体都是多态性的,且等位基因数量在3到10间变化。观测的杂合度和期望的杂合度分别在0.083-0.0913和0.159-0.856间变化。这11个分离的微卫星位点,除SA-JMU6和SA-JMU12外,均遵循Hardy – Weinberg期望。在近缘物种H. ovina和H. asinine中,七套引物得到扩增。结果表明,这11个多态微卫星将对于分析杂色鲍群落结构和遗传多样性有很大的作用。
【英文摘要】Eleven polymorphic microsatellite loci for Haliotis diversicolor were isolated and characterized from (CT)(n)- and (AC)(n)-enriched library. They were tested in 24 individuals from a natural population. All of them were polymorphic, with the number of alleles varying between three and 10. The observed heterozygosities and expected heterozygosities ranged from 0.083 to 0.913 and from 0.159 to 0.856, respectively. The 11 isolated microsatellite loci, except SA-JMU6 and SA-JMU12, followed Hardy-Weinberg expectations. Seven sets of primers also amplify in closely related species, H. ovina and H. asinine. These 11 polymorphic microsatellites will be useful for analysing the population structure and genetic diversity in H. diversicolor.
【语种】英文
【第一作者】任鹏
【通讯作者】王志勇
【期刊名称、卷期、页码】Molecular Ecology Resources,2008, 8, 1390-1392
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【引文索引类型】SCI
【引文索引号】2.6052870005e+011
【学科分类】水产养殖学

【题目】Fusion expression of bovine lactoferricin in Escherichia coli
【中文关键词】冯兴军
【英文关键词】Bovine lactoferricin Antibacterial activity Factor Xa Thrombin Fusion expression; AY nity chromatography
【中文摘要】无
【英文摘要】The drug resistance problem has been growing with the utilization of current antibiotics in feed and medical industries. LfcinB, a 25-amino acid antibacterial peptide derived from bovine lactoferrin, is one of potential alternatives of antibiotics. According to the bias of codon utilization of Escherichia coli, a fragment encoding LfcinB has been chemically synthesized, inserted into vector pGEX-4T-2 and expressed in E. coli . The antibacterial peptide was fused with GST with a protease cleavage site located between them. Two constructs with di Verent cleavage sites were made. One construct, pGEX-Th-LfcinB, contains a thrombin cleavage site carried by the vector, and the other, pGEX-Th-Xa-LfcinB, contains a Factor Xa cleavage site which was introduced after the thrombin cleavage site. Fusion prot ein GST-Th-LfcinB protein was eY ciently cleaved by thrombin, yielding recombinant LfcinB showing antibacterial activity. However, fusion protein GEX-Th-Xa-Lfcin B containing Factor Xa recognition site could not be cleaved by Factor Xa at the conditions tried in this study. Successful expression of LfcinB in E. coli provides a possible method to produce LfcinB in large

amounts.
【语种】英文
【第一作者】冯兴军
【通讯作者】王建华
【期刊名称、卷期、页码】Protein Expression and Purification,2006,47(1):110-117
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【引文索引类型】SCI
【引文索引号】2.3760420001e+011
【学科分类】畜牧学

【题目】女贞子对蛋鸡育成期生长发育和免疫功能的影响
【中文关键词】石莉莎
【英文关键词】Ligu strum lucidum layer chickens growth immunity
【中文摘要】本研究旨在观察女贞子对蛋雏鸡生产性能和免疫功能的影响。试验选用1 日龄海兰褐蛋雏鸡384 只,随机分为4 组,每组设6 个重复。结果表明,女贞子对蛋鸡日增重、饲料转化率无显著影响;饲料中添加0.5%女贞子能显著提高雏鸡生长前期的法氏囊指数,添加1%的女贞子能提高雏鸡生长中、后期的胸腺与脾脏指数;女贞子能显著提高蛋雏鸡的新城疫抗体效价;女贞子对雏鸡生长前、中期的C3 含量和生长中期的TNF 含量有提高作用;女贞子能显著提高鸡外周淋巴细胞转化率。说明女贞子对蛋鸡育成期的生长发育和免疫功能有积极作用。
【英文摘要】无
【语种】中文
【第一作者】石莉莎
【通讯作者】单安山
【期刊名称、卷期、页码】东北农业大学学报,2009,40(10):79-84
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【引文索引号】无
【学科分类】畜牧学

【题目】γ-干扰素的研究进展及在畜牧中的应用
【中文关键词】代丽
【英文关键词】IFN-γ gene expression regulation research progress husbandry
【中文摘要】γ-干扰素(interferon gamma, IFN-γ)也叫免疫干扰素,在抗病毒、抗肿瘤和免疫调节上作用强大。针对IFN-C及其受体、IFN-C的基因表达调控、生物学功能及在畜牧生产中的应用作一概述。
【英文摘要】无
【语种】中文
【第一作者】代丽
【通讯作者】单安山
【期刊名称、卷期、页码】中国畜牧兽医,2009,36(4):54-57
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【引文索引号】无
【学科分类】畜牧学

【题目】牛乳铁蛋白素(1-15)-蜂毒素(5-12)杂合肽基因的合成及在大肠杆菌中的表达
【中文关键词】毕重朋
【英文关键词】LfcinB melittin hybrid peptide
【中文摘要】为了构建新型的杂合肽,设计了一种新型杂合抗菌肽牛乳铁蛋白素(1-15)-蜂毒素(5-12),由牛乳铁蛋白素(LfcinB)N端第1~15个氨基酸残基和蜂毒素(Melittin)N端第5~12个氨基酸残基组成。根据大肠杆菌密码子的偏爱性,设计合成了杂合肽LfcinB(1-15)-Melittin(5-12)的基因片段,插入到表达载体pET-32a的Nco Ⅰ和Sal I的酶切位点之间,构建重组表达质粒。重组表达质粒转化到Escherichia coli BL21(DE3)中,经异丙基-β-D-硫代半乳糖苷(IPTG)诱导表达,融合蛋白

以可溶形式在Escherichia coli BL21(DE3)中获得成功表达，表达量占菌体总蛋白的35%以上，每升培养物可获得35 mg融合蛋白。带His标签的融合蛋白经His Bind纯化试剂盒纯化、肠激酶切割和抑菌实验表明，杂合肽具有明显的抑菌效果。这为利用基因工程方法生产抗菌肽奠定了理论基础。

【英文摘要】In order to get new antibacterial peptide, we designed a hybrid peptide LfcinB(1-15)-Melittin(5-12), composed of 1－15 amino acid residues of bovine Lactoferricin and 5－12 amino acid residues of Melittin. According to the bias of codon utilization of Escherichia coli, We synthesized the gene encoding the hybrid peptide. We inserted the gene between the sites of Nco Ⅰ and Sal Ⅰ of pET-32a and obtained the recombinant expression vector for heterologous expression of LfcinB(1-15)-Melittin(5-12) in Escherichia coli. We used Escherichia coli BL21(DE3) as expression host for the recombinant plasmid. After induced by isopropyl-β-D-thiogalactoside (IPTG) under the optimized conditions, we realized the fusion protein was successfully expressed. The fusion protein was expressed in soluble form and the level was more than 35% of the total proteins. With (His)6 Tag, the fusion protein was easily purified by His Bind Purification Kit. After purification, we obtained 35 mg of fusion protein from 1 L of culture medium. At last, we accomplished that the peptide LfcinB(1-15)-Melittin(5-12) was released from the fusion protein cleaved by enterokinase. The recombinant LfcinB(1-15)-Melittin(5-12) showed antimicrobial activity assayed by agar diffusion test. This is the first report on the heterologous expression of the hybrid antibacterial peptide LfcinB(1-15)-Melittin(5-12) in Escherichia coli and also provides basis for next cost-effective expression of other antimicrobial peptides in genetic engineering.

【语种】中文

【第一作者】毕重朋

【通讯作者】单安山

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【引文索引号】无

【学科分类】畜牧学

【题目】鸡IL-18基因的克隆表达及对新城疫疫苗诱导的HI抗体变化的研究

【中文关键词】姜文博

【英文关键词】chicken interleukin-18 clone expression New casltle disease virues

【中文摘要】通过RT-PCR方法从新城疫Ⅰ系疫苗诱导的11日龄鸡胚脾脏细胞中扩增出鸡白细胞介素18 (Chicken interleukin-18 ,ChIL-18)成熟蛋白基因的cDNA,并将其克隆到pMD18-T载体上。DNA序列测定表明,克隆得到ChIL-18全基因,其编码区大小为597 bp,编码198个氨基酸多肽。将该基因片段克隆到原核表达载体pProEXTMHTb构建重组质粒pProEXTMHT-ChIL-18转化大肠杆菌DH5α中,并用IPTG诱导。重组菌菌体裂解物b SDS-PAGE可检测到相对分子量为28.6 ku的重组蛋白。观察ChIL-18蛋白对新城疫疫苗诱导的HI抗体动态变化。结果表明,同时接种ChIL-18蛋白和活疫苗的免疫鸡在接种后,所产生的HI抗体效价高于PBS和活疫苗免疫组,并且,HI抗体效价在15 d及热应激24 h时表现差异显著(P<0.05)。表明ChIL-18蛋白对新城疫疫苗诱导的HI抗体有增强作用。

【英文摘要】Chicken interleukin-18(ChIL-18) mature protein gene was amplified from spleen cells of chicken embryo which were induced by New casltle disease virues by RT-PCR. PCR product was cloned into pMD18-T vector. Sequencing analysis showed that the nucleotide sequence of this ChIL-18 mature protein gene was 597 bp, pProEXTMHT-ChIL-18 was obtained by subcloning the encodeing region of the ChIL-18 mature protein gene b into pProEXTMHT. The recombinant ChIL-18 (rChIL-18) was expressed efficiently in pProEXTMHT-ChIL-18 b b transformed DH5α induced by IPTG. SDS-PAGE analysis showed that the recombinant mature protein had a relative molecular mass of approx in ately 28.6 ku. The effects of the ChIL-18 protein on Newcastle disease vaccine were observed by the kinetic changes of HI antibody. The results showed that ChIL-18 protein could enhance the valence of HI antibody.

【语种】中文

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【学科分类】畜牧学

【题目】鸡g-干扰素的功能及临床应用
【中文关键词】孙进华
【英文关键词】chicken IFN-γ immunity application
【中文摘要】γ-干扰素(interferon gamma,IFN-γ)是干扰素的一种,是一类具有多种调节效应的细胞因子,主要由活化的T细胞和NK细胞产生,IFN-γ是动物机体最重要的细胞因子之一,是主要的巨噬细胞活化因子。由于其具有广谱高效抗病毒、抗肿瘤活性及其强大的免疫调节作用,IFN-γ已成为当今免疫学、病毒学、细胞学、分子生物学、临床医学、肿瘤学等相关领域的研究热点,被广泛应用于人类疾病临床治疗和动物疾病防控研究。文章就鸡IFN-γ的分子结构、作用机理、生物学功能、存在问题及临床应用等方面做简要综述。
【英文摘要】无
【语种】中文
【第一作者】孙进华
【通讯作者】单安山
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【引文索引号】无
【学科分类】畜牧学

【题目】鸡β-防御素基因的克隆、序列分析及其在组织中的分布
【中文关键词】马得莹
【英文关键词】antimicrobial peptides β-defensins chicken gene expression
【中文摘要】本研究采用RT-PCR法,分别从鸡肝脏和舌组织中扩增到鸡β-防御素(Gallinacin, Gal)Gal-6、Gal-8与Gal-9基因,经序列测定表明,Gal-6、Gal-8和Gal-9大小分别为201、204和201 bp,其成熟肽分别由67、68和67个氨基酸残基组成。组织表达分析表明,Gal-6基因在鸡体内各组织器官中广泛地表达,在鸡皮肤、舌、心脏、小肠、胸肌、肝脏、肾脏、法氏囊、脾脏和胰腺中表达量较高;在肺脏、睾丸和骨髓中也有一定量表达。相比之下,Gal-8在鸡体内的表达较为局限,Gal-8基因仅在舌、小肠、肺脏和肝脏中大量表达。Gal-9基因在鸡体内组织中分布也较广泛,在舌和小肠中大量表达,在气管、肺脏、肝脏、肾脏、骨髓和胸腺有少量表达。
【英文摘要】Three Gallinacin (Gal) genes:Gal-6, Gal-8 andGal-9 were cloned from liver andtongue of chicks by RT-PCR, respectively. In addition, we have sequenced these genes. The full cDNA length ofGal-6 andGal-9 consist of 201 bp encoding 67 amino acids, whileGal-8 consist of 204 bp encoding 68 amino acids. Differential gene expression ofGal-6,Gal-9 andGal-8 has beendemonstrated across a panel of tissues in the chick. It has been shown thatGal-6 mRNA was highly expressed in the skin, tongue, liver, heart, small intestine, breast muscle, kidney, bursa of Fabricius, spleen, and pancreas, and moderately expressed in the lung, testis, and borrowmarrow.Gal-8 mRNA was highly expressed in the liver, tongue, small intestine and lung of chick. While,Gal-9 mRNA was highly expressed in the tongue and small intestine, and moderately expressed in the trachea, lung, liver, kidney, borrow marrow and thymus of chick.
【语种】中文
【第一作者】马得莹
【通讯作者】马得莹
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【学科分类】畜牧学

【题目】Growth and survival of three small abalone Haliotis diversicolor populations and their reciprocal crosses
【中文关键词】九孔,杂色鲍,杂种优势,种群,杂交,生长,存活
【英文关键词】small abalone; Haliotis diversicolor; heterosis; population; cross; growth; survival
【中文摘要】在中国南方,小型杂色鲍的水产养殖业因为其养成阶段的高死亡率面临崩溃。为了检验种间杂交育种是否能够提高杂色鲍的存活率和生长状况(即壳长的增长),本研究在来自日本A,台湾B,越南C的三个种群中进行3*3的同列杂交实

验。最后将生长性状比和早期幼体、晚期幼体和养成期的存活率在六个互相交错系和三个亲本系间进行对比。结果显示在三种生长期的杂交系中存活率和生长的杂合优势度都不同。就中亲优势而言,在三个生长期的存活率和生长率中HAB明显(P<0.01)高于HAC和HBC,且所有中亲优势都在两个相应的单亲优势间有所降低。在第420天,壳长和存活率的HAB分别为6.84%和69.09%。本研究结果中,AB系和BA系的高存活率杂交优势表明了不同种群间的杂交有利于小型鲍鱼育种项目和产业的收益增加。

【英文摘要】The aquaculture industry of small abalone Haliotis diversicolor in southern China is now close to collapse because of high mortality at the grow-out stage. To examine if survival and growth (shell length increase) could be improved by cross breeding among populations, a 3 x 3 complete diallel cross was conducted among three populations from Japan (A), Taiwan (B) and Vietnam (C). Performances in growth rate and survival at early juvenile, later juvenile and grow-out stages were compared among the six reciprocal cross lines and three parental lines. Magnitude of heterosis for survival and growth varied among cross lines in the three growing stages. As to mid-parent heterosis, H(AB) was significantly (P < 0.01) higher than H(AC) and H(BC) at all three growing stages for both growth and survival, and all mid-parent heterosis fell between the two corresponding single-parent heterosis. H(AB) was 6.84% for shell length and 69.09% for survival at Day 420. Our results of high survival heterosis in line AB and line BA show that crossbreeding between different populations can benefit the small abalone breeding programs and the industry.

【语种】英文

【第一作者】游伟伟

【通讯作者】柯才焕

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【学科分类】水产养殖学

【题目】Effects of small abalone, Haliotis diversicolor, pedal mucus on bacterial growth, attachment, biofilm formation and community structure

【中文关键词】斧足粘液;杂色鲍;细菌;附着;生物粘膜

【英文关键词】Pedal mucus; Haliotis diversicolor; Bacteria; Attachment; Biofilm

【中文摘要】在富足刚中,足部粘液在运动、保护和信号传导过程中具有重要作用。同时,它还为微生物提供营养和栖息环境。在本研究中,,我们检测了小型鲍鱼杂色鲍的足部粘液和粘液小道对于细菌生长,附着,生物膜形成和群落结构的影响。结果表明,足部粘液促进了细菌的生长,且因为基质覆盖着粘液,为病原体提供更多附着的机会。(如溶藻弧菌,其细胞浓度比附着在干净基底上高出5倍)。在微型板试验中,当足部粘液作为唯一的营养添加剂,溶藻弧菌可以形成了细胞膜,但如果没有添加粘液,只有少数细胞在井底生长。在流式细胞细胞培养条件下,干净的玻片上和覆盖足部粘液的玻片上形成了不同结构的细胞膜。粘液小道诱导产生一个异构细胞膜的细胞集群。此外,足部粘液能偶比干净基底提供更多的CFUs。使用变性梯度凝胶电泳比较干净基质和粘液小道上的细胞群落,我们发现,后者上存在着几个特殊的物种。至少有一个物种,肺炎克雷伯氏菌,对于小鲍鱼具有潜在危害。总之,杂色鲍的足部粘液能够富集细菌,包括一些本该在高密度培养条件下的致病菌。

【英文摘要】Pedal mucus is important for locomotion. protection and signal transmission in the Gastropoda. It also provides nutrients and a habitat for microbes. In this study, we examined the effects of pedal mucus and the mucus trail of the small abalone, Haliotis diversicolor, on bacterial growth, attachment, biofilm formation and community structure. The results showed that pedal mucus enhanced the growth of bacteria, and that more opportunistic pathogens attached to a substrate covered with pedal mucus (for Vibrio alginolyticus, the cell density was up to 5 times higher than on a clean substrate). During microplate assay, when pedal mucus was added as the sole nutrient source, V. alginolyticus formed a biofilm, but few cells grew on the bottom of the wells if no mucus was added. Under flow-cell culture conditions, differently structured biofilms were formed in the clean and pedal mucus conditioned glass slides. The mucus trail induced a heterogeneous biofilm with cell clusters. Moreover, pedal mucus could support much more CFUs than the clean substrates. Using denatured gradient gel electrophoresis comparison of the bacterial community on a clean substrate and in the mucus trail, we found several specific species in the latter. At least one species, Klebsiella pneumoniae, is potentially harmful to the small abalone. In summary, the pedal mucus of Haliotis diversicolor enriched bacterial occurrence, including some pathogens, which deserves to be considered in high density culture conditions.

【语种】英文

【第一作者】郭峰

【通讯作者】柯才焕
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【学科分类】水产养殖学

【题目】压砂地西瓜水肥耦合模型及优化组合方案
【中文关键词】西瓜; 压砂地; 水肥耦合; 水肥生产函数;
【英文关键词】watermelon; gravel-mulched field; coupling water with fertilizer; function of water and fertilizer with yield
【中文摘要】采用三因素五水平二次回归通用旋转组合设计方法,在宁夏中部干旱带进行了压砂地西瓜水肥耦合试验,结果表明:在该试验条件下,灌水定额对产量的影响极显著,株距对产量影响较显著,施氮量对产量无显著影响。水氮交互对产量有一定的影响效果,低氮配以高水、中氮配以高水能够达到高产。并且经过水肥耦合模型模拟,得到了实现不同产量目标的最佳水肥组合指标,压砂地西瓜不同产量水平下的因素最优组合方案为:(1)压砂地西瓜产量12000~15000 kg/hm2,补水定额48~61.5 m3/hm2,施氮量24~31.5 kg/hm2,株距1.7~1.9 m;(2)压砂地西瓜产量15000~18000 kg/hm2,补水定额55.5~69 m3/hm2,施氮量24~30 kg/hm2,株距1.4~1.6 m;(3)压砂地西瓜产量18 000~21 000 kg/hm2,补水定额58.5~72 m3/hm2,施氮量24~30 kg/hm2,株距1.2~1.3 m。 更多还原
【英文摘要】Based on the current rotary combination design method of square regression with three factors and five levels,experiment of coupling water with fertilizer in gravel-mulched watermelon field was conducted in central arid region of Ningxia.The results show that irrigation quota is the main factor affecting watermelon yield,and the planting distance was the second factor,while the nitrogen quantity was the third one.Water and nitrogen quantity interaction has certain effect,and it will get high yield when low nitrogen quantity and high irrigation quota are combined,middle nitrogen quantity and high irrigation quota combined.Optimum combination indexes of water and fertilizer on different watermelon yield were gained through the model simulation and experiment.The optimal combination scheme of factors on different yield level of watermelon in gravel-mulched field is:(1) When watermelon yield is 12 000~15 000 kg/hm2,irrigation quota is 48~61.5 m3/hm2,nitrogen quantity is 24~31.5 kg/hm2,and planting distance is 1.7~1.9 m;(2) When watermelon yield is 115 000~18 000 kg/hm2,irrigation quota is 55.5~69 m3/hm2,nitrogen quantity is 24~30 kg/hm2,and planting distance is 1.4~1.6 m;(3) When watermelon yield is 18 000~21 000 kg/hm2,irrigation quota is 58.5~72 m3/hm2,nitrogen quantity is 24~30 kg/hm2,and planting distance is 1.2~1.3 m.All these can provide reference for water-saving irrigation of watermelon in gravel-mulched field in central arid region of Ningxia.
【语种】中文
【第一作者】马波
【通讯作者】田军仓
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【题目】精恶唑禾草灵酶联免疫吸附分析方法研究
【中文关键词】精恶唑禾草灵, 多克隆抗体, 酶联免疫吸附分析
【英文关键词】Fenoxaprop-p-ethy,l po lyclona l antibody, enzyme-linked immunosorbent assay
【中文摘要】建立了测定精恶唑禾草灵的间接竞争酶联免疫吸附分析方法(ic-EL ISA) , 合成了精恶唑禾草灵的半抗原精恶唑禾草酸(hapten) 。通过碳二亚胺法将精恶唑禾草酸交联于牛血清蛋白(BSA)作为免疫抗原, 通过活泼酯法将精恶唑禾草酸交联于卵清蛋白(OVA) 作为包被抗原, H apten-BSA 为免疫原制备了精恶唑禾草灵的兔抗血清, 间接非竞争酶联免疫吸附分析方法测得其效价达1. 024 105。确定了0. 3 mo l/L Na+ 强度的磷酸盐缓冲液(pH 7. 5)和10%的甲醇为精恶唑禾草灵间接竞争酶联免疫吸附分析方法的最佳工作条件。本方法的IC50为(0. 084 0. 012) m g /L, 检出限(IC10)为(0. 0064 0. 002) m g /L。对大部分芳氧苯氧基丙酸酯类除草剂, 如精喹禾灵、氰氟草酯、高效吡氟甲禾灵没有明显的交叉反应, 对于恶唑酰草胺有一定的交叉反应, 这与两者的结构有关。
【英文摘要】To develop a competitive indirect enzyme-linked immunosorben t assay (c-i ELISA) for fenox apropp-ethyl, a hapten (fenoxaprop acid) was synthesized. Hapten conjugated to bovine serum albumin (BSA) with the carbodiimide method was used as

immunogens and ovalbum in (OVA) with mixed anhydridem ethod was used as the coating antigens. The New Zealand rabbits were immun ized by conjugate of Hapten-BSA and titres of ant-ifenoxaprop-p-ethyl serum (1.024 *105) were determined by non-competitive indirect enzym e-linked assay procedure. After optimization of the ic-ELISA conditions, such as pH values, inonicstrengths, concentrations ofmethanol, pH 7.5, PBS of 0.3mol /L Na+ , and 10% methanol were determined as optimum assay conditions. The IC50 for fenoxaprop-p-ethyl was (0.084±0.012) mg /L, and lower detection limit (LDL) was (0. 0064 ±0. 002) mg /L. The cross-reactivities of other aryloxyphenoxyprop ionic acidherbicides to the antibodies were less than 0.1% in the assays, except metamifop because of its structures

【语种】中文
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【学科分类】植物保护学

【题目】Preparation,properties of starch-protein conjugate and its application
【中文关键词】淀粉-蛋白质复合物制备功能性质应用
【英文关键词】starch-proteinconjugatepreparationfunctionalpropertyapplication
【中文摘要】淀粉-蛋白质复合物是通过分子间交互作用形成的一种高分子聚集体,作为一种天然、无毒、安全的新型生物材料可广泛用于食品、医药、化妆品等行业.综述了近年来淀粉-蛋白质复合物的研究,并简要介绍了国内外其制备方法、功能性质及应用方面的基本研究状况,展望了其发展前景.
【英文摘要】Starch-protein conjugate,a new type of polymers aggregation,can be produced by interaction of molecules.It can be widely used in many industries as a new kind of biomaterial,which is innocuous and safe,including food,pharmaceutical,cosmetic and other industries.So many countries attach great importance to starch-protein conjugate for a long time.In this paper,much research work on starch-protein conjugate is summarized.The preparations,functional properties and applications of starch-protein conjugate are introduced.The long-term potential development of starch-protein conjugate is prospected.
【语种】中文
【第一作者】赵凯
【通讯作者】赵凯
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【学科分类】食品科学技术基础学科

【题目】Effect of Extruding Parameters on Soybean Oil Yield of Enzyme-assisted
【中文关键词】大豆油 挤压膨化 酶法破乳
【英文关键词】Soybean oil extrusion and expansion enzyme-assistant aqueous deemulsification
【中文摘要】通过实验研究调查挤压参数与水酶法提取对大豆提取的油收率的影响,发现,挤出和膨胀参数总大豆油收率的显着的影响。采用响应曲面法优化挤压和扩展参数的最高总的大豆出油率。使用光学显微镜和透射显微镜的挤压和扩张预处理对大豆细胞的影响进行了研究。国家免费的油和蛋白质水解过程中使用光学显微镜观察。超声波辅助乙醇乳化找到了有效的方法来破坏乳液。
【英文摘要】Experiments were carried out to investigate effects of extruding parameters on soybean oil yield extracted with enzyme-assisted aqueous extraction.It was found that extrusion and expansion parameters affected significantly on total soy oil yield. Optimal extrusion and expansion parameters for highest total soy oil yield were obtained using response surface methodology. Effect of extrusion and expansion pretreatment on soy cells was studied using light microscope and transmissive microscope. State of free oil and protein during hydrolysis was observed using light microscope. Ultrasonic assistant ethanol de-emulsification was found the effective method to destabilize the emulsion.

【语种】英文
【第一作者】李杨
【通讯作者】江连洲
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【学科分类】食品工程与粮油工程

【题目】模糊评判优化水酶法提取膨化大豆油脂和蛋白
【中文关键词】农产品　蛋白　油脂　提取　大豆
【英文关键词】The agricultural products protein soybean extract
【中文摘要】针对水酶法同时提取大豆油与蛋白时,两种目标对工艺参数的优化有差别,因此应用模糊综合评判法对工艺参数进行双目标综合优化,得到同时兼顾高油脂提取率与高蛋白提取率的酶解工艺参数。其结果为:加酶量1.85%,酶解温度50°C,酶解时间3.6h,料液比1:6,pH值为9。此时,油脂提取率为92.76%左右,蛋白提取率为93.81%左右。利用扫描电子显微镜、能谱分析以及显微切片分别就蛋白水解状态对油脂释放影响机理进行了研究。通过研究可知,挤压膨化再粉碎后的大豆粉水解过程中油脂的释放取决于蛋白水解状态,经过挤压膨化后大豆细胞结构已经被较充分破坏,而大豆油脂与蛋白的作用没有被完全破坏,所以需要把蛋白充分水解才能使油脂释放聚集.因此挤压膨化后水酶法可以兼顾得到高油脂提取率和高蛋白提取率.
【英文摘要】The application of fuzzy comprehensive evaluation method for the Aqueous Enzymatic simultaneously extracted soybean oil and protein, the goal of the optimization of the process parameters difference dual goal of comprehensive optimization of the process parameters, get both high oil extraction rate and high-protein extractthe rate of hydrolysis process parameters. The results: 1.85% of the amount of enzyme hydrolysis temperature 50 ° C, the enzymatic time 3.6h, solid-liquid ratio 1:6, pH value of 9. At this point, the oil extraction rate of 92.76%, protein extraction rate is about 93.81%. Using scanning electron microscopy, energy spectrum analysis and microscopic sections on protein hydrolysis state grease release mechanism. Study shows extrusion puffed and then crushed soy flour hydrolysis process depends on the proteolytic release of grease after extrusion the soybean cell structure has been more fully destroy, soybean oil and protein is not completely destroyed need to be fully hydrolyzed protein to the fat to release aggregation. extrusion water enzymatic can take into account the high rate of oil extraction and protein extraction rate.
【语种】中文
【第一作者】李杨
【通讯作者】江连洲
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【学科分类】食品工程与粮油工程

【题目】挤压膨化后纤维降解对大豆水酶法提油率的影响
【中文关键词】挤压 膨化 提油率 水酶法 纤维降解 响应面分析
【英文关键词】Extrusion Expansion Oil extraction yield Enzyme-assistaed aqueous extraction Cellulose degradation Response surfacemethodology
【中文摘要】在单因素试验和挤压膨化机稳定工作基础上,采用响应曲面设计研究了挤压膨化工艺参数对水酶法提取大豆油脂得率与纤维降解率的影响。利用SAS软件建立了数学模型,并对各因素及交互作用进行了分析。结果表明:当模孔孔径为20mm、物料含水率为14・5%、螺杆转速为105 r/min、套筒温度为90°C时,总油提取率最优值为93・02%±0・29%。当模孔孔径为18mm、物料含水率为15%、螺杆转速为100 r/min、套筒温度为95°C时,纤维降解率最优值为40・28%±0・43%。挤压膨化过程中纤维降解程度对总油提取率影响很大。总油提取率并不完全取决于挤压膨化过程中纤维降解程度
【英文摘要】Based on single factor experimen,t response surface methodology was used and orthogonal experimentwas designed to investigate the effect of extruding parameters on soybean oil yield extracted with enzyme-assisted aqueous extraction processing and cellulose degradability after extrusion and expansion. Statistical analysis system (SAS) was employed to establish regressionmodel and

interaction of factorswas analyzed. Results showed that the optimal total soybean oil yield is 93・02%±0・29% onresponse surfacewith the die length of20mm, moisture ofmaterial of14・5%, rotate speed for screw of 105 r/min, and sleeve temperature of 90°C. Furthermore, There existences a optimal cellulose degradability value of40・28%±0・43% on response surfacewhen die length is18mm, moisture ofmeal is 15%, rotate speed of screw is 100 r/min, and sleeve temperature is 95°C. The degree of cellulose degradability has a significant effect on total oil extraction yield during extrusion and expansion period,total oil extraction yield during extrusion and expansion was not only dependent on cellulose degradability.

【语种】中文
【第一作者】李杨
【通讯作者】江连洲
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【学科分类】食品加工技术

【题目】复合酶法提取稻麸蛋白工艺的优化
【中文关键词】米糠分离蛋白 优化设计 复合酶
【英文关键词】rice bran protein separation optimal design composite enzymes
【中文摘要】运用配料试验设计, 采用纤维素酶、复合蛋白酶、植酸酶提取 米糠分离蛋白, 建立复合酶配合比例与蛋白得率之间的数学模型, 确定最佳配比为: 纤维素酶 65. 84% 、蛋白酶 18. 52% 、植酸 酶 15. 64% , 最佳反应条 件为: 复合 酶温度 45°C、底物浓度 20% 、酶添加量 4% 、pH 值 5. 5、水解时间 2 h, 最终蛋白收率可达 86% 以上。的数学模型, 确定最佳配比为: 纤维素酶 65. 84% 、蛋白酶 18. 52% 、植酸 酶 15. 64% , 最佳反应条 件为: 复合 酶温度 45°C、底物浓度 20% 、酶添加量 4% 、pH 值 5. 5、水解时间 2 h, 最终蛋白收率可达 86% 以上。
【英文摘要】An experimental method based on controlled mixture r atio of different enzymes in order to improve theyield of r ice bran protein separation w as proposed. T he model betw een r ice bran protein separ ation and mixtureratio w ith cellulase, proteases and phytase w as established. T he optimal propor tions of enzymes w er e cellulase65. 84% , pr oteases 18. 52% , phytase 15. 64% . The optimum extracting conditions w ith rice br an protein yieldover 86% w er e obtained by adding 4% of the enzymes, substrate mass ratio to defatting rice bran by dissolving at20% in w ater and incubating 2h at 45°C and pH 5. 5.
【语种】中文
【第一作者】徐红华
【通讯作者】徐红华
【期刊名称、卷期、页码】农业工程学报,2006,22(1) : 157- 160
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【学科分类】食品加工技术

【题目】挤压豆渣中可溶性膳食纤维制备工艺的优化
【中文关键词】可溶性膳食纤维,工艺,优化,挤压,豆渣
【英文关键词】soluble dietary fibers technology optimization extrusion soybean residue
【中文摘要】为了获得碱法制备挤压豆渣中可溶性膳食纤维的最适工艺参数,以液固比、温度、时间和碱浓度为试验因子,以可溶性膳食纤维产率为响应值,采用中心旋转组合试验设计进行试验。结果表明:4 个因素对可溶性膳食纤维产率的影响大小依次为碱浓度>液固比>温度>时间。通过典型性分析得出可溶性膳食纤维最适制备条件为:液固比 26∶1、温度 89°C、时间 68 min、碱浓度 1.12%。在此条件下,可溶性膳食纤维产率的预测值为 33.96%,验证试验所得可溶性膳食纤维产率为 34.12%。回归方程的预测值和试验值差异不显著,所得回归模型拟合情况良好,达到设计要求。在本试验优化的条件下,以经挤压豆渣为原料制备的可溶性膳食纤维产率(34.12%)显著高于以未经挤压豆渣为原料的产率(13.51%)。
【英文摘要】Optimized technology for preparing soluble dietary fiber from extruded soybean residue was studied by the centralcomposite rotatable design with four variables of the ratio of liquid to solid, temperature, time and alkali concentration. Theyield of soluble dietary fiber was the evaluation index. The results indicated that the effect order of four factors on the yield ofsoluble dietary fiber was as follows: alkali concentration, ratio of liquid to solid, temperature and time. The canonical analysisrevealed that the optimal

conditions for preparation of soluble dietary fiber were: ratio of liquid to solid 26∶1, temperature89℃, time 68 min and alkali concentration 1.12%. Under optimal conditions, the predicted yield of soluble dietary fiber fromextruded soybean residue was 33.96%, whereas, the experimental yield of soluble dietary fiber was 34.12%. TheRSM-predicted yield and the experimental yield of soluble dietary fiber were not significantly different from each other. Theresults showed that the empirical model developed by response surface methodology was adequate to describe the relationshipsbetween the factors and response values. Under optimal conditions,the yield of soluble dietary fiber from extruded soybeanresidue (34.12%) was significantly more than that from soybean residue (13.51%).

【语种】中文

【第一作者】娄海伟

【通讯作者】迟玉杰

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【学科分类】食品加工技术

【题目】转谷氨酰胺酶对大豆11S蛋白疏水性的影响

【中文关键词】转谷氨酰胺酶 大豆11S球蛋白 疏水性

【英文关键词】transglutaminase soybean 11S globulins hydrophobicity

【中文摘要】利用转谷氨酰胺酶(TGase)对大豆11S球蛋白改性并对其疏水性进行研究。通过单因素考察和正交实验分析,得出最佳改性条件的组合为加酶量是30U/g,pH是7·5,反应温度是45℃,测得的最大11S蛋白表面疏水性指数(S0)为3076·6。

【英文摘要】The hydrophobicity of soybean 11S globulins by transglutaminase was studied.The influence of singe factor and then those of multi-factor was investigated by orthogonal experiment.The best condition was comfirmed:TGase concentration was 30U/g,pH 7.5,temperature 45℃,The hydrophobicity index of 11S globulins was 3076.6.

【语种】中文

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【通讯作者】于国萍

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【学科分类】食品科学技术基础学科

【题目】碱改性对脱脂豆粉表面疏水性的影响

【中文关键词】碱改性 脱脂豆粉 表面疏水性

【英文关键词】alkli-modification defatted soybean powder hydrophobicity

【中文摘要】研究了碱改性对脱脂豆粉表面疏水性的影响。结果表明:碱改性后的脱脂豆粉表面疏水性明显提高。碱改性最佳条件为:脱脂豆粉浓度7%、pH11·7、温度60℃、作用时间1·8h。改性后,脱脂豆粉中蛋白最大表面疏水性指数为1159·6±20·74。

【英文摘要】The hydrophobicity of alkli-modified defatted soybean powder was investigated.Results indicated that defatted soybean powder showed higher hydrophobicity than the former after alkli-modification.And the optimized condition was that:the concentration of defatted soybean powder was 7%,pH was 11.7,temperature was 60℃,and time was 1.8h.And the index of the protein hydrophobicity of alkli-modified defatted soybean powder was 1159.6±20.74.

【语种】中文

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【学科分类】食品加工技术

【题目】热处理及葡萄糖酸-δ-内酯对大豆分离蛋白凝胶特性的影响
【中文关键词】热处理 葡萄糖酸-δ-内酯 诱导 大豆分离蛋白 凝胶
【英文关键词】heat treatment glucono-δ-lactone induce soy protein isolate gel
【中文摘要】探讨热处理以及葡萄糖酸-δ-内酯诱导的酸化作用对大豆分离蛋白凝胶特性的影响。结果表明:热处理显著提高大豆分离蛋白凝胶的凝胶强度、表面疏水性、保水性。最佳工艺条件为:90℃加热处理40min。大豆分离蛋白经葡萄糖酸-δ-内酯诱导酸化后,形成热处理凝胶的凝胶特性发生了显著的变化。
【英文摘要】Soybean protein isolate(SPI) was heated for different periods of time at different temperatures in order to investigate the effects of length of heating time and heating temperature on the gel strength,surface hydrophobicity,water-holding capacity of SPI.Length of heating time of 40 min and heating temperature of 90 ℃ were found optimum.Along with this,glucono-δ lactone-induced acidification on SPI was investigated,and the optimum induction time was found to be 6 h.Also,the effect of acidification induced by different concentrations of glucono-δ-lactone followed by heating treatment under optimized conditions on the gel strength,surface hydrophobicity,water-holding capacity of SPI was explored,and the results obtained showed that glucono-δ-lactone-induced acidification resulted in significant changes in these three characteristics of heated SPI.
【语种】中文
【第一作者】于国萍
【通讯作者】于国萍
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【学科分类】生物化学工程

【题目】转谷氨酰胺酶催化对大豆分离蛋白凝胶性的影响
【中文关键词】转谷氨酰胺酶 大豆分离蛋白 凝胶性
【英文关键词】transglutaminase soybean protein isolate gelcharacteristics
【中文摘要】以大豆分离蛋白为原料,探讨了转谷氨酰胺酶对大豆分离蛋白凝胶特性的影响。结果表明,转谷氨酰胺酶能够显著的提高了大豆分离蛋白凝胶的凝胶强度。二次旋转正交设计的最佳工艺条件为:酶添加量40 U.g-1、温度40℃、pH 7.5、作用时间2.5 h;最大凝胶强度为(150.547±6.374)g,但此时凝胶表面疏水性和保水性有所下降。研究为改进我国大豆蛋白的功能性和应用价值提供参考。
【英文摘要】The characteristics of the gel of SPI after transglutaminase(TGase)-treated were measured.The results showed that gel hardness of TGase-treated SPI significantly increased compared to those formed by the control.And the optimized condition square rotation cross-regression experiment was that: enzyme additive was 40 U.g-1,temperature was 40 ℃,pH was 7.5 and the time was 2.5 h.And the SPI gel hardness was(150.547±6.374)g.However,surface hydrophobicity and the water-holding capacity of soyprotein isolate gel decreased at this time.It offers the references for the improvement of soybean functionality and applied value.
【语种】中文
【第一作者】于国萍
【通讯作者】于国萍
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【学科分类】农学其他学科

【题目】离子与交联剂对大豆分离蛋白凝胶性质的影响
【中文关键词】大豆分离蛋白凝胶 氯化钠 氯化钙 巯基乙醇
【英文关键词】SPI gelatin NaCl CaCl 2 mercaptoethanol

【中文摘要】通过研究离子与交联剂两种因素对大豆分离蛋白凝胶形成的影响, 确定哪种添加剂对提高大豆分离蛋白的凝胶性质更为有效。研究结果表明: 巯 基乙醇对提高大豆分离蛋白凝胶性更 为有效, 添加量为0. 3%; 氯化钠及氯化钙对大豆分离蛋白的凝胶性也有提高, 但效果不及巯基乙醇。

【英文摘要】The effects of mercaptoethanol, NaCl and CaCl 2 on certain physico- chemical properties of soybean protein isolate (SPI) in resulting gel were investigated. The conclusion is that mercaptoethanol is effective for enhancing the gela tinization of SPI and the proper dose is 0. 3% ; NaCl and CaCl 2 also enhance the gelatinization of SPI, but less effective.

【语种】中文

【第一作者】郑梦

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【学科分类】食品加工技术

【题目】挤压蒸煮对豆渣中可溶性膳食纤维含量的影响

【中文关键词】挤压蒸煮 豆渣 可溶性膳食纤维

【英文关键词】extrusion- cooking soybean residue soluble dietary fiber

【中文摘要】采用挤压蒸煮技术提高豆渣中可溶性膳食纤维的含量。通过单因素和正交试验, 研究不同挤压条件对豆渣中可溶性膳食纤维含量的影响。结果表明: 在物料水分20% 、螺杆转数 175r/min、挤压温度160e条件下处理的豆渣, 其可溶性膳食纤维含量从2.79%提高到14.53%, 不溶性膳食纤维的含量从 60.15%下降到 48.53% , 且不溶性膳食纤维的减少量和可溶性膳食纤维的增加量基本一致, 总膳食纤维的含量基本没有发生变化, 同时豆渣膳食纤维的持水力从 5.56g/g 上升到 9.71g/g, 膨胀力从 6.33mL/g 上升到9.58mL/g。豆渣经上述挤压条件处理,其可溶性膳食纤维含量得到显著提高,物化特性得到明显改善, 生理功能特性得到增强。

【英文摘要】The aim of this work is to increase the content of soluble dietary fiber in soybean residue adopting extrusion -cooking technique. Basing on single- factor tests and orthogonal experiments, the relationship between the content of soluble dietary fiber and the extrusion conditions was studied. Results show: When the soybean residue with moisture 20 % was extruded at extrusion temperature 160 e and screw- speed 175 r/min, the content of soluble dietary fiber increases to 14.53 % from 2.79 %, meanwhile the content of insoluble dietary fiber is reduced to 48.53% from 60. 15 % . The decrement of insoluble dietary fiber is almost consistent with the increment of soluble dietary fiber, and the content of total dietary fiber has hardly any change. At the same time, thewater holding capacity of the dietary fiber increases to9.71g/g from 5.56g/g and swelling ability increases to 9.58 mL/g from 6.33 mL/g. Under the optimum conditions, the physio2 logical and functional characteristics of soybean residue are enhanced.

【语种】中文

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【通讯作者】迟玉杰

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【学科分类】食品加工技术

【题目】微波辅助磷酸化改性提高大豆分离蛋白乳化性的研究

【中文关键词】大豆分离蛋白 磷酸化 微波 乳化性

【英文关键词】soy protein isolate phosphorylation microwave emulsifying activity

【中文摘要】以提高大豆分离蛋白乳化性为目的 ,微波辅助磷酸化改性大豆分离蛋白 ,测定改性前后大豆分离蛋白乳化性 ,并与磷酸化改性方法进行比较。结果显示 ,相较空白对照、微波对照和磷酸化对照组 ,微波辅助磷酸化蛋白粉乳化性显著增加 ,其乳化活性分别提高了 3、1. 9 和 1. 3 倍 ,乳化稳定性提高了 1. 3、1. 2、1. 1倍 ,乳化性在考察范围内随磷酸化程度的增加而增大 (P < 0. 05) 。微波辅助磷酸化改性技术参数为预处理2 min ,微波功率 600 W ,微波时间 3 min。相较磷酸化改性方法 ,将改性时间由 180 min 缩减至 3 min ,大幅提高效率、节约成本 ,具有广阔的应用前景。

【英文摘要】Aiming to improve the emulsification properties of soy protein isolate (SPI) , the effect of microwave - assisted phosphorylation was compared with that of phosphorylation and that of microwave treatment , and the emulsifying activity of SPI before and after the treatments were examined. Results show that the emulsifying activity of SPI increases sigificantly (P < 0. 05) after the microwave - assisted phosphorylation. Compared with control sample , microwave sample and phosphorylation sample , the emulsifying activity of the microwave - assisted phosphorylation sample is about 3 , 1. 9 ,and 1. 3 times higher , respectively , and the emulsification stability is about 1. 3 , 1. 2 , and 1. 1 times higher , respectively.The optimum condition of the microwave - assisted phosphorylation are pretreating time 2 min , microwave power 600 W and radiation time 3 min. Compared with the phosphorylation technology , the microwave - assisted phosphorylation technology shortens modification time from 180 min to 3 min , greatly enhances efficiency and decreases cost , and it is promising forapplication.
【语种】中文
【第一作者】海日罕
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【学科分类】食品科学技术基础学科

【题目】可降解大豆分离蛋白复合薄膜制备技术的研究
【中文关键词】大豆卵磷脂 罗红霉素 脂质体 薄膜相结合的方法 冷冻-解冻
【英文关键词】soybean lecithin roxithromycin liposome thin film method combined with the freeze - thawing leakage
【中文摘要】研究并确定了大豆分离蛋白成膜的关键技术,包括复合膜配方、成膜温度和时间、干燥条件、涂膜和揭膜方式等。制备出可以降解,并具有一定机械强度、弹性、阻气性、阻水性的复合蛋白包装薄膜,部分替代塑料用于食品包装领域(方便面或茶叶料包;果腊、糖衣、糯米纸;禽蛋、水果、蔬菜的涂膜保鲜包装等),以减少环境污染,具有十分广阔的市场应用前景。研究结果表明:大豆分离蛋白浓度 4. 0 %,增塑剂 2.0%,还原剂1.0%,成膜性能较好,抗拉强度可达 6 315. 551 g,厚度为 0.11mm,透H2O 性 16.204 mg/(cm2 · d),透O2性0.313 mg/(cm2 · d),透 CO 2 性 3. 016 mg/(cm2 · d)。
【英文摘要】To prepare the roxithromycin liposome with granule soya lecithin , the thin film method combined with freeze - thawing was adopted , and the entrapment efficiency of roxithromycin liposome was determined by UV spectrophotometry. The influence of component proportions in oxithromycin liposome formulation and hydration medium on the entrapment efficiency were studied. Results : The optimum conditions of making roxithromycin liposome are temperature 40 ℃,mass ratios of roxithromycin ν lecithin = 1∶25 , roxithromycin ν vitamin E = 100∶1 ,roxithromycin ν cholesterol = 1∶2 ;hydration medium is 6 % mannitol solution ,and dose of the 6 % mannitol solution is 20 mL. In this case , the entrapment efficiency of roxithromycin liposome is 63. 98 %. This method is accurate and applicable , and the product property is very stable.
【语种】中文
【第一作者】张华江
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【引文索引类型】其他
【引文索引号】0
【学科分类】食品加工技术

【题目】超滤技术在抗氧化大豆肽制备中的研究
【中文关键词】大豆抗氧化肽 超滤 响应面
【英文关键词】soybean anti-oxidation peptide ultrafiltration response surface
【中文摘要】大豆肽本身具有抗氧化作用,经过一定条件的超滤膜处理后,大豆肽的抗氧化作用得到了显著提高。通过实验表明,抗氧化作用的肽是分子量小于 2000Da的组分,并且利用响应面法优化了 2000Da的超滤膜,超滤的最适条件为超滤压力 0 1 37MPa、pH6、温度 44℃、时间 100m in。在此超滤条件下的响应面分析预测值为 29 1 09912L / (m2 · h),并且通过验证实验得以验证。

【英文摘要】Soybean peptide has the effect of anti-oxidation.After being processed by ultra-filtration film on certain conditions,the anti-oxidative effect of soybean peptide can be improved significantly.The experiment showed that the peptide,which causes the anti-oxidation,was the component whose molecular weight is less than 2000Da.In the experiment the method of response surface had been applied to improve the ultra-filtrate film with 2000Da,and the best appropriate ultra-filtrate condition was that:ultra-filtration pressure 0.37MPa,pH value 6,the temperature 44℃,the time 100min.The analytical predictor of response surface under this ultra-filtration condition was 29.09912L/(m2 · h),which had been verified in verification test.
【语种】中文
【第一作者】孙月梅
【通讯作者】江连洲
【期刊名称、卷期、页码】食品工业科技,2009,30(2):94-96
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【引文索引号】0
【学科分类】食品科学技术基础学科

【题目】脱脂豆粕酶水解物抗氧化活性的研究
【中文关键词】脱脂豆粕 酶水解物 抗氧化活性
【英文关键词】defatted soybean meal enzymatic hydrolysates antioxidative ctivity
【中文摘要】采用碱性蛋白酶(Alcalase 2.4L)对脱脂豆粕进行水解,以二苯代苦味酰基自由基清除率和亚油酸过氧化抑制率为指标,通过对酶解温度、时间、pH、加酶量以及底物浓度等影响因素的系统研究,建立了脱脂豆粕的优化酶解工艺。结果表明,酶解温度为55℃、时间为3h、pH为8.0、加酶量19200U/g底物、底物浓度8%,酶水解物的自由基清除率和过氧化抑制率分别为41.13%、34.16%,水解度为35.0%。
【英文摘要】Defatted soybean meal was hydrolyzed by Alcalase 2.4 L.DPPH free radical scavenging activity and anti-linoleic acid peroxidation capacity were chosen as the response values.Then the optimal technique was established through a systemic research on the influencing factors,including enzymolysis temperature,time,proteases concentration and substrate concentration,etc.Results showed that the defatted soybean meal could be effectively hydrolyzed by the alkali protease Alacase 2.4 L,and the optimal technique conditions were temperature 55℃,time 3h,pH8.0,proteases concentration 19200U/g substrate,and substrate concentration 8%.The DPPH free radical scavenging activity and anti-linoleic acid peroxidation capacity of enzymatic hydrolysates could be 41.13% and 34.16%,respectively,with the hydrolyte degree of 35.0%.
【语种】中文
【第一作者】许晶
【通讯作者】江连洲
【期刊名称、卷期、页码】食品工业科技,2009,30(6):208-211
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【引文索引号】0
【学科分类】食品科学技术基础学科

【题目】ASE_GPC_GC法测定大豆及豆制品中六六六_滴滴涕农药残留
【中文关键词】大豆及豆制品 加速溶剂萃取 凝胶渗透色谱 气相色谱 六六六 滴滴涕
【英文关键词】soybean and soybean products accelerated solvent extraction (ASE) gel permeation chromatography (GPC) gas chromatography (GC) hexachlorocyclohexane (HCH) dichlorodiphenyl trichloroethane (DDT)
【中文摘要】建立一种同时测定大豆及豆制品中α-HCH、β-HCH、γ-HCH、δ-HCH、ρ,ρ′-DDE、ρ,ρ′-DDD、o,ρ′-DDT、ρ,ρ′-DDT8种有机氯农药残留的气相色谱分析方法。样品经加速溶剂系统萃取(ASE)和凝胶渗透色谱净化(GPC)后,采用气相色谱配备电子捕获检测器进行分离测定。0.005~0.100mg/kg范围内各残留药物线性良好,相关系数r均在0.9990以上;在0.005、0.020、0.050mg/kg3个加标水平下进行了方法验证,平均回收率为78.3%~107.6%,相对标准偏差为2.1%~5.5%;方法检测限(LOD)为0.2~1.8μg/kg。该方法重现性好、灵敏度高、分析迅速,各项指标均满足国内外法规要求,适用于大豆及豆制品中六六六和滴滴涕残留的分析检测。
【英文摘要】A method for the determination of 8 HCH and DDT in soybean and soybean products was established with accelerated solvent extraction (ASE), auto gel permeation chromatography purification (GPC) and gas chromatography quantification. The

calibration curves presented good linear relationship in the range of 0.005-0.100 mg/kg, and the correlation coefficients were above 0.9990 for all compounds. Recoveries of all added were 78.3%-107.6% respectively, and relative standard deviations (RSD) were 2.1%-5.5% with spiked at 0.005, 0.020, 0.050 mg/kg of HCH and DDT in blank samples. The limit of detection of the method were 0.2-1.8 μg/kg. The method was of good reproducibility, high sensitivity, shorter analysis time, and its performance could meet the requirements of the domestic and international legislation.
【语种】中文
【第一作者】魏冬旭
【通讯作者】江连洲
【期刊名称、卷期、页码】食品科学,2009,30(24):351-354
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【引文索引号】0
【学科分类】食品科学技术其他学科

【题目】超声波法提取大豆糖蜜中大豆皂苷的研究
【中文关键词】超声波 大豆糖蜜 大豆皂苷
【英文关键词】ultrasonic wave soy molasses soybean saponin
【中文摘要】以醇洗大豆浓缩蛋白副产物大豆糖蜜为原料,研究了超声波法提取大豆糖蜜中大豆皂苷的试验条件,并与索氏提取法进行比较。在对超声温度、超声功率、超声时间、丙酮浓度和料液比单因素试验基础上,采用了正交试验法优化提取工艺条件。正交试验结果显示,超声波法提取大豆皂苷的最佳条件为:超声温度40℃,超声功率400 W,超声时间30 min,丙酮浓度40%,料液比1∶14,大豆皂苷的得率可达2.56%,提取率达51.20%。与索氏提取法相比,均提高了25.5%。
【英文摘要】For the extraction of soybean saponin from soy molasses(a by-product of alcohol treated soy protein concentrate),the conditions of ultrasonic wave extraction were studied and compared with Soxhlet extraction.The influence factors such as ultrasonic temperature,power,time,acetone concentration,and solid-liquid ratio were studied with single factor tests,and the extraction conditions were optimized through an orthogonalized experiment.Results: The obtained optimum ultrasonic wave extraction conditions are ultrasonic wave power 400 W,ultrasonic wave treating time 30 min,acetone solution concentration 40% and solid-liquid ratio 1∶14.Under the conditions the yield rate and extraction efficiency of soybean saponin are 2.56% and 51.20% respectively,which are both higher than those of Soxhlet extraction by 25.5%.
【语种】中文
【第一作者】许晶
【通讯作者】江连洲
【期刊名称、卷期、页码】中国粮油学报,2009,24(9):23-26
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【引文索引号】0
【学科分类】食品加工的副产品加工与利用

【题目】超声波辅助水酶法提取大豆油的研究
【中文关键词】全脂大豆粉 水酶法 超声波 大豆油
【英文关键词】full-fat soybean powder aqueous enzymatic extraction ultrasound soybean oil
【中文摘要】以全脂大豆粉为原料,采用超声波辅助水酶法提取大豆油,并对其中的超声波处理条件和酶解条件进行研究,经单因素实验与正交实验,确定水酶法提取大豆油的适宜酶解条件为:料液比1∶6,酶用量2.0%,pH 9.0,酶解温度55℃,酶解时间4 h。在此条件下大豆油提取率为73.56%。水酶法提油前对全脂大豆粉进行超声波预处理,可有效提高大豆油提取率。在超声波温度50℃,超声波功率400 W下处理15 min可将大豆油提取率提高至86.13%,比未经超声波预处理的高出12.57%。
【英文摘要】Aqueous enzymatic extraction of soybean oil from full-fat soybean powder assisted by ultrasound was studied,and the enzymatic hydrolysis conditions were optimized emphatically.The hydrolysis conditions were determined as follows: ratio of stuff to water 1∶6,dosage of Alcalase 2.0%,temperature 55℃,time 4 h,pH 9.0.Under the optimal conditions,the oil extraction efficiency reached 73.56%.The ultrasound irradiation at 400 W and 50℃ for 15 min followed by aqueous enzymatic extraction could increase the oil extraction efficiency to 86.13%,which was 12.57% higher than that of non-irradiation with ultrasound.

【语种】中文
【第一作者】杨柳
【通讯作者】江连洲
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【学科分类】食品加工技术

【题目】醇法大豆浓缩蛋白及其在肉制品中的应用
【中文关键词】醇法大豆浓缩蛋白 改性工艺 肉制品 功能特性
【英文关键词】Ethanol concentrated soybean protein method Modification process Meat products Functional properties
【中文摘要】介绍了醇法大豆浓缩蛋白的产品特点,并简述了国内外醇法大豆浓缩蛋白改性工艺的发展状况以及其在肉制品应用中的功能特性、营养特性及添加方法,为醇法大豆浓缩蛋白的广泛应用提供了参考。
【英文摘要】This paper introduces the characteristics of Alcohol Soybean Protein Concentrate(ALSPC),reviews the develop-ment of its modified process both at home and abroad as well as functional properties,nutritional characteristics and adding methods of ECSP in meat products.
【语种】中文
【第一作者】娄巍
【通讯作者】江连洲
【期刊名称、卷期、页码】大豆科技,2009,6:57-59
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【学科分类】食品科学技术基础学科

【题目】大豆多肽的功能特性及在食品工业中的应用
【中文关键词】大豆多肽 加工方法 功能特性 营养生理功能
【英文关键词】Soybean Peptides Methods in Processing Functional Properties Nutritional and Physiological Function
【中文摘要】本文介绍了大豆多肽的制取方法,对大豆多肽的功能特性及加工特性进行综述,并进一步探讨了大豆多肽作为一种新型的功能因子在一些食品开发中的应用前景。
【英文摘要】This paper introduced the method to produce soybean peptides and summarized the function of soybean and its the process properties.The applied prospects of soybean peptides as a late-model functional factors in food industry were further discussed.
【语种】中文
【第一作者】隋晓楠
【通讯作者】江连洲
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【学科分类】食品科学技术基础学科

【题目】大豆分离蛋白饮品的研制及稳定性研究
【中文关键词】大豆分离蛋白 稳定性 果汁
【英文关键词】soybean protein isolates stability fruit juice
【中文摘要】以大豆分离蛋白、自制复合脂肪、果汁为主要原料研制出新型植物蛋白保健饮品,并对影响其稳定性因素进行了研究。优化饮品配方:大豆分离蛋白2.5%,酸0.4%,果汁15%,糖10%,复合脂肪2%。稳定剂优化试验结果:PGA为0.06%,CMC为0.08%,分子蒸馏单甘酯为0.03%,三聚甘油酯为0.05%,Tween40为0.06%(均为质量分数,下同)。产品稳定性良好,3个月内无沉淀、絮凝现象。

【英文摘要】A new mixed soymilk drink is made from SPI,Fruit juice and oil,and the stability of soymilk-juice were studied.The result showed that the percentage addition of SPI、acid、fruit juice、sugar and oil were decided upon: 2.5%、0.4%、15%、10%、2%.And the effects of some influential factors on stability of soymilk drinks were studied,results indicated: PGA 0.06%,CMC 0.08%,GMS0.03%,tri-polyglyceryl fatty acidester0.05% and Tween40 0.06%.
【语种】中文
【第一作者】王喜波
【通讯作者】王喜波
【期刊名称、卷期、页码】中国乳品工业,2008,36(5):30-32
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【学科分类】食品加工技术

【题目】大豆乳清蛋白饮料的研制
【中文关键词】大豆乳清蛋白 蛋白饮料
【英文关键词】soybean whey protein protein beverage
【中文摘要】研究以生产大豆分离蛋白过程中排放的大豆乳清水为原料,经抽滤、脱色、脱味、脱盐处理后得到富含大豆乳清蛋白的澄清液,然后通过单因素及正交实验确定最佳配方及生产工艺。研制出风味独特、口味清新的大豆乳清蛋白的饮料产品。
【英文摘要】Using the soybean whey protein water as raw material which produced in the process of the soybean separation protein,the clear serum which contains rich soybean whey protein was obtained after filter,decolorization,taking off flavor and desalinization.The optimum formula and producing techniques were decided by orthogonal design.A kind of light protein beverage which taste fresh and rich in whey soybean was developed.
【语种】中文
【第一作者】李佳栋
【通讯作者】富校轶
【期刊名称、卷期、页码】食品工业科技,2009,30(1):204-208
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【学科分类】食品科学技术其他学科

【题目】大豆肽对白羽肉鸡生产性能及胴体品质的影响
【中文关键词】大豆肽 肉鸡 生产性能 胴体品质
【英文关键词】The soybean peptide broiler performance carcass quality
【中文摘要】探讨大豆肽对肉鸡生产性能和胴体品质的影响,试验将1日龄的180只AA+白羽肉鸡,采用单因素随机试验设计分为5个处理,每处理设4个重复,在相同基础日粮中分别添加0、0.2%、0.4%、0.6%和0.8%(大豆肽≥40%)的大豆肽,试验期为6周。肉鸡21和42日龄时称质量并统计耗料量和死亡数,计算平均日增质量、平均日采食量、料肉比和成活率。试验结束时,从每重复中随机选取2只试鸡做屠宰试验,计算屠宰率、全净膛率、胸肌率、腿肌率和腹脂率。结果表明,日粮中添加大豆肽可提高白羽肉鸡的生产性能,改善白羽肉鸡的胴体品质,而且随大豆肽添加量的增加效果越明显。
【英文摘要】Soybean peptide on broiler performance and carcass quality, testing 1-day-old 180 AA + white feather chicken, divided into five treatment single factor randomized trial design, each processing four replicates, in the same basal dietadd 0, 0.2%, 0.4%, 0.6% and 0.8%, respectively (soybean peptide ≥ 40%) and soybean peptide, a trial period of six weeks. Broiler 21 and 42 days, said quality and Statistics feed consumption and the number of deaths, calculate the average daily gain, average daily feed intake, feed conversion and survival rate. The end of the trial, were randomly selected from each repeated two to try the chicken do slaughter test calculation of slaughter rate, eviscerated yield, breast muscle rate, leg muscle rate and abdominal fat percentage. The results show that the diets supplemented with soybean peptide white feather broiler production performance, improved white feather broiler carcass quality, and with the effect of an increase in the amount of soybean peptides Add more obvious.
【语种】中文

【第一作者】李丹
【通讯作者】江连洲
【期刊名称、卷期、页码】饲料研究,2009,2:31-34
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【引文索引类型】其他
【引文索引号】0
【学科分类】农学其他学科

【题目】大豆制品的营养成分及研究进展
【中文关键词】大豆制品 营养 研究现状 发展趋势
【英文关键词】Soybean Products Nutrition Status Development Trend
【中文摘要】文中综述了大豆制品的营养成分及生理功能,探究了大豆制品的研究现状和发展趋势。
【英文摘要】The nutritional components and physiological functions of soybean products were summarized. And Its reseach status and develepmeat trends were discussed.
【语种】中文
【第一作者】王中江
【通讯作者】江连洲
【期刊名称、卷期、页码】中国食物与营养,2010,4:16-19
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【学科分类】食品科学技术基础学科

【题目】大豆组织蛋白素火腿肠的研制
【中文关键词】大豆组织蛋白 素食 火腿肠 均匀设计
【英文关键词】Textured soybean protein Vegetarian Sausage Uniform design
【中文摘要】大豆组织蛋白具有丰富的营养价值和类似于肉类的口感,它是一种高蛋白低脂肪的食品,且容易被人体吸收。利用组织蛋白具有类似肉及高蛋白的特点,开发一种营养、方便的素食制品以满足不同消费者的需求。研究采用均匀设计法来设计实验,通过感观评定结合质构分析确定最佳的添加量。
【英文摘要】TSP(Textured Soybean Protein)has abundant nourishment value and the tissue is familiar to meat.It is a kind of foods which is high in protein and low in fat and can also be easily absorbed by human.In order to make full use of the characteristics,this experiment intended to develop a kind of vegetarian products to satisfy the needs of different consumers.We designed the experiment by uniform design and determine the best ratio with the help of sense organ and texture profile analysis.
【语种】中文
【第一作者】郝晓亮
【通讯作者】江连洲
【期刊名称、卷期、页码】大豆通报,2007,3:23-25
【论文发表时间】2007-05-25 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】食品加工技术

【题目】大豆组织蛋白素食肉块的研制
【中文关键词】大豆组织蛋白 素食肉块 均匀设计
【英文关键词】Textured soybean protein Vegetarian meat Uniform design
【中文摘要】大豆组织蛋白具有丰富的营养价值和类似于肉类的口感,它是一种高蛋白低脂肪的食品。实验目的在于用大豆组织蛋白开发出营养、便携的素食肉块调料。试验利用均匀设计的方法来确定制备大豆组织蛋白素食肉块的各材料的添加量,用感官评定方法确定各材料的最佳配比,使其达到最好的状态与口感。
【英文摘要】TSP(Textured Soybean Protein)has abundant nourishment value and the tissue is familiar to meat.It is a kind of food which is high in protein and low in fat,it also can be absorbed by people easily.The aim of this research is to develop nutritional and

convenient vegetarian meat.By this way it can resolve the problem of inanition by low protein,enhance the nourishment value and reduce production cost.
【语种】中文
【第一作者】孙月梅
【通讯作者】江连洲
【期刊名称、卷期、页码】大豆通报,2007,2:23-25
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【学科分类】食品加工技术

【题目】蛋白酶对水酶法提取大豆油脂及蛋白质的影响研究
【中文关键词】大豆 蛋白酶 油脂提取率 蛋白质提取率
【英文关键词】soybean protease the extraction yield of oil the extraction yield of protein
【中文摘要】选择了中性蛋白酶、风味蛋白酶、碱性蛋白酶、复合蛋白酶及木瓜蛋白酶,分别按不同添加量及不同酶解时间对全脂豆粉进行了水酶法实验,考察不同蛋白酶对油脂及蛋白质提取率的影响。结果显示,不同蛋白酶的选择对油脂及蛋白质提取率具有较大影响。当碱性蛋白酶的添加量为2%(酶与底物质量比),酶解时间为4h时,油脂及蛋白质提取率最高,分别为73.08%和73.97%。
【英文摘要】Neutural protease,flavourzyme,alcalase,compound protease and papain were chose to carry out aqueous enzymatic extraction of full soybean flour. These different proteases were used with different accession and different zymohydrolysis time in the process of aqueous enzymatic extraction in order to enhance protein. The results indicated that it was important to choose a proper protease in order to enhance the extraction yield of oil and protein. Furthermore,the extraction yield of oil and protein could reach to 73.08% and 73.97% respectively when 2% alcalase was added in the processes of aqueous enzymatic extraction for 4 hours,and it was higher than all other proteases.
【语种】中文
【第一作者】杨柳
【通讯作者】江连洲
【期刊名称、卷期、页码】食品工业科技,2009,30(10):240-243
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【引文索引类型】其他
【引文索引号】0
【学科分类】食品科学技术基础学科

【题目】淀粉_蛋白质复合物制备_性质及应用研究
【中文关键词】淀粉-蛋白质复合物制备功能性质应用
【英文关键词】starch-proteinconjugatepreparationfunctionalpropertyapplication
【中文摘要】淀粉-蛋白质复合物是通过分子间交互作用形成的一种高分子聚集体,作为一种天然、无毒、安全的新型生物材料可广泛用于食品、医药、化妆品等行业。综述了近年来淀粉-蛋白质复合物的研究,并简要介绍了国内外其制备方法、功能性质及应用方面的基本研究状况,展望了其发展前景。
【英文摘要】Starch-protein conjugate,a new type of polymers aggregation,can be produced by interaction of molecules.It can be widely used in many industries as a new kind of biomaterial,which is innocuous and safe,including food,pharmaceutical,cosmetic and other industries.So many countries attach great importance to starch-protein conjugate for a long time.In this paper,much research work on starch-protein conjugate is summarized.The preparations,functional properties and applications of starch-protein conjugate are introduced.The long-term potential development of starch-protein conjugate is prospected.
【语种】中文
【第一作者】赵凯
【通讯作者】赵凯
【期刊名称、卷期、页码】现代化工,2007,27(1):67-70
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【引文索引号】0
【学科分类】食品科学技术基础学科

【题目】豆酱的加工现状与安全性分析
【中文关键词】豆酱 安全性 控制
【英文关键词】Soybean sauce Security Control
【中文摘要】对豆酱的国内外生产现状、安全性及发展前景进行了阐述,对豆酱生产过程及其产品中易出现的安全隐患进行了分析,并对涉及质量问题的不安全因素及其控制技术进行了探讨,提出了改进措施。
【英文摘要】This article described the domestic and international production status,as well as the security and development prospect of the soybean sauce.The potential safety hazards which would appear in the soybean sauce production process and product was analyzed The safety factors related to quality problem and the improving measures were also proposed.
【语种】中文
【第一作者】胡少新
【通讯作者】韩翠萍
【期刊名称、卷期、页码】大豆通报,2007,4:26-29
【论文发表时间】2007-07-25 00:00:00
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【引文索引号】0
【学科分类】食品加工技术

【题目】豆酱生产中HACCP体系的应用效果评价
【中文关键词】豆酱 HACCP 效果评价
【英文关键词】Soybean sauce HACCP Effect evaluation
【中文摘要】本文以HACCP体系实施前、后两个不同时期的酱醅和成品豆酱为研究对象,对其各项理化指标及微生物指标进行检测,阐述HACCP体系在豆酱生产中的重要作用。结果表明:HACCP体系的实施对产品的各项理化指标影响不大,铅、砷等重金属含量均达到国家标准;体系的实施对于大肠菌群和菌落总数控制效果明显,HACCP体系实施前的产品中大肠菌群和菌落总数明显高于实施后的产品;体系实施前的酱醅产品中检出少量的沙门氏菌和蜡样芽孢杆菌,体系实施后的酱醅中未检出沙门氏菌和蜡样芽孢杆菌;体系实施前后各时期产品中均无黄曲霉毒素、肉毒梭菌、和金黄色葡萄球菌检出。通过HACCP体系的实施,产品的报废率明显下降,产品质量得到了有效控制。
【英文摘要】In this paper,soy sauce mash and soybean paste in different periods which were produced by using or without using HACCP system were taken as the objects; meanwhile,their physical and chemical indicators and microbiological indicators were examined,and then the importance effects of HACCP application was described. The results showed that HACCP application had little effects on different physical and chemical factors,the contents of the heavy metal all achieved the standards of the government; Coliform group and the total numbers of bacterial flora were controlled better by the application of HACCP; the products which produced by using HACCP system had less Coliform and Bacterial flora than the products which produced without using HACCP system; less Salmonella and Cerea baucillus were detected in soy sauce mash before using HACCP system; there were no Aflatoxin,Clostridium botulinum,and Sstaphylococcus aureusnever detected before and after applying this kind of system. Thus,by using HACCP system,the scrappage was decreased obviously,the quality of the products was controlled effectively.
【语种】中文
【第一作者】张景亮
【通讯作者】江连洲
【期刊名称、卷期、页码】大豆科技,2010,1:25-29
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【引文索引号】0
【学科分类】食品科学技术基础学科

【题目】豆渣水溶性膳食纤维的研究现状与展望

【中文关键词】豆渣 水溶性膳食纤维 研究现状
【英文关键词】soybean dregs soluble dietary fiber status
【中文摘要】膳食纤维对人体健康具有特殊的生理功能,因此膳食纤维类食品受到消费者的欢迎,而水溶性膳食纤维被证实具有更好的生理作用和功能特性。本文综述了豆渣水溶性膳食纤维(SDF)的国内外研究现状,并对其主要成分、结构、特性、分析方法等进行了全面的总结。
【英文摘要】Dietary fiber has the special physiology function to human health.The dietary fiber food is welcomed among the consumers increasingly.Soluble dietary fiber was confirmed a better physiological role and functional properties.The research situation and prospect of soluble dietary fiber of soybean dregs were summarized.The composition,structure,characteristics and analytical methods of SDF were studied.
【语种】中文
【第一作者】李想
【通讯作者】程建军
【期刊名称、卷期、页码】食品工业科技,2008,29(4):305-307
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【引文索引类型】其他
【引文索引号】0
【学科分类】食品加工的副产品加工与利用

【题目】高湿挤压技术制备仿真鸡肉的工艺研究
【中文关键词】高湿挤压 仿真鸡肉 中心旋转组合设计 组织化度
【英文关键词】high moisture extrusion simulated chicken central composite rotatable design texturizing degree
【中文摘要】以大豆分离蛋白、脱脂大豆粉和谷朊粉为原料,利用高湿挤压法开发仿真鸡肉制品,对加工工艺参数进行了详细的研究。采用中心旋转组合实验设计,根据所得数据建立了组织化度(Y)和水分含量(X1)、挤压温度(X2)、螺杆转速(X3)及分离蛋白百分含量(X4)的相关数学统计模型。确定了高湿挤压法制备仿真鸡肉的最优工艺参数,即水分含量48%~56%,挤压温度为150.8~153.5℃,螺杆转速为28.1~29.1r/min,分离蛋白的百分含量为34.5%~37.7%。
【英文摘要】A kind of simulated chicken,based on soy protein isolate,defatted soy flour and wheat gluten as material,was developed by high moisture extrusion.Through the experimental plan of central composite rotatable design,the effects of moisture content(X1),extrusion temperature(X2),screw speed(X3),soy protein isolate content(X4) on texturizing degree(Y) were studied.The optimal process parameters of simulated chicken were determined,they were moisture content 48% ~56%,extrusion temperature 150.8 ~153.5℃,screw speed 28.1 ~29.1r/min,soy protein isolate content 34.5% ~37.7%.
【语种】中文
【第一作者】孙莹
【通讯作者】江连洲
【期刊名称、卷期、页码】食品工业科技,2009,30(7):198-201
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【引文索引号】0
【学科分类】食品加工技术

【题目】黑龙江省大豆加工业发展现状与前景分析调查报告
【中文关键词】黑龙江省 大豆行动计划 前景分析 大豆加工 传统豆制品
【英文关键词】HeilongJiang province soybean action Prospect Analysis soybean processing Traditional soybean
【中文摘要】1发展现状黑龙江省是全国的大豆主产区,也是大豆加工业的主要基地,更是大豆制品消费和经贸大市场。大豆及其加工制品在黑龙江省农产品生产和销售中占有重要的位置。2005/2006年度全省加工大豆444.8万t,占大豆总产的67.4%,实现工业产值78.96亿元,利税5.28亿元,拉动全省工业总产值上升2.3个百分点;2006/2007年度,加工大豆383.6万t,占大豆总产的62.2%,实现产值71.24亿元,利税3.2亿元,拉动工业总产值上升1.9个百分点。1.1大豆加工业现状黑龙江省大豆加工业具备优势:一是资源优势,黑龙江省大豆年总产500万t左右,能够保证大豆精深加工的原料供应;二是技术优势,
【英文摘要】1 Development Status Heilongjiang Province is a major soybean producing areas of the country, is also the main base of the soybean processing industry, consumption of soy products, economic and trade market. Soybean and its processed products in agricultural production and sales of Heilongjiang Province occupies an important position. 2005/2006, the province's processing

soybean 4.448 million tons, accounting for 67.4% of the total production of soybean, realized an industrial output value of 7.896 billion yuan, 528 million yuan of profits and taxes, driving the province's total industrial output value increased by 2.3 percentage points; 2006/2007, processing soybean 3.836 million tons, accounting for 62.2% of the total soybean production, the output value of 7.124 billion yuan, 320 million yuan of profits and taxes, boosting the total industrial output value increased by 1.9 percentage points. 1.1 Current Situation of soybean processing industry in Heilongjiang Province, soybean processing industry has advantages: First, the resource advantages of soybean in Heilongjiang Province, the total annual production of 500 million t about, be able to guarantee the supply of soybean deep processing of raw materials; technical advantage,

【语种】中文
【第一作者】冯晓
【通讯作者】冯晓
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【引文索引号】0
【学科分类】食品科学技术基础学科

【题目】挤压膨化工艺参数对水酶法提取大豆总蛋白得率的影响
【中文关键词】挤压膨化 水酶法 大豆蛋白 响应曲面
【英文关键词】extrusion aqueous enzymatic method soybean protein response surface methodology
【中文摘要】采用水酶法结合挤压膨化预处理提取大豆蛋白。通过响应曲面分析方法以总蛋白质得率为考察指标,确定最佳挤压膨化工艺参数为:模孔孔径为12 mm,物料含水率为17%,螺杆转速为94 r/min,套筒温度为92°C。经过验证与对比试验可知在最优挤压膨化工艺条件下总蛋白得率可达到94.17%左右,比传统的湿热预处理后酶解的总蛋白得率提高了近15%。
【英文摘要】Aqueous enzymatic extraction combined with extrusion pretreatment was used to produce soybean protein.The response surface methodology was adopted using total protein recovery as terminal parameter to optimize the extrusion parameters.Results: The optimal extrusion parameters are die diameter 12 mm,moisture 17%,rotation speed 94 r/min,and barrel temperature 92 °C.The total recovery of soybean protein is 94.17% at the conditions,15 percent point higher than the protein recovery by using the traditional method with hydrothermal pretreatment.
【语种】中文
【第一作者】李杨
【通讯作者】江连洲
【期刊名称、卷期、页码】中国粮油学报,2009,24(12):47-51
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【引文索引号】0
【学科分类】食品加工技术

【题目】挤压膨化预处理水酶法提取大豆蛋白的工艺研究
【中文关键词】水酶法 挤压膨化 大豆蛋白
【英文关键词】enzymatic hydrolysis method extrusion soybean protein
【中文摘要】采用水酶法结合挤压膨化预处理提取大豆蛋白,筛选5种蛋白酶,确定选用碱性蛋白酶作为水解酶;得出碱性蛋白酶提取大豆蛋白的最佳条件:加酶量1.9%、酶解温度50°C、酶解时间200min、料水比1:4.6、酶解pH8.5,经过验证与对比实验可知在最优酶解工艺条件下总蛋白提取率可达到93.76%左右,比传统的湿热预处理后酶解的总蛋白提取率78.83%提高了近15个百分点。
【英文摘要】Enzymatic hydrolysis combined with pretreatment of extrusion was used to extract soybean protein.An alkaline proteinase has been screened from 5 proteinases.The optimal condition for soybean protein extraction by alkaline proteinase was 1.9% proteinase,reaction at 50 °C,3.3 h of hydrolysis,1:4.6 of material and water ratio,and pH 8.5.The total protein extraction rate reached to 93.76% under this optimal condition,which was nearly 15% higher than total protein extraction using enzymatic hydrolysis combined with traditional treatment of heating.
【语种】中文

【第一作者】李杨
【通讯作者】江连洲
【期刊名称、卷期、页码】食品科学,2009,30(22):140-145
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【引文索引类型】其他
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【学科分类】生物化学工程

【题目】挤压膨化预处理水酶法提取大豆油工艺的研究
【中文关键词】水酶法 挤压膨化 大豆油
【英文关键词】aqueous enzymatic method extrusion soy oil
【中文摘要】采用挤压膨化预处理水酶法提取大豆油,对酶解工艺条件进行优化,得到适宜的酶解条件为:加酶量2%,酶解温度57℃,酶解时间3h,料水比1∶6.5,酶解pH9.5。经验证与对比实验可知,在最优酶解工艺条件下大豆油提取率达到91.67%左右,比传统湿热预处理后酶解的提取率72.54%提高了19%左右。
【英文摘要】After extrusion pretreatment,aqueous enzymatic method was used to extract soy oil,and the enzymatic hydrolysis conditions were optimized.The best conditions were determined as follows:amount of proteinase 2%,temperature 57℃,hydrolysis time 3 h,ratio of material to water 1∶6.5,and pH value 9.5.The verification and comparative tests showed that the extaction ratio of soy oil reached about 91.67% at the best conditions,which was nearly 19% higher than that with the method of aqueous enzymatic method combined with heat-moisture pretreatment(72.54%).
【语种】中文
【第一作者】李杨
【通讯作者】江连洲
【期刊名称、卷期、页码】中国油脂,2009,34(6):6-10
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【引文索引类型】其他
【引文索引号】0
【学科分类】食品加工技术

【题目】壳聚糖对大豆蛋白发酵液的絮凝研究
【中文关键词】壳聚糖 大豆蛋白 发酵液 絮凝
【英文关键词】Chitosan Bean protein Broth Flocculation
【中文摘要】对用壳聚糖絮凝大豆蛋白发酵液进行研究,讨论pH值、絮凝剂浓度、温度和搅拌时间对絮凝效果的影响,结果是壳聚糖用量200 mg/L、pH值为4、搅拌12 min、温度30℃时效果最好。
【英文摘要】This article studies the pretreatment to bean protein broth.Optimum conditions of the flocculate were discussed.The best result was the chitosan concentration of 200 mg/L,pH at 4,12 min,30 ℃ of temperature.
【语种】中文
【第一作者】王秋京
【通讯作者】江连洲
【期刊名称、卷期、页码】大豆通报,2007,1:21-24
【论文发表时间】2007-01-25 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】食品加工技术

【题目】酶法制备大豆降血压肽的研究进展
【中文关键词】酶 大豆 降血压肽
【英文关键词】Protease Soybean Antihypertensive peptides
【中文摘要】研究表明大豆蛋白酶解物具有降血压的功能,本文综述了国内外酶法制备大豆降血压肽的研究现状,指出了目前研究中存在的一些问题,并展望了大豆降压血肽的应用前景。

【英文摘要】Soybean protein protease hydrolysates can make blood pressure lower.Research actuality of antihypertensive peptides derived from soyprotein protease hydrolysates was summarized.Some problems and application of antihypertensive peptides derived from soybean protein were introduced.
【语种】中文
【第一作者】李良
【通讯作者】李良
【期刊名称、卷期、页码】大豆科技,2009,3:57-59
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【引文索引类型】其他
【引文索引号】0
【学科分类】食品科学技术基础学科

【题目】酶水解高温豆粕制备高水解度大豆肽的研究
【中文关键词】酶解 高温豆粕 大豆肽 响应面分析
【英文关键词】enzymatic hydrolysis high-temperature soybean meal soy peptides response surface analysis
【中文摘要】采用碱性蛋白酶水解高温豆粕制备高水解度大豆肽,通过单因素和响应面实验确定酶解高温豆粕的优化条件。以水解度为指标,考察温度、时间、pH、加酶量、底物浓度等因素对水解度的影响。优化的酶解条件为:温度50°C、时间5h、pH8.60、加酶量17700U/g底物、底物浓度10.25%,该条件下得到大豆肽的水解度为37.20%。
【英文摘要】The high-temperature soybean meal was hydrolyzed into high-DH soy peptides by Alkaline Protease method. The optimum condition of enzymatic hydrolysis high-temperature soybean meal was determined by the single factor and response surface experiment method. During experiment period, the degree of hydrolysis (DH) was used as an index and the influence of five factors on the degree of hydrolysis were studied. The five factors were Optimized and the optimum conditions were: temperature 50°C, time 5h, pH 8.60, proteases concentration 17 700 U per gram substrate, and substrate concentration 10.25%. Under these conditions, the resulted DH is 37.20%.
【语种】中文
【第一作者】许晶
【通讯作者】江连洲
【期刊名称、卷期、页码】食品与发酵工业,2009,35(4):98-102
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【引文索引类型】其他
【引文索引号】0
【学科分类】食品加工技术

【题目】日粮中添加大豆肽对白羽肉鸡肉品质的影响
【中文关键词】大豆肽 肉鸡 胸肌 肉品质
【英文关键词】The soybean peptide broiler Chest muscle
carcass quality
【中文摘要】为了探讨大豆肽对肉鸡肉品质的影响,试验选用1日龄的健康AA+白羽肉鸡180只,采用单因素随机试验设计分为5个处理,每个处理设4个重复,在相同基础日粮中添加0、0.2%、0.4%、0.6%、0.8%(大豆肽≥40%)的大豆肽,试验期为6周。试验结束时,从每个重复中随机选取2只试鸡屠宰,进行胸肌采样,测定其pH值、肉色、嫩度、保水性及肌内粗脂肪的含量。结果表明:日粮中添加大豆肽能提高肉鸡胸肌pH值及嫩度;增强其保水性并改善肉色;粗脂肪含量略微下降,但差异性不显著,不影响其风味。
【英文摘要】In order to investigate the impact of soybean peptide on the quality of the meat, chicken, were selected to the 1-day-old healthy AA + white feather chicken 180, divided into five treatment single factor randomized trial design with four replications for each treatment, in the same basal dietadd 0, 0.2%, 0.4%, 0.6%, 0.8% (soy peptide ≥ 40%), soybean peptide, a trial period of six weeks. The end of the trial, were randomly selected from each repeat two trials chicken slaughter pectoral muscle sampling, determination of the pH value, color, tenderness, Paul aqueous and intramuscular crude fat content. The results show that: the diets supplemented with soybean peptide can improve broiler breast muscle pH and tenderness; enhance its water retention and improve the flesh-colored; crude fat content decreased slightly, but the difference was not significant, does not affect its flavor.

【语种】中文
【第一作者】李丹
【通讯作者】江连洲
【期刊名称、卷期、页码】饲料工业,2009,2:36-38
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【学科分类】农学其他学科

【题目】乳化_凝胶化法制备大豆功能肽缓释微囊的研究
【中文关键词】乳化-凝胶化 海藻酸钙微球 大豆功能肽 缓释
【英文关键词】emulsification-gelation calcium alginate microcapsule soybean functional peptide delayed release
【中文摘要】采用乳化-凝胶化法制备海藻酸钙微球,考察了海藻酸钠浓度、乳化速度、氯化钙浓度、乳化剂浓度对制备海藻酸钙微球粒径、形态及包埋率的影响,得出最佳制备工艺为:2.5%的海藻酸钠、8.0%的氯化钙、乳化速度8000r/min、乳化剂浓度8.0%。体外释放试验表明,用此法制备的微胶囊可使功能肽的缓释性能及稳定性得到较大的提高。
【英文摘要】Calcium-alginate microcapsule were prepared by emulsification-gelation. The effect of experimental condition such as the sodium alginate concentration, emulsifying speed, calcium chloride concentration and emulsifier concentration were investigated. The optimization preparation technology was: the sodium alginate concentration 2.5%, emulsifying speed 8000 r/min, calcium chloride concentration 8.0% and emulsifier concentration 8.0%. The experiment results of release out of body showed that the delayed release and stability of microcapsule were increased.
【语种】中文
【第一作者】孙月梅
【通讯作者】江连洲
【期刊名称、卷期、页码】食品科技,2008,9:117-120
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【引文索引类型】其他
【引文索引号】0
【学科分类】食品科学技术基础学科

【题目】水酶法制取大豆油的水解度对提油率影响机理研究
【中文关键词】挤压膨化 水酶法 总油提取率 响应曲面 水解度
【英文关键词】extrusion and expansion enzyme-assisted aqueous total oil recovery response surface hydrolyze rate
【中文摘要】以挤压膨化预处理后的全脂大豆粉为原料,在单因素试验的研究基础上,以加酶量、酶解温度、酶解时间、料水比和酶解pH五个因素为自变量,以总油提取率与水解度为响应值,得到适宜的酶解条件为:加酶量1.8%、温度52℃、酶解时间3.75h、料水比1:6.5、pH9.4,经过验证与对比试验可知,在优化的酶解工艺条件下总油提取率可达到91.67%,对应的水解度为26.37%。对2个考察指标的降维分析图进行对比分析,探讨了水解状态与脂肪分子释放情况以及脂蛋白分解情况的关系,为水酶法生产大豆油提供理论基础。
【英文摘要】Whole soybean pretreated using extrusion and expansion was used as raw material in this experiment.Mono factor experiment design was used in this experiment involving five independent factors:enzyme dosage,temperature,time,ratio of material to water and pH.Total oil recovery and hydrolyze rate was treated as response values.Appropriate enzyme-assisted aqueous conditions obtained were as following:enzyme dosage 1.8%,temperature 52°C,time 225 min,ratio of material to water 1:6.5,pH 9.4 under which total oil recovery approached approximate 91.67% and corresponding hydrolyze rate 26.37%.Meanwhile,comparison analysis on two parameters was performed using dimension reduction figures.Relation of situation of hydrolyze,fat molecules releasing and lipoprotein breaking up were also explored which may provide theoretical base.
【语种】中文
【第一作者】李杨
【通讯作者】江连洲
【期刊名称、卷期、页码】食品与发酵工业,2009,35(6):40-45
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【引文索引类型】其他
【引文索引号】0
【学科分类】食品加工技术

【题目】水酶法制取植物油的国内外发展动态
【中文关键词】水酶法 植物油提取 植物油
【英文关键词】aqueous enzymatic method oil extraction processes plant oil
【中文摘要】水酶法技术不仅可以克服常规制油工艺在经济、环境、安全等多方面的弊端,且在提取油的同时可以有效地回收油料中其他营养物质。本文详细介绍了国内外水酶法制油的发展概况,总结了现有油脂加工工艺存在的问题,对比了水酶法较现有油脂加工工艺具有的优势,并且展望了水酶法提取植物油的应用前景。
【英文摘要】Aqueous enzymatic processing is better than conventional processes of oil extraction not only in the respects of economy,environment and safety,but also reclaiming the other nutritive materials effectively at the same time of the oil extracted processing.The overview of aqueous enzymatic oil extraction was detailedly discussed in this review.Both the disadvantage of conventional processes of oil extraction and the advantage of aqueous enzymatic method are summarized in this review.Finally,this review introduced the outlook of the application of aqueous enzymatic method in the extraction of plant oil. 更多
【语种】中文
【第一作者】李杨
【通讯作者】江连洲
【期刊名称、卷期、页码】食品工业科技,2009,30(6):383-387
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【引文索引号】0
【学科分类】食品加工技术

【题目】我国营养与功能食品开发研究现状
【中文关键词】功能食品 营养 开发 研究现状
【英文关键词】Function Food Nutrition Development Present Status of Research
【中文摘要】本文综述了功能性食品的生理功能及功能性食品在国内外市场的研究现状,探究了功能性食品的发展趋势,提出对具有中国特色的功能食品的开发。
【英文摘要】This article summarizes the physiological functions of functional foods and the present status of research of functional foods in the home and broad markets,and the development trend of functional foods was discussed.The development of functional foods with Chinese characteristics was put forward.
【语种】中文
【第一作者】江连洲
【通讯作者】江连洲
【期刊名称、卷期、页码】中国食物与营养,2010,1:26-29
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【引文索引号】0
【学科分类】食品科学技术基础学科

【题目】以豆渣为基质高产纤维素酶菌株的选育
【中文关键词】豆渣 纤维素酶 半纤维素酶 紫外诱变
【英文关键词】soybean dregs cellulase hemicellulase ultraviolet mutation
【中文摘要】以豆渣为培养基,通过对里氏木霉Rut C-30进行紫外诱变,经水解圈法初筛和摇瓶发酵复筛,选育出适合在豆渣中生长,并且产纤维素酶和半纤维素酶活力较高的菌株LX0121。菌株产纤维素酶(FPA)和半纤维素酶活力的变化规律基本一致,在28℃摇床培养4d达到酶活高峰期,酶活分别为5.87U/mL和125.6U/mL。
【英文摘要】Trichoderma reesei Rut C-30 was mutagenesised with UV and cultured on medium of soybean dregs.Trichoderma reesei strains were screened by determining hydrolytic circle and enzyme activity.The strain LX0121 which was suitable to grow in soybean dregs and produced higher activity of cellulase and hemicellulase had been gained.The activity variation of cellulase and

hemicellulase were the same tendency.The peak activity was 5.87U/mL and 125.6U/mL at 28°C with agitation for 4d respectively.
【语种】中文
【第一作者】李想
【通讯作者】程建军
【期刊名称、卷期、页码】食品工业科技,2009,30(8):170-173
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【学科分类】食品科学技术基础学科

【题目】中国大豆加工产业发展现状与建议
【中文关键词】大豆加工 产业 现状 建议
【英文关键词】soybean processing industry present status suggestion
【中文摘要】大豆加工产业是我国的重要加工产业,充分、有效地利用大豆蛋白质资源是改善国民营养膳食结构,提高蛋白质的摄入量,增强国民体质的重要举措。通过剖析国内外大豆加工产业现状,介绍大豆加工业的新技术研究进展,对我国大豆加工产业存在的问题进行分析,并提出一些合理的建议。
【英文摘要】Soybean processing industry is an important processing industry in China.Effective utilization of soybean protein resources is an important measure to improve country ’ s dietary nutrition structure,to increase protein intake and to enhance the nation ’ s corporeity.Through analyzing the present situation of soybean processing industry at home and abroad,this article introduces new progress achieved in technology research of soybean processing industry.It also analyzes the problems existing in soybean processing industry,and provides several reasonable suggestions.
【语种】中文
【第一作者】江连洲
【通讯作者】江连洲
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【引文索引号】0
【学科分类】食品加工技术

【题目】大豆水酶法提取副产物_水溶性糖工艺优化及机理研究
【中文关键词】大豆水溶性糖 响应曲面 水酶法
【英文关键词】soybean soluble polysaccharides response surface enzyme-assistant aqueous extraction method
【中文摘要】水酶法提油条件温和,油料蛋白的性能几乎不发生变化,无论是水相中直接加工利用,还是回收分离蛋白再利用,效果都十分理想,但有关水酶法提取植物油脂和蛋白质的副产物-水溶性糖的相关研究较少,故针对挤压膨化后水酶法提取大豆油脂和蛋白质的副产物-大豆水溶性糖进行研究。利用响应面分析方法对酶法提取副产物-大豆水溶性糖得率进行了优化。建立了相应的数学模型,为以后的中试以及工业化生产提供理论基础,并且得到了最优酶解工艺条件为加酶量为2.1%,温度为58°C,酶解时间为3.5 h,料水比为1:6.4,pH为10,响应面有最优值在(20.98±1.03)%。经过验证与对比试验可知在最优酶解工艺条件下水溶性糖得率可达到19.97%左右,比相同酶解条件下未经挤压膨化预处理水溶性糖得率以及碱提工艺水溶性糖得率均有显著提高。利用超微结构能谱分析为手段,针对水溶性糖得率提高机理进行了研究,经研究表明:①挤压膨化再粉碎后大豆细胞组织破坏,水溶性糖与蛋白复合物中蛋白质与蛋白酶作用位点较充分暴露,有利于其酶解使得水溶性糖与蛋白复合物破坏。②大豆中水溶性糖部分以糖与蛋白复合物形式存在,而想提取此类大豆水溶性糖需要将蛋白水解。
【英文摘要】The conditions of enzyme-assistant aqueous extraction for oil are mild,and the protein in raw material is hardly denatured during the extraction and the protein in the liquid phase after extraction can be reused or withdrawn after separation.However,there is little research on the soluble polysaccharides in the liquid phase.This experiment was aimed to study the soluble polysaccharides in the liquid phase after the enzyme-assistant aqueous extraction of soybean oil and protein.Response surface methodology was used to optimize the soluble polysaccharides extraction with enzyme hydrolysis,and a corresponding mathematical model was established to provide practical recommendation and theoretical basis.Results: The optimal technological parameters for the soybean soluble polysaccharides extraction are enzyme concentration 2.1%,temperature 58 °C,enzyme hydrolysis time 3.5 h,material to

water ratio 1∶6.4,and pH 10.Optimal value of 20.98±1.03% was obtained on response surface.The soluble polysaccharides extraction yield reaches 19.97% under the optimal conditions.The soluble polysaccharides extraction yield with extrusion and expansion pretreatment is significantly higher than that without extrusion and expansion pretreatment.A mechanism study by microstructure and energy spectrum analysis on the reasons about the increase of soluble polysaccharides yield was carried out.Results show the reasons are: 1) Soybean cells are destroyed under extrusion and expansion followed by grounding during which action sites of soluble polysaccharides and protein compounds for protease are exposed and favorable to disruption of soluble polysaccharides and compounds.2) Part of soybean soluble polysaccharides exists as form of compounds of soluble polysaccharides and protein.In order to obtain more soluble polysaccharides,the compound protein needs to be hydrolyzed. 更多

【语种】中文
【第一作者】李杨
【通讯作者】江连洲
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【学科分类】食品加工技术

【题目】硫代磷酸二乙酯类农药半抗原设计及抗体识别特性
【中文关键词】有机磷农药; 类特异性抗体; 异源包被; 酶联免疫分析
【英文关键词】Organophosphorus pestic ide; G eneric hapten; H eterology coating; Enzyme-linked immunosorbent assay(ELISA)
【中文摘要】通过分析硫代磷酸二乙酯类农药的结构特点, 设计并合成了系列半抗原; 采用活泼酯法将半抗原分别与牛血清蛋白(BSA)和卵清蛋白(OVA)偶联制备了系列免疫原和包被原; 通过免疫新西兰大白兔获得了相应抗硫代磷酸二乙酯类农药的类特异性抗体. 建立检测硫代磷酸二乙酯类农药的间接竞争酶联免疫分析(ELISA) 方法, 分析探讨了免疫半抗原结构对抗体特性的影响, 并阐述了包被半抗原结构对ELISA灵敏度的影响规律. 结果表明, 手臂取代位置在苯环对位且手臂较短的免疫原具有较好的免疫效果, 同时异源包被可以显著提高ELISA方法的灵敏度. 由抗体PAb-H 1和包被原H 6-OVA 建立的间接竞争ELISA 方法可以同时检测7个广泛使用的有机磷农药, 其半抑制浓度(IC50)分别为蝇毒磷(01 013 m g /L) 、对硫磷(01 348 m g /L)、喹硫磷(01022 m g /L)、三唑磷(01035 m g /L) 、甲拌磷(01 751 m g /L) 、除线磷(01 850 m g /L)及辛硫磷(11301m g /L), 最低检测限符合国内外相关有机磷药物最大允许残留限量标准(MRLS)的检测要求.
【英文摘要】Class-spec ific polyclonal an tibod ies fo rO, O-diethy l phosphorothioate pesticides had been generated. A series of generic haptensw ere synthesized and coup led to bov ine serum album in(BSA) and ovalbum in (OVA) for immunogens and coating an tigens, respectively. New Zealand rabb itsw ere immun ized with immunogens to obtain corresponding polyclonal antibodies. The effects of hapten structure on antibodies properties and hapten heterology on ELISA sensitivity were also investigated. The results show that haptens with simplespacer-arm can generate antibodies with desired properties, and hapten heterology can improve ELISA sensiti ity significantly. The polyclonal antibody PAb-H1 shows high sensitivity to seven commonly used O, O-diethylphosphorothioate pesticides in an indirect competitive ELISA using a heterologous coating antigen(H 6-OVA). The 50% inhibition value(IC50) is 0.013mg /L for coumaphos, 0. 348 mg /L for parath ion, 0. 022 mg /L for quinalphos, 0. 035 mg /L for triazophos, 0. 751 mg /L for phorate, 0. 850 mg /L for dichlofenthion and 1. 301mg /L for phoxim, respectively. And the limit of detection(LOD) is lower than MRLS of all the sevenO, O-diethy l phosphorothioate pesticides in food and agricultural products . Thus, this indirect ELISA with high sensitivity can potentially be used to develop commercial ELISA kits for a sensit ive and rapid detection of O, O-diethy l phosphoro th ioate pesticides residues.
【语种】中文
【第一作者】谢桂勉
【通讯作者】沈玉栋
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【学科分类】植物保护学

【题目】氯氟氰菊酯及其代谢物的人工抗原合成与多克隆抗体的制备
【中文关键词】人工抗原; 多克隆抗体; 氯氟氰菊酯; 酶联免疫吸附测定法
【英文关键词】artif ic ial antigen; po lyc lonal ant ibody; cyhalo thrin; EL ISA
【中文摘要】于氟氰菊酯分子的酸部分连接4-氨基丁酸间隔臂(HCA 1)、醇部分连接丁二酸酐间隔臂(HCB 2) , 分别合成了两种不同的半抗原, 通过碳二亚胺法将HCA 1和HCB 2分别与牛血清蛋白(B SA)偶联制备了人工抗原HCA1-BSA 和HCB 2-B SA, 通过混合酸酐法将HCA 1、HCAS[3-(2-氯-3, 3, 3-三氟丙烯基)-2, 2-二甲基环丙烷羧酸]和HCB2分别与卵清蛋白(OVA)偶联制备包被抗原,两种人工抗原通过免疫新西兰大白兔制备相应的多克隆抗体。结果表明, 用HCA1-BSA 获得的多克隆抗体对氯氟氰菊酯和氯氟氰菊酸有免疫反应性(IC50值分别为33. 12 和0. 95 m g /L) , 用HCB 2-BSA 获得的多克隆抗体对氯氟氰菊酯几乎没有免疫反应性
【英文摘要】Two types o f haptens, the carboxylated propylamino derivative of the acid moiety (HCA 1) that is the hydrolyzed product of cyhalothrin, and the carboxylated ethyl carbonyl derivative of theAlcohol moiety (HCB 2) were synthesized. HCA1 and HCB2 were conjugated with the carrier proteins bovine serum album in (BSA) by the active ester method to obtain the artificial imm unogens. HCA1、HCA S [(3-2 -ch lo ro-3 ’, 3 ’ , 3 ’ -trif luo ropropeny l)-2, 2-d ime thylcy clopro panecar-boxylic acid] and HCB 2 were conjugated with ovalbumin (OVA) by the mixed anhydride method to obtain the coating antigens respectively. The polyclonal antibodies (PAbs) were obtained after the immunogens immunized to the New Zealand rabbits. One PAbs, which raised against the former haptenHCA 1, was reactive with cyhalothrin and cyhalothric acid (IC50: 33. 12 mg /L, 0. 95 mg /L) . However, the other PAbs, which raised against the later hapten HCB2, was not particularly reactive with cyhalothrin.
【语种】中文
【第一作者】李波
【通讯作者】王鸣华
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【学科分类】植物保护学

【题目】作物生长模拟模型研究综述
【中文关键词】作物生长模拟模型; RS; GIS; GPS
【英文关键词】crop growth simulation model; RS; GIS; GPS
【中文摘要】阐述了作物生长模拟模型的概念及其意义、国内外研究进展、存在的问题和发展趋势。国内外作物模拟模型的研究主要以水稻、小麦和玉米作物模拟模型研究为主,近几年也出现了对其他作物模拟模型的研究,如大豆、棉花、烟草、马铃薯、苜蓿以及一些园艺作物。在分析已有作物生长模拟模型研究存在问题的基础上,提出了作物生长模拟模型研究的发展趋势。
【英文摘要】This paper summarized the heuristic procedure of crop growth simulation model,and expounded the concept and meaning of crop growth simulation model,research progress and its problem and development trend.The major research is focused on rice,wheat and maize crop growth simulation model.In recently years,the study for other crops,such as soy bean,cotton,tobacco,potato,alfalfa and some crop of gardening is conducted,too.In the end,based on the analysis of the problems of the existing crop growth simulation model,the development trend of crop growth simulation model is proposed.
【语种】中文
【第一作者】马波
【通讯作者】田军仓
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【学科分类】水利工程其他学科

【题目】拟除虫菊酯类农药酶免疫分析方法研究进展

【中文关键词】拟除虫菊酯; 酶免疫分析; 半抗原设计; 农药残留
【英文关键词】py rethro id; enzyme immunoassay; hap ten design; pestic ide residue
【中文摘要】对拟除虫菊酯类单一农药残留和多残留酶免疫分析方法的研究进展进行了综述。在介绍单一农药残留酶免疫分析方法中半抗原分子设计和EL ISA 方法建立的基础上, 指出刚性连接臂是菊酯类农药免疫半抗原分子设计的一般原则, 包被原和免疫原采用不同的载体蛋白和不同结构的半抗原有利于菊酯类农药EL ISA 方法的建立。在介绍菊酯类农药多残留酶免疫分析方法时, 剖析了通用免疫半抗原的结构特点, 阐述了宽谱特异性抗体的筛选方法, 揭示了在菊酯类农药多残留酶免疫分析法中存在竞争半抗原的选择具有盲目性、宽谱特异性抗体对不同农药的特异性差异较大的问题。并对拟除虫菊酯类农药通用免疫半抗原设计及多残留酶免疫分析技术的发展趋势进行了探讨。
【英文摘要】Enzyme immunoassay is a desirable method for detecting residues of pyrethroids insecticides.Recently many immunoassays methods for pyrethroids have been reported, but few focused on them ultiresidue analysis of pyrethroids. The development of enzyme immunoassays for the determination of pyrethroidresidues were reviewed, including hapten design, antibody preparation, and immunoassay establishment and applications. Most of the studies showed that a rigid or shorter side chain in an immunizing hapten is important for the generation of sensitive and se lective antibodies for pyrethroids. In addition, the advantages of the heterologous immunoassay were also pointed out The structure characters of the general immunizing hapten were introduced, and the selective method of broad specific antibody was referred to. The key points in the mulltiresidue immunoassays, including the selection of the competitive hapten, and the specificity of the broad specific antibody to different pesticides were discussed. Finally, the development trends of general hapten design and mu ltiresidue immunoassay of pyethroids were summarized.
【语种】中文
【第一作者】王春梅
【通讯作者】朱国念
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【学科分类】植物保护学

【题目】Effects of marbling on meat quality characteristics and intramuscular connective tissue of beef longissimus muscle
【中文关键词】大理石花纹;肉品质;肌间组织
【英文关键词】Effects;marbling ;meat quality ;intramuscular connective tissue
【中文摘要】本文研究了牛背最长肌大理石花纹对肉的品质特性和肌内结缔组织的影响。
【英文摘要】This study was designed to explore the effects of marbling on meat quality characteristics and intramuscular connective tissue of beef longissimus muscle. Chemical determinations, histological and mechanical measurements were performed on the raw and cooked meat at d 4 postmortem. The results showed that crude fat, collagen, fiber diameter and maximum transition temperature of intramuscular connective tissue increased ($p<0.05$) with the increase of marbling score. The cooking losses, collagen solubility, WBSF and perimysial thickness decreased ($p<0.05$) with the increasing marbling. WBSF correlated ($p<0.05$) with moisture,crude fat, collagen, cooking losses, sarcomere length and perimysial thickness. The development of marbling results in the decline in cooking losses, the avoidance of sarcomere shortening, and the disorganization of the perimysia, which accounts for the improvement of beef tenderness.
【语种】英文
【第一作者】李春保
【通讯作者】周光宏
【期刊名称、卷期、页码】Asian Australasian Journal of Animal Science,2006;19(12): 1799-1808.
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【学科分类】食品加工技术

【题目】Comparative study of volatile compounds in traditional Chinese Nanjing marinated duck by different extraction techniques
【中文关键词】鸭肉;气-质联用;清洗;蒸馏萃取
【英文关键词】Duck meat, gas chromatography – mass spectrometry, purge and trap, simultaneous distillation – extraction, solid phase

【中文摘要】本文研究了中国传统肉制品南京盐水鸭中挥发性成分的研究,对进一步品质探究有重要意义
【英文摘要】In order to determine the entire flavour profile of traditional Chinese Nanjing marinated duck (NJMD),three sampling techniques including solid phase microextraction (SPME) with a carboxen/polydimethylsiloxanefibre, purge and trap (P&T) using Tenax-TA absorbent and simultaneous distillation – extraction(SDE) were compared.
【语种】英文
【第一作者】Yuan Liu
【通讯作者】周光宏
【期刊名称、卷期、页码】Int. J. Food Sci. & Techn.,2007;42:543-550.
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【学科分类】食品加工技术

【题目】Mathematical optimization for energy consumption during freeze-drying of cooked beef slice
【中文关键词】微萃取;挥发性
【英文关键词】microextration, volatiles.
【中文摘要】本文从物理学角度解释了牛肉在烘干过程中的能量变化情况,对肉产品加工过程中的物理变化提供理论参考
【英文摘要】In this article, the results were the following: drying period 2.55 h, with sample thickness 4 mm, chamber pressure 56.66 Pa, heating board temperature 67.50C; productivity 164.81 g/m/h, with sample thickness 9.40 mm, chamber pressure 74.00 Pa, heating board temperature 77.00C; minimum energy consumption 52,738.33 KJ/kg (H2O), with sample thickness 4 mm, chamber pressure 57.14 Pa, heating board temperature 77.00C. The comparison between calculated and experimental results showed that the optimized values were very close to the experimental results.
【语种】英文
【第一作者】罗瑞明
【通讯作者】周光宏
【期刊名称、卷期、页码】Journal of Food Process Engineering, 2007;31(5):583 - 601
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【学科分类】食品加工技术

【题目】Rheological Properties of Myosin-Gelatin Mixtures
【中文关键词】凝胶;肌红蛋白;品质
【英文关键词】DSC;gelatin;myosi;rheological property
【中文摘要】本文从分子水平阐明了肌红蛋白-凝胶混合物的特性,为进一步的机理研究提供参考
【英文摘要】This study was designed to investigate changes of dynamic rheological properties of myosin and gelatin mixtures during heating and cooling. The rheological and calorimetric attributes (G′, G″, tan δ, and heat flow) of myosin and gelatin mixtures were measured during heating and cooling. The results indicated that gelatin could increase the G′ and G″ values and decrease the denaturation temperature of myosin. The G′ and G″ values of myosin and gelatin mixtures decreased with pH over 5.5 to 7.5 and ionic strength over 0.3 to 0.6. Therefore, it is advisable to add gelatin into chicken meat comminuted products in that it could improve the rheological attributes of myosin.
【语种】英文
【第一作者】Y.L. Yang
【通讯作者】周光宏
【期刊名称、卷期、页码】Journal of Food Science,2007;72(5):270-275.
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【学科分类】食品加工技术

【题目】Comparisons of meat quality characteristics and intramuscular connective tissue between beef longissimus dorsi and semitendinosus muscles
【中文关键词】肉品质量;肌间组织;牛肉背最长肌
【英文关键词】Comparisons; meat quality characteristics;intramuscular connective tissue;beef longissimus dorsi;semitendinosus muscles
【中文摘要】本文阐述了中国黄牛的品质特征及内部结构的情况,为中国特色品种的研究作出了贡献
【英文摘要】This study was designed to compare meat quality characteristics and the traits of intramuscular connective tissue (IMCT) of beef longissimus dorsi (LD) and semitendinosus (ST) muscles at 4 and 21 days postmortem. LD had higher ($P < 0.05$) moisture content and Warner-Bratzler shear force (WBSF) but lower ($P < 0.05$) collagen content and filtering residue than ST at 4 days. Aging could more efficiently improve LD tenderness by decreasing the perimysial maximum transition temperature, increasing the collagen solubility and destroying the muscle structure. Both the natures of IMCT (insoluble collagen, perimysial thickness) and the status of muscle fiber were contributors to the tenderness of different muscles from the same carcass.
【语种】英文
【第一作者】李春保
【通讯作者】周光宏
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【题目】Prediction of yield of retail cuts for native and crossbred Chinese Yellow cattle
【中文关键词】预测;产量;中国黄牛
【英文关键词】Prediction ; yield ; Chinese Yellow cattle
【中文摘要】本文预测了中国本土黄牛和杂交黄牛的产量,具有一定的前沿性
【英文摘要】Seven hundred and three native and crossbred Chinese Yellow cattle (mean live weight: 523 ± 38 kg) were slaughtered, chilled and segmented. The hot carcass weight (HCW, kg), fat thickness (FT, cm) and rib eye area (REA, cm2) were measured to predict weights and percentages of beef cattle retail cuts. A correlation analysis showed that the HCW and REA were positively correlated with the weights of the total retail cuts (TRC, kg), top grade retail cuts, prime retail cuts and percentage of total carcass weight. A regression analysis indicated that HCW and REA were the best predictors for the weight of total retail cuts ($Y = -16.71 + 0.382\ HCW + 0.593\ REA$), and the HCW explained more of the variation than REA. Meanwhile, HCW and REA accounted for 62% of the variation of percentage of total retail cuts ($Y = 43.24 - 0.025\ HCW + 0.170\ REA$), whereas the REA was more valuable than the HCW. The FT contributed little in estimating weight or percentage of retail cuts.
【语种】英文
【第一作者】李春保等
【通讯作者】周光宏
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【学科分类】食品加工技术

【题目】Effects of low voltage electrical stimulation and chilling methods on quality traits of pork M. longissimus lumborum
【中文关键词】影响;点刺激;冷却;质量
【英文关键词】effects; electrical stimulation ;chilling; quality
【中文摘要】本文研究了电刺激和冷却对肉品质的影响,可以为加工提供一定的参考
【英文摘要】The effects of low voltage electrical stimulation and chilling methods on the quality aspects of pork carcasses were evaluated in this study. A total of 16 pigs (Long white × Huainan) were randomly allocated immediately prior to slaughter to two groups: low voltage electrically stimulated (LVES or ES) or nonstimulated (NS). Carcasses were split before cooling. Each side of the

carcass was then randomly allocated to either conventional chilling or blast chilling. Results showed that LVES increased the rate of muscle pH decline in the early time postmortem and accelerated the onset of rigor. But LVES with conventional chilling had disadvantageous effects on water-holding capacity (WHC), Warner-Bratalor shear forces and lightness of meat color. However, LVES combined with blast chilling can avoid this disadvantage. And blast chilling achieved low internal muscle temperature faster than with conventional chilling and delayed the rate of muscle pH decline. Furthermore, blast chilling increased WHC of pork without risk of cold toughing. The disadvantageous effect of LVES on pork quality can be equalized by the advantageous effect of blast chilling. Therefore, it is desirable for commercial pig abattoirs to apply blast chilling, or low voltage electrical stimulation combined with blast chilling for rapid processing without compromising meat quality.

【语种】英文

【第一作者】WEN HONG ZHANG

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【学科分类】食品加工技术

【题目】Effects of high pressure/thermal treatment on lipid oxidation in beef and chicken muscle

【中文关键词】超高压;热处理;牛肉组织;鸡肉组织;脂肪氧化;抗氧化

【英文关键词】Highpressure; Thermaltreatment; Beefmuscle; Chickenmuscle; Lipidoxidation; Antioxidants

【中文摘要】本文研究了超高压对牛肉和鸡肉中脂肪氧化的影响,对新型保鲜技术提出了要求

【英文摘要】Lipidoxidation was studied in beef and chickenmuscle after highpressuretreatment (0.1 – 800 MPa) at different temperatures (20 – 70 ° C) for 20 min, prior to storage at 4 ° C for 7 days. Pressuretreatment of beef samples at room temperature led to increases in TBARS values after 7 days storage at 4 ° C; however, the increases were more marked after treatment at pressures 400 MPa (at least fivefold) than after treatment at lower pressures (less than threefold). Similar results were found in those samples treated at 40 ° C, but at 60 ° C and 70 ° C pressure had little additional effect on the oxidative stability of the muscle. Pressuretreatments of 600 MPa and 800 MPa, at all temperatures, induced increased rates of lipidoxidation in chickenmuscle, but, in general, chickenmuscle was more stable than beef to pressure, and the catalytic effect of pressure was still seen at the higher temperatures of 50 ° C, 60 ° C and 70 ° C. The addition of 1% Na2EDTA decreased TBARS values of the beefmuscle during storage and inhibited the increased rates of lipidoxidation induced by pressure. The inhibition by vitamin E (0.05% w/w) and BHT (0.02% w/w), either alone or in combination, were less marked than seen with Na2EDTA, suggesting that transition metal ions released from insoluble complexes are of major importance in catalysing lipidoxidation in pressure-treated muscle foods.

【语种】英文

【第一作者】H J MA

【通讯作者】周光宏

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【学科分类】食品加工技术

【题目】Effects of carcass maturity on meat quality characteristics of beef semitendinosus muscle for Chinese Native Yellow steers

【中文关键词】牛肉;肌间组织;成熟;嫩度

【英文关键词】beef; connective tissue; maturity; sarcomere length; tenderness

【中文摘要】本文研究了成熟度对肉质品质的影响,为生产实践提供了参照

【英文摘要】This work was designed to study the effects of carcass maturity on meat quality characteristics and intramuscular connective tissue of beef semitendinosus muscle from Chinese native Yellow steers. Chemical determinations, histological and mechanical measurements were performed on the raw and cooked meat at 4 days post mortem. In raw meat, intramuscular fat, collagen solubility, mechanical strength and transition temperature of intramuscular connective tissue increased ($P < 0.05$) with carcass maturity before body maturation, whilst moisture, total collagen, fibre diameter decreased after body maturation. Warner-Bratzlar shear force

(WBSF) of cooked meat increased with maturity before body maturation due to the muscle atrophy, and thus the decline of moisture content and the increase of cooking losses. After body maturation, the increase of WBSF was neutralised by the increase of intramuscular fat, the decrease of total collagen and the elongation of sarcomere length.
【语种】英文
【第一作者】李春保
【通讯作者】周光宏
【期刊名称、卷期、页码】Animal,2007;1(5): 780-786.
【论文发表时间】2007-09-01 00:00:00
【引文索引类型】SCI
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【学科分类】食品加工技术

【题目】Changes of intramuscular phospholipids and free fatty acids during the processing of Nanjing dry-cured duck
【中文关键词】南京盐水鸭;自由脂肪酸;氧化
【英文关键词】Nanjing dry-cured duck; Phospholipids; Free fatty acids; Lipolysis
【中文摘要】本文研究传统肉制品的营养成分变化,对实际应用有重大意义
【英文摘要】In this study, changes of intramuscular phospholipids and free fatty acids were tracked during the processing of Nanjing dry-cured duck. Phospholipids were identified and quantified by high performance liquid chromatography combined with UV and evaporative light scattering detectors. The types and quantities of free fatty acids and fatty acids derived from phospholipids were analyzed by capillary gas chromatography. The results showed that raw duck meat had high quantities of phosphatidylethanolamine, and phosphatidylcholine (37.95% and 54.07% of total phospholipids, respectively), which contained high percentages of polysaturated fatty acids. The percentages of total phospholipids, phosphatidylethanolamine, and phosphatidylcholine decreased during processing, with a concomitant increase in quantities of free fatty acids. The lipolysis of phospholipids, especially phosphatidylethanolamine is the main contributor to the increase of free fatty acids.
【语种】英文
【第一作者】徐伟明
【通讯作者】周光宏
【期刊名称、卷期、页码】Food Chemistry,2008;110: 279-284.
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【引文索引类型】SCI
【引文索引号】300LB
【学科分类】食品加工技术

【题目】Changes of meat quality characteristics and intramuscular connective tissue of beef semitendinosus muscle during postmortem aging for Chinese Yellow bulls
【中文关键词】年龄;中国黄牛;肌间组织;嫩度
【英文关键词】Aging;Chinese Yellow bulls;connective tissue;tenderness
【中文摘要】本文阐述了屠宰后尸僵期间品质及组织结构间的变化,对实际生产提供了依据
【英文摘要】This study was designed to explore the changes of meat quality characteristics and intramuscular connective tissue of beef semitendinosus muscle during postmortem aging for Chinese Yellow bulls. Semitendinosus muscles were obtained at day 4 postmortem and then further aged for different periods. Chemical determinations, histological and mechanical measurements were performed for the raw and cooked steaks on days 4, 11, 14, 21, and 28 postmortem, respectively. The results showed that postmortem aging resulted in an increase in moisture content and collagen solubility, a decrease in filtering residues, primary perimysial thickness, fibre diameter, Warner-Bratzler shear force, and transition temperature of the endomysium. The synergic effects of the myofibril and the intramuscular connective tissue determined the tenderness of aged beef.
【语种】英文
【第一作者】李春保
【通讯作者】周光宏
【期刊名称、卷期、页码】International Journal of Food Science and Technology,2008;43:838-845.

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【引文索引号】285XF
【学科分类】食品加工技术

【题目】A newly Isolated Strain Pediococcus parvulus from Xuanwei Ham, a traditional Chinese fermented meat production
【中文关键词】发酵香肠;肽;稳定性
【英文关键词】Dry fermented sausages;Pediococcus parvulus;technological suitability
【中文摘要】本文研究了从中国传统宣威火腿肉制品中提出的菌株,具有很大进步意义
【英文摘要】A comparative study on technological suitability for fermented dry sausages of Pediococcus parvulus, a newly isolated strain from Xuanwei ham, a traditional Chinese fermented meat product, was carried out. One type of fermented dry sausage was produced with P. parvulus and the other without starter culture, using the same formulation and technological conditions. Thus, the evolutions of microbiological and physicochemical parameters during ripening, as well as colour, texture and sensory quality of end products, were measured and assessed. The results indicated that P. parvulus had an inhibitory effect on non-lactic acid bacteria, especially Enterobacteriaceae. It was thought that the use of P. parvulus could enhance the hygienic quality of fermented sausages, which could mainly be attributed to its acidification of fermented sausages. Differences in colour parameters, with higher value in lightness (L*) and lower in redness (a*), were also found ($P < 0.05$). The most significant differences were observed in texture, informing the influence of P. parvulus on texture profile analysis characteristics of fermented sausages ($P < 0.05$). However, the evolutions of total nitrogen, fat and ash were the same. That meant the starter had no effects on these parameters during ripening of sausages. Free amino acid analysis showed that P. parvulus might have some proteolytic activity and more intense odour detected by our sensory judges. Our panelists also gave a higher score to the sausage with starter in terms of overall acceptability, indicating their preference of this product to the control. For all these results, we concluded that the newly isolated strain P. parvulus was a good starter for the production of fermented sausages.
【语种】英文
【第一作者】Pinglan L
【通讯作者】周光宏
【期刊名称、卷期、页码】International Journal of FoodScience & Technology, 2008;43:1387-1394.
【论文发表时间】2008-09-01 00:00:00
【引文索引类型】SCI
【引文索引号】326MD
【学科分类】食品加工技术

【题目】Effects of dietary Chinese cured meat on lipid metabolism in rats
【中文关键词】成品率;脂肪氧化;质构剖面
【英文关键词】Chinese cured meat; Organ/body weight ratio; Plasma lipid profile; Lipid oxidation
【中文摘要】本文通过小鼠实验,从营养学角度解释了肉制品的价值,有重大意义
【英文摘要】The effects of different fats on animal lipid metabolism were investigated in order to clarify the safety of cured meat. The physical effect of nitrite in the cured meat was also explored due to a increased concern of this compound as a food additive. Body weight, food intake, organ/body weight ratio and plasma lipid profiles were analyzed. Rats fed with cured meat fat did not show any differences in body weight and food intake, compared with the control, and no significant difference was observed among groups. However, lard-fed rats showed marked morphological alternations in aortic intima and liver tissue. The cured meat group did not show apparent morpho-logical changes on aorta intima compared to the control. Rats that received lard diet had significantly elevated TC (2.27 ± 0.46 mmol/ml), higher LDL-C (0.78 ± 0.31 mmol/ml) but lower HDL-C (1.55 ± 0.14 mmol/ml). Lard-fed rats had elevated oxidized LDL in serum and MDA level in blood and liver. However, diets containing fresh fat (with/without added nitrite) or cured meat fat failed to show thesedetrimental effects.
【语种】英文
【第一作者】M M Xiong
【通讯作者】马长伟
【期刊名称、卷期、页码】Food Chemistry, 2008;107(1): 60-67.

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【引文索引类型】SCI
【引文索引号】239RQ
【学科分类】食品加工技术

【题目】Antioxidant effect of Cassia essential oil on deep-fried beef during the frying process
【中文关键词】抗氧化;质构;油处理;牛肉
【英文关键词】Cassia essential oil; Antioxidant effect; Deep-fried beef; TBA; PV
【中文摘要】本文通过新型的决明子提取油来研究其抗氧化作用,可以为现实中新型抗氧化的研究提供理论参考
【英文摘要】The object of the research was to determine the antioxidant effect of cassia essential oil on deep-fried beef during the frying process.The rules and optimum processing conditions of deep-fried beef with addition of cassia essential oil were discussed through an orthog-onal experiment and some single factor experiments (frying time, frying temperature, oil types and concentration of essential oil). The antioxidant effect was evaluated by peroxide and TBA value. Results showed that the antioxidant effect of cassia oil during the frying process was optimum under the conditions of 30 lL cassia oil/250 mL palm oil, 1.5 min at 150 C. The main compositions of cassia oil were analysed by GC – MS method.
【语种】英文
【第一作者】Hongxia Du
【通讯作者】李洪军
【期刊名称、卷期、页码】Meat Science,2008;78:461-468.
【论文发表时间】2008-09-01 00:00:00
【引文索引类型】SCI
【引文索引号】266AT
【学科分类】食品加工技术

【题目】Proteolysis in biceps femoris during Jinhua ham processing.
【中文关键词】金华火腿;蛋白质分解;蛋白指标
【英文关键词】Jinhua ham; Dry-cured ham; Proteolysis; Protein degradation; Proteolytic index; Non-protein nitrogen
【中文摘要】本文从分子学角度阐释了金华火腿中的蛋白质水解情况,为基础的理论研究提供了参考
【英文摘要】Sixty experimental Jinhua hams were processed by a traditional method. The nitrogen fractions and free amino acids in biceps femoris were analyzed. Intense proteolysis was found in ham muscle and totally more than 10% of muscle proteins were degraded during the course of Jinhua ham processing. The proteolytic index of Jinhua ham was between 14 and 20. Both insoluble and soluble proteins were degraded to some degree and the later showed more intense degradation. In the soluble fraction, the percentage of non-protein nitrogen(NPN) increased gradually whereas that of protein nitrogen decreased during processing ($P < 0.05$). However, very small amount of pep-tides larger than 1 kDa was accumulated during the whole course of processing, which proved that intense degradation reactions were also happened to them, especially at the post ripening stage when dramatic decrease of nitrogen fraction from all the peptides larger than1 kDa was found. As a result, more than 90% of the NPN products from muscle proteolysis were free amino acids and peptides of MW less than 1 kDa that might make important contribution to Jinhua ham taste and provide precursors for the generation of volatile flavor compounds in ham muscle. The pattern of muscle proteolysis coincided with the reported changes of muscle proteolytic enzymes during processing, seemingly indicating that the enzymes could have played important roles in ham muscle proteolysis.
【语种】英文
【第一作者】赵改名
【通讯作者】周光宏
【期刊名称、卷期、页码】Meat Science, 2008;79(1):39-45.
【论文发表时间】2008-09-01 00:00:00
【引文索引类型】SCI
【引文索引号】284TY
【学科分类】食品加工技术

【题目】Characterization of the predominant spoilage bacteria in sliced vacuum-packed cooked ham based on 16S rDNA-DGGE
【中文关键词】腐败菌;熟火腿;PCR技术
【英文关键词】Predominant spoilage bacteria;Sliced cooked ham;PCR-DGGE
【中文摘要】本文研究了传统金华火腿中的微生物情况,为解决实际问题提供了参考价值
【英文摘要】16S rDNA DGGE fingerprinting and phylogenetic analysis were used to reveal the dynamics and identi-fication of the predominant spoilage bacterial in sliced vacuum-packed cooked ham during storage at 4 C. Total bacteria DNA was directly extracted from the ham. Simultaneously, culture methods were per-formed. The Nest PCR and touchdown protocol were applied to amplify the V3 region of the 16S rDNA. By analysis of the community dynamic directly obtained from the DGGE profiles, the predominant spoilage bacteria were found to be Lactobacillus sakei, Lactobacillus curvatus and minor components were members of the genus Leuconostoc (Leuconostoc mesenteroides and unculturedLeuconostoc).
【语种】英文
【第一作者】胡萍
【通讯作者】徐幸莲
【期刊名称、卷期、页码】Food Control,2009;20:99-104.
【论文发表时间】2009-09-01 00:00:00
【引文索引类型】SCI
【引文索引号】358DX
【学科分类】食品加工技术

【题目】Dynamical Changes of Beef Intramuscular Connective Tissue and Muscle Fiber during Heating and their Effects on Beef Shear Force
【中文关键词】热处理
【英文关键词】Water-bath heating
Intramuscular connective tissue
Muscle fiber
Shear force
Beef semitendinosus
【中文摘要】本文深入研究牛肉肌间组织及肌纤维在加热过程中剪切力的变化,有着重大意义
【英文摘要】Changes of meat shear force and its characteristics during cooking have been extensively studied, but great variability existed due to the cooking method among different studies. This study was designed to focus on the dynamic changes of beef intramuscular connective tissue (IMCT) and muscle fiber during water-bath heating and their effects on beef shear force. At 4 d postmortem, beef semitendinosus muscles were divided into 11 steaks and then cooked respectively to an internal temperature of 40, 50, 55, 60, 65, 70, 75, 80, 85, and 90 ° C (the remainder was not cooked as control). Collagen content and its solubility, transition temperature of perimysia and endomysia, fiber diameter, and Warner – Bratzler shear force values (WBSF) were determined. The results showed that fiber diameter decreased gradually during cooking, concomitant with the increases in filtering residue and WBSF. The maximum transition temperature (T max) of endomysial components was lower than that of perimysial components (50.2 vs. 65.2 ° C). Muscle fiber and IMCT (especially perimysia) shrank during cooking, resulting in the increase of WBSF when the internal temperature was lower than 75 ° C, but further cooking led to the disintegration of perimysial structure, lowing up the increase of WBSF between 75 and 90 ° C. For beef semitendinosus muscle, the internal temperature of 65 ° C is a critical cooking point where meat gets tougher.
【语种】英文
【第一作者】李春保
【通讯作者】周光宏
【期刊名称、卷期、页码】Food and Bioprocess Technology, 2008;3(4):521-527
【论文发表时间】2010-09-01 00:00:00
【引文索引类型】SCI
【引文索引号】611QG
【学科分类】食品加工技术

【题目】Irradiated Chinese Rugao ham: changes in volatile N-nitrosamine, biogenic amine and residual nitrite during ripening and post-ripening
【中文关键词】中国如皋火腿;辐照;亚硝胺;残留量
【英文关键词】Chinese Rugao ham;c-Irradiation;Residual nitrite;Biogenic amine;N -nitrosamines
【中文摘要】本文从食品安全性角度对中国传统肉制品如皋火腿中的有毒有害物质进行了深入研究,为食品安全问题的检测性提供了良好的依据
【英文摘要】N-nitrosamines, biogenic amines and residual nitrite are harmful substances and often present in curedmeat. The effects of gamma-irradiation (c-irradiation) on these chemicals in dry-cured Chinese Rugaoham during ripening and post-ripening were investigated. Rugao hams were irradiated at a dose of 5 kGy before ripening and were then ripened in an aging loft. Although c -irradiation degraded tyramine,putrescine and spermine, on the other hand, it promoted the formation of spermidine, phenylethylamine,cadaverine and tryptamine. Residual nitrite was significantly reduced by c -irradiation. N -nitrosodimeth-ylamine (NDMA),N -nitrosodiethylamine (NDEA) and N -nitrosopyrrolidine (NPYR) were found in Chinese Rugao ham during ripening and post-ripening but could be degraded withc -irradiation. The results sug-gest that c -irradiation may be a potential decontamination measure for certain chemical compounds found in dry-cured meat.
【语种】英文
【第一作者】魏法山
【通讯作者】徐幸莲
【期刊名称、卷期、页码】Meat Science,2009;in press.
【论文发表时间】2009-09-01 00:00:00
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【引文索引号】401SY
【学科分类】食品加工技术

【题目】Effects of boning method and postmortem aging on meat quality characteristics of pork loin
【中文关键词】剔骨;真空包装;猪肉
【英文关键词】aging;boning;palatability;pork;vacuum packaging
【中文摘要】本文从剔骨和尸僵时间来阐明其对品质的影响,对实际生产应用有很大的作用
【英文摘要】This work investigated the effects of boning method and postmortem aging on pork loin color, shearing value and sensory attributes. Two experiments were assigned. In Experiment I, 30 Chinese native black pigs were slaughtered and their carcasses were divided into three groups: (i) hot-boning: carcasses were fabricated within 45 min postmortem just after dressing; (ii) cold boning at 24 h: carcasses were fabricated after chilling at 0 ° C for 24 h; (iii) cold boning at 36 h: carcasses were fabricated after chilling at 0 ° C for 36 h. In Experiment II, right sides of the second group in Experiment I were used and primal cuts were vacuum packed and aged for 1 day, 8 days and 16 days. Pork loins (Longissimus lumborum) were used for color measurement, shearing test, and sensory evaluation. Among three boning methods, cold-boning at 36 h postmortem had the advantages of giving muscles a better color, the lowest cooking loss and cooked shearing value, and the highest sensory tenderness, juiciness, flavor and overall liking. Postmortem aging could improve pork quality characteristics, but it is not the fact that the longer aging time is, the better pork quality would be. Eight days may be enough to obtain an acceptable sensory attribute. These results are meaningful for pork processing and pork consumption.
【语种】英文
【第一作者】李春保
【通讯作者】周光宏
【期刊名称、卷期、页码】Animal Science Journal, 2009; in press.
【论文发表时间】2009-09-01 00:00:00
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【引文索引号】500NT
【学科分类】食品加工技术

【题目】Determination of intramuscular phospholipid classes and molecular species in Gaoyou duck
【中文关键词】高邮鸭;分类
【英文关键词】Gaoyou duck;Phospholipids;Classes;Molecular species

【中文摘要】本文对传统肉制品高邮鸭成分的分析,为进一步传统肉制品理论基础研究起了良好的基础奠定
【英文摘要】In this study, intramuscular phospholipid classes and molecular species in Gaoyou duck meat were deter-mined. Classes of phospholipids were identified and quantified by normal phase HPLC combined with UV and evaporative light scattering detectors (ELSD). The main phospholipid classes (phosphatidylcholine and phosphatidylethanolamine) were prepared on a semi-preparative silica gel column by HPLC. Reverse phase HPLC was coupled in parallel with both an ELSD and a mass spectrometry in order to characterise molecular species of phosphatidylcholine (PC) and phosphatidylethanolamine (PE). The results showed that Gaoyou duck meat had high quantities of PC and PE (64.66% and 28.10% of total phospholipids,respectively). Arachidonic acid was mainly present in PE and formed molecular species containing a sat-urated fatty acid, such as stearic or myristic acid; however, oleic acid together with palmitic or stearic acid formed the main molecular species in PC. The content of the molecular species with polyunsaturated fatty acids in PE accounted for 98.33%, while that in PC only 46.20%.
【语种】英文
【第一作者】Daoying Wang
【通讯作者】徐幸莲
【期刊名称、卷期、页码】Food Chemistry,2009;112:150-155.
【论文发表时间】2009-09-01 00:00:00
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【引文索引号】357HP
【学科分类】食品加工技术

【题目】天然保鲜剂与气调包装对牛肉火腿切片货架期的影响
【中文关键词】自然保存;气调包装;货架期
【英文关键词】natural preservative; modified atmosphere package; sliced beef ham; shelf life
【中文摘要】本文由研究了不同贮藏方式对畜禽产品或假期的影响,有着重大意义
【英文摘要】The influencesof natural preservative and modified atmosphere package on the shelf-life of sliced beef ham stored at 9°Cunder fluorescence lighting conditions were studied with vacuum-packaged products as controls. The results show that the number of Lactobacilliin the vacuum-packaged products grow rapidly and exceeded 6. 70log(cfu · g)-1 at 28d with continuous decline of pH values. The growth of lacticacid bacteriais not retarded in the modified atmosphere package(MAP) (60%CO2+ 40%N2) . The a*values(redness) of MAPproducts decrease significantly(p < 0. 05) . The natural preservative(150mg/ kg Nisin 0.3%teapolyphenols)has significant bacteriostatic activities against Lactobacilli,and the effects of bacteriostatic are better by dipping after slicing(DAS) than that by incorporation before curing(IBC) . Duringstorage,the a* values of products are not affected by natural preservative(p < 0. 05) . The MAP or natural preservative has little effects on TBARS changes.
【语种】中文
【第一作者】徐宝才
【通讯作者】孙芸
【期刊名称、卷期、页码】农业工程学报,2006;22(3):143-147.
【论文发表时间】2006-03-01 00:00:00
【引文索引类型】EI
【引文索引号】1002-6819(2006) 03-0143-05
【学科分类】食品加工技术

【题目】基于产品生命周期管理的肉品车间生产跟踪及追溯体系研究
【中文关键词】追踪和追溯;实际数据库
【英文关键词】product lifecycle management;tracking and traceability;mixed bar code technology;virtual database;ontology;XML
【中文摘要】本文基于实际生产所提出的追踪和追溯体系有着重大意义
【英文摘要】The meat tracking and traceability system based on PLM(product life cycle management)includes the tracking system from but chering and processing to meat product market, and meat product all life cycletrace ability system. Aset of the business process key point(KP) o f the meat product is identified. Based on data driven at the KP and deployment,the meat product tracking system was implemented. The meat product data traceability system was realized by the means of the two-dimension embed dedond-dimension bar codemixed technology in the enterprise. The virtual database based on on tology and XML was constructed to realize the meat product data seamless connection and mutually operation for the physical distribution enterprise meat product database, and meat

product traceability in the total meat product lifecycle. Furthermore,the meat production tracking and traceability management system was developed based on opening-source integration development environment,which will be evolved to meet the customer and market requirement

【语种】中文
【第一作者】徐焕良
【通讯作者】周光宏
【期刊名称、卷期、页码】农业工程学报,2007;(12):161-166.
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【学科分类】食品加工技术

【题目】鸡肉在成熟过程中肌原纤维蛋白的降解机制研究
【中文关键词】肌纤维蛋白;鸡;酶
【英文关键词】chicken; myofibrillar protein; degradationmechanism; aging; caspase-3; calcium
【中文摘要】本文从分子角度解释肌肉在成熟过程中的变化,这有着重大意义
【英文摘要】In order to investigate the mechanism underlying postmortem proteolysis of muscle proteins during meat aging, five broilers were slaughtered and treated individually. After breast muscles were removed, the samples at death were obtained quickly. The other muscles were dissected into small blocks and divided into six groups randomly. One group marinated in solution containing 100mmol/ L NaCl and 2mmol/ LNaN3 was desig-nated as control, the others were soaked in solutions as controls but containing 30mmol/ L EGTA, 20mmol/ LCaCl2, protease inhibitor cocktail (10 mL/ tablet) , 100 Lmol/ L caspase3 selective inhibitor(DEVD-CHO) ,20mmol/ L CaCl2 plus protease inhibitor cocktail, respectively inthe ratio 1∶1(W/ V) (meat : solution) , then stored at 4℃ for 1, 3, 7d. At each conditioning time point, meat samples were obtained, and the changes of myofibril proteins(titin, nebulin, desmin, andtroponin-T) were examined by SDS-PAGE and western blotting.Results reveal that proteases inhibitor cocktail and DEVD-CHO inhibit myofibril proteins digestion markedly,wherea scalcium accelerated the process implying that the endogenous proteases contribute to meat protein degra-dation, calciummay play a role by activating calpains and that the apoptosis related caspase-3 is possibly another new biological can didate involvedin meat tenderization.
【语种】中文
【第一作者】黄明
【通讯作者】周光宏
【期刊名称、卷期、页码】农业工程学报,2007;(11):42-46.
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【学科分类】食品加工技术

【题目】不同冻结和解冻速率对猪肉保水性和超微结构的影响
【中文关键词】冷冻;解冻;损失率
【英文关键词】freezing; thawing; thawing loss rate; ultrastructure
【中文摘要】本文从冻结和解冻两个方面解释保水性及超微结构的变化情况,对实际生产有着重大意义
【英文摘要】Uniform design experiment was adopted to study the effects of freezing rate, thawing rateand individuals on water holding capacity and ultra structure of pork. Results show that the effect of thawing rate on thawing loss rate is nonlinear,and there is an optimum thawing rate to decrease the thawing loss rate; The mainfactor that affect cookloss rate is not thawing rate but freezing rate, and different individuals have significant effect oncookloss rate; Water holding capacity is correlatedto different individuals,and is independent of freezing rate and thawing rate; Thawing rate has som eeffect on total protein solubility with monlinear relation-ship,and other factors considered have no effects onit Freezing and thawing have bad effects on the ultrastructure of thawed meat,the quicker the thawing rate,the worse the effect.
【语种】中文
【第一作者】余小领

【通讯作者】周光宏
【期刊名称、卷期、页码】农业工程学报,2007;(8):261-265.
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【引文索引类型】EI
【引文索引号】1002-6819(2007) 8-0261-05
【学科分类】食品加工技术

【题目】溴氰菊酯酶联免疫吸附分析方法研究
【中文关键词】溴氰菊酯; 酶联免疫吸附分析; 多克隆抗体
【英文关键词】deltamethrin; enzyme-linked immunosorbent assay; po lyc lonal antibody
【中文摘要】建立了定量测定溴氰菊酯间接竞争酶联免疫吸附分析方法(ic-ELISA)。合成了半抗原1-羧基-(3c-苯氧基苯基)甲基-3-(2c,2c-二溴乙烯基)-2, 2-二甲基环丙基羧酸酯(Med)和N-2-(羧基丙基)氨基甲酰基-(3c-苯氧基苯基) 甲基-3-(2c,2c-二溴乙烯基)-2, 2-二甲基环丙基羧酸酯(Di)。分别采用碳二亚胺法和混合酸酐法将半抗原与牛血清蛋白(BSA)和卵清蛋白(OVA)偶联制备了免疫原D -i B SA 和包被原D -iOVA、M ed-OVA。将制得的溴氰菊酯免疫原免疫动物获得多克隆抗体, 经间接非竞争EL ISA 法测得其效价为2. 5 @ 105。通过对甲醇含量、离子强度、pH 值等影响因素进行异源分析条件的优化, 确立了溴氰菊酯间接竞争酶联免疫分析方法的最佳检测条件(30%甲醇、氯化钠0.4mol/L、pH7.5) , 并建立了标准竞争曲线。该方法的IC50值为0.55±0.05mg/L,检测限(IC10)为3.76±0.35 Lg/L, 对大多数拟除虫菊酯无交叉反应。分别在自来水、河水和土壤样品中添加0. 05~ 5. 0 m g /L (或mg /kg)的溴氰菊酯, 回收率分别为89. 7%~ 106. 8%、82. 4% ~101. 7% 、75. 6%~ 97. 8%。
【英文摘要】An indirect competitive enzyme-linked immunosorbent assay (ic-ELISA) was developed forthe quantitative detection of deltamethrin. The haptens of deltamethrin1-carboxy-(3c-phenoxyphenyl) m ethy-l 3-(2c,2c-dibromoethenyl)-2,2-dimethylcyc lopropanecarboxylate (Med) and N-2-(carboxypropyl) carbamoy-l (3c-phenoxyphenyl) methy-l 3-(2c,2c-d ibromo ethenyl)-2, 2-dimethylcyclopropanecarboxylate (Di) were synthesized. Di was conjugated with bovine serum album in (BSA) as immunogen (D -iBSA) by carbodiimide method and coating antigens (D -iOVA, Med-OVA) of deltamethrin were prepared by conjugating these two haptens with ovalbumin (OVA) by mixed anhydride method. Polyclonal antibodies were obtained from rabbits immunized with immunogen and the titer of the freezedried powder (2. 5* 105) was determined by indirect non-competitive ELISA procedure. Standard competitive curve of the optimized ic-ELISA for deltamethrin was developed. Thus, the optimized assay conditions such as concentration of methanol (30%) , inonicstrength (NaCl 0.4mol /L) , pH value (7. 5) were investigated and obtained by analysis of heterologous. The value of 50% inhibition of antibody
【语种】中文
【第一作者】张帮红
【通讯作者】王鸣华
【期刊名称、卷期、页码】农药学学报 2009, 11(2): 261-268
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【引文索引号】null
【学科分类】植物保护学

【题目】高亲和力的农药克百威单克隆抗体的制备及鉴定
【中文关键词】克百威;单克隆抗体;免疫化学分析
【英文关键词】Carbofuran; Monoclonal antibodies; Immunochemical assays
【中文摘要】摘要:【目的】制备高亲和力农药克百威单克隆抗体,建立克百威残留免疫检测方法,控制克百威残留,保障人民身体健康与保护环境。【方法】合成克百威半抗原BFNB,用人工抗原BFNB-BSA 免疫Balb/c 小鼠,取脾细胞与骨髓瘤细胞在PEG4000 作用下融合,经间接ELISA 筛选及显微克隆法亚克隆,分离出阳性细胞株,腹水诱导法及辛酸-硫酸铵沉淀法大量制备及纯化单克隆抗体,间接ELISA 法测定抗体滴度及亲和力,间接竞争ELISA 法测定抗体特异性。【结果】获得1 株稳定分泌抗克百威单克隆抗体的杂交瘤细胞株5D3,其培养上清和腹水抗体滴度分别为1∶2.048×103和1∶1.024×106,其抗体亚类为IgG1,亲和力常数为2.54×109 L·mol-1,IC50为1.18 ng·ml-1,最低检测限为0.01 ng·ml-1。与克百威降解产物呋喃酚的交叉反应率为4.59×10-4%,另外几种结构类似的氨基甲酸酯类农药的交叉反应率均小于3.0×10-4%。【结论】此抗克百威的单克隆抗体亲合力高、特异性强,为建立克百威简便、快速、特异的免疫检测方法奠定了基础。

【英文摘要】【Objective】The objective of the experiment was to study production of high affinity monoclonal antibodies against pesticide carbofuran, and the developmet of immunochemical assays for health and environmental protection.【Method】The hapten 4-[[(2,3-dihydro-2,2-dimethyl-7-benzofuranyloxy) carbonyl]-amino]-butanoic acid (BFNB) of carbofuran was synthesized and Balb/c mice were immunized by the hapten-carrier(BFNB-bovine serum albumin, BFNB-BSA) conjugates. The splenocytes of immunized mice were fused with Sp2/0 cells and the cultural supernatants of hybridoma cell were screened by indirect enzyme-linked immunoabsorbent assay (ELISA) based on BFNB- ovoalbumin conjugates (BFNB-OVA). Purified monoclonal antibody (McAbs) were obtained from ascites fluids deposited by octanoic acid and ammonia sulfate. The affinity and the specificity of McAbs were characterized by ELISA or indirect competitive ELISA.【Result】A hybridoma cell line (5D3) secreting anti-carbofuran McAb had been established. The titre of culture medium and ascites were up to 1：2.048×103 and 1：1.024×106 respectively and the subtype of the McAb was IgG1. The affinity constant of the McAb was about 2.54×109 L・mol-1, with a IC50 value of 1.18 ng・ml-1 and the detection limit of 0.01 ng・ml-1. Cross-reactivity studies showed that the McAb was quiet specific for carbofuran since, of the four analogous compounds, all they were hardly recognized (4.59×10-4% for 2,3-Dihydro -2,2-dimethyl-7-benzofuranol and less than 3.0×10-4% for others).【Conclusion】The prepared McAb had very high affinity and specificity . It could be used to develop ELISA for rapid determination of carbofuran.
【语种】中文
【第一作者】杨金易
【通讯作者】孙远明
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【学科分类】植物保护学

【题目】Biochemical changes during processing of traditional Jinhua ham
【中文关键词】金华火腿;脂肪氧化;风味影响
【英文关键词】Jinhua ham Processing Proteolysis Lipolysis Flavor development
【中文摘要】本文由深入研究传统金华火腿的质量控制与加工发展,有着重大意义
【英文摘要】Jinhua ham is the most famous traditional meat product of China and one of the most famed dry-cured hams in the world. Its pro-cessing consists of six stages: green ham preparation, salting, washing and sun-drying and shaping, ripening, and post-ripening. Intenseproteolysis and lipolysis occur during processing period. As a result, the content of free amino acids in final ham products is 14 – 16 timesthat of green ham, and 191 volatile compounds have been identified during processing, which make a major contribution to the flavor ofJinhua ham.
【语种】英文
【第一作者】周光宏
【通讯作者】周光宏
【期刊名称、卷期、页码】Meat Science,2007 Sep;77(1):114-120.
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【引文索引号】194SZ
【学科分类】食品加工技术

【题目】Changes in taste compounds of duck during processing
【中文关键词】熟鸭;风味成分;自由氨基酸;肽
【英文关键词】Cooked duck; Taste compounds; Free amino acids; Peptides; Nucleotides
【中文摘要】本文对传统肉制品的发展起着重大意义
【英文摘要】Nanjing cooked duck is one of the few low temperature cooked meat products in traditional Chinese featured meat products. It is famous for its delicate processing, savoury, and tender flavour. Taste compounds of Nanjing cooked duck during processing, namely free amino acids, peptides and nucleotides, were analyzed. During boiling, both free amino acids and flavour nucleotides decreased sig-nificantly. Most peptides decreased during processing and the changes of total peptides were consistent with the nucleotides. Results showed that the special processes before boiling, especially brining, produced an increased of effect on the taste

compounds, which could be the reason for the savoury taste of Nanjing cooked duck.
【语种】英文
【第一作者】刘芸
【通讯作者】周光宏
【期刊名称、卷期、页码】Food Chemistry,2007;102: 22-26.
【论文发表时间】2007-03-01 00:00:00
【引文索引类型】SCI
【引文索引号】126UV
【学科分类】食品加工技术

【题目】Effect of low dose gamma irradiation on beef quality and fatty acid composition of beef intramuscular lipid
【中文关键词】辐照;牛肉;脂肪酸;质构;微生物计数
【英文关键词】Radiation; Beef; Fatty acid; TBARS; Total bacterial counts
【中文摘要】本文采用辐照的手段解释了牛肉成分的变化情况,为基础的机理研究奠定了基础
【英文摘要】Eight Chinese Yellow Cattle semitendinous muscles were irradiated using a60Co irradiation source (with the dose of 1.13, 2.09, or3.17 kGy) and stored (0 day or 10 days at 7 C) to estimate fatty acids change of neutral lipid (NL), polar lipid (PL) and total lipid(TL) fractions, and the beef quality change. Total saturated fatty acid (SFA) and monounsaturated fatty acid (MUFA) increased with irradiation, ratios of MUFA to SFA did not change in TL. Whilst, total polyunsaturated fatty acid (PUFA) reduced with irradiation,which resulted in PUFA to SFA ratio decreased in TL (0 dayor 10 days). Purge loss and 2-thiobarbituric acid reactive substances values increased with irradiation (from 0 to 3.17 kGy) at 0 day, but these values were lower with irradiation at 10 days. Total bacterial counts decreased proportionally with irradiation dose increasing from 0 to 3.17 kGy. It can be concluded that fatty acid profiles in beef changed with irradiation; however, fatty acid profiles did not change much at 3.17 kGy compared with 1.13 or 2.09 kGy, and the beef quality were most acceptable at the dose of 3.17 kGy, thus, low dose of about 3 kGy gamma irradiation was recommended to apply in fresh beef preparation.
【语种】英文
【第一作者】陈一江
【通讯作者】周光宏
【期刊名称、卷期、页码】Meat Science,2008;75: 423-431.
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【引文索引号】130XV
【学科分类】食品加工技术

【题目】Study of the Lactobacillus sakei protective effect towards spoilage bacteria in vacuum packed cooked ham analyzed by PCR – DGGE
【中文关键词】乳酸菌;保护技术;熟火腿;PCR技术
【英文关键词】Lactobacillus sakei ; Protective effect; Cooked ham; PCR – DGGE
【中文摘要】本文阐述了了真空包装中火腿的腐败菌变化,对实际生产提供了技术指标,有着重大意义
【英文摘要】The effectiveness ofLactobacillus sakei B-2 inoculated as a protective culture on the inhibition of spoilage bacteria on sliced vacuum packed cooked ham was investigated by using culture-dependent and -independent approaches. Total microbial DNA was directly extracted from both control and treatment samples, and subjected to a nested PCR protocol, PCR – DGGE analysis was used to identify and monitor the dynamic changes in the microbial population, followed by partial 16S rDNA sequencing. The DGGE profile demon-strated that the protective culture effectively suppressed growth of predominant spoilage bacteria L. sakei, Lactobacillus curvatus and Leuconostoc mesenteroides in cooked ham during storage at 4 C, however, growth of uncultured Leuconostocwas not inhibited. The shelf-life of this product inoculated with L. sakeiB-2, at levels of 5.91 ± 0.04 log10CFUg-1 was 35 days, compared to 15 days of control samples, when the ham was stored at 4 C.
【语种】英文
【第一作者】胡萍
【通讯作者】徐幸莲

【期刊名称、卷期、页码】Meat Science,2008;80: 462-469.
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【引文索引类型】SCI
【引文索引号】356TD
【学科分类】食品加工技术

【题目】Electron microscopy of contractile bands in low voltage electrical stimulation beef
【中文关键词】点刺激;冷却;牛肉、组织结构
【英文关键词】Electrical stimulation;Delay chilling;Beef;Ultrastructure
【中文摘要】本文从分子水平解释了微观结构,便于机理的基础研究,有着重大意义
【英文摘要】This study was designed to explore the effects of low voltage electrical stimulation and delay chilling onthe ultrastructure of beef longissimus muscle. The results showed that 44.9% of sarcomeres in the ES sam-ples had contractile zones, and 16.9% of sarcomeres adjacent to contractile zones were stretched in 100 views of electron microscopy. The ultrastructures of 60.9% of sarcomeres changed when the samples were electrically stimulated and then delay-chilled. Contractile bands play an important role in meat tenderization during postmortem aging.
【语种】英文
【第一作者】罗欣
【通讯作者】周光宏
【期刊名称、卷期、页码】Meat Science,2008;80: 948-951.
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【学科分类】食品加工技术

【题目】丁草胺人工抗原及抗体制备研究
【中文关键词】丁草胺;人工抗原;抗血清
【英文关键词】butachlor;artificial antigen;antiserum
【中文摘要】以除草剂丁草胺、巯基丙酸为原料,合成丁草胺半抗原,用氢核磁共振、电喷雾质谱、红外光谱方法进行鉴定;通过活泼酯法将半抗原与载体蛋白偶联制备丁草胺人工抗原,用紫外光谱法对其鉴定;免疫动物后,间接竞争ELISA检测鉴定抗体。结果表明,巯基丙酸与丁草胺连接生成半抗原,半抗原被连接到载体蛋白上,丁草胺人工抗原合成成功,获得了丁草胺小鼠抗血清。棋盘滴定法确定包被抗原工作浓度为3μg/ml,抗血清稀释倍数为32000倍。建立了间接竞争ELISA标准曲线,丁草胺IC50为1.44μg/ml,检测限为0.47μg/ml。
【英文摘要】Butachlor was used to react with 3-marcapropanoic acid to synthesize the hapten, and the structure of the haptenwas identified by 1H nuclear magnetic resonance, electro-spray ionisation mass spectrometry and infrared spectrometry, respectively. Then, artificialantigenwaspreparedbymodifiedactiveestermethod, andtheconjugatewasidentifiedbyultraviolet spectrometry. Finally, the specificity of the antiserum was confirmed by indirect competitive ELISA. The results showed that 3-marcapropanoicacidislinkedtobutachlor, thehaptenlinkedtocarrierprotein, theartificialantigensynthesized, andantiserum against butachlor obtained. Chessboard titer method gives the optimal coating antigen concentration 3 μg/mland32000folddilutionof antiserum. The calibration curve of indirect competitive ELISA showed that the IC50 is 1.44 μg/ml and detection limit 0.47 μg/ml.
【语种】中文
【第一作者】雷红涛
【通讯作者】孙远明
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【引文索引号】null
【学科分类】植物保护学

【题目】Isolation and characterization of eleven microsatellite loci in small abalone, Haliotis diversicolor Reeve

【中文关键词】磁珠富集,微卫星标记,杂色鲍,基因连锁图谱
【英文关键词】Magnetic beads enrichment; Microsatellite markers; Haliotis diversicolor Reeve; Genetic linkage map
【中文摘要】本研究从小鲍鱼,杂色鲍中分离出11种微卫星标记,并在不同地理种群中的24个个体进行检测。我们从11种微卫星位点中确认了162个等位基因,且所有的位点具有高度多态性。多态信息含量(PIC)从0.7276到0.9163不等。观察杂合度和期望杂合度分别从0.2727到1.000和0.7738到0.9429不等。从Hardy – Weinberg平衡看,三个基因位点显著倾斜,没有成对基因位点显示连锁不平衡。这些多态标记将对于分析种群结构,基因多样性和遗传连锁图的构造有重要作用。
【英文摘要】Eleven novel microsatellite markers were isolated from small abalone, Haliotis diversicolor Reeve. These loci were tested on 22 individuals from two different geographic populations. We identified a total of 162 alleles from the 11 microsatellite loci. All of the loci were highly polymorphic. Polymorphism information content (PIC) is ranging from 0.7276 to 0.9163. Observed and expected heterozygosities ranged from 0.2727 to 1.0000 and from 0.7738 to 0.9429, respectively. Three loci deviated significantly from Hardy – Weinberg equilibrium. No pairs of loci displayed linkage disequilibrium. These polymorphic markers will be used to analyze population structure, genetic diversity and construct a genetic linkage map.
【语种】英文
【第一作者】战欣
【通讯作者】柯才焕
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【学科分类】水产养殖学

【题目】压砂地西瓜补灌技术筛选研究
【中文关键词】压砂地; 西瓜; 节水补灌; 正交试验
【英文关键词】gravel-mulched field; watermelon; water-saving supplementary irrigation; orthogonal test
【中文摘要】通过选取不同的补灌技术对压砂地西瓜进行了补水技术研究,结果表明:补灌技术对西瓜纵径和西瓜横径具有相同的影响效果,西瓜成熟后车补、滴灌、管灌处理的西瓜纵径分别为27.7、29.2、25.8cm,西瓜横径分别为19.4cm、20.7cm、18.9cm,滴灌西瓜横径最大,车补次之,管灌最小。三因素三水平的最优组合为滴灌方式、灌水定额为90m3/hm2,灌水次数为5次;经方差分析可知,灌水定额和补水方式对产量影响显著,灌水定额较之补水方式更为显著,而灌水次数无显著影响。 更多还原
【英文摘要】The paper researched the water-saving supplementary irrigation of watermelon in gravel-mulched field by choose different supplementary irrigation technology,the result indicates that the supplementary irrigation technologies have the same impact effect to vertical and crosswise diameter of watermelon.The vertical diameter of the ripe watermelon is 27.7,29.2,25.8 cm,respectively,for tractor irrigation,drip irrigation and tube irrigation,and the crosswise diameter is 19.4,20.7,18.9 cm respectively,for tractor irrigation,drip irrigation and tube irrigation.The best combination of three elements and three levels is drip irrigation,the irrigation quota is 90m3/hm2,the frequency of irrigation is 5.The result of analysis of variance indicates that the irrigation quota and supplementary way have conspicuous effects and the former is more,but the frequency of irrigation has no conspicuous effect.
【语种】中文
【第一作者】马波
【通讯作者】田军仓
【期刊名称、卷期、页码】节水灌溉,2012年第2期,71-74
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【学科分类】水利工程其他学科

【题目】Characterization of Ornithine Decarboxylase, a Potential Selective Breeding Marker, from Small Abalone, Haliotis Diversicolor
【中文关键词】鸟苷酸脱羧酶,选择育种,杂色鲍,九孔
【英文关键词】Ornithine Decarboxylase; SelectiveBreeding; Haliotis Diversicolor; Small Abalone;

【中文摘要】鸟氨酸脱羧酶(ODC)是第一个在生物合成聚胺过程中限制酶,且在生物过程中扮演重要的角色。虽然在脊椎动物中被认定为潜在的标志物,但在水生生物中还未被很好的研究过。识别ODC是其在小鲍鱼,杂色鲍中作为选择性育种标记应用的先决条件。在本文,我们将集中研究小鲍鱼ODC基因的体外表征。表达结果显示L-鸟氨酸的脱羧酶活动且受制于DL-α-二氟甲基鸟氨酸盐酸盐水化合物。在广泛组织中ODC具有不同程度的表达,在肝胰腺最低而在触角最高。ODC作为分子标记对于小鲍鱼育种有着重要作用,同时还可以促进软体动物生物功能研究的进一步深入。

【英文摘要】The enzyme ornithine decarboxylase (ODC) is the first limiting enzyme in polyamine biosynthesis and plays an important role in biological processes. Although recognized as a potential biomarker in vertebrates, it has not been well studied in aquatic animals. Identification of ODC is a prerequisite for its application as a selective breeding marker in small abalone, Haliotis diversicolor. In this article, we focused on the in vitro characterization of the ODC gene from small abalone. The expressed product showed decarboxylase activity for l-ornithine and was inhibited by DL-α-difluoromethylornithine hydrochloride hydrate. ODC was expressed in a wide range of tissues at varying levels, with the lowest in the hepatopancreas and the highest in the antennae. ODC is potentially useful as a molecular marker for small abalone breeding and can also facilitate further investigations on its biological functions in mollusks.

【语种】英文

【第一作者】李卫东

【通讯作者】柯才焕

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【学科分类】水产养殖学

【题目】An Enzyme-linked Immunosorbent Assay for the Detection of Bifenthrin

【中文关键词】联苯菊酯,多克隆抗体,酶联免疫检测

【英文关键词】Bifenthrin; Polyclonal antibody; Enzyme-linked immunosorbent assay (ELISA)

【中文摘要】建立了一种针对联苯菊酯的间接竞争性酶联免疫检测体系。两种半抗原(LBc和LBy)被合成出来,其中LBc与BSA偶联做为免疫原,同时两种半抗原与OVA偶联作为包被原。通过免疫,多克隆抗体被制备出来,并建立了基于多克隆抗体的酶联免疫检测体系。

【英文摘要】An indirect competitive enzyme-linked immunosorbent assay (ic-ELISA) was developed for the quantitative detection of bifenthrin. Two haptens, LBc ((2-methyl[1,1′-biphenyl]-3-methoxy) carbonyl propionic acid) carbonyl propionic acid) and LBy ((2-methyl[1,1′-biphenyl]-3-yl)carboxylic acid), were synthesized from 2-methyl-3-phenylbenzyl alcohol, a metabolite of bifenthrin.The LBc was conjugated to bovine serum albumin (BSA) for the immunogen by the carbodiimide method, and the LBc and LBy were conjugated to ovalbumin (OVA), respectively, for the coating antigens by the mixed anhydride method. Polyclonal antibodies was raised against LBc-BSA conjugate in rabbits and hapten-OVA conjugates as coating antigens were screened and selected for the assay in the homologous and heterologous ELISA systems, and the titers of antiserum (5.12 × 104) were determined by non-competitive ELISA procedure. Under the optimum assay conditions of pH 7.5, PBS of 0.3 M Na+ and 30% methanol, the heterologous assay system was more sensitive. The IC50 value for bifenthrin was (2.16 ± 0.32) mg l − 1, and the detection limit was (0.016 ± 0.002) mg l − 1. Pyrethroids, such as cyhalothrin, deltamethrin, cypermethrin, fenvalerate, fenpropathrin, and pyrethroid metabolite, 3-phenoxybenzoic acid, did not cross-react significantly in this assay.

【语种】英文

【第一作者】李波

【通讯作者】王鸣华

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【学科分类】植物保护学

【题目】Divergent selection for shell length in two stocks of small abalone Haliotis diversicolor

【中文关键词】杂色鲍,遗传率,选择反应,趋异选择,壳长
【英文关键词】Haliotis diversicolor, realized heritability,response to selection, divergent selection, shell length
【中文摘要】为了检验是否可以通过选择性育种达到遗传改良的效果,我们对两种杂色鲍种群进行壳长随机选择。种群A源于以日本野生群体为母本和台湾野生种群为父本的杂交,而种群B源于台湾养殖种群,这个种群在中国大陆已经成功养殖近10代。分别从两个种群中各选出壳长最长10%和最短10%,作为大选育家系和小选育家系。在选育前,先从两个种群中随即选取同等数量的鲍鱼作为杂交家系的亲本。选育家系和杂交家系在其幼体早期、幼体晚期和成体期时都被饲养在相同的条件下。结果显示种群A在选育响应和实际遗传率方面明显高于种群B.(P<0.01)在壳长方面,种群A和种群B中的选育大家系分别比杂交家系增长快12.79%和4.58%。种群A和种群B的壳长平均实际遗传率分别为0.441±0.064和0.113±0.013。不同年龄的不同种群对于选育响应也不同,在两个种群的选育家系中,成体体重也明显不同于杂交家系。同时我们发现两个种群的对于两个方向选育的响应呈现不对称趋势。我们推测这两个种群对于选育响应和实际遗传率的不同可能是因为遗传多样性。
【英文摘要】To determine whether genetic improvement can be attained through a selective breeding programme, divergent selection for shell length was applied to two stocks of Haliotis diversicolor. Stock A was descended from the cross between males from a Japanese wild population and females from a Taiwan aquacultured population and Stock B was from the Taiwan cultured population, which had been successively cultured in mainland China for about 10 generations. The 10% largest and 10% smallest abalones for each of these two stocks were selected as parents for the large-selected and small-selected lines respectively. Equal numbers of abalone were randomly chosen from the two stocks to serve as parents for the control lines before the selection. The selected and control lines were reared under the same conditions at early juvenile, later juvenile and grow-out stages. Stock A showed a significantly higher response to selection and realized heritability than Stock B (P < 0.01). The large-selected line of Stock A and Stock B grew 12.79% and 4.58% faster than their control lines on shell length respectively. The average realized heritability for shell length was 0.441 +/- 0.064 for Stock A and 0.113 +/- 0.013 for Stock B. Responses to selection were different at different ages in each stock and the body weights of the selected lines were significantly different from the control lines in both stocks at the grow-out stage. Asymmetric responses to selection in the two directions were also observed in both stocks. Differences in response to selection and realized heritability between the two stocks are presumably due to genetic variability.
【语种】英文
【第一作者】游伟伟
【通讯作者】柯才焕
【期刊名称、卷期、页码】Aquaculture research,2010; 卷:41; 期:6; 页码: 921-929
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【引文索引号】2.7769070001e+011
【学科分类】水产养殖学

【题目】Application of computer-assisted molecular modeling for immunoassay of
【中文关键词】食品残留;半抗原设计;免疫分析;分子模拟
【英文关键词】Food contaminants
Hapten design
Immunoassay
Molecular modeling
【中文摘要】为了适合农药、兽药以及毒枝菌素等小分子食品残留物的快速、灵敏的检测需要,免疫检测方法被广泛应用起来。然而,由于对抗体识别位点以及抗原表位的认识的局限,传统的免疫检测方法无法避免反复操作和尝试的弊端。于是,引进计算机辅助分子模拟技术对提高免疫检测方法建立效果显得格外重要。本文便展现了计算机辅助分子模拟技术的一些优势以及成功案例,并对它的理论、功能、程序等方面进行讨论。
【英文摘要】Immunoassay for low molecular weight food contaminants, such as pesticides, veterinary drugs, and mycotoxins is now a well-established technique which meets the demand for a rapid, reliable, and cost effective analyticalmethod.However, due to limited understanding of the molecular structure of antibody binding sites and antigenic epitopes, as well as the intermolecular binding forces that come into play, the traditional ‘ trial and error ’ method used to develop antibodies still remains the method of choice. Therefore,development of enhanced immunochemical techniques for specific- and generic-assays, requires new approaches for antibody design that will improve affinity and specificity of the antibody in a morerapid and economic manner. Computer-assisted molecular modeling (CAMM) has been demonstrated to be a useful tool to help the immunochemist develop immunoassays. CAMM

methods can be used to help direct improvements to important antibody features, and can provide insights into the effects of molecular structure on biological activity that are difficult or impossible to obtain in any otherway. In this review, we briefly summarize applications of CAMMin immunoassay development, including assisting in hapten design, explaining cross-reactivity, modeling antibody – antigen interactions, and providing insights into the effects of the mouse body temperature on the three-dimensional conformation of a hapten during antibody production. The fundamentals and theory, programs and software, limitations, and prospectsof CAMM in immunoassay development were also discussed.

【语种】英文

【第一作者】Zhenlin Xu

【通讯作者】孙远明

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【学科分类】植物保护学

【题目】Molecular identification of interspecific hybrids between Haliotis discus hannai Ino and Haliotis gigantea Gmelin using amplified fragment-length polymorphism and microsatellite markers

【中文关键词】皱纹盘鲍,西氏鲍,杂交,分子鉴定,AFLP, 微卫星

【英文关键词】Haliotis discus hannai, Haliotis gigantea, hybridization, molecular identi ¢ cation, AFLP, microsatellite

【中文摘要】基于扩增片段长度多样性和微卫星标记法对A和B杂交种进行分子标记。本研究的对象为皱纹盘鲍和大鲍两种鲍的杂交种,并用通过扩增片段长度多样性(AFLP)和微卫星标记(SSR)方法对其杂交性进行确认。为了确定皱纹盘鲍、大鲍和两者的杂交种的扩增片段长度多样性的属性,本研究采用了5种扩增片段长度多样性(AFLP)引物组合,其结果显示皱纹盘鲍和大鲍的基因具有多样性且都具有种类特异的条带。种间杂交种的AFLP结果显示所有的杂交种都从皱纹盘鲍和大鲍两个母体继承了种类特异条带。从皱纹盘鲍微卫星标记上选取的20个微卫星基因座经评估后发现有8个基因座在大鲍中同样存在着多态性,且每个基因座有3.375个等位基因。初步的筛选结果表明这8个微卫星基因座中有2个(Awb002和Awb022)可以用作区别杂交种和亲代个体的种间特异性标记。简单序列重复分析显示杂交种的两个微卫星基因座分别从两个亲代个体中遗传了一个等位基因。以上的这些数据表明了这种经诱导产生的种间杂交种的确是皱纹盘鲍和大鲍的杂交种。

【英文摘要】Interspecific hybrids between Haliotis discus hannai Ino and Haliotis gigantea Gmelin were produced in this study. The hybridity of the interspecific hybrids was confirmed by using the methods of amplified fragment-length polymorphism (AFLP) and microsatellite [simple sequence repeats (SSR)] markers. Five AFLP primer combinations were used to develop the AFLP profiles of H. discus hannai, H. gigantea and their reciprocal hybrids. AFLP analysis revealed that genetic variations of H. discus hannai and H. gigantea were relatively diverse and each species holds species-specific bands. The AFLP profiles of reciprocal hybrids showed that all of the hybrids inherited bands specific to H. discus hannai and H. gigantea. Of a total of 20 microsatellite loci, which were selected from H. discus hannai microsatellite markers evaluated, eight loci were polymorphic in H. gigantea samples, with an average of 3.375 alleles per locus. Preliminary screening showed that, two of these eight microsatellite loci (Awb002 and Awb022) could be used as species-specific markers to distinguish the hybrids and their parental species. Simple sequence repeats analysis showed that the reciprocal hybrids inherited one allele from each parent for both of the two SSR loci investigated. These data strongly suggest that the induced interspecific hybrid is a true hybrid between H. discus hannai and H. gigantea.

【语种】英文

【第一作者】骆轩

【通讯作者】柯才焕

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【学科分类】水产养殖学

【题目】Construction, production, and characterization of recombinant scFv antibodies against methamidophos expressed in Pichia pastoris

【中文关键词】巴斯德毕赤酵母; 单链抗体;表达;甲胺磷;
【英文关键词】Pichia pastoris; ScFv; Expression;
Methamidophos
【中文摘要】在巴斯德毕赤酵母P. pastoris(X-33)中分泌表达Met-28D4-ScFv。设计引物从Met-28D4-pCANTAB5E-ScFv 上扩增Met-28D4-ScFv,亚克隆至 P. pastoris 表达载体 pPICZα C,获得酵母表达质粒pPICZα C-ScFv。表达质粒 pPICZα C-ScFv 线形化后,电转化P. pastoris(X-33)。随机挑选转化子菌落进行PCR鉴定,结果显示,转化子的酵母染色体中均整合有外源ScFv基因。在抗性梯度筛选多拷贝整合菌株试验中,共获得5个在2000 μg/mL ZeocinTM的YPDS选择平板上正常生长的菌落,表型鉴定结果均为甲醇利用快速型(Mut+)。对5个多拷贝Mut+型转化菌进行甲醇诱导表达,SDS-PAGE结果显示,各菌株诱导48 h后在约30KD处均可见明显条带,72 h处表达量最大,各菌株表达量之间无明显差异;间接 ELISA结果显示,各菌株诱导72 h的表达产物具有较好的抗原结合活性。
【英文摘要】Pichia pastoris was used to express a recombinantscFv antibody against methamidophos derived froma recombinant phage-display library. The specific scFvgene was amplified from a positive clone and then subclonedinto the expression vector pPICZa C. The resultingplasmid, pPICZa C – scFv, was linearized and transformedinto P. pastoris (X-33). A transformant named X-33-Pp-Met-28D4, which showed strong expression of antibodies,was isolated, and the culture conditions were optimized.Under optimal conditions, P. pastoris cultures yieldedmuch higher levels of scFv product than the Escherichiacoli expression system. Immunochemical characterizationof the scFv antibodies produced in P. pastoris indicatedthat the affinity and specificity of scFv against methamidophosare comparable to those of scFv antibodiesproduced in E. coli. Recoveries of methamidophosfortifiedsamples demonstrated that the P. pastoris-derivedscFv antibodies can be used to determine the content ofmethamidophos residue in environmental and agriculturalsamples. For our purposes, expression in Pichia proved tobe an efficient and economical method for the large-scaleproduction of functional scFv antibodies against methamidophosfor downstream applications.
【语种】英文
【第一作者】李铁军
【通讯作者】刘凤权
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【引文索引号】null
【学科分类】植物保护学

【题目】Allogyogenetic Progeny are Produced from a Hybrid Abalone Cross of Female Haliotis diversicolor and Male Haliotis Discus Discus
【中文关键词】鲍,种间杂交,雌核发育,AFLP,杂色鲍,盘鲍
【英文关键词】abalone; interspecific hybridization; allogynogenesis; AFLP; Haliotis diversicolor; Haliotis discus discus
【中文摘要】雌性杂色鲍(Hds)与雄性皱纹盘鲍(Hdd)杂交得到种间杂合体,通过扩增片段多态性技术对杂合体基因型进行分析,并揭示了子一代(F1)基因结构。子一代存活率很低,为0-0.13%。通过三个AFLP引物组合,我们对来自三个不同母本与一个共同父本杂交得到的20个子一代基因型进行了分析,共检测到266个标记。通过产生一个相似的和遗传差异的基质评估了子代与亲本之间的基因关系。Hds 和Hdd之间的遗传差异很大,差异范围为1.471-1.492。子一代的AFLP条带模式与母本很相似而与父本差异很大。在子一代与母本之间的平均遗传差异值为0.024 - 0.039,比这些母本之间的遗传差异值略小,说明子一代与它们的母本Hds之间具有很高的基因相似性。但是,在所有的个体的AFLP条带中,有0 - 0.8%是来自亲本,0 - 3.3%的条带是非亲本的。最后,我们对这种父本特异性与非亲本条带存在的原因进行了讨论。
【英文摘要】Interspecific hybrid families of female Haliotis diversicolor X male H. discus discus were produced and analyzed using amplified fragment length polymorphism (AFLP) technology to reveal the genetic makeup of F1 progenies. The survival rates of the hybrid F1 were very low, ranging from 0-0.13%. Twenty hybrid F1 from 3 families along with 3 different female parents and their common male parent were analyzed with 3 AFLP primer combinations. In total, 266 markers were detected. Genetic relationships among the progenies and the parents were evaluated by generating a similarity and genetic distance matrix. The genetic divergence between Haliotis diversicolor and Haliotis discus was at a high level, with genetic distance ranging from 1.471-1.492. The AFLP band patterns of hybrid F1 progeny were similar to those of the female parents, but were quite different from that of the male parent. The mean genetic distance between hybrid F1 and their female parents were 0.024-0.039, slightly less than that among the female parents, which indicates that the hybrid F1 shared high genetic similarity with their female parents, Haliotis diversicolor. However, 0-0.8% of total AFLP bands of each individual were found to be parental bands, and 0-3.3% were found to be nonparental bands. The possible reason for the presence of paternal-specific and nonparental bands is discussed.

【语种】英文
【第一作者】蔡明夷
【通讯作者】柯才焕
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【学科分类】水产养殖学

【题目】Cupric ion enhanced molecular imprinting of bovine serum albumin in hydrogel
【中文关键词】分子印迹水凝胶;BSA-Cu 结合物
【英文关键词】BSA-Cu(II) complex / Coordinate interaction / Molecularly imprinted hydrogel
【中文摘要】一种新型的Cu-BSA分子印迹材料被合成出来,其中NIPA作为辅助单体被使用。体系的pH,温度,和盐离子浓度作为关键实验因素被优化,同时验证了该方法与Zn(II), Ni(II), Co(II), Cd(II), and Al(III)的交叉结合能力,验证了该方法具有对蛋白和铜离子较高选择性。
【英文摘要】A novel molecularly imprinted hydrogel for bovine serum albumin (BSA) was preparedusing cupric ion as the bridge between the template BSA and the functionalmonomer 4-vinylpyridine. N-Isopropylacrylamide (NIPA) was used as an assistantmonomer to provide the stimuli-responsibility of the polymer. The adsorption conditionsof BSA on the BSA-Cu(II)-imprinted hydrogel were optimized considering theinfluences of pH, temperature, and salt concentration. The proteins bound on theimprinted hydrogel can be easily recovered under mild conditions by using10 mmol/L ethylene diamine tetraacetic acid (EDTA) (pH 7.0) containing 150 mmol/LNaCl as the eluting solution. The imprinting effect and adsorption capacity of thepolymer were found to be significantly improved compared to the hydrogel preparedin the absence of cupric ion. The results demonstrated the advantages ofusing a template-metal ion-monomer coordination system to strengthen the interactionbetween the protein and monomer. The effects of different metals ions includingZn(II), Ni(II), Co(II), Cd(II), and Al(III) on the recognition ability of the BSA-Cu(II)-imprinted hydrogel were also investigated. The polymer showed high selectivitytoward both the template protein and the cupric ion.
【语种】英文
【第一作者】Shenghua Li
【通讯作者】赵美萍
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【学科分类】植物保护学

【题目】Karyological Studies of the Hybrid Larvae of Haliotis Disversicolor Supertexta Female and Haliotis Discus Discus Male
【中文关键词】鲍,种间杂交,核型分析,雌核发育,杂色鲍,九孔鲍,盘鲍
【英文关键词】abalone; interspecific hybridization; karyotype analysis; gynogenesis; Haliotis diversicolor supertexta; Haliotis discus discus
【中文摘要】为了鉴定杂色鲍(Hds) ♀与皱纹盘鲍(Hdd) ♂的杂合子在早期发育阶段的基因组结构,抽取的试样为由杂合体(SJ-5 and SJ-50)以及纯合体(SS and JJ) 产生的面盘幼体,并用标准细胞核学法基因组原位杂交实验进行分析。在细胞中期,除了来自父本的单倍体组型,其他的来自亲本的染色体都能检测到。通过GISH初步结果,杂合子的基因组结构也能得以确定。与对照组相比,在杂合体(SJ-5 and SJ-50)中存在更多的非整倍体和染色体片段,说明在杂合体中基因组不稳定,染色体组容易丢失。在亚二倍的细胞中期,通过配对,完整的Hds染色体组和Hdd染色体组都可以检测到。母本染色体组在杂合体幼虫阶段会产生自发的二倍化现象,形成2.2%的异质三倍体,和具有两个完整的Hds 染色体组的17.9%亚二倍体。这些结果表明:单亲染色体的消除伴随着母本染色体组的自发二倍化,这或许是在Hds×Hdd杂交过程中产生异育效应的原因。
【英文摘要】To determine the genomic composition of the interspecific hybrid between Haliotis diversicolor supertexta female and H. discus discus male at an early developmental stage, veliger larvae produced from hybrid (SJ-5 and SJ-50) and pure species crosses (SS and JJ) were sampled and analyzed using standard karyological methods and genomic in situ hybridization. In hybrid metaphase spreads, chromosomes from both parents were detected, except one metaphase, which showed the H. diversicolor supertexta haploid karyotype. The genomic composition of the hybrid was also confirmed through preliminary genomic in situ hybridization results.

Many more aneuploids and chromosome fragments were found in the hybrids than those in the control pure species crosses, indicating genome instability and chromosome loss in the hybrids. In the hybrid hypodiploid metaphase spreads, two intact sets of H. diversicolor supertexta chromosomes and several H. discus discus chromosomes were detected by pairing. Spontaneous diploidization of the maternal chromosome set was shown to occur in hybrid larvae, as 2.2% heterogeneous triploid and 17.9% hypodiploids with two intact H. diversicolor supertexta chromosome sets for SJ-5. The current findings suggest that uniparental chromosome elimination along with spontaneous diploidization of maternal chromosome sets may be the reason for allogynogenesis production in H. diversicolor supertexta X H. discus discus hybridization.
【语种】英文
【第一作者】蔡明夷
【通讯作者】柯才焕
【期刊名称、卷期、页码】Journal of shellfish research,2010; 卷:29; 期:3; 页码:735-740
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【学科分类】水产养殖学

【题目】适用于机械化挤奶的旋分-液位式流量计
【中文关键词】机械化挤奶;自动计量技术; 气液分离
【英文关键词】null
【中文摘要】奶流量自动计量是机械化挤奶中最为关键的技术环节之一,能够为机械化挤奶的控制系统提供重要的决策信号,是实现挤奶自动化的首要前提。我国对机械化挤奶奶流量自动计量技术的研发基本处于空白,奶牛挤奶自动计量完全依赖欧美发达国家的产品。为此,详细介绍了德国旋分-液位式流量计的设计要点、具体结构和工作过程等,以期为研发同类国产化技术产品提供借鉴与参考。
【英文摘要】无
【语种】中文
【第一作者】胡志超
【通讯作者】胡志超
【期刊名称、卷期、页码】《农机化研究》、2008年第12期、68-70,74
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【学科分类】生物工程

【题目】Development of a sensitive ELISA for the analysis of the organophosphorous insecticide fenthion in fruit samples
【中文关键词】有机磷农药;倍硫磷;半抗原;抗体;酶联免疫分析
【英文关键词】Organophosphorus pesticide; Fenthion; Hapten; Antibody; ELISA
【中文摘要】两种倍硫磷的半抗原被合成出来,其中H1与BSA偶联作为免疫原用来制备多克隆抗体,H2与OVA偶联作为包被原。经过系统优化,一套高效竞争式间接免疫检测方法被建立起来。其中IC50达到0.01 ppb,其中只于杀螟硫磷的交叉反应达到了4.5%,与其他的受测农药交叉反应均小于0。1%。在实际样品的添加回收中,添加回收率处于79.8-106.0%之间。因此该ELISA方法是一套高效可行的免疫检测方法。
【英文摘要】Two fenthion haptens, 4-(4-(dimethoxyphosphorothioyloxy)-2-methylphenylamino)-4-oxobutanoic acid (H1) and 6-(methoxy(4-(methylthio)phenoxy)phosphorothioylamino)hexanoic acid (H2), were synthesized. H1 was conjugated with bovine serum albumin(BSA) and H2 with ovalbumin (OVA) by the active ester method. Then H2-OVA conjugate was used as coating antigen, while H2-BSA conjugate was used to produce polyclonal antibodies. After optimization, an effective competitive indirect enzyme-linked immunosorbentassay (ELISA) for determination of fenthion was established with the new combination of antibody/antigen, I50 of which was0.01 ng/ml, and there was only cross reactivity (CR) with fenitrothion (4.5%), and CRs with other tested pesticides were all below 0.1%.The recoveries obtained by standard fenthion addition to the different fruit samples such as grape, peach, pear and tomato were all from79.8% to 106.0%. Therefore, the optimized ELISA may become a new convenient and satisfied analytical tool for monitoring fenthionresidues in agricultural samples.

【语种】英文
【第一作者】张奇
【通讯作者】刘凤权
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【引文索引号】10.1016/j.foodchem.2007.07.049
【学科分类】植物保护学

【题目】Identi fi cation of bacteria producing a thermophilic lipase with positional non-speci fi city and characterization of the lipase
【中文关键词】洋葱伯克霍尔德氏菌;酯酶;位置非特异性;溶剂耐受;热稳定性
【英文关键词】Burkholderia cepacia; lipase; positional non-specificity; solvent tolerant; thermophilic
【中文摘要】用以橄榄油为唯一碳源的平板进行初筛,再用罗丹明B平板及吐温一80平板进行复筛。从复筛平板上得到40株脂肪酶活力较高的菌株,对其进行液体培养检测产酶能力,并用薄层层析法检验所产脂肪酶水解底物的位置选择性。最后得到一株活力高 (76U/mL)、具有位置非特异性的脂肪酶产生菌,命名为531. 通过硫酸铵沉淀、离子交换和凝聚过滤实验,从531发酵液中分离出一条约 35kDa、具有脂肪酶活力的蛋白条带。纯化倍数为19.8,回收率为13.3%。531脂肪酶最适温度为65一70°C,同时该酶在高温下也相当稳定:55°C处理12h后残留85%的酶活,70°C温育lh后保留80%的活性。531脂肪酶最适pH为9,在PH7一10之间保持较高的活性
【英文摘要】无
【语种】英文
【第一作者】卢亚萍
【通讯作者】陆兆新
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【学科分类】食品科学技术其他学科

【题目】Effect of hapten structures on specific and sensitive enzyme-linked immunosorbent assays for N-methylcarbamate insecticide metolcarb
【中文关键词】半抗原;多克隆抗体;酶联免疫分析;氨基甲酸酯类农药;速灭威
【英文关键词】Polyclonal antibody
Enzyme-linked immunosorbent
assay
N-Methylcarbamate insecticide
Metolcarb
【中文摘要】氨基甲酸酯类农药速灭威的五种半抗原被合成出来。所有的半抗原与OVA偶联作为候选包被原,而其中包含速灭威整体结构的半抗原与BSA偶联作为免疫原。由此,两种多克隆抗体被制备出来,而10中抗体/包被原的组合也由此而生。以灵敏度和选择性为筛选条件,一种光谱检测方法被确定起来。该方法中,针对7种氨基甲酸酯类农药的IC50处于0.64-20.98ppm之间。
【英文摘要】Five different haptens of the N-methylcarbamate insecticide metolcarb were designed andsynthesized. All of the haptens were conjugated with ovalbumin (OVA) for the coating antigen,and one hapten containing all of the structure of metolcarb was conjugated withbovine serum albumin (BSA) for the immunogen. Two polyclonal antisera were raisedagainst the BSA conjugate, and ten antibody/coating conjugate combinations were selectedfor studies of assay sensitivity and specificity for metolcarb. A class-specific combinationwas found, with the I50 of the assay ranged from 0.64 to 20.98 gmL − 1 for seventested N-methylcarbamate insecticides except for pirimicarb. Considering titer, I50 andcross-reactivity of all combinations of antibody/coating conjugate, a competitive indirectenzyme-linkedimmunosorbent assay (ELISA) in a homologous system, whose limit of detection(LoD) reached 1.4 ngmL − 1, was presented. The results of competitive ELISAs indicatedthat coating hapten structure can significantly affect not only assay sensitivity but also itsspecificity.

【语种】英文
【第一作者】张奇
【通讯作者】刘凤权
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【学科分类】植物保护学

【题目】腐生葡萄球菌M36耐有机溶剂脂肪酶基因的克隆与原核表达
【中文关键词】腐生葡萄球菌, lip3 基因, 耐有机溶剂脂肪酶, 基因克隆, 序列分析, 原核表达
【英文关键词】Staphylococcus saprophyticus, lip3 gene, organic solvent tolerant lipase, gene cloning, sequence analysis, prokaryotic
【中文摘要】脂肪酶是重要的工业用酶, 在食品加工、生物柴油的合成等领域具有广泛的应用。但是在应用中有机溶剂对脂肪酶具有一定的毒性, 因此获得耐有机溶剂的脂肪酶基因并实现高效表达是脂肪酶规模化应用的前提。本研究应用PCR技术首次从耐有机溶剂脂肪酶产生菌腐生葡萄球菌M36 基因组DNA 中扩增得到脂肪酶Ⅲ基因lip3(GenBank AccessionNo. FJ979867), 其编码区长度为741 bp, 编码247 个氨基酸, 推测蛋白分子量大小为31.6 kD。它与腐生葡萄球菌lip3推测的基因(GenBank Accession No. AP008934)只有83%的同源性。将该基因与大肠杆菌表达载体pET-DsbA 连接, 转化大肠杆菌Escherichia coli BL21(DE3)获得重组菌株BL21(DE3)/pET-DsbA-lip3, 在pH 8、25 oC 条件下, OD600 为1.0 时用0.4 mmol/L IPTG 诱导12 h 酶活达到25.8 U/mL。重组酶在甲醇、正己烷、异辛烷、正庚烷等有机溶剂中具有较好的耐性。lip3 基因的克隆及在大肠杆菌中有效表达的研究为进一步进行基因工程改造和脂肪酶应用奠定了基础。
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【语种】中文
【第一作者】汤彦翀
【通讯作者】陆兆新
【期刊名称、卷期、页码】生物工程学报.2009, 12: 236-239
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【学科分类】食品科学技术基础学科

【题目】Aflp Analysis of Populations of Haliotis Discus Hannai, Haliotis gigantea, and Their Hybrids
【中文关键词】鲍,皱纹盘鲍,西氏鲍,杂交,AFLP
【英文关键词】abalone; Haliotis discus hannai; Haliotis gigantea; hybridization; AFLP analysis
【中文摘要】本研究对皱纹盘鲍(D),西氏鲍(G)及它们的互交杂种(DG)(GD)种群遗传结构和遗传多样性进行了扩增片段长度多态性分析。在所有的479个高度重复的AFLP标记中,311个是多态的,这些是通过7种引物组合获得的。杂合子遗传了来自亲本双方的条带,说明杂合子的基因确实是异型的。D,G及它们的杂合子DG和GD的物种多样性指标分别是:0.169±0.188, 0.211±0.227, 0.236±0.267 and 0.231±0.242。通过对分子变异分析,实验表明29.58%的变异是来自种间,71.42%来自种内。D与G之间的遗传差异最大(0.681),GD与G之间的遗传差异最小(0.482)。通过类平均聚类法,这四种群体聚集形成两种主要的进化枝。所有遗传参数表明,在反交杂种D × G中,遗传多样性相当丰富。研究结果表明: AFLP标记拥有大量多态变形标记的特性,因此该方法可促进鲍鱼育种的发展。
【英文摘要】Amplified fragment length polymorphism (AFLP) analysis of the population genetic structure and genetic diversity of Haliotis discus hannai (D), Haliotis gigantea (G), and their reciprocal hybrids D female x G male (DG) and G female x D male (GD) was carried out in this study. A total of 479 unambiguous and highly repeatable AFLP markers, 311 of which (64.93%) were polymorphic, were obtained using 7 primer combinations. The reciprocal hybrids inherited bands from both parents, indicating that the hybrids were truly heterogeneous. The Shannon diversity index for D, G, and their reciprocal hybrid populations DG and GD was 0.169 +/- 0.188, 0.211 +/- 0.227, 0.236 +/- 0.267, and 0.231 +/- 0.242, respectively. Analysis of molecular variance revealed that 29.58% of the variance was among populations, whereas 71.42% of variance was within populations. Genetic distance was maximum (0.681) between D and G, and was minimum (0.482) between GD and G. The 4 populations were clustered into 2 major clades using the unweighted pair group method with arithmetic mean. All genetic parameters indicated that there was plentiful genetic diversity in the reciprocal hybrids of D X G. Results of this study suggest that these AFLP markers can be used in the future to enhance current breeding

practices in abalone culture because of the large numbers of polymorphic markers.
【语种】英文
【第一作者】骆轩
【通讯作者】柯才焕
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【学科分类】水产养殖学

【题目】高效产脂肪酶菌株Burkholderia cepacia C1产酶条件优化
【中文关键词】脂肪酶;Plackett-Burman 设计;响应曲面;发酵优化
【英文关键词】words:lipase;Plackett-Burman design;response surface methodology;fermentation optimization
【中文摘要】从油菜地土壤中分离到一株高效产脂肪酶菌株C1,经鉴定为Burkholderia cepacia。为了进一步提高C1 脂肪酶的产量,对其产酶的发酵条件进行优化。首先采用单因子试验筛选出最佳碳源为麸皮,最佳氮源为蛋白胨。通过Plackett-Burman 设计对发酵产酶的11 个相关因子进行试验,筛选出3 个主效因子,即蛋白胨质量浓度、橄榄油质量浓度及装液量。利用Box-Behnken 试验设计和响应曲面法分析确定主效因子的最优水平,得出产脂肪酶菌株C1 的最优产酶条件:1.50g/100mL 麸皮、1.05g/100mL 蛋白胨、1.63g/100mL 橄榄油、0.2g/100mL K2HPO4、0.05g/100mL MgSO4、初始pH 值为7.0、装液量为30mL。在优化条件下30℃,180r/min 培养72h,脂肪酶活力达到89.65U/mL,比未优化前的28.50U/mL 提高了2.15倍。
【英文摘要】无
【语种】中文
【第一作者】于玉凤
【通讯作者】卢亚萍
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【学科分类】食品科学技术基础学科

【题目】Identification of tenuazonic acid as a novel type of natural photosystem II inhibitor binding in QB-site of Chlamydomonas reinhardtii
【中文关键词】无
【英文关键词】Tenuazonic acid; Photosystem II inhibitor; JIP-test; Binding niche; psbA mutant; Resistance
【中文摘要】无
【英文摘要】Tenuazonic acid (TeA) is a natural phytotoxin produced by Alternaria alternata, the causal agent of brown leaf spot disease of Eupatoriumadenophorum. Results from chlorophyll fluorescence revealed TeA can block electron flow from QA to QB at photosystem II acceptor side. Basedon studies with D1-mutants of Chlamydomonas reinhardtii, the No. 256 amino acid plays a key role in TeA binding to the QB-niche. The resultsof competitive replacement with [14C]atrazine combined with JIP-test and D1-mutant showed that TeA should be considered as a new type ofphotosystem II inhibitor because it has a different binding behavior within QB-niche from other known photosystem II inhibitors. Bioassay of TeAand its analogues indicated 3-acyl-5-alkyltetramic and even tetramic acid compounds may represent a new structural framework for photosyntheticinhibitors.
【语种】英文
【第一作者】Shiguo Chen
【通讯作者】S. Qiang
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【学科分类】植物学

【题目】普通变形杆菌位置非特异性脂肪酶基因的克隆及在Escherichia coli中的表达
【中文关键词】Proteus vulgaris 脂肪酶; 基因克隆; 原核表达;位置非特异性
【英文关键词】Proteus vulgaris lipase; gene cloning; prokaryotic expression; non-positional specificity
【中文摘要】【目的】本文拟克隆普通变形杆菌(Proteus vulgaris) 脂肪酶基因,并实现其在大肠杆菌中的高效表达,并检验外源表达脂肪酶的催化性质。【方法】通过PCR 方法,从P. vulgaris 基因组中扩增其脂肪酶基因(PVL) ,并将其开放读码框区域连接到表达载体pET-DsbA 及pMBP-P 上,在大肠杆菌中用IPTG 诱导表达。我们对培养基组分及培养条件进行优化,以获得最高的酶产量。用Ni 柱亲和层析法对所得重组脂肪酶进行纯化,并考察其酶学性质。【结果】PVL 基因编码区含864 个碱基,编码含287 个氨基酸的酶蛋白。该序列在GenBank 的登录号为FJ643627。PVL 基因在大肠杆菌BL21 内诱导表达的最佳条件为:在pH8. 5 的LB 培养基中添加15 g /L 葡萄糖及200 mg /L 氨苄青霉素,在培养至OD600为1. 2 时加入100 mg /L IPTG,15℃ 诱导15 h,最高酶活达到192. 2 U /mL。通过亲和层析纯化了重组脂肪酶,得到一个约31 kDa 的蛋白条带。外源表达的脂肪酶的催化特性与野生菌脂肪酶相似,具有催化的位置非特异性,对长链脂肪酸酯亲和性最高。【结论】PVL 基因在大肠杆菌中的高效表达为P. vulgaris 脂肪酶的进一步研究与应用奠定基础。
【英文摘要】无
【语种】中文
【第一作者】卢亚萍
【通讯作者】陆兆新
【期刊名称、卷期、页码】微生物学报.2010,50(6):755-761.
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【引文索引类型】其他
【引文索引号】null
【学科分类】食品科学技术基础学科

【题目】Factors Affecting the Fertilization Success in Laboratory Hybridization between Haliotis discus hannai and Haliotis gigantea
【中文关键词】鲍,皱纹盘鲍,西氏鲍,杂交,人工授精,精子浓度,卵龄
【英文关键词】abalone, Haliotis discus hannai, Haliotis gigantea, hybridization, artificial fertilization, sperm concentration, gamete age
【中文摘要】在这项研究中,我们对精子浓度和配子年龄对皱纹盘鲍×西氏鲍受精成功率的影响进行了研究。结果表明,正反杂交的受精卵比原种自繁的受精率低。在精子浓度的实验中,对于DG交配,有最大受精率并在随后的发育中有最少变异的精子浓度为4.66×107 sperm mL-1,对于分别进行GD正反交,该浓度为 2.6×107 sperm mL-1。在配子年龄实验中,每0.5 h释放的精子与最新排出的卵子进行受精时,最优受精率出现在异种交配中。此外,在异种交配中,当排出的卵子在10分钟后受精,受精率显著下降,而卵细胞的年龄递增。我们建议在皱纹盘鲍和西氏鲍种间.杂交中使用新鲜的配子和更高的精子浓度。
【英文摘要】In this study, effects of sperm concentration and gamete age on fertilization success of Haliotis discus hannai (D) × H. gigantea (G) were investigated. Results showed that the fertilization rates of heterologous crosses H. discus hannai♀ × H. gigantea♂ (DG) and H. gigantea♀ × H. discus hannai♂ (GD) were consistently lower than those of homospecific groups H. discus hannai♀ × H. discus hannai♂ (DD) and H. gigantea♀ × H. gigantea♂ (GG). In sperm concentration experiments, the sperm concentrations that yielded maximum fertilization rates with the least abnormality in subsequent development were 4.66 × 107 sperm/mL for the DG cross and 2.6 × 107 sperm/mL for the reciprocal cross GD. In gamete age experiments, the optimal fertilization rates were achieved in heterologous crosses when freshly spawned ova were fertilized with sperm that were released within 0.5 h. Furthermore, in heterospecific crosses, when ova were fertilized 10 min after being spawned, fertilization rates declined significantly with increasing ova age. It is suggested to use fresh gametes and higher sperm concentrations for hybridization between H. discus hannai and H. gigantea.
【语种】英文
【第一作者】骆轩
【通讯作者】柯才焕
【期刊名称、卷期、页码】Journal of shellfish research,2010, 卷:29; 期:3; 页码:621 – 625
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【引文索引号】2.8413520001e+011
【学科分类】水产养殖学

【题目】Food safety: Monitoring of organophosphate pesticide residues in crops and food
【中文关键词】分析方法;有机磷农药;残留
【英文关键词】Analytical methods; organophosphate pesticides; residue
【中文摘要】目前,有机磷农药在全球被广泛用于农业、家居、花园以及畜牧生产中的害虫防治。而农药在食品中的残留已严重威胁到人们的身体健康和世界贸易问题。到目前为止,MSPD,GPC,SPE, GC-FPD,GC-NPD,GC-MS以及HPLC-MS被广泛用于食品中农药残留检测中。而在本文中,展示了有机磷农药检测中的一些新的问题。
【英文摘要】Organophosphate (OP) pesticides are used globally today, to control a wide rangeof insect pest species in agriculture, homes, and gardens, as well as in veterinarypractice. OP pesticide residues in crops, food and food by-products are both a healthand international trade issue. At present,QuECHER, matrix solid phase dispersion(MSPD), gel permeation chromatography (GPC), SPE, GC-FPD, GC-NPD, GC-MS,HPLC-MS, and other methods are widely used to detect OP pesticides residue infood. New issues at China Agricultural University (CAU) such as molecular imprinting,matrix effects, storage stabilities and chiral separation of OP pesticidesare addressed in this article.
【语种】英文
【第一作者】Huiting Zhang
【通讯作者】潘灿平
【期刊名称、卷期、页码】Phosphorus, Sulfur, and Silicon, 183:280 – 290, 2008
【论文发表时间】2008-06-21 00:00:00
【引文索引类型】SCI
【引文索引号】10.1080/10426500701734273
【学科分类】植物保护学

【题目】L-抗坏血酸脂肪酸酯抗氧化活性
【中文关键词】猪油; L-抗坏血酸脂肪酸酯; 抗氧化活性
【英文关键词】lard, L-ascorbyl fatty acid esters, antioxidant activities
【中文摘要】从羟基自由基体系、超氧阴离子自由基体系、二苯苦味肼基自由基体系及还原力测试等方面研究L-抗坏血酸脂肪酸酯(VC 脂肪酸酯) 体外抗氧化活性, 并将其添加到猪油和大豆油当中, 评价其抗氧化效果。结果表明, 在一定的质量浓度范围内, VC 脂肪酸酯对羟自由基、超氧阴离子自由基、DPPH 自由基均有较好的清除效果, 还原能力也较强, 并呈一定量效关系, 其抗氧化活性与L-抗坏血酸棕榈酸酯相当。VC 脂肪酸酯在猪油中的添加质量分数为0.2% , 100℃下强制氧化20h 时, 猪油的过氧化值为42.8 meq/ kg, 具有明显的抗氧化活性; 在大豆油中添加质量分数0. 2%,强制氧化14 h 时, 大豆油的过氧化值为11. 9 meq/ kg, 其抗氧化能力大于T BHQ, 与L　　抗坏血酸棕榈酸酯接近, 说明VC 脂肪酸酯是一种有潜力的食品抗氧化剂。
【英文摘要】无
【语种】中文
【第一作者】刘建伟
【通讯作者】吕凤霞
【期刊名称、卷期、页码】食品与生物技术学报.2011,(30)2,1673-1689
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【学科分类】食品科学技术基础学科

【题目】两种适用于机械化挤奶的气动脉动器浅析
【中文关键词】机械化挤奶;脉动器;气动控制
【英文关键词】null
【中文摘要】脉动器是挤奶设备极其重要的关键部件,通常称其为挤奶设备的心脏,其质量与性能的优劣直接影响挤奶机的工作效率和技术性能。本文在解析脉动器概念、工作原理以及分类等基础上,对德国研发的几款气动式脉动器的结构、

工作原理以及特点等分别进行了剖析,以期为同类国产化脉动技术与产品的研发提供借鉴与参考。
【英文摘要】无
【语种】中文
【第一作者】张会娟
【通讯作者】张会娟
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【引文索引号】null
【学科分类】农业工程

【题目】Genetic Correlations to Morphological Traits of Small Abalone Haliotis diversicolor
【中文关键词】鲍,杂色鲍,遗传相关性,形态性状,通径分析
【英文关键词】abalone, Haliotis diversicolor, genetic correlation, morphological traits, path analysis
【中文摘要】本实验使用从商品规格的8个全同胞家系获得的241个杂色鲍的样本。我们测量了壳长(X1),壳宽(X2),壳高(X3),壳顶高(X4),体重(Y1),肌肉重(Y2)和壳重(Y3),并计算了相关系数矩阵。壳的形状特征作为独立变量,体重和肌肉重量作为因变量,做曲线分析。并对曲线系数,决定系数和相关指标进行计算。结果表明,每个贝壳形状特征和体重,肌肉重量和壳重量的相关系数都有显著性差异(P < 0.01)。在壳的四个因数中,体重(Y1)与壳长(X1)拥有最高的相关系数,而肌肉重量(Y2)与壳宽(X2)拥有最高的相关系数。高相关指标的结果有利于选择杂色鲍遗传育种计划中重要的增长相关特性。
【英文摘要】A total of 241 samples of small abalone (Haliotis diversicolor) from 8 full-sib families of market size were used in this experiment. Shell length (X1), shell width (X2), shell height (X3), apex height (X4), body weight (Y1), muscle weight (Y2), and shell weight (Y3) were measured, and the correlation coefficient matrix was calculated. The shell shape traits were used as independent variables, then body weight and muscle weight were used as dependent variable for path analysis. Path coefficients, determination coefficients, and correlation index were calculated. The results showed that correlation coefficients between each shell shape trait and body weight, muscle weight, and shell weight were all significant (P < 0.01). For the 4 shell morphological traits, body weight (Y1) had the highest correlation coefficient with shell length (X1), and muscle weight (Y2) had the highest correlation coefficient with shell width (X2). The results of high correlation index would be useful for selecting important growth-related traits in genetic breeding program of small abalone.
【语种】英文
【第一作者】游伟伟
【通讯作者】柯才焕
【期刊名称、卷期、页码】Journal of shellfish research,2010, 卷:29, 期:3; 页码:683-686
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【引文索引类型】SCI
【引文索引号】2.8413520002e+011
【学科分类】水产养殖学

【题目】Hapten heterology for a specific and sensitive indirect enzyme-linked immunosorbent assay for organophosphorous insecticide fenthion
【中文关键词】半抗原;手臂连接点;抗体;灵敏度;选择性;酶联免疫分析;有机磷农药
【英文关键词】Hapten; Spacer-arm attachment site; Antibody; Sensitivity; Specificity; Enzyme-linked immunosorbent assay (ELISA); Organophosphorus insecticide;
【中文摘要】在有机磷农药倍硫磷结构上引如不同的分子手臂,合成出5种不同的半抗原。其中,所有的半抗原与OVA偶联作为包被原,而其中包含倍硫磷分子的全部或大部分结构的半抗原与BSA偶联作为免疫原。制备了6中多克隆抗体,30种抗体 / 包被原组合以供选择。本文根据筛选,选择了最高灵敏度(IC50达到了0.08ppb)和选择性的一组以建立相应的检测方法。
【英文摘要】Five haptens with different spacer-arm attachment sites on the structure of the organophosphorus insecticide fenthion were designed andsynthesized. All of the haptens were conjugated with ovalbumin (OVA) for the coating antigen, and three haptens containing all or most of thestructure of fenthion were conjugated with bovine serum albumin (BSA) for the immunogen. Six polyclonal antisera were raised against the threeBSA conjugates, and 30 antibody/coating conjugate combinations were selected for

studies of assay sensitivity and specificity for fenthion. Thestudy revealed the best combination with high sensitivity (I50 of 0.08 ngmL − 1) and high assay specificity, which indicated that when structuraldifference between the analyte and an immunizing hapten is less than that between a coating hapten and the immunizing hapten, a high sensitiveenzyme-linked immunosorbent assay (ELISA) in the heterologous system may stand a good chance to be developed. The immunity results showedthat heterology in the hapten spacer-arm attachment site of the immunogen could achieve a remarkable improvement in the quantity, sensitivity,and/or specificity of antibody, and that the moiety of an analyte, which is the same as the moiety near/on the immunizing spacer-arm haptenattachment site, contributes greatly to the interaction of antibody and hapten.

【语种】英文

【第一作者】张奇

【通讯作者】刘凤权

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【引文索引类型】SCI

【引文索引号】10.1016/j.aca.2007.06.009

【学科分类】植物保护学

【题目】Improvement of alkaline lipase from Proteus vulgaris T6 by directed evolution

【中文关键词】Proteus vulgaris ;脂肪酶;定向进化;

【英文关键词】Proteus vulgaris lipase;Directed evolution;DNA shuffling;Error-prone PCR

【中文摘要】运用Error-PCR和DNA shuffling对Proteus vulgaris T6进行定向进化。获得了酶活性提高5.8倍的突变子EF3.3,比活力为47600u/mg纯化蛋白。预测蛋白质三级结构,发现102位和197位氨基酸残基分别位于底物的结合部位,氨基酸突变提高了酶与底物的结合能力,从而提高了脂肪酶活性。229位Arg突变成His,可能对a一螺旋结构形成的“ 盖子 ”的作用力减小,有利于“ 盖子 ”的打开,容易发生界面激活作用而提高酶活。EF3.3表达质粒在传代50代后依然稳定。突变体EF3.3诱导表达最优条件为28oC,15orpm,100 μ g/ml IPTG诱导l.sh。纯化突变酶EF3.3大小为 31.5KDa,和野生型脂肪酶酶学性质相比,只是在pH5一8范围内酶活性增强,温度、有机溶剂、非特异性没有发生改变。

【英文摘要】无

【语种】英文

【第一作者】房耀维

【通讯作者】陆兆新

【期刊名称、卷期、页码】Enzyme and Microbial Technology.2009, 44 (2): 84-88.

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【引文索引类型】SCI

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【学科分类】分子生物学

【题目】Production and characterization of a broad-specificity polyclonal antibody for O,O-diethyl organophosphorus pesticides and a quantitative structure – activity relationship study of antibody recognition

【中文关键词】抗体识别;光谱性;异源检测;有机磷农药;构效关系

【英文关键词】Antibody recognition

Broad-specificity

Heterologous assay

Organophosphorus pesticides

Quantitative structure – activity relationship

【中文摘要】制备了针对二乙氧基类有机磷农药的多克隆抗体。在异源包被下,竞争性免疫检测体系中,所制备的抗体针对7种拥有二乙氧基通用结构的农药表现出较高的灵敏度。其针对7种农药均有较理想的检测限。同时,为了了解抗原抗体结合关系,模拟出了一种基于分子结构的构效关系。

【英文摘要】Polyclonal antibody (PAb) with broad-specificity for O,O-diethyl organophosphorus pesticides(OPs) against a generic hapten, 4-(diethoxyphosphorothioyloxy)benzoic acid, was produced. Theobtained PAb showed high sensitivity to seven commonly used O,O-diethyl OPs in a competitiveindirect enzyme-linked immunosorbent assay (ciELISA) using a heterologous coating antigen, 4-(3-(diethoxyphosphorothioyloxy)phenylamino)-4-oxobutanoic acid. The 50% inhibition value (IC50) was348ngmL − 1 for

parathion, 13 ngmL − 1 for coumaphos, 22 ngmL − 1 for quinalphos, 35 ngmL − 1 for triazophos,751 ngmL − 1 for phorate, 850 ngmL − 1 for dichlofenthion, and 1301 ngmL − 1 for phoxim.The limit of detection (LOD) met the ideal detection criteria of all the seven OP residues. Aquantitative structure – activity relationship (QSAR) model was constructed to study the mechanismof antibody recognition using multiple linear regression analysis. The results indicated that thefrontier-orbital energies (energy of the highest occupied molecular orbital, EHOMO, and energy ofthe lowest unoccupied molecular orbital, ELUMO) and hydrophobicity (log of the octanol/water partitioncoefficient, log P) were mainly responsible for the antibody recognition. The linear equation waslog(IC50) = − 63.274EHOMO + 15.985ELUMO + 0.556 log P − 25.015, with a determination coefficient (r2) of0.908.

【语种】英文

【第一作者】Zhenlin Xu

【通讯作者】孙远明

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【引文索引号】10.1016/j.aca.2009.05.025

【学科分类】植物保护学

【题目】加拿大一枝黄花的开花动态及柱头与花粉活力

【中文关键词】菊科;加拿大一枝黄花;花粉活力;柱头活力;头状花序

【英文关键词】Asteraceare;Solidago canadensis L.;pollen viability;stigma receptivity;capitulum

【中文摘要】对加拿大一枝黄花(Solidago canadensis L.)的花序结构、开花动态进行了观察,并运用联苯胺-过氧化氢法和联苯胺法,对其柱头活力和花粉活力进行了研究。结果表明:加拿大一枝黄花的花序为具有雌花和两性花的异型头状花序,属于雌全性系统。开花结果过程可大致分为舌状花开放期、管状花开放期、果实发育期和果实成熟期。柱头活力在开花第2天开始出现,开花后的第6天达到最高,第3天至第7天均维持在较高水平;花粉活力则在开花后第5天开始出现,开花后第8天达最高,第7天至第9天均维持在较高水平。加拿大一枝黄花头状花序的结构特征以及柱头活力和花粉活力的比较研究结果均显示出其有利于异交的特征和机制,有利于提高种子产生的数量和质量,增强其入侵性。

【英文摘要】The structure and flowering phenology of capitulum,pollen viability and stigma receptivity in Solidago canadensisL.were studied in this paper.The results showed that capitulum of S.canadensis was heterotypic one being composed of female and bisexual florets.It is gynomonoecious species.Flowering phenology of capitilum is classified into the following four stages,i.e,the stage of peripheral florets flowering,the stage of disk florets flowering,the stage of achene development and the stage of achene the stage of peripheral florets flowering,the stage of disk florets flowering,the stage of achene development and the stage of achenematurity.Stigma receptivity and pollen viability changed during the different development stage of capitula.The stigma receptivity appeared on the 2nd day after flowering,were highest on the 6th day after flowering,and were high from the 3th day to the 7th day after flowering.The pollen viability appeared on the 5th day after flowering,were highest on the 8th day after flowering,and were high from the 7th day to the 9th day after flowering.The structure and flowering phenology of capitulumin in S.canadensis displayed the characteristics of being beneficial to cross-pollination and seed production.

【语种】中文

【第一作者】郝建华

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【学科分类】植物保护学

【题目】Lipase catalyzed acidolysis of lard with capric acid in organic solvent

【中文关键词】猪油;酸解;固定化脂肪酶;癸酸;有机溶剂

【英文关键词】Lard; Acidolysis; Immobilized lipase; Capric acid; Organic solvent; Capric acid incorporation

【中文摘要】研究了微水有机溶剂与无溶剂体系中脂肪酶催化猪油与辛酸的酸解反应。在所选用的5种脂肪酶中,固定化脂肪酶LipozymeTLIM的催化效果最好。探讨了加酶量、反应时间、反应温度、底物比率和水分添加量对反应的影响以及酶的稳定性。最终确定了两种体现中辛酸插入率的反应条件为:固定化酶LipoyzmoTLIM作为催化剂,酶量10一15%,底物比

率l:2(猪油/辛酸),反应温度50一60°C,反应时间24h,水添加量O一10%(正己烷中)和0一.25%(无溶剂体系中)。在这两种反应体系中,猪油中辛酸插入率分别达到了34.89士1.68mol%和32.40士2.60mol%。
【英文摘要】无
【语种】英文
【第一作者】赵海珍
【通讯作者】陆兆新
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【学科分类】食品科学技术基础学科

【题目】脂肪酶催化猪油合成L-抗坏血酸脂肪酸酯工艺条件.
【中文关键词】脂肪酶;猪油;酶法合成;抗坏血酸脂肪酸酯
【英文关键词】lipase;lard;enzymatic synthesis;L-ascorbyl fatty acid esters
【中文摘要】研究一种L- 抗坏血酸脂肪酸酯酶法合成的新途径。以廉价的猪油和L- 抗坏血酸作为反应底物,探讨酶法合成L- 抗坏血酸脂肪酸酯的工艺条件。结果表明,在该酶促反应中,混合有机溶剂体系中底物转化率高于相应纯有机溶剂体系中的转化率,最佳反应体系为30% 叔戊醇:70% 异辛烷(V/V)。研究各反应因素对转化率的影响,确定最适反应条件为底物L- 抗坏血酸与复合猪油甲酯的物质的量比为1:10、酶量10%、温度55°C、反应时间24h,转化率可达到(52.7 ± 2.8)%。
【英文摘要】无
【语种】中文
【第一作者】张宇
【通讯作者】吕凤霞
【期刊名称、卷期、页码】食品科学.2010,31(18):134-138
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【学科分类】食品科学技术基础学科

【题目】Production and Characterization of Monoclonal Antibody for Class-Specific Determination of O,O – dimethyl Organophosphorus Pesticides and Effect of Heterologous Coating Antigens on Immunoassay Sensitivity
【中文关键词】有机磷农药,单克隆抗体,广谱选择性,异源酶联免疫分析,灵敏度
【英文关键词】Organophosphorus pesticides; Monoclonal antibody; Class-specific manner, Heterology; ELISA; Sensitivity
【中文摘要】一种针对二甲氧基有机磷农药的通用半抗原被合成出来,并制备出了相应的单克隆抗体。同时设计了6中异源半抗原来研究半抗原结构对免疫检测方法灵敏度的影响。利用杂交瘤细胞技术,通过细胞筛选,系统优化等步骤,建立了针对6中有机磷农药的广谱性免疫检测方法。该方法的IC50值处于0.58-10.47ppm 之间。
【英文摘要】A generic hapten (H1), 3-(4-Dimethoxyphosphorothioyloxy phenyl)propanoic acid, was synthesized to produce monoclonal antibodies (mAbs) for the determination of organophosphorus pesticides (OPs) in a class-specific manner. Six heterologous haptens were designed to study the effect of hapten heterology on immunoassay sensitivity. Several mice were immunized with this H1-BSA immunogen. Spleen cells of two immunized mice were fused with myeloma cells, and the resulting hybridomas were screened using H1-OVA. In a competitive indirect enzyme-linked immunosorbent assay (ELISA) format, three hybridoma cell lines (B4-C6, D12-B5, E5-H2) that produced mAbs with high selectivity and broad specificity were selected and expanded. The monoclonal antibody D12-B5 with higher titer was chosen for further study. In heterologous assay, the combination of D12-B5 and coating antigen H7-OVA constituted a particularly sensitive assay for competitive indirect ELISA and showed broad specificity for the determination of OPs, including parathion-methyl, chlorpyrifos-methyl, tolclofos-methyl, fenthion, malathion, fenitrothion. This combination resulted in the IC50 of 0.58 – 10.47 μg/ml.
【语种】英文
【第一作者】刘燕
【通讯作者】刘凤权

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【学科分类】植物保护学

【题目】Molecular analysis of the intestinal bacterial flora in cage-cultured adult small abalone, Haliotis diversicolor
【中文关键词】16S rRNA基因克隆文库,DGGE,肠道菌群,九孔
【英文关键词】16S rRNA gene clone library; DGGE; intestinal bacterial flora; small abalone
【中文摘要】为了研究网箱养殖的成熟杂色鲍肠道菌群的组成,我们采用了纯培养和非培养的方法。此外,为了验证潜在病原菌的存在,我们使用变性梯度凝胶电泳(DGGE)指纹图谱技术来比较健康和患病的成熟鲍鱼的肠道细菌群落结构。从健康鲍鱼的肠道分离出来的细菌属于弧菌属,海洋细菌Flammeovirga,希瓦氏菌属,桃色杆菌属和Paraferrimonas。从16S rRNA基因克隆文库分析得出,肠道细菌群包含两个群体:变形细菌门和软壁菌门。变形菌Betaproteobacteria (18.48%),变形菌Deltaproteobacteria (30.43%)和柔膜细菌(35.87%)是克隆中占支配地位的组分,同时,柔膜细菌是主要的支原体附属的克隆。DGGE聚合模式显示,与患病的鲍鱼(D group)相比,健康鲍鱼(H group)中出现更多的细菌的聚合。尽管从D group几乎没有检测到潜在病原菌,但是一个集群系统树表明,H 和 D groups (D6除外)形成了两个单独的群,一个未被鉴定变形菌Deltaproteobacteria物种和支原体物种是H 和 D groups肠道中占支配地位的组分。
【英文摘要】To characterize the composition of the intestinal bacterial flora in cage-cultured adult small abalone, Haliotis diversicolor, we used both culture-dependent and culture-independent approaches. In addition, in order to investigate the presence of probable pathogens, the intestinal bacterial community structures of healthy and diseased adult abalones were compared using the denaturing gradient gel electrophoresis (DGGE) fingerprinting technique. Bacteria isolated from the healthy abalone intestine belonged to the genera Vibrio, Flammeovirga, Shewanella, Persicobacter and Paraferrimonas. From the 16S rRNA gene clone library analysis, the intestinal bacterial community comprised two groups: the Proteobacteria and Tenericutes. Betaproteobacteria (18.48%), Deltaproteobacteria (30.43%) and Mollicutes (35.87%) were the most dominant components in the clones and the Mollicutes were mainly Mycoplasma-affiliated clones. The DGGE band pattern demonstrated that more bands appeared in the healthy abalones (H group) than in the diseased abalones (D group). Although few potential pathogens were detected from the D group, a clustering dendrogram indicated that individuals of the H and D groups (except for D6) formed two separate clusters. An unidentified Deltaproteobacteria species and Mycoplasma sp. were the dominant components in the intestine of both the H and the D group.
【语种】英文
【第一作者】黄兆斌
【通讯作者】柯才焕
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【学科分类】水产养殖学

【题目】十种菊科外来入侵种连萼瘦果风力传播的特性
【中文关键词】菊科,连萼瘦果,传播能力,水平扩散距离,入侵种,冠毛,沉降速度
【英文关键词】Asteraceae,cypsela,dispersal potential,horizontal dispersal distance,invasive species,pappus,settlementvelocity
【中文摘要】借助风力传播连萼瘦果,是菊科入侵种最普遍的自然扩散方式,而其适应风力传播的特性与入侵性关系的研究还未得到足够的重视。阐明种子本身的风力传播特性与入侵潜力间的关系,可以为深入理解外来入侵种的入侵机制以及入侵种的控制提供理论依据。该研究以10种菊科入侵种为研究对象,测量其连萼瘦果的形态特征,测定它们在静止空气中的垂直沉降速度和模拟风力条件下的水平扩散距离,分析比较连萼瘦果的形态性状与沉降速度、水平扩散距离以及这些菊科入侵种在国内入侵范围的相关性。结果表明,根据连萼瘦果的形态特征,将这10个入侵种分为强、中和弱风传播3类;连萼瘦果的重量和冠毛特征对垂直沉降速度和水平扩散距离均有显著影响,对垂直沉降速度影响最大的因素是冠毛长度和冠毛上的小刺对数,对水平扩散距离影响最大的因素是连萼瘦果的重量和冠毛长度。在垂直沉降速度和水平扩散距离间存在极显著负相关性(r= – 0.806,p=0.005),表明沉降速度越慢,借风力水平移动的距离越远。这些入侵种的发生程度与沉降速度间存在显著负相关性(r= – 0.721,p=0.019),而与水平扩散距离之间存在着极显著正相关性(r=0.927,p=0.000),说明水平扩散距离比垂直沉降速度更适合作为评估菊科入侵种入侵能力的指标。根据上述研究结果,提出了南京市需重点防范胜红蓟

(Agratum conyzoides)和牛膝菊(Galinsoga parviflora)等菊科入侵种的建议。
【英文摘要】Wind dispersal of cypsela is the prevailing natural dispersal pattern in Asteraceae alien invasive species,but few studies have addressed the relationship between the characteristics of cypsela adapted to wind-dispersaland invasiveness.Our objective is to study the relationship between wind-dispersal traits and invasiveness to pro-vide insight into invasion mechanisms and control of alien invasive species.Methods We selected ten wind-dispersed Asteraceae invasive species with cypselas,observed morphologicaltraits of cypsela such as pappus number,pappus length,barb number on pappus and 1000-grain weight of cypselaand measured vertical settlement velocity in still air and horizontal dispersal distance in moving air.Correlationsbetween morphological traits of cypsela and settlement velocity and horizontal dispersal distance were analyzed inrelation to invasive range.Important findings We categorized the ten Asteraceae invasive species into three classes with strong,mediumand weak dispersal-wind potential according to morphological traits of cypsela.Correlation analysis showed thatpappus traits and weight of cypsela significantly affected both the settlement velocity and the horizontal dispersaldistance.The settlement velocity was significantly affected by both pappus length(r= – 0.483,p<0.001)andbarb numbers on pappus(r= – 0.282,p=0.002).Factors most affecting horizontal dispersal distance were cypselaweight and pappus length.Settlement velocity and horizontal dispersal distance were negatively correlated(r= – 0.806,p=0.005).The occurrence of these Asteraceae invasive species was significantly negatively correlatedwith settlement velocity(r= – 0.721,p=0.019)and significantly positively correlated with horizontal dispersaldistance(r=0.927,p=0.000),suggesting that the horizontal dispersal distance better reflected invasiveness.Agratum conyzoides and Galinsoga parviflora with high invasiveness should be primary targets for invasive spe-cies management in Nanjing,China based on our results.
【语种】中文
【第一作者】郝建华
【通讯作者】强胜
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【学科分类】植物保护学

【题目】几种典型机械化仿生挤奶技术剖析
【中文关键词】奶牛; 仿生挤奶; 机械化
【英文关键词】null
【中文摘要】仿生挤奶是机械化挤奶中一种先进的挤奶技术,具有减少乳房炎发病率,缩短挤奶时间,提高产奶量和奶质, 降低人工劳动强度等优点。本文阐述了仿生挤奶的基本概念和系统基本组成,重点剖析了当前国际上最具代表性的四家现代化挤奶设备制造商在仿生挤奶技术方面的实质内涵、侧重点、控制方式、作业参数等, 以期为国内相关技术与设备研发提供参考和借鉴。
【英文摘要】无
【语种】中文
【第一作者】胡良龙
【通讯作者】胡良龙
【期刊名称、卷期、页码】《中国农机化》、2009年第4期、56-58
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【引文索引号】null
【学科分类】农业工程

【题目】The acyl-homoserine lactone (AHL)-type quorum sensing system affects growth rate, swimming motility and virulence in Acidovorax avenae subsp. citrulli
【中文关键词】Acyl-homoserine lactone Acidovorax avenae subsp. citrulli Autoinducer Quorum sensing Bacterial fruit blotch
【英文关键词】Acyl-homoserine lactone Acidovorax avenae subsp. citrulli Autoinducer Quorum sensing Bacterial fruit blotch
【中文摘要】Acidovorax avenae subsp. citrulli is a Gram-negative bacterium and is the causal agent of bacterial fruit blotch (BFB) in cucurbits. In this study, the role played by the acyl-homoserine lactone (AHL)-type quorum sensing (QS) system in growth, swimming

motility and virulence was characterized in A. avenae subsp. citrulli strain XJL12. The AHL synthase gene of the QS system from strain XJL12, defined as aacI, was cloned and characterized, and an aacI disruption mutant was generated. The aacI mutant XJL13 abolished the ability to produce AHL molecules, whereas the corresponding complemented strain CPXJL13 produced wild-type levels of AHL. The aacI mutant exhibited a significant decrease in growth rate relative to the wild type in minimal medium, and was partially impaired in swimming motility. In plants, the aacI mutant showed a significant reduction of virulence in watermelon fruits and melon seedlings when compared to the wild-type strain. However, the aacI mutation in strain XJL12 had no effects on biofilm formation, exopolysaccharide production, or induction of hypersentitive response in Nicotiana tabacum. Our data suggest that the AHL-type QS may play a key role in pathogen virulence and this may provide an opportunity to explore novel approaches for managing BFB in cucurbits by QS interference.

【英文摘要】Acidovorax avenae subsp. citrulli is a Gram-negative bacterium and is the causal agent of bacterial fruit blotch (BFB) in cucurbits. In this study, the role played by the acyl-homoserine lactone (AHL)-type quorum sensing (QS) system in growth, swimming motility and virulence was characterized in A. avenae subsp. citrulli strain XJL12. The AHL synthase gene of the QS system from strain XJL12, defined as aacI, was cloned and characterized, and an aacI disruption mutant was generated. The aacI mutant XJL13 abolished the ability to produce AHL molecules, whereas the corresponding complemented strain CPXJL13 produced wild-type levels of AHL. The aacI mutant exhibited a significant decrease in growth rate relative to the wild type in minimal medium, and was partially impaired in swimming motility. In plants, the aacI mutant showed a significant reduction of virulence in watermelon fruits and melon seedlings when compared to the wild-type strain. However, the aacI mutation in strain XJL12 had no effects on biofilm formation, exopolysaccharide production, or induction of hypersentitive response in Nicotiana tabacum. Our data suggest that the AHL-type QS may play a key role in pathogen virulence and this may provide an opportunity to explore novel approaches for managing BFB in cucurbits by QS interference.

【语种】英文

【第一作者】范加勤

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【学科分类】植物保护学

【题目】Production and Characterization of Polyclonal Antibody for the NMethylcarbamate Insecticide Metolcarb

【中文关键词】速灭威,免疫原,多克隆抗体,抗血清识别,酶联免疫分析

【英文关键词】metolcarb, antigen, polyclonal antibody, antiserum characterization, ELISA

【中文摘要】针对速灭威的半抗原被合成并利用核磁共振进行鉴定。同时,将半抗原利用活泼酯法与载体蛋白BSA和OVA相偶联,形成包被原和免疫原。免疫兔子后,制备出多克隆抗体。血清效价通过非竞争式免疫方法进行测定,达到1.28*106.与被测农药的交叉反应也可以忽略影响。该结果显示,该抗体适合于对速灭威快速检测方法的建立。

【英文摘要】The hapten, 3-{[1-(3-(methyl)phenyloxy)-carbonyl]amino}propanoic acid (HOM), mimicking the analyte metolcarb, was synthesized and verified by mass spectrometry (MS) and 1H-nuclear magnetic resonance spectrometry (1H-NMR). Then, HOM was conjugated with the carrier proteins bovine serum albumin (BSA) and ovalbumin (OVA) with stoichiometric amounts of N-hydroxysuccinimide/dicyclohexylcarbodimide (NHS/DCC) using the activated ester method. Polyclonal antibodies were raised against the conjugate of HOM-BSA in rabbits. Antiserum titres were determined by noncompetitive indirect ELISA procedures and the titer of pAb01 reached 1.28 × 106. The cross-reactivities of the structurally related Nmethylcarbamate insecticides were 0.0% except for dimethacarb. These results indicate that the antibody pAb01 with strong affinity and high specificity can be used to develop a sensitive and rapid detection protocol for metolcarb residue.

【语种】英文

【第一作者】张奇

【通讯作者】刘凤权

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【学科分类】植物保护学

【题目】松材线虫及其近缘种热激蛋白90基因(hsp90)克隆与序列分析
【中文关键词】松材线虫,拟松材线虫,豆伞滑刃线虫,热激蛋白90,基因克隆
【英文关键词】Heat shock protein90, Gene clone
【中文摘要】热激蛋白90家族(heat shock protein 90(HSP)family)是一种进化保守的蛋白质,在分子伴侣功能、细胞循环调控、抗原传递方面发挥着重要作用。本研究用RT-PCR和RACE技术,克隆得到了松材线虫(Bursaphelenchus xylophilus)、拟松材线虫(Bursaphelenchus mucronatus)和豆伞滑刃线虫(Bursaphelenchus doui)热激蛋白90基因的cDNA全长序列,分别命名为Bx-hsp90、Bm-hsp90和Bd-hsp90,(GenBank登录号分别为:GU013561、HMO34943和HM347331),其cDNA全长分别为2255、2193和2232bp,开放阅读框均为2127bp,编码708个氨基酸,5'端非编码区的长度分别为33、13和13bp,3'端非编码区的长度分别为95、53和92bp。其DNA全长分别为2440、2388和2407bp,包含3个内含子。三者氨基酸序列的一致性为98.78%。进化分析表明,松材线虫、拟松材线虫、豆伞滑刃线虫与秀丽小杆线虫(Caenorhabditis elegans)的亲缘关系较近,推测三者的进化较为低等。松材线虫热激蛋白90基因与松材线虫对环境温度的适应性密切相关。本研究结果对于深入了解和研究松材线虫的入侵机制具有重要的实际意义,为松材线虫及其近似种对环境适应性等方面的研究提供了良好的技术基础。
【英文摘要】Heat shock protein 90 (HSP90) family is an evolutionarily conserved protein, to be involved in chaperone tion, cell cycle control and antigen presentation. The cDNA sequences of heat shock protein 90 from , and were cloned by RT-PCR and RACE methods, and named - 90, - 90, - 90 (GenBank Accession No. GU013561, HMO34943 and HM347331)respectively. Theire full cDNA length were 2 255, 2 193 and 2 232 bp, the ORF were all 2 127 bp encoding 708 amino acid residues, 5'-untranslated region (UTR) was 33, 13 and 13 bp, and 3'-UTR was 95, 53 and 92 bp,respectively. And their full genomic length were 2 440, 2 388 and 2 407 bp, and all genomic sequences contained 3 introns. The amino acid sequence identities among - 90, - 90 and - 90 was 98.78%, Evolutionary anal yses showed that , and had a close relationship with , which might be indicative of their low evolution. Heat shock protein 90 from , and shared highly homologous, which made to be a candidate gene for studying the biological evolution. The present study has a practical significance for understanding the invasive mechanism of B. and lays a good foundation for understanding the environmental adaptabilities of these three plant parasitic nematodes.
【语种】中文
【第一作者】代玲玲
【通讯作者】代玲玲
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【学科分类】植物保护学

【题目】The research on enzyme-linked immunosorbent assay for fenvalerate
【中文关键词】氰戊菊酯,半抗原,多克隆抗体,酶联免疫分析
【英文关键词】fenvalerate; hapten; polyclonal antibody; enzyme-linked immunosorbent assay
【中文摘要】本文建立了一套针对氰戊菊酯的定量间接竞争性酶联免疫分析方法。化学合成了两种针对氰戊菊酯的半抗原(FVa和FVb),其中FVa与OVA偶联形成包被原,而FVb与BSA偶联形成免疫原。将免疫原常规免疫兔子,获得了效价为1.28*104的多克隆抗体。并对ELISA体系进行条件优化。使得IC50值达到了1.19ppb,检测限达到了0.017ppb.
【英文摘要】An indirectly competitive enzyme-linked immunosorbent assay (ic-ELISA) wasdeveloped for the quantitative detection of fenvalerate. The hapten FVa(a-carboxy-3-phenoxyphenyl-2-(4-chloro-phenyl)-3-methyl-butyrate) and FVb(N-2-(carboxybutyl)carbamoyl-3-phenoxyphenyl-2-(4-chlorophenyl)-3-methylbutyrate)for the fenvalerate were prepared starting from 2-(4-chlorophenyl)-3-methyl-butyric acid and a-cyano-3-phenoxyhenzyl-benzyl alcohol. The haptenFVa was conjugated to ovalbumin (OVA) to form the coating antigen (FVa OVA); the hapten FVb was conjugated to bovine serum albumin (BSA) to formthe immunogen (FVb BSA). The rabbits were immunised by conjugate of FVb BSA, and titres of anti-fenvalerate serum (1.28 104) was determined by noncompetitiveindirect ELISA. After optimisation of the ic-ELISA, such as pHvalues, ionic strengths, concentrations of methanol, pH 7.5, phosphate-bufferedsaline of 0.3 M Na and 30% methanol were determined to optimum assaycondition. The medium inhibitory concentration (IC50) for fenvalerate was(1.1990.09) mg/L, and limit of detection (LOD) was (0.01790.002) mg/L.Pyrethroids, such as fenpropathrin, cyhalothrin, permethrin, cypermethrin,deltamethrin and bifenthrin did not

cross-react significantly in this assay.
【语种】英文
【第一作者】Xinqin Lu
【通讯作者】王鸣华
【期刊名称、卷期、页码】Food and Agricultural Immunology Vol. 20, No. 2, June 2009, 147 154
【论文发表时间】2009-06-01 00:00:00
【引文索引类型】SCI
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【学科分类】植物保护学

【题目】A study of the apparent modulus of elasticity and maximum contact stress of timothy stem nodes in relation to disinfesting Hessian fly puparia in hay rebaling processing
【中文关键词】无
【英文关键词】Apparent modulus of elasticity;Compression;Maximum contact stress;Node;Timothy;Uniaxial compression
【中文摘要】In this work, the crushing strength (through maximum contact stress) of timothy stem nodes was determined at differentnode sizes, positions on the stalk, and moisture contents.
【英文摘要】To disinfest Hessian fly in timothy hay bales by mechanical compression, the crushing strength of timothy stem nodes was investigated using an Instron testing machine. Unbaled first‐cut timothy hay of the 2007 crop year was used in the test.The apparent modulus of elasticity and maximum contact stress values increased with increasing moisture content and decreased with increasing node size, and these values decreased from top position to bottom position on the stem.
【语种】英文
【第一作者】Guanghui Wang
【通讯作者】王德成
【期刊名称、卷期、页码】Transactions of the ASABE 52(5): 1807-1812
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【引文索引类型】其他
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【学科分类】农业工程

【题目】国内外牧草干燥设备技术发展态势分析
【中文关键词】牧草;高温快速干燥;滚筒式牧草干燥设备
【英文关键词】无
【中文摘要】高温快速干燥是牧草最佳干燥调制方式,其干燥效率高,牧草品质好。目前,能用于高温快速干燥的烘干设备种类繁多.但应用范围较广的则是滚筒式烘干设备。论文通过对国内外滚筒式牧草干燥设备研究状况和应用的分析,指出了目前研究的不足,并为今后研究及发展趋势提出了建议和意见。对进一步深入研究滚筒式牧草干燥设备具有参考价值和指导意义。
【英文摘要】无
【语种】中文
【第一作者】高扬
【通讯作者】王德成
【期刊名称、卷期、页码】首届中国奶业大会论文集:351-354
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【引文索引类型】其他
【引文索引号】无
【学科分类】农业工程

【题目】紫花苜蓿干燥和茎叶分离效果预测模型与工艺优化
【中文关键词】紫花苜蓿;茎叶分离;干燥;数学模型;工艺优化
【英文关键词】Alfalfa, Leaf-stem separation, Drying, Mathematical model;Process optimization

【中文摘要】为研究新鲜切碎紫花苜蓿茎叶干燥分离过程中, 入口温度、入口风速、转筒转速和喂料速度对出机叶料含水率、出机茎料含水率、茎叶分离率的影响, 采用9GFQA-600型苜蓿干燥茎叶分离设备进行试验,设计了四因素二次正交旋转组合试验进行回归分析, 建立了相应的数学模型并进行了优化。
【英文摘要】Many factors have effects on the separating ratio, moisture contents of the stems and leaves in fresh chopped alfalfa drying and separating processing. Four major factors: inlet temperature, inlet velocity,rotational speed of rotary drum, and feeding speed were analyzed in leaf stem separation equipment.A quadratic orthogonal rotation design with 4 factors was introduced to do the regression analysis.
【语种】中文
【第一作者】高扬
【通讯作者】王德成
【期刊名称、卷期、页码】农业机械学报,41(6):113-117
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【引文索引类型】其他
【引文索引号】无
【学科分类】农业工程

【题目】虚拟样机技术在畜牧机械设计中的应用前景及存在的问题
【中文关键词】虚拟样机;畜牧机械;建模;仿真
【英文关键词】无
【中文摘要】在介绍虚拟样机技术的基本理论框架和回顾国内外在此方面的研究现状及发展趋势的基础上,分析了传统设计方法CAD/CAE/CAM系统的特点及虚拟样机技术在畜牧机械设计中的应用前景与需要解决的问题。
【英文摘要】无
【语种】中文
【第一作者】刘志刚
【通讯作者】刘志刚
【期刊名称、卷期、页码】中国农业机械学会2008年学术年会论文集:732-733
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【引文索引号】无
【学科分类】农业工程

【题目】基于SolidWorks 畜牧业机械常用标准件模型库的开发
【中文关键词】标准件;机械;模型库;数据库
【英文关键词】Standard Components; Machine; Model Library; Database
【中文摘要】畜牧业机械结构复杂,零部件数量多,建立畜牧业机械常用标准件模型库对节约建模时间,提高工作效率起着重要作用。本文中,以ACCESS 软件为数据支撑平台,利用VB 高级编程语言对SolidWorks进行二次开发,建立畜牧业机械常用标准件模型库,以键为例,对模型库建立的关键技术进行了介绍,并给出了相关程序代码。
【英文摘要】Because of the complexity of animal husbandry machine, it plays a very important role in saving design time and improving work efficiency to develop Standard Components Library of Animal Husbandry Machine. In the paper, secondary development of SolidWorks was carried out based on Access and VB, and one Standard Components Library of Animal Husbandry was developed. To take Key for an example, the critical technique was introduced. At the same time, the related program codes were provided.
【语种】中文
【第一作者】翟改霞
【通讯作者】翟改霞
【期刊名称、卷期、页码】2010国际农业工程大会论文集
【论文发表时间】2010-09-01 00:00:00
【引文索引类型】其他
【引文索引号】无

【学科分类】机械设计

【题目】基于逆向工程技术的畜牧业机械关键零部件设计
【中文关键词】逆向工程;机械设计;畜牧业机械;三维扫描技术
【英文关键词】reverse engineering; mechanical design; livestock equipment; three-dimensional scan technology
【中文摘要】本文对逆向工程技术作了简单介绍。并针对畜牧业机械产品设计过程中,存在结构复杂,零部件形状不规则等问题,本文采用手持式自定位三维扫描仪对零件表面进行扫描,获得点云文件后在三维设计软件CATIA 中进行模型的反求设计。
【英文摘要】Reverse engineering technology was introduced simply in the paper. On account of complexity structure and parts' irregular shape of livestock equipments, reverse engineering technology was applied to finish the design. A kind of handheld three-dimensional laser scanner was used to get the contour of the part. Then the point-cloud file was saved and imported to CAD soft. In the paper, three-dimensional model was reconstructed using CATIA.
【语种】中文
【第一作者】翟改霞
【通讯作者】翟改霞
【期刊名称、卷期、页码】2010国际农业工程大会论文集
【论文发表时间】2010-09-01 00:00:00
【引文索引类型】其他
【引文索引号】无
【学科分类】农业工程

【题目】产品数据管理(PDM)及其与CAX的关系和作用
【中文关键词】产品数据管理(PDM);CAX
【英文关键词】product data management(PDM);CAX
【中文摘要】本文介绍了PDM的产生、发展、功能和应用等方面,在阐述CAX与PDM关系的基础上,论述了PDM对CAX技术管理的作用和效益分析,得出了PDM系统对CAX技术具有支撑功能,它是依托IT技术实现企业最优化研发管理的有效工具和方法论。
【英文摘要】This article introduces PDM production,development,function and application,on the basis of elaborating the relationships between PDM and CAX,and discusses to the CAX technical mangagement the function and benefit analysis of PDM,comes to the conclusion that the PDM system has supporting function for CAX technology,and is relying on IT technology methodology and effective tool which can optimize research management of enterprise.
【语种】中文
【第一作者】杨莉
【通讯作者】杨莉
【期刊名称、卷期、页码】2010国际农业工程大会论文集
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【学科分类】农业工程

【题目】苜蓿茎叶干燥分离设备性能试验研究
【中文关键词】紫花苜蓿;茎叶分离;干燥设备;试验研究
【英文关键词】Alfalfa, Leaf-stem separation, Drying device, Experimental study
【中文摘要】为研究苜蓿茎叶干燥分离设备性能,采用自行研制的9GFQA-600 型苜蓿干燥茎叶分离设备,以入口温度、入口风速、转筒转速和喂料速度为自变量,以设备生产率、茎叶分离率、叶料纯度、出机叶料含水率和出机茎料含水率为评价指标,设计并进行了单因素试验。结合设备的结构和工作原理,对试验数据进行了分析。
【英文摘要】In order to study the performance of multi-zone rotary drum of drying and leaf-stem separation for alfalfa. Single factor experiments were conducted to investigate the rules between inlet temperature, inlet velocity,rotational speed of rotary drum, feeding speed and productivity, ratio of separation, leaf purity quotient and moisture content of outlet material respectively.

【语种】中文
【第一作者】高扬
【通讯作者】王德成
【期刊名称、卷期、页码】2010国际农业工程大会论文集
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【引文索引号】无
【学科分类】农业工程

【题目】基于计算机技术的奶牛现代化综合管理系统概况
【中文关键词】奶牛;综合管理;计算机技术
【英文关键词】null
【中文摘要】基于计算机技术的奶牛现代化综合管理系统是全球奶牛业从传统生产方式向现代化管理方式转变的集中体现,该系统主要由奶牛个体识别、生产管理、牛群健康监测、饲喂营养管理、牛群繁殖管理、牛群分类管理、公司/经营管理、资料管理等几部分组成。阐述了奶牛综合管理系统在典型国家的开发应用情况,并对我国发展现代化奶牛综合管理的条件进行了简要分析。
【英文摘要】Modern dairy management system is the mass embodiment of global dairy ’s transition from traditional mode of production into modern management mode. The system involves individual identification ,production management ,herd health monitoring ,feeding and nutrition management ,herd propagating management ,herd sorting management ,corporation or running management ,data management . In the paper the conditions of development and applicationabout integrative dairy management in different countries were expatiated. The author briefly analyzed the qualification in China to develop modern dairy management .
【语种】中文
【第一作者】胡良龙
【通讯作者】胡良龙
【期刊名称、卷期、页码】《安徽农业科学》、2008年第3期、1263,1264
【论文发表时间】2008-03-01 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农业工程

【题目】瓜类细菌性果斑病菌组氨酸营养缺陷型与致病性相关
【中文关键词】瓜类细菌性果斑病,致病性,his基因,组氨酸
【英文关键词】Bacterial fruit blotch,pathogencity,his genes,histidine
【中文摘要】瓜类细菌性果斑病菌(Acidovorax citrulli,Ac)是近年来发生在西瓜、甜瓜等葫芦科植物上的一种重要病原细菌。它主要危害西瓜、甜瓜,引起叶斑或叶枯,造成果实腐烂,严重时导致绝产。【目的】验证组氨酸的合成缺陷与Ac的致病性之间的关系。【方法】采用Mini-Tn5转座子随机插入方法,从瓜类细菌性果斑病菌xjl12突变体文库中筛选突变体,并通过亚克隆技术对基因进行鉴定。【结果】筛选到一株在烟草上失去过敏反应且致病性降低的突变体。鉴定其为hisC(histidinol-phosphate aminotransferase)基因的突变体。同时也对Ac中组氨酸合成过程中的另外3个酶(hisA、hisB和hisD基因)进行了研究。这些基因突变后均丧失了激发烟草过敏性反应的能力,致病性明显下降,发病时间比野生型延迟了约48 h,通过外源添加组氨酸可恢复其突变特征。【结论】这些基因的突变所致性状改变与组氨酸的合成缺陷直接相关。
【英文摘要】disease symptoms caused by mutants were delayed for 48 hours when compared to the wild type strain.By adding exogenous histidine,pathogenicity of the mutants was restored.[Conclusion]The change of the characteristics of the mutants was directly related to the synthesis of histidin
【语种】中文
【第一作者】王敏杰
【通讯作者】胡白石
【期刊名称、卷期、页码】微分子生物学报37(3) : 80 - 83
【论文发表时间】2011-04-19 00:00:00
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【引文索引号】null
【学科分类】植物保护学

【题目】小江流域农地水土流失对水体富营养化的影响
【中文关键词】农地; 土壤侵蚀; 水体富营养化; 总氮; 总磷
【英文关键词】farmland; soil er osion; w ater eut rophicat ion; total nit rog en; to tal phosphorus
【中文摘要】"水土流失是水体富营养化的一个重要源头。在三峡库区小江流域, 定点监测了4 类农地(水田、梯坪地、< 25b坡耕地、> 25b坡耕地) 的水土流失量, 并于2008 年在渠口、养鹿、高阳、黄石、双江及河口(参照) 6 个断面采水样进行水质调查。研究结果表明: 坡耕地是小江流域水土流失的主要策源地; 农地水土流失导致的氮、磷流失对小江水体的富营养化贡献很大, 流失的T N、TP 分别高达675. 76, 69. 03 t/ a; 小江TN 浓度主要受水土流失和长江TN 浓度的共同制约, 峰值为5. 31 mg/ L(渠口) 出现在7 月份; 小江T P 浓度主要受水土流失和长江水位的共同制约, 各断面的最小值均出现在7 月份, 最小值为0. 03 mg/ L(渠口) 。总体而言, 小江处于中营养到富营养状态, 4 月份较容易发生水体富营养化, 7 月份和11 月份磷是水体富营养化的限制因子。"
【英文摘要】"Soil and w ater loss is an impo rtant source of w ater eut rophicat ion. In Xiaojiang river basin w hichlocates in Three Gorges reservo ir region, amount of so il erosio n and w ater loss w ere measured in four ty pesof farmlands (paddy land, terraced farmland, sloping farmland < 25b, and sloping farmland \ 25b) in f ixedspot s. In addit ion, w ater qualit ies w er e invest igated in six reaches (Qukou, Yang lu, Gaoyang, H uangshi,Shuang jiang, and Estuary (compar ison sect io n)) in 2008. The result s demo nst rated that soil and w ater lossw as mainly result fr om sloping farmlands in Xiaojiang riv er basin. Soil and w ater loss in farmland made majorcont ribut ion to eut rophicat ion of w ater in Xiao jiang r iv er, and the losses o f T N (to tal nit rog en) and TP (totalphosphorus) w ere 675. 76, 69. 03 t/ a, respect ively. The concent rat ions of TN w er e mainly cont ro lled bybo th soil and w ater loss and TN co ncent ratio ns of the Yang t ze River. Peak TN concent ration w as 5. 31 mg/L occurred in Qukou in July . The concentrat ions of TP were most ly controlled by both soil and w ater loss and w aterlevel of the Yangtze River. All minimum TP concentrations occurred in July, and the minimum value w as 0. 03mg/ L occurred in Qukou. Overall, Xiaojiang river w as in the middle of nutrition to eutrophicat ion. It w as prone toeut rophication in April, and in July and Nov ember phosphorus w as the limit ing factor fo r eutr ophicat ion."
【语种】中文
【第一作者】谌芸
【通讯作者】何丙辉
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【学科分类】土壤学

【题目】杂色鲍肠道菌群多样性研究
【中文关键词】杂色鲍;肠道菌群;菌群多样性;16S rRNA gene 克隆文库;DGGE
【英文关键词】small abalone; intestinal bacterial flora; bacterial diversity; 16S rRNA clone library; DGGE
【中文摘要】杂色鲍是我国南方沿海海水养殖的重要经济贝类。肠道菌群在宿主生长发育、新陈代谢等方面起到重要作用。通过开展杂色鲍肠道菌群多样性的研究,旨在理解肠道菌群与杂色鲍之间相互关系,包括消化食物、病理发生等,对探讨微生物与海洋无脊椎动物相互关系具有重要意义。本文通过微生物分离培养鉴定与不依赖培养的微生物分子生态学方法对不同养殖环境的杂色鲍肠道菌群的多样性进行研究。从两个养鲍场(江口、大嶝)杂色鲍肠道内共分离到35 株细菌,经16S rRNA gene 分子鉴定分属于9 个属,分别为Vibrio,Shewanella,Paraferrimonas,Flammeovirga,Persicobacter,Agarivorans,Tenacibaculum,Polaribacter,Agarobacterium,其中Vibrio占共总菌数的50%,是分离培养菌群中的优势菌。不同养殖环境下杂色鲍肠道菌群可培养类群组成也存在差异。通过分子生态学方法构建了三个不同养殖环境下的杂色鲍肠道16S rRNA gene 克隆文库,两个陆地养殖场(江口、后蔡)和一个海区渔排吊养区(岱仔)。陆地养殖杂色鲍(江口)肠道菌主要由变形杆菌门(Proteobacteria)和软壁菌门(Tenericutes)组成,其中柔膜菌纲(Mollicutes)占整个文库的35%,优势菌群不同于可培养类群组成。通过岱仔海区养殖杂色鲍和后蔡陆地水泥池养殖杂色鲍肠道菌群克隆文库多样性的比较发现,渔排吊养杂色鲍肠道菌主要类群包括变形杆菌,柔膜菌和梭杆菌(Fusobacteria),菌群多样性不同于养殖环境杂色鲍肠道菌组成。研究还发现,陆地和海区杂色鲍肠道菌群中,柔膜菌纲类群

丰富,占较大比例,是杂色鲍肠道菌群未培养的优势菌群。其中,90%的柔膜菌类群存在于养殖条件下杂色鲍肠道内。经序列相似性分析,发现这些类群属于支原体属(Mycoplamsa),但最高同源性仅为90%。用DGGE技术分析陆地养殖杂色鲍肠道菌群的季节性变化,表明柔膜菌类群具有一定的稳定性,在同一养殖环境情况下不会受到季节变化的影响。支原体属在健康杂色鲍肠道菌占优势,且具有稳定性,与杂色鲍之间可能是一种共生关系而非病原关系。

【英文摘要】Small abalone, one of the most important commercial culture shellfish in SouthChina, mainly feed with the red macroalgae, Gracilaria. Intesitinal bacterial floraplays an important role in host physiology and involves in many new unexploitedmicrobial species. Research on the diversity of intestinal bacterial flora can providemore comprehensively understanding for interactions between microbes and theinvertebrate in the aspect of the host digestion, pathogenesis and so on.We have used culture-dependent and culture-independent approaches to investigatethe bacterial composition of the intestine of small abalone from the land-cultured andraft-cultivated areas. Thirty-four intestinal bacterial strains were isolated from twodifferent abalone farms and identified using the 16S rRNA gene biomarker, our resultshowed that they were fell into 9 genera, which were Vibrio, Shewanella,Paraferrimona, Flammeovirga, Persicobacter, Agarivorans, Tenacibaculum,Polaribacter and Agarobacterium. Vibrio was the predomiant genus, which accountedfor 50 percent. Using culture-independent technique three 16S rRNA gene clonelibraries were constructed from the intestinal microflora of three different cultureenvironments, including two land-culture farms, Jiangkou and Houcai, and araft-cultivated area, Daizai. Microbial diversity analysis showed that the intestinalmicroflora of Jiangkou small abalone fell into three groups, Proteobacteria (α -, δ -, ε -),Mollicutes and Verrucomicrobia, accounting for 62.37%, 35.48%, 2.15%, respectively,which was different from the culturable bacterial composition. Comparison on theintestinal bacterial composition of small abalone from Daizai and Houcai uncoveredthat the intestinal bacterial flora of raft-cultivated abalone belonged to Proteobacteria,Mollicutes and Fusobacteria, which was different from the land-cultured abaloneintestinal bacteria, which consisted of Proteobacteria, Mollicutes, Bacteroidetes,Planctomycetes and Verrucomicrobia. Mollicutes group were clustered into 8 and 12OTUs (cut-off=3%) for Houcai and Daizai 16S rRNA gene clone library respectively.Phylogenetic tree indicated that these Mollicutes phylotypes have a nearer relativewith Mycoplasma species. A clustering dendrogram which indicated that individualsof Daizai (YP group) and Houcai (CTL group) formed two separate clusters, showedthe surroundings greatly affected the intestinal bacterial community structure.Seasonal variation analysis revealed that some bacterial group Mollicutes wereconsistent with the host abalone, and these band sequences shared high similarity withreported Mycoplasma.Our present study showed that uncultured Mycoplasma, a genus of Mollicutesdominated in the intestine of small abalone, different from the bacterial identificationof cultured bacterial species. These phylotypes affiliated to Mycoplasma might have asaprophytic or symbiotic, rather than pathogenic relationship with small ablone.

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【题目】Determination of N-methylcarbamate Insecticide Metolcarb by Enzyme-linked Immunosorbent Assay

【中文关键词】氨基甲酸酯类农药,速灭威,半抗原,抗原,抗体,酶联免疫分析

【英文关键词】N-Methylcarbamate insecticide; Metolcarb; Hapten; Antigen; Antibody; Enzyme-linked immunosorbent assay

【中文摘要】针对速灭威的半抗原HOM被合成出来,并通过活泼酯法与BSA和OVA相偶联形成包被原和免疫原。通过对ELISA系统的优化,一套高效免疫检测方法被建立起来。其中,检测范围为1-104ppb,IC50为40.74ppb,检测限为0.08-0.1ppb.同时针对实际样品大米,水和土壤的添加回收分别为80,,9.4,107%。

【英文摘要】The hapten of the N-methylcarbamate insecticide metolcarb, 3-{[1-(3-(methyl)phenyloxy)carbonyl]amino}propanoic acid (HOM), was synthesized and conjugated with the carrier proteins bovine serum albumin (BSA) and ovalbumin (OVA), respectively, by the active ester method. The conjugate of HOM-BSA was used as immunogen, and we prepared rabbits' anti-metolcarb serum, the titres of which were determined by noncompetitive indirect ELISA procedures and reached 1.28×106. The results of the cross reaction indicate that the antiserum produced could specially recognize the insecticide metolcarb. After optimization of the ELISA conditions, such as ionic strengths, organic solvents, pH values, blocking agents, and so on, the proper parameters of ELISA procedure were determined, and an assay protolcol for the N-methylcarbamate insecticide metolcarb was established. On the basis of statistical analysis, the linear range of determination was from 1 to 104 ng/mL, IC50 was 40.74 ng/mL, limit detection was 0.08 – 0.10 ng/mL, intra-assay coefficient of variation (CV) reached 2.9%, and inter-assay CV reached 4.6%. The recoveries obtained by standard

metolcarb addition to different samples such as rice, water, and soil were 80, 93.4, and 107%, respectively. This is the first time that polyclonal antibodies to the N-methylcarbamate insecticide metolcarb are produced, and the ELISA, used here for efficient and available detection of metolcarb, may become a convenient and satisfied analytical tool for monitoring metolcarb residues in environmental and agricultural samples.

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【题目】杂色鲍杂交后代壳色遗传与抗性特征研究

【中文关键词】杂色鲍;杂交;壳色;免疫;抗性
【英文关键词】Small abalone; cross breeding; shell colour; immunity; resistance

【中文摘要】本文以杂色鲍为研究对象,从贝壳颜色的遗传学、生化组成、免疫防御特性及生态因子胁迫下的抗性四个方面阐述了杂色鲍质量性状遗传、营养与免疫方面的内容。主要的结果如下:1. 杂色鲍贝壳颜色的遗传学和标记研究:采用家系育种的方法,将贝壳颜色为黄色的突变型杂色鲍与贝壳颜色为褐色的正常表型杂色鲍进行了连续2代的交配实验。结果表明,杂色鲍的黄壳色明显受到遗传因素的影响,当至少一方亲本中有黄壳色时,后代中同样出现黄壳色表型的个体。杂色鲍贝壳上的黄壳色不会随生长而消失,可作为一种稳定的形态标记,用于标识黄壳色突变型的个体,该标记技术也可用于杂色鲍的养殖技术和遗传学研究。此外,选用了贝壳颜色遗传学实验中建立的贝壳颜色发生分离的家系,以壳长为指标,分析、比较了来自相同家系的两种壳色个体之间的生长速度。在幼鲍发育至420天止的5-7个统计时段内,没有在同一家系来源的2种贝壳颜色表型个体之间检测到生长速度的显著差异。2. 杂色鲍不同群体的化学成分比较:对杂色鲍台湾群体、日本群体和杂交群体的基础营养成分、氨基酸、脂肪酸和矿物质元素的含量进行了测定,并对不同群体足肌的营养价值进行了评价。结果表明,通过杂交育种的方法培育的杂色鲍杂交种,继承了父本日本群体肉质优良的特点,足肌的营养价值明显高于母本台湾群体,证明了通过杂交育种手段对杂色鲍的足肌营养起到了很好的种质改良效果。两种不同壳色鲍壳的矿物质元素和氨基酸的含量具有明显的差别,在不同的生长阶段,黄壳色鲍壳氨基酸和矿物质元素的含量变化具有一定的规律性。3. 杂色鲍不同群体的免疫防御特性比较:采用流式细胞法对杂色鲍台湾群体、日本群体和杂交群体血细胞的吞噬能力、基础的呼吸爆发水平及密度值进行了比较,同时采用南京建成的试剂盒测定了血淋巴中与体液免疫密切相关的酸性磷酸酶(ACP)、碱性磷酸酶(AKP)、超氧化物歧化酶(SOD)和髓过氧化物酶(MPO)这四种酶的活力。结果表明,杂色鲍的杂交种继承了父本日本群体较高的机体免疫力,血细胞吞噬能力、基础的呼吸爆发水平、三种酶(ACP、AKP、SOD)的活力都显著高于母本台湾群体,证明了通过杂交育种手段对杂色鲍的免疫能力起到了很好的改良效果,培育出的杂交鲍机体免疫力高,抗逆性强,更加适应外界环境的变化。采用FCM法对杂色鲍两种壳色群体的血细胞吞噬能力、基础的呼吸爆发水平及密度值进行了比较,结果表明:两种壳色的杂色鲍个体没有表现出免疫应答方面的显著差异。4. 杂色鲍三个群体在不同生态因子胁迫下的耐受力比较:采用生态因子骤变胁迫的方法,比较了杂色鲍台湾群体、日本群体和杂交群体三个群体在高温、低温、低盐和干露胁迫下的生理表现和存活率情况。结果表明,同样的胁迫条件下,杂色鲍的杂交种比母本台湾群体更加适应环境的急剧变化,具有更高的存活率。同时研究结果显示,在水温突变实验中,8℃、32℃是杂色鲍存活的临界低温和高温。在温度为25℃,湿度为30%条件下,5小时是杂色鲍在干露胁迫下存活的临界时间。5. 杂色鲍三个群体腹足吸力的比较:利用改良的拉力工具,对杂色鲍台湾群体、日本群体和杂交群体三个群体个体正常吸附状态下将腹足拉离吸附底物所用的拉脱力进行了测量,并计算了正常吸附状态下的腹足单位面积吸力。实验结果表明,对于同样的吸附底物,台湾群体个体的腹足吸力和单位面积吸力均显著低于日本群体和杂交群体。日本群体和杂交群体在正常吸附状态下,机体活力强,生理状态好,能够更牢靠地吸附在底物上,不易受环境变化的扰动。

【英文摘要】In this research, quality traits genetics, nutrition and immunology of small abalone Haliotis diversicolor were studied in four parts: genetics of shell color, biochemical compositions, immune defense properties, resistance under the stress of ecological factors. The main results are as follows:1. Shell color genetics and markers of small abaloneA recently discovered mutation that displays a novel yellow shell coloration that is distinguishable from the normal brown coloration was reported in this study. Cross-mating experiments between the two types abalones were carried out to detect the F1 phenotypes and F2 phenotypic segregations. The results showed that, the yellow shell color significantly influenced by genetic factors, When at least one parent were in the yellow shell color, the offspring also appeared yellow shell color phenotype. The yellow shell coloration did not disappear with the growth, which can be used as a stable morphological markers to identify the yellow shell color mutant individuals.All family lines occurring shell color segregation

were selected and the shell lengths were measured for 5-7 times for the juvenile abalones aged at 2 – 14 months. Among them, there were no significant differences in all groups of abalones between the two colour type juvenile abalones.2. Chemical compositions of different small abalone groupsThe contents of basic nutrients, amino acids, fatty acid and mineral elements in Taiwan group, Japan group, hybrid group and two shell color groups were measured, and muscle nutritional value of different groups were also evaluated. The results showed that: the hybrid group, which was cultivated in cross breeding method inherited the meat quality of Japan group, the muscle nutritional value of it was significantly higher than Taiwan group. This results indicated that cross breeding method is an effective method to improve meat quality of small abalone. Mineral element and amino acids ciontents in two color abalone shell have significant differences, and the amino acid and mineral element contents in yellow color abalone shell had a certain regularity at different growth stages.3. Immune defense characteristics of different small abalone groupsPhagocytosis, basic respiratory burst level and density of blood cell in Taiwan group, Japan group and hybrid group were measured by flow cytometry (FCM) method, and the activity of acid phosphatase (ACP), alkaline phosphatase (AKP), superoxide dismutase (SOD) and myeloperoxidase (MPO) was measured using the kits built by Nanjing Jiancheng company. The results showed that the hybrid group, which was cultivated in cross breeding method inherited the excellent immunity of Japan group, phagocytosis, basic respiratory burst level and activity of three enzymes (ACP, AKP, SOD) were significantly higher than Taiwan group. This conclusion proved that cross breeding method is an effective method to improve immunity of small abalone, small abalone hybrids had high immunity and strong resistance to respond to external environmental changes. Phagocytosis, basic respiratory burst level and density of blood cell in two shell colour abalone groups were also measured by flow cytometry (FCM) method. The results showed that two colour small abalone did not show significant differences in immune response.4. Tolerance of small abalone under the stress of different ecological factorsPhysiological performance and survival rate of Taiwan group, Japan group and hybrid group under the stress of high temperature, low temperature, low salinity and dry exposure were measured in the method of sudden environmental change stress. The results showed that hybrid group showed a higher survival rate than Taiwan group. They had better ability in adapting to sudden drastic changes in the sea environment. The critical thermal maximum and minimum of small abalone were 32°C and 8°C when the temperature changed suddenly. the critical dry expoure time maximum of small abalone was five hours under the condition of temperature 25°C and humidity 30%.5. Pedal foot suction of different small abalone groupsPedal foot pull-off force and suction per unit aera of Taiwan group, Japan group and hybrid group was measured in the normal adsorption state. The results showed that pedal foot pull-off force and suction per unit aera of Taiwan group were significantly lower than Japan group and hybrid group. Japan group and hybrid group were in better physiological state and had higher body activity when they were adsorbing on the same substrate, and they were not easily disturbed by environmental changes.

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【题目】海洋细菌生物膜的形成机制与影响因素
【中文关键词】生物膜;海洋;细菌;粘附;环境
【英文关键词】biofilm; marine; bacteria; attachment; environment
【中文摘要】细菌生物膜广泛的存在于海洋环境中的固-液界面上,本文主要在实验室内从生态学角度研究了海洋细菌生物膜的形成过程与生态机制,旨在通过实验室内的研究获得一些关于海洋环境细菌生物膜形成的一般规律和机制,从而为更多基础和应用科学研究提供参考。在研究中共涉及三个方面:1)海洋细菌的粘附过程及影响因素;2)海洋细菌的生物膜形成过程、影响因素及某些特殊海洋界面上的生物膜形成;3)以悬浮菌为对照比较海洋中粘附细菌和生物膜对不利环境抵抗与耐受问题。首先,在考察海洋细菌粘附问题时,主要进行了细菌特征与它们粘附能力的相关性和水环境因素对细菌粘附的影响两个方面的研究。针对45 株细菌的7 个特征(分类、形态、运动性、疏水性、胞外蛋白含量、胞外多糖含量和zeta电位)与其在海水中两种界面上(玻璃和聚苯乙烯)粘附的情况的调查研究表明:1)没有任何单一因素能够很好的预测细菌的粘附;2)对于能够运动的细菌,运动速度与其粘附能力有较强的相关性;3)某些菌属具有先天趋向粘附的特征;4)细胞亲水性极强的种类往往粘附较差,而疏水性较强的种类粘附能力一般较好,总体上更多的细菌在疏水性的聚苯乙烯表面粘附能力更好。5)胞外蛋白含量与细菌在聚苯乙烯表面的粘附有一定的正相关性,而胞外多糖含量与细菌在亲水性表面的粘附呈现略微的负相关。6)zeta 电位值与粘附的关系在不同细菌间的比较意义不大,对于同种细菌可能具有预测粘附能力的作用。

另一方面,比较多种有机物形成的条件膜对两株细菌粘附影响时发现,以甘露糖和牛血清白蛋白作为条件膜组成时细胞粘附比对照组均有显著提高;海水盐度的上升会导致这两株细菌粘附细菌密度的增加,pH 和二价离子的影响在两个菌株间有所不同。其次,在作为研究重点的第二章里,考察了1)不同海水条件对32 株海洋细菌在下96 孔板内生物膜形成的影响及机制;2)在流动培养体系中考察了不同环境条件对一株能形成典型生物膜结构的溶藻弧菌Vibrio alginolyticus 成膜结构的影响,特别针对二价离子的影响进行了深入研究。3)三种海水中人工或天然界面上的生物膜形成问题,包括不同粗糙度的不锈钢、贝类足粘液和防污涂料表面。研究结果表明。结果表明:1)对于多数海洋细菌,极低盐的环境往往不利于生物膜形成,生物膜一般需要一定盐度的海水维系其稳定。在实验涉及的较小pH 值范围内(pH6-8.5),多数海洋细菌的生物膜形成受到的影响较小。二价离子对于许多海洋细菌的生物膜形成的各个过程(粘附、粘附生长与脱落)均有显著影响。2)流动培养体系中溶藻弧菌菌株在实验检测的环境条件中,盐度和pH对生物膜形成的影响较小,只有二价离子的影响极其显著,当二价离子Ca 和Mg 均缺失时,该菌生物膜形成能力完全丧失,而缺失Ca 则导致生物膜去结构化,仅仅形成单层细胞生物膜。进一步研究表明,二价离子能够影响该菌株的粘附、表面swarming 运动、胞外多聚物生产,成熟生物膜暴露于二价离子缺失的海水中对其结构影响较小;对该菌株粘附能力的影响可能是引起生物膜形成能力完全丧失的原因,而这种影响被证明是物理化学水平的。Ca 离子缺失对于swarming 运动的促进和胞外多聚物生产的抑制可能导致了生物膜的去结构化。3)在不同粗糙度的不锈钢表面对于海洋污损细菌的粘附影响根据种类的不同而有差异;一株Alteromonas sp.污损细菌在粗糙度越大的表面形成生物膜的生物量和细胞团直径越大;而采用一株Pseudoalteromonas flavipulchra 研究其在不同粗糙度不锈钢表面的运动及生长时发现,在粗糙度较大的界面上该细菌的表面扩散能力被抑制,而表面扩散能力与细菌的繁殖速度具有正相关性。以上结果表明对于不同的情况,不同粗糙度的表面可能面临不同的污损程度。界面粗糙度或微地形学、细菌表面扩散能力和繁殖速度的相关性可能为防污技术提供一个新的思路。4)杂色鲍Haliotis diversicolor 的足粘液能够为海洋细菌提供营养物并促进其繁殖、粘附和生物膜形成,足粘液表面的生物膜中还具有对照组生物膜未检出的细菌种类,包括一些潜在的致病菌。该结果提示腹足类水产养殖中需要考虑在高密度情况下,足粘液可能带来的病原菌富集问题。5)在厦门九龙江口区的冬夏两季挂板上,红杆菌科Rhodobacteraceae 和黄杆菌Flavobacteriaceae 都常常作为一类优势类群出现,交替单胞菌Alteromonadales 目的种类特异性并以高丰度出现在以氧化亚铜为防污剂的涂料表面,该类群可能能够可以作为高耐毒的细菌在涂料表面形成生物膜,成为微型污损生物。最后,在第三章里,考察了海洋中粘附细菌和生物膜对不利环境的抵抗与耐受问题。1)采用了独创的简单且相对精确的方法研究了一株假单胞杆菌Pseudomonas sp.的_____粘附细胞在各种海水条件下的生长速度。结果表明,在几乎不受空间限制的条件下,实验菌株Pseudomonas sp. 的粘附态细胞在环境因素不利的条件下展现出比悬浮细胞更快的生长速度。这些条件包括低营养(高盐海水中),极端的盐度,pH,亚致死水平的毒性物质(Cu 离子和氨苄青霉素)的存在。这暗示着某些细菌在某些非最佳条件下,可能是以粘附态的形式作为其默认存在方式。而粘附态细菌与悬浮细菌在不同环境中生长速度上的差异变化,则表明了这两种状态对于细菌个体或种群在不同环境中具有不同的地位。2)生物膜中的细菌对极端不利环境,包括低渗、干燥、贫营养、高毒性重金属和抗生素的抵抗不同程度地高于悬浮细菌。

【英文摘要】Bacterial biofilms are universally distributed on marine solid-liquid interfaces.This thesis is concentrated on the processes and mechanisms of biofilm formation inmarine environments with an ecological insight. The intention is to attain somegeneral rules and mechanisms of marine biofilm formation that help us to do morebasic and applied researches on marine biofilms. There are three chapters in this thesis:1) Effcets of bacterial characteristics and environmental factors on marine bacterialattachment; 2) Effects of environmental factors on biofilm formation and biofilmformation on several specific marine interfaces; 3) Resistance and tolerance of sessilebacteria and biofilm to stressful and lethal environment comparing with theirplanktonic counterparts.

【语种】中文
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【题目】小流域土地利用变化对土壤养分的影响

【中文关键词】土地利用变化; 土壤养分; 代家沟小流域; 综合治理
【英文关键词】land use type change; soil nut rient ; Daijiag ou small w ater shed; comprehensiv e impr ovement

【中文摘要】"运用统计学方法, 研究重庆市长寿区代家沟小流域土地利用变化对土壤养分的影响。结果表明: 经过三年的小流域综合治理, 坡耕地向其它土地利用类型转变, 其土壤养分平均含量变化表现为有机质全氮、全磷、全钾、碱解氮、

有效磷和速效钾分别增咖了9. 2%、1 2. 9%、0. 7%、5 . 2%、4 2. 8%、12. 8%和9. 9%退耕还林还草、坡改梯等治理措施, 不仅改变了土地覆盖、微地形, 防治了水土流失和土地退化, 而且还在一定程度上提高了土壤养分。特别是有机质的增加很明显, 改变了土壤的结构, 更有效的控制了水土流失的发生, 提高了土壤的质量。"

【英文摘要】"Using the stat istical method, the influence of land ut ilization change on the soil nut rient is studiedin Chongqing Changsho u County Daijiag ou small basin. T he result s show ed that slope farmland altered toother land use ty pes af ter three y ears of small watershed comprehensiv e cont rol. Soil o rganic mat tershow ed an increase o f 9. 2% , to tal N, P, K, alkaline hy dro lysis N, available P, available K increased by12. 9%, 0. 7% , 5. 2%, 42. 9% , 12. 8% and 9. 9% respect ively. Retur ning farmland to for est and g rassland,ter racing and o ther cont rol measures not only chang ed land cov er, micro-to pog raphy, co nt ro l of soiler osion and land deg radat io n, but also improv e the soil nut rients to some extent . In part icular, the increaseof soil organic matter obviously changed the soil st ructure, ef fect iv ly contr olled soil erosio n and improved the so il quality ."

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【学科分类】土壤学

【题目】杂色鲍鸟氨酸脱羧酶和抗酶基因的鉴定及靶向转基因表达载体的构建

【中文关键词】杂色鲍;鸟氨酸脱羧酶;抗酶;靶向转基因;表达载体

【英文关键词】Haliotis diversicolor; ornithine decarboxylase; antizyme; targeting transgenic; expression vector

【中文摘要】鸟氨酸脱羧酶(Ornithine decarboxylase,ODC)和抗酶(Antizyme,Az)是多胺生物合成中的两个关键酶,而多胺在生物体内扮演着重要的生物学角色。对多胺的深入研究将有助于人类揭示更多的与多胺相关的疾病。在软体动物有关多胺的研究未见报道。因此,开展杂色鲍ODC和Az基因的研究将为软体动物和高等动物多胺的生物学研究提供更多的基础信息。另外,由于ODC基因位点在生物体内大都为非重复性位点,已有研究证明在提高转基因稳定性方面,该位点为一个合适的靶向位点。杂色鲍(Haliotis diversicolor)在我国主要分布在南部沿海地带,由于其成品规格较小(5-7 cm),达到商品规格所需的养殖时间较短,再加上其风味独特,因此深受养殖者和消费者的欢迎。但近年来由于病害频发,成活率急剧下降,给养殖者带来巨大的经济损失。针对杂色鲍养殖中存在的问题,利用日趋完善的转基因技术和合适的转基因靶向位点培育出具有高遗传稳定性的、抗逆的杂色鲍优良品种是当前育种工作的目标。而实现这一目标的一个前提是获得含有“ 全鱼 ”元件的靶向转基因表达载体。针对以上问题,本论文进行了如下的研究:1. 分离和鉴定杂色鲍ODC基因用同源克隆的方法对杂色鲍的ODC基因进行了分离和鉴定。分析发现,该序列全长为2600 bp。ORF分析编码区为1419 bp,编码472个氨基酸;氨基酸序列分析发现了一些是属于ODC家族的序列特征;对杂色鲍ODC氨基酸序列进行比对分析,表明了杂色鲍ODC氨基酸序列和其他物种的ODC氨基酸序列有较高的序列一致性,特别是在一些关键的活性位点十分保守;体外功能鉴定结果表明,杂色鲍ODC编码区的原核表达产物能够与鸟氨酸发生脱羧反应生成腐胺,而该反应又能够被ODC特异抑制剂DFMO所抑制;体内研究发现ODC在杂色鲍体内为组成型表达,其mRNA水平能对温度改变产生快速的反应。2. 分离和鉴定杂色鲍Az基因分析发现杂色鲍Az基因序列核酸长度为1434 bp。在mRNA序列上有两个重叠的ORF,第一个ORF编码51个氨基酸,终止密码子TGA。第二个ORF无起始密码子,与第一个ORF共享起始密码子。在第一个终止密码子附近发现Az基因特有的保守序列TCCTGATGT。在这个保守的序列上的A为Az的移码位点即在翻译第二个ORF时会跳过这个A与后面的T形成有意密码子TGT,进而形成有功能的Az。体外功能鉴定发现,只有第二个ORF的表达产物能够在26s蛋白酶体存在的条件下抑制ODC与鸟氨酸作用生成腐胺的反应。其体内研究的结果与ODC类似。3. 获得杂色鲍ODC基因组信息及其下游部分序列根据ODC的mRNA的信息,采用基因组步移法获取了杂色鲍ODC基因序列。结果显示获得的序列全长为16434 bp,扩增出了杂色鲍ODC基因的11个外显子和11个内含子。获得的ODC基因序列和mRNA序列比较发现,编号的第1和第2号外显子不含有编码序列,起始密码子ATG在第3号外显子上,终止密码子TAA和PolyA在第12号外显子上。在polyA信号后有一段约600 bp的核酸片段,经比对搜索没有发现无任何编码氨基酸的信息,确定该位点为外源载体进入的靶向位点。4. 构建三个杂色鲍靶向转基因表达载体靶向位点的获取:根据ODC基因序列下游的信息,成功扩增出了ODC基因下游的两个1800 bp的核酸片段,作为载体构建的左右两个臂。启动子的获取:为了构建组成型的表达载体,成功分离了杂色鲍肌动蛋白基因启动子序列。为了构建诱导型的表达载体,成功分离了由杂色鲍致病菌引起的表达上调基因的启动子序列即Qm启动子。目的基因抗冻肽(Antifreeze peptide,AFP)的获取:利用引物重叠方法合成了美洲大绵鳚(Macrozoarces americanus)AFP核酸序列,原核表达和死活菌染色鉴定结果表明表达产物有较高抗冻活性。元件的组装:根据表达载体的特征,把获得的元件左右臂、增强子、启动子、抗冻肽、kozak、IRES、EGFP和3 ’末端片段根据需要连接在p19T-Simple上。最后获得三个杂色鲍靶向转

基因表达载体,分别为Va:p19T-S-L-En-ActinP-IRES-EGFP-R,Vb:p19T-S-L-En-ActinP-AFP-IRES-EGFP-R,Vc:p19-S-L-En-QmP-IRES-EGFP-R。

【英文摘要】Ornithine decarboxylase (ODC) and antizyme (Az) are the key enzymes in the synthesis of polyamine. Polyamines are small molecular with positive charge, and play important roles in biology. It is meaningful to reveal the animal diseases with the research of polyamine. The researches on polyamine in abalone will provide more basic knowledge for mollusk and high animals. In addition, it is reported that the locus of ODC was a suitable targeting sit to transgenic task for the stability. Small abalone, Haliotis diversicolor is naturally distributed in South China. Because of its short culture cycle and special flavor, it was a popular abalone species for the mariculture farmers and consumers in South China. Unfortunately, with the development of small abalone industry, many problems occur such as disease outbreak and the low rate of growth and survival. The massive economic losses have been brought to the farmers which affected the development of abalone industry. Hence, breeding the transgenic small abalone with higher genetic stabilization and stronger tolerance to environment is vital. While, the first and key step to achieve the aim is to constructe the targeting expression vectors by the elements that completely derive from fishes.In this thesis, the following studies were performed and the main results were as follows:1. Isolation and characterization of ODC gene from small abalone.2. The isolation and characterization of small abalone Az.3. The isolation of small abalone ODC genome and the down-stream segment. 4. Construction of three targeting transgenic expression vectors.

【语种】中文

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【学科分类】水产养殖学

【题目】A quantitative knowledge-based model for designing suitable growth dynamics in rice

【中文关键词】无

【英文关键词】dry matter; expert system; knowledge-based model; LAI; rice; stem number

【中文摘要】无

【英文摘要】Quantifying growth dynamics in rice (Oryza saliva L.) is important for precision design and diagnosis in Cultural management. The primary Objective Of this Study was to develop a general knowledge-based model to design the time-course growth dynamics including stem number, leaf area index (LAI) and aboveground dry, matter accumulation with desired tat-get yield tinder different conditions in rice. Driven by physiological development time (PDT)-based growing degree-days (GDD), the fundamental algorithms Of rice growth indices, which vary with the variety, environmental factors and production levels, were formulated from the existing literature and research data. The stem number curve was established according to the dynamic pattern Of the stem development and the principle of determining stein number from final particle number. Under the principle of realizing the maximal photosynthetic production during forty days before and after heading, we obtained the Optimum LAI at heading was calculated, and the LAI dynamic from the ratios of LAIs at different growth stages to optimum LAI at heading with linear interpolation method. The aboveground dry matter accumulation curve was described by a logistic curve. Case Studies with the typical data sets and variety types at different eco-sites indicated a good performance of the model system, with the root mean square error (RMSE) of 2.5 x 10(4) ha(-1), 0.37 and 700 kg ha(-1), for the stein number, LAI and aboveground dry matter accumulation, respectively. This model overcomes the weakness of poor spatial and temporal adaptation of traditional rice management patterns and expert systems.

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【学科分类】农学其他学科

【题目】A knowledge model system for wheat production management
【中文关键词】无
【英文关键词】expert system; knowledge model; quantitative decision-making; regulation index; wheat
【中文摘要】无
【英文摘要】A knowledge model with temporal and spatial characteristics for the quantitative design of a cultural pattern in wheat production, using systems analysis and dynamic modeling techniques, was developed for wheat management, as a decision-making tool in digital farming. The fundamental relationships and algorithms of wheat growth indices and management criteria to cultivars, ecological environments, and production levels were derived from the existing literature and research data to establish a knowledge model system for quantitative wheat management using Visual C++. The system designed a cultural management plan for general management guidelines and crop regulation indices for time-course control criteria during the wheat-growing period. The cultural management plan module included submodels to determine target grain yield and quality, cultivar choice, sowing date, population density, sowing rate, fertilization strategy, and water management, whereas the crop regulation indices module included submodels for suitable development stages, dynamic growth indices, source-sink indices, and nutrient indices. Evaluation of the knowledge model by design studies on the basis of data sets of different eco-sites, cultivars, and soil types indicated a favorable performance of the model system in recommending growth indices and management criteria under diverse conditions. Practical application of the knowledge model system in comparative field experiments produced yield gains of 2.4% to 16.5%. Thus, the presented knowledge model system overcame some of the difficulties of the traditional wheat management patterns and expert systems, and laid a foundation for facilitating the digitization of wheat management.
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【题目】Regional evaluation of critical nitrogen concentrations in winter wheat production in the North China Plain
【中文关键词】无
【英文关键词】GRAIN PROTEIN-CONCENTRATION; NUTRIENT MANAGEMENT; CHLOROPHYLL METER; CORN YIELD; FERTILIZER; SOIL; BALANCE; AVAILABILITY; INDICATOR; SYSTEMS
【中文摘要】无
【英文摘要】Investigating critical nitrogen concentration (CNC) in grain and straw provides insights into N nutrition, and can serve as a guide to improved agricultural practice. This regional study evaluated the relationship between N fertilization rate and grain yield, N concentration, potential N loss, and determined critical grain and straw nitrogen concentrations (CGNC and CSNC) for winter wheat (Triticum aestivum L.) production in China. At the economically optimum nitrogen rate (EONR), grain N concentration was similar to the maximum value calculated using a linear plus plateau model, while straw N concentration was significantly less than the relevant maximum value. Soil nitrate N content after harvest and apparent N loss for maximum straw N concentration increased by 19 and 9 kg N ha(-1) compared to values at the EONR. Based on nine field experiments, CGNC and CSNC corresponding to optimal N rate were established to be 21.9 g kg(-1) (20.8-23.0 g kg(-1)) and 6.8 g kg(-1) (6.5-7.1 g kg l), respectively. An evaluation of CGNC and CSNC across 111 on-farm sites indicated that while many sites had grain and straw N concentrations falling within the CGNC and CSNC, a substantial portion of the sites had grain and straw N concentrations falling outside of the CGNC and CSNC or falling within the critical ranges when N supply was deficient (0 N control) or excess (at farmer's N practice). This region-wide study provided evidence for the usefulness of CSNC, and particularly CGNC, as indicators of N deficiencies in wheat production; however, neither indicator provided information about excess N fertilization.
【语种】英文
【第一作者】Chen, XP
【通讯作者】Chen, XP

【期刊名称、卷期、页码】Agronomy Journal,2009, 101:159 -166
【论文发表时间】2009-01-25 00:00:00
【引文索引类型】SCI
【引文索引号】2.6331210002e+011
【学科分类】农学其他学科

【题目】Development of a growth model-based decision support system for crop management
【中文关键词】无
【英文关键词】growth model, decision support system,stand-alone edition, web-based edition
【中文摘要】无
【英文摘要】Growth model-based decision support system for crop management (GMDSSCM was developed including process based models of 4 different crops, i.e. wheat, rice, rapeseed and cotton. This system aims in facilitating simulation and application of crop models for different purposes. Individual models each include six submodels for simulating phasic development, organ formation, biomass production, yield and quality formation, soil-crop water relations, and nutrient (N, P, K) balance. The implemented system can be used for evaluating individual and comprehensive management strategies based on the results of crop growth simulation under various environments and different genotypes. 4 Stand-alone version (GMDSSCM,4) was established under the platforms VC++ and VB by adopting the characteristics of object-oriented and component-based software and with the effective integration and coupling of the growth-prediction and decision-making functions. 4 web-based system (GMDSSCW was further developed on a net platform using C# language. These GMDSSCM systems have been used to predict dynamically crop growth and to make decisions regarding to management systems. This tool should be helpful for construction and application of informational and digital farming systems
【语种】英文
【第一作者】Zhu, Y
【通讯作者】Cao, WX
【期刊名称、卷期、页码】Frontiers in Agriculture of China,2007, 1(3): 296-300.
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【引文索引类型】其他
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【学科分类】农学其他学科

【题目】基于ADAMS 草地切根机关键机构的三维动态仿真
【中文关键词】盘齿式破土切根机;ADAMS;运动仿真
【英文关键词】Root-cutting machine, ADAMS, Animated simulation
【中文摘要】在ADAMS 中对草地盘齿式破土切根机关键工作机构进行运动仿真,可以为研究刀辊部分的运动提供更直观的了解方式,对分析系统的运动行为提供重要帮助。论文介绍了在ADAMS 中对构件进行编辑、约束、添加驱动和求解运动轨迹的方法,提出了基于ADAMS 进行运动仿真的方法步骤,仿真结果表明,得到的最佳前进速度v=3m/s,此时最佳破土深度L=194mm,精确地描述了切根机的运动情况。
【英文摘要】3D solid animated simulation of the key organ of root-cutting machine based on ADAMS can provide more intuitionistic understand of the part of knife roll, it can make great help for researching movement behavior of whole system. The method of how to edit, restrict, append drive for components and solve trajectory in ADAMS are stated in this paper, and the step of 3D solid animated simulation based on ADAMS are put forward. The simulation results showed that the best forward speed is v=3m/s, under this condition, the best breaking soil depth is L=194mm,it describes the motion state of the root-cutting machine accurately.
【语种】中文
【第一作者】马晓刚
【通讯作者】王德成
【期刊名称、卷期、页码】2010 国际农业工程大会论文集
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【引文索引类型】其他
【引文索引号】null
【学科分类】机械设计

【题目】人工模拟降雨条件下PAM对紫色土养分流失的影响
【中文关键词】聚丙烯酰胺;策色土;养分流失;人工模拟降雨
【英文关键词】Po lyac 可lam ide (PA M) ;pu甲le 5011;1055 of 5011 nutri ent;sim ul at ed ra i刊Fa ll
【中文摘要】"聚丙烯酰胺(P A M)作为一种高分子聚合物, 通过对土壤结构的改良, 在降低土壤流失的同时, 也对土壤中养分的保持产生着重要的作用.本文通过采用人工模拟降雨结合试验土槽等试验方法, 分析了基于干施PA M !液施PA M 以及液施PA M 结合石灰添加剂这3 种处理模式下, 以M 对紫色土的坡面径流养分, 侵蚀泥沙养分, 以及淋溶养分这3 种养分流失形式的影响, 结果表明:(l) PA M 3种处理模式对坡面径流养分的影响中, 采用液施PA M 结合石灰添加剂的处理方式对降低径流中硝态氮!可溶性磷!钾离子浓度的效果最好, 分别降低了65 .2 % !71 .4 % !68 .5 % , 而在降低径流养分平均流失率方面也是液施PA M 结合添加剂的处理方式效果最为明显;(2) 在PA M 对侵蚀泥沙养分流失的抑制效果中, 液施PA M 结合添加剂最有效地抑制流失泥沙中养分的累积效果和累积的速率并将泥沙中硝态氮!速效磷!速效钾的累积流失量降低了85 .9 % !9 8.3 % 以及% .5 % , 而3 种模式对于降低泥沙养分富集率的作用从大到小依次表现为:液施以M 结合添加剂> 液施PA M > 干施PA M ; (3)PA M 3 种处理模式与对照组相比, 都明显降低了土壤中硝态氮淋溶的深度和强度, 有效抑制了硝态氮在土壤中的淋溶作用, 总体上P A M 的3 种处理模式对紫色土养分流失的抑制效果从大到小依次为:液施P A M + 添加剂> 液施PA M > 干施以M ."
【英文摘要】"A s a m aero m oleeul ar eom pound , Po lyae叨am ide (PA M) ean m eliorat e th e st ru eture of 5011ag gr eg at e , en h a n e e 50 11 stab ility , an d fi n al y fu n e tio n to 而tig at e 50 11 ero sion , an d al so p lay s a nim P ort an t ro le o n P re serv in g th e n u tri e n t lo sse s. Th is art ie le re searc h ed th e id u e n e e o f fo u rdife re nt P A M tre atm ents w hieh in eluding (i) N O PA M (C K) ; (11) PA M w as aP p lied at theeoneentra tion of 30扩m , w i山out w at er(d巧aP plieat ion) ;(111)p A M w as aP plied through w ate rat the Con eentrat ion ""f 30岁m , (w et 即p ueat ion) ; (iv)狱M w as 叩p lied thro ugh w at er and明ieklim e at the eoneentra tion of 30 g/ m , (w et + additive applieation) , on 1055 of p u甲le 5011n u tri en t b y u sin g ral nl 习1 sim u lat or a n d d ep e n d in g on th e 5011 b in sim u lat ion te st. T h e re su ltsshow ed as fo llow :(l) C om pari ng 初th C K ,the w et applieat ion eolnb ining additive a罗nt not onlydeere ased the eoneentrat ion of N O犷一N , po孟一p and K + in ru nof , re speetively on 65.2% !7 1. 4 % !6 8 . 5 % , b u t al so e on tro ls th e ve loe ity of n u tri en t e而eh m en t in th e se d im e n t m o reobviously ;(2)D 砂即plieat ion !w et叩p lieati on and w et + additive ap plieat ion deere ased the 1055o f n itri e n itro ge n , av ai lab le P h o sP h o ru s , av al lab le P o ta ssiu m re sP ee tiv ely o n 8 5 .9 % !9 8 . 3 % an d9 6 .5 % , th e n u tri en t e 而e h m e nt ra tio s of ero sio n se d im e nt exh ib ite d b y oth e r th re e PA M tre at ed5011 w ere al obviously low er th an th e untre ated 5011 (C K) . C om p ari ng wi th oth er P A Mtre atm ents , th e tre atm ent of w et + additi ve aPPlieat ion had th e m ost obviously efe et ondeere as ing th e nutri ent enri ehm ent rat ios of ero sion sedim ent ; (3) Th e depth an d in ten sity ofn itrat e n itro ge n elu v iation exh ib ited b y o th e r th re e P A M tre a ted 50 11 w ere al so less th an C K , an dw et a p p lie a tio n e olnb in in g a d d itive 昭en t tre atm e n t w as th e b e st a P P lieat io n m od el d u ri n ge o n tro llin g th e 1055 of P u 印le 5011 n u tri en t."
【语种】中文
【第一作者】陈晓燕
【通讯作者】魏朝富
【期刊名称、卷期、页码】应用基础与工程科学学报,2010, 18(4):548-560
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【引文索引号】null
【学科分类】土壤学

【题目】人工模拟降雨条件下紫色土陡坡地土壤颗粒分布空间变异特征
【中文关键词】:人工模拟降雨;紫色土;径流小区;土壤颗粒
【英文关键词】ain simulation;purple soil;plot runoff;soil particle
【中文摘要】"土壤颗粒分布特征作为土壤物理性质的基本组成部分,对土壤中水分运移、溶质迁移等土壤物理过程有着重要的作用,同时也是影响土壤侵蚀过程的主要因素之一。紫色土作为一种侵蚀型高生产力的岩性土壤,当其分布于三峡库区大于25°陡坡地时,成为了该地区水土流失的重要物质来源。为了分析降雨强度对紫色土陡坡地土壤颗粒分布空间变异的影响,该文研究了25°径流小区在不同人工模拟降雨条件下(0.285,0.978,1.737mm/min)紫色土土壤机械组成和团聚体稳定性的空间变异特征,结果表明:(1)25°陡坡地土壤机械组成在各个降雨强度下,空间分布特征都表现为小区上坡位置粘粒和粉粒含量减少,砂粒含量增加;中坡粘粒及粉粒含量增加,砂粒含量减少;下坡粘粒及砂粒含量增加,粉粒含量减少的特征。但是土壤机械组成各组分随雨强的变化,各自的含量表现出不同程度的增加或减少幅度。(2)陡坡地中>0.25mm水稳性土壤

团聚体含量(WAS0.25)、>2mm和>0.25mm团聚体分散度(P2、P0.25)的变化特征与降雨强度有密切关系,但是其空间差异性变化不明显。在不同降雨强度影响下WAS0.25的减小幅度在6.7%~16.87%中变化,而P2和P0.25各自的增幅则分别达到了1.94%~5.45%和4.46%~15.45%。通过对陡坡地径流小区紫色土土壤颗粒分布在降雨作用下的空间变异特征研究,为坡面土壤颗粒侵蚀-迁移-沉积这一微观过程的宏观反映提供了一定的理论依据,同时也为三峡库区紫色土25°陡坡地水土流失的防治提供相应的理论基础。"

【英文摘要】"As one character of soil physical properties,particle size distributions(PSDs)of soil played some very important roles on estimating soil properties,such as soil hydraulic properties,solute diffusion and other properties about soil erosion process.Purple soil as a easily eroded soil,largely distributed in the abrupt slope(>25°)of theThree Gorges area.In order to analyzed the effects of rainfall on the PSDs and its spatial variability in the steep purple soil area,this article tested the spatial variability characters of soil textures and aggregates in the purple soil runoffplots(grade=25°)under three different simulative rainfall intensity which were 0.285,0.978,1.737mm/min,the results show as follow:(1)With the increasing of rainfall intensity,the spatial characters of soil texture were that:theamount of clay and silt decreased in the up-slope,and the amount of sand increased in the up-slope;in the mid-slope,clay and silt increased and the sand decreased;but in the down-slope the amount of clay and sand increased and thesilt decreased.(2)the characters of>0.25mm water stable aggregate(WAS0.25)and the>2mm,>0.25mm degree of aggregate dispersion(P2,P0.25)were influenced by the rainfall intensity,but there were no spatial variabilitycharacters in the WAS0.25,P2,and P0.25。In different rainfall intensity conditions,the range of WAS0.25decreasingwas from 6.7%to 16.87%,and the ranges of P2,P0.25increasing were from 1.94%to 5.45%and from 4.46%to15.45%respectively.According to research on spatial variability characters of steep purple soil particles under rainfall simulation condition,this could supplied some theories of purple soil erosion in the steep slope,and also could"

【语种】中文

【第一作者】陈晓燕

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【学科分类】土壤学

【题目】Production of recombinant ScFv antibodies against methamidophos from a phage-display library of a hyperimmunized mouse

【中文关键词】甲胺磷;单链抗体;片段表达;竞争式酶联免疫分析

【英文关键词】methamidophos; scFv; phage display; panning; CI-ELISA

【中文摘要】获得了三条针对甲胺磷的高特异性重组单链抗体28D4,29D0和36B2。利用竞争性免疫方法,三条抗体针对甲胺磷的IC50值分别为46.25,35.39和17.99 ppb。与受测农药的交叉反应均小于0.1%。同时,分析出了三条单链抗体的核苷酸序列,分析表明,这三个单链抗体的分子量均在141D左右。

【英文摘要】A recombinant phage display library was generated using splenocyte mRNA isolated from a Balb/c mouse hyperimmunized with a hapten conjugate that mimicked the structure of methamidophos, one of the most acutely toxic organophosphate pesticides. Three recombinant single-chain variable fragment (scFv) antibodies with the highest specificity for methamidophos, termed 28D4, 29D0, and 36B2, were produced via a stringent selection protocol. In a competitive enzyme-linked immunosorbent assay, the IC50 values for 28D4, 29D0, and 36B2 were 46.25, 35.39, and 17.99 ng/mL, respectively. The cross-reactivity of the three scFv antibodies with other organophosphate pesticides was below 0.1% except for acephate (O,S-dimethyl acetylphosphoramidothioate). Nucleotide and deduced amino acid sequences indicated that the respective heavy chains and light chains of the three scFvs were involved in the distinctive VDJ segment rearrangements associated with somatic hypermutations during the process of several immunizations with higher dosages of immunogen. Taken together, these data constitute the first detailed description of an immunoassay that utilizes scFvs against the methamidophos, an analyte with a simple structure and low molecular mass (141 Da).

【语种】英文

【第一作者】李铁军

【通讯作者】刘凤权

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【引文索引类型】SCI
【引文索引号】10.1021/jf0621267
【学科分类】植物保护学

【题目】Effects of Slopes and Rainfalls on Soil Organic Carbon under Water Erosion in Regions of Hilly Purple Soil
【中文关键词】-
【英文关键词】soil erosion; organic carbon; impact factors;slopes;rainfalls;
【中文摘要】-
【英文摘要】The soil productive forces are mainly affected by soil erosion as soil nutrients and organic carbon are taken away. To determine the relationships between the reduction of soil organic carbon and impact factors of soil erosion,the last 17 years ’ data of slopes and rainfalls in Xiejiawan,Chongqing,China was investigated and analyzed.Results showed that amount of soil erosion and loss of soil organic carbon caused by water erosion goes up with the increase of gradient, and there was linear correlation between them on the slopes at the range between 8.75% ~ 46.63%.And the main effects of rainfall on the loss of organic carbon in purple soil were not embodied in rain intensity ,but rainfall parameter had little influence.Therefore, there was a significant seasonal effect of rain on the loss of organic carbon in purple soil. Useful information is provided on the effects of water erosion on soil organic carbon in regions of hilly purple soil.
【语种】英文
【第一作者】He Binghui
【通讯作者】何丙辉
【期刊名称、卷期、页码】Proceedings of Symposium from Cross-strait Environment & Resources and 2nd Representative Conference of Chinese Environmental Resources & Ecological Conservation Society, 2010.111-117
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【学科分类】土壤学

【题目】奶牛精细饲养系统给的研究现状
【中文关键词】精细饲养;信息采集;信息处理;自动饲喂
【英文关键词】null
【中文摘要】随着奶牛养殖规模的不断扩大,传统的粗放型饲养模式已严重制约了奶牛生产效益的提高。基于奶牛个体体况信息的精细饲养能够充分发挥每头奶牛的产奶潜能,提高产奶量,同时减少饲料浪费,降低生产成本。为此,介绍了奶牛精细饲喂系统的组成、工作过程、饲喂方式以及实现精细饲料所需的关键技术和设备。
【英文摘要】无
【语种】中文
【第一作者】颜世涛
【通讯作者】颜世涛
【期刊名称、卷期、页码】《农机化研究》、2010年第1期、222-226
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【引文索引类型】其他
【引文索引号】null
【学科分类】农业工程

【题目】Effects of Cultivation and Vegetation Coverage on Soil Organic Carbon under Water Erosion in Regions of Hilly Purple Soil
【中文关键词】-
【英文关键词】"soil erosion, organic carbon,
cultivation, vegetation coverage, impact factors"
【中文摘要】-
【英文摘要】"The soil productive forces are mainly affected by soilerosion as soil nutrients and organic carbon are taken away. On thepremise of analysis the last 17 years ’ data of cultivation andvegetation coverage in Xiejiawan small watershed, therelationships between the reduction of soil organic carbon andimpact factors of soil erosion was investigated and analyzed.Results showed that

transverse slope with ridge in a fieldcontributed less to the losses of organic carbon of purple soil thanslope farming, and even less than traditional farming under thecondition of the same slope and rainfall. However, deeply diggingof the bared land was easier to bring about loss of organic carbonof soil. And with the increase of vegetation cover, the loss of soilorganic carbon reduced gradually. The vegetation coverage shouldbe maintained at more than 66% if the loss of organic carbon ofsoil was to be controlled from the aspect of vegetation coverage.Thus, it is effective to control loss of soil organic carbon byincreasing vegetation coverage unless there was more than 66%vegetation coverage, under the condition of water erosion."

【语种】英文

【第一作者】He Binghui

【通讯作者】何丙辉

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【学科分类】土壤学

【题目】植物篱对紫色土区坡地不同土层土壤物理性质的影响

【中文关键词】植物篱; 土壤物理性质; 土地利用方式; 颗粒组成; 团聚度

【英文关键词】"hedg erow ; soil physical pro pert ies; land use pattern; soil granule compo sit io n; soil agg regat io n degree"

【中文摘要】"通过对土壤0- 20 cm 及20- 40 cm 土层土壤微团聚体、机械组成、容重及含水率的测定, 研究了新银合欢植物篱对紫色土区坡地土壤物理性质的影响。结果表明: 在小区坡度为10b条件下, 植物篱对于农耕地小区土壤微团聚体的影响作用大于经济林地小区的。对农耕地小区土壤0- 20 cm 层微团聚体粒级为0. 05~ 0. 02, 0. 01~ 0. 005, 0. 005~ 0. 002, < 0. 002 mm 的质量百分含量影响作用显著; 对20- 40 cm 土层经济林地小区粒级为0. 25~ 0. 05 mm 土壤微团聚体、农耕地小区粒级为< 0. 002 mm 土壤微团聚体质量百分含量影响作用显著。在农耕地土地利用方式条件下, 植物篱对坡度为10b及15b小区的土壤微团聚体在垂直方向分布也有很大程度影响作用, 对土壤0- 20 cm 层各粒级土壤微团聚体的影响作用要大于对土壤20- 40 cm 层的影响作用。植物篱对于坡度为10b小区土壤机械组成的影响作用大于15b小区的。植物篱对于农耕地及经济林地小区土壤含水率及容重影响作用不显著。植物篱对土壤结构的改善、土壤结构性能的提升效果明显。"

【英文摘要】"T hr ough inv estig at ing soil t iny agg reg ate, the mechanical compo sit io n, the bulk density and thenatur al mo isture content in 0- 20 cm and 20- 40 cm soil layer, ef fect s of L. leucocep hala hedg erow o n thephysical properties on sloping farmland w ere studied in the pur ple so il area. Results indicate that under the10bslo pe condit ion, the hedg erow in agricultural plo t has more inf luences o n soil t iny ag gregate than that of economicalplot . In the agricultural plo t the hedg erow has remarkable impacts on quality percentag e of soil tinyag greg ate in grade 0. 05~ 0. 02, 0. 01~ 0. 005, 0. 005~ 0. 002, < 0. 002 mm r espect ively in 0- 20 cm soil layer;To the economical fo rest plot it has remarkable impact s on 0. 25~ 0. 05 mm soil t iny agg regate in 20- 40 cmsoil layer; To the ag ricultur al plot the hedgerow has great inf luence on quality percentage of < 0. 002 mm soiltiny aggr eg ate. U nder the ag ricultur al land use condit ion, the hedg er ow also has great influences on vert icaldirect ion dist ribut ion of soil t iny ag gregate fo r 10b and 15b g radient plot s, ef fects of the hedg erow on so il tinyag greg ate of various gr ades in 0- 20 cm level soil layer are much bet ter than that o f 20- 40 cm soil layer. T hehedgerow in 10b plot has more inf luences on so il mechanical composit ion than that of 15b plo t. Impacts o fhedgerow o n soil moisture content and bulk density is not obv io us r eg ar ding the ag ricultural and economicalplo t. It is v ery o bvious that the hedg erow improves so il st ructure and enhances soil str ucture perfo rmance."

【语种】中文

【第一作者】马 云

【通讯作者】何丙辉

【期刊名称、卷期、页码】水土保持学报, 2010, 6:60-64

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【引文索引类型】其他

【引文索引号】null

【学科分类】土壤学

【题目】Development of polyclonal antibody based enzyme-linked immunosorbent assay for the analysis of the agricultural insecticide imidacloprid: food quality and safety
【中文关键词】杀虫剂,吡虫啉,酶联免疫分析,多克隆抗体,残留检测
【英文关键词】insecticide; imidacloprid; ELISA; polyclonal antibody; residue detection
【中文摘要】为建立一套针对吡虫啉农药的免疫检测方法,制备出了抗吡虫啉多克隆抗体并与三种包被原进行亲和性比较实验。通过实验,建立了针对吡虫啉农药的检测工作曲线。同时ELISA系统中关键实验因素进行优化。实验结果表明,表位结合比为14:1的IMMP-OVA的包被原与抗体具有较高的亲和度。在工作中,IC50值为995.4 ppb, 检测限为30ppb。
【英文摘要】In order to develop an indirect competitive enzyme-linked immunosorbent assay (ELISA) for the insecticide imidacloprid, the anti-imidacloprid polyclonal antibody was produced and the affinity of three different coating antigens with the polyclonal antibody was compared. The antigenic determinant in antigen aimming at the polyclonal antibody was raised and analyzed. The standard curve for imidacloprid had been developed. The effects of organic solvents and buffer ionic strength on the ELISA for insecticide were studied and conditions of analysis were also optimized in this research. Experiment result showed that the coating antigen IMMP-OVA whose binding ratio was 14: 1, had stronger affinity with the anti-imidacloprid polyclonal antibody than IMMB-OVA and IMEB-OVA; the IC50 value in the standard curve was 995.4ng.mL(-1) and the limit of detection (LOD) was 30ng.mL(-1); the cross reaction ratios with nitenpyram and acetamiprid were 5.73% and 11.31% respectively
【语种】英文
【第一作者】Zhixiong Li
【通讯作者】孙远明
【期刊名称、卷期、页码】ASIA PACIFIC JOURNAL OF CLINICAL NUTRITION 卷: 16 增刊: 1 页: 102-105 出版年: 2007
【论文发表时间】2007-01-01 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】植物保护学

【题目】植物篱对紫色土区坡地土壤养分分布特征的影响
【中文关键词】植物篱; 土地利用方式; 土壤养分; 分布特征
【英文关键词】hedgerow ; land use pat tern; soil nut rient s; dist ribut io n characterist ics
【中文摘要】"通过土壤养分测定, 研究了新银合欢植物篱对紫色土区坡地农耕地、经济林地两种土地利用方式及10b, 15b坡度下土壤0- 20 cm 及20- 40 cm 层养分分布特征的影响。结果表明: 植物篱对农耕地小区0- 20cm 层土壤中SOM、TK, 对经济林小区土壤0- 20 cm 层中TK、AP 的含量影响作用较显著; 植物篱对农耕地小区土壤20- 40 cm 层中SOM、TN、TP、AK 及TK, 对经济林小区土壤20- 40 cm 层中TN、TK、AN 及AK的含量影响作用较显著。农耕地及经济林地小区植物篱对土壤0- 20 cm 层和20- 40 cm 层养分含量影响作用大体上表现为农耕地> 经济林, 10b> 15b, 0- 20 cm 层> 20- 40 cm 层。此外, 土壤0- 20 cm 层SOM与TP、AK 间呈显著正相关, 相关系数分别为0. 543, 0. 581; 与AN 呈极显著正相关, 相关系数为0. 905。AN 与AK 间呈极显著正相关性, 相关系数为0. 637。AK 与AP 呈极显著负相关性, 相关系数为- 0. 631。"
【英文摘要】"T hr ough soil nutr ients measurement, effect s of L . leucocep hala hedgerow on distr ibution characteristics o f soil nut rient s in 0- 20 cm and 20- 40 cm soil layer w er e studied under tw o kinds o f land use o fsloping farmland and economical forest land and 10b, 15b g radient in the purple soil area. Result s indicated:The hedgerow inf luenced SOM, T K co ntent o f ag ricultur al plo t and TK, AP content of eco nomic forest plotgreat ly in 0- 20 cm so il layer; Effect s of the hedgerow to SOM, TN, T P, AK, TK co ntent of the agricu-lture plot and TN, T K, AN, AK content o f the eco nomic fo rest plot in 20- 40 cm soil lay er w ere r emar kable.On the w ho le, the influences indicated as: the ag ricultur al land > the eco nomic forest land, 10bgradient> 15bg radient , 0- 20 cm level > 20- 40 cm level. In 0- 20 cm so il lay er , there w ere remar kable positiv e correlat ion among SOM and T P, AK and the correlat io n co ef ficient is 0. 543, 0. 581 r espect ively; It w as extremely remarkable that po sit iv e corr elat ion betw een SOM and AN, the correlat ion coef ficient w as 0. 905.There also w as remarkable posit ive co rrelation betw een AN and AK and the corr elat ion co ef f icient is 0. 637,but it w as remarkable negat iv e co rrelat ion betw een AK and A P and cor relat ion coeff icient w as - 0. 631."
【语种】中文
【第一作者】何建林
【通讯作者】何丙辉
【期刊名称、卷期、页码】水土保持学报,2010,6:65-70
【论文发表时间】2010-12-15 00:00:00
【引文索引类型】其他

【引文索引号】null
【学科分类】土壤学

【题目】基于土地利用的喀斯特地区生态系统服务功能价值评估——以贵州省为例
【中文关键词】贵州省;喀斯特地区;生态系统服务功能价值;生态系统类型;土地利用
【英文关键词】Guizhou; Karst region; value of ecosystem service function; ecosystem; land use
【中文摘要】"为探讨喀斯特地区生态系统服务功能价值特征,对贵州省生态系统服务功能价值进行评估,结果表明生态系统服务功能价值在2005、2010、2020年分别为1 610.43亿、2 357.86亿、4 328.89亿元. 贵州省各类生态系统服务功能单价顺序为湿地>水体>森林>草地>农田>荒漠,其中湿地生态系统是荒漠生态系统服务功能价值的149.31倍.2005~2020年贵州省生态服务功能价值结构和土地利用结构以森林生态系统占绝对优势,各类型生态系统服务功能价值顺序为森林>农田>草地>水体>荒漠>湿地,各类型生态系统面积大小顺序为森林>农田>荒漠>草地>水体>湿地. 2005、2010、2020年贵州省单位面积生态系统服务功能价值分别为9 142、13 385、24 573元/hm2. 根据至2020年的土地利用规划,贵州省生态系统服务功能将持续增加. 表4 参51"
【英文摘要】"In order to assess the value of the ecosystem service functions in Karst mountainous region in Guizhou, China,the economic value of the Karst ecosystem service functions was estimated in the region. The economic values of ecosystemservice functions in 2005, 2010, and 2020 were 161.04×109, 235.79×109, and 432.89×109 Yuan (RMB), respectively. The unitprice of the service functions of each ecosystem in the region was in the order: wetland>water body>forest>grassland>farmland>desert. The value of wetland ecosystem service functions was 149.31 times higher than that of desert. The forestecosystem was absolutely predominant both in the ecosystem service value and land use structure. The service function valueof each ecosystem was in the order: forest>farmland>grassland>water body>desert>wetland. The area of each ecosystemwas: forest>farmland>desert>grassland>water body>wetland. In 2005, 2010 and 2020, the ecosystem service functionvalues per unit area in Guizhou was and will be 9 142, 13 385 and 24 573 Yuan/hm2. According to the 2005~2020 Land UsePlanning of Guizhou, the value of ecosystem service functions will continue to increase. Tab 4, Ref 51"
【语种】中文
【第一作者】周传艳
【通讯作者】陈训
【期刊名称、卷期、页码】应用与环境生物学报,2011,17(2):174-179
【论文发表时间】2011-11-11 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】土壤学

【题目】奶牛精料自动补饲装置的研究进展
【中文关键词】奶牛; 计量; 自动补饲; 发展方向
【英文关键词】null
【中文摘要】目前,随着中国已成为世界第三大产奶国,奶牛业在中国农业体系中的地位越来越重要,但是,中国奶牛单产水平低这一因素严重制约着奶业的发展,同时,中国精饲料利用率比奶业发达国家要低,这与缺乏适合中国使用的奶牛精饲料饲喂机械及普及率低等有着很大的关联。作者在简要分析讨论了国内奶牛生产力水平低的原因和奶牛养殖的发展趋势后,论述了国内外奶牛精饲料自动补饲装置的研究现状及成果,介绍了装置中计量的方法,比较和分析了现有精饲料自动补饲装置所存在的问题,并提出了一种新的奶牛精饲料自动补饲装置的设计方法,这为中国提高奶牛产奶量和精饲料利用率打下了坚实基础。
【英文摘要】无
【语种】中文
【第一作者】李法德
【通讯作者】李法德
【期刊名称、卷期、页码】《中国农业工程学会》、2009学术年会
【论文发表时间】2009-09-01 00:00:00
【引文索引类型】其他
【引文索引号】null

【学科分类】农业工程

【题目】不同土地利用方式及开垦时间对岩溶山区土壤养分空间分布的影响分
【中文关键词】岩溶山区;土地利用;开垦时间;土壤养分
【英文关键词】karst mountainous region; land use; cultivation time; soil nutrient
【中文摘要】"采集贵州普定典型岩溶山区7种土地利用方式和3个不同开垦时间(27 a、39 a、48 a)的0~10 cm、10~20 cm、20~40 cm土壤样品,进行室内理化分析. 结果显示,林地土壤有机质、全氮、碱解氮累积量较多,玉米黄豆地含量最少. 林地土壤0~10 cm层有机质、全氮、碱解氮分别比玉米黄豆地高271.0%、317.7%、246.1%. 林地和撂荒地对土壤养分循环较为有利. 林地开垦为农业用地后,土壤有机质、全氮、碱解氮含量明显下降,全磷、有效磷、全钾含量没有明显变化,有效钾含量增多. 开垦39 a的0~10 cm层土壤有机质、全氮、全磷、有效磷、有效钾含量高于开垦27 a和48 a土壤的含量,碱解氮低于开垦27 a和48 a土壤的含量;开垦27 a的土壤全钾含量高于开垦39 a和48 a土壤的含量. 开垦时间长或短对土壤养分含量的影响未表现特殊规律性,可能受到其他因素的影响.
【英文摘要】"Puding County in Guizhou, China is a typical karst mountainous region, where the 0~10 cm, 10~20 cm, 20~40 cmsoil samples were collected from an area with 7 types of land uses and 3 cultivation periods (27 a, 39 a, 48 a). The contentsof soil nutrients including organic matter (OM), total nitrogen (TN), total phosphorus (TP), total potassium (TK), availablenitrogen (AN), available phosphorus (AP) and available potassium (AK) were determined and analyzed. The result showedthat the contents of OM, TN and AN in forest land were higher than those of other land uses. OM, TN and AN in maizesoybeanfields were lowest. OM, TN and AN in 0~10 cm soil of forest land were 271.0%, 317.7% and 246.1% higher than thosein maize-soybean fields, respectively. Forest land and uncultivated land had advantage in soil nutrient cycling. OM, TN andAN decreased with the process of forest land becoming cultivated land, TP, AP and TK were not found with this trend, but AKincreased in this process. However, in this study different cultivation periods (27 a, 39 a, 48 a) had no significant effect on soilnutrients, which indicate that other influencing factors might exist. Fig 2, Ref 20"
【语种】中文
【第一作者】周传艳
【通讯作者】陈训
【期刊名称、卷期、页码】应用与环境生物学报,2011,17(1):063-068
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【引文索引号】null
【学科分类】土壤学

【题目】贵州喀斯特石漠化过程中的土壤有机碳与容重关系
【中文关键词】"喀斯特; 石漠化; 土壤有机碳; 土壤容重
"
【英文关键词】"Karst; Rocky desertification; Soil organic carbon; Soil bulk density
"
【中文摘要】"测定了不同石漠化等级的西南喀斯特生态系统的土壤容重和土壤有机碳。结果表明: 西南喀斯特生态系统的土壤容重为 0. 91 ~1. 37 kg cm-3,土壤有机碳含量变化较大,为8. 1 ~58. 9 g kg-1。在0 ~40 cm 的土层中,没有发生石漠化的生态系统的有机碳储量达 16. 91 kg m-2,伴随着石漠化程度的加剧,土壤有机碳储量急剧下降,极度退化土壤的有机碳储量只有 0. 52 kg m-2。在 1999-2005 年间,中国西南石漠化(约 55 ×104km2) 导致的有机碳流失通量年增加量超过 28 Tg。同时,探讨了喀斯特石漠化过程中土壤有机碳流失的去向,喀斯特石漠化过程土壤有机碳对生态恢复的限制作用,利用土壤容重推算土壤有机碳的可靠性。"
【英文摘要】"The relationship between soil bulk density and soil organic carbon in a rocky desertification process ofkarst ecosystem in Guizhou were studied by using time-space mutual substitution method. The results showed thatthe soil bulk density ranged from 0. 91 kg cm-3to 1. 37 kg cm-3,and soil organic carbon content from 8. 1 g kg-1to58. 9 g kg-1. Soil organic carbon storage decreased with the progress of rocky desertification, there were16. 91 kg m-2in the original karst ecosystem and 0. 52 kg m-2in the extreme rocky desertification area at 0-40 cmsoil depth layer. Annual soil organic carbon loss caused by rocky desertification was more than 28 Tg during 1999-2005 in Southwest China. Furthermore,where soil organic carbon went in the rocky desertification process wasdiscussed,as well as the inhibition effects of soil organic carbon on ecosystem restoration,and the reliability of soilorganic carbon calculated by soil bulk density."

【语种】中文
【第一作者】闫俊华
【通讯作者】闫俊华
【期刊名称、卷期、页码】热带亚热带植物学报,2011,19(3):273-278
【论文发表时间】2011-11-10 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】土壤学

【题目】三峡库区苎麻护坎坡式梯地减蚀效益的137Cs法研究
【中文关键词】苎麻护坎坡式梯地; 坡耕地; 137 C s示踪法; 减蚀效益; 三峡库区
【英文关键词】-
【中文摘要】"三峡库区丰都一带, 苎麻护坎坡式梯地非常普遍。为了评估苎麻护坎坡式梯地的减蚀效益, 在丰都十直镇采用137 C s示踪法测定了苎麻护坎坡式梯地和相邻坡耕地的侵蚀速率。测定结果表明, 苎麻护坎坡式梯地的侵蚀模数为802. 50 t/ (km2# a), 相邻坡耕地的侵蚀模数为2 299. 70 t/ (km2# a), 减蚀效率达65. 1%。"
【英文摘要】-
【语种】中文
【第一作者】龙翼
【通讯作者】龙翼
【期刊名称、卷期、页码】中国水土保持, 2010, 10:32-33
【论文发表时间】2010-11-11 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】土壤学

【题目】Biological Control Agent for Rice Weeds from Protoplast Fusion between Curvularia lunata and Helminthosporium gramineum
【中文关键词】无
【英文关键词】Biological weed control, efficacy, weeds in rice.
【中文摘要】无
【英文摘要】The advancement of biological weed control is limited by the slow development of effective, broader-spectrum biologicalcontrol agents. Protoplast fusion was carried out between the Helminthosporium gramineum subsp. echinochloae (HGE)strain, HM1, and Curvularia lunata (CL) to breed new strains with improved biocontrol efficiency. The HM1 strain wasderived from HGE by ultraviolet (UV) treatment. Conditions for protoplast fusion were optimized, including lytic enzymemixtures and incubation time. The efficacy of lytic enzyme mixtures on cell wall digestion was also compared. The mosteffective lytic enzyme mixture for CL was 2% lywallzyme plus 2% snailase and for HM1, 2% cellulase plus 2% snailase.The optimum incubation time was 16 h for CL and 24 h for HM1. All fusant strains exhibited similar morphological andconidial properties to the HM1 parent. A total of 1,360 fusant strains were produced, 136 of which were randomly selectedfor characterization. Seven fusant strains showed improved spore productivity and four fusant strains had increasedproduction of the phytotoxin ophiobolin A, compared with HM1. Random amplified polymorphic DNA (RAPD)analysis of the fusant strains showed that the seven phytoactive fusant strains had a high similarity index (95 to 99%) to theparent HM1, but low similarity (22 to 26%) to the parent CL. Ethyl acetate extract of the culture broth and myceliaeffectively controlled major weeds in rice production.
【语种】英文
【第一作者】张正波
【通讯作者】余柳青
【期刊名称、卷期、页码】Weed Science 2007, 55(6):603-609
【论文发表时间】2007-08-02 00:00:00
【引文索引类型】SCI
【引文索引号】DOI: 10.1614/WS-07-061.1

【学科分类】植物保护学

【题目】重庆四面山不同林地土壤团聚体特征
【中文关键词】四面山; 土壤团聚体; 分形维数; 团聚体稳定性指数
【英文关键词】Simian Mo untains; soil agg regate; f ractal dimensio n; so il agg reg ate stability index
【中文摘要】"通过对重庆四面山毛竹林、柳杉林、槲栎林和川柯林4 种不同林地土壤团聚体的测定, 运用分形理论对研究林地土壤的团聚体分形维数进行分析, 结果表明4 种林地土壤水稳性团聚体的分形维数(湿筛) 均在2. 670~2. 882 之间, 其中川柯林地0- 20 cm 土壤层的分形维数最小, 毛竹林土壤40- 60 cm 层分形维数最大; 土壤团聚体的分形维数(干筛) 均在2. 514~ 2. 683 之间, 且槲栎林土壤40- 60 cm 层的分形维数最小, 毛竹林土壤40- 60cm 层分形维数最大。通过建立团聚体和水稳性团聚体之间的转移矩阵, 用不同径级的保存机率计算出团聚体的稳定性指数, 结果表明3~ 1 mm, 1~ 0. 5 mm 粒径级土壤团聚体的保存机率较大, 不易遭到破坏; > 10 mm, 0. 5~0. 25 mm 粒径级团聚体的保存机率较小, 容易遭到破坏。通过计算4 种林地土壤不同深度团聚体稳定性指数平均值发现, 川柯林土壤的稳定性指数最高(3. 26) , 其次为槲栎林土壤(3. 03) 、柳杉林土壤(2. 71) 和毛竹林土壤(2. 69) , 说明川柯和槲栎两种阔叶林有利于土壤团聚体的稳定。"
【英文摘要】"T hr ough soil ag gregates determinat ion in 4 different fo rest lands of Phy l lostachy s heter ocy cla cv.p ubescens, Cr y p tomer ia f or tunei , Quer cus al iena and L i thocar p us f angi i in Simian Mountains inChong qing , w e used f ractal theo ry to calculate the f ractal dimension of so il agg reg ate st ructur e in the researchedforest lands. The result s show ed that the fractal dimension of soil ag gregate st ructure under the w etsieving condit ions in the fo ur kinds o f forest lands soil w as betw een 2. 670~ 2. 882, in w hich the fractal dimensionof the 0- 20 cm lay er of L i thocar p us f angi i fo rest land so il w as the smallest and the 40- 60 cm layer o fPhy llostachy s heterocy cla cv . p ubescens for est land so il w as the larg est ; T he fr actal dimension o f soil ag gregate st ructure under the w et sieving conditions w as betw een 2. 514~ 2. 683, in w hich the fractal dimensio n o fthe 40- 60 cm layer of Quer cus ali ena soil w as the smallest and the fractal dimension of the 40- 60 cm layerof P hy l lostachy s het er ocy cla cv. p ubescens forest land soil w as the larg est; Perfo rmance under co nditions o fw et siev ing sug gested that the hig her of the> 0. 25 mm aggr eg ate content , the smal ler of the fr actal dimension.T hrough the establishment of the t ransit io n mat rix betw een dry siev ing result s and w et siev ing result sand co nser ving-probability of each size ag greg ate, w e calculated the soil ag gregate stability index. T he resultsshow ed that the soil agg regates w ith 3~ 1 mm and 1~ 0. 5 mm in size had a hig her stability, w hile thosew ith > 10 mm and 0. 5~ 0. 25 mm in size w ere in adverse. By calculat ing the av erag e of soil ag gr eg ate stabil-ity index at dif ferent depths o f the four kinds of forest land soil, w e found that the soil agg regate stability indexin L i thocarp us f angi i for est land so il w as the highest (3. 26) , and follow ed by Quercus al i ena forestlandsoil (3. 03) , Cry p tomer ia f ortunei forest land so il(2. 71) , and Phy llostachy s het erocy cla cv. p ubescens for-estland soil (2. 69) , w hich indicated that both L i thocar p us f angi i and Quer cus al iena forest lands w ere conduciveto the stability of soil ag greg ates."
【语种】中文
【第一作者】吕文星
【通讯作者】张洪江
【期刊名称、卷期、页码】水土保持学报,2010,24(4):192-197,202
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【学科分类】土壤学

【题目】压砂地专用播种机的设计与研究
【中文关键词】硒砂瓜; 翻转式挖坑器; 气吸式播种器
【英文关键词】sand selenium melon; flip-digging device; air-suction planter
【中文摘要】介绍了一种自主研发新型压砂地专用精密播种机,阐述了该机的工作原理、主要结构、特点和关键技术。其使用可以从根本上改变我国硒砂瓜的播种现状,具有机械化程度高、劳动强度低、播种均匀准确的特点。实际使用效果表明,其完全适合于硒砂瓜或其它作物的单粒点播,大大提高了种植效率,具有很高的使用价值。 更多还原
【英文摘要】It introduces a new type of independent R & D gravel land to dedicated panter,describes the main structure,key features and technologies.It can be used to fundamentally change China ’ s sand selenium melon of the status quo,with a high degree of mechanization,low labor intensity,uniform planting accurate.Through the use of on-site practical effect,entirely suitable for sand selenium melon crops or other single-grain-on-demand,greatly enhanced the efficiency of cultivation.

【语种】中文
【第一作者】李明滨
【通讯作者】姚国龙
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【学科分类】机械设计

【题目】不同类型植物篱对长江上游坡耕地土壤养分含量及坡面分布的影响
【中文关键词】:植物篱;土壤养分;土壤颗粒组成;平面分布
【英文关键词】hedgerow intercropping; soil nutrients; soil particle fraction; horizontal distribution
【中文摘要】":在调查分析长江上游现有坡耕地植物篱的配置方式、生长状况和室内分析植物篱-坡耕地系统中土壤养分含量和颗粒组成的基础上,对3 种坡耕地-植物篱系统中土壤养分含量及其分布特征进行了研究,结果表明:在坡耕地-植物篱系统中,植物篱能显著改善和提高植物篱带内表层土壤的养分含量,不同植物篱带内土壤有机质、全氮、水解氮、全磷、速效磷、全钾、速效钾平均质量分数比带间坡耕地土壤分别提高了59.1%、83.5%、56.2%、83.3%、149.6%、14.0%、153.1%,植物篱带内土壤阳离子交换量比带间坡耕地土壤提高了21.6%。植物篱带内比带间坡耕地土壤沙粒质量分数减小了9.4%,粘粒质量分数增加了21.6%,在植物篱系统中土壤粘粒质量分数与土壤养分含量在3 种植物篱系统内表现出一致的规律性,自篱间坡耕地至植物篱带呈增加的趋势,至植物篱带下土壤粘粒和土壤养分含量减小。"
【英文摘要】"To achieve well understanding of the effects on soil nutrients concentration and its distribution on steep land by hedgerowintercroppings, the paper on the basis of investigation of the current hedgerow configuration and growth status in the upper reachesarea of Yangtze River, soil nutrients and particle fraction of soil sampled from hedgerow systems were tested. The result showed that,(1) soil nutrients under the hedgerows were significantly improved and augmented by hedgerows. The mean value of soil organicmatter, total and exchangeable nitrogen, total and exchangeable phosphorus, total and exchangeable potassium of soil underhedgerows of different species were increased by 59.1%,83.5%,56.2%,83.3%,149.6%,14.0% and 153.1%, cation exchangeablecapacity by 21.6%. With soil between hedgerows, sand content became higher (by 9.4%) than soil under hedgerows, while claycontent became higher under the hedgerow (by 21.6). (2) Soil clay content under and before hedgerows were higher than betweenand after hedgerows. Distribution of soil organic matter and soil nutrients showed the same regularity as the soil clay particles."
【语种】中文
【第一作者】黎建强
【通讯作者】张洪江
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【学科分类】土壤学

【题目】三峡库区循环农业及流域水土保持综合治理模式研究
【中文关键词】循环农业; 水土保持; 小流域综合治理; 可持续发展; 三峡库区
【英文关键词】the Three Gorges Rese rvo ir a rea; circu lating ag ricu lture; integrated treatm ent o f sma ll w atersheds; susta inable deve lopm ent
【中文摘要】"针对长江上游三峡库区人口密集、坡耕地集中、农业开发活动剧烈且经济基础差的现实, 分析了库区典型的循环农业生产模式, 并从加强水源地的保护及控制农业水土流失和面源污染角度出发, 构建了库区小流域水土保持综合整治体系。通过建立农) 沼) 畜复合生态系统、水) 沼) 畜) 农复合生态系统等循环经济模式、小流域水土保持多层分级生态防护系统, 保证清洁水源入库, 实现三峡库区生态环境的可持续维护。"
【英文摘要】"The paper ana lyzes the production m ode of typical c ircu lating agr iculture o f the theThree Go rges Rese rvo ir area by tak ing in to cons ide rationthe rea lities o f dense popu lation, concentra ted sloped land, severe ag ricu ltura l deve lopm ent ac tiv ities and poo r econom ic founda tion ofthe reservo ir area loca ted in the upperYang tze R iver and estab lishes integrated trea tm ent system o f so il and wa ter conserv ation o f sm a llw ate rshedso f the reservo ir area from the v iew po ints o f streng thening wa ter source pro tection and contro lling so il and w ater loss and area- source po-llu tion o f agr iculture. It guarantees clear inflow and

protects the susta inab le developm ent o f eco- env ironm ent o f the reservo ir area through theestablishments of c irculating econom icmodes of com pound eco-system of agr iculture- b iogas- liv estock and compound eco- system of wa terbiogas- livestock- agr iculture and m ult-i layer graded eco log ical pro tection system for so il and wa ter conservation of sm a ll wa tersheds."
【语种】中文
【第一作者】周萍
【通讯作者】周萍
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【学科分类】土壤学

【题目】长江上游陡坡耕地“ 大横坡+小顺坡 ”耕作模式
【中文关键词】/ 大横坡+ 小顺坡0; 坡耕地; 耕作模式; 长江上游
【英文关键词】-
【中文摘要】"长江上游量大面广的陡坡耕地, 既是当地农民赖以生存的基础, 也是区域粮食自给和国家粮食安全保障的重要补充。长期以来, 长江上游坡耕地耕作粗放, 土地产出率与劳动生产率低下, 抵御干旱与洪涝等自然灾害的能力不强,水土流失严重。基于对当地农民现有耕作习惯的调查, 介绍了/ 大横坡+ 小顺坡0耕作模式的结构, 并对该模式具体的功能进行了论述, 同时针对小顺坡坡长随意的问题提出了改进方案。"
【英文摘要】-
【语种】中文
【第一作者】严冬春
【通讯作者】严冬春
【期刊名称、卷期、页码】中国水土保持, 2010, 10:8-9
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【学科分类】土壤学

【题目】川中紫色丘陵坡耕地细沟发生临界坡长及其控制探讨
【中文关键词】细沟; 临界坡长; 紫色土; 坡耕地
【英文关键词】rill; crit ical slope leng th; purple soil; cultivated land
【中文摘要】"细沟侵蚀是坡面土壤侵蚀的主要形式之一, 是介于片状侵蚀与沟道侵蚀之间的一种侵蚀类型, 细沟一旦发生, 坡面侵蚀量将成倍增加。由于细沟侵蚀的发生需要一定的坡长来汇集径流, 对于某一坡度的地块, 一次暴雨中细沟总是表现在一定的坡长处发生, 这一坡长称为细沟发生的临界坡长。在细沟发生的临界坡长处采取措施控制细沟的发生将大大降低坡耕地水土流失量。通过人工降雨试验发现: 细沟发生过程分为片蚀为主阶段、跌坎发育阶段、细沟侵蚀为主阶段和雨后径流侵蚀阶段, 紫色土坡耕地细沟的发生以坡面跌坎的贯穿为标志; 10b、1 5b、20b、2 5b 坡耕地细沟发生的平均临界坡长分别为6. 25, 4. 19, 2. 77, 1. 60 m; 细沟发生临界坡长与坡度呈二次抛物线关系。在人工降雨试验基础上, 总结了以控制细沟发生为核心的/ 大横坡+ 小顺坡0 耕作模式, 通过构建横坡截流沟分割地块, 实施有效的拦截径流, 减少坡面侵蚀泥沙。"
【英文摘要】"Ril l ero sion is one of the main formats in slope erosio n, o f w hich is one special erosio n sty le betw eensheet ero sion and gully ero sion. T he r ate of soil erosio n w o uld be double incr eased, once rill er osion too kplace. There is a crit ical length about one v ested slope because the rill erosio n occurrence needs a certainleng th to inf lux runof f . If ther e w ere some measures to cut the length o f slo pe, fo r av oiding rill ero sion o ccurrence the amount of so il ero sion w ould be decreased sig nif icant ly . According to the art if icial rainfall measures,the result displayed that the drop sil l w as run thro ug h means rill occurrence, and there w as an abruptchang e abo ut the sediment co ncent rat io n of runo ff w hen the rill took place. T here w as a relat ionship o f quadrat ic parabola betw een crit ical slope length of rill and slope grade, and the mean critical slo pe leng th on purplecultiv ated land o f slope gradient 10b, 15b, 20b, 25b w ere 6. 25 m, 4. 19 m, 2. 77 m and 1. 60 m, respect ively.For the sake o f avo iding rill o ccurrence, w e designed a new cultivat ion mo de, named -big cross slope andsmall along slope. , w hich w as to cut the slope length by ridge and hedgerow for decreasing sediment and reducingslope gradient thr ough lo ng t ime scale nature erosion."

【语种】中文
【第一作者】严冬春
【通讯作者】文安邦
【期刊名称、卷期、页码】水土保持研究,2010,17(6):1-4
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【学科分类】土壤学

【题目】三峡库区紫色土坡耕地细沟发生的临界坡长
【中文关键词】细沟侵蚀;临界坡长;坡耕地;紫色土;三峡库区
【英文关键词】:rillerosion;criticalslopelength;slopecultivatedland;purplesoil;Threegorgesreservoirarea
【中文摘要】":采用人工暴雨试验发现:相同土壤含水量条件下,10°,15°,20°,25°紫色土小区在130mm/h雨强降雨下细沟发生的临界坡长平均值分别为6.13,4.12,2.72,1.55m,细沟发生的临界坡长与坡度呈二次抛物线关系:LR =0.0084J2-0.59J+11.24;土壤含水量变幅为16% ~26%条件下细沟发生临界坡长先增长后变短。据此总结了采用地埂防治坡耕地细沟侵蚀的治理模式,针对不同坡度地块细沟发生的临界坡长,采用地埂或者分割地块,并在地埂上种植经济效益高的植物篱,既控制了细沟的发生,又弥补了地埂占地导致的农业减产;同时在旱季和雨季分别调整边沟的尺寸,调整地块土壤含水量从而控制细沟因含水量变化导致的细沟发生临界坡长缩短。"
【英文摘要】
"Rillerosionisoneofthemainformofslopeerosion,whichisbetweensheeterosionandgullyerosion.Oncerillerosiontookplace,therateofsoilerosionwouldbedoubleincreased.Itisimportant,throughInvestiga tingthecriticalslopelengthofrilloccurredindifferentslopecultivatedlandundertorrentialrain,todirectthepre ventionofrill,reducesedimentandpreservethewaterandsoil.Utilizingartificialrainfalltestsshowedthat,underthesamesoilmoisturecontentandina130mm/htorrentialrain,themeancriticalslopelengthonpurplecultivatedlandofslopegradient10°、15°、20°、
25° were6.13m,4.12m,2.72m,1.55m,respectively.Therewasaqua traticparabolarelationshipbetweencriticalslopelengthofrill(LR)andslopegrade(J):LR=0.0084J2-0.59J+11.24.Whenthecontentofsoilwatervariedfrom16%
to26%,thecriticallengthincreasedfirstlyandthende creased.Forthesakeofavoidingrillerosionoccurrence,wedesignedanewcultivatemode,named “ ridge&planthedge ” ,whichwastocuttheslopelengthbyridgeandhedgerow,ononehandtodecreasesediment,ontheotherhandtoregulatecontentofsoilwater"
【语种】中文
【第一作者】严冬春
【通讯作者】文安邦
【期刊名称、卷期、页码】长江科学院院报,2010,27(11):58-61
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【学科分类】土壤学

【题目】Molecular analysis of introgression lines from Cucumis hystrix to Cucumis sativus.
【中文关键词】无
【英文关键词】Cucumber; Introgression; SSR; AFLP
【中文摘要】无
【英文摘要】Two stable introgression lines (ILs), IL56 and IL73 with fourteen chromosomes, derived from a cross between the wild relative Cucumis hystrix Chakr. (2n = 24) and the cultivated cucumber "beijingjietou" (Cucumis sativus L, 2n = 14) were characterized using SSR and AFLP markers. Twenty-three SSR primers were used to detect the introgression from C hystrix to C sativus, and one locus at 210 bp was revealed and assigned to introgressive fragment of C hystrix genome in IL56. Substantial genomic changes in these two lines were detected by AFLP analysis with thirty different primer combinations. C. hystrix-specific bands, novel bands for the two parents and deleted bands in C sativus were observed. One hundred and forty-seven polymorphic bands were observed, but only four and five introgressed bands were found in IL56 and IL73, respectively. Although representing only a small proportion of the C hystrix genome, these two introgression lines with downy mildew and fusarium wilt resistance will be valuable to resistant genetics and

breeding. (c) 2008 Elsevier B.V. All rights reserved.
【语种】英文
【第一作者】周晓慧
【通讯作者】陈劲枫
【期刊名称、卷期、页码】Scientia Horticulturae
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【学科分类】园艺学

【题目】Molecular Isolation of the M Gene Suggests That a Conserved-Residue Conversion Induces the Formation of Bisexual Flowers in Cucumber Plants
【中文关键词】无
【英文关键词】1-AMINOCYCLOPROPANE-1-CARBOXYLATE SYNTHASE GENE; SATIVUS L.; SEX EXPRESSION; ETHYLENE BIOSYNTHESIS; M-LOCUS; CS-ACS2; FEMALENESS; SEQUENCE; CLONING; FAMILY
【中文摘要】无
【英文摘要】Sex determination in plants involves a variety of mechanisms. Here, we report the map-based cloning and characterization of the unisexual-flower-controlling gene M. M was identified as a previously characterized putative 1-aminocyclopropane-1-carboxylic acid synthase gene, while the mallele that mutated at a conserved site (Gly33Cys) lost activity in the original enzymatically active allele.
【语种】英文
【第一作者】李征
【通讯作者】蔡润
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【学科分类】园艺学

【题目】An AFLP marker linked to turnip mosaic virus resistance gene in pak-choi
【中文关键词】无
【英文关键词】Pak-choi; TuMV resistance; AFLP; BSA
【中文摘要】无
【英文摘要】Pak-choi is one of the most important vegetable crops in China. Turnip mosaic virus (TuMV) is one of its main pathogen. Screening the molecular marker linked to the TuMV resistance gene is an efficient method to improve pak-choi breeding. In this paper, a dominant gene, TuRBCH01, has been mapped. 180 F(2) individuals were inoculated with TuMV-C5 and tested by direct ELISA. The 3: 1 ratio of F(2) hybrids segregation proved a single dominant allele for TuMV resistance. Amplified fragment length polymorphism (AFLP) technique and bulked segregant analysis (BSA) method were used to study the F(2) population. An AFLP marker (EccMctt3) linked to TuMV resistance gene with 7.8cM map distance was identified.
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【题目】Cytological studies on microsporogenesis and male gametophyte development in autotriploid cucumber (Cucumis sativus L.); implication for fertility and trisomic.

【中文关键词】无
【英文关键词】Cucumis sativus L.; Meiosis; Chromosome configuration; Trisomy
【中文摘要】无
【英文摘要】To understand the correlation between chromosomes behavior and fertility in autotriploid cucumber (Cucumis sativus L.), microsporogenesis in pollen mother cells (PMCs) and male gametophyte development were studied using improved staining and chromosome preparation techniques. Meanwhile, for more efficient selection of trisomics from the progeny of autotriploid-diploid crosses, fertilization rates of ovules from reciprocal crosses were counted to observe the transfer rate of gametes in the autotriploid cucumber. Variable chromosome configurations, e.g. multivalents, quadrivalents, trivalents, bivalents and univalents were observed in the most PMCs of the autotriploids at metaphase I. Chromosome lagging and bridges at anaphase in both meiotic divisions resulted from irregular chromosome separation and asynchronization was frequently observed as well, which led to formation of micronuclei and inviable gametes. The frequency of normal PMCs in autotriploids at the stage of tetrad was only 40.6%. Among those normal microspores, most of them (91.2%) could develop into normal gametophytes with 2 cells and 3 germ pores. Stainability and germination rate of pollen grains were only 18.8 and 13.5%, respectively. However, chromosomes separated to form gametes with 8 chromosomes at anaphase I, suggesting a possible method for the production of primary trisomics from the progeny of autotriploid-diploid crosses. Fruit set of 3n x 2n and 2n x 3n were 80 and 70%, respectively. It obtained an average of 6.2 plump seeds per fruit in 3n x 2n, while 4.9 in 2n x 3n crosses. Transfer rates of gametes through the gastrula or the pollen in autotriploids were 13.4 and 10.4%, respectively. Some aneuploid gametes (n + 1 = 8, n + 2 = 9) also have capability of setting seed and sexual reproduction besides normal gametes containing whole chromosome sets (n = 7, 2n = 14). Further, some primary trisomic plants were selected from the progeny of autotriploid-diploid crosses. Based on the results obtained we suggest that abnormal meiosis in PMCs was the cytogenetic reason for low fertility of autotriploid cucumber pollen. 3n x 2n cross was more efficient for selecting primary trisomic plants in cucumber.
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【题目】Expression and sequence variation of the cucumber Por gene in the synthesized allotetraploid Cucumis 3 hytivus
【中文关键词】无
【英文关键词】Allopolyploidy; Cucumis; Protochlorophyllide oxidoreductase; Silencing; Base substitution; Intron retention
【中文摘要】无
【英文摘要】The molecular evolution of the cucumber Por gene in early generations of the synthesized allotetraploid Cucumis x hytivus was investigated. The results from gene expression analysis showed that the cucumber Por gene was silenced in the S(1) generation, and re-activated in the S(2) generation. In the S(3) and S(4) generations, the transcripts remained activated but sequence changes were observed. Further analysis indicated that base substitutions, including two transitions and one transversion, occurred in the S(1) and S(3) generation, respectively, and in the S(3) generation, an intron was found to be retained in the transcript. This indicates allopolyploidy induced rapid silencing and mutation of the cucumber Por gene. Further, gene mutations such as base substitution and intron retention are modes of evolution for duplicated genes in newly formed polyploids.
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【题目】Changes of gene expression in early generations of the synthetic allotetraploid Cucumis hytivus Chen & kirkbride
【中文关键词】无
【英文关键词】Allotetraploid; Cucumis; Evolution; Gene expression
【中文摘要】无
【英文摘要】Changes of gene expression played an important role in the evolution of plant allopolyploids. Frequency, time and type of the changes of gene expression between the first two self-pollinated generations (S(1) and S(2)) of a synthesized allotetraploid Cucumis x hytivus Chen et Kirkbride and in its diploid parents was analyzed with cDNA-AFLP and reverse-Northern blot technique. Sequences similarity of genes involved in changed expression were also analyzed with BLAST package. The results from cDNA-AFLP analysis showed that 36 (3.37%) genes showed silencing (27) or activation (9) in allotetraploids. These changes initiated in S(1) or S(2) generation. The silenced/activated genes included rRNA and protein-coding genes. Further reverse-Northern blot analysis validated the results obtained. Thus four types of changes of gene expression were observed, including silencing of genes from both parents, maternal parent, paternal parent, and genes novel expression. The results indicate rapid changes in gene expression in early generations of C. x hytivus, which contributed to the evolution of this synthetic allotetraploid.
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【题目】A linkage map of pak-choi (Brassica rapa ssp. chinensis) based on AFLP and SSR markers and identification of AFLP markers for resistance to TuMV.
【中文关键词】无
【英文关键词】pak-choi; linkage map; AFLP; SSR; resistance; TuMV
【中文摘要】无
【英文摘要】P>A genetic linkage map for pak-choi, a very important economical and nutritional vegetable crop in Asia, has been constructed using amplified fragment length polymorphism (AFLP) and simple sequence repeat (SSR) markers based on 180 F-2 individuals. It includes 133 AFLP and 74 SSR markers from 57 AFLP and 65 SSR primer combinations, respectively. Fifty SSR markers were previously used to construct a framework map and all AFLP markers and another 24 SSR markers were inserted. The linkage map consists of 10 linkage groups with a total distance of 1123 cM and an average interval of 5.43 cM. Turnip mosaic virus (TuMV) is one of the most important pathogens of pak-choi. TuRBCH01, a TuMV-C-5 resistance gene, was successfully mapped into R6 linkage group in the present genetic linkage map and was positioned between AFLP markers E36M62-3 and E44M48-1.
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【题目】Analysis and evaluation of nutritional quality in Chinese radish(Raphanus sativus L.)
【中文关键词】无
【英文关键词】radish; nutritional facts; comprehensive evaluation; correlation analysis; principal component analysis (PCA)
【中文摘要】无
【英文摘要】Radish (Raphanus sativus L.) is an important vegetable crop worldwide. High nutritional quality was critical in itsgenetic improvement and production. The nutritional quality of 42 Chinese radish cultivars was analyzed in this study.The contents of six nutritional facts, dry matter (DM), crude fiber (CF), total soluble sugar (TSS), vitamin C (VC), protein,and nitrate, ranged from 29.7 to

88.2, 4.507 to 18.546, 2.233 to 15.457, 0.1416 to 0.3341, 0.34 to 1.15, and 1.81 to 5.89 g kg-1 freshweight (FW), respectively. Significant differences among the 42 radish cultivars were detected in the contents of nutritionalfacts. The data were subjected to cross-correlation analysis and principal component analysis (PCA). It was found that DMcontent was positively correlated with the content of TSS (r = 0.7104), VC (r = 0.4011) and protein (r = 0.4120). Vitamin C (VC)content of radish showed a positive correlation (r = 0.3300) with the protein content. According to the principal componentanalysis, out of the 42 radish cultivars, Nau-17, Nau-28, Nau-6, Nau-11, Nau-10, Nau-27, and Nau-31 were detected with veryhigh scores in comprehensive evaluation. It could be concluded that abundant diversity of nutritional fact content occurredin different radish genotypes, and PCA analysis was effective for selecting radish germplasm with high quality. The resultscould contribute useful knowledge of nutritional quality, and provide important germplasms for the elite cultivar developmentand the inheritance study of nutritional facts in radish.

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【题目】黄瓜游离小孢子培养诱导成胚与植株再生
【中文关键词】黄瓜、小孢子培养、胚状体、植株再生
【英文关键词】cucumber ; mierospore culture ; embryoid ; plant regeneration
【中文摘要】以10个不同基因型黄瓜为试材进行游离小孢子培养,通过对成胚条件的系统研究,从'7447'和'Poinsett97'中获得了子叶形胚和再生植株.研 究结果表明:基因型和小孢子发育时期是限制黄瓜游离小孢子成胚的关键因子.不同品种间胚状体产量差异显著,每皿产胚1.05~33.4个.单核靠边期是进 行黄瓜游离小孢子培养的最佳时期.低温预处理有利于胚状体的诱导,4℃预处理2~4 d为宜,以处理2 d的胚状体产量最高.外源激素在诱导胚状体时并非必需,但低浓度外源激素(0.5 mg · L-1 2,4-D、0.2 mg · L-1 6-BA)能促进小孢子成胚.NLN和B5两种基础培养基在诱导胚状体上无显著差异.子叶形胚易分化成苗,而其它类型的胚状体未能获得再生植株.
【英文摘要】
Isolated microspore culture in cucumber was studied by using 10 different varieties of cucumber. Cotyledo nary embryoids and plantlets were obtained from ' 7447' and ' Poinsett97' genotypes for the first time. The results showed that genotype and the developmental stage of mierospore were the key factors in embryoid induction. The embryoid yield was different significantly among different genotypes. Embryoid yi eld per culture dish varied from 1.5 - 33.4. The late-
uninueleate stage of mierospore was found optimum for isolated mierospore culture in cucumber. Cold-pretreatment (4℃) for 2 -
4 days also promoted embryoid induction, while the highest embryoid yield was obtained form mierospor e pre-
treated at 4 ℃ for 2 days. The results also indicated that low concentration of exogenous hormones (0. 5 mg · L^-1 2, 4-D and 0. 2 mg · L^-1 6-
BA) were conductive to embryogenesis, whereas NLN and B5 medium had no significant difference on e mbryoid induction. The regenerated plantlets were obtained only from cotyledonary embryoids and no plan tlet was produced from the embryoids at other developmental stages.

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【题目】黄瓜无侧枝品系S61的形态解剖学观察及其无侧枝成因分析
【中文关键词】黄瓜; 侧生分生组织; 侧枝; 成花逆转; 形态; 解剖;
【英文关键词】Cucumis sativus L.; axillary meristem; lateral branching; inflorescence reversion; morpha; anatomy;
【中文摘要】在田间发现一个无侧枝表型的黄瓜品系。通过对该品系进行多年的田间观察、形态解剖学观察以及不同温度和光周期的影响试验,发现该品系的无侧枝表型是由于侧生分生组织全部向花芽方向分化所造成的。当温度或光周期提高至一定程度时,该品系能出现花序逆转的现象。将此无侧枝黄瓜品系和有侧枝黄瓜品系的形态解剖学观察结果对比后发现,在黄瓜叶腋部位原基形成的早期阶段,原基是同质的,由遗传和环境共同决定将来的分化方向。
【英文摘要】Lateral branching and inflorescence are important components of plant architecture.Plant usually changes from vegetative growth to reproductive growth.A cucumber line S61 with non-lateral branch phenotype was observed in greenhouse for several years.Both anatomy observation and different growth condition tests had been taken in this study.The results showed that the axillary meristem of line S61 had differentiated to flower buds.Inflorescence reversion could happen in S61 when growth condition changed.Anatomy comparison results between had/non lateral branch cucumber lines proved that at the early steps of development,axillary primordium were all the same,differentiation aspect were determined mainly by inheritance.
【语种】中文
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【题目】萝卜RsSRK-a 基因cDNA克隆与表达特性分析
【中文关键词】萝卜; 自交不亲和性; SRK基因; 克隆; 表达分析
【英文关键词】Raphanus sativus L.; self-incompatibility; SRK gene; cloning; expression analysis;
【中文摘要】以萝卜Nau-DY06为试材,采用亲和指数和荧光显微镜进行自交不亲和性测定,结果表明其为稳定自交不亲和系。根据不同作物SRK基因保守序列设计特异引物,以Nau-DY06柱头为材料,采用RT-PCR扩增获得SRK基因cDNA序列,包含2562bp开放阅读框(ORF),命名为RsSRK-a(GenBank登录号:GQ121139)。该基因cDNA序列编码853个氨基酸,其核苷酸序列与甘蓝型油菜SRK3、羽衣甘蓝SRK13-b基因同源性均为89%。RsSRK-a基因序列编码的蛋白质相对分子质量为96.6×103,等电点为6.69。半定量RT-PCR分析表明,RsSRK-a基因在自交不亲和系花期柱头中表达量远远高于蕾期柱头,而在植株的其他部位均不表达,表明SRK基因与自交不亲和特性表达密切相关。
【英文摘要】The radish self-incompatibility line Nau-DY06 was identified with the compatibility index and the fluorescence microscopy method.An ORF encoding 853 amino acids was amplified by RT-PCR from cDNA of the stigma of Nau-DY06 with the primer derived from the conserved sequences of the SRK genes in different crops.The gene was designated as RsSRK-a (GenBank accession number:GQ121139).Its identity with the SRK3 in Brassica rapa,the SRK13-b in B.oleracea var.acephala,was 89% respectively.The molecular weight of the predicated protein encoded was 96.6 × 103 and its theoretical pI was 6.69.Semi-quantitative RT-PCR analysis showed that expression of the RsSRK-a was detectable in the stigma of two days before anthesis and especially high at anthesis stage.Expression profiling of the RsSRK-a in radish stigma indicated that it might play an important role in the selfincompatibility.The results provide important information for the exploration of the mechanism and utilization of self-incompatibility in radish
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【题目】低温胁迫对3个小白菜OguCMS与保持系生化指标的影响
【中文关键词】小白菜 OguCMS 低温胁迫 生化指标
【英文关键词】Non-heading Chinese cabbage ; OguCMS ; Cold stress ; Biochemical index ;
【中文摘要】以3个小白菜OguCMS与保持系为试材,苗期进行低温处理,对其叶绿素、可溶性糖、可溶性蛋白质和脯氨酸含量及超氧化物歧化酶(SOD)、过氧化物酶(POD)和过氧化氢酶(CAT)活性的变化进行研究。结果表明:不育系的叶绿素、可溶性糖、可溶性蛋白质和脯氨酸含量在处理的各阶段均低于其保持系,SOD、POD和CAT活性则是不育系高于其保持系。随着低温处理时间的延长,不育系和保持系叶绿素和可溶性蛋白质含量一直下降,可溶性糖和脯氨酸含量呈现先上升后下降的趋势;SOD、POD和CAT活性呈现先上升后下降的趋势。不育系和保持系在处理的各个阶段变化的一致性和处理后各生化指标数值差异缩小,表明小白菜OguCMS在苗期遇低温的抗逆能力与保持系很接近
【英文摘要】Three cytoplasmic male sterile lines(CMS)and their maintainer lines of the non-heading Chinese cabbage〔Brassica campestris L.ssp.chinensis(L.)Makino var.communis Tsen et Lee〕.were taken as experimental materials,and the contents of chlorophyll,soluble sugar,soluble protein,proline and changes of the activities of SOD,POD,CAT in leaf were tested during seedling.The results showed that the contents of chlorophyll,soluble sugar,soluble protein,proline in CMS were significant lower than their maintainer,while the activities of three protective enzymes(SOD,POD and CAT)were higher in CMS with the treatment of low temperature stress.The contents of chlorophyll and soluble protein decreased continuously in both CMS and their maintainer;while the contents of soluble sugar,praline and the activities of three protective enzymes(SOD,POD and CAT)at first increased,then decreased under cold-stress.There was consistency in all stages of change between CMS and its maintainer line.And after processing,the differences in physiological and biochemical characteristics reduced.All these facts suggested the resistance of cold stress of non-heading Chinese cabbage OguCMS was greatly improved.
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【题目】甜(辣)椒花药培养胚状体诱导与植株再生.
【中文关键词】甜(辣)椒 花药培养 胚状体 植株再生
【英文关键词】pepper (Capsicum annuum L.) ; anther culture ; embryoid ; plant regeneration ;
【中文摘要】以10份不同基因型甜(辣)椒为试材进行花药培养,通过对基因型、取蕾时期、低温预处理、热激处理、碳源及外源激素浓度配比等因素的研究,建立有效的甜(辣)椒花药培养胚状体发生体系。结果表明:基因型是限制甜(辣)椒花药培养胚状体诱导的关键因素,不同品种间出胚率差异显著,其中品种003出胚率最高,为10.8%;处于盛花期的花蕾最适于甜(辣)椒花药培养;4℃低温预处理1~3d有利于胚状体的诱导,以处理2d的胚状体产率最高;以2%的麦芽糖代替3%的蔗糖能显著提高出胚率和子叶形胚的比率,筛选出适于甜(辣)椒花药培养胚状体诱导的最佳培养基为MS+0.5mg/LNAA+1.0mg/LKT+2%麦芽糖,能有效地提高出胚率并促进植株再生;获得了6个基因型的子叶形胚和再生植株。
【英文摘要】Ten varieties of pepper were used to study the effects of genotype, flower buds harvest time,eold-pretreatment, hot-shock treatment, carbon source and combination of hormones on the anther culture in Capsicum annuum L. Through these tests, an effective system of embryoid production was established. Cotyledonary embryoids and plantlets were obtained from six genotypes. The results showed that genotype was the key factor in embryoid induction. The embryoid formation frequency was different significantly among different genotypes. The variety 003 had the highest embryoid formation frequency which was 10.8%. The flower buds at full-bloom stage were found to optimum for anther culture in pepper. Coldpretreatment (4 ℃) for 1-3 d also promoted embryoid induction,while the highest embryoid formation frequency was obtained from anther pretreated at 4 ℃ for 2 d . Embryoid and eotyledonary embryoid formation frequency could be more re-markably improved by 2% maltose than 3% sucrose. The optimal culture medium whieh could effectively improve embryoid and regenerated plantlets formation was MS + 0. 5 mg/L NAA + 1.0 mg/L KT + 2% maltose.
【语种】中文

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【题目】辣椒AFLP技术体系的建立与优化.
【中文关键词】辣椒; AFLP; 优化
【英文关键词】Pepper; AFLP; Optimization;
【中文摘要】以辣椒细胞质雄性不育系21A及其相应的保持系21B为材料,通过对影响辣椒AFLP技术体系的若干关键因素,如提取DNA的方法、酶切与连接、预扩增和选择性扩增以及电泳和染色条件等的研究,建立了经优化的适合于辣椒的AFLP分子标记技术体系。采用该体系,对辣椒进行AFLP分析,能够得到清晰稳定的分子标记图谱,为今后利用AFLP技术进行辣椒细胞质雄性不育基因的定位奠定了技术基础。
【英文摘要】An optimized AFLP technological system was established with pepper cytoplasmic male sterile line "21A" and its corresponding maintainer "21B" by optimizing several main factors affecting the results of AFLP fingerprints,which included the method of genomic DNA extraction,enzyme digestion and ligation,pre-amplification and selective-amplification,electrophoresis,dyeing conditions etc.By mean of this optimized system,a clear and credible AFLP fingerprint could be obtained for gene location of pepper cytoplasmic male sterility.
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【题目】辣椒抗黄瓜花叶病毒(CMV)基因的ISSR标记
【中文关键词】辣椒 黄瓜花叶病毒 ISSR标记 遗传距离
【英文关键词】Hot pepper (Capicum onnuum L.), CMV, ISSR marker, Genetic distance ;
【中文摘要】辣椒(Capicum annuum L.)抗黄瓜花叶病毒(CMV)一直是辣椒育种的主攻目标之一。本研究以辣椒抗CMV品种VC16a和感CMV品种SS69杂交的F2群体60个单株材料,通过人工接种鉴定,采用高抗单株和高感单株分别构建抗、感基因池,利用BSA法筛选了40条ISSR引物,其中引物I-34在抗感病池中扩增出450bp多态性片段,通过F2单株验证后证明I-34450与抗CMV基因紧密连锁,其遗传距离为27.3cM,为辣椒抗CMV分子标记辅助育种奠定了基础。
【英文摘要】Resistance to cucumber mosaic virus (CMV) is an important objective in pepper breeding program. ISSR analysis was conducted using BSA (bulked segregant analysis) of a segregating F2 population which has 60 individuals from a cross between VC 16a (resistant) and SS69 (susceptible). After performing in ISSR-PCR analysis with 40 primers and PAGE, only one ISSR marker I-34450 was identified to be linked to the resistant gene and was determined to be 27.3 cM from the resistant gene. In present research it would provide the basis for the resistant to CMV gene tagging in modem pepper breeding.
【语种】中文
【第一作者】王述彬
【通讯作者】王述彬
【期刊名称、卷期、页码】分子植物育种
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【引文索引号】无
【学科分类】园艺学

【题目】普通丝瓜与有棱丝瓜的种间杂交亲和性研究
【中文关键词】种间杂交 有胚率 发芽势 发芽率
【英文关键词】无
【中文摘要】选用有棱丝瓜(Luffa acutangula Roxb.)2个高代自交系和普通丝瓜(Luffa cylindrica Roem.)4个高代自交系按完全双列杂交设计得到30份杂交组合,对F1有胚率和发芽性状进行方差分析和差异比较。结果表明,有棱丝瓜与普通丝瓜种间杂交亲和性较高,个别组合亲和性较低;种间杂交组合的种子活力高于种内杂交组合,苗期长势明显强于普通丝瓜亲本,不存在生理不协调。
【英文摘要】无
【语种】中文
【第一作者】谭云峰
【通讯作者】袁希汉
【期刊名称、卷期、页码】江苏农业科学
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【学科分类】园艺学

【题目】丝瓜病毒病分级标准和种质抗性鉴定的研究
【中文关键词】丝瓜 病毒病 病情指数 抗病等级 种质 鉴定
【英文关键词】无
【中文摘要】通过对丝瓜病毒病的发病率、病情分级和病情指数的研究,根据抗病等级,对112份丝瓜种质材料的抗性状况进行了鉴定、评价和筛选,并探讨了丝瓜种质病毒病抗性与丝瓜熟性、原产地、果形、植株长势及叶色的关系。结果表明:8份材料表现免疫、49份材料表现高抗、34份材料表现抗病、17份材料表现耐病、4份材料表现感病,大部分材料(91份)对病毒病的抗性在抗病级别以上。早、中熟的品种整体抗病性稍好,晚熟品种稍差;表现免疫的品种均分布在长江流域;品种的果形和叶色与病毒病抗性的关系不明显;植株的长势与病毒病抗性强弱有关,往往长势旺的品种病毒病抗性也强。
【英文摘要】无
【语种】中文
【第一作者】苏小俊
【通讯作者】袁希汉
【期刊名称、卷期、页码】江苏农业科学
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【学科分类】园艺学

【题目】低温贮藏对丝瓜花粉省活力和结实的影响
【中文关键词】有棱丝瓜 普通丝瓜 冷藏花粉 花粉活力 结实率 单瓜结籽数 生殖隔离 母体效应 冷藏处理 杂交组合
【英文关键词】无
【中文摘要】冷藏处理没有降低有棱丝瓜和普通丝瓜的花粉活力,对种间杂交授粉的结实率和单瓜结籽数也没有趋势性的影响。有棱丝瓜和普通丝瓜种间正反交F1间没有生殖隔离现象,一般来说,以有棱丝瓜为母本的单瓜结籽数略多。种内和种间杂交组合结实率的差异可能与母本植株长势弱、不易坐果有关。特定杂交组合的结实率偏低,可能与柱头和花粉的亲和性有关。种内杂交有棱丝瓜做母本的单瓜结籽数明显比普通丝瓜做母本的少。普通丝瓜的单瓜结籽数在F0代有正向优势;普通丝瓜种内杂种的单瓜结籽数、种子产量有母体效应。
【英文摘要】无
【语种】中文
【第一作者】苏小俊
【通讯作者】袁希汉
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【引文索引号】无
【学科分类】园艺学

【题目】丝瓜DNA的提取与质量鉴定
【中文关键词】丝瓜 基因组DNA CTAB法 DNA质量 分子标记
【英文关键词】无
【中文摘要】探讨了基于CTAB法的丝瓜基因组总DNA提取过程中有关的技术环节及改进方法,并用琼脂糖凝胶电泳、紫外分光光度检测和ISSR分子标记的方法进行鉴定、比较。结果表明:在2%CTAB提取液中加入β-巯基乙醇、PVP等,可提高DNA的纯度;提取的DNA完整性较好,无RNA污染,酚类、色素和蛋白质等杂质都已基本除尽,可用于ISSR等分子标记。
【英文摘要】无
【语种】中文
【第一作者】陈洁
【通讯作者】陈劲枫
【期刊名称、卷期、页码】江苏农业科学
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【引文索引号】无
【学科分类】园艺学

【题目】普通丝瓜雌雄性别分化的特点和表现形式
【中文关键词】普通丝瓜 性别分化 无性节 纯雄节 纯雌节 双性节
【英文关键词】无
【中文摘要】通过对78份普通丝瓜品种30节内的雄、雌花蕾着生状况进行调查,分析了无性节、纯雄节、纯雌节和双性节(同时存在雌雄花蕾)的分布规律。结果表明:普通丝瓜的性别分化比较复杂。无性节一般分布在起始几节,呈现连续或不连续分布,少量品种在高节位还有零星分布;双性节中雌花和雄花有11种组合方式,以多雄+单雌节最常见,在所有丝瓜材料中均有出现;雄花从个体(枚数)存在状态看,有单枚和多枚(又叫总状花序)之分,雄花分布在纯雄节和双性节之中,雄花在纯雄节中存在6种表现形式;早熟材料的有雄节(包括纯雄节和雌、雄节)有24.1节,中熟材料的有雄节有23.6节,晚熟材料的有雄节有21.3节,且熟性越早有雄节数越多;雌花在纯雌节中有4种表现形式,以单雌形式存在最普遍;早熟材料的有雌节(包括纯雌节和双性节)有23节,中熟材料的有雌节有18.7节,晚熟材料的有雌节有13.55节;无性节、纯雄节、纯雌节和双性节的数量与品种来源地、果形、植株长势和叶色均未表现出趋势性差异。
【英文摘要】无
【语种】中文
【第一作者】苏小俊
【通讯作者】袁希汉
【期刊名称、卷期、页码】江苏农业科学
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【引文索引号】无
【学科分类】园艺学

【题目】普通丝瓜与有棱丝瓜亚种间杂交的正反交效应分析
【中文关键词】普通丝瓜 有棱丝瓜 亚种间杂交 正反交效应 杂种优势
【英文关键词】无
【中文摘要】对2个有棱丝瓜品系(有棱丝瓜1号、有棱丝瓜2号)与3个普通丝瓜品系(极早丝瓜、短棒丝瓜、长沙肉丝瓜)配制的12个正反交亚种间杂交组合杂种F1代农艺性状进行分析,结果表明:有棱丝瓜作父本或母本在F1代第一雌花节位和前期产量上表现出显著差异,且不同有棱丝瓜材料对正反交效应影响较大;F1代瓜长、瓜径、单瓜质量表现出较小差异,不同有棱丝瓜材料对正反交效应影响不大。普通丝瓜无论作母本还是父本,与有棱丝瓜1号的杂交F1代第一雌花节位负向杂种优势均大于与有棱丝瓜2号的杂交组合;而杂交F1代的瓜长、瓜径、单瓜质量杂种优势基本上也大于与有棱丝瓜2号杂交

的组合。
【英文摘要】无
【语种】中文
【第一作者】宋波
【通讯作者】陈劲枫
【期刊名称、卷期、页码】江苏农业科学
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【引文索引号】无
【学科分类】园艺学

【题目】不同品种花粉对江蔬一号丝瓜结实率的影响
【中文关键词】江蔬一号丝瓜 品种 结实率 花粉 周年供应 设施栽培 露地栽培 草本植物
【英文关键词】无
【中文摘要】普通丝瓜为葫芦科丝瓜属一年生攀缘性草本植物,原产亚洲南部热带地区,大部分品种以主蔓结瓜为主,以嫩果供食用,瓜肉细腻柔软,味道鲜美,是深受广大消费者喜爱的夏季蔬菜作物之一。随着我国设施园艺产业的迅猛发展,丝瓜从单一露地栽培到露地和规模设施栽培并重发展,从传统夏秋供应到全年上市,形成了周年生产周年供应的局面,在全年蔬菜生产和供应中发挥了越来越重要的作用。
【英文摘要】无
【语种】中文
【第一作者】高军
【通讯作者】袁希汉
【期刊名称、卷期、页码】上海蔬菜
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【引文索引号】无
【学科分类】园艺学

【题目】普通丝瓜结瓜习性的试验
【中文关键词】丝瓜 试验 习性 夏季栽培 抗逆性强 栽培设施 露地栽培 周年供应
【英文关键词】无
【中文摘要】普通丝瓜耐热耐湿,抗逆性强,是我国主要的夏季栽培蔬菜之一,随着栽培设施的改善和栽培技术的提高,已发展为保护地和露地栽培并重,周年生产周年供应。
【英文摘要】无
【语种】中文
【第一作者】苏小俊
【通讯作者】袁希汉
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【引文索引号】无
【学科分类】园艺学

【题目】夏播对普通丝瓜雌雄性别分化的影响
【中文关键词】夏播 普通丝瓜 雌雄性别分化
【英文关键词】无
【中文摘要】观察夏播对普通丝瓜雌雄性别分化的影响。结果表明,夏播增加纯雄节节数,降低雌+雄节。使普通丝瓜的无性化加强,有性化降低。在总体降低有性化的同时,相应使雄性化得到强化、弱化了雌性化。
【英文摘要】无

【语种】中文
【第一作者】苏小俊
【通讯作者】袁希汉
【期刊名称、卷期、页码】浙江农业科学
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【引文索引号】无
【学科分类】园艺学

【题目】丝瓜种质资源亲缘关系的ISSR分析
【中文关键词】丝瓜 种质资源 亲缘关系 ISSR
【英文关键词】luffa(Luffa cylindrical(L.)Roem.) ; germplasm resources ; genetic relationship ; ISSR ;
【中文摘要】利用ISSR标记,对来源于不同地区的丝瓜种质资源的亲缘关系进行了分析。从80个ISSR引物中筛选出多态性强、重复性好的9个引物,对43份丝瓜种质基因组DNA进行扩增,共扩增出60条谱带,平均每个引物扩增出6.67条带,其中多态性带47个,多态性位点百分率为78.3%。丝瓜种质间遗传相似系数变化范围在0.37~0.98之间,暗示了丝瓜栽培种内的遗传基础相对狭窄。利用UPGMA聚类分析,43份丝瓜种质被划分为6个类群,类群的划分与形态学性状较吻合,而且与地理来源也有较高的相关性。
【英文摘要】Phylogenesis of 43 common luffa germplasm from different regions was analyzed with ISSR.9 primers were selected from 80 ISSR primers.60 DNA fragments were amplified from 43 samples and each primer resulted in 6.67 DNA fragments.47 fragments were polymorphic(percentage of polymorphic bands was 78.3%).The value of Nei ′ s genetic similarity(GS)indexes of 43 common luffa germplasm varied from 0.37 to 0.98,suggesting that the genetic diversity among them is short.Cluster analysis with UPGMA method showed that the 43 germplasm could be divided into six groups.The results according to the pedigree relations had connections with morphological traits and regions of germplasm origin.
【语种】中文
【第一作者】苏小俊
【通讯作者】陈劲枫
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【学科分类】园艺学

【题目】普通丝瓜果实性状的遗传分析
【中文关键词】普通丝瓜 遗传 果实性状 主基因+多基因遗传模型 多世代联合分离分析
【英文关键词】luffa ; inheritance ; fruit characters ; mixed major gene plus polygene mixed inheritance model ; joint segregation analysis of multiple generations ;
【中文摘要】应用植物数量性状主基因+多基因混合遗传模型对普通丝瓜品种50—5(黑籽短圆筒)X204(桂林水瓜)杂交组合6个世代群体的5个果实性状(果柄长、果长、果径、果形指数和单果质量)进行了联合分析,结果表明:50-5×20-4组合果柄长的遗传符合2对加性-显性-上位性主基因+加性-显性多基因遗传模型,其B1、B2和F2群体遗传率(主基因+多基因)分别为68.49%、53%和82.07%,环境方差占总表型方差的比例分别是31.50%、29.47%和17.92%;果长遗传符合2对加性-显性-上位性主基因+加性-显性-上位胜多基因遗传模型,其B1、B2和F2群体遗传率(主基因+多基因)分别为68.85%、84.55%和81.68%,环境方差占总表型方差的比例分别是31.15%、15.44%和18.32%;果径遗传符合2对加性-显性-上位性主基因+加性-显性-上位性多基因遗传模型,其B1、B2和F2群体遗传率(主基因+多基因)分别为65.23%,73.06%和73.82%,环境方差占总表型方差的比例分别是34.62%,26.94%和26.13%;果形指数遗传符合2对加性-显性-上位性主基因-加性-显性-上位性多基因遗传模型,其B1、B2和F2群体遗传率(主基因+多基因)分别为65.23%、62.80%和78.89%,环境方差占总表型方差的比例分别是34.76%、3Z19%和21.11%;单果质量遗传符合2对加性-显性-上位性主基因+加性-显性-上位性多基因遗传模型,其B1、B2和F2群体遗传率(主基因+多基因)分别为70.71%、85.35%和89.64%,环境方差占总表型方差的比例分别是29.29%、14.64%和10.36%。果柄长性状的主基因遗传率较小,宜采用个体选择法(基因型选择法),宜在分离晚世代进行选择;果长、果径、果形指数和单果质量性状的主基因遗传率较大,宜采取混合选择法(表型选择法),可在分离早世代进行选择;且宜对5个果实性状进行综合选择。5个果实性状的环境方差占总表型方差的比例均较高,故在育种过程中要尽量采取措施以减少环境影响

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【英文摘要】Inheritance of the five fruit characters (fruit stalk length, fruit length, fruit diameter, fruit shape index and weight of single fruit) for luffa in P1, P2, F1, B1, B2 and F2 from the cross 50-5 (Heiziduanyuantong) × 20-4 (Guilinshuigua) were investigated by the mixed major gene plus polygene mixed inheritance model of quantitative traits. The joint analysis results showed that the fruit stalk length of the cross was controlled by two adding-dominanceepistatic major gene plus adding-dominance polygene model, while the fruit length, fruit diameter, fruit shape index and weight of single fruit of the cross were controlled by two adding-dominance-epistatic major gene plus adding-dominance-epistatic polygene model. In inheritability ratios (major gene + polygene), fruit stalk length in the cross of B1 , B2 and F2 populations were estimated as 68.49%, 70. 53% and 82. 07% respectively, fruit length were 68.85% , 84. 55% and 81.68% respectively, fruit diameter were 65.23%, 73.06% and 73.82% respectively, fruit shape index were 65.23% , 62. 80% and 78. 89% respectively, and weight of single fruit were 70. 71%, 85.35% and 89. 64% respectively. In the ratios of environmental variance to phenotype variance, fruit stalk length in the cross of B1, B2 and F2populations were estimated as 31.50% , 29.47% and 17. 92% respectively, fruit length were 31.15%, 15.44% and 18. 32% respectively, fruit diameter were 34. 62%, 26. 94% and 26. 13% respectively, fruit shape index were 34. 76%, 37.19% and 21.11% respectively, and weight of single fruit were 29. 29%, 14. 64% and 10. 36% respectively. To fruit stalk length, the method of individual selection (genotype selection method) on high separated generations was effective because of its small heritability values, while to fruit length, fruit diameter, fruit shape index and weight of single fruit, the method of mixed selection (phenotype selection method) on young (low) separated generations was effective because of their high heritability values. Systematic consideration on the five fruit characters was better. Because the ratioes of environmental variance to phenotype variance in the five indexes were all high, environmental influence must be reduced in the luffa breeding.
【语种】中文
【第一作者】苏小俊
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【期刊名称、卷期、页码】江苏农业学报
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【学科分类】园艺学

【题目】茂名地区甜椒栽培试验初报
【中文关键词】甜椒 栽培 产量
【英文关键词】sweet pepper ; planting ; yield ;
【中文摘要】2007年在茂名市茂南区鳌头镇林道村进行了不同甜椒品种、不同种植密度、不同栽培方式的多因子正交试验,结果表明:对甜椒产量影响力大小顺序为:品种〉栽培方式〉密度,其中产量较高的品种是中椒5号和福康圆椒;露地栽培、地膜覆盖栽培、地膜+稻草覆盖栽培3种栽培方式的甜椒产量差异不大;在行距为75cm条件下,采用株距21、24、27cm种植的甜椒产量差异也不大。
【英文摘要】Orthogonal design was utilized to determine the effects of combinations of cuhivars, plant density and cultivated form on yield in sweet pepper at Maomin city, Guangdong province in 2007. Results showed the turn of effects was as follow: cuhivars 〉 cultivated form〉 plant density, and the yield of Zhongjiao No.5 and Fukang Yuanjiao were higher than other cuhivars'. In addition, there are not significant difference among the three cultivated forms, including of outerdoor planting, plastic mulch planting and plastic mulch with straw cover planting. Moreover, under the same planting form with 75 cm between-row distance, there are also not remarkable difference among the three cultivated form with 21 cm, 24 cm and 27cm between-tree distance.
【语种】中文
【第一作者】李颖
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【学科分类】园艺学

【题目】辣椒抗疫病遗传与育种的最新研究进展
【中文关键词】辣椒 疫病 抗病性 遗传与育种
【英文关键词】Capsicum (chili, hot, sweet peppers) ; Phytophthora capsici leon ; resistance ; inheritance and breeding ;
【中文摘要】辣椒疫病是由辣椒疫霉菌引起的叶片枯萎、果实腐烂、茎杆出现坏死斑等多种症状的真菌性病害。对国内外辣椒疫病的抗性机制、抗性遗传、抗病育种及分子生物学等方面的研究进展进行了分析,并提出了未来需要研究的问题,同时指出了今后的研究方向。
【英文摘要】Phytophthora capsici Leonian, known as the causal agent of the stem, collar and root rot, is one of the most serious problems limiting the pepper crop in many areas in the world.Recent advances in pepper resistance to P.vapsici, mechanism and inheritance of resistance in pepper, breeding programs for acquiring the resistance in this crop are reviewed in the paper. And the question be needed to study is proposed, at the same time the research direction in the future is put forward.
【语种】中文
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【学科分类】园艺学

【题目】辣椒耐高温高湿灰色关联度分析
【中文关键词】辣椒 耐高温高湿性 生理生化性状 灰色关联度分析
【英文关键词】Hot pepper ; High temperature and air humidity resistance ; Physic-biochemical traits ; Gray correlation analysis ;
【中文摘要】采用灰色关联分析(Graycorrelationanalysis),探讨辣椒生理生化性状与耐高温高湿的关系。对分别处于高温高湿和正常条件下的10个辣椒品种(系)21个生理生化性状耐高温高湿系数进行了分析和评价。依据各品种(系)的加权关联度对参试品种(系)进行了聚类分析,参试品种(系)中极耐高温高湿的品种(系)有I、G二个品种(系)。与耐高温高湿关联度最大的是花青素含量、过氧化氢含量、超氧化物歧化酶活性和脱氢抗坏血酸还原酶活性4个生理生化性状,它们在高温高湿双重逆境胁迫下所受的影响最大,与辣椒耐高温高湿性关系最密切。因而可以选用花青素含量、过氧化氢含量、超氧化物歧化酶活性、脱氢抗坏血酸还原酶活性等生理生化性状进行辣椒耐高温高湿的以性状为基础的选择,以提高选择效率。
【英文摘要】This paper aims at probing the relationship between physic-biochemical traits and the high temperature and air humidity resistance of hot pepper varieties. A total 21 physic-biochemical traits that measured in 10 hot pepper varieties at high temperature and air humidity and control conditions, were analyzed using gray relational grade analysis method. Gray correlation degrees facilitated in identifying the high temperature and air humidity resistance of hot pepper. And the cluster based on the relation degree of 10 hot pepper varieties. Varieties that had the strongest high temperature and air humidity resistance among the 10 hot pepper varieties were I and G. It was concluded that the physicbiochemical traits had the closest relationship with the high temperature and air humidity resistance of hot pepper, and these traits were significantly influenced by high temperature and air humidity stress, thus had the greatest relation degree with the high temperature and air humidity index. So the physicbiochemical traits including leaf flower pigment content, H2O2 content, SOD, DHAR could be used .
【语种】中文
【第一作者】徐小万
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【学科分类】园艺学

【题目】辣椒苗期耐热耐湿鉴定方法研究
【中文关键词】辣椒 苗期 耐热耐湿 鉴定
【英文关键词】hot pepper (Capsicum annuum L.) ; seedling stage ; high temperature and air humidity resistance ; identification ;

【中文摘要】以辣椒各生理指标的耐逆系数为衡量辣椒单项耐逆能力大小的指标,用聚类分析法、主成分分析法、隶属函数法对辣椒不同品种(系)耐热耐湿性予以综合评价。综合评价的结果,将10个供试品种(系)按耐热耐湿由强到弱划分为4级:高度耐热耐湿(I)、中度耐热耐湿(G、J、W、H)、不耐热耐湿(C、E、F、K)和极不耐热耐湿(D)。几种关于辣椒品种(系)耐热耐湿综合评价的方法具有较好的一致性,同时利用耐热耐湿性的综合评价值与单项指标间建立的最优回归方程可以预测其他辣椒品种(系)耐热耐湿性大小。

【英文摘要】The high temperature and air humidity resistance coefficient of single character were used to value the single capability of high temperature and air humidity resistance of hot peper(Capsicum annuum L.), and the methods of cluster analysis, principal component analysis and subordinate function were used in comprehensive evaluation for high temperature and air humidity resistance of hot pepper varieties at the seedling stage. On the basis of correlation analysis between the high temperature and air humidity resistance obtained from the above components in varieties, the 10 tested varieties could be divided into four classes of tolerance:most tolerant variety was I, followed by G, J, W, H. Less tolerant were C, E, F, K. The rest variety was not tolerant at all. The results showed that the above comprehensive evaluation methods for high temperature and air humidity resistance of hot pepper varieties at the seedling stage were well coincident. At the same time, the evaluation of high temperature and air humidity resistance could be forecasted by using the best regressive function that was founded by the comprehensive value of high temperature and air humidity resistance and the value of single index.

【语种】中文

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【学科分类】园艺学

【题目】辣椒分子育种研究进展

【中文关键词】辣椒 分子育种 分子标记辅助育种 转基因育种 分子设计育种

【英文关键词】Capsicum annuum ; Molecular breeding ; Marker-assisted breeding ; Transgenic breeding ; Breeding by molecular design ;

【中文摘要】综述辣椒分子标记育种、转基因育种等方面的主要研究进展,并阐明辣椒分子育种正朝着遗传图谱信息多元化、分子育种技术高效化、分子育种理论系统化的方向发展。

【英文摘要】The main research progresses on the marker-assisted selection breeding and transgenic breeding of Capsicum annuum were reviewed. The developing trends of Capsicum annum molecular breeding will be multi-informational and will integrate a genetic map, high efficiency of molecular breeding technique and systematics of molecular breeding theory.

【语种】中文

【第一作者】徐小万

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【学科分类】园艺学

【题目】多变量统计方法及其在农作物环境胁迫研究中的应用

【中文关键词】多变量统计分析 农作物 环境胁迫 应用

【英文关键词】multivariate statistical analysis, crops, environment stress, application

【中文摘要】干旱、湿涝、高低温、盐渍等环境条件严重限制植物的生长发育和影响农作物产量。通过多变量统计分析,以主成分分析、因子分析、聚类分析、多重回归分析、隶属函数分析、灰色关联度分析、层次分析、多维空间坐标分析等方法为手段可筛选抗性强的品种,确定农作物抗逆鉴定的最佳时期及鉴定指标。目前多变量统计分析在农作物逆境抗性研究中得到广泛应用和发展,现已成为农作物抗逆鉴定的一个重要工具。

【英文摘要】Environmental conditions including drought, waterlogging, high temperature, low temperature and salt limited the growth and development of plants and the production of crops. Application of multiple statistical analysis will play a foundation for selecting new varieties of crops with strong tolerance and determinating identification stage and evaluation indexes for evaluating stress tolerance in crop by means of principal component analysis, factor analysis, clustering analysis, multiple regression analysis, subordinate function analysis, hierarchy process analysis, multiple dimension space analysis, etc. Multivariate statistical analysis is widely used in the identification of crops stress tolerance, and it has become an important tool and plays a principal role in this field.
【语种】中文
【第一作者】徐小万
【通讯作者】王恒明
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【学科分类】园艺学

【题目】小果型番茄花药愈伤组织诱导因素的研究
【中文关键词】以5个小果型番茄F1代为材料,研究了不同基因型、低温预处理时间、蔗糖浓度、激素配比以及培养条件对花药愈伤组织诱导的影响。结果表明:5个基因型的花药愈伤诱导能力有明显的差异,以XF98-7×奇斯曼尼的出愈率最高,达到33.46%;4℃低温预处理2d对愈伤组织的诱导有显著的促进作用;最适愈伤诱导培养基是MS+0.5mg·L-1NAA+1mg·L-1KT+40g·L-1蔗糖;在黑暗条件下培养有利于愈伤组织的诱导。
【英文关键词】小果型番茄 花药培养 愈伤组织诱导
【中文摘要】无
【英文摘要】In this paper, five FI hybrids of small size tomato were used to study the effects of genotypes, cold pretreatment, hormone component, sucrose concentration and culture condition on the anther culture. The results showed, that the capacity of callus induction were different between different genotypes. 4 ~C cold pretreatment for 2 days significantly enhanced the callus induction rate; The optimum medium for improving anther callus induction rate was MS+0.5 mg · L-I NAA + 1 mg · L-1 KT+40 g · L-1 sucrose. Dark environment was more helpful for inducing anther callus.
【语种】中文
【第一作者】王芹芹
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【期刊名称、卷期、页码】上海交通大学学报(农业科学版)
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【引文索引类型】其他
【引文索引号】无
【学科分类】园艺学

【题目】CPPU对普通丝瓜单性结实的影响
【中文关键词】单性结实 CPPU 丝瓜 长江中下游地区 昆虫辅助授粉 栽培条件 授粉受精 早期产量
【英文关键词】无
【中文摘要】长江中下游地区冬、春保护地栽培条件下,部分极早熟普通丝瓜的雄花比雌花晚10—20d开放,由于缺乏昆虫辅助授粉,植株不能正常授粉受精,结瓜率低,从而影响早期产量和效益。
【英文摘要】无
【语种】中文
【第一作者】苏小俊
【通讯作者】袁希汉
【期刊名称、卷期、页码】中国蔬菜
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【学科分类】园艺学

【题目】奶牛数字化精细饲养设备的研究进展
【中文关键词】奶牛;数字化;精细饲养;发展方向
【英文关键词】null
【中文摘要】目前,奶牛业在中国农业体系中占有重要地位,为了提高中国奶业的整体发展水平,对奶牛进行数字化精细饲养已成为必然。作者在简要分析讨论了国内奶牛生产力水平低的原因和奶牛养殖的发展趋势后,探讨了奶牛数字化精细饲养技术系统的构成,并对系统中的奶牛身份识别、饲喂、挤奶、采食、虚拟栅栏、发情检测等方面所需要的有关设备进行了论述。在此基础上,提出了中国奶牛数字化精细饲养设备的发展方向。
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【语种】中文
【第一作者】李法德
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【学科分类】农业工程

【题目】坡耕地植物篱在水土保持中的应用
【中文关键词】植物篱; 坡耕地; 水土保持; 生态效益; 经济效益
【英文关键词】hedgerow; slope land; so il and w ater conservation; eco log ical benefi;t econom ic benefit
【中文摘要】"坡耕地植物篱种植模式是一种坡耕地可持续利用技术。结合已有研究成果, 对坡耕地植物篱研究现状、效益等作了系统介绍。植物篱种植模式对改善土壤物理性质、提高土壤养分、减小坡耕地水土流失、防止土壤退化、促进农作物生长、增加作物产量、提供饲料、薪柴等方面具有良好的作用和效果, 植物篱在坡耕地资源可持续利用中具有显著的生态效益和经济效益。对目前坡耕地植物篱认识上的问题及需要深入开展的工作进行了讨论, 以促进我国植物篱技术和坡耕地整治的研究与发展。"
【英文摘要】"The hedgerow on slope farm land is a protection tillage and sustainable landuse technique. Thehedgerow techn ique could improve the so il physical tex ture and so il chem ica l nutrients, reduce so ilerosion and land degradation, even improve the crop grow th, increase crop production, and offer forageand firewood. The eco log ical and econom ic benef its o f hedgerow are system ic in troduced. A t the samet ime, the prob lems and further research w ork on hedgerow are d iscussed briefly and some suggestions areput fo rw ard, a im ing to promo te the development o f hedgerow technique for the future in China."
【语种】中文
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【学科分类】土壤学

【题目】梯田与植物篱的结构、功能与适用性
【中文关键词】水保措施; 梯田; 植物篱; 结构功能; 适用性
【英文关键词】-
【中文摘要】"梯田和植物篱都是治理山丘区坡耕地水土流失的重要的水土保持措施。介绍了梯田和植物篱的结构、功能及其适应性, 并进行了对比分析, 同时对长江上游坡耕地整治提出了建议, 以期促进坡耕地水土流失的科学治理。"
【英文摘要】-
【语种】中文
【第一作者】张信宝

【通讯作者】张信宝
【期刊名称、卷期、页码】中国水土保持,2010,10:16-17
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【学科分类】土壤学

【题目】三峡库区生态清洁小流域综合治理模式探讨
【中文关键词】生态清洁小流域; 水土流失; 生态治理模式; 三峡库区
【英文关键词】eco- c lean sm allw atershed; so il and w ate r loss; eco log ica l contro lm ode; TGP reservo ir area
【中文摘要】"长江上游三峡库区坡耕地面积广, 水土流失量大, 对当地环境和经济社会的发展造成了严重危害。通过建立库区/ 生态修复、生态治理、生态保护0三道防线, 并开展库区消落带的治理, 生态清洁型小流域水土流失得到有效控制。结合生态清洁小流域建设的一般原则和技术要求, 对三峡库区的生态清洁小流域治理模式进行了探讨, 并针对当前生态清洁小流域建设和管理存在的不足和问题提出了相应的建议。"
【英文摘要】"The loca l env ironm en t and the deve lopm ent o f econom y and soc ie ty are expo sed to the threats, resulting from a larg ea rea o f the sloped farm lands and the sign ificant loss o f so il and w ater in the TGP reservo ir a rea of upper YangtzeR iver. W e hav ee ffectively con tro lled the so il and w ate r loss in eco- clean sm a ll watersheds, through build ing up the three lines of defense suchas / eco log ica l rehab ilita tion, eco log ical harnessing and eco log ica l protec tion0, as we ll as regulating the fluctuated zone o f the reservo ir a rea. W e study the con tro lm ode o f eco- c lean sm a ll wa tersheds in TGP reservo ir area, com b ining w ith g eneral princ iplesand techn ical requirem ents, and put fo rw ard som e suggestions to im prove the control mode of the w atersheds"
【语种】中文
【第一作者】周萍
【通讯作者】文安邦
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【引文索引类型】其他
【引文索引号】null
【学科分类】土壤学

【题目】三峡库区紫色土7Be剖面分布及季节变化
【中文关键词】放射性核素; 7 Be; 紫色土; 三峡库区
【英文关键词】radionuclide; 7 Be; purple so i;l Three Gorges Reservo ir reg ion
【中文摘要】"7 Be是一种宇宙成因放射性核素。由于其来源明确、半衰期短、测试相对容易, 可用于< 1 a时间尺度内的环境过程示踪和定量研究。7 Be在土壤中的剖面分布特征及其本底值是建立定量模型、估算侵蚀沉积速率和调查表土迁移过程的基础。对三峡库区为期1 a的无扰动紫色土7 Be浓度的测定结果表明, 7 Be主要分布于质量深度0~2010 kg /m2 (0~ 11 5 cm)的表层土壤, 其中0~ 31 0 kg /m2 (0~ 2 mm)的最表层7B e比活度最高, 向下随深度增加呈指数减少, 201 0 kg /m2 以下土层基本不含7 Be。采样期间土壤7 Be 总面积活度介于1721 4~ 32816 Bq /m2, 平均2461 1Bq/m2, 并呈现春季最高, 秋季最低; 春夏高, 秋冬低的季节性变化特征。植被截留可能是减少土壤7 Be浓度的重要因素。"
【英文摘要】"7B e is a naturally occurring radionuc lide of cosmogen ic orig in. Due to its w el-l defined source term, shortha l-f life, and re lative ease o fmeasuremen,t 7Be serves as a useful tool for tracing and quantify ing environm enta lprocesses on the < 1 a t imescale. The characters o f its depth d istribut ion and reference inventory in soils are thebasis of develop ing so il red istribut ionmodels and investigating movement o f topso i.l Measurem ents of 7B e concentrationin und isturbed soils w ere carried out atThree Gorges Reservoir reg ion over 1 year. The resu lts show that 7 Bew as predom inantly d istributed in the surface so il of 0 ~ 20. 0 kg /m2 m ass depth (0 ~ 1. 5 cm). The highest 7 Becontent w as found in the surface horizon o f 0 ~ 3. 0 kg /m2 mass depth (0 ~ 2 mm) and declined exponentiallyw ith depth. The so ilhorizon below 20. 0 kg /m2 mass depth conta ined little 7 Be. The local 7B e reference inventoriesover the sampling period w ere 172. 4 ~ 328. 6 Bq /m2 w ith a mean of 246. 1 Bq/m2. The reference inventoriesw ere h igh in spring and summer and low in autumn and w inter, w hich w ere h ighest in summer and low est in autumn.The interception o f vege tation may be an important factor in reducing 7 Be flux to so ils."
【语种】中文

【第一作者】史忠林
【通讯作者】文安邦
【期刊名称、卷期、页码】山地学报,2010, 28(6):674-679
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【引文索引号】null
【学科分类】土壤学

【题目】压砂西瓜播种、施肥、浇水一体机的设计
【中文关键词】压砂西瓜; 播种; 施肥; 灌溉; 农业机械;
【英文关键词】watermelon on dinas-covered soil; seeding; fertilizing; watering; agricultural machinery
【中文摘要】压砂西瓜作为宁夏区南部山区的特色农业给当地农业带来了显著的经济效益。目前压砂西瓜的种植作业主要依靠人力完成,劳动强度大而生产效率低。本文结合当地生产力发展水平,设计了一台集播种、施肥和灌溉于一体的专用机械,以期提高生产效率,并将瓜农从繁重的体力劳动中解放出来。
【英文摘要】The planting watermelon on dinas-covered soil is characteristic agriculture project in Ningxia southern region,it is produced a significant economic benefit for this area.But at present,planting of the watermelon is done mainly by manpower,labor intensity is high but production efficiency is low.Thinking over the level of productive forces in the region,a set of combine planter has designed by means of modern machine design method,which can complete seeding,fertilizing and watering at the same time,it is hoped that the planting efficiency is increased and the farmer is liberated from heavy physical labor.
【语种】中文
【第一作者】刘晶
【通讯作者】樊静波
【期刊名称、卷期、页码】中国农机化,2010年第6期,61-64
【论文发表时间】2010-12-01 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】机械设计

【题目】三峡库区紫色土坡地7Be空间分布研究
【中文关键词】三峡库区; 7 Be; 紫色土坡地; 空间分布
【英文关键词】T hr ee Gorg es Reservoir Area; 7Be; pur ple slope land; spat ial dist ribut ion
【中文摘要】"利用7 Be 示踪法研究了三峡库区坡耕地和休耕地在两时段不同降雨强度条件下7 Be 本底值变化以及坡面土壤侵蚀空间分布特征。结果表明, 两个时间段土壤7 Be 本底值面积活度分别为304. 0 Bq/ m2 和441. 7 Bq/ m2 。从深度分布看, 两次7 Be 本底值剖面分布在整体上是相似的, 7 Be 主要分布在0- 18 mm 表层, 4 月13 日55. 2%的7 Be 和5 月20 日73. 6% 的7 Be 分布在地表0 - 3 mm, 随着深度的增加, 7 Be 含量递减, 18 mm 以下基本不含7 Be。从顺坡分布看, 降雨量较小的时间段, 坡耕地和休耕地上7 Be 在顺坡不同部位分布的差异不显著; 在降雨量较大的时间段内, 坡耕地和休耕地上7 Be 在顺坡不同部位分布有显著差异, 坡耕地在顺坡5- 10 m 处发生明显侵蚀, 休耕地由于苎麻篱的拦沙作用, 坡面7Be 面积活度呈现减少- 增加- 减少- 增加的变化特征。"
【英文摘要】"A study w as carried out to invest igate the 7Be refer ence inventory and the spat ial dist ribut ion characteristicsof so il ero sion on a cult ivated slope and a fallow at the T hree Gorg es Reservoir A rea using 7Betr acing technique. T he result show ed that 7Be reference inventories w ere 304. 0 Bq/ m2 in April 13th and441. 7 Bq/ m2 in May 20th, respect ively. The 7Be depth dist ribut ions o f the 2 reference pr ofiles indicated thesimilar shapes of uncultivated land. 7Be predominantly dist ributed in the surface soil of 0- 18 mm in depthand lit tle 7Be was detected at the depths g reater than 18 mm in the prof ile. The hig hest 7 Be co ntent o ccurs inthe surface ho rizon of 0- 3 mm in depth and it exponent ially declines with depth. 7 Be spat ial dist ribut ions o fthe soil samples illust rated a g reat distinguish during the small precipitat ion and a lit t le dist ing uish during thelarge precipitat ion on the cult ivated slope and the fallow . Ther e ar e dist ing uishable eroded at the segment o f5- 10 m in leng th on the cult ivated slope. Because of the r amee hedgerow , 7Be invento ries of the soil sampleschang ed as decrease- increase- decr ease- incr ease."
【语种】中文
【第一作者】苏明

【通讯作者】文安邦
【期刊名称、卷期、页码】水土保持学报,2009,23(6):19-22, 27
【论文发表时间】2009-12-17 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】土壤学

【题目】Temporal Variation of Beryllium-7 Fallout and Its Inventory in Purple Soil in the Three Gorges Reservoir region, China
【中文关键词】-
【英文关键词】"7Be Deposition flux Purple soil Erosion
Three Gorges Reservoir region China"
【中文摘要】-
【英文摘要】"The deposition flux of 7Be was measured in therange from 0.4 to 5.2 Bq m-2 d-1, with a mean value of2.6 Bq m-2 d-1, during the period of May 31, 2009 – May31, 2010 in the Three Gorges Reservoir region, China.The low annual deposition flux of 7Be was probably due tothe adsorption of 7Be within high altitude clouds and theQinling-Daba Mountain ’s barrier and blocking effects onthe cold air during winter months. There was a seasonaltrend for 7Be deposition, showing a spring maximum andwinter minimum, which may be attributed to the seasonalfolding of tropopause in spring and little rainfall amount inwinter. A strong positive correlation (R2 = 0.67) between7Be deposition flux and rainfall was observed. The depthdistribution of 7Be in undisturbed purple soil profiles suggestedthat the nuclide was mainly distributed within thetop 20.0 kg m-2 (*1.5 cm) of soil in depth and themaximum concentration occurred at a depth of 3.0 kg m-2(*0.2 cm), then the concentration declined quickly andexponentially with depth. The seasonal inventories of 7Bein soils were consistent with the values calculated from theatmospheric fluxes, which shows a great potential for using7Be as a tracer to assess soil redistribution in purple soilareas of China."
【语种】英文
【第一作者】Shi Zhonglin
【通讯作者】文安邦
【期刊名称、卷期、页码】Journal of Radioanalytical and Nuclear Chemistry, 2010, DOI 10.1007/s10967-010-0934-5
【论文发表时间】2010-12-15 00:00:00
【引文索引类型】SCI
【引文索引号】10.1007/s10967-010-0934-5
【学科分类】土壤学

【题目】宁夏地区硒砂瓜特色产业发展现状调查分析
【中文关键词】硒砂瓜; 产业现状; 发展趋势
【英文关键词】Xisha melon; industry status; development trends
【中文摘要】宁夏地区硒砂瓜特色产业是干旱地区气候、地理、土壤条件的专有产物,也是宁夏地区农业发展支柱产业之一,如何发展扩大这一产业已成为加快宁夏农村建设的关键。本文以实际调研为基础,回顾了宁夏地区硒砂瓜产业发展历史,分析了发展现状及发展趋势。 更多还原
【英文摘要】The Xisha melon is a unique product in Ningxia and grows in drought areas.It is also one of the pillar industry for Ningxia agriculture development,this paper explores how to expand this industry will be the key for accelerating Ningxia rural infrastructure development.This paper is based on accurate research and review of the developmental history of Ningxia Xisha melon and also describes development status and future trends.
【语种】中文
【第一作者】张晓华
【通讯作者】田军仓
【期刊名称、卷期、页码】物流与采购研究,2009年第10期,118-120
【论文发表时间】2009-10-01 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农业经济学

【题目】Heritability of Growth Traits for Small Abalone Haliotis diversicolor Estimated from sib Matings
【中文关键词】鲍,杂色鲍,遗传力,生长,半同胞
【英文关键词】abalone; Haliotis diversicolor; heritability; growth; half-sib
【中文摘要】我们通过使用一个雄性个体的精子对3个雌性个体进行人工授精的方法而设计了不平衡巢,由此获得了杂色鲍12个半同胞群体和36个全同胞群体。分别在10天,40天,120天,220天,320天和420天,估算了鲍鱼从稚鲍到到商品规格大小的遗传力增长相关的特性。遗传力的估算以雄性个体0.15-0.37的壳长和0.18-0.42的壳宽为基础。最近研究的结果显示,对杂色鲍使用选择育种来进行基因改良或许是可行的,同时有可能是获得好的选择结果的有效方法。
【英文摘要】Twelve half-sib groups and 36 full-sib groups of small abalone Haliotis diversicolor were obtained by the unbalanced nest design using artificial fertilization of 3 females by each male. Heritabilities of growth-related traits were estimated from postlarva to market size at days 10, 40, 120, 220, 320, and 420. The estimated heritabilities based on sire components for shell length and shell width were 0.15-0.37 and 0.18-0.42, respectively. Heritability estimate for shell length and shell width based on dam component were larger than those based on sire component. The results in the current study indicate that genetic improvement through selective breeding conducted on small abalone might be available and would be an efficient method to obtain a positive response to selection.
【语种】英文
【第一作者】游伟伟
【通讯作者】柯才焕
【期刊名称、卷期、页码】Journal of shellfish research,2010; 卷:29; 期:3; 页码:705 – 708
【论文发表时间】2010-11-25 00:00:00
【引文索引类型】SCI
【引文索引号】2.8413520002e+011
【学科分类】水产养殖学

【题目】底墒对压砂地西瓜生长和产量的影响
【中文关键词】播前底墒; 西瓜; 压砂地; 生长; 产量;
【英文关键词】soil water storage before sowing; watermelon; field with gravel mulching; growth; yield;
【中文摘要】通过田间试验研究了底墒差异对西瓜生长和产量以及水分利用效率的影响。结果表明:播前适宜的底墒(0~100 cm土层储水量在223~238 mm)可以促进西瓜主蔓长的生长、叶片的发生以及提高西瓜叶面积;播前底墒较丰时(0~100 cm土层储水量在283 mm),不利于西瓜前期的生长。与播前不灌水相比,播前灌水造墒处理不同程度地提高了地上部生物量和西瓜产量;其中播前灌水量达到70m3/667m2时,西瓜产量和瓜蔓重最大,分别为1 645 kg/667m2和25.4 kg/667m2,相比播前不灌水处理分别提高了30%和49%。西瓜水分利用效率随播前土壤储水量增加而降低。 更多还原
【英文摘要】Irrigation before sowing for increasing soil moisture is a common method of water supplement for watermelon in the field with mulching gravel around Xiangshan region,Zhongwei in Ningxia.A field experiment was carried out to study the effect of soil water storage before sowing on growth,yield and water use efficiency of watermelon.The results showed that appropriate amount of soil moisture in 0~100 cm soil layer(223~238 mm) could promote main stem growth,leaf occurrence and leaf area increase of watermelon.However,abundant amount of soil water storage was not beneficial for watermelon in the early growing period.Compared with no irrigation treatment,treatment of irrigation before sowing improved watermelon yield and vine to some extent.Watermelon got the highest yield and vine biomass with 70 m3/667m2 irrigation amount,reaching 1 645 kg/667m2 and 25.4 kg/667m2 and the increasing rate was 30% and 49% respectively compared with no irrigation treatment.Nevertheless,water use efficiency of watermelon decreased with the increase of soil water storage amount before sowing.
【语种】中文
【第一作者】谭军利
【通讯作者】田军仓
【期刊名称、卷期、页码】干旱地区农业研究,2007年7月第30卷第4期,26-31
【论文发表时间】2012-07-01 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】水利工程其他学科

【题目】Construction of an Integrated Map of Haliotis diversicolor Using Microsatellite Markers
【中文关键词】九孔,杂色鲍,连锁图谱,微卫星,整合图谱
【英文关键词】Small abalone; Haliotis diversicolor; Linkage map; Microsatellite; Integrated map
【中文摘要】杂色鲍自然分布在从日本到菲律宾群岛的东亚沿岸水域。它在中国南部和台湾是一种重要的经济水产养殖物种。我们通过使用含有297个特异标记的308个简单重复序列标记构建了杂色鲍的遗传连锁图谱。利用拟侧交策略得出96个后代基因型的种群隔离。在雄性和雌性图谱中鉴定出16个连锁群,与单倍染色体的数量相一致。758.3 cM的母系连锁图谱中有平均5.2 cM长的间隔。雄性连锁图谱跨越了共676.2 cM的遗传距离,平均间隔为4.5 cM。通过合并同源亲本连锁群创建了一个综合图谱,形成共762.1 cM长的16个连锁群。基因组覆盖了大约80.7%的综合连锁图谱。杂色鲍的基因连锁图可能会促进标记辅助选择和数量性状轨迹图谱。
【英文摘要】Small abalone, Haliotis diversicolor, is naturally distributed along the coastal waters of East Asia from Japan to the Philippines. It is an economically important maricultured species in southern China and Taiwan. Genetic linkage maps for small abalone were constructed using a total of 308 simple sequence repeat markers including 297 novel markers. Segregation data on 96 progeny were genotyped using a pseudo-testcross strategy. Sixteen linkage groups were identified in both female and male maps, consistent with the haploid chromosome number. The female linkage map covered 758.3 cM, with an average interval of 5.2 cM. The male linkage map spanned a total genetic distance of 676.2 cM, with an average interval of 4.5 cM. An integrated map was constructed by incorporating the homologous parental linkage groups, resulting in 16 linkage groups with a total of 762.1 cM. Genome coverage of the integrated linkage map was approximately 80.7%. The genetic linkage maps of small abalone may facilitate marker-assisted selection and quantitative trait loci mapping.
【语种】英文
【第一作者】战欣
【通讯作者】柯才焕
【期刊名称、卷期、页码】Marine Biotechnology,2012; 卷:14; 期:1; 页码:79-86
【论文发表时间】2012-02-16 00:00:00
【引文索引类型】SCI
【引文索引号】2.9888270001e+011
【学科分类】水产养殖学

【题目】中棉所12配制的2个杂交棉DNA甲基化遗传与传递
【中文关键词】中棉所12;杂交棉;甲基化;MsAP
【英文关键词】CRI-12;Hybrids cotton;DNA methylation;MSAP
【中文摘要】DNA甲基化在真核生物的生长发育过程中起着重要的调控作用。本研究用MsAP方法分析了中棉所12配制的2个杂交棉和亲本不同发育时期的基因组DNA5’一ccGG位点胞嘧啶的甲基化水平及其遗传传递模式。研究表明:(1)杂交棉及其亲本不同发育时期的胞嘧啶甲基化水平不同,随着生育期的逐步推进,出现两头低而中间高现象;(2)两个杂交棉组合的DNA甲基化总体水平为12.41%一20.05%,其中以内侧胞嘧啶全甲基化为主(约占6.90‰11.47%);(3)棉花中绝大多数CCGG胞嘧啶甲基化位点是由亲本稳定遗传给杂交种的,但杂交棉仍有1.14%~3.39%的位点显示了变异,其变异频率在不同亲本组合之间和不同发育时期都存在差异:(4)对甲基化差异条带测序分析发现,其功能涉及到富含亮氨酸重复、类PDR的ABc转运蛋白、GTP结合蛋白、病程相关蛋白、磷酸激酶、功能未知的蛋白质和反转录酶等,部分差异序列没有产生有意义的匹配。
【英文摘要】空白
【语种】中文
【第一作者】朱新霞
【通讯作者】张天真
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【题目】衣分不同陆地棉品种的产量及产量构成因素的遗传分析

【中文关键词】衣分;产量;产量构成因素;主基因.多基因;双列杂交
【英文关键词】Lint percentage;Yield;Yieldcomponents;Majorgene-polygene;Diallel cross
【中文摘要】选用衣分不同的陆地棉品种配置组合,率先将主基因.多基因联合世代分析与双列杂交试验分析相结合,分别从单个和整体基因水平上对棉花产量及产量构成因素进行了遗传研究。对2个高×低衣分组合的主基因.多基因6世代联合分析结果表明,各产量性状至少在1个组合中检测到主基因的存在,说明产量性状主基因存在的普遍性。由2个组合各产量性状的主基因、多基因遗传率比较得出,产量性状的主基因遗传率比多基因遗传率在不同组合间趋势变化相对较稳定;各性状在2个组合中的主基因、多基因遗传率分量不完全相同。衣分、铃重和籽指在2个组合中分别以主基因遗传为主和以多基因遗传为主;子棉产量和皮棉产量在2个组合中均以主基因遗传为主;衣指在组合I中以多基因遗传为主,在组合II中属于典型的多基因遗传;单株铃数在组合I中属于典型的主基因遗传,在组合II中以多基因遗传为主。双列杂交结果表明,陆地棉产量及产量构成因素都有较高的遗传主效应方差,产量性状受加性效应和显性效应共同控制,其中。衣分、衣指以加性效应为主;子棉产量、铃重和籽指以显性效应为主;皮棉产量和单株铃数以加性和显性效应为主。衣分和衣指的普通广义遗传率和普通狭义遗传率均最高,与联合世代分析两性状的总遗传率平均值结果趋势一致。相关和通径分析一致表明,产量构成因素中单株铃数对皮棉产量的贡献最大,衣分次之,铃重最小
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【语种】中文
【第一作者】李成奇
【通讯作者】张天真
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【题目】中棉所12及其选系配制的4个杂交棉幼苗期基因差异表达
【中文关键词】中棉所12;杂交棉:基因差异表达
【英文关键词】CRI-12:Hybrid cotton:Differential expression gene
【中文摘要】以与中棉所12及其2个选系为亲本组配的4个杂交棉中棉所28、中棉所29、湘杂棉2号和冀棉18苗期的根和顶端叶为研究材料,采用eDNA.AFLP技术分析苗期杂交棉与亲本的根和叶基因差异表达,并用QuantitativeReal.Time技术加以验证。结果表明:(1)在4个杂交组合中,中棉所12选系是营养生长杂种优势高值亲本;(2)杂交种和亲本间存在显著的基因表达差异,可分为杂交种上调、单亲显性、单亲沉默、杂交种下调4种表达型。4个杂交组合在三叶期根和叶中差异表达基因的4种类型比例趋势基本一致,单亲差异表达型(包括显性和沉默表达)在根和叶中所占比例较高。杂种下调表达型所占比例较低,反映出苗期单亲差异表达型在杂种优势形成中起主要作用;叶部差异表达基因数目和比例(29.20%一46.09%)比根(15.65%-22.49%)高的多,说明叶中基因差异表达可能比根中基因差异表达对杂种优势形成作用更大;(3)高值亲本中棉所12选系与杂交棉共同表达的基因多于低值亲本与杂交棉共同表达的基因,从分子水平上证明中棉所12选系在杂交棉冀棉18、中棉所29和中棉所28的苗期营养生长杂种优势产生中起优势亲本的作用;(4)4种杂交组合差异表达基因(包含叶和根)占总表达基因的27.00%-34.56%,分析差异表达基因类型和4个杂交组合的关系发现,超显性效应占3.30%-7.17%,超低亲效应占2.62%~4.14%,低亲效应占5.65%-13.03%,显性效应和加性效应是主要的杂种优势效应,占79.52%~83.79%。多种杂种优势效应的并存说明杂种优势可能是多基因共同作用产生多种效应的结果;(5)超亲优势组合中棉所28的超显性效应占7.17%,明显高于其他3个表现中亲优势组合,说明杂交种上调表达型可能对苗期杂种优势产生起重要作用。
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【语种】中文
【第一作者】朱新霞
【通讯作者】张天真
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【题目】陆地棉抗黄萎病基因的分子标记定位
【中文关键词】陆地棉 黄萎病 遗传模型 QTL 作图
【英文关键词】无
【中文摘要】棉花黄萎病是棉花生长过程中最具破坏力的病害之一, 在世界范围内流行. 棉花黄萎病已成为棉花生产中的主要障碍. 减轻棉花黄萎病损失最为经济、安全、有效的办法就是培育和推广抗病品种. 本研究利用抗黄萎病品系60182 和感黄萎病品种军棉 1 号为亲本配制杂交组合, 对陆地棉抗黄萎病性状进行遗传分析和抗病基因分子标记定位. 用主基因+多基因混合遗传模型和P1, P2, F1 , B1 , B2 和F2 六世代联合分析的方法对病叶比例性状进行遗传分析. 结果表明, 接种BP2, VD8, T9和三者等浓度混合病菌时, 抗病性都受两对加性-显性-上位性主基因控制, 陆地棉60182 的抗病性在各个分离世代都以主基因遗传为主. 运用 F2 为作图群体构建了一个含 139 个标记位点 , 31 个连锁群 , 总长 1165 cM 的分子标记连锁遗传图谱, 标记平均距离为 8.38 cM, 覆盖棉花全基因组的 25.89%. 调查 229 个F2: 3 家系各时期平均病级代表 F2 单株抗病性, 结合连锁遗传图谱 , 复合区间作图检测 QTL. 结果显示, 在60182 上, 接种 BP2 时检测到 4 个QTL 位于D7染色体上 , 4 个QTL 位于 D9染色体上; 接种 VD8 时, 有5 个QTL 位于 D7染色体上 , 9 个QTL 位于D9染色体上; 接种T9时, 有4 个QTL 位于 D7染色体上, 5 个QTL 位于D9染色体上; 接种混合病菌时, 有3 个QTL 位于 D7染色体上, 7 个QTL 位于D9染色体上 . 60182 在不同调查时期对4 种黄萎病菌的抗性 QTL 都集中在 D7、D9两条染色体上 , 形成两个明显的抗病 QTL 集中区 . 这一结果与两对主基因的遗传模式相吻合, 充分表明陆地棉抗黄萎病品系 60182 兼具对落叶型, 非落叶型黄萎病菌的广谱抗性. 同时与陆地棉抗黄萎病 QTL 连锁的分子标记可加速抗黄萎病基因的应用, 为培育稳定高抗黄萎病新材料提供有价值的理论依据.
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【语种】中文
【第一作者】蒋锋
【通讯作者】张天真
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【题目】利用四交群体构建陆地棉栽培品种间的SSR标记遗传图谱
【中文关键词】陆地棉; 四交群体; 遗传作图
【英文关键词】up land cotton (Gossypium hirsutum L.) ; four way cross population; genetic mapping
【中文摘要】作物遗传作图与QTL定位常应用在源于两自交系的单交群体上, 是利用2个亲本之间的遗传多态信息; 而育种实践中经常用到的四交群体却很少用于遗传作图。本研究将异交物种中F1 分离群体的作图方法应用于常异花授粉作物棉花上, 以4个陆地棉栽培品种泗棉3号、苏棉12、中4133和8891为亲本, 构建陆地棉品种间四交作图群体泗棉3号/苏棉12//中4133/8891, 利用JoinMap310构建了1张陆地棉栽培品种间的SSR标记遗传图谱。该图谱由56个连锁群组成,总长为211313cM, 含有286个SSR多态位点, 覆盖率达4213%; 单个连锁群的标记数2~24个, 平均512个; 长度为0137~125cM, 平均3814cM; 标记间的平均距离为714cM。这是目前报道的第1张覆盖率达40%的陆地棉栽培品种间的分子标记遗传图谱
【英文摘要】L inkage and QTL mapp ing in crop s have been app lied mainly to single cross population derived from two inbred lines, and only polymorphism information between two parents was emp loyed to develop linkage map. Four2way cross population was rarely used to construct linkage map in crop s. In this paper, the method of linkage mapp ing used in heterozygous F1 was app lied to cot2 ton, an often2crossed pollination crop , and four up land cotton cultivars (Gossypium hirsutum L.) , Sim ian 3 , Sum ian 12 , Zhong 4133 and 8891 were used to develop a four2way cross population, Sim ian 3 /Sum ian 12 / /Zhong 4133 /8891. A linkage map was constructed based on SSR markers with JoinMap310. The linkage map was comp rised of 56 linkage group s spanning a distance of 0137 cM to 125 cM with 286 mapped loci. These loci covered 2 11313 cM , which was estimated as 4213% of the total recombina2 tion length of the cotton genome. The average genetic distance between two lociwas 714 cM. This is the first linkage map with dis2 tance beyond 40% of the total recombination length of the cotton genome.
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【第一作者】秦鸿德
【通讯作者】张天真
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【题目】QTL Analysis of Epistatic Effects on Yield and Yield Component Traits for Elite Hybrid Derived2RILs in Upland Cotton
【中文关键词】陆地棉; 上位性; 数量性状基因位点; 优良家系
【英文关键词】Gossypium hirsutum L1 ; Epistasis ; QTL ; Superior lines
【中文摘要】棉花的产量及产量构成因子性状是以复杂的方式遗传,遗传力较低并易受环境条件影响。经典数量遗传学指出,上位性是复杂性状的遗传基础。本研究以湘杂棉2号F8 和F9 世代重组自交系为材料,调查了3个环境下的产量及产量构成因子性状,并构建了遗传连锁图。旨在定位产量及产量构成因子性状的上位性QTL并分析QTL与环境的互作效应。所有产量及产量构成因子性状均检测到上位性QTL,共检测到16对加性互作QTL(AA) ,涉及的位点中仅4个有单位点效应,这反映了上位性的复杂性及其对产量和产量构成因子性状的重要贡献。共检测到17对QTL加性和环境互作(AE) ,以及14对上位性QTL与环境的互作,表明环境因素对产量和产量构成因子性状起重要影响作用。研究结果还表明上位性效应作为湘杂棉2号的遗传基础起着重要作用。对各性状在不同环境的优良基因型进行了预测。综合优良家系(GSL)和特定环境下的优良家系(SL)的性状表现高于两亲本,表明湘杂棉2号重组自交系各性状都有提高的潜力。由于QTL加性和环境互作以及上位性QTL与环境互作的影响,预测的优良家系基因型会随着环境的改变而不同,表明应针对特定环境开展棉花育种。
【英文摘要】Yield and yield component traits of cotton are inherited quantitatively with low heretibility and tend to vary with environmental variation1 Classical quantitative genetics has indicated that epistasis is the foundation of such complex traits1 In this study , a genetic linkage map was constructed using the recombinant inbred line (RIL) populations developed froman elite upland cotton hybrid Xiangzamian 2 (XZM2) 1 Yield and yield component traits were investigated in F8 and F9generations of RILs in three environments in China1 The purpose of the study was to map epistatic QTL and analyze QTL by environment interactions in yield and yield components of cotton1 Epistatic QTL were detected for all yield and yield component traits1 Altogether 16 pairs of QTL interactions (AA) were identified1 However , only 4 of the loci involved had single2locus effects , indicating the complexity of epistasis and their important contributions to yield and yield component traits1 Altogether 17 pairs of QTL by environments interactions (AE) and 14 pairs of epistasis by environment (AAE) interactions were detected , indicating that environment influenced yield and yield componment traits greatly1 The results suggest that epistatic effects might be importantly involved in the genetic basis of heterosis in the cotton hybrid of XZM21 Superior genotypes under different environments were predicted for all traits , indicating that there existed potential of increasing yield and yield components from XZM22derived RILs1 Due to influence of AE and AAE , the predicted SLs in different environments might be different1 In cotton breeding , it is a practical strategy to perform breeding program according to special environment1
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【第一作者】WANG Bao-Hua
【通讯作者】张天真
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【题目】用单片段代换系对不同时期水稻分蘖数QTL的非条件和条件定位
【中文关键词】单片段代换系;非条件QTL定位;条件QTL定位;分蘖数;水稻
【英文关键词】Single segment substitution lines; Unconditional QTL mapping; Conditional QTL mapping; Tiller number; Rice
【中文摘要】【目的】了解各个发育时期控制水稻分蘖数 QTL 的“ 静态 ”和“ 动态 ”信息。【方法】利用单片段代换系对不同时期的水稻分蘖数QTL同时进行非条件和条件定位分析。【结果】(1)水稻分蘖数至少受14个QTL影响,它们分布在第 1、2、3、4、6、7 和 8 号共 7 条染色体的相应代换片段上;(2)各个时期影响水稻分蘖数的QTL数量(变动在6~9之间)和效应(变动在1.49~3.49之间)均不相同;(3)水稻分蘖数QTL的表达具有很强的时序性,主要集中在移栽后0~7 d(有6个正表达),14~21 d(有9个随机表达)和35~42 d(有6个负表达)3个时间段内,正、负表达分别决定了最高分蘖和有效分蘖的数量;(4)每个QTL在整个生育期至少表达1次,有些可多次表达;(5)某个时期的分蘖数量取决于所有QTL的累积效应,而某个时间段内分蘖数的增减量则取决于所有QTL的净效应。【结论】用单片段代换系和条件QTL定位方法对发育性状进行QTL定位分析非常有效和准确。

【英文摘要】【Objective】 Research was carried out to understand the static and dynamic information of the QTLs for tillers in rice. 【Method】Unconditional and conditional QTL were simultaneously mapped by using single segment substitution lines for tiller number at various stages in rice.【Results】(1) At least 14 QTLs influenced tiller number in rice, distributing on the corresponding substitution segments of seven chromosomes with the number of 1, 2, 3, 4, 6, 7 and 8, respectively. (2) Both the number and the effect of tiller number QTLs were different at various stages , varying from 6 to 9 in the number and from 1.49 to 3.49 in the e ffect, respectively. (3) Tiller number QTLs expre ssed timely, mainly arising at three stag es of 0-7 d, 14-21 d and 35-42 d after transplanting with six positive, nine random and six negative expressing QTLs, respectively, which determined the number of the up most and the effective tillers in sequence. (4) Each of the QTLs detected expressed at least one time or more during the whole duration of rice growth. (5) The tiller number was determined by sum of QTL effects estimated by unconditional method, while the number of increasing or decreasing was controlled by total of QTL effects estimated by conditional method at a given stage.【Conclusion】 It is highly effective and accurate to map QTLs by using both materials of single segment substitution lines and conditional analysis methodology.
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【第一作者】赵芳明
【通讯作者】张桂权
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【题目】Antioxidant effect of Cassia essential oil on fried beef during the storage period
【中文关键词】子精油,抗氧化的作用;炒牛肉,TBA ,贮存期
【英文关键词】Cassia essential oil, antioxidant effect; fried beef, TBA and storage period
【中文摘要】结果表明,肉桂油提供了更多的显着(P <0.05)的抗氧化效果,与对照组相比,在冷藏期间。存储温度有显着肉桂油抗氧化作用的影响,在4°C冷藏期间。
【英文摘要】The results showed that Cassia oil provided more significant (P<0.05) antioxidant effect during refrigerated storage in comparison with the control group. Storage temperature had significant impact on antioxidant effect of cassia oil during refrigerated storage at 4°C.
【语种】英文
【第一作者】李洪军
【通讯作者】李洪军
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【学科分类】食品加工技术

【题目】Study on Microorganisms flora during Jinhua ham fermentation
【中文关键词】金华火腿,发酵,活菌菌群,鉴定
【英文关键词】Jinhua ham,Fermentation,Microbal flora,Identification
【中文摘要】最大微生物内部火腿的106CFU /克,这足以影响火腿的味道。但数减少值低(< 103cfu / g)的中熟期(六月至八月) ,因此,我们推断,所产生分枝杆菌的酶和内部酶的后熟期的火腿火腿的香气。
【英文摘要】Maximum of microbe interior ham get 106cfu/g, which was enough to influence flavour of ham. But the count decreased to low values (<103cfu/g) in the ripening period(June to August), so we deduced that the aroma of ham produced by both Microbacterial enzymes and interior enzymes of ham in the later ripening period.
【语种】英文
【第一作者】Zhifei He
【通讯作者】周光宏

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【学科分类】食品加工技术

【题目】The determination of biogenic amines in chinese fermented sausages
【中文关键词】生物胺,高效液相色谱法,中国发酵香肠
【英文关键词】Biogenic amines, HPLC, Chinese fermented sausages
【中文摘要】发酵香肠样品中生物胺的测定表明该方法有效。所提出的方法,我们决定在江苏,浙江生产的8种不同的生物胺的内容。结果表明,中国的商业发酵香肠中生物胺的含有至少有7种。样品中的生物胺的平均水平是13.40毫克/升,范围从7.83至19.13 mg/100g 。这些级别以下的水平,对于大多数消费者来说,可能会引起直接的不良反应。
【英文摘要】The proposed method for biogenic amines determination in fermented sausage samples showed valid. Using the proposed method, we determined the contents of biogenic amines of 8 different produced in Jiangsu and Zhejiang province. The results showed that Chinese commercial fermented sausages contain at least seven kinds of biogenic amines. The mean total level of biogenic amines in samples was 13.40 mg/l with a range from 7.83 to 19.13 mg/100g. These levels are below the level that may elicit direct adverse reactions for most consumers.
【语种】英文
【第一作者】Z. Xu
【通讯作者】周光宏
【期刊名称、卷期、页码】53 rd International Congress of Meat Science and Technology, 19-20
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【引文索引号】123
【学科分类】食品加工技术

【题目】Identification of critical contaminated source during productionof chilled pork using PCR
【中文关键词】微生物污染来源,冰鲜猪肉, PCR -DGGE ,微生物多样性
【英文关键词】Microbial contaminated source, chilled pork, PCR-DGGE, microbial diversity
【中文摘要】在这项研究中,表面和水的洗涤刀刀是关键的肉中的微生物污染的来源。 PCR -DGGE是有用的受污染的微生物多样性的变化进行分析,并提供实时信息冰鲜猪肉的生产过程中的微生物污染来源。
【英文摘要】In this study, the knife surface and water of wash knife were the critical microbial contaminated source in meat. PCR-DGGE was useful to analyze the changes of contaminated microbial diversity and to provide real-time information about the microbial contaminated source during the produce of chilled pork.
【语种】英文
【第一作者】M.Y. Li
【通讯作者】周光宏
【期刊名称、卷期、页码】53 rd International Congress of Meat Science and Technology, 165-166
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【引文索引号】123
【学科分类】食品加工技术

【题目】Effects of endogenous proteases effectors on the degradation of troponin-t and desmin of chicken brisket muscle during postmortem aging
【中文关键词】鸡,老化,蛋白质降解,蛋白酶效应,细胞凋亡
【英文关键词】Chicken, aging, protein degradation, protease effectors, apoptosis
【中文摘要】调查结果证实了较为广泛的接受的假说,即内源性蛋白酶在肉类的蛋白质降解中发挥重要的作用,而钙蛋白酶不能单独占多数的肌肉蛋白的变化发生在宰后成熟,细胞凋亡效应caspase 3的可能是一个新的成员参与肉嫩。

【英文摘要】The findings substantiated the comparatively more widely accepted hypothesis that endogenous proteases play major role in meat protein degradation, while calpains alone can not account for the majority of muscle protein changes occurred during postmortem aging, and the apoptosis effector caspase 3 is possibly a new member involved in meat tenderization.
【语种】英文
【第一作者】M. Huang
【通讯作者】周光宏
【期刊名称、卷期、页码】53 rd International Congress of Meat Science and Technology,203-204
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【引文索引号】123
【学科分类】食品加工技术

【题目】Polyphosphates hydrolysis in chicken breast and effects of their hydrolysis on homogenate gel WHC
【中文关键词】聚磷酸盐,水解,31P NMR ,鸡,WHC
【英文关键词】polyphosphates, hydrolysis, 31P NMR, chicken, WHC
【中文摘要】本结果表明,焦磷酸钠和三聚磷酸钠在鸡胸脯肉水解。来自31 P NMR谱中,典型的峰形成的焦磷酸钠和三聚磷酸钠。焦磷酸得到了充分水解,在10小时之内。三聚磷酸钠也水解完全在10小时和焦磷酸水解率是高于,焦磷酸盐。
【英文摘要】The present results showed that both pyrophosphate and tripolyphosphate were hydrolyzed in the chicken breast meat. From the 31P NMR spectra, the typical peaks were formed by pyrophosphate and tripolyphosphate. Pyrophosphate had been fully hydrolyzed within 10h. Tripolyphosphate was also hydrolyzed completely within 10h and the rate of pyrophosphate hydrolysis was higher than that of pyrophosphates. The different hydrolysis between pyrophosphate and tripolyphosphate resulted in different effects on the WHC of chicken breast meat homogenate gel. Pyrophosphate can increase the gel WHC more effectively than tripolyphosphate, but pyrophosphate effect on the WHC of chicken breast homogenate gel diminished with its hydrolysis.
【语种】英文
【第一作者】Rui Yao
【通讯作者】彭增起
【期刊名称、卷期、页码】53 rd International Congress of Meat Science and Technology, 229-230
【论文发表时间】2007-08-05 00:00:00
【引文索引类型】其他
【引文索引号】123
【学科分类】食品加工技术

【题目】Changes of ph value and lactic acid content in the muscles of pigs and bulls during the first 6 days post mortem
【中文关键词】pH值,乳酸,老化,猪,公牛
【英文关键词】pH, lactic acid, aging, pigs, bulls
【中文摘要】研究已经表明,成功地用于RP- HPLC法测定乳酸在冷冻肉。肉pH值的变化和LA含量在猪和公牛之间存在相同的模式。 pH值在猪和公牛的MLD和LA含量具有强烈的显着变化,第一个24小时死后,往往是稍微改变(但不显著) ,未来五天老化。
【英文摘要】Studies have been indicated RP-HPLC method was successfully used to determine lactic acid in chilled meat. The same pattern of change in meat pH value and LA content between pigs and bulls exists. pH value and LA content of MLD both in pigs and bulls have a sharp significant changes in the first 24 h postmortem, and then tended to be slightly change (but non significantly) the next five days aging.
【语种】英文
【第一作者】X.S. Zhu
【通讯作者】周光宏
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【学科分类】食品加工技术

【题目】Effect of high-pressure pretreatment on thermal gelation of myofibrillar proteins and soybean proteins isplate
【中文关键词】高压预处理,热凝胶,流变学特性,凝胶结构
【英文关键词】High pressure pretreatment, thermal gelation, rheological properties, gel structure
【中文摘要】在100MPa的压力预处理比在毫无压力的混合物,G'产生更强的MPI和SPI混合蛋白凝胶在70°C为192.1宾夕法尼亚州的显微照片还表明,压力预处理结果在蛋白质结构的变化,并形成一个更紧凑的网络。
【英文摘要】Pressure pretreatment at 100 Mpa produced stronger gels of the mixed proteins of MPI and SPI than unpressurized mixtures, G' at 70°C is 192.1 Pa. The micrographs also indicated that pressure pretreatment result in the change of structure of proteins and a more compact network formed.
【语种】英文
【第一作者】Y. Wang
【通讯作者】周光宏
【期刊名称、卷期、页码】53 rd International Congress of Meat Science and Technology,237-238
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【引文索引号】123
【学科分类】食品加工技术

【题目】Effect of pyrophosphates on heat-induced gelation properties of myosin from rabbit skeletal muscles
【中文关键词】焦磷酸盐,热诱导的凝胶化,肌球蛋白
【英文关键词】Pyrophosphates, heat-induced gelation, myosin
【中文摘要】PP有显着的热诱导凝胶特性的影响,肌肉类型不同的凝胶强度,西隧和凝胶强度。
【英文摘要】PP has significant effect on the heat-induced gelation properties, and muscle type show different gel strength, WHC and gels strength.
【语种】英文
【第一作者】M.Y. HAN
【通讯作者】徐兴莲
【期刊名称、卷期、页码】53 rd International Congress of Meat Science and Technology,63-64
【论文发表时间】2007-08-05 00:00:00
【引文索引类型】其他
【引文索引号】123
【学科分类】食品加工技术

【题目】Influence of temperature, ph value and storage conditions on nisin activity
【中文关键词】乳链菌肽,活性,温度,pH值,储存条件
【英文关键词】nisin, activity, temperature, pH value, storage conditions
【中文摘要】乳酸链球菌素的活动可以使用滤纸以股代息的方法,根据抑菌圈直径估计。中国乳链菌肽的活性温度,pH值和储存条件显着影响。乳链菌肽在酸性条件下是稳定的温度,然而,随着pH值增加,温度越高是,乳链菌肽的活性的更多的损失。
【英文摘要】Using the method of filter paper scrip, nisin activity could be estimated according to the inhibition zone diameters. Chinese nisin activity was affected significantly by temperature, pH value and storage conditions. Nisin was stable to temperature under acidic condition; however, as pH was increased, the higher the temperature was, the more losses of nisin activity were. Meanwhile, the activity of nisin solution was different from that of nisin powder, which indicated that the effectiveness of nisin used in liquid food may be different from that in solid food. It is reconmanded that all these factors should be considered when use nisin in food processing and preserving.
【语种】英文
【第一作者】Y. Jiang
【通讯作者】周光宏

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【引文索引号】123
【学科分类】食品加工技术

【题目】Changes in flavor compounds of nanjing water-boiled salted duck during processing
【中文关键词】鸭,味,易挥发的化合物,呈味物质,处理
【英文关键词】Duck, flavor, volatile compounds, taste compounds, processing
【中文摘要】脂质氧化和分解鸭特征香气形成的必要条件,特别是对于干燥固化加快脂质氧化和降解NJWSD和处理。微妙的加工前的沸点,特别是对于盐渍,产生的味道的化合物,这可能是原因为NJWSD香香增加效果。
【英文摘要】Lipid oxidation and decomposition were the necessary condition for the formation of duck characteristic aroma, and the processing of NJWSD especially for the dry-curing sped up lipid oxidation and degradation. The delicate processing before the boiling, especially for brining, produced an increase effect on the taste compounds, which could be the reason for the savory of NJWSD.
【语种】英文
【第一作者】Y. Liu
【通讯作者】周光宏
【期刊名称、卷期、页码】53 rd International Congress of Meat Science and Technology,175-176
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【引文索引号】123
【学科分类】食品加工技术

【题目】Combined high pressure and thermal treatmeat on protease activeties in beef muscle
【中文关键词】高压热处理,蛋白酶活动
【英文关键词】high pressure; thermal treatment; protease activities
【中文摘要】蛋白酶的活性下降,在环境温度下的压力越来越大,但施加压力,在40或60°C时,蛋白酶的活性没有影响在牛肉肌肉至200MPa ,这可能导致在肉的嫩化。
【英文摘要】The protease activities decreased with increasing pressure at ambient temperature, but when pressure was applied at 40 or 60°C, the protease activities were not affected in beef muscle up to 200 MPa, which may result in tenderization of meat.
【语种】英文
【第一作者】H. J. Ma
【通讯作者】周光宏
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【引文索引号】123
【学科分类】食品加工技术

【题目】Lipolysis and lipids oxidation of jinhua ham duringtraditonnal processing
【中文关键词】金华火腿,脂肪分解,脂质过氧化,游离脂肪酸
【英文关键词】Jinhua ham, lipolysis, lipid oxidation, free fatty acids
【中文摘要】肌内脂肪金华火腿发酵和熟化过程中更深入的脂肪分解和脂肪在皮下脂肪氧化。高温老化可以加速反应的脂肪和脂肪的抗氧化,并进一步氧化羰基化合物,羧酸和其它的挥发性香味化合物。这些反应温度 ,底物浓度和NaCl含量受
。
【英文摘要】Lipolysis and lipids oxidation in subcutaneous fat are more intensive than in intramuscular fat during fermenting and ripening process of Jinhua ham. High-temperature ageing could accelerate the reaction of lipolysis and lipids oxidation, and further oxidize carbonyl compounds to carboxylic acid and other volatile flavor compounds. These reactions are regulated by temperature, substrate concentration and NaCl content.

【语种】英文
【第一作者】J. H. Zhang
【通讯作者】周光宏
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【学科分类】食品加工技术

【题目】The study of an electronic nose on batch-to-batch quality control of chinese traditional dry-cured ham
【中文关键词】电子鼻,干腌火腿,批与批之间的变化,味道,质量控制
【英文关键词】electronic nose, dry-cured ham, batch-to-batch variation, flavor, quality control
【中文摘要】火腿的味道A和C有较好的稳定作用。电子鼻,以确定原产地不明的火腿样品可能是非常可行的,并可能是一个有用的工具,批与批的质量控制。该仪器可以提供一个很好的结合速成,准确度和灵敏度。
【英文摘要】The flavor of ham A and C had better stabilization .The electronic nose could be very feasible to determine the origin of unknown ham samples and could be a useful tool for batch-to-batch quality control. The instrument could provide a good combination of speeded, accuracy and sensitivity.
【语种】英文
【第一作者】L. H. Pan
【通讯作者】周光宏
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【学科分类】食品加工技术

【题目】Changes of non-protein nitrogen and free amino acids during dry-cured duck processing
【中文关键词】干腌鸭,总氮,非蛋白氮,游离氨基酸
【英文关键词】Dry-cured duck, Total nitrogen, Non-protein nitrogen, Free amino acid
【中文摘要】根据所得到的结果,可以得出结论,干燥固化的鸭,整个的拟订过程,经过一个非常稍微明显的蛋白水解作用,无论是在扩展和强度,由于短期间的处理,但增加的NPN - 火焰原子吸收光谱法测定可能有助于生存质量的最终产品的味道。
【英文摘要】According to the obtained results, it is possible to conclude that dry-cured duck, throughout the elaboration process, goes through a very slightly pronounced proteolysis, both in extension and in intensity, because of the short period of processing, but the increase of NPN and FAAs may contribute the flavor qof final product.
【语种】英文
【第一作者】W.W. Qi
【通讯作者】周光宏
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【学科分类】食品加工技术

【题目】宣威火腿加工过程中的理化变化与标准化生产技术
【中文关键词】　宣威火腿;理化变化;标准化工艺;肌肉;
【英文关键词】Xuanwei ham;physic-chemical changes;standardized technology;M(Muscularis);
【中文摘要】应用现代肉制品腌制技术,对宣威火腿进行标准化腌制,能够稳定产品质量,避免腌制失败的风险。在宣威市的自然气候条件下进行干燥成熟,火腿表层肌肉(半膜肌)中的水分、食盐和游离氨基酸含量均低于深层肌肉(股二头肌),终产品中这些指标的含量分别为:43.93%和55.25%;8.80%和11.14%;5425.02mg/100g(DM)和9040.45mg/100g(DM),表现出明显的

部位差异,达不到标准化产品的质量要求。根据试验结果和资料分析提出的宣威火腿标准化、周年化生产工艺条件,将对生产原料的质量及加工过程中发生的理化及生物学变化进行控制,以便稳定产品质量,保持产品风味的一致性。

【英文摘要】 Xuanwei ham was cured in a standardized way in order to improve the product quality and avoid the risk of decay. The desiccation and aging of the product were conducted in the natural climate in Xuanwei city. In M. semimembranosus (the ham surface layer) and M. Biceps semotus (the haminner layer), the moisture, salt and free amino acid were 43.93% and 55.25%; 8.80% and 11.14%; 5425.02mg/100g(DM) and 9040.45mg/100g(DM)respectively. The differences in different ham parts were so significant that could not meet the quality requirement of the standardized product. The quality of raw material and physico- chemical changes in processing could be controlled by the standardized technology based on the test results so that the quality and the flavor of Xuanwei ham could be improved.

【语种】中文

【第一作者】乔发东
【通讯作者】乔发东

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【学科分类】食品加工技术

【题目】Unconditional and Conditional QTL Mapping for Tiller Numbers at Various Stages with Single Segment Substitution Lines in Rice (Oryza sativa L.)

【中文关键词】single segment substitution line, unconditional QTL mapping, conditional QTL mapping, tiller number, rice
【英文关键词】single segment substitution line, unconditional QTL mapping, conditional QTL mapping, tiller number, rice

【中文摘要】Tiller is one of the most important agronomic traits which influences quantity and quality of effective panicles and finally influences yield in rice. It is important to understand “static” and “dynamic” information of the QTLs for tillers in rice. This work was the first time to simultaneously map unconditional and conditional QTLs for tiller numbers at various stages by using single segment substitution lines in rice. Fourteen QTLs for tiller number, distributing on the corresponding substitution segments of chromosomes 1, 2, 3,4, 6, 7 and 8 were detected. Both the number and the effect of the QTLs for tiller number were various at different stages, from 6 to 9 in the number and from 1.49 to 3.49 in the effect, respectively. Tiller number QTLs expressed in a time order, mainly detected at three stages of 0-7 d, 14-21 d and 35-42 d after transplanting with 6 positive, 9 random and 6 negative expressing QTLs, respectively. Each of the QTLs expressed one time at least during the whole duration of rice. The tiller number at a specific stage was determined by sum of QTL effects estimated by the unconditional method, while the increasing or decreasing number in a given time interval was controlled by the total of QTL effects estimated by the conditional method. These results demonstrated that it is highly effective and accurate for mapping of the QTLs by using single segment substitution lines and the conditional analysis methodology.

【英文摘要】Tiller is one of the most important agronomic traits which influences quantity and quality of effective panicles and finally influences yield in rice. It is important to understand “static” and “dynamic” information of the QTLs for tillers in rice. This work was the first time to simultaneously map unconditional and conditional QTLs for tiller numbers at various stages by using single segment substitution lines in rice. Fourteen QTLs for tiller number, distributing on the corresponding substitution segments of chromosomes 1, 2, 3,4, 6, 7 and 8 were detected. Both the number and the effect of the QTLs for tiller number were various at different stages, from 6 to 9 in the number and from 1.49 to 3.49 in the effect, respectively. Tiller number QTLs expressed in a time order, mainly detected at three stages of 0-7 d, 14-21 d and 35-42 d after transplanting with 6 positive, 9 random and 6 negative expressing QTLs, respectively. Each of the QTLs expressed one time at least during the whole duration of rice. The tiller number at a specific stage was determined by sum of QTL effects estimated by the unconditional method, while the increasing or decreasing number in a given time interval was controlled by the total of QTL effects estimated by the conditional method. These results demonstrated that it is highly effective and accurate for mapping of the QTLs by using single segment substitution lines and the conditional analysis methodology.

【语种】英文

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【通讯作者】张桂权

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【题目】磷酸盐混合物对鸡胸肉盐溶蛋白凝胶特性的影响
【中文关键词】磷酸盐;鸡胸肉;凝胶;特性
【英文关键词】polyphosphates;chicken breast;gel;functionalyties
【中文摘要】本试验以艾维茵肉鸡鸡胸肉为试材,采用混料回归试验设计,在特定的条件下加入不同配比的磷酸盐TSPP、STPP、HMP,提取盐溶蛋白,制备热诱导凝胶。通过蛋白含量及其组分、凝胶保水性、流变性的测定,筛选最适磷酸盐混合物。结果表明,不同磷酸盐混合物改善凝胶特性的程度不同。在0.01mol/LMgCl2、0.6mol/LNaCl和pH7.0条件下,改善鸡胸肉盐溶蛋白凝胶特性的最佳磷酸盐配比为TSPP:STPP:HMP=1/3:5/12:1/4。当这种磷酸盐混合物的添加量为3g/kg时,可使鸡胸肉盐溶蛋白凝胶保水性和流变特性保持较高水平。
【英文摘要】The gel functional properties of salt soluble proteins of chicken breast was studied here by Mixed regression design in this experiment. Different polyphosphates mixture(STPP, DSPP, HMP) were applied to improve the meat quality in a certain cases. The protein content, protein composition, water-holding-capacity(WHC), rheological properties of heat-induced gel of chick breast were measured and analysed, so that the better polyphosphates mixture was choosed. The main research contentswere as followed: the effect of different polyphosphates mixture was different. In certain cases(0.01mol/L MgCl2, 0.6mol/L NaCl, pH7.0), the WHC and rheological properties of the chicken breast gel was better when the polyphosphates mixture was DSPP: STPP:HMP = 1/3:5/12:1/4 and total amount was 3g/kg.
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【第一作者】彭增起
【通讯作者】彭增起
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【学科分类】食品加工技术

【题目】瓜类细菌性果斑病菌过敏性反应和致病性(hrp)基因簇部分基因的克隆及功能分析
【中文关键词】瓜类细菌性果斑病菌,过敏性反应和致病性(hrp)基因,突变,致病性
【英文关键词】Bacterial fruit blotch of melon,Hypersensitive response and pathogenicity(hrp)gene,Mutant,Pathogenicity
【中文摘要】过敏性反应和致病性(hrp)基因存在于革兰氏阴性植物病原细菌中,决定病原细菌对寄主植物致病性和诱导非寄主及抗病植物过敏性反应(hypersensitive response,HR)。本研究从果斑菌(Acidovorax avenaesubsp.citrulli)的hrp基因簇中克隆了hpaA、hrcT、hrcC和hrpG基因,通过同源重组的方法,分别构建了其突变体。电镜观察发现,hpaA和hrpG基因突变体的鞭毛缺失且细胞定结果显示,hpaA、hrcT和hrcC的突变体均失去在烟草上的HR激发能力和在哈密瓜叶片上的致病性;hrpG形态发生显著变化,而hrcT和hrcC基因突变体的鞭毛和细胞形态未发生明显变化。在烟草(Nicotiana tabacam)和哈密瓜(Hami cantaloupe)叶片上的测在烟草上的HR激发能力和在哈密瓜上的致病性则显著减弱;进一步的生长曲线测定结果表明,hpaA、hrcT、hrcC和hrpG的突变体的定殖能力均显著下降。相应地,功能互补后突变体基本恢复至野生表型。证明瓜类细菌性果斑病菌hrp基因作为III型分泌系统关键组份影响病原细菌对寄主植物的致病性和对非寄主及抗病植物的过敏性反应。
【英文摘要】The hypersen sitive response and pathogenicity(hrp)genes exist in Gram-negative plant pathogenic bacteria and are responsible for the pathogenicity of bacteria.They can induce hypersensitive response(HR)on non-host and resistant plants.hpaA,hrcT,hrcC and hrpG genes were cloned from the hrp gene cluster of Acidovorax avenae subsp.citrulli.Disruption mutants of strain xjl12 were successfully generated by a single cross-over event.Electron microscopy observation showed that the cells of hpaA and hrpG mutants lacked detectable flagella and obviously changed in cell morphology,while hrcT and hrcC mutants'flagella and cell morphology did not change.Surprisingly,hpaA,hrcT and hrcC mutants lost HR-in duced capacity in tobacco (Nicotiana tabacam)and the pathogenicity in melon(Hami cantaloupe)leaves;while the hrpG mutant was significantly reduced.Furthermore,growth analysis results showed that colonization of hpaA,hrcT,hrcC and hrpG mutants were significantly decreased,respectively.Accordingly,the mutant phenotypes nearly recovered after complement.Overall,these results indicate that the hrp genes of bacterial fruit blotch of melon

as a key component
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【通讯作者】胡白石
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【学科分类】植物保护学

【题目】瓜类细菌性果斑病菌luxR基因的功能分析
【中文关键词】信号分子,群体感应,luxR基因,瓜类细菌性果斑病菌
【英文关键词】Signal molecule,Quorum sensing,luxR gene,Acidovorax avenae subsp.citrulli
【中文摘要】luxR基因作为信号分子受体蛋白的编码基因,在革兰氏阴性菌群体感应(quorum sensing,QS)LuxI/LuxR环路中起重要作用。本研究采用PCR技术从瓜类细菌性果斑病菌(Acidovorax avenae subsp.citrulli)xjL12中扩增出luxR同源基因,应用同源重组的方法构建了突变株(△luxR),并对其功能进行初步研究。实验结果表明,△luxR与野生型菌株相比产生的群体感应信号分子浓度降低,抗生素耐受水平有所提高,对哈密瓜(Cucuumis melo var.cantalupensis)幼苗的致病能力下降;RT-PCR实验表明,luxR基因的缺失对luxI基因的表达有抑制作用。本研究为今后对以luxR基因为靶标,利用信号干扰技术综合防治瓜类细菌性果斑病提供基础资料。
【英文摘要】LuxR homologues are the main component of LuxI/LuxR circus in quorum sensing(QS)of Gram-negative bacteria.In this study,an internal fragment of luxR homologue from Acidovorax avenae subsp.citrulli was amplified by PCR,the luxR insertion mutant was constructed by homologue recombination.In comparison withthe wild-type strain,the luxR deletion mutant(△luxR)had a significantly reduced ability to form acyl homoserine lactones(AHLs),which are quorum-sensing molecules.Tolerance to antibiotics were enhanced in the△luxR than that of the wild-type strain.△luxR had reduced virulence on melon(Cucuumis melo var.cantalupensis)leaves.RT-PCR indicated that LuxR protein regulated expression of the luxI gene.The study of luxR gene is to provide basic data for the prevention and control of Acidovorax avenae subsp.citrulli using the technology of signalinterference.
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【第一作者】赵玉强
【通讯作者】胡白石
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【题目】干腌火腿现代滚揉腌制工艺研究
【中文关键词】干腌火腿;滚揉腌制;用盐量;
【英文关键词】dry-cured ham;knead-salting;salt dosage;
【中文摘要】 通过干腌火腿现代滚揉腌制成套技术装备进行滚揉腌制工艺正交试验,研究用盐量、腌制时间、上盐次数等试验因素对腌制效果的影响。结果表明:采用滚揉腌制能有效提高腌腿表层盐分和内部水分传质渗透速度,腌制25d股二头肌NaCl含量达到传统工艺35d水平,且用盐量比传统工艺降低30%,均匀性提高10%;回归试验因数的相关分析结果表明:NaCl含量与腌制时间呈极显著正相关(p<0.01),与用盐量也呈显著正相关(p<0.05)。滚揉腌制工艺优化结果为:6%用盐量—25d腌制时间—4次上盐滚揉处理组合。
【英文摘要】 The modern knead-salting technique of dry-cured ham was studied by orthogonal test, in test factors salt dosage, salting time and salting method. The results showed that the modern knead-salting technique effectively enhances the permeation rate of salt on surface layer and internal moisture transfer speed. Salted for 25 days, the NaCl content in biceps femoris muscles has achieved the traditional process level of 35 days salting, and the salt dosage has been reduced 30% in comparison to the traditional process with the uniformity improved 10%. NaCl content in biceps femoris muscles is significantly and positively correlated with salting time (p<0.01)and salt dosage (p<0.05). The optimizing orthogonal test results are: 6% salt dosage for 25 days and knead- salting 4 times.

【语种】中文
【第一作者】曾 弢
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【题目】中国农业生态系统外来种入侵及其管理现状
【中文关键词】入侵种发生数量,原产地,抗药性,化学防治,生物防治
【英文关键词】tobacc o; Ral stonia solanac earum; phylotype; biovar; Fujian province
【中文摘要】农业生态系统极易遭受外来生物入侵。作者根据文献资料和多年工作观察统计出入侵我国农业生态系统的外来生物共计92科175属239种,其中植物155种,动物55种,微生物29种,植物多为有意引入后逸生,而动物和微生物则主要是无意引入。外来入侵种发生数量呈现从南到北、从东到西逐渐减少的趋势。这些入侵种中,来源于美洲的最多(占45.04%),其次是欧洲(22.90%);菜地(包括温室大棚)和果生物,应作为防除的重点目标。目前农业生态系统外来入侵物种的控制以化学防治为主,但由于长期施用化学农园入侵种最多,分别达64.85%和66.53%,而半年期的秋熟旱地和夏熟旱地分别占34.31%和23.85%。其中17种外来杂草、10种害虫、7种病原菌为恶性有害药,在侵入我国农田的入侵种中,已有51种在世界不同地区演化出抗药性生物型,因而需重视生物防治、农业和生态防治以及检疫等的综合应用。今后外来种对农业生态系统的入侵格局、机制和趋势,入侵途径以及生物入侵和抗药性生物型对农业生态系统中有害生物群落演替的影响、转基因作物导致的生物入侵等问题值得关注。
【英文摘要】Agricultural ecosystems are vulnerable to biological invasions.There are a total of 239 invasive alien species in a variety of agricultural ecosystems in China.Among them,155 species are plants,55 are animals and 29 are microbes.The number of invasive alien species decreases from south to north,and from east to west in China.Invasive alien plant species are generally introduced intentionally,while animals and microbes are mainly unintentionally introduced.Among these invaders,45.04%have a geographical origin in the Americas,22.90%in Europe,and 16.41%in Asia.Of these species,64.85%and 66.53%occur in vegeta-ble gardens(including greenhouses)and orchards,respectively,while 34.31%,23.85%and 6.28%occur in summer-harvested crop dry land,autumn-harvested crop dry land and paddy field,respectively.Among these 239 invaders,17 plant species,10 animals and 7 microbes are noxious pests which,we feel,deserve closer management attention.Currently,chemical control is the principal approach to managing these species in agricltural ecosystems.However,long-term application of pesticides has led to pesticide resistance in some invasive species,with 51 of the 239 invasive alien species reported as exhibiting pesticide-resistant popula- tions worldwide.Therefore,more attention should be paid to management which integrates biological con-trol,ecological measures,agronomic means and quarantine.We suggest that research into the followin is-sues would be fruitful:patterns and mechanisms of and trends in biological invasions in agricultural ecosys-tems,origin sources and invasion pathways,influences of biological invasions and pesticide resistance on successions of pest communities,and biological invasions caused by transgenic crops.
【语种】中文
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【题目】热死环丝菌生长预测模型的建立
【中文关键词】冷却肉; 热死环丝菌; 温度; 预测模型;
【英文关键词】chilling pork;Brochothrix thermosphacta;temperature;predictive models;
【中文摘要】针对引起冷却肉腐败的优势微生物热死环丝菌,以分离得到的S-8菌株作为受试菌株,研究了0~10℃低温条件下热死环丝菌S-8的生长情况。利用SAS程序拟和不同温度条件下的生长情况,经过比较发现,Gompertz模型比线性模型能更好地拟合热死环丝菌的生长,从而得到了其生长的Gompertz模型参数;利用平方根模型对其的最大比生长速率平方根-温

度(U(1/2)-T)进行拟合,得到热死环丝菌S-8生长的二级模型:U(1/2)=0.1192(T+6.00),T∈[0,10];利用培养基数据,冷却肉产品数据和温度波动条件下的数据对所得到的二级模型进行验证,计算得到总的偏差因子和准确因子分别为0.982和1.223,结果表明二级模型能真实快速有效地预测冷链条件下冷却肉中热死环丝菌的生长。

【英文摘要】 Brochothrix thermosphacta is the major spoilage microorganism in chilling pork.Based on one of the isolated strain S-8 from chilling pork,its status of growth from 0~10 ℃ was studied.By the SAS program and the status of growth at different temperatures,compared to linear model,Gompertz model predicted well the growth of Brochothrix thermosphacta,and gained its parameter in Gompertz model;The secondary model of Brochothrix thermosphacta gained by square-root model was described by the following equation:U(1/2)=0.1192(T+6.00),T∈[0,10];Based on the data from experiments,the average bias factor and accuracy factor were 0.982 and 1.223 respectively,and this result showed that the secondary model could be a useful tool for predicting growth of Brochothrix thermosphacta from the temperature history of chilling pork.

【语种】中文

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【题目】福建烟草青枯菌演化型及生化变种鉴定研究

【中文关键词】烟草; 青枯菌; 演化型; 生化变种; 福建

【英文关键词】tobacc o; Ral stonia solanac earum; phylotype; biovar; Fujian province

【中文摘要】本研究尝试采用国际上新兴的青枯菌演化型分类框架并结合传统的生化变种鉴定方法,旨在探究福建省烟草青枯病菌系的构成,从而揭示青枯病的流行规律,为指导烟草青枯病的抗病育种提供理论依据。2008~2009年,分别于福建省南平、三明以及龙岩地区田间烟草病株上分离获得了45个烟草青枯病菌株。经青枯菌演化型复合PCR检测,45个菌株均能够扩增得到片段大小分别为144 bp和280 bp的两条特异性扩增条带,从而表明全部分离菌株均系青枯菌演化型I型即亚洲分支菌株。继而基于45个分离菌株对3种双糖和3种己醇氧化利用能力的检测结果,鉴定出其中43个菌株属于青枯菌生化变种III,1个菌株属于生化变种IV,1个菌株属于非标准型生化变种(能利用山梨醇和甜醇,不能利用3种双糖和甘露醇)。该研究结果部分揭示了造成国外引进的烟草品种青枯病抗性水平下降或丧失的可能原因。

【英文摘要】Abstract: Rising phylotype identification system and tradi tional biovar determination method was combined to determine the structure of tobacco Ralstonia solanacearum strains from Fujian province and the epidemic pattern so as to provide theoret icguidance to disease resis tant breeding. 45 Ralstonia solanacearum strains, isolated from wilted tobacco plants in Sanming,Nanping, and Longyan region of southeast Chinas Fujian province, were collected from 2008 to 2009. Phylotype specific multiplex PCR (Pmx PCR) revealed that all 45 isolates, producing both 144 bp and 280 bp amplicons, belonged to R.solanacearum phylotype I (the Asiaticum division) . Furthermore, on the basis of the ability of isolated strains to oxidize three hexose (lactose, maltose and cellobiose) and three disaccharides (mannitol, sorbitol and dulcite) , 43strains were identified as biovar III, 1 as biovar IV, and 1 asatypical biovar on account of the ability to utilize sorbitol and dulcite. The results explained the possible reason why tobaccocul tivars introduced from abroad lost their resistance or showed lower resistant level to bacterial wilt.

【语种】中文

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【题目】原料腿对金华火腿腌制及产品品质的影响

【中文关键词】金华火腿;原料腿;品质;生产工艺;

【英文关键词】Jinhua ham;raw ham;quality;processing technology;
【中文摘要】采用传统工艺和新工艺加工金华火腿,研究了原料腿重量、鲜冻状态、皮下脂肪厚度对金华火腿腌制过程和加工品质的影响。结果表明:原料腿重影响腌制用盐量、加工各阶段后的失重率、后熟后的产品质量;皮下脂肪厚度影响腌制进程和腌制失重率;冻腿可以作为金华火腿加工的原料腿,但产品加工质量略差。
【英文摘要】Jinhua hams were processed by traditional processing technology or new technology for industrial production, and the effects of the weight, fresh or frozen state, and under-skin fat thickness of the raw hams on curing and product quality of Jinhua hams were studied. The results showed that the salt consumption curing, the weight loss rate after each processing stage, the post- aging quality and under-skin fat thickness can affect the curing procedure and the weight loss during curing. Frozen raw ham can be used for Jinhua ham processing but result in relatively inferior products.
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【题目】植物青枯菌VI型分泌系统核心基因vasK突变株的构建及其致病型的测定
【中文关键词】青枯菌; Ö 型分泌系统; vasK 基因
【英文关键词】Ralstonia solanacearum ; type VI secretion system; vasK gene
【中文摘要】[目的]通过测试vasK基因突变株对番茄的致病力变化,评价该基因在青枯菌致病过程中的作用。[方法]根据青枯菌(Ralstonia solanacearum)中存在的VI型分泌系统基因簇中的核心基因vasK序列设计PCR引物,扩增并克隆vasK基因,将庆大霉素抗性基因(Gm)插入vasK基因内部,克隆至自杀质粒pK18mobsacB中,获得重组自杀质粒pK18-vasK-Gm。将自杀质粒电转化至青枯菌GMI1000感受态细胞中,采用同源重组双交换法,将野生型vasK基因置换。对vasK基因突变菌株进行三步筛选和PCR扩增鉴定。[结果]筛选获得了具有庆大霉素抗性的目标基因被抗性基因替换的青枯菌突变株(GMI1000-m)。土壤接种番茄青枯菌结果显示,突变株GMI1000-m的致病性较野生型GMI1000明显下降。[结论]vasK基因在青枯菌致病过程中具有重要作用。
【英文摘要】Abstract [Object ive] The change in pathogenicity of the vasK mutant to the tomato was investiga ted to estimate the function of the vasK gene in the pathogenicity process o f Ralstonia solanacearum . [Method] According to the sequence of vasK gene, a key component of type Ö ecr etion system in Ralsto niasolana cearum , PCR primerswere designed to amplify vasK gene . vasK gene w as m utate d by inser ting a gentamicin # 3 - aetyltr ansfe rase gene (Gm gene) , and the mutated vasK wa sinserted into suicide vctor pK18mobsacB , resulting in pK18 - vasK-Gm .The vector pK18 - vasK-Gm w as then ntroduced into R. solanacearum GMI1000. The vasK mutant, named GMI 1000-m, was g ener ated by homologousrecom bination and selected by a three - step method. MI1000-m was identif ied by PCR amplification. [Result] The pathogenicity test of the mutant GMI1000-m was decreased com -pared with the wild type GM 1000. [Conclusio n] The vasK gene was animportant factorin the pathog enesis of R . solanacearum .
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【题目】高品质干腌火腿关键加工技术
【中文关键词】干腌火腿;高品质;关键加工技术;
【英文关键词】Dry-curing ham;high quality;key processing technology;
【中文摘要】综述了传统干腌火腿的加工工艺特征,分析了传统干腌火腿加工的原理及关键加工工艺。提出了生产高品质干腌火腿的现代化加工方法。

【英文摘要】The characteristic technology and the key processing principle of traditional dry-curing ham were reviewed in this paper. The processing course of modernization and standardization was put forward for high quality of dry-cured ham.
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【题目】大豆质核互作雄性不育系NJCMS2A及其保持系的花药蛋白质组比较研究
【中文关键词】大豆;质核互作雄性不育;花药;蛋白质组;双向凝胶电泳;基质辅助激光解吸飞行时间质谱
【英文关键词】an;Cytoplasmic—nuclear male.sterility;Anther;Proteomics;2*DE;MALDI一’110F—MS
【中文摘要】大豆质核互作雄性不育系NJCMS2A是以栽培大豆组合(N8855×N1628)F2不育株为母本,以N1628为父本,通过连续回交选育而成的,N1628(或NJCMS2B)为其同型保持系。对NJCMS2A和NJCMS2B的二胞花粉期花药进行蛋白质组比较分析,获得重复性好的双向电泳图谱,在分子量18.4~116.0 kD、等电点4~7线性范围内,检测到约217个蛋白点,其中差异表达蛋白点25个,包括在NJCMS2A中出现而在NJCMS2B中缺失的蛋白点13个,在NJCMS2A中缺失而在NJCMS2B中出现的蛋白点10个,另有2个蛋白点的表达量在NJCMS2B中比在NJCMS2A中明显增强。利用基质辅助激光解吸飞行时间质谱(MALDI—TOF—MS)技术对差异表达蛋白进行分析,获得肽质量指纹图谱,用Mascot软件搜索NCBInr数据库,鉴定出14个差异表达蛋白,其中10个在NJCMS2A中出现而在NJCMS2B中缺失和4个在NJCMS2A中缺失而在NJCMS2B中出现。对热激蛋白22 kD、半胱氨酸蛋白酶、v型H+一ATP酶A亚基、MADS盒蛋白和淀粉分支酶等主要差异蛋白进行功能分析,推测不育系NJCMS2A雄性不育性可能与能量代谢紊乱、细胞程序化死亡(PCD)、淀粉合成受抑制和花器官发育调节基因作用失控等有关。
【英文摘要】Cytoplasmic.nuclear male sterility iS a moior tool in the hybrid seed production for utilization of heterosis in crops.The soybean cytoplasmic.nuclear male.sterile line NJCMS2A was developed through a consecutive backcross procedure with male—sterile plants of(N8855 x N1628)F,as donor parent and N1628(designated as NJCMS2B afterwards)as recurrent parent.,111e present paper was aimed at the differential expressed proteins of anther at binucleate pollen stage between NJCMS2A and its maintainer NJCMS2B.The developmental stage of the anther was determined by both the external morphological performance of the flower bud and the microscopic observation of the microsporogenesis.Two—dimensional gel eleetrophoresis(2一DE)technique was used to separate the protein spots and the gels were stained with Coomassie Blue G.250.The obtained 2一DE maps were pretty consistent among replications.The difference between the protein maps of anthem from NJCMS2A and NJCMS2B was analyzed with the PDQuest image software.About 217 protein spots were detected within Mr 18.4—116.0 kD and pH 4 7.’rotal 25 spots out of 217 were found differentially expressedbetween NJCMS2A and NJCMS2B.Among these.1 3 protein spots were present in the anther protein map of NJCMS2A but absent in that of NJCMS2B,and 10 protein spots present in that of NJCMS2B but absent in that of NJCMS2A,another two protein spots were up—regulated significantly in the map of NJCMS2B in comparison with that of NJCMS2A.The matrix—assisted laser-adsorotion/ionization time.of-flight mass spectrometry(MALDI.TOF—MS)technique was used to obtain the peptide mass fingerprinting of the differentially expressed proteins and the MASCOT software was used to search the protein database NCBInr.%e results were as follows:10 proteins were present in NJCMs2A anther at binucleate pollen stage but absent in NJCMS2B.These were heat shock 22 kD protein,AIGl-like protein,oligouridylate binding protein,cysteine proteinase,hypothetical protein MtrDRAFY—ACl4657098vl,vacuolar H+一ATpase A subunit,adenosine/AMP deaminase,translational initiation factor EIF,4A,cullin,and beta.am-ywin synthase.Four proteins were absent in NJCMs2A anther but present in NJCMS2B.These were MADS box protein,starch branching enzyme,glutathione—S—transt’erase,and auxin— induced protein AUX28.According to the literature.the functions.especially those related to the male sterility of the major differentially expressed proteins,including heat shock 22姻protein,cysteine proteinase,vacuolar H+一ATPase A subunit, MADS box protein。and starch branching enzyme were reviewed and discussed.It was inferred that the male sterility of NJCMS2A might be related to energy metabolism turbulence。the programmed cell death(PCD),starch synthesis suffocation and the disturbed function of the flower developmental gene.But the exact mechanism of the difierentially expressed proteins above leading to the male sterility of NJCMS2A are to be further studied。
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【第一作者】曾维英

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【题目】Effect of um calpain mrna expression on tenderness in duck meat
【中文关键词】鸭,压痛,蛋白酶基因
【英文关键词】Duck, tenderness, calpain gene
【中文摘要】根据鸡calpain和β-肌动蛋白的序列,两个引物设计为充分地鸭肌肉的mRNA ,和蛋白酶基因和β-肌动蛋白基因的部分克隆。两个引物被用来进行实时PCR分析蛋白酶和β-肌动蛋白与SYBR Green法。
【英文摘要】According to the sequence of chicken calpain and β-actin, two primers were designed to amply duck muscle mRNA, and calpain gene and β-actin gene were partially cloned. Then two primers were used to conduct real-time PCR analysis of calpain and β-actin with SYBR Green method. The result showed: (1) The similarity of calpain gene between duck and chicken was only 90%; (2) The expression level between breast and thigh meat differ dramatically, which indicated that calpain may play an important role in duck meat tenderization.
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【第一作者】D.C. Zang
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【题目】黄鹌花与一枝黄花及其同属近缘种的形态比较
【中文关键词】黄鹌花;加拿大一枝黄花;一枝黄花; 形态特征;加拿大一枝黄花复合种
【英文关键词】Key words Huang-ying -hua ; Solidago canadensis L . ; Solidago decurrens Lour . ; morphological characteristic ; Solidago canadensis complex
【中文摘要】形态上与入侵杂草加拿大一枝黄花十分相似的 黄鹌花 , 近来作为鲜切花的配花走俏花卉市场,也引起了社会对其管理的高度关注。本文通过比较市售 8个批次的 黄鹌花 与 5个入侵中国的加拿大一枝黄花种群、原产地的一枝黄花属 2个种群以及一枝黄花的叶和花的 11个形态学特征, 并进行聚类分析。结果表明除第 5批 黄鹌花 外的 7个批次单独聚为一类,第 5批次与 35个入侵中国的加拿大一枝黄花种群聚为一大类, 再结合加拿大的 2个种群, 而一枝黄花单独为一类。这充分说明 黄鹌花 并非一枝黄花, 而与入侵我国的加拿大一枝黄花各种群接近。进一步再与巨大一枝黄花和粗糙一枝黄花特征相比较分析, 发现 黄鹌花 与粗糙一枝黄花聚在一组,并进一步与入侵的加拿大一枝黄花相聚,加拿大 1和 2的种群更接近巨大一枝黄花, 而一枝黄花单独成为一支。无论是加拿大一枝黄花、 粗糙一枝黄花还是巨大一枝黄花都属于 加拿大一枝黄花复合种 。由此可以认为市售 黄鹌花 属于外来入侵杂草加拿大一枝黄花的复合种。叶片长宽比、 离基三出脉距叶基距离、 表皮毛数的多少、 缘花 /盘花比等是 黄鹌花 与该属其它类群分类鉴定的重要形态学特征性指标。
【英文摘要】Abstract Huang-ying -hua is awidely-used cut flower in florist currently , but it is similar to the invasiveweed Solidago canadensisinmorpholoical characteristics , so it has caused public concerns . Comparat i vestud ieson mor phological characteristics of eight batches of Huang-ying-hua with 35 invasive populations ofS. cana-densis in our country , two populations ofSolidago L. sampled from Canada and Soli dagodecurrens were conduc-ted . The cluster analysis sho w ed that seven batches of Huang -ying -hua samplesw ere clustered together except the fifth batch , which was clustered with S.canadensis in one group, Huang-yng-hua , S. canadensis , and the popu lations sampled in Canada ere clustered intoone group while S. decurrens was grouped in tosoleone . This sh wed Huang-ying -hua is similar to S. canadensis, not S. decurrens . The further comparative stud ies onmor -pholog ical ofS. gigan tea and S. alt issi ma showed that Huang-ying -hua and S.altissima were together and clustered with invasive populations , and the populations sampl d from Canada were more similar to S. gigantea.S. canadensis , S. altissima and S. gigantea a llbelonged to S. canadensi s complex . The length /width ratio of leaves , the leng thbetween triplinerved and leaf base , the number o f epider m al hai r on vein and the ratio of disc floetstoray floretswere the importantmorpho logical characteristics of Huang -ying -hua and ot

herspeciesinge -nus of Solidago L .
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【第一作者】马 玲
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【题目】外源酶对发酵羊肉香肠挥发性风味物质的影响
【中文关键词】外源酶;发酵羊肉香肠;挥发性风味物质;
【英文关键词】exogenous enzyme;fermented mutton sausage;volatile flavor component;
【中文摘要】研究外源酶对发酵羊肉香肠挥发性风味物质的影响。通过顶空固相微萃取-气相色谱-质谱联用技术测定发酵羊肉香肠中的挥发性风味物质。结果表明,发酵羊肉香肠中的主要挥发性风味物质为醛类、烃类、醇类和酯类等。对照组和试验组发酵香肠挥发性风味物质的种类和含量存在着一定的差别。
【英文摘要】Effects of exogenous enzyme on volatile flavor component of fermented mutton sausage were studied in this paper.Solid phase microextraction coupled with gas chromatography-mass spectrometry was used to analyzed the volatile flavor component.The results showed that the main volatile flavor components in fermented mutton sausage include aldehydes,hydrocarbons,alcohols and esters.Differences of kinds and content of volatile flavor component existed between control sausages and exogenous enzyme treated sausages.
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【题目】马铃薯腐烂茎线虫类FMRF酰胺多肽Dd-flp-1基因的克隆与表达定位分析
【中文关键词】马铃薯腐烂茎线虫,类FMRF酰胺多肽(FLPs),基因克隆,原位杂交
【英文关键词】Ditylenchus destructor, FMRFamide-like neuro peptides(FLPs), Gene cloning, hybridization
【中文摘要】植物寄生性线虫类FMRF酰胺多肽(FMRFamide-like neuropeptides,FLPs)在线虫的取食、分泌、迁移入侵和繁殖过程中发挥着重要的作用。本研究根据EST序列结合RACE方法,获得了一个马铃薯腐烂茎线虫(Ditylenchus destructor)类FMRF酰胺多肽基因的cDNA全长。该基因cDNA全长序列为891bp,包括一个681bp的完整开放阅读框,编码一个包含227个氨基酸的蛋白,预测的分子量为25.36kD。序列分析表明,该蛋白N端有一个由43个氨基酸残基组成的信号肽,C端含117个氨基酸的FMRF酰胺肽的特征区,其中包含有5个NFLRFG的FLPs肽,属于典型的FLP-1型蛋白,该基因命名为Dd-flp-1(GenBank登录号为GU198750)。系统发育分析表明,Dd-FLP-1与自由生活线虫、动物寄生线虫和其他迁移性植物寄生线虫的FLPs属于同一支,推测线虫FLP的进化与其生活习性密切相关。原位杂交结果表明,Dd-flp-1在马铃薯腐烂茎线虫的咽神经环、后膀胱神经节多个细胞特异表达。推测DD-FLP-1主要与马铃薯腐烂茎线虫的取食、运动和排泄功能相关。本研究结果将为植物线虫flp基因功能的研究和寻求新的植物寄生线虫防治策略提供理论依据。
【英文摘要】FMRF amide-like peptides (FLPs) play an important role in infection, feeding and reproduction of plant arasitic nematode. A novel FMRFamide-like europeptide gene was isolated from by EST analysis and RACE methods. The full length cDNA of - - consisted of 891 bp, with a 681 bp ORF encoding a 227 amino acid rotein and the predicted molecular weight was 25.36 kD. The protein included a signal peptide of 43 amino acids on the N-terminal and a predicted FMRF domain with five FLPs as NFLRFG on the C-terminal. It was a typical FLP-1-type protein, named
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【题目】宣威火腿加工过程中挥发性风味化合物分析
【中文关键词】宣威火腿;挥发性化合物;分析;风味;
【英文关键词】Xuanwei ham;volatile compounds;analysis;flavor;
【中文摘要】根据传统宣威火腿的生产工艺条件,实施标准化生产关键工艺控制。用同时蒸馏萃取法(SDE)结合气相色谱/质谱(GC/MS)对宣威火腿生产过程中形成的挥发性风味化合物进行分析。结果表明:挥发性化合物的种类随着加工时间的延续逐渐增多,挥发性化合物的相对总含量则在6月龄时最高,两者均存在肌肉部位的差异;从0、4、6、12月龄火腿样品的半膜肌和股二头肌中鉴定出的挥发性化合物分别为48、29和19、79和50、98和67种;相对总含量分别为1685.50、3433.40和6677.56、9240.16和13227.85、5550.80和9675.81μg壬烷·100g-1(DM)。醛类是重要的挥发性风味化合物,由于它们的风味阈值较低,对宣威火腿的风味有重要贡献;杂环化合物和含硫化合物,因其含量低、变异大,对宣威火腿风味的贡献还不能定论。
【英文摘要】According to the producing technology condition of traditional Xuanwei ham, the key producing technology of standardization was conducted and the volatile flavor compounds formed were extracted and analyzed with simultaneous distillation extraction (SDE) and GC/MS methods. The results showed that the kinds of the volatile flavor compounds varied with the prolonged processing, and the relative total content reached the most at 6 months. The volatile flavor compounds identified were 48, 29 and 19, 79 and 50, 98 and 67 respectively from samples of M. semimembranosus and M. Biceps semoris at 0, 4, 6 and 12 months; the relative contents at the same samples were 1 685.50, 3 433.40 and 6 677.56, 9 240.16 and 13 227.85, 5 550.80 and 9 675.81 μg nonane · 100 g-1(DM).Aldehydes with low flavor threshold have made great contribution to the flavor of Xuanwei ham. Heterocycle and sulphur compounds as to how to influence Xuanwei ham flavor have not been settled because of their low content and great variation.
【语种】中文
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【题目】SeqHunter:序列搜索与分析的生物信息学软件包
【中文关键词】SeqHunter ;生物信息学; 序列搜索与分析; 软件包
【英文关键词】SeqHunter ; bioinformatics ; sequence search and analysis ; software package
【中文摘要】利用 Microsoft Visual Basic 6.0脚本, 开发了一个在 Window s平台下使用的生物信息学软件包 SeqHunter ; 该软件包以简便的图形界面操作方式,可以实现本地化 Blast, 序列提取、 比对与分析,序列数据库建立和管理等多种常用功能, 为基因功能分析与大规模基因组数据挖掘提供了一个实用工具。
【英文摘要】Seq Hunter, a boinfor m atics tool box, was deveopled by Microsoft Visual Basic 6.0 scripts for Windows environment . The toolbox ould be feasibly used for local Blast, extracti on and ali gnm ent of sequences , construction and managment of sequences data-base . It oul be served as a robust tool for genome and functiona l genomics research
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【第一作者】叶文武
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【学科分类】植物保护学

【题目】1923-2005 年中国大豆育成品种的核心祖先亲本分析
【中文关键词】大豆;育成品种;直接亲本;祖先亲本;遗传基础
【英文关键词】Soybean; Released cultivar; Direct parent; Ancestor; Genetic base
【中文摘要】【目的】研究中国1923~2005年育成大豆品种的系谱,分析其祖先亲本和直接亲本的来源和类型,归纳出近20年来最重要的祖先亲本和直接亲本,为今后大豆育种亲本选配提供参考。【方法】利用1923~2005年全国6 个生态区育成的 1 300 个大豆育成品种的系谱资料研究其祖先亲本和直接亲本组成,计算其核遗传贡献值。【结果】1923~2005年1 300个大豆育成品种来源于670 个终端祖先亲本,其中51.64%为地方品种、38.36%育种品系、7.01%改良品种、2.54%野生豆和0.45%类型不详,相应核遗传贡献率分别为76.29%、14.93%、7.79%、0.54%和0.45%。1 391个直接亲本由育成品种、外国品种、地方品种和育种品系4类型组成,分别占27.76%、6.10%、11.62%和54.52%。在全国1 019个杂交育成品种中,以育成品种和育种品系作为直接亲本的组配方式比例最高,达71.78%。归纳出了1986~2005年间中国941个大豆育成品种最重要的54个祖先亲本和37个直接亲本。【结论】与1923~1995 的相比,近十年来中国大豆育成品种遗传基础有所拓宽,祖先亲本和直接亲本群体扩大了近一倍,地理来源更广泛。但遗传贡献有向少数祖先亲本集中的趋势,各生态区间的种质交流仍少。中国大豆品种遗传基础有待进一步拓宽。
【英文摘要】【Objective】 The present study was aimed to analyze the pedigrees of the 1 300 cultivars released during 1923-2005, to reveal the geographical sources and types of their end ancestors and direct parents, especially those during the recent 20 years, and to summarize the implications in utilization of breeding approaches and parental materials. 【Method】 Based on the collected pedigree data of the 1 300 soybean cultivars released during 1923-2005 in China, the end ancestors and direct parents were traced and then the nuclear contribution from the ancestors estimated and analyzed. 【Result】 Total 1 300 released soybean cultivars were traced to their 670 final ancestors, composed of 51.64% landraces, 38.36% breeding lines, 7.01% improved cultivars, 2.54% wild accessions and 0.45% uncertain type, which provided 76.29%, 14.93%, 7.79%, 0.54% and 0.45% nuclear contribution to the 1 300 released cultivars, respectively. The 1 300 released cultivars were derived from 1391 direct parents, composed of 27.76% cultivars, 6.10% exotic introductions, 11.62% landraces, and 54.52% breeding lines. Among the 1 019 released cultivars developed from artificial hybridization, about 71.78% were from the crosses among cultivars and breeding lines. Total 54 major ancestors out of the 670 ones and 37 major direct parents out of the 1 391 ones of the cultivars released during 1986-2005 were nominated. 【Conclusion】 After a comparison between the data of the cultivars released during 1923-2005 and those during 1923-1995 reported before, the number of end ancestors and direct parents was about the double, the exotic germplasm increased, the geographic source extended, and therefore, the genetic bases of cultivars released during recent ten years in China were broadened. However, the mostpart of the end ancestors was used in only 1-5 released cultivars, while only a few end ancestors provided large genetic contribution but still limited basically in their local ancestors. The authors emphasized the utilization of germplasm rather than the local sources for broadening the genetic base of future cultivars, and suggested further exploration of the genetic structure and potential of core ancestors for achieving breeding by design strategy.
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【题目】梨火疫菌(Erwinia amylovora)环腺苷酸受体蛋白基因(crp)的功能分析
【中文关键词】梨火疫菌, 基因,致病性,胞外多糖
【英文关键词】gene, Virulence, Extracellular polysaccharide (EPS)
【中文摘要】梨火疫菌可引起梨 苹果等蔷薇科(Rosaceae)植物的火疫病 在菊欧文氏菌 中,由 基因编码的环腺苷酸受体蛋白(cyclic adenosine monphosphate (cAMP)receptorprotein, CRP)对果胶酶基因的表达调控和菌株致病性起着重要的作用 本研究首次鉴定并克隆出梨火疫菌中的 同源基因,命名为 ,并通过同源重组的方,构建了梨火疫菌的 基因突变体 Ea以及互补子,进行了致病性 过敏性反应 胞外多糖 鞭毛运动等一系列相关表型的鉴定 结果表明, 基因影响着梨火疫菌的致病性 胞外

多糖 游动性 生长情况等多种分子生物学特性,然而, Ea 仍能引起烟草过敏性反应,并且在过氧化氢敏感度以及沉降性 生物膜和 AI-2 信号分子的生成方面与野生型菌株相比差异明显 本研究结果说明,梨火疫菌 基因对病菌的胞外多糖分泌 生长游动性以及致病性方面具有关键作用关键词 梨火疫菌, 基因,致病性,胞外多糖

【英文摘要】causes fire blight of pear, apple, and many of the Rosaceae family. The cyclic adenosine monphosphate (cAMP) receptor protein (CRP), which is encoded by gene, plays a crucial role in expression of the pectinolysis genes and regulation of the pathogenicity in . In this study, the homolog of gene, designated , was identified and cloned in . A disruption mutant Ea was successfully generated by homologous recombination. Complement strain Ea (pME-) was also constructed. Then gene was characterized to virulence, hypersensitive response (HR), extracellular polysaccharide (EPS), motility and other phenotypes of the phytopathogens . The results showed that the mutant Ea displayed the reduced virulence, EPS production and growth and motility.However, compared to wild type strain NCPPB1665 (Ea1665), the induction of HR in nonhost tobacco, peroxide resistance, sedimentation, biofilm synthesis and AI-2 production of the mutant Ea was not affected. These findings demonstrated that gene in is involved in EPS production, growth, and motility and play an important role in virulence.

【语种】中文

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【学科分类】植物保护学

【题目】离子强度和pH 值对肌原纤维蛋白热诱导凝胶特性的影响

【中文关键词】离子强度;pH;肌原纤维蛋白;凝胶;质构特性;保水性;

【英文关键词】ionic strength;pH;myofibrillar proteins;gel;texture characteristics;WHC;

【中文摘要】以肌原纤维热诱导凝胶的保水性和质构特性,包括硬度、弹性、内聚性、胶黏性、回复性为指标,考察离子强度和pH值对猪背最长肌肌原纤维热诱导凝胶特性的影响。结果表明,离子强度和pH对凝胶不同特性的影响存在差异,综合各种指标,离子强度为0.5,pH值在6.5和7.0之间有利于形成较好的凝胶。不同条件下凝胶形成的机制可能存在差异。凝胶的硬度与弹性、胶黏性和保水性相关性显著(P<0.05),可以作为重点考察的指标。

【英文摘要】Effects of ionic strength and pH values on the characteristics of heat-induced gelation of myofibrillar proteins from longissimus dorse of pigs were studied as the signals included gel hardness,springiness,cohesiveness,gumminess,resilience and water holding capacity(WHC) .Results showed that ionic strength and pH values did not affected different gel characteristics in the same way.Comprehensively speaking,better gel is prone to form when the ionic strength is 0.5,while the pH value between 6.5 and 7.0.Variance seemed to exist in mechanism of gel formation under different circumstance.Correlations between each pair of gel hardness,springiness,gumminess,and WHC were of statistical significance(P<0.05) and researches may take them as the main signals when study myofibrillar proteins gel.

【语种】中文

【第一作者】郭世良

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【学科分类】食品加工技术

【题目】豚草和苍耳上广聚萤叶甲的寄主选择和取食量比较

【中文关键词】豚草; 苍耳; 外来昆虫; 寄主专一性; 寄主转移

【英文关键词】Key words : Ambro siaarte misiifolia ; Xanthium sibiricum; exoticinsec; t host specificity ; host shift

【中文摘要】为探究豚草与苍耳上的广聚萤叶甲种群是否存在分化,对来自这两种植物上的叶甲(分别称为/豚草叶甲0和/苍耳叶甲0)进行了选择性试验,并测定了其对 5种近缘植物的取食量。选择性试验结果表明,两群来源不同的叶甲对豚草和苍耳的选择偏好存在显著差异,表现为豚草叶甲更偏好豚草,而苍耳叶甲相对更偏好苍耳。对广聚萤叶甲成虫取食量的

测定结果表明,对不同测试植物的取食量随来源寄主植物不同而存在显著差异, 两群叶甲对向日葵的取食量存在显著差异,但对其他植物的取食量均无显著差异。豚草叶甲对豚草的取食量显著大于对其他测试植物的取食, 24 h平均取食量达51127 mm2,而对其他 4种植物的取食量无显著差异,均低于 40mm2;苍耳叶甲取食豚草的量为 52124mm2 24 h),与取食向日葵和三裂叶豚草量无显著差异, 但显著大于取食苍耳和菊芋的量,取食后两种植物的量没有显著差异。研究结果说明, 苍耳属植物可能是广聚萤叶甲除豚草外的另一潜在寄主植物。

【英文摘要】Abstract : To study whet herOphraella communa has host specialization on Ambrosiaarte misiifola and Xanthium sibiricum, adualchoice trialwas conducted to s udy the host selection of the O.communa originated from A. arte misii folia (ragw eed cohort) and X. sibiricum (cock lebur cohort) , wih the leaf consumption of the cohorts on five relative plantsX. sibiricum, A.trifida, Helian t hus annuus , H. tuberosus , and A. arte m i sii folia measured . The ragweed cohort O.communa showed asignificant pre ference for A. arte misii folia overX. sibiricum, while the cock -lebur cohortO. communa showed a significant preference to X. sibiricum over A. arte misii folia,asm anifested by t he relative over -preferences . The leaf consumption by the two cohorts differed si gnificantly on sunflower , but had no significant differences on the o ther test plants . Ragweed cohort showed asignificant preference toA. arte misii olia over the other test plants , with a consumption of leaf discs by 51127 mm2 in 24 hours , but sho w ed less difference in the preference to other test plants , with the consumption of leaf discs by < 40mm2. The lea f discs consu mption f A. arte misiifoli by cocklebur cohortw as 52124mm2 , not different from the consumption of sunflower and A. trifida but greaterthan that of X. sibiricum and H. tuberosus , and no si gnificant difference betweent helatter two plants . It was suggested that X. sibiricum could be a suboptimalhost plant as an alternative tooptimal A.artemisiifolia for the leaf beetle O. communa.

【语种】中文

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【学科分类】植物保护学

【题目】玉米抗氧化肽对于中式香肠的氧化稳定性的影响

【中文关键词】玉米蛋白;酶解;中式香肠;抗氧化;

【英文关键词】zein hydrolysates;Chinese sausage;antioxidant activity;

【中文摘要】 主要研究玉米抗氧化肽对于中式香肠氧化稳定性的提高作用。实验以玉米蛋白为原料,采用酶法水解制备玉米抗氧化肽,将其作为抗氧化剂添加到中式香肠中,将香肠在37℃条件下贮藏,分别采用过氧化值(POV)、酸价和硫代巴比妥酸反应物(TBARS)含量变化3种指标考察玉米抗氧化肽对于香肠的氧化稳定性的影响。结果表明,玉米肽的添加显著提高了香肠的氧化稳定性(p<0.05),氧化稳定性随玉米肽添加量的增大而增强,并且2%的玉米肽的抗氧化性要显著高于0.01%的叔丁基羟基茴香醚(BHA)。实验结果还显示,玉米肽的添加不会影响中式香肠应有的质构。

【英文摘要】 In this study,the antioxidant activity of zein hydrolysate was investigate against lipid oxidation in Chinese sausages during storage at 37 °C.Peroxide value(POV),acid value and TBARS value were deter-mined to measure the degree of lipid oxidation.Results showed that the addition of zein hydrolysate significantly increased the oxidative stability of the sausages(p<0.05).The higher the zein hydrolysate con-centration,the stonger the antioxidant activity.Furthermore,the antioxidant activity of 2% zein hydrolysateI was higher than that of 0.01% BHA)(p<0.05).The texture of the sausages were not affected by the addition of zein hydrolysates.

【语种】中文

【第一作者】石丽梅

【通讯作者】陈洁

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【学科分类】食品加工技术

【题目】基于Maxent的麦瘟病在全球及中国的潜在分布区预测
【中文关键词】马铃薯腐烂茎线虫,类FMRF酰胺多肽(FLPs),基因克隆,原位杂交
【英文关键词】Ditylenchus destructor, FMRFamide-like neuro peptides(FLPs), Gene cloning, hybridization
【中文摘要】[目的]麦瘟病是小麦上的一种新病害,明确该病害在全球及我国的潜在分布区域,对于有效控制此病害在全球的扩展蔓延具有重要的意义。[方法]利用MaxEnt生态位模型预测麦瘟病在全球及我国的潜在分布。[结果]南美中东部、非洲东南部和中西部、南亚东南部和东南亚以及澳大利亚东部沿海地区是该病害在全球的主要适生区;而该病害在我国的适生区仅包括云南、广东和海南等省的少数地区。[结论]该病害在我国的适生区较小,但随着全球气候变化,该病原菌的潜在分布范围可能将进一步扩大。
【英文摘要】Abstract [Objective] Wheat blast is a new wheat disease caused by Magnapor the grisea , and now it has become one of the major diseases of wheat in South America. It is urgent to determine the potential geographical distribution of M . grisea in China and the world. [Metho d] The otential distribution regions of M . grisea in the world and China were predicte d by using MaxEnt model. [Result] Mid-east of South America, Southeast and Midwest of Africa, southe ast of South Asia, Southeast Asia and east coast of Australia are the main suitable are as for M.grisea in the world. The suitable areas for M. grisea cover only some ar eas in Yunnan, Guangdong and Hainan in China . [Conclusion] The predicted results showed that the suitable areas for M. grisea in China are relatively small. Climate change may make the potentia ldistribution regions of M. grisea larger.
【语种】中文
【第一作者】曹学仁
【通讯作者】周益林
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【题目】醋酸和乳酸结合处理对冷却猪肉贮藏性的影响
【中文关键词】醋酸和乳酸混合液;冷却猪肉;贮藏性;
【英文关键词】acetic acid and lactic acid combination solution;cooled pork;preservation;
【中文摘要】实验对浓度为1%~4%醋酸和乳酸结合(1:1)处理对冷却猪肉保藏性的影响进行了研究。结果表明,2%以上的醋酸和乳酸混合液可有效降低肉样的初始菌落总数和大肠菌群数,并延缓细菌在贮藏过程中的生长和pH值以及TVBN值的增加,可延长猪肉贮藏期7d。同时,4%浓度的混合液可导致肉样轻微的变色和残留的混合酸味,因此,浓度为2%~3%的醋酸和乳酸混合液是较为合理的处理浓度。
【英文摘要】Treated with 1%~4% acetic acid and lactic acid(1∶1) combinations,the storage effect of cooled pork was determined.The results showed that by using over 2% acetic acid and lactic acid(1:1) combinations,the initial total viable count and coliform group were reduced,the growth of bacteria was inhibited and the pH and TVBN were also controlled to rise.The shelf life of pork could be lengthened for about 7 days.On the other hand,the 4% acetic acid and lactic acid combination could induce slightly discoloration and acidic odor,therefore,2%~3% concentration of acetic acid and lactic acid combination is recommended for cooled pork preservation.
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【第一作者】马汉军
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【题目】工艺条件对猪皮提取物质构和微观结构影响的初步研究
【中文关键词】提取物 质构特性 微观结构 猪皮
【英文关键词】extraction texture microstructure pork skin

【中文摘要】为了给猪皮提取物在肉制品加工中的应用创造条件,采用单因素试验,分别测定不同提取条件(煮沸时间、料液比、pH值、盐浓度)下凝胶质构和微观结构的变化,在此基础上,采用正交试验优化提取条件。单因素试验表明煮沸时间、料液比、提取液pH值对猪皮提取物的质构特性都有显著影响,煮沸时间为60min、料液比为1:5、提取液pH值为5时形成的凝胶最好,盐浓度对质构特性无显著影响。正交试验表明,料液比1:5,盐浓度为3%,煮沸时间60min,pH=6的提取条件下获得的提取物凝胶的质构特性及微观结构最好。

【英文摘要】In order to create conditions for application of pork skin extracts in meat processing,the effects of different extraction conditions such as cooking time,ratio of skin to water,pH value,and salt concentration on texture properties and microstructure of pork skin extracts were conducted by single factor experiments.Then the orthogonal design was used to optimize the extraction conditions.The results of single factor experiments show that cooking time,ratio of skin to water and pH value have significant effects on textural properties and microstructures of pork skin extracts,but salt concentration has no significant effects on those.The property of the gel extracted under the conditions of cooking time 60 minutes,ratio of skin to water 1∶5,and pH5 is the best.The results of orthogonal experiments show the optimal extraction conditions are as follows:ratio of skin to water 1:5,salt concentration 3%,cooking time 60 minutes and pH6.

【语种】中文

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【学科分类】食品加工技术

【题目】人类活动是导致生物均质化的主要因素

【中文关键词】生物均质化; 农业; 城市化; 生物入侵和灭绝

【英文关键词】biotic homogenization; agriculture; urbanization; biological invasion and extinction

【中文摘要】随着全球化和现代化的持续发展, 生物均质化(不同地区的生物群落在物种组成 基因库和功能上趋向于相似或简单化)在全球范围内广泛发生, 给保护生物多样性和种质资源库带来严峻挑战 人类活动是当前全球生物均质化最为重要和直接的推动因素 农业耕作活动直接导致了农田生态系统的普遍生物均质化: 垦荒可直接导致生物多样性大幅减少, 大面积单一化的作物类型 品种和耕作管理模式, 农药化肥的大量使用, 机械化 集约化和转基因作物的推广所带来生物均质化问题都直接威胁粮食生产和安全 城市所带来的普遍相似的高强度人工干扰 交通运输和建设 规划 破坏自然生境等各种人类活动必然驱动全球生物大规模的均质化 人类活动直接导致的少数成功种恶性扩散并迅速取代大量失败种从而导致生物均质化的现象普遍 生物入侵和灭绝 本地种以及新的杂交种的恶性扩散都直接导致生物均质化 生物均质化的隐患严重威胁着我国生态环境和经济社会安定发展, 相关研究在我国尚未起步, 当前我国生物均质化研究的迫切任务主要有: (1) 建立有效的均质化评估方法体系; (2) 研究我国各种主要生态系统类型以及主要生物类群的均质化现状 规律和趋势; (3) 掌握我国农业生态系统生物均质化的现状 规律和趋势; (4) 建立和完善均质化长期监测研究的相关数据库资源

【英文摘要】Abstract: With the development of globalization and modernization,biotic homogenization (BH,referring to the process by which the taxonomic,genetic or functional similarities of regional biotas increase over time) pervasively occurs worldwide.BH seriously challenges the conservations of biodiversity and germplasm resources. Human activities are the principle cause of current global BH. Agriculture directly cause pervasive BH in agro- ecosystems worldwide. Land reclamation usually results in great decease of biodiversity. And BH caused by large areas of homogenized crop species,varieties and tillage management,heavy use of pesticides and fertilizers,mechanization,intensification and the popularizing of genetically modified crops seriously challenges the crop production and security. Unfortunately,information about BH situation,occurrence and trend in agro- ecosystems is rare. And thus the relative study is very urgent,in particular that the agricultural model in China is undergoing dramatic changes. Urbanization generally leads to large areas of uniform artificial habitats and habitat degradation which directly cause pervasive BH. Human- induced species distributions and tinctions can also directly cause BH,such as biological invasions and extinctions and the serious spread of local generalists and new hybrids. Generally eaking,in large scale,indigenous species lean to cause BH,while in small scale they may cause biotic differentiation. China is undoubtedly suffering from ervasive BH,however,relative research has not initiated.Currently,it is urgent to conduct BH researches in China to: (1) establish effective BH ssessing model; (2) understand the BH situations of major ecosystems and species groups; (3) understand situation,regulation and trend of BH in arable

【语种】中文

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【题目】微生物发酵剂对发酵香肠中挥发性成分的影响
【中文关键词】发酵剂;发酵香肠;挥发性成分;
【英文关键词】starter culture;fermented sausages;volatile compounds;
【中文摘要】采用固相微萃取技术结合GC/MS,以壬烷作内标进行定性和半定量,分析自然发酵和添加发酵剂生产的两组发酵香肠的挥发性成分,共鉴定出39种挥发性成分。其中自然发酵组鉴定出35种,总含量为9.486μg等量壬烷/g发酵香肠;添加发酵剂组鉴定出32种,总含量为18.313μg等量壬烷/g发酵香肠。自然发酵香肠主要挥发性成分由萜烯类(27.71%)、酸类(26.42%)和酯类(25.32%)组成;在添加发酵剂组中,最重要的组成是酯类(42.10%),其次为酸类(26.52%)和萜烯类(18.07%)。
【英文摘要】The volatile compounds from natural fermented sausages and starter culture fermented sausages were extracted by SPME and analyzed by GC/MC.Thirty-nine volatile compounds were identified.The total amounts of volatile compounds were 9.486 μg and 18.313 μg equal nonane/g fermented sausages in natural and starter culture fermented sausages,respectively.Compared with the volatile compounds from two batches of fermented sausages,it was found that the main volatile compounds of natural fermented sausages were terpenes,whereas esters were the most important components in fermented sausages with starter culture.
【语种】中文
【第一作者】王海燕
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【题目】广聚萤叶甲地理种群间交配选择及子代的发育表现
【中文关键词】选型交配; 种群分化; 生殖隔离; 物种形成; 生物入侵
【英文关键词】assortative mating ; population differentiation ; reproductive isolation ; speciation ;biological invasion .
【中文摘要】为探究分布于我国不同地域的广聚萤叶甲(Ophraella co mmuna)种群之间的分化现状,本文对来自南京、 长沙和福州等 3个地理种群的交配选择行为及杂交后代发育表现进了研究。结果表明,在试验观察的 6 h内南京种群与福州种群间个体发生交配的概率显著低于对照(种群内雌雄个体间的交配) ,但南京种群与长沙种群个体间发生交配的概率与对照无显著差异;南京和福州种群的雄性与同种群雌性交配选择次数显著多于与异种群雌性交配的次数,但南京与长沙种群间个体交配的次数与对照无显著差异。3个地理种群间个体杂交后代在卵孵化率、 幼虫化蛹率和成虫羽化率等发育特性上与对照 (种群内个体自交)无显著差异。根据研究结果推测,广聚萤叶甲南京种群与福州种群间在个体交配行上存在着一定程度的交配前隔离
【英文摘要】Abst ract : To assess the differen tiation among the geographical populations of exotic leaf beetle Ophrael la communain China , a laboratory experiment w as conducted to observe the assortative mating among the O. communa populations f rom Nan ji ng (32bN, 11817b E), Changsha (28bN,11219b E), and Fuzhou (26bN, 11913bE) and the ofspring developmen tal parameters . The mating choice trial showed that in the six hours of observation, the probability of mating for the individuals ofO. communa population from Nanjingwith those from Fuzhou was significantly low-er than that for the individuals with in the populationrom Nanjing , but no significant differences were observed for the individuals between the populations from Nanjing and Changsha and withinthe population from Nan jing . When given choice between the females from different populations,them ales of the populations from Nanjing and Fuzhou made more mating choice for the females from their own populations , but the males of the populations from Nanjngand Changsha exercised the samemating choice for the femalesrom their own and other populations . The offspring from the mating among populations did not showany significant differences inegg hatching ,pupation, and adultemergence rates . This study suggested that definite degreepre-mating isolation occurred between theO. communa populations from Nanjing and Fuzhou .

【语种】中文
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【题目】托盘和真空包装对冷却猪肉中MetMb还原活性的影响
【中文关键词】冷却肉;托盘包装;真空包装;MetMb还原酶;
【英文关键词】chilled meat;tray packaging;vacuum packaging;MetMb reductase;
【中文摘要】在冷却肉的贮藏过程中,其肌红蛋白(Mb)被氧化为高铁肌红蛋白(MetMb),导致了冷却肉的褐变。研究了托盘包装和真空包装条件下,冷却肉自身的还原系统活性变化规律及其对肉色稳定性的影响。在2周的贮藏期内,真空与托盘包装冷却肉糜肌浆蛋白粗提液的还原活性持续下降;但真空包装组MetMb还原酶粗提液还原活力第1天到第14天活性差异不显著,托盘包装组前后差异显著。真空包装组在贮藏期间MetMb含量持续下降,但托盘包装组MetMb含量则持续上升,说明无氧条件有利于MetMb的还原。托盘包装组TBA在贮藏期间持续上生,但真空包装组TBA变化不明显。结果表明,托盘包装不利于冷却肉自身MetMb还原能力的维持,而真空包装的无氧环境,有利于MetMb的还原和肉色的保持。
【英文摘要】 The myoglobin will be oxidized into metmyoglobin during the storage, causing the discoloration of the chilled meat. This paper focus on the changes of the meat reduction system and its effect on the color of the tray packaged and vacuum packaged chilled meat during storage. During the two weeks of storage, the reduction activity of the sarcoplasmic protein extract was decreased for both tray packaged and vacuum packaged chilled meat, while the reduction ability of the extract of MetMb reductase did not decrease for vacuum packaged meat and decreased for tray packaged meat. The results indicated that vacuum packaging is good for the reduction of MetMb and the color of the meat because of the oxygen free environment compare with the tray packaging.
【语种】中文
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【题目】瓜类细菌性果斑病菌 tvrR 基因的克隆及其对致病性的影响
【中文关键词】瓜类细菌性果斑病菌; tvrR 基因; 突变; 致病性
【英文关键词】Acidovorax avenae subsp. citrulli; tvrR gene; mutant; pathogenicity
【中文摘要】据丁香假单胞菌番茄致病变种 (Pseudomonas syringae pv. tomato) DC3000 中新的毒性基因 tvrR (TetR- like virulence regulator) 的氨基酸序列,从瓜类细菌性果病菌 (Acidovorax avenae subsp. citrulli,Aac) 的全基因组中发现并克隆了 tvrR 基因的同源物 通过同源重组的方法,构建了 tvrR 基因的插入突变体,并且经过 PCR 及 outhern 杂交验证确认突变体和野生型一样可以激发烟草过敏反应 致病性试验结果显示: 突变体比野生型的病程延长,但最终致病情况与野生型无差异 接种的寄主组织中菌生长能力检测发现,突变体的繁殖速度慢于野生型,但最终其菌体数量也能达到野生型菌株的最大值 在营养丰富的LB 培养基和营养贫乏的MMX 基本培养基中生长测定均发,突变体生长速度慢于野生型,但最终也能达到野生型的最大生长量 瓜类细菌性果斑病菌 tvrR 基因突变体致病性的改变与其生长能力变化的一致性表明,其致病性的变化是由其生长能力的改变引起的
【英文摘要】Abstract: According to the sequence of the novel virulence gene tvrR (TetR- like virulence regulator) of Pseudomonas syringae pv. tomato DC3000,a tvrR omolog was found and cloned from the genomic DNA of Acidovorax avenae subsp. citrulli. The tvrR inserted mutant was constructed by homologous ecombination and confirmed by PCR and Southern blot. Both the mutants and the wild- type strains could elicit the hypersensitive response (HR) in onhost tobacco. Pathogenicity tests showed that the disease symptom caused by mutants was delayed when compared to the wild- type strains,but there ere finally no significant differences in pathogenicity between the mutants and the wild- type strains. The inserted mutants grew more slowly than the wild- ype strains,but

their population could finally reach the maximum of the wild- type strains in inoculated leaf tissues of Hami- melon. The inserted utants grew more slowly than the wild- type strains,but they could finally reach the maximum biomass of the wild- type strains in both utrient-rich LB edium and nutrient- poor MMX medium. The consistency of the changes in pathogenicity and growth ability of tvrR mutants indicated that the changes in athogenicity might be caused by the changed growth ability in A. avenae subsp. citrulli.
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【题目】新型复合护色剂及其在盐水方腿中的应用研究
【中文关键词】护色剂;绿茶提取物;盐水方腿;
【英文关键词】color fixative;green tea extract;salted square ham;
【中文摘要】利用柠檬酸、VE、没食子酸丙酯、绿茶提取物各自的特性,通过正交实验最终确定了最佳的新型复合护色剂组合:绿茶提取物0.03%、没食子酸丙酯0.005%、柠檬酸1.0%、VE含量0.01%。验证实验显示,该复配护色剂能使盐水方腿在低温光照条件下贮存一个月后仍保留一定红色。
【英文摘要】Through orthogonal test was designed for optimal inhibition the new compound color fixative:green tea extract 0.03%,propyl gallate 0.005%,citric acid 1.0%,VE 0.01%.Result of valedictory experiment showed that color fixative effected obviously with salted square ham.
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【题目】马铃薯腐烂茎线虫28S rDNA-D2/D3区序列分析
【中文关键词】马铃薯腐烂茎线虫; D2 /D3区片段; 序列分析
【英文关键词】Ditylenchus destructor; D2 /D3 expansion segments ; sequences analysis
【中文摘要】我国危害甘薯的马铃薯腐烂茎线虫 rDNA-ITS基因片段长度存在 A 型 (900 bp)和 B 型 (1 100 bp) 2个类型, A 型腐烂茎线虫群体的 ITS片段比 B型群体少 200 bp。为了进一步研究这 2种类型群体的发育关系, 本文用线虫通用引物 D 2A和 D 3B对来自国内的 21个马铃薯腐烂茎线虫群体和 1个韩国的马铃薯腐烂茎线虫 28S rDNA-D2 /D3区进行了 PCR 扩增, 均产生大小一致的片段,长度约为 780 bp ,克隆、 测序后用 DNAM AN 5 . 2软件和 M EGA4软件进行分析比对,结果表明我国 21个马铃薯腐烂茎线虫群体 28S rDNA-D2 /D3区只有 20余个碱基的差异, 相似率达 97 . 2%。基于 UPGMA 构建的系统发育树很好地区分了马铃薯腐烂茎线虫 A 型和 B型群体, 展现出了群体的来源及发育关系。
【英文摘要】Two types of rDNA-I TS (Type A, 900 bp and Type B, 1100 bp) were demonstrated to exist in Ditylenchus destructor populations on sweet ptatoin China . TheD 2 /D 3 regons of 28S rDNA from 22 populations ofD. destructor were amplifed with universal primer pairsD2A and D 3B. All 22 populations yielded one single fragment about 780 bp . Sequence anaysis and alignment were conducted by using the soft wareM EGA 4 and DNAMAN5 . 2 and all 22 sequencesw ere sub mitted at theGenBank . The results showed hat sequence differences of D 2 /D3 region were only in a fewsites , and that the similarity was 97.2 %. Two types could be disinguished in the phylogenetic tree by using UPGMA method . The evolutionary relationship beween two types and the origin of Ditylenchus specieswere discussed .
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【中文关键词】根结线虫; 孢囊线虫; 植物寄生线虫; 分支酸变位酶; 基因克隆
【英文关键词】Meloidogyne; Heterodera; plant parasiticnematode ; chorismate mutase ; gene cloning
【中文摘要】植物寄生线虫食道腺中表达的寄生基因编码的分泌蛋白在线虫侵入寄主植物、 建立取食位点和抑制寄主的防御反应过程中起重要作用。利用植物寄生线虫食道腺削减 cDNA 文及基于同源克隆等方法, 鉴定了这些过程中起作用的分支酸变位酶 (CM)基因。带有氨基酸末端信号肽的根结线虫 CM、 孢囊线虫 CM 与细菌 CM 的蛋白质序列非常相似。mRNA原位杂交表明, CM 基因专门存在于植物寄生线虫的亚腹食道腺中。RT-PCR分析表明, 它们的转录丰度在线虫寄生的早期丰度较高, 在后期较低或者难以检测到。 outhern交表明, 这些 CM 基因为多基因家族。 CM 的蛋白质在专性内寄生线虫中广泛存在,表明这种多功能的酶在控制线虫侵染植物的过程中起重要作用
【英文摘要】Abstract : Parasitism genes encoding secretory proteins expressed in oesophageal glands of plant parasiticnema todesplay critical roles ininvasion , establishment of feeding sites and suppression of host defenses. Several choris matemutase (CM) gene s have been isolated and identified from M elo idogyne incognita andM. javanica oesophageal gland-region cDNA library and from homology -based cDNA cloning ofM. a rena ria.These chorismate mutases wit aminoterminal signal peptides are significantly similar to that ofG lobodera pallida, Heterodera glycies and bacteria . IntumRNA hybri d izat i on show ed that the transcripts o f CM ac -cumu l a te specifically in the two subvent ralo esophageal gland cells ofMeloidog yne species . RT-PCR analysisconfirmed that the irtranscript abundancesw ere high in the early parasiticjuven ilestages , and low or undetectable in later parasitic stages of the nematode . Southern lot analy sis revea l ed that theseCM gene sw eremembers of asmallmultigene family in plant parasi tic nema todes . The wide spread presence of CM sin specialized sedentary endoparasitic nematode species suggests that thismulti functiona l enzym em ay be a key factorinm odulating plant parasitism.
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【题目】仪器测定客观评定冷却猪肉肉色
【中文关键词】冷却猪肉肉色;仪器测定;客观评定;逐步回归;BP人工神经网络;
【英文关键词】chilled pork color;instrumental measurement;objective evaluation;stepwise regression;BP artificial neural net work;
【中文摘要】研究了仪器测定对冷却猪肉肉色客观评定分级的效果。对宰后冷却24h的猪胴体,切开第3~4肋骨间背最长肌,发色60min,用色度计仪器测定断面肉色参数(L*,a*,b*,Chroma和Hueangle),并进行感官评分。获取的80头猪胴体背最长肌肉色参数经逐步回归和BP人工神经网络建立了肉色预测模型,对其预测效果进行了比较评价。结果表明,仪器测定能够对冷却猪肉肉色进行客观评定。
【英文摘要】 Objective:To objectively evaluate chilled pork color by instrumental measurement . Methods: Pork carcass longissimus dorsi muscles were cut at 3-4th rib and blooming for 60min. The surface color features (L*,a*,b* ,Chroma, Hue angle)were measured by instrument chromameter and the surface sensory color scores were evaluated by 6 panelists thereafter. Color features from 80 carcass longissimus dorsi muscles were used to establish color score prediction models by stepwise regression and BP artificial neural net work(ANN) and the prediction models were evaluated comparatively. Conclusion: these results demonstrated that instrumental measurement could be an effective tool for objective evaluation of chilled pork color.
【语种】中文

【第一作者】孙京新
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【题目】肉鸡屠宰加工及冷藏中的微生物污染来源及菌相分析
【中文关键词】屠宰加工;微生物污染;肉鸡;菌相变化;
【英文关键词】poultry processing;microbial contamination;broilers;changes of microflora;
【中文摘要】研究了商业屠宰及冷藏过程对肉鸡胴体天然菌落的影响,结果表明,空气、预冷水与环境中各种接触面均是禽类生鲜产品的潜在污染源。尽管加工过程能减少胴体表面各种腐败菌、致病菌污染,但某些工序也增加了特定细菌的污染程度,细菌交叉污染发生在加工过程中的所有阶段。总的说来净膛操作会导致胴体污染程度上升,冲洗、预冷过程对减菌都有很好效果。但预冷过程也可能导致嗜冷菌污染的发生,并且加工过程中存活的细菌能在冷藏阶段继续增殖进而导致产品腐败。
【英文摘要】The effect of commercial processing and refrigerated storage in natural microflora of broiler carcasses was studied in this paper , the result indicated that the immersion chiller water, the air at workshops as well as environmental contact surface were the potential sources of contamination. Although poultry processing could eliminate bacterial contamination to a certain extent, some processing steps increased the level of carcass contamination by definite bacteria. Cross-contamination of carcasses occurred in all stages of processing .In a word, evisceration increased the level of carcass contamination , spray rinse and pre-chilling were an effective way of decontamination. However, contamination also happened on the pre-chilling process by spreading some psychotropic spoilage bacteria. Bacteria that survive processing may proliferate during refrigerated storage and cause meat spoilage.
【语种】中文
【第一作者】李虹敏
【通讯作者】周光宏
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【题目】电刺激和延迟冷却对宰后牛肉肌原纤维Troponin-T降解的影响
【中文关键词】电刺激 延迟冷却 肌原纤维 骨架蛋白 Troponin-T
【英文关键词】electrical stimulation delay chilling myofibrillar skeleton protein Troponin-T
【中文摘要】为了探讨牛肉嫩化的机理,选择 24头 24 月龄,体重约 500 kg杂交牛(鲁西黄牛×西门塔尔)随机分成 4 组,在宰前或宰后分别进行以下 4种处理: 常规预冷组, 延迟冷却组, 电刺激处理组, 电刺激和延迟冷却处理组。 用 SDS-PAGE和蛋白免疫印迹的方法比较分析了 4 种处理牛肉成熟1,3,7,10 d 其肌原纤维骨架蛋白 Troponin-T的降解情况。结果表明:与常规冷却组相比,电刺激处理在 1、3、7 d 时显著加快了 Troponin-T的降解,而 10d 时差异不显著;延迟冷却处理在 1、3 d 时显著加快了 Troponin-T的降解,而 7、10 d时差异不显著;1、3d 时延迟冷却对 Troponin-T的降解影响比电刺激显著,而 7、10 d 时则是电刺激比较显著;电刺激和延迟冷却处理的结合对 Troponin-T 降解的影响比电刺激处理组、 延迟冷却处理组显著。综上可见, 延迟冷却、 电刺激无论在速度和数量上显著加快了 Troponin-T的降解,加快了牛肉成熟,缩短了成熟时间,且二者有协同作用。
【英文摘要】In order to investigate the mechanism of the beef tenderness, 24 hybrid cattle (Chinese Yellow cattle crossedwith Simental) of 24 months and 500kg were chosen to be divided into four groups and treated with four method such asconventional chilling, electrical stimulation, delay chilling, combination of electrical stimulation and delay chilling.Effects of electrical stimulation and delay chilling on the degradation of skeleton protein Troponin-T from myofibrillarwere studied with SDS-PAGE and Western blotting at the aging time of 1, 3, 7,10 days. The results show that comparedwith conventional chilling treatment, the effects of electrical stimulation on the degradation of Troponin-T have obvious difference in 1, 3, 7 aging days, but no obvious difference in 10 aging days, while the one of delay chilling had obvious difference in 1, 3 aging days, but no obvious difference in 7, 10 aging days. The effect of the

combination of electricalstimulation and delay chilling on the degradation of Troponin-T is more obvious than that of electrical stimulation ordelay chilling. It can be concluded that electrical stimulation and delay chilling increase the degradation of Troponin-T not only in velocity but also in quantity, shorten the aging time and had cooperative effect.
【语种】中文
【第一作者】孙清亮
【通讯作者】罗 欣
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【题目】热鲜猪肉、普通冷却猪肉和真空包装冷却猪肉加工过程中品质变化研究
【中文关键词】猪肉;成熟;真空包装;保质期;食用品质;
【英文关键词】pork;aging;vacuum packing;shelf life;eating quality;
【中文摘要】比较研究了热鲜猪肉、普通冷却猪肉和真空包装冷却猪肉在加工过程中胴体温度、pH值、肉色、食用品质(嫩度、风味、多汁性、喜好程度和总体评价)、微生物等的变化。结果表明,真空包装冷却猪肉的嫩度、风味、多汁性、喜好程度和总体评价都比普通冷却猪肉、热鲜猪肉好,真空包装延长了猪肉保质期,宰后成熟提高了猪肉的食用品质,真空包装冷却猪肉更受消费者青睐。
【英文摘要】 In this article, differences between the changes of carcass temperature, pH, meat color, eating quality (including tenderness, flavor, juiciness, overall likeness, and total score) and microbe in hot boned pork, traditionally chilled pork, and vacuum-packed chilled pork were compared. The results showed that vacuum packed chilled pork obtained higher scores in the aspects of sensory tenderness, flavor, juiciness, overall establishment than the others. Vacuum packed, aged pork is preferred by consumers much more since the vacuum packing extended the pork ’s shelf life and postmortem aging processing improved the pork ’s eating quality.
【语种】中文
【第一作者】李春保
【通讯作者】周光宏
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【题目】瓜类细菌性果斑病菌hpaP基因的功能分析
【中文关键词】细菌性果斑病菌; 转座子(Tn5); hpaP
【英文关键词】Acidovorax citrulli; Transposon(Tn5); hpaP
【中文摘要】瓜类细菌性果斑病(bacterial fruit blotch of watermelon,BFB)是近年来发生在西瓜、甜瓜等葫芦科(Cucurbitaceae)植物上的重要细菌病害,由西瓜噬酸菌(Acidovorax citrulli,Ac)引起。本研究以xjL12菌株为背景构建了转座子(Tn5)插入文库。通过注射接种哈密瓜(Cucumismelovar.saccharinus)子叶和烟草叶片进行突变体的筛选,得到1株致病性完全丧失并失去激发烟草(Nicotiana tabacum)过敏反应的突变体△xj48。对△xj48中转座子插入基因的克隆和测序表明,其突变基因为西瓜噬酸菌III型分泌系统(T3SS)中的保守基因hpaP。利用基因重组技术构建了hpaP基因的突变体,发现hpaP突变后影响了xjL12菌株的游动性、生物膜的形成能力及hrcV基因的表达。hpaP基因的互补菌株部分恢复其致病力。本研究证实了果斑病菌中的hpaP基因与该细菌的致病力相关,在侵染瓜类作物的过程中起着不可缺失的作用。
【英文摘要】Acidovorax citrulli(Ac) is the causal agent of bacterial fruit blotch(BFB),a disease affecting watermelon,melon and other cucurbits.A transposon(Tn5) mutant library was constructed with strain xjL12.The mutant △xj48 was selected for its loss of pathogenicity on hami melon(Cucumis melo var.saccharinus) seedlings and its ability to elicit hypersensitive reaction(HR) on tobacco(Nicotiana tabacum).The gene disrupted by Tn5 was identified as a homolog of the hpaP gene,a conserved gene of type III secretion system(T3SS).Further characterization of the mutant using genetic recombination revealed that swimming motility,biofilm formation and the expression of the hrcV gene required a functional hpaP gene.Pathogenicity was partially recovered in a hpaP

complemented strain.The genetic evidence in this report demonstrates that the hpaP gene is critical for the pathogenicity of Acidovorax citrulli,and plays an important role in infection
【语种】中文
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【题目】真空包装羊肉货架期初步研究
【中文关键词】冷却羊肉;真空包装;货架期;
【英文关键词】chilled mutton;vacuuming packaging;shelf life;
【中文摘要】研究了真空包装和热缩处理对冷却羊肉货架期的影响,结果表明,真空包装羊肉的货架期可达25d,热缩处理可延长冷却肉的货架期。
【英文摘要】The effect of vacuum packaging and heat shrinking processing on the shelf life of chilled mutton was discussed in this article.The study result showed that vacuum packaged mutton could be stored for 25 days and heat shrinking treatment could extend the shelf life of chilled mutton further.
【语种】中文
【第一作者】李春保
【通讯作者】周光宏
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【题目】数字图像和逐步回归客观评定冷却猪肉肉色
【中文关键词】色泽 数字图像存储 冷却猪肉 客观评定 逐步回归
【英文关键词】color ;digital image storage;chilled pork;objective evaluation;stepwise regression
【中文摘要】为开发准确、快速的猪肉肉色质量客观评定方法,研究了数字图像处理和和逐步回归模型对冷却猪肉肉色客观评定分级的效果。对宰后冷却 24 h 的猪胴体,切开第3~4 肋骨间背最长肌,发色 60 min,数码相机获取数字图像处理后提取断面肉色参数(L*、a*、b* 、Chroma、 Hue angle)。提取的 80 头猪胴体背最长肌肉色参数经逐步回归建立了肉色评定模型。结果表明,数字图像处理后提取肉色参数建立的逐步回归模型评定冷却猪肉肉色分值的效果优于 BP 人工神经网络模型;若以 | 评定肉色分值-感官肉色分值 | ≤0.3为评定正确判断标准,前者评定正确率为 78.8%,后者为60.4%; 前者与本试验评定正确率最高的单个感官评定人员相比(78.2%),差异不显著(P>0.05)。因此,数字图像处理可有效地对冷却猪肉肉色进行客观评定。
【英文摘要】To develop accurate and rapid method for objective evaluation, the effect of digital image processing and stepwise regression on chilled pork color evaluation were studied. Pork carcass longissimus dorsi muscles were cut at 3~4th rib and bloomed for 60min. Digital images of the muscle surface were captured by digital camera and processed to extract image color features(L*, a*, b*, Chroma, Hue angle). Extracted color features from 80 carcass longissimus dorsi muscles were used to establish color score evaluation model by stepwise regression . The results showed the color score evaluation model by stepwise regression based on color features from digital image processing was better than that by BP artificial neural network and the evaluation accuracy was 78.8% and 60.4%, respectively if judged by the formula | evaluation color score-sensory color score | ≤0.3. The former had no significant variation with evaluation accuracy(78.2%) compared with the best single panelist (P>0.05). Therefore, digital image processing is an effective tool for objective evaluation of chilled pork color.
【语种】中文
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【通讯作者】周光宏
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【学科分类】食品加工技术

【题目】肉类颜色的影响因素研究
【中文关键词】肉色稳定性;影响方法;控制方法;
【英文关键词】Color stability;Affecting factors;Control methods;
【中文摘要】颜色是消费者购买肉品的首要考虑因素,为了最大化肉品色泽的稳定性,本文从肉品的发色呈色机理,影响肉品色泽稳定性的因素,护色的最新控制方法及发展趋势作了概述,以望为肉品工业的发展奠定良好的基础。
【英文摘要】 Meat color is a major factor that influences the purchase decision of consumers.In order to maintain the stability of meat color,this review focused on the mechanism of meat coloration,factors affecting meat color,methods for protecting meat color,methodology used to evaluate meat color and developing trend.It provides the basics for the future development of meat industry.
【语种】中文
【第一作者】白凤霞
【通讯作者】戴瑞彤
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【题目】盐腌肉制品复合腌制剂配方筛选的研究
【中文关键词】鲜肉;微生物;抑菌圈;腌制剂;
【英文关键词】Fresh meat;Microorg anism;Antibacterial zone trail;Cured meat’s preparation;
【中文摘要】本试验首先对鲜肉中的微生物进行了初步分离;然后征对分离出的细菌采用抑菌圈试验法研究了复合腌制剂不同配比对肠杆菌科菌和热死环丝菌的抑制效果;最后进行腌肉试验,证实了当乳酸钠2%,柠檬酸2%,抗坏血酸0.2%,乙酸1.2%,氯化钠3.5%时,能够较好的抑制细菌的生长,为生产低盐腌肉制品提供了理论依据。
【英文摘要】Firstly the microbe of fresh meat was separated in this experimentation,then in order to control B. thermosphacta and Staphy lococcus,antibacterial zone trials were carried out by cured meat’s compound preparation.At last,cured meat tried out,the result shows:NaCl 3.5%,lactic sodium 2%,citric acid 2%,acetic acid 1.2%, Vc 0.2%,the antibacterial effect was the best,according to which we can produce low-salt cured meat.
【语种】中文
【第一作者】张二燕
【通讯作者】乔发东
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【题目】广式腊肠加工及贮藏过程中蛋白质降解动态研究
【中文关键词】广式腊肠;蛋白质动态降解;人工加热烘烤脱水;日照自然干燥脱水;
【英文关键词】Cantonese sausage;dynamic proteolysis;roasting dehydration;solarizing dehydration;
【中文摘要】 本文以总氮、非蛋白氮、游离氨基酸、氨基态氮及挥发性盐基氮为指标,通过对比方法,系统研究了广式腊肠日照自然干燥脱水和人工加热烘烤脱水加工工艺和不同的贮藏条件下蛋白质降解的动态变化。研究结果表明,人工加热烘烤脱水腊肠非蛋白氮、游离氨基酸的含量均高于日照自然干燥脱水腊肠,而氨基态氮含量则低于日照自然干燥脱水腊

肠。在贮藏过程中,干燥脱水方法、包装形式及贮藏温度对于腊肠的非蛋白氮含量及氨基态氮含量有显著性影响(p<0.05)。长期高温贮存(30°C、100d)腊肠挥发性盐基氮含量尽管有所上升但对腊肠风味的影响不大。

【英文摘要】Dynamic proteolysis in Cantonese sausage was determined during process (solarizing dehy-dration and roasting dehydration) and different storage conditions by comparing and charactering total nitrogen, non-protein nitrogen (NPN), free amino acids (FAA), the α-aminoacidic nitrogen (NH2-N) and the total volatile basic nitrogen (TVBN). The result showed that the NPN and FAA content of the roasted was higher than that of the solarized, but the NH2-N content of the roasted was lower. Drying method, package and temperature influenced the NPN and NH2-N content of Cantonese sausage significantly in storage. Long time and high temperature (30°C, 100d) storage increased the TVBN content of sausage, however which hardly debased the flavor of sausage.

【语种】中文

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【题目】干切牛肉冷冻干燥中高速率升华条件的动态研究

【中文关键词】干切牛肉 冷冻干燥 升华 温度 含水率

【英文关键词】beef slice freezing drying sublimation temperature moisture ratio

【中文摘要】该文研究了干切牛肉冷冻干燥中使升华干燥速率最大化所需要的操作条件。通过建立升华过程中冻结物料温度在瓦时冰晶以最大速率升华所允许的升华层厚度δis、升华时间tis及升华所需物料表面温度瓦的计算模型,计算了预冻终温-30、-29、-28、-26、-24、-22°C的冻结物料以最大速率升华所允许的物料厚度分别为18、15、12、8、6mm时,升华过程中物料含水率、升华所需物料表面温度Tis;进而预测了干切牛肉冷冻干燥升华过程中制品含水率、物料中心温度随时间发生的动态变化及升华所需物料表面温度的动态值。设定干燥室压强为10Pa,以物料表面温度预测值控制加热搁板温度开展验证实验,结果表明:物料厚度分别为15、12、8、6mm的干切牛肉在升华干燥过程中预测含水率与实测含水率相对误差±10%,物料中心温度计算值与实测值的绝对误差±5°C,说明所建立的物料表面温度预测模型可用于6、8、12、15mm干切牛肉冷冻升华干燥中搁板加热温度的优化控制,比较不同厚度干切牛肉冷冻升华干燥实验的平均升华速率、脱除水分耗能,6mm厚物料在升华干燥中升华速率最大、能耗最低。

【英文摘要】The operation conditions for the higher sublimation rate during freeze drying of cooked beef slice were studied. Mathematical models were established for sublimation layer thickness(δis), sublimation time (tis) and sample surface temperature (Tis) suited for the higher sublimation rate when the temperature of frozen sample is Ti during the sublimation. When the terminal freeing temperatures were -30, -29, -28, -26 and -24°C, respectively, The suitable sample thickness were 18, 15, 12, 8 and 6mm, respectively under the higher sublimation rate and the moisture rate and surface temperature of the sample were calculated. Moreover, the moisture ratio, center and surface temperature changing with time were forecast. The validation experiments were conducted, in which chamber pressure was 10 Pa, and shelf temperatures were controlled according to predictive temperature of sample surface. The results show that the comparative errors between forecast and measured moisture ratio are lower than 10%, and absolute errors between forecast and measured centre temperature of drying sample are lower than 5°C. It can be concluded that the predictive model of surface temperature can be applied in shelf temperature control during sublimation drying of frozen cooked beef slice with the thickness of 6~15 mm. Comparing average sublimation rate and energy consumption for dehydrating water from different samples with the thickness are 6, 8,12 and 15 mm, the highest sublimation rate and the lowest energy consumption are obtained when sample thickness is 6 mm.

【语种】中文

【第一作者】罗瑞明

【通讯作者】周光宏

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【学科分类】食品加工技术

【题目】我国地方猪种肌内脂肪和脂肪酸的研究
【中文关键词】地方猪种;脂肪;脂肪酸;
【英文关键词】Chinese Swine;Fat;Fatty Acids;
【中文摘要】综述了我国地方猪种肌肉中脂肪和脂肪酸的研究进展,以期为我国地方猪种开发利用及科研提供一定的经验。
【英文摘要】This text probes into the review on advances of intramuscular fat and fatty acids in Chinese Swine,It would give some useful information to produce or research Chinese Swine in the world.
【语种】中文
【第一作者】孟令军
【通讯作者】李洪军
【期刊名称、卷期、页码】肉类研究,2007(4):-35-37
【论文发表时间】2007-04-28 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】食品加工技术

【题目】Identification and characterization of a new coleviroid (CbVd-5)
【中文关键词】multiplex PCR, detection, Wolbachia , Cardinium , spider mite
【英文关键词】multiplex PCR, detection, Wolbachia , Cardinium , spider mite
【中文摘要】A viroid-like RNA was detected from coleus (Coleus blumei) in China. It consisted of 274 nucleotides and had 66% sequence identity with a member of the closest known viroid species. The predicted secondary structure is rod-shaped with extensive base pairing, and it has the conserved region characteristic of the genus Coleviroid. Two terminal sequences that are highly conserved among some members of the genus were also identified. The viroid-like RNA was successfully transmitted to coleus by slash-inoculation. This viroid was identified as a new member of the genus Coleviroid, and we tentatively propose the name Coleus blumei viroid 5 (CbVd-5).
【英文摘要】A viroid-like RNA was detected from coleus (Coleus blumei) in China. It consisted of 274 nucleotides and had 66% sequence identity with a member of the closest known viroid species. The predicted secondary structure is rod-shaped with extensive base pairing, and it has the conserved region characteristic of the genus Coleviroid. Two terminal sequences that are highly conserved among some members of the genus were also identified. The viroid-like RNA was successfully transmitted to coleus by slash-inoculation. This viroid was identified as a new member of the genus Coleviroid, and we tentatively propose the name Coleus blumei viroid 5 (CbVd-5).
【语种】英文
【第一作者】Wan-Ying Hou
【通讯作者】李世访
【期刊名称、卷期、页码】Arch Virol. 2009;154(2):315-20
【论文发表时间】2009-11-12 00:00:00
【引文索引类型】SCI
【引文索引号】10.1007/s00705-008-0276-6
【学科分类】植物保护学

【题目】云南火腿加工工艺及其特色的初探
【中文关键词】云腿;加工工艺;研究;
【英文关键词】null
【中文摘要】针对云南特色火腿(宣威火腿、撒坝火腿、鹤庆火腿、三川火腿)加工工艺的不同,通过调查,寻找其差异性,从而做到取长补短,规范云腿的生产工艺及其原料,以提高云腿的质量和生产效率,扩大云腿的影响力。
【英文摘要】无
【语种】中文
【第一作者】刘宁

【通讯作者】葛长荣
【期刊名称、卷期、页码】肉类研究,2006,5: 32-34
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【引文索引类型】其他
【引文索引号】null
【学科分类】食品加工技术

【题目】冷却肉中假单孢菌温度预测模型的建立与验证
【中文关键词】冷却肉 假单胞菌 温度 预测模型
【英文关键词】chilling pork Pseudomonas temperature prediction model
【中文摘要】为了快速预测和监控引起冷却肉腐败变质的主要微生物——假单胞菌的生长,以从冷却猪肉中分离得到的假单胞菌P-1菌株作为受试菌,建立和验证0~10°C低温条件下假单胞菌的生长动力学模型。利用SAS 程序拟合不同温度条件下的生长情况,经过比较发现,Gompertz 模型比线性模型能更好地拟合假单胞菌的生长,从而得到假单胞菌生长的Gompertz 模型参数;利用平方根模型对假单胞菌的最大比生长速率平方根-温度进行拟合,得到假单胞菌生长的二级模型;利用培养基数据、冷却肉产品数据和温度波动条件下的数据对所得到的二级模型进行验证,计算得到总的偏差因子和准确因子分别为0.944和1.256, 结果表明建立的二级模型能真实快速有效地预测0~10°C下冷却肉中假单胞菌的生长。
【英文摘要】To quickly predict and monitor the growth of Pseudomonas P-1 causing decay of pork at 0~10°C isolated from chilling pork, the growth model was developed. The growth condition of Pseudomonas P-1 was simulated at different temperatures using the SAS program. Compared results show that the estimated parameters from Gompertz equation for the assayed results show better predictive ability than that of linear model. Square-root model was applied to simulate and integrate the secondary model of Pseudomonas. The validation of the secondary model was based on culture data, chilling pork data and fluctuate temperature data. The average bias factor and accuracy factor are 0.944 and 1.256 respectively. The research results indicate that the secondary model is valuable for rapid and precise prediction of the growth of Pseudomonas at 0~10°C.
【语种】中文
【第一作者】傅鹏
【通讯作者】李平兰
【期刊名称、卷期、页码】农业工程学报,2008,24(4):229-234
【论文发表时间】2008-04-10 00:00:00
【引文索引类型】EI
【引文索引号】1002-6819(2008)-4-0229-06
【学科分类】食品加工技术

【题目】Complete Genome Sequence of the Plant Pathogen Ralstonia solanacearum Strain Po82.
【中文关键词】Ralstonia solanacearum ;Complete Genome Sequence
【英文关键词】Ralstonia solanacearum ;Complete Genome Sequence
【中文摘要】Ralstonia solanacearum strain Po82, a phylotype IIB/sequevar 4 strain, was found to be pathogenic to both solanaceous plants and banana. Here, we report the complete genome sequence of Po82 and its comparison with seven published R. solanacearum genomes
【英文摘要】Ralstonia solanacearum strain Po82, a phylotype IIB/sequevar 4 strain, was found to be pathogenic to both solanaceous plants and banana. Here, we report the complete genome sequence of Po82 and its comparison with seven published R. solanacearum genomes
【语种】英文
【第一作者】Jin Xu
【通讯作者】冯洁
【期刊名称、卷期、页码】JOURNAL OF BACTERIOLOGY, Aug. 2011, p. 4261 – 4262
【论文发表时间】2011-11-25 00:00:00
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【引文索引号】10.1128/JB.05384-11
【学科分类】植物保护学

【题目】三种TBA方法用于测定腌腊肉制品脂肪氧化程度适用性的研究
【中文关键词】腌腊肉制品;TBA试验;亚硝酸钠;蔗糖丙二醛;
【英文关键词】cured meat products;TBA test;nitrite;sucrose;malonaldehyde;
【中文摘要】本文研究了亚硝酸钠和蔗糖对TBA试验的影响,比较了这两种物质对三种不同的TBA方法(蒸馏法、酸萃取法和样品直接反应法)用于腌腊肉制品脂肪氧化程度测定的适用性。研究发现,亚硝酸钠在酸性或加热条件下与丙二醛反应,导致吸光值降低;此外,TBA在常温下就可以和亚硝酸钠反应生成不可逆产物,利用此反应能够消除亚硝酸钠对吸光值的影响。蔗糖对TBA反应的影响与溶液pH值有关,当反应液的pH值小于2时,蔗糖与TBA反应生成的黄色物质(吸收峰450nm)就会叠加到532nm的吸收峰上,导致吸光值偏高;当反应液的pH值大于2时,蔗糖不会对吸光值产生影响。在三种不同的TBA试验方法中,样品直接反应法受亚硝酸钠和蔗糖的影响不显著(P>0.05)。蒸馏法和酸萃取法试验中TBA值都会随亚硝酸钠含量的增加而降低,随蔗糖含量的增加而升高。
【英文摘要】The effects of cured meats residual nitrite and sucrose on TBA reaction have been researched. We also have tested their influences on TBA value by three TBA methods used for evaluation of cured meats lipid oxidation.We found that nitrite could react with MDA quickly after acidification and heat treatment,which made lower results. However,it also could react with TBA to producea steady compound,which could eliminate the ef- fect of nitrite on absorbance.The reaction of sucrose with TBA depends on pH.Sucrose couldn ’t produce yellow substances to disturb the absor- bance at 532nm if pH value was beyond 2. Compared with distillation method and acid extraction, directly testing with the whole sample had no insignificant differenc(eP>0.05)when the samples were added with nitrite and sucrose.
【语种】中文
【第一作者】张松山
【通讯作者】马长伟
【期刊名称、卷期、页码】肉类研究,2007,5:47-49
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【引文索引号】null
【学科分类】食品加工技术

【题目】Development of a polyprobe for the simultaneous detection of four grapevine viroids in grapevine plants
【中文关键词】Detection . Dot blot hybridization .Grapevine viroid . olyprobe
【英文关键词】Detection . Dot blot hybridization .Grapevine viroid . olyprobe
【中文摘要】This study aimed to develop a polyprobe for the simultaneous detection of four viroids that infect grapevine: Hop stunt viroid (HSVd), Australian grapevine viroid (AGVd), Grapevine yellow speckle viroid-1 and 2 (GYSVd-1, 2), using a non-isotopic dot blot hybridization technique. A polyprobe was constructed by cloning tandem full-length sequences of HSVd, AGVd and GYSVd-1 into a single vector. The cRNA polyprobe detected all four viroids with similar sensitivity to that obtained using individual probes. In addition, samples of 78 varieties from Beijing and Xinjiang were analyzed using the polyprobe to survey the incidence of grapevine viroids in China. The result demonstrated that grapevine viroids were detected in 56 (71.8%) varieties. In this study, a rapid, reliable and cost-effective approach to the simultaneous detection of four grapevine viroids has been developed which has the potential for routine use in quarantine and certification programs.
【英文摘要】This study aimed to develop a polyprobe for the simultaneous detection of four viroids that infect grapevine: Hop stunt viroid (HSVd), Australian grapevine viroid (AGVd), Grapevine yellow speckle viroid-1 and 2 (GYSVd-1, 2), using a non-isotopic dot blot hybridization technique. A polyprobe was constructed by cloning tandem full-length sequences of HSVd, AGVd and GYSVd-1 into a single vector. The cRNA polyprobe detected all four viroids with similar sensitivity to that obtained using individual probes. In addition, samples of 78 varieties from Beijing and Xinjiang were analyzed using the polyprobe to survey the incidence of grapevine viroids in China. The result demonstrated that grapevine viroids were detected in 56 (71.8%) varieties. In this study, a rapid, reliable and cost-effective approach to the simultaneous detection of four grapevine viroids has been developed which has the potential for routine use in quarantine and certification programs.
【语种】英文
【第一作者】Zhixiang Zhang
【通讯作者】李世访

【期刊名称、卷期、页码】Eur J Plant Pathol (2012) 132:9 – 16
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【引文索引类型】SCI
【引文索引号】10.1007/s10658-011-9856-5
【学科分类】植物保护学

【题目】基于判别分析法的金华火腿挥发性风味物质的形成过程分析
【中文关键词】金华火腿;挥发性风味化合物;判别分析;特征风味物质
【英文关键词】Jinhua ham volatile flavor compounds discriminant analysis character flavor compound
【中文摘要】为了弄清金华火腿风味物质的形成过程,以60只杂交猪后腿为原料,按照传统工艺加工金华火腿,用气质联用仪(GC-MS)分析了6个工艺点的肌肉中挥发性风味物质的出峰面积,并用判别分析法分别研究了用挥发性风味物质的出峰面积和出峰面积占总出峰面积的百分率建立的判别函数判断金华火腿加工程度的可能性。研究结果表明,用金华火腿挥发性风味化合物的峰面积进行逐步判别分析,有20种挥发性化合物进入判别函数,而用峰面积占总出峰面积的百分率进行逐步判别分析,有17种挥发性化合物进入判别函数,建立的两套判别函数都能准确判别火腿的加工程度。结果提示:金华火腿风味化合物是在加工过程中逐步形成的,在不同加工阶段,火腿特征风味化合物的含量及其比例各具特征,可以用以辨别火腿的加工时间。
【英文摘要】In order to realize the forming process of the flavor substances in Jinhua ham, 60 Jinhua hams were processed using legs of cross-line pigs by traditional processing technology and the peak areas of flavor volatiles in ham muscle after each processing stage were analyzed by using Gas Chromatography and Mass Spectrometer (GC-MS). The possibility of discriminating Jinhua hams of different processing stages by using discriminant functions established on the volatile peak areas or ratios of the volatile peak areas accounting for the total peak area was individually studied. The results show that when stepwise discriminant analysis was performed on volatile peak areas of Jinhua ham, 20 kinds of volatile compounds enter the gained discriminant functions; while 17 kinds of volatile compounds enter the gained discriminant functions when ratios of the volatile peak areas accounting for the total peak area are analyzed. All of the two series of discriminant functions established can be used to discriminate Jinhua hams of different stages accurately. The results indicate that the flavor compounds are formed gradually during Jinhua ham processing and characterized by the concentrations and ratios of the character flavor compounds at different stages, which can be used to discriminate Jinhua hams of different processing stages.
【语种】中文
【第一作者】赵改名
【通讯作者】赵改名
【期刊名称、卷期、页码】农业工程学报,2008,24(3):260-264
【论文发表时间】2008-03-01 00:00:00
【引文索引类型】EI
【引文索引号】1002-6819(2008)-3-0260-05
【学科分类】食品加工技术

【题目】Development of a SCAR marker by inter-simple sequence repeat for diagnosis of dwarf bunt of wheat and detection of Tilletia controversa K ü hn.
【中文关键词】SCAR;Tilletia controversaK ü hn
【英文关键词】SCAR;Tilletia controversaK ü hn
【中文摘要】Dwarf bunt of wheat, caused by Tilletia controversa K ü hn, is a destructive disease on wheat as well as an important internationally quarantined disease in many countries. The primer ISSR818 generated a polymorphic pattern displaying a 867-bp DNA fragment specific for T. controversa. The marker was converted into a sequence characterized amplified region (SCAR), and specific primers (TCKSF3/TCKSR3) designed for use in PCR detection assays; they amplified a unique DNA fragment in all isolates of T. controversa but not in the related pathogens. The detection limit with the primer set (TCKSF3/TCKSR3) was 5 ng of DNA which could be obtained from 5.5 μ g of teliospores in a 25- μ L PCR reaction mixture.
【英文摘要】Dwarf bunt of wheat, caused by Tilletia controversa K ü hn, is a destructive disease on wheat as well as an important internationally quarantined disease in many countries. The primer ISSR818 generated a polymorphic pattern displaying a 867-bp DNA fragment specific for T. controversa. The marker was converted into a sequence characterized amplified region (SCAR), and specific primers (TCKSF3/TCKSR3) designed for use in PCR detection assays; they amplified a unique DNA fragment in all isolates of T.

controversa but not in the related pathogens. The detection limit with the primer set (TCKSF3/TCKSR3) was 5 ng of DNA which could be obtained from 5.5 μg of teliospores in a 25-μL PCR reaction mixture.
【语种】英文
【第一作者】L. Gao
【通讯作者】陈万全
【期刊名称、卷期、页码】Folia Microbiologica May 2010, Volume 55, Issue 3, pp 258-264
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【引文索引类型】SCI
【引文索引号】DOI:10.1007/s12223-010-0039-1
【学科分类】植物保护学

【题目】宰前因素对牛肉DFD发生率及品质的影响
【中文关键词】DFD肉 牛肉品质控制 宰前管理 宰前因素 极限pH值
【英文关键词】DFD meat beef quality control pre-slaughter managements pre-slaughter condition ultimate pH values
【中文摘要】为规范宰前管理,减少屠宰后DFD(黑切)牛肉的发生率,通过测量牛胴体背最长肌的pH值和温度,探讨了经过不同宰前处理的杂交牛DFD肉的发生率,建立了宰前因素与牛肉品质的量化关系。结果表明,待宰24h时DFD肉发生率最低,宰前不混群的待宰方式和安静、温湿度适宜的待宰环境能有效降低DFD肉的发生率;夏季DFD肉的发生率要高于冬季;也可以由牛肉的品质推测此肉牛宰前的状况以及可能影响此牛肉品质的宰前因素。
【英文摘要】To decrease the incidence of Dark Firm Dry(DFD)beef through the normative pre-slaughter managements,the incidences of DFD beef with different pre-slaughter managements were assessed by measuring pH and temperature values in the Longissimus dorsi muscle.The quantitative interactions between pre-slaughter conditions and beef qualities were built.The results showed that the incidence of DFD beef was the lowest when lairage time was 24 h.Unmixed group of cattle before slaughter,quiet environment,appropriate temperature and humidity lairage conditions could decrease the incidence of DFD beef availably.The incidence of DFD beef was higher in summer than in winter.Pre-slaughter managements and the conditions which affect beef quality can be speculated by the beef quality.
【语种】中文
【第一作者】杜燕
【通讯作者】271018
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【引文索引号】1002-6819(2009)-3-0073-05
【学科分类】食品加工技术

【题目】Development of a sequence-characterized amplified region marker for diagnosis of dwarf bunt of wheat and detectionof Tilletia controversa Kuhn
【中文关键词】ampli fi ed fragment length polymorphism,dwarf bunt of wheat, PCR, sequence-characterized ampli fi ed region, Tilletiacontroversa Ku ¨ hn.
【英文关键词】ampli fi ed fragment length polymorphism,dwarf bunt of wheat, PCR, sequence-characterized ampli fi ed region, Tilletiacontroversa Ku ¨ hn.
【中文摘要】AIMS: Dwarf bunt of wheat, caused by Tilletia controversa K ü hn, is a destructive disease on wheat as well as an important international quarantined isease in many countries. The objective of this investigation was to develop a diagnostic molecular marker generated from amplified fragment length olymorphism (AFLP) for rapid identification of T. controversa.METHODS AND RESULTS: A total of 30 primer combinations were tested by AFLP to detect DNApolymorphisms between T. controversa and related species. The primer combination E08/M02 generated a polymorphic pattern displaying a 451-bp DNA fragment specific for T. controversa. The marker was converted into a sequence-characterized amplified region (SCAR), and specific primers (SC-01(49)/SC-02(415)), designed for use in PCR detection assays, amplified a unique DNA fragment in all isolates of T. controversa, but not in the related pathogens. The etection limit with the primer set SC-01(49)/SC-02(415) was 10 ng of DNA which could be obtained from 11 microg of teliospores in a 25-microl PCR eaction.CONCLUSIONS: An approach to distinguish T. controversa from similar pathogenic fungi has been developed based on the use of a SCAR marker.SIGNIFICANCE AND IMPACT OF THE STUDY:

Development of the simple, high throughput assay kit for the rapid diagnosis of dwarf bunt of wheat and etection of T. controversa is anticipated in further studies.

【英文摘要】AIMS: Dwarf bunt of wheat, caused by Tilletia controversa K ü hn, is a destructive disease on wheat as well as an important international quarantined isease in many countries. The objective of this investigation was to develop a diagnostic molecular marker generated from amplified fragment length olymorphism (AFLP) for rapid identification of T. controversa.METHODS AND RESULTS: A total of 30 primer combinations were tested by AFLP to detect DNApolymorphisms between T. controversa and related species. The primer combination E08/M02 generated a polymorphic pattern displaying a 451-bp DNA fragment specific for T. controversa. The marker was converted into a sequence-characterized amplified region (SCAR), and specific primers (SC-01(49)/SC-02(415)), designed for use in PCR detection assays, amplified a unique DNA fragment in all isolates of T. controversa, but not in the related pathogens. The etection limit with the primer set SC-01(49)/SC-02(415) was 10 ng of DNA which could be obtained from 11 microg of teliospores in a 25-microl PCR eaction.CONCLUSIONS: An approach to distinguish T. controversa from similar pathogenic fungi has been developed based on the use of a SCAR marker.SIGNIFICANCE AND IMPACT OF THE STUDY: Development of the simple, high throughput assay kit for the rapid diagnosis of dwarf bunt of wheat and etection of T. controversa is anticipated in further studies.

【语种】英文

【第一作者】J.H. Liu

【通讯作者】陈万全

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【学科分类】植物保护学

【题目】广式腊肠干燥及贮藏过程中主要理化特性的变化

【中文关键词】广式腊肠 脂肪水解 脂肪氧化 酸价 过氧化值

【英文关键词】Chinese Guangdong sausage lipolysis lipid oxidation acid value peroxide value

【中文摘要】为了准确把握和控制广式腊肠加工贮藏过程中脂肪氧化和水解反应引起的理化指标和风味等变化,本文系统研究了烘烤和传统日晒两种加工方式生产出的广式腊肠的酸价、过氧化值、含水率等理化指标的变化。结果表明:加工过程中烘烤肠含水量、酸价及过氧化值的变化速度较日晒肠大,而贮藏过程中,日晒腊肠的酸价及过氧化值的变化速度高于烘烤腊肠。真空包装对酸价无明显抑制,但对过氧化值有明显的抑制作用。贮藏温度与酸价和过氧化值呈正相关,但在100 d的贮藏期内广式腊肠的过氧化值均未超过国家标准,而无论是日晒肠还是烘干肠的酸价,即使在10°C抽真空包装的理想贮藏条件下,在60 d和80 d时分别超过了国家标准。烘烤腊肠在30°C散装贮藏条件下保质期为20 d,添加0.15%瓜尔豆胶及0.15%硬脂酰乳酸钠可使腊肠保质期延长到60d左右。

【英文摘要】In order to grasp and control physicochemical properties and flavor changes of Chinese Guangdong sausage induced by lipolysis and lipids oxidation in process and storage,the physicochemical properties changes,including acid value,peroxide value and water content,of Chinese Guangdong sausages which were produced through roasting and solarizing processes were studied systematically.The results showed that the changes of acid value,peroxide value and water content in roasting process were faster than that of in solarizing process.However,during storage,the changes of acid value,peroxide value in roasted sausage were slower than that of in solarized sausage.Though vacuum storage did not inhibited acid value of sausage during storage,it inhibited effectively peroxide value increase.Higher storage temperature induced higher peroxide value,but peroxide value accorded with the national standard even after storing for 100 d.Acid values of the solarized and roasted sausage,which were even stored in vacuum at 10°C,overrun the government standard at 80 d and at 60 d,respectively.The roasted sausage could keep good quality for 20 days at 30°C in bulk;the shelf time of the roasted sausage was prolonged to about 60 days under the same storage condition by adding guar gum(0.15%)or sodium stearyl lactate(0.15%).

【语种】中文

【第一作者】白福玉

【通讯作者】蒋爱民

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【学科分类】食品加工技术

【题目】Effects of Wolbachia on mtDNA variation and evolution in natural populations of Tetranychus urticae Koch
【中文关键词】Wolbachia, mtDNA variation, Tetranychus
【英文关键词】Wolbachia, mtDNA variation, Tetranychus
【中文摘要】We investigated the effects of Wolbachia infection on mtDNA variation in spider mites by sequencing a portion of the mitochondrial cytochrome oxidase I (COI) gene from 198 individuals of known infection status. Four Wolbachia strains were described in the current study, namely wUrtOri1, wUrtOri2, wUrtOri3 and wUrtCon1. As predicted, the haplotype and nucleotide diversity were lower in infected individuals than in uninfected individuals. However, these mtDNA haplotype data are not entirely concordant with the surface protein of wolbachia (wsp) sequence data and both infected and uninfected individuals were found of the same haplotype. Although values of Tajima's D and Fu & Li's F were consistently less than zero for most infected groups, McDonald-Kreitman tests suggested that the patterns of variation were different from those expected under neutrality in only the uninfected group. Thus, the neutrality tests do not show a clear effect of Wolbachia infection on patterns of mtDNA variation and substitution in spider mites.
【英文摘要】We investigated the effects of Wolbachia infection on mtDNA variation in spider mites by sequencing a portion of the mitochondrial cytochrome oxidase I (COI) gene from 198 individuals of known infection status. Four Wolbachia strains were described in the current study, namely wUrtOri1, wUrtOri2, wUrtOri3 and wUrtCon1. As predicted, the haplotype and nucleotide diversity were lower in infected individuals than in uninfected individuals. However, these mtDNA haplotype data are not entirely concordant with the surface protein of wolbachia (wsp) sequence data and both infected and uninfected individuals were found of the same haplotype. Although values of Tajima's D and Fu & Li's F were consistently less than zero for most infected groups, McDonald-Kreitman tests suggested that the patterns of variation were different from those expected under neutrality in only the uninfected group. Thus, the neutrality tests do not show a clear effect of Wolbachia infection on patterns of mtDNA variation and substitution in spider mites.
【语种】英文
【第一作者】M.-Z. Yu,
【通讯作者】洪晓月
【期刊名称、卷期、页码】Insect Mol Biol. 2011 Jun;20(3):311-21. Epub 2011 Jan 4.
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【引文索引号】doi: 10.1111/j.1365-2583.2010.01066.x.
【学科分类】植物保护学

【题目】Genetic Diversity and Phylogenetic Analysis of Australian Grapevine Viroid (AGVd) Isolated from Different Grapevines in China.
【中文关键词】Australian grapevine viroid Phylogenetic analysis equencing analysis Secondary structure
【英文关键词】Australian grapevine viroid Phylogenetic analysis equencing analysis Secondary structure
【中文摘要】Australian grapevine viroid (AGVd) is found in only three countries in the world. Here, the genetic diversity and phylogenetic relationships of AGVd isolates from three different grape varieties (Thomson Seedless, Jingchuan and Zaoyu) in China were studied. A hundred of independent cDNA clones from each of the three isolates, in total of 300, were sequenced. We identified 29 sequence variants including two predominant ones in Thomson Seedless, and 48 each including a unique predominant one in Jingchuan and Zaoyu. In silico structure analysis revealed that base changes were clustered in the left terminal domain of the predicted secondary structure in all three isolates. Further, these changes were shown to affect their secondary structures to varying degrees. Genetic diversity and phylogenetic analysis of four predominant sequence variants from this study, plus four others from Australia and Tunisia, revealed obvious regional disparity and variety-specificity in AGVd.
【英文摘要】Australian grapevine viroid (AGVd) is found in only three countries in the world. Here, the genetic diversity and phylogenetic relationships of AGVd isolates from three different grape varieties (Thomson Seedless, Jingchuan and Zaoyu) in China were studied. A hundred of independent cDNA clones from each of the three isolates, in total of 300, were sequenced. We identified 29 sequence variants including two predominant ones in Thomson Seedless, and 48 each including a unique predominant one in Jingchuan and Zaoyu. In silico structure analysis revealed that base changes were clustered in the left terminal domain of the predicted

secondary structure in all three isolates. Further, these changes were shown to affect their secondary structures to varying degrees. Genetic diversity and phylogenetic analysis of four predominant sequence variants from this study, plus four others from Australia and Tunisia, revealed obvious regional disparity and variety-specificity in AGVd.

【语种】英文
【第一作者】Dongmei Jiang
【通讯作者】李世访
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【学科分类】植物保护学

【题目】电刺激和延迟冷却对牛肉食用品质的影响
【中文关键词】电刺激 延迟冷却 嫩度 食用品质 剪切力值 牛肉
【英文关键词】Electrical stimulation; Delay chilling; Tenderness; Eating quality; Shear force; Beef
【中文摘要】【目的】探讨电刺激和延迟冷却对宰后牛胴体温度、pH降低速率和肉的食用品质的影响。【方法】24头鲁西黄牛杂交牛按试验设计进行电刺激(刺激时间60 s、电压42 V、电流0.7 A、频率50 Hz)和延迟冷却(温度 15±2℃、时间 3 h,随后转入常规冷却间至 24 h)处理,研究不同处理对牛肉食用品质的影响。【结果】电刺激处理没有改变胴体温度的降低速率、但显著加快了胴体pH的降低速率;电刺激和延迟冷却没有改变胴体的冷却失重,但降低了背最长肌的保水性。两种处理均可以有效预防冷收缩、降低肉的剪切力值,改善肉的嫩度。【结论】在肉牛屠宰加工流程中,采用电刺激技术或延迟冷却处理可以有效改善肉的食用品质。
【英文摘要】【Objective】The objective of this paper was to study the effects of electrical stimulation and delay chilling on drop rate of temperature and pH of carcass and eating quality of beef. 【Method】 This article studied the effect of electrical stimulation (ES 60 s, 42 V, 0.7 A, 50 Hz) and delay chilling (DC (15±2)°C for 3 h, then changed into conventional chilling till 24 h) on eating quality of beef L-muscle. 【Result】Electrical stimulation of carcass had no effect on the carcass temperature drop, increased the rate of pH drop. Both ES and DC decreased water holding capacity of beef, though did not change the shrinkage of carcass. 【Conclusion】The results suggested that electrical stimulation and delay chilling could prevent cold shortening and lowered the shear force of beef.
【语种】中文
【第一作者】罗 欣
【通讯作者】罗 欣
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【学科分类】食品加工技术

【题目】Molecular Characterization of a member of a new Species of Grapevine Viroid
【中文关键词】grapevine viroid;GYSVd-3
【英文关键词】grapevine viroid;GYSVd-3
【中文摘要】Currently, viroids of five species are known to infect grapevine trees: Hop stunt viroid (HSVd-g) [1], Citrus exocortis viroid (CEVd-g) [2], Australian grapevine viroid (AGVd) [3], Grapevine yellow speckle viroid 1 (GYSVd-1) and Grapevine yellow speckle viroid 2 (GYSVd-2) [4 – 6]. These five grapevine viroid species have been divided into three genera based on sequence homologies of their central conserved regions (CCRs) [7]. GYSVd-1, GYSVd-2, and AGVd are classified in the genus Apscaviroid, whereas HSVd-g [8] and CEVd-g are classified in the genera Hostuviroid and Pospiviroid, respectively [9]. Mixed infections involving these viroids in cultivated grapevines are common, and in general, grapevine viroids produce very few, if any, disease symptoms. In the absence of manifested disease symptoms, these viroids are able to replicate in a host unnoticed. Of the five grapevine viroids identified, GYSVd-1 and GYSVd-2 are associated with disease symptoms such as yellow speckle, which was originally identified under hot greenhouse conditions in Australia [4, 5, 10]. Taylor and Woodham first described yellow speckle (YS) disease in Australia, and it is still the only grapevine disease known to be caused by viroids [10]. GYSVd-1, which is approximately 367 nucleotides (nts) in length, was first isolated from the grapevine cultivar ‘ Cabernet Franc ’, showing typical symptoms of YS disease. From this cultivar, a single

circular RNA was isolated by two-dimensional electrophoresis [4]. GYSVd-2, which is approximately 363 nts in length, was first purified from the grapevine cultivar ‘ Kyoto ’, which was grafted onto the ‘ Dogridge ’ rootstock and also exhibited symptoms of YS disease [5]. So far, GYSVd-2 has only been reported in Australia and China [5, 6], and the molecular characterization of GYSVd-2 has been described [11].

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【语种】英文

【第一作者】Dongmei Jiang

【通讯作者】李世访

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【学科分类】植物保护学

【题目】现代化工艺金华火腿肌肉水分活度变化规律研究

【中文关键词】金华火腿 水分活度 现代化工艺 贮藏安全性

【英文关键词】Jinhua ham;Water activity; Modem technology ;Storage safety

【中文摘要】【目的】研究金华火腿肌肉水分活度变化与原料腿型、肌肉部位和腌制用盐量的关系,为确定不同规格原料腿的加工安全性和制订现代化工艺金华火腿原料标准提供依据。【方法】采用现代化工艺加工金华火腿,测定了不同原料腿型、肌肉部位和腌制用盐量的肌肉水分活度。【结果】金华火腿肌肉水分活度随加工进程呈现规律性降低,盐渍期间浅层肌肉水分活度下降迅速,加工后期变缓,而股二头肌的水分活度在整个加工期间相对匀速下降,最终内外层趋于均衡。加大腌制用盐量能够促进浅层肌肉水分活度快速下降,但不利于加工后期水分活度的均衡分布;皮下脂肪厚度增加会延缓内外层肌肉水分活度的下降速度和均衡速度,经过腌制过程后其影响变小。原料腿重量越大,肌肉水分活度越高,加工后期尤其明显。加工结束时所有火腿各部位肌肉水分活度都在0.88以下,表现出良好的贮藏安全性。【结论】火腿各加工阶段水分活度受原料腿重量、皮下脂肪厚度和腌制用盐量等因素影响。

【英文摘要】[Objective] In order to understand the processing safety of different green hams and set up material standards for modem technology, the relationship between muscle water activity of Jinhua ham and green ham types, muscle position and salt dosage were discussed. [Method] Jinhua ham was processed by modern technology and muscle water activity (Aw) of different green ham types, muscle position and salt dosage were determined. [Result] Jinhua ham muscle Aw displayed regular drop along with processing. Surface layer muscle Aw dropped very quickly during salting stage and the drop tendency slowed down during later processing period, while biceps femoris AW dropped in a relatively uniform speed during the whole processing of Jinhua ham and eventually the surface and deep layer muscle Aw tended to become uniform. Many factors affected the change of muscle Aw during processing. Heavy green hams resulted in higher muscle Aw than normal green ham under same processing conditions, which became more significant during later stage of processing than early stage. Large salt dosage during salting stage accelerated drop speed of muscle Aw, but it also affected its uniform tendency during later stage of processing. Increase of the subcutaneous fat layer of green ham would slow down the drop speed of muscle Aw and the uniform tendency and the effect weakened after curing process. All ham muscle Aw was below 0.88 at the end of processing, which indicated that all hams could be stored with good security. [Conclusion] The muscle water activity of Jinhua

ham during processing were affected by green ham weight, thickness of subcutaneous fatty tissue and salt dosage
【语种】中文
【第一作者】赵改名
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【学科分类】食品加工技术

【题目】Molecular characterization of grapevine yellow speckle viroid-2 (GYSVd-2)
【中文关键词】Grapevine yellow speckle viroid-2 Genetic variation Sequencing analysis Secondary structure
【英文关键词】Grapevine yellow speckle viroid-2 Genetic variation Sequencing analysis Secondary structure
【中文摘要】Grapevine yellow speckle viroid-2 (GYSVd-2) is a viroid found only in grapevines in China and Australia. Here, we report the molecular characterization of GYSVd-2 isolated from three grapevine varieties in China. A total of 90 cDNA clones were sequenced including 30 cDNA clones obtained from each of the Black Olympia, Zaoyu, and Thomson Seedless isolates. Sequencing analysis identified 20, 18, and 12 different sequence variants from the 3 isolates, respectively. Furthermore, each of the isolates included one predominant sequence variant. Compared to the Australian variant of GYSVd-2 (Accession number: NC_003612), the Black Olympia variant was identical and the Zaoyu variant contained one substitution. In contrast, the Thomson Seedless isolate significantly varied from the Australian variant with three substitutions, two insertions, and four deletions. In silico structure analysis predicted that the variations were clustered in the terminal left, the pathogenicity, and the variable region of the predicted secondary structure of GYSVd-2.
【英文摘要】Grapevine yellow speckle viroid-2 (GYSVd-2) is a viroid found only in grapevines in China and Australia. Here, we report the molecular characterization of GYSVd-2 isolated from three grapevine varieties in China. A total of 90 cDNA clones were sequenced including 30 cDNA clones obtained from each of the Black Olympia, Zaoyu, and Thomson Seedless isolates. Sequencing analysis identified 20, 18, and 12 different sequence variants from the 3 isolates, respectively. Furthermore, each of the isolates included one predominant sequence variant. Compared to the Australian variant of GYSVd-2 (Accession number: NC_003612), the Black Olympia variant was identical and the Zaoyu variant contained one substitution. In contrast, the Thomson Seedless isolate significantly varied from the Australian variant with three substitutions, two insertions, and four deletions. In silico structure analysis predicted that the variations were clustered in the terminal left, the pathogenicity, and the variable region of the predicted secondary structure of GYSVd-2.
【语种】英文
【第一作者】Dongmei Jiang
【通讯作者】李世访
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【学科分类】植物保护学

【题目】肉牛胴体背最长肌脂肪酸组成与大理石花纹等级相关性研究
【中文关键词】牛肉 脂肪酸 大理石花纹 肌内脂肪 皮下脂肪 Beefc Fatty acid Marbling Intramuscular fat Subcutaneous fat
【英文关键词】Beefc Fatty acid Marbling Intramuscular fat Subcutaneous fat
【中文摘要】[目的]研究中国黄牛背最长肌肌内脂肪及皮下脂肪含量与其脂肪酸组成相关性.[方法]选取大理石花纹等级2级以上(含1级和2级)、3级和4级的黄牛胴体各10头,分别测定脂肪含量和脂肪酸组成.[结果]背最长肌水分和肌内脂肪含量与大理石花纹等级显著相关.肌内脂肪和皮下脂肪中单不饱和脂肪酸(MUFA)的顺式油酸含量最高,其次是饱和脂肪酸(SFA)中的棕榈酸和硬脂酸,多不饱和脂肪酸(PUFA)含量很少,主要是亚油酸.背最长肌棕榈酸、硬脂酸及SFA与肌内脂肪含量没有相关性,膜脂和储存脂肪中SFA百分含量趋于一致.[结论]油酸、MUFA百分含量以及M/S与肌内脂肪含量存在正相关,大理石花纹越丰富,肌内脂肪中油酸和MUFA百分含量越高,M/S比值也越高;而亚油酸、PUFA、n-6PUFA百分含量及P/S、n-6/n-3都与肌内脂肪含量呈负相关,大理石花纹越丰富,肌内脂肪中亚油酸、PUFA、n-6PUFA百分含量及P/S、n-6/n-

3比值都越低.皮下脂肪中n-3PUFA含量显著低于肌内脂肪n-3PUFA含量.

【英文摘要】【Objective】The objective of this experiment was to determine fatty acids changes with different intramuscular or subcutaneous fat content of Chinese Yellow cattle.Method】Thirty beef longissimus dorsi and the back fat from bulls of Chinese Yellow Cattle with marbling grade of 1&2, 3, and 4 were used, fat content and fatty acid profiles were detected. 【Result】 The results obtained show a great variability in the content of water and intramuscular fat and the percentages of fatty acids. Water content and intramuscular fat content (IMF) correlated with beef marbling. In intramuscular fat and subcutaneous fat as well, 18:1cis-9, which is one of the monounsaturated fatty acids (MUFA), was the main fatty acid, followed by two saturated fatty acids (SFA), 16:0 and 18:0. The percentage of polyunsaturated fatty acids (PUFA) was relatively lower. 【Conclusion】The percentages of 16:0, 18:0 and SFA were not correlated with IMF, which showed that the percentage of 16:0, 18:0 and SFA in beef longissimus dorsi were absolutely the same with subcutaneous fat. The percentages of 18:1cis-9, MUFA and ratio of M/S were positively correlated with IMF, with beef marbling increased from Grade 4 to Grade 2, the percentages of 18:1cis-9 and MUFA and the ratio of M/S increased. However, the percentages of 18:2cis-9,12, PUFA and n-6PUFA and the ratio of P/S, n-6/n-3 were negatively correlated with IMF, and with beef marbling increased, the percentages of 18:2cis-9,11, PUFA, n-6PUFA and the ratio of P/S, n-6/n-3 decreased significantly. The composition of n-3PUFA in subcutaneous fat was significantly lower than that of beef intramuscular fat.

【语种】中文

【第一作者】陈银基

【通讯作者】周光宏

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【学科分类】食品加工技术

【题目】Risk to nontarget plants from Ophraella communa (Coleoptera: Chrysomelidae), a potential biological control agent of alien invasive weed Ambrosia artemisiifolia (Asteraceae)in China

【中文关键词】Host speci fi city Biological weed control Oviposition selection Choice test Open- fi eld test

【英文关键词】Host speci fi city Biological weed control Oviposition selection Choice test Open- fi eld test

【中文摘要】Ophraella communa LeSage is an oligopha-gous insect that shows promise for controlling the alien invasive weed Ambrosia artemisiifolia L. in China. Thisstudy was performed to evaluate the risk of O. communa on the basis of host-speci fi city testing of larval development under no-choice conditions and of oviposition preferences under choice conditions in greenhouses and in the open fi eld. Under no-choice conditions, O. communa larvae experienced much igher mortality rates on the nontarget plants than on the target weed, but a small proportion of larvae completed development on the nontarget plants examined, including Xanthium sibiricum Patrin ex Widder,Helianthus tuberosus L., and H. annuus L. Multiple-choice tests indicated that O. communa showed a strong oviposi-tion preference for the target weed over the nontarget plants and laid few eggs on the economically important Helianthus crops tested. In paired-choice trials, O. comm-una adults showed an obvious preference for the target weed over X. sibiricum but preferred X. sibiricum to H. annuus. The results suggest that X. sibiricum might be used as a lower-ranked host plant next to the target weed by O. communa, and that Helianthus crops would not be at risk of being used for oviposition in the fi eld

【英文摘要】Ophraella communa LeSage is an oligopha-gous insect that shows promise for controlling the alien invasive weed Ambrosia artemisiifolia L. in China. Thisstudy was performed to evaluate the risk of O. communa on the basis of host-speci fi city testing of larval development under no-choice conditions and of oviposition preferences under choice conditions in greenhouses and in the open fi eld. Under no-choice conditions, O. communa larvae experienced much igher mortality rates on the nontarget plants than on the target weed, but a small proportion of larvae completed development on the nontarget plants examined, including Xanthium sibiricum Patrin ex Widder,Helianthus tuberosus L., and H. annuus L. Multiple-choice tests indicated that O. communa showed a strong oviposi-tion preference for the target weed over the nontarget plants and laid few eggs on the economically important Helianthus crops tested. In paired-choice trials, O. comm-una adults showed an obvious preference for the target weed over X. sibiricum but preferred X. sibiricum to H. annuus. The results suggest that X. sibiricum might be used as a lower-ranked host plant next to the target weed by O. communa, and that Helianthus crops would not be at risk of being used for oviposition in the fi eld

【语种】英文

【第一作者】Zhenjun Cao

【通讯作者】李保平

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【学科分类】植物保护学

【题目】宰前热应激对肉鸡胸肉氧化损伤和蛋白质功能特性的影响
【中文关键词】氧化 蛋白质 功能特性 热应激 鸡胸肉
【英文关键词】Oxidation;Protein;Functionality;Heat stress;Broiler breast muscle
【中文摘要】【目的】研究宰前热应激对肉鸡胸肉pH、脂肪氧化和蛋白质氧化的影响,探讨热应激影响宰后肌肉蛋白质功能特性的机制。【方法】将30日龄AA肉鸡由(25±1)°C突然暴露在(40±1)°C高温中,并分别持续0、1、2、3和5h后,各处理组中随机抽取10只,宰杀后剥取的胸肌在4°C条件下成熟24h,测定鸡胸肉的pH、脂肪氧化产物MDA、蛋白羰基值和蛋白质功能特性的变化。【结果】与对照组相比,热应激处理组的鸡胸肉pH30min、pH24h呈现下降趋势(P〈0.05),3h和5h处理组提高了胸肉脂肪氧化程度(P〈0.01),2、3和5h处理组胸肉肌浆蛋白和肌原纤维蛋白氧化程度高于对照组(P〈0.01),热应激时间由1h到5h,胸肉蛋白质溶解度呈下降趋势,肉汁损失、压榨损失和煮制损失呈增加趋势,热应激处理组胸肉肌原纤维蛋白凝胶具有较低的硬度和弹性(P〈0.01),热应激2、3和5h处理组胸肉肌原纤维蛋白凝胶保水性较对照组差(P〈0.01)。【结论】宰前热应激引起宰后肉鸡胸肉的pH下降,促使肌肉脂肪和蛋白质氧化程度加剧,导致胸肉蛋白质溶解度和持水能力降低,对肌原纤维蛋白凝胶特性造成不利影响。
【英文摘要】【Objective】This study was conducted to determine the effects of heat stress on pH,lipid peroxidation,protein oxidation and protein functionality in broiler breast meat. 【Method】Two hundred AA broilers were randomly divided into 5 groups,40 broilers for each group. After 30 days adaptive feeding under the normal temperature,broilers were suddenly stressed for 0,1,2,3 and 5 h by increasing environmental temperature from (25±1)°C to (40±1)°C. The pH,lipid or protein oxidative status and protein functionality of 10 broiler breast muscles in every group were investigated. 【Result】As compared with the control group,the pH30min and pH24h of muscle decreased significantly (P〈0.05),oxidative extent of intramuscular fat increased significantly at 3 h and 5 h (P〈0.01),oxidative extent of sarcoplasmic and myofibrillar protein also increased significantly at 2,3 and 5 h (P〈0.01). A decreasing tendency was found in muscle protein solubility and water holding capacity from 1 h to 5 h. Lower hardness and springness was observed in myofibrillar protein gels of breast muscles in heat stress groups (P〈0.01),also lower water holding capacity was scrutinized in 2 h,3 h and 5 h treatments (P〈0.01). 【Conclusion】The results indicated that preslaughter exposure of broiler chickens to heat stress could induce breast muscle lower pH and oxidative damage,increase intramuscular fat and protein oxidation,also decrease solubility of muscle protein and water holding capacity,thus result in a greatly negative influence on myofibrillar protein gels.
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【第一作者】潘晓建
【通讯作者】彭增起
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【学科分类】食品加工技术

【题目】大豆分离蛋白热变性程度对肌纤维蛋白凝胶性质的影响
【中文关键词】大豆分离蛋白;肌纤维蛋白;热处理;凝胶特性;
【英文关键词】Soy protein isolate;Myofibrillar protein isolate;Heat treatment;Gelation;
【中文摘要】 研究大豆分离蛋白(SPI)热变性程度对肌肉纤维蛋白(MPI)凝胶性质的影响。将SPI在80,90,100°C分别热处理0,15,30,60,100,180min,得到一系列不同热变性程度的SPI,将其与MPI按1∶3(V∶W,总蛋白浓度为4%)的比例混合,热诱导得到混合蛋白凝胶。分别研究这些混合蛋白的流变学性质、凝胶性质以及凝胶持水性。结果表明:热变性的SPI有利于混合凝胶的性质提高,经过100°C热处理180min的SPI与MPI形成的混合蛋白的弹性模量G′值最大,凝胶强度和弹性也最接近纯MP凝胶性质,持水性甚至好于纯MP凝胶性质。
【英文摘要】The effects of preheated soybean protein isolate (SPI) on the gel properties of myofibrillar protein isolate (MPI) were studied. SPI was preheated at 80,90,100 °C for 0,15,30,60,100,180 min,then mixed with MPI at 1 ∶ 3 ratio (SPI ∶ MPI,V ∶ W,total protein concentration 4%) to obtain heat-induced gels separately. The rheology properties, gel strength and water holding capacity of

the gels were determined. The results showed that preheated SPI was benefit for the gel properties of mixture of SPI and MPI. The gel with MPI and SPI which was preheated at 100 ℃ for 180 min,and exhibited the highest storage modulus G′,gel hardness and water holding capacity.

【语种】中文
【第一作者】简华君
【通讯作者】陈洁
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【学科分类】食品加工技术

【题目】Transcriptional Programming and Functional Interactions within the Phytophthora sojae RXLR Effector Repertoire
【中文关键词】Phytophthora sojae; RXLR Effector; Repertoire
【英文关键词】Phytophthora sojae; RXLR Effector; Repertoire
【中文摘要】The genome of the soybean pathogen Phytophthora sojae contains nearly 400 genes encoding candidate effector proteins carrying the host cell entry motif RXLR-dEER. Here, we report a broad survey of the transcription, variation, and functions of a large sample of the P. sojae candidate effectors. Forty-five (12%) effector genes showed high levels of polymorphism among P. sojae isolates and significant evidence for positive selection. Of 169 effectors tested, most could suppress programmed cell death triggered by BAX, effectors, and/or the PAMP INF1, while several triggered cell death themselves. Among the most strongly expressed effectors, one immediate-early class was highly expressed even prior to infection and was further induced 2- to 10-fold following infection. A second early class, including several that triggered cell death, was weakly expressed prior to infection but induced 20- to 120-fold during the first 12 h of infection. The most strongly expressed immediate-early effectors could suppress the cell death triggered by several early effectors, and most early effectors could suppress INF1-triggered cell death, suggesting the two classes of effectors may target different functional branches of the defense response. In support of this hypothesis, misexpression of key immediate-early and early effectors severely reduced the virulence of P. sojae transformants.
【英文摘要】The genome of the soybean pathogen Phytophthora sojae contains nearly 400 genes encoding candidate effector proteins carrying the host cell entry motif RXLR-dEER. Here, we report a broad survey of the transcription, variation, and functions of a large sample of the P. sojae candidate effectors. Forty-five (12%) effector genes showed high levels of polymorphism among P. sojae isolates and significant evidence for positive selection. Of 169 effectors tested, most could suppress programmed cell death triggered by BAX, effectors, and/or the PAMP INF1, while several triggered cell death themselves. Among the most strongly expressed effectors, one immediate-early class was highly expressed even prior to infection and was further induced 2- to 10-fold following infection. A second early class, including several that triggered cell death, was weakly expressed prior to infection but induced 20- to 120-fold during the first 12 h of infection. The most strongly expressed immediate-early effectors could suppress the cell death triggered by several early effectors, and most early effectors could suppress INF1-triggered cell death, suggesting the two classes of effectors may target different functional branches of the defense response. In support of this hypothesis, misexpression of key immediate-early and early effectors severely reduced the virulence of P. sojae transformants.
【语种】英文
【第一作者】Qunqing Wang
【通讯作者】王源超
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【学科分类】植物保护学

【题目】Variable fitness and reproductive effects of Wolbachia infection in populations of the two-spotted spider mite Tetranychus urticae Koch in China
【中文关键词】Wolbachia Tetranychus urticae Koch Cytoplasmic incompatibility Fitness

【英文关键词】Wolbachia Tetranychus urticae Koch Cytoplasmic incompatibility Fitness

【中文摘要】Maternally inherited Wolbachia bacteria are widely distributed among insects, and their presence usu-ally causes modi fi cations of the host. To understand the evolutionary history of diverse host-Wolbachia associa-tions, we investigated the symbiosis between Wolbachia and the two-spotted spider mite Tetranychus urticae Koch in China. The cytoplasmic incompatibility (CI) level,fecundity, female ratio, host longevity and host develop-ment time were examined. Our results indicate that Wol-bachia bacteria had variable effects on the reproduction and fi tness of Chinese populations of T. urticae. Variability of CI expression within T. urticae ranged from no CI to a strong level of CI in spite of the low variability of the wsp gene. Relative to uninfected mites, infected females in one of the three populations showed enhanced fecundity asso-ciated with the infection of Wolbachia. This is the fi rst report of a Wolbachia infection promoting the fecundity of infected females in T. urticae. Furthermore, we found both positive and negative effects of Wolbachia infection on longevity and the development time. The differences in ecological characters may be attributed to both Wolbachia and host genotype.

【英文摘要】Maternally inherited Wolbachia bacteria are widely distributed among insects, and their presence usu-ally causes modi fi cations of the host. To understand the evolutionary history of diverse host-Wolbachia associa-tions, we investigated the symbiosis between Wolbachia and the two-spotted spider mite Tetranychus urticae Koch in China. The cytoplasmic incompatibility (CI) level,fecundity, female ratio, host longevity and host develop-ment time were examined. Our results indicate that Wol-bachia bacteria had variable effects on the reproduction and fi tness of Chinese populations of T. urticae. Variability of CI expression within T. urticae ranged from no CI to a strong level of CI in spite of the low variability of the wsp gene. Relative to uninfected mites, infected females in one of the three populations showed enhanced fecundity asso-ciated with the infection of Wolbachia. This is the fi rst report of a Wolbachia infection promoting the fecundity of infected females in T. urticae. Furthermore, we found both positive and negative effects of Wolbachia infection on longevity and the development time. The differences in ecological characters may be attributed to both Wolbachia and host genotype.

【语种】英文

【第一作者】Rong-Rong Xie

【通讯作者】洪晓月

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【学科分类】植物保护学

【题目】通过脂肪氧化和猪瘦肉酶解制备中式腊肉风味物质的研究

【中文关键词】腌腊风味;脂肪水解氧化;过氧化值;茴香胺值;酸价;

【英文关键词】Cured flavor;Lipid oxidation;Peroxide value;P-anisidine value;Acid value;

【中文摘要】 以过氧化值(P.V.)、茴香胺值(p-A.V.)和酸价(A.V.)为指标测定其氧化程度,将猪脂肪进行水解氧化处理后与猪瘦肉酶解液进行美拉德反应,研究产物腊肉风味和质量的变化。结果表明:猪脂中加入0.9%VE,在温度110℃,空气流速1.2 L/min的条件下反应30 min,其P.V.不超过40 meq/kg,p-A.V.不超过6.0,A.V.不超过1.0 mg KOH/g脂肪;将猪脂氧化产物、瘦肉酶解液和其他辅料混合后,在120℃下美拉德反应1 h,可以形成腊肉风味物质。

【英文摘要】Using peroxide value(P.V.),p-anisidine value(p-A.V.),acid value(A.V.) to indicate the fat oxidation degree and putting the mixture into mallard reaction,of pig fat after the controlling oxidization and enzymolysis liquid of pig muscles,the changes of quality and cured flavors were studied.The result showed that the parameters of oxidized fat were P.V.<40meq/kg,p-A.V.<6.0 and A.V.< 1.0 mg KOH/g.fat,when the fat were prepared at the temperature 110 ℃,dosage of VE 0.9%,velocity of air flow 1.2 L/min,time 30 min.The mixture of products of pig fat in controlling oxidation,enzymolysis liquid of pig muscles and other auxiliary material was put into Mallard reaction for 1h,and the cured flavors were formed.

【语种】中文

【第一作者】何文新

【通讯作者】蒋爱民

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【学科分类】食品加工技术

【题目】甘薯茎线虫p.1,4内切葡聚糖酶基因(Dd—eng-lb)eDNA全长的克隆与序列分析
【中文关键词】马铃薯腐烂茎线虫;3-1,4.内切葡聚糖酶;GHF5家族
【英文关键词】ylenchus destructor,p一1,4-endoglucanase;cellulose(glycosyl hydrolase family 5)
【中文摘要】B.i,4内切葡聚糖酶是植物寄生线虫食道腺分泌的一类细胞壁降解酶,在植物线虫的侵染过程中具有重要的作用。以马铃薯腐烂茎线虫(Ditylenchus destructor)为材料,用RT.PCR和RACE方法,获得了B.1,4一内切葡聚糖酶基因的eDNA全长,并将该基因命名为Dd-eng.1b(GenBank登录号为FJ430142)。此eDNA全长序列为1 640bp,包括1个1 443 bp的完整ORF,编码1含481个氨基酸的蛋白,其理论分子量为50.89丨【D,等电点pI为6.94。序列比对分析表明,含有糖基水解酶的保守结构域,属于纤维素酶第五家族成员,N端具有19个氨基酸残基组成的信号肽,C端含有细菌式样的纤维素结合域(CBD 1I)。eDNA与基因组DNA重叠分析表明,此基闪包含4个内含子,长度分别为36、76、187和344bp,切割点符合5'-GT…..AG.3 ’的规律。
【英文摘要】1,4-endoglucanase secretions from the oesophageal glands of plant-parasitic nematodes play important roles in in fected plant.A new B · 1,4-endoglucanase gene,named Dd-eng-1b,WaS isolated from Ditylenchus destructor by RT · PCR and RACE.The full length eDNA ofDd-eng-Ibconsisted of 1 640 bp with a 1 443 bp ORF encoding a481 amino acid protein(GenBank acees-sion No.FJ430142).The putative protein with theoretic molecular weight was 50.89 kD and p1 was 6.94.The sequence analysis indi—cated that this gene could be classified as amember ofcellulose(glycosyl hydrolase family 5,GHF5)and had a 1 9 amino acid sig-hal—sequence at N terminal and ahigh similarity to abacterial type cellulose-binding domain II at C terminal.Comparative analysis between eDNA and genomic showed that Dd-eng-1b contained four introns which length were 36,76,187 and 344 bp,respectively,demarcated by 5'-GT……AG.3 ’in the slpice sites,and phyiogenie analysis suggested that Dd · eng-Ib had astrong homology to Bacillus subtilis and Etwina carotovora,which may be indicative ofan ancient hofizonml gene transfer from bacteria
【语种】中文
【第一作者】彭焕
【通讯作者】彭德良
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【题目】风鹅加工过程中挥发性风味成分的变化
【中文关键词】风鹅 固相微萃取与气质联用 挥发性风味成分
【英文关键词】Dry-cured goose;HS-SPME-GC-MS;Volatile flavour compounds
【中文摘要】【目的】探讨风鹅加工过程中挥发性风味成分的变化规律,为传统风鹅的工业化改造提供理论依据。【方法】运用固相微萃取与气质联用(HS-SPME-GC-MS),对加工过程中各工艺点风鹅肌肉中挥发性风味物质进行测定,分析研究了风鹅加工各阶段挥发性风味物质的成分、种类、相对含量和绝对含量的变化。【结果】在原料和腌制的鹅肉中分别检测到43和63种风味化合物;在风干1d、2d和3d的鹅肉中分别检测到50、61和62种风味化合物。这些成分可归类为:酯类、醛类、酮类、醚类、醇类、羧酸类、烯烃、烷烃、芳香族、杂环类化合物。在风鹅成品的风味成分中,烯烃类、酮类、醛类和芳香族化合物分别占化合物总数的39.67%、14.20%、12.12%和8.27%。【结论】风鹅加工过程中风味物质的总峰面积大幅增长,风干3d达到原料肉3倍以上,尤其是烯烃、醛、酮、芳香族等化合物最为显著,这类物质对形成风鹅特有的风味起了重大作用。
【英文摘要】[Objective] The objective of this study is to discuss the changing rules of volatile flavor compounds in dry-cured goose during processing and provide scientific basis for industrialized alteration of traditional dry-cured goose. [Method]Headspace solid phase microextraction combined with gas chromatgraphy-mass spectrometry (HS-SPME-GC-MS) were used to identify the kinds and amounts of volatile flavor compounds at different stages of dry cured goose during processing. [Result] Analysis of flavor compounds showed that, there were 43 compounds in material goose, 63 in dry-cured goose, 50 in l-day drying, 61 in 2-day drying and 62 in 3-day drying. The flavor compounds were clustered in the following chemical families: esters, aldehydes, ketones, aethers, alcohols, carboxylic acids, category, alkyl, aromatic hydrocarbons and heterocyclic compounds. In the flavor substances of the final product of dry-cured goose, the contents of category, ketones, aldehydes and aromatic hydrocarbons compounds were 39.67%, 14.20%, 12.12% and 8.27% of all, respectively. [Conclusion] The total area of the flavor compounds in dry-cured goose, especially in category, aldehydes, ketones

and aromatic hydrocarbons compounds increased dramatically during the processing and was 3 times more than that in raw material after 3 days of drying. All these compounds could play important roles for the specific flavor of dry-cured goose.
【语种】英文
【第一作者】徐为民
【通讯作者】周光宏
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【题目】瓜类细菌性果斑病菌tvrR 基因的克隆及其对致病性的影响
【中文关键词】瓜类细菌性果斑病菌; tvrR 基因; 突变; 致病性
【英文关键词】Acidovorax avenae subsp. citrulli; tvrR gene; mutant; pathogenicity
【中文摘要】据丁香假单胞菌番茄致病变种 (Pseudomonas syringae pv. tomato) DC3000 中新的毒性基因 tvrR (TetR- like virulence regulator) 的氨基酸序列,从瓜类细菌性果病菌 (Acidovorax avenae subsp. citrulli,Aac) 的全基因组中发现并克隆了 tvrR 基因的同源物 通过同源重组的方法,构建了 tvrR 基因的插入突变体,并且经过 PCR 及 outhern 杂交验证确认突变体和野生型一样可以激发烟草过敏反应 致病性试验结果显示: 突变体比野生型的病程延长,但最终致病情况与野生型无差异 接种的寄主组织中菌生长能力检测发现,突变体的繁殖速度慢于野生型,但最终其菌体数量也能达到野生型菌株的最大值 在营养丰富的LB 培养基和营养贫乏的MMX 基本培养基中生长测定均发,突变体生长速度慢于野生型,但最终也能达到野生型的最大生长量 瓜类细菌性果斑病菌 tvrR 基因突变体致病性的改变与其生长能力变化的一致性表明,其致病性的变化是由其生长能力的改变引起的
【英文摘要】Abstract: According to the sequence of the novel virulence gene tvrR (TetR- like virulence regulator) of Pseudomonas syringae pv. tomato DC3000,a tvrR omolog was found and cloned from the genomic DNA of Acidovorax avenae subsp. citrulli. The tvrR inserted mutant was constructed by homologous ecombination and confirmed by PCR and Southern blot. Both the mutants and the wild- type strains could elicit the hypersensitive response (HR) in onhost tobacco. Pathogenicity tests showed that the disease symptom caused by mutants was delayed when compared to the wild- type strains,but there ere finally no significant differences in pathogenicity between the mutants and the wild- type strains. The inserted mutants grew more slowly than the wild- ype strains,but their population could finally reach the maximum of the wild- type strains in inoculated leaf tissues of Hami- melon. The inserted utants grew more slowly than the wild- type strains,but they could finally reach the maximum biomass of the wild- type strains in both utrient-rich LB edium and nutrient- poor MMX medium. The consistency of the changes in pathogenicity and growth ability of tvrR mutants indicated that the changes in athogenicity might be caused by the changed growth ability in A. avenae subsp. citrulli.
【语种】中文
【第一作者】魏娜
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【学科分类】植物保护学

【题目】紫茎泽兰细胞质小热激蛋白 HSP1717基因的cDNA克隆与表达
【中文关键词】广聚萤叶甲; 豚草; 寄主专一性; 风险评估; 杂草生物防治
【英文关键词】OphraeUa communa; Ambrosia artemisiifolia; host-specificity; risk-assessment; weed biological control
【中文摘要】利用RT22PCR 和RACE22PCR 技术, 从热激处理的紫茎泽兰叶片总RNA 中扩增出了细胞质小分子量热激蛋白(sHSP) 全长683 bp 的cDNA 基因序列. 在GeneBank 上的登录号是EF105483. 通过半定量分析, HS P1717 基因编码的热激蛋白在常温下有表达
【英文摘要】Abstract: According to the sequence of the novel virulence gene tvrR (TetR- like virulence regulator) of Pseudomonas syringae pv. tomato DC3000,a tvrR omolog was found and cloned from the genomic DNA of Acidovorax avenae subsp. citrulli. The tvrR inserted mutant was constructed by homologous ecombination and confirmed by PCR and Southern blot. Both the mutants and

the wild- type strains could elicit the hypersensitive response (HR) in onhost tobacco. Pathogenicity tests showed that the disease symptom caused by mutants was delayed when compared to the wild- type strains,but there ere finally no significant differences in pathogenicity between the mutants and the wild- type strains. The inserted mutants grew more slowly than the wild- ype strains,but their population could finally reach the maximum of the wild- type strains in inoculated leaf tissues of Hami- melon. The inserted utants grew more slowly than the wild- type strains,but they could finally reach the maximum biomass of the wild- type strains in both utrient-rich LB edium and nutrient- poor MMX medium. The consistency of the changes in pathogenicity and growth ability of tvrR mutants indicated that the changes in athogenicity might be caused by the changed growth ability in A. avenae subsp. citrulli.

【语种】中文
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【学科分类】植物保护学

【题目】基于模型和WebGIS数字农作支持系统的设计与实现
【中文关键词】数字农作; XML(可扩展标记语言); WebGIS; 农作模型; 系统集成;
【英文关键词】digital farming; XML(extensible markup language); WebGIS; crop model; system integration;
【中文摘要】基于系统用户需求及现有农作模型特点,研究GIS技术与农作模型集成的机制与方法,提出了"XML技术+自定义地图引擎"的技术思路,设计了合理的系统体系结构。运用软构件技术,基于B/S(Browser/Server)的分布式网络技术,以WebGIS为空间信息管理平台,建立了基于模型和WebGIS的数字农作支持系统(MGDFSS)。该系统实现了基本地图操作、农作空间信息管理、作物生态区划、种植制度设计、栽培方案设计、生长模拟预测、管理策略分析、生长监测与调控、精准农作处方、生产力分析、专家咨询以及系统维护等综合功能。该系统的建立和应用可显著提升农作生产过程的数字化表达与信息化管理,促进数字农作技术的发展。
【英文摘要】By studying the mechanism and method on how to integrate the GIS technology with the digital farming models based on the user requirement of system and the characters of existing farming models,the technology of XML(extensible markup language)and custom map engine was proposed and the rational framework of system architecture was also designed in this paper.Using the technology of software component,with Browser/Server mode as distributive network structure and WebGIS as spatial information management platform,a model and WebGIS-based digital farming support system(MGDFSS)was developed.The system realized the functions as basic map handling,agricultural spatial information management,crop ecological zoning,cropping system design,cultivation decision,growth simulation,strategy analysis,growth monitoring and regulation,productivity estimation,precision crop management,expert consultation,and system maintenance.The construction and application of the MGDFSS can advance the digital expression and quantitative management of the crop production processes and accelerate the development of digital farming.
【语种】中文
【第一作者】黄芬
【通讯作者】曹卫星
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【学科分类】农艺学

【题目】便携式精确农作系统的构建与应用
【中文关键词】模型; 决策支持系统; 便携式; GPS; 嵌入式GIS; 精确农作;
【英文关键词】model ; decision support system ;portable; GPS ; embedded GIS ;precision farming
【中文摘要】为实现农作物生产管理的便携式和精确化。该研究以精确农业技术思想为指导,课题组已有精确作物管理模型为基础,结合PocketPC、嵌入式GIS、SQLServerCE和GPS技术,采用系统工程思想和软构件技术,开发实现了基于PocketPC的便携式精确农作系统。系统具有地图操作、信息管理、栽培方案设计、肥水运筹、适宜生长指标设计、因苗动态调控以及系统帮助等功能。于2007-2008年在江苏、浙江及河南示范区进行了系统的示范与应用,结果表明,系统能根

据田块的实际情况设计适宜的作物生产精确管理方案,精确管理田块的水稻平均产量达10435.3kg/hm2,产量增幅达12.83%;精确管理田块的小麦平均产量达8124.6kg/hm2,产量增幅达9.02%,同时减少了氮肥投入。系统的建立为精确农作管理提供了新的服务载体和应用模式。 更多还原

【英文摘要】In order to realize the portable and digital crop production management,based on the theory of precision agriculture and the precision crop management model,a Pocket PC-based portable precision farming system(PPFS)was developed by integrating Pocket PC,embedded-GIS,SQL Server CE and GPS,using the thought of system engineering and software component technology.The system realized the functions such as map handling,information management,cultural plans design,fertilizer and water management ect,suitable growth indices design,real-time regulations based on the crop growth status,and system help.In 2007-2008,the demonstration and application of PPFS were carried out in Jiangsu,Zhejiang and Henan provinces.The results in field experiments indicated that the system could design suitable crop precision management schemes according to field factual status,the average rice yield with precision management plans was 10435.3 kg/hm 2 with increasing rate being 12.83%;Based on precision management plans,the wheat yield rose by 9.02%with an average yield of 8124.6 kg/hm2and the amount of nitrogen fertilizer reduced.The present work provides a new service platform and application pattern for precision farming management.

【语种】中文

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【通讯作者】朱艳

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【学科分类】农艺学

【题目】作物生长模拟与决策支持研究

【中文关键词】决策支持系统 作物模拟模型 作物生长模拟 南京农业大学 决策支持技术 研究与应用 信息农业 作物模型 江苏省 农业信息化

【英文关键词】无

【中文摘要】正作物模拟与决策支持国际专题讨论会(ISCMDS2008)于2008年4月19~22日在南京农业大学举行。会议由南京农业大学主办,江苏省信息农业高技术研究重点实验室承办。有来自20多个国家的100余名专家学者参加了本次会议,其中外宾有45人。会议共收到论文摘要110篇,论文全文40篇。

【英文摘要】无

【语种】中文

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【学科分类】农艺学

【题目】水稻水分精确管理的知识模型研究

【中文关键词】水稻 水分精确管理 知识模型 节水灌溉 土壤水势

【英文关键词】rice precision water management knowledge model water-saving irrigation soil water potential

【中文摘要】【目的】水稻是中国主要的粮食作物,其生长需消耗大量的水资源,因此水分精确管理对于水稻高效生产具有重要的意义。【方法】在分析和提炼水稻栽培理论与技术研究资料的基础上,通过定量描述水稻需水规律与栽培技术、品种类型、生态环境之间的动态关系,根据土壤水分平衡原理,采用土壤水势作为灌溉指标,建立水稻水分精确管理知识模型;基于系统工程思想,进一步在Microsoft Visual Studio.NET 2005平台上构建水分精确管理知识模型系统。【结果】模型具有灌溉管理方案设计以及动态调控的功能,在杭州和南京两个生态点进行的大田对比试验表明,两生态点按照模型设计方案进行水分管理的田块,其产量平均分别提高了6.9%和9.1%,灌溉水分生产率平均分别提高了53.61%和42.73%。【结论】该模型对于不同条件下的水稻水分精确管理具有较好的适用性和指导性。

【英文摘要】Objective Rice is the most important staple crop and needs much water resource in China,so precision water management is necessary for high efficiency rice production.MethodBased on analysis and extraction of the research results in rice cultural theories and technologies,further on the theory of soil water balance,with soil water potential as the irrigation index,a knowledge model for precision water management in rice(KMPWM) was developed by quantifying the relationships of water demand and cultivation technologies,variety traits,and eco-environments.Furthermore,based on the system engineering theory,a decision support system for rice precision water management was established on the platform of Microsoft Visual Studio.NET 2005.ResultKMPWM realized the functions of irrigation management scheme design and real-time regulation.The field comparison experiments at Hangzhou and Nanjing showed that the average grain yields were improved by 6.9% and 9.1%,respectively,and irrigation water use efficiencies were remarkably increased by 53.61% and 42.73%,respectively,in two eco-sites under the model-designed irrigation strategies,as compared to conventional irrigation regimes.Conclusion It appears that the present model has good applicability and proper guidance for rice precision water management. 更多

【语种】中文

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【学科分类】农艺学

【题目】稻麦适宜氮素营养指标动态的模型设计

【中文关键词】水稻 小麦 氮素指标动态 相对生长度日 精确管理

【英文关键词】rice wheat nitrogen index dynamics relative growing degree days (RGDD) precision management

【中文摘要】以水稻和小麦为研究对象,通过解析和提炼稻麦适宜氮素营养指标与品种类型、栽培技术、生态环境之间的定量关系,以基于生理发育时间(PDT)的相对生长度日和相对氮素营养指标为参数,建立了稻麦适宜氮素营养指标动态模型,并利用南京3年的大田试验资料对所建模型的可靠性和适应性进行了验证.结果表明:模型生成的水稻植株氮积累量和氮含量与实际观测值之间的平均根均方差(RMSE)分别为0.1245和0.1316;模拟的小麦植株氮积累量和氮含量与实际观测值之间的平均RMSE分别为0.1166和0.1301,表明模型对稻麦氮素营养指标动态具有较好的指导性,可为不同生态环境、品种类型和生产条件下的稻麦氮素营养诊断与管理调控提供定量化和精确化的指导.

【英文摘要】By analyzing and extracting the quantitative relationships of suitable nitrogen index dynamics of rice and wheat to their cultivar types,cultural techniques,and eco-environments,a design model for the suitable nitrogen index dynamics of rice and wheat was developed.The model was driven by the physiological development time-based relative growing degree days,with the relative nitrogen indices as modeling parameters,and could be used to generate the time-course indices such as the nitrogen accumulation and concentration of rice and wheat under different growth conditions.Case studies with the datasets from 3-year field experiments in Nanjing showed that the average RMSEs of the simulated to measured plant nitrogen accumulation and concentration were 0.1245 and 0.1316 for rice,and 0.1166 and 0.1301 for wheat,respectively.It was suggested that this model could reliably guide the dynamics of major nitrogen indices of rice and wheat,which would help with the quantitative nitrogen diagnosis and precision nitrogen management of rice and wheat under different eco-environments,cultivar types,and production conditions.

【语种】中文

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【学科分类】农艺学

【题目】基于图像分析方法的水稻根系形态特征指标的定量分析

【中文关键词】水稻　根系形态　定量分析　WinRhizo　图像分析
【英文关键词】Rice　Root morphology　Quantitative analysis　WinRhizo　Image analysis
【中文摘要】利用图像分析方法定量研究水稻根系形态特征指标的变化规律。通过实施不同水氮处理和不同品种的水稻桶栽试验,选用WinRhizo(WR)软件的不同模式(LM和T200)分析根系图像,分别提取根直径范围0~0.30mm和0.25~1.80mm的根系形态数据,并与基于Image-Pro Plus6.0软件(IP)的根直径和不定根长的测量结果进行比较分析;确定了3种水稻品种不同类型根直径的范围;对不同生育时期水稻根长、根体积、根表面积、根系干重和不定根数量等水稻根系形态特征指标变化差异,以及分枝特征进行了分析。结果表明:(1)基于WR软件LM和T200模式下的根直径测量结果与基于IP软件的测量结果之间NRMSE分别为5.44%和10.95%。(2)界定细分枝根直径范围为0.03~0.10mm,扬稻6号(V3)粗分枝根和不定根分别为0.10~0.30mm和0.30~1.65mm,而日本晴(V1)和武香粳14(V2)分别为0.10~0.25mm和0.25~1.40mm,不定根长与IP测量结果进行比较,其NRMSE为10.78%~12.01%。(3)各指标抽穗前增长迅速,之后增长减缓或衰老下降;不同氮肥处理间各指标分蘖至成熟均差异显著,增施氮肥可促进根系生长,明显提高不定根比例;适当控水可促进根系生长,明显提高分枝根比例;品种V3自分蘖期到成熟期各指标均显著高于V1和V2,V1与V2间差异不显著。本研究表明,本方法具有较好的精度和可行性,为推进水稻或其他作物根系的定量研究提供了参考。　更多
【英文摘要】The objective of this study was to quantitatively analyze the change patterns of rice root morphological characteristics based on image analysis method in pot experiments with different nitrogen rates,water regimes,and rice cultivars in different years.WinRhizo software (WR) was used as the root image analysis tool,and two modes of LM and T200 were used to measure the root diameter and adventitious root length under two ranges of root diameter as 0 – 0.30 mm and 0.25 – 1.80 mm,respectively.The measurement results from WR were compared with those from Image-Pro Plus 6.0 software (IP).Then,the diameter ranges of different types of root were determined.On the basis of the dataset from WR,the statistical analysis were performed on rice root morphological characteristic indices,including dry weight,total volume,total surface area,total adventitious root length and number per plant at different growth stages.The results were as follows: (1) The average NRMSEs between WR (LM and T200) and IP for root diameters were 5.44% and 10.95%.(2) The diameter range of fine lateral root was circumscribed within 0.03 – 0.10 mm for all the experiments,coarse lateral and adventitious root were circumscribed within 0.10-0.30 and 0.30 – 1.40 mm for V1 (Nipponbare) and V2 (Wuxiangjing 14),but 0.10 – 0.25 and 0.25 – 1.65 mm for V3 (Yangdao 6).Following this method,the NRMSEs for adventitious root length measured by WR and IP were 10.78 – 12.01%.(3) All indices increased rapidly in the growth process and reached or approached the maximum at heading,then increased slowly or decreased after heading.There were significant differences between treatments with different nitrogen rates from tillering to maturing on all indices.Increasing nitrogen rate accelerated the growth of roots,and especially enhanced the proportion of adventitious roots.Properly control of irrigation could promote the growth of roots and increase the proportion of lateral roots.All indices of V3 were significantly higher than these of other cultivars,and there were no significant differences between V1 and V2.The results indicated that it was feasible to measure morphological indices of different types of rice root by WR with different modes,and the methods used in this paper have a good accuracy and reliability.These results could provide a support for the quantitative analysis on root morphology of rice or other crops.
【语种】中文
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【题目】Complete Resequencing of 40 Genomes Reveals Domestication Events and Genes in Silkworm (Bombyx)
【中文关键词】FORK HEAD; MORI; EXPRESSION; DROSOPHILA; SEQUENCE
【英文关键词】FORK HEAD; MORI; EXPRESSION; DROSOPHILA; SEQUENCE
【中文摘要】A single-base pair resolution silkworm genetic variation map was constructed from 40 domesticated and wild silkworms, each sequenced to approximately threefold coverage, representing 99.88% of the genome. We identified similar to 16 million single-nucleotide polymorphisms, many indels, and structural variations. We find that the domesticated silkworms are clearly genetically differentiated from the wild ones, but they have maintained large levels of genetic variability, suggesting a short domestication event involving a large number of individuals. We also identified signals of selection at 354 candidate genes that may have been important during domestication, some of which have enriched expression in the silk gland, midgut, and testis. These data add to our understanding of thedomestication processes and may have

applications in devising pest control strategies and advancing the use of silkworms as efficient bioreactors.
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【语种】英文
【第一作者】Xia, QY
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【题目】The genome of a lepidopteran model insect, the silkworm Bombyx mori
【中文关键词】Bombyx mori; Silkworm; Genome; Transposable elements; Silk production; Gene duplication
【英文关键词】Bombyx mori; Silkworm; Genome; Transposable elements; Silk production; Gene duplication
【中文摘要】Bombyx mori, the domesticated silkworm, is a major insect model for research, and the first lepidopteran for which draft genome sequences became available in 2004. Two independent data sets from whole-genome shotgun sequencing were merged and assembled together with newly obtained fosmid- and BAC-end sequences. The remarkably improved new assembly is presented here. The 8.5-fold sequence coverage of an estimated 432 Mb genome was assembled into scaffolds with an N50 size of approximately 3.7 Mb; the largest scaffold was 14.5 million base pairs. With help of a high-density SNP linkage map, we anchored 87%of the scaffold sequences to all 28 chromosomes. A particular feature was the high repetitive sequence content estimated to be 43.6% and that consisted mainly oftransposable elements. We predicted 14,623 gene models based on a GLEAN-based algorithm, a more accurate prediction than the previous gene models for this species. Over three thousand silkworm genes have no homologs in other insect or vertebrate genomes. Some insights into gene evolution and into characteristic biological processes are presented here and in other papers in this issue. The massive silk production correlates with the existence of specific tRNA clusters, and ofseveral sericin genes assembled in a cluster. The silkworm's adaptation to feeding on mulberry leaves, which contain toxic alkaloids, is likely linked to the presenceof new-type sucrase genes, apparently acquired from bacteria. The silkworm genome also revealed the cascade of genes involved in the juvenile hormone biosynthesis pathway, and a large number of cuticular protein genes.
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【题目】Mutations of an arylalkylamine-N-acetyltransferase, Bm-iAANAT, are responsible for silkworm melanism mutant
【中文关键词】BOMBYX-MORI; SYNTHESIS ENZYMES; PAPILIO-XUTHUS; INSECT; PIGMENTATION; DROSOPHILA; GENETICS; SCLEROTIZATION; MELANIZATION; PURIFICATION
【英文关键词】BOMBYX-MORI; SYNTHESIS ENZYMES; PAPILIO-XUTHUS; INSECT; PIGMENTATION; DROSOPHILA; GENETICS; SCLEROTIZATION; MELANIZATION; PURIFICATION
【中文摘要】Coloration is one of the most variable characters in animals and provides rich material for studying the developmental genetic basis of pigment patterns. In thesilkworm, more than 100 gene mutation systems are related to aberrant color patterns. The melanism (mln) is a rare body color mutant that exhibits an easily distinguishable phenotype in both larval and adult silkworms. By positional cloning, we identified the candidate gene of the mln locus, Bm-iAANAT, whose homologous gene (Dat) converts dopamine into N-acetyldopamine, a precursor for N-acetyldopamine sclerotin in Drosophila. In the mln mutant, two types ofabnormal Bm-iAANAT transcripts were identified, whose expression levels are markedly lower than the wild type (WT). Moreover, dopamine content was approximately twice as high in the sclerified tissues (head, thoracic legs, and anal plate) of the mutant as in WT, resulting in phenotypic differences between the two. Quantitative reverse transcription PCR analyses showed that other genes involved in the melanin metabolism pathway were regulated by the aberrant Bm-iAANATactivity in mln mutant in different ways and degrees. We therefore propose that greater accumulation of dopamine results from the functional deficiency of BmiAANAT in the mutant, causing a darker pattern in the sclerified regions than in the WT. In summary, our results indicate that Bm-iAANAT is responsible for the color pattern ofthe silkworm mutant, mln. To our knowledge, this is the first report showing a role for arylalkylamine-N-acetyltransferases in color pattern mutation in Lepidoptera.
【英文摘要】Coloration is one of the most variable characters in animals and provides rich material for studying the developmental genetic basis of pigment patterns. In thesilkworm, more than 100 gene mutation systems are related to aberrant color patterns. The melanism (mln) is a rare body color mutant that exhibits an easily distinguishable phenotype in both larval and adult silkworms. By positional cloning, we identified the candidate gene of the mln locus, Bm-iAANAT, whose homologous gene (Dat) converts dopamine into N-acetyldopamine, a precursor for N-acetyldopamine sclerotin in Drosophila. In the mln mutant, two types ofabnormal Bm-iAANAT transcripts were identified, whose expression levels are markedly lower than the wild type (WT). Moreover, dopamine content was approximately twice as high in the sclerified tissues (head, thoracic legs, and anal plate) of the mutant as in WT, resulting in phenotypic differences between the two. Quantitative reverse transcription PCR analyses showed that other genes involved in the melanin metabolism pathway were regulated by the aberrant Bm-iAANATactivity in mln mutant in different ways and degrees. We therefore propose that greater accumulation of dopamine results from the functional deficiency of BmiAANAT in the mutant, causing a darker pattern in the sclerified regions than in the WT. In summary, our results indicate that Bm-iAANAT is responsible for the color pattern ofthe silkworm mutant, mln. To our knowledge, this is the first report showing a role for arylalkylamine-N-acetyltransferases in color pattern mutation in Lepidoptera.
【语种】英文
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【题目】Evidence of selection at melanin synthesis pathway loci during silkworm domestication
【中文关键词】silkworm; domestication; body color; melanin synthesis pathway; selection; tyrosine hydroxylase
【英文关键词】silkworm; domestication; body color; melanin synthesis pathway; selection; tyrosine hydroxylase
【中文摘要】The domesticated silkworm (Bombyx mori) was domesticated from wild silkworm (Bombyx mandarina) more than 5,000 years ago. During domestication, body color between B. mandarina and B. mori changed dramatically. However, the molecular mechanism of the silkworm body color transition is not known. In the present study, we examined within- and between-species nucleotide diversity for eight silkworm melanin synthesis pathway genes, which play a key role in cuticular pigmentation of insects. Our results showed that the genetic diversity of B. mori was significantly lower than that of B. mandarina and 40.7% of the genetic diversity ofwild silkworm was lost in domesticated silkworm. We also examined whether position effect exists among melanin synthesis pathway genes in B. mandarina and B. mori. We found that the upstream genes have significantly lower levels of genetic diversity than the downstream genes, supporting a functional constraint hypothesis (FCH) of metabolic pathway, that is, upstream enzymes are under greater selective constraint than downstream enzymes because upstream enzymes participate in biosynthesis of a number of metabolites. We also investigated whether some of the melanin synthesis pathway genes experienced selection during domestication. Neutrality test, coalescent simulation, as well as network and phylogenetic analyses showed that tyrosine hydroxylase (TH) gene was a domestication locus. Sequence analysis further suggested that a putative expression enhancer (Abd-B-binding site) in the intron of TH gene might be disrupted during domestication. TH is the rate-limiting enzyme of melanin synthesis pathway in insects. Real-time polymerase chain reaction assay did show that the relative expression levels of TH gene in B. mori were significantly lower than that in B. mandarina at three different developmental stages, which is consistent with light body color of domesticatedsilkworm relative to wild silkworm. Therefore, we speculated that expression change of TH gene may contribute to the body color transition from B. mandarina to B. mori. Our results emphasize the exceptional role of gene expression regulation in morphological transition of domesticated animals.
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【语种】英文
【第一作者】Yu, HS
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【题目】The small heat shock protein (sHSP) genes in the silkworm, Bombyx mori, and comparative analysis with other insect sHSP genes

【中文关键词】ALPHA-CRYSTALLIN; CAENORHABDITIS-ELEGANS; EXPRESSION; EVOLUTION; GENOME; SUPERFAMILY; NEMATODES; MUSCLE; BODY

【英文关键词】ALPHA-CRYSTALLIN; CAENORHABDITIS-ELEGANS; EXPRESSION; EVOLUTION; GENOME; SUPERFAMILY; NEMATODES; MUSCLE; BODY

【中文摘要】Background: Small heat shock proteins (sHSPs) are products of heat shock response and of other stress responses, and ubiquitous in all three domains of life, archaea, bacteria, and eukarya. They mainly function as molecular chaperones to protect proteins from being denatured in extreme conditions. Study on insect sHSPs could provide some insights into evolution of insects that have adapted to diverse niches in the world. Results: Taking advantage of the newly assembled genome sequence, we performed a genome-wide analysis of the candidate sHSP genes in the silkworm, Bombyx mori. Based on known silkworm sHSP sequences, we identified 16 silkworm sHSP genes. Most of them are distributed on two silkworm chromosomes 5 and 27, respectively. 15 of 16 silkworm sHSPs have expression evidence. The comparative analysis of insect sHSPs from B. mori, Drosophila melanogaster, Apis mellifera, Tribolium castaneum, and Anopheles gambiae revealed that there is only one orthologous cluster whereas remaining clusters are species-specific on the phylogenetic tree. This suggested that most of sHSPs might have diverged in function across insects investigated. In addition, the data presented in this study also revealed that sHSPs in the insect orthologous cluster are highly conserved in both sequence and expression pattern. In sum, insect sHSPs show a completely different evolutionary pattern from that found in vertebrate sHSPs. Conclusion: B. mori has the largest number of insect sHSP genes characterized to date, including 16 genes. The inference that most species-specific sHSPs might have diverged in function across insects investigated will help us understand the adaptability of these insects to diverse environments.

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【语种】英文

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【学科分类】生物进化论

【题目】The UDP-glucosyltransferase multigene family in Bombyx mori

【中文关键词】DROSOPHILA-MELANOGASTER; TRANSMEMBRANE PROTEINS; ENDOPLASMIC-RETICULUM; INSECTICIDE RESISTANCE; DRUG-METABOLISM; ENZYMES; GLUCURONOSYLTRANSFERASES; EXPRESSION; RETENTION; DETOXIFICATION

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RETENTION; DETOXIFICATION

【中文摘要】Background: Glucosidation plays a major role in the inactivation and excretion of a great variety of both endogenous and exogenous compounds. A class of UDP-glycosyltransferases (UGTs) is involved in this process. Insect UGTs play important roles in several processes, including detoxication of substrates such as plant allelochemicals, cuticle formation, pigmentation, and olfaction. Identification and characterization of Bombyx mori UGT genes could provide valuable basic information for this important family and explain the detoxication mechanism and other processes in insects. Results: Taking advantage of the newly assembled genome sequence, we performed a genome-wide analysis of the candidate UGT family in the silkworm, B. mori. Based on UGT signature and their similarity to UGT homologs from other organisms, we identified 42 putative silkworm UGT genes. Most of them are clustered on the silkworm chromosomes, with two major clusters on chromosomes 7 and 28, respectively. The phylogenetic analysis of these identified 42 UGT protein sequences revealed five major groups. A comparison of the silkworm UGTs with homologs from other sequenced insect genomes indicated that some UGTs are silkworm-specific genes. The expression patterns of these candidate genes were investigated with known expressed sequence tags (ESTs), microarray data, and RT-PCR method. In total, 36 genes were expressed in tissues examined and showed different patterns of expression profile, indicating that these UGT genes might have different functions. Conclusion: B. mori possesses a largest insect UGT gene family characterized to date, including 42 genes. Phylogenetic analysis, genomic organization and expression profiles provide an overview for the silkworm UGTs and facilitate their functional studies in future.

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【语种】英文
【第一作者】 Huang, FF
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【题目】Identification, genomic organization and expression pattern of glutathione S-transferase in the silkworm, Bombyx mori

【中文关键词】Glutathione S-transferases; Bombyx mori; Genomic organization; Expression pattern
【英文关键词】Glutathione S-transferases; Bombyx mori; Genomic organization; Expression pattern

【中文摘要】Glutathione S-transferases (GSTs) are a multifunctional supergene family and some play an important role in insecticide resistance. We have identified 23 putative cytosolic GSTs by searching the new assembly of the Bombyx mori genome sequence. Phylogenetic analyses on the amino acid sequences reveal that 21 ofthe B. mori GSTs fall into six classes represented in other insects, the other two being unclassified. The majority of the silkworm GSTs belong to the Delta, Epsilon, and Omega classes. Most members of each class are tandemly arranged in the genome, except for the Epsilon GSTs. Expressed sequence tags (ESTs) corresponding to 19 of the 23 GSTs were found in available databases. Furthermore RT-PCR experiments detected expression of all the GSTs in multiple tissues on day 3 of fifth instar larvae. Surprisingly, we found little or

no expression of most Delta and Epsilon GSTs in the fat body, which is thought to be the main detoxification organ. This may explain the sensitivity of the silkworm to certain insecticides. Our data provide some insights into the evolution of the B. mori GST family and thefunctions of individual GST enzymes. (C) 2008 Elsevier Ltd. All rights reserved.

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【学科分类】分子生物学

【题目】Annotation and expression of carboxylesterases in the silkworm, Bombyx mori

【中文关键词】JUVENILE-HORMONE ESTERASE; INSECTICIDE RESISTANCE; ACETYLCHOLINESTERASE GENE; DROSOPHILA-MELANOGASTER; PHENOLIC GLYCOSIDES; CARBOXYL-ESTERASES; MOLECULAR-BASIS; MULBERRY LATEX; MOTH; PHEROMONE
【英文关键词】JUVENILE-HORMONE ESTERASE; INSECTICIDE RESISTANCE; ACETYLCHOLINESTERASE GENE; DROSOPHILA-MELANOGASTER; PHENOLIC GLYCOSIDES; CARBOXYL-ESTERASES; MOLECULAR-BASIS; MULBERRY LATEX; MOTH; PHEROMONE

【中文摘要】Background: Carboxylesterase is a multifunctional superfamily and ubiquitous in all living organisms, including animals, plants, insects, and microbes. It plays important roles in xenobiotic detoxification, and pheromone degradation, neurogenesis and regulating development. Previous studies mainly used Dipteran Drosophila and mosquitoes as model organisms to investigate the roles of the insect COEs in insecticide resistance. However, genome-wide characterization of COEs in phytophagous insects and comparative analysis remain to be performed. Results: Based on the newly assembled genome sequence, 76 putative COEs were identified in Bombyx mori. Relative to other Dipteran and Hymenopteran insects, alpha-esterases were significantly expanded in the silkworm. Genomics analysis suggested that BmCOEs showed chromosome preferable distribution and 55% of which were tandem arranged. Sixty-one BmCOEs were transcribed based on cDNA/ESTs and microarray data. Generally, most of the COEs showed tissue specific expressions and expression level between male and female did not display obvious differences. Three main patterns could be classified, i.e. midgut-, head and integument-, and silk gland-specific expressions. Midgut is the first barrier of xenobiotics peroral toxicity, in which COEs may be involved in eliminating secondary metabolites of mulberry leaves and contaminants of insecticides in diet. For head and integument- class, most of the members were homologous to odorant-degrading enzyme (ODE) and antennal esterase. RT-PCR verified that the ODE-like esterases were also highly expressed in larvae antenna and maxilla, and thus they may play important roles in degradation of plant volatiles or other xenobiotics. Conclusion: B. mori has the largest number of insect COE genes characterized to date. Comparative genomic analysis suggested that the gene expansion mainly occurred in silkworm alpha-esterases. Expression evidence indicated that the expanded genes were specifically expressed in midgut, integument and head, implying that these genes may have important roles in detoxifying secondary metabolites of mulberry leaves, contaminants in diet, and odorants. Our results provide some new insights into functions and evolutionary characteristics of COEs in phytophagous insects.

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【语种】英文
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【学科分类】分子生物学

【题目】New and highly efficient expression systems for expressing selectively foreign protein in the silk glands of transgenic silkworm
【中文关键词】Transgenic silkworms; Fibroin heavy chain; Bombyx mori; Silk gland expression system; piggyBac
【英文关键词】Transgenic silkworms; Fibroin heavy chain; Bombyx mori; Silk gland expression system; piggyBac
【中文摘要】 We constructed three different fibroin H-chain expression systems to estimate the efficacy of producing recombinant proteins in the cocoon of transgenicsilkworms. The results showed that the three different EGFP/H-chain fusion genes were all expressed selectively in the posterior silk gland of the transgenicsilkworm. The recombinant protein content of transgenic silkworm cocoons is up to 15% (w/w) when using the most highly efficient H-chain expression system. To our knowledge, in comparison with silkworm silk gland expression systems in the literature, the highly efficient expression system developed in this study is the mostefficient silkworm silk gland expression system to date. This expression system is the best candidate for foreign gene production and for creation of novel functionalsilk material. The results suggested the N-terminal domain and the intron of the H-chain gene are important in the secretion of fibroin and its transcription, respectively.
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and its transcription, respectively.
【语种】英文
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【学科分类】分子生物学

【题目】Burst expansion, distribution and diversification of MITEs in the silkworm genome
【中文关键词】 REPEAT TRANSPOSABLE ELEMENTS; BOMBYX-MORI; ANOPHELES-GAMBIAE; FAMILY; RICE; SEQUENCE; GENES; SOFTWARE; STOWAWAY; IDENTIFICATION
【英文关键词】 REPEAT TRANSPOSABLE ELEMENTS; BOMBYX-MORI; ANOPHELES-GAMBIAE; FAMILY; RICE; SEQUENCE; GENES; SOFTWARE; STOWAWAY; IDENTIFICATION
【中文摘要】Background: Miniature inverted-repeat transposable elements (MITEs) are widespread in plants and animals. Although silkworm (Bombyx mori) has a large amount of and a variety of transposable elements, the genome-wide information of the silkworm MITEs is unknown. Results: We used structure-based and homology approaches to search for MITEs in the silkworm genome. We identified 17 MITE families with a total of 5785 members, accounting for similar to 0.4% of the genome. 7 of 17 MITE families are completely novel based on the nucleotide composition of target site duplication (TSD) and/or terminal inverted repeats (TIR). Silkworm MITEs were widely and nonrandom distributed in the genome. One family named BmMITE-2 might experience a recent burst expansion. Network and diversity analyses for each family revealed different diversification patterns of the silkworm MITEs, reflecting the signatures of genome-shocks that silkworm experienced. Most silkworm MITEs preferentially inserted into or near genes and BmMITE-11 that encodes a germline-restricted small RNA might silence its the closest genes in silkworm ovary through a small RNA pathway. Conclusions: Silkworm harbors 17 MITE families. The silkworm MITEs preferred to reside in or near genes and one MITE might be involved in gene silence. Our results emphasize the exceptional role of MITEs in transcriptional regulation of genes and have general implications to understand interaction between MITEs and their host genome.
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【语种】英文
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【学科分类】分子生物学

【题目】Comparative analysis of proteome maps of silkworm hemolymph duringdifferent developmental stages

【中文关键词】BETA-N-ACETYLGLUCOSAMINIDASE; MAJOR PLASMA-PROTEINS; BOMBYX-MORI; MANDUCA-SEXTA; INSECT; EXPRESSION; METAMORPHOSIS; INHIBITOR; HYDROXYPYRUVATE; PURIFICATION
【英文关键词】BETA-N-ACETYLGLUCOSAMINIDASE; MAJOR PLASMA-PROTEINS; BOMBYX-MORI; MANDUCA-SEXTA; INSECT; EXPRESSION; METAMORPHOSIS; INHIBITOR; HYDROXYPYRUVATE; PURIFICATION
【中文摘要】Background: The silkworm Bombyx mori is a lepidopteran insect with four developmental stages: egg, larva (caterpillar), pupa, and adult. The hemolymph of the silkworm is in an open system that circulates among all organs, and functions in nutrient and hormone transport, injury, and immunity. To understand the intricate developmental mechanisms of metamorphosis, silkworm hemolymph from different developmental stages, including the 3(rd) day of fifth instar, the 6(th) day of fifth instar, the 3rd day of pupation, the 8(th) day of pupal stage and the first day of the moth stage, was investigated by two-dimensional electrophoresis and mass spectrometry. Results: Two-dimensional polyacrylamide gel electrophoresis showed that from the larval to moth stages, silkworm hemolymph proteins changed markedly. Not only did major proteins such as SP1, SP2, and the 30 K lipoprotein change, but other proteins varied greatly at different stages. To understand the functions of these proteins in silkworm development, 56 spots were excised from gels for analysis by matrix-assisted laser desorption ionization time-of-flight mass spectrometry (MALDI-TOF MS). We identified 34 proteins involved in metamorphosis, programmed cell death, food digestion, metabolism, and nutrient storage and transport. Most proteins showed different expression at different stages, suggesting functions in development and metamorphosis. An abundance of proteins related to immunity were found, including hemolin, prophenoloxidase, serine proteinase-like protein, paralytic peptide-binding protein, and protease inhibitor.Conclusions: Proteomics research not only provides the opportunity for direct investigation of protein expression patterns, but also identifies many attractive candidates for further study. Two-dimensional maps of hemolymph proteins expressed during the growth and metamorphosis of the silkworm offer important insights into hemolymph function and insect metamorphosis.
【英文摘要】Background: The silkworm Bombyx mori is a lepidopteran insect with four developmental stages: egg, larva (caterpillar), pupa, and adult. The hemolymph of the silkworm is in an open system that circulates among all organs, and functions in nutrient and hormone transport, injury, and immunity. To understand the intricate developmental mechanisms of metamorphosis, silkworm hemolymph from different developmental stages, including the 3(rd) day of fifth instar, the 6(th) day of fifth instar, the 3rd day of pupation, the 8(th) day of pupal stage and the first day of the moth stage, was investigated by two-dimensional electrophoresis and mass spectrometry. Results: Two-dimensional polyacrylamide gel electrophoresis showed that from the larval to moth stages, silkworm hemolymph proteins changed markedly. Not only did major proteins such as SP1, SP2, and the 30 K lipoprotein change, but other proteins varied greatly at different stages. To understand the functions of these proteins in silkworm development, 56 spots were excised from gels for analysis by matrix-assisted laser desorption ionization time-of-flight mass spectrometry (MALDI-TOF MS). We identified 34 proteins involved in metamorphosis, programmed cell death, food digestion, metabolism, and nutrient storage and transport. Most proteins showed different expression at different stages, suggesting functions in development and metamorphosis. An abundance of proteins related to immunity were found, including hemolin, prophenoloxidase, serine proteinase-like protein, paralytic peptide-binding protein, and protease inhibitor.Conclusions: Proteomics research not only provides the opportunity for direct investigation of protein expression patterns, but also identifies many attractive candidates for further study. Two-dimensional maps of hemolymph proteins expressed during the growth and metamorphosis of the silkworm offer important insights into hemolymph function and insect metamorphosis.
【语种】英文
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【学科分类】分子生物学

【题目】Characterization and expression patterns of let-7 microRNA in the silkworm (Bombyx mori)
【中文关键词】CAENORHABDITIS-ELEGANS; C-ELEGANS; REGULATORY RNA; BROAD-COMPLEX; DROSOPHILA-MELANOGASTER; CELL-DEATH; FAT-BODY; TRANSCRIPTION FACTORS; INSECT METAMORPHOSIS; PROGRAMMED AUTOPHAGY
【英文关键词】CAENORHABDITIS-ELEGANS; C-ELEGANS; REGULATORY RNA; BROAD-COMPLEX; DROSOPHILA-MELANOGASTER; CELL-DEATH; FAT-BODY; TRANSCRIPTION FACTORS; INSECT METAMORPHOSIS;

PROGRAMMED AUTOPHAGY

【中文摘要】Background: lin-4 and let-7, the two founding members of heterochronic microRNA genes, are firstly confirmed in Caenorhabditis elegans to control the proper timing of developmental programs in a heterochronic pathway. let-7 has been thought to trigger the onset of adulthood across animal phyla. Ecdysone and Broad-Complex are required for the temporal expression of let-7 in Drosophila melanogaster. For a better understanding of the conservation and functions of let-7, we seek to explore how it is expressed in the silkworm (Bombyx mori). Results: One member of let-7 family has been identified in silkworm computationally and experimentally. All known members of this family share the same nucleotides at ten positions within the mature sequences. Sequence logo and phylogenetic tree show that they are not only conserved but diversify to some extent among some species. The bmo-let-7 was very lowly expressed in ova harvested from newborn unmated female adult and in individuals from the first molt to the early third instar, highly expressed after the third molt, and the most abundant expression was observed after mounting, particularly after pupation. The expression levels were higher at the end of each instar and at the beginning of each molt than at other periods, coinciding with the pulse of ecdysone and BR-C as a whole. Using cultured ovary cell line, BmN-SWUI, we examined the effect of altered ecdysone levels on bmo-let-7 expression. The expression was also detected in various tissues of day 3 of the fifth instar and of from day 7 of the fifth to pupa, suggesting a wide distributing pattern with various signal intensities. Conclusion: bmo-let-7 is stage- and tissue-specifically expressed in the silkworm. Although no signals were detected during embryonic development and first larval instar stages, the expression of bmo-let-7 was observed from the first molt, suggesting that it might also function at early larval stage of the silkworm. The detailed expression profiles in the whole life cycle and cultured cell line of silkworm showed a clear association with ecdysone pulse and a variety of biological processes.

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【语种】英文
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【学科分类】分子生物学

【题目】Identification and expression of the achaete-scute complex in the silkworm, Bombyx mori

【中文关键词】achaete-scute (AS-C) homologue; Bombyx mori; genomic organization; expression pattern; RNA interference
【英文关键词】achaete-scute (AS-C) homologue; Bombyx mori; genomic organization; expression pattern; RNA interference

【中文摘要】Recently, the study of achaete-scute (AS-C) homologues has contributed enormously to understanding of gene duplication and function evolution, particularly inDiptera. We identified four AS-C homologue

genes in the silkworm, Bombyx mori, referred to as BmASH, BmASH2, BmASH3, and Bmase. The complex displayed tandem array structure in the genome. Analysis of spatial expression profiles showed that they all were expressed in obviously higher levels in wing disc than in other tissues, suggesting that they might play important roles in the development of the wing. Furthermore, we found that their expression profiles in the wing discs were mostly correlated with the development of the scales, especially the BmASH gene. RNA interference results further indicated that BmASH was necessary for scale formation in silkworm wing.

【英文摘要】Recently, the study of achaete-scute (AS-C) homologues has contributed enormously to understanding of gene duplication and function evolution, particularly inDiptera. We identified four AS-C homologue genes in the silkworm, Bombyx mori, referred to as BmASH, BmASH2, BmASH3, and Bmase. The complex displayed tandem array structure in the genome. Analysis of spatial expression profiles showed that they all were expressed in obviously higher levels in wing disc than in other tissues, suggesting that they might play important roles in the development of the wing. Furthermore, we found that their expression profiles in the wing discs were mostly correlated with the development of the scales, especially the BmASH gene. RNA interference results further indicated that BmASH was necessary for scale formation in silkworm wing.

【语种】英文

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【学科分类】分子生物学

【题目】A genomewide survey of homeobox genes and identification of novel structure of the Hox cluster in the silkworm, Bombyx mori

【中文关键词】Bombyx mori; Homeobox; Hox cluster; Bmshx family

【英文关键词】Bombyx mori; Homeobox; Hox cluster; Bmshx family

【中文摘要】 Homeobox genes encode transcriptional factors that play crucial roles in a variety of developmental pathways from unicellular to multicellular eukaryotes. We have identified 102 homeobox genes in the typical insect of Lepidoptera, Bombyx mori, based on the newly assembled genome sequence with SIX coverage. These identified homeobox genes were categorized into nine classes including at least 74 families. The available ESTs and microarray data at present confirmed that more than half of them were expressed during silkworm developmental processes. Orthologs of pb, zen and ftz were newly identified in the Bombyx Hox cluster on chromosome 6. Interestingly, a special group of 12 tandemly duplicated homeobox genes was found located between Bmpb and Bmzen in the Bombyx Hox cluster, suggesting that Hox cluster might have experienced a lineage-specific expansion in the silkworm. A detailed analysis on genome data reveals that a split exists between Bmlab and Bmpb. Our data provide valuable information for future research on the development and evolution of silkworm. (C) 2008 Elsevier Ltd. All rights reserved.

【英文摘要】 Homeobox genes encode transcriptional factors that play crucial roles in a variety of developmental pathways from unicellular to multicellular eukaryotes. We have identified 102 homeobox genes in the typical insect of Lepidoptera, Bombyx mori, based on the newly assembled genome sequence with SIX coverage. These identified homeobox genes were categorized into nine classes including at least 74 families. The available ESTs and microarray data at present confirmed that more than half of them were expressed during silkworm developmental processes. Orthologs of pb, zen and ftz were newly identified in the Bombyx Hox cluster on chromosome 6. Interestingly, a special group of 12 tandemly duplicated homeobox genes was found located between Bmpb and Bmzen in the Bombyx Hox cluster, suggesting that Hox cluster might have experienced a lineage-specific expansion in the silkworm. A detailed analysis on genome data reveals that a split exists between Bmlab and Bmpb. Our data provide valuable information for future research on the development and evolution of silkworm. (C) 2008 Elsevier Ltd. All rights reserved.

【语种】英文

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【学科分类】分子生物学

【题目】Establishment and characterization of an ovarian cell line of the silkworm, Bombyx mori
【中文关键词】Bombyx mori; Ovarian cell line; Growth curve; BmNPV infection; Transgenic cell line
【英文关键词】Bombyx mori; Ovarian cell line; Growth curve; BmNPV infection; Transgenic cell line
【中文摘要】A cell line BmN-SWU1 was established from the ovarian tissues of 3-day-old fourth instar Bombyx mori larvae of the 21-872nlw variety by performing primary cultures in Grace's medium supplemented with 20% fetal bovine serum (FBS). The cell line primarily consisted of short spindle cells and round cells. The frequencyof cells with chromosome number 2n = 56 was 80.5%; therefore, the cell line was considered to be a diploid cell line. The population-doubling time (PDT) at 45th passage line was 57.7 h. This cell line was susceptible to the B. mori nuclear polyhedrovirus (BmNPV), and the median tissue culture infective dose (TCID(50)) at acell density of 105 cells/ml was 16.3 OBs/ml. The transient expression efficiency of the green fluorescent protein (GFP) gene in this cell line was 54.8%. We used theBmN-SWU1 cell line to select and establish a GFP transgenic cell line. (C) 2009 Elsevier Ltd. All rights reserved.
【英文摘要】A cell line BmN-SWU1 was established from the ovarian tissues of 3-day-old fourth instar Bombyx mori larvae of the 21-872nlw variety by performing primary cultures in Grace's medium supplemented with 20% fetal bovine serum (FBS). The cell line primarily consisted of short spindle cells and round cells. The frequencyof cells with chromosome number 2n = 56 was 80.5%; therefore, the cell line was considered to be a diploid cell line. The population-doubling time (PDT) at 45th passage line was 57.7 h. This cell line was susceptible to the B. mori nuclear polyhedrovirus (BmNPV), and the median tissue culture infective dose (TCID(50)) at acell density of 105 cells/ml was 16.3 OBs/ml. The transient expression efficiency of the green fluorescent protein (GFP) gene in this cell line was 54.8%. We used theBmN-SWU1 cell line to select and establish a GFP transgenic cell line. (C) 2009 Elsevier Ltd. All rights reserved.
【语种】英文
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【学科分类】分子生物学

【题目】Species-specific expansion of C2H2 zinc-finger genes and their expression profiles in silkworm, Bombyx mori.
【中文关键词】C2H2 zinc-finger; Transcription factor; Metamorphism; Development; Expression pattern; Bombyx mori
【英文关键词】C2H2 zinc-finger; Transcription factor; Metamorphism; Development; Expression pattern; Bombyx mori
【中文摘要】Most C2H2 zinc-finger proteins (ZFPs) function as sequence-specific DNA-binding transcription factors, and play important roles in a variety of biology processes, such as development, differentiation, and tumor suppression. By searching the silkworm genome with a HMM model of C2H2 zinc-fingers, we have identified a total of 338 C2H2 ZFPs. Most of the ZFP genes were clustered on chromosomes and showed uneven distribution in the genome. Over one third of geneswere concentrated on chromosome 11, 15 and 24. Phylogenetic analysis classified all silkworm C2H2 Ups into 75 families; 63 of which belong to evolutionarily conserved families. In addition, 188 C2H2 ZFP genes (55.6%) are species-specific to the silkworm. A species-specific expansion of a family with 39 members in a tandem array on chromosome 24 may explain the higher number of species-specific ZFPs in silkworm compared to other organisms. The expression patterns ofC2H2 ZFP genes were also

examined by microarray analysis. Most of these genes were actively expressed among different tissues on day 3 of the fifth instar. The results provide insight into the biological functions of the silkworm C2H2 ZFP genes in metamorphism and development. (C) 2008 Elsevier Ltd. All rights reserved.

【英文摘要】Most C2H2 zinc-finger proteins (ZFPs) function as sequence-specific DNA-binding transcription factors, and play important roles in a variety of biology processes, such as development, differentiation, and tumor suppression. By searching the silkworm genome with a HMM model of C2H2 zinc-fingers, we have identified a total of 338 C2H2 ZFPs. Most of the ZFP genes were clustered on chromosomes and showed uneven distribution in the genome. Over one third of geneswere concentrated on chromosome 11, 15 and 24. Phylogenetic analysis classified all silkworm C2H2 Ups into 75 families; 63 of which belong to evolutionarily conserved families. In addition, 188 C2H2 ZFP genes (55.6%) are species-specific to the silkworm. A species-specific expansion of a family with 39 members in a tandem array on chromosome 24 may explain the higher number of species-specific ZFPs in silkworm compared to other organisms. The expression patterns ofC2H2 ZFP genes were also examined by microarray analysis. Most of these genes were actively expressed among different tissues on day 3 of the fifth instar. The results provide insight into the biological functions of the silkworm C2H2 ZFP genes in metamorphism and development. (C) 2008 Elsevier Ltd. All rights reserved.

【语种】英文

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【学科分类】分子生物学

【题目】利用转基因RNA干涉提高家蚕对BmNPV的抗性初探

【中文关键词】家蚕; p iggyB ac转座子; RNA干涉; 转基因; 家蚕核型多角体病毒

【英文关键词】Bom byx m o ri; p ig g yBa c tra nspo so n;RNA;i Tra nsg e ne; Bom byx m o ri nuc leo po lyhed ro v irus

【中文摘要】基于探讨利用转基因RNA 干涉技术使家蚕获得对核型多角体病毒抗性的目的, 将家蚕核型多角体病毒(BmNPV)的DNA聚合酶基因、蛋白激酶(PK1)基因以及bro-d 和orf1629基因的部分编码片段, 分别以其反向重复的形式与家蚕Actin3启动子连接, 构建了基于p iggyBac转座子载体的转基因表达载体, 通过显微注射于家蚕卵, 获得了36~ 107个G1 蛾区, 得到了20~ 23头转基因阳性家蚕。经Southern杂交及RT-PCR分析表明, BmNPV的4个反向重复片段都已经导入家蚕基因组中, 并且可以进行转录。攻毒实验结果表明, BmNPV的DNA聚合酶基因和PK 1基因反向重复片段对病毒的增殖有抑制作用, 从而使家蚕对BmNPV 具有一定抗性; 而BmNPV 的bro-d 和orf1629基因反向重复片段对病毒的增殖没有抑制作用。针对特定病毒的转基因RNA i技术有望使家蚕获得对该病毒的抗性。

【英文摘要】In o rde r to ex p lo re w he the r tra nsg e n ic te c hno lo g y a nd RNA in te rfe re nc e c a n b e use d to e nha nce s ilkw o rmps re s is ta nc e to Bom by x m o ri nuc le o po lyhe d ro v irus (Bm NPV), the pa rtia l se que nc e s o f fo ur Bm NPV g e ne s, nam e ly DNA po lym e ras e, p ro te in kina se (PK1), b ro-d a nd o rf1629, w e re se le c te d a nd us ed to p repa re the ir inve rte d re p ea t se q ue nc e s. The inv e rted re pe a t se que nc e s w e re the n li a te d to the p rom o te r o fBmAc tin 3 o n p ig g y a c tra ns po so n to g e ne ra te tra nsg en ic ve c to rs. Eg g s w e re m ic ro inje c te d w ith the tra nsgen ic ve c to rs a nd 36 ~ 107 G1 b ro od s w e re ob ta ined, from w h ic h 20~ 123 p o s itiv e ind iv id ua ls w e re se le c ted.S o uthe rn b lo tting a ss a y show e d tha t fra gm e n ts o f the fo u r Bm NPV g e ne s ha d be e n suc c e ss fu lly inte g ra te d in tothe c hrom o som e o f s ilkw o rm, a nd the re s ults o f RT-PCR p rov ed tha t the fo ur fragm e n ts ha d b e e n tra ns c r ib ed.Afte r v ira l ino cu la tio n, m od e ra te Bm NPV- re s is ta nce w a s c o n firm e d in tra nsg e nic la rv a e w ith inv e rted rep e a t seque nc e o f DNA po lym e ra s e o r PK1. Tra nsg en ic la rva e w ith inv e rte d re pe a t se que nc e o fb ro-d o r o r f1629 ha dno e ffe c t in e nha nc ing re s is ta nc e to Bm NPV. The p re se n t s tudy s how s tha t tra nsg e n ic te c hno lo g y and RNA interfe re nc e c o u ld be us ed to co n fe r re s is ta nc e to s ilkw o rm a g a ins t sp e c ific v irus.

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【学科分类】分子生物学

【题目】转植酸酶基因家蚕的制作及表达检测
【中文关键词】家蚕;转基因蚕;piggyBac;转基因;绿色荧光蛋白;植酸酶
【英文关键词】Bombyx mori; transgenic silkworm ; piggyBac; transgene; green fluorescent protein(GFP);phytases
【中文摘要】家蚕Bombyx mori丝腺具有高效合成蛋白质的特性,开发在丝腺特异表达外源蛋白质的生物反应器具有重要的意义。本研究利用piggyBac来源的两种载体pPIGA3GFP和pBac{3 X P3 · EGFPaf},建立了稳定的家蚕转基因技术体系;然后,利用一株黑曲霉来源的植酸酶基因,构建了在家蚕后部丝腺特异表达的融合表达载体pBac[3×P3-EGFP+FibLphyADsRed],注射蚕卵后,在53个G1蛾区中检测到3个有荧光蚕的蛾区。经Southern blot和反向PCR验证,转基因表达盒整合到家蚕染色体上。RT—PCR结果显示,植酸酶基因特异性地在后部丝腺表达,其表达模式与家蚕轻链丝素基因一致。结果表明我们成功获得了在后部丝腺特异表达植酸酶融合蛋白的转基因蚕,这为进一步开发家蚕生物反应器,利用转基因蚕生产各种重组蛋白具有积极的促进作用。
【英文摘要】In this study, we produced germline transgenic silkworm that spin cocoons containing recombinant phyase in the fibroin layer.Using the piggyBac-derived vector pPIGA3 GFp and pBac{3×P3一 EGFPaf}.we successfully developed stable germline transformation in the silkworm Bombyx mori L.We further constructed a piggyBac.based transform ation vector that carried a fusion cDNA of phyase with partial fibroin 1ight chain(FibL)and red fluorescent protein(DsRed).The fusion cDNA was driven by FibL gene promoter.Silkworm eggs were injected with the vectors,producing woi'Ins displaying red fluorescence in their silkglands and cocoons. Southern blot and inverse.PCR results indicated that the insertion fragment was recombined with the chromosome of silkworm. RT.PCR analysis showed that the phytase gene was expressed especially in the posterior silkgland,and this expression pattern was the same as that of fibroinlight chain gene. These results showed that we successfully got phy-transgene silkworm. This studydemonstrates the viability of transgenic silkworm s as a tool for producing useful proteins in the silkglands
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【学科分类】遗传学

【题目】家蚕体形突变第2数珠蚕(mf-2)的遗传研究
【中文关键词】家蚕; 体形; 诱导突变; 第2数珠蚕(mf-2); 遗传关系; 连锁分析
【英文关键词】Bom b yx m o r i; Bo d y s ha pe; Ind uc e d m uta tio n; M o n ilifo rm 2 (m f-2) ; G e ne tic re la tio ns h ip; Linkag e a na lys is
【中文摘要】经X射线诱导发现的家蚕体形突变第2 数珠蚕(mf-2)在形态上与数珠蚕(mf: 12-3918) 相似。通过二者间的杂交实验表明, mf-2与mf 为独立遗传; 与各染色体的标记基因进行连锁分析, 发现mf-2与第15染色体的眼纹全黑(bl: 15-01 0)连锁, 说明mf-2基因属于第15连锁群; 初步测定mf-2与bl间的遗传距离为27. 7 cM。
【英文摘要】The m o n ilifo rm 2 is a n X ra y- ind uce d m u ta n t o f b od y s hap e. Its m o rpho log y is s mi ila r to tha t o f the na tura lm o nilifo rm s ilkw o rm (m f: 12-391 8). Hyb rid iza tio n e xpe rmi e n t b e tw e e n them show e d tha tm f-2 is inhe r-i ted inde pe nde n tly w ithm f. Linka g e a na ly se s o fm f-2 w ith m a rke r g e ne s o n e a c h c h rom o som e ind ica ted tha t the m u ta n t g e ne m f-2 is linked w ith the b lind (b l: 15-01 0) w hic h be lo ng s to the 15 th linka g e g ro up, m e an ing tha t the m f-2 g e ne is a ls o o n the 15 th linka g e g ro up. The g e ne tic d is ta nce be tw e e n m f-2 a nd b l w a s d e te rmine d a s 271 7 cM.
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【学科分类】遗传学

【题目】家蚕体形突变新缢蚕(co-n)的遗传分析与基因定位研究
【中文关键词】家蚕; 突变; 体形; 新缢蚕; 遗传分析; 基因定位
【英文关键词】Bomb yx m o ri; Mutan;t Body s hap e; New co ns tric te d; G ene tic a na lys is; G ene lo ca liza tio n
【中文摘要】从西南大学家蚕基因库中发现体形自然突变/ 新缢蚕0。幼虫表型特征为: 环节中央部位呈缢缩状, 色素聚集, 腹部节间膜呈隆起状, 5龄中后期最明显, 与缢蚕(constricted, co) 相似。至成虫期观察, 腹背通常少有鳞毛。经遗传分析, 新缢蚕为隐性基因支配, 将其命名为new constricted, 基因符号: co-n。连锁分析结果表明, co-n 与黄血(Y)基因连锁, 故判定该基因属于第2连锁群。这是家蚕第2连锁群30多个突变中发现的第一个体形突变。经过新缢蚕(co-n)与灰色卵(Gr)、黄血(Y)基因间的三点测验定位实验, 结合伴野丰2005年最新公布的家蚕连锁遗传图的第2连锁群基因座数据, 将co-n基因座确定为: 2-51 7。
【英文摘要】New c ons tric te d0 is a na tu ra lm u ta nt o f b od y s ha pe d is co v e re d in the s ilkw o rm g e rm p la sm ba nk a t S o uthw e s t Un ive rs ity. Its la rv a e a re c ha ra c te rize d w ith c o ns tric tio n a nd p igm e nt d ep o s itio n in the c e nte r o f b od y se gm e nts, and b u lg e a t the a bd om ina l inte r-se gm e nta lm em b ra ne. The s e c ha ra c te rs a re e spe c ia lly ob v-i o us a t la te r d a ys o f the fifth- ins ta r, w h ic h m a ke the la rva e re sem b le tho se w ith the co ns trice d (c o) g e ne. Ge ne ra lly, the ad u ltsp d o rsa l a nd a bdom ina l su rfac e s ha v e ve ry few sc a le s. Ge ne tic a na lys is show e d tha t the new c o ns tric ted a ppe a ra nce is c o n tro lled by a re c e ss iv e m uta n t g e ne. Itw a s nam e d new co ns tric te d w ith the g e ne s ym b o lc o-n. Linka g e a na lys is ind ic a ted tha tc o-n is linke d w ith ye llow b lo od (Y) g e ne a nd be lo ng s to the 2nd linka g e g ro up. It is the firs t b od y s hap e m u ta nt am o ng m o re tha n th irty m uta nts w h ic h ha ve b ee n d isc o ve re d o n the 2nd linkag e g ro up. The res u lt o f th re e-po int te s t am o ng new c o ns tric te d (c o-n), g re y c o lo r e g g (G r) a nd ye llow b lo o d (Y) , a nd da ta o f the la te s t linka g e m a p p ub lishe d b y B anno Yu ta ka in 2005 s how ed tha t the g e ne lo c us o fc o-n is a t 2-51 7.
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【题目】家蚕心形眼纹(ces)的遗传与基因定位研究
【中文关键词】家蚕; 突变; 心形眼纹; 遗传分析; 基因定位
【英文关键词】Bom b yx m o r i; Mu ta tio n; C o rd ifo rm ey e-spo ;t Ge ne tic a na lys is; G e ne lo ca liza tio n
【中文摘要】通过对家蚕基因资源库保存品系的性状调查, 发现一种幼虫眼状纹变异))) 心形眼纹(cordiform eye-spo t,ces), 其特征是: 幼虫眼纹呈倒心型, 相当于正常型眼纹的中间部分, 色浅。与正常型进行杂交试验, 表明该突变为隐性遗传, 外显率稍低; 与各染色体标记基因进行连锁分析, 确认突变基因ces 属于第14 染色体; 育成青熟油蚕(oa)与ces 的双隐性系统后, 通过ces 与oa 和Nd-s (丝胶茧)的三点测验, 初步将ces基因定位于家蚕连锁图谱第14连锁群的5017 cM 位点, 表示为ces(14-501 7)。
【英文摘要】A nov e lm u ta n t in ey e s po t o f la rva, nam e d c o rd ifo rm e ye-sp o t (c e s), w a s d is c ov e red d u ring a su rv e y to c ha ra c te ris tics o f the p re se rve d s ilkw o rm g e ne tic re s ou rc e s. It is c ha ra c te rize d w ith a lig h t c o lo r a nd o bc o rda te e y e spo ,t w h ich is eq u iva le nt to the c e n tra l pa rt o f a no rm a l e ye spo .t Hy b rid iza tio n o f the m uta nt w ith the no rm a lo ne ind ic a te d tha t th is m u ta tio n is c o n tro lled b y a re ce s s ive g e ne w h ic h ha s a re la tive ly low pe netrance. Linkag e a na ly se s w ith m a rke r g e ne s o f e a c h c h rom o som e ind ic a te d tha t the m uta nt g e ne c e s be lo ng s to the 14 th linka g e g ro up. A fte r hav ing suc c e ss fu lly b re d the do ub le re c e ss iv e line w ith g e ne s o a (ao juku tra ns luc e n t) a nd ce s, a thre e-po in t te s t am o ng c e s, o a a nd Nd-s (se ric in co c o o n) s how ed tha t the g e ne loc us o fc e s is a t 501 7 cM o n the 14 th s ilkw o rm linka g e g ro up a nd is thus d e s ig na te d as c e s (14-501 7).
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【题目】家蚕新突变楔形眼纹(Wes)的遗传与基因定位研究
【中文关键词】家蚕; 突变; 楔形眼纹; 形态; 遗传分析; 基因定位
【英文关键词】Bomb yx m o ri; Muta tio n; Wed g e e yespo;t Mo rp ho lo g y; G ene tic a na ly s is; Ge ne loc a liza tion
【中文摘要】在家蚕遗传资源系统保存和性状调查中, 发现一种新的幼虫眼状纹变异))) 楔形眼纹(wedg e eye-spo t,W es), 其特征是: 杂合体(W es /+)成活, 幼虫眼状纹只有中间部分, 并特化成狭窄的倒三角形, 半月纹、星状纹正常;纯合体(Wes /Wes)胚胎后期致死, 解剖蚕卵可见胚胎第1、2 胸节愈合, 第1、2胸足退化, 其它部位未见异常。该突变为显性遗传。通过与各染色体标记基因进行连锁分析, 发现突变基因W es在第6染色体上; 通过与EK p进行两点测验, 显示Wes 位于EK p附近, 相距约310 cM; 通过与ve和EK p的三点测验, 将W es 基因定位于家蚕连锁图谱第6连锁群的2413 cM 位点, 表示为W es (6-241 3)。
【英文摘要】We dg e e ye-s po t (We s), a new m uta nt in e ye s po t o f la rva, w a s d isc o ve red d ur ing the p re se rvatio n a nd c ha ra c te ris tics inve s tig a tio n o f s ilkw o rm re so u rc e s. The he te ro zyg o te (We s /+) co u ld s urv ive. Th is e y e spo t o f the la rv a o nly ap pe a re d a t the ce n te r a nd lo o ke d like a na rrow inve rte d tria ng le. The c re sc e n t a nd s ta r sp o ts w e re no rm a .l The hom o zy g o te (We s /We s) w a s le tha l du ring the la te em b ryo n ic s ta g e. Eg g d isse ction show e d tha t the 1s t a nd 2 nd tho ra c ic se gm e nts w e re fus ed a nd the 1 s t a nd 2nd tho ra c ic le g s had de g e ne ra te d. O the r b od y p a rts w e re no rm a .l It w a s c o ntro lle d b y a dom ina n t m u tan t g e ne. Linkag e a na lys is w ith m a rke r g e ne s o n va rio us c hrom o s om e s ind ic a ted tha t the m uta n t g e neWe s is o n c hrom o som e 6. The re su lt o f tw o-po int te s t be tw e e nW e s a nd EKp show e d tha t We s is lo c a te d ne a r EKp, a bo u t 31 0 cM aw a y. Thre e-p o int te s t am o ng W e s, v e a nd EKp show e d tha t the g e ne lo c us o fW e s is a t 241 3 cM on the 6 th linka g e g ro up in s ilkw o rm linka g e m a p.
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【中文关键词】家蚕; 体形突变体; 遗传; 连锁分析; 基因定位
【英文关键词】Bombyx mori; body shapemutan;t hered ity; linkage ana lysis; gene loca lizat ion
【中文摘要】作为重要经济昆虫和鳞翅目昆虫模式的家蚕Bombyx mor i, 其突变体是生理学、遗传学、功能基因组学等研究的宝贵资源。作者在家蚕资源保存和遗传分析中发现一种新的体形突变体))) 短体蚕(Squab, Sq), 其特征是: 杂合体(Sq / +)成活, 蚕体长只有正常型的约4 /5, 腹中部略肥大, 胸部稍狭小; 纯合体(Sq / Sq) 胚胎期致死。遗传分析结果表明该突变为显性遗传。通过与各染色体标记基因进行连锁分析, 发现突变基因Sq 在家蚕第14染色体上; 通过与同一染色体上的标记基因青熟油蚕基因(oa)、不洁蚕基因(D i)进行三点测验, 将Sq 定位在家蚕连锁图谱第14连锁群的34. 6 cM 位点, 表示为Sq (14-34. 6)。本研究结果为深入研究和利用该突变体奠定了重要基础。
【英文摘要】The silkw orm, Bombyx mori, is an important econom ic insect and a model for Lep idoptera insects; the mutants o f silkworm are the va luab le resources for physio logy, genetics and functional genom ics. W e d iscovered a new body shapemutant named Squab (Sq) during the conservat ion and genetic analysis of the silkw orm resources. The heterozygo te (Sq /+) could surv ive, and the length of mutant is just about four-fifths o f the normal and is character ized by slight fat abdom en in the m iddle reg ion and a little narrow thorax; the homozygo te (Sq /Sq) is embryon ic letha.l The genetic analysis show ed that itw as contro lled by dom inantmutant gene. It is confirm ed that the mu tant gene Sq be longs to the 14th linkage group by crossing it w ith the marker genes fo r

each linkage g roup. Three-po int test among ao juku translucent (oa), d irty (D i) and Sq show ed that the gene locus of Sq is at 34. 6 cM on the 14 th linkage group in silkw orm linkage map. This study has important significance for further research and utilization o f th is mutan.t

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【题目】阳离子脂质体转染家蚕培养细胞的技术体系研究
【中文关键词】家蚕; 阳离子脂质体; 细胞转染; 转基因细胞系
【英文关键词】Bom b yx m o r i; C a tio n lip o som e; C e ll tra ns fe c tio n; Tra nsg e n ic c e ll line
【中文摘要】阳离子脂质体转染家蚕培养细胞是家蚕基因功能研究的重要技术之一。利用阳离子脂质体Lipofec tam ine2000与pBac[A3N eo+ A3EGFP]转基因表达载体, 对家蚕卵巢细胞BmN-SWU1、BmN-SWU2、BmN和草地贪夜蛾卵巢细胞S f21进行了外源DNA 质量、脂质体用量、转染细胞密度和转染孵育时间等4个转染条件的优化实验, 筛选到了阳离子脂质体转染效率最高的细胞系BmN-SWU1。BmN-SWU1细胞的最佳转染条件为: 外源DNA 016 Lg, 脂质体21 5 LL, 细胞密度1 @ 105 mL- 1, 无血清条件下孵育24 h。此条件下转染效率可达55108%。用抗生素G418筛选转染后的BmN-SWU1细胞, 建立了GFP转基因细胞系。
【英文摘要】It is a n mi po rta n t te c hn ique fo r s tud y ing o n func tio na lg e ne s o f s ilkw o rm tha t s ilkw o rm c e ll line s w e re tra ns fe c te d w ith ca tion lipo som e. In th is pa pe r, 4 fa c to rs o f tra ns fe c tio n o f pBa c [A3Ne o + A3EG FP] w ith Lipofe c tam ine 2000 in 4 inse c t ce ll line s, inc lud ing the DNA am o un ,t lip o som e am o un,t c e lls d e ns ity a nd tra ns fe ctio n d ura tio n, w e re inve s tig a ted a nd o p tmi ize d. The re su lts show e d tha t the tra ns fe c tio n e ffic ie nc y o f BmNSWU1 w a s 551 08%, h ig he s t in 4 inse c t c e ll line s te s ted. The o p tmi a l tra ns fe c tio n co nd itio ns fo r Bm N-SWU1 w e re a s fo llow ing: 01 6 Lg DNA, 21 5 LL ca tio n lip os om e, 1 @ 105 c e lls /m L a nd tra ns fe c tio n du ra tio n 24 h. Bm N-SWU1 w a s tra ns fe c te d w ith pBa c [A3Ne o+ A3EG FP], the n s e le c te d unde r G418 s tre s s. Fina lly, a c e ll line w ith ov e r 95% tra nsg e n ic c e lls w a s o b ta ined.
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【题目】家蚕脂肪体细胞原代培养及其细胞分化的研究
【中文关键词】家蚕; 脂肪体细胞; 原代培养; 分化
【英文关键词】Bom b yx m o r i; Fa t bo dy c e l;l Prmi a ry c u lture; D iffe re ntia tio n
【中文摘要】取家蚕4~ 5龄幼虫背部脂肪体, 采用胰蛋白酶消化和组织块贴壁法进行离体培养, 观察脂肪体细胞在体外培养过程中的变化。家蚕脂肪体细胞在原代培养过程中出现了一批具有繁殖和再分化能力的脂肪前体细胞, 细胞间呈管道状或网状排列, 可在体外培养条件下繁殖, 分化成新的脂肪组织, 形成的脂肪细胞分泌大量脂肪油滴后破裂死亡。研究结果可为进一步探讨家蚕脂肪体细胞的分化及脂类代谢调节机制提供实验条件。
【英文摘要】The d o rsa l fa t b od ie s o f s ilkw o rm la rva in 4th a nd 5th ins ta rs w e re o b ta ine d a nd cu lture d in v itro w ith tryps in-d ig e s t m e tho d a nd tis sue p ie c e s-s tic k m e tho d. Du ring the c o u rse o f d iffe re n tia tio n o f p rec u rso r lipoc y te s from s ilkw o rm, the ir m o rp ho lo g ica l c ha ng e s w e re o bs e rv ed a nd a g ro up o f p re c urso r lip o c y te s w h ic h ha d ca p ab ility o f p ro pa g a tio n a nd c e lld iffe re n tia tio n ap pe a red. The y w e re p ip e line- like o r re tic ula te ly a rra ng e d a nd co u ld g row, d iffe re n tia te a nd re g e ne ra te into new fa t b od ie s in v itro c u ltu re, fina lly the lip o cy te s rup tu re d to de a th a fte r s e c re ting a g rea t d e a l o f lip id d ro p le ts. The re su lts w ill p ro v ide the e xp e rmi e nta l c o nd itio n fo r s tudy o f d iffe re n tia tio n o f

fa t b o dy ce lls a nd m e c ha n ism o f lip id m e ta b o lism o fBom by x m o r i
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【题目】家蚕Hox基因研究进展
【中文关键词】家蚕; 躯体模式; H ox基因; E群突变; 基因表达
【英文关键词】Bombyx mori; body plan; Hox genes; E mutants; gene expression
【中文摘要】H ox基因(homeobox genes)在昆虫躯体模式(body p lan)的发育调控机制中扮演着重要角色, 其表达具有严格的组织特异性和胚胎发育的程序性。家蚕Bom byx m ori作为鳞翅目昆虫的代表, 其H ox基因也陆续得到鉴定。在家蚕中存在一个拟复等位基因群))) E群基因, 其突变表型均与过剩斑纹和过剩附肢有关, 这可能与H ox基因有着密切联系。家蚕全基因组测序完成后, 发现其H ox基因簇中存在12个特有的hom eobox基因(Bm shx1 ~ Bm shx12) , 说明家蚕H ox基因可能具有独特的生物学意义。我们还利用家蚕基因芯片数据分析了Bm lab 与Bmpb 基因的组织表达特征。通过对家蚕H ox基因的研究, 探索家蚕躯体模式建立机制, 可望为解析其他鳞翅目昆虫的躯体模式的建立机制提供理论依据。本文就家蚕H ox基因的表达、功能及其与E群突变的关系等方面进行了综述。
【英文摘要】Hox genes play an impo rtant ro le in the mechanism o f developmental regu lation o f insect body plan and the expression of H ox genes show s strict t issue specificity and the programm ing of embryonic deve lopm ent1 The silkw orm, Bombyx mori, is a good representat ive insect of the order Lep idoptera1 The Hox genes have been iden tified one after ano ther in the silkw orm1 There is a complex loci of pseudoalle lic genes in the silkw orm called E complex and itsmutant phenotypes are re lated w ith the extramarkings or the supernum erary legs in the abdom ina l segm ents, w hich may have a close re la tionship w ith Hox genes1 A fter the comp letion of sequenc ing for the silkwo rm genome it w as found that there are 12 homeobox genes (Bmshx1 - Bmshx12) specific for the silkw orm in the Hox genes, wh ich show s a un ique b io log ical significance of H ox genes1 We have analyzed the spat ial expression pro file o f Bm lab and Bmpb in the silkw orm based on theB1m ori m icroarray data1 Through the research onHox genes and the mechan ism o f the establishment o f silkworm body plan, it is expected that it may found a theoretical basis for the body plan of o ther Lep idoptera insects1 W e rev iew ed the expression and function of H ox genes and the irre lationsh ip w ith E mutants in this art icle1
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【题目】冷却猪肉不同贮藏温度货架期的预测模型
【中文关键词】冷却猪肉 特定腐败菌 货架期 预测模型
【英文关键词】chilled pork;specific spoilage;organisms;shelf-life;prediction model
【中文摘要】为了建立冷却猪肉货架期的预测模型,把特定腐败菌接种到无污染的冷却猪肉表面,托盘包装分别置于0℃,4℃,7℃,10℃,14℃和20℃的温度下贮藏,分别测定不同贮藏时间的细菌总数,同时对4℃贮藏的不同企业冷却猪肉进行品质分析,确定腐败限控量。结果表明,冷却猪肉腐败限控量为7.23lg(cfu/g)。应用修正的Gompertz函数能很好的描述特定腐败菌在不同温度下的生长动态,建立了6种温度下其在猪肉中的生长模型。温度对最大比生长速率和延滞时间等动力学参数的影响,采用平方根模型呈现良好的线性关系,模型残差值的绝对值均小于0.1,上下浮动于零左右,表明该模型描述的温度与比生长速率和延滞时间是可信的,由此建立了0-20℃范围内冷却猪肉贮藏过程中货架期的预测模型。

【英文摘要】In order to validate model for the shelf-life of chilled pork, mixed specific microorganisms were inoculated to the non-contamination longissimus muscle. The samples were tray-packaged at 0°C, 4°C, 70C, 10°C, 14°C and 20°C, and their total aerobic psychrotrophic counts were determined. Simultaneously, the characteristics of chilled pork purchased from different corporations stored at 4°C were analyzed in order to determine the average number of specific spoilage microorganisms when the shelf-life was ended. Gompertz type model and Belehradek (square root) model were used to establish the prediction model for shelf-life of chilled pork. Results show that the average number of specific spoilage microorganisms is 7.23 lg(cfu/g) at the end of shelf-life. The kinetics models of specific spoilage microorganisms were developed and the growth dynamics of this organism could be well described by a Gompertz type model. And six growth models were established for chilled pork. The temperature dependence of specific spoilage microorganisms kinetic parameters- μ max (maximum specific growth rate) and X (lag phase) were modeled using Belehradek (square root) model. The correlation coefficient can finely describe the influences of temperature on μ max, and λ. The absolute values of model residuals are all less than 0.1 and they all fluctuate around zero. The model for describing temperature with μ max, and λ is credible. Therefore, the prediction model for the shelf-life of chilled pork stored aerobically from 0°C to 20°C were validated.
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【题目】A Knowledge-Based Model for Nitrogen Management in Rice and Wheat
【中文关键词】无
【英文关键词】Grain yield; Nitrogen fertilization model; Nitrogen strategy; Rice; Wheat
【中文摘要】无
【英文摘要】Excessive nitrogen fertilization results in low nitrogen-use efficiency. TO improve nitrogen management for high yield and high nitrogen efficiency in rice and wheat, we developed a knowledge-based nitrogen fertilization model by integrating the quantitative relationship between N fertilization and yield target with respect to N supply mid demand balance. The total amount of nitrogen and ratio of haul to top dressing nitrogen could be determined by this nitrogen fertilization model, and the desirable nitrogen fertilizer strategies could be made under the Conditions of, different climates, Soil types and managements. Furthermore, the function of dynamic regulation of pre-designed N dressing rate could he determined by using the nitrogen fertilization model on the basis of actual growth status under a specific production system. The nitrogen fertilization model is evaluated using We dam from field experiments of rice and wheat m Nanjing, and the results Oil Crop growth pattern mid N use showed Mat Me grain yield and N recovery, were markedly improved by the N fertilization plan given by the model. The nitrogen fertilization model call be used as guidance for quantifying N fertilization strategy in cereal crop production.
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【题目】大豆重组自交系群体NJRISX 豆腐和豆乳得率的QTL分析
【中文关键词】大豆; 重组自交系(RIL); 豆腐; 豆乳; 得率; 分离分析; QTL 定位
【英文关键词】Soybean; Recombinant inbred line (RIL); Tofu; Soymilk; Output; Segregation analysis; QTL mapping
【中文摘要】以176 个家系组成的苏88-M21× 新沂小黑豆重组自交系群体NJRISX 为材料, 通过MAPMAKER3.0构建了包含131 个SSR 标记、24个连锁群的遗传图谱, 覆盖大豆基因组2 044.6 cM, 标记平均间距15.6 cM; 经2005和2006两年试验, 所获数据按主基因加多基因混合遗传模型分析干豆腐、湿豆腐和干豆乳得率的遗传机制; 应用软件Win QTL Cartographer

Version 2.5 复合区间作图法(CIM) 和多区间作图法(MIM) 检测QTL 。结果显示, 在A2 连锁群的Satt424~Sat_162区间检测到控制干豆腐和干豆乳得率的主效 QTL 各1 个, qODT -A2-1 可以解释15.7% ~ 28.2% 的表型变异, qODS -A2-1 可以解释30.0% ~ 34.8% 的表型变异。检测到湿豆腐得率2 个主效QTL, qOWT -A2-1 位于A2连锁群的Satt424~Sat_162区间, 可以解释20.7% ~ 30.7% 的表型变异, qOWT -L 位于L 连锁群的Satt481~Sat_397区间, 可以解释19.0% ~ 27.4% 的表型变异。分离分析结果表明, 干豆腐和干豆乳得率均属于1 对主基因加多基因遗传, 湿豆腐得率属于2 对非连锁主基因加多基因遗传模型。上述QTL 定位结果与分离分析所获的主基因数、贡献率及其和多基因的相对贡献可以相互验证, 建议育种中要兼顾主基因和多基因的利用。

【英文摘要】Genetic improvement of tofu and soymilk output is interested by both farmers and processors. The objective of the present study was to reveal the genetic system and map QTLs of tofu and soymilk output for improvement of the traits. The RIL population NJRISX consisting of 176 famili es was derived from a cross Su88-M21×Xinyixiaoheidou and was tested in two crop-ping years (2005 and 2006). A genetic linkage map, containing 131 SSR markers, spa nning 24 linkage groups (LG) at a total length of 2 044.6 cM, with an average distance of 15.6 cM be tween the flanking markers was constructed by using MAPMAKER 3.0. Genetic analysis was performed under main gene plus polygene mixed inheritance model for the P 1, P2, and RIL population and QTLs were mapped with both composite interval mapping (C IM) and multiple interval mapping (MIM) of the software Win QTL Cartographer Version 2.5 on output of dried tofu, wet tofu and dried soymilk. The main QTL qODT-A2-1 associated with dried tofu output, explaining 15.7% − 28.2% of the total phenotypic variation was identified between Satt424 and Sat_162 on LG A2; the main QTL qODS-A2-1 related to dried soymilk output, explaining 30.0% − 34.8% of the phenotypi c variation was also between Satt424 and Sat_162 on LG A2; and two main QTLs qOWT -A2-1 and qOWT -L associated with wet tofu output, explain-ing 20.7% − 30.7% and 19.0% − 27.4% of the total phenotypic variation were iden tified between Satt424 and Sat_162 on LG A2 and between Satt481 and Sat_397 on LG L, respectively. The results from segregation analysis showed that dried tofu and soymilk output were dominated by one main gene plus polygenes and wet tofu output was by two unlinked main genes plus polygenes. In comparison, the number of main genes, the phenotypic variation proportion explained by the main genes, and the relative contri-bution of main gene vs. ploygene from both segregation analysis and QTL mapping were similar, and two gene tic analyses could be used for verification each other. From described above, it was inferred that breeders for tofu and soymilk output should pay attention to both main genes and polygenes.

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【题目】Modeling grain protein formation in relation to nitrogen uptake and remobilization in rice plant.
【中文关键词】无
【英文关键词】rice grain protain formation nitrogen uptake simulation model
【中文摘要】无

【英文摘要】Protein concentration of grain is an important quality index of rice, and formation of grain protein largely depends on pre-anthesis nitrogen assimilation and post-anthesis nitrogen remobilization in the rice plant. The primary objective of this study was to develop a simplified process model for simulating nitrogen accumulation and remobilization in plant and protein formation in rice grains on the basis of an established rice growth model. Six field experiments, involving different years, eco-sites, varieties, nitrogen rates, and irrigation regimes, were conducted to obtain the necessary data for model building, genotypic parameter determination, and model validation. Using physiological development time (PDT) as general time scale of development progress and cultivar-specific grain protein concentration as genotypic parameter, the dynamic relationships of plant nitrogen accumulation and translocation to environmental and genetic factors were quantified and synthesized in the present model. The pre-anthesis nitrogen uptake rate by plant changed with the PDT in a negative exponential pattern, and post-anthesis nitrogen uptake rate changed with leaf area index (LAI) in an exponential equation. Post-anthesis nitrogen translocation rate depended on the plant nitrogen concentration and dry weight at anthesis as well as residue nitrogen concentration of plant at maturity. The nitrogen for protein synthesis in grains came from two sources: the nitrogen pre-stored in leaves, stem and sheath before anthesis and then remobilized after anthesis, and the nitrogen absorbed directly by plant after anthesis. Finally, the model was tested by using the data sets of different years, eco-sites, varieties, and N fertilization and irrigation conditions with the root mean square errors (RMSE) 0.22% C0.26%, indicating the general and reliable

features of the model. It is hoped that by properly integrating with the existing rice growth models, the present model can be used for predicting grain protein concentration and grain protein yield of rice under various environments and genotypes.

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【题目】中国野生大豆的遗传多样性和生态特异性分析
【中文关键词】Glycine soja, SSR 标记, 植物学性状, 遗传多样性, 遗传分化
【英文关键词】Glycine soja, SSR marker, botanical traits, genetic diversity, genetic differentiation
【中文摘要】野生大豆(Glycine soja)是栽培大豆的祖先, 为东亚特有种, 大部分分布在中国。我们采用52对SSR 引物和10个植物学性状, 以遗传丰富度和Simpson多样性指数为指标, 对来自中国3 个地理生态区域涉及24个省区的196 份野生大豆所构成的代表性样本的遗传变异进行了研究, 以期从分子水平和表型水平两个层面上揭示中国野生大豆遗传多样性和地理生态特异性。结果表明: 中国野生大豆群体SSR 位点的等位基因平均丰富度 (NA) 和平均Simpson多样性指数(H)分别为16.1 和0.852, 高于栽培大豆 (NA = 11.4, H = 0.773), 野生群体的遗传多样性明显高于栽培群体。3个地理生态群体中南方群体多样性最高(NA = 12.9, H = 0.842), 黄淮海群体最低(NA = 11.4, H = 0.805), 东北群体居中(NA = 12.5, H = 0.834) 。群体间存在遗传分化, 不同群体具有不同的特异等位基因, 位点AW132402 (A2连锁群)、Satt522 (F) 、satt150 (M) 、Sat_332 (D1a) 、Satt046 (K) 、sct_190 (K) 等的一些等位基因只在特定群体出现, 表现出群体分化后的生态特异性。中国野生大豆植物学性状的群体变异丰富, 平均Simpson多样性指数为0.710。地理群体间存在分化, 最明显的是生育期性状的分化, 反映了地理、光照和温度等生态因子的选择作用, 其中南方地理群体多样性最高(H = 0.671)。SSR 分子标记和植物学性状所获结果相对一致, 表明中国野生大豆地理群体间性状分化有其遗传分化的基础。
【英文摘要】The annual wild soybean (Glycine soja), known as the ancestor of the cultivated soybean (G. m a x), is endemic to East Asia with most of its range in China. It is believed that the wild soybean holds a reservoir of genetic variation potentially useful for improvement of cultivated soybeans. Our study combined molecu-lar techniques with evaluation of botanical traits to investigate genetic diversity and genetic specificity caused by geographic differentiation in wild so ybean populations in China. A total of 196 wild accessions from three distinct geographic regions (Northeast China, Huang-Huai-Hai Valleys and South China, abbrevi-ated as NEC, HHH and SOC, respectively) were genotyped using 52 SSR markers and phenotyped using 10 botanical traits. The average allelic richness (NA) of the entire wild population and Simpson diversity index (H) were 16.1 and 0.852, respectively; higher than those of cultivated populations (NA = 11.4, H = 0.773). Among the three geographic populations, the SOC population had the highest genetic diversity (NA = 12.9, H = 0.842), the NEC population the next highest (NA = 12.4 and H = 0.834), and the HHH population the low-est (NA = 11.4, H = 0.805). Population-specific alleles existed on a number of loci (including AW132402 (Linkage group A2), Satt522 (F), satt150 (M), Sat_332 (D1a), Satt046 (K), sct_190 (K), thus indicating the existence of genetic differentiation among, and ecological specificity of geographic populations. Analysis of botanical traits revealed high variation, diversity (H = 0.710) and geographic differentiation, especially in growth period traits. These differences in botanical tr aits indicate the significance of natural selection due to geographic variation in day-length and temperature. Analysis of molecular data and botanical traits indicated that the geographic differentiation observed in botanical traits was based on genetic differentiation, and that genetic diversity of the SOC population was higher than the other two populations.

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【第一作者】丁艳来
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【题目】大豆抗筛豆龟蝽Megacota cribraria (Fabricius) 的QTL分析
【中文关键词】大豆[Glycine max (L.) Merr.]; 筛豆龟蝽[Megacota cribraria (Fabricius)]; 抗虫性; QTL 定位
【英文关键词】Soybean [Glycine max (L.) Merr.]; Globular stink bug [Megacota cribraria (Fabricius)]; Resistance to insects; QTL Mapping
【中文摘要】筛豆龟蝽是我国南方大豆的主要害虫之一, 本研究旨在定位筛豆龟蝽抗性 QTL, 分析其稳定性, 为大豆抗筛豆龟蝽育种提供参考。以科丰1 号× 南农1138-2 组合衍生的含184 个重组自交系的群体NJRIKY(简称KY) 和皖82-178× 通山薄皮黄豆甲组合衍生的含142 个重组自交系的群体NJRIWT(简称WT)为材料, 2004 —2006在田间自然虫源下鉴定了筛豆龟蝽抗性。不同年份内以黑霉程度为指标的方差分析结果表明家系间差异在每年都达极显著水平, 遗传变异系数都相当大, 遗传率中等偏高。利用Windows QTL Cartographer Version 2.5的复合区间作图法(CIM), KY群体的抗性QTL 主要位于D1a 和C2连锁群, WT 群体的抗性QTL 主要位于H 和D1b 连锁群。KY 群体3 年均检测出的qRMC-d1a-1 位于D1a 连锁群, 贡献率为7.6%~31.4%; 2005和2006两年均检测出的qRMC-c2-1 位于C2连锁群, 与环境有互作, 效应相对较小; 抗性等位基因来自南农1138-2; qRMC-d1a-1 和qRMC-h-1 在2005年和2006年存在显著的互作。WT群体连锁群H 上的qRMC-h-1 在3 年中都被检测到, 贡献率为16.3%~36.2%; D1b连锁群上的qRMC-d1b-2在2004年和2005年被检测到, 效应相对较小; 抗性等位基因来自通山薄皮黄豆甲。虽然WT群体D1b 和H 连锁群上的这2 个QTL 在KY群体中也有一年被检测到, 但2 个群体抗性位点基本上是不同的。QTL 在不同环境被重复检出, 说明大豆对筛豆龟蝽的抗性由稳定的主效QTL 所控制, 其2 侧邻近标记有希望用于标记辅助选择育种。
【英文摘要】Globular stink bug [Megacota cribraria (Fabricius)] is one of the important pests for soybean [Glycine max (L.) Merr.] in the central and southern China. However, very few reports on soybean resistant to M. cribraria were found in the literature. The objectives of the present study were to find QTLs associated with resistance to M. cribraria in soybean and to analyze the stability of mapped QTLs among years by using two RIL populations, NJRIKY (or KY) and NJRIWT (or WT) derived from the crosses of Kefeng 1 × Nannong 1138-2 and Wan 82-178 × Tongshanbopihuangdoujia, respectively. The 184 lines of KY and 142 lines of WT were tested and the percentage of black mildew on stem and purple spots on leaves was used as indicator to evaluate their resis-tance to M. cribraria under natural infestation during 2004 – 2006. There existed significant differences among lines in the two RIL populations during the three years, with heritability of 66.5% – 88.8% in KY and 61. 3% – 84.8% in WT. The composite interval mapping (CIM) of the software Windows QTL Cartographer Versi on 2.5 was used to map QTLs. The linkage group D1a and C2 in KY and the linkage group H and D1b in WT were found to be related with resistance to M.crubrarua. The QTL qRMC-d1a-1 on Linkage group D1a was detected consis tently associated with reaction to M. cribraria in KY during the three years, which accounted for 7.6% – 31.4% of phenotypic variation; the QTL qRMC-c2-1 on linkage group C2 was detected in 2005 – 2006, which accounted for less phenotypic variation than the former one; the resistance alleles were from Nannong 1138-2. There appeared significant interactions between qRMC-d1a-1 and qRMC-h-1 in KY in 2005 and 2006. The QTL qRMC-h-1 on linkage group H was detected also consistently associated with reaction to M. cribraria in WT during the three years, which accounted for 16.3% – 36.2% of phenotypic variation; the QTL qRMC-d1b-2 on linkage group D1b was detect ed in 2004-2005, which accounted for less phenotypic variation than the former one; the resistant alleles were from Tongshanbopi huangdoujia. Therefore, different QTLs conferred resistance to M. cribraria in KY and WT basically although the two QTLs in the latter population were also iden-tified in one year in the former population. The fact that the QT Ls were repeatedly detected in different environments indicated the resistance was controlled stab ly by the main QTLs. Based on the results, it is inferred that the markers linked to the dete cted QTLs should be useful for marker-assisted selection for resistance to M. cribraria in soybean.
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【题目】关于Mapmaker/Exp 遗传作图中标记分群和排序操作技术的讨论
【中文关键词】Mapmaker/Exp (3.0); 遗传连锁图谱; 作图技术; 标记分群; 标记排序

【英文关键词】Mapmaker/Exp (3.0); Genetic linkage map; Mapping technique; Marker grouping; Marker ordering

【中文摘要】Mapmaker/Exp (3.0) 是国内外广泛使用的遗传连锁数据分析软件，在分子标记数量大时(多于500 个) 往往出现所绘制连锁图谱图距偏大的现象。本文从标记分群和标记排序两个遗传作图环节分析原因并概括出以下两个实施要点:(1)标记分群不应强求同一LOD值，对特殊的连锁群可试用不同LOD值; (2) 在标记排序时，一次order命令后用ripple 命令反复梳理有时并不能获得最佳排列顺序，而应多次使用order，每次order后用ripple 反复梳理，经反复比较才能得出最佳排列顺序，必要时还须结合人工调整。通过大豆遗传作图实例比较了软件推荐思路2 的通常用法和作者建议的新用法所构建的遗传图谱及相应 QTL 定位的差异，认为新用法具有更好的效果。

【英文摘要】Mapmaker/Exp (3.0) is one of the most often used computer software packages for constructing genetic linkage map worldwide. It was found that the distances of the map constructed with the software were often exaggerate d when large number of markers was involved. The present paper is to introduce our technical experiences in using Meth od 2 (marker number more than 500) of the software for a more reasonable linkage map. In Method 2 of Mapmaker/Exp (3.0), markers were usually grouped into linkage groups under an identical LOD value for all linkage grou ps; and then an “ order ” command followed by multiple “ ripple ” command was used to test the order with a window size of 5. The causes for the exaggerated map distances were found probably in two aspects in Method 2, i.e. the way of assignment of LOD value and utilization of “ order ” and “ ripple ” commands in marker grouping and marker ordering. Therefore, two innovations were taken in the application of Method 2 as: (1) different LOD values used for some specific linkage groups in addition to a common LOD value for the others; and (2) multiple “ order ” commands each followed with multiple “ ripple ” commands used for ordering markers in linkage groups, combined with some artificial ad-justments when needed, for relatively higher likelihoods of th e linkage groups. The innovations were used to construct a soybean genetic linkage map which showed more reason able than that constructed with the old procedure with a better consistency to the soybean consensus map.

【语种】中文

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【题目】大豆对豆卷叶螟Lamprosema indicata (Fabricius) 抗性的遗传分析

【中文关键词】大豆; 豆卷叶螟; 抗虫性; 主基因+ 多基因混合遗传模型; 分离分析

【英文关键词】Soybean; Lamprosema indicata (Fabricius); Resistance to insects; Ma jor-gene plus polygenes mixed inheri-tance model; Segregation analysis

【中文摘要】大豆对豆卷叶螟抗性的最佳指标。对NJRIKY、NJRIWT和NJRISX 3个群体抗性遗传分离分析的结果一致表明，大豆对豆卷叶螟抗性符合2 对主基因+ 多基因的混合遗传模型，主基因遗传率分别为51.0% 、80.5% 和56.3%，多基因遗传率分别为39.1% 、11.4% 和29.1% 。2 对主基因的作用方式表现组合间有差异。在此基础上对群体各家系的主基因基因型作了归类，可供家系抗性选择参考。

【英文摘要】Bean pyralid (Lamprosema indicata Fabricius) is one of the major leaf-feeding insects for soybeans and causes serious damage in soybean production in central and southern China. The objective of the presen t study was mainly to reveal the inheri-tance of resistance to L. indicate in soybeans using three recombinant inbred lin e (RIL) populations derived from susceptible by resistant crosses, i. e. NJRIKY, NJRIWT and NJRISX (derived from Kefeng 1 × Nannong 1138-2, Wan 82-178 × Tongshanbopi-huangdoujia and Su 88-M21 × Xinyixiaoheidou, respectively) in the field under natural infestation. Based on the observation of symptoms damaged by the insect on soybeans, rolled leaf percentage, rolled leaf number, and seed yield were examined as resis-tance (damage) indices. Am ong them, the rolled leaf percentage tested in early September was the best index of resistance to L. indicata due to its higher genetic variation, heritability value and environment-stability, as well as higher negative correlation with seed yield in the three populations. Segrega tion analyses showed that resistance to L. indicata was dominated by two major genes plus polygenes in the three populations, with their major gene heritability of 51.0%, 80.5%, and 56 .3%, and polygene heritabili ty of 39.1%, 11.4%, and 29.1%, respectively. The major gene genotypes of the RILs of the three populations were determined and grouped according to their posterior probability, which could be utilized as reference in selection for resistance lines.

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【题目】大豆豆腐和豆乳得率的遗传分析与QTL定位
【中文关键词】豆腐;豆乳;得率;重组自交系;分离分析;QTL 定位
【英文关键词】Tofu; Soymilk; Output; Recombinant inbred lin e (RIL); Segregation analysis; QTL mapping
【中文摘要】【目的】优质高产豆腐与豆乳专用品种的选育是现代大豆品质育种的重要方向,本研究欲通过对大豆同一重组自交系群体 2004 和 2005 两年的豆腐与豆乳得率进行相关的遗传分析与 QTL 定位,为豆腐与豆乳专用品种选育提供遗传学依据。【方法】以干豆腐与干豆乳得率均差异极显著的大豆品种科丰 1 号与南农 1138-2 及其构建的 184 个重组自交系的群体为试验材料,应用主基因+多基因混合遗传模型进行遗传分析;以该群体所构建,由 488 个分子标记组成,覆盖 4226.40 cM,平均图距 8.66 cM 的遗传连锁图谱为基础,应用软件 Cartographer V 2.5 的复合区间作图(CIM)程序检测 QTL。【结果】两个年份两个性状均存在双向超亲变异,年份间、群体各家系间、以及年份与家系互作间的差异均极显著;干豆腐得率的遗传,两个年份及两年平均值均属两对具有累加作用的连锁主基因加多基因混合遗传模型,重组率均为 0.00,主基因遗传率为 13.23%~26.84%,多基因遗传率为 73.15%~86.77%;各年份及两年平均干豆乳得率的遗传均为两对连锁主基因加多基因混合遗传模型,重组率均为 0.00,主基因遗传率为17.27%~22.29 %,多基因遗传率为 77.71%~82.73%。CIM 检测的 QTL 结 果显示,在 C2 连锁群STAS815T~A676I 标记区间检测到与干豆腐得率相关的 2 个紧密连锁的 QTL,能在不同年份稳定表达,对表型变异的贡献率累计为 16.23%~23.18%;在 M 连锁群 satt728~K24I 标记区间定位到 1 个控制干豆乳得率的 QTL,在不同年份稳定表达,距离其左侧标记 0.01 cM,对表型变异的贡献率为 4.73%~7.14%。【结论】豆腐与豆乳得率均属主基因加多基因遗传,主基因遗传贡献不大,多基因占主要部分(≥73.15%),遗传分析和 QTL 定位的结果可以相互验证,遗传改良需要更多地依靠多基因积聚。

【英文摘要】【Objective 】Breeding for output and quality of tofu and soymilk in soybeans is highly concerned recently by related food industry. The objective of the present study was aimed at revealing the genetic syst em of tofu and soymilk output for the traits improvement. 【Method】Segregation analysis for tofu and soymilk output in two cropping years (2004 and 2005) were conducted on a RIL population with 184 lines derived from Kefeng 1 ×Nannong 1138-2 under the Major Gene Plus Polygene Mixed Inheritance Model. Based on a genetic linka ge map, spanned 4226.40 cM with 488 markers in 25 linkage groups, constructed from the same RIL population, the QTLs of tofu and soymilk output were mapped under the composite interval mapping (CIM) procedure of the software Cartographer V 2.5. 【Result】The results from segregation analysis showed that tofu output was controlled by two linked major genes (recombination value 0.00) plus polygenes, with the major gene heritability of 13.23%-26.84%, and polygene heritability of 73.15%-86.77%; soymilk output was also controlled by two linked majo r genes (recombination value 0.00) plus polygenes, with the major gene heritability of 17.27%-22.29%, and polygene heritabili ty of 77.71%-82.73%. The results of QTL mapping showed that two linked QTLs associated with tofu output between STAS815T and A676I on Linkage Group C2 were identified with CIM, explaining 16.23%-23.18% of the total phenotypic variation, and a QTL related with soymilk output in the interval of satt728-K24I on Linkage Group M was identified, explaining 4.73%-7.14% of the total phe notypic variation.【Conclusion】Both tofu and soymilk output in soybean were controlled by major genes with smaller heritability and polygenes with heritability more than 73.15%, wh ich indicated that accumulation of polygenes should be emphasized in the improvement of tofu a nd soymilk output. The results between segregati on analysis and QTL mapping appeared somewh at consistent, therefore could be used for verification each other.
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【第一作者】王春娥
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【题目】基于知识模型的网络化作物管理决策支持系统
【中文关键词】知识模型 作物管理 网络应用 决策支持系统;
【英文关键词】knowledge model; crop management; web application; decision support system;
【中文摘要】以气象因子、土壤特性、品种参数、生产条件等数据为农作信息依托,以具有时空适应性的作物栽培管理动态知识模型为管理决策支撑,以网络通讯为系统信息发布与流通平台,运用软构件技术与Web应用技术,设计和实现了基于浏览器/服务器(B/S)模式的具有4层分布结构的网络化作物管理决策支持系统(knowledge model and web-based deci-sion support system for crop management,KMWDSSCM)。以江苏省为案例区,对系统进行了示范应用,结果表明,系统能在Internet环境下有效地进行作物生产管理决策,在江苏部分地区稻麦生产实践中具有较好的适用性和指导性。
【英文摘要】Based on the data of variety,weather,soil,production condition etc.and knowledge model and the four layers web structure of"Web browser/Web server/Application server/Database server",a knowledge model and web-based decision support system for crop management(KMWDSSCM)was developed by using the engineering and technique of the software component and web application.Case studies on KMWDSSCM with the datasets in Jiangsu Province indicated that the system could be effectively applied for crop management and decision support under the web service environment,and showed a good applicability and guidance on rice and wheat production at some areas of Jiangsu.
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【中文关键词】玉米 根系分布 种植密度 干物重
【英文关键词】Maize Root distribution Dry matter Planting density
【中文摘要】采用根钻挖掘法对不同密度处理下玉米根系干重在土壤中的空间分布特征进行了研究。结果表明:不同密度处理下,各取样点0~100 cm土层内根系干重在整个生育期内均呈单峰曲线变化,峰值出现在灌浆期前后。在1/2行距处随着密度的增加,根系干重呈增加趋势变化;在1/2株距处,中密和高密处理差异较小,但显著大于低密。在1/4行距处,根系干重则随着密度的增加而逐渐减少。根系达到干重最大值后的下降过程均以高密处理的下降速度最快。不同取样点根系干重在土壤中的垂直分布情况为在大喇叭口期以前,根系干重最大值出现在10~20 cm的土层内,而后随着土层深度的增加根系干重迅速下降;大喇叭口期以后根系干重在土壤中的垂直分布呈负指数曲线趋势变化。密度对不同取样点根系干重影响主要表现在0~40 cm土层内1/2行距处拔节期各密度处理间无明显差异;小喇叭口期到灌浆期表现为高密>中密>低密;成熟期表现为中密>高密>低密。1/4行距处大喇叭口期以前各密度处理之间的差异不明显;从吐丝期到成熟期,中密和低密处理各土层的根重差异不明显,但均较高密处理的大。1/2株距处在大口期以前中密处理和高密处理各土层的根重无明显差异,但均较低密处理高,吐丝期以后各土层的根重则以中密处理最大,高密次之,低密最小。
【英文摘要】With the roots drill excavate experiments, studies on distribution and dry material accumulation on different densities of maize with the root drill. The result showed that at maize growth and development period, changes current was a single apex of roots dry weight from different densities. The Maximal value appeared in the grain filling period. Comparison the maximal of different densities at 1/2 individual plant space, with the density increasing by root dry weight increased, at 1/2 row space, difference is less on height density and middle density, but above low density, at 1/4 row space, with the density increasing by root dry weight reduced. In the horizontally distribution, root dry weight decreased gradually from the root center to outer space. Root dry weight perpendicularity distributing in soil, in pre-tassel before, dry measure maximum value appeared within 10 - 20 cm ’ s soil layers. At pre-tassel ling after. Root dry weight distributes memorial negative exponent curve law changed in perpendicularity in soil.
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【题目】基于WebGIS和知识模型的精确农作决策支持系统
【中文关键词】WebGIS;精确农作;知识模型;决策支持系统;
【英文关键词】WebGIS; precision farming; knowledge model; decision support system;
【中文摘要】在提炼和优化作物管理知识模型的基础上,以WebGIS为空间信息平台,运用软构件技术及B/S分布式网络结构,构建了网络化精确农作决策支持系统。系统实现了基本地图操作、信息查询、差异分析、决策支持、结果展示以及系统维护功能,其中决策支持功能可基于田区土壤肥力和苗情长势差异进行数字化管理方案生成和因苗动态调控。在水稻试验示范区的系统应用结果表明,根据系统推荐的方案进行水稻田间管理,可使该区整体产量水平提高12.16%,肥料施用量减少23.55%,产量变异度下降79.49%。研究结果为实现网络化、数字化、广适性的精确农作决策支持提供了基本平台。
【英文摘要】On the basis of extracting and optimizing the knowledge model for crop management,with WebGIS as spatial information platform,a Web-based decision support system for precision farming was developed,by using the technology of software component and Browser/Server network mode.The system realized the functions as normal map handling,information query,difference analysis,result display,system maintenance and decision support.The digital management prescription was generated on the basis of the differences in soil fertility among the fields and further adjusted according to the growth status monitored at specific growth stages.Case studied on the system with the rice field experiments in Nanjing indicated that under the management plan recommended by the system,the average rice yield in the experiment area was increased by 12.16%,the amount of nitrogen fertilization decreased by 23.55%,and grain yield variation decreased by 79.49%,as comparing to the regular management plan.The present work has provided a basic platform for realizing Web-based,digital and dynamic decision support in precision farming.
【语种】中文
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【题目】不同灌溉方式对水稻分蘖成穗规律及产量影响研究
【中文关键词】水稻;好气灌溉;成穗规律;高产机理
【英文关键词】rice(Oryza sativa L.); aerobic irrigation; tiller and panicle; mechanism of high-yield
【中文摘要】以杂交稻II优818为材料,通过对水稻不同灌溉方式下分蘖成穗规律的定点考察,明确了水稻好气灌溉的高产原理及其分蘖组成与常规灌溉有很大差异。水稻好气灌溉带3叶以上的分蘖比例明显高于常规灌溉,而3叶以上的分蘖成穗率高,成穗数多,形成的穗型大,构成了水稻好气灌溉的高产结构。
【英文摘要】The experiment of different water managements was carried out by inspecting rice plants in the same site in farmer’s field at Xianju in Zhejiang,used hybrid rice(II you 818) as material in the experiment.The results showed: it was very different from tillering components under different water managements.The tiller number with more than 3 leave was more than traditional irrigation under aerobic irrigation.It showed more panicles and grains and higher yield under aerobic irrigation than aerobic irrigation.
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【题目】不同施肥处理对青贮玉米产量和品质的影响
【中文关键词】青贮玉米;“ 3414 ”部分实施肥效试验; 产量;品质;
【英文关键词】silage maize; "3414" partly fertilizer experiment; yield;quality
【中文摘要】2006年在北京市顺义区布置了青贮玉米肥料效应试验,研究氮磷钾的不同配比对青贮玉米产量和品质的影响,确定当地青贮玉米的氮磷钾适宜施用量。采用"3414"部分实施设计,3次重复,完全随机区组设计。施用氮肥对青贮玉米产量的影响要显著大于磷、钾肥的效应。处理6(N2P0K2)的纯收入和产投比是所有处理中最高的,分别达到10446.4元/hm2和14.4。蛋白质含量最高的处理是处理5(N3P2K2),蛋白质含量为9.93%。合理施肥能提高青贮玉米产量,增加氮肥用量显著提高蛋白质含量,改善青贮玉米的品质。综合试验结果,结合当地农业生产实际,北京市顺义区青贮玉米生产体系的氮、钾肥推荐用量分别为180kg/hm2和180kg/hm2,在该地区不建议施用磷肥。
【英文摘要】A field experiment was conducted to study the effects of different fertilizer application on the yield and quality of silage maize in Shunyi district of Beijing city in 2006. Experiment with part implementing plan of "3414" ,three repeats, a randomized complete block design. Results indicated that application of N fertilizer have more significant effects on increasing the silage maize yield than P and K fertilizer. Treatment N2P0K2 has the greatest economic return and the ratio of input to output, which is 10446.4yuan/hm2 and 14.4, respectively. Treatment N3P2K2 has the highest protein content, which is 9.93%. Reasonable fertilization could enhanced silage corn yield, and the protein content of silage maize could be significantly improved by more nitrogen input. Based on the experimental results and the local agricultural production status, we recommend the optimum nitrogen and potassium rates should be 180kg/hm2 and 180kg/hm2, respectively, and no phosphorus is recommended.
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【题目】不同肥料类型对豫麦34冠层结构特征及产量的影响
【中文关键词】冬小麦 肥料类型 冠层结构 产量
【英文关键词】Winter wheat ; Fertilizer Types ; Canopy architecture ; Grain yield ;
【中文摘要】为给小麦合理施肥提供依据,在等氮条件下,研究了尿素、鸡粪和尿素与鸡粪配施三种肥料处理对豫麦34冠层结构特性和产量的影响。结果表明,在小麦拔节期,尿素与鸡粪配施处理小麦平均叶倾角最小,为53.89°;叶面积指数、群体透光率、消光系数依次为4.63、0.055和0.63,均处在鸡粪处理和尿素处理之间。在孕穗期到灌浆期,尿素与鸡粪配施使小麦平均叶倾角介于鸡粪和尿素处理之间,为51.96°;叶面积指数、群体消光系数均最大,分别为5.80和0.66;群体透光率最小,为0.028。尿素与鸡粪配施的小麦穗粒数、穗粒重、生物产量、经济产量均高于鸡粪处理和尿素处理。综合来看,配施处理的小麦冠层结构适宜,株型最佳,群体光分布合理。
【英文摘要】At the same amount of nitrogen application, the effects of treatments of urea, chicken manure and mixed fertilizer on canopy architecture and grain yield of Yumai 34 was studied, and the results showed as follows, during Jointing stage, average leaf angle of mixed fertilizer treatment was 53.89° , this number was less than that of urea and chicken manure treatment, and its leaf area index , light transmission rate and extinction coefficient was 4.63, 0. 055 and 0.63, respectively, and in the middle of the three treatments. From booting stage to grain filling stage, the average leaf angle of mixed fertilizer treatment was 51.96° , and in the middle of the three treatments; Leaf area index and extinction coefficient numbers was 5.80 and 0.66,respectively, and were the biggest among the three treatments. Light transmission rate was 0. 028, which was the least among the three treatments. Grains of per spike, spike weight, biomass yield,grain yield of the mixed fertilizer treatment were all higher than that of the other two treatments. In general, canopy architecture of Yumai34 was the best, and sunlight distribution was reasonable in mixed fertilizer treatment.
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【题目】皱纹盘鲍与西氏鲍杂交F1代抗性相关的生理生化特性研究
【中文关键词】西氏鲍;皱纹盘鲍;杂交;免疫;抗性;营养成分
【英文关键词】Haliotis sieboldii; Haliotis discus hannai; hybrization; immune; tolerance; nutritive compositions
【中文摘要】本文主要从免疫防御能力、胁迫条件下的生理抗性和及营养成分这三方面对皱纹盘鲍、西氏鲍以及两者正反杂交F1代的生理生化指标进行比较评估。首先,通过比较免疫酶系统的效率、血细胞的吞噬率和呼吸爆发能力以及弧菌注射后四者的存活率,以此来对正反杂交F1代与其亲本的免疫防御特性进行评估;其次,通过观察高温胁迫、低盐胁迫、干露胁迫以及外力胁迫条件下,4组鲍的活力状况和存活率来比较它们的生理抗性;最后,测定了四者的含肉率、基本营养成分、矿物质含量及氨基酸和脂肪酸的组成含量,并对其肌肉营养成分进行氨基酸评分、化学评分,比较肌肉的必须氨基酸指数,以此来对它们的营养价值进行综合评价。经过综合比较分析,具体研究结果如下:1.亲本及正反杂交F1代免疫防御特性的比较通过对4组鲍水解酶类活力、氧化酶类活力以及抗氧化酶类活力的综合比较比较,可以得知西氏鲍和两种杂交子代的免疫酶系统无论是在排异杀灭能力还是修复能力都比皱纹盘鲍强。西氏鲍的血细胞吞噬率最高,和皱纹盘鲍、皱纹盘鲍♀×西氏鲍♂之间都存在极显著差异(P<0.01),与西氏鲍♀×皱纹盘鲍♂之间仅存在显著性差异(P<0.05);西氏鲍♀×皱纹盘鲍♂的呼吸爆发值最高,其显著高于亲本皱纹盘鲍(P<0.05),但和其他两者差异不显著(P>0.05)。比较血细胞的吞噬率和呼吸爆发值,结果显示,通过种间杂交,杂交子代的免疫能力与亲本皱纹盘鲍相比,已有明显改进,表现出杂交中亲优势及超亲优势。2.亲本及正反杂交F1代生理抗性的比较西氏鲍对高温的耐受性最强,皱纹盘鲍对高温的耐受性最差,两组杂交鲍对高温的耐受能力已超过皱纹盘鲍,表现出了明显的中亲优势;四者对低盐环境的耐受能力差别不大,皱纹盘鲍♀×西氏鲍♂的耐受能力略优于其他三者;西氏鲍对干露环境的耐受能力明显不如其他三者,除西氏鲍外,其余三者的耐受能力差别不大,西氏鲍♀×皱纹盘鲍♂的耐受能力略强。由此可见,通过杂交,杂交鲍对脱水环境的耐受能力相对于西氏鲍来说,已有所改进,西氏鲍♀×皱纹盘鲍♂的耐受能力甚至超过了双亲表现出了超亲优势。4组鲍之间的个体吸附力差异明显:西氏鲍的个体吸附力最弱(27.1±2.8 N),与其他3组鲍相比存在极显著差异(P<0.01),杂交组合西氏鲍♀×皱纹盘鲍♂的个体吸附力最强,并且显著高于亲本皱纹盘鲍(P<0.05)。对造成鲍吸附力差异的原因进行探索,结果表明,西氏鲍个体吸附力与其他3组鲍存在极显著差异主要是由于其吸盘面积较小,而西氏鲍♀×皱纹盘鲍♂单位面积吸附力和单位体重吸附力较高表示其机体活力比其他三者强。3.亲本及正反杂交F1代营养成分的分析比较　正反交F1和皱纹盘鲍的含肉率均显著高于西氏鲍(P<0.05);西氏鲍的粗蛋白含量最高(63.65%),粗脂肪含量最低(3.37%),两组杂交F1代的肌肉蛋白含量都高于皱纹盘鲍;亲本和杂交F1代内脏中的Fe、Mn、K、Ca、Zn、P、Cd、Pb、Cr含量均高于足部肌肉,但四者足部肌肉的各种元素含量差别不大。实验测定皱纹盘鲍♀×西氏鲍♂杂交F1代的不饱和脂肪酸相对总量和牛磺酸含量高于其他三种鲍;西氏鲍♀×皱纹盘鲍♂杂交F1代的氨基酸总量(56.50%)、必需氨基酸总量(17.26%)、必需氨基酸指数(93.47)以及鲜味氨基酸总量(24.5%)均高于其他三者。以上实验数据说明,通过种间杂交,亲本某些遗传性状缺陷在子代中得以改良,并且杂交获得的正反交F1代都有部分性状优于双亲。
【英文摘要】The evaluation about physiological and biochemical characteristics which is related to resistance from H. discus hannai, H. sieboldii, H. discus hannai ♀ × H. sieboldii ♂ and H. sieboldii ♀ × H. discus hannai ♂ including three phase: comparison about their ability of immunologic defence, comparison about their tolerance to evironmental factor ; evaluate their nutritive compositions. At first, in order to evaluate the ability about immunologic defence from the 4 groups of abalones, we did comparative studies about their efficiency of immunoenzyme system, the phagocytosis rate and ability of respiratory burst of their hemocytes, as well as their survival rate under the condition that infection by Vibrio sp. Then we observed the abilities and survival rates of abalones under high temperature conditions, low salnity conditions and aerial exposure conditions to compare the evironmental tolerance of these 4 groups of abalones; At last, The nutritional values of H. discus hannai, H. sieboldii and H. sieboldii ♀ × H. discus hannai ♂, H. discus hannai ♀ × H. sieboldii ♂ were evaluated. Their ratio of flesh were determined, nutritional compositions, mineral material content, amino acid compositions and contents, fatty acid compositions and relative contents of muscle were analyzed.The major results are limitied as follows:1. Comparison about ability of immunologic defence of parents and their hybridsThe activities of hydrolytic ferment, oxidase and antioxidase in haemolymph of these 4 groups of abalones were tesed. It shows that H. sieboldii and the hybrids can kill the pathogen and clear peroxide more efficiently than H. discus hannai. The phagocytosis rate of hemocytes of H. sieboldii is highest, it has extremely significant difference than H. discus hannai and H. discus hannai ♀ × H.sieboldii ♂ (P<0.01) but only has significant difference than H. sieboldii ♀ × H. discus hannai ♂ (P<0.05); The ability of respiratory burst of H. sieboldii ♀ × H. discus hannai ♂ is strongest and it does not have significant difference to others except H. discus hannai . It concluded that the ability of immunologic defence of hybrids is superior than H. discus hannai by means of hybrization.2. Comparison about tolerance to

evironmental factor of parents and their hybridsH. sieboldii is best suited high temperature evironment, H. discus hannai reversed. The tolerance to high temperature of two hibriys were superior than H. discus hannai and showed a heterosis. The tolerances to low salnity evironment of these 4 groups of abalones were similar but H. discus hannai ♀ × H. sieboldii ♂ had a little advantage; H. sieboldii had worst performance under the condition of aerial exposure stress, the performance of other 3 groups of abalones were similar and H. sieboldii ♀ × H. discus hannai ♂ is superior to other 2 groups of ablones. The tolerance to aerial exposure stress of hybrids is superior than H. sieboldii, showed a heterosis, even overdominance. The attachment abilities of these four groups of abalones have distinct differences. The attachment ability of H. sieboldii is weakest (27.1±2.8 N), and it has extremely significant difference with other three groups (P<0.01), H. sieboldii ♀ × H. discus hannai ♂ has the strongest attachment ability(42.6 ±6.9 N), even it is significant stronger than H. discus hannai (P<0.05). It presented that the minimal area of pedal cupule of H. sieboldii caused the extremely significant difference about its attachment ability with others; H. sieboldii ♀ × H. discus hannai ♂ has the highest AAPA (Attachment Ability Per unit Area) and APPB (Attachment Ability Per unit Body weight) due to its highest activity .3. Evaluation of nutritive compositions of parents and their hybridsThe nutritional values of H. discus hannai, H. sieboldii and H. sieboldii ♀ × H. discus hannai ♂, H. discus hanna ♀ × H. sieboldii ♂ were evaluated. The ratio of flesh was determined, nutritional compositions, mineral material content, amino acid compositions and contents, fatty acid compositions and relative contents of muscle were analyzed. The results showed that the ratio of flesh from H. discus hannai, H. sieboldii ♀ × H. discus hannai ♂, H. discus hannai ♀ × H. sieboldii ♂ are obviously higher than H. sieboldii(P<0.05). H. sieboldii contains the richest protein (63.65%) and the least fat (3.37%). The unsaturated fatty acid content and taurine content from H. discus hannai ♀ × H . sieboldii ♂ are higher than other groups. The total amino acid content, the ratio of essential amino acid and the delicious acid content in H. sieboldii ♀ × H. discus hannai ♂ are all the highest. Therefore, we can conclude that some nutritional qualities of parents can be improved by hybridization. Meanwhile, the hybrids have some qualities superior than their parents.

【语种】中文
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【题目】2 大豆苗期耐淹性的遗传与QTL分析
【中文关键词】大豆[Glycine max (L.) Merr.]; 耐淹性; RIL; 分离分析; QTL 定位
【英文关键词】Soybean [Glycine max (L.) Merr.]; Submergence tolerance; Recombinant inbred line (RIL); Segregation analysis; QTL mapping
【中文摘要】涝害是世界上许多国家的重大自然灾害。耐涝性可分为耐湿(渍) 性和耐淹性。以科丰1 号(高度耐淹)× 南农1138-2(不耐淹) 衍生的RIL 群体(NJRIKY) 为材料, 以盆栽全淹条件下的存活率为耐淹性指标, 采用主基因+ 多基因混合遗传模型分离分析法进行遗传分析, 并利用WinQTL Cartographer Version 2.5 程序的复合区间作图法(CIM) 及多区间作图法(MIM) 进行QTL 定位。结果表明, 两次试验的耐淹性均存在超亲变异, 试验间、家系间以及试验与家系互作间的差异均极显著; NJRIKY 大豆群体的耐淹性为3 对等加性主基因遗传模型, 主基因遗传率为42.40%; 在QTL分析中, 用CIM 和MIM共同检测到3 个耐淹QTL, 分别位于A1、D1a 和G 连锁群上的Satt648~K418_2V 、Satt531~A941V 、Satt038~Satt275 (B53B~Satt038)区间, 表型贡献率为4.4%~7.6% 。分离分析与QTL 定位的结果相对一致, 可相互印证。
【英文摘要】Flooding is often a serious natural disaster in the world. Flooding tolerance has been recognized in two categories: tolerance to soil waterlogging and tolerance to submergence. The objective of the present study was to reveal the inheritance a nd then to map the QTLs of tolerance to submergence in soybean. The survival percentage of seedlings of the RIL population NJRIKY derived from Kefeng No.1 (highly tolerant) × Nannong 1138-2 (sensitive) was evaluated under completely submerged condition in a pot experiment. The results from segregation analysis under major gene plus polygene mixed inheritance model showed that submergence tolerance of soybean was dominated by three major genes with the heritability of 42.40% and no poly-gene detected. With composite interval mapping (CIM) and mu ltiple interval mapping (MIM) under Win QTL Cartographer Ver-sion 2.5, three QTLs associated with submergence tolerance were identified, which located in Satt648-K418_2V, Satt531-A941V and Satt038-Satt275 (B53B-Satt038) on linkage groups A1, D1a and G, respectively, explaining 4.4 − 7.6% of the total phenotypic variation. The results from segregation analysis and QTL mapping a ppeared relatively consistent and could be verified each othe r.

【语种】中文
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【题目】西氏鲍与皱纹盘鲍杂交的遗传基础研究
【中文关键词】西氏鲍;皱纹盘鲍;种间杂交;遗传分析;杂种优势;遗传相关
【英文关键词】Haliotis sieboldii; Haliotis discus hannai; hybridization; genetic analysis; heterosis; genetic correlation
【中文摘要】杂交是目前水产生物育种中应用广泛、行之有效的育种途径之一。以培育一个或数个生长迅速、抗逆性强的鲍养殖新品种为主要目的,本研究利用西氏鲍(Haliotis sieboldii Reeve)和皱纹盘鲍(Haliotis discus hannai Ino)为材料,开展二者间的杂交工作,查清影响西氏鲍与皱纹盘鲍杂交受精率的主要因素,并借助常规染色体分析技术、AFLP、SSR 和线粒体DNA 分子标记技术,分别从形态学、细胞学以及分子生物学水平上对杂交F1 的遗传本质进行分析,确认了西氏鲍与皱纹盘鲍的杂交系实质性杂交;同时探讨了杂交F1 在不同生长时期、不同养殖条件及养殖模式下杂种优势的表现。主要结果如下:1.西氏鲍与皱纹盘鲍杂交受精率的影响因素影响西氏鲍与皱纹盘鲍杂交受精率的主要因素依次为水温、授精精子浓度及配子排放时间。将水温控制在18-20 ℃,授精精子浓度达2.6×107 个・mL-1 以上,在配子排放时迅速授精,可以显著提高杂交受精率。2.西氏鲍与皱纹盘鲍杂交F1 的形态学比较1)西氏鲍与皱纹盘鲍杂交F1 形态特征西氏鲍、皱纹盘鲍及正反交F1 的8 个形态特征比例参数的方差分析、聚类分析、主成分分析和判别分析表明,正反交F1 的形态特征介于两亲本之间,略偏向西氏鲍。正反交F1 在SW/SH 和PO/SH 上差异显著(P<0.05),这两个参数可作为区分正反交F1 的形态学指标。2)西氏鲍与皱纹盘鲍杂交F1 齿舌结构比较西氏鲍、皱纹盘鲍及正反杂交F1 齿舌的齿式均为∞+5+R+5+∞,在结构上极为相似。对西氏鲍、皱纹盘鲍及正反杂交F1 的8 个齿舌形态比例参数分别进行了方差分析、聚类分析和主成分分析,结果表明,西氏鲍与皱纹盘鲍正反杂交F1 齿舌形态结构除了正交F1 在中央齿基部宽度/壳长(WR/SL)的比值上表现出与其母本不同外,在其余齿舌形态比例参数上均表现出与母本相似的特点。3)西氏鲍与皱纹盘鲍杂交F1 精子形态分析正反交F1 的精子超微结构与西氏鲍及皱纹盘鲍相似,均分为头部、中段和尾鞭,头部同样是由圆柱状顶体和长柱状细胞核组成。正交F1 的精子全长53.95±2.48 μm,反交F1 的精子全长52.48±2.63 μm。正反交F1 精子的超微结构与皱纹盘鲍相比无明显差异,但与西氏鲍存在一定的差异。正反交F1 精子的线粒体数量具多态性,线粒体数量为5 或6 个。聚类分析和主成分分析结果表明,正反交F1 精子的形态结构与皱纹盘鲍较为接近而与西氏鲍有较大差异。3.西氏鲍与皱纹盘鲍杂交F1 的遗传本质1)杂交F1 的染色体核型分析染色体核型分析和比较,结果表明,正反交F1 与西氏鲍和皱纹盘鲍的染色体核型相同,均为2n=20m+16sm,NF=72。正反交F1 染色体的1 号染色体对的相对长度介于西氏鲍与皱纹盘鲍之间(6.87-8.21),与其余染色体间的差异较大,可作为区分亲本和杂交F1 的特征染色体对。在部分正交和反交F1 的幼体染色体分裂相中,出现了异常的染色体分裂相,其核型为2n=24m+10sm+2st。2)杂交F1 的SSR 分子鉴定从20 对已公布皱纹盘鲍的微卫星引物中筛选出2 对引物对西氏鲍与皱纹盘鲍正反交F1 进行分子鉴定,结果表明在杂交F1 中能同时扩增出分别来自西氏鲍与皱纹盘鲍的片段,可以有效地区分杂交F1 与双亲。3)杂交F1 的AFLP 分析利用5 对引物对AFLP 标记在西氏鲍与皱纹盘鲍正反交家系F1 中的多态性和分离规律进行研究,结果表明AFLP 标记在正反交F1 中多态性高,在正交和反交家系中,经卡方检验(α=0. 05),符合孟德尔分离规律的位点分别占总位点数的52.46%和50.16%,说明西氏鲍与皱纹盘鲍杂交家系适合于遗传图谱的构建。利用7 对AFLP 引物对西氏鲍与皱纹盘鲍杂交F1 群体遗传结构进行分析,结果表明杂交F1 群体与亲本自繁群体相比具有较高的多态性,西氏鲍与皱纹盘鲍的遗传差异较大,正反交F1 同时拥有皱纹盘鲍和西氏鲍的特异位点,表明双亲遗传物质均传递给杂交F1,证实了种间杂交的成功。正反交F1 与其母本组合的基因分化系数(Gst)均较小,分别为0.2747(DS/DD)和0.2684(SD/SS);与父本组合的Gst 值则分别为0.4785(DS/SS)和0.5126(SD/DD),表明正反交子代群体与母本分化程度低于与父本分化程度,正反交F1 在分子水平上偏向母本。4)杂交F1 与亲本的线粒体16S rRNA 和COI 基因片段差异以线粒体16S rRNA 和COI 基因作为分子标记对正反交F1 的遗传特性进行分析,结果表明,除个别个体的个别碱基发生变化外,正反交杂交子代的16SrRNA 和COI 基因均与各自的母本一致,未检测到父本的线粒体DNA 类型,说明西氏鲍与皱纹盘鲍杂交过程中线粒体16S rRNA 和COI 基因是遵循严格的母性遗传的。4.西氏鲍与皱纹盘鲍杂交F1 的数量性状遗传初步研究1)西氏鲍与皱纹盘鲍的杂交优势西氏鲍与皱纹盘鲍正反交F1 在苗种阶段即表现出一定的生长优势,但在苗种阶段杂交F1 成活率的杂种优势不明显,在养成阶段(180-720 d),正反交F1的生长明显优于其双亲自繁F1(P<0.05),正反交F1 生长的中亲杂种优势率和超亲优势率均得到大幅度的提高,表现出正向的杂种优势。正反杂交F1 在养成阶段的存活率与皱纹盘鲍相比显著提高(P<0.05);但与西氏鲍相比无显著差异(P>0.05),正反交F1 之间的存活率无显著差异(P>0.05)。2)不同养殖条件下西氏鲍与皱

纹盘鲍杂交F1的杂种优势养殖密度和养殖种类对鲍生长和存活的影响极显著(P<0.01),尤其是在高密度养殖条件下杂交F1在存活率上具有更高的杂种优势;正反交F1在工厂化养殖模式和海区吊养模式下的生长与存活均表现出杂种优势,但杂种优势的表现程度并不同,在工厂化养殖模式下杂交F1的杂种优势得到更好的表现。3)西氏鲍与皱纹盘鲍杂交F1的遗传相关采用通径分析方法分析了以杂交F1贝壳形态性状为自变量对活体重作依变量的通径系数、决定系数及相关指数。结果表明,正交F1的壳高与活体重相关联程度最大,反交F1的壳长与活体重相关联程度最大。通径系数可准确反映自变量对依变量的直接影响;通径分析表明,正交F1的活体重受壳高的直接影响最大,反交F1的活体重受壳长的直接影响最大。采用多元回归分析分别建立了正反交F1贝壳性状与活体重的回归方程,分别为:正交F1:Y=-181.723+2.4327X1+1.2548X2+1.2128X3+2.2128X4,反交F1:Y=-241.131+3.1122 X1+2.0166 X2+1.7543 X3+2.7312 X4。

【英文摘要】Nowadays, hybridization has been used widely in aquacuture breeding. In order to produce some faster growth and well disease-resistant aquacuture varieties, hybridization between Haliotis sieboldii and Haliotis discus hannai was studied. The present study is to deal with the feasibility and early development of hybridization between these two abalone species. Factors affecting fertilization success has also been reported. By taking advantage of karyotype analysis, amplified fragment length polymorphisms (AFLP), microsatellite (SSR) and mitochondrial 16S rRNA and COI gene sequences, the morphologieal cytological and molecular characterizations of hybrids and pure progenies were conducted. The status of hybrids were confirmed.Meanwhile, the heterosis of hybrids in different stages and cuture enviroments was investigated.The major results and conclusions were as follows:1. Factors affecting fertilization success of hybridizaiton between H. sieboldii and H.discus hannai2. Comparative morphological study on reciprocal hybrids between H. sieboldii and H.discus hannai3. Genetic analysis of H. sieboldii, H. discus hannai and their reciprocal hybrids4. Preliminary study of quatitative genetics of hybrids between H. sieboldii and H.discus hannai

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【学科分类】水产养殖学

【题目】不同基因型水稻钾素吸收利用对施钾量的生理响应

【中文关键词】水稻 施钾量 钾素吸收 利用效率

【英文关键词】rice ;potassium application rates ; potassium absorption ; use efficiency ;

【中文摘要】以常规粳稻武运粳7号、武香粳14号和杂交粳稻86优8号、泗优422为材料,研究了施钾量对不同基因型水稻钾素累积、分配和利用的影响。结果表明,施钾提高了水稻产量和经济系数,以12 kg/667 m2K2O处理最高;施钾提高了水稻群体吸钾量及拔节期到成熟期吸钾比例;施钾使植株钾素快速累积的平均速率和最大速率增大,但起止时间和持续时间缩短;施钾提高了水稻抽穗期和成熟期叶片、茎鞘和穗的钾素分配量及茎鞘分配比例,但降低了叶片分配比例,并以茎鞘分配量差异最大;随施钾量增加,水稻钾素回收效率、利用指数和植株钾生产效率降低,钾素农学效率、生理效率和生理指数则先升后降,以钾素生理指数、生理效率与产量的相关性较高。常规粳稻的产量、拔节期到成熟期吸钾比例、钾素快速累积的起止时间和持续时间及钾素生理效率、生理指数、植株钾生产效率高于杂交粳稻,但群体吸钾量、移栽到拔节期吸钾比例、钾素快速累积的最大速率和平均速率、茎鞘钾素分配量及比例、钾素回收效率低于杂交粳稻。

【英文摘要】Effects of potassium application rates (0, 6, 12, 18 kg/667 m^2 K2O) on plant potassium accumulation, distribution and utilization characteristics of different genotypes rice were studied by using conventional japonica cultivars (Wuyunjing7, Wuxiangjingl4) and hybrid japonica cultivars (86you8, Siyou422). The resulted showed as follows. Both rice yield and harvest index were increased with the increment of potassium application, which they obtained the highest at the K2O application rate of 12 kg/667m^2. Plant potassium accumulation and absorption percentage from elongation stage to maturing stage were raised, as well as average and maximal rate of potassium speediness accumulation period under potassium application, but starting to terminating date and duration date of potassium speediness accumulation period were opposite. Through potassium fertilizing, plant potassium absorption and the percentage of potassium accumulation from elongating stage to maturing stage were increased. Potassium application promoted potassium distribution amount in leaf, culm and sheath, panicle, and distribution percentage of cuhn and sheath, whereas reduced distribution percentage of leaf. The variation of potassium distribution amount in culm and sheath were larger than oth- ers. With the increment of potassium application rates, rice potassium recovery efficiency, plant potassium productivity and potassium utilization index decreased, potassium agronomy efficiency, physiology efficiency and physiology index increased at first and then decreased. Among these estimation index, the correlation of potassium physiology index and physiology efficiency to yield were

higher. Rice yield, potassium absorption percentage from elongation stage to maturing stage, starting to terminating date and duration date of potassium speediness accumulation period, potassium physiology efficiency, potassium physiology index, and plant potassium productivity of conventional japonica cultivars were higher than those of hybrid japonica cultivars,however, potassium accumulation, potassium absorption percentage from transplanting stage to elongation stage, average and maximal rate of potassium speediness accumulation period, potassium distribution amount and percentage in culm and sheath, and potassium recovery efficiency were lower.
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【题目】基于模型和GIS的水稻生产管理决策支持系统构建与应用
【中文关键词】水稻 精确管理 知识模型 地理信息系统 决策支持系统
【英文关键词】rice ; precise management ; knowledge model ; geographic information system ; decision support system ;
【中文摘要】为实现水稻生产过程的精确化管理,以水稻精确管理知识模型为管理决策的智能依托,以GIS为空间数据管理平台,应用系统工程思想和软构件技术,设计实现了基于模型和GIS的水稻生产管理决策支持系统。该系统具有基本地图操作、信息管理、栽培方案设计、肥水运筹、病虫草害管理、适宜生长指标设计、因苗实时调控、专家咨询以及系统帮助等功能。系统在江苏和浙江部分水稻生产区的应用结果表明,精确管理田块平均产量达10464.8kg/hm^2,较常规管理田块增产12.53%,减少氮肥投入31.5kg/hm^2。系统的建立为水稻生产全过程变量管理处方的生成提供了模型化和系统化的决策工具,也为其他作物管理决策支持系统的构建提供了基础框架。
【英文摘要】In order to realize the precise management for rice production, a model and GIS-based decision support system for rice production and management (MGDSSRM) was developed, which was guided by the system engineering theory and software technology, using rice precision management knowledge model as intelligentized and digital decision support, with GIS as spatial data management platform. The system realized the functions as basic map handling, information management, cultural plan design, fertilizer and water management, pest-disease-weed management, suitable dynamic indices design, real-time regulation based on growth status, expert consultation, and system help, etc. Case studies on the system in the rice field experiments in Jiangsu and Zhejiang Provinces, China indicated that the average yield under the precision management plan was 10 464.8 kg/hm^2, 12.53% over that in the general plan (9 299.5 kg/hm^2). Moreover, the amount of nitrogen fertilizer decreased by 31.5 kg/hm^2, as comparing to the general plan. The present work has provided a modeling and systematized decision tool for the design of rice production management prescription, and a basal framework for developing other crop management decision support system.
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【题目】基于图像处理技术的夏玉米群体长势监测研究
【中文关键词】夏玉米 图像处理技术 叶面积指数 干物质积累 回归模型
【英文关键词】Summer maize ; Digital image processing technology ; LAI ; DMA ; Regression model ;
【中文摘要】试验采用均匀设计,在大田条件下固定数码相机高度垂直拍摄夏玉米拔节期和大喇叭口期的群体图像,利用图像处理技术获取玉米地面覆盖度,建立覆盖度与人工测得的叶面积指数(LAI)和干物质积累(DMA)的回归关系模型,并对该模型的适用性进行统计检验.结果表明:地面覆盖度与LAI和DMA间存在极显著正相关关系,相关系数分别达到了0.946和0.935,在叶面积估算模型中引入密度因素后模型的精确性得到了进一步改善,表明利用图像处理技术估测夏玉米群体长势具有很好的可行性.

【英文摘要】The test adopted uniform design method, under field conditions, the group images of summer maize were obtained vertically by a digital camera from fixed height at jointing stage and bell stage.Then the test established the relation models between GCR extracted via image processing technique and leaf area index(LAI), dry matter accu-mulation(DMA), which were measured by traditional methods, and the practicality of those models were tested.The results showed that LAI and DMA were significantly correlated with GCR, and the determination coefficient(R~2) were 0.946 and 0.935, respectively.And further analysis found that multiple regression model by adding density factor can effectively improve precision of LAI prediction model.Generally, the test results indicated that it has better feasibility to monitoring the growth of summer maize via using image processing technique.
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【学科分类】农学其他学科

【题目】基于生长模型与WEB应用的小麦管理决策支持系统
【中文关键词】小麦 生长模型 COM+软构件 Web应用 决策支持系统
【英文关键词】wheat growth model COM+ component Web application decision support system
【中文摘要】基于生长模型的作物管理决策支持系统(DSS),是在作物生长模型的基础上,增加数据库管理系统和策略评估系统,通过有目的的模拟试验与分析评价来辅助用户进行管理决策。将Web技术应用于DSS是当前农业决策支持系统发展的主要方向。该研究在已有单机版基于生长模型的小麦管理决策支持系统的基础上,采用“Web浏览器/Web服务器/应用程序服务器/数据库服务器”四层结构设计,应用面向对象的程序设计、COM+构件化技术与WEB应用程序扩展技术,构建了一个具有较强兼容性、层次性和安全性的网络化小麦生长模拟与管理决策支持系统(GMDSSWMW),具有系统管理、数据管理、动态模拟、方案评估、因苗预测、时空分析与系统帮助7项功能。系统的测试应用结果表明,GMDSSWMW系统具备较强的远程预测功能、决策支持功能与动态调控功能,从而为构建网络化数字麦作系统及其它作物基于Web应用的管理决策支持系统奠定了基础。
【英文摘要】Growth model-based decision support system(DSS) for crop management is the tool to help users make decision by simulation experiments and strategy analysis on the basis of crop growth model, DBMS and strategy evaluation system. Application of web technology to DSS is becoming a major direction for development of DSS in agriculture. Based on the stand-alone growth model-based decision support system for wheat management and the four-layer web structure of "Web browser/Web server/Application server/Database server", a growth model and web-application-based decision support system for wheat management(GMDSSWMw) with good compatibility, arrangement and security was developed by using the techniques of object-orientation, COM+ component and web application. The implemented system can be used for evaluating individual and comprehensive management strategies based on the results of wheat growth simulation under the web service environment. The test and application of the system showed that the GMDSSWMw was realized with proper functions of long-distance prediction, decision-making and dynamic regulation, thus providing basis for establishing web-based digital wheat farming system as well as other crops' management systems.
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【第一作者】曹卫星
【通讯作者】朱艳
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【题目】基于CERES-Maize模型的华北平原玉米生产潜力的估算与分析
【中文关键词】CERES-Maize 春玉米 华北平原 产量潜力 播期
【英文关键词】CERES-Maize spring maize North China Plain potential productivity sowing date

【中文摘要】在对DSSAT4.0中CERES-Maize模型进行参数校正和验证的基础上,进一步利用华北地区具有代表性的10个气象站30年(1976~2005年)的气象资料以及华北地区典型的土壤数据展开模拟。结果表明,在一年一季的生产条件下,华北平原各地区玉米多年平均光温生产潜力为13.53~22.56 t/hm2;各地区玉米产量在4月下旬至6月中旬的播期范围内均呈随播期的延迟而增加的趋势,对这一趋势和各气象指标进行相关分析表明,在华北北部主要驱动因子是灌浆期平均日辐射量,而华北中南部主要驱动因子是灌浆期的温度。华北平原自北向南,优化播期呈逐渐推迟的趋势:北部怀来地区5月上旬播种较为适宜,北京、乐亭和天津地区以5月下旬至6月初播种产量最高;中南部以6月中上旬播种(夏播)较适宜。

【英文摘要】A field experiment with three nitrogen managements was conducted from 2005 to 2006 in Beijing Dongbeiwang experimental station to calibrate CERES-Maize model in DSSAT 4.0. Another two field experiments regarding irrigation amounts and sowing dates were conducted in 2006 to validate CERES-Maize model. After model validation, normal maize production and photothermal potential productivity were simulated by using 30 years weather data from 10 weather stations in the North China Plain (NCP). The results show that average photothermal potential productivity is in the range of 13.53 to 22.56 t/hm2 in the NCP under the condition of one crop one year. Maize photothermal potential yield increased by delaying sowing date in range of the end of April to middle of June, and the main driving factor of this trend was average daily radiation during grain filling stage in the north NCP, while that in the south and middle NCP was on daily temperature condition. There was a delaying trend about optimized sowing dates from north to south in the NCP. In the north NCP, optimized sowing date was around early May in Huailai region (40.23 oN Latitude), while it was late May in region of Beijing, Tianjin and Laoting (39.05oN~39.48oN Latitude). And in the south and middle NCP (35.34 oN~38.20 oN Latitude), maize sowed in early June could reach the maximum yield.

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【学科分类】农学其他学科

【题目】作物模型资源构造平台(CMRCP)的构建研究

【中文关键词】作物模型 集成建模 模型表示 重构 元模型 模型引擎

【英文关键词】crop model integrated modeling model representation reconfiguration metamodel model engine

【中文摘要】为有效促进作物系统数字化研究的深入发展,将集成制造的工业化思想引入作物模型领域,提出了作物模型资源(CMR)及作物模型资源构造平台(CMRCP)的概念。在提炼作物生长通用概念模型的基础上,将作物模型资源分解为通用模型结构、模型算法表示和模型资源映射三部分;并通过模型概念与/或树、模型算法与/或图与模型实现形态相结合,提出了综合性模型资源表示方法。另外,借鉴自适应软件开发方法,基于组件框架、组件组装、模型解析等技术,提出了平台构造原理,表明模型构建任务应该由作物元模型、建模学习机制、模型构造引擎和建模支撑工具共同协作完成。结果表明,构建具有学习能力、自适应和组件化特征的作物模型资源构造平台,可促进作物建模知识资源和软件开发资源的相互转化,并可积累易于共享与复用的作物模型资源库,降低作物模型构建与开发难度,提高农业模型软件开发效率和质量,为作物智能建模提供构建平台。

【英文摘要】To advance research on digital crop system simulation, the industrialized idea of the integrated manufacturing was introduced into the case of crop modeling, the concept of Crop Model Resource (CMR) and Crop Model Resource Construction Platform (CMRCP) were proposed in this paper. The crop model resource includes general model structure, modeling algorithm expression and model resource mapping. The all-around model representation method of crop model resource was proposed that combines model and/or concept tree, model and /or algorithm graphics with pattern of implementation. Based on component framework, component assembly and model compiling techniques, the principle of CMRCP was established according to adaptive software development. The platform works with crop metamodel, learning mechanism, model construction engine and support tools for modeling. The results show that constructing the CMRCP with ability of learning, adaptability and component characteristics, can advance the crop modeling knowledge resources and the crop model development resources changes, can enhance the crop model resource library for sharing and reuse. It helps to make it easy to conduct crop model construction and development, which improves the quality and efficiency of software development, and provides construction platform for crop intelligence modeling.

【语种】中文

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【题目】基于多库融合的作物模型资源仓库构建
【中文关键词】作物模型,信息整合,模型库,知识库,构件库,关系数据库
【英文关键词】crop model information integration model library knowledge library component library relation database
【中文摘要】构建作物模型资源仓库(CMRW)有助于模型资源的组织、集成、积累和管理。该文提出CMRW可由作物模型实验数据库、框架库、算法库和方案库组成,具有模型结构与建模流程并重以及多库融合的特点,可通过模型资源生命周期的变化提升其价值。研究以关系型数据库技术为基础,采用虚节点方法扩展作物模型结构,利用“知识页+算法知识组+算法单元”方式组织建模知识,结合刻面分类方法描述模型组件属性,并综合基础数据库和方案数据库信息,将作物模型框架库、算法库、实验数据库和方案库共同转化为CMRW的关系数据模型。并在Microsoft SQL Server数据库平台上,建立了小麦生长模型资源仓库,实现了作物模型构件库、建模知识库和实验数据库的多库融合,为作物模型集成与重用积累资源。
【英文摘要】Construction of crop model resources warehouse(CMRW) can help resesrchers to organize, integrate, accumulate, and manage crop model resources. CMRW consists of experiment database, framework library, algorithm library and solution database. It has model framework and modeling flow with the characteristics of multi-libraries fusion, and model resources can raise values through life-cycle changes. Based on the technology of relation database in the paper, the crop models were mapped to E-R model, in which, crop model structure was constructed by using virtual node method, and modeling knowledge was organized by the integration of knowledge page, knowledge group and algorithm unit, and properties of model components were described by using faceted classification scheme, and by integrating basal database and solution database for crop models, the relation database models of CMRW including crop model framework library, algorithm library, experiment database and solution database, were constructed. By using the database platform of Microsoft SQL Server, the CMRW for wheat was constructed, which realized the multi-libraries fusion of crop model component library, modeling knowledge library and experiment database. The results show that the CMRW can accumulate assets for integration and reuse of crop models.
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【第一作者】姜海燕
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【题目】基于叶面积指数(LAI)的小麦变量施氮模型研究.
【中文关键词】小麦 模型 变量施氮 精确农业
【英文关键词】wheat ; model ; variable fertilization ; precise agriculture ;
【中文摘要】为探讨基于叶面积指数变化的小麦变量施氮技术,依据养分平衡原理和“作物-土壤-环境-技术”整体原则,采用土壤空间信息数据与小麦需氮量和各生育阶段叶面积指数相结合的方法,设计了小麦播前施氮总量和播后精确追氮的数量模型。根据拔节期和抽穗期小麦的长势,对施氮量的初值进行订正,确定小麦的最适追氮量。在河南郑州市和鹤壁市两地的试验验证结果表明:小麦产量模拟值与实测值间的相关系数分别为0.7799和0.7169,达显著水平。与传统施肥技术相比,在相同产量下,使用模型后每公顷施氮量减少43.5kg。该研究提出的基于模型的变量施氮技术,可以兼顾天气、地力和作物长势三方面因素,最终实现小麦的精确施氮,对促进精确农业的发展具有重要意义
【英文摘要】In order to study the variable nitrogen fertilization techniques based on LAI, the model on total amount of N fertilization before sowing and precise N amount after sowing was designed following the theory of nutrient balance and the principle of"crop-soil-environment-technology", taking spatial variability of soil nutrition, wheat N requirement and LAI in different development phrase into account. According to the growth status of elongation period and heading period of wheat, initial rate of N

application was corrected, and optimum additional amount of N fertilizer was ensured. Field experiments of wheat with variable nitrogen fertilization model were respectively carried out at Henan Agricultural University Research Station and Agricultural Research Institute of Hebi from 2004 to 2005. The results showed that the simulated value of yield was significant correlated with that of field survey, and the correlation coefficient was 0.7799 and 0.7169 respectively. Compared with traditional N fertilization system, the variable nitrogen fertilization model can save 43.5 kg N per hm^2 with the same yield. Variable nitrogen fertilization model based on this model can take weather, soil fertility and the growth status into account, and realize precise nitrogen fertilization in small size field at last, which means a lot to develop precise agriculture.

【语种】中文
【第一作者】马新明
【通讯作者】马新明
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【题目】基于GIS和模型的种植系统设计
【中文关键词】GIS,模型,种植设计,动态知识模型,软构件技术,数字化农业
【英文关键词】GIS model cropping design dynamic knowledge models software component technology digital agriculture
【中文摘要】本研究在总结、提炼相关农业种植设计理论与技术研究成果的基础上,运用系统分析原理和数学建模技术,构建了生态区划、种植制度设计、精确管理和生产力分析的定量化农业管理知识模型。并运用软构件技术,基于GIS空间信息管理平台,建立了数字化的基于GIS和模型的种植设计系统。系统实现了区域性种植信息的规范化管理及不同层次下的农业种植制度设计与管理,具有文件管理、地图操作、信息查询、生态区划、种植制度设计、精确管理、生产力分析、专家咨询、系统维护以及系统帮助等主要功能。以江苏省为案例区,对系统进行了初步的实例分析,结果表明,系统有效地实现了种植设计功能,从而为农作物种植设计的定量化和数字化奠定了基础。
【英文摘要】Based on the summarization and extraction of regional agriculture cropping evaluation theory and technology achievements, a set of dynamic knowledge models which can be used for cropping ecological zoning, cropping system design, precision management, and estimation of cropping productivity were developed through system analysis theory and modeling method. By using the technology of software component, with GIS as spatial information management platform, a GIS and model-based system for cropping design was developed. The system realized the standard management about regional cropping information and cropping system design and management at different levels, provided the functions such as file management, map handling, information query, ecological zoning, cropping system design, precision management, estimation of cropping productivity, expert knowledge consultation, system maintenance and system help. Case studies on the system with the datasets in Jiangsu Province indicate that the system can effectively carry out cropping design function, which lays a foundation for facilitating the quantification and digitization of cropping design system.
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【第一作者】单英杰
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【题目】稻麦适宜氮素营养指标动态的设计模型
【中文关键词】水稻 小麦 氮素指标动态 相对生长度日 精确管理
【英文关键词】rice ; wheat ; nitrogen index dynamics ; relative growing degree days(RGDD) ; precision management ;
【中文摘要】以水稻和小麦为研究对象,通过解析和提炼稻麦适宜氮素营养指标与品种类型、栽培技术、生态环境之间的定量关系,以基于生理发育时间(PDT)的相对生长度日和相对氮素营养指标为参数,建立了稻麦适宜氮素营养指标动态模型,并利用南京3年的大田试验资料对所建模型的可靠性和适应性进行了验证.结果表明:模型生成的水稻植株氮积累量和氮含

量与实际观测值之间的平均根均方差(RMSE)分别为0.1245和0.1316;模拟的小麦植株氮积累量和氮含量与实际观测值之间的平均RMSE分别为0.1166和0.1301,表明模型对稻麦氮素营养指标动态具有较好的指导性,可为不同生态环境、品种类型和生产条件下的稻麦氮素营养诊断与管理调控提供定量化和精确化的指导.

【英文摘要】By analyzing and extracting the quantitative relationships of suitable nitrogen index dynamics of rice and wheat to their cultivar types,cultural techniques,and eco-environments,a design model for the suitable nitrogen index dynamics of rice and wheat was developed.The model was driven by the physiological development time-based relative growing degree days,with the relative nitrogen indices as modeling parameters,and could be used to generate the time-course indices such as the nitrogen accumulation and concentration of rice and wheat under different growth conditions.Case studies with the datasets from 3-year field experiments in Nanjing showed that the average RMSEs of the simulated to measured plant nitrogen accumulation and concentration were 0.1245 and 0.1316 for rice,and 0.1166 and 0.1301 for wheat,respectively.It was suggested that this model could reliably guide the dynamics of major nitrogen indices of rice and wheat,which would help with the quantitative nitrogen diagnosis and precision nitrogen management of rice and wheat under different eco-environments,cultivar types,and production conditions.

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【题目】基于知识模型和PDA的精确农作系统设计及应用

【中文关键词】个人数码助理(PDA) 嵌入式系统 地理信息系统 知识模型 精确农作

【英文关键词】PDAs ; embedded systems ; geographic information systems ; knowledge model ; precision farming

【中文摘要】为合理利用农业资源,实现作物生产管理的便携式和数字化。该研究基于课题组已有的作物管理知识模型,结合嵌入式GIS和GPS技术,采用系统工程思想和PDA开发技术,在Microsoft VS.NET2003环境下构建了基于知识模型和PDA的精确农作系统。系统不仅实现了水稻、小麦、油菜、棉花4大作物的播前(移栽前)栽培方案、适宜指标动态设计,实时调控等功能,还具有地图操作、定位导航、空间数据采集以及信息管理等功能。系统于2007年在江苏省吴江市的水稻生产区进行了示范应用,结果表明,精确管理田块平均产量达9196.9kg/hm^2,与常规管理田块相比,增产幅度达7.43%,并减少了氮肥投入7.5kg/hm^2,表现出明显的增产增收效果。系统的建立为农作物精确管理提供了新的服务载体,同时大大提高了精确农作技术的实用性。

【英文摘要】In order to make good use of agricultural resources,and realize the convenient and digital crop production management,a knowledge model and PDA-based precision farming system was established on the platform of Microsoft Visual Studio.NET 2003,based on the existing crop management knowledge model,and by integrating the technologies of PDA,embedded-GIS and GPS.The system not only realized the functions such as pre-sowing(or transplanting) cultural plan design,suitable dynamic indices design,and real-time regulation based on crop growth status,but also had the functions as map handling,location and navigation,spatial data collection and information management.In 2007,the system was carried out in the rice production region of Wujiang City,Jiangsu Province.The application result indicated that the average rice yield in the experimental fields with precision management plans recommended by the system was 9 196.9 kg/hm^2 ,with 7.43%increasing production and 7.5 kg/hm^2 decreasing nitrogen rate,as compared with the traditional cultural plans.This system provides a new service platform for crop precision farming management,and greatly improves the practicability of precision farming technology.

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【题目】基于WebGIS与知识模型的小麦病虫草害管理决策支持系统研究
【中文关键词】小麦 病虫草害管理 WebGIS 知识模型 决策支持系统
【英文关键词】Wheat disease pest weed management WebGIS Knowledge model Decision support system
【中文摘要】为给小麦病虫草害管理提供远程预测和咨询服务,通过分析和提炼小麦病虫草害管理方面的最新研究结果和信息,根据小麦病虫草害的发生规律,结合小麦栽培管理知识模型以及经济信息,构建了小麦病虫草害管理模型;并运用软件工程的思想,以WebGIS为空间信息管理平台,结合MS SQL Server数据库技术,建立了基于B/S结构的网络化小麦病虫草害管理决策支持系统。该系统实现了用户管理、地图操作、病虫草害管理、智能学习、农药查询以及帮助等功能。以江苏省为案例区,对系统进行了测试与检验,结果表明,该系统能根据不同地域内小麦病虫草害发生的实际情况,预测其对小麦的危害程度并生成适宜的防治措施,从而为小麦病虫草害管理提供了远程预测和决策咨询的服务工具。
【英文摘要】By analyzing and abstracting the new research data on wheat disease pest weed management, further combining with the wheat cultivation management knowledge model and economy information, a wheat disease pest weed management model was developed based on the generated rule of disease pest weed. Moreover, by using the principle of software engineering with WebGIS as spatial information management platform, combining with MS SQL Server database technology and Browser/Server network structure, the decision support system of wheat disease pest weed management was developed. The system realized the functions of user management, map handling, disease pest weed management, intelligent study, pesticide search and system help, etc. Case studies on the system in Jiangsu province indicated system could forecast the harm degree of wheat disease pest weed, make the relevant prevention methods based on their factual generated conditions in different zones, and provide a service platform of long term forecast and decision making counseling for wheat disease pest weed management.
【语种】中文
【第一作者】李凤菊
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【题目】抗冻蛋白基因Type Ⅲ AFP HPLC-12的原核表达、抗冻活性的鉴定及杂色鲍表达载体的初步构建
【中文关键词】杂色鲍;抗冻蛋白;转基因;载体构建
【英文关键词】Haliotis diversicolor; Antifreeze Proteins; Transgenic; Vector Construction
【中文摘要】杂色鲍(Haliotis diversicolor)是我国南方重要的水产养殖种类,近年来由于诸多原因,其海产养殖业中的比例逐年下降。本文的研究目的即是以Ⅲ型AFP HPLC-12抗冻蛋白序列构建杂色鲍AFP转基因载体。希望利用此载体通过转基因的方法使杂色鲍获得耐低温、抗冻性状,快速培育杂色鲍新品种,向中国北部沿海方向扩大杂色鲍的养殖范围。 按照去除其前部的信号肽序列保留AFP功能区(261 bp)的Ⅲ型AFP HPLC-12序列设计引物,合成Ⅲ型AFP HPLC-12基因序列,同时在片段两端分别增加BamH Ⅰ和Sal Ⅰ酶切位点。测序结果表明克隆所得序列全长为275 bp,去掉两端酶切位点后长度为261 bp,共编码87个氨基酸残基,多肽分子重量为9.284 kDa,克隆所得片段序列与目的片段完全吻合。IPTG原核诱导后SDS-PAGE检验结果表明,AFP/GST融合蛋白条带位于约35 kDa处,符合其正常的蛋白分子质量大小(26 +约9 kDa),证明合成的Ⅲ型AFP HPLC-12基因片段具有原核转录活性。 以转化空载体pGEX-4T-2的BL 21细胞悬浮液为对照,对Ⅲ型AFP HPLC-12的原核诱导表达蛋白进行冷冻保护实验。结果表明,在0 ℃下,冷冻时间分别为72 h、96 h和120 h时,两种细菌的存活率差异显著(P<0.05);在-20 ℃下,冷冻时间为24 h,存活率差异即表现出了显著性(P<0.05),冷冻时间分别为72 h、96 h和120 h时的存活率差异为极显著(P<0.01)。细菌冷冻保护实验证明原核诱导表达的Ⅲ型AFP HPLC-12在0 ℃和-20 ℃下均具有抗冻生物学活性。 首次获得了长度为632 bp的杂色鲍肌动蛋白启动子ActinP序列区域,(GenBank登陆号为EU622901),具有两个CAAT BOX,分别位于472 bp和559 bp处,具有一个TATA BOX,位于591 bp处;启动子长度为50 bp,位于583 bp-632 bp,位于623 bp处的T经软件分析推测为转录的起始位点,同时推测从TATA BOX开始到转录起始位点T结束的这段序列可能组成了杂色鲍肌动蛋白启动子的核心序列,对于杂色鲍肌动蛋白的转录具有关键性的调控作用。 以EGFP为报告分子,采用定向插入片段方式构建Ⅲ型AFP HPLC-12杂色鲍表达载体pIRES-EGFP-ActinP-AFP。经Ⅲ型AFP HPLC-12引物与ActinP引物PCR鉴定证明,载体初步构建成功,为Ⅲ型AFP HPLC-12基因转化杂色鲍做出了基础性的工作。
【英文摘要】Small abalone, Haliotis diversicolor is an important aquaculture species in South China. In recent years, because of a series of reasons, the proportion of the small abalone in the aquaculture is decreasing year by year. The objective of this study is to

construct the transgenic vector with the sequence fragment of the antifreeze protein type III AFP HPLC-12. By the method of transgene, we hope the transgenic small abalone obtain the low temperature tolerance and the antifreezing character so that enlarge the culture area to the seashore of North China. Primers were designed according to the encoding gene of the type III AFP HPLC-12 of which the sequence of the signal peptide had been removed. The type III AFP HPLC-12 was cloned by the method of gene synthesis and restriction sites of Bam H Ⅰ and Sal Ⅰ was added to the two ends respectively. Sequencing showed that the full-length of the cloned DNA is 275 bp (261 bp not including the restriction sites), encodes 87 amino acid residues and the deduced peptide has a molecular weight of 9.284 kDa. The cloned DNA sequence is completely consistent with the target fragment. After inducted by IPTG, cells were sampled by SDS-PAGE identification. Results showed that the band of the AFP/GST fusion protein was about 35 kDa and consisted with the expected molecular weight (26 + about 9 kDa). The result of the SDS-PAGE proved that the synthesized sequence of the type III AFP HPLC-12 gene has the prokaryotic transcription activity. Cryoprotective experiments were employed to test the antifreeze activity of the cells embodied AFP HPLC-12 gene while the cells without AFP HPLC-12 were chosen as the controls. Results showed that, at 0 °C, the survival probability differences of the two kinds of the bacteria were significant ($P<0.05$) when the freezing time were 72 h, 96 h and 120 h; at -20 °C, the difference was significant ($P<0.05$) when the freezing time was 24 h, and the difference was extremely significant ($P<0.01$) when the freezing time were 72 h, 96 h and 120 h. The result of the cryoprotective experiments showed that the type III AFP HPLC-12 within prokaryotic expression has the antifreezing biological activity at the temperature 0 °C and -20 °C. The promoter region (ActinP) of the Actin of the small abalone was first obtained of which the length is 632 bp. There are two CAAT BOXes located at 472 bp and 559 bp meanwhile there is one TATA BOX located at 591 bp. The length of the promoter which located at 583 bp-632 bp is 50 bp. The Thymine located at 623 bp was analyzed and conjectured to be the transcription initiation site by the analysis software, and the sequence which from TATA BOX to the Thymine also was conjectured to be the core sequence of the Actin protein promoter of H. diversicolor, it could play a critical role in transcription of the Actin protein. The sequence of the Actin protein promoter of H. diversicolor, has been submitted into GenBank, the accession number is EU622901. The type III AFP HPLC-12 transgenic vector pIRES-EGFP-ActinP-AFP for H. diversicolor was constructed, which the EGFP was as the reporter molecule by the method of directional fragment insertion. The vector was identified successfully by PCR with the primers of the type III AFP HPLC-12 and the ActinP. This study was prophase work of the transgenic type III AFP HPLC-12 H. diversicolor.

【语种】中文
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【学科分类】水产养殖学

【题目】Changes in volatile compounds of cooked beef during freeze drying
【中文关键词】熟牛肉片,冷冻,冷冻干燥,再水化,微观结构
【英文关键词】Cooked beef slice, freezing, freeze-drying, rehydration, microstructure
【中文摘要】冷冻干燥的基础上通过升华的冷冻产品的脱水。由于水的液体的情况下,该过程所需的低的温度下,大多数的劣化和微生物反应停止,这给出了一个最终产品风味绝佳。研究表明,通过冷冻干燥的熟牛肉的挥发物严重影响。
【英文摘要】Freeze drying is based on the dehydration by sublimation of a frozen product. Due to the absence of liquid water and the low temperatures required for the process, most of deterioration and microbiological reaction are stopped which gives a final product of excellent flavor. The research indicated that volatiles of cooked beef were not seriously affected by freeze drying.
【语种】英文
【第一作者】R. M. Luo
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【学科分类】食品加工技术

【题目】Amount and composition of the moulds population on drycured jinhua ham
【中文关键词】金华火腿,黑曲霉
【英文关键词】Jinhua ham, moulds, Panicillium, Aspergillus
【中文摘要】在预熟化和成熟的阶段,不同的模具上形成干燥的火腿表面。主要来自加工环境的污染,而不是原始的肉。模具菌群是可变的,主要体现在曲霉,青霉属,青霉属。占主导地位的火腿生产的早期阶段。曲霉。中后期的成熟阶段占主导地位。
【英文摘要】Jinhua ham is one of the best products of China. During the pre-ripening and the ripening phase, different moulds are formed on the dried ham surface. The contamination come mainly from the processing environment, rather than the raw meat. The moulds flora is variable and is mainly represented by Aspergillus spp., Penicillium spp. Penicillium spp. predominate in the early stage of ham production. Aspergillus spp. predominate in the late stage of ripening. Moulds may work mainly in the early stage of ripening and do little with favor formation.
【语种】英文
【第一作者】Z.Y. Zhen
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【期刊名称、卷期、页码】53 rd International Congress of Meat Science and Technology,559-600
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【学科分类】食品加工技术

【题目】The effect of raw materials and processing conditions on the quality of home-style chicken soup.
【中文关键词】鸡,汤,营养,加工条件,质量
【英文关键词】Chicken, soup, nutrition, processing condition, quality
【中文摘要】这项研究的结果表明,乌鸡是整体上最好的肉源制备低脂肪,美味的汤。营养素和汤　　的主要风味化合物的总量,可通过使用相对高的水肉类比,以及由控制时间增加。
【英文摘要】The results from this study demonstrated that black-boned chicken is overall the best meat source for preparing low-fat, savoury soup. The total amount of nutrients and main flavour compounds in soup can be increased by using a relatively high water to meat ratio, as well as by controlling the simmering time. To obtain maximum nutrition value, palatability and efficiency, the broth should be simmered for no more than 2 hours.
【语种】英文
【第一作者】J. Chen
【通讯作者】熊幼翎
【期刊名称、卷期、页码】53 rd International Congress of Meat Science and Technology, 407-408
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【引文索引号】null
【学科分类】食品加工技术

【题目】Flavour profile of turkey breast rolls containing onion juice.
【中文关键词】土耳其火鸡胸肉、洋葱汁、肉品质、挥发性化合物
【英文关键词】Turkey breast, onion juice, flavour, volatile compounds, meat quality
【中文摘要】在这项研究中,顶空分析与硫具体的检测中明确表现出显着,但选择性吸收的硫挥发物的洋葱汁火鸡
【英文摘要】In this study, headspace analysis with sulphur specific detection clearly demonstrated significant but selective uptake of sulphur volatiles from the onion juice by turkey meat. There was also evidence that some compounds may have derived from interactions of onion juice and meat components. Thus, the results help explain the improved flavour characteristics of turkey rolls by the treatment with onion juice.
【语种】英文
【第一作者】X.Y. Tang

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【学科分类】食品加工技术

【题目】changes in flavor compounds of nanjing salted duck during processing
【中文关键词】鸭、味、易挥发的化合物、呈味物质、处理
【英文关键词】Duck, flavor, volatile compounds, taste compounds, processing
【中文摘要】脂质氧化和分解鸭特征香气形成的必要条件,特别是对于干燥固化加快脂质氧化和降解NJWSD和处理。微妙的加工前的沸点,特别是对于盐渍,产生的味道的化合物,这可能是原因为NJWSD香香增加效果。
【英文摘要】Lipid oxidation and decomposition were the necessary condition for the formation of duck characteristic aroma, and the processing of NJWSD especially for the dry-curing sped up lipid oxidation and degradation. The delicate processing before the boiling, especially for brining, produced an increase effect on the taste compounds, which could be the reason for the savory of NJWSD.
【语种】英文
【第一作者】Y. Liu
【通讯作者】徐幸莲
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【题目】changes of fatty acids during the processing of nanjing dry-cured duck
【中文关键词】南京干固化鸭;磷脂,游离脂肪酸,脂肪分解
【英文关键词】Nanjing Dry-cured duck; phospholipids; free fatty acids; lipolysis
【中文摘要】南京干腌鸭的处理期间脂肪酸含量变化很大。这种变化可能有助于形成干腌鸭肉的特定风味.
【英文摘要】The contents of fatty acids varied greatly during the processing of Nanjing dry-cured duck. This change maybe contribute to the formation of the specific flavor of dry cured duck meat.
【语种】英文
【第一作者】Weimin Xu
【通讯作者】周光宏
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【题目】The study of electronic nose on batch-to-batch quality control of chinese traditional dry-cured ham
【中文关键词】电子鼻,干腌火腿,批与批之间的变化,味道,质量控制
【英文关键词】electronic nose, dry-cured ham, batch-to-batch variation, flavor, quality control
【中文摘要】火腿的味道A和C有较好的稳定作用。电子鼻,以确定原产地不明的火腿样品可能是非常可行的,并可能是一个有用的工具,批与批的质量控制。该仪器可以提供一个很好的结合速成,准确度和灵敏度。
【英文摘要】The flavor of ham A and C had better stabilization .The electronic nose could be very feasible to determine the origin of unknown ham samples and could be a useful tool for batch-to-batch quality control. The instrument could provide a good combination of speeded, accuracy and sensitivity.
【语种】英文

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【题目】Physico-chemical properties of chineseGuangdong sansage changes in drying process and storage
【中文关键词】酸价,干燥
【英文关键词】Chinese Guangdong bacon, acid value, peroxide value, drying, storage
【中文摘要】干燥的方法中,焙烧提高广东腊肉腊肉质量的影响质量。在存储,这是明显的干燥方式,包装方式和贮存温度的影响加剧的脂肪的氧化和降解。
【英文摘要】Methods of drying influence the quality of Guangdong bacon in which roasting improved the bacon quality. Oxidation and degradation of fat intensified in the storage, which was influenced obviously by drying way, packaging mode and storage temperature. Acid value may be the critical factor that impacts on the quality of Chinese Guangdong bacon.
【语种】英文
【第一作者】F.Y. Bai
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【题目】Traceability of rigor mortis of muscle using a texture analyzer: A feasibility study
【中文关键词】尸僵,数学模型,纹理分析仪
【英文关键词】rigor mortis; mathematical models; texture analyzer
【中文摘要】结果表明,鸡,鸭胸脯严格死后不同时间达到最大。环境温度的过程中,尸僵,其分辨率有显着效果。本研究中的方法将让我们更精确的细节死后骨骼肌中的物理化学变化。
【英文摘要】Rigor mortis is one of the most important changes of muscle at earlier time postmortem, which ultimately affects meat palatability. However, there seems no efficient way to track the whole process of rigor mortis continuously and automatically. This study is designed to explore a new method to realize the traceability of the onset and development of rigor mortis of muscles using a texture analyzer. A compression analysis was proven feasible to determine the changes of muscle within 48 h to 84 h postmortem at a 10 s interval. Chicken and duck breasts, obtained within 30 min postmortem, were immediately compressed under a 50 mm probe holding until 172800 s (48 h) at an acquisition rate of 0.10 point per second. The results showed that chicken and duck breasts reached the maximum rigor at different postmortem time. Environment temperature had a significant effect on the process of rigor mortis and its resolution. The approach in the present study would give us more accurate details on postmortem physicochemical changes in skeletal muscle.
【语种】英文
【第一作者】李春保
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【题目】应用PCR-RFLP法鉴别肉制品中的猪和牛源性成分

【中文关键词】PCR-RFLP,鉴定猪源性成分,牛源性材料
【英文关键词】PCR-RFLP identification porcine-derived materials bovine-derived materials
【中文摘要】以动物线粒体DNA中Cytb区段的保守序列为目的基因进行PCR-RFLP,从猪、牛、羊、鸡、鸭、兔6种生肉及高压猪肉、猪肉火腿肠、猪肉枣、猪肉松、牛肉干、牛肉枣、牛肉火腿肠7种加工肉制品中鉴别出猪源性和牛源性成分。所有样品经PCR扩增均产生359 bp的片段。扩增子采用Alu Ⅰ限制性酶切所产生的片段差异可用于区分猪肉和牛肉。
【英文摘要】A me thod identifica tion of po rk and beef in 6 k inds o f raw m ea ts (pork,beef,mutton, ch icken, duck and rabb itm eat) and 7 kinds of m eat products (autoc laved pork, po rk ham sausage, pork ju jube, dried po rk floss, beef charqu,i beef ju-jube and beef ham sausage) w as developed. Po lym erase cha in reaction-restriction fragm ent leng th po lymo rph ism (PCR-RFLP) of the m ito chondrial cytochrom e b gene fo r PCR am plification was used to y ie ld 359 bp fragm ent in each o f these species. T he amp l-icons w ere digested w ith A lu restriction enzym e resulting in a patte rn tha t cou ld iden tify and d ifferentiate the po rk and beef.
【语种】中文
【第一作者】高琳
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【题目】冷却肉中乳酸含量的反相高效液相色谱分析
【中文关键词】反向高效液相色谱,冷冻肉,乳酸
【英文关键词】reversed-phase high performance liquid chrom atography (RP-HPLC) chilled meat lactic acid
【中文摘要】"为测定冷却肉中乳酸含量,建立了冷却肉中乳酸提取及反相高效液相色谱的测定方法。冷却猪肉用1mol/L-1高氯酸水溶液匀浆去除蛋白质及脂肪后,5000g离心,并过 0.25um 纤维素膜,然后以高效液相色谱反相柱分离,通过紫外检测器检测。检测结果显示,该测定方法回收率为 95.5% ~ 102.3% ,相对标准偏差为 3.2% ~ 5.7% ,日内测定变异系数 (CV) 为 1.09% , 日间测定CV为1.28。该方法应用于冷却猪肉乳酸含量测定获得较好的效果。"
【英文摘要】A reversed-phase h igh per fo rm ance liqu id chrom a tog raphy (RP-HPLC) m e thod w as estab lished to de term ine lactic acid content in ch illed m ea.t T he samp les pretreated with the solution of 1 mol/L- 1 perch lo ric ac id (PCA) was separated through RP-HPLC. The determ ined resu lt indica ted that the recovery rate was 95.5% - 102.3% , and relative standard dev iation w as 3.2% -5.7% , The coeffic ient of var iance w ith in-day and betw een-day was 1.09% and 1.28% respectively.The method was successfullyused in the analysis of chilled pork.
【语种】中文
【第一作者】朱学伸
【通讯作者】周光宏
【期刊名称、卷期、页码】南京农业大学学报,2008,(1):127-129
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【题目】鸭肉在加热和盐腌过程中嫩度和超微结构变化
【中文关键词】鸭肉腌制,蒸煮,嫩度,超级结构
【英文关键词】duck meat curing cooking tenderness ultra-structure
【中文摘要】"通过对鸭肉加热及盐腌加热过程中嫩度及相关指标变化的研究,阐明了在此过程中嫩度变化的机制。取新鲜的番鸭胸肉,分为两组,一组在 50、 55、 60、65、 70、 75、80、 85、 90 e 水中加热,测定剪切力;另一组先分别在 20、40、60、 80 g/L- 1N aC l溶液中腌制,再加热到 72~ 75 e,测定剪切力和结缔组织热变性温度,并在透射电镜及扫描电镜下观察肌原纤维的结构变化。结果表明,剪切力随温度升高呈现先升后降的趋势,60 e 是鸭胸肉的关键加热温度。差示量热扫描 (DSC) 分析显示,随着 NaCl质量浓度的增加,热变性点的数量减少,并且变性的温度发生了变化。超微结构观察表明,用NaCl腌制新鲜鸭肉,将对肌原纤维的崩解起到促进作用,并可避免肌原纤维发生强烈收缩,其中 20~ 40g/L- 1N aC l溶液的作用尤为明显,有助于改善加热后鸭肉的嫩度."

【英文摘要】"Th is study w as designed to explore the effect of cook ing tem pera ture and curing on duck m eat tenderness and an explanation w as g iven for how it changes during cook ing and cur ing. B reast mea t samp les from duck were taken and divided into wt o g roups. T he sam ples of one group w ere heated in wa ter to 50, 55, 60, 65, 70, 75, 80, 85 and 90e, respectiv ely. T he sam-p les of the other g roup w ere first cured in 20, 40, 60 and 80g/L- 1 N aC l so lution respective ly and then heated to 72- 75e.T he samp les w ere used fo r m echan ical and h isto log ica lm easurem ents. T he results ind icated that 60e w as a cr itica l cook ing point to m ea t qua lity for duck breast meat The resu lts of differen tia l scann ing calor im etry (DSC) the rmogram s of tissue show ed that the number of peaksw as reduced and m ax mium temperatu res o f the peaks chang ed when the tissue w as treated w ith increasing N aC l con-centration. Cured w ith N aC l had the effect of enhanc ing structura l damage to the myo fibrils and preventing severe con traction wh ile heating, especially at the concen tration of 20- 40 g/L- 1."
【语种】中文
【第一作者】臧大存
【通讯作者】周光宏
【期刊名称、卷期、页码】南京农业大学学报,2007,(4):130-134
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【题目】低温肉制品加工中芽孢杆菌动态变化与有效控制研究
【中文关键词】熟肉制品,芽孢菌,挑选的榨菜肉丝
【英文关键词】cooked meat product Bacillus bacteria shredded pork with picked mustard tuber
【中文摘要】采 用嗜热 脂 肪 芽袍杆 菌(Bacillus、stearothermophilus Donk,简称10 2 07) 为指 标 菌,应 用 微 生 物 学分 析方 法研究 榨 菜 肉丝低 温 肉制 品 加 工 过程 中芽袍杆 菌的 变化 规律;探讨 了有效地抑制 芽抱杆 菌生长 的方 法,实施食 品 HACCP管理与安全控制
【英文摘要】Using Bacillus stearothermophilus Donk as the referential bacteria, the dynamic changes of Bacillus bacteria in the Sichuan cuisine "shredded pork with picked mustard tuber"processed under low temperature were stuied and the effective control of its safety was investigated.
【语种】中文
【第一作者】李洪军
【通讯作者】李洪军
【期刊名称、卷期、页码】西南大学学报,2007,(1):103-110
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【学科分类】食品加工技术

【题目】腊牛肉腌制过程中酶对蛋白质变化影响的研究
【中文关键词】干腌牛肉,蛋白酶,蛋白质
【英文关键词】Dry-cured beef protease protein
【中文摘要】在腊牛肉腌制中,分别将木瓜蛋白酶、中性蛋白酶和复合蛋白酶按照原料肉重的0.01%、0.015%、0.02%、0.025%和0.03%的添加量掺入腌制剂中腌制7d,发现肉中非蛋白氮含量和氨态氮含量随着腌制天数的增加而大幅度增加,表明在此期间,肌肉蛋白质在酶的作用下发生了强烈降解。讲解程度随着酶的添加量增大而提高。在腊牛肉中加入酶制剂使挥发性盐基氮含量明显增加,但是成品的色、香、味等感官分析上并无腐败变质特征。
【英文摘要】In the process of salting, dry-cured beef was added with papain,neutral protease or complex proteasw at the rates of 0.01%,0.015%,0.02%,0.025%or0.03% based on beef weight and preserved for 7days.The contents of NPN and AN significantly increased with salting days.
【语种】中文
【第一作者】董全
【通讯作者】董全

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【学科分类】食品加工技术

【题目】金华火腿现代化发酵工艺中微生物区系变化研究
【中文关键词】金华火腿,现代发酵技术,微生物菌群鉴定
【英文关键词】Jinhua ham; modern fermentation technology; microbial flora; identification
【中文摘要】金华火腿是我国最著名火腿品种, 与宣威火腿、如皋火腿称为我国(三大火腿), 是世界著名传统肉制品. 传统产品走向工业化是发展趋势, 因此, 开展金华火腿现代加工工艺研究十分重要. 本试验通过对现代化控温控湿发酵库中火腿发酵过程中微生物区系变化的研究, 检测了不同发酵过程中微生物数量及种类, 并进行了菌种鉴定. 结果表明, 金华火腿腌制工艺过程中内部及表面微生物很少; 洗腿、晾腿工艺进入控温控湿库后, 前期脱水阶段, 火腿内部微生物数量急剧增加, 达到 1.39*106cfu/ g , 在火腿成熟生香的时期, 火腿内部微生物数量降至 2.0*103cfu/ g, 内部的优势细菌是乳酸菌, 其次是葡萄球菌. 经鉴定乳酸菌主要是戊糖片球菌, 马脲片球菌和戊糖乳杆菌等, 葡萄球菌主要是马胃葡萄球菌, 鸡葡萄球菌和木糖葡萄球菌等组成, 内部优势酵母菌是欧诺比假丝酵母、红酵母、赛道威汉逊酵母、白色布勒掷孢酵母、多形汉逊酵母和汉逊德巴利酵母等. 金华火腿现代化发酵工艺过程中仅在原料腿上检测到霉菌, 整个加工过程中没有检测到霉菌, 现代化发酵工艺成品腿香气略次于传统工艺成品腿, 其它风味尚可, 该研究为金华火腿现代化加工奠定了理论基础.
【英文摘要】"The changes in m icrobial flora in Jin hua ham during fer mentatio n under contro lled temperature and hum idit y w ere mo nit ored and the microbial amount and species w er e invest igat ed. T he result s show ed that f ew micr obes w ere det ect ed on t he surf ace ans in t he interior o f t he ham aft er preservat io n w it h the moder n technolo gy. But they increased sharply in the st age of dehy drat ion in co nt ro lled t em perature andhumidit y ro om af t er the pro cessing st ep of w ashing and hanging t o a maxim um o f 1139*106cfu/ g , and the micro bes in t he int er io r o f the ham decreased t o 2.0*103cfu/ g during r ipening, or the per io d o f accelera- t ing r ipening. Lactic acidbacteria predominated in t he int erior bact eria thro ug ho ut t he moder n process,fo llow ed by St aphy loco ccus. T he predom inant L act ic acid bact er ia were Pediococcus1pentosaceus,P1ur inaeequi and L act obaci ll us p entosus. S1equor um, S1gal li narum and S1x y losus predominat ed inSt ap hy l ococcus. Candi da er nobi i , Rhodotorul a gl ut ini s, Hansenul a sy dow iorum , Bul ler a alba, H an-enula p oly mor p ha and D ebar yomy ces hanseni i predominat ed in t he yeast f lor a in Jinhua ham . M ould w asdet ected in t he raw mat erial only, w hile no m ould w as f ound t hroughout the pro cessing procedures. T he a-r oma of Jinhua ham produced w ith m odern t echno logy w as slight ly inferior t o t hat o f t he ham produced w it h t radit ional t echno logy ."
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【第一作者】贺稚非
【通讯作者】贺稚非
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【题目】南京板鸭加工过程中肌内磷脂与游离脂肪酸含量的变化
【中文关键词】南京干板鸭,加工,磷酸脂,游离脂肪酸
【英文关键词】Nanjing dry-cured duck; pro cessing; phospho lipid; free fa tty ac id
【中文摘要】研究了南京板鸭各个加工工艺阶段的股二头肌肌内磷脂与游离脂肪酸含量的变化. 采用氯仿 - 甲醇溶液提取肌内脂质, 采用固相萃取法将游离脂肪酸和磷脂与其他脂类分离, 用高效液相色谱分析各种磷脂组分的含量, 通过毛细管气相色谱分析了游离脂肪酸的含量. 结果表明, 在南京板鸭加工过程中, 各种磷脂含量显著降低, 游离脂肪酸含量显著提高, 游离脂肪酸含量的提高与磷脂含量的降低与脑磷脂含量的下降关系密切.
【英文摘要】Nan jing dry-cured duck was analyzed by studying the changes of phospholipids and free fa tty ac ids con tents in intram us-cular lipids from B iceps femor is muscle.Intram uscu lar lip ids w ere d istilled using chloro form-me thanol, phospho lipids and free fa tty acids w ere separa ted by solid phase ex traction (SPE), phospho lipids were ana lyzed by h igh performance liquid chroma tog raphy(HPLC),free fatty acids were determined v ia cap illary gas chrom atography. A fte r ana lysing the sample of each process, the resultsshow ed phospholip ids rem arkably decreased and free fatty acids significantly increased dur ing the process ing of N

anjing dry- cured duck, the re lation between the increase o f free fatty ac id content and the decreaseo f phospho lip id content was tight, espec ia lly the decrease of phosphatidy lcholine content.
【语种】中文
【第一作者】王道营
【通讯作者】徐幸莲
【期刊名称、卷期、页码】福建农林大学学报,2008,(3):320-323
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【题目】漂洗对淘汰蛋鸡肉糜蛋白质含量以及凝胶特性的影响
【中文关键词】洗涤,凝胶,生产速度,可表示水分
【英文关键词】Spent hen; Surimi; Washing; Gel; Produce rate; Expressible moisture
【中文摘要】研究了漂洗次数对淘汰蛋鸡胸、腿肉糜色泽、肌原纤维蛋白、肌浆蛋白、凝胶硬度、弹性、出品率、压榨失水率的影响。结果表明: 漂洗能够明显改善鸡腿肉糜的色泽; 漂洗使鸡肉糜肌浆蛋白的含量减少, 肌原纤维蛋白含量相对增加, 过多的漂洗会造成肌原纤维蛋白的流失; 鸡胸肉糜经 1次漂洗后凝胶的硬度、弹性、出品率最大, 压榨失水率最小, 分别为 2896.49 g+82. 25 g、0. 94+0.0038、81.36% +1. 7%、35.17% +0. 86%;漂洗使鸡腿肉糜硬度显著变小, 对弹性和压榨失水率没有显著影响, 1次漂洗的出品率最大。
【英文摘要】"The effects of wash ing tim es on spent hen sur inm ,i m yofibr illar pro tein, sarcoplasm ic prote in, ge l ha rdness, flex ibility, production rate, expressib le mo isture w ere stud ied. The results showed that washing could mi prove the co lo r o f spent hen surim ,i re-duce the content o f sarcoplasm ic protein, increase the content o f myofibr illar prote in, but overfu ll w ashing could lead to the loss of myofibrillar pro tein. The hardness, flex ibility and production rate o f the breast su mi i through one times.washing w ere a ll max mia l,being 2896. 49+82. 25 g, 0. 94+0. 0038, 81. 36%+1. 7% , respective ly, and the m inmi al expressible m o isture of breast sumi iw as35. 17%+0. 86% ; W ashing reduced hardness of thigh surmi i and had no sig in ificant e ffect on flex ibility and expressible mo isture(p<0. 05), the production rate of the th igh su mi i through one tmi es.w ash ing was the highest"
【语种】中文
【第一作者】张松
【通讯作者】彭增起
【期刊名称、卷期、页码】江西农业大学学报,2008,(4):77-80
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【学科分类】食品加工技术

【题目】传统风鸭加工过程中非蛋白氮和游离氨基酸的变化
【中文关键词】传统的干腌鸭,脂肪分解氧化
【英文关键词】trad itiona l dry-cured duck; pro teo lysis; non-prote in n itrogen; free am ino acid
【中文摘要】"以樱桃谷瘦肉鸭为原料, 按传统工艺加工风鸭, 分析鸭胸肉中非蛋白氮 (NPN)、游离氨基酸 (FAA)含量在加工过程中的变化规律。结果表明, 肌肉中的 NPN和 FAA含量都随加工过程逐步升高, NPN在风干 15 d略有降低 (P> 0 05), 而 FAA在风干 20 d显著升高 (P< 0 05); 成品风鸭胸肉中的 FAA占 NPN的 28% 以上, 其中以谷氨酸(G lu)、丙氨酸 (A la)、亮氨酸 (Leu)、赖氨酸 (Lys)和精氨酸 (A rg) 等含量较高; 肌肉中大部分 FAA 的浓度数倍于其阈值, 这对传统风鸭滋味的形成有重要贡献。"
【英文摘要】"Raw ducks (Cherry va lley duck) were processed fo llow ing the trad itiona l dry curing m ethods. T mi e-re lated concentration changes of non-prote in nitrogen (N PN) and free am ino acid (FAA) in duck breastm eat dur ing processing w ere assayed. M usc le N PN and FAA con tents w ere increased gradua lly dur ing processing. NPN was decreased (P > 0 05) at 15 d o f dry ing, however FAA w as increased significantly(P < 0 05) a t 20 d of drying. M ore than 28% of NPN in breastmusc le o f the fina l product w as com posed o f FAAs among wh ich G lu, A la, Leu, Lys and A rg w ere dom inant in concentrations. S ince theconcentrations ofm ost FAA s in the breastm uscle o f the final product w ere several tmies o f the ir correspond ing sensory thresholds, FAA s m ight have m ade an mipo rtant contribution to the form ation of trad itiona l dry- cured duck flavor."

【语种】中文
【第一作者】戚巍威
【通讯作者】周光宏
【期刊名称、卷期、页码】江苏农业学报,2008,(2):190-193
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【题目】直接冻结工艺与两阶段冻结工艺对猪肉的保水性和组织结构的影响
【中文关键词】冻结工艺,解冻,组织结构
【英文关键词】Freezing process, thawing, organizational structure
【中文摘要】采用配对试验研究了直接冻结工艺和两阶段冻结工艺所冻结肉样在冻结损失、解冻汁液流失、蒸煮损失、加压失水率、蛋白溶解度、pH 值、剪切力和组织结构变化等方面的差异, 结果显示: (1)直接冻结工艺冻结的肉在总损失、冻结损失、解冻汁液流失、蒸煮损失和加压失水率方面均显著 (P < 0. 05)小于两阶段冻结工艺冻结的肉。 (2)直接冻结工艺冻结的肉肌浆蛋白溶解度极显著高于两阶段冻结工艺冻结的肉 (P < 0. 01), 而总蛋白溶解度和肌原纤维蛋白溶解度都是直接冻结工艺冻结的肉低于两阶段冻结工艺冻结的肉。 (3)直接冻结工艺冻结肉的 pH值极显著高于两阶段冻结工艺冻结的肉 (P < 0. 01)。 (4)随着宰后时间的延长, 未冻结肉的肌细胞外的空隙明显增大, 组织结构弱化。 (5)直接冻结工艺冻结的肉比两阶段冻结工艺冻结的肉冰晶分布更均匀, 相对来说其冰晶也较小一些, 可能与组织结构的弱化有关。随着宰后时间的延长肌肉的组织结构明显弱化, 是直接冻结工艺冻结的肌肉保水性弱于两阶段冻结工艺的一个重要原因。
【英文摘要】"Paired test study directly freeze freezing process and the two-stage process frozen meat samples in the freeze loss, thaw drip loss, cooking loss, pressurized water loss rate, protein solubility, pH, shear force, and organizational structure changedifferences, the results show: (1) direct freezing process frozen meat in a total loss, freezing loss thaw drip loss, cooking loss and pressurized water loss rate were significantly (P <0. 05) is less than a two-stage freezing process freezemeat. (2) direct freeze process frozen meat sarcoplasmic protein solubility was significantly higher than the two-stage freezing process freeze the meat (P <0. 01), and total protein solubility and myofibrillar protein solubility are freezing process frozen meat directly less than a two-stage meat freezing process frozen. (3) direct freeze process freeze meat pH value was significantly higher than the two-stage freezing process freeze the meat (P <0.01). (4) As the extension of the time of the post-mortem, the voids in the the unfrozen meat muscle extracellular significantly increased tissue structural weakening. (5) directly freeze process frozen meat to freeze than the two-stage process frozen meat ice is more evenly distributed, relatively speaking, ice also smaller, may be related to the weakening of the organizational structure. With the extension of the time of the post-mortem muscle tissue structure significantly weaken the direct freeze process frozen muscle water retention is an important reason for weaker than the two-stage freezing process."
【语种】中文
【第一作者】余小领
【通讯作者】周光宏
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【学科分类】食品加工技术

【题目】高压处理对肌原纤维和大豆分离蛋白混合凝胶特性的影响
【中文关键词】高压,明胶,持水力,微观结构
【英文关键词】High pressure; Gelatin; WHC; Texture properties; Microstructure
【中文摘要】将鸡肉肌原纤维蛋白和大豆分离蛋白按 1 1比例混合并溶解于 0. 3mol/L、pH6. 0的 N aCl溶液后, 分别在 100、200、400、600M Pa的高压下处理凝胶。研究结果表明: 100M P a和 600M Pa压力下均不能获得混合蛋白凝胶, 200M P a和 400M Pa压力下制得的凝胶在 48h后获得稳定的凝胶特性, 均优于传统热凝胶, 但是其保水性不及热凝胶。电镜照片显示高压诱导凝胶的网络结构较热凝胶更加致密。
【英文摘要】"Chicken myofibr illar and soy protein iso late w ere m ixed at 1 1 and dispersed in 0. 3m ol/L N aC l solution. M ix ture w as treated by h igh pressure o f 100, 200, 400, 600M P a, respective ly. R esults ind icated that m ixed pro tein did no t form gelatin

under thepressure o f 100M P a and 600M Pa, the texture of the pressure - induced ge latin (200M P a, 400M Pa), wh ich go t stab le at 48 h, w as bette r than that o f heat- induced ge la tin, how eve,r w ater ho ld ing capac ity (WHC) was not as good as that o f hea t-induced g elatin.T he electron ic m icrographs scann ing ind icated that spac ious structure o f pressure- induced ge latin was denser than that o f heat- in-duced gelatin."

【语种】中文
【第一作者】王苑
【通讯作者】周光宏
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【学科分类】食品加工技术

【题目】宰前热应激对肉鸡胸肉pH、氧化和嫩度、肉色及其关系的影响
【中文关键词】氧化,嫩度,肉色,热应激,鸡胸肉
【英文关键词】Oxidation Tenderness Meat color Heat stress Breast muscle Brioler
【中文摘要】研究了宰前热应激对肉鸡胸肉 pH、氧化和嫩度、肉色的影响, 探讨了肌肉 pH、氧化与嫩度、肉色的联系。结果表明, 与对照组相比, 2h以上热应激组的 pH24h呈现显著性下降 (P< 0. 05); 随着热应激时间的延长, 各处理组鸡胸肉 GSH- Px活力较对照组的普遍升高, 胸肉肌浆中 GSH 总体呈现下降趋势; 3h和 5h处理组极显著提高胸肉 MDA 含量 (P< 0. 01), 2h、3h和 5h处理组胸肉肌浆和肌原纤维蛋白羰基含量极显著高于对照组 (P< 0. 01); 热应激导致肉鸡胸肉剪切力值增大, 肌原纤维小片化指数变低,使肉鸡胸肉 L*值升高, 并显著降低肉鸡胸肉 a*值 (P< 0. 01)。结合相关性分析, 结果表明热应激导致的肉鸡胸肉 pH值下降和肌肉氧化程度的增加对肌原纤维蛋白的降解和胸肉肉色有较大影响。
【英文摘要】"The present study was conducted to determ ine the effects of heat stress on pH, ox idation, tenderness and color in breast meat of broilers. The relationsh ips am ong pH, ox ida tion and tenderness, co lo r were assessed. The resu lts showed tha,t in comparison w ith the control group, the pH of meat decreased sign ificantly in above 2h treamt ent g roups(P< 0.05), the activ ities o f GSH- Px increased, the content of GSH showed a decreasing tendency. H eat stress sign ifican tly enhanced the content ofM DA in 3h and 5h treamtents (P < 0. 01), significantly increased the levels of sarcoplasm ic and m yofibr illar pro tein carbony l g roups in 2h, 3h and 5h treamt ents, high shear force and low myofibrillar pro tein fragm ent indexesw ere found in heat stress treatments. L*value of breastm eatw as higher than tha t in the contro l group, but a*value was low er(P < 0. 01). These results ind icated that low pH and mo reoxidation of breast meat resulted from heat stress effected the degradation of the myofibrillar prote in and the color of the breast meat."

【语种】中文
【第一作者】潘晓建
【通讯作者】彭增起
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【题目】如皋火腿酯类物质氧化和水解分析
【中文关键词】如皋火腿,酯类物质
【英文关键词】Rugao ham;Free fatty acid; Trans fatty acid
【中文摘要】"为了研究如皋火腿中的酯类物质。选取7条 4. 5~ 5. 0 kg如皋火腿为试材, 用常规方法测定其理化指标(水分、盐分和pH 值), 通过气相色谱测定从提取脂质中分离的游离脂肪酸含量, 并测定其共轭二烯值与羰基值。在如皋火腿股二头肌和皮下脂肪中含盐量为11. 60% 和 1.07% , 水分为 40. 21% 和 3. 65% , pH 值为 5. 71 和 6. 02, 游离脂肪酸含量为49. 65% 和 26. 11% , 除 pH 外均存在极显著差异。如皋火腿中含有丰富的游离脂肪酸,在皮下脂肪中油酸的含量最多, 股二头肌中亚油酸的含量最多。火腿中存在少量的反式脂肪酸, 皮下脂肪有反式的油酸, 股二头肌中有反式油酸、亚油酸和亚麻酸。股二头肌的氧化明显高于皮下脂肪, 可能与酶活力、氧化方式有关。"

【英文摘要】"The aim of the research was to investigate esters in Rugao ham. 7 Rugao ham of 4. 5~ 5. 0 kg selected as tested materials, some physical and chemical indexes (water content,salinity and pH value) were determined by conventional methods and the free fatty acid contents isolated from extracted lipids were determined by gas chromatography and their conjugated diene value and carbonyl value were also determined. The salt content in biceps femorisand subcutaneous fat of Rugao ham were 11. 60% and 1. 07% , water contents were 40. 21% and 3. 65% , pH values were 5. 71 and 6. 02 and the contentsof free fatty acid were 49. 65% and 26. 11% respectively. Except pH value, the differences of all indexes were extremely significant. Free fatty acids in Rugao ham were abundant, oleic acid content was highest in subcutaneous fat and linoleic acid content was highest in biceps femoris. A small quantity of trans fatty acid existed in ham, trans oleic acid existed in subcutaneous fat and trans oleic acid, linoleic acid and linolenic acid existed in biceps femoris. Oxidation in biceps femoris was higher than that in subcutaneous fat, which might be related with enzyme activity and oxidation manner."
【语种】中文
【第一作者】潘丽红
【通讯作者】周光宏
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【学科分类】食品加工技术

【题目】原料鸭组成成分分析
【中文关键词】原料鸭; 理化指标; 游离脂肪酸
【英文关键词】Rawduck Physicochemical index Free fattyacids
【中文摘要】分析了 4 种原料鸭(番鸭、高邮鸭、荆江鸭、樱桃谷鸭) 的水分、脂肪、游离脂肪酸、系水率和剪切力。肌内脂肪含量越高, 剪切力值越低。不同品种胸腿肉间剪切力差异显著(P<0.05) , 不同品种胸腿肉间失水率差异不显著(P>0.05) 。原料鸭肌肉脂肪中含量最高的游离脂肪酸为油酸(C18：1) , 番鸭、高邮鸭、荆江鸭、樱桃谷鸭分别为 7.65、16.10 和 12.80、13.58 mg/g(脂肪) , 其余含量较高的游离脂肪酸依次为棕榈酸(C16：0) 、亚油酸(C18：2) 、硬脂酸(C18：0) , 含量较低的游离脂肪酸为棕榈油酸(C16：1)、亚麻酸(C18：3),樱桃谷鸭中多不饱和脂肪酸和脂肪酸总量高于其他3个品种。
【英文摘要】"Moisture, fat, free fatty acids, water retention property and shearing force were analyzed in four breeds of rawducks (Muscovy duck,Gaoyou duck, Chingjian duck and Cherry valley duck). The shearing force reduced with the fat content increased in muscle. There weresignificant differences (P<0.05)amongshearingforces in breast and legmeat ofdifferent kinds ofrawducks, but water loss rate had nosignificant differences (P >0.05). Muscovy duck, Gaoyou duck, Chingjian duck and Cherry valley duck had 7.65, 16.10, 12.80 and 13.58 mg/g fat,respectively. Free fattyacids with high contents were palmitic acid (C16：0), linoleic acid (C18：2)and stearic acid (C18：0)in turn, those with lowcontents were palmitoleic acid (C16：1) and linolenic acid (C18：3). The contents of unsaturated fatty acid and total fatty acid in Cherry valley duck were higherthan those in other three rawducks."
【语种】中文
【第一作者】杨士章
【通讯作者】徐幸莲
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【学科分类】食品加工技术

【题目】电刺激对牛背最长肌中钙激活酶活性及嫩度的影响
【中文关键词】电刺激,剪切力,嫩度,钙激活酶系统
【英文关键词】"electrical stimulatio n, shear force values, tenderness, calpain system activities
"
【中文摘要】"通过对中国杂交黄牛(鲁西黄牛 西门塔尔)牛背最长肌中 Calpains 活性及剪切力值的分析, 研究了电刺激对牛背最长肌宰后成熟过程中 Calpains 活性及牛肉嫩度的影响。结果表明: 电刺激显著提高了 -calpain的活性(P< 0 05) , 降低

了 calpastatin 对 - calpain 的抑制作用, 提高了牛背最长肌的嫩度, 缩短了牛肉的成熟时间; 但电刺激仅在宰后成熟 1 h, 显著提高了 m-calpain 的活性 (P < 0 05) ; 宰后成熟 24 h、3 d, 与对照组之间差异不显著 (P > 0 05) , 试验结果证实, 电刺激通过 Calpains 体系的影响, 改变了牛肉的成熟速度, 显著的改善了牛肉的嫩度。"

【英文摘要】Calpain system activities and shear force values o f bo vine M . long issim us from Chinese Yellow crossbred bulls w ere analy zed. T he eff ect of electr ical st imulation oncalpain syst em act ivit ies and the tenderness of beef dur ing po stmortem aging were studied. T he results sho w ed t hat elect rical st imulatio n significantly improved calpain system act ivit ies (P < 0 05) , reduced t he inhibition of calpast at in on u-calpain, enhanced the t ender ness o f bo vine M . longissi mus and short ened t he ag ing tim e of beef. But elect rical stimula-tion only increased t he act ivit y of m- calpain com pared w it h convent ional chilling af t er post mort em aging 1h significant ly (P < 0 05) . T here w ere no significant diff erences bet w een t hem at post m ort em ag ing 24h, 3d (P> 0 05).The experiment results confirmed that electrical st imulatio n improv ed t he rat e of post mort em agingof beef and remarkably enhanced t he tenderness o f beef t hrough t he eff ect of elect rical st im ul at ion on calpain syst em act ivit ies.

【语种】中文

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【学科分类】食品加工技术

【题目】传统风鸭加工过程中脂肪水解和氧化的研究

【中文关键词】传统风鸭,脂肪氧化,脂肪水解

【英文关键词】traditional dry-cured duck lipolysis oxidation

【中文摘要】以樱桃谷瘦肉鸭为原料,按传统工艺加工风鸭,分析了鸭胸肉及皮下脂肪的硫 代 巴 比 妥 酸 值(T B A R)S、拨基双 烯值、游离脂肪 酸(FFA)含量在加工 过程中的变化规律。结果 表明,胸 肉脂肪 的 T BA R S 值在干腌工 艺阶段显 著上 升(P <0.50),在风干工 艺阶段先降后升;而皮下脂肪的T BA R S 值持续增加,在风干最后阶段略有下 降。胸 肉脂肪和皮下脂肪 的拨 基双 烯值在 加工 过 程中均逐 渐增加,最 后 有下 降趋势。饱 和脂肪 酸(S SF A)和 单 不 饱和 脂肪 酸 (S M U FA)在加工过 程中变化不 大,而多不 饱和脂肪 酸(S P U FA)在腌制 后有下 降,后逐 渐 回升,在风 干20 d达到最高。亚 油 酸、花 生四 烯酸、油 酸和棕 桐酸是游离脂肪 酸的主 体成分,不 饱和脂肪 酸占 FFA 总量的76% 以上。

【英文摘要】Cherry Valley lean ducks as the raw materials, by traditional processing duck analyzed duck breast and subcutaneous fat of the thiobarbituric acid value (TBar) S value reversal yl diene, the content of free fatty acids (FFA) in themachining process variation. The results show that the brisket fat T BA RS values in dry-cured process stages significant rise (P <0.50) liter air-dry stage of the process after the first drop; subcutaneous fat T BA RS value continues to increase, dried final stage slightly decline. Brisket and subcutaneous fat reversal group value of the diene in the process are gradually increased, and finally a downward trend. Saturated fatty acids (S SF A) and single-unsaturated fatty acids (SMU FA) changed little in the process, and polyunsaturated fatty acids (SPU FA) pickled decline, after a gradual recovery in air-dried 20 d highest . Linoleic acid, arachidonic acid, oleic acid and palmitic acid is the main component of free fatty acids, unsaturated fatty acids account for more than 76% of the total amount of FFA.

【语种】中文

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【学科分类】食品加工技术

【题目】高压预处理及加热方式对混合蛋白凝胶特性的影响

【中文关键词】高压处理,微结构

【英文关键词】high pressure MPI SPI gelation textural properties microstructure

【中文摘要】将鸡肉肌原纤维蛋白(MPI) 和大豆分离蛋白(SPI)按体积比 1 1 混合, 经过 100、200、400、600 MPa 高压预处理 20 min, 在 40、55、70、85 水浴加热 20 min 制成凝胶, 研究了凝胶的质构特性、保水性及微观结构。结果表明, 55 加热制备的凝胶明显优于传统线性升温制备的凝胶, 硬度、弹性、保水性分别提高了 35 50% 、27 71% 、47 29% 。微观观察发现, 混合蛋白高压处理后, 形成的凝胶结构均匀致密, 然而过高的压力预处理对混合蛋白凝胶会产生破坏作用。

【英文摘要】T he effect of hig h pressure on hea-t induced gelation of chicken m yofibr illar protein isolate (M PI) mix ed w it h so y prot ein isolat e (SPI) w as investig at ed. A t first, the mix ed pr ot eins w ere pret reated under 100 M Pa, 200 M Pa, 400 M Pa, 600 MP a, and t hen w ere heat ed at 40 , 55 , 70 , 85 f or 20min. It w as fo und t hat t he structures and charact erist ics o f the g el s w ere bett er t han t he tradit ional heat- in-duced mixed gels. H ardness, spr inginess and w ater ho lding capacit y (WH C) w ere improved by 35 50% ,27 71% and 47 29% , r espect ively. T he conclusio n w as t hat 100 M Pa w as po tentially useful to im provent hege-lf orming abilit y of mix ed prot eins, w hile t oo much hig her pressure co uld dest roy t he gels.

【语种】中文

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【通讯作者】周光宏

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【学科分类】食品加工技术

【题目】常用加工工艺及添加物对牛肉中彩虹色斑点的影响

【中文关键词】翻滚,食用盐,复合磷酸盐

【英文关键词】iridescence tumbling cooking salt composite phosphate

【中文摘要】彩虹色斑点是近年来发现存在于肉及肉制品中的一种特殊颜色。文中主要研究了滚揉和煮制以及一些常用添加物对半度肌中彩虹色斑点的影响。试验结果表明,彩虹色斑点随着滚揉时间的增加而减少,随着煮制温度的增加而增多;添加水对彩虹色斑点无影响,但添加食盐和复合磷酸盐却能显著增加半腔肌中的彩虹色斑,点(P<0.05)

【英文摘要】The Rainbow colored spots in recent years found in meat and meat products in aspecial color. The main Tumbler and cooking, as well as a number of commonly used additives half a degree of muscle in rainbow colored spots. The test results show that the rainbow colored spots decreased with increasing Tumbler increased cooking temperature increase; add water rainbow colored spots, but add salt and compound phosphate was able to significantly increase the half-cavity muscle in rainbow stain, point (P <0.05).

【语种】中文

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【学科分类】食品加工技术

【题目】不同包装方式对猪背最长肌冷却成熟期间品质变化的影响

【中文关键词】包装,成熟,肉品质

【英文关键词】Packaging, mature, meat quality

【中文摘要】对猪背最长肌分别进行普通托盘和真空包装 2种处理, 研究了4°C成熟期间菌落总数、色泽、汁液流失、煮制损失、pH 和乳酸含量的变化。结果表明: 普通托盘包装的肉汁液流失低, L*较高, 但微生物菌落总数增长较快; 真空包装可有效抑制微生物菌落总数增长, 但汁液流失较高、肉色 L*较低。2 种包装方式下猪背最长肌煮制损失没有显著差别, 并且 pH 和乳酸在冷却成熟期间亦无显著变化。

【英文摘要】Longissimus muscle were ordinary tray and vacuum-packed two kinds of treatment, 4 ° C during maturation total number of colonies, color, drip loss, cooking loss, pH and lactic acid content changes. The results show that: ordinary tray packaging meat drip loss, L * higher, but the rapid growth in the total number of microbial colonies; vacuum packaging can effectively inhibit microbial growth in the total number of colonies, but higher drip loss, flesh-colored lower L *. Package pig longissimus muscle cooking loss was no significant difference, and pH and lactic acid during the cooling mature no significant change.

【语种】中文
【第一作者】朱学伸
【通讯作者】周光宏
【期刊名称、卷期、页码】食品与发酵工业,2007,(4):15-18
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【引文索引号】null
【学科分类】食品加工技术

【题目】宰后不同时间冻结对猪肉保水性和组织结构的影响
【中文关键词】冷冻解冻,解冻损失,结构
【英文关键词】freezing thawing thawing loss structure
【中文摘要】"采用配对试验设计方法研究了宰后 45 min 和宰后 4 h 冻结肉样在冻结损失、解冻汁液流失、蒸煮损失、加压失水率、蛋白溶解度、pH、剪切力和组织结构变化等方面的差异, 结果显示: (1) 宰后 45 min 冻结的肉在总的冻结和解冻损失、解冻汁液流失和蒸煮损失方面均显著小于宰后 4h 冻结的肉样(P< 0. 05)。宰后 45 min冻结肉样在加压失水率和冻结损失方面无显著差异(P> 0 05) 。(2) 肌浆蛋白溶解度宰后 45 min 冻结的肉显著高于宰后 4 h 冻结的肉(P< 0 01) 。而总蛋白溶解度和肌原纤维蛋白溶解度则都是宰后 45 min 冻结的肉低于宰后 4 h 冻结的肉。(3)宰后 45 min 冻结肉样的 pH 显著高于宰后 4 h 冻结的肉样(P< 0 01) 。(4)随着宰后时间的延长, 未冻结肉样的肌细胞外空隙面积明显增大。(5)宰后 45 min 冻结的肉样比宰后 4 h 冻结的肉样的冰晶分布更均匀, 相对来说其冰晶也较小一些。"
【英文摘要】"Paired experiment design was adopted to investigate the quality difference between pork freezing at 45 min and 4 h post slaughtering. Freezing loss, thaw ing loss, cooking loss, pressing loss, protein solubility , pH , shear force and st ructure w ere measured. T he result s show : (1) Total loss, thawing loss and cooking loss of samples f reezing at 45min po st slaug htering w ere significantly lower than that of the samples freezing at 4h po st slaug htering (P < 0. 05) . T here w ere no significant (P > 0. 05) dif ference of pressing loss and freezing lo ss bet w een samples f reezing at 45min and 4h post slaug ht ering (2) Sarco plasmic pro tein so lubilit y of sam ples freezing at 45m in slaug htering is sig nif icant ly hig her (P < 0. 01) than that of freezing at 4h slaught er ing; on t he cont rary , t ot al and myof ibr illar prot ein solubilit y w as low er t han t hat of freezing at 4h slaug ht ering . (3) T he pH of samples fr eezing at 45min w as significant ly higher(P< 0. 01) than that of f reezing at 4h. (4) With the ex t ending of time aft er slaught ering, t he ex tracel lular space ex pands in the f resh samples. (5) T he ice dist ribut ion of sam ples f reezing at 45min post slaug ht ering w as even more than t hat of at 4h post slaughtering, and the ice size was smaller also."
【语种】中文
【第一作者】余小领
【通讯作者】周光宏
【期刊名称、卷期、页码】食品与发酵工业,2007,(3):18-22
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【引文索引号】null
【学科分类】食品加工技术

【题目】Determination of acetolactate synthase activity and protein content of oilseed rape (Brassica napus L.) leaves using visible/near-infrared spectroscopy
【中文关键词】无
【英文关键词】Visible/near-infrared spectroscopy
Oilseed rape
Acetolactate synthase and protein
content
Partial least squares analysis
Back-propagation neural network
Least squares-support vector
machine

【中文摘要】无
【英文摘要】A new acetolactate synthase (ALS)-inhibiting herbicide, propyl 4-(2-(4,6-dimethoxy-pyrimidin-2-yloxy)benzylamino)benzoate (ZJ0273), was applied to oilseed rape (Brassicanapus L.) leaves in different leaf positions. Visible/near-infrared (Vis/NIR) spectroscopy wasinvestigated for fast and non-destructive determination of ALS activity and protein con-tent in rapeseed leaves. Partial least squares (PLS) analysis was the calibrationmethod withcomparison of different spectral preprocessing by Savitzky – Golay (SG) smoothing, standardnormal variate (SNV), first and second derivative. The best PLSmodelswere obtained by first-derivative spectra for ALS,whereas original spectra for soluble, non-soluble and total proteincontents. Simultaneously, certain latent variables (LVs) were used as the inputs of back-propagation neural network (BPNN) and least squares-support vector machine (LS-SVM)models. All LS-SVM models outperformed PLS models and BPNN models. The correlationcoefficient (r), root mean square error of prediction (RMSEP) and bias in validation set byLS-SVM were 0.998, 0.715 and 0.079 for ALS, 0.999, 33.084 and 1.178 for soluble protein,0.997, 42.773 and 6.244 for non-soluble protein, 0.999, 59.562 and 7.437 for total protein,respectively. The results indicated that Vis/NIR spectroscopy combined with LS-SVM couldbe successfully applied for the determination of ALS activity and protein content of rapeseedleaves. The resultswould be helpful for further on field analysis of using Vis/NIR spectroscopyto monitor the growing status and physiological properties of oilseed rape
【语种】英文
【第一作者】Fei Liu
【通讯作者】周伟军
【期刊名称、卷期、页码】Analytica Chimica Acta 2008, 629: 56-65
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【引文索引类型】SCI
【引文索引号】doi:10.1016/j.aca.2008.09.027
【学科分类】植物学

【题目】Effects of 5-aminolevulinic acid on oilseed rape seedling growth under herbicide toxicity stress
【中文关键词】无
【英文关键词】Brassica napus New herbicide propyl 4-(2-(4,6-dimethoxypyrimidin-2-yloxy)benzylamino) benzoate 5-Aminolevulinic acid Synergism Antioxidants
【中文摘要】无
【英文摘要】Weeds are one of themajor constraints in oilseedBrassica production. Use of effective herbicides to controlweeds in the fields is one of the major objectives of agron-omists. To improve weed control efficacy and minimize theapplication costs, complex combinations of 5-aminolevuli-nic acid (ALA) and a new postemergence herbicide, propyl4-(2-(4,6-dimethoxypyrimidin-2-yloxy)benzylamino)ben-zoate (ZJ0273), were used to investigate their combinedeffects in relation to seedling growth and development ofoilseed rape (Brassica napus cv. ZS 758). Brassica seedswere treated with different concentrations of ZJ0273 [100(normal dose for rape), 200, 500, and 1000 mg/L] and ALA(0.1, 1, 10, and 50 mg/L). ALA was applied as pre- and post-treatment alone and in combination with ZJ0273. We foundthat ZJ0273 stress imposed negative effects on rape seedlinggrowth. Shoot fresh weight, shoot length, and root freshweight were inhibited significantly under ZJ0273 stress, andthe rate of decline increased consistently with increasedZJ0273 concentration. Root oxidizability was also inhibitedsignificantly under ZJ0273 stress conditions, and the higherthe concentration of the herbicide ZJ0273, the lower theoxidizability. Herbicide ZJ0273 treatment produced agradual decrease in antioxidant enzymes (peroxidase,superoxide dismutase, and ascorbate peroxidase) and anincrease in peroxidation substance (malondialdehyde accu-mulation). The increase and decrease were consistent withthe ZJ0273 dosage. Our results indicated that pre- and post-treatments with a lower dosage of ALA (1 mg/L) improvedrape seedling growth and root oxidizability parameters,whereas a higher concentration ofALA(50 mg/L) depressedgrowth.We also found that plants treated with 1 mg/L ALAproduced the highest shoot fresh weights, shoot lengths, rootfresh weights, and root oxidizability when the seeds weretreated with different concentrations of ZJ0273. Lowerdosages of ALA improved the activities of antioxidantenzymes, whereas the highest dosage of ALA increased theaccumulation of peroxidation substance. These resultsindicate that ALA has promotive effects in the recovery ofgrowth and development of rape seedlings under herbicideZJ0273 toxicity stress.
【语种】英文
【第一作者】W. F. Zhang

【通讯作者】Z. M. Yang
【期刊名称、卷期、页码】Journal of Plant Growth Regulation 2008, 27(2):159-169
【论文发表时间】2008-05-16 00:00:00
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【引文索引号】DOI 10.1007/s00344-008-9042-y
【学科分类】农业基础学科

【题目】Action of tenuazonic acid, a natural phytotoxin,on photosystem II of spinach
【中文关键词】无
【英文关键词】Chlorophyll a fluorescence; JIP-test; PSII inhibitor; QB-site; Tenuazonic acid
【中文摘要】无
【英文摘要】Tenuazonic acid (TeA) is a putative phytotoxin obtained fromAlternaria alternata, the organismthat can cause brown leaf spot disease of Croftonweed (Eupatorium adenophorum). It is demonstrated here that the tenuazonic acid inhibits the activity of photosystem II (PSII); the I50-value is48 gmL − 1. Evidences from chlorophyll fluorescence show that tenuazonic acid interrupts electron transport between QA and QB on the acceptorside of PSII. It does not have an effect on the antenna pigments, the oxygen-evolving complex (OEC) at the donor side of PSII.On the basis of the fluo-rescence induction kinetics and competition experimentswith [14C]atrazine, it is shown that tenuazonic acid does not share the same binding environ-mentwith atrazine despite their common action target: theQB-site. It is concluded that tenuazonic acid is amember of a novel class of PSII inhibitors.© 2007 Elsevier B.V. All rights reserved.
【语种】英文
【第一作者】Shiguo Chen
【通讯作者】Sheng Qiang
【期刊名称、卷期、页码】Environmental and Experimental Botany 2008,62:279-289
【论文发表时间】2008-01-01 00:00:00
【引文索引类型】SCI
【引文索引号】doi:10.1016/j.envexpbot.2007.10.002
【学科分类】农业基础学科

【题目】Isolation and Phytotoxicity of α, β-dehydrocurvularin, a metabolite from Curvularia eragrostidis and characterization of its modes of action
【中文关键词】无
【英文关键词】a,b-dehydrocurvularin; chlorophyll
fluorescence; Curvularia eragrostidis; Digitaria
sanguinalis; phytotoxin; weed biocontrol.
【中文摘要】无
【英文摘要】Digitaria sanguinalis is a widespread troublesome weed distributed all over theworld. Curvularia eragrostidis QZ-2000 is a potential candidate for biocontrol ofD. sanguinalis. A phytotoxic metabolite from the culture filtrate of this funguswas extracted by ethyl acetate, isolated by bioassay-guided column chroma-tography and thin layer chromatography on silica gel, characterised by ultraviolet, infrared ray (IR), mass spectrometry (MS),1H-nuclear magnetic reso-nance (NMR) and 13C-NMR spectral data analyses and identified as a,b-dehydrocurvularin. The phytotoxin significantly inhibited seed germinationof D. sanguinalis from 43 to 688 lM. The EC50 value of seed germination was152 lM. The EC50 values of elongation of radicle and coleoptile were 102 and172 lM, respectively. a,b-dehydrocurvularin caused extensive necrosis onleaves of many notorious weeds at 688 lM, while maize and soybean wereinsensitive to it. Therefore, a,b-dehydrocurvularin was regarded as a non-host-selective phytotoxin. At concentrations of 172 – 688 lM, a,b-dehydrocurvularincaused a decrease in chlorophyll content. a,b-dehydrocurvularin had strongerimpacts on chlorophyll A fluorescence, photophosphorylation and Mg2+-ATPase activity at higher concentrations. These results suggest that a,b-dehydrocurvularin affected the photosynthetic capacity. In the present study,a,b-dehydrocurvularin significantly inhibited mitosis of root tip cells. Itsupports that the a,b-dehydrocurvularin has potential for development asa natural bioherbicide.
【语种】英文
【第一作者】S.-J. Jiang

【通讯作者】S. Qiang
【期刊名称、卷期、页码】Annals of Applied Biology 2008,152:103-111
【论文发表时间】2007-09-25 00:00:00
【引文索引类型】SCI
【引文索引号】doi:10.1111/j.1744-7348.2007.00202.x
【学科分类】植物学

【题目】基于Pocket PC的小麦栽培管理知识模型系统的设计与实现
【中文关键词】Pocket PC UML 小麦栽培管理 知识模型
【英文关键词】Pocket PC UML wheat cultivation management knowledge model
【中文摘要】介绍一种基于Windows Mobile的Pocket PC型小麦栽培管理知识模型系统的设计与实现。首先在总结与提炼小麦栽培理论与技术的研究成果基础上,使用UML语言进行系统建模,然后在Microsoft Visual Studio .NET 2003环境下,运用Microsoft Visual C#编写小麦栽培管理知识模型类和设计用户界面,采用SQL Server CE 2.0管理基础数据,系统实现了小麦播前栽培方案的设计和产中适宜调控指标动态的预测及基础数据管理等功能。系统的建立将为数字化作物栽培管理决策提供新的实现形式。
【英文摘要】This paper introduced the design and implementation of a pocket PC-based knowledge model system for wheat cultivation management on Windows Mobile. On the basis of summarizing and extracting wheat cultivation theory and technology achievements, the system model was built by using UML language. By using Microsoft Visual C#, wheat cultivation management knowledge model classification and user interface were designed on the platform of Microsoft Visual Studio .NET 2003. SQL Server CE 2.0 was used in the system to manage basic data. The system can make the design of pre-sowing cultivation plans, prediction of regulation index dynamics and support of basic data management functions. The construction of this system can provide new representative formats for digital crop cultivation management decision.
【语种】中文
【第一作者】邱小磊
【通讯作者】朱艳
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【引文索引类型】EI
【引文索引号】2.0074810952e+013
【学科分类】农学其他学科

【题目】Effects of epicuticular wax from Digitaria sanguinalis and Festuca arundinacea on infection by Curvularia eragrostidis
【中文关键词】无
【英文关键词】conidial differentiation, non-host resistance, selective invasion.
【中文摘要】无
【英文摘要】Abstract. Epicuticular wax is a plant ’s initial defence system to various foreign invasions, including invasion by fungi.In this study, we investigated the effect of epicuticular wax of Digitaria sanguinalis and Festuca arundinacea on invasionby the fungus Curvularia eragrostidis and the difference in components of epicuticular waxes between the two plants.The epicuticular wax of D. sanguinalis (host) signi fi cantly enhanced the growth of germ tubes of C. eragrostidis conidia,but had no effect on appressorium formation. However, the epicuticular wax of F. arundinacea (non-host) inhibited theextension of germ tubes and the differentiation of appressoria. Analysis using gas chromatography – mass spectrometryindicated that the constituents of these two epicuticular waxes were remarkably different. Among the 24 and 21 compoundsfound in the wax of D. sanguinalis and F. arundinacea, respectively, only four were the same. (Z, Z)-9,12-Octadecadien-1-ol constituted 54.3% of the total wax of D. sanguinalis, while 9-tricosene accounted for 49.8% of the total waxes ofF. arundinacea. Furthermore, an extracellular esterase preparation from C. eragrostidis conidia could completely degradethe epicuticular wax of D. sanguinalis after 4 h incubation at 25 ◦ C, but only partially degrade the wax from F. arundinacea.These results suggest that the components of the wax and their chemical characteristics are important in determining howeffectively these plants are able to combat invasion of C. eragrostidis.
【语种】英文
【第一作者】Fei Wang

【通讯作者】Lang-Lai Xu
【期刊名称、卷期、页码】Australasian Plant Pathology 2008,37(1): 43 – 52
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【引文索引号】10.1071/AP07077
【学科分类】植物学

【题目】Environmental, genetic and cellular toxicity of tenuazonic acid isolated from Alternaira alternata
【中文关键词】无
【英文关键词】Tenuazonic acid, Chlamydomonas reinhardtii, micronucleus, mammalian cell line, protein content, toxicity.
【中文摘要】无
【英文摘要】Alternaria alternata, an important pathogen of many plants, produces tenuazonic acid (TeA) with bioactivity to microbes, plants and animals. TeA is one of the main mycotoxin to humans and other organisms. Using Chlamydomonas reinhardtii, Vicia faba root tip and three mammalian normal cell lines as target materials, environmental toxicity, genetic toxicity and cytotoxicity of TeA were examined. The growth and chlorophyll concentration of C. reinhardtii were inhibited at above 100 g/ml concentration, with EC50(G) of 310.36 g/ml and EC50(Chl) of 294.27 g/ml. The micronuleus test results indicated that MCN‰ was >15‰ only at higher concentrations. TeA inhibited the proliferation and total protein contents of 3T3 mouse fibroblasts (3T3 cells), Chinese hamster lung cells (CHL cells) and human hepatocytes (L-O2 cells) at concentrations ranging from 12.5 - 400 g/ml. Of the three cell lines, 3T3 cells were the most sensitive to the toxin (EC50(24h) = 41.64 g/ml), followed by CHL cells (EC50(24h) = 59.33 g/ml), and L-O2 cells (EC50(24h) = 85.98 g/ml) had the lowest sensitivity.
【语种】英文
【第一作者】Bing Zhou
【通讯作者】Bing Zhou
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【引文索引类型】SCI
【引文索引号】DOI 0
【学科分类】植物学

【题目】Citric acid enhances the phytoextraction of manganese and plant growth by alleviating the ultrastructural damages in Juncus effusus L.
【中文关键词】无
【英文关键词】Plant biometry
Metal accumulation
Antioxidative enzymes
Chloroplast ultrastructure
Lipid peroxidation
Thylakoid disruption
【中文摘要】无
【英文摘要】Chelate-assisted phytoextraction by high biomass producing plant species enhances the removal of heavymetals from polluted environments. In this regard, Juncus effusus a wetland plant has great potential.This study evaluated the effects of elevated levels of manganese (Mn) on the vegetative growth, Mnuptake and antioxidant enzymes in J. effusus.We also studied the role of citric acid and EDTA on improv-ing metal accumulation, plant growth and Mn toxicity stress alleviation. Three-week-old plantlets of J.effusus were subjected to various treatments in the hydroponics as: Mn (50, 100 and 500 M) alone, Mn(500 M) + citric acid (5mM), and Mn (500 M) + EDTA (5mM). After 2 weeks of treatment, higher Mnconcentrations signi fi cantly reduced the plant biomass and height. Both citric acid and EDTA restored theplant height as it was reduced at the highest Mn level. Only the citric acid (but not EDTA) was able torecover the plant biomass weight, which was also obvious from the microscopic visualization of meso-phyll cells. There was a concentration dependent increase inMn uptake in J. effusus plants, and relativelymore deposition in roots compared to aerial parts. Although both EDTA and citric acid caused signi fi cantincrease inMn accumulation; however, theMn translocation was

enhanced markedly by EDTA. Elevatedlevels of Mn augmented the oxidative stress, which was evident from changes in the activities of antiox-idative enzymes in plant shoots. Raised levels of lipid peroxidation and variable changes in the activitiesof antioxidant enzymes were recorded under Mn stress. Electron microscopic images revealed severalmodi fi cations in the plants at cellular and sub-cellular level due to the oxidative damage induced byMn.Changes in cell shape and size, chloroplast swelling, increased number of plastoglobuli and disruptionof thylakoid were noticed. However, these plants showed a high degree of tolerance against Mn toxicitystress, and it removed substantial amounts ofMn fromthemedia. The EDTA best enhanced theMn uptakeand translocation, while citric acid best recovered the plant growth.

【语种】英文

【第一作者】U. Najeeb

【通讯作者】W.J. Zhou

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【学科分类】植物学

【题目】II1465 栽培方式对寒地玉米群体结构特性的影响

【中文关键词】栽培方式;寒地玉米;群体结构

【英文关键词】cultivation methods;maize of cold region;community structure

【中文摘要】研究了 II1465 栽培方式与传统垄作栽培方式在不同种植密度条件下,玉米群体结构的变化 结果表明:在相同种植密度条件下 II1465 栽培与传统垄作栽培相比,其穗位及穗位以上叶片茎叶夹角要低于传统垄作栽培;穗位以下要高于传统垄作栽培;整株水平叶向值则始终高于传统垄栽培 栽培方式与种植密度对玉米株高影响不大,茎粗随着密度的增加而减小,II1465 栽培方式下茎粗始终要高于传统垄栽培,在8 万株 hm-2和 10 万株 hm-2时,茎粗间差异显著(P<0.05) 在低密度种植条件下, LAI差异不大,在高密度种植条件下 II1465 栽培方式生育后期LAI 下降速度慢,体现出了 前快 中稳 后衰慢 的良好群体结构特性 II1465 栽培方式下玉米群体内各层次PAR要高于传统垄栽培,并有随着种植密度的增加差异增大的趋势。

【英文摘要】Study on the maize of cold region in II1465 cultivation methods and the traditional ridge planting cultivation methodsin different planting density,the changes of community structure character of maize. The results showed as follows:comparedII1465 Cultivation methods with the traditional cultivation methods in the same planting density,the ear and the ear above theangle of leaf and stem was lower than the traditional ridge planting cultivation;ear below was higher than the traditional ridgeplanting cultivation;the whole plant level of leaf orientation values were always higher. Cultivation methods and planting density hadlittle effects on the plant height of maize,the stem diameter decreased gradually with the increase of planting density. the stemdiameter in II1465 cultivation methods should always be higher than the traditional ridge planting cultivation. The stem diameterled to significant increase(P<0.05) in 80 and 100 thousand plants hm-2. LAI had little differences in low planting density. In highdensity planting,LAI of II1465 cultivation methods reduced slow in late birth, showed prompted rapidly stabilize descendedslowly a good community structure character. The all levels of PAR of II1465 cultivation methods were higher than thetraditionalridge planting cultivation,it was significant in high density planting.

【语种】中文

【第一作者】张树远

【通讯作者】杨克军

【期刊名称、卷期、页码】黑龙江八一农垦大学学报、2009,21(5):5-9

【论文发表时间】2009-10-06 00:00:00

【引文索引类型】其他

【引文索引号】null

【学科分类】农学其他学科

【题目】不同种植方式对旱地玉米的增产效果研究初探

【中文关键词】种植方式;玉米;增产效果

【英文关键词】cultivation mode; maize; effect of yield improvement

【中文摘要】选用吉单 27、 吉单505、 江单1 号三个品种为试验材料对偏垄栽培、 垄距 50 cm、 垄距 65 cm、 垄距 130 cm、 1465 五个玉米种植模式进行产量分析。结果表明:栽培模式产量依次为垄距 50 cm(10 306. 2 kg hm 2) 、 垄距

130 cm(9182. 6kg hm 2)、垄距 65 cm(9 021. 1 kg hm 2)、 1465(8 8 09.7 kg hm 2)、偏垄(8 047. 2 kg hm 2) ,综合生产成本和与当前农机具相配套建议推广垄距 130 cm 大垄为宜。

【英文摘要】Three var ieties Jidan 27, Jidan 505, Jiangdan No. 1 were used to analyze the y i eld of five cultivation mode followedby partial ridge, ridge distance 50 cm, ridge distance 65 cm, ridge distance 130 cm and 1465. The results showed that: Theyield of mode of ridg e distance 50 cm was 10 3 06.2 kg hm 2, the yield of mode of ridge distance 130 cm was 9 182. 6 kg hm 2, the yield of mode of ridge distance 65 cm was 9 021. 1 kg hm 2, the yield of mode 1465 was 8 809. 7 kg hm 2and themode of partial ridg e was 8 047. 2 kg hm 2. The mode of ridge distance 130 cm was recommended the most suitable modeafter comprehensive analysis of producti on cost and agricultural implements.

【语种】中文

【第一作者】陈喜昌

【通讯作者】陈喜昌

【期刊名称、卷期、页码】黑龙江农业科学 2009(5) : 27- 28

【论文发表时间】2009-09-18 00:00:00

【引文索引类型】其他

【引文索引号】null

【学科分类】农艺学

【题目】Simultaneous detection of endosymbionts Wolbachia and Cardinium in spider mites (Acari: Tetranychidae) by multiplex-PCR

【中文关键词】multiplex PCR, detection, Wolbachia , Cardinium , spider mite

【英文关键词】multiplex PCR, detection, Wolbachia , Cardinium , spider mite

【中文摘要】Several species of spider mites were infected with both Wolbachia and Cardinium causing reproductive abnormalities in their hosts. A PCR-based method was developed for simultaneous detection of Wolbachia and Cardinium in spider mites. Two pairs of primers were designed to amplify two DNA fragments of different length specific to wsp gene of Wolbachia and 16S rDNA gene of Cardinium respectively in a single reaction. The specificity of multiplex PCR was tested by amplifying specific DNA fragments from positive controls and confirmed by DNA sequencing of PCR product. Multiplex PCR also showed high sensitivity, which could be applied to detect the presence of very low grade of Cardinium and Wolbachia. The result of detecting spider mites collected from fields in China by multiplex PCR was identical to results by traditional PCR, which proved the feasibility and reliability of multiplex PCR.

【英文摘要】Several species of spider mites were infected with both Wolbachia and Cardinium causing reproductive abnormalities in their hosts. A PCR-based method was developed for simultaneous detection of Wolbachia and Cardinium in spider mites. Two pairs of primers were designed to amplify two DNA fragments of different length specific to wsp gene of Wolbachia and 16S rDNA gene of Cardinium respectively in a single reaction. The specificity of multiplex PCR was tested by amplifying specific DNA fragments from positive controls and confirmed by DNA sequencing of PCR product. Multiplex PCR also showed high sensitivity, which could be applied to detect the presence of very low grade of Cardinium and Wolbachia. The result of detecting spider mites collected from fields in China by multiplex PCR was identical to results by traditional PCR, which proved the feasibility and reliability of multiplex PCR.

【语种】中文

【第一作者】陈晓琳

【通讯作者】洪晓月

【期刊名称、卷期、页码】International Journal of Acarology Volume 35, Issue 5 397-403

【论文发表时间】2009-10-29 00:00:00

【引文索引类型】SCI

【引文索引号】10.1080/01647950903292756

【学科分类】植物保护学

【题目】Coleus blumei viroid 6: a new tentative member of the genus Coleviroid derived from natural genome shuffling.

【中文关键词】Coleus blumei;CbVd-5

【英文关键词】Coleus blumei;CbVd-5

【中文摘要】Coleus blumei can be infected by several viroids of the genus Coleviroid. One year after detecting a mixed infection of coleus blumei viroid 1 (CbVd-1) and 5 (CbVd-5) in coleus seedlings inoculated with these two viroids, we found an additional viroid-like RNA. Sequence analysis revealed a viroid of 342 nucleotides that contains the central conserved region of coleviroids and is a

chimera of the left half of CbVd-3 and the right half of CbVd-5. This new viroid, tentatively referred to as coleus blumei viroid 6 (CbVd-6), appears to have arisen from a natural recombination event or genome shuffling.

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【语种】英文

【第一作者】Wan-Ying Hou

【通讯作者】李世访

【期刊名称、卷期、页码】Journal Article06/2009; 154(6):993-7

【论文发表时间】2009-06-18 00:00:00

【引文索引类型】SCI

【引文索引号】10.1007/s00705-009-0388-7

【学科分类】植物保护学

【题目】氮素用量对玉米籽粒谷氨酰胺合成酶活性及

【中文关键词】氮素; 玉米; 籽粒; 谷氨酰胺合成酶

【英文关键词】nitrogen; maize; grain; glutamine synthetase

【中文摘要】试验研究了不同施氮水平对春玉米籽粒谷氨酰胺合成酶活性及产量的影响。结果表明, 籽粒谷氨酰胺合成酶活性均呈单峰曲线变化, 并且籽粒谷氨酰胺合成酶活性峰值出现在吐丝后 21 d (四单 19 N200 处理在吐丝后 28 d) ; 对 3 个品种来说, N200 处理籽粒的酶活性较高, 是最佳的氮素处理; 籽粒谷氨酰胺合成酶活性与籽粒产量间呈正相关关系, 其中吐丝后 21、28 d 酶活性与籽粒产量呈显著正相关。

【英文摘要】This reasearch studied the effect of different nitrogen level on the GS activity in grains and theyield of maize. The results showed that dynamics of GS activities had a single- peak curve in the grains of testedvarieties, the peak appeared at 21 d after silking. The peak of Sidan19 treated with N200 appeared at 28 d aftersilking. The GS activities were the highest for the treatment of N200, and it was the best treatment. The GSactivities in grains were positively related to the yield. The GS activities at 21, 28 d after silking were signifi-cant positively related to the yield.

【语种】中文

【第一作者】王兵

【通讯作者】魏湜

【期刊名称、卷期、页码】东北农业大学学报,2008,39(6): 14-16

【论文发表时间】2008-06-16 00:00:00

【引文索引类型】其他

【引文索引号】null

【学科分类】农艺学

【题目】Characterisation of Hop stunt viroid (HSVd) isolates from jujube trees (Ziziphus jujuba)

【中文关键词】HSVd . Jujube .Molecular characterisation . Sequence analysis

【英文关键词】HSVd . Jujube .Molecular characterisation . Sequence analysis

【中文摘要】Hop stunt viroid (HSVd) has been detected in many woody species including grapevine, citrus, peach, plum, apricot, and almond.Here, we report the first detection of HSVd in jujube trees (Ziziphus jujuba). Ninety-five samples were collected from jujube trees in Cangzhou, Baoding, and Handan of the Hebei province of China inJune 2006. An additional 70 samples were collected from Taigu, the Shanxi province of China in August 2008. From these samples,low molecular weight RNAs were extracted for two-dimensional polyacrylamide gel electrophoresis (2D-PAGE), hybridisation,and reverse transcription polymerase chain reaction (RT-PCR) assays. HSVd was detected in three of the 165 samples, givingan infection rate of 1.8%. The sequences of the HSVd isolates from jujube trees shared 92.6 – 92.8% homology with the firstreported HSVd sequence (GenBank: X00009). Using alignment and phylogenetic analyses, the HSVd sequence variants from jujubewere classified in the plum subgroup and were found to be more conserved than other HSVd subgroups.

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【语种】英文
【第一作者】Benli Zhang,
【通讯作者】李世访
【期刊名称、卷期、页码】Eur J Plant Pathol (2009) 125:665 – 669
【论文发表时间】2009-07-09 00:00:00
【引文索引类型】SCI
【引文索引号】10.1007/s10658-009-9504-5
【学科分类】植物保护学

【题目】Identification and characterization of Hop stunt viroid infecting almond in China.
【中文关键词】Hop stunt viroid . HSVd . Phylogenetic analysis . Prunus . Grapevine . Stone fruits . Humulus lupulus
【英文关键词】Hop stunt viroid . HSVd . Phylogenetic analysis . Prunus . Grapevine . Stone fruits . Humulus lupulus
【中文摘要】A survey for the incidence of Hop stunt viroid (HSVd) infection in China was conducted using dot-blot hybridization. Out of 553 tested samples, 127samples of stone fruits (apricot, peach, plum and al-mond), grapevine and hop were positive for HSVd,giving a mean infection rate of 23 %. Phylogeneticanalysis revealed that most of the HSVd variants iso-lated from stone fruits, grapevine and hop were clus-tered into known hop and plum groups. However, two grapevine variants, HSVd.g50 and HSVd.g57, could not be clustered into any known groups, indicating a previously unknown phylogenetic group of HSVdisolates. HSVd.g38 was the single grapevine variant that clustered with the plum group isolates, supporting cross transmission between grapevine and stone fruits and the heterogeneity of grapevine isolates.
【英文摘要】A survey for the incidence of Hop stunt viroid (HSVd) infection in China was conducted using dot-blot hybridization. Out of 553 tested samples, 127samples of stone fruits (apricot, peach, plum and al-mond), grapevine and hop were positive for HSVd,giving a mean infection rate of 23 %. Phylogeneticanalysis revealed that most of the HSVd variants iso-lated from stone fruits, grapevine and hop were clus-tered into known hop and plum groups. However, two grapevine variants, HSVd.g50 and HSVd.g57, could not be clustered into any known groups, indicating a previously unknown phylogenetic group of HSVdisolates. HSVd.g38 was the single grapevine variant that clustered with the plum group isolates, supporting cross transmission between grapevine and stone fruits and the heterogeneity of grapevine isolates.
【语种】英文
【第一作者】Zhixiang Zhang
【通讯作者】李世访
【期刊名称、卷期、页码】Eur J Plant Pathol (2012) 134:217 – 225
【论文发表时间】2012-06-05 00:00:00
【引文索引类型】SCI
【引文索引号】10.1007/s10658-012-9983-7
【学科分类】植物保护学

【题目】Cultivated Grapevines Represent a Symptomless Reservoir for the Transmission of Hop Stunt Viroids to Hop Crops: 15 Years
【中文关键词】Hop stunt
【英文关键词】Hop stunt
【中文摘要】Hop stunt was a mysterious disorder that first emerged in the 1940s in commercial hops in Japan. To investigate the origin of this disorder, we infected hops with natural Hop stunt viroid (HpSVd) isolates derived from four host species (hop, grapevine,

plum and citrus), which except for hop represent possible sources of the ancestral viroid. These plants were maintained for 15 years, then analyzed the HpSVd variants present. Here we show that the variant originally found in cultivated grapevines gave rise to various combinations of mutations at positions 25, 26, 54, 193, and 281. However, upon prolonged infection, these variants underwent convergent evolution resulting in a limited number of adapted mutants. Some of them showed nucleotide sequences identical to those currently responsible for hop stunt epidemics in commercial hops in Japan, China, and the United States. Therefore, these results indicate that we have successfully reproduced the original process by which a natural HpSVd variant naturally introduced into cultivated hops was able to mutate into the HpSVd variants that are currently present in commercial hops. Furthermore, and importantly, we have identified cultivated grapevines as a symptomless reservoir in which HSVd can evolve and be transmitted to hop crops to cause epidemics.

【英文摘要】Hop stunt was a mysterious disorder that first emerged in the 1940s in commercial hops in Japan. To investigate the origin of this disorder, we infected hops with natural Hop stunt viroid (HpSVd) isolates derived from four host species (hop, grapevine, plum and citrus), which except for hop represent possible sources of the ancestral viroid. These plants were maintained for 15 years, then analyzed the HpSVd variants present. Here we show that the variant originally found in cultivated grapevines gave rise to various combinations of mutations at positions 25, 26, 54, 193, and 281. However, upon prolonged infection, these variants underwent convergent evolution resulting in a limited number of adapted mutants. Some of them showed nucleotide sequences identical to those currently responsible for hop stunt epidemics in commercial hops in Japan, China, and the United States. Therefore, these results indicate that we have successfully reproduced the original process by which a natural HpSVd variant naturally introduced into cultivated hops was able to mutate into the HpSVd variants that are currently present in commercial hops. Furthermore, and importantly, we have identified cultivated grapevines as a symptomless reservoir in which HSVd can evolve and be transmitted to hop crops to cause epidemics.

【语种】英文
【第一作者】Shi-Fang Li
【通讯作者】Shi-Fang Li
【期刊名称、卷期、页码】PLoS One. 2009 Dec 24;4(12):e8386.
【论文发表时间】2009-11-20 00:00:00
【引文索引类型】SCI
【引文索引号】PMC2793511
【学科分类】植物保护学

【题目】Genetic diversity in Veronica hederifolia (Plantaginaceae), an invasive weed in China, assessed using AFLP markers

【中文关键词】Veronica hederifolia; an invasive weed; AFLP markers
【英文关键词】Veronica hederifolia; an invasive weed; AFLP markers

【中文摘要】Veronica hederifolia (Plantaginaceae) an invasive, alien weed in eastern China is of great concern due to its potential to spread. This study was conducted to determine the genetic diversity of V hederifolia in comparison with several congeneric species, including V persica, V. arvensis, V. didyma and V. peregrina as outgroups, using the Amplified Fragment Length Polymorphism (AFLP) technique. The samples of V. hederifolia were collected from 24 locations in Nanjing and Zhoushan, and genomic DNA was digested with the enzymes EcoRI/MseI and amplified with six E+3/M+3 primer combinations. Both mono- and polymorphic AFLP markers were analyzed to estimate genetic diversity of V hederifolia based on a range of standard indicators. A high percentage of polymorphic bands (89.23%) existed in the populations examined, implying high genetic diversity. Based on all genetic indices, the Nanjing population, which was the first reported in China, exhibited greater genetic diversity than the Zhoushan population. Substantial variation was also found among individual plants collected from a single site near Nanjing, with 79.56% polymorphism. This high genetic diversity indicates this weed species potentially has broad adaptability. Cluster analysis of AFLP data placed V. hederifolia samples into three groups depending largely on geographical locations.

【英文摘要】Veronica hederifolia (Plantaginaceae) an invasive, alien weed in eastern China is of great concern due to its potential to spread. This study was conducted to determine the genetic diversity of V hederifolia in comparison with several congeneric species, including V persica, V. arvensis, V. didyma and V. peregrina as outgroups, using the Amplified Fragment Length Polymorphism (AFLP) technique. The samples of V. hederifolia were collected from 24 locations in Nanjing and Zhoushan, and genomic DNA was digested with the enzymes EcoRI/MseI and amplified with six E+3/M+3 primer combinations. Both mono- and polymorphic AFLP markers were analyzed to estimate genetic diversity of V hederifolia based on a range of standard indicators. A high percentage of polymorphic bands (89.23%) existed in the populations examined, implying high genetic diversity. Based on all genetic indices, the Nanjing population, which was the first reported in China, exhibited greater genetic diversity than the Zhoushan population.

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【语种】英文
【第一作者】Wu, H
【通讯作者】强胜
【期刊名称、卷期、页码】Annales Botanici FenniciAnnales Botanici Fennici;47;190-198
【论文发表时间】2010-11-03 00:00:00
【引文索引类型】SCI
【引文索引号】0003-3847
【学科分类】植物保护学

【题目】Helminthosporium graminum Rabehn f. sp. echinochloae conidia for biological control of barnyardgrass
【中文关键词】无
【英文关键词】Biological control, conidia, mycoherbicide.
【中文摘要】无
【英文摘要】A fungal pathogen, Helminthosporium gramineum Rabehn f.sp. echinochloae (HGE), has been developed as amycoherbicidal agent for the control of barnyardgrass in China. Under greenhouse conditions, the effect of the pathogenon disease incidence, mortality, and dry weight reduction of barnyardgrass was tested to determine the potential of thismycoherbicide. Field experiments during 2007 and 2008 showed that the conidia of HGE displayed excellent activity onbarnyardgrass and good activity on a few other weed species. The HGE treatment increased the rice yield when comparedwith the untreated control and had no negative impact on the rice plant. In addition, the progression of HGE infectionand the alteration of cellular ultrastructure in infected barnyardgrass were observed by using scanning and transmissionelectron microscopes. After infection, cell membranes of barnyardgrass leaves were found dramatically changed, and theultrastructure of cells was severely deformed. This study clearly shows the scope of HGE as a potential mycoherbicide forcontrol of barnyardgrass in agricultural cropping systems and has laid the groundwork for further studies on the mode ofinfection and the nosogenesis of HGE
【语种】英文
【第一作者】R. M. Geng
【通讯作者】L. Q. Yu
【期刊名称、卷期、页码】Weed science 2009,57:554-561
【论文发表时间】2009-11-03 00:00:00
【引文索引类型】SCI
【引文索引号】null
【学科分类】植物学

【题目】Male age influences the strength of Cardinium-induced cytoplasmic incompatibility expression in the carmine spider mite Tetranychus cinnabarinus
【中文关键词】Cardinium Tetranychus cinnabarinus (Boisduval) cytoplasmic incompatibility bacteria density
【英文关键词】Cardinium Tetranychus cinnabarinus (Boisduval) cytoplasmic incompatibility bacteria density
【中文摘要】Candidatus Cardinium ’, a recently described bacterium from the Bacteroidetes group, causes diverse reproductive alterations of its arthropod hosts, including cytoplasmic incompatibility (CI), parthenogenesis and feminization. We detected severe CI expression induced by Cardinium in the carmine spider mite Tetranychus cinnabarinus (Boisduval). CI was expressed as a reduction in egg hatchability and a male-biased sex ratio in crosses between uninfected females and infected males. To determine whether male age affects Cardinium-induced CI expression, uninfected females were crossed with infected virgin males at different ages. Cardinium density in males, as measured by quantitative PCR using the 16S rDNA gene, declined rapidly with increasing age. The CI level also declined rapidly with increasing age. Cardinium lost the ability to induce CI by day 12, and the Cardinium density declined to 3.0×106 copies per ml. Cardinium density was positively correlated with the CI level, which is consistent with the bacterial density model of CI. Our results suggest that both male age and Cardinium density are key factors in Cardinium-induced CI expression in T. cinnabarinus, and a threshold level of Cardinium density may be required for induction of CI.

【英文摘要】Candidatus Cardinium ’, a recently described bacterium from the Bacteroidetes group, causes diverse reproductive alterations of its arthropod hosts, including cytoplasmic incompatibility (CI), parthenogenesis and feminization. We detected severe CI expression induced by Cardinium in the carmine spider mite Tetranychus cinnabarinus (Boisduval). CI was expressed as a reduction in egg hatchability and a male-biased sex ratio in crosses between uninfected females and infected males. To determine whether male age affects Cardinium-induced CI expression, uninfected females were crossed with infected virgin males at different ages. Cardinium density in males, as measured by quantitative PCR using the 16S rDNA gene, declined rapidly with increasing age. The CI level also declined rapidly with increasing age. Cardinium lost the ability to induce CI by day 12, and the Cardinium density declined to 3.0×106 copies per ml. Cardinium density was positively correlated with the CI level, which is consistent with the bacterial density model of CI. Our results suggest that both male age and Cardinium density are key factors in Cardinium-induced CI expression in T. cinnabarinus, and a threshold level of Cardinium density may be required for induction of CI.
【语种】英文
【第一作者】谢蓉蓉
【通讯作者】洪晓月
【期刊名称、卷期、页码】Applied Entomology and Zoology 45(3), 417-423
【论文发表时间】2010-11-10 00:00:00
【引文索引类型】SCI
【引文索引号】10.1128/　EC.00265-09
【学科分类】植物保护学

【题目】供锌水平对寒地春玉米幼苗抗氧化酶活性等生理特性的影响
【中文关键词】玉米幼苗; 锌水平; 保护酶活性; 硝酸还原酶
【英文关键词】maize seedlings; Zn supply level; protective enzymes activities; NR
【中文摘要】本试验选用不同耐锌玉米品种, 采用营养液水培, 研究不同锌浓度对玉米株高、地上部干重、根干重及SOD、POD、TTC、硝酸还原酶活性、细胞膜透性的影响。结果表明: 耐锌品种‘牡单九’的适宜锌浓度为0.1 μmol·L-1, 锌敏感品种‘四单十九’的适宜锌浓度为1 μmol·L-1。不同锌浓度对玉米生长的影响主要表现在地上部, 而对地下部生长影响较小。随着锌浓度的升高, SOD和POD的活性增大。当锌浓度为0.1 μmol·L-1时根系活力最高, 在锌浓度大于1 μmol·L-1时, 根系活力下降较明显。硝酸还原酶活性在锌浓度大于0.01 μmol·L-1时, 随着锌浓度升高而降低。在锌浓度为1 μmol·L-1时, 细胞膜透性最小, 低锌和高锌胁迫下细胞膜透性都有不同程度的增加。
【英文摘要】In order to investigate the effects of different zinc concentrations on physiological characteristics inmaize, different Zn-tolerant maize cultivars were used as materials. Plant height, dry weights of root and shoot,root activity, cell membrane permeability, and activities of SOD, POD, TTC and NR were measured. Theresults showed that the optimal concentration of Zn in maize cultivar ‘Mudan 9’ and ‘Sidan 19’ were 0.1 μmol·L-1 and 1 μmol·L-1, respectively. Different Zn concentrations had more effects on aerial part than under-ground part. The activities of SOD and POD increased with the increasing of Zn concentration. The Zn concen-tration of the highest root activity was 0.1 μmol·L-1, and root activity decreased obviously when Zn concentra-tion was more than 1 μmol·L-1. When Zn concentration was more than 0.01 μmol·L-1, NR activity decreasedwith the increasing of Zn concentration. When Zn concentration was 1 μmol·L-1, cell membrane permeabilitywas lowest. Cell membrane permeability increased under low or high Zn stress.
【语种】中文
【第一作者】杨克军
【通讯作者】杨克军
【期刊名称、卷期、页码】植物生理学通讯,2009,45(4):379-384
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【学科分类】农艺学

【题目】Herbicidal Activity of the Metabolite SPRI-70014 from Streptomyces griseolus
【中文关键词】无
【英文关键词】Mycotoxins, natural products.

【中文摘要】无

【英文摘要】Microbial metabolites have been identified as a promising class of natural herbicides due to their effective control againstweeds and a relatively low environmental impact. Here we report on the potency and crop safety of a natural compoundwith herbicidal properties, the metabolite SPRI-70014 from Streptomyces griseolus CGMCC 1370. The compound showedexcellent herbicidal activities on various broadleaf and gramineous weeds in both greenhouse and field trials. Ingermination inhibition experiments, SPRI-70014 inhibited the emergence of both root and shoot at 1 mg L21. At a doseof 31.3 g ai ha21, SPRI-70014 provided effective control over most broadleaf weeds in greenhouse trials. Observations onabsorption and translocation using a cucumber plant model system indicated that SPRI-70014 could be absorbed by theroot but only partly by the stem. Field trials showed that SPRI-70014 provided effective control over most weed speciestested at a dose of 1,000 g ai ha21. Crop safety experiments showed that the compound had no harmful effect on peanutor wheat plants at doses up to 2,000 g ai ha21. These results indicated that this compound could be developed as apotential POST herbicide for control of broadleaf weeds in peanut and wheat fields.Nomenclature: Cucumber, Cucumis sativus L.; peanut, Arachis hypogaea L.; wheat, Triticum aestivum L.

【语种】英文

【第一作者】Wenping Xu

【通讯作者】Sheng Yuan

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【学科分类】植物学

【题目】First report of Coleus blumei viroid 2 from commercial coleus in China.

【中文关键词】First Report ; Coleus blumei viroid 2 ; Commercial Coleus in China

【英文关键词】First Report ; Coleus blumei viroid 2 ; Commercial Coleus in China

【中文摘要】Coleus (Coleus blumei) is an ornamental plant that is susceptible to infection by several viroids of the genus Coleviroid, which is a member of the family Pospiviroidae. Coleus blumei viroid (CbVd) -1 was first reported in commercial yellow coleus fields in Brazil in 1989 (1). In addition, CbVd-2, CbVd-3, and CbVd-4 have only been detected from coleus in Germany in 1996 (4). CbVd-5 and CbVd-6 were recently identified in China (2). In March 2010, leaves were collected from 50 symptomless coleus plants from a commercial nursery in Hainan Province, China. Total RNA was extracted from the leaves (3). Reverse transcription (RT)-PCR using CbVd-2 specific primers (forward: 5 ′ -AGCTTACCTGGGTTCCCT-3 ′ and reverse: 5 ′ -CTCTCCTCTATTTACTCTCTTCTC-3 ′) corresponding to positions 76 to 93 and 52 to 75 on the CbVd-2 reference sequence, respectively (GenBank Accession No. NC003682). Amplification of a 301-bp product was obtained from one sample. This PCR product was then cloned into pMD18-T (Takara, Dalian, China). Twelve positive clones were sequenced and the results were subjected to BLAST analysis. Sequence analysis showed that two sequences (GenBank Accessions Nos. HQ727542 and HQ727544) shared 99% identity with the reference sequence of CbVd-2 (NC003682), and four sequences (HQ727541, HQ727543, HQ727545 and HQ727547) had 99.34% identity with the reference sequence of CbVd-2 (NC003682). The proposed secondary structures of these variants have approximately 75% paired nucleotides. Results suggested the presence of CbVd-2, which is a member of the Coleviroid genus, Pospoviroidae family. To our knowledge, this is the first report of CbVd-2 from commercial coleus in China.

【英文摘要】Coleus (Coleus blumei) is an ornamental plant that is susceptible to infection by several viroids of the genus Coleviroid, which is a member of the family Pospiviroidae. Coleus blumei viroid (CbVd) -1 was first reported in commercial yellow coleus fields in Brazil in 1989 (1). In addition, CbVd-2, CbVd-3, and CbVd-4 have only been detected from coleus in Germany in 1996 (4). CbVd-5 and CbVd-6 were recently identified in China (2). In March 2010, leaves were collected from 50 symptomless coleus plants from a commercial nursery in Hainan Province, China. Total RNA was extracted from the leaves (3). Reverse transcription (RT)-PCR using CbVd-2 specific primers (forward: 5 ′ -AGCTTACCTGGGTTCCCT-3 ′ and reverse: 5 ′ -CTCTCCTCTATTTACTCTCTTCTC-3 ′) corresponding to positions 76 to 93 and 52 to 75 on the CbVd-2 reference sequence, respectively (GenBank Accession No. NC003682). Amplification of a 301-bp product was obtained from one sample. This PCR product was then cloned into pMD18-T (Takara, Dalian, China). Twelve positive clones were sequenced and the results were subjected to BLAST analysis. Sequence analysis showed that two sequences (GenBank Accessions Nos. HQ727542 and HQ727544) shared 99% identity with the reference sequence of CbVd-2 (NC003682), and four sequences (HQ727541, HQ727543, HQ727545 and HQ727547) had 99.34% identity with the reference sequence of CbVd-2 (NC003682). The proposed secondary structures of these variants have approximately 75% paired nucleotides. Results suggested the presence of CbVd-2, which is a member of the Coleviroid genus, Pospoviroidae family. To our

knowledge, this is the first report of CbVd-2 from commercial coleus in China.
【语种】英文
【第一作者】F. H. Fu
【通讯作者】李世访
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【学科分类】植物保护学

【题目】杂色鲍的数量性状遗传与育种研究
【中文关键词】杂色鲍;数量性状;选择育种;杂交育种;基因型与环境互作
【英文关键词】Small abalone;quantitative traits;selective breeding;crossbreeding;genotype and environment interaction
【中文摘要】本文以杂色鲍为研究对象,从选择育种及遗传参数的估计、杂交育种及杂种优势的利用和基因型与环境的互作三个方面阐述杂色鲍数量性状遗传与育种方面的研究。主要研究结果如下: 1.两个杂色鲍群体的歧化选择及选择效应:采用歧化选择法对两个杂色鲍群体的壳长进行了双向选择。群体A (台湾群体♀×日本群体♂) 经过一代选择,上选组和下选组的生长速度较对照组分别提高和降低了12.79%和15.20%,选择效果十分显著。群体B (台湾群体♀×台湾群体♂)上选组和下选组的生长速度较对照组分别提高和降低了4.58%和5.95%,选择效果较不显著。A群体上选组和下选组壳长的现实遗传力平均值分别为0.396±0.074和0.487±0.056;B群体上选组和下选组壳长的现实遗传力平均值为0.104±0.069和0.122±0.076。 2.杂色鲍生长性状遗传力的估算:采用平衡巢氏设计,通过建立12个父系半同胞家系和36个母系全同胞家系的方法,估算了杂色鲍养殖群体壳长、壳宽以及养成期体重的狭义遗传力。在三个培育阶段中,基于雄亲组分估算的壳长遗传力为0.15-0.37,壳宽遗传力为0.18-0.42,养成期体重遗传力为0.27-0.34。 3.杂色鲍形态性状的遗传相关:采用相关分析的方法研究了杂色鲍主要形态性状-壳长(X1)、壳宽(X2)、壳高(X3)、壳顶高(X4)、全湿重(Y1)、足肌肉重(Y2)与壳重(Y3)间的遗传相关。结果显示,各性状间的相关系数都很高。同时,采用通径分析的方法计算了表型性状为自变量对全湿重和足肌肉重为依变量的通径系数,结果表明全湿重受壳长的直接影响最大,足肌肉重受壳宽的直接影响最大,并建立了全湿重和足肌肉重与形态性状的多元回归方程。 4.微卫星技术分析杂色鲍不同地理群体的遗传多样性和遗传结构:利用课题组开发的杂色鲍微卫星标记分析了3个杂色鲍野生群体(日本、广东和海南)和2个养殖群体(台湾和越南)的遗传多样性及遗传结构。研究表明各个群体的平均等位基因数、观测杂合度和期望杂合度等指标的值都很高,但各群体间的遗传距离并不大。 5.杂色鲍的不同地理群体间杂交及杂种优势利用:对杂色鲍日本(A)、台湾(B)和越南(C)三个群体进行了完全双列杂交,研究杂色鲍不同地理群体间杂交的杂种优势及配合力分。结果表明,不同杂交组合后代在生长速度和存活率上表现出不同的杂种优势。台湾和日本群体正反交后代的生长速度和存活率的中亲杂种优势值显著的($P<0.05$)高于其他组合,配合力分析结果进一步证实BA组合(台湾群体♀×日本群体♂)为最优交配组合。 6.杂色鲍群体的回交和级进杂交研究:采用BA群体(D)与台湾群体进行回交实验,结果表明回交组合BD的生长速度在420日龄显著($P<0.05$)高于其他组合,但正、反回交组合的养成存活率值都不高,DB和BD组合分别为46.3%和32.5%。选择日本群体作为轮回亲本,与台湾群体进行了三代的级进杂交。结果表明级进杂交的代数越多,杂色鲍的存活率越高,八个月的养殖比较试验显示,级进杂交F3的存活率达到83.4%。 7.杂色鲍的基因型与环境互作研究:在设定的16、20、24和28°C水温下,对四个不同基因型(日本、台湾、越南以及台湾群体♀×日本群体♂杂交组)杂色鲍群体的生长与存活进行了比较,本实验观测到显著的基因型与环境互作效应,同时,台湾群体♀×日本群体♂杂交组的壳长、体重日增长率以及饵料转化率都要高于其他三个组合。将此四个不同基因型的杂色鲍组合,采用海区吊养和陆地工厂化两种养成模式,分别在福建、广东和海南进行一年的养殖比较。结果表明,台湾群体♀×日本群体♂杂交组在三个实验点的生长和存活率方面都表现出比较显著的优势。
【英文摘要】In this research, quantitative tratis genetics and breeding of small abalone Haliotis diversicolor were studied in three parts: selective breeding and estimation of genetic parameters, crossbreeding among different geographically populations and genotype ×environment interaction. The main results are as follows: 1. Divergent selection for shell length in two stocks of small abalone 2. Heritability of growth traits estimated from sib matings 3. Genetic correlations on morphological traits of small abalone 4. Genetic variation of cultured and wild populations estimated by microsatellite DNA markers 5. Growth and survival of three populations and their reciprocal crosses 6. Backcross and grading cross of different populations7. Genotype × environment interaction
【语种】中文
【第一作者】游伟伟
【通讯作者】柯才焕
【期刊名称、卷期、页码】厦门大学理学博士论文

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【学科分类】水产养殖学

【题目】黑龙江省半湿润区玉米高密度超高产综合
【中文关键词】半湿润区;玉米;高密度;超高产
【英文关键词】half moist distr ict ; maize; hig h density; super hig h yield
【中文摘要】研究了玉米高密度压力下的品种筛选、 合理密度、 田间种植方式、 配方施肥方案。结果表明,玉米新品种江203、 龙单26、 吉单27、 东农250、 吉高2、 龙单25 适合该区种植,且江203、 龙单25、 龙单26 分别在20 cm、 25 cm、 30 cm 密度水平下产量最高; 所选择的5 种田间种植方式中以2 比空模式产量最高,产量为827. 08 kg/ 667m2;配方施肥也达到了预期效果。
【英文摘要】T he study on prescription apply fert ilizer scheme, reasonable density , field plant ingw ay and the select ion o f the varity under hig h density . Results show ed that new corn kindjiang203, longdan26, jidan27, do ng no ng 250, jig ao2 and longdan25 suit this dist rict to plant , andjiang203, longdan25 and long dan26 have highest o utput under the density level of 20 cm , 25 cmand 30 cm; In the 5 kinds of field planting w ay, the y ield of 2 to zer o pat tern is highest , the y ieldis the 827. 08 kg/ 667m2; Prescription apply fertilizer scheme also reach expected effect .
【语种】中文
【第一作者】陈喜昌
【通讯作者】陈喜昌
【期刊名称、卷期、页码】黑龙江农业科学 2006, (4) : 26- 28
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【学科分类】农艺学

【题目】Spatial and temporal changes in acetolactate synthase activity as affected by new herbicide ZJ0273 in rapeseed, barley and water chickweed
【中文关键词】无
【英文关键词】Acetolactate synthase
Alopecurus aequalis
Brassica napus
Herbicide activity
Hordeum vulgare
Malachium aquaticum
Propyl 4-(2-(4,6-dimethoxypyrimidin-2-yloxy)benzylamino)benzoate
【中文摘要】无
【英文摘要】Propyl 4-(2-(4,6-dimethoxypyrimidin-2-yloxy)benzylamino)benzoate (ZJ0273), derived from a precursorcompound pesticide (a derivative of 2-pyrimidinyloxy-N-aryl benzoate), is a novel herbicide used in therapeseed fi eld. This paper studied the differential tolerance or susceptibility of four plant species viz.Brassica napus L. (rapeseed), Hordeum vulgare L. (barley), Malachium aquaticum (L.) Fries (water chick-weed), and Alopecurus aequalis Sobol. (equal alopecurus), to various concentrations of ZJ0273, based onthe rate of inhibition of acetolactate synthase (ALS) activity. Brassica napus was observed as the most tol-erant among four species in which ALS activity in vivo was hardly affected by ZJ0273 at 100 mg/L (rec-ommended dose in the rapeseed fi eld). In contrast, H. vulgare was found to be more susceptible whichwas re fl ected in the relative decline of ALS activity and lower biomass production even under at a lowerrate of 10 mg/L of ZJ0273. The two weed species exhibited moderate susceptibility as compared toH. vulgare. The present study con fi rmed that ZJ0273 at 100 mg/L is the optimal dose of herbicide for rape-seed fi eld. Seedling stage was critical in determining the tolerance of crops and susceptibility of weedswhich indicated that over seven leaf stage was much safer for rapeseed whereas the two leaf stage juve-nile water chickweed was more susceptible to the same rate of ZJ0273. Spatial and temporal variations inALS activity as affected by 100 mg/L ZJ0273 in water chickweed, rapeseed and barley also suggested thatthe synchronized

sampling based on the tissue position and seedling stage was necessary to examine pre-cisely, the special difference in tolerance or susceptibility to ALS-inhibiting herbicide. The uppermostyounger leaf seemed to be themost appropriate sample for evaluation. Furthermore, the variant tendencyof ALS activity from different parts of plants between monocotyledons and dicotyledons to ZJ0273 treat-ments showed differential response which revealed some possible mechanism related to the alteredabsorption and translocation of the herbicide.

【语种】英文
【第一作者】F. Zhang
【通讯作者】W.J. Zhou
【期刊名称、卷期、页码】Pesticide Biochemistry and Physiology 2009, 95: 63-71.
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【引文索引号】doi:10.1016/j.pestbp.2009.06.005
【学科分类】植物学

【题目】First report of Coleus blumei viroid 2 from commercial coleus in China
【中文关键词】Coleus blumei;CbVd;CbVd-2
【英文关键词】Coleus blumei;CbVd;CbVd-2
【中文摘要】Coleus (Coleus blumei) is an ornamental plant that is susceptible to infection by several viroids of the genus Coleviroid, which is a member of the family Pospiviroidae. Coleus blumei viroid (CbVd) -1 was first reported in commercial yellow coleus fields in Brazil in 1989 (1). In addition, CbVd-2, CbVd-3, and CbVd-4 have only been detected from coleus in Germany in 1996 (4). CbVd-5 and CbVd-6 were recently identified in China (2). In March 2010, leaves were collected from 50 symptomless coleus plants from a commercial nursery in Hainan Province, China. Total RNA was extracted from the leaves (3). Reverse transcription (RT)-PCR using CbVd-2 specific primers (forward: 5′-AGCTTACCTGGGTTCCCT-3′ and reverse: 5′-CTCTCCTCTATTTACTCTCTTCTC-3′) corresponding to positions 76 to 93 and 52 to 75 on the CbVd-2 reference sequence, respectively (GenBank Accession No. NC003682). Amplification of a 301-bp product was obtained from one sample. This PCR product was then cloned into pMD18-T (Takara, Dalian, China). Twelve positive clones were sequenced and the results were subjected to BLAST analysis. Sequence analysis showed that two sequences (GenBank Accessions Nos. HQ727542 and HQ727544) shared 99% identity with the reference sequence of CbVd-2 (NC003682), and four sequences (HQ727541, HQ727543, HQ727545 and HQ727547) had 99.34% identity with the reference sequence of CbVd-2 (NC003682). The proposed secondary structures of these variants have approximately 75% paired nucleotides. Results suggested the presence of CbVd-2, which is a member of the Coleviroid genus, Pospoviroidae family. To our knowledge, this is the first report of CbVd-2 from commercial coleus in China.
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【语种】英文
【第一作者】F. H. Fu
【通讯作者】李世访
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【学科分类】植物保护学

【题目】大豆生物量积累、收获指数及产量间的相关与QTL分析
【中文关键词】大豆; 生物量积累; 表观收获指数; 产量; QTL 分析
【英文关键词】Soybean; Biomass accumulation; Apparent harvest index; Yield; QTL analysis
【中文摘要】利用亲本间生物量、收获指数和产量有较大差异的南农1138-2 和科丰1 号杂交衍生的大豆重组自交家系(NJRIKY), 研究始花期(R1) 、始荚期(R3) 、始粒期(R5) 、收获期生物量以及表观收获指数和产量间的相关, 并进行QTL 定位, 分析相关的遗传基础。结果表明, (1) 生物量与产量显著相关, 相关程度随生长进程逐渐增加, 收获期生物量与产量相关最高, R2=0.76。R1、R3、R5期生物量与产量的相关呈负指数曲线相关, 生物量分别达到1 000、2 300和5 500 kg hm－2时, 产量不再随生物量的增加而增加。收获期生物量与产量呈直线正相关, 在试验范围内未发现高产的收获期生物量上限。表观收获指数与产量呈指数曲线相关, 小于0.42 时与产量具正变关系, 大于0.42 时与产量具负变关系。收获期生物量与表观收获指数呈指数曲线相关, 表观收获指数增加生物量降低。(2) 检测到产量、表观收获指数、收获期生物量有关的QTL 分别为9 、10和10个, 其中两年稳定的QTL 分别有2 、3 、3 个。检测到R1、R3和R5期生物量有关的QTL 分别有6 、9 和6 个, 其中3 个时期在两年均能稳定表达的有2 个。(3)在9 个产量QTL中的6 个区间, 还同时检测到生物量和表观收获指数有关的 QTL, 该3 性状有部分QTL 共享同一连锁区间, 表明有其共同的遗传基础, 同时也解释了性状间相关的遗传原因。

【英文摘要】Since soybean seed yield is the product of both biomass accumulation and harvest index, the objective of the present study was to measure the correlations of seed yield with the other two traits as well as with biomass accumulation at different seed development stages, to map their QTLs, and to reveal the QTL basis of the correlations. A RIL population, NJRIKY, derived from the cross between Nannong 1138-2 and Kefeng 1, quite diverse in biom ass, harvest index and yield, was used to study the correla-tion among biomass accumulation, apparent harvest index and yield, to map the QTLs of the traits for revealing the genetic basis of the correlation among the traits. The results obtained were as follows: (1) Yield was closely and positively correlated with bio-mass accumulation and their correlation increased in the process of growth with the highest R2=0.76 at harvest stage. There ap-peared some negative exponential correlation between yield and biomass at R1, R3, and R5, with the biomass of 1 000, 2 300, and 5 500 kg ha − 1 as the highest turning point, respectively. A linear correlation of yield with biomass at harvest stage [BM (H)] was detected, but without upper limit of the biomass found in the present experiment. There was an exponential correlation between yield and apparent harvest index, with 0.42 as the turning point, positive relationship as less than 0.42 and negative relation ship as larger than 0.42. (2) 9, 10, and 10 QTLs for yield, apparent ha rvest index and BM (H) were detected in NJRIKY and 2, 3, and 3 QTLs of them respectively detected in both years. In addition, 6, 9, and 6 QTLs for biomass at R1, R3, and R5 were identified i n the population, respectively, with 2 of them being detected across R1 through R5 in both years. (3) Among the 9 yield QTLs, 6 marker intervals were found to have QTLs conferring biomass and apparent harvest index, which implied a partially common genetic basis among the three traits.
【语种】中文
【第一作者】黄中文
【通讯作者】盖钧镒
【期刊名称、卷期、页码】作物学报 ACTA AGRONOMICA SINICA 2008, 34(6): 944 − 951
【论文发表时间】2007-12-22 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农业基础学科

【题目】Allelopathic effects of Conyza canadesis on germination and growth of wheat, sorghum, cucumber, rape and radish
【中文关键词】无
【英文关键词】Allelopathic effects, aqueous extracts, Conyza canadesis L., cucumber,
radish, rape, root exudates, seed germination, seedling growth , shoot
leachates, sorghum, wheat
【中文摘要】无
【英文摘要】The allelopathic effects of aqueous extract from Conyza canadesis were tested in Petri dishes in Laboratory and Greenhouse assays. The aqueous extract strongly inhibited the germination, germination speed and seedling growth of sorghum

(Sorghum vulgare Pers.), cucumber (Cucumis sativus L.), wheat (Triticum aestivum L.), rape (Brassica campestris L.) and radish (Raphanus sativus L.). Rape and radish were more sensitive than other spp. C. canadesis released the allelochemicals mainly as root exudates. The extract inhibited the hypocotyl and root growth of endosperm-removed wheat and sorghum cultivated in darkness, but the inhibitory effect was drastic in sorghum than in endosperm-removed wheat. The aqueous extract decreased the photosynthesis activity but increased the MDA contents of cucumber and radish. Thus allelopathic effects of C. canadesis affects non-photosynthesis activity and MDA, but may also affect the photosynthesis activity.

【语种】英文

【第一作者】XINGXIANG GAO

【通讯作者】MEI LI

【期刊名称、卷期、页码】Allelopathy Journal 2009,23(2): 287-296

【论文发表时间】2009-02-05 00:00:00

【引文索引类型】SCI

【引文索引号】0971-4693/94

【学科分类】植物学

【题目】First report of Chrysanthemum chlorotic mottle viroid in chrysanthemum in China

【中文关键词】Chrysanthemum chlorotic mottle viroid ;First report

【英文关键词】Chrysanthemum chlorotic mottle viroid ;First report

【中文摘要】First report of Chrysanthemum chlorotic mottle viroid in chrysanthemum in China

【英文摘要】First report of Chrysanthemum chlorotic mottle viroid in chrysanthemum in China

【语种】英文

【第一作者】Z. Z. Zhang,

【通讯作者】李世访

【期刊名称、卷期、页码】Plant DiseaseVolume 95, Number 10 page1320

【论文发表时间】2011-11-16 00:00:00

【引文索引类型】SCI

【引文索引号】10.1094/PDIS-04-11-0335

【学科分类】植物保护学

【题目】黑龙江省松嫩平原中南部玉米生产限制因素及对策

【中文关键词】玉米;松嫩平原中南部;限制因素;对策

【英文关键词】Maize; The south- central of Songnen champaign; Limiting factors; Countermeasures

【中文摘要】分析了黑龙江省松嫩平原中南部玉米生产的主要限制因子是干旱 种植密度和保苗率偏低 规模化和机械化水平低 土壤养分失衡 品种杂乱 技术信息匮乏等 针对这些影响因素,提出了相应的解决对策 这些措施对于促进黑龙江省松嫩平原中南部玉米生产 农民增收和保障国家粮食安全具有重要作用

【英文摘要】In this paper, it analyzed the main limiting factors of maize produced of Songnen champaignsouth- central in Heilongjiang province were drought, plant density and lowrate of keeping seedlings, lowlevel in ex-tent and mechanization, soil nutrient misbalance, confused and disorderly breeds, lack of technology and informationand so on, the solved strategy for these influential factors were also proposed. The result will be useful for promotingmaize production of Songnen champaign south- central in Heilongjiang province, raising income of farmers and ensur-ing nation food security.

【语种】中文

【第一作者】王振华

【通讯作者】王振华

【期刊名称、卷期、页码】玉 米 科 学 2008, 16(5): 147-149

【论文发表时间】2008-11-08 00:00:00

【引文索引类型】其他

【引文索引号】null

【学科分类】农艺学

【题目】Allelopathic effects of Hemistepta lyrata on germination and growth of wheat, sorghum, cucumber, rape and radish seeds
【中文关键词】无
【英文关键词】allelopathic effects, Hemistepta lyrata, radish, rape.
【中文摘要】无
【英文摘要】The allelopathic effects of a water extract from Hemistepta lyrata were tested on the seedsof selected crops in Petri dishes. The results showed that the extract strongly inhibited thegermination and seedling growth of wheat (Triticum aestivum), rape (Brassica campestris), andradish (Raphanus sativus), but only slightly inhibited those of sorghum (Sorghum vulgare) andcucumber (Cucumis sativus).The extract stimulated the growth of roots and hypocotyls at lowerconcentrations,while it inhibited their growth at higher concentrations.The malondialdehyde(MDA) content of cucumber and radish increased after treatment with the extract.These resultsindicated that the MDA concentration in plants is one important aspect of the allelopathiceffects of H. lyrata.
【语种】英文
【第一作者】XINGXIANG GAO
【通讯作者】MEI LI
【期刊名称、卷期、页码】Weed Biology and Management 2009,9(3): 243-249
【论文发表时间】2009-02-19 00:00:00
【引文索引类型】SCI
【引文索引号】doi:10.1111/j.1445-6664.2009.00345.x
【学科分类】植物保护学

【题目】大豆抗倒伏性的评价指标及其QTL分析
【中文关键词】大豆; 倒伏指标; 相关; QTL 分析
【英文关键词】Soybean; Lodging indix; Correlation; QTL analysis
【中文摘要】倒伏性的鉴定通常采用倒伏程度分级法, 但其表现依赖于田间实时环境, 分级较粗放。育种实践需要一种不依赖于实时环境的倒伏潜势评价方法。本研究利用表型差异大的32个大豆品种和1 个重组自交系(RIL) 群体NJRIKY, 研究了鲜重力矩(株高× 鲜重, PF)、干重力矩 (株高× 干重, PD)、单位抗折力鲜重力矩(株高× 鲜重/ 抗折力, PFS) 和单位抗折力干重力矩(株高× 干重/ 抗折力, PDS) 等4 种倒伏性评价指标与倒伏程度的关系, 从中遴选出PF与倒伏程度的相关系数高、物理意义明确、测度简便、环境稳定性高, 与倒伏程度共同QTL 多, 综合表最优, 反映了倒伏势。在A2、C2、D2和G 连锁群上, 共检测到7 个倒伏程度相关的QTL, 分别解释表型变异的6%~12%, 2 年未检测到相同的QTL; 在B1、C2和O 连锁群共检测到7 个倒伏势有关的QTL, 分别解释表型变异的5%~12%, 其中qPFC2-2 , 2 年均能稳定表达, 贡献值较大; 倒伏程度和倒伏势共有的QTL 区间有GMKF059a ~ satt319和satt286~ A63_1T 两个; 抗倒伏性等位基因来自亲本科丰1 号。
【英文摘要】The used lodging resistance index is lodging score, with 0 as most resistant and 4 as most sensitive. In breeding for lodging resistance, an index more precise than lodging score and independent from the cultivation conditions is expected. In the present study, four kinds of lodging resistance indices, i.e. fresh matter moment (plant height × above ground fresh weight, PF), dry matter moment (plant hei ght × above ground dry weight, PD), fresh weight moment per unit of stem broken strength (PFS), and dry weight moment per unit of stem br oken strength (PDS), were designed in two experiments, one with 32 diverse cultivars and one with the RIL population NJRIKY including 184 recombinant inbred lines of the cross (Kefeng 1 × Nannong 1138-2) in 2005 and 2006. Among the four indices, fresh we ight moment (PF) designated as lodging potential performed with higher correla-tion with lodging score, more relevant physical meaning, easier operation of measurement, better stability in various environments and more common QTLs with lodging score than those of the other indices, therefore PF was the best candidate of lodging resis-tance index to replace lodging score. On the basis of the re sults, QTL analysis was performed for lodging score and lodging pot en-tial. Seven QTLs for lodging score on linkage groups A2, C2, D2, and G explaining 6% – 12% of phenotypic variation, but no common one between the two years, were detected. There were seven QTLs for lodging potential on linkage groups B1, C2, and O, explaining 5% – 12% phenotypic variation, with the same QTL qPFC2 - 2 in two years. Between l odging score and lodging po-tential, two QTLs were with same flanking markers, i.e. GMKF059a – satt319 and satt286 – A63_1T, and the lodging resistance alleles were mainly contributed from Kefeng 1. Between the two loci, qPFC2-2 was of larger contribution, so its flanking markers can be used in marker-assisted selection for lodging resistance in soybean.
【语种】中文
【第一作者】黄中文
【通讯作者】盖钧镒
【期刊名称、卷期、页码】作物学报 ACTA AGRONOMICA SINICA 2008, 34(4): 605 – 611

【论文发表时间】2007-09-29 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农业基础学科

【题目】Molecular Characterization of a new tentative strain of Sugarcane streak mosaic virus (SCSMV) from sugarcane in china.
【中文关键词】SCSMV;characterization
【英文关键词】SCSMV;characterization
【中文摘要】The complete nucleotide sequences of three sugarcane streak mosaic virus (SCSMV) isolates found in sugarcane plants imported from Japan (JP1, JP2) and Indonesia (ID) into China were determined. Sequence analysis showed that, based on the whole genome sequence and the nucleotide sequences encoding the ten mature proteins, the three SCSMV isolates shared identities of 81.62%-81.67% and 76.39%-85.93%, respectively, with a Pakistan (PAK) isolate of SCSMV. Phylogenetic analysis indicated that SCSMV-JP1, -JP2 and -ID were clustered in a subgroup separate from the previously described SCSMV-PAK and -India isolates, and may thus represent a new strain of SCSMV.
【英文摘要】The complete nucleotide sequences of three sugarcane streak mosaic virus (SCSMV) isolates found in sugarcane plants imported from Japan (JP1, JP2) and Indonesia (ID) into China were determined. Sequence analysis showed that, based on the whole genome sequence and the nucleotide sequences encoding the ten mature proteins, the three SCSMV isolates shared identities of 81.62%-81.67% and 76.39%-85.93%, respectively, with a Pakistan (PAK) isolate of SCSMV. Phylogenetic analysis indicated that SCSMV-JP1, -JP2 and -ID were clustered in a subgroup separate from the previously described SCSMV-PAK and -India isolates, and may thus represent a new strain of SCSMV.
【语种】英文
【第一作者】Wenfeng Li
【通讯作者】李世访
【期刊名称、卷期、页码】Arch Virol (2011) 156:2101 – 2104
【论文发表时间】2011-11-10 00:00:00
【引文索引类型】SCI
【引文索引号】10.1007/s00705-011-1090-0
【学科分类】植物保护学

【题目】玉米生理成熟后籽粒脱水速率与品质性状的相关分析
【中文关键词】玉米; 脱水速率; 品质; 相关
【英文关键词】corn; dry- down rate; quality; correlation
【中文摘要】以黑龙江省 10 个熟期相近而脱水速率差异较大的优良玉米自交系为试验材料, 采用完全双列杂交设计配制杂交组合, 对玉米的淀粉等 10 个品质性状与生理成熟后籽粒脱水速率进行遗传相关和通径分析。结果表明, 淀粉等 3 个性状与生理成熟后籽粒脱水速率之间均表现为极显著正向相关, 脂肪等 4 个性状与生理成熟后籽粒脱水速率之间均表现为显著或极显著负向相关。通径分析表明, 淀粉、支链淀粉与生理成熟后籽粒脱水速率直接通径系数为正值, 脂肪等 5 个性状与生理成熟后籽粒脱水速率直接通径系数均为负值。为获得脱水速率快的玉米, 应着重选育淀粉、支链淀粉含量高, 脂肪、谷蛋白含量少, 胚占体积小的基因型杂交种。
【英文摘要】A set of complete diallel cross used 10 inbred lines with different dry- down rate in HeilongjiangProvince was adopted to study genetic correlation and path analysis between 10 quality characters of corn anddry- down rate after physiological maturity. The results showed that the performance of starch content was sign-ificantly positively correlated with kernel dry- down rate, and the performance of fat conten was significantly neg-atively correlated with kernel dry- down rate. Path analysis showed that the direct path coefficients of starch,amylopectin content and kernel dry- down rate after physiological maturity were positive, and those of the other fivetraits including fat content were negative. The corn hybrid with rapid dry- down rate should be high starch andamy- lopectin content, low fat and glutenin content, and the percentage of embryo was small.
【语种】中文
【第一作者】张立国
【通讯作者】王振华
【期刊名称、卷期、页码】东北农业大学学报,2007,38(5): 582-585

【论文发表时间】2007-10-28 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农艺学

【题目】3-(1'-烃氧亚氨基)乙基-4-羟基吡咯啉-2-酮类衍生物的合成与生物活性
【中文关键词】肟醚; 吡咯啉-2-酮; 除草活性; 杀菌活性
【英文关键词】xime ether; pyrroline-2-one; herbicidal activity; antifungal activity
【中文摘要】以氨基酸乙酯为原料合成8种3-乙酰基-4-羟基吡咯啉-2-酮的类似物A, A与3种烃氧基胺盐酸盐反应合成了20个肟醚类衍生物3-(1'-烃氧亚氨基)乙基-4-羟基吡咯啉-2-酮(B), 其结构经 1H NMR, MS, IR 和元素分析表征. 初步生物活性测定结果表明合成的化合物B具有一定的除草活性和抑制真菌活性.
【英文摘要】-Acetyl-4-hydroxypyrroline-2-one analogues (A) were synthesized using amino acid ethyl es-ters as starting material, which were reacted with alkyloxyamine hydrochlorides to give twenty oxime ether derivatives 3-(1'-alkyloxyiminoethyl)-4-hydroxypyrroline-2-ones (B). Structures of all the new compounds were confirmed by 1H NMR, MS, IR data and elemental analysis. The preliminary bioassay results indicated that this kind of compounds exhibited certain herbicidal and antifungal activities.
【语种】中文
【第一作者】朱宪杰
【通讯作者】杨春龙
【期刊名称、卷期、页码】有机化学 2009,29(11): 1784-1789
【论文发表时间】2009-06-16 00:00:00
【引文索引类型】SCI
【引文索引号】Y0901132
【学科分类】有机化学

【题目】Sap-direct RT-PCR for the rapid detection of coleus blumei viroids of the genus Coleviroid from natural host plants.
【中文关键词】Sap; RT-PCR; Coleus; CbVd; Pipettor
【英文关键词】Sap; RT-PCR; Coleus; CbVd; Pipettor
【中文摘要】A simple and fast sap-direct RT-PCR (reverse transcription-polymerase chain reaction) for the rapid detection of 3 viroids of the genus Coleviroid is presented. The templates for cDNA synthesis were obtained directly from the sap of coleus using a pipettor, a common tool in molecular biology laboratories, and 3 coleus blumei viroids (CbVds) were detected simultaneously using a pair of universal primers designed according to sequences in the central conserved region (CCR) of CbVds. RT-PCR results demonstrated that CbVd-1, CbVd-5, and CbVd-6 can be detected accurately in viroid-infected plants but not in viroid-free plants. The results of RT-PCR, dot-blot, sequencing, and batch-detection revealed that this method can be used to identify CbVds rapidly. The method also reduces cross-contamination among different samples to a minimum. It is considered that this rapid and simple technique is an effective method for the identification and cloning of CbVds.
【英文摘要】A simple and fast sap-direct RT-PCR (reverse transcription-polymerase chain reaction) for the rapid detection of 3 viroids of the genus Coleviroid is presented. The templates for cDNA synthesis were obtained directly from the sap of coleus using a pipettor, a common tool in molecular biology laboratories, and 3 coleus blumei viroids (CbVds) were detected simultaneously using a pair of universal primers designed according to sequences in the central conserved region (CCR) of CbVds. RT-PCR results demonstrated that CbVd-1, CbVd-5, and CbVd-6 can be detected accurately in viroid-infected plants but not in viroid-free plants. The results of RT-PCR, dot-blot, sequencing, and batch-detection revealed that this method can be used to identify CbVds rapidly. The method also reduces cross-contamination among different samples to a minimum. It is considered that this rapid and simple technique is an effective method for the identification and cloning of CbVds.
【语种】英文
【第一作者】Dongmei Jiang
【通讯作者】李世访
【期刊名称、卷期、页码】Journal of Virological MethodsVolume 174, Issues 1 – 2, June 2011, Pages 123 – 127
【论文发表时间】2011-08-18 00:00:00
【引文索引类型】SCI

【引文索引号】0.1016/j.jviromet.2011.03.018,
【学科分类】植物保护学

【题目】中国栽培和野生大豆农艺品质性状与SSR 标记的关联分析 I. 群体结构及关联标记
【中文关键词】栽培大豆[Glycine max (L.) Merr.]; 野生大豆(Glycine soja Sieb. et Zucc.); SSR; 群体结构; 关联分析
【英文关键词】Cultivated soybean [Glycine max (L.) Merr.]; Wild soybean (Glycine soja Sieb. et Zucc.); Simple-sequence repeat (SSR); Population structure; Association mapping
【中文摘要】关联作图是一种利用连锁不平衡(linkage disequilibrium, LD)检测自然群体中基因位点及其等位变异的方法。利用60个SSR 标记, 对全国大豆地方品种群体(393 份代表性材料) 和野生大豆群体(196 份代表性材料) 的基因组变异进行扫描, 分析两类群体的连锁不平衡位点、群体结构, 并采用TASSEL 软件的GLM (general linear model)方法对16个农艺、品质性状观测值进行标记与性状的关联分析。结果表明: (1) 在公共图谱上不论共线性的或是非共线性的SSR 位点组合都有一定程度的LD, 说明历史上发生过连锁群间的重组; 栽培群体的连锁不平衡成对位点数较野生群体多, 但野生群体位点间连锁不平衡程度高, 随距离的衰减慢。(2) 群体SSR 数据遗传结构分析发现, 栽培群体和野生群体分别由9 和4 个亚群体组成, 亚群的划分与群体地理生态类型相关联, 证实地理生态类型划分有其遗传基础。(3) 栽培群体中累计有27个位点与性状相关; 野生大豆种质中累计有34个位点与性状相关。部分标记在两类群体中都表现与同一性状关联, 检出的位点有一致性, 也有互补性; 一些标记同时与2 个或多个性状相关联, 可能是性状相关乃至一因多效的遗传基础; 关联位点中累计有24位点(次) 与遗传群体连锁分析定位的QTL 一致。
【英文摘要】Association mapping is a procedure for detecting QTLs as well as their alleles based on linkage disequilibrium (LD). The genotyping data of 60 simple-sequence repeat (SSR) markers on representative samples of 393 landraces of Glycine max (L.) Merr. and 196 wild accessions of Glycine soja Sieb. et Zucc. were used in the present study. Linkage disequilibrium of pairwise loci and population structure were firstly analyzed for the two populations, then the association analysis between SSR loci and 16 agronomic and quality traits was performed by using TASSEL GLM (general linear model) program. The different degrees of LD were detected not only among syntenic markers but also among nonsyntenic ones, suggesting that there had been historical re-combination among linkage groups. The cultivated soybean population had more LD loci pairs than wild soybean population, while the later had higher degree and slower attenuation of LD than the former. Genetic structure analysis showed that both of the cultivated and wild populations were composed of nine and four subpopulations, respectively, which associated with their geo-graphic eco-types, indicating the classification of geographic eco-types was of sound genetic bases. Twenty seven and thirty fo ur SSR loci associated with the traits were screened out from cultivated and wild populations, respectively. Some loci were found to associate with a same trait in both populations, and there existed both consistent and inconsistent association between the cul ti-vated and wild populations. There were a few loci associated with two or more traits simultaneously, which might be the genetic reason of correlation among traits or pleiotropic phenomena. In addition, twenty-four associated markers were in agreement with mapped QTLs from family-based linkage mapping procedure.
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【题目】密度对不同株型玉米光合特性及产量的影响
【中文关键词】玉米;密度;株型;光合特性;产量
【英文关键词】Corn; Density; Plant type; Photosynthetic characteristics; Yield
【中文摘要】对不同密度条件下3个不同株型春玉米的光合特性及产量进行了研究 结果表明,随密度增加叶面积指数(LAI)初始荧光(0)上升,单株功能叶片光合速率(n) PSⅡ的潜在活性(v / 0) PSⅡ最大光化学量子产量(v / m)下降;产量构成因素表现为单位面积有效穗数先上升后下降,穗粒数下降,百粒重变化因品种而异 先玉335 金玉 4号和吉农大 302 最高产量分别为 9 638.45 8 523.94 8 330.92 kg/hm2;先玉 335 最适播种密度为 75 000 株 /hm2,吉农大302为60 000 67 500株 /hm2,金玉 4 号为 45 000 株 /hm2先玉 335 群体产量与 LAI 单株 0 呈正相关,与单株 nv / m v / 0 呈负相关;吉农大302与金玉 4 号群体产量与LAI 单株 0 呈负相关,与单株 n v / m v / 0 呈正相关,且金玉 4号的相关程度要高于吉农大 302。

【英文摘要】Under different density conditions, it was studied that the photosynthesis characteristics and yield ofthree plant types spring corn. The results showed that with the density increased, LAI and Fo were to rise, n, v / 0and m / v were to decline. With the density increasing, effective ear of unit area fall after raise, Kernel number per earwas to decline, 100- grain weight changed for varieties. The max yield ofXY335, JY4, JND302 were 9 638.45, 8 523.94,8 330.92 kg/ha. The optimal density of XY335 was 75 000 plants/ha, JND302 was 60 000 - 67 500 plants/ha, JY4 was45 000 plants/ha. There was a positive correlation between the yield of XY335 and LAI, 0 . At the same time, therewas a negative correlation between the yield of XY335 and n , v / m, v / 0 . The correlation of photosynthesis charac-ters with yield of JND302 and JY4 were opposite with XY335, and the level of JY4 was higher than JND302
【语种】中文
【第一作者】胡 萌
【通讯作者】魏湜
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【学科分类】农艺学

【题目】中国栽培和野生大豆农艺及品质性状与SSR 标记的关联分析II. 优异等位变异的发掘
【中文关键词】栽培大豆[Glycine max (L.) Merr.]; 野生大豆(Glycine soja Sieb. et Zucc.); SSR; 关联分析; 优异等位变异; 等位变异效应
【英文关键词】Cultivated soybean [Glycine max (L.) Merr.]; Wild soybean (Glycine soja Sieb. et Zucc.); Simple-sequence repeat (SSR); Association mapping; Elite allele; Allele effect
【中文摘要】在前文研究已检出与农艺品质性状显著关联的 SSR 位点的基础上, 本文进一步对与性状关联位点的等位变异作解析, 通过将携带某等位变异的所有材料表型均值与携带无效等位基因(null allele)材料表型均值做比较, 估计等位变异的潜在表型效应增量(减量), 进一步利用该信息估计位点增效(减效) 等位变异的平均效应, 鉴别出一批农艺品质性状优异位点、等位变异及携带优异等位变异的载体材料。发现在栽培及野生种质中检出的优异等位变异有同、有异、有互补性。发现关联位点正、负效应等位变异均值间有差异, 可根据育种目标性状选择要求, 选取适合的位点及相应等位变异。同一标记位点可与多性状关联, 其等位变异在不同性状间各有其表型效应的方向和大小; 等位变异在相关性状效应上方向、大小的异同解释了性状间正、负相关的遗传原因。关联作图得到的信息可以弥补家系连锁法 QTL定位信息的不足, 并直接利用等位变异信息进行亲本选拔、组合选配及后代等位条带辅助选择以提高育种成效。
【英文摘要】On the basis of our previous results of SSR loci associated with the 16 traits, alleles of loci significantly associated with the traits were analyzed further in the present paper. The phenotypic allele effect was estimated through comparison between the average phenotypic value over accessions with the specific alle le and that of accessions with “ null allele ”, and then the a verage positive (negative) allele effect (AAE) of a locus was calculated over the estimated phenotypic effects of all positive (negative) alleles. The results showed that a set of elite alleles, loci and their carrier materials were screened out. Among the elite al leles existed in Glycine max and Glycine soja , some were consistent, some inconsistent and some complementary. The phenotypic ef-fects of positive (negative) alleles were different from each other, and therefore, the average positive (negative) effects of a locus were also different from each other, indicating the potential of genetic recombination for breeding purposes. A same marker locus could associate with multiple traits with its alleles performed in their own way in direction and size, and the covariation of a same allele performed in two related traits might be the genetic ba sis of their phenotypic correlation. In summary, the results implied that association mapping could offer further genetic information complementary to the family-based linkage mapping for the im-provement of breeding procedures. In addition, further detailed in formation on elite alleles and phenotypic effects of the 16 traits were shown in the text.
【语种】中文
【第一作者】文自翔
【通讯作者】盖钧镒
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【题目】Development of a SCAR marker for diagnosis of dwarf bunt of wheat and detection of Tilletia controversa K ü hn
【中文关键词】SCAR;Tilletia controversaK ü hn
【英文关键词】SCAR;Tilletia controversaK ü hn
【中文摘要】Dwarf bunt of wheat, caused by Tilletia controversa K ü hn, is a destructive disease on wheat as well as an important internationally quarantined disease in many countries. The primer ISSR818 generated a polymorphic pattern displaying a 867-bp DNA fragment specific for T. controversa. The marker was onverted into a sequence characterized amplified region (SCAR), and specific primers (TCKSF3/TCKSR3) designed for use in PCR detection assays; they amplified a unique DNA fragment in all isolates of T. controversa but not in the related pathogens. The detection limit with the primer set TCKSF3/TCKSR3) was 5 ng of DNA which could be obtained from 5.5 μ g of teliospores in a 25- μ L PCR reaction mixture.
【英文摘要】Dwarf bunt of wheat, caused by Tilletia controversa K ü hn, is a destructive disease on wheat as well as an important internationally quarantined disease in many countries. The primer ISSR818 generated a polymorphic pattern displaying a 867-bp DNA fragment specific for T. controversa. The marker was onverted into a sequence characterized amplified region (SCAR), and specific primers (TCKSF3/TCKSR3) designed for use in PCR detection assays; they amplified a unique DNA fragment in all isolates of T. controversa but not in the related pathogens. The detection limit with the primer set TCKSF3/TCKSR3) was 5 ng of DNA which could be obtained from 5.5 μ g of teliospores in a 25- μ L PCR reaction mixture.
【语种】英文
【第一作者】L. Gao
【通讯作者】冯洁
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【学科分类】植物保护学

【题目】中国东北大豆育成品种遗传多样性和群体遗传结构分析
【中文关键词】中国东北;大豆育成品种;遗传多样性;互补等位变异;群体遗传结构
【英文关键词】Northeast China;Released soybean cultivar;Genetic diversity;Complementary alleles;Population genetic StrUcture
【中文摘要】l923-2005年中国育成1 300个大豆品种,其中东北育成682个品种。选用大豆基因组64个SSR标记分析 东北169份大豆育成品种的遗传变异,探讨东北大豆育成品种群体遗传多样性及分时期亚群间、分省亚群间的遗传 多样性和互补性,及该地区育成品种群体的遗传结构。结果表明,东北大豆育成品种遗传多样性丰富,分时期亚群随 着时间推移旧的等位变异在消失而新的等位变异不断增加,新增加的多于消失的旧等位变异。分省亚群(黑龙江、吉林、辽宁)间都存在较多互补等位变异数,最多的在黑龙江与辽宁亚群间。分时期亚群间、分省亚群间分别拥有各自特有或特缺的等位变异。东北大豆育成品种分省亚群、分时期亚群分类与SSR标记遗传距离聚类间有显著相关,省份分群、时期分群都有其相应的遗传基础。东北大豆育成品种可能源自两个血缘群体,分别占I、II类群的绝大部分,和III、Iv类群中较大比例;黑龙江品种兼有两方面血缘,吉林、辽宁品种则侧重在同一种血缘,前者遗传基础较后两者广;东北各分时期亚群均有2种血缘。研究结果启示在新品种选育中应加强东北3省间大豆育成品种种质的交流、增加优异基因相互渗透,从而拓宽大豆品种的遗传基础。
【英文摘要】There were 1 300 soybean cultivars released during 1923—2005 in China,of which 682 were from northeast China.In the present study,169 cultivars out of the 682 were analyzed with 64 SSR markers to reveal the genetic diversity of the north— east China soybean cultivar population(NECSCP),the genetic diversity and marker allele complementarity among provincial subpopulations(PSP)and released period subpopulations(RPSP),and the genetic structure of the population and subpopulations. The results showed that there existed a plenty of genetic diversity in NECSCP;with the period advance,some of the old alleles in earlierRPSPdisappearedand somenew alleles cameoutinlaterRPSPandthenew onesweremorethantheold ones.Somemu— tual complementary alleles appeared among PSE with the largest number of mutual complementary alleles between Heilongjiang subpopulation and Liaoning subpopulation.There also existed some specifically existent and specifically deficient alleles in PSP and RPSP Significant relationship was found between SSR clusters and PSP as well as RPS indicating the sound genetic bases of the classification of PSP and RPSE The NECSCP was traced to two mode1.based populations according to the Structure Analysis(Structure version 2.2).The two sources of germplasm accounted for the most part of Cluster I and II.and the most part of Cluster III and IV,respectively.The Heilongjiang subpopulation mainly contained both sources of germplasm,while Jilin and Liaoning subpopulations contained one of them,indicating the former possesed genetic base broader than the latter.In addition, all of the RPSP almost equally

contained the two sources of germplasm.The results implied that germplasm exchange among PSP should be encouraged for broadening the genetic base in NECSCR
【语种】中文
【第一作者】张 军
【通讯作者】盖钧镒
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【题目】密度对玉米品质及穗部性状的影响
【中文关键词】玉米; 密度;品质
【英文关键词】co rn; densit y; qua lit y
【中文摘要】以江单 4 号为试验材料, 在 4. 50、 5. 25、 6. 00、 6. 75、 7. 50 万株 hm- 2五个种植密度下, 研究了种植密度对玉米产量和品质及穗部性状的影响。结果表明: 玉米的产量随着种植密度的增加先增加后减少, 产量在6 75 万株 hm-2时最高, 在4. 5~ 7. 5 万株 hm- 2的密度范围内,随着种植密度的增加,蛋白质、 百粒重、 穗长、穗粗、 行粒数、 秃尖长度达到显著水平,蛋白质、 百粒重、 穗长、 穗粗、 行粒数随之减小,秃尖长度随着种植密度的增加而增加;玉米的淀粉含量、 脂肪和穗行数没有达到显著水平, 说明密度对它们影响不大。
【英文摘要】With the test mater ials o f Jiang dan 4, under the planting density including 45. 0, 52. 5, 60. 0, 67. 5,75. 0 tho usands hm- 2. The effect on the o utput and qua lit y affected by the planting density , as w ell the char -acter s w ere researched. The results show ed that w ith the dev elopment o f planting density , the output increasesa litt le and then r educes. The o utput achieves the hig hest to p at 67. 5 tho usands hm-2. Wit h the densitychangeal from 45. 0 to 75. 0 thousands hm-2, the pro tein, weig ht o f hundred g ra in, ear leng th, ear height andgr ain number of per r ow r educed co ntr arily , on the co ntr ary the length of bar e tip incr eased mo re. Ther e is no tlevel of starch content , body fat and ear diameter of the cor n, w hich indicates a litt le effect on it.
【语种】中文
【第一作者】李 波
【通讯作者】王振华
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【学科分类】农艺学

【题目】An ISSR-based approach for the molecular detection and diagnosis of dwarf bunt of wheat, caused by Tilletia controversa K ü hn
【中文关键词】ISSR;PCR;SCAR;Tilletia controversa K ü hn
【英文关键词】ISSR;PCR;SCAR;Tilletia controversa K ü hn
【中文摘要】Dwarf bunt of wheat, caused by Tilletia controversa K ü hn, is an important international quarantine disease in many countries. The objective of this investigation was to develop a diagnostic molecular marker generated from intersimple sequence repeat (ISSR) for rapid identification of T. controversa. A total of 60 primers were tested by ISSR to detect DNA polymorphisms between T. controversa and related species. The primer ISSR818 generated a polymorphic pattern displaying a 952- bp DNA fragment specific for T. controversa. The marker was converted into a sequence characterized amplified region (SCAR), and specific primers (TCKSF2/TCKSR2) were designed for use in a PCR detection assay. Its detection limit was 1 ng of DNA, which could be yielded by 1.1 μ g of teliospores in a 25- μ l PCR. Conclusively, a method to distinguish T. controversa from similar pathogenic fungi has been successfully developed based on the use of a SCAR marker
【英文摘要】Dwarf bunt of wheat, caused by Tilletia controversa K ü hn, is an important international quarantine disease in many countries. The objective of this investigation was to develop a diagnostic molecular marker generated from intersimple sequence repeat (ISSR) for rapid identification of T. controversa. A total of 60 primers were tested by ISSR to detect DNA polymorphisms between T. controversa and related species. The primer ISSR818 generated a polymorphic pattern displaying a 952- bp DNA fragment specific for

T. controversa. The marker was converted into a sequence characterized amplified region (SCAR), and specific primers (TCKSF2/TCKSR2) were designed for use in a PCR detection assay. Its detection limit was 1 ng of DNA, which could be yielded by 1.1 μg of teliospores in a 25- μl PCR. Conclusively, a method to distinguish T. controversa from similar pathogenic fungi has been successfully developed based on the use of a SCAR marker

【语种】英文
【第一作者】L. Gao
【通讯作者】陈万全
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【学科分类】植物保护学

【题目】密度和追肥量对玉米产量的影响
【中文关键词】玉米; 密度;追肥量; 产量;栽培模式
【英文关键词】maize; density ; additional fertilizer amo unt; pr oductio n; cultiv ation model
【中文摘要】采用二次旋转回归组合设计, 以玉米品种东庆 1 号、 本育 9 号、 东农 250、 东农 0304 和东农 252 为试验材料,研究了它们在密度为 37 500~ 67 500 株　hm- 2,追肥量为 75~ 225 kg　hm- 2范围内的产量变化规律。结果表明:不同玉米品种适合其种植的密度和追肥量不同;东庆 1 号和东农 252 密度和追肥量的变化对其产量的影响较大,其他 3个品种密度和追肥量的变化对其产量影响不大。确定了 5 个品种的密度和追肥量的最佳组合方案,建立了 5 个品种密度和追肥量变化与产量关系的回归模型。
【英文摘要】Taking maize var iety Dongqing No . 1 (DQ1) , Benyu No. 9 (BY9) , Dongnong 250 (DN250) ,Dongno ng 0304(DN0304) and Dongnong 252(DN252) as test materials, using t he quadratic ro tator r egr ess comb- ination design of two facto rs and five levels, the r ule of yield chang e under planting density o f 37 500~ 67 500 ind- ividual plant　hm- 2, fertilizer capacity of 75~ 225 kg　hm- 2w as studied. The results indicated that different maizevar iety needed different plant ing density and fertilizer capacity, by w hich the yield of DQ1 and DN252 wer e affect -ed g reatly, t he best planting density and fertilizer combination scheme o f tho se 5 maize v ariet ies w as pro po sed, andit also constituted the regr ess model of the relationship between maize yield and the chang e of planting density andadditional fer tilizer amount .
【语种】中文
【第一作者】高明波
【通讯作者】金益
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【题目】Genome-wide identification of Phytophthora sojae SNARE genes and functional characterization of the conserved SNARE PsYKT6
【中文关键词】Vesicular trafficking; Phytophthora sojae; PsYKT6
【英文关键词】Vesicular trafficking; Phytophthora sojae; PsYKT6
【中文摘要】Soluble N-ethylmaleimide-sensitive factor attachment protein receptors (SNAREs) are central components of the machinery mediating membrane fusion and key factors for vesicular trafficking in all eukaryotic cells. Taking advantage of the available whole genome sequence of the oomycete plant pathogen Phytophthora sojae, 35 genes encoding putative SNARE proteins were identified in the genome of this organism. PsYKT6, one of the most conserved SNARE proteins, was functionally characterized by homology-dependent gene silencing. The phenotype analysis showed that PsYKT6 is important for proper asexual development, sexual reproduction, and pathogenesis on host soybean cultivars.
【英文摘要】Soluble N-ethylmaleimide-sensitive factor attachment protein receptors (SNAREs) are central components of the machinery mediating membrane fusion and key factors for vesicular trafficking in all eukaryotic cells. Taking advantage of the available whole genome sequence of the oomycete plant pathogen Phytophthora sojae, 35 genes encoding putative SNARE proteins were

identified in the genome of this organism. PsYKT6, one of the most conserved SNARE proteins, was functionally characterized by homology-dependent gene silencing. The phenotype analysis showed that PsYKT6 is important for proper asexual development, sexual reproduction, and pathogenesis on host soybean cultivars.

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【题目】1923-2005年中国大豆育成品种种质的地理来源及其遗传贡献
【中文关键词】大豆; 种质构成; 地理来源; 祖先亲本; 遗传贡献
【英文关键词】Soybean; Germplasm constitution; Geographic source; End ancestor; Genetic contribution
【中文摘要】中国大豆育成品种的种质构成可通过追溯其祖先亲本的遗传贡献来估计。本研究搜集1923—2005年全国育成的1 300 个大豆育成品种系谱资料, 追溯其祖先亲本, 计算每一育成品种祖先亲本的细胞核和细胞质遗传贡献值, 并分析其种质的地理来源及其年代演变特点。结果表明, 全国1 300 个大豆育成品种来源于670 个细胞核、344 个细胞质终端祖先亲本, 其地理来源按国内I 、II 、III、IV、V 、VI生态区和国外归类, 地理来源不详的另归一类, 相应的核(质) 遗传贡献率分别为45.44 (49.77) % 、23.23 (26.31) % 、7.33 (9.62) % 、4.40 (4.62) % 、0.87 (1.08) % 、0.55 (0.77) % 、17.75 (7.00) %和0.45 (0.85) %; 各生态区育成品种的核(质) 种质主要来自本区祖先亲本。近十年(1996 —2005)全国育成的592 个品种中, 国外、VI区和地理来源不详者祖先亲本核(质) 贡献率分别增加了11.96 (8.85) % 、0.89 (1.07) %和0.22 (0.62) %, I 、II 、III、IV和V 区祖先亲本核(质) 贡献率分别下降了7.83 (4.22) % 、3.66 (6.13) % 、0.66 (0.34) % 、0.64 (0.41) % 和0.27 (0.12) %; 归纳出了这期间育成品种的46个重要祖先亲本; 各生态区间种质交流虽有增加, 但所在区种质仍占绝大部分。整体上说, 十年来我国大豆育成品种种质的地理来源有所增宽, 但仍主要局限在本生态区,为了拓宽未来品种的遗传基础需进一步加强各生态区间的种质交流与利用。
【英文摘要】It provides important and necessary in formation for future soybean breeding to estimate the genetic contribution from the end ancestors of the released cultivars. Based on the pedigree data of 1 300 soybean cultivars released during 1923 － 2005 in China, the nuclear and cytoplasmic contribution rates of the end ancestors to each of the cultivars were calculated and analyzed. The 1 300 cultivars were traced back to 670 nuclear and 344 cytoplasmic ancestors and had 45.44% (49.77%), 23.23% (26.31%), 7.33% (9.62%), 4.40% (4.62%), 0.87% (1.08%), and 0.55% (0.77%) of nuclear (cytoplasmic) germplasm from Eco-region I, II, III, IV, V, VI, 17.75% (7.00%) from foreign countries, and 0.45% (0.85%) from geographic-unknown sources, respectively, while the nuclear (cytoplasmic) germplasm of the cultivars mainly came from their own eco-regions released them. During the last dec-ade (1996－ 2005), among 592 cultivars released, their nuclear (cytoplasmic) germpasm from foreign countries, eco-region VI and some geographic-unknown sources increased by 11.96% (8.85%), 0.89% (1.07%), and 0.22% (0.62%), but those from eco-region I－ V decreased by 7.83% (4.22%), 3.66% (6.13%), 0.66% (0.34%), 0.64% (0.41%), and 0.27% (0.12%), respectively; 46 core end ancestors of the cultivars released during 1996 － 2005 were nominated on the basis of thei r nuclear and cytoplasmic contribution; the exchange and utilization of germplasm among eco-regions were improved but mo stly still limited in their own eco-regions. Therefore, it is necessary to strengthen germplasm exchange among eco-regions for broadening genetic bases of the future cultivars.
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【第一作者】熊冬金
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【题目】Two host cytoplasmic effectors are required for pathogenesis of Phytophthora sojae by suppression of host defenses

【中文关键词】Phytophthora sojae;host defenses
【英文关键词】Phytophthora sojae;host defenses
【中文摘要】Phytophthora sojae encodes hundreds of putative host cytoplasmic effectors with conserved FLAK motifs following signal peptides, termed crinkling- and necrosis-inducing proteins (CRN) or Crinkler. Their functions and mechanisms in pathogenesis are mostly unknown. Here, we identify a group of five P. sojae-specific CRN-like genes with high levels of sequence similarity, of which three are putative pseudogenes. Functional analysis shows that the two functional genes encode proteins with predicted nuclear localization signals that induce contrasting responses when expressed in Nicotiana benthamiana and soybean (Glycine max). PsCRN63 induces cell death, while PsCRN115 suppresses cell death elicited by the P. sojae necrosis-inducing protein (PsojNIP) or PsCRN63. Expression of CRN fragments with deleted signal peptides and FLAK motifs demonstrates that the carboxyl-terminal portions of PsCRN63 or PsCRN115 are sufficient for their activities. However, the predicted nuclear localization signal is required for PsCRN63 to induce cell death but not for PsCRN115 to suppress cell death. Furthermore, silencing of the PsCRN63 and PsCRN115 genes in P. sojae stable transformants leads to a reduction of virulence on soybean. Intriguingly, the silenced transformants lose the ability to suppress host cell death and callose deposition on inoculated plants. These results suggest a role for CRN effectors in the suppression of host defense responses
【英文摘要】Phytophthora sojae encodes hundreds of putative host cytoplasmic effectors with conserved FLAK motifs following signal peptides, termed crinkling- and necrosis-inducing proteins (CRN) or Crinkler. Their functions and mechanisms in pathogenesis are mostly unknown. Here, we identify a group of five P. sojae-specific CRN-like genes with high levels of sequence similarity, of which three are putative pseudogenes. Functional analysis shows that the two functional genes encode proteins with predicted nuclear localization signals that induce contrasting responses when expressed in Nicotiana benthamiana and soybean (Glycine max). PsCRN63 induces cell death, while PsCRN115 suppresses cell death elicited by the P. sojae necrosis-inducing protein (PsojNIP) or PsCRN63. Expression of CRN fragments with deleted signal peptides and FLAK motifs demonstrates that the carboxyl-terminal portions of PsCRN63 or PsCRN115 are sufficient for their activities. However, the predicted nuclear localization signal is required for PsCRN63 to induce cell death but not for PsCRN115 to suppress cell death. Furthermore, silencing of the PsCRN63 and PsCRN115 genes in P. sojae stable transformants leads to a reduction of virulence on soybean. Intriguingly, the silenced transformants lose the ability to suppress host cell death and callose deposition on inoculated plants. These results suggest a role for CRN effectors in the suppression of host defense responses
【语种】英文
【第一作者】Tingli Liu
【通讯作者】窦道龙
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【学科分类】植物保护学

【题目】锌对不同基因型玉米幼苗碳氮代谢的影响
【中文关键词】玉米幼苗; 锌; 碳氮代谢
【英文关键词】maize seedlings; zinc; C, N metabolism
【中文摘要】选用不同耐锌玉米品种‘四单19’(低锌敏感型)和‘牡丹9’(低锌不敏感型), 采用营养液水培, 研究不同锌浓度对碳酸酐酶(CA)活性、光合特性、可溶性糖含量等的影响。结果表明: 玉米对锌具有选择运输的能力, 当锌浓度过大对幼苗造成伤害时, 根系吸收的锌向地上部运输的比例减少, 以减少过量的锌对地上部造成的伤害。锌与CA活性密切相关, 而CA活性与净光合速率的变化并非密切相关。低锌和高锌均显著增加了‘四单19’的可溶性糖含量, 而‘牡丹9’的可溶性糖含量在缺锌与低锌处理下增加幅度并不明显, 但在高锌处理下可溶性糖含量迅速增加。低锌和高锌处理都显著降低了‘四单19’叶片的蛋白质含量, 而‘牡丹9’低锌处理下叶片可溶性蛋白含量下降并不明显, 但在高锌处理下叶片可溶性蛋白含量大幅度下降。低锌处理下, ‘四单19’的蛋白质合成受到抑制, 而游离氨基酸大量积累, 明显抑制了植株的生长; ‘牡丹9’的蛋白质和氨基酸含量变化较小。
【英文摘要】Two Zn-tolerant maize cultivars‘ Sidan 19 ’(low zinc sensitive) and‘ Mudan 9 ’(low zinc insensitive)were used as materials to investigate the effects of different Zn contents on CA activity, photosyntheticcharacteristics, soluble sugar content. The results showed that maize could transport zinc selectively. Whenzinc concentration was enough to damage seedlings, zinc absorbed by the roots reaching the above-grounddecreased to reduce harm them. CA activity and zinc supply were closely related to each other, but CA activityand net photosynthesis, were not closely related to each other. Low zinc and high zinc promoted‘ Sidan 19 ’soluble sugar

content notablely; for ‘ Mudan 9 ’, the soluble sugar content under zinc deficiency and low zinctreatment did not increase significantly, while displayed a rapid increase in high-zinc processing. Under low zincand high zinc treatment the blades protein content of ‘ Sidan 19 ’ reduced significantly. The soluble proteincontent in blades of ‘ Mudan 9 ’ reduced non-significantly under low zinc processing, and decreased sharplyundert high zinc processing. Under low zinc treatment, protein synthesis of ‘ Sidan 19 ’ was suppressed with alarge accumulation of free amino acids, which significantly inhibited the growth of the plants; while the proteinand amino acid content of ‘ Mudan 9 ’ altered a little

【语种】中文
【第一作者】李佐同
【通讯作者】杨克军
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【题目】大豆育成品种农艺性状QTL与SSR 标记的关联分析
【中文关键词】大豆育成品种; 农艺性状; SSR 标记; 关联分析; 优良等位变异; 设计育种
【英文关键词】Released soybean cultivar; Agronomic trait; SSR marker; Association analysis; Elite allele; Breeding by design
【中文摘要】利用85个SSR 标记, 对大豆育成品种群体(190 份代表性材料) 的基因组进行扫描, 在检测群体结构基础上搜索连锁不平衡位点, 并采用TASSEL 软件的GLM方法对11 个大豆农艺性状QTL 进行关联分析。结果表明: (1) 在公共图谱上共线性或非共线性的SSR 位点组合均广泛存在连锁不平衡(LD), 但不平衡程度D ′ >0.5 的组合数只占总位点组合的1.71%, 共线位点D ′ 值随遗传距离衰减较快; (2) SSR 数据遗传结构分析表明, 育成品种群体由7 个亚群体组成, 矫正后全群体共有45个位点累计136 个位点(次) 与11 个大豆农艺性状QTL 关联, 其中22个位点(次) 与家系连锁定位的QTL 区间相重, 有43个位点(次) 2 年重复出现; (3) 一些标记同时与2 个或多个性状关联, 可能是性状相关或一因多效的遗传基础; (4) 育成品种群体关联位点与地方品种群体和野生群体只有少数相同, 群体间育种性状的遗传结构有相当大差异; (5) 发掘出农艺性状优异等位变异及其载体品种, 包括增效最大的产量等位变异 Satt347-300 (+932 kg hm － 2, 中豆26), 生物量等位变异Satt365-294(+3 123 kg hm － 2, 黄毛豆), 蛋白质含量等位变异Be475343-198 (+0.41%, 淮豆4 号), 脂肪含量等位变异Satt150-273 (+2.32%, 科丰15)等。在此基础上作了设计育种的探讨。
【英文摘要】The genotyping data of 85 simple-sequence repeat (SSR) ma rkers on released cultivar popul ation (RCP) (a representative sample with 190 accessions) were obtained and analyzed for LD of pairwise loci and population structure, and then for asso-ciation between SSR loci and 11 soybea n agronomic traits under TA SSEL GLM (general linear model) program. The results showed that: (1) LD was detected extens ively not only among syntenic markers but al so among nonsyntenic ones, while the loci D ′ >0.5 accounted for only 1.71% of the total ones. The syntenic D ′ value attenuated fastly along with the increase of genetic distance. (2) Genetic structure analysis showed that RCP was composed of seven subpopulations. The 45 SSR loci with a total of 136 loci (time) were found to be associated with 11 ag ronomic traits in the RCP. Among those, 22 loci (times) were con -sistent with mapped QTLs from family-based linkage mapping procedure and 43 loci (times) were consistently detected in two experiment years. (3) There also found a certain number of loci associated simultaneously with tw o or more traits, which might be the genetic reason of correlation among trai ts as well as the pleiotropic effects of gene(s). (4) There found only a few association loci in released cultivar population coincided with those in landrace and wild populations, indicating the large difference of ge-netic structure between the populations. (5) The elite alleles of the agronomic traits along with their carriers were detected, such as the allele Satt347-300 for largest positive yield effect (+932 kg ha － 1 for Zhongdou 26), Satt365-294 for biomass(+3 123 kg ha － 1 for Huangmaodou), Be475343-198 for protein content (+0.41% for Huaidou 4), Satt150-273 for oil content (+2.32% for Kefeng 15), and were used to illustrate their potential in breeding programs.
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【第一作者】张 军
【通讯作者】盖钧镒
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【学科分类】农业基础学科

【题目】Characterization of intronic structures and alternative splicing in Phytophthora sojae by comparative analysis of expressed sequence tags and genomic sequences
【中文关键词】oomycete, Phytophthora sojae, intron, alternative splicing
【英文关键词】oomycete, Phytophthora sojae, intron, alternative splicing
【中文摘要】The oomycetes, a distinct phylogenetic lineage of fungus-like microorganisms, are heterokonts (stramenopiles) belonging to the supergroup Chromalveolata. Although the complete genomic sequences of a number of oomycetes have been reported, little information regarding the introns therein is available. Here, we investigated the introns of Phytophthora sojae, a pathogen that causes soybean root and stem rot, by a comparative analysis of genomic sequences and expressed sequence tags. A total of 4013 introns were identified, of which 96.6% contained canonical splice sites. The P. sojae genome possessed features distinct from other organisms at 5' splice sites, polypyrimidine tracts, branch sites, and 3' splice sites. Diverse repeating sequences, ranging from 2 to 10 nucleotides in length, were found at more than half of the intron-exon boundaries. Furthermore, 122 genes underwent alternative splicing. These data indicate that P. sojae has unique splicing mechanisms, and recognition of those mechanisms may lead to more accurate predictions of the location of introns in P. sojae and even other oomycete species.
【英文摘要】The oomycetes, a distinct phylogenetic lineage of fungus-like microorganisms, are heterokonts (stramenopiles) belonging to the supergroup Chromalveolata. Although the complete genomic sequences of a number of oomycetes have been reported, little information regarding the introns therein is available. Here, we investigated the introns of Phytophthora sojae, a pathogen that causes soybean root and stem rot, by a comparative analysis of genomic sequences and expressed sequence tags. A total of 4013 introns were identified, of which 96.6% contained canonical splice sites. The P. sojae genome possessed features distinct from other organisms at 5' splice sites, polypyrimidine tracts, branch sites, and 3' splice sites. Diverse repeating sequences, ranging from 2 to 10 nucleotides in length, were found at more than half of the intron-exon boundaries. Furthermore, 122 genes underwent alternative splicing. These data indicate that P. sojae has unique splicing mechanisms, and recognition of those mechanisms may lead to more accurate predictions of the location of introns in P. sojae and even other oomycete species.
【语种】英文
【第一作者】Jian H. Hao
【通讯作者】窦道龙
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【题目】A test of Baker‘ s Law: breeding systems of invasive species of Asteraceae in China
【中文关键词】oomycete, Phytophthora sojae, intron, alternative splicing
【英文关键词】oomycete, Phytophthora sojae, intron, alternative splicing
【中文摘要】The oomycetes, a distinct phylogenetic lineage of fungus-like microorganisms, are heterokonts (stramenopiles) belonging to the supergroup Chromalveolata. Although the complete genomic sequences of a number of oomycetes have been reported, little information regarding the introns therein is available. Here, we investigated the introns of Phytophthora sojae, a pathogen that causes soybean root and stem rot, by a comparative analysis of genomic sequences and expressed sequence tags. A total of 4013 introns were identified, of which 96.6% contained canonical splice sites. The P. sojae genome possessed features distinct from other organisms at 5' splice sites, polypyrimidine tracts, branch sites, and 3' splice sites. Diverse repeating sequences, ranging from 2 to 10 nucleotides in length, were found at more than half of the intron-exon boundaries. Furthermore, 122 genes underwent alternative splicing. These data indicate that P. sojae has unique splicing mechanisms, and recognition of those mechanisms may lead to more accurate predictions of the location of introns in P. sojae and even other oomycete species.
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other organisms at 5' splice sites, polypyrimidine tracts, branch sites, and 3' splice sites. Diverse repeating sequences, ranging from 2 to 10 nucleotides in length, were found at more than half of the intron-exon boundaries. Furthermore, 122 genes underwent alternative splicing. These data indicate that P. sojae has unique splicing mechanisms, and recognition of those mechanisms may lead to more accurate predictions of the location of introns in P. sojae and even other oomycete species.
【语种】英文
【第一作者】Danyu Shen
【通讯作者】窦道龙
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【题目】亚洲大豆栽培品种遗传多样性、特异性和群体分化研究
【中文关键词】亚洲;大豆栽培品种;遗传多样性;遗传特异性;互补等位变异;群体分化
【英文关键词】Asia; Soybean cultivar; Genetic diversity; Genetic specifi city; Complementary alleles; Population differentiation
【中文摘要】【目的】研究亚洲大豆栽培品种地理群体的遗传多样性、特异性和群体分化。【方法】应用大豆基因组64对 SSR 分子标记技术,对亚洲 216 份栽培大豆品种遗传变异进行分析。【结果】亚洲大豆栽培品种遗传多样性丰富,地理群体(中国东北、中国黄淮、中国南方、朝鲜半岛、东南亚、南亚)间存在较多互补等位变异数,最多的在中国黄淮与南亚群体间;各地理群体拥有各自特有或特缺的等位变异。亚洲大豆全群 SSR 标记遗传距离聚类(聚成 6 类)与地理群体分类间有极显著相关性,地理分群有其相应的遗传基础。亚洲全群由 2 类血缘组成,分别占中国国内和国外 2 大类群的绝大部分;地理群体间 2 类血缘组成的差异明显。国内与国外各群体间以中国南方与东南亚群体间分化最小;国外群以东南亚与朝鲜半岛群体间分化最小;国内群以中国黄淮与中国南方群体分化最小。【结论】亚洲大豆栽培品种地理群体间具有位点和等位变异的特异性,各群体间可以相互补充的位点及其等位变异甚丰富,利用国外栽培品种可以拓宽中国品种的遗传基础。
【英文摘要】【Objective】 The present study was aimed to reveal the genetic diversity, specificity and population differentiation of soybean cultivars in Asia. 【Method】 A total of 64 simple sequence repeat (SSR) markers scattered on the genome were used to analyze the genetic variation of 216 soybean cultivars sampled from Asia. 【Result】 There was a plenty of genetic diversity in populations of soybean cultivars in Asia as well as a plenty of complementary alleles am ong geographic populations (Northeast China, China’s Huanghuai Region, Southern China, Korean Peninsula, Southeast Asia and South Asia), especially between China’s Huanghuai and South Asia population. Unique and deficient alleles in each geographi c population were detected. A significant association showed between the classification of geographic cultivar populations and clustered cultivar populations, indicating the sound genetic bases of geographic classification of the soybean cultivars. According to the model-based clustering method for u sing multi-locus data to infer population structure and assign cultivars to populations (structure analysis), two ancestry sources i n Asia were detected, with one composing the most part of Chinese cul tivar group, another composing the most part of exotic cultivar g roup. The composition of the two ancestry sources in the geographic populations differed markedly. Significant differentiation among eographic populations was found, while the least differentiation between Chinese and exotic group was in the pair of Southern China vs. Southeast Asia population, that within exotic group was in the pair of Southeast Asia vs. Korean Peninsula population , and that within Chinese group was in the pair of China’s Huanghuai and Southern China population. 【Conclusion】 Plenty of unique and deficient loci and alleles existed in each geographic population. Therefore, plenty of complementary alleles were detected betw een pairs of populations for broadening the genetic base s of the respective geographic cultivar populations.
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【第一作者】张 军
【通讯作者】盖钧镒
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【题目】Population genetic structure of Tetranychus urticae and tits sibling species Tetranychus cinnabarinus (Acari: Tetranychidae) in China as inferred from microsatellite data
【中文关键词】Acari: Tetranychidae; in China ; microsatellite data
【英文关键词】Acari: Tetranychidae; in China ; microsatellite data
【中文摘要】Several species of spider mites were infected with both Wolbachia and Cardinium causing reproductive abnormalities in their hosts. A PCR-based method was developed for simultaneous detection of Wolbachia and Cardinium in spider mites. Two pairs of primers were designed to amplify two DNA fragments of different length specific to wsp gene of Wolbachia and 16S rDNA gene of Cardinium respectively in a single reaction. The specificity of multiplex PCR was tested by amplifying specific DNA fragments from positive controls and confirmed by DNA sequencing of PCR product. Multiplex PCR also showed high sensitivity, which could be applied to detect the presence of very low grade of Cardinium and Wolbachia. The result of detecting spider mites collected from fields in China by multiplex PCR was identical to results by traditional PCR, which proved the feasibility and reliability of multiplex PCR.
【英文摘要】Several species of spider mites were infected with both Wolbachia and Cardinium causing reproductive abnormalities in their hosts. A PCR-based method was developed for simultaneous detection of Wolbachia and Cardinium in spider mites. Two pairs of primers were designed to amplify two DNA fragments of different length specific to wsp gene of Wolbachia and 16S rDNA gene of Cardinium respectively in a single reaction. The specificity of multiplex PCR was tested by amplifying specific DNA fragments from positive controls and confirmed by DNA sequencing of PCR product. Multiplex PCR also showed high sensitivity, which could be applied to detect the presence of very low grade of Cardinium and Wolbachia. The result of detecting spider mites collected from fields in China by multiplex PCR was identical to results by traditional PCR, which proved the feasibility and reliability of multiplex PCR.
【语种】英文
【第一作者】Li, Ting
【通讯作者】洪晓月
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【学科分类】植物保护学

【题目】The PsCZF1 gene encoding a C2H2 zinc finger protein is required for growth, development and pathogenesis in Phytophthora sojae
【中文关键词】PsCZF1 gene ;C2H2 zinc finger protein
【英文关键词】PsCZF1 gene ;C2H2 zinc finger protein
【中文摘要】The C(2)H(2) zinc finger proteins form one of the largest families of transcriptional regulators in eukaryotes. We identified a Phytophthora sojae C(2)H(2) zinc finger (PsCZF1), that is highly conserved in sequenced oomycete pathogens. In transformants of P. sojae containing the PsCZF1 promoter fused to the beta-glucuronidase (GUS) reporter gene, GUS activity was highly induced in the P. sojae oospore stage and upregulated after infection. To elucidate the function of PsCZF1, its expression was silenced by introducing anti-sense constructs into P sojae. PsCZF1-silenced transformants did not exhibit altered cell size or morphology of sporangia and hyphae; however, hyphal growth rate was reduced by around 50% in the mutants. PsCZF1-deficient mutants were also impaired in production of oospores, swimming zoospores and germinating cysts, indicating that the gene is involved in various stages of the life cycle. Furthermore, we found that PsCZF1-deficient mutants lost virulence on host soybean cultivars. Our results suggest that this oomycete-specific C(2)H(2)-type zinc finger protein plays an important role in growth, development, and pathogenesis; therefore, PsCZF1 might be an attractive oomycete-specific target for chemical fungicide screening.
【英文摘要】The C(2)H(2) zinc finger proteins form one of the largest families of transcriptional regulators in eukaryotes. We identified a Phytophthora sojae C(2)H(2) zinc finger (PsCZF1), that is highly conserved in sequenced oomycete pathogens. In transformants of P. sojae containing the PsCZF1 promoter fused to the beta-glucuronidase (GUS) reporter gene, GUS activity was highly induced in the P. sojae oospore stage and upregulated after infection. To elucidate the function of PsCZF1, its expression was silenced by introducing anti-sense constructs into P sojae. PsCZF1-silenced transformants did not exhibit altered cell size or morphology of sporangia and hyphae; however, hyphal growth rate was reduced by around 50% in the mutants. PsCZF1-deficient mutants were also impaired in production of oospores, swimming zoospores and germinating cysts, indicating that the gene is involved in various stages of the life cycle. Furthermore, we found that PsCZF1-deficient mutants lost virulence on host soybean cultivars. Our results suggest that this oomycete-specific C(2)H(2)-type zinc finger protein plays an important role in growth, development, and pathogenesis; therefore, PsCZF1 might be an attractive oomycete-specific target for chemical fungicide screening.

【语种】英文
【第一作者】王永林
【通讯作者】王源超
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【学科分类】植物保护学

【题目】Coleus Blumei Viroid 6 : A new member of the genus Coleviroid derived from extensive natural genome shuffling
【中文关键词】Coleus blumei;CbVd-5
【英文关键词】Coleus blumei;CbVd-5
【中文摘要】Coleus blumei can be infected by several viroids of the genus Coleviroid. One year after detecting a mixed infection of coleus blumei viroid 1 (CbVd-1) and 5 (CbVd-5) in coleus seedlings inoculated with these two viroids, we found an additional viroid-like RNA. Sequence analysis revealed a viroid of 342 nucleotides that contains the central conserved region of coleviroids and is a chimera of the left half of CbVd-3 and the right half of CbVd-5. This new viroid, tentatively referred to as coleus blumei viroid 6 (CbVd-6), appears to have arisen from a natural recombination event or genome shuffling.
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【语种】英文
【第一作者】Wan-Ying Hou
【通讯作者】李世访
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【学科分类】植物保护学

【题目】GPR11, a Putative Seven-Transmembrane G Protein-Coupled Receptor, Controls Zoospore Development and Virulence of Phytophthora sojae
【中文关键词】G protein;PsGPR11
【英文关键词】G protein;PsGPR11
【中文摘要】G protein-coupled receptors (GPCRs) represent a large receptor family involved in a broad spectrum of cell signaling. To understand signaling mechanisms mediated by GPCRs in Phytophthora sojae, we identified and characterized the PsGPR11 gene, which encodes a putative seven-transmembrane GPCR. An expression analysis revealed that PsGPR11 was differentially expressed during asexual development. The highest expression level occurred in zoospores and was upregulated during early infection. PsGPR11-deficienct transformants were obtained by gene silencing strategies. Silenced transformants exhibited no differences in hyphal growth or morphology, sporangium production or size, or mating behavior. However, the release of zoospores from sporangia was severely impaired in the silenced transformants, and about 50% of the sporangia did not completely release their zoospores. Zoospore encystment and germination were also impaired, and zoospores of the transformants lost their pathogenicity to soybean. In addition, no interaction was observed between PsGPR11 and PsGPA1 with a conventional yeast two-hybrid assay, and the transcriptional levels of some genes which were identified as being negatively regulated by PsGPA1 were not clearly altered in PsGPR11-silenced mutants. These results suggest that PsGPR11-mediated signaling controls P. sojae zoospore development and virulence through the pathways independent of G protein.
【英文摘要】G protein-coupled receptors (GPCRs) represent a large receptor family involved in a broad spectrum of cell signaling. To understand signaling mechanisms mediated by GPCRs in Phytophthora sojae, we identified and characterized the PsGPR11 gene, which encodes a putative seven-transmembrane GPCR. An expression analysis revealed that PsGPR11 was differentially expressed

during asexual development. The highest expression level occurred in zoospores and was upregulated during early infection. PsGPR11-deficienct transformants were obtained by gene silencing strategies. Silenced transformants exhibited no differences in hyphal growth or morphology, sporangium production or size, or mating behavior. However, the release of zoospores from sporangia was severely impaired in the silenced transformants, and about 50% of the sporangia did not completely release their zoospores. Zoospore encystment and germination were also impaired, and zoospores of the transformants lost their pathogenicity to soybean. In addition, no interaction was observed between PsGPR11 and PsGPA1 with a conventional yeast two-hybrid assay, and the transcriptional levels of some genes which were identified as being negatively regulated by PsGPA1 were not clearly altered in PsGPR11-silenced mutants. These results suggest that PsGPR11-mediated signaling controls P. sojae zoospore development and virulence through the pathways independent of G protein.

【语种】英文

【第一作者】王永林

【通讯作者】王源超

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【学科分类】植物保护学

【题目】鲍杂交育种及胚胎发育的蛋白质组学研究

【中文关键词】鲍;杂交育种;蛋白质组学;胚胎发育; 双向电泳;质谱;鲍属

【英文关键词】abalone; crossbreeding; proteomic; embryonic development; 2-DE; MALDI-TOF-TOF; hybridization; Haliotis

【中文摘要】鲍是我国重要养殖贝类,但近年来由于种质退化及环境污染的加剧,鲍的养殖面临着严重的病害威胁。杂交是目前水产生物育种中应用广泛、行之有效的育种途径之一,以培育生长迅速、抗逆性强的鲍养殖新品种为主要目的。本研究运用蛋白质组学技术方法(双向电泳、串联质谱、数据库搜索),对西氏鲍(Haliotis gigantean)与皱纹盘鲍(Halioti discus hannai)种间杂交、杂色鲍(Haliotis diversicolor)群体间杂交以及杂色鲍胚胎发育过程等的蛋白质表达进行了比较分析,目的是为杂交优势分子机理解析和杂交育种方法提供参考依据。主要结果如下:1. 鲍种间杂交子代及其亲本系谱的蛋白质组分析;2. “东优1号”杂色鲍及其亲本足部肌肉的蛋白质组学分析;3. 杂色鲍三个地理群体足部肌肉蛋白质的双向电泳研究;4.杂色鲍胚胎发育蛋白质表达。

【英文摘要】Abalone is the most important breeding species in South of China, but in recent years because of germplasm of aggravated environmental pollution and degradation, abalone farms face serious disease threat. In order to produce some faster growth and well disease-resistant aquacuture varieties, nowadays, hybridization has been used widely in aquacuture breeding. In this study, analysis of abalone hybrids and its parental lines and embryonic development using a proteomic approach. The main results are as follows:1. Pedigree analysis of abalone hybrids and its parental lines using a proteomic; 2. Genetic changes of different geographical groups H. diversicolor hybrids and its parental lines using a proteomic approachapproach; 3. Two-dimensional gel electrophoresis analysis of H. diversicolor of differentgeographical population; 4. Protein expression during the embryonic development of abalone

【语种】中文

【第一作者】狄桂兰

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【学科分类】水产养殖学

【题目】PsSAK1, a Stress- Activated MAP Kinaseof Phytophthora sojae, Is Required for Zoospore Viability and Infection of Soybean

【中文关键词】PsSAK1

【英文关键词】PsSAK1

【中文摘要】Mitogen-activated protein kinase (MAPK) pathways are universal and evolutionarily conserved signal transduction modules in all eukaryotic cells. In this study, PsSAK1, which encodes a stress-activated MAPK of Phytophthora sojae, was identified. PsSAK1 is highly conserved in oomycetes, and it represents a novel group of MAPK due to its pleckstrin homology domain. Reverse-

transcription polymerase chain reaction analysis showed that PsSAK1 expression was upregulated in zoospores and cysts and during early infection. In addition, its expression was induced by osmotic and oxidative stress mediated by NaCl and H(2)O(2), respectively. To elucidate the function, the expression of PsSAK1 was silenced using stable transformation of P. sojae. The silencing of PsSAK1 did not impair hyphal growth, sporulation, or oospore production but severely hindered zoospore development, in that the silenced strains showed quicker encystment and a lower germination ratio than the wild type. PsSAK1-silenced mutants produced much longer germ tubes and could not colonize either wounded or unwounded soybean leaves. Our results indicate that PsSAK1 is an important regulator of zoospore development and pathogenicity in P. sojae

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【语种】英文

【第一作者】李爱宁

【通讯作者】王源超

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【学科分类】植物保护学

【题目】杂色鲍微卫星标记筛选、遗传连锁图谱构建

【中文关键词】杂色鲍;微卫星;遗传连锁图谱;QTL 定位;壳色;DNA 池

【英文关键词】small abalone; microsatellite; genetic linkage map; QTL mapping;
shell color; DNA pool

【中文摘要】本研究采用磁珠富集法,用14 个探针构建了杂色鲍微卫星富集文库。从文库中随机选取768 个阳性克隆进行测序,拼接得到729 个重叠群,其中656 个重叠群包含微卫星序列。利用微卫星两侧保守区域设计了583 对微卫星引物,从中筛选出退火温度在50-64°C,PCR 产物稳定扩增、条带清晰的微卫星标记308 个。随机选取其中的11 个微卫星标记用于标记质量评估,这11 个微卫星标记的PIC值在0.7276 到0.9163 之间,具有高度多态性。利用开发的308 个微卫星标记,以养殖个体♀和野生个体♂杂交F1 家系为作图群体,构建了杂色鲍的遗传连锁图谱。308 个微卫星标记中有182 个标记在亲本中具有多态性,可以用于图谱构建;采用LOD=3.5 构建杂色鲍雌雄连锁图谱,并用JoinMap 软件构建了杂色鲍的整合图谱。雌性和雄性图谱分别包括164和162 个标记,两张图谱均由16 个连锁群构成,与杂色鲍的核型2n=32 相一致。雌性连锁图谱总长度为758.3cM,平均间隔5.2cM,16 个连锁群长度从16.6cM到 81.0cM,雌性图谱的预期长度为971.3cM,图谱覆盖率为78.1%;雄性连锁图谱总长度为676.2cM,平均间隔4.5cM。雄性图谱的预期长度为867.7cM,图谱覆盖率为77.9%。利用共有标记将雌雄连锁图谱整合,整合图谱全长762.1cM,定位了175 个标记,平均间距4.6cM,图谱覆盖率80.7%。对杂色鲍作图家系的子代96 个个体进行壳长、壳宽、壳高、全湿重、壳重和肌肉重等6 个生长相关性状进行测量,并利用构建的整合图谱,对生长相关性状进行QTL 定位。检测到壳长、壳高、全湿重、肌肉重和壳重性状的推测QTL各1 个,壳宽性状没有检测到QTL。检测到的5 个推测QTL 均位于连锁群COM16上,壳长、全湿重、肌肉重和壳重的余因子均为Hdi294,可解释的表型变异分别为55.4%、56.9%、55.1%和52.0%。壳宽的余因子为Hdi133,可解释的表型变异为74.9%,全湿重、肌肉重和壳重定位在相同区域。在308 个微卫星标记中,有12 个标记在两个壳色DNA 池PCR 扩增产物中片段范围有差异,经过在32 个普通壳色和32 个黄色壳色杂色鲍个体的PCR 扩增反应后发现,标记Hdi3-119 标记在所有的黄色壳色个体中含有381bp 特殊片段,而在普通壳色个体中不含此片段,另外选取5 个家系共计384 个个体的验证结果也证实了Hdi3-119 标记为壳色紧密连锁的微卫星标记。微卫星标记Hdi3-119定位在杂色鲍整合图谱的第一连锁群14.9cM 位置上,其相邻标记为aba100 和Hdi299,标记aba100 在整合图谱上与Hdi3-119 的距离是1.4cM,与Hdi299 的距离是2.9cM。_____采用退火温度在55-60°C之间的微卫星标记264 个,用于杂色鲍“ 东优1 号 ”新品种及其配套系亲本—台湾群体(母本)和日本群体(父本)的鉴别,采用DNA 池法和个体PCR 法结合,筛选出1 个可以准确、客观的鉴别杂色鲍“ 东优1 号 ”杂交配套系的微卫星标记,标记名称为Hdi3-52。标记Hdi3-52 在“ 东

优1号”实验组特异性等位基因为223bp片段,在台湾群体特异性等位基因为大于258bp片段,在日本群体特异性等位基因为195bp片段。

【英文摘要】Small abalone, Haliotis diversicolor is naturally distributed along the coastalwaters of East Asia: from Japan to the Philippines. It is an economically importantmaricultured species in southern China and Taiwan. The molecular genetic likage mapof small abalone is essential for the identification and location of quantitative trait loci(QTL) as well as for the marker-assisted selection program, which has greatusefulness in enhancing breeding efficiency in the aquaculture important species. Thepurpose of this study includes five aspects. First aspect is to isolate lots ofmicrosatellite markers by constructing a microsatellite-enrichment library. Sencondaspect is to construct the genetic linkage maps for small abalone based onmicrosatellite markers. Third aspect is to localize some growth-related QTLs bycomposite interval mapping. Four aspect is to isolate the shell color-linked marker toimprove the economic value of small abalone. The last aspect is to distinguish threegroups to protect“ Dongyou 1 # ” new species.Small abalone genomic DNA library was constructed and included all the possiblecombinations of dimers and trimers probes. The dimers contain (AC)12, (AT)12,(AG)12 and (GC)12 probes, and the trimers include (AAT)8, (AAC)8, (AAG)8, (ATC)8,(ACG)8, (ACT)8, (AGC)8, (GCC)8, (AGG)8 and (ACC)8 probes. A total of 768 cloneswere selected from this library and 729 contigs were generated after analyzed byPhred/Phrap/Consed software. Five hundred and eighty-three pairs of primers weredesigned using the software PRIMER PREMIER 3.0. A total of 308 SSR markerswere selected from this set of primers based on amplification efficiency and stability.Eleven of these loci were tested on 22 individuals from two different geographicpopulations, and all loci were highly polymorphic. These polymorphic markers willbe used to analyse population structure, genetic diversity and construct a geneticlinkage map.Genetic linkage maps for small abalone were constructed using a total of 308 SSR(simple sequence repeat) markers. Segregation data on 96 progeny was genotypedusing a pseudo-testcross strategy. Sixteen linkage groups were identified in bothfemale and male maps, consistent with the haploid chromosome number. The femalelinkage map covered 758.3 cM, with an average interval of 5.2 cM. The male linkagemap spanned a total genetic distance of 676.2 cM, with an average interval of 4.5 cM.An integrated map was constructed by incorporating the homologous parental linkagegroups, resulting in 16 linkage groups with a total of 762.1 cM. Genome coverage ofthe integrated linkage map was approximately 80.7%.Shell length, shell width, shell height, total weight, muscle weight and shellweight are important growth-related traits in small abalone. On the basis of theintegrated map, we located five QTLs of growth-related traits. QTLs affecting shelllength, shell width, shell height, total weight, muscle weight and shell weight wereidentified on a genome-wide scale. The genome-wide LOD significance thresholdswere 5.8, 5.4, 5.2, 5.3, 5.0, and 4.9 for shell length, shell width, shell height, totalweight, muscle weight and shell weight, respectively. We didn’t identify anysignificant QTL, but identify five suggestive QTLs, each of the shell length, shellheight, total weight, muscle weight and shell weight has one suggestive QTL. Thesefive QTLs were located on the same linkage group COM16. QTLs for total weight,muscle weight and shell weight were scattered as the same region.Small abalone has two shell colors, one is brown which is the nomal color, anotheris yellow which is an unusual color. We find one microsatellite marker (Hdi3-119) has381 bp unique allele in the yellow shell color small abalone. Hdi3-119 was located onthe linkage group COM1 in the integrated map.Three DNA pools of small abalone were mixed by Taiwan population, Japanesepopulation and“ Dongyou 1 # ”, respectively. 264 microsatellite markers were used inthis study, one microsatellite loci named Hdi3-52 can distinguish the three smallabalone groups (Taiwan population, Japanese population and“ Dongyou 1 # ”). Eachof the three groups has its own private allele.

【语种】中文

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【学科分类】水产养殖学

【题目】A test of Baker‘s Law: breeding systems of invasive species of Asteraceae in China"

【中文关键词】invasive species ;Asteraceae

【英文关键词】invasive species ;Asteraceae

【中文摘要】Invasive alien plant species are frequently characterized by a high fecundity. However, because suitable pollinators and/or mates may be absent in the new range, it is not clear how they achieve high seed production. According to Baker’s Law, species capable of uniparental reproduction are more likely to establish after long-distance dispersal than species that rely on suitable mates and pollinators. To test whether self-compatible species, and particularly species capable of autonomous seed set, are more likely to establish

and spread, we experimentally assessed the breeding systems of 12 species of Asteraceae that are invasive in China. Among these 12 species of Asteraceae, the percentages of self-compatible species (66.7%) and species capable of autonomous seed set (83.3%), which included self-fertilizing and apomictic species, were significantly larger than expected from the percentages of such species in global data sets of Asteraceae (36.8% and 46.0%, respectively). Furthermore, the number of Chinese provinces in which the invasive alien species occur was significantly positively correlated with the proportion seed set on bagged capitula (i.e. with the degree of autonomous seed set). Among 36 species of Asteraceae that are invasive in China and for which we found breeding-system data in the literature, we also found a higher than expected percentage of self-compatible species (65.7%), and that these self-compatible species are more widespread in China than self-incompatible species. These results support the predictions of Baker ' s Law that self-compatible species, and particularly those capable of autonomous seed production, are more likely to establish and spread in a new range. Therefore, breeding systems of plants should be included as one of the key elements in risk assessment protocols for plant invasiveness.

【英文摘要】Invasive alien plant species are frequently characterized by a high fecundity. However, because suitable pollinators and/or mates may be absent in the new range, it is not clear how they achieve high seed production. According to Baker ' s Law, species capable of uniparental reproduction are more likely to establish after long-distance dispersal than species that rely on suitable mates and pollinators. To test whether self-compatible species, and particularly species capable of autonomous seed set, are more likely to establish and spread, we experimentally assessed the breeding systems of 12 species of Asteraceae that are invasive in China. Among these 12 species of Asteraceae, the percentages of self-compatible species (66.7%) and species capable of autonomous seed set (83.3%), which included self-fertilizing and apomictic species, were significantly larger than expected from the percentages of such species in global data sets of Asteraceae (36.8% and 46.0%, respectively). Furthermore, the number of Chinese provinces in which the invasive alien species occur was significantly positively correlated with the proportion seed set on bagged capitula (i.e. with the degree of autonomous seed set). Among 36 species of Asteraceae that are invasive in China and for which we found breeding-system data in the literature, we also found a higher than expected percentage of self-compatible species (65.7%), and that these self-compatible species are more widespread in China than self-incompatible species. These results support the predictions of Baker ' s Law that self-compatible species, and particularly those capable of autonomous seed production, are more likely to establish and spread in a new range. Therefore, breeding systems of plants should be included as one of the key elements in risk assessment protocols for plant invasiveness.

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【第一作者】Jian H. Hao,
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【学科分类】植物保护学

【题目】First report of coleus blumei viroid 2 from China.

【中文关键词】First Report ; Coleus blumei viroid 2 ; Commercial Coleus in China
【英文关键词】First Report ; Coleus blumei viroid 2 ; Commercial Coleus in China

【中文摘要】Coleus (Coleus blumei) is an ornamental plant that is susceptible to infection by several viroids of the genus Coleviroid, which is a member of the family Pospiviroidae. Coleus blumei viroid (CbVd) -1 was first reported in commercial yellow coleus fields in Brazil in 1989 (1). In addition, CbVd-2, CbVd-3, and CbVd-4 have only been detected from coleus in Germany in 1996 (4). CbVd-5 and CbVd-6 were recently identified in China (2). In March 2010, leaves were collected from 50 symptomless coleus plants from a commercial nursery in Hainan Province, China. Total RNA was extracted from the leaves (3). Reverse transcription (RT)-PCR using CbVd-2 specific primers (forward: 5 ′ -AGCTTACCTGGGTTCCCT-3 ′ and reverse: 5 ′ -CTCTCCTCTATTTACTCTCTTCTC-3 ′) corresponding to positions 76 to 93 and 52 to 75 on the CbVd-2 reference sequence, respectively (GenBank Accession No. NC003682). Amplification of a 301-bp product was obtained from one sample. This PCR product was then cloned into pMD18-T (Takara, Dalian, China). Twelve positive clones were sequenced and the results were subjected to BLAST analysis. Sequence analysis showed that two sequences (GenBank Accessions Nos. HQ727542 and HQ727544) shared 99% identity with the reference sequence of CbVd-2 (NC003682), and four sequences (HQ727541, HQ727543, HQ727545 and HQ727547) had 99.34% identity with the reference sequence of CbVd-2 (NC003682). The proposed secondary structures of these variants have approximately 75% paired nucleotides. Results suggested the presence of CbVd-2, which is a member of the Coleviroid genus, Pospoviroidae family. To our knowledge, this is the first report of CbVd-2 from commercial coleus in China.

【英文摘要】Coleus (Coleus blumei) is an ornamental plant that is susceptible to infection by several viroids of the genus Coleviroid, which is a member of the family Pospiviroidae. Coleus blumei viroid (CbVd) -1 was first reported in commercial yellow coleus fields in Brazil in 1989 (1). In addition, CbVd-2, CbVd-3, and CbVd-4 have only been detected from coleus in Germany in 1996 (4). CbVd-5 and CbVd-6 were recently identified in China (2). In March 2010, leaves were collected from 50 symptomless coleus plants from a commercial nursery in Hainan Province, China. Total RNA was extracted from the leaves (3). Reverse transcription (RT)-PCR using CbVd-2 specific primers (forward: 5′-AGCTTACCTGGGTTCCCT-3′ and reverse: 5′-CTCTCCTCTATTTACTCTCTTCTC-3′) corresponding to positions 76 to 93 and 52 to 75 on the CbVd-2 reference sequence, respectively (GenBank Accession No. NC003682). Amplification of a 301-bp product was obtained from one sample. This PCR product was then cloned into pMD18-T (Takara, Dalian, China). Twelve positive clones were sequenced and the results were subjected to BLAST analysis. Sequence analysis showed that two sequences (GenBank Accessions Nos. HQ727542 and HQ727544) shared 99% identity with the reference sequence of CbVd-2 (NC003682), and four sequences (HQ727541, HQ727543, HQ727545 and HQ727547) had 99.34% identity with the reference sequence of CbVd-2 (NC003682). The proposed secondary structures of these variants have approximately 75% paired nucleotides. Results suggested the presence of CbVd-2, which is a member of the Coleviroid genus, Pospoviroidae family. To our knowledge, this is the first report of CbVd-2 from commercial coleus in China.

【语种】英文

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【学科分类】植物保护学

【题目】杂色鲍三个免疫相关基因的克隆及表达分析

【中文关键词】杂色鲍;SaGABARAP;SaEGFR;SaUPR;免疫防御

【英文关键词】Haliotis diversicolor; SaGABARAP; SaEGFR; SaUPR; Immune Defense

【中文摘要】杂色鲍(Haliotis diversicolor)是我国南方海域水产养殖业中重要的经济贝类之一,但自从上世纪90 年代以来,养殖杂色鲍陆续暴发大规模病害,成活率急剧下降,给养殖业造成了巨大的经济损失,严重影响了杂色鲍养殖业的健康可持续发展。引起杂色鲍大规模死亡的原因是多方面的,最主要的是养殖环境恶化、杂色鲍种质衰退以及抗病力下降。遗传改良和培育抗病优良品种、开发免疫增强剂等是解决目前杂色鲍养殖业面临病害问题的必然选择,而所有这些措施的基础都有赖于对杂色鲍免疫防御机制有深刻的了解。本研究对杂色鲍天然免疫系统中3 个重要的功能基因进行克隆及表达分析,旨在为深入了解鲍免疫防御分子机制提供新资料。本研究的主要结果如下:1. 克隆获得了 GABAA 受体相关蛋白(GABAA receptor-associated protein,GABARAP)、表皮生长因子受体(Epidermal growth factor receptor, EGFR)和功能未预测受体(Unpredicted receptor, UPR)3 个基因的全长cDNA,分别命名为SaGABARAP、SaEGFR 和SaUPR。SaGABARAP 基因cDNA 全长为963bp,354bp 的ORF 编码117 个氨基酸,有一个自吞噬蛋白Atg8 结构域。SaEGFR 基因cDNA 全长为2620bp,2373bp 的ORF 编码790 个氨基酸,有两个EGF 受体L 结构域。SaUPR 基因cDNA 全长为1779bp,1641bp 的ORF 编码546 个氨基酸,有一个清道夫受体半胱氨酸丰富结构域、两个表皮生长因子结构域和一个透明带结构域,推测可能是个膜受体。2. 克隆获得了SaGABARAP 和SaUPR 两个基因的基因组DNA。SaGABARAP基因组DNA全长为4352bp,包含3 个外显子和2 个内含子。SaUPR基因组DNA 全长为7517bp,包含7 个外显子和6 内含子。3. 揭示了 SaGABARAP、SaEGFR 和SaUPR 在杂色鲍各组织和胚胎幼体发育时期的表达情况。这三个基因在检测的各组织和胚胎幼体发育时期均有表达,而且都在肝胰脏中表达水平最高,SaGABARAP 在原肠胚中的表达水平最高,SaEGFR 和SaUPR 在囊胚中的表达水平最高。所有这些暗示着这三个基因可能在杂色鲍生命过程中发挥着广泛而重要的作用。4. 揭示了杂色鲍在溶藻弧菌感染后血细胞和肝胰脏中三个基因的表达情况。弧菌感染后,SaGABARAP 基因在血细胞和肝胰脏中的表达量均发生显著提高,SaEGFR 基因在血细胞和肝胰脏中的表达水平均发生极显著提高,而SaUPR 基因在血细胞中的表达水平发生显著提高,但在肝胰脏中并没有显著提高。所有这些暗示着这三个基因可能在杂色鲍免疫防御体系中发挥着重要作用,它们表达量上升对于鲍机体清除病原菌感染可能是有益的。

【英文摘要】Small abalone Haliotis diversicolor is one of the most commercially importantmolluscs for aquaculture in China southern sea area. But since 1990s, abaloneaquaculture has been undergoing large-scale disease and low rate of growth andsurvival. So it has brought massive economic losses to aquaculture, and severelyaffected the healthy and continuable development of small abalone aquaculture.There are several aspects that trigger small abalone mass mortality, but the mostimportant are the worse suivival environment, small abalone strain degeneration anddeclining disease resistance. There are necessary ways to solve current

diseaseproblems of small abalone aquaculture, such as genetic improvement strain, breedingdisease-resistant abalone and development immunity boosting agents, but thefoundation of all is dependent on the deep understanding of small abalone immunedefense mechanism. This study focused on cloning and expression analysis of threeimportant functional genes involving in small abalone innate immune system,aiming to provide new information for further understanding of the immune defensemolecular mechanism of small abalone. The main results are as follows:1. This study cloned full-length cDNA of GABAA receptor-associated protein(GABARAP), epidermal growth factor receptor (EGFR) and unpredicted receptor(UPR), we named SaGABARAP, SaEGFR and SaUPR. The full-length cDNA ofSaGABARAP is 963bp, with a 354bp ORF coding 117 aa, and the deduced proteinhas an Autophagy protein Atg8 ubiquitin-like domain. The full-length cDNA ofSaEGFR is 2620bp, with a 2373bp ORF coding 790 aa, and the deduced protein hastwo EGF receptor L domains. The full-length cDNA of SaUPR is 1779bp, with a1641bp ORF coding 546 aa, and the deduced protein has a Scavenger receptorCys-rich (SRCR) domain, and we predicted it is a menbrane receptor.2. This study cloned genomic DNA of SaGABARAP and SaUPR.SaGABARAP genomic DNA is 4352bp, and comprises 3 exons and 2 introns, whileSaUPR is 7517bp, and 7 exons and 6 introns.3. This study analysed the expression of these three genes in several smallabalone tissues and embryonic and larval development stages. They were allconstitutively expressed in all tested tissues and embryonic and larval developmentstages, and the highest expression level was in hepatopancreas, while SaGABARAPhad the highest expression level in gastrula, SaEGFR and SaUPR in morula. Allimplied that these three genes would play a wide and vital role in small abalone lifeprocess.4. This study analysed the expression of these three genes in hemocytes andhepatopancreas after abalone were infected with Vibrio alginolyticus. After infection,SaGABARAP expression level in hemocytes and hepatopancreas was significantlyup-regulated, SaEGFR expression level in hemocytes and hepatopancreas was verysignificantly up-regulated, while SaUPR expression level in hemocytes wassignificantly up-regulated, but not significantly up-regulated in hepatopancreas. Allimplied that these three genes might play an important role in the immune defensesystem of small abalone, and their enhanced expression might be benificial forclearing pathogens in abalone.

【语种】中文
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【题目】The essential role of GhPEL gene, encoding a pectate lyase, in cell wall loosening by depolymerization of the de-esterified pectin during fiber elongation in cotton.

【中文关键词】GhPEL gene; Cotton (Gossypium hirsutum); Pectate lyase; Fiber elongation; Cell wall; Pectin
【英文关键词】GhPEL gene; Cotton (Gossypium hirsutum); Pectate lyase; Fiber elongation; Cell wall; Pectin

【中文摘要】Cotton fiber elongation, largely achieved by cell wall loosening, is an important stage during cotton fiber development. In this present research, a fiber preferential cDNA encoding a pectate lyase (PEL) which could exclusively degrade the de-esterified pectin was isolated from a cotton (Gossypium hirsutum) fiber cDNA library. Subsequently, the corresponding PEL genes were isolated from four different cotton species and characterized. In vitro enzyme assays indicated that GhPEL really exhibited cleavage-activity against de-esterified pectin. The temporal-spatial expression analyses revealed that the GhPEL gene was preferentially expressed in fibers at 10 days-post anthesis (DPA). Antisense GhPEL transgenic cotton plants were generated by Agrobacterium-mediated transformation. Six homozygous lines, each with one or two copies of the transgene inserted as determined by southern blot analysis of the NPTII gene, were selected for further functional analysis. The GhPEL expression during fiber elongation in these transgenic lines was significantly suppressed in various degrees. Furthermore, the reduction of GhPEL enzymatic activity by decreasing GhPEL transcripts severely affected the degradation of de-esterified pectin in primary cell walls of transgenic cotton fibers, which consequently blocked cell wall loosening in early fiber development. Ultimately, the fiber elongation of all these transgenic lines was repressed. These results suggested that GhPEL may play an important role in the process of normal fiber elongation in cotton.

【英文摘要】Cotton fiber elongation, largely achieved by cell wall loosening, is an important stage during cotton fiber development. In this present research, a fiber preferential cDNA encoding a pectate lyase (PEL) which could exclusively degrade the de-esterified pectin was isolated from a cotton (Gossypium hirsutum) fiber cDNA library. Subsequently, the corresponding PEL genes were isolated from four different cotton species and characterized. In vitro enzyme assays indicated that GhPEL really exhibited cleavage-activity against de-esterified pectin. The temporal-spatial expression analyses revealed that the GhPEL gene was preferentially expressed in fibers at 10 days-post anthesis (DPA). Antisense GhPEL transgenic cotton plants were generated by Agrobacterium-mediated transformation.

Six homozygous lines, each with one or two copies of the transgene inserted as determined by southern blot analysis of the NPTII gene, were selected for further functional analysis. The GhPEL expression during fiber elongation in these transgenic lines was significantly suppressed in various degrees. Furthermore, the reduction of GhPEL enzymatic activity by decreasing GhPEL transcripts severely affected the degradation of de-esterified pectin in primary cell walls of transgenic cotton fibers, which consequently blocked cell wall loosening in early fiber development. Ultimately, the fiber elongation of all these transgenic lines was repressed. These results suggested that GhPEL may play an important role in the process of normal fiber elongation in cotton.

【语种】英文

【第一作者】Wang, HH

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【学科分类】农业基础学科

【题目】EST-SSR Sequences Revealed the Relationship of D Genome in Diploid and Tetraploid Species in Gossypium.

【中文关键词】Gossypium; Cotton; EST-SSR; D-genome; Diploid; Tetraploid; Genetic relationship

【英文关键词】Gossypium; Cotton; EST-SSR; D-genome; Diploid; Tetraploid; Genetic relationship

【中文摘要】Tetraploid cotton species included two subgenomes, named as A-subgenome and D-subgenome, respectively. Prior to this study, the D-subgenome donor in tetraploid cotton species remained elusive. In a previous study, simple sequence repeats developed from expressed sequence tags (EST-SSRs) of G. raimondii was found to possess a high polymorphic frequency between G. hirsutum and G. barbadense [W.Z. Guo, C.P. Cai, C.B. Wang, Z.G. Han, X.L. Song, K. Wang, X.W. Niu, C. Wang, K.Y. Lu, B. Shi,T.Z. Zhang, A microsatellite-based, gene-rich linkage map reveals genome structure, function, and evolution in Gossypium, Genetics 176 (2007) 527-541]. We questioned the role of the D-genome cotton species in the evolution of tetraploid cotton. In this paper, 14 EST-SSR primer pairs from G. raimondii were used to amplify 23 species in Gossypium. In total, 438 amplicons were cloned, sequenced and analyzed. A phylogenetic tree of 13 D-genome diploid species and 8 AD-genome tetraploid species was constructed based on the combined simple sequence repeat (SSR) flanking sequence data. The results showed that 13 D-genome species were congruent with Fryxell's subsection taxonomy. The relationship between D-subgenome tetraploid species and D-genome diploid species indicated that G. raimondii is the sole D-genome donor of all tetraploid species. (c) 2008 Elsevier Ireland Ltd. All rights reserved.

【英文摘要】Tetraploid cotton species included two subgenomes, named as A-subgenome and D-subgenome, respectively. Prior to this study, the D-subgenome donor in tetraploid cotton species remained elusive. In a previous study, simple sequence repeats developed from expressed sequence tags (EST-SSRs) of G. raimondii was found to possess a high polymorphic frequency between G. hirsutum and G. barbadense [W.Z. Guo, C.P. Cai, C.B. Wang, Z.G. Han, X.L. Song, K. Wang, X.W. Niu, C. Wang, K.Y. Lu, B. Shi,T.Z. Zhang, A microsatellite-based, gene-rich linkage map reveals genome structure, function, and evolution in Gossypium, Genetics 176 (2007) 527-541]. We questioned the role of the D-genome cotton species in the evolution of tetraploid cotton. In this paper, 14 EST-SSR primer pairs from G. raimondii were used to amplify 23 species in Gossypium. In total, 438 amplicons were cloned, sequenced and analyzed. A phylogenetic tree of 13 D-genome diploid species and 8 AD-genome tetraploid species was constructed based on the combined simple sequence repeat (SSR) flanking sequence data. The results showed that 13 D-genome species were congruent with Fryxell's subsection taxonomy. The relationship between D-subgenome tetraploid species and D-genome diploid species indicated that G. raimondii is the sole D-genome donor of all tetraploid species. (c) 2008 Elsevier Ireland Ltd. All rights reserved.

【语种】英文

【第一作者】Zhu, HY

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【学科分类】农业基础学科

【题目】Effect of H2O2 on Fiber Initiation Using Fiber Retardation Initiation Mutants in Cotton (Gossypium hirsutum).
【中文关键词】Cotton fiber initiation; H2O2; Retardation development; RT-PCR; SEM
【英文关键词】Cotton fiber initiation; H2O2; Retardation development; RT-PCR; SEM
【中文摘要】Single-celled fibers initiate at anthesis from cotton seed epidermal cells of normal developmental cotton cultivars; however, fiber initiation is retarded in some cotton fiber mutants. In this study, the relationship between genes associated with fiber initiation retardation and fiber initiation development was investigated using three cotton fiber developmental mutants: recessive naked seed n2; dominant naked seed N1; and Xinxiangxiaoji Linted-Fuzzless Mutant (XinFLM); with genetic standard line TM-1 (TM-1) as control. Retardation during fiber initiation development was observed in N1 and XinFLM by scanning electron microscope (SEM) analysis. Reverse transcription-polymerase chain reaction (RTPCR) analysis of genes related to the fiber initiation development showed that the expression of GhEXP1 and GhMYB25 was lower in N1 and XinFLM than in TM-1 and n2, however, the expression of Gh7TG1 and GhTTG3 in XinFLM and n2 was higher than in TM-1 and N1. In vivo and in vitro treatments on ovules demonstrated that 30% hydrogen peroxide (H2O2) could prevent fiber initiation retardation in XinFLM, but no evident effect on N1. To further confirm the relationship between gene expression and the effects of H2O2 in XinFLM, qRT-PCR analysis of four differentially expressed genes was performed using -1 d post-anthesis (DPA) ovules of XinFLM treated for 24 and 48 h with 30% H2O2 and H2O, respectively, with 0 and 1 DPA untreated ovules from XinFLM and TM-1 as control. The results showed that the expression of GhMYB25 and GhEXP1 showed significant difference in XinFLM after 1 DPA ovule treated for 24 h relative to the untreated or H2O-treated ovules, with the expression of GhMYB25 increased significantly and that of GhEXP1 decreased. This implied that H2O2 might be one of the upstream signal molecules affecting the expression of GhMYB25 and GhEXP1 genes. The fiber initiation retardation in XinFLM might be related to the production of reactive oxygen species (ROS). (C) 2009 Elsevier GmbH. All rights reserved.
【英文摘要】Single-celled fibers initiate at anthesis from cotton seed epidermal cells of normal developmental cotton cultivars; however, fiber initiation is retarded in some cotton fiber mutants. In this study, the relationship between genes associated with fiber initiation retardation and fiber initiation development was investigated using three cotton fiber developmental mutants: recessive naked seed n2; dominant naked seed N1; and Xinxiangxiaoji Linted-Fuzzless Mutant (XinFLM); with genetic standard line TM-1 (TM-1) as control. Retardation during fiber initiation development was observed in N1 and XinFLM by scanning electron microscope (SEM) analysis. Reverse transcription-polymerase chain reaction (RTPCR) analysis of genes related to the fiber initiation development showed that the expression of GhEXP1 and GhMYB25 was lower in N1 and XinFLM than in TM-1 and n2, however, the expression of Gh7TG1 and GhTTG3 in XinFLM and n2 was higher than in TM-1 and N1. In vivo and in vitro treatments on ovules demonstrated that 30% hydrogen peroxide (H2O2) could prevent fiber initiation retardation in XinFLM, but no evident effect on N1. To further confirm the relationship between gene expression and the effects of H2O2 in XinFLM, qRT-PCR analysis of four differentially expressed genes was performed using -1 d post-anthesis (DPA) ovules of XinFLM treated for 24 and 48 h with 30% H2O2 and H2O, respectively, with 0 and 1 DPA untreated ovules from XinFLM and TM-1 as control. The results showed that the expression of GhMYB25 and GhEXP1 showed significant difference in XinFLM after 1 DPA ovule treated for 24 h relative to the untreated or H2O-treated ovules, with the expression of GhMYB25 increased significantly and that of GhEXP1 decreased. This implied that H2O2 might be one of the upstream signal molecules affecting the expression of GhMYB25 and GhEXP1 genes. The fiber initiation retardation in XinFLM might be related to the production of reactive oxygen species (ROS). (C) 2009 Elsevier GmbH. All rights reserved.
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【第一作者】Zhang, DY
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【学科分类】农业基础学科

【题目】Molecular cloning and localization of a novel cotton annexin gene expressed preferentially during fiber development.
【中文关键词】GhFAnnx; Fiber; Cloning; Expression; Localization; Cotton
【英文关键词】GhFAnnx; Fiber; Cloning; Expression; Localization; Cotton
【中文摘要】Annexins constitute a family of multifunction and structurally related proteins. These proteins are ubiquitous in the plant kingdom, and are important calcium-dependent membrane-binding proteins that participate in the polar development of

different plant regions such as rhizoids, root caps, and pollen tube tips. In this study, a novel cotton annexin gene (designated as GhFAnnx) was isolated from a fiber cDNA library of cotton (Gossypium hirsutum). The full-length cDNA of GhFAnnx comprises an open reading frame of 945 bp that encodes a 314-amino acid protein with a calculated molecular mass of 35.7 kDa and an isoelectric point of 6.49. Genomic GhFAnnx sequences from different cotton species, TM-1, Hai7124 and two diploid progenitor cottons, G. herbaceum (A-genome) and G. raimondii (D-genome) showed that at least two copies of the GhFAnnx gene, each with six exons and five introns in the coding region, were identified in the allotetraploid cotton genome. The GhFAnnx gene cloned from the cDNA library in this study was mapped to the chromosome 10 of the A-subgenome of the tetraploid cotton. Sequence alignment revealed that GhFAnnx contained four repeats of 70 amino acids. Semi-quantitative reverse transcriptase-polymerase chain reaction revealed that GhFAnnx is preferentially expressed in different developmental fibers but its expression is low in roots, stems, and leaves. Subcellular localization of GhFAnnx in onion epidermal cells and cotton fibers suggests that this protein is ubiquitous in the epidermal cells of onion, but assembles at the edge and the inner side of the apex of the cotton fiber tips with brilliant spots. In summary, GhFAnnx influences fiber development and is associated with the polar expansion of the cotton fiber during elongation stages.

【英文摘要】Annexins constitute a family of multifunction and structurally related proteins. These proteins are ubiquitous in the plant kingdom, and are important calcium-dependent membrane-binding proteins that participate in the polar development of different plant regions such as rhizoids, root caps, and pollen tube tips. In this study, a novel cotton annexin gene (designated as GhFAnnx) was isolated from a fiber cDNA library of cotton (Gossypium hirsutum). The full-length cDNA of GhFAnnx comprises an open reading frame of 945 bp that encodes a 314-amino acid protein with a calculated molecular mass of 35.7 kDa and an isoelectric point of 6.49. Genomic GhFAnnx sequences from different cotton species, TM-1, Hai7124 and two diploid progenitor cottons, G. herbaceum (A-genome) and G. raimondii (D-genome) showed that at least two copies of the GhFAnnx gene, each with six exons and five introns in the coding region, were identified in the allotetraploid cotton genome. The GhFAnnx gene cloned from the cDNA library in this study was mapped to the chromosome 10 of the A-subgenome of the tetraploid cotton. Sequence alignment revealed that GhFAnnx contained four repeats of 70 amino acids. Semi-quantitative reverse transcriptase-polymerase chain reaction revealed that GhFAnnx is preferentially expressed in different developmental fibers but its expression is low in roots, stems, and leaves. Subcellular localization of GhFAnnx in onion epidermal cells and cotton fibers suggests that this protein is ubiquitous in the epidermal cells of onion, but assembles at the edge and the inner side of the apex of the cotton fiber tips with brilliant spots. In summary, GhFAnnx influences fiber development and is associated with the polar expansion of the cotton fiber during elongation stages.

【语种】英文
【第一作者】Wang, LK
【通讯作者】Guo, WZ
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【学科分类】农业基础学科

【题目】Mining, characterization, and exploitation of EST-derived microsatellites in Gossypium barbadense.
【中文关键词】Gossypium barbadense; EST-SSRs; characterization; polymorphism; genetic map
【英文关键词】Gossypium barbadense; EST-SSRs; characterization; polymorphism; genetic map
【中文摘要】Simple sequence repeats (SSRs) have been widely applied as molecular markers in genetic studies. However, the number of expressed sequence tags (ESTs) and SSR markers from Gossypium barbadense is fewer than those from other cotton species. In this study, EST-SSR distribution from G. barbadense was characterized and new G. barbadense-derived EST-SSR markers were determined on the basis of the ESTs obtained by randomly sequencing 2 cDNA libraries associated with fiber development in G. barbadense. By mining 9697 non-redundant ESTs, a total of 638 SSR loci derived from 595 ESTs were observed. In G. barbadense, the frequency of ESTs containing SSRs was 6.13%, with an average of 1 SSR in every 10.4 kb of EST sequence. Furthermore, trinucleotide was found to be the most abundant repeat type among 2-6-nucleotide repeat types. It accounted for 26.6% of the total, followed by the hexanucleotide (26.0%) and pentanucleotide repeats (25.9%). Among all the repeat motifs, (AAG)(n) accounted for the highest proportion. EST-SSR primer pairs were developed using the Primer3 program, and the redundant primers were removed using the virtual PCR approach. As a result, 380 non-redundant EST-SSR primer pairs were developed and used to detect polymorphisms between the mapping parents G. hirsutum 'TM-1' and G. barbadense 'Hai7124' for constructing linkage groups in cultivated allotetraploid cotton. Out of these, 98 (25.8%) primer pairs detected polymorphisms. Finally, 95 polymorphic loci from 82 primer pairs were integrated into the backbone genetic map; of these, 42 were mapped into the A subgenome and 53 into the D subgenome. The

present work provided the foundation for constructing saturated genetic maps and conducting comparative genomic studies on different cotton species.

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【语种】英文

【第一作者】Lu, YD

【通讯作者】Guo, WZ

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【学科分类】农业基础学科

【题目】渝棉1号优质纤维QTL的标记与定位

【中文关键词】陆地棉; 纤维品质; QTLs; 分子标记

【英文关键词】Upland cotton; Fiber quality; QTLs; Molecular marker

【中文摘要】利用陆地棉遗传标准系TM-1和优质品种渝棉1号组建了(TM-1×渝棉1号)F2和F2:3分离群体。通过5 544对SSR引物对亲本进行筛选,获得178个多态性标记,用其中138个构建了总长为959.7 cM的遗传图谱,覆盖棉花基因组的19%。应用复合区间作图法分析了该组合的F2单株和F2:3家系纤维品质性状,共检测到12个纤维品质数量性状基因座(QTL),包括1个纤维长度的、4个纤维强度的、3个马克隆值的、3个整齐度的和1个伸长率的,分别解释各性状表型变异的6.1%、5.31%~14.62%、7.88%~19.17%、7.4%~11.71%和8.26%。研究还发现Chr.23和Chr.24是优质纤维QTLs的富集区。

【英文摘要】Cotton fiber is one of known natural resources comprising the highest purity cellulose.It plays an important role in the textile industry worldwide.With acceleration of spinning speeds and improvement of people ’s living level,the demand of improving cotton fiber qualities is getting stronger and stronger. Using molecular marker linked tightly with main QTL of super quality to make marker-assisted selection is the most direct and effective method to improve fiber quality of commercial cultivars quickly.In this paper,a genetic linkage map was constructed by the F2 segregation population derived from a cross between Yumian 1,a high quality cotton cultivar,and TM-1,a genetic standard line.We identified 178 polymorphic loci with 5 544 pairs of SSR primers.The genetic map with 138 loci was constructed,which had a whole length of 959.7 cM and covered 19% of the whole cotton genome.Moreover,the fiber characteristics of the F2 plants and the F2:3 family lines were analyzed by composite interval mapping(CIM) and 12 putative quantitative trait loci(QTLs) were detected for 5 traits,1 for fiber length,4 for fiber strength,3 for fiber fineness,3 for fiber uniformity and 1 for fiber elongation.These QTLs explained their corresponding phenotypic variations with 6.10%,5.31%14.62%,7.88%19.17%,7.40%11.71%,and 8.26%,respectively.Many QTLs associate with fiber quality located in Chromosome 23 and Chromosome 24 through chromosome tagging analysis combining with different elite fiber lines in the lab.The result provides references for utilizing reasonably Yumian1 in cotton breeding improvement.

【语种】中文

【第一作者】王娟

【通讯作者】郭旺珍

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【题目】Detection of Phytophthora melonis in samples of soil, water, and plant tissue with polymerase chain reaction
【中文关键词】molecular detection, Phytophthora melonis , real-time quantitative polymerase chain reaction
【英文关键词】molecular detection, Phytophthora melonis , real-time quantitative polymerase chain reaction
【中文摘要】A polymerase chain reaction (PCR) assay for the detection of Phytophthora melonis, the causal agent of phytophthora blight of cucumber, was developed. PCR primers specific to P. melonis (Pm1 and Pm2) were designed using sequences of the internal transcribed spacer (ITS) of nuclear ribosomal DNA. More than 115 isolates representing 26 species of Phytophthora and 29 other species of pathogens were used to test the specificity of the primers. PCR amplification with these primers resulted in a product of ca 545 base pairs exclusively for isolates of P. melonis. The detection sensitivity with P. melonis primers was 100 fg of genomic DNA. A nested PCR procedure with DC6 and ITS4 as first-round primers, followed by Pm1 and Pm2 primers, increased detection sensitivity 1000-fold to 100 ag. With nested PCR, the detection sensitivity for the soil pathogens was 10 zoospores in 0.5 g of artificially inoculated soil. PCR with Pm1 and Pm2 was also used to detect P. melonis in naturally infected cucumber tissue, soil, and irrigation water. Real-time fluorescent quantitative PCR assays were developed to detect and monitor the pathogen in plant samples. The PCR-based methods developed could simplify both plant disease diagnosis and pathogen monitoring as well as help guide plant disease management.
【英文摘要】A polymerase chain reaction (PCR) assay for the detection of Phytophthora melonis, the causal agent of phytophthora blight of cucumber, was developed. PCR primers specific to P. melonis (Pm1 and Pm2) were designed using sequences of the internal transcribed spacer (ITS) of nuclear ribosomal DNA. More than 115 isolates representing 26 species of Phytophthora and 29 other species of pathogens were used to test the specificity of the primers. PCR amplification with these primers resulted in a product of ca 545 base pairs exclusively for isolates of P. melonis. The detection sensitivity with P. melonis primers was 100 fg of genomic DNA. A nested PCR procedure with DC6 and ITS4 as first-round primers, followed by Pm1 and Pm2 primers, increased detection sensitivity 1000-fold to 100 ag. With nested PCR, the detection sensitivity for the soil pathogens was 10 zoospores in 0.5 g of artificially inoculated soil. PCR with Pm1 and Pm2 was also used to detect P. melonis in naturally infected cucumber tissue, soil, and irrigation water. Real-time fluorescent quantitative PCR assays were developed to detect and monitor the pathogen in plant samples. The PCR-based methods developed could simplify both plant disease diagnosis and pathogen monitoring as well as help guide plant disease management.
【语种】英文
【第一作者】王颖
【通讯作者】王源超
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【学科分类】植物保护学

【题目】Rapid Detection of Phytophthora nicotianae in Infected Tobacco Tissues and Soil Samples Based on Its Ypt1 gene
【中文关键词】Phytophthora nicotianae, molecular detection, Ypt1 gene, PCR assay
【英文关键词】Phytophthora nicotianae, molecular detection, Ypt1 gene, PCR assay
【中文摘要】This paper describes the development of a polymerase chain reaction (PCR) assay for the detection of Phytophthora nicotianae, the causal agent of Phytophthora blight of tobacco and other plants. The PCR primers were designed based on a Ras-related protein (Ypt1)gene, and 115 isolates representing 26 species of Phytophthora and 29 fungal species of plant pathogens were used to test the specicity of the primers. PCR amplication with species-specic (Pn) primers resulted in a product of 389 bp only from isolates of P. nicotianae.The detection sensitivity with Pn primers was 1 ng of genomic DNA. Using Ypt1F Ypt1R as rst-round amplication primers, followed by a second round using the primer pair Pn1 Pn2, a nested PCR procedure was developed, which increased the detection sensitivity 100-fold to 10 pg. PCR with the Pn primers could also be used to detect P. nicotianae from naturally infected tobacco tissues and soil. The PCR-based methods developed here could simplify both plant disease diagnosis and pathogen monitoring as well as guide plant disease management.

【英文摘要】This paper describes the development of a polymerase chain reaction (PCR) assay for the detection of Phytophthora nicotianae, the causal agent of Phytophthora blight of tobacco and other plants. The PCR primers were designed based on a Ras-related protein (Ypt1)gene, and 115 isolates representing 26 species of Phytophthora and 29 fungal species of plant pathogens were used to test the specicity of the primers. PCR amplication with species-specic (Pn) primers resulted in a product of 389 bp only from isolates of P. nicotianae.The detection sensitivity with Pn primers was 1 ng of genomic DNA. Using Ypt1F Ypt1R as rst-round amplication primers, followed by a second round using the primer pair Pn1 Pn2, a nested PCR procedure was developed, which increased the detection sensitivity 100-fold to 10 pg. PCR with the Pn primers could also be used to detect P. nicotianae from naturally infected tobacco tissues and soil. The PCR-based methods developed here could simplify both plant disease diagnosis and pathogen monitoring as well as guide plant disease management.
【语种】英文
【第一作者】孟军
【通讯作者】王源超
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【学科分类】植物保护学

【题目】利用PCR技术检测水稻细菌性条斑病菌
【中文关键词】Xanthomonas oryzae pv.oryzicola;specific primer ;PCR;detection
【英文关键词】Xanthomonas oryzae pv.oryzicola;specific primer ;PCR;detection
【中文摘要】A pair of specific primers was designed and used for detection of Xanthomonas oryzae pv.oryzicola(Xooc),the ice acterial leaf streak pathogen.The results showed:all tested Xooc strains(31isolates)we respecific detected,15 strains of Xanthomonas oryzae pv.oryzae and other tested bacteria strains had notany amplification signa1.The detection limit was 20 cells.Xooc was succesfully detected from the seeds harv est from the natural infected and artificially inoculated rice plants .
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【语种】中文
【第一作者】张华
【通讯作者】胡白石
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【学科分类】植物保护学

【题目】陆地棉优质纤维QTL的分子标记筛选及优质来源分析。
【中文关键词】陆地棉; 纤维品质; QTL; 来源
【英文关键词】Gossypium hirsutum; Fiber quality; QTL; Source
【中文摘要】利用陆地棉优质品系7235、渝棉1号做亲本,以7235×渝棉1号的F2与F2:3分离群体为材料,开展不同来源棉花高强纤维QTL微卫星标记筛选,为进一步进行优质纤维QTL聚合育种提供基础。通过5514对SSR引物对亲本进行多态性筛选,获得117个多态性标记,用其中80个标记构建了总长为1147.8cM的遗传图谱;应用复合区间作图法分析了该组合的F2单株和F2:3家系纤维品质性状,共检测到36个纤维品质数量性状基因座(QTL),其中与纤维长度、比强度、细度、伸长率及整齐度相关的QTL各6、8、7、8和7个,分别解释各性状表型变异的3.4%~14.4%、5.0%~42.4%、6.5%~11.7%、5.1%~19.4%和6.9%~14.0%。通过分析来源于7235和渝棉1号高强QTL的染色体分布,表明两亲本在D7、D8、D9染色体上都存在控制纤维比强度的QTL,其中存在于D7和D8染色体上来自双亲的QTL紧密连锁,成簇分布在染色体上的一定区间内。而在D7和D9染色体上也发现双亲完全相同的优质QTL,其优质供体可能来自陆地棉优质品系PD4381。进一步分析了获得的QTL在聚合育种中的应用潜力。

【英文摘要】With the development and application of molecular biology technology in recent years,several genetic maps developed from different combinations have been constructed and lots of QTL controlling fiber quality or yield components detected,which makes the breeding procedure more effective,immediate and time-saving.In this paper,both F2 and F2:3 populations were constructed using two elite upland cotton (Gossypium hirsutum L.) strains (variety),7235 and Yumian 1 as parents.Linkage analysis with SSR molecular markers revealed that 80 loci were mapped into 19 linkage groups that covered 1 147.8 cM genetic distance.A total of 36 QTLs were detected by composite interval mapping method,including 6 for fiber length,8 for fiber strength,7 for micronaire value,8 for fiber elongation and 7 for fiber uniformity;and explained 3.4% – 14.4%,5.0% – 42.4%,6.5% – 11.7%,5.1% – 19.4%,and 6.9% – 14.0% of the corresponding phenotypic variations,respectively.Analysis of QTL distribution indicated that D7,D8,and D9 chromosomes were enriched with QTLs controlling fiber strength in both parents,among them those existed in D7 and D8 chromosomes were closely linked and two QTLs controlling fiber strength located respectively in D7 and D9 chromosomes were in the complete same position,which could be related with that both 7235 and Yumian 1 bear the pedigree of elite fiber accession PD4381.The utilization potential of the QTL of super quality in the pyramiding breeding was also discussed.
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【第一作者】胡文静
【通讯作者】郭旺珍
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【学科分类】农业基础学科

【题目】AutoSSR: Automatic Software for SSR Analysis from Large-Scale EST Sequences.
【中文关键词】简单序列重复; 表达序列标签; 发掘; 软件
【英文关键词】simple sequence repeats; expressed sequence tags; distribution; software
【中文摘要】为从大量的序列中快速发掘和利用简单序列重复(微卫星,SSRs),开发了一个软件工具——AutoSSR。该软件能够从一个包括大量FASTA格式的序列文件中发掘SSR,并分析不同SSRs类型的分布状况。与已开发的类似软件相比,该软件可以不受序列数量和不同系统平台的限制,高效、快速完成SSR信息的搜索和分析。利用该软件对GenBank上释放的来源于棉花、苹果和水稻的DNA序列进行了SSR发掘,得到了36000个SSRs。其中,对来源于棉花的SSRs信息,进一步利用Primer 3软件开发了位点特异性引物,为棉花基因组分析奠定了基础。
【英文摘要】Microsatellites,also known as simple sequence repeats(SSRs),are repeated small sequence motifs that are highly polymorphic and abundant in the genomes of eukaryotes.We have created a software tool,AutoSSR,for quickly detecting simple sequence repeats from a large number of sequences.The software can detect SSRs from one file,including large number of FASTA-formatted sequences,and analyze the distributions of different SSR types.Importantly,this tool is not restricted to sequence numbers and different system platforms with high efficiency and vast amounts of information.We have applied this tool for the discovery of SSRs within DNA sequences publicly released in GenBank in Gossypium,Malus Pumila and Oryza sativa L.,in which we detected over 36000 SSRs.Of the identified SSRs,we parsed information Gossypium to Primer 3 software for designing locus-specific primers and applications in genomics analysis.
【语种】英文
【第一作者】王长彪
【通讯作者】郭旺珍
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【题目】棉纤维发育相关基因时空表达与纤维品质的关联分析。
【中文关键词】"棉花; 纤维品质; 棉纤维发育相关基因; 荧光实时定量PCR
"

【英文关键词】Cotton; Fiber quality; Genes related with fiber development; Real-time quantitative RT-PCR

【中文摘要】以14个纤维品质差异的棉花品种(或品系)为材料,研究10个纤维发育相关基因时空表达变化与纤维品质的关系,为阐明棉纤维发育相关基因与纤维品质形成关系提供理论基础。利用实时荧光定量PCR技术检测10个基因在14个供试品种(或品系)不同纤维发育时期的相对表达量,结果表明,虽然遗传背景完全不同,但它们具有某些共同表达特征。GhExp1、GhCIPK1、GhSus1、GhSusA1和GhPL这5个基因都是在纤维伸长期优势表达;GhACT1、GhRacA和GhRacB是在纤维伸长前期和次生壁加厚期高表达;而GhCelA1和GhcelA3是在纤维伸长后期和次生壁加厚期优势表达。这些基因表达谱与纤维品质关联分析显示,GhRacA在23DPA高表达且表达量与纤维品质显著正相关,其余基因在低表达时其表达量与纤维品质呈显著性相关,而在高表达时其表达量与纤维品质无相关性。GhExp1在20DPA的表达量与纤维比强度和整齐度呈显著负相关,与伸长率呈极显著正相关;GhPL在23DPA的表达量与纤维长度呈显著负相关;GhRacA在5DPA和23DPA的表达量均与伸长率呈极显著正相关;GhRacB在10DPA的表达量与长度和整齐度呈显著负相关;GhCelA1基因在5DPA的表达量与纤维长度呈显著正相关,与马克隆值呈显著负相关,在10DPA的表达量与马克隆值呈显著正相关,与伸长率达到极显著正相关,与比强度呈显著负相关,与长度和整齐度呈极显著负相关;GhCIPK1、GhACT1、GhSus1、GhSusA1和GhCelA3这5个基因在纤维发育各时期的表达量与纤维品质各指标未检测到相关性。

【英文摘要】Ten genes expressed preferentially in fiber development period reported previously and 14 cotton cultivars (strains) with distinctly different fiber quality were selected in this paper. To test the relative expression values of the genes in six different fiber developmental stages, 0 day post anthesis (DPA), 5DPA, 10DPA, 15DPA, 20DPA, 23DPA, by real-time quantitative RT-PCR (qRT-PCR), and the data of fiber qualities from 14 cotton varieties (strains). The expression profile showed that GhExp1, GhCIPK1, GhSus1, GhSusA1, and GhPL genes were expressed preferentially during fiber elongation; GhACT1, GhRacA, and GhRacB genes all had high expression level in earlier stage of fiber elongation and the thickening period of secondary cell wall. Two cellulose synthase genes (GhCelA1 and GhCelA3) were expressed predominantly during late stage of fiber elongation and the thickening period of secondary cell wall. For most genes, the expression value in low expression level period had significant correlation with fiber quality, while no significant correlation was detected in preferential expression stage of these genes with an exception of GhRacA gene. The expression level of GhExp1 in 20DPA fiber of 14 cotton varieties (strains) had a significant negative correlation with fiber strength and uniformity and a significant positive correlation with fiber elongation percentage; the expression level of GhPL gene in 23DPA had a significant negative correlation with fiber length; the expression level of GhRacA gene in 5DPA and 23DPA both had a high significant positive correlation with fiber elongation percentage; the expression level of GhRacB gene in 10DPA had a significant negative correlation with fiber length and uniformity; the expression level of GhCelA1 gene in 5DPA had a significant positive correlation with fiber length and a significant negative correlation with micronaire value; the expression level of GhCelA1 gene in 10DPA had a significant negative correlation with fiber length, a significant positive cor-relation with micronaire value, and a high significant correlation with fiber elongation percentage; the correlation between the expression levels of GhCIPK1, GhACT1, GhSus1, GhSusA1and GhCelA3 gene and fiber quality indexes had not been detected.

【语种】中文

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【学科分类】农业基础学科

【题目】Molecular Cloning and Characterization of Two Fiber Elongation Genes Using a Cotton Fiber Developmental Mutant (Gossypium hirsutum L.)

【中文关键词】棉花; 纤维突变体; DDRT-PCR; 谷氨酸脱羧酶; 质子焦磷酸酶

【英文关键词】Cotton; Fiber developmental mutant; DDRT-PCR; Glutamate decarboxylase (GhGAD); Vacuole-pyrophosphatase (GhVP1)

【中文摘要】棉纤维发育突变体是克隆棉纤维发育关键基因和阐明其发育分子机理的优异资源。陆地棉李氏超短纤维突变体(Li1li1)是显性单基因突变体,表现为显性纯合体(Li1Li1)致死,显性杂合时(Li1li1)表型为茎秆扭曲、叶片卷曲和纤维短至6mm,而隐性纯合体(li1li1)则表现为株型和纤维发育都正常。本文对开花后10d的李氏纤维发育正常材料(li1li1)和超短纤维突变体(Li1li1)胚珠纤维混合体进行mRNA差异显示反转录PCR(DDRT-PCR)分析,获得2条在李氏纤维发育正常材料中上调表达的差异片段。测序及DNA序列的生物信息学分析表明该差异片段分别与编码谷氨酸脱羧酶和质子焦磷酸酶的基因有较高同源性。通过电子拼接,5′RACE和全长cDNA序列验证,克隆了棉花的谷氨酸脱羧酶(GhGAD)和质子焦磷酸酶

(GhVP1)基因全长cDNA,进一步对其功能和染色体定位进行了初步分析。转录水平分析表明,这两个基因在棉花根、茎、叶和纤维中组成性表达,在棉纤维中优势表达。利用本实验室陆地棉遗传标准系TM-1和海岛棉海7124培育的含140个单株的BC1作图群体,将GhGAD和GhVP1分别定位在第12条染色体和第8条染色体。

【英文摘要】Cotton fibers are single-celled seed trichomes of major economic importance.Many important genes are expressed during cotton fiber development and fiber developmental mutants can be used to preferentially detect the genes controlling fiber development.The Ligon lintless mutant (Li1li1) is a fiber elongation developmental mutant with a dominant monogenetic mutation characterized by short fibers and distorted leaf,stem and flower growth,and the recessive pure line (li1li1) exhibits normal fiber developmental characteristics.The objectives of this study were to isolate genes preferentially or specifically expressed in fiber elongation stage by comparing gene expression differences between Li1li1 and li1li1.RNAs isolated from 10 days post anthesis (DPA) fibers and mixtures in Li1li1 and li1li1 were used to screen differential gene expression in fiber development using differential display reverse transcriptase polymerase chain reaction (DDRT-PCR).Two differential expression cDNA segments were isolated,the corresponding full-length cDNAs were cloned and their primary function was analyzed.The two genes encoded 542 and 667 amino acid residues and functioned as glutamate decarboxylase (GhGAD) and vacuole-pyrophosphatase (GhVP1),respectively.Transcriptional level assays showed the two genes were constitutively expressed in tested tissues with higher expression levels during the fiber elongation stage.Furthermore,a BC1 mapping population derived from hybridization between G.hirsutum acc.TM-1 and G.barbadense cv.Hai 7124,and TM-1 as the recurrent parent,was used for the location of GhGAD and GhVP1 on chromosomes 12 and 8,respectively,using cleaved amplified polymorphic sequences (CAPs).

【语种】英文

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【学科分类】农业基础学科

【题目】我国黄淮和南方主要大豆育成品种家族产量和品质优异等位变异在系谱中遗传的研究

【中文关键词】大豆育成品种; 家族系谱; 优异等位变异; 遗传

【英文关键词】Soybean released cultivar; Family pedigree; Elite allele; Inheritance

【中文摘要】以往研究育成品种间的遗传关系只能通过系谱追踪进行一般性分析, 分子标记的发掘则提供了在位点及其等位变异基础上分析育成品种间遗传关系的手段。本研究在黄淮和南方 190 份大豆育成品种的85个SSR 标记与农艺性状关联分析基础上, 将其中163 份品种按系谱祖先归为58-161 、徐豆 1 号、齐黄1 号、南农 493-1、南农 1138-2五个家族, 对产量和品质性状进行优异等位变异在系谱中传承情况的分析。所涉及的最佳位点, 产量9 个、百粒重3个、蛋白质含量2个、脂肪含量4 个, 总解释率分别为91% 、36% 、13% 和31% 。每位点考查2 个最优等位变异, 家族系谱祖先具有各自的优异等位变异, 随着育种轮次的增加在后育成品种中有丢失; 在系谱祖先基础上新品种衍生过程中吸纳其他亲本, 5 个家族趋向共有大部分优异等位变异, 但频率分布不同。5 个家族的品种所含有产量最多优异等位变异数未达饱和, 9 个位点中最高含7 个优异等位变异, 平均每个品种2.23 个, 产量有进一步改良潜力。供试条件下高产品种平均产量是低产的2.36 倍, 平均优异等位变异数是低产的4.17 倍, 高、低产品种优异等位变异构成差异明显, 但高产品种间优异等位变异构成并不相同。也有的品种高产而优异等位变异数并不多, 有的品种优异等位变异较多但产量并不高。大豆育种不断从不同亲本中累积目标性状优异等位变异, 同时有些也在丢失, 应重视保存过时品种的优异等位变异, 以备后用。

【英文摘要】It is commonly understand that molecular markers have provided an opportunity for plant breeders to trace genetic relationship precisely among released cultivars, while it can be done only roughly through pedigree analysis. In the present st udy, 163 released soybean cultivars of the five major family pedigrees in Huanghuai Valleys and Southern China, with 58-161, Xudou 1, Qihuang 1, Nannong 493-1, and Nannong 1138-2 as their respective pedigree ancestor, were analyzed for transition of elite alleles of yield and quality traits in each family pedigree based on the association analysis between 85 SSR loci and agronomic traits in 190 released cultivars in the same region. Two best alleles of each of the nine, three, two and four major loci, explaining 91%, 36%, 13%, and 31% of total phenotypic variation of the four traits, respectively, were traced for their transition in the five cultivar pedigrees. It was found that each pedigree ancestor had its own elite alleles which transited to its progenies, but some of them might be lost during the process. The five family pedigrees tended to share all the elite alleles but with different frequ ency distributions due to diverse parental materials used in the pedigrees. The cultivars in the pedigrees had different number of elite alleles for yield, where the highest elite allele number contained in a cultivar was seven but not the full of 9 and the average was only 2.33, indicating great yield potential in recombination

and accumulation of elite alleles for future breeding. Under the e x-periment conditions, the average yield of high-yielding cultivars was 2.36 times of that of low-yielding cultivars while the av erage elite allele number of the former was 4.17 times of that of the latter, but the composition of elite alleles among the high-yielding cultivars was quite different. On the other hand, unusual cases of some cultivars with high yield but less elite alleles and so me with low yield but more elite alleles were also observed. It is suggested for breeders to conserve carefully the old cultivars for future breeding since they might have some specific elite alleles in their genome.

【语种】中文

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【题目】棉花阿拉伯半乳糖蛋白基因的克隆、表达与染色体定位分析

【中文关键词】棉花; 纤维突变体; 阿拉伯半乳糖基因; 克隆; 表达; 基因定位

【英文关键词】cotton; fiber development mutant; arabinogalatan gene; cloning; expression; chromosome tagging

【中文摘要】陆地棉李氏超短纤维突变体(Li1li1)是显性单基因突变体,表现为茎秆、叶片卷曲,纤维短至6mm,其隐性纯合体(li1li1)则表现为株型和纤维发育都正常。对开花后10d的李氏纤维发育正常材料(li1li1)和超短纤维突变体(Li1li1)胚珠纤维混合体进行mRNA差异显示反转录PCR(DDRT-PCR)分析,获得1条在李氏纤维发育正常材料中上调表达的差异片段。进一步通过5’RACE技术获得全长为621bp的cDNA,测序及DNA序列的生物信息学分析表明该cDNA片段与拟南芥编码阿拉伯半乳糖蛋白基因AGP14有52%相似性,故命名为GhAGP。表达特征分析表明,该基因在陆地棉根、茎、叶和纤维中组成性表达,在棉纤维中优势表达。基因组序列分析显示,该基因在二倍体棉种非洲棉和雷蒙德氏棉中各有1个拷贝,在四倍体棉种陆地棉TM-1和海岛棉海7124中分别存在2个拷贝,表明A、D亚组中各有1个拷贝。利用本实验室陆地棉遗传标准系TM-1和海岛棉海7124培育的含140个单株的BC1作图群体,将GhAGP基因的2个拷贝分别定位在四倍体棉花部分同源转化群染色体6和染色体25上。

【英文摘要】The Ligon lintless mutant (Li1li1) is a fiber elongation developmental mutant with a dominant monogenetic mutation characterized by short fibers and distorted leaf,stem and flower growth,and the recessive pure line (li1li1) exhibits normal fiber developmental characteristics. The objectives of this study were to isolate genes preferentially or specifically expressed in fiber elongation stage by comparing gene expression differences between Li1li1 and li1li1. RNA isolated from 10 days post anthesis (DPA) fibers and ovules mixture in Li1li1 and li1li1 were used to screen differential gene expression in fiber development using differential display reverse transcriptase polymerase chain reaction (DDRT-PCR). One differential expression cDNA segment was isolated and the corresponding full-length cDNA was cloned by 5’ RACE method. Sequencing and bioinformatics analysis showed the protein had 52% homology with arabinogalactan protein from Arobidopsis,therefore,this gene was temporarily des-ignated GhAGP. RT-PCR and quantitative real time RT-PCR assays all indicated that the transcript of GhAGP is constitutively expressed in root,stem,leaf and fiber,with higher expression levels in fiber cells as fiber developments. Genomic sequence analysis showed there was one copy of GhAGP in diploid cotton species,G. herbaceum and G. raimondii,and two copies in te-traploid cotton species,G. hirsutum and G. barbadense respectively,indicating that the sub-genome A and subgenome D contain each of them. Using the BC1 mapping population derived from the hybridization between the upland cotton standard line TM-1 and G. barbadense cultivar Hai7124,and TM-1 as recurrent parent,two copies of GhAGP were located on the homoelo-gous chromosomes 6 and 25,respectively.

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【学科分类】农业基础学科

【题目】中国大豆育成品种群体遗传结构分化和亚群特异性分析
【中文关键词】大豆育成品种群体;群体分化;遗传结构;遗传多样性;遗传特异性
【英文关键词】released soybean cultivar population; population differentia tion; genetic structure; genetic diversity; genetic
【中文摘要】【目的】研究中国大豆育成品种总群体的遗传结构分化及其地理生态亚群和育成时期亚群的遗传多样性、特异性及其相互关系,为中国大豆育种主干亲本遴选提供遗传背景依据。【方法】从1923-2005年育成的1 300个品种中抽选378份中国大豆育成品种组成代表性样本,选用大豆核基因组64个SSR标记,采用Structure Version 2.2软件,进行群体遗传结构分析、亚群体分化分析和遗传多样性与遗传特异性分析。【结果】中国大豆育成品种群体由7类血缘组成,遗传上明显分化为不同的地理生态亚群和育成时期亚群,各有其不同的血缘构成特点;各地理生态亚群具有其特有、特缺和互补等位变异,体现了其遗传来源的相对生态特异性;随着品种育成时期的推进,不同时期有不同血缘的种质加入,各育成时期亚群具有其特有、特缺和互补等位变异,体现了育种发展的特点。中国大豆育成品种群体与中国地方品种群体、中国野生大豆群体相比,其遗传基础因源于有限祖先亲本数的瓶颈效应而相对狭窄;分省亚群中黑龙江、江苏亚群的等位变异数可以向其他亚群提供的补充等位变异数均依次最多,其亲本来源较宽、遗传基础较广。分时期亚群平均等位变异数随着时期的推移各亚群等位变异数增加,遗传多样性程度增高,近期育成品种的遗传基础宽于历史上前期育成的品种。【结论】研究结果证明中国大豆育成品种群体存在遗传结构上的地理生态分化和育成时期分化,因而各亚群具有相对遗传特异性,体现在血缘构成和特有、特缺及互补等位变异上,这构成了未来大豆育种中亚群间种质或基因交流的遗传基础。
【英文摘要】【Objective】 The objective of the present study was to explore the differentiation of genetic structure of the general population of released soybean cultivars in China and the genetic diversity, genetic specificity and genetic relationship of th e geo-ecological subpopulations and released period subpopulations for serving the genetic improvement of soybeans in China with relevant genetic background inform ation in selecting key parental materials from the population. 【Method】 A total of 64 simple sequence repeat (SSR) markers scattered on the whole genome were used to analyze the differentiation of genetic structure of the population with a sample of 378 out of total 1 300 soybean cu ltivars released during 1923-2005 in China under the software Stru cture Version 2.2, to analyze the genetic differentiation of the population into geo-ecological subpopulations and released period subpopulations and to analyze the genetic diversity, specificity and relationship of the subpopulations. 【Result】 The Chinese soybean released cultivar population was composed of seven groups of germplasm and obviously differentiated into geo-ecological subpopulations and released period subpopulations with differ ent composition of germplasm groups. Each geo-ecological subpopulation held its own specifically existent, deficient and compleme ntary alleles, which reflec ted ecological specificity of its genetic source. Along with the a dvance of released period, new germplasm was introduced into the subpopulations, which made specifically existent, deficient and complementary alleles added to the subpopulations and, therefore, made the new subpopulations with their new specificity. In comparison with the Chinese wild soybean population and landrace population, the Chinese release dcultivar population has relatively narrow genetic background due to the bottle-neck effect of a limited number of ancestors. Among the province subpopulations, the number of total alleles and that of complementary alleles in Heilongjiang and Jiangsu subpopulations were the first and second larg est due to a relatively wide source of ancestors and broad genetic background. The number of total alleles in the 1923-1970 subpopulation was the least; it increased along with the advance of released period and that in the 2001-2004 subpopulation was the largest even only a short period involved, indicating its relatively high genetic divers ity and broad genetic background. 【Conclusion】 The present results demonstrated that geo-ecological differentiation and released period differentiation existed in Chinese released soybean cultivar population, which caused the subpopulations having their own genetic specificities characterized by their germplasm composition and specifically existent, deficient and complementary alleles. All the subpopulation specificities have laid the gene tic bases of germplasm or gene exchange among the subpopulations in future soybean breeding.
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【题目】重组自交家系群体4对主基因加多基因混合遗传模型分离分析方法的建立
【中文关键词】重组自交家系群体(RIL); 主基因加多基因混合遗传; 分离分析
【英文关键词】RIL population; Major gene plus polygenes mixed inheritance; Segregation analysis

【中文摘要】主基因加多基因混合遗传模型分离分析方法是基于数量性状表型数据的统计遗传分析方法，该方法适于育种工作者利用杂种分离世代的数据对育种性状的遗传组成做出初步判断，制订相应的育种策略，也可用以校验QTL定位所揭示的性状遗传组成。重组自交家系群体(RIL)是一种永久性群体，可以进行有重复的比较试验，适合于环境影响较大的复杂性状的遗传研究。本研究以RIL群体为对象，将遗传模型拓展到4对主基因，建立相应的分离分析方法。新构建的模型共包括4对主基因和4对主基因加多基因两类共15个遗传模型，通过极大似然法和IECM算法估算各种模型的分布参数，由AIC值和一组适合性测验选取最佳遗传模型，再由最小二乘法估计模型的遗传参数。通过模拟实验对所建立的模型进行验证，模拟群体中一阶遗传参数的估计值与设定值之间有很好一致性。以大豆科丰1号×南农1138-2构成的RIL群体及其亲本棕榈酸含量的遗传(I-1模型，即4对加性-上位性主基因和加性-上位性多基因遗传模型)为例，说明该方法的应用效果。

【英文摘要】The segregation analysis of major genes plus polygenes is a statistical method for genetic an alysis of quan titative traits. This method is particularly valuable for breeders to use their data accumulated fr om segregation populati ons to estimate the ge -netic system of target traits which is necessary for designing breeding strategies and also useful for validating the results o f QTL mapping. The recombinant inbred line (RIL) population is a permanent population, which is suitable for genetic analyses of com-plex traits and can be used in replicated experiments. For RIL, the analytical procedures of three major genes plus polygenes mixed inheritance models have been established and widely used in crops. There is an increasing demand on the genetic model expanding from three major genes plus polygenes to four or more major genes plus polygenes. Therefore, the objective of the present study was to establish the analytical procedures of segregation analyses for four major genes plus polygenes mixed inhe ri-tance model in RIL population. Fifteen genetic models with four additive and/or epistatic major genes including those without and with polygenes were established. The genetic models and their distribution parameters were solved and estimated with maximum likelihood method and IECM algorithm. The best model was chosen based on Akaike ’s In formation Criterion (AIC) and a set of goodness of fit tests. The genetic parameters of the best mode l were estimated with the least square method. The established pr o-cedure was validated with a set of Monte Carlo simulation experime nts. The results showed a rela tively high accuracy and consis -tency for first order parameters between the simulated population and sc heduled population. For demonstration of the usefulness of the established procedure, the data of palmitic acid content obtained from a RIL population NJRIKY (derived from Kefeng 1 × Nannong 1138-2) along with their P1and P2were analyzed. The results showed that the data fitted to Model I-1, i.e. four additive and epistasis major genes plus additive and ep istatic polygenes mixed inheritance model.

【语种】中文

【第一作者】王金社

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【学科分类】农业基础学科

【题目】不同生物有机肥施肥方法对压砂西瓜生长及产量的影响

【中文关键词】压砂西瓜; 穴施; 条施; 生物有机肥

【英文关键词】watermelon on gavel-mulched land; hill placement; band placement; bio-organic fertilizer

【中文摘要】2009年在宁夏中卫香山乡采用田间试验的方法,比较了穴施和条施生物有机肥对压砂西瓜生长及产量的影响。结果表明:与条施生物有机肥相比,穴施条件下,西瓜生育前期叶面积指数增加了80%~119%;生育中后期主蔓长20.6 cm,增加25.4%;叶片数也较多;单瓜重增加了43%,中心糖含量和边糖含量分别提高了9%和8%;同时西瓜水分生产效率提高了20 kg/(mm.hm2),增加幅度达37%。说明,在压砂地上施用生物有机肥80kg/667m2条件下,穴施比条施更有利于促进西瓜的生长,提高西瓜产量,品质和水分利用效率。 更多还原

【英文摘要】A field experiment was carried out to compare the effects of hill placement of bio-organic fertilizer with that of band placement on watermelon growth and yield at Zhongwei of Ningxia Hui Autonomous Region in 2009.The results showed that the main stem of watermelon was 20.6 cm longer with hill placement of bio-organic fertilizer than that with band placement,increasing by 25.4% in the late growth stage.The leaf number of watermelon was greater also.Leaf area index of watermelon increased by 80%~119% with hill placement compared withband placement in the early growth stage and single melon weight increased by 43%,the sugar content in the center and edge improved by 9% and 8% respectively.At the same time,the water use efficiency of watermelon increased 20 kg/(mm · hm2) by 43%.In a word,compared with band placement,hill placement of bio-organic fertilizer promotes watermelon growth,increases watermelon yield and quality and enhances water use efficiency of watermelon on the condition of the application of

80 kg per 667m2 on the gravel-mulched land. 更多
【语种】中文
【第一作者】谭军利
【通讯作者】田军仓
【期刊名称、卷期、页码】干旱地区农业研究,2011年11月第29卷第6期,135-138
【论文发表时间】2011-11-01 00:00:00
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【引文索引号】null
【学科分类】农学其他学科

【题目】水肥耦合对压砂地膜下滴灌甜瓜的产量效应研究
【中文关键词】压砂地; 甜瓜; 膜下滴灌; 水肥耦合; 产量效应;
【英文关键词】gravel mulched field; melon; drip irrigation under plastic mulch; water and fertilizer coupling; yield effect
【中文摘要】以甜瓜为供试材料,采用三因素五水平二次回归通用旋转组合设计方法,在宁夏中部干旱带进行了压砂地膜下滴灌水肥耦合效应试验,研究了不同水肥耦合水平对甜瓜产量的影响,并建立了非充分水肥耦合回归模型。结果表明:各因素对产量的影响顺序为灌水量>施磷量>施氮量,灌水量与施磷量的交互作用较显著;经模型寻优,得出不同目标产量下的水、氮、磷最佳组合方案,可为压砂地甜瓜节水节肥和高效栽培提供科学依据。 更多还原
【英文摘要】In this paper,melon is the object of our research in the gravel mulched field.Based on the experiment of the current rotary combination design of square regression of 3 factors with 5 levels,the regression model of effects of irrigation quota and the amount of N and P2O5 with melon yields under the conditions of irrigation under plastic film is established.The main and single-factor effects and interactions of the model are studied.The optimum combination schemes of water with the N and P2O5 chemical fertilizers under different yields have been obtained through the model.
【语种】中文
【第一作者】沈晖
【通讯作者】田军仓
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【引文索引号】null
【学科分类】水利工程其他学科

【题目】旱区老压砂地甜瓜配方施肥技术研究
【中文关键词】压砂地; 甜瓜; 补灌; 配方施肥;
【英文关键词】gravel mulched field; melon; supplementary irrigation; balanced fertilization;
【中文摘要】以甜瓜为供试材料,采用二次回归通用旋转组合设计,在宁夏中部干旱带进行了老压砂地配方施肥效应试验,研究了非充分补灌条件下氮、磷、钾不同用量配比对甜瓜产量的影响,并建立了相应的回归模型。研究结果表明,影响甜瓜产量的顺序为磷>氮>钾,交互作用均不显著;经模型寻优,得出不同目标产量下的氮、磷、钾最佳组合方案,为降低甜瓜生产成本、提高老压砂地肥料利用率及增产增收提供有力依据。 更多还原
【英文摘要】In this paper,melon is the object of our research in gravel mulched field.Based on the experiment of the current rotary combination design of square regression of 3 factors with 5 levels,the regression model of effects of N with P2O5 and K2O fertilizers with melon yields under the conditions of Non-sufficient irrigation was established.The main and single-factor effects and interactions of the model were studied.The optimum combination schemes of N with P2O5 and K2O fertilizers under different yields were obtained through the model.
【语种】中文
【第一作者】沈晖
【通讯作者】田军仓
【期刊名称、卷期、页码】灌溉排水学报,2011年10月第35卷第5期,99-102
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【学科分类】农学其他学科

【题目】宁夏压沙地西瓜自然降水生产力及障碍因子分析
【中文关键词】压沙地; 自然降水生产力; 障碍因子
【英文关键词】gravel-mulched land; natural precipitation productivity; barrier factors
【中文摘要】在水资源缺乏状况下,通过降水模拟对比试验,分析宁夏各压沙地类型在不同自然降水水平下的生产力及主要障碍因子对产量影响度。研究表明,西瓜自然降水生产力大小排序依次为丰水年>平水年>枯水年,新沙地>中沙地>老沙地;障碍因子影响程度为水文条件>压沙类型>肥力水平,为当地压沙地西瓜生产提供科学指导依据。 更多还原
【英文摘要】Under the condition of lack of water resource in Ningxia,this paper studies the potential precipitation productivity and the barrier factors for different gravel-mulched land watermelon through rainfall simulation.The result shows that the sequence of natural precipitation productivity from large to small is wet-year,normal year and low flow year,new gravel-mulched land,middle-year gravel-mulched land,old gravel-mulched land.The influence degree of barrier factors from large to small is natural precipitation,gravel-mulched land type,soil fertility.
【语种】中文
【第一作者】赵小勇
【通讯作者】田军仓
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【学科分类】环境学

【题目】日光温室墙体与地面吸放热量测定分析
【中文关键词】温室,墙体,热交换,地面,放热
【英文关键词】greenhouses,walls,heat exchangers,ground,heat release
【中文摘要】为研究日光温室土质后墙与地面对室内的放热情况,测定了晴、阴天气条件下土质后墙和地面的表面温度及热通量。结果表明,单位面积墙体与地面各自的放热量与室内太阳辐射密切相关,晴天夜间单位面积墙体放热量为1.90 MJ/m2,地面放热量为1.36 MJ/m2,而阴天夜间单位面积墙体放热量为0.76 MJ/m2,地面放热量为1.34 MJ/m2。对于单位面积墙体和地面而言晴天墙体放热量大于地面,阴天地面放热量大于墙体,无论晴天与阴天地面全天放热总量总是大于墙体释放总量,且地面对周期热量变化的缓冲大于墙体。
【英文摘要】The increased use of rotation, grafting, and soil sterilization has been documented to increase crop yieldin intensive vegetable production systems in China. It is believed that these practices can promotechanges in the rhizosphere that enhance early growth of plants. A 2-year greenhouse experiment ontomato double-cropping systems was conducted to investigate the effects of different agriculturaltreatments on microbial properties of rhizosphere soils and tomato fruit yield. The treatments includedplanting of welsh onion as a cover crop in the summer fallow (SF) period (CW), rotating vegetablechrysanthemumand tomato (CT), planting graft-tomato instead of auto-root tomato (GT), sterilizing soilwith calcium cyanamide in the SF period (TC), and fallowing in the SF period (Control). Microbialpopulation was analyzed by dilution plating. In general,microbial populationswere higher in CT, GT andTC than in control. Fungal population was higher in TC whereas a high number of bacteria were found inCT. Soil microbial biomass C and N, total microbial population, organic C and total N showed significantpositive correlations (P 0.01) with each others, and tomato yield showed significant positivecorrelations (P 0.05) with organic C, total N and totalmicrobial population. Inmost treatments, CW, GTand TC significantly (P 0.05) increased tomato yield by 8%, 21% and 19% in four growing seasons,respectively. CT significantly (P 0.05) increased tomato yield by 26% in the spring season of 2007. Theseresults suggested that rotation, grafting and soil sterilization could lead to changes in the microbialproperties of plant rhizosphere and consequently increase plant yield. Additionally, the responses ofplant yield were complex dependent on rhizosphere soil microbes in rotation-, grafting-, and soilsterilization-induced systems.
【语种】中文
【第一作者】李建设
【通讯作者】张亚红

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【学科分类】园艺学

【题目】不同农艺措施下温室土壤酶活性的动态变化及其相关性分析
【中文关键词】"农艺措施;土壤酶活性;相关分析
"
【英文关键词】"agricultural measures; soil enzyme activity; correlation analysis
"
【中文摘要】"针对日光温室随种植年限增加,土壤质量退化的问题,研究了5种不同的农艺处理措施对土壤酶活性的影响。结果表明,食用菊花和番茄轮作、番茄嫁接2个处理对提高不同土壤酶活性的效果显著;夏季石灰氮消毒处理对提高脲酶、磷酸酶和过氧化物酶活性的效果显著;夏季填闲大葱对前季作物土壤酶活性的影响大于后季作物。番茄产量与土壤酶活性的变化趋势基本一致。蔗糖酶、脲酶、磷酸酶、多酚氧化酶和过氧化物酶可以作为设施蔬菜敏感的土壤酶学指标。在难以进行轮作的以番茄生产为主的地区,采取嫁接栽培能有效提高土壤酶活性;在有条件轮作地区,采取食用菊花与番茄轮作,对提高土壤酶活性和栽培效益方面有积极作用"
【英文摘要】"To solve the problemof soil degradationwiththe increase of continuous croppingyears in the solargreenhouse,changes of soil enzyme activities under five different agricultural treatmentswere studied. The results suggest that the soilenzyme activities are increased significantly underthe rotation between vegetable chrysanthemumand tomato, and graftingtomato treatments. Soil urease, phosphatase and peroxidase activities are increased significantly aswell underthe calciumcyanamide treatment in summer. Cultivatingwelsh onion in summer, the soil enzyme activities in autumn are significantlyhigher than that in spring. The tomato yield coincideswith activity variation of soil enzymes, this indicates that sucrase,urease, phosphatase, polyhenoloxidase and peroxidase can be used as sensitive biological indices for vegetable cultivationin greenhouse. In the region in which crop rotation is difficult, grafting cultivation can be used to increase soil enzymeactivities, while, the rotation between vegetable chrysanthemum and tomato can play a positive role in maintaining soilenzyme activities and cultivation efficiencywhen the crop rotation is available."
【语种】中文
【第一作者】田永强
【通讯作者】高丽红
【期刊名称、卷期、页码】植物营养与肥料学报2009,15(4):857-864
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【引文索引号】null
【学科分类】农艺学

【题目】不同栽培制度温室土壤养分和微生物群落的动态变化
【中文关键词】"栽培制度;黄瓜;土壤养分;土壤微生物
"
【英文关键词】"cultural systems;cucumber;soil nutrient content;soil microbial community
"
【中文摘要】"【目的】评价连作8年黄瓜的温室土壤在采用不同栽培制度后对土壤养分和微生物群落的动态影响。【方法】利用盆栽方式进行连续4年不同栽培制度试验,采取常规的化学分析和选择性培养基方法分析不同栽培制度下各栽培茬口土壤养分和微生物组成动态变化。【结果】采用不同栽培制度连续处理4年后,所有处理EC、pH、全氮和速效养分含量均低于试验开始时本底值并呈缓慢下降的趋势;夏季填闲青蒜处理的EC、pH、全氮、速效氮、速效磷与对照差异显著。夏季填闲青蒜和轮作的栽培制度在第2、3年均显著降低土壤速效养分含量,显著改变了微生物的组成,增加了B/F值,降低了土壤尖孢镰刀菌的数量,显著增加了秋冬茬黄瓜产量。【结论】夏季填闲青蒜和轮作栽培制度能够连续4年持续改善连作土壤的质量,对连作土壤有一定修复效果,但这种效果随着处理年限的延长呈减缓趋势。"
【英文摘要】"【Objective】The aim of this study was to evaluate soil nutrients and microbial community of typical-8-year-oldcucumber planting soil by different cultural systems in greenhouse【Method】The study was conducted using conventional chemicalanalysis and selective medium in different cultural systems and periods for 4 years pot experiment.【Result】Soil EC,pH,and

availablenutrients of all treatments were lower than the base soil after four years improvement.Catch garlic reduced soil EC,pH,available N,and K,and showed a significant difference with the control.Catch garlic(CS1)and crop rotation(CS2)reduced the content of soilavailable nutrients in the second and third year,changed the component of soil microbe,increased B/F value and fall and wintercucumber yield,and reduced Fusarium oxysporum population.【Conclusion】Catch garlic in summer season(CS1)and crop rotation(CS2)could improve soil quality and have remediation effects on continuous cucumber soil,as times goes by,the effect will be reduced."
【语种】中文
【第一作者】张雪艳
【通讯作者】高丽红
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【学科分类】园艺学

【题目】宁夏NKWA-Ⅲ型日光温室设计建造及冬季温光环境特征
【中文关键词】"宁夏;大跨度日光温室;设计制造;环境测试
"
【英文关键词】"Ningxia;large span solar greenhouse environment test;design;environmental test
"
【中文摘要】"为优化日光温室结构设计和促进温室大型化发展,设计建造了宁夏NKWS-Ⅲ型日光温室,并于2008年冬季罕见低温条件下运行测试。结果表明:NKWS-Ⅲ型日光温室具有透光率高,容积大的特点,有利于无限生长型蔬菜长季节栽培管理,在一般天气条件下,可基本保证茄果类蔬菜度过冬季。但是当冬季室外每日辐射总量低于7.82 JM/m2、最低温度下降至-14.7℃、日平均温度低于-8.8℃时,利用NKWS-Ⅲ型日光温室进行茄果类蔬菜越冬生产时需添加增温设备进行加温,适时做好维护结构的保温措施"
【英文摘要】"In order to optimize structure design and promote maximization development of solar greenhouse,the NingxiaNKWS-IIIsolar greenhouse was designed,built and tested under rare low temperature condition in 2008 winter.Theresults showed that NKWS-IIIsolar greenhouse had feature of high transmittance and big volume which was helpful toadministration of infinite growth-type vegetable under long seasonal cultivation.In the general weather conditions,thistype solar greenhouse can basic ensure eggplant vegetable to get through winter.But it needed to taking well insulationmeasures and adding warming equipment when encountered limit low temperature condition.The results of statisticalanalysis indicated that could seen as outside environment critical exponent for warming of Ningxia NKWS-IIIsolargreenhouse when the daily total radiation was 7.82 JM/m2、the lowest temperature was -14.66℃、daily averagetemperature was -8.79℃."
【语种】中文
【第一作者】郭文忠
【通讯作者】郭文忠
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【题目】大豆苗期耐淹性的遗传与QTL分析
【中文关键词】大豆; 耐淹性; RIL 群体; 分离分析; QTL 定位
【英文关键词】Waterlogging tolerance; Recombinant inbr ed line (RIL); Segregation analysis; QTL mapping
【中文摘要】洪涝灾害是大豆生产的主要逆境之一, 培育耐涝品种是抗灾保收的重要措施。大豆耐涝性育种方案的设计必须以耐涝性遗传为前提。以苏88-M21(淹水不敏感) × 新沂小黑豆(淹水敏感) 衍生的175 个重组自交系(NJRISX)为材料, 在盆栽V2期土壤表层保持5~7 cm水层20 d 的淹水条件下, 研究大豆苗期耐淹性的遗传和 QTL 定位。通过对 8 个耐淹性有关性状的相关分析和主成份分析, 确定以处理前后株高变化量、处理终叶龄和成熟期株高3 个性状的平均耐淹指数为评价指标。NJRISX 家系间耐淹性差异极显著, 存在超亲分离。主基因+ 多基因分离分析表明该群体的耐淹性为2 对连锁主

基因+多基因遗传，主基因遗传率为62.83%，多基因的遗传率为8.90%。WinQTLCart2.5复合区间及多区间QTL定位分析均检测到2个QTL，位于连锁群L2上的Satt229~Satt527和Satt527~Sat_286区间，对表型的解释率分别为11.76%~25.20%和10.10%~12.34%。大豆NJRISX群体苗期耐淹性遗传分离分析与QTL定位结果相对一致。

【英文摘要】Flooding is a serious problem for soybean production in easte rn and southern China. Development of cultivars with tolerance to waterlogging is one of the effective ways to cope with the stress problem. For which, the genetic knowledge of wa-terlogging tolerance is of essent ial importance. The present study was aimed at revealing the in heritance and mapping the QTLs for waterlogging tolerance of soybean at seedling stage. The materials used were 175 recombinant inbred lines (RILs) derived from the cross Su88-M21 (tolerant) × Xinyixiaoheidou (highly sens itive), designated as NJRISX. A pot experiment was held un-der 5 – 7 cm waterlogging stress for 20 days at V2 stage. Based on the correlation and pr incipal component analysis of eight trai ts, we calculated the joint waterlogging tolerance index from the average of individual tolerance index of plant height increment, number of leaves at the end of waterlogging and plant height at maturity to evaluate the tolerances of the materials. There existed obvious transgressive segregation and significant differences am ong the RIL lines. The segregation analysis under major gene plus polygene mixed inheritance model showed that waterlogging tolerance of soybean was c ontrolled by two linked major genes plus polygenes with major gene heritability of 62.83% and polygene heritability of 8.90%. By using composite interval mapping (CIM) and multiple interval mapping (MIM) of WinQTL Cartographer Version 2.5, two QTLs conferri ng waterlogging tolerance were mapped in the marker regions of Satt229 – Satt527 and Satt527 – Sat_286 on linkage groups L2, explaining 11.76% – 25.20% and 10.10% – 12.34% of the total phenotypic variation, respectively. Accordingly, the results from segregation analysis and QTL map-ping are relatively consistent in NJRISX population.

【语种】中文

【第一作者】孙慧敏
【通讯作者】赵团结; 盖钧镒

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【学科分类】农业基础学科

【题目】陆地棉产量相关性状的QTL定位

【中文关键词】棉花; 产量性状; QTL 定位
【英文关键词】Upland cotton; Yield traits; QTL mapping

【中文摘要】中棉所28和湘杂棉2号分别是以中棉所12×4133和中棉所12×8891配制而成的两个陆地棉强优势杂交种。以其F2为作图群体，筛选6 000多对SSR引物，利用两群体间27个共有多态位点，通过JoinMap 3.0软件整合了一张包含245个多态位点、全长1 847.81 cM的遗传图谱。利用Win QTLCart 2.5复合区间作图法分别对两群体8个产量相关性状在F2和F2:3中进行QTL定位，在中棉所28群体多环境平均值的联合分析中检测到16个QTL，三环境分离分析中检测到43个QTL；在湘杂棉2号群体分别检测到20个和66个QTL。在A3、D8、D9等染色体上有QTL成簇分布现象，同时在两个群体中发现一些不受环境影响且稳定遗传的QTL。对考察的8个性状在两个群体中发现12对共有QTL，控制果枝数、衣分和籽指的QTL增效基因位点均来源于共同亲本中棉所12。综合分析推测中棉所12的育种价值主要是通过提高后代的结铃性来实现的。研究结果为棉花产量性状的分子设计育种提供了有用的信息。

【英文摘要】As a major source of fiber and the world ’s second-most important oil-seed crop after soybean, cotton plays an important role in the global economy. With the development of textile technology a nd social demand, it is urgent to breed and plant cotton varieties with high yield and super fiber quality. If the marker tightly linked with major gene controlling desired traits was identi-fied, the efficiency of selection for agronomic traits might im prove greatly. To date, high-id entity genetic linkage map derived from upland cotton cultivars was lack because of their narrow genetic basis. Increasing the map density and tagging QTLs related with agronomic traits in Upland cotton wi ll accelerate the process of marker assisted selection (MAS) breeding. CRI28 and XZM 2 are two cotton hybrids with high heterosis, which were bred by crossing CRI12, 4133, and 8891, respectively, with CRI12 as mutual parent. In this paper, two F2 mapping populations were re spectively assembled by using the parents of CRI28 hybrid (CRI12 and 4133, their corresponding population named as Pop1) and the parents of XZM 2 hybrid (CRI12 and 8891, their cor-responding population named as Pop2), further, a joinmap linkage map which contained 245 loci and covered 1 847.81 cM was integrated with 27 mutual polym orphic loci in the two mapping populations by JO INMAP 3.0 software, after screening about 6 000 SSR primers. By the composite interval mapping method (CIM), the QTLs for eight yield-related traits in F2 and F3 popula-tions were mapped. Of them, 43 QTLs were identified in the three environments by separating analysis and 16 QTLs by the joint analysis in Pop1; similarly, 66 and 20 QTLs in Pop2 respectively. Some QTLs on chromosome A3, D8, and D9, and some stable QTLs not influenced by environment were

also detected. Twelve QTLs for eight tra its could be found simultaneously in the two populations, and additive QTLs for fruit branches per plant, lint pe rcentage and seed index all were offered by CRI12, suggesting that the value of CRI12 in breeding is mostly contributed by in creasing the offspring ’ s bolls. These results will provide very im-portant information in Upland cotton breeding for yield by MAS.

【语种】中文
【第一作者】秦永生
【通讯作者】郭旺珍
【期刊名称、卷期、页码】作物学报 ACTA AGRONOMICA SINICA 2009, 35(10): 1812 − 1821
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【学科分类】农业基础学科

【题目】Molecular mapping of genic male-sterile genesms15, ms5 and ms6 in tetraploid cotton
【中文关键词】genic male sterility. molecular mapping ,genic male-sterile genes ,Gossypium
【英文关键词】genic male sterility. molecular mapping ,genic male-sterile genes ,Gossypium
【中文摘要】Two genic male sterile (GMS) lines, Lang-A conditioned by ms15 And Zhongkang-A conditioned by ms5 ms6 duplicate recessive genes in Gossypium hirsutum L., were chosen to map GMS genes. These two lines were crossed with Gossypium barbadensecv. “ Hai7124 ” to produce segregating populations. The ms15 gene was mapped on chromosome 12, and was flanked by two simple sequence repeat (SSR) markers,NAU2176 and NAU1278, with a genetic distance of 0.8 and 1.9 cM respectively. The ms5 and ms6 genes were mapped to one pair of homoeologous chromosomes, ms5 on chromosome 12 flanked by three SSR markers, NAU3561, NAU2176 and NAU2096, with genetic distances of 1.4, 1.8 and 1.8 cM, respectively, andms6 on chromosome 26 flanked by two SSR markers, BNL1227 and NAU460, with a genetic distance of 1.4 and 1.7 cM respectively. These tightly linked markers with thems15, ms5 and ms6 genes can be used in the marker-assisted selection among segregating populations in a breeding programme, and provide the foundation for gene isolation by map-based cloning for these three genes.
【英文摘要】Two genic male sterile (GMS) lines, Lang-A conditioned by ms15 And Zhongkang-A conditioned by ms5 ms6 duplicate recessive genes in Gossypium hirsutum L., were chosen to map GMS genes. These two lines were crossed with Gossypium barbadensecv. “ Hai7124 ” to produce segregating populations. The ms15 gene was mapped on chromosome 12, and was flanked by two simple sequence repeat (SSR) markers,NAU2176 and NAU1278, with a genetic distance of 0.8 and 1.9 cM respectively. The ms5 and ms6 genes were mapped to one pair of homoeologous chromosomes, ms5 on chromosome 12 flanked by three SSR markers, NAU3561, NAU2176 and NAU2096, with genetic distances of 1.4, 1.8 and 1.8 cM, respectively, andms6 on chromosome 26 flanked by two SSR markers, BNL1227 and NAU460, with a genetic distance of 1.4 and 1.7 cM respectively. These tightly linked markers with thems15, ms5 and ms6 genes can be used in the marker-assisted selection among segregating populations in a breeding programme, and provide the foundation for gene isolation by map-based cloning for these three genes.
【语种】英文
【第一作者】D. CHEN
【通讯作者】张天真
【期刊名称、卷期、页码】Plant Breeding 128 , 193—198 (2009)
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【学科分类】农业基础学科

【题目】Molecular phylogeny of miR390-guidedtrans-acting siRNA genes(TAS3) in the grass family
【中文关键词】无
【英文关键词】Trans-acting siRNA (tasiRNA) ,TAS3,Poaceae ,Evolution,miR390
【中文摘要】无
【英文摘要】Trans-acting siRNAs (tasiRNAs) are a plant-specific class of 21-nt endogenous siRNAs that function as miRNA-like posttranscriptional negative regulators.Several tasiRNA loci (known as TAS genes) have been characterized to date in rice and Arabidopsis . The TAS3 family is distinguished from other TAS loci by the dual miR390 complementary sites flanking the tasiRNA

region and its dependence on ARGONAUTE7. In this study, 55 putative TAS3 genes were identified by database mining and PCR amplification from the grass family. Phylogenetic analysis indicated that several genome/gene duplication events have been involved in the expansion of TAS3genes while some TAS3genes might have been lost during evo-lution of the grass family. The role of miR390 target genes in the origin of TAS3genes are discussed.
【语种】英文
【第一作者】Dan Shen
【通讯作者】L. Fan
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【学科分类】农业基础学科

【题目】宁夏日光温室结构选型及区域布局
【中文关键词】日光温室;结构;改进措施
【英文关键词】日光温室;结构;改进措施
【中文摘要】比较了目前宁夏节能日光温室结构和性能方面的差异,并对宁夏节能日光温室的区域布局提出了建议。
【英文摘要】比较了目前宁夏节能日光温室结构和性能方面的差异,并对宁夏节能日光温室的区域布局提出了建议。
【语种】中文
【第一作者】郭文忠
【通讯作者】郭文忠
【期刊名称、卷期、页码】宁夏农林科技. 2008(3)51-53
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【学科分类】园艺学

【题目】Index selection on seed traits under direct,cytoplasmic and maternal effects in multiple environments
【中文关键词】无
【英文关键词】index selection; seed trait; mixed linear model approach; genotype by environment interaction
【中文摘要】无
【英文摘要】Crop seeds are important sources of protein, oil, and carbohydrates for food, animal feeds, and industrial products. Recently, much attention has been paid to quality and functional properties of crop seeds. However, seed traits possess some distinct genetic characteristics in comparison with plant traits, which increase the difficulty of genetically improving these traits. In this study, diallel analysis for seed models with genotype by environment interaction (GE) effect was applied to estimate the variance-covariance components of seed traits. Mixed linear model approaches were used to estimate the genetic covariances between pair-wise seed and plant traits. The breeding values (BV) were divided into two categories for the seed models. The first category of BV was defined as the combination of direct additive, cytoplasmic, and maternal additive effects, which should be utilized for selecting stable cultivars over multi-environments. The three genetic effects, together with their GE interaction, were included in the second category of BV for selecting special lines to be grown in specific ecosystems. Accordingly, two types of selection indices for seed traits, i.e., general selection index and interaction selection index, were developed and constructed on the first and the second category BV, respectively. These proposed selection indices can be applied to solve the difficult task of simultaneously improving multiple seed traits in various environments. Data of crop seeds with regard to four seed traits and four yield traits based on the modified diallel crosses in Upland cotton (Gossypium hirsutum L.) were used as an example for demonstrating the proposed methodology.
【语种】英文
【第一作者】Wenying Zhang
【通讯作者】Jun Zhu
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【学科分类】农业基础学科

【题目】Microbial properties of rhizos- phere soils as affected by rotation, grafting, and soilsteril- ization in intensive vegetable production systems
【中文关键词】"Rotation
Grafting
Soil sterilization
Rhizosphere
Microbial properties"
【英文关键词】"Rotation
Grafting
Soil sterilization
Rhizosphere
Microbial properties"
【中文摘要】The increased use of rotation, grafting, and soil sterilization has been documented to increase crop yieldin intensive vegetable production systems in China. It is believed that these practices can promotechanges in the rhizosphere that enhance early growth of plants. A 2-year greenhouse experiment ontomato double-cropping systems was conducted to investigate the effects of different agriculturaltreatments on microbial properties of rhizosphere soils and tomato fruit yield. The treatments includedplanting of welsh onion as a cover crop in the summer fallow (SF) period (CW), rotating vegetablechrysanthemumand tomato (CT), planting graft-tomato instead of auto-root tomato (GT), sterilizing soilwith calcium cyanamide in the SF period (TC), and fallowing in the SF period (Control). Microbialpopulation was analyzed by dilution plating. In general,microbial populationswere higher in CT, GT andTC than in control. Fungal population was higher in TC whereas a high number of bacteria were found inCT. Soil microbial biomass C and N, total microbial population, organic C and total N showed significantpositive correlations (P 0.01) with each others, and tomato yield showed significant positivecorrelations (P 0.05) with organic C, total N and totalmicrobial population. Inmost treatments, CW, GTand TC significantly (P 0.05) increased tomato yield by 8%, 21% and 19% in four growing seasons,respectively. CT significantly (P 0.05) increased tomato yield by 26% in the spring season of 2007. Theseresults suggested that rotation, grafting and soil sterilization could lead to changes in the microbialproperties of plant rhizosphere and consequently increase plant yield. Additionally, the responses ofplant yield were complex dependent on rhizosphere soil microbes in rotation-, grafting-, and soilsterilization-induced systems.
【英文摘要】The increased use of rotation, grafting, and soil sterilization has been documented to increase crop yieldin intensive vegetable production systems in China. It is believed that these practices can promotechanges in the rhizosphere that enhance early growth of plants. A 2-year greenhouse experiment ontomato double-cropping systems was conducted to investigate the effects of different agriculturaltreatments on microbial properties of rhizosphere soils and tomato fruit yield. The treatments includedplanting of welsh onion as a cover crop in the summer fallow (SF) period (CW), rotating vegetablechrysanthemumand tomato (CT), planting graft-tomato instead of auto-root tomato (GT), sterilizing soilwith calcium cyanamide in the SF period (TC), and fallowing in the SF period (Control). Microbialpopulation was analyzed by dilution plating. In general,microbial populationswere higher in CT, GT andTC than in control. Fungal population was higher in TC whereas a high number of bacteria were found inCT. Soil microbial biomass C and N, total microbial population, organic C and total N showed significantpositive correlations (P 0.01) with each others, and tomato yield showed significant positivecorrelations (P 0.05) with organic C, total N and totalmicrobial population. Inmost treatments, CW, GTand TC significantly (P 0.05) increased tomato yield by 8%, 21% and 19% in four growing seasons,respectively. CT significantly (P 0.05) increased tomato yield by 26% in the spring season of 2007. Theseresults suggested that rotation, grafting and soil sterilization could lead to changes in the microbialproperties of plant rhizosphere and consequently increase plant yield. Additionally, the responses ofplant yield were complex dependent on rhizosphere soil microbes in rotation-, grafting-, and soilsterilization-induced systems.
【语种】英文
【第一作者】田永强
【通讯作者】高丽红
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【题目】人工鱼礁建设对浙江嵊泗海域营养盐与水质的影响及评价
【中文关键词】关键词: 人工鱼礁; 营养盐; 水质; 富营养化
【英文关键词】Key words: Artificial reef; Nutrient; Water quality; Eutrophication
【中文摘要】摘要: 根据2003—2007 年对嵊泗人工鱼礁海域11 个航次调查所获得的实验数据, 运用鱼礁区和对照区相比较的方法, 分析了该海域不同季节氮、磷营养盐和水质在投放人工鱼礁后的变化, 并对海域水质状况进行评价。结果表明, 无机氮大多数处于阈值范围或低于最小阈值, 活性磷酸盐含量则严重超标, N/P 值范围为0.6280—14.8273, 嵊泗海域处于氮限制, 溶解氧不成为该海域浮游生物的生长限制因子。投放人工鱼礁后,生态效应不能在短期里得以体现, 鱼礁区的水质情况要好于对照区, 海域对P 的富集强度大于N, 人工鱼礁建设对再生生产力影响较大, 对新生产力的贡献很小。
【英文摘要】Abstract: Zhejiang Fishing Ground is one of the most productive sea area in China. Zhejiang province, which provides high quality habitats for many marine organisms and has numerous islands waters, colonizes hundreds of species (such as fish, shrimp, shellfish, algae ect.) in the waters. Zhejiang sea waters are nutrient prosperous area, being rich in marine primary productivity, and have a wide range of flow lines and water masses between the turn of the intersection of growth and decline. But after a large-scale over-intense blind fishing, fisheries resources in the waters are recession seriously, the marine environment also have been damage. In order to improve the ecological environment quality, and to conserve fishery resources of Zhejiang coastal fishing grounds, the local governments of Shengsi county had begun to implement artificial reef construction projects, and then the project was going to be planning in 2003. The first phase of the project was successfully implemented at the end of 2004, including different types of concrete artificial reefs and vessel-reefs with a total volume of 14 985 cubic meters deployed in the middle of Dongku and L ü hua sea area (30 ° 47'—30 ° 49'N, 122 ° 39'—122 ° 41'E) from 2005 to the early year of 2006, with a total reef monomer of 554. Marine environment quality might be significant changed after deploying so many artificial reefs. So far, domestic research focused mainly on the three major benefits, site selection, layout, leisure fisheries, proliferation of resources and so on, however, very few relevant impacts on nutrients and water quality after artificial reef construction is reported. Moreover, understanding and grasping the nutrient content, distribution and its impact factors were of great significance to scientific evaluation and forecasting capacity of the area and nutrition status, marine environmental protection, utilization and management. Based on the experimental data from 11 voyages carried out in Shengsi artificial reef areas and near waters in 2003—2007, the seasonal variations of nitrogen, phosphorus and water quality after the deployment of artificial reefs were studied in comparative ways between artificial reef areas and control areas, and the assessment for water quality were discussed. The results show that the majority of inorganic nitrogen is in the threshold or below the minimum threshold, and the content of active phosphate is over standard seriously. The value of N/P is in the range of 0.6280—6.7635. The water quality in Shengsi artificial reef area is nitrogen restriction, dissolve oxygen is not the limiting factor in the areas. The ecological effects could not be reflected in the short term after the deployment of artificial reefs. The water quality of the artificial reef area is better than the control area. The enrichment strength for P is greater than N in the waters, and the impact of artificial reef construction on regenerated production is significant and have lower contribution to new production.
【语种】中文
【第一作者】王伟定
【通讯作者】王伟定
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【学科分类】水产资源学

【题目】Using matrix of thresholding partial correlation coefficients to infer regulatory network
【中文关键词】无
【英文关键词】network inference; partial correlation coefficient; permutation test; UDG; microarray
【中文摘要】无

【英文摘要】DNA arrays measure the expression levels for thousands of genes simultaneously under different conditions. These measurements reflect many aspects of the underlying biological processes. A method based on the matrix of thresholding partial correlation coefficients (MTPCC) is proposed for network inference from expression profiles. It includes three main parts: (1) hierarchical cluster analysis, (2) cluster boundaries establishment, and (3) regulatory network inference. The method was applied to the expression data of 2467 genes in Saccharomyces cerevisiae measured under 79 different conditions [Eisen, M.B., Spellman, P.T., Brown, P.O., Botstein, D., 1998. Cluster analysis and display of genome-wide expression patterns. Proc. Nad. Acad. Sci. 95, 14863-14868]. Using hierarchical clustering and cluster boundaries establishment, the 2467 genes were grouped into 12 clusters. The expression profiles of each cluster were expressed as a set of expression levels average over the cluster that constituted genes of each condition. Then the expression data of these clusters were subjected to the analysis of partial correlation, and the significance of each element in the obtained partial correlation coefficient matrix (PCCM) was examined by a permutation test. The corresponding undirected dependency graph (UDG) was obtained as a model of the regulatory network of S. cerevisiae. The veracity of the network was evidenced by the consistency of our results with the collected results from experimental studies. (C) 2007 Elsevier Ireland Ltd. All rights reserved.
【语种】英文
【第一作者】Lide Han
【通讯作者】Jun Zhu
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【学科分类】农业基础学科

【题目】Characterization of donor genome contents of backcross progenies detected by SSR markers in rice
【中文关键词】无
【英文关键词】backcross; donor chromosome segment; genome; SSR; rice
【中文摘要】无
【英文摘要】Backcrossing is a trait introgression method of renewed importance in crops. The evolution of introgressed or substituted segments through backcross generations has been analyzed theoretically using simulations. In this study, the content of donor genomes, including donor segment number (DSN), donor segment length (DSL), and donor genome size (DGS), were directly analyzed in six crosses over three successive backcrosses using a set of single sequence repeat (SSR) markers covering the entire rice genome. The results of this analysis demonstrated that the average DSN in each genome was 8.39 in BC2F1, 4.13 in BC3F1, and 2.41 in BC4F1, decreasing nearly by half with each backcrossing. The average DSL was 33.43 cM (centiMorgans) in BC2F1, 29.04 cM in BC3F1, and 25.07 cM in BC4F1, display a progressive decrease slightly greater than 10% in each additional backcross generation. Meanwhile the average DGS was 280.51 cM in BC2F1, 119.97 cM in BC3F1, and 60.53 cM in BC4F1, decreasing 57.2% from BC2F1 to BC3F1 and 50.4% from BC3F1 to BC4F1. This revealed that the reduction in DGS was approximately 50% with each backcrossing. These results provide a guide for introgression or substitution of target chromosome segments from donors into recipients in backcross programs.
【语种】英文
【第一作者】Zhang-Ying Xi
【通讯作者】Guiquan Zhang
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【学科分类】农业基础学科

【题目】日光温室温度特征及温室群智能卷闭帘系统的研发
【中文关键词】"日光温室群;温度;智能;卷闭帘
"

【英文关键词】solar greenhouse group;temperature;intelligent;folding curtain
【中文摘要】"运用各组温度传感器观测冬春两季的实时温度,通过相关回归分析法对两季节晴天和阴天日光温室群内外的气温变化规律及日光温室群内气温与时间的关系进行了详细分析,同时对室内气温与土壤温度及墙体温度之间的关系进行了较为系统的研究。根据研究结果得出决定日光温室群卷闭帘的两大关键因素分别是室内气温和当地日出日落时间,最后研发出日光温室群智能卷闭帘系统。"
【英文摘要】":The changing laws of air temperature inside and outside greenhouse group of Sunny and Cloudy days both inWinter and Spring were analyzed,regression analysis on the relations between air temperature inside and outsidegreenhouse group,and the relation between air temperature within greenhouse group and time in different seasons hadbeen done,meantime,relevant regression equations had been found.The relations between air temperature and earthtemperature,air temperature and wall temperature within greenhouse were studied.Finally, " The intelligent folding curtainsystem of solar greenhouse group " was developed according to the temperature features within solar greenhouse group."
【语种】中文
【第一作者】付理
【通讯作者】张亚红
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【学科分类】园艺学

【题目】宁夏半冷式温棚内红地球葡萄延后栽培的小气候特征.
【中文关键词】"小气候;半冷式温棚;延后栽培
"
【英文关键词】"microclimate; plastic greenhouse; prolong-autumn cultivation
"
【中文摘要】"为了解宁夏第一栋半冷式温棚红地球葡萄延后栽培的小气候特征,对其进行为期2年的小气候观测,结果表明:①棚外最低气温为-21.7℃,棚内为-4.8℃;在20 cm土层,棚外最低地温为-5.0℃,棚内为-0.3℃,说明棚内葡萄枝蔓及根系直接越冬安全.②扣棚后,日平均温度高于10℃的日数持续到11月下旬,这对露地不能完熟的晚熟品种进一步成熟提供了良好的环境条件,如葡萄继续挂果活体保鲜,可延迟至12月上旬采收.③棚内气温在南北方向较均匀,东西方向靠近薄膜处受外界影响较大;在垂直方向上,气温一日内除14:00时变化较大外,其余时间较均匀.④红地球葡萄从萌芽到成熟所需的大于10℃活动积温在3 400℃以上,由全年的温度测定,棚内≥10℃的积温为4 415.2℃,表明此设施结构能够完全满足红地球葡萄生长发育的条件."
【英文摘要】"In order to understand the microclimate features of the plastic greenhouse that growing the RedGlobe and its growing characteristic of autumn-prolong cultivation, we observed the microclimate featuresof the plastic greenhouse that growing the Red Globe in Ningxia for two years. The result shows: 1. Thelowest temperature that outside the greenhouse is -21.7°Cand the lowest temperature within thegreenhouse is -4.8°C, while at the height of 20cm below the ground, the lowest temperature outside thegreenhouse is -5°Cand the lowest temperature within the greenhouse is -0.3°C, which illustrates thatthe branches and root system of the grapes in the greenhouse can pass winter safely. 2. When the plasticfilm is covered, the days that the average temperature higher than 10°Cwill last by late November, whichwill continue to provide a good environment for the ripping of the late-ripen grape species. And if the fruitsare still on the trees, the picking time can be delayed by early December. 3. The temperature iscomparatively even from the south to the north, while it is affected by the outside from the east to the westthat closes to the membrane, and in vertical direction, the temperature is even during the day except 14 o ' clock. 4. The accumulated temperature that the Red Globe need above 10°Cis 3 400°C, while thetemperature that within the greenhouse above 10°Caltogether is 4 415.20°Cduring the whole year, whichshows that the facility can fulfill the factors that the Red Globe need in growing."
【语种】中文
【第一作者】谭瑶
【通讯作者】张亚红
【期刊名称、卷期、页码】农业科学研究2009,30(2):1-6
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【学科分类】园艺学

【题目】日光温室土质墙体内温度与室内气温的测定分析
【中文关键词】"日光温室;土质墙体;温度
【英文关键词】"Greenhouse; Soil wall; Temperature
【中文摘要】"为研究日光温室土质墙体的保温性及室内温度环境特征,对日光温室的后墙、地面、空气进行了不同层次的温度监测和理论分析。结果表明:日光温室后墙在传热过程中,由内向外随墙体厚度的增大传入热量逐渐减少。在后墙垂直方向内表层0.2 m处,墙体中下部温度最高,顶部和基部温度较低;3月份一日内墙体表面温度平均比地表面温度高3.3°C;夜间放热时间比地面长约3 h,且单位面积墙体比单位面积地面放热多。白天,在温室南北方向由北向南气温逐渐增高;垂直方向气温由下到上逐渐升高;夜间,在南北方向由北向南气温逐渐降低,垂直方向气温没有明显变化。无论白天夜间,日光温室内南北方向气温差异比垂直方向气温差异大。"
【英文摘要】"In order to study the thermal insulation property of soil wall and the characteristics of tem-perature in solar greenhouse, the experiment monitored and theoretically analysized the temperaturethat in the back wall, on land surface and in the air at different levels. The result showed that in theprocess of heat-transferring, with the increase of the thickness of the back wall, the heat reducedgradually from the inside to the out. In vertical direction 0.2 m on surface layer, the lower part of theback wall has the highest temperature, while the top and the base part have a comparatively low tem-perature. The average temperature on the surface wall during a day in March is 3.3°Chigher than thatof land surface, and the heat transfer duration of the wall is about 3 hours longer than that of the landsurface at night, and per unit wall area releases more heat than that of land surface. During the day,the temperature rises from north to south in north and south direction, while in vertical direction, thetemperature rises gradually from bottom to top. During the night, the temperature decreases fromnorth to south in north and south direction, and there is no obvious change in vertical direction. Re-gardless of daytime and at night, the temperature difference in the north and south direction is biggerthan that in the vertical direction in the greenhouse"
【语种】中文
【第一作者】白 青
【通讯作者】张亚红
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【题目】浙江舟山人工生境水域日本黄姑鱼和黑鲷的增殖放流效果及评估
【中文关键词】关键词:黑鲷;日本黄姑鱼;人工生境;增殖放流;效果;评估
【英文关键词】Key words:Sparus macrocephalus;Nibea japonica;artificial habitat;enhancement release;effect;assessment
【中文摘要】摘要:基于2004-2008年浙江舟山趋礁性鱼类的增殖放流数据,以日本黄姑鱼(Nibea japonica)和黑鲷(Sparus macrocephalus)作为研究对象,采用现场调查与理论推算相结合的方法,分析放流后放流点附近海域放流种类的回捕率、移动分布情况、生长情况及死亡情况。结果表明,黑鲷和日本黄姑鱼的回捕率逐年增长,黑鲷在2008年仅游钓回捕率就达到3.68%,手钓率逐年上升,规格逐年变小,补充群体数量有增加的趋势;放流3个月后回捕的黑鲷平均叉长和平均体质量分别增加70.29%和390.25%,而日本黄姑鱼平均体长可增加200%,日均体质量增长速度为1 g/d;预计至放流后第4黑鲷总的投入产出比将达1∶6.55,日本黄姑鱼投入产出比当年就可达1∶12以上。生长比对实验表明,黑鲷和日本黄姑鱼在自然海域生长比网箱养殖和池塘养殖更具优势,岩礁性种类在连续放流3年以上时增殖的累积正效应才逐渐得以体现。结论认为,人工生境水域的增殖放流增加了渔业产量,种群得以恢复,也丰富了自然水域的生物多样性,改善了水域生态群落结构,有利于水域生态环境的修复。
【英文摘要】Abstract:Effect and assessment of enhancement release has important practical significance in guiding the development of effective strategy for fishery resource conservation and has attracted international attention. In this study,based on the data of enhancement release of coastal reef fish in Zhoushan Archipelago during 2004-2008,relevant data of black sea bream(Sparus macrocephalus) and Japanese croaker(Nibea japonica) were obtained through sentinel surveillance surveys,social investigations and fish tags recycling. The recapture rate,migration and distribution,growth and mortality conditions of the two released species near releasing sites were analyzed by using a combination approach of site investigation and theoretical calculations. In this study,the

recapture rate of black sea bream and Japanese croaker has been increasing year by year. The recapture rate of black sea bream by sport fishing reached 3.68% in 2008,and the rate by hand-lining increased year by year,with the size becoming smaller,which indicated there was a growing recruit population. Average fork length and average body weight of recaptured black sea bream increased by 70.29% and 390.25% in 3 months. Average body length of Japanese croaker could increase by 200%,and the growth rate of average daily body weight was up to 1 g/d. The instantaneous rates of total mortality,natural mortality and fishing mortality were 0.641 8,0.293 8 and 0.348 0,respectively. The total input/output ratio of black sea bream would reach 1∶6.55 from releasing time to the fourth year,while that of the Japanese croaker was up to 1∶12 or more in the current years. Growth of black sea bream and Japanese croaker in natural waters had more advantages than that in cage culture and pond culture. Due to the impact of fishing,the residual groups in the sea were reduced greatly,while the cumulative effects of enhancement release can be seen on the basis of continuous,large-scale manual releasing for many years. The results indicated that enhancement release in artificial reef habitat waters increased fisheries production,restored populations to a certain extent,maintained diversity of natural waters,thus improved the ecological community and benefited the ecological environment restoration.

【语种】中文
【第一作者】梁君
【通讯作者】王伟定
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【学科分类】水产资源学

【题目】毛桃对根癌病的抗性研究
【中文关键词】毛桃;发根土壤杆菌;根癌病;抗病性;抗原价值
【英文关键词】Prunus persica; Agrobacterium rhizogenes; crown gall disease; disease resistance; resistant segregation
【中文摘要】为评价毛桃的根癌病抗原价值,以实生苗为试材,采用人工接种的方法研究了毛桃(Prunus persica)对发根土壤杆菌(Agrobacterium rhizogenes)的抗性。结果表明:接种的103株实生苗的株平均瘤径0~24 mm,群体平均瘤径8.77 mm;其中3株未发病,3株瘤径1.00~3.00 mm,7株3. 01~5.00 mm,32株5.01~8.00 mm,58株>8.00 mm;评价为免疫、高度抗病、抗病、感病和高度感病型株率分别为2.90%、2.90%、6.79%、31.10%和56·31%。本研究中,毛桃对发根土壤杆菌高度感病,实生群体内存在广泛的抗性分离现象,其中有免疫基因型植株,是珍贵的根癌病桃树抗原和桃砧木抗根癌病品种选育的种质资源。
【英文摘要】The resistance toA. rhizogenesofP. persicawas studied using seedling through the artificial inoculation.Therange of diameter in 103 plants was 0-24.00 mm and mean diameter of tumor in all plants was 8.77 mm at 70 days afterinoculation. Immunity(3), highly resistant(3), resistant(7),susceptible(32) and highly susceptible (58)were found inP.persicaand their corresponding percentages were 2.90%,2.90%,6.79%,31.10% and 56.31%, respectively. To crowngall disease,P. persicawas highly susceptible toA.rhizogenesand showed an obviously resistant segregation. Immunitygenotype ofP. persicawas an excellent resistant species and germplasm resource for crown gall.
【语种】中文
【第一作者】刘常红
【通讯作者】贾克功;朱立新
【期刊名称、卷期、页码】中国农业大学学报 2009,14(5):68-71
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【引文索引号】0
【学科分类】园艺学

【题目】毛桃对北方根结线虫的抗性研究
【中文关键词】毛桃;北方根结线虫;抗性评价;抗型分布;抗性机制
【英文关键词】Prunus persica; Meloidogyne hapla;resistance evaluation; resistance genotype; resistance mechanism
【中文摘要】以实生钵苗为试材,采用人工接种、根系次氯酸钠-酸性品红染色等方法研究了毛桃对北方根结线虫的抗性。结果表明:毛桃的根结指数为24·67,接种侵入率2·6%,根中雌成虫数量占接种量的0·16%,依据有无根结和雌成虫数量

占接种线虫数量的百分比标准判定其高抗北方根结线虫;毛桃实生群体对北方根结线虫的抗性具有显著的株间分离现象,免疫、高抗和中抗3种基因型个体分别占13·3%、80%和6·7%。毛桃对北方根结线虫具有极强的抗侵入与抗发育能力,是极优异的抗北方根结线虫桃树砧木树种和种质资源。

【英文摘要】By using pot plantlets as test materials,the resistance ofPrunus persica(L.) Batsch toMeloidogyne haplawas studied via artificial inoculation and staining method of acidic fuchsin. Results showed that: (1) The gall index ofP. persicawas 24.67; (2) 2.6% second stage juvenile nematodes (J2) penetrated and 0.17% of them developed tofemale nematodes in all 500 inoculation J2 per plantlet; (3)P. persicawas highly resistant toM. haplaaccording tothe gall index and female proportion; (4) Resistance was segregated in seedlings; immuned, highly resistant andresistant genotypes were found inP. persica,for which the proportions were 13·3%、80% and 6·7%,respectively.P. persicawas a good resistant species and germplasm resource forM. haplabecause it can resist the penetrationand delay the development of juvenile nematodes.

【语种】中文

【第一作者】王雯君

【通讯作者】贾克功;朱立新

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【学科分类】园艺学

【题目】桃树砧木品种筑波4号筑波5号对爪哇根结线虫的抗性

【中文关键词】桃;砧木;筑波4号;筑波5号;爪哇根结线虫;抗性

【英文关键词】Prunus persica; rootstock; Tsukuba-4; Tsukuba-5;Meloidogyne javanica; resistance

【中文摘要】为探明桃树砧木品种筑波4号(Prunus persica‘tsukuba-4’)和筑波5号(P. persica‘tsukuba-5’)的抗根结线虫性能和抗原价值,对实生钵苗采用人工接种、根系次氯酸钠-酸性品红染色等方法研究了其对爪哇根结线虫(Meloidogyne javanica)的抗性。结果表明:接种后30~40 d,90株筑波4号中9株有线虫侵入,1株产生根结,侵入根中的13条线虫有11条未发育,2条发育至3龄阶段,无雌成虫形成;90株筑波5号中11株有线虫侵入,5株产生根结,侵入根中的24条线虫20条未发育,4条发育至3龄阶段,无雌成虫形成。表明2品种高抗爪哇根结线虫;实生苗个体间存在显著的抗性分离现象,但分离范围较小,只存在免疫和高抗2种基因型;免疫株率分别为98·9%和94.4%;对爪哇根结线虫均具有极强的抗侵入与抗发育能力,接种侵入率分别为0.014%和0.027%,根中线虫分别有15.4%和16.7%发育至3龄幼虫阶段,未形成成虫。筑波4号、筑波5号是极优异的抗爪哇根结线虫桃砧木品种和抗原植物种质资源。

【英文摘要】Using pot-seedlings as materials,the reaction of Tsukuba-4 and Tsukuba-5 toMeloidogyne javanicawasstudied through artificial inoculation and staining method of acidic fuchsin. We found that only 0.014% second stagejuvenile nematodes (J2) penetrated tsukuba-4 and 0.027% J2 penetrated tsukuba-5 in all 1 000 inoculation J2 perplantlet. About 15.4% J2 which penetrated tsukuba-4 developed to third-stage juveniles (J3) and 16.7% J2 whichpenetrated tsukuba-5 developed to J3. A little segregation of resistance was observed in seedlings of tsukuba-4 andtsukuba-5; the immunity proportions of tsukuba-4 and tsukuba-5 were 98.9% and 94.4%, respectively. Both tsukuba-4 and tsukuba-5 were good resistant species and germplasm resource forM. javanicabecause they could resistpenetration and resist the development of juvenile nematodes.

【语种】中文

【第一作者】宫静静

【通讯作者】贾克功;朱立新

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【学科分类】园艺学

【题目】几种李属植物对花生根结线虫的抗性

【中文关键词】毛桃;蒙古扁桃;长柄扁桃;筑波4号;筑波5号;花生根结线虫;抗性评价

【英文关键词】Prunus. persica; P. mongolica; P. pedunculata; P. persica‘tsukuba-4’;P. persica‘'tsukuba-5’; Meloidogyne arenaria;resistance

【中文摘要】为筛选抗根结线虫桃树砧木,以实生钵苗为试材,采用人工接种(每株1 000条二龄幼虫)的方法研究了5个树种、品种对花生根结线虫(Meloidogyne arenaria)的抗性。结果表明:5个树种毛桃、筑波4号、筑波5号、蒙古扁桃、长柄扁桃均为高抗基因型树种或品种,其实生个体间有明显的抗性分离现象,均存在免疫和高抗2种基因型;长炳扁桃、筑波4号、筑波5号具有极强的抗侵入和抗发育能力,绝对免疫株率分别高达77%、56%和40%,线虫接种侵入率分别只有0·057%、0·11%和0·14%,且根内幼虫分别只有22%、22%和15%发育至三、四龄阶段,未发现成虫;蒙古扁桃和毛桃具有极强的抗侵染能力和很强的抗发育能力,绝对免疫株率为2%和4%,接种侵入率为0·77%和0·85%,根内幼虫分别有63%和51%停留在二龄幼虫或二龄贮虫阶段,只有10·6%和7·7%发育为雌成虫,未发现卵块。筑波4号、筑波5号是优异的抗花生根结线虫桃砧木品种和种质资源;毛桃、蒙古扁桃和长柄扁桃为优异的抗花生根结线虫种质资源。

【英文摘要】In order to discover the materials resistant to root-knot nematode, pot experiment was carried out with fivePrunusplants. Their effects on reducingMeloidogyne arenariawere evaluated through the methods of artificial inocula-tion,acidic fuchsine staining and microscopic examination. The results showed that the fivePrunusplants ofPrunuspersicaL.)Batsch,P. persica ‘ tsukuba-4 ’ ,P. persica ‘ 'tsukuba-5 ’ ,P. mongolicaMaxim and P.pedunculata(Pall.) Maxim were all high resistant genotype cultivates or varieties. Their resistance was obviously separated amongseeding plants. All the tested varieties had both immunity and high resistant two genotypes. They had great influenceon infection and development ofMeloidogyne arenaria.The quantities of absolute immunity plants ofP. pedunculata(Pall.) Maxim, ‘ tsukuba-4 ’ and ‘ tsukuba-5 ’ were 77%、56% and 40% respectively. Accordingly, the infecting ratesof second-stage juveniles(J2) were only 0·057%、0·11% and 0·14%. The J2 ’ development were intensively limited.AlthoughP. persicaandP. mongolicahad 2% and 4% immunity plant respectively, but infecting rates were only0·77% and 0·85%. About 63% and 51% nematodes inP. persicaandP. mongolicarespectively were at J2 and J2ecesis, only 10·6% and 7·7% being females adults without egg mass. It was thus obvious that ‘ tsukuba-4 ’ and ‘ tsukuba-5 ’ were suitable peach rootstock varieties and germ plasm resources resisting toM.arenaria.Other showedsome resistance to the nematode as well.

【语种】中文

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【学科分类】园艺学

【题目】蒙古扁桃对根癌病的抗性评价

【中文关键词】蒙古扁桃;抗病性;发根土壤杆菌

【英文关键词】Prunus mongolica; Disease resistance;Agrobacterium rhizogenes

【中文摘要】以实生苗新梢为试材,采用人工接种的方法研究了蒙古扁桃(Prunus mongolica)对发根土壤杆菌(Agrobacterium rhizogenes)的抗性。结果表明:接种后70 d,株平均瘤径范围在0~16.6 mm,群体平均瘤径6.6 mm,蒙古扁桃对发根土壤杆菌中度感病,实生群体抗性分离宽泛,其中存在免疫、高抗、中抗、中度感病和高度感病5种类型,分别占8.60%、19.23%、14.42%、33.65%和24.04%。蒙古扁桃是发根土壤杆菌的优异抗原植物,是核果类果树抗根癌病砧木品种选育的珍贵种质资源,具有极为重要的开发价值。

【英文摘要】The resistance ofPrunusmongolicato crown gall was studied using new shoots and evalua-ted for their reaction toAgrobacterium rhizogenesthrough the artificial inoculation. The resultsshowed thatPrunus mongolicawas excellent germplasm resources resist to crown gall.The range ofdiameter was 0~16.6 mm and mean diameter of tumor in all plants is 6.60 mm at 70 days after inocu-lation. Immunity, high resistance, moderate resistance, moderate susceptibility and high susceptibili-ty were found inPrunus mongolicaand its percentage were 8.6%, 19.23%, 14.42%, 33.65%,24.04%, respectively.

【语种】中文

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【学科分类】园艺学

【题目】不同架式对设施葡萄光合特性及果实品质的影响
【中文关键词】葡萄;设施栽培;架势;光合特性;品质
【英文关键词】Grape; Protected cultivation; Training structure; Photo synthetic character; Fruit quality
【中文摘要】以设施红提葡萄为试材,研究不同的整形方式对葡萄叶片光合特性和光合关键酶活性的影响。结果表明:与扇形整形方式相比,L形和FI形整形方式可明显提高叶面积;在果实迅速发育时期,L形整形方式显著提高了叶绿素含量,Rub isco及Rub isco活化酶活性显著升高;同时,叶片质膜A TPa se和叶绿体膜A TPa se活性也显著升高,从而提高了叶片的光合速率。L形、F I形和V形整形方式均不同程度提高了平均单果质量、可溶性固形物含量,降低了可滴定酸含量,而L形则显著地提高了果实的品质。因此,适当的整形方式可通过调节提高设施葡萄的叶绿含量、光合关键酶和A TPa se活性来提高光合速率,最终提高果实的品质。
【英文摘要】The effect of different grap e train ing structures on the photo synthetic character and fru it quality u sing V itis vin if era (var. R ed Globe) in greenhou se were inve stigated in the current ca se. The re su lts showed that comp ared w ith the conventional train ing structu re of fan typ e, the typ e s of L and F I sign ificantly in crea sed the leaf area. In the rap id berry grow th p eriod, typ e L obviou sly elevated ch lorophyll content and Rub isco, Rub isco activase activitie s. A lso, the activity of P - A TPa se or F - A TPase was rem arkab ly in crea sed, resu lting in an obviou s increa se in photo synthetic rate. The typ e L , F I or V m ight diversely increase the average berry weight and the content of solub le solid. Conversely, the se typ e s decrea sed the content of ti tratab le acidity. Typ e L sign ificantly enhanced the berry quality. Therefore, app rop riate train ing structure m ay increa se fru it quality via adju sting ch lorophyll content, the photo synthetic key enzym e s and A TPase ac tivity in greenhou se.
【语种】中文
【第一作者】单守明
【通讯作者】平吉成
【期刊名称、卷期、页码】山地农业生物学报 29(2): 107~111,20 10
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【学科分类】园艺学

【题目】外援抗氧化剂对高温胁迫下红地球葡萄果实日灼的影响
【中文关键词】葡萄;日灼;高温胁迫;酶活性;抗氧化剂
【英文关键词】root restriction; apple; nutrient distribution; constituteof shoot types
【中文摘要】以红地球葡萄为试材,通过施用抗坏血酸(AsA)、苯甲酸钠(SBN)和氯化钙(CaCl2),研究不同种类外源抗氧化剂对高温胁迫下果皮组织对丙二醛(MAD)含量、相对电导度(REC)、过氧化氢酶(CAT)和抗坏血酸-过氧化物酶(APX)活性的影响,比较几种抗氧化剂对提高果实抗氧化能力的效果。结果表明:在高温胁迫下,以施用0.03mol/L抗坏血酸、0.02mol/L苯甲酸钠和0.10%氯化钙后,能显著和极显著地降低膜脂过氧化产物MDA的含量,保持膜结构及功能相对稳定性,提高果实CAT和APX酶活性,从而提高了果实抗日灼的能力。
【英文摘要】Abstract:Theeffect of different roo-t zonespaceonnutrient distributionandconstituteof shoot typeswasconductedonHanfuapple. Theresultsindicatedthat total dry matter content reducedwiththe decreasing of roo-t zonespace. Thesolublesugar andother nutrient matter mainly locatedinleaf inearlygrowing phaseandthentransferredtocoarserootindefoliationphase. Withthedecreasingof roo-t zonespacetheratioof drymatter andother nutrient mattersdistributiontoxylemincreasedanddecreasedtophloem. At thesametimethegrowvigor becomeslowly, thespurratioincreasedandtheappletreetransferredfromvegetativetoreproductivegrowth.
【语种】中文
【第一作者】王文举
【通讯作者】王文举
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【学科分类】园艺学

【题目】延后栽培红地球葡萄生长特性及与小气候因子关系
【中文关键词】设施;红地球葡萄;延后栽培; 气象因子
【英文关键词】Plasticgreenhouse; RedGlobeGrape; Autumn-prolongingcultivation; Meteorological factors
【中文摘要】在通风、遮荫避雨、揭膜、扣棚一系列管理措施下, 将红地球葡萄设施延后栽培与露地栽培进行比较,通过气象因子与葡萄生长指标的平行观测, 探求葡萄延后栽培生长发育规律的特殊性。结果表明:新梢、叶面积以及糖分的积累均呈现明显的/ S0型变化, 利用逻辑斯蒂方程拟合较好, 且设施延后栽培的最大生长速率出现的时间比露地推迟; 果粒的生长变化曲线也呈现明显的双/ S0型,延后栽培果粒生长发育缓慢, 完全成熟时间在11月上、中旬。对葡萄生长指标与期间的气象因子作逐步回归分析, 方程经检验均为显著。新梢和叶面积的增长与空气相对湿度密切相关; 果粒的增长与积温以及20cm处的土温密切相关。
【英文摘要】Inorder tounderstandthe growing regulationsof theRedGlobeGrape characteristicsof autumn-prolongingcultivationinplasticgreenhouse, themeteorological factorsandgrapegrowingindexeshadbeenobservedat twogrowthseasons. Theresultsshowedthat thegrowthcurvesof grapeshoot, leaf areaandtheaccumulationof sugar content were"S" typeandfittedtheLogisticequationvery well. Theoccurredtimeof themaximumgrowthvelocitywaslater thanthat of outsidegreenhouse; thefruit growingcurvewasalsolikedouble"S", thegrowthvelocityof fruitswasslower ingreenhouse, andmatureperiodof thefruit wasprolongedtoNovember. Thepositivecorrelationwasfoundbetweenthegrowthof shoot, leaf areaandrelativehumidity; thesoil temperatureat 20cmandair temperaturewerealsopositivetothesugar content accumulating.
【语种】中文
【第一作者】谭瑶
【通讯作者】张亚红
【期刊名称、卷期、页码】北方园艺2008(4) :110- 114
【论文发表时间】2008-02-02 00:00:00
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【引文索引号】0
【学科分类】园艺学

【题目】红地球葡萄设施栽培后期叶片生理变化研究
【中文关键词】葡萄叶片; 衰老; 生理变化
【英文关键词】Grapeleaves; Senescence; Physiological changes
【中文摘要】对设施葡萄衰老时叶片中叶绿素含量、可溶性蛋白质、膜的透性、丙二醛(MDA)、超氧化物歧化酶(SOD)和过氧化物酶(POD)进行了测定和理论分析, 以研究不同上市时期的设施红地球栽培后期叶片衰老时的生理变化特征。结果表明: 促早和延后栽培条件下葡萄衰老时叶片的叶绿素含量都在缓慢减少, 延后栽培叶绿素含量显著高于其它处理;可溶性蛋白质含量呈现先升后降的趋势, 其中露地环境下叶片内蛋白质含量的最大值比其他处理的最大值高但后期下降较快, 延后栽培的叶片可溶性蛋白含量较低但后期下降较缓慢; 葡萄叶片细胞膜的相对透性在生育后期都呈上升趋势,露地(CK) >促早2>延后U促早1;促早和延迟栽培条件下葡萄衰老时叶片MDA呈普遍上升趋势,在葡萄生育后期(9月16日以后) MDA含量表现为露地>促早1>促早2>延后; 促早和延后栽培条件下葡萄后期叶片SOD酶的活性呈双峰曲线, 都表现为延迟>露地>促早, 而POD活性的变化都呈现先升高再下降的趋势, 延后栽培的POD活性显著高于促早和露地葡萄; 葡萄叶片衰老过程中叶绿素、蛋白质、SOD和POD活性在9月25日以后都表现出相同的缓慢下降趋势,而膜透性和MDA含量明显上升, 说明从这个时候起植物正式进入衰老期。
【英文摘要】Inorder tostudythephysiological changesof RedGlobal grapeleavesintheir early or postponedcultivation,chlorophyll,protein,POD, SOD, MDAandmembranepermeabilityweretested. Theresult showed: All chlorophyll con-tent went downgently, but chl. of thepostponedcultivationwasaboveothersobviously; Theproteinof all went upfirst, thenwent down, theCK. scurvewasaboveothers, but went downquicklyintheend; thepostponedcultivationcurvewasthelowest,but goesdowngentlyintheend; All membranepermeabilitywent uptotally, CK>earlycultiva-tion2>postponedcultivationUearlycultivation1; All MDAwent uptotally, after Sept. 16, CK>earlycultivation1>fearlycultivation2>postponedcultivation; TheSODof all showedtwopeakscurve, postponedcultivation>CK> earlycultivation; thecurveof PODfirst went upthengoesdown, andthePODof postponedcultivationwasaboveothersre-markably; After Sept. 25, chl, protein, SODactivity andPODactivityall went downgently, whilemembranepermea-bilityandMDAwent upremarkably, sowecouldsaytheplant begintosenescefromthistime

【语种】中文
【第一作者】解艳玲
【通讯作者】张亚红
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【学科分类】园艺学

【题目】宁夏引黄灌区果树设施栽培土壤肥力特征及空间变异
【中文关键词】设施果树; 土壤肥力;变异系数
【英文关键词】Greenhousefruit; Soil fertility; Variancecoefficien
【中文摘要】调查研究了宁夏果树设施栽培土壤的物理和化学性状, 并用传统统计方法分析了不同肥力因子的变异特征。结果表明: 设施果树栽培土壤的容重增大10%以上, 总孔隙度小于正常水平; 灌淤土养分状况良好, 有机质及速效氮、磷、钾含量均较高, 尤其是速效磷在土壤中的积累较多; 6个主要肥力指标的变异系数大小顺序为: 碱解氮> 速效磷> 速效钾>全盐> 有机质>pH值; 为了增强测土配方施肥的精确性, 土壤pH值、有机质、全盐和速效钾的采样数量可适当减少, 而速效氮、磷的采样数量应增加。
【英文摘要】Soil basicphysical andchemical propertiesandtheir variabilityunder greenhousefruit treecultivationconditionwerestudiedbymeansof indoor analysisandtraditional statistical methid. Theresult showedthat soil bulkdensitywasincreasedmorethan10%, yet total porosity wasloweredthannormal level. Tested soil hashigher content of organicmatter, nitrogen, phosphorousandpotasium. Muchmore phosphorouswasaccumulatedinthesoil. Thevariable se-quenceof themwere: availableN>availableP> availableK>total salt>organicmatter> pH. Hereby, soil pH, or-ganicmatter, total salt, availableKcansampleless, but availableNandPshouldsamplemoreinorder toincreasetheaccuracyof soil surveyandfertilization
【语种】中文
【第一作者】孙权
【通讯作者】孙权
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【题目】阴阳棚共用墙体不同季节的吸放热状况分析
【中文关键词】阴、阳结合型日光温室;墙体; 吸热; 放热
【英文关键词】combininglight withshadesolar greenhouse; wall; accumulationof heat; dissipationof heat
【中文摘要】对新近出现的阴阳结合型温室共用墙体的吸放热状况进行了测定。结果表明: 休眠和通风时期, 阴面的蓄热明显的低于阳面; 露天生长时, 阴面的吸热量在日出到8点时显著高于阳面, 之后差异逐渐减小, 但其吸热量始终小于阳面; 不同季节, 阴阳面的吸、放热量晴天均大于阴天; 阳面在冬季蓄冷(2008年12月)到春季通风降温(2009年2月) 期间, 在测试的2点中, 高度越高, 蓄热量越多, 散热量越少, 其热量损失越小, 3月份之后高度越高, 蓄热量越少, 散热量越多, 其热量损失越大; 而阴面全年中, 均为高度越高,蓄热量越多, 而散热量在冬季蓄冷的12月和1月时高度越高, 散热量越少, 其热量损失越小; 而从春季通风到采收期间, 则为高度越高, 散热量越多, 热量损失越大。
【英文摘要】Throughwall of thecombininglight withshadesolar greenhouseheat fluxweredetermined, theresultsshowedthat dormancy andventilationperiod, andshadeof theaccumulatorwill havetoclearlylessthanthelight. Inair, shadeof thewall absorbingheat fromsunriseto8point, significantly higher thanthelight of wall, thendifferencesbetweenlight andshadesidealsogradually decreased, but theshadeof theabsorptionheat wasalwayslessthanthelight side;Typical weather conditionsindifferent seasons, theshadeandlight of theabsorptionof heat sunnydayswasgreaterthancloudyday. thetest pointsduring light surfacestorageduring thewinter months(December2008) tothespringair coo-ling(February2009) , theheight of thehigher build, themoreheat, lessheat dissipation, thesmaller theheat loss, afterMarch, theheight of the higher has less heat, themore heat dissipation, the greater the heat loss; while the shadethroughout theyear, boththe higher height, the morecalories, while the amount of heat storage during thewintermonthsof December andJanuarywhentheheight of thehigher volumeof lessheat, thesmaller theheat loss; andfromspringto harvest, moreheat

dissipation, thegreater theheat loss.
【语种】中文
【第一作者】李丽平
【通讯作者】张亚红
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【学科分类】园艺学

【题目】日光温室葡萄促早栽培休眠期和生长期的温度变化
【中文关键词】日光温室; 葡萄; 休眠期; 生长期;温度变化
【英文关键词】sunlit greenhouse;grape; dormancytimes;growthstage; changesof temperature
【中文摘要】对宁夏银川地区日光温室促早栽培葡萄休眠期至果实成熟期温度变化进行测定分析。结果表明: 葡萄休眠期采取低温集中处理, 可以延长打破葡萄休眠的有效低温(0~7. 2#) 时数, 但夜间应将棚室风口开小或者关闭。采取低温集中处理, 可以使温室内地温不会下降很快,升温后地温仅比气温延迟1d达到10#以上, 满足葡萄根系生长和冬芽萌发需求; 葡萄初花期至盛花期和浆果生长期至成熟期温室内平均气温分别为16.1~ 20. 0#、19. 9~22. 3#, 对于葡萄开花期和浆果成熟期的最适温度来说, 气温略低; 葡萄萌芽生长期到浆果生长期, 日光温室内的最高气温达到29. 8~40. 4#,最低气温为3. 7~8. 5#, 昼夜温差较大, 白天应注意通风降温, 夜间注意保温。
【英文摘要】Abstract:Temperaturechangingfromthedormancytoripenessof grapecultivatedinsolar greenhousewasmonitoredandanalysized. Theresultsshowedthat covering greenhousewithplasticandthermal insulationquilt during thedormancytimesof grape, theeffectivetemperatureof breakingdormancyof grapecanbeextended, but thegreenhousevent shouldbeopenasmall or closedat night. Thesoil temperaturedecreasedslowly, andafterwarminggreenhouse, thesoil temper aturewasonlyadaylater thantheair temperaturerisentoover 10#, whichcanmeet theneedsfor buds& shootingandroots& growing.During earlyflorescenceandfull florescence, theaverageair temperatureinsola greenhouse wasfrom16. 1~ 20. 0#, andfromgrowthperiodof fruit to periodof ripeness, thetemperature, whichrangesbetween19. 9~22. 3#, wereabit of lower thanthemost proper temperaturefor theperiodof bloomingandripeness. During theperiodof buds& shootingandripening,themaximumair temperatureinsolagreenhouserangesfrom29. 8~40. 4#, theminimumair temperatureinsolagreenhousewasfrom3. 7~8.5#. Great differenceintemperatureduringdayandnight, soatten tionshouldbepaidtoventilation, lower thetemperaturebydayandthermal insulationbynight.
【语种】中文
【第一作者】司海娣
【通讯作者】张亚红
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【题目】水杨酸对休眠期茶树光合作用和抗冻性的影响
【中文关键词】水杨酸;茶树;光合作用;抗寒性;保护酶
【英文关键词】salicylic acid (SA), tea tree, photosynthesis, cold resistant, protective enzyme
【中文摘要】为了探讨水杨酸对冬季茶树抗寒性的调控机制,以“ 龙井43号 ”茶树为试材,研究休眠期叶面喷施水杨酸对茶树叶片光合作用、叶片中碳水化合物含量和活性氧代谢的影响,结果表明,叶面喷施水杨酸30天后即能明显提高茶树叶片净光合速率,处理60天后,2 mmol/L的水杨酸处理显著提高了叶片中可溶性总糖和淀粉含量、使丙二醛、活性氧含量显著下降,同时,叶片中脯氨酸含量、超氧化物歧化酶、过氧化氢酶和过氧化物酶活性显著升高,其它水杨酸处理虽然也能提高这些酶活性,但是效果不如2 mmol/L的水杨酸处理显著。因此,在休眠期,叶面喷施适当浓度的水杨酸可显著提高茶树叶片的Pn和保护酶活性,从而提高茶树的抗寒性,这也有利于提高次年茶叶的产量与品质。
【英文摘要】This paper aims to find out the regulator metabolism of salicylic acid on cold resistance in dormancyof tea tree. Effects of difference concentration of salicylic acid on photosynthesis, carbohydrate content and me tabolism of reactive oxygen species in Longjing43were studies. Results showed that net photosynthesis rateswere obviously increased in30th day after sprayed salicylic acid to

tea foliar in dormancy. 2 mmol/L salicylicacid significantly increased total soluble sugar, starch contents, and significantly decreased foliar reactive oxy gen species and MDA contents in 60th day after treatment. At the same time, the proline content, SOD, CATand POD activities were significantly increased. Others concentration of salicylic acid also improved photosyn thesis and protective enzymes activities, but the results were not as better as 2 mmol/L salicylic acid. It is con cluded that foliar sprayed of suitable concentration of salicylic acid in tea tree's dormancy can improve photo synthesis and protective enzymes activities, and increase the cold resistant, in the end, the tea yield and qualityin the next year could improve

【语种】中文
【第一作者】杨恕玲
【通讯作者】杨恕玲
【期刊名称、卷期、页码】中国农学通报 2009,25(15): 121-124
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【学科分类】园艺学

【题目】深波叶补血草鲜切花栽培技术研究
【中文关键词】深波叶补血草; 鲜切花;栽培
【英文关键词】Limoniumsinuatum; cut flower; cultivationtechnique
【中文摘要】对引自日本的深波叶补血草300c和91c品系进行鲜切花栽培技术研究, 采用方差分析、多重比较等方法对土壤和基质栽培, 不同密度栽培, 不同繁育方式种苗生长量和产花量的差异进行了分析。结果表明: 91c在切花产量和质量上都略高于300c; 基质栽培深波叶补血草的产花量和切花质量略优于土壤栽培; 合理的种植密度为35cm@35cm。
【英文摘要】Abstract:Thecultivationtechniquewascarriedout for finequality andhighyieldof the2linesof Limoniumsinuatum,300cand91c. Theeffectsof soil cultureandsubstrateculture, different plantingdensity,different breedingtechniqueongrowthandflower yieldwere analysisedby themethodof variance andmult-i comparison. The result showedthat theflower yieldandflower quantityof theline91cwerebetter thantheline300c. Substrateculturewasbetter thanthesoilcultureat theflower yieldandflower quality. Therational plantingdensitywas35cm@35cm
【语种】中文
【第一作者】李永华
【通讯作者】李永华
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【题目】补血草新星花系列引种栽培技术研究
【中文关键词】补血草 新星花系列 引种栽培
【英文关键词】无
【中文摘要】对引自日本的补血草新星花系列(limoniumsinuatum)10个品系, 进行了引种筛选栽培试验, 采用方差分析、多重比较等方法对各品系生长情况和产花量进行了比较研究; 同时以300c 为对象对其土壤和基质栽培, 不同密度栽培, 不同繁育方式种苗生长量和产花量的差异进行了分析。结果表明引进的补血草新星花系列在宁夏地区栽培平均定植成活率89%; 露地栽培不能安全越冬, 主要用于设施栽培; 300c,449, 331, 429等4个品系在经济性状和栽培性状上都表现出较高的价值, 适合本地区推广应用; 基质栽培300c的产花量和切花质量略优于土壤栽培; 合理的种植密度为35cm@35cm。
【英文摘要】无
【语种】中文
【第一作者】王娅丽
【通讯作者】王娅丽
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【题目】长柄扁桃对根癌病的抗性研究
【中文关键词】长柄扁桃; 抗病性; 发根土壤杆菌
【英文关键词】Purunus pedunculata; diseaseresistance; Agrobacteriumrhizogenes
【中文摘要】以两年实生长柄扁桃的新梢为材料, 采用人工接种发根土壤杆菌的方法研究了长柄扁桃对根癌病的抗性及其分离情况。结果表明: 长柄扁桃在接种后70d时平均瘤径为3127mm, 为中度抗病类型, 实生长柄扁桃对发根土壤杆菌的抗性存在显著分离现象, 其实生群体中存在高度抗病、中度抗病和中度感病3种抗病类型,分别占39132%, 42169%和8198%, 是优异的抗根癌病植物种质资源。
【英文摘要】Abstract: The resistance to crowngall diseaseandsegregationof Purunus pedunculatawas studiedusingnewshoots andevaluatedfor their reactionto A. rhizogenes with the artificial inoculation. The resultsshowedthat Purunus pedunculata was excellent germplasmresources resist to crown gall disease. Themeandiameter of tumor was3. 27mmat 70days after inoculation. Highly resistant, moderately resistantandmoderately susceptiblewere foundinPurunuspedunculataanditspercentagewere39. 32%, 42. 69%and8. 98%, respectively. To crowngall disease, Purunuspedunculatahadthemoderatelyresistant andob-viously resistant segregation.
【语种】中文
【第一作者】刘常红
【通讯作者】贾克功
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【题目】蒙古扁桃对北方根结线虫的抗性鉴定
【中文关键词】蒙古扁桃; 抗病性; 北方根结线虫
【英文关键词】P1 mogolica; resistance; M1 hapla
【中文摘要】为了解蒙古扁桃对北方根结线虫的抗性, 以实生苗为试材, 采用人工接种、根系经次氯酸钠- 酸性品红染色等方法研究了其对北方根结线虫的抗性。结果表明: 蒙古扁桃的根结指数为20167, 接种侵入率116%,根中雌成虫数量占接种量的0119%, 依据有无根结和根中雌成虫数量占接种线虫数量的百分比标准判定为高抗北方根结线虫; 蒙古扁桃实生群体对北方根结线虫的抗性表现出显著的分离现象, 免疫、高抗和中抗3种基因型分别占2313%, 6314%和1313%。蒙古扁桃对北方根结线虫具有极强的抗侵染能力和很强的抗发育能力, 是极优异的抗北方根结线虫种质资源。
【英文摘要】Abstract: Withpot plantlets as materials, resistance of Prunus mongolica Maximto Meloidogynehaplawasstudiedthroughtheartificial inoculation, stainingmethodof acidicfuchsin1It showedthat: gall indexof P1 mogolicawas20167, 116%secondstagejuvenilenematodes(J2) Penetrateand0119%developedtofemalenematodesinall 500inoculationJ2per plantlet1P1 mogolicawashighresistant to M1haplaaccord-ing tothegall index andfemaleproportion1Resistancewassegregationinseedling, theimmunity, highre-sistant andresistant genotypeswerefoundinP1 persica, for whichthe proportionswere2313%, 6314%and1313%, respectively1P1mogolicawasa goodresistant speciesandgermplasmresource to M1haplabecauseit couldresist thepenetrationanddelay thedevelopment of juvenilenematodes1
【语种】中文
【第一作者】王雯君
【通讯作者】贾克功
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【学科分类】园艺学

【题目】几种核果类果树耐酸性与抗酸性的研究
【中文关键词】蒙古扁桃; 长柄扁桃; 筑波4号; 筑波5号; 耐酸性; 抗酸性
【英文关键词】P1mongolica; P1pedunculata; P1persicacv1'tsukuba-4'; P1persicacv1'tsukuba-5; acidtolerance
【中文摘要】以实生苗为试材, 采用无土栽培的方法研究蒙古扁桃(P1mongolica) 、长柄扁桃(P1pedunculata) 、筑波4号(P1persicacv1 ' tsukuba-4') 、筑波5号(P1persicacv1 ' tsukuba-5') 等4个核果类树种/品种的耐酸性与抗酸性, 为桃树砧木资源的开发利用提供耐酸性试验依据。结果表明: 4个供试树种/ 品种正常生长的最低基质pH值为510~ 515; 致死基质pH值: 筑波4号、5号为415, 长柄扁桃为315, 蒙古扁桃小于215; 蒙古扁桃、长柄扁桃、筑波4号、筑波5号的耐酸性分别为强、中等、弱和极弱, 抗酸性分别为极强、强、弱和极弱; 筑波4号、筑波5号、长柄扁桃和蒙古扁桃实生个体间均存在广泛的耐/抗酸性分离情况; 筑波5号实生群体抗酸性分离范围小, 筑波4号、长柄扁桃、蒙古扁桃抗酸性分离范围大。
【英文摘要】Abstract: Theacidtoleranceandacidresistanceof four stonefruit trees, mongolianpeach(P1mongolica) ,longstalckpeach(P1pedunculata) , chikuba-4(P1persica) , chikuba-5(P1persica) wereusedasapplicationof newvariety andutilizationof germplasmresources1It wasfoundthat: (1) Thelowest pHat whichfourspecies/ varietiescouldgrowwell, rangedfrom510to515; (2) ThepHvalueof deathof chikuba-4, chiku-ba-5, longstalckpeachwas415, 415and315, respectively, thepHvalueof deathof mongolianpeachwaslessthan215; (3) The acidtolerance of mongolianpeach, longstalck peach, chikuba-4, andchikuba-5were strong, medium, weakandvery weak, respectively, the acidresistance were very strong, strongweakandveryweakrespectively; (4) Theseparationof acidtoleranceandacidresistanceamong individu-alsinmongolianpeach, longstalckpeach, chikuba-4, andchikuba-5werelarge, but therewaslittlesepa-rationof acidresistanceamong individualsinchikuba-51
【语种】中文
【第一作者】丁洁
【通讯作者】贾克功;朱立新
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【学科分类】园艺学

【题目】5 种核果类果树的耐盐性与抗盐性分析
【中文关键词】蒙古扁桃; 长柄扁桃; 毛桃; 筑波4号; 毛樱桃; 耐盐性; 抗盐性
【英文关键词】Keywords: P1mongolica; P1pedunculata; P1persica; P1persicacv. -tsukuba-4. ; P1tomentosa; salt-to-l erance; salt-resistance
【中文摘要】为了筛选耐、抗盐桃树砧木, 笔者以蒙古扁桃、长柄扁桃、毛桃、筑波4号实生苗和毛樱桃扦插苗为试材, 研究其耐盐性、抗盐性及其分离情况。结果表明: 正常生长的基质含盐量: 毛樱桃接近0108g/ kg, 其他树种/品种< 118g/ kg; 致死基质含盐量: 毛樱桃118g/ kg, 筑波4号、长柄扁桃、毛桃218g/ kg, 蒙古扁桃>418g/ kg。蒙古扁桃、毛桃、长柄扁桃、筑波4号、毛樱桃的抗盐性分别为极强、强、中、弱、极弱。5个树种/ 品种的实生后代均存在显著的耐盐性及抗盐性分离现象, 分离范围: 毛樱桃< 筑波4号、蒙古扁桃< 长柄扁桃< 毛桃, 可从中筛选抗性较强的植株。
【英文摘要】Abstract: Inorder to selectesalt-resistence rootstock, the salt resistance andsegregationof P1mongolica,P1pedunculata, P1persica, P1persicacv. tsukuba-4'werestudiedby seedingsandP1tomentosawasstud-iedbycuttingseedings1Theresultsshowedthat thesalt content insubstrateof P1tomentosawhengrow-ing normally wasclose to 0108g/ kg, andother specieswere lessthan118g/ kg1The lethal salt content insubstrate of P1tomentosawas118g/ kg, andP1pedunculata1P1persicaandP1persicacv. tsukuba-4' were218g/ kg, andP1mongolicawasmorethan418g/ kg1Thesalt resistanceabilityof P1mongolica, P1 persi-ca, P1pedunculata, P1persicacv. tsukuba-4'andP1tomentosawerestronger, strong, moderate, weakandweaker, respectively1Theseeding progeniesof the5speciesexhibitedobvioussegregationphenomenonofsalt resistance1The segregation range were that: P1 tomentosa< P1persica cv. tsukuba-4, andP1mongolica<P1pedunculata<P1 persica1 Theplantswithhighsalt resistanceability couldbescreenedout1
【语种】中文
【第一作者】张笑颜
【通讯作者】贾克功
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【学科分类】园艺学

【题目】宁夏半冷式温棚内红地球葡萄延后栽培的小气候特征
【中文关键词】小气候; 半冷式温棚;延后栽培
【英文关键词】microclimate; plasticgreenhouse; prolong-autumncultivation
【中文摘要】为了解宁夏第一栋半冷式温棚红地球葡萄延后栽培的小气候特征, 对其进行为期2年的小气候观测, 结果表明: 棚外最低气温为- 21.7 , 棚内为- 4.8 ; 在20cm土层,棚外最低地温为-5.0 ,棚内为- 0.3 ,说明棚内葡萄枝蔓及根系直接越冬安全. 扣棚后,日平均温度高于10 的日数持续到11月下旬, 这对露地不能完熟的晚熟品种进一步成熟提供了良好的环境条件,如葡萄继续挂果活体保鲜,可延迟至12月上旬采收. 棚内气温在南北方向较均匀, 东西方向靠近薄膜处受外界影响较大; 在垂直方向上,气温一日内除14:00时变化较大外, 其余时间较均匀. 红地球葡萄从萌芽到成熟所需的大于10 活动积温在3400 以上,由全年的温度测定,棚内 10 的积温为4415.2 , 表明此设施结构能够完全满足红地球葡萄生长发育的条件
【英文摘要】Abstract:Inorder to understandthe microclimate featuresof the plastic greenhouse that growing theRedGlobeanditsgrowing characteristicof autumn-prolongcultivation, weobservedthemicroclimatefeaturesof theplasticgreenhousethat growing theRedGlobeinNingxiafor twoyears. Theresult shows: 1. Thelowest temperature that outside the greenhouse is - 21. 7 and the lowest temperature within thegreenhouseis- 4. 8 , whileat theheight of 20cmbelowtheground, thelowest temperatureoutsidethegreenhouseis- 5 andthe lowest temperaturewithinthegreenhouseis-0. 3 , whichillustratesthatthebranchesandroot systemof thegrapesinthegreenhousecanpasswinter safely. 2. Whenthe plasticfilmiscovered, thedaysthat theaveragetemperaturehigher than10 will last by lateNovember, whichwill continue toprovideagoodenvironment for therippingof thelate-ripengrapespecies. Andif thefruitsare still on the trees, the picking time can be delayed by early December. 3. The temperature iscomparatively evenfromthesouthtothenorth, whileit isaffectedbytheoutsidefromtheeast tothewestthat closesto themembrane, andinvertical direction, thetemperatureisevenduring theday except 14o clock. 4. The accumulated temperature that the Red Globe need above 10 is 3400 , while thetemperature that withinthegreenhouseabove10 altogether is4415. 20 during thewholeyear, whichshowsthat thefacility canfulfill thefactorsthat theRedGlobe needingrowing
【语种】中文
【第一作者】谭瑶
【通讯作者】张亚红
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【题目】外源抗氧化剂对高温胁迫下红地球葡萄果皮组织CAT与APX活性的影响
【中文关键词】葡萄; 高温胁迫;酶活性; 抗氧化剂
【英文关键词】grape; high-temperaturestres; enzymaticactivity; antioxidant
【中文摘要】以红地球葡萄为试材, 用0. 03mol/L抗坏血酸(ASA) 、0.02mol/ L苯甲酸钠(SBN) 、0.10%氯化钙(CaCl2)处理葡萄果实后,在高温胁迫下, 比较几种药剂对红地球葡萄果皮组织过氧化氢酶(CAT) 和抗坏血酸过氧化物酶(APX) 活性的影响, 以期找到防治高温胁迫的技术措施.结果表明, 喷施不同外源抗氧化剂能显著提高果皮组织内CAT 和APX的活性,推测出这些药剂能增强果实表皮组织的抗热性.
【英文摘要】Abstract:Thepresent researchwasconductedwithgrapefruit tostudy theeffect of exogenousantioxidantsagents, includin0. 03mol/L-1ASA, 0. 02mol/L-1SBNand0. 10%CaCl2 solution, the effect ofdifferent typesof exogenous agents on the activities of CAT andAPXinfruit peel tissues under high-temperatur estress was examinedwithRedGlobe grape fruit so as to ascertainthe mechanismof fruitresistancetoheat stress andexplore possible preventive practices. The results indicatedthat, ASA, SBNandCaCl2 couldincrease CAT andAPXactivitiesinfruit effectivel, thus resulting inanaccumulationofsystemacquiredresistanceto heat stress
【语种】中文
【第一作者】王文举
【通讯作者】王文举
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【题目】阴、阳结合型温室葡萄浆果发育过程中光合作用的比较
【中文关键词】阴、阳结合型日光温室;红地球; 光合作用
【英文关键词】combining light withshadesolar greenhouse; Redglobegrape; photosynthetic
【中文摘要】摘 要:对阴、阳结合型温室内红地球葡萄果粒生长的4个物候期的光合作用进行测定. 结果表明, 自然光照下,在果粒发育过程中,蒸腾速率、气孔导度和胞间CO2 均表现为阴棚低于阳棚,而光合速率在不同物候期的变化不同:幼果期,阴棚呈单峰型, 阳棚呈双峰型,2棚光合速率的下降均受气孔和非气孔的限制; 膨大期, 阴、阳棚均呈双峰型,阴棚光合速率的下降均受气孔和非气孔限制,而阳棚主要受气孔限制; 转色期, 阴棚呈双峰型, 阳棚呈单峰型,阴棚光合速率的下降主要受非气孔限制,而阳棚均受气孔和非气孔限制;成熟期, 阴、阳棚均呈单峰型, 阴棚光合速率的下降受气孔和非气孔限制,而阳棚主要受非气孔限制.经方差分析, 光合速率及光合参数的差异性没有达到显著水平,说明阴、阳棚对葡萄叶片的光合作用没有明显的影响.
【英文摘要】Abstract:Study on the Red globe grape of combining light with shade solar greenhouse in fruit grapegrowing four phonological periodof photosynthesis. Theresultsshowthat, Innatural light, transpirationrate, stomatal conductance and intercellular CO2 concentration in fruit development process, and thesequence was: light house> shade house; but photosynthesis rate of change in different phonologicalperiodsaredifferent: Youngfruitingperiod, therearesinglepeaktypeintentsof shadehouse, light housearedoublepeak, bothof photosynthetic rate decrease may be causedby the stomatal limitationandno-stomatal limitation; Berry expanding period, there aredoublepeaktypeintentsof shade houseandlighthouse, shade house of photosynthetic rate decrease may be causedby the stomatal limitation andno-stomatal limitation, light housemaybecausedby thestomatal limitation; Turning-color period, therearesingle-peaktypeintentsof light house, shadehousearedouble peak, shadehouse of photosyntheticratedecrease may becausedbytheno-stomatal limitation, light housemay becausedbythestomatal limitationandno-stomatal limitation; Maturity period, there aresinglepeaktypeintentsof shade house andlighthouse, shade house of photosynthetic rate decrease may be causedby the stomatal limitation andno-stomatal limitation, light house may be causedby the no-stomatal limitation. The analysis of variance,photosynthetic rateandlight parameterstophotosynthetichaveno significant differences, shadehouseandlight housetentsonthephotosyntheticdoesnot haveapparent effect.
【语种】中文
【第一作者】李丽平
【通讯作者】张亚红
【期刊名称、卷期、页码】农业科学研究 第31卷 第2期
【论文发表时间】2009-12-03 00:00:00
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【学科分类】园艺学

【题目】Resistance mechanisms of Prunus rootstocks to root-knot nematode, Meloidogyne incognita
【中文关键词】China;Prunus;pest resistance;Meloidagyne incognita;rootstocks;variety trials;plant tissues
【英文关键词】China;Prunus;pest resistance;Meloidagyne incognita;rootstocks;variety trials;plant tissues
【中文摘要】Root-knot nematodes (Meloidogyne sp.)cause significant economic damage to Prwnus species in China.One of the most economical and environmentally sustainable methods to reduce the impact of root-knot nematodes is the use of resistant rootstock cultivars.Our aim was to examine resistance to M.incognita and its mechanisms.Materials and methods. Four rootstocks were assessed:Tsukuba-i(P.persica).Tsukuba-5.Nanking cherry and wild peach. The suseeptible tomato cultivar Baiguoqiangfeng was used as a positive control.Results.Nematodes did not penetrate roots of Tsukuba and Tsukuba-5 which were considered to be immume varieties.Nanking cherry was highly resistant to M.incognita,whereas wild peach was susccptible.Conclusion.The differences in resistance among the rootstocks were not attributed to differences in effects of root diffusates,but were related to the different strutural organizations of the root tips.The epidermal structure of Tsukuba-4 and Tsukuba-5 completeh prevented the penetration of second-stage juveniles of M.incognita.In Nanking cherry,penetration of j2 juveniles was reduced,and the development of nematodes from the 12 to female stage was delayed.

【英文摘要】Root-knot nematodes (Meloidogyne sp.)cause significant economic damage to Prwnus species in China.One of the most economical and environmentally sustainable methods to reduce the impact of root-knot nematodes is the use of resistant rootstock cultivars.Our aim was to examine resistance to M.incognita and its mechanisms.Materials and methods. Four rootstocks were assessed:Tsukuba-i(P.persica).Tsukuba-5.Nanking cherry and wild peach. The suseeptible tomato cultivar Baiguoqiangfeng was used as a positive control.Results.Nematodes did not penetrate roots of Tsukuba and Tsukuba-5 which were considered to be immume varieties.Nanking cherry was highly resistant to M.incognita,whereas wild peach was susccptible.Conclusion.The differences in resistance among the rootstocks were not attributed to differences in effects of root diffusates,but were related to the different strutural organizations of the root tips.The epidermal structure of Tsukuba-4 and Tsukuba-5 completeh prevented the penetration of second-stage juveniles of M.incognita.In Nanking cherry,penetration of j2 juveniles was reduced,and the development of nematodes from the 12 to female stage was delayed.
【语种】英文
【第一作者】叶航
【通讯作者】贾克功
【期刊名称、卷期、页码】Fruits, 2009, vol. 64, 295 – 303
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【引文索引号】0
【学科分类】园艺学

【题目】春玉米控释氮肥施用技术研究(Study on Controlled Release Nitrogen Fertilizer Application
【中文关键词】春玉米;控释氮肥;普通氮肥;施肥技术
【英文关键词】Spring maize; Controlled release N; Common N; Application fertilizer technique
【中文摘要】不同控释氮肥田间试验结果表明,控释氮肥与普通氮肥相比不仅能提高春玉米子粒产量,而且能提高玉米子粒中粗脂肪含量。春玉米的适宜施 N量为 150 kg/hm2。控释氮肥与普通氮肥混合施用可显著提高春玉米产量,最佳混配比例为 50%控释尿素 +50%普通尿素。
【英文摘要】Field experiment showed that controlled release N fertilizer could not only increase spring maize yieldbut also increase its crude fat content, and the appropriate fertilization rate was N 150 kg/ha for spring maize. Mixedapplication of controlled release N and common N could increase maize yield obviously, and the optimum mixed pro-portion was 50% controlled release urea + 50% common urea.
【语种】中文
【第一作者】谢佳贵
【通讯作者】王立春
【期刊名称、卷期、页码】玉米科学,2009,17(5):145~147,163
【论文发表时间】2009-05-01 00:00:00
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【引文索引号】null
【学科分类】土壤学

【题目】绿肥种植及翻压对日光温室土壤环境的影响
【中文关键词】日光温室;绿肥;土壤
【英文关键词】"Solar greenhouse;Green manure;soil
【中文摘要】":研究了日光温室休闲季节种植绿肥作物并翻压到土壤中,对土壤肥力和土壤酶活性的影响。结果表明:在日光温室夏季近2个月的休闲时期,种植三叶草能生产863 kg/667m2的鲜草,种植大豆能生产1 500~1 800 kg/667m2的鲜草,在下茬作物种植之前将绿肥翻压到土壤中,分析土壤指标发现,种植和翻压绿肥均能有效降低土壤盐分,提高肥力和改善土壤酶环境,是一种修复日光温室设施障碍一种可行的措施,其中以种植和翻压三叶草效果最佳,黄豆和黑豆之间差异不大。"
【英文摘要】"Experiments were carried out to study the effect of green manure planting and application on soilproperties and enzyme activities during free time in greenhouse. The results showed that clover can produce863 kg/acre of fresh grass; soybeans can produce 1 500~1 800 kg/acre fresh during two months of free timein greenhouse. Before the following vegetables will be Cultivated, green manure was ploughed out. Result ofanalyzing the soil index indicated the green manure by plant or application can effectively reduce the contentof soil salt,improve the soil fertility and increase the enzyme activity, was feasible measures of restoring soilobstacle in

solar greenhouse. Among them, clover was the best green manure, soybeans and black beans wasnot the difference between."
【语种】中文
【第一作者】杨冬艳
【通讯作者】杨冬艳
【期刊名称、卷期、页码】北方园艺2009,(10):146-149
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【学科分类】园艺学

【题目】宁夏日光温室结构类型及性能分析
【中文关键词】"日光温室;温光环境;温室结构
"
【英文关键词】"日光温室;温光环境;温室结构
【中文摘要】就宁夏日光温室的结构优化和性能进行分析,对宁夏日光温室的结构发展提出建议。
【英文摘要】就宁夏日光温室的结构优化和性能进行分析,对宁夏日光温室的结构发展提出建议。
【语种】中文
【第一作者】王妍
【通讯作者】郭文忠
【期刊名称、卷期、页码】宁夏农林科技2009(6)
【论文发表时间】2009-06-01 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】园艺学

【题目】曼氏无针乌贼(Sepiella maindroni)繁殖习性及其产卵场修复的研究
【中文关键词】关键词:曼氏无针乌贼, 繁殖行为, 附卵基, 产卵场修复
【英文关键词】Key words:Sepiella maindroni, Reproductive behavior, Adhesion substrates, Spawning grounds rehabilitation
【中文摘要】提要:采用对比分析方法, 观察了曼氏无针乌贼的繁殖习性, 比较了不同产卵附着物的附卵效果,选择典型产卵场(中街山列岛海区)进行附着物的调查。结果表明, 曼氏无针乌贼有较高等复杂的性行为, 有显著的求偶、争偶及雌雄博斗现象, 乌贼交配对其它乌贼交配有诱导作用; 乌贼对附卵基有严格选择, 没有充足适宜的附卵基, 不仅使乌贼产卵时间延迟、数量减少, 而且易被水流冲散、沉入底部致受精卵大量死亡, 是影响乌贼繁衍的重要因素; 附卵基附卵效果依次为聚乙烯(PE)绳、聚丙烯(PP)绳、钢筋、竹子、木头, 颜色依次为黑色、蓝色、红色、黄色, 形状依次为圆柱体、正三棱柱体、正长方体、扁长方体, 粗度以直径0.25—0.50cm 为宜, 此外附卵基间应有适当空隙; 目前, 中街山列岛海区柳珊瑚(Plexaauraa sp.)生物量为0.15—0.64 棵/m2, 平均生物量为0.32 棵/m2, 资源数量趋于恢复, 但远不能适应乌贼资源修复需要。增殖放流试验表明, 修复乌贼资源的可能性很大, 但在加大增殖放流工作的同时, 必须尽快开展产卵场生态环境修复尤其是产卵附着物修复工作。
【英文摘要】Abstract:Reproductive and spawning habits of Sepiella maindroni de Rochebrune were studied for understanding the animal's reproduction in Zhongjieshan Waters off Zhejiang, China, one of the spawning grounds. Factors affecting the oosperms adhesion on different substrates were examined, including material type, color, size, and shape. The sexual behavior of the animal from displaying, fighting, mating, spawning, were observed complicated. Study shows that S.maindroni are very picky for the substrates. Unfavarable substrates would not only affect the egg laying amount, but also the survival rate of oosperms. The preferable conditions are as follows: polyethylene (PE) > polypropylene (PP) > steel >bamboo > wood in material; black > blue > red > yellow in color; cylinder > triangular prism > rectangular prism > waferyrectangular prism in shape; and diameter of 0.25—0.50cm. At present, the biomasses of coral Plexaauraa sp. are between 0.15—0.64 ind/m2 in average of 0.32 ind/m2, showing a trend of enhancement; however, it is still far more satisfactory for the cuttlefish resource recovery. Practice of releasing and enhancement has been proven very feasible to restore the cuttlefish natural habitat. Meanwhile, repairing the spawning grounds by providing favorable adhesion substrates is suggested in the future.
【语种】中文

【第一作者】吴常文
【通讯作者】吴常文
【期刊名称、卷期、页码】海洋与湖沼,41(1):39-46
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【引文索引类型】其他
【引文索引号】null
【学科分类】水产资源学

【题目】不同结构日光温室冬季温光环境测试分析
【中文关键词】"日光温室;温光环境;温室结构
"
【英文关键词】"日光温室;温光环境;温室结构
"
【中文摘要】"通过监测宁夏银川市不同结构日光温室内温光环境,研究了温室结构与环境之间的相关关系。结果表明:保温性能由高到低依次为1、2、4、3号温室,透光率依次为2、1、4、3号温室。统计分析表明:在相同长度的条件下,温室容积和跨度是影响温室透光率的主要因子。增加温室跨度,保持合理的高跨比是提高温室透光率的主要措施。虽然增加温室容积有利于温室采光和升温,但由于散热面积较大,不利于夜间保温,因此对围护结构的蓄热保温能力提出较高的要求"
【英文摘要】"通过监测宁夏银川市不同结构日光温室内温光环境,研究了温室结构与环境之间的相关关系。结果表明:保温性能由高到低依次为1、2、4、3号温室,透光率依次为2、1、4、3号温室。统计分析表明:在相同长度的条件下,温室容积和跨度是影响温室透光率的主要因子。增加温室跨度,保持合理的高跨比是提高温室透光率的主要措施。虽然增加温室容积有利于温室采光和升温,但由于散热面积较大,不利于夜间保温,因此对围护结构的蓄热保温能力提出较高的要求"
【语种】中文
【第一作者】杨冬艳
【通讯作者】杨冬艳
【期刊名称、卷期、页码】温室园艺.2010,2(4)18-21
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【引文索引号】null
【学科分类】园艺学

【题目】基于循环迭代算法的水稻发育期模型参数调试方法研究
【中文关键词】水稻;发育期;模型;参数调试
【英文关键词】rice;phenology;model;parameter adjustment
【中文摘要】参数调试是作物生长模型应用的首要问题。以CERES—Rice模型的发育期模块为基础,建 立基于循环迭代算法的模型参数自动调试方法,结合栽培试验资料,对参数适宜取值范围和步长进行讨论,分析分阶段调试和全程调试的结果差异。结果表明:累积生长度日的适宜步长为 1个GDD,感光因子和临界日长的适宜步长分别为 0.01和 0.20 。分阶段调试和全程调试对参数取值结果有一定影响,造成误差的原因在于全程调试过程中用模拟发育期代替 了实 际发育期。尽管分阶段调试得到的参数下的模拟发育期误差较全程调试得到的参数下 的模拟误 差大,但分阶段调试得到的参数更能体现作物品种的发育特性。
【英文摘要】Parameteradjustment was the first step in the application of crop growth model.Based on the phenology model of CERES-rice and iterative method,the automatic parameter adj ustment method was developed and then combined with the field experiment,the suitable steps for phenology parameters and the adj ustment difference between stage by stage and whole were discussed.The results showed that the suitable steps for accumulated GDD,photosensitive factor and critical daylength were 1,0.01 and 0.2 respectively.The suitable parameter adjusted in stages was different with those adjusted in whole,because the observed heading data was replaced by the simulated values.Although the RMSE for the suitable parameter adj usted in stages was greater than that in whole,the parameter adj usted in stages embodied the phase development characteristics of crop varieties.

【语种】中文
【第一作者】江敏
【通讯作者】江敏
【期刊名称、卷期、页码】扬州大学学报(农业与生命科学版),32(1):1-5
【论文发表时间】2011-03-15 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农业基础学科

【题目】氮肥不同施用方法对水稻生长及产量的影响研究
【中文关键词】水稻; 氮肥; 施肥方法
【英文关键词】rice,fertilizer,method of fertilizer
【中文摘要】在盘锦盐碱水稻土上, 采用田间微区的方法, 研究了氮肥不同用量和不同施用方法对水稻产量及其生长发育的影响。结果表明: 水稻产量随着施氮量的增加而增加, 各施氮肥处理较不施氮肥处理增产 38. 79% ~84. 97% , 增产达极显著水平, 其中以氮肥用量为 255 kg /hm2, 采用 40% N 基施、40% N 为分蘖肥、20% N 为穗肥的施用方法水稻产量最高。适宜的蘖肥对水稻产量的影响较大, 粒肥应酌情而用, 且氮肥用量不宜过高。
【英文摘要】rice,fertilizer,method of fertilizer
【语种】中文
【第一作者】孙文涛
【通讯作者】汪仁
【期刊名称、卷期、页码】辽宁农业科学,2010(3): 60~ 62
【论文发表时间】2010-03-05 00:00:00
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【引文索引号】null
【学科分类】土壤学

【题目】A Study on Subunit Groups of Soybean Protein Extracts under SDS-PAGE
【中文关键词】无
【英文关键词】7S; 11S; molecular weight (MW); soybean; protein extract; SDS-PAGE; subunit group; cultivar
【中文摘要】无
【英文摘要】Protein extracts of 640 soybean cultivars and landraces, mainly from China and a few from the US, were analyzed for their components and subunits based on distribution patterns of bands with varying molecular weights (MW) under SDS-PAGE (sodium dodecyl sulfate-polyacrylamide gel electrophoresis). The number and molecular weight of the bands in SDS-PAGE varied among materials and showed a tendency of continuous distribution. Accordingly, the SDS-PAGE patterns of the soybean protein extracts were divided into two regions: the region of bands with MW < 44 KDa and that with MW >= 44 KDa. The first region containing mainly 11S proteins was divided into four parts, called subunit groups, i.e. 11S-1 (14.4-22 KDa), 11S-2 (22-26 KDa), 11S-3 (26-34 KDa) and 11S-4 (34-44 KDa). The second region containing mainly 7S protein was divided into six subunit groups, i.e. 7S-1 (44-49 KDa), 7S-2 (49-55 KDa), 7S-3 (55-67 KDa), 7S-4 (67-73 KDa), 7S-5 (73-82 KDa) and 7S-6 (82-91 KDa). The sum of relative contents of 11S-1-11S-4 was obtained as the relative content of 11S protein, those of 7S-1-7S-6 as that of 7S protein, and therefore, the 11S/7S ratio obtained. The proposed criteria were demonstrated to be simple, stable and feasible. Among the 640 tested materials, 39 lacked 11S-1 but none lacked the other 11S subunit groups, while deficiencies existed in all the six subunit groups of 7S, indicating a great potential for the genetic variation of protein components and subunits for breeding for the improvement of protein qualities.
【语种】英文
【第一作者】Shunhu
【通讯作者】Junyi Gai
【期刊名称、卷期、页码】JOURNAL OF THE AMERICAN OIL CHEMISTS SOCIETY 卷: 84 期: 9 页: 793-801
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【引文索引号】无

【学科分类】农业基础学科

【题目】极端低温条件下日光温室保温性能分析
【中文关键词】极端低温;日光温室;热量
【英文关键词】"Greenhouse; Low-temperature; Heat
"
【中文摘要】为研究2008年极端低温条件下日光温室的保温性,通过对2008、2006及2007年室外气温及太阳辐射的测定与对比,并选择2008年降温前、中、后期较典型的3个晴天进行环境及传热指标的测定和计算,结果表明,①外界环境各年1月12日-2月17日这段时间里,2008年平均气温为-13.2℃,比2007年低9.1℃,比2006年低8.0℃。较同期往年气温2008-01-10气温开始下降,最低温达-27℃,2月17日气温回升到往年同等气温,在这段时间里2008年太阳平均总辐射为76.8 W/m2,2006年为83.6 W/m2,2007年为81.6W/m2,2008年日均太阳辐射量最小。②降温过程中单位面积墙体导热总量为3 448 kJ/m2,比降温前的导热量多427.5 kJ/m2,比降温后多1 155 kJ/m2,降温中墙体的导热量明显高于其他两天。③2008-01-10,10 cm处土壤日均温度开始下降,日均最低温7~8℃,2月4日后土温开始回升,降温中各层次土壤平均温度比降温前低3.3℃,比降温后低4.4℃。室外气温与室内气温呈正相关,与墙体导热量呈负相关,且相关性极显著。外界气温降低时墙体导热量增大,室内热量损失增大,室内土温和气温随之降低。
【英文摘要】In order to study the warmth retaining property of greenhouse under extreme low tempera-ture in 2008, the outdoor temperature and solar radiation in 2008 and the recent two years were meas-ured and compared. And three typical sunny days that before, during and post temperature-reducingin 2008 were chosen to measure and calculate the environment and heat transfer target. The resultshowed:①from January 12th to February 17th during these three years, the average outdoor temper-ature is -13.2°Cin 2008 which is 9.1°Clower than that in 2007, and 8.0°Clower than that in2006. The temperature began to reduce from January 1st in 2008, and the lowest temperature is -27°C. And the temperature returned to the same level of the previous years. During this period, the to-tal average solar radiation is 76.8 W/m2in 2008, 83.6 W/m2in 2006, and 81.6 W/m2in 2007. The av-erage amount of solar radiation in each day is the lowest in 2008;②the total amount of heat conduc-tion in per unit area is 3 448 kJ/m2, and 427.5 kJ/m2more than that before temperature-reducing,and 1 155 kJ/m2more than that post temperature-reducing, heat conduction is obviously higher thanthat during temperature-reducing;③The daily average soil temperature 10 cm under ground began toreduce on January 1st in 2008, and the lowest daily average soil temperature is between 7°Cand 8°C,and the daily average soil temperature began to rise. During temperature-reducing, the average soiltemperature is 3.3°Clower than that of before temperature-reducing at all levels, and 4.4°Clowerthan that of post temperature-reducing. Outdoor temperature was positively correlated with indoortemperature and negatively correlated with wall thermal, and the correlations were significant. Whenthe air temperature reduced, the wall thermal increased, the indoor heat loss rose, and the soil temperature and air temperature decreased, too.
【语种】中文
【第一作者】白 青
【通讯作者】张亚红
【期刊名称、卷期、页码】西北农业学报2010,19(11):154-160
【论文发表时间】2010-11-01 00:00:00
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【引文索引号】null
【学科分类】园艺学

【题目】不同栽培方式对水稻生长发育的影响
【中文关键词】水稻; 种植方式;生长发育; 产量
【英文关键词】Rice
【中文摘要】以宁粳 1 号和南粳4 4为供试水稻品种, 选用旱育秧稀植 、 塑盘育苗抛栽、 直播种植和湿润秧常规移栽4种方式进行了对比试验, 研究了水稻不同种植方式对水稻产量及其产量构成、 生育进程 、 茎蘖动态、 叶面积指数变化以及干物质积累等方面的影响。结果显示 , 旱育秧稀植方式群体生长协调、 分蘖成穗率较高, 生育进程合理 , 干物质积累量高 , 并表现出较高的产量水平和协调的穗粒结构 ; 塑盘旱育抛栽方式生育进程相对较慢, 分蘖发生量较大, 分蘖成穗率有所下降, 物质积累及产量水平次于旱育稀植方式 ; 直播种植方式全生育期大幅缩短, 生育进程虽然有所加快 , 但拔节期、 抽穗期和成熟均明显后延 , 对于生育期相对较短的品种南粳4 4仍表现出较高的产量水平, 而品种宁粳 1号的产量有大幅降低, 其高峰苗后延, 有效成穗率低; 湿润秧常规移栽方式分蘖成穗率相对较高, 生育进程合理 , 但产量水平略低于旱育秧稀植方式。

【英文摘要】无
【语种】中文
【第一作者】刘建
【通讯作者】刘建
【期刊名称、卷期、页码】江苏农业科学 2 0 1 0年第4期,53-55
【论文发表时间】2011-09-15 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农艺学

【题目】Transcriptome analysis reveals critical genes and key pathways for early cotton fiber elongation in Ligon lintless-1 mutant
【中文关键词】棉花;纤维伸长;微阵列;李氏无纤维
【英文关键词】Cotton;Fiber elongation;Microarray;Ligon lintless-1
【中文摘要】摘要
【英文摘要】Fiber length is a key determinant of cotton yield and quality. Using a monogenic dominant cotton mutant Ligon lintless-1 with extremely short fibers, we employed microarray technology and quantitative real time PCR to compare transcriptomes of Li1 and the normal wild-type TM-1, the results showed that only a few genes differentially expressed in 0 days postanthesis (DPA) ovules and 3 DPA fibers, whereas 577 transcripts differentially expressed in 6 DPA fibers. 6 DPA is probably a key phase determining fiber elongation. Gene ontology analyses showed such processes as response to stimulus, signal transduction, and lipid metabolism were readjusted by themutant gene. Pathway studio analysis indicated that auxin signaling and sugar signaling pathways play major roles in modulation of early fiber elongation. This work provides new insight into the mechanisms of fiber development, and offers novel genes as potential objects for genetic manipulation to achieve improvement of fiber properties.
【语种】英文
【第一作者】刘康
【通讯作者】刘康
【期刊名称、卷期、页码】Genomics 100 (2012):42 – 50
【论文发表时间】2012-05-02 00:00:00
【引文索引类型】SCI
【引文索引号】10.1016/j.ygeno.2012.04.007
【学科分类】遗传学

【题目】东海区蟹笼渔具的选择性研究
【中文关键词】关键词: 三疣梭子蟹; 蟹笼;选择性; 甲高; 释放口;选择曲线;东海
【英文关键词】Key words: Portunus trituberculatus; pot; selectivity; shell height; escape gap; selection curve; the East China Sea
【中文摘要】摘要! 针对目前东海区普遍使用的蟹笼(笼径60cm,笼高25cm,外罩网衣网目尺寸2a=32mm)对三疣梭子蟹幼蟹资源损害较严重的现状!选择设计了在其框架结构上开设横向幼蟹释放口的选择性蟹笼!于2009年11月在-海域进行了海上生产性试验.结果表明:释放口高度与可从其逃逸的三疣梭子蟹的最大甲高趋于一致,如以125g作为三疣梭子蟹的最小可捕体重标准!用甲高与体重的关系式可求得选择性释放口的高度为33mm,释放口的选择曲线可用分段函数表示且无50%选择甲高!这不同于拖网、捕虾衍拖网与帆式张网网囊及捕鳗笼的网目选择曲线,后者可以用"逻辑斯谛选择曲线"模拟,且存在50%选择体长;采用各甲高组的平均选择率表示尾数选择率,经过卡方(X2)检验,其生产性试验值小于20%,同时释放效果明显;释放口对逃逸幼蟹的存活率几乎不产生任何影响.本研究成果可供管理部门在制定三疣梭子蟹的最小可捕标准时参考.
【英文摘要】Because the current common use crab pots.....(et al)
【语种】中文
【第一作者】张洪亮
【通讯作者】周永东
【期刊名称、卷期、页码】水产学报,34(8):1277-1284
【论文发表时间】2010-08-21 00:00:00
【引文索引类型】其他
【引文索引号】null

【学科分类】水产资源学

【题目】时间步长对作物日同化量模拟的影响
【中文关键词】时间步长;日同化量; 模拟; 作物
【英文关键词】time step; daily assimilation; simulation; crop
【中文摘要】同化量模拟是作物生长模型的重要组成部分, 比较了不同时间步长对日同化量模拟的影响。结果表明: 在适宜的温度范围内, 高斯三点积分法与逐时法的计算结果基本一致 , 而日均值法的计算结果一般比逐时法大 5 %左右; 当白日温度低于适宜温度下限时, 日均值法与高斯三点积分法的模拟值均高于逐时法 ; 当白日温度高于适宜温度上限时, 日均值法最高, 高斯法又低于逐时法。高斯三点积分法与逐时法的误差程度与白日温度超出适宜温度的程度正相关。利用田间试验测得的水稻群体实际 L A I 动态进行全发育期光合量模拟, 日均值法较逐时法和高斯积分法大6 %左右, 而利用模拟 L A I 动态 , 则日均值法 比逐时法的光合量大 1 0 %左右, 高斯积分法与逐时法亦有一定误差, 因此, 在计算条件许可的情况下, 建议使用逐时法计算 日同化量。
【英文摘要】无
【语种】中文
【第一作者】冯慧慧
【通讯作者】冯慧慧
【期刊名称、卷期、页码】江苏农业科学 2 0 1 1 年第 3 9卷第 2期 ,493-495
【论文发表时间】2011-04-15 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农业基础学科

【题目】韭山列岛附近海域渔业资源分析
【中文关键词】关键词: 韭山列岛附近海域; 渔获水生动物; 资源量指数; 优势种
【英文关键词】Key words: Sea area around the Jiushan Archipelago; catches; abundance index; dominant species
【中文摘要】摘 要: 根据浙江省海洋水产研究所于2005年11月至2006年10月在韭山列岛附近海域四个航次的底拖网调查资料,结合2006年定置刺网调查资料和张网与灯光围网监测资料,对该海域的渔业资源状况进行了分析。结果表明:四种作业方式共捕获水生动物119种,其中,鱼类72种,虾蟹类29种,头足类6种,其他类(包括腹足纲、双壳纲及甲壳纲中的虾蛄科) 12种 ,隶属于3门, 6纲, 22目, 66科。其中,拖网调查共捕获水生动物77种,其中鱼类41种,虾蟹类21种,头足类3种,其他类12种,隶属于3门, 6纲, 18目, 45科。拖网调查渔获的水生动物中鲈形目的数量达22种,明显高于其他目的鱼类数量。拖网各航次各类群的资源尾数密度指数与资源重量密度指数的最大值分别出现在5月份和10月份。拖网渔获水生动物的优势种: 4月份为日本鼓虾、日本蟳与鲅鱼; 5月份为六丝钝尾鳅虎鱼,日本鼓虾与日本蟳; 10月份为龙头鱼、口虾蛄、日本蟳、棘头梅童鱼与中华管鞭虾; 11月份为棘头梅童鱼、日本鼓虾、口虾蛄与海鳗。
【英文摘要】Abstract:Based on the investigated data taken from trawl, gillnet, swing net and purse seine duringNovember 2005 to October 2006, conducted by the Marine Fisheries Research Institute of Zhejiang Province, the condition of the fishery resources in the sea area around the J iushan Archipelago was analyzed. It came to the conclusions that 119 species of aquatic animalswere caught, which belonged to 66 families, in 22 orders, 6 classes and 3 phylums. Among them there were 77 species of aquatic animals belonging to 45 families in 18 orders caught by trawl, of which 41 species were fishes, 21 species were crustaceans, 3 species were cephalopodas, and 12 specieswere other invertebrates. The number of fish species of perciformes in the four trawl investigating trip s was 23, obviously more than that in the other orders. In all trawl trip s, the weight abundance density index in October 2006 was the highest, the number abundance density index was the highest inMay 2006 and the dominant species composition were A lpheus japonicus, Charybd is japonica and M iichthys m iiuy in Ap ril; Am blychaeturichthys hexanem a, A lpheus japonicus and Charybdis japonica in May;Harpodon nehereus, O ratosquilla ora toria, Charybdis japonica, Collichthys lucida and Solenocera crassicornis in October; Collichthys lucida, A lpheus japonicus, O ratosquilla oratoria andM uraenesox cinereus in November.
【语种】中文
【第一作者】张洪亮
【通讯作者】张洪亮
【期刊名称、卷期、页码】海洋渔业,30(2):105-113
【论文发表时间】2008-05-20 00:00:00

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【引文索引号】null
【学科分类】水产资源学

【题目】对应用土测值直接推荐磷肥用量方法的田间校验
【中文关键词】土壤有效磷; 最大效益; 最高产量; 磷肥用量; 准确程度; 田间校验
【英文关键词】The available soil P; The biggest benefit; The highest yield; P application rates; Accuracy; Field calibration
【中文摘要】田间试验得出: 玉米施用磷肥最大效益与最高产量用量同土壤有效磷测得值的两个函数方程及其代表吉林省有效磷含量不同土壤的磷肥最大效益与最高产量推荐量; 通过土壤有效磷含量不同(2.1~81.2mg/kg)的白浆土、黑土和淡黑钙土, 74 个磷肥量级田间校验得出, 玉米施用磷肥最大效益与最高产量用量及其变幅(0~109.5 kg/hm2与 10.1~125 kg/hm2); 通过上述两项结果运算得出, “ 应用土测值直接推荐磷肥最佳用量法 ” 的准确程度(田间校验获得的实际量与推荐量的吻合率高达 92%)和精度(田间校验获得的实际量与推荐量的差值仅仅为 - 14.7%~15.3%与 - 13.1%~13.9%)均较高。
【英文摘要】Throughfieldexperiment,twofunctionequationsofpfertilizerratesforthebiggestbenefitandthe highest yields with the soil available P were gotten. The P recommendation rates for the biggest benefit andthehighestyieldsunderthedifferentavailablesoilPinJilinprovinceweredetermined.Through74fieldexper-imentsconducted on the planosol soils, black soilsand chernozemsoils with the different soil P contents (2.1-81.2ppm),wegotthePratesforthebiggestbenefitandthehighestyieldsandvariationrangesbetweenthem (0-159kg/haand10.1-12.5kg/ha.).Throughthetwoaboveresultswefoundthattheaccuracyandprecisionwashighondeterminingtheoptimum Pfertilizerratesaccordingtothesoilavailable Pcontents.
【语种】中文
【第一作者】张国辉
【通讯作者】王立春
【期刊名称、卷期、页码】吉林农业科学,2008,33(5): 26- 29, 48
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【引文索引号】null
【学科分类】土壤学

【题目】东海区适宜增殖放流种类的筛选与应用
【中文关键词】关键字:东海区;增殖放流;种类筛选
【英文关键词】Key words: The East China Sea ; enhencement and releasing ; species selection
【中文摘要】摘要:围绕选种的 “ 技术可行 ”、“ 生物安全 ”、“ 生物多样性 ”、“ 兼顾效益 ” 四个筛选原则,结合东海区各海域生物资源特点和海况实际,初步筛选出大黄鱼、海蜇、日本对虾、曼氏无针乌贼、三疣梭子蟹、黑鲷等多个品种为东海区最理想放流品种。对放流海区生态容纳量和生物种间相容性,苗种、环境适应和栖息地问题,制定标准技术规范等的探讨可供其他海区和其它种类增殖放流时借鉴。实行多种类综合开发,发展多种生产方式的综合性海洋增殖渔业,以充分发挥水域的生态效益。
【英文摘要】Abstract:Based on the 4 species selection principles of “ technical feasibility ”、“ biosafety ”、“ biodiversity ” and “ benefit consideration ”. Combined with characteristic of biological resources and actual sea state of different areas in the East China Sea. The results showed that most ideal released species was preliminarily selected, which was Pseudosciaena crocea、Rhopilema esculentum、Penaeus japonicus、Sepiella japonica、Portunus trituberculatus、Sparus macrocephalus, etc.. Discuss on a series of problems about ecosystem carrying capacity and interspecific compatibility in released areas, seed rearing 、environmental adaptation and habitat availability , constituting standard technical criterion can be used for reference on other sea areas and other species. Carrying out multicategory comprehensive exploitation, developing multiple way of mode of production on enhancement of fishery resources can play an important role in ecological benefit sufficiently.
【语种】中文
【第一作者】王伟定
【通讯作者】王伟定
【期刊名称、卷期、页码】浙江海洋学院学报,28(4):379-383

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【引文索引号】null
【学科分类】水产资源学

【题目】Comparative proteomic analysis reveals the mechanisms governing cotton fiber differentiation and initiation
【中文关键词】棉花;胚珠;纤维;发育;无纤维突变体;蛋白质组
【英文关键词】Cotton;Ovule;Fiber;Development;Fuzzless – lintless mutant;Proteome
【中文摘要】摘要
【英文摘要】Cotton fibers are single-celled seed trichomes and provide an ideal model for studying plant cell patterning. At present, the molecular mechanisms of fiber differentiation and initiation are unclear. To determine the proteins involved in these processes, a comparative proteomic analysis based on 2-DE and MS/MS technology was conducted between the fuzzless – lintless mutant (fl) and its parental wild type (WT). Forty-six differentially expressed proteins were identified in ovules at − 3 and 0 days post-anthesis (DPA), at the times of cotton fiber differentiation and initiation, respectively. Most of the proteins (72%) were expressed at lower levels in the fl mutant than in the WT, suggesting deleterious effects of the mutant genes on ovule development. The consistency between protein levels and transcript levels was examined using quantitative PCR. The differentially expressed proteins had diverse putative functions related to redox homeostasis, stress responses, post-transcriptional and post-translational regulation, and carbohydrate, energy, protein, amino acid, and sterol metabolism. A strong burst of ROS was detected on the surface of − 3 and − 2 DPA fl ovules, and the concentrations of several carbohydrates at 0 DPA were lower in the fl mutant than in the WT ovules. These findings suggest that ROS homeostasis may be a central regulatory mechanism for cotton fiber morphogenesis and that post-transcriptional and posttranslational regulation may be pivotal in this process.
【语种】英文
【第一作者】刘康
【通讯作者】刘康
【期刊名称、卷期、页码】Journal of Proteomics 2012, 75, 845 – 856.
【论文发表时间】2011-09-28 00:00:00
【引文索引类型】SCI
【引文索引号】10.1016/j.jprot.2011.09.025
【学科分类】农业基础学科

【题目】阜蒙县乡镇域土壤 N、P、K的空间变异性分析
【中文关键词】土壤养分; 空间变异; 地统计学; 传统统计学
【英文关键词】soil fert ility
【中文摘要】以阜蒙县建设镇为研究区域, 采用传统统计学和地统计学相结合的方法, 对该区域内粮田土壤中土壤养分的含量和空间变异特征进行研究, 通过克吕格方法进行空间插值作图。结果表明, 不同土壤养分的变异情况各不相同, P的变异系数最大; 土壤各养分与高程呈负相关趋势, 随高度的增加, 其含量减少; 各元素呈高度空间相关性, 具有一定的渐变性分布规律, 这一基本趋势对土壤养分分区管理是有利的。
【英文摘要】app ing and m anaging spat ial pattern s in soil fert ilityand crop y ield [
【语种】中文
【第一作者】李广
【通讯作者】汪仁
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【学科分类】土壤学

【题目】浙南潮间带大型底栖藻类时空分布及多样性研究
【中文关键词】关键词: 浙南; 大型底栖藻类; 物种; 生物量; 优势度; 多样性指数

【英文关键词】Key words: southern Zhejiang; benthic macro-algae; species; biomass; dominance; diversity index
【中文摘要】摘要: 在浙南地区布设10 条断面开展春秋航次潮间带大型底栖藻类调查, 重点对大型底栖藻类的时空分布及多样性进行研究。共鉴定出大型底栖藻类61 种, 其中包括绿藻门8 种, 褐藻门16 种, 红藻门36 种, 蓝藻门1 种, 区系特征明显, 大型底栖藻类的季节演替也非常明显, 春季的物种数(53 种)明显高于秋季(25 种), 而两个季节都出现的物种只有17 种。浙南大型底栖藻类平均生物量为540.16g · m − 2, 春季(722.18g · m − 2)明显高于秋季(358.14g · m − 2);从垂直分布来看, 秋季与春季各断面生物量也并不相同, 秋季低潮区739.45g · m − 2>中潮区334.95g · m − 2>高潮区0g · m − 2; 春季中潮区1 943.30g · m − 2>低潮区965.03 g · m − 2>高潮区290.41g · m − 2。从物种优势度可以看出, 两个季节的主要优势种有相同之处, 但它们在群落的功能地位上随着季节有着较大的变化, 如春季鼠尾藻Sargassum thunbergii(Mert.) O. Kuntze 是第1 优势种, 而秋季却成第2 优势种。Shannon-Winner 指数(H ′)、Margalef 物种丰富度指数(d)和Pielou 均匀度指数(J ′) 的平均值秋季分别为1.38±0.66、0.70±0.38、0.93±0.41,春季分别为1.65±1.09、1.07±0.63、0.80±0.38。各断面多样性相差较大, 这与浙南各断面的大型底栖藻类的稳定和复杂性有很大关系, 这一点从群落结构聚类分析也得到验证。
【英文摘要】Abstract: The authors investigated the spatiotemporal distribution of intertidal benthic macro-algae and their diversity in 10 sections of southern Zhejiang province in autumn 2006 and spring 2007. The results showed that 61 species of benthic macro-algae were collected, including eight Chlorophyta, 16 Phaeophyta, 36 Rhodophyta and one Cyanophyta. Flora characteristic of the benthic alga distribution was very obvious in the inter-tide of southern Zhejiang, and it also changed obviously with seasons in species composition and biomass of benthic algae. More species were found in spring (53 species) than in autumn (25 species), among which only 17 species existed in both of these two seasons. The average biomass of intertidal benthic marco-algae was 540.16g · m − 2 in southern Zhejiang, and there was more biomass in spring (722.18g · m − 2) than in autumn (358.14g · m − 2). As for the vertical distribution of biomass, it was also different in the 10 sections during the two seasons.In autumn, the biomass of intertidal benthic marco-algae was in the order of low intertidal zone (739.45g · m − 2)> middle intertidal zone (334.95g · m − 2)> high intertidal zone (0g · m − 2); in spring it was sequenced as middle intertidal zone (1 943.30g · m − 2)>low intertidal (965.03g · m − 2) > high intertidal zone (290.41g · m − 2). There was something in common for the dominant species in the two seasons in terms of dominance, but their functions in the community changed greatly with seasons. For example, Sargassum thunbergii (Mert.) O. Kuntze was the first dominant species in spring, but it was the second in autumn. The averages of Shannon-winner index, Margalef ’s species richness index and Pielou ’s evenness index were 1.38±0.66, 0.70±0.38 and 0.93±0.41 in autumn, and 1.65±1.09, 1.07±0.63, 0.80±0.38 in spring, respectively. There was great difference in diversity of benthic marco-algae among sections, which was related to the stability and complexity of benthic marco-algae in southernZhejiang, as certified by the cluster analysis.
【语种】中文
【第一作者】彭欣
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【题目】朱家尖人工鱼礁区鱼类和大型无脊椎动物群落结构变动初探
【中文关键词】关键词:朱家尖;人工鱼礁;鱼类和大型无脊椎动物;群落结构
【英文关键词】Key words:Zhujiajian;artificial reef;fish and macroinvertebrate;community structure
【中文摘要】摘要: 基于2002年朱家尖建礁水域的本底调查和2005~2006年4个航次跟踪调查数据,初步探讨了朱家尖人工鱼礁海域投礁前后鱼类和大型无脊椎动物的组成、优势种和群落结构变化。结果表明,投礁后出现的种类数为投礁前的2.8倍,鱼礁海域采集到鱼类和大型无脊椎动物53种,由鱼类、甲壳类和软体类3大类组成,鱼类和甲壳类分别占调查种类的49%和45%;投礁前后,甲壳类优势种发生了很大变化,从低值虾类转变成以日本鼓和日本鼓虾等经济虾蟹类为主;甲壳类为拖网渔获的主要构成部分;投礁前后鱼类和大型无脊椎动物种类组成具有相近的群落多样性测度值,但皆未达到中等相似水平,优势种在不同月份差异大。人工鱼礁的建设使石首鱼科种类和岩礁性鱼类增加明显,鱼礁生境既具有维持固有种类的优势,还可为更多生物提供栖息地。
【英文摘要】Abstract:Based on the data from background investigation in 2002 and from the four follow-up voyages carried out in the artificial reef(AR) waters of Zhujiajian during 2005 and 2006. The diversity index and relevant multivariate statistics methods were used to deal with data analysis, which discussing preliminary on fish and large invertebrates composition, dominant species and change of community structure before and after the deployment of AR waters. Species number after the deployment of ARs are 2.8 times than before, A total of 53 species of fish and large invertebrates sampled in artificial reef sea areas were identified, which composed of fish,

crustaceans and molluscs 3 major categories, Most of them were fish and arthropods, which accounted for 49% and 45 % in the total survey species; Great changes had taken place on dominant species of crustaceans after the deployment of ARs, low-value shrimp turned into economic shrimps and crabs (eg, Charybdis japonica, Alpheus japonicus); Crustaceans are the main components of trawl catches; There was a similar measure of community diversity values of species composition before and after the deployment of ARs, but none of them reached the medium similarity level, the number of dominant species was varied in different months. The deployment of ARs had been made a large number of sciaenidae fish and rocky fish increased significantly, Additionally AR habitat could not only has the advantages of maintaining the inherent species, but also of offering more bio-available habitat.
【语种】中文
【第一作者】梁君
【通讯作者】王伟定
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【学科分类】水产资源学

【题目】基于多光谱遥感影像的表层土壤有机质
【中文关键词】多光谱 TM 影像 土壤有机质 空间格局
【英文关键词】multispectral TM image; soil organic matter; spatial pattern.
【中文摘要】利用多光谱 LandSat TM 遥感影像反演辽宁省阜新镇表层土壤有机质的空间格局,筛选出与土壤有机质分布相关的 TM 波段,分析并确定表层土壤有机质含量与 TM1、TM2 、TM3、TM4、TM5、TM6、TM7 波段亮度值(digital number,DN) 的相关关系,建立了土壤有机质含量的光谱预测模型. 结果表明: 研究区表层土壤有机质含量与 TM 4、TM 5 波段 DN 值呈极显著的负相关关系(r 分别为 -0. 617 和 -0. 623,P <0. 001) ,与 TM 3、TM 5 波段 DN 值之间满足负二次多项式回归关系(R2= 0. 9134,P < 0. 001) ; 基于 TM 3、TM 5 波段 DN 值的回归模型对研究区表层土壤有机质含量的预测结果可靠(R2= 0. 9151,P < 0. 001) . 研究区表层土壤有机质含量 <10 g · kg- 1的农田主要分布在山地边缘地带,而平坦地区农田表层土壤有机质含量一般 >10 g · kg- 1,部分达到 15 ~20 g · kg- 1
【英文摘要】Remotely sensed multispectral LandSat TM image was used to analyze the spatial patternof surface soil organic matter across the cropland in Fuxin Town of Liaoning Province. The properbands of the TM image that correlated with the distribution of surface soil organic matter were select-ed,and the quantitative relationships between surface soil organic matter and the digital number(DN) values of bands TM 1,TM 2,TM 3,TM 4,TM 5,TM 6,and TM 7 were analyzed and de-termined,which could be applied to establish a prediction model of surface soil organic matter. Itwas shown that the surface soil organic matter in study area had a strong negative correlation withthe DN values of TM 4 and TM 5 (r = - 0. 617 and - 0. 623,P < 0. 001),and an inverse secondorder polynomial regression with the DN values of TM 3 and TM 5 (R2= 0. 9134,P < 0. 001). Theregression model using the DN values of TM 3 and TM 5 could make a reliable prediction of the spa-tial pattern of surface soil organic matter (R2= 0. 9151,P < 0. 001). Across the study area,thecropland with soil organic matter content less than 10 g · kg- 1was mainly distributed in the zones athill foot,while that with surface soil organic matter content usually more than 10 g · kg- 1and partlyreached 15 - 20 g · kg- 1was in flat zone.
【语种】中文
【第一作者】张法升
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【题目】曼氏无针乌贼荧光标记技术初步研究
【中文关键词】关键词:曼氏无针乌贼;茜素络合指示剂;荧光标记
【英文关键词】Key words: Sepiella maindroni; ALC; fluorescent marking
【中文摘要】摘要:通过在曼氏无针乌贼幼体(胴长2.0-3.0 cm)背部注射浓度为350 mg/L 的茜素络合指示剂(Alizarin Complexone,ALC)溶液,以实现对其内壳的染色标记。将标记组与对照组幼体各125 头饲养于同一养殖试验池(370 cm×370

cm×140cm)内,并分别于标记后的第0 d、10 d、20 d、30 d、40 d、50 d 对2 组个体进行随机取样,测量其胴长、胴宽、体重、壳长、壳宽、壳重6 个生物学指标,观察内壳标记色保持情况并记录死亡率。将结果进行方差分析后显示,荧光注射标记方法对曼氏无针乌贼的成活率和生长发育均没有显著影响(P>0.05);至乌贼发育成熟并产卵时,紫红色的椭圆形标记依然清晰可见,从外部透过皮肤也具有可视的直观效果,保持率为100%。荧光注射标记法适用于曼氏无针乌贼的标记,具有成本低、操作简单、标记色易识别等优点,可进行批量标记试验。

【英文摘要】Abstract: 350 mg/L alizarin complexone (ALC) was injected into the back of the larval cuttlefish(torso length 2.0-3.0 cm) to dye the cuttlebone directly in order to observe the change of the marker and the growth index of the cuttlefish. The tagged group and control group (125 ind/group) were reared in a 370 cm×370 cm×140 cm indoor pond after being tagged, then sampled when being tagged after 0 d, 10 d, 20 d, 30 d, 40 d and 50 d to record the growth, death, and the dye-retention. The results showed that there were no significant differences between the tagged group and the control group (P>0.05) in growth and death rate respectively; the amaranth oval tag was very clear in the cuttlebone even when they were in spawning time after being tagged 50 d. In conclusion, due to the lower cost, maneuverability and cognoscibility of this method, lots of samples could be tagged easily at a time, and make a 100% retention rate when recapture. Injectable fluorescent tags could be a suitable marking method for Sepiella maindroni.

【语种】中文

【第一作者】董智勇

【通讯作者】吴常文

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【学科分类】水产资源学

【题目】钾对玉米正常生长发育及其生理机能的影响

【中文关键词】钾; 玉米; 产量; 生理机能

【英文关键词】Potassium; Maize, Yield; Physiological function

【中文摘要】钾是玉米生长发育所必需的三大营养元素之一, 土壤缺钾, 直接妨碍玉米根系和茎叶的正常发育, 影响对水分和养分的吸收及光合产物的合成和运输, 使玉米抗病、抗旱、抗寒、抗倒伏等各项生理机能降低, 影响玉米产量和品质的提高

【英文摘要】Potassiumisoneofthethreemainelementswhichwasneedbymaizeinitsgrowthanddevelop-ment.Maizeroots,stalksandleavescannotgrowregularlyonsoilinsufficientofpotassium.Theuptakeofwaterand nutrients are affected, and photosynthesis is lower and transportation ofcarbohydrate limited. Somaize issusceptibletodiseases,drought,coldstressandeasytolodging.Asaresult,yieldandqualityofmaizearelower.

【语种】中文

【第一作者】尹彩侠

【通讯作者】王立春

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【学科分类】土壤学

【题目】辽宁地区玉米超高产土壤物理性质研究与示范

【中文关键词】玉米超高产; 容重; 田间持水量; 孔隙度; 机械组成; pH 值

【英文关键词】m aize super-high-y ield; bulk density ; f ie ld w ater capac ity; so il porosity; m echanical composition; pH value

【中文摘要】为探讨玉米超高产的土壤肥力特性, 改良土壤的理化性状, 对辽宁省内已达到超高产地块的土壤物理性质进行了调查分析。结果表明: 玉米的产量与土壤容重和土壤总空隙度有极显著的相关性。超高产土壤的耕层厚度都大于 25 cm, 土壤容重一般在 1. 10~ 1. 31 g /cm3范围内, 田间持水量都大于 22%, 孔隙度达到 50. 94% 以上, 粉粒、黏粒所占比例超过了 80% , 土壤的 pH 值在 5. 56~ 7. 91范围内

【英文摘要】In order to understand the soil fertility characteristics on super-high-y ield o f m aize and mi proved thesoil conditions, w e invest igated and analysised the so il physica lreach supe-rh igh-yie ld investigation and ana ly-sis o f the so il physica l properties of reach super-high-y ie ld in L iaoning prov ince. T he result show ed that m a izey ie ld and so il bulk density and so il total po rosity w as sign ificant correlation, and field capacity, partic le com-position, pH had no sign ificant correlation. H igh yie ld so il is greater than 25 cm thick topsoil, Soil bu lk den-sity in the genera l contex t in 1. 10~ 1. 31 g / cm3, G reater than 22% field capacity, Up 50. 94 percen t over theporosity, silt, c lay percentage over 80% , so il pH va lues in the 5. 56~ 7. 91 range.
【语种】中文
【第一作者】马 宾
【通讯作者】韩晓日
【期刊名称、卷期、页码】杂粮作物,2010, 30(3): 244~ 247
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【学科分类】土壤学

【题目】几种标志方法在渔业资源增殖放流中的应用
【中文关键词】关键词: 标志方法; 增殖放流; 效果分析
【英文关键词】Keywords: taggingmethod, enhancement and releasing, effect analysis
【中文摘要】摘要: 本文简要介绍了在国内外渔业资源增殖放流中通常使用的几种标志技术和方法。同时, 阐述了我国在挂牌标志法、切鳍法、荧光标记法、金属线码标记法、分离式卫星标志法和生物标志法等多种标志方法的实际应用状况, 分析比较了近年来在东海区增殖放流中传统标志方法和国外引进的先进标志方法的标志效果, 文中最后分析探讨了今后标志技术的改进方向和应用前景。
【英文摘要】Abstract: The paper brief introduce the application of severalmarking techn iques and taggingmethods that often are used in fisher ies resource enhancement and re leasing. It expound the us ing ofmark ing techn iques in our country recent yea rs, which comprises hang scutcheon tag, sunder ing fin tag, VIE (Visible Implant Fluorescent tag), CWT (decimal coded wire tag), POP-UP TAG, organ ism tag, and so on. Based on the ana lysis and comparison of mark ing e ffect be tween advanced taggingmethodsand conventional tagging methods in resource enhancement in the East China Sea, improvement and application prespects of marking techniques are discussed.
【语种】中文
【第一作者】周永东
【通讯作者】周永东
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【学科分类】水产资源学

【题目】舟山海域黑鲷标志放流试验
【中文关键词】关键词:黑鲷;金属线码标记;荧光标记;挂牌标记;放流; 回捕率;舟山海域
【英文关键词】Key words:Sparus macrocephalus;coded wire tag;visible implant elastomer tag;scutcheon tag;Releasing;recapture rate;Zhoushan sea area
【中文摘要】摘 要:2004年~2006年分别采用金属线码标记、荧光色素可见式标记(荧光标记)和挂牌标记三种方法,在舟山海域进行黑鲷Sparus macrocephalus标志放流试验,三年内共放流标志黑鲷17616尾,平均体长131.9 mm,平均体重46.46 g。结果表明:挂牌标记的死亡率和脱标率最高,荧光和挂牌标志鱼只获得当年回收,回捕率分别为0.16 %和0.64 %,没有捕获金属线码标志鱼,说明在开放性的水域,总体回捕结果不佳,金属线码标记法不适合黑鲷放流;标志黑鲷移动范围不大,最远不超过15海里,栖息地具有明显的区域性;标志鱼放流后2个月左右生长缓慢,此后生长加快。本试验基本达到标志放流的预期目的。
【英文摘要】Abstract:The experiment of tagging and releasing Sparus macrocephalus (Basilewsky) was carried out in 2004, 2005 and 2006 using three tagging methods of coded wire tag, visible implant elastomer tag and scutcheon tag respectively in the Zhoushan sea area. In 3 years, 17616 Sparus macrocephalus with average body length of 131.9 mm and average body weight of 46.46 g were tagged

and released. The mortality and lost tag rate of scutcheon tag is the highest of all, The fish with visible implant elastomer tag and scutcheon tag were recaptured in the same year and the recapture rate were 0.16 % and 0.64 % respectively, and there has no reception of fish with coded wire tag. All the results showed that in the open sea area the recapture rate was low, and the wire tag was not fit for the tagging and releasing of Sparus macrocephalus. Otherwise, the migration area of the tagged Sparus macrocephalus was small and the longest instance was 15 nautical miles and the territorial habitat was distinct. In addition the tagged Sparus macrocephalus grow slowly in 2 months after released and then grow faster. All desired results were obtained in this experiment.

【语种】中文
【第一作者】徐开达
【通讯作者】徐开达
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【学科分类】水产资源学

【题目】尿素氮形态转化对腐殖酸的响应
【中文关键词】腐殖酸; 尿素水解; 硝化作用; 氮转化
【英文关键词】Humic acid; Urea hydrolysis; Nitrification; N transformation
【中文摘要】通过模拟试验研究了不同用量腐殖酸对土壤中尿素氮形态转化的影响。结果表明,腐殖酸对尿素态氮形态转化的影响受其施用量的制约。与对照相比,低浓度腐殖酸(< 15 g kg-1)对尿素水解及以后的氮转化过程抑制作用较小,有时甚至促进了尿素水解;高浓度腐殖酸(15 g kg-1和 20 g kg-1)则能明显的抑制尿素水解,延长尿素态氮在土壤中的停留时间,增加铵态氮含量,减少硝态氮的生成及氮素损失量,大大提高尿素利用效率。由此可见,腐殖酸不仅是一种脲酶抑制剂,还是一种硝化抑制剂。
【英文摘要】By simulation, an experiment was conducted to study the effects of different application amounts of humicacid on urea-N transformation. The results showed that the effectiveness of humic acid on urea-N transformationmainly depended on its application amount. Compared with control, lower application amount (<15 g kg-1) of humicacid had little inhibition on urea hydrolysis and thereafter N transformation processes, and even a positive effect wasobserved on urea hydrolysis. On the contrary, higher application amount (15 g kg-1and 20 g kg-1) of humic acidsignificantly retarded urea hydrolysis, prolonged the lasting time of urea-N in soil, increased the amount of NH4+-N,and decreased the amount of NO3--N and the loss of fertilizer N, which increased the use efficiency of fertilizer N. Itseemed from the results that humic acid was not only a urease inhibitor but also a nitrification inhibitor with apromising prospect.
【语种】中文
【第一作者】隽英华
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【学科分类】土壤学

【题目】美国红鱼细胞色素b基因和控制区基因序列的初步分析
【中文关键词】关键词: 美国红鱼; 线粒体DNA; Cyt-b基因; 控制区基因
【英文关键词】Key words: Sciaenops ocellatus; mitochondrial DNA(mt DNA) ; Cyt-b gene; D-loop gene
【中文摘要】摘要: 采用PCR 技术扩增了美国红鱼线粒体DNA 的细胞色素b和控制区基因片段, PCR 扩增产物直接测序, 分别得到1140bp 和623bp 的核苷酸序列。将所得序列与从Genbank 中查到的美国红鱼序列进行比较, 分析了序列中碱基的组成及变异情况, 为美国红鱼的合理开发利用及养殖发展规划的制定提供遗传学数据, 为保护中国海域生物种质资源多样性提供科学依据。
【英文摘要】Abstr act: Complete sequence of cytochrome b gene and partial sequence of control gene of mitochondria were amplified from Sciaenops ocellatus using PCR technology. The products of PCR were sequenced directly. 1140 bp of Cyt-b gene and 623 bp of control gene were obtained. Comparing obtained sequences with corresponding sequences got from GenBank, the

information of the base composition and the mutation sites were got. All the results offer the genetic data for making good use of Sciaenops ocellatus and for establishing breed program. The results also offer scientific basis for germ plasm diversity of biology in China Sea.

【语种】中文
【第一作者】李鹏飞
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【题目】用营养动态模式估算东海区大陆架渔场渔业资源蕴藏量
【中文关键词】关键词: 营养动态模式; 资源量; 可捕量; 营养级; 大陆架渔场; 东海区
【英文关键词】Key words: trophic level method; biomass; allowable catch; trophic level; continental fishing grounds;East China Sea
【中文摘要】摘要: 引用在东海区渔场进行的“海洋生物资源补充调查和资源评价”获得的初级生产力调查结果, 综合已有的研究数据, 采用PARSONS 和CUSHING 营养动态模式, 对东海区渔场的渔业资源蕴藏量进行了估算。结果表明: 1996~2005 年东海区大陆架渔场渔业资源平均营养级为3.531 级, 近10 年渔业资源年平均蕴藏量为836×104 t, 可捕量为418×104 t 左右; 其中东海陆架渔场平均资源量为591×104 t, 可捕量296×104 t; 黄海南部平均资源量为245×104 t, 可捕量123×104 t。2002~2005年东海区大陆架渔场平均资源蕴藏量为855×104 t, 可捕量为428×104 t 左右; 东海区大陆架单位面积渔业资源蕴藏量为14.59 t/km2, 可捕量7.5 t/km2; 有机碳与鱼的比例为10.32: 1, 在世界各渔场中均属于较高水平; 东海的单位面积渔业资源蕴藏量为8.89 t/km2, 东海区海域单位面积渔业资源蕴藏量为10.20 t/km2, 可捕量分别为4.5 t/km2 和5.1 t/km2, 高于黄渤海区和南海, 略低于福建海区。目前东海区大陆架渔场的年渔获量已达750×104 t 左右, 远远超过估算的420×104 t 左右年可捕量水平, 使渔业资源始终处于过度捕捞状态。要使渔业资源恢复到良好状态, 至少要减少目前40%的渔获量。
【英文摘要】Abstr act: Based on the survey results of primary production and other research data in the fishing grounds of the East China Sea, biomass of continental fishery resources were estimated using Parsons and Cushing trophic level method. Results showed that average trophic level of continental fishery resources were 3.531 during 1996- 2005, and that annual biomass amounted to 8.36 million tons and allowable catch 4.18 million tons for the recent decade in the East China Sea. Average annual biomass of continental fishery resources in the East China Sea reached at 5.91 million tons and allowable catch 2.96 million tons. In the southern areas of Yellow Sea, average annual biomass of fishery resources were estimated at 2.45 million tons and allowable catch 1.23 million tons. But during 2002- 2005, annual biomass of continental fishery resources went up to 8.55 million tons and allowable catch 4.28 million tons in the East China Sea. Abundance index of continental fishery resources were 14.59 tons per square kilometer and catchable rate were 7.3 tons per square kilometer. The ratio of organic carbon to fish was 10.32:1, which belonged to considerable high level in the global fishing grounds. Abundance index of fishery resources were 8.89 tons per square kilometer in the whole East China Sea and in the fishing areas were 10.20 tons per square kilometer. Catchable rate were 4.5 and 5.1 tons per square kilometer respectively in the above two areas, which was higher than that of Yellow Sea and Bohai and South China Sea, but slightly lower than that of Fujian areas. So far, annual catch of continental fishery resourceshad hit 7.5 million tons and far exceeded the allowable catch of estimated 4.2 million tons, which make the fishery resources overfishing status. In order to make the fishery resources in heathy status, current catch should be at least reduced 40%.
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【第一作者】徐汉祥
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【题目】大黄鱼、鮸鱼及美国红鱼线粒体DNA的Cyt b 基因序列比较

【中文关键词】关键词: 大黄鱼; 鱼; 美国红鱼; 线粒体DNA; Cytb基因
【英文关键词】Key words: Preudosciaena crocea; Miichthys m iiuy; Sciaenops ocellatus; mitochondrialDNA (mtDNA) ; Cytb gene
【中文摘要】摘要: 利用PCR技术对大黄鱼Pseudosciaena crocea、鱼Scioenops ocellatus和美国红鱼M iichthys m iiuy线粒体DNA的细胞色素b (Cyt b) 基因片段进行了扩增, PCR产物直接测序, 分别获得大黄鱼和美国红鱼1140 bp的序列, 鱼1 125 bp的序列。通过对3种鱼的Cytb序列的比对分析, 得出3种鱼序列的相似性为91-49%; 分析了3种鱼序列的碱基组成及碱基变异情况, 发现3种鱼的序列差异明显, 碱基替换较多, 可以将Cyt b基因作为种间分子鉴定或更高分类界元遗传分析的分子标记; 计算了3种鱼序列的遗传距离并构建了系统树, 结果显示, 鱼与美国红鱼的遗传距离较近。
【英文摘要】Abstract: The comp lete sequences of cytochrome b (Cytb) genes in Pseudosciaena crocea and Scioenops ocellatus, and the partial sequence of cytochrome b (Cytb) gene in Miichthys miiuy were amp lified using PCR technology1 The PCR p roducts were sequenced directly1 1140 bp fragments of Cytb genes in P1crocea and S1ocellatus, and 1125 bp fragment of Cytb gene in M-m iiuy were obtained1 Comparing obtained sequences, the comparability similarity of three sequenceswas 91-49%.Information of the base composition and the mutation siteswere obtained1 The difference of three sequenceswas obvious 1 The results contributed not only genetic datato economic utilization of three species but also scientific basis to analysis of genetic diversity in China Sea1Moreover, molecular phylogenetic tree of the Cyt b DNA sequences in the three species was reconstructed with the NJ method based on the inherited distanceand the result showed that the inherited distance between theM1m iiuy and the S1ocellatus was small.
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【第一作者】李鹏飞
【通讯作者】徐汉祥
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【题目】江苏海洋底栖贝类资源状况及人工放流适宜性分析
【中文关键词】关键词:底栖贝类;资源;人工放流;适宜性
【英文关键词】Key words:mollusca;resources;enhancement;suitability
【中文摘要】摘 要:为发展区域经济、维持贝类稳定产出,江苏海洋渔业界采取了多种旨在增殖贝类资源的措施。通过对各措施所产生社会、经济和生态等效应的综合分析,本文认为:(1)潮间带区域主要依靠周期性移播传统贝类苗种取得贝类产量;(2)潮下带及沿岸浅水区适合当地土著贝类放流,放流后资源增殖效果明显;(3)目前技术层面可支持的潮下带及沿岸浅水区土著贝类有大竹蛏、西施舌等。
【英文摘要】Abstract:The benthic mollusca are one of the important regional resources in Jiangsu.Yetthere is an atrophy of the distribution in some regions and a recession of the natural benthic mollusca resources.For the development of regional economy and the stable output of benthic mollusca resources,various measures were carried out to proliferate the mollusca resources and the results showed that 1)periodic culture of the traditional mollusca was the main way for a considerable production in the intertidal region;2 it was proper for the local mollusca release in sub tidal region and coasta1 shallow waters and significant effect of proliferation was achieved after mollusca release in these places;3)the local mollusca species which were suitable for the release in sub tidal region and coastal shallow waters included Coelomactra antiquate(>=20mm)and Solen grandis(>=10mm).
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【第一作者】仲霞铭
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【题目】Mapping Quantitative Trait Loci Associated with Aluminum Toxin Tolerance in NJRIKY Recombinant Inbred Line Population of Soybean (Glycine max)

【中文关键词】无
【英文关键词】aluminum toxin tolerance; membership index; quantitative trait loci; recombinant inbred line population; soybean
【中文摘要】无
【英文摘要】To investigate the genetic mechanism of Al-tolerance in soybean, a recombinant inbred line population (RIL) with 184 F(2:7:11) lines derived from the cross of Kefeng No.1 x Nannong 1138-2 (Al-tolerant x Al-sensitive) were tested in pot experiment with sand culture medium in net room in Nanjing. Four traits, i.e. plant height, number of leaves, shoot dry weight and root dry weight at seedling stage, were evaluated and used to calculate the average membership index (FAi) as the indicator of Al-tolerance. The composite interval mapping (CIM) under WinQTL Cartographer v. 2.5 detected five QTLs (i.e. qFAi-1, qFAi-2, qFAi-3, qFAi-4 and qFAi-5), explaining 5.20%-9.07% of the total phenotypic variation individually. While with the multiple interval mapping (MIM) of the same software, five QTLs (qFAi-1, qFAi-5, qFAi-6, qFAi-7, and qFAi-8) explaining 5.7%-24.60% of the total phenotypic variation individually were mapped. Here qFAi-1 and qFAi-5 were detected by both CIM and MIM with the locations in a same flanking marker region, GMKF046-GMKF080 on B1 and satt278-sat_95 on L, respectively. While qFAi-2 under CIM and qFAi-6 under MIM both on D1b2 were located in neighboring regions with their confidence intervals overlapped and might be. the same locus. Segregation analysis under major gene plus polygene inheritance model showed that Al-tolerance was controlled by two major genes (h(mg)(2) = 33.05%) plus polygenes (h(pg)(2) = 52.73%). Both QTL mapping and segregation analysis confirmed two QTLs responsible for Al-tolerance with relatively low heritability, and there might be a third QTL, confounded with the polygenes in segregation analysis.
【语种】英文
【第一作者】Bo Qi
【通讯作者】Junyi Gai
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【题目】Genetic diversity, geographic differentiation and evolutionary relationship among ecotypes of Glycine max and G. soja in China
【中文关键词】无
【英文关键词】cultivated soybean [Glycine max (L.) Merr.]; wild soybean [G. soja Sieb. et Zucc.]; geographic ecotype; genetic diversity; genetic peculiarity; genetic differentiation; evolutionary relationship
【中文摘要】无
【英文摘要】The knowledge of origin and evolution of cultivated soybeans is one of the basic issues in both biology and agronomy of the crop. In order to investigate the nuclear and cytoplasmic genetic diversity, geographic differentiation and genetic relationship among geographic ecotypes of cultivated (Glycine max) and wild (G. soja) soybeans, the allelic profiles at 60 nuclear simple-sequence repeat (nuSSR) loci and 11 chloroplastic SSR (cpSSR) loci evenly distributed on whole genome of 393 landraces and 196 wild accessions from nation-wide growing areas in China were analyzed. (1) The genetic diversity of the wild soybean was obviously larger than that of the cultivated soybean, with their nuSSR and cpSSR alleles as 1067 vs. 980 and 57 vs 44, respectively. Of the 980 nuclear alleles detected in the cultivated soybean, 377 new ones (38.5%) emerged, while of the 44 chloroplastic alleles in the cultivated soybean, seven new ones (15.9%) emerged after domestication. (ii) Among the cultivated geographic ecotypes, those from southern China, including South-Central China, Southwest China and South China possessed relatively great genetic diversity than those from northern China, while among the wild geographic ecotypes, the Middle and Lower Changjiang Valleys wild ecotype showed the highest genetic diversity. (iii) The analysis of molecular variance, association analysis between geographic grouping and molecular marker clustering and analysis of specific-present alleles of ecotypes demonstrated that the geographic differentiation of both cultivated and wild soybeans associated with their genetic differentiation, or in other words, had their relevant genetic bases. (iv) The cluster analysis of all accessions clearly showed that the wild accessions from Middle and Lower Changjiang Valleys and South-Central & Southwest China had relatively small genetic distances with all cultivated accessions. The UPGMA dendrogram among geographic ecotypes further showed that the genetic distances between all cultivated ecotypes and the Middle and Lower Changjiang Valleys wild ecotype were smaller than those with other wild ones, including their local wild counterparts. Therefore, it is inferred that the wild ancestors in southern China, especially those from Middle and Lower Changjiang Valleys might be the common ancestor of all the cultivated soybeans.
【语种】英文

【第一作者】WEN ZiXiang
【通讯作者】Junyi Gai
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【题目】Somatic embryo genesis and plant regeneration in Chinese soybean (Glycine max(L.) Merr.) —impacts of mannitol,abscisic acid, and explant age
【中文关键词】无
【英文关键词】Somatic embryogenesis,Manni tol.Abscisic acid,Enzyme-linked immunosorbent assay
【中文摘要】无
【英文摘要】From a preliminary experiment on 98 Chinese soybean varieties, 12 varieties with somatic embryogenesis frequency ranging from 0.0% to 85.7% were selected for further study in order to enhance the efficiency of somatic embryogenesis and plant regeneration. The effects of different mannitol concentrations, abscisic acid (ABA) concentrations,and embryo explant ages (sizes) were investigated. Significant differences in somatic embryogenesis were found among the 12 soybean varieties, with initiation frequencies varying from 22.1% to 89.0% under suitable mannitol concentration, and with N25281, N25263, and N06499 having the highest somatic embryogenic capacity. The results showed that all three factors were relevant for raising rates of callus initiation and somatic embryogenesis, but with differential responses among the genotypes. The treatment of 3.0% (w/v)mannitol,5mgl − 1ABA, and a 4- to 5-mm-sized explant was found to be optimal for somatic embryogenesis, generating the highestexplant-bas ed regeneration rate at 83.0%. The greatest average number of plantlets regenerated per explant (1.35) was observed in N25281. The above results provide a basis for efficient regeneration of soybean and are informative for the development of geneti c tr ansformati on systems in Chinese soybean germplasm.
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【第一作者】C. Yang
【通讯作者】Junyi Gai
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【题目】Mapping quantitative trait loci for b inary trait in the F2: 3 design
【中文关键词】无
【英文关键词】binary trait; F-2:3 design; liability model; maximum likelihood; Monte-Carlo simulation; penetrance model
【中文摘要】无
【英文摘要】In the analysis of inheritance of quantitative traits with low heritability, an F-2:3 design that genotypes plants in F-2 and phenotypes plants in F-2:3 progeny is often used in plant genetics. Although statistical approaches for mapping quantitative trait loci (QTL) in the F-2:3 design have been well developed, those for binary traits of biological interest and economic importance are seldom addressed. In this study, an attempt was made to map binary trait loci (BTL) in the F-2:3 design. The fundamental idea was: the F-2 plants were genotyped, all phenotypic values of each F-2:3 progeny were measured for binary trait, and these binary trait values and the marker genotype informations were used to detect BTL under the penetrance and liability models. The proposed method was verified by a series of Monte-Carlo simulation experiments. These results showed that maximum likelihood approaches under the penetrance and liability models provide accurate estimates for the effects and the locations of BTL with high statistical power, even under of low heritability. Moreover, the penetrance model is as efficient as the liability model, and the F-2:3 design is more efficient than classical F-2 design, even though only a single progeny is collected from each F-2:3 family. With the maximum likelihood approaches under the penetrance and the liability models developed in this study, we can map binary traits as we can do for quantitative trait in the F-2:3 design.

【语种】英文
【第一作者】CHENGSONG ZHU
【通讯作者】Y-M Zhang
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【题目】Reconstruction of linkage maps in the distorted segregation populations of backcross, doubled haploid and recombinant inbred lines
【中文关键词】无
【英文关键词】segregation population; distorted segregation; genetic maps; viability selection; EM algorithm
【中文摘要】无
【英文摘要】Non-Mendelian segregation of markers, known as distorted segregation, is a common biological phenomenon. Although segregation distortion affects the estimation of map distances and the results of quantitative trait loci (QTL) mapping, the effects of distorted markers are often ignored in the construction of linkage maps and in QTL mapping. Recently, we have developed a multipoint method via a Hidden Markov chain method to reconstruct linkage maps in an F2 population that corrects for bias of map distances between distorted markers. In this article, the method is extended to cover backcross, doubled haploid and recombinant inbred line (RIL) populations. The results from simulated experiments show that: (1) the degree that two linked segregation distortion loci (SDL) affect the estimation of map distances increases as SDL heritability and interval length between adjacent markers increase, whereas sample size has little effect on the bias; (2) two linked SDL result in the underestimation of linkage distances for most cases, overestimation for an additive model with opposite additive effects, and unbiased estimation for an epistatic model with negative additive-by-additive effects; (3) the proposed method can obtain the unbiased estimation of linkage distance. This new method was applied to a rice RIL population with severely distorted segregation to reconstruct the linkage maps, and a bootstrap method was used to obtain 95% confidence intervals of map distances. The results from real data analysis further demonstrate the utility of our method, which provides a foundation for the inheritance analysis of quantitative and viability traits.
【语种】英文
【第一作者】ZHU ChengSong
【通讯作者】ZHANG HongSheng,ZHANG YuanMing
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【题目】Advances on methods for mapping QTL in plant
【中文关键词】无
【英文关键词】QUANTITATIVE-TRAIT LOCI; RICE ORYZA-SATIVA; CHAIN MONTE-CARLO; MARKER-FACILITATED INVESTIGATIONS; COMPLEX BINARY TRAITS; GENETIC ARCHITECTURE; MAXIMUM-LIKELIHOOD; ENDOSPERM TRAITS; HEADING DATE; DEVELOPMENTAL BEHAVIOR
【中文摘要】无
【英文摘要】Advances on methods for mapping quantitative trait loci (QTL) are firstly summarized. Then, some new methods, including mapping multiple QTL., fine mapping of QTL, and mapping QTL for dynamic; traits, are mainly described. Finally, some future prospects are proposed, including how to dig novel genes in the germplasm resource, map expression QTL (eQTL) by the use of all markers, phenotypes and micro-array data, identify QTL using genetic mating designs and detect viability loci. The purpose is to direct plant geneticists to choose a suitable method in the inheritance analysis of quantitative trait and in search of novel genes in germplasm resource so that more potential genetic information can be uncovered.
【语种】英文

【第一作者】ZHANG Yuan-Ming
【通讯作者】Y-M Zhang
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【学科分类】农业基础学科

【题目】Influence of outliers on QTL mapping for complex traits
【中文关键词】无
【英文关键词】QTL mapping, Outliers and influential observations, Complex trait
【中文摘要】无.
【英文摘要】A method was proposed for the detection of outliers and influential observations in the framework of a mixed linear model, prior to the quantitative trait locus (QTL) mapping analysis. We investigated the impact of outliers on QTL mapping for complex traits in a mouse BXD population, and observed that the dropping of outliers could provide the evidence of additional QTL and epistatic loci affecting the 1stBrain-OB and the 2ndBrain-OB in a cross of the abovementioned population. The results could also reveal a remarkable increase in estimating heritabilities of QTL in the absence of outliers. In addition, simulation s were conducted to investigate the detection powers and false discovery rates (FDRs) of QTLs in the presence and absence of outliers.The results suggested that the presence of a small proportion of outliers could increase the FDR and hence decrease the detection power of QTLs. A drastic increase could be obtained in the esti mates of standard errors for position, additive and additive environment interaction effects of QTLs in the presence of outliers.
【语种】英文
【第一作者】Jian YANG
【通讯作者】Zhu Jun
【期刊名称、卷期、页码】Hayat et al. / J Zhejiang Univ Sci B 2008 9(12):931-937
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【学科分类】农业基础学科

【题目】Relationships between differential gene expression and heterosis in cotton hybrids developed from the foundation parent CRI-12 and its pedigree-derived lines
【中文关键词】无
【英文关键词】GENOME-WIDE EXPRESSION; MOLECULAR-BASIS; DIALLEL CROSS; AFLP ANALYSIS; MAIZE; LEAVES; WHEAT; PATTERNS; INBREDS; L.
【中文摘要】无
【英文摘要】CRI-12, an Upland cotton variety with high yield, elite fiber quality and disease resistance, is further characterized by its high heritability, combining ability and genetic stability. CRI-12 and its pedigree-derived lines were used to develop increased heterosis cotton hybrids, including CRI-28, CRI-29, XZM 2 and Jimian18.CRI-12 was chosen as the cotton foundation parent and analyzed by gene differential expressions between hybrids and their corresponding parents at seedling, squaring and flowering stages. The following approaches were considered the most viable candidates to elucidate the molecular basis of CRI-12: cDNA-amplified fragment length polymorphisms (cDNA-AFLPs), gene differential expression ratios, and vegetative growth heterosis and yield heterosis for correlation analysis. Theresults indicated that CRI-12 plays a predominant role in vegetative heterosis in CRI-28, CRI-29 and Jimian18 hybrids at the seedling and squaring stages; thepercentage of dominant expression in single parents was greater than other patterns; downregulated expression in single parents was higher than upregulatedexpression in hybrids, and downregulated expression in hybrids was the lowest of the four patterns in the three growth stage cumulative totals. The gene differentialexpression ratio of hybrids and parents varied for the three growth stages, suggesting gene differential expression changes over time. Further analysis of differentialgene expression ratios, vegetative growth and yield heterosis correlation revealed upregulated expression in hybrids were correlated with vegetative heterosis at theseedling and squaring stages, which play an important role in yield heterosis at the flowering stage. Downregulated expression in the maternal parent (CRI-12 andits pedigree-derived lines) suggested benefits in vegetative heterosis at the squaring stage, but a possible

hybrid yield decrease at the flowering stage. These results provided evidence that CRI-12 and its pedigree-derived lines express genes integral for heterosis in CRI-28, CRI-29 and Jimian18. (C) 2010 Elsevier Ireland Ltd. All rights reserved.
【语种】英文
【第一作者】Xinxia Zhu
【通讯作者】Tianzhen Zhang
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【学科分类】农业基础学科

【题目】QTLs mapping for Verticillium wilt resistance at seedling and maturity stages inGossypium barbadense L.
【中文关键词】无
【英文关键词】COTTON GOSSYPIUM; ALLOTETRAPLOID COTTON; UPLAND COTTON; HIRSUTUM L.; FIBER QUALITY; LINKAGE MAP; TOLERANCE; EVOLUTION; DAHLIAE; GENES
【中文摘要】无
【英文摘要】Verticillium wilt (Verticillium dahliae) is a major concern for cotton producers and consumers. The major strategy to control disease has been the development of resistant varieties of Gossypium. To identify Verticilium resistant genes in cotton, we generated FZ and BC1 populations by crossing a tolerant cultivar of Gossypium barbadense var. Hai 7124 with a susceptible cultivar, Gossypium hirsutum var. Junmian 1. Individual plant reaction to disease was quantified using a leaf trait in the seedling stage and a vascular tissue trait in mature stage. Two genetic linkage maps were constructed with SSR, RGA and DDRT markers. Four QTLsfor the leaf trait, located on chr. A5, A7 and A8 and three QTLs for the vascular tissue trait on chr. A5, A7 and A9 were detected by composite interval mapping (CIM) in F-2 inoculated with a non-defoliating isolate BP2. BC1S2 families were planted separately and inoculated with the isolates, BP2, VD8 and 592. In the BP2 nursery, one QTL located on chr. D4 for the leaf trait and two QTLs on chr. D4 and A8 for the vascular tissue trait were detected. We detected two QTLs on chr. A5 and A8 forthe leaf trait and three QTLs on chr. A5, D5 and D11 for the vascular tissue trait in plants grown in the VD8 nursery. In the 592 nursery, three QTLs on chr. A5 and D5for the leaf trait and two QTLs on chr. D5 and D11 for the vascular tissue trait were detected. The present QTL mapping results revealed that two stable QTLs existed in different populations, four QTLs expressed at both the seedling and mature stages, and some QTLs controlling resistance to Verticillium wilt were located on different chromosomes and in different developmental stages for different isolates. The markers associated with these QTLs may facilitate the use of Verticillium wiltresistant genes in resistant breeding programs for cotton. (c) 2007 Elsevier Ireland Ltd. All rights reserved.
【语种】英文
【第一作者】Chang Yang
【通讯作者】Tianzhen Zhang
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【学科分类】农业基础学科

【题目】Identification and Distribution of Soybean mosaic virus Strains in Southern China
【中文关键词】无
【英文关键词】RESISTANCE; INHERITANCE; VIRULENCE; GENE
【中文摘要】无
【英文摘要】From 1,417 leaf samples with Soybean mosaic virus (SMV)-like symptoms collected from about 1,500 fields of 117 counties of 13 provinces in Southern Chinaduring 2004 to 2006, 201 SMV isolates were obtained after biological purification with single-lesion isolation and serological determination. Based on disease reactions on 10 differentials used in China as a representative from various reported differential cultivar systems, the isolates were grouped into 12 strains. Among them, eight were the same as those previously reported from Northeast China and the Huang-Huai Valleys while the other four were new and were designated as SC18, SC19, SC20, and SC21. Strains SC15 and SC18, which were predominant and widespread in Southern China, accounted for 32.3 and

26.4% of the total isolates and were distributed in 9 and 10 provinces, respectively. Thus far, 21 strains have been identified in the three soybean-producing regions in China under the uniform differentials system. According to their responses on the 10 differentials, the strains were clustered into five groups at similarity coefficient 0.6. Among them, SC15 in cluster V is the most virulent strain because it infects all differentials. Therefore, specific attention should be placed on control of its prevalence in soybeanproduction.
【语种】英文
【第一作者】K. Li
【通讯作者】Junyi Gai
【期刊名称、卷期、页码】PLANT DISEASE 卷: 94 期: 3 页: 351-357
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【学科分类】农业基础学科

【题目】Unconditional and conditional QTL mapping for the developmental behavior of tiller number in rice (Oryza sativaL.)
【中文关键词】无
【英文关键词】Unconditional QTL mapping,Conditional QTL mapping,Developmental behavior,Tiller number,Rice (Oryza sativaL.)
【中文摘要】无
【英文摘要】A single segment substitution population of 26 lines and their recipient parent Hua-jing-xian 74 (HJX74) were selected as experimental materials for analyzing the developmental behavior of tiller number in rice. By the unconditional QTL (quantitative trait locus) mapping method, a total number of 14 SSSLs were detected with QTLs controlling rice tiller number. The number of QTLs significantly affecting tiller number and their effect values estimated differed across measuring stages. More QTLs could be detected based on time-dependent measures of different stages. By the conditional QTL mapping method, it is possible to reveal net expression of gene in a time interval. 14 QTLs on tiller number expressed their effects in dynamic patterns of themselves during whole ontogeny.They exhibited mainly negative effects within 7 days after transplanting. During 7 – 21 days, QTLs were in active status and expressed larger positive effects. In the mid-period of 21 – 35 days, they had opposite genetic effects to wither tillers. Since then these QTLs expressed positive effects again to cause the appearance of noneffective til-lers. The dynamics of QTL effects was in agreement with the actual change of tillers. Mapping QTL combining unconditional with conditional analysis for time-dependent measures is helpful to understand roundly the genetic bases for the development of quantitative traits.
【语种】英文
【第一作者】G. Liu
【通讯作者】G. Zhang
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【学科分类】农业基础学科

【题目】Mapping Binary Trait Loci in the F2:3 Design
【中文关键词】无
【英文关键词】MAXIMUM-LIKELIHOOD; EM ALGORITHM; QUANTITATIVE TRAITS; INBRED LINES; DAIRY-CATTLE; GRAIN-YIELD; MARKER LOCI; POPULATIONS; LINKAGE; METHODOLOGY
【中文摘要】无
【英文摘要】In the inheritance analysis of quantitative trait with low heritability, the precision is relatively low. In this situation, an F-2:3 design, which is genotyped in F2 plants and phenotyped in the F2:3 progeny, is applied to increase the precision in the detection of quantitative trait loci (QTL). This is because that residual variance on thebasis of family-mean-based observations has been significantly decreased by increasing the number of F2:3 progeny. Our previous results showed that the mixture distribution for the F2,3 family of heterozygous F2 plant can significantly increase the power of QTL detection relative to the classical F2 design. In this article, we extended our previous method from continuous traits to binary traits in the F2:3 design. The method here also takes full advantage of the mixture distribution. However, the method presented here differs from our previous method in 2 aspects. One is that the penetrance

model is integrated with the liability model formapping binary trait loci (BTL), and another is that the phenotypic data used in the analysis are the sum of phenotypic values of F2:3 progeny derived from each F2plant rather than the average Of F2:3 progeny due to the fact that the distribution of the sum follows binomial distribution. in addition, the threshold in the liability model could also be estimated. Therefore, a new framework of mapping BTL on the basis of a single BTL model was set up and implemented via the Expectation-Maximization algorithm. Results of simulated studies showed that the proposed method provides accurate estimates for both the effects and the locations of BTL, with high statistical power even under the low heritability. With the new method, we are ready to map BTL, as we can do for quantitative traits under the F2:3 design.The computer program performing the analysis of the simulated data is available to users for real data analysis.

【语种】英文
【第一作者】C HENGSONG ZHU
【通讯作者】Y-M Zhang
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【学科分类】农业基础学科

【题目】An EM algorithm for mapping segregation distortion loci
【中文关键词】无
【英文关键词】QUANTITATIVE TRAIT LOCI; MAXIMUM-LIKELIHOOD MODELS; INBREEDING DEPRESSION; VIABILITY SELECTION; MOLECULAR MARKERS; GENETIC-BASIS; LINKAGE MAPS; POPULATIONS; RICE; BACKCROSS
【中文摘要】无
【英文摘要】Background: Chromosomal region that causes distorted segregation ratios is referred to as segregation distortion locus (SDL). The distortion is caused either by differential representation of SDL genotypes in gametes before fertilization or by viability differences of SDL genotypes after fertilization but before genotype scoring. In both cases, observable phenotypes are distorted for marker loci in the chromosomal region close to the SDL. Under the quantitative genetics model for viability selection by proposing a continuous liability controlling the viability of individual, a simplex algorithm has been used to search for the solution in SDL mapping. However, they did not consider the effects of SDL on the construction of linkage maps. Results: We proposed a multipoint maximum-likelihood method to estimate the position and the effects of SDL under the liability model together with both selection coefficients of marker genotypes and recombination fractions. The method was implemented via an expectation and maximization (EM) algorithm. The superiority of the method proposed under the liability model over the previous methods was verified by a series of Monte Carlo simulation experiments, together with a working example derived from the MAPMAKER/QTL software. Conclusion: Our results suggested that the new method can serve as a powerful alternative to existing methods for SDL mapping. Under the liability model, the new method can simultaneously estimate the position and the effects of SDL as well as the recombinant fractions between adjacent markers, and also be used to probe into the genetic mechanism for the bias of uncorrected map distance and to elucidate the relationship between the viability selection and genetic linkage.
【语种】英文
【第一作者】Chengsong Zhu
【通讯作者】Y-M Zhang
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【学科分类】农业基础学科

【题目】新疆石榴皮多酚提取工艺研究
【中文关键词】石榴皮;多酚;超声波辅助提取;二次通用旋转回归组合设计
【英文关键词】pomegranate peel;polyphenol;Ultrasonic-assisted extraction;the quadratic general rotation combination design

【中文摘要】摘要:以新疆石榴皮为原料,采用二次通用旋转回归组合设计对超声波辅助提取石榴皮多酚工艺进行研究。对提取溶剂种类、乙醇浓度、料液比、超声时间、超声波功率等影响多酚得率的因素进行试验。结果表明,其最佳提取工艺条件为乙醇浓度50%,料液比(m:V)1:25,超声时间30min,超声波功率360W。在此优化条件下,石榴皮多酚得率达到(21.22±0.06)%。

【英文摘要】Abstract: the experiment of ultrasonic-assisted extraction of polyphenols from XinJiang pomegranate peel was conducted by the quadratic general rotateion combination design. The four parameters which were ethanol concentration, solid-liquid ratio,ultrasonic treating time and ultrasonic power were researched for higher yield of polyphenol. The optimum extraction conditions were that the concentration of ethanol 50%, the ratio of solid to liquid(m∶V)1:25,the time of extraction 30 min, the ultrasonic power 360W .Under the above mentioned conditions, the polyphenols yield of pomegranate peel can reach(21.22± 0.06)%.

【语种】中文

【第一作者】王华斌

【通讯作者】傅力

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【学科分类】食品加工的副产品加工与利用

【题目】Molecular evidence for post-domestication selection in the Waxygene of Chinese waxy maize

【中文关键词】无

【英文关键词】Chinese waxy maize,Waxylocus ,Domestication selection,Selective sweep.Origin

【中文摘要】无

【英文摘要】Waxy maize was first reported in China in 1909 and is mainly used in food production in Asia.The evidence for strong domestication selection in the Waxylocus of rice and a selective sweep around its genomic region make us to wonder whether there has been similar selection in Waxyin glutinous maize. To address this issue, DNA sequences of Waxy, three flanking genes and an unlinked gene (Adh1)of 30 accessions sampled from Chinese waxy maize acces-sions, including representative landraces and inbred lines, were determined in this study. Sharp reduction of nucleotide diversity and significant neutrality tests (Tajima ’s D and Fu and Li ’s F *) were observed in the Waxy locus in Chinese waxy maize but not in nonglutinous maize; comparison with the unlinked gene confirmed that this pattern was different to Waxy. Sequence analysis across a 143 kb genomic segment centered on the Waxylocus revealed patterns consis-tent with a selective sweep in the upstream region of Waxy. The selective sweep detected based on current limited genomic sequences exceeded over 50 kb,indicating strong selection in this or a bigger region.However, No sweep effect was detected in the repetitive downstream region of Waxy. Phylogenetic analysis indicated that Chinese waxy maize was domesticated from the cultivated flint maize (Zea mays ssp. mays) that was introduced from the new world. At least two independent deletions in exon 7(30 bp) and 10 (15 bp) were identified in the Chinese accessions respectively. These findings demonstrate a similar pattern of domestication selection in the Waxy genomic region in both glutinous maize and rice,suggesting that this pattern in the rise of glutinous phenotype is likely in other cereal crops.

【语种】英文

【第一作者】Longjiang Fan

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【学科分类】农业基础学科

【题目】Functional mapping of quantitative trait loci associated with rice tillering

【中文关键词】无

【英文关键词】ORYZA-SATIVA L; PROGRAMMED CELL-DEATH; DEVELOPMENTAL BEHAVIOR; GENETIC DISSECTION; MOLECULAR MARKERS; DIALLEL ANALYSIS; QTLS; GROWTH; YIELD; NUMBER

【中文摘要】无
【英文摘要】Several biologically significant parameters that are related to rice tillering are closely associated with rice grain yield. Although identification of the genes that control rice tillering and therefore influence crop yield would be valuable for rice production management and genetic improvement, these genes remain largely unidentified. In this study, we carried out functional mapping of quantitative trait loci (QTLs) for rice tillering in 129 doubled haploid lines, which were derived from a cross between IR64 and Azucena. We measured the average number of tillers in each plot at seven developmental stages and fit the growth trajectory of rice tillering with the Wang-Lan-Ding mathematical model. Four biologically meaningful parameters in this model--the potential maximum for tiller number (K), the optimum tiller time (t (0)), and the increased rate (r), or the reduced rate (c) at the time of deviation from t (0)--were our defined variables for multi-marker joint analysis under the framework of penalized maximum likelihood, as well as composite interval mapping. We detected a total of 27 QTLs that accounted for 2.49-8.54% of the total phenotypic variance. Nine common QTLs across multi-marker joint analysis and composite interval mapping showed high stability, while one QTL was environment-specific and three were epistatic. We also identified several genomic segments that are associated with multiple traits. Our results describe the genetic basis of rice tiller development, enable further marker-assisted selection in rice cultivar development, and provide useful information for rice production management.
【语种】英文
【第一作者】M. Li,J
【通讯作者】Y-M Zhang
【期刊名称、卷期、页码】22MOLECULAR GENETICS AND GENOMICS 卷: 284 期: 4 页: 263-271
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【学科分类】农业基础学科

【题目】Functional mapping of genotype-environment interactions for soybean growth by a semiparametric approach
【中文关键词】无
【英文关键词】QUANTITATIVE TRAIT LOCI; PHENOTYPIC PLASTICITY; GENETIC ARCHITECTURE; COMPLEX TRAITS; STATISTICAL-MODEL; ONTOGENIC GROWTH; MULTIPLE LOCI; GENERAL-MODEL; FRAMEWORK; ALGORITHM
【中文摘要】无
【英文摘要】Background: Functional mapping is a powerful approach for mapping quantitative trait loci (QTLs) that control biological processes. Functional mapping incorporates mathematical aspects of growth and development into a general QTL mapping framework and has been recently integrated with composite interval mapping to build up a so-called composite functional mapping model, aimed to separate multiple linked QTLs on the same chromosomal region. Results: This article reports the principle of using composite functional mapping to estimate the effects of QTL-environment interactions on growth trajectories by parametrically modeling the tested QTL in a marker interval and nonparametrically modeling the markers outside the interval as co-factors. With this new model, we can characterize the dynamic patterns of the genetic effects of QTLs governing growth trajectories, estimate the global effects of the underlying QTLs during the course of growth and development, and test the differentiation in the shapes of QTL genotype-specific growth curves between different environments. By analyzing a real example from a soybean genome project, our model detects several QTLs that cause significant genotype-environment interactions for plant height growth processes. Conclusions: The model provides a basis for deciphering the genetic architecture of trait expression adjusted to different biotic and abiotic environments for any organism.
【语种】英文
【第一作者】Qin Li
【通讯作者】Junyi Gai
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【学科分类】农业基础学科

【题目】QTL mapping of yield and fiber traits based on a four-way cross population in Gossypium hirsutum L.
【中文关键词】无
【英文关键词】UPLAND COTTON; ALLOTETRAPLOID COTTON; LINKAGE MAP; GENOME; LOCI; EVOLUTION; ORGANIZATION; BARBADENSE; MARKERS
【中文摘要】无
【英文摘要】Four-way cross (4WC) involving four different inbred lines frequently appears in the cotton breeding programs. However, linkage analysis and quantitative trait loci (QTL) mapping with molecular markers in cotton has largely been applied to populations derived from a cross between two inbred lines, and few results of QTL dissection were conducted in a 4WC population. In this study, an attempt was made to construct a linkage map and identify QTL for yield and fiber quality traits in 4WC derived from four different inbred lines in Gossypium hirsutum L. A linkage map was constructed with 285 SSR loci and one morphological locus, covering 2113.3 cM, approximately 42% of the total recombination length of the cotton genome. A total of 31 QTL with 5.1-25.8% of the total phenotypic variance explained were detected. Twenty-four common QTL across environments showed high stability, and six QTL were environment-specific. Several genomic segments affecting multiple traits were identified. The advantage of QTL mapping using a 4WC were discussed. This study presents the first example of QTL mapping using a 4WC population in upland cotton. The results presented here will enhance the understanding of the genetic basis of yield and fiber quality traits and enable further marker-assisted selection in cultivar populations in upland cotton.
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【第一作者】Hongde Qin
【通讯作者】Tianzhen Zhang
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【题目】改良的Folin-Ciocalteu比色法测定核桃外果皮中总多酚含量
【中文关键词】核桃外果皮;总多酚;含量测定;比色条件
【英文关键词】Walnut husk;total polyphenol;determining content;colorimetric conditions
【中文摘要】摘要:目的:简历核桃外果皮中国总多酚含量的比色测定方法。方法:以没食子酸为对照品,ui测定核桃外果皮中总多酚含量的比色条件,包括检测波长、碳酸钠溶液用量、Folin-Ciocalteu试剂用量、反应温度及时间对吸光值的影响进行了研究。结果:对照品标准曲线在1-7um/ml范围内为y=0.1031x+0.0793, R2=0.9996,线性关系良好,测定方法为采用核桃外果皮中总多酚提取液1.0ml,Folin-Ciocalteu试剂1.0mL、15%的碳酸钠溶液4.0mL、30°C显色1.5h, 平均回收率为100.2%(RSD=0.91%)。此条件下测得核桃外果皮中总多酚含量为3.306mg/g。结论:该方法简便快速、结果准确、重现性和稳定性好,可用于核桃外果皮中总多酚含量的测定。
【英文摘要】Abstract Objective To set up an assay method for the determination of total polyphenol in walnut husk.Method The determination conditions of total polyphenol content in walnut husk including the detection wavelength, the amount of sodium carbonate solution, Folin-Ciocalteu reagent, reaction temperature and time were studied and gallic acid was used as a standard. Results The standard curve was linear in the range of 1~7 μg/mL (R2=0.9996)and the optimum conditions for determining total polyphenol in walnut husk were as followed: 1.0mL of the walnut husk extract polyphenol,1.0mL of Folin-Ciocalteu reagent dosage and 4.0mL of 15% sodium carbonate solution, treatment at 30°C for 1.5h,the average recovery was 100.2% RSD=0.91% .Under these conditions, the total polyphenol content of walnut husk was3.306mg/g. Conclusion This method is simple and quick the result is accurate repeatable and stable .It can be used for the the determination of total polyphenol content in walnut husk.
【语种】中文
【第一作者】徐佳
【通讯作者】傅力
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【学科分类】食品加工的副产品加工与利用

【题目】Analysis of genetic effects of nuclear-cytoplasmic interaction on quantitative traits: Genetic models for seed traits of plants
【中文关键词】无
【英文关键词】FERTILITY RESTORATION; MALE-STERILITY; WHEAT; CARBOXYLASE; CHARACTERS; EXPRESSION; STAMENS
【中文摘要】无
【英文摘要】Two Genetic models (an embryo model and an endosperm model) were proposed for analyzing genetic effects of nuclear genes, cytoplasmic genes, maternal genes, and nuclear-cytoplasmic interaction (NCI) as well as their genotype by environment interaction for quantitative traits of plant seed. In these models, the NCI effects were partitioned into direct additive and dominance NCI components. Mixed linear model approaches were employed for statistical analysis. For both balanced and unbalanced diallel cross designs, Monte Carlo simulations were conducted to evaluate unbiasedness and precision of estimated variance components of these models. The results showed that the proposed methods work well. Random genetic effects were predicted with an adjusted unbiased prediction method. Seed traits (protein content and oil content) of Upland cotton (Gossypium hirsutum L.) were analyzed as worked examples to demonstrate the use of the models.
【语种】英文
【第一作者】Lide Han
【通讯作者】Jun Zhu
【期刊名称、卷期、页码】THEORETICAL AND APPLIED GENETICS 卷: 116 期: 6 页: 769-776
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【引文索引号】2.542626e+011
【学科分类】农业基础学科

【题目】Genetic diversity and peculiarity of annual wild soybean (G. soja Sieb. et Zucc.) from various eco-regions in China
【中文关键词】无
【英文关键词】GLYCINE-SOJA; SSR MARKERS; GERMPLASM POOLS; LINKAGE MAP; MICROSATELLITE; JAPAN; DNA
【中文摘要】无
【英文摘要】Annual wild soybean (Glycine soja Sieb. et Zucc.) is believed to be a potential gene source for future soybean improvement in coping with the world climate change for food security. To evaluate the wild soybean genetic diversity and differentiation, we analyzed allelic profiles at 60 simple-sequence repeat (SSR) loci and variation of eight morph-biological traits of a representative sample with 196 accessions from the natural growing area in China. For comparison, a representative sample with 200 landraces of Chinese cultivated soybean was included in this study. The SSR loci produced 1,067 alleles (17.8 per locus) with a mean gene diversity of 0.857 in the wild sample, which indicated the genetic diversity of G. soja was much higher than that of its cultivated counterpart (total 826 alleles, 13.7 per locus, mean gene diversity 0.727). After domestication, the genetic diversity of the cultigens decreased, with its 65.5% alleles inherited from the wild soybean, while 34.5% alleles newly emerged. AMOVA analysis showed that significant variance did exist among Northeast China, Huang-Huai-Hai Valleys and Southern China subpopulations. UPGMA cluster analysis indicated very significant association between the geographic grouping and genetic clustering, which demonstrated the geographic differentiation of the wild population had its relevant genetic bases. In comparison with the other two subpopulations, the Southern China subpopulation showed the highest allelic richness, diversity index and largest number of specific-present alleles, which suggests Southern China should be the major center of diversity for annual wild soybean.
【语种】英文
【第一作者】Zixiang Wen
【通讯作者】Junyi Gai
【期刊名称、卷期、页码】THEORETICAL AND APPLIED GENETICS 卷: 119 期: 2 页: 371-381
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【学科分类】农业基础学科

【题目】Dynamic expression of nine QTLs for tiller number detected with single segment substitution lines in rice
【中文关键词】无
【英文关键词】ORYZA-SATIVA L.; QUANTITATIVE TRAIT LOCI; YIELD-RELATED TRAITS; DEVELOPMENTAL BEHAVIOR; DIALLEL ANALYSIS; PLANT HEIGHT; ENVIRONMENT INTERACTION; GENETIC DISSECTION; MOLECULAR MARKERS; FLOWERING TIME
【中文摘要】无
【英文摘要】Nine single segment substitution lines (SSSLs) in rice, which contain quantitative trait loci (QTLs) for tiller number on substituted segments detected in previous studies, were selected as materials to analyse dynamic expression of the QTLs in this study. These SSSLs and their recipient parent, Hua-jing-xian 74 (HJX74), were grown in four different environments and were measured for tiller number at nine different growth stages. An indirect methodology was applied in QTL mapping through analyzing multi-environment phenotypic data. Dynamics of three types of effects (including total effect, main effect, and QE interaction effect) of QTLs was released. It was shown that nine QTLs exhibited statistically significant effects only at certain stages. Effects of a QTL, although insignificant at certain stages, displayed dynamic change with the growth of rice plants. Two common features of nine QTLs were detected, one is no expression within 7 days after transplanting, and the other is opposite expression existed during the whole growth period. Nine QTLs largely focused on expression in certain stages, and accordingly were suggested to partition into three types, expression in prophase, both in prophase and in anaphase, and evenly during the whole stage. It may be reasonable explanation that dynamics of main effects of QTLs are likely due to gene expression selectly at certain times, while dynamics of QE interaction effects of QTLs might attribute to the subrogation of environmental factors. Examination of the association between QE interaction effect and specified environmental factors across stages may provide useful information on how an environmental factor regulates QTL expression.
【语种】英文
【第一作者】Guifu Liu
【通讯作者】Guiquan Zhang
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【引文索引号】2.6257730001e+011
【学科分类】农业基础学科

【题目】Effect of energy density and citric acid concentration on anthocyanins yield and solution temperature of grape peel in microwave-assisted extraction process
【中文关键词】葡萄皮渣,花青素得率,高斯函数,微波辅助提取,能量密度,溶液温度上升
【英文关键词】Grapepeel; Anthocyaninsyield; Gaussian function; Microwave-assistedextraction; Energydensity; Solutiontemperature rise
【中文摘要】为了验证微波过程中能量密度(给定单位体积的微波功率)和柠檬酸浓度对葡萄皮渣中花青素得率的影响,本实验研究了能量密度和柠檬酸浓度在微波过程中的影响。结果表明,能量密度比微波功率对花青素得率的影响更大。花青素得率和能量密度的关系遵从高斯函数,R2>0.9399。指数衰减模型能很好的描述花青素得率和柠檬酸浓度之间的关系,或溶液温度上升和能量密度之间的关系。溶液温度是柠檬酸浓度和提取时间的线性函数。能量密度是影响花青素得率的最显著的因素,其次依次为柠檬酸浓度、料液比和提取时间(p>0.5)
【英文摘要】In order to verify the sensitivity of anthocyanins (Acys) yield of grapepeel to the energydensity (microwave power for a given unit of volume) and citricacidconcentration in microwave-assistedextraction (MAE) process, the effect of energydensity and citric acid concentration in MAE process were investigated. The results indicated that, Acys yield was more sensitive to energydensity than to microwave power. The correlation between Acys yield and energydensity follows well Gaussian function, suggested by higher R squares (R2 > 0.9399). Exponential decay model can well describe the correlation between Acys yield and citricacidconcentration, or between solutiontemperature rise and energydensity. The solutiontemperature was a linear function of citricacidconcentration and extraction time. Energydensity was the most significant factor affecting the Acys yield, followed by citricacidconcentration, ratio of liquid to solid and extraction time (p < 0.05).

【语种】英文
【第一作者】李媛
【通讯作者】陈芳
【期刊名称、卷期、页码】Journal of Food Engineering 109 (2012) 274 – 280
【论文发表时间】2012-06-01 00:00:00
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【引文索引号】null
【学科分类】食品加工的副产品加工与利用

【题目】Kinetics and thermodynamics characteristics of microwave assisted extraction of anthocyanins from grape pee
【中文关键词】葡萄皮渣,花青素,微波辅助提取,动力学,热力学
【英文关键词】grape peel, anthocyanins, microwave assisted extraction (MAE), kinetics, thermodynamics
【中文摘要】为拓展微波辅助提取技术在食品工业领域的应用,研究了微波辅助技术对提取葡萄皮中花色苷的作用,并对其动力学和热力学进行了评价。结果表明:柠檬酸浓度、液料比、提取时间和微波功率可以显著影响总花色苷提取率。采用高浓度柠檬酸水溶液(1.00 mol/L)提取的总花色苷含量(172.99 mg/100 g)是低浓度柠檬酸水溶液(0.02 mol/L)提取的总花色苷含量(43.48 mg/100 g)的4 倍。此外,在实验选取的动力学模型中,指数衰减模型可以更好的拟合提取动力学数据(R2>0.9875)。微波辅助提取葡萄皮中花色苷的有效扩散系数(2.12~4.87×10-11 m2/s)随着微波功率的增加而增大。微波辅助提取过程的热力学参数表明微波提取方式有利于传质过程。所得研究结果将为微波辅助提取技术的工业化应用提供理论依据。
【英文摘要】In order to expand the application of microwave assisted extraction (MAE) in food industry, the effects of MAE of anthocyanins from grape peel was investigated, and the related kinetics and thermodynamics were evaluated. The results showed that the citric acid concentration, liquid-to-solid ratio (RL/S), extraction time and microwave power level have a significant influence on the anthocyanins yield. The anthocyanins yield (172.99 mg/100 g) with the higher concentration of citric acid solution (1.00 mol/L) is 4 times larger than that (43.48 mg/100 g) in the lower concentration solution (0.02 mol/L). Furthermore, the extraction kinetic analysis indicated that the exponential decay model is the best model to fit the experimental data of anthocyanins obtained from MAE in this study (R2>0.9875). The effective diffusivity value of anthocyanins (2.12~4.87×10-11 m2/s) was enhanced concomitantly with increasing values of microwave power level in MAE process. The thermodynamic parameters of MAE indicated that microwave irradiation benefit the mass transfer. The result can provide a reference for industrial production of MAE.
【语种】英文
【第一作者】李媛
【通讯作者】陈芳
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【学科分类】食品加工的副产品加工与利用

【题目】不同化学农药处理对甜瓜商品性的影响
【中文关键词】甜瓜;农药;药害;药害指数
【英文关键词】melon; pesticides; phyt o toxic i ty; phytotoxicity index
【中文摘要】试验 针对设施甜瓜的主要病 害, 开展不同农药、甜瓜品种、农药浓度及施用时间对商品性的影响试验b结果表明: 蜜雪华和 NO1 对农药敏感, 农药对先甜红玉和薄皮脆危害较小;72.2% 普力克 S C 和 58 % 甲霜灵锰锌 WP 对蜜雪华危害较小, 各种农药随着浓度的降低, 对甜瓜危害程度降低。
【英文摘要】T he ma in di se a ses o f me lo n i n Gr e e nhouse we r e st ud ie d, the e f fe c t of di ffer e nt pe stic i de s, d iffe r e nt me lon v ar ie -t i e s, di ffe r e nt c onc e ntr a tions a nd appl ic a tio n sta ge on ma r ke t a bi li t y . T he r esul t s showe d th a t t he me lons o f M i xue hu a a ndl 1 w e r e ve r y susc e pt i ble tope stic i de s, Xi a nt i a n ho ngyu a nd Bopi c ui we r e le ss susc e ptible to pe stic i de sl; 7 2. 2 % Pr o pamo -c a r b SC and 58% Meta la xy - l ma nc oz eb WP o n M i xuehua we r e le ss ha r mf ul ; With the r e duc t i on o f t he c o nc entr a tio n of va -r i ous pesti c ide s, i t be c ame le ss har mful to me lon. .
【语种】中文

【第一作者】王学梅
【通讯作者】王学梅
【期刊名称、卷期、页码】北方 园艺 2010(10) : 5 7 ~ 59
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【引文索引号】null
【学科分类】园艺学

【题目】银川日光温室秋冬茬番茄茎基腐病的发生规律及防治技术
【中文关键词】日光温室; 番 茄; 茎基腐病; 发生规律; 防治
【英文关键词】greenhouse ; tomato ; baal stem rot; occurrenc eregularity ; control
【中文摘要】茎基腐病是日光 温室秋、 冬茬番茄重要病害之一。通过对宁夏日光温室秋、 冬茬番茄连续 3a 的多点温室田间调查 研究与综合防治示范, 初步掌握了茎基 腐病在该地区的田间发病条件及发生规律, 并从农业防治、 物理防治、生态防治及化学防治等方面总结提出综合防治对策,以指导生产实践。
【英文摘要】T he ba sal ste m r o t i s one o f t he mo st i mpor t a nt dise a se s of t o ma to in gr ee nhouse i n a utumn - w i nter . By 3ye a r s. fie ld inv e st i ga t i on a nd i nt e gr ati ve c ontr ol of toma to i n gr e e nhouse in Ni ngxia , the fie ld i nc i de n c e o f symptoms, i n -c i de nc e o f c ondi tio ns a nd the oc c u r r e nc e r e gula r i ty oftoma t o wer e ma ster e d. T he agr ic ul t ur al c ontr ol , physi c al c ontr o l,e c olo gic a l c ontr ol a nd c hemic a l c ontr o l a nd oth e r a spec ts o f inte gr a te d contr o l te c h ni que s we r e summa r i ze d to gui de th epr o duc t i on pr a c tic e .
【语种】中文
【第一作者】王学梅
【通讯作者】王学梅
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【学科分类】园艺学

【题目】日光温室硬果番茄长季节栽培品比试验
【中文关键词】番茄; 品种比较; 产 量; 耐贮性; 抗病性
【英文关键词】tomato ; comparison of varieties; yield; storabil ity; resistance
【中文摘要】对 8 个进口番 茄品种进行了品比试验 , 调查各品种植 物学性状、 果实性 状、 产量、 果实耐贮性及植株抗病性。 结果表明: 8 个品种均品质优良, 适合当地栽培, 好韦斯特、 58 3、 红太子 3个品种耐贮性表现较突 出, 货架期较长, 832 和好韦斯特的产量显著高于其它品种, 好韦斯特在 8个 品种中抗病性最高。
【英文摘要】T hough th e e ight v ar ie tie s c ompar ati ve te st of impor t e d t o ma to, bo t a ni c al c ha r a c t e r s, fr ui t c ha r a c t e r s, yi el d, fr u i tstor abi li ty a nd pla nt di sea se r e sista nc e o f a ll v ar ie tie s we r e i nve stig ate d. T he r e sults sh o wed tha t a ll of the e ig h t va r i e t i e sa r e goo d q ual ity and suita ble f o r l oc a l c ultiv ati on. Ha r ve st, 5 83, r e d pr i nc e wer e mo r e pr o mi ne nt on stor abi li t y , shel - f li fel onge r , t he y ie ld of 83 2 a nd H a r v e st wer e si gnifi c a nt l y hi ghe r tha n othe r va r i eti e s, H a r v est had the hig h e st r e sista nc e i ne i ght va r i e t i e s.
【语种】中文
【第一作者】崔静英
【通讯作者】崔静英
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【题目】《设施果蔬熊蜂授粉技术》

【中文关键词】熊蜂;设施果蔬;授粉技术
【英文关键词】Bumblebee; Fruits and vegetables;Pollination techniques
【中文摘要】介绍了温室果蔬熊蜂授粉的释放技术,授粉期间熊蜂管理技术及果蔬病虫害防治技术。
【英文摘要】Introduced greenhouse vegetable and fruit of Bumblebee pollination release technology, pollination during Bumblebee management technology and fruit and vegetable pest control technology
【语种】中文
【第一作者】王学梅
【通讯作者】王学梅
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【学科分类】园艺学

【题目】宁夏红提葡萄延迟栽培设施结构及整形修剪技术
【中文关键词】红提葡萄 ; 设施结构; 整型修剪
【英文关键词】Red grape; The facility structure; integer pruning
【中文摘要】该试验探索适宜设施红提葡 萄秋延后栽培的栽植密度及设施结构, 创造性提出单主干双蔓/ Y架和单干交叉/ V 架整型方式, 栽植 1482 株/ 667㎡, 产量连续稳定 2000kg/ 667㎡, 为宁夏现代设施果树发展提供技术支撑。
【英文摘要】The experimental exploration of suitable facilities in autumn red grape cultivation planting density and structure, creatively put forward the single trunk two-man / Y frame and single cross / V frame shaping modes, planting 1482 plants / 667㎡, continuous and stable production of 2000kg/ 667㎡, modern facilities for Ningxia fruit development offers a technology.
【语种】中文
【第一作者】梁玉文
【通讯作者】梁玉文
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【学科分类】园艺学

【题目】红提葡萄设施促早栽培技术
【中文关键词】红提葡萄;设施栽培
【英文关键词】Red Globe Grape;Protected cultivation
【中文摘要】晚熟葡萄品种红提通过设施促早栽培,采用低温打破休眠扣小拱棚采后及时解膜并清膛修剪压蔓等综合配套技术措施,较露地栽培提早上市 90天, 667㎡平均效益 3-4万元。
【英文摘要】Late grape variety red globe through the facilities of early cultivation, usinglowtemperature dormancy breaking buckle in small arch shed of Postharvest timely solution membrane andunload pressing bine, pruningIntegrated technical measures, compared with open field ultivatiolisted earlier in 90 days, 667㎡average efficiency of 3-4 million.
【语种】中文
【第一作者】梁玉文
【通讯作者】梁玉文
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【引文索引号】null
【学科分类】园艺学

【题目】油桃设施促早栽培品种比较试验

【中文关键词】油桃; 设施; 促早栽培
【英文关键词】Nectarine; facilities; of early cultivation
【中文摘要】引进 早油 2 号、 中油 桃 4 号、 中油桃 5 号、 早油蟠桃、 红山灯、 丽 春、 超红珠、 曙光、 大早红 9 个品种进行日光温室促早栽培 。结果表明: 采用常规环境调控措施, 在宁夏银川地区提前75d 成熟 。各品种以大早红和早 油蟠桃成熟较早 , 红山灯产量最高 , 口味也较好且色泽艳丽, 着色 度较高, 香味浓 郁, 其次为中油 4 号、 中油桃 5 号 、 丽春
【英文摘要】The introduction of early oil No. 2, No. 4, of the nectarine nectarine No. 5, early oil peach, red lights, Ponceau, super red beads, dawn, in the early morningRed 9 varieties of early cultivation in solar greenhouse. The results show that : the use of conventional environmental control measures, in Ningxia ahead of schedule in Yinchuan region75 D mature. The varieties of early in the morning and early oil red peach mature earlier, red lights the highest yield, taste good and beautiful color, withThe higher degree of color, smell of rich, followed by oil No. 4, No. 5, Li Chun of Nectarine
【语种】中文
【第一作者】梁玉文
【通讯作者】梁玉文
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【题目】红提葡萄果穗拉长及果粒膨大技术
【中文关键词】红提葡萄; 果穗; 果粒; 膨大
【英文关键词】Red grape; Fruit ear;Berry;Inflated
【中文摘要】为提高红提葡萄 的商品性, 获得较高的经济效益, 在红提葡萄花序分离期、 幼果期、果实膨大期 分别用葡萄特效膨大灵、 奇宝、 赤霉素、 保美灵、 益果灵浸蘸果穗, 不同药剂处理对红提葡萄果穗 延伸生长和果粒膨大均 有明显的影响, 对于红提葡萄果穗的拉长效应最好、 最适宜的处理药剂为 奇宝与保美灵混合液。
【英文摘要】In order to improve the grape commodity, obtain taller economic benefits, in Red Globe Grape inflorescence separation period, young fruit stage, fruit swelling period respectively with grapes swelling, Bao, running effects gibberellin, Bao Ling, Yiguoling dipping ear, different medicament treatment on Red Globe Grape Cluster extension growth and berry size all there are obvious effects, for Red Globe grape cluster of elongated effect best, the most appropriate treatment agent for Bao Bao Ling mixture.
【语种】中文
【第一作者】梁玉文
【通讯作者】梁玉文
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【学科分类】园艺学

【题目】弱光对温室西瓜株间小气候环境及生长发育的影响
【中文关键词】西瓜;遮光处理;含糖量;叶绿素含量;产量构成
【英文关键词】Watermelon;Shading treatment;Sugar content;Chlorophyll content;Yield components
【中文摘要】开花坐果期连续的遮光处理对西瓜植株生长和果实品质影响巨大,仅单果重一项就降低了18.5 试验表明,遮光可使光照强度下降土壤温度降低,直接造成植株及果实生长发育受阻,影响单果重量和总体产量;昼夜温差缩小不利于西瓜糖分积累,直接降低果实含糖量,造成果实品质下降;同时温室内空气湿度的增加还给病菌创造了有利的发生条件。
【英文摘要】Blossom and fruit period continuous shading treatments on plant growth and fruit quality of watermelon fruit weight impact, only a reduced test shows that, the shadingThe light intensity decreased soil temperature reduction, direct cause plant and fruit growth retarded effect, single fruit weight and overall yield; diurnal temperature reduction is not conducive to the WestMelon sugar accumulation, directly reduce the sugar content of fruit, fruitquality decline caused; at the same time the increase in air humidity inside greenhouse also created favorable conditions for the occurrence of bacteria.

【语种】中文
【第一作者】王学梅
【通讯作者】王学梅
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【学科分类】农艺学

【题目】节能日光温室不同种植年限土壤养分动态变化研究
【中文关键词】银川;日光温室;土壤养分状况
【英文关键词】Yinchuan; solar greenhouse; soil nutrient status
【中文摘要】研究了银川市兴庆区掌政乡不同种植年限的节能日光温室土壤养分状况以期对银川市节能日光温室土壤养分的合理管理提出理论依据 结果表明银川市日光温室土壤磷钾肥超标而氮肥不足化肥施用氮磷钾比例失调 建议采取限制磷钾化肥用量改进施肥技术等措施。
【英文摘要】Study of Yinchuan city Xingqing District Zhangzheng rural energy-saving sunlight greenhouse of different planting years on soil nutrient status of with a view to Yinchuan city energy-saving solar greenhouse soil nutrient management put forward thetheoreticalbasisforreasonable results in Sunlight Greenhouse of Yinchuan city soil phosphorus and potassium and nitrogen fertilizer use exceed the standard lack of nitrogen phosphorus andpotassiumimbalance recommend limiting phosphorus potassium fertilizer improved fertilizationtechnologymeasures。.
【语种】中文
【第一作者】崔静英
【通讯作者】崔静英
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【学科分类】园艺学

【题目】Detection of QTLs with additive effects and additive-by-environment interaction effects on panicle number in rice (Oryza sativa L.) with single-segment substitution lines
【中文关键词】无
【英文关键词】QUANTITATIVE TRAIT LOCUS; CONTROLLING HEADING DATE; YIELD-RELATED TRAITS; PHOTOPERIOD SENSITIVITY; MENDELIAN FACTORS; FLOWERING TIME; PLANT HEIGHT; IDENTIFICATION; POPULATION; COMPONENTS
【中文摘要】无
【英文摘要】A novel population consisting of 35 single-segment substitution lines (SSSLs) originating from crosses between the recipient parent, Hua-jing-xian 74 (HJX74), and 17 donor parents was evaluated in six cropping season environments to reveal the genetic basis of genetic main effect (G) and genotype-by-environment interaction effect (GE) for panicle number (PN) in rice. Subsets of lines were grown in up to six environments. An indirect analysis method was applied, in which the total genetic effect was first partitioned into G and GE by using the mixed linear-model approach, and then QTL (quantitative trait locus) analyses on these effects were conducted separately. At least 18 QTLs for PN in rice were detected and identified on 9 of 12 rice chromosomes. A single QTL effect (a + ae) ranging from -1.5 to 1.2 was divided into two components, additive effect (a) and additive x environment interaction effect (ae). A total number of 9 and 16 QTLs were identified with a ranging from -0.4 to 0.6 and ae ranging from -1.0 to 0.6, respectively, the former being stable but the latter unstable across environments. Three types of QTLs were suggested according to their effects expressed. Two QTLs (Pn-1b and Pn-6d) expressed stably across environments due to the association with only a, nine QTLs (Pn-1a, Pn-3c, Pn-3d, Pn-4, Pn-6a, Pn-6b, Pn-8, Pn-9 and Pn-12) with only ae were unstable, and the remaining seven of QTLs were identified with both a and ae, which also were unstable across environments. This is the first report on the detection of QE (QTL-by-environment interaction effect) of QTLs with SSSLs. Our results illustrate the efficiency of characterizing QTLs and analyzing action of QTLs through SSSLs, and further demonstrate that QE is an important property of many QTLs. Information provided in this paper could be used in

the application of marker-assisted selection to manipulate PN in rice.
【语种】英文
【第一作者】Guifu LiuZeng
【通讯作者】Guiquan Zhang
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【学科分类】农业基础学科

【题目】Modeling segregation distortion for viability selection I. Reconstruction of linkage maps with distorted markers
【中文关键词】无
【英文关键词】EM algorithm,Genetic linkage map,Hidden Markov chain,Segregation distortion,Viability selection
【中文摘要】无
【英文摘要】Molecular markers have been widely used to map quantitative trait loci (QTL). The QTL mapping partly relies on accurate linkage maps. The non-Mendelian segregation of markers, which affects not only the estimation of genetic distance between two markers but also the order of markers on a same linkage group, is usually observed in QTL analysis. However, these distorted markers are often ignored in the real data analysis of QTL mapping so that some important information may be lost. In this paper, we developed a multipoint approach via Hidden Markov chain model to reconstruct the linkage maps given a specified gene order while simultaneously making use of distorted, dominant and missing markers in an F-2 population. The new method was compared with the methods in the MapManager and Mapmaker programs, respectively, and verified by a series of Monte Carlo simulation experiments along with a working example. Results showed that the adjusted linkage maps can be used for further QTL or segregation distortion locus (SDL) analysis unless there are strong evidences to prove that all markers show normal Mendelian segregation.
【语种】英文
【第一作者】Chengsong Zhu
【通讯作者】Y-M Zhang
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【学科分类】农业基础学科

【题目】Multiple quantitative trait loci Haseman – Elston regression using all markers on the entire genome
【中文关键词】无
【英文关键词】LINKAGE; QTL; POPULATION; MAIZE; PLANT; MICE; L.
【中文摘要】无
【英文摘要】The Haseman-Elston (HE) regression, developed in the 1970s, remains in common use to detect genetic linkage between a quantitative trait and a genetic marker. Although the technique has been improved in a number of ways, it predicts a high rate of false positive quantitative trait locus (QTL) because it is based on a single-QTL model. We have extended the origin HE regression to multi-QTL HE (MQHE) regression, so that all markers across the entire genome can be exploited simultaneously. The parameters have been estimated by the penalized maximum likelihood method, and several response variables for phenotypic difference have been compared in order to optimize the procedure. The method has been tested by simulation in a pedigree population of maize inbred lines of known ancestry. These simulations show that the trait product is the optimal response variable for phenotypic difference. The false positive rate produced by the MQHE regression is substantially lower than that generated by either variance component analysis or the origin HE regression. The MQHE regression, with the trait product as the response variable, represents a significant improvement on existing methods for QTL mapping in a set of inbred lines (or cultivars) of known ancestry.
【语种】英文
【第一作者】Yuan-Ming Zhang
【通讯作者】Y-M Zhang

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【学科分类】农业基础学科

【题目】Mapping of epistatic quantitative trait loci in four-way crosses
【中文关键词】无
【英文关键词】SIMPLE REGRESSION METHOD; INBRED LINES; BAYESIAN-ANALYSIS; OUTBRED PEDIGREE; FLANKING MARKERS; GENETIC-MARKERS; PRIOR KNOWLEDGE; LOBLOLLY-PINE; LEAST-SQUARES; MULTIPLE LOCI
【中文摘要】无
【英文摘要】Four-way crosses (4WC) involving four different inbred lines often appear in plant and animal commercial breeding programs. Direct mapping of quantitative trait loci (QTL) in these commercial populations is both economical and practical. However, the existing statistical methods for mapping QTL in a 4WC population are built on the single-QTL genetic model. This simple genetic model fails to take into account QTL interactions, which play an important role in the genetic architecture of complex traits. In this paper, therefore, we attempted to develop a statistical method to detect epistatic QTL in 4WC population. Conditional probabilities of QTL genotypes, computed by the multi-point single locus method, were used to sample the genotypes of all putative QTL in the entire genome. The sampled genotypes were used to construct the design matrix for QTL effects. All QTL effects, including main and epistatic effects, were simultaneously estimated by the penalized maximum likelihood method. The proposed method was confirmed by a series of Monte Carlo simulation studies and real data analysis of cotton. The new method will provide novel tools for the genetic dissection of complex traits, construction of QTL networks, and analysis of heterosis.
【语种】英文
【第一作者】Xiao-Hong He
【通讯作者】Y-M Zhang
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【学科分类】农业基础学科

【题目】Molecular evolution and selection of a gene encoding two tandem microRNAs in rice
【中文关键词】无
【英文关键词】MicroRNA; MIR156b/c; Selection; Genome duplication;Oryza sativa
【中文摘要】无
【英文摘要】It has been shown that overexpression of M1R156blc resulted in a bushy phenotype in maize and rice. Our results indicated that the M1R156blc locus was highly conserved among cereals, but not in dicots and that genome duplication events played an important role in the evolution of the miR156 family. Genetic diversity investigation at the locus indicated that only similar to 9% of nucleotide diversity observed in wild rice (O. rufigogon) was maintained in the cultivated rice and the neutral model was rejected ($P < 0.05$) based on Tajima's D and Fu and Li's D* and F* tests. To our knowledge, this is the first example of miRNA gene to be targeted by both natural and domestication selection in plants. (c) 2007 Federation of European Biochemical Societies. Published by Elsevier B.V. All rights reserved.
【语种】英文
【第一作者】Sheng Wang
【通讯作者】Longjiang Fan
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【学科分类】农业基础学科

【题目】Selection and mutation on microRNA target sequences during rice evolution
【中文关键词】无
【英文关键词】ARABIDOPSIS-THALIANA; BINDING-SITES; NONCODING DNA; CONSTRAINTS; DUPLICATION; PREDICTION; ALIGNMENT; GENOME; IDENTIFICATION; POLYMORPHISM
【中文摘要】无
【英文摘要】Background: MicroRNAs (miRNAs) posttranscriptionally down-regulate gene expression by binding target mRNAs. Analysis of the evolution of miRNA binding sites is helpful in understanding the co-evolution between miRNAs and their targets. To understand this process in plants a comparative analysis of miRNA-targeted duplicated gene pairs derived from a well-documented whole genome duplication (WGD) event in combination with a population genetics study of six experimentally validated miRNA binding sites in rice (O. sativa) was carried out. Results: Of the 1,331 pairs of duplicate genes from the WGD, 41 genes (29 pairs) were computationally predicted to be miRNA targets. Sequence substitution analysis indicated that the synonymous substitution rate was significantly lower in the miRNA binding sites than their 5' and 3' flanking regions. Of the 29 duplicated gene pairs, 17 have only one paralog been targeted by a miRNA. This could be due to either gain of a miRNA binding site after the WGD or because one of the duplicated genes has escaped from being a miRNA target after the WGD (loss of miRNA binding site). These possibilities were distinguished by separating miRNAs conserved in both dicots and monocot plants from rice-specific miRNAs and by phylogenetic analysis of miRNA target gene families. The gain/loss rate of miRNA binding sites was estimated to be 3.0 x 10(-9) gain/loss per year. Most (70.6%) of the gains/losses were due to nucleotide mutation. By analysis of cultivated (O. sativa; n = 30) and wild (O. rufipogon; n = 15) rice populations, no segregating site was observed in six miRNA binding sites whereas 0.12-0.20 SNPs per 21-nt or 1.53-1.80 x 10(-3) of the average pairwise nucleotide diversity (p) were found in their flanking regions. Conclusion: Both molecular evolution and population genetics support the hypothesis that conservation of miRNA binding sites is maintained by purifying selection through elimination of deleterious alleles. Nucleotide mutations play a major role in the gain/loss of miRNA binding sites during evolution.
【语种】英文
【第一作者】Xingyi Guo
【通讯作者】Longjiang Fan
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【学科分类】农业基础学科

【题目】A Conceptual Framework for Mapping Quantitative Trait Loci Regulating Ontogenetic Allometry
【中文关键词】无
【英文关键词】Quantitative Trait Loci
【中文摘要】无
【英文摘要】Although ontogenetic changes in body shape and its associated allometry has been studied for over a century, essentially nothing is known about their underlying genetic and developmental mechanisms. One of the reasons for this ignorance is the unavailability of a conceptual framework to formulate the experimental design for data collection and statistical models for data analyses. We developed a framework model for unraveling the genetic machinery for ontogenetic changes of allometry. The model incorporates the mathematical aspects of ontogenetic growth and allometry into a maximum likelihood framework for quantitative trait locus (QTL) mapping. As a quantitative platform, the model allows for the testing of a number of biologically meaningful hypotheses to explore the pleiotropic basis of the QTL that regulate ontogeny and allometry. Simulation studies and real data analysis of a live example in soybean have been performed to investigate the statistical behavior of the model and validate its practical utilization. The statistical model proposed will help to study the genetic architecture of complex phenotypes and, therefore, gain better insights into the mechanistic regulation for developmental patterns and processes in organisms.
【语种】英文
【第一作者】Hongying Li
【通讯作者】Rongling Wu

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【学科分类】农业基础学科

【题目】Post-Domestication Selection in the Maize Starch Pathway
【中文关键词】无
【英文关键词】Post-Domestication Selection
【中文摘要】无
【英文摘要】Modern crops have usually experienced domestication selection and subsequent genetic improvement (post-domestication selection). Chinese waxy maize, which originated from non-glutinous domesticated maize (Zea mays ssp. mays), provides a unique model for investigating the post-domestication selection of maize. In this study, the genetic diversity of six key genes in the starch pathway was investigated in a glutinous population that included 55 Chinese waxy accessions, and a selective bottleneck that resulted in apparent reductions in diversity in Chinese waxy maize was observed. Significant positive selection in waxy (wx) but not amylose extender1 (ae1) was detected in the glutinous population, in complete contrast to the findings in non-glutinous maize, which indicated a shift in the selection target from ae1 to wx during the improvement of Chinese waxy maize. Our results suggest that an agronomic trait can be quickly improved into a target trait with changes in the selection target among genes in a crop pathway.
【语种】英文
【第一作者】Longjiang Fan
【通讯作者】Longjiang Fan
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【学科分类】农业基础学科

【题目】QTLNetwork: mapping and visualizing genetic architecture of complex traits in experimental populations
【中文关键词】无
【英文关键词】LOCI,CROSSES
【中文摘要】无
【英文摘要】QTLNetwork is a software package for mapping and visualizing the genetic architecture underlying complex traits for experimental populations derived from a cross between two inbred lines. It can simultaneously map quantitative trait loci (QTL) with individual effects, epistasis and QTLenvironment interaction. Currently, it is able to handle data from F-2, backcross, recombinant inbred lines and double-haploid populations, as well as populations from specific mating designs (immortalized F-2 and BCnFn populations). The Windows version of QTLNetwork was developed with a graphical user interface. Alternatively, the command-line versions have the facility to be run in other prevalent operating systems, such as Linux, Unix and MacOS.
【语种】英文
【第一作者】Jian Yang
【通讯作者】Jun Zhu
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【学科分类】农业基础学科

【题目】Mapping the genetic architecture of complex traits in experimental populations
【中文关键词】无
【英文关键词】DROSOPHILA-MELANOGASTER; QUANTITATIVE TRAITS; BRISTLE NUMBER; LOCI; QTLS; GENOTYPE; CROSSES; MARKERS; SEARCH; MOUSE

【中文摘要】无

【英文摘要】Understanding how interactions among set of genes affect diverse phenotypes is having a greater impact on biomedical research, agriculture and evolutionary biology. Mapping and characterizing the isolated effects of single quantitative trait locus (QTL) is a first step, but we also need to assemble networks of QTLs and define non-additive interactions (epistasis) together with a host of potential environmental modulators. In this article, we present a full-QTL model with which to explore the genetic architecture of complex trait in multiple environments. Our model includes the effects of multiple QTLs, epistasis, QTL-by-environment interactions and epistasis-by-environment interactions. A new mapping strategy, including marker interval selection, detection of marker interval interactions and genome scans, is used to evaluate putative locations of multiple QTLs and their interactions. All the mapping procedures are performed in the framework of mixed linear model that are flexible to model environmental factors regardless of fix or random effects being assumed. An F-statistic based on Henderson method III is used for hypothesis tests. This method is less computationally greedy than corresponding likelihood ratio test. In each of the mapping procedures, permutation testing is exploited to control for genome-wide false positive rate, and model selection is used to reduce ghost peaks in F-statistic profile. Parameters of the full-QTL model are estimated using a Bayesian method via Gibbs sampling. Monte Carlo simulations help define the reliability and efficiency of the method. Two real-world phenotypes (BXD mouse olfactory bulb weight data and rice yield data) are used as exemplars to demonstrate our methods.

【语种】英文

【第一作者】Jian Yang

【通讯作者】Jun Zhu

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【学科分类】农业基础学科

【题目】作雄性不育系NJCMS1A及其保持系的花药差异蛋白质组学研究

【中文关键词】大豆;质核互作雄性不育;花药;蛋白质组;双向凝胶电泳;基质辅助激光解吸飞行时间质谱

【英文关键词】an;Cytoplasmic—nuclear male.sterility;Anther;Proteomics;2*DE;MALDI一’110F—MS

【中文摘要】大豆质核互作雄性不育系NJCMS2A是以栽培大豆组合(N8855×N1628)F2不育株为母本,以N1628为父本,通过连续回交选育而成的,N1628(或NJCMS2B)为其同型保持系。对NJCMS2A和NJCMS2B的二胞花粉期花药进行蛋白质组比较分析,获得重复性好的双向电泳图谱,在分子量18.4~116.0 kD、等电点4~7线性范围内,检测到约217个蛋白点,其中差异表达蛋白点25个,包括在NJCMS2A中出现而在NJCMS2B中缺失的蛋白点13个,在NJCMS2A中缺失而在NJCMS2B中出现的蛋白点10个,另有2个蛋白点的表达量在NJCMS2B中比在NJCMS2A中明显增强。利用基质辅助激光解吸飞行时间质谱(MALDI—TOF—MS)技术对差异表达蛋白进行分析,获得肽质量指纹图谱,用Mascot软件搜索NCBInr数据库,鉴定出14个差异表达蛋白,其中10个在NJCMS2A中出现而在NJCMS2B中缺失和4个在NJCMS2A中缺失而在NJCMS2B中出现。对热激蛋白22 kD、半胱氨酸蛋白酶、v型H+一ATP酶A亚基、MADS盒蛋白和淀粉分支酶等主要差异蛋白进行功能分析,推测不育系NJCMS2A雄性不育性可能与能量代谢紊乱、细胞程序化死亡(PCD)、淀粉合成受抑制和花器官发育调节基因作用失控等有关。

【英文摘要】Cytoplasmic.nuclear male sterility iS a moior tool in the hybrid seed production for utilization of heterosis in crops.The soybean cytoplasmic.nuclear male.sterile line NJCMS2A was developed through a consecutive backcross procedure with male—sterile plants of(N8855 x N1628)F,as donor parent and N1628(designated as NJCMS2B afterwards)as recurrent parent.,111e present paper was aimed at the differential expressed proteins of anther at binucleate pollen stage between NJCMS2A and its maintainer NJCMS2B.The developmental stage of the anther was determined by both the external morphological performance of the flower bud and the microscopic observation of the microsporogenesis.Two—dimensional gel eleetrophoresis(2一DE)technique was used to separate the protein spots and the gels were stained with Coomassie Blue G.250.The obtained 2一DE maps were pretty consistent among replications.The difference between the protein maps of anthem from NJCMS2A and NJCMS2B was analyzed with the PDQuest image software.About 217 protein spots were detected within Mr 18.4—116.0 kD and pH 4 7.’rotal 25 spots out of 217 were found differentially expressedbetween NJCMS2A and NJCMS2B.Among these.1 3 protein spots were present in the anther protein map of NJCMS2A but absent in that of NJCMS2B,and 10 protein spots present in that of NJCMS2B but absent in that of NJCMS2A,another two protein spots were up—regulated significantly in the map of NJCMS2B in comparison with that of NJCMS2A.The matrix—assisted laser-adsorotion/ionization time.of-flight mass spectrometry(MALDI.TOF—MS)technique was used to obtain the peptide mass fingerprinting of the differentially expressed proteins and the MASCOT software was used to search the protein database

NCBInr.%e results were as follows:10 proteins were present in NJCMs2A anther at binucleate pollen stage but absent in NJCMS2B.These were heat shock 22 kD protein,AIGl-like protein,oligouridylate binding protein,cysteine proteinase,hypothetical protein MtrDRAFY—ACl4657098vl,vacuolar H+一ATpase A subunit,adenosine/AMP deaminase,translational initiation factor EIF,4A,cullin,and beta.am-ywin synthase.Four proteins were absent in NJCMs2A anther but present in NJCMS2B.These were MADS box protein,starch branching enzyme,glutathione—S—transt ’erase,and auxin— induced protein AUX28.According to the literature.the functions.especially those related to the male sterility of the major differentially expressed proteins,including heat shock 22姻protein,cysteine proteinase,vacuolar H+一ATPase A subunit, MADS box protein。and starch branching enzyme were reviewed and discussed.It was inferred that the male sterility of NJCMS2A might be related to energy metabolism turbulence。the programmed cell death(PCD),starch synthesis suffocation and the disturbed function of the flower developmental gene.But the exact mechanism of the difierentially expressed proteins above leading to the male sterility of NJCMS2A are to be further studied。

【语种】中文
【第一作者】曾维英
【通讯作者】盖钧镒
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【题目】A Study on Subunit Groups of Soybean Protein
【中文关键词】无
【英文关键词】soybean; backcross line; RHL (residual heterozygous line); SSR (simple sequence repeat) marker; flowering date; QTL; fine-mapping
【中文摘要】无
【英文摘要】The results of QTL mapping based on a primary mapping population should be further verified and refined for its real utilization in marker-assisted selection or map-based cloning. The primary mapping population contains 114 BC(1)F(1) plants of the backcross between Essex (maturity group V, MG V) as the donor parent and ZDD2315 (MG II) as the recurrent parent. In this study, a genetic linkage map with 250 SSR markers spanning a total length of 2963.5 cM on 25 linkage groups (LG) was constructed using software MAPMAKER3.0. Six kinds of genetic statistical models of 4 softwares, i.e. WinQTL Cartographer Version 2.5, IciMapping Version 2.0, MapQTL Version 5.0 and QTLnetwork Version 2.0, were used to map QTLs conferring days to flowering of the BC(1)F(3) lines. Nine QTLs were mapped on 6 different linkage groups (LG). Of those, 6 QTLs were detected by at least two different genetic statistical models, while the other three were detected by only one procedure. Among the three QTLs, Flwdt7 was mapped between Sat_213 and Satt643 on LG C2 with only 11.0% contribution rate. For confirmation of Flwdt7, 5 RHL populations were developed through selfing eight BC(1)F(5) plants heterozygous at seven markers around the locus. The RHL populations with the same segregating loci were bulked and used to construct a secondary linkage map of the specific segment using software JoinMapA (R) 3.0. The genetic distances among the markers on the specific segment became shorter than those of the whole genome map. On the secondary map, Flwdt7 was mapped between Satt277 and Satt489, next to its primary interval Sat_213-Satt643, with distance 1.40 cM to Satt277 and 0.45 cM to Satt489, confidence interval narrowed to 2.7 cM, and contribution rate increased to 36.8%. The results were confirmed with significance analysis among marker genotypes on individual loci and comparison analysis of target marker intervals among near isogenic lines (plants). Thus the strategy by using residual heterozygous lines for QTL fine-mapping on target segments based on primary whole genome scanning with multiple mapping models was demonstrated to be effective.
【语种】英文
【第一作者】SU ChengFu
【通讯作者】Junyi Gai
【期刊名称、卷期、页码】CHINESE SCIENCE BULLETIN 卷: 55 期: 6 页: 499-508
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【学科分类】农业基础学科

【题目】水稻颖花结实率对减数分裂期和开花期高温的响应差异
【中文关键词】水稻;高温;结实率;减数分裂期;开花期
【英文关键词】rice; high temperature; seed setting rate; meiosis stage; anthesis stage
【中文摘要】减数分裂期和开花期是水稻对高温敏感的2个主要阶段。为明确水稻颖花结实率对减数分裂期和开花期高温的响应差异,本研究以特优559和华粳1号为供试材料,在减数分裂期和开花期,通过设置不同高温水平(31℃、33℃、35℃、37℃、39℃、41℃)和处理时间(1d、3d、5d),分析了高温对水稻颖花结实率的影响。结果表明:减数分裂期随着温度和高温处理时间的增加,颖花目均结实率逐步下降,其规律可用二次曲线拟合,2个品种间响应差异不大;开花期随着温度和高温处理时间的增加,颖花结实率明显下降,其规律可用Logistic曲线拟合,2个品种 间响应 差异较大。
【英文摘要】The meiosis and anthesis stages are two important periods for rice florets sensitivity to high temperature.In order to explore the response difference of seed setting rate(SSR)of rice florets to high temperature at the meiosis and anthesis stages,Teyou559 and Huajingl were selected as nmterials to study the effect of high temperature(31℃,33℃,35℃,37℃,39℃,41℃)on the relative SSR of rice tlorets at these two stages.The results showed the relative SSR decreased with the increase of temperature and the lasting of high temperature at the meiosis stage,and the changes were expressed in the quadratic equation for Teyou559 and Huajingl with little parameter difierence between then1.The relative SSR also decreased with the increase of tenlperature and the lasting of high temperature at the anthesis stage,and the changes were expressed in the logistic equation for Teyou559 and Huajingl,but the parameter difference between them WaS obviOUS.This study provided a method to quantify the effect of high tenlperature on relative SSRand would he helpful todevelop and improve the high temperature—deduced sterilitymode1 for rice.
【语种】中文
【第一作者】石春林
【通讯作者】石春林
【期刊名称、卷期、页码】江苏农业学报,26(6):1139—1142
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【学科分类】农业基础学科

【题目】基于WCSODS和MCSODS的后茬夏玉米品种选择
【中文关键词】小麦;玉米;WCSODS;MCSODS;品种选择;播期;播种方式
【英文关键词】wheat
【中文摘要】根据玉米品种特性、遗传参数以及年内气候资源,结合小麦栽培模拟优化决策系统WCSODS和玉米栽培模拟优化决策系统MCSODS的生长预测功能,在保证小麦生产的基础上,对后茬夏玉米的品种以及生产进行决策。系统综合考虑了田间生产实际状况,提高了模型的实用性。研究还通过土壤湿度和由日平均气温预测的0—10 cm土壤温度对玉米播种到出苗阶段进行了模拟,对于模拟套播情况下玉米出苗具有重要意义。
【英文摘要】无
【语种】中文
【第一作者】赵巧丽
【通讯作者】赵巧丽
【期刊名称、卷期、页码】江苏农业科学,2010(4):82—83
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【引文索引号】null
【学科分类】农艺学

【题目】Chloroplastic oxidative burst induced by tenuazonic acid, a natural photosynthesis inhibitor, triggers cell necrosis in Eupatorium adenophorum Spreng

【中文关键词】无
【英文关键词】TeA
Chloroplast
ROS
Mode of action
Phytotoxin
Photosynthesis inhibitor
【中文摘要】无
【英文摘要】Tenuazonic acid (TeA), a nonhost-speci fi c phytotoxin produced by Alternaria alternata, was determined to bea novel natural photosynthesis inhibitor owning several action sites in chloroplasts. To further elucidate themode of its action, studies were conducted to assess the production and involvement of reactive oxygenspecies (ROS) in the toxic activity of TeA. A series of experiments indicated that TeA treatment can inducechloroplast-derived ROS generation including not only 1O2 but also O2U − ,H2O2 and UOH in Eupatoriumadenophorum mesophyll cells, resulting from electron leakage and charge recombination in PSII as well asthylakoid overenergization due to inhibition of the PSII electron transport beyond QA and the reduction ofend acceptors on the PSI acceptor side and chloroplast ATPase activity. The initial production of TeA-inducedROS was restricted to chloroplasts and accompanied with a certain degree of chloroplast damage.Subsequently, abundant ROS were quickly dispersed throughout whole cell and cellular compartments,causing a series of irreversible cellular harm such as chlorophyll breakdown, lipid peroxidation, plasmamembrane rupture, chromatin condensation, DNA cleavage, and organelle disintegration, and fi nallyresulting in rapid cell destruction and leaf necrosis. These results show that TeA causing cell necrosis of host-plants is a result of direct oxidative damage from chloroplast-mediated ROS eruption.
【语种】英文
【第一作者】Shiguo Chen
【通讯作者】Sheng Qiang
【期刊名称、卷期、页码】BBA-Bioenergetics 2010,1797(3): 391-405
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【学科分类】植物学

【题目】Simultaneous in vivo recording of prompt and delayed fluorescence and 820-nm reflection changes during drying and after rehydration of the resurrection plant Haberlea rhodopensis
【中文关键词】无
【英文关键词】Haberlea rhodopensis
Delayed fl uorescence
JIP-test
Prompt fl uorescence
Re fl ection changes at 820 nm
Resurrection plants
【中文摘要】无
【英文摘要】A new instrument (M-PEA), which measures simultaneously kinetics of prompt fl uorescence (PF), delayed fl uorescence (DF) and modulated light re fl ection at 820 nm (MR), was used to screen dark-adapted leaves ofthe resurrection plant Haberlea rhodopensis during their progressive drying, down to 1% relative watercontent (RWC), and after their re-watering. This is the fi rst investigation using M-PEA, which employsalternations of actinic light (627-nm peak, 5000 μ mol photons m − 2s − 1) and dark intervals, where PF-MRand DF kinetics are respectively recorded, with the added advantages: (a) all kinetics are recorded with hightime resolution (starting from 0.01 ms), (b) the dark intervals' duration can be as short as 0.1 ms, (c) actinicillumination can be interrupted at different times during the PF transient (recorded up to 300 s), with theearliest interruption at 0.3 ms. Analysis of the simultaneous measurements at different water-content-statesof H. rhodopensis leaves allowed the comparison and correlation of complementary information on thestructure/function of the photosynthetic machinery, which is not destroyed but only inactivated (reversibly)at different degrees; the comparison and correlation helped also to test current interpretations of each signaland advance their understanding. Our results suggest that the desiccation tolerance of the photosyntheticmachinery in H. rhodopensis is mainly based on mechanism(s) that lead to inactivation of photosystem IIreaction centres (transformation to heat sinks), triggered already by a

small RWC decrease.
【语种】英文
【第一作者】Reto J. Strasser
【通讯作者】Merope Tsimilli-Michael
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【学科分类】植物学

【题目】CERES-Rice模型区域应用中遗传参数升尺度的一种方法
【中文关键词】模拟模型;区域应用;遗传参数;升尺度;水稻
【英文关键词】simulation model;regional application;genetic parameter;upscaling;rice
【中文摘要】为了提升CERES-Rice模型中遗传参数的空间尺度,以适应区域性研究需要,以江苏省为例,在具有不同水稻品种生态类型的4个稻区各选5~6个样点,以稻区为空间尺度,利用每个样点4年(2001一2004年)县级统计水稻单产资料及同期同地的气象和土壤资料,结合江苏省各地的水稻品种区域试验资料,采用试错法对CERES-Rice中8个遗传参数,特别是4个与产量相关的遗传参数分别进行了调试与确定(方法1,简称稻区尺度调试法),并与传统的其他3种升尺度方法,即代表性品种单点调试法(方法2)、县级尺度调试法(方法3)和超大尺度调试法(方法4)的模拟效果进行了比较。结果显示,方法1的模拟效果较为理想,各稻区模拟产量与统计产量的相关系数均达到显著或极显著水平,均方根差值均小于9%。而其他3种方法的模拟效果均明显不如方法1。研究提出的遗传参数升尺度方法不仅适用于气候变化影响评价研究,也可为作物生长模型在其他区域研究中的应用提供方法上的借鉴。
【英文摘要】In order to upscale the genetic parameters of CERES-Rice to satisfy the requirements in its regional applieations,Jiangsu Province,the second largest rice producing province in China,was taken as an example.The province was divided into four rice regions for different varietal types and five to six sites in each region were selected.Then the eight genetic parameters of CERES-Rice,particularly the four parameters related to yield were modified and then validated using Trial and Error Method and based on the local statistical rice yield data at a county level from 2001 to 2004.combined with the regional experiments of rice varieties in the province as well as the local meteorological and soil data(Method 1).The simulated results of Method 1 were compared with that of the other three traditional methods upscaling the genetic parameters,i.e.,using one-site experimental data of a local representative rice variety(Method 2),using local long—term rice yield data at a county level after deducting the trend yield due to progress of science and technology(Method 3)and using rice yield data at a super scale,such as provincial,ecological zone,country or continent levels(Method 4).The results showed that a good fitness efficiency was obtained by using the Method 1,its correlation coefficients between the simulated yields and the statistical yields were significant at 0.05 or 0.01 statistical levels and the RMSE(root mean squared error)values were less than 9 for all the fourrice regions,which were obviously better than those of the other three traditional methods.The method upscaling the genetic parameters of CERE Rice presented is not only valuable for the impact studies of climate change.but also favorable to provide a methodology for reference in crop model applications to the other regional studies.
【语种】中文
【第一作者】江敏
【通讯作者】江敏
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【学科分类】农业基础学科

【题目】Bioassay of the Herbicidal activity of AAC-toxin produced by Alternaria alternata isolated from Ageratina adenophora
【中文关键词】无
【英文关键词】Biobased herbicide, biological control, natural product, weed.
【中文摘要】无
【英文摘要】Tenuazonic acid (TeA), a naturally occurring product of Alternaria alternata, a pathogen to croftonweed, was discovered tobe a novel natural photosystem II (PSII) inhibitor. However, herbicidal activity of AAC-toxin, a metabolite of this funguscontaining TeA as the main active ingredient, has not been evaluated systematically. In this study, we conducted activity-evaluation experiments in the laboratory, greenhouse, and field trials to assess the herbicidal potential of this fungalmetabolite. AAC-toxin had high herbicidal activity on all species tested: croftonweed, large crabgrass, barnyardgrass,redroot pigweed, and eclipta. The AAC-toxin caused brown, leaf spot symptoms and leaf necrosis, subsequently killing theseedlings. When AAC-toxin was applied POST at 83 ml ai/ha, more than 95% of large crabgrass, barnyardgrass, andredroot pigweed plants were controlled 2 d after treatment in field trials. It can be concluded that AAC-toxin has broad-spectrum, rapid, and high herbicidal activity similar to that of paraquat and may have the potential to be developed as amicrobe-based herbicide.
【语种】英文
【第一作者】Sheng Qiang
【通讯作者】Sheng Qiang
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【学科分类】植物学

【题目】First Report of Southern Blight on Canadian Goldenrod (Solidago canadensis) Caused by Sclerotium rolfsii in China
【中文关键词】无
【英文关键词】Canadian goldenrod
【中文摘要】无
【英文摘要】Canadian goldenrod (Solidago canadensis L., Asteraceae) is a rhizomatous perennial plant native to North America that has invaded eastern China and continues to spread northward and westward. It is quite common on field borders, roadsides, and in undeveloped areas, posing a serious threat to native ecosystems and their biodiversity. During the late summers of 2007 and 2008, wilted Canadian goldenrod plants were occasionally found in invasive populations in the suburb of Nanjing city. Wilted plants were transplanted and maintained in a greenhouse at Nanjing Agricultural University. A white mass of fungal hyphae, which grew on the soil surface around the stem of the symptomatic S. canadesis plants and eventually covered the stem, was observed. Initially, the base of the stem became yellow, turned brown, and the light brown discoloration extended up the stem to a height of 3 to 7 cm. The leaves then collapsed, starting from the top until the entire plant wilted. The fungus produced numerous, small, roundish sclerotia of uniform size (0.7 to 2.0 mm in diameter), which were white at first and then became brown to dark brown. The fungus grew into the stems and downward into the rhizome area, but no sclerotia were detected inside the stem or root. Diseased tissue with sclerotia was disinfested for 1 min in 1% NaOCl and plated on potato dextrose agar amended with 100 mg/liter of streptomycin sulfate. On the basis of sclerotia morphology and the presence of clamp connections at hyphal septa, the fungus was identified as Sclerotium rolfsii. Pathogenicity of the isolate was confirmed by inoculating 1-year-old S. canadensis plants (average 1.5 m high) grown in pots. The inoculum consisted of cottonseed hulls infested with mycelium and sclerotia of the pathogen and was placed on the soil surface around the base of each unwounded plant. Noninoculated plants served as controls. The pathogenicity test was conducted twice. After inoculation, the plants were maintained at high humidity and 30 ° C for 3 days and then transferred to a greenhouse. All inoculated plants developed symptoms of southern blight. Inoculated plants developed symptoms of wilting 5 to 7 days after inoculation and were completely wilted within 15 to 20 days. Symptoms of wilting were soon followed by the appearance of white-to-light brown sclerotia on the collar region. Control plants remained symptomless and Sclerotium rolfsii was reisolated from inoculated plants. To our knowledge, this is the first report of southern blight of Canadian goldenrod caused by Sclerotium rolfsii in China.
【语种】中文
【第一作者】W. Tang

【通讯作者】S. Qiang
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【学科分类】植物学

【题目】5-Aminolevulinic acid improves photosynthetic gas exchange capacity and ion uptake under salinity stress in oilseed rape (Brassica napus L.)
【中文关键词】无
【英文关键词】5-Aminolevulinic acid . Brasscia napus .
Mineral nutrition .Na
+
uptake .
Photosynthetic gas exchange . Salinity
【中文摘要】无
【英文摘要】Salinity is one of the major constraints inoilseed rape (Brassica napus L.) production. One ofthe means to overcome this constraint is the use ofplant growth regulators to induce plant tolerance. Tostudy the plant response to salinity in combinationwith a growth regulator, 5-aminolevulinic acid(ALA), oilseed rape plants were grown hydroponical-ly in greenhouse conditions under three levels ofsalinity (0, 100, and 200 mM NaCl) and foliarapplication of ALA (30 mg/l). Salinity depressed thegrowth of shoots and roots, and decreased leaf waterpotential and chlorophyll concentration. Addition ofALA partially improved the growth of shoots androots, and increased the leaf chlorophyll concentra-tions of stressed plants. Foliar application of ALAalso maintained leaf water potential of plants growingin 100 mM salinity at the same level as that of thecontrol plants, and there was also an improvement inthe water relations of ALA-treated plants growing in200 mM. Net photosynthetic rate and gas exchangeparameters were also reduced significantly with increasing salinity; these effects were partially re-versed upon foliar application with ALA. Sodiumaccumulation increased with increasing NaCl concen-tration which induced a complex response in themacro-and micronutrients uptake and accumulation inboth roots and leaves. Generally, analyses of macro-(N, P, K, S, Ca, and Mg) and micronutrients (Mn, Zn,Fe, and Cu) showed no increased accumulation ofthese ions in the leaves and roots (on dry weight basis)under increasing salinity except for zinc (Zn). Foliarapplication of ALA enhanced the concentrations of allnutrients other than Mn and Cu. These results suggestthat under short-term salinity-induced stress (10 days),exogenous application of ALA helped the plantsimprove growth, photosynthetic gas exchange capac-ity, water potential, chlorophyll content, and mineralnutrition by manipulating the uptake of Na+.
【语种】英文
【第一作者】M. S. Naeem
【通讯作者】W. J. Zhou
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【引文索引号】DOI 10.1007/s11104-010-0306-5
【学科分类】植物学

【题目】长江中下游地区水稻孕穗开花期高温发生规律及其对产量的影响
【中文关键词】高温;长江中下游稻区;孕穗开花期;气候产量
【英文关键词】high temperature; rice areas in the middle and lower reaches of Yangtze River; booting and flowering stages; climate yield.
【中文摘要】以长江中下游平原7个省(市)的19个地区作为样点,统计分析了各样点近36年 (1970—2005年)水稻始穗前15d至始穗后20d内日最高气温≥35℃的时空分布特点;并根据全球气候渐变模型GISSGCMTransientBRuns生成的研究区域2030、2050年的气候渐变情景,分析了该地区未来水稻孕穗开花期≥35℃高温逆境的时空演变趋势。结果表明:近36年来长江中下游的早稻孕穗开花期出现高温日数的上升趋势显著,未来气候情景下水稻逆境指标出现日数最多的是单季稻,其次依次为早稻、后季稻;双季稻种植区,在未来气候变化中,长江中游地区温度逆境出现日数将大于下游地区。研究区域水稻气候产量的增减与该地区水稻逆境指标的关系说明,高温导致的颖花败育是水稻减产的重要原因;未来气候变化的两种

(2030、2050)情景下,长江中游地区的减产幅度大于长江下游地区,减产幅度最大的是长江中游地区的后季稻。

【英文摘要】Taking 19 regions of 7 provinces and municipalities in the middle and lower reaches of Yangtze River as the objects ,this paper analyzed the temporal and spatial distribution patterns of their daily maximal temperature over 35°C from the 15th day before rice booting to the 20th day after rice flowering in last 36 years(1970-2005). According to the climate transient scenarios of these regions in 2030 and 2050 generated by GISS GCM Transient B Runs, the temporal and spatial evolving tendency of the daily maximal temperature over 35°C was further discussed. In last 36 years, the day number of high temperature at the booting and flowering stages of early rice in the middle and lower reaches of Yangtze River increased significantly, and under the future climate scenarios, the day number of high temperature would be the largest for single-cropping rice, followed by for early rice and later ice. For double-cropping rice production areas, the day number of high temperature in the middle reaches would be larger than that in the lower reaches of Yangtze River. The relationships between the regional quantity of rice climate yield and the stress-index occurrence pattern in the same regions suggested that the rice-spikelet abortion due to high temperature was the main cause for the decrease of rice yield. In the two climate transient scenarios in 2030 and 2050, the yield decrement in the middle reaches of Yangtze River would be larger than that in the lower reaches, and the largest yield decrement would be the late rice in the middle reaches of Yangtze River.

【语种】中文

【第一作者】江敏

【通讯作者】江敏

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【引文索引号】null

【学科分类】农业基础学科

【题目】Silicon improves the tolerance to water-deficit stress induced by polyethylene glycol in wheat (Triticum aestivum L.) seedlings

【中文关键词】无

【英文关键词】Antioxidant defense Drought stress Osmotic adjustment Silicon Wheat (Triticum aestivum L.)

【中文摘要】无

【英文摘要】Drought stress usually causes a serious yieldreduction in wheat production. Silicon (Si) has beenreported to be able to alleviate drought stress damage;however, the mechanism is still poorly understood. In thisarticle, the effects of Si (as sodium silicate) on someparameters related to oxidative damage, proline, solublesugar, and inorganic ions in the leaves of wheat under 20%(w/v) polyethylene glycol (PEG-6000) simulative droughtstress are investigated. PEG stress depressed the growth ofshoot and root and decreased leaf water potential andchlorophyll concentration. Addition of 1.0 mM Si couldpartially improve the growth of shoot (but not root) andincrease the leaf chlorophyll concentrations of stressedplants. Inclusion of Si in culture solution also maintainedleaf water potential of stressed plants at the same level asthat of the control plants. PEG stress induced signi fi cantaccumulation of leaf hydrogen peroxide (H_2O_2) and mal-ondialdehyde (MDA) as well as an increase in electrolyteleakage, which were all decreased by added silicon. Theseresults suggest that stress-induced membrane lipid peroxi-dation could be partly alleviated by added silicon. More-over, the results were also supported by the observationthat PEG stress-induced decrease in glutathione concen-tration in the leaves was reversed by added silicon. The proline concentration in the leaves was markedly increasedunder PEG stress, whereas added silicon partially reversedthis. PEG stress decreased the leaf soluble sugar concen-tration. There were signi fi cant negative regressionsbetween proline concentration and both shoot dry weightand leaf chlorophyll concentrations, whereas there werepositive regressions between the proline concentration andboth H_2O_2 and MDA concentrations in the leaves, sup-porting the view that proline accumulation is a symptom ofstress damage rather than stress tolerance. Addition of Siobviously increased Si accumulation in the shoot. Analysesof Na, Mg, K, and Ca showed no accumulation of theseions in the shoot (on the basis of per tissue dry weight)under water stress, and added Si even decreased theirconcentrations. These results suggest that under short-termPEG-induced water stress conditions (1 week), antioxidantdefense, rather than osmotic adjustment, contributed to theimproved wheat growth by Si.

【语种】英文

【第一作者】Z. F. Pei

【通讯作者】Z. F. Pei

【期刊名称、卷期、页码】Journal of Plant Growth Regulation 2010, 29: 106 – 115.
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【引文索引类型】SCI
【引文索引号】DOI 10.1007/s00344-009-9120-9
【学科分类】植物学

【题目】A Study on the regional application of rice growth model in county level
【中文关键词】no
【英文关键词】Crop; growth model; regional application; county level
【中文摘要】No
【英文摘要】On the basis of spatial aggregation, the upscaling technique was one of methods for the regional application of crop growth model. In this paper, the aggregation technique of regional soils, varieties and cultivar measures was discussed for regional application of rice growth model in county level, and the difference of rice development and yield among the county stations of Suzhou and Lianyungang, Jiangsu, was explored with experiment data from national agrometeological stations at Kunshan and Ganyu, Jiangsu and RCSODS. The results showed although the development stages were similar among counties, the yield difference was significant; After aggregation of model inputs, the RMSEs between statistical and simulated yields were 742kg/ha and 975kg/ha for Suzhou and Lianyungang respectively, and the NRMSEs were 8.7% and 12.4%, which indicated the spatial aggregation approach for model inputs was suited to regional application of rice growth model..
【语种】中文
【第一作者】石春林
【通讯作者】石春林
【期刊名称、卷期、页码】proceedings of AICI 2010
【论文发表时间】2010-10-23 00:00:00
【引文索引类型】EI
【引文索引号】P4225
【学科分类】农业基础学科

【题目】Differential morphological and physiological responses of two oilseed Brassica species to a new herbicide ZJ0273 used in rapeseed fields.
【中文关键词】无
【英文关键词】Acetolactate synthase
Antioxidant enzymes
Oilseed rape
Propyl 4-(2-(4,6-dimethoxypyrimidin-2-
yloxy) benzylamino)benzoate (ZJ0273)
Photosynthetic system
Seed quality
【中文摘要】无
【英文摘要】Weeds are considered as a major threat to the production of oilseed Brassica crops. The use of herbicidesthat are safe for crops and effective in controlling weeds is crucial for the agronomists and farmers. Propyl4-(2-(4,6-dimethoxypyrimidin-2-yloxy)benzylamino)benzoate (ZJ0273), a derivative of 2-pyrimidinyl-oxy-N-aryl benzoate, is a new herbicide used in the rapeseed fi eld. To evaluate the tolerance of Brassicaspecies against this new herbicide, two cultivars of rapeseed Brassica napus cv. ZS 758 and Brassica rapacv. Xiaoyoucai were tested by a foliar spray of ZJ0273 at the rate of 100, 500 and 1000 mg/L and a cur-rently used ALS (acetolactate synthase)-inhibiting herbicide bispyribac-sodium (BS) at the rate of100 mg/L. The results showed that both the cultivars of Brassica were less affected by ZJ0273 as comparedto BS. Increasing level of ZJ0273 herbicide from 100 to 1000 mg/L increased the stress for the plants ofboth the cultivars as indicated by enhanced accumulation of malondialdehyde content. The activitiesof ALS and antioxidant enzymes (superoxide dismutase and peroxidase), soluble protein and sugar con-tents, photosynthetic system (SPAD value, photosynthetic rate and chlorophyll fl uorescence) as well asthe agronomic characters also declined consistently with each successive increase in ZJ0273 concentra-tion. In general, the plants treated with 100 mg/L ZJ0273 recovered from the herbicide stress after28 days. B. napus showed more tolerance than B. rapa to the new herbicide. Nevertheless, BS applicationat 100 mg/L did not allow the plants of

both the cultivars to recover from the herbicidal stress.
【语种】英文
【第一作者】Z.L. Jin
【通讯作者】W.J. Zhou
【期刊名称、卷期、页码】Pesticide Biochemistry and Physiology,2010
【论文发表时间】2010-02-10 00:00:00
【引文索引类型】SCI
【引文索引号】doi:10.1016/j.pestbp.2010.04.002
【学科分类】植物学

【题目】Synthesis, Characterization, and Biological Activities of Novel (Z)-3-((E)-1-(Alkyloxyimino)Ethyl)-5-Arylidene-4-Hydroxypyrroline-2-One Derivatives
【中文关键词】无
【英文关键词】Synthesis, Characterization
【中文摘要】无
【英文摘要】Twenty-four novel tetramic acid derivatives (Z)-3-((E)-1-(alkyloxyimino)ethyl)-5-arylidene-4-hydrox-ypyrroline-2-ones 6a – x were synthesized by the reaction of (Z)-3-acetyl-5-arylidene-4-hydroxypyrroline-2-ones 4 with O-alkyl hydroxylamines 5 under re fl ux conditions in good yields (77.2 – 92.4%). Theirstructures were con fi rmed by IR,1H-NMR, MS, and elemental analysis. The preliminary bioassaysshowed that most of the title compounds exhibited noticeable fungicidal activities against Colletotri-chum orbiculare and a certain degree of fungicidal activities against Fusarium gramineaum and Rhizoc-tonia cerealis at a concentration 100 lg/mL.
【语种】英文
【第一作者】Zhao-Yong Zhu
【通讯作者】Chun-Long Yang
【期刊名称、卷期、页码】J. Heterocyclic Chem. 2010
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【引文索引类型】SCI
【引文索引号】DOI
【学科分类】有机化学

【题目】A Study on Dynamic Forecast Technique of Regional Rice Productivity
【中文关键词】no
【英文关键词】crop productivity; dynamic forecast; region; model; GIS
【中文摘要】no
【英文摘要】Dynamic forecast of crop productivity is critical for food security and decision-making of agriculture manager. Based on the Rice Cultivational Simulation- Optimization and Decision-making System (RCSODS) and aggregation methods on the model inputs, and combined normal year meteorological data and spatial interpolation technique of weather data, the dynamic forecast technique of regional rice productivity was discussed in this study. The model and the aggregation methods were validated with the experimental data from eight National agrometeorological stations located in Jiangsu province and statistical yields. Rice productivity of Jiangsu was forecasted dynamically with observed meteorological data and normal year weather data generated from the monthly meteorological data. The results showed the RMSEs of development stages and yields between simulated and observed values were 5.0 d and 1344kg/ha and the NRMSEs were 1.6% and 16.7% respectively, which indicated RCSODS could simulate the rice development process better and yield well. The RMSE and NRMSE between simulated and statistical county yields were 1081kg/ha and 13.2%, which showed the aggregation method on the meteorological data, soil attributes, variety and cultural method in county level was suitable to the regional application of rice model. The forecast yield would generally be equal to simulated yield with the delay of forecast time.
【语种】英文
【第一作者】石春林
【通讯作者】石春林
【期刊名称、卷期、页码】Proceedings of ISIP 2010

【论文发表时间】2010-11-12 00:00:00
【引文索引类型】EI
【引文索引号】P4621
【学科分类】农业基础学科

【题目】Synthesis, Characterization and Biological Activity of Novel (5-RS,6-S)-5-sec-butyl-3-(1-substituted-amino)ethylidene-1H-pyrrolidine-2,4-diones
【中文关键词】无
【英文关键词】Pyrrolidine-2,4-dione, tenuazonic acid, synthesis, crystal structure, biological activity
【中文摘要】无
【英文摘要】A series of novel tetramic acid derivatives, 5-sec-butyl-3-(1-substitutedamino)ethylidene-1H- pyrrolidine-2,4-diones 5a-y were synthesized by reaction with aryl amines or alkyl amines under reflux. Each title compound was formed as (5S,6S) and (5R,6S) C-5 epimers, and the structure of 5l was proved by X-ray diffraction analysis. Our preliminary bioassay results show the title compounds to exhibit some herbicidal activities and better antifungal activities than the leading compound tenuazonic acid at 100 mg L^{-1} in vitro, and the compound 5u displayed excellent herbicidal activity and antifungal activity.
【语种】英文
【第一作者】Xian-Feng Wang
【通讯作者】Chun-Long Yang
【期刊名称、卷期、页码】ARKIVOC 2010 (ii) 31-48
【论文发表时间】2010-02-02 00:00:00
【引文索引类型】SCI
【引文索引号】ISSN 1551-7012
【学科分类】有机化学

【题目】Nine Pathogenic Fungi of aterhyacinth(Eichhornia crassipes) Isolated in China
【中文关键词】无
【英文关键词】Waterhyacinth; Pathogenic fungi; DI; Virulence
【中文摘要】无
【英文摘要】The native pathogens of waterhyacinth in china, were studied and compared on pathogenicity by Koch ’s postulate. Nine pathogenic fungi, which are the isolates YBH, YBB, YB, YYX,YY, YBA1,YBA2, YBA3 and YYB12, were isolated from diseased Waterhyacinth plants, collected from Zhejiang province and Shanghai. According to cultural characteristics, the nine isolates were preliminarily identified. Isolates YBH and YBB were Collectotrichum sp., YB, YYX and YY were placed in Fungi Imperfecti, and the isolates YBA1, YBA2, YBA3 and YYB12 were Alternaria sp. The isolate YBH was the highly virulent with a disease index (DI) of 65.28% one month after inoculation. The isolate YBA3 was equily virulent, with the disease index of 67% 7 days after introduction. These two pathogens appear to have the potential as biocontrol agents and they deserve further study.
【语种】英文
【第一作者】Yi Ding
【通讯作者】Jian-jun Chu
【期刊名称、卷期、页码】上海交通大学学报 2008,13(5):617-622
【论文发表时间】2008-07-09 00:00:00
【引文索引类型】EI
【引文索引号】D
【学科分类】植物学

【题目】The allelopathy of Flaveria bidentis (L.) Kuntze, an invasive weed species.
【中文关键词】无
【英文关键词】Flaveria bidentis (L.) Kuntze, allelopathy,
herbicide activity
【中文摘要】无

【英文摘要】To identify the allelopathic effect of Flaveriabidentis (L.) Kuntze (F. bidenti) on other plants, the effectsof different extracts from F. bidentis on the growth of sev-eral plants were studied by bioassay. Results showed thatthe water extracts inhibited the growth of corn (Zea maysL.), wheat (Triticum aestivum L.), cotton (GassypiumHirsutum L.), soybean (Glycine hispida L.), peanut (Arachishypogaea L.), rice (Oryza sativa L.), crabgrass (Digitariasanguinalis L.) and rigweed (Amaranthus retroflexus L.),with the most reactive indexes found in root and stem ofcotton at 20.85 and 20.88, respectively, at a concentrationof 0.2 g?mL21. However, the water extracts accelerated thegrowth of rice. In addition, the reactive indexes of theextracts of petroleum ether chloroform, ethyl acetate, acetand alcohol were higher than that of the water extracts, andthat of the acet extracts was the highest. The melting pointof the refined acetone extract ranged from 192.5uCto193.5uC, and its maximum absorbing wavelength was220 nm. This extract was found to be herbicide-active andplayed an inhibitory role in the growth of crabgrass andrigweed at concentrations of 1000, 500, 100 and 50 mg?L21.the surrounding plants. Flaveria bidentis (L.) Kuntze,belonging to Flaveriinae-Asteraceae, was found in Heng-shui in Hebei Province and in Nankai University for thefirst time in 2003 (Gao et al., 2004). As of today, researcheshave been focused on its biological characteristics (Gaoet al., 2004; Li et al., 2006), but so far no research on theallelopathy of F. bidentis extracts has been published.Powell (1978) and Agnese et al. (1999) reported that sec-ondary metabolites of F. bidentis contained sulfated flavo-noids. According to Broussalis et al. (1999), its alcoholextract and chloroform extract were effective in killing wee-vil, and had an evident repellent effect on cotton bollworm.Li et al. (2006) reported that in the regions where F. bidentisfirst invaded, nearly pure communities of F. bidentisdeveloped, with the accompanying species only beingChinese Tamarisk (Tamarix chinensis Lour.) and Russianthistle (Salsola collina Pall.). Therefore, the allelopathy of F.bidentis was researched to know the effects of secondarymetabolites from F. bidentis on the growth of other plants,to search for pesticide-oriented compounds, and to providea theoretical and practical basis for the integrated control of the surrounding plants. Flaveria bidentis (L.) Kuntze,belonging to Flaveriinae-Asteraceae, was found in Heng-shui in Hebei Province and in Nankai University for thefirst time in 2003 (Gao et al., 2004). As of today, researcheshave been focused on its biological characteristics (Gaoet al., 2004; Li et al., 2006), but so far no research on theallelopathy of F. bidentis extracts has been published.Powell (1978) and Agnese et al. (1999) reported that sec-ondary metabolites of F. bidentis contained sulfated flavo-noids. According to Broussalis et al. (1999), its alcoholextract and chloroform extract were effective in killing wee-vil, and had an evident repellent effect on cotton bollworm.Li et al. (2006) reported that in the regions where F. bidentisfirst invaded, nearly pure communities of F. bidentisdeveloped, with the accompanying species only beingChinese Tamarisk (Tamarix chinensis Lour.) and Russianthistle (Salsola collina Pall.). Therefore, the allelopathy of F.bidentis was researched to know the effects of secondarymetabolites from F. bidentis on the growth of other plants,to search for pesticide-oriented compounds, and to providea theoretical and practical basis for the integrated control of the surrounding plants. Flaveria bidentis (L.) Kuntze,belonging to Flaveriinae-Asteraceae, was found in Heng-shui in Hebei Province and in Nankai University for thefirst time in 2003 (Gao et al., 2004). As of today, researcheshave been focused on its biological characteristics (Gaoet al., 2004; Li et al., 2006), but so far no research on theallelopathy of F. bidentis extracts has been published.Powell (1978) and Agnese et al. (1999) reported that sec-ondary metabolites of F. bidentis contained sulfated flavo-noids. According to Broussalis et al. (1999), its alcoholextract and chloroform extract were effective in killing wee-vil, and had an evident repellent effect on cotton bollworm.Li et al. (2006) reported that in the regions where F. bidentisfirst invaded, nearly pure communities of F. bidentisdeveloped, with the accompanying species only beingChinese Tamarisk (Tamarix chinensis Lour.) and Russianthistle (Salsola collina Pall.). Therefore, the allelopathy of F.bidentis was researched to know the effects of secondarymetabolites from F. bidentis on the growth of other plants,to search for pesticide-oriented compounds, and to providea theoretical and practical basis for the integrated control of

【语种】英文
【第一作者】Jiao XU
【通讯作者】Jinlin ZHANG
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【引文索引号】DOI 10.1007/s11703-008-0068-5
【学科分类】植物学

【题目】Isolation and screening of microorganisms capable of degrading nicosulfuron in water
【中文关键词】无
【英文关键词】nicosulfuron, microbial degradation, enrich-
ment culturing

【中文摘要】无

【英文摘要】Abstract In order to screen and isolate microorganismscapable of degrading nicosulfuron, five strains of microorganisms coded as YF1, YB1, YB2, YB3, and YB4 that cantake nicosulfuron as the only source of carbon, nitrogen,and energy were obtained by enrichment culture. Of the fivestrains, YF1 was a fungus and the others were bacteria. Allof the microorganisms were inoculated into the culturemedia with different concentrations of nicosulfuron andshaking culture was performed for 5 days at 30uCand150 r?min21. High Performance Liquid Chromatography(HPLC) was used to detect the concentration of nicosul-furon and calculate the degradation efficiency. The resultsshowed that the degradation rates of the five strains ofmicroorganisms were higher in low concentrations than inhigh concentrations of nicosulfuron. YF1 had the highestdegradation rate of 80.31%, followed by YB1 and YB2 withdegradation rates of 78.18% and 73.72%, respectively.However, YB3 and YB4 had lower degradation rates of36.82% and 25.75%, respectively. Upon primary identifica-tion of the three strains of microorganisms with higherdegradation rates, it was discovered that YF1 wasAspergillus niger, while YB1 and YB2 were Bacillus sp.

【语种】英文

【第一作者】Yajun YANG

【通讯作者】Jinlin ZHANG

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【学科分类】植物学

【题目】气候变化对福建省水稻生产的阶段性影响

【中文关键词】气候变化; 水稻生产; 模拟模型

【英文关键词】climate change,rice production,crop simulation model

【中文摘要】将福建省划分为3个水稻种植区, 选取19个样点, 采用近5年(2000--2004年)中逢单年份的产量进行CERES.Rice模型参数的调试, 逢双年份的产量用于检验模型在研究区域的适用性; 利用GISSGCMTransientRun的输出值生成了每个样点2030年及2050年的气候变化情景; 在各情景文件下运行CERES.Rice模型, 并将模拟结果与当前气候情景(BASE情景)下的模拟值进行比较, 再结合蒸散比(B)、产量波动系数(F)等指标, 定量评价了未来气候渐变过程对福建省水稻生产的影响; 在此基础上提出了适应气候渐变的若干可能对策。结果表明: 在未来气候变化过程中, 研究区域水稻生长季的土壤水分条件将变得不如目前湿润; 研究区域早稻及单季稻生育期都将不同程度的缩短, 后季稻2050年情景下有所延长; 闽东南及闽西北双季稻区产量在未来两种气候情景下均表现为减产, 且减产幅度随温度升高而加大。闽西北山地气候的单季稻区表现为增产; 当前闽东南水稻的稳产性最差, 闽西北双季稻区的稳产性较好。未来气候变化中水稻稳产性将变差; 未来两种气候情景下福建省水稻总产将随着温度的升高而减少。

【英文摘要】Fujian Province is divided into three paddy rice planting areas with 19 sampling points been chosen.In the past 5 years from 2000 to 2004,yielding on odd years has been used to commission the CERES-Rice module parameter while yielding on even years has been used to check the module'S adaptability in the research area.。Ie climate change of each sampling point in 2030 and 2050 has been generated referring to the output of GISS GCM Transient Run.CERES-Rice nodule hasbeen run under all situations.The spice stimulations has been compared with that of tIle current climate and together with transpiration ration(B)and fluctuation of grain yielding(,quantity analyzing is made to introduce the influence of gradual change ofclimate has Oil the production of rice in Fujian province;and based on this.certain possible solutions are forwarded.11he research shows that in the p~ess of climate change in the future,the soil during the growth~P.agon of the rice in the research area would be less moist.The production period of the early rice and single cropping rice would be shortened more or less while that of the late season rice would be prolonged in the climate situation of 2050.The yielding of double cropping rice in southeast and northwest FujiarI province would be lessened in both two climate situations in 2030 and 2050 with the production reduction rate increases when the temperature increases;and the yielding of single cropping rice in the mountainous areas of northwest Fujian province may enjoy a production enhancement.As for the stability of yielding,currently those in the southeast of Fujian province is the worst and in the double cropping area in northwest Fujian is better;,and the yieldin

g will be less stable in the future climate change.The total yield of rice in Fujian province will be decreased with the increase of temperature in both two future climate situations.
【语种】中文
【第一作者】江敏
【通讯作者】江敏
【期刊名称、卷期、页码】中国农学通报,2009,25(10):220—227
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【引文索引类型】其他
【引文索引号】null
【学科分类】农业基础学科

【题目】棉花航天诱变敏感材料的筛选机多态性分析
【中文关键词】棉花;航天诱变;突变体;农艺性状;多态性
【英文关键词】cotton;space mutation;mutant;agronomy characters;polymorphism
【中文摘要】利用“实践八号”育种卫星搭载棉花10个品种(系),对SP1代、SP2代进行了突变体的筛选、DNA分子标记检测和田间农艺性状调查,研究棉花不同材料对航天诱变的敏感性。其中7个材料对航天有一定的敏感性,其分子标记多态性高,田间农艺性状变化明显。结果表明,太空能够诱导棉花种子发生基因变异,航天诱变可作为棉花种质资源创新和品种选育的方法之一。
【英文摘要】Dry seeds of ten cotton varieties were carried by the Shijian-8 satellite for space mutation treatment. The SP1 and SP2 offspring of cotton varieties were used to screen mutants and analyze DNA molecular polymorphism and investigate the agronomic traits. The aim was to study sensitivity of cotton varieties under space mutation. The results showed that seven susceptivevarieties were confirmed and expressed high polymorphism and changed significantly on the agronomic traits. These results indicated that the outer space mutation would be an effective method to develop new cotton varieties.
【语种】中文
【第一作者】彭振
【通讯作者】宋美珍,喻树迅
【期刊名称、卷期、页码】棉花学报,Cotton Science 2010,22(4):312-318
【论文发表时间】2010-07-15 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农业基础学科

【题目】Mechanism of herbicidal action of the component I from Pythium aphanidermatum
【中文关键词】无
【英文关键词】Keywords Pythium aphanidermatum, herbicidal compo-
nent, herbicidal mechanism
【中文摘要】无
【英文摘要】The herbicidal mechanism of the componentsextracted from Pythium aphanidermatum was examined inthis study. Component I was isolated using the HPD500macroporous adsorption resin and HPLC. Its impact onseed germination and plant growth of weeds wasdetermined and the contents of MDA, superoxide anionradical, and the activities of hills and roots were examined.The root length of weed plants was inhibited underillumination while the stem height was inhibited evidentlyunder darkness. The relative electric conductivity ofDigitaria sanguinalis and Amaranthus retro fl exus underillumination was 94.55 μS$cm – 1and 58.75 μS · cm – 1,respectively, whereas that under darkness was85.25 μS · cm – 1and 36.25 μS · cm – 1, respectively. TheMDA contents of Digitaria sanguinalis and Chlorellapyrenoidosa were 0.08385 μmol$L – 1and 0.1742 μmol · L – 1under illumination, respectively, while those were0.0129 μmol · L – 1and 0.01935 μmol · L – 1under darkness,respectively. Simultaneously, superoxide anion radicalcontent was higher under illumination than under darkness.These results showed the photosynthesis was affected bycomponent I extracted from Pythium aphanidermatum.
【语种】英文
【第一作者】Jiao XU

【通讯作者】Jinlin ZHANG
【期刊名称、卷期、页码】Front. Agric. China 2009, 3(2): 171 – 177
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【引文索引类型】EI
【引文索引号】DOI 10.1007/s11703-009-0043-9
【学科分类】植物学

【题目】不同树脂对瓜果腐霉代谢产物中除草活性成分的吸附分析
【中文关键词】大孔吸附树脂;瓜果腐霉;吸附;除草活性
【英文关键词】无
【中文摘要】:利用 HPD400、HPD500、HPD600、HPD700、HPD850、ADS-17、D101、DM130 大孔吸附树脂对瓜果腐霉培养滤液中除草活性成分的吸附情况进行了研究, 通过对树脂吸附后的流出液和洗脱液的浓缩物进行HPLC检测分析,确定了其除草活性成分。实验发现,在所选择的8种树脂中以HPD500、HPD850、HPD600、ADS-17对除草活性成分的吸附能力最强,其中以HPD500 和 HPD600 树脂的 10%的乙醇洗脱液中除草活性成分含量最高。综合结果表明,以HPD500 树脂作为吸附瓜果腐霉培养滤液中除草活性成分的适宜树脂。研究发现,HPD500 树脂对除草活性成分吸附和解吸附的最佳条件是:吸附最适温度为 20°C,树脂吸附饱和度为33.75mL/g,较适宜吸附流速为 2BV/h,较适宜脱附流速为 1BV/h,洗脱剂浓度为 10%乙醇,洗脱剂用量为2.5BV。
【英文摘要】无
【语种】中文
【第一作者】徐 娇
【通讯作者】张金林
【期刊名称、卷期、页码】离子交换与吸附 2010, 26(2): 111~120
【论文发表时间】2010-02-02 00:00:00
【引文索引类型】EI
【引文索引号】:1001-5493(2010)02-0111-10
【学科分类】植物学

【题目】泥胡菜等8种草本植物提取物除草活性的生物测定
【中文关键词】草本植物; 提取物; 除草活性; 生物测定; 泥胡菜; 葎草
【英文关键词】herb; extracts ; herbicidal activity; bi oassay; Hem istepta lyrata Bunge; Hum u lus scandens (Lour .) Merr .
【中文摘要】采用顺序提取法制备了泥胡菜 (Hem istepta ly rata Bunge)等 8种草本植物全草的石油醚、 乙酸乙酯和乙醇提取物 ,并以高粱 (Sorghum vulgare Pers .)、 黄瓜 (Cucum is sativus L.)、 小麦 (Triticum aestivum L.)和油菜 (B rassicacam pestris L.)为供试对象 ,用种子萌发法对提取物的除草活性进行了生物测定。结果表明 ,所有提取物对 4种作物幼苗根和茎的生长均有一定的抑制作用 ,但抑制率有一定差异。泥胡菜和葎草〔Hum ulus scandens (Lour .) Merr .〕 的乙酸乙酯提取物对作物幼苗根和茎的抑制作用最强 ,抑制率随提取物浓度的提高逐渐增高 ,且对作物幼苗根生长的抑制强度高于茎。在低浓度 (12 . 5 g · L - 1)条件下 ,泥胡菜乙酸乙酯提取物对小麦幼苗根和茎生长的抑制作用最强;葎草乙酸乙酯提取物对高粱幼苗根的生长及油菜幼苗根和茎的生长抑制作用最强。研究结果显示 ,泥胡菜及葎草的乙酸乙酯提取物具有潜在的除草活性。
【英文摘要】The petroleum ether, ethyl acetate and ethanol extracts fr om eight herbs were extracted bysequential extracti on, and the herbicidal activity of these extracts were bi oassayed using the seedger minati on test of Sorghum vulgare Pers . , Cucum is sativus L. , Triticum aestivum L. and B rassicacam pestris L. The results show that these extracts can inhibit the gr owth of root and stem of seedlings ofthe four crop s, but the inhibiti on rate is different . The inhibiti on of ethyl acetate extracts from Hem isteptalyra ta Bunge and Hum ulus scandens (Lour .) Merr . is the str ongest, and the inhibiti on rate increasesgradually with concentrati on rising . The inhibit ory effect of ethyl acetate extracts fr om Hem istepta lyra taand Hum ulus scandens is str onger t o r oot gr owth than t o stem. Under a l ower concentrati on (12 . 5g · L - 1) , the inhibiti on of ethyl acetate extract from Hem istepta lyrata t o growth of r oot and stem of T .aestivum seedling is the strongest, and the inhibiti ons of ethyl acetate extract fr om Hum ulus scandens t or oot growth of S. vulgare seedling and gr owth of r oot and stem of B. cam pestris seedling als o reach thepeak . It is indicated that the ethyl acetate extracts from Hem istepta ly rata and Hum ulus scandens have apotential herbicidal activity .

【语种】中文
【第一作者】高兴祥
【通讯作者】李 美
【期刊名称、卷期、页码】植物资源与环境学报 2008, 17 (4) : 31 - 36
【论文发表时间】2008-09-03 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】植物学

【题目】链格孢菌毒素对莱茵藻光合电子传递的抑制及其作用位点
【中文关键词】链格袍菌毒素,
莱茵藻,
电子传递,
突变体,
光系统II
【英文关键词】null
【中文摘要】以野生型莱茵藻和其抗除草剂突变体为材料,检测链格袍菌毒素在光合电子传递链上的作用位点和模式的结果表明,此种毒素抑制QA至QB的电子传递,是光系统II抑制剂,其作用模式类似于苯酚类型的除草剂。
【英文摘要】无
【语种】中文
【第一作者】刘玉晓
【通讯作者】许晓明
【期刊名称、卷期、页码】植物生理学通讯 2007,43(3):448-452
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【引文索引号】null
【学科分类】植物学

【题目】外来入侵植物黄顶菊的化感作用初步研究
【中文关键词】黄顶菊; 化感作用; 除草活性
【英文关键词】Flaver ia bidentis (L.) Kuntze; allelopathy; herbicide act ivi ty
【中文摘要】为明确黄顶菊对其他植物的化感作用,利用黄顶菊茎叶的不同提取物对几种植物的生长影响进行了测定。结果表明,黄顶菊茎叶水提物对玉米、 小麦、 棉花、 大豆、 花生、 马唐和反枝苋都表现出了不同程度的抑制作用, 其中以对棉花的化感效应最强,在其浓度为 0 2 g/ mL 时,对根长和茎长的化感指数分别为- 0 85和- 0 88,而该水提物对水稻的生长则表现为促进作用。黄顶菊茎叶的石油醚、 氯仿、 乙酸乙酯、 丙酮和乙醇的提取物, 对几种植物的化感效应要高于水提物,其中以丙酮提取物的化感效应最强。利用重结晶法从黄顶菊茎叶的丙酮提取物中得到了一个具有除草活性的物质,该物质的熔点为 192 5 ~ 193 5 ,最大吸收波长为 220 nm,初步判断该化合物是一种碱性有机物,该物质在浓度为 1 000, 500, 100, 50 mg/ L 时,对马唐, 反枝苋生长均有抑制作用。
【英文摘要】To ident ify the al lelopathic ef fects of Flaveria bident is (L.) Kunt ze on other plants, theef fects of di f ferent ext ract s f rom F. bident is (L.) Kuntze on the grow th of several plant s w erestudied by bioas say. Result s show that w ater ex tracts inhibited the growth of corn, wheat, cotton,soybean, peanut, Digi tar ia sanguinal is L. and A mar anthus r etrof l ex us L. , especially cotton,w i th the reactive index to root and stem being - 0. 85 and - 0 88 at the concent rat ion 0 2 g/ mL.But the w ater ext ract s accelerated the growth of rice. In addit ion, the reactive index w as higher forthe ext racts of pet roleum ether chloroform, ethyl acetate, acetone and alcohole than that of thewater ext ract s, and that of the acetone ext ract s w as the highest . The refined acetone ex tract hasmelt ing point from 192 5 to 193 5 , and max imum absorbing wave leng th of 220 nm, herbicideactivi ty, and played inhibitory roles on the grow th of D . sanguinali s L and A . r etrof lex us L. atthe concent rat ion 1 000, 500, 100, and 50 mg/ L.
【语种】中文
【第一作者】许文超
【通讯作者】张金林

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【引文索引号】null
【学科分类】发育生物学

【题目】放线菌10885除草活性物质的分离鉴定
【中文关键词】除草剂; 微生物发酵; 分离提纯; 除草素
【英文关键词】herbicide; ferment; isolation identification; herbicidin
【中文摘要】: 雪白链霉菌SPRI-10885菌株的发酵代谢产物对多种阔叶杂草和禾本科杂草具有显著的除草活性, 通过溶剂萃取、 柱层析分离、 HPLC等手段, 从中分离得到5个主要活性物质。 经过质谱、 核磁共振等分析, 确定10885-Ⅰ分子质量为453、 分子式为C18H23N5O9、 10885-Ⅱ分子质量为535、 分子式为C23H29N5O10、 10885-Ⅲ分子质量为551、 分子式为C23H 29N 5O 11; 另外两个分子质量分别为254和270, 分子式分别为C 15H 10O4和C15H 10O5。综合各种谱图分析确定前3个化合物的结构分别与文献报道的除草素herbicidin B、 F、 A相同, 后两个与大豆异黄酮类物质三羟基异黄酮(genistein)、 黄豆甙原(daidzein)一致。
【英文摘要】The metabolites of Streptomyces niveus SPRI-10885 showed strong herbicidal activity against variousbroad-leaved and grass weed. With the help of solvents extraction, silica gel chromatograph and HPLC, five activecompounds were purified from the ferment broth. According to the MS and NMR spectra data, the molecular formulaof the compounds were confirmed as C18H23N5O9, C23H29N5O10, C23H29N5O11, C15H10O4, C15H10O5. Compared with theknown compounds in literatures and compounds database, the structures of 10885-Ⅰ, 10885-Ⅱ and 10885-Ⅲ wereas same as herbicidin B, herbicidin F and herbicidin A, the structures of 10885-Ⅳ and 10885-Ⅴ were confirmed asgenistein and daidzein.
【语种】中文
【第一作者】徐文平
【通讯作者】袁生
【期刊名称、卷期、页码】农药 2007, 46(12): 814-816
【论文发表时间】2007-12-07 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农业基础学科

【题目】水葫芦生防菌Cercodpora piaropi的病理学特性
【中文关键词】尾孢菌; C erco spora p iarop i ; 水葫芦; 病理学特性
【英文关键词】无
【中文摘要】尾孢菌属的 C ercosp ora p i arop i是一种有潜力开发成为防除水葫芦的生物除草剂的真菌。水葫芦原生叶片从被 C. p iarop i感染到完全死亡, 需要约 6周时间。C. p i arop i接种水葫芦的适宜孢子浓度为 105CFU /m , l适宜保湿时间为 24 h 。 30 时 C. p iarop i感染水葫芦的原生叶片病害严重度最高。除水葫芦和鸭舌草外, C. p iarop i对其他被测农作物和杂草均不产生病理作用, 表现出较强的专一性。
【英文摘要】无
【语种】中文
【第一作者】谭飞
【通讯作者】褚建君
【期刊名称、卷期、页码】杂草科学2007, 4: 6-9
【论文发表时间】2007-04-03 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】植物保护学

【题目】高温胁迫后的棉花花粉活力测定方法
【中文关键词】陆地棉;花粉;高温胁迫;花粉活力

【英文关键词】Gossypium hirsutum L.; pollen;high temperature stress;pollen viability
【中文摘要】以杂交棉南抗3号的父本南农R101为材料, 利用人工气候室, 设置日温/夜温分别为40°C /34°C (高温胁迫处理)和30°C/24°C (对照), 连续3 d处理初花期的棉花植株, 分别利用花粉原位萌发法、离体萌发法、联苯胺-甲萘酚染色法、I2-KI染色法等4种方法检测高温胁迫处理后的棉花花粉活力。结果表明, 花粉原位萌发法、离体萌发法、联苯胺-甲萘酚染色法、I2-KI染色法等4种方法均能有效测定30°C/24°C处理的花粉活力, 测定的花粉活力均在80%以上。与离体萌发法相比, 联苯胺-甲萘酚染色法、I2-KI染色法测定经过高温胁迫处理后的花粉活力值偏高。花粉原位萌发法能最真实、自然反映花粉在柱头上的萌发情况, 但是不能统计花粉萌发率。花粉离体萌发法简便、有效, 最适用于检测经过高温胁迫处理后的花粉活力。
【英文摘要】In this experiment, the male parent of hybrid cotton Nankang3(Gossypium hirsutum L.) was chosen as material. The cotton plants were stressed under high temperature 40°C/34°C(day /night), and temperature at 30°C/24°C(day /night) was set as control for three days. The pollen viability stressed under high temperature w as tested by four methods including in situ pollen germination, in vitro pollen germination, Benzidine- a -Naphthol staining and I2-KI staining. The four methods were suitable for measuring natural pollen (CK) viability which was above 80%. However, the results of the pollen viability stressed under high temperature and tested by Benzidine- a -Naphthol staining and I2-KI staining were higher, compared with in vitro pollen germination. In situ pollen germination reflected really and naturally pollen germination in the stigma, but the rate of pollen germination could not be obtained. The in vitro pollen germination method was optimal for testing the cotton viability stressed under high temperature.
【语种】中文
【第一作者】王苗苗
【通讯作者】唐灿明
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【学科分类】农业基础学科

【题目】链格孢菌毒素细交链孢菌酮酸在土壤中的降解研究
【中文关键词】链格孢菌毒素; 细交链孢菌酮酸; 土壤; 降解
【英文关键词】Alternaria alternata toxin; tenuazonic acid; soil; degradation
【中文摘要】细交链孢菌酮酸是病原真菌链格孢菌(Alternaria sp.)产生的主要毒素之一, 在霉变的粮食、 感病的植物和腐烂的水果中都能检测到, 其具有较强的动物毒性, 给食品安全带来一定的隐患。 分别在实验室和大田条件下对链格孢菌毒素细交链孢菌酮酸在土壤中的降解动态进行了观察。 结果表明, 在实验室条件下, 微生物对细交链孢菌酮酸在土壤中的降解影响较大, 光照的影响较弱, 不灭菌条件下, 其半衰期小于 10 d, 加药 10 d 时, 其降解率就大于 50%; 灭菌条件下, 其半衰期大于 30 d, 加药 40 d 时, 其降解率才超过 50%。土壤含水量的增加和土壤温度在一定范围内的升高可促进其降解, 土壤含水量为 12.5%~50%, 其半衰期为 11.38~5.14 d,加药 10 d 时其降解率为 38.98%~62.14%, 温度为 20~40 °C时, 其半衰期为 14.26~5.11 d, 加药 10 d 时其降解率为 36.94%~62.45%。田间研究表明, 细交链孢菌酮酸在自然条件下降解的半衰期约为 3.22 d, 20 d 后就可完全降解。 可认为细交链孢菌酮酸属于易降解类物质。
【英文摘要】Abstr act: Tenuazonic acid was an important mycotoxin from Alternaria alternata, toxic to animals. It was found in spoiled grains, diseasedplants and rotten fruit, as a hidden trouble in food safety. Degradation of tenuazonic acid in soil was investigated under laboratory and fieldconditions. The results showed that, under laboratory condition, the soil microorganisms obviously accelerated the degradation of tenuazonicacid, suggesting that microorganisms played an important role in degradation of tenuazonic acid. Sunlight also involved in degradation of ten-uazonic acid, but was not as important as microorganisms do. When the soil was not autoclaved, the T0.5 was less than 10 d, the degradationrate was larger than 50% only after 10 d treatments, when autoclaved, the T0.5 was more than 30 d, and the degradation rate was larger than50% after 40 d treatments. In addition, the increase of water contents and temperature of soil promoted the degradation of tenuazonic acid insoil, the T0.5 was 11.38~5.14 d when the water content of soil was 12.5%~50%, and the degradation rate was 38.98%~62.14% after 10 d treat-ments, the T0.5 was 14.26~5.11 d at 20~40 °C, and the degradation rate was 36.94%~62.45% respectively after 10 d treatments. The studiesunder field condition revealed that the half life of tenuazonic acid was only about 3.22 days, and the residual period was about 20 days in soil.
【语种】中文
【第一作者】周 兵
【通讯作者】强胜

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【学科分类】土壤学

【题目】链格孢菌毒素细交链孢菌酮酸对蚕豆根尖细胞微核和有丝分裂的影响
【中文关键词】细交链孢菌酮酸; 蚕豆根尖; 微核; 有丝分裂; 多核仁
【英文关键词】tenuazonic ac i d ; Vici a faba root ti p ; m i cronucleus ; ka ryoki nesis ; m ulti nucleo l us
【中文摘要】利用蚕豆根尖为材料,研究了链格孢菌毒素细交链孢菌酮酸对细胞微核和有丝分裂的影响, 以评价其细胞遗传毒性.结果表明, 当浓度为 12 5~ 50 g /mL时, 细交链孢菌酮酸对蚕豆根尖细胞微核率和有丝分裂指数不产生显著影响,微核率低于 3 ,有丝分裂指数超过 9 5%.浓度升高到 100~ 400 g /mL时, 细交链孢菌酮酸使蚕豆根尖细胞微核率显著升高,有丝分裂指数显著下降, 其中, 400 g /mL时, 微核率高达 36 01 , 有丝分裂指数仅为 1 90%. 当细交链孢菌酮酸浓度为 12 5~ 100 g /mL时,与对照相比, 蚕豆根尖细胞多核仁率无显著差异, 多核仁率低于 3 ;浓度升高到 200~ 400 g /mL时,细胞多核仁率显著升高, 400 g /mL时, 多核仁率高达 26 10 . 图 4表 1参 25
【英文摘要】E ffect of tenuazonic ac i d on m icronuc l eus and karyok i nesis of Vicia faba roo t ti p ce lls w as investi ga ted to eva l uate itscy togenetic tox icity . The results i ndicated t hat when its concentration was 12 5~ 50 g /mL, no s i gnificant e ffect of tenuazon i cacid on m icronuc l eus ratio and karyok i nesis i ndex w as f ound com pared w it h contro, l t he m icronucleus rati o w as l ess t han 3 and karyok i nesis i ndex was m ore t han 9 . 5 %. H owever , as t he concentrati on increased to 100~ 400 g /mL, t hem icronuc l eusrati o si gnificantly rose , w hil e t he karyok i nes i s i ndex si gn ifican tly decreased . At 400 g /mL, the m icronuc leus rati o was 36 .01 and karyok i nes i s i ndex was only 1 . 90%. Them ulti nucleo l us rati o was s i gnificantl y enhanced at the concentration 200 ~400 g /mL , and the rati o a t 400 g /mL w as 26 10 . F i g 4 , Tab 1 , Re f 25
【语种】中文
【第一作者】周 兵
【通讯作者】强胜
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【学科分类】细胞生物学

【题目】麦根腐平脐蠕孢及薏苡平脐蠕孢防治稻田稗草的生物活性和安全性研究
【中文关键词】麦根腐平脐蠕孢;薏苡平脐蠕孢;稗草;生物防治
【英文关键词】Bi polaris sorokiniana;Bipolaris coicis;Echinochloa crus—galli;rice(Oryza sativa);bio logical contro
【中文摘要】:对分离 自云南昆明感病稗草[Echinochloa crus—galli(L.)Beauv.]上的病原真菌麦根腐平脐蠕孢(Bipolaris SO— rokiniana)和薏苡平脐蠕孢(Bipolaris coicis)开展 了防治稗草潜力的评价。结果显示,B.sorokiniana和B.coicis两菌株培养 5 d的发酵原液对稗草根长和芽长均有很高的抑制作用,根长最高抑制率分别为 99.59 和95.78 ,芽长最高抑制率分别 为91.14 和82.13 。两菌株对稗草离体叶片致病性的室内试验表明,菌丝体悬浮液处理 5 d后稗草叶片病情指数最高可 达i00 。两菌株对稗草植株防效的温室试验表明,菌丝体悬浮液处理稗草 7 d后植株下部叶片出现萎蔫症状、 脱落及死 亡,处理 21 d后稗草最高死亡率达到 82.67 和8O.00 。菌株对作物的安全性试验表明,麦根腐平脐蠕孢对作物的安全性 显著高于薏苡平脐蠕孢。作为生防潜力菌株,麦根腐平脐蠕孢具有更大的应用潜力。
【英文摘要】Isolates of Bipolaris sorokiniana and B.coicis from diseased barnyardgrass(Echino chloa crus—galli)plants in Kunming,Yunnan Province were evaluated for their potentials agai nst barnyardgrass as biocontrol agent.The results of bio— assay showed that the 5-day cultu re filtrates of the two strains had high inhibitory activity to the growth of barnyardgrass, with the inhibitory rates of 99.59 and 95.78 on roots,91.14 and 82.13 on buds,respectively.And the barnyard— grass treated with mycelium suspension of the two strains showed i00 disease in cidence in the laboratory experiment.In greenhouse,the barnyardgrass plants showed the def

oliating of leaves,the wilting of shoots and the death of plants after 7 days treatment by the myceliumsuspension fromthe two strains,and the mortality rate added up to 82.67 for B. sorokiniana and 80.00 for B.coicis respectively at 21 days after treatment.In addition,the crop safety test showed that B. sorokinina was safer to major crops than B.soicis and had a better application prospect as bio—agent.

【语种】中文

【第一作者】耿锐梅

【通讯作者】余柳青

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【学科分类】植物保护学

【题目】放线菌SPRI-70014杀草成分的研究

【中文关键词】放线菌; 次级代谢物; 乙酰胺; 杀草活性

【英文关键词】Act inomycete; Seco ndary metabolites; Acetamide; Herbicidal act ivity

【中文摘要】一株来源于江西土壤代号为 SPRI- 70014 的放线菌发酵产物具有很强的杀草活性, 本文采用溶剂萃取、 硅胶柱层析及制备HPLC 等手段对该菌株发酵产物的活性组分进行了活性跟踪分离,得到纯度大于98%化合物纯品,通过理化性质及波谱学分析, 鉴定其结构为2-[2- (3, 5 二甲基-2-氧-环己基) -6-氧-四氢吡喃-4-基] -乙酰胺。并用除草剂生测标准化操作法(SOP)初步评价了该化合物除草活性。

【英文摘要】ABSTRACT T o ex plore the her bicidal active component in fermentat ion of a soil act inomycete SPRI-70014, a compound w as isolated and purif ied by using solvent ext ract io n, silica gel co lumn chr omatogr aphy andpr eparativ e HPLC. T he separat ion procedure w as t raced by herbicidal act iv ity . By means of phy sico- chemicalpr opert ies and spectr al analyses, the st ructure of the compound was determined as: 2- [2- (3, 5- Dimethy l- 2- ox o-cy clo hex yl) - 6- oxo- tet rahydr o- py ran- 4yl] - acetamide. The her bicidal act ivity o f the compound w as assay ed bySOP method.

【语种】中文

【第一作者】顾学斌

【通讯作者】陶黎明

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【学科分类】微生物学

【题目】三个棉花雄性不育株花药发育过程的研究

【中文关键词】辐射诱变;雄性不育;花药;陆地棉

【英文关键词】irradiation-induced mutation;male-sterile;anther;upland cotton

【中文摘要】利用20 Gy的60Co射线对陆地棉品种苏棉22 号的花粉进行辐照处理, 处理后的花粉给雌蕊授粉, 并收获种子。从M1 群体中选取3 个雄性不育株, 采用石蜡切片技术对花药发育过程进行研究。通过与对照比较, 3 个雄性不育株各个时期的败育特征有一定差异, 但它们的主要败育特征是一致的: 从小孢子母细胞时期至小孢子发育阶段都有败育, 小孢子母细胞、绒毡层和中层细胞以及花药的形态都受到不同程度的影响, 包括小孢子母细胞有微核及双核现象、减数分裂阶段小孢子母细胞的细胞质膨胀、绒毡层及中层细胞异常等。

【英文摘要】Pollens of Sumian 22 were irradiated by 60Co -rays at a dose of 20 Gy, then fertilized to pistil and harvested seed. Three male-sterile lines were selected from M1 plants, their anther observed by paraffin slice technique. Although there were some different characteristics during the abortion anther development, the abortion was consistent: the abortion stage from the development periods of pollen mother cells to microspore, pollen mother cells, tapetum, middle layer cells and the shape of anther were affected, the results contained micronucleus and double nucleus, cytoplasm expansion during the period of meiosis, tapetum and middle layer cells and so on were abnormal.

【语种】中文
【第一作者】豆丽萍
【通讯作者】唐灿明
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【学科分类】农业基础学科

【题目】6位取代的-2-甲基-3-乙氧羰基-4-喹啉酮类化合物的微波合成及晶体结构
【中文关键词】2-甲基-3-乙氧羰基-4-喹啉酮 微波合成 晶体结构
【英文关键词】2-Methyl-3-carbethoxy -4-quinolinones , Microwave synthesis , Crystal structure
【中文摘要】用微波技术在无溶剂条件下合成了 4 个 62位取代的 22甲基232乙氧羰基242喹啉酮类化合物 ,其结构经红外光谱和元素分析表征 ,并用 X 2射线衍射法测定了取代基为甲氧基的标题化合物的晶体结构 ,其晶体属单斜晶系 , P21Pn空间群 , a = 0167780(14) nm , b = 0168990(14) nm , c = 217329 (6) nm , β = 92134 (3) ° , V =112769 (5) nm3, Z = 4 , Mr = 261127 , Dc = 11359gP cm3, μ = 01100mm- 1, S = 11097 , F(000) = 552 , 最终偏离因子为 R1 = 01087 ,wR2 = 01200。分子间氢键N—H⋯O和π 2 π堆积作用使该化合物分子形成稳定的三维结构。
【英文摘要】Four 62Substituted 22methyl232carbethoxy 242quinolinones were synthesized by microwave technology withoutsupported solvent . They had been characteized by IR and elemental analysis. The crystal structure of the titled compoundwith 62methoxy was determined by single 2crystal X 2ray diffraction , the crystal belongs to monoclinic system , space groupP21Pn with a = 0167780(14) nm , b = 0168990(14) nm , c = 217329 (6) nm , β = 92134 (3) ° , V = 112769 (5) nm3, Z= 4 , Mr = 261127 , Dc = 11359gP cm3, μ = 01100mm- 1, S = 11097 , F(000) = 552 , the final R1 = 01087 and wR2 =012001 It forms a steady three2dimension structure through the intermolecular hydrogen bond N—H⋯ O and the π 2 π stackinginteractions.
【语种】中文
【第一作者】张培
【通讯作者】杨春龙
【期刊名称、卷期、页码】化学通报 2008, 71(4), 313-316
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【学科分类】无机化学

【题目】树脂吸附法分离瓜果腐霉毒素除草活性物质
【中文关键词】瓜果腐霉病菌, 除草活性, 树脂柱层析
【英文关键词】Pythium aphanidermatum, Herbicidal activity, Colophony
【中文摘要】本试验以对禾本科杂草具有除草活性的瓜果腐霉菌株 PAM1 为试验材料, 研究了 X-5、AB-8、H-103 和 S-8 等 4 种大孔吸附树脂对其除草活性物质的吸附性能, 结果表明 X-5 树脂能够较好地吸附该除草活性物质。选用 50%乙醇、95%乙醇、乙酸乙酯和丙酮 4 种溶剂为供试洗脱溶剂, 采用 2 种洗脱方案, 对其最佳洗脱溶剂进行了选择, 生长抑制作用和种子萌发试验结果表明, 以方案 1 洗脱为最佳。
【英文摘要】Four kinds of colophony were used to isolate the herbicidal substance from the toxin produced by isolate PAM1 of Pythium aphanidermatum, which had herbicidal activity to Digtaria sanguinealis L and the results showed X-5 was the best one for absorbing herbicidal substance among the four kinds of colophony used. Four solvents including 50% ethanol, 95% ethanol, ethyl acetate and acetone were used as eluting sol-vent and 2 procedures were tested, and the results of growth inhibition and seed germination indicated that the best eluting procedure was procedure 1.
【语种】中文
【第一作者】张利辉
【通讯作者】董金皋
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【学科分类】微生物学

【题目】ALA提高丙酯草醚胁迫下油菜幼苗耐性研究
【中文关键词】油菜; 丙酯草醚; 5 一 氨基 乙酰丙酸; 光合作用; 抗氧化酶
【英文关键词】null
【中文摘要】: 对油菜幼苗叶面喷施不同浓度的丙酯草醚(z J 0 2 7 3) 和 5 一 氨基 乙酰 丙酸(A L A) , 研究 了 A L A与丙 酯草醚协同处理对苗期 的油菜是否安全。结果表 明, 丙酯草醚随浓度从 1 0 0~1 0 0 0 m g / L变化 , 逐渐抑制 油菜幼苗生长, 鲜重减少, 净光合速率和叶绿素含量降低 ; 过氧化物酶(P O D) 、 超氧化物歧化酶 (S O D) 和 抗坏血酸过氧化物酶(A P X) 活性下降, 丙二醛(MD A) 积 累提 高。而 1 0~1 0 0 m g / L的 A L A则促进油菜幼 苗生长, 增加植株的鲜重 、 净光合速 率并提 高了叶绿素含 量, P O D 、 S O D和 A P X酶 活性均 比对照显著提 高, MD A积累减少; 5 0 0 m g / L的 A L A效果相反, 表现为抑制 作物 生长。 1 0 0 m g / L A L A和不 同浓度 的丙酯 草醚协 同处理, 油菜幼苗均比对照生长的更好 , 鲜重增加 , 净光合速率提 高, 抗氧化酶活性增加, M D A积 累减少。 因此, A L A可以提高油菜幼苗在除草剂丙酯草醚胁迫下的耐性。
【英文摘要】无
【语种】中文
【第一作者】张文芳
【通讯作者】周未解决
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【学科分类】农学其他学科

【题目】水花生病原菌 — 蕉斑镰刀菌菌株的筛选及其致病性测定
【中文关键词】水花生; 蕉斑镰刀菌; 致病性; 寄主专化性
【英文关键词】Alte rnanthe ra philo xeroides; Fusarium stove ri ; pathogenici ty; hos t range
【中文摘要】蕉斑镰刀菌 Fusarium stoveri 是从自然界水花生植株上分离的、 可致水花生表现萎蔫、 地上茎腐烂、 叶片上呈现褐色斑或黄化的生防真菌。室内研究表明,蕉斑镰刀菌菌丝生长和产孢的适宜温度范围在25~ 28 , 多数菌株的最适温度为28 ; 菌株间的产孢量有较大差异。在供试菌株中, 32 6 菌株的产孢量最大; 供试的9 个蕉斑镰刀菌菌株对水花生均有较强的致病力,但菌株间的致病力有所差异。根据菌株的生长速率、 产孢量和致病力等因素,菌株32 6 被选为水花生生防菌的优选菌株。采用生产上常见农作物、 蔬菜、 经济作物及物候上与水花生一致的杂草等42 种植物对菌株32 6 进行寄主专化性测定, 结果表明,蕉斑镰刀菌菌株 32 6 具有高度的寄主专化性, 只对水花生表现出较强的致病性, 对其他植物均不致病。
【英文摘要】Several potential fungal bioherbicidal st rains of Fusarium stove ri causing the leaves wi ther,brown or etiolation and stems rot were isolated from the nat ive Alte rnanthe ra phi loxe roides . The resul ts re vealed the temperature for mycelial growth and conidia production was wi thin range of 25- 28 wi th op timum at 28 . Great di fference c onidial production and pathogenicity e xis ted among the nine isolatesStrain 32 6 displayed the bes t conidial production, and was selected as the potential bioherbicidal candi date based on the mycelial growth rate, conidial production and pathogenici ty to Alte rnanthe ra phi loxe roides. The resul ts of host range tes ts of the strain 32 6 indicated that the pathogen didn! t infect the 42tested agricul tural crop and weed species.
【语种】中文
【第一作者】庄义庆
【通讯作者】庄义庆
【期刊名称、卷期、页码】中国生物防治 2008, 24 (3) : 262- 266
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【引文索引类型】其他
【引文索引号】null
【学科分类】微生物学

【题目】蕉斑镰刀菌菌株32-6产孢条件研究
【中文关键词】蕉斑镰刀菌; 水花生; 生物防治; 产孢条件
【英文关键词】Fu sar i um stoveri ; Alternant hera ph ilox eroides ; bi o log i ca l contro; l cond iti on of spore production
【中文摘要】通过液体摇瓶及固体浅盘产孢试验, 比较了蕉斑镰刀菌 32　6菌株在不同液体培养基中的产孢量, 同时以绿豆汤和廉价固体基质 (麦麸与米糠) 分别作为液体和固体发酵基质, 确定了发酵所需的参数。结果表明, 绿豆汤培养基液体摇瓶产孢条件为 28　、初始 pH 8　0、初始接种量体积分数为 1% (每 mL母液 1　106个孢子)、培养 5 d时, 产孢量最大;固体浅盘产孢条件为 28　、初始 p H 8　0、初始接种量质量体积比为 50 1 (g! mL- 1) (每 mL母液 1　106个孢子)、麦麸与米糠的质量比为 5　41 1、基质含水量在 63% ~ 65%、培养 9 d时, 产孢量达最大值。
【英文摘要】Abstrac: t To produce a larg e quantity of spore , th i s st udy w as a i m ed a t discovering spore product conditi on o f the cheap m ate rialli qu i d med i um and so lid m ed i um. B ased on spo re produc tion under d ifferent conditi ons (m ed i a , te m perature , i nitial pH and ini　ti a l i no cu l um concentrati on), an opti m um spo re producti ve condition fo rmung bean m edi um (MBM) w as 28　, initial p H 8　0 ,5 d and 1% (V /V) i n iti a l i nocu l um (1　106mL- 1). Furt her m o re , t he opti m um spore productive cond itions for so li d m ed i umw as 84　4% w hea t bran , 15　6 % r i ce bran , initial w ater content o f 63%　65%, temperature 28　, i n iti a l pH 8　0 , 9 d , upon50 1 (g /mL) i nitial i nocu l um (1　106mL- 1) .
【语种】中文
【第一作者】庄义庆
【通讯作者】庄义庆
【期刊名称、卷期、页码】南京农业大学学报 2008, 31 (4) : 77-81
【论文发表时间】2008-08-13 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】微生物学

【题目】马唐致病菌株Mds0404生物学特性的研究
【中文关键词】马唐;生物除草剂;弯孢;生物学特性
【英文关键词】Digitaria sanguinaris ; bioherbicide ; Curvularia sp. ;biological characteristics
【中文摘要】研究了影响马唐生防菌弯孢霉 Mds0404 菌株营养生长、 孢子萌发及孢子形成的因子。结果表明 ,该菌在 PSA培养基上生长最好 ,在 PDA培养基上产孢最多;在10~40°C 均可生长 ,最适生长温度为25~32°C;在20~32°C 均可产孢 ,最适产孢温度为25~28°C;pH为5时生长最快 ,pH为8时产孢量最大;在以蔗糖为碳源、硝酸钾为氮源的 Czapek培养基上生长与产孢均较好;加膜 25 cm紫光灯 12 h间隔光照产孢最丰富。分生孢子萌发的温度为10~40°C,最适为25~40°C,失活温度为55°C。黑暗有利于孢子的萌发。16 min近距离紫外光照射萌发率仍保持在50 %以上。
【英文摘要】:Factors in fluenced vegetative growth , conidial germination and sporulation of strain Mds0404 of Curvularia sp. ,which was a biological control agent for crabgrass (Digitaria sanguinaris) , had been primarily studied. PSA was the bestmedium for growth of pathogenic strain and PDA was the best for sporulation. The ranges of temperature for myceliumgrowth was 10 - 40°C,the optimumwas 25 - 32°C. The range of temperature for fungus sporulation was 20 - 32°C, the op2timum at 25 - 28°C. The optimum pH for mycelia growth and for the amount of spores produced was pH 5 and pH 8 ,re2spectively. The fungus grew and spored better in Czapek mediumwith sugar as carbon s ource and K NO3 as nitrogen s ource.The amount of spore produced most when the medium was lighted under purple lamp covered with membrane away from 25cm at 12 hours interval . The range of temperature for conidial germination was 10 - 40°C, the optimum at 25 - 40°C, thetemperature of deactivation was 55°C. Darkness was fav or of conidial germination. The percentage of spore germination wasstill over 50 % under UV2light irradiation for 16 minutes.
【语种】中文
【第一作者】邱海萍
【通讯作者】孙国昌
【期刊名称、卷期、页码】浙江农业学报 2008,20(3): 163-167
【论文发表时间】2008-09-09 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】微生物学

【题目】除草微生物禾长蠕孢菌的紫外诱变改良
【中文关键词】禾长蠕孢ＨＧＥ; 紫外诱变; 突变菌株 M3 ; ＩＬＭ～Ｄ。 ＰＣＲ分析
【英文关键词】null
【中文摘要】: 为进一步提高稗草生防潜力菌ＨＧＥ的杀草活性, 本文采用紫外诱变的方法对该菌种进行改良。结 果表明: 经筛选获得 2 株产孢量提高的突变菌株 M3 和Ｍ７。其中Ｍ３在培养１４ ｄ后的产孢量比出发菌株ＨＧＥ 提高了２１.３%, 对稗草株高、 植株鲜重和干重的抑制率分别提高了２０.９%,１２.０%和２４.７%。作物安全性试 验发现Ｍ３对水稻等 6 种作物安全。ＲＡＰＤ—ＰＣＲ结果显示, 突变菌株Ｍ３的遗传物质已经发生了改变。
【英文摘要】无
【语种】中文
【第一作者】张建萍
【通讯作者】余柳青
【期刊名称、卷期、页码】浙江农业学报 2008,20(5): 372-378
【论文发表时间】2008-10-08 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】微生物学

【题目】稻平脐蠕孢的分离、鉴定及对作物的安全性
【中文关键词】稻平脐孺孢; 稻平脐孺孢有性型; 分子鉴定 ; 李氏禾; 生物防治; 作物安全性
【英文关键词】null
【中文摘要】为了筛选获得可用于防治李氏禾的病原菌菌株, 采用孢子形态观察和ＩＴＳ１—５.８Ｓ-ｒｌＳ２序列分析法对 分离 自云南西双版纳稻田感病李氏禾植株上的两株病原真菌菌株进行了鉴定 , 采用离体叶片生测法评价其 除草活性 , 采用盆栽生测法评价其对主要作物的安全性。结果表明, 两株病原真菌分别被鉴定为稻平脐蠕孢 (Ｂｉｐｏｌａｒｉｓ ｏｒｙｚａｅ) 和稻平脐蠕孢有性型[Ｂｉｐｏｌａｒｉｓ ｏｒｙｚａｅ(ｔｅｌｅｏｍｏｒｐｈ:Ｃｏｃｈｌｉｏｂｏｌｕｓ ｍｉｙａｂｅａｎｕｓ)]。 稻平脐蠕孢发 酵液对李氏禾的致病性最高为８８.９%; 稻平脐蠕孢有性型发酵液配制的菌悬液对李氏禾的致病性最高为１００%。两个菌株对水稻、 玉米、 黄瓜及番茄等主要农作物安全。
【英文摘要】无
【语种】中文
【第一作者】耿锐梅
【通讯作者】余柳青
【期刊名称、卷期、页码】浙江农业学报 2008,20(6):446-450
【论文发表时间】2008-06-27 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】微生物学

【题目】应用16S rDNA-RFLP方法分析宁夏地区稻田土壤细菌的多样性
【中文关键词】水稻田, 土壤细菌多样性, 16S rDNA克隆文库, RFLP分析
【英文关键词】paddy rice field, bacterial diversity, 16S rDNA, RFLP analysis
【中文摘要】水稻是宁夏地区主要粮食作物, 水稻种植也具有维持生态系统平衡, 防止土地荒漠化等重要的生态功能。而稻田土壤细菌是维持土壤生态功能的基础。但长期以来缺乏对干旱地区稻田土壤细菌多样性的认识。本研究采用非培养技术提取稻田土壤样品总DNA, 构建其16S rDNA克隆文库, 用PCR-RFLP分析进一步测序后聚类分析细菌群落的多样性。从稻田土样中分离获得了大于23 kb的DNA片段。PCR-RFLP共得到74种酶切带型, 序列分析发现77.3%的克隆序列与环境中未培养细菌的16S rDNA序列有较高的相似性, 仅有22.7%的克隆序列与数据库中可培养细菌有较高的相似性, 表明宁夏稻区土壤中的多数细菌尚未培养。系统发育研究发现74个序列分属于12个类群, 其中变形细菌所占比例最大(37.8%), 依次为酸杆菌(16.2%)、 放线菌(12.2%)、 拟杆菌(10.8%)、 绿屈挠菌(10.8%)、浮游霉菌(8.1%), 另外有少量厚壁菌门、芽单胞菌门和疣微菌门细菌克隆。在变形细菌的序列中包括α、 β、 γ和δ 4个类型, 比例分别为13.5%、5.4%、12.2%和6.8%。表明宁夏稻区土壤中优势细菌类群为变形杆菌和酸杆菌, 且土壤细菌类群具有丰富的多样性。
【英文摘要】Rice is one of the most important crops in the Ningxia region of China, and rice planting helps to maintain ecosystem balance and prevent land desertification. Soil microbial diversity provides basic func-tions for rice field soil ecosystems. To better

understand bacterial diversity and community composition in Ningxia paddy soil, the total bacterial DNA was extracted from paddy soil collected from a typical rice field of Ningxia using the culture independent method. A 16S ribosomal DNA (16S rDNA) clone library of soil bacteria was constructed. The 16S rDNA fragments were analyzed by PCR-RFLP. Further sequencing and cluster analysis were conducted to elucidate the bacterial diversity. Over 23 kb DNA fragments were obtained from the paddy soil and 74 MspI restriction endonuclease types were detected by PCR-RFLP analysis. Se-quence analysis revealed that 77.3% of clone sequences were similar to those of uncultured bacteria in the environment, while only 22.7% clone sequences were most closely related to those of cultured bacteria in GenBank, suggesting great potential for undeveloped bacterial resources was available in paddy fields. Our phylogenetic analysis found that the sequenced clones fell into 12 major lineages within the domain bacteria. Among them, members of the Proteobacteria were the dominant group, accounting for 37.8%, including α-Proteobacteria (13.5%), γ-Proteobacteria (12.2%), δ-Proteobacteria (6.8%) and β-Proteobacteria (5.4%), followed by Acidobacteria, Actinobacteria, Bacteroidetes, Chloroflexi and Planctomycetes division with 16.2%, 12.2%, 10.8%, 10.8%, 8.1%, respectively. Firmicutes, Gemmatimonadetes, and Verrucomicrobia were less well represented. Our study revealed an extensive diversity of soil bacteria in a paddy field in Ningxia.

【语种】中文
【第一作者】张建萍
【通讯作者】余柳青
【期刊名称、卷期、页码】生物多样性 2008, 16 (6): 586 – 592
【论文发表时间】2008-06-27 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】微生物学

【题目】利用HPLC法测定链格孢菌培养液中细交链孢菌酮酸的含量
【中文关键词】细交链孢菌酮酸; 高效液相色谱; 紫外检测
【英文关键词】null
【中文摘要】改进了一种利用反相高效液相色谱检测链格孢菌菌液中细交链孢菌酮酸的方法。样品经过大孔树脂和硅胶处理之后进行检测,色谱柱为 ODS- C 18 反相柱, 流动相为 100 %甲醇, 流速为 0 . 4 m l/m i n ,检测波长为 280 nm。选用外标法进行定量。细交链孢菌酮酸标准品峰面积的自然对数与其相应浓度的自然对数呈良好的线性关系,方法检测精密度 RSD为 0 . 44 %, 回收率大于 95%,细交链孢菌酮酸的出峰时间在 6 m i n左右。检测细交链格孢菌培养液中细交链孢菌酮酸的平均含量为 1 . 739 5 g /m l。
【英文摘要】无
【语种】中文
【第一作者】魏冉
【通讯作者】强胜
【期刊名称、卷期、页码】江苏农业科学 2009, 6: 413-145
【论文发表时间】2009-03-11 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】有机化学

【题目】陆地棉航天诱变效应研究
【中文关键词】航天诱变;变异;遗传
【英文关键词】Space-flight mutation;variation;heredity
【中文摘要】陆地棉棉种经航天诱变后, 其后代能产生明显的变异, 变异主要表现为育性的改变, 棉株高度的变化, 果枝始节的上升, 衣分的提高, 还有生育期、结铃性、铃重变化等。
【英文摘要】Upland cotton was induced by space flight , its offspring showed significant variations, which mainly expressed these: changes in fertility and plant height , beginning joint of boll- bearing branch rose, increaing lint percentage, changes in growing stage, characteristics of setting boll and boll weight and so on.
【语种】中文
【第一作者】崔必波

【通讯作者】彭亚民
【期刊名称、卷期、页码】江西棉花,2009,31(4):13-16
【论文发表时间】2009-08-01 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农业基础学科

【题目】放线菌SPRI-709084次级代谢产物的提取分离及结构鉴定
【中文关键词】代谢产物;分离; 鉴定;吲哚霉素
【英文关键词】null
【中文摘要】从青海省高原地区的土壤里筛选出一株能够产生除草活性物质的放线菌 SPRI 709084, 发酵液经过溶剂萃取、 柱层析、 薄层层析、 高效液相色谱等过程分离纯化得到一种具有除草活性的化合物, 命名为 SPRI 709084A,该化合物在低浓度下可使杂草黄化, 高浓度时可抑制种子发芽。经过质谱及核磁共振等分析确定: 分子量为 257、 分子式为C14H15N3O2、 结构与已知化合物吲哚霉素相同。
【英文摘要】无
【语种】中文
【第一作者】周瑜
【通讯作者】陶黎明
【期刊名称、卷期、页码】化学与生物工程 2009,26(6): 66-68
【论文发表时间】2009-03-11 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】微生物学

【题目】苍耳对不同植物幼苗的化感作用研究
【中文关键词】苍耳; 化感效应; 种子萌发; 幼苗生长
【英文关键词】null
【中文摘要】在室内采用离体生物测定法, 测定了苍耳水浸提物对小麦、 高粱、 黄瓜、 油菜和萝卜的化感效应。结果表明,苍耳水浸提液对5种植物种子的萌发和生长均有较强的抑制作用, 且相同浓度处理时, 对胚根的生长抑制作用高于对胚芽的抑制作用。5种受体植物中, 以油菜最为敏感, 其次为萝卜。本研究还通过测定化感物质对植物光合作用的影响及MDA含量的变化, 初步探讨了苍耳化感物质的作用特征。在0. 0 2 5g / mL浓度下, 苍耳对去胚乳小麦幼芽、 幼根的抑制率分别为5 8. 3 3%和6 7. 3 1%; 同样浓度下, 苍耳对黑暗条件下培养的高粱幼芽、 幼根的抑制率分别为5. 5 8%和3 2. 3 4%; 可以看出, 苍耳对植物光合作用的影响明显高于对非光合作用的影响。化感物质处理后黄瓜和萝卜幼苗 MDA含量均高于未加化感物质的对照处理, 且化感物质浓度越高 MDA含量越高。由此可以看出, 苍耳对植物的化感作用与抑制植物的光合作用并使植物的 MDA含量升高有关, 对植物的非光合作用亦有不同程度的影响。
【英文摘要】无
【语种】中文
【第一作者】高兴祥
【通讯作者】李美
【期刊名称、卷期、页码】草业学报 2009,18(2): 95-101
【论文发表时间】2009-04-07 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】植物学

【题目】外来物种小飞蓬的化感作用初步研究.
【中文关键词】小飞蓬; 化感作用; 生物入侵; 种子萌发;幼苗生长
【英文关键词】null
【中文摘要】: 在室内用离体生测方法测定了小飞蓬水浸提液对马唐、 稗草、 反枝苋、 黄瓜和油菜种子萌发和幼苗生长的影响。结果表明, 小飞蓬水浸提液对5种植物种子的萌发和幼苗生长均有较强的抑制作用。5种受体植物中, 以油菜最为

敏感, 最低浓度0. 0 1 25g / mL处理下, 油菜种子完全受到抑制不能萌发, 在0. 0 2 50g / mL处理下反枝苋、 马唐、 黄瓜和稗草种子的萌发率分别为6. 6 7%, 9. 0 9%, 4 0. 0 0%和5 0. 0 0%; 各种受体植物种子的发芽速率与种子萌发率一致, 但较种子萌发率敏感。相同浓度处理时, 小飞蓬水提物对5种植物根长的生长抑制作用均明显高于对苗高的抑制作用。
【英文摘要】无
【语种】中文
【第一作者】高兴祥
【通讯作者】李美
【期刊名称、卷期、页码】草业学报 2009,18(5): 46-51
【论文发表时间】2009-10-06 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】植物学

【题目】亚麻RAPD的反应体系优化及引物筛选
【中文关键词】亚麻;基因组DNA;RAPD反应;筛选
【英文关键词】flax;genome DNA;RAPD reaction;screen
【中文摘要】对亚麻RAPD 反应条件进行了优化:在25 ul 反应体系中, 含10×Buffer, Mg2+(1mmol·L-1), Taq 酶1 U, Genome DNA 50ng, dNTP 0.25mmol·L-1, RAPD primer 1. 5 umol·L-1。PCR 反应程序为: 94°C预变性4 min; 94°C变性40s, 37°C退火1 min,72°C延伸90s, 40个循环;72°C延伸10 min。同时利用3 个有代表性的亚麻品种从70 条引物中筛选出12 条多态性好、重复性高的引物, 为亚麻的分子鉴定奠定了基础。
【英文摘要】This experiment optimized the RAPD reaction conditions of flax. During 25 uL reaction system, it contained 10×Buffer, Mg2+ (1mmol·L-1) , Taq enzyme 1U, Genome DNA 50ng, dNTP 0.25 mmo l·L-1 and RAPD primer 1. 5 umol·L-1 . The process of PCR were 94°C predenatalizating for 4min, 40 cycles(94°C denatalizating for 40s, 37°C annealing for 1min, 72°C extending for 90s) , 72°C extending for 10min. Meanwhile, the experiment used 3 typical flax varieties to screen 12 primers which had high level polymorphism and repeatability from 70 primers. This research made the foundation for the molecular identification of flax .
【语种】中文
【第一作者】黄文功
【通讯作者】黄文功
【期刊名称、卷期、页码】黑龙江农业科学
【论文发表时间】2009-03-10 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农业基础学科

【题目】超高产型杂交红麻中杂红318的选育
【中文关键词】红麻;杂种优势;超高产
【英文关键词】kenaf;hybrid;super high yield
【中文摘要】中杂红318(原名“ H318 ”)系利用外观性状叶型相似、父本L3-21 茎色红色,母本P91茎色绿色,经济性状互补性强的红麻良种为亲本,从数十个组合中筛选出的超高产型抗病优质杂交组合,在入选的杂交红麻杂优组合比较中,杂优组合的优势是显著的。其中超高产型杂优组合H318(F1)在比较试验中,分别比KB2(中红麻10 号)和红引135 增产30.2%和64.2%,达极显著水平;平均干茎1471.03kg/666.7m2,比对照中红麻10 号增产20.54%;H318 在2004-2006 年全国红麻区域试验中,平均纤维产量每公顷4411.65kg,比对照中红麻10 号增产20.75%,达极显著水平,较其它参试新品种增产显著。在全国红麻生产试验中平均纤维产量306.16 kg/666.7m2,比对照中红麻10 号增产19.12%,差异达极显著水平;纤维品质经农业部麻类产品质量监督检验测试中心检测,纤维支数266 支,强力327 牛顿,优于对照品种;该组合经人工接种炭疽病菌鉴定,烂头率为2.4%、病情指数为17.8,其指标优于对照,表现出植株高大,皮较厚,有效株数多,干茎产量和出麻率均高,纤维品质好,抗病性强,属于高抗类型。表明中杂红H318 是高产、优质、多抗、适应性广的纺织、造纸兼用的红麻新组合。
【英文摘要】Kenaf hybrid H318,red stem,divided leaf,which was bred and selected from several decades of kenaf crosses,is the most promising hybrid used in production at present. The average fiber yield of H318 was 5460kg/hm2,30.2% and 64.2% higher than that of CK KB2 and “ Hongying135 ” respectively in comparison of kenaf hybrids in 2003,4411.65kg/hm2,20.75% higher than that of CK “ KB2 ” in national kenaf regional trial at 7 locations in 3 years(2004- 2006),the highest among newlines and hybrids. The average

dry stalk yield of H318 was 22.06t/hm2,20.5% higher than that of CK at 3 sites.Its average fiber strength was 327N (1g fiber,length 30cm),fineness 266m/g. Under the artificial inoculation ,the anthracnose disease index was 17.8,the rate of died top stems 2.4% . The main advantages of kenaf hybrid H318 were large plants,more available plants at final harvest,high ratio of bark to stalk,good fiber quality,high resistance to the anthracnose disease and wide adaptability.

【语种】中文

【第一作者】李德芳

【通讯作者】李德芳

【期刊名称、卷期、页码】中国麻类科学 2009,31(1):1-7

【论文发表时间】2009-02-10 00:00:00

【引文索引类型】其他

【引文索引号】null

【学科分类】农业基础学科

【题目】苎麻组织培养和遗传转化研究进展

【中文关键词】苎麻;组织培养;遗传转化

【英文关键词】Ramie;Tissue culture,Transformation

【中文摘要】苎麻是优良的精纺纤维,也是重要植物蛋白饲料资源和新型生物质产业的基础材料,本文从组织培养和遗传转化两个方面,结合本实验室工作综述了苎麻组织培养和遗传转化研究的最新进展。在苎麻组织培养的外植体中以下胚轴和子叶最适宜,而在激素使用以6-BA 诱导器官分化的效率最高,并以此为基础建立了苎麻再生体系。在苎麻遗传转化方面,目前以农杆菌介导法应用最多。本文还指出了苎麻转基因研究中存在的问题,并对生物技术培育苎麻新品种和促进苎麻生产的可能性进行了讨论。

【英文摘要】Ramie is fine worsted, and an important resource of botanic protein feed and a new basic material for biomass material industry. This article summarizes advances of ramie tissue culture and genetic transformation. The studies on tissue culture indicated that, hypocotyl and cotyledon is the most suitable. The explant and culture medium with 6-BA has the highest regeneration efficiency. Accordingly, the in vitro regeneration system of ramie has been established. The reported studies on ramie genetic transformation showed that, Agrobacterium-mediated technique was used more. In conclusion, problems and prospects on ramie tissue culture and genetic transformation are pointed out. Furthermore, the possibility of breeding new ramie varieties and promoting the ramie product via biotechnology was also discussed.

【语种】中文

【第一作者】马雄风

【通讯作者】熊和平

【期刊名称、卷期、页码】分子植物育种,2008,6(5):967-970

【论文发表时间】2008-09-15 00:00:00

【引文索引类型】其他

【引文索引号】null

【学科分类】农业基础学科

【题目】航天诱变对棉花M1代品种性状影响的初步研究

【中文关键词】棉花;航天诱变

【英文关键词】无

【中文摘要】通过对航天诱变棉花M1代各种性状的研究, 结果表明, 航天诱变对M1代的株高、铃重、子棉和皮棉产量有明显的降低效应,对M1代苗期叶片伸展速度、单株成铃和衣分有一定的增加效应, 对绒长有明显的正负效应;而对果枝数、果枝始节位、总果节和麦克隆值的影响不大;能明显增强大多数品种的抗枯黄萎病性能。

【英文摘要】无

【语种】中文

【第一作者】习桂梅

【通讯作者】邹勇

【期刊名称、卷期、页码】中国棉花学会2008年年会论文汇编

【论文发表时间】2008-08-01 00:00:00

【引文索引类型】其他
【引文索引号】null
【学科分类】农业基础学科

【题目】瓜果腐霉毒素对多年生黑麦草的致病作用机理初步研究
【中文关键词】瓜果腐霉; 致病机理; 除草毒素
【英文关键词】null
【中文摘要】为了明确瓜果腐霉毒素对多年生黑麦草的致病作用机制, 本试验对瓜果腐霉毒素处理后多年生黑麦草的叶绿素、 β -胡萝卜素、 光合系统Ⅱ、 丙二醛、 超氧自由基、 希尔反应活力、 根系活力以及叶片含水量进行了测定。结果发现, 毒素处理后的多年生黑麦草叶绿素、 β -胡萝卜素遭到了破坏, 犊猪 / 犊狆, 犊狆 随剂量增加而降低, 新速Ⅱ犊狂几乎不变, 而英斯派犊狂 随剂量的增大而增大, 丙二醛含量随除草毒素剂量的增大而增大, 超氧自由基含量随除草毒素剂量的增大而增大, 同时发现2种多年生黑麦草的希尔反应活力、 叶片含水量、 根系活力也受到了不同程度的影响。
【英文摘要】无
【语种】中文
【第一作者】徐娇
【通讯作者】张金林
【期刊名称、卷期、页码】草业学报 2009,18(4) 181-186
【论文发表时间】2009-08-06 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】植物学

【题目】瓜果腐霉除草活性成分的分离鉴定
【中文关键词】瓜果腐霉;毒素;除草活性;结构鉴定
【英文关键词】null
【中文摘要】【目的】为了明确瓜果腐霉在液体培养基中所产生粗毒素的具有除草活性成分的组成及结构,本研究对具有除草活性毒素成分进行了分离纯化和结构鉴定。【方法】瓜果腐霉培养滤液分别用乙酸乙酯、石油醚、三氯甲烷等不同极性溶剂萃取制备粗毒素,用薄层层析法对粗毒素进行分离,再用高效液相色谱分离制备得到除草活性成分,通过核磁共振谱和红外光谱对其进行结构解析。【结果】用乙酸乙酯萃取得到的粗毒素活性最高;以 Rf值为0.19的物质除草活性最强,对马唐的生长抑制作用达到5级;通过化学信息分析表明该成分为邻苯二甲酸二甲酯。【结论】邻苯二甲酸二甲酯是瓜果腐霉在液体培养过程中所产生的组分之一,具有除草活性。
【英文摘要】无
【语种】中文
【第一作者】徐娇
【通讯作者】张金林
【期刊名称、卷期、页码】中国农业科学 2009,42(6):1994-2001
【论文发表时间】2009-08-06 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】植物学

【题目】新型除草剂丙酯草醚对油菜幼苗生长与根尖细胞活性的影响
【中文关键词】油菜;丙酯草醚;根系活力;细胞膜透性;FDA-PI;有丝分裂指数
【英文关键词】null
【中文摘要】【目的】研究新型油菜田除草剂丙酯草醚(ZJ0273)对甘蓝型油菜发芽期幼苗在生长发育及根尖细胞活性等方面的安全性影响,为进一步明确其作用机理奠定理论基础。【方法】利用生理生化方法探讨了 ZJ0273 处理对发芽期油菜茎根长、干物质积累、根系活力和根细胞膜透性等的影响,并运用FDA-PI荧光对染法及根尖压片法研究了该除草剂对油菜根尖细胞活性及有丝分裂的影响。【结果】ZJ0273 处理对油菜幼苗干物质和苗高等性状的抑制作用随着处理浓度的升高和处理时间的延长而显著增强;10 与 100 mg · L-1处理显著抑制了油菜幼苗根的生长且两处理间抑制效果无明显差异;1 mg · L-1以下浓度的 ZJ0273 对油菜幼苗根系活力、细胞膜完整性几乎无显著影响,而10 mg · L-1以上浓度处理则明显抑

制根系活力且破坏细胞膜完整性;100 mg · L-1ZJ0273处理抑制油菜根尖分生区细胞有丝分裂并使多数细胞停滞于分裂中期。【结论】发芽期是油菜对ZJ0273 处理的敏感时期;10 mg · L-1 ZJ0273处理即抑制油菜幼苗的生长发育及影响根尖细胞活性,且抑制效果随处理浓度的升高和处理时间的延长而增大;对油菜幼苗较为安全的ZJ0273临界浓度为1 mg · L-1。
【英文摘要】无
【语种】中文
【第一作者】张 帆
【通讯作者】周伟军
【期刊名称、卷期、页码】中国农业科学 2009,42(10):3522-3529
【论文发表时间】2009-08-06 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】植物学

【题目】外 来入侵植物小飞蓬化感物质的释放途径
【中文关键词】小飞蓬;化感效应;释放途径;根系分泌物
【英文关键词】Conyza canadesis L. ; allelopathic effects; release mode; root exudates
【中文摘要】在室内以滤纸为载体用离体生测方法测定了小飞蓬(Conyza canadesi L.)全株水浸提物 茎叶淋溶物 根系分泌物及残体土壤分解物对萝卜(Raphanus sativus L.) 黄瓜(Cucumis sativus L.) 马唐(Digitaria sanguinalis (L.) Scop.) 油菜(Brassicacampestris L.)和小麦(Triticum aestivum L.)的化感效应, 同时在温室内以土壤为载体通过盆栽植物浇灌的方法测定了小飞蓬茎叶淋溶物和根系分泌物对盆栽植物生长的影响 室内生测实验结果表明, 小飞蓬全株水浸提物对 5 种受体种子的萌发和幼苗生长均有较强的抑制作用;根系分泌物 茎叶淋溶物和残体土壤分解物对受体种子的生长抑制作用不同, 根系分泌物的活性高于茎叶淋溶物和残体土壤分解物 温室盆栽实验结果也表明, 小飞蓬根系分泌物对受体生长的影响高于茎叶淋溶物 这些结果说明根系分泌是小飞蓬化感物质释放的主要途径之一。
【英文摘要】The allelopathic effects of aqueous extract,root exudates,shoot leachates and decomposition from C. canadesison radish (Raphanus sativus L.),cucumber (Cucumis sativus L.),crabgrass (Digitaria sanguinalis (L.) Scop.),rape(Brassica campestris L.) and wheat (Triticum aestivum L.), were tested in petri dishes in laboratory. and the shootleachates and root exudates were also tested in pot in greenhouse. The aqueous extract strongly inhibited the seedling growthof the tested plants. The root exudates,shoot leachates and decomposition inhibited the seedling growth of the tested plantsdifferently,and the inhibitory effect of the root exudates was highest,The similar results were gotten from the greenhousetest. C. canadesis released the allelochemicals mainly through root exudates.
【语种】中文
【第一作者】高兴祥
【通讯作者】李美
【期刊名称、卷期、页码】生态学报 2010,30(8):1966-1971
【论文发表时间】2010-06-09 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农学其他学科

【题目】环境因子对蕉斑镰刀菌32- 6菌株分生孢子萌发的影响
【中文关键词】蕉斑镰刀菌;分生孢子萌发;影响因子
【英文关键词】null
【中文摘要】在实验室条件下,研究了温度、光照、pH及相对湿度对该菌株分生孢子萌发的影响。结果表明:分生孢子最佳萌发条件为28℃、pH8.0;湿度是影响孢子萌发的主要制约因素,相对湿度为80%条件下孢子不能萌发,95%和100%时萌发率仅为23.4%和46.3%,在水滴中孢子萌发率达95.3%;光照对分生孢子萌发无明显影响。
【英文摘要】无
【语种】中文
【第一作者】庄义庆
【通讯作者】王源超
【期刊名称、卷期、页码】南京农业大学学报 2010, 33(1): 99-102

【论文发表时间】2010-05-12 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】微生物学

【题目】禾长蠕孢菌代谢产物抑制水稻细菌性条斑病菌
【中文关键词】禾长蠕孢菌; 发酵液; 粗毒素; 水稻细条病; 抑菌试验
【英文关键词】null
【中文摘要】为了充分研究利用现有的生防菌菌种资源, 进行了禾长蠕孢菌(Helminthosporium gramineum Ra. benhf.sp.echinochlone, HGE) 发酵液及发酵液粗提物防治水稻细菌性条斑病的初步探讨。采用平板打 孔灌药法和试管二倍稀释法比较了禾长蠕孢菌发酵原液、 粗毒素及对照药剂20%噻菌铜SC、 72%农用 链霉素sP和20%叶枯唑sP对水稻细条病菌的抑制效果。试验结果表明, 禾长蠕孢菌的代谢产物粗毒 素对水稻细条病菌的抑制效果最好。
【英文摘要】无
【语种】中文
【第一作者】朱 凯
【通讯作者】余柳青
【期刊名称、卷期、页码】中国农学通报2010,26(8):240-242
【论文发表时间】2010-07-01 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】植物保护学

【题目】稗草生防潜力菌Helminthosporium gramineum f. sp. echinochloae的原生质体制备和再生
【中文关键词】禾长蠕孢菌HGE;原生质体制备;原生质体再生;稗草生防
【英文关键词】null
【中文摘要】禾长蠕孢菌(Helminthosporium gramineum f. sp. echinochloae,HGE)是稗草生防潜力菌,为建立HGE的遗传转化体系,研究了菌龄 、胞壁降解酶、稳渗剂等对其原生质体制备和再生的影响。结果表明,HGE菌原生质体制备的适宜条件为:26℃下采用1.0%崩溃酶处理菌龄为 6h的HGE菌丝体2h,0.7mol/L NaCl为稳渗剂 。原生质体再生的适宜条件为:32℃下采用0.5%崩溃酶处理菌龄为16h的HGE菌丝体4h,0.7mol/L NaCl为稳渗剂,R1为高渗再生培养基。
【英文摘要】无
【语种】中文
【第一作者】张建萍
【通讯作者】余柳青
【期刊名称、卷期、页码】浙江农业学报 2010,22(1): 14-19
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【引文索引号】null
【学科分类】微生物学

【题目】浙江农田双子叶杂草上的几种病原真菌
【中文关键词】农田杂草;病源真菌;生物除草剂
【英文关键词】null
【中文摘要】报道了浙江农田重要杂草上的9种病原真菌,它们分布广,致病力强,有利于杂草的持续有效控制。分别是加拿一枝黄花上的粉抱霉,苍耳上的柄锈菌,马齿觅上的马齿觅白锈菌,假繁缕上的霜霉,老鹤草上的微小轴霜霉,反枝觅砖红镰抱,波斯婆婆纳上的胶抱炭疽,空心莲子草上的莲假隔链格孢,蓬草上的链格孢。讨论了这些真菌作为生物除草剂应用的可能前景。
【英文摘要】无
【语种】中文
【第一作者】邱海萍

【通讯作者】孙国昌
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【引文索引号】null
【学科分类】微生物学

【题目】The present situation and suggestions about the study of flax germplasm resource in China
【中文关键词】无
【英文关键词】flax; germplasm; conservation; evaluation; suggestion
【中文摘要】无
【英文摘要】The present situation and the problems about the conservation and evaluation offlax germplasm resources and the application of biotechnology in the study of flax germplasm in China were discussed and some suggestions were put forward in the paper.
【语种】英文
【第一作者】王玉富
【通讯作者】王玉富
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【引文索引类型】SCI
【引文索引号】ISSN1934-7391
【学科分类】农业基础学科

【题目】Bioenergetic responses of sub-adult sea cucumber Apostichopus japonicus (Selenka) (Echinodermata Holothuroidea) to temperature with special discussion regarding its southernmost distribution limit in China
【中文关键词】刺参,温度,生物能反应全球海洋变暖的地理分布范围北移
【英文关键词】Sea cucumber;Apostichopus japonicus;Temperature;Bioenergetic responses;Global ocean warming;Geographical distribution limit;Northward shift
【中文摘要】本文研究了生物能的海参刺参(湿重36.571.2g)的不同的水的温度(5,10,15,20,25和301C)在实验室中
【英文摘要】This paper investigated the bioenergetic responses of the sea cucumber Apostichopus japonicus (wet weights of 36.571.2g) to different water temperatures (5, 10, 15, 20, 25 and 301C) in the laboratory....
【语种】英文
【第一作者】袁秀堂
【通讯作者】国家海洋环境监测中心
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【引文索引号】2417130651
【学科分类】水产学基础学科

【题目】Effect of water temperature on digestive enzyme activity and gut mass in sea cucumber Apostichopus japonicus (Selenka), with special reference to aestivation
【中文关键词】消化酶的活性相对肠道质量度夏水温刺参(RGM)
【英文关键词】digestive enzyme activity　relative gut mass (RGM)　aestivation　water temperature　Apostichopus japonicus
【中文摘要】水温对肠道海参刺参,包括肠道相对质量(RGM),淀粉酶,脂肪酶,胃蛋白酶和胰蛋白酶活动的质量和消化酶的活性的影响进行了研究在温度为7,14,21,和28 ° C一个为期40天。结果表明,RGM显着下降后,40天,21 ° C,显着降低了整个试验期,在28 ° C;然而,没有显着效果的持续时间观察7天或14 ° C。在14 ° C,胰蛋白酶的活性显着下降超过10天,20天,然后增加,淀粉酶和胰蛋白酶的活性显着下降后,40天,28 ° C然而,没有显着效果的持续时间被发现在其他温度处理组的淀粉酶,胃蛋白酶,胰蛋白酶活动。脂酶活性在28°C下,在20天达到高峰,然后显着降低到最低限度在实验结束后,。另一方面,胃蛋白酶活性,在28°C,在整个实验期间连续地增加。主成分分析结果表明,在21 ° C组和28 ° C组的前20天,40天的海参夏眠前期。

在28 ° C,海参aestivated在实验开始后30-40天。它的结论是刺参的消化温度的影响是比较薄弱的一个特定范围内的水温和度夏行为是伴随着显着变化在RGM与消化酶活性。

【英文摘要】The effect of water temperature on gut mass and digestive enzyme activity in sea cucumber Apostichopus japonicus, including relative gut mass (RGM), amylase, lipase, pepsin and trypsin activities were studied at temperatures of 7, 14, 21, and 28 ° C over a period of 40 days. Results show that RGM significantly decreased after 40 days at 21 ° C and markedly decreased over the whole experiment period at 28 ° C; however, no significant effect of duration was observed at 7 or 14 ° C. At 14 ° C, trypsin activity significantly decreased over 10 and 20 days, then increased; amylase and trypsin activity significantly decreased after 40 days at 28 ° C. However, no significant effect of duration was found on amylase, pepsin or trypsin activities in the other temperature treatment groups. At 28 ° C, lipase activity peaked in 20 days and then markedly decreased to a minimum at the end of the experiment. On the other hand, pepsin activity at 28 ° C continuously increased over the whole experimental period. Principle component analysis showed that sea cucumbers on day 40 in the 21 ° C group and in the previous 20 days in the 28 ° C group were in the prophase of aestivation. At 28 ° C, sea cucumbers aestivated at 30-40 days after the start of the experiment. It is concluded that the effect of temperature on the digestion of A. japonicus is comparatively weak within a specific range of water temperatures and aestivation behavior is accompanied by significant changes in RGM and digestive enzyme activities.

【语种】英文

【第一作者】高菲
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【学科分类】水产学基础学科

【题目】Effects of acute temperature or salinity stress on the immune response in sea cucumber, Apostichopus japonicus

【中文关键词】刺参,温度应力,盐胁迫,免疫字符
【英文关键词】Apostichopus japonicus;Temperature stress;Salinity stress;Immune character

【中文摘要】越来越多的无脊椎动物在海水养殖中提出的,重要的是要监测免疫功能兴业,最大限度地减少压力,可以抑制免疫。活动的吞噬能力, 超氧化物歧化酶(SOD),过氧化氢酶(CAT),髓过氧化物酶(MPO),溶菌酶(LSZ)进行测量,以评估的immunecapacities,海参,刺参,急性温度变化(从12 ° C 0 ° C,8 ° C,16 ° C,24 ° C和32 ° C为72小时)和盐度的变化(从30‰至20‰,25‰,35‰,72小时)在thelaboratory。吞噬功能的显着由3小时的温度上升的影响,和盐度(25‰and35‰)在1小时的变化。超氧化物歧化酶活性明显降低,在0.5小时至6小时的样品在24 ° C在32 ° C,SODactivities减少0.5小时和1小时暴露明显,和12小时暴露明显增加。 0.5小时暴露的CATactivities在24 ° C显着下降,并在32 ° C显着增加,在3小时12 hexposures,。 MPO活性增加显着,在0°C下在0.5小时至6小时暴露在8°C下进行1小时。 Bycontrast,MPO活性在24 ° C和32 ° C的治疗显着降低。在升高,temperaturetreatments,活动LSZ6小时至12小时暴露在32 ° C除外显着增加。 SOD的活动wassignificantly盐度变化的影响。 CATactivity后仅1小时暴露salinityof20‰显着下降。 MPO和LSZ的活动表明,刺参耐受盐胁迫有限。高温应力有更大的影响刺参免疫能力比低的温度和盐度的应力。

【英文摘要】Invertebrates are increasingly raised in mariculture, where it is important to monitor immune function andto minimize stresses that could suppress immunity. The activities of phagocytosis, superoxide dismutase(SOD), catalase (CAT), myeloperoxidase (MPO), and lysozyme (LSZ) were measured to evaluate the immunecapacities of the sea cucumber, Apostichopus japonicus, to acute temperature changes (from 12 ° C to 0 ° C, 8 ° C,16 ° C, 24 ° C, and 32 ° C for 72 h) and salinity changes (from 30‰ to 20‰, 25‰, and 35‰ for 72 h) in thelaboratory. Phagocytosis was significantly affected by temperature increases in 3 h, and by salinity (25‰ and35‰) changes in 1 h. SOD activities decreased significantly in 0.5 h to 6 h samples at 24 ° C. At 32 ° C, SODactivities decreased significantly in 0.5 h and 1 h exposures, and obviously increased for 12 h exposure. CATactivities decreased significantly at 24 ° C for 0.5 h exposure, and increased significantly at 32 ° C in 3 h to 12 hexposures. Activities of MPO increased significantly at 0 ° C in 0.5 h to 6 h exposures and at 8 ° C for 1 h. Bycontrast, activities of MPO decreased significantly in 24 ° C and 32 ° C treatments. In elevated-temperaturetreatments, activities of LSZ increased significantly except at 32 ° C for 6 h to 12 h exposures. SOD activity wassignificantly affected by salinity change. CATactivity decreased significantly after only 1 h exposure to salinityof 20‰. Activities of MPO and LSZ showed that A. japonicus tolerates limited salinity stress. High-temperature stress had a much greater effect on the immune capacities of A. japonicus than did low-temperature and salinity stresses.

【语种】英文

【第一作者】Wang, Fangyu
【通讯作者】Wang, Fangyu
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【学科分类】水产学基础学科

【题目】Effects of aestivation on the energy budget of sea cucumber Apostichopus japonicus (Selenka) (Echinodermata Holothuroidea).
【中文关键词】刺参,夏眠,能量收支,水温,体重
【英文关键词】Japonicus, aestivation, energy budget, water temperature, body weight
【中文摘要】夏眠是刺参最重要的生理特征;水温升高是其夏眠的主要诱发因子,而夏眠的临界温度与刺参体重密切相关.为揭示刺参夏眠对其能量利用对策的影响,测定了2种体重规格(134.0±13.5)g和(73.6±2.2)g刺参在10、15、20、25 ℃和30 ℃ 5个温度梯度下的能量收支.结果表明,温度和体重及其交互作用对刺参能量的摄入均有显著影响;而温度是影响其摄食能分配的主要因素.研究发现,刺参在非夏眠期、夏眠临界期和完全夏眠期的能量利用对策有所不同:在非夏眠期,刺参摄食能支出的最大组分是粪便能,占摄食能的比例超过50%,其次为呼吸耗能,占19.8%~39.4%,而生长能和排泄能占的比例较小,分别为5.7%~10.7%和2.9%~3.7%;在夏眠临界温度下,呼吸和排泄耗能占摄食能的比例均显著增大(分别为88.3%和13.6%),而生长能所占比例降为负值(-55.3%),刺参表现为负生长;而在夏眠期,刺参的摄食能和排粪能为零,为维持其基本生理活动,不得不动用以往贮存于体内的能量,消耗于呼吸和排泄等生理过程,供维持生命之用.总之,从能量生物学的角度看,夏眠的主要生态学意义在于刺参长时间处于相对高温环境,进而导致摄食受阻条件下的一种能量节约方式.
【英文摘要】Aestivation is the most important sea cucumber physiological characteristics; rising water temperatures aestivation major predisposing factor aestivation critical temperature and sea cucumber weight are closely related. Determined to reveal the impact of the utilization of the sea cucumber aestivation its energykinds of weight specification (134.0 ± 13.5) g and (73.6 ± 2.2) g stichopus energy budget. 10,15,20,25 °C and 30 °C 5 temperature gradient results show that the temperature and weight and their interactionsthe sea cucumber energy intake have a significant impact; temperature is the main factor to affect its feeding allocated study found that sea cucumber in the non-aestivation period, the aestivation critical period and full aestivation period energy utilization differ: In thenon aestivation period, the largest component of the expenditure of the sea cucumber feeding can feces can total proportion of feeding can be more than 50%, followed by respiratory energy consumption, accounting for 19.8% to 39.4%, while growth and excretion can account for a smaller proportion of5.7% to 10.7% and from 2.9% to 3.7%, respectively; under in aestivation critical temperature, respiration and excretion of energy consumption accounted for feeding proportion were significantly increased (88.3% and 13.6%, respectively), while the growth can shareproportion dropped to negative (-55.3%), sea cucumber showed negative growth; in aestivation period, the sea cucumber feeding and defecation can be zero, in order to maintain its basic physiological activities, had to draw on stored bodyenergy consumed in physiological processes such as respiration and excretion, for the maintenance of life with short, from a biological point of view of energy, aestivation major ecological significance lies japonicus at a relatively high temperature environment for a long period of time, causing feeding hindered under conditionsan energy saving way.
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【第一作者】袁秀堂
【通讯作者】国家海洋环境监测中心
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【学科分类】水产学基础学科

【题目】Immune condition of Apostichopus japonicus during aestivation
【中文关键词】应力引起的神经内分泌牡蛎锦葵ANTIGRANULOCYTES血细胞,贻贝,贻贝; CARCINUS MAENAS;无脊椎动物;牡蛎;敏感性;温度;机制
【英文关键词】STRESS-INDUCED NEUROENDOCRINE; CRASSOSTREA-VIRGINICA; ANTIGRANULOCYTES HEMOCYTES; MYTILUS-GALLOPROVINCIALIS; CARCINUS-MAENAS; INVERTEBRATES; OYSTERS;

SUSCEPTIBILITY; TEMPERATURE; MECHANISMS

【中文摘要】刺参夏眠的海参生活中的历史中是不可缺少的状态。的刺参体腔液中的免疫特性,在度夏。7月和2006年11月关闭位于黄海之滨的山东省胶南市,中国从沿海池塘收集样品。的总体腔细胞计数(TCC),总超氧化物歧化酶(T-SOD),过氧化氢酶(CAT),过氧化物酶(MPO),溶菌酶(IZM)在体腔液中进行测量。活动的儿茶酚胺,肾上腺素(AD),去甲肾上腺素(NA),多巴胺(DOP)]进行了估计。 TCC下降,从七月到九月,当时指示的细胞免疫活性的弱点。活动的SOD,CAT,过氧化物酶,和LZM变化显着,从七月到十月。体腔液中儿茶酚胺AD和NA均显着高8月21日和11月27日。在DOP采样期间没有显着的变化。因此,日本的A.体液免疫字符在度夏显着改变。水的温度明显呈负相关TCC,盐度为显著正相关,与AD和NA。在刺参夏眠的机制是复杂的,并且可能不仅归因于环境的变化,如温度和盐度的,在以前的研究中所示。

【英文摘要】Aestivation is an indispensable state in the life history of sea cucumbers, Apostichopus japonicus. The immune characteristics of the coelomic fluid of A. japonicus, were investigated during aestivation. Samples were collected between July and November 2006 from a coastal pond located off the Yellow Sea in Jiaonan, Shandong Province, China. The total coelomocytes counts (TCC), total superoxide dismutase (T-SOD), catalase (CAT), myeloperoxidase (MPO), and lysozyme (IZM) in the coelomic fluid were measured. The activities of catecholamines, [adrenaline (AD), noradrenaline (NA), and dopamine (DOP)] were estimated. TCC decreased from July to September, indicating weakness of the cellular immune activity at that time. Activities of SOD, CAT, MPO, and LZM changed significantly from July to October. Catecholamines AD and NA in coelomic fluid were significantly higher on August 21 and November 27. There was no significant variation in DOP during the sampling period. Thus, immune characters in coelomic fluid of A. japonicus changed significantly during aestivation. Water temperature was significantly and negatively correlated with TCC, and salinity was significantly and positively correlated with AD and NA. The mechanism of aestivation in A. japonicus is complex and might not be attributed only to environmental changes, such as temperature and salinity, as shown in previous studies.

【语种】英文

【第一作者】Wang, Fangyu

【通讯作者】Wang, Fangyu

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【学科分类】水产学基础学科

【题目】Phenotypic plasticity of gut structure and function during periods of inactivity in Apostichopus japonicus

【中文关键词】海参刺参刺参; PRICKLEBACK的鱼类鱼类消化酶的活动;垒礁海参;有机质;草食性鱼类;夏眠,饥饿,沉积物

【英文关键词】CUCUMBER STICHOPUS-JAPONICUS; PRICKLEBACK FISHES TELEOSTEI; DIGESTIVE ENZYME-ACTIVITIES; GREAT-BARRIER-REEF; SEA-CUCUMBER; ORGANIC-MATTER; HERBIVOROUS FISHES; ESTIVATION; STARVATION; SEDIMENTS

【中文摘要】刺参是一种常见的海参,经过季节性闲置阶段,在暑假期间停止进食。我们用这个作为一个模型,其中的消化道检查表型可塑性,在食物匮乏的海参物种。我们测量体质量,总肠道形态和消化酶活性的刺参前,中,闲置一段时间后,这种动物的肠道结构和功能研究食物匮乏的影响。个人采样半每月超过18摄氏度的温度范围内的变化9月5日,代表活动和喂养缺乏的高峰期,从6月至11月(10个采样的间隔超过178天)刺参它的身体质量下降,肠质量和肠长度的50%,85%,和70%,分别,在比较之前的非活动周期为这些参数的值。淀粉酶,纤维素酶和脂肪酶的活动下降了77%,98%和35%相比,这些酶在6月的平均值,而胃蛋白酶活性增加2倍(诱非活动期。海藻酸和胰蛋白酶活动变量并没有改变整个178天的实验显着。除了淀粉酶,纤维素酶,机身尺寸指标和消化酶的活动恢复,甚至超过前非活动期的平均值,在后者的实验的一部分(10月月)。主成分分析(PCA)利用消化酶的活性,体型指标数据,这黄瓜的生理状态划分为四个阶段:一个活跃的阶段,前期的闲置峰闲置和逆转阶段,这些阶段都是一致的与先前建议对这一物种的生命阶段,但我们的数据提供了更明确每个阶段的特征。刺参清楚的表现出表型可塑性(或生命周期分期)在其年度非活动期的消化道。

【英文摘要】Apostichopus japonicus is a common sea cucumber that undergoes seasonal inactivity phases and ceases feeding during the summer months. We used this sea cucumber species as a model in which to examine phenotypic plasticity of the digestive tract in response to food deprivation. We measured the body mass, gross gut morphology and digestive enzyme activities of A. japonicus before, during, and after the period of inactivity to examine the effects of food deprivation on the gut structure and function of this animal. Individuals were sampled semi-monthly from June to November (10 sampling intervals over 178 days) across temperature changes of more than 18 degrees C. On 5 September, which represented the peak of inactivity and lack of feeding, A. japonicus decreased its body mass, gut mass and gut length by 50%, 85%, and 70%, respectively, in comparison to values for these parameters preceding the inactive period. The activities of amylase, cellulase and lipase decreased by 77%, 98%, and 35% respectively, in

comparison to mean values for these enzymes in June, whereas pepsin activity increased two-fold (luring the inactive phase. Alginase and trypsin activities were variable and did not change significantly across the 178-day experiment. With the exception of amylase and cellulase, all body size indices and digestive enzyme activities recovered and even surpassed the mean values preceding the inactive phase during the latter part of the experiment (October-November). Principal Component Analysis (PCA) utilizing the digestive enzyme activity and body size index data divided the physiological state of this cucumber into four phases: an active stage, prophase of inactivity peak inactivity, and a reversion phase. These phases are all consistent with previously suggested life stages for this species, but our data provide more defined characteristics of each phase. A. japonicus clearly exhibits phenotypic plasticity (or life-cycle staging) of the digestive tract during its annual inactive period.

【语种】英文

【第一作者】高菲

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【学科分类】水产学基础学科

【题目】Characterization of 28 polymorphic microsatellites for Japanese sea urchin (Strongylocentrotus intermedius) via mining EST database of a related species (S. purpuratus)

【中文关键词】日本海胆,表征

【英文关键词】Japanese sea urchin;characterization

【中文摘要】日本海胆中间球海胆()的24个多态性微卫星标记开发了从EST数据库相关的种紫海胆(S.紫石)。表征结果显示,在这些位点多态性的温和。的等位基因数为2～5,从0.0667到0.9655和0.0655至0.7350,分别和H O H C值的变化。没有显着的连锁不平衡(LD)之间的对位点被发现,21个位点符合Hardy-Weinberg平衡(HWE)。在这项研究的结果表明微卫星标记开发的可行性,通过挖掘EST数据库的基因相关的物种。

【英文摘要】Twenty-eight polymorphic microsatellite markers for Japanese sea urchin (Strongylocentrotus intermedius) were developed from the EST database of a related species purple sea urchin (S. purpuratus). The characterization results showed the moderate polymorphisms at these loci. The number of alleles ranged from 2 to 5, and the values of H o and H c varied from 0.0667 to 0.9655 and 0.0655 to 0.7350, respectively. No significant linkage disequilibrium (LD) between pairs of loci was found and 21 loci conformed to the Hardy-Weinberg equilibrium (HWE). The results in this study well demonstrated the feasibility of microsatellite marker development via mining EST database of a genetically related species.

【语种】英文

【第一作者】周遵春

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【学科分类】水产学基础学科

【题目】尖叶胡枝子

【中文关键词】尖叶胡枝子; 豆科牧草

【英文关键词】Lespedeza hedysaroides(Pall.)Kitag.;Forage legumes

【中文摘要】尖叶胡枝子分布范围较广, 是优良的豆科牧草, 目前我国对其开发利用不足, 影响了其生态、经济价值的发挥。笔者重点介绍了尖叶胡枝子的生态适应性、植物学特性、生长特性、营养价值及利用。

【英文摘要】Pointed leaves Lespedeza widely distributed, is an excellent Legume forage of its development underutilized, shadow Rang their ecological and economic value of play. I focus on referralsOf the pointed leaves Lespedeza the ecological adaptability, botany special and growth characteristics, nutritional value and utilization.

【语种】中文
【第一作者】孙启忠
【通讯作者】孙启忠
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【学科分类】畜牧、兽医科学其他学科

【题目】Isolation and characterization of 61 microsatellite markers from sea urchin Strongylocentrotus nudus
【中文关键词】微卫星标记吗?多形海胆吗?海胆光裸星虫
【英文关键词】Microsatellite markers ? Polymorphic ?Sea urchin ? Strongylocentrotus nudus
【中文摘要】在这项研究中,61个微卫星标记进行了分离和鉴定为球海胆光裸星虫使用SSR富集文库筛选的方法。这些标记的多态性进行了评估,使用了48个人。每个座位的等位基因数目从两个到六个不等。观察和期望杂合度介于0.2340至0.8696,从0.1304到0.7600。多态性标记的开发将被应用到种群的遗传分析。
【英文摘要】In this study, 61 microsatellite markers were isolated and characterized for sea urchin Strongylocentrotus nudus using the method of screening SSR enriched library. The polymorphism of these markers was assessed using 48 individuals. Number of alleles per locus ranged from two to six. The observed and expected heterozygosities ranged from 0.2340 to 0.8696 and from 0.1304 to 0.7600, respectively. The polymorphic markers developed will be applied to population genetic analysis.
【语种】英文
【第一作者】yan jingjing
【通讯作者】周遵春
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【学科分类】水产学基础学科

【题目】Analysis of Expressed Sequence Tags from body wall, intestine and respiratory tree of sea cucumber (Apostichopus japonicus)
【中文关键词】海参(刺参)cDNA文库免疫相关基因表达序列标签
【英文关键词】Sea cucumber (Apostichopus japonicus) cDNA library Expressed sequence tags Immune-related genes
【中文摘要】分析|海参(刺参); cDNA文库;表达序列标签;免疫相关基因的体壁,肠和呼吸树的海参(刺参)的表达序列标签|海参(刺参)是一个最重要的水产养殖　　品种,在中国,要分析基因在不同组织中的表达,并确定免疫有关的基因,我们构建了3个独立的cDNA文库均来自肠道(智力),体壁(BW)和呼吸树(RT)健康的人。从这些库,共有5728高质量的表达序列标签(EST)的长度大于100 bp的产生。聚类和组装的ESTs确定了495个重叠群和2118单身,相当于2613个单一基因。基本局部比对搜索工具(BLAST)分析结果表明,902个单一基因(34 52%)有显着的同源性(E值<= 10(-5))的基因　　与GenBank中已知或假定的功能,这些个单一基因被分为18个功能类别。其中三个库,RT图书馆显示较少的类别(9),而其他两个litraries显示更多的(17和16分别为Int和BW库)。考虑三个cDNA文库中,655,259和484的组织特异性个单一基因之间的组件,观察诠释,BW和RT库,但是,只有95个单一基因是共同的所有三个库。最丰富的三个库中contigs细胞和机体防御(551个EST)相关的基因被确定为代谢(415个EST),翻译/核糖体结构和生物合成(342个EST),基因/蛋白表达(178个EST)。结构和运动(75个EST),能源生产和转换(51个EST)和细胞骨架(39个EST)的636个EST被归类为配对与免疫相关基因的模式识别受体和信令,补体成分,转铁蛋白超家族成员,细胞因子和生长李金发:器,和效应基因本最后提出了一个公平的量有关的数据的空间的许多基因的表达模式。(BW与诠释与RT的A刺参)。(C)2009爱思唯尔BV保留所有权利分析|海参(刺参); cDNA文库;表达序列标签;免疫相关基因的体壁,肠和呼吸树的海参(刺参)的表达序列标签|海参(刺参)是一个最重要的水产养殖　　品种,在中国,要分析基因在不同组织中的表达,并确定免疫有关的基因,我们构建了3个独立的cDNA文库均来自肠道(智力),体壁(BW)和呼吸树(RT)健康的人。从这些库,共有5728高质量的表达序列标签(EST)的长度大于100 bp的产生。聚类和组装的ESTs确定了495个重叠群和2118单身,相当于2613个单一基因。基本局部比对搜索工具(BLAST)分析结果表明,902个单一基因(34 52%)有显着的同源性(E值<= 10(-5))的基因　　与GenBank中已知或假定的功能,这些个单一基因被分为18个功能类别。其中三个库,RT图书馆显示较少的类别(9),而其他两个litraries显示更多的(17和16分别为Int和BW库)。考虑三个cDNA文库中,655,259和484的组织特异性个单一

基因之间的组件,观察诠释,BW和RT库,但是,只有95个单一基因是共同的所有三个库。最丰富的三个库中contigs细胞和机体防御(551个EST)相关的基因被确定为代谢(415个EST),翻译/核糖体结构和生物合成(342个EST),基因/蛋白表达(178个EST)。结构和运动(75个EST),能源生产和转换(51个EST)和细胞骨架(39个EST)的636个EST被归类为配对与免疫相关基因的模式识别受体和信令,补体成分,转铁蛋白超家族成员,细胞因子和生长李金发:器,和效应基因本最后提出了一个公平的量有关的数据的空间的许多基因的表达模式。 (BW与诠释与RT的A刺参)。(C)2009爱思唯尔BV保留所有权利分析|海参(刺参);cDNA文库;表达序列标签;免疫相关基因的体壁,肠和呼吸树的海参(刺参)的表达序列标签|海参(刺参)是一个最重要的水产养殖　　品种,在中国,要分析基因在不同组织中的表达,并确定免疫有关的基因,我们构建了3个独立的cDNA文库均来自肠道(智力),体壁(BW)和呼吸树(RT)健康的人。从这些库,共有5728高质量的表达序列标签(EST)的长度大于100 bp的产生。聚类和组装的ESTs确定了495个重叠群和2118单身,相当于2613个单一基因。基本局部比对搜索工具(BLAST)分析结果表明,902个单一基因(34 52%)有显着的同源性(E值<= 10(-5))的基因　　与GenBank中已知或假定的功能,这些个单一基因被分为18个功能类别。其中三个库,RT图书馆显示较少的类别(9),而其他两个litraries显示更多的(17和16分别为Int和BW库)。考虑三个cDNA文库中,655,259和484的组织特异性个单一基因之间的组件,观察诠释,BW和RT库,但是,只有95个单一基因是共同的所有三个库。最丰富的三个库中contigs细胞和机体防御(551个EST)相关的基因被确定为代谢(415个EST),翻译/核糖体结构和生物合成(342个EST),基因/蛋白表达(178个EST)。结构和运动(75个EST),能源生产和转换(51个EST)和细胞骨架(39个EST)的636个EST被归类为配对与免疫相关基因的模式识别受体和信令,补体成分,转铁蛋白超家族成员,细胞因子和生长李金发:器,和效应基因本最后提出了一个公平的量有关的数据的空间的许多基因的表达模式。 (BW与诠释与RT的A刺参)。(C)2009爱思唯尔BV保留所有权利

【英文摘要】Analysis of expressed sequence tags from body wall, intestine and respiratory tree of sea cucumber (Apostichopus japonicus) | Sea cucumber (Apostichopus japonicus); cDNA library; Expressed sequence tags; Immune-related genes | Sea cucumber (Apostichopus japonicus) is one of the most important aquaculture species in China. To profile gene expression in different tissues and to identify immune-related genes, we constructed three independent cDNA libraries that were derived from intestine (Int), body wall (BW) and respiratory tree (RT) of healthy individuals. From these libraries, a total of 5728 high-quality expressed sequence tags (ESTs) of longer than 100 bp were generated. Clustering and assembly of the ESTs identified 495 contigs and 2118 singletons. representing 2613 unigenes. Basic Local Alignment Search Tool (BLAST) analysis showed that 902 unigenes (34 52%) had significant homology (E value <= 10(-5)) to genes with known or putative functions in GenBank. These unigenes were grouped into 18 functional categories. When compared among these three libraries, RT library showed fewer categories (9) while the other two litraries displayed more (17 and 16 for Int and BW libraries respectively). Considering the components among the three cDNA libraries, 655, 259 and 484 tissue-specific unigenes were observed in Int, BW and RT libraries respectively; however, only 95 unigenes were common to all three libraries. The most abundant contigs in the three libraries were identified as genes related to cell and organism defense (551 ESTs). metabolism (415 ESTs), translation/ribosomal structure and biogenesis (342 ESTs), gene/protein expression (178 ESTs). structure and motility (75 ESTs), energy production and conversion (51 ESTs). and cytoskeleton (39 ESTs). The list of 636 ESTs that matched with immune-related genes were categorized as pattern recognition receptors and signaling, complement components, transferrin superfamily members, cytokines and growth fa:tors, and effector genes. The present manuscript presents a fair amount of data regarding the spatial expression pattern of many genes (BW vs Int vs. RT of A japonicus). (C) 2009 Elsevier B.V. All rights reserved

【语种】英文

【第一作者】杨爱馥

【通讯作者】周遵春

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【学科分类】水产学基础学科

【题目】Expression of immune-related genes in embryos and larvae of sea cucumber Apostichopus japonicas

【中文关键词】海参(刺参对虾)免疫相关基因的胚胎幼虫有限合伙人的挑战

海参(刺参对虾)免疫相关基因的胚胎幼虫有限合伙人的挑战

【英文关键词】Sea cucumber (Apostichopus japonicus)　Immune-related genes　Embryos　Larvae　LPS challenge

【中文摘要】如海胆状和海参纲在几类,棘皮类动物的免疫系统已被广泛研究的成年人。然而,在胚胎和幼虫的防御机制在很大程度上仍然未开发。要分析的免疫相关基因的表达在胚胎和幼虫和监测的先天免疫反应的刺激脂多糖(LPS)的挑战,我们调查了9个免疫相关基因的表达模式,在胚胎和幼虫海参(刺参)11发育阶段,采用实时定量PCR(荧光定量RT-PCR)。编码的蛋白质,包括热休克蛋白70(HSP70),热休克蛋白90,热休克蛋白gp96的表达,胸腺素-β,铁蛋白和丈量约份104蛋白检测在

所有11个发展阶段,根据表达数据。但是,表达的甘露聚糖结合C-型凝集素(MBCL)早期黑木耳检测到少年阶段,只在少年阶段,而溶菌酶和丝氨酸蛋白酶抑制剂(SPI)进行检测。这些个基因中,有三个(MBCL,溶菌酶和SPI)被发现上调的mRNA表达对LPS刺激,没有表现出显着的变化,而其他6。我们的研究提出了初步的看法免疫相关基因的表达模式在不同发育阶段的海参,棘皮类动物的免疫力,增加了可用的信息

【英文摘要】The echinoderm immunity system has been extensively investigated in adults in several classes such as echinoid and holothuroidea. However, the defense mechanism in embryos and larvae remains largely unexplored. To profile the immune-related genes expression in embryos and larvae and to monitor the stimulation of the innate immune response by lipopolysaccharides (LPS) challenge, we investigated the expression patterns of nine immune-related genes in embryos and larvae of sea cucumber (Apostichopus japonicus) at eleven developmental stages using quantitative real-time PCR (qRT-PCR). The expression of six encoding proteins including heat shock protein70 (Hsp70), Hsp90, Hsp gp96, thymosin-beta, ferritin and DD104 protein was detected at all eleven development stages according to mRNA expression data. However, the expression of mannan-binding C-type lectin (MBCL) was detected at early auricularia to juvenile stages, while lysozyme and serine proteinase inhibitor (SPI) were detected only at juvenile stage. Out of these nine genes, three (MBCL, lysozyme and SPI) were found to be up-regulated in mRNA expression upon LPS challenge, whereas the other six showed no significant change. Our study presents a first preliminary view into the expression patterns of immune-related genes at different developmental stages of sea cucumber, which increases the available information on echinoderm immunityThe echinoderm immunity system has been extensively investigated in adults in several classes such as echinoid and holothuroidea. However, the defense mechanism in embryos and larvae remains largely unexplored. To profile the immune-related genes expression in embryos and larvae and to monitor the stimulation of the innate immune response by lipopolysaccharides (LPS) challenge, we investigated the expression patterns of nine immune-related genes in embryos and larvae of sea cucumber (Apostichopus japonicus) at eleven developmental stages using quantitative real-time PCR (qRT-PCR). The expression of six encoding proteins including heat shock protein70 (Hsp70), Hsp90, Hsp gp96, thymosin-beta, ferritin and DD104 protein was detected at all eleven development stages according to mRNA expression data. However, the expression of mannan-binding C-type lectin (MBCL) was detected at early auricularia to juvenile stages, while lysozyme and serine proteinase inhibitor (SPI) were detected only at juvenile stage. Out of these nine genes, three (MBCL, lysozyme and SPI) were found to be up-regulated in mRNA expression upon LPS challenge, whereas the other six showed no significant change. Our study presents a first preliminary view into the expression patterns of immune-related genes at different developmental stages of sea cucumber, which increases the available information on echinoderm immunity. (C) 2010 Elsevier Ltd. All rights reserved.

【语种】英文
【第一作者】杨爱馥
【通讯作者】周遵春
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【学科分类】水产学基础学科

【题目】Development and characterization of 45 novel microsatellite markers for sea cucumber (Apostichopus japonicus)

【中文关键词】刺参刺参;富集文库,EST;微卫星;海参
【英文关键词】Apostichopus japonicus;enriched library;EST;microsatellites;sea cucumber

【中文摘要】简单重复序列富集文库筛选和表达序列标签数据库挖掘,采用,发展海参(刺参)的微卫星标记。选择88个微卫星位点的多态性评估,使用了48个人。结果表明,有45个新的基因位点多态。的等位基因数范围从2至16,并观察和期望杂合度的值从0变化至0.93750.1135至0.9674,分别。没有显着的连锁不平衡之间的对位点被发现,26个位点符合Hardy-Weinberg平衡。因此,这些标记是一个潜在的人口结构和连锁图谱的构建刺参的研究工具。

【英文摘要】Simple sequence repeat-enriched library screening and expressed sequence tag database mining were adopted to develop microsatellite markers for sea cucumber (Apostichopus japonicus). Eighty-three microsatellite loci were selected for polymorphism assessment using 48 individuals. The results showed that 45 novel loci were polymorphic. The number of alleles ranged from two to 16, and the values of observed and expected heterozygosities varied from 0 to 0.9375 and from 0.1135 to 0.9674, respectively. No significant linkage disequilibrium between pairs of loci was found and 26 loci conformed to the Hardy – Weinberg equilibrium. These markers are therefore a potential tool for studies in the population structure and linkage map construction for A. japonicus.

【语种】英文
【第一作者】战爱斌
【通讯作者】胡景杰
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【学科分类】水产学基础学科

【题目】An Efficient Procedure for Isolating Microsatellite DNAs from Sea Cucumber (Apostichopus japonicus)
【中文关键词】SSRS,丰富,海参,刺参
【英文关键词】SSRs,enrichment,sea cucumber,Apostichopus japonicus
【中文摘要】富集文库的建设被证明是用于隔离在这项研究中微的有效的方法之一。海参消化的基因组DNA用HaeIII和尺寸的选定的DNA片段(250-700bp的)连接到适配器。含微卫星序列捕获通过使用GA和CA探头,它被安装到尼龙膜的组合。在这项研究中的微卫星富集文库构建,包括约700个克隆。两百年和32个克隆后筛库过程中作出了积极反应。 50个克隆测序,发现都包含至少一个微卫星和一式两份克隆。约86%,允许设计的引物序列标签微卫星位点(STMS)测序片段。
【英文摘要】The construction of enrichment library proves to be one of the efficient approaches for isolating microsatellites in this study. The genomic DNA of sea cucumber was digested with HaeIII and size-selected DNA fragments (250-700bp) were ligated to an adaptor. Microsatellite-containing sequences were captured by using a combination of GA and CA probes, which were attached to a nylon membrane. The microsatellite enrichment library constructed in this study consisted of approximately 700 clones. Two hundred and thirty-two clones reacted positively after the library screening procedure. Of the 50 clones sequenced, all contained at least one microsatellite and one duplicate clone was found. Approximately 86% of the sequenced fragments permitted to design primers for sequence tagged microsatellite site (STMS).
【语种】英文
【第一作者】胡景杰
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【题目】Development and characterization of 38 novel EST-SSRs for the sea cucumber Apostichopus japonicas
【中文关键词】EST;微卫星;海参刺参
【英文关键词】EST;Microsatellite;Sea cucumber;Apostichopus japonicus
【中文摘要】“ A共5728序列的表达序列标签数据库的海参刺参开采的微卫星序列,共确定了151个EST微。93设计的引物对,56扩增的预期成果和38个具有多态性的48个测试。的等位基因的数目从2到10不等,和观察到的和预期的杂合度的变化范围从0.000至0.900和0.332至0.884,分别发现双位点之间无显着的连锁不平衡(LD)和21位点显着偏离Hardy-Weinberg平衡(HWE)。“ A共5728序列的表达序列标签数据库的海参刺参开采的微卫星序列,共确定了151个EST微。93设计的引物对,56扩增的预期成果和38个具有多态性的48个测试。的等位基因的数目从2到10不等,和观察到的和预期的杂合度的变化范围从0.000至0.900和0.332至0.884,分别发现双位点之间无显着的连锁不平衡(LD)和21位点显着偏离Hardy-Weinberg平衡(HWE)。“ A共5728序列的表达序列标签数据库的海参刺参开采的微卫星序列,共确定了151个EST微。93设计的引物对,56扩增的预期成果和38个具有多态性的48个测试。的等位基因的数目从2到10不等,和观察到的和预期的杂合度的变化范围从0.000至0.900和0.332至0.884,分别发现双位点之间无显着的连锁不平衡(LD)和21位点显着偏离Hardy-Weinberg平衡(HWE)。
【英文摘要】A total of 5728 sequences from the expressed sequence tag database of sea cucumber Apostichopus japonicus were mined for microsatellite sequences. A total of 151 ESTs containing microsatellites were identified. Of 93 primer pairs designed, 56 amplified expected products and 38 showed polymorphism in 48 individuals tested. The number of alleles ranged from 2 to 10, and the observed and expected heterozygosities varied from 0.000 to 0.900 and from 0.332 to 0.884, respectively. No significant linkage disequilibrium (LD) between pairs of loci was found and 21 loci significantly deviated from the Hardy – Weinberg equilibrium (HWE).

【语种】英文
【第一作者】Wei Peng
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【题目】Methods comparison for microsatellite marker development: Different isolation methods, different yield efficiency
【中文关键词】微卫星标记开发,分离效率的方法比较扇贝“
【英文关键词】microsatellite;marker development;isolation efficiency;method comparison;scallop
【中文摘要】“微卫星标记已经成为一种最重要的分子工具,用于在不同的研究需要大量的微卫星标记的全基因组分子生态学,数量遗传学和基因组学领域的调查,因此,它是十分必要的选择多个多功能,低成本,高效率和时间和劳动节能的方法开发一个大型面板的微卫星标记。在这项研究中,我们使用了栉孔扇贝,栉孔扇贝的目标物种比较效率的五种方法结果表明,小片段基因组DNA文库构建的战略导致效率低下,而微卫星富集的战略高度提高了分离效率。,虽然挖掘公共数据库的策略是时间和成本来自微卫星标记发展的三大战略。节能,这是很难获得大量的微卫星标记,主要是由于沉积在公共数据库中,基于在本研究的结果的非模型的种类有限序列数据,我们建议的两种方法,微卫星富集文库建设“方法和FIASCO - 的菌落杂交方法,为大型微卫星标记的发展,这两种方法均来自微卫星富集战略从栉孔扇贝的实验结果,在大基因组与其他物种的微卫星标记的开发提供参考。“微卫星标记已经成为一种最重要的分子工具,用于在不同的研究需要大量的微卫星标记的全基因组分子生态学,数量遗传学和基因组学领域的调查,因此,它是十分必要的选择多个多功能,低成本,高效率和时间和劳动节能的方法开发一个大型面板的微卫星标记。在这项研究中,我们使用了栉孔扇贝,栉孔扇贝的目标物种比较效率的五种方法结果表明,小片段基因组DNA文库构建的战略导致效率低下,而微卫星富集的战略高度提高了分离效率。,虽然挖掘公共数据库的策略是时间和成本来自微卫星标记发展的三大战略。节能,这是很难获得大量的微卫星标记,主要是由于沉积在公共数据库中,基于在本研究的结果的非模型的种类有限序列数据,我们建议的两种方法,微卫星富集文库建设“方法和FIASCO - 的菌落杂交方法,为大型微卫星标记的发展,这两种方法均来自微卫星富集战略从栉孔扇贝的实验结果,在大基因组与其他物种的微卫星标记的开发提供参考。
【英文摘要】Microsatellite markers have become one kind of the most important molecular tools used in various researches. A large number of microsatellite markers are required for the whole genome survey in the fields of molecular ecology, quantitative genetics and genomics. Therefore, it is extremely necessary to select several versatile, low-cost, efficient and time- and labor-saving methods to develop a large panel of microsatellite markers. In this study, we used Zhikong scallop (Chlamys farreri) as the target species to compare the efficiency of the five methods derived from three strategies for microsatellite marker development. The results showed that the strategy of constructing small insert genomic DNA library resulted in poor efficiency, while the microsatellite-enriched strategy highly improved the isolation efficiency. Although the mining public database strategy is time- and cost-saving, it is difficult to obtain a large number of microsatellite markers, mainly due to the limited sequence data of non-model species deposited in public databases. Based on the results in this study, we recommend two methods, microsatellite-enriched library construction method and FIASCO-colony hybridization method, for large-scale microsatellite marker development. Both methods were derived from the microsatellite-enriched strategy. The experimental results obtained from Zhikong scallop also provide the reference for microsatellite marker development in other species with large genomes.
【语种】英文
【第一作者】战爱斌
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【题目】Impact of Salicylic Acid on the Antioxidant Enzyme System and Hydrogen Peroxide Production in Cucumis sativus under Chilling Stress

【中文关键词】低温胁迫;黄瓜;水杨酸
【英文关键词】Chilling Stress, Cucumis sativus, Salicylic Acid
【中文摘要】水杨酸(SA)是一种自然产生的化合物,在植物防御不同的生物和非生物胁迫中发挥重要作用。为了解SA在低温胁迫的作用,选取了两个黄瓜品种,测定细胞膜的完整性,包括丙二醛(MDA)含量和电解质泄漏,内源性SA水平在两个不同的品种的差异显著性进行量化。此外,还测定了SA-预处理黄瓜植株在低温条件下。抗氧化酶,过氧化物酶(POD)和过氧化氢酶(CAT),进行定量和过氧化氢(H2O2)生产组织化学SA-处理过的叶片在低温下温度。低温胁迫导致更大的SA水平在诱导抗冷性品种长春密刺的叶子和种子相比,冷敏感的Beijing jietou,而前者比后者在正常条件下的种子中含有较高水平的SA。 SA预处理减少在这两个品种的叶片受冷引起的增加电解质泄漏和丙二醛(MDA)含量,同时要少得多MDA和电解质外渗生产中Changhcun密刺相比,Beijing jietou。此外,外施SA显着POD及CAT活性和可溶性蛋白质含量增加。最重要的是,在低温胁迫所造成两品种的叶片和子叶外源SA处理可以消除H2O2的积累。这些数据清楚地表明,抗冷性品种,显示较高的SA比冷敏感,和外源SA可以增强耐冷性的能力,这可能是通过调节抗氧化系统的结果。
【英文摘要】Salicylic acid (SA) is a naturally produced compound, and has been implicated to play important roles in defense of plants against diverse biotic and abiotic stresses. To understand how SA functions in the tolerance of cucumber (Cucumis sativus) to chilling stress, endogenous SA levels in two different cultivars with opposite chilling responsiveness were quantified. Membrane integrity, including malondialdehyde (MDA) content and leakage of electrolyte, was also examined in SA-pretreated cucumber plants under chilling conditions. In addition, activities of the two antioxidant enzymes, peroxidase (POD) and catalase (CAT), were quantified and hydrogen peroxide (H2O2) production was investigated histochemically in SA-treated leaves under chilling temperature. Chilling stress resulted in greater induction of SA levels in the chilling-tolerant cultivar Changchun mici in both leaves and seeds compared to the chilling-sensitive one Beijing jietou, while the former contains higher levels of SA than the latter in the seeds under normal condition. Pretreatment with SA diminished the increased electrolyte leakage and MDA content caused by chilling in the leaves of both cultivars, while much less MDA and electrolyte leakage was produced in Changhcun mici compared to Beijing jietou. Moreover, exogenous application of SA increased significantly POD and CAT activities and soluble protein content. Most importantly, exogenous SA treatment could eliminate the accumulation of H2O2 in leaves and cotyledons of both cultivars caused by chilling stress. The data clearly demonstrate that the chilling-tolerant cultivar displays higher SA than the chilling-sensitive one, and that exogenous SA can enhance the chilling tolerance ability, which might be achieved through modulating antioxidant system in cucumber.
【语种】英文
【第一作者】张万萍
【通讯作者】Jin-Feng Chen
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【题目】2 种胡枝子牧草生物量及草层结构变化研究
【中文关键词】尖叶胡枝子; 达乌里胡枝子; 生物量; 草层结构
【英文关键词】Lesp edez ahedy sar oides;L . dav ur ica;biomass; grass layer structure
【中文摘要】尖叶胡枝子和达乌里胡枝子地上生物量随生育期的进程在不断增加, 尖叶胡枝子最大生物量出现在开化期, 达乌里胡枝子出现在结实期; 在分枝期和孕蕾期叶/ 茎> 1, 其中分枝期尖叶胡枝子和达乌里胡枝子叶的比重分别占地上总生物量的711 26%和70194%, 孕蕾期叶比重略低于分枝期。开花期和结实期, 随着花果的出现, 花果的比重迅速上升, 叶比重迅速下降; 地上生物量的垂直分布近于菱形, 在孕蕾期尖叶胡枝子和达乌里胡枝子生物量主要集中于10~ 30cm 和20~ 50cm 处; 尖叶胡枝子枝条主要以中、细枝为主, 约占总枝条量的66171% ~67167%。而达乌里胡枝子以粗、中枝为主, 约占枝条总量的781 39%~ 821 89%; 枝条的垂直分布尖叶胡枝子和达乌里胡枝子粗枝主要集中在0~ 20cm, 中、细枝集中分布在20~ 40cm。
【英文摘要】Tip lespedeza leaves and L. dahurica on the ground, biomass increasing with the process of the growth period, the the pointed leaves Lespedeza largest biomass appear in the civilizedPeriod, L. dahurica appear in the solid phase; branching and bud period leaf / stem> 1, in which the branching stage pointed leaves of Lespedeza and L. dahurica leaves, the proportion ofRespectively area of 71,126% and 70,194% of the total biomass, the bud period leaves the proportion was slightly lower than the branching stage. Flowering and grain filling stage, with the emergence of flowers and fruits, flowers if the proportion is rising rapidly, the rapid decline in leaf weight; aboveground biomass, vertical distribution of nearly diamond-shaped in pregnant bud stage pointed leaves of Lespedeza and L. dahurica students,volume is mainly concentrated in the 10 ~ 30cm and 20 ~ 50cm; Lespedeza, pointed leaves, branches, twigs,

accounting for 66,171% of the total amount of branches to 67,167%. L. dahurica coarse, medium sticks mainly about the branches of the total 78,139% to 82,189%; the branches vertical distribution pointed leaves Lespedeza L. dahurica asperata mainly to 0 ~ 20cm, in twigs concentrated in of 20 ~~ 40cm.
【语种】中文
【第一作者】松梅
【通讯作者】孙启忠
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【题目】First report on tube feet differential pigmentat ion in the cultivated sea urchin Strongylocentrotus intermedius (Agassiz, 1863) and its relationship with growth performance
【中文关键词】海胆生长性能
【英文关键词】sea urchin growth performance
【中文摘要】管的脚差pigmentat离子在耕地中间球海胆(阿加西,1863年)第一次报告及其与生长性能的关系
【英文摘要】First report on tube feet differential pigmentat ion in the cultivated sea urchin Strongylocentrotus intermedius (Agassiz, 1863) and its relationship with growth performance
【语种】英文
【第一作者】张伟杰
【通讯作者】常亚青
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【学科分类】水产学基础学科

【题目】Microsatellite DNA polymorphisms and the relation with body weight in sea cucumber Apostichopus japonicas
【中文关键词】微卫星DNA多态性相关性分析体重刺参
【英文关键词】microsatellite DNA polymorphism correlation analysis body weight Apostichopus japonicus
【中文摘要】的中国圈养海参刺参微卫星多态性与体重之间的关系进行了研究,在大连当地居民。在10个位点发现,9个节目改变但AJ07位点。 7个位点被发现在这两个群体具有高度的多态性。在两个群体中的每个位点的平均等位基因数为6.4286和6.28570.2257和0.2459,平均观察杂合度,期望杂合度在0.7768和0.7488,多态信息含量(PIC)在0.7092和0.6746,分别。进一步的分析表明刺参体重和发生标记AJ02和AJ04的显着相关性。的关系的研究结果可能有助于为分子育种,分子标记辅助选择以及海参
【英文摘要】The relationship between microsatellite polymorphism and body weight of captive bred Chinese sea cucumber Apostichopus japonicus was investigated in two local populations in Dalian. Among ten loci discovered, nine show changes except for AJ07 loci. Seven loci were found highly polymorphic in both populations. For each locus in two populations, the average number of alleles is 6.428 6 and 6.285 7, the average observed heterozygosity at 0.225 7 and 0.245 9, the expected heterozygosity at 0.776 8 and 0.748 8, the polymorphism information content (PIC) at 0.709 2 and 0.674 6, respectively. Further analysis show significant correlation between A. japonicus body weight and occurrence markers AJ02 and AJ04. The findings of the relation may be helpful for molecular breeding, as well as the marker-assisted selection of sea cucumbers
【语种】英文
【第一作者】王秀利
【通讯作者】王秀利
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【学科分类】水产学基础学科

【题目】Role of animal pole protuberance and microtubules during meiosis in sea cucumber Apostichopus japonicas oocytes
【中文关键词】刺参卵母细胞成熟卵母细胞突起,微管组织中心;极体的形成
【英文关键词】Apostichopus japonicus ;oocyte protuberance;oocyte maturation;microtubule organizing center;polar body formation
【中文摘要】刺参有完全成熟的卵母细胞的卵母细胞的胞质突起重视的卵泡。位于的卵母细胞的相对侧上的突起和oolamina表明的动物植物轴。两个预减数分裂中心体锚定到的突起由微管之间的中心体和突起。经过减数分裂再引发引起的DTT解决方案,生发泡(GV)对突起迁移。 GV分解后,迁移到卵母细胞膜上的突起侧。的突起,然后收缩到从网站上的前突起的卵母细胞和第一极体挤压。第二极体的下方的第1形成。因此,卵母细胞的突起表示推定的动物极的卵母细胞成熟前。
【英文摘要】Fully grown oocytes of Apostichopus japonicus have a cytoplasmic protuberance where the oocyte attaches to the follicle. The protuberance and the oolamina located on the opposite side of the oocyte indicate the animal-vegetal axis. Two pre-meiotic centrosomes are anchored to the protuberance by microtubules between centrosomes and protuberance. After meiosis reinitiation induced by DTT solution, the germinal vesicle (GV) migrates towards the protuberance. The GV breaks down after it migrates to the oocyte membrane on the protuberance side. The protuberance then contracts back into the oocyte and the first polar body extrudes from the site of the former protuberance. The second polar body forms beneath the first. Thus the oocyte protuberance indicates the presumptive animal pole well before maturation of the oocyte.
【语种】英文
【第一作者】庞震国
【通讯作者】常亚青
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【题目】利用cDNA-AFLP技术筛选与海胆数量性状相关的分子标记
【中文关键词】光棘球海胆 中间球海胆 杂交 cDNA-AFLP 单因素方差
【英文关键词】The nudus intermedius hybrid cDNA-AFLP one-way ANOVA
【中文摘要】以光棘球海胆(♀)×中间球海胆(♂)的F1代为材料,利用cDNA-AFLP技术,采用单因素方差分析方法,对与海胆壳径、体质量和生殖腺质量等主要经济性状相关的分子标记进行筛选,并对这些数量性状与分子标记的相关性进行分析。结果表明,10对引物共筛选出与壳径、体质量、生殖腺质量显著相关cDNA-AFLP标记数分别为43、48和42个;极显著相关cDNA-AFLP标记数分别为38、38和23个;与3个数量性状相关显著的分子标记贡献率分别为7.62%-12.48%、8.02%-14.15%和7.94%-13.71%;相关极显著的分子标记贡献率分别为15.36%-34.55%、11.88%-39.88%和13.39%-32.26%
【英文摘要】Nudus (♀) × intermedius (♂) F1 behalf, using cDNA-AFLP technique, using one-way ANOVA, main economic traits with sea urchin shell diameter, body weight and gonad qualitymolecular markers for screening, analysis and correlation of these quantitative traits and molecular markers. The results showed that 10 pairs of primers were screened out of the shell diameter, body mass, gonad quality significantly cDNA-AFLP marker number 43, 48 and 42, respectively; very significant cDNA-AFLP markers were 38,38 and 23 ; molecular markers significantly with three quantitative traits related contribution rate were 7.62% -12.48% 8.02% -14.15% 7.94% -13.71%; significant correlation the molecular markers contribution rate were 15.36% -34.55%, 11.88 % -39.88% 13.39% -32.26%
【语种】中文
【第一作者】邹林林
【通讯作者】周遵春
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【引文索引号】2417130675
【学科分类】水产学基础学科

【题目】夏眠对刺参(Apostichopus japonicus (Selenka))能量收支的影响
【中文关键词】刺参,夏眠,能量收支,水温,体重
【英文关键词】Japonicus, aestivation, energy budget, water temperature, body weight
【中文摘要】夏眠是刺参最重要的生理特征;水温升高是其夏眠的主要诱发因子,而夏眠的临界温度与刺参体重密切相关.为揭示刺参夏眠对其能量利用对策的影响,测定了2种体重规格(134.0±13.5)g和(73.6±2.2)g刺参在10、15、20、25 ℃和30 ℃ 5个温度梯度下的能量收支.结果表明,温度和体重及其交互作用对刺参能量的摄入均有显著影响;而温度是影响其摄食能分配的主要因素.研究发现,刺参在非夏眠期、夏眠临界期和完全夏眠期的能量利用对策有所不同:在非夏眠期,刺参摄食能支出的最大组分是粪便能,占摄食能的比例超过50%,其次为呼吸耗能,占19.8%~39.4%,而生长能和排泄能占的比例较小,分别为5.7%~10.7%和2.9%~3.7%;在夏眠临界温度下,呼吸和排泄耗能占摄食能的比例均显著增大(分别为88.3%和13.6%),而生长能所占比例降为负值(-55.3%),刺参表现为负生长;而在夏眠期,刺参的摄食能和排粪能为零,为维持其基本生理活动,不得不动用以往贮存于体内的能量,消耗于呼吸和排泄等生理过程,供维持生命之用.总之,从能量生物学的角度看,夏眠的主要生态学意义在于刺参长时间处于相对高温环境,进而导致摄食受阻条件下的一种能量节约方式.
【英文摘要】Aestivation is the most important sea cucumber physiological characteristics; rising water temperatures aestivation major predisposing factor aestivation critical temperature and sea cucumber weight are closely related. Determined to reveal the impact of the utilization of the sea cucumber aestivation its energykinds of weight specification (134.0 ± 13.5) g and (73.6 ± 2.2) g stichopus energy budget. 10,15,20,25 ℃ and 30 ℃ 5 temperature gradient results show that the temperature and weight and their interactionsthe sea cucumber energy intake have a significant impact; temperature is the main factor to affect its feeding allocated study found that sea cucumber in the non-aestivation period, the aestivation critical period and full aestivation period energy utilization differ: In thenon aestivation period, the largest component of the expenditure of the sea cucumber feeding can feces can total proportion of feeding can be more than 50%, followed by respiratory energy consumption, accounting for 19.8% to 39.4%, while growth and excretion can account for a smaller proportion of5.7% to 10.7% and from 2.9% to 3.7%, respectively; under in aestivation critical temperature, respiration and excretion of energy consumption accounted for feeding proportion were significantly increased (88.3% and 13.6%, respectively), while the growth can shareproportion dropped to negative (-55.3%), sea cucumber showed negative growth; in aestivation period, the sea cucumber feeding and defecation can be zero, in order to maintain its basic physiological activities, had to draw on stored bodyenergy consumed in physiological processes such as respiration and excretion, for the maintenance of life with short, from a biological point of view of energy, aestivation major ecological significance lies japonicus at a relatively high temperature environment for a long period of time, causing feeding hindered under conditionsan energy saving way.
【语种】中文
【第一作者】袁秀堂
【通讯作者】国家海洋环境监测中心
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【题目】刺参血淋巴细胞形态和表面结构观察
【中文关键词】刺参(Apostichopus japonicus),血淋巴细胞,形态,结构
【英文关键词】Sea cucumber (Apostichopus japonicus), blood lymphocytes, morphology, structure
【中文摘要】通过光镜和扫描电镜观察,较为系统地研究刺参(Apostichopus japonicus)血淋巴细胞的形态和表面结构.根据大小和形态结构,将血淋巴细胞定义为4种类型:小淋巴细胞、吞噬细胞、桑葚细胞和结晶细胞.
【英文摘要】By light microscopy and scanning electron microscopy, a more systematic study of sea cucumber (Apostichopus japonicus) blood lymphocyte morphology and surface structure according to the size and morphology of the blood lymphocytes defined as four types: small lymphocytes, phagocytes,mulberry cells and crystalline cells.
【语种】中文
【第一作者】邢坤

【通讯作者】杨红生
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【学科分类】水产学基础学科

【题目】刺参对浅海筏式贝类养殖系统的修复潜力
【中文关键词】刺参 ,摄食,生长,排泄,筏式贝类养殖系统,生物修复潜力
【英文关键词】Japonicus, feeding, growth, excretion, raft shellfish farming systems, bioremediation potential
【中文摘要】浅海筏式养殖滤食性贝类产生大量的粪便和假粪(总称生物沉积物),对海水养殖环境产生一系列影响;而沉积食性海参能够有效清除颗粒有机物,在海水养殖系统中扮演"清道夫"的生态角色.为评估刺参在浅海筏式贝类养殖系统中的生物修复潜力,本文在不同季节现场研究了贝-参混养模式下刺参对贝类生物沉积物的摄食及生长和排泄特征.结果表明:刺参能够在新设计的养殖设施中与滤食性贝类混养,最大生长率达0.34% · d-1; 并可通过摄食有效清除贝类生物沉积物, 摄食率为0.1746 g · g-1 · d-1(夏季,21.2 ℃)、0.0989 g · g-1 · d-1(秋季,19.2 ℃)和0.0050 g · g-1 · d-1(冬季,7.7 ℃);刺参主要通过排泄溶解形态的NH4+-N和PO43--P来促进沉积物中营养盐的再生,其排泄率也呈现明显的季节变化.基于现场试验数据,估算了刺参在桑沟湾的生物修复潜力, 刺参与贝类混养可摄食4.5~159.6 kg · hm-2 · d-1生物沉积物、排泄1 382.5~3 678.1 mmol · hm-2 · d-1 NH4+-N及74.6~335.7 mmol · hm-2 · d-1 PO43--P.表明刺参对浅海筏式贝类养殖系统具有较大的生物修复潜力,贝-参混养模式不仅能够取得较大的生态效益,而且能显著增加养殖生产的经济效益.
【英文摘要】Shallow water raft culture filter-feeding shellfish to produce large amounts of manure and false the dung the (collectively biological sediment), produce a series of impacts on marine aquaculture environment; deposition feeders sea cucumber can effectively remove the particulate organic matter, play in the mariculture system "scavengerecological role. potential biological assessment of sea cucumber in the shallow water raft shellfish farming system repair, Tony - Participation polyculture mode of sea cucumber feeding on shellfish sediments on-site research in different seasons and growth andexcretion characteristics results show that: stichopus new aquaculture facilities designed with the filter-feeding shellfish polyculture, the maximum growth rate of 0.34% d-1; and through feeding shellfish effectively remove sediment, feeding rate was.1746 g · g-1 · d-1 (summer, 21.2 ° C), 0.0989 g · g-1 · d-1 (fall, 19.2 °C) and 0.0050 g · g-1 · d-1 (winter, 7.7 ° C); to promote the regeneration of nutrients in the sediments of sea cucumber dissolved form via the excretion of NH4 +-N and PO43 - P, and its excretion also showed a significant seasonal variation. estimated based on field trial data, sea cucumber in Sanggou Baybioremediation potential thorn involved in shellfish polyculture feeding 4.5 to 159.6 kg · hm-2 · d-1 biological sediments excretion 1 382.5 3 678.1 mmol · hm-2 · d-1 of NH4 +-N and 74.6 ~335.7 mmol · hm-2 · d-1 PO43 - P. to show that the sea cucumber on shallow water raft shellfish farming system has a large potential for bioremediation, Tony - Participation polyculture mode is not only able to achieve greater ecological benefits, andcan significantly increase the economic benefits of aquaculture production.
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【第一作者】袁秀堂
【通讯作者】杨红生
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【题目】光棘球海胆及杂交F1代(中间球海胆♀×光棘球海胆♂)群体遗传多样性AFLP分析
【中文关键词】光棘球海胆,中间球海胆,杂交,AFLP
【英文关键词】Nudus intermedius, hybridization, AFLP
【中文摘要】应用AFLP技术对中间球海胆、光棘球海胆及杂交F1代(中间球海胆♀×光棘球海胆♂)群体的遗传多样性进行了分析.结果表明,4对引物共扩增得到272个位点,其中269个多态位点,总的多态位点比例为98.89%.3个群体的香农多样性指数分别为:0.2331±0.1273、0.2005±0.1385和0.2625±0.1067.群体内遗传相似度分别为:0.6876±0.0523、0.6501±0.0548和0.6552±0.0553.分子方差分析(AMOVA)结果表明,变异来源有25.39%来自群体间,有74.61%来自群体内,群体内的遗传多样性比较丰富.尽管杂交海胆在表型上可以明显分成两种类型,但是通过AFLP统计的遗传距离进行的个体聚类却随机聚在一

起,不能分成两个群体.
【英文摘要】With AFLP technology intermedius, nudus and hybrid F1 generation (Strongylocentrotus intermedius ♀ × nudus ♂) the genetic diversity analysis results show that the four pairs of primers 272-bitthe point, of which more than 269 polymorphic loci, the total proportion of polymorphic loci Shannon diversity index of 98.89% .3 groups were: 0.2331 ± 0.1273,0.2005 ± 0.1385 and 0.2625 ± 0.1067. genetic similarity within groups: 0.6876 ± 0.0523,0.6501 ± 0.0548 and 0.6552 ± 0.0553. analysis of molecular variance (AMOVA) results show that 25.39% of the sources of variation among populations and 74.61% from the population, the genetic diversity within populations rich. despite hybridizationsea urchins on the phenotype can obviously be divided into two types, but the clustering of individual by AFLP statistical genetic distance together randomly, and can not be divided into two groups.
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【第一作者】周遵春
【通讯作者】包振民
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【题目】MYP基因在中间球海胆及杂交海胆(中间球海胆♀×光棘球海胆♂)生殖腺不同发育时期的转录表达差异
【中文关键词】MYP基因,海胆,生殖腺,表达差异
【英文关键词】MYP gene, sea urchins, gonads, expression differences
【中文摘要】应用实时荧光定量PCR技术对主要卵黄蛋白(Major yolk protein,MYP)基因在中间球海胆和杂交海胆(中间球海胆♀×光棘球海胆♂)的生殖腺不同发育时期的转录表达差异进行了分析.结果表明,MYP基因在海胆雌雄个体生殖腺中转录水平上的表达差异不明显;MYP基因在中间球海胆生殖腺发育的4个时期的表达呈快速下降的趋势,而在杂交海胆呈缓慢下降的趋势.在分析的生殖腺4个发育期中,中间球海胆雌雄个体MYP基因的表达量(以18S rRNA为参照)分别从44.55%和41.17%下降到9.59%和1.83%;杂交海胆的雌雄个体分别从37.66%和36.66%下降到19.22%和12.55%.MYP基因的转录表达量差异与杂交后生殖腺产生的变异密切相关
【英文摘要】Transcriptional expression differences gonads at different developmental stages of the application of real-time PCR technology to major yolk protein (Major yolk protein MYP) gene intermedius and hybrid sea urchin (Q urchins ♀ × nudus ♂)the results showed no significant difference MYP gene expression on the level of transcription in sea urchin gonads of male and female individuals; MYP gene the four periods expression the middle sea urchin gonad development showed a rapid downward trend in hybrid sea urchin showed a slow downward trendintermedius male and female individuals MYP gene expression in four developmental interim analysis of the gonads, as a reference (18S rRNA), respectively, decreased from 44.55% and 41.17% to 9.59% and 1.83%; hybrid sea urchin male and female individuals, respectively, from 37.66% and 36.66% down to 19.22% and 12.55% the gonads variation MYP gene transcriptional expression differences after hybridization is closely related to
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【第一作者】周遵春
【通讯作者】包振民
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【学科分类】水产学基础学科

【题目】直穗鹅观草引种试验
【中文关键词】直穗鹅观草; 引种试验; 禾草
【英文关键词】Roegneria turczaninovii (Drob.) Nevski; Introduction experiment; Grass
【中文摘要】与野生直穗鹅观草相比, 经过十多年引种驯化的直穗鹅观草表现出了较强的适应性和较好的生产性能,在林西县生育期约100 d, 平均干草产量可达4 753.3 kg/hm2, 生长2 年和生长3 年的种子产量平均达724.5 kg/hm2,干草产量和种子产量分别比野生直穗鹅观草增加17.0%和23.4%, 干草产量与垂穗披碱草(4 625.8 kg/hm2) 和无芒雀麦(4 788.2 kg/hm2) 相近, 但种子产量明显低于垂穗披碱草(1 312.5 kg/hm2) 和无芒雀麦(781.7 kg/hm2) 。

【英文摘要】After domestication for 10 years, Roegneria turczaninovii (Drob.) Nevski behaved greater adaptabilityand better production performance compared towild species. In Linxi county, the bearing stage of Roegneria turczaninovii (Drob.) Nevski was about 100 days .The average hay yield was 4 753.3 kg/hm2 and the average seed yield of the second year and third yearwas 724.5 kg/hm2. The hayyield and seed yield increased 17.0% and 23.4% thanwild species respectively. The hay yield ofRoegneria turczaninovii (Drob.) Nevski was similar toElymus nutans Griseb. (4 625.8 kg/hm2) and Bromus inermis Leyss. (4 788.2 kg/hm2) , but the seed yield was evidentlylower than Elymus nutansGriseb. (1 312.5 kg/hm2) and Bromus inermisLeyss. (781.7 kg/hm2) .
【语种】中文
【第一作者】冯志茹
【通讯作者】孙启忠
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【学科分类】畜牧、兽医科学其他学科

【题目】南方高档石头番茄高山越夏嫁接栽培技术
【中文关键词】石头番茄,嫁接,栽培
【英文关键词】stone tomato,grafting,cultivation
【中文摘要】近年来,石头番茄越来越受到消费者的喜爱,石头番茄果质硬、货架期长、耐贮运、口感好。石头番茄属无限生长类型,产量高,667m2产量高达10t,667m2产值过万元。由于南方夏季气温高、雨水多、加之台风影响,青枯病发病严重,在南方低海拔地区很难栽培。但在湖南、广西、贵州等高海拔山区越夏嫁接栽培石头番茄已成为当地农民脱贫致富的一条好途径。现将多年摸索的高山越夏嫁接栽培技术总结如下。
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【语种】中文
【第一作者】杨建国
【通讯作者】杨建国
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【学科分类】园艺学

【题目】中间球海胆野生和养殖群体遗传结构的微卫星分析
【中文关键词】中间球海胆 微卫星 遗传多样性
【英文关键词】The intermedius microsatellite genetic diversity
【中文摘要】利用28对微卫星DNA分子标记对中间球海胆的1个野生和1个养殖群体进行了遗传多样性分析。结果表明:在28个基因座中,共检测到91个等位基因,每个基因座位检测到的等位基因数为2~6个,2个群体的平均等位基因数均为3.0714,平均有效等位基因数分别为2.2319、2.2271,平均观察杂合度分别为0.5234、0.5365,平均期望杂合度为0.4868、0.4993,平均多态信息含量为0.4477、0.4396,群体间的多态性差异不显著。2个群体间的遗传相似系数为0.7587,遗传距离为0.2762。经Hardy—Weinberg平衡的卡方检验,有50%的位点显著偏离Hardy—Weinberg平衡。通过F检验发现,两个群体均处于不同程度的杂合子过剩状态。群体间发生分化程度很弱,遗传变异主要来自群体内个体之间
【英文摘要】28 microsatellite DNA molecular markers intermedius a wild and a cultured population genetic diversity analysis. The results showed that: 28 loci, 91 alleles were detected, the number of alleles of each gene loci detected 2 to 6, the average number of alleles of the two groups are 3.0714 average effective number of alleles were 2.2319,2.2271, average observed heterozygosity were 0.5234,0.5365, average expected heterozygosity 0.4868,0.4993 average polymorphic information content 0.4477,0.4396 polymorphism differences between the groups was not significant. The genetic similarity coefficient between the two groups as 0.7587, 0.2762 genetic distance. The chi-square test of the Hardy-Weinberg equilibrium, 50% of sites significant deviations from Hardy-Weinberg equilibrium. By F-test, the two groups are in varying degrees of excess heterozygous state. Degree of differentiation between groups is weak, the genetic variation between individuals within populations

【语种】中文
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【通讯作者】周遵春
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【题目】海胆主要卵黄蛋白研究进展
【中文关键词】海胆 主要卵黄蛋白 研究进展
【英文关键词】Research progress of the sea urchin major yolk protein
【中文摘要】海胆的主要卵黄蛋白(major yolk protein,MYP)大量存在于海胆卵中,同时存在于海胆精巢和卵巢中,为配子发生及胚胎发育提供营养。经比对发现,海胆MYP cDNA序列与其他物种卵黄蛋白原并无明显相似性,而与铁传递蛋白具有更高的相似性,有研究认为MYP为铁传递蛋白。据其存在场所和合成时期的差异,MYP可分为为CFMYP(存在于体腔内,受精后合成)和EGMYP(存在于卵中,母源性),二者均由同一基因编码。就CFMYP和EGMYP合成时期、场所和功能作用等加以比较;并对海胆MYP与其他物种卵黄蛋白(原)发生、结构与分子量和功能等方面进行了综述
【英文摘要】The sea urchin major yolk protein (major yolk protein, MYP) exists in a large number of sea urchin eggs, while present in the testes and ovaries of the sea urchin gametogenesis and embryonic development of nutrition. By comparison found urchins MYP cDNA sequence with other species vitellogenin no obvious similarity with transferrin protein has a higher similarity, studies have considered MYP transferrin. According to the presence of breaks and synthesis period difference, MYP can be divided into CFMYP (synthetic) present in the body cavity, and after fertilization, and EGMYP (present in the eggs, maternal), both produced by the same gene coding. And sea urchin the MYP with other species yolk protein (original) occurs, the structure and molecular weight and functionality of synthesis period CFMYP and EGMYP place and function of comparison;
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【题目】刺参vasa-1ike基因克隆及其在组织中的表达分析
【中文关键词】刺参,vasa ,全长cDNA,序列分析,组织表达
【英文关键词】Sea cucumber, vasa, full-length cDNA sequence analysis, tissue expression
【中文摘要】vasa 基迭J编码DEAD-box家族成员中一种ATP依赖的RNA解旋酶,在生殖系分化过程中发挥着重要的作用.本研究采用同源克隆和cDNA末端快速扩增技术(RACE),从刺参(Apostichopus japonicus)精巢中克隆得到vasa的全长cDNA序列.该cDNA序列全长2167bp,开放阅读框1593 bp,编码530个氨基酸,具有DEAD-box家族蛋白的全部9个保守域.经同源比对和系统进化分析,确定其属于DEAD-box家族的VASA亚家族成员.利用半定量RT-PCR检测,vosa mRNA专一性的在刺参性腺中表达,据此,刺参vaxa基冈有望用于其生殖系起源和分化的研究.
【英文摘要】The vasa base Diego J encoding DEAD-box family members in an ATP-dependent RNA helicase, plays an important role in the the germline differentiation process in this study using homology cloning and rapid amplification of cDNA ends technology (RACE),the vasa cloned from the testis of the sea cucumber (Apostichopus japonicus) full-length cDNA sequences of the cDNA sequence of full-length 2167bp open reading frame of 1593 bp, and encodes 530 amino acids, with all nine conserved domains of the DEAD-box family proteins.evolutionary homology comparison and system analysis, determine its belonging to the VASA subfamily of the DEAD-box family members using semi-quantitative RT-PCR analysis, vosa mRNA specifically expressed in the sea cucumber gonads, accordingly, the sea cucumber vaxa baseOkazaki is expected for the study of the origin and differentiation of its reproductive system.

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【第一作者】隋娟
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【题目】仿刺参体壁、肠和呼吸树全长cDNA 文库的构建及部分ESTs 初步分析
【中文关键词】仿刺参,cDNA文库,构建ESTs
【英文关键词】Japonicus cDNA library was constructed ESTs
【中文摘要】利用SMART cDNA文库构建试剂盒构建了健康仿刺参的体壁、肠和呼吸树的cDNA文库。检测结果表明.3个文库库容量分别为1.7×10^6、1.5×10^6和1.8×10^6;重组率均超过98%;插入片段平均长度均大于1kb。证明所建cDNA文库的质量符合要求。对随机选取的6240个克隆进行5’端测序。得到5913条有效序列(体壁:2031,肠:1966,呼吸树:1916),去除低质量序列和小于100bp的序列后,共得到5728条高质量的ESTs序列(体壁:1791,肠:1906,呼吸树:1851),序列平均长度为589bp。经过软件拼接。共得到2613条单基因簇.包含495个序列重叠群和2118条单一序列。通过BLASTX搜索比对.获得基因注释序列853个(体壁:274个;肠:358个;呼吸树:221个),占总数32.6%.并进行了初步的功能分类。为进一步开展相关基因的克隆和分子标记的筛选奠定了基础
【英文摘要】SMART cDNA library construction kit cDNA library constructed health japonicus body wall, intestinal and respiratory tree. The test results showed. The three library storage capacity of 1.7 × 10 ^ 6,1.5 × 10 ^ 6 and 1.8 x 10 ^ 6; reorganization rate of over 98%; average insert length greater than 1kb. Quality of the cDNA library prove built to meet the requirements. 6240 clones randomly selected for sequencing of the 5 'end. 5913 sequence (body wall: 2031, intestinal: 1966, Respiratory Tree: 1916), removal of low quality sequences and less than 100bp sequence, a total of 5728 high-quality ESTs sequences (body wall: 1791, intestinal : 1906, breathing tree: 1851), the average length of the sequence 589bp. After software splicing. A total of 2613 single-gene cluster. Contains 495 sequence contigs and 2118 single sequence. BLASTX search. The gene annotation sequence 853 (body wall: 274; intestinal: 358; respiratory tree: 221), accounting for 32.6% of the total number of. And preliminary functional classification. Laid the foundation for the further development of related genes and molecular markers screening
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【第一作者】周遵春
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【学科分类】水产学基础学科

【题目】仿刺参的微卫星标记
【中文关键词】仿刺参 微卫星标记 多态性 通用性
【英文关键词】Japonicus microsatellite markers polymorphism versatility
【中文摘要】为了评价种质资源及基础生物学研究的需要,本文开发了仿刺参的微卫星标记。NCBI数据库中共有20个含有仿刺参微卫星的序列,从中选取8个设计引物,发现6个微卫星位点有多态性。不同的引物获得的等位基因数为3~9个不等,6个位点共获得了31个等位基因,每个位点平均获得5.2个等位基因。6个位点的平均观测杂合度(Ho)为0.3611,平均期望杂合度(He)为0.6402。位点AJMS004提供的多态性信息含量值较低,为0.4862;其他5个位点均在0.5以上。另外,还尝试了红海参(Parastichopus californicus)微卫星标记在仿刺参的通用性。实验结果表明,在较高的退火温度下,5对引物均能扩增仿刺参的基因组DNA并具多态性。5个位点共获得了22个等位基因,每个位点平均获得4.4个等位基因。5个位点的平均观测杂合度(Ho)为0.1733,平均期望杂合度(He)为0.4201。其中位点Psc2的多态性信息含量值最高,为0.8500
【英文摘要】In order to evaluate the needs of germplasm resources and basic biological research, development japonicus microsatellite markers. A total of 20 of the NCBI database containing japonicus microsatellite sequence, primers were designed to select from eight to six microsatellite loci polymorphism. Different primers to obtain the number of alleles ranged from 3 to 9, six sites total of

31 alleles per locus average of 5.2 alleles. The average observed heterozygosity (Ho) of the six sites of 0.3611, and the average expected heterozygosity (He) was 0.6402. Polymorphism information content sites AJMS004 lower value, 0.4862; 5 other sites are more than 0.5. Also, try the red sea cucumber (Parastichopus californicus) the microsatellite markers japonicus versatility. Experimental results show that a higher annealing temperature, five pairs of primers can amplify the genomic DNA of the japonicus and polymorphic. The five sites received a total of 22 alleles per locus average of 4.4 alleles. The average of the five sites observed heterozygosity (Ho) was 0.1733, and the average expected heterozygosity (He) was 0.4201. In which the bit point Psc2 the highest polymorphism information content value, to 0.8500

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【题目】改良TRIZOL法快速提取刺参、海胆总RNA
【中文关键词】仿刺参 海胆 总RNA提取
【英文关键词】Japonicus the sea urchins total RNA extract
【中文摘要】用改良的TRIZOL法和普通TRIZOL法分别提取仿刺参Apostichopus japonica体壁、肠、体腔液和中间球海胆Strongylocentrotus intermedius的管足、性腺、齿间肌的总RNA。结果表明:用普通TRIZOL法提取时间长,电泳条带不很清晰,存在降解且各个组织提取的状况不稳定,杂质量多;而用改良TRIZOL法能够快速提取仿刺参、海胆组织的总RNA,电泳后得到的28S rRNA和18S rRNA条带清晰、完整性好、纯度高、得率高,其A/A为2.04~2.14,总RNA浓度为44.96~115.02 ng/μL。
【英文摘要】"Were extracted by modified TRIZOL method and ordinary TRIZOL method japonicus Apostichopus japonica body wall, intestine, body cavity fluid and intermedius Strongylocentrotus intermedius tube feet, gonad, interdental muscle total RNA results show that: with ordinary TRIZOLthe precarious situation of long extraction time, electrophoretic bands are not very clear, the presence of degradation and various tissue extracts impurities; japonicus, sea urchins tissue total RNA by modified TRIZOL method to quickly extract after electrophoresis of 28S rRNAand 18S rRNA with clarity, completeness, high purity, high yield, its A / A 2.04 to 2.14, the concentration of total RNA from 44.96 to 115.02 ng / μL.
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【题目】黑嘴病及生殖对虾夷马粪海胆五种生理生化指标的影响
【中文关键词】虾夷马粪海胆 黑嘴病 生殖 指标
【英文关键词】Shrimp the Yima fecal sea urchin black mouth disease reproductive indicators
【中文摘要】对虾夷马粪海胆(Strongylocentrotus interm edius)患“黑嘴病”及生殖后体腔液中5种生理生化指标进行了检测,结果表明病理情况下的虾夷马粪海胆过氧化氢含量和丙二醛含量明显高于对照组,而过氧化氢酶活性、超氧化物歧化酶活性和总抗氧化能力明显低于对照组,其中,过氧化氢含量、总抗氧化能力和超氧化物歧化酶活性差异显著(P〈0.05),丙二醛含量、过氧化氢酶活性差异极显著(P〈0.01)。生殖后除过氧化氢含量外其他4种生理生化指标均降低,其中总抗氧化能力和丙二醛含量差异显著(P〈0.05),过氧化氢酶和超氧化物歧化酶活性差异极显著(P〈0.01)。研究表明以海胆体腔液中丙二醛含量和过氧化氢酶活性作为海胆黑嘴病发生的监测指标是可行的
【英文摘要】Shrimp the Yima fecal sea urchins (Strongylocentrotus interm edius) suffering from "black mouth" disease and reproductive body cavity fluid physiological and biochemical indicators of the testing results show that the content of hydrogen

peroxide and malondialdehyde shrimp the Yima fecal sea urchin pathological casesignificantly higher levels of catalase activity, superoxide dismutase activity and total antioxidant capacity was significantly lower than the control group, in which the hydrogen peroxide content, total antioxidant capacity and superoxide dismutase activity differencessignificant (P <0.05), MDA content, catalase activity was a significant difference (P <0.01). The reproductive except the other four kinds of physiological and biochemical indexes were lower hydrogen peroxide content, total antioxidant capacity and malondialdehyde content was significantly different (P <0.05), catalase and superoxide dismutase activity was a significant difference (P <0.01). Studies have shown that sea urchin coelomic fluid malondialdehyde (MDA) content and peroxide catalase activity as sea urchins black mouth disease monitoring indicators

【语种】中文

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【学科分类】水产学基础学科

【题目】虾夷马粪海胆表型性状对性腺性状的影响效果分析

【中文关键词】虾夷马粪海胆 表型性状 性腺性状 相关分析 回归分析

【英文关键词】Shrimp the Yima fecal sea urchin the phenotypic traits gonads traits analysis regression analysis

【中文摘要】从19月龄虾夷马粪海胆Strongylocentrotus intermedius养殖群体中随机选择600枚,测量了壳高(TH)、壳径(TD)、活体重(BW)、性腺湿重(GWW)、性腺颜色(L*a*b*)、性腺指数(GI)、性腺水分(GM)7个性状。采用相关分析和通径分析方法,计算了各性状间的相关系数,并定量分析了壳性状对活体重及表型性状(壳高、壳径、活体重)对性腺性状的影响效果。结果表明,壳性状与活体重极显著相关(P〈0.01);4个性腺性状除构成性腺颜色性状的a*(绿-红)、b*(蓝-黄)分别与壳径、活体重呈显著相关(P〈0.05),而与其他表型性状无显著相关外,L*(暗-亮)、性腺湿重、性腺指数和性腺水分与表型性状均达到极显著相关(P〈0.01)。壳径对活体重的直接影响最大(0.717),活体重对性腺湿重的直接影响最大(0.598),壳径和活体重可作为间接选择性腺湿重的主要指标。利用曲线回归建立了壳性状预测活体重及活体重预测性腺湿重的最优模型:BW=0.001TD2.822(R2=0.984),GWW=0.039BW1.331(R2=0.753)。

【英文摘要】600 randomly selected from the 19-month-old shrimp Yima dung sea urchin Strongylocentrotus intermedius cultured population, measured shell height (TH), shell diameter (TD), live weight (BW), gonad wet weight (GWW), the gonads color (L* a * b *), gonad index (GI), gonadal moisture (GM) traits. The correlation analysis and path analysis method to calculate the correlation coefficient between each trait and shell traits of live weight and phenotypic traits (shell height, shell diameter, liveweight) gonads traits, the effect of quantitative analysis. The results show that, shell traits and live weight extremely significant with related (P <0.01); four gonadal traits in addition to constituting gonad color traits a * (green - red), b * (blue - yellow), respectively, with the shell diameter, live weight was significantly related (P <0.05), while the other phenotypic traits without significantly with relevant outside L * (dark - bright), gonad wet weight, gonad index and gonad moisture and phenotypic traits were reached extremely significant with related (P <0.01) . Maximum shell diameter of the direct impact of live weight (0.717), the live weight of the gonad wet weight directly affect the maximum (0.598), shell diameter and live weight can be used as the main indicators of indirect selection gonad wet weight. Using curve regression the shell traits predict live weight and live weight prediction gonad wet weight optimal model: BW = 0.001TD2.822 (R2 = 0.984), GWW = 0.039BW1.331 (R2 = 0.753).

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【学科分类】水产学基础学科

【题目】虾夷马粪海胆不同家系和性别间性腺性状的比较

【中文关键词】虾夷马粪海胆 家系 性别 性腺性状
【英文关键词】Shrimp Yima fecal the sea urchin pedigree gender gonadal traits
【中文摘要】对来自虾夷马粪海胆20个家系的600枚海胆的性腺湿重、指数、颜色、水分和脂肪酸组成进行了测量和分析,结果显示性腺湿重和性腺指数在家系间均有极显著差异,但在性别间差异不显著,两个性腺产量性状在整个群体内均具有较大的变异;虾夷马粪海胆性腺颜色介于黄色和橙红色之间,且色泽鲜艳,经CIE L^*a^*b^*标准量化和方差分析,L^*和a^*在家系间无显著差异,但b^*、亮黄色差(ΔE1)和亮橙黄色差(ΔE2)在家系间均具有极显著差异,在性别间,雌性海胆的L^*、a^*和b^*值以及两个色差均极显著优于雄性;性腺水分在家系和性别间有极显著和显著差异;性腺总脂中含有较高的EPA(12.11±2.65)%和AA(10.27±3.40)%,而DHA含量较低(0.49±0.64)%,但其在群体内变异极大(130.77%),高不饱和脂肪酸在家系间具有极显著差异,而在性别间仅AA有显著差异(雄性较高)。研究结果表明,对性腺产量和品质进行家系或性别选择均可达到提升性腺产量和品质的目的
【英文摘要】600 sea urchins of the 20 families from the shrimp the Yima fecal sea urchin gonad wet weight, index, color, moisture content and fatty acid composition of the measurement and analysis results show that gonadal wet weight and gonad index pedigree showed a significant difference betweenbut the gender difference was not significant the, two gonadal production traits have greater variability within the group as a whole; shrimp Yima dung sea urchin gonad color between yellow and orange-red, and bright color, by the CIE L ^ * a^ * b ^ * standard to quantify and variance analysis, L ^ * and a ^ * between pedigree no significant difference, but b ^ *, bright yellow difference (ΔE1) and bright orange color difference (ΔE2) home system between both have a very significantdifferences between male and female, the female sea urchins of L ^ *, a ^ * and b ^ * values , and two color difference are extremely significant with better than male; extremely significant with and significant differences between gonadal moisture home department and gender; gonadal total fatcontain higher EPA (12.11 ± 2.65) and AA (10.27 ± 3.40)%, and low in DHA (0.49 ± 0.64)%, but the variation within groups greatly (130.77%), unsaturated fatty acids at homeThe Department has a very significant difference between gender only significantly different (higher male) AA. The research results show that the gonad yield and quality pedigree or sex selection can enhance the yield and quality of the gonads
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【题目】硬壳蛤形态性状对活体重的影响效果分析
【中文关键词】硬壳蛤 形态性状 活体重 多元分析
【英文关键词】Multivariate analysis of morphological traits of hard clams live weight
【中文摘要】选取4、16、28月龄3种规格的硬壳蛤各100只,测量每个个体的壳长、壳高、壳厚和活体重。采用相关分析和通径分析,计算各规格内各测量性状间的相关系数,并分析形态性状对活体重的影响效果和综合决定系数。结果表明,各规格硬壳蛤壳长、壳高、壳厚和活体重相关系数均达到极显著水平(P〈0.001);小规格硬壳蛤的壳厚(0.398)、中规格和大规格硬壳蛤的壳长(0.639、0.403)分别是影响活体重的主要因素,综合决定系数与通径系数有一致的变化趋势,表明壳厚可作为早期选择小规格硬壳蛤活体重的主要间接指标,而选择中、大规格硬壳蛤活体重应以壳长为主要指标。多元回归分析建立各规格硬壳蛤形态性状估计活体重的回归方程,小规格:Y=-1.249+0.053X1+0.04X2+0.111X3;中规格:Y=-8.743+0.345X1;大规格:Y=-62.704+0.783X1+0.585X2+1.368X3。本研究结果为硬壳蛤不同时期选种提供理论依据和理想的测度指标
【英文摘要】Select 4,16,28 months old specifications Mercenaria 100 each, measuring each individual shell length, shell height, shell thickness and live weight. Correlation analysis and path analysis to calculate the correlation coefficient between the specifications of each metric traits, and analysis of the effect of live weight and the coefficient of determination of morphological traits. The results showed that, the specifications of hard clams in shell length, shell height, shell thickness and live weight coefficient reached a very significant level (P <0.001); small size Mercenaria shell thickness (0.398) in specifications and specifications hard shell clam shell length (0.639,0.403) are the main factors affecting the live weight, consolidated the coefficient of determination, and the path coefficients consistent trend, indicating that the shell thickness can be used as the main indirect indicators of early selection of the small size of hard clams live weight choice, large-sized hard-shell clams live weight to shell length as the main indicators. Multiple regression analysis to establish the specifications of Mercenaria morphological traits regression equation estimated live weight, small size: Y = -1.249 +0.053 X1 +0.04 X2 +0.111 X3; specifications in: Y = -8.743 +0.345 X1; the large specifications: Y = - 62.704 +0.783 X1 +0.585 X2 +1.368 X3.

The results of this study provide a theoretical basis and the ideal selection of different periods of hard clams measure indicators
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【题目】虾夷马粪海胆微卫星DNA标记的搜寻、设计、筛选及养殖群体遗传多样性的分析
【中文关键词】虾夷马粪海胆 微卫星 遗传多样性
【英文关键词】Sea urchin shrimp Yima manure microsatellite genetic diversity
【中文摘要】通过磁珠富集法分离获得了虾夷马粪海胆微卫星DNA序列160个.其中完美型108个(67.50%),非完美型33个(20.63%),复合型19个(11.88%),微卫星DNA序列最多重复次数达到107次.根据这些微卫星DNA序列的两翼序列,采用Primer5软件设计出虾夷马粪海胆的微卫星引物,通过筛选,采用其中的12对微卫星DNA标记对大连凌水群体(DL)、大连獐子岛群体(DZ)、山东荣城群体(SR)3个虾夷马粪海胆养殖群体的遗传多样性进行分析,共获得73个等位基因,不同引物获得的等位基因数为1.11个,片段大小为84.362bp.除SUX001位点外,其余位点的PIC值在0.2640.0.6705之间,3个群体的平均观测杂合度分别为0.4618(DL),0.4375(SR)和0.4340(DZ),平均期望杂合度分别为0.5026(DL),0.5079(SR)和0.4494(Dz).Hardy-Weinberg平衡分析显示,73%的被检测位点显著偏离平衡,F-检验显示4个位点的F。值低于0.05,表明群体间存在一定程度的分化.群体间遗传相似性系数、遗传距离及UPGMA聚类分析表明大连獐子岛群体(Dz)与大连凌水群体(DL)群体亲缘关系较近,二者与山东荣成群体(SR)亲缘关系较远.对深入了解我国虾夷马粪海胆养殖群体遗传结构特征及其种质资源状况具有重要意义.
【英文摘要】Isolated by magnetic beads enriched of shrimp the Yima fecal sea urchin microsatellite DNA sequence 160. The perfect type of 108 (67.50%), non-perfect 33 (20.63%), compound 19 (11.88%), the maximum number of repetitions of microsatellite DNA sequences up to 107 times. Under these the two wings sequences of microsatellite DNA sequence, using Primer5 Software shrimp the Yima fecal sea urchin microsatellite primer design, using 12 microsatellite DNA markers by screening of Dalian Ling water groups (DL), Zhangzidao groups (DZ), of Shandong Rongcheng groups (SR) 3 dung sea urchin aquaculture of shrimp Yima the genetic diversity analysis, a total of 73 alleles, number of alleles of different primers 1.11, fragment size 84.362bp. PIC value of the remaining sites in except SUX001 sites 0.2640.0.6705 between the three groups, the average observed heterozygosity were 0.4618 (DL), 0.4375 (SR) and 0.4340 (DZ), average expected heterozygosity were 0.5026 (DL), 0.5079 (SR) and .4494 (Dz). Hardy-Weinberg equilibrium analysis showed 73% to be detected loci significantly deviated from the equilibrium, the F-test showed the four sites F Values less than 0.05, indicating that there is a certain degree of differentiation between groups. The genetic similarity between populations, genetic distance and UPGMA cluster analysis showed that of Dalian Zhangzidao populations (Dz) population closer relationship with the the Lingshui Dalian groups (DL), both with, Shandong Rongcheng groups (SR) distantly related. Insight into our shrimp the Yima fecal sea urchin breeding population genetic structure and its germplasm resources situation is of great significance.
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【题目】虾夷马粪海胆性腺cDNA文库构建及部分EST序列分析
【中文关键词】虾夷马粪海胆 cDNA 表达序列标签
【英文关键词】Shrimp the Yima fecal sea urchin cDNA expressed sequence tags
【中文摘要】应用Gubler-Hoffman cDNA文库技术,构建虾夷马粪海胆(Strongylocentrotus intermedius)性腺cDNA文库。测试结果表明,其库容量为2.10×106 PFU/mL,长度范围在0.5~4.2 kb,插入片段平均长度为1.4 kb,达到建库要求。对虾夷马粪海

胆cDNA克隆测序,将获得的819条EST序列与NCBI数据库进行BLAST比对,获得了65个有研究价值的EST序列和cDNA克隆,其EST序列已提交到GenBank,序列号分别为GO448010－GO448016、GR410172－GR410229,虾夷马粪海胆性腺cDNA文库的成功构建,使短期内获得大量调控海胆性腺生长和营养性状的关键基因表达信息成为可能,为进一步开发海胆的生物资源提供参考

【英文摘要】Application Gubler-Hoffman cDNA library technology, to build shrimp Yima fecal gonads of sea urchins (Strongylocentrotus intermedius) cDNA library. The test results show that its storage capacity is 2.10 × 106 PFU / mL, ranging in length from 0.5 ~ 4.2 kb, and the average insert length of 1.4 kb, to achieve the requirements of building a database. Shrimp the Yima fecal sea urchin cDNA cloning and sequencing, will receive 819 EST sequences with the NCBI database BLAST alignment, 65 research value of EST and cDNA clone, EST sequences were submitted to GenBank, serial number, respectively GO448010-GO448016, GR410172-GR410229, shrimp Yima dung sea urchin gonad cDNA library was successfully constructed, so get a lot of short-term regulation of the sea urchin gonad growth and nutritional traits critical gene expression information possible to provide a reference for the further development of the biological resources of the sea urchin

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【学科分类】水产学基础学科

【题目】虾夷马粪海胆(Strongylocentrotus intermedius)Vasa基因的克隆与表达
【中文关键词】Vasa基因,虾夷马粪海胆,克隆,实时定量表达
【英文关键词】The Vasa gene, shrimp Yima dung sea urchin, cloning, and real-time quantitative expression

【中文摘要】Vasa基因是DEAD-box家族成员中的一种ATP依赖的RNA解旋酶编码基因,在生殖系分化过程中发挥重要作用.采用同源克隆和cDNA末端快速扩增技术(RACE),从虾夷马粪海胆精巢中克隆得到Vasa基因3'端cDNA序列.该3'末端cDNA长1057 bp,与太平洋牡蛎、紫球海胆、非洲爪蟾、小鼠及虹鳟经同源进行比对,其中与紫球海胆的同源率最高达到95%,并确定其为DEAD-box家族的Vasa亚家族成员.利用实时定量RT-PCR检测Vasa mRNA在虾夷马粪海胆组织和胚胎发育期的表达情况,研究结果表明Vasa基因在生殖腺表达量最高,雌、雄个体生殖腺中转录水平上的表达差异明显,雄性高于雌性,差异显著(P<0.05),在肠、体腔液、肌肉、围口膜、管足中表达量低,其中体腔液表达量最低.胚胎发育期检测发现Vasa基因在16细胞期时表达量最高,16细胞期后表达量呈下降趋势,囊胚期表达量最低.试验结果为虾夷马粪海胆生殖系统起源、分化研究提供科学依据.对于虾夷马粪海胆生殖系分化途径来讲,Vasa可作为一种有利的研究工具,追溯其生殖系的起源和分化.

【英文摘要】Vasa gene DEAD-box family members in an ATP-dependent RNA helicase encoded gene plays an important role in the process of differentiation of the reproductive system. Using homology cloning and rapid amplification of cDNA ends the technology (RACE) from Ezothe horse manure sea urchin testis the Vasa gene was cloned from the 3 'end of the cDNA sequence of the 3' end cDNA of 1057 bp, compared with the Pacific oyster, purple sea urchin, Xenopus laevis, mice and rainbow trout by homologous, which with purpleup to 95% homology rate of sea urchins and determined using real-time quantitative RT-PCR detection Vasa mRNA expression in of shrimp the Yima fecal sea urchin organizations and the embryonic development of the DEAD-box family Vasa subfamily members., researchthe results show that the Vasa gene in the gonads express the amount of the highest, female, male individual gonads on the transcriptional level expression differences obviously male higher than female differences significant significantly (P <0.05), in the intestine, body cavity fluid, muscle, Wai mouth film, tubelow enough expression, body cavity fluid was the lowest. embryonic development detected Vasa gene expression in the 16-cell stage highest expression levels in the 16-cell stage downward trend was the lowest of the blastocyst stage test results for shrimpthe sea urchin reproductive system of Yima fecal origin, differentiation studies provide a scientific basis for the shrimp Yima dung sea urchin germline differentiation pathway is concerned, Vasa as a a favorable research tool, trace the origin and differentiation of germline.

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【题目】刺参Apostichopis japonicas (Selenka)耐温速生群体比较实验初报
【中文关键词】刺参 耐温速生群体 定向培育 累代选育
【英文关键词】Sea cucumber temperature speed of Health the groups directed cultivation Leidai breeding
【中文摘要】本文报道了刺参耐温速生群体试验结果:养殖166d,耐温种群,速生种群和对照种群的湿体重增长率分别为814.74%、417.87%和3.6%,活率分别为60.63%、46.66%和30.63%;不同种群刺参对升温期反应有着明显的差异,耐温群体夏眠阈值提高了0.7℃,进入夏眠时间延后约15cl。讨论了利用耐温潜能,采用传统选优育种、定向培育、累代选育的问题
【英文摘要】This paper reports the the sea cucumber temperature fast-growing group test results: breeding 166d, temperature populations, the wet weight of the fast-growing population and the control population growth rate were 814.74%, 417.87% and 3.6%, the survival rate for60.63%, 46.66% and 30.63%; obvious differences in different populations of sea cucumber warming period reaction temperature groups aestivation threshold value increased 0.7 ℃, to enter aestivation postponed approximately 15cl. Temperature potential, the traditional electoral excellent breeding, directed cultivation, Leidai Breeding
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【题目】异地刺参选育组合的稚幼参生长速率差异性分析
【中文关键词】异地 刺参 选种繁育 稚幼参 生长速率
【英文关键词】Remote breeding of sea cucumber breeding juvenile juveniles growth rate
【中文摘要】采用Duncan ’s新复极差测验分析方法,对青岛(Q)、烟台(Y)、威海(W)、日照(R)、长岛(C)的野生刺参群体进行了不同组合的选种繁育技术研究,以当地刺参自交作为对照组,对各组合的体质量日增长率和体长日增长率进行了比较分析。数据分析表明,各选育组的生长优势明显高于对照组。其中,Y(♀)×Q(♂)选育组的体质量日增长率和体长日增长率最高,分别为5.31%/d、3.66%/d,表现出良好的选育优势。研究表明,不同组选育组合之间刺参体长日增长率与体质量日增长率之间有一定的线性关系,但其之间的线性关系不明显。而Q(♀)×W(♂)和W(♀)×C(♂)选育组合的稚幼参体质量日增长率和体长日增长率分别为3.39%/d、2.11%/d;2.63%/d、3.05%/d,说明在同期的一定时间内体质量日增长率与体长日增长率不呈正相关
【英文摘要】Duncan's new multiple range test analysis methods, the wild sea cucumber populations in Qingdao (Q), Yantai (Y), in Weihai (W), sunshine (R), Long Island (C) the selection of different combinations of breeding technology researchselfing in local sea cucumber as a control group, a comparative analysis of the various combinations of body mass day growth rate and body growth rate of long-day. The data analysis showed that each breeding group was significantly higher than growth advantage. Y (♀) × Q (♂) Breeding group the highest growth rate of body growth rate and body length of Quality Day Day, were 5.31% / d, 3.66% / d showed good breeding advantage. Studies have shown that the linear relationship between the growth rate of growth rate and body mass day of the Body long day breeding combinations between the different groups, but the linear relationship between its not obvious. Q (♀) × W (♂) and W (♀) × C (♂) Breeding combination of Juvenile Participation body quality day growth rate and body length of day growth rates were 3.39% / d, 2.11 % / d; 2.63% / d, 3.05% / d, instructions in the same period a certain time body mass the day day growth rate of growth rate and body length was positively correlated
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【题目】深水井大棚工厂化刺参养殖及病害防治技术
【中文关键词】海水鱼养殖 病害防治技术 工厂化 深水井 大棚 刺参 日照地区 大菱鲆
【英文关键词】Marine fish breeding and control of factory deep wells greenhouses the sea cucumber sunshine regional turbot
【中文摘要】以日照地区为主的深水井大棚工厂化养参属新模式,由于大菱鲆事件的负面影响,导致深水井大棚工厂化海水鱼养殖步入低谷,许多大棚处于半闲置和闲置状态
【英文摘要】Yang the deep wells greenhouses factory based Rizhao area participate in the case of the new model, due to the negative impact of the turbot events, leading to the the deep wells greenhouses factory marine fish farming entered a slump, many greenhouses at the semi idle and idle state
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【题目】刺参选育种技术体系的建立
【中文关键词】育种技术体系 刺参 经济损失 水产养殖 药用价值 营养价值 资源退化 生长缓慢
【英文关键词】"Breeding technology system stichopus economic losses in aquaculture medicinal value of the nutritional value of resource degradation slow growth
【中文摘要】刺参(Apstichopus japonicus)以其很高的营养价值和药用价值成为我国一种重要的水产养殖经济品种。由于需求的增加,采捕强度的增大,造成我国刺参资源量和产量的急剧下降。2004年以来的病害频发造成种质资源退化,带来巨大的经济损失,每年因各种刺参病害而造成的经济损失达十余亿元,并呈逐年蔓延趋势,不同程度地危害到各主要刺参养殖产地。另外,目前生产中使用的刺参苗种大多是未经选育的野生刺参,有生长缓慢、抗逆性差、病害时有发生等不良症状。针对刺参养殖现状及发展趋势,当务之急是利用选育种技术开展优质高产抗逆刺参品系的选育。为此,笔者于2005~2007年对山东沿海不同地域的野生刺参群体进行选种繁育技术研究,以同地产刺参自交作为对照组
【英文摘要】Sea cucumber (Apstichopus japonicus) for its high nutritional value and medicinal value of an important aquaculture economic varieties. Harvesting intensity increases due to the increase in demand, resulting in a sharp decline of sea cucumber resources and production. Disease since 2004 frequent cause the germplasm resource degradation, has brought huge economic losses each year due to a variety of sea cucumber disease caused economic losses amounting to more than 10 billion yuan, and was gradually spread, in varying degrees of harm to each The main stichopus breeding origin. In addition, most of the sea cucumber seed production without the breeding of wild sea cucumber, slow growth, poor stress tolerance, disease occurrence of other adverse symptoms. For sea cucumber aquaculture status and development trend, it is imperative breeding and selection technology to carry out the breeding of high-yield, resilience stichopus strains. To this end, the author in 2005 to 2007 wild sea cucumber populations of the different regions of the Shandong coastal the selection breeding technology research, selfing sea cucumber to the same real estate as the control group撤消修改
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【题目】选育刺参的生长发育优势比较与分析
【中文关键词】刺参 生长发育 选育 海水养殖品种 优势 棘皮动物 药物疗效 滋阴壮阳
【英文关键词】Sea cucumber growth and development of breeding varieties of marine aquaculture advantage echinoderms drug efficacy Yin and yang
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【中文摘要】刺参(Apstichopus japonieus)俗称海参,属棘皮动物门,具有滋阴壮阳和药物疗效等功能,是我国北方沿海重要的海水养殖品种。近几年,刺参养殖业得到飞速发展,仅山东地区2007年刺参增养殖产值已突破100亿元。然而,2004年以来,养殖刺参出现大面积的死亡现象,引起刺参单产下降,造成了不同程度的经济损失,其中养殖中缺乏良种是关键因素之一。因此,利用选育种技术开展优质高产抗逆新品种的选育是解决当前刺参养殖业面临问题的一个有效方法
【英文摘要】Commonly known as sea cucumber, sea cucumber (Apstichopus japonieus) are Echinodermata, Yin and yang, and drug efficacy function, our northern coastal mariculture varieties. Sea cucumber aquaculture industry has been rapid development in recent years, only in Shandong Province in 2007 the sea cucumber maricultural output value has exceeded 10 billion yuan. However, since 2004, the breeding sea cucumber phenomenon of the death of a large area, causing sea cucumber yield decline, resulting in varying degrees of economic losses, including farming, lack of seed is one of the key factors. Therefore, the resilience to carry out high-quality high-yield new varieties bred breeding and selection techniques to solve the current sea cucumber aquaculture industry faced with the problem of an effective method
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【题目】温度、盐度对选育参(Apostichopus japonicus)F2代幼体生长发育的影响
【中文关键词】刺参幼体,生长发育,温度,盐度,存活率,时间
【英文关键词】Sea cucumber larvae, growth and development, temperature, salinity, survival time
【中文摘要】刺参的生长发育受到多种环境因子的影响,其中温度....28-32是刺参生长的最适范围
【英文摘要】The growth and development of the sea cucumber influenced by a variety of environmental factors, including temperature .... 28-32 is the optimum growth range of sea cucumber
【语种】中文
【第一作者】宋爱环
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【题目】山东省刺参养殖产业现状分析与可持续发展对策
【中文关键词】山东省 刺参养殖产业 现状分析 发展对策
【英文关键词】Analysis of sea cucumber aquaculture industry in Shandong Province Development Strategies
【中文摘要】对近几年迅猛发展起来的山东省刺参养殖产业状况进行了详细的调查研究与分析。山东省作为我国刺参养殖的主产地,初步构建了刺参养殖优势产业带。以烟台、威海、青岛等地区为原主产区的刺参养殖属刺参优势产业带,主导着行业的发展;东营、滨州二地市属开发引进刺参养殖新兴产业带,证明在我省西部部分沿海实施"东参西养"是可行的;以日照、莱州地区为主的深水井大棚工厂化养参属新模式开发优势产业带,成为2007年以来刺参养殖的新亮点。此外,本文系统总结了山东省刺参养殖产业发展所面临的问题与挑战,提出了发展对策,对山东省乃至我国刺参养殖业的健康可持

续发展具有很好的指导意义,并为相关主管部门的决策导向提供了可靠的理论依据和技术支持
【英文摘要】Detailed research and analysis of the rapid development in recent years, Shandong Province, the sea cucumber aquaculture industry situation. Shandong Province as the main origin of the sea cucumber aquaculture in China, initially built the industrial belt of sea cucumber farming advantage. Yantai, Weihai, Qingdao and other regions of origin producing areas of the sea cucumber aquaculture an stichopus competitive industries with to dominate industry's development; Dongying, Binzhou, municipal development emerging industry with the introduction of sea cucumber farming proved in the western province Some coastal implementation the East Chansri raising "is feasible; the mainly deep wells greenhouses factory to the sunshine, Laizhou raising Participation is a new model of development of competitive industries with a sea cucumber farming since 2007, a new bright spot. In addition, the paper systematically summarizes the issues and challenges facing the development of sea cucumber aquaculture industry in Shandong Province, Development Strategies, healthy and sustainable development of Shandong Province and the Chinese sea cucumber farming has a good guide for competent the department's decision-making oriented to provide a reliable theoretical basis and technical support
【语种】中文
【第一作者】李成林
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【学科分类】水产学基础学科

【题目】刺参人工育苗及其病害防治技术
【中文关键词】病害防治技术 人工育苗技术 刺参 稚参培育 发育规律 饵料种类 发育阶段 理化因子
【英文关键词】Artificial the seedling technology stichopus juvenile of Disease Control parameters nurture the development law of food species developmental stages of physical and chemical factors
【中文摘要】刺参人工育苗技术早在上世纪80年代就已经成功突破,从亲参选择、性腺发育规律,产卵、受精的技术处理到刺参幼体各发育阶段及稚参培育的技术措施及饵料种类的最佳选择,培育水环境的理化因子对幼体、稚参的影响,幼体及稚参病害防治等问题
【英文摘要】Stichopus artificial breeding technology as early as in the 1980s, has been successful breakthrough, choose from the pro-parameter laws of gonadal development, spawning, fertilization technology treatment to the developmental stages of sea cucumber larvae and juveniles to participate in nurturing the technical measures and food speciesbest choice for nurturing water environment of physical and chemical factors on the larval and juvenile parameters of larval and juvenile participate in disease prevention and treatment and other issues
【语种】中文
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【学科分类】水产学基础学科

【题目】仿刺参育苗高温期的管理措施
【中文关键词】仿刺参 高温期 管理 育苗 药用价值 养殖产业 市场潜力 养殖过程
【英文关键词】Japonicus high temperature of management nursery medicinal value farming industry market potential breeding process
【中文摘要】仿刺参(Apostichopus japonicus)的营养和药用价值较高,刺激刺参养殖产业的迅速发展,苗种的需求量剧增,市场潜力大。刺参养殖过程中受到自然海域水温等条件的限制,严重影响刺参夏季高温期的生产。尤其是刺参养殖业是一个高投入的行业

【英文摘要】Japonicus (Apostichopus japonicus) high nutritional and medicinal value, to stimulate the rapid development of sea cucumber aquaculture industry, the seed demand surge, the market potential is large. Sea cucumber farming process is limited by natural ocean water temperature conditions, seriously affecting the production of sea cucumber with summer temperatures. Especially sea cucumber aquaculture industry is a high input
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【学科分类】水产学基础学科

【题目】Progress in research and development on hybrid rice, a super-domesticate in China
【中文关键词】无
【英文关键词】hybrid rice; cytoplasmic male sterility; inter-subspecies; DNA marker; molecular marker-assisted selection; quantitative trait loci
【中文摘要】无
【英文摘要】By exploiting new types of male sterility, hybrid rice production in China has become more diversified. The use of inter-subspecies crosses has made an additional contribution to broadening the genetic diversity of hybrid rice and played an important role in the breeding of super rice hybrids in China. With the development and application of indica-inclined and japonica-inclined parental lines, new rice hybrids with super high-yielding potential have been developed and are being grown on a large scale. DNA markers for subspecies differentiation have been identified and applied, and marker-assisted selection performed for the development of restorer lines carrying disease resistance genes. The genetic basis of heterosis in highly heterotic hybrids has been studied, but data from these studies are insufficient to draw sound conclusions. In a QTL study using stepwise residual heterozygous lines, two linked intervals harbouring QTLs for yield traits were resolved, one of which was delimited to a 125-kb region.
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【学科分类】分子生物学

【题目】Super hybrid rice breeding in China: Achievements and prospects
【中文关键词】无
【英文关键词】biomass; DNA marker; harmonious plant type; medium type parents; super hybrid rice
【中文摘要】无
【英文摘要】Hybrid rice has contributed greatly to the self-sulficiency of food supply in China. To meet the future demand for rice production, a national program on super rice breeding was established in China in 1996. The corresponding targets, breeding strategies and most significant advances are reviewed in this paper. New plant type models have been modified to adjust to various rice growing regions. In recognition of the importance of applying parents with intermediate subspecies differentiation in increasing F, yield, medium type parental lines were selected from populations derived from inter-subspecies crosses with the assistance of DNA markers for subspecies differentiation. Results also indicate that a substantial increase of biomass is the basis for further enhancement of the grain yield potential, and amelioration of leaf characteristics is helpful in increasing the photosynthetic rate. Thirty-four super hybrid rice varieties have been released commercially, growing in a total area of 13.5 million hm(2) and producing 6.7 thousand million kg more rice in 1998-2005. Although remarkable progress has been made in super hybrid rice breeding in China, selections on the root system and integration of more biotechnological tools remain a great challenge.

【语种】英文
【第一作者】程式华
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【题目】Validating a segment on the short arm of chromosome 6 responsible for genetic variation in the hull silicon content and yield traits of rice
【中文关键词】无
【英文关键词】rice (Oryza sativa L); quantitative trait locus; recombinant inbred line; residual heterozygous line; hull silicon content; yield trait
【中文摘要】无
【英文摘要】Rice is a typical silicon-accumulating plant and the beneficial effect of silicon on rice has long been recognized. In a previous study using 244 recombinant inbred lines (RILs) of an indica rice cross, Zhenshan 97B/Milyang 46 grown in 2003, four QTLs were detected for hull silicon content. QTL qHUS-6 had the largest effect among these, and the same interval also had significant effects on yield traits in the same population. The primary objective of this study was to validate the QTL effect in this region on HUS and yield traits. The same RIL population and another RIL population of lower heterogeneity were grown in 2004. QTL qHUS-6 was found to have significant additive effects on hull silicon content with a consistent direction in the two populations. From a residual heterozygous line selected from RILs of the same cross, 15 F-2:3 lines that differed only in a 2.15-Mb segment extending from RM587 to RM6119 on the short arm of chromosome 6 were derived. In these lines, qHUS-6 displayed a major effect, so did QTLs for yield traits previously detected in the same region. Two more QTLs for HUS detected in 2003, qHUS-1-1 and qHUS-1-2, also had consistent effects in the Zhenshan 97B/Milyang 46 RIL population in 2004. Thus this study verified three candidate regions for fine mapping HUS QTLs and determining the genetic relationship between silicon content and yield traits in rice.
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【题目】Genetic relationship between grain yield and the contents of protein and fat in a recombinant inbred population of rice
【中文关键词】无
【英文关键词】Rice (Oryza sativa L.); Major nutrient content; Yield; QTL mapping
【中文摘要】无
【英文摘要】To study the genetic relationship between grain yield and the nutrient contents in rice, 209 recombinant inbred lines derived from a cross between indica rice Xieqingzao B and Milyang 46 were used to determine quantitative trait loci (QTLs) affecting the yields and contents of the two major nutritional components in brown rice. Seven traits were analyzed, including brown rice recovery (BRR), protein content (PC), fat content (FC), grain yield (GYD), brown rice yield (BRYD), protein yield (PYD) and fat yield (FYD). The nutrient contents were significantly negatively correlated with BRR, GYD and BRYD, and the variations on nutrient yield were mainly ascribed to GYD. A total of 22 QTLs distributed on 10 regions of eight chromosomes were detected. Two QTL clusters were found on the short arm of chromosome 6 and the long arm of chromosome 10, respectively. The former was responsible for all the seven traits, and the latter for all the traits except BRR and FC. In both regions, the maternal alleles decreased nutrient contents, but they increased the yields of grain, brown rice, protein and fat. Implication of these results for the breeding of rice varieties with enhancing nutritional capacity is discussed. (C) 2009 Elsevier Ltd. All rights reserved.

【语种】英文
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【题目】水稻色素原基因C的精细定位
【中文关键词】C基因;精细定位;候选基因;剩余杂合体;水稻
【英文关键词】C gene; fine mapping; candidate gene; residual heterozygous line; rice
【中文摘要】应用籼稻组合珍汕97B/密阳46的衍生材料,针对水稻第6染色体短臂色素原基因C的可能位置,筛选到在C基因周围区间呈不同基因型组合的7个剩余杂合体,收获种子建立F2:3群体。在各个植株上,稃尖颜色和叶鞘颜色的表现完全相同。通过各个群体颜色表现与原剩余杂合体基因型的比较,将C基因定位于微卫星标记RM314与RM253之间。在该基础上,应用两个分离群体共1279个样本,经标记检测和连锁分析,进一步将C基因定位于RM111和RM253之间, 与RM111和RM253的遗传距离分别为0.7 cM和0.4 cM。最后,应用区间内的另外6个微卫星标记和1个源于C基因候选基因OsC1的标记,检测在RM111-C基因-RM253区间内发生了重组的22个个体,将C基因定位于1个大小为59.3 kb、涵盖C基因候选基因OsC1座位的区间中。
【英文摘要】Seven residual heterozygous lines (RHLs) displaying different genotype compositions in the genomic region covering probable locations of C (chromogen for anthocyanin) gene on the short arm of rice chromosome 6 were selected from the progenies of the indica cross Zhenshan 97B/Milyang 46. Seeds were harvested from each of the seven plants. and the resultant F-2 (:) (3) populations were used for fine mapping C gene. It was shown in the populations that the apiculus coloration matched to basal leaf sheath coloration in each plant. By relating the coloration performances of the populations with the genotype compositions of the RHLs. the C locus was located between rice SSR markers RM314 and RM253. By using a total of 1279 F-2 (:) (3) individuals from two populations showing coloration segregation. the C locus was then located between RM111 and RM253. with genetic distances of 0.7 cM to RM111 and 0.4 cM to RM253. Twenty-two recombinants found in the two populations were assayed with seven more markers located between RM111 and RM253, including six SSR markers and one marker for the C gene candidate. OsCl. The C locus was delimited to a 59.3-kb region in which OsCl was located.
【语种】中文
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【题目】水稻印尼水田谷型细胞质雄性不育恢复系R68的恢复基因初步定位
【中文关键词】水稻;印尼水田谷型细胞质雄性不育;育性恢复基因;基因定位
【英文关键词】rice;Yinshui cytoplasmic male sterility;fertility-restoring gene;gene mapping
【中文摘要】用印尼水田谷型不育系中9A和恢复系R68配组,选取F2 的高可育株和极端不育株构建2个基因池,用82个完全不育单株作为定位群体,利用分布于12条染色体的413对SSR 引物对双亲和两池进行多态性分析。位于第1 染色体的RM283和位于第10染色体的RM5756、RM258、RM6100、RM171在亲本、两池间存在多态性,用F2 单株验证证明它们与恢复基因连锁。经典遗传分析和分子标记定位研究表明,印尼水田谷型细胞质雄性不育恢复系R68具有2对恢复基因,分别位于第1和第10染色体上。位于第1染色体的恢复基因与分子标记RM283的距离是6.7cM,位于第10染色体的恢复基因与标记RM5756、RM258、RM6100和RM171间的距离分别是10.4、8.0、2.4和4.2cM。
【英文摘要】An F-2 population derived from the cross of Zhong 9A/R68 was used to mal) the fertility-restoring (Rf) gene for Yinshui cytoplasmic male sterility (CMS). A fertile bulk was constructed by pooling equal amount of 10 highly fertile lines and a sterile bulk was obtained by pooling equal amount of 10 highly sterile lines. Four hundred and thirteen pairs of SSR primers which distributed

on 12 chromosomes, were screened for polymorphism between the parents and between the two bulks. RM283 on chromosome I and RM5756, RM258. RM6100, RM171 on chromosome 10 were found to be polymorphic between the parents and between the two gene bulks. Ten highly fertile and ten highly sterile lines were selected from F2 population Of Zhong 9A/R68 to screen the gene bulks. The results showed that the five SSR markets were linked to fertility-restoring genes. A total of eighty two-excessive sterile lines were selected from Zhong 9A/R68 F-2 population to estimate the genetic distance between the five SSR markets and fertility-restoring genes respectively. A Rf gene was located on chromosome I with a distance of 6. 7 cM to RM283, and the other Rf gene was mapped on the long arm of chromosome 10 flanked by RM5756, RM258, RM6100 and RM171 at distances of 10. 4, 8. 0, 2. 4 and 4. 2 cM, respectively.

【语种】中文
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【题目】应用重组自交系群体检测水稻茎秆和剑叶硅含量QTL
【中文关键词】茎秆硅含量;剑叶硅含量;数量性状座位(QTL);水稻(Oryza sativa L.)
【英文关键词】Silicon content in the stem; Silicon content in the flag leaf; Quantitative trait loci (QTL); Rice (Oryza sativa L.)
【中文摘要】硅在水稻生长发育过程中具有重要作用,本研究的主要目的在于通过QTL 分析研究水稻茎秆和剑叶硅含量的遗传控制。以由244 个株系组成的珍汕97B/密阳46 重组自交系群体为材料,在2003 和2004年应用两重复试验测定亲本和各株系的茎秆和剑叶硅含量,应用由240 个标记组成的连锁图谱检测数量性状座位(QTL)。所分析的两个性状表现为典型的数量性状,并呈现出以基因型控制为主、基因型×环境互作和环境影响为辅的特点。经Windows QTL Cartographer 2.0 分析,检测到3 个茎秆硅含量QTL、6 个剑叶硅含量QTL和2 对控制茎秆硅含量的QTL 间互作,它们分布于1、3、5、6、7 和12 等6 条染色体的8 个区间,单个QTL 对群体性状表型变异的贡献率为3.4%~11.8%,联合贡献率为16.8%~29.2%。进一步分析发现,研究群体中实际上可能存在更多的控制茎秆和剑叶硅含量遗传变异的QTL,但其效应大小可因环境条件和性状测定参数的不同而发生变化,在既定条件下、对于既定性状,部分QTL 因达不到给定的显著水平而得不到检测。控制水稻茎秆和剑叶硅含量性状遗传变异的QTL 数目较大、单个QTL 的效应一般较小;同一基因组区间常常表现为同时控制不同性状,其作用方向稳定而显著性、效应值和贡献率则变异较大。
【英文摘要】Silicon (Si) plays an important role in the growth and development of rice. Field and laboratory studies were conducted in China, in 2003 and 2004, to investigate the inheritance of the Si content in the stem (STS) and flag leaf (FLS) of rice. A recombinant inbred population of 244 lines derived from the rice cross Zhenshan 97B/Milyang 46 was tested for STS and FLS and a linkage map consisting of 240 markers was employed to detect quantitative trait loci (QTLs) for STS and FLS. Results showed that the 2 traits were segregated quantitatively in the population, with phenotype mainly attributed to genotype and influenced by environmental and genotype * environmental effects. By using Windows QTL Cartographer 2.0, three QTLs for STS, 6 QTLs for FLS and 2 digenic interactions between QTLs for STS were detected. The QTLs were located in 8 intervals on 6 rice chromosomes (1, 3, 5, 6, 7 and 12), with phenotypic variance explained by a single QTL ranging from 3.4 to 11.8% and a general contribution of 16.8-29.2%. More QTLs for STS and FLS functioned in the population, but their effects varied greatly depending on the environment and traits under study. In a given environment, some of the QTLs for a given trait may not be claimed because a predetermined threshold could not be reached. These results suggested that a large number of QTLs with minor effects might be responsible for the natural variation of Si content in the stem and flag leaf of rice. QTLs for related traits may be located in clusters, having consistent direction and instable magnitude.
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【题目】应用剩余杂合体衍生的近等基因系分解水稻产量性状QTL
【中文关键词】剩余杂合体; 近等基因系; 数量性状座位; 产量性状; 水稻
【英文关键词】residual heterozygous line ; near isogenic line ; quantitative t rait locus ; yield t rait s ; rice
【中文摘要】以杂合区间为RM587 - RM402 的水稻剩余杂合体(RHL) 衍生群体为材料,应用SSR 标记检测,筛选到杂合区间分别为RM587 - RM225 、RM204 - RM6119 和RM6119 - RM402 的3 个单株,进一步检测其F2 群体,分别获得母本纯合型材料10 株、父本纯合型材料10 株和杂合型材料20 株。种植这3 套近等基因系材料,考查单株产量及其构成因子每株穗数、每穗实粒数和千粒重。经应用目标区间内等位基因效应分析和交迭重组染色体片段代换系分析,分解出3 个控制每穗实粒数的QTL 和2 个控制单株产量的QTL ,这些QTL 分别位于物理距离为0. 66 ~ 2. 49 Mb 的区间中,全部表现为加性作用为主,增效等位基因除qN FGP621 来自父本密阳46 外,其余均来自母本珍汕97B。提出了构建新型遗传材料,提高水稻QTL 精细定位效率的策略。
【英文摘要】Three residual heterozygous lines (RHLs) carrying heterozygous segments in intervals RM587 - RM225' RM204 - RM6119 and RM6119 - RM402 on the short arm of rice chromosome 6, respectively, were selected from a rice population derived from an RHL for interval RM587-RM402. Ten maternal homozygotes, 10 paternal homozygotes and 20 heterozygotes were selected from each of the F-2 populations derived from the three RHLs. The three sets of near isogenic lines (NILs) were grown for phenotyping on grain yield per plants number of particles per plant, number of filled grains per panicle and 1000-grain weight. With analysis on the phenotype differences among the three genotype groups in each NIL set and that among overlapping chromosome segment substitution lines, three QTI-s for filled grain number per panicle and two QTLs for grain yield were resolved. They were located in intervals ranging from 0.66 Mb to 2.49 Mb. The additive effect was higher than the dominance effect at each locus. The allele for increasing the trait value was derived from the paternal parent at qNFGP6-1, and from the maternal parent at the other QTLs. Following the present study an approach for the construction of new genetic resource to facilitate QTL fine-mapping in rice was proposed
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【题目】水稻第6染色体短臂产量性状QTL簇的分解
【中文关键词】水稻(Oryza sativa L.);产量性状;剩余杂合体(RHL);数量性状座位(QTL);第6 染色体短臂
【英文关键词】Rice (Oryza sativa L.); Yield traits; Residual heterozygous line (RHL); Quantitative trait locus (QTL); Short arm of chromosome 6
【中文摘要】将水稻第6 染色体短臂上产量性状QTL 分解到更小的区间中。从珍汕97B/密阳46 重组自交系群体筛选到针对第6 染色体短臂RM587-RM19784 区间的剩余杂合体,衍生了一个由221 个株系组成的F2:3群体,种植于海南和浙江两地,考察每株穗数、每穗实粒数、每穗总粒数、千粒重、结实率和单株产量,建立SSR标记连锁图,应用Windows QTL Cartographer 2.5 检测QTL。在所分析的6 个性状中,除穗数外在第6染色体短臂上的目标区间均检测到QTL,分别座落于目标区域中3 个以上的不同区间中,单个QTL 对群体性状表型变异的贡献率为6.3%~35.2%;控制产量构成因子的QTL 基本以加性作用为主,但3 个单株产量QTL 的显性度分别为1.65、0.84 和0.42。目标区间存在3 个以上的产量性状QTL,且同一区间控制不同性状的QTL、不同区间控制同一个性状的QTL 在遗传作用模式、效应方向和效应大小上存在一定差异。
【英文摘要】The objective of this study was to dissect quantitative trait loci (QTL) controlling yield traits on the short arm of rice chromosome 6. A residual heterozygous line for interval RM587 RM 19784 on the short arm of rice chromosome 6 was selected from Zhenshan 97B/MiIyang 46 recombinant inbred population. An F2 population of 221 lines was derived and grown in two trial sites in China. Six yield traits including number of panicles per plant, number of filled grains per panicle, total number of spikelets per panicle, spikelet fertility. The 1000-grain weight and grain yield per plant was evaluated. A SSR marker linkage map was constructed and employed to detect QTL for yield traits using Windows QTL Cartographer 2.5. QTLs were detected for each of the traits except panicle number, with phenotypic variance explained by a single QTL range of 6.3-35.2%. Most of the QTLs for yield components acted as additive QTL, while the three QTL for grain yield had dominance degrees of 1.65, 0.84 and -0.42, respectively. Three or more QTLs for yield traits were located in the target region. The genetic action mode, the direction of QTL effect and the magnitude of QTL effect

sometimes varied among different QTLs for a given trait, and among QTLs for different traits that were located in a same interval.
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【题目】水稻褐飞虱抗性基因的鉴定及利用现状
【中文关键词】水稻; 褐飞虱; 抗性; 基因鉴定
【英文关键词】rice; brown planthopper; resistance; gene identification
【中文摘要】褐飞虱是为害水稻生产的重要害虫,利用寄主抗性培育抗褐飞虱品种被认为是防治其为害的有效途径.自20世纪70年代起,各国相继开展了水稻褐飞虱抗性基因 的发掘工作,截至2007年12月,经国际注册确认和报道的水稻抗褐飞虱基因共22个,其中12个为显性基因(Bph),10个为隐性基因(bph),已 被定位的达18个,此外还鉴定了一些重要的抗性QTLs.文中还讨论了综合防治褐飞虱策略等合理利用抗性基因的问题.
【英文摘要】The brown planthopper(BPH) is one of the most serious insect pests in rice production.The breeding of varieties resistant to BPH by applying host-plant resistance has been recognized as an economic and effective measure for BPH control.Systematic genetic studies on rice resistance to BPH have been conducted in world since 1971.Up to December 2007,there are a total of 22 BPH resistance genes registered internationally or reported.Among them,12 and 10 out of the genes are dominant and recessive,respectively,and 18 of them have been located.Besides,some important resistant QTLs have been detected.Application of resistance to BPH was also discussed
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【第一作者】鄂志国
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【题目】稻瘟病抗性基因的鉴定及利用进展
【中文关键词】水稻; 稻瘟病; 抗性; 基因鉴定
【英文关键词】rice; rice blast; resistance; gene identification
【中文摘要】20世纪60年代中期,日本率先开展了水稻品种抗稻瘟病基因分析的研究工作,鉴定了最初的8个抗性位点上的14个基因,并建立了一套抗稻瘟病基因分析用的鉴别体系(JDCs,Japanese differential cultivars),随后,国际水稻研究所和中国等产稻国也逐渐开展了水稻稻瘟病抗性遗传的系统性研究。截至2007年12月,已至少报道了58个抗稻瘟病位点共67个主效基因。这些基因成簇地分布于除第3染色体外的所有水稻染色体上,其中,66个为显性基因,1个为隐性基因,包括Pi-b、Pi-ta、Pi-z^5、Pi-z^t、Pi-9、Pi-d2、Pi-36和Pi-37等8个已被克隆的基因(Pi-z^5、Pi-z^t和Pi-9同为Piz基因位点上的复等位基因)。还讨论了合理利用抗性基因等问题。
【英文摘要】Studies on host resistance to blast in rice have work of Kiyosawa's group in Japan for the identification of 14 been extensively conducted since 1960s. Following the initial resistance genes at eight loci and the development of Japanese differential cultivars (JDCs), the inheritance of rice blast resistance was comprehensively studied at the International Rice Research Institute and in rice-growing countries such as China. Up to December 2007, at least 67 resistance alleles at 58 loci had been identified. These genes are located in cluster and distributed on all the rice chromosomes except chromosome 3, of which 66 are dominant and the remaining one is recessive. Eight of the genes, namely, Pi-b, Pi-ta, Pi-z^5 , Pi-z^t , Pi-9, Pi-d2, Pi- 36 and Pi-37, have been cloned, among which Pi-z^5 , Pi-z^t and Pi-9 are allelic. Application of resistance genes to rice blast was also discussed.
【语种】中文

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【题目】野生稻有利基因的发掘和利用
【中文关键词】野生稻; 种质资源; 基因; 有利性状; 育种改良
【英文关键词】wild rice; germplasm; gene; favorable trait; breeding improvement
【中文摘要】野生稻作为栽培稻的野生亲缘种,具有许多优良的性状和有利基因,是栽培稻品种进一步改良的天然遗传种质资源库。其中,野生稻对病虫害的抗性、对各种逆境的耐受性以及胞质雄性不育等,已广泛应用于现代栽培稻的育种改良。文章综述了野生稻种质资源的有利性状及相应控制基因的发掘,探讨了其在今后水稻育种中的应用潜力。
【英文摘要】Wild rice is the closely related wild relatives of cultivated rice. Wild rice provides natural genetic germplasm resources for improving cultivated rice varieties as it possesses many desirable traits and favorable genes, many of which, such as resistance to diseases and insect pests, tolerance to different kinds of stresses and its cytoplasmic male sterility, have been widely used in cultivated rice breeding. In this paper, favorable traits of wild rice germplasm resources and the related genes were summarized, and their utilization potential in rice breeding were also discussed
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【题目】水稻千粒重QTL图谱整合研究
【中文关键词】千粒重; 图谱整合; 水稻
【英文关键词】QTL; 1000-grain weight; QTL; integration map; rice
【中文摘要】以粳稻品种日本晴的测序图谱Gramene Annotated Nipponbare Sequence 2006为基础,挑选较广泛应用于水稻QTL研究的标记绘制了公共图谱,并将国内外公开发表的251个水稻千粒重QTL整合到该图谱中。研究表明,目前定位的粒重QTL虽分散于各条染色体,但主要集中在1、3、5、6、10号染色体上并成簇状分布,其中6个区间可能存在主效QTL。
【英文摘要】DNA markers that were commonly used in the mapping of quantitative trait loci (QTLs)in rice were aligned based on the Gramene Annotated Nipponbare Sequence 2006. With linked DNA markers, 251 rice QTLs for 1000-grain weight were integrated into the map. It was indicated that QTLs for grain weight were distributed in all the 12 chromosomes of rice, but the majority were located on chromosomes 1, 3, 5, 6 and 10 in which six intervals are likely to harbor major QTLs for grain weight.
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【题目】一个水稻金黄色颖壳和节间基因的遗传定位
【中文关键词】水稻;金黄色颖壳和节间基因;遗传分析;基因定位

【英文关键词】Rice; goldhullandinternodegene; geneticanalysis; genemapping
【中文摘要】R68是带有金黄色颖壳和节间标记的籼稻恢复系。对来源于组合中9A/R68的F2群体的遗传分析表明,R68的金黄色颖壳和节间性状由1对隐性基因控制。利用SSR分子标记,采用隐性群体分析法,把金黄色颖壳和节间基因定位在第3染色体上,位于RM1230、RM7000和RM227、RM514之间,遗传距离分别为8.7、3.3、2.7和4.7cM,暂将该基因命名为gh-5
【英文摘要】Genetic analyses were carried out for an F-2 population derived from the cross between a cytoplasmic male sterile line Zhong 9A and R68, an indica restorer line with a gold hull and internode marker. The results indicated that the gold hull and internode trait was controlled by one recessive gene. Relying on simple sequence repeat (SSR) markers and recessive class analysis method, the gold hull and internode gene (gh) was mapped at an interval on rice chromosome 3 flanked by RM1230 and RM7000 on one side, as well as RM227 and RM514 on the otherside, at distances of 8.7, 3.3, 2.7 and 4.7 cM, respectively. The newly mapped gene was tentatively designated to be gh-5.
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【题目】通过生育期基因型选择避免稻瘟病抗性与结实率的遗传累赘
【中文关键词】水稻;遗传累赘;稻瘟病抗性;数量性状座位;抽穗期
【英文关键词】Rice(Oryza sativa);genetic drag; blast resistance; quantitative trait locus; headingdate
【中文摘要】利用重组自交系研究表明,在水稻第6染色体短臂上稻瘟病抗性基因Pi25(t)与控制结实率和每穗实粒数的QTL之间存在遗传累赘。为了验证这种关系,采用了更大的遗传群体进行分析,结果表明稻瘟病抗性与结实率存在遗传累赘,但未检测到稻瘟病抗性与每穗实粒数存在遗传累赘。通过对第7染色体长臂RM2-RM214区间抽穗期基因(Qhd7)型背景进行选择,可以打破或避免稻瘟病抗性与结实率的遗传累赘。为了进一步验证这种关系,选择Pi25(t)区间基因型不同RM2-RM214区间基因型相同、其他染色体区间基本一致的两个株系发展新群体进行分析,除第6染色体的结实率QTL可以分解成2个效应较小的QTL(qSF6-1和qSF6-2)外,当第7染色体RM2-RM214区间基因型为中156背景时,Pi25(t)与结实率QTL(qSF6-2)存在遗传累赘,且qSF6-2来自父本谷梅2号的等位基因起减效作用;当第7染色体RM2-RM214区间基因型为谷梅2号背景时,第6染色体上没有检测到结实率QTL。上述结果说明在特定育种材料中对抽穗期基因进行选择可以成功打破或避免稻瘟病抗性与结实率的遗传累赘,为水稻以及其他作物的高产抗病育种提供了一种新途径。
【英文摘要】Previous study showed that genetic drag between a blast resistance gene Pi25(t) and QTLs conditioning spikelet fertility (qSF-6) and number of filled grains per panicle (qNFGP-6) were detected on the short arm of rice chromosome 6. To further verify, a larger population was used for analysis and the results confirmed the genetic drag between the blast resistance and spikelet fertility (SF) but no genetic drag was detected between the blast resistance and number of filled grains per panicle (NTGP). Breakdown or avoidance of the genetic drag could be achieved by selection against the background genotype of a heading-date gene (qHD-7) that resided in the region between RM2 and RM214 on chromosome 7. To further validate - two lines with almost identical genotypes on all chromosomal regions except the Pi25 (t) region on chromosome 6 were chosen to develop a new population. The results showed that qSF-6 could be further subdivided into qSF-6-1 and qSF-6-2. When the genotype of RM2-RM214 region was from rice variety Zhong 156, genetic drag between Pi25 M and SF (qSF-6-2) was detected. and the allele of qSF-6-2. from rice variety Gumei 2 reduced SF. When genotype of the region between RM2-RM214 was from Gumei 2, no genetic drag was detected. The results indicated that genetic drag between the blast resistance and spikelet fertility could be broken down or avoided under a certain background genotype based on the selection against heading-date and provided a marker aided solution for high level of blast resistance and yield breeding in rice and other crops as well.
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【题目】超级杂交稻协优9308重组自交系的分子遗传图谱构建
【中文关键词】穗部性状;数量性状基因座;重组自交系;一因多效;超级杂交稻
【英文关键词】Panicle trait; quantitative trait locus; recombinantin bredlines; pleiotropism; siper hybrid rice
【中文摘要】将281个株系组成的超级杂交稻协优9308重组自交系群体种植在海南陵水(2006年和2007年)和浙江富阳(2006年),采用Windows QTLCartographer 2.5的复合区间作图法进行QTL检测。共检测到控制7个穗部性状的52个QTL,其中包括7个控制穗长的QTL,8个控制一次枝梗数的QTL,9个控制二次枝梗数的QTL,6 个控制着粒密度的QTL,7个控制每穗总粒数的QTL,11个控制每穗实粒数的QTL,4个控制结实率的QTL。单个QTL 对群体性状表型变异的贡献率为2.3%~31.2%。控制穗部性状的QTL基本上以加性效应为主,上位性效应和环境互作效应不大。在3组试验中都检测到控制3个穗部性状的8个QTL:qPL-1,qPL-6;qTNSP-1,qTNSP-2,qTNSP-3;qNFGP-1,qNFGP-3-2,qNFGP-6-2。这些QTL,尤其是第3染色体RM168-RM143区间控制每穗总粒数的qTNSP-3和控制每穗实粒数的qNFGP-3-2,其加性效应值和贡献率均较大,可以考虑下一步进行QTL精细定位和克隆。研究发现多个重要QTL聚集区间,在同一QTL聚集区间,控制相关性状的QTL效应方向基本上相同,利用这些QTL紧密连锁的分子标记进行辅助选择,可望同时针对多个性状进行遗传改良。
【英文摘要】A rice RIL (recombinant inbred line) population consisting of 281 lines was constructed by the single seed descent method using the maintainer line XQZB and the restorer line ZH9308 of super hybrid rice XY9308 as the female and male parents. The polymorphism between XQZB and ZH9308A was analyzed with 695 pairs of SSR (simple sequence repeat) markers. One hundred and eighty-six pairs of polymorphism markers were obtained with a polymorphic frequency of 26.8%. Furthermore, a linkage map containing 163 SSR markers was constructed. Its total length was about 1578.9 cM, covering 87.5% of the whole rice genome. The allele frequency of the female parent was 0.52 in the 281 lines and 163 markers. Serious segregation distortion was observed in this RIL population, and 80 markers (49.5%) showed significant deviation
【语种】中文
【第一作者】沈希宏
【通讯作者】程式华
【期刊名称、卷期、页码】分子植物育种,6(5):861-866
【论文发表时间】2009-04-04 00:00:00
【引文索引类型】其他
【引文索引号】20093208681
【学科分类】分子生物学

【题目】水稻第6染色体短臂株高及产量性状QTL的分解
【中文关键词】水稻;产量性状;株高;数量性状座位;剩余杂合体;基因定位
【英文关键词】Rice;yield trait; plant height; quantitative trait locus; residualheterozygous line; genemapping
【中文摘要】针对第6染色体短臂上一个对产量性状遗传具有重要作用的区间RM587-RM19715,从珍汕97b/密阳46重组自交系群体中筛选到1个剩余杂合体,自交衍生获得一个由195个个体组成的F2群体,检测控制株高和产量性状的QTL。经分析,在目标区间的上部和下部分别检测到1个QTL簇,分别对除单株穗数以外的产量性状因子具显著作用,单个QTL对群体性状表型变异的贡献率为5.0%-55.5%。将第6染色体上的产量性状QTL分解到更小的区间中,为产量性状QTL的精细定位和克隆打下了基础。
【英文摘要】residual heterozygous line carrying heterozygous segments covering an interval RM587 - RM19715 on the short arm of chromosome 6 in rice was selected from a recombinant inbred line population of Zhenshan 97B/Milyang 46. The resultant F-2 population was used to detect quantitative trait loci (QTLs) on the short arm of rice chromosome 6 that control yield traits and plant height. Two clusters of QTLs were detected and located on the top and bottom intervals of the target region. Each cluster showed significant effects for all the yield components except for the number of panicles per plant. One QTL cluster for yield traits in the two clusters were dissected and the QTLs were defined into narrowing regions, thus providing available conditions for QTL fine mapping and cloning.
【语种】中文
【第一作者】占小登
【通讯作者】曹立勇

【期刊名称、卷期、页码】中国水稻科学,22(2):137-142
【论文发表时间】2008-03-15 00:00:00
【引文索引类型】其他
【引文索引号】BIOSIS:PREV200800532067
【学科分类】分子生物学

【题目】水稻盐胁迫下农艺和生理性状的遗传分析
【中文关键词】水稻; 数量性状座位; 盐胁迫; 农艺性状
【英文关键词】Rice; Quantitative trait loci; Salt stress; Agronomic trait
【中文摘要】无
【英文摘要】By employing a recombination inbreed line (RIL) population of 247 lines derived from an inidca-inidca cross Zhenshan 97B* Milyang 46,a linkage map consisting of 250 DNA markers was used for QTL mapping of plant height,maximum root length,root dry weight and relative water content under normal and salt stress (0.7% NaCl). Six QTLs for these traits were identified under salt stress,with 6.01%-16.50% phenotypic variations. Six QTLs for these traits were identified under normal conditions,with 4.39%-18.50% phenotypic variations. Meanwhile,root length and relative water content were simultaneously affected by two QTLs located in the interval RM246-RG101 on chromosome 1 and the interval RZ399-RG393 on chromosome 3.
【语种】中文
【第一作者】蒋靓
【通讯作者】沈波
【期刊名称、卷期、页码】分子细胞生物学报,41(4):317-322
【论文发表时间】2008-04-16 00:00:00
【引文索引类型】其他
【引文索引号】CSCD:3331675
【学科分类】分子生物学

【题目】水稻抗病性基因的克隆和功能研究进展
【中文关键词】水稻; 病害; 抗性基因; 克隆; 生物学功能
【英文关键词】rice; disease; resistance gene; clone; biological function
【中文摘要】抗病性是水稻遗传改良的主要目标,是水稻高产、优质的重要保证。近年来,水稻的抗病机制研究取得实质性进展,鉴定并克隆了一批重要的抗性基因。文章综述了这些基因的鉴定、克隆和生物学功能研究进展,探讨了抗病基因的有效利用。
【英文摘要】Improving the disease resistance of rice is a major objective in rice breeding programs, which provides a basic guarantee for the good quality and high yield in rice. Recently, substantial progresses on the research of rice disease resistant mechanism had been made. Some important genes had been identified and cloned. The recent achievements in identification, cloning, and biological function analyses of these genes were summarized and their potential application in breeding was also discussed
【语种】中文
【第一作者】鄂志国
【通讯作者】王磊
【期刊名称、卷期、页码】遗传,31(10): 999-1005
【论文发表时间】2009-10-15 00:00:00
【引文索引类型】其他
【引文索引号】CSCD:3697735
【学科分类】分子生物学

【题目】水稻生物学本体的构建
【中文关键词】本体;水稻;数据库;生物信息;数据整合
【英文关键词】Ontology;rice;data base;bioinformatics;data integration
【中文摘要】Ontology是一种知识组织体系和用来进行知识表示的工具。本文介绍了Ontology的概念、组成、角色关系的计算机表示方法和水稻生物学本体的构建。水稻生物学本体由性状本体、植物本体和基因本体构成。

【英文摘要】Ontology is a kind of knowledge organization system and used for knowledge representation tool. This paper introduces the concept of Ontology, composition and the relationship of computer representation methods and rice biology Ontology construction.
【语种】中文
【第一作者】鄂志国
【通讯作者】鄂志国
【期刊名称、卷期、页码】中国稻米,(5):52-54
【论文发表时间】2009-05-15 00:00:00
【引文索引类型】其他
【引文索引号】ISSN 1006-8082
【学科分类】计算机科学技术其他学科

【题目】基于ASP.NET的水稻分子育种信息平台管理系统
【中文关键词】数据库; 水稻; 分子育种; 信息管理
【英文关键词】ASP.NET; ASP.NET; database; rice; molecular breeding; information management
【中文摘要】为实现水稻生物学数据的共享、交流和利用,基于ASP.NET,结合国内外水稻分子育种研究的现状和需求,构建了水稻分子育种信息平台.系统平台设计了基因库、QTL库和Ontology等多个子库和模块,并针对生物学数据的特点,采用B/S架构,运用存储过程和分页技术等多重手段,实施了客户端和服务器端双重安全屏障.对系统的实现技术、实现方案和优化设计等进行了详细的讨论和阐述.
【英文摘要】In order to realize the sharing, communication and utilization of rice biological data, the information platform for rice molecular breeding is developed by means of ASP. NET technique. Many important application databases and components, such as rice gene database, QTL database and Ontology system, are designed for the platform with careful consideration of current research status and demands of rice molecular breeding. Furthermore, according to the characteristics of biological data, the B/S structure is adopted, stored process and paging technique are used, dual security defense system for both clients and servers are implemented. Finally, the practical consideration of the system, the corresponding implementation techniques and optimum design are also discussed in detail.
【语种】中文
【第一作者】鄂志国
【通讯作者】鄂志国
【期刊名称、卷期、页码】计算机工程与设计,30(5):1299-1301
【论文发表时间】2009-05-14 00:00:00
【引文索引类型】其他
【引文索引号】CSCD:3590321
【学科分类】统计学其他学科

【题目】水稻稻瘟病抗性基因研究进展
【中文关键词】水稻; 稻瘟病抗性; 基因定位; 克隆
【英文关键词】rice; blast resistance; avirulence gene; gene mapping; clone
【中文摘要】概述了稻瘟病抗性基因的经典遗传鉴定、分子标记定位、克隆以及稻瘟病抗性基因与无毒基因的互作等方面的研究进展.
【英文摘要】The paper reviews recent research advances of blast resistance genes identified by classical genetic and molecular markers, their cloning and the molecular interaction between blast resistance genes and corresponding avirulence genes.
【语种】中文
【第一作者】刘文强
【通讯作者】吴建利
【期刊名称、卷期、页码】杂交水稻,24(3):1-7
【论文发表时间】2009-03-14 00:00:00
【引文索引类型】其他
【引文索引号】CSCD:3535082

【学科分类】分子生物学

【题目】盐胁迫下水稻部分生化性状的QTL定位
【中文关键词】水稻; 数量性状座位; 盐胁迫; 生化性状
【英文关键词】rice; quantitative trait loci; salt stress; biochemical traits
【中文摘要】应用247个株系组成的珍汕97B/密阳46重组自交系群体及其相应的含250个分子标记的高密度分子遗传图谱,对0.7%NaCl盐处理后的水稻苗期相关生化性状进行QTL定位.在第1染色体的RM237-RM246区间检测到1个控制蛋白质含量的QTL,贡献率为13.14%;在第12染色体的RG81-S13126和RM309-RG543区间分别检测到1个控制脯氨酸含量和抗坏血酸含量的QTL,贡献率为9.09%和7.97%.并将所定位区间与已报道的水稻盐胁迫反应基因/QTL的位置进行了比较.
【英文摘要】By employing a recombination inbreed line (RIL) population of 247 lines derived from an inidca-inidca cross Zhenshan 97B/Mi/yang 46, a linkage map consisting of 250 DNA markers was used for QTL mapping of biochemical traits in rice seedlings under salt stress with 0.7% NaCl. A QTL controlling protein content was detected in interval RM237-RM246 on chromosome 1, accounting for 13.14% phenotypic variation. In intervals RG81-S13126 and RM309-RG543 on chromosome 12, each QTL controlling proline content and ascorbic acid content was detected and explained for 9.09% and 7.97% phenotypic variation, respectively. Meanwhile, coincidence of the loci involved salt-stress-related genes/QTLs with the QTLs controlling biochemical traits was compared
【语种】中文
【第一作者】於卫东
【通讯作者】沈波
【期刊名称、卷期、页码】核农学报,23(1):150-153
【论文发表时间】2009-01-14 00:00:00
【引文索引类型】其他
【引文索引号】CSCD:3564941
【学科分类】分子生物学

【题目】一个新的水稻卷叶突变体的遗传分析与基因定位
【中文关键词】水稻(Oryza sativa L.);卷叶基因;分子标记;物理图谱
【英文关键词】rice (Oryza sativa L.), chemical mutagenesis, molecular marker, rolled-leaf gene, physical map
【中文摘要】水稻叶片发育异常的突变体是研究水稻叶片发育分子机理的重要材料.本研究在IR64的EMS突变体库中发现了一个新的卷叶突变体材料w32,在整个生育期过程叶片都表现高度卷曲.突变体w32与IR24、培矮64杂交构建F2群体进行遗传分析,结果表明,卷叶性状受一个隐性基因控制.选用w32/PA64 F2群体中的1846个卷叶单株进行基因定位,在卷叶和正常叶的DNA池中筛选到两个多态性标记RM6697和RM20781,并确定该卷叶基因位于第7染色体短臂上,是一个尚未报道过的基因,暂命名为rl11(t).利用新发展的11个SSR标记和19个InDel标记,最终将rl11(t)基因定位在一个约52kb的区段上,为最终克隆该卷叶基因奠定了基础.
【英文摘要】To understand the development of rice leaf blades, we identified a new rolled-leaf mutant, w32, from indica cultivar IR64 through EMS mutagenesis. The mutant showed a stable rolled-leaf phenotype throughout the life cycle. Two F2 populations were developed by crossing w32 to cultivar IR24 and PA64. Genetic analysis showed that the rolled-leaf phenotype was controlled by a single recessive gene. To determine the location of the gene, bulked segregant analysis was carried out using mutant and wild-type DNA pools and 1846 mutant-type F2 individuals derived from the cross w32/PA64 were geno-typed to locate the gene on the short arm of chromosome 7. The rolled-leaf gene, tentatively named rl11(t), is likely a new gene as no other rolled-leaf genes have been identified near the region. By de-veloping new SSR and InDel markers, the gene was delimited to a 52 kb region near the end of the short chromosome arm. Further fine mapping and cloning of the gene are currently underway.
【语种】中文
【第一作者】施勇烽
【通讯作者】吴建利
【期刊名称、卷期、页码】中国科学C辑:生命科学,39(4):407-412
【论文发表时间】2009-03-06 00:00:00
【引文索引类型】SCI
【引文索引号】3502068
【学科分类】分子生物学

【题目】华 北农牧交错区奶牛饲养现状调查分析
【中文关键词】农牧交错区; 奶业; 饲草料
【英文关键词】Farming-pastoral zone;Dairy;Forage
【中文摘要】在对华北农牧交错区林西县的奶牛养殖现状进行调查分析后发现: 当地奶牛养殖业在品种及产奶量、饲料来源及饲养管理等方面均存在一些问题, 制约着奶业的持续发展。为此, 文章从科学饲养管理、增加饲料来源途径、提高饲料加工利用技术、合理的经营规模和养殖风险防范及质量检测等方面提出了促进奶业发展的几点建议。
【英文摘要】Local Dairy Industry, there are some problems in terms of varieties and milk production, feed sources and keeping management, restricting the continued development of the dairy industry in the investigation and analysis of the ecotone of northern China and the Linxi the cows breeding status quo.To this end, the article from the scientific feeding and management, way to increase sources of feed, feed processing and utilization technology, a reasonable scale of operation and farming risk prevention and quality testing proposed some suggestions to promote dairy development.
【语种】中文
【第一作者】张晓庆
【通讯作者】孙启忠
【期刊名称、卷期、页码】中国奶牛, 2008,2:4-7.
【论文发表时间】2008-02-01 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】畜牧、兽医科学其他学科

【题目】尖 叶胡枝子地下生物量累积变化
【中文关键词】尖叶胡枝子(L. hedy saroides); 根系; 生物量; 垂直分布
【英文关键词】Lesp ed eza hedy saroides; root diameter; b iomass; root vertica l d istribution.
【中文摘要】通过对栽培条件下尖叶胡枝子地下不同直径根系组分和生物量的测定及模拟分析, 结果表明: 尖叶胡枝子的根系垂直空间分布为典型的表层聚积型, 根系主要集中在0~ 20 cm, 根系垂直分布特征参数 的值较小; 生长1080 d(生长3年) 的尖叶胡枝子根系入土深度可达100 cm, 其中在0 ~ 40 cm 的土层中, 以粗根为主, 占总根量的81. 54%, 40 cm 之下以细根为主; 根系密度随着尖叶胡枝子生长期的延长呈明显增大的趋势。
【英文摘要】In th is study,the components of roo ts w ith d ifferent d iam eters and the underground biomass o fLespedez hedysaroide plants g row ing for different days aremeasured and analyzed. ; the soil is chestnut so i.l The resu lts reveal tha t the vertical dstribution of roo t eco logical niche ofL. hedy saroid es is characterized by roo t accumu lation in surface so il layer. The roots of hedysaroides plants growing for 1080 days (three years) can grow deep into so il layer o f 100 cm in depth.Thick roots distributema in ly in soil layer o f0~ 40 cm in depth, their proportion is as high as 81. 25% o f the total,and the thin roots d istr ibute manly in soil layer deeper than 40 cm.
【语种】中文
【第一作者】孙启忠
【通讯作者】孙启忠
【期刊名称、卷期、页码】干旱区研究,2007,24(6):805-809.
【论文发表时间】2007-11-01 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】畜牧、兽医科学其他学科

【题目】两种紫花苜蓿品种光合特性的研究
【中文关键词】紫花苜蓿; 产草量; 光合速率; 有效光辐射
【英文关键词】Medicago sativa; yield; Pn; PAR
【中文摘要】对金皇后和敖汉苜蓿两种苜蓿的株高、草产量及净光合速率等因素进行相关分析, 结果表明: 不同生长年限敖汉苜蓿的植株高度高于金皇后, 但产草量低于金皇后; 有效光辐射极显著影响两种苜蓿的净光合速率。空气湿度、空气温度和胞间二氧化碳浓度与净光合速率呈显著负相关。

【英文摘要】The correlation of p lant he ight, y ield, net photosynthesis (Pn) and o ther facto rs o f Go lden Em press and Aohan we re ana lyzed. The resu lts show ed that the p lant he ight of Aohan was h igher than that of Golden Em press.However, its y ie ld was lowe r than tha t o f Go lden Empress. The PAR cou ld influence ne t Pn o f both varieties sign if-icantly. The a ir hum id ity, a ir temperature and inte rce llu lar carbon diox ideconcentration w ere was neg ative ly correlated with netPn.
【语种】中文
【第一作者】徐丽君
【通讯作者】徐丽君
【期刊名称、卷期、页码】中国农业科技导报, 2008,10(3):102-106.
【论文发表时间】2008-02-20 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】畜牧、兽医科学其他学科

【题目】不同辣度辣椒资源果实主要性状研究
【中文关键词】辣椒,辣度,辣椒素
【英文关键词】capsicum,pungency degree,capsaicinoids
【中文摘要】对中国目前生产中应用较多的94份辣椒资源果实的主要生物学性状进行了田间观察,并对果实主要品质性状进行了测定。结果表明:1)所有资源中,低辣度的l8份,占资源总数的 l9.1%;中辣度的56份,占资源总数的59.6 %;高辣度的20份,占资源总数的21.3%。辣度小于1000SHU的果实,辣味低,干物质含量低,适宜鲜食;辣度为1000~5000SHU的果实,辣味中等,可鲜食或加工;辣度大于5000SHU的果实,主要为小辣椒,味辣,干物质含量高,适宜加工。2) 86.2 %资源的辣椒素含量大于二氢辣椒素含量,其中,11份材料(占总资源的11.7 %)的辣椒素与二氢辣椒素含量比大于2.5;13份材料(占总资源的13.8 %) 的辣椒素含量小于二氢辣椒素含量,其中5份材料(占总资源的5.3 %) 的辣椒素与二氢辣椒素含量比小于0.5。3)辣度与干物质含量、单株结果 数呈极显著正相关,与果长、果宽呈极显著负相关。
【英文摘要】Main fruit characteristics of 94 excellent capsicum germplasms,were evaluated and its fruit qualities were measured.The results indicated that:1)of the total capsicum germplasms,the low pungency degree one was 18,accounting for 19.1 %,the middle and high pungency degree one were 56 and 20,accounting for 59.6% and 21.3%respectively.Low pungency degree types with low capsaicinoids content(<1000SHU) and low dry weight was suitable for fresh market.Middle pungency degree types with middle capsaicinoids content(1000~5000SHU) was suitable for either flesh market or processing.High pungency degree type with high capsaicinoids content(>5000 SHU),high dry weight and small fruit size were suitable for processing.2) 8 6.2 % of the capsicum germplasms ’ capsaicin content was over dihydrocapsaicin.And for 11 of them(11.7 %of the tota1),its ratio of the capsaicin content/dihydrocapsaicin content was over 2.5(13.8 % of the tota1),13 gerplasms ' apsaicin content was lower than dihydrocapsaicin.And 5 of 13 gerplasms(5.3 %of the tota1),the ratio of capsaicin content,dihydrocapsaicin content was significantly lower than 0.5 . 3) Pungency content with dry weight content and fruit setting per plants are significantly positively correlated,pungency content with fruit length and width are significantly negatively correlated.
【语种】中文
【第一作者】戴雄泽
【通讯作者】戴雄泽
【期刊名称、卷期、页码】湖南农业大学学报、34(4)、433-437
【论文发表时间】2008-08-02 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】园艺学

【题目】科尔沁沙地紫花苜蓿的光合日动态
【中文关键词】紫花苜蓿;光合速率 ;蒸腾速率 ;水分利用效率
【英文关键词】By using a L-i 6400 portab le pho tosynthesis system, the d iurnal dynam ics o f the photosynthetic characterist ics o f three alfa lfa varietiesM edicago sativa L. cv. Aohan, M. sativa L. cv.Rangelander, andM. sativa L. cv. A lgonqu in w ere studied. The
【中文摘要】利用L-i 6400光合测定系统, 田间实地测定了紫花苜蓿3个品种(敖汉苜蓿、Rangelander和阿尔冈金)的光合作用日变化特征. 结果表明: 不同生长年限紫花苜蓿3个品种的净光合速率(P n)、蒸腾速率(Tr)和水分利用效率(WUE)日变化并不完全呈双峰曲线. 其中, 敖汉苜蓿和阿尔冈金叶片的P n 和T r 峰值均出现在9: 00) 11: 00, R angelander在11: 00, 最低值

均出现在7: 00和19: 00; Rangelander和阿尔冈金叶片的WUE 最高值出现在7: 00, 敖汉苜蓿在9: 00, 最低值均出现在15: 00) 17: 00. 综合分析P n、Tr 和WUE 3项指标, 2年生苜蓿各项指标最佳, 1年生次之, 而4年生最差; 对Pn 和T r影响最大的环境因子是气温, 其次是水分亏缺和空气相对湿度.

【英文摘要】By using a L-i 6400 portab le pho tosynthesis system, the d iurnal dynam ics o f the photosynthetic characterist ics o f three alfa lfa varietiesM edicago sativa L. cv. Aohan, M. sativa L. cv.Rangelander, andM. sativa L. cv. A lgonqu in w ere studied. The resu lts show ed that for the test alfalfa var iet ies, the diurnal variation curves o f the irP n, Tr, andWUE w ere not all presen ted doub lepeak.For Aohan and A lgonqu in, the max imum P n and Troccurred at 9: 00- 11: 00; wh ile for Rangelander, they appeared at 11: 00. Them in imum Pn andT r of the three varieties all appeared at7: 00 and 19: 00. Themax imum WUE of Rangelander and A lgonqu in appeared at 7: 00 and that Aohan w as at 9: 00, and the m in imum WUE of the three varieties a ll appeared at 15: 00- 17: 00.C omprehensive ana lysis on the pho tosynthetic perform ance indicesP n, T r, andWUE indicated that2 years o ld a lfalfaw as in the best state, follow ed by 1 year old, and 4 years old. Correlat ion ana lysis show ed that air temperature (Ta) w as the ma in env ironm enta l facto r affecting P n and T r, follow ed by w ater vapo r pressure de ficit (VPD) and relative hum id ity (RH).

【语种】中文

【第一作者】徐丽君

【通讯作者】孙启忠

【期刊名称、卷期、页码】应用生态学报, 2008,19(10):2189-2193.

【论文发表时间】2008-10-01 00:00:00

【引文索引类型】其他

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【学科分类】畜牧、兽医科学其他学科

【题目】辣椒温室快速育苗技术

【中文关键词】辣椒,温室,快速育苗

【英文关键词】pepper,greenhouse,rapid propagation

【中文摘要】湖南冬季和早春气候寒冷且变化大,极端气候往往使蔬菜幼苗大量死苗,严重影响蔬菜栽培和供应。辣椒温室快速育苗,主要是利用花卉生产的现代化温室,在较短的时间内培育幼苗,满足市场对幼苗的需求。

【英文摘要】无

【语种】中文

【第一作者】戴雄泽

【通讯作者】戴雄泽

【期刊名称、卷期、页码】辣椒杂志、2009(4)、18-19

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【引文索引号】null

【学科分类】园艺学

【题目】加拿大一枝黄花白绢病(Sclerotium rolfsii)菌株SC64的生物学特性研究

【中文关键词】加拿大一枝黄花; 罗氏白绢小菌核菌; 菌株 SC64; 生物学特性

【英文关键词】Solidago canadensis L. ; Sclerotium rolfsii Sacc. ; strain SC64; biological characteristics

【中文摘要】在实验室条件下初步研究了加拿大一枝黄花白绢病菌株 SC64 的形态特征 致病性和生物学特性 结果表明: 引起加拿大一枝黄花白绢病的病原物是罗氏白绢小菌核菌(Sclerotium rolfsii Sacc.) ; 病菌最适生长培养基为Richard 固体培养基和PDA, 菌丝生长温度为15 ~ 40 °C, 最适30 °C; 在偏酸性条件下生长较好, 生长适宜pH 值为4. 0 ~ 6. 0, 最适为5. 0; 在所测试的碳源中, 对蔗糖的利用最好, 对乳糖和半乳糖利用最差; 氮源测试结果显示对蛋白胨和硝酸钾利用最好, 对尿素的利用最差 菌核萌发温度为15 ~ 40 °C, 最适为 30 °C; 菌核在含水量 50% 的麸皮基质上萌发较好; 适宜萌发的 pH 值范围为3. 0 ~ 9. 0 菌丝的致死温度为45 °C 10 min, 菌核的抑制萌发温度为50 °C 10 mi

【英文摘要】Abstract: A southern blight of Canadian goldernrod(Solidago canadensis) was found to be an important disease. The pathogen was identi-fied as Sclerotium rolfsii Sacc. based on morphological characteristics. Factors influencing mycelial growth and sclerotia germination of strainSC64 of Sclerotium rolfsii were studied. The results indicated that the most optimum media for the mycelial growth were modified Richardand potato dextrose agar(PDA) , the range of temperature for the mycelium growth was 15 -40 °C, with the optimum at 30 °C, and the rangeof pH was 4. 0 -6. 0, with the optimal pH of 5. 0. Through carbon sources testing on

amended Czapek, sucrose was found to support growthsignificantly faster than other sources, while lactose was found to provide the slowest growth. Among the 13 nitrogen sources tested, peptoneand potassium nitrate gave the best growth whereas urea gave the least growth. The range of temperature for sclerotia germination was 15 -40 ℃, with the optimum at 30 ℃. Sclerotia germination reached 100% when incubated on bran substrate with 50% moisture. The rangeof pH for sclerotia germination was 2 -10, with 100% germination at 3 -9. Hyphal and sclerotia viability was completely lost when hyphalagar plugs and sclerotia were incubated at 45 ℃ 10 minutes and 50 ℃ 10 minutes, respectively

【语种】中文
【第一作者】唐伟
【通讯作者】强胜
【期刊名称、卷期、页码】南京农业大学学报2011, 34(2) : 67 - 72
【论文发表时间】2011-02-03 00:00:00
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【引文索引号】null
【学科分类】微生物学

【题目】马唐炭疽菌(Colletotrichum sp.)Col-68三类G α 亚基基因的克隆与序列分析
【中文关键词】马唐炭疽菌; G 蛋白; G 亚基;基因克隆; 序列分析
【英文关键词】Colletotrichum hanaui ; G prote i n ; G subunit ; geneclone ; sequence analysis
【中文摘要】利用同源克隆的方法,首先克隆马唐炭疽菌 G 亚基基因的同源片段,再通过 TA I L-PCR 扩增基因片段的上下游邻接序列, 经过序列拼接最终成功获得了 3类 G 亚基基因 cagA, cagB和 cagC的全长序列。根据基因序列及 CDS序列,运用相关生物学软件对基因序列及其推测蛋白进行了生物信息学分析。基因 cagA全长 1 380 bp , 含 5个内含子, 编码 355个氨基酸; cagB全长 1 283 bp ,含 3个内含子,编码 353个氨基酸; cagC全长 1 382 bp ,含 4个内含子, 编码 354个氨基酸。蛋白同源分析表明,该菌的这 3类基因推测蛋白与稻瘟病菌、 小麦赤霉病菌中同类基因编码蛋白高度同源, 同源率均在 75%以上,最高可达 99 %。
【英文摘要】Abstrac t : The gene fragm ents of G subunits we re iso l a ted fro m Collet o trichum hanaui by us i ng homo logue c l on i ngm ethod . The 5 and 3 flank i ng sequences o f the frag m ents w ere cloned by TAIL-PCR m et hod and sequenced . Aftersequence assemb li ng , the comp l e te senquences of cagA, cag B and cagC w ere ob tained . The structures o f the threegenes we re charac terized by co m pa ri ng genome and CDS sequences . The cagA has an open readi ng frame (ORF) o f1 380 bp i nterrupted by 5 i ntrons and putatively encodes a 355aa pro tein . The cagB has an ORF o f 1 283 bp i n ter -rupted by 3 i ntrons and putati ve l y encodes a 353aa prote i n . The cagC has an ORF o f 1382 bp i n terrupted by 4 in -trons and putati v ely encodes a 354aa pro tein . The resu lts of a m i no ac i d sequence a li gnm ents s howed t hat t he predica -ted pro te i ns we re ho m o l ogous w i th G subun its o f other ascomy ce tous phytopa t hogens such asM agnapor t he gr isea ,G ibberella zeae , w ith the a m i no aci d i dentit y bet w een 75% and 99%, respec ti ve l y .
【语种】中文
【第一作者】张勇
【通讯作者】孙国昌
【期刊名称、卷期、页码】浙江农业学报22(6): 716~ 721 , 2010
【论文发表时间】2011-12-06 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】分子生物学

【题目】马唐生防菌Col-68(Colletotrichum sp.)的生物学特性
【中文关键词】null
【英文关键词】Digitaria sanguina r is ; bioherbicide; Curvularia sp. ; biological characteristics
【中文摘要】摘 要: 研究了影响马唐生防菌弯孢霉 Mds0404 菌株营养生长、 孢子萌发及孢子形成的因子。结果表明, 该菌在PSA 培养基上生长最好, 在PDA 培养基上产孢最多;在 10~ 40 均可生长, 最适生长温度为25~ 32 ; 在20~ 32 均可产孢,最适产孢温度为 25~ 28 ; pH 为 5 时生长最快, pH 为 8时产孢量最大; 在以蔗糖为碳源、硝酸钾为氮源的 Czapek 培养基上生长与产孢均较好; 加膜 25 cm 紫光灯 12 h 间隔光照产孢最丰富。分生孢子萌发的温度为 10~ 40 , 最适为 25~ 40 , 失活温度为 55 。黑暗有利于孢子的萌发。16 min 近距离紫外光照射萌发率仍保持在 50%以上。

【英文摘要】马唐; 生物除草剂;鸢孢; 生物学特性
【语种】中文
【第一作者】邱海萍
【通讯作者】孙国昌
【期刊名称、卷期、页码】浙江农业学报 Acta Agriculturae Zhejiangensis 20(3) : 163~ 167, 2008
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【引文索引类型】其他
【引文索引号】null
【学科分类】微生物学

【题目】尖叶胡枝子和达乌里胡枝子种子形成特性及其生产性能研究
【中文关键词】尖叶胡枝子;达乌里胡枝子;种子;开花习性
【英文关键词】L. hedysaroides;L.davurica; seed; flowering behavior
【中文摘要】通过研究尖叶胡枝子和达乌里胡枝子种子形成特性及生产性能,结果表明,尖叶胡枝子和达乌里胡枝子从返青期到种子形成分别需要111~121 d和103~108 d;二者生殖枝率较高,可达95%,尖叶胡枝子的单株花序为805.6个,达乌里胡枝子为277.0个;二者日开花高峰时间不同,尖叶胡枝子出现在9：00~10：00,达乌里胡枝子在10：30~11：30,而二者闭花高峰均出现在15：30~16：00;尖叶胡枝子的结荚率和成熟率比达乌里胡枝子高,种子收获期不同,种子的发芽率、硬实率和千粒重也不相同,两种胡枝子适宜的收获期均在9月20日左右,种子贮藏时间对其发芽率和硬实率有明显的影响;尖叶胡枝子的种子产量为607.33 kg/hm2,达乌里胡枝子为591.77 kg/hm2
【英文摘要】Seeds formulation character and productivity of twoLespedezaspecieswere studied, and the results showed that the bearing periods of twoLespedezaspecieswere different: 111~121d forL. hedysaroidesand 103~108 d for L. davurica.Seed setting rates ofbothLespedezawere as high as 95%; inflorescence ofL. hedysaroideswas 805. 6,that of L. davuricawas 277. 0; the maximum blooming time of thes twoLespedezaper day were also different:L. hedysaroidesat9：00~10：00,whileL. davuricaat10：30~11：30, but the flower closing time of thes twoLespedeza were all at15：30~16：00. The pod rate and ripe rate ofL. hedysaroideswere higher than those ofL. davurica.These twoLespedezaspecies had different characters in seed harvesting time, germination rate, hard seed rate and thousand seed weight, but they had the same harvesting time around Sept. 20th. The seed yield ofL. hedysaroides was 607. 33 kg/hm2, that ofL. davuricawas 591. 77 kg/hm2.
【语种】中文
【第一作者】孙启忠
【通讯作者】孙启忠
【期刊名称、卷期、页码】中国农业科技导报,2008,10(2):70-75.
【论文发表时间】2008-01-25 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】畜牧、兽医科学其他学科

【题目】3种胡枝子根系生长特性及根干重的研究
【中文关键词】胡枝子;根系;生长特征;根干重
【英文关键词】Lespedeza;root system;growth characteristic;root biomass
【中文摘要】对3种胡枝子的根干重及根系生长特征的研究结果表明,尖叶胡枝子,达乌里胡枝子和二色胡枝子具有较大的根干重,在100 cm的土层范围内分别达到3 472.05,3 060.07和8 795.66 kg/hm2,根系以粗、中根为主;根干重主要集中在0~20 cm的耕作层中,分别占总根量的77.73%,72.28%和89.02%;30~50 cm的土层中细根占较大比例,分别达到42.91%~5.35%,86.09%~95.41%和71.91%~93.6%。
【英文摘要】The root biomass and growth characteristic of 3Lespedezaspecies were studied and the resultsshowed that the root biomass of 3 species were 3 472.05(Lespedeza hedysaroides),3 060.07(L.davurica) and 8795.66 kg/hm2(L.bicolor) within 100 cm respectively.Most of roots distributed within 0 to 20 cm and accounted for 77.73%,72.28% and 89.02% respectively.The most fiber roots distributed within 30 cm to 50 cm and accounted for 42.91% to 5.35%,86.09% to 95.41% and 71.91% to 93.6% for 3 species.
【语种】中文
【第一作者】赵淑芬

【通讯作者】赵淑芬
【期刊名称、卷期、页码】草原与草坪, 2008,3:17-20.
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【引文索引号】null
【学科分类】畜牧、兽医科学其他学科

【题目】科 尔沁沙地苜蓿抗逆增产栽培技术研究
【中文关键词】苜蓿栽培; 抗逆高产; 科尔沁沙地
【英文关键词】alfalfa cultiva tion; stress resistance and high y ield; Kerq in sandy land
【中文摘要】科尔沁沙地苜蓿抗逆增产栽培技术研究
【英文摘要】The results of two years test ind icate that the g rass y ield under dry- farm ing cond ition is C aoyuan No. 2 >Gongnong No. 2 > Aohan A lfa lfa> Ramb lerA lfalfa in K erq in sandy land. The fitting sow ing rates of a lfalfa are 11. 25~ 18. 75 kg /hm2. The safety sow ing time fo r overw inter varieties is from late M ay to ea rly June. Deep tillage canim prove a lfa lfa s y ie ld obv iously. Com pared w ith conven tiona l flatten culture to w a it ra infa l,l dry bury ing to w a itra in fallw ith r idges and furrow s m ake y ie ld increase 30%. It can increase g rass yie ld by using a ll fertilizer fo r basefertilizer and dressing fertilizer w ith ra infa ll at seeding stage, and the latter has better e fficiency. Supp ly ing earthbeh ind freezing-up m akes w inter-surv ival rate to enhance 83. 4% ~ 93. 5%, and deep ditch ing and fatten ing in w inter are batter than earth supplem ent of fla tten cu lture.
【语种】中文
【第一作者】孙启忠
【通讯作者】孙启忠
【期刊名称、卷期、页码】中国农业科技导报,2008,10(5):79-87.
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【引文索引类型】其他
【引文索引号】null
【学科分类】畜牧、兽医科学其他学科

【题目】四种岭南水果种植系统的能值、经济与土壤整合分析
【中文关键词】岭南水果;丘陵;能值;种植系统;可持续发展
【英文关键词】Lingnan fruit;hilly area;emergy;production systems;sustainable development
【中文摘要】综合运用能值、经济与土壤生态学分析方法,定量研究了番石榴(Psidium guajava Linn)、黄皮(Clausena lansium Skeels)、枇杷(Eriobotrya japonica Lind1)、葡萄柚(Citrus paradisi Macf)4种岭南水果种植系统的物质流、能量流和货币流,综合分析其自然资源基础、经济发展状况及可持续发展程度,并将土壤有机质的消耗纳入不可更新自然资源能值投入分析,为岭南水果业的可持续发展提供科学依据。能值分析表明,4个水果种植系统的可持续发展能力依次为:葡萄柚(O.94)>枇杷(0.15)>番石榴(0.14)>黄皮(0.10 o土壤有机质分布与变化分析表明,4种水果种植系统的土壤有机质消耗量依次为:葡萄柚>黄皮>枇杷>番石榴。经济分析表明,4个水果种植系统的经济效益依次为:葡萄柚>番石榴>枇杷>黄皮。综合分析表明,番石榴、黄皮、枇杷三个系统的水果生产效率有待进一步提高;葡萄柚种植系统的水果生产效率、可持续发展能力和经济效益较高,但其对土壤有机质的消耗强度在四个系统中是最高的,这一点在水土流失严重的丘陵地区显然是不容忽视的。同时,如何降低系统在市场交换中的交换性资产流失是四个系统共同面对的问题。
【英文摘要】Abstract:A combined evaluation was done based on emergy,economic and soil ecology methods,on four Lingnan fruit production systems,including Guava,Wampee,Loquat and Grapefruit.Material flows,energy flows and currency flows were quantitatively evaluated.Natural resources,economic characteristics and sustainable development status were analyzed.The depletion of soil organic matter was also included in the calculation of non—renewable resources.The emergy evaluation indicated that thesustainability of the Grapefruit production system (2.30)was the highest in the four fruit production systems,followed by Loquat(0.38),Guava(0.35),and Wampee(0.25).The soil analysis indicated that the consumption of soil organic matter in Grapefruitproduction was the highest among the four production systems,followed by Wampee,Loquat,and Guava.The economic analysisindicated that economic profit from Grapefruit production was the highest among the four systems,followed by Guava,Loquat,and Wampee.Th e integrated analysis indicated the production eficiency of the Guava,Wampee and Loquat needs further improvement.The Grapefruit production showed the highest emergy sustainability and economic benefits among the four systems,but its consumption of soil organic matter was also the highest.Depletion of soil organic matter is a serious problem,which

clearly should not be neglected,considering serious soil erosion in the hillside area.A common problem for the four fruit production systems is how to decrease assets lost during market exchange.
【语种】中文
【第一作者】王坤
【通讯作者】陆宏芳
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【学科分类】环境学

【题目】尖 叶胡枝子和达乌里胡枝子地上生物量累积研究
【中文关键词】尖叶胡枝子; 达乌里胡枝子; 生物量; 枝条结构
【英文关键词】Lesp ed eza hedy saroid es; L. davurica; b iom ass; branch structure
【中文摘要】通过对尖叶胡枝子和达乌里胡枝子地上生物量累积研究表明, 2种胡枝子地上生物量积累过程划分为缓慢生长前期、快速生长期和缓慢生长后期3个阶段; 2种胡枝子地上生物量的垂直分布近似于菱形, 基部和顶部生物量小, 而中部生物量大; 从枝条结构变化看, 尖叶胡枝子枝条以中细枝(直径5 [1. 9 mm)为主, 达乌里胡枝子则以粗中枝(5 \ 1. 0 mm)为主; 从枝条垂直分布结构来看, 2种胡枝子最佳利用时期是在开花期到结实期之间。
【英文摘要】In this paper, the accumulation o f aboveground b iomass ofL esp edeza hedy saro ides and L. davur ica is lucubrated. The results show that the b iomass accumu lation o f these two L esp ed eza species can be div ided into three stages, .i e. the slow g row th stage, rap id grow th stage and slow g row th-harvest stage. A fter the two L espedeza speciesturn g reen, the b iomass accumulat ion is slow because the air temperature is still low, the severe invasion of cold air current occurs frequent ly, and drough t occur sometimes; the b iom ass accumu la tion of these species increasesrapidly, and the da ily b iom ass accumu lation increases to themax imum w ith the increase o f air temperature andra in fall after Ju ly; and then the two L esp ed eza spec ies come in to their autumn, and the b iom ass accumulat ion becomesslow aga in. The vertical d istribut ion of the aboveground b iom ass o f these species is d iamond-shaped, that is the biomass is low at the base and top of the p lants bu t high a t the m idd le section.
【语种】中文
【第一作者】孙启忠
【通讯作者】玉柱
【期刊名称、卷期、页码】干旱区研究,2008,25(1):82-89.
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【引文索引号】null
【学科分类】畜牧、兽医科学其他学科

【题目】生草栽培对三种岭南水果种植系统的生态经济影响评价
【中文关键词】生草栽培;生态经济影响;水果种植系统;能值整合
【英文关键词】sod cultivation;ecological economic efects,fruit production systems;emergy synthesi
【中文摘要】综合运用能值、经济与土壤生态学分析方法,以传统清耕模式为对照,定量研究了生草栽培对荔枝(Litchi chinensisSonn)、龙眼(Dimocarpus~ngan Lour)和番荔枝(Annona squamosa Linn)三种岭南水果种植系统的生态经济影响。整合系统物质流、能量流和货币流,综合分析其自然资源基础、经济发展状况及可持续发展程度,并将土壤有机质的消耗纳入不可更新自然资源能值投入分析,为岭南水果业生草栽培与否提供科学依据。结果表明,生草栽培可以将荔枝和龙眼种植系统的能值可持续性从传统清耕模式的0.16和0.46分别提升到0.17和0.47;而使番荔枝种植系统的能值可持续性从传统清耕模式的O.59降至0.45。同时,生草栽培可提高荔枝和番荔枝种植系统的经济效益,而降低龙眼种植系统的经济效益。所有案例结果均表明,生草栽培可降低果园土壤有机质的消耗。
【英文摘要】A combined evaluation emergy,economic and soil ecology was done to evaluate the ecological economic efects of sod cultivation on fruit productions,with the object of six Lingnan fruit production systems,including Lichee(clean tillage),Lichee(sod cultivation),Longan(clean tillage),Longan (sod cultivation),Cherimoya(clean tillage)and Chenmoya(sod cultivation)production systems.Material flows,energy flows an d currency flows were quantitatively evaluated.Natural resources,economic characteristics and sustainable development status were analyzed.111e depletion of soil organic matter was also included in the calculation ofnon-

renewable resources.The results showed that the application sod cultivation could improve the sustainability of the Lichee andLongan production system to 0.17 and 0.47,from 0.16 an d O.46 in traditional orchard under clean tillage man agement,whereas de—crease the sustainability of Cherimoya production system to 0.45 from 0.59.Simultaneously,the application of sod cultivation couldimprove the economic profit of Lichee and Cherimoya production systems,but decrease the economic profit of Longan production system.All the case studies showed thatt the application could decrease the dep!~ion of soil organic matter in furit production systems.

【语种】中文
【第一作者】王坤
【通讯作者】陆宏芳
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【学科分类】环境科学技术及资源科学技术其他学科

【题目】起始时间对亚热带森林凋落物分解速率的影响
【中文关键词】环境因子, 布置时间, 凋落物分解速率常数k, 凋落物分解, 亚热带森林
【英文关键词】environment factor, incubation time, litter decomposition constant k, litter decomposition, subtropicalforest
【中文摘要】运用分解袋法研究了不同布置时间的凋落物在亚热带森林分解的初期过程, 探讨了不同布置时间的凋落物经过相同时间分解的差异及环境因子对其分解速率特别是分解速率常数k的影响。结果表明: 在凋落物分解较快的鼎湖山季风常绿阔叶林, 不同时间布置的凋落物经过12个月的分解, 其残留率及k均存在较大的差异。不同布置时间的凋落物的分解率在前期(0 – 6个月)与其相应阶段的环境因子呈显著相关关系, 但与后期的环境因子相关性并不显著。不同布置时间的k值的变化范围为0.78 – 1.30, 起始于雨季的k值较大, 起始于旱季的较小($p < 0.001$), 其大小与分解前期的环境因子相关性较高, 与整个分解过程中的环境因子相关性较低。因此, 凋落物的凋落时间可能影响其分解速率; 由于布置时间不同而导致k值估算的不准确将对森林生态系统的养分循环及其碳平衡的评估产生很大影响。
【英文摘要】Aims Estimation of ecosystem carbon balance may be affected by timing of sampling. Our objective was to determinethe effect of different incubation starting times on litter decomposition rate (k) in a tropical and subtropicalforest.Methods We used litter bags and incubated them in the field at the same site beginning on eight different startingtimes over a year, beginning January 13 and at 45-day intervals. Each of the eight sets of litter bags was sampled four times over a period of 12 months, remaining litter mass was determined and k values were estimated.Temperature, precipitation, photosynthetically available radiation, soil water content and relative humidity weremeasured throughout the experiment.Important findings The remaining litter mass and k values were significantly different ($p < 0.05$) among theeight starting times. Rate of litter decomposition was significantly ($p < 0.05$) correlated to temperature and precipitation during the early phase rather than the later phase of the experiment. The k values ranged from 0.78 to1.30, and were significantly higher ($p < 0.001$) for litter whose incubation started in the wet seasons as compared to the dry seasons. Therefore, time for the start of incubation may significantly influence estimation of k values,which in turn may influence estimation of ecosystem carbon balance.
【语种】中文
【第一作者】李荣华
【通讯作者】张德强
【期刊名称、卷期、页码】植物生态学报 2011, 35 (7): 699 – 706
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【学科分类】森林保护学

【题目】广东省荔枝产业发展现状与对策分析
【中文关键词】荔枝;产业发展;对策
【英文关键词】lychee; industrial development; countermeasures
【中文摘要】广东省荔枝栽种面积约占中国栽种面积的45%,已成为世界荔枝栽种面积最大、栽培品种较多的地区。目前,广东荔枝生产已向着产业化方向发展,成为广东种植业的支柱产业之一。广东荔枝生产与国内主产区的市场竞争力比较,已形成了一个具有竞争优势的产业,具有良好的市场竞争力。笔者概述了国内外荔枝产业的生产与贸易现状,分析了广东

省荔枝的种植区域分布、生产现状以及荔枝科技情况等,并结合广东省荔枝产业发展现状,提出了广东荔枝产业发展的对策建议。

【英文摘要】Guangdong is a region of the largest cultivated area and possesses more cultivated species of lychee in the world. And lychee planting area in Guangdong province is about 45% of the total in China. Now, lychee production has moved towards industrialization and has been one of the key branches among agriculture in Guangdong. Compared with the domestic market competitiveness, lychee production in Guangdong has been developed as an industry with advantageous competition and has strong market competitiveness. So, this paper analyzed the status of lychee production and lychee trade in the world, and the situation of lychee distribution, lychee production and technologies for lychee fruits ’ fresh-keeping, processing and pests control inGuangdong province. Finally, this paper put forward several countermeasures for lychee development based on the present situation of lychee production in Guangdong province.

【语种】中文

【第一作者】叶延琼

【通讯作者】章家恩

【期刊名称、卷期、页码】中国农学通报,2011,27(03):481-487

【论文发表时间】2011-12-30 00:00:00

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【学科分类】农学其他学科

【题目】广东省“十二五”期间农业基础研究的发展方向探讨

【中文关键词】农业基础研究,发展方向,“十二五”,广东省

【英文关键词】fundamental research on agrculture, developing direction,the 12th five-year planning period,guangdong province

【中文摘要】本文在系统分析广东省农业发展现实需求的基础上,明确提出了全省“十二五”期间农业基础研究创新的指导思想、发展原则、发展目标与主要任务,并从优良农业生物种质资源的挖掘与评创、农林作物重要生物灾害暴发及其防控、农作物高效安全生产与农业资源高效利用、畜禽水产动物重大疫病的发生规律和防控、畜禽水产健康养殖及操控机制、新型环境友好型替代材料、现代设施农业生产、低碳农业发展的基础理论、农业和农村生态环境污染算途径与修复机理、农产品采后保鲜、贮运及精加工的基础理论、农产品质量安全的全程监控和快速应急体系、生物质能源创新的基础理论、农业战略性结构调整及区域农业布局以及数字农业和农业信息化14个方面探讨了农业基础研究的发展重点和优先支持领域。最后,从人才队伍建设、资金投入、平台建设、国际交流合作、知识产权保护、基础研究与应用研究和产业化研究的衔接几方面提出了促进广东省农业基础研究的保障措施。

【英文摘要】无

【语种】中文

【第一作者】叶延琼

【通讯作者】叶延琼

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【学科分类】信息科学与系统科学其他学科

【题目】Histone acetyltransferases in rice (Oryza sativa L.): phylogenetic analysis, subcellular localization and expression

【中文关键词】组蛋白乙酰转移酶,激素,系统树,亚细胞定位,水稻,压力

【英文关键词】Histone acetyltransferase, Hormone, Phylogenetic tree, Subcellular localization, Rice, Stress

【中文摘要】在真核生物的转录中,组蛋白乙酰转移酶具有重要的作用

【英文摘要】Background: Histone acetyltransferases (HATs) play an important role in eukaryotic transcription. Eight HATsidentified in rice (OsHATs) can be organized into four families, namely the CBP (OsHAC701, OsHAC703, andOsHAC704), TAFII250 (OsHAF701), GNAT (OsHAG702, OsHAG703, and OsHAG704), and MYST (OsHAM701) families.The biological functions of HATs in rice remain unknown, so a comprehensive protein sequence analysis of the HATfamilies was conducted to investigate their potential functions. In addition, the subcellular localization andexpression patterns of the eight OsHATs were analyzed.Results: On the basis of a phylogenetic and domain analysis, monocotyledonous CBP family proteins can besubdivided into

two groups, namely Group I and Group II. Similarly, dicotyledonous CBP family proteins can bedivided into two groups, namely Group A and Group B. High similarities of protein sequences, conserved domainsand three-dimensional models were identified among OsHATs and their homologs in Arabidopsis thaliana andmaize. Subcellular localization predictions indicated that all OsHATs might localize in both the nucleus and cytosol.Transient expression in Arabidopsis protoplasts confirmed the nuclear and cytosolic localization of OsHAC701,OsHAG702, and OsHAG704. Real-time quantitative polymerase chain reaction analysis demonstrated that theeight OsHATs were expressed in all tissues examined with significant differences in transcript abundance, andtheir expression was modulated by abscisic acid and salicylic acid as well as abiotic factors such as salt, cold,and heat stresses.Conclusions: Both monocotyledonous and dicotyledonous CBP family proteins can be divided into two distinctgroups, which suggest the possibility of functional diversification. The high similarities of protein sequences,conserved domains and three-dimensional models among OsHATs and their homologs in Arabidopsis and maizesuggested that OsHATs have multiple functions. OsHAC701, OsHAG702, and OsHAG704 were localized in both thenucleus and cytosol in transient expression analyses with Arabidopsis protoplasts. OsHATs were expressedconstitutively in rice, and their expression was regulated by exogenous hormones and abiotic stresses, whichsuggested that OsHATs may play important roles in plant defense responses.

【语种】英文

【第一作者】刘夏

【通讯作者】段俊

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【引文索引类型】SCI

【引文索引号】10.1186/1471-2229-12-145

【学科分类】农业基础学科

【题目】Gene expression analysis of germinating rice seeds responding to high hydrostatic pressure

【中文关键词】基因表达,水稻,抑制差减杂交

【英文关键词】Gene expression;
High hydrostatic
pressure;
Rice;
Suppression
subtractive
hybridization

【中文摘要】高静电压力是影响多倍体细胞活性的极端压力

【英文摘要】High hydrostatic pressure (HHP) is an extreme thermal – physical stress affectingmultiple cellular activities. Recently, we found that HHP treatment caused variousphysiological changes in rice. To investigate the molecular mechanisms of plantresponse to HHP, we constructed forward and reverse subtracted cDNA libraries ofrice seeds treated with 75 MPa hydrostatic pressure for 12 h by suppressionsubtractive hybridization in combination with mirror orientation selection. Of 97clones isolated through microarray dot-blot and sequenced, 45 were unique genes.Among these 45 unique cDNAs, 29 clones showed significant sequence similarity toknown genes, 12 were homologous to genes with unknown function, and theremaining 4 clones did not match any known sequences. Most of the genes withknown function were involved in metabolism, defense response, transcriptionalregulation, transportation regulation, and signal transduction. To our knowledge,this is the first gene expression analysis of rice in response to HHP. The expressionprofiles of the genes identified in this study provide useful information regardingmolecular processes, including alteration of metabolism and adaptation responsecaused by HHP.

【语种】英文

【第一作者】刘勋成

【通讯作者】段俊

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【引文索引号】10.1016/j.jplph.2008.05.004

【学科分类】农业基础学科

【题目】Sequence and expression analysis of histone deacetylases in rice
【中文关键词】组蛋白脱乙酰酶, RPD3/HDA1 家族,HD2家族,表达,水稻
【英文关键词】Histone deacetylase; RPD3/HDA1 family; SIR2 family; HD2 family; Expression; Rice
【中文摘要】组蛋白乙酰化水平由组蛋白乙酰基转移酶和组蛋白去乙酰化酶的活性决定的
【英文摘要】Histone acetylation levels are determined by the action of histone acetyltransferases and histone deacetylases (HDACs). Sequencesimilarity and profile searching tools were used to analyze the genome sequence of rice (Oryzae sativa) for genes encoding HDAC proteins.The rice RPD3/HDA1-family HDAC proteins can be divided into four classes based on sequence similarity and phylogenetic analysisof sequences obtained from the rice genome. The spatial expression pattern of rice HDACs genes indicated that some HDAC geneshave different expression profiles. Furthermore, our analysis indicated that expression of HDA705, HDT701, and HDT702 could beaffected by salicylic acid, jasmonic acid or abscisic acid. Expression of HDA714, SRT702, and SRT701 could be modulated by abioticstresses, such as cold, mannitol and salt. These results indicate that different HDAC genes have distinct expression patterns and membersof rice HDAC families may be involved in plant response to environmental stresses.
【语种】英文
【第一作者】符稳群
【通讯作者】段俊
【期刊名称、卷期、页码】BIOCHEMICAL AND BIOPHYSICAL RESEARCH COMMUNICATIONS 卷: 356 期: 4 页: 843-850
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【引文索引号】10.1016/j.bbrc.2007.03.010
【学科分类】农业基础学科

【题目】Identification and analysis of eight peptide transporter homologs in rice.
【中文关键词】水稻,寡肽
【英文关键词】Peptide
Transporter
Expression pattern
PTR
Rice
【中文摘要】鉴定与分析8个PTR基因
【英文摘要】Peptide transporters (PTRs) have diverse substrates and underlie many biological processes in plants. To better understand their function and regulation, we have analyzed the transport capabilities of eight rice PTRs (OsPTRs) in a yeast ptr2 mutant strain and their expression patterns in plants. A yeast ptr2 complementation assay demonstrated that only OsPTR6 transports Gly-His and Gly-His-Gly, and OsPTR6 shows substrate selectivity for di-/tripeptides; however, the other seven proteins could not transport the five tested di-/tripeptides. The expression patterns for the eight OsPTRs were distinct in tissues under normal growth conditions. In germinating seeds, seven of the eight OsPTRs were expressed at various levels, but OsPTR5 was not expressed. In grain-filling seeds, expression of OsPTR4, OsPTR7 and OsPTR8 increased from early to late stages of seed development and that of OsPTR2, OsPTR3 and OsPTR6 decreased. Expression of OsPTR1, OsPTR2, OsPTR5, OsPTR7 and OsPTR8 were upregulated by drought and salt, and OsPTR4 was downregulated. However, only OsPTR1 displayed a slight upregulation by cold. This study showed that rice OsPTRs have distinctive transport functions for substrates and differing expression patterns during both development and response to stress.
【语种】英文
【第一作者】欧阳杰
【通讯作者】张明永
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【学科分类】分子生物学

【题目】High-Throughput Construction of Intron-Containing Hairpin RNA Vectors for RNAi in Plants
【中文关键词】高通量,RNA干扰,发卡RNA
【英文关键词】High-Throughput, RNAi,hpRNA
【中文摘要】随着双链RNA干扰在植物基因功能分析中的广泛应用,急需一种高通量获得发卡RNA结构的系统。
【英文摘要】With the wide use of double-stranded RNA interference (RNAi) for the analysis of gene function in plants, a high-throughputsystem for making hairpin RNA (hpRNA) constructs is in great demand. Here, we describe a novel restriction-ligationapproach that provides a simple but efficient construction of intron-containing hpRNA (ihpRNA) vectors. The system takesadvantage of the type IIs restriction enzyme BsaI and our new plant RNAi vector pRNAi-GG based on the Golden Gate (GG)cloning. This method requires only a single PCR product of the gene of interest flanked with BsaI recognition sequence,which can then be cloned into pRNAi-GG at both sense and antisense orientations simultaneously to form ihpRNAconstruct. The process, completed in one tube with one restriction-ligation step, produced a recombinant ihpRNA with highefficiency and zero background. We demonstrate the utility of the ihpRNA constructs generated with pRNAi-GG vector forthe effective silencing of various individual endogenous and exogenous marker genes as well as two genes simultaneously.This method provides a novel and high-throughput platform for large-scale analysis of plant functional genomics.
【语种】英文
【第一作者】言普
【通讯作者】段俊
【期刊名称、卷期、页码】PLOS ONE 卷: 7 期: 5
【论文发表时间】2012-05-31 00:00:00
【引文索引类型】SCI
【引文索引号】10.1371/journal.pone.0038186
【学科分类】农业基础学科

【题目】Rapid one-step construction of hairpin RNA
【中文关键词】RNA干扰,发卡RNA,不对称PCR,植物,番木瓜环斑病毒,抗病毒素
【英文关键词】RNAi,hpRNA,OE-PCR,Asymmetric PCR,Plant,PRSV,Antivirus
【中文摘要】发卡RNA在基因功能探测和基因工程上应用广泛。
【英文摘要】Hairpin RNA (hpRNA) is commonly used for gene-function exploration and gene engineering. In thisstudy, a novel method was developed to construct intron-containing hairpin RNA (ihpRNA) rapidly andefficiently based on Overlap Extension PCR (OE-PCR). This method, Mixed One-step OE-PCR (MOOEPCR),can amplify two inverted repeats of DNA fragments and a spliceable intron in parallel, and thenassemble them to generate ihpRNA constructs in the same tube without the purification of intermediateproducts. This method required a PCR process of 38 – 40 cycles and ordinary PCR reagents. A total of 10ihpRNA constructs were amplified successfully using this method, with the stems ranging from 50 bpto 484 bp in length. Our results suggest that this novel method is a useful strategy for constructingihpRNA.
【语种】英文
【第一作者】言普
【通讯作者】段俊
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【学科分类】农业基础学科

【题目】我省刺参养殖产业持续健康发展的对策与建议
【中文关键词】山东省 刺参养殖产业 现状分析 发展对策
【英文关键词】Analysis of sea cucumber aquaculture industry in Shandong Province Development Strategies
【中文摘要】对近几年迅猛发展起来的山东省刺参养殖产业状况进行 了详细的调查研 究与分析 。山东 省作为我国刺参养殖的主产地 , 初步构建 了刺参养殖优势产业带。以烟 台、 威 海、 青岛等地区为原主产区的刺参养殖属刺参优势产业

带, 主导着行业的发展 ; 东营、 滨州二地市属开发引进刺参养殖新兴产业带, 证明在我省西部部分沿海实施“ 东参西养 ”是可行的;以日照、莱州地区为主的深水井大棚工厂化养参属新模式开发优势产业带,成为2007年以来刺参养殖的新亮点。此外, 本文 系统总结 了山东省刺参养殖产业发展所面临的问题与挑战,提出了发展对策,对山东省乃至我国刺参养殖业的健康可持续发展具有很好的指导意义,并为相关主管部门的决策导向提供了可靠的理论依据和技术支持。

【英文摘要】Detailed research and analysis of the rapid development in recent years, Shandong Province, the sea cucumber aquaculture industry situation. Shandong Province as the main origin of the sea cucumber aquaculture in China, initially built the industrial belt of sea cucumber farming advantage. Yantai, Weihai, Qingdao and other regions of origin producing areas of the sea cucumber aquaculture an stichopus competitive industries with to dominate industry's development; Dongying, Binzhou, municipal development emerging industry with the introduction of sea cucumber farming proved in the western province Some coastal implementation the East Chansri raising "is feasible; the mainly deep wells greenhouses factory to the sunshine, Laizhou raising Participation is a new model of development of competitive industries with a sea cucumber farming since 2007, a new bright spot. In addition, the paper systematically summarizes the issues and challenges facing the development of sea cucumber aquaculture industry in Shandong Province, Development Strategies, healthy and sustainable development of Shandong Province and the Chinese sea cucumber farming has a good guide for competent the department's decision-making oriented to provide a reliable theoretical basis and technical support.

【语种】中文

【第一作者】李成林

【通讯作者】李成林

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【学科分类】水产养殖学

【题目】不同温度对选育刺参F2代生长的影响

【中文关键词】野生刺参 群体 F2,幼体培育

【英文关键词】The wild stichopus group F2, larval culture

【中文摘要】本课题组利用山东不同沿海地区野生刺参群体为亲本成功选育出刺参F。,选育优势明显,现正在进行刺参F:代的幼体培育技术研究。刺参幼体的生长发育除了受本身条件的限制外,还受温度、盐度、pH 值等多种环境因子的影响,而温度是影响刺参生长发育的重要环境因子之一,本研究报道了不同温度对刺参孵化率、大耳幼体成活率、樽形幼体发生率、附着变态率以及完成各相应阶段所需时间的影响。

【英文摘要】Our group Shandong different coastal areas of wild sea cucumber populations the parents successfully bred stichopus F. , Breeding excellentPotential cultural technology the currently underway stichopus F: generations of larvae. Growth and development of the sea cucumber larvae addition subject to the restrictions of their own conditions, but also by a variety of environmental factors such as temperature, salinity, pH, and temperature is one of the important environmental factors affect sea cucumber growth and development, the study reported different temperatures of the sea cucumber hatching rate, larval survival of big ears, bottle-shaped larvae incidence, attached metamorphosis and complete the respective stages of the impact of the time required.

【语种】中文

【第一作者】李成林

【通讯作者】李成林

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【学科分类】水产养殖学

【题目】不同饵料对刺参幼体生长发育及变态效果的比较分析

【中文关键词】刺参 变态生活史 饵料

【英文关键词】Sea cucumber the perverted life history bait

【中文摘要】刺参有明显的变态生活史,由受精卵卵裂经囊胚期_原肠期_小耳状幼虫_+中耳状幼虫_大耳状幼虫_樽形幼虫_+五触手幼虫_+稚参_幼参叶成参。其中小耳状幼体、中耳状幼体、大耳状幼体统称为耳状幼体
【英文摘要】The sea cucumber metamorphosis life cycle, from fertilized egg cleavage by the blastocyst stage _ gastrula _ small ear-shaped larvae _ + middle ear Shaped larvae _ large ear-shaped larvae _ bottle-shaped larvae _ + five tentacles larvae _ + juvenile ginseng _ young ginseng leaves into parameters. Which small auricularia,Middle ear like larvae auricularia collectively referred to as the auricularia
【语种】中文
【第一作者】李成林
【通讯作者】李成林
【期刊名称、卷期、页码】从产量到质量:海水养殖业发展的必然趋势 十三节
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【学科分类】水产增殖学

【题目】广东省荔枝专业合作社的发展现状及其对策分析
【中文关键词】荔枝; 专业合作社; 对策
【英文关键词】lychee; spec ia lized cooperative; counterm easures
【中文摘要】通过对广东省荔枝主产区的荔枝专业合作社的调查, 总结广东省荔枝专业合作社的类型, 以及荔枝专业合作社在发展过程中存在的问题, 并为促进广东荔枝专业合作社的规范、健康和可持续发展提出了对策建议。
【英文摘要】Based on the investigation for some typ ica l lychee cooperative o rganizations in Guangdong prov ince, th is paper classified types o f cooperative organ ization and po inted out its ex isting prob lem s at present. Fina lly, th is paper pu t forward severa l counterm easures and suggestions to prom o te the hea lthy and susta inab le dev elopment of the lychee specia- lized coope rative org an izations in Guangdong province.
【语种】中文
【第一作者】叶延琼
【通讯作者】叶延琼
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【学科分类】农学其他学科

【题目】Research progresses on GH3s, one family of primary auxin-responsive genes
【中文关键词】GH3,生长激素,生长激素响应元件,生长激素响应因子,植物激素
【英文关键词】GH3 , Auxin ,Auxin response element (AuxRE) ,Auxin response factor (ARF) ,Phytohormone
【中文摘要】。生长激素在植物的生长和发育中具有重要的作用。
【英文摘要】Auxin plays a very important role in plantgrowth and development. Those genes that are specificallyinduced by auxin within minutes of exposure tothe hormone are referred to as early/primary auxinresponsivegenes, mainly including the auxin/indole-3-acetic acid (Aux/IAA), the small auxin-upRNA(SAUR),and the GH3 gene families. So far, GH3 genes havebeen identified in various plant species includingsoybean, Arabidopsis, rice, tobacco, pungent pepper,sweet orange, pine, and moss. Twenty members ofGH3 family were identified in Arabidopsis and thesegenes were classified into three groups (Group I – III)based on their sequence similarities and substratespecificities. GH3s belong to acyl adenylate-formingfirefly luciferase superfamily and can catalyze adenylationof specific substrates. Group I adenylatesjasmonic acid (JA), and Group II adenylates indole-3-acetic acid (IAA) and salicylic acid (SA), respectively.Because of the presence of Auxin-ResponsiveElements (AuxRE) in the GH3s ’ promoter regions,Auxin Response Factors (ARFs) are able to bind to theAuxRE and regulate expression of some GH3s, whichin turn modulate the auxin homeostasis. Identificationof GH3 mutants in Arabidopsis reveals the function ofGH3s in hypocotyl elongation under different lightconditions, root growth, stress adaptation, sensitivityto MeJA, or susceptibility to P. syringae. Takentogether, GH3s may be linkers among auxin, JA, SAand light signal transduction pathways.

【语种】英文
【第一作者】王海
【通讯作者】段俊
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【学科分类】农业基础学科

【题目】水稻种子萌发期高压诱导的SSH-cDNA文库构建与分析
【中文关键词】高压;抑制差减杂交;水稻
【英文关键词】high hydrostatic pressure; suppression subtractive hybridization(SSH); rice
【中文摘要】为了研究高压处理对高等植物基因表达的影响,以萌发过程中经高压处理后的水稻种子的mRNA作为检测子(Tester),以对照样品的mRNA作为驱动子(Driver),采用抑制差减杂交(SSH)结合镜像选择技术(MOS)构建了高压处理后水稻种子萌发过程中诱导表达的差减eDNA文库,并通过蓝白斑筛选获得了580个重组克隆。菌液PCR检测结果表明,这些克隆中的插入片段的大小主要分布在2OO~1 000 bp之间,平均大小约为575 bp,其中单一扩增条带的有效重组克隆数为542个,有效的重组克隆率为93.3 。对部分重组克隆进行测序发现,受高压诱导表达的基因主要涉及到代谢、胁迫响应、转录调控等方面。为高压处理后水稻种子基因表达模式变化的研究打下了基础。
【英文摘要】In order to study the effect of expression pattern of high hydrostatic pressure on high plant,a SSH-cDNA library was constructed with rice germinating seeds in this paper.Suppression subtractive hybridization(SSH) in combination with mirror orientation selection(MOS) was performed using the mRNA from rice germinating seeds treated by 75 MPa high hydrostatic pressure as tester and the mRNA from control(seeds untreated by high hydrostatic pressure) as the driver.580 recombinant clones were picked through blue/white screening.PCR detection of the recombinant clones showed that the size of inserts mainly ranged from 200 bp to 1000 bp,and the average size of these inserts were about 575 bp.Among the 580 recombinant clones,542 clones(93.3%) were identified to be effective single band ones.After sequencing some of the recombinant clones,it was found that the genes induced by high hydrostatic pressure were mainly involved in metabolism,stress response and transcriptional regulation.The research paved the way for studying the gene expression patterns of rice seeds responding to high hydrostatic pressure.
【语种】中文
【第一作者】刘勋成
【通讯作者】段俊
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【学科分类】农业基础学科

【题目】水稻组蛋白脱乙酰化酶SIR2的功能注释分析
【中文关键词】组蛋白脱乙酰化酶; 生物信息学
【英文关键词】SIR2; RT-PCR; histone deacetylase; bioinformatics; SIR2 family; RT-PCR
【中文摘要】依赖于NAD^+的组蛋白脱乙酰化酶SIR2对酵母和哺乳动物细胞的存活、衰老、凋亡等生理活动的调节起着重要的作用。利用生物信息学方法对SIR2在水稻中的生物学功能进行研究。结果表明。SRT701和SRT702分别位于第4条和第12条染色体上;它们编码的蛋白均含有N-糖基化、蛋白激酶C磷酸化、酪蛋白激酶Ⅱ磷酸化和豆蔻酰化4个相同的位点;SRT701主要位于细胞核,而SRT702主要位于内质网,它们均有跨膜区,且为疏水性蛋白质,都无信号肽;多序列比对发现植物SIR2家族的SIR2结构域高度保守;电子表达谱分析发现SRT-101主要表达于叶片和花序,SRT702表达于整个植物中。利用RT-PCR方法进行检测的结果表明。SRT701在水稻根、茎、叶中均有表达,而SRT-102只在叶、茎中有表达,根中没有表达,说明利用生物信息学方法所得的结果只能作为初步预测。水稻SRT701和SRT702器官特异性的表达模式表明它们可能在组织或器官形成中起着重要作用。
【英文摘要】The silent information regulator protein (SIR2) and its homologs (collectively known as Sirtuins), NAD~+ -dependent deacetylase enzymes, play an important role in physiological regulation, such as the survival, aging and apoptosis of cell. In order to investigate the function of SIR2 in rice ,bioinformatics was used to analyze the SIR2 family. SRT701 and SRT702 were localized in the 4

and 12 chromosome of rice ,respectively,and their coding proteins all have the N-glycosylation site, protein kinase C phosphorylation site, the Casein kinase II phosphorylation site,and the N-myristoylation site. SRT701 localizes in the nuclear, whereas SRT702 localizes in the endoplasmic reticulum. Both SRT701 and SRT702 all have the transmembrane regions, and they are hydroproteins without signal peptide. Plant SIR2 family members were aligned by Clustal W and their domains are highly conserved. The analyses of the electronic expression profile of SRT701 and SRT702 indicated that SRT701 was expressed in the leaf and whereas the panicle SRT702 was expressed in the whole plant. In comparison, RT-PCR analysis indicated that SRT701 was expressed in the root,stem and leaf while SRT702 was expressed in the stem and leaf, but not in the root. Our analysis indicated the results predicted by the bioinformatics can be predicted but must be confirmed by the experiment methods. The organic expression profile of SRT701 and SRT702 suggest that they may play an important role in the growth and development of rice.

【语种】中文

【第一作者】符稳群

【通讯作者】段俊

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【学科分类】农业基础学科

【题目】城市化过程中广州市农业生态系统服务价值的变化

【中文关键词】农业生态系统 生态服务价值 城市化 广州市

【英文关键词】agroecosystem; ecosystem service value; urbanization; Guangzhou City.

【中文摘要】根据1996、2000、2004和2008年广州市统计数据, 运用市场价值法、影子价格法、造林成本法、碳税法和工业制氧法等, 分别计算了广州市各农业生态系统的相关服务价值, 据此对城市化进程中广州市农业生态系统服务价值进行评估. 结果表明: 1996 2008 年, 尽管农田、草地、水体生态系统的生态服务价值有所增加, 但因林地生态系统服务价值减小较多(各年份林地生态系统在农业生态系统总服务价值中所占比例均在90% 以上) , 导致广州市农业生态系统服务价值呈减少的总趋势. 各类型生态功能的服务价值所占比例在年际间变化不大, 服务价值大小总体表现为: 气候调节> 气体调节> 产品服务> 废物处理> 土壤形成与保护> 生物多样性保护> 娱乐文化> 涵养水源, 且气候调节和气体调节的价值之和占总价值的91% 以上. 广州市城市化率与农业生态系统服务总价值间呈极显著的负相关关系(R = -0.905, P < 0.01) , 说明城市化率的提高将导致农业生态系统服务价值的降低. 在城市化发展过程中, 需要考虑保留适度的农业生态系统, 以此保证区域的可持续发展.

【英文摘要】Based on the 1996, 2000, 2004, and 2008 sta tistical data o f Guangzhou C ity, and by the methods ofmarket ing va luation, shadow price, afforestat ion cos,t carbon tax, and industria l oxygen producing, this paper calcu lated the re lated serv ice values of various agroecosystem s in Guangzhou, and assessed the changes of agroecosystem service value during the rapid urbanization of the City. In 1996- 2008, though the serv ice va lues of farm land, grassland, and w ater ecosystems had somew hat increase, the overa ll agroecosystem serv ice value o fGuangzhou decreased, m ain ly due to the more decrease of forest ecosystem serv ice value wh ich occupiedmore than 90% o f the to ta l service value each year. O ver the studied period, the proport ion o f each indiv idual functional service value to the to ta l service value changed little, and the contribution o f each ind ividual functional servicea luew as in the order of c lim ate regu lation > gases regu lation > product serv ice > waste treatment > soil conservation > biodiversity conservation > recreat ion and culture > water sourceretent ion and storage. The sum of climate regulation and gases regulat ion service va lues took over 91% of the total agroecosystem service value. There was a significan tnegative corre lation (R =- 0.905, P < 0.01) betw een urban iza tion rate and total ag roecosystem serv ice value, suggesting that the increase of urbanization ratewould lead to a decrease of ag roecosystem service value. Therefore,it requires an appropriate reservation of various agroecosystems to ma intain the regional susta inable development during urban ization.

【语种】中文

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【学科分类】农学其他学科

【题目】重金属镉处理的水稻幼根cDNA抑制差减杂交文库的构建
【中文关键词】镉; 抑制差减杂交; 水稻
【英文关键词】cadmium; suppression subtractive hybridization (SSH); Oryza sativa L
【中文摘要】重金属污染是影响水稻生长和稻米品质的重要因素,其中又以镉(Cadmium, Cd)污染最为严重,然而目前对其分子机制以及解决措施却了解甚少. 本研究以水稻品种日本晴为材料,采用0.5 mmol/L镉处理水稻幼根48 h,通过运用结合分子镜像选择(mirror orientation selection, MOS)技术的抑制差减杂交(suppression subtractive hybridization, SSH)方法,构建cDNA抑制差减杂交文库,并进行microarray筛选,用于分离应答镉胁迫的差异表达基因. 揭示水稻应对镉胁迫处理的分子机理,为水稻耐受镉胁迫基因的分离奠定了基础
【英文摘要】Heavy metal pollution is an important factor in affecting rice growth and quality of rice. Among all kinds of heavy metal pollution, the cadmium pollution is the most serious one. It is not very clear about the mechanisms of rice responding to cadmium and the measures dealing with pollution. In this paper, to investigate the molecular mechanism of rice response to the Cd treatment (0.5 mM) and to search for rice genes associated with these mechanisms, suppression subtractive hyblidization and mirror orientation selection were conducted to construct cDNA libraries with Cd and non-Cd treatment rice (Oryza sativa L., Nipponbare) seedling roots, and cDNA microarray for these two materials was conducted. The results of this study will help to clarify the molecular mechanisms of rice responding cadmium stress, and provide a way of isolating genes involved in heavy-metal resistance in ric
【语种】中文
【第一作者】张美
【通讯作者】段俊
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【学科分类】农业基础学科

【题目】多年生人工草地对沙质土壤呼吸作用的影响
【中文关键词】土壤呼吸速率; 土壤有机碳; 冰草; 无芒雀麦
【英文关键词】soil respiration rate; soil organic carbon; Agropyr on cristatum ; Brom us inerm is
【中文摘要】在鄂尔多斯沙地改良试验站的撂荒地和退耕地, 测定和分析了多年生人工草地对土壤呼吸速率的影响。结果表明, 撂荒地上建植人工草地后土壤呼吸速率明显增高, 人工建植草地土壤呼吸速率与撂荒地的土壤呼吸速率差异达到极显著水平(P < 01 01); 建植于退耕地上的无芒雀麦草地的土壤呼吸速率略高于玉米地土壤呼吸速率。撂荒地和退耕地上建植的无芒雀麦草地土壤呼吸速率高于冰草草地土壤呼吸速率。而施有机肥会提高人工草地的土壤呼吸。
【英文摘要】An analysis on the effect of cultivated grassland on soil respiration rate was conducted for the abandoned land and the transferred farmland in the Ordos Sandy Land Improvement Experimental Station.The soil respiration rate of the cultivated grassland which established on abandoned sandy land was higher than that of abandoned sandy land, their difference was significant(P < 01 01). The soil respiration rate of Bromus in ermis grassland which established on transferred farmland was slightly higher than that of Zea mays land. Compared with Agr opyr on cr i sta tum grassland, Br omu s in ermi s grassland had higher soil respiration rate. Nevertheless, organic manure could heighten the soil respiration rate of cultivated grasslands.
【语种】中文
【第一作者】套格图
【通讯作者】孙启忠
【期刊名称、卷期、页码】中国沙漠,2008,28(2):301-305.
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【学科分类】畜牧、兽医科学其他学科

【题目】模拟酸雨对赤红壤磷素及Ca2+、Al3+、Fe2+淋失的特征影响

【中文关键词】酸雨; 赤红壤; 磷素; Ca2+ ; Al3+ ; Fe2+
【英文关键词】acid rain; lateritic red soils; phosphorus; Ca2+ ; Al3+ ; Fe2+
【中文摘要】本研究通过室内土柱试验,研究了不同强度和持续时间的模拟酸雨淋溶下赤红壤磷素淋失量及部分阳离子(Ca2+、Al3+、Fe2+) 的释放程度和特征。结果表明,经pH 2.0、pH 3.0、pH 4.0、pH 5.0 模拟酸雨持续淋溶34 d后,淋溶液pH 值变化并不明显(P > 0. 05) ,而对Ca2 +、Fe2 + 的溶出有显著的促进作用,Ca2+、Al3+、Fe2+ 溶出量均随pH 值的降低而升高,Al3+ 和Fe2+ 淋失量在pH 2.0 时均有骤增现象。随淋溶时间的增加,土壤可溶态磷的淋失量表现为先增加后逐渐降低;随着pH 值的降低,土壤磷淋失总量也表现为先增加后降低,pH >4.0 的酸雨有助于促进土壤磷的释放,pH < 4.0 时土壤磷的淋失减少。相关分析发现淋溶液中磷淋失总量与Al3+ 和Fe2+ 溶出量均呈显著负相关(r1 =-0.6531,r2 =- 0.5107) ,和Ca2+ 总溶出量相关关系不显著(r3 = - 0. 1287) ,表明高强度酸雨降低了土壤磷淋失量,这可能与酸雨导致活性铁、铝的大量释放,增加了磷的活性吸附点位,因而增加了对磷酸根离子配位吸附与固定有关。
【英文摘要】A soil column method was applied to study influences of simulated acid rain (SAR) on leaching characteristics of dissolved phosphorus(DP) ,Ca2+ ,Al3+ and Fe2+ in lateritic red soils in south China. The results revealed that compared to the control,the change of leaching pH was not so obvious (P > 0. 05) ,but large amounts of leaching losses of Ca2+ ,Al3+ and Fe2+ were caused by SAR,and the amounts of Ca2+ ,Al3+ and Fe2+ were all increased with the decrease of SAR pH. The amounts of Al3+ and Fe2+ were increased dramatically when the pH of SAR is 2.0. While as the time elapsed,the amount of leaching phosphorus was increased at first and then decreased slowly,and the total amount of leaching phosphorus also had the same trend when the pH of SAR was decreased. The amount of water soluble P leaching was increased when pH was larger than 4. 0 and was decreasedwhen pH was less than 4. 0. The results of correlation analysis showed that the amounts of Al3+ and Fe2+ had dramatically negative correlation with the leaching phosphorus(r1 =-0.6531,r2 = - 0. 5107) . The more the acid rain released active iron and aluminum,the more active phosphorus adsorption and fixation of soils.
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【第一作者】徐华勤
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【学科分类】环境学

【题目】不　同刈割时期对紫花苜蓿干草调制的影响
【中文关键词】紫花苜蓿; 刈割时期; 干草调制; 晾晒时间
【英文关键词】alfalfa; mow ingper iod; hay m odulation; drying time
【中文摘要】对不同刈割时期的紫花苜蓿干草品质的研究表明: 盛花期刈割的苜蓿干燥速度快于初花期和结荚期, 晾晒28h以上即可成功调制优质干草, 初花期和结荚期刈割的苜蓿成功调制干草需要晾晒32 h; 调制干草的适宜含水量是20%左右; 初花期苜蓿叶的蛋白质含量是茎的2. 41~ 2. 95倍, 苜蓿干草的叶量是决定苜蓿品质的主要因素; 不同刈割时期调制的苜蓿干草茎叶比差异较大, 结荚期明显高于盛花期和初花期, 是初花期的5~ 7倍。在初花期刈割, 调制干草中茎叶比变化较小, 叶损失少, 可获得高质量的干草。
【英文摘要】The quality of alfa lfa hay from d ifferen tm ow ing per iod w as stud ied. The results show that the dry ing speed of alfalfa m ow ed during full flowe ring stag e is faster than tha t m owed during in itia l flow ering stag e and pod　filling stage. For haym odu lation, it takes 28 h to dry a fterm ow ing during full flow ering stag e, but 32 h to dry after mowingdu ring initial flow ering stage or pod　filling stage. The proper water content of hay is 20%. The protein content of alfalfa leaves in in itia l flow ering stage is 1. 38~ 1. 95 tim es h igher than that o f stem, so leavesw e ight in alfalfa hay is a key factor to hay qua lity. Stem / lea f ratio o f the haym ow ed during different stag e showed b ig differences. Stem / leaf ratio of the haym owed during pod　filling stage is significantly higher than that m ow ed du ring full flow ering stage and about 5~ 7 tim es higher than that mow ed during in itia l flow er ing stage. The a lfalfa mow ed during initia l flow er ing stage with little change in stem / leaf ratio and leaves w eight is suitable fo r ga in ing high quality hay m odulation.
【语种】中文
【第一作者】韩春燕
【通讯作者】孙启忠
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【题目】中国南亚热带森林不同演替阶段土壤呼吸的分离量化
【中文关键词】自养呼吸, 森林演替, 异养呼吸, 南亚热带森林, Q10
【英文关键词】autotrophic respiration, forest succession, heterotrophic respiration, lower subtropical forest, Q10
【中文摘要】量化森林土壤呼吸(RS)及其组分对准确地评估森林土壤碳吸存极其重要。该文以鼎湖山南亚热带季风常绿阔叶林及其演替系列针阔叶混交林和马尾松(Pinus massoniana)林为研究对象, 采用挖壕沟法结合静态气室CO2测定法对这3种林分类型的RS进行分离量化。结果表明: 鼎湖山3种森林演替系列上的森林RS及其组分(自养呼吸RA、异养呼吸RH)均呈现出明显的季节动态, 表现为夏季最高、冬季最低的格局。在呼吸总量上, 季风常绿阔叶林显著高于针阔叶混交林和马尾松林, 但混交林与马尾松林之间差异不显著; RA除季风常绿阔叶林显著大于针阔叶混交林外, 其余林分之间差异不显著; 对于RH来说, 3个林分之间均无显著差异。随着森林正向演替的进行, 由马尾松林至针阔叶混交林至季风常绿阔叶林, RA对土壤总呼吸的年平均贡献率分别为(39.48 ± 15.49)%、(33.29 ± 17.19)%和(44.52 ± 10.67)%, 3个林分之间差异不显著。方差分析结果表明, 土壤温度是影响RS及其组分的主要环境因子, 温度与RS及其组分呈显著的指数关系; 土壤含水量对RS的影响不显著, 甚至表现为轻微的抑制现象, 但未达到显著性水平。对温度敏感性指标Q10值的分析表明, 3个林分均为RA的温度敏感性最大, RH的温度敏感性最小。
【英文摘要】Quantifying forest soil respiration (RS) components is vital to accurately evaluate carbon sequestration of forest ecosystems. Our objectives were to determine (1) seasonal variations in RS and its components of autotrophic (RA) and heterotropic respiration (RH) in subtropical forests, (2) the relative contributions of RA and RH to RS in the three subtropical forests and (3) relationships between RS and temperature and water content.Methods We used the trenching-plot and infrared gas exchange analyzer approaches to determine RA and RH in the soil surface CO2 flux for monsoon evergreen broad-leaved forest (MEBF) and its early succession communities,coniferous and broad-leaved mixed forest (MF) and coniferous masson pine forest (MPF) in southern China.Rate of RS was measured twice a month in the hot, humid season (April-September) and once a month in the cool,dry season (October-March). Soil temperature and soil water content were measured at the same time.Important findings RS, RA and RH varied markedly during the year with high rates in the hot, humid season and low rates in the cool, dry season. RS rate measured in the trenched plots (RH) at these forests showed an increasing trend with succession, but the change was not statistically significant. RS and RA followed a similar seasonal trend and were highest in MEBF and lowest in MF. Contribution of RA to RS was (39.48±15.49)%, (33.29±17.19)% and (44.52±10.67)% in MPF, MF and MEBF, respectively. Repeated measurement ANOVA indicated that soil temperature was the main factor that affected RS and its components, and there was a significant exponential relationshipbetween them. While there was no significant relationship between soil water content and soil respirationflux, there appears to be a mild inhibition phenomenon. Soil Q10 values increased with succession, whereas autotrophic respiration (RA) is more sensitive to temperature in all stands.
【语种】中文
【第一作者】韩天丰
【通讯作者】周国逸
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【学科分类】环境科学技术及资源科学技术其他学科

【题目】不同紫花苜蓿品种可溶性糖、全氮、丙二醛含量动态变化及其抗寒性关系研究
【中文关键词】紫花苜蓿; 抗寒性; 聚类分析
【英文关键词】alfalfa; cold resistance; cluster analysis
【中文摘要】以国内外6个紫花苜蓿品种为试验材料, 研究了不同时间、不同品种根部可溶性糖含量、全氮含量及丙二醛含量的动态变化, 以了解它们与苜蓿抗寒性的关系, 并对这些指标进行了变异分析和聚类分析。结果表明, 苜蓿根内的可溶性糖含量从9月中旬开始升高, 11月中旬达到最高峰, 之后开始逐渐下降, 一直延续到次年5月中旬, 说明可溶性糖是一种低温保护物质, 能够提高苜蓿对低温胁迫的适应。各苜蓿品种根部全氮含量从9月到3月均保持在较高水平, 4月份有一个明

显的增高,而5月份显著下降,可见全氮含量不仅关系到苜蓿对低温的抵御能力,而且直接关系到苜蓿翌年春季的再生与返青。不同苜蓿品种根部丙二醛含量在9月份时较高,而后逐渐下降,到1月份出现最低值,1月份以后又表现出逐渐升高的趋势。另外,对各紫花苜蓿品种抗寒性研究表明,草原二号、龙牧803和润布勒苜蓿为高抗寒品种;准格尔苜蓿和德宝为中等抗寒品种;Euv er苜蓿为低抗寒品种。

【英文摘要】S ix different alfalfa var ieties at hom e and abro ad w ere acted as m ater ia ls. The dynam ic changes of solub lesugar, total nitrogen and m a londialdehyde was studied, so as to find out the ir re lationsh ips w ith co ld resistance, andthen variation ana lysis and cluster ana ly sis were perform ed . The resu lts indicated that the solub le sugar contentincreased from the m idd le o f Septem be r and reached the peak in the m idd le of Novem ber, then descended g radua llytill the m idd le o fM ay. It show ed that so lub le sug ar was a k ind of cryopro tectants, and cou ld im prove alfa lfa s coldres istance. The content o f tota l nitrogen in alfa lfa roo t w as ho lding a h igh leve l during Septem be r andM a rch, andincreased ev idently in Apri,l but decreased inM ay. Itw as obv ious tha t tota l n itrogen was not only related to a lfalfa sres istance, but a lso re lated to alfa lfa s regrow ing and reg reening in the nex t year. The content o fm alondia ldehyde was high in Septem be r, then dec reased g radua lly and reached them in imum in January, thereafter the content of malond ildehyde represented increasing trend.

【语种】中文
【第一作者】陶雅
【通讯作者】孙启忠
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【题目】Responses of Soil CO2 Efflux to Precipitation Pulsesin Two Subtropical Forests in Southern China
【中文关键词】无
【英文关键词】Climate change, Soil CO2 efflux,Subtropical forest , Precipitation pulse
【中文摘要】无
【英文摘要】This study was designed to examine the responses of soil CO2 efflux to precipitation pulses ofvarying intensities using precipitation simulations in two subtropical forests [i.e., mixed and broadleaf forests (MF and BF)] in southern China. The artificial precipitation event was achieved by spraying a known amount of water evenly in a plot (50 9 50 cm2) over a 30 min period, with intensities ranging from 10, 20, 50 and 100 mm within the 30 min. The various intensities were simulated in both dry season (in December 2007) and wet (in May 2008) season.We characterized the dynamic patterns of soil CO2 efflux rate and environmental factors over the 5 h experimental period. Results showed that both soil moisture and soil CO2 efflux rate increased to peak values for most of the simulated precipitation treatments, and gradually returned to the pre-irrigation levels after irrigation in two forests. The maximum peak of soil CO2 efflux rate occurred at the 10 mm precipitation event in the dry season in BF and wasabout 3.5 times that of the pre-irrigation value. The change in cumulative soil CO2 efflux following precipitation pulses ranged from -0.68 to 1.72 g CO2 m-2 over 5 h comparedto the pre-irrigation levels and was generally larger in the dry season than in the wet season. The positive responses of soil CO2 efflux to precipitation pulses declined with the increases in precipitation intensity, and surprisingly turned to negative when precipitation intensity reached 50 and 100 mm in the wet season. These findings indicated that soil CO2 efflux could be changed via pulselike fluxes in subtropical forests in southern China as fewerbut extreme precipitation events occur in the future.

【语种】英文
【第一作者】Qi Deng
【通讯作者】张德强
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【学科分类】环境科学技术及资源科学技术其他学科

【题目】生物添加剂对甜菜和玉米秸混贮品质的影响

【中文关键词】生物添加剂; 甜菜; 玉米秸; 青贮
【英文关键词】add itives; sug ar beet; corn sta lks; silage
【中文摘要】本试验利用甜菜与玉米秸秆进行混贮, 添加LF、甜渣、LF+ 采禾、采禾、采禾+ 甜渣及无添加剂(对照) 进行青贮。结果表明各添加剂都显著降低了青贮料的pH、ADF、NDF和CF含量, 并提高了青贮料的CP含量, 各添加剂均可改善青贮饲料的发酵品质, 获得优质青贮饲料, 但采禾添加剂效果最佳。
【英文摘要】t: The effect of d iffe rent b io log ica l add itives (LF、Ca ihe、T ianzha、LF + Ca ihe、T ianzha+ Ca ihe) on mixed silag equality of sug ar beet and corn sta lks was studied. W hen any additiv es w as added, pH, the con tent of ADF,NDF and CF of silage reduced significantly, and the CP of silage increased. A ll k inds o f additives cou ld improveferm entation quality of s ilage. Am ong them, Ca ihe was the optimal additiv .
【语种】中文
【第一作者】李晓霞
【通讯作者】王宗礼
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【学科分类】畜牧、兽医科学其他学科

【题目】尖叶胡枝子和达乌里胡枝子牧草生产力研究
【中文关键词】尖叶胡枝子; 达乌里胡枝子; 牧草生产力
【英文关键词】Lespedez a hedysaroides;L1davurica;Pasture productivity
【中文摘要】2 种胡枝子播种当年单株地上生物量和草群产量均较低, 生长2 年和3 年单株生物量及草群产量较高; 一个生育周期内, 产量基本随生育期进程增加, 尖叶胡枝子和达乌里胡枝子结实期干草产量分别是分枝期的31 6 倍和41 6 倍。尖叶胡枝子和达乌里胡枝子在结实期叶、果有脱落现象, 故结实期产量低于或接近开花期; 产量年度变化规律播种当年产量较低, 以后逐年增加, 但受气候特别是降雨的影响较大, 降雨量低, 产量相对较低。
【英文摘要】2 lespedeza seeding year per plant aboveground biomass and grass group yields were lower, 2 years and 3 years of growth and higher yield of biomass per plant and grass group; within a reproductive cycle, the production of basic processes to increase with the growth period, a sharplespedeza leaves and L. dahurica grain filling stage, hay yield branching stage 316 times and 416 times, respectively.Pointed leaves Lespedeza Lespedeza bicolor with peeling of the grain filling stage and leaves, fruit, grain filling stage production is lower than or close to the flowering stage; yield annual variation seeding year yields lower, after increasing year by year, but by climate especiallyrainfall, low rainfall, the yield is relatively low.
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【第一作者】鲍青龙
【通讯作者】孙启忠
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【题目】Impacts of understory species removal and/or addition on soil respiration in amixed forest plantation with native species in southern China
【中文关键词】无
【英文关键词】Understory management Trenching Root respiration Q10
【中文摘要】无
【英文摘要】Although the removal or addition of understory vegetation has been an important forest management practice in forest plantations, the effects of this management practice on soil respiration are unclear.The overall objective of this study was to measure and model soil respiration and its components in a mixed forest plantation with native species in south China and to assess the effects of understory species management on soil respiration and on the contribution of root respiration (Rr) to total soil respiration (Rs). An experiment was conducted in a plantation containing a mixture of 30 native tree species and in which understory plants had been

removed or replaced by Cassia alata Linn. The four treatments were the control (Control), C. alata addition (CA), understory removal (UR) and understoryremoval with C. alata addition (UR + CA). Trenched subplots were used to quantify Rr by comparing Rs outside the 1-m2 trenched subplots (plants and roots present) and inside the trenched subplots (plants and roots absent) in each treatment. Annual soil respiration were modeled using the values measured for Rs, soil temperature and soil moisture. Our results indicate that understory removal reduced Rs rate and soil moisture but increased soil temperature. Regression models revealed that soil temperature was the main factor and soil moisture was secondary. Understory manipulations and trenching increased the temperature sensitivity of Rs. Annual Rs for the Control, CA, UR and UR+ CA treatments averaged 594,718, 557 and 608gCm − 2 yr − 1, respectively. UR decreased annual Rs by 6%, but CA increased Rs by about 21%. Our results also indicate that management of understory species increased the contribution of Rr to Rs.

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【第一作者】Xiaoling Wang
【通讯作者】Shenglei Fu
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【题目】生物添加剂对灌木青贮中有机酸含量和pH 值的影响
【中文关键词】生物添加剂; 灌木; 青贮; 有机酸; pH 值
【英文关键词】biological additives; bush; silage; organic acid; pH value
【中文摘要】通过研究生物添加剂对灌木青贮中有机酸含量和pH 值的影响, 寻找适合灌木青贮的生物添加剂。利用上年平茬的整株华北驼绒藜、柠条锦鸡儿、尖叶胡枝子和山竹岩黄芪分别添加青宝　　号、采禾和纤维素酶以及无添加剂(对照)进行青贮。结果表明: 柠条锦鸡儿、尖叶胡枝子和山竹岩黄芪添加纤维素酶青贮, 华北驼绒藜对照组的乳酸含量最高; 柠条锦鸡儿添加纤维素酶青贮、尖叶胡枝子添加青宝　　号青贮、华北驼绒藜对照组和山竹岩黄芪添加采禾青贮的乙酸含量最低; 柠条锦鸡儿、尖叶胡枝子和山竹岩黄芪添加纤维素酶青贮, 华北驼绒藜添加采禾青贮的丙酸含量最低; 所有处理的丁酸含量均为0。添加纤维素酶对改善柠条锦鸡儿、尖叶胡枝子和山竹岩黄芪三种灌木的青贮效果最佳; 添加生物添加剂对华北驼绒藜的青贮效果无改善。
【英文摘要】T he ar ticle studied the effect o f biolo gical silage addit ive to the org anic acid content and pH of bush silag e in order to search fo r the suitable biolo gical silage additives in bush silag e. T his exper imentused FAST- SILE, Caihe , cellulo se enzyme and non- addit ives (cont rol) in the w ho le cro p Carag ana korshinskii, Lespedeza hedysaro ide, Cer atoides arbo rescens and Hedy sarum fut ico sum silage which were mow n last year. The result s show ed that lact ic acid co ntent in the silag e of Caragnana kor shinskii, Lespe　　dezahedysar oide and Hedydsrum fut icosum w ith celluslase, Cerato ides arborescens of contr ol group was the hig hest ; the acetic acid content in the silage of Carag nana ko rshinskii with celluslase, Lespedeza hedysa　　roide w ith Qingbao
【语种】中文
【第一作者】樊莉娟
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【题目】水稻组蛋白乙酰转移酶基因的功能研究
【中文关键词】水稻;组蛋白乙酰转移酶;进化树;基因表达;RNA 干扰
【英文关键词】Rice, Histone acetyltransferase, Phylogenetic tree, Gene expression, RNA interference
【中文摘要】组蛋白乙酰转移酶(HATs)在真核生物的基因转录调控和响应外界刺激的过程中起着重要作用。水稻中的OsHATs 包含8 个成员,分属于以下四个蛋白家族: CBP 家族(OsHAC701 、OsHAC703 和OsHAC704)、TAFII250 家族(OsHAF701)、GNAT 家族(OsHAG702、OsHAG703 和OsHAG704)以及MYST家族(OsHAM701)。目前,针对OsHATs 的功

能研究还未见报道。本研究通过生物信息学、表达分析、转基因等方法研究了OsHATs的进化关系、结构、表达及可能的生物学功能,获得了以下结果:1. 对HATs的蛋白序列比对、保守结构域分析及蛋白三维结构预测的结果显示,OsHATs与拟南芥及玉米中的HATs有较高的相似性,推测这些蛋白可能有类似的生物学功能。进化树和保守结构域分析表明,单子叶和双子叶植物的CBP家族蛋白均可以被进一步划分成两个组,组间的蛋白存在着锌指结构域种类和数量上的差异。运用5种亚细胞定位预测工具分析HATs在水稻、拟南芥和玉米中亚细胞定位情况,结果显示水稻中部分OsHATs(OsHAC701、OsHAC703、OsHAF701、OsHAG703和OsHAG704)可能同时存在于细胞核和细胞质中,推测这些蛋白可能在细胞核和细胞质之间穿梭。运用Genevestigator软件分析水稻基因芯片中OsHATs表达情况,结果显示OsHATs的表达可被多种激素和胁迫条件所调节。2. 运用实时定量PCR对OsHATs的表达分析发现,8个OsHATs在水稻多种组织中均有表达,但在不同组织中的表达量有差别。进一步的表达分析发现OsHATs的表达能被水杨酸、脱落酸、盐、冷和热胁迫所调节。外源ABA处理会导致OsHAC701、OsHAC703、OsHAG702、OsHAG703和OsHAM701的表达上调,SA处理会导致OsHAC703和OsHAC704的表达下调,盐胁迫会导致OsHAC701、OsHAC703、OsHAC704、OsHAG703和OsHAM701的表达上调,冷胁迫处理会导致除OsHAG704之外的其它7个OsHATs的表达下调,而热胁迫处理会导致OsHAC701、OsHAG702和OsHAM701的表达上调,OsHAC704和OsHAG704的表达量下调,说明OsHATs可能参与水稻的激素信号转导及对非生物胁迫的响应过程。3. Western blot分析发现,水稻不同组织中组蛋白H3总的乙酰化水平不同,而水稻组蛋白乙酰转移酶基因的功能研究IVH3K9位点的乙酰化水平与之有相同趋势。此外,盐胁迫会导致水稻幼叶中组蛋白H3K18位点乙酰化水平的升高和H4K12位点乙酰化水平的降低。4. 构建了OsHAG702和OsHAG704的超表达载体,OsHAG702、OsHAG704、OsHAC701和OsHAC703的RNA干扰载体。对OsHAC703的RNA干扰株系进行分析,发现其在长日照条件下存在维持营养生长状态而不进入生殖生长阶段的表型,并且该转基因植株的GUS(β-glucuronidase)阳性率显著低于其它重组质粒转基因植株的阳性率。Western blot和实时定量PCR分析表明,在长日照条件下,干扰株系中组蛋白H3总的乙酰化水平和H3K23位点的乙酰化水平显著降低,OsHAC703的表达被干扰,另外7个OsHATs的表达未受影响,开花促进因子OsMADS50的表达量下调,而开花抑制因子OsSE5的表达量上调。上述研究结果表明,OsHATs在水稻生长发育和响应环境胁迫过程中发挥着重要的作用。

【英文摘要】Histone acetyltransferases (HATs) play important roles in eukaryotictranscription and plant defence responses. Eight HATs identified in rice (OsHATs)could be generally organized into four families, namely the CBP family (OsHAC701,OsHAC703 and OsHAC704), TAFII250 family (OsHAF701), GNAT family(OsHAG702, OsHAG703 and OsHAG704) and MYST family (OsHAM701). To date,the biological functions of OsHATs have not been addressed. In this study, systematicbioinformatics analyses, expression analyses and rice transformation were conductedto investigate the evolutionary relationships, domain architectures, expression patternsand potential functions of OsHATs. And the results are as follows.1. The high similarities of protein sequences, conserved domains andthree-dimensional models among OsHATs and their homologues in Arabidopsisthaliana and maize suggested they may share the similar biological functions.Based on phylogenetic and domain analysis, both monocotyledonous anddicotyledonous CBP family proteins are divided into two distinct groups. And theCBP family proteins from different groups differ in the type and number of thezinc fingers. Five subcellular localization prediction programs were used to detectthe possible localization sites of HATs from rice, Arabidopsis thaliana and maize.The results showed that some OsHATs (OsHAC701, OsHAC703, OsHAF701,OsHAG703 and OsHAG704) might be localized at both nucleus and cytosol,suggesting that these proteins might undergo nucleocytoplasmic transport.Assessing gene expression patterns via Genevestigator indicated that theexpression of OsHATs could be modulated by hormones and abiotic factors.2. Real-time quantitative PCR (RT-qPCR) was performed to examine the expressionof OsHATs in different rice tissues. The results showed that eight OsHATs wereexpressed in all tissues examined but with significant differences in the transcriptabundance. Further RT-qPCR analysis demonstrated that the expressions of水稻组蛋白乙酰转移酶基因的功能研究VIOsHATs were modulated by abscisic acid and salicylic acid as well as salt, coldand heat stresses. For example, the expression levels of OsHAC701, OsHAC703,OsHAG702, OsHAG703 and OsHAM701 were significantly elevated in responseto exogenous abscisic acid; the expression levels of OsHAC703 and OsHAC704were reduced in response to salicylic acid; the expression levels of OsHAC701,OsHAC703, OsHAC704, OsHAG703 and OsHAM701 were increased in responseto salt stress; the expressions of OsHATs were decreased after cold treatmentexcept for OsHAG704; the expression levels of OsHAC701, OsHAG702 andOsHAM701 were induced in response to heat treatment. Conversely, theexpression of OsHAC704 and OsHAG704 decreased. Taken together, theseproteins may play an important role for rice hormone signal transduction andresponse to abiotic stress conditions.3. Western blot analysis showed that the histone H3 acetylation levels differed withindifferent tissues, and the same trend was found in acetylated histone H3K9. Inaddition, Western-blot analysis showed that histone H3K18 acetylation wasincreased after salt treatment, while histone H4K12 acetylation was suppressed.4. The constructs for overexpression studies (OsHAG702 and OsHAG704) and theconstructs for RNA interference studies (OsHAG702, OsHAG704, OsHAC701 andOsHAC703) were made. Compared to that of control plants, the notable phenotypeof OsHAC703RNAi transgenic lines under long day conditions is that transgeniclines remained at the vegetative growth phase and could not transit to thereproductive phase. And the GUS (β-glucuronidase)-positive rate ofOsHAC703RNAi

transgenic plants was strikingly lower than those of transgenicplants with other recombinant vectors. Furthermore, Western blot analysis showeda decrease of acetylation of histone H3 and histone H3K23 in OsHAC703RNAiplants, as compared to the control plants. RT-qPCR analysis indicated that inOsHAC703RNAi plants, the expression of OsHAC703 was repressed, while theexpressions of other OsHATs were unchanged. And the expression level of a floralactivator OsMADS50 was decreased, while that of a floral repressor OsSE5 wasincreased.Taken together, OsHATs may play important roles in rice growth anddevelopment as well as response to environmental stresses.

【语种】中文
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【题目】水稻组蛋白脱乙酰化酶基因功能鉴定
【中文关键词】水稻;组蛋白脱乙酰化酶;启动子;亚细胞定位;基因芯片
【英文关键词】Rice, Histone deacetylase, Promoter, Subcellular localization, Gene chip
【中文摘要】组蛋白乙酰化/去乙酰化是表观遗传学的一个重要组成部分,对基因的转录调控起着重要作用,这个过程是由组蛋白乙酰转移酶和组蛋白脱乙酰化酶共同决定的。水稻中组蛋白脱乙酰化酶家族共有18个成员。为了研究这些基因的功能,我们做了以下的工作:1. 成功构建了组蛋白脱乙酰化酶基因OsHDA704、OsHDA705、OsHDA702、OsHDA712、OsHDT701以及OsHDT702启动子与GUS融合表达载体、OsHDA704、OsHDA705、OsHDT701以及OsHDT702与GFP融合表达载体、OsHDA705、OsHDA712及OsSRT702超表达及RNAi载体,并将其转化水稻和烟草,获得相应的转基因植株。2. 构建OsHDA704和OsHDA705酵母双杂交的诱饵载体,发现这两个基因的全长cDNA不具有自激活能力以及其蛋白产物对酵母菌无毒害性;同时构建了水稻幼苗的cDNA文库。3. 亚细胞定位结果表明OsHDT701、OsHDT702编码的蛋白质定位于细胞核中。4. 通过生物信息学、RT-PCR及对转基因Promotor: GUS植株的GUS染色分析,发现OsHDT701基因在水稻的根、茎、叶、穗中均有表达,但在生殖期的根中的表达量低一些。半薄切片结果显示,GUS的表达主要集中在维管束附近;对Promotor: GUS植株进行胁迫处理发现,冷胁迫、黑暗处理以及干旱处理后GUS蛋白相对活性下降,高温处理后GUS蛋白相对活性上升。OsHDA705基因在水稻的根、茎、叶、穗中均有表达,但在成熟期的根中几乎不表达。5. 对OsHDT701超表达和RNAi植株的表型性状进行了初步的分析。基因芯片结果显示,OsHDT701基因超表达后对水稻的多个营养物质代谢有关的基因的表达有很大影响;另外,对T2代转基因植株的游离脯氨酸含量、可溶性糖含量以及种子千粒重进行了分析,结果表明,OsHDT701基因超表达后可溶性糖的含量比对照低,但另外两个指标与对照相比差别不大。综上所述,水稻组蛋白脱乙酰化酶基因在水稻生长发育过程中起着重要作用。

【英文摘要】Histone acetylation/deacetylation is an important component of Epigenetics and plays a key role in regulation of gene expression. This process is determined by histone acetyltransferases and histone deacetylases (HDACs). There are 18 members of histone deacetylase family in rice. We conducted the following work in order to analyze their functions:1. The plant expression vectors OsHDA704, OsHDA705, OsHDT701 and OsHDT702: GFP; OsHDA704, OsHDA705, OsHDA702, OsHDA712, OsHDT701 and OsHDT702 Promoter: GUS; OsHDA705, OsHDA712, OsSRT702 overexpression and RNAi vectors were constructed and transformated into rice and tobacco successfully.2. The bait vectors construction of OsHDA704 and OsHDA705 for yeast two-hybrid. We proved that the proteins of these two genes have no self-activation in yeast and no toxicity to yeast. Also we constructed cDNA library of rice seedlings.3. The results of subcellular localization showed that the proteins of OsHDT701 gene and OsHDT702 were in nucleus.4. OsHDT701 gene was expressed in root, stem, leaves and spike by bioinformatics, RT-PCR and transplants of promoter: GUS. In the mature plant the gene expression was lower in root than other organs. The result of semi-thin section showed that GUS staining mainly stayed near the vascular bundle, which may told us that the OsHDT701 gene take part in matters transport. Cold, dark and drought stresses made the GUS protein activity in transplants lower than wild type, while high-temperature treatment increased its activity. OsHDA705 gene was also expressed in root, stem, leaves and spike, but in mature root nearly had no expression. 5. Phenotypic characters analysis of overexpression and RNAi plants of osHDT701 gene. The gene chip results revealed that overexpression of osHDT701 gene affects many genes of matter metabolism. The content of free proline and thousand seeds weight of transgenic T2 single plants were no differences in overexpression, RNAi and control. The content of souble sugar lower in overexpression plant than wild type.In conclusion, histone deacetylseas may play important roles in rice growth and development.

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【题目】添加玉米粉对甜菜渣青贮品质的影响
【中文关键词】甜菜渣;玉米面;青贮品质
【英文关键词】sugarbeet pulp;corn meal;silage quality
【中文摘要】以甜菜渣为青贮原料,研究玉米粉及其不同添加量(20、40、60、80、100 kg/t)对甜菜渣青贮品质的影响,以期为生产实践提供科学依据。结果表明:添加玉米粉后,甜菜渣青贮料的pH 值、粗蛋白质(CP)含量显著低于对照组(P < 0.05),干物质含量显著增加(P < 0.05)。添加100 kg/t 的玉米粉可显著降低氨态氮的含量(P < 0.05),且可溶性碳水化合物(WSC)含量为对照组的6 倍。各处理组的乳酸和乙酸含量均显著高于对照组(P < 0.05),丙酸和丁酸含量均显著低于对照组(P < 0.05)。
【英文摘要】The effects of maize meal (20,40,60,80,100 kg/t) concentration on the silage quality of sugarbeet pulp were studied.The results showed that maize meal treatments decreased the pH value and crude protein (CP) content of the sugarbeet pulp silage significantly (P < 0.05),but the dry matter (DM) content of the trentments was higher than that ofthe control (P < 0.05).Ammonia-N content of the 100 kg/t maize meal supplementation was significantly decreased (P <0.05) and water-soluble carbohydrate (WSC) content was 6 times more than that of the control (P < 0.05).Compared to the control,the content of lactic acid and acetic acid in all the treatments increased and the content of propionic acid and butyric acid were decreased(P < 0.05).
【语种】中文
【第一作者】李静
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【题目】添加剂在四种灌木类饲用植物青贮中的应用
【中文关键词】青贮; 添加剂; 青贮品质
【英文关键词】silage; additives; silag equality
【中文摘要】以中间锦鸡儿、尖叶胡枝子、华北驼绒藜和山竹岩黄芪为材料, 比较了青宝　　号(FS)、采禾和纤维素酶(CE) 3种添加剂对青贮的影响。结果表明中间锦鸡儿、尖叶胡枝子和山竹岩黄芪经青贮后, 品质得到明显改善, 并能得到有效保存和利用, 与对照相比, 添加3种添加剂后粗蛋白、粗脂肪含量有所提高, 中性洗涤纤维和酸性洗涤纤维明显下降, 并具有较浓的醇香气味。纤维素酶改善青贮品质的效果较好。但华北驼绒藜青贮发酵品质较差, 使用添加剂后也无明显改善作用。
【英文摘要】Using Caragana interm ed ia Kuang, Lesp edeza hedy saroides (Pall) K itag, Cerato ides arborescens (Losinsk)Ts ien, H edy sarum f ruticosum Pall as exper imenta l m a terials, the effec ts o f FS, Ca ihe, Ce llu lose on sliage were tudied. The resu lts showed that afterC. interm ed ia, L. hedy saroides andH. f ruticosum w ere ensiled, silage qua lity was obv iously improved and it could be effic iently prese rved and utilized. Com pared w ith CK group, contents of crude protein (CP) and crude fat (CF) w ere a lso im proved, neutra l de tergent fiber (NDF) and ac id de tergent fiber(ADF) were distinctly decreased, and the silage em itted th ick a lcohol flavor. Am ong the three k inds of additives,ce llulose w as w ith the best ab ilty to im prove the silage qua lity. Wh ile ferm en tation quality o fC. arborescens showed worse than o thers, and the re w as no sign ificant improv em ent after add ing addtives.
【语种】中文
【第一作者】孙启忠

【通讯作者】玉柱
【期刊名称、卷期、页码】中国农业科技导报,2009,11(5):130-133.
【论文发表时间】2009-10-15 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】畜牧、兽医科学其他学科

【题目】乳酸菌添加剂对全株玉米和苜蓿青贮品质的影响
【中文关键词】全株玉米青贮;苜蓿青贮;乳酸菌;青贮品质
【英文关键词】Whole crop corn silage; Alfalfa silage; Lactic acid bacteria; Silage quality
【中文摘要】本试验以全株玉米和苜蓿为研究材料,通过对其发酵品质和化学成分的分析,探讨添加LaLSIL Dry(LD)、H/M FINOCULANT(H/M F)和FAST-SILE(FS)三种乳酸菌添加剂对全株玉米青贮和苜蓿青贮品质的影响。研究结果表明:全株玉米可以单独调制出优质青贮料,添加乳酸菌制剂可以提高全株玉米青贮乳酸含量并降低乙酸含量;乳酸菌添加剂可明显降低苜蓿青贮的pH 值,丁酸和氨态氮含量;乳酸菌添加剂可以进一步改善全株玉米青贮和苜蓿青贮品质。
【英文摘要】This experiment chose whole crop corn and alfalfa as materials, studying their fermentation qualities and chemical compositions byadding different lactic acid bacteria additives which are LaLSIL Dry(LD),H/M F INOCULANT(H/M F)and FAST-SILE(FS).The results showedthat, whole crop corn could be silaged alone,adding lactic acid bacteria additives could improve whole crop corn silage quality,and adding lacticid bacteria additives could increase the lactic acid content and reduce the acetic acid content significantly.Adding lactic acid bacteria additives could significantly reduce the pH value of alfalfa silage, butyric acid and ammonia N Content;lactic acid additives can further improve the quality ofwhole crop corn and alfalfa silages.
【语种】中文
【第一作者】陶莲
【通讯作者】玉柱
【期刊名称、卷期、页码】中国奶牛,2009(2):13-16.
【论文发表时间】2009-02-20 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】畜牧、兽医科学其他学科

【题目】尿素对甜菜渣青贮品质的影响
【中文关键词】甜菜渣;尿素;青贮品质
【英文关键词】Beet pulp; urea; silage quality
【中文摘要】试验采用不同剂量(2、4、6和8 g/ kg) 的尿素作为添加剂对原料进行青贮调制, 分析青贮发酵品质和化学成分, 探讨尿素对甜菜渣青贮饲料品质的影响。结果表明, 添加尿素后与对照相比, 青贮料的pH 有下降趋势, 但处理组间差异不显著, 乳酸和丁酸含量明显下降, 氨态氮、粗蛋白及可溶性糖含量显著增加, 4 和6 g/ kg 的添加量可有效抑制丁酸产生, 改善效果明显。
【英文摘要】Test different doses (2, 4, 6 and 8 g / kg) urea as an additive in the raw materials silage modulation analysis silage fermentation quality and chemical composition, explore urea beet pulp silage quality. The results show that, after the addition of urea and controlA downward trend compared to the pH of the silage, but no significant difference between the treatment groups, lactic acid and butyric acid content decreased, a significant increase in ammonia nitrogen, crude protein and soluble sugar content, add the amount available in 4 and 6 g / kg effectively inhibit butyrate, improve the effect is obvious.
【语种】中文
【第一作者】李静
【通讯作者】玉柱
【期刊名称、卷期、页码】饲料研究,2009,(2):39-41.
【论文发表时间】2009-02-07 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】畜牧、兽医科学其他学科

【题目】霉菌毒素对饲草料的污染
【中文关键词】霉菌毒素;饲草;污染
【英文关键词】mycotoxins; forage; contamination
【中文摘要】通过对霉菌毒素的定义及作用机理的阐述,介绍了各种霉菌毒素对饲草的污染,以及霉菌毒素的检测与去除方法。
【英文摘要】The definition and mechanism of mycotoxins were introduced in the article. Meanwhile, feedstuff was contaminated bydifferent mycotoxins and the methods of detection and removal also were discussed.
【语种】中文
【第一作者】蒙淑芳
【通讯作者】许庆方
【期刊名称、卷期、页码】畜牧与饲料科学. 2009,30(9):39-40
【论文发表时间】2009-09-30 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】畜牧、兽医科学其他学科

【题目】Subtropical plantationsarelargecarbonsinks:Evidencefromtwo
【中文关键词】无
【英文关键词】Net ecosystemproductivity(NEP) Soil CO2 flux Plantation Trenching Tree girdling
【中文摘要】无
【英文摘要】Quantifying the net carbon(C)storage of forest plantations is required to assess their potential to offset fossil fuel emissions.In this study,a biometric approach was used to estimate net ecosystem productiv-ity (NEP)for two monoculture plantations in South China: Acacia crassicarpa and Eucalyptus urophylla.This approac hwas based ons tand-level net primary productivity(NPP,based on direct biometric inventory) and heterotrophic respiration(Rh). In comparisonso f Rh determination based on trenching vs.treegirdling, both trenching and treegirdling changed soil temperature and soil moisture relative to undisturbed control plots,and we assess the effects of corrections for disturbances of soil moisture and soil moisture on the estimation of soil CO2 efflux partitioning.Soil microbial biomass and dissolved organiccarbon were significantly lower in trenched plots than in tree girdled plots for both plantations.Annual soil CO2 flux in trenched plots(Rh-t) was significantly lower than intree-girdled plots(Rh-g) in both plan-tations. The estimatesof Rh-t and Rh-g, expressed as a percentage of total soil respiration,were 58±4% and 74±6%, respectively,for A. crassicarpa, and 64±3% and 7 8±5%, respectively,for E. urophylla. By the end of experiment,the differencein soil CO2 efflux between the trenched plots and tree-girdled plotshad become small for both plantations.Annual Rh (mean oftheannual Rh-t and Rh-g) andnetprimaryproduction (NPP) were 470±25 and 800±118gCm − 2 yr − 1, respectively,for A. crassicarpa, and 420±35 and 2380±187gCm − 2 yr − 2, respectively,for E. urophylla. The two plantations in the developmentalstage were large carbon sinks:NE Pwas 330±76Cm − 2 yr − 1 for A. crassicarpa and 1960±178gCm − 2 yr − 1 for E. urophylla.
【语种】英文
【第一作者】Dima Chen
【通讯作者】ShengleiFu
【期刊名称、卷期、页码】Agricultural and Forest Meteorology,(2011)151:1214-1225
【论文发表时间】2011-05-15 00:00:00
【引文索引类型】SCI
【引文索引号】10.1016/j.agrformet.2011.04.011
【学科分类】环境科学技术及资源科学技术其他学科

【题目】基于时空双序列分析的温室WSN故障诊断
【中文关键词】时间序列 空间序列 温室 无线传感器网络 故障诊断
【英文关键词】Greenhouse;Wireless sensor networks; Time series; Space series; Fault diagnosis;
【中文摘要】根据温室无线传感器网络(WSN)所采集数据在时间和空间上具有很强的相关性,从温室无线传感器网络基本结构出发,在分析WSN原始数据的基础上,通过对时空序列样本信息的预处理,分别建立了时间和空间故障诊断数学模型,据此分析传感节点的工作状态,给出了温室WSN故障诊断的综合算法。试验结果表明,该故障诊断方法能够及时、有效地发

现温室WSN的异常并诊断出故障节点,提高了WSN工作的可靠性。
【英文摘要】
【语种】中文
【第一作者】张荣标
【通讯作者】张荣标
【期刊名称、卷期、页码】农业机械学报 2009(6)p155-158
【论文发表时间】2009-02-03 00:00:00
【引文索引类型】EI
【引文索引号】20091211966186
【学科分类】信息科学与系统科学基础学科

【题目】Effects of vegetation removal on soil properties and decomposer organisms
【中文关键词】无
【英文关键词】Nematode Microarthropod Plantation PLFA Understory
【中文摘要】无
【英文摘要】The removal of understory vegetation has been a common forest management practice, especially in plantations, but the effects of understory removal on soil physico-chemical properties and decomposer organisms is poorly known. In the present study, the effects of understory vegetation removal andremoval of all-plants (i.e. removal of understory vegetation and trees) on soil properties and soil biota were measured in a plantation of mixed native tree species in southern China. During the wet season,understory vegetation removal did not cause significant changes on soil microbial community and major soil faunal groups except for a marked reduction in the density of herbivorous nematodes. However, allplantsremoval significantly decreased the fungal biomass, the fungal:bacterial ratio, the density ofherbivorous nematodes, the structure of the nematode community, and the density of mites, collembola and total microarthropods. In the dry season, understory vegetation removal resulted in a marked reduction in the density of total and herbivorous nematodes. The effects of plant removal on soil biota were similar to that in dry season. For both seasons, understory removal had no significant effects on soil physico-chemical properties (soil water content, pH, total nitrogen and soil organic carbon) but removal of all-plants significantly decreased soil pH. In general, the effects of understory vegetation removal on soil biota and other soil properties were much less severe than those of all-plants removal. The soil biotadid not show significant response to understory removal, suggesting that this part of the vegetation maynot be a major governing factor on such biota.
【语种】英文
【第一作者】Jie Zhao
【通讯作者】Shenglei Fu
【期刊名称、卷期、页码】Soil Biology & Biochemistry,(2011)43:954-960
【论文发表时间】2011-01-30 00:00:00
【引文索引类型】SCI
【引文索引号】10.1016/j.soilbio.2011.01.010
【学科分类】环境科学技术及资源科学技术其他学科

【题目】苣荬菜生物学特性与营养成分
【中文关键词】苣荬菜; 生物学特性; 营养成分; 牧草
【英文关键词】sowthistle; biological characteristic; nutritive value; forage
【中文摘要】以生长多年的苣荬菜Sonchus ar v ensis 为材料, 进行生物学特性、牧草产量和营养成份的研究。结果表明, 苣荬菜为根蘖型植物, 4 月下旬- 5 月上旬返青后呈叶簇状, 枝条(一级枝条) 从根颈处长出, 二级枝条从一级枝条的叶腋处长出, 根颈分枝一般为8~ 15 个/ 株, 多者可达22 个/ 株, 开花后植株高度可达98. 1 cm,最高可达140 cm, 生育期约为120 d。分枝期、孕蕾期和开花期干草产量分别为1 165. 0、2 912. 6 和3 699. 8kg / hm2 。粗蛋白、粗脂肪含量较高, 分别占干物质的15. 67% ~ 25. 90%和3. 38% ~ 5. 76%; 中性洗涤纤维和酸性洗涤纤维含量较低, 分别占干物质的21. 99% ~ 36. 42% 和20. 40%~ 30. 45%; 钙、磷含量分别为1.95%~ 2.45%和0. 15%~ 0. 28%。
【英文摘要】Perennial sow thistle (Sonchus arv ensi s) w as used to evaluate it s biolo gical characterist ics,forage yield and nut rient content s. T he result s show ed that sowthist le w as root spr out plant and pres ented leaf cluster fr om 20 April to 10 May after returning green. Branches o f first class grew from root stem, while branches of second class were dev elo ped from leaf ax il, and the branch number of theroot stem was usually 8 to 15 (some w ere 19 to 22) . T he plant height was 98. 1 cm after blooming, thehig hest

ones r eached 120 cm. Its bearing stag e w as aro und 120 days.
【语种】中文
【第一作者】孙启忠
【通讯作者】玉柱
【期刊名称、卷期、页码】草业科学,2009(12):42-45
【论文发表时间】2009-12-15 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】畜牧、兽医科学其他学科

【题目】Effect of understory fern (Dicranopteris dichotoma) removal on substrate utilization patterns of culturable soil bacterial communities in subtropical Eucalyptus plantations
【中文关键词】无
【英文关键词】Eucalyptus
Litter decomposition rate
Substrate utilization pattern
Understory fern removal
【中文摘要】无
【英文摘要】Although understory vegetation is known to play an important role in driving the processes and functions of forest ecosystems, little is known about how understory vegetation affects the composition and function of soil microbial communities in forest ecosystems, especially in subtropical and tropical forests.This study used the experimental removal of understory fern (Dicranopteris dichotoma) to investigate the effect of the fern on substrate utilization patterns of culturable soil bacterial communities in two subtropical Eucalyptus plantations. One year after treatment, the removal of understory fern significantly increased soil temperature by 2 – 3 ◦ C and retarded litter decomposition by 5.6 – 23.1%. However, understory fern removal did not affect the substrate utilization pattern of soil bacterial communities. Our studyprovides evidence that, although understory fern removal significantly alters soil temperature and litter decomposition rate, the disturbance caused by understory removal one year after treatment is too weak to cause detectable changes in substrate utilization pattern of culturable soil bacterial communities in subtropical Eucalyptus plantations.
【语种】英文
【第一作者】Zhanfeng Liu
【通讯作者】Shenglei Fu
【期刊名称、卷期、页码】Pedobiologi,(2012) 55:7-13
【论文发表时间】2012-07-31 00:00:00
【引文索引类型】SCI
【引文索引号】10.1016/j.pedobi.2011.07.014
【学科分类】环境科学技术及资源科学技术其他学科

【题目】不同生长年限敖汉苜蓿草地土壤呼吸研究
【中文关键词】敖汉苜蓿(M ed icago sativa L. cv. Aohan); 草地; 土壤呼吸; 生长年限; 土壤温度; 赤峰; 内蒙古
【英文关键词】Medicago sativa L. cv. Aohan; soil resp iration; growth year
【中文摘要】使用便携式土壤呼吸测定仪测定农牧交错带1年、2年和4年生敖汉苜蓿人工草地的土壤呼吸, 并同步测定0~ 5 cm 土层的温度和含水量。结果表明: 敖汉苜蓿草地土壤呼吸的日最高值出现在14: 00~ 18: 00, 夜间最高值出现在4: 00~ 6: 00, 全天最低值出现在10: 00左右; 不同生长年限敖汉苜蓿草地的土壤呼吸速率, 总体变化趋势是4年生> 2年生> 1年生; 土壤呼吸与土层温度呈显著的指数增长关系, 且相关性高于土壤呼吸速率与土含水量的相关性; 5 cm 土层的地温和土壤含水量较土壤温度或空气湿度能更好地解释土壤呼吸的变化。
【英文摘要】In this study, the so il respira tion rate, soil temperature and so ilmoisture content at a depth of 5 cm in fields of Medicago sativa L. cv. Aohan that had been growing for different leng ths of time were evaluated. The quant itative relationships between the soil respiration rate and the soil temperature and soilmoisture content at adepth of 5 cm were ana lyzed. The results revealed that the change curve describ ing the soilmo isture content at aepth of 0~ 70 cm w as bimoda,l them ax imum values occurred at depths o f 15 cm and 70 cm, respectively, and them in imum curve occurred at a depth o f30 cm. Furthermore, them ax imum so il

respirat ion rate occurred between 14 00~ 18: 00 and 4: 00~ 6: 00, respectively,while the minimum rate occurred around 10: 00. In add ition, the soil resp iration in fields of M.
【语种】中文
【第一作者】徐丽君
【通讯作者】孙启忠
【期刊名称、卷期、页码】干旱区研究,2009,26(1):14-20.
【论文发表时间】2009-01-15 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】畜牧、兽医科学其他学科

【题目】2种不同类型的尖叶胡枝子光和-光响应特性研究
【中文关键词】尖叶胡枝子; 叶绿素; 光合- 光响应曲线
【英文关键词】Lespedez ahedy saroides ; Chlo rophy el; pho to sy nthesis and photo response curve
【中文摘要】以黄绿型和浓绿型2 种不同类型的尖叶胡枝子Lesp edez a hedy saroid es 为材料, 对其叶绿素含量和光合- 光响应特性进行了研究。结果表明, 2 种不同类型尖叶胡枝子的叶绿素含量存在显著差异。浓绿型尖叶胡枝子的最大净光合速率(Amax) 、暗呼吸速率(Rd) 、表观量子效率(AQY) 均高于黄绿型尖叶胡枝子, 而光补偿点(LCP) 、光饱和点(LSP) 低于黄绿型尖叶胡枝子。黄绿型尖叶胡枝子和浓绿型尖叶胡枝子净光合速率(Pn) 、胞间CO2 浓度(Ci) 、气孔导度(Gs) 、蒸腾速率(T r) 、水分利用效率(WUE) 及叶片温度(T leaf) 对不同光合有效辐射通量密度(PPFD) 的响应均有一定程度的差异。
【英文摘要】he paper studied the chlor ophyl l co ntent s, pho to synthesis and photo r esponse char acteris tics of two dif ferent ty pes of L . hedy saroides such as y ellow green type and dark green ty pe. There sults show ed that the chlorophyll content s o f tw o ty pes had significant dif ferences. The maximum netphotosynthet ic r ate (Amax) , dark respir at ion rate(Rd) and apparent quantum yield(AQY) o f dark type o f L . hedy sar oid es w ere higher than the y el low green type, and the apparent light compen sation po int (LCP) and lig ht saturat ion point (LSP) of dark g reen type w er e low er than that o f theyellow g reen type. T he lig ht radiat ion net photosy nthet ic r ate (Pn) , inter celler CO2 concentr at ion Ci) , stomatal conductance(Gs) , t ranspiration rate(Tr) , w ater use ef ficiency (WUE) and leaf tem perature o f the tw o types show ed different respo nses to the pho to sy nthet ic available radiation f luxdensity (PPFD) to some extent .
【语种】中文
【第一作者】杨秀芳
【通讯作者】孙启忠
【期刊名称、卷期、页码】草业科学,2009(7):61-65
【论文发表时间】2009-07-15 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】畜牧、兽医科学其他学科

【题目】First report of Corynespora cassiicola causing leaf spot of cassava in china
【中文关键词】木薯;叶斑病;多主棒孢;中国;首次报道
【英文关键词】cassava; leaf spot disease;corynespora cassiicola; china; first report
【中文摘要】2009年在中国广西武鸣、广东云浮和海南白沙首次发现由多主棒孢引起的木薯叶斑病。
【英文摘要】Cassava (Manihot esculenta) is a kind of important food crop in the tropical area of China. During the survey in Guangxi and Hainan on July and September of 2009, leaf spots were observed on three cassava plantations, located separately in Wuming(Guangxi Province), Yunfu(Guangxi Province) and Baisha(Hainan Province). Circular or irregular shaped black spots were appeared on the leaves of more than third of the plants, which severely reduced the bloom. Each spot has a dark-brown papery centre surrounded by a pitchy ring. A chlorotic halo surrounded the ring. Usually, the main vein or small veinlets adjacent to the spots become dark colored and giving rise to ‘ fishbone ’ appearances sometimes. ‘ railway-track ’ spots of the infected leaves were not observed during the survey. The mild defoliation phenomena were found on Wuming. Three isolates of C. cassiicola were isolated from symptomatic leaves came from three locations separately and named CCCGX01, CCCGX02 and CCCHN01. Single-spore cultures of these isolates were incubated with a 12/12 h light/dark cycle,at a temperature of 28±1°C, on potato dextrose agar (PDA) for 7 days. A

few of conidia sporulated on the surface of PDA plate. Conidia and conidiophores were collected and microscopically examined. The morphological characteristics of the specimen and of their conidia were similar to the descriptions for C. cassiicola by Ellis and Holliday (1). The isolate CCCGX01 was selected as a representative for molecular identification. Genomic DNA was extracted with the CTAB protocol (2) from mycelia of this strain and used as a template for amplification of the internal transcribed spacer (ITS) region of rDNA using primer pair ITS1/ITS4. The sequence (GenBank Accession No. GU138988) exactly matched several sequences of C. cassiicola (e.g., GenBank Accession No. FJ852715, EF198117 and AY238606) (3). The pathogenicity of three isolates on the host from which it was isolated was established by following Koch's postulates. Young, healthy and fully expanded green leaves of Cassava clone SC205 were taken from annuals cassava plants and surface sterilized. Ten cassava leaves were inoculated with 10 μL drops of the conidial suspension of 104 conidia/mL and five leaves were inoculated with same volume of sterile water served as controls. Underlay with sterile filter paper, the leaves were put upside up in individual moist boxes. The boxes with leaves were placed in the dark for 36 hours before being transferred to the light for 5 days. All inoculated leaves with isolates showed symptoms similar to those observed in natural conditions, whereas the controls remained symptom free. The shape and size of conidia that formed on the diseased parts were identical with the isolates. This species has been previously reported on Hevea rubber (Hevea brasiliensis) in China (4). To our knowledge, this is the first report of leaf spot caused by C. cassiicola on Cassava in China.

【语种】英文
【第一作者】刘先宝
【通讯作者】黄贵修
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【学科分类】植物保护学

【题目】基于信息融合的温室co2调控量决策研究
【中文关键词】信息融合 光合作用 生菜价格 调控量
【英文关键词】Greenhouse; CO2 control quantity; Decision-making; Information fusion;
【中文摘要】温室中co2浓度直接关系着作物的产量及其经济效益,研究了温室温度、光强、co2浓度变化规律及温室生菜生长规律,分析了近几年凌家塘批发市场生菜价格季节性变化规律,并建立了以周数为自变量的生菜价格模型。运用信息融合技术建立温室生菜光合速率与二者的量化模型,以优化经济效益为目的,提出了一种新的co2调控方法,即通过预测生菜市场价格和不同co2浓度下光合速率来调控co2施肥浓度,使得经济效益最优。
【英文摘要】
【语种】中文
【第一作者】张荣标
【通讯作者】张荣标
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【学科分类】电子与通信技术其他学科

【题目】2个不同类型尖叶胡枝子的微形态和分子标记鉴定
【中文关键词】尖叶胡枝子; 扫描电镜; ISSR- PCR; 微形态; 分子标记
【英文关键词】Lespedeza hedy saroides; SEM; ISSR-PCR; micromo rpho logy; molecularm arker
【中文摘要】通过扫描电镜观察到叶片浓绿型和叶片黄绿型2个不同类型尖叶胡枝子的豆荚和种皮微形态具有明显差异,其特征可作为2个不同类型尖叶胡枝子的鉴定依据。还采用ISSR-PCR分子标记方法对2个不同类型尖叶胡枝子进行了鉴定。实验共考察8个引物, 筛选出引物UBC-880可以独立区分开2个不同类型的尖叶胡枝子, 叶片浓绿型尖叶胡枝子可产生1条500~ 600 bp大小的多态性谱带, 表明ISSR-PCR方法可为鉴定2个不同类型尖叶胡枝子提供DNA 分子水平上的依据。
【英文摘要】Two d ifferen t types o fL. hedysaro ides w ith ye llow-g reen leaf or dark-g reen leaf show ed obv ious d ifferences in microm orpholog ical features of pod-coat and seed-coat by scanning e lectron m icroscope (SEM) observation. These microm orpholog ica l fea tures can be used for identification of tw o different types of L. hedy saroides. ISSR-PCRmolecu lar marker was also

used toidentify two different types of L. hedysaro ides. Among e ight primers for experim ents, the primer UBC-880 was able to distinguish the exam ined two different types of L. hedy saro ides. L.hedy saroides with dark-g reen leaf has a polym orphic band in 500~ 600 bp. ISSR-PCR molecularm arker can beused to identify two different types of L. hedy saroid es on DNA level.
【语种】中文
【第一作者】杨秀芳
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【题目】网络传输丢包率对温室WSN测控系统影响的分析
【中文关键词】丢包率; 无线传感器网络;温室 ;测控系统;稳定性
【英文关键词】wireless sensor networks; greenhouse; control system; packet loss; stability;
【中文摘要】通过对温室中强耦合因子——温度、湿度进行解耦,建立温湿度非耦合的多输入多输出数学模型,在分析含数据传输丢包与时延的温室无线传感网络(WSN)测控系统结构基础上,根据网络控制系统指数稳定的相关理论,分析了温、湿度离散控制系统指数稳定条件。利用matlab中LMI工具箱,对系统的指数稳定性进行定量判断,求出满足温室WSN测控系统指数稳定的可行性解,在确保温室WSN测控系统指数稳定的情况下分析出最大允许丢包率,为创建稳定的温室WSN测控系统提供理论依据。
【英文摘要】
【语种】中文
【第一作者】张荣标
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【学科分类】电子与通信技术其他学科

【题目】河西 走廊紫花苜蓿干草调制技术研究
【中文关键词】紫花苜蓿; 干草调制; 质量
【英文关键词】Alfalfa; Hay curing; Quality
【中文摘要】紫花苜蓿(Med icago stativa L.) 是为建立河西走廊地区苜蓿干草调制技术, 于2004 年在河西走廊地区以种植3 年的紫花苜蓿为材料, 对第2 茬苜蓿进行了刈割时期、晾晒时间、打捆时间、翻晒对紫花苜蓿干草质量的影响研究。结果表明: 苜蓿干草调制成功与否主要决定于晾晒时间、翻晒和打捆时间, 而调制的苜蓿干草质量主要决定于刈割时期和打捆时间; 河西走廊紫花苜蓿在初花期刈割, 晾晒28 h- 32 h, 并进行翻晒作业, 16: 00- 17: 30 打捆,避开过早或过晚打捆, 可获得质量好、营养价值较高并可长期贮存的干草产品。该技术的提出对我国北方地区调制优质苜蓿干草提供了科学依据。
【英文摘要】Alfalfa is a productive and excel lent legume for ag e ex tensively planted in Nor th China and successful hay curing techno logy is impor tant to the alfalfa indust ry . In this art icle, the effect s o f cut period,sunning ho urs, baling t ime, and tedding on the second cutting alfalfa hay were studied with three year old alfalfa in 2004 in Hex i Corrido r area of China in or der to determine the appropriate curing technolog y of alfalfa hay . The results show that the key facto rs fo r the successful alfalfa hay curing w ere sunning hours,tedding time, and baling time; harv esting perio d and baling time had great effects on alfalfa hay quality.According to the experiment , hig her quality and nut rit ive alfalfa hay with possibility of long time reservation in the Hexi Corr idor area was achieved by alfalfa harvesting in initial flow er ing period, sunning for 28 32 hours w ith tedding, and baling at the time except early morning or evening .
【语种】中文
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【题目】紫 花苜蓿的抗寒生理适应性研究
【中文关键词】紫花苜蓿; 抗寒性; 生理适应性
【英文关键词】alfalfa; cold resistance; physiolog ical adaptat ion
【中文摘要】通过对3 个紫花苜蓿Medicago sativ a 品种根部可溶性糖、全氮、丙二醛(MDA) 、游离脯氨酸和游离氨基酸含量动态变化进行分析, 研究它们与苜蓿抗寒性之间的关系。结果表明, 苜蓿根内可溶性糖、全氮、游离脯氨酸和游离氨基酸含量会在秋冬季升高, 并在整个冬季保持较高水平, 春季返青时下降, 苜蓿根内M DA 含量在秋季升高, 并随晚秋气温进一步下降而降低。此外, 各紫花苜蓿品种综合测定的参数说明, 阿尔冈金抗寒性最强, 金皇后次之, 甘农3 号最差。
【英文摘要】T he dynamic chang e o f soluble sugar content, total nit rog en, malondialdehyde, f ree pro line and f ree amino acid in root o f three alfalfa (Medicago sati va) varieties w ere analyzed t f ind out their relationships with cold resistance of alfalfa. T he results indicated that the content of soluble suger,total nitrogen, free pro line and free aminoacid increased f rom late autumn and early winter , and kept higher level during the entire winter,then decreased in regreen time in the next spring, the content of malondialdehyde increased in autumn and decreased with the falling of temperature in late autumn. Moreover,the integr ated determinat ion parameters of all alfalfa v ariet ies sugg ested that the cold resistance of Alg onquin was the best , Gold Empress took the second place, and Gannong No. 3 was the worst .
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【第一作者】陶雅
【通讯作者】孙启忠
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【题目】萎蔫与添加剂青贮对白三叶发酵品质的影响
【中文关键词】白三叶;青贮;萎蔫;添加剂;青贮品质
【英文关键词】Trifolium repens;Silage; wilting; additives; silage quality
【中文摘要】本实验以白三叶为研究材料,探讨萎蔫和不同添加剂的处理对白三叶青贮品质的影响,试验设置了对照、萎蔫24h、MicrimanagerH(1g/Kg)/M-1、MicrimanagerH/MF(0.027g/Kg)、Lalsil Dry(0.01g/Kg)、Microbial(0.01g/Kg)、Siloguard(0.5g/Kg、1g/Kg)、纤维素酶(0.015g/Kg)、Lalsil Dry+纤维素酶(0.01g/Kg+0.015g/Kg)、Microbial+纤维素酶(0.01g/Kg+0.015g/Kg)MicrimanagerH/MF+纤维素酶(0.027g/Kg+0.015g/Kg)、12个处理组,调制青贮饲料,60d后开封并取样分析。结果表明,白三叶直接青贮发酵品质较差,萎蔫24h、添加乳酸菌制剂、纤维素酶制剂、发酵抑制剂均能获得优良的青贮发酵饲料;乳酸菌制剂MicrimanagerH/MF(0.027g/Kg)、和Microbial(0.01g/Kg)可显著增加乳酸菌含量(P<0.05)、明显降低丁酸和氨态氮含量(P<0.05);发酵抑制剂Siloguard(0.5g/Kg、1g/Kg)能有效促进乳酸菌发酵,乳酸含量显著高于对照组(P<0.05),而丁酸含量显著低于对照组(P<0.05),纤维素酶单独添加或与MicrimanagerH/MF、Microbial混合使用后,PH值、丁酸、铵态氮均显著低于对照组(P<0.05),乳酸含量明显提高(P<0.05),明显改善青贮发酵品质。
【英文摘要】In this experiment, white clover as research material, explore wilting and processing white clover silage quality of different additives, test set were wilting 24h MicrimanagerH (1g/Kg) / M-1, MicrimanagerH / MF (0.027 g/ Kg), Lalsil Dry (0.01g/Kg), Microbial (0.01g/Kg), Siloguard (0.5g/Kg, 1g/Kg), cellulase (0.015g/Kg), Lalsil of Dry + cellulase (0.01g / Kg +0.015 g / Kg), Microbial + cellulase (0.01g/Kg +0.015 g / Kg) MicrimanagerH / MF + cellulase (0.027g/Kg +0.015 g / Kg), 12 treated group, the modulation silagefeed, 60d Kaifeng and sample analysis. The results showed that, poor the White Clover direct silage fermentation quality, wilting 24h Add lactobacillus, cellulase preparation, fermentation inhibitors are able to get a good silage fermentation feed; lactobacillus MicrimanagerH / MF (0.027g/Kg), and Microbial (0.01g/Kg) can significantly increase the lactic acid bacteria content (P <0.05), significantly lower butyric acid and ammonia nitrogen content (P <0.05); the fermentation inhibitor Siloguard (0.5g/Kg, 1g/Kg) can effectively promote lactic acid fermentation, the lactic acid content was significantly higher than that in the control group (P <0.05), and

butyric acid content was significantly lower than the control group (P <0.05), cellulase alone add or with MicrimanagerH / MF, Microbial mix, PH value, butyric acid, ammonium nitrogen were significantly lower than the control group (P <0.05), lactic acid content was significantly increased (P <0.05), significantly improved the quality of silage fermentation.

【语种】中文
【第一作者】李静
【通讯作者】玉柱
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【题目】华北驼绒藜在厌氧发酵过程中碳水化合物组分的动态变化
【中文关键词】华北驼绒藜;青贮;添加剂;可溶性贪睡化合物;动态变化
【英文关键词】Carborescens;Silage; additives; soluble to snooze compounds; Dynamic changes
【中文摘要】本研究探讨了不同添加剂对华北驼绒藜在厌氧发酵过程中可溶性碳水化合物组分动态变化的影响。试验设对照组、乳酸菌处理组、纤维素酶处理组和乳酸菌+纤维素酶混合处理组,分别在贮藏后的第1d、第3d、第5d、第10d、第30d和第45d开封,每次各开封3包,测定可溶性糖、中性洗涤纤维、酸性洗涤纤维、木质素、纤维素和半纤维素含量并分析动态变化规律。结果表明,添加乳酸菌制剂、纤维素酶和乳酸菌制剂+纤维素酶3种处理组均可降低驼绒藜青贮饲料的半纤维素含量,提高可溶性糖保存率,改善驼绒藜青贮饲料的发酵品质;综合来看,添加乳酸菌制剂+纤维素酶效果明显,纤维素酶次之。
【英文摘要】This study investigated the impact of different additives dynamic changes in the process of anaerobic fermentation of soluble carbohydrate components of C. arborescens. Test the control group, the lactic acid bacteria treated with cellulase treatment group and Lactobacillus + cellulase mixed treatment groups, respectively storage 1d 3d, 5d, 10d, 30d and # 45d Kaifeng, each Kaifeng 3 package, the determination of soluble sugar, neutral detergent fiber, acid detergent fiber, lignin, cellulose and hemicellulose content and analyze the dynamic variation. The results show that the addition of lactobacillus, C. arborescens silage cellulase and lactobacillus + cellulase treatment group can reduce the hemicellulose content, soluble sugar preservation rate, and improve the quality of C. arborescens silage fermentation; comprehensive view, add lactobacillus + obvious effect of cellulase, followed by cellulase.
【语种】中文
【第一作者】陶莲
【通讯作者】玉柱
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【题目】Tissue and inducible expression of a rice glutathione
【中文关键词】水稻
【英文关键词】Arabidopsis; Flower; Glutathione transporter; Promoter; Rice; Root.
【中文摘要】為研究水稻穀胱甘肽轉運蛋白 (OsGT1) 基因在植物體內的表達譜,將該基因啟動子區 (AY338469) 與GUS 報告基因融合後轉化擬南芥菜。結果表明:OsGT1 基因編碼區前 1246 bp 的啟動子區已足夠啟動GUS 基因的表達,並且啟始密碼(ATG)前 257 bp 是必須具備的區域。OsGT1 啟動子啟動的 GUS 表達具有組織特異性,主要在根、子葉和花等器官的維管組織中表達。同時受外界鹽和低溫脅迫的誘導,以及激素 ABA 和 NAA 的誘導,然而 OsGT1 基因啟動子啟動的 GUS 活性被高濃度的重金屬 Cd 抑制。表明水稻 OsGT1 基因主要在根和花中表達,與水稻抗鹽與低溫脅迫相關。
【英文摘要】The promoter of a rice glutathione transporter (OsGT1) was fused to the reporter gene ß-glucuronidase(GUS) and introduced into Arabidopsis to analyze promoter and expression patterns. Deletion ofvarious length-promoter studies indicated that a 1246 bp fragment upstream of start codon (ATG) of OsGT1is sufficient to activate the expression of GUS gene. The GUS assays revealed that the OsGT1 promoter isexpressed in an organ and tissue-specific manner. GUS was being expressed in the root stele, the veins ofcotyledons, the anthers and flower petals, but not in leaves or stems under normal growth conditions. GUS expressionactivated

by the OsGT1 promoter was strongly stimulated by NaCl and low temperature, moderatelyby abscisic acid and naphthaleneacetic acid, and not at all by salicylic acid and gibberellic acid. Expressionwas inhibited by cadmium but not by copper. The function of OsGT1 in glutathione transport in normal orstress conditions is discussed.
【语种】英文
【第一作者】Ya-Qin WANG
【通讯作者】张明永
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【中文关键词】苜蓿;氨基酸;抗寒性
【英文关键词】alfalfa;amino;cold resistance
【中文摘要】以两种小环境(坡耕地和平地)下生长的敖汉苜蓿为材料,研究苜蓿根内游离氨基酸和精氨酸的动态变化,及其在两种小环境中的差异。结果表明,苜蓿根内游离氨基酸、游离脯氨酸、精氨酸含量在秋末冬初升高,并在整个冬季保持较高水平,春季返青时下降;相对于坡耕地生长的苜蓿,平地长成的苜蓿根部积累游离氨基酸、游离脯氨酸和精氨酸能力更强,抗寒性也较高。
【英文摘要】in this study, the dynamic changing of free amino acids in the alfalfa roots and arginine dynamic changes, and the differences in the two small environment. The results showed that alfalfa root free amino acids, free proline, arginine content in Qiumodongchu increased and to maintain a high level throughout the winter, spring greenup down; For the the slope farmland growth of alfalfa, plains grow into alfalfa roots accumulation of free amino acids, free proline and arginine stronger cold resistance is were better which growing in flat land than in slope land.
【语种】中文
【第一作者】陶雅
【通讯作者】孙启忠
【期刊名称、卷期、页码】中国草学会饲料生产委员会第15次饲草生产学术研讨会论文集,中国,北京,2009,316-324
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【学科分类】畜牧、兽医科学其他学科

【题目】水稻寡肽转运基因OsPTR1—10酵母异源表达载体的构建及转化
【中文关键词】水稻;寡肽转运蛋白;酵母异源表达
【英文关键词】Rice;Oligopeptide transporters;Heterogeneous expression in yeast
【中文摘要】]研究水稻中的10个寡肽转运同源基因的功能。[方法]将l0个OsPTR基因的开放读码框插入到酵母异源表达载体pDR196中,并将它们转入寡肽转运功能缺失的酵母突变体中,进而测试这些基因的寡肽转运功能。[结果]实际酶切结果与预期酶切结果完全一致,说明目的基因已经成功克隆到酵母穿梭表达栽体上。在酵母菌株的营养缺陷型测试中,完全培养基中的所有菌株生长良好;茵株ABC154和ABC738在缺乏Ura、Leu、Lys、His、Trp或Ade的培养基中不能生长,说明茵株ABc738和ABC154是Ura、Leu、Lys、His、 和Ade的营养缺陷型菌株,可以用于测试目的基因的寡肽转运功能。菌株pDR196/OsPTR1~10/ABC738和pDR196/ABC738在缺乏Ura的培养基中生长良好。说明质粒pDR196上有Ura基因。[结论]该试验为寡肽转运基因的研究提供了方法支持。关键词 水稻;寡肽转运蛋白;酵母异源表达
【英文摘要】[Objective]The purpose was to study the function of 10 homologous oligopeptide transport genes in rice.[Method]The openreading frames of the 10 OsPTR genes were inserted into the heterogeneous expression vector pDR196 in yeast and they were transformed intothe yeast mutant lack of oligopeptide transport function to test their oligopeptide transport function.[Result]The actual and expected results ofrestriction enzyme digesting were sanle,indicating that the target genes had been cloned into the shuttle expression vector in yeast successfully.In the auxotrophic test on yeast strains,all the strains grew well in complete medium ;the strains ABC154 and ABC738 could not grow in themedia lack of Ura,Leu,Lys,His,Trp or Ade,indicating that the strains ABC154 and ABC738 were the auxotrophic strains of Ura,Leu,Lys,His,Trp and Ade and they could be used to test the oligopeptide transport function of

target genes.The strains pDR196/OsPTR1—10/ABC738 and pDR196/ABC738 grew well in the medium lack of Ura,indicating that there was Ura gene in the plasmid pDR196.[Conclu—sion]This experiment supplied methodological support for studying oligopeptide transport genes.
【语种】中文
【第一作者】蔡昭艳
【通讯作者】张明永
【期刊名称、卷期、页码】安徽农业科学。Journal of Anhui Agn.Sci.2009,37(32):15730—15733
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【学科分类】分子生物学

【题目】温敏雄性不育水稻培矮64S花药发育过程中钙的变化
【中文关键词】水稻;雄性不育;花药;花粉;Ca2+
【英文关键词】Rice; Male-sterile; Anther; Pollen; Calcium
【中文摘要】采用焦锑酸钾沉淀法研究了温敏雄性不育水稻(Oryza sativa L.)培矮64S在高温引起雄性不育与正常可育花药发育过种中Ca2+的分布变化。结果表明,当培矮64S生长在较高温度条件下引起雄性不育,与可育花药相比,不育花粉母细胞中有较多的液泡、较多的Ca2+沉积和较少的线粒体,并且有较多的Ca2+沉积在不育花药的中间层、表皮层和绒毡层中。到四分体与单细胞花粉时期,不育花药的木质部细胞的次生加厚壁上有较多的Ca2+沉淀,连接组织中的Ca2+沉淀也大大增加,所有不育花粉外壁较厚而发育都不正常。在单核细胞早期,不育花粉的四分体细胞中有较明显的大液泡出现。不育花药中的Ca2+在花药发育的各时期均比可育花药要多。这些结果说明在高温生长条件下,花粉母细胞发育的异常、花药中Ca2+沉积的增加、绒毡层与花粉外壁发育的异常可能与培矮64S花粉败育相关。
【英文摘要】Peiai 64S (Oryza sativa L. subsp. indica), is a thermo-sensitive genic male-sterile (TGMR) rice. High temperature causes sterile pollens at the microsporogenesis stage. The anther morphology and the calcium precipitate were investigated in the fertile and sterile anthers of Peiai 64S under low or high temperature. There were more small vacuoles, more calcium precipitates and less mitochondria in the sterile pollen mother cells than those in the fertile pollen mother cells. More calcium precipitates were located in the epidermis, endothecium and tapetum of the sterile anther than in those of the fertile anther. Longitudinal inner cell wall of the sterile anther became thicker than that of the fertile anther at the dyad stage and uninucleate pollen stage. Some large vacuoles appeared in the tapetal cells of the sterile anthers at the early uninucleate pollen stage. All of the sterile pollens possessed malfunctioned exine. The results proposed that the abnormalities of pollen mother cell, the tapetum and the pollen exine, and more calcium precipitates in TGMR rice Peiai 64S under high temperature were related with the pollen abortion.
【语种】中文
【第一作者】夏快飞
【通讯作者】张明永
【期刊名称、卷期、页码】热带亚热带植物学报, 2009, 17(3): 211-217
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【引文索引号】null
【学科分类】农业基础学科

【题目】施用甘蔗酒精废液对土壤水解酶活性的影响
【中文关键词】甘蔗;土壤;酒精废液;农用;水解酶
【英文关键词】Sugarcane;Soil;Vinasse;Field application;H ydrolytic enzyme
【中文摘要】土壤酶参与土壤矿质化和腐殖化的转化过程,可作为评价土壤肥力和环境质量的重要参考指标。在广西扶绥蔗地上设计6个处理:CKl(不施肥),CK2(施常规化肥)和4个酒精废液处理45 t/hm2,75 t/hm2,75t/hm2CK,105 t/hm2,其中除处理75 t/hm2 CK外,其他处理都种植甘蔗,研究酒精废液的施用对土壤水解酶活性的影响机理。结果表明:随着酒精废液施用量的增加,甘蔗各生育期土壤蛋白酶活性没有表现出一致的增加趋势,而土壤蔗糖酶活性则一致增加;酒精废液各处理在苗期的土壤蛋白酶活性显著或极显著高于CKl,在苗期、分蘖期、成熟期的土壤蔗糖酶活性也显著或极显著高于CKl;酒精废液各处理土壤蛋白酶或蔗糖酶活性显著或极显著高于施N、K化肥前的CK2,在CK2施用N、K化肥后各处理与CK2的酶活性差异不显著;在酶促反应诱导阶段的苗期,土壤蛋白酶活性与N0f—N和全N、有机质分别呈极显著和显著正相关,蔗糖酶活

性与全N、有机质和NH≯一N、Nof—N分别呈极显著和显著正相关。说明45t,75 t,105 t(t/hm2)酒精废液的蔗地施用加快了土壤矿化和腐殖化进程,提高了土壤肥力。促进了土壤蛋白酶尤其是蔗糖酶活性的提高,其活性的提高与微生物数量、养分含量的增加关系密切。

【英文摘要】Transform process for soil enzyme to participate in mineralization and humification can be regarded as important reference indexes evaluating soil fertility and environmental quality. The 6 treatments of fertilization in Fusui County,Guangxi Province,i.e. CKl(without fertilizer),CK2 (with regular chemical fertilizer)and 4 treatments with vinasse 45t,75t,75tCK,105t(t/hm2),were designed to research on the influence mechanism of vinasse application to soil hydrolyze enzyme activity. All treatments were cultiVated with sugarcane except 75tCK.The results showed that protease activity of soil in each developing stage didn ’ t show consistent increase, invertase activity of soil increased coherently with vinasse dosage however;protease actiVity of soil in every treatment using vinasse was significantly higher than CK 1 at the seedling stage of sugarcane,so was invertase activity atthe seedling,tillering and mature stages of sugarcane. The results also indicated that protease or in Vertase actiVity of soil in every treatment applying Vinasse was significantly higher than CK2 without N,K chemical fertilizers,while CK2 with N,K fertilizers no significant differences were detectedcompared to CK2;protease activity was significantly correlated with N03一N,total N,organic matter positively;invertase activity was significantly correlated with total N,organic matter,N H4一N,N03一N positively at the seedling stage of induction time of enzyme catalyzed reaction. It was concluded thatvinasse application in sugarcane fiekl accelerated the process of soil mineralization and humification,enhanced soil fertility,and increased protease,especially invertase acti,jty,the increasement of enzyme activitiy was correlated with the increasement of microbe number and nutrient factors in soil closely.

【语种】中文

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【学科分类】土壤学

【题目】利用陷阱法防治蔗根土天牛成虫的研究初报

【中文关键词】根土必牛;陷阱法;甘蔗;防治

【英文关键词】Dorysthenes granulosus(Thomson);Trap ways;Sugar cane;Control

【中文摘要】【目的】研究陷阱谤杀方法对蔗根土天牛成虫的诱杀效果。【方法】于2007年5月蔗根土天牛成虫发生期,在蔗田进行挖坑陷阱诱杀,设置3种陷阱诱杀方法,测定各陷阱诱集的成虫数量、各方法诱集成虫总量及雌雄比例。[结果】结果表明,3种方法都有较好的诱杀效果,分别为8.44、6.50和4.56头/d · 陷阱;第一防治办法优于其它两种,且诱得的雌虫比例较高,达42.06%。【结论】陷阱法谤杀简单实用且仅需劳力投入,值得在广大蔗农中推广。

【英文摘要】[Objective] The research aimed to study the trapped and killed effect of the trap ways on Dorysthenes granulosus(Thomson).[Method] Three trap ways were designed to trap and kill Dorysthenes granulosus(Thomson)when the pests were happened in May of 2007, the number of adult pests of luring, the total pests induced and the proportion of male and femalewere determined. [Result]The results showed that all the ways were well and trapped pests per dayswere 8.44、6.50 and 4.56 heads, respectively. The first method of cleaning and retreading trap every day was better than others, and the trapped females accounted for 42.06%.[Conclusion] Trap ways should be popularized in all farmers because it is simple, effective and economical.

【语种】中文

【第一作者】于永浩

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【期刊名称、卷期、页码】安徽农业科学, 2008, 36(27):11840-11841

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【学科分类】植物保护学

【题目】Physiological response of Chinese cabbage to intercropping systems

【中文关键词】null
【英文关键词】Vegetables;Cropping system; Physiological response; Agronomy; Intercropping
; Chinese cabbage; Functional response; Physiological parameter
; Physiological condition;
【中文摘要】无
【英文摘要】The physiological indices of Chinese cabbage(Brassica chinensis L.) grown under different intercropping systems used for this study included total soluble protein content, soluble sugar content, reducing sugar content, nitrate content, and pigment concentration. The objective of the present study is to discover the physiological level changes in Chinese cabbage in intercropping systems. The intercropping systems studied involved Chinese cabbage- garlic (Allium sativum L.) (CG), and Chinese cabbage-lettuce (Lactuca sativa L.) (CL). Chinese cabbage monoculture served as control (CK). Overall, higher mean soluble protein content and nitrate content were found in Chinese cabbage grown in the intercropping systems than those in CK. Significantly higher chlorophyll a content was found in cabbages from CL than CK during the latter half of the growing season. No significant difference in soluble sugar concentrations was found in CG and CL, as compared with CK. Reducing sugar content varied over the growing period of the Chinese cabbage in CG and CL. These results suggest that Chinese cabbage intercropped with noncrucifer plants increase the plant nutrient content.
【语种】英文
【第一作者】hongjiao cai
【通讯作者】minsheng you
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【学科分类】植物保护学

【题目】Effects of intercropping systems on community composition and diversity of predatory arthropods in vegetable fields
【中文关键词】null
【英文关键词】Intercropping;
Chinese cabbage;
Arthropod community;
Predators
【中文摘要】无
【英文摘要】Field trials were carried out on Langqi Island, Fujian, PR China in 2004, to determine the effects of intercroppingChinese cabbage (Brassica chinensis) with green cabbage (Brassica oleracea), garlic (Allium sativum)and lettuce (Lactuca sativa), on community composition and diversity of predatory arthropods invegetable fields. Two intercropping plots were designed and used in this study. In plot 1, two ridges ofChinese cabbage were intercropped with one ridge of garlic (CG1), lettuce (CL1) or green cabbage(CB1). In plot 2, the Chinese cabbage was planted in the center (100 cm wide) of the ridge, and undersownwith garlic (CG2), lettuce (CL2) or green cabbage (CB2) on both edges (25 cm wide) of the sameridge. A monoculture plot of the Chinese cabbage (CK) was arranged for comparison with plots 1 and2. The highest species richness was found in CG1, and the lowest in CK. The highest abundance was foundin CL1 (141.67 predators/plot), whereas the lowest was in CB1 (97.67 predators/plot). With the exceptionof CL1, significantly higher diversity indices were found in intercropping treatments than in CK. Themajority of spiders sampled from fields were from families Theridiidae (34.04%) and Lycosidae(30.57%). These findings suggest that Chinese cabbage intercropped with non-cruciferous crops mightincrease species richness, abundance and diversity of the arthropod community in general and predatorsin particular.Crown Copyright 2010 Ecological Society of China. Published by Elsevier B.V. All rights reserved.
【语种】英文
【第一作者】hongjiao cai
【通讯作者】lin cui
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【引文索引类型】SCI
【引文索引号】10.1016/j.chnaes.2010.06.001

【学科分类】植物保护学

【题目】Occurrence of entomopathogenic fungi in migratory alate aphids in Yunnan Province of China
【中文关键词】null
【英文关键词】Aphid migration;Aphid trapping;Entomopathogenic fungi;
Fungal infection;Entomophthorales;Clavicipitaceae;Humidity effect
【中文摘要】无
【英文摘要】Occurrence of entomopathogenic fungi in migratory alate aphids wasinvestigated by trapping air-borne aphids on cabbage and wheat plants andobserving the insects for fungal infection. Potted cabbage and wheat plants put 30 mapart on yellow cloth, were placed on the top of a tall building (six-story building) inYunnan Province, China away from cultivated fields or other vegetation. Sevenspecies of aphids trapped on the plants collected and monitored for fungal infectionin the laboratory at a daily basis from 19 February to 31 December, 2003. Aphidswere trapped every day during the experimental period. A total of 3,681 aphids weretrapped on cabbage and 3,028 on wheat. Myzus persicae (Sulzer), Brevicorynebrassicae (L.), and Sitobion avenae (F.) were the major aphid species accounting for94.7 and 93.1% of the insect specimens landing on cabbage and wheat, respectively.Other aphis species encountered included, Acyrthosiphon pisum (Harris), Lipaphiserysimi (Kaltenbach), Pemphigus sinobursaris Zhang, and Rhopalosiphum padi (L.).Preference for host plant played significant role in attraction of aphids, especially ofthe three major species. Accumulated over the whole experimental period nearly33% of the aphids landing on cabbage and 37% landing on wheat were infected withfungi. Erynia neoaphidis Remaudiere and Hennebert, Entomophthora planchonianaCornu, and Beauveria bassiana (Balsamo) Vuilemin were the major fungal pathogensencountered and accounted for nearly 95% of the infested aphids oncabbage and 97% on wheat. Other entomopathogenic fungi encountered includedZoophthora radicans (Brefeld) Batko, Conidiobolus obscurus (Hall and Dunn)Remaudiere, and Neozygites fresenii (Nowakowski), Paecilomyces fumosoroseus(Wize) Brown and Smith, and Aspergillus flavus Link. Although the number ofaphids trapped throughout the experimental period did not vary consistently withtemperature or humidity, the fungal was directly related to relative humidity. Higherinsect mortality, especially due to Entomophthorales, positively related relativehumidity.
【语种】英文
【第一作者】cai hongjiao
【通讯作者】B. Chen
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【学科分类】植物保护学

【题目】不同有机肥对小弓棚西瓜生长发育及土壤理化性质的影响
【中文关键词】有机肥, 小拱棚西瓜, 土壤
【英文关键词】organic fertilizers, small arch shed watermelon,soil
【中文摘要】试验研究三种不同类型有机肥的肥效特点以及对小拱棚西瓜生长发育的影响。结果表明:施用有机肥处理的土壤盐分含量、速效氮低于化肥对照,有机质、速效磷钾含量高于对照,西瓜长势和产量低于使用化肥的处理,但西瓜品质明显优于对照。其中菌肥处理的土壤肥力指标在西瓜结果初期表现最高,其他时间处于中等水平,鸡粪处理的土壤肥力在西瓜整个生育期变化幅度都很小,性质比较稳定,施用饼肥处理的土壤理化指标在西瓜坐果期后含量均较低。比较三种有机肥使用效果,以微生物菌肥处理的西瓜产量最高,品质最优,其次为商品鸡粪,再次为饼肥。
【英文摘要】In this experiment, the characteristics and the effect on the growth of watermelon of three organic fertilizers were compared. The results indicated that the soil salt and available nitrogen content of organic fertilizers treatment were significantly lower than control, Meanwhile the soil organic matter 、 available phosphorus and available potassium were higher than control. The watermelon growth vigor of treatment were weaker, but the quality were batter. Among them, the soil fertility of bacterial manure treatment was highest during fruit setting stage and was at moderate level in other stage; the change range of soil fertility was litter at whole growth period in chicken manure treatment; the soil Physicochemical Index of cake fertilizer was all lower after fruit setting stage. Comparison of application effects, the yield of bacterial manure treatment was highest and the quality was best, followed by chicken matter、 cake fertilizer.

【语种】中文
【第一作者】杨冬艳
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【学科分类】园艺学

【题目】套种三叶草对日光温室樱桃番茄生长及根际土壤环境的影响
【中文关键词】三叶草;套作;根际环境;樱桃番茄;日光温室
【英文关键词】:Clover;Interplanting;Rhizosphere environment;Cherry tomato;Greenhouse
【中文摘要】通过研究套种三叶草对樱桃番茄生长及根际土壤环境的影响,探索生物多样性栽培模式,改变日光温室单一栽培制度。结果表明,随着三叶草生长量的增加,对土壤养分环境的影响逐渐明显,到樱桃番茄收获时,处理土壤的pH、全盐、速效氮、磷、钾质量分数分别下降2.68%、8.73%、10.78%、19.5%和7.54%;处理土壤脲酶和脱氢酶活性在樱桃番茄生育初期就显著增加,在整个生长期内,平均较对照高17.94%和60.62%;相对于对照,套种三叶草的樱桃番茄产量增加14.44%,果实中可滴定酸减少12.83%,亚硝酸盐减少14.38%,糖质量分数增加16.37%,维生素C质量分数增加17.66%;表明日光温室樱桃番茄套种三叶草能够改善根际土壤酶环境减轻根层土壤磷钾肥的富集,提高樱桃番茄养分利用效率,增加产量,是一种可行的增加生物多样性的栽培方式。
【英文摘要】For exploring biodiversity cultivated model and changing single culture system in greenhouse,the effects of interplanting clover treatments on growth and rhizosphere environment of cherrytomato in greenhouse were studied.The results showed that the effect of interplanting clover on soilphysical and chemical properties of cherry tomato rhizosphere was more and more significantly withthe clover growing,at the tomato harvest stage,the soil pH,salt,available nitrogen,phosphorusand potassium were reduced by 2.68%,8.73%,10.78%,19.5%,and 7.54% respectively comparewith the control soil.The activities of the treatment soil urease and dehydrogenase were remarkablyincreased in cherry tomato earlier stage,and were 17.94%and 60.62%higher than that of the controlin whole growth period.Intercropping clover could also improve the plant growth,increase yield by14.44%and promote fruit quality of cherry tomato setting in greenhouse compared with the control.The content of fruit titratable acid and nitrite were reduced 12.83%and 14.38%,while the solublesugar and Vc were increased 16.37%and 17.66%under interplanting cultivated way.So this culturalmethod of inteplanting clover with cherry tomato is feasible measures of increased biodiversity in solargreenhouse that could improve nitrogen use efficiency of rhizosphere soil,reduce the degree of soilstalinization,alleviate enrichment of rhizosphere soil phosphorus and potassium fertilizer
【语种】中文
【第一作者】杨冬艳
【通讯作者】杨冬艳
【期刊名称、卷期、页码】西北农业学报 2012,21(6):108-111,128
【论文发表时间】2012-06-01 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】园艺学

【题目】Effect of intercropping of pepper with sugarcane on populations of Liriomyza huidobrensis (Diptera: Agromyzidae) and its parasitoids
【中文关键词】null
【英文关键词】Liriomyza huidobrensis;Intercropping;Pepper;Sugarcane
【中文摘要】无
【英文摘要】The effect of intercropping pepper with sugarcane on populations of the leafminer Liriomyza huidobrensisBecker was investigated over two seasons (2007, 2008) in Yunnan, China. Populations of adults, thefemale:male sex ratios and the densities of larval mines were significantly higher in pepper monoculturethan in intercropping in a 2:2 pattern (2 rows of pepper to 2 rows of sugarcane), which in turn weresignificantly higher than intercropping in a 1:2 pattern (1 row of pepper to 2 rows of sugarcane). Thedensities of the parasitoids of the leafminer were significantly higher in intercropping than in the peppermonoculture. The total parasitism rates were

71.6%, 22.5% and 5.9% in 2007, and 69.5%, 20.6% and 5.9% in2008, in the 1:2, 2:2 and pepper monoculture, respectively. The lower densities of leafminer adults, thelower female:male sex ratio, and smaller numbers of larval mines in the intercropping systems wereattributed to the intercropping pattern and the growth of pepper. These results indicate that intercroppingis suitable for the control of L. huidobrensis on pepper plants. These results demonstrate theutility of intercropping of pepper with sugarcane in the management of L. huidobrensis.

【语种】英文
【第一作者】chen bin
【通讯作者】Li, Zhengyue
【期刊名称、卷期、页码】Crop Protection, 30(3): 253-258
【论文发表时间】2011-11-15 00:00:00
【引文索引类型】SCI
【引文索引号】10.1016/j.cropro.2010.11.005
【学科分类】植物保护学

【题目】节水控氮对黄河上游地区设施菜田氮素时空分布的影响
【中文关键词】黄河上游地区;日光温室;节水减氮;氮素运移;时空分布
【英文关键词】words:the upper stream of the Yellow River;solar greenhouse;water saving and nitrogen controlling;nitrogen migration;temporal and spatial distribution
【中文摘要】:为了探索黄河上游地区日光温室节水控氮对氮肥利用效率及氮素运移规律的影响,以不同施氮量和灌水量为试验处理,采用随机区组处理方式,通过在西芹不同生长阶段、0~160cm土壤剖面获取土壤氮素的动态变化信息,以评价日光温室栽培条件下土壤氮素运移规律和硝态氮的淋溶情况。试验表明:在耕层土壤(0~60cm)内全氮质量分数变化较大且规律明显;硝态氮质量分数变化在整个生长周期内呈规律性明显变化,且土壤中硝态氮质量分数变化与灌水量呈负相关关系,与施氮质量分数呈正相关关系,节水控氮能够有效减轻土壤中上层中(0~60cm)硝态氮淋洗,降低土壤硝态氮积累量,有效减轻对农田周围水体污染。
【英文摘要】Abstract:In order to explore effect of water saving and nitrogen controlling on nitrogen use efficiency and nitrogentransport law,adopting randomized block designs,to obtain dynamic change information on soil nitrogen to evaluate soilnitrogen transport law and nitrate leaching in different growth stages of celery,in 0~160cm soil profiles in greenhouse inthe upper reaches of the Yellow River.The results showed that at the same nitrogen application rate,soil total nitrogengradually increased(treatment 1<treatment 2<treatment 5)in 0~20cm and soil total nitrogen gradually decreased(treatment 1>treatment 2>treatment 5)in 20~40cm and in 40~60cm,with the decrease of irrigation quota,totalnitrogen mass fraction,and the law was changed greatly in the topsoil(0~60cm);NO3-N changed regularly,which wasa negative correlation with irrigation quantity,which was a positive correlation with nitrogen application rate duringgrowing periodicity
【语种】中文
【第一作者】曲继松
【通讯作者】曲继松
【期刊名称、卷期、页码】北方园艺2012(04):37~40
【论文发表时间】2012-04-01 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】园艺学

【题目】Effects of nitrogen application on beetle community in tea plantations
【中文关键词】null
【英文关键词】beetle community, diversity, abundance, nitrogen application
【中文摘要】无
【英文摘要】In contrast to grassland and forest ecosystems, little is known about insectresponse to nitrogen deposition in agricultural ecosystems. This study was carried out toinvestigate the effects of short-term (1-2 years) nitrogen application (0, 172.5, 345.0, 690.0,and 1035.0 kg · N ha-1 · y-1) on beetle communities in tea plantations. A collection of 34families, 89 species of beetles, was obtained from a tea plantation in Wuyishan, China.Among them, herbivores, predators and detritivores had 52, 29, and eight species, respectively.Species richness, effective diversity and abundance (measured as the number of individualsand insect biomass) of the beetle

community were not significantly related to the rate ofnitrogen application. However, nitrogen application changed the species distribution andweakly increased the evenness of species distribution, while this did not significantly changethe species evenness. Species richness and abundance of herbivores and predators were notsignificantly related to the rate of nitrogen application. However, there were some variationsin trophic responses to nitrogen. Species richness and abundance of detritivores increasedwith increasing nitrogen application.

【语种】英文
【第一作者】Chen Shaobo
【通讯作者】Minsheng You
【期刊名称、卷期、页码】Insect Science, 16(2): 185-192 (SCI)
【论文发表时间】2009-04-04 00:00:00
【引文索引类型】SCI
【引文索引号】j.1744-7917.2009.00270.x
【学科分类】农学其他学科

【题目】A characterization of rice pests and quantification of yield losses in the japonica rice zone of Yunnan, China
【中文关键词】null
【英文关键词】Multiple pest system;
Injury;
Yield loss assessment;
Correspondence analysis;
Multiple regression analysis
【中文摘要】无
【英文摘要】Within any geographic area where pest management is to be improved or adapted to agricultural changes, there is a need for characterization to define constraints to crop production. The objective of this study was to assess pest injuries (diseases, insects and weeds) in farmers' fields in the japonica rice zone of Yunnan, China, explore characteristics of rice injury profiles, analyse the relationships between injury profiles and yield levels, and estimate yield losses caused by individual injuries. Seven pest injury profiles (abbreviated as IN) were determined using cluster analysis; IN1, IN2 and IN3 were lower injury levels of pest combinations in seven profiles, while IN5, IN6 and IN7 were higher injury levels. Correspondence analysis based on patterns of injury profiles yielded a path of increasing yield levels associated with varying combinations of injuries. The use of principal component analysis with multiple regression generated estimates of yield reductions due to rice diseases, insects and weeds. The analysis indicated that injuries caused by weeds that are taller than the rice canopy, white heads, leaf folder, bacterial leaf blight, army worms, leaf blast and plant hoppers should be considered as potentially most damaging in this region. Results of this study will provide some foundations for developing pest management strategies and improving rice production at the regional scale.
【语种】英文
【第一作者】Dong Kun
【通讯作者】zhengyue li
【期刊名称、卷期、页码】Crop protection, 29(6):603-611
【论文发表时间】2010-01-07 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】植物保护学

【题目】Acidic buffering ability and regulation in latosolic red soil of sugarcane fields
【中文关键词】酸缓冲性能;土壤;蔗地;赤红壤;广西
【英文关键词】acidic bufffering ability; soil;sugarcane fields; latosolic red soils; Guangxi
【中文摘要】:采用酸滴定土壤酸度的方法研究广西蔗地土壤对酸的缓冲性能,结果表明,广西赤红壤蔗地土壤酸缓冲能力不强且对酸敏感,其土壤酸化转折点在加入模拟酸雨pH值3.0—3.5之间。酸雨会造成蔗地土壤严重酸化,而年施用75t/hrn2酒精废液对蔗地土壤酸化影响较小。影响土壤酸缓冲性能因素主要为有机质、物理性粘粒、盐基总量和交换钙。据此可采取增施有机肥,施用碱性物质如石灰或碱性肥料如钙镁磷肥,以及增加土壤覆盖如蔗叶还田,或采取等高种植等措施,增加土壤有机质和交换性阳离子含量,减少土壤粘粒及阳离子流失,降低土壤酸度,从而提高蔗地土壤酸缓冲能力,改善

蔗地土壤生态环境。
【英文摘要】To study the acidic buffering ability in the latosolic soil of sugarcane producing regions of Guangxi,a method for soil acidity determination by titration with 0.1mol/L suphuric acid was used.The results showed that the soil acid buffering ability of sugarcane fields in Guangxi were weak and sensitive to acid,the turning point of the soil acidification in sugarcane fields was pH3.0-3.5 for added acid rain.Acid rain falling into the soil could acidify it,and the effect of using 75 t/hm2 vinasse on the soil acidificationg in the soil of sugarcane soils was much less.The factors affecting the siol acid buffering ability were mainly organic matter,physical clay,totai salt and exchangeable Ca.based on the results of the present study,three basic measures are put forward to increase the soil acid buffering ability and improve soil fertility:applying organic fertilizer and alkaline matter such as lime or alkaline fertilizer such as fused calcium-magnesium phosphate,covering soil with sugarcane leaves or grass,and planting along contour line,etc.,which could increase the contents of soil reganic matter and exchangeable cationgs,decrease the loss of soil caly and cations,and the soil acidity,increase the soil acid buffering ability,and improve the siul ecological environment.
【语种】英文
【第一作者】江泽普
【通讯作者】李杨瑞
【期刊名称、卷期、页码】广西农业科学院, 2008, 39(3):335-339
【论文发表时间】2008-05-06 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】土壤学

【题目】Three new species and one new record of Liris Fabricius (Hymenoptera: Crabronidae) from China, with a key to the Palaearctic species
【中文关键词】null
【英文关键词】China;Crabronidae;Hymenoptera;new species;Psen
【中文摘要】无
【英文摘要】Three new species of the genus Psen Latreille from China are described: Psen yunnanensis Ma et Li, sp. nov., from Yunnan Province; Psen lacuniventris Ma et Li, sp. nov., from Zhejiang and Sichuan Provinces; and Psen spinitibialis Ma et Li, sp. nov., from Zhejiang Province. Two species of the genus Psen are recorded from China for the first time. Modifications to the key to species of the genus Psen, as developed by van Lith in 1968, are presented.
【语种】英文
【第一作者】Li, Tingjing
【通讯作者】Cai, Wanzhi
【期刊名称、卷期、页码】Entomologica Fennica, 20: 111-120
【论文发表时间】2009-07-17 00:00:00
【引文索引类型】SCI
【引文索引号】10.1111/j.1479-8298.2007.00222.x
【学科分类】植物保护学

【题目】有机肥SustainGro对牧草产量的影响
【中文关键词】有机肥;牧草;施肥;牧草产量
【英文关键词】organic fertilizer;forage;fertilization;forage yield
【中文摘要】随着有机畜牧业的兴起,有机饲草料的生产也引起人们的广泛重视。2004—2005年分别在内蒙古境内的库布齐沙地、科尔沁沙地和甘肃的河西走廊对1o种牧草进行了有机肥试验。结果表明,有机肥Sus—tainGro(SG)能明显提高牧草产量,随着施肥量(450~900 kg/hm)的增加,牧草产量不断增加。
【英文摘要】W ith the development of organic animal husbandry,more and more people emphasized theorganic feed production.Organic fertilizer experiment was conducted in Kunbuqi sandy land,Keerqinsandy land and Hexi Corridor from 2004——2005.The results indicated that organic fertilizer Sustain—Gro(SG)could improve forage yield. The forage yield increased with the increasing fertilizing rate(450—900 kg/hm).
【语种】中文

【第一作者】孙启忠
【通讯作者】孙启忠
【期刊名称、卷期、页码】草业科学,2007,24(9):42-47.
【论文发表时间】2007-09-10 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】畜牧、兽医科学其他学科

【题目】Role of photoperiod and temperature in diapause induction of endoparasitoid wasp Microplitis mediator (Hymenoptera: Braconidae,
【中文关键词】null
【英文关键词】Microplitis mediator, diapause induction, photoperiod, temperature
【中文摘要】无
【英文摘要】Diapause in Microplitis mediator Haliday (Hymenoptera: Braconidae) is manifested during the pupal stage and normally occurs during the winter season because of a photoperiodic response that is highly dependent on temperature. No diapause was observed at temperatures above 20 ° C regardless of the photoperiod. Only a small part of the population entered diapause at 20 ° C under short daylengths of light:dark 8:16 – 12:12. In contrast, when larvae were exposed to 16, 18, and 20 ° C combined with a photoperiod of 10:14, the percentages of parasitoids that entered pupal diapause was 97.9, 87.8, and 26.2%, respectively. Critical photoperiods were determined to be 7.03:16.97 and 12.21:11.79 at 16 ° C and 6.75:17.25 and 12.03:11.97 at 18 ° C. The second instar of the parasitoid was the most sensitive to diapause induction for the photoperiods and temperatures tested.
【语种】英文
【第一作者】Li, Wenxiang
【通讯作者】zhangqinwen
【期刊名称、卷期、页码】ANNALS OF THE ENTOMOLOGICAL SOCIETY OF AMERICA 卷: 101 期: 3 页: 613-618
【论文发表时间】2012-12-04 00:00:00
【引文索引类型】SCI
【引文索引号】http://dx.doi.org/10.1603/0013-8746(2008)101[613:ROPATI]2.0.CO;2
【学科分类】植物保护学

【题目】优良牧草-科尔沁尖叶胡枝子
【中文关键词】尖叶胡枝子;胡枝子;豆科牧草
【英文关键词】Lespedeza hedysaroides;Lespedeza;Leguminous forage
【中文摘要】:科尔沁尖叶胡枝子为豆科多年生草本状半灌木,适应于干旱、半干旱区,在内蒙古农牧交错带东段种子9月中旬成熟,产量约636.89 kg/hm2,生育期约115—120 d。成熟株高8O一90 cm,生长2年和3年的鲜干草产量平均为15 310.7和5 838.5 krJhm 。科尔沁尖叶胡枝子生育后期基部叶易脱落,收获牧草宜在7月中下旬刈割,留茬高度IO cm左右,可调制干草,尤以青贮效果较好,牛羊喜食,羊最喜食。
【英文摘要】Abstract:Lespedeza hedysaroides CV.Keerqin of Legume is a perennial herbaceous shrub,adapted to arid and semiarid areas.In agro-pastoral region of Inner Mongolia,the seeds mature in mid September an d the yield is about 636.89 kg/ha,and the bearing stage is about 1 15~120 days.Mature individuals are 60~90 cm tal1.The average yield offresh grass and hay of the second year an d the third year are 15 310.7 and 5 838.5 kg/ha.The basal leaves of Lespedeza hedysaroides cv.Keerqin tend to fall in the late bearing stag e.Reaping forag e is appropriate inmid and last July.Stubble iS about 10 am.Lespedeza hedysaroides CV.Keerqin can be concocted into hay.especially silage is preferab le.Cattles and sheep are fond of eating it,especially sheep.
【语种】中文
【第一作者】孙启忠
【通讯作者】孙启忠
【期刊名称、卷期、页码】牧草与饲料, 2007,(3): 21-22.
【论文发表时间】2007-07-10 00:00:00
【引文索引类型】其他
【引文索引号】null

【学科分类】畜牧、兽医科学其他学科

【题目】Can polycultural planthoppers in rice-bmanipulation effectively control rice ased ecosystems
【中文关键词】null
【英文关键词】Mosaic arrangement; Nilaparvata lugens (St å l); Sogatella furcifera Horvath; Ecologically-based pest management; Resource concentration; Associational resistance
【中文摘要】无
【英文摘要】Rice planthoppers (mainly Nilaparvata lugens (St å l) and Sogatella furcifera Horvath) are the most destructive rice pests throughout southeastern and eastern Asia. Planthopper feeding often causes “ hopper burn ” and reduces rice yields. Currently, insecticide use is the sole pest management option available to most Chinese farmers. Because pesticide use may have undesirable effects, environmentally sound and sustainable management alternatives are urgently needed. In a two-year field study at the Wuyishan Experimental Station of the Institute of Applied Ecology (IAE), Fujian Agriculture and Forestry University (FAFU), we evaluated the effects of polycultural manipulation on the abundance, sexual differentiation and wing dimorphism of rice planthoppers. The polycultural manipulation was arranged in mosaic patterns of paddy plots intercropped with non-paddy plots including chili pepper, ginger, maize and peanut plants. Monocultural fields of paddy plants were used as controls. Polycultural manipulation significantly reduced the abundance of total planthoppers and nymphs of N. lugens and S. furcifera. The number of overall planthoppers decreased on average by 49% and 55% in 2007 and 2008, respectively. However, polycultural manipulation had no impact on the proportions of female or macropterous planthoppers. The resource concentration and associational resistance hypotheses may explain these results. In polycultural fields, non-rice species may mask the chemical or visual attractants of rice, making them less apparent, and microhabitat differences in the levels of secondary compounds or in plant quality may also disrupt planthopper orientation.
【语种】英文
【第一作者】Sheng Lin
【通讯作者】Minsheng You
【期刊名称、卷期、页码】CROP PROTECTION 卷: 30 期: 3 页: 279-284
【论文发表时间】2011-05-16 00:00:00
【引文索引类型】SCI
【引文索引号】doi:10.1016/j.cropro.2010.11.013
【学科分类】植物保护学

【题目】赤霉素诱导甘蔗GA20一Oxidase基因实时荧光定量PCR分析
【中文关键词】甘蔗,GA20一氧化酶,赤霉素,定量PCtL基因表达
【英文关键词】Sugarcane,GA20-oxidase,Gibberellic acid,Real-time PCR,Gene expression
【中文摘要】究以喷清水甘蔗幼茎作为对照(即未处理),经过赤霉素处理后6h、12h、24h和48h的甘蔗幼茎为处理,分别进行取样并提取RNA,反转录获得eDNA作模板,利用SYBRGreen I成功构建了目的基因(GA20一oxi—das晰口内参基因(GAPDH)的标准品和标准曲线。结果表明:内参基因与目的基因的起始模板浓度与Ct之间呈良好线性关系,决定系数分别为r2=0.998、rZ-_0.995;溶解曲线均显单峰型,证明扩增的特异性比较好,可对基因表达进行相对定量。定量结果表明:目的基因未处理的表达量最大,赤霉素处理后表达量持续下降,在6h达到最低值,12h后逐渐上升,但到48h又明显下降,且所有处理的表达量均低于未处理,6h、12h、24h和48h比对照的表达量分别下降了24.75%、13.18%、1023%和20.34%。本实验研究GA20-oxidase基因在赤霉素处理后的表达J隋况,为进一步克隆甘蔗GA20氧化酶基因全长序列、研究该基因在甘蔗节间伸长过程中的表达调控及甘蔗茎间伸长中的作用机理提供理论依据。
【英文摘要】In this research,the stemlets of sugarcane sprayed by gibberellic acid(GA3)after separately treatment at 6h,12h,24h and 48h,were employed to be as experimental materials as well as the stemlets of sugarcane sprayed only by water as reference.We extracted RNA,from treated samples for obtaining eDNA template by reverse transcription,and then making the standard sample and standard curve of target gene GA20一oxidase and the reference gene GA PDH by using SYBR Green I system.The results showed that there is a well linear relationship between initial template concentration and Ct of the reference gene and the target genes.and the correlation coefficients(r2) were 0.998 and 0.995,respectively.The dissolution curves both exhibited single-peak curve which proving that the amplification systems were specific and the relative quantitative analysis of gene expression could be carfled out.The quantitative expression results showed that the expression of target gene got the highest level in thereferences,that in the GA3 treatments declined continuously,it reached the minimum level in 6h,subsequently increased gradually after 12h,and again decreased significantly at 48h,the expression level of target gene in all the treatments were lower than that in the references。the target gene expressions level at

6h,12h,24h and 48h intreatments were scaled down 24.75%,13.18%,10.23%and 20.34%contrast with that in references,respectively.These results offer the theoretical foundation for cloning full-length sequence of GA20 oxidase gene and researchingthe gene expression regulation in internode growth and mechanism in stems elongation of sugarcane.
【语种】中文
【第一作者】吴建明
【通讯作者】李杨瑞
【期刊名称、卷期、页码】分子植物育种, 2009, 7(5):922-927
【论文发表时间】2009-07-05 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】分子生物学

【题目】色差计在辣椒果实色泽变化检测中的应用
【中文关键词】辣椒,色差计,色泽比,色度角
【英文关键词】hot pepper,colorimeter,a/b-value,hue angle
【中文摘要】本试验应用色差计对7个不同颜色辣椒品种青果期、转色期和成熟期的色泽变化进行检测,同时对同一份样品进行感观检验和薄层层析分析。结果表明,色泽参数中的色度角 [H=tan-1(b/a)] 、色泽 比(h=a/b)能反应辣椒果实发育过程中色泽的变化;色差计检测辣椒果实颜色可行,其具有操作简单、成本低、时间短、无损伤等特点。
【英文摘要】In this study,the fruit color of seven hot pepper cultivars was tested with colorimeter,TLC and experienced eyes respectively from green to ripe fruit stages.The results showed that there was the relationship between colour parameters H as well as h and color change during the development of hot pepper fruit.It is feasible,simple,cost-saving,time-saving and harmless to measure color of hot pepper fruit with colorimeter.
【语种】中文
【第一作者】王利群
【通讯作者】戴雄泽
【期刊名称、卷期、页码】辣椒杂志、2009(3)、23-27
【论文发表时间】2009-12-16 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】园艺学

【题目】Genetic Diversity of planthopper, Sogatella furcifera in the Great Mekong Subregion detected by inter-simple sequence repeats (ISSR) markers
【中文关键词】null
【英文关键词】genetic relationship, ISSR-PCR, migration
【中文摘要】无
【英文摘要】The white backed planthopper, Sogatella furcifera (Hemiptera: Delphacidae), is a serious pest of rice in Asia. In the present study, inter-simple sequence repeat (ISSR) markers were employed to investigate the genetic diversity and differentiation of 47 populations sampled from 14 prefectures of the Greater Mekong Subregion. A total of 14 selected primers yielded 121 bright and discernible bands, with an average of 8.6 bands per primer. According to the hierarchical analysis of molecular variance (AMOVA), the genetic variation among geographic regions (79.84%) was higher than that of among populations within region (20.16%), and the FST value was 0.72, indicating a high level of genetic differentiation. Neighbor-Joining cluster analysis of the 47 populations showed two major clusters, one consisting of mostly southwestern Yunnan Province and Myanmar populations; and the other one consisting of southeastern and central of Yunnan Province plus Vietnam and Laos populations. No significant positive correlation was observed between genetic and geographic distances by Mantel test (r = 0.2230, p = 0.8448), indicating the role of geographic isolation did not shape the genetic structure of the sampled S. furcifera populations. This paper provides useful data for understanding and speculating the migration of S. furcifera and reveals available information to develop sustainable strategies for manage this long-range migratory pest.
【语种】英文

【第一作者】Liu, Jia-Ni
【通讯作者】Gui, Fu-Rong
【期刊名称、卷期、页码】JOURNAL OF INSECT SCIENCE 卷: 10　文献号: 52
【论文发表时间】2010-06-03 00:00:00
【引文索引类型】SCI
【引文索引号】10.1673/031.010.5201
【学科分类】植物保护学

【题目】甘蔗酒精废液对土壤理化性状及氧化还原酶的影响
【中文关键词】甘蔗; 酒精废液; 土壤理化性状; 氧化还原酶
【英文关键词】Sugarcane, Vinasse, Soil physicochemical property, Oxidoreductase enzyme
【中文摘要】在蔗地上设计不施肥(CK1)、施化肥(CK2)和4 个直接喷施甘蔗酒精废液处理, 研究不同用量废液施用对土壤理化性状及两种氧化还原酶活性的影响。结果表明: 蔗地施用废液提高了土壤全氮、Cl－、有机质、腐殖质含量, 使甘蔗苗期土壤过氧化氢酶和多酚氧化酶活性异常升高, 随后迅速下降, 成熟期下降到接近或小于CK2 的土壤酶活性水平。甘蔗苗期土壤过氧化氢酶活性与全氮、有机质、腐殖质呈极显著正相关, 与富里酸、胡敏酸、Cl－呈显著正相关(r0.05=0.811, r0.01=0.917, n=6); 土壤多酚氧化酶活性与有机质、腐殖质、Cl－呈显著正相关。与不种植甘蔗的75 tCK 废液处理相比, 种植甘蔗的75 t 废液处理甘蔗生长后期土壤全氮、有机质、Cl－含量和多酚氧化酶活性较低。说明与施用化肥或不施肥处理相比, 蔗地施用废液有提高土壤肥力和有机质、腐殖质含量的作用, 但也使施用初期过氧化氢酶和多酚氧化酶活性异常升高, 施废液的土壤种植甘蔗对废液养分吸收和环境净化有一定作用。
【英文摘要】An experiment was conducted in sugarcane field to study the effect of six treatments [vinasse application (four application rates), CK1 (non-fertilizer) and CK2 (chemical fertilizer)] on soil physicochemical properties, catalase and polyphenol oxidase activity. The results show that total N, Cl－, organic matter (OM), humic acid (HA) content of soil improves under vinasse treatments. Catalase and polyphenol oxidase activity increase abnormally at sugarcane settling stage and then sharply decrease to CK2 level at sugarcane maturity stage. Catalase activity has extremly significant positive correlations with total N, OM, HA, and significant positive correlations with fulvic acid fraction(FAF), humic acid fraction (HAF) and Cl－ (r0.05=0.811, r0.01=0.917, n=6). An obvious significant correlation also exists between polyphenol oxidase activity and OM, HA and Cl－ content. At the latter stage of sugarcanegrowth, total N, OM, Cl－ and polyphenol oxidase activity in soils under 75 ton CK treatment in non-sugarcane fields are lower than in 75 ton treatment in sugarcane fields. Soil fertility, OM and HA content, and catalase and polyphenol oxidase activity are higher inthe four vinasse treatments than in CK1 and CK2 treatments. Sugarcane plantation absorbs vinasse nutrient and purifies soil environment when treated with vinasse.
【语种】中文
【第一作者】苏天明
【通讯作者】李杨瑞
【期刊名称、卷期、页码】中国生态农业学报, 2009, 17(6): 1106－1110
【论文发表时间】2009-03-05 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】土壤学

【题目】优良牧草-直穗鹅观草
【中文关键词】直穗鹅观草;牧草
【英文关键词】Roegneria turczaninovii;Pasture
【中文摘要】直穗鹅观草(Roegneria turczaninovii)是禾本科多年生牧草,分布于我国东北、华北北部、西北等地区,适应性广,叶量大,营养丰富,适口性好,是建植人工草地和改良草地的优良牧草。
【英文摘要】The straight spike Roegneria the gramineous perennial grasses, distributed in Northeast China, North China, Northwest and other regions, wide adaptability, leaves large, nutritious, good palatability built an excellent the sown grassland and improved grassland pasture.
【语种】中文
【第一作者】孙启忠

【通讯作者】孙启忠
【期刊名称、卷期、页码】青海畜牧兽医杂志,2007,37(5):45.
【论文发表时间】2007-10-15 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】畜牧、兽医科学其他学科

【题目】Effects of six sugars on the longevity, fecundity and nutrient reserves of Microplitis mediator
【中文关键词】null
【英文关键词】Sugar;
Glycogen;
Lipid;
Energy cost;
Microplitis mediator;
Cotton bollworm
【中文摘要】无
【英文摘要】Parasitoid adults can directly feed on floral nectar and honeydew containing monosaccharides and disaccharides. Oligosaccharides such as maltose, melezitose and raffinose are also found in honeydew but are rare in floral nectar. The effects of six different sugar resources on the longevity, fecundity and nutrient reserves of Microplitis mediator, a larval endoparasitoid in the cotton bollworm Helicoverpa armigera (H ü bner) were determined in our laboratory. The results showed that both food and sex affected longevity of this wasp. Females and males of M. mediator fed with 1 M sucrose solution survived longer than controls fed with water (5.7- and 3.7-fold longer, respectively). When provided with sucrose, glucose or fructose solutions, the parasitoid generated 3.6- to 3.7-fold more offspring than controls, and 60 – 75% of these progenies were produced during the first 5 days. When separately given fructose, sucrose or glucose, this wasp accumulated fructose and total sugar at the highest level, which means a high sugar levels might lead to prolonging longevity and more offspring in M. mediator. In addition, compared with organisms fed galactose or raffinose, M. mediator fed sucrose or fructose accumulated high glycogen levels. Furthermore, in M. mediator, the lipid content declined with the advancing age. Females showed the slowest lipid metabolic rates when fed with sucrose, glucose, fructose, mannose and galactose solutions versus when fed with raffinose and control. In addition, only sucrose had a significant effect on lipid levels in males nearing the end of life.
【语种】英文
【第一作者】Luo, Shuping
【通讯作者】zhangqingwen
【期刊名称、卷期、页码】BIOLOGICAL CONTROL 卷: 52 期: 1 页: 51-57
【论文发表时间】2010-01-14 00:00:00
【引文索引类型】SCI
【引文索引号】10.1016/j.biocontrol.2009.09.002
【学科分类】植物保护学

【题目】Three new species and two new records of the genus Psen from China (Hymenoptera: Apoidea: Crabronidae)
【中文关键词】null
【英文关键词】China;Crabronidae;Hymenoptera;new species;Psen
【中文摘要】无
【英文摘要】Three new species of the genus Psen Latreille from China are described: Psen yunnanensis Ma et Li, sp. nov., from Yunnan Province; Psen lacuniventris Ma et Li, sp. nov., from Zhejiang and Sichuan Provinces; and Psen spinitibialis Ma et Li, sp. nov., from Zhejiang Province. Two species of the genus Psen are recorded from China for the first time. Modifications to the key to species of the genus Psen, as developed by van Lith in 1968, are presented.
【语种】英文
【第一作者】Ma, Li
【通讯作者】Li, Qiang

【期刊名称、卷期、页码】Entomological Science 卷: 10 期: 3 页: 259-265
【论文发表时间】2007-09-04 00:00:00
【引文索引类型】SCI
【引文索引号】10.1111/j.1479-8298.2007.00222.x
【学科分类】植物保护学

【题目】20世纪90年代以来我国甘蔗产业和科技的新发展
【中文关键词】甘蔗;产业;科技;发展;中国
【英文关键词】China;Sugarcane;Industry;Technology;Development
【中文摘要】20世纪90年代以来,以广西为主要代表的旱地蔗区在中央和主产省(区)政府的支持下.依靠科技进步.研究推广适应早坡地的高产高糖甘蔗良种及先进适用的旱地甘蔗栽培技术如机械深耕深松、节水灌溉(喷灌和滴灌)、酒精发酵液定量还田作液肥、智能化施肥、地膜覆盖、健康种苗、病虫革鼠害综合防治、蔗叶还田、化学调控等技术.大幅度提高了甘蔗的单产和蔗糖分.糖厂农务技术服务体系开始实现信忠化.实现了我国甘蔗糖业的跨越武发展.甘蔗基础研究和应用基础研究也得到进一步加强。同时积极开展国际合作与交流,提升了我国的甘蔗科研水平;主持举办多次甘蔗国际学术会议.组织成立国际糖业科技协会(L^PSrr),秘书处永久设在中国,使我国逐步成为国际甘蔗学术交流的中心。
【英文摘要】Since 1990s,under the support of the central and provincial governments.the upland sugarcane growing areas represented by Guangxi have greatly improved the proluctivity and sucrose content in sugarcane depending on breeding and popularization of new elite sugarcane varieties,development and extension of advanced and adopted new sugarcane cultivation technologies such as deep plough and soil ripping by machines,water-saving irrigation including sprinkle and drip irrigations,rational application of vinassc as liquid fertilizer,intellectual fertilization,plastic film mulching,application of virus free seedcanes,integrated eontrols 0f diseases.pests and weeds,trash incorpozation into fields.chemical regulationg of crop growth etc.Information technologies have being applied in management 0f sugmvamc production,harvest,transportation and processing.These have played significant roles in realizing the leap over development of Chinese sugar industry.The basic researches for sugarcane have been emphasized and significant progresses have made.Active intenmfional exchanges have bendlted the industry and promoted the sugarcane research levels in China.Several important intenmtional conferences on sugarcane technologies have been held and the International Association of Professionab in Sugar and Intngmted Technolngies (IAPSIT)have been established and run well With its permanent Secretariat in China,making China an international academic exchange centcr for sugarcane.
【语种】中文
【第一作者】李杨瑞
【通讯作者】李杨瑞
【期刊名称、卷期、页码】西南农业学报, 2009, 22(5):1469-1476
【论文发表时间】2009-07-11 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农业史

【题目】3种胡枝子牧草品质评价
【中文关键词】胡枝子;牧草品质;评价
【英文关键词】Lespedeza;Forage quality;Evaluation
【中文摘要】:尖叶胡枝子、达乌里胡枝子和二色胡枝子分枝期——结实期茎叶比分别为1:2.48~hO.73、1:2.44~1:0.66和1:1.34~1:0.57;开花期蛋白质含量分别为11.33% ~12.84%、11.66% ~12.75%和6.81%~10.47%;粗纤维分别为33.87% ~37.09%、34.26% ~35.04%和37.76% ~45.47%;尖叶胡枝子的分枝、孕蕾、开花和结实4个时期粗蛋白质含量为11.12%~15.08%、粗脂肪为1.69% ~2.48%、粗纤维22.83%~33.87%、无氮浸出物37.61% ~49.1 3% 、钙1.61%~1.98%、磷0.88%~1.22%、胡萝卜素20.75~94.47 mg/kg
【英文摘要】Abstract:The stem/leaf of L.hedrsaroides。L.dayurica and L.b color are 1:2.48—1:0.73.1:2.44—1:0.66 and 1:1.34—1:0.57 from tillering stage to seeding stage.In blooming stage。protein and crude fibre contents of them are l1.33%-12.84% ,11.66% 一12.75% 6.81% 一10.47% and 33.87% 一37.09% ,34.26% 35.04% ,37.76% 45.47% respectively.The crude protein,crude fat,crude fibre,NFE,Calcium。Phosphor and carolene of L.hedysaroides are 11.12% 一15.08% ,1.69% 一2.48% ,22.83% -33.87% ,37.61%-49.1 3% ,1.61% 一1.98% ,0.88% 一1.22% and 20.75—94.47 mg/kg respectivel

【语种】中文
【第一作者】孙启忠
【通讯作者】孙启忠
【期刊名称、卷期、页码】牧草与饲料,2007,1(4):24-27.
【论文发表时间】2007-10-10 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】畜牧、兽医科学其他学科

【题目】Permanence and extinction of a three-species ratio-dependent food chain model with delay and prey diffusion
【中文关键词】null
【英文关键词】Predator – prey system;
Ratio-dependent;
Dispersal;
Permanence;
Extinction
【中文摘要】无
【英文摘要】In this paper, we study a diffusive three-species ratio-dependent food chain model, using differential inequality, to obtain sufficient conditions that ensure the permanence of the system and the extinction of predator species. Our results reinforce the main result of Sun Wen, Shihua Chen and Huihai Mei [Positive periodic solution of a more realistic three-species Lotka – Volterra model with delay and density regulation, Chaos, Solitons and Fractals, in press].
【语种】英文
【第一作者】Shen, Chunxia
【通讯作者】You, Minsheng
【期刊名称、卷期、页码】APPLIED MATHEMATICS AND COMPUTATION 卷: 217 期: 5 页: 1825-1830
【论文发表时间】2010-11-01 00:00:00
【引文索引类型】SCI
【引文索引号】10.1016/j.amc.2010.02.037
【学科分类】植物保护学

【题目】3种胡枝子牧草再生性研究
【中文关键词】尖叶胡枝子;达乌里胡枝子;二色胡枝子;再生性
【英文关键词】Lespedeza hedysaroides;L.davurica;L.b icolor;Regeneration character
【中文摘要】通过对尖叶胡枝子、达乌里胡枝子和二色胡枝子牧草再生性研究表明,尖叶胡枝子和达乌里胡枝子宜晚刈割利用(7月13日),留茬高度分别为10和5 cm;二色胡枝子宜早X'J~U利用(6月23 13),留茬高度10 cm。3种胡枝子均具有较好的再生性。
【英文摘要】Studied the regeneration of L.hedysaroides,L.dayurica and L.b color in thispaper,theresults indicated that the suitable mowing stages of Lespedeza hedysaroides and L.dayurica were on July 13th,the remaining height were 10 cm and 5 cm.Usually L.bicolor was used on June 23th,the remaining height was 1 0 cm.These three species all had good regeneration character.
【语种】中文
【第一作者】赵淑芬
【通讯作者】孙启忠
【期刊名称、卷期、页码】牧草与饲料,2007,1(3):25-27.
【论文发表时间】2007-07-10 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】畜牧、兽医科学其他学科

【题目】Interspecific and intraspecific comparisons of ejaculates in the cotton bollworm Helicoverpa armigera and the tobacco budworm H

【中文关键词】null
【英文关键词】Helicoverpa armigera Helicoverpa assulta Ejaculate size Reproductive isolation Lepidoptera
【中文摘要】无
【英文摘要】The evolution of reproductive isolation is a prerequisite in the formation of new species. Although there are numerous studies on ejaculates in lepidopteran insects, ejaculate comparisons among sibling species have not been adequately addressed to understand possible reproductive barriers to hybridization. Here, we examined the interspecific and intraspecific variations of ejaculates in the sibling noctuid moths Helicoverpa armigera and Helicoverpa assulta. We found that there were considerable variations in the number of apyrene and eupyrene sperm and the length of eupyrene sperm. Male pupal mass explained not only a significant proportion of the variation in apyrene sperm number in both H. armigera and H. assulta, but also a significant proportion of the variation in eupyrene sperm number in H. assulta. There was a significant positive relationship between the number of eupyrene sperm and the number of apyrene sperm in both species. No difference in the length of eupyrene sperm was found between them; however, ejaculates of H. armigera had many more eupyrene sperm than H. assulta had. In H. armigera, large males generally mated with large females. The evolutionary consequences of these differences are discussed in this paper.
【语种】英文
【第一作者】Teng, Zhao-Qian
【通讯作者】zhang qingwen
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【学科分类】植物保护学

【题目】直穗鹅观草生物学特性及生产性能研究
【中文关键词】直穗鹅观草;生产性能;禾草
【英文关键词】Roegneria turczaninovii;Production capacity;Grass
【中文摘要】在我国农牧交错区东段引种直穗鹅观草,播种当年生长缓慢,生育期达到拔节期,产草量较低;生长2年可顺利完成生育期开花结实,生长速度和生物量明显增加,生育期为100 d,成熟株高达120~125cm。开花期鲜草及干草产量达到24 048.8和9 048.1 kg/hm ,均高于对照牧草,2年种子产量平均为724.4 kg/hm 。叶量丰富。孕穗期、开花期、乳熟期和成熟期的茎叶比分别为1/1.27、1/0.85、1/0.75、1/0.65,叶量高于对照牧草。再生性较好,不同时期刈割以开花期再生草产量最高。
【英文摘要】Abstract:In the east of agriculture—animal husbandry region of China,Roegne ria turczaninovii was introduced,It growed slowly in the first year,the grass yield was lower till elongation stage.it could seed in the second year.the speed of its growth and yield improved significan tly,the growth period Was about 100 days.the yield offresh grass an d hay could reach to 24 048.8 kg/ha an d 9 04 8.1 kg/ha respectively in floresence.and higher than contrast,the average yield of two years seed Was 724.4 kg/ha.1eaves were rich,during booting stage,blooming stage,milk stage and maturation phase,the ratio of stem an d leaf Was 1/1.27,1/0.85,1/0.75 an d 1/0.65,and higher than contrast respectively.Regenerate capacity Was strong,when moved in diferent growth phase;the regenerate yield was highest in blooming stage.
【语种】中文
【第一作者】孙启忠
【通讯作者】孙启忠
【期刊名称、卷期、页码】牧草与饲料,2007,1(2):19-22.
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【学科分类】畜牧、兽医科学其他学科

【题目】Effect of the secondary substances from wheat on the growth and digestive physiology of cotton bollworm Helicoverpa armigera (Lepidoptera:Noctuidae)
【中文关键词】null
【英文关键词】Pyrocatechol, ferulic acid, gramine, nutritional index, cotton bollworm, Helicoverpa armigera

【中文摘要】无
【英文摘要】Three secondary compounds, pyrocatechol, gramine and ferulic acid from wheat were separately incorporated into artificial diets and fed to cotton bollworm Helicoverpa armigera (H ü bner) larvae to determine their effects on larval and pupal weights and the nutritional indices of the larvae. The results show that these three secondary compounds can decrease the mean larval and pupal weights of cotton bollworm, with the mean larvae weights differing significantly between treatments. Mean pupal weight was only significantly reduced by ferulic acid and gramine, but not pyrocatechol. There were significant correlations between mean larval weight and concentration of the three secondary compounds tested, and between mean pupal weight and concentration of ferulic acid and gramine. The three secondary compounds tested affected the nutritional indices of cotton bollworm larvae differently. Compared with the control, ferulic acid and gramine significantly decreased RGR (the relative growth rate), AD (approximate digestibility) and ECD (conversion efficiency) of cotton bollworm larvae, and pyrocatechol only reduced ECD. All three indices were the lowest for cotton bollworm larvae fed on the diet with gramine (0.0984 ± 0.0114 g/g/day, 14.2670 ± 1.1541% and 31.1337 ± 1.1213%).
【语种】英文
【第一作者】Wang, Yu
【通讯作者】Zhang, Qing-Wen
【期刊名称、卷期、页码】European Journal of Entomology 卷: 103 期: 1 页: 255-258
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【引文索引类型】其他
【引文索引号】null
【学科分类】植物保护学

【题目】The three dimensions of species diversity
【中文关键词】的
【英文关键词】assessment, biodiversity, community, evenness, species abundance, species diversity
【中文摘要】的
【英文摘要】The concept of biodiversity can be simply defined as the sum of all biotic variation from the level of genes to ecosystems. Biodiversity at the species level, frequently called "species diversity", is a core concept of ecological community and conservation research. To date, however, no single number can fully capture such a concept without loss of information, although many attempts have been made to quantitatively express species diversity. Three aspects of species diversity have received considerable attention in the literature: species richness, evenness and abundance. Current diversity indices often emphasize evenness at the expense of richness or abundance. In this paper, we propose to express species diversity of communities as their position in a three-dimensional volume along the axes of richness, abundance, and evenness. With hypothetical as well as actual examples from our own studies, we discuss the usefulness of this three-dimensional approach. We believe that expressing species diversity as a volume is biologically intuitive, easy to interpret numerically and ecologically, and very useful in the assessment and management of biodiversity at the species level.
【语种】英文
【第一作者】You Minsheng
【通讯作者】You Minsheng
【期刊名称、卷期、页码】The Open Conservation Biology Journal, 3: 65-71
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【引文索引号】null
【学科分类】植物保护学

【题目】大蒜-小白菜间作套种对菜田节肢动物功能团的影响
【中文关键词】间作套种; 节肢动物群落; 功能团; 生物多样性;
【英文关键词】intercropping; arthropod community; guild; biodiversity;
【中文摘要】2004年9-11月于福建省琅岐岛针对大蒜与小白菜间作(CG1)套种(CG2)对节肢动物群落功能团影响进行调查和分析。结果显示:CG1提高了植食性昆虫、寄生性和捕食性天敌丰盛度,CG2可在降低植食性昆虫数量的同时提高寄生性天敌的数量;多作田寄生性天敌物种丰富度、丰盛度和多样性指数均高于单作田;优势类群动态表现为菜蚜茧蜂与蚜虫种群在CG1出现"天敌跟随现象",多作田在整个生长期都有利于提高捕食者球腹蛛的控制效能;中性昆虫在生长前期和中期是菜蚜虫茧蜂和球腹蛛的替代寄主或猎物。因此合理的间作或套种,有利于提高菜田生境的多样化,强化自然天敌对害虫的

生态控制作用。
【英文摘要】Field trials were carried out at Langqi,Fujian,P.R.China,in 2004,to determine the effects of intercropping Chinese cabbage(Brassica chinensis)with garlic(Allium sativum)(CG1 and CG2)on the abundance and diversity of various arthropod guilds.The results generally demonstrated a higher abundance and diversity of herbivores,predators and parasitoids in the intereropping treatments.There was a higher abundance of herbivores,parasitoids and predators in CG1 than in the control(CK)and a higher abundance,richnes...
【语种】中文
【第一作者】蔡鸿娇
【通讯作者】尤民生
【期刊名称、卷期、页码】华东昆虫学报,16(1):1-7
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【引文索引号】null
【学科分类】植物保护学

【题目】间作牧草对茶园螨类群落多样性的影响
【中文关键词】间作, 蜱螨目, 百喜草, 圆叶决明
【英文关键词】intercropping, Acarina, Paspalum notatum, Cassia rotundifolia
【中文摘要】螨类是茶园生态系统中重要且复杂的类群之一。为了了解不同植物间作后对茶园螨类群落的组成结构和多样性的影响, 2006年3月至2008年4月, 在武夷山市星村镇大坪洲茶园通过间作百喜草(Paspalum notatum)或圆叶决明(Cassia rotundifolia)、留养杂草和除杂草4种不同处理, 对茶园茶冠层(采用盆拍法及剪枝条法)和凋落层(采用捡取凋落物法)的螨类进行系统采样、标本鉴定和统计分析。结果表明: 与留养杂草对照相比, 间作百喜草或圆叶决明均显著增加了茶冠层和凋落层捕食螨的物种丰富度(S)、有效多样性指数(eH′)、个体数(N)和绝对丰度(n)。与留养杂草和除杂草这两种对照相比, 间作百喜草或圆叶决明均显著增加了茶冠层和凋落层优势种圆果大赤螨(Anystis baccarum)的个体数(N)。茶冠层植食螨和腐食螨及凋落层腐食螨的所有群落指标在不同处理茶园间均无显著差异。茶冠层和凋落层螨类群落物种丰富度(S)和个体数(N)季节性变化明显, 物种组成相似性高。间作茶园和留养杂草茶园茶冠层的螨类总个体数与其对应的凋落层螨类总个体数呈显著正相关。多样化茶园有利于保护和利用捕食螨, 从而对茶园有害生物进行生态控制, 促进有机茶叶可持续生产。
【英文摘要】Mites form one of the most important and complex communities of arthropods in tea plantations.We examined the responses of mite communities in terms of species composition, structure and diversity intea plantations subjected to two types of intercropping. Samples were collected between March 2006 andApril 2008 from tea canopies using both knock-down and pruning methods, and from ground litter in fourdifferent treatments in tea plantations in the Wuyi Mountains. Results from both canopy and litter samplesshowed that tea plantations intercropped with Paspalum notatum or Cassia rotundifolia had significantlyhigher species richness (S), effective diversity index (eH′), number of individuals (N), and absolute abundance(n) of predatory mites than in control tea plantations with natural vegetation. Plantations intercropped withP. notatum or C. rotundifolia displayed a significantly higher number of individuals (N) of Anystis baccarum,a common predatory species, for both canopy and litter samples versus the tea plantation with natural groundcover and on bare ground. Species richness, number of individuals, and diversity indices of both phytophagousand saprophagous mite communities collected from tea canopies and of saprophagous mite communitiesin litter were not different among the various intercropping treatments. Seasonal dynamics in mite speciesrichness (S) and number of individuals (N) were apparent for all treatments. Czekanowski similarity indicessuggested that these communities were highly similar to each other. For the tea plantation intercroppedwith P. notatum or C. rotundifolia, or with natural ground cover, the total number of mites in tea canopieswas positively associated with the total number of mites in the litter. We suggest that diversifying teaagroecosystems by using intercrops can bolster predatory mite densities, thus providing a viable strategy for pest management and promoting the environmentally benign production of tea products.
【语种】中文
【第一作者】陈李林
【通讯作者】尤民生
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【学科分类】植物保护学

【题目】水稻种植管理和多元有害生物为害模式特点及其与水稻产量的关系
【中文关键词】水稻; 有害生物为害; 种植管理; 产量; 聚类分析; 对应分析
【英文关键词】rice; pest injuries; cropping practices; yield; cluster analysis; correspondence analysis
【中文摘要】调查了云南省水稻主产区沾益、寻甸两县(两试验点)106块稻田水稻种植管理、有害生物为害(病虫草害)和产量等信息,并利用非参数多变量统计方法对数据进行了聚类分析和对应分析。主要结果:(1)确定了6种种植管理模式(PR),其中PR1和PR4跨区域存在,其它模式是各试验点特有的;PR1、PR2和PR4对应高产水平;从化肥、农药、水分供应、劳动力投入方面看,PR1农业投入最高,PR2农业投入较高,PR4农业投入水平中等。(2)确定了5种有害生物为害模式(IN),其中IN2在两县同时存在,其它模式是各自特有的;IN3整体为害水平最高,对应低产,IN1整体为害水平最低,对应高产。(3)在区域水平上,种植管理模式和有害生物为害模式存在较强的关联性($\chi 2$,P<0.0001),二者能很好地解释水稻产量的变化诱因,多维列联表对应分析图提供了合成的观点,不仅反映了三者在区域之间的差异,同时说明了不同区域种植管理和有害生物为害模式的多样性,从产量增加路线可以看出寻甸县具有进一步提升水稻产量的潜力,为制定有害生物防治策略、提高区域稻作水平提供了理论依据。
【英文摘要】The rice cropping practices,pest injuries(due to pathogens,insects,and weeds)and yields were surveyed in 106 individual farmers' fields,in the main rice-producing area of Yunnan Province:Zhanyi and Xundian counties(two experimental sites).The characterization of patterns of rice cropping practices and multiple pest injury profiles and their relation with the rice yield were analyzed by using the nonparametric multivariate techniques:cluster analyses and correspondence analyses.The main results are:(1)six pa...
【语种】中文
【第一作者】董坤
【通讯作者】李正跃
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【学科分类】植物保护学

【题目】云南省稻飞虱发生原因及其治理对策
【中文关键词】稻飞虱 云南省 治理 原因 成灾面积 发生面积 直接损失 发生特点
【英文关键词】null
【中文摘要】2007年稻飞虱在云南省特大发生。各项指标均超过农业部颁发的大发生标准,是新中国成立以来最严重的1年.发生面积突破历史最高.达86.67万hm^2次,为2006年的3倍。表现出田间虫量高、为害重、落地成灾的特点。经过全力防治之后,成灾面积仍然达到2.67万hm^2,造成粮食直接损失约19万t。笔者结合云南省的气候特点对稻飞虱的发生特点、原冈进行分析并提出治理对策。
【英文摘要】无
【语种】中文
【第一作者】桂富荣
【通讯作者】桂富荣
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【引文索引号】null
【学科分类】植物保护学

【题目】农业景观多样性与害虫生态控制
【中文关键词】农业景观;生物多样性;生境破碎化;溢出效应;害虫生态控制
【英文关键词】agricultural landscape; biodiversity; habitat fragmentation; spillover effect; sustainable pest management

【中文摘要】现代农业的一个重要特征就是人类对农田生态系统的干扰强度及频率不断增加,严重影响农业景观的结构及其生物多样性.农业景观结构的变化及其生物多样性的丧失,必然引起生态系统服务功能的弱化,不利于实施以保护自然天敌为主的害虫生态控制.农业的集约化经营导致自然生境破碎化,减少了农业景观的复杂性,使得作物和非作物变成一种相对离散化的生境类型和镶嵌的景观格局;破碎化的生境不仅会减少某些物种的丰度,还会影响物种之间的相互关系及生物群落的多样性和稳定性.非作物生境类型如林地、灌木篱墙、田块边缘区、休耕地和草地等,是一种比较稳定的异质化环境.非作物生境较少受到干扰,可以为寄生性和捕食性节肢动物提供适宜的越冬或避难场所以及替代猎物、花粉和花蜜等资源,因此,非作物生境有利于自然天敌的栖息和繁衍,也有利于它们迁入邻近的作物生境中对害虫起到调节和控制作用.景观的格局-过程-尺度影响农田生物群落物种丰富度、多度、多样性以及害虫与天敌之间的相互作用.从区域农业景观系统的角度出发,运用景观生态学的理论和方法来研究作物、害虫、天敌等组分在不同斑块之间的转移过程和变化规律,揭示害虫在较大尺度和具有异质性的空间范围内的灾变机理,可为利用农业景观生物多样性来保护农田自然天敌,实施害虫的区域性生态控制提供新的研究思路和手段.

【英文摘要】Agricultural intensification has resulted in simplification and fragmentation of natural landscape. Such expansion has been characterized by larger agricultural fields and the removal of natural habitats. These changes have had as consequences a rapid decline in biodiversity with most remaining species mostly located in ecotones and natural undisturbed habitats. This mosaic landscape also influences the ecosystem functions such as the presence and migration of natural enemies that can control pest in agricultural fields. Due to their stability and heterogeneity, natural habitats can provide shelters and alternative food for these species thus maintaining their critical roles in agroecosystems. Considering the need for such diversity in these ecosystems, sustainable pest management requires a landscape management approach.. Sustainable pest management can only be achieved if conservation of biodiversity takes into account the mosaic pattern of this landscape, thus reducing distances between habitats for poorly-dispersed and specialized natural enemies. Structurally complex landscapes with high habitat connectivity may enhance the roles of beneficial species by efficiently regulating pest populations. Their heterogeneity allows for greater level of species diversity where natural habitats compensate the homogeneity and reduction in diversity in agricultural fields. Complex landscapes characterized by highly connected crop and non-crop mosaics may be best for the survival of natural enemies and long-term conservation of biodiversity. However, further studies are required to better design agricultural landscapes that optimally maintain biodiversity of natural enemies in support of regional ecologically pest management.

【语种】中文
【第一作者】郑云开
【通讯作者】尤民生
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【题目】大蒜乙醇抽提物对烟蚜的拒食与毒杀作用
【中文关键词】大蒜乙醇抽提物; 烟蚜; 拒食作用; 毒杀作用;
【英文关键词】Allium sativum ethanol extracts; Myzus persicae; antifeedant activity; toxicity;
【中文摘要】通过室内试验,测定了大蒜乙醇抽提物对烟蚜的拒食与毒杀作用,并采用种群干扰作用控制指数(IIPC)评价其对田间烟蚜的种群干扰作用.结果表明:大蒜乙醇抽提物对烟蚜具有显著的拒食与毒杀活性,其中,以90和70 g.L-1大蒜乙醇抽提物对烟蚜的拒食效果和持效性较好,拒食率分别为77.81%-85.55%和58.37%-70.70%;田间试验表明,大蒜乙醇抽提物对烟蚜种群有明显的干扰作用,70和90 g.L-1大蒜乙醇抽提物对烟蚜的拒食率分别为50.16%和65.47%,其对烟蚜的IIPC分别为0.498和0.345.

【英文摘要】Bioassay in laboratory and experiment in field was carried out to investigate the bioactivities of Allium sativum ethanol extracts against Myzus persicae(Sulzer).The results showed that the extracts exhibited significant antifeedant and toxic activities against M.persicae,antifeedant rates in 24 h were 77.81%-85.55% and 58.37%-70.70% respectively when treating concentrations were 90 and 70 g · L-1.The field experiment showed that the extracts had obvious interference effects on M.persicae,antifeedant rates we...

【语种】中文
【第一作者】赖荣泉
【通讯作者】尤民生
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【学科分类】植物保护学

【题目】多作对稻田蜘蛛功能团结构及多样性的影响
【中文关键词】生境配置; 捕食性天敌; 多样性指数; 多元分析;
【英文关键词】habitat arrangement; predatory arthropod; diversity index; multivariate analysis;
【中文摘要】为探明蜘蛛功能团结构及多样性对多作农田生态系统的生态学响应,于2006年早稻期,在福建省武夷山试验基地,采用吸虫器法,系统调查了多作和单作稻田蜘蛛功能团的结构与组成;通过群落多样性指数分析了2类稻田蜘蛛功能团的结构特征及多样性动态;并运用多元统计方法[非度量多维标度(NMDS)、相似性分析检验(ANOSIM)和相似性百分比分析(SIMPER)]分析了2类稻田蜘蛛功能团的相似性及主要特征物种.结果表明:2类稻田蜘蛛功能团种类组成和优势种基本一致,球蛛科(Theridiidae)待定种和肖蛸科(Tetragnathidae)待定种是2类稻田的主要优势种类;个体丰盛度(N)、物种丰富度(S)、Shannon-Wiener指数(H′)、Simpson指数(D′)、均匀性指数(E)和绝对多度(溯)虽在个别季节差异显著,但是全年总体差异不显著;相似性分析进一步表明,2类稻田蜘蛛功能团结构差异不显著,主要特征种类为球蛛科待定种、肖蛸科待定种、锥腹肖蛸(Tetragnatha maxillosa)、食虫瘤胸蛛(Oedothoraxinsecticeps)、八斑鞘腹蛛(Coleosoma octomaculatum)、驼背额角...
【英文摘要】To explore responses of spider guild to polycultural manipulation in rice-based ecosystems,experiments were carried out during the growing season of early rice in 2006.Spiders were sampled by suction sampler in the fields,and examined by microscope for identification and classification in the indoor labs at the Wuyishan Experimental Station of Agro-biodiversity and Ecologically-based Pest Management,Institute of Applied Ecology(IAE),Fujian Agriculture and Forestry University(FAFU).The polycultural manipulat...
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【题目】地上部植物信息化合物在植物-害虫-天敌关系中的生态学功能及在害虫治理中的应用前景
【中文关键词】地上部植物信息化合物;生态学功能;害虫治理;应用前景
【英文关键词】aboveground plant infoehemicals; ecological function; pest management;application perspective
【中文摘要】本文综述了近年来有关地上部植物信息化合物在植物-害虫-天敌三营养级关系中的信息联系,分析地上部植物信息化合物在植物-害虫、植物-天敌、植物个体内和个体间信号传递的生态学功能,阐明地上部植物信息化合物在害虫治理中的应用潜力,包括害虫诱捕和诱杀、昆虫种群监测、植物拒避剂、干扰害虫对寄主搜索、"推-拉"策略和植物内源激发子的应用等,讨论了地上部植物信息化合物与其他控害手段的协同作用,以及在生产实践中可能存在的相关问题,旨在为地上部植物信息化合物在害虫持续治理中的应用提供科学指导.
【英文摘要】Recently,infochemical communication within a tritrophic system(plant-herbivore-enemy)has been heavily investigated.This paper describes the ecological functions of aboveground plant infochemicals on within—plant,inter-plant,plant—to-herbivore,and plant—to—natural enemy signaling,as well as the application of aboveground plant infochemicals toward pest management.Aboveground plant infochemicals can be used as tools for attracting and killing insects,mass trapping,insect population monitoring,repelling,disrupting host seeking,pushing and pulling,and endogenous elicitation.These infochemical can not only be used alone but also integrated with other approaches,such as visual cues,pheromones,biocontrols,chemical pesticides,and genetically engineered plants.Strategies for promoting the practical application of plant infochemicals are also discussed in some detail.
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【题目】稻飞虱基因组DNA提取方法的比较
【中文关键词】基因组DNA;DNA提取;稻飞虱
【英文关键词】genomic DNA; DNA extraction; rice planthopper
【中文摘要】以褐飞虱(Nilaparvata lugens stal)为材料,分别采用SDS法,CTAB法,冰KAc法和饱和NaCl法提取褐飞虱的基因组DNA.通过电泳、紫外光谱分析和ISSR-PCR扩增等检测手段,比较分析了DNA数量与质量.结果表明:CTAB法和SDS法提取的DNA质量明显优于冰KAc法和饱和NaCl法,适于PCR扩增.并且SDS法提取的DNA经过PCR扩增后得到较多的多态性位点.因此,SDS法是实验室提取稻飞虱基因组有效,经济实用的方法.
【英文摘要】Genomics DNA were extracted from the rice planthopper Nilaparvata lugens(Stal)usingSDS,CTAB,KAc and NaCI method,respectively.DNA was detected by electrophoresis,UV and ISSR-PCR.The results suggested that,the quality of DNA samples extracted by CTAB method and SDS method was obviously better and more suitable for PCR than that by the other two methods,furthermore,SDS method presented the most polymorphic sites.Therefore,the SDS method was the most effective,practical and economic method in the genomic DNA extraction of planthopper in laboratory.
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【第一作者】刘佳妮
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【题目】不同设置模式粘虫板对石榴园蓟马的诱捕效果研究
【中文关键词】蓟马;粘虫板;诱捕效果;石榴园
【英文关键词】Pomegranate;Thrips;Stiky cards;Trapp efficacy
【中文摘要】2007-2008年.于云南蒙自县甜石榴和建水县酸石榴园设置不同颜色、高度、位置和时段的粘虫板,对不同设置模式粘虫板诱捕蓟马的效果进行了研究。结果表明,蓝色粘虫板对蓟马的诱捕效果明显高于黄色和白色粘虫板的诱捕效果,黄色与白色板诱捕效果间无显著差异。石榴树冠下距离地面1.0m、1.5m、2.0m高度处诱虫板的诱捕效果间差异不明显。蓝色粘虫板在向阳面的诱捕虫量是阴面诱捕虫量的2倍,各颜色粘虫板在阴面的诱捕效果差异不显著。石榴园蓟马的活动期出现在8;00~18;00。其中,早晨8;00~10;00蓟马诱捕虫量最大,而在20;00~08;00诱捕到的蓟马数量最小。
【英文摘要】Trapping efficacy of differenttrapping cards with different color,height,sun or shade and period of a day on the trapping ofthrips was studied in sweet and SOUr pomegranate in Yunnan province from 2007 to 2008.The Results showed that more thrips were trapped in blue-colored sticky cards than yellow-colored and white-colored cards,no significant difference was found between the yellow and white sticky cards.There was no significant difference for the trap efficacy of sticky card set up at the 3 heights on pomegranate trees.Number of thrips trapped by blue sticky cards in the sun Was twice ofthat in the shade,but there was no significant difference for the trapping efficacy among other colored cards in the shade.Thrips were active from 8 AM to 18 PM in a day on pomegranate orchards,the most active period Was from 8 AM to 10 PM,and inactive during the period of 20:00~08:00.
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【学科分类】植物保护学

【题目】云南石榴蓟马种类组成及其种群动态
【中文关键词】石榴;西花蓟马;棕榈蓟马;种类;种群动态
【英文关键词】pomegranate; Frankliniella occidentalis; Thrips palmi; species; population dynamics
【中文摘要】2007-2008年对云南甜石榴和酸石榴两种石榴上蓟马种类及其种群动态进行了系统调查、标本采集、种类鉴定.结果表明,为害石榴的蓟马有10种,分别为西花蓟马(Frankliniella occidentalis)、丽花蓟马(F.intonsa)、黄蓟马(Thrips flavus)、黄胸蓟马(T.hawaiiensis)、棕榈蓟马(T.palmi)、烟蓟马(T.tabaci)、茶黄硬蓟马(Scirto-thrips dorsalis)、端大蓟马(Megalurothrips distalis)、华简管蓟马(Haplothrips chinensis)和Thrips sp.,其中西花蓟马是云南石榴蓟马的优势种.不同石榴品种上蓟马种类不同,甜石榴上有西花蓟马、丽花蓟马、黄蓟马、棕榈蓟马、烟蓟马、黄胸蓟马、端大蓟马、茶黄硬蓟马和蓟马属1种,酸石榴上蓟马种类有西花蓟马、丽花蓟马、黄蓟马、棕榈蓟马、烟蓟马、端大蓟马、茶黄硬蓟马、华简管蓟马和蓟马属1种,黄胸蓟马仅在甜石榴上发生为害.在石榴不同生育时期,发生为害不同,其中成虫和若虫集中为害花,造成麻点特征.
【英文摘要】Thrips species and population dynamics on pomegranate were surveyed in Yunnan Province from 2007 to 2008.The results showed that 10 species of thrips were found 011 pomegranate,and they were Frankliniella occidentalis,F.intonsa,Thrips flavus,T.hawaiiensis,T.palmi,T.tabaci,Scirtothrips dorsalis,Megaluro-thrips distalis,Haplothrips chinensis and Thrips sp..F.occidentalis was the predominant species on pomegranate in Yunnan Province.Thrips species were different on different species of pomegranates,among which F.occidentalis,F.intonsa,T.flavus,T.hawaiiensis,T.palmi,T.tabaci,S.dorsalis,M.distalis and Thrips sp.were found on sweet pomegranate.F.occidentalis,F.intonsa,T.flavus,T.palmi,T.tabaci,S.dorsalis,M.distalis,H.chinensis and Thrips.sp.were found on sou pomegranate.T.hawaiiensis was only found on the sweet pomegranate.Damages were different with the growth of pomegranate.The adults and nymphs of Thrips seriously damaged pomegranate blossoms,and caused silvery spots on blooms.
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【题目】石榴园西花蓟马种群动态及其与气象因素的关系
【中文关键词】西花蓟马; 种群动态; 气象因素; 石榴
【英文关键词】Frankliniella occidentalis; population dynamics; meteorological factors; pomegranate
【中文摘要】2007—2008年,对云南省建水石榴园西花蓟马种群动态进行了系统调查,并采用回归分析(逐步回归分析、通径分析)、主成分分析及灰色系统分析就气象因子对该虫种群动态的影响进行了系统分析。结果表明,西花蓟马在建水石榴园常年发生,冬季较低,夏季最高,成虫全年种群消长呈单峰型,高峰期为5月份。相关性分析结果表明,西花蓟马种群数量与月相对湿度间呈极显著正相关性(P<0.01),与月均气温和月最低气温间呈显著正相关性(P<0.05),与月最高气温、月均降雨量和月均蒸发量间无相关性(P>0.05)。回归分析结果表明,石榴园西花蓟马种群动态的决定因子中影响最大的气象因素是月最低气温,而月均气温和月相对湿度是影响种群数量变动的主要因素。主成分分析表明,月最低气温是主要成分,其累积方差贡献率达73.03%。灰色系统分析结果表明,影响石榴园6种蓟马种群动态最关键的因子是月相对湿度;年度间影响最大的是年总降雨量;石榴花期各蓟马的种群数量与气象因素间关联度最大的是月最低温;果期各种蓟马的种群数量与气象因素间关联度最大的是月均降雨量。
【英文摘要】The western flower thrips Frankliniella occidentalis (Pergande) has been a major pest of agricultural and hotricultural crops in fields and greenhouses worldwide. Since its found in Beijing Municipality of China in 2003,and now it is the serious pest in pomegranate tree of Jianshui County,Yunnan Province in recent years. The population dynamics of the F. occidentalis in pomegranate orchards was surveyed by using gathering thrips in different positions of pomegranate including flower,leaf,shoot and young fruit and using blue sticky cards from 2007 to 2008 in Jianshui County,Yunnan Province. The relationship between meteorological factors including monthly mean temperature,monthly maximum temperature,monthly minimum temperature,monthly rainfall,monthly relative humidity (RH) and monthly evaporation and population dynamics were analyzed using the regression analysis (stepwise regression analysis and path analysis) ,the principal component analysis and the grey system analysis. The results indicated that during

the study periods,adults of the F. occidentalis occurred throughout the year,the lowest population was in winter season and the highest population was in the summer season in each year. The population dynamics was single-peaked,the most serious injury stage was from March to July,with the peak in May. The correlativity results showed that the population of F. occidentalis was significantly positively corrlelated to monthly RH (P < 0.01) ,and it was positively corrleated to monthly mean temperature,monthly minimum temperature (P < 0. 05) ,followed the regression equation as Y = - 131. 15 + 0. 04 X1 + 22. 71 X3 - 15. 76 X5,(P = 0.002) ,the multiple realtice coefficient was 0. 875,the X1,X3 and X5 was monthly mean temperature,monthly minimum temperature and monthly RH. No significant correlation was found between the population of F. occidentalis and monthly maximum temperature,monthly rainfall amounts,monthly evaporation capacity (P > 0. 05) . Use the stepwise regression analysis,path analysis and decision coefficient analysis on the relations between the population of F. occidentalis and monthly mean temperature,monthly minimum temperature and monthly RH. The results described that the monthly minimum temperature was the major decisive factor,whose the decision coefficient was R2(3) = 3. 662,and the monthly mean temperature and the monthly RH were the primary limiting factors,whose the decision coefficient respectively were R2(1) = - 0.484 and R2(5) = - 2.621. The principal component analysis indicated that the monthly minimum temperature of the first principal component was the primary decisive factor,whose cumulative variance proportion was 73. 03% and monthly RH of the second principal component was also the primary decisive factor,whose Load was 0. 978. The total cumulative variance proportion of previous two principal components was 95.30%. It could be the comprehensive index of meteorological factors to analysis the population dynamics of F. occidentalis. The grey system analysis on the relationship between the population and the meteorological factors showed that the monthly RH was the key factors of seasonal dynamics, whose integral was 10. And the total annual rainfall amounts was the key factors of annual dynamics,whose degreeofrelation was 1. 012,and that all the meteorological factors ranked as the Toal Annual Rainfall > Annual Mean RH > Annual Maximum Temperature > Annual Minimum Temperature > Annual Mean Temperature.

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【题目】武夷山稻田生境越冬节肢动物群落的物种组成
【中文关键词】稻田生境;越冬;节肢动物群落
【英文关键词】rice habitat; overwintering; arthropod community
【中文摘要】2005年12月至2006年3月,采用吸虫器结合人工剥查的方法,对福建省武夷山稻田生境内的越冬节肢动物群落进行系统调查。共采集到节肢动物117种(或类),隶属于3纲13目58科,其中捕食性昆虫15种,蜘蛛23种,寄生性天敌29种,害虫27种,中性昆虫23种。
【英文摘要】From Dec. 2005 to Mar. 2006, a systematical investigation on overwintering arthropod community was carried out in rice habitats in Wuyishan, Fujian Province. 117 species (or taxa) of arthropods were collected, including 38 species (or taxa) of predators, 29 species (or taxa) of parasitoids, 27 species (or taxa) of insect pests and 23 species (or taxa) of neutral insects.
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【题目】小麦收获期对麦套棉田捕食性天敌和棉花苗蚜的影响
【中文关键词】麦棉套种;捕食性天敌;麦蚜;棉蚜;小麦收获期

【英文关键词】Wheat-cotton intercropping; Predators; Wheat aphids; Cotton aphids; Wheat-cutting dates

【中文摘要】2004—2005年在冀南棉区研究了小麦收获期对麦套棉田中捕食性天敌和棉花苗蚜的影响。小麦收获期共设3个水平,分别是6月5日、6月10日和6月15日收获小麦。结果表明:2004年3个时期收获小麦对棉田的益害比(天敌和棉蚜的比值)无显著影响(t〉0.05);2005年6月5日收获小麦,显著增加了棉田的益害比(t〈0.05),6月10日和6月15日收获小麦对棉田的益害比无显著影响(t〉0.05)。说明在麦套棉田中,麦田天敌到棉田的有效转移受麦蚜-天敌-棉蚜三者发生高峰期的影响,不同年份天敌的转移情况有所不同。麦蚜发生高峰期早则小麦天敌向棉田转移早,并能有效控制苗期蚜虫的危害,在麦熟期收获小麦,对棉田天敌的数量影响不大;反之,若麦蚜发生高峰期晚,麦田天敌发生期也会相应延后,在麦熟期收获小麦则会引起棉田天敌的增加。因此,棉田天敌数量变化受小麦收获期的影响,但与麦蚜和麦田天敌的发生动态有直接关系。

【英文摘要】Systematic studies were conducted on predators and cotton seedling aphids in wheat-cotton intercropping field in North China in 2004 - 2005. Three treatments of wheat-cutting dates were designed on 5 June, 10 June and 15 June respectively to investigate the influence of wheat-cutting dates on predators and cotton seedling aphids. The results showed that there was no significant difference in predator/cotton aphid ratio between treatment field and control field during different wheat-cutting dates in 2004(t〉 0.05). A significant difference was observed in predators/cotton aphids between treatment field and control field on 5 June in 2005 (t 〈0.05), but no significant difference was found in other wheat-cutting dates in 2005 (t〉 0.05). Wheat-cutting could obviously increase predator populations into cotton. The results suggested that the peak time of wheat aphids, predators and cotton aphids determined the efficient movement of predators from wheat field into cotton field. The earlier peak day of wheat aphids made it possible that predators move into cotton field earlier, and predators can effectively suppressed cotton seedling aphids. Thus, few predators increased in cotton during wheat-cutting period. The later peak day of wheat aphids delayed the movement time of predators from wheat field into cotton field, and cotton predators increased obviously when wheat is harvested during wheat maturation period. The occurrence c of predators and cotton seedling aphids in cotton fields were affected by wheat-cutting dates, but it was directly related to the occurrence of wheat aphids and predators in wheat.

【语种】中文

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【题目】麦套Bt棉的经济效益和对棉蚜及天敌的影响

【中文关键词】棉花;小麦;棉蚜;套种

【英文关键词】Cotton; wheat; cotton aphids; intercropping

【中文摘要】2004~2005年,在冀南棉区调查了麦套Bt棉田对棉花苗期蚜虫和天敌的影响及其经济效益.结果表明,麦套棉田的棉蚜数量均显著低于对照田(P<0.05),其高峰期的蚜虫种群数量低于防治指标,且受棉蚜的危害程度小于对照田.麦套棉田中的瓢虫和僵蚜的种群数量显著高于对照田和化防田,与对照田相比,麦套棉田中的瓢虫发生高峰期提前l0天左右.化防田的籽棉产量高于麦套棉田和对照田,但麦套棉田2004和2005年的综合经济效益分别为1.7万元/hm2和2.08万元/hm2,比化防田多0.53万元/hm2和0.57万元/hm2.试验结果还表明,棉花苗期蚜虫能够显著影响棉花产量,采用套种等多熟种植模式可以作为Bt棉有害生物综合治理的重要组成部分.

【英文摘要】Field studies were conducted to investigate economic profit of intercropping system of wheat and Bt cotton and its effect on cotton aphids and natural enemies at seedling stage during 2004-2005 in south of Hebei Province. The field experiments consist of wheat intercrop transgenic Bt cotton field (W/CF), transgenic Bt cotton field used chemical insecticides to control cotton aphids only at seedling stage (CCF), and transgenic Bt cotton control field without pesticide use (CF). Each treatment plot was 667 m2. Treatments were replicated three times in a completely randomized design. The arthropod collected included cotton aphids (Aphis gossypii Glover), and natural enemies (ladybeetles, spiders and mummified aphids). Wheat and seed cotton yield were also investigated. The results indicated that W/CF significantly suppressed cotton aphids density compared with CF (P<0.05), and obviously reduced the cotton damage by cotton aphids. More natural enemies, especially ladybeetles and mummified aphids, were observed in W/CF than those in CF and CCF, and the peak day of ladybeetle was earlier about 10 days in W/CF than CF. CCF had the highest seed cotton yield, followed by W/CF and CF. However, the total economic income of W/CF was 1.7×104 yuan/hm2 (2004) and 2.08×104 yuan/hm2 (2005), respectively, which were higher than that of CCF and CF. The cotton aphids at seedling stage can significantly reduce cotton yield and intercropping model could serve as a key tactic in IPM of Bt cotton in northern China. 18 Refs. In Chinese.

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【第一作者】马晓牧
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【题目】白背飞虱发育起点温度和有效积温及发育历期的测定
【中文关键词】白背飞虱;发育历期;发育起点温度;有效积温
【英文关键词】null
【中文摘要】在室内光照周期L：D=12：12,相对湿度为75%±5%,温度分别为21,24,27和30°C温度梯度下,测定了白背飞虱Sogota furcifera Horvath 发育起点温度、有效积温、发育历期。结果表明,白背飞虱卵、若虫(1-5龄)及整个世代的发与起点温度分别为12.14±0.98,11.47±1.09,16.75±1.18,16.60±1.32,21.85±2.39,16.54±5.47和9.13±0.21°C;有效积温分别为59.02±3.32日度,56.73±4.36日度,31.32±4.36日度,28.84±4.37日度,6.83±4.54日度,11.31±6.14日度,310.51±4.35日度。世代历期分别为24.7,21.0,18.0和16.0天。 白背飞虱生长发育历期随温度的升高而缩短,发育历期与温度的关系符合函数y=390.3460/(x-5.1079)。
【英文摘要】无
【语种】中文
【第一作者】唐小艳
【通讯作者】李正跃
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【题目】云南元阳梯田水稻田白背飞虱若虫空间分布型及理论抽样数
【中文关键词】白背飞虱;空间分布型;负二项分布;分布型参数;元阳梯田;云南
【英文关键词】null
【中文摘要】采用Taylor幂法扩散法和Iwao回归法分析了云南元阳哈尼梯田1400~2000m海拔16个哈尼族传统水稻品种田白背飞虱Sogatella furcifera(Horvath)1~3龄若虫的空间分布特征。结果表明,白背飞虱1~3龄若虫在不同海拔、不同水稻品种田均呈聚集分布中的负二项分布,其负二项分布的公共K值为3.53,聚集原因主要是由白背飞虱生物学特性和环境因素引起。Iwao直线回归方程拟合公式为m*=3.96+1.09m(R=0.97),Taylor幂拟合公式为lg(V)=0.28+1.34×lg(m)(R=0.85)。其中,在1400~1500、1501~1600、1601~1700、1701~1800、1801~1900和1901~2000m海拔梯田稻田中,白背飞虱若虫平均拥挤度分别为10.74±0.83、23.67±3.50、21.64±6.02、47.10±5.71、52.59±12.75、13.72±3.14,差异显著(F=5.77,P0.01),其中在1701~1800和1801~1900m海拔稻田中白背飞虱平均拥挤度最高,表明在该海拔处白背飞虱在稻丛上分布较为集中,而在1400~1500和1901~2000m海拔稻田中平均拥挤度最低。根据空间分布型参数,建立了精度分别为0.1和0.2时的理论抽样数模型,分别为n=1905.43x+34.57,n=476x.36+8.64,该模型适用于不同虫口密度下的田间抽样。当白背飞虱虫口密度为5、10、20头/丛时,分别取样30、20和15个样方。
【英文摘要】无
【语种】中文
【第一作者】唐小艳
【通讯作者】李正跃
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【题目】非作物生境在作物害虫天敌调控制中的作用研究进展
【中文关键词】非作物生境; 天敌; 调控
【英文关键词】non-crop habitats; natural enemies; control
【中文摘要】农田生态系统可以区分为作物生境和邻近作物的非作物生境。许多研究表明,与特定作物田块相联系的植被类型和结构可影响害虫的天敌迁居的种类、数量和时间。因此,可通过改变大田周围非作物生境的植被组成及特征来调控农业生态系统中害虫与天敌的相互关系,提高天敌对害虫的控制作用。当作物遭到破坏或天敌的寄主稀少时,天敌则迁向邻近的生境以获取合适的食物及寄主。作物周围的非作物生境对保护利用天敌十分重要。
【英文摘要】An agro-ecosystem can be identified as all area which includes crop habitat and non-crop habitat.Many studies shows,the vegetational settings and structure associated particular crop fields can influence the kind,abundance,and time of colonization of natural enemies.Therefore,we Gall change the non-crop vegetation composition and characteristics around the filed to control the relationship between the pests and natural enemies in agro-ecosystems,improve the effectiveness of natural enemies to pest.When the crops suffered with damaging or the scarcity of natural enemies of the host,the natural enemies will move to nearby suitable habitat for food and hosts.The non-crop habitats have important to protect and use of natural enemies.
【语种】中文
【第一作者】张玉虎
【通讯作者】陈斌
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【题目】水稻白背飞虱的综合防治
【中文关键词】水稻白背飞虱;危害;综合防治
【英文关键词】null
【中文摘要】白背飞虱[Sogatella furcifera(Horvath)]属于大范围迁飞性害虫,是水稻的主要害虫之一。近年来,随着杂交水稻大面积推广和耕作制度的改变,白背飞虱的种群数量急剧上升,严重发生的频次明显增加。概述了白背飞虱危害、综合防治方法及监测和防治的最新研究动态,以供参考。
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【语种】中文
【第一作者】唐小艳
【通讯作者】李正跃
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【题目】云南省三地区稻田有害生物主要种类及其发生动态研究
【中文关键词】水稻;有害生物;发生动态
【英文关键词】null
【中文摘要】对云南省寻甸县、弥勒县、沾益县主要水稻生产区的9个村庄151块水稻主栽品种稻田有害生物种类组成及其发生动态进行了系统调查.结果表明,3个地区有害生物的主要种类、发生动态及其综合危害特点不同,其中寻甸县以稻白叶枯病、叶蝉类发生严重;弥勒县以稻纹枯病、飞虱类发生严重;沾益县以稻胡麻叶斑病、稻叶鞘腐败病、稻曲病发生严重.杂草在整个水稻生长季节均有发生且发生种类很多,其中主要种类有稗草、紫背浮萍、慈姑、眼子菜等.
【英文摘要】无
【语种】中文

【第一作者】王海龙
【通讯作者】李正跃
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【题目】应用中性理论分析局域群落中的物种多样性及稳定性
【中文关键词】群落中性理论;物种多样性;群落稳定性;局域群落;集合群落;马尔可夫链
【英文关键词】community neutral theory; species biodiversity; community stability; local community; meta-community; Markov Chain
【中文摘要】如何解释群落中物种的丰富与稀少,并对物种多样性和群落稳定性进行合理的量化评价是群落生态学研究中的一个热点问题.20世纪中期,MacArthur将影响自然群落稳定性的因素归结为物种数量多少以及物种间相互作用的大小,20世纪末Doak等学者提出群落的容纳能力和物种间的维持机制是决定群落稳定性的关键因素.同时对群落结构及物种间维持机制的研究也有了新的突破,Hubbell提出"生物多样性与生物地理学统一的中性理论(Unified Neutral Theory of Biodiversity and Biogeography)"为群落生态学研究提供了新的思路和方法.从群落中性理论的基本假设出发,对Hubbell中性理论中局域群落的物种多度动态模型进行分析,归纳得出群落中性理论中物种多样性与群落稳定性之间的量化关系.封闭的局域群落中,出现物种灭绝或单物种独占的时间与群落大小及物种相对多度成正比,物种多样性程度的增加可延长物种灭绝或独占的时间;开放的局域群落中,物种多度期望值与局域群落大小、物种在集合群落中的物种相对多度成正比,周围群落中物种的灭绝会引起局域群落中相应物种的灭绝,最终导致整个生态群落物种多样性的降低;群落中物种多度的方差与局域群落大小、迁移率、物种在集合群落中的物种相对多度相关,局域群落物种多度的波动幅度随着群落间生态隔离的减弱或物种多样性程度的增加而减小.由此,集合群落物种多样性是影响局域群落物种多样性的重要因素,生态隔离程度的减弱及物种多样性的增加都将增强群落的稳定性.
【英文摘要】How to explain the causations of the diversity and the rarity,and how to measure the relations reasonably between the species diversity and the community stability are still the controversial problems in the community ecology.MacArthur contributed the factors affecting community stability to the species abundance and the interactions inside the community.In 1990s,researchers including Doak put forward that the community population capacity and the maintain mechanism are the crucial factors influencing the community stability.At the same time,great advances had been achieved in the study on the structure and the maintain mechanism of the community.In 2001,Hubbell and other ecologists introduced a now neutral theory (Unified Neutral Theory of Biediversity and Biogeography) to explain the species coexisting in community:this theory provided a new quantifiable way to measure the relations between the species diversity and the community stability.This paper analyzed the dynamics model of the species abundance in local community according to Hubbell's neutral theory based on the neutral hypothesis of the community theory,concluded that the ecological quantify relations between the species diversity and the community stability in neutral theory.Firstly,the time to extinction or mono-dominance of the species is positively related with the community size and the relative species abundance in the isolated local community from meta-community.Thus,the time to extinction or mono-dominance of the species in the local community will be prolonged and the community stability will be improved when the community diversity increased.Secondly,in the local community that open to immigration from the recta-community,the expected abundance of an arbitrary species is positively related with the local community size and its relative species abundance in the rectacommunity.So the species extinction in the meta-community will provoke the extinction of the same species in local community and finally will reduce the community diversity.The abundance variance is related with the local community size,immigration,and the relative species abundance in the recta-community.So,the community stability will be improved with the decrease of the abundance variance while the ecology isolation is weakened or the community diversity is increased.Therefore,species diversity of the meta-community is one of the factors affecting the species diversity of the local community,the decrease of the ecology isolation and the increase of the species diversity are factors affecting the community stability.
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【题目】温度与接蜂密度对管氏肿腿蜂寄生的联合干扰反应研究
【中文关键词】管氏肿腿蜂;温度;接蜂密度;干扰反应
【英文关键词】Scleroderma guant xiao et wu; Temperature; Parasitoid density; Interruption effect
【中文摘要】室内测定了不同温度与不同接蜂密度条件下对管氏肿腿蜂Scleroderma guani寄生的联合干扰反应.结果表明,肿腿蜂在温度15 ℃,接蜂量为1,2,3,4,5头时,其产卵量分别1.50±0.71,2.00±0.47,1.50±0.53,1.30±0.48,1.20±0.42,差异显著(F=3.44,P=0.02).在温度24 ℃,接蜂量为1,2,3,4,5头时,管氏肿腿蜂产卵量分别为32.80±1.61,36.40±1.43,34.60±2.01,27.50±1.96,16.40±1.51.其中温度在27 ℃条件下,接肿腿蜂1头时,管氏肿腿蜂产卵量为最高.不同温度下,管氏肿腿蜂对自身密度的干扰反应随着单位空间内密度的增加,其干扰作用增强,表现为随着寄生蜂密度增大,寄生率下降.肿腿蜂对黄粉甲蛹的寄生率在27 ℃下最高,达93.33±3.55 %.在温度24、27、30 ℃时,均以光周期为10L:14D的寄生成功率最高.在温度18和21 ℃时寄生成功率均以16L:8D条件下为最高.
【英文摘要】Combined interruption effect of the temperature and the parasitoid density on the parasitoids of the Scleroderma guani was evaluated in the laboratory.Results showed that the fecundity was low in 15 ℃,in which the difference was obvious,the fecundity was 1.50±0.71,2.00±0.47,1.50±0.53,1.3±0.48,1.20±0.42 under the inoculation of 1,2,3,4,5.The fecundity of S.guant xiao et wu was 32.80±1.62,36.40±1.43,34.60±2.01,27.50±1.96,16.40±1.5 at 24 ℃,with an inoculation of 1,2,3,4,5.So that the fecundity of S.guant xiao et wu was the highest at 24℃. On the condition of different temperatures, the in terruption effect was increasing when the densitywas increasing. The number of parasite and the parasite rate were falling with the density of parasitic bee increasing. The maximum Parasitoidismwas 93.33±3.55% under the 27℃. The successful Parasitoidism was varied with the different conditions of temperature and photoperiod combinations the maximum parasitoidsm was in the photoperiod of 10L:14D under the temperature of 24, 27, 30℃. M oreover, the parasitoidsm increased with the extend of the photoperiod under the temperature of 18 and 21℃, but the maximum parasitoidsm was in the photoperiod of 16L: 8D.
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【第一作者】王晶晶
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【题目】绿豆象在不同豆类上的生长发育及产卵选择性研究
【中文关键词】绿豆象;生长发育;豆类作物;产卵
【英文关键词】bean weevil(Callosobruchus chinensis); growth and development; legume crops; oviposition
【中文摘要】在室内25℃恒温条件下,饲养观察了绿豆象[Callosobruchus chinensis(Linn.)]对不同豆种的产卵选择性、产卵量、卵的孵化率、幼虫和成虫的生长发育历期.结果表明,供试的17种豆粒上绿豆象的着卵率均达80%以上,且不同豆种粒上产卵量差异显著(P<0.01),卵在不同豆种上的孵化率间也存在显著差异(P<0.05),卵孵化后,幼虫仅在蚕豆、绿豆、红皮豇豆、豌豆、黑豆、红小豆、大豆上可蛀入危害,蛀孔数分别为3.00±0.25,2.00±0.18,3.50±0.09,2.50±0.21,4.50±0.10,2.00±0.22,2.50±0.17蛀孔/豆,差异显著(P<0.05).在蚕豆、绿豆、红小豆、红皮豇豆、黑豆、大豆粒上的世代存活率分别为(0.63±0.12)%,(54.84±0.09)%,(44.40±0.08)%,(46.33±0.11)%,(66.88±0.10)%,(45.71±0.11)%,(21.59±0.21)%;雌虫的产卵期分别为(4.24±1.58)d,(5.10±0.22)d,(5.40±0.26)d,(5.21±1.25)d,(5.30±0.38)d,(4.63±0.41)d和(4.30±0.80)d,差异不显著(P>0.05),卵历期分别为(5.01±0.15)d,(4.30±0.05)d,(4.10±0.08)d,(5.10±0.18)d,(4.30±0.07)d,(4.20±0.14)d及(4.51±0.16)d,差异不显著(P>0.05);幼虫的平均历期分别为(33.40±4.85)d,(31.60±1.78)d,(28.22±3.56)d,(30.91±2.49)d,(27.30±1.98)d,(29.50±1.93)d及(36.70±4.97)d,差异显著(P<0.05).不同豆种上绿豆象雄虫寿命间差异不显著(P>0.05),而雌虫寿命差异显著(P>0.05).
【英文摘要】The influence of the legume varieties on the oviposition preference,growth and development of Callosobruchus chinensis(L.)was studied in laboratory under the temperature of 25℃.All the 17 legume varieties were planted in Yunnan province.The adult of the C.chinensis showed a preference of legumes for oviposition in 17 varieties of bean seeds,significant difference was found

among the oviposition seeds in the 17 varieties(P<0.01),and the adult of C.chinensis oviposited for more than 80%of the seeds.The hatchability was significantly different in the different varieties(P<0.05),the larvae only could feed on the following 7 varieties,including Vicia faba,Vigna radiate,Vigna sinensis,Pisum sativum,Vigna mungo,Vigna angularis,and Glymine max,and the average puncture hole numbers were 3.00±0.25,2.00±0.18,3.50±0.09,2.50±0.21,4.50±0.10,2.00±0.22,2.50±0.17 seed on them,respectively,and with significant difference(P<0.05).The survival rates on V.faba,V.radiate,V.angularis,V.sinensis,P.sativum,V.mungo and G.max were (0.63±0.12)%,(54.84±0.09)%,(44.40±0.08)%,(46.33±0.11)%,(66.88±0.10)%,(45.71±0.11)%,(21.59±0.21)%,respectively.The duration of oviposition was (4.24±1.58)d,(5.10±0.22)d,(5.40±0.26)d,(5.21±1.25)d,(5.30±0.38)d,(4.63±0.41)d and (4.30±0.80)d,and with no significant difference(F=2.03,P>0.05).The duration of the egg was (5.01±0.15)d,(4.30±0.05)d,(4.10±0.08)d,(5.10±0.18)d,(4.30±0.07)d,(4.20±0.14)d,(4.51±0.16)d,and with no significant difference(F=3.82,P>0.05).The average duration of the larvae was (33.40±4.85)d,(31.60±1.78)d,(28.22±3.56)d,(30.91±2.49)d,(27.30±1.98)d,(29.50±1.93)d,and (36.70±4.97)d,with no significant difference(P<0.05).the longevity of the male adults showed no significant different among the different varieties of legumes(P>0.05),but significant difference was found for the longevity of females(P>0.05).

【语种】中文
【第一作者】王燕
【通讯作者】李正跃
【期刊名称、卷期、页码】云南农业大学学报,25(1):34-39
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【学科分类】植物保护学

【题目】宗谱学群落中性理论模型及其在昆虫物种多样性评价中的应用
【中文关键词】物种多样性;中性理论;贝叶斯理论;马尔科夫链蒙特卡洛算法(MCMC);宗谱学方法;昆虫群落
【英文关键词】null
【中文摘要】物种多样性是群落的基本特征之一,群落中物种的组成、结构、发展演变及物种间的相互作用等一直是研究群落稳定性的基础和前提。群落中性理论自提出以来,在生态学界引起了广泛的重视,之后Etienne和Olff从宗谱学角度对群落物种结构的动态变化进行了分析,提出了宗谱学群落中性理论模型。本文结合贝叶斯理论和马尔科夫链蒙特卡洛(MCMC)算法对基于宗谱学的中性理论动态模型进行分析,并以2004-2005年黑光灯诱捕的鳞翅目昆虫群落结果为数据,利用该新模型参数估计方法进行验证和对比。结果表明,贝叶斯理论和MCMC算法是群落物种多样性研究中分析群落维持机制的有效途径;宗谱学群落中性理论模型为检验中性理论和参数估计提供了新的方法;新模型对昆虫群落物种多样性评价有一定价值和意义。
【英文摘要】无
【语种】中文
【第一作者】张立敏
【通讯作者】李正跃
【期刊名称、卷期、页码】动物学研究,30(S1):62-70
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【引文索引号】null
【学科分类】植物保护学

【题目】云南酸甜石榴园Malaise网诱捕昆虫群落及其季节性动态
【中文关键词】石榴园;昆虫群落;马氏网;季节性动态
【英文关键词】pomegranate orchard; insect community; Malaise trap; seasonal variation
【中文摘要】2007~2008年,以云南省建水县酸石榴园为基地,采用Malaise网诱捕器对园内昆虫群落结构进行了调查,根据节肢动物群落中物种的营养和取食关系将总群落划分为天敌亚群落、害虫亚群落、中性昆虫亚群落,利用群落多样性指标对石榴不同生育期昆虫群落结构及其动态进行了分析比较.结果表明,从2007年5月~2008年9月,共诱捕获得昆虫纲12目75科375种1708头.物种丰富度、多样性指数和均匀度分别为50.25,5.08,0.86.其中寄生性天敌有79种300头,捕食性天敌有46种162头,害虫有193种959头,中性昆虫有57种287头.害虫亚群落、天敌亚群落和中性昆虫亚群落物种丰富度分别为

27.96,20.21,9.89,多样性指数分别为4.23,4.36,3.26.天敌昆虫群落与害虫群落及中性昆虫群落相对多度呈互补关系.
【英文摘要】The community structure of insect communities in sweet-soul pomegranate orchard was surveyedby using the Malaise trap in pomegranate orchard in Jianshui county,Yunnan province,China.Results showed that,there were 1708 insects belonging to 12 orders and 75 families of insect captured in the Malaise trap from May,2007 to the September,2008.The richness and Shannon—Wiener index and Evenness index was 50.25,5.08,0.86,respectively.Among of them,there were 79 species of 300 individuals were parasitoid,there were 46 species of 162 individuals of predator,and 193 species of 959 individuals of pest insects of pomegranates.The species richness was 27.96,20.21,9.89 for pest insects,natural enemies and neutral insects,respectively,and the Shannon-Wiener index was 4.23,4.36,3.26,respectively.The abundance of the natural enemies was complementary with the pests and neutral insects in the pomegranate orchard.
【语种】中文
【第一作者】吴海波
【通讯作者】李正跃
【期刊名称、卷期、页码】云南农业大学学报,24(5):635-640
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【学科分类】植物保护学

【题目】云南元阳梯田稻作传统农业生态系统中鞘翅目昆虫多样性研究
【中文关键词】鞘翅目昆虫;梯田;帐幕诱捕器;群落多样性
【英文关键词】Coleoptera insect; Terrace; Malaiseent trap; Community diversity
【中文摘要】2007年和2008年4~10月,采用马氏帐幕诱捕器对云南元阳梯田稻田生态系统中鞘翅目昆虫进行了调查。结果表明,元阳梯田生态系统,鞘翅目昆虫有22科130种984头。物种丰富度、Shannon weaver多样性指数、均匀度和优势度指数分别为18.7,5.27,0.75,4.99。从物种多样性来看,诱捕的鞘翅目昆虫物种丰富度依次为叶甲科瓢虫科天牛科鳃金龟科丽金龟科叩甲科=步甲科象甲科负泥虫科绒金龟科拟步甲科=花金龟科。根据鞘翅目昆虫的食性,将鞘翅目昆虫分为植食性、捕食性和腐食性3类。其中捕食性鞘翅目昆虫有34种139头,其物种丰富度、Shannon Wiener指数、均匀度指数分别为6.69,4.48,0.88。植食性鞘翅目昆虫有94种843头,其物种丰富度、Shannon Wiener多样性指数、均匀度指数分别为13.80,4.70,0.72。腐食性有2种2头。根据4~10间鞘翅目昆虫的群落动态的系统聚类结果,昆虫群落种群消长分为3类,第1类为4月和8月,第2类为7,9,10月,第3类为5,6月。其中第3类的5,6月份鞘翅目昆虫群落中种群数量较高。
【英文摘要】The diversity of Coleoptera insects was invested in rice planting traditional ecosystem in Yuanyang Terrace, Yunnan, by using Malaiseent traps from April to October in 2007 and 2008. There were 130 species 22 families and 984 individuals of Coleoptera insects were trapped. The Species richness, Shannon wiener index of diversity, evenness and dominance index were 18.7,5.27,0.75,4.99, respectively. The diversity index of insect communities in the terrace with a rank of the following: Alleculidae 〉 Ceccinellidae 〉 Cerambycidae 〉 Melolonthinae 〉 Rutelinae 〉 Elateridae = Carabidae 〉 Curculionidae 〉 Crioceridae 〉 Sericcidae 〉 Tenebrionidae = Cetoniinae. Trapped coleoptera insects were phytophages, predators, saprophages, among of them, 139 individuals from 34 species were predators, the species richness, Shannon weaver index of diversity and evenness was 6.69,4.48,0.88, respectively. There are 94 species of 843 individu- als of phytophages, the species richness, Shannon wiener index of diversity, and evenness was 13.80,4.70,0.72. Moreover, 2 species of 2 individuals were saprophages. The community dynamic were clustered to 3 groups according to cluster analyses, the first group was in April and August, the second in July, September and October, the third group was in the May and Jun. The highest population was in the third group, as that from April to October throughout the rice growth season.
【语种】中文
【第一作者】杨韶松
【通讯作者】陈斌
【期刊名称、卷期、页码】西南农业学报,22(4):942-945
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【学科分类】植物保护学

【题目】苜蓿抗寒性研究进展
【中文关键词】苜蓿;抗寒性;形态特征;生理生化特征;秋眠性
【英文关键词】Alfalfa;Cold resistance;Morphology characteristics:Physiology and biochemistry char—acteristics;Fall dormancy
【中文摘要】综合近些年国内外对苜蓿抗寒性研究的概况,系统阐述了苜蓿的形态特征、生理生化特征及秋眠性与抗寒性之间的关系,并提出了一些尚待进一步研究的问题。
【英文摘要】Overview on cold resistance of alfalfa in the world in recent years,systematically describethe relationship between the morphology characteristics physiology and biochemistry characteristics,fall dormancy and cold resistance.And pose some problems need to be further investigated in this area.
【语种】中文
【第一作者】陶雅
【通讯作者】孙启忠
【期刊名称、卷期、页码】牧草与饲料, 2007,1(4):5-9.
【论文发表时间】2007-10-15 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】畜牧、兽医科学其他学科

【题目】干旱胁迫下甘蔗叶类黄酮及相关酶活性的变化
【中文关键词】甘蔗;聚乙二醇胁迫;类黄酮;苯丙氨酸解氨酶;多酚氧化酶;过氧化物酶
【英文关键词】sugarcane ; PEG stress ; flavonoids ; phenylalanine ammonialyas ; polyphenol oxidase ; peroxidase
【中文摘要】以两个抗旱性不同的甘蔗品种ROC22 和ROC16 为试材,采用聚乙二醇模拟干旱胁迫,研究了甘蔗幼苗在干旱胁迫下叶片中类黄酮含量及相关酶活性的变化。结果表明,与对照相比,10 % PEG胁迫2 h 至14 h ,耐旱性强的ROC22 品种类黄酮含量降低,耐旱性弱的ROC16 品种类黄酮含量先降后升;2 个品种幼苗叶片中苯丙氨酸解氨酶活性呈现先降低后升高的变化规律。ROC22 叶片多酚氧化酶活性呈先升后降的变化,ROC16 叶片多酚氧化酶活性下降;2 个品种甘蔗叶过氧化物酶活性持续下降。
【英文摘要】The content of flavonoids and related enzyme activities in the young plants were studied in order to analyze the effect of PEGtreatment on drought resistance of two sugarcane cultivars ROC22 and ROC16. The results indicated as follows : PEG stress could decrease the content of flavonoids in ROC22 with high drought2resistance , whereas the content of flavonoids in ROC16 with low drought2resistance showed decreasing first and increasing later. During the course of PEG stress , the phenylalanine ammonialyase activity in ROC22 and ROC16 decreased for some time but increased afterwards. The polyphenol oxidase activity showed rising first and dropping later in ROC22 but always decreasing in ROC16. The peroxidase activities in ROC22 and ROC16 decreased continuously.
【语种】中文
【第一作者】周桂
【通讯作者】李杨瑞
【期刊名称、卷期、页码】干旱地区农业研究, 2009, 27(6):185-203
【论文发表时间】2009-05-20 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】生理学

【题目】3种胡枝子开花习性的研究
【中文关键词】胡枝子;开花特性;观察
【英文关键词】Lespedeza sp.;Blooming characteristics; Observe
【中文摘要】通过对3种胡枝子开花特性观察表明:尖叶胡枝子,达乌里胡枝子和二色胡枝子单株花序数分别为805.6、277.0和548.3个;日开花高峰尖叶胡枝子出现在9:O0~10:O0,达乌里胡枝子在10:30~11:30,闭花高峰均出现在15:30~16:00,二色胡枝子开花高峰在8:00~8:30,闭花高峰在17:30~18:00。
【英文摘要】Studied the blooming characteristics 0f 3 species of Lespedeza.The results indicated thatthe infloreseences of L.hedysaroides,L.davurica and L.bicolor were relatively 805.6.277.0 and 548.3,the time of blooming climax of L.hedysaroides was

9:00~10:00 and L.davurica was10:30~ 1 1:30 every day,blooming closing time of them wasl5:30~16:00,the time of blooming climax of L.bicolor was 8:00~8:3O.and the closing time was 17:30~18:00.
【语种】中文
【第一作者】赵淑芬
【通讯作者】孙启忠
【期刊名称、卷期、页码】牧草与饲料, 2008,2(1):36-38.
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【引文索引号】null
【学科分类】畜牧、兽医科学其他学科

【题目】《南珠抛光技术规范》标准的研究与制定
【中文关键词】南珠;抛光标准;制订
【英文关键词】Chinese cultured pearl;polishing standard;establishing
【中文摘要】阐述了《南珠抛光技术规范》企业标准编制的总体思路、技术路线和标准的组成。该标准对南珠抛光的定义、机器设备、抛光材料、生产环境和工艺过程等进行了明确的规定。
【英文摘要】The general idea,technical route as well as the structure the structure in establishing the enterprise standard for technical regulations of Chinese cultured pearl polishing were expouded. The standard holds definition for Chinese cultured pearl polishing,machinery equipment,polishing material,production environment and manufacturing process.
【语种】中文
【第一作者】卢传亮
【通讯作者】卢传亮
【期刊名称、卷期、页码】现代农业科技,2010(15):29-31
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【学科分类】水产养殖学

【题目】乙烯利对聚乙二醇胁迫下甘蔗叶类黄酮及相关酶活性的影响
【中文关键词】甘蔗; 乙烯利; 聚乙二醇胁迫; 类黄酮; 苯丙氨酸解氨酶; 多酚氧化酶; 过氧化物酶
【英文关键词】sugarcane; ethephon; PEG stress; flavonoids; phenylalanine ammonialyas (PAL) ; polyphenol oxidase(PPO) ; peroxidase(POD)
【中文摘要】为探讨乙烯利对甘蔗抗旱性的影响, 以2 个抗旱性不同的甘蔗品种ROC22 和ROC16 为试材, 沙培育苗至苗期茎高约25 cm, 采用含10%聚乙二醇6000 (PEG6000) 的H oag land 营养液进行模拟干旱胁迫处理,并同时进行干旱胁迫处理条件下叶面喷施乙烯利处理, 处理不同时间段采叶样, 研究甘蔗幼苗在干旱胁迫与乙烯利处理下叶片中类黄酮含量及相关酶活性的变化。结果表明, 乙烯利处理可提高2 个品种甘蔗幼苗叶片聚乙二醇胁迫一定时期的类黄酮含量, 并使聚乙二醇胁迫处理引起的苯丙氨酸解氨酶活性降低恢复到对照水平; 乙烯利处理能诱导聚乙二醇胁迫下ROC16 品种甘蔗叶多酚氧化酶与过氧化物酶活性增强。
【英文摘要】To analyze the effect of ethephon treatment on the drought resistance of the plants, the changes of the content of f lavonoids and several related enzyme activities in sugarcane leaves were studied under drought stress and ethephon treatment to analyze the effect of ethephon on the drought resistance of sugarcane using two sugarcane cultivars ROC22 and ROC16 w ith relatively high and low droughtre sistance, which were cultivated in sand bed until their stem were about 25cm high. The plants were treated with ethephon and nutrient solution containing 10% polyethylene glycol 6000 (PEG6000) for simulat ing droughtst ress, then taking samples of leaf at different treated stages respectively . The results showed that the ethephon treatment increased the contents off lavonoids at the special time of PEG stress and altered the decreased phenylalanine ammonialy aseactivity to the control level. Moreover, the ethephont reatment significantly increased the activities of polyphenol oxidase and peroxidase in the leaves of ROC16 under PEG stress.
【语种】中文
【第一作者】周桂

【通讯作者】李杨瑞
【期刊名称、卷期、页码】华中农业大学学报, 2009, 28(4):404-408
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【学科分类】生理学

【题目】《南珠漂白技术规范》标准的研究与制订
【中文关键词】标准,制订,南珠,漂白
【英文关键词】无
【中文摘要】本文阐述了《南珠漂白技术规范》广东省地方标准的研究与制订过程。内容包含编制标准的总体思路、技术路线和标准的组成。本标准对南珠漂白工艺中的定义、试剂和工艺过程等进行了明确的规定。
【英文摘要】无
【语种】中文
【第一作者】蔡文江
【通讯作者】蔡文江
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【学科分类】水产养殖学

【题目】影响拉伸膜裹包青贮饲料品质的因素分析
【中文关键词】拉伸膜裹包;青贮品质;影响因素
【英文关键词】Round bale silage;Silage quality;Factors influencing
【中文摘要】拉伸膜裹包青贮技术是目前最先进的青贮技术之一,通过拉伸膜裹包可以调制出优质青贮料,但其产品质量也受到一些外界因素的影响,如晾晒、切碎、草捆密度、裹包层数、密封速度、添加剂、贮藏温度和贮藏期长短等。
【英文摘要】Round bale silage is a relatively new method of preserving forage.Silage baling canproduce high quality silage,but the silage quality influencing by the several factors of the environment,there are including wilting,cutting,density of bale,layers of stretch film,baling speed,additive,storage temperature and storage period.
【语种】中文
【第一作者】玉柱
【通讯作者】孙启忠
【期刊名称、卷期、页码】牧草与饲料,2008,2(2):24-27.
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【引文索引号】null
【学科分类】畜牧、兽医科学其他学科

【题目】割手密茎尖细胞有丝分裂过程中微管骨架的变化
【中文关键词】割手密; 初生增粗分生组织; 微管骨架; 有丝分裂
【英文关键词】Saccharum spontaneum ; primary thickening meristem; microtubule cytoskeleton ; mitosis
【中文摘要】利用冰冻切片法结合间接免疫荧光标记技术对割手密茎尖细胞有丝分裂过程中微管骨架的变化进行了研究。结果表明:在割手密茎尖细胞有丝分裂过程中存在4 种循序变化的典型微管列阵,即周质微管、早前期微管带、纺锤体微管及成膜体微管。在割手密初生增粗分生组织细胞中观察到的大多数是周质微管列阵,很少观察到其它3 种典型的微管列阵,这可能这是割手密茎较小的原因之一。
【英文摘要】The microtubule cytoskeleton was investigated by using cryosectioning and indirect immunofluorescence staining in the shoot apex of S accharum spontaneum. The results indicated that :there were four basic types of microtubule arrays :cortical microtubule,preprophase-band ,spindle and phragmoplast microtubule arrays. Cortical microtubule arrays were predominant in the primary thickening meristem of S. spontaneum ,while other three arrays wererarely observed. It may be one of the reasons why S.

spontaneum has a narrower stem than other cultivars.
【语种】中文
【第一作者】李志刚
【通讯作者】李志刚
【期刊名称、卷期、页码】广西植物,2009,29(4):497-501
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【引文索引类型】其他
【引文索引号】null
【学科分类】细胞生物学

【题目】糖厂酒精生产废液施用对蔗地水分、铜和氯利用及流失的影响
【中文关键词】酒精废液; 肥料资源; 水环境污染
【英文关键词】sugarcane vinasse ; fertilizer resource ; pollution of water environment
【中文摘要】为促进甘蔗酒精生产废液的资源化利用,为农作物提供有效的肥料资源及相关水肥管理模式,对比研究了甘蔗地上施用甘蔗酒精生产废液、化肥及不施肥等处理对水分、铜和氯养分吸收及流失的影响,并对施用甘蔗酒精生产废液的食品安全性和对地表水环境污染的影响进行了评价。结果表明,与化肥处理CK2 相比,甘蔗酒精生产废液的施用提高了土壤的水分利用率,降低了甘蔗中铜的含量及铜的径流流失,提高了甘蔗中氯的含量,但各处理蔗汁或径流水中的铜、氯含量或浓度远低于国家标准值。认为在该试验条件下富含有机质的甘蔗酒精生产废液在蔗地上施用,对蔗糖及地表水环境质量没有不良影响,值得推广应用。
【英文摘要】This study was conducted in a sugarcane field in order to promote vinasse application as an effective fertilizer resource and develop a mode of water and nut rient management in sugarcane fields. Three treatments were designed as follows : CK1 (no fertilizert reatment) , CK2 (chemical fertilization t reatment) , vinasse (75t/ hm2 vinasse treatment) . The effects of three treatments on soil moisture , Cu , and Cl uptakes by sugarcane and runofflosses were investigated and food safety or environmental contamination in surface runoff water was assessed. Result s showed t hat t he application of vinasse increased soil moist ure utilization rate and decreased Cu content in sugarcane and surface runoff , as compared with treatment CK2 . However , the application of vinasse increased Cl content in sugarcane and Cl contents or concentrations in sugarcane juice or runoff for all treatments were far less than GB value. It is concluded that in this experimental condition vinasse (containing much orgnic matter) application to sugarcane field decreases water and copper loss , but no serious consequence is found on quality of sucrose and surface water environment. Vinasse is suitable for sugarcane field application.
【语种】中文
【第一作者】苏天明
【通讯作者】李杨瑞
【期刊名称、卷期、页码】水土保持通报, 2009, 29(5):90-93
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【学科分类】土壤学

【题目】国内外不同苜蓿品种可溶性糖含量动态变化
【中文关键词】苜蓿;抗寒性;可溶性糖
【英文关键词】Medicago sativa;Cold resistance;Soluble sugar
【中文摘要】以国内外10个苜蓿品种为试验材料,测定不同时间、不同品种根部可溶性糖含量动态变化,研究其对抗寒能力的影响。并结合越冬率分析10个苜蓿品种抗寒能力的强弱:草原二号和龙牧803为高抗寒品种;敖汉苜蓿、肇东苜蓿、准格尔苜蓿、金皇后和润布勒苜蓿为中等抗寒品种;德宝和爱菲尼特为低抗寒品种;而Euver苜蓿抗寒能力最差,为极低抗寒品种。
【英文摘要】In this study.we determinated the dynamic change of soluble sugar in 1 0 differentvarieties of alfalfa ’S root which were obtained at diferent time,and studied its efect on cold resistance of alfalfa.then analyzed the cold—resistance ability of the 1 0 varieties of alfalfa with soluble sugar and over~wintering rate.The result showed that Caoyuan No.2 and Longmu 803 are high—cold resistance varieties;Aohan Alfalfa,Zhaodong Alfalfa,Zhungeer Alfalfa,Gold Empress and Rambler Alfalfa are middle——cold resistance varieties; Derby and Afinity are low—— cold resistance varieties; and the cold—r6sistance ability of Euver Alfalfa is the lowest one.it is a

extremely low—cold resistance varieties
【语种】中文
【第一作者】陶雅
【通讯作者】孙启忠
【期刊名称、卷期、页码】牧草与饲料, 2008,2(3):18-20.
【论文发表时间】2008-07-15 00:00:00
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【引文索引号】null
【学科分类】畜牧、兽医科学其他学科

【题目】甘蔗GA20氧化酶基因片段克隆及序列分析
【中文关键词】GA20 氧化酶; 基因克隆; 序列分析; 甘蔗
【英文关键词】GA20-oxidase; gene cloning; sequence analysis; sugarcane
【中文摘要】以甘蔗茎尖为材料, 根据其它植物的GA20 氧化酶基因(GA20-oxidase)氨基酸保守区, 设计一对简并引物。通过RT-PCR 扩增得出1 条约740 bp 大小的DNA 片段, 将其克隆至pMD18-T 载体上, 而后对重组克隆进行测序, 结果表明所获得的甘蔗GA20 氧化酶基因片段由740 碱基组成, 编码246 个氨基酸。该基因片段具有其它植物GA20 氧化酶基因中存在的保守区; 同时, 与多种单子叶植物的GA20 氧化酶基因的核苷酸和氨基酸序列的同源性在80%和75%以上。聚类分析显示, 甘蔗和玉米最先聚类, 推测在进化上具有较近的亲缘关系, 其次与高粱、结缕草聚类, 然后再与水稻聚类, 其中进化关系最远的是簇毛麦和小麦。
【英文摘要】The cDNA encoding GA20-oxidase in sugarcane with the cane tip as material was cloned and its sequence was analyzed. According to the conserved acid sequence for GA20-oxidase in other plants, a pair of degenerate oligonucleotide primers was designed. Using RT-PCR method, one cDNA fragment about 740 bp was amplified and then cloned into pMD18 -T vector. Then, it was sequenced and the result suggested that sugarcane GA20-oxidase gene was 740 bp long and encoded 246 amino acids. The cloned cDNA fragment in sugarcane had the same conserved amino acid sequences for GA20-oxidase as those in other monocotyledon plants, and shared respective homologies of more than 80% and more than 75% in the nucleotide and amino acid sequences with many other monocotyledon plants. Phylogenetic analysis showed that sugarcane was firstly clustered with maize, then with sorghum and Zoysia japonica, and then with rice. As can be deduced from the phylogenetic analysis, sugarcane was closely related with maize in evolution, farther with barley and ryegrass (Lolium perenne) and farthest with Dasypyrum villosum and wheat.
【语种】中文
【第一作者】吴建明
【通讯作者】李杨瑞
【期刊名称、卷期、页码】热带作物学报,2009,30(6):817-821
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【引文索引号】null
【学科分类】分子生物学

【题目】赤霉素诱导甘蔗节间伸长与内源激素变化的关系
【中文关键词】赤霉素; 甘蔗; 伸长; 激素
【英文关键词】gibberellin; sugarcane; elongation; hormone
【中文摘要】探讨外源赤霉素对甘蔗节间伸长的效果及其与茎尖内源激素的变化关系。试验以新台糖22 号为材料, 在伸长初期以200mg/L 浓度的赤霉素进行叶面喷施, 对照喷清水。结果表明, 赤霉素处理的株高在各个时期显著高于对照, 而且在处理后7, 14 和28d 分别比对照提高了17.32%、14.50%和8.35%, 赤霉素处理引起植株表现的高度优势一直保持到后期, 节间伸长效果主要集中在中部。赤霉素处理的GA3含量显著高于对照; ABA 含量则相反, 赤霉素处理的均显著低于对照。赤霉素处理的乙烯释放量稍低于对照, IAA 含量从第7 d 开始稍高于对照的; 赤霉素处理对ZR 含量的影响不明显。赤霉素处理的ABA/IAA 的比值显著下降, ZR/IAA 和EH/IAA 的比值也有一定程度的下降, 而提高了GA3/IAA 的比值。这说明外源赤霉素促进甘蔗节间的伸长可能主要通过调节ABA 和赤霉素含量, 其次是乙烯释放量和生长素含量, 最终达到调节节间伸长效果。
【英文摘要】The sugarcane cultivar ROC22 was treated with giberrellin to investigate the relationshipbetween internode elongation and the changes of endogenous hormone in sugarcane. The ROC22 plants were sprayed with 200mg/L of gibberellin at the early

elongation stage, with water spray as control. The results showed that the plant height at different stages was significantly higher in the gibberellin treatment than in the control, increasing by 17.32%, 14.5% and 8.35% respectively at days 7, 14 and 28 after spraying. The plants treated with gibberellin maintained taller than the control until at the late stage, and the internode elongation induced by gibberellin was mainly concentrated in the central part of the stem.The content of GA3 in the stem tip was significantly higher in the gibberellin treatment than in the control,whereas opposite changes were observed for the content of ABA, which decreased by 4.94% in the gibberellin treatment and was significantly lower than that in the control. The ethylene production was slightly lower in the gibberellin treatment than in the control, while the content of IAA was slightly higher in the gibberellin treatment since the 7th day after treatment, and the content of ZR were not significant between the control and the gibberellin treatment. After gibberellin treatment, the ratio of ABA / IAA was significantly lower than that of the control, and the ratios of ZR/ IAA and EH/ IAA were a bit lower thanthose of the control, but the ratio of GA3 / IAA was increased in the treatment than in the control. These results suggest that the internode elongation might mainly be regulated by the contents of ABA and gibberellin, followed by the content of IAA and ethylene releasing rate in sugarcane.

【语种】中文
【第一作者】吴建明
【通讯作者】李杨瑞
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【引文索引号】null
【学科分类】生理学

【题目】Overexpression of SGR Results in Oxidative Stress and Lesion-mimic Cell Death in Rice Seedlings
【中文关键词】永绿色基因,氧化胁迫,细胞死亡
【英文关键词】Rice Stay-green, Oxidative Stress; Cell death
【中文摘要】超表达SGR1基因能够通过促进叶绿素及其代谢产物积累造成活性氧积累形成,并诱导水稻幼苗叶片产生类病斑的细胞死亡表型。并通过Ov-SGR/alb株系,自然光周期,全黑暗(黄花苗)和全光照处理,确定该细胞死亡表型依赖于叶绿素和光照。无叶绿素(alb)的Ov-SGR株系和黄花苗没有死亡表型,而全光照加速叶片死亡。通过水稻芯片分析发现ROS调节基因和防御基因的特异表达,说明Ov-SGR水稻材料是水稻幼苗活性氧响应和细胞死亡的一个很好的研究材料
【英文摘要】It is thought that the Stay Green Rice (SGR) gene is involved in the disaggregation of the light harvesting complex and in the subsequent breakdown of chlorophyll and apo-protein during senescence. In this study, we found that overexpression of SGR (Ov-SGR) resulted in the generation of singlet oxygen and other reactive oxygen species and produced a chlorophyll-dependent regional cell death phenotype on leaves of rice seedlings. Transcriptome analyses using Affymetrix Rice GeneChips revealed that Ov-SGR rice seedlings exhibited a number of signs of singlet oxygen response. The genes and their associated biochemical pathways identified provide an insight into how rice plants respond to singlet oxygen at the molecular and physiologic level.
【语种】英文
【第一作者】姜华武
【通讯作者】吴国江
【期刊名称、卷期、页码】Journal of Integrative Plant Biology 2011, 53 (5): 375 – 387
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【学科分类】植物学

【题目】甘蔗酒精废液对甘蔗农艺性状的影响机理研究
【中文关键词】甘蔗;酒精废液;农艺性状;机理
【英文关键词】Sugarcane; Vinasse; Agronomic characters; Mechanism
【中文摘要】试验研究甘蔗酒精废液的施用对甘蔗农艺性状的影响机理。结果表明,酒精废液的施用:(1)降低了甘蔗的发芽率,与CK1 和CK2 相比,处理75t 和105t 分别达到了显著和极显著水平;(2)提高了甘蔗的分蘖率,其中处理75t 与CK1 相比达到了显著水平;(3)综合起来,酒精废液处理的甘蔗总苗数还有所提高,但处理间不显著;(4)另外,酒精废液的施用降低了甘蔗十月份的株高;(5)各处理的茎径都比CK1 的大,75t 处理的茎径大于CK2,但十月份的株高和茎径各处理间都没有达到显著水

平。各处理的甘蔗出苗率与施肥处理后土壤有效Cu和Cl- 含量呈显著负相关;分蘖率与土壤NO3- - N、胡敏酸含量呈显著正相关;总苗数与土壤胡敏酸含量呈显著正相关;株高与NO3- - N、土壤胡敏酸和有效Cu 含量分别呈显著和极显著负相关。说明土壤NO3- - N、胡敏酸、有效Cu、Cl- 在甘蔗出苗、分蘖和生长中分别起到了关键性的作用。

【英文摘要】The experiment was designed to study the effects of vinasse on the agronomic characters of sugarcane. The results showed that the sugarcane vinasse brought about the effects to sugarcane as following:(1) The vinasse reduced the germination percentage compared with CK1 and CK2,the germination percentages in the treatments applied 75t and 105t were significantly or extremely significantly lower than those in CK1 and CK2 respectively;(2) It enhanced the percentage of sugarcane tillering, and that of the treatment with 75t was higher than that of CK1 obviously. (3)The total number of sugarcane seedling little increased. (4) It reduced the height of sugarcane in October. (5) Stem diameters of every treatment were higher than that of CK1, and that of treatment with 75t was higher than that of CK2, but the sugarcane height and stem diameter between 5 treatments were no significant difference.After fertilization, the germination percentage was correlated negatively with the content of available Cu and Cl- in the soil. The percentage of tillering was correlated positively with the content of NO3-- N and HA in the soil obviously. Total seedling number was correlated positively with the content of HA clearly. The height of sugarcane was correlated negatively with the contentof NO3-- N, HA and Cu in the soil. So the contents of NO3-- N, HA, available Cu, Cl- in soil played a key role during the period of germination, tillering and growth.

【语种】中文

【第一作者】苏天明

【通讯作者】李杨瑞

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【学科分类】农艺学

【题目】绿僵菌的研究现状及进展

【中文关键词】绿僵菌;分类;分离鉴定;生物学特性;应用;研究进展

【英文关键词】Metarhizium spp.; classification; separation; identification; biological characteristics; application

【中文摘要】介绍了近年来国内外在绿僵菌的分类、分离与鉴定方法、生物学特性和应用等方面的研究进展,指出绿僵菌在分子系统学研究、基因遗传育种、剂型的改进和扩大防治对象上已取得较大的进展,但与Bt等杀虫微生物的研究相比还有较大差距。提出应加强对高毒力绿僵菌菌株的筛选;在防治害虫时尽量减少湿度、紫外线以及土壤微生物和土壤物理、化学性质等对绿僵菌防效的影响,以提高绿僵菌对靶标害虫的防治效果。

【英文摘要】The present study summarizes the researches on classification, separation and identification method, biological characteristics and applications of Metarhizium spp., at China and abroad during recent years. Recently, the molecular systemic research, genic inheritance breeding, improving dosage formulation and enlarging control objects in Metarhizium spp. made a great progress, but there is still a large gap compared to that of insecticidal microorganism such as Bt. Therefore, the screening of highly toxic strain of Metarhizium spp. should be explored, and the influence of humidity,ultra-violet radiations, soil microorganism, and soil physical and chemical characteristics affecting Metarhizium spp.should be studied to enhance the controlling effects of Metarhizium spp.on target insect pests.

【语种】中文

【第一作者】丁苗苗

【通讯作者】李杨瑞

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【学科分类】微生物学

【题目】Knockdown of OsPAO and OsRCCR1 cause different plant death phenotypes in rice

【中文关键词】细胞死亡,叶绿素降解,Pheophorbide a oxygenase, Red chlorophyll catabolite reductase, 水稻

【英文关键词】Cell death, Chlorophyll degradation, Pheophorbide a oxygenase, Red chlorophyll catabolite reductase, Rice
【中文摘要】水稻基因组中有2个RCCR基因和一个PAO基因,其中RCCR2基因在各组织中的表达水平都很低。基因表达分析发现RCCR1基因表达受到暗诱导的衰老和自然衰老显著上调。PAO基因表达受到暗诱导衰老诱导显著上调,也受到自然衰老上调。PAO基因被干涉后植株从老叶开始出现死亡症状,有大量有毒叶绿素降解产物Pheide a积累和活性氧的积累,植株不能存活,不能完成生活史;RCCR1基因干涉后,植株三叶期开始从老叶开始出现坏死斑点症状,叶片提前死亡,但是植株可以存活。
【英文摘要】It is thought that the Stay Green Rice (SGR) gene is involved in the disaggregation of the light harvesting complex and in the subsequent breakdown of chlorophyll and apo-protein during senescence. In this study, we found that overexpression of SGR (Ov-SGR) resulted in the generation of singlet oxygen and other reactive oxygen species and produced a chlorophyll-dependent regional cell death phenotype on leaves of rice seedlings. Transcriptome analyses using Affymetrix Rice GeneChips revealed that Ov-SGR rice seedlings exhibited a number of signs of singlet oxygen response. The genes and their associated biochemical pathways identified provide an insight into how rice plants respond to singlet oxygen at the molecular and physiologic level.
【语种】英文
【第一作者】唐永严
【通讯作者】姜华武
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【学科分类】植物学

【题目】灯光诱杀蔗根土天牛成虫试验初报
【中文关键词】蔗根土天牛;灯光诱杀;防治试验
【英文关键词】Dorysthenes granulosus; trapping and killing by light; control
【中文摘要】2006-2007年,利用频振式杀虫灯和高压汞灯对蔗根土天牛成虫进行田间诱捕试验。结果表明,蔗根土天牛成虫出土时期比较集中在4-6月,不同年份不同气温出土时期略有差异,气温高的年份出土时期提前;蔗根土天牛成虫在19:00-21:00时段活动频繁,扑灯率较高;成虫对光源选择不严格,但跟光源强弱有关。
【英文摘要】The present experiment was conducted to study the effects of frequency vibration-killing lamp on trapping and killing the adults of Dorysthenes granulosus during the whole period of adult growth in 2006-2007. The results showed that the adults of Dorysthenes granulosus came out of soil concentrating from April to June, and has a little difference in different years when the temperature are varied, and would be ahead of time in high-temperature years. It was found that the activity of Dorysthenes granulosus adults at 19:00-21:00 were in high frequend and had a higher rate of flying towards lights. It was found that the adults had no strict selection for the source of light but there was correlation with the strength or weakness of light source.
【语种】中文
【第一作者】于永浩
【通讯作者】于永浩
【期刊名称、卷期、页码】广西农业科学, 2009, 40(12):1552-1555
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【学科分类】植物保护学

【题目】Molecular cloning and function analysis of the stay green gene in rice
【中文关键词】水稻, 永绿色基因, 叶绿素降解, 类囊体, 衰老
【英文关键词】Oryza sativa L., stay green, Chl breakdown, thylakoid, senescence.
【中文摘要】本课题确定了水稻永绿色突变体(stay-green rice1, sgr1)是不维持高光合作用的“非功能型永绿色突变体”类型。即水稻叶片的衰老,虽然叶绿素水平变化不大,但是光合作用速度与正常水稻一样同步下降。通过图位克隆的方法确定了突变基因位于水稻的第九条染色体上,由单碱基突变导致了一个保守氨基酸突变。并通过免疫杂交方式确定蛋白产物定位于叶绿体膜。启动子接GUS基因转基因水稻分析表明SGR1基因在水稻各组织都有表达。并通过(半)定量RT-PCR方法确定该基因的表达受衰老(暗诱导衰老和自然衰老)促进,并受植物激素ABA促进而受细胞分裂素的抑制,而且还受低温和

伤害促进表达。显微结构通过比较发现,在衰老过程中突变体类囊体的解体和色素-蛋白复合体的解离受到阻滞,叶绿素降解缓慢;而超表达该基因则导致水稻叶片类囊体基粒片层减少,同时光系统I, II相关蛋白含量和叶绿素含量降低。说明该基因的功能是促进衰老叶片光合膜上色素-蛋白的解体,促进蛋白和叶绿素的分解代谢,从而促进氮素的转移和再利用

【英文摘要】Chloroplasts undergo drastic morphological and physiological changes during senescence with a visible symptom of chlorophyll (Chl) degradation. A stay green mutant was identified and then isolated from the japonica rice (Oryza sativa) cv. Huazhiwu by gamma-ray irradiation. The stay green mutant was characterized by Chl retention, stable Chl-protein complexes, and stable thylakoid membrane structures, but lost its photosynthetic competence during senescence. The gene, designated Stay Green Rice (SGR), was cloned by a positional cloning strategy encoding an ancient protein containing a putative chloroplast transit peptide. SGR protein was found in both soluble and thylakoid membranes in rice. SGR, like the gene for pheophorbide a oxygenase (PaO), was constitutively expressed, but was upregulated by dark-induced senescence in rice leaves. Senescence-induced expression of SGR and PaO was enhanced by ABA, but inhibited by cytokinin. Overexpression of SGR reduced the number of lamellae in the grana thylakoids and reduced the Chl content of normally growing leaves. This indicates that upregulation of SGR increases Chl breakdown during senescence in rice. A small quantity of chlorophyllide a accumulated in sgr leaves, but this also accumulated in wild-type rice leaves during senescence. Some pheophorbide a was detected in sgr leaves in the dark. According to these observations, we propose that SGR may be involved in regulating or taking part in the activity of PaO, and then may influence Chl breakdown and degradation of pigment-protein complex.

【语种】英文

【第一作者】姜华武

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【学科分类】植物学

【题目】蔗田农业废弃物资源化利用对土壤养分的影响

【中文关键词】甘蔗:蔗叶还田;土壤肥力

【英文关键词】Sugarcane; Cane leave residue return to the field; Soil fertility

【中文摘要】采用连续多年观察和跟踪检测的方法,对广西甘蔗研究所试验农场经过连续9 年机械粉碎蔗叶还田后定点检测土壤的有机质含量及氮、磷、钾三大元素含量的变化,研究蔗叶还田对土壤肥力的影响,养分量化变化趋势,对产量的贡献。跟踪测试验结果表明,3 个品种半干叶片叶茎率平均为14.6%, 初步估测每公顷残留氮磷钾总量为36.60kg、3.75kg 和17.25kg。土壤有机质含量平均提高了3.32g/kg,折合每年提高0.42g/kg,相当于每年每公顷蔗地净递增土壤有机质含量1245kg。氮、磷、钾三大元素中,增加幅度最大的是钾,土壤全钾提高0.408 个百分点,增幅达到43.3%相对值;虽然土壤全氮绝对值含量提高不多,但速效氮含量提高了28.87mg/kg,占相对值为31.9%,说明供氮能力大大提高;全磷和速效磷变化水平都较低,速效磷只提高了5.97mg/kg,占相对值为16.7%。蔗叶还田除了当造可获得180~210元/hm2 的经济效益之外,更重要的还有使土壤环境进入良性的生态循环,既可以获得增产,提高经济效益,降低生产成本,又可以减少对矿物资源的消耗,具有多重的良好社会效益。

【英文摘要】Effects of leaving cane residues to the cane field after harvested were studied as the scientific basis and technology to establish Guangxi sugarcane favorable soil ecology circle. By 9 years continuously tracking testing on content change of organic matter, nitrogen, phosphorus and potassium were determined in Guangxi Sugarcane Research Institute Farm field in where cane leave residues were put on the land by mechanical roll crush. The results showed that the average leave-stem rate with semi-dried of three varieties was 14.6%, andresidues of nitrogen phosphorus and potassium were 36.60 kg, 3.75 kg, and 17.25 kg per hectare. Content oforganic matter in the cane field was increased by 3.32 g/kg, amount to 0.42 g/kg and 1245 kg/ha increasedyearly. The total potassium was increased by 0.408 percentages, as 43.3% maximum change among three elements. Although total nitrogen was only slight variations in content, the available nitrogen was increased by 28.87 mg/kg, as 31.9% changed relatively. Both of total and available phosphorus showed slight variations. 9 years practice of leaving residues to the cane field after harvested manifested evident effects of soil more and more fertilizing, even if continuous cane cropping. In addition, 180 -210 yuan (RMB) per hectare economic benefit earned, the favorable soil ecology circle was built, of which should be increased output, decreased cost and mineral consumption.

【语种】中文

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【期刊名称、卷期、页码】中国糖料,2010,(1):1-4
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【学科分类】土壤学

【题目】赤霉素处理对甘蔗节间伸长及产质量的影响
【中文关键词】甘蔗;赤霉素;产质量;影响
【英文关键词】Sugarcane; Gibberellin; Yield and quality; Effect
【中文摘要】以甘蔗品种新台糖22 号为试验材料,通过智能温室桶栽和大田栽培,在伸长初期以200mg/L GA3 进行叶面喷施处理,对照喷清水,研究GA3处理后对甘蔗节间伸长及产质量产生的效应。结果表明:(1)GA3处理后的株高在各个时期均显著高于对照;中部茎的长度得到显著提高,上、下部茎的长度差异不明显。(2)GA3处理后茎粗均稍有下降;单茎重和产量得到显著提高。(3)GA3处理后甘蔗蔗糖分得到提高;而还原糖下降;重力纯度、纤维分、锤度和转光度均有不同程度的提高。由此可说明,GA3处理主要促进甘蔗茎伸长,通过增加茎长和单茎重来提高产量;甘蔗蔗糖分主要集中在茎部,而茎长得到提高后蔗糖分也得到提高。
【英文摘要】The variety ROC22 was employed to investigate the internode elongation of sugarcane and effect of the yield and quality by the cultivation of barreled and field, and the plants were sprayed with 200mg/L gibberellin (GA3) at early elongation stage while spaying water as the control. The results showed that: (1) the plant height of the gibberellin treatment at different stages was significantly higher than that of the control, and the internode elongation effect mainly took place in the central stem, the upper and basilar stems was nosignificant difference in the gibberellin treatment than and the control. (2) The stem diameter was slightly decreased; both single stem weight and yield were significantly increased in GA3 treatment. (3) The sugar content was increased; and reducing sugar was decreased; gravity purity, fiber content, Brix and polarimeter reading in juice were a little increased, but the differences were not significant in GA3 treatment. There are, the yieldincreasing due to increasing the stem length and single stem weight in GA3 treatment; The sugar concentrated in the stems, with the stem length increasing the sugar content improved in GA3 treatment.
【语种】中文
【第一作者】吴建明
【通讯作者】李杨瑞
【期刊名称、卷期、页码】中国糖料,2010,(4):24-26
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【学科分类】生理学

【题目】低温胁迫下甘蔗抗寒相关基因的cDNA2SCOT差异显示
【中文关键词】甘蔗 cDNA2SCOT 差异显示
【英文关键词】Sugarcane cDNA2SCOT Differential disp lay
【中文摘要】为探寻甘蔗在低温协迫下相关基因表达差异的分子基础,探索cDNA2SCOT差异显示的可行性,选用了桂糖28号(抗寒性强)和新台糖22号(抗寒性弱)两个甘蔗品种,分别构建了低温处理与对照的RNA混合池,利用cDNA2SCOT法进行了差异显示研究。102条SCOT引物扩增出600多条带,长度在100 - 1 800 bp之间。选择其中7条差异片段(TDF) ,进行回收、克隆和测序。结果表明,利用SCOT方法可以对甘蔗cDNA混合池进行差异显示研究,两个甘蔗品种在低温下有部分相同的基因表达, 5个TDF分别与脱水素、半胱氨酸型肽酶、多胺氧化酶、C4磷酸羧化酶和过氧化氢酶基因具有很高的同源性,只在抗寒品种中稳定出现的2个TDF功能未知,可能与甘蔗的抗寒基因表达相关。
【英文摘要】To exp lore the molecularmechanism of the differential exp ression in sugarcane under low temperature stress and demonstrate the feasibility of cDNA2SCOT for differential disp lay, 2 sugarcane varieties of GT28 (high cold resistance) and ROC22 (low cold resistance) were used for constructing the RNA pools of cold treatment and control. SCOTmarkerswere used to analyze the different cDNA pools transcribed from the RNA pools. 600 amp lified bandswith length of 100 - 1 800 bp were obtained with 102 SCOT primers. 7 (transcrip ts derived fragments) TDFs were sorted out, cloned and sequenced. The results indicated that cDNA pools with SCOTmarker could be used for differential disp lay in sugarcane under low temperature stress. Sequence analysis revealed that 5 TDFs were significantly homologous in nucleotide sequence with dehydrin, cysteinetype endopep tidase, polyamine oxidase, C4

phosphoenolpyruvatecarboxylase and catalase. The other 2 TDFs ′ functionswere still unknown,which may be related to the cold resistant gene exp ression in sugarcane.
【语种】中文
【第一作者】陈香玲
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【题目】不同种植模式蔗茎伸长特性分析
【中文关键词】蔗茎伸长; 种植模式; Logistic 方程
【英文关键词】sugarcane stem elongation; plant pattern; logistic equation
【中文摘要】在大田条件下,以甘蔗品种新台糖22 为试验材料,采用Logistic 方程拟合了窄行宽株等行距、宽行窄株等行距、宽窄行窄株距和宽窄行宽株距4 种种植模式下蔗茎的伸长特性。结果表明:(1)Logistic 方程能够可靠的估计不同种植模式蔗茎伸长的进程。(2)不同种植模式蔗茎伸长的潜力值存在一定的差异,以宽窄行窄株距种植模式最大,且该差异的产生体现在蔗茎伸长持续时间或伸长速率上。(3)不同种植模式蔗伸长快增期的持续时间最短,但贡献率最大。因此,选择合理的种植模式和加强快增期的田间管理对蔗茎伸长具有重要的意义。
【英文摘要】Sugarcane stem elongation characters of cv. ROC 22 were analyzed by logistic equation in ‘ Ton-Sucrose Field ’ under 4 planting patterns,narrow row & broad plant, broad row & narrow plant, broad-narrow row & broad plant and broadnarrow row & narrow plant. And the results were shown as followed. (1)Sugarcane stem elongation processes in ‘ Ton-Sucrose Field ’ under 4 planting patterns could be reliably estimated by Logistic Equation. (2) There was different stem elongation potential among 4 planting patterns, of which the broad-narrow row & narrow plant pattern was the highest; and the difference came from elongation duration and elongation speed. (3)For all patterns, duration of Fast-increasing Period of stem elongation was the shortest, while its contribution was the highest. Therefore, appropriate plant pattern and good management in Fast -increasing Period is important for stem elongation.
【语种】中文
【第一作者】陈超君
【通讯作者】陈超君
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【学科分类】农艺学

【题目】水稻永绿色基因对氮碳代谢的影响
【中文关键词】缺氮处理;氮再利用;衰老;水稻
【英文关键词】Nitrogen deficiency treatment; N remobilization; senescence; rice
【中文摘要】永绿色基因 (Stay-green Rice,SGR)作用于叶绿体类囊体上色素-蛋白复合体的解离,进而加速叶绿素和色素结合蛋白的降解。本文研究了永绿色基因 (Stay-green Rice,SGR) 突变和超表达对水稻叶片氮碳代谢的影响。结果表明,在正常生长条件下,SGR基因超表达降低了水稻叶片可溶性蛋白、叶绿素及淀粉的含量,但增加了可溶性糖和游离氨基酸含量,并提高了谷氨酰胺合成酶活性 (GS) 和谷氨酸合成酶活性 (GOGAT)。SGR基因突变增加水稻叶片淀粉和可溶性蛋白质含量和硝酸还原酶 (NR) 活性。在缺氮条件下,SGR基因超表达叶片各生理指标的变化趋势与野生型一致,但是SGR基因突变体叶片中淀粉含量呈先降低后升高的趋势。本研究结果说明,SGR蛋白水平对色素-蛋白复合体含量的影响改变了水稻叶片碳氮代谢的部分特性。
【英文摘要】This study analyzed the effects of the Stay-Green Rice gene (SGR) overexpression and mutation on carbon and nitrogen metabolism in rice. The results showed that overexpression of SGR reduced the content of soluble protein, chlorophyll and starch, but improved the content of soluble sugar and free amino acid and the activities of glutamine synthetase (GS) and glutamate synthetase (GOGAT) under normal growth condition in rice leaves. However, mutation in SGR increased the content of starch and soluble protein and improved nitrate reductase (NR) activity. Under nitrogen deficiency treatment, the change tendency of physiology

parameters in SGR overexpression rice leaves was in consistent with wild-type rice, but the starch content in SGR mutation rice showed first decreasing, then increasing. These results indicated that increasing the expression of SGR promoted the nitrogen remobilization and amino turnover in rice leaves, whereas mutation in SGR promoted nitrogen assimilation and improved soluble protein content and starch cumulant.

【语种】中文
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【通讯作者】姜华武
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【学科分类】植物学

【题目】水稻永绿色基因对类囊体蛋白降解的影响
【中文关键词】蛋白印迹杂交;类囊体蛋白;衰老;水稻
【英文关键词】Protein immunoblot; Thylakoid; proteins degradation; senescence; rice
【中文摘要】本研究应用蛋白印迹杂交技术分析了永绿色基因(Stay-green Rice, SGR)突变和超表达对水稻叶片类囊体蛋白质降解的影响。结果表明在正常生长条件下,SGR基因超表达不仅降低了类囊体光系统II(PSII)中蛋白质的含量,也降低了光系统I(PSI)和电子传递链等蛋白质的含量。暗诱导衰老处理时,SGR基因突变延缓光系统I和光系统II蛋白降解,对电子传递相关蛋白的降解没有影响。在缺氮胁迫条件下,SGR基因超表达加快了类囊体PSII 和PSI蛋白降解,而SGR基因突变也延缓类囊体蛋白的降解。本研究结果说明增加SGR的表达能够促进类囊体PSI,PSII和光合电子传递链蛋白质的降解。同时进一步证明SGR蛋白在水稻叶片衰老过程中氮素的再利用方面具有重要作用。
【英文摘要】This study analyzed the effects of the Stay-Rreen Rice gene (SGR) on thylakoid proteins degradation in rice leaves via protein immunoblot technology. The results showed that overexpression of SGR reduced the level of proteins in chloroplast photosystem II (PSII), as well as in PSI and electron transport chain under normal growth condition. During dark induction senescence, mutation in SGR delayed the degradation of PSII and PSI proteins, but had no effects on the electron transport chain related proteins. Under nitrogen stress, overexpression of SGR promoted thylakoid proteins degradation, whereas mutation in SGR delayed thylakoid proteins degradation. These results indicated that increasing the expression of SGR promote the degradation of thylakoid proteins in both photosystem and electron transport chain. It suggested that SGR protein played an important role in nitrogen remobilization during rice leaves senescence.

【语种】中文
【第一作者】戎红
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【题目】水分胁迫对甘蔗根系蛋白质差异表达的影响
【中文关键词】甘蔗; 根; 水分胁迫; 差异蛋白; SDS PAGE
【英文关键词】Sugarcane; Roots; Drought stress; Differential expression proteins; SDS PAGE
【中文摘要】从蛋白质角度对水分胁迫下甘蔗苗期根系蛋白质SDS PAGE 电泳图谱的变化进行研究, 以揭示水分胁迫下甘蔗苗期根系蛋白质的表达差异。甘蔗品种新台糖16号砂培育苗至苗期茎高约25 cm 进行处理, 将幼苗根系放入含100 g /L聚乙二醇6000的H oag land营养液中进行模拟干旱胁迫处理, 处理不同时间段采取根样品, SDS PAGE 电泳分析法探讨水分胁迫对供试甘蔗品种根系蛋白质变化与水分胁迫强度的关系。与对照相比, 在水分胁迫处理的24 h内, 稳定出现的新诱导合成蛋白条带分子量为14. 2KDa蛋白; 对胁迫响应最快的是81. 7和52. 6 KDa蛋白条带, 胁迫开始2 h就显著下调; 而33. 8 KDa蛋白条带在胁迫后相当长时间保持稳定, 后期才显著上调; 60. 3、26. 1、16. 2KD a蛋白条带胁迫后期变化活跃; PEG 胁迫5 h 处理蛋白质条带变化最大, 既有新增蛋白条带(88. 7、65. 9、31. 9、14. 2 KDa)与消失蛋白条带(64. 9 KDa) , 又有上调表达蛋白条带(60. 3 KDa)与下调表达蛋白条带(81. 7、52. 6、26. 1 KDa)。甘蔗根系蛋白质在响应PEG 胁迫的基因表达调

控中扮演重要角色, 上述蛋白条带的变化可能与甘蔗水分胁迫密切相关。
【英文摘要】The present study was carried out to investigate the effect of drought stress on the differen-tial protein expression in sugarcane roots by SDS PAGE. The plants of the sugarcane variety ROC16w ere used as the experim en talm aterials, which were cultivated in sand bed. Sugarcane plants were treated with nutrient solution containing 10% (W /V) polyethy lene glycol 6000 (PEG 6000) for simulating drought stress at their 25cm height. The proteins from different samples were separated by SDS-PAGE. Compared with the control the stable existence of the new prote in band was 14.2 KD a protein during 24 h PEG stress, which may be the main new regulatory protein responding drought stress. The fastest responding protein bands were 81.7 and 52.6KDa ones, which decreased markedly at the early PEG stress stage of 2h. But the relat- ive content of 33.8KDa protein b and remained stable for a long time before declining at the late PEG stressstage. The relative content of 60.3, 26.1 and 16.2 KDa protein bands changed actively during the late PEG stress. The protein bands showed themost at 5h ofPEG stress. Four new prote in bands (88.7, 65.9, 31.9 and 14.2KDa) were found and a protein band (64.9KDa) was disappeared. Mean while, the protein bands of 81.7, 52.6 and 26.1KDa were down regulated while the 60.3 KDa protein band was up-regulated markedly in roots at 5h of PEG stress. Proteins in sugarcane roots play an important role in gene expression and regulation, and their changes should be related with the occurrence of drought stress.
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【第一作者】周桂
【通讯作者】李杨瑞
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【学科分类】分子生物学

【题目】利用SSR标记与毛细管电泳对甘蔗属进行的遗传分析
【中文关键词】简单重复序列(SSR) ; 甘蔗; 毛细管电泳
【英文关键词】Simple Sequence Repeat s(SSR) ; sugarcane ; capillary electrophoresis
【中文摘要】为探讨甘蔗属内不同种之间的遗传多样性,利用SSR 标记与毛细管电泳技术,对来自甘蔗属3个不同种的12个材料19 对引物进行检测,共检测到229个DNA 多态性条带,19对引物扩增的DNA 条带范围集中在100~260bp之间。12个甘蔗材料的Jaccard 遗传相似度,最小0.09 ,最大0.65 ,平均为0.26 。通过遗传相似性系数分析,UPGMA 聚类图内12个甘蔗材料可分为两个群,三个割手密种材料分为一个亚群,甘蔗栽培品种与甘蔗热带种合为一个亚群。结果表明:热带种比割手密种具有和甘蔗栽培品种更亲近的遗传关系;SSR 分子标记与毛细管技术结合,相比别的分子标记技术或电泳技术,具有更准确、简便、自动化等优点。
【英文摘要】This study was conducted to assess the genetic diversity amongst 12S accharum clones from 3 species using 19 SSR markers and capillary electrophoresis (CE) . A total of 229 DNA bands were generated showing a size range between 100 and 260 bp. Based on the SSR data ,the Jaccard ’s genetic similarity coefficient s ranged from a minimum of 0. 09 between CP7221210 (cultivar) and In812142(S. spontaneum) to a maximum 0. 65 between GX87 (S. spontaneum) to GX86 (S. spontaneum) . In the dendrogram using UPGMA method ,the 12S accharum clones were clustered into two groups. The three S. spontaneum clones formed a single group ,while the three S. of f icinarum clones clus2tered with the six cultivars ,which demonstrated that S. of f icinarum had a closer genetic relationship with cultivars than S. spontaneum. The SSR markers data generated based on capillary electrophoresis are more accurate ,simpler and automatic as compared to other molecular markers or electrophoresis.
【语种】中文
【第一作者】梁 俊
【通讯作者】李杨瑞
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【学科分类】遗传学

【题目】新疆主要栽培杏品种制汁相关性状评价

【中文关键词】杏;果汁;性状;评价
【英文关键词】Apricot;Juice;Characteristics;Evaluation
【中文摘要】为探讨新疆南疆地区加工用杏品种制汁相关性状的评价标准,以轮台国家果树资源圃的库尔勒托永、小白杏、赛买提等18 个品种果实为试材,比较南疆加工用杏品种制汁相关性状,结果显示18个杏品种平均单果质量为14.4~52 g,出汁率为44.6%~62%,可溶性固形物含量为13.2%~25.4%,可滴定酸含量为0.67%~1.59%,维生素C 含量为26.7~146.5 mg/kg,糖酸比为4.35~17.09,可溶性糖含量为6.64%~15.52% 。以目前生产中仅15%~25%的品种能达到的性状为特级指标,我们提出南疆制汁用杏品种的特级标准为:单果质量≥40 g、出汁率≥58%、可溶性固形物含量≥21%、维生素C 含量≥100 mg/kg、糖酸比达到8.31~12.19 且可溶性糖含量为7.81%~15.11%。
【英文摘要】In order to evaluate the juicing characteristics of the leading apricot cultivars cultivated in Xinjiang, 18 apricot cultivars including Kuerletuoyong, Xiaobaixing and Saimaiti from the State Fruit Tree Germplasm Repository located at Luntai were evaluated. Results showed that their average fruit weight were 14.4~52.0 g, juicing ratio were 44.6%~62%, soluble solids content (SSC)were 13.2%~25.4%, titrable acid content (TAC)were 0.67%~1.59%, Vc content were 26.7~146.5 mg/kg, the ratio of soluble sugar content to titrable acid content ranged from 4.35 to 17.09, and soluble sugar content was between 6.64% and 15.52 %. Based on our evaluation results we would suggested that for juice processing the cultivar should have the average fruit mass≥40 g, juice ratio≥58%, SSC≥21%, Vc≥100 mg/kg, the ratio of soluble sugar content to titrable acid content ranged from8.31 to 12, and soluble sugar content was between 7.81% and 15.11 %.
【语种】中文
【第一作者】冯建荣
【通讯作者】冯建荣
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【学科分类】园艺学

【题目】新疆主要栽培杏品种香气成分的研究
【中文关键词】杏;香味物质;气相色谱—质谱
【英文关键词】ap ricot;aromatic substances;GC - MS
【中文摘要】采用自动顶空萃取和气相色谱—质谱联用技术(GC - MS) 分析了新疆主要栽培杏品种库车小白杏等14个杏品种的香味成分。结果显示:一共检测到208种香味物质,其中包括酯类物质80种、醛类物质25种、酮类物质21种、醇类物质39种、烯烃类物质27种、酸类物质1种以及15种含量较低的其他物质;乙酸丙酯、乙酸- 3 - 甲基- 1 - 丁酯、(Z) - 乙酸- 3 - 己烯- 1 - 醇酯、D - 柠檬烯、β - 芳樟醇、己醛、乙酸己酯、乙酸丁酯、β - 月桂烯、丁酸乙酯、β - 顺式- 罗勒烯等11种香味物质为参试品种的主要香味物质;不同品种的挥发性香味物质组分及其相对含量不尽相同,分属于华北和中亚种群的不同品种间无明显差异。
【英文摘要】Volatile constituents of main apricot cultivars in Xinjiang were studied to provide basic information for production and breeding. The aromatic substances in the fruits of 14 apricot cultivars, including Kuche Xiaobaixing, Guoxiyul ü ke, Kuerle Tuoyong, Dayoubai, Heiyexing, Danxing, Kuche Tuoyong, Kuikep iman, Dayoujia, Saimaiti, Kumaiti, Luotuohuang, Mulongxing and Ake Tuoyong, were identified by using headspace solid phase micro extraction and GC - MS. Results showed that 208 aromatic components were identified, including 80 kinds of esters, 25 kinds of aldehydes, 21 kinds of ketones, 39 kinds of alcohols, 27 kinds of alkyl substances, one kind of acid substances and 15 kinds of other substances. The main volatile constituents were propyl acetate, 3-methyl-1-butanol, acetate, 3-hexen-1-ol, acetate, (Z)-, D-limonene, β-linalool, hexanal, hexyl acetate, butyl acetate, β-myrcene, ethyl butanoate, β-cis-ocimene. Main volatile components and their relative contents were main differences among these cultivars, and there were no significant difference between the Northern China group and The Central Asian group varieties.
【语种】中文
【第一作者】王华磊
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【学科分类】园艺学

【题目】新疆杏品种自交不亲和S-RNase基因特异PCR扩增引物的筛选
【中文关键词】杏;自交不亲和;S-RNase基因;引物筛选
【英文关键词】apricot;self-incompatibility;S-RNase gene;primer selection
【中文摘要】【目的】筛选鉴定新疆杏自交不亲和相关S-RNase基因的有效引物。【方法】以新疆30个杏品种为试材,选用已报道的蔷薇科李属通用的5对引物组合进行S-RNase基因特异PCR扩增,并依据扩增系数和扩增成功率两个指标对扩增效果进行评价。【结果】(1)5对引物组合对30个杏品种均扩出了条带,除了洛浦2号只扩出l条带之外,其余的29个品种都扩增出了两条带;(2)5对引物组合对新疆主栽杏的扩增效果差异较大,其中EM-PC2consFD+EM-PC3consRD的扩增成功率和扩增系数均为最高(86.67%,95.00%),扩增出两条带的品种有25个;其次,引物组合PaCons 1I-F+PaCons II-R的扩增成功率达66.67% ,扩增系数达83.33% ,扩出两条带的品种有20个。【结论】5对引物中EM-PC2consFD+EM-PC3consRD对新疆杏品种s-RNase基因的鉴定效果最好。
【英文摘要】【Objective and Method】In order to select the primer for identifying S—RNase gene associated with self-incompatibility of apricots cultivated in Xinjiang,30 apricot cultivars were used for S-RNase specific PCR with 5 pairs of primer combinations which had been published for prunus consensus.【Result】The results showed:(1)The S-RNase pecific bands were amplified in all the 30 cultivars by the 5 pairs of primers,and 29 cultivars except the “ Luopu NO. 2 ” showed two bands amplified.(2)The effect of amplification was significantly different among the 5 pairs of primers .The primer combination of EM-PC2consFD + EM-PC3 consRD had the highest amplification coefficient (86.67%) and efficiency (95.00%),and two S-RNase specific bands were obtained in 25 cultivars.The amplification coefficient and efficiency of the primer combination PaCons 1I-F+PaCons II -R were 66.67% and 83.33% respectively,and two S-RNase specific bands were obtained in 20 cuhivars.【Conclusion】Therefore,among the 5 pairs of primer combinations,EM-PC2consFD+EM-PC3consRD had the best identification effect for S-RNase gene for Xinjiang apricot cultivars.
【语种】中文
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【学科分类】园艺学

【题目】新疆杏品种自交不亲和S-RNase 基因PCR扩增体系的优化
【中文关键词】杏;自交不亲和;S-RNase基因;体系优化
【英文关键词】apricot;self-incompatibility;S-RNase gene;PCR system;optimization
【中文摘要】以3个新疆杏品种的叶片为试材, 以其叶片基因组DNA 为模板, 分别对PCR 扩增体系中的10×Buffer (含Mg2+) 、d NTP、上下游引物、Taq DNA 聚合酶和退火温度5个因素设计6 个梯度, 研究了新疆杏品种自交不亲和S-RNase 基因PCR 扩增条件,建立其优化的PCR 扩增体系。研究结果表明: 其扩增程序为94°C预变性5 min, 94°C变性45 s, 52 退火45 s, 72°C延伸2 min, 35个循环后72°C延伸10 min, 25 μL反应体系10×Buffer (含Mg 2+) 2.5 μL, dNT P 0. 08 mmol/ L,上下引物0. 16 μmol/ L, DNA 80 ng, DNA 聚合酶1 μL, 此为最优的反应体系。
【英文摘要】In this experiment, the leaves of three Xinjiang apricot cultivars were used as test materials, and their DNAs were used as templates, 6 levels of 10×buffer, primer, dNT P mixture, DNA polymerase and annealing temperature were set in this experimentation to study the PCR amplification conditions of self-incompatibility S-RNase gene in Xinjiang apricots and establish optimal PCR amplification system. The results showed that the amplification program was 94°C degradation for 5 min, 94°Cdegradation for 45 s, 52 anneal for 45 s, 72°C extension for 2 min, after 35 cycles 72 ex tension for 10 min; the 25 μL reaction mixture contained 10×Buffer (include Mg2+) 2. 5 μL, dNTP mixture 0.08 mmol/L, each primer 0.16 μmol/L, DNA 80 ng, Taq DNA polymerase 1 μL, which is the optimum system.
【语种】中文
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【学科分类】园艺学

【题目】新疆杏品种杏仁油提取率的研究
【中文关键词】杏仁油;提取率;三氯甲烷;正交试验
【英文关键词】almond oil;extraction rate;trichloromethane;orthogonal test
【中文摘要】【目的】研究新疆杏品种杏仁油提取率,为新疆杏仁资源的开发利用以及杏仁油的生产加工提供理论依据。【方法】以新疆农业科学院轮台果树资源圃的杏品种为原料,采用索氏提取法对提取率较高、产量较大的小白杏进行单因素和正交试验,研究了提取剂、料液比、浸提时间、浸提温度、浸提次数对小白杏杏仁油提取率的影响。【结果】得出杏仁油的最佳提取条件是:提取剂为三氯甲烷、料液比为1∶12、浸提温度为80 ℃、浸提时间为180 min、浸提次数为2。【结论】最佳试验提取条件下,小白杏、佳娜丽、有毛小五月杏、莎车洪续克、大尤佳杏仁油提取率分别为72.67 %、82.99 %、69.78 %、65.50 %、70.74 %。
【英文摘要】【Objective】In this paper the extraction rates of almond oil of different kinds of apricot cultivars in Xinjiang were studied which provided theoretical basis for the exploitation of Xinjiang apricot resources and almond oil production.【Method】The almond oil was extracted by different apricot cultivars coming from Luntai Furit Tree Garden ,Xinjiang Academy of Agricultural Science by using Soxhlet extraction method and the single factor and orthogonal experiment design was used to study the optimization extraction conditions of Xiaobaixing almond. The influences of extraction solvent ,ratio of solid to liquid ,extraction time and extraction temperature on the extraction rate of Xiaobaixing almond oil were studied.【Result】The optimum extraction conditions were as follows :extraction agent was trichloromethane , the ratio of solid to liquid was 1∶12 ,temperature 80°C,extraction time 180min and extraction times 2 times.【Conclusion】The extraction rates of almond oil of Dayoujia, Jianali, Youmaoxiao, Wuyuexing and Shachehongxuke were 72.67 %, 82.99 % , 69.78 % , 65.50 % , 70.74 % respectively under the optimum extraction conditions.
【语种】中文
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【学科分类】园艺学

【题目】南珠加工前处理技术规范的研究与制订
【中文关键词】南珠;加工前处理;标准;制订
【英文关键词】south-pearl;processing pretreatment;standard;establishment
【中文摘要】阐述了广东省地方标准《南珠加工前处理技术规范》的研究与制订过程,包括标准的总体思路、技术路线和主要内容。该标准对南珠加工前处理有关的术语定义、洗珠、选珠、增光和钻孔等进行了明确的规定。
【英文摘要】The research and procedure in establishing the Guangdong provincal standard for technical regulations of south -pearl processing pretreatment were expatiated,consisting of general idea,technology route and main coutent of the standard. The standard included definition of term,washing pearl,choosing pearl,improving luster and drilling hole for south-pearl processing pretreatment.
【语种】中文
【第一作者】童银洪
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【学科分类】水产养殖学

【题目】新疆杏抗寒性研究初报
【中文关键词】新疆;杏;抗寒性;电导率;半致死温度
【英文关键词】Xinjiang;apricot;cold resistance; electrolyte leakage;median lethal temperature
【中文摘要】【目的】确定新疆杏品种抗寒力的相对强弱顺序,为新疆杏品种区化和新品种推广提供抗寒性依据,为育种利用提供参考。【方法】采用电导法、恢复生长法和应用Logistic 方程求出拐点温度(半致死温度—LT50),确定供试品种的抗寒力。【结果】供试的13 个品种中,紫杏、大果胡安娜、阿克牙格勒克抗寒性强,可抗- 31 ℃低温;冬杏、赛买提、佳娜丽、安江胡安娜的抗寒性较弱,只能抗- 22 ℃左右低温。【结论】通过恢复生长法观察杏不同品种的可逆反应证实,电导法和应用Logistic 方程相配合测得杏树品种的抗寒力,其结果比较准确。试验的杏品种处在- 21~- 30 ℃时,多数会受到不同程度的伤害,其下限可造成不可逆转的损伤。
【英文摘要】【Objective】To provide basis and reference for breeding and spreading new varieties of apricot, this paper was designed to select and determine the apricot varieties with high quality and cold resistance in Xinjiang. 【Method】Cold resistance of 13 experimental varieties in Xinjiang were defined by electrolyte leakage and the restoration growing method and inflection temperature (median lethal temperature LT50) and application of Logistic equation.【Result】Zixing, Daguohuanna, akyaklek have strong cold resistance in 13 experimental varieties, they can be resistant to -31°Clow temperature (L. T). Dongxing, Saimaiti, Jianali, Anjianghuanna have weak cold resistance in 13 experimental varieties, they can be resistant to -22°Clow temperature.【Conclusion】The result showed that cold resistance of apricots were defined by electrolyte leakage and inflection temperature and it were confirmed by the restoration growing method. Majority of varieties tested have been injured, when temperature is between -21°C~-30°C. It cannot be reversed, when temperature is -30°C.
【语种】中文
【第一作者】何峰江
【通讯作者】张大海
【期刊名称、卷期、页码】新疆农业科学、47 (4)、722 - 725
【论文发表时间】2010-04-05 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】园艺学

【题目】染色对海水珍珠结构和光泽的影响
【中文关键词】海水珍珠; 染色; 珍珠结构; 珍珠光泽
【英文关键词】seawater cultured pearl; dyeing; pearl structure; pearl luster
【中文摘要】为了研究染色对海水珍珠结构和表面光泽的影响以及染料的主要渗透途径与结合部位, 通过对比染色实验、扫描电子显微镜和宝石显微镜, 对染色前、后的海水珍珠样品表面和内部特征进行了观察与分析,采用显微分光光度- 偏光显微镜测量染色前、后海水珍珠样品的表面反射率变化以及运用红外光谱测定染色前、后海水珍珠样品的成分。结果表明, 在染色过程中, 染料是通过海水珍珠珠孔处珠核和珍珠层间的有机质空隙以及漂白造成海水珍珠表面有机质疏松结构而渗透到珍珠的内部, 主要与海水珍珠内的有机成分作用而使其着色。染色后海水珍珠样品的砖墙型层状结构未改变; 染料对海水珍珠表面的有机质疏松结构具有填充作用, 增强了其表面的镜面效应, 使光泽度增强。
【英文摘要】To study the influence of dyeing on the structure and luster of seawater culturedpearls and to explore the penetration ways of dye liquor in the dyeing process of seawater cultured pearls, the present paper observes and analyzes the surface structure and internal characteristics of the seawater cultured samples before and after dy eing by using the dyeing experiment, scanning elect ro n microsco py and g emmo logical microsco pe, measures the changes in surface reflect ivity of the samples before and af ter dy eing by micro scopic spect ropho tometerpolarizing microscope, and idenifies the compo nents of the samples before and after dyeing by infrared spect roscopy. T he results show that the dyes penet rate into the interior of pearls during the dyeing pr ocess mainly thr ough the gap betw een the bead nucleus and the nacreous layers and the loose organic parts of the pearl surface, and then the dyes interact with the organic matter of the pearls. The brick-and-mortar st ructure of the pearl samples after dyeing remains unchang ed. T he dye particles combined with the organic matter between the crystal layers of pearl surface could fill in the gap caused by bleaching, thus the mirroref fectiveness of pearl surface could be enhanced, and pearl surface luster could be improved after dyeing.
【语种】中文
【第一作者】张艳苹

【通讯作者】杜晓东
【期刊名称、卷期、页码】宝石和宝玉石杂志,2011,13(3):12-17
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【引文索引号】null
【学科分类】水产养殖学

【题目】新疆十个主栽杏品种果浆品质及稳定性研究
【中文关键词】杏;糖;酸;Vc;褐化值;果浆
【英文关键词】apricot; sugar; acid; Vc; OD; fruit pulp
【中文摘要】为从新疆主栽杏品种中选择出适宜加工的优良品种,对杏原浆品质及稳定性进行探讨,选用了库车小白杏等10个新疆地区种植面积较大的主要栽培品种作为试材,分别在杏浆加工完成当天及室温贮存至第5、10、15、20、25、30、35天取样测定了总糖度、总酸度、Vc含量和褐化度(用波长420 nm时OD值表示)等与加工性状相关的指标。参试品种35 d内所测数据显示:糖含量呈缓慢下降趋势,平均损失率为12.41%;酸含量呈缓慢增加趋势,平均增加了9.35%;Vc含量呈明显下降趋势,平均损失率是80.76%,且下降趋势随时间的推移逐渐放缓;OD值呈缓慢上升的趋势,OD值平均增加了6.73%。通过聚类分析可将参试杏品种分成3类,其中第2类(大果胡安娜、阿哥亚格勒克、脆佳娜丽)平均糖含量最低为8.40%,平均含酸量最高0.912%,Vc平均含量最高0.427 mg/100 g,OD平均值最小0.319,是最适宜的杏浆加工品种。
【英文摘要】In order to study the fruit pulp quality of leading apricot cultivars in Xinjiang, 10 apricot cultivars, including Kuchexiaobaixing etc. from the State Fruit Tree Germplasm Repository located at Luntai were chosen to measure fruit pulp's sugar content, acid content, Vc conten, OD value during 35 days. Results showed that the descending trend was monitored in sugar contents with an average loss rate of 12.41%, and there was an ascending trend in acid contents with an average increase rate of 9.35%. Vc contents was clear downward with an average loss rate of 80.76%, which gradually slow down over time. OD values was slow upward with an average increase rate of 6.73%. These apricot cultivars can be divided into three categories by cluster analysis. Compare with others, the second category, including Daguohuanna, Ageyageleike and Cuijianali, was highest in average acid content (0.912%) and Vc average content (0.427 mg/100 g), and was lowest in average sugar content (8.56%) and OD average value (0.319), so the second category apricot should be the most suitable varieties for the processing fruit pulp.
【语种】中文
【第一作者】冯建荣
【通讯作者】冯建荣
【期刊名称、卷期、页码】食品科技、35(1)、76 - 80
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【学科分类】园艺学

【题目】珍珠抛光乳化蜡的研制
【中文关键词】珍珠抛光;乳化蜡;有机概念图
【英文关键词】pearl polishing;emulsified wax;organic conceptional diagram
【中文摘要】以巴西棕榈蜡、川蜡、蜂蜡、石蜡等为原料,利用有机概念图原理,设计了珍珠抛光用蜡乳液的配方,探讨了乳化温度、乳化时间、相同配方时不同乳液类型等对乳化蜡的稳定性的影响,制作出了适合珍珠抛光的蜡乳液。结果表明:利用均质机乳化,在乳化温度95℃、乳化时间30 min、转速为1 000~2 000 r/min时,所配制的珍珠抛光乳液稳定性较好,对提高珍珠光泽具有明显效果。
【英文摘要】Adopting the principle of organic conceptual diagram, using carnauba wax, beeswax, paraffin wax as raw materials, the formulation of pearl polishing wax emulsion was designed. Also discussed was the influence of temperature and time of emulsification as well as types of emulsion on the stability of emulsified wax. The results indicated that the stability of emulsified wax is good when it is made under the conditions of emulsion temperature of 95℃, emulsifying time of 30min, stirring speed of 1000-1500 r / min by using phase inversion methods.
【语种】中文
【第一作者】李弦弦

【通讯作者】童银洪
【期刊名称、卷期、页码】广东海洋大学学报,2010,30(6):40-44
【论文发表时间】2010-12-15 00:00:00
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【引文索引号】null
【学科分类】水产养殖学

【题目】新疆地产杏仁中杏仁油的超声波法提取工艺研究
【中文关键词】关键词: 杏仁油;提取剂;超声波法;提取率
【英文关键词】almond oil; extraction solvent; ultrasonic wave; extraction rate
【中文摘要】【目的】研究杏品种杏仁油提取率, 为新疆杏仁资源的开发利用以及杏仁油的生产加工提供理论依据。【方法】采用超声波提取法对新疆主栽杏及产量较大的小白杏进行单因素和正交试验, 对超声波提取工艺进行了优化。【结果】得出杏仁油的最佳提取条件是: 提取溶剂为石油醚、提取时间25 min、提取温度25℃、提取功率250W、料液比为1:6、提取次数为1 次。【结论】最佳试验提取条件下甜仁红杏、小白杏、大红杏、大果胡、树上干、早熟黑叶杏和阿克玉里克杏仁油提取率分别为80.97%、78.02%、76.54%、75.27%、72.87%、72.13% 和71.11%。与传统提取方法相比, 超声波提取法具有节省时间、环保节能、提取效率高和控制方便等优点。
【英文摘要】【Objective】The extraction rates of almond oil of different kind from apricot cultivars in Xinjiang were studied to provide a theoretical basis for the exploitation of Xinjiang apricot resources and almond oil production. 【Method】 the single factor and orthogonal experiment design were used to study the optimization extraction conditions of Xiaobaixing almond oil by using ultrasonic extracting technology and to improve the ultrasonic almond oil extracting technology. 【Result】The optimum extraction conditions were as follows: extraction solvent is petroleum ether, extract ion time is 25min, extract ion temperature is 25℃, ultrasonic power is 250 W, the ratio of solid to liquid is 1:6 and extraction times is 1 time. Conclusion! the extraction rates of almond oil of Tianrenhongxing, Xiaobaixing, Dahongxing, Daguohu, Shushanggan, Zaoshuheiyexing, Akeyukeli were 80.97%, 78.02%, 76.54%, 75.27%, 72.87% , 72.13%, 71.11% respectively under the optimum conditions. Compared with the traditional ethanol extraction, the Ultrasonic wave extraction has much superiority such as saving time and energy, more efficient, easy control and so on.
【语种】中文
【第一作者】买买提江·依米提
【通讯作者】米红宇
【期刊名称、卷期、页码】新疆农业科学、47(7)、1299-1303
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【学科分类】园艺学

【题目】《南珠染色技术规范》标准的研究与制订
【中文关键词】南珠,染色,技术规范
【英文关键词】无
【中文摘要】本文阐述了《南珠染色技术规范》广东省地方标准的研究与制订过程。介绍了编制标准的总体思路、技术路线和标准主要内容。本标准对南珠染色的定义、试剂、染色液的配制、染色条件和染色工艺等进行了明确的规定。
【英文摘要】无
【语种】中文
【第一作者】童银洪
【通讯作者】童银洪
【期刊名称、卷期、页码】中国宝玉石,2010(6):118-120
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【学科分类】水产养殖学

【题目】广东南珠产业标准化的现状与对策
【中文关键词】南珠产业; 标准化; 对策
【英文关键词】无
【中文摘要】分析了广东南珠产业的历史和现状,概括了广东南珠产业标准化的近期工作,提出了今后广东南珠产业标准化工作的对策: 加强科学研究,完善南珠标准体系; 加强南珠标准化的实施推广,建立标准信息服务平台; 建立南珠标准化示范地,大力推广南珠标准化; 组建珍珠产品质量检测中心; 发挥南珠龙头企业的带动作用,提高南珠产业的标准化水平。
【英文摘要】无
【语种】中文
【第一作者】童银洪
【通讯作者】童银洪
【期刊名称、卷期、页码】海洋与渔业,2007(8):24-26
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【引文索引号】null
【学科分类】水产养殖学

【题目】新疆不同品种杏酿酒性能的探讨
【中文关键词】杏,品种,酿酒性能
【英文关键词】apricot; species; wine fermentation properties
【中文摘要】对新疆40个不同品种杏进行杏酒的发酵实验,通过对发酵过程中酒体的重量变化,发酵结束后杏酒的酒精度、残糖、干浸出物和总酸的测定以及感官评价,筛选出最佳的酿酒品种。结果表明:“ 圆旦杏 ”、“ 树上干 ”、“ 甜仁杏 ”、“ 大果杏 ”这四个品种杏酿制的杏酒酒精度分别为9.6%(v/v)、8.8%(v/v)、6.7%(v/v)、7.6%(v/v)、,总酸含量分别为5.7、4.9、6.5、8.3 g/l,干浸出物含量分别为22.9、35.1、18.5、23.3 g/l,残糖含量分别为6.3、3.8、3.7、3.6 g/l。“ 圆旦杏 ”为酿制杏酒的最佳品种,其酿制的杏酒色泽呈麦秆黄或金黄色,澄清透明,有悦人的杏果香及醇香,酒体柔和丰满,稳定性好,典型性强。其次为“ 树上干 ”、“ 甜仁杏 ”、“ 大果杏 ”,而“ 黑叶杏 ”、“ 皮乃孜 ”、“ 何谢克 ”、“ 短枝杏 ”所酿制的杏酒也具有较好的感官评价,为酿酒的良好品种。
【英文摘要】40 different species of apricot in Xinjiang were fermented in order to choose the good species for apricot wine making. The weight of wine body in the process of brewing,the content of alcohol,total sugar dry extract and total acid of apricot wine were determined. The sensory evaluations of all varieties of apricot were carried out. The results showed that the content of above indexes of “ Yuandan ”, “ Shushanggan ”, “ Tianren ” and “ Daguo ” were as follows: alcohol: 9.6%(V/V),8.8%(V/ V),6.7% (V/V),7.6% (V/ V); total acid: 5.7,4.9,6.5,8.3g/L; dry extract: 22.9,35.1,18.5, 23.3g/L; total sugar: 6.3, 3.,3.7,3.6 g/L respectively “ Yuandan ” had best qualities for apricot wine making. The wine of “ Yuandan " was clarifying,stable and had intense fruit aroma and flavor. The body of the wine was soft and full. These species, “ Shushanggan ”, “ Tianren ” and “ Daguo ”,had better qualities for apricot wine making.
【语种】中文
【第一作者】周晓明
【通讯作者】傅力
【期刊名称、卷期、页码】食品工业科技、30(12)、204-208
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【引文索引号】null
【学科分类】食品工程与粮油工程

【题目】新疆17 个杏品种的抗氧化指标与总酚含量的测定
【中文关键词】杏;抗氧化性;多酚;自由基
【英文关键词】Apricot;Antioxidant activity;Phenolics;Free radical
【中文摘要】为了研究新疆杏的遗传多样性,寻找抗氧化能力较强的功能性杏品种,为保护利用杏资源提供基础,试验采用铁离子还原法(FRAP)、二苯代苦味酰基自由基法(DPPH・)清除法和邻二氮菲-Fe2+氧化法3种方法从总抗氧化能力、DPPH・自由基清除能力和羟基自由基清除能力的角度测评了不同杏品种的抗氧化活性;用Folin-Ciocalteau 法测定总酚含量。3种抗氧化指标显示:17个参试杏品种都具有强抗氧化性,并且大多数品种间差异显著,其中骆驼黄和奎克皮曼的抗氧化

能力最强,不同品种间的总酚含量差异较大,变化值为1554.47 μg/g,最大含量是最小含量的6.05倍,其中骆驼黄的总酚含量最高为186 2.18 μg/g,黑叶杏的总酚含量最低为307.71 μg/g。各种抗氧化指标与总酚含量呈显著正相关,多酚类物质应该是其抗氧化的主要物质基础。

【英文摘要】In order to provide basic information for exploring strong antioxidant apricot resources in Xinjiang, three different methods were used to evaluate antioxidant activities of 17 apricot cultivars including total antioxidant activity, hydroxyl radical scavenging and DPPH• radical scavenging. Results showed that 17 apricot cultivars had strong antioxidant capacities,and there was significant difference among most cultivars. Luotuohuang and Kuikepiman’s antioxidant capacity were the strongest in all cultivars. Total phenolic contents varied considerably among cultivars by Folin-Ciocalteau method,and Luotuohuang having the most 1862.18 μg/g was 5 times more than Heiye apricot with the least 307.71 μg/g. Three indexes of antioxidant activity and total phenolic contents were significantly correlated,so phenolic should be responsible for the antioxidant activity of apricot.

【语种】中文

【第一作者】王华磊

【通讯作者】冯建荣

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【学科分类】园艺学

【题目】分光测色仪在珍珠颜色测量中的应用

【中文关键词】珍珠,颜色,分光测色仪

【英文关键词】无

【中文摘要】论述了分光测色仪测量颜色的原理,介绍了分光测色仪在珍珠颜色测量中的应用,具有易操作性和良好表现性。

【英文摘要】无

【语种】中文

【第一作者】童银洪

【通讯作者】童银洪

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【学科分类】水产养殖学

【题目】小白杏杏核开口压力的线性回归建模及验证

【中文关键词】小白杏杏核;开口;机械加工;线性回归;建模

【英文关键词】Xiaobaixing stone; open; machining; linear regression; modeling

【中文摘要】【目的】建立关于小白杏杏核开口压力合理、有效的线性回归模型,确定开口的应力范围,为杏核开口的自动化机械加工提供优化参数、方法和途径。【方法】应用万能材料测试仪测定小白杏开口应力,利用SPSS软件的多元线性回归分析方法,建立初步的线性回归模型并验证分析模型的输出结果。通过计算参考值范围并进行基本参数估计,确定开口的应力范围。【结果】初步回归方程为Y = 412.917 - 9.185 X1 + 25.486 X2 +17.591 X3 + 9.211 X4 。经计算,开口压力预测值的双侧95 %界限为397.1061~511.0139,平均数95 %的置信区间为440.4604~467.6596。这与实测值的双侧95 %界限:394.3706~513.7494,平均数95 %的置信区间:439.8072~468.3128 基本一致。【结论】理论上可以通过应用建立线性回归模型的方法为自动化机械加工提供优化参数,实现杏核开口的自动化机械加工,并且可以为其它品种的杏核开口应用自动化机械加工提供解决方法和途径。

【英文摘要】【: Objective】To provide optimal parameter and methods for the machining of Xiaobaixing stone, the study was conducted to establish linear regression model and obtain parameter range about the open pressure of Xiaobaixing stone.【Method】The open pressure is menstruated by multifunctional material testing instrument . A Primary linear regression equation was established with stone shell thickness , stone lengthwise diameter , stone transverse diameter, stone lateral diameter , as independent variable , open pressure as dependent variable, analyzing and validating the output results of mathematical model by SPSS. In addition, it confirms

parameter range of open pressure by calculating reference range and estimating basic parameter【. Result】The results showed that the primary linear regression equation is Y = 412. 917 - 9. 185 X1 + 25. 486 X2 + 17. 591 X3 + 9. 211 X4. 95 % double - sided bound for predicted value is 397. 1061~511. 013 9 , and 95 % confidence interval for its average is 440. 460 4~467. 659 6. It is basically consistent with the result of measured value , 95 % double - sided bound for measured value is 394. 370 6~513. 749 4 , and 95 % confidence interval for its average is 439. 807 2~468. 312 8. 【Conclusion】In terms of theory , this mathematical model provided optimal parameter for the machining open of Xiaobaixing stone , farther provide effective method for machining open of other apricot varieties stone.

【语种】中文
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【题目】微波提取法与索氏提取法提取杏仁油的比较研究
【中文关键词】微波提取法;索氏提取法;正交试验;杏仁油
【英文关键词】microwave extraction; soxhlet extraction ; orthogonal test; almond oil
【中文摘要】【目的】确定杏仁油的适宜提取方法。【方法】以杏品种为原料,分别采用微波提取法和索氏提取法对新疆产量较大的小白杏进行正交试验,研究各种提取因素对杏仁油提取率的影响。【结果】最佳提取条件下微波法小白杏出油率69.91 % ,索氏提取法小白杏出油率72.67 %。【结论】两种杏仁油提取方法的比较结果显示,微波提取法提取的杏仁油百分含量略低于索氏提取法,但与索氏提取法相比,微波提取法具有节省时间、环保节能、提取效率高、控制方便及易工业化等优点。
【英文摘要】【Objective】To establish the optimal extraction method for extracting Almond oil .【Method】The almond oil was extracted by using microwave extraction method and soxhlet extraction method , and the orthogonal experiment design was used to study the optimization extraction conditions of Xiaobaixing almond. And the influences of different extraction factors on the almond oil extraction rate were studied.【Result】The optimum extraction conditions were as follows: The Microwave extraction rates of Xiaobaixing almond were 69.91 %; The Soxhlet extraction rates of Xiaobaixing almond were 72.67 %.【Conclusion】The result of comparison between these two extraction methods indicated that the percentage of almond oil extracted by soxhlet extraction method were higher than that of Microwave extraction method. But Microwave extraction method has some advantages such as saving time and energy, extracting more efficient ,easy to control, easy to be industrialized.
【语种】中文
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【题目】沙尘对杏树座果率的影响及应对措施研究
【中文关键词】沙尘; 杏树; 座果率; 防御措施; 人工模拟
【英文关键词】sand dust; apricot; percentage of fertile fruit; relieving way; mimesis
【中文摘要】【目的】沙尘对杏树座果率的影响及相应的防御措施。【方法】杏树安江胡安娜为试验材料, 通过人工模拟南疆沙尘现象对盛花期的杏树进行沙尘及药剂干预试验。【结果】沙尘可使盛花期杏树减产26.6%。在杏树盛花期喷施硼酸 (0.15%)、赤霉素 (30 mg/L)、2, 4-D (1.8 mg/L)、花粉 (0.8 g/L)时,和自然授粉杏树的座果率(5.68%) 相比,其提高效果分别为:花粉(4.11%) > 赤霉素 (1.84%) > 2, 4- D (1.64%) > 硼酸 (1.01%)。在模拟沙尘条件下, 喷施同样浓度的处理, 座果率均高于自然授粉杏树的座果率 (5.68%),且提高杏树座果率的高低顺序相同, 提高最高的是喷花粉处理(2. 23%)。模拟沙尘条件下,喷施药剂中分别加入0.8 g/L 的花粉,和自然授粉杏树相比均可以提高杏树的座果率, 其效果和前两个提高杏树座果

率的高低顺序相同,且座果率均高于晴好天气杏树的座果率。【结论】沙尘对盛花期杏树的座果有很大危害,通过人工干预措施可以提高杏树的座果率,降低危害。

【英文摘要】【Objective】The paper studied effect of sand dust on fruit set rate of apricot and its defensive measures. 【Method】Test of mimesis phenomenon of sand dust on Anjiang-huanna apricot of blooming period were done in Luntai National Pomology Germpasm Garden of Xinjiang Academy of Agricultural Science(LTP) in 2009. 【Result】The yield of apricot at full bloom stage could be reduced with sand dust by 26. 6%. The fruit set rate could be increased when spraying with boracic acid (0.15%) , activol (30 mg/L) , 2, 4- D (1.8 mg/L), pollen (0.8 g/L) in blooming period of apricot. When sand dust occurred, spraying with the same concentration of fungicide could help to increase the fruit set rate of apricot, which were higher than that of the control. When sand dust occurred, the fungicide were added by pollen (2.23%), the fruit set rate of apricot was increased, whose result were the same as that of the former. The fruit set rate of apricot were higher than that of apricot in fine day.【Conclusion】The sand dust had great damage to the fruit set rate of apricot at full bloom stage.

【语种】中文

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【题目】杏树光合特性与小蠹虫为害关系的分析

【中文关键词】杏;小蠹虫;光合特性。

【英文关键词】Apricot;bark beetle;photosynthetic characteristics

【中文摘要】【目的】揭示杏树的光合能力与小蠹虫为害之间的关系。【方法】以赛买提品种为试材,对健康树、弱势树和初期受小蠹虫为害杏树的光合性能进行测定。【结果】健康树叶片的净光合速率(Pn)、气孔导度(Gs)和蒸腾速率(Tr)极显著高于弱势树和受害树;健康树的光合速率最大可达到18.178 μ molCO2/(m2・s),而弱势树和受害树分别仅为1.441 μ mol CO2/(m2・s)、0.806 μ molCO2/(m2・s);弱势树和受害树的叶面积均小于健康树,且二者的叶绿素含量也均低于健康树。【结论】弱势树和受害树的光合能力远远低于健康树,其光合作用受到明显抑制,杏树各项生理指标的变化对光合作用产生一定程度的影响,光合速率降低,有利于小蠹虫的为害。

【英文摘要】【Objective and Method】In order to reveal the relationship between the photosynthetic capacity of apricot and the harm of bark beetle. Sai maiti apricot were used as the trial material. The characteristics of photosynthesis in leaves of healthy tree, vulnerable tree and initial stage harm of bark beetle tree were determined. 【Result】The results showed that, the net photosynthetic rate (Pn), the stomatal conductance(Gs) and the transpiration rate(Tr) of healthy tree were significantly higher than vulnerable tree and harmed tree; The net photosynthetic rate of healthy tree could reach 18.178 μ molCO2 /(m2・s), but vulnerable tree and harmed tree were only 1.441 μ mol CO2/(m2・s) and 0.806 μ molCO2/(m2・s); The leaf area of vulnerable tree and harmed tree are smaller, and the SPAD value in leaf were lower, too. 【Conclusion】The photosynthetic capacity of the vulnerable tree and harmed tree were far lower than healthy tree. The variation of various physiological indexes of apricot are make a certain degree influence of photosynthesis, photosynthetic rate reduce is beneficial to the harm of bark beetle.

【语种】中文

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【题目】小白杏不同树体部位果枝和花器官形成的规律

【中文关键词】杏树;树体部位;结果枝;花芽;花器官

【英文关键词】apricot; parts of limb; bearing shoot; flower bud; floral organ
【中文摘要】为探明杏树结果枝及花芽形成规律, 选取栽植密度为2 m×4 m 和5 m×6 m 的小白杏树, 对其行间两侧主枝上不同部位的结果枝类型、花芽和花器官的形成情况进行调查。结果表明, 在主枝的不同部位,2 m×4 m和5 m×6 m 栽植密度下的结果枝形成自下而上大致呈‘少-多-少’的趋势, 其中形成比例最多的部位为100~150 cm 的长度范围内; 2 m×4 m 栽植密度下主枝上花芽的形成自上而下亦呈现‘少-多-少’的趋势,主要集中在枝条的50~200 cm,5 m×6 m 栽植密度下花芽的形成分别以主枝的100~150 cm 和200~250 cm 为主;2 m×4 m栽植密度下杏树花芽的越冬存活率自下而上不断提高,并在150~200 cm达到最高值,然后下降,5 m×6 m栽植密度下杏树主枝50~100 cm和150~200 cm 花芽的越冬存活率较高。2 m×4 m 和5 m×6 m 栽植密度下主枝各部位的可育花比例均高于败育花,以雌雄蕊等长的比例最高, 并且5 m×6 m 栽植密度下可育花的比例要普遍高于栽植密度2 m×4 m。小白杏树不同部位结果枝和花器官形成呈现规律分布, 不同栽植密度杏树间的结果枝形成、花器官质量表现出一定的差异。
【英文摘要】In order to research forming regulation of bearing shoot and floral organ in apricot, taking little white apricot in 2 m×4 m and 5 m×6 m planting densities as the subjects, the types of bearing shoots and forming status of flower buds and floral organs in limbs of apricot were investigated at the two sides of the rows. The results showed that the formation of bearing shoots in the two planting densities presented the trend of low-high-low at different parts of limb from high to low, and the ratio of that in limb at 100-150 cm length range was the highest. The formation of flower buds in 5 m×6 m planting density presented the same regulation as bearing shoots, and the flower buds were mainly distributed in limb at the length range of 50- 200 cm; The flower buds in 5 m×6 m planting density were mainly distributed in limb at the length ranges of 100- 150 cm and 200- 250 cm. The survival rate of flower buds living through the winter in 2 m×4 m planting density was increased gradually from high to low, that in limb at the length rang e of 150-200 cm was the highest, and then descend. The survival rates of flower buds living through the winter in 5 m×6 m planting density w ere hig her in limb at the length ranges of 50-100 cm and 150-200 cm. The ratio of fertile flower was higher than abort ion f lower, that of pistil equal to stamen type was the highest at any parts of limb in the two planting densities, and the ratio of fertile f lower in 5 m×6 m planting density was higher than that in 2 m×4 m planting density. The result indicated that formation of bearing shoot and floral organ at different parts of little white apricot regulation had some regulations, and there were some differences in the forming regulation of bearing shoo t and floral organ of little white apricot in 2 m×4m and 5 m×6 m planting density.
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【题目】新疆轮台县和乌什县不同杏品种果实性状差异性分析
【中文关键词】杏;单果重;可溶性固形物;果实硬度
【英文关键词】apricot; weight per fruit; soluble solids; fruit hardness
【中文摘要】【目的】掌握新疆不同地区杏品种果实性状的差异和特点。【方法】对新疆乌什县176个和轮台县104个杏品种的单果重、可溶性固形物、果实硬度等指标进行测定。【结果】轮台县杏品种的单果重主要分布在20~30 g级次,乌什县主要分布在31~40 g级次;两地品种的可溶性固形物均集中在16.0~18.9级次,但乌什县要高于轮台县;果实硬度轮台县主要集中在1.0~1.1 g/cm2,乌什县集中在 < 0.9 g/cm2。同一品种的单果重乌什县比轮台县大;可溶性固形物是乌什县高于轮台县;果实硬度是轮台县大于乌什县。【结论】轮台县和乌什县不同杏品种果实性状存在着差异性。
【英文摘要】【Objective】In order to comprehend the difference and characteristics of different varieties of apricot fruit in the different areas of Xinjiang.【Method】The indexes of weight per fruit , the soluble solid content , the fruit hardness of 176 apricot varieties from Ushi County and 104 apricot varieties from Luntai County were determined. 【Result】The results showed that : The weight per fruit of Luntai County was mainly between 20- 30 g grades and it was mainly between 31- 40 g grades in the Ushi County. The total soluble solids content of the two areas were concentrated in 16.0-18.9 grades, but it was higher in Ushi County than that in Luntai County at this grades. The fruit hardness of Luntai County mainly concentrated in 1.0 - 1.1 g/cm2 grades, it was mainly concentrated below 0.9 g/cm2 grades in Ushi County. The weight per fruit of Ushi County was heavier than that of Luntai County under the condition of the same varieties of apricot fruit. The soluble solid content of Ushi County was higher than that of Luntai County. The fruit hardness of Luntai County was higher than that of Ushi County. 【Conclusion】There were some significant differences in different varieties of apricot fruit in Luntai County and Ushi County of Xinjiang.

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【题目】新疆33个品种杏酿酒性能的探讨
【中文关键词】杏;品种;酿酒性能
【英文关键词】apricot; variety; wine fermentation properties
【中文摘要】对新疆33个不同品种杏进行杏酒的发酵试验,通过对发酵过程中酒体的重量变化,发酵结束后杏酒的酒精度、残糖、干浸出物和总酸的测定以及感官评价,筛选出最佳的酿酒品种。结果表明:“北山”、“乔儿脾”、“赛买提”这3个品种杏酿制的杏酒酒精度分别为7.2%vol、9.8%vol、8.9%vol;残余总糖含量分别为7.6g/L、3.2 g/L、3.3 g/L;总酸含量分别9.2g/L、6.2g/L、5.8g/L;干浸出物含量分别为22.4g/L、26.9g/L、21.7g/L。"北山"为酿制杏酒的最佳品种,其酿制的杏酒色泽呈麦秆黄或金黄色,澄清透明,有悦人的杏果香及醇香,酒体柔和丰满,稳定性好,典型性强。其次为“乔儿脾”、“赛买提”,而“玛瑙杏”“卡巴克西米西”所酿制的杏酒也具有较好的感官评价。
【英文摘要】Fermentation was carried out with 33 varieties of apricot in Xinjiang for apricot wine making. With analysis of changes of weight of wine body in brewing, concentration of alcohol, residual sugar, dry extract and total acid of apricot wine and sensory evaluation, the optimum variety was determined. The results showed that concentrations of alcohol were 7.2%vol, 9.8%vol and 8.9%vol; residual sugar: 7.6g/L, 3.2g/L and 3.3g/L; total acid: 9.2g/L, 6.2g/L and 5.8g/L; dry extract: 22.4g/L, 26.9g/L and 21.7g/L were respectively for “Beishan”, “Qiaoerpang” and “Saimaiti”. “Beishan” is the optimum variety for apricot wine making. The wine of “Beishan” was clarifying, stable and had intense fruit aroma. The body of the wine was soft and full with good stability. Wine prepared with varieties of “Qiaoerpang”, “Saimaiti”, “Manao” and “Kabakeximixi” also had good sensory quality, which indicated that these varieties were also good for apricot wine making.
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【题目】杏酒酵母的筛选及发酵性能的研究
【中文关键词】高寒香菊花黄酮;固体脂质体;乙醇注入法;制备条件;优化
【英文关键词】coreopsis flower flavonoids; solid liposome; ethanol injection method; preparation conditions; optimization.
【中文摘要】采用乙醇注入法制备高寒香菊黄酮固体脂质体。以包封率为考察指标,通过单因素试验和正交试验,对壁材的配比,乳化剂的用量,冷冻保护剂甘露醇等工艺条件进行了优化。结果表明,最优制备工艺条件为壁材配比2∶1,乳化剂6%,冷冻保护剂3%。在此工艺条件下制得的高寒香菊花黄酮固体脂质体的包封率为39.69%。高寒香菊花黄酮固体脂质体外观为椭圆形,粒度多分布在450nm~500nm之间,高寒香菊花黄酮固体脂质体是大单室脂质体。
【英文摘要】The coreopsis flower flavonoids liposomes were prepared by ethanol injection method. The effects of wall material ratio, amount of mannitol as a cryoprotectant on entrapment efficiency were investigated through single factor and orthogonal experiment. The results showed that the optimal preparation conditions of coreopsis flower flavonoids liposomes were obtained as follows: ratio of lecithin to cholesterol 2∶1, amount of tween-20 was 6%, amount of mannitol was 3%. Under these optimum conditions, the entrapment efficiency was up to 39.69%. Coreopsis flower flavonoids solid liposomes was elliptical shaped, and its particle size was distributed between 450nm and 500nm. Coreopsis flower flavonoids solid lipid was a kind of large unilarnellarvesicles.
【语种】中文

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【中文关键词】杏;鲜食品质;评价指标;主成分分析;聚类分析
【英文关键词】apricot;table quality;evaluation index;principal component analysis;cluster analysis
【中文摘要】为确定新疆杏鲜食品质评价指标,分析、测定了新疆南疆地区58 个杏品种的单果重、果形指数、硬度、可溶性固形物、可滴定酸、风味等10 项果实品质指标,并采用主成份分析和聚类分析法对各品质指标进行分析。结果表明,在杏多个品质指标之间存在着相对独立性和密切相关性。经主成份分析,前6 个主成分的累计贡献率已达到85.213%,可反映鲜食杏果实品质的绝大部分信息;通过因子聚类分析,10 个主要品质指标聚成了6 类,最终将品质指标简化为单果重、果形指数、可滴定酸、Vc含量、风味、色泽6个具代表性的指标。
【英文摘要】To study the quality evaluation indexes of table apricot in Xinjiang. The main evaluation indexes of 58 varieties of Apricot in the South of Xinjiang, including fruit weight, fruit shape index, flesh firmness, total soluble solids (TSS), titratable acid (TA), flavor, etc, were measured. The data were analyzed by principal component analysis and systematic cluster analysis. The results showed that there was either relative independence or close correspondence among the evaluation indexes of apricot fruit quality. Principal components analysis showed that the first six principal components variance accumulation contribution rate amounted to 85.213%, which reflected most of the quality of apricot. According to their cluster analysis,the tested 10 indexes were divided into 6 types, finally 6 indexes predigested for evaluating apricot table quality were obtained, which were fruit weight, fruit shape, TA, Vc, flavor and colour.
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【学科分类】园艺学

【题目】赤霉素诱导甘蔗节间伸长的效应与相关酶活性的关系
【中文关键词】赤霉酸;甘蔗;伸长;糖苷酶;过氧化物酶;过氧化氢酶
【英文关键词】gibberellin ; sugarcane ;elongation ;glycoside hydrolase ; POD ;CAT
【中文摘要】以甘蔗品种‘新台糖22 号’为试验材料,在伸长初期以200 mg/L GA3 进行叶面喷施处理,对照喷清水,研究GA3 处理后甘蔗节间糖苷酶、过氧化物酶、过氧化氢酶的变化,以揭示赤霉素诱导甘蔗节间伸长与相关酶活性的关系. 结果表明: (1) GA3 处理的株高在各个时期显著高于对照,而且在处理后7、14和28d 分别比对照提高了17.32%、14.50%和8.35% ,GA3处理引起甘蔗植株表现的高度优势一直保持到后期,节间伸长效果主要是在茎的中部(5~10节) . (2) GA3 处理后α2葡萄糖苷酶和α2甘露糖苷酶的活性较对照显著下降; POD 和β2半乳糖苷酶的活性也略有下降;α2半乳糖苷酶、β2N2乙酰氨基已糖苷酶、过氧化氢酶的活性显著提高;β2葡萄糖苷酶的活性也有一定程度提高. 由此推测,外源GA3 主要通过调节α2葡萄糖苷酶活性、α2甘露糖苷酶、α2半乳糖苷酶、β2N2乙酰氨基已糖苷酶活性和过氧化氢酶,其次是POD、β2半乳糖苷酶和β2葡萄糖苷酶活性,最终达到节间伸长效果.
【英文摘要】To investigate the changes of the contents of glycoside hydrolase,peroxidase (POD),and catalase(CAT) in the internode of the sugarcane ,and illust rate the relationship between internode elongation and the changes of related enzyme activities,the sugarcane variety ROC22 was employed and the plants weresp rayed with 200mg/L gibberellin at early elongation stage while using water spray as control. The results showed that:(1)the plant height at different stages was significantly higher in the gibberellin treatment than that in the control,and the increase reached 17.32%,14.50% and 8.35% in 7,14 and 28 days after spraying, respectively. The advantage of gibberellin in sugarcane stem elongation performance would been maintained until maturity ,and the internode elongation effect mainly took place in the central stem (5~10knot) . (2) The activities of α-glucosidase and α-mannosidase in the stem tip was significantly

lower in the gibberellin treatment than that in the control.After treatment, the POD and β-galactosidase activities were also slightly lower than that of the control ,and the inhibitory effect mainly maintained for about 1 month.The activities of α-galactosidase, β-N-Acetyl-D-hexosaminidase and CAT in the stem tip was significantly higher in the gibberellin treatment than those in the control.At the same time, β-glucosidase activity was also slightly higher than that of the control, and the promoting effect could be maintained for about 1 month. These results suggest that the exogenous GA3 make effect on the internode elongation mainly by regulating the α-glucosidase, α-mannosidase,a-galactosidase, β-N-acetyl-D-activity and CAT,and then POD, β-galactosidase and β-glucosidase production in sugarcane.

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【题目】甘蔗属不同种及优良甘蔗栽培品种的SSR标记遗传多样性分析
【中文关键词】简单重复序列(SSR);甘蔗属;指纹图谱;毛细管电泳;遗传多样性
【英文关键词】Simple sequence repeat(SSR);Saccharum;fingerprinting;Capillary Eleetrophoresis;genetic diversity
【中文摘要】应用21对SSR引物与毛细管电泳技术,分析了52个甘蔗属品种的遗传多样性。共检测出327个SSR标记,平均每对引物检测15.6个。选择141个共显性标记构建SSR标记指纹图谱数据库,利用DNAMAN软件与UPGMA统计方法分析参试材料遗传多样性。DNAMAN软件同源分析显示,新台糖16号与台优1号之间的同源性最高(87%),品种之间最小的同源性为55%;利用UPGMA统计方法可把参试材料分成4个遗传相似性较高的类群。结果表明,SSR标记与毛细管技术的结合,可构建甘蔗种质资源SSR标记指纹图谱、分析甘蔗种质资源遗传多样性。聚类分析显示参试甘蔗材料的遗传基础相近,为了提高甘蔗选育种效率,应拓宽甘蔗选育种亲本的遗传基础,提高杂交栽培品种的抗虫、抗病等特性。
【英文摘要】Genetic diversity amongst 52 sugarcane clones including Saccharum species and cultivars(used for breedingand commercial production since the beginning of 20th century)had been assessed using 21 Simple Sequence Repeat(SSR)markers and capillary electrophoresis(CE)technique.Use of 21 SSR primers resulted in amplification of 327 distinguishable SSR markers with an average of 15.6 bands per primer.A total of 141 distinctive SSR alleles were scored,which have been used for construction of fingerprinting database and assessment of the genetic diversity using DNAMAN analyzing software and UPGMA algorithm methods。The highest genetic homology was 87%,observed between ROC 16 and TY 1,the lowest genetic homology was 55%.The UPGMA algorithm with SSR markers showed four distinguishable clusters of genetically similar species and varietal clones.The results indicated that using SSR markers in combination with CE is an efficient tool for fingerprinting database construction and assessment of genetic diversity.Occurrence of most cultivated clones in just 4 clusters indicated the exploitation of similar genetic database for the breeding purposes.The breeding programs should be tailored tO exploit the wide range of germplasm using Saccharum species tO get good varieties especially for disease or insect-pest resistance.

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【题目】甘蔗茎尖原生分生组织区域化
【中文关键词】甘蔗; 茎尖; 原生分生组织; 原套原始细胞区; 原体原始细胞区; 周缘分生细胞区; 髓分生区
【英文关键词】sugarcane; stem; protomeristem; tunica-primary; corpus; peripheral meristem; pith zone
【中文摘要】甘蔗茎尖原生分生组织是甘蔗地上部分一切形态组织的发源中心, 通过对6 个不同茎径甘蔗品种4 个不同营养发育时期的茎尖原生分生组织显微和超微结构观察研究发现: 甘蔗茎尖原生分生组织呈半卵型结构,明显分为原套原始

细胞区、原体原始细胞区、周缘分生细胞区、髓分生区, 其区域化符合原套- 原体学说。原套原始细胞区为最外一层细胞, 原套细胞之间胞间连丝丰富, 而原套与原体细胞之间胞间连丝极少, 细胞以垂周分裂为主, 扩大原生分生组织表面积; 原体位于原套下的分生组织的中央区域, 细胞可以进行各个方向的分裂, 不断增加体积, 原体原始细胞区呈一个球体; 周缘分生区位于原套、原体下方两侧, 细胞活跃产生叶原基和原形成层细胞; 髓分生区细胞位于原体下方周缘分生区内侧, 细胞横向分裂纵向排列, 使甘蔗茎伸长。

【英文摘要】All organization of sugarcane stem and leaf or igined from stem tip protomer istem. The stem tip protomer is tem of six sugarcane cuctivars at four different developing stages was investigated using microstructural and ultra structural techniques. The results showed that sugarcane stem tip protomer istem had four zones: tunica- primary cell zone, corpus primary cell zone, per ipheral mer istem zone and pith zone. The tunica primary cell zone had only one layer of tunica cells and many of plasmodesmus crossed between the tunica primary cells, but few plasmodesmus crossed between the tunica primary cells and the corpus primary cells. Most of tunica pr imary cell were anticlinal division in order to enlarge protomeristem super ficial area. The corpus zone located in the central region of the meristem below the tunica, where the cell divisions were in all directions to increase both the width and length of the apex. The corpus primary cell zone appeared to be a sphere. The peripheral meristem zone located the two sides under the tunica primary and the corpus, which cells were very active and generate phyllopodium and protocambium cells. The pith zone was at the inner side of peripheral meristem under the corpus, and the cell division was transverse andend to endar rangement to elongate the stem.

【语种】中文
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【题目】利用间歇浸没式生物反应器进行果蔗组培快繁
【中文关键词】间歇浸没式生物反应器(TIBs); 甘蔗; 组培快繁
【英文关键词】Temporary immersion bioreactors system; Saccharum sinensis Roxb; Rapid propagation
【中文摘要】以果蔗(Badila)茎尖脱毒组培苗为材料, 利用间歇浸没式生物反应器(Temporary immersion bioreactors TIBs)进行组培快繁的技术体系的研究。结果表明: (1)使用TIBs 系统进行甘蔗组织培养一代增殖较传统方法高出10 倍以上; (2)TIBs 系统以第4 代继代材料为宜; (3)接种密度在10~15 株/L 培养基最有利于甘蔗组培苗的增殖和生长;(4)TIBs 系统中6-BA 浓度为0.5~1.0 mg/L 时适合于增殖培养, NAA 浓度为4 mg/L 时有利于根的诱导; (5)浸没间歇频率在1 min/3 h 时增殖和生长表现较为优异, 1 min/6 h 时有利于根的诱导和根的生长。

【英文摘要】A new protocol was established for sugarcane (Badila) rapid propagation in a temporaryimmersion bioreactors system (TIBs). It was revealed that a multiplication rate of 46 times in one subculture was obtained in TIBs, and the most suitable starting material was the fourth subcultured plantlets and the most suitable density inoculums was 10-15 plantlets per liter medium for TIBs culture. It also demonstrated that 0.5-1.0 mg/L 6-BA was suitable for multiplication and 4 mg/L NAA was better for rooting.The suitable immersion frequency was 1 min/3h for multiplication and that for rooting was 1 min/6h.

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【题目】1 株有固氮能力的甘蔗克雷伯氏菌的分离鉴定及固氮特性
【中文关键词】甘蔗; 克雷伯氏菌; 固氮; 15N; 16SrDNA

【英文关键词】Sugarcane; Klebsiella; Nitrogen fixation; 15N; 16S rDNA
【中文摘要】采用无氮Dobereiner 培养基, 从广西本地甘蔗品种桂糖28 号根系分离筛选到1 株高固氮活性的细菌菌株L03, 对其进行形态、生理生化、16SrDNA 序列的系统发育分析和固氮特性研究。结果表明, L03 为植生克雷伯氏菌(Klebsiella plantica), 将该菌用蛋白胨含量为0.4g/L 的Dobereiner 培养基培养, 当培养瓶中O2含量为2mL、温度为33 ℃的条件下固氮活性最高, 固氮百分率达29.2%。并在连续继代13 次后保持固氮能力不变。
【英文摘要】The present study was conducted to investigate the nitrogen fixation characteristics of a nitrogen fixation bacterium isolated from sugarcane. A nitrogen fixation bacterium was isolated from sugarcane variety GT28 by N-free Do · · bereiner medium. The 16S rDNA sequence, physiological and biochemical properties, and nitrogen fixation conditions required of the bacterium were analyzed. The strain was identified as the genus Klebsiella and named as Klebsiella sp. L03. The optimum conditions of nitrogen fixation by the bacterium were peptone 0.4g/L, O2 2mL and reaction at 33 °C.The maximal nitrogen -fixing percertage reached 29.2%, and the nitrogen fixation activity kept constantly after 13 generations.
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【题目】水分胁迫下外源ABA 提高甘蔗抗旱性的作用机制
【中文关键词】ABA; 甘蔗; 抗旱性; H2O2; 抗氧化酶; 叶绿素荧光
【英文关键词】ABA; Sugarcane; Drought tolerance; Antioxidative enzyme; H2O2; Chlorophyll fluorescence
【中文摘要】以抗旱甘蔗品种ROC22 为材料, 调查水分胁迫及胁迫加喷施脱落酸(ABA)对甘蔗内源ABA合成及相关生理生化作用的影响。结果表明, 干旱及干旱加外施ABA 的条件下, 甘蔗内源ABA 合成水平上升, 但干旱加ABA 处理增幅更显著, 甘蔗叶内的脯氨酸(Pro)、H2O2、丙二醛(MDA)含量增加, 而ABA 处理能缓解MDA 的积累, 使其含量处于低水平, ABA 处理能防止叶绿素降解并对干旱引起的最大光能转化效率(Fv/Fm)、PSII 实际量子效率(ΦPSII)下降有明显的缓解作用。干旱条件下, H2O2 的积累伴随着抗氧化作用的酶CAT、GPX、GR 和APX 的活性提高, 而ABA 处理能进一步提高这些相关酶的活性而逐渐降低H2O2 的含量, 表明干旱条件下, 外施ABA 能增强甘蔗的抗氧化防护系统, 提高抗旱性。
【英文摘要】Drought is a major limiting factor for sugarcane growth. Abscisic acid (ABA) regulates much important plant physiological and biochemical processes, and induces tolerance to different stresses including drought. Understanding the mechanism of tolerance to drought in sugarcane plant with foliage dressing of ABA under water stress would facilitate breeding and field management for improving drought resistance. Thus, an experiment was set up to investigate the interrelationship between drought induced ABA biosynthesis and antioxidative defense system, and to confer the farther role of foliar application of ABA in imparting drought tolerance to the sugarcane plant. The treatments were: T1 (drought), T2 (drought + foliar application of 15 μ mol L – 1 ABA) and C (control, normal irrigation) using a drought tolerant cultivar ROC22. The results showed that drought treatment (T1)enhanced the ABA concentration in leaf that was significantly higher in combined treatment (T2),suggesting the ABA biosynthesiswas triggered in leaf by the ABA application. Both T1 and T2 resulted in an increase in proline, H2O2 and MDA contents while the exogenous ABA alleviated the increase in MDA content. ABA application decreased the degradation of chlorophyll, and counteracted, at least in part, the decrease in maximal PSII efficiency (Fv/Fm) and quantum efficiency of PSII (ΦPSII). Overproduction of H2O2 in T1 was followed by increasing activities of CAT, GPX, GR, and APX, which was further improved by the ABA treatment (T2). A decrease in H2O2 level with increasing stress in T2 showed that ABA highly induced antioxidative defense system which was found to be vanished progressively in T1. The results clearly suggest that the tolerant cultivar showed an enhanced protective system against drought conditions, and the foliar application of ABA further improved its tolerance by triggering the over expression of antioxidative defense system.
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【题目】赤霉素诱导甘蔗节间伸长基因的cDNA-SCoT 差异表达分析
【中文关键词】赤霉素; 甘蔗; cDNA-SCoT; 差异表达
【英文关键词】Gibberellin; Sugarcane; cDNA-SCoT; Differential expression
【中文摘要】以甘蔗ROC22 为材料, 在伸长初期进行叶面喷施200 mg L－1 浓度的赤霉素为处理, 以喷施清水为对照, 在不同时间取幼茎样品, 用cDNA-SCoT 进行基因差异表达分析。结果表明, 通过46 条引物筛选了约700 个cDNA 片段, 获得差异片段30 个。有18 个基因片段受赤霉素上调而12 个基因片段下调; 其中16 个TDFs 序列和NCBI 数据库中已录入的基因具有较高的相似性, 按照其功能可分为6 类, 即能量与代谢相关基因(占总数的20.0%)、未知功能蛋白(占总数的20.0%)、未知基因(占总数的46.7%)、信号传导相关基因(占总数的6.7%)、转录因子相关基因(占总数的3.3%)和细胞凋亡基因(3.3%)。这说明利用SCoT 方法可以进行蔗茎基因差异表达研究, 分离到的一些差异片段可能是与甘蔗节间伸长相关的基因。
【英文摘要】The present study was conducted to investigate the molecular mechanisms of gibberellin-induced stalk internodes elongation in sugarcane. Using sugarcane variety ROC22, the plant leaves were treated with spraying gibberellic acid (GA3) at 200 mg L－1 at early elongation stage, and spraying water as a control. Samples of young stalks were taken and the differen-tially expressed genes were analyzed with cDNA-SCoT technique. The results showed that 30 fragments of differentially expressed genes were obtained by screening 700 cDNA fragments with 46 single primers. The expressions of 18 genes were up-regulated, and 12 genes down-regulated by GA3 induction, and the sequences of 16 TDFs showed high similarity to the registered genes in the NCBI database. These genes were divided into six categories by functional analysis, including energy and metabolism-related genes (accounting for 20.0%), unknown functional proteins (accounting for 20.0%), unknown genes (accounting for 46.7%), signal transduction-related genes (accounting for 6.7%), transcription factor-related genes (accounting for 3.3%), and cell apoptosis (accounting for 3.3%). This suggested that the differential expression of genes in the stalks can be analyzed with SCoT technique,and some fragments may be related to the stalk elongation of surgarcane.
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【题目】机械化深耕深松栽培对甘蔗生长及产量的影响
【中文关键词】机械化;深耕深松;甘蔗;生长;产量
【英文关键词】mechanized; deep ploughing and scarification; sugarcane; growth; yield
【中文摘要】为评价机械化深耕深松栽培模式的保水保肥效果和对甘蔗生产的影响,进行了机械化深耕深松栽培和常规耕作栽培对甘蔗生长及产量的影响试验。结果显示,机械化深耕深松栽培能明显增加土壤的含水量;深耕深松栽培比常规耕作栽培的甘蔗出苗率高17.8%,分蘖率高13.4%;甘蔗生长速度加快、根系发达;甘蔗成熟期的株高、茎径、蔗糖分、青叶数提高;每公顷增产原料蔗7.22 t,增收2346.5元,增糖1.35 t。机械化深耕深松栽培甘蔗增产增收效益显著,可在甘蔗生产中推广应用。
【英文摘要】The present experiment has been conducted to study the effects of mechanized deep ploughing and scarification cultivation technology on growth and yield of sugarcane in order to evaluate the effects of fertilizer and water conservation and growth of sugarcane. The results showed that soil moisture content significantly increased with mechanized deep plough-ing and scarification cultivation treatment,and emergence and tillering rates increased by 17.8% and 13.4%, respectively,compared to conventional tillage cultivation treatment. The plants grew more rapidly along with more developed roots, thick stem, more leaves and sucrose content. Its millable cane yield, income and sugar yield increased by 7.22 ton,2346.5 yuan and 1.35 ton per hectare, respectively. It is recommended that mechanized deep ploughing and scarification cultivation technique should be popularized widely for cost saving and improv-ement in benefits from sugarcane production.
【语种】中文

【第一作者】廖青
【通讯作者】李杨瑞
【期刊名称、卷期、页码】广西农业科学,2010,41(6):542-544
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【学科分类】农艺学

【题目】甘蔗地埋式滴灌施肥效应
【中文关键词】甘蔗;地埋式滴灌;产量;品质
【英文关键词】sugarcane; buried drip irrigation; yield; quality
【中文摘要】以甘蔗品种新台糖28号为试材,进行不同施肥处理(滴灌施肥、常规施肥+无滴灌、常规施肥+滴灌、不施肥+滴灌)对比试验,探讨地埋式滴灌施肥对甘蔗产量和品质的影响。结果表明,在施肥量相同的条件下,滴灌施肥和常规施肥+滴灌处理能促进甘蔗早生快发,增加有效分蘖,生长后期能促进甘蔗茎伸长、增粗,提高甘蔗产量,与无滴灌处理相比,分别增产31.9%、22.8%,增收2205.6、78.2元/ha。可见,滴灌施肥应用于甘蔗生产能够获得显著的经济效益,是旱地甘蔗高效节本栽培重要措施之一。
【英文摘要】Sugarcane variety ROC28 was used to investigate the effects of sub -soil drip fertigation on yield and quality of sugarcane. Four different fertilization treatments, viz., drip fertiga-tion, conventional fertilization without drip irrigation, conventional fertilization with drip irrigation and drip irrigation without fertilization were designed in sugarcane field. The fertilizer amount used was as follows: N @ 375 kg/ha, P2O5 @ 195 kg/ha, K2O @ 420 kg/ha, ZnSO4 · 7H2O @15kg/ha and borax @15 kg/ha. The treatments of drip fertigation and conventional fertilization with drip irrigation promoted faster and earlier growth of sugarcane, increased number of tillers, improved elongation and widening of stalk at later growth stage, and increased yield with 31.9 and 22.8% with 2205.6 and 78.2 Yuan RMB/ha of income as compared to the conventional fertilization without drip irrigation. Therefore, application of drip fertigation may be recommended as one of important measures for highly effective cost-saving sugarcane cultivation in upland.
【语种】中文
【第一作者】陈桂芬
【通讯作者】陈桂芬
【期刊名称、卷期、页码】广西农业科学,2010,41,(6):573-576
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【学科分类】农艺学

【题目】地下滴灌条件下氮磷钾配施对甘蔗产量及其构成因素的影响
【中文关键词】地下滴灌;氮磷钾配施;甘蔗;产量构成因素
【英文关键词】subsurface drip irrigation;combined application of nitrogen,phosphorus and potassium;sugarcane;eomponents of sugarcane yield
【中文摘要】采用农业部《测土配方施肥技术规范》推荐的“ 3414 ”方案设计,研究了地下滴灌条件下氮磷钾配施对甘蔗产量及其构成因素的影响。结果表明:在试验条件下,甘蔗产量最高的是处理N2PoK2达114.0 t/ha,比不施肥处理N2PoK2增产28.4%,达显著差异水平;氮肥对甘蔗有效茎数和下部茎径影响最大,其中对下部茎径的影响达显著差异水平,磷、钾肥对甘蔗产量构成因素也有一定影响;地上部分干重、有效茎数与甘蔗产量呈显著正相关,是决定甘蔗产量的主要因素。因此,实际生产中应重视地下滴灌与氮磷钾配方施肥技术的合理运用,以提高甘蔗产量和效益,促进甘蔗产业跨越式发展。
【英文摘要】A field experiment was conducted to study the efects of combined application of nitrogen(N),phosphorus(P)and potassium(K)on sugarcane yield and its components under subsurface drip irrigation using ‘ 3414 ’ project design which was recommended by the technical rule of soil testing and formulated fertilization.The results showed that under experimental conditions the highest sugarcane yield(114.0 t/ha)was obtained in the treatment of N2P0K2,(375.00,0 and 420.00 kg/ha N,P205 and K2O,respectively)and 28.4% significantly higher than the treatment of N (No N,P and K fertilizer).Nitrogen fertilizer was the most important factor which afected the number of millable stalks and diameter of bot.tom intemodes.The influence of nitrogen on diameter of bottom interuodes was significant.Phosphorus and potassium fer-tilizers also showed influences on the components of sugarcane yield.Th e sugarcane yield was positively correlated with the aboveground dry weight and millable stalks and they were the main factors

that have the greatest efects on the sugarcane yield.Therefore,proper use of subsurface drip irrigation and combined application of N,P and K were conducive to in-crease sugarcane yield and impel the sugarcane industry to implement leap-forwarddevelopment.
【语种】中文
【第一作者】徐林
【通讯作者】李杨瑞
【期刊名称、卷期、页码】广西农业科学, 2010, 41(8):800-803
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【引文索引号】null
【学科分类】农艺学

【题目】利用cDNA-SRAP 分析赤霉素诱导甘蔗节间伸长的差异表达
【中文关键词】赤霉素;甘蔗;cDNA-SRAP;差异表达
【英文关键词】gibberellin; sugarcane; cDNA-SRAP; differential expression
【中文摘要】【目的】探寻赤霉素诱导甘蔗节间伸长基因表达差异的分子基础,为分离节间伸长相关基因奠定基础。【方法】以新台糖22 号为材料,在伸长初期以浓度为200 mg · L-1 的赤霉素进行叶面喷施,以喷施清水为对照,分别提取总RNA进行等量混合,获得2 种不同处理的样品池,采用cDNA-SRAP 技术进行基因差异表达分析。【结果】700 对引物组合共扩增到约15 000 条、大小在50—750 bp 的cDNA 片段。在GA3 处理组和对照组中,甘蔗幼茎中的转录水平具有很大的差异,获得134 条差异条带。从反向Northern 杂交结果阳性的S-TDFs 中选取24 个片段进行克隆和序列分析,按照功能可以将24 个差异表达基因片段S-TDFs(cDNA-SRAP transcript derived fragments)分为6 类,分别为能量与代谢相关基因(4 条,占总数的16.67%)、未知功能蛋白基因(6 条,占总数的25%)、未知基因(10 条,占总数的41.66%)、细胞壁生物合成与修饰相关基因(1条,占总数的4.17%)、信号传导相关基因(2 条,占总数的8.33%)和转录因子相关基因(1 条,占总数的4.17%)。【结论】cDNA-SRAP 完全适用于差异表达分析,从中获得一些与甘蔗节间伸长相关的差异基因片段,这些基因可用于甘蔗节间伸长的分子机理研究。
【英文摘要】【Objective】 The research was carried out to explore the molecular basis of the differential expression of GA-induced stem elongation genes of sugarcane and isolation of elongation related genes. 【Method】 The plants were sprayed with gibberellin (GA3) at concentration of 200 mg · L-1 at early elongation stage, with water spraying as control. After extraction,equal quantity of the total RNAs of the same treatment was mixed to get two different mixed RNA pools for the GA3 treatment and the control.By cDNA-SRAP technique, different expressions of the genes were analyzed. 【Result】 Using 700 pairs of primers,about 15 000 cDNA fragments in size between 50-750 bp were amplified. Some fragments were different between the GA3treatment and the control for different gene transcriptions in the young stem of sugarcane. Among them, 134 different cDNA fragments were selected. After reverse Northern blot analysis, 24 positive S-TDFs (cDNA-SRAP transcript derived fragments) were selected for cloning and sequencing analysis. After BLAST analysis, the 24 S-TDFs were divided into six categories according to gene function: energy and metabolism-related genes (4, accounting for 16.67%), genes of unknown functional proteins (6,accounting for 25%), unknown genes (10,accounting for 41.66%), cell wall biosynthesis and modification related genes (2, accounting for 8.33%), and transcription factor-related genes (1, accounting for 4.17%). 【Conclusion】 This study shows that the cDNA-SRAP technique is applicable to the analysis of gene differential expression. Some fragments of differentially expressed genesassociated with sugarcane stem elongation were obtained, and may be used for investigating the molecular mechanism of sugarcane stem elongation.
【语种】中文
【第一作者】吴建明
【通讯作者】李杨瑞
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【学科分类】分子生物学

【题目】用ISSR标记分析红麻种质资源的遗传多样性
【中文关键词】红麻; 种质资源; ISSR; 遗传多样性; 聚类分析

【英文关键词】K enaf(H ibiscus cannabinus L.) ; Germp lasm; ISSR; G enet ic d iversity; C luster analysis
【中文摘要】为明确红麻种质资源的遗传多样性和亲缘关系, 以20个国家的32份红麻(H ibiscus cannabinus L.)种质资源为材料, 从90个ISSR引物中筛选出22个多态性引物对供试材料进行PCR扩增, 最终选用条带最清晰、多态性明显的13个引物的扩增数据进行统计分析。结果表明: (1) 13条ISSR 多态性引物共扩增出谱带总数59条, 多态性条带总数为47条, 多态性条带比率达79 66%, 其遗传多样性较丰富; (2)在切割线L1取值为0 73时, 可将供试材料分为一个由22份栽培品种构成的L1- 1大类群, 以及由8份野生材料和2份古老地方品种构成的3个独立的个类和3个不同小类群。(3)当切割线L2 取值为0 77时, 又可将第1个大类群L1- 1中22份栽培品种根据其亲缘关系, 重新划分为I1、I2、I3、I4 4个不同的亚类群, 各亚类群表现出明显的地域性特点。(4) 聚类结果显示, 红麻多数栽培品种之间的遗传差异较小, 亲缘关系较近, 其遗传多样性比野生材料明显狭窄。
【英文摘要】无
【语种】中文
【第一作者】林荔辉
【通讯作者】祁建民
【期刊名称、卷期、页码】武汉植物学研究, 26(3):240-244,2008
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【学科分类】农业基础学科

【题目】EFFECTS OF DIRECT APPLICATION OF VINASSE ON SUGARCANE AT MULTIPLE LOCATIONS IN CHINA
【中文关键词】无
【英文关键词】Sugarcane, vinasse, application
【中文摘要】无
【英文摘要】Aims:The present study was performed to determine the effect of vinasse application in upland sugarcane field.Methods and results: The experiments were conducted with the technique of direct rational application of vinasse developed by Guangxi Academy of Agricultural Sciences at five locations, viz., Shang-si, Fu-sui, Wuxuan,You-jiang and Long-an in Guangxi, China. The results of the 2 years multiple location experiments showed 90.58, 93.21 and 94.15 t/ha average cane yield at 45, 75 and 105 t/ha vinasse application, respectively. This was 10.39, 13.60 and 14.74% higher than that of non-fertilizer, and 5.64, 8.71 and 9.8% higher than that of the conventional fertilizer controls, respectively. The results of cane quality analysis showed 14.27, 14.43 and 14.33% sucrose content in the vinasse treatments, which were 0.17, 0.33 and 0.23% higher than non-fertilizer, and 0.10,0.26 and 0.16% higher than that of the conventional fertilizer control, at 45, 75 and 105 t/ha vinasse application,respectively..Significance of study: It is confirmed that fresh vinasse could be applied directly in sugarcane fields with the technique of direct rational application system. Among the three treatments, 75 and 105 t/ha vinasse showed better results. Rational vinasse application in sugarcane in the upland areas improved both cane tonnage and sucrose content, reduced production cost, and reduced the environmental pollution.
【语种】英文
【第一作者】朱秋珍
【通讯作者】朱秋珍
【期刊名称、卷期、页码】Proceedings of the International Conference IS-2008, Al Arish, Egypt, September 11-14, 2008). Engineering House Press Co., Cairo, Egypt, 2008, pp.48-51
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【学科分类】农艺学

【题目】转Bt基因抗虫红麻福红952后代的分子杂交验证
【中文关键词】红麻; B t转基因; PCR; Southe rn杂交
【英文关键词】kena;f B t-transgene; PCR; Southern bo lt
【中文摘要】利用花粉管通道法将抗虫质粒DNA 导入受体红麻品种福红952, 在受体品种中获得B t抗虫目的基因的表达. 分别用PCR和Southern杂交技术, 对所转化的红麻转基因4个世代的株系进行分子验证, 结果表明: 4个世代中都检测到B t 抗虫目的基因片段, 说明外源基因已经整合到红麻的基因组中并获得了稳定遗传.

【英文摘要】无
【语种】中文
【第一作者】祁建民
【通讯作者】祁建民
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【学科分类】农学其他学科

【题目】苎麻纤维发育相关基因FB27表达与纤维细度相关研究
【中文关键词】苎麻;纤维细度;RT-PCR;纤维发育相关基因
【英文关键词】ramie;fiber fineness;RT- PCR;fiber development related gene
【中文摘要】利用半定量RT-PCR技术研究了纤维蛋白FB27基因在不同组织、不同基因型和不同时期的茎皮中的表达情况。结果表明,苎麻FB27基因的表达不具有组织特异性,但在苎麻纤维组织高度发达、纤维组成成分最多的茎部表达量最高,尤其是茎皮;在高纤维细度种质中相对表达量较高,在低纤维细度种质中相对表达量较低;在不同的生长季FB27基因的相对表达量为:头麻>三麻>二麻。在同季麻不同生长发育时期,伸长增粗期FB27基因的相对表达量较高,苗期和工艺成熟期较低。苎麻纤维发育相关基因FB27的表达程度与纤维细度表现出正相关。
【英文摘要】无
【语种】中文
【第一作者】栾明宝
【通讯作者】陈建华
【期刊名称、卷期、页码】中国麻业科学,31(6),2009
【论文发表时间】2009-11-16 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农业基础学科

【题目】CHANGES OF MICROTUBULE CYTOSKELETON IN THE STEM TIP CELLS OF SUGARCANE DURING MITOSIS
【中文关键词】无
【英文关键词】microtubule cycles, microtubule cytoskeleton, mitosis, sugarcane
【中文摘要】无
【英文摘要】Aim: The study is an attempt to investigate the changes in arrangement and transformation of microtubule array and its relation with chromosome movement in sugarcane stem tip cells.Methods and results: Freezing microtome, indirect immunofluorescence, DAPl staining and fluorescence microscopy were applied for detection of the changes in microtubules insugarcane stem tip cells during mitosis. The results showed the presence of intact nucleolus until the formation of cortical microtubules, and the cortical microtubules were changed into phramoplast microtubule bands at mitosis prophase. When the formation of phramoplast microtubule started, the nuclear membrane was ruptured and the chromosomes were arranged atthe position of cell plate. Phramoplast microtubules were short initially but started to increase gradually on the sides of cell plate. During this course, sister chromatid was separated by microtubules at cell plate and moved to different poles, forming phramoplast microtubules. This was followed by the formation of nucleoli for two daughter cells which get separated at the end of mitosis.Significance of study:Cell division orientation may be judged from the arrangement of cell microtubules in different growth periods.
【语种】英文
【第一作者】苏丽丽
【通讯作者】李志刚
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【学科分类】细胞生物学

【题目】EFFECT OF ETHEPHON ON CARBON AND NITROGEN NUTRITION AT TILLERING STAGE OF SUGARCANE
【中文关键词】无
【英文关键词】sugarcane, ethephon, tillering, nutrition
【中文摘要】无
【英文摘要】Aims: The present work was carried out to investigate the effects of ethephon on the dynamic changes in soluble sugars and the water soluble proteins facilitating high tillering in sugarcane. We have also tried to investigate the mechanism of its stimulation due to ethephon application.Methods and Results: The experiment was carried out using the foliar spray of ethephon at four concentrations, viz., 0, 100, 200 and 400 mg/l, on leaves of sugarcane varieties ROC22 and ROC10 at the young shoot stage (four to five leaves). The results showed that the ethephon treatments increased the soluble sugar content in the basal part of stems, but it showed the opposite effect in the leaves. The ethephon treatments initially showed aninhibitory effect on the water soluble protein content which later on diminishes with the growth of plant.Significance of study: It can be concluded that the changes in the soluble sugar and water soluble protein content in the leaves and basal portions of mother shoot helped in the tillering process.
【语种】英文
【第一作者】吴凯朝
【通讯作者】李杨瑞
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【引文索引号】null
【学科分类】农艺学

【题目】陆地棉品种抗黄萎病性状的分子标记及其辅助选择效果
【中文关键词】陆地棉; 抗黄萎病; SSR; QT Ls; 分子标记辅助选择
【英文关键词】upland cot ton (Gossy p ium hi rsutum L.) ; Vert i cil lum w ilt disease resistance; SSR; QT Ls; mo lecular marker assistant select ion
【中文摘要】利用综合性状优良、适应性广、抗黄萎病的鲁棉研22 号与渐渗了海岛棉优异纤维基因的鲁原343 组配杂交组合, 对F2: 3家系在不同发病时期进行黄萎病鉴定, 并以SSR 标记对抗黄萎病性状进行定位分析。在棉花发病相对较轻的7月份检测到1 个位点(qVWR 16 1a) 与抗黄萎病有关; 在发病较重的8 月份, 检测到3 个QT Ls 位点与抗黄萎病有关, 其中1 个QT L(qVWR 16 1b) 与7 月份检测到的位点qVWR 16 1a 为同一位点, 能解释的表型变异为10. 27%, 与NAU751 连锁较紧密, 另外2 个与BNL1395 和BN L3590 连锁较紧密的位点qV WR 16 2b、qVWR 2 1b, 能解释的表型变异分别为10. 8% 和13. 78%。利用检测到的与3个QTL 位点连锁较紧密的SSR 标记对杂交后代辅助鉴定, 发现标记NAU 751 和BNL1395的抗性基因型均能显著增加后代的黄萎病抗性, 两个标记的抗性基因型聚合后, 后代抗性水平提高极显著。分子标记辅助抗病选择应用于优异纤维渐渗系杂交后代的鉴定中, 可以培育出既优质又抗病的棉花新品种。
【英文摘要】无
【语种】中文
【第一作者】王芙蓉
【通讯作者】张军
【期刊名称、卷期、页码】棉花学报2007,19(6)424-430
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【学科分类】农业基础学科

【题目】猪链球菌2型血清混浊因子基因的鉴定及其结构特征分析
【中文关键词】Ⅱ型猪链球菌;血清混浊因子;多态性

【英文关键词】Streptococcus suis type 2, serum opacity factor, polymorphisms

【中文摘要】猪链球菌是猪的主要病原,也可导致人感染,其致病机理尚未明确。作者设计了1对特异性引物,采用特异性PCR从2株猪链球菌血清2型606中国分离株和607日本分离株的基因组中,分离出2种血清混浊因子(ofs)基因,全长3016bp,编码938个氨基酸,其中日本分离株607的ofs基因序列与已知基因完全相同。中国分离株606的ofs基因与已知基因相差7个碱基,导致3个氨基酸替换,其中1个突变(Asp353Gly)位于蛋白的N端功能区,可能影响其血清混浊功能;另外2个氨基酸突变位于蛋白的C端重复区内。从2种OFS蛋白中,找出了细菌黏附因子共有的结构特征,2种OFS蛋白C端区含有保守的LPXTG结构,使OFS蛋白可固定于细菌的表面,但其中的3个重复序列与纤黏蛋白结合蛋白A等的相似性很低,两种OFS蛋白可能通过特殊的途径协助猪链球菌的黏附。猪链球菌ofs基因中重复序列和突变使得编码的蛋白表现出丰富的长度多态性。本研究获得的2种OFS属于中等长度的蛋白,均来自强毒力型猪链球菌。这些结果提示菌株606和607携带的ofs基因可能是猪链球菌的毒力基因,对猪链球菌的致病机理及其防治具有重要的意义。

【英文摘要】Streptococcus suis is a swine pathogen which causes serious inflammation of piglets. It can infect people in contact with diseased pig or its by-products. The mechanisms of S. suis pathogenesis are poorly understood. Taking two S. suis serotype 2 strains 606 isolated from China and 607 from Japan as samples, opacity factor of S. suis (ofs) genes were amplified from the genomic DNA of these bacteria by PCR method. The ofs genes contained 3016 bp which encoded fro 938 aa based on alignment analysis. The identity of nucleotide sequence of ofs gene from SS2 strain 607 was 100% to the reported SS2 genes while seven nucleotides in ofs of SS2 strain 606 were different and resulted in three amino acids substitution. One of the substitutions located at the N-terminal region of OFS protein in which glycin (without charge) was changed to be aspartic acid (with negative charge). It was proposed that the change would have an effect on the OFS ability to opacify serum of mammals. The other two substitutions were found from the repeats in C-terminal region of OFS in SS2 strain 606. Furthermonre, the length and amino acid constitute of three repeats in OFS of SS2 strain 606 and 607 was very divergent from that of fibronectin-binding protein A (FnBA) of Streptococcus dysgalactiae. It was suggested that the pathway of OFS protein binding to fibronectin of host cells might be different from that of FnBA. However, OFS proteins did carry the typical structural elements of MSCRAMMs (microbial surface components recognizing adhesive matrix molecules) with a large N-terminal region, specific repeats and LPXTG domain elements in the C-terminal region. It could be presumed that OFS of SS2 strain 606 and 607 function as an adhesion combined on the surface of bacteria and bind the fibronectin with its repeats at the C-terminus. The correlation between the OFS with moderate size (938 aa) and the high virulence of streptococci implied that ofs gene was a pivotal virulent gene of SS2 strain 606 and 607.

【语种】中文

【第一作者】冯亚莉

【通讯作者】王嘉福

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【引文索引类型】其他

【引文索引号】null

【学科分类】畜牧学

【题目】糯谷猪瘦肉率相关基因的表达与骨骼肌细胞生长的相关性

【中文关键词】糯谷猪; MSTN; CDK2; IGF2; HSL; 骨骼肌细胞

【英文关键词】Nuogu pig; MSTN; CDK2; IGF2; HSL; Skeletal muscle cells

【中文摘要】本试验旨在探讨肌肉生长抑制素(my ostatin, MSTN) 、细胞周期蛋白依赖性蛋白激酶2(cyclin dependent kinase 2, CDK2) 、胰岛素样生长因子2(insulin like growth factor 2, IGF2) 和激素敏感脂肪酶(hormone sensitive lipase, HSL) 对地方猪品种骨骼肌细胞生长及脂肪代谢的调节作用。选用贵州省地方优良品种糯谷猪为试验材料,外二元杂交猪(长X 大) 为对照, 应用RT-PCR 和免疫组织化学方法研究骨骼肌MSTN、IGF2 及HSL 基因的表达,及其蛋白在肌细胞中的定位和分布, 并测定肌细胞中CDK2 的活性。结果表明: 糯谷猪骨骼肌MSTN mRNA 的表达量略高于外二元杂交猪(P > 0. 05) , IGF2 基因表达量极显著高于对照(P < 0. 01) , HSL 基因表达量低于对照(P < 0. 05) 。骨骼肌细胞中MSTN、I GF2、HSL 阳性信号均定位于细胞质, 与外二元杂交猪相比, 糯谷猪骨骼肌细胞中MSTN 和IGF2 的表达量较高(P< 0. 05) , HSL 的表达量较低(P< 0. 01) , CDK2 的活性较低(P< 0. 01) 。相关性分析结果提示, MSTN 和IGF2 基因的高表达、CDK2 的低活性使糯谷猪骨骼肌细胞的数量减少, MSTN 和IGF2协作使糯谷猪肌细胞出现一定的增生效应, HSL 和IGF2 共同促进糯谷猪的脂肪沉积, 这些因子综合作用导致糯谷猪的瘦肉率较低。

【英文摘要】无

【语种】中文

【第一作者】冯诚诚
【通讯作者】冉雪琴
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【引文索引号】null
【学科分类】畜牧、兽医科学基础学科

【题目】猪水肿病大肠杆菌贵州分离株毒素Stx2e对Vero细胞的毒性作用
【中文关键词】大肠杆菌; 志贺毒素; 细胞毒性; Vero细胞; 细胞凋亡
【英文关键词】Escherichia coli; Stx2e; cytotoxicity; Vero cell; apoptosis
【中文摘要】猪水肿病毒素即II型志贺毒素变异体e亚型(Shiga toxin 2e, Stx2e)。采用吖啶橙/溴化乙锭(AO /EB) 双荧光染色法和四甲基偶氮唑盐(MTT) 比色法, 比较了从患水肿病猪粪便样品中分离的28株大肠杆菌所产志贺毒素对Vero细胞的毒性作用。结果显示, MTT 比色法检测的细胞比活力与AO /EB染色法检测的正常细胞与早期凋亡细胞比率之和呈正相关。将28株菌株产生的Stx2e作用于Vero细胞, 均能抑制Vero细胞的生长, 并诱导Vero细胞的凋亡; 其中8株病原菌所产Stx2e毒素对Vero细胞的毒性作用强于O157: H7。这些毒素的毒力差异可能与其A 亚基基因的结构变异有关。结果提示, 贵州分离的产Stx2e大肠杆菌的毒力存在一定差异, 其中部分菌株的毒力作用较强, 应加强对养殖场仔猪的保护。
【英文摘要】无
【语种】中文
【第一作者】臧广超
【通讯作者】王嘉福
【期刊名称、卷期、页码】畜牧与兽医,2010,42(7):8-11
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【学科分类】畜牧、兽医科学基础学科

【题目】EFFECT OF ETHEPHON ON THE ACTIVITIES OF H+-ATPASE AND BOUND- ATPASE AT TILLERING STAGE OF SUGARCANE
【中文关键词】无
【英文关键词】sugarcane, ethephon; tillering, H+-ATPase, bound-ATPase
【中文摘要】无
【英文摘要】Aims:The present work was carried out to investigate the effect of Ethephon on the ctivities of H+-ATPase and bound-ATPase at sugarcane tillering stage in order to illustrate the mechanism of tillering stimulation by ethephon.Methods and Results: Two experiments, i.e., outdoor and greenhouse experiments were conducted with the sugarcane varieties ROC22 and ROC10, and ROC22 and ROC16, respectively as the plant materials. Four solutions with different concentrations of ethephon, i.e. 0 mg/l, 100 mg/l, 200 mg/l and 400 mg/l, were sprayed on the plant leaves at the young shoot stage (four to five leaves). The results showed that the ethephon treatments had obvious effect on promoting the activities of H+-ATPase and bound-ATPase in the leaves and basal stems of sugarcane plants.Significance of study: The results provide biochemical reference for the application of ethephon in commercialsugarcane production.
【语种】英文
【第一作者】吴凯朝
【通讯作者】李杨瑞
【期刊名称、卷期、页码】Proceedings of the International Conference IS-2008, Al Arish, Egypt, September 11-14, 2008. Engineering House Press Co., Cairo, Egypt, 2008, pp.457-461
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【引文索引类型】其他
【引文索引号】null
【学科分类】生理学

【题目】EFFECTS OF ETHEPHON ON TILLERING, GAS EXCHANGE AND CANE YIELD OF SUGARCANE UNDER DROUGHT CONDITION
【中文关键词】无
【英文关键词】Drought, ethephon, gas exchange, Sugarcane, tillering, WUE, yield
【中文摘要】无
【英文摘要】Aims: The present study is an attempt to investigate the effects of ethephon application on tillering, gas exchange characteristics and yield of the sugarcane under drought conditions.Methods and results: Two sugarcane varieties viz., ROC22 and ROC16, which have different tillering ability and responses to drought stress, were grown in pots and field conditions. The Ethephon application (40%) and water withholding treatments (Drought- controlling the relative water content of soil at 40-45% for three days) given in pots are as follows: (i) CK1-0 mg/l ethephon [foliar spray of water] + Normal irrigation, (ii) CK2-0 mg/l ethephon+ drought, (iii) 100 mg/l ethephon + drought, (iv) 200 mg/l ethephon + drought and (v) 400 mg/l ethephon + drought. In field same treatments has been followed except (ii). Results showed an increase in net photosynthesis,stomatal conductance and decreased water use efficiency in plants imposed to drought stress. The ethephon treatments also resulted in increased tiller production and yield of the sugarcane.Significance of study: Ethephon treated at tillering stage improved the drought resistance of sugarcane by decreasing water use efficiency and promoted the tillering, thus increased the millable stalks of sugarcane. The treatments with 100-200 mg/l ethephon improved the gas exchange and cane yield of sugarcane under drought and low light conditions. Early application of ethephon might improve the yield of sugarcane under drought conditions.
【语种】英文
【第一作者】叶燕萍
【通讯作者】李杨瑞
【期刊名称、卷期、页码】Proceedings of the International Conference IS-2008, Al Arish, Egypt, September 11-14, 2008. Engineering House Press Co., Cairo, Egypt, 2008, pp.462-4
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【引文索引类型】其他
【引文索引号】null
【学科分类】农艺学

【题目】SDS-PAGE PROTEIN PROFILE OF SUGARCANE PLANTLETS UNDER DROUGHT STRESS CONDITIONS
【中文关键词】无
【英文关键词】Sugarcane, drought stress, stress proteins, SDS -PAGE
【中文摘要】无
【英文摘要】Aims: This research work was carried out to investigate the changes in SDS-PAGE protein profile in sugarcaneplantlets subjected to drought stress conditions.Methods and Results: The plants of sugarcane variety ROC16 were grown in sand culture until their stalks grew to about 25 cm height. The plants were treated with nutrient solution containing 10% (W/V)polyethylene glycol 6000 (PEG 6000) for simulating drought stress. The samples of root, stem and leaf were taken at different times.The proteins from different tissue samples were extracted with Tris-saturated phenol and were separated by SDSPAGE.The results showed that: the expression of proteins at molecular weight of 52, 40, 37, 31, 25 and 18.4 KDa in leaf increased in the early drought stress (i.e., at 2 and 5h), while it generally decreased at 8, 11, 14 and 24hstress. For the stems, the protein expression were quite different from leaves, the proteins with 91, 66, 52, 40, 35,30, 25, 18.4 and 16 KDa increased markedly at 2 and 5h, and generally declined after 8, 11 and 14h drought treatment, A new protein band (60KDa) was found in roots at 5h PEG stress, which may be related to the drought resistance.Significance of study: Sugarcane is the most important sugar crop in China, and is also one of the most promising regenerative energy crops. Drought is one of major stresses limiting sugarcane and sugar productivity.The study of protein expression under water deficit is to help understanding the mechanism of drought-resistance and breeding new drought-tolerant varieties of sugarcane.
【语种】英文
【第一作者】周桂
【通讯作者】李杨瑞
【期刊名称、卷期、页码】Proceedings of the International Conference IS-2008, Al Arish, Egypt, September 11-14, 2008. Engineering House Press Co., Cairo, Egypt, 2008, pp.472-4

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【学科分类】分子生物学

【题目】EFFECTS OF SEED SOAKING IN ETHEPHON SOLUTION ON POLYAMINE CONTENT IN SUGARCANE ROOTS
【中文关键词】无
【英文关键词】water stress, ethephon, sugarcane, polyamine, water potential
【中文摘要】无
【英文摘要】Aim: The present study was conducted to elucidate the mechanism of drought resistance in sugarcane due to ethephon application.Methods and Results: The setts of three sugarcane varieties viz., ROC22, GT17, and ROC10 were soaked in three different solutions containing ethephon (0, 100 and 200 mg/l) for 10 minutes before planting. The changes of polyamine in root, water potential of leaf and water content of soil were analyzed. The results showed accumulation of polyamines viz., spermine (Spm), spermidime (Spd) and putrescine (Put) in root of sugarcane under water stress. Varieties, ROC22 and ROC10 had higher polyamine concentration compared to GT17 at 100 and 200 mg/l ethephon. However, the activity of polyamine oxidase (PAO) in roots was found lower compared to control at both levels of ethephon. The 100 and 200 mg/l ethephon treatments helped in reducing the decreased waterpotential in leaves due to water stress, more pronouncedly at 200mg/l ethephon.Significance of study: Results revealed that soaking setts in ethephon increased the drought resistance in sugarcane.The application of ethephon in rainfed upland areas may be recommended forsustaining sugarcane productivity.
【语种】英文
【第一作者】王威豪
【通讯作者】李杨瑞
【期刊名称、卷期、页码】Proceedings of the International Conference IS-2008, Al Arish, Egypt, September 11-14, 2008. Engineering House Press Co., Cairo, Egypt, 2008, pp.47
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【学科分类】生理学

【题目】稻果皮色泽近等基因系的构建及近等性评价
【中文关键词】果皮色泽; 近等基因系; 农艺性状; 分子标记; 近等性; 水稻
【英文关键词】pericarp color; near isogenic line; agronomic trait; molecular marker; near isogenicity; rice
【中文摘要】以紫香糯和春江糯2号为亲本,利用F2、BC1F1和F3分离群体对果皮色泽性状进行遗传分析,并构建了7对果皮色泽近等基因系。遗传分析结果表明紫香糯果皮的色泽性状由两对互补基因控制。对7对近等基因系进行的性状相似性和遗传背景的SSR分子标记检测结果表明,近等基因系间在农艺性状上除了千粒重外,其他性状差异均不显著。利用34对亲本间多态性SSR分子标记,发现5对黑、白近等基因系仅在目标基因区段检测到了多态性标记,近等性比较理想;2对黑、褐近等基因系除了目标区段外,还分别在第11、12染色体检测到了多态性标记,近等性较差。
【英文摘要】The inheritance of purple pericarp was studied through genetic analysis using F2,BC1F1 and F3 from a cross between a purple pericarp rice variety Zixiangnuo and a white pericarp rice variety Chunjiangnuo 2. Seven pairs of near isogenic lines(NILs) for pericarp color of rice were further constructed. The genetic analysis indicated that the purple pericarp was controlled by two complementary genes (Pb and Pp). Analyses on agronomic traits showed that no significant differences on agronomic traits were found among NILs except grain weight. The polymorphic SSR markers for the two parents were detected only in target segments of the five pairs of NILs different in Pb,which revealed that the near isogenicities of them were fine. However,for the two pairs of NILs different in Pp,the polymorphic markers for the two parents were detected as well as in non-target segments of chromosomes 11 and 12,respectively.
【语种】中文
【第一作者】王晓光
【通讯作者】杨长登
【期刊名称、卷期、页码】中国水稻科学,2009,23(2):135-140

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【引文索引号】无
【学科分类】分子生物学

【题目】Construction of Near Isogenic Lines for Pericarp Color and Evaluationon Their Near isogenicity in Rice
【中文关键词】果皮色泽; 近等基因系; 农艺性状; 分子标记; 近等性; 水稻
【英文关键词】pericarp color; near isogenic line; agronomic trait; molecular marker; near isogenicity; rice
【中文摘要】以紫香糯和春江糯2号为亲本,利用F2、BC1F1和F3分离群体对果皮色泽性状进行遗传分析,并构建了7对果皮色泽近等基因系。遗传分析结果表明紫香糯果皮的色泽性状由两对互补基因控制。对7对近等基因系进行的性状相似性和遗传背景的SSR分子标记检测结果表明,近等基因系间在农艺性状上除了千粒重外,其他性状差异均不显著。利用34对亲本间多态性SSR分子标记,发现5对黑、白近等基因系仅在目标基因区段检测到了多态性标记,近等性比较理想;2对黑、褐近等基因系除了目标区段外,还分别在第11、12染色体检测到了多态性标记,近等性较差。
【英文摘要】The inheritance of purple pericarp was studied through genetic analysis using F2,BC1F1 and F3 from a cross between a purple pericarp rice variety Zixiangnuo and a white pericarp rice variety Chunjiangnuo 2. Seven pairs of near isogenic lines(NILs) for pericarp color of rice were further constructed. The genetic analysis indicated that the purple pericarp was controlled by two complementary genes (Pb and Pp). Analyses on agronomic traits showed that no significant differences on agronomic traits were found among NILs except grain weight. The polymorphic SSR markers for the two parents were detected only in target segments of the five pairs of NILs different in Pb,which revealed that the near isogenicities of them were fine. However,for the two pairs of NILs different in Pp,the polymorphic markers for the two parents were detected as well as in non-target segments of chromosomes 11 and 12,respectively.
【语种】英文
【第一作者】王晓光
【通讯作者】杨长登
【期刊名称、卷期、页码】Rice Science, 2009, 16(4): 261 – 266
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【引文索引类型】其他
【引文索引号】无
【学科分类】分子生物学

【题目】一新的水稻多蘖矮秆突变体的分离及基因的精细定位
【中文关键词】水稻　多蘖矮秆　株型　TDDL(T)基因　精细定位　赤霉素　矮秆突变体　染色体长臂　基因控制　分子机制
【英文关键词】水稻　多蘖矮秆　株型　TDDL(T)基因　精细定位　赤霉素　矮秆突变体　染色体长臂　基因控制　分子机制
【中文摘要】水稻株型是影响稻米产量的重要农艺性状,而株高和分蘖是水稻株型的两大构成因素,因此对水稻多蘖矮秆突变体的研究不仅能为植物生长发育分子机制的阐明奠定基础,而且具有潜在的农业生产价值.我们从EMS化学诱变的籼稻IR64的后代筛选得到一稳定遗传的多蘖矮秆且叶色加深突变体,暂命名为tddl(t),它与已发现的多蘖矮秆突变体非等位.该突变体属于dn型矮秆,其矮秆性状与赤霉素、油菜素内酯和萘乙酸无关,因此推断其控制基因可能参与其他激素途径.组织细胞学分析表明,维管束薄壁细胞的减小导致了茎秆变细.遗传分析显示,该性状受单隐性核基因控制,精细定位将TDDL(T)基因锁定在水稻第4号染色体长臂85.51kb的物理距离内,在该区域共预测到20个候选基因.对该基因的进一步克隆将有助于水稻多蘖矮秆分子机制的阐明和应用于分子标记辅助育种.
【英文摘要】水稻株型是影响稻米产量的重要农艺性状,而株高和分蘖是水稻株型的两大构成因素,因此对水稻多蘖矮秆突变体的研究不仅能为植物生长发育分子机制的阐明奠定基础,而且具有潜在的农业生产价值.我们从EMS化学诱变的籼稻IR64的后代筛选得到一稳定遗传的多蘖矮秆且叶色加深突变体,暂命名为tddl(t),它与已发现的多蘖矮秆突变体非等位.该突变体属于dn型矮秆,其矮秆性状与赤霉素、油菜素内酯和萘乙酸无关,因此推断其控制基因可能参与其他激素途径.组织细胞学分析表明,维管束薄壁细胞的减小导致了茎秆变细.遗传分析显示,该性状受单隐性核基因控制,精细定位将TDDL(T)基因锁定在水稻第4号染色体长臂85.51kb的物理距离内,在该区域共预测到20个候选基因.对该基因的进一步克隆将有助于水稻多蘖矮秆分子机制的阐明和应用于分子标记辅助育种.

【语种】中文
【第一作者】高振宇
【通讯作者】钱前
【期刊名称、卷期、页码】科学通报,2009,54:1238-1243
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【学科分类】分子生物学

【题目】水稻白叶枯病抗性基因的发掘及在育种中的应用
【中文关键词】水稻; 白叶枯病; 抗性基因; 分子标记辅助选择
【英文关键词】水稻; 白叶枯病; 抗性基因; 分子标记辅助选择
【中文摘要】白叶枯病是水稻生产中最具危害性的病害之一。控制白叶枯病最有效的方式就是培育抗病品种。一直以来,生产中利用的抗白叶枯病品种其抗性基本上都是由主基因控制,然而由于白叶枯病菌的小种专化性,携有垂直抗性基因,特别是单基因的品种容易丧失抗性,所以只有采取基因轮换、多基因聚合等方式才能有效防止抗白叶枯病品种丧失抗性,而不断进行抗白叶枯病新基因的发掘则是开展相关工作的前提。本文对白叶枯病抗性基因的发掘、定位及分子标记开发的最新进展进行了概述;并介绍了国内外在分子标记辅助选择利用白叶枯病抗性主基因改良水稻抗白叶枯病方面的进展;最后鉴于目前在利用白叶枯病抗性主基因方面存在的问题进行了归纳,并提出了相应对策。
【英文摘要】白叶枯病是水稻生产中最具危害性的病害之一。控制白叶枯病最有效的方式就是培育抗病品种。一直以来,生产中利用的抗白叶枯病品种其抗性基本上都是由主基因控制,然而由于白叶枯病菌的小种专化性,携有垂直抗性基因,特别是单基因的品种容易丧失抗性,所以只有采取基因轮换、多基因聚合等方式才能有效防止抗白叶枯病品种丧失抗性,而不断进行抗白叶枯病新基因的发掘则是开展相关工作的前提。本文对白叶枯病抗性基因的发掘、定位及分子标记开发的最新进展进行了概述;并介绍了国内外在分子标记辅助选择利用白叶枯病抗性主基因改良水稻抗白叶枯病方面的进展;最后鉴于目前在利用白叶枯病抗性主基因方面存在的问题进行了归纳,并提出了相应对策。
【语种】中文
【第一作者】刘丙新
【通讯作者】杨长登
【期刊名称、卷期、页码】中国稻米,2010,16(2):10-15
【论文发表时间】2010-12-01 00:00:00
【引文索引类型】其他
【引文索引号】无
【学科分类】分子生物学

【题目】印水型“三系”不育系中22A的选育与特征特性
【中文关键词】中22A; 选育; 特征特性; 品种特异性
【英文关键词】中22A; 选育; 特征特性; 品种特异性
【中文摘要】本文总结了中22A的选育过程,检测了其在SSR标记上的特异性,并介绍了其特征特性及所配组合的产量表现。
【英文摘要】本文总结了中22A的选育过程,检测了其在SSR标记上的特异性,并介绍了其特征特性及所配组合的产量表现。
【语种】中文
【第一作者】季芝娟
【通讯作者】杨长登
【期刊名称、卷期、页码】中国稻米,2010,16(3):57-58
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【学科分类】分子生物学

【题目】EFFECTS OF MOLYBDENUM ON NITROGENASE ACTIVITY OF NITROGEN-FIXING BACTERIA IN SUGARCANE
【中文关键词】无
【英文关键词】Sugarcane, molybdenum, nitrogen-fixing bacteria, nitrogenase activity
【中文摘要】无
【英文摘要】Aims: The present study was conducted to investigate the effects of molybdenum on nitrogenase activity of nitrogen-fixing bacteria of sugarcane under greenhouse condition.Methods and Results: Two Brazilian nitrogen fixing sugarcane varieties viz., RB72/454 and RB86/7575 (B1 and B8) were used for pot culture in greenhouse conditions. Mo was applied with Hoagland ’ s solution at 4 graded levels viz., 0.0, 0.01, 0.02, and 0.04 mg/l. The results showed that, under nitrogenous conditions, low Mo promoted the nitrogenase activity of nitrogen-fixing bacteria in roots, while high Mo increased that in stems of both two sugarcane varieties, and leaves of the variety RB72/454. Under non-nitrogenous conditions, however, all Mo treatments increased the activities of nitrogenase of nitrogen fixing bacteria in leaves and stems of RB72/454, but decreased that in leaves, stems and roots of RB86/7575 as well as that in roots of RB72/454 as compared with the control. The nitrogenase activity in roots was found negatively correlated with activity in leaf and stem.Significance of study: Braziliansugarcane varieties also showed their nitrogen-fixing capacity in Guangxi. Mo was propitious to regulate nitrogenase activity of nitrogen-fixing bacteria in sugarcane under nitrogenous conditions and promoted nitrogen fixation but not under non-nitrogenous conditions.
【语种】英文
【第一作者】韦莉萍
【通讯作者】李杨瑞
【期刊名称、卷期、页码】Proceedings of the International Conference IS-2008, Al Arish, Egypt, September 11-14, 2008. Engineering House Press Co., Cairo, Egypt, 2008, pp.480-4
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【引文索引号】null
【学科分类】分子生物学

【题目】EFFECT OF VINASSE ON PHOTOSYNTHESIS, NITROGEN METABOLISM AND YIELD OF SUGARCANE
【中文关键词】无
【英文关键词】Key words: Sugarcane, vinasse, photosynthesis, nitrogen metabolism, physiological characteristics, productivity
【中文摘要】无
【英文摘要】Aims: The present study was carried out to investigate the effect of vinasse application on photosynthesis and nitrogen metabolism and their relationship with the cane productivity at different growth stages, in order to understand the physiological and biochemical mechanism of yield increase by vinasse application.Methods and Results: Different rates of vinasse were applied as liquid fertilizer at planting of sugarcane with the routine fertilizer application and no fertilizer as the controls. The results indicated that, application of vinasse @ 45 and 75 t/ha increased the cane yield compared to routine fertilization treatment, although the differences were not statistically significant. However, the treatment with 105 t/ha vinasse significantly improved the cane yield.The content of chlorophyll a, water soluble protein, nitrogen and the activity of nitrate reductase, NADP-malic enzyme and amylase in the 45 t/ha vinasse treatment did not significantly differed from those in the treatment with routine fertilization at four stages. The photosynthesis and nitrogen metabolsm parameters were significantly higher in the 75 and 105t/ha vinasse treatment compared to 45 t/ha vinasse and the routine fertilizationtreatments at grand growth and early maturity stages. The physiological indices were all positively correlated to the cane yield,among which the nitrate reductase activity and water soluble protein content were significantly correlated to the cane yield.Significance of study: The high concentration of nitrogen and potassium in vinasse is readily available and absorbed sugarcane plants, which enhanced photosynthesis and nitrogen metabolism of the plants, and finally improved the cane productivity. The findings of the study provide justification for use of vinasse application to sustaining sugar and sugarcane productivity.
【语种】英文
【第一作者】莫云川
【通讯作者】李杨瑞
【期刊名称、卷期、页码】Proceedings of the International Conference IS-2008, Al Arish, Egypt, September 11-14, 2008). Engineering House Press Co., Cairo, Egypt, 2008, pp.484-4
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【引文索引号】null
【学科分类】生理学

【题目】CRYOSECTIONING METHOD FOR THE OBSERVATION OF MICROTUBULE CYTOSKELETON IN PLANT CELLS
【中文关键词】无
【英文关键词】Cryosectioning, microtubule cytoskeleton; fluorescence microscopy; immunofluorescence staining,sugarcane
【中文摘要】无
【英文摘要】Aims: The present work was conducted to investigate sugarcane microtubule cytoskeleton using improved cryosectioning method for the first time.Methods and Results:The general cryosection-ing protocol was improved for observing sugarcane microtubule cytoskeleton. After fixation, microtubule arrays in various cells of young leaves of sugarcane could be stained by using the improved cryosection method. Transverse cortical array towards the axis of cells was the main form for microtubules in the developing young leaves, and longitudinal array to the long axis of the cells in the young leaf base, especially in the third young leaf base. Signifi-cance of study: This improved cryosectioning method will be useful in getting information on plant microtubule cytoskeleton system in sugarcane.
【语种】英文
【第一作者】张新成
【通讯作者】杨丽涛
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【引文索引号】null
【学科分类】细胞生物学

【题目】STATUS OF THE SUGAR INDUSTRY DEVELOPMENT IN CHINA
【中文关键词】无
【英文关键词】Sugar productivity, sugarcane, sustainable development, limitations, China
【中文摘要】无
【英文摘要】Aims: In the present paper we have discussed about the novel development strategies for sustaining China sugar industry.Methods and Results: The sugar production attained a boost in 2006-08 milling years due to the rise in sugar price and millable cane, and significant improvement in sugarcane productivity. During 2007-08 milling year, the total sugar output in China reached 14.83 million tons, which was 24.04% higher compared to previous milling year; and cane sugar output reach 13.67 million tons, which occupied 92.18% of the total. Guangxi is the largest sugarcane and sugar producer province in China, and during 2006-07 and 2007-08 milling years, it produced 7.09 and 9.37 million tons of sugar which occupied 65.96% and 68.54% of the total cane sugar output and 59.01% and 63.18% of the total sugar in the country, respectively. The millable cane productivity in Guangxi was 68.7 and 83.6t/ha, respectively in the past two milling years. However, the severe low temperature spells from January to February 2008 delayed the sugarcane growth by 15 to 25 days, which caused unfavourable upshots to the cane productivity in the subsequent time in Guangxi.Significance of study: Drought inflicted the major limitation for sugar productivity in China.Comprehensivemanagement measures are being studied and applied to achieve a sustainable sugar production.
【语种】英文
【第一作者】李杨瑞
【通讯作者】李杨瑞
【期刊名称、卷期、页码】Proceedings of the International Conference IS-2008, Al Arish, Egypt, September 11-14, 2008. Engineering House Press Co., Cairo, Egypt, 2008, pp.759-763.
【论文发表时间】2008-09-14 00:00:00
【引文索引类型】其他
【引文索引号】null

【学科分类】农业史

【题目】FUTURE RESEARCH PRIORITIES OF CHINESE SUGAR INDUSTRY
【中文关键词】无
【英文关键词】Research priority, Chinese sugar industry, sugarcane, upland
【中文摘要】无
【英文摘要】Aims: In the present paper we have discussed the future research priorities of Chinese sugar industry based on the market development, technological level, and social and naturalconditions in China.Methods and Results Recently, the National Science and Technology Supporting Program has established a key project entitled “ Studies on new variety breeding and low cost, high efficiency cultivation technologies for sugarcane ”,which includes 6 sub-projects: (i) Introduction and selection of high yielding, high sugar and strongly resistantsugarcane varieties, (ii) breeding for high yielding, high sugar and strongly resistant sugarcane varieties, (iii)research and demonstration on low cost and high efficiency cultiva-tion technologies for sugarcane, (iv) research and demonstration on elite sugarcane variety propagation technical system cooperated by research institutions,enterprises and farmers in bases, (v) research on quality inspection and determination for sugarcane and processingproducts and (vi) construction and demonstration of information technology service system for cane sugar industry. The National Natural Science Foundation is supporting a project “ Studies on endophytic biological nitrogen fixation and application foundation in sugarcane ”.Significance of study: The future research priorities of Chinese sugar industry are focus on breeding elite new varieties and developing low cost and efficient cultivation technologies for sugarcane cultivation in upland fields.
【语种】英文
【第一作者】杨丽涛
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【期刊名称、卷期、页码】Proceedings of the International Conference IS-2008, Al Arish, Egypt, September 11-14, 2008. Engineering House Press Co., Cairo, Egypt, 2008, pp.764-770.
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【学科分类】农业史

【题目】不同温度条件下新菠萝灰粉蚧实验种群生命表
【中文关键词】新菠萝灰粉蚧; 温度; 实验种群; 生命表
【英文关键词】Dysmicoccus neobrevipes(Beardsley); temperature; experimental population; life table.
【中文摘要】在20、24、28、32、36 ℃不同温度条件下, 观察温度对新菠萝灰粉蚧[Dysmicoccus neobrevipes(Beardsley)]生长、 发育和存活的影响。组建相应温度条件下新菠萝灰粉蚧实验种群生命表。 实验结果表明, 在 20~32 ℃温度范围内, 新菠萝灰粉蚧各虫态的发育历期随温度的升高而缩短。若虫期、 产虫前期和世代历期的发育起点温度为 9.47、 11.36、 10.61 ℃; 有效积温为 531.29、 748.35、 1 128.72 日度。 种群趋势指数(I)均大于 1, 内禀增长力(rm)均大于 0,新菠萝灰粉蚧种群呈增长趋势。 该虫发育适宜温度为 24~28 ℃。
【英文摘要】Experimental population of Dysmicoccus neobrevipes(Beardsley) was observed in terms of developmentand mortality under different temperatures, 20 ℃, 24 ℃, 28 ℃, 32 ℃ or 36 ℃, based on which its life tablewas set up. The results showed that the developmental rate increased with the temperatures from 20 ℃ to32 ℃. The threshold temperatures for the development of nymphal, preoviposition and a generation of theD. neobrevipes (Beardsley) were 9.47 ℃, 13.25 ℃ and 10.61 ℃ , respectively, and the effective cumulativetemperatures were 531.29 degree day, 748.35 degree day and 1128.72 degree day, respectively. The innatecapacity of natural increase (rm) was higher than 0, and the population trend index was higher than 1.The population of D. neobrevipes(Beardsley) increased at the temperatures from 20 ℃to 36℃. The suitabletemperature for development of D. neobrevipes(Beardsley) was found to be between 24 ℃ to 28 ℃.
【语种】中文
【第一作者】陈泽坦
【通讯作者】陈泽坦
【期刊名称、卷期、页码】热带作物学报,2010,31(3):464~468
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【引文索引号】null
【学科分类】植物保护学

【题目】陆地棉优质纤维QTL的分子标记筛选及优质来源分析
【中文关键词】陆地棉;纤维品质;QTL;来源
【英文关键词】Gossypium hirsutum; Fiber quality; QTL; Source
【中文摘要】利用陆地棉优质品系7235、渝棉1号作亲本,以7235×渝棉1号得F2与F2:3分离群体为材料,开展不同来源棉花高强纤维QTL微卫星标记筛选,为进一步进行优质纤维QTL聚合育种提供基础。通过5514对SSR引物对亲本进行多态性筛选,获得117个多态性标记,用其中80个标记构建了总厂为1147.8cM的遗传图谱;应用复合区间作图法分析了该组合的F2单株和F2:3家系纤维品质性状,共检测到36个纤维品系数量性状基因座(QTL),其中与纤维长度、比强度、细度、伸长率及整齐度相关的QTL各6、8、7、8和7个,分别解释各性状表型比哪一的3.4%~14.4%、5.0%~.4%、6.5%~11.7%、5.1%~19.4%和6.9%~14.0%。通过分析来源于7235和渝棉1号高强QTL的染色体分布,表明两亲本在D7、D8、D9染色体上都存在控制纤维比强度的QTL,其中存在于D7和D8染色体上来自双亲的QTL紧密连锁,成簇分布在染色体上一定区间内。而在D7和D9染色体上叶发现双亲完全相同的优质QTL,其优质供体可能来自陆地棉优质品系PD4381。进一步分析了获得的QTL在聚合育种中的应用潜力。
【英文摘要】无
【语种】中文
【第一作者】胡文静
【通讯作者】郭旺珍
【期刊名称、卷期、页码】作物学报,34, (4): 578 − 586,2008
【论文发表时间】2008-07-15 00:00:00
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【引文索引号】null
【学科分类】农业基础学科

【题目】渝棉1 号优质纤维 QTL 的标记与定位
【中文关键词】陆地棉; 纤维品质; QTLs; 分子标记
【英文关键词】Upland cotton; Fiber quality; QTLs; Molecular marker
【中文摘要】利用陆地棉遗传标准系TM- 1 和优质品种渝棉1 号组建了(TM- 1@ 渝棉1 号) F2 和F2: 3 分离群体。通过5 544 对SSR 引物对亲本进行筛选, 获得178 个多态性标记, 用其中138 个构建了总长为9591 7 cM 的遗传图谱, 覆盖棉花基因组的19%。应用复合区间作图法分析了该组合的F2 单株和F2: 3 家系纤维品质性状, 共检测到12 个纤维品质数量性状基因座(QTL) , 包括1 个纤维长度的、4 个纤维强度的、3 个马克隆值的、3 个整齐度的和1 个伸长率的, 分别解释各性状表型变异的611%、5131%~ 14162%、7188%~ 19117%、714%~ 11171%和8126%。研究还发现Chr1 23 和Chr124 是优质纤维QTLs的富集区。
【英文摘要】无
【语种】中文
【第一作者】王 娟
【通讯作者】郭旺珍
【期刊名称、卷期、页码】作物学报,33 (12):1915-1921,2007
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【引文索引号】null
【学科分类】农业基础学科

【题目】盐胁迫下不同耐盐性的陆地棉品种脱落规律及机理
【中文关键词】陆地棉; 盐胁迫; 耐盐性; NaCl; 脱落
【英文关键词】cot to n; saline st ress; salt tolerant; NaCl; abscissio n
【中文摘要】NaCl 胁迫下研究了三个不同耐盐水平(不耐盐、稍耐盐、较耐盐) 的棉花材料的蕾、花、铃脱落及其规律。低浓度NaCl(0. 20%) 仅对耐盐性差的材料的脱落率的有显著影响, 不耐盐材料的脱落率的次序是蕾> 花> 幼铃> 大铃, 对

稍耐盐材料的蕾、花也存在显著影响。在高浓度NaCl(0. 40%) 下, 脱落率取决于材料的耐盐性, 其脱落率次序是: 不耐盐材料> 稍耐盐材料>较耐盐材料, 耐盐性与脱落率呈负相关, 耐盐性高的材料其脱落率较低。不同耐盐性能的材料的蕾、花、铃脱落率存在显著差异; 不耐盐材料的脱落率依次为: 蕾= 花> 幼铃> 大铃; 较耐盐材料的脱落率依次为: 蕾> 花= 幼铃> 大铃; 较耐盐材料的脱落率依次为: 蕾> 幼铃> 花, 在NaCl(0. 40%) 以下的浓度都不会对较耐盐材料的大铃产生影响。
【英文摘要】无
【语种】中文
【第一作者】叶武威
【通讯作者】叶武威
【期刊名称、卷期、页码】棉花学报,2009,21(5):339-345
【论文发表时间】2007-03-15 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农业基础学科

【题目】新菠萝灰粉蚧雌成虫空间分布型的初步研究
【中文关键词】新菠萝灰粉蚧; 空间分布型; 聚集度; 剑麻
【英文关键词】Dysmicoccus neobrevipes; spatial distribution; aggregation degree; sisal
【中文摘要】本文通过对新菠萝灰粉蚧的雌成虫进行田间调查,应用David和Moore的聚集性指标、Cassie的指标C和Kuno的指标CA、Lloyd的平均拥挤度m*及聚块性指标m*/m3个聚集性指标及Taylor的幂法则和Iwao的m*-m的回归法对新菠萝灰粉蚧雌成虫的空间分布型进行了分析和检验。结果表明,其在剑麻株内的空间分布为聚集、分布,且具有密度依赖性,引起聚集的原因主要是新菠萝灰粉蚧雌成虫自身习性,与环境因素也有一定关系。
【英文摘要】The spatial distribution pattern of the larvae ofDysmicoccus neobrevipes(Beardsley) female adults was studied by 3 aggregation indices and regressional analysis. The results showed that the spatial distribution pattern of the larvae was aggregated distribution in individual plants of the sisal, and density-dependent. The aggregation of the populations of this insect was due to their behavior and some environmental factors.
【语种】中文
【第一作者】张小冬
【通讯作者】张小冬
【期刊名称、卷期、页码】植物保护 2009, 35(3):81-83
【论文发表时间】2009-03-06 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】植物保护学

【题目】新菠萝灰粉蚧生活习性初探
【中文关键词】新菠萝灰粉蚧;形态特征;生活习性
【英文关键词】Dysmicoccus neobrevipes;morphological character; life habit
【中文摘要】新菠萝灰粉蚧是严重为害剑麻的外来害虫。该虫主要为害剑麻的根、茎、叶片部位。本文对新菠萝灰粉蚧各个虫态的形态特征进行了描述,并对其生活习性进行了初步的研究。
【英文摘要】Dysmicoccus neobrevipes(Beardsley) is an invasive pest that seriously harms sisa.l The pest damages the roots, stems and leaves of sisa.l In this paper, themorphological characters ofD. neobrevipesatvarious stageswere described and its life habitswere observed.
【语种】中文
【第一作者】张小冬
【通讯作者】陈泽坦
【期刊名称、卷期、页码】华东昆虫学报 2008, 17(1): 22-25
【论文发表时间】2008-01-06 00:00:00
【引文索引类型】其他
【引文索引号】null

【学科分类】植物保护学

【题目】Removal of nitrobenzene from aqueous solution by adsorption on nanocrystalline hydroxyapatite
【中文关键词】羟基磷灰石,吸附,硝基苯
【英文关键词】Nitrobenzene; Adsorption; Nanocrystalline hydroxyapatite; Isotherm; Biocompatible adsorbent
【中文摘要】通过羟基磷灰石吸附去除水溶液中的硝基苯
【英文摘要】In this study, the nanocrystalline hydroxyapatite (HAP) prepared by thermal decomposition of precursors was used as the adsorbent, and the potential of nanocrystalline HAP for nitrobenzene removal from aqueous solution was evaluated. Results indicated that nitrobenzene adsorption was initially rapid and the adsorption process reached a steady state after 1 min. The adsorption isotherms were well described by the Langmuir and the Freundlich models, the latter being found to provide the better fit with the experimental data. The nitrobenzene adsorption capability of the nanocrystalline HAP was investigated as a function of temperature, pH, ionic strength, fulvic acid, and the presence of solvent. According to the experimental results, decrease in pH and temperature resulted in increase in nitrobenzene adsorption capacity; Increasing ionic strength and the presence of fulvic acid decreased the adsorption of nitrobenzene by nanocrystalline HAP; Acetone appeared to inhibit nitrobenzene adsorption to an extent greater than the presence of methanol. Thermodynamics studied revealed that the adsorption of nitrobenzene by nanocrystalline HAP was physisorption, spontaneous and endothermic in nature. This study showed that nanocrystalline HAP could be used as an efficient adsorbent material for the removal of nitrobenzene from aqueous solution.
【语种】英文
【第一作者】魏巍
【通讯作者】魏正贵
【期刊名称、卷期、页码】2010, 263,期: 1-3,页: 89-96
【论文发表时间】2011-11-30 00:00:00
【引文索引类型】SCI
【引文索引号】WOS:000283474900012
【学科分类】土壤学

【题目】盐胁迫下陆地棉耐盐品种根系的抑制消减文库构建
【中文关键词】棉花; 抗逆性; 耐盐基因; SSH 文库
【英文关键词】cot to n; st ress to lerance; salt tolerance g ene; SSH library
【中文摘要】采用抑制消减(SSH) 杂交技术构建了陆地棉耐盐品种中棉所35 在盐(0. 4% NaCl) 胁迫后1 d、3 d、5 d 和7 d 的混合SSH 文库。文库质量检测表明, 差减杂交效率较高, 质量较好。随机挑选200 个阳性克隆进行测序, 获得160 余条高质量的表达序列标签(EST) 。对序列进行BLAST 比对及功能注释, 其中有62 条unigene 未获得同源性匹配, 42 条与未知功能的序列同源性较高; 其余56 条功能已知的unigene 中, 与抗逆直接相关的基因有14 个, 占8. 8% ,参与新陈代谢及信号转导的基因有11 条和10 条, 分别占6. 9% 和6. 3%, 参与转录调控的基因8 条, 占5. 0% 。最后, 对这些基因在盐胁迫中的作用进行了注释与讨论。
【英文摘要】无
【语种】中文
【第一作者】叶武威
【通讯作者】叶武威
【期刊名称、卷期、页码】棉花学报,2009,21(5):339-345
【论文发表时间】2009-09-15 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农业基础学科

【题目】棉花耐盐性的SSR标记研究
【中文关键词】棉花;耐盐;SSR
【英文关键词】cotton; salinity-tolerance; SSR
【中文摘要】针对两个典型的棉花耐盐材料(中07和中棉所35)和两个典型的盐敏感材料(新研96-48和中棉所12),开展了寻找与棉花耐盐有关的SSR标记的研究。利用3528对引物,最终筛选出274对引物在4个材料间具有SSR多态性。其中,有10对引

物Y01、Y02、Y03、Y04、Y05、Y06、Y07、Y08、Y09、Y10在耐盐性不同的材料中扩展出差异性片段。扩增图谱显示,同一引物在耐盐的中07和中棉所35中扩出的片段与盐敏感的新研96-48和中棉所12扩出的片段不同。初步研究结果认为,这10对引物有望成为鉴定棉花耐盐性的标准引物,从而将耐盐材料与盐敏感材料从分子角度鉴别开来,为棉花耐盐性分子鉴定等研究提供参考。
【英文摘要】无
【语种】中文
【第一作者】张丽娜
【通讯作者】叶武威
【期刊名称、卷期、页码】棉花学报2010,22(2)175-180
【论文发表时间】2010-03-15 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农业基础学科

【题目】棉花耐盐相关种质资源遗传多样性分析
【中文关键词】陆地棉,耐盐性,SSR,遗传相似性,耐盐育种
【英文关键词】upland cotton, salinity tolerance, SSR, genetic similarity, breeding for salinity tolerance
【中文摘要】为了解我国棉花耐盐相关种质资源的遗传变异,利用88对SSR引物对23份棉花耐盐材料和24份盐敏感材料进行遗传多样性分析。88个SSR位点在47份材料中共检测出338个等位基因变异,平均每个位点有3.841个;其中耐盐材料中检测出333个,盐敏感材料中检测出312个。耐盐材料的位点多肽信息含量(PIC)、每个位点的有效等位基因数(Ne)、基因型多样性(H')分别为0.613、2.929和1.083、盐敏感材料的PIC、Ne、H'分别为0.605、2.883和1.071。耐盐材料和盐敏感材料的Jaccard相似性系数分别在0.530-0.979和0.525-0.878之间,遗传相似性系数总体平均值接近,但耐盐材料的变化幅度更大。用类平均法(UPGMA)聚类将47份材料分成3个类群。总体而言,大多数材料之间和优势组合的预测以及耐盐资源的合理利用等提供了基础资料。
【英文摘要】无
【语种】中文
【第一作者】张丽娜
【通讯作者】叶武威
【期刊名称、卷期、页码】生物多样性,2010,18(2):137-144
【论文发表时间】2010-03-20 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农业基础学科

【题目】棉花L igon lintless纤维突变体SSR的分子标记定位
【中文关键词】L igon lin tless, L i-1; SSR; 基因定位
【英文关键词】L ig on lin tle ss, L i-1; SSR; gen e localization
【中文摘要】陆地棉L ig on lin tless是单基因显性突变体, 其性状表现为成熟的长纤维极度缩短, 一般在4 ~ 6mm, 植株的叶片和茎呈扭曲状。本研究用陆地棉遗传标准系TM-1 与棉花纤维突变体L igon lin tless的杂交一代(由于材料的特殊性即相当于回交一代BC1, 后文称为BC1)的246个单株为作图群体, 利用4000对SSR 引物筛选出在双亲间表现多态性的引物28对, 多态频率为0. 7%。江利用这28 对引物对BC1 群体进行分析, 共检测到23个多态性位点。用Joinm ap3. 0 软件绘制连锁图, 该图谱共覆盖168cM, 相当于棉花总基因组的3. 74%, 标记间的平均遗传距离为7. 3 cM, 将棉花纤维突变体L ig on lin tless的L i基因连锁定位在22 号染色体上。
【英文摘要】无
【语种】中文
【第一作者】刘晓杰
【通讯作者】杜雄明
【期刊名称、卷期、页码】西南农业学报,2008,6,1545-1550
【论文发表时间】2008-11-15 00:00:00

【引文索引类型】其他
【引文索引号】null
【学科分类】农业基础学科

【题目】棉花种间杂交渐渗系SSR及农艺性状分析
【中文关键词】棉花;渐渗系;SSR;农艺性状
【英文关键词】G ossyp ium spp.; Introgressed lines; SSR; Agronom ic characters
【中文摘要】利用87对多态性SSR和EST-SSR引物,对57份棉属种间杂交渐渗系及其6个代表性血缘亲本进行了鉴定分析。共检测到540个等位变异,多态性等位变异占95.5%,EST-SSR变异占63.9%,41个SSR标记定位在棉花基因组的22条染色体上。种质间成对相似系数为0.553~0.937,平均为0.748.渐渗系的SSR聚类与种质材料的系谱来源基本吻合,而和农艺性状结果相差很大,前者更能反映其亲缘关系。
【英文摘要】无
【语种】中文
【第一作者】张杰
【通讯作者】杜雄明
【期刊名称、卷期、页码】植物遗传资源学报,2009,10(1):60-67
【论文发表时间】2009-03-16 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农业基础学科

【题目】中棉所48的SSR数字指纹图谱的构建
【中文关键词】中棉所48;SSR;数字指纹图谱
【英文关键词】Zhongmiansuo 48; SSR; digital fingerprint
【中文摘要】利用25对核心引物对中棉所48及其亲本进行多态性检测,共有16对引物在2个亲本间具有多态性,其中,有14对引物在两亲本间扩增出大小不同的带,且这些标记位点在F1中均表现为杂合带,为共显性标记;另外2个引物的F1带型与母本或父本一致,为显性标记。以这25对引物在不同材料间扩增得到的01(二进制)数据转换成十进制数据,构建了中棉所48的数字指纹图谱,为杂交种的真伪鉴定和纯度检测提供了方法。为了构建准确、稳定和实用的棉花DNA指纹图谱,指出了需要规范分子标记类型和数量,DNA、Taq 酶等试剂数量和质量,统一PCR反应,电泳和染色条件,统一提供标准品种和标准DNA,标准化电泳条带的识别、数据处理方式和编码方式。
【英文摘要】无
【语种】中文
【第一作者】潘兆娥
【通讯作者】杜雄明
【期刊名称、卷期、页码】中国农学通报,2010,26(7):31-35
【论文发表时间】2010-03-01 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农业基础学科

【题目】The study on fishing ground of neon flying squid,Ommastrephes bartrami, and ocean environment based on remote sensing data in the Northwest Pacific Ocean
【中文关键词】/
【英文关键词】Ommastrephes bartrami; generalized additive models; sea surface temperature; chlorophyll-a
【中文摘要】/
【英文摘要】The relationships between the neon flying squid, Ommastrephes bartrami, and the relative ocean environmental factors are analyzed. The environmental factors collected are sea surface temperature (SST), chlorophyll concentration (Chl-a) and sea surface height (SSH) from NASA, as well as the yields of neon flying squid in the North Pacific Ocean. The results show that the favorable temperature for neon flying squid living is 10 ° C – 22 ° C and the favorite temperature is between 15 ° C – 17 ° C. The Chl-a concentration is 0.1 – 0.6 mg/m3. When Chl-a concentration changes to 0.12 – 0.14 mg/m3, the probability of forming fishing ground

becomes very high. In most fishing grounds,the SSH is higher than the mean SSH. The generalized additive model (GAM) was applied to analyze the correlations between neon flying squid and ocean environmental factors. Every year, squids migrate northward from June to August and return southward during October – November, and the characteristics of the both migrations are very different. When squids migrate to the north, most relationships between the yields and SST are positive. The relationships are negative when squids move to southward. The relationships between the yields and Chl-a concentrations are negative from June to October, and insignificant in November. There is no obvious correlation between the catches of squid and longitude,but good with latitude.
【语种】中文
【第一作者】樊伟
【通讯作者】樊伟
【期刊名称、卷期、页码】Chinese Journal of Oceanology and Limnology,2009,27(2),408-414
【论文发表时间】2008-03-04 00:00:00
【引文索引类型】SCI
【引文索引号】2.6797030003e+011
【学科分类】水产资源学

【题目】采用耳石研究印度洋西北海域鸢乌贼的年龄、生长和种群结构
【中文关键词】鸢乌贼; 耳石; 年龄和生长; 印度洋西北海域
【英文关键词】Sthenoteuthis oualaniensis; statolith; age and growth; northwest Indian ocean
【中文摘要】利用2004—2005年中国鱿钓渔船资源探捕期间在印度洋西北部采集的104枚鸢乌贼Sthenoteuthisoualaniensis耳石样本,对其年龄和生长进行了研究。鸢乌贼的生命周期约为1年,样本年龄为88~363 d,优势年龄组为180~270 d,占总体的81.3%。样本孵化日期为2004年1—11月,几乎为全年性,但存在两个峰值:3—5月和9—10月,分别占总体的57.8%和14.4%。根据孵化日期可将鸢乌贼分为春季和秋季两个产卵群体。两产卵群体胴长与年龄符合线性方程,而体重与年龄符合指数方程模式。各胴长组间的瞬时相对生长率和绝对生长率存在变化,不同群体之间的瞬时相对生长率和绝对生长率差异明显。
【英文摘要】The age and grow th of squid Sthenoteuth is oualaniensis were studied using 104 statoliths collected in the Chinese squid jigging surveys from O ctober 2004 to January 2005. It was found that the squid had a life span of about one year, the samples being 88 to 363 day old, 81.3% ranging from 180 to 270 day old. The incubation samples were found almost throughout the year from January to November in 2004, with two peaks of March to May and September to October, accounting for 57.8% and 14.4% of the total respectively. Two distinct spawning groups were observed in spring and autumn. There ationship between mantle length and age was described by the linear function and the relationship between body weight and age the exponent functions in the two spawning groups. The instantaneous relative grow thrate and absolute growth rate were found to be varied with the sizes, with significant difference between the groups of squid with the same age
【语种】中文
【第一作者】刘必林
【通讯作者】陈新军
【期刊名称、卷期、页码】大连水产学院学报,2009,24(3):206-212
【论文发表时间】2009-06-01 00:00:00
【引文索引类型】其他
【引文索引号】/
【学科分类】水产资源学

【题目】东黄海鲐鱼生物经济模型及管理策略探讨
【中文关键词】鲐鱼; 生物经济模型; 大型灯光围网渔业; 东黄海
【英文关键词】chub mackere;lbio-economic model; the EastChina Sea and Yellow Sea; light purse seine fisheries
【中文摘要】鲐鱼是我国近海重要经济鱼类, 如何综合考虑生物、经济和社会效益来科学制定渔业管理目标是确保该资源可持续利用的重要研究内容。根据中、日、韩三国鲐鱼围网生产作业数据及相关经济数据, 构建基于Schaefer剩余产量的生物经济模型, 探讨不同管理目标下的产量及其对应捕捞努力量, 以及1年(短期)、5年(中期)和10年(长期)的经济效益和资源状况。结果表明, 最大持续产量(M SY)、最大经济产量(MEY)和生物经济平衡点(BE)对应的捕捞努力量(以我国大型灯光围网的单位网次产量为准) 分别为23 964网次,13 816网次和27 631网次, 其对应的第1年产量和利润分别为39. 29万t和5. 56亿元, 22. 65万t和3. 20亿元, 及45. 30万t和6. 41亿元; 前5年累计的产量和利润分别为181. 88万t和19. 78 亿元, 131. 04万t和25. 81亿元, 及192. 10万t和13. 12亿元; 前10年累计的产量和利润分别为354. 62万t和34. 53亿元, 272. 32万t和57. 24亿元, 及

362. 08万t和14. 07亿元。研究表明, 以BE 为管理目标则其短期经济效益为最大, 而以MEY为管理目标则其长期经济效益为最大。探讨了不同管理方法对鲐鱼渔业所产生的影响。

【英文摘要】Chub mackerel is an important commercial fish in the coast aters of our country. How to determ in the goal of fisheries m anagement by considering the biology, economic and society is one of the important contents in the sustainable utilization of fishery. A ccording to the yield data of light purse seine fisheries of China, Japan and South Korea and the relative economic data, the Schaefer B io-economic model is used to estimate the yield and corresponding CPUE on the basis of differentmanagement goal and the economic benefitand resource conditions under the shor-t term aim (1year) , mid-term (5years) and long-term aim (10years) . The result shows that on the basis of Maximum Sustainable Yield (MSY) , Maximum Economic Yield(MEY) and B ionomic Equilibrium(BE),the fishing effort should be limited to 23. 96 thousandmnets, 13.82 thousand nets and 27.63 thousand nets respectively, and the corresponding yield and benefit in the first year are 392.9 kiloton and 0.56 billion yuan , 226.5 kiloton and 0.32 billion yuan and 450.3 kiloton and 0.64 billion yuan; the accumulative yield and benefit in 5 years are 1.82 megaton and 1.98 billion yuan, 1.31 megaton and 2. 58 billion yuan and 1.92megaton and 1.31 billion yuan, the accumulative yield and benefit in 10 years are 3.55megaton and 3.45 billion yuan , 2.72 megaton and 5.72 billion yuan and 3.62m egaton and 1.41 billion yuan. The results have shown that the shor-t term economic benefits are the largest when the BE is considered as themanagement goal while the long-term economic benefits are largestw hen the MEY is recognized as the management goal. This article also discussed the impact of fisheries under somem anagement methods

【语种】中文

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【学科分类】水产学基础学科

【题目】多变量分位数回归构建印度洋大眼金枪鱼栖息地指数

【中文关键词】大眼金枪鱼;栖息地指数;分位数回归;多变量;印度洋

【英文关键词】Thunnus obesus; habitat suitability index; quantile regression; multivariate; Indian Ocean

【中文摘要】以0~300m 水层加权平均水温、50~150m 水层的温差和氧差及其交互变量为影响因子,运用分位数回归法,寻找出环境变量与大眼金枪鱼(Thunnus obesus)延绳钓钓获率的最佳上界分位数回归方程,计算出栖息地指数(HSI),并应用地理信息系统(GIS)软件绘制各月HSI 空间分布图。研究表明:大眼金枪鱼延绳钓钓获率(HR)依加权平均水温(x)、温差(y)、氧差(z)与的最佳上界分位数回归方程为HR0.70=-15.596+2.124x -0.003x 3+0.033xyz- 0.036y2z+0.107yz2-0.337z3;HSI 空间分布为:16 ° S—10 ° N 印度洋海域HSI 高于0.7,HSI>0.8 的海域随季节发生显著变化,马达加斯加外海至100 ° E、16 ° S—26 ° S 海域常年存在一片HSI<0.4 的区域,26 ° S—40 ° S 海域的HSI 介于0.4~0.5,40 ° S 以南海域HSI<0.4,东非外海季节性地出现一片HSI<0.6 的海域。利用多个环境变量的栖息地指数模型来预测分析大洋金枪鱼资源分布效果较好。

【英文摘要】Some important variables are selected to carry out quantile regression including weighted average water temperature in the 0~300m water layer, temperature difference and dissolved oxygen difference between 50m and 150m water layer and their interactions. The optimum upper boundary equation is regressed for these variables against bigeye tuna Thunnus obesus longline hooking rate to compute habitat suitability index (HSI). The computation results are visualized by geographical information system. It shows that the optimum upper boundary equation of weighted average water temperature(x), temperature difference(y), dissolved oxygen difference (z) against bigeye tuna longline hooking rate(HR) is as follows: HR0.70=-15.596+2.124x-0.003x3+0.033xyz-0.036y2z +0.107yz2-0.337z3. The GIS maps illustrate that HSI is greater than 0.7 within 16 ° S—10 ° N in the Indian Ocean.Area significantly varies seasonally where HSI is greater than 0.8. HSI ranges from 0.4~0.5 between 26 ° S~40 ° S. There is an area of HSI less than 0.4 that exists within Madagascar to 100 ° E and 16 ° S~26 ° S throughout the year. Area of HSI less than 0.6 seasonally appears away off East Africa. It is found that the better results of resources distribution could be predicted by use of multi-environmental variables in the estimation of HSI.

【语种】中文

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【题目】分隔式桁拖网分隔装置的分隔效率模型研究
【中文关键词】分隔装置; 接触概率; 选择曲线; 分隔效率; Logistic曲线; Select模型
【英文关键词】separator devices; encounter probability; selectivity curve; separating efficiency; Logistic curve; Select model
【中文摘要】种类选择性研究是减轻拖网渔业兼捕和抛弃问题的重要方法, 利用参数化的模型实现拖网渔具选择性装置渔获性能的解析, 不仅有利于装置性能的评价和比较, 而且对于优化选择性装置结构、提高装置性能具有重要的意义。根据SELECT 模型原理, 认为渔获对象接触分隔装置的概率与个体尺寸有关, 并使用S型曲线(Log istic曲线)表示接触概率曲线, 结合分隔装置的选择曲线, 为评价桁拖网分隔装置的分隔效率建立了模型。模型对分隔式桁拖网渔具(60mm 分隔网片)捕获的哈氏仿对虾和短吻舌鳎的渔获数据进行拟合, 结果表明, 该模型能较好地分析分隔网片的分隔效率。通过对模型的分析, 认为模型具有较好的应用性, 且模型可根据实际情况进行适当简化; 将捕捞对象的接触概率独立于选择性装置选择性能的做法, 对于研究网具内捕捞对象行为特性具有一定的参考意义。
【英文摘要】Research on species selection is one of important potential measure to alleviate the by-catch and discard problem of trawl fisheries. More and more research showed that parametric models, which have been widely used in analysis of selective devices of trawls, were not only important to assess and compare the performance but indicative to improve the onstruction of these lective devices. In this paper, a model for assessing the separating efficiency of separator devices rigged in mult-ilevel beam trawl fishing of fshore of the East China Sea, in which the size selection of separator panel was taken into account and encounter probability (presented by ogive, Logistic curve) of individual entering trawl was regarded as dependent upon the individual size and then presented by ogive (Log istic curve) , was developed based on the principle of Select model.Fitness of model for size frequency of P ara penae posis hard wickii and Cynog lossus abbreviatus caught by mult-ilevel beam trawl rigging separator panel with 60 mm mesh size and the maximum like lihoodestim ates of parameters showed the model was applicable to assess the separating efficiency of panel.According to the discussion, the model could be applied to the other selective devices and simplified by hypothesis test method according to different situation. Additionally, we think the encounter probability of individual,which was independent of size selection of selective device, could be used to analyse the responding behavior of aquaticanimal.
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【第一作者】张健
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【题目】国内外拖网减少副渔获物的研究进展
【中文关键词】拖网渔具; 副渔获物; 装置; 选择性
【英文关键词】Trawl gear; by-catch; device; selectivity
【中文摘要】拖网渔业的兼捕是一个世界性难题, 每年因兼捕而产生的渔获物抛弃对渔业资源的持续发展产生较大影响。目前世界各国针对本国拖网渔业的特点、主捕对象开展了卓有成效的选择性研究, 并取得了较为理想的效果。但在推广及应用过程中反映出较多的实际问题, 有待进一步完善、提高。笔者综合了国内外在开展拖网渔具选择性研究中具有代表性的成功经验, 表明单纯的网囊网目很难对副渔获复杂的拖网产生理想的选择效果; 选择性装置及其与网片的组合是解决拖网渔具兼捕的有效手段之一。
【英文摘要】The by-catch in the trawl fishery is a world wide problem, and lots of discards have a greater impact on the sustainable development of fishery resources. At present ,many countries have researched on the selectivity of trawl gearon the basis of the features and the main catch targets of their own, and have achieved good results. Some problems, however, need to be further solved for the extension and application. This paper summed up the representatively successful experience of trawl gear selectivity research, and pointed out that simple mesh size is very difficult to have ideal selective effect on the complicated by-catch in the trawl, while selective devicew ith the assembly o fmesh is one of the effectivemethods to solve by-catch in the trawl gear.

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【题目】桁拖网渔具刚性栅栏对虾类的分隔性能
【中文关键词】刚性栅栏; 分隔性能; 多囊桁拖网; 哈氏仿对虾; 葛氏长臂虾
【英文关键词】sorting grid; separating performance; beam trawl with several codends; P arapenaeopsi shardw ickii; Palaemon gravieri
【中文摘要】刚性栅栏是实现拖网渔具种类选择性捕捞的主要装置。通过海上生产试验, 结合SELECT模型分析不同栅条间距(15 mm、20mm 和25 mm) 的刚性栅栏对哈氏仿对虾(Parapenaeop sis hardw ick ii) 和葛氏长臂虾(Palaemon gravieri)的分隔性能。试验结果显示, 随着栅条间距的增大, 栅栏对虾类的重量分隔率逐渐增大;个体接触分隔栅栏的概率可使用常数来表示, 即接触概率与个体尺寸无关; 比较不同虾类对分隔栅栏的接触概率后发现, 接触概率不存在种类间、栅栏间的显著性差异(P > 0. 05) ; 个体接触分隔栅栏的概率均大于0. 9,说明大多数个体都接触到分隔栅栏, 但拒绝全部接触栅栏的假设, 这主要与桁拖网结构和分隔栅栏的安装有关; 随着栅条间距的增大, 栅栏对虾类的50%选择体长(L50)逐渐增大, 但选择范围(SR)没有显著差异。
【英文摘要】It is sorting grids that could separate catch retained in non-selective codends effectively in trawl fisheries. The separating performance of sorting grid with different bar spaces (15 mm, 20 mm and 25 mm)for spear littoral shrimp (Parap enaeopsis hardw ickii) and Chinese ditch prawn (Palaemon gravieri) was analyzed based on the SELECT model.The results showed the separating ratio of catch weight of shrimps increased with the bar space. The probability contacting grid of shrimps could be indicated by a constant,which means the contact probability was independent of individual size. There was no significant difference of contact probabilities in different shrimps and grids with different bar spaces. The maximum likelihood estimates of contact probabilities were all larger than 0.9, which suggested majority, but not all of ind ividuals would encounter the sorting grid, which could be attributed to the special construction of beam trawls and the rigging method of the sorting grid. The 50% retention leng ths of different grids for shrimps would increase with the bar space, but the selection ranges were not different significantly.
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【题目】基于Kriging方法Argo数据重构太平洋温度场研究
【中文关键词】Argo浮标数据; 太平洋; 温度场; Kriging方法
【英文关键词】Argo floats data; Pacific; temperature fields; Kriging methods
【中文摘要】采用Kriging 算法, 将2007年1~12月份期间获得的太平洋海域的Argo 剖面浮标资料重新构成3 ° *3 ° 的月平均海温场。重构的温度场能较好地揭示太平洋暖流区、西边界流系的季节性变化和西边界流系强温度锋面。将插值数据与同一时期的实测数据进行比较。结果表明Kriging算法得到的海表温度最大误差0.7 ° , 平均误差0.3 ° , 平均相对误差0.7%, 平均标准误差0.06 ° ,计算结果令人满意。进一步利用重构的太平洋表层及水下4个断面的温度场分析了太平洋海域的温度分布格局及季节变化, 赤道海区表层暖水占主体, 随着水深增加, 东部冷水迅速往东扩展, 在200 m 时冷水基本把北上的太平洋暖水切断。
【英文摘要】Present paper deals with using the Argo profiles in the Pacific to reconstruct a 3 ° *3 ° grids of monthly temperature by means of the Kriging method. The reconstructed Pacific temperature arena could reveal the seasonal variation of Pacific warm pool and western boundary currents, as well as western boundary currents temperature front。 As compared with interpolate data and

actualmeasures in same period, the results show that the maximum error is 0.7 ° , the mean error is 0.3 ° , the mean relative error is 0.7%, the standard error is 0.06 ° . The results are satisfying.
【语种】中文
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【题目】基于表温的中西太平洋鲣栖息地适应指数的研究
【中文关键词】鲣; 栖息地适应指数; 中西太平洋; 表温
【英文关键词】skipjack; habitat suitability index; western- central Pacific Ocean; sea surface temperature
【中文摘要】根据1990-2001年中西太平洋海域(20 ° N~ 25 ° S, 175 ° W 以西) 鲣Katsywonus pelamis 围网作业产量和作业频次, 结合海水表面温度(SST) 数据, 以高产频次的相对比值表示栖息地适应指数(HSI), 采用3种方法建立HSI- SST模型。根据建立的3个模型, 利用1990-2001年各月HSI值与实际作业产量进行比较, 以选择最优HSI- SST 模型; 最后, 利用2003 年SST数据计算其各季度HSI值, 用来验证预测中心渔场的可行性。结果表明: 采用模型A 时, 主要产量分布在HSI>0.14的区域; 采用模型B 时, 主要产量分布在HSI>0.16的区域; 采用模型C 时, 主要产量分布在HSI>0.18的区域, 因此认为模型C 更符合鲣资源分布的特征。利用模型C估算2003年各季度HIS值, 高产主要分布在HSI>0.18的区域, 这进一步说明, 模型C能较为准确地预报鲣中心渔场的位置。
【英文摘要】The habitat suitability index (HSI) was estimated using the relative ratio of actual fishing times to maximum fishing times with monthly high yield according to the catch data and number of fishing in purse seine and the data of sea surface temperature (SST) in the western- central PacificOcean(20 ° N-25 ° S,120 ° E-185 ° E)from 1990 to 2001. Firstly, three methods were used to establish the HSImodel.Then, the models were tested and compared by overlaying themonthly catch and HSI spatial distribution to select the optimum HSI model.Finally,the optimum HSI model was used to forecast fishing ground based on the SST data in 2003. The results showed that the yield was mainly obtained in the area with HSI> 0.4 estimated by the model A, the area with HSI> 0.6 estimated by the model B and the area with HSI> 0.8 estimated by model C.Therefore, the model C was the best which may be consistent with the skip jack distribution. The HSI in 2003 was estimated by model C, and the area with high yield was distributed in the region with HSI> 0.8, which further demonstrated the feasibility of forecasting fishing ground using the HSI model.
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【题目】基于理想自由分布理论对CPUE与渔业资源关系的探讨——以我国近海鲐灯光围网渔业为例
【中文关键词】理想自由分布; CPUE; 渔业资源量
【英文关键词】ideal free distribution; CPUE; fish abundance
【中文摘要】单位捕捞努力量渔获量(CPUE) 常用作渔业资源的丰度指数, 通常假定CPUE与渔业资源量存在正比关系, 但基于商业性捕捞数据的CPUE与渔业资源量的关系受渔民捕捞行为的影响。作者基于理想自由分布理论和中国大型鲐灯光机轮围网捕捞数据, 对南、北渔场捕捞量与捕捞努力量的空间分布关系进行了分析。结果表明: 北渔场没有显著偏离理想自由分布理论的预测结果, 即北渔场的CPUE 存在被均匀化的现象, PUE 不能正确反映渔业资源量的大小; 南渔场虽然显著偏离理想自由分布理论的预测结果, 但当捕捞努力量大于26网次时, CPUE随捕捞努力量的增加而减少, 这表明南渔场也存在干扰竞争, 南渔场的CPUE与渔业资源量的关系被弱化。因此, 在应用商业捕捞数据进行渔业资源研究时, 需注意CPUE 在空间被均匀化的现象。

【英文摘要】Catch per unit effort(CPUE) remains a common index of abundance in fisheries and CPUE in proportion to fish abundance is always taken as avalid assumption, but the relationship between CPUE and fish abundance derived from fishery dependent data will be influenced by behavior of fishermen. In this paper, we analyze the relationship between the proportion of catch and effort allocated to different location in same time based on ideal free distribution theory and data in the large light purse seine fishery of mackerel in Yellow Sea and East China Sea. The results showed the prediction of ideal free distribution was approx imately supported in north fishing ground,.ie.to a certain extent,the CPUE was equalized and was independent of the fish abundance, and, on the contrary, the effort may be in proportion to the abundance. Although the prediction was not supported in south fishing ground, the CPUE decreased with the standardized effort increasing as its va luew as larger than 26, which implied the in terference competition was present and the relationship between CPUE and fish abundancemay bew eakened, even break down. Finally, we suggest we need to keep an eye on CPUE equalized when using the fish dependent data to research dynamic of fish resource.
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【题目】基于数据库和GIS支持的渔业捕捞环境图集制作
【中文关键词】数据库; GIS; 捕捞; 环境; 图集
【英文关键词】database; GIS; fishing; environment; image atlas
【中文摘要】渔业捕捞环境图集能够描述渔情和海况信息, 用于指导渔民科学捕鱼及海洋资源管理。采用GIS 空间分析和数据库技术, 通过对卫星数据及渔业生产数据的整理分析可以制作出联系实际、便于使用的渔业捕捞环境图集, 为用户提供及时有效的渔业信息服务, 相比传统的文件管理和手工制图的方式可以节省大量人力、物力。
【英文摘要】The image atlas of fishing and environment includes the fishing and environment information.It is useful for fishing and marine resources management.The combination of database technology and GIS m akes the drawing process of the image atlas of fishing and environment more efficient than traditiona drawing technique.The process of drawing image atlas of fishing and env ironm ent based on database technology and GIS is discussed.
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【第一作者】张晶
【通讯作者】周为峰
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【学科分类】捕捞学

【题目】基于信息增益技术的影响渔场环境因子的选定
【中文关键词】熵; 信息增益技术; 渔场预测; 关键环境因子; 北太平洋; 柔鱼; K-S检验
【英文关键词】entropy; information gain technology; fishery forecas;t key environment factors; North Pacific;Ommastrephes batramil; K-S test
【中文摘要】在渔场分析中, 需要确定影响中心渔场的海洋关键环境因子, 通过建立模型对中心渔场进行预测。海洋关键环境因子的选取直接影响着预测模型的精确度。文中利用信息增益技术, 通过计算北太平洋150b以西海域柔鱼的产量和CPUE(单船平均日产量)对海洋环境中的垂直温度因子(即5 m、45 m、95 m、205 m 水层的温度, 以及5~ 45 m、45~ 95 m、95~ 205 m 水层的垂直梯度) 的信息增益值, 获得其中影响渔场分布的关键环境因子。分析结果显示: 关键环境因子是5 m 水层温度、45 m 水层温度、95 m 水层温度、205 m 水层温度和95~ 205 m 温度梯度。K- S检验表明, 利用信息增益技术得到的各个关键环境因子是适合的。
【英文摘要】In the fishery analysis, the key marine environment factors, which determine the central fishing ground, are needed to be identified to establish themodel and then to predict the central fish ing g round. The selected key marine environment factors have a

direct influence on the accuracy of the forecast model.In the paper, by the inform ationgain technology, the information gaining values which are determined by the output and CPUE (average output per vessel in a day) , of vertical temperature factors in themarine environment(the water temperature at 5m, 45m, 95 m, 205m and the temperature gradient in 5-45m, 45-95m, 95-205m) in the western waters 150 ° E of North Pacific are calculated. Its main purpose is to discover the key environment factors which affect the fishing ground distribution. The result shows that the key environment factors are the water temperature at 5m, 45m, 95m, 205m and the temperature gradient in 95-205m. The K-S test indicates that each key environm ent factor obta ined by the information gain technology is appropriate.

【语种】中文

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【学科分类】水产资源学

【题目】秘鲁外海茎柔鱼渔场分布和水温结构的关系

【中文关键词】茎柔鱼; 表温; 表温水平梯度; 水温垂直结构; 渔场分布; 秘鲁外海;

【英文关键词】Dosidicus gigas; sea surface temperature; horizontal gradient of temperature; vertical temperature structure; distribution of fishing ground; waters off Peru;

【中文摘要】分布在东南太平洋海域的茎柔鱼是重要的经济性头足类,是我国鱿钓船队的主要捕捞对象之一。研究茎柔鱼渔场分布及其与水温的水平、垂直结构等关系,是探索渔场形成机制及其规律的重要内容。本文根据2006年1-12月我国鱿钓船在秘鲁外海的渔捞记录、表温(SST)和5~180 m垂直水温等资料,用3种方法计算SST的水平梯度(Dm ax,Dsquare和Dm ean),用A rcG IS 9.0和Sufer 8.0软件分析绘制单船平均日产量(CPUE)和SST、SST水平梯度关系的分布图、水温垂直结构分布图,分析茎柔鱼渔场分布及其与水温结构的关系。结果表明,全年中心渔场分布在80~85 ° W、10~17 ° S,SST为18~28℃,产量分布呈现明显的空间变化。其中,6-8月为全年最高产时期,其中心渔场分布在81~83 ° W、12~13 ° S,相应的SST为18~23℃。SST水平梯度与渔场分布关系密切,水平梯度Dsquare和产量的拟合度为最优(P<0.001),中心渔场相应的Dsquare为0.6~1.7℃。水温垂直结构分析认为,6-8月通常在81 ° W、12~13 ° S附近形成上升流中心,中心渔场基本位于上升流冷水团边缘81 ° 30 ′ ~82 ° 30 ′ W。研究认为,该渔场因上升流而形成,主要分布在上升流引起冷水与外洋暖水的交汇区,与SST、SST水平结构、水温垂直结构关系极为密切。

【英文摘要】Jumbo flying squid(Dosidicus gigas) distributed in the southeastern Pacific is not only an important economic oceanic squid,but also one of the important fishing targets for Chinese jigging fleets.The researches on distribution of this squid and its relationship with environmental conditions such as water temperature and its structure are the key content in searching for the mechanism of fishing ground and inherent laws.In this study,based on the fishing data from Chinese squid jigging fleets in the waters off Peru from January to December 2006,and the environmental data including sea surface temperature(SST),the water temperatures between 5 and 180 m,and the horizontal gradient of temperature(D) calculated by three different methods(D max,D square and D mean),the spatial plots of CPUE,SST,D and the vertical temperature structure are drawn respectively by use of software ArcGIS 9.0 and Sufer 8.0 to analyze the distribution of fishing ground and its relationship with structure of sea water temperature.The result indicated that the main fishing ground was around 80-85 ° W and 10-17 ° S with the range of 18-28℃ SST,and the spatial variations in the catch distribution were evident.From June to August,the monthly catch was relativly high in the waters of 81-83 ° W and 12-13 ° S with the range of 18-23 ℃.The distribution of fishing ground was closely related to the D,the indicator D square(P <0.001) was better than the two others,and the range of D square was 0.6-1.7 ℃ in the main fishing ground.The results also showed that the upwelling was centralized around 12-13 ° S and 81 ° W during June to August,and the fishing ground was mainly distributed at the edge of upwelling between 81 ° 30 ′ -82 ° 30 ′ W.Therefore,it could be concluded that the fishing ground was formed by the upwelling,which was distributed at the mixed region between oceanic warm water and cool water caused by upwelling,and was closely related with the optimum SST,D and vertical temperature structure

【语种】中文

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【题目】秘鲁外海茎柔鱼渔场分布与表温及表温距平值关系的初步探讨
【中文关键词】茎柔鱼; 渔场分布; 表温; 表温距平值; 秘鲁外海; K-S检验;
【英文关键词】Dosidicus gigas; distribution of fishing ground; sea surface temperature; sea surface temperature anomaly; off Peru; K-S test;
【中文摘要】根据2006年6~11月我国远洋船队秘鲁茎柔鱼生产统计及其表温(SST)、表温距平值(SSTA)数据,利用GIS软件ArcGIS9.0,对各月平均日产量(CPUE)和SST、SSTA关系的分布图进行绘制并分析,计算作业渔场重心。结果表明,6~8月的产量和CPUE比其他月份高。6~11月作业渔场在80°W~85°W,10°S~15°S,渔场重心在81°W~84°W,11°S~14°S。产量主要集中在12°~14°S海域,约占年总产量的72.72%,与2004-2005年有较大差异。6月作业渔场的SST为21~23℃,7、8月分别为19~21℃和18~20℃,9~11月为18~21℃。6月作业渔场的SSTA为0.1~0.2℃,7、8月分别为0.5~0.7℃,9~11月分别为0.2~0.6℃、1.0~1.4℃和0.4~0.7℃。研究认为,茎柔鱼渔场分布与SST、SSTA关系密切,可作为寻找中心渔场的海洋环境指标。
【英文摘要】Based on production data of jumbo flying squid Dosidicus gigas in the waters off Peru from June to November in 2006,the monthly spatial CPUE distribution is drawn by the software ArcGIS9.0 and their relationships with sea surface temperature(SST) and sea surface temperature anomaly(SSTA) are analyzed.The monthly gravity of fishing ground is also calculated.The results indicated that the catch and CPUE from June to August are higher than other months.The fishing ground is distributed around 80-85 W and 10-15 S,the gravity of fishing ground is distributed around 81° -84° W and 11° -14° S from June to November.The catch is mainly located in the waters of 12° -14° S accounting for 72.72% of the total catch in a year,which greatly differs with that in 2004 and 2005.The optimum SST ranged from 21 to 23°C in June,from 19 to 21°C in July to Auguste,from 18 to 20°C in August,from 18 to 21°C during September to November respectively.The optimum SSTA also ranged from 0.1 to 0.2°C in June,from 0.5 to 0.7°C in July and August,0.2 to 0.6°C in September to November,from 1.0 to 1.4°C in October and from 0.4 to 0.7°C in November respectively.The results were checked by K-S test.The results show that the monthly distribution of fishing ground is closely related with SST and SSTA,which may be considered as environmental indicators to search for fishing ground. 更多
【语种】中文
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【学科分类】捕捞学

【题目】头足类发光器及其在分类学上的应用
【中文关键词】头足类; 发光器; 分类学;
【英文关键词】Cephalopod; light organ; taxonomy
【中文摘要】发光器是一些头足类的重要组织之一。据不完全统计,头足类中具有发光器的种类有6目23科57属198种,占世界头足类总数的26%,其中又以大洋性的开眼亚目为最多,近海生活的闭眼亚目和乌贼类较少。头足类发光器通常可分为本体发光器和腺体发光器两类,前者位于体表,后者位于外套腔内。发光器不仅具有照明、求偶、诱捕食物、迷惑和警告捕食者的作用,也在科、属、种的分类中得到广泛的应用。重点以科、属为基本单元,描述头足类发光器的类型、部位、大小、数量以及排列方式等特征,同时列举其在分类中的应用。最后,建议有必要细化不同科、属间的发光器特征,建立发光头足类的检索表,以便为国内外头足类研究者提供参考。
【英文摘要】Light organ is one of the impotant tissues for some Cephalopods.There are 198 species with light organs belonging to 6 orders 23 families 57 genus occupying 26 percent of the total cephalopods.And among these species,most of them are Oegopsida squid inhabiting in ocean but minors are Myopsida squid and cuttlefish in Coastal waters.The light organs can be sorted as two types mainly in cephalopods,one is intrinsic photophore on body surface and the other is glandulose photophore within mantle cavity.Light organ of Cephalopods not only play an important role in illumination,courtship,trapping food,signal to confuse or warn predators,but also is

applied into the taxonomy at family,genus and species level.In this paper the characteristics of cephalopods light organ from family and genus level have been described as well as their photophore type,position,size,quantity,arrangement and so on.Meanwhile,their application to taxonomy is taken as example.Finally,it is necessary for us to describe the detailed features of light organ from different family and genus,and establish the searching table of cephalopods with light organ,which will provide reference for the domestic and international cephalopod researchers.

【语种】中文
【第一作者】刘必林
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【学科分类】水产学基础学科

【题目】我国东、黄海鲐鱼灯光围网渔业CPUE标准化研究
【中文关键词】日本鲐; 单位捕捞努力量; 大型灯光围网; 广义线型模型; 广义加性模型;
【英文关键词】Scomber japonicus; catch per unit effort(CPUE); Chinese large lighting-purse seine; generalized linear model(GLM); generalized additive model(GAM)
【中文摘要】日本鲐是我国近海重要的中上层鱼类资源之一,评估其资源量需要对单位捕捞努力量渔获量(CPUE)进行标准化。影响CPUE标准化的因素很多,包括季节、区域和海洋环境等。本文利用广义线型模型(GLM)和广义加性模型(GAM),结合时空、捕捞船、表温等因子,对1998-2006年东、黄海大型灯光围网渔业鲐鱼CPUE进行标准化,并评价各因子对CPUE的影响。首先应用GLM模型评价时间、空间、环境以及捕捞渔船参数对CPUE的影响,并确定显著性变量。其次,将显著性变量逐一加入GAM模型,根据Akaike信息法则(AIC),选择最优的GAM模型。最后,利用最优的GAM模型对CPUE标准化,并定量分析时间、空间、环境以及捕捞渔船参数对鲐鱼CPUE的影响。GLM模型结果表明:8个变量对CPUE有重要影响,依次为年、船队、船队与年的交互效应、月、船队与月份的交换效应、经度、纬度和海表温。根据AIC,包含上述8个显著性变量的GAM模型为最优模型,对CPUE偏差的解释为27.78%。GAM模型结果表明:高CPUE分别出现在夏季海表温为28~31℃的东海中部和冬季海表温为12~16℃的黄海;1998-2006年,标准化后的CPUE呈逐年下降趋势,与持续增长的捕捞努力量有关。 更多
【英文摘要】Chub mackerel (Scomber japonicus) is one of the important pelagic fishery resources in the China ’s coastal waters. It is needed to standardize the catch per unit effort (CPUE) in the stock assessment. Many factors including seasonal,regional and marine environmental conditions affect the CPUE. In this paper,generalized linear model (GLM) and generalized additive model (GAM),by which temporal,spatial,environmental,and fisheries vessels variables were chosen for analysis,were used to standardize CPUE of chub mackerel for Chinese large lighting-purse seine fishery in the East China Sea and Yellow Sea from 1998 to 2006,and evaluate impacts of environmental variables on CPUE. Firstly,GLM was applied to evaluate impacts of temporal,spatial,environmental,fisheries operational variables on the CPUE,and the significant factors. Then the significant variables were used in the GAM one by one to select an optimal GAM by using the Akaike Information Criterion (AIC). The derived GAM was used to quantify the effects of temporal,spatial,environmental,and fisheries operational variables on the Chub mackerel catch rates and to derive standardized CPUE. The GLM analysis revealed the importance of eight variables ranked by decreasing magnitude: Year,Fleet,Fleet × Year,Month,Fleet × Month,Longitude,Latitude and Sea surface temperature. The final GAM including eight significant variables derived from GLM analysis was the optimal model based on AIC and explained 27.78% of the variance in nominal CPUE. GAM analysis indicated that high CPUEs were found in the central East China Sea at sea surface temperatures ranging from 28 to 31 °C in summer and in the Yellow Sea at sea surface temperatures from 12 to 16 °C in winter. The standardized CPUE tended to decrease from 1998 to 2006,which might result from increased fishing efforts.

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【学科分类】水产资源学

【题目】西北太平洋柔鱼资源丰度与栖息环境的关系及其时空分布
【中文关键词】柔鱼; 栖息环境; 广义加性模型; 资源丰度; 西北太平洋
【英文关键词】Ommastrephes bartramii; environment of habitat; generalized additive models; abundance index; Northwestern Pacific Ocean
【中文摘要】海洋环境决定着鱼类资源的空间分布,利用栖息地环境来推测鱼类资源的空间分布是当前渔业资源学的研究前沿。利用广义加性模型(generalized additive models,GAM)和地理信息系统(geographicalinformation system,GIS)方法,根据1995-2004年我国西北太平洋鱿钓生产统计数据和卫星遥感所获得的海洋环境数据(温度、盐度和海平面高度),分析各海洋环境因子与西北太平洋柔鱼资源丰度时空分布的关系,推测不同月份柔鱼资源丰度空间分布情况。结果表明:6月在175°E、40°N,175°W、41°N以及178°W、43°N附近海域资源丰度相对较高,而在165°E以西传统作业渔场(40°N~45°N,145°E~165°E)资源丰度极低;7月在153°E~173°E、43°N~45°N海域资源丰度水平相对较高;8月资源丰度较高海域分布在150°E~157°E、40°N~45°N;9月资源丰度较高海域分布在145°E~152°E、40°N~45°N和158°E~165°E、41°N~45°N;10月资源丰度较高海域分布在154°E~158°E、41°N~44°N;11月资源丰度较高海域分布在145°E~155°E、39°N~42°N海域。
【英文摘要】The spatial distribution of fish resources is determined by marine environment.It is a hot topic in the science of fishery resources how to use the related environmental factors of fish habitat to speculate the distribution of fishery resources.In this study,according to Chinese squid jigging fisheries data and satellite remote sensing data which included temperature,salinity and sea surface height in the Northwestern Pacific Ocean from 1995 to 2004,Generalized additive models(GAM) and Geographical Information System(GIS) were applied to analyze the relationship between the abundance index of neon flying squid Ommastrephes bartramii and the related environmental factors and predict the monthly spatio-temporal distribution of this squid from June to November.The results showed that the higher abundance index is distributed near the waters of 175° E and 40° N,175° W and 41° N or 178° W and 43° N in June,while the lower abundance index of this squid is the traditional fishing ground(40° N-45° N and 145° E-165° E).In July,the higher abundance index is distributed in the areas of 153° E-173° E and 43° N-45° N.In August,the higher abundance index is distributed in the waters of 150° E-157° E and 40° N-45° N.In September,the higher abundance index is distributed in the areas of 145° E-152° E and 40° N-45° N,158° E-165° E and 41° N-45° N.In October,the higher abundance index is distributed in the areas of 154° -158° E and 41° N-44° N.In November,the higher abundance index is located in the waters of 145° E-155° E and 39° N-42° N.
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【第一作者】田思泉
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【题目】西南大西洋阿根廷滑柔鱼耳石外部形态特性分析
【中文关键词】阿根廷滑柔鱼; 耳石形态特征; 西南大西洋;
【英文关键词】Illex argentinu; morphology characteristic of statolith; Southwest Atlantic Ocean;
【中文摘要】2008年1-5月我国鱿钓船在西南大西洋采集了259尾阿根廷滑柔样本(胴长范围为193~364 mm),对其耳石形态特征进行观察与测量。结果表明,阿根廷滑柔鱼耳石的形态上,翼区最大,侧区稍小,背区最小。耳石总长TSL、最大宽度MW、侧区长LDL与胴长ML呈幂函数关系(P<0.05),背侧区长DLL、侧区LDL和吻侧区长RLL与胴长ML呈指数函数关系(P<0.05);而各参数与体重W则全部呈指数函数关系。随着胴长增加,虽然耳石绝对尺寸都逐渐增大,但相对尺寸逐渐减小,耳石的形态结构比例基本不变,即最大宽度、吻区宽度,背区、侧区、吻侧区、翼区的长度以及吻区宽度与耳石总长之比基本保持一致,分别为56.28%、34.36%、63.57%、60.46%、80.56%、15.34%。
【英文摘要】The morphology and microstructure of statolith of Illex argentinus were studied for the 259 samples(ranged in size from 193-364 mm in mantle length),which were collected by Chinese jigging fleets in the Southwest Atlantic Ocean from January to May 2008.The study indicated that its statolith has the structure with biggest rostrum and greater lateral dome length while small dorsal dome.Six most important featured parameters including total statolith length(TSL),maximum width(MW),lateral dome length(LDL)

were best described by power functions with mental length(ML)(P<0.05),while dome length(FDL),ventral dorsal dome length(DLL) and rostrum lateral dome length(RLL) were best described by power functions with ML(P<0.05),and all of the six featured parametes were best described by power functions with body weight.With the squid growth,the size of statolith gradually develops,while the ratio of each featured parameter to ML slowly decrease,and the ratio of MW,FDL,LDL,RLL,WL,RW to TSL almost remain the same level,corresponding to 56.28%,34.36%,63.57%,60.46%,80.56% and 15.34%

【语种】中文
【第一作者】陆化杰
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【学科分类】水产学基础学科

【题目】夏季黄海南部沿海表层流刺网渔获物组成分析
【中文关键词】三层表层流刺网; 渔获物; 灰鲳(Stomateoides nozawae Ishikawa); 银鲳(Stromatecoides argenteus);
【英文关键词】float-trammel net; catches; Stomateoides nozawae Ishikawa; Stromatecoides argenteus;
【中文摘要】结合银鲳和小黄鱼流刺网网目选择性试验,对夏季黄海南部沿海三层表层流刺网渔获物组成进行了调查分析。总共鉴定出渔获品种25种,其中优势种为梭子蟹(Portunus triuberbuculatus)、灰鲳(StomateoidesnozawaeIshikawa)和银鲳(Stromatecoides argenteus),分别占总渔获量的59.2%,21.5%和11%,灰鲳体长分布范围为17~30 cm,优势体长范围为21~24 cm,占71.6%;银鲳体长分布范围为13~23 cm,优势体长范围为15~21 cm,占95.8%。数据分析表明,三重流刺网作业网具选择性较差,渔具兼捕种类多,捕获量大,占总渔获量的66.5%;渔获的灰鲳和银鲳处于生长型捕捞期,不利于资源的可持续利用,建议适当改良渔具,避免对其资源造成过度破坏。
【英文摘要】Combining with the selectivity research of gill-net,the authors investigated the catches’components of floated-trammel net used by gill-net fishery in the south region of the Yellow Sea,and discriminated 25 species from catches,the dominant species is swimming crab,silver butter-fish and Silvery pomfret,the weights of the three species take account for 59.2%,21.5% and 11% of the total production respectively.The length ranges of silver butter-fish are among 17~30 cm,the dominant ranges are 21~24 cm and take account for 71.6% of all the sample;the length range of silver butter-fish are 13~23 cm,the dominant range is 15~21 cm and takes account for 95.8% of all the sample.Based on the datebase,the selectivity of the trammel net fishery is poorver, the species number and the amount of by-catch are too lager.It wassuggested to take some feasible modification on fishery nets for protecting fishery resource.
【语种】中文
【第一作者】李灵智
【通讯作者】黄洪亮
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【题目】星康吉鳗笼网目选择性研究
【中文关键词】星康吉鳗; 网目尺寸; 选择性; 模拟套网法;
【英文关键词】Conger myriaster; mesh size; selectivity; simulated cover-net method;
【中文摘要】研究不同网目尺寸的笼网对星康吉鳗(Conger myriaster)的选择性。在实验室水槽中,模拟套网法实验获得星康吉鳗的生物学特征参数,使用Logistic曲线作为研究笼具的选择性模型,求得不同网目尺寸笼网对星康吉鳗的体长选择性曲线,并用极大似然法估算选择性参数,为探讨捕捞星康吉鳗的最适网目尺寸进行基础性研究。结果表明:网目尺寸为33mm、40mm、55mm的笼网目选择率分别在星康吉鳗体长l(0,39cm)、l(0,42cm)、l(0,48cm)时,体长选择率几乎为0;网目尺寸为26mm、33mm、40mm的笼网目选择率在星康吉鳗体长lH48cm、lH60cm、lH66cm时,体长选择率接近于100%;而网目尺寸为55mm的笼网对星康吉鳗的选择率最大只达到50%。网目尺寸为26mm、33mm、40mm、55mm时,星康吉鳗的50%选择体长L50分别为40.083cm、48.212cm、55.874cm、66.500cm;选择范围SR分别为5.419cm、11.578cm、14.354cm、18.000cm;选择系数SF为1.542、1.461、1.397、1.209。通过比较发现,随着笼网网目尺寸的增加,L50和SR逐渐增大,选择系数

SF则呈递减趋势。
【英文摘要】The study investigated selectivity of Conger myriaster pot with diffirient mesh sizes to find out the optimal mesh size for C.myriaster fishing.By using simulated cover-net method in a laboratory flume,biological features of Conger myriaster was obtained.Size selectivity curves of C.myriaster pot were drawn by using Logistic curve as a selectivity model.Parameters of selectivity were estimated according to the maximum likelihood method.The results are as follows:Length selective rate of the C.myriaster pot is nearly 0 when the mesh size is 33 mm,40 mm,55 mm for the C.myriaster with the body length range of 0-39 cm,0-42 cm,0-48 cm,respectively;and the length selective rate is 100%when mesh size is 26 mm,33 mm,40 mm for C.myriaster whose body length range is lH48 cm,lH60 cm,lH66 cm,respectively,while the maximal length selective rate for C.myriaster is 50%when the mesh size is 55 mm.When the mesh size is 26 mm,33 mm,40 mm and 55 mm,its L 50(the corresponding body length with 50% retention) is 40.083 cm,48.212 cm,55.874 cm,66.500 cm,while SR(selection range) is 5.419 cm,11.578 cm,14.354 cm,18.000 cm and SF(selection factor) is 1.542,1.461,1.397,1.209,respectively.By comparison,when the pot mesh sizes increase,L 50 and SR increase,while SF reduces. 更多
【语种】中文
【第一作者】唐衍力
【通讯作者】唐衍力
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【题目】印度洋大眼金枪鱼、黄鳍金枪鱼延绳钓渔场重心变化分析
【中文关键词】大眼金枪鱼; 黄鳍金枪鱼; 渔场重心; 印度洋; 延绳钓
【英文关键词】Thunnus obesus; Thunnus olbacres; barycenter of fishing ground; Indian Ocean; long-line
【中文摘要】大眼金枪鱼和黄鳍金枪鱼是印度洋金枪鱼延绳钓的主要渔获种类。通过计算以渔获量为权重的经度和纬度的加权平均值即渔场重心和利用空间距离分析方法,分别对1967-1987年、1988-2004年两个时间段的印度洋大眼金枪鱼、黄鳍金枪鱼延绳钓渔场重心的年内、年际变化规律和各月渔场重心空间聚类情况进行研究。研究表明,渔场重心在年内呈现出规律性变化,大眼金枪鱼月重心变化1-4月向西北移动,5-8月向东南方向移动,9-12月向东北方向移动;黄鳍金枪鱼月渔场重心变化1月向西北移动,2-4月向西移动,5-8月份向东南移动,9-12月份向东北移动,这在一定程度上反映了印度洋大眼金枪鱼、黄鳍金枪鱼的洄游规律。渔场重心的年间变化受到了海洋环境条件变化所引起的南方涛动现象(ENSO)的影响,大部分发生ElNio的当年或次年,年渔获量分布重心会向南、向西移;发生LaNia的年份前后渔获量分布重心会向北、向东移。同时捕捞行为也对渔场重心的年间变化产生影响。
【英文摘要】Bigeye tuna(Thunnus obesus) and yellowfin tuna(Thunnus albacares) are major fishing targets by longline in the Indian Ocean.Through the weighted average of catch in latitude and longtitude(barycenter of fishing ground) and analysis of spatial distribution,it is studied on the laws of annual and inter-annual change of barycenter of fishing ground and the analysis of barycenter of fishing ground in each month by cluster of bigeye tuna and yellowfin tuna longline fisheries in the Indian Ocean during 1967-1987 and 1988-2004.The barycenter of fishing ground for bigeye tuna turns to the northwest from January to April,to the southeast from May to August,to the northeast from September to December and the barycenter of fishing ground for yellowfin tuna turns to the northwest in January,to the west from Feberary to April,to the southeast from May to August,to the northeast from September to December,which show that the change law of barycenter during the year,to a certain extent,reflects the migratory pattern of bigeye tuna and yellowfin tuna in the Indian Ocean.The change law of barycenter inter-annually moving to the west and the south in the same year or in the next year of the El Ni o and moving to the east and the north in the same year or in the next year of the La Ni a had been influenced by the effect of Southern Oscillation(ENSO) caused by the changes of marine environment conditions and the fishing practice is another factor. 更多
【语种】中文
【第一作者】曹晓怡
【通讯作者】周为峰
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【题目】印度洋黄鳍金枪鱼渔业资源开发策略评价
【中文关键词】黄鳍金枪鱼; 资源评估; 策略模拟; 印度洋
【英文关键词】yellowfin tuna; stock assessment; strategy modelling; the Indian Ocean
【中文摘要】运用单位补充量模型和Schaefer剩余产量模型,对印度洋黄鳍金枪鱼渔业的开发策略进行了评价。单位补充量模型指示的生物学参考点Fmax、F0.1、F20%SPR、F40%SPR分别为0.76、0.44、0.56、0.32,相应的产量控制参考值分别为36.7万t、34.6万t、36.1万t和34.2万t。随着捕捞死亡系数增加,未来10 a的相对渔获量将逐渐增加,但相对剩余亲体量却逐渐下降。捕捞死亡系数控制在0.3以内,未来10 a内相对剩余亲体量下降20%以下的概率将低于10%;捕捞死亡系数在0.6以上时,发生该事件的概率达到90%以上。当总许可捕捞产量分别为30万t、35万t、40万t和45万t时,未来10 a内的黄鳍金枪鱼资源量将分别呈增长、稳定、缓慢下降和快速下降趋势。从模拟的结果来看,应把捕捞死亡系数降低到0.5以下、总产量控制在35万t以内,才能保证渔业产量的长期稳定。图2,表4,参27。
【英文摘要】Exploitation strategy of yellowfin tuna in the Indian Ocean was evaluated using per recruit model and Schaefer production model.Fmax、F0.1、F20%SPR、F40%SPR inferred from per recruit model was 0.76,0.44,0.56,0.32 and the corresponding referrence catch was 367,346,361,342 thousand tons.The relative catch will increase with fishing mortality in the next ten years,but vice versa with relative residual spawner biomass.The probablity of relative residual spawner biomss below 20% will be lower than 10% if the fishing mortality is controled within 0.3,but greater than 90% if the fishing mortality is greater than 0.6.The biomass will show increscent,stable,slowly descendent,and quickly descendent trend in the next ten year when total allowable catch is set at 300,350,400,and 450 thousand tons.It is suggested that the production would be stable if fishing mortality was controlled below 0.5 and total catch was limited within 350 thousand tons. 更多
【语种】中文
【第一作者】冯波
【通讯作者】陈新军
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【题目】应用栖息地指数对印度洋大眼金枪鱼分布模式的研究
【中文关键词】大眼金枪鱼; 分位数回归; 栖息地指数; 印度洋
【英文关键词】Thunnus obesus; quantile regression; habitat suitability index(HSI); Indian Ocean
【中文摘要】运用分位数回归方法对温度、温差、氧差与印度洋大眼金枪鱼延绳钓钓获率进行二次回归分析,找出最佳上界方程,以最佳上界方程拟合的数值来建立栖息地指数(HSI)模型,从而揭示印度洋大眼金枪鱼栖息地的分布模式。研究表明,温度、温差、氧差与印度洋大眼金枪鱼延绳钓钓获率的最佳上界分位数回归方程分别为HRT0.9=-44.803+7.685T0.9-0.255T0.92,HRdT0.9=6.234+0.953dT0.9-0.026dT0.92和HRdO0.88=7.422+4.25dO0.88-0.727dO0.882。10°N~10°S间印度洋海域大眼金抢鱼HSI指数达到0.9以上;10°N以北的波斯湾及10°S~15°S海域的HSI指数为0.8~0.9;15°S~40°S之间海域HSI指数介于0.7~0.8,其中50°E~90°E、15°S~25°S间存在一片季节性HSI指数<0.7的区域;40°S以南的海域HSI指数<0.6。
【英文摘要】Bigeye tuna Thunnuns obesus is one of key species caught by Chinese tuna longline fleets.Its spatial distribution in relation to environmental factors is highlighted by international organizations and researchers.The aim of this study is to present the analysis of correlation between hooking rates of bigeye tuna longline and environmental factors in the Indian Ocean.Three environmental variables including temperature,temperature difference and dissolved oxygen difference are used to fit habitat suitability model in order to explain the distribution pattern of bigeye tuna in the Indian Ocean.Function expressions of hooking rates and environmental factors are estimated by quantile regression.Data predicted by optimum upper boundary quantile curves are fitted to the habitat suitability model to display quarterly distribution of bigeye tuna via visualization of Surfer 8.0.The optimum upper boundary quantile curves for temperature (T)-hooking rate(HR),temperature difference(dT)-HR and dissolved oxygen difference(dO2)-HR are in the following HRT0.9=-44.803+7.685T0.9-0.255T0.92,HR(dT)0.9=6.234+0.953dT0.9-0.026dT0.92 and HR(dO)0.88=7.422+4.25dO0.88-0.727dO0.882,respectively.Habitat suitability index is above 0.9 within 10°N-10°S,0.8-0.9 in the north of 10°N and within 10°S-15°S,0.7-0.8 within 15°S-40°S,and below 0.6 in the south of 40°S.However,a mass of waters occurs seasonally

within 50 ° E-90 ° E,15 ° S- 25 ° S where habitat suitability index is less than 0.7.The habitat suitability model indicates the reliable results and could be improved by integrating more interactive variables.It is proved in this study that quantile regression is a useful way to investigate correlation between organism and limiting ecological factors. 更多

【语种】中文
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【题目】中西太平洋金枪鱼围网黄鳍金枪鱼产量的时空分布及与表温的关系
【中文关键词】黄鳍金枪鱼; 渔获量时空分布; 金枪鱼围网; 中西太平洋; 海表温度
【英文关键词】Thunnus albacares; spatio-temporal distribution of catch; tuna purse seine; Central and Western Pacific; sea surface temperature
【中文摘要】黄鳍金枪鱼是中西太平洋金枪鱼围网渔业中的重要捕捞种类之一。本文根据2003年中西太平洋金枪鱼围网生产统计及其表温数据,利用频次统计分析和地理信息软件Marine Explorer 4.0对黄鳍金枪鱼产量和单位日产量(CPUE)的时空分布进行分析,探讨其与海水表温的关系。结果显示,产量和CPUE最高的是2月份,其次是9月份,5月份为最低。高产量的范围为140~160 ° E、0 ° ~5 ° S;CPUE高值区分布在130 ° E、0 ° ~15 ° S,140 ° ~160 ° E、0 ° ~15 ° S和175 ° W、0 ° ~15 ° S;产量经纬度重心分别为150 ° 30 ′ E和3 ° 48 ′ S。产量主要分布在海表温为28~31℃的海域,产量比重高达95.45%,其中29~30℃产量为最高,占69.54%。

【英文摘要】Yellow-finned tuna Thunnus albacares is an important target species of the tuna purse seine fishery in the Central and Western Pacific.Present paper deals with the analyses on the spatio-temporal distribution of the catch and CPUE of yellow-finned tuna based on the catch data and sea surface temperature(SST) during 2003,and by using the method of frequency stastics together with GIS software Marine Explorer 4.0 to inquire into its relationship with SST.The results showed that the highest catch and CPUE were in February,next in September and the lowest in May.The area with high catch was located in the waters of 140 ° -160 ° E,0 ° -5 ° S,the area with high CPUE were distributed in the waters of 130 ° E,0 ° -15 ° S,140 ° -160 ° E,0 ° -15 ° S,175 ° W,0 ° -15 ° S.The gravity centre of the annual catch was located in the water of 150 ° 30 ′ E and 3 ° 48 ′ S.The optimum SST for yellow-finned tuna ranged from 28 ℃ to 31 ℃,the catch propotion in total highly occupied up to 95.45%,in which the highest catch was distributed in the waters with 29 ℃-30 ℃ SST,its propotion occupied 69.54% in total.
【语种】中文
【第一作者】刘勇
【通讯作者】陈新军
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【题目】不同尺寸虾拖网网囊网目对副渔获物的选择性研究
【中文关键词】虾拖网; 副渔获物; 选择性
【英文关键词】shrimp trawl; by-catch; selectivity;
【中文摘要】为了分析黄海区虾拖网网囊网目对副渔获物的选择性,运用套网法对30,33,40 mm 3种网目尺寸的网囊进行了选择性试验。用统计学方法求得几种优势副渔物的逃逸率,并用极大似然法对渔获数据进行处理求得相关的选择性参数。结果表明,大部分副渔获物的逃逸率随着网囊网目尺寸的增大而增大,在网目尺寸为30,33,40 mm时矛尾虎鱼(Chaeturichthys stigmatias)的逃逸率分别为48.3%,59.7%和62.6%;细巧仿对虾(Parapenaeopsis tenella)的逃逸率分别为67.0%,68.2%,68.7%。矛尾虎鱼的选择性参数也随着网目尺寸的增大而增大,在网目尺寸为30,33,40 mm时,矛尾虎鱼的50%选择体长L50分别为81.858,86.715和88.028 mm,选择范围SR分别为41.097,45.007和50.423 mm。研究表明,单靠放大网囊网目尺寸来释放虾拖网中副渔获物,效果不甚理想。

【英文摘要】In order to reveal the selectivity to by-catch species by shrimp trawls,which is operated in the Yellow Sea,experiments of codends with mesh sizes,30,33,or 40 mm were conducted using the cover-net method.The escape rates of main by-catch species were measured,and the selectivity parameters of Chaeturichthys stigmatias were estimated by using the maximum likelihood method.The results indicated that the escape rates of main by-catch species increased as the mesh sizes were increased.For mesh sizes of 30,33,and 40 mm the escape rates of C.stigmatias were 48.3%,59.7%,and 62.6%,respectively;the escape rates of Parapenaeopsis tenella are 67.0%,68.2% and 68.7%,respectively.The selectivity parameters of C.stigmatias also increased as mesh sizes were in-creased.For the mesh sizes of 30,33,40 mm,the of C.stigmatias were 81.858,86.715,and 88.028 mm,re-spectively;while the SR were 41.097,45.007,and 50.423 mm,respectively.Based on the results,we concluded that the effect of releasing by-catch species were not very good only by enlarging mesh sizes

【语种】中文

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【题目】不同名义 CPUE 计算法对 CPUE 标准化的影响

【中文关键词】CPUE标准化; 广义加性模型; 西南大西洋; 阿根廷滑柔鱼;

【英文关键词】CPUE standardization; generalized additive model; Southwest Atlantic Ocean; Illex Argentinus fishery

【中文摘要】CPUE标准化是渔业资源评估的重要研究内容。不同名义CPUE计算方法通常会影响到CPUE的标准化,进而影响到对资源丰度的评价。在CPUE标准化过程中,首先对名义CPUE进行计算,通常有以下3种方法:(1)直接将每个记录的产量除以其对应的捕捞努力量计算出CPUE值,然后输入模型;(2)先对所有的记录计算出CPUE,然后以一个空间尺度(小渔区,如0.5°×0.5°)统计数据,对每个小渔区内所有的CPUE直接求平均值(所有CPUE求和再除以记录的数量)输入模型;(3)以一个空间尺度统计数据,用小渔区内的所有记录的总产量除以总捕捞努力量计算的CPUE输入模型。本文以我国在西南大西洋的阿根廷滑柔鱼鱿钓渔业为例,分别使用上述3种CPUE计算方法,运用广义加性模型(Generalized Additive Model,GAM)模型进行CPUE标准化(对应的模型分别为GAMa、GAMb和GAMc),比较不同模型的结果。研究发现,3种模型得出的年标准化CPUE和月标准化CPUE存在差别,GAMa与GAMb、GAMc的结果相差较大,GAMb和GAMc所得的结果相差较小,而GAMa与GAMb、GAMc的标准化CPUE值、变异系数以及模型的各因子方差贡献率等相差较大。3种模型之间的差别主要由于样本数、捕捞努力量的假设、数据记录的时空尺度和模型中因子的选择等因素影响。因此在使用商业性渔业数据分析渔业资源状况时,需要考虑由于CPUE计算方法的不同带来的不确定性

【英文摘要】CPUE standardization is a role in fisheries stock assessment.Different calculating methods for nominal CPUE can affect standardized CPUE which usually is used to index fisheries abundance.In CPUE standardization modeling,nominal CPUE is as a response variable which usually can be calculated in three methods:(1) for every record,CPUE is calculated by catch dividing the corresponding effort,and the all CPUEs were input the model;(2) all fisheries data records are first grouped by one spatial scale(fishing grid,such as 0.5°×0.5°),then for every grid,average CPUE is calculated by all CPUE dividing the number of records,all average CPUEs of fishing grids are as the model input;(3) the fisheries data grouping and the model input are same as(2),but the average CPUE for every grid is calculated by total catch dividing total fishing effort.For evaluating impacts of different nominal CPUE inputs on CPUE standardization modeling,Chinese Illex argentinus fishery in the South Atlantic Ocean was,as a study case,the three above-mentioned nominal CPUEs calculated from this fisheries data were input generalized additive models which were used to standardize these CPUEs.The corresponding models were GAMa,GAMb and GAMc,respectively.The results derived from the GAMs were compared.From these analysis,there were differences among these standardized CPUEs derived from the three GAMs.GAMb and GAMc showed similar trends in standardized CPUEs.But there were significant variances between GAMa and the latter two GAMs in the values of standardized CPUE,coefficient of variance and the variance contribution rate of each explanatory variable in the models.The differences among these GAMs were mainly owing to sample numbers,the assumption for calculating fishing effort,the spatio-temporal scale for grouping fisheries data and model selection,etc.On the summary,the certainties due to different calculating methods for CPUE should be considered when commercial fisheries data were used to analyze the status of fisheries stock.

【语种】中文

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【题目】单船拖网网板的现状及发展趋势
【中文关键词】拖网网板; 使用现状; 水动力性能; 发展趋势;
【英文关键词】trawl otter board; use status; hydrodynamics; developing trend;
【中文摘要】本文根据调查资料,结合研究开发及应用经验,着重介绍国内、外单船拖网网板的使用和研究开发现状,比较不同类型网板的结构型式和作业特点,并对6种具有代表性拖网网板的水动力性能进行对比分析,同时根据国内、外拖网网板的发展趋势,提出今后网板研究、开发的几点看法。 更多还原
【英文摘要】base on our investigating data and the experience of the application of trawl otter board,we mainly introduced the use and the study status of trawl otter board at home and abroad. The different structure types of trawl otter boards and their operating characteristics were compared in the paper,especially the hydrodynamic characteristics of 6 typical boards. Here,we also put forward some suggestions of the study and use of trawl otter boards according to their domestic and external developing trends
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【题目】多囊桁拖网选择性研究中对照网囊网目尺寸的选择
【中文关键词】尺寸选择性; 对比试验法; 对照网囊; 网目尺寸; 多囊桁拖网;
【英文关键词】size selectivity; comparative fishing method; control codend; mesh size; multi-codends beam trawl;
【中文摘要】对比作业法是拖网渔具选择性研究中重要的试验方法之一,而对比试验中对照网囊网目的选择至关重要。研究利用多囊桁拖网不同网目尺寸(20、30、35和40mm)网囊捕获的哈氏仿对虾、小黄鱼和棘头梅童鱼渔获体长分布数据,应用几何相似原理,分析过滤性渔具的选择性,并按不同假设条件下(假设1:符合几何相似原理对渔获具有一定的选择性;假设2:对渔获种类没有选择性),探讨如何合理选择对照网囊网目尺寸。结果表明,对照网网囊网目尺寸为20mm,在上述2种假设下,对选择性模型的拟合、简化及对其它网囊的选择性参数没有显著的影响;在考虑了桁拖网渔具各网囊具有相同相对作业强度,以及桁拖网渔具与普通拖网渔具选择性分析方法上的差异等因素后,认为在此项研究中,将小于20mm网目尺寸的网囊视为没有选择性的对照网囊是可行的。 更多还原
【英文摘要】In comparative fishing method,one of important experimental methods in research on size selectivity of trawls,the control codend mesh size is crucial and a possible upper limit is generally suggested to be half the mesh size of the test codend. However,the suggestion is unavailable when the body size of target specie of trawl is small enough,especially in shrimp or prawn trawl fisheries. In order to discuss how to choose a rational mesh size of control codend,experiments,in which test codends with different mesh sizes (20,30,35 and 40 mm) were rigged in a same multi-codends beam trawl and fished simultaneously,were carried out in Lvsi Fishing Ground. The catch frequency of Parapenaeposis hardwickii,Pseudosciaena polyactis and Collichthys lucida retained by codends were fitted to a selectivity analysis model in which the selectivity curves of different codends were regarded as geometrical similar under two contrary hypotheses (hypothesis 1:the 20 mm mesh size codend is regarded as test codend and selective for catch species and,hypotheses 2:as control codend and non-selective for species). The result demonstrated that the goodness of model fit and the selective parameters of different test codends were not affected significantly by the two contrary hypotheses. Taking the difference in relative fishing intensity and statistical method of analyzing size selection between multi-conends trawl and conventional trawls into account,authors suggest that the assumption of non-selectivity of 20 mm mesh size control codend is acceptable in analysis of size selectivity in the experiemts,which means that the general upper limit of control codend mesh size could be broken.

【语种】中文
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【题目】基于 Argo 数据的中西太平洋鲣渔获量与水温, 表层盐度关系的初步研究
【中文关键词】鲣; 中西太平洋; Argo; 水温; 表层盐度; K-S检验; Shapiro-Wilk正态性检验
【英文关键词】Katsuwonus pelamis; west-central Pacific Ocean; Argo; water temperature; surface salinity; K-S test; Shapiro-Wilk normality test;
【中文摘要】根据上海金汇远洋渔业公司2007年度在中西太平洋海域进行鲣Katsuwonus pelamis围网作业的生产数据以及Argo剖面浮标数据,利用地理信息系统软件Arcview,按1°×1°的格式绘制了各月产量、表层温度、表层盐度以及50 m和200 m水层温度等,并对数据进行了综合分析。结果表明:鲣的高渔获量区域主要分布于150°~153°E、160°~161°E,0°~2°S的水域;2007年最高月产量和最高单网平均日产量(CPUE)的月份分别为8月和2月;通过K-S检验,2007年最适表层温度为29.3~30.1℃,最适表层盐度为34.0~35.2;0~200 m、50~200 m水层的垂直温差为11℃时,渔获量达到最大。Shapiro-Wilk正态性检验结果表明,渔获量与0~200 m、50~200 m水层的垂直温差服从正态分布关系。上述结论符合生产实践中获得的情况,表明Argo数据可以应用于渔业生产和科研中。
【英文摘要】The distribution maps with format of 1° latitude by 1° longitude include month production maps of skipjack Katsuwonus pelamis and distribution maps were drawn by Arcview,showing the relationship between monthly production and surface temperature,and surface salinity in depth of 50 m,and 200 m every month,based on skipjack purse data in the west-central Pacific Ocean by Shanghai pelagic fishery company and Argo profile data in 2007.The results showed that the high catch was mainly observed in 150-153° E,160-161° E,0°-2° S in 2007.The maximal catch was found in August,but the highest CPUE in February.With Kolmogorov-Smirnov two sample test methods,the most optimum surface temperature was 29.3-30.1 °C and the optimum surface salinity 34.0-35.2.The maximal catch appeared at difference temperature of 11 °C between 0-200 m and 50-200 m.The Shapiro-Wilk normality test showed that the distribution of difference temperature in production followed norm school.The above results are accorded with the instance of production practice,indicating that Argo data can be used in fishery production and research. 更多
【语种】中文
【第一作者】杨胜龙
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【题目】基于贝叶斯方法的东, 黄海鲐资源评估及管理策略风险分析
【中文关键词】鲐; 资源评估; 决策与风险分析; 贝叶斯方法; 剩余产量模型; 东、黄海;
【英文关键词】Scomber japonicus; stock assessment; decision and risk analysis; Bayesian approach; surplus production model; East China Sea and Yellow Sea;
【中文摘要】运用基于贝叶斯的剩余产量模型,对东、黄海鲐资源进行评估,确定了当前鲐资源开发利用状态,估算了在不同收获率水平下未来5年鲐资源量和年总可捕捞量,分析了管理策略实施后鲐资源崩溃的风险。结果表明,2006年东、黄海鲐正遭受过度捕捞,但其资源量并未处于过度捕捞状态。决策分析表明,收获率为0.3是最适预防性的管理策略,在该策略下,鲐平均资源量将从2006年的451千吨将增加到2011年的871千吨,2011年资源量恢复到BMSY的概率为0.48,而过度捕捞的概率为0。
【英文摘要】Chub mackerel (Scomber japonicus) is an important commercial fish species in the East China Sea and Yellow Sea. Since 1997,the annual catch of chub mackerel has been decreasing. It is necessary to assess its stock size and manage it properly. The stock assessment and risk analysis of the management strategy for chub mackerel was carried out using a Bayesian surplus production

model,and the stock status was determined. The stock biomass,annual total allowable catch and probability that the stock would collapse in the next 5 years were also estimated. The results indicated that the stock of chub mackerel in the East China Sea and the Yellow sea was in the state of"overfishing",but not overfished in 2006. The decision analysis showed that harvest rate of 0. 3 was the optimum management regulation with precautionary approach,under this harvest rate the average stock biomass would increase from 451 thousand tons in 2006 to 871 thousand tons in 2011,the probability that stock biomass in 2011 reaching BMSY would be 0. 47,and the probability of having an overfished stock would be 0

【语种】中文
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【题目】基于分位数回归的西南太平洋阿根廷滑柔鱼栖息地模型研究
【中文关键词】阿根廷滑柔鱼; 分位数回归; HSI模型; 西南大西洋;
【英文关键词】Illex argentinus; quantile regression; habitat suitability index; southwest Atlantic;
【中文摘要】阿根廷滑柔鱼是西南大西洋重要头足类资源,研究其变动、渔场分布与海洋环境的关系是其可持续利用的基础。本文利用分位数回归方法对表温(5m)、表层盐度(5m)、57m盐度及其盐度差、海面高度、叶绿素与阿根廷滑柔鱼钓获率进行回归分析,在中位数和高位数2种情况下分别建立阿根廷滑柔鱼的栖息地指数(HSI)模型,从而揭示西南大西洋阿根廷滑柔鱼栖息地的分布模式。研究表明,本文建立的各分位数回归方程均能较好地解释自变量与应变量的关系(P<0.05)。1~5月在60°W以西、42°S~53°S阿根廷沿海的大部分海域,其HIS值基本上在0.7以上;而58°W以东海域的HIS在0.4以下。阿根廷滑柔鱼适宜栖息地分布(HIS大于0.6)有明显的季节变化。 更多还原
【英文摘要】Illex argentinus is an important cephalopod resource in the southwest Atlantic,the relationship between its resources change,distribution of fishing ground and marine environment is the basis for its sustainable exploitation.In this paper,the regression between sea surface temperature(5m),sea surface salinity(5m),57m salinity and their salinity difference,sea surface height,chlorophyll and jigging rates are analyzed by using the method of quantile regression,the habitat suitability index(HSI) models are established under the two kinds of median and high quantile,which revealed the distribution pattern of Illex argentinus ’ habitat in the southwest Atlantic.The study indicated that the median regression equations based on HSI can be used to explain the relationships between variables and results(P<0.05).During January to May,the HIS more than 0.7 is basically distributed in the west water of 60 ° W and 42 ° ~53 ° S,while its HIS less than 0.4 is located in the east waters of 58 ° W.The suitable habitat with more than 0.6 HIS of Illex argentinus has an obvious seasonal variation on the spatial distribution.
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【题目】水温变动对 2009 年西北太平洋柔鱼产量下降的影响
【中文关键词】柔鱼; 渔场; 深层水温; 产卵场; 西北太平洋;
【英文关键词】Ommastrephes bartramii; fishing ground; deep-water temperature; spawning ground; northwestern Pacific Ocean;
【中文摘要】分布在西北太平洋的柔鱼是我国远洋鱿钓渔业的重要捕捞对象,近些年来其产量一直处在稳定的水平。然而,2009年8~10月旺汛期间在传统作业渔场(150°E~165°E、38°E~46°E)柔鱼产量出现大幅度下降,其日产量仅为正常年份的一半。为此,根据2007~2009年8~10月我国在西北太平洋鱿钓生产数据,以及产卵场表层水温,探讨2009年柔鱼产量下降及渔场变动的原因。研究表明,其产量出现下降的原因可能有2个:(1)柔鱼产卵场(20°N~30°N,130°E~170°E)黑潮大弯曲的发生,使得21℃等温线向南偏移,使得柔鱼资源补充量受到影响,从而使得渔汛期间柔鱼产量的下降;(2)旺汛期间(8~9月

)传统作业渔场(42 ° N~46 ° N,150 ° E~165 ° E)的100m水层有一个明显冷水南下,分布位置为154 ° E~156 ° E,将传统作业渔场(150E~165 ° E)一分为二,向南的前锋(水温低于5°C)到达42 ° N,明显不同于正常年份,使得作业渔场的范围明显缩小,不适合柔鱼的集群,导致产量出现大幅下降。

【英文摘要】The red flying squid (Ommastrephes bartramii) widely distributed in the North Pacific Ocean is a main fishing target for Chinese distant-water squid jigging fisheries.The production has maintained a steady level in the recent years.However,it declined sharply in the traditional fishing ground during the main fishing season (from August to October) in 2009,and the daily catch was only half of that in the normal years.Therefore,based on the catch from the Chinese squid jigging vessels and environment data in the northwestern Pacific ocean from August to September during 2007 to 2009,the study on the decline of catch for O.bartramii and variability of fishing ground in 2009 were made.The results indicated that there maybe two reasons causing a sharp decline in catch:(1) The occurrence of the big bending of Kuroshio at the spawning ground (20-30 ° N,130-170 ° E) caused a sharp decline in squid recruitment;(2)During the main fishing season (August-September),the cold water (located at 154-156 ° E) at 100 m depth intruded southward into the traditional fishing ground (42-46 ° N,150-165 ° E),which split the traditional fishing ground into two parts.And its southerly front (temperature at 100 m layer < 5 °C) reached at 42 ° N,which was distinctly different from that in normal years.Since the above reasons,the fishing ground has been significantly narrowed and not suitable for squid to aggregate.

【语种】中文

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【学科分类】水产资源学

【题目】表温和黑潮年间变化对西北太平洋柔鱼渔场分布的影响

【中文关键词】柔鱼;渔场时空分布;表温标准差;黑潮;西北太平洋

【英文关键词】Ommastrephes bartramii;spatial-temporal distribution;sea surface water temperature;kuroshio current;Northwest Pacific

【中文摘要】根据1998) 2007年6) 11月西北太平洋中国鱿钓船的生产统计数据, 结合黑潮及表温等海洋环境资料, 分析了近10年来表温和黑潮年间变化对西北太平洋柔鱼渔场分布的影响。结果表明, 各月经度向作业船次所占比重超过5%的海域: 6月为171b~ E 和179b ~ 180bE; 8月为151b ~ 158bE; 9月为152b ~ 160bE; 10月为146b ~ 147bE、151b ~ 160bE; 11 月为145b ~ 148bE、150b ~ 156bE。各月纬度向作业船次所占比重均超过20%的海域: 6月为39b ~ 41bN; 7月为40b ~ 42bN; 8月为41b~ 44bN; 9月为42b ~ 45bN; 10月为42b ~ 44bN; 11月为40b~ 42bN。渔场分布变化纬度向远比经度方向大。研究认为, 作业渔场年间变化的原因可能来自其表温年间变化(同一月份的水温年标准差大) 和黑潮等因素。黑潮大弯曲年份, 主要作业渔场150b ~ 160bE 海域表温通常较低, 作业渔场分布广泛, 但CPUE较低; 而黑潮小弯曲年份则情况相反。

【英文摘要】In this paper, effect of inter- annual change in sea surface water temperature and Kuroshio on fishing ground of squid Ommastrephes bartramii was studied based on the fishing data by Chinese squid jigg ing boats between June and November from 1998 to 2007. The results showed that the areaw ithmore than 5% of the total catch was distributed in the long itude direction as follows: 171 ° - 174 ° E and 176 ° - 180 ° E in June, 157 ° - 161 ° E, 167 ° - 169 ° E and 179 ° - 180 ° E in July, 151 ° - 158 ° E in August, 152 ° - 160 ° E in September, 146 ° - 147 ° E and151 ° - 160 ° E in October, 145 ° - 148 ° E and 150 ° - 156 ° E in November. In the latitude d irection, how ever, the area with more than 20% of the tota l catch was found in the wa ters as follow s: 39 ° - 41 ° N in June, 40 ° - 42 ° N inJu ly, 41 ° - 44 ° N in August, 42 ° - 45 ° N in September, 42 ° - 44 ° N in October and 40 ° - 42 ° N in November. The more change in fishing g round w as observed in the latitude than that in the long itude. The reasons for changeable fishing ground w ere attributed to the in ter- annual change in SST (the large standard dev iation of SST in the same month) and the Kurosh io. When therew as a large bending w ith Kurosh io, the sea surface temperaturew ere generally lower in thew aters from 150 ° to 160 ° E, the fish ing g round w ere widely distributed, with a low erCPUE. How ever,when there has been a sma ll bend w ith Kurosh io, the case w as the opposite.

【语种】中文

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【题目】黄海区虾拖网网囊网目选择性研究
【中文关键词】虾拖网;网目选择性;鹰爪虾
【英文关键词】shrimp trawl;mesh size selectivity;Trachypenaeus curvirostris
【中文摘要】在黄海区的山东近海,采用套网法对网目尺寸为30,33 和40 mm 的虾拖网网囊进行了选择性试验。使用Logistic 曲线作为选择性模型,求得不同网目尺寸的网囊对鹰爪虾(Trachy p enaeus curvirostris) 的体长选择性曲线,并运用极大似然法对渔获数据进行处理,同时估算选择性参数。结果表明,在网目尺寸为30,33 和40 mm 时主捕虾类鹰爪虾的选择体长L50 分别为59. 8,60. 1 和63. 2 mm,选择范围SR 分别为14. 4,16. 0 和22. 9 mm,选择性参数随网目尺寸的增加呈线性增大。鹰爪虾的选择体长L 50 与网囊网目尺寸m 的线性回归方程为L 50 = 0. 353m+ 48. 944,R2 = 0. 956。根据试验结果并结合历史资料,认为目前33 mm 的网囊网目尺寸对于保护鹰爪虾类资源是比较合适的。
【英文摘要】The selectivity of codends with mesh sizes, 30mm, 33mm, and 40mm, has been tested in theYellow Sea by using the cover-net method. Based on the Logistic equation model, curves about the selectivity of the three codends to the target species, Trachypenaeus curvirostris, were obtained. The catching data was analyzed and selectivity parameters w ere estimated by using the maximum likelihood method. The result shows that when the mesh sizes were 30 mm, 33 mm, and 40 mm, the 50% select ion lengths(L50) were 59. 8 mm, 60. 1 mm, and 63. 2 mm, r espectively; while the select ion ranges (SR) w ere 14. 4mm, 16. 0 mm, and 22. 9 mm, respectively. Both selectivity parameter s increase as the mesh sizes enlarge. The linear regression equation of the Trachypenaeus curvirostris between the 50% select ion length(L50)and the mesh size of the codend (m) is L 50= 0. 353m+ 48. 944, R2= 0. 956. Based on this result and the previous research, the author conclude that the 33 mm mesh size is more suitable for protecting the Trachy penaeus curvirostris resources.
【语种】中文
【第一作者】唐衍力
【通讯作者】唐衍力
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【题目】利用广义线性模型分析印度洋黄鳍金枪鱼延绳钓渔获率
【中文关键词】广义线性模型;黄鳍金枪鱼;印度洋;渔获率;标准化
【英文关键词】Generalized linear model;yellowfin tuna;Indian Ocean;catch rate;standardization
【中文摘要】利用广义线性模型,以年、季节、海区、渔具结构以及渔具材料等效应为主要因子,假设5种方案对日本在印度洋的黄鳍金枪鱼(Thunnus albacares)延绳钓渔获率进行标准化。结果显示,这5种方案对渔获率的变化都具有较好的解释率。其中方案3 的解释率最高,达到68%。主效应中,渔区、季节、年份具有最大的F值,表明它们能够解释剩余方差中的最大部分;交互项中,渔区与季节、主绳材料和支绳材料也具有较大的F值。这种情况与日本大眼金枪鱼延绳钓数据标准化的结果很相似。考虑每栏钩数的信息时,可使总方差的解释率提高8%~9%。当分别用每月每次投钩数≥5 000钩和≥10 000钩筛选的数据拟合模型时,可使总方差的解释率分别提高3%和2%,预测残差也更趋正态分布。但本标准化结果仍待进一步完善,在资源评估时,应审慎运用。
【英文摘要】Catch rate analysis of Japanese longline fishery in the Indian Ocean was conducted using generalized linear model with main factors of year,area,quarter,gear structure and materials. The results indicated that the five scenarios tested all had good explanation rate and the third scenario had the highest variance explanation of 68%. Effects of year,quarter and area had the highest F values,which indicated that they could explain the majority of variance,while interactions of area-quarter,mainline-branchline materials also had higher F values. This pattern was similar to the standardization on Japanese bigeye tuna fishery data. Explanation rate could increase by 8% to 9% when considering hooks per basket information. While data were selected by monthly shoot ≥5 000 hooks and ≥10 000 hooks,the explanation rate could increase by 3% and 2%,respectively. Residual distribution inclined to be normal. It should be cautious when applying the results to stock assessment owing to the potential improvement of the standardization.

【语种】中文
【第一作者】冯波
【通讯作者】陈新军
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【题目】南极磷虾资源利用现状与中国的开发策略分析
【中文关键词】南极磷虾;策略;捕捞;商业化开发
【英文关键词】Antarctic krill;strategies;fishing;commercial exploration
【中文摘要】由于南极磷虾(Euphausia superba)资源丰富,可捕量是世界现有渔业产量的1倍以上,因而参与南极磷虾资源开发是中国远洋渔业可持续发展的重要途径。由于南极磷虾资源开发面临困难较多,如远离港口、远离补给、远离市场、航行距离长等,加之捕捞技术和加工技术仍存在问题,与其他渔业相比,具有较大的成本压力。尽管如此,由于南极磷虾属于寒带海洋生物,具有其特殊的营养学特征,形成高附加值产品的潜力较大,因此在进行南极磷虾开发的准备过程中,应以最终产品的设计为导向,如提高产品的附加值,发展产品综合开发能力等以化解高成本的压力;从相关加工设备、加工工艺的研究和捕捞技术改进为出发点,重视项目的经济技术和盈利前景分析。由于南极磷虾的商业开发是高风险、高投入的项目,因此在没有把握获得商业利润以前,应以技术准备为主,不宜盲目投入大量资金直接进行商业化开发。建议以此作为制订中国南极磷虾资源开发策略的主要考虑因素。
【英文摘要】The resource of Antarctic krill(Euphausia superba)is very abundant. Engaging in the exploitation Antarctic krill is one of the most important blueprint for offshore fishery sustainability of China. Although the resource of Antarctic krill is theoritically abundant,its exploration is declining. Thus,it is necessary to look for the problems of exportation backwards. The cost for exploration of Antarctic krill was obviously higher than other fishery resources due to its remote location-far from major ports-and very inhospitable water where it takes place. However,the high exportation expense can be compensated by improving decomposing overhead and improving its addition value. In short,the exportation of Antarctic krill is characterized by the high-risk and high expense,which always need to notice and concern. Therefore,the exploration of Antarctic krill should be guided by end-products designing and researching relative processing machines and technology. Meanwhile,the profitability analysis should be done prudently in order to maximally avoid capital loss on investment. Given profitability of expectation is uncertain,large scale investment on exploration was not advocated.
【语种】中文
【第一作者】陈雪忠
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【题目】头足类角质颚的研究进展
【中文关键词】/
【英文关键词】Cephalopod;morphological characteristics;taxonomy;biology
【中文摘要】/
【英文摘要】With the decline of traditional world economic fisheries resources, the exploitation and utilization of cephalopod resource s have been recognized generally in the world and many researches on cephalopod resources and biology were made. Beak with the features of steady structure, erosion- resistant and better information storing, is one of hard and main predation organs of cephalopods, and it not only plays an important role in taxonomy but also as a good material to study cephalopod biology and taxonomy. Based on the studies conducted by the authors a t home and abroad, the paper described the morphological characteristics of beak and the studies of beaks were reviewed, which were applied in cephalopod biology, taxonomy, stock estimation and feeding habits of predators. The results show that the fixed term " beak" has been formed in the morphology, and has played an important role

in cephalopod taxonomy. A new approach on analyzing food com position and diet change was also provided by the analysis o f pigmentation in the beak, and analyzing pigmentation has become one of the key problem s in studying age and growth of cephalopod. The results show that some problems still exist in age identifying and stock estimating, which should be solved in the future, although certain progress has been made.
【语种】中文
【第一作者】刘必林
【通讯作者】陈新军
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【题目】西北太平洋柔鱼耳石形态特征分析
【中文关键词】柔鱼;耳石;形态特征;西北太平洋
【英文关键词】Ommastrephes bartramii;statolith;morphologic feature;northwest Pacific Ocean
【中文摘要】耳石是头足类生态的重要信息载体,掌握其形态特征是渔业生物学研究的基础。根据2007 年7-10月我国鱿钓船在西北太平洋海域连续采集的202尾柔鱼,对其耳石形态特征进行观察与测量。研究发现,柔鱼耳石具有宽大的翼区和长窄的吻区。对耳石9项形态参数进行主成分分析,结果显示,耳石总长(TSL)、吻区长(RL)、翼区长(WL)可以作为耳石长度特征的代表,吻区宽(RW) 、翼区宽(WW)则可代表耳石宽度特征。耳石长度参数 TSL、RL 和WL与胴长存在显著的幂函数关系(P< 0. 05),而耳石宽度参数 RW和 WW与胴长之间则无显著函数关系(P> 0. 05)。性成熟对耳石生长有一定的影响。性成熟等级为Ⅰ-Ⅱ期的个体,其TSL增长较快,而Ⅲ-Ⅴ期个体的TSL增长不明显。
【英文摘要】Statolith in the cephalopod is an important source of ecological information, and mastering the mor-phologic features of the statolith is fundamental to fisheries biology. A tot al of 202 squids, Om mastrephes bar-tramii , were collected by a Chinese squid jigging boat during July to October in 2007 in the northwest Pacific Ocean. The morphologic features of their statoliths were observed and measured. The results indicated that the statolith of O. bartramii has a structure with wide wings and long, narrow rostrum domes. The result of principal component analysis on 9 morphologic indices show that the total statolith length (TSL), rostrum length(RL)and wing length (WL) can be used to represent the length features of the statolith, the rostrum width (RW) and wing width (WW) may reflect its width features. The relationship between the featured-length of statolith including T SL , RL and WL , and mantle length w ere best described by power functions (P< 0. 05) , while its featured- width such as RW and WW has no significant relations w it h the m ant le length (P> 0. 05) . The results also indicated that the sexual maturity has an obvious effect on the growth of the sta-tolith. When the sexual maturity stage of squid was between stages Ⅰ and Ⅲ,its TSL increased obviously, while for their squid with their sexual maturity stages from Ⅲ toⅣ, its TSL increased slowly.
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【第一作者】马金
【通讯作者】陈新军
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【题目】西北太平洋柔鱼渔场变化与黑潮的关系
【中文关键词】柔鱼; 黑潮; 北太平洋; 渔场变化;
【英文关键词】Ommastrephes bartramii;Kuroshio current;north Pacific;variation of fishing ground
【中文摘要】柔鱼是北太平洋海域的重要经济头足类,黑潮的变化直接影响着柔鱼渔场形成及其空间分布。利用1998-2007年黑潮分布类型,结合同期8-10月我国鱿钓渔船生产数据,分析北太平洋柔鱼渔场变化与黑潮分布的关系。在25°~40°N、125°~150°E海域内,以空间分布率经纬度5°×5°为一个空间单元,共分A(140°~145°E、35°~40°N)、B(145°~150°E、35°~40°N)、C(135°~140°E、30°~35°N)、D(140°~145°E、30°~35°N)和E(145°~150°E、30°~35°N)5个区,将黑潮分布类型分为大弯曲型、小弯曲型和平直型3种。利用渔场重心的纬度向变化作为柔鱼渔场变

动的指标。研究认为,A区黑潮分布特征对柔鱼渔场重心纬度影响最大,其次为B区和C区,而其它区影响则不明显。A区出现黑潮大弯曲型时,柔鱼渔场重心明显偏北且概率高;小弯曲型或平直型时,柔鱼渔场重心明显偏南。研究认为,黑潮流轴的走向影响着柔鱼渔场的空间分布。

【英文摘要】Ommastrephes bartramii is one of the important economic cephalopod in the north Pacific,and Kuroshio current has a great impact on the forming of fishing ground for Ommastrephes bartramii.Based on the data of Kuroshio current and squid jigging of Chinese mainland fishng fleet during August to October from 1998 to 2007,the variation of the fishing ground mainly concerning with the distribution of the Kuroshio current is analyzed.In the area of 25 ° -40 ° N and 125 ° -150 ° E,five sub-areas were set up based on spatial resolution 5 degrees latitude and 5 degrees longitude,i.e,140 ° -145 ° E and 35 ° -40 ° N(area A),145 ° -150 ° E and 35 ° -40 ° N(area B),135 ° -140 ° E and 30 ° -35 ° N(area C),140 ° -145 ° E and 30 ° -35 ° N(area D),145 ° -150 ° E and 30 ° -35 ° N(area E).Three types of Kuroshio distribution have been classified as big bending,small bending and straight patterns..The variation on gravity center of fishing ground in the latitude is recognized as an indicator reflecting the changes of fishing ground for O.bartramii.The results indicated that the distribution type of Kuroshio in the A area seriously affected fishing ground,the next is areas B and C,while the other areas have no significant relationship with fishing ground.While a big bending pattern occurs in the A area,the fishing ground will generally shift more northwards.While small gending or straight pattern of Kuroshio occurs in the A area,the fishing ground will generally shift towards south.This paper concluded that the bending pattern of Kuroshio affects the spatial distribution of fishing ground of O.bartramii.

【语种】中文

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【学科分类】水产资源学

【题目】西南大西洋阿根廷滑柔鱼作业渔场及其环境特征

【中文关键词】阿根廷滑柔鱼;捕捞量;福克兰寒流;海水表层温度;叶绿素a

【英文关键词】Illex argentinus; catch amount; Falkland cold current;sea surface temperature;chlorophylla

【中文摘要】基于2006年1) 7月中国鱿钓船在西南大西洋捕获阿根廷滑柔鱼的生产数据及卫星反演的海流、海水表层温度和叶绿素a浓度等海洋环境资料, 综合分析了阿根廷滑柔鱼的作业渔场、产量及环境特点. 结果表明: 西南大西洋存在2个主要的阿根廷滑柔鱼渔场, 南部中心位置在60b30cW、45b30cS, 北部中心位置在58b00cW、42b00c S, 1) 7月, 作业渔场由南向北移动; 不同月份阿根廷滑柔鱼产量的差异较大, 其中, 1) 4月产量较高, 最高产量出现在3月, 5月之后, 其产量逐渐减少; 阿根廷滑柔鱼渔场与福克兰寒流流经路径有关, 北部渔场位于福克兰寒流的主流上, 平均流速为28~ 60 cm# s- 1, 南部渔场在寒流的西边界处, 且其西部伴有一小尺度反气旋涡, 平均流速在5~ 32 cm# s- 1; 阿根廷滑柔鱼渔场的适宜海洋表层温度在7 e ~ 15 e , 最适宜温度约12 e , 适宜的海水叶绿素a浓度在014~ 115mg# m- 3, 最适宜浓度在019~ 112 mg# m- 3, 且海水叶绿素a浓度与捕捞量呈显著正相关关系(P < 0105) .

【英文摘要】Based on the catch amount data o fCh inese squid jigger vesse ls from January to Ju ly 2006and the sea curren,t sea surface tempera ture (SST) and ch lorophy l-l a (ch-l a) data derived fromsatellites, the characterist ics of Illex arg entinus f ishing grounds, their productiv ity, and env ironmentfactors in southwest A tlantic w ere analyzed. There w ere tw o ma in I. argentinus fish ing g rounds insou thw est A tlantic, one in its south part (60b30cW, 45b30c S) and the o ther in the north part(58b00cW, 42b00c S). From January to Ju ly, the m ain fishing grounds m igrated from south tono rth. The productiv ity fluctuated notab ly in d ifferent months, being higher from January to Apriland the h ighest in M arch. A fterMay, the productiv ity decreased gradua lly. The locations of thefishing grounds had close re lationsh ips w ith Fa lk land cold curren.t No rth f ishing ground located atthe ma in ax is of the curren,t w ith a current speed o f about 28- 60 cm# s- 1; and south fishingground located at the w est of the curren,t w ith a small sca le anticyc lone and a current speed o fabout 5- 32 cm# s- 1. The favorable SST in the fish ing g roundsw as 7 e- 15 e , w ith a favorite SSTo f 12 e , and the favorable ch-l a concentration w as 014- 115 mg# m- 3, w ith a favorite ch-l a concentrationo f 019- 112 mg# m- 3. A sign ificant positive relationsh ip w as observed betw een I. argentinusproductiv ity and ch -l a concentration (P < 0105) .

【语种】中文

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【题目】霞水母机械加工方法的探究
【中文关键词】霞水母; 机械加工; 海上实验
【英文关键词】Cyanea nozakii; mechanical processing; experiment onboard
【中文摘要】霞水母的大范围暴发不仅严重影响了张网等渔业的作业,而且对沿海海域造成了生态危机。利用机械手段代替手工方法实现霞水母的加工、开发,不仅可提高渔民的经济收益,而且有利于霞水母资源得到进一步开发。在海蜇加工原理基础上,通过设计、开发霞水母切丝装置、脱水装置,实现了霞水母去污与清洗→机械切丝→机械脱水→腌制→装箱上市的加工工艺。实验表明,机械加工霞水母具有较好的加工性能,具有广泛的社会和应用价值。
【英文摘要】Breaking out of jellyfish(Cyanea nozakii) in wide range has been not only effected on the stow net fisheries,but also resulted in the offshore ecological crisis.The processing and exploitation of Cyanea nozakii by mechanical processing method,instead of the traditionally handmade method,would increase fishermen ’s income and be beneficial for the further exploitation of Cyanea nozakii resources.In this paper,a new processing craft for processing of Cyanea nozakii,including cleaning,mechanical chipping,mechanical dehydrating,bloating and packing,has been developed and introduce here based on the design and development of the chipping and dehydrating machines for Cyanea nozakii.The results of processing experiment onshore and onboard showed that the processing machines performed well and processing craft were effective.It could be said that the processing machines and craft had widespread social and applicable perspective.
【语种】中文
【第一作者】彭永章
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【题目】夏季东海渔场鲐鱼产量与海洋环境因子的关系
【中文关键词】鲐鱼; 渔场; 海表面温度; 海面高度; 叶绿素a浓度; 东海
【英文关键词】Mackerel; fishing ground; SST; SSH; Chlorophyll a; the East China Sea
【中文摘要】根据2002~2004年7~9月我国东海灯光围网渔业生产统计数据,结合卫星遥感获取的海表面温度(Sea surface temperature,SST)、叶绿素a浓度及海面高度数据(Sea surface height,SSH),分析鲐鱼渔场分布与其SST、叶绿素a浓度和SSH之间的关系。统计各月鲐鱼产量在SST、叶绿素a浓度上的频次分布,以确定各月中心渔场的最适SST和叶绿素a浓度范围,并对不同月份鲐鱼产量与SST和叶绿素a浓度关系进行分析和比较。利用Marine Explore4.0软件将每日鲐鱼产量和SSH图像进行空间展布,分析中心渔场形成与SSH分布的内在规律。研究结果显示,鲐鱼产量和当年SST成正比,东海SST的高低基本上决定了当年鲐鱼产量的高低,但并未发现叶绿素a浓度越高渔获产量也越高的规律,说明叶绿素a浓度并非鲐鱼渔场形成的最主要因素。夏季东海SST、叶绿素a浓度分布状况及其分布的季节变化决定了夏季东海鲐鱼作业渔场在东海南部和北部适宜SST、叶绿素a浓度不同的范围,但各年渔场SST以及叶绿素a浓度分布的总体趋势一致,鲐鱼产量集中分布在叶绿素a浓度较低、SST较高的东海南部渔场和叶绿素a浓度较高、SST较低的东海北部长江口渔场:7、8月鲐鱼中心渔场分布在东海南部海域,最适SST分别为27~29℃和28~30℃,最适叶绿素a浓度均为0.10~0.30mg/m3;9月东海南部渔场最适SST为27~28℃,最适叶绿素a浓度为0.10~0.30mg/m3,东海北部渔场最适SST为26~27℃,最适叶绿素a浓度为1.00~3.00mg/m3。鲐鱼渔场和SSH之间有很好的匹配关系,中心鱼场通常位于SSH极大值和极小值交汇的海域、并靠近极大值海域一侧,即出现在冷水团和暖水团交汇区靠近暖水团一侧。研究表明,渔场最适SST和叶绿素a浓度以及SSH作为确定潜在中心渔场的指标各具优势,将三者结合、综合分析,预报潜在渔场的位置更为可靠。
【英文摘要】Mackerel is one of the most important economic marine fish species and the target species of the light purse seine fishery in China. Study of the relationship between the mackerel fishing ground and the marine environmental factors is the basis of the fishing condition forecast for the light purse seine fishery. Based on the catch data of the Chinese light purse-seine fishery and remote sensing

data from July to September during the period of 2002~2004,the relationships between the distribution of mackerel fishing ground and sea surface temperature (SST),concentration of chlorophyll a (Chl-a) and sea surface height (SSH) in the East China Sea were analyzed. The frequency distribution of the monthly catch on the SST and Chl-a was statistically studied to confirm the optimal SST and Chl-a for the central fishing ground of the mackerel light purse seine fishery,and then the relation between the distribution of the fishing ground and the SSH field was analyzed by overlapping the weekly catch and SHH using GIS software. The results shows that the catch of light purse seine fishery is in direct proportion with SST but not with the concentration of Chl-a,which shows that Chl-a is not the most important factor that affects the formation of the fishing ground. The distribution trend of SST/Chl-a of the fishing ground in different years basically showed no difference in summer,and the catch was mainly distributed in southern East China Sea with low Chl-a and high SST and in the northern East China Sea with low SST but high Chl-a. In July and August,the central fishing grounds were in the southern part of the East China Sea with the most favorable SST of 27~29 ℃ and 28~30 ℃ respectively and the most favorable concentration of Chl-a from 0.10 mg/m3 to 0.30 mg/m3. But in September the fishing grounds distribute either in the northern or in the southern parts of the East China Sea. The most favorable SST was 27~28 ℃ in the southern part and 26~27 ℃ in the northern part,while the most favorable concentration of Chl-a was also from 0.10 mg/m3 to 0.30 mg/m3 in the south but from 1.00 mg/m3 to 3.00 mg/m3 in the north. The central fishing ground were usually located in the transition area where the maximum and minimum SSH and the warm and cold water meets,at the side of maximum SST,i.e. at the side of warm water mass. SST,Chl-a and SSH has their individual advantage in forecasting potential fishing zone,but it is more reliable to combine these 3 factors when doing so.

【语种】中文
【第一作者】李纲
【通讯作者】陈新军
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【学科分类】水产资源学

【题目】已充分开发渔业中估计最大可持续产量的一种近似方法
【中文关键词】资源评估; 渔获量年相对增长率; 最大可持续产量; 黄鳍金枪鱼; 印度洋
【英文关键词】stock assessment; relative rate of catch increment; maximum sustainable yield; yellowfin tuna; the Indian Ocean
【中文摘要】以印度洋黄鳍金枪鱼渔业为例,应用Grainger和Garcia提出的年渔获量相对增长率(RRCI)的概念,估算其最大可持续产量(MSY)近似值,并与利用其它方法估算的结果进行比较。研究结果表明,当RRCI=0时,印度洋黄鳍金枪鱼渔业MSY近似值为33.75 t,比Pella-Tomlinson模型的预测结果低3%。用本文方法只需计算年渔获量相对增长率,即可获得MSY的近似值,因此本方法可作为对常规评估模型方法的有益补充。

【英文摘要】Estimation of the maximum sustainable yield(MSY) is very important in fish stock assessment and management,but the MSY can not often be estimated from the incomplete catch data of commercial fisheries.The MSY was calculated on the data of yellowfin tuna(Thunnus albacares) fishery in the Indian Ocean by the yearly relative rate of catch increment(RRCI) proposed by Grainger and Garcia and compared with the results obtained from the other methods.The MSY for yellowfin tuna fishery was found to be 33.75×104 t when yearly RRCI equals zero,3% lower than the MSY estimated through Pella and Tomlinson model.Our results supported the fact that a rough MSY can be obtained by this method as a useful supplementary tool to conventional stock assessment models by calculating RRCI.

【语种】中文
【第一作者】冯波
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【题目】印度洋金枪鱼延绳钓主要渔获种类及分布

【中文关键词】印度洋;延绳钓;金枪鱼;空间分布
【英文关键词】Indian Ocean;Long-line;Tuna;Spatial distribution
【中文摘要】根据印度洋金枪鱼管理委员会IOTC 的金枪鱼生产数据库, 对1967~ 2004 年间印度洋金枪鱼延绳钓主要渔获种类的产量按年进行汇总和基于5 度格网进行了空间上的统计, 采用GIS 软件制作了印度洋金枪鱼延绳钓主要渔获种类的捕捞产量的地理空间分布图, 分析了其资源的空间分布特征。分析结果表明, 大眼金枪鱼Thunnus obesus 、黄鳍金枪鱼T hunnus albacares、长鳍金枪鱼T hunnusalalung a 和剑鱼X ip hias glad ius 是印度洋金枪鱼延绳钓的主要渔获种类, 其产量之和占到总产量的90%, 这4 种印度洋金枪鱼延绳钓的主要渔获种类从1967~ 2004 年的产量均呈上升趋势, 但产量的峰谷变化各不相同; 空间分布特征研究表明, 尽管在印度洋海域分布范围广泛, 但产量丰沛的区域存在明显差异。
【英文摘要】According t o t he tuna catch database established by Indian Ocean T una Commission(IOTC) , which covers the time from 1967 t o 2004, the annual and the t otal catch ineach spatial g rid of 5b@ 5b were summar ized. In addition, t he maps of total catch distr ibution ofthe Indian Ocean tuna long-line fishing were plott ed using GIS softw are, and t he spatial distr-ibut ion of t una were analyzed. T he analysis showed that big-eye t una T hunnus obesus , y ellow-fintuna T . albacares, albacore T. alalunga and swordfish Xip hias g ladius were t he main speciescaught by tuna long line fisher ies in the Indian Ocean, which compr ised 90% of t he total cat chweight. Although the cat ch weig ht of the four main species in t he Indian Ocean showed a t rendof increase from 1967 to 2004, the maximum and minimum productions were different. T houghthe four species distr ibuted widely in the Indian Ocean, their top cat ch areas were widely different.
【语种】中文
【第一作者】周为峰
【通讯作者】周为峰
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【题目】应用水温数据对印度洋黄鳍金枪鱼亲体-补充量Ricker模型的扩展
【中文关键词】黄鳍金枪鱼;亲体与补充量关系;海水温度;模型优化;印度洋
【英文关键词】Thunnus albacares;stock-recruit relationship;sea water temperature;model optimization;Indian Ocean
【中文摘要】海洋环境是影响印度洋黄鳍金枪鱼(Thunnus albacares)资源量的重要原因之一。本文根据1960-2002年印度洋黄鳍金枪鱼亲体-补充量数据,基于以0-40m海水垂直平均温度(Verticalaverage sea temperature,VAST)为代表的环境因子对Ricker式亲体补充量模型进行了优化。分析表明,印度洋4月0-5°N、80°E-85°E,5月、6月0-5°N、45°E-50°E,7月、8月5°N-10°N、90°E-95°E,12月5°N-10°N、70°E-75°E等海域的VAST对印度洋黄鳍金枪鱼的补充量影响最为显著,加入这些VAST环境因子的Ricker模型,其AIC(Akaike information criterion)值明显降低,拟合效果得到明显提高,这表明水温等环境因子对黄鳍金枪鱼的种群补偿过程产生了干扰。
【英文摘要】Marine environment is important in affecting on yellowfin tuna stock in the Indian Ocean.It is optimized in this paper the Ricker type stock-recruitment model by using stock-recruitment data for yellowfin tuna(Thunnus albacares) in the Indian Ocean and related to the environmental factor represented by 0-40m vertical average sea temperature(VAST) from 1960 to 2002.An exploratory correlation analysis indicated that VAST of April(0-5° N and 80° E-85° E),May and June(0-5° N and 45° E-50° E),July and August(5° N-10° N and 90° E-95° E),December(5° N-10° N and 70° E-75° E) influenced the recruitment of T.albacares significantly.Adding the water temperature information into stock-recruitment model,an optimized model were indicated by the better goodness of fit according to AIC value,which indicated that water temperature and other environmental factors interfere compensation process of yellowfin tuna population.
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【第一作者】曹杰
【通讯作者】陈新军
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【题目】应用一般线性模型估算鲐、鲹大型灯光围网渔业的捕捞效率
【中文关键词】鲐; 鲹; 大型灯光围网; 捕捞效率; 一般线性模型; 德耳塔方法的一般线性模型
【英文关键词】mackerel; scad; large light purse seine; fishing efficiency; generalized linear model(GLM); Delta-GLM
【中文摘要】大型灯光围网是我国近海捕捞鲐、鲹的主要作业方式之一,探讨和估算捕捞效率对其渔业资源评估和管理有着重要的意义。根据1998-2003年东黄海我国鲐、鲹大型机轮灯光围网生产统计数据,利用一般线性模型对其捕捞效率进行了估算,讨论了线性模型误差结构的选择及数据变换对结果的影响。根据鲐、鲹单位捕捞努力量的渔获量(CPUE)数据呈正偏,以及CPUE均值与方差在对数尺度下的线性关系,选择了负二项分布、伽马分布与对数正态分布作为误差分布。研究表明,由于CPUE零值的存在,其对误差分布结构有很大影响。当采用最大似然估计时,对数正态分布与伽马分布的CPUE需加一常数(δ),δ取值对结果有较大影响,随δ增大将使估计的捕捞效率对比度得到压缩。为了避免δ取值的影响,同时采用了Delta-GLM方法。通过不同模型的比较,选择了Delta-负二项或Delta-伽马方法。根据Delta-负二项或Delta-伽马方法估算结果,各渔业公司间的捕捞效率存在很大的差异,且具有明显的区域性。32°N以北海区,捕捞效率高低依次为苏渔、辽渔、青渔、舟渔、宁渔、沪渔;台湾东北部海区,捕捞效率高低依次为苏渔、辽渔、舟渔、沪渔、宁渔、青渔。
【英文摘要】Reliable estimation of effective fishing effort,which is proportional to fishing mortality,can provide information critical to the assessment and management of fisheries resources.To estimate effective fishing effort,we need to understand fishing efficiency and factors that may influence it.In this study fishing efficiency was estimated for mackerel and scad purse seine fisheries using generalized linear model.This was done for different companies involved in the fisheries.Different choices of error structures were considered in the estimation and their impacts on the estimation were discussed.The negative binomial distribution,gamma distribution,and log-normal distribution were chosen as error distributions according to log-linear regression of variance versus log-mean of CPUE(catch per unit effort).Zero CPUE values had great impacts on the assumed error structure and adding a constant(δ) to CPUE was needed for gamma distribution and log-normal distribution in maximum likelihood estimation. As δ increased,the contrast of estimated fishing efficiency was reduced greatly.Delta approaches were also chosen as an alternative way to deal with zero CPUE value in this study.Comparing the results of different models,we considered Delta-negative binomial and Delta-gamma as most appropriate error distributions for this study.The results showed that the fishing efficiency differed greatly among fisheries companies and among different areas.
【语种】中文
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【通讯作者】陈新军
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【题目】世界头足类资源开发利用现状及其潜力
【中文关键词】/
【英文关键词】Cephalopod; resources exploitation; developing potential
【中文摘要】我国是生产头足类的主要国家之一, 2001~ 2005年头足类年产量为(50~ 145) @ 104 t[13] , 主要作业渔场分布在西北太平洋、西南大西洋、东南太平洋、西印度洋和中东大西洋等海域, 作业方式以光诱鱿钓和拖网为主, 其中鱿钓产量约占60%。头足类渔业已成为我国远洋渔业的重要组成部分, 因此, 及时掌握世界头足类资源开发利用状况, 评价其开发利用潜力, 对我国远洋鱿钓渔业可持续发展具有重要的意义。
【英文摘要】/
【语种】中文
【第一作者】周金官
【通讯作者】陈新军
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【学科分类】水产资源学

【题目】利用水温垂直结构研究中西太平洋鲣鱼栖息地指数
【中文关键词】鲣鱼;栖息地指数;中西太平洋;水温垂直结构;产量分布;最大值法;中心渔场;几何平均法;算术平均法;高产
【英文关键词】Katsywonus pelam is; Habitat suitability index; WCPO; vertical temperature structure
【中文摘要】根据1990~2001年中西太平洋海域(20°N~25°S、175°W以西)金枪鱼围网鲣鱼作业产量和作业次数,结合不同水层的水温及其温差数据(海表温度SST,12.5 m、237.5 m和287.5 m温度,137.5 m与287.5 m温差),以高产频次的相对比值分别建立各因素的栖息地指数SI,建立单因素一元非线形回归模型。采用连乘法、最小值法、最大值法、算术平均法和几何平均法建立综合栖息地指数HSI,并对1990~2001年各月HSI值与实际作业产量进行验证。结果表明,采用连乘法和最小值法时,主要产量分布在HSI0.5以下的区域;采用算术平均法和几何平均法时,主要产量分布在0.3HSI0.8的区域;采用最大值法,主要产量分布在HSI0.7的区域,其产量占总产量的87%。五种模型结果比较,认为最大值法能更好地反映中心渔场分布和符合鲣鱼的分布特征。采用最大值法推算2003年各月HSI值,并与实际产量分布进行实证分析,发现其各月产量主要分布在HSI0.8的区域,说明利用HSI模型来预测中心渔场是可行的。
【英文摘要】According to the catch data and fish ing times o f sk ipjack in the purse-se ine fishery in theW esterncentral Pacific Ocean (WCPO) (20bN-25bS, 120bE-175bW) , and the environm ent data of d ifferen t w ater layer temperature (sea surface temperature, w ater temperatures of 12. 5 m, 237. 5 m and 287. 5 m layer,temperature d ifference permeter betw een 137. 5m and 187. 5m layer), the re lative ratio of fishing timesw ithhigh yie ld w as considered as the hab itat su itab ility index (SI) , and SI model w ith sing le variable isestab lished by non linear reg ression methods. F ive m ethods (Cont inued produc,t M inimum, M ax imum,A rithmet icmean and G eometricmean) w ere used to estab lish the mult-i factor hab itat su itab ility index (HSI)mode.l The results ind icated that when Cont inued product andM inimum method w ere app lied, the y ie ld o fsk ip jack w asm ainly located in the areaw ithH SI< 0. 5. When G eometricmean and A rithmetic meanm ethodw ere app lied, the y ield o f sk ip jack w asm ainly d istributed in the areaw ithHSI rang ing from 0. 3 to 0. 8. W henM ax imum method w as used, the y ield of sk ipjack w as m ainly located in the area w ith H SI > 0. 8, w hichoccup ied 87% of the to tal catch. W e found that the M ax imum m ethod cou ld best fit the fishing g round o fsk ip jack d istribut ion. B ased on the data of w ater temperature in 2003, themonthlyH SI w as estim ated by theM ax imum method and verified by the catch distribution of skipjack, w hich show ed that it w as feasib le toforecast the fish ing ground w ithH SI method.
【语种】中文
【第一作者】郭爱
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【题目】桁拖网渔具刚性栅栏对鱼类的分隔效率研究
【中文关键词】分隔栅栏;分隔效率;多囊桁拖网;短吻舌鳎;小黄鱼;棘头梅童鱼
【英文关键词】Sorting grid;Separating efficiency;Beam trawl with several codends;Cynoglossus abbreviatus;Pseudosciaena polyactis;Collichthys lucida
【中文摘要】东海捕虾桁拖网选择性能不佳, 对渔业资源的保护和渔业的合理管理带来了负面的影响。刚性栅栏是实现拖网渔具种类选择性捕捞的主要装置, 本文根据在吕四渔场开展刚性栅栏海上生产试验, 结合SELECT 模型分析不同栅条间距(15、20 和25mm)的刚性栅栏对短吻舌鳎、小黄鱼和棘头梅童鱼的分隔效率。结果表明, 随着栅条间距的增大, 栅栏对鱼类的重量分隔率逐渐减小, 分隔栅栏对鱼类的50%选择体长(L50S)逐渐增大; 对于短吻舌鳎, 个体接触分隔栅栏的概率可使用常数来表示, 即接触概率与个体尺寸无关, 接触概率在0.2—0.4 之间, 并随着栅条间距的增大而增大(不显著,P>0.05); 对于小黄鱼和棘头梅童鱼, 所有进入网囊的个体都将接触刚性栅栏; 不同鱼类接触栅栏概率的显著差异说明不同鱼类在网囊中的不同行为习性。
【英文摘要】Poor selection of the beam trawl fishing in the East China Sea has exerted negative influences on conservationof fish resources and management of fisheries. To solve the issue, sorting grid was developed to separate catch effectivelyby species retained in non-selective codends in trawl fisheries. In this paper, the separating efficiency of sorting gridof different bar spacings (15, 20, and 25mm) for three-lined tongue sole Cynoglossus abbreviatus, little yellow croakerPseudosciaena polyactis, and spinyhead croaker Collichthys lucida was analyzed in sea trials carried out in Lvsi FishingGround in the SELECT model. The results show that the separating ratio of catch weight of fishes decreases with the increasein bar spacing. The 50% retention length of different grids increases

with the bar spacing. For three-lined tonguesole, the probability of contacting grid of shrimps is indicated by a parameter, which means the contact probability is independentof individual size. The maximum likelihood estimates of contact probability for sorting grids of different barspacings are between 0.2 and 0.4 and increase insignificantly (P>0.05) with the bar spacings. For little yellow croaker andspinyhead croaker, all individuals entering codends would encounter the sorting grids. The difference in contact probabilityfor different fishes indicates distinct swimming behavior patterns in trawl.

【语种】中文
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【题目】印度洋大眼金枪鱼栖息地指数研究及其比较
【中文关键词】大眼金枪鱼;栖息地指数;印度洋;实证研究
【英文关键词】Thunnus Obesus;habitat suitability index;Indian Ocean;empirical study
【中文摘要】根据商业性大眼金枪鱼延绳钓渔业数据、环境数据结合专家知识绘制了印度洋大眼金枪鱼(Thunnuso bseus)对温度、盐度、溶解氧和温跃层深度的适应性指数曲线,运用4种关联建模方法计算综合栖息地指数。用AIC值检验不同建模方法的拟合度,并对不同建模方法的输出结果进行空间分析。最后用实证研究的方法探索其在渔场选择上的可行性。结果表明,最小值法在4个模型方法中拟合度最好,给出了较为严格的栖息地适宜度估计,算术平均法则给出了较为粗略的栖息地适宜度估计。不同方法计算得出的栖息地指数(HSI)在空间分布上存在明显的差异。连乘法指示的HSI0.9的区域局限于赤道附近55°E~68°E间;最小值法指示的HSI0.9的区域分布于赤道附近50°E~75°E小块水域;算术平均法和几何平均法指示的HSI0.9区域终年分布在50°E~85°E、5°N~5°S间的广大热带印度洋海域。最小值法和算术平均法指示的HSI等值线分布具有一定的相似性,两者相比较发现,最小值法指示的HSI=0.4等值线相当于算术平均法指示的HSI=0.7等值线;最小值法指示的HSI=0.6等值线相当于算术平均法指示的HSI=0.8等值线;最小值法指示的HSI=0.7等值线相当于算术平均法指示的HSI=0.9等值线。实证研究发现,算术平均法和几何平均法指示的HSI值对大眼金枪鱼的渔获地点和渔获频次有较好的估计,平均渔获频次比重分别达到96.10%和85.51%。研究认为发展实时的栖息地动态预测模型有助于渔场的探索。
【英文摘要】Suitability index curves about water temperature,salinity,dissolved oxygen and thermocline depthfor bigeye tuna,Thunnus obesus in the Indian Ocean were drawn based on the commercial tuna longline fisherydata and environmental data as well as expertise knowledge. Integrated habitat suitability index was computedusing four conjunction equations,i.e. continued product model(CP),minimum model(Min),arithmetic meanmodel(AM) and geometric mean model(GM). Goodness of fit of the four modeling methods was tested byAkaike Information Criterion(AIC)and the results of different modeling methods were compared using spatialanalysis. The best goodness of fit was given by minimum model which gave rigorous estimation whereas theworst was given by arithmetic mean model which gave coarse estimation. Area distribution of habitat suitabilityindex (HIS) are greatly differently indicated by various methods. Contour of HSI>0.9 concentrated at equatorialwaters of 55° E~68° E which come from the continued product model. Contour of HSI>0.9 concentrated atequatorial waters of 50° E~75° E which resulted from the minimum model. Contour of HSI>0.9 distributed in therange of 50° E~85° E and 5° N~5° S throughout the year which was indicated by the arithmetic mean model and thegeometric mean model. Contour of HSI=0.4 indicated by the minimum model was equivalent to that of HSI=0.7by the arithmetic mean model. Contour of HSI=0.6 indicated by the minimum model was equivalent to that ofHSI=0.8 by the arithmetic mean model. Contour of HSI=0.7 indicated by the minimum model was equivalent tothat of HSI=0.9 by the arithmetic mean model. An empirical study confirmed that the arithmetic mean model andthe geometric mean model could give a reliable estimation for fishing area and fishing frequency with the fishingfrequency percentages reaching 96.10% and 85.51%,respectively. It is helpful to develop a real-time habitatdynamic model for detection of fishing ground in the future. [Journal of Fishery Sciences of China,2008,15(2):269-278]

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【第一作者】陈新军
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【学科分类】水产资源学

【题目】基于栅格局部细分的带约束条件的不规则三角网生成算法
【中文关键词】Delaunay三角网; 数学形态学; 约束条件
【英文关键词】Delaunay triangulation; mathematical morphology; restriction conditions
摘
【中文摘要】采用数学形态学和局部细分的方法生成非凸壳三角网, 再通过边界搜索和迭代处理, 逐步添补三角网边缘三角形, 最终得到具凸壳的De launay三角网。在此基础上, 加入内部和外部的边界条件, 生成具有复杂边界的带约束条件的Delaunay 三角网。
【英文摘要】Based on the g rid, m athem atica lm orpho logy and loca l subd iv ision m ethods are used to g enerate TriangulatedIrregular Netwo rk (TIN) w ith non- convex hu l.l Then the search ing and iterating pro cess are carr ied out to obtain triangles gradually on the edge of the TIN in order to convert it into a Delaunay triangulation netw ork w ith convex hu l.l Underthe restr iction conditions, the process o f creating aDe launay tr iangulation netw ork w ith com plex bo rder is a lso introduced
【语种】中文
【第一作者】崔雪森
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【学科分类】应用数学

【题目】等值线ActiveX控件的开发及其在海洋环境制图分析上的应用
【中文关键词】等值线; ActiveX 控件; 渔业环境
【英文关键词】texture;gray-level co-occurrence matrix;SAR image;residential areas
【中文摘要】以Visual C++为平台开发了等值线ActiveX控件。针对渔业环境要素数据的数据量大、分布范围广、空间分布形式不同等特点,对于数据规模较大的近似规则分布的数据点,采用了先对缺失值的补插,再搜索生成原始等值线,然后进行磨光的方法;而对于散乱原始数据点的数据,则分别采用了反距离插值、普通克里金法以及多面函数法三种不同的方式分别进行数据加密处理,再生成等值线的方法。最后将此控件用于渔场环境制图的开发,并对其实现效果进行了比较。
【英文摘要】The thematic information of residentia l area ex tracted by using tex ture features is researched in this paper . Fir st thespeckle from SAR image is eliminated by the enhanced FROST filter algo rithm . Then texture featur es ar e ext racted based ongr ay-level co- o ccurr ence mat rix . The better imag es o f tex ture features are selected accor ding to actual situatio n. At last, the selected imag es a re combined into a image w ith many bands to perform non- superv ised classif ication. Ex perimental results illustrate that the informat ion ext ractio n o f residential ar ea f rom SAR imag e based on text ur e feat ur es is feasible and effect is mor eideal.
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【题目】太平洋延绳钓大眼金枪鱼及渔场表温关系研究
【中文关键词】太平洋;延绳钓;大眼金枪鱼;海表温度
【英文关键词】Pacific Ocean; longline; bigeye tuna; sea surface temperature
【中文摘要】根据收集到的太平洋延绳钓大眼金枪鱼捕捞产量、海水表层温度 (SST) 数据等,研究了太平洋延绳钓大眼金枪鱼捕捞产量及渔场区 SST 的统计特征。结果表明:太平洋延绳钓大眼金枪鱼渔场主要分布在较高温度的热带海域,整

个太平洋渔场区平均 SST为 26.56 ℃,中位数为 27.28 ℃,高产渔区 SST 相对较高,其主要渔场区平均表层水温主要位于 23.8 ℃ ~ 29.3 ℃。渔场区 SST数据分布为负偏,而产量数据分布为正偏。平均 CPUE 分布呈双峰分布,但主要捕捞产量多数在大于 25 ℃ 海域捕捞。时间序列分析结果显示:太平洋大眼金枪鱼 CPUE 呈下降趋势,SSTA 自 1970 年代末开始增加,表明太平洋热带海域处于变暖阶段,CPUE和MEI 指数与 SSTA 的周期变化具有较好的一致性。

【英文摘要】The longline bigeye tuna is one of the important fisheries in the Pacific Ocean. According to thecollected catch data of bigeye tuna, sea surface temperature derived from satellite 3-level data production,and thestatistical characteristics of longline bigeye tuna and SST were studied. The results showed that thefishing-grounds of longline bigeye tuna are mainly located at the tropical Pacific Ocean, and the SST is relativelyhigher than that in other areas. The average SST and median SST of fishing grounds are 26.56 °C and 27.28 °Crespectively, and SST of high-catch fishing grounds is higher than that in other areas. SST in most fishing groundsareas ranges from 23.8 °C to 29.3 °C. The distribution shape of SST is negative skew and the distribution shape ofcatch is positive skew, but average CPUE is bimodal distribution. In addition, most bigeye tuna were captured atthe area with SST > 25°C. According to time series analysis, the CPUE of longline bigeye tuna in the PacificOcean is decreased gradually. SSTA began to increase from the late 1970 ’s , indicating that the tropical PacificOcean is at the period of warming. The fluctuation period of CPUE, multivariate ENSO index (MEI) and SSTAhave good relative.

【语种】中文

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【学科分类】水产资源学

【题目】南太平洋长鳍金枪鱼延绳钓渔场与海水表层温度的关系分析

【中文关键词】南太平洋; 长鳍金枪鱼; 延绳钓; 海表温度

【英文关键词】the South Pac ific Ocean; Thunnus alalunga; long line; sea surface temperature

【中文摘要】依据南太平洋长鳍金枪鱼Thunnus alalunga渔获量和海水表层温度等环境数据, 研究了延绳钓长鳍金枪鱼渔获量的分布及渔场区海水表层温度(SST) 的统计特征。结果表明: 长鳍金枪鱼渔场分布具有纬向分布特征, 主要分布于10bS 两侧和25 ~ 30bS 之间的西南太平洋海域; 长鳍金枪鱼渔场区平均SST 为251 8 e , 中位数为271 0 e , 多数渔场区平均海水表层温度为22~ 29 e ; 渔场区海水表层温度数据分布偏向高温区, 产量数据分布为正偏; 平均CPUE和平均产量分布变化一致, 温度为17~ 18 e 的海域渔场平均CPUE 和平均产量最高; 不同温度下总渔获量分布呈双峰型, 分别为20 e 和29 e 附近海域; 捕捞群体在高温海域(\ 24 e) 和低温海域(< 24 e) 有所不同, 高温海域长鳍金枪鱼的个体相对较大; 时间序列分析表明, 长鳍金枪鱼CPUE同南方涛动指数具有相关性。

【英文摘要】The a lbacoreThunnus alalunga long line fishery is one of the important fisher ies in South Pac ificO cean.A ccording to co llected catch data of the albacore, sea surface tempera ture (SST) derived from sate llite 3- leve lproduct ion and literatures, the distribu tion of long line albacore and its relat ionship w ith SST w ere analysised quant-itative ly or qua litat ive ly by usingG IS techno logy. The resu lts show ed that the d istribution of long line a lbacore fishing- groundsw as la titud inal zones, and mainly located the area o f b ila teral of 10bS and 25- 30bS. The average SSTandm edian SST of albacore longline fish ing- grounds was 25. 8 e and 27. 0 e , add itionally, average SST o fmostfish ing grounds w as 22- 29 e . The distribu tion shape of SST w as negative skew and the d istribution shape o f catchw as positive skew. Variation of average CPUE and average y ie lds w as sim ilar, the highestw hen the SST w as about17- 18 e . D istribution o f to tal catch w as tw o crest at d ifferent SST and the peak appeared when SST w ere 20 eand 29 e . The ind iv idua l o f fishing w as d ifferent at higher SST area(> 24 e) and low er SST area (< 24 e),and the indiv idualw as large in h igher temperature area than in low er temperature. Therew as a correlat ion betw eenCPUE of albacore andME I by tim e series ana lysis.

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【题目】Argo数据研究应用现状与发展趋势
【中文关键词】Argo浮标数据; 温度场; 流场; 海洋资料同化; 业务化预报
【英文关键词】Argo floats data;temperature fields;circulation fields;ocean data assimilation;operation forecasting
【中文摘要】海洋在调节大气环流和气候变化中起着非常重要的作用, 但是受到技术条件和观测资料的限制, 人们对广阔海洋垂直剖面上的温、盐度和海流资料则获之很少, 不能满足气候预测的需求。国际A rgo 计划的实施, 提供了大量、密集的和准同步、准实时的海洋要素资料。有助于准确、全面地了解全球气候的变化; 对分析大洋渔场的形成、渔业资源的分布有重大意义。目前, A rgo 数据已经被广泛地应用于很多领域, 取得了不少研究和应用的成果。
【英文摘要】/
【语种】中文
【第一作者】杨胜龙
【通讯作者】杨胜龙
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【学科分类】海洋科学

【题目】静止卫星的海洋水色观测计划
【中文关键词】静止卫星; 水色; 观测; 遥感; 韩国; 美国
【英文关键词】geostationary satellite;ocean color monitor;remote sensing;Korea;America
【中文摘要】海洋现象的时空尺度分析表明目前以极轨方式运行的海洋水色卫星遥感不能完全满足沿海及海岸带地区管理和研究的需要。采用静止卫星作为水色遥感观测的平台对沿海和海岸带进行高频率的遥感观测,可以满足海岸带生物物理过程研究和调查所需观测频度的要求,有利于确定潮汐混合条件,建立新的模型,探测短时间尺度的生物物理现象,改变现有的海岸带管理方式,实现海岸带资源的科学管理,具有极轨卫星不可具备的优势。本文简单介绍了韩国预计发射的静止水色成像仪KGOCI和美国GOES-R卫星计划的HES-CW,同时希望我国能早日研制发射出自主的静止水色观测卫星和传感器,为我国漫长的海岸带监测提供利剑。
【英文摘要】The analys is of the spatial and tim e scales of ocean phenom ena and processes show s that polar- orb it ing sensors canpt totally satisfythe dem and of coastalw ater environm en t research. Geostat ion ary satellites as the ocean colorm on itoring p latform h ave the d ist inctive advantagesas com pared w ith th e curren t sun- synch ronou s polar orb iter observations, w h ich can focu s on an area of in terest for an extended periodto sat is fy th e dem and of coastalw ater b iophysical progress research and survey. Itw ill be help fu l to val idate tid alm ixing term s and to set upnew coastal ecosystem m odels, detect ing th e short term b iophys ical phenom ena. And itw ill ch ange th em anners of coast resou rcesm anagement as more scien tific w ays. Th e GOC I ofKorea andH ES-CW of America are introduced in th is paper. Th ese can be u sed for referenceby C h ina.
【语种】中文
【第一作者】周为峰
【通讯作者】周为峰
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【学科分类】水产资源学

【题目】大眼金枪鱼渔场与环境关系的研究进展
【中文关键词】大眼金枪鱼; 环境因子; 渔场
【英文关键词】Bigeye tuna; environmental parameters; fishing ground
【中文摘要】大眼金枪鱼是金枪鱼远洋渔业的主要捕捞对象。本文从大眼金枪鱼适宜环境因子、大眼金枪鱼渔场变动、资源丰度及其与环境因子间关系的研究方法等几方面总结了大眼金枪鱼渔场与环境关系的研究进展。大眼金枪鱼种群资源丰度的指标主要是CPUE 和标准化后的CPUE, CPUE 标准化的方法主要是GLM 模型和GLM /HBM 模型; 目前, 分析大眼

金枪鱼资源变化与环境间关系的研究方法主要有聚类分析法、GIS软件定性分析法和栖息地指数模型。其中, 聚类分析适用于研究大眼金枪鱼的渔场变动, 包括系统聚类分析法、动态聚类分析法和灰色星座分析法, 利用G IS软件定性分析适用于分析单个环境因子对渔场产生的影响; 而栖息地指数模型能综合多个环境因子, 分析它们共同对渔场产生的影响。

【英文摘要】B igeye tuna(Thunnus obesus) is one o f the ma jor f ishing targets in pelag ic f ishery. Present papersummarily dea ls w ith the environm enta l pre ferences o f bigeye tuna and the latest development of variat ion o ffishery resources abundance, togetherw ith fish ing ground of bigeye tuna long line fishery and their relationsh ipw ith env ironmental parameters. Nom ina lCPUE data and standard ized CPUE da ta have o ften been utilized toobtain a re lative index of the abundance of b igeye tuna stock. The standardizedm ethods of CPUE are Genera llinearmode l(GLM) and GLM based on habitat index model (GLM /HBM); recently, there w ere clusteranalyses, the softw are of G IS and the habitat index mode l to be used to ana lyze the re lationship betw eenenv ironm enta l parameters and abundance o f b igeye tuna. C luster ana lyses system inc lud ing cluster ana lysis,dynam ic cluster analysis and grayconste llation c luster ana lysis have been used to study on variat ion of fishingground of bigeye tuna; the softw are o fGIS is su itab le for the impact o f a singular env ironmental factor, and the hab ita t index model is used to analyze of plural impacts in common.

【语种】中文

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【学科分类】水产资源学

【题目】2006年北太平洋柔鱼作业渔场时空变化及其与表温的关系

【中文关键词】/

【英文关键词】Ommastrephes batramii;catch distribution;SST;North Pacific Ocean;K-S test

【中文摘要】/

【英文摘要】Ommastrephes bartramii is one of the important fishing targets in the Chinese squid jiggingfishery, It plays a significant realistic role and has practical value to study the spatio-temporaldistribution of fishing ground and its relationship with sea surface temperature (SST). Based on thecatch data from Chinese squid jigging vessels in the North Pacific Ocean from May to November in2006, the production and catch per day distribution and their relationship with SST with the format of 1 ° latitude by 1 ° longitude were analyzed by software of marine GIS. The results indicated that the catchwere mainly concentrated in the waters near 39 ° N~42 ° N,170~172 ° E in June, and the SST rangedfrom 14 to 15 ℃. The catch were mainly concentrated in the waters near 40 ° N~42 ° N,159 ° E~161 ° E,and the SST ranged from 14 ℃ to 15 ℃ in July. From August to November, the catch were mainlyconcentrated in the waters near 41 ° N~44 ° N,151 ° E~156 ° E, and the optimum SST was 17~18 ℃ inAugust, 15~16 ℃ in September, 13~14 ℃ in October, and 11~13 ℃ in November. The K-S testindicated that there had a significant relationship between SST and daily catch (P<0.05).

【语种】中文

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【学科分类】水产资源学

【题目】利用基于表温因子的栖息地模型预测西北太平洋柔鱼(Ommastrephes bartramii)渔场

【中文关键词】柔鱼, 栖息地模型, 表温, 表温水平梯度, 渔场, 西北太平洋

【英文关键词】Ommastrephes bartramii, Habitat suitability model, Sea surface temperature, Horizontal gradient of SST, Fishing ground, The Northwest Pacific

【中文摘要】根据1999—2004年8—10月主渔汛期间我国鱿钓船在150—165 ° E海域的鱿钓生产数据,结合其表温及表温梯度,分别将作业次数百分比和单位渔船日产量作为适应性指数,利用算术平均法(AM)和联乘法(GM)分别建立基于表温因子

(表温和表温水平梯度)的综合栖息地指数模型。结果表明,AM栖息地指数模型和GM栖息地指数模型均拟合较好,在HSI大于0.6的海域,1999—2004年间其作业次数平均比重分别在70%以上,平均日产量均在2t/d以上。但AM模型稍优于GM模型。利用2005年8—10月生产数据及表温资料对AM模型进行验证,分析认为作业渔场主要分布在HSI大于0.6海域,其作业次数比重达到80%以上,各月平均CPUE均在3.0t/d以上。研究表明,基于表温和表温水平梯度的AM栖息地模型能获得较好预测西北太平洋柔鱼中心渔场。

【英文摘要】Ommastrephes bartramii is an important squid species in Chinese jigging fishery in the Northwest Pacific.Accurate forecasting can provide a clue scientific guidance for fishery production. Using Chinese squid fishing productiondata during the main fishing season (August to October) from 1999 to 2004 in the waters of 150—165 ° E, the present studycombines the sea surface temperature (SST) with the horizontal gradient (GSST) and the percentage of fishing times anddaily catch (CPUE) as the suitability index (SI). Using arithmetic mean model (AM) and geometric mean model (GM), theintegrated habitat suitability index (HSI) is established based on SST and GSST. The results indicate that AM model andGM model are fitted better. In the waters with the HSI greater than 0.6, the percentage of fishing times obtained is greaterthan 70% and the average daily catch is above 2 t/d from 1999 to 2004. However, AM model is slightly better than GMmodel. With the data obtained during August to October in 2005, it is found that the main fishing ground distributed in thewaters with HSI greater than 0.6 in the AM HSI model, and its percentage of fishing times reached more than 80% and itsaverage CPUE were above 3.0 t/d. The results show that the AM HSI model based on SST and GSST can better predict thefishing grounds of squid in the Northwest Pacific.

【语种】中文

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【学科分类】水产资源学

【题目】2006年西南大西洋鱿钓渔场与表温和海面高度距平值的关系

【中文关键词】阿根廷滑柔鱼; 中心渔场; 表温; 海面高度距平值; 西南大西洋

【英文关键词】Illex argentinus;main fishing ground;sea surface temperature;sea surface height anomaly;southwest Atlantic

【中文摘要】根据2006 年1) 6 月中国鱿钓船在西南大西洋的生产统计和表面水温(SST) 、海面高度距平值(SSHA) 的资料, 利用海洋地理信息系统软件M ar ine exp lorer 410 绘制了各月产量、日产量与SST和SSHA的关系图, 推测出各月渔场的最适SST 和SSHA值, 并经K - S 检验。结果表明: 1) 3月中心渔场主要分布在45bS、60bW 附近海域, 各月最适SST 分别为11 ~ 12 e 、12 ~ 13 e 、12~ 13 e ; 4) 6月中心渔场主要分布在42bS、58bW 附近海域, 各月最适SST分别为11~ 13 e 、9~ 11 e 、8~ 9 e 。中心渔场主要分布在SSHA = 0附近海域。中心渔场分布与SST 和SSHA关系极为密切, 可作为渔情分析指标。

【英文摘要】It is sign ificant to study the spatio- tempora l distribution o f fish ing ground of squ id Illex argentinus as animportant target species in Ch inese squ id jigg ing f ishery and the relationsh ip betw een the fish ing ground of the squ idw ith sea surface temperature (SST) and sea surface he ight anom aly (SSHA) , w h ich can provide the guide line forthe commercia l fish ing. Themonthly production and CPUE re la ted w ith SST and SSHA w ith the format of 1 latitudeby 1 long itude w ere analyzed based on the catch data from Ch inese squ id jigg ing vesse ls in the southw est A tlanticfrom January to June in 2006 and env ironment facto rs (SST and SSHA) by using the softwareMarine explorer 4. 0.The resu lts ind icated that the catchm ainly concentra ted in thew aters near 45b S and 60bW from January toM arch,and the favorite SSTsw ere 11- 12 e , 12- 13 e and 12- 13 e respect ively. From A pril to June, the ca tch w asma in ly found in the w aters near 42b S and 58bW, and the favorite SSTs w ere 11- 13 e , 9- 11 e and 8- 9 erespective ly. The above results w ere verif ied byK - S tes.t The fish ing ground w as ma inly distributed in the areaw here the value o f SSHA w as equal to or near zero. From the resu lts above, SST and SSHA w ere closely re lated tothe distribution o f thema in f ishing g round, and used as the indicator fo r fish ing ground searching

【语种】中文

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【学科分类】水产资源学

【题目】印度洋西北海域鸢乌贼耳石的形态特征分析
【中文关键词】鸢乌贼; 耳石形态特征; 主成分分析; 印度洋西北海域
【英文关键词】purple back fly ing squ id; morphology characteristic o f stato lith; pr incipal component ana lysis; the northw est Indian Ocean
【中文摘要】根据2004- 2005年我国鱿钓船在印度洋西北海域鸢乌贼资源调查期间获得的114尾鸢乌贼(胴长为142~ 575 mm) 的耳石, 对其形态特征进行观察与测量。观测表明, 鸢乌贼耳石具有很大的翼区, 背区则较小,其形态结构与一些其它科种类如黧乌贼科有明显差异。耳石总长TSL、最大宽度MW、侧区长LDL、背侧区长DLL、吻侧区长RLL和翼区长WL等6个主要形态参数值与胴长呈明显的幂函数关系(P < 0. 05) 。随着胴长不断增加, 耳石绝对尺寸逐渐增大, 相对尺寸逐渐减小, 背区、侧区、吻区、翼区的长度与耳石总长之比则基本保持不变, 分别为42%、57%、49%和75%左右。
【英文摘要】The morpho logy and m icrostructure of stato lith of the purple back fly ing squid S thenoeuthisoualaniensisw ere stud ied for the 114 samp les w ith 142- 575 mm man tle leng th (ML), w hich w ere collectedduring jigg ing surveys in the northw est Ind ian Ocean from October to December 2004 and in April 2005. Thestudy ind icated that its stato lith has the structure w ith great rostrum and sma ll dorsa l dom e, and itsmorpho log ical structure is obv iously d ifferent compared w ith o ther fam ily squ ids likeG onatus fabricii. Sixmostimportant featured parameters includ ing to tal stato lith leng th (TSL), max imum w idth (MW), lateral domeleng th(LDL), ven tra l dorsa l dom e leng th(DLL), rostrum lateral dome length (RLL) and w ing length(WL)w ere best described by pow er functions w ithML(P < 0. 05) . W ith the squ id grow ing, the size o f stato lithgradually develops, wh ile the ratio of each featured param eter to ML slow ly decrease, and the ratio of FDL LDL, FRL andWL to TSL a lmost rema in the same leve,l correspond ing to 42%, 57% , 49% and 75%.
【语种】中文
【第一作者】刘必林
【通讯作者】陈新军
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【学科分类】水产资源学

【题目】欧洲地区选择性虾拖网渔具研究进展
【中文关键词】欧洲地区、虾拖网; 兼捕减少装置; 选择性; 北方长额虾; 挪威海螯虾; 法规
【英文关键词】Europe region;shrimp traw;lbycatch reduction devices;selection;Pandalus borealis Nephrop snorveg icus; regu lation
【中文摘要】虾拖网渔业是世界上兼捕、抛弃问题最为严重的渔业。为了缓解虾拖网渔业的这一突出问题, 世界各国、各组织的研究人员在世界各主要虾拖网渔业中开展了多样而有效的选择性研究。北大西洋北方长额虾Pandalus borealis 拖网渔业、东北大西洋和地中海海螯虾N ephrop s norveg icus拖网渔业是欧洲开展选择性研究最早、最全面的渔业, 作者从上述2种虾拖网渔业及其兼捕、抛弃特点出发, 通过对渔业中有关的尺寸选择性和种类选择性研究, 特别是兼捕减少装置(BRD) 的设计开发进行归纳和总结, 结合渔业中有关兼捕减少技术措施的介绍, 探讨了这2种渔业中选择性研究的特点及其对其他渔业选择性研究的借鉴意义, 为我国今后开展虾拖网渔业选择性研究和渔业立法提供一定的参考依据。
【英文摘要】It is shrimp traw l fisheries that are facing themost serious bycatch and discard issue in g lobal fisheries.A lmost in each impo rtant shrimp traw l fishery, mu ltiform and effective selective researches have been conducted toallev iate the outstanding issue. In th is paper, researches on size and species se lectiv ity, espec ia lly the developmentsand designs of BRDs (Bycatch Reduction Dev ices) , ofN orth A tlantic Northern shrimp (Pandalus borealis)fisheries and Northeast A tlant ic andMed iterranean N ephrops fisheries, in w hich the earliest and most comprehensiveselective researches had been conducted, w ere rev iew ed and summ arized based on the introduction of the characteristicso f bycatch issues o f each fishery. Add itionally, compu lsive techn ica l conservationmeasures to reduce bycatch constitu ted by EU and other countries w ere listed. A ccording to these, the genera l characterist ics of researcheson se lective traw ls in the fisheriesw as d iscussed. W e considered that the successful exper ience in developmentof se lective shrimp traw ls in the European shrimp f isheriesw ou ld be the necessary g ist for future research and leg islationon selective shrimp traw ls in Ch inese f isheries.

【语种】中文
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【学科分类】捕捞学

【题目】桁拖网不同网目结构网囊对虾类的尺寸选择性研究
【中文关键词】尺寸选择性;多囊桁拖网;哈氏仿对虾;葛氏长臂虾;菱形网目;方形网目;转向网目(T90)
【英文关键词】size selectivity;multi—condends beam trawl;Parapenaeopsis hardwickii;Palaemon gravieri;
diamond mesh;square mesh;turned through 90。mesh(T90)
【中文摘要】为改善东海近海桁拖网坩主要虾类的选择性,使用对比作业法,在吕泗渔场丌展了多个航次、不同网目结构(菱形、方形及转向网目)网囊的选择性试验,并进行了选择性分析。在选择性分析中,将几何相似原理运用于选择性曲线模型(Richards曲线),并使用极人似然估计法进行参数估计,同时使用假设检验理论对选择性曲线模型进行简化。选择性模型对哈氏仿对虾(Parapenaeops&hardwickii)和葛氏长臂虾(Palaemon gravier)渔获数据的拟合结果显示,选择性模型具何较好的拟合性,但存在航次问差异;不同网目结构网囊的选择性曲线模型都可简化为Logistic曲线;对于哈氏仿对虾,相比菱形网日网囊,方形网日和转向网日网囊的 较大,而SR较小(菱形和方形网日之间差异显著,菱形和转向网目之间差异不显著);对于葛氏长臂虾,方形网目和转向刚日网囊的L 较大(菱形和方形网目之间差异显著,菱形和转向网目之间差异不显著)。根据虾类在囊中的逃逸行为,方形网目、转向刚目具有较好选择性的原因在于这2种网目较传统菱形网目不易合拢;不同刚目结构网囊的选择性对了_F展渔具种类选择性研究具有重要意义
【英文摘要】In order to improve size selection for shrimps of multi codends beam trawls fishing in ofshore of theEast China Sea,experiments of several sea trials for size selectivity of codends wim diferent mesh configuration,including diamond mesh,square mesh and turned through 90。mesh,have been carried out and catch data werecollected by comparative fishing method.In analysis of selectivity,the selectivity curves(Richards curves,which could be simplified to Logistic curves by hypothesis test theory)were considered geometrically similar andmaximum likelihood method was used as the method of estimation of model parameters.The result demonstratedthat selectivity models fit well to the pooled catch data of Parapenaeopsis hardwickii,Palaemon gravieri butbetween-trials variation was found,and Richards selectivity curves of codends with diferent mesh configurationcould be simplified.The 50% retention lengths 50)of square mesh and T90 mesh codends for Parapenaeopsishardwickii were larger than and the selectivity ranges(SR)were less than those of diamond mesh codendsrespectively.As for Palaemon gravieri,the L50 of square mesh and T90 mesh codends were larger than thosediamond mesh codends.Diference in selectivity parameters between diamond and square mesh codends wassignificant while diference between diamond mesh and T90 codends was insignificant.Based on the escapebehavior of shrimp in codends,the reason for the fact that square mesh and T90 codends were more selectivefor shrimps than traditional diamond mesh codends might be the better mesh openness of square mesh and T90mesh.The suggestion is that the information of size selectivity of diferent mesh configuration was also crucial forresearch on species selection ofbeam trawl
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【题目】桁拖网不同网目结构网囊对主要鱼类的尺寸选择性研究
【中文关键词】尺寸选择性;多囊桁拖网;方形网目;菱形网目;横向使用;鱼类
【英文关键词】size selectivity;multi-codends beam trawl;square mesh;diamond mesh;turned through 90。
mesh;fishes

【中文摘要】为评价东海近海桁拖网渔具对主要鱼类的尺寸选择性,使用对比作业法,在吕四渔场开展了4个航次的、不同网目结构网囊(菱形、方形及横向使用的菱形网目)的选择性试验。在选择性分析中,将几何相似原理运用于选择性曲线模型(Richards曲线),使用假设检验理论对选择性曲线模型进行简化。对不同主要鱼类渔获数据的拟合结果显示,模型具有良好的拟合性,但存在航次间差异;模型简化结果显示,选择性曲线可以简化为Logistic曲线。选择性分析结果显示,对于短吻舌鳎,横向使用的菱形网目网囊 。(50%选择体长)最大,而职(选择范围)最小,菱形网目网囊 最小,而 最大;对于棘头梅童鱼和小黄鱼,菱形网目网囊的 。最小, 最大,横向使用的菱形网目网囊 最大,而方形网目网囊 最小;除不同结构的网目扩张程度不同以外,鱼体体型结构的特殊性以及网囊结构也可能是导致选择性差异的主要原因。
【英文摘要】In order to assess the size selectivity for fishes of beam trawl fishing in offshore of the East ChinaSea,experiments of codends with different mesh configuration, including diamond mesh, square mesh andturned through 90。 diamond mesh(T90)in 4 sea trials have been ca~ied out and catch data were collected bycomparative fishing method.In analysis of size selection,the selectivity curves(Richards curve,which couldbe simplified to Logistic curve by hypothesis test)were considered geometrically similar.The results of modelfit and simplification demonstrated that selectivity models fit well to the pooled catch data of fishes butbetween-trials variation was found,and Richards selectivity curves of codends with different configurationcould be simplified to Lo gistic curves. As for Cynoglossus abbreviatus,comparisons of selectivity parameters(L50S,50% retention lengths and SRs,Selection Ranges)among codends with different mesh construction showed that L5o S and SRs of T90 codends were maximum and minimal respectively while those of diamondmesh codends were convene with T90 codends.As for Pseudosciaena polyactis and Collichthys lucida, L5o s and SRs of diamond mesh codends were in the same manner but the SRs of square mesh c0dends wereminima1.Besides the mesh openness,the special construction of fish body and codends were considered as thepossible reasons for the difference in size selectivity of codends with diferent mesh configuration.
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【题目】桁拖网渔具分隔网片对虾类的分隔效率研究
【中文关键词】桁拖网;分隔网片;分隔效率;哈氏仿对虾;葛氏长臂虾
【英文关键词】beam trawl;separator panels;separating eficiency;Parapenaeopsis hardwickii;Palaemon gravieri
【中文摘要】利用分隔网片将桁拖网渔具网囊分为上下2层(虾囊和鱼囊)以实现虾类和鱼类渔获分离,对于改善桁拖网渔具作业性能、提高目标种类渔获质量以及实现选择性捕捞具有重要的意义。为分析不同网目尺寸(60mm、75mm和90mm)分隔网片对主要渔获种类的分隔效率,在吕泗渔场开展了2个航次的海上生产实验。利用分隔装置性能分析模型,对哈氏仿对虾(Parapenaeopsis hardwickii)和葛氏长臂虾(Palaemon gravier)的渔获数据进行拟合。结果表明,不同虾类接触分隔网片的概率没有显著性差异;虾类个体50%接触概率体长约为40mm,表明大多数进入网具的虾类都能接触分隔网片。随着分隔网片网目尺寸增大,50%选择体长也逐渐增大。因此,分隔网片的分隔效率随之提高。鱼囊和虾囊的网目尺寸相同,但结构有所差异。比较在不同网囊尺寸选择性假设条件下渔获数据的拟合结果后发现,鱼囊和虾囊具有相同选择性的假设更为合理;通过比较发现,分隔网片对虾类的尺寸选择性与相同网目尺寸的网囊选择性具有较大的差异。本研究还对产生这一差异的原因进行了探讨。
【英文摘要】Research on development of separating beam trawl is important not only to improving the fishingeficiency and quality of catch,but also to achieving the idea of species—selective fishing.The codend of beamtrawl could be divided into two levels(the upper for shrimp catch and lower for fish catch)by inserting aseparator panel into the codend and extension.In order to analyze separating efi ciency of the separator panelswith different mesh sizes(60mm,75mm and 90mm),experiments in 2 sea trials were carried out in theLvsi Fishing Ground.A model for separating efi ciency assessment was fitted to the size frequency of spearlittoral shrmip(Parapenaeopsis hardwickii)and Chinese ditch prawn(Palaemon gravieri)catch.The resultsdemonstrate that the contact probability parameters are not significantly diferent between the two shrimp speciesand the 50%contact probability length is approximatey 40 illnl,which indicates majority of shrimp individualscontact the panels.With the increase of mesh size of separator panels,50% retention lengths increase and the sizeselectivity and separating eficiency for shrimps of the panels will be improved correspondingly.Th e hypothesisthat the size selectivities of diferent codends(codends for shrimps and fishes)for shrimps were identical andcan be verified according to model fitness in diferent hyp othesises,though the constructions of diferent levelcodends are identifiably diferent.The sign ificant diference betw een

size selectivity of codend and separatorpanels is found and the reasons for the diference are discussed
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【题目】分隔网片对桁拖网鱼类渔获的分隔效率
【中文关键词】桁拖网;分隔网片;分隔效率;短吻舌鳎;小黄鱼;棘头梅童鱼
中
【英文关键词】beam trawl;separator panel;separating eficiency;Cynoglossus abbreviatu;Pseudosciaena polyactis;
CoUichthys lucida
【中文摘要】为了实现桁拖网渔具的渔获分离,在吕四渔场进行了两个航次的网片分隔试验。试验中,在不同网囊中安装网目尺寸分别为60、75、90mm的菱形网目网片,将网囊分为上下两层(上层称为虾囊,下层称为鱼囊),以实现渔获分离。结果显示,随着分隔网片网目尺寸的增大,鱼囊中鱼类(短吻舌鳎Cynoglossus abbreviatu、小黄鱼Pseudosciaena polyactis和棘头梅童鱼Collichthys lucida)渔获量占鱼类总渔获重量的比例逐渐下降。利用分隔装置效率分析模型对不同鱼类的渔获体长分布数据进行拟合,结果表明:(1)同一种类鱼接触不同网目尺寸分隔网片的概率没有显著的差异;(2)短吻舌鳎和小黄鱼(包括棘头梅童鱼)接触分隔网片的概率曲线有着明显的区别,表明上述2种鱼在网囊中的行为差异很大;(3)随着分隔网片网目尺寸的增大,分隔网片对鱼类个体的尺寸选择性也逐渐增大,导致分隔效率降低;(4)多囊桁拖网各网囊的鱼类渔获重量不存在显著性差异,各网囊的作业强度相等;(5)分隔网片与相同网目尺寸的网囊网目选择性具有明显的差异,并对产生这一差异的原因进行了探讨。
【英文摘要】Two fishing trials in Lvsi Fishing Ground were conducted to evaluate separator panels as separating de—vices in separation of fishes from shrimps catch caught by beam trawl with several cod ends fishing in ofshore of theEast China Sea.Inclined separator panels with diferent mesh sizes(nominal mesh size 60 mm,75 mm and 90mm)divided the emends into 2 levels(upper section named after codends for shrimps and lower section named after co—dends for fishes).The results showed that the proportions of fishes(small yellow croaker Pseudosciaena polyactis,spinyhead croaker Collichthys lucida and shortnose tongue—-sole Cynoglossus abbreviatus)catch weights of codendsfor fishes decreased with the increase in mesh sizes of the separator panels.A model for separating eficiency assessmentwas fitted to the size~equency of fishes mentioned above,indicating that:(1)probability curves of con—tacting diferent separator panels were not significantly different for each fish species;(2)probability curves of con—tacting the same separator panels were significantly diferent between fishes,indicating diferent responding behav · iors of spinyhead croaker and small yellow croaker(including shormose tongue—sole)in trawl;(3)selectivity forfishes was increased with the increase in mesh sizes,resulting in the decrease in separating eficiency of separatorpanels;(4)the relative fishing powers(or fishing efficiency)of diferent codends rigged in diferent position werenot considered different according to catch weights of diferent fish species;(5)the significant diference betweensize selectivity of codends and separator panels was found and the reasons for the diference were discussed.
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【题目】南极磷虾的时空分布及遥感环境监测研究进展
【中文关键词】南极磷虾; 时空分布; 遥感环境监测;
【英文关键词】Antarctic krill;spatio—temporal distribution;environment survey of remotesens

【中文摘要】环绕南极大陆的水圈部份为南极水域(南大洋),面积约3.6×106km2,具有丰富的海洋生物资源,目前已知鱼类多达200余种。南极磷虾是可以直接开发利用的渔业资源,据估计,每年可捕获的资源量约1.5×108t,相当于世界渔获量的总和,是当今可利用的最大的渔业潜在资源[1]。南极磷虾作为南大洋生态系统中最重要的物种,在南大洋的食物链(网)中处于核心地位[2],近年来已成为南极海洋生态系统研究的核心问题,也是全球生态变化研究的一个窗口。为了研究开发南极海域丰富的生物资源,我国结合南极考察进行了部分海域的南极磷虾资源调查,但至今尚未进行南极磷虾的商业性捕捞。采用卫星遥感技术监测研究南极磷虾资源的时空分 更多还原
【英文摘要】/
【语种】中文
【第一作者】樊伟
【通讯作者】樊伟
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【题目】东、黄海鲐鱼群体遗传差异的RAPD分析
【中文关键词】日本鲐;澳洲鲐;群体;RAPD;遗传多态性;东黄海
【英文关键词】Scomber japonicus; Scomber australasicus; random amplified polymorphic DNA (RAPD); genetic polymorphism; Yellow Sea; East China Sea
【中文摘要】利用随机扩增多态DNA(RAPD)技术分别分析了五岛西部日本鲐、东海西部日本鲐和澳洲鲐三群体的样本,共产生226个分子标记,其中143个为多态性标记,多态百分率达到63.3%,每条引物产生的平均标记数为7.29。五岛西部日本鲐、东海西部日本鲐和澳洲鲐群体内遗传相似度分别为0.949、0.877和0.936,而群体间遗传距离依次为:五岛西部日本鲐-东海西部日本鲐(0.2357)〈东海西部日本鲐-澳洲鲐(0.3030)〈五岛西部日本鲐-澳洲鲐(0.3528),五岛西部日本鲐与东海西部日本鲐个体在UPGMA系统树独立聚类为两个类群,初步支持东、黄海的日本鲐存在东海西部和五岛西部的两个种群的观点。Shannon多榨性指数表明,其遗传多样性大小依次为东海西部日本鲐、澳洲鲐、五岛西部日本鲐。
【英文摘要】Thirty-one primers were screened from 78 random primers by RAPD (random amplifiedpolymorphic DNA) technique, and 10 randomly selected samples from each population (includingScomber japonicus from the west of Goto Islands and the west of East China Sea, respectively and Saustralasicus from the East China Sea) were analyzed. After amplification, thirty-one primers consistentlygave a total of 226 recognizable markers, of which 143 bands were polymorphic markers and accountedfor 63.3% of the total. Each primer generated a mean of 7.29 bands. The intra-population geneticsimilarity of these 3 groups was 0.949, 0.877 and 0.936, respectively. The genetic distance between twopopulations of S. japonicus (0.2357) was smaller than that between S. japonicus and S. australasicus(0.3030) which was in turn smaller than that between the S. japonicus population in the west of the GotoIslands and S. australasicus population (0.3528). UPGMA analysis revealed that there were twopopulations of S. japonicus, i.e. the one of west of the Goto Islands and one of the west of the East ChinaSea, which supported the traditional population structure. Shannon genetic diversity analysis showed thatthe degressive order of genetic diversity among the three groups was S. japonicus population in the west ofGoto Islands, S. australasicus, and the S.japonicus population in the west of the East China Sea.
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【题目】南海北部张网主要技术参数的变化分析
【中文关键词】张网渔具;技术参数;南海北部沿岸
【英文关键词】stow—net gears;technical parameter;coast of northern South China Sea

【中文摘要】根据2000~2005年和1983~1985年渔具渔法调查资料,对南海北部张网主要技术参数进行了比较分析。结果表明,与1983~1985年相比,现阶段张网网口纲长、网口网目尺寸和网身末段网目尺寸等稍有增大,网衣拉直长、网囊长和网囊网目尺寸等略有减小,网身长与网囊长之比、网身大头宽与小头宽之比等明显增大,其平均值分别由原来的5.8:1、19.8:1增至现在的13.8:1和26.2:1。张网主要技术参数的变化反映了张网渔具结构已经随着渔业资源的衰退发生了变化,但这种变化并不是积极的、革命性的改革。为合理利用渔业资源和促进张网渔业可持续发展,应根据南海北部渔业资源的特点研究相适应的选择性张网捕捞技术或装置,减少对幼鱼、幼虾资源的损害。

【英文摘要】In this paper,the main technical parameters of stow nets were analyzed based on the investigation of fishing gears and meth—ods along the coast of the northern South China Sea during 2000~2005 and 1983~1985,respectively.Comparing with the data of stownets investigated during 1983~1985,the mouth line length(C),mouth mesh size and mesh size of extension piece of the nets during2000~2005 increased slightly,but stretched netting length(L),cod—end length(L)and cod—end mesh size decreased slightly.TheLb/L (Lb:body length)and the Wb/w (Wb:mouth width,W :extension piece width)increased averagely from 5.8:1 to1 3.8:1 and from 19.8:1 to 26.2:I,respectively.With exhaustion of fishery resources in the coast of northern South China Sea,the main technical parameters of stow nets have changed for the net configuration,but the changes is not positive and revolutionary.Toexploit rationally the coast fishery resources and to promote sustainable fishery development,based on behaviors and characteristics offishery resources in the coast of northern South China Sea,the more advanced selective fishing techniques or devices for stow netsshould be developed to reduce the damages to fries and young fishes and shrimps.

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【题目】硇洲岛周围水域虾拖网虾渔获组成

【中文关键词】虾渔获组成; 副渔获; 虾拖网; 硇洲虾渔场

【英文关键词】Shrimp catches composition; by-catch; shrimp beam traw ;l fish ing grounds o fN aozhou Island

【中文摘要】根据2005年渔业资源监测船生产调查资料和现场取样数据,运用数理统计方法分析了虾拖网虾渔获组成、生物学特征以及月份变化等。结果表明:硇洲岛周围水域虾拖网捕获的虾类主要是沿岸性底栖虾类,渔获中优质虾种少,幼虾比例高,墨吉明对虾、日本囊对虾、哈氏仿对虾是虾拖网渔业的主捕虾种,虾渔获组成存在明显的月份变化。为合理利用虾类资源和促进虾渔业可持续发展,应根据虾类特性开发适宜广东沿海虾拖网的选择性捕捞技术,减少幼虾兼捕量。

【英文摘要】Based on monito ring invest igation and sampling da ta by fishing vesse l in 2005, composition,biological characteristics andmonth ly var iat ion o f shrimp catches have been ana lysed w ith data ana lysis too l o fM icrosoft Exce.l The resu lts indicated that shrimp catches caught shr imp by beam traw l in w aters aroundN aozhou Island were consisted of coastal and epibenth ile species and less commerc ial species, among them,P enaeusmerguiensis, P enaeus japonicus, P arapenaeop sis hardw ickii w ere the target species o f shrimp traw lfishery. Month ly variat ion in composition o f shrimp catches w as obv ious. The selectiv ity of shr imp beam traw lfor small and young shrimps is poor. To explo it rat iona lly the shrimp resources and to promo te susta inableshrimp fishery developmen,t a great number of small and young shrimps caugh t by shrimp beam traw l shou ldbe reduced and released largely w ith using traw l separat ing devices and techniques based on shrimp behav iorand characterist ics.

【语种】中文

【第一作者】张旭丰

【通讯作者】杨吝

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【题目】广东硇洲岛周围水域虾拖网副渔获组成分析
【中文关键词】副渔获; 渔获组成; 虾拖网; 硇洲虾渔场
【英文关键词】by- catch; catch composition; shrimp beam traw ;l fish ing grounds surround ing N aozhou Island
【中文摘要】根据2005年渔业资源监测船的生产调查资料和现场取样数据,运用数理统计方法分析了广东硇洲岛周围水域虾拖网副渔获组成及其月变化等。结果表明:硇洲岛周围水域虾拖网副渔获种类多,主要为沿岸性底栖种类,组成结构存在明显的月变化,其中蟹类和鱼类是影响副渔获组成结构和月变化的优势类群;副渔获海上抛弃率很低,兼捕现象严重是现阶段虾拖网的主要问题,副渔获与目标虾类的平均重量比为6.8∶1,平均产值比为2.5∶1。为了合理利用渔业资源和促进虾渔业的可持续发展,应根据鱼、虾、蟹等的生活习性和行动差异开发适宜广东沿海虾拖网的选择性捕捞技术,减少副渔获的兼捕量。
【英文摘要】The composit ion and month ly variat ion of by- catch w ere ana lyzed on the basis o f production investigation and data collected by f ishing vessels in 2005 by M icroso ft Exce.l The resu lts show ed that there w ere m anycoasta l and ep ibenthile species, dom inate f ishes and crabsw ith significantmonthly variation in composition, in theby- catch o f shrimp beam traw ls in w aters surrounding Naozhou Island had. The average ratio o f by- catch toshrimp w as found to be 6. 83B1 in w e ight and 2. 5B1 in value, indicating that relatively h igh percentage o f bycatchand less by- catch d iscardsw ere thema in prob lems in shrimp traw ls. A great number of by- catch shou ld bereduced and released largely using traw l separating devices and techniques based on behav ior and characterist ics o fshrimp, f ish and crabs to explo it rationally f ishery resources and to improve susta inable shrimp fishery developmen.t
【语种】中文
【第一作者】张旭丰
【通讯作者】杨吝
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【学科分类】水产资源学

【题目】广东沿海张网渔业的主要问题与发展对策
【中文关键词】张网渔业;广东沿海;发展对策;资源衰退;渔业政策;分布范围;琼州海峡;珠江河口
【英文关键词】/
【中文摘要】张网是广东沿海的传统渔具,也是主要的定置渔具,20世纪80年代曾取得较大发展,90年代末期以后由于渔业资源衰退、渔业政策导向等影响开始呈现下降趋势。目前,张网渔具数量已大大减少、分布范围也明显缩小,珠江河口附近水域至粤西的琼州海峡周边沿海分布相对集中,双桩竖杆张网数量相对较多。
【英文摘要】/
【语种】中文
【第一作者】张旭丰
【通讯作者】张旭丰
【期刊名称、卷期、页码】海洋与渔业. 2008,(6):13-15
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【引文索引号】/
【学科分类】水产资源学

【题目】南海北部金线鱼流刺网渔业情况分析
【中文关键词】渔获组成; 渔期; 金线鱼流刺网; 南海北部
【英文关键词】catch composition; fishing season; Nem ip terus virga tus g illnet; the northe rn of South China Sea
【中文摘要】根据"粤阳东18023"渔船2006年1月至2007年12月的渔获销售记录,结合春、秋2季的渔获抽样测量数据,对使用单片刺网在南海北部作业的大型金线鱼流网船的生产情况进行了分析。结果显示,渔获以底层和近底层种类为主,带鱼Trichiurus haumela、长尾大眼鲷Priacanthus tayenus和金线鱼Nemipterus virgatus为渔获优势种,占产量的29.7%、13.3%和10.5%,占产值的27.4%、24.4%和15.7%;渔船全年作业,汛期在11月至翌年3月,其中1月为旺汛期,休渔期的产量和产值在全年中所占比重很小;优势种渔获以成鱼为主,其CPUE的高值期与汛期基本一致。

【英文摘要】Accord ing to the sales records of fish ing boat "YUE YANG DONG NO1 18023" from January 2006 to December 2007, together w ith the sam pling da ta of catches caught in spr ing and au tum n, catch composition of large-scaleN em ip terus virgatu s dr ift g illnetvesse ls fish ing in the northe rn South Ch ina Sea w ere analyzed. Results show ed that catches w erem a inly com posed of bo ttom and nea rbottomspec ies, Tr ichiurus haum ela, Pr iacanthus tayenus andN1 virgatus accounted for 2917%, 131 3% and 1015% in catch, respectively, or 2714%, 2414% and 151 7% in value, respectiv ely. The vesse l fished a ll the year round, them ajor fish ing season w as fromNovem ber toM arch and the fishing peak season was in January. The production and v alue of catches during the fishing off season w erere lative ly sma ll compared to the who le year ca tches. The dom inant species caught w ere m a inly adult fishes, and the season of highCPUE was near ly consistent w ith the fishing season.
【语种】中文
【第一作者】张鹏
【通讯作者】杨吝
【期刊名称、卷期、页码】南方水产,2008,4(6):101-107
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【学科分类】水产资源学

【题目】基于广义可加模型的时空和环境因子对东南太平洋智利竹筴鱼渔场的影响
【中文关键词】智利竹筴鱼;时空因子;环境因子;广义可加模型;东南太平洋
【英文关键词】Chilean jack mackerel (Trachurus murphyi); spatiotemporal factor; environmental factor; generalized additive model; Southeast Pacific Ocean
【中文摘要】根据2001—2007年我国渔船在东南太平洋海域的智利竹筴鱼生产统计数据、时空因子以及海表温度、叶绿素浓度、海表温度梯度等环境数据,利用广义可加模型(GAM)分析了智利竹筴鱼资源变动情况及其与时空和环境因子的关系.结果表明:GAM模型对单位捕捞努力量渔获量(catch per unit effort,CPUE)总偏差解释率为31.47%;竹筴鱼生产具有明显的季节变化,主要集中在第17~41周,其中第25~31周的CPUE较高;东南太平洋智利竹筴鱼作业渔场集中在78°—98°W,30°—43.5°S之间,适宜海表温度为12℃~18℃,14℃~16℃最适宜,适宜叶绿素浓度在0.09~0.18mg·m-3,海表温度梯度在0.3℃~1.9℃.逐步建模法结果表明,影响竹筴鱼资源丰度的因子按重要性从大到小依次为周次、年份、海表温度、经度、纬度、叶绿素浓度和海表温度梯度.
【英文摘要】Based on the 2001 - 2007 Chilean jack mackerel (Trachurus murphyi) fishing data fromChinese vessels,as well as the spatiotemporal factors and the environmental factors such as sea surfacetemperature (SST),chlorophyll concentration,and temperature gradient (TGR) in the SoutheastPacific Ocean,this paper analyzed the resource variation of T. murphyi and its relationshipswith the spatiotemporal and environmental factors in the Ocean by using generalized additive model(GAM). The results showed that the rate of deviance explained about CPUE (catch per unit effort)was 31. 47%. The fishing production of T. murphyi had distinct seasonal variation,and mainlyconcentrated in the 17th - 41st weeks of the year,with the CPUE reached the highest in the 25th -31st weeks. The fishing ground of T. murphyi in the Ocean was mainly located in the waters of 78 ° - 98 ° W and 30 ° - 43. 5 ° S. The suitable sea surface temperature was in the range of 12 ℃ - 18℃,and the optimum temperature was 14 ℃ - 16 ℃. The appropriate chlorophyll concentrationrange and temperature gradient were 0. 09 - 0. 18 mg · m - 3 and 0. 3 ℃ - 1. 9 ℃,respectively.The results of stepwise GAM showed that the relative importance of the seven variables affecting theCPUE of T. murphyi was in the order of: weeks of the year,year,sea surface temperature,longitude,latitude,chlorophyll concentration,and temperature gradient.
【语种】中文
【第一作者】牛明香
【通讯作者】李显森
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【学科分类】水产资源学

【题目】智利外海西部渔场智利竹筴鱼资源与海表温度分布特征

【中文关键词】智利竹筴鱼; 资源分布特征; 海水表层温度; 西部渔场; 智利外海
【英文关键词】Ch ilean jackm ack erel(T rachurus mu rphyi) ; characteris tics of resou rce d istribut ion; sea su rface tem perature; w est fishing
ground; offshore waters of Ch ile
【中文摘要】根据2007年8 月~ 11月在智利外海西部渔场(22~ 43bS、85 ~ 115bW)的探捕调查以及遥感数据, 对该海域调查期间的竹筴鱼资源与海表温度分布特征进行了初步分析。结果显示, 平均日产量29. 82 t, 平均CPUE 为3. 02 t# h-1, 以8月份最高, 11 月份最低; 进入夏季之前, 智利竹筴鱼渔场以35bS为轴心, 成带状分布在混合区内; 调查海域北部为暖水区, 南部为冷水区, 中间为冷暖水交汇的混合区, 混合区的范围随着季节南北移动, 表层水温范围为9 ~ 22e , 智利竹筴鱼渔场分布在SST为12~ 17e 范围内, 以14~ 15e 渔获指数最高; 西部渔场可能为智利竹筴鱼4 龄群体的分布区和产卵场; 建议我国应积极开发西部渔场。
【英文摘要】Accord ing to the test f ish ing survey and rem ote sensing data outs ide Ch ile 200m iles exclus ive econ om ic zone from Aug. toNov. 2007, th e characterist ics of fish eries resource and surface tem peratu re w ere analyzed. The resu lt show ed that the average dailyyield w as 29. 82 t, average CPUE (catch per un it effort) w as 3. 02 t# h-1, and itw as the h igh est in Aug. and low est in Nov. Beforethe beginn ing of summ er, the fish ing ground of Ch ilean jackm ackerel(Tra churu s murphyi) w as d istribu ted in th e blended w ater areaw ith th e form ofb elt near th e 35bS. Th erew asw arm water in the north, coldw ater in the south and b lendedw ater in th em iddle, thearea range of b lendedw aterw asm oved from the sou th to th e northw ith th e ch ange of season in th e survey area (22 ~ 43bS, 85~ 115bW) . The range of su rface tem peratu re w as 9~ 22e , and SST of Ch ilean jack m ack erel f ish ing ground w as betw een 12~ 17e , theh igh est CPUE b etw een 14 ~ 15e . Ch ilean jackm ack erel(T rachu rus murphyi) of fou r years oldm aybe d istribu te and spawn in the surveyarea. Ch ina shou ld carry out actively the w es t fish ing ground offsh ore waters ofCh ile.
【语种】中文
【第一作者】牛明香
【通讯作者】李显森
【期刊名称、卷期、页码】海洋环境科学,2010,29(3):373-377
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【学科分类】水产资源学

【题目】智利外海竹筴鱼中心渔场时空变动的初步研究
【中文关键词】智利竹筴鱼(Trachurus murphyi);中心渔场;海表温度;叶绿素质量浓度
【英文关键词】chilean jack mackerel(Trachurus murphyi);central fishing ground;sea surface temperature;chlorophyl-la
【中文摘要】根据2005年3~12月14艘中国渔船在智利外海的竹筴鱼生产统计数据和卫星遥感反演的海表温度、叶绿素浓度,分析智利外海竹筴鱼中心渔场的时空变动以及渔场与环境因子的关系。结果表明,随着南半球秋季转入冬季,竹筴鱼中心渔场相应地由南向北、由东向西推移,10月份渔场达到最北端,春末夏初开始南撤;智利外海竹筴鱼渔场的表层水温大致为12~16℃,中心渔场为14~15℃,月间略有差异;渔场的叶绿素质量浓度大致为0.06~0.12 mg/m3,当渔场的叶绿素质量浓度处于0.08~0.10 mg/m3时,渔船作业频次和竹筴鱼产量最高。
【英文摘要】According to the stat ist ical data o f chilean jack macker el (T r achurus mur p hy i) fishing yield o f14 Chinese v essels , the data o f SST (sea surface temperature) and Ch-l a (Chlorophy l-l a) obtained by sate-llite remote sensing from Mar. to Dec. 2005 in the off shore waters out side Chile 200 miles exclusive economic zo ne.The change o f cent ral fishing g round and relat ionship betw een chilean jack mackerel and o cean environmentfacto rs (SST, Ch-l a) w ere analy zed. T he result s show ed that the cent ral fishing g round w as mov ed from thesouth to the no rth, from the east to the w est w ith autumn chang ing to w inter, and it w ithdrew to the southaf ter Oct . The favo rable SST range of the fishing g rounds w as 12~ 16 e and favo rite SST w as 14~ 15 ew ith a litt le differ ence every month. T he scope of Ch-l a concentr at ion w as about 0. 06~ 0. 12 mg/ m3 , butbo th jack mackerel yield and appearing f requency o f f ishing ground w er e the highest in the range 0. 08~ 0. 10mg/ m3 of Ch-l a.
【语种】中文
【第一作者】牛明香
【通讯作者】李显森
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【学科分类】水产资源学

【题目】秘鲁外海夏季渔业资源与水温分布特征
【中文关键词】渔场;渔业资源;水温;秘鲁外海
【英文关键词】Fishing ground;Fisheries resource;Water temperature
Hig h seas off Peru
【中文摘要】根据2006年12月~2007年1月在秘鲁200海里专属经济区外海渔场的探捕调查,对该海域夏季的渔业资源和水温分布特征进行了初步探讨。结果显示,南半球夏季调查海域(13°~22°S,78°~90°W)受秘鲁寒流的影响,存在一大范围的低温水舌,表层水温分布范围为19·37~23·26℃,由南向北递升。北部温跃层顶界较浅,厚度较小,强度较大;而南部温跃层顶界较深,厚度较大,强度较弱。拖网的平均CPUE为38·4kg/h,渔获物以茎柔鱼Dosidicus gigas为主,占总渔获量85·2%;秘鲁鳀Engraulis ringens仅分布于调查海域东南部的秘鲁专属经济区外缘水域,资源密度指数为3·7kg/h。秘鲁外海除茎柔鱼外,其他中上层鱼类的资源少,集群性差,不适合作为大型拖网加工船的作业渔场来开发。建议我国的东南太平洋竹筴鱼Trachurus murphyi拖网渔业向智利外海南部(45°~50°S)和西部(95~110°W)海域发展。
【英文摘要】Bas ed on t he test fishing survey out side the Peru 200-mile Ex clusive EconomicZone in Dec. 2006 to Jan. 2007, the character ist ics of fisher ies resource and water temperature distr ibution were invest igat ed. T he result s revealed a larg e-scale coldwater t ongue ex tended t oward the survey area (13b~ 22bS, 78b~ 90bW) , as induced bythe Peru Cur rent, wit h an increasing sea surface temperature (SST) of 191 37~ 231 26 efrom sout h t o nor th. T he thermocline in t he nor th was st ronger wit h a shallow topboundary (35~ 40 m) and deeper bot tom boundary (100~ 130 m) ; while the southernthermocline was weaker wit h a top boundary at 45~ 100 m and a bottom boundary at 140~ 190 m. The average CPUE was 381 4kg/ h in trawling survey, and Dosidicus gigaswas predominant in the catches, accounting for 851 2% in weight. Engraulis r ingensmerely dis tr ibut ed in the sout h-eastern area close to t he EEZ of Peru, and its resourceindex was only 31 7kg/ h. The high seas off t he coast of Peru were unsuit able f or t rawlfishing becaus e the resource of pelagic fish except Dos idicus gigas was of little commercialfishing value. It is suggested that Chinese trawl fishing ground of T rachurus murphyi be enlarged towards southern waters of 45b~ 50bS and western waters of 95~ 110bW out side the Chilean EEZ.
【语种】中文
【第一作者】孙珊
【通讯作者】李显森
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【题目】拖网选择性对鱼类表型性状的选择作用研究
【中文关键词】拖网选择性;表型性状;和协系数
【英文关键词】Trawl mesh selectivity;Phenotypic traits;Hcoefficient
【中文摘要】参照渔业生物学、渔业资源解析学、数量遗传学等有关理论模型,并应用数值模拟方法,对长期选择性捕捞(重点为渔具选择性)是否参与造成了渔业资源的生物学变化(体长、性成熟等)进行某些基础性探索。设计了一个具有一定体长遗传特征的模拟鱼类种群,并利用一种具有固定选择性参数的拖网对其进行长期捕捞。结果表明,多年的持续的捕捞压力使得模拟种群中鱼类体长逐渐减小,减小的幅度随开发率的增大而增大,而终止捕捞后种群的体长并没有发生恢复的迹象,说明这种变化很可能伴随种群遗传的变化,具有自然不可逆性。
【英文摘要】Constant long-time use of a certain fishing net selectivity may affect the phenotypic traits of fish population,such as body length and sex maturity. By referring to several models in fishery biology, fishery resource analytics, andquantitative genetics, a numeric simulation was conducted. A fish population having long-standing body length was designedfor the simulation, upon which a trawl net of a certain mesh size and selectivity parameters was applied forlong-period fishing. The result shows that, under such operation for several years, the statistic body length of the fishpopulation had been reduced. Furthermore, the size reduction may become a genetic adaptation for the whole population,which is probably, unfortunately, irreversible.
【语种】中文

【第一作者】梁振林
【通讯作者】梁振林
【期刊名称、卷期、页码】海洋与湖沼,2008,39(5):488-493
【论文发表时间】2008-09-01 00:00:00
【引文索引类型】其他
【引文索引号】/
【学科分类】捕捞学

【题目】东南太平洋智利竹筴鱼三群体遗传关系RAPD分析
【中文关键词】智利竹筴鱼; 遗传多样性; 亲缘关系; RAPD 分析
【英文关键词】Trachurus murphyi;genetic diversity;relationship;RAPD analysis
【中文摘要】利用RAPD分子标记技术对智利外海3个群体(IEZ1、OEZ1和OEZ2)的53条竹筴鱼进行群体遗传结构及遗传多样性的分析。研究结果表明:在可供试验引物中筛选到具有多态性的RAPD引物3个。每个引物扩增1~7个可辨认片段,3个随机引物在竹筴鱼3个群体中共检测到13条带片断,其中9个(69.2%)片断显多态性。OEZ1的多态性最高,达23.08%,IEZ1、OEZ2的多态性为15.38%。经济区内外的群体多样性差别不大。IEZ1的Shannon信息指数为0.0930,OEZ1为0.1396,OEZ2为0.0930。IEZ1 Nei’s基因多样性为0.0637,OEZ1为0.0956,OEZ2为0.0637。Nei’s遗传距离表明IEZ1与OEZ1最大,IEZ1与OEZ2稍小,OEZ1和OEZ2最小。Shannon信息指数和Nei’s遗传距离表明,经济区外的2批群体与经济区内的群体遗传关系差距并不显著。
【英文摘要】The geneticst ructure and genetic diver sity of the three po pulations of Chilean jack mackerelTr achurus mur p hy i co llected f rom inter-EEZ and outer-EEZ co ast of f Chile in 2005 and 2006 w er e analysedby RAPD-PCR markers. T hr ee polymorphic primers w er e chosen among the experimental primers.There w er e 13 bands in the thr ee po pulatio ns by RAPD-PCR w ith thr ee 3-base primers, and 1~ 7 bandsw ere detected fo r o ne primer. Nine primers w ere po lymo rphic, account ing for 69. 2%. The group OEZ1had the maximal polymorphism o f 85. 19%, fo llow ed by gro ups IEZ1 & OEZ2, w ith the polymorphism of15. 38%. T here w ere no sig nif icant differ ences in g enet ic diversity among the three gro ups. POPGENEsof tw ar e revealed that Shannon. s Information index of IEZ1 and OEZ2 w er e 0. 0930, w hile that for OEZ1w as 0. 1396. Nei. s gene diversity of IEZ1 and OEZ2 w er e 0. 0637, w hile that for OEZ1 w as 0. 0956. Therew as the max imum genet ic distance between IEZ1 and OEZ1, fo llow ed by IEZ1 and OEZ2, and the min-imum for OEZ1 and OEZ2. The Shannon. s Informat io n index and Genet ic Distance indicated that thedif ference in genet ic diversity betw een inter-EEZ g roup and outer-EEZ g roup w as not significant .
【语种】中文
【第一作者】许永久
【通讯作者】张敏
【期刊名称、卷期、页码】水产科学,2010,29(8):473-477
【论文发表时间】2010-08-01 00:00:00
【引文索引类型】其他
【引文索引号】/
【学科分类】捕捞学

【题目】A new algorithm for estimating gillnet selectivity
【中文关键词】/
【英文关键词】algorithm; gillnet selectivity; Kitahara method
【中文摘要】/
【英文摘要】The estimation of gear selectivity is a critical issue in fishery stock assessment andmanagement. Several methods have been developed for estimating gillnet selectivity, but they all havetheir limitations, such as inappropriate objective function in data fitting, lack of unique estimates due tothe difficulty in finding global minima in minimization, biased estimates due to outliers, and estimationsof selectivity being influenced by the predetermined selectivity functions. In this study, we develop a newalgorithm that can overcome the above-mentioned problems in estimating the gillnet selectivity. Theproposed algorithms include minimizing the sum of squared vertical distances between two adjacentpoints and minimizing the weighted sum of squared vertical distances between two adjacent points in thepresence of outliers. According to the estimated gillnet selectivity curve, the selectivity function can alsobe determined. This study suggests that the proposed algorithm is not sensitive to outliers in selectivitydata and improves on the previous methods in estimating gillnet selectivity and relative populationdensity of fish when a gillnet is used as a sampling tool. We suggest the

proposed approach be used inestimating gillnet selectivity.
【语种】英文
【第一作者】唐衍力
【通讯作者】梁振林
【期刊名称、卷期、页码】中国海洋湖沼学报 ,2010,28(2):274-279
【论文发表时间】2010-02-01 00:00:00
【引文索引类型】SCI
【引文索引号】2.7578140001e+011
【学科分类】捕捞学

【题目】A review of the development of Chinese distant-water squid jigging fisheries
【中文关键词】/
【英文关键词】squid jigging fisheries; china; ommastrephes bartramii; illex argentinus; dosidicus gigas; todarodes pacificus; sthenoteuthis oualaniensis
【中文摘要】/
【英文摘要】China has developed a major fishing fleet for oceanic squid since 1989, currently having more than 400 squid jigging boats with an annual catch of 250-300 thousand metric tonnes and accounting for about one-sixth of the global oceanic squid production. The main fishing target species include Ommastrephes bartramii in the northwestern Pacific, Illex argentinus in the southwestern Atlantic, Dosidicus gigas in the southeastern Pacific, Sthenoteuthis oualaniensis in the northwestern Indian, and Todarodes pacficus in the Sea of Japan. The ommastrephidae squid is an opportunist species and vulnerable to environmental fluctuations, making its abundance difficult to assess, forecast and manage. This calls for sharing of scientific information worldwide for better understanding and management of squid fisheries. This study reviews biology, fisheries and resource status of important commercial oceanic squid for the Chinese squid jigging fisheries with a focus on recent literatures published in China. (c) 2007 Elsevier B.V. All rights reserved.
【语种】英文
【第一作者】陈新军
【通讯作者】陈新军
【期刊名称、卷期、页码】Fisheries research, 2008,89(3):211 – 221
【论文发表时间】2008-03-01 00:00:00
【引文索引类型】SCI
【引文索引号】2.54118e+011
【学科分类】水产资源学

【题目】Influence of surface oceanographic variability on abundance of the western winter-spring cohort of neon flying squid Ommastrephes bartramii in the NW Pacific Ocean
【中文关键词】/
【英文关键词】Sea surface temperature; Abundance index; Ommastrephes bartramii; Northwest; Pacific Ocean
【中文摘要】/
【英文摘要】Abundance of the Ommastrephes bartramii winter-spring cohort fluctuated greatly from 1995 to 2004. To understand how abundance was influenced by sea surface conditions, we examined the variations in the proportion of thermal habitats with favourable sea surface temperature (SST). The SST data of both the spawning and feeding grounds were used to calculate the monthly proportion of favourable-SST areas (PFSSTA). Catch per fishing day per fishing boat (catch per unit effort, CPUE) of the Chinese mainland squid-jigging fleet was used as squid abundance index. The relationships between CPUE and monthly PFSSTA at spawning and feeding grounds were analyzed, and the relationship between CPUE and selected PFSSTA was quantified with a multiple linear regression model. Results showed that February PFSSTA at the spawning ground and August to November PFSSTA at the feeding ground could account for about 60% of the variability in O. bartramii abundance between 1995 and 2004, that February was the most important period influencing squid recruitment during the spawning season, and that feeding ground PFSSTA during the fishing season would influence CPUE by causing squid to aggregate. Our forecast model was found to perform well when we compared the model-predicted CPUEs and the average CPUEs observed during August to November in 2005 and 2006 from the Chinese squid-jigging fishery.

【语种】英文
【第一作者】曹杰
【通讯作者】陈新军
【期刊名称、卷期、页码】Marine Ecology Progress Series, 2009,381:119-127
【论文发表时间】2009-01-01 00:00:00
【引文索引类型】SCI
【引文索引号】2.6615000001e+011
【学科分类】水产资源学

【题目】Habitat suitability index of Chub mackerel (Scomber japonicus) from July to September in the East China Sea
【中文关键词】/
【英文关键词】Habitat suitability index; Scomber japonicus; East China Sea; Chinese purse seine fishery
【中文摘要】/
【英文摘要】The habitat quality of Chub mackerel (Scomber japonicus) in the East China Sea has been a subject of concern in the last 10 years due to large fluctuations in annual catches of this stock. For example, the Chinese light-purse seine fishery recorded 84000 tons in 1999 compared to 17000 tons in 2006. The fluctuations have been attributed to variability in habitat quality. The habitat suitability Index (HSI) has been widely used to describe fish habitat quality and in fishing ground forecasting. In this paper we use catch data and satellite derived environmental variables to determine habitat suitability indices for Chub mackerel during July to September in the East China Sea. More than 90% of the total catch was found to come from the areas with sea surface temperature of 28.0A degrees-29.4A degrees C, sea surface salinity of 33.6-34.2 psu, chlorophyll-a concentration of 0.15-0.50 mg/m(3) and sea surface height anomaly of -0.1-1.1 m. Of the four conventional models of HSI, the Arithmetic Mean Model (AMM) was found to be most suitable according to Akaike Information Criterion analysis. Based on the estimation of AMM in 2004, the monthly HSIs in the waters of 123A degrees-125A degrees E and 27A degrees 30'aEuro"28A degrees 00' N were more than 0.6 during July to September, which coincides with the catch distribution in the same time period. This implies that AMM can yield a reliable prediction of the Chub mackerel's habitat in the East China Sea.
【语种】英文
【第一作者】陈新军
【通讯作者】陈新军
【期刊名称、卷期、页码】Journal of oceanograpgy,2009,65(1):93-102
【论文发表时间】2009-02-01 00:00:00
【引文索引类型】SCI
【引文索引号】2.6195790001e+011
【学科分类】水产资源学

【题目】Molecular cloning and tissue specific expression of an elongation factor 1A gene in sugarcane stalks
【中文关键词】无
【英文关键词】Saccharum officinarum L. hybrid, elongation factor 1-alpha, ethephon, tissue specific expression, stalk, internodes
【中文摘要】无
【英文摘要】Genomic reconstruction done by using the cDNA insert containing the ORF of GZ-1-alpha as the probe indicated the presence of about 5 copies of eEF1A gene per haploid sugarcane genome. Northern hybridization studies revealed the presence of eEF1A transcripts in Saccharum officinarumstalks at late growth stage. A full-length cDNA clone (GZ-1-alpha) encoding elongation factor 1-alpha has been isolated from stalks of S. officinarum L. (accession number EF581011).The 1736 bp nucleotide sequence and the deduced 447 amino acid sequence shared 65-92 % and 95-99 % identity,respectively, to the other plant elongation factor 1As. The 400mg/L ethephon treatment significantly induced the expression of GZ-1-alpha and maintained higher level in the top internodes for a long time, but did not induce the expression in the midand bottom internodes. The results suggest that ethephon mediates the tissue and growth stage specific expressions of eEF1A gene isolated from S.officinarum stalks.
【语种】英文
【第一作者】王爱勤
【通讯作者】李杨瑞

【期刊名称、卷期、页码】Sugar Tech, 2008, 10(2):119-123
【论文发表时间】2008-03-13 00:00:00
【引文索引类型】SCI
【引文索引号】待查
【学科分类】分子生物学

【题目】Transformation of sugarcane with ACC oxidase antisense gene
【中文关键词】无
【英文关键词】ACC oxidase, anti-sense gene, sugarcane, genetic transformation
【中文摘要】无
【英文摘要】The present study is an attempt to validate the function of sugarcane ACO by construction of plant expression vectors for sugarcane ACO sense and anti-sense genes and their effective transformation.Plant expression vectors for sugarcane ACO anti-sense gene was constructed and then transformed into sugarcane variety ROC22 mediated by Agrobacterium tumefaciens. The transgenic shoots were screened under the selective pressure of 40 mg/l G418 and 300mg/l cefalexin and 19 resistant plants were obtained, two of which were further proved to be positive through detecting NPTII by PCR. The transformation rate was found 10.5%.The positive plants were found to grow slowly and were more dwarf compared to non-transgenic ones. The present work reveals the efficient genetic transformation system and development oftransgenic sugarcane plant with ACO antisense gene. This work will help in understanding the ethyleneand growth relationship and will also help breeders in breeding programs tailored to develop new varieties using molecular approaches.
【语种】英文
【第一作者】王爱勤
【通讯作者】李杨瑞
【期刊名称、卷期、页码】Sugar Tech, 2009, 11(1):39-43
【论文发表时间】2008-08-28 00:00:00
【引文索引类型】SCI
【引文索引号】待查
【学科分类】分子生物学

【题目】Effect of silicon fertilization on yield and photosynthetic attributes in sugarcane(Saccharum officinarum L.hybrid)
【中文关键词】硅;甘蔗;产量;光合;氮;磷
【英文关键词】silicon;sugarcane;yield;photosynthesis;nitrogen;phosphorus
【中文摘要】在温室条件下,以每桶施用269N+I.769P+209K为对照,进行6个不同硅肥施用水平处理(20,40。60,80,120和150 g/捅)桶栽试验,探讨硅肥对新台22号甘蔗产量构成因素、光合特性、N、P、K和Si的影响。结果表明,大部分硅肥(硅酸钙)处理较对照显著提高甘蔗叶片光合速率、蒸腾速率及气孔导度;不同硅肥处理之间的甘蔗叶片啥量差异不大,部分处理的啥量略有增加;施用硅肥可显著降低叶片N、K含量,但随着硅肥施用量的增加,叶片Si含量逐渐提高。硅肥处理较对照显著提高每桶甘蔗干物质含量(26%一70%)和甘蔗产量(30%。60%)。此外,在收获期,硅肥处理的甘蔗植株硅含量可达2.64%。
【英文摘要】An experiment has been conducted in a green house to study the effect of calcium silicate fertilizer on yield contributing parametem,photosynthetic characteristics and N,P,K and Si content in sugarcane variety ROC 22.The treatments included a centrel with traditional fertilizer(269 N 4-1.769 P+209 K per pot)only and six levels of silicon(20,40,60,80,120 and 150 g/pot)plus same amount of traditional fertilizer.The added Ca—silicate inereased photo.synthesis,transpiration and stomata]conductance significantly over non amended contr0l.The influence of Si amendment on N concentration showed a significant decreasing tendency.Leaf tissue concentration for phosphorus did not differed re.markably,either a little effect or a slight increase in concentration at varying levels of Si application has been observed.but leaf tissue Si content increased progressively with increasing Si concentra-tion in the soils.Si amended treatments significantly increased yield in dry matter(26%-70%)and in cane yield(30%一66%)per pot over non amended contr01.Analysis of TVD leaves showed up to 2.64%Si content at tIle harvest stage in Si treated plants.
【语种】英文
【第一作者】黄海荣
【通讯作者】杨丽涛
【期刊名称、卷期、页码】Guangxi Agricultural Sciences, 2009, 40(12)1564-1569

【论文发表时间】2009-11-21 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】生理学

【题目】我国剑麻介壳虫类害虫种类及其防治
【中文关键词】介壳虫；剑麻虫害；害虫防治；检疫；生物防治
【英文关键词】sisal ; scale insect ; pest control
【中文摘要】总结了我国剑麻介壳虫类害虫的种类、分布，以及主要种类的发生、为害规律和防治方法，并强调了检疫工作在剑麻害虫防治中的重要性。
【英文摘要】The main species and distribution of sisal scale insects in China were surveyed. The rule of occurrence, damages and best control methods were reviewed. An emphasis was focused on theimportance of quarantine work in the control of sisal scale insects.
【语种】中文
【第一作者】张小冬
【通讯作者】陈泽坦
【期刊名称、卷期、页码】热带农业科学 第27卷第6期 42-44
【论文发表时间】2007-12-06 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】植物保护学

【题目】Combined application of NPK on yield quality of sugarcane applied
【中文关键词】无
【英文关键词】Sugarcane, combined application, nitrogen,phosphorus, potassium, nutrient balance, yield
【中文摘要】无
【英文摘要】Field experiments were conducted to study the effects of combined application of nitrogen (N), phosphorus (P) and potassium (K) on growth, yield quality and nutrient balance of sugarcane with subsurface drip irrigation by using the sugarcane variety ROC89/1626 and adopting “3414” project design. It was observed that the appropriate rate of N,P2O5 and K2O increased the plant height,cane yield and cane quality of sugarcane under the experimental conditions. The fertigation model recommended for highest cane yield was 367.2 kg N,162.6 kg P2O5 and 423.3 kg K2O per ha. The highest cane yield recorded with this dose was 101.8 t/ha. The best fertigation model recommended was 340.1 kg N, 141.9 kg P2O5 and 401.1kg K2O per ha for the cane yield of 101.6 t/ha.
【语种】英文
【第一作者】徐林
【通讯作者】李杨瑞
【期刊名称、卷期、页码】Sugar Tech, 2010, 12(2):104-107
【论文发表时间】2010-04-13 00:00:00
【引文索引类型】SCI
【引文索引号】待查
【学科分类】农艺学

【题目】几种杀虫剂对丽草蛉的毒力研究
【中文关键词】杀虫剂;丽草蛉;毒力
【英文关键词】Chrysopa formosa Brauer
【中文摘要】本研究采用药膜法测定了6种杀虫剂对新菠萝灰粉蚧天敌丽草蛉的毒力作用，研究结果发现,48%毒死蜱EC和50%乐果EC对丽草蛉的致死率均达到100%(48 h)，其余杀虫剂的致死率大小依次为:1.8%阿维菌素EC(26.67)>70%吡虫啉WG=20%橡籽油乳剂(23.33)>4.5%高效氯氰菊酯EC (10.00);48%毒死蜱EC和50%乐果EC的LC50分别为218.0258、559.9269，前者约是后者的2.57倍。
【英文摘要】无
【语种】中文

【第一作者】严珍
【通讯作者】陈泽坦
【期刊名称、卷期、页码】农业科技通讯 2012.2 64-65
【论文发表时间】2012-12-06 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】植物保护学

【题目】入侵害虫新菠萝灰粉蚧天敌——丽草蛉研究初报
【中文关键词】新菠萝灰粉蚧;天敌;丽草蛉
【英文关键词】Chrysopa formosa Brauer
【中文摘要】报道了我国海南外来有害生物新菠萝灰粉蚧的本地天敌———丽草蛉,对其分类地位、形态特征、生活习性、地理分布等进行简要的介绍,为新菠萝灰粉蚧的生物防治提供依据。
【英文摘要】无
【语种】中文
【第一作者】严珍
【通讯作者】陈泽坦
【期刊名称、卷期、页码】农业科技通讯
【论文发表时间】2012-05-06 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】植物保护学

【题目】Isolation and characterization of a gene encoding the Δ1-pyrroline-5- carboxylate synthetase in sugarcane (Saccharum spp. hybrid var. ROC22)
【中文关键词】无
【英文关键词】sugarcane, Δ1-Pyrroline-5- Carboxylate Synthetase (P5CS) Gene; Proline, Water Stress.
【中文摘要】无
【英文摘要】SUGARCANE variety ROC22 was used as the experimental material. Water stress treatment was performed on 4 to 5-leaf stage plants with a 25% polyethylene glycol (PEG) 6000 solution. A cDNA sequence for the ScP5CS sugarcane gene was isolated by homologous cloning. The sequence contained 2151 bp and an open reading frame of 716 amino acids (GenBank accession number EU005373). Comparing the sequence of ScP5CS with that of sugarcane P5CS reported in GenBank, the nucleotide sequence(EF155655) showed high identity (98%), but the deduced amino acid was only 92% identical. The deduced protein contained a putative ATP-binding site, putative leucine domains, a Glu-5-kinase domain, a putative NADPH-binding domain, a conserved GSA-DH domain and a feedback inhibition site. Besides, there were differences in the Glu-5-kinase domain from the reported deduced amino acid sequence of P5CS (ABM30223), but less for the P5CSs from rice (Oryza sativa) and wheat (Triticum aestivum). So we believe this gene to be a new gene of sugarcane P5CS.
【语种】英文
【第一作者】黄诚梅
【通讯作者】李杨瑞
【期刊名称、卷期、页码】Proc. Int. Soc. Sugar Cane Technol., 2010, 27(BMP04):1-6
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【引文索引类型】其他
【引文索引号】null
【学科分类】分子生物学

【题目】Effect of long-term vinasse application on physical properties of soil in sugarcane fields
【中文关键词】酒精发酵液;土壤物理特性;蔗地
【英文关键词】vinasse; soil; physical properties; sugarcane field

【中文摘要】为研究蔗地施用酒精发酵液对土壤物理学肥力特性的影响,2005~2007、2006~2007年分别在广西扶绥县昌平甘蔗试验基地两个点连续进行清水105.0 t/ha(CK)、习惯施肥+清水105.0 t/ha(CF)和酒精发酵液75.0 t/ha +清水30.0 t/ha处理试验。结果表明,在蔗地连续2~3年施用酒精发酵液,蔗地耕层土壤容重下降,总孔隙度和毛管孔隙度增加,土壤水稳性团聚体含量提高,土壤粘粒含量下降,蔗地土壤物理肥力特性得到改善,蔗地土壤未见板结。

【英文摘要】To study the effects of vinasse application on physico-chemical properties of soil, different treatments viz.,(i) spraying water @105.0 t/ha (CK),(ii) conventional fertilization+spraying water @ 105.0 t/ha (CF) and (iii) soil applicationof vinasse @ 75.0 t/ha + spraying water @ 30.0 t/ha, have been applied in two sugarcane fields in Fusui County,Guangxi, during 2005-2007 and 2006-2007, respectively. The results showed that, after 2-3 years of continuous vinasse application to sugarcane fields, the soil bulk density declined, while the total porosity and capillary porosity increased in the plow layer of soil. The soil water stable aggregate content enhanced, but the soil clay content decreased. The vinasse application in sugarcane field resulted in improved physical properties of soil and soil hardening was not detected in the field.

【语种】英文

【第一作者】江泽普

【通讯作者】李杨瑞

【期刊名称、卷期、页码】Guangxi Agricultural Sciences, 2010, 41(8):795-799

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【引文索引号】null

【学科分类】土壤学

【题目】不同施肥处理对低产槟榔叶片营养和产量的影响

【中文关键词】低产槟榔;施肥;叶片营养;产量

【英文关键词】Low-yielding arecanut;Fertilizer application;kaf nutritive element;Yield

【中文摘要】低产槟榔为材料,研究了不同施肥处理对槟榔叶片营养和产量的影响。结果表明:施肥显著提高了叶片N、P、K的含量,在一定程度上增加了叶片cu、zn的含量,但降低了叶片Ire、Mn的含量;施肥显著提高了槟榔的单株年产量,以有机肥+化肥处理获得的年产量最高,为10.17 kg/株

【英文摘要】Low-yielding arecanut trees were treated with different fertilizers to observe its leaf nutritive elements and yield.The results showed that the leaf nutritive elements N,P,K were obviously increased and Fe.Mn were decrea.sed by fertilization.The yield was obviously increased by applying fertilizer,and the application of organic inanure cooperated with chemical fertilizer obtained the maximum yearly yield(10.17 kg/plant).

【语种】中文

【第一作者】董志国

【通讯作者】刘立云

【期刊名称、卷期、页码】江西农业学报,2009,21(10):63-64

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【学科分类】植物保护学

【题目】Effects of grassland conversion to cropland and forest on soil organic carbonand dissolved organic carbon in the farming-pastoral ecotone of Inner Mongolia

【中文关键词】Keywords:

Land use type

Soil organic carbon

Dissolved organic carbon

Agro-pastrol ecotone

【英文关键词】Keywords:

Land use type

Soil organic carbon

Dissolved organic carbon

Agro-pastrol ecotone

【中文摘要】Effects of grassland conversion to cropland and forest on soil organic carbon (SOC), dissolved organic carbon(DOC) in the farming-pastoral ecotone of Inner Mongolia were investigated by direct field sampling.SOC content and DOC content in soil decreased after grassland were shifted to forest or cropland, in thesequence of grassland soil > forest soil > cropland soil. SOC stock declined by 18% after grassland shiftedfrom to forest. Reclamation of cropland for 10 years, 15 years and 20 years lost SOC in 0 – 30 cm soil layer,by 34%, 14% and 18%, respectively, compared with that of grassland. DOC in 3 soil layers was within 21.1 – 26.5 mg/L in grassland, 12.1 – 14.6 mg/L in forest soil, and 8.0 – 14.0 mg/L in cropland soil. Correlation analysisindicated that SOC content and DOC content were positively dependent on total nitrogen content($p < 0.05$), but negatively on bulk density or land use type ($p < 0.05$). DOC was positively correlatedSOC ($p < 0.01$). Moreover, SOC content could be quantitatively described by a linear combination of landuse types ($p = 0.000$, $r2 = 0.712$), and DOC content by a linear combination of two soil-related variables,land use types and SOC ($p = 0.000$, $r2 = 0.861$).

【英文摘要】Effects of grassland conversion to cropland and forest on soil organic carbon (SOC), dissolved organic carbon(DOC) in the farming-pastoral ecotone of Inner Mongolia were investigated by direct field sampling.SOC content and DOC content in soil decreased after grassland were shifted to forest or cropland, in thesequence of grassland soil > forest soil > cropland soil. SOC stock declined by 18% after grassland shiftedfrom to forest. Reclamation of cropland for 10 years, 15 years and 20 years lost SOC in 0 – 30 cm soil layer,by 34%, 14% and 18%, respectively, compared with that of grassland. DOC in 3 soil layers was within 21.1 – 26.5 mg/L in grassland, 12.1 – 14.6 mg/L in forest soil, and 8.0 – 14.0 mg/L in cropland soil. Correlation analysisindicated that SOC content and DOC content were positively dependent on total nitrogen content($p < 0.05$), but negatively on bulk density or land use type ($p < 0.05$). DOC was positively correlatedSOC ($p < 0.01$). Moreover, SOC content could be quantitatively described by a linear combination of landuse types ($p = 0.000$, $r2 = 0.712$), and DOC content by a linear combination of two soil-related variables,land use types and SOC ($p = 0.000$, $r2 = 0.861$).

【语种】英文
【第一作者】Yan Jiao
【通讯作者】徐柱
【期刊名称、卷期、页码】Acta Ecologica Sinica,29 (2009):150 – 154.
【论文发表时间】2009-01-01 00:00:00
【引文索引类型】其他
【引文索引号】S812
【学科分类】农学其他学科

【题目】Current Situation and Prospect of GrasslandManagement Decision Support Systems in China

【中文关键词】3S(GIS,RS and GPS) and virtual technology
【英文关键词】3S(GIS,RS and GPS) and virtual technology

【中文摘要】China, with wide grassland areas of the second rank throughout theworld, is faced with a severe challenge on how to manage its vast anddegenerating/degenerated grassland. Computer and network technologies aremore and more widely applied in grassland production, research and education,which is just a greatly encouraging field. Tremendous achievements have beenmade in grassland management decision support system (GMDSS) research indeveloped countries at present, but there is still a long way to obtain a greatdevelopment for developing countries, such as China. This paper reviewed theresearch progress and current situation in the GMDSS research and application in China. Concept models and empirical models are still hugely focused on the corresponding research fields in China, but the integrated GMDSS has not been well developed. Therefore, Chinese scientists must develop the integrated models from the existing models, and accordingly sinicize the GMDSS of models used in the developed countries for availably application. In the other hand, there is a same direction of research and development about the GMDSS not only for developed countries but also for China, which is going to be combined with internet, 3S (GIS, RS and GPS) and virtual technology.

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availably application. In the other hand, there is a same direction of research and development about the GMDSS not only for developed countries but also for China, which is going to be combined with internet, 3S (GIS, RS and GPS) and virtual technology.
【语种】英文
【第一作者】Qingwei Duan
【通讯作者】Xiaoping Xin
【期刊名称、卷期、页码】IFIP AICT 347, pp. 134 – 146,
【论文发表时间】2010-01-01 00:00:00
【引文索引类型】其他
【引文索引号】S812
【学科分类】农学其他学科

【题目】Effects of land use and land cover change on ecosystem service valuesin oasis region of northwest china
【中文关键词】remote sensing; LUCC; ecosystem service values; mountain – oasis-desert system; arid region; Qiemo oasis; China
【英文关键词】remote sensing; LUCC; ecosystem service values; mountain – oasis-desert system; arid region; Qiemo oasis; China
【中文摘要】Ecosystem services are “ the benefits of nature to households, communities, and economies ”, which can be obtained directly or indirectly from ecosystem structure, functions or process. Land use and land cover change (LUCC) directly affects ecosystem functions and ecosystem service values with far-reaching consequences. Located in a typical Mountain-Oasis-Desert System of arid region, Qiemo oasis is one of the most important oases in Tarim River Basin,China. Taking Qiemo oasis as a case study, this paper analyzed land use and land cover change from 1989 to 2004 using remote sensing images of 1989 and 2004. Furthermore, based on Chinese ecosystem service values of unit area of different ecosystem types, the dynamic changes of ecosystem services value caused by LUCC were evaluated. Theresults indicated that the area of forest, Gobi desert and Salina land decreased from 1989 to 2004. On the other hand, the area of farmland, water land and building land increased, in which the forest land and farmland changed the most. Area of forest land decreased 41.73% and farmland increased 58.04%. The total ecosystem services value had decreased from 22 265 104 US$ to 21 373 104 US$ during the past 15 years. The reduction of forest land was responsible for the reduction of the ecosystem service value. Population increasing and economic development were main driving forces forthese changes. At last, some measures were put up for a sustainable development in this region.
【英文摘要】Ecosystem services are “ the benefits of nature to households, communities, and economies ”, which can be obtained directly or indirectly from ecosystem structure, functions or process. Land use and land cover change (LUCC) directly affects ecosystem functions and ecosystem service values with far-reaching consequences. Located in a typical Mountain-Oasis-Desert System of arid region, Qiemo oasis is one of the most important oases in Tarim River Basin,China. Taking Qiemo oasis as a case study, this paper analyzed land use and land cover change from 1989 to 2004 using remote sensing images of 1989 and 2004. Furthermore, based on Chinese ecosystem service values of unit area of different ecosystem types, the dynamic changes of ecosystem services value caused by LUCC were evaluated. Theresults indicated that the area of forest, Gobi desert and Salina land decreased from 1989 to 2004. On the other hand, the area of farmland, water land and building land increased, in which the forest land and farmland changed the most. Area of forest land decreased 41.73% and farmland increased 58.04%. The total ecosystem services value had decreased from 22 265 104 US$ to 21 373 104 US$ during the past 15 years. The reduction of forest land was responsible for the reduction of the ecosystem service value. Population increasing and economic development were main driving forces forthese changes. At last, some measures were put up for a sustainable development in this region.
【语种】英文
【第一作者】HUANG Qing
【通讯作者】HUANG Qing
【期刊名称、卷期、页码】Advances in Imaging Detectors and Applications
【论文发表时间】2009-01-01 00:00:00
【引文索引类型】其他
【引文索引号】S812
【学科分类】农学其他学科

【题目】Landscape pattern dynamic change analysis based on eco-hydrological process in the lower reaches of Tarim River, China
【中文关键词】Eco-hydrological process, emergency water transportation, landscape pattern, remote sensing, lowers reaches of Tarim River, China
【英文关键词】Eco-hydrological process, emergency water transportation, landscape pattern, remote sensing, lowers reaches of Tarim River, China
【中文摘要】Landscape pattern and eco-hydrological process had changed greatly after seven times emergency water transportation in the lower reaches of Tarim River, Xinjiang, China. After analyzing the changes of eco-hydrological process, ground water level, soil moisture and vegetation growth etc. of emergency water transportation, remote sensing images in 2000 and 2005 year which present the situation before and after the emergency water transportation were processed and dynamic change characteristics of landscape pattern were analyzed. The changes of landscape pattern were described as follows: The forest land, waters, farmland and construction landscape area increase, and forest land increases the biggest, which increased by 23.03% during last 5 years. Waters landscape change is only inferior to forest land, which increased by 16.04%. The lawn, sand and Gobi saline-alkali land landscape area reduced; lawn and farmland had made the biggest contribution to the increase of forest land by 6.46% and 4.79% in the year 2005. Landscape diversity index, evenness index, fractal dimension and general fragmentation increased, but dominance index reduced. The results indicate that RS plays the vital role in the macroscopic dynamic change analysis of landscape pattern and seven times emergency water transportation has greatly influenced eco-hydrology process and landscape pattern changes in the lower reaches of Tarim River.
【英文摘要】Landscape pattern and eco-hydrological process had changed greatly after seven times emergency water transportation in the lower reaches of Tarim River, Xinjiang, China. After analyzing the changes of eco-hydrological process, ground water level, soil moisture and vegetation growth etc. of emergency water transportation, remote sensing images in 2000 and 2005 year which present the situation before and after the emergency water transportation were processed and dynamic change characteristics of landscape pattern were analyzed. The changes of landscape pattern were described as follows: The forest land, waters, farmland and construction landscape area increase, and forest land increases the biggest, which increased by 23.03% during last 5 years. Waters landscape change is only inferior to forest land, which increased by 16.04%. The lawn, sand and Gobi saline-alkali land landscape area reduced; lawn and farmland had made the biggest contribution to the increase of forest land by 6.46% and 4.79% in the year 2005. Landscape diversity index, evenness index, fractal dimension and general fragmentation increased, but dominance index reduced. The results indicate that RS plays the vital role in the macroscopic dynamic change analysis of landscape pattern and seven times emergency water transportation has greatly influenced eco-hydrology process and landscape pattern changes in the lower reaches of Tarim River.
【语种】英文
【第一作者】HUANG Qing
【通讯作者】HUANG Qing
【期刊名称、卷期、页码】©2008 SPIE Proc. of SPIE Vol. 7150 71501F
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【引文索引类型】其他
【引文索引号】S812
【学科分类】农学其他学科

【题目】An Intelligent Inter Database Retrieval System Based on Multi-agent
【中文关键词】Inter Database Retrieval; Search Engine; Interface Agent; Cooperation Agent; Meta data
【英文关键词】Inter Database Retrieval; Search Engine; Interface Agent; Cooperation Agent; Meta data
【中文摘要】This paper demonstrates the design of inter database retrieval system based on Multi-Agent. Interface agent, cooperation agent, collection agent, retrieval agent are used to realize intelligence in this system. A mobile agent is adopted to communicate with other agents. They coordinate with each other to complete retrieval tasks. The system is an important research project in the field of Web database retrieval. It can meet the user ’ s demand of inter database retrieval. At the same time the hotspot issues in the system are studied and discussed.
【英文摘要】This paper demonstrates the design of inter database retrieval system based on Multi-Agent. Interface agent, cooperation agent, collection agent, retrieval agent are used to realize intelligence in this system. A mobile agent is adopted to communicate with other agents. They coordinate with each other to complete retrieval tasks. The system is an important research project in the field of Web database retrieval. It can meet the user ’ s demand of inter database retrieval. At the same time the hotspot issues in the system are studied and discussed.
【语种】英文

【第一作者】Hongbin Zhang
【通讯作者】Xin Xiaoping
【期刊名称、卷期、页码】《Proceedings of 2008 International Conference on Modelling, Identification and Control》2008年
【论文发表时间】2008-01-01 00:00:00
【引文索引类型】其他
【引文索引号】TP391.3
【学科分类】农学其他学科

【题目】棕榈植物病害浸渍标本保绿技术研究
【中文关键词】棕榈植物;浸渍标本;保绿;浸渍液
【英文关键词】Palmae plant;Impregnating specimen;Preserving green;Impregnating solution
【中文摘要】浸渍标本是植物病害标本的重要类型,能较长时间地保持原植物的形态、色泽和质地。文章对5种棕榈科植物病害标本的保绿技术进行了研究,结果表明,经乙酸铜热处理法制作而成的病害标本最能保存植物原色,标本绿色鲜亮,有一定的实验价值。
【英文摘要】Impregnating specimen is an important plant disease specimen, which can preserve the shape, color and texture of the plant in a long time. In this research, preserving green skills of five Palmae plants were studied. The results showed that cupric acetate heat treatment was the ideal method, which can preserve plants ’ original color and texture vividly. The results were instructive to experiment.
【语种】中文
【第一作者】朱辉
【通讯作者】朱辉
【期刊名称、卷期、页码】中国热带农业,2009,6:52-53
【论文发表时间】2009-06-01 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】植物保护学

【题目】海南省槟榔主要病害调查研究
【中文关键词】海南省;槟榔;病害调查;鉴定
【英文关键词】Hainan;Arecanut;Diseases Investigation;Identification
【中文摘要】2007-2009年在海南省琼海、万宁、陵水、三亚、屯昌、文昌等地槟榔主要种植区,对目前槟榔生产上的主要病害种类及其发生情况进行了调查研究。结果共采集到槟榔病害标本140余份,对主要病害病原进行分离培养,并在显微镜下以形态特征为主进行鉴定,共鉴定出8种主要病害,其中危害最严重的病害为黄化病,其它7种病害为炭疽病、细菌性条斑病、藻斑病、煤烟病、大茎点霉叶斑病、镰刀菌根腐病和生理性黄化病。
【英文摘要】The varieties and occurrence of major diseases from main arecanut planting areas of Hainan Province, such as Qionghai, Wanning, Lingshui, Sanya, Tunchang, Wenchang, were investigated and studied. The results showed that 8 main diseases were identified and studied from 140 specimens. The most serious disease was yellow leaf disease, other minor diseases were anthracnose, bacterial leaf stripe, red rust, dark mildew, Macrophoma leaf spot, Fusarium root rot and physiological yellow leaf.
【语种】中文
【第一作者】朱辉
【通讯作者】朱辉
【期刊名称、卷期、页码】江西农业学报,2009,21(10):81-85
【论文发表时间】2009-10-01 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】植物保护学

【题目】Effects of fiber wax and cellulose content on colored cotton fiber quality
【中文关键词】彩色棉 蜡质含量 纤维素含量 纤维品质

【英文关键词】Colored cotton ; Cellulose content ;Fiber quality Wax content
【中文摘要】通过对48个彩色棉品种(系)及F1代材料的蜡质、纤维素含量,纤维品质等测定和分析,结果表明同一色泽彩色棉品种间蜡质、纤维素含量和衣分没有显著差异,但在不同色泽的彩色棉品种间则有极显著差异。绿色棉蜡质含量是白色棉的5-8倍, 棕色棉中,纤维色泽越深,蜡质含量越高,深棕色棉的蜡质含量为白色棉的2倍,白色棉蜡质含量最低。然而,纤维素含量以白色棉最高,棕色棉其次,绿色棉含量最低。彩色棉不同品种间的纤维长度、强度和纤维整齐度有极显著差异,不同色泽的彩色棉间也有极显著差异。彩色棉的纤维素含量与蜡质含量和伸长率都呈极显著负相关,与衣分、铃重、纤维长度、纤维强度、纤维细度和纤维整齐度都呈极显著正相关。本实验通过彩色棉蜡质和纤维素含量等的研究,为彩色棉的品种选育和分子生物学的研究提供科学的依据,将有助于彩色棉纤维及其纺织品的色泽稳定性的提高。
【英文摘要】Forty-eight colored cotton lines and hybrids were studied on the wax, cellulose content and fiber quality. The result were as follow: The wax content of green cotton was five to eight times greater than that of white cotton. As for the brown cotton lines, the darker the brown fiber color, the greater the content of the fiber wax. The wax content of dark brown cotton was two times greater than that of white cotton. However, the content of the cellulose of white cotton was the greatest, next was that of the brown cotton, and the content of the cellulose of green fiber was the lowest. There were differences in fiber length, fiber strength, and fiber uniformity, not only among different varieties with the same color fiber,but also among different coloring types. The content of cellulose had a significantly negative correlation with the content of wax and fiber elongation, but significantly positive correlations between the content of cellulose and fiber length, fiber strength, fiber fineness, lint index, boll weight, and fiber uniformity were observed in the color cotton lines used in this experiment. The study on wax and cellulose contents will give constructive advice for the breeding and molecular research of the colored cotton, and help increasing the color stability of the fiber and its textiles.
【语种】英文
【第一作者】潘兆娥
【通讯作者】杜雄明
【期刊名称、卷期、页码】Euphytica, 2010, 173:141-149
【论文发表时间】2010-01-13 00:00:00
【引文索引类型】SCI
【引文索引号】DOI 10.1007/s10681-010-0124-0
【学科分类】农业基础学科

【题目】Mutation in the porcine SERPINA7 gene and its association with boar fertility
【中文关键词】SERPINA7;公猪繁殖性状;起源
【英文关键词】SERPINA7;boar fertility;origin
【中文摘要】Serpina7是X染色体影响睾丸重QTL的一个位置候选基因,本研究搜寻了Serpina7基因的SNP,分析了SNP位点与睾丸重、附睾重的关联性。研究结果对了解Serpina7基因的功能具有重要作用。
【英文摘要】The porcine SERPINA7 gene is considered as a positional candidate gene responsible for testis size for its location on X chromosome and its biologically critical role in the development of testis. A nonsynonymous polymorphism (His226Asn or C678A) in the ligand-binding domain of SERPINA7 has been identified, which alters SERPINA7' s affinity to thyroxine and is closely associated with testis size. In this study, a primer mutagenesis strategy was developed to genotype this polymorphism in Chinese indigenous pigs and some western commercial pigs. The C allele existed in all tested Chinese indigenous and wild pigs, while the A allele is specific for western commercial breeds, indicating the occurrence of the mutation is of western origin. The correlation of this polymorphism with different boar fertility traits was assessed using a White Duroc × Erhualian intercross which included 110 F2 mature boars. The results showed that the C678A polymorphism was closely associated with testis weight and epididymis weight($P<0.0001$ and $P = 0.0016$, respectively) with significant heavier testis weight and epididymis weight in boars carrying the A allele than boars with the C allele. A significant correlation was also observed between this polymorphism and total sperm in the ejaculate ($P<0.01$) as well as semen volume ($P<0.05$). No statistically significant association of the C678A polymorphism with sperm concentration and sperm motility was found.
【语种】英文
【第一作者】任冬仁
【通讯作者】黄路生
【期刊名称、卷期、页码】Progress in Natural Science,16(10):1111-1114.
【论文发表时间】2006-11-07 00:00:00
【引文索引类型】SCI
【引文索引号】1002-0071

【学科分类】畜牧学

【题目】Maternal infanticide in sows: Incidence and behavioural comparisons between savaging and non-savaging sows at parturition
【中文关键词】猪;攻击行为;F2资源家系;母性行为
【英文关键词】Pig; Savaging; F2 resource family; Maternal behaviour
【中文摘要】本研究测定了200多头F2母猪分娩前后的母性行为,分析了杀婴行为的发生率,比较了杀婴行为母猪和正常 母猪分娩前后母性行为的差异。本研究结果对了解不同母猪母性行为的差异具有重要意义。
【英文摘要】Aggressive behaviour by newly farrowed sows towards their own offspring, known as savaging, occurscommonly in the domestic pig, with a significant impact upon both the agricultural economy and animalwelfare. The aims of this study were to investigate the incidence and nature of this behaviour and to compareother behaviours between savaging and non-savaging sows around parturition in 226 F2 sows that wereproduced by two highly divergent pig breeds of Chinese Erhualian and western Duroc with significantlygenetic difference on maternal behaviours and were raised at three different pig farms. Each of these sowswas housed in individual 2 m 2.5 m pens with concrete floors. Three kilograms of fresh straw wasprovided to sows before parturition. Behaviour observations were made from 5 h before parturition to 24 hafterward using real time 1:0 sampling. Savaging sow was defined as an apparently deliberate attack on oneor more piglets that resulted in the death, by biting, of at least one piglet. The incidence of savaging was:farm 1, 10.7% in gilts (n = 103) and 5.3% at the second farrowing (n = 94); farm 2, 14.6% (n = 48) and6.25% (n = 16), respectively; farm 3, 6.8% (n = 44) at the second farrowing and 3.2% (n = 31) at the thirdfarrowing. The incidence of savaging tended to be higher in gilts (P = 0.058) although some savaging gilts were killed before their second litters. There was no effect of the different farms on incidence of savaging.Prepartum nest building behaviours were not a predictor for savaging, but savage sows had a greaterfrequency of posture change from before parturition through the expulsive phase. This restlessness includedan increase in rearing behaviour and a reduced ability to lie down carefully without endangering piglets.Wesuggest that savaging is part of a more generalized behavioural pathology that includes increasedexcitability and is not specifically piglet directed.
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【题目】FosB基因在白色杜洛克×二花脸资源家系中的遗传变异及其与分娩母猪母性行为的相关性
【中文关键词】FosB基因;母性行为;遗传变异;相关性
【英文关键词】FosB;maternal behavior;genetic variation;association
【中文摘要】本研究根据FBJ骨肉瘤原癌基因同源物B(FosB)在动物母性行为发生过程中的重要作用,选择其作为影响母猪母性行为的候选基因,以白色杜洛克×二花脸F2资源群体为材料,分析了FosB基因在此群体中的遗传变异及其与分娩母猪母性行为的相关性。采用PCR产物直接测序法搜寻了FosB基因488、806 bp 2个片段的单核苷酸多态位点(SNPs),鉴别到FosB-EU163403一g.187A> T,FosB-EU163403一g.188A> C和FosB-EU163403一g.297C~G 3个SNPs。采用PCR—Mbi I-RFLP法分析了G297C位点在资源群体中的多态及与母猪母性行为的相关性。传递不平衡检测(TDT)表明该多态位点与母猪杀婴行为、衔草做窝、哺乳、踩仔猪、压仔猪等母性行为均无显著相关性(P>o.364)。FBAT分析结果也证实了这一点(P>O.236)。考虑到母性行为属于复杂性状,可能由微效多基因控制,因此有必要在更大规模群体进行分析或搜寻其他候选基因的突变位点。
【英文摘要】In this study,FosB was chosen as a candidate gene affecting SOW maternal behaviorsfor its important role on process of animal maternal behaviours. Genetic variations of FosB andtheir association with SOW maternal behaviours were analyzed in a W hite Duroc× Erhualian resourcepopulation.Single nucleotide polymorphisms(SNPs) were screened in two FosB ampliconsof 488 and 806 bp by directly sequencing the PCR products.Three SNPs including FosB—EU163403一g.187A> T,FosB-EU 163403一g.188A~ C and FosB—EU163403一g.297C> G were iden—tifed.The association of the g.297C~ G polymorphism with SOW maternal behaviours was evalu—ated in the W hite Duroc× Erhualian intercross using PCR—M bi I~RFLP.Transmittion disequilibri—um test(TDT)results showed that there was no significant association between this polymor—phism and SOW maternal infanticide,nest building,nurturing,piglets squashing and trampling(P> 0.364).The result was confirmed by Family—Based Association Tests(FBAT,P>

0.236).Considering that maternal behaviours are complex traits and controlled by polygene,further anal—ysis in a larger population and(or)in other candidate genes are worthwhile
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【题目】Characterization of the porcine Kisspeptins receptor gene and evaluation as candidate for timing of puberty in sows
【中文关键词】初情期;KISS1R;猪
【英文关键词】age at puberty; KISS1R; pig
【中文摘要】本研究分离了猪KISS1R基因全长DNA和cDNA序列,搜寻了SNP,使用RT-PCR技术分析了KISS1R基因在不同发情时期母猪卵巢中的表达差异,分析了SNP位点与母猪初情期的关联性。本研究结果对了解KISS1R基因的的功能具有重要作用。
【英文摘要】Kisspeptins receptor (KISS1R), also called GPR54, is a key regulator of puberty in many species. KISS1R and its genetics in pigs remain unexplored. The objective of this study was to characterize the porcine KISS1R gene and evaluate the association of KISS1R mutations with age at puberty in sows. KISS1R was assigned to pig chromosome 2q21-24 by radiation hybrid mapping. It has a 1438 bp full-length cDNA and spans 3349 bp genomic sequence consisting of five exons and four introns. Semi-quantitative RT-PCR showed that KISS1R transcripts was particularly abundant in the adrenal, prostate, testis, thymus, pituary and hypothalamus. KISS1R mRNA content in the hypothalamus was determined by real-time quantitative RT-PCR, and it fluctuated during the oestrous cycle with the highest level in the luteal phase. Anoestrus sows had markedly lower hypothalamic KISS1R mRNA content than cyclic animals. Seven KISS1R SNPs were identified in the founder animals of a White Duroc x Erhualian intercross. One missense mutation (T/C(245)) showed quite different allele distribution in Chinese and Western breeds. All F(0), F(1) animals and 367 detailed phenotyped cyclic F(2) sows in the White Duroc x Erhualian intercross were genotyped for three KISS1R polymorphisms. No significant association of KISS1R haplotypes and haplotype pairs with age at puberty was observed in the resource population, indicating that mutations in KISS1R are not responsible for divergent age at puberty in White Duroc and Erhualian pigs.
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【题目】Genome—wide identification of QTL for age at puberty in gilts using a large intercross F2 population between White Duroc × Erhualian
【中文关键词】初情期;数量性状位点;白色杜洛克;二花脸
【英文关键词】age at puberty;quantitative trait loci ;White Duroc;Erhualian
【中文摘要】本研究测定了454头F2母猪的初情期,使用183个微卫星标记进行了母猪初情期QTL定位。结果在SSC1和SSC7染色体分别定位了1个1%基因组显著水平和0.1%基因组显著水平影响母猪初情期QTL,在SSC8、SSC17分别定位了一个建议水平QTL。本研究结果对了解母猪初情期遗传机制具有重要意义。
【英文摘要】Puberty is a fundamental development process experienced by all reproductivelycompetent adults, yet the specific factors regulating age at puberty remain elusive inpigs. In this study, we performed a genome scan to identify quantitative trait loci (QTL)affecting age at puberty in gilts using a White Duroc X Erhualian intercross. A total of183 microsatellites covering 19 porcine chromosomes were genotyped in 454 F2 gilts andtheir parents and grandparents in the White Duroc X Erhualian intercross. A linearregression method was used to map QTL for age at puberty via QTLexpress. One1% genome-wise significant QTL and one 0.1%

genome-wise significant QTL weredetected at 114 cM (centimorgan) on SSC1 and at 54 cM on SSC7, respectively.Moreover, two suggestive QTL were found on SSC8 and SSC17, respectively. This studyconfirmed the QTL for age at puberty previously identified on SSC1, 7 and 8, and reportsfor the first time a QTL for age at puberty in gilts on SSC17. Interestingly, the ChineseErhualian alleles were not systematically favourable for younger age at puberty.

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【题目】A genome scan for quantitative trait loci affecting male reproductive traits in a White Duroc × Chinese Erhualian resource population
【中文关键词】公猪;数量性状位点;繁殖性状
【英文关键词】boar, quantitative trait loci, reproductive trait
【中文摘要】本文报道了在347个F2公猪中睾丸重、睾酮浓度、曲细精管直径和附睾重的QTL定位情况。结果在9条染色体共检测到16个QTL,包括X染色体1%基因组显著水平影响睾丸重和附睾重QTL,SSC1和SSC16分别影响睾丸重、附睾重5%基因组显著水平QTL。本文研究结果对了解公猪性腺发育的遗传机理具有重要作用。
【英文摘要】Chinese Erhualian boars have dramatically smaller testes, greater concentrations of circulating androgens, and fewer Sertoli cells than Western commercial breeds. To identify QTL for boar reproductive traits, testicular weight, epididymal weight, seminiferous tubular diameter at 90 and 300 d, and serum testosterone concentration at 300 d were measured in 347 F(2) boars from a White Duroc x Chinese Erhualian cross. A whole genome scan was performed with 183 microsatellites covering 19 porcine chromosomes. A total of 16 QTL were identified on 9 chromosomes, including 1% genome-wide significant QTL for testicular weight at 90 and 300 d and seminiferous tubular diameter at 90 d on SSCX, and for epididymal weight and testosterone concentration at 300 d on SSC7. Two 5% genome-wide significant QTL were detected for testicular weight at 300 d on SSC1 and seminiferous tubular diameter at 300 d on SSC16. Nine suggestive QTL were found on SSC1, 2, 3, 5, 7, 13, and 14. Chinese Erhualian alleles were not systematically favorable for greater reproductive performance. This study confirmed the previous significant QTL for testicular weight on SSCX and for epididymal weight on SSC7, and reported QTL for seminiferous tubular diameter and testosterone concentration at the first time. The observed different QTL for the same trait at different ages reflect the involvement of distinct genes in the development of male reproductive traits.
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【题目】Quantitative trait loci for traits related to sperm quality and ejaculation in a White Duroc × Erhualian intercross
【中文关键词】QTL;精液品质;射精;猪
【英文关键词】QTL, Semen quality, Ejaculation, Pig
【中文摘要】本文在白色杜洛克X二花脸F2资源群体中进行了射精量、精子密度、精子活力、精子畸形率等公猪繁殖性状的QTL定位,结果共检测到18个QTL,本文研究结果第一次在大规模的公猪群体中进行了繁殖性状的QTL定位。对后续的公猪繁殖性状遗传学研究奠定了基础。
【英文摘要】To identify quantitative trait loci (QTL) for traits related to semen and ejaculation, phenotype data including semen volume, sperm concentration, total sperm per ejaculate, sperm motility, sperm abnormality rate, semen pH value, ejaculation times and ejaculation duration were measured on 206 F(2) boar at 240 days in a White Duroc x Erhualian intercross. A genome-wide scan was

performed and the entire White Duroc x Erhualian intercross was genotyped for 183 microsatellite markers covering the whole pig genome. QTL analysis was performed using a composite regression interval mapping method via QTLExpress. A total of 18 QTL were detected, including 4 genome-wide significant QTL each for semen pH on pig chromosome (SSC) 2 and SSC12, for semen volume on SSC15, and for ejaculation times on SSC17. Fourteen suggestive QTL were found on SSC1, 2, 3, 4, 6, 9, 17 and 18. To our knowledge, this is the first report about the QTL for semen and ejaculation traits in pigs, providing a start point to decipher the genetic basis of these complex traits.

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【题目】Quantitative trait loci for porcine baseline erythroid traits at three growth ages in a White Duroc × Erhualian F2 resource population
【中文关键词】QTL,红细胞计数,F2资源家系
【英文关键词】QTL,Baseline erythroid,F2 resource population
【中文摘要】本研究在F2资源群体中进行了多个发育阶段血液生理指标的测定,利用微卫星标记进行了全基因组扫描和QTL定位,结果共定位到了101个影响红细胞压积、血红蛋白含量、平均红细胞宽度,平均红细胞体积、平均血红蛋白含量等多个生理指标的QTL,其中46个QTL达基因组显著水平。本研究结果对了解血液生理指标的遗传特性具有重要意义。
【英文摘要】Baseline erythroid indices are increasingly involved as risk factors for common complex diseases in humans. However, little is known about the genetic architecture of baseline erythroid traits in pigs. In this study, hematocrit (Hct), hemoglobin (Hgb), mean corpuscular hemoglobin (MCH), mean corpuscular hemoglobin concentration (MCHC), mean corpuscular volume (MCV), red blood cell (RBC), and red cell distribution width (RDW) were measured in 1420 (day 18), 1410 (day 46), and 1033 (day 240) F2 pigs from a White Duroc × Erhualian intercross resource population. The entire resource population was genotyped for 183 microsatellite loci across the pig genome, and the quantitative trait loci (QTL) analysis was performed for all erythroid-related traits measured with QTL Express based on a least-squares method. A total of 101 QTL, including 46 genome-wide significant QTL and 55 chromosome-wide significant QTL, regulating erythroid traits were found on all pig chromosomes (SSC) except for SSC15 and SSC18. The genome-wide significant QTL were mainly localized on SSC1, 7, 8, 10, and X. These results confirmed most of QTL previously identified in the swine. More importantly, this study detected age-specific QTL for baseline erythroid traits in pigs for the first time. Notably, the QTL for MCV and MCH on day 18 on SSC8 with small intervals of 3 and 4 cM, respectively, provided a good starting point for identifying causal genes underlying MCV and MCH in the future.
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【题目】猪精子黏合分子1(SPAM1)基因在白色杜洛克×二花脸F2资源群体中的遗传变异及其与母猪产仔数的关联性
【中文关键词】SPAM1 基因;SNPs;单倍型;产仔数;猪
【英文关键词】SPAM1; SNPs; haplotype; litter size; pig
【中文摘要】【目的】猪精子黏合分子1(SPAM1)基因在精卵结合过程中发挥重要作用,是影响产仔数的重要候选基因。本试验分析SPAM1 基因的遗传变异及其与母猪产仔数的相关性。【方法】以305 头白色杜洛克×二花脸资源群体F2 母猪为材料,记录连续3 胎的产仔性状,利用PCR-RFLP 检测intron1 g298 C>T 、intron1 g357 C>T 和intron3 g380 C>T 共3 个SNP 位点在F2 群体中的多态性,构建单倍型,分析各SNP 基因型和单倍型与母猪产仔数、产活仔数、产死胎数的相关性。【结果

】intron1 g298 C>T 位点CC 型母猪的总产仔数显著低于CT、TT 型母猪(P<0.05),CT 基因型母猪产死胎数显著多于TT 型(P<0.05)。intron1 g357 C>T 位点CT 基因型母猪产死胎数显著多于CC、TT 基因型(P<0.05)。intron3 g380 C>T 位点CC 基因型母猪产活仔数显著低于CT 型,产死胎数显著高于CT 型(P<0.05)。在6 种单倍型中,TTT 单倍型母猪的总产仔数和产活仔数明显高于其它5 种(P<0.05);TCT、TTC 单倍型母猪产死胎数显著低于CTC、TTT 和TCC(P<0.05)。【结论】SPAM1 基因与母猪产仔数存在显著相关性。

【英文摘要】【Objective】 Porcine sperm adhesion molecule 1 (SPAM1) gene plays an important role in fertilization. It is animportant candidate gene for porcine litter size. In this study, identification of genetic variation of SPAM1 gene and association study with litter size were carried out. 【Method】 Detection of polymorphisms of intron1 g298 C>T, intron1 g357 C>T and intron3 g380C>T and construction of haplotypes were carried out in 305 F2 sows from a white Duroc × Erhualian resource population, whoselitter size was recorded in detail in 3 subsequent parities. Association study of genotypes of each SNP and haplotypes with totalnumber born (TNB), number born alive (NBA) and number stillborn (NSB) was also performed. 【Result】 The results showed that,compared to individuals of CT and TT at SNP intron1 g298 C>T, individuals of CC had significantly less TNB and NBA (P<0.05).Sows of CT had significantly higher number of NSB than sows of TT (P<0.05). For SNP intron1 g357 C>T, the CT sows producedsignificantly more NSB compared to CC and TT individuals. And for SNP intron3 g380 C>T, CC individuals had significantly lessNBA and more NSB than CT individuals. Six haplotypes were constructed in this study. Haplotype TTT showed significantly higherTNB and NBA than the other 5 haplotypes. Individuals of TCT and TTC had significantly less NSB than individuals of CTC, TTTand TCC (P<0.05). 【Conclusion】 SPAM1 gene has significant association with porcine litter size.

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【题目】A Genome Wide Detection of Quantitative Trait Loci on Pig Maternal Infanticide Behavior in a Large Scale White Duroc × Erhualian Resource Population

【中文关键词】母性杀婴行为;QTL;母猪;F2资源群体
【英文关键词】Maternal infanticide; QTL; Sow; F2 resource population

【中文摘要】本文利用183个微卫星 标记进行全基因组扫描,利用非参数连锁分析进行了母猪杀婴行为QTL定位,结果在SSC2、SSC16、SSCX等染色体定位到了母猪杀婴行为QTL,其中SSCX的QTL最显著并可能存在多个QTL。本研究对了解母猪杀婴行为遗传机理、母猪杀婴行为候选基因的分离奠定了基础。

【英文摘要】Maternal behavior around parturition is important to piglet survival. An extreme form of failure of maternal behavior, also called maternal infanticide, often occurs in some sows. This is defined as an active attack to piglets using the jaws, resulting in serious or fatal bite wounds within 24 h of birth. It leads to considerable economic losses to the pig industry and severe problems in pig welfare. In this study, maternal behaviors from 5 h before to 24 h after parturition were recorded in detail on 288 White Duroc x Erhualian intercross F(2) sows over their three continuous farrowings. In the F(2) population 12.8% gilts showed maternal infanticide in their first litter, while the incidences of maternal infanticide at their second and third farrowing reduced to 7.5% and 4.5%, respectively. All F(2) sows were genotyped for 194 microsatellite markers spanning the whole pig genome. A whole genome linkage analysis was performed using the non-parametric linkage test by SimWalk2 software. The results identified that seven chromosome regions on SSC2, SSC6, SSC14, SSC15 and SSCX were significantly linked with maternal infanticide ($P < 0.05$). The quantitative trait loci (QTL) on SSC2 and SSCX achieved $P < 0.01$ significance level. The most promising QTLs, however, were detected on X chromosome where three peaks of negative logarithm of P-value located at marker SW980, SW2456 and SW1608. QTLs on SSC2 and SSCX from this experiment were consistent with published results from the Western commercial lines.

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【题目】Quantitative trait loci for litter size and prenatal loss in a White Duroc × Chinese Erhualian resource population
【中文关键词】产仔数;死胎数;QTL;数量性状位点;猪
【英文关键词】litter size;pig;prenatal loss;quantitative trait loci
【中文摘要】本文在白色杜洛克X二花脸F2资源群体中进行了母猪产仔数QTL定位,测定了299头F2 母猪的总产仔数、产活仔数、产死胎数等产仔性状,全基因组扫描在SSC5定位到了5% 基因组显著水平影响产活仔数QTL,在SSC6、7、8和15定位到了建议水平总产仔数、产活仔数、产死胎数QTL。本研究对产仔性状的遗传机理研究及提高母猪产子数的遗传改良奠定了基础。
【英文摘要】To detect quantitative trait loci (QTL) for litter size related traits, the total number of born piglets (TNB), the number of born alive piglets (NBA), the number of stillborn piglets (NSB) and the number of mummies (NM) at the first parity were recorded in 299 F2 sows in a White Duroc × Chinese Erhualian intercross resource population. A whole genome scan was performed with 183 microsatellites distributed across 19 porcine chromosomes in the resource population, and the QTL analysis was performed with a least-squares method. A 5% genome-wide significant QTL was detected at 88 cM on pig chromosome (SSC) 15 for NBA, which also showed suggestive effect on TNB. In addition, four suggestive QTL were detected on SSC 6, 7, 8 and 15 for TNB, NBA or NSB. Two of the five QTL detected showed accordance with previous reports. No QTL was found for NM.
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【题目】Genome-wide QTL mapping for three traits related to teat number in a White Duroc × Erhualian pig resource population
【中文关键词】乳头数;QTL;F2 资源群体;猪
【英文关键词】teat number; QTL; F2 reource population; pig
【中文摘要】本研究在白色杜洛克X二花脸F2资源群体中定位了乳头数QTL,结果在SSC1, 3, 4, 5, 6, 7, 8 和12定位了11个基因组显著水平影响总乳头数QTL,同时本研究还揭示了左右乳头数不平行传递机理。
【英文摘要】BackgroundTeat number is an important fertility trait for pig production, reflecting the mothering ability of sows. It is also a discrete and often canalized trait presenting bilateral symmetry with minor differences between the two sides, providing a potential power to evaluate fluctuating asymmetry and developmental instability. The knowledge of its genetic control is still limited. In this study, a genome-wide scan was performed with 183 microsatellites covering the pig genome to identify quantitative trait loci (QTL) for three traits related to teat number including the total teat number (TTN), the teat number at the left (LTN) and right (RTN) sides in a large scale White Duroc × Erhualian resource population.ResultsA sex-average linkage map with a total length of 2350.3 cM and an average marker interval of 12.84 cM was constructed. Eleven genome-wide significant QTL for TTN were detected on 8 autosomes including pig chromosomes (SSC) 1, 3, 4, 5, 6, 7, 8 and 12. Six suggestive QTL for this trait were detected on SSC6, 9, 13, 14 and 16. Eight chromosomal regions each on SSC1, 3, 4, 5, 6, 7, 8 and 12 showed significant associations with LTN. These regions were also evidenced as significant QTL for RTN except for those on SSC6 and SSC8. The most significant QTL for the 3 traits were all located on SSC7. Erhualian alleles at most of the identified QTL had positive additive effects except for three QTL on SSC1 and SSC7, at which White Duroc alleles increased teat numbers. On SSC1, 6, 9, 13 and 16, significant dominance effects were observed on TTN, and predominant imprinting effect on TTN was only detected on SSC12.ConclusionThe results not only confirmed the QTL regions from previous experiments, but also identified five new QTL for the total teat number in swine. Minor differences between the QTL regions responsible for LTN and RTN were validated. Further fine mapping should be focused on consistently identified regions with small confidence intervals, such as those on SSC1, SSC7 and SSC12.
【语种】英文

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【题目】Evaluations of gonad development, spermatogenesis, semen characteristics, libido and serum testosterone levels in White Duroc × Chinese Erhualian crossbred boars
【中文关键词】公猪性腺发育;生精;性欲;血清睾酮浓度;公猪
【英文关键词】Boar Gonad Development;Spermatogenesis;Libido; Serum Testosterone Levels;boar
【中文摘要】本研究在白色杜洛克X二花脸F2资源群体中测定了60、90和300日龄三个阶段的公猪睾丸重、附睾重、生精小管直径。分析了各性状与公猪生精能力的关联性。本研究结果第一次在大规模公猪群体中分析了公猪繁殖器官的发育情况,并了解了繁殖器官的发育与公猪生精能力的关系。
【英文摘要】Chinese Erhualian pigs are known for prolificacy with distinct reproductive traits compared with Western commercial breeds. In this study, a four-generation intercross resource population was constructed using White Duroc boars and Chinese Erhualian sows as founder animals, and a total of 14 male reproductive traits were recorded in 411 F2/F3 boars including the testis and epididymis weights, the seminiferous tubular diameter and spermatogenesis at 60, 90 and 300 days of age, semen characteristics, serum testosterone concentration and libido level at 300 days of age. The White Duroc-Erhualian boars showed remarkable segregations in the traits measured except for the seminiferous tubular diameter and had high ratio (13.9%) of the abnormality of spermatogenesis, providing a good experimental population for detecting quantitative trait loci affecting these male reproductive traits. Furthermore, the correlations among nine male reproductive traits at 300 days of age indicated that the testis weight and the body weight were strongly correlated with the sperm production, supporting the two traits as important parameters for boar selection to increase sperm production and ultimately improve boar fertility. The libido level in the White Duroc-Erhualian boars that was evaluated by a new and easily recorded scoring system showed a significant correlation with serum testosterone concentration. Yet, both libido and serum testosterone concentration were not correlated with the sperm production. Results of this study provided new information on the male reproductive physiology and genetics in Chinese Erhualian and White Duroc boars.
【语种】英文
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【题目】Quantitative trait loci for porcine white blood cells and platelet-related traits in a White Duroc × Erhualian F2 resource population
【中文关键词】白细胞;血小板;猪;数量性状位点
【英文关键词】leucocyte;pigs;platelet;quantitative trait loci
【中文摘要】本研究在白色杜洛克X二花脸F2 资源群体中定位了白细胞和血小板性状的QTL,结果共定位到了33个影响这些性状的QTL,其中8个QTL达基因组显著水平。本研究结果对了解影响白细胞和血小板数量的遗传机制具有重要意义。
【英文摘要】White blood cell count and platelets are implicated as risk factors for common complex diseases. Genetic factors substantially affect these traits in humans and mice. However, little is known about the genetic architecture of these traits in pigs. To identify quantitative trait loci (QTL) for leucocyte- and platelet-related traits in pigs, the total leucocyte number and differential leucocyte counts including the fraction of basophils, eosinophils, lymphocytes, monocytes, neutrophils, and a series of platelet parameters including platelet count, mean platelet volume, platelet distribution width and plateletcrit were measured in 1033 F(2) animals on 240 days from a White Duroc x Erhualian intercross resource population. A total of 183 informative microsatellites distributed across 19 pig chromosomes (SSC) were genotyped across the entire resource population. Thirty-three QTL were identified

for the examined traits, including eight genome-wide significant QTL for white blood cells and differential leucocyte counts on SSC2, 7, 8, 12 and 15 and six significant QTL for platelet-related traits on SSC2, 8, 13 and X. Erhualian or White Duroc alleles were not systematically associated with increased phenotypic values. These results not only confirmed many QTL identified previously in the mouse and swine, but also revealed a number of novel QTL for the traits recorded. Moreover, it is the first time that QTL for platelet-related traits in pigs have been reported.

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【题目】A linkage map of the porcine genome from a large-scale White Duroc × Erhualian resource population and evaluation of factors affecting recombination rates
【中文关键词】交叉;遗传标记;连锁图谱;猪
【英文关键词】crossover;genetic marker;linkage map;pig
【中文摘要】本研究利用分布于全基因组的194个多态微卫星标记,在白色杜洛克X二花脸F2 资源群体中构建了猪遗传图谱,结果显示猪性别平均遗传图谱长度为2344.9 cM,重组率存在显著的性别间差异,同时发现年龄和胎次对重组率影响不显著。
【英文摘要】A porcine genome linkage map composed of 194 microsatellite markers was constructed with a large-scale White Duroc x Erhualian resource population. The marker order on this linkage map was consistent with the USDA-MARC reference map except for two markers on SSC3, two markers on SSC13 and two markers on SSCX. The length of the sex-averaged map (2344.9 cM) was nearly the same as that of the USDA-MARC and NIAI map. Highly significant heterogeneity in recombination rates between sexes was observed. Except for SSC1 and SSC13, the female autosomes had higher average recombination rates than the male autosomes. Moreover, recombination rates in the pseudoautosomal region were greater in males than in females. These observations are consistent with those of previous reports. The recombination rates on each paternal and maternal chromosome of F(2) animals were calculated. Recombination rates were not significantly affected by the age (in days) or parity of the F(1) animals. However, recombination rates on paternal chromosomes were affected by the mating season of the F(1) animals. This could represent an effect of environmental temperature on spermatogenesis.
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【学科分类】畜牧学

【题目】催乳素(PRL)和催乳素受体(PRLR)基因在白色杜洛克×二花脸F2资源群体中的遗传变异及其与母猪杀婴行为和产仔数的关联性
【中文关键词】PRLR 基因;PRL 基因;杀婴行为;产仔数
【英文关键词】PRLR; PRL; maternal infanticide; litter size traits
【中文摘要】【目的】研究PRL、PRLR 基因在白色杜洛克×二花脸F2 资源群体中的遗传变异及其与母猪杀婴行为和产仔数的关联性。【方法】PRL 基因的g.1317T>A、g.8905C>T、g.9056C>T 位点,PRLR 基因的g.1217C>T、g.1283C>A、g.1439G>A、g.1528G>A 和g.1600T>A 位点采用SNaPshot 法对资源群体所有F0、F1和288 头F2母猪进行基因型判定,分别利用传递不平衡检测(TDT)和最小二乘法分析这些位点与母猪杀婴行为和产仔性状的关联性。【结果】TDT 分析发现,PRL 和PRLR 基因所有检测SNP 位点,无论基因型还是单倍型均与母猪杀婴行为无显著相关。与母猪产仔数相关性分析表明:PRLR 基因 5 个SNP 位点的基因型及单倍型与总产仔数、产活仔数、产死胎数、断奶仔猪数和断奶窝重均未达到显著相

关;PRL 基因的3 个SNP 位点与母猪的总产仔数和产活仔数达到显著相关(P <0.05),单倍型ACC 个体的总产仔数(P = 0.0005)和产活仔数(P = 0.001)极显著低于其它单倍型个体;单倍型TTT 个体的产活仔数显著高于其它单倍型个体(P = 0.003)。【结论】白色杜洛克×二花脸F2 资源群体中,PRL、PRLR 基因与母猪杀婴行为无关联性,PRL 基因与母猪总产仔、产活仔数显著相关。

【英文摘要】【Objective】 The aim of the experiment is to investigate the genetic variation of porcine prolactin (PRL) andprolactin receptor (PRLR) gene and its association with sow maternal infanticide behavior and litter size in a White Doruc × ErhulianF2 resource population.【Method】 g.1317T>A, g.8905C>T and g.9056C>T of PRL gene and g.1217C>T, g.1283C>A, g.1439G>A, g.1528G>A and g.1600T>A of PRLR gene were genotyped by SNaPshot in the F0, F1 individuals and 288 F2 sows. Theassociation of these SNPs with sow maternal infanticide behavior and litter size was studied by transmission disequilibrium test(TDT) and least square method, respectively. 【Result】 The results of TDT analysis showed that neither alleles nor haplotypes havesignificant associations with maternal infanticide behavior in all genotyped SNP loci of PRL and PRLR gene. The results ofassociation study with litter size showed that there were no significant associations of genotypes and haplotypes of five SNPs ofPRLR gene with total number born (TNB), number born alive (NBA), number still born (NBS), weaning number (WN) and weaninglitter weight (WLW). But to PRL gene, three SNPs genotypes showed significant associations with TNB and NBA (P<0.05).Individuals with haplotype ACC had extremely significant lower TNB (P = 0.0005) and NBA (P =0.001) than those with otherhaplotypes. TTT individuals had significant higher NBA than those of other haplotypes (P = 0.003). 【Conclusion】 PRL and PRLRgene had no significant associations with maternal infanticide behavior, but PRL gene significantly associated with TNB and NBA inthe White Doruc × Erhulian F2 resource population.

【语种】英文

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【学科分类】畜牧学

【题目】Mapping and Molecular Characterization of Porcine Progesterone Receptor Membrane Component 2 (PGRMC2) gene

【中文关键词】表达量;分子特征;物理图谱

【英文关键词】expression profile, molecular characterization, physical mapping

【中文摘要】本研究分离了猪PGRMC2基因全长DNA和cDNA序列,发现在猪中存在PGRMC2基因的两种转录本,分析了PGRMC2基因在猪12种组织的表达谱,搜寻了基因的SNP。本文报道的结果对了解PGRMC2基因的结构和功能具有重要意义。

【英文摘要】Progesterone plays an important role in sow reproduction by stimulating classic genomic pathways via nuclear receptors and non-genomic pathways via membrane receptors such a progesterone receptor membrane component 2 (PGRMC2). In this work, we used radiation hybrid mapping to assign PGRMC2 to pig chromosome 8 and observed that this receptor has two transcripts in pigs. The full-length cDNA of the large transcript is 1858 bp long and contains a 669-bp open reading frame (ORF) encoding a protein of 223 amino acids. The shorter transcript encodes a protein of 170 amino acids. The porcine PGRMC2 gene consists of three exons 446 bp, 156 bp and 1259 bp in length. The promoter sequence is GC-rich and lacks a typical TATA box. Several putative cis-regulatory DNA motifs were identified in the 208-bp upstream genomic region. Five single nucleotide polymorphisms (SNPs) were detected in introns* and the 3' UTR. RT-PCR indicated that the PGRMC2 gene is expressed ubiquitously in all pig tissues examined.

【语种】英文

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【学科分类】畜牧学

【题目】A whole genome scan to detect quantitative trait loci for gestation length and sow maternal ability related traits in a White Duroc × Erhualian F2 resource population

【中文关键词】妊娠长度;母性相关性状;QTL;资源群体

【英文关键词】gestation length; maternal ability related traits; QTL; resource population

【中文摘要】本文在200头母猪中分析了产仔数与母猪妊娠长度的关系,进行了母猪妊娠期长度和母性能力的QTL定位。结果发现母猪的妊娠期长度和总产仔数显著相关。在SSC2、8和12定位到了影响妊娠期长度的QTL,其中SSC2上的QTL达基因组显著水平。在SSC3、8和13定位到了建议水平影响母性能力的QTL。本文研究结果对了解母猪妊娠期和母性能力的遗传基础具有重要意义。

【英文摘要】Gestation length and maternal ability are important to improve the sow reproduction efficiency and their offspring survival. To map quantitative trait loci (QTL) for gestation length and maternal ability related traits including piglet survival rate and average body weight of piglets at weaning, more than 200 F2 sows from a White Duroc × Erhualian resource population were phenotyped. A genome-wide scan was performed with 194 microsatellite markers covering the whole pig genome. QTL analysis was carried out using a composite regression interval mapping method via QTL express. The results showed that total number of born piglets was significantly correlated with gestation length ($r = -0.13$, $P < 0.05$). Three QTL were detected on pig chromosome (SSC)2, 8 and 12 for gestation length. The QTL on SSC2 achieved the 5% genome-wide significant level and the QTL on SSC8 was consistent with previous reports. Four suggestive QTL were identified for maternal ability related traits including 1 QTL for survival rate of piglets at weaning on SSC8, 3 QTL for average body weight of piglet at weaning on SSC3, 11 and 13.

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【学科分类】畜牧学

【题目】Isolation and molecular characterization of the porcine SLC6A14 gene excludes it as a candidate gene for fat deposition and growth

【中文关键词】关联性;生长和肥育;分子特征;猪;SLC6A14.

【英文关键词】association, growth and fatness, molecular characterization, pig, SLC6A14.

【中文摘要】本文分离了猪SLC6A14基因的全长DNA和cDNA序列,分析了SLC6A14基因在猪各组织中的表达量,搜寻了该基因的SNP,分析了SNP与猪出生重、46日龄重、210日龄重和240日龄重的关联性,本研究结果对了解SLC6A14基因的结构和功能具有重要意义。

【英文摘要】The gene encoding solute carrier family 6 member 14 (SLC6A14) has been considered as a candidate gene affecting human obesity. In this study, full-length cDNA (2237 bp) and DNA sequence (24 541 bp) of the porcine SLC6A14 gene were isolated. The porcine SLC6A14 cDNA contains a 5’-untranslated region of 57 bp, a 3’-untranslated region of 254 bp, and an open reading frame of 1926 bp, encoding a deduced protein of 642 amino acids with a molecular mass of 72. 475 kDa and an isoelectric point of 7.82. The genomic structure of the porcine SLC6A14 gene is similar to mammalian orthologs, particularly in terms of exon size and exon/intron boundaries. It comprises 14 exons and 13 introns. A semi-quantitative RT-PCR showed that the porcine SLC6A14 mRNA expression was tissue-specific. Four SLC6A14 single-nucleotide polymorphisms (SNPs) were identified, and 3 informative SNPs were chosen for genotyping in a White Duroc × Erhualian resource population with phenotype data of growth and fatness traits. The association analysis showed that the c.1438 G>A nonsynonymous polymorphism was associated with birth weight and 21-day body weight ($P < 0.05$), while g.7944 A>T was associated with 46-day body weight. Linkage and radiation hybrid mapping assigned SLC6A14 to a region around SW1522 on SSCXp13, which did not fall in the confidence interval of the quantitative trait locus (QTL) for growth and fatness traits on SSCX in the resource population. These results indicate that SLC6A14 is not a positional candidate gene for the QTL affecting fatness and growth traits in pigs.

【语种】英文

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【学科分类】畜牧学

【题目】A genome scan for quantitative trait loci affecting the length of small intestine in a White Duroc × Chinese Erhualian intercross resource population. Journal of Animal Breeding and Genetics
【中文关键词】长度;猪;数量性状位点;小肠
【英文关键词】Length;pig;quantitative trait loci;small intestine
【中文摘要】小肠是重要的消化器官,本文在1034头白色杜洛克X二花脸F2个体中测定了小肠长度,利用194个多态微卫星标记进行全基因组扫描和QTL定位,结果在8条染色体共定位了10个影响小肠长度的QTL,其中 SSC2, 4, 7 和8上的QTL达1% 基因组显著水平,在SSC5, 7, 13 和14上的5个QTL达5% 基因组显著水平。本研究结果对了解小肠长度的遗传机制具有重要的科学意义。
【英文摘要】The small intestine is a vital organ in animal gastrointestinal system, in which a large variety of nutrients are absorbed. To identify quantitative trait loci (QTL) for the length of porcine small intestine, phenotypic values were measured in 1034 individuals at 240 d from a White Duroc x Chinese Erhualian intercross F(2) population. The length of small intestine showed strong correlation with growth traits and carcass length in the F2 population. A whole-genome scan was performed based on 183 microsatellites covering the pig genome in the F(2) population. A total of 10 QTL for this trait were identified on 8 pig chromosomes (SSC), including four 1% genome-wide significant QTL on SSC2, 4, 7 and 8, one 5% genome-wide significant QTL on SSC12, and five 5% chromosome-wide significant QTL on SSC5, 7, 13 and 14. The Erhualian alleles were generally associated with shorter length of the small intestine except the alleles on SSC7 and 13. The QTL on SSC4 overlapped with the previously reported QTL for the length of small intestine. Several significant QTL on SSC2, 8, and 12 were consistent with previous reports. The significant QTL detected on SSC7 was reported for the first time. All QTL identified in this study corresponded to the known region significantly associated with growth traits, supporting the important role of the length of small intestine in pig growth.
【语种】英文
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【题目】A 6-bp deletion in the TYRP1 gene causes the brown colouration phenotype in Chinese indigenous pigs
【中文关键词】因果突变;毛色;全基因组关联;猪;TYRP1
【英文关键词】causal mutation, coat colour, genome-wide association, pig, TYRP1
【中文摘要】本文是国际上首次应用猪60KSNP芯片进行全基因组关联分析,分析藏猪、大河猪和可乐猪红毛的遗传机制,结果发现TYRP1基因的一个6-bp的缺失突变是导致中国地方猪种红毛表型的因果突变。本文的研究结果对了解中国地方猪种毛色表型的遗传机理具有重要意义,对中国地方猪种的开发利用也具有一定的意义。
【英文摘要】Brown coat colour has been described in Chinese-Tibetan, Kele, and Dahe pigs. Here, we report the identification of a causal mutation underlying the brown colouration. We performed a genome-wide association study (GWAS) on Tibetan and Kele pigs, and found that brown colours in Chinese breeds are controlled by a single locus on pig chromosome 1. By using a haplotype-sharing analysis, we refined the critical region to a 1.5-Mb interval that encompasses only one pigmentation gene: tyrosinase-related protein 1 (TYRP1). Mutation screens of sequence variants in the coding region of TYRP1 revealed a strong candidate causative mutation (c.1484_1489del). The protein-altering deletion showed complete association with the brown colouration across Chinese-Tibetan, Kele, and Dahe breeds by occurring exclusively in brown pigs (n=121) and lacking in all non-brown-coated pigs (n=745) from 27 different breeds. The findings provide the compelling evidence that brown colours in Chinese indigenous pigs are caused by the same ancestral mutation in TYRP1. To our knowledge, this study gives the first description of GWAS identifying causal mutation

for a monogenic trait in the domestic pig.
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【学科分类】畜牧学

【题目】Correlations between fat depot traits and fatty acid composition in abdominal subcutaneous adipose tissue and longissimus muscle: results from a White Duroc × Erhualian intercross F2 population.
【中文关键词】腹脂;关联性;脂肪沉积;脂肪酸组成;背最长肌;猪
【英文关键词】abdominal subcutaneous adipose tissue, correlation, fat depot trait, fatty acid composition, longissimus muscle, pig
【中文摘要】研究猪肉的脂肪酸组成具有重要的意义,本研究在639F2个体中分析了腹脂、背最长肌中脂肪酸的组成与脂肪沉积的关系。结果发现更肥的猪中具有更高比率的SFA 、 MUFA脂肪酸含量和更低的PUFA脂肪酸含量。
【英文摘要】The aim of this study was to quantify the partial correlation coefficients (r(p)) between fat depot traits (FDT) and the fatty acid composition of abdominal subcutaneous adipose tissue and LM intramuscular fat in 639 F(2) pigs derived from a White Duroc × Chinese Erhualian cross. Fat depot traits are classified into 2 groups: 1 is adipose tissues (abdominal subcutaneous adipose tissue weight, mesenteric adipose tissue weight, perirenal adipose tissue weight, and backfat thickness at 4 locations); the other is LM [intramuscular fat content (IMF) and marbling score]. Correlations of FDT within classification groups were markedly greater ($P < 0.001$) than those observed between the 2 groups ($r(p) = 0.62$ vs. 0.26), indicating variability in fat content of muscle is relatively independent of amount of carcass fat. In general, fatter pigs had greater ($P < 0.05$) proportions of SFA and MUFA, and less PUFA, than leaner pigs. However, the relationships of individual fatty acids with FDT varied. We found that the amounts of some fatty acids regarded as neutral (e.g., stearic acid) or beneficial (e.g., palmitoleic acid and linolenic acid) for human health were associated with smaller amount of adipose tissues, or merely with greater IMF ($P < 0.05$). Therefore, we conclude that increasing the proportions of these neutral or healthy fatty acids can be achieved without reducing the IMF of LM, which is positively related to eating quality.
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【第一作者】杨凯旋
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【题目】High throughput analyses of epistasis for swine body dimensions and organ weights
【中文关键词】体尺;上位效应;高通量;器官大小;猪;QTL
【英文关键词】body dimension;epistasis;high-throughput;organ weight;pig;QTL
【中文摘要】对复杂性状,其遗传机理不仅受微效多基因影响,而且受基因与基因之间的互作影响。本研究分析了17个体尺和器官大小性状的上位QTL。本研究结果对了解复杂性状的遗传机理具有重要意义。
【英文摘要】High throughput analyses were performed to detect epistatic QTL in 17 body dimension and organ weight traits from a large F(2) pig population derived from a White Duroc and Erhualian intercross. The analyses used a nested test framework to handle multiple tests and a combined search algorithm to map epistatic QTL with empirical genome-wide thresholds derived via prior permutation. Alternative statistical models (e.g. including vs. excluding carcass weight as a covariate) were tested to develop an in-depth understanding of the role of epistasis in these kinds of traits. Epistasis signals were detected in only two or three traits under each statistical model studied. The interaction component of each pair of epistatic QTL explained a small proportion (0.7 to 2.1%) of the phenotypic variance in general. About half of the detected epistatic QTL pairs involved one of the two major QTL on porcine chromosomes 7 and 4. In those traits, the Erhualian allele consistently increased the phenotypes for the chromosome 7 QTL but

decreased them for the chromosome 4 QTL. Models including carcass weight as covariate detected epistasis in body dimension traits whereas those excluding carcass weight found epistasis in organ weight traits. In addition, the epistasis results suggested that a QTL on chromosome 14 could be important for a number of organ weight traits. Using the high-throughput analysis tool to examine different statistical models was essential for the generation of a complete picture of epistasis in a whole category of traits.
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【题目】The porcine MUC20 gene: molecular characterization and its association with susceptibility to enterotoxigenic Escherichia coli F4ab/ac
【中文关键词】猪;MUC20;易感性;大肠杆菌F4ab/ac
【英文关键词】Pig; MUC20; Susceptibility; ETEC F4ab/ac
【中文摘要】本文分离了猪MUC20基因的全长DNA和cDNA序列,分析了MUC20基因在猪各组织中的表达量,搜寻了该基因的SNP,分析了SNP与与仔猪断奶前大肠杆菌F4腹泻的易感性的关联性,本研究结果对了解MUC20基因的结构和功能具有重要意义。
【英文摘要】Enterotoxigenic Eschoerchia coli (ETEC) F4 is a major cause of diarrhea in neonatal and young pigs. The locus encoding intestinal receptor for ETEC F4ab/ac has been mapped to pig chromosome (SSC) 13q41. We previously assigned mucin 20 (MUC20) to SSC13q41 and considered it a candidate for the ETEC F4ab/ac receptor. In this study, the full-length mRNA sequence of the porcine MUC20 gene was determined, revealing two MUC20 alternative transcripts differing in an 18-bp deletion in the open reading frame (ORF). The longer isoform is 1,927-bp long and contains a 1,572-bp ORF encoding a protein of 523 amino acids. RT-PCR analysis showed that MUC20 mRNA was expressed most highly in the kidney, prostate, epididymis and bladder. Seven single nucleotide polymorphisms in MUC20 were identified in founder animals of a White Duroc × Erhualian cross, and the entire cross population (n = 842) was genotyped for two MUC20 polymorphisms: g.191C>T in intron 5 and c.1600C>T in exon 6. The transmission disequilibrium test (TDT) results revealed that both polymorphisms were significantly associated with in vitro ETEC F4ab/ac adhesion phenotypes in the intercross population, and the most significant association was found between g.191C>T and F4ac adhesion phenotype (P = 1.02 × 10(-9)).
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【题目】Association and Haplotype Analysis of Positional Candidate Genes in Five QTL Regions Linked to Sow Maternal Infanticide in a White Duroc × Erhualian Resource Population
【中文关键词】母性杀婴行为;候选基因;F2资源群体
【英文关键词】Maternal infanticide; candidate gene; Sow; F2 resource population
【中文摘要】本研究在白色杜洛克X二花脸F2 资源群体中分析了母猪杀婴行为QTL区域内5个候选基因与母猪杀婴行为的关联性,结果发现EAAT2、ESR2等基因与母猪杀婴行为显著关联。本研究结果对进一步分析母猪杀婴行为的因果基因具有重要意义,为母性好母猪的培育奠定了基础。
【英文摘要】BACKGROUND:Maternal infanticide is an extreme and failed maternal behavior, which is defined as an active attack on piglets using the jaws, resulting in serious or fatal bite wounds. It brings big economic loss to the pig industry and severe problems to piglets' welfare. But little is known about the genetic background of this behavior. Quantitative trait loci (QTL) for maternal infanticide

were identified in a White Duroc × Erhualian intercross by a non-parametric linkage analysis (NPL) in our previous study. In this study, associations of 194 microsatellite markers used in NPL analysis with maternal infanticide behavior were further analyzed by transmission-disequilibrium test (TDT). On this basis, seven genes (ESR2, EAAT2, BDNF, OXTR, 5-HTR2C, DRD1 and GABRA6) at five genomic regions were selected and further analyzed. Associations of single nucleotide polymorphisms (SNPs) and haplotypes in each gene with maternal infanticide behavior were evaluated.RESULTS:Microsatellite markers on pig chromosome (SSC) 2, 13, 15, and X displayed significance at P < 0.05 by both TDT and NPL. Of the seven candidate genes, three ESR2 SNPs had nominal evidence for association (P < 0.05). Allele A at EAAT2 g. 233G > A and allele T at DRD1 g.1013C > G > T also showed evidence of overtransmission to infanticidal sows. In the overall tests of association of haplotypes, candidate genes of ESR2, EAAT2 and DRD1 achieved overall significance level (P < 0.05). Haplotype [A; A; G], [G; A; G], [A; G; G] and [C; C], respectively, from ESR2, EAAT2 and DRD1 showed higher frequencies to infanticidal sows (P < 0.05). Alleles among haplotypes and SNPs which showed an overtransmission to infanticidal sows were from White Duroc.CONCLUSIONS:From association tests of SNPs and haplotypes, ESR2, EAAT2 and DRD1 showed significant associations with maternal infanticide. This result supported the existence of QTL for maternal infanticide behavior on SSC1, SSC2 and SSC16.

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【学科分类】畜牧学

【题目】Recombinational landscape of porcine X chromosome and individual variation in female meiotic recombination associated with haplotypes of Chinese pigs

【中文关键词】重组率;单倍型;X染色体;猪

【英文关键词】recombination fraction;haplotype; x chromosome; pig

【中文摘要】本文通过利用细胞遗传图谱、放射性杂交图谱、遗传图谱、X染色体克隆图谱和人X染色体物理图谱的比对,确定了猪X染色体60个标记的最可能位置顺序,发现X染色体平均重组率为1.27 cM/Mb,发现从X染色体中心粒到 Xq21几乎没有重组发生等等。本文首次分析了重组变异与单倍型多态的关系。

【英文摘要】BACKGROUND:Variations in recombination fraction (theta) among chromosomal regions, individuals and families have been observed and have an important impact on quantitative trait loci (QTL) mapping studies. Such variations on porcine chromosome X (SSC-X) and on other mammalian chromosome X are rarely explored. The emerging assembly of pig sequence provides exact physical location of many markers, facilitating the study of a fine-scale recombination landscape of the pig genome by comparing a clone-based physical map to a genetic map. Using large offspring of F1 females from two large-scale resource populations (Large White male symbol x Chinese Meishan female symbol, and White Duroc male symbol x Chinese Erhualian female symbol), we were able to evaluate the heterogeneity in theta for a specific interval among individual F1 females.RESULTS:Alignments between the cytogenetic map, radiation hybrid (RH) map, genetic maps and clone map of SSC-X with the physical map of human chromosome X (HSA-X) are presented. The most likely order of 60 markers on SSC-X is inferred. The average recombination rate across SSC-X is of approximately 1.27 cM/Mb. However, almost no recombination occurred in a large region of approximately 31 Mb extending from the centromere to Xq21, whereas in the surrounding regions and in the Xq telomeric region a recombination rate of 2.8-3.3 cM/Mb was observed, more than twice the chromosome-wide average rate. Significant differences in theta among F1 females within each population were observed for several chromosomal intervals. The largest variation was observed in both populations in the interval UMNP71-SW1943, or more precisely in the subinterval UMNP891-UMNP93. The individual variation in theta over this subinterval was found associated with F1 females' maternal haplotypes (Chinese pig haplotypes) and independent of paternal haplotype (European pig haplotypes). The theta between UMNP891 and UMNP93 for haplotype 1122 and 4311 differed by more than fourteen-fold (10.3% vs. 0.7%).CONCLUSIONS:This study reveals marked regional, individual and haplotype-specific differences in recombination rate on SSC-X. Lack of recombination in such a large region makes it impossible to narrow QTL interval using traditional fine-mapping approaches. The relationship between recombination variation and haplotype polymorphism is shown for the first time in pigs.

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【题目】Investigation on in vitro adhesion phenotypes of ETEC strains expressing K99, 987P and F41 fimbriae in pigs of 15 Chinese and Western breeds and a White Duroc × Erhualian intercross
【中文关键词】黏附表型;产肠毒素大肠杆菌;K99; F41;猪
【英文关键词】adhesion phenotypes; enterotoxigenic Escherichia coli; K99; F41; pig
【中文摘要】本文在3个西方商业猪种和12个中国地方猪种6-8周龄的仔猪中系统分析了大肠杆菌 K99(F5), 987P(F6)和F41(F7)黏附表型,发现大多数纯种或杂交仔猪无ETEC K99 和987P菌株的黏附表型,34.9%的纯种仔猪存在F41黏附 表型,65.1%则不存在,和中国地方猪种相比,西方猪种中存在显著高比率的F41黏附表型。本文的研究结果对仔猪断奶前腹泻发生原因和 病理机制具有重要的指导作用。
【英文摘要】OBJECTIVE:To investigate adhesion phenotypes of pigs of Chinese and Western breeds and a specific crossbreed with regard to enterotoxigenic Escherichia coli (ETEC) with fimbrial adhesins K99 (F5), 987P (F6), and F41 (F7).ANIMALS:Purebred 6- to 8-week-old pigs of 3 Western breeds introduced into China (n = 144) and 12 Chinese breeds (148) and 1,330 adult White Duroc-Erhualian crossbred pigs.PROCEDURES:Brush border preparations were prepared from jejunal specimens collected from each pig following euthanasia. Each preparation was incubated with ETEC strains that had fimbrial adhesins K99, 987R or F41; an ETEC K88(-) strain was used as a negative control sample. The mean number of brush border-bound bacteria in aliquots of the bacteria-brush border suspensions (determined via phase-contrast microscopy) was used to determine each pig's adhesion phenotype for ETEC K99, 987R and F41 strains; the phenotype was classified as adhesive (susceptible) if ≥ 10% of examined brush borders bound > 2 bacteria.RESULTS:Most purebred and crossbred pigs had nonadhesive phenotypes with regard to ETEC K99 and 987P strains. For the F41 strain, 34.9% and 65.1% of all purebred pigs had adhesive and nonadhesive phenotypes, respectively; among crossbred pigs, these values were 39.2% and 60.8%, respectively. The percentage of pigs with the F41 adhesive phenotype was higher among Western breeds than it was among Chinese breeds (38.9% vs 31.1%).CONCLUSIONS AND CLINICAL RELEVANCE:Results suggested that the ETEC F41 strain, but not the K99 or 987P strain, might be a cause of diarrhea in 6- to 8-week-old pigs in China.
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【题目】Selection and characterization of a novel glyphosate tolerant upland cotton (Gossypium hirsutum L.) mutant (R1098)
【中文关键词】Selection and characterization of a novel glyphosate tolerant upland cotton (Gossypium hirsutum L.) mutant (R1098)
【英文关键词】Selection and characterization of a novel glyphosate tolerant upland cotton (Gossypium hirsutum L.) mutant (R1098)
【中文摘要】Selection and characterization of a novel glyphosate tolerant upland cotton (Gossypium hirsutum L.) mutant (R1098)
【英文摘要】Selection and characterization of a novel glyphosate tolerant upland cotton (Gossypium hirsutum L.) mutant (R1098)
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【第一作者】X. H. TONG
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【学科分类】农业基础学科

【题目】Morphological characters, inheritance and response to exogenous hormones of a cotton super-dwarf mutant of Gossypium hirsutum
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【英文关键词】Morphological characters, inheritance and response to exogenous hormones of a cotton super-dwarf mutant of Gossypium hirsutum
【中文摘要】Morphological characters, inheritance and response to exogenous hormones of a cotton super-dwarf mutant of Gossypium hirsutum
【英文摘要】Morphological characters, inheritance and response to exogenous hormones of a cotton super-dwarf mutant of Gossypium hirsutum
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【学科分类】农业基础学科

【题目】浙江居民毒死蜱和氯氰菊酯的长期膳食暴露与风险评估
【中文关键词】膳食暴露;风险评估;毒死蜱;氯氰菊酯;残留;浙江省
【英文关键词】dietary exposure;risk assessment;chlorpyrifos;cypermethrin;residue;Zhejiang province
【中文摘要】基于2007- 2008年浙江省市场销售农产品中毒死蜱和氯氰菊酯残留的监测数据及浙江不同人群的各类食物摄入量和体重数据, 采用分布点评估的方法, 评估了浙江省20个不同年龄、性别组人群毒死蜱和氯氰菊酯的长期膳食暴露风险水平。结果表明, 浙江省不同年龄、性别组人群毒死蜱长期膳食暴露带来的慢性风险仍控制在较低水平范围内, 只有当长期食用毒死蜱残留超过监测资料中的99th百分位点值(蔬菜、水果和大米分别为0.395, 0.165和0. 011m g /kg)的食物时, 才可能产生不可接受的较大风险。而氯氰菊酯的膳食暴露风险更低, 即使长期持续食用的果蔬产品中氯氰菊酯残留都达到监测资料中的最大残留值(蔬菜和水果分别为1. 830和0. 519 mg /kg), 其膳食暴露风险仍属于可接受水平。对膳食暴露的贡献率分析结果显示, 蔬菜类食品仍是浙江居民毒死蜱和氯氰菊酯膳食暴露的主要来源, 控制蔬菜[特别是青菜(g reeng rocery)、芹菜(ce lery)和白菜(Ch inese cabbage)]中毒死蜱和氯氰菊酯残留是降低这2种农药膳食暴露风险的关键。
【英文摘要】Based on the monitoring data of chlorpyrifos and cypermethrin residue in agricultural products in 2007-2008, the intake of varieties of foods and body weight of different population in Zhejiang Province, the long-term dietary exposure risk levels of chlorpyrifos and cypermethrin in 20 different age and sex groups are estimated with the distribution point estimation method. The result showed that the chronic risk level of chlorpyrifos is much low for different age and sex groups in Zhejiang, and the unacceptable risk would be resulted only when the residue exceeding 99th percentile of the monitoring data (vegetable, fruit and rice is 0.395, 0.165 and 0.011 mg/kg, respectively) in long time. The risk level of cypermethrin is lower than chlorpyrifos, and acceptable even the residue of the great mass of his food arrived at maximum of the monitoring data (vegetable and fruit is 1.830 and 0.519 mg/kg, respectively). Vegetable is shown to be main source of dietary exposure of chlorpyrifos and cypermethrin for the residents in Zhejiang province, and the key point to decrease the exposure is to control the residue of chlorpyrifos and cypermethrin in vegetables (especially in greengrocery, celery and Chinese cabbage).
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【题目】三唑磷在稻米中的残留及其加工影响与膳食暴露评估
【中文关键词】三唑磷; 稻米; 残留; 加工; 暴露评估; 风险商
【英文关键词】triazophos; rice; residue; processing; dietary exposure assessment; risk quotient
【中文摘要】采用田间喷药、室内模拟加工和气相色谱检测的方法,研究三唑磷在稻米中的残留,蒸煮的影响及其膳食暴露评估。研究结果表明,三唑磷在稻米中的残留量与喷药剂量、次数和间隔期有关,如在推荐剂量时,三唑磷在糙米和精米中的残留量范围分别是0.020~0.214 mg/kg 和0.007~0.074 mg/kg; 而1.5 倍剂量时, 分别为0.041~1.404 mg/kg 和0.01~0.075 mg/kg。淘洗、电饭煲、微波炉和高压锅蒸煮能够降低稻米中三唑磷残留量,与糙米原料的残留量差异显著(p<0.05)。不同蒸煮方式间的影响差异性不显著(p>0.05)。一般是低龄人的膳食风险商高于年龄大的,男性膳食风险商范围为2.71%~68.24%,而女性为2.55%~71.67%。考虑到淘洗和蒸煮因素,风险商降低6.6%~34.1%。糙米中三唑磷残留量高于精米的, 各处理间隔期为60 d 时的残留量低于国家标准(0.05 mg/kg)。淘洗和蒸煮能够降低稻米中三唑磷残留量。通过稻米膳食摄入三唑磷的风险商在安全范围内。
【英文摘要】With the rice sprayed pesticides in field, processing stimulated in lab and detection by gas chromatography(GC-FPD), the residue of triazophos in brown rice and polished rice, the effects of processing and its dietary exposure assessment were studied. The results showed that the residue of triazophos in rice was related with the dose, time and interval. For the recommended dose,the range of triazophos in brown rice and polished rice was 0.020~0.214 mg/kgand 0.007~0.074 mg/kg, respectively; however, for the 1.5 times dose, which was 0.041~1.404 mg/kg and 0.01~0.075 mg/kg, respectively. The elutriating and steaming of rice cooker, microwave oven and autoclave could significantly reduce the residue of tirazophos in brown rice (p<0.05). The effect of different steaming methods on the residue of triazophos insteamed rice was no significant different(p>0.05). The risk quotient value was higher for the youth than for the old,and the max value was about 2.5 times for the min value. The range of risk quotient for the male and the female was 2.7%~68.2% and 2.6%~71.7%, respectively, which would be reduced about 6.6%~34.1%, taken into account of the factor ofelutriating and steaming. The conclusion is that the residue of triazophos in brown rice was higher than in polished rice,which was all below the MRL of 0.05 mg/kg when the pre-harvest interval is 60 d for different treatment, and the elutriating with steaming step could reduce the residue, the risk quotient of its dietary exposure was safe for all the consumers.
【语种】中文
【第一作者】袁玉伟
【通讯作者】袁玉伟
【期刊名称、卷期、页码】中国食品学报,2012(12):187-194
【论文发表时间】2012-04-07 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农学其他学科

【题目】模拟加工对菠菜中农药残留量及膳食暴露评估的影响
【中文关键词】毒死蜱; 氯氰菊酯; 氰戊菊酯; 菠菜加工; 农药残留; 暴露评估
【英文关键词】chlorpyrifos; cypermethrin; fenvalerate; spinach processing; dietary exposure assessment
【中文摘要】采用田间喷药、室内模拟加工和气相色谱检测方法,研究了水洗、漂烫和烘干处理对菠菜中毒死蜱、氯氰菊酯和氰戊菊酯残留量的影响。结果表明: 在田间推荐剂量下,当毒死蜱、氯氰菊酯和氰戊菊酯的有效成分用量分别为0.0388、0.001 和0.01 g /m2 时,经水洗和漂烫处理,菠菜中上述3 种农药的残留量分别降低22.6%、53.8% 和50.8%; 而加倍剂量处理时,则分别降低8.5%、61.4%和40.2%; 烘干处理对毒死蜱的去除作用大于50%,但对氯氰菊酯和氰戊菊酯的去除作用仅为10%左右。对新鲜菠菜和干制菠菜的农药残留量进行膳食暴露评估的结果表明,合理的加工方式可以降低农药膳食摄入估计量的62.1% ~ 76.7%。研究结果表明: 毒死蜱的残留受水洗和漂烫影响较小,受烘干影响较大; 而氯氰菊酯和氰戊菊酯的残留受水洗与漂烫影响较大,受烘干影响较小; 引入加工因子后膳食暴露评估结果更接近真实值。
【英文摘要】The effect of processing of spinach sprayed pesticides in field,processing stimulated in lab and detection by GC on the residues of chlorpyrifos,cypermethrin and fenvalerate and its dietary exposure assessment in spinach were studied. The results showed that washing and blanching step could reduce 22.6%,53. 8% and 50. 8%, respectively for the pesticides mentioned above with recommended dose used in field(which was 0. 0388 g /m2 for chlorpyrifos,0. 001 g /m2 for cpermethrin and 0. 01 g /m2 for

fenvalerate) ,and with double dose which was 8. 5%,61. 4% and 40. 2%,respectively. The air dry step could eliminate the residue above 50% for chlorpyrifos,however,about 10% for cypermethrin and fenvalerate.The dietary exposure assessment was carried out for the residue in the fresh spinach and the dry spinach,respectively,and the processing factor could reduce the dietary intake with the range from 62. 1% to 76.7%. The conclusion is that the loss of pesticide is less affected by washing and blanching,and more affected by dry for chlorpyrifos,however it is on the contrary for cypermethrin and fenvalerate. The dietary intake assessed with processing factor would be greatly reduced,near to the real intake.

【语种】中文

【第一作者】袁玉伟

【通讯作者】袁玉伟

【期刊名称、卷期、页码】农药学学报2011,13(2):186- 191

【论文发表时间】2011-12-02 00:00:00

【引文索引类型】其他

【引文索引号】null

【学科分类】农学其他学科

【题目】食品中农药残留的风险评估研究进展

【中文关键词】风险评估; 暴露评估; 农药残留; 食品

【英文关键词】risk assessment; exposure assessment; pesticide residue; food

【中文摘要】开展食品中农药残留的风险评估有助于食品安全的风险管理、风险交流和消费者健康。文章综述了欧盟、美国和日本及国际组织有关风险评估的法规基础、评估类型和应用软件研究的最新进展,比较分析了各自的优势与不足。并针对我国风险评估的现状,提出加强职能部门协调、开展风险评估的基础研究和建立相关数据库等建议,为我国食品中农药残留的风险评估提供借鉴。

【英文摘要】Risk assessment for pesticide residue in foods is confirmed to be useful for risk management,risk communication and consumer health. The regulations,types and softwares of risk assessment in EU,USA,Japan and other international organization were reviewed. The advantages and disadvantages of each method were also discussed.Based on the current situation of risk assessment in China,some suggestions were proposed to strengthen the coordination among different regulatory agencies,the fundamental study of risk assessment was carried out,and the relevant database for risk assessment was established,which would provide a useful reference for China to carry out the risk assessment of pesticide residue in food.

【语种】中文

【第一作者】袁玉伟

【通讯作者】袁玉伟

【期刊名称、卷期、页码】浙江农业学报,2011,23(2) : 394 - 399

【论文发表时间】2011-02-07 00:00:00

【引文索引类型】其他

【引文索引号】null

【学科分类】农学其他学科

【题目】小作物农药登记管理研究

【中文关键词】小作物;分类;农药登记管理

【英文关键词】minor crops;classification;pesticide registration and administration

【中文摘要】研究了小作物概念及重要性,国外小作物分类及小作物用农药登记管理现状,指出了中国在此领域的现状与存在的差距,并提出了建议。

【英文摘要】This paper studied minor crops definition and its importance,status quo of minor crops classification and pesticide registration and administration on them outside China.The actuality and existing gap in this field in China as well as improvement suggestions were also addressed in this paper.

【语种】中文

【第一作者】宋稳成

【通讯作者】宋稳成

【期刊名称、卷期、页码】中国农学通报,2010,26(2):212-215

【论文发表时间】2010-02-02 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农学其他学科

【题目】Determination of pesticide residues in complex matrices using multi-walled carbonnanotubes as reversed-dispersive solid phase extraction sorbent
【中文关键词】无
【英文关键词】Complex matrices;GC-MS; Multi-walled carbon nanotubes;Pesticides multi-residue analysis
【中文摘要】无
【英文摘要】A modified quick, easy, cheap, effective, rugged and safe (QuEChERS) method with multiwalledcarbon nanotubes (MWCNTs) as a reversed-dispersive solid-phase extraction(r-DSPE) material combined with gas chromatography-mass spectrometry was developedfor the determination of 14 pesticides in complex matrices. Four vegetables (leek, onion,ginger and garlic) were selected as the complex matrices for validating this new method.This technique involved the acetonitrile-based sample preparation and MWCNTs wereused as the r-DSPE material in the cleanup step. Two important parameters influencingthe MWCNTs efficiency, the external diameters and the amount of MWCNTs used, wereinvestigated. Under the optimized conditions, recoveries of 78 – 110% were obtained forthe target analytes in the complex matrices at two concentration levels of 0.02 and 0.2 mg/kg. In addition, the RSD values ranged from 1 to 13%. LOQs and LODs for 14 pesticidesranged from 2 to 20 mg/kg and from 1 to 6 mg/kg, respectively.
【语种】英文
【第一作者】赵鹏月
【通讯作者】赵鹏月
【期刊名称、卷期、页码】J. Sep. Sci. 2012, 35, 153 – 158
【论文发表时间】2012-01-07 00:00:00
【引文索引类型】SCI
【引文索引号】10.1002/jssc.201100566.
【学科分类】农学其他学科

【题目】Simultaneous Determination of Chloroacetanilide Herbicide Residues in Crops with Gas Chromatography-Mass Spectrometry
【中文关键词】无
【英文关键词】Chloroacetanilide herbicides, pesticide, multiresidue, QuEChERS, gas chromatography-mass spectrometry
【中文摘要】无
【英文摘要】A rapid and sensitive method was developed for the simultaneous determination of eightchloroacetanilide herbicides in crops (soybean, rice, and wheat). Herbicides including alachlor,acetochlor, pretilachlor, butachlor, metolachlor, napropamide, diflufenican, and propanil were extracted from samples using a modified QuEChERS method. Acetonitrile containing 0.5% acetic acid was used as extraction solvent, and the extracts were analyzed by gaschromatography-mass spectrometry after being subjected to a simple clean-up procedure usingC18 sorbent instead of the primary – secondary amine (PSA). The average recoveries for all eight herbicides were higher than 80% with relative standard deviations lower than 9% in the spiked concentration range of 16~800 μg kg-1 and limits of detection (LODs) ranged from 1 to 4 μg kg-1. The method was applied to analyze some samples obtained from various sources (fields,markets, and families) and a lower residue level of chloroacetanilide herbicides in crops was found. The results showed that the new method is efficient, sensitive, and effective for monitoring residual chloroacetanilide herbicides in crops.
【语种】英文
【第一作者】邱静
【通讯作者】邱静
【期刊名称、卷期、页码】Der Pharma Chemica, 2010, 2(6): 349-357
【论文发表时间】2010-12-02 00:00:00
【引文索引类型】SCI
【引文索引号】ISSN 0975-413X

【学科分类】农学其他学科

【题目】Enantiomeric Separation of Triazole Fungicides with 3- μ m and 5- μ m Particle Chiral Columns by Reverse-Phase High-Performance Liquid Chromatography
【中文关键词】无
【英文关键词】enantiomeric separation; triazole fungicide; HPLC; CDMPC; elution order
【中文摘要】无
【英文摘要】This study used chiral columns packed with 3-lm and 5-lm particles to comparativelyseparate enantiomers of 9 triazole fungicides, and Lux Cellulose-1 columns with chiralstationary phase of cellulose-tris-(3,5-dimethylphenylcarbamate) were used on reverse-phasehigh-performance liquid chromatography with flow rates of 0.3 and 1.0 mL min21 for 3-lm and5-lm columns, respectively. The (1)-enantiomers of hexaconazole (1), tetraconazole (4),myclobutanil (7), fenbuconazole (8) and the (2)-enantiomers of flutriafol (2), diniconazole (3),epoxiconazole (5), penconazole (6), triadimefon (9) were firstly eluted from both columns, the elution orders identified with an optical rotation detector didn ' t change with variety of column particles and mobile phases (acetronitrile/water and methanol/water). The plots of natural logarithms of the selectivity factors (ln a) for all fungicides except penconazole (6) versus the inverse of temperature (1/T) were linear in range of 5 – 408C. The thermodynamic parameters (DH8, DS8, DDH8 and DDS8) were calculated using Van ' t Hoff equations to understand the thermosynamic driving forces for enantioseparation. This work will be very helpful to obtain good enantiomeric separation and establish more efficient analytical method for triazole fungicides.
【语种】英文
【第一作者】邱静
【通讯作者】邱静
【期刊名称、卷期、页码】CHIRALITY,2011,23:479 – 486
【论文发表时间】2011-04-19 00:00:00
【引文索引类型】SCI
【引文索引号】10.1002/chir.20950
【学科分类】农学其他学科

【题目】Stereoselective separation and determination of triadimefon and triadimenol in wheat, straw, and soil by liquid chromatography – tandem mass spectrometry
【中文关键词】无
【英文关键词】Enantioseparation;Environment ; LC-MS/MS ;Triadimefon;Triadimenol
【中文摘要】无
【英文摘要】A sensitive and rapid analytical method was developed for simultaneous determination of triadimefon (TF) and triadimenol (TN) stereoisomers in wheat, straw, and soil by liquid chromatography coupled with triple quadrupole mass spectrometry (LC-MS/MS). The direct enantioseparation of TF and TN was performed on a Lux cellulose-1 column packed with cellulose-tris-(3,5-dimethylphenylcarbamate). The effects of mobile-phase composition on the separation were investigated and stereoisomeric elution orders were confirmed with a polarimeter detector. The pesticides were extracted from samples with acetonitrile and cleaned up by solid-phase extraction or activated carbon. Based on the developed stereoselective LC-MS/MS method, for TF and TN stereoisomers, good linearities were obtained over the concentration range of 0.003-4 mg/L; recoveries were 84.2-102.7% in wheat, 84.0-104.0% in straw, and 85.2-106.8% in soil at spiked concentrations of 0.007-2.0 mg/kg; intra-day and inter-day assay precisions were below 12.2%. Limits of detection (LODs) and limits of quantification (LOQs) in wheat, straw, and soil were 0.001-0.005 mg/kg and 0.007-0.02 mg/kg, respectively. Finally, the method was successfully applied to detect TF and TN stereoisomers in wheat, straw, and soil samples from residual trials in farm.
【语种】英文
【第一作者】Hongwu Liang
【通讯作者】Hongwu Liang
【期刊名称、卷期、页码】J Sep Sci. 2012 Jan;35(1):166-73.
【论文发表时间】2011-12-21 00:00:00
【引文索引类型】SCI

【引文索引号】10.1002/jssc.201100365
【学科分类】农学其他学科

【题目】波浪条件下带底圈重力式网箱动力特性的试验研究
【中文关键词】底圈;重力式网箱;水动力特性;波浪
【英文关键词】Bottom ring; Gravity cages; Hydrodynamic characteristics; wave
【中文摘要】对带底圈重力式网箱在纯波浪作用下的锚绳受力进行了研究,获得了锚绳受力峰值及相位关系的基本规律。给出了这一形式下的锚绳受力经验公式,为网箱设计、选型提供参考。研究成果将有利于更深入地了解重力式网箱的水动力特性。
【英文摘要】With bottom ring gravity cages in pure wave action of the anchor rope stress was obtained by studying the anchor rope stress peak and the basic law of phase relationship. Given this form of the anchor rope stress experience formula for net cage design, selection provide reference. Research results will contribute to a better understanding of the gravity cages of water dynamic characteristics.
【语种】中文
【第一作者】桂福坤
【通讯作者】桂福坤
【期刊名称、卷期、页码】中国海洋平台 (4): 12-18
【论文发表时间】2007-08-01 00:00:00
【引文索引类型】其他
【引文索引号】N/A
【学科分类】水利工程基础学科

【题目】方形箱网结构减流效果试验
【中文关键词】养殖网箱; 方形箱网结构; 减流效果
【英文关键词】N/A
【中文摘要】根据降低流速对深水网箱养殖的影响这一需要,依据目前深水网箱的尺寸和渔具模型试验方法,设计并制作一个浮式箱网结构模型,同时进行水槽实验。实验在箱网的尾部设定一系列的断面和测量点, 通过三维流速仪测量各点在不同实验流速下的流速, 通过分析相关数据, 探讨了该箱网减流结构尾部的流速分布和减流效果。实验流速采用了32123cm/ s、50.19 cm/s、67.79 cm/s, 分别相当于实际流速45.58cm/s、70.79cm/s、95.67cm/s。实验测量了减流装置尾部减区域50cm 到125cm 处的流速分布, 相当于实际海域中距离减流装置尾部15 m 到37.5 m 处的流速分布。实验结果显示,箱网尾部的流速减小区域是在网箱网袋与来流垂直的投影面上, 减流百分比在20%- 45% 左右, 而箱网两侧的流速略有增加。从实验结果来看, 这一结构能有效减小流速, 通过合理的设计和在海域中布设, 能够满足深水网箱养殖的减流需要。
【英文摘要】A model square net structure w as desig ned according to the dimension of deep-sea cage. The experiment was carried out in circular f lume. The current velocity w as surveyed using a 3D velocimeters set in front of the st ructure. T he velocities at the posit ions behind the structure w ere also measured using the velocimeters.Then the data w as analyzed, the ef fect of reducing current velocity w as found out. The conclusions are:(1) The area of reducing current is located at the projection of net vertical to the current direct ion.The current velocity of both sides of cage increases a bit .(2) Test ing velocit ies are 32123 cm/s, 50.19 cm/ sand 67.79 cm/s, w hich equal actual velocities 45.58 cm/s, 70.98 cm/s and 95.67 cm/s. The percentage of reducing velocity behind the square net st ructure is betw een 20% and 45% , which is close to the relative collusions.(3) Surveyed range is from 50 cm to 125 cm behind the st ructure, w hich equals actual range from 15 m to 3715 m. The effect of reducing current velocity is apparent.
【语种】中文
【第一作者】黄六一
【通讯作者】梁振林
【期刊名称、卷期、页码】中国水产科学 14(5), 860-863
【论文发表时间】2007-09-01 00:00:00
【引文索引类型】其他
【引文索引号】N/A
【学科分类】水产工程学

【题目】我国离岸深水网箱结构工艺的基础性研究现状
【中文关键词】深水网箱; 结构特性; 现状; 水动力性能
【英文关键词】Deep sea-cage; structural characteristics; current research; hydrodynamic response
【中文摘要】深水网箱养殖作为一种新兴的集约化养殖模式近年来在世界各国发展迅速, 并向大型、多功能、自动化方向发展。我国开展深水抗风浪网箱方面的研究起步较晚, 本文根据国内对抗风浪网箱的框架系统、网衣系统、固泊系统、配重系统及水动力性能的研究进行了归纳, 以期为深水网箱的进一步研究提供依据和参考,并指出了今后研究的重点。
【英文摘要】In recent years, mariculture in deep sea-cage as a new rising and intensive mode rapidly developed all over the world, and with the tendency developed towards large-scal ,mult ifunction and au tomation. The beginning of the ant-i storm deep sea-cage research in our country was later than that of countries abroad. The frame system, netting system, anchoring system and water dynamic performance of ant-i storm deep sea-cage are reviewed and the key point is here with pointed out in the paper.
【语种】中文
【第一作者】刘永利
【通讯作者】王鲁民
【期刊名称、卷期、页码】海洋渔业 2007, 29(3): 271-276
【论文发表时间】2007-08-01 00:00:00
【引文索引类型】其他
【引文索引号】N/A
【学科分类】水产学基础学科

【题目】圆形重力式网箱不同排布方式受力变化的模型试验
【中文关键词】模型试验; 受力变化; 深水网箱; 排布方式
【英文关键词】Model test; different stress; deep sea-cage; marshalling pattern
【中文摘要】以目前使用较多、主尺度为周长50 m、深8 m 的HDPE 圆形重力式网箱为研究对象, 通过在主尺度为90 m × 6 m ×3 m 的试验水池内的模型试验, 研究其在不同配重、两种排布方式、不同排布间距条件下网箱的受力变化。结果表明: 不论“ 一字形 ”还是“ 田字形 ”排布, 在其它条件相同的情况下, 模型网箱阻力随着箱体配重增加而增大,且随着流速的增加而增大。在其它条件相同的情况下, 除“ 一字形 ”排布的第四只网箱在0%间距排布的模型网箱在高流速下受力大于25%和50%排布间距的受力外, 其它排布的模型网箱阻力均随排布间距的增大而增大。在其它条件相同的情况下, 随着流速的增加, “ 田字形 ”排布第二只网箱受力由小于“ 一字形 ”排布逐渐大于“ 一字形 ”排布。从模型网箱的受力情况分析, “ 一字形 ”排布25%间距的网箱受力最小。
【英文摘要】The HDPE doule-pipe line round gravity cage as made as cage model and made experiments influme tank with the size of 90 m × 6m × 3m, wh ich circum ference was 50m and depth was 8m. The loading of the round gravity cage was researched at different balance weights,different marshalling patterns and differentmarsha lling intervals. The resu lts showed that not only in "一 "model but also in"田" model marshalling patterns, the loadings of the cage respective ly increased a long with increasing the balance weight and the velocity of flow under the definite circum stance. Under the definite circum stance, except for the fourth cage loaded at 0% marshalling intervals was larger than those at 25% and 50% marsha lling intervals for high flow rate, the loadings of the other cages increased a long with increasing marshalling intervals at bo th"一" model and"田" model marshalling pattern.Under the definite circumstance, the load ings of the cage in"田"model mrshalling pattern were first less and then larger than those in"一" modelm arshalling pattern with velocity of flow increasing. From analysis on the loadings of the cage,the loading of 25% marsha lling interval and"一" model marshalling pattern was sma llest.
【语种】中文
【第一作者】刘永利
【通讯作者】王鲁民
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【题目】不同排布方式圆形重力式网箱容积保持率的模型试验

【中文关键词】模型试验; 容积保持率; 深水网箱; 排布方式
【英文关键词】Model test; volumetric maintenance rate; deep sea-cage; marshalling pattern
【中文摘要】以目前使用较多、主尺度为周长50 m、深8 m 的HDPE 圆形重力式网箱为研究对象, 通过在主尺度为90 m × 6 m × 3 m 的试验水池内的模型试验, 研究其在不同配重、两种排布方式、不同排布间距条件下网箱的容积保持率变化。结果表明: “ 一字型 ” 的网箱排布方式时, 不同的排布间距对第一只网箱的受流影响不大; 第二、第三和第四只网箱由于前一只网箱的减流作用, 网箱间距越小, 其作用越明显, 容积保持率越高。 “ 田字型 ” 的网箱排布方式时, 由于并排网箱产生的涡流的影响, 第一只和第二只网箱在相同流速下其容积保持率较 “ 一字型 ” 排布方式减小, 且网箱排布间距越小, 涡流的作用越明显, 容积保持率越低。模型网箱的容积保持率均随着配重的增加而增加, 高流速下配重的调节作用减弱。根据实验数据以及在实际海上作业情况, 建议 “ 一字型 ” 排布、25%间距方式设置网箱, 可适当增加迎流第一只网箱的配重, 其它网箱建议可采用700 kg配重。
【英文摘要】Present paper dealed w ith the tests concern ing the volumetric maintenance rate of round gravity cages in the different marshalling patterns.The HDPE doub le-pipe line round gravity cages have been used as the cage model,the circumference and depth of each and all were 50 m and 8 m respectively.Test were conducted in the flunk tank with the size of 90 m× 6m × 3 m. The cubical maintenancerate of the cage has been tested at different balance weights, different marshalling patterns and d ifferent marshalling interva ls. The results showed that at "一" shaped model marshalling pattern, the different marshalling interval could slightly in fluence on the cubical maintenance rates of the 1st cage, and then from 2nd to 4th cage, the cubical maintenance rate of them would be increased a long with the decrease of them arshalling interval because of the flow reduced by the anterior one. At "田" shapedmode lm arshalling pattern, the cubical maintenance rates of the 1st and the 2nd cagew ere less than those at "一" shapedmode lmarshalling patterns owing to be effected by eddy from the cages arranged side by side, and decreased a long w ith decrease of marshalling intervals. The cub ical main tenance rates of all cages would be increased with the increase of the balance w eight,but the regulating function of the balance weight would be weakened under the high velocity of the flow. According to the experimental data and actual opera ting state on the sea, it is herew ith suggested to adopt"一" shaped mode lmarshalling pattern and 25% marsha lling interval, the ba lance weight of the first cage could be suitably increased and 700 kg could be used for the balance weight of the other cages.
【语种】中文
【第一作者】陈晓蕾
【通讯作者】王鲁民
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【学科分类】水利工程基础学科

【题目】波流共同作用下单体网格式锚碇网箱水动力特性研究
【中文关键词】网格式锚碇;波流作用;数值模拟;水动力特性
【英文关键词】grid mooring; wave-current action; numerical simulation; hydrodynamic behaviors
【中文摘要】运用刚体运动学原理和集中质量方法,建立了计算重力式网箱浮架、网衣和锚碇系统受力和运动的数学模型。利用此数学模型获得了波流作用下网箱在网格式锚碇情况下锚碇锚绳受力、浮架运动的计算结果。在此基础上,计算并分析比较了不同设计流速与波况组合作用情况下,单体网箱各类锚绳(锚碇锚绳,连接锚绳和网格锚绳)受力、浮架运动及网衣变形情况。讨论结果表明,在相同工况下,各类锚绳中锚碇锚绳受力最大,连接锚绳受力次之,网格锚绳受力最小。锚碇锚绳、连接锚绳受力随波高、周期、流速的增加有不同程度的增加;网格锚绳受力随波高的增加有一定程度的增加,随流速的增加有较小幅度的减少,与周期变化关系不明显。浮架水平方向运动幅度随波高、周期及流速的增加而有不同幅度的增加;浮架竖直方向运动幅度随波高、周期的增加有不同程度的增加,随流速的增加有较小程度的减小。各种波流工况作用下,浮架倾角随流速的增加有一定程度的减少,随波高的增加有较小程度的增加,与周期变化关系不明显。网衣体积损失率随流速、波高及周期的增加有较小程度的增加。
【英文摘要】In this paper, based on rigid kinematics theory and lumped mass method, a mathematical model of the single grid mooring net cage under combined wave-current action was developed by setting up the motion equations of floating system, net system, mooring system and floaters. According to the model the forces on main ropes and the floating collar movement were calculated and the simulated results agree well with the experimental data. Then, the forces on mooring lines,the floating collar movement and the net deformation were calculated too. The numerical results show that under the same condition, forces on the main ropes are the largest, followed by forces on bridle ropes and grid ropes. Forces on main ropes and bridle ropes increase as the current speed, the height and the period of waves increase; while forces on grid ropes increase as the wave height increase, while decrease as the

current speed increase, and are hardly influenced by the period of waves. The horizontal amplitude of the floating collar increases as the current speed, the height and the period of waves increase; the vertical amplitude increase as the height and period of waves increase, while decrease as the current speed increase but the influence degree is small. Under each condition, the floating collar inclination increases with the increase of the current speed,and decreases with the increase of the wave height, and has little relevance to the wave period. The rate of net deformations increases lightly as the current speed and the height of waves increase.
【语种】中文
【第一作者】陈昌平
【通讯作者】赵云鹏
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【学科分类】水利工程基础学科

【题目】裸胸鳝属鱼类的研究现状与开发利用
【中文关键词】裸胸鳝属鱼类 研究现状 开发利用
【英文关键词】N/A
【中文摘要】裸胸鳝属(Gymnothorax Bloch,1795)鱼类是我国珊瑚礁鱼类资源的重要组成部分。本文对裸胸鳝属鱼类的种类、形态学特征、生活习性、个体发育、繁殖生物学等一些重要的生物学知识和经济价值等进行阐述,并对今后开展裸胸鳝鱼类的研究与开发利用做了展望,为合理、科学地保护与开发利用裸胸鳝鱼类资源提供参考。
【英文摘要】N/A
【语种】中文
【第一作者】申屠垠
【通讯作者】张本
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【学科分类】水产学基础学科

【题目】水相环境中生物可降解高分子材料的研究进展
【中文关键词】生物降解; 水相环境; 降解机理
【英文关键词】B iodegradable; aqueous env ironmen;t b iodeg rada tionm echanism
【中文摘要】概述了国内外生物降解高分子材料的降解机理及其种类, 着重介绍水相环境下生物降解高分子材料的研究进展, 指明制备水相环境下生物降解高分子材料的可行性以及生物降解高分子材料在海水和淡水领域具有良好的应用前景。
【英文摘要】The kinds and biodegradat ion m echan ism o f b iodegradab le po lymers have been review ed in thispaper. The current deve lopments of biodegradab le po lymer in aqueous env ironment have been emphat ica llyintroduced. The feasib ility o f preparing biodegradable po lym er in aqueous env ironm ent and the w ideapp lications o f b iodegradable po lymer in the f ie lds o f sea and freshw ater are herew ith to be po inted ou.t
【语种】中文
【第一作者】陈晓蕾
【通讯作者】王鲁民
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【学科分类】水产保护学

【题目】中国、韩国1980-2006年能值足迹与能值承载力
【中文关键词】生态足迹; 能值足迹; 能值承载力; 模型; 中国; 韩国
【英文关键词】ecological footp rint; em ergy footp rint; em ergy carrying cap acity; m odeling; Ch ina; Korea
【中文摘要】根据基于能值分析理论改进的生态足迹计算模型))) 能值足迹和能值承载力模型, 在空间尺度上从地区一级上升到国家尺度, 探讨能值足迹和能值承载力在国家层面上若干年时间序列的变化趋势, 并以中国和韩国为例, 对两国在1980 - 2006年(韩国1980 -2004 年)期间的能值足迹和能值承载力进行了计算与分析, 探讨中国和韩国的可持续发展状况. 结果表明, 中国人均能值承载力由1980年的2.7362hm2下降到2006 年的2. 0547hm2, 同时, 人均能值足迹却由1980 年的1.7715hm2上升到2006 年的5.7903hm2. 中国自1987 年以来出现能值足迹赤字, 且赤字数额逐年增加, 到2006年已达到-3.7356hm2. 韩国人均能值承载力由1980年度3.1871hm2下降到2004年度2.5271hm2,人均能值足迹由1980 的1. 1339 hm2上升到2004年的4.2419hm2, 韩国自1992 年出现能值足迹赤字,之后虽有小幅波动, 但总体趋势与中国类似,赤字数额逐年上升, 到2004年已达- 1.7147hm2. 目前, 中国已不能满足基本可持续性的要求, 而韩国能够满足这一要求.
【英文摘要】We aim to dem onst rate a new sustainab le d evelopm ent index for em ergy footprin t and em ergy carrying capacity from calcu lations comb in ing th eem ergy analyses w ith th e ecological footprin tm odel and the con cept of basic sus tainab ility. W e calcu lated the national average em ergy footprin t and em ergycarrying capacity in C h ina and Korea from 1980 to 2006. Our resu lts show ed that the per cap ita em ergy carrying capacity in C h ina dropp ed from 2. 7362hm2 in 1980 to 2. 0547 hm 2 in 2006, w hereas the per cap ita em ergy footprin t in creased from 1. 7715 hm2 to 5. 7903 hm2 during the sam e tim e period. Th eresu lts ind icate that sin ce 1987, China has been runn ing an eco log ical def icitwh ich has been increasing every year. The national average em ergy footp rintand carrying capacity in K orea show ed sim ilar trend s to th ose in C h ina, based on ou r calcu lat ion s. The per capita em ergy carry ing capacity in Koreadropped from 3. 1871 hm2 in 1980 to 2. 5271 hm 2 in 2004, wh ile the per cap ita em ergy footp rint increased from 1. 1339 hm2 to 4. 2419 hm2 du ring th esam e period. Th e eco log ical d ef icit inK orea h as been increasing w ith sm all flu ctuations s ince it firs t appeared in 1992. W e concluded that Ch in a canhard ly m eet th e requ irem ent of bas ic sustain ab ility for fast econom ic developm ent, wh ile Korea m ay be ab le to m eet the requ irem ent for su stainab ledevelopm en t.
【语种】中文
【第一作者】赵晟
【通讯作者】赵晟
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【题目】渔用PP/PA复合单丝和普通PP单丝结构与性能的比较研究
【中文关键词】聚丙烯; 聚酰胺; 单丝; 结构与性能
【英文关键词】po lypropylene; po lyam id; mono filam en;t structure and properties
【中文摘要】为给渔具设计与材料的合理选配提供科学依据, 通过差示扫描量热法(DSC)、广角X 射线衍射(XRD) 及扫描电镜(SEM)等方法的比较, 研究了渔用聚丙烯聚酰胺(PP /PA) 复合单丝的结构与性能。结果表明, 与普通PP单丝相比, 渔用PP /PA复合单丝的断裂强度和结节强度比普通PP单丝分别提高了39. 00%和26. 48%, 而断裂伸长率降低了12. 74%; PP /PA 复合单丝的结晶度和取向度比普通PP单丝分别增加了13. 49%和1. 36%; PP /PA复合单丝微晶尺寸稍大于普通PP单丝, 而晶胞参数变化很小; SEM 照片显示复合单丝的相容性良好。结果分析表明, 由于结晶度、取向度的增大, 导致了渔用PP /PA复合单丝强度的提高。
【英文摘要】Study on the structure and properties of Compound F ish ing Po lypropy lene Po lyam id (PP /PA)monofilaments has been m ade by differentia l scann ing calorimetry (DSC) , w ide ang le X-ray d iffraction(XRD) and scann ing electron m icroscopy (SEM) etc. The resu lts ind icate that compound PP /PAmonofilaments are 39. 00% and 26. 48% h igher than the common PP monof ilaments in breaking streng th andknot breaking strength, w hile in breaking elongation rate the latter is 12. 74% h igher than the former. Thecompound PP /PA monofilaments are 13. 49% and 1. 36% h igher than the common PP monof ilaments incrysta llization and orientation degree respectively. The crystallite sizes of the compound PP /PA mono filaments are slightly b igger than those o f the common PP monof ilaments, w hile the un it cell parameters o f the two areapprox im ately the same; SEM p ictures demonstrate that compound PP /PA monofilaments are better thancommon PP monofilaments in compatib ility. Ow ing to the increase o f crysta llizat ion and orientation deg ree, thetenac ity o f the compound PP /PA mono filam ents is improved. Th is study w ill prov ide better scient ific basis fordesigns and material selection for fish ing too ls

【语种】中文
【第一作者】于 迁
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【学科分类】水产工程学

【题目】基于有限元方法对波流场中养殖网箱的系统动力分析
【中文关键词】有限元;养殖网箱;数值模拟;动力分析;波流场
【英文关键词】finite element methods; fish cage; numerical simulation; dynamic analysis; wave and current
【中文摘要】养殖网箱系统在海中除承受静载荷以外还受到波流等动载荷的作用,为确保安全有必要对网箱系统进行动力分析。为此提出一种基于有限元原理的养殖网箱系统动力分析方法,分别对圆形重力式网箱在水流、波浪以及波流联合作用下的网衣变形与锚绳受力进行了数值模拟,并与实验结果进行了比较分析。结果表明:该方法具有解的稳定性,计算值与实验值比较吻合,较好地反映了网箱系统在波流场中的动力响应特性。
【英文摘要】The fish cage in sea is affected by the hydrostatic effects and hydrodynamic effects. To ensure the safety of net cage system, it is necessary to carry out transient dynamic analysis. Therefore a finite element method is employed to determine the dynamical response of the fish cage. The fish net deformation and mooring line force are simulated for the cage in current and wave, and then the simulation results are compared with the experimental results. The results show that the method has good accuracy as compared with the measured results of physical modeling test in the wave-current flume. The computer simulation reveals the dynamical response characteristics of the fish cage in current and wave well.
【语种】中文
【第一作者】崔 勇
【通讯作者】关长涛
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【学科分类】水利工程其他学科

【题目】波流射入方向对网络格式锚碇网箱水动力特性的影响
【中文关键词】网格式锚碇;波流作用;数值模拟;水动力特性
【英文关键词】N/A
【中文摘要】运用集中质量方法和刚体运动学原理,建立了单体网格式网箱在波流联合作用下浮架、网衣和锚碇系统受力和运动的数学模型。利用物理模型试验对本数学模型的正确性进行了验证。在此基础上计算了2种波流作用方向、各工况下单体网格式网箱3类锚绳(锚碇锚绳、连接锚绳、网格锚绳)受力、浮架运动及网衣变形的结果,并分析了波流作用方向对网格式锚碇网箱水动力特性的影响。结果表明,当波流作用方向由正向变为斜向(45 °)时,锚碇锚绳与连接锚绳受力有较大程度的增加,网格锚绳受力有较小程度的增加;浮架水平方向、竖直方向运动幅度有一定程度减小,浮架倾角及网衣变形变化不明显。
【英文摘要】N/A
【语种】中文
【第一作者】陈昌平
【通讯作者】赵云鹏
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【学科分类】水利工程其他学科

【题目】波浪作用下筏式养殖设施的数值模拟
【中文关键词】筏式养殖; 波浪; 数值模拟
【英文关键词】ra ft cult ivation; w ave; numerica l simulat ion
【中文摘要】基于浙江海洋学院提出的新型筏式养殖模型, 将浮标简化为质点, 将梗绳简化为集中质量构件, 建立浮标和梗绳构件受力模型和运动方程, 采用4阶Runge-kutta 法求解运动方程, 对新型筏式养殖系统在波浪作用下的整体运动情况进行模拟, 分析浮标在波浪下的运动响应和波浪入射角度对锚绳力的影响, 考察梗绳材料对浮标水平位移幅度的影响。结果显示: 筏式养殖系统上部浮标在风浪中的水平位移幅度很大, 将系统主轴安排与波浪的入射方向一致时, 锚绳受力最小, 选用PA 材料锚绳相对于PE 材料锚绳能减小浮标的水平位移幅度。
【英文摘要】Th is paper is to prov ide theoretical basis for the designing, manufacturing and safe using o f the raf-tcu ltivation system. Based on the new raf-t cu ltivationmode lw hich designed by Zhejiang O cean Un iversity. Thebuoys are simplified as movement po ints, the long line is simp lified as a series o f lumped-mass components.M echan ica lmodel and motion equations are built by employ ing the lumped-mass me thod . 4th order Rungekuttamethod is used to so lve themot ion equat ions, themo tion response of the new raf-t cu ltivationmodel underw ave act ion has been simulated, the impact of long linem aterial to the m ax imum horizonta l d isp lacem ents o fthe buoys is also investigated. The resu lts show tha:t the max imum horizonta l d isp lacem ents of the buoys arehuge, it is best to arrange thema in ax is of system in the same direction w ith the inc identw ave to reducemooringline force. Compared w ith PE moor ing line, PA mooring line can bring sma ller horizonta l d isplacement o fbuoys.
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【第一作者】邓推
【通讯作者】董国海
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【学科分类】水利工程其他学科

【题目】褐牙鲆陆海接力养殖试验
【中文关键词】褐牙鲆; 陆海接力; 鲆鲽类网箱; 成活率
【英文关键词】Juv enile brow n flo under (Parali chthy s ol ivaceus) ; land-sea relay mariculture; f lat f ish net cage; survival r ate
【中文摘要】试验对褐牙鲆(Par alichthy s oliv aceus)/ 陆海接力0 养殖模式的可行性、养殖操作技术进行了研究。在山东荣成爱莲湾海域, 分别于2008 年和2009 年5 月, 当海区水温上升至12. 0 e 以上时, 将陆基工厂化培育的适宜规格苗种转运到海上, 利用自行研制的方形钢结构鲆鲽类平底网箱养成褐牙鲆商品鱼。其中, 2009 年养殖平均体质量为59. 3, 136. 0 和202. 0 g 的褐牙鲆各1 箱, 经过174 d 的养殖, 平均体质量分别达到614. 0, 885. 3 和1 030. 0 g , 转运成活率100%, 网箱养殖成活率分别为93. 3%, 87. 5%和93. 3%。结果表明, 方形钢结构鲆鲽类平底网箱适合鲆鲽鱼类养殖, / 陆海接力0 模式养殖的褐牙鲆生长快、养殖周期短、成本低, 而且该模式操作简单、节约能源
【英文摘要】An ex periment w as conducted to inv est ig ate the feasibility and oper at ion techno logy of landsearelay mariculture model fo r juvenile brow n flo under, Par ali chthy s oli vaceus . In the sea area of Ailianbay, Rongcheng, Shandong pro vince, the condig n size juvenile brow n f lounder seeds, hatched and domesticated from closed recir culat ing fish cultur e systems on land, could be t ranspor ted to the sea to cult ivateusing the square steel f lat-bo t tomed f lat f ish net cage as the surface temperature o f the sea reaches to12. 0 e and above, in May of 2008 and 2009 respect iv ely . In 2009, the average w eight of juvenile brow nflounder reached to 614. 0 g, 885. 3 g, 1 030. 0 g af ter 174 days f rom juvenile brow n f lounder seeds w iththe average w eight 59. 3 g, 136. 0 g , 202. 0 g . T he survival rates of juvenile brow n flounder seeds t ransportw as 100%, and the survival rates of net cage mariculture w er e 93. 3% , 87. 5%and 93. 3% r espect ively. These ex perimental results indicated that the squar e steel f lat-bot tomed f latf ish net cag e is suitable forflat fish mariculture. T he advantag e o f this model is energy saving , oper at ion-simple. T here is a characteristicthat juv enile brow n f lounder is g row ing fast and it s mariculture cycle time is sho rted. Also, the co stis low.
【语种】中文
【第一作者】董登攀
【通讯作者】关长涛

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【学科分类】水产养殖学

【题目】基于有限元方法对鲆鲽网箱耐流特性的数值模拟
【中文关键词】有限元; 鲆鲽网箱; 耐流特性; 数值模拟
【英文关键词】FEM; flat f ish cag e; ant-i current char acterist ic; numerical simulat io n
【中文摘要】鲆鲽网箱结构在海中受到水流的冲击作用会发生运动与变形, 针对鲆鲽鱼特有的栖底习性, 为确保网底结构的稳定有必要对其进行动力分析。为此利用有限元方法建立了流场中网箱受力和变形的数学计算模型, 运用该数学模型对底框中加有支撑管结构并装配方形网目网衣的鲆鲽网箱整体位移进行了数值模拟。数值模拟结果表明, 网箱的网衣部分在水流作用下形态变化比较大, 网底的水平位移与垂直位移随流速的增加而增大, 而网箱的底框架在不同流速条件下均能保持在水平位置, 且未发生明显的倾斜。由此可见, 此类鲆鲽网箱具有较好的耐流性能。
【英文摘要】Flat fish cage in sea may move and deform under the ef fect of curr ent . It is necessary to carryout t ransient dy namic analy sis fo r cag e conf ig ur at ion for the safety of f lat f ish. Herein, a numerical modelbased on finite element metho d(FEM) is developed, and then the w hole displacement of flat fish cag e assembledsquare mesh net and suppor t pipe in bot tom border is calculated. T he simulatio n results showthat the shape of cag e net chang es g reat ly, and the horizo ntal and vert ical displacement o f bo ttom borderincrease w ith the gr ow th o f f low velocity. Nevertheless, the bot tom bor der of f ish cage can keep lev el position, and it dosen. t incline o bviously all the t ime. Ther efore, it can be found that this kind of flat fishcag e has g ood ant-i current character ist ic.
【语种】中文
【第一作者】崔 勇
【通讯作者】关长涛
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【题目】沉积环境对鱼类网箱养殖的响应
【中文关键词】网箱养殖; 沉积环境; 响应
【英文关键词】Cage culture; sed iment environmen;t response
【中文摘要】网箱养殖是鱼类集约化养殖的主要方式, 近年来得到大力发展, 但是网箱养殖也带来诸多的环境问题。本文从沉积环境改变的角度阐述了网箱养殖对环境的影响, 包括底层水环境要素、底质理化环境要素和底栖生物环境要素对网箱养殖的响应, 并探讨了有机负荷的消减对策。网箱养殖区水环境中溶解氧(DO)通常下降, 而化学耗氧量(COD) 、氨氮(NH4 - N)和无机磷(DIP)增多; 底泥沉积物中N、P、硫化物、有机质等大量富集, 其中富集现象最明显的是P、硫化物和NH4 - N, 其次是总氮(TN)和有机质; 一般情况下, 网箱养殖区底栖生物尤其是多毛类增加, 而当污染严重时, 会使底栖生物缺失。有机负荷的消减对策包括收集残饵粪便等沉积物、利用生物方法去除有机碎屑和加强养殖管理提高饲料利用率等。
【英文摘要】Cage mariculture deve loped rap id ly, and had become the main pattern of intensive fish cu lture inChina. H ow ever, th is culture pattern a lso resu lted in a series o f env ironment prob lem s. The articlesumm ar ized the effect o f cage culture on the env ironment from sed imentary env ironment chang ing perspective,including the responses of bottom w ater env ironmenta l e lements, qua lity o f the bottom env ironmen tal elementsand benthon env ironmental e lements to cage cu lture. The strategy o f the organ ic load removing w as alsod iscussed. In the sea w ater o f the cage cu lture reg ion, the d isso lved oxygen(DO) usually decreased, but thechem ical oxygen demand(COD) , ammonium (NH 4-N) and inorgan ic phospho rus (D IP) usually increased;the n itrogen, phosphorus, su lf ide and organic matter plent ifully enriched in the bo ttom sed imen,t thephosphorus, su lfide and ammon ium enriching w as more ev ident than the TN and o rgan ic matter enrich ing;G enera lly, the benthon, especia lly the po lychaeta of the cage culture reg ion increased, but they w ou ld decrease sharp ly when the con tam ination got severe. The methods to remove the organ ic load included theco llection of sed iment of residua l feed and faeces, decreasing the organic debris feeding by some an imals andincreasing the food effic iency by enhanc ing the cu lt ivation managemen.t

【语种】中文
【第一作者】李 娟
【通讯作者】关长涛
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【题目】远程气力输送自动投饵系统分配器初步研究
【中文关键词】自动投饵 分配器 气力输送 多路换向阀 S 形弯管
【英文关键词】Automatic feeding ;Dist r ibut ion; valve Pneumatic conveying
Mult-i way directional valve; S- shaped pipes
【中文摘要】设计制造了一套远程压力输送自动投饵系统, 简要介绍了其基本原理、工作流程和功能特点。详细阐释了系统配备的分配器设计原则和设计方法。在分析S 形弯管内物料运动状态的基础上初步确定了滑管式分配器的基本设计原则: 将分配器的类型根据支管布置形式的不同区分为上半圆式和下半圆式; 再选择合适的/ 弯曲半径- 管径- 支管数0组合使S 形弯管的物料流动性能最优, 且使分配板上的支管孔边缘距离符合电子定位器件和密封器件的安装要求; 使弯管管径小于前端直管管径; 使分配器的全尺寸尽可能地小。根据基本设计原则进行了计算公式推导和设计演示, 获得了弯曲半径、孔边距和全尺寸的计算公式及其与管径、支管数组合的优化选择方法, 进而确定了分配器的基本设计流程和方法, 为同类型分配器的设计提供参考。
【英文摘要】T he principle, work flow and functions of the centralized air-powered feedingsystems were br iefly int roduced. T he pr inciple and method for designing distr ibution valve ofthe feeding systems were discus sed in detail. T he movement of par ticles in S-shaped pipes wasanalyzed. T he analysis showed that the influence of bending radius on velocity reduction wasdifferent when posit ion of the pipe changed, and velocity reduct ion could be minimized by choosing an appropr iat e radius at the same pipe diameter. The f riction factor between inner sur faceof pipes and the part icles was also an impor tant parameter for velocity reduction. According tothe results of t he analy sis, the design pr inciple of the distr ibution valve was obtained: therewere two types of par tit ion distr ibution valves according t o the different disposal of the off setpipes, the upper-half circular ity and the lower-half circular ity valves; to optimize the perform ance of feed bullets moving in S-shaped pipes and to make sure that the space betw een each neighboring off set pipes was suff icient for fit ting elect ro-localization syst em and seal componentsby choosing r ight combination of / bend diameter+ pipe diameter+ number of offset pipes0; toguarant ee t hat the diameter of S-shaped pipe is smaller t han the front straight pipes'; and thento minimize the dimension of the dist r ibut ion valve, etc. Based on the design pr inciple, mathematical calculations and design demonstrat ion were done. Bend diamet er , space betw een eachneighboring offset pipes and dimension of t he dist ribut ion valve were obtained, then t he workflow and method for desig ning the distr ibution valve were achieved.
【语种】中文
【第一作者】庄保陆
【通讯作者】郭根喜
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【题目】水产养殖自动投饵装备研究进展及其应用
【中文关键词】自动投饵; 深水网箱; 工业化养殖; 养殖设施
【英文关键词】autom atic feeding; o ffshore cage; industria lized aquaculture; aquacu lture apparatus
【中文摘要】自动投饵系统可应用于大型网箱养殖和高密度工厂化养殖等, 是提高饲料利用率, 控制养殖成本和强化产品质量控制的重要手段。文章概述了国内外自动投饵装备的发展进程, 着重介绍了国外深水网箱自动投饵装备的研究进展与应用情况, 分析了国内自动投饵装备研究使用现状, 对国内自动投饵装备的发展提出了建议。
【英文摘要】The evolution o f aquacu lture autom atic feeding sy stem w as br ie fly rev iewed1Research prog ress on au tom atic feeding systemand its application in o ffshore cage cu ltu re in foreign countr ies w as em phasized in this paper1The status o f autom atic

feeding system andits app lication in China w as addressed as w el,l and som e suggestions we re g iv en fo r the deve lopm ent o f the nationa l automa tic feed ingsystem1

【语种】中文
【第一作者】庄保陆
【通讯作者】郭根喜
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【学科分类】水产饲料学

【题目】波浪作用下网格锚泊的单个重力式网箱缆绳张力试验研究
【中文关键词】重力式圆形网箱; 最大缆绳张力; 波浪; 水流
【英文关键词】gravity cylindrical cages; the maximal tension of anchor line; wave; current
【中文摘要】以中国沿海常用的周长40 m×10 m的HDPE 重力式网箱作为研究对象, 采用渔具模型试验狄克生准则, 选用大比例尺(λ = 1/10)和小比例尺(λ ′ = 1/2)设计制作模型网箱。网箱锚泊系统采用的网格形式与实际使用一致。模型试验于日本东京大学生产技术研究所海洋环境工程实验室风浪流水槽[50 m(L)×10 m(W)×5 m(D)]进行。实验时前端缆绳水平方向与波流夹角为0 °, 波浪周期1-2.2 s, 波高10-30 cm, 对流速0 cm、10 cm 和15 cm 作用下主缆绳、系框绳以及浮框绳的张力特性进行了研究。结果表明: (1)在纯流作用下,前端缆绳张力最大; (2)在纯波作用下, 后侧缆绳张力最大, 最大张力(Tmax)与波高(H)的关系为: T(max) = C1H + C2 (C1、C2 为常数); (3)在波流联合作用下, 前端缆绳张力最大, 缆绳最大张力(Tmax)与波高(H)的关系为: T(max) =C3eC4H (C3、C4 为常数); (4)在波流作用时, 左右前端缆绳一般会产生差异, 最大差值约30%。
【英文摘要】The characters of tension in the mooring lines of a single HDPE gravity cylindrical cage were studied by experimental tests. The proto type of cage had a perimeter of 40 m and a height of 10 m. Based on the Dixon rule of gear tests, two scales were chosen for the experimental model, i.e. λ = 1/10 and λ ′ = 1/2. The experiments were carried out in Ocean Engineering Basin of Institute of Industrial Science of the University of Tokyo. The grid mooring system used in the experiments was geometrically similar to the proto type. The horizontal projections ofthe front mooring lines were in the same direction of current or incident waves. Uniform current was produced in the whole basin at a velocity of 0 cm/s, 10 cm/s and 15 cm/s. Regular waves with a period of the range from 1s to 2.2 s and a height varying from 10 cm to 30 cm were generated. Tension in the mooring lines wwa measured. The following conclusions were made from the analysis of measured data: (1) Under the actions of current only, thetension in the front mooring lines was greater than that in rear mooring lines. (2) Under the actions of waves only, the tension in the rear mooring lines was greater than that in the front mooring lines. An empirical formula for the maximum tension(Tmax) in the rear mooring lines was deduced. It turned out that the maximum tension was linearly related to the wave height(H), i.e. Tmax=C1H+C2 (C1 and C2 are constants). (3) Under the combining effects ofwaves and current, the tension of the front anchor line was again greater than that in the rear one. Another empirical formula was deduced. It showed that the maximum tension in the front mooring lines was exponentially increased with the wave height, i.e.T(max) =C3eC4H (C3 and C4 are constants).
【语种】中文
【第一作者】黄六一
【通讯作者】万荣
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【题目】魔芋新品种渝魔1号的选育
【中文关键词】魔芋;渝魔1号;品种选育
【英文关键词】Konjac; ‘ YumoNo · 1 ’ ; Variety breeding
【中文摘要】渝魔1号是从云南花魔芋栽培群体中优选出的一批变异单株,经过多年的复选、组培快繁、品种比较试验、区域试验以及生产试验筛选出的优良品种。生长势强,生育期约130 d (天),三年生植株株高84.5 cm,开展度68.9 cm,叶柄长

45.7 cm,直径2.5 cm;叶绿色,三全裂,裂片羽状分裂或二次羽状分裂,茎秆具青底黑斑;球茎近圆形,表皮黄褐色,球茎内部组织白色;鲜魔芋干物质含量21.5% ~22.2%,葡苷聚糖含量59.8% ~60.2%,每667 m2产量2000 kg左右,适应性较广,可作为西南魔芋产区的主栽品种。

【英文摘要】‘Yumo No.1’is a new konjac variety which was systematically selected from a series of plants came from Yunnan province. It grows about130 days. The triennium plant is 84.5 cm in height , 68.9 cm in width. The leafstalk is 45.7 cm in length and 2.5 cm in diameter. The green laminae are pinnate splitor second pinnate split ,the stalk is cyan and with black spot ,the corm is round with snuff color and white flesh. It has excellent characteristics such as dry matter content is about 21.5% -22.2%, konjac glucomannan content is about 59.8% -60.2%. Its yield is30 t · hm-2. It is suitable to be cultivated in southwest of China.

【语种】中文

【第一作者】牛义

【通讯作者】张盛林

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【学科分类】园艺学

【题目】对4种魔芋花器的观察分析

【中文关键词】魔芋;花器;开花;习性;性状

【英文关键词】Konjac; flower organ; flowering; habit; character

【中文摘要】对4种魔芋的开花习性和性状进行了系统观测研究,结果表明:花魔芋开花最早、花期短,滇魔芋与白魔芋次之,西盟魔芋开花最晚、花期最长。通过对魔芋花器的形态性状的比较分析,佛焰苞性状、肉穗花序比佛焰苞、附属器性状、有无中性器官、附属器散发的气味及成熟期果实颜色等几个形态性状种间的差异大;魔芋花器性状种内表现较为稳定,仅花序柄的颜色和斑纹以及附属器颜色有一定差异。

【英文摘要】The flowering habits and characters of four species of Amorphophallus were observed and analyzed systematically. The results showed that the earliest flowering species is A.konjac and its blooming duration is the shorest, which is followed by A.yunnanensis and A.albus. In addition, A..krausei has the latest flowering time and the longest flowering period. Based on comparison and analysis, markes interspecific differences were noticed in the morphological characters of konjac flower organ, including the shape of spathe, the shape of appendices, presence or absence of neutral organs, the odor produced by appendices and the color of ripening fruit. The intraspecific characters of konjac flower organ are relatively stable except for some difference in the mottling and the color of peduncle and appendix.

【语种】中文

【第一作者】宣慢

【通讯作者】张盛林

【期刊名称、卷期、页码】西南大学学报(自然科学版)2010,32(4):75-78

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【引文索引类型】其他

【引文索引号】9.77E+14

【学科分类】园艺学

【题目】过氧化氢法测定魔芋凝胶食品中二氧化钛的研究

【中文关键词】魔芋凝胶食品;二氧化钛;过氧化氢;二安替比林甲烷

【英文关键词】konjac products; titanium dioxide; hydrogen peroxide; diantipyrylmethane

【中文摘要】建立过氧化氢法测定魔芋凝胶食品中二氧化钛含量的检测方法。样品经硫酸—硝酸—硝酸铵消化完全后,以过氧化氢作为显色剂,在410nm波长下测定吸光度,二氧化钛含量和吸光度呈正比例关系。结果表明,该方法平均回收率为102.76%,相对标准偏差为1.55%。该方法重复性好,准确度高,操作简单。

【英文摘要】The method of determination of titanium dioxide in konjac products by hydrogen peroxide process was established. The sample was completely digested by sulfuric acid-nitric acid-ammonium nitrate. It was determinated with hydrogen peroxide as a reagent at410nm wavelength. The content of titanium dioxide and absorbance was direct proportion relationship. The results showed that the average recovery of the method was 102.76%, relative standard deviation was 1.55%. This method was reproducible, high

accurate and easy for operation.
【语种】中文
【第一作者】薄晓菲
【通讯作者】张盛林
【期刊名称、卷期、页码】食品工业科技2010,31(03):357-359
【论文发表时间】2010-03-01 00:00:00
【引文索引类型】其他
【引文索引号】9.77E+14
【学科分类】食品加工技术

【题目】魔芋葡甘聚糖的增稠特性及其在食品中的应用
【中文关键词】魔芋;葡甘聚糖;增稠剂;食品
【英文关键词】Konjac;Konjac Glueomannan;thickener;food
【中文摘要】魔芋葡甘聚糖是目前所发现植物类水溶性食用胶中粘度最高的一种高分子多糖,是世界公认的天然健康食品和食品添加剂,具有胶凝性、增稠性、粘结性、悬浮性和乳化性等多种特性,和绝大多数阳离子型、阴离子型和非离子型食用胶类都有互溶性、协同性或增效性,作为天然、健康、安全的食品增稠剂,可广泛应用于饮料、果冻、冰淇淋、肉制品、面制品等食品中。本文综述了魔芋葡甘聚糖的结构、食用安全性、增稠特性及其在食品中的应用,并对其应用前景进行了展望。
【英文摘要】Konjac Glucomanan(KGM) is polysaccharide polymer and has the strongest viscosity among the plant-based water-soluble geling agents. It is universally accepted healthy food and food additive. It has many characteristics such as gelling property, thickening properties, cohesiveness, suspension property emulsifying property. Konjac gum interacts synergistically with most of cationic, anionic and non-ionic type of gel which can be widely used in soft drinks, jelly, ice cream, meat products.The structure, safety, thickening properties and the application of Konjac gum industry and its application prospect.
【语种】中文
【第一作者】黄明发
【通讯作者】张盛林
【期刊名称、卷期、页码】中国食品添加剂2008(6):127-131
【论文发表时间】2008-06-01 00:00:00
【引文索引类型】其他
【引文索引号】9.77E+14
【学科分类】食品加工技术

【题目】我国魔芋粉加工技术和设备的研究与应用
【中文关键词】魔芋粉,加工,设备,应用
【英文关键词】konjac powder; process; equipment; application
【中文摘要】阐述了国内魔芋粉20年来加工技术与设备的研究与应用,分别对鲜魔芋脱水和魔芋粉生产的技术与设备进行了总结,简述了目前研究中存在的主要困难与问题,提出了魔芋粉加工未来发展的思路。
【英文摘要】The study and application of konjac powders processing technique and equipment in China in the last 20 years were reviewed, and the technique and equipment of raw konjac dehydrate and konjac powder processes were summarized, respectively. The difficulties on the konjac processing in the future development were estimated and some possible approaches to these problem were presented and analyzed. The direction on konjac powder process in the future was pointed.
【语种】中文
【第一作者】王洪伟
【通讯作者】张盛林
【期刊名称、卷期、页码】食品工业科技2009,30(05):337-340
【论文发表时间】2009-05-01 00:00:00
【引文索引类型】其他
【引文索引号】9.77E+14
【学科分类】食品加工技术

【题目】一种新的多叶花魔芋资源
【中文关键词】花魔芋;多叶;资源
【英文关键词】Amorphophallus konjac; Multi-leaves; Resource
【中文摘要】魔芋是西南山区的重要经济作物,主要的栽培种为花魔芋和白魔芋。这些栽培魔芋在1 a的生长周期内一般均只生长一片复叶,这一生物学特性影响了魔芋的产量。本文报道了在湖北省利川市发现的一种新的花魔芋资源,其具有很高频率的多叶现象。这一花魔芋资源将成为进行多叶魔芋育种的重要材料。
【英文摘要】Konjak is an imponant economic plant in south-western China.The main cultivated species are Amorphophallus konjac and A.albus, which only grow one leaf in one year. The biological become a bottleneck to increase the konjak production. In this paper, a A.konjac in Lichuan, Hubei Province, which showed multi-leaf phenomenon in a considerablely high level, was reported. This new resource could be the useful material for multi-leaf konjak breeding.
【语种】中文
【第一作者】周富忠
【通讯作者】胡中立
【期刊名称、卷期、页码】长江蔬菜(学术版)2010(20):16-17
【论文发表时间】2010-10-20 00:00:00
【引文索引类型】其他
【引文索引号】9.77E+14
【学科分类】园艺学

【题目】种植方式对珠芽魔芋的增重系数和产量效益的影响
【中文关键词】珠芽魔芋;发育;产量
【英文关键词】Amorphophallus bulbifer; Development; Yield
【中文摘要】研究了在湖北恩施二高山地区(海拔400~800 m)不同种植方式对珠芽魔芋生长发育、抗病性和产量等的影响。研究结果表明,通过与玉米套种,珠芽魔芋植株不仅抗病抗倒、无太阳灼伤,而且其增重系数大、产量高,可以作为二高山地区及其他类似地区重要的经济作物进行栽培和利用。
【英文摘要】The effects of different cultivation methods were investigated in Amorphophallus bulbifer in the second-mountain(altitude 400-800m) area of Enshi,Hubei Province.Its development,resistance of disease,production amount,and so on were studied.The results showed that A.bulbifer performed vigorous growth and high resistance to the soft rot bacteria and fungi diseases when it was planted together with maize.This study suggested that A.bulbifer could be an important economic plant to cultivate and utilize in second-mountain area and the other similar ecological areas.
【语种】中文
【第一作者】刁英
【通讯作者】杨朝柱
【期刊名称、卷期、页码】长江蔬菜(学术版)2009(2b):58-60
【论文发表时间】2009-02-20 00:00:00
【引文索引类型】其他
【引文索引号】9.77E+14
【学科分类】园艺学

【题目】Infection Pathways of Soft Rot Pathogens on Amorphophallus konjac.
【中文关键词】魔芋;软腐病;感染途径
【英文关键词】Amorphophallus konjac, bacterial soft rot, infection pathways.
【中文摘要】随着耕地面积的快速扩张,魔芋软腐病是越来越严重。软腐病的主要病原是软腐欧文氏杆菌。一些研究人员认为,魔芋感染的主要途径是伤口。从宏观观察,软腐病菌不能直接侵入完整的球茎,但它可以通过伤口侵入感染的球茎。同时,芽鳞,根和受伤的球茎可以直接感染。从微观观察,球茎表皮的气孔和皮孔,气孔,芽鳞聚集在没有病原体,病原体打破了被感染的根和芽鳞细胞层。结果表明,软腐病原体入侵魔芋主要是通过伤口和各组织的生长,而不是自然开口部。
【英文摘要】With the rapid expansion of cultivated land, bacterial soft rot of konjac is more and more serious. The main pathogen is Erwinia carotovora subsp. carotovora. Some researchers think the natural openings and wounds are the main infection pathways on konjac. In this study, the infection pathways are investigated. From macro-observation, the soft-rot pathogens could not

directly invade the intact corms, but it could invade the infected corms through the new rots. At the same time, bud scales, roots and wounded corms could be directly infected. From micro-observation, the epidermis of the corm had no stomas and lenticels, the stomas of the bud scales had no pathogens gathered around, and the pathogens broke down the infected roots and bud scales cells layer by layer. The results showed that soft rot pathogens invaded Amorphophallus konjac through the wounds and the growth of the organizations rather than the natural openings.

【语种】英文
【第一作者】Jinping Wu
【通讯作者】ZhongliHu
【期刊名称、卷期、页码】African Journal of Microbiology Research.2010,4(14):1495~1499
【论文发表时间】2010-07-18 00:00:00
【引文索引类型】SCI
【引文索引号】2.8128970001e+011
【学科分类】植物保护学

【题目】不同倍性白魔芋植株的细胞学形态观察与核型分析
【中文关键词】白魔芋;多倍体;变异;形态,核型
【英文关键词】Albus; polyploid; variation; morphology; karyotype
【中文摘要】采用种子浸泡法、根状茎生长点滴液法和离体不定芽混培法 3 种途径诱导白魔芋四倍体植株, 并对二倍体和四倍体植株外部形态、叶片气孔特征和核型进行分析比较。结果表明, 与二倍体植株相比, 四倍体植株叶片明显变宽、叶形指数变小, 叶柄粗短, 叶片下表皮气孔及其保卫细胞体积变大、密度减小. 植株外部形态特征变异和叶片下表皮气孔密度变小等特征可作为鉴定变异材料的间接方法, 四倍体和二倍体均为“ 2B ”核型, 可认为四倍体是由二倍体经秋水仙素诱导直接加倍产生的同源四倍体。
【英文摘要】By seed soaking method, the rhizome growth drip liquid induced albus tetraploid plants and adventitious buds in vitro mixed culture method 3 ways and external morphology of diploid and tetraploid plants, leaf stomatal characteristics and karyotypewere analyzed and compared. The results show that, compared with diploid, tetraploid leaves significantly wider, smaller leaf index stubby petioles, leaves under stomatal guard cell volume larger density decreases plant morphological characteristics variability and leaf stomata density smaller features can be used as an indirect method for identification of mutation materials, tetraploid and diploid are "2B" karyotype, can be considered as tetraploid by diploid by colchicine-induced directly redouble autotetraploid.
【语种】中文
【第一作者】牛义
【通讯作者】张盛林
【期刊名称、卷期、页码】西南大学学报(自然科学版)2008,30(12):79~84
【论文发表时间】2008-12-01 00:00:00
【引文索引类型】其他
【引文索引号】9.77E+14
【学科分类】农艺学

【题目】葡甘聚糖等碳源对魔芋软腐病病原菌生长的影响
【中文关键词】碳源,软腐病原菌,魔芋
【英文关键词】Carbon source;soft rot pathogens;Amorphophallus konjac
【中文摘要】魔芋软腐病主要由胡萝卜软腐欧文氏菌胡萝卜软腐亚种(Erwinia carotovora subsp. carotovora,E.c.c.)和菊欧文氏杆菌(Erwinia chrysanthemi,E.ch.)引起,此研究通过稀释平板计数法,明确了葡萄糖、淀粉、甘油、甘露醇、蔗糖、葡甘聚糖、麦芽糖这7种碳源对魔芋软腐病病菌两个亚种生长的影响。结果表明, 这2个亚种都能很好的利用蔗糖,且在清水生长情况与在含魔芋粉、淀粉的培养液中生长情况之间没有显著差异,但在葡萄糖培养液中生长情况还没有清水的好。
【英文摘要】Soft rot in Amorphophallus konjac was mainly caused by Erwinia carotovora subsp. carotovora (E.c.c.)and Erwinia chrysanthemi (E.ch.).This study was explicit about the effects of seven kinds of carbon sources(glucose,starch,glycerin,mannitol,sugar,glucomannan and maltose)for the growth of the two subspecies of soft rotbacteriain Amorphophallus konjac, through the conventional plate countmethod.The results showed that the two subspecies of pathogens can be good use of sucrose, and there was no significant difference between growth in water and growth in medium containing konjak glucomannan or starch.But the growth in medium containing glucose was not as good as in water.

【语种】中文
【第一作者】吴金平
【通讯作者】顾玉成
【期刊名称、卷期、页码】中国农学通报,2010,26(4):271~273
【论文发表时间】2010-04-01 00:00:00
【引文索引类型】其他
【引文索引号】9.77E+14
【学科分类】植物保护学

【题目】云南枇杷野生种质资源叶片性状多样性分析
【中文关键词】陈秀萍; 蒋际谋; 邓朝军; 林旗华; 张守梅; 许奇志; 郑少泉
【英文关键词】Yunnan Loquat Wild Germplasm resources Leaf characters Diversity analysis
【中文摘要】对147份云南枇杷野生资源叶片表型性状进行了调查分析,结果表明,这一群体枇杷种质资源的叶姿、叶形、叶片长度、叶片宽度、叶形指数、叶背茸毛、叶面形态、叶片横切面形状、叶面光泽、叶片颜色等性状均存在丰富的多样性。其中,叶背无茸毛的种质占77.62%,初步断定这个群体中的多数种质不是普通枇杷类型。
【英文摘要】The leaf characters of 147 loquat accessions of wild germplasm resources collected from Yun nan Province as well as their diversity were investigated. The results indicated that there were abundant diversity in leaf attitude, phylliform, leaf length, leaf width, leaf shape index, pubescence of leaf back, shape and luster of leaf surface, shape of cross section and leaf color in these germplasm resources. Among them, the germplasm accessions without pubescence in leaf back accounted for 77.62%. It was preliminarily concluded that most of the germplasm accessions were not belong to Eriobotrya japonica type.
【语种】中文
【第一作者】陈秀萍
【通讯作者】郑少泉
【期刊名称、卷期、页码】福建果树.2009(2):59-62
【论文发表时间】2009-06-15 00:00:00
【引文索引类型】其他
【引文索引号】S667.3
【学科分类】园艺学

【题目】温度对龙眼体胚发生早期POD活性及同工酶的影响
【中文关键词】陈义挺; 赖钟雄; 林玉玲; 李焕苓; 何园; 邵巍; 蔡英卿
【英文关键词】longan, early somatic embryogenesis, peroxidase, activity, isozyme
【中文摘要】以龙眼品种红核子LC2胚性细胞系诱导获得的体胚发生早期过程中不同发育阶段的同步化胚性培养物为材料,2个温度梯度(20℃、30℃)处理,以25℃为对照,初步研究了POD活性及同工酶在龙眼体胚发生早期的变化规律。结果表明:不同温度处理的胚性培养物,随着胚性细胞的分化,POD活性总体呈下降趋势,且无论高温(30℃)或低温(20℃)处理后龙眼体胚发生早期各阶段胚性培养物的POD活性均明显大于对照(25℃);温度处理对龙眼体胚发生早期POD同工酶谱影响也较大,表现为新谱带的出现。推测POD活性与同工酶谱的规律变化与龙眼体胚发生早期细胞分化以及维持体胚正常发育有密切关系。
【英文摘要】The LC2 embryogenic cell line of the cultivar Honghezi of longan was used as materials for obtaining the synchronized embryogenic cultures of early somatic embryogenesis at different developmental stages which were treated with different temperatures (20°C and 30°C,compared with 25°C) for analyses of the peroxidase(POD) activities and isozymatic patterns during longan early somatic embryogenesis. The results showed that with the differentiation of embryogenic callus,all the POD activities of the embryogenic cultures treated with three different temperatures decreased, and the POD activitives of the embryogenic cultures treated with high(30°C) or relatively low (20°C) temperatures at the successive developmental stages during early somatic embryogenesis showed higher than the comparison (25°C); the treatment of the temperature also had a great impact on the POD isozymatic patterns with the performance of the new bands for the emergence, which might be concluded that the changes of POD activities and isozymatic patterns in a law played a key role in the differentiation of early somatic embryogenesis, and keeping the normal development of somatic embryogenesis in longan.
【语种】中文

【第一作者】陈义挺
【通讯作者】赖钟雄
【期刊名称、卷期、页码】中国农学通报.2009(9):32-37.
【论文发表时间】2009-05-05 00:00:00
【引文索引类型】其他
【引文索引号】S667.2
【学科分类】园艺学

【题目】云南部分野生枇杷种质资源的数量分类研究
【中文关键词】胡文舜; 陈秀萍; 李韬; 张守梅; 林旗华; 邓朝军; 郑少泉
【英文关键词】Loquat Genetic resources Morphological traits Numerical taxonomy
【中文摘要】调查了145份云南野生、半野生枇杷种质资源的29个枝梢及叶片性状,采用数量分类学的方法对该群体进行研究。Q型聚类分析可以比较理想地将145份种质在L1=20.64水平上分为5个组,实验表明老叶叶背茸毛脱落与否、叶柄长度、叶脉对数和叶片长度在枇杷属植物分类中起着重要作用。R型聚类分析探讨了29个性状的相关性,结果表明多数性状具有相对独立性。主成分分析表明,29个性状可综合分为10个主成分,其累积贡献率达71.8%,根据前10个主成分与性状间的相关性,选出了影响力比较大的17个性状,并分为3个分类等级。
【英文摘要】Twenty-nine characteristics of shoot and leaf in 145 accesions of wild,semi-wild loquat (Eriobotrya japonica Lindl.)collected from Yunnan province,were investigated and analysed by numerical taxonomic methods. All the plants can be grouped into 5 groups at the level of L1=20.64 by Q cluster analysis; the pubescence fall or not of old leaf back, length of leaf stalk,number of veins and length of leaf blade were of great valve in classification. R cluster anaylsis showed that the 29traits had independent influence on the genetic relationship. The principal component analysis showed that the 29 traits were intergrated into 10 principal components (PC), their accumlative contribution ratio amounted to 71.8%.Key words: Loquat; Genetic resources; Morphological traits; Numerical taxonomy.
【语种】中文
【第一作者】胡文舜
【通讯作者】胡文舜
【期刊名称、卷期、页码】果树学报.2009(3):403-408.
【论文发表时间】2009-05-10 00:00:00
【引文索引类型】其他
【引文索引号】S667.3
【学科分类】园艺学

【题目】云南、贵州部分野生枇杷种质资源花序性状观察
【中文关键词】黄爱萍; 陈秀萍; 骆键夫; 魏秀清; 郑珊; 章希娟; 张小艳; 许奇志; 陈秀妹; 郑少泉
【英文关键词】Eriobotrya japonica Lind.l Wild Germplasm resources Inflorescence traits Distribution Correlation
【中文摘要】对保存于国家果树种质福州枇杷圃备份圃的来源于云南、贵州的30份野生枇杷种质花序性状进行观察,结果表明:(1)各种质的花序长度、花序宽度、花序支轴数、花序花朵数、花冠直径的次数分布存在差异,两两间均表现为极显著正相关,变异系数22.7%~85.1%;(2)花序形状、花序支轴姿态、花序支轴紧密度和花瓣颜色等4个描述性状也表现丰富的多样性;(3)112号野生枇杷花瓣表现特异,其花瓣数平均为6.3瓣(其他种质均为5瓣)。
【英文摘要】In this paper, inflorescence traits of 30 wild loquat accessions in the national preparing nursery for loquat in Fuzhou origined in Yunnan and Guizhou, were evaluated. The results showed:(1) The distribution of the inflorescence length, the inflorescence width, the number of inflorescence branch-axis, the number of inflorescence flowers and corolla diameter in loquat germplasm accessions were different and the variation coefficient were 22.7%-85.1%. It showed high significant positive correlation between every two of them. (2) There was diversity on the description characters of in florescence in loquat germplasm, including the shape of flower cluster, attitude of secondary peduncle, density of flower cluster and color of f lower axis. (3) No.112 was a special germplasm resource with Petal number of 6.3 on average, while the Petal number of others was 5.
【语种】中文
【第一作者】黄爱萍
【通讯作者】郑少泉

【期刊名称、卷期、页码】福建果树.2010(1):14-18.
【论文发表时间】2010-03-15 00:00:00
【引文索引类型】其他
【引文索引号】S667.3
【学科分类】园艺学

【题目】优质大果晚熟枇杷新品种‘艳红’的选育研究
【中文关键词】黄金松; 郑少泉; 许家辉; 许玲; 刘惠玉; 姜帆; 蒋际谋; 李韬; 黄爱萍; 陈志峰; 陈秀萍; 邓朝军; 张立杰; 张小艳; 章希娟; 郑姗
【英文关键词】Eriobotrya japonica Lindl New Cultivar ‘Yanhong’ Cross breeding Superior quality Late ripening Large type
【中文摘要】‘艳红’枇杷新品种,系福建省农业科学院果树研究所福建省龙眼枇杷育种工程技术研究中心以我国超大果型品种‘解放钟’为母本、美国枇杷‘黄金块’(Gold Nugget)为父本,通过有性杂交选育而成。多年观察结果表明,该品种具有优质(可溶性固形物含量13.1%,总酸含量0.57%)、外观鲜艳、晚熟(福州地区5月中旬成熟)、大果(单果重68.6 g)、抗性强和较丰产等特点。其综合经济性状明显优于亲本和现有的主栽枇杷良种,可作为枇杷升级换代的新品种。
【英文摘要】‘Yanhong’, a new loquat cultivar, was selected from across-combination of ‘Jiefang-zhong’ as female parent and ‘Gold Nugget’ as pollen parent in 1995. It was characterized by high quality (TSS 13.1% and total acid 0.57%), good appearance, late ripening (mid-May in Fuzhou city), large fruit (68.6g), strong resistance to stresses and higher yield, which is superior to the parents and main loquat cultivars. Therefore ‘Yanhong’ loquat might have a good potential for loquat cultivar renewal.
【语种】中文
【第一作者】黄金松
【通讯作者】黄金松
【期刊名称、卷期、页码】福建果树.2009(2):1-4.
【论文发表时间】2009-06-15 00:00:00
【引文索引类型】其他
【引文索引号】S667.3
【学科分类】园艺学

【题目】优质早熟大果型锥栗新品种——八月香的选育
【中文关键词】黄新忠; 范辉华; 陆修闽; 陈小明; 蔡盛华; 陈柳英; 陈林生; 雷龑
【英文关键词】Castanea henryi New cultivar Bayuexiang
【中文摘要】八月香系实生优株选育而成。属长枝型,树势强健,枝梢生长旺,分枝角度小;以粗壮结果母枝结果为主,连续结果能力强。坚果圆锥形、单果质量13.5 g、果皮红褐色、果肉黄白色,鲜食熟食品质皆佳;成熟期9月上旬,较黄榛提早20~25 d;早实丰产,盛产期666.7 m2产量200 kg以上。
【英文摘要】Bayuexiang was selected from the open pollinated superior seedlings. It belongs to long branch type and has strong tree vigor and thriving branches with small branching angle; Fruits mainly come from thick bearing branches with strong continuous bearing ability. The fruit shape is of cone, weighing 13.5 g on average, with a reddish brown skin and the flesh is yellow white in color and good for fresh consumption and cooking. It ripens in early September,20 to 25 d earlier than Huangzhen cultivar. The trees are productive. The production could reach more than 3 t • hm2.
【语种】中文
【第一作者】黄新忠
【通讯作者】黄新忠
【期刊名称、卷期、页码】果树学报.2010(2):318-319.
【论文发表时间】2010-03-10 00:00:00
【引文索引类型】其他
【引文索引号】S664.2
【学科分类】园艺学

【题目】夏黑葡萄区域试验
【中文关键词】雷龑; 郑铭西; 刘鑫铭; 陈婷; 蔡盛华; 范丽华; 黄新忠

【英文关键词】Summer Black
【中文摘要】区域试验结果表明,夏黑葡萄适应性及抗逆性均较强,适宜福州市、南平市两地栽培。成熟期比当地巨峰葡萄提早10d以上,可溶性固形物含量可达18%以上,无核,品质极佳且耐贮运,经济效益显著,具有良好的发展前景。
【英文摘要】Abstract
【语种】中文
【第一作者】雷龑
【通讯作者】黄新忠
【期刊名称、卷期、页码】福建果树.2010(3):20-22.
【论文发表时间】2010-09-15 00:00:00
【引文索引类型】其他
【引文索引号】S663.1
【学科分类】园艺学

【题目】微波前处理-热水浸提技术提取余甘多糖工艺的优化
【中文关键词】李永裕; 陈建烟; 关夏玉; 温凤英; 吴少华; 王曾金
【英文关键词】emblic leafflower fruit
【中文摘要】余甘多糖具有清除自由基、抗氧化和抗肿瘤的生物活性,然而对余甘多糖提取工艺的研究报道较少.本文采用微波前处理-热水浸提新工艺提取余甘多糖,通过单因素和正交试验研究微波时间、微波功率、热水浸提温度和浸提时间对余甘多糖得率的影响.结果表明,影响多糖得率的主要因素及其次序为热水浸提温度、热水浸提时间、微波时间、微波功率.在试验范围内,余甘多糖的最佳提取工艺条件是:微波时间60 s、微波功率480W、热水浸提温度90 ℃、热水浸提时间4 h.在此条件下,余甘多糖得率为7.94%。
【英文摘要】Abstract
【语种】中文
【第一作者】李永裕
【通讯作者】吴少华
【期刊名称、卷期、页码】中国食品学报.2011,11(1):106-111.
【论文发表时间】2011-02-28 00:00:00
【引文索引类型】其他
【引文索引号】TQ461
【学科分类】园艺学

【题目】应用超声波技术强化提取余甘多糖
【中文关键词】李永裕; 陈建烟; 温凤英; 关夏玉; 王曾金; 吴少华
【英文关键词】Phyllanthus emblica Polysaccharides Ultrasonic Extraction FT-IR(Fourier transform infrared spectroscopy)
【中文摘要】通过单因素和正交实验研究了超声波时间、超声波功率、超声波提取温度和料液比对余甘(Phyllanthus emblica L.)多糖收率的影响。结果表明,多糖收率的主要影响因素为超声波功率、超声波时间、料液比、超声波提取温度。余甘多糖的最佳提取工艺条件为:超声波功率475W、超声波时间70min、料液比1:20、超声波提取温度80℃,余甘多糖收率为95.86mgg-1DW。紫外和红外光谱分析表明,余甘多糖是含有糖醛酸的α型吡喃酸性杂多糖,超声波处理没有改变多糖结构。
【英文摘要】Emblica polysaccharides(EPS) have biological activities on free radical scavenging, ant-ioxidation and ant-itumor. The effect factors on yield of emblica polysaccharides from Phyllanthus emblica extracted by ultrasound were studied. The results showed that the factors included ultrasonic power, ultrasonic time, solid-liquid ratio, ultrasonic extraction temperature. The optimal extraction condition were ultrasonic power of 475W with solid(g) to liquid(mL) ratio of 1: 20 at 80℃ for 70min, with the yield of 95.86mg g-1 DW. Ultraviolet spectrum and FTIR(fourier transform infrared spectroscopy) analysis showed that EPS was a α type acidic heteropolysaccharide containing pyran and glycuronic acid. The structural modification of EPS by ultrasonic radiation was not observed.
【语种】中文
【第一作者】李永裕
【通讯作者】吴少华

【期刊名称、卷期、页码】热带亚热带植物学报.2010(5):552-558.
【论文发表时间】2010-09-15 00:00:00
【引文索引类型】其他
【引文索引号】S567.19
【学科分类】园艺学

【题目】台湾菠萝新品种在漳州的引种观察
【中文关键词】李泽坤; 林晶晶; 陈清西
【英文关键词】pineapple
【中文摘要】引进2个菠萝新品种,即台农16号(甜蜜蜜菠萝)、台农17号(金钻菠萝),观察其在漳州市种植的物候期、生长结果习性、果实性状以及果实品质等。结果表明,这2个品种表现优良,适宜在漳州地区推广种植,其中以台农16号表现更优。
【英文摘要】Abstract
【语种】中文
【第一作者】李泽坤
【通讯作者】李泽坤
【期刊名称、卷期、页码】现代园艺.2012(13):20-21.
【论文发表时间】2012-07-10 00:00:00
【引文索引类型】其他
【引文索引号】S668.3
【学科分类】园艺学

【题目】植物胚胎发育MicroRNA研究进展
【中文关键词】林玉玲; 赖钟雄
【英文关键词】Plant embryo Somatic embryogenesis Development
【中文摘要】MicroRNA(miRNA)为长度约22 nt的不编码蛋白的单链新型调控小分子RNA,对植物生长发育和抵抗胁迫等过程具有重要的调控作用。在阐述植物发育中miRNA作用的基础上,进一步介绍植物胚胎发育miRNA的研究进展。
【英文摘要】MicroRNAs are a class of endogenous and non-coding RNAs with about 22nt in length that play an important role in plant development and response to environmental signals. In this paper, the progress of the roles of miRNA in plant embryonic development were described.
【语种】中文
【第一作者】林玉玲
【通讯作者】赖钟雄
【期刊名称、卷期、页码】生物技术通报.2010(10):20-25.
【论文发表时间】2010-10-26 00:00:00
【引文索引类型】其他
【引文索引号】Q943
【学科分类】园艺学

【题目】中国水仙BAC文库构建的研究
【中文关键词】王江波; 潘东明; 潘腾飞; 郭志雄
【英文关键词】Narcissus high molecular weight DNA (HMW-DNA) BAC library pulsed-field gel electrophoresis
【中文摘要】为更深入地挖掘中国水仙的基因组信息,筛选与中国水仙品质相关的功能基因,以中国水仙品种‘金盏银台’的黄化叶片为材料,采用改良Zhang法获得高分子量核DNA,经酶切、连接和转化,首次构建了中国水仙基因组BAC文库。结果表明,采用改良zhang法获取的核DNA分子量大于1 Mb,适合BAC文库的构建;优化了连接、转化体系,发现载体和插入片段的摩尔比为5:1时,连接、转化效率最高;经检测,该文库包括69120个克隆,插入片段的平均大小约87 kb,空载率小于1%,大约50%的克隆大小在80~90 kb之间;Southern blot结果表明该文库未受到细胞器DNA的污染。
【英文摘要】To further study Narcissus genome and screen functional genes, a BAC library was constructed for the first time in the world. The high molecular weight DNA(HMW-DNA) was isolated from Narcissus etiolation leaves used improved Zhang's method. The HMW-DNA was cut by Hind III and ligated to BAC vectors; the ligations were transformed into Escherichia coli DH10B.The results showed that the DNA isolated by improved Zhang's method was higher than 1 Mb, which was suitable for BAC library

construction. The ligation and transform methods were improved; the optimum mole ratio between vectors and DNA fragments was 5:1.The library consists of 69120 clones with an average insert size of 87 kb, about 50% clones contain 80 to 90 kb insert DNA, and less than 1% of the clones do not contain inserts. Screening of BAC library with chloroplast DNA probes by Southern blot indicated that less than 1% of the clones contained organelle-derived DNA.

【语种】中文
【第一作者】王江波
【通讯作者】潘东明
【期刊名称、卷期、页码】中国农学通报.2012,28(10):194-197.
【论文发表时间】2012-04-05 00:00:00
【引文索引类型】其他
【引文索引号】S682.21
【学科分类】园艺学

【题目】中国水仙高分子量核DNA提取方法的建立
【中文关键词】王江波; 潘东明; 潘腾飞; 郭志雄; 钟娴; 王金英
【英文关键词】Narcissus High Molecular Weight DNA(HMW-DNA) BAC library Pulsed-field gel electrophoresis
【中文摘要】以中国水仙(Narcissus tazetta L.var.Chinensis Roem)黄化叶片为材料,比较了2种提取方法对高分子量核DNA(HMW-DNA)制备效果的影响。结果表明,改良Zhang法与Peterson法相比,前者更适合于中国水仙叶片HMW-DNA的提取。将得到的细胞核用低熔点琼脂糖包埋,琼脂糖小块用蛋白酶K最适消化时间为24h,脉冲场凝胶电泳分析结果表明,所获得的HMW-DNA大于1 Mb,这些核DNA能够被限制性内切酶消化;用Southern blot检测,结果表明没有其它细胞器DNA的污染;适合于中国水仙BAC基因组文库的构建。
【英文摘要】High molecular weight nuclear DNA (HMW-DNA)from the leaves of Narcissus tazetta L.var. Chinensis Roem was prepared by two methods(Zhang's and Peterson's method)and the extracting effects of the two preparing methods were compared. The results showed that Zhang's method was more suitable for preparation of HMW-DNA in Narcissus. The isolated nuclei were embedded with low-melting-point agarose. The optimal digestion time of plugs was 24 hours by Proteinase K. The pulse field gel electrophoresis (PFGE)results showed that the isolated HMW-DNAs were more than 1 Mb in size and were digested completely or partially by restriction enzymes. The results showed that there were no others organelle DNA in plugs by Southern blot analysis. Therefore, Zhang's method was suitable for the construction of a BAC library in Narcissus.
【语种】中文
【第一作者】王江波
【通讯作者】潘东明
【期刊名称、卷期、页码】热带作物学报.2011(12):2283-2286.
【论文发表时间】2011-12-25 00:00:00
【引文索引类型】其他
【引文索引号】S682.21
【学科分类】园艺学

【题目】叶片结构与柑橘溃疡病抗性的初步研究
【中文关键词】温寿星; 黄镜浩; 陈瑾; 蔡子坚; 包榕; 张凌媛
【英文关键词】stomatal density leaf anatomical structure sponge tissue palisade tissue
【中文摘要】以稻叶温州蜜柑[Citrusunshiu (L.) var.Inaba]、春见[(C. reticulata×C. sinensis)var.Okitsu No.44]、卡拉卡拉红肉脐橙[C.sinensis(O.)var.Cara Cara]、玫瑰橙[C.Sinensisvar.Meiguicheng]和HB柚[C.grandis(L.)var.HB]等5个柑橘品种的夏梢老熟叶片为材料,采用表皮撕取法及常规石蜡切片法对气孔及叶片显微结构进行解剖构造的观察和测定,并就结构与品种的溃疡病抗性进行了相关性分析。结果表明:不同品种间叶片的气孔密度差异显著,并且与品种抗病性成正相关,其相关系数为0.888;不同品种间叶片的显微结构特征差异不显著,与品种抗病性相关性不显著,品种间变化规律性不强。叶片气孔的密度可作为抗柑橘溃疡病的形态结构的初步鉴定指标。
【英文摘要】The anatomic structure of the summer leaves and the microstructure in 5 cultivars of citrus were studied. The experimental results showed that the leaf stomata density in lower epidermis was significant different among cultivars and in positive correlation with the disease resistance to Xanthomonas axonopodis pv. citri (r=0.888). The microstructure of leaf was not significant different among the cultivars and showed no correlation with disease resistance. The stomatal density in leaf tissues could be one of the

criteria for canker resistance of citrus.
【语种】中文
【第一作者】温寿星
【通讯作者】黄镜浩
【期刊名称、卷期、页码】中国农学通报.2009(13):66-69.
【论文发表时间】2009-07-05 00:00:00
【引文索引类型】其他
【引文索引号】S436.66
【学科分类】园艺学

【题目】真菌对芒果花序侵染过程的细胞学观察
【中文关键词】温寿星; 黄镜浩; 马蔚红; 王松标; 武红霞; 梁国鲁
【英文关键词】fungus invasion mango
【中文摘要】为采用适当的方式解决病原真菌侵染芒果花序的问题,采用荧光显微镜观察法和石蜡切片法对真菌侵染芒果花序的过程进行观察,结果显示:不同年份受真菌感染率不同,感染率与取材年份的气候状况有关;低温(日均气温10~20℃)条件下,芒果花蕾受真菌感染率由常温(25~30℃)下的37.80%上升至68.18%;不同种类的真菌对芒果花序具有协同侵染作用;真菌分生孢子在花蕾表面及内部空腔萌发,菌丝体经花瓣分泌组织侵入体内,沿细胞间隙生长,在组织内形成分生孢子囊并导致组织病变坏死。
【英文摘要】With paraffin section technology and fluorescence microscope, the process of fungal invasion into mango inflorescence was observed. Results were as follow: Fungal infection rate of different year was different from each other, and was highly correlated to the weather condition while materials were chosen. The infection rate of mango buds by fungus rose from 37.80% of normal condition to68.18% under low temperature. Some fungal conidiophores germinated and grew in flower lacuna and then invaded into interfloral nectary through interspace among cells to produce sporangium. While some germinated on calyx surface then invaded inside to cause putrescence.
【语种】中文
【第一作者】温寿星
【通讯作者】黄镜浩
【期刊名称、卷期、页码】中国农学通报.2009(17):293-295.
【论文发表时间】2009-09-05 00:00:00
【引文索引类型】其他
【引文索引号】S436.67
【学科分类】园艺学

【题目】优质鲜食橄榄新品系‘光甜’的选育
【中文关键词】吴如健; 万继锋; 韦晓霞; 陈瑾; 潘少霖; 胡菡青; 张泽煌
【英文关键词】Chinese olive new strain Guangtian fresh consumption
【中文摘要】‘光甜’是从橄榄实生繁育群体中选出的橄榄鲜食新品系。果实长椭圆形,平均单果重9.7 g,果皮光滑,成熟时黄绿色,果肉黄白色,肉质嫩脆,化渣,风味淡甜,回甘强,品质优,可溶性固形物9.9%,可食率78.4%。植株生长势强,早结,丰产,适应性广,病虫害危害较轻。
【英文摘要】‘G uangtian’was selected from the open-pollinated seedlings of Chinese olive. The fruit shape is oblongoval, with an average mass of 9.7 g. The pericarp is smooth and yellow-green in color. The flesh is yellowwhitein color with tender and crisp texture, fragrant sweet flavor, strong aftertaste and good eating quality, and contains a soluble solids content and edible rate 9.9% and 78.4%, respectively. The tree has strong vigor of growth, early bearing and high yield. It is adaptable to various growing conditions with less diseases and pests harm.
【语种】中文
【第一作者】吴如健
【通讯作者】吴如健
【期刊名称、卷期、页码】热带作物学报.2011(8):1445-1448.
【论文发表时间】2011-08-25 00:00:00

【引文索引类型】其他
【引文索引号】S667.5
【学科分类】园艺学

【题目】台湾番木瓜品种在漳州地区引种栽培及适应性比较
【中文关键词】伍洋; 陈清西; 林玉芳
【英文关键词】Taiwan papaya botanical characteristics agronomic traits fruit quality disease resistance
【中文摘要】对新引进的马来9号、马来10号、金峰和台农2号4个台湾番木瓜品种在漳州地区进行试栽,并进行植物学性状、农艺性状、果实品质和抗病性等综合比较试验。结果表明,马来9号和马来10号品种具有高产、稳产、优质、抗病等优点,适合在漳州地区推广种植。金峰品种产量偏低,果实品质一般;台农2号品种极易感染病害,不适合在漳州地区推广种植。
【英文摘要】Four varieties of papaya, i e. , Malay No. 9, Malay No. 10, Jinfeng and Tainong No. 2, from Taiwan were introduced and cultivated in Zhangzhou area. Their botanical characteristics, agronomic traits, fruit quality and disease resistance were studied. The results showedthat Malay No. 9 and Malay No. 10 had high and stable yields, high quality and good disease resistance. On the other hand, Jinfeng were poor on fruit yield with average quality, while Tainong No. 2 was easily infected by viruses. Therefore, it was concluded that Malay No. 9 and No.10 would be more suitable for planting in Zhangzhou area than the other two varieties.
【语种】中文
【第一作者】伍洋
【通讯作者】陈清西
【期刊名称、卷期、页码】福建农业学报.2011(1):83-86.
【论文发表时间】2011-02-15 00:00:00
【引文索引类型】其他
【引文索引号】S667.9
【学科分类】园艺学

【题目】晚熟龙眼挂树期果实呼吸强度、细胞膜透性及若干品质变化
【中文关键词】许家辉; 许玲; 余东; 魏秀清; 蒋际谋; 郑少泉; 吴少华
【英文关键词】fruit
【中文摘要】以晚熟龙眼品种青壳宝圆、九月乌、立冬本、苗翘为试材,研究挂树期内果实呼吸强度、果皮细胞膜透性和若干品质性状的变化。结果表明:除青壳宝圆外,挂树期果实呼吸强度均呈下降趋势;挂树5d内,青壳宝圆、苗翘的果皮细胞膜透性下降,立冬本上升,九月乌基本不变,挂树5~15d果皮细胞膜透性除立冬本外,均上升;挂树期单果重呈上升的趋势;可食率在挂树初期有所提高,随着挂树时间的延长而下降;果肉自溶指数随挂树时间的延长而上升。
【英文摘要】Abstract
【语种】中文
【第一作者】许家辉
【通讯作者】吴少华
【期刊名称、卷期、页码】热带作物学报.2009(8):1083-1087.
【论文发表时间】2009-08-25 00:00:00
【引文索引类型】其他
【引文索引号】S667.2
【学科分类】园艺学

【题目】晚熟焦核优质荔枝新株系——岽山焦核晚荔
【中文关键词】尤有利; 王江波; 潘东明; 辜燕萍
【英文关键词】Litchi chinensis
【中文摘要】正福建省永春县利鹏园艺场等单位针对荔枝生产上存在的产期集中、单产低、质量不高等问题,联合开展荔枝良种选育研究工作,筛选出晚熟焦核优质荔枝新株系"岽山晚荔"。经多年观察和鉴评,其母树和无性子代性状遗传稳定,综合表现优异,果大
【英文摘要】Abstract

【语种】中文
【第一作者】尤有利
【通讯作者】潘东明
【期刊名称、卷期、页码】中国南方果树.2012(2):99-100.
【论文发表时间】2012-03-20 00:00:00
【引文索引类型】其他
【引文索引号】S667.1
【学科分类】园艺学

【题目】套袋枇杷果面微域环境变化对果实品质的影响
【中文关键词】张丽梅; 陈熹; 李韬; 许家辉; 胡文舜; 熊月明
【英文关键词】Loquat frut bagging microenvironment fruit quality
【中文摘要】以贵妃枇杷为试材,用3种果袋进行套袋,对袋内微域环境的光照强度(简称光强)、温湿度和透气性进行测定,并分析不同果袋内微域环境变化和果实品质及两者之间的相关性。结果表明:套袋使微域环境中的日均光强下降,果实外观品质有不同程度的提高,表现在光洁度好、着色均匀、果粉和茸毛较完整、日灼果率和锈斑病下降;内在品质表现在可溶性固形物含量和总糖含量下降,可滴定酸含量和Vc含量增加,风味偏酸偏淡;日均光强对果实的可溶性固形物含量、总糖含量的影响均呈正相关,但对可滴定酸含量、Vc含量的影响均呈负相关,对可滴定酸含量的影响最大,相关系数为-0.9766,相关性显著 -0.9766(P<0.05)。
【英文摘要】Using three different kinds of bags to enclose Gui-fei loauat fruits, the light intensity, temperature, humidity and ventilation in the microenvironment wer determined. The relationship between the conditions inside the bag and the fruit quality was established. The results showed that the bagging caused decreases in sunlight intensity, while improving the fruit ’ s exterior and flesh qualities in varying degrees. Externally, the fruit skin had a clean, shiny appearance with even, attractive color, powdery and fuzzy coatings, and few burned or rust spots. The flesh showed decreases in soluble solids and sugar contents, increases in titratable acids and vitamin C, as well as an increased sour taste and somewhat reduced flavor. The soluble solids and total sugar contents were positively related to the average daily sunlight intensity; whereas, the titratable acids and vitamin C were negatively related to the sunlight intensity. Among the factors investigated, their greatest effect was on the content of titratable acid, with a correlation coefficient of -0.9766(P<0.05).
【语种】中文
【第一作者】张丽梅
【通讯作者】陈熹
【期刊名称、卷期、页码】福建农业学报.2009(5):450-453.
【论文发表时间】2009-10-15 00:00:00
【引文索引类型】其他
【引文索引号】S667.3
【学科分类】园艺学

【题目】野生香蕉几丁质酶基因的克隆与序列分析
【中文关键词】张妙霞; 赖钟雄
【英文关键词】chitinase gene
【中文摘要】以野生香蕉叶片为试材,采用RT-PCR结合RACE法,通过T/A克隆测序,获得野生香蕉几丁质酶基因全长序列,并在GenBank登录(登录号为:FJ858155)。野生香蕉几丁质酶基因(Chi Ⅰ1)全长1115bp,包含924bp的ORF、14bp的5'非编码区、177bp的3'非编码区及17bp3'poly(A)尾。该基因开放阅读框编码307个氨基酸,分子量为32424.1u,预测的理论等电点为6.28,其结构包括信号肽、几丁质结合区、糖苷水解酶区。蛋白结构分析结果表明,该基因编码蛋白为跨膜蛋白,存在于胞外。野生香蕉几丁质酶基因(Chi Ⅰ1)属于酸性几丁质酶class Ⅰb,与大蕉几丁质酶class Ⅰb相似性仅为59.4%。结构分析结果表明,该基因可能具有几丁质酶/溶菌酶特点,且在过敏反应中起重要作用。
【英文摘要】Abstract
【语种】中文
【第一作者】张妙霞
【通讯作者】赖钟雄

【期刊名称、卷期、页码】热带作物学报.2010(8):1244-1252.
【论文发表时间】2010-08-25 00:00:00
【引文索引类型】其他
【引文索引号】S668.1
【学科分类】园艺学

【题目】野生香蕉叶片总RNA提取方法研究
【中文关键词】张妙霞; 赖钟雄; 赵巧阳
【英文关键词】wild banana leaf total RNA improved CTAB TRIZOL Regent kit RNAsio Regent
【中文摘要】野生香蕉; 叶片; 总RNA; 改良CTAB法; TRIZOL试剂盒法; RNAsio试剂法{Abstract}: 采用TRIZOL试剂盒法、RNAsio试剂法和改良CTAB法提取香蕉叶片总RNA,并通过凝胶电泳、紫外分光光度法检测提取的RNA样品的质量。研究结果表明:改良CTAB法提取的RNA具有28SrRNA和18SrRNA两条清晰的条带,OD260/OD280在1.80~1.95之间,OD260/OD230在1.75~2.10之间,具有较高的纯度;其他两种方法获得的RNA纯度不够,降解严重。将提取的RNA分别逆转录成cDNA,经RT-PCR扩增,只有改良CTAB法出现清晰的条带,进一步证明改良CTAB法提取的RNA具有很高的纯度,可以满足进一步分子生物学研究的要求。
【英文摘要】Total RNA was isolated from wild banana leaves by using the methods of TRIZOL Regent kit , RNAsio Regent and improved CTAB. The quality of total RNA was analyzed through gel electrophoresis and UV spectrometer. The results indicated that the RNA isolated by the method of improved CTAB showed clear bands of 28SrRNA and 18SrRNA ,and the value of OD260/OD280 was 1.80to 1.95,the value of OD260/OD230 was1.75to 2.10. RNA isolated by the other two methods degraded seriously .RNA could be reverse to cDNA. The cDNA was used for RT-PCR amplifying,but the electrophoresis figure by RT-PCR showed that there was one distinct band using the RNA temples isolated by the method of CTAB. These results demonstrated that the quality and purity of the RNA obtained by the method of improved CTAB could meet the demands of molecular biology experiment.
【语种】中文
【第一作者】张妙霞
【通讯作者】赖钟雄
【期刊名称、卷期、页码】中国农学通报.2009(14):51-54.
【论文发表时间】2009-07-20 00:00:00
【引文索引类型】其他
【引文索引号】S668.1
【学科分类】园艺学

【题目】锥栗叶片两种提取蛋白方法的比较
【中文关键词】郑诚乐; 刘小芝; 钟凤林; 潘东明
【英文关键词】Castanea henryi (Skam) Rehd. et Wils
【中文摘要】比较三氯乙酸/丙酮沉淀法、酚抽提法两种方法对锥栗叶片总蛋白的提取效果。结果表明:酚抽提法获得的蛋白质产率高、纯度高;且其提取蛋白质所得电泳图谱背景浅、拖尾轻、蛋白点分散且性状规则,适合锥栗叶片蛋白质的提取。试验为锥栗胚胎发育期蛋白质组学研究提供参考,也对其他干扰物质含量高的植物组织蛋白提取有一定的参考价值。
【英文摘要】Abstract
【语种】中文
【第一作者】郑诚乐
【通讯作者】潘东明
【期刊名称、卷期、页码】中国园艺文摘.2010(3):5-7.
【论文发表时间】2010-03-26 00:00:00
【引文索引类型】其他
【引文索引号】S664.2
【学科分类】园艺学

【题目】锥栗雌配子体形成与胚胎发育

【中文关键词】郑诚乐; 俞晓曲; 潘东明; 林昌
【英文关键词】chinquapin megasporogenesis female gametophyte embryo development
【中文摘要】以锥栗品种黄榛为材料,采用石蜡切片技术对其大孢子发生、雌配子体形成和胚、胚乳发育过程进行了研究.结果表明:锥栗为雌雄异花同株果树,多心皮复合雌蕊,中轴胎座,通常有8-10个子房室,每室倒生2枚胚珠;珠心组织中的一个孢原细胞直接发育形成大孢子母细胞,经减数分裂形成的大孢子四分体呈线形,其中靠近合点端的功能大孢子发育成为成熟胚囊;胚囊发育类型为单孢子蓼型胚囊;双受精后,原胚经过球胚、心型胚、鱼雷胚和子叶胚等阶段发育为成熟胚,胚乳呈核型,种子无胚乳。
【英文摘要】Embryological studies were carried out on them egasporogenesis, female gametophyte formation, the development of embryos andendosperm by using Huangzhen as them aterial and taking advantage of paraffin section technology. The results showed that chinquap in(Castanen henryi Rehd&Wils.) was diclinous with polycarpous compound pistils, axile placentas, commonly 8 to10 loculaments and 2 anatropous ovules in each loculament. An archesporial cell in the nucellus tissue would directly develop into the megaspore mother cell that subsequently formed linearmegaspore tetrads. The functionalm egaspore near the chalazal end developed into mature embryo sac, which was monosporic polygonum-type. After double fertilization, the proembryo would develop into a mature embryo going through globular, heart, torpedo and cotyledon stages. Endosperm is nuclear endosperm and it doesn ’ t exist in seeds.
【语种】中文
【第一作者】郑诚乐
【通讯作者】潘东明
【期刊名称、卷期、页码】福建农林大学学报(自然科学版).2009(6):585-589.
【论文发表时间】2009-11-18 00:00:00
【引文索引类型】其他
【引文索引号】S664.2
【学科分类】园艺学

【题目】锥栗果实双向电泳体系的建立
【中文关键词】郑诚乐; 钟凤林; 潘东明; 刘小芝
【英文关键词】chinquapin(Castanea henryi Rehd. & Wils.); proteome; two-dimensional electrophoresis
【中文摘要】通过对传统双向电泳技术进行改进和优化,包括对锥栗果实蛋白不同提取方法的优化和不同pH值范围IPG胶条的比较等,以建立适于锥栗果实蛋白质组分析的双向电泳方法.结果表明,使用裂解液直接提取蛋白的方法所获得的双向电泳图谱稳定性和重复性较好,分辨率较高,经银染后可分辨出400多个蛋白点,其等电点主要分布于pH 4-7.
【英文摘要】The conventional two-dimensional electrophoresis technology was improved in order to develop an appropriate approach for proteomics of chinquap in fruits. The study was done by optimizing different protein extraction methods and comparing IPG strips at different pH values. With the improved protein extraction method, a stable, reproducible and high resolution 2-D electrophoresis map was obtained. After silver staining, more than400proteinspotswere detected, with their isoelectric points (pI) mainly at pH 4-7.
【语种】中文
【第一作者】郑诚乐
【通讯作者】潘东明
【期刊名称、卷期、页码】福建农林大学学报(自然科学版).2010(5):475-479.
【论文发表时间】2010-09-18 00:00:00
【引文索引类型】其他
【引文索引号】S792.17
【学科分类】园艺学

【题目】优质大果晚熟白肉枇杷新品种‘ 黄蜜 ’选育研究
【中文关键词】郑少泉; 许家辉; 蒋际谋; 余东; 陈秀萍; 李韬; 黄爱萍; 魏秀清; 邓朝军; 郑文松; 姜帆; 陈志峰; 郑姗; 张立杰; 谢丽雪; 章希娟; 张小艳; 胡文舜; 黄金松
【英文关键词】Huangmi loquat White pulp Highquality Big fruit Latematuring
【中文摘要】‘ 黄蜜 ’是从枇杷实生群体中筛选出的新品种,经品种比较和区域试验,表现晚熟、大果、优质、早结丰产、抗逆性强、耐贮运,可作为福建省中晚熟枇杷更新换代的白肉枇杷优良新品种。

【英文摘要】Huangmi' is a new variety screened from loquat seedling population. It showed latematuring, big fruit, high quality, early fruiting, high yield, strong stress resistance, storability and transport by variety comparison and regional test. And it is a fine renewal variety of mid-late maturing white pulp loquat in Fujian.
【语种】中文
【第一作者】郑少泉
【通讯作者】郑少泉
【期刊名称、卷期、页码】福建果树.2010(1):1-3.
【论文发表时间】2010-03-15 00:00:00
【引文索引类型】其他
【引文索引号】S667.3
【学科分类】园艺学

【题目】施用NaHSO_3和NaAc提高龙眼多糖含量的研究
【中文关键词】郑少泉; 张守梅; 邓朝军; 姜帆; 高慧颖; 郑金贵
【英文关键词】NaHSO3 NaAc Dimocarpus longan Lour. Polysaccharide
【中文摘要】在龙眼果实生长期,应用不同浓度的NaHSO3和NaAc对不同果肉多糖含量类型的龙眼进行根外喷施,以探讨其对龙眼多糖含量的影响。结果表明:喷施不同浓度的NaHSO3和NaAc,龙眼多糖含量具有较大的差异,以300 mg.kg-1的NaHSO3和NaAc对提高龙眼多糖含量效果最好,为今后开展龙眼多糖的调控研究提供了理论依据。
【英文摘要】The effects of spraying NaHSO3 or NaAc to leaves during growing stage of longan fruitwere investigated. The results indicated that there was a great difference in polysaccharide content of longan when the leaves were sprayed with different concentrations of NaHSO3 or NaAc respectively. Polysaccharide content of longan was the highest when sprayed with NaHSO3 or NaAc 300 mg-1kg for three times.
【语种】中文
【第一作者】郑少泉
【通讯作者】郑金贵
【期刊名称、卷期、页码】福建果树.2010(2):12-15.
【论文发表时间】2010-06-15 00:00:00
【引文索引类型】其他
【引文索引号】S667.2
【学科分类】园艺学

【题目】余甘子ISSR 反应体系的优化
【中文关键词】钟凤林 王江波 潘东明 郭志雄 林琳 李开拓 尤桂春
【英文关键词】Phyllanthus emblica L. ISSR Optimization PCR
【中文摘要】应用ISSR 技术开展余甘子遗传变异分析、辅助育种、品种鉴定、系统进化等研究, 以(TC) 8C 为引物, 采用正交设计和单因素试验, 研究余甘子基因组DNA 的浓度、退火温度、引物浓度、dNTP 浓度、Taq DNA 聚合酶用量对余甘子ISSR-PCR 反应的影响, 建立并优化了适宜于余甘子ISSR 分析的扩增体系: 20 μl 的反应体系中采用25ng 的模板DNA、0.35 μmol/ L ISSR 引物、1.25U Taq 酶, 0.3mmol/ L dNTPs, 引物(TC) 8C 的最佳退火温度为51.7℃。
【英文摘要】In this study, In order to use ISSR markers to study genetic variation, assistant breeding, cultivar identification and phylogenesis of Phyllanthus emblica L., two methods, an orthogonal design experiment and a single factor test, were used to optimize ISSR-PCR amplification system.The annealing temperature, concentration of DNA template, primer, dNTP and Taq DNA polymerase dosage on ISSR-PCR amplications were tested to determine their optimal levels and establish the following optimal reaction system for ISSR analysis in Phyllanthus emblica L.The results showed that a better amplification system of ISSR was obtained with the reacton system containing 25ng template DNA,1.25U Taq DNA polymerase, 0.3mmol/ L dNTPs, 0.35 μmol/ L primers in the total volume of 20 μl. The optimized annealing temperature was51.7℃for primer(TC) 8C.
【语种】中文
【第一作者】钟凤林
【通讯作者】潘东明
【期刊名称、卷期、页码】生物技术通报.2008(3):166-169.

【论文发表时间】2008-06-26 00:00:00
【引文索引类型】其他
【引文索引号】S667.9
【学科分类】园艺学

【题目】梯度洗脱测定枇杷试管苗内源激素方法的研究
【中文关键词】周红玲 赖钟雄 郑加协 张娟 李永裕 陈石
【英文关键词】Gradient elution High performance liquid chromatography (HPLC) Loquat Tube seedlings; Endogenous hormone
【中文摘要】以早钟6 号不同离体保存阶段的枇杷试管苗为材料,建立内源激素ABA、GA3、IAA 和ZT 的HPLC 梯度洗脱方法,结果显示:4 种内源激素的各组分分离完全,峰形良好,可为准确分析离体保存过程中枇杷试管苗内源激素的含量变化提供技术保障和理论依据。
【英文摘要】In Loquat cultivar Zaozhong No. 6 different in vitro preservation phase of loquat tube seedlings for materials, the establishment of endogenous hormone ABA, GA3, IAA and ZT by HPLC gradient elution method, the results showed that four kinds of endogenous hormone of the various components of the separation completely, peak shape, good for accurate analysis in vitro preservation process loquat tube seedlings endogenous hormone content changes to provide technical support and theoretical basis.
【语种】中文
【第一作者】周红玲
【通讯作者】赖钟雄
【期刊名称、卷期、页码】热带作物学报.2010,31(12):2292-2296.
【论文发表时间】2010-12-25 00:00:00
【引文索引类型】其他
【引文索引号】S667.3
【学科分类】园艺学

【题目】余甘子SRAP反应体系的优化
【中文关键词】周平 许奇志 熊月明 金光 郭林榕 陈由强
【英文关键词】Phyllanthus emblica SRAP optimization
【中文摘要】为建立余甘子SRAP-PCR反应的最优体系,通过正交设计和单因素试验调整优化PCR反应各因素(模板DNA、Mg2+、dNTPs、引物)。结果表明,各因素对扩增结果均有不同的影响。采用50 ng 模板DNA,2.0 mmol/L Mg2+,0.4 mmol/L dNTPs,0.2 μmol/L引物的20 μL反应体系可扩增出最清晰丰富的多样性条带。使用该优化体系检测12份余甘子种质资源样品,结果稳定可信,适用于分子遗传学研究。
【英文摘要】The optimized SRAP-PCR amplification system for Phyllanthus emblica was established by the orthogonal design and single factor optimization of PCR factor(template DNA, Mg2 + , dNTPs, primers). It revealed that each PCR factor had different effect on the PCR results, and 50 ng template DNA, 2.0 mmol/L Mg2 + ,0.4 mmol/L dNTPs, 0.2 μ mol/L primers in a total of 20 μL reaction solution amplified the most rich polymorphism and clear bands. The optimized SRAP-PCR system was tested on twelvePhyllanthus emblica germplasms and proved to be steady and reliable for molecular genetics research.
【语种】中文
【第一作者】周平
【通讯作者】郭林榕
【期刊名称、卷期、页码】中国农学通报.2010,26(16):26-30.
【论文发表时间】2010-08-20 00:00:00
【引文索引类型】其他
【引文索引号】S667.9
【学科分类】园艺学

【题目】生物技术在枇杷种质资源保存与利用的研究进展
【中文关键词】黄爱萍 郑少泉 胡文舜 张立杰 谢丽雪 陈秀妹 张小艳
【英文关键词】biotechnology genetic resource Eriobotryajaponica research direction

【中文摘要】枇杷是原产于我国的名优特色树种。我国分布有极其丰富的枇杷种质资源, 拥有开展遗传改良和农业生产等工作的良好基础。本文综述了生物技术, 包括细胞工程技术、分子标记技术在我国枇杷种质资源的应用发展现状, 并分析存在的问题, 展望未来的深入研究方向。

【英文摘要】Loquat (Eriobotryajaponica Lindl.) o riginated from China is a well known, characteristic tree species.The rich resource of loquat germplasm in the nation provides an excellent foundation for genetic and production improvements. This review covers recent advancement in the biotechnology applications, including cell engineering and molecular markers, for loquat germplasm studies. Cur rent issues and direction for future research were also discussed.

【语种】中文

【第一作者】黄爱萍

【通讯作者】郑少泉

【期刊名称、卷期、页码】福建农业学报,2008,23(4):457-461

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【引文索引类型】其他

【引文索引号】S 667 Q 94

【学科分类】园艺学

【题目】‘ 锦绣 ’、‘ 丰黄 ’黄桃变异株的SRAP 分析

【中文关键词】周 平 , 郭 瑞 , 雷 龑 , 金 光 , 廖汝玉, 陈小明 , 黄新忠 , 陈由强.

【英文关键词】yellow peach variant line SRAP SCAR

【中文摘要】应用SRAP 技术对/ 锦绣0 黄桃、/ 丰黄0 黄桃及其相应变异株系等7 个材料进行了分析。从40 对引物组合中筛选出2 对引物在/ 丰黄0 及变异株/ 锦黄0 之间有明显扩增带差异, 表明遗传变异已发生。分别纯化、克隆、测序这些特异条带, 分析序列预测所示基因, 并设计引物将其转化为稳定SCAR 标记。应用特异的SCAR 标记可快速检测鉴定相应变异株, 进一步验证了变异的存在。试验未筛选到合适引物可区分/ 锦绣0 及其变异株系。

【英文摘要】Seven yellow peach samples, including Jinxiu, Feng huang and their variant lines, were studied by meansof the sequence- related amplified polymorphism (SRAP) molecular marker technology. By screening a total of 40 SRAP primer combinations, it was found that 2 combinations could positiely identify the differential amplification betw een Feng huang and its variant line Jinhuang , as they were genetically div ersified1 Subsequently, these specific marker bands were cloned, sequenced, analyzed and converted into stable sequence characterized amplified region(SCAR) markers using the corresponding SCAR primers1 The SCAR markers from SRAP were suitable for rapididentif ication of the variant lines1 The evidence of the genetic div ersity was further verified by SCAR PCR1 On the other hand, DNA polymo rphism between Jinxiu and its variant lines was not detected.

【语种】中文

【第一作者】周平

【通讯作者】黄新忠

【期刊名称、卷期、页码】福建农业学报2010,25(4) : 444~ 449,

【论文发表时间】2010-08-15 00:00:00

【引文索引类型】其他

【引文索引号】S6621.1

【学科分类】园艺学

【题目】枇杷种质资源繁殖更新生长特性研究

【中文关键词】陈秀萍,潘少林,黄爱萍,蒋际谋,邓朝军,郑少泉

【英文关键词】Eriobotryajaponica (Thunb.)Lindl germplasm propagation;renewal growth characteristic

【中文摘要】在相同的种植管理条件下,利用解放钟枇杷实生苗作砧木嫁接枇杷种质资源,调查小苗嫁接成活率、成苗率、苗期生长量和枝梢数。结果表明:①255份枇杷种质资源的嫁接成活率、成苗率、苗期生长量及枝梢数差异明显,变异系数15.07%~28.45%;嫁接成活率与成苗率、苗期生长量、枝梢数呈极显著的正相关关系,相关系数分别为0.4221、0.3299、0.2837;②来源于云南的枇杷种质资源苗期生长量最大,显著大于新西兰、江苏、日本、福建、湖北的种质资源,四川的枇杷种质资源枝梢数最多、广西的最少,差异显著;③野生资源的苗期生长量较栽培品种大,呈极显著差异;④多倍体枇杷种质资源的嫁接成活率、成苗率、苗期生长量及枝梢数均极显著低于二倍体枇杷。

【英文摘要】Loquat growth characteristics were observed under same planting conditions usina the root stock of Jiefangzhong.Grafting survival rate,seedling rate,graft growth volume and number of branches were recorded.The result showed

that:(1)All growth characteristics were significantly different among the 255germplasms with the coefficients of variance ranging from 15.07% to 28.45%.Very significant correlations existed between the grafting survival rate and the seedling rate(correlation coefficient=0.4221),growth volume of graft(correlation coefficient=0.3299)and number of branches(correlation coefficient=0.2837).(2)The growth volume of graft of the loquat germplasm from Yunnan was the largest,significantly larger than those from New Zealand,Jiangsu,Japan,Fujian and Hubei.The numbers of branches were significantly different the among all samples,with those came from Sichuan to be the highest and those from Guangxi the lowest.(3)The graft growth volume of the wild loquatwas very significantly larger than that of the cultivated loquat.And,(4)all growth characteristics of the polyploid loquat were very significantly poorer than the diploid loquat.The results provided a basis for the resource preservation and utilization of loquat germplasm.

【语种】中文
【第一作者】陈秀萍
【通讯作者】郑少泉
【期刊名称、卷期、页码】福建农业学报2010,25(5):590~596
【论文发表时间】2010-10-15 00:00:00
【引文索引类型】其他
【引文索引号】S667.3
【学科分类】园艺学

【题目】枇杷种质离体保存过程中内源激素变化的HPLC分析
【中文关键词】周红玲,赖钟雄
【英文关键词】loquat in vitro conservation　HPLC　PP333　endogenous hormones
【中文摘要】试验以早钟6号为材料,采用HPLC 法,研究枇杷试管苗离体保存过程中内源激素的变化。结果表明:与对照相比,添加5 mg /L PP333,前3个月明显的提高了ABA 的含量,降低了GA3、ZT 含量。保存3 - 7月降低了ABA含量,7个月后提高了ABA 含量;保存3月后提高了ZT含量,在保存第8个月达到最大;在保存前6个月,IAA 的变化趋势与对照完全相反,6个月后变化趋于一致,保存第2个月达到最大。
【英文摘要】In this experiment the invitro plantlets of the loquat cultivar Zaozhong No. 6 w ere used as the materials for analyzing the changes of endogenous hormones of loquat germplasm during in v itro conservation by themethod of HPLC. The results showed that as compared with the control under the treatment with 5 mg /L PP333, the ABA contents of the conserved loquat plantlets increased sign if icantly, while the con tents of GA3 and ZT decreased during the early 3 months; the ABA content reduced from the third month to the seventh month but increased later; the ZT content increased after the third month and reached the highest on the eighth
【语种】中文
【第一作者】周红玲
【通讯作者】赖钟雄
【期刊名称、卷期、页码】江西农业大学学报2009,31(1)
【论文发表时间】2009-03-01 00:00:00
【引文索引类型】其他
【引文索引号】S667.3
【学科分类】园艺学

【题目】三角梅种质资源的ISSR分析
【中文关键词】李房英　黄彦晶　吴少华
【英文关键词】Bougainvillea　ISSR　Genetic diversity　Genetic relationship
【中文摘要】应用ISSR 分子标记技术对68 份三角梅种质进行分析,从100 个引物中筛选出14 个多态性丰富、重复性好的引物,对68 份三角梅种质资源的DNA 多态性检测共获得了195 条谱带,其中多态性条带182 条,多态性比率为93.3%。聚类分析结果表明,三角梅品种间的遗传相似系数在0.50~0.97 之间,平均相似系数为0.67,这说明供试的68 份材料间的遗传多样性不是特别丰富、亲缘关系较近。在0.64 水平处将三角梅种质资源分为A 类群和B 类群,A 类群可分为2 亚类,B 类群还可分为6 亚类。本研究从分子水平上揭示了三角梅不同种质资源之间的亲缘关系,进一步明确种质资源间的遗传距离,为三角梅优良品质性状的选择、杂交育种亲本选配和良种繁育,提供了DNA 分子水平上的理论依据。
【英文摘要】Sixty -eight bougainvillea samples were analyzed using ISSR technique to study their taxonomic and phylogenetic relationships. Fourteen ISSR primers were used in the ISSR analysis of 68 bougainvillea individuals. A total of 195 ISSR bands were

scored, corresponding to the polymorphic bands were 182, and the percentage of polymorphic was 93.3%. According to ISSR-PCR results, a cluster analysis (UPGMA) was used to generate a dendrogram among all 68 individuals. The results showed that genetic similarity among individuals was between 0.50 and 0.97, the average was 0.67. It was indicated that the relationship among all individuals was close and the genetic diversity was poor. According to dendrogram, 68 individuals could be divided into 2 groups at geneticsimilarity 0.64. The A group could be divided into 2 subgroups and B group could be divided into 6 subgroups.This study revealed the genetic relationship and confirmed the genetic distance among 68 bougainvillea individuals using molecular marker technology.
【语种】中文
【第一作者】李房英
【通讯作者】吴少华
【期刊名称、卷期、页码】热带作物学报,2011,32(9):1692-1696
【论文发表时间】2011-09-01 00:00:00
【引文索引类型】其他
【引文索引号】S687.3
【学科分类】园艺学

【题目】枇杷新品种‘东湖早’的ISSR 分子鉴定
【中文关键词】赵依杰, 王江波, 张小红, 施维属, 林航
【英文关键词】Keywords
【中文摘要】利用ISSR 分子标记技术, 鉴定枇杷新品种‘东湖早’。从95 条引物中筛选出能稳定扩增的11 条引物对‘东湖早’及选定作为对照的22 个枇杷品种总DNA 进行PCR 扩增。构建基于ISSR 数据的UPGMA 树状图, 结果共获得141 个位点, 有88 个多态性位点, 多态性百分率为62.41%。‘东湖早’与对照种相似系数处于0.560~0.838 之间, 与‘太城4 号’相似系数最大为0.838。
【英文摘要】Abstract
【语种】中文
【第一作者】赵依杰
【通讯作者】赵依杰
【期刊名称、卷期、页码】热带作物学报2010,31(1)
【论文发表时间】2010-12-01 00:00:00
【引文索引类型】其他
【引文索引号】S667.3
【学科分类】园艺学

【题目】枇杷种质资源幼龄树丰产性鉴定及模糊综合评判
【中文关键词】陈秀萍　姜帆　黄爱萍　蒋际谋　郑少泉　谢丽雪　张立杰
【英文关键词】germplasm
【中文摘要】在统一种植管理条件下, 对228 份枇杷种质资源进行丰产性鉴定, 研究了中心枝数、中心枝抽穗数、侧枝数等20个生物学性状与单株产量的关系, 运用模糊聚类法对丰产性进行综合评判。结果表明, 228 份枇杷种质资源的单株产量0.4~29.1 kg, 变异系数58.8%, 具有丰富的多样性; 中心枝数、侧枝数、枝梢总数、中心枝抽穗数、枝梢抽穗数、侧枝抽穗数、株高、冠径、干周、叶幂层厚、中心枝抽穗率、单果重、穗坐果数等13个性状与单株产量呈显著正相关关系($p<0.05$)、回归显著; 利用丰产性度量值(D值)进行模糊聚类, 将228 份枇杷种质资源丰产性分为5 级, 并鉴定筛选出产量高(单株产量>16.0 kg)、丰产性好(D值>0.580)的枇杷种质资源10份
【英文摘要】Abstract
【语种】中文
【第一作者】陈秀萍
【通讯作者】郑少泉
【期刊名称、卷期、页码】热带作物学报2010,31(12)
【论文发表时间】2010-12-25 00:00:00
【引文索引类型】其他

【引文索引号】S667.3
【学科分类】园艺学

【题目】枇杷试管苗限制生长保存过程中叶肉细胞超微结构变化的研究
【中文关键词】周红玲, 郑加协, 赖钟雄, 陈石
【英文关键词】Loquat (Eriobotrya japonica)　Restricting growth preservation　Mesophyll cell　Chloroplast　Mitochondrium　Ultrastructure
【中文摘要】本试验以早钟6号枇杷试管苗为材料, 将其分别保存在MS+5 mg/L PP333 培养基上和MS 培养基(对照)上, 采用超薄切片透射电镜对保存的试管苗成熟叶片叶肉细胞进行观察。结果表明: 与对照相比, 添加5 mg/L 的PP333, 保存6 个月时, 明显推迟了叶绿体的变形、移动、叶绿体和线粒体的镶嵌及叶绿体的解体;保存9 个月时, 叶肉细胞叶绿体结构完整, 少数出现解体, 淀粉粒明显增大、增多, 线粒体和细胞核结构正常。
【英文摘要】.The ultrastructural changes of the mesophyll cells in response to invitro plantlets of the loquat cultivar Zaozhong No.6 preserved on MS+5 mg/L PP333 were investigated. The results showed that the deformation, shift and disintegration of chlorolplasts and the mosaic of mitochondria were significantly delayed during restricting growth preserved for 6 months. The structure of the chloroplasts in the mesophyll cells was intact, only a few of that disintegrated. The starch grain significantly became larger and numerous. The structure of mitochondria and cell nuclear was normal when preserved for 9 months.
【语种】中文
【第一作者】周红玲
【通讯作者】赖钟雄
【期刊名称、卷期、页码】热带作物学报2011, 32(8): 1479-1482
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【引文索引号】S667.3
【学科分类】园艺学

【题目】枇杷胚性培养物ACC氧化酶基因的克隆及序列分析
【中文关键词】音建华, 赖钟雄, 林玉玲, 李惠华, 李丽秀
【英文关键词】Eriobotrya japonica embryonic cultures　ACC oxidase　Gene cloning　Genomic DNA　Sequence analysis
【中文摘要】以枇杷胚性培养物(Eriobotrya japonica embryonic cultures)为材料, 采用同源克隆方法, 从其mRNA 中分离得到ACC 氧化酶(ACO) 基因EjACO-1, 在GenBank 中登录号为GQ377219。结果表明: EjACO-1 大小为1 160 bp, 编码322 个氨基酸。枇杷EjACO-1 与苹果、桃和梨等蔷薇科植物同源性较高, 而与水稻、石斛兰等单子叶植物距离较远。此外, 从枇杷基因组DNA 中分离了转录为EjACO-1 mRNA 的基因gACO, 大小为1 517 bp,在GenBank 中的登录号为GU233743。生物信息学分析显示, gACO 基因中含有3 个内含子, 大小分别为114、240、194 bp, 均符合真核生物内含子通用的GT-AG 法则。EjACO 基因的克隆为以后研究乙烯在枇杷中的功能奠定基础。
【英文摘要】Homologous cloning method was used to clone the 1 -aminocyclopropane -1 -carboxylic acid oxidase(ACO)gene, EjACO-1, Eriobotrya japonica embryonic cultures. The gene, GenBank accession number GQ377219,was of 1160 bp, encoding 322 amino acids, and highly homologous to other rosaceous plants origins (Malus xdomestica, Prunus persica, Pyrus pyrifolia and so on), and was distant from that of monocotyledons(Oryza sativa,Dendrobium and so on) . Moreover, gACO, which encoding EjACO -1 mRNA, was obtained from the genomic DNA. The length of gACO was 1517 bp, and the accession number was GU180353 in GenBank. The gACO gene contained 3 introns consistent with the GT-AG dogma for eukaryotic introns, with lengths 114, 240 and 194 bp,respectively. The cloning of EjACO provides a foundation for further study of ethylene function in Eriobotrya japonica.
【语种】中文
【第一作者】音建华
【通讯作者】赖钟雄
【期刊名称、卷期、页码】热带作物学报2012, 33(3): 433-438
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【引文索引类型】其他
【引文索引号】S667.3
【学科分类】园艺学

【题目】枇杷种质资源数量分类研究
【中文关键词】陈秀萍 黄爱萍 蒋际谋 郑少泉 邓朝军 魏秀清 胡文舜 姜 帆
【英文关键词】Eriobotrya japonica germplasm numerical classification cluster analysis principal component analysis
【中文摘要】对国家果树种质福州枇杷圃的199 份枇杷[Eriobotrya japonica(Thunb.)Lindl.]种质资源,应用数量分类学中的Q 型聚类分析方法进行分类,并对86 个性状进行R 型聚类分析和主成分分析。Q 型聚类分析将199 份种质资源在L = 87.31 水平分为栽培品种和野生资源两大类,在L = 34.92 水平分为5 个组群,组群内来源地相同的种质资源多聚为小组,显示出较近的亲缘关系;R 型聚类分析结果将86 个性状明显聚为3 组,多数性状表现两两相关或关系密切;主成分分析表明,86 个性状可简化为28 个主因子,其累积贡献率达74.7%,根据28 个因子载荷量,选出影响力比较大的性状58 个。
【英文摘要】Divisions of 199 loquat [Eriobotrya japonica(Thunb.)Lindl.] genetic resources and 86 germplasm characters were investigated in the resources of Fuzhou National Fruit Germplasm. Q cluster analysis showed that 199 loquat germplasm resources were seperated into cultivar and wild germplasm when L = 87.31;Five groups were seperated when L = 34.92,the germplasm resources in the same group were most came from the same origin region showing the nearest genetic relationship. R cluster analysis showed 86 characters closely related were significantly clustered into 3 groups. Principal component analysis suggested that,86 characters can be simplified to 28 main factors,the cumulative contribution rate of 74.7%,and the relatively large influence of 58 characters based on the amount of 28 factors loading.
【语种】中文
【第一作者】陈秀萍
【通讯作者】郑少泉
【期刊名称、卷期、页码】园 艺 学 报 2011,38(4):644 – 656
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【引文索引类型】其他
【引文索引号】S 667.3
【学科分类】园艺学

【题目】枇杷种质资源果肉硬度影响因素分析
【中文关键词】张泽煌,林旗华,陈志峰,魏秀清,张立杰,张小艳,郑少泉
【英文关键词】Loquat germplasm resources flesh firmness
【中文摘要】对国家果树种质福州枇杷圃内枇杷种质资源的果肉硬度与果肉化渣程度、果肉质地、果实汁液、单果重、果肉厚度、可溶性固形物含量、果皮厚度、果面茸毛密度、果面茸毛长度、来源地、果肉颜色和果皮颜色等14 个性状的关系进行分析。结果表明,枇杷种质果肉硬度与果肉化渣程度、果肉质地、果实汁液、果面茸毛密度、果肉颜色关系较密切,果肉不化渣、果肉质地致密、果肉汁液少、果面茸毛稀疏、果肉黄色和橙黄色和果实成熟期较早的枇杷种质果肉硬度较高。枇杷种质果肉硬度与单果重、果肉厚度、果皮厚度、来源地、可溶性固形物含量、果面茸毛长度、果皮颜色未见明显的内在联系。
【英文摘要】In order to investigate the influencing factors on flesh firmness of loquat germplasm resources,the flesh dregs degree,flesh texture,flesh juice,fruit weight,flesh thickness,total soluble solids of juice,peel thickness,density of floss on fruit surface,length of floss on fruit surface,origin region,flesh color,peel color and flesh firmness of loquat germplasm resources in Loquat Resource Nurseries of Fuzhou National Fruit Gene-pool were studied and analyzed. The results indicated that the flesh dregs degree,flesh texture,flesh juice,flesh color and density of floss on fruit surface and fruit maturity stage had great influence on flesh firmness,and the flesh firmness of loquat germplasm resources with dreggy flesh dregs degree,tight flesh texture,few flesh juice,yellow and orange yellowflesh color,sparse density of floss on fruit surface and early fruit maturity stage were relatively higher.The fruit weight,flesh thickness,pericarp thickness,origin region,total soluble solids of juice,length of floss on fruit surface and peel color had no significant internal relations with the flesh firmness.
【语种】中文
【第一作者】张泽煌
【通讯作者】郑少泉
【期刊名称、卷期、页码】云南农业大学学报2011,26 (3) : 354 - 358
【论文发表时间】2011-11-01 00:00:00

【引文索引类型】其他
【引文索引号】S 667. 3
【学科分类】园艺学

【题目】枇杷属植物4个种的花序性状多样性研究
【中文关键词】陈秀萍, 黄爱萍, 蒋际谋, 林旗华, 魏秀清, 张小艳, 许奇志, 郑少泉
【英文关键词】Eriobotrya plants　Germplasm resources　Flower cluster　Diversity index
【中文摘要】在相同的种植和管理条件下, 对普通枇杷、栎叶枇杷、大瑶山枇杷和南亚枇杷等4个种210份种质资源的8个花序性状多样性进行鉴定, 旨在为进一步的分类鉴定、利用研究提供参考依据。结果表明: (1) 枇杷属种质资源的花序支轴姿态、花序支轴密度、花序支轴数、花序形状、花序长度、花序宽度、花瓣颜色、花冠直径Shannon-W eaver 多样性指数1. 352~ 2. 951,存在丰富的多样性。(2)不同来源地的种质资源花序性状多样性水平差异较大, 多样性指数最高的为云南(2. 108), 其次是贵州(1. 962)、四川(1. 953)、福建(1. 900), 美国的最低(1. 137) 。(3)云南、贵州的枇杷种质资源花序长度、宽度显著或极显著地大于其他地区; 野生资源的花序长度、花序宽度和花冠直径均极显著地大于地方品种、选育品种。
【英文摘要】Diversity of eight flower cluster characters (attitude of latera l in relation to peduncle, density andnumber of lateral peduncles, shape, length, width of flower cluster, petal color and corolla diameter) of 210 loquat germplasm resources (E riobotrya jap onica (Thunb.) Lind1. , Eriobotrya prinoides Rehd. & W ils. , E riobo trya dayaoshanensis Chen. and Eriobotrya bengalensis (Roxb.) H ook.f) were studied and analyzed under the same planting conditions. The results show ed: (1) therew as abundant diversity among them. (2) Diversity index of loquat germplasm resources from different sources varied g reatly w ith the h ighest of 2.108 (from Yunnan), the lowest of 11137 (from America). (3) Variance analysis showed that flower cluster length of loquat germplasm from Yunnan and Guizhou were sign ificantly longer than others, flower cluster width of loquat germplasm from Yunnan and Gu izhou were very sign if icantly wider than others, both length and width of flower cluster of wild loquat germplasm were very sign ificantly bigger than those of cultivated species and wildre latives.
【语种】中文
【第一作者】陈秀萍
【通讯作者】郑少泉
【期刊名称、卷期、页码】植物遗传资源学报2010, 11(6): 709-714
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【引文索引号】不详
【学科分类】园艺学

【题目】气象因子对福建枇杷果实锈斑病发生的影响
【中文关键词】刘友接 许家辉 蒋际谋 陈秀萍
【英文关键词】Eriobotrya japonica Lind.l　Germplasm resource
【中文摘要】调查分析福建省福州市、云霄县和仙游县等3 个早钟6 号枇杷产区的果实锈斑病发生情况、当地气温、降雨量和日照时数。结果表明, 不同地区枇杷幼果发育期、黄熟期、成熟期的气温、降雨量、日照时数等气象因子不同, 枇杷果实锈斑发生情况也各异; 总体上, 枇杷果实锈斑病发生程度从重至轻依次为云霄县> 仙游县> 福州市。
【英文摘要】Abstract
【语种】中文
【第一作者】刘友接
【通讯作者】郑少泉
【期刊名称、卷期、页码】中国南方果树2009,38(6)
【论文发表时间】2009-11-20 00:00:00
【引文索引类型】其他
【引文索引号】S 667. 3; S 763. 19
【学科分类】园艺学

【题目】桑葚功能成份及其开发利用研究进展

【中文关键词】李冬香 陈清西
【英文关键词】mulberry functional ingredient development and use study progress
【中文摘要】桑葚,又名桑果,桑椹。鉴于其含有丰富的营养物质和功能成分及良好的开发利用前景,此文综述了近十年来国内外对其功能成份及其开发利用的进展,系统地介绍了桑葚的化学成份、活性物质相关研究、开发利用情况及目前存在问题与展望,旨在为今后桑葚的进一步研究与利用提供参考。
【英文摘要】Mulberry, its name is Sorosis, Mulberry Fruit. In view of the rich nutrient substance and good developing and using foreground, in this paper, ten years domestic and foreign research and development and use on mulberry was reviewed, has discussed the chemical composition, active substance, the situation of developing and using, broad prospects and existing problems systematically in order to offer reference of further studies and exploit of Mulberry from now on.
【语种】中文
【第一作者】李冬香
【通讯作者】陈清西
【期刊名称、卷期、页码】中国农学通报, 2009,25(24): 293-297.
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【引文索引类型】其他
【引文索引号】S663.9
【学科分类】园艺学

【题目】“ 早钟6号 ”枇杷离体胚的组织培养
【中文关键词】周红玲
郑加协
陈石
赖钟雄
【英文关键词】Loquat cultivar Zaozhong No.6 Embryo culture in vitro Tissue culture
【中文摘要】本研究以“ 早钟6 号 ”枇杷的离体胚为外植体,建立了枇杷试管苗的离体再生体系,结果表明: 试管苗茎段适宜的诱导培养基为: MS + BA 0.5 mg /L + NAA 0.05 mg /L; 最适增殖培养基为: MS + BA 1.0 mg /L + NAA 0.1 mg /L; 适宜生根培养基为: 1 /2 MS + NAA 0.4 mg /L + IBA 0.2 mg /L,本研究为枇杷试管苗的工厂化生产及生物技术等方面的研究奠定了基础。
【英文摘要】The embryo culture in vitro of loquat cultivar Zaozhong No. 6 was conducted for establishing the regeneration system of loquat test - tube plantlet. The results showed that the optimum culture medium for the inducement of stem segment was MS + BA 0.5mg /L + NAA 0.05 mg /L; the optimum proliferation culture medium was MS + BA 1.0 mg /L + NAA 0.1 mg /L; the optimum rooting culture medium was 1 /2 MS + NAA 0.4 mg /L + IBA 0.2 mg /L. This article established the foundation for the studies of factory productionand biotechnology of loquat vitro plantlet.
【语种】中文
【第一作者】周红玲
【通讯作者】赖钟雄
【期刊名称、卷期、页码】江西农业学报, 2011(8): 45-47+51.
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【引文索引类型】其他
【引文索引号】S665. 9
【学科分类】园艺学

【题目】橄榄种质资源叶片表型性状多样性分析
【中文关键词】万继锋
吴如健
韦晓霞
陈瑾
胡菡青
潘少霖

【英文关键词】Chinese olive Germplasm resources Leaf Phenotypic characters Diversity Principal component analysis
【中文摘要】对农业部福州橄榄种质资源圃中80份橄榄种质资源叶片12个表型性状进行了调查分析。结果表明:这一群体橄榄种质资源的嫩叶颜色、成熟叶颜色、叶面光泽度、叶片形状、叶尖形状、叶基形状、小叶数、复叶主轴长度、小叶叶柄长度、小叶长度、小叶宽度、叶形指数等表型性状均存在丰富的多样性;不同来源地橄榄种质资源叶片表型性状差异明显。主成分分析结果表明,叶片形状、叶形指数、嫩叶颜色、成熟叶颜色、小叶数是叶片表型性状多样性构成的主导因子。
【英文摘要】The leaf phenotypic characters of 80 Chinese olive germplasm resources were investigated, from the Chinese Olive Germplasm Repository of the Ministry of Agriculture in Fuzhou. The results indicated that there were abundant diversity in new leaf color, mature leaf color, leaf glossiness, leaf shape, leaf apex shape, leaf base shape, leaflets number, compound leaf petiolar length, leaflets petiolar length, leaflets length, leaflets width, leaf index in these germplasm resources. The leaf phenotypic characters of Chinese olive germplasm resources from different source were significant differences. By the principal components data, leaf shape, leaf index, new leaf color, mature leaf color, leaflets number were the dominant factors which constituted leaf phenotypes diversity.
【语种】中文
【第一作者】万继锋
【通讯作者】吴如健
【期刊名称、卷期、页码】热带作物学报, 2012(6): 975-980.
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【引文索引类型】其他
【引文索引号】S667.5
【学科分类】园艺学

【题目】橄榄总多酚提取工艺优化研究
【中文关键词】林玉芳
陈清西
关夏玉
陈明贤
欧高政
【英文关键词】Chinese Olive polyphenol extraction optimization technology
【中文摘要】本试验采用酒石酸铁法提取橄榄多酚,通过单因素和正交试验研究了提取溶剂浓度、浸提温度、浸提时间、料液比以及提取次数对橄榄多酚提取得率的影响。结果表明:影响橄榄多酚提取得率的主要因素及顺序为浸提时间>浸提温度>料液比>溶剂浓度。在考察范围内,橄榄多酚的最佳提取工艺条件为:乙醇浓度50%(v/v),浸提时间2h,浸提温度40℃,料液比(g/mL)1:30,橄榄多酚的提取得率为32.13%。
【英文摘要】In this paper, olive power was treated by common extraction. The results of single-factor examination and orthogonal experiments showed that the degree of the factors which significantly influenced the yield of polyphenol was in order of extraction time>extraction temperature>solid-liquid ratio>extraction solvent. The optimal parameters for this method were as follows: powder was extracted by ultasonic density of 50% with solid (g)-liquid (mL) ratio of 1:30 at 40℃ for 2 hours. The yield of polyphenol can be up to 32.13%
【语种】中文
【第一作者】林玉芳
【通讯作者】陈清西
【期刊名称、卷期、页码】中国农学通报, 2011(5): 396-400.
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【引文索引号】S667.5
【学科分类】园艺学

【题目】高多糖龙眼杂交新品系“高宝”的选育
【中文关键词】郑少泉 姜帆 蒋际谋 李韬 黄爱萍 黄金松 高慧颖 郑金贵
【英文关键词】Dimocar puslongan Lour. polysaccharide hybrid quality late mature

【中文摘要】为选育高多糖优质大果特晚熟杂交龙眼新品种,从85 株立冬本(♀) ×青壳宝圆(♂) 杂交后代群体中,应用多靶筛选法选育出果肉多糖含量高、果大、可食率高、味甜的晚熟杂交龙眼新品系“ 高宝 ”。该品系果肉多糖含量为8081.22 mg • (hg • FW) - 1 (2 a 平均) 、单果重151.5 g、可溶性固形物含量201.6 %、可食率701.8 %、成熟期10 月中旬,其综合经济性状优于目前国内外主栽的晚熟龙眼良种,是果肉多糖含量高兼具质优、果大、晚熟的杂交龙眼新品系。研究还发现龙眼杂交后代果肉多糖含量的遗传属于数量性状遗传,其性状分离呈正态分布。

【英文摘要】Long an polysacchar ides have significant health efficacy on antifatigue, memory and learning ability improvements, as well as antineo plastic. Using the hybrid of Lidongben and Qingkebao yuan, a multi-target screening method as applied to breed longan with high polysacchar ide content. The aim w as to o btain hig h polysaccharides in the aril, superior fruit characteristics and quality. The r- esult showed that the aril polysaccharide content of “ Gao bao ” was the highest (i.e., 8081.22 mg • (hg • FW) - 1) among the 85 strains. Its economic indicators appeared to be superior to the major late mature longan cultivars available on the market: (a) the average individual fruit weight was 151.5 g, (b) the soluble solid content was 201.6%, (c) the edible portion was 701.9%, and (d) it matured in mid-October. Furthermore, the genotype of this longan hybrid progeny were quantitative inherited characteristics, and the characteristic segregation was under normal distr- ibution. These fact ors are considered advantageous for cross- breeding of high polysaccharide content longan.

【语种】中文

【第一作者】郑少泉

【通讯作者】郑金贵

【期刊名称、卷期、页码】福建农业学报,2008,23(4) : 387-391.

【论文发表时间】2008-12-15 00:00:00

【引文索引类型】其他

【引文索引号】S667.2

【学科分类】园艺学

【题目】琯溪蜜柚高分量核DNA提取方法的建立

【中文关键词】潘腾飞

陈桂信

潘东明

【英文关键词】pummelo　HMW-DNA　BAC library　pulsed-field gel electrophoresis

【中文摘要】以琯溪蜜柚[Citrus grandis(L.)Osbeck'Guanximiyou']叶片为材料,比较了两种提取方法对高分子量核DNA(HMW-DNA)制备效果的影响。结果表明,改良Zhang法与Peterson法相比,前者更适合于琯溪蜜柚HMW-DNA的提取。改良Zhang法用温和的物理方法破碎细胞壁,在一定的渗透压下保证细胞核的完整性,运用miracloth和低速离心去除大部分的多糖和细胞壁碎片,经显微观察,所提取的细胞核完整、纯净、质量高;将这些细胞核用低熔点琼脂糖包埋,以琼脂糖小块的方式保存细胞核,以保持核的稳定;琼脂糖小块的最适消化时间为48h,脉冲场凝胶电泳分析结果表明所获得的HMW-DNA大于1Mb,这些核DNA能够被限制性内切酶消化,适合于琯溪蜜柚BAC基因组文库的构建。

【英文摘要】High molecular weight nuclear DNA(HMW-DNA)from leaves of Guanximiyou [Citrus grandis(L.) Osbeck ‘ Guanximiyou ’] was prepared by two methods(Zhang ’ s and Peterson ’ s method)and the extracting effects of the two preparing methods were compared. The results showed that Zhang ’ s method was more suitable for preparation of HMW-DNA in Guanximiyou. The cell walls were broken down by gentle physical homogenization to keep integrity of nuclei under suitable osmolarity. Debris of cell walls and most of polysaccharides were removed by filtering with miracloth and centrifugation under slow speed. The isolated nuclei were proved to be intact,pure,and high-quality by observation under microscope and were embedded with low-melting-point agarose to preserve the isolated nuclei in plugs for keeping stability of nuclei. The optimum digestion time of plugs was 48 hours,the pulse field gel electrophoresis (PFGE)results showed that the isolated HMW-DNAs were more than 1 Mb in size and were digested completely or partially by restriction enzymes,therefore,Zhang ’ s method was suitable for construction of BAC library in Guanximiyou.

【语种】中文

【第一作者】潘腾飞

【通讯作者】潘东明

【期刊名称、卷期、页码】园艺学报, 2010(5): 835-840.

【论文发表时间】2010-05-25 00:00:00

【引文索引类型】其他

【引文索引号】S 666.3
【学科分类】园艺学

【题目】琯溪蜜柚汁胞ACTIN的分离鉴定和cDNA克隆
【中文关键词】钟凤林
郭志雄
潘东明
【英文关键词】Guanximiyou ACTIN Dimensional electrophoresis dielectrophoresis Tandem mass spectrum Cloning
【中文摘要】对琯溪蜜柚粒化与正常汁胞汁胞双向电泳分析, 获得一个在粒化中上调表达的差异蛋白质点, 经过质谱鉴定、生物信息学分析, 为肌动蛋(Actin), 以琯溪蜜柚粒化汁胞cDNA 为模板, 根据Actin 氨基酸序列设计引物, 进行全长的扩增, 得到Actin 开放阅读框包含1 134 个碱基, 编码377 个氨基酸。其核酸序列与黑杨派(Populus trichocarpa)、棉花(Gossypium hirsutum)、蓖麻(Ricinus communis)、圆叶锦葵(Malva pusilla)ACT 的同源性在89%以上。
【英文摘要】On the Guanximiyou granulated and normal juice Sac Granulation dielectrophoresis analysis, get a raise in granulating of expression difference protein point, after mass spectrum identification, bioinformatics analysis, for motor eggs (Actin) to x2000 CBM creek MiYou granulating juice cell cDNA as templates, according to Actin amino acid sequence design primer, full-length amplification, get Actin open reading frame contains 1134 base, code 377 amino acids. The nucleic acid sequence and black YangPa (Populus trichocarpa), cotton (Gossypium hirsutum), castor (Ricinus communis), round YeJinKui (Malva pusilla) ACT of homology in more than 89%.
【语种】中文
【第一作者】钟凤林
【通讯作者】潘东明
【期刊名称、卷期、页码】热带作物学报, 2010(7): 1124-1129.
【论文发表时间】2010-07-25 00:00:00
【引文索引类型】其他
【引文索引号】S666.3
【学科分类】园艺学

【题目】琯溪蜜柚汁胞APX1 cDNA的克隆及原核表达
【中文关键词】钟凤林
郭志雄
潘东明
李开拓
【英文关键词】Guanximiyou APX1 cDNA Sequence analysis
Prokaryotic expression
【中文摘要】为了解琯溪蜜柚(Citrus grandis‘ Guanximiyou ’)汁胞在发育过程中,APX与汁胞活性氧自由基清除和汁胞粒化的关系,以琯溪蜜柚果肉为材料,运用cDNA克隆的方法,克隆得到琯溪蜜柚果肉APX1cDNA全长,并进行了原核表达。结果表明:获得了全长为1118bp的琯溪蜜柚汁胞APX1cDNA全序列,包含753bp的开放阅读框,编码250个通读的氨基酸序列。具有过氧化物酶活性位点信号和亚铁血红素结合基信号。目前APX1cDNA序列已在GenBank上注册,登录号为gb|FJ595794.1。通过构建重组质粒p32-APX1,转化至TransRosetta(DE3)中,在大肠杆菌宿主中获得了表达,从而为下一步制备该酶抗体及研究琯溪蜜柚汁胞粒化过程中APX1的功能奠定了基础。
【英文摘要】In order to understand the Citrus grandis' Guanximiyou' juice sac granulation in the development process, APX and juice sac granulation active oxygen radical scavenging and juice sac granulation pelletization in relation to the Guanximiyou pulp as material, using cDNA cloning method, get the cloningGuanximiyou pulp APX1cDNA full length, and the prokaryotic expression. The results show that won the full length for 1118 bp of Guanximiyou juice sac granulation APX1cDNA full sequence, including 753 bp open reading frame, code 250 read through the amino acid sequence. Has the activity of peroxidase site signal and heme combined with base signal. At present APX1cDNA sequence has set up a file in the GenBank on registration, registration number for gb | FJ595794.1. By constructing a recombinant plasmid p32 - APX1, conversion to TransRosetta (DE3), in escherichia coli host in a express, thus for the next step the enzyme preparation of antibody and research x2000 CBM creek MiYou juice cell granulating process the function of the APX1 laid a foundation.

【语种】中文
【第一作者】钟凤林
【通讯作者】潘东明
【期刊名称、卷期、页码】热带作物学报, 2010(1): 77-82.
【论文发表时间】2010-01-25 00:00:00
【引文索引类型】其他
【引文索引号】S666.3
【学科分类】园艺学

【题目】琯溪蜜柚汁胞Beta-tubulin cDNA的克隆及序列分析
【中文关键词】钟凤林
郭志雄
林琳
马传营
潘东明
【英文关键词】Citrus grandis (L.) Osbeck　Beta-tubulin　cDNA　sequence analysis　homology analysis
【中文摘要】以琯溪蜜柚汁胞为材料, 采用cDNA 克隆方法进行B eta-tubulin cDNA 的克隆和表达. 结果表明: 琯溪蜜柚果肉Betatubulin cDNA 全长1636 bp, 有完整的阅读框, 编码444个氨基酸; 5c非翻译区60 bp, 3c非翻译区243 bp(不包含终止密码子TAA) , 其中包括1个多聚腺苷酸化信号AATAAA 以及1个含21个腺苷酸的po ly(A)尾. 由琯溪蜜柚果肉B eta-tubulin cDNA推导的氨基酸序列与陆地棉(Gossyp ium hirsutum) 、大豆(G ly cine m ax) 、杨属植物(Pop ulus) 等的同源性较高, 分别为86%、85%、84%等. 通过构建重组质粒p28-PTU, 并转化至T rans Ro setta(DE3)中, 在诱导温度为37 e 、IPTG浓度为1 mm、诱导时间为4 h的条件下, 其在大肠杆菌宿主中获得了表达.
【英文摘要】The pummelo (Citrusmaxima (L.) Osbeck) juice sacB eta-tubulin cDNA was cloned, sequenced and ana lyzed. The results show ed that the com plete cDNA was 1636 bp in length, including 60 bp 5 ’ un translated region, 243 bp 3 ’ untranslated region which contained a polyadenylation signalAATAAA and a 21 bp polyadeny lation tai.l The coding region encoded a peptide of 444 amino acid residues. The deduced am ino acid sequence deduced by the Beta-tubulin sequences of juice sacin Citrus grandis (L.) had higher homology with upland cotton (Gossypium hirsutum), fig (Ficus carica) and poplar (Populus), which were 86%, 85% and 84%, respectively. The cod ing region of the cDNA was ligated into pET-28a vector to build a recombinant vector p28-PTU,which was expressed in Escher ichia ColiTrans Rosetta (DE3) strain when induced with 1mm IPTG and grown for 4 hours at 37°C
【语种】中文
【第一作者】钟凤林
【通讯作者】潘东明
【期刊名称、卷期、页码】福建农林大学学报(自然科学版), 2010(3): 241-245.
【论文发表时间】2010-05-18 00:00:00
【引文索引类型】其他
【引文索引号】S666.3
【学科分类】园艺学

【题目】琯溪蜜柚汁胞在发育与粒化过程中APX活性变化及同工酶分析
【中文关键词】钟凤林 郭志雄　李开拓 王江波 潘东明
【英文关键词】Citrus grandis　Juicy sac　Development Granulation　APX　IsozymC itrus g rand is; Juicy sac; Developm en;t Granu lation; APX; Isozym ee
【中文摘要】对不同发育时期的琯溪蜜柚(Citrus grandis -Guanx im iyou.)汁胞进行APX活性测定及同工酶分析。结果表明, 随着汁胞的发育, APX活性增大; 而柚子衰老腐烂时, APX活性迅速降低。APX同工酶随着汁胞发育而发生变化, 花后150 d的APX同工酶增加了1个组分(迁移率0. 66) , 且随着汁胞的成熟, 其表达量增加。花后230d时柚子开始衰老腐烂, 花后242 d已难以看到大部分APX同工酶酶谱。粒化汁胞的APX 活性比正常汁胞大, 同工酶酶谱亮度和清晰度也大, 推测琯溪蜜柚汁胞在粒化过程中APX可清除活性氧自由基, 抵抗氧化损伤。
【英文摘要】The changes in activity and isozyme of ascorbate peroxidase (APX) in pomelo (Citrus g randis-Guanximiyou.) juicy sac were studied at different development stages. The results showed that APX activity increased gradually with juicy sac development and decreased rapidly at aging and rotting stages. The PX isozyme also changed during juicy sac development stages. A new APX

isozyme was identified with mobility of 0. 66 on 150 days after anthesis, and its expression enhanced with maturity of juicy sac. On 242 days after an thesis, most of APX isozyme d isappeared. The APX activity innormal juicy sac was lower than that in granulated juicy sac. It suggested that APX could scavenge active oxygen free radicals and prevent the oxidative damage during pumelo juicy sac granulation stage.
【语种】中文
【第一作者】钟凤林
【通讯作者】潘东明
【期刊名称、卷期、页码】热带亚热带植物学报, 2010,18(1): 27-31.
【论文发表时间】2010-01-15 00:00:00
【引文索引类型】其他
【引文索引号】Q554. 6
【学科分类】园艺学

【题目】国家果树种质福州龙眼种质资源的研究与展望
【中文关键词】黄爱萍
陈秀妹
郑少泉
胡文舜
姜帆
邓朝军
陈秀萍
张守梅
【英文关键词】fruit tree Longan germp lasm resource
【中文摘要】概述了保护龙眼种质资源的重要性, 简述了国家果树种质福州龙眼圃的建立, 就龙眼种质资源的收集、保存、鉴定、评价和利用的主要研究进展进行了综述, 并对我国龙眼种质资源研究进行了展望。
【英文摘要】Based on cumm arizing the importance of preserving Longan germplasm resources and narating the establishment of National Field Genebank for Longan in Fuzhou, we expound the main achiev ement in collection, preservation, dentification and utilization of Long angerm plasm resources; and prospect the research work about Longanermplasm resource in China.
【语种】中文
【第一作者】黄爱萍
【通讯作者】郑少泉
【期刊名称、卷期、页码】中国农业科技导报, 2009(3): 30-34.
【论文发表时间】2009-06-15 00:00:00
【引文索引类型】其他
【引文索引号】S667. 2
【学科分类】园艺学

【题目】果实活性成分及其抗氧化作用的研究进展
【中文关键词】王威
陈清西
【英文关键词】fruit active ingredient anti-oxidation research progress
【中文摘要】果实的活性成分因其众多的生理功效,尤其是为人所关注的抗氧化作用,近几年已成为许多专家的研究重点。此文综述了近年来国内外对其活性成份及其抗氧化作用的研究进展,系统地介绍了果实的活性成分、抗氧化作用的相关研究、开发利用情况及展望,旨在为今后果实活性成分的进一步研究提供参考。
【英文摘要】Fruit active ingredients have been a major research for a number of experts, due to various physiological effects, especially its well-known anti-oxidation. This paper gives a general account of domestic and overseas research progress of this field in recent years, systematically presents related research, development and utilization and prospects of the fruit active compounds and anti-oxidation, so as to offer a reference for further studies.
【语种】中文

【第一作者】王威
【通讯作者】陈清西
【期刊名称、卷期、页码】中国农学通报, 2010(6): 127-132.
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【引文索引类型】其他
【引文索引号】S663.9
【学科分类】园艺学

【题目】果树人工种子研究进展
【中文关键词】陈晓东
赖钟雄
【英文关键词】synthetic seed　encapsulated propagule　conversion　survival rate
【中文摘要】人工种子在果树种苗生产和育种等方面具有很多天然种子无法比拟的优势,但因受到多种因素的限制,目前仍未实现大规模的商业应用。为此,笔者从人工种子制作技术研究进展和人工种子在几种重要果树上的应用2 个方面,系统阐述果树人工种子的研究进展,提出高质量同步化繁殖体的获得、包埋技术、转株率和存活率4 个因素是限制人工种子商业应用的主要因素,也是今后果树人工种子技术的研究重点。
【英文摘要】Compared with natural seeds, synthetic seeds have many advantages in seedling production and breeding. But the applications of synthetic seeds to commerce are limited because of various reasons. In order to solve them, the author elaborates advances in research on synthetic seeds of fruit crops through advances in making techniques of synthetic seeds and the applications of synthetic seeds to several important fruit crops.The article also brings up the main factors which limit the applications of synthetic seeds to commerce and the main aspects of researching on the technique of synthetic seeds of fruit crops, such as the quality of propagule, encapsulation technology, conversion and survival rate.
【语种】中文
【第一作者】陈晓东
【通讯作者】赖钟雄
【期刊名称、卷期、页码】中国农学通报, 2011(2): 84-89.
【论文发表时间】2011-01-20 00:00:00
【引文索引类型】其他
【引文索引号】S603,S604
【学科分类】园艺学

【题目】红肉蜜柚结果枝径粗、长度、叶片数与成花的关系
【中文关键词】蔡盛华
陆修闽
卢新坤
雷龑
【英文关键词】red-fleshed sweet pomelo　bearing branches　branch length　leaf number　flowering rate
【中文摘要】以红肉蜜柚五年生结果树为材料,调查其结果枝分布位置、结果枝径粗、长度、叶片数,研究结果枝生物学指标与成花的关系。结果表明,在树冠垂直方向上结果枝主要分布在30-89 cm区域,占总量的77%,90~120 cm区域呈减少趋势,仅占总量的23%,120 cm以上区域几乎没有花穗;结果枝径粗从2-6 mm均可成花,2.5 mm占13%,3 mm占44.5%,4 mm占15%,5 mm占13%,以3 mm成花率最高;结果枝长度从5-24 cm均有成花,长度11 cm成花率占19.3%,14 cm占28.3%,17 cm占21%,以长度14 cm的成花率最高;不同区域最佳叶片数与成花关系有所不同,30-59 cm区域以6 片叶、60-89 cm区域以7 片叶、而90~120 cm区域则以8片叶成花率高,有明显的随着结果枝分布区域的上升最佳成花叶片数增多的趋势。
【英文摘要】Red-fleshed sweet pomelo five-year trees were used as material for investigating distribution position, stem diameter, length and leaf number of bearing branches and studying the relationship between the biological indicators of bearing branches and it ’s flowering. Results showed that bearing branches distribute mainly in 30-89 cm zone of vertical direction of canopy, representing 77% of the total bearing branches, reduce in 90-120 cm zone, the ratio is only 23%,almost no flower above 120 cm zone; It can flower with the stem diameter from 2 to 6 mm, the flowering rate of 2.5 mm, 3 mm, 4 mm, 5 mm is 13%, 44.5%, 15%, 13%respectively; It can flower with the length from 5 to 24 cm, the flowering rate of 11 cm,14 cm,17 cm is 19.3%,28.3%, 21% respectively; It is the highest flowering rate with the stem diameter of 3 mm, and the length of 14cm. The relationship between the best leaf number of different zones

and it ’ s flowering is different, it is the highest flowering rate with the leaf number of 6 in 30-59 cm zone, the numbers are 7 and 8 respectively in 60-89 cm zone and 90-120 cm zone, the best leaf number increase obviously with the ascent of distributionzone of bearing branches.
【语种】中文
【第一作者】蔡盛华
【通讯作者】陆修闽
【期刊名称、卷期、页码】中国农学通报, 2010(1): 78-81.
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【引文索引类型】其他
【引文索引号】S3
【学科分类】园艺学

【题目】红肉蜜柚与琯溪蜜柚亲缘关系孢粉学鉴定
【中文关键词】蔡盛华
陆修闽
黄新忠
陈菁瑛
金光
陈小明
张丽梅
雷龑
【英文关键词】red- flesh sweet pomelo genetic relationship genetic distance sporopollen identification
【中文摘要】红肉蜜柚系芽变新株系, 为探讨其变异来源, 对红肉蜜柚、琯溪蜜柚、下河蜜柚的花粉进行观察比较,结果表明: 红肉蜜柚与琯溪蜜柚花粉粒外壁纹饰相似, 形状大小相近, 与下河蜜柚差异较大; 红肉蜜柚与琯溪蜜柚花粉粒同属于以5孔沟为主类型, 穿孔密度差异不显著, 与下河蜜柚差异较大; 进一步从孢粉学上证实红肉蜜柚与琯溪蜜柚遗传距离相近。
【英文摘要】Red- flesh sweet pomelo is a new mutantstrain. To study the sources of the variation, pollens of red- flesh sweet pomelo , Guanxi sweet pomelo and Xiahe sweet pomelo were compared. The r esults showed that: (a) the pollen external appearance, shape and size of the red- flesh pomelo w ere similar to those of Guanxi sweet pomelos; (b) there were greater differences between the red- flesh and Xiahe sweet pomelo; (c) the main aperture types of the red- flesh and Guanxi sweet pomelo were both 5 colporate and no significant difference in their perfo ration density, while apparent difference existed between the red- flesh and Xiahe sweet pomelo ; and (d) sporo pollen ident ification further confirmed that there was only a minute genetic distance between the red- flesh and Guanxi sweet pomelo.
【语种】中文
【第一作者】蔡盛华
【通讯作者】陆修闽
【期刊名称、卷期、页码】福建农业学报, 2009(6): 525-527.
【论文发表时间】2009-12-15 00:00:00
【引文索引类型】其他
【引文索引号】S 666.3
【学科分类】园艺学

【题目】黄皮ISSR-PCR反应体系的优化
【中文关键词】李开拓
赵依杰
钟凤林
王江波
施维属
潘东明
【英文关键词】wampee ISSR-PCR wampee, ISSR-PCR, optimizationoptimization

【中文摘要】为应用ISSR分子标记对黄皮种质资源、分子标记辅助选择育种及其遗传多样性研究,通过单因素和正交试验对ISSR-PCR反应体系进行优化。结果表明,采用改良SDS法提取的DNA条带完整、无RNA污染,适于ISSR-PCR扩增;黄皮ISSR分析最适的扩增体系是:20μl的反应体系中含30ng的模板DNA、1.5UTaqDNA聚合酶、0.4μmol/L引物、0.3mmol/LdNTPs以及引物(gA)8C的最佳退火温度为52.4℃。

【英文摘要】To study the extraction method of genomic DNA and optimization of ISSR-PCR reaction conditions for wampee. The improved SDS method was used to extract DNA. The factors influencing ISSR-PCR were investigated by a single factor test and orthogonal design experiment.The researcher used improved SDS method to extract DNA of Wampee, which meets ISSR requirements in quantity and purity. And a better amplification system of ISSR was obtained with the reation system comtaining 30ng template DNA,1.5U Taq DNA polymerase, 0.4 μmol/L primers, 0.3mmol/L dNTPs in the total volume of 20 μl.The optimized annealing temperature was 52.4℃ for primer (gA)8C. The stable and reproducible optimal ISSR-PCR reaction system and suitable annealing temperature are established for Wampee, which had laid the good foundation for ISSR analysis on studies of germplasm resources identification, molecular marker assisted breeding and genetic diversity.

【语种】中文

【第一作者】李开拓

【通讯作者】潘东明

【期刊名称、卷期、页码】中国农学通报, 2009(19): 37-41.

【论文发表时间】2009-10-05 00:00:00

【引文索引类型】其他

【引文索引号】S188

【学科分类】园艺学

【题目】混接茂谷橘橙对芦柑叶片和果实淀粉酶活性的影响

【中文关键词】赖呈纯 余亚白 陈源 王琦 谢鸿根 高慧颖

【英文关键词】Citrus Poon-kan Macrott mixed grafting amylase

【中文摘要】为探讨混合嫁接对柑橘果实物质代谢等生理过程的影响,对混合嫁接后的芦柑和茂谷橘橙淀粉酶活力进行测定。结果表明:茂谷橘橙淀粉酶活力显著高于芦柑;混合嫁接茂谷橘橙后的芦柑比未嫁接的淀粉酶活性显著增强,且变化趋势也与茂谷橘橙相似。

【英文摘要】Glucose metabolism plays a very important role in fruit quality.It is mainly governed by carbohydrate metabolism and the related enzyme activities.And,leaf photosynthesis and fruit development are closed relatd with starch catabolism.The amylase activities in Poon-kan and M acrott oragnges after mixed grafting were monitored for this study.The results showed that the amylase activity of Macrott was higher than that of Poon-kan in general.At the same time,the amylase activity of Poon-kan was enhanced after the mixed grafting.The activity changes of the two orange varieties tended to be similar.

【语种】中文

【第一作者】赖呈纯

【通讯作者】赖忠雄

【期刊名称、卷期、页码】福建农业学报,2009,24(5):447-449.

【论文发表时间】2009-10-15 00:00:00

【引文索引类型】其他

【引文索引号】S666.1

【学科分类】园艺学

【题目】火焰原子吸收光谱法测定葡萄中微量元素的含量

【中文关键词】陈义挺

蔡英卿

朱超凡

陈登云

包建平

王卫

黄新忠

雷龑

寻喜兰
陈怀宇
吴柏娇
郑铭西
【英文关键词】Grape　Trace element　Flame atomic absorption spectrometry
【中文摘要】应用火焰原子吸收光谱法对三明12 个葡萄品种各器官的Fe、Mn、Zn、Cu、Ni、Cr 的含量进行测定分析,结果表明,所测6 个元素在各品种器官中均有一定的分布,同一微量元素在葡萄不同器官、不同品种之间存在一定的差异,其中所测微量元素中Mn、Fe 元素在各器官中含量相对较高,Zn、Cu 其次, Ni、Cr 的含量相对较低。所测葡萄品种各器官中Fe、Mn、Zn、Cu 的含量多数在一般植物体的正常含量范围内,Cr、Ni 的含量稍高于一般植物体的正常含量范围;Fe 元素在各品种间含量差异最大,其高低顺序为:藤稔>巨峰>京亚>双味早红堤>红高>黑香蕉>京秀>87-1>汤姆逊>金星无核>矢富罗莎>维多利亚,而Ni、Cu 、Cr 元素的含量在不同品种之间的差异较小。
【英文摘要】The contents of Fe, Zn, Mn, Cu, Cr, Ni elements of the organs were measured by the method of flame atomic absorption spectrometry (FAAS) in 12 cultivars of grape from Sanming. The result showed that, six trace elements existed in all the organs of grapevine. The contents of these trace elements differed to some extent among different organs, trees or cultivars. Among them, the contents of the trace element (Fe、Mn) in the organs of grape were relatively high; The contents of Zn、Cu was the second in the organs of grape; The contents of the trace element (Ni、Cr) were relatively lower levels in the organs of grape. The contents of Fe, Mn, Zn, Cu of most organs in grape belonged to normal contents of the trace elements in plants, but the contents of Cr, Ni is slightly higher than that of the general plants. The variance of Fe content in 12 grape cultivars was the most obvious, the size order of Fe content is Tengreng>Jufeng>Jingya>Shuangweizaohongti>Honggao>Heixiangjiao>Jingxiu>87-1>Tangmuxun>Jinxinwuhe>Shifuluosha>Weiduoliya, but the contents of Ni、Cu、Cr in 12 grapevine cultivars have little difference.
【语种】中文
【第一作者】陈义挺
【通讯作者】赖忠雄
【期刊名称、卷期、页码】热带作物学报, 2011(8): 1572-1578.
【论文发表时间】2011-08-25 00:00:00
【引文索引类型】其他
【引文索引号】S663.1　O657.31
【学科分类】园艺学

【题目】基于3GWCDMA的琯溪蜜柚移动专家系统的研究
【中文关键词】潘锦山 潘东明
【英文关键词】3G WCDMA　guanxi honey pomelo　mobile expert system
【中文摘要】研究了基于3G WCDMA实现了琯溪蜜柚的移动专家系统。系统利用3G网络优势,以Microsoft ASP.NET 为开发平台,使用WAP2.0、Visual C#、WML、Javascript 等为编程语言在3G移动终端上构建琯溪蜜柚移动专家系统。通过该系统农业生产者仅需要1 部3G移动终端便可简单方便地实现专家知识交互式查询、病害虫诊断与防治等功能,不受时间、空间限制,同时其模块化的框架设计可迅速创构出同类专家系统,具有界面简洁、功能强大、使用便捷的特点,是3G技术在农业专家系统上的全新应用。
【英文摘要】The paper studied the mobile expert system of guanxi honey pomelo on the basis of 3G WCDMA technology. System made full use of 3G networks and WAP2.0, Visual C #, WML, Javascript and other programming languages with the development platform of Microsoft ASP.NET to build guanxi honey pomelomobile expert system on 3G mobile terminal. Agricultural producers only need a 3G mobile terminal canachieve expert knowledge interactive query, pest diagnosis and control functions without time and space constraints. While its modular structure frame design can quickly create a similar expert system with a simple interface, powerful, easy to use features. It was the new application of 3G technology on the agricultural expert system.
【语种】中文
【第一作者】潘锦山
【通讯作者】潘东明
【期刊名称、卷期、页码】中国农学通报2010,26(19):413-416.
【论文发表时间】2010-10-05 00:00:00
【引文索引类型】其他
【引文索引号】TP182

【学科分类】园艺学

【题目】基于3G的琯溪蜜柚果园移动视频监控系统的构建
【中文关键词】潘锦山 潘东明
【英文关键词】The 3G network WIFI Guanximiyou Mobile Video monitoring
【中文摘要】研究基于3G 混合网络和WIFI 无线技术实现琯溪蜜柚果园移动视频监控系统。系统充分利用3 种不同3G网络资源优势,在3G 移动终端上实现了“ 任何时间、任何地点、任何终端 ” 无缝式的无线监控系统,有效地弥补了传统网络视频监控的弱势, 可为果园管理提供更高效、系统的解决方案,提高了农业生产效率和管理水平。
【英文摘要】Research based on 3G hybrid network and WIFI wireless technology to realize the Guanximiyou orchard mobile video monitoring system. System make full use of three different 3 G network resource advantages, and the third generation (3 G) mobile terminal to achieve the "any time, any place, any terminal" seamless type wireless monitoring system, effectively make up for the traditional network video monitoring, weak for orchard management to provide more efficient and system solutions and improve the agricultural production efficiency and management level.
【语种】中文
【第一作者】潘锦山
【通讯作者】潘东明
【期刊名称、卷期、页码】热带作物学报, 2010(9): 1602-1605.
【论文发表时间】2010-09-25 00:00:00
【引文索引类型】其他
【引文索引号】S666.3 TP277
【学科分类】园艺学

【题目】锦绣黄桃优变株系果实制汁制罐品质评价
【中文关键词】钟秋珍
陈小明
张长和
李忠才
林洪龙
雷
黄新忠
【英文关键词】Jinxiu' yellow peach Optimal variable loss System juice Can Quality evaluation
【中文摘要】以锦绣黄桃优变株系果实为试材, 通过制汁、制罐品质比较, 结合产量、原料利用率等因素, 对其制汁、制罐适制性进行综合评价, 为选择适宜加工途径提供依据。结果表明: 锦绣黄桃优变株系果实制汁制罐品质优良,制汁呈色浅黄纯正、均匀鲜亮, 风味酸甜适中, 香气浓郁; 制罐呈橙黄色、质地细韧, 风味酸甜可口, 香气较浓郁;果实出汁率、制罐原料利用率也高。但用于制罐则须切成多块, 造成块形多样而不整齐。
【英文摘要】With ‘ Jinxiu' yellow peach optimal variable including fruit as test materials, through the system juice, can quality comparison, combining production, utilization ratio of raw material and other factors, the system juice, can evaluate the fitness of system, a method for choosing appropriate processing way supply basis. The results show that the optimal yellow peach fruit juice can change including system of good quality,System juice color pure, bright yellow evenly, sweet and sour moderate, rich smell flavor; Can is orange, quality of a material is fine tough, sour and sweet and tasty flavor, aroma is strong; Fruit juice rate, can the utilization rate of raw materials is high. But for can shall be cut into chunks, cause block various and irregularity.
【语种】中文
【第一作者】钟秋珍
【通讯作者】黄新忠
【期刊名称、卷期、页码】佛山科学技术学院学报(自然科学版), 2010(6): 40-43.
【论文发表时间】2010-11-15 00:00:00
【引文索引类型】其他
【引文索引号】TS255. 4
【学科分类】园艺学

【题目】兰竹荔枝花、果及营养枝主要矿质营养需求量研究
【中文关键词】许奇志
许家辉
林旗华
吴溪木
杨凌
许秀淡
【英文关键词】Litchi Mineral nutrition demand
【中文摘要】对35 年生兰竹荔枝结果树开花、结果和营养枝生长过程主要矿质营养需求量进行了研究。结果表明, 兰竹荔枝年产93.08 kg/株, 全年在开花、结果和二次秋梢生长所需要的主要矿质营养分别为: N1 821.55 g, P366.67 g, K1 865.11 g, Ca 400.31 g, Mg 214.12 g。营养需求分二个阶段, 第一是开花、结果阶段, 以K 和N 为主, N、P、K、Ca、Mg 比例为1: 0.23: 1.23: 0.14: 0.11; 第二是采后营养枝生长阶段, 以N 为主, N、P、K、Ca、Mg 比例为1: 0.17: 0.75: 0.33: 0.13。研究结果可为荔枝平衡施肥提供营养需求参考指标。
【英文摘要】Born in to 35 LanZhu litchi results tree flowering, results and nutrition branch main mineral nutrition demand growth process was studied. The results show that LanZhu litchi annual output of 93.08 kg/plant, the whole year in flowering, results and secondary autumn tip for the growth of main mineral nutrition are: N 1 821.55 g, P 366.67 g, K 1 865.11 g, Ca 400.31 g, Mg, 214.12 g. Nutritional requirements points two stages, the first is flowering, results phase to K and N is given priority to, N, P, K, Ca, Mg ratio is 1:0.23, 1.23, 0.14, 0.11; The second is postharvest vegetative shoot growth stage, N is given priority to, N, P, K, Ca, Mg ratio is 1:0.17, 0.75, 0.33, 0.13. The result is of litchi balanced fertilization provide nutritional requirements reference index.
【语种】中文
【第一作者】许奇志
【通讯作者】许秀淡
【期刊名称、卷期、页码】热带作物学报, 2010(7): 1068-1071.
【论文发表时间】2010-07-25 00:00:00
【引文索引类型】其他
【引文索引号】S667.1
【学科分类】园艺学

【题目】梨果形偏斜发生规律研究
【中文关键词】陈小明
陈义挺
包建平
陈婷
张长和
胡宁三
蔡盛华
雷龑
刘鑫铭
黄新忠
【英文关键词】Pear fruit shape deformation irregularity
【中文摘要】对翠冠、清香、雪青、玉冠、黄金梨等5个品种的调查研究表明,在正常疏花疏果栽培条件下,梨果实发生偏斜现象较普遍,平均斜果率为46.02%,品种间存在一定差异,其中黄金梨斜果率最低,为33.57%,其次为清香(43.78%);黄金梨、清香与翠冠、玉冠、雪青等3个品种相比,差异分别达极显著、显著水平,翠冠、玉冠、雪青等3品种之间差异不明显。梨果形偏斜现象自幼果迅速膨大期初期就开始发生,偏斜果已大量存在,梨果实偏斜指数变化可分为缓慢增大、迅速增大、相对平稳等3个阶段,幼果发育初期端正是果实在后续发育过程保持对称生长的基础,果实由顶生状转向下垂状易位过程是控制果实非对称生长的关键时期。
【英文摘要】Shape deformation of the fruits of Cuiguan,Qingxiang,Xueqing,Yuguan and Huangjin pears was investigated.The results showed that the irregularity occurred commonly at an average defective rate of 46.02% and varied with varieties in the flower- and fruit-thinning cultivation.For instance,the defective rate for Huangjin was the lowest(33.57%)followed by Qingxiang

(43.78%).Compared with Cuiguan,Yuguan and Xueqing,the deflective fruit rates of Huangjin and Qingsiang were lower,the difference were extremely significant and significant respectively.On the other hand,there was no difference on the shape deformation among Cuiguan,Yuguan andXueqing pears.The deformation appeared to start during enlarging of the young fruits,and a considerable number of deformed fruits had already existed by then.The pear deformation developed in three stages,namely,the slow growth,rapid expansion and relative stability.The good shape of young fruit in the early developing is the base of keeping growing symmetrically in the follow-up development.The progression from upward growth to downward is the crucial period of controlling fruit growing unsymmetrically.
【语种】中文
【第一作者】陈小明
【通讯作者】黄新忠
【期刊名称、卷期、页码】福建农业学报, 2011(5): 766-768.
【论文发表时间】2011-10-25 00:00:00
【引文索引类型】其他
【引文索引号】S661.2
【学科分类】园艺学

【题目】立冬本龙眼适宜留果量研究
【中文关键词】许奇志
许家辉
林旗华
张丽梅
郑少泉
许秀淡
【英文关键词】Longan Reserved fruit amount Fruit quality Output benefit
【中文摘要】以结果习性好、经济效益高的立冬本龙眼为试材,研究不同果穗留量对果实品质、营养枝质量及产量效益的影响。结果表明,每穗留果60~70 粒,果穗数量以32%最为适宜,果实单果重13.07~13.33 g 的优质果;营养枝粗度7.78~8.46 mm、长度23.78~26.35 cm、复叶数16.86~19.60 个之间, 次年枝梢成花率为71.04 ~77.13%,与对照树一样为优良结果母枝。其次果穗留量38%略为偏多,果穗留量28%略为偏少,果穗留量42%和48%容易出现大小年或隔年结果。
【英文摘要】The effects of different reserved fruit amount on fruit quality, vegetative shoot quality and output benefit in Longan 'Lidongben' were studied in this paper The results showed that 60~70 reserved fruit amount and 32% fruit cluster number was the most suitable, with these conditions the single fruit weight was between 13.07~13.33 g, vegetative shoot coarseness was between 7.78~8.46 mm, vegetative shoot length was between 23.78~26.35 cm,compound leaf number was between 16.86~19.60 and the next year flower formation rate of shoot was 71.04~77.13%,which were similar to the CK(fine bearing basal shoot). The reserved fruit amount was a little higher for production at 38% and was a little lower at 28%, the reserved fruit amount which was at 42% and 48% would lead to alternate bearing.
【语种】中文
【第一作者】许奇志
【通讯作者】郑少泉 许秀淡
【期刊名称、卷期、页码】热带作物学报, 2011(7): 1214-1217.
【论文发表时间】2011-07-25 00:00:00
【引文索引类型】其他
【引文索引号】S667.2
【学科分类】园艺学

【题目】荔枝ISSR扩增条件优化
【中文关键词】王江波
钟凤林
潘东明
李开拓
尤桂春
林琳

郭志雄
刘礼仕
【英文关键词】litchi　ISSR　　optimize PCR
【中文摘要】对ISSR-PCR扩增荔枝基因组DNA的主要影响因子进行了筛选和分析。试验结果表明: 20μl的反应体系中采用20ng的模板DNA, 0.15μmol/L ISSR引物、1.25U Taq DNA聚合酶, 0.15μmol/L dNTP,以及50~54℃的复性温度为荔枝1SSR-PCR扩增条件的最佳选择。
【英文摘要】The factors influencing ISSR- PCR to analyze the genetic divergence in Litchi (Litchi chinensisSonn.) were investigated.Comparative experiments on the concentrations of template DNA; ISSR primer, Taq DNA polymerase and the annealing temperature were carried out. The results showed that the optimum reaction condition of ISSR was 20ng DNA template, 0.15μmol/L ISSR primer, 1.25UTaq DNA polymerase,0.15μmol/L dNTPand annealing temperature of 50-54℃ in each reaction system of 20μL.
【语种】中文
【第一作者】王江波
【通讯作者】潘东明
【期刊名称、卷期、页码】中国农学通报, 2008(2): 71-74.
【论文发表时间】2008-02-05 00:00:00
【引文索引类型】其他
【引文索引号】S667.1
【学科分类】园艺学

【题目】低温对贵妃枇杷采后果实品质的影响
【中文关键词】许玲,余东,许家辉,魏秀清,张丽梅,郑少泉
【英文关键词】Low Temperature, Guifei Loquat, fruit quality
【中文摘要】为探讨贵妃枇杷适宜的采后贮藏温度及时间,延长果实供应期,该试验设0~4℃、6~8℃和常温等3个温度处理,研究贮藏期内果实品质的变化。结果表明,低温能显著抑制果实的失重,延缓糖、酸含量的下降;前期果实硬度下降,后期上升;采后各处理的可食率、可溶性固形物含量下降;贵妃枇杷的适宜贮藏温度为6~8℃,贮藏20~30天仍能保持较好的品质。
【英文摘要】To explore the Guifei loquat appropriate post-harvest storage temperature and post-harvest storage time, for extending the fruits of the supply period, the test for 0~4℃, 6~8℃, and at room temperature had been design to study the changes in fruit quality. Research on low-temperature conditions on the Guifei fruit quality of post-harvest. The results showed that low temperature could inhibit the fruit of weight loss and delay the decrease of sugar and acid. Tests showed that hardness of loquat fruit dropped during the first period, while the later period increased. The edible rate and soluble solids content have decreased of each processing. The experiment results showed that the appropriate storage temperature of Guifei loquat fruit was 6~8℃, under which fruit quality could be well kept for 20-30 days.
【语种】中文
【第一作者】许玲
【通讯作者】郑少泉
【期刊名称、卷期、页码】中国农学通报,2009,25(14): 204-206
【论文发表时间】1905-07-01 00:00:00
【引文索引类型】其他
【引文索引号】S667.3
【学科分类】园艺学

【题目】番木瓜标准化栽培技术
【中文关键词】黄雄峰;钟秋珍;林燕金;何明忠;熊月明
【英文关键词】pawpaw
【中文摘要】介绍了番木瓜标准化栽培技术,主要包括品种选择与种子处理、种苗培育、选地定植、土肥水管理、花果管理、病虫害防治、采收等内容,以供种植户参考。
【英文摘要】Abstract
【语种】中文
【第一作者】黄雄峰

【通讯作者】熊月明
【期刊名称、卷期、页码】现代农业科技,2010,(19)
【论文发表时间】2010-08-17 00:00:00
【引文索引类型】其他
【引文索引号】S667.9
【学科分类】园艺学

【题目】福建柑橘类种质资源ISSR分子评价
【中文关键词】施维属,钟凤林,李开拓,王江波,潘东明
【英文关键词】Citrus;ISSR marker;genetic relationship;cluster analysis
【中文摘要】用ISSR分子标记对福建70份柑橘种质进行分析。从95个引物中筛选出14个引物对70个柑橘种质的总DNA进行PCR扩增,共获得219个位点,有203个多态性位点,多态性百分率为92.69%,利用SPSS13.0软件构建全部材料基于ISSR数据的UPGMA树状图。结果表明:在相似系数为0.516的水平上,70份柑橘材料被划分为四大类:第一大类为枸橼类(香橼、佛手和柠檬);第二大类为枳类;第三大类为金柑类(山橘、金豆种金弹);第四大类包括宽皮柑橘类、柚类、甜橙类和杂柑类。其中,扇温州蜜柑与兴津早生相似系数为1.000,推测其为同一品种。另外,在相似系数为0.702的水平上,蕉柑、葡萄柚与甜橙聚为一个类群,该结果为蕉柑、葡萄柚的起源探讨提供数据参考。最后,对70个柑橘类种质的分类、亲缘关系进行详细探讨。
【英文摘要】Abstract
【语种】中文
【第一作者】施维属
【通讯作者】潘东明
【期刊名称、卷期、页码】福建农林大学,2016
【论文发表时间】2009-05-18 00:00:00
【引文索引类型】其他
【引文索引号】S666.6
【学科分类】园艺学

【题目】福建梨早期大量落叶诱因与防控策略
【中文关键词】黄新忠,陈义挺,雷龑,蔡盛华,陈小明
【英文关键词】pear; early falling leaves; prevention and control
【中文摘要】早期大量落叶现象已成为制约福建梨产持续丰产优质高效的瓶颈。综合实际调查与资料查阅认为,生态环境不适、品种遗传背景、病虫为害严重、气候条件异常、树体营养失衡、管理操作失当为其主要诱发因素,提出优化产业区域布局、选育推广耐高温高湿品种、稳定土壤水分状况、均衡土壤养分供给、改善树体营养状况、严防病虫害蔓延、改进管理操作技术等防控策略。
【英文摘要】A large number of early falling leaves have become a bottleneck problem to restrict the persistent high yield and efficient quality of the pear industry in Fujian. It can be concluded that, based on the actual investigation and the pertinent literatures, unfit ecological environment, genetic backgrounds of variety, serious diseases and insect pests damage, abnormal weather conditions, imbalance trees nutrition, improper management operations were its leading-induced factors. So, we put forward the corresponding prevention and control strategies as below: optimize the regional distribution of industry, select and popularize high temperature and humidity-resistant variety, maintain soil moisture conditions, balance the supply of soil nutrients and improve the nutritional status of trees, prevent the infestation of diseases and pests, promote management and operation technology.
【语种】中文
【第一作者】黄新忠
【通讯作者】黄新忠
【期刊名称、卷期、页码】中国农学通报,2010,26(2): 91-95
【论文发表时间】2009-10-31 00:00:00
【引文索引类型】其他
【引文索引号】S3
【学科分类】园艺学

【题目】福建枇杷锈斑病调查与分析
【中文关键词】刘友接;许家辉;蒋际谋;张泽煌;余东;林旗华;许奇志
【英文关键词】loquat;rust spot disease;survey and analysis;disease index
【中文摘要】锈斑病是普遍发生在枇杷生产上的一种生理性病害。近年来,枇杷产区锈斑病日趋严重,通过调查分析发现,不同地区、不同地点、不同时期和同一植株不同方位的枇杷果实发病情况各不相同。同一地点外围果比内膛果发病严重;云霄山顶不同方位果实发病比仙游地区严重;"早钟6号"抗病性较强;牛皮纸套袋抗病效果最好。因此,在生产中应采取不同的技术进行防治。
【英文摘要】The rust spot disease is one of physiological disorders infecting loquat fruit and occurs generally in the loquat production. In recent years, rust spot disease occurs heavily day by day in loquat fruit in the loquat producing area. Our survey and analysis of this disease showed that occurrence of this disease varied with regions, localities, stages, and positions of the same loquat plant. The loquat fruits at the periphery of the same locality were more heavily infected with the rust spot disease than those at the inner side of the same locality; the fruits were more seriously infected with the rust spot in different orientations in the summit of Yunxiao Mountain than those in the Xianyou district. Loquat cultivar 'Zaozhong 6' was higher in disease resistance. Wrapping of fruit with kraft paper was optimum in resistance to the disease. Therefore, various methods should be used to control this disease in production of loquat.
【语种】中文
【第一作者】刘 友 接
【通讯作者】刘 友 接
【期刊名称、卷期、页码】热带作物学报,2009,30(8):1138-1142.
【论文发表时间】2009-07-08 00:00:00
【引文索引类型】其他
【引文索引号】S667.308
【学科分类】园艺学

【题目】福建葡萄产业发展现状与对策
【中文关键词】雷龑,蔡盛华,詹小敏,黄新忠
【英文关键词】grape
【中文摘要】福建省属于亚热带气候。年平均气温15.2~22.2℃,无霜期长,有效积温高,有利于葡萄生长发育和提早成熟。福建自1984年开始引进种植巨峰品种,葡萄的规模化生产栽培逐渐得到发展。但福建年平均降雨量1159~2463mm,湿度大,易滋生病害,直接影响葡萄的生长,而且随着葡萄产业的发展,葡萄生产、果品质量、市场供求等之间的矛盾日益显现。为了更好地促进福建葡萄产业的发展,于4 月中下旬深入福安、建瓯、建阳等3 个主产县市开展葡萄产业发展现状与对策调查研究,基本摸清了福建葡萄面积与产量分布、生产管理状况与存在的问题,并提出了福建葡萄产业发展对策,供政府与部分决策者参考。
【英文摘要】Abstract
【语种】中文
【第一作者】雷龑
【通讯作者】黄新忠
【期刊名称、卷期、页码】中外葡萄与葡萄酒2009(11):73-75
【论文发表时间】2009-09-07 00:00:00
【引文索引类型】其他
【引文索引号】S663.1
【学科分类】园艺学

【题目】福建省橄榄种质资源圃的建立
【中文关键词】吴如健;韦晓霞;潘少林;胡菌青;陈瑾;张泽煌
【英文关键词】Chinese olive; Germplasm resources nursery; Establisement
【中文摘要】福建省橄榄种质资源圃于2002年建立,至今已收集、保存来自福建、广东、浙江、广西、云南、四川等省(区)127份橄榄种质资源,涵盖了我国绝大部分橄榄地方品种和重要遗传材料,是我国目前保存品种最多最齐全的橄榄种质资源圃。制订了《橄榄种质资源描述规范和数据标准(试行)》,并开展了资源抗寒性测定、叶片解剖结构观察、叶片性状多样性分析等基础性研究工作,初步选育出甜榄1号、池1号、光甜等橄榄优良单株。

【英文摘要】The Chinese olive germplasm resources nursery was established in 2002 in Fujian Province. Currently, 127 accessions of Chinese olive germplasm resources have been collected from such provinces as Fujian, Guangdong, Zhejiang, Guangxi, Yunnan and Sichuan, which covers the most of olives local varieties and important genetic material in China. The basic research for accurate describing, efficient protecting and rational using the resources was carried out as follows: Ⅰ ‘ Descriptor and data standard for Chinese olive, Canarium spp. (Trial Implementation) ’ was formulated. Ⅱ Determination of cold hardiness, Observation of leaf anatomy as well as diversity of leaf character were studied. Ⅲ Superior individuals of ‘ Tianlan1 ’, ‘ Chi 1 ’ and ‘ Guangtian ’ were bred preliminarily.
【语种】中文
【第一作者】吴如健
【通讯作者】吴如健
【期刊名称、卷期、页码】福建果树,2009 (3): 1~5
【论文发表时间】2009-08-26 00:00:00
【引文索引类型】其他
【引文索引号】S667.5
【学科分类】园艺学

【题目】福建省杨梅种质资源的收集保存与利用
【中文关键词】林旗华;张泽煌;卢新坤;黄艺敏
【英文关键词】Germplasm resources
【中文摘要】杨梅(Myrica rubra Sieb.et Zucc.)为杨梅科杨梅属亚热带常绿乔木,是我国著名的特色果树,栽培历史悠久。杨梅富含糖类、柠檬酸、苹果酸、草酸、蛋白质、脂肪、铁、钙、磷和多种维生素等营养成分,还具有药用价值。其性味甘、酸而温,有生津止渴、和胃消食、益肾利尿和解暑止泻之功效。
【英文摘要】Abstract
【语种】中文
【第一作者】林旗华
【通讯作者】张泽煌
【期刊名称、卷期、页码】福建果树,2011(1): 45~48
【论文发表时间】2010-11-21 00:00:00
【引文索引类型】其他
【引文索引号】S667.6
【学科分类】园艺学

【题目】福建柚类种质资源的ISSR分析
【中文关键词】钟凤林;施维属;潘东明
【英文关键词】ISSR molecular marker
【中文摘要】从100条ISSR引物中筛选出14条具有多态性谱带的引物, 对福建柚类16份种 质资源进行ISSR分析。 结果显示:14条引物共扩增出177个位点,有,123个多态性位点,多态性百分率为69.49%,福建柚类种质资源的相似系数在,0.526~0.984之间。其中, ‘ 胡柚 ’ 与 ‘ 三明金柚 ’ 相似系数最高,为0.984; ‘ 澳洲柚 ’ 与 ‘ 土柚 ’ 相似系数最低,为0.526。相似系数在0.553处,16份种质可分为两大类, ‘ 胡柚 ’、 ‘ 三明金柚 ’、 ‘ 澳洲柚 ’、 ‘ 福柚 ’ 及 ‘ 新路比葡萄柚 ’ 属第一大类,其余柚类种质为第二大类。
【英文摘要】Abstract
【语种】中文
【第一作者】钟凤林
【通讯作者】潘东明
【期刊名称、卷期、页码】热带作物学报,2010,31(11):1964-1968.
【论文发表时间】2010-09-29 00:00:00
【引文索引类型】其他
【引文索引号】S666.6
【学科分类】园艺学

【题目】福州花店业市场营销状况调研
【中文关键词】刘起丽,韩会娟,段长勇,赵凤义,张建新
【英文关键词】Fuzhou; florists;marketing research
【中文摘要】以福州市花店行业为研究对象,以市场营销学为理论基础,运用分层抽样法、访问法、结构分析法、比较分析法等市场调研方法,对福州花店的消费者特点、花店营销现状进行了调查分析,并提出了相应的建议,以期对福州花店业的发展有所帮助,为相关科研人员以及从业人员提供参考。
【英文摘要】Using layering sampling,interviewing method,structural analysis method and comparative analysis method and so on,the author has studied on the consumptive characteristics and marketing situation of the florists in Fuzhou.And then,the author has supplied some corresponding suggestions,hoping that these can help the florists to develop,and can also provide reference to the related people.
【语种】中文
【第一作者】牛炜
【通讯作者】潘东明
【期刊名称、卷期、页码】北方园艺2011(17):218-220
【论文发表时间】2011-06-10 00:00:00
【引文索引类型】其他
【引文索引号】F326.1
【学科分类】园艺学

【题目】柑橘基因组DNA快速提取及ISSR-PCR扩增体系优化
【中文关键词】施维属、潘腾飞、钟凤林、潘东明、李开拓、王江波、郭志雄、刘天亮
【英文关键词】Citrus L.; CTAB-mini; DNA extraction; ISSR; Orthogonal design; System optimization
【中文摘要】对CTAB-mini法进行改良,得到一种效率较高的柑橘DNA提取方法。试验结果表明,得到的高质量DNA适合柑橘ISSR分析。同时,采用正交设计对影响柑橘ISSR-PCR因子进行优化。试验结果表明: 20μl反应体系中采用5ng模板DNA、0.35mmol/L dNTPs、0.15μmol/L Primer、1U Taq酶和3μl10×Buffer(含Mg2+)为柑橘ISSR-PCR最优反应体系。
【英文摘要】CTAB-mini method was improved for extracting citrus genom ic DNA.The result showed that the method produced high quality DNA for ISSR-PCR an alysis. Meanwhile, the factors influencing ISSR-PCR for Citrus were optimized by orthogonal design. The result proved that the optimum amplification condition of ISSR-PCR was including 5 ng DNA template, 0.35mmol/L dNTPs, 0.15 μmol/L Primer, 1.0UTaq DNA Polymerase and 3 μl10×Buffer(containingMg2+) in 20 μl reaction volumes.
【语种】中文
【第一作者】施维属
【通讯作者】潘东明
【期刊名称、卷期、页码】生物技术通报,2009(10)
【论文发表时间】2010-05-21 00:00:00
【引文索引类型】其他
【引文索引号】S666
【学科分类】园艺学

【题目】橄榄ISSR-PCR反应体系的优化
【中文关键词】刘天亮,潘东明,许长同,李开拓,王江波,施维属
【英文关键词】ISSR Canarium album
【中文摘要】采用正交设计和单因素试验,以BDB (CA)7 为引物,对ISSR-PCR扩增橄榄基因组DNA的主要影响因子进行了筛选和分析,优化了适宜于橄榄ISSR-PCR的扩增体系。结果表明,20μL的反应体系中采用40ng的模板DNA,0.2mmol／L dNTPs,0.25μmol／L ISSR引物、1U Taq聚合酶,以及51.6℃-53℃的复性温度为橄榄ISSR-PCR扩增的最优条件。
【英文摘要】Abstract
【语种】中文
【第一作者】刘天亮
【通讯作者】潘东明

【期刊名称、卷期、页码】生物技术通报,2010(7):137-141
【论文发表时间】2010-01-04 00:00:00
【引文索引类型】其他
【引文索引号】S667.5
【学科分类】园艺学

【题目】橄榄多糖提取工艺研究
【中文关键词】贾媛颖,李永裕,陈建烟,吴少华
【英文关键词】Canarium album Lour. Raeusch; hot water extraction; polysaccharides; optimal
【中文摘要】为优化橄榄多糖的热水浸提工艺条件。以橄榄为原料,采用热水浸提法提取橄榄中的多糖,研究不同因素(料液比、浸提温度、提取时间、提取次数)对橄榄多糖提取率的影响,在单因素试验的基础上,选择3 个主要影响因素(料液比、提取温度、提取时间)进行正交试验,并通过正交试验确定橄榄多糖的最佳提取工艺条件。结果表明,热水浸提法提取橄榄多糖的最佳工艺条件为:料液比1:8,温度100℃ ,时间3.5 h,浸提2 次,多糖提取率可达7.10% 。实验结果为确定橄榄多糖的热水浸提工艺提供了实验依据。
【英文摘要】To seek out the optimal water-extracting technology of polysaccharides from Canarium album Lour. Raeusch. The paper was to study an optimal procedure of polysaccharides from Canarium album Lour. Raeusch consisting of hot water extraction. A series of single factor experiment were conducted to investigate effects of solid/liquid ratio, extraction temperature, extraction time, extraction times on Canarium album Lour. Raeusch polysaccharides yield. On the basis of this, three main affect factors, including solid/liquid ratio, extraction temperature, extraction time were optimized for maximizing Canarium album Lour. Raeusch polysaccharides yield. Using a orthogonal array design. The results showed that the optimal preparation procedure of Canarium album Lour. Raeusch polysaccharides consisted of solid/liquid ratio of1:8, the extraction temperature at 100℃ with 3.5 h, the yield of Canarium album Lour.Raeusch polysaccharides was 7.10%. These extraction process was feasible ,and the experiment result could provide basic and instruction data for the ascertainment of water extraction technology of Canarium album Lour. Raeusch polysaccharides.
【语种】中文
【第一作者】贾媛颖
【通讯作者】吴少华
【期刊名称、卷期、页码】中国农学通报,2012,28(09): 276-280
【论文发表时间】2011-10-19 00:00:00
【引文索引类型】其他
【引文索引号】S667.5
【学科分类】园艺学

【题目】橄榄功能成分及其抗氧化作用研究进展
【中文关键词】林玉芳;陈清西
【英文关键词】Canarium album
【中文摘要】橄榄果实中富含丰富的营养功能成分,包括蛋白质、脂肪酸、挥发性芳香物质、有机酸、氨基酸、酚类物质等,与橄榄的药理功效具有密切的关系。橄榄中的多酚氧化酶(PPO)、超氧化物歧化酶(SOD)等具有抗氧化能力。本文综述了橄榄的功能成分以及抗氧化作用,以期为橄榄的进一步研究提供参考依据。
【英文摘要】Abstract
【语种】中文
【第一作者】林玉芳
【通讯作者】陈清西
【期刊名称、卷期、页码】热带作物学报,2010,31(1):158-163
【论文发表时间】2009-11-23 00:00:00
【引文索引类型】其他
【引文索引号】S667.5
【学科分类】园艺学

【题目】橄榄果实糖类组分分析
【中文关键词】林玉芳,李泽坤,陈清西
【英文关键词】Chinese olive;HPLC; Sugar
【中文摘要】利用HPLC方法对橄榄果实糖类组分进行分析。研究结果表明,橄榄果实含有蔗糖、葡萄糖和果糖,主要为蔗糖。不同地区、不同品种(株系)之间,各个糖类组分差异很大。在20个品种(株系)中,马坑22号、唐举3号和上岐3号3个品种(株系)蔗糖含量最高,分别为138.82 mg.g-1、112.74 mg.g-1和105.76 mg.g-1,最低的为族本,仅为9.13 mg.g-1。
【英文摘要】The high performance liquid chromatography(HPLC)was adopted to analyze sugar composition in Chinese olive fruits in this study. Results showed that Chinese olive fruit contains sucrose,glucose and fructose,and mainly sucrose. Sugar composition differed significantly among cultivars(strains)and original regions. Among the 20 cultivars(strains)investigated,Makeng NO.22,Tangju NO.3 and Shangqi NO.3 contained the highest level of sucrose,which were 138.82 mg.g-1、112.74 mg.g-1 and 105.76 mg.g-1, respectively,and Zuben contained the lowest level(only 9.13 mg.g-1).
【语种】中文
【第一作者】林玉芳
【通讯作者】陈清西
【期刊名称、卷期、页码】福建果树,2012(2): 4~7
【论文发表时间】2012-06-01 00:00:00
【引文索引类型】其他
【引文索引号】S667.5
【学科分类】园艺学

【题目】‘早钟6号’在枇杷产业发展中的贡献
【中文关键词】蒋际谋;吴遵耀;陈秀萍;郑少泉
【英文关键词】loquat
【中文摘要】本文综述了‘早钟6号’推广十多年来对我国枇杷产业发展的推动作用, 总结了发展过程中存在的问题, 并对枇杷产业的发展提出建议。
【英文摘要】Abstract
【语种】中文
【第一作者】蒋际谋
【通讯作者】蒋际谋
【期刊名称、卷期、页码】福建果树2009 (1): 51~56
【论文发表时间】2009-03-23 00:00:00
【引文索引类型】其他
【引文索引号】S667.3
【学科分类】园艺学

【题目】5个枇杷晚熟品种果实氨基酸组成和含量分析
【中文关键词】高慧颖; 姜帆; 张立杰; 陈秀妹; 郑少泉
【英文关键词】White flesh loquat; Red flesh loquat; Amino Acid; Delicious taste; Medicinal; Nutrition evaluation
【中文摘要】为了探讨白肉枇杷和红肉枇杷果实的风味和营养品质的差异, 利用氨基酸自动分析仪测定了5个晚熟枇杷品种果实的氨基酸含量。结果表明, 新白1号枇杷果实中天门冬氨酸和谷氨酸等鲜味类氨基酸含量占总氨基酸的53.9%, 明显高于红肉枇杷中的含量; 而红肉枇杷的甜味类氨基酸和芳香类氨基酸含量略高于白肉枇杷。白肉枇杷中药用氨基酸含量高于红肉枇杷, 而红肉枇杷符合氨基酸模式谱的指标多于白肉枇杷。
【英文摘要】To study differences between white and red flesh loquat fruit in flavor quality and nutrition quality, contents of amino acids in five late ripening Loquat fruits was detected by Automatic Amino Acid Analyzer. The results showed that the contents of Aspartic Acid (Asp) and Glutamic Acid (Glu) belong to delicious taste amino acid in Xinbai 1 fruits accounted for 5319% of total amino acids, which were obviously higher than that in red flesh loquat fruit while sweet taste and aromatic amino acid in red flesh fruit were slight higher than that in white flesh fruit .The content of medical amino acid in white flesh loquat fruit was higher while amino acid indexes accord with the pattern spectrum in red flesh fruit were more than those in white flesh fruit.
【语种】中文

【第一作者】高慧颖
【通讯作者】郑少泉
【期刊名称、卷期、页码】福建果树2009 (2): 37~41
【论文发表时间】2009-05-06 00:00:00
【引文索引类型】其他
【引文索引号】S667.3
【学科分类】园艺学

【题目】24份龙眼种质资源RAPD分析
【中文关键词】许奇志,李韬,陈秀萍,许秀淡,陈亮,郑少泉
【英文关键词】longan;RAPD analysis;classification;phylogenetic relationship
【中文摘要】利用RAPD技术对原产福建20份、广东1份、四川3份,共24份龙眼种质资源进行分析.从100条引物中筛选出14条多态性引物,共扩增出122条谱带,多态性谱带共88条,多态性比例72.1%.对RAPD结果进行聚类分析,根据相似系数0.28的水平可将24份龙眼品种(系)分为3类.供试各品种多态性比例介于0.12和0.28之间,揭示福建本地品种的遗传多样性不太丰富.
【英文摘要】In this study,14 primers Were selected from 100 random primers and could be successfully used for amplifying the DNA of 24 longan germplasm resources(among them 20 from Fujian,1 from Guangdong and 3 from Sichuan).122 bands were obtained.Among them 88 bands show polyrnorphism,amounting to 72.1%.The DPS dendrogram of 24 resouuces were divided into 3 groups at the level of the similarity coefficient of 0.28.The polymorphic percentage of all 24 test rcsouces was from 0.12 to 0.28,the results indicated that these Fujian longan resouces were not with abundant genetic diversity.
【语种】中文
【第一作者】许奇志
【通讯作者】郑少泉
【期刊名称、卷期、页码】厦门大学学报(自然科学版),2008,47(2):26-30
【论文发表时间】2008-09-23 00:00:00
【引文索引类型】其他
【引文索引号】S667.2;Q943
【学科分类】园艺学

【题目】24份甜橙种质资源的ISSR分析
【中文关键词】施维属; 王江波; 李开拓; 潘腾飞; 潘东明
【英文关键词】Sweet orange [Citrus sinensis (L.) Osbeck]; ISSR; Genetic relationship; Cluster analysis
【中文摘要】从97条ISSR引物中筛选出14条能扩增出清晰的具有多态性DNA谱带的引物,分别对24份甜橙种质基因组总DNA进行PCR扩增,共获得147个位点,其中54个位点具有多态性。利用SPSS13.0软件对数据进行分析,结果显示,24份甜橙种质间相似系数在0.815~0.983之间,表明24份甜橙种质间亲缘关系较近;相似系数在0.851处,24份甜橙种质被分为3组,ISSR分子标记的分析结果与形态学观察及传统分类结果基本吻合。通过对PCR扩增谱带的分析,结果显示,引物CW39119为‘奈维林娜脐橙’种质的特异性标记,引物CW32439为‘红肉脐橙’红梗与白梗种质的特异性标记,引物CW32445为‘纽荷尔脐橙’与‘脐橙52号’种质的特异性标记。
【英文摘要】14 ISSR primers out of 97 were selected based on the polymorphism and quality of the bands produced by the primers and used in the present study. A total of 147bands were obtained, of which 54 were polymorphic. The analytic results based on SPSS(version 13.0) software showed that the similar coefficient of 24 Sweet orange [Citrus sinensis (L.) Osbeck] germplasms was 0.815~0.983, which indicated that the genetic relationships between them were close. 24 Sweet orange [Citrus sinensis (L.) Osbeck] germplasms were divided into three groups when the simlar coefficient was 0.851. The ISSR analytic results were in consistence with the morphological observation and traditional classification system basically. Through the analysis of PCR amplification bands, the specific markers of ‘ Navelina navel orange ’ based on the primer CW39119, the specific marker between red branch breed and white branch breed of ‘ Red flesh navel orange ’ based on the primer CW32439 and the specific markers between ‘ Newhall Navel Orange ’ and ‘ Navel Orange 52 ’ based on the primer CW32445 had been found.
【语种】中文
【第一作者】施维属
【通讯作者】潘东明

【期刊名称、卷期、页码】热带作物学报,2010,31(6):902-907
【论文发表时间】2010-05-06 00:00:00
【引文索引类型】其他
【引文索引号】S666.1
【学科分类】园艺学

【题目】40个黄皮品种的ISSR分析
【中文关键词】李开拓,钟凤林,郭志雄,潘腾飞,王江波,潘东明
【英文关键词】Clausena lansium; ISSR; genetic relationship
【中文摘要】采用ISSR-PCR 分子标记技术对40个黄皮品种的遗传多样性进行分析。从 96条ISSR 引物中筛选出15条引物用于PCR 扩增,共扩增出165 条带,其中多态性条带100 条,多态性比率为60.6% 。应用SPSS软件计算各品种间的Jaccard相似系数介于0.714~1.000,UPGMA 法将40个品种分成5 组。
【英文摘要】ISSR-PCR markers were used to analyze the genetic diversity of 40 wampee cultivars. A total of 15 ISSR primers selected from 96 primers were used to amplify 165 DNA fragments and of which 100 (60.6%) were polymorphic loci. Based on SPSS 13.0 analysis, the similarity coefficient between different cultivars ranged from 0.714 to 1.000. The dendrogram constructed by UPGMA showed that 40 wampee cultivars were classified into five groups.
【语种】中文
【第一作者】李开拓
【通讯作者】潘东明
【期刊名称、卷期、页码】亚热带植物科学,2009,38(4):22-26.
【论文发表时间】2009-08-07 00:00:00
【引文索引类型】其他
【引文索引号】S665.9
【学科分类】园艺学

【题目】43份云南野生枇杷种质遗传多样性与亲缘关系分析
【中文关键词】胡文舜; 李韬; 郑姗; 蒋际谋; 黄爱萍; 章希娟; 郑少泉; 陈亮
【英文关键词】Loquat; Germplasmresource; Geneticdiversity; Phylogeneticrelationship; Molecular markers
【中文摘要】应用SSR、SRAP等2种分子标记方法, 分析了43份云南野生枇杷种质的遗传多样性及其与部分栽培品种、野生近缘种的亲缘关系。结果表明: 云南野生枇杷种质具有较丰富的遗传多样性, 其多态性位点百分数为91.32%, 平均期望杂合度为0.3165, 平均香农多样性指数为0.4753; 在相似系数0.751水平上, 43份材料可被划分入4个大类, 其中类Ⅲ在相似系数0.816处可细分为6个亚类; 主成分分析则更为直观地展现了种质间的亲缘关系。聚类结果与种质类型相关, 并呈现出一定的地域性分布规律。结合形态学特征, 鉴定该批云南野生种质以栎叶枇杷种内类型居多, 甚至有出现变种的可能。
【英文摘要】43wild loquat germplasm in Yunnan, coupled with some accessions of cultivars and its wild relatives, were analyzed for genetic diversity and phylogenetic relationship using SSR and SRAP markers. The comprehensive analysis results indicated that wild loquat germplasm in Yunnan had the rich heredity multiplicity, its polymorphism position spot percentage was91132%, the average expected heterozygosity was 0.3165, the average Shannon index was 0.4753. 43 materials were divided into 4 big groups with the similarity coefficient at 01751, in which groupIII was subdivide into 6groups at the similarity coefficient level of 0.816. Principal component analysis(PCA) more directly demonstrated the genetic relationship between germplasms. Cluster result was related to germplasm type, and showed certain geographic distribution law. Combined with morphological character, the majority of the idendified wild loquat germplasm resources in Yunnan were E. Prinoides Rehd. etWils. , and some probally were varieties.
【语种】中文
【第一作者】胡文舜
【通讯作者】郑少泉; 陈亮
【期刊名称、卷期、页码】福建果树2010 (4): 20~28
【论文发表时间】2010-11-27 00:00:00
【引文索引类型】其他
【引文索引号】S667.3
【学科分类】园艺学

【题目】66份荔枝古树遗传多样性的RAPD分析
【中文关键词】李焕苓; 赖钟雄; 陈义挺; 林秀莲; 徐炜; 林治良
【英文关键词】Ancient litchi trees; RAPD; genetic diversity
【中文摘要】采用RAPD技术对66份荔枝古树(其中福州市64份,广东开平市2份)资源进行遗传多样性分析。结果表明,16个随机引物共产生232条RAPD带,其中216条为多态性带,占总带数的93.10%,说明66份荔枝古树资源有丰富的多样性。根据扩增条带多态性,利用UPGMA构建了荔枝古树的亲缘关系树状图,遗传距离为0.000~1.000。当D=0.909时,66份荔枝古树资源可以分为3组;当D=0.746时,分为9组;当D=0.578时,可归为18组,同一地方的荔枝古树基本可以划分在一起,但也有个别划分在不同组,亲缘关系较远,表明福州市区荔枝古树群体存在一定的遗传变异。该研究为福州市区荔枝古树特异基因资源的保护与进一步挖掘利用提供了科学依据。
【英文摘要】Genetic diversity of 66 accessions of ancient litchi trees was evaluated by using RAPD (Random amplified polymorphic DNA). The results showed that 232 RAPD bands were amplified by 16 random primers, among which 216 were polymorphic, 93.10% of the total bands, suggesting that 66 accessions of ancient litchi trees are abundant in genetic diversity. According to the polymorphism of the amplified bands, a dendrogram showing genetic relationships among ancient litchi trees was constructed by UPGMA,and the genetic distance varied from 0.000 to 1.000,The 66 accessions of ancient litchi trees were divided into 3 group at D=0.909, 9 groups at D=0.746,and 18 groups at D=0.576.The ancient litcjo trees in the same plot were almost divided into one group, though some individuals which have a distant relationship were in the different group. This shows that there is a genetic variation in the population of the ancient litchi trees in Fuzhou area.This study can provide scientific basis for protecting, further discovering and utilizing the special genes resources of the ancient litchi trees in Fuzhou area.
【语种】中文
【第一作者】李焕苓
【通讯作者】赖钟雄
【期刊名称、卷期、页码】热带作物学报,2009,30(4):450-455
【论文发表时间】2009-03-06 00:00:00
【引文索引类型】其他
【引文索引号】S667.1
【学科分类】园艺学

【题目】2010年福建省梨树霜害调查
【中文关键词】黄新忠, 雷龑, 陈小明, 陈义挺, 蔡盛华, 张长和, 张诚, 宁火根, 曾福汝, 詹小敏
【英文关键词】pear
【中文摘要】2010年3月5—11日福建梨开花幼果期发生罕见晚霜害。对5个梨主产县(市)的调查分析结果表明,全省2.67万hm2梨园全面受害,预计产量、经济损失35%以上;受害程度与品种结构、发育进程、地形地貌、管理状况等因素关系密切,台农2号蜜雪梨品种受害较重,开花较早的地区受害较重,单面靠山坐南朝北或朝西、冻前冻后防护补救措施不到位的梨园受害重,反之则轻;今后应重点加快抗寒品种的选育推广、防寒防冻技术与设施的研发应用,并建立完善的防寒防冻应急体系。
【英文摘要】Abstract
【语种】中文
【第一作者】黄新忠
【通讯作者】黄新忠
【期刊名称、卷期、页码】中国果树,2010(4):57-60
【论文发表时间】2010-04-22 00:00:00
【引文索引类型】其他
【引文索引号】S425;S661.2
【学科分类】园艺学

【题目】ISSR分子标记在芦柑提纯复壮研究中的应用
【中文关键词】王江波, 潘东明, 钟凤林, 郭志雄, 陈跃飞, 尤有利
【英文关键词】ISSR molecular marker; citrus; purification and rejuvenation

【中文摘要】采用ISSR(Inter-simple Sequence Repeat)分子标记技术,从随机引物中筛选出能稳定扩增的14条引物, 利用2条引物对供试的10个芦柑样品进行PCR扩增,获得了与母本完全一致的条带, 从而可以确定鉴定样本为珠心苗。
【英文摘要】In this experiment, by inter-simple sequence repeat (ISSR) molecular marker technology, 14 primers were selected from random primers, and 2 primers were successfully used for PCR amplifyling the DNA of 10 citrus specimens. The same bands as their parents were achieved, consequently, it was proved that the identificated specimens were nucellar seeding.
【语种】中文
【第一作者】王江波
【通讯作者】潘东明
【期刊名称、卷期、页码】亚热带农业研究,2010,6(1):52-55
【论文发表时间】2009-11-17 00:00:00
【引文索引类型】其他
【引文索引号】S666.1
【学科分类】园艺学

【题目】NaCl、光和温度胁迫对龙眼胚性愈伤组织GPX酶活性的影响
【中文关键词】陈义挺,赖钟雄,李焕苓,何 园,林玉玲,邵 巍,蔡英卿
【英文关键词】longan, embryogenic callus, glutathione peroxidase (GPX), NaCl, light, temperature
【中文摘要】以龙眼胚性细胞系 LC2 为材料,初步研究了在NaCl、光和温度胁迫下龙眼胚性愈伤组织 GPX酶活性的变化规律。试验结果表明:与对照相比,在盐胁迫下短期内GPX酶活性增加,随胁迫时间的延长,低盐胁迫下GPX酶活性先上升后下降,而高盐胁迫下GPX酶活性则呈下降趋势;白光、绿光处理下,随光强的不断加强,GPX活性均呈先上升后下降趋势,且在同样光强下,白光处理的GPX活性均高于绿光;龙眼EC的GPX活性在低温(高温)处理下,与对照相比,随温度不断降低(升高),GPX活性呈先升高后降低趋势。以上结果均表明,在一定逆境胁迫下,细胞内GPX可以起到应答外界刺激的作用,且活性呈规律表达,是植物在逆境胁迫下防御ROS 伤害的主要标志之一。
【英文摘要】In this experiment the Line LC2 of longan embryogenic callus was used as the material for the study on the changing tendency of Glutathione peroxidase (GPX) activities in the embryogenic callus of longan under the stress of salt (NaCl), light, and temperature. The results showed that: compared with the control, the short-time salt treatment enhanced the activity of GPX, and with the time of stress prolonged, the activities of GPX under low-salt stress treatment ascending first and then descending, while it showed the downtrend under high-salt stress treatment. Under the treatment of the white light and green light, with the light intensity increased, the activities of GPX ascending first and then descending, and when the light intensity was the same, the activities of GPX was higher under the treatment of the white light than the green light. Under the treatment of low-temperature (high-temperature), with the temperature decreased (increased), the activities of GPX in the embryogenic callus of longan ascending first and then descending compared with those of the control. The above results indicated that under a certain stress, GPX played a role in response to external stimulation, and had a regular expression, and it was one of the main indicators of ROS injury defense under stress.
【语种】中文
【第一作者】陈义挺
【通讯作者】赖钟雄
【期刊名称、卷期、页码】中国农学通报 2009,25(07):149-153
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【引文索引类型】其他
【引文索引号】S667.2
【学科分类】园艺学

【题目】不同留果量对龙眼枝梢成花及产量效益的影响
【中文关键词】许奇志 林旗华 张丽梅 郑少泉 许秀淡
【英文关键词】longan
【中文摘要】以结果习性好的龙眼立冬本为试材,研究不同留果量对枝梢成花及产量、效益的影响。结果表明,每穗果实60~70粒,穗重0.81kg左右,果穗数量以32%最为适宜,果实均为单果重13g以上的优质果;营养枝粗度、长度和复叶数分别为8.46mm、26.35cm和19.60个,次年枝条成花率77.13%,与对照差异均不显著,属优良结果母枝;大小年平均株产最高(55.32kg),效益最好(936.0元/株),大小年幅度最小(5.94%),是龙眼立冬本生殖生长与营养生长相对平衡的适宜留果量。留果量38%~48%均出现不同程度的大小年结果。

【英文摘要】Abstract
【语种】中文
【第一作者】许奇志
【通讯作者】郑少泉;许秀淡
【期刊名称、卷期、页码】中国南方果树,2011,40(6):44-46
【论文发表时间】2011-09-07 00:00:00
【引文索引类型】其他
【引文索引号】S667.2
【学科分类】园艺学

【题目】草莓分子标记技术研究进展
【中文关键词】陈琼娥 钟凤林 潘东明 李开拓
【英文关键词】Strawberry; genetic research; molecular mark
【中文摘要】在草莓遗传育种研究中,分子生物技术的应用为其品种改良和优良品种繁育及种质资源保存等提供了新途径。本文对分子标记在草莓育种研究中的应用加以综述,分析探讨存在的问题,并提出展望。
【英文摘要】The biotechnology is the important way for genetic improvement and germplasm conservation on strawberry. In this paper, the progess on molecular mark and its problems and prospects on strawberry have been reviewed.
【语种】中文
【第一作者】陈琼娥
【通讯作者】潘东明
【期刊名称、卷期、页码】亚热带农业研究,2011,7(1):64-67
【论文发表时间】2011-03-01 00:00:00
【引文索引类型】其他
【引文索引号】S666.1
【学科分类】园艺学

【题目】柴蕉茎尖培养无菌株系建立与芽苗增殖
【中文关键词】匡云波;赖钟雄;赵巧阳
【英文关键词】banana; aseptic system; proliferation
【中文摘要】以柴蕉吸芽茎尖为外植体,进行无菌株系建立与芽苗增殖研究。试验结果表明, 先将柴蕉吸芽接种于液体诱导培养基1/2MS+ 4 mg · L-1BA+0. 5 mg · L-1NAA+30g · L-1蔗糖, 7d后转到1/2MS+ 4mg · L-1BA+0. 5mg · L- 1NAA+30g · L-1蔗糖+ 1mg · L-1AC中, 可以有效减少外植体的褐变; 在MS+4mg · L- 1BA+0. 3mg · L-1NAA+ 30g · L-1蔗糖+6g · L-1琼脂+80g · L-1腺嘌呤培养基上采用薄切片进行继代增殖,出芽率高且芽苗粗壮。
【英文摘要】A banana aseptic regeneration system was established by thin-cross-section culture in Musa spp. cv. Caijiao (ABB group) in this experiment. The results showed that the browning could be reduced effectively when the explants were first inoculated in the liquid 1/2 MS medium supplemented with 4 mg · L- 1 BA, 0.5 mg · L- 1 NAA and 30 g · L- 1 sucrose for 7 days, and then they were transferred onto the 1/2 MS medium adding 4 mg · L- 1 BA, 0.5 mg · L- 1 NAA, 1.0 mg · L- 1 AC, 30 g · L- 1 sucrose and 6 g · L- 1 agar; the highest proliferation coefficiency occurred on the MS medium adding 4 mg · L- 1 BA, 0.3 mg · L- 1 NAA, 30 g · L- 1 sucrose and 6 g · L- 1 agar and 80 g · L- 1 Ad in the way of the thin-cross subculture, on which the shoots grew well.
【语种】中文
【第一作者】匡云波
【通讯作者】赖钟雄
【期刊名称、卷期、页码】亚热带农业研究20084 (4): 302~305
【论文发表时间】2008-10-06 00:00:00
【引文索引类型】其他
【引文索引号】S668.1
【学科分类】园艺学

【题目】春见橘橙耐贮性及理化性状变化研究

【中文关键词】温寿星,黄镜浩,蔡子坚,林晓姿
【英文关键词】Citrus reticulata×C. sinensiscv.OkitsuNo. 44, changing law, storage
【中文摘要】为了确定春见橘橙的最佳销售时期,提高经济效益,将春见橘橙[(Citrus reticulata × C. sinensis) cv. Okitsu No.44] 果实采收后常温贮藏135 天,对储藏期的果实单果重、果皮厚度、果汁率,可溶性固形物、酸含量、固酸比、糖酸比,腐果率、果实病害类型等变化规律进行研究。结果表明:春见橘橙贮藏性能较好;糖含量在贮藏75天内呈上升趋势,75天后开始缓慢下降;贮藏90天后单果重较显著下降;可食率和果汁率在贮藏90天内呈上升趋势,随后逐渐呈下降趋势;贮藏期间腐果率呈幂函数变化;青绿霉病是引起果实腐烂的主要病害。贮藏前期(45天)含酸量的大幅降低是导致糖酸比值和固酸比值升高、品质提升的最主要原因;贮藏45天后是较为适宜的食用时期;春见橘橙在采收时并未进入真正的成熟期,翌年1月中旬真正成熟。
【英文摘要】To improve economic benefit, the optimal selling period of Okitsu No.44(Citrus reticulata × C. sinensis) was determined by post harvest storage of fruits for 135 days, during which changing laws of fruit weight, pericarp thickness, fruit juice percentage, soluble solids content, acid content, tss-acid ratio, sugar-acid ratio, fruit putrid rate and putrid type were studied, respectively. Result indicated that Okitsu No. 44 had better storage performance. Sugar content showed a trend of first increasing and then decreasing during storage. Fruit weight dropped significantly 90 days post storage. Esculent rate and fruit juice percentage increased within the first 90 days of storage, while they both dropped gradually 90 days poststorage. Fruit putrid rate presented power distribution during storage. Penicillium italicm and P. Digitatum caused fruit putridness mainly during storage. Reduction of acid content was the uppermost reason for tss-acid ratio and sugar-acid ratio increase and quality-improving. Fruits of 45 days post storage were more appropriate for consumption, suggesting that the Okitsu No. 44 fruit did not mature until mid-January the following year.
【语种】中文
【第一作者】温寿星
【通讯作者】蔡子坚
【期刊名称、卷期、页码】中国农学通报 2009,25(20): 201-204
【论文发表时间】2009-06-29 00:00:00
【引文索引类型】其他
【引文索引号】S666.9
【学科分类】园艺学

【题目】春见橘橙主要性状及栽培技术要点
【中文关键词】范新单; 俞晓曲; 温寿星; 黄镜浩
【英文关键词】Citrus
【中文摘要】春见橘橙系1979年日本静冈县果树试验场以清见和F-2432椪柑杂交育成,经筛选、区试而推广的橘橙品种.2001年福建省农业科学院果树研究所、三明市经济作物技术推广站从中国柑橘研究所共同引进春见橘橙,进行高接换种观察试验和规范化管理,高接树次年始花结果.经2001-2008年连续7年进行的植物学、生物学观察与果实理化分析表明,春见橘橙果大、果肉深橙色、肉质细嫩、汁多化渣、糖度高、耐贮性强、较晚熟(12月中下旬成熟)、坐果率及丰产性好.从2004年起进行了配套栽培技术研究,同时在三明市宽皮柑橘经济栽培适宜区开展区域性试验种植.现将其主要性状和栽培技术要点介绍如下.
【英文摘要】Abstract
【语种】中文
【第一作者】范新单
【通讯作者】范新单
【期刊名称、卷期、页码】福建果树2010 (1): 47~49
【论文发表时间】2010-01-18 00:00:00
【引文索引类型】其他
【引文索引号】S666.4
【学科分类】园艺学

【题目】“ 台农甜蜜 ”桃胚愈伤组织的诱导与继代保持
【中文关键词】“ 台农甜蜜 ”桃;胚;愈伤组织;继代保持
【英文关键词】peach,“ Premier ” honey peach, embryos, callus, subculture and maintenance

【中文摘要】以5 年生“ 台农甜蜜 ”桃接近成熟的胚为试验材料,研究接种方式、光照条件和不同培养基对其愈伤组织诱导影响。结果表明,黑暗条件下,将去除种皮的“ 台农甜蜜 ”桃子叶胚接种到附加2.0mg/L 的MS 培养基上培养,可以诱导出松散的、生长状态良好的桃愈伤组织。在“ 台农甜蜜 ”桃愈伤组织继代保持过程中,比较了光照条件、愈伤组织类型、不同培养基和继代方式对其生长的影响。结果表明,采用附加1.0mg/L 2,4-D 的MS 培养基与附加1.0mg/L 2,4-D、0.5mg/L KT、100mg 肌醇的MS 培养基交替继代,并在光照下培养,可以实现“ 台农甜蜜 ”桃TN2 和TN3 类型愈伤组织的长期继代保持,并使其保持旺盛的生长能力。

【英文摘要】The mature embryos of 5 old years ’ cultivars of ‘ Premier ’ honey peach were used as the materialsin this paper. The effects of the inoculation method, light treatment and different mediums on the callusinduction were studied. The results showed that the friable and well callus were obtained embryoswithout spermoderm on the MS with 2.0mg/L 2,4-D under the dark. The comparisons of the effects of thelight treatment, callus type, different mediums and subculturing method on the growth of the honey peach call us were investigated in the process of their subculture and maintenance. The conclusions were summarized as follows, the TN2 and TN3 of the honey peach callus could be maintained for a long time and kept exuberant growth when they were alternately cultured on the MS medium containing with 1.0 mg/L 2,4-D and the other MS medium supplemented with 1.0 mg/L 2,4-D, 0.5 mg/L KT and 100 mg/L inositol.

【语种】中文

【第一作者】赖呈纯

【通讯作者】赖钟雄

【期刊名称、卷期、页码】中国农学通报,2008,24(11):54-59.

【论文发表时间】2008-07-21 00:00:00

【引文索引类型】其他

【引文索引号】S662.1

【学科分类】园艺学

【题目】荔枝果皮cDNA-AFLP分析体系的建立

【中文关键词】荔枝果皮;cDNA-AFLP;选择性扩增;体系优化

【英文关键词】Litchi pericarps;cDNA-AFLP;Selective ampliation;Optimization system

【中文摘要】以荔枝果皮为材料,对cDNA-AFLP的选择性扩增体系进行优化,建立了适宜荔枝果皮的cDNA-AFLP分析体系,并得到了较为清晰可辨的cDNA-FLP指纹图谱。结果表明,20 μL选择性扩增的最佳体系中, 各因素终浓度分别为:模板cDNA 30 ng、dNTP 0.25 mmol/L引物0.6 μmol/L,Extaq酶.75 U。

【英文摘要】After systematical studies on selective ampliation reaction system in litchi pericarps, an optimized system was established which showed a distinct electrophoretogram of cDNA-AFLP. The result showed that the final concentration in selective ampliation reaction system was 30 ng for cDNA, 0.25 mmol/L for dNTP,0.6 μmol/L for primers, 0.75 U for Extaq polymerase in the total volume of 20 μL。

【语种】中文

【第一作者】李开拓

【通讯作者】潘东明

【期刊名称、卷期、页码】热带作物学报,2010,31(10):1757-1762.

【论文发表时间】2010-10-02 00:00:00

【引文索引类型】其他

【引文索引号】S667.1

【学科分类】园艺学

【题目】荔枝果皮总蛋白质提取及双向电泳体系的建立

【中文关键词】荔枝;果皮;蛋白质组;提取;双向电泳

【英文关键词】Litch i chinensis Sonn;Pericarp;Proteome;Extraction;2-DE

【中文摘要】用TCA-丙酮、丙酮和酚3种方法提取荔枝(Litchi ch inensis Sonn.)果皮的总蛋白质, 比较了蛋白产量、单向SDS-PAGE和双向电泳等方面的差异, 并对双向电泳体系进行探索。结果表明: 酚抽提法最佳, 提取的总蛋白得率最高, 蛋白在单向SDS-PAGE中形成条带数目最多, 最清晰; 经双向电泳分离用银染显色, 可检测约870个蛋白点,图谱分辨率较好, 蛋白点清晰, 主要分c在pH 4~ 8, 分子量约为15. 0 ~ 85. 0 kD, 可有效解析荔枝果皮的蛋白质组。

【英文摘要】The tota l prote in w as extracted from L ichi chinensis pericarp by using three methods, such as trich loroacet ic ac id (TCA)-acetone, acetone and pheno.l The resu lts show ed that the total prote in y ie ld was the highest by pheno l ex tract ionmethod, and prote in bands w ere the most and clear in one dimentional SDS-PAGE. About 870 clear protein spots were detected by two-dimensional electrophoresis (2-DE) and silver staining with isoelectric points at pH 4-8,and relative molecular weight of prote in ranged from 15.0 to 85.0 kD.
【语种】中文
【第一作者】李开拓
【通讯作者】潘东明
【期刊名称、卷期、页码】热带亚热带植物学报,2011,19(1):69-74.
【论文发表时间】2011-01-01 00:00:00
【引文索引类型】其他
【引文索引号】Q94-336
【学科分类】园艺学

【题目】留果数对浮宫1号杨梅果实性状的影响
【中文关键词】杨梅;浮宫1号;疏果
【英文关键词】red bayberry
【中文摘要】分析了不同结果枝留果数对浮宫1号杨梅果实单果重及可溶性固形物含量的影响。结果表明,留果数及结果枝长度对杨梅果实单果重影响显著,对果实可溶性固形物含量影响较小。在浮宫1号杨梅栽培过程中,短果枝可保留1个;中等长度结果枝粗枝可保留3个果,中枝保留2个果,细枝保留1个果;长果枝留3个果可达到一级果标准,留2个果则达到特级果标准。
【英文摘要】Abstract
【语种】中文
【第一作者】林旗华
【通讯作者】张泽煌
【期刊名称、卷期、页码】中国南方果树,2010,39(2):37-39.
【论文发表时间】2009-12-05 00:00:00
【引文索引类型】其他
【引文索引号】S667.6
【学科分类】园艺学

【题目】龙眼‘立冬本’花、果及营养枝主要矿质营养需求量
【中文关键词】龙眼;矿质营养;需求量
【英文关键词】longan mineral nutrient requirement
【中文摘要】对10年生高接换种‘立冬本’龙眼结果树的枝、叶、花、果年生长量及主要矿质营养元素需求量进行了研究。结果表明,龙眼‘立冬本’株产36.42 kg,果穗与营养枝数量比为1∶1.9,重量比为1∶0.25。矿质营养元素年需求量为:N 556.7 g、P 71.5 g、K 492.8 g、Ca 225.0 g、Mg 34.3 g,N、P、、Ca、Mg比例为1∶0.13∶0.89∶0.40∶0.06,为龙眼平衡施肥提供营养需求参考指标。
【英文摘要】Fruiting longan cultivar ‘Lidongben’ trees aged 10 years old were selected to determine their annual growth of branches, leaves, flowers, fruits, and requirement of mineral nutrients. The results showed that these longan yielded 36.42 kg/tree, with the number ratio of panicles to vegetative shoots being 1:1.9 and the weight ratio of panicles to vegetative shoots being 1: 0.25. The annual mineral requirements were N 0.557 kg; P 0.072 kg; K 0.493 kg; Ca 0.225 kg and Mg 0.034 kg, and the ratio of N : P : K : Ca : Mg was respectively 1 : 0 . 13 : 0 . 89 : 0 . 40 : 0 . 06 , which could be considered as a reference for recommendation for application of formulated fertilizers to meet the mineral nutrients demands of longan trees.
【语种】中文
【第一作者】许奇志
【通讯作者】郑少泉
【期刊名称、卷期、页码】热带作物学报,2010,31(3):345-348.
【论文发表时间】2010-03-02 00:00:00

【引文索引类型】其他
【引文索引号】S667.2
【学科分类】园艺学

【题目】龙眼TPI 基因的克隆及其在体胚发生过程中的表达分析
【中文关键词】龙眼;体胚发生;磷酸丙糖异构酶;基因克隆;实时荧光定量PCR
【英文关键词】longan;somatic embryogenesis;triosephosphate isomerase;gene cloning;real-time PCR
【中文摘要】采用RT-PCR 结合RACE 法,通过T/A 克隆测序,获得龙眼胚性愈伤组织磷酸丙糖异构酶基因(TPI)两个类型的全长序列TPI Ⅰ(GenBank 登录号:FJ595244)和TPI Ⅱ(GenBank 登录号:GU073294),序列全长分别为1 084 bp 和1 113 bp,其ORF 都由765 bp 核苷酸组成,编码254 个氨基酸,与其它植物的TPI 在核苷酸序列和推导的氨基酸序列的相似性较高。qRT-PCR 结果分析表明,在龙眼体胚发生过程中,TPI 在松散型胚性愈伤组织阶段的转录水平比较低,在胚性愈伤组织Ⅱ阶段转录水平急剧升高,并一直持续到胚性紧实球形结构阶段,球形胚阶段大幅下调,之后至子叶形胚阶段都维持在较低水平,初步证明TPI 及其编码蛋白在龙眼启动体胚发生和早期体胚发育中行使重要的功能。
【英文摘要】The complete cDNA sequence of triosephosphate isomerase gene(TPI)of longan embryogenic callus was obtained by reverse transcription polymerase chain reaction(RT-PCR)with rapid amplification of cDNA ends(RACE). And the mRNA transcription level of this gene was surveyed by real-time reverse transcription PCR(qRT-PCR)during somatic embryogenesis in longan. The results showed that the full-length cDNA sequences of two type longan embryogenic callus TPI were cloned,namely TPI Ⅰ(GenBank accession number FJ595244)and TPI Ⅱ(GenBank accession number GU073294). The complete nucleotide sequences of two TPI were 1 084 bp and 1 113 bp respectively. And they all contained a 765-nucleotides-long open reading frame(ORF)which encoded a protein of 254 amino acid residues. The results showed that the mRNA transcription levels of longan TPI were different at the different stages of longan somatic embryogenesis. In conclusion,it was preliminarily revealed that two type TPI genes and their encoded functional proteins may play an important role during the early somatic embryogenesis in longan.
【语种】中文
【第一作者】赖呈纯
【通讯作者】赖钟雄
【期刊名称、卷期、页码】园艺学报,2012,39(3):443-452.
【论文发表时间】2012-02-21 00:00:00
【引文索引类型】其他
【引文索引号】S667.2
【学科分类】园艺学

【题目】龙眼采后低温贮藏过程果肉黄酮和氨基酸含量变化的研究
【中文关键词】龙眼;贮藏;黄酮;蛋白氨基酸;γ-氨基丁酸
【英文关键词】Longan Dimocarpus longan Lour1 storage flavonoid amino acids γ - aminobutyric acid
【中文摘要】以晚熟龙眼品种‘立冬本’为试材,果实采后采用冷藏与冻藏保鲜处理,结果表明:在冷藏过程中,龙眼果肉黄酮含量先降后升呈“V”型变化,总蛋白氨基酸含量先缓慢上升后开始下降,非蛋白氨基酸γ-氨基丁酸(GABA)先下降后稍上升;果肉黄酮含量与丙氨酸含量呈显著负相关,与苏氨酸含量呈极显著负相关。在冻藏过程中,果肉黄酮含量变化表现为先升后降,但龙眼采后冻藏30d果肉黄酮含量没明显变化;总蛋白氨基酸含量呈下降趋势,非蛋白氨基酸GABA含量先降后升。
【英文摘要】Flav onoids and amino acids in the postharv est , matur e fruit s of lo ng an (Dimocar p us long an Lour1)cultivar , Lidongben, stor ed at 4e and - 20e w ere determined1 Both flavonoids and decr eased during the early sto rag e, and incr eased later on1 T he concentr atio n of to tal amino acids incr eased slow ly at fir st and then decreased. The analytical results showed that the flavonoids might play significant negative roles in the contents of alanine and threonine1 At - 20°C,there was no significant change in flavonoids content after 30 days storage1 The flavonoids might play significant roles in the content of tyrosin.
【语种】中文
【第一作者】黄爱萍
【通讯作者】郑少泉
【期刊名称、卷期、页码】福建农业学报,2010,25(4):475-478.
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【学科分类】园艺学

【题目】龙眼采后果肉脂氧合酶活性和膜脂脂肪酸组分的变化
【中文关键词】龙眼; 采后分析; 脂氧合酶; 脂肪酸
【英文关键词】longan; postharvest; lipoxygenase; fatty acid.
【中文摘要】以‘福眼’龙眼果实为试验材料, 分析果实采后贮藏过程中脂氧合酶LOX)活性和细胞膜脂脂肪酸组分的变化, 探讨其与果实成熟衰老的关系。结果表明, 龙眼果肉脂肪酸组分主要有豆蔻酸(14 ： 0)、棕榈酸(16 ： 0)、硬脂酸(18 ： 0)、油酸(18 ： 1)和亚油酸(18 ： 2), 未检出亚麻酸。随着龙眼采后贮藏时间的延长, 不饱和脂肪酸(油酸、亚油酸)和饱和脂肪酸(豆蔻酸、棕榈酸、硬脂酸)的含量变化不明显。果皮中未检出脂肪酸。果肉中的LOX 活性伴随着膜脂过氧化作用的加强而逐渐增强, 但由于LOX 的活性较低, 所以上升的幅度相对来说比较小,推测LOX可能不是导致果实衰老腐烂的关键酶。
【英文摘要】Longan (Dimocarpus longan Lour. cv. ‘Fuyan’) fruit were used as material to investigate their changes in lipoxygenase (LOX) activity and membrane fatty acid composition during postharvest storage. The results showed that the major fatty acids in the mesocarp or flesh were myristic acid (14 : 0), linoleic acid (16 : 0), oleic acid(18 : 0), palmitic acid(18 : 1), stearic acid(18 : 2), and that no linolenic acid(18 : 3) was detected in the flesh. The content of unsaturated fatty acids (oleic acid, linoleic acid) and saturated fatty acids (myristic acid, palmitic acid, stearic acid) did not fluctuate significantly during storage. And, the fatty acid content in pericarp was too low to be detected. The LOX activity of the flesh increased gradually with the increasing peroxidation of the membrane lipid but it was very low, which suggested that LOX might not be the key enzyme that leads to the senescence and breakdown of the longan fruit.
【语种】中文
【第一作者】林志强
【通讯作者】潘东明
【期刊名称、卷期、页码】热带作物学报,2010,31(3):381-386.
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【引文索引号】S667.2
【学科分类】园艺学

【题目】龙眼采后贮藏过程中多胺含量的变化
【中文关键词】龙眼;采后;多胺
【英文关键词】Longan; postharvest; polyamines
【中文摘要】以福眼龙眼为试材,研究了果实中多胺类型,以及随贮期延长,果皮和果肉中腐胺、亚精胺和精胺3 种多胺的变化情况。研究结果表明:室温贮藏下,果皮的3 种多胺含量均不断下降,而果肉中只有腐胺含量下降,精胺和亚精胺含量变化不明显;低温贮藏下,果皮的内源多胺在采后前期迅速下降,接着保持在较稳定水平,而果肉中只有腐胺含量跟果皮的变化趋势一致,精胺和亚精胺含量变化不明显;且果肉中的多胺含量明显高于果皮。
【英文摘要】Changes in level of the main polyamines in the longan (Dimocarpus longan Lour.cv.Fuyan) were studied. The results show that there are three polyamines including Spd, Spm and Put in longan. Under room temperature, with delay of storing time, the contents of polyamines (put, Spd, Spm) in peel trended to decrease consistently, but in flesh, only the contents of Put decreased continuously, variation on the contents of Spd and Spm was not apparent;Under low temperature, with delay of storing time, the contents of polyamines sharply decreased at the beginning of postharvest, then maintained at steadier level, but in flesh, only variation on the contents of Put was consistent with that in peel, variation on the contents of Spd and Spm was not apparent; in the process of storing after harvest, range of endogenous polyamines in peel varied larger than that in flesh, and earlier than senescence and rotting in flesh.
【语种】中文
【第一作者】林志强
【通讯作者】潘东明
【期刊名称、卷期、页码】中国农学通报,2010,26(8):298-304.

【论文发表时间】2009-12-13 00:00:00
【引文索引类型】其他
【引文索引号】S667.2
【学科分类】园艺学

【题目】龙眼果肉黄酮乙醇法提取优化工艺研究
【中文关键词】龙眼;乙醇法;单因素试验;正交设计;优化工艺、水浴时间2.5 h、料液比1∶3。
【英文关键词】Longan;ethanol extraction; single factor experiment;or thogonal design;optimization;technology
【中文摘要】采用乙醇法通过单因素渐进试验, 即不同的乙醇浓度梯度、不同的水浴温度梯度、不同的水浴时间梯度、不同的料液比梯度、不同的提取次数提取龙眼果肉黄酮, 探明各因素范围, 之后采用4 因素4 水平L16(45)正交试验设计,确立龙眼果肉黄酮提取的优化工艺:乙醇浓度85%、温度70°C、采用乙醇法通过单因素渐进试验,即不同的乙醇浓度梯度、不同的水浴温度梯度、不同的水浴时间梯度、不同的料液比梯度、不同的提取次数提取龙眼果肉黄酮,探明各因素范围,之后采用4因素4水平L16(45)正交试验设计, 确立龙眼果肉黄酮提取的优化工艺: 乙醇浓度85%、温度70°C、水浴时间2.5h、料液比1∶3。关键词: 龙眼; 乙醇法; 单因素试验; 正交设计; 优化工艺
【英文摘要】To optimize the ethanol extraction of flavonoid from Dimocarpus longan Lour1 Aril, ethanol concentration,temperature,water bath time,material solvent ratio and extraction time we e used as the criteria in the prog ressive single factor experiment1 Anorthogonal test of four factors and four levels was designed The results showed that 85% ethanol, 70°C, 2.5h in a water bath and 1∶3 material solvent ratio were the best conditions for the extraction process.
【语种】中文
【第一作者】黄爱萍
【通讯作者】郑少泉
【期刊名称、卷期、页码】福建农业学报,2009,24(6):535-539.
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【引文索引号】S667.2
【学科分类】园艺学

【题目】龙眼果实发育过程果肉黄酮和氨基酸含量的变化
【中文关键词】龙眼;果实发育;黄酮;蛋白氨基酸;非蛋白氨基酸(γ-氨基丁酸,GABA)
【英文关键词】Dimocarpus longan Lour;Fruit development;Flavonoids;Protein amino acids;Non-protein amino acid(γ-Aminobutyric Acid,GABA)
【中文摘要】在晚熟龙眼品种‘立冬本’果实发育过程中,果肉黄酮含量存在差异,其积累消长动态呈“双S 型”变化曲线。龙眼果实成熟后,果肉黄酮含量呈降趋势,但随着挂树期延长,果肉黄酮含量又回升。龙眼果肉同时还含17种蛋白氨基酸和非蛋白氨基酸(γ-氨基丁酸,GABA),果实发育过程果肉黄酮含量与总蛋白氨基酸含量呈负相关,与GABA含量呈正相关,与丝氨酸、苯丙氨酸、赖氨酸、组氨酸和脯氨酸含量呈显著负相关(P<0.05),而与甘氨酸含量呈极显著负相关(P<0.01)。生产中如以植物功能性活性成分高黄酮含量为目标,研究确立了‘立冬本’龙眼成熟前期的9月22日为最佳采收时间。
【英文摘要】The change of flesh flavonoids concentration was a "double S" curve during the fruit development of late -maturing longan (Dimocarpus longan Lour.) cultivar 'Lidongben'. Flavonoids concentration decreased during the stages of fruit development and increased at the stages of matured fruits extending hang on trees. 17 protein amino acids and one non-protein amino acids (γ-aminobutyric aicd,GABA) were detected in the fruit pulp. The results showed that the negative correlation between flavonoids concentration and total amino acids concentration except of GABA, and the flavonoids concentration linearly increased with decreasing glycine content. The best harvest day with the highest flavonoids concentration in pulp was Sep.22.
【语种】中文
【第一作者】黄爱萍
【通讯作者】郑少泉
【期刊名称、卷期、页码】热带作物学报,2010,31(9):1519-1523.
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【引文索引号】S667.2

【学科分类】园艺学

【题目】龙眼果实中多糖积累与分配研究
【中文关键词】龙眼; 多糖; 积累; 分配
【英文关键词】Dimocarpus longan Lour; Polysaccharide; Accumulation; Distribution
【中文摘要】以晚熟基因型苗翘、特晚熟基因型立冬本和中晚熟基因型青壳宝圆龙眼为试材,测定了果实发育过程中果皮、果肉和种子的多糖含量。结果表明:不同基因型龙眼的种子多糖积累高峰期不同,1个积累高峰的有立冬本(9月20日),2个积累高峰的有苗翘(8月16日、9月20日)和青壳宝圆(8月23日、9月20日)。龙眼果实各部分的多糖积累速率不同,分配也不同,3个龙眼基因型均为分配给龙眼种子最多,其次是果肉,分配最少的是果皮;在成熟后期,龙眼多糖均出现负积累。本研究为龙眼多糖的调控和开发利用奠定了基础。
【英文摘要】The late-maturing geno type-‘ Biew Kiew ’,special late-maturing genotype-Lidongben.and medium late-maturing geno type ‘ Qingkebaoyuan ’ longan were used to determ ination the polysaccharide content of the pericarp,the aril and the seed in the fruit development process.The polysaccharide content of the pericarp,the aril and the seed had no steady peak periods in three longan genotypes.The results showed that the polysaccharide content of ‘ Lidongben ’ seeds had one peaks(September 20), ‘ Biew Kiew ’ seeds had two peaks(August 16,September 20), ‘ Q ingkebaoyuan ’ seeds had two peaks (August 23 September 20).The rate of polysaccharide accumulation in various parts of longan are different and distribution are also different The polysaccharide was mainly distributed to the seed, followed by aril and pericarp is at least Longan have a negative accumulation of polysaccharide in the latem ature. This study laid the foundation for the development and utilization of longan polysaccharide.
【语种】中文
【第一作者】郑少泉
【通讯作者】郑金贵
【期刊名称、卷期、页码】福建果树,2009,(4):1-4.
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【学科分类】园艺学

【题目】龙眼胚性愈伤组织2个乙烯受体基因的克隆及序列分析
【中文关键词】龙眼胚性愈伤组织; 乙烯受体; 基因克隆; 序列分析
【英文关键词】Dimocarpus longan Embryogenic Callus; Ethylene receptor; Gene cloning; Sequence analysis
【中文摘要】以龙眼胚性愈伤组织为材料,采用同源克隆和RACE方法分离得到两个乙烯受体基因的cDNA序列,即DL-ETR1和DL-ERS1,并在GenBank登录(检索号分别为FJ513322和FJ513323)。DL-ETR1全长为2611bp,包含长2223bp的完整的开放阅读框(ORF)以及388bp的3-UTR,3'poly(A)尾长24 bp;DL-ERS1全长为2259bp包含一个1929bp的ORF及330bp的3-UTR,3'poly(A)尾长17 bp。两者根据核苷酸序列推测的蛋白质具有61.62%的同源性,在N端的同源性较C端高,DL-ERS1比DL-ETR1少104个氨基酸,DL-ERS1的蛋白在C端缺乏信号接受域,HisKA、ATPase_c以及GAF是它们共有的结构域,同属ETR1亚类乙烯受体。
【英文摘要】Two ethylene receptor cDNAs,DL-ETR1 and DL -ERS1,which were obtained from Dimocarpus longan Embryogenic Callus,were cloned with homologous cloning and RACE (Rapid amplification of cDNA ends).The two fragments had been submitted to the DDBJ/EMBL/ GenBank databases,the accession numbers were FJ513322 and FJ513323,respectively.The full length of DL-ETR1 cDNA,about 2611 bp [including a 24 bp poly (A) tail]consisted of an open reading frame of 2223 bp,and 3 ′ untranslated regions of 388bp,while the full length of DL-ETS1 cDNA ,about 2259 bp[including a 17 bp poly(A)tail]consisted of an open reading frame of 1929bp,and 3 ′ untranslated regions of 330bp.Both of the putative proteins,which had three conserved regions:HisKA,ATPase_c and GAF domains,belonged to the ETR1 sub-groups.And,their homology were 61.62%,their homology of N-terminal amino acids was higher than that of Cterminal end.Moreover,DL-ERS1 lacked 104 amino acids and a signal receptor domain at C-terminal end than DL-ETR1.
【语种】中文
【第一作者】李惠华
【通讯作者】赖钟雄
【期刊名称、卷期、页码】热带作物学报,2010,31(4):585-591.

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【学科分类】园艺学

【题目】龙眼胚性愈伤组织ACC 氧化酶基因的克隆及其在龙眼体胚发生过程中的表达分析
【中文关键词】龙眼胚性愈伤组织 ACC氧化酶 基因克隆 序列分析 实时荧光定量PCR法
【英文关键词】Dimocarpus longan embryogenic callus ACC oxidase gene cloning sequence analysis real-time reverse transcription
【中文摘要】【目的】分离克隆龙眼(Dimocarpus longan Lour.)胚性愈伤组织乙烯合成关键酶ACO(1-aminocyclopropane-1-carboxylate oxidase)基因,并分析该基因在龙眼体细胞胚胎(以下简称龙眼体胚)发生过程中的表达情况。【方法】采用RT-PCR 结合RACE 法,获得龙眼胚性愈伤组织ACO 基因的cDNA 全长序列和DNA序列,运用生物信息学方法对序列进行分析,并通过实时荧光定量PCR(q-PCR)法研究该基因在龙眼体胚发生过程中的表达。【结果】克隆得到龙眼胚性愈伤组织ACO 基因1 315 bp 的cDNA 全长序列(GenBank 登录号为FJ534854),该cDNA 的开放阅读框推定的氨基酸序列(含315 个氨基酸)与其它植物ACO 具有86%—47%同源性,包含了5'非编码区为86 bp,3'非编码区为281 bp,3'poly(A)尾长13 bp;该基因的DNA 序列(GenBank 登录号为GU123929)长为1 660 bp,包含3 个内含子,内含子的剪切位点均符合真核生物“ GT-AG ”规则;该基因在龙眼体胚各阶段均有表达,整个变化趋势呈字母“ M ”状。【结论】确定所获得的序列是龙眼胚性愈伤组织ACO 基因的cDNA 序列和DNA 全长序列;该基因在不完全胚性紧实结构和心形胚的表达量为两个峰值。
【英文摘要】In this study, the 1-aminocyclopropane-1-carboxylate oxidase gene (ACO) was cloned from embryogenic calli of Longan (Dimocarpus longan Lour.). And the expression of ACO was determined during Longan somaticembryogenesis.【Method】 The RT-PCR(reverse transcription polymerase chain reaction) with RACE (rapid amplification of cDNAends) method were used to clone the complete cDNA sequence and DNA sequence of ACO from embryogenic calli of Longan. Andbioinformatics method was used to analyze sequences obtained and putative amino acid sequence. Then qRT-PCR (real-time reverse transcription PCR) method was used to determine the cDNA transcription level of this gene.【Result】 The full length ACC oxidase cDNA from Dimocarpus longan embryogenic callus, about 1315bp[including a 13 bp poly(A) tail], consisted of an open reading frame of 948 bp , and 5' and 3' utranslated regions of 86 bp and 281 bp, respectively. The sequence had been submitted to the DDBJ /EMBL/ GenBank database, the accession number was AY521566. The putative protein has 315 amino acids, and the identity with theother polypeptides varied between 86%-47%. Its DNA sequence (the accession number is GU123929) was 1660bp, and the splicesites of three introns contained were obeyed to the “ GT-AG ” rule.ACO from embryogenic calli of Longan expressed in the differentstages during somatic embryogenesis. And it showed approximately a “ M ” curve.【Conclusion】It is inferred that the full lengthcDNA and DNA sequence from embryogenic calli of Longan are obtained. The peak cDNA transcription level of Longan.ACO gene occurred at the incomplete compact pro-embryogenic culture stage and the heart embryo stage.【Objective】In this study, the 1-aminocyclopropane-1-carboxylate oxidase gene (ACO) was cloned from embryogenic calli of Longan (Dimocarpus longan Lour.). And the expression of ACO was determined during Longan somaticembryogenesis.【Method】 The RT-PCR(reverse transcription polymerase chain reaction) with RACE (rapid amplification of cDNAends) method were used to clone the complete cDNA sequence and DNA sequence of ACO from embryogenic calli of Longan. Andbioinformatics method was used to analyze sequences obtained and putative amino acid sequence. Then qRT-PCR (real-time reverse transcription PCR) method was used to determine the cDNA transcription level of this gene.【Result】 The full length ACC oxidase cDNA from Dimocarpus longan embryogenic callus, about 1315bp[including a 13 bp poly(A) tail], consisted of an open reading frame of 948 bp , and 5' and 3' utranslated regions of 86 bp and 281 bp, respectively. The sequence had been submitted to the DDBJ /EMBL/ GenBank database, the accession number was AY521566. The putative protein has 315 amino acids, and the identity with theother polypeptides varied between 86%-47%. Its DNA sequence (the accession number is GU123929) was 1660bp, and the splicesites of three introns contained were obeyed to the “ GT-AG ” rule.ACO from embryogenic calli of Longan expressed in the differentstages during somatic embryogenesis. And it showed approximately a “ M ” curve.【Conclusion】It is inferred that the full lengthcDNA and DNA sequence from embryogenic calli of Longan are obtained. The peak cDNA transcription level of Longan.ACO gene occurred at the incomplete compact pro-embryogenic culture stage and the heart embryo stage.
【语种】中文
【第一作者】李惠华
【通讯作者】赖钟雄
【期刊名称、卷期、页码】中国农业科学,2010,43(18):3798-3808.

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【题目】龙眼胚性愈伤组织miR398a前体的克隆及其在龙眼体胚发生过程中的表达分析
【中文关键词】龙眼 体细胞胚胎发生 miR398a前体 克隆 表达
【英文关键词】Longan; Somatic embryogenesis; miR398a precursor; Cloning; Expression
【中文摘要】为了解miR398a在龙眼体胚发生中的调控机制,以龙眼胚性愈伤组织为材料,采用RT-PCR法克隆miR398a前体序列, 最终成功克隆了长83 bp的龙眼miR398a前体序列(GenBank登录号:FJ973472);该前体与其它物种的miR398前体序列具有较高的同源性,并包含miR398a的成熟序列;利用qPCR技术研究该基因在龙眼体胚发生发育过程中的表达情况,定量分析结果表明,随着龙眼体胚的发育,pre-miR398a在不同胚性培养物中的转录水平存在显著差异: 在不完全胚性紧实结构表达量最高, 球形胚阶段次之,随后是胚性紧实球形结构、胚性愈伤组织II 及松散型胚性愈伤组织,在心形胚、鱼雷形胚阶段和子叶形胚阶段表达量较低。说明pre-miR398a在龙眼体胚发生过程中的表达具有组织特异性和一定的时序性。
【英文摘要】A miR398a precursor was cloned and its expression level was analyzed for elucidating the role of miR398a during longan somatic embryogenesis. The miR398a precursor was isolated by RT -PCR and itstranscription levels were detected in longan embryogenic cultures at different developmental stages by real-time RT -PCR. The length of the miR398a precursor (GenBank loucs FJ973472)was 83 bp, including 21 bp mature sequence of miR398a. qPCR results indicated that the miR398a precursor was expressed in most of the tissues in longan embryogenic cultures at different developmental stages. The expression quantity of the miR398a precursor was incomplete compact pro-embryogenic cultures>globular embryos>compact pro-embryogenic cultures>embryogenic callus II>friable-embryogenic callus>Cotyledonary embryos>heart-shaped embryos>torpedo-shaped embryos. Longan miR398a precursor was highly conserved among different species and expressed with tissue specific and sequential characteristics during longan somatic embryogenesis.A miR398a precursor was cloned and its expression level was analyzed for elucidating the role of miR398a during longan somatic embryogenesis. The miR398a precursor was isolated by RT -PCR and itstranscription levels were detected in longan embryogenic cultures at different developmental stages by real-time RT -PCR. The length of the miR398a precursor (GenBank loucs FJ973472)was 83 bp, including 21 bp mature sequence of miR398a. qPCR results indicated that the miR398a precursor was expressed in most of the tissues in longan embryogenic cultures at different developmental stages. The expression quantity of the miR398a precursor was incomplete compact pro-embryogenic cultures>globular embryos>compact pro-embryogenic cultures>embryogenic callus II>friable-embryogenic callus>Cotyledonary embryos>heart-shaped embryos>torpedo-shaped embryos. Longan miR398a precursor was highly conserved among different species and expressed with tissue specific and sequential characteristics during longan somatic embryogenesis.A miR398a precursor was cloned and its expression level was analyzed for elucidating the role of miR398a during longan somatic embryogenesis. The miR398a precursor was isolated by RT -PCR and itstranscription levels were detected in longan embryogenic cultures at different developmental stages by real-time RT -PCR. The length of the miR398a precursor (GenBank loucs FJ973472)was 83 bp, including 21 bp mature sequence of miR398a. qPCR results indicated that the miR398a precursor was expressed in most of the tissues in longan embryogenic cultures at different developmental stages. The expression quantity of the miR398a precursor was incomplete compact pro-embryogenic cultures>globular embryos>compact pro-embryogenic cultures>embryogenic callus II>friable-embryogenic callus>Cotyledonary embryos>heart-shaped embryos>torpedo-shaped embryos. Longan miR398a precursor was highly conserved among different species and expressed with tissue specific and sequential characteristics during longan somatic embryogenesis.A miR398a precursor was cloned and its expression level was analyzed for elucidating the role of miR398a during longan somatic embryogenesis. The miR398a precursor was isolated by RT -PCR and itstranscription levels were detected in longan embryogenic cultures at different developmental stages by real-time RT -PCR. The length of the miR398a precursor (GenBank loucs FJ973472)was 83 bp, including 21 bp mature sequence of miR398a. qPCR results indicated that the miR398a precursor was expressed in most of the tissues in longan embryogenic cultures at different developmental stages. The expression quantity of the miR398a precursor was incomplete compact pro-embryogenic cultures>globular embryos>compact pro-embryogenic cultures>embryogenic callus II>friable-embryogenic callus>Cotyledonary embryos>heart-shaped embryos>torpedo-shaped embryos. Longan miR398a precursor was highly conserved among different species and expressed with tissue specific and sequential characteristics during longan somatic embryogenesis.
【语种】中文
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【题目】龙眼胚性愈伤组织限制生长保存及其染色体数目变异
【中文关键词】龙眼 胚性愈伤组织 限制生长保存 染色体变异
【英文关键词】longan;embryogenic callus;minimal growth conservation;chromosome variation.
【中文摘要】以龙眼“红核子”品种为材料,研究甘露醇与肌醇交互培养及蔗糖含量、琼脂含量、盐浓度、PP333、浓度、光质等对龙眼胚性愈伤组织(Embryogenic callus, EC)限制生长保存的影响, 结果表明: 同时添加20 g/L 甘露醇、0.10 g/L 肌醇,并把接种量控制在0.1 g/瓶,龙眼EC的继代周期可进一步延长到70 d左右。同时,以“红核子”、“松风本”和“聚龙105”为材料,对保存的龙眼EC及其体胚发生过程中染色体数目的变异进行研究,结果表明:染色体变异始于胚性愈伤组织,但有趋于稳定的趋势。
【英文摘要】‘Honghezi’Longan(Dimocarpus longan‘Honghezi’) was used to study the effects of mannitol and inositol cross-culture, sucrose, agar, salt,PP333 and light quality on the minimal growth of longan embryogenic callus(EC) for conservation.The results showed that the combined addition of 20g/L mannitol and 0.1g/L inositol with the inoculation amount of 0.1g per bottle,prolonged the subculture cycle to more than 70 days.At the sametime,the long cultivars ‘Honghezi’,‘Songfengben’and‘Julong 105’were used to investigate the variation of chromosome number of longan embryogenic callus during somatic embryogenesis. The results indicated that the chromosome variation occurred at the embryogenic cell stage and then tended to be stable.
【语种】中文
【第一作者】林秀莲
【通讯作者】赖钟雄
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【题目】龙眼胚性愈伤组织线粒体ATP合酶β亚基基因克隆及其在龙眼体胚发生过程中的表达分析
【中文关键词】龙眼 体细胞胚胎发生 线粒体ATP合酶β亚基基因 基因克隆 实时荧光定量PCR
【英文关键词】longan;somatic embryogenesis;mitochondrial F1-ATPase beta subunit gene;gene cloning;real-time PCR
【中文摘要】【目的】克隆龙眼(Dimocarpus longan Lour.)胚性愈伤组织线粒体ATP 合酶β亚基基因(mitochondrial F1-ATPase beta subunit gene),并分析该基因在龙眼体胚发生过程中的表达情况。【方法】采用RT-PCR 结合RACE法,通过T/A克隆测序,获得龙眼胚性愈伤组织线粒体ATP 合酶β亚基基因全长序列;随后通过实时荧光定量PCR(qRT-PCR)法研究该基因在龙眼体胚发生过程中的表达规律。【结果】成功克隆龙眼胚性愈伤组织线粒体ATP合酶β亚基基因完整cDNA序列(GenBank登录号:FJ222749),该序列全长2 099 bp,由1677bp核苷酸组成的ORF,编码558个氨基酸。该基因与其它植物的线粒体ATP合酶β亚基基因在核苷酸序列和推导的氨基酸序列方面相似性较高。对来源于动、植物的28条线粒体ATP合酶β亚基基因编码区序列所构建的进化树分析表明,由线粒体ATP合酶β亚基基因编码区序列所建立的系统关系树与真实的动、植物进化基本一致,龙眼处在双子叶植物中,由于该基因在龙眼同科属的植物中为首次克隆,所以有自己单独的分支。qRT-PCR 结果分析表明,随着龙眼体胚的发育,线粒体ATP合酶β亚基基因转录水平逐渐升高,到球形胚阶段达到最高,而后又急剧下降,到鱼雷形胚阶段降到最低,子叶形胚阶段略有升高。【结论】龙眼线粒体ATP 合酶β亚基基因与其它植物相应序列具有较高同源性,在龙眼体胚发育过程中,以球形胚阶段的表达最高。
【英文摘要】【Objective】The mitochondrial F1-ATPase beta subunit gene from embryogenic callus was cloned and its expression during somatic embryogenesis in longan (Dimocarpus longan Lour.) was analyzed in this experiment.【Method】Thecomplete cDNA sequence of the mitochondrial F1-ATPase beta subunit gene of longan embryogenic callus was obtained by reversetranscription polymerase chain reaction (RT-PCR) with rapid amplification of cDNA ends (RACE). And the mRNA transcription level of this gene was surveyed by real-time reverse transcription PCR (qRT-PCR) during somatic embryogenesis in longan.【Result】The full-length cDNA sequence of longan embryogenic callus mitochondrial F1-ATPase beta subunit gene was 2099 bp(GenBank accession number

FJ222749). It contained a 1677-nucleotides-long open reading frame (ORF) which encoded a protein of 588 amino acid residues. Homology searches with the deduced amino acid residues indicated that longan mitochondrial F1-ATPase beta subunit gene had a high similarity to other plant mitochondrial F1-ATPase beta subunit gene. According to the 28 mitochondrial F1-ATPase beta subunit gene sequences of animals and plants, the phylogenetic tree showed that it indeed reflected the evolution of animals and plants. It had a single branch because longan mitochondrial F1-ATPase beta subunit gene was firstly cloned. The results showed that the mRNA transcription levels of longan mitochondrial F1-ATPase beta subunit gene were different at the different stages during longan somatic embryogenesis.The highest level occurred at the globular embryo stage and the lowest at the torpedo embryo stage.【Conclusion】 Longan mitochondrial F1-ATPase beta subunit gene had a high similarity to other plant mitochondrial F1-ATPase beta subunit gene.The highest mRNA transcription level of longan mitochondrial F1-ATPase beta subunit gene occurred at the globular embryo stage.

【语种】中文
【第一作者】赖呈纯
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【题目】龙眼体胚发生中期发育同步化的初步调控
【中文关键词】龙眼 体细胞胚胎发生 体胚发育中期 同步化调控
【英文关键词】longan, somatic embryogenesis, middle developmental stage during somatic embryogenesis, synchronization regulation
【中文摘要】农林大学园艺植物生物工程研究所中国农学通报2009,25(01):152-155. S667.2试验以龙眼“红核子”胚性愈伤组织为材料,对龙眼体细胞胚胎发生进行同步化调控,2,4-D浓度为0.07 mg/L时获得了心形胚,2,4-D浓度为0.05 mg/L和0.06 mg/L时获得了鱼雷形胚,2,4-D浓度为0 mg/L时获得了高度同步化的子叶形胚。研究表明,通过培养基中2,4-D浓度的微量调整,基本能够控制龙眼体胚发育中期心型、鱼雷形胚的发育同步化。
【英文摘要】In this experiment the synchronization regulation of somatic embryogenesis from the embryogenic callus was performed in Dimocarpus longan Lour.cv.Honghezi.The somatic embryos at heart -stage were obtained when the concentration of2,4-Dwas 0.07 mg/L, the somatic embryos at torpedo-stage were obtained when the concentrations of 2,4-Dwere 0.05 mg/Land 0.06 mg/L,the somatic embryos at cotyledonary-stage were obtained when the concentration of 2,4-D was 0mg/L.The results showed that the developmental synchronization of somatic embryos at heart-stage and torpedo-stage could be roughly achieved by changing the concentrations of 2,4-Don the media gently at the middle developmental stages during longan somatic embryogenesis.
【语种】中文
【第一作者】方智振
【通讯作者】赖钟雄
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【题目】龙眼新品种‘晚香’的选育研究
【中文关键词】龙眼 品种 晚香 优质 浓香 特晚熟
【英文关键词】Longan;Cultivar;‘Wanxiang’;Quality;Strong aroma;Very late-repening
【中文摘要】以优质、有香气、特晚熟的龙眼果实性状为主要育种目标,选育出优异的龙眼新品种‘晚香’。该品种单果重1315 g,大者可达151 0 g以上;可食率6719% ~ 711 3% ;含糖量高,可溶性固形物含量211 9% ~2216%,最高达241 6%;肉质爽脆、致密,化渣,汁液中,不流汁,极易离核;口感好,香气浓郁,极宜鲜食。在福州, 果实10月中旬至11月下旬成熟;果实退糖非常缓慢,挂树期长,挂树期间其果实鲜食品质没有明显下降,仍具有良好的商品价值。晚香龙眼果实综合经济性状明显优于国内外晚熟龙眼主栽良种立冬本和苗翘, 是一个很有希望的鲜食龙眼新品种,具有广阔的推广应用前景。

【英文摘要】Based on the cha racte ristics for quality,arom a and very late- ripening as breeding goal ‘ W anx iang ’ longan was sellected as a new cultivar for future culture. The new longan cultivar had some good charac teristics, followed by fruit weight for 131 5g (max to 1510g),edible percent for 6719%~7113%,total soluble solid content for 2119% ~2216%(max 2416%).At the same time, aril for crisp, melting, densy, dissociable from seed, middle juice, good taste and strong aroma. The mature period was from mid-October to late November in Fuzhou.And the sugar reduced slowly.The time for keeping repened fruits on trees was up to about 45 days, which had good commercial value. ‘ Wanxiang ’ longan,super to main late-ripening longan cultivars as ‘ Lidongben ’ and ‘ Biekiew ’ in the world on comprehensive economic traits, was a very promising longan cultivar and had a good prospect in application.
【语种】中文
【第一作者】郑少泉
【通讯作者】郑少泉
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【题目】龙眼种质资源果实性状多样性分析及其数量分类研究
【中文关键词】龙眼 种质资源 遗传多样性 聚类分析 主成分分析
【英文关键词】Longan; Germplasm resources; Genetic diversity; Cluster analysis; Principal component analysis
【中文摘要】对国家果树种质福州龙眼圃130份龙眼果实性状进行了鉴定评价与分类研究。结果表明,18个数量性状中,穗粒数的变异系数最大,为60.5%,其次为果穗质量、果皮质量、单果质量、果皮厚度、果肉厚度等,可食率的变异系数最小为7.4%。25个描述性状平均变异类型达3.6个,果皮颜色、果肉质地的变异类型最为丰富,均为6个。总体平均多样性指数(I)为1.997,龙眼主产区福建(1.989)、广东(1.638)、四川(1.551)的多样性指数较高,泰国(1.274)、广西(1.248)、贵州(1.229)则次之。对130份龙眼种质果实性状进一步聚类分析为5个类群,各类群特征表现各异,变化丰富。主成分分析第一、二主成分解释的总变异为28.15%,更为直观地展现了种质的亲缘关系,其结果与聚类分析基本一致。
【英文摘要】The fruit characters of 130 longan germplasm resources were evaluated and classified.The results showed that among 18 numerical characters, the number of fruits per ear possessed the largest coefficient of variance,which was 60.5%,and followed by weight of fruit ear,weight of pericarp, weight of fruit,thickness of pericarp,and thickness of flesh,etc. Edible rate had the least coefficient of variance,which was 7.4%.The average variation type among 25 characters discribed was up to 3.6,and color of pericarp and texture of flesh had the most variation with coefficient6.The average genetic diversity index(I)was 1.997,and the main longan production areas of Fujian(1.989),Guangdong (1.638)and Sichuan(1.551)had higher diversity index,and Thailand(1.274),Guangxi (1.248) and Guizhou(1.229)less. 130 germplasms were classified into 5 groups,which had rich phenotypic diversity, based on the fruit characters. The results of principal component analysis(PCA)indicated that the first and second principal components could explain 28.15% of total variance,and PCA more directly demonstrated the genetic relationship between germplasms.The results were basically consistent with that of the cluster analysis.
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【第一作者】黄爱萍
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【题目】龙眼种质资源花序性状多样性研究
【中文关键词】龙眼 种质资源 花序数量性状 相关性
【英文关键词】Dimocar pus longan Lour1;germplasm resources;inflor escence traits;correlation
【中文摘要】选取国家果树种质福州龙眼圃保存的71 份龙眼种质资源, 进行花序性状多样性的研究。结果表明:(1) 花序长度为191 9~ 391 4 cm, 花序宽度为141 0~ 331 0 cm, 花序支轴数为41 4~ 131 3 个, 雄花雄蕊数为71 1~81 8 枚, 花冠直径为51 8~ 81 8 mm, 5 个数量性状变异系数为41 9%~ 191 9%。花序长度与花序宽度、花序长度与花序支轴数呈极显著正相关, 花序

宽度与花序支轴数呈显著正相关。(2) 调查的龙眼种质花序数量性状分成5个级次, 不同级次其比率也不同, 差异较大。(3) 不同原产地龙眼种质的花序长度和花冠直径2 个花序数量性状存在明显差异, 原产广东的龙眼种质花序长度显著长于原产福建的; 而原产福建的龙眼种质花冠直径则显著大于原产广东的。(4) 龙眼种质花序支轴紧密度、柱头形态、花序主轴颜色和花蕾颜色等4 个描述性状也存在多样性; 柱头形态以/ r0 形种质最多, 占501 7%, 叉形最少; 花序主轴颜色以红褐色的种质最多, 为601 6%,绿色最少; 而花蕾颜色则以浅绿色的种质居多, 占811 7%。

【英文摘要】The inflor escence tr aits of 71 longan g ermplasms in the Nat ional Field Genebank for Longan in Fuzhou wer e studied1 The result showed that (1) the inflo rescence was 191 9- 391 4 cm long and 141 0- 331 0 cm wide w ith 41 4- 131 3 seco ndary peduncles and 71 1- 81 8 stamens in the ma le flower ;(2)the var iation co efficient of these five quartified character istics ranged from 4.9% to 20.0%;(3)the length of the inflo rescence was significantly correlated with the width or number of the axis;(4)the inflo rescence width was significantly correlated with the number of axis;(5)each of the five character istics had five differ ent levels with rather different ratios among them;(6)the inflo rescence length and width of the germplasms from different area varied greatly the length of the inflo rescence of the germplasm from Guang dong was significantly long erthan that from Fujian,and the corolla diameter of the germplasm from Fujian was signif icantly bigger than that from Guangdong;and(7) there were differences on the inflor escence of these longan germplasms in regard to the density of flower cluster, stigma shape, color of flower axis and color of flower bud as well the majority o f the inflor escences (ie , 50. 7%)had an " r " shaped stigma, the fork-shaped the least; the majority o f the inflo rescence had reddish-brown axis (ie,60.6%) ,the green-colored the least;and the greatest majority of buds were light green in color (ie,81. 7%).

【语种】中文

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【题目】龙眼种质资源亲缘关系的研究进展

【中文关键词】龙眼;种质资源;亲缘关系

【英文关键词】Longan; Germplasm resources; Genetic relationship

【中文摘要】龙眼(Dimocarpus longana Lour.)种质资源是龙眼育种研究的基础。种质资源的研究将为探讨龙眼起源、进化、分类、育种和资源保护与利用提供科学依据。从形态学、孢粉学、同工酶和分子生物学等方面综述了龙眼种质资源亲缘关系的研究进展,探讨了龙眼亲缘关系的研究现状、前景及尚待解决的问题,并分析了今后开展龙眼种质资源亲缘关系研究的方向与重点。

【英文摘要】Longan germplasmresources are very important for the breeding study. The genetic relationships of germplasm resources are the scientific basis for longan ’s origin, evolution, classification, breeding and application. The research advances in genetic relationships of longan germplasm are reviewed in the following aspects: morphology, palynology, biochemistry and genetics. The prospects of longan germplasm resources are also discussed.

【语种】中文

【第一作者】钟凤林

【通讯作者】潘东明

【期刊名称、卷期、页码】热带亚热带植物学报,2007,15(6):554-558.

【论文发表时间】2007-07-19 00:00:00

【引文索引类型】其他

【引文索引号】S667.202.4

【学科分类】园艺学

【题目】茂谷桔橙研究现状与进展

【中文关键词】茂谷桔橙;研究进展;综述

【英文关键词】murcott, research progress, literature review

【中文摘要】茂谷桔橙是自台湾引进的丰产优质杂柑类晚熟品种,有十分重要的开发利用价值。美国、巴西、台湾等地的科学家对茂谷桔橙的栽培管理技术、贮藏保鲜技术做了大量的研究工作,取得了一定成果。文章从茂谷桔橙的生物学特性

、栽培技术的研究、贮藏保鲜技术研究、生物技术研究等方面综述了当前国内外茂谷桔橙研究现状和主要研究进展,提出了未来的研究方向。

【英文摘要】Murcott is a late-maturing, high quality,high-yield hybrid citrus varieties. It has very important value of development and utilization. The sciencists in America, Braize and Taiwan do a lot of research of cultivation and management techniques and storage technique of Murcott. They have got a certainachievements.Research status and main progress were summarized from biological characteristics, the study on culture technique, the study on storage technology and biotechnology research. The article gives some advice for future work.

【语种】中文

【第一作者】陈源

【通讯作者】余亚白

【期刊名称、卷期、页码】中国农学通报,2009,25(05):190-194.

【论文发表时间】2009-01-22 00:00:00

【引文索引类型】其他

【引文索引号】S667.2

【学科分类】园艺学

【题目】猕猴桃分子生物学研究进展

【中文关键词】猕猴桃; 核酸提取; 基因克隆; 分子标记

【英文关键词】Actinidia chinensis; nucleic acid extracting; gene cloning; molecular markers

【中文摘要】本文综述了猕猴桃的核酸提取、基因克隆和分子标记研究进展。重点介绍相关功能基因在延缓果实衰老、提升果实品质及分子标记技术在品种鉴定、亲缘关系分析中的应用。

【英文摘要】The advances in extracting nucleic acid ,cloning genes and molecular markers of Actinidia chinensis are reviewed,focusing on the application of the related function genes in delaying senescence and improving fruit quality,as well as the application of molecular marking techniques in identifying breeds and analyzing genetic relationship.

【语种】中文

【第一作者】陈义挺

【通讯作者】陈义挺

【期刊名称、卷期、页码】亚热带农业研究,2010,8(2):131-137.

【论文发表时间】2012-04-08 00:00:00

【引文索引类型】其他

【引文索引号】S667.2

【学科分类】园艺学

【题目】闽北梨产业发展现状与对策

【中文关键词】闽北;梨;现状;对策

【英文关键词】northern Fujian, pear, current situation, countermeasures

【中文摘要】通过文献查阅、现场考察、召开座谈会等形式调查了闽北梨产业发展现状及成因,从气候资源、销售市场、山地资源等方面分析了闽北发展优质早熟梨的比较优势,从思想认识、发展方式、发展策略和服务水平四个角度提出了闽北梨产业发展的对策,以期能为闽北梨产业的发展提供有益的借鉴。

【英文摘要】Through the literature available, on-site inspection, holding a forum to investigate the current situation of the pear industry in northern Fujian and the causes of the status. The comparative advantages about developing the high-grade and early pear industry in northern Fujian were analyzed from some aspects including climate resources, selling market, mountain resources, and so on. We have put forward some countermeasures based on the four perspectives: ideological understanding, development patterns, development strategies and service level, hoping to provide useful basis for the development of pear industry in northern Fujian.

【语种】中文

【第一作者】雷龑

【通讯作者】雷龑

【期刊名称、卷期、页码】中国农学通报,2009,25(18):314-318.

【论文发表时间】2009-08-19 00:00:00

【引文索引类型】其他
【引文索引号】S3
【学科分类】园艺学

【题目】闽西北无公害梨生产病虫草害综合防治历
【中文关键词】梨
【英文关键词】pear
【中文摘要】闽西北属中亚热带气候区,为我国同纬度地区热量、春季平均气温、夏季气温日较差条件最好的区域,发展早熟梨早上加早,品质更优,进入东南沿海传统非产区市场和东南亚国际市场便捷,利用成熟上市时差可抢占北方产区梨果早市。为此,自20世纪80年代以来,福建省立足闽西北大力推动以早熟梨品种为主的梨产业发展,截至2008年全省梨种植面积达213万hm2,产量1715万,t 成为我国长江流域及其以南最具活力的新兴梨产区。但由于温暖多湿,病虫草害发生较严重,对持续丰产优质高效生产构成较大威胁。为此,我们以多年来对建宁县主要病虫草害发生种类、规律、为害程度的调查研究和防治实践经验为基础,按照无公害果品生产要求,制定闽西北梨主要病虫草害综合防治模式,为广大生产者高效、安全地开展主要病虫草防治提供参考。销售市场、山地资源等方面分析了闽北发展优质早熟梨的比较优势,从思想认识、发展方式、发展策略和服务水平四个角度提出了闽北梨产业发展的对策,以期能为闽北梨产业的发展提供有益的借鉴。
【英文摘要】Abstract
【语种】中文
【第一作者】林居宁
【通讯作者】黄新忠
【期刊名称、卷期、页码】福建果树,2010,(1):50-52.
【论文发表时间】2010-02-08 00:00:00
【引文索引类型】其他
【引文索引号】S667.2
【学科分类】园艺学

【题目】木奈果实中花青素合成酶基因PsANS 的克隆及原核表达分析
【中文关键词】奈; 花青素合成酶; 克隆; 原核表达
【英文关键词】Prunus salicina; ANS; Clone; Prokaryotic expression
【中文摘要】根据NCBI 数据库中已知的蔷薇科植物花青素合成酶基因序列设计特异引物,从本实验室已经构建好的木奈成熟果实均一化全长cDNA 文库中筛选分离得到了一个编码花青素合成酶的cDNA: 基因命名为PsANS,登录号: JN560957。该cDNA 长1 478 bp,包含137 bp 5' 非编码区,267 bp 3' 非编码区,开放阅读框长度为1 074 bp。PsANS 编码358 个氨基酸,分子量为40.41 ku,理论等电点为5.35。经BLAST 分析对比发现,PsANS 氨基酸序列与甜樱桃、苹果和草莓的ANS 氨基酸同源性都很高,分别为98%、93%和89%。将PsANS亚克隆到原核表达载体pGEX-6P-1 和pET-32a 上,在大肠杆菌BL21 中经1mmol/L ITPG 诱导表达获得了木奈PsANS 融合表达蛋白,其分子量大小与预期的一致,进一步确认本试验克隆得到的PsANS 为木奈花青素合成酶基因。
【英文摘要】A cDNA encoded anthocyanidin synthase(ANS)was separated from a normalization and full-length cDNA library prepared previously with the ripe fruit of ‘ oil Lai ’(Prunus salicina)by gene special primers designed from ANS genes of other Rosaceae plants. The cDNA named PsANS was 1 478 bp in full length and encoded a protein with 358 amino acids. The deduced amino acid sequence shares 98%, 93% and 89% identity with those ANS from sweet cherry, apple and strawberry, respectively. Prokaryotic expression was conducted with the constructed vectors used PsANS and prokaryotic expression vector(pGEX-6P-1 and pET-32a)in E.coli BL21. The obtained fusion protein had a molecular weight consistent with that expected, and it further confirmed that the PsANS obtained by this experiment encoded ANS of ‘ oil Lai ’(Prunus salicina).
【语种】中文
【第一作者】姜翠翠
【通讯作者】潘东明
【期刊名称、卷期、页码】热带作物学报,2011,32(11):2088-2093.
【论文发表时间】2011-10-09 00:00:00
【引文索引类型】其他
【引文索引号】S662.3

【学科分类】园艺学

【题目】枇杷茎尖愈伤组织诱导及种质体外保存研究
【中文关键词】邓朝军 章希娟 郑姗 魏秀清 李韬 郑少泉
【英文关键词】Loquat germplasm Shoot tips Callus Induction Preservation
【中文摘要】以国家果树种质资源枇杷圃中12 份枇杷种质为试材,开展了枇杷茎尖愈伤组织的诱导和种质体外保存研究。结果表明,将春季采集的枇杷茎尖不经水冲洗,直接接种于MS + 6 - BA 1. 0 mg • L-1 + NAA 1. 0mg • L-1 培养基上培养,较容易诱导出愈伤组织; 不同基因型的枇杷茎尖诱导出的愈伤组织存在较大差异,诱导率最高的是野生92 号,为96. 2%; 诱导率最低的是黄岩5 号,没有诱导出愈伤组织。采用MS + NAA3. 0 mg • L -1 + 6 - BA 1. 0 mg • L -1 + 蔗糖6% (2 ~ 3 代) →MS 培养基(1 ~ 2 代,其中有一次使用液体培养) →MS + NAA 3. 0 mg • L -1 + 6- BA 1. 0 mg • L- 1 + 蔗糖6% (2 ~ 3 代) 循环继代路线,在弱光(光照度150 lx) 下培养,能较好地保存枇杷茎尖愈伤组织,胚性没有减弱,生长势较好且仍为黄白色颗粒状。试验结果为枇杷种质体外保存、原生质体培养、细胞融合、遗传转化及离体诱变等研究打下基础。
【英文摘要】12 loquat shoot tips,collected from National Field Genebank for Loquat in Fuzhou,were cultured to induce callus and preserved in vitro. The results showed that the shoot tips in spring without washing was more easily to induce callus if inoculated directly to MS supplemented with 1. 0 mg • L -1 6-BA and 1. 0 mg • L -1 NAA. The inducing ability for callus in different genotypic loquat shoot tips was different. The highest induction rate was wide loquat -92 (96. 2%) .The lowest induction rate was Huangyan -5 which couldn ’ t induce callus. The callus were conserved better under weak light (illuminance 150 lx) with a cycle subculture process: MS supplemented with 3. 0 mg • L-1 NAA and 1. 0 mg • L -1 6-BA and 6% sucrose (2-3 generation) →MS (1 -2 generation,with once liquid culture) → MS supplemented with 3. 0 mg • L-1 NAA and 1. 0 mg • L-1 6-BA and 6% sucrose (2-3 generation) .At this condition the callus grew preferably and was yellow - white granular.The results will lay the foundation for loquat germplasm preservation,protoplast culture,cell fusion,genetic transformation and mutagenesis in vitro.
【语种】中文
【第一作者】邓朝军
【通讯作者】郑少泉
【期刊名称、卷期、页码】福建果树,2011 (1) : 1 ~ 6.
【论文发表时间】2011-02-14 00:00:00
【引文索引类型】其他
【引文索引号】S667.2
【学科分类】园艺学

【题目】南方草莓设施栽培技术
【中文关键词】何明忠 熊月明 许以龙 吴建辉 陈开端
【英文关键词】strawberry
【中文摘要】草莓是一年中鲜果上市最早的水果,露地栽培南方4月下旬、北方6月上旬成熟上市。此时正值水果淡季,市场鲜果奇缺之时,所以不仅填补了水果淡季市场,而且还有较高的经济收入。
【英文摘要】Abstract
【语种】中文
【第一作者】何明忠
【通讯作者】熊月明
【期刊名称、卷期、页码】福建果树,2012 (2) : 50 ~ 52.
【论文发表时间】2012-10-08 00:00:00
【引文索引类型】其他
【引文索引号】S667.2
【学科分类】园艺学

【题目】枇杷ISSR扩增反应体系的优化
【中文关键词】赵依杰 赵依杰1,王江波2,张小红1,施维属2,林航1王江波 张小红 施维属 林航
【英文关键词】Loquat (E.japonica Lindl.cv) ISSR orthogonal design system optimization
【中文摘要】采用正交设计对影响枇杷ISSR-PCR的模板DNA、dNTPs、Primer、Taq 酶及Buffer(含Mg2+)进行优化。试验结果表明:20 μL 反应体系中,含模板DNA 5 ng、dNTPs 0.25 mmol/L、Primer 0.25 μmol/L、Taq 酶0.5 U和10×Buffer(含

Mg2+) 3 μL。此外,从95 条ISSR引物中筛选出11 条具有丰富的多态性位点的引物,同时优化各引物退火温度。
【英文摘要】The factors of template DNA, dNTPs, Primer, Taq polymerase and Buffer (containing Mg2+), greatly influencing ISSR-PCR of loquat, were optimized by orthogonal design. The result shows that the optimum amplification condition of ISSR-PCR is DNA template 5 ng, dNTPs 0.25 mmol/L, Primer 0.25 μmol/L,Taq Polymerase 0.5 U and 10×Buffer (contain Mg2+) 3 μ in 20 μL reaction volumes. Besides, 11 ISSR primers has been obtained with high stability and polymorphism simultaneity obtained for ISSR-PCR annealing temperature from 95 ISSR primers.
【语种】中文
【第一作者】赵依杰
【通讯作者】赵依杰
【期刊名称、卷期、页码】中国农学通报,2010,26(7):26-30.
【论文发表时间】2009-12-10 00:00:00
【引文索引类型】其他
【引文索引号】S667.3
【学科分类】园艺学

【题目】由规范残留试验数据推荐农药最大残留限量的方法概述
【中文关键词】最大残留限量;田间试验;数据;统计学;估算
【英文关键词】MRLs;field trial;data;statistics;estimate
【中文摘要】农药最大残留限量(MRLs)是指农药在食品和饲料中的最高法定容许残留浓度。MRLs的制定可检验食品生产过程中是否严格执行良好农业规范(GAP),对农产品的进出口贸易影响很大,因而,制定MRLs所依据的方法也尤为重要。综述了欧盟、北美自由贸易协定(NAFTA)成员国及经济合作与发展组织(OECD)等管理机构提出的几种基于统计学原理的估算方法,比较并讨论了各方法的优缺点。EUmethod Ⅰ方法目前已在欧盟各国广泛使用,对于相同或相近的数据集,采用该方法可得出一致的评估结果,但该方法建立在残留数据呈正态分布这一假设基础之上,而欧盟却并未对此假设的合理性作出相应的评估和测试;EUmethod Ⅱ方法适用于对任意分布的数据集的MRLs进行评估,涉及到的计算不会受到数据集中高残留数据的影响,该方法建立在将第75百分位数值加倍以确保估算得出的MRLs足够高且不会被超过的原理基础之上,但目前尚未从统计学角度对该原理予以证明;NAFTA对数正态分布方法是在EUmethod Ⅰ基础上的改进方法,也称作"95/99法则",该方法能对所有呈对数正态分布的残留数据第95百分位数的95%置信上限提供无偏估计,但要求田间试验数据集接近对数正态分布,数据集必须具有足够大的样本量以确保能准确评估第99百分位数和第95百分位数的置信上限,且数据集中必须有足够数量的高于检测限的残留数据;目前最新版本的OECD计算器方法不再对数据分布进行讨论,方法的精确度能随着数据集样本量的增加而提高,且能对高百分位数,如至少具有15到20个数据点的数据集的第95百分位数提供十分准确的估算。目前,OECD工作组正在探索"平均值+4倍标准差"的评估方法,该方法能对呈对数正态分布数据集的第95百分位数进行更好的估计。
【英文摘要】无
【语种】中文
【第一作者】李晶
【通讯作者】李晶
【期刊名称、卷期、页码】农药学学报,2010,12(3):237-248
【论文发表时间】2010-03-08 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农学其他学科

【题目】Determination of tebuconazole, trifloxystrobin and its metabolite in fruit and vegetables by a Quick, Easy, Cheap, Effective, Rugged and Safe (QuEChERS) method using gas chromatography with a nitrogen – phosphorus detector and ion trap mass spectrometry
【中文关键词】无
【英文关键词】QuEChERS method;gas chromatography – ion trap mass spectrometry;gas chromatography – nitrogen – phosphorus detector;tebuconazole;trifloxystrobin and trifloxystrobin acid;residue
【中文摘要】无

【英文摘要】A new analytical method using QuEChERS procedure by gas chromatography with a nitrogen – phosphorus detector (GC-NPD) and ion trap mass spectrometry (GC-IT-MS) for the quantitative determination of tebuconazole, trifloxystrobin and its metabolite trifloxystrobin acid has been developed and validated. The analytes were extracted from five fruit and vegetable matrices using acetonitrile and subsequently cleaned up using primary secondary amine (PSA) or octadecylsilane (C18) as sorbent prior to GC analysis. The present methods provided sufficient sensitivity as reflected by the values of limit of detection (LOD) and limit of quantification (LOQ) of 0.4 – 7 and 1.2 – 20 μg/kg for GC-IT-MS/MS and GC-NPD. The recoveries were, on average, 68 – 117 and 68 – 121%, respectively, for three compounds by GC-NPD and GC-IT-MS/MS with intra-day precision achieved with an RSD of 2.7 – 19.1%. The inter-day precision was better than 15.1% as determined by GC-NPD. The QuEChERS procedure, by using two sorbents (PSA and C18) and the matrix-matched standards, gave satisfactory recoveries and RSD values in different matrices. IT-MS acquisition provided higher specificity and selectivity for pesticides and better limit of detection and quantification. However, the repeatability and precision of NPD method were better compared with IT-MS.
【语种】英文
【第一作者】刘新刚
【通讯作者】刘新刚
【期刊名称、卷期、页码】Biomed. Chromatogr. 2011; 25: 1081 – 1090
【论文发表时间】2011-04-08 00:00:00
【引文索引类型】SCI
【引文索引号】DOI 10.1002/bmc.1575
【学科分类】农艺学

【题目】Rapid residue analysis of four triazolopyrimidine herbicides in soil, water, and wheat by ultra-performance liquid chromatography coupled to tandem mass spectrometry.
【中文关键词】无
【英文关键词】Residue analysis;Ultra-performance liquid chromatography – mass spectrometry ; Soil; Wheat;Water;Triazolopyrimidine sulfonamide
【中文摘要】无
【英文摘要】A sensitive and effective method for simultaneous determination of triazolopyrimidine sulfonamide herbicide residues in soil, water, and wheat was developed using ultra-performance liquid chromatography coupled with tandem mass spectrometry. The four herbicides (pyroxsulam, flumetsulam, metosulam, and diclosulam) were cleaned up with an off-line C18 SPE cartridge and detected by tandem mass spectrometry using an electrospray ionization source in positive mode (ESI+). The determination of the target compounds was achieved in <2.0 min. The limits of detection were below 1 μg kg(-1), while the limits of quantification did not exceed 3 μg kg(-1) in different matrices. Quantitation was determined from calibration curves of standards containing 0.05-100 μg L(-1) with r(2) > 0.997. Recovery studies were conducted at three spiked levels (0.2, 1, and 5 μg kg(-1) for water; 5, 10, and 100 μg kg(-1) for soil and wheat). The overall average recoveries for this method in water, soil, wheat plants, and seeds at three levels ranged from 75.4% to 106.0%, with relative standard deviations in the range of 2.1-12.5% (n = 5) for all analytes.
【语种】英文
【第一作者】刘新刚
【通讯作者】郑永权
【期刊名称、卷期、页码】Anal Bioanal Chem (2011) 399:2539 – 2547
【论文发表时间】2011-01-08 00:00:00
【引文索引类型】SCI
【引文索引号】10.1007/s00216-010-4606-7
【学科分类】农学其他学科

【题目】Residue analysis of four diacylhydrazine insecticides in fruits and vegetables by Quick, Easy, Cheap, Effective, Rugged, and Safe (QuEChERS) method using ultra-performance liquid chromatography coupled to tandem mass spectrometry
【中文关键词】无
【英文关键词】Residue analysis;Ultra-performance liquid chromatography-mass spectrometry;Diacylhydrazine insecticide ;Fruits;Vegetables

【中文摘要】无
【英文摘要】The new analytical method using Quick, Easy, Cheap, Effective, Rugged, and Safe (QuEChERS) procedure for simultaneous determination of diacylhydrazine insecticide residues in fruits and vegetables was developed using ultra-performance liquid chromatography coupled with tandem mass spectrometry (UPLC-MS/MS). The four insecticides (tebufenozide, methoxfenozide, chromafenozide, and halofenozide) were extracted from six fruit and vegetable matrices using acetonitrile and subsequently cleaned up using primary secondary amine (PSA) or octadecylsilane (C18) as sorbent prior to UPLC-MS/MS analysis. The determination of the target compounds was achieved in less than 3.0 min using an electrospray ionization source in positive mode (ESI+) for tebufenozide, methoxfenozide, and halofenozide and in negative mode (ESI-) for chromafenozide. The limits of detection were below 0.6 μg kg(-1), while the limit of quantification did not exceed 2 μg kg(-1) in different matrices. The QuEChERS procedure by using two sorbents (PSA and C18) and the matrix-matched standards gave satisfactory recoveries and relative standard deviation (RSD) values in different matrices at four spiked levels (0.01, 0.05, 0.1, and 1 mg kg(-1)). The overall average recoveries for this method in apple, grape, cucumber, tomato, cabbage, and spinach at four levels ranged from 74.2% to 112.5% with RSDs in the range of 1.4-13.8% (n = 5) for all analytes. This study provides a theoretical basis for China to draw up maximum residue limits and analytical method for diacylhydrazine insecticide in vegetables and fruits.
【语种】英文
【第一作者】刘新刚
【通讯作者】郑永权
【期刊名称、卷期、页码】Anal Bioanal Chem (2011) 401:1051 – 1058
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【引文索引类型】SCI
【引文索引号】10.1007/s00216-011-5148-3
【学科分类】农学其他学科

【题目】Simultaneous determination of pyrethrins residues in teas by ultra-performance liquid chromatography/tandem mass spectrometry
【中文关键词】无
【英文关键词】Tea;Pyrethrins;Ultra-perform;ance liquid chromatography coupled with tandem mass spectrometry;Multi-residue;Solid-phase extraction
【中文摘要】无
【英文摘要】A sensitive and effective method for the simultaneous quantitative determination of pyrethrin residues in teas was developed and validated using ultra-performance liquid chromatography coupled with tandem mass spectrometry (UPLC-MS/MS). The six major constituents of the pyrethrins (pyrethrin I and II, jasmolin I and II, and cinerin I and II) were successfully separated and independently confirmed in a single run within approximately 5 min. The multi-residue analysis of pyrethrins in teas involved simply extraction with acetonitrile, clean-up using a multilayer solid phase extraction cartridge, and subsequent separation by a hydrophilic end-capped Aquasil C18 columns with detection by tandem mass spectrometry using an electrospray ionization source in positive mode (ESI+). Recovery studies were carried out at three spiked levels (0.05, 0.1, 0.5 mg kg(-1)). The overall average recoveries using this method in green teas and black teas at the three concentration levels ranged from 76.15% to 101.86% with relative standard deviations (RSDs) in the range of 2.71-12.93% (n=5) for all analytes. The limits of detections (LODs) were below 0.009 mg kg(-1), which were lower than the maximum residue limits (MRLs) of 0.5 mg kg(-1) in tea samples established by the European Union legislations in 2008, while the limits of quantification (LOQ) did not exceed 0.03 mg kg(-1). This study provides a theoretical basis for China to draw up MRLs for pyrethrins in teas.
【语种】英文
【第一作者】LU C
【通讯作者】郑永权
【期刊名称、卷期、页码】Analytica Chimica Acta 678 (2010) 56 – 62
【论文发表时间】2010-08-20 00:00:00
【引文索引类型】SCI
【引文索引号】doi:10.1016/j.aca.2010.08.015
【学科分类】农学其他学科

【题目】糯谷猪解耦联蛋白3和心脏型脂肪酸结合蛋白在骨骼肌中的表达和定位
【中文关键词】UCP3; H-FABP; 免疫组织化学; 骨骼肌; 糯谷猪
【英文关键词】UCP3; H-FABP; immunohistochemistry; skeletal muscle; Nuogu pig
【中文摘要】为了探索解耦联蛋白3(uncoupling protein 3,UCP3)和心脏型脂肪酸结合蛋白(heart fatty acid-bind-ing protein,H-FABP)对骨骼肌细胞中脂肪代谢的调节作用,采用RT-PCR和免疫组织化学方法,研究了地方猪品种糯谷猪骨骼肌细胞中UCP3和H-FABP基因的表达和细胞内定位,并与外二元杂交猪相比较,结果表明,糯骨猪的肌细胞及其细胞间隙较大,血清游离脂肪酸和肌内脂肪含量较高;但UCP3和H-FABP基因表达量和蛋白分布密度均较杂交猪低。说明糯谷猪肌细胞中UCP3和H-FABP的表达量较少,肌细胞中ATP的生成效率较高,对脂肪酸供能的依赖性较低,脂肪得以贮存。提示UCP3和H-FABP主要以蛋白量的变化参与猪骨骼肌细胞的脂肪代谢调节,从而影响地方猪种的肉质等性状。
【英文摘要】无
【语种】中文
【第一作者】王阳
【通讯作者】王嘉福
【期刊名称、卷期、页码】中山大学学报,2011,50(1): 99-103
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【引文索引号】null
【学科分类】畜牧、兽医科学基础学科

【题目】3份高羊茅材料吡咯琳-5-羧酸合成酶基因的结构及酶活性比较
【中文关键词】高羊茅; P5CS基因; 酶活性; 脯氨酸; 抗旱
【英文关键词】Festuca arundinacea, P5CS gene, enzyme activity, proline, drought resistance
【中文摘要】吡咯琳-5-羧酸合成酶(Pyrroline-5-Carboxylate Synthetase,P5CS)是经谷氨酸途径合成脯氨酸的关键酶,脯氨酸的积累有助于提高植物的抗逆性。本研究以黔草一号高羊茅(Festuca arundinacea cv.Qiancao No.1,QC1)、黔草二号细叶高羊茅(F.arundinacea cv.Qiancao No.2n,QC2n)和黔草二号宽叶高羊茅(F.arundinacea cv.Qiancao No.2b,QC2b)为材料,经RT-PCR克隆得到P5CS基因,基因长2 151bp,含有完整的开放读码框(OpenReading Frame,ORF),编码716个氨基酸,与朝鲜碱茅(Puccinellia chinampoensis)P5CS基因的相似性为94%。对3份高羊茅材料P5CS基因编码的氨基酸序列进行比较,有6个氨基酸差异,这些氨基酸均处于P5CS蛋白的谷氨酸激酶(Glu-5-Kinase,G5K)功能区,其中第37、85及142位的氨基酸所带电荷发生了改变。比较干旱处理后3份高羊茅材料叶片的P5CS酶活性及其脯氨酸含量,QC1叶片的P5CS酶活性及其脯氨酸含量最高,其次为QC2n,QC2b最低。说明P5CS中谷氨酸激酶(G5K)功能区重要氨基酸种类的改变,可能影响高羊茅P5CS的酶活性及其脯氨酸的生成量,也是高羊茅抗逆性差异的主要原因。
【英文摘要】无
【语种】中文
【第一作者】牛熙
【通讯作者】王嘉福
【期刊名称、卷期、页码】草业科学,2012,10:1546-1552
【论文发表时间】2012-10-15 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】畜牧、兽医科学基础学科

【题目】香猪H-FABP和UCP3基因的表达与IMF和血清FFA的相关性
【中文关键词】香猪; 骨骼肌; H-FABP; UCP3; 免疫组织化学
【英文关键词】Xiang pig; skeletal muscle; H-FABP; UCP3; immunohistochemistry
【中文摘要】为了研究心脏型脂肪酸结合蛋白(heart fatty acid-binding protein,H-FABP)和解耦联蛋白3(uncoupling protein,UCP3)基因对贵州香猪肉质的调节作用,采用RT-PCR和免疫组织化学方法,以外二元杂交猪(大白×长白)为对照,研究H-FABP和UCP3基因在骨骼肌细胞中的表达和细胞定位,并与血清中游离脂肪酸(free fatty acid,FFA)和肌内脂肪(intramuscular fat,IMF)含量进行相关性研究。结果表明:香猪骨骼肌细胞中的H-FABP和UCP3基因表达量及其蛋白分布较杂交猪低,但血清FFA和IMF含量较杂交猪高。说明,香猪骨骼肌细胞中H-FABP的表达量不足,其肌细胞从血液中摄取

FFA的量较少;同时香猪骨骼肌细胞中UCP3的表达量较低,因此,进入骨骼肌细胞的FFA消耗较少,大量存在于血液中,使脂肪沉积在肌肉细胞间或皮下等部位的机会增加。通过相关性分析表明,H-FABP基因的表达变化与IMF呈中度正相关,UCP3基因的表达变化与FFA呈中度负相关,表明,H-FABP和UCP3以蛋白量的表达变化为主影响骨骼肌细胞中的脂肪代谢,并以此调节香猪的肉质性状。
【英文摘要】无
【语种】中文
【第一作者】王阳
【通讯作者】冉雪琴
【期刊名称、卷期、页码】贵州农业科学,2010,38(9):121-124
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【引文索引类型】其他
【引文索引号】null
【学科分类】畜牧、兽医科学基础学科

【题目】应用促卵泡激素基因SINE标记测定大约克猪纯合度
【中文关键词】大约克猪; FSH β 基因; 分子标记; SINE
【英文关键词】Yorkshire pig; FSH β gene; molecular marker; SINE
【中文摘要】为了使猪种引进有便捷、准确的检测手段,采用聚合酶链式反应(Polymerase chain reaction,PCR)方法,检测了120头大约克种猪的纯合度。结果表明:受检母猪FSH β 基因的BB纯合基因型频率为82.5%,AB杂合基因型频率为17.5%,未检测到AA纯合基因型,经计算B等位基因的频率明显高于A等位基因频率。表明,该批次大约克猪存在一定比例的内二元或内三元杂交猪,应加强管理,严格控制再引种的纯度。该检测方法适用于区分国内地方猪品种和欧洲猪品种的纯合度,为引种种猪的纯合度检测提供准确的鉴定手段,有良好的应用前景。 更多还原
【英文摘要】无
【语种】中文
【第一作者】李升
【通讯作者】冉雪琴
【期刊名称、卷期、页码】贵州农业科学,2010,38(5):140-141
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【学科分类】畜牧学

【题目】激素对大约克母猪人工催情与同期发情的效果
【中文关键词】大约克母猪; 孕马血清促性腺激素; 人绒毛膜促性腺激素; 三合激素; 短期补饲; 同期发情
【英文关键词】Yorkshire sow; PMSG; HCG; tristeronum comopositum; short-term feeding; synchronized estrus
【中文摘要】为筛选出适合毕节地区环境和饲养条件的母猪发情控制技术,进行了不同激素对乏情青年母猪和经产母猪的同期发情处理试验。结果表明,孕马血清促性腺激素(Pregnant mare serum gonadotropin,PMSG)和人绒毛膜促性腺激素(Human chorionic gonadotrophin,HCG)对生理性乏情母猪的人工催情效果最明显,发情率达66.7%;三合激素对子宫发育不良青年母猪的效果较好,发情率达44.4%;对经产母猪进行同期发情处理,用PMSG 600+HCG、苯甲酸雌二醇(Estradiol benzoate,E2)+HCG的效果最好,发情率均达100%。 更多还原
【英文摘要】无
【语种】中文
【第一作者】张兆强
【通讯作者】王嘉福
【期刊名称、卷期、页码】贵州农业科学,2011,39(11):146-148
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【引文索引号】null
【学科分类】畜牧学

【题目】日粮中添加紫花苜蓿和苦荞对猪生产性能的影响
【中文关键词】紫花苜蓿; 苦荞; 猪; 饲用价值; 生产性能
【英文关键词】alfalfa; buckwheat; emasculated boar; feeding value; productive performance
【中文摘要】为拓宽种植牧草的利用途径和探索紫花苜蓿与苦荞的饲用价值,选择长×大外二元去势公猪40头,体重(20.08±0.76)kg,随机分为5组进行生长试验与屠宰测定,研究毕节地区优势饲料资源紫花苜蓿与特色饲料资源苦荞对生长肥育猪生产性能的影响。结果表明:20~50kg、50~80kg、80~110kg体重段相应按日粮干物质的3.11%、4.58%、6.74%添加紫花苜蓿鲜草(按20%干物质估算),平均日增重(ADG)、料量比(F/G)与基础日粮组相近,反映肉质风味的肌内脂肪含量提高。20~50kg体重段添加苦荞9.24%(苦荞比例的2/3取代基础日粮中的玉米,1/3取代基础日粮中的麦麸,下同)、50kg以上添加苦荞12%处理,与其他组相比,ADG、F/G均最佳,眼肌面积最高达65.66cm2,其肉色、大理石纹评分均提高,肌内脂肪含量高于紫花苜蓿组。结论:添加紫花苜蓿、苦荞对屠宰性能的影响不明显;生长育肥猪日粮中适量添加紫花苜蓿、苦荞,可获得良好的增重效果并改善胴体品质。合理利用紫花苜蓿可有效降低饲养成本和开拓牧草利用新途径,苦荞可作为地方特色饲料资源用于优质猪肉的生产。 更多还原
【英文摘要】无
【语种】中文
【第一作者】顾丽群
【通讯作者】杨正德
【期刊名称、卷期、页码】贵州农业科学,2011,39(11):146-148
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【引文索引号】null
【学科分类】畜牧学

【题目】可乐×大约克生长肥育猪的能量代谢与沉积规律
【中文关键词】可乐×大约克内二元猪; 能量代谢; 维持需要; 生长需要
【英文关键词】"Kele × Yorkshire hybrid pig; energy metabolism; maintenance requirement; growth requirement"
【中文摘要】为了制订《毕节高寒山区猪饲养标准》,丰富动物营养学内容,同时为高寒山区优质猪资源的开发利用和产业化发展提供科学依据,选择8周龄,体重(19.49±1.94)kg的毕节内二元(可乐×大约克)去势公猪19头,进行生长试验、消化试验和比较屠宰试验。结果表明,20~110kg体重段消化能(DE)转化为代谢能(ME)的效率为95.27%,维持的ME需要量为468kJ/W0.75,20~60kg、60~110kg体重段每增重1kg的ME需要分别为19.61MJ、30.69MJ,可乐×大约克生长肥育猪总能量需要模型:20~60kg体重段ME/(MJ/d)=0.468W0.75+19.61ADG,60~110kg体重段ME/(MJ/d)=0.468W0.75+30.69ADG。 更多还原
【英文摘要】无
【语种】中文
【第一作者】张慧君
【通讯作者】杨正德
【期刊名称、卷期、页码】贵州农业科学,2011,39(9):130-133
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【引文索引号】null
【学科分类】畜牧学

【题目】可乐×大约克后备母猪能量代谢与沉积规律
【中文关键词】后备母猪; 能量代谢; 生长需要; 维持需要
【英文关键词】prepubertal g ilts; ener gy metabolism; growth r equirement ; maintenance requirement
【中文摘要】为给毕节地区内二元后备母猪的科学养殖和制订《毕节高寒山区猪饲养标准》提供技术参数,选用8周龄、体重(18.89±0.61)kg的毕节内二元(可乐×大约克)健康后备母猪19头,进行生长试验和比较屠宰试验。结果表明,20~100 kg体重段消化能(DE)转化为代谢能(ME)的效率为94.82%,维持的代谢能(ME)需要为466.89 kJ/W0.75;20~50 kg、50~100 kg体重段每增重1 kg的代谢能(ME)需要分别为18.80 MJ、28.21 MJ;可乐×大约克后备母猪的能量需要模型:为20~50 kg体重段ME/(MJ/d)=0.467W0.75+18.80ADG,50~100 kg体重段ME/(MJ/d)=0.467W0.75+28.21ADG。 更多还原

【英文摘要】无
【语种】中文
【第一作者】刘占俊
【通讯作者】杨正德
【期刊名称、卷期、页码】贵州农业科学,2011,39(8): 128-131
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【引文索引号】null
【学科分类】畜牧学

【题目】苜蓿、葛根、苦荞对生长肥育猪氨基酸沉积的营养调控
【中文关键词】饲料; 生长肥育猪; 氨基酸; 沉积
【英文关键词】feed; growing-finishing pigs; amino acids deposition
【中文摘要】为给毕节地区特色饲料资源的开发利用提供技术参数,选用8周龄、(19.37±1.59)kg的长白×大白毕节外二元型生长肥育猪51头,采用生长试验+比较屠宰试验,研究苜蓿、葛根、苦荞对20~110kg生长肥育猪氨基酸沉积的营养调控。结果表明:1)每千克自然增重的D-Lys需要量为(20.96-0.11BW)g;苜蓿、葛根、苦荞对氨基酸沉积的影响,对照组相比,20~50kg体重段未见明显影响,50~80kg体重段提高0.46%~14.88%,80~110kg体重段提高21.71%~33.05%。2)以D-Lys沉积量为100,毕节外二元型生长肥育猪可消化必需氨基酸需要量模型为Thr 58、Val 64、Met 27、Ile 51、Leu 95、Phe 56、His 41和Arg 91;苜蓿、葛根、苦荞对生长肥育猪氨基酸的沉积具有正调控作用。
【英文摘要】无
【语种】中文
【第一作者】宋希
【通讯作者】杨正德
【期刊名称、卷期、页码】贵州农业科学,2012,40(9):143-145, 148
【论文发表时间】2012-09-15 00:00:00
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【引文索引号】null
【学科分类】畜牧学

【题目】贵州地方猪品种雌激素受体基因内含子1多态性
【中文关键词】ESR基因; 多态性; SSCP; RFLP; 猪品种; 贵州
【英文关键词】Estrogen receptor gene; Polymorphism; SSCP; RFLP; Pig breeds; Guizhou
【中文摘要】为了探索雌激素受体(estrogen receptor,ESR)基因与贵州地方猪品种繁殖性状之间的关系,采用SSCP和RFLP方法,以大约克、外三元杂交猪和梅山猪为对照,对贵州地方猪品种香猪、糯谷猪和柯乐猪ESR α 基因进行了多态性分析,共检测到AA、AB和BB 3种基因型,测序结果证实,B等位基因产生的原因是:121 bp扩增片段中第54和57位碱基均突变为C,获得了1个Pvu Ⅱ酶切位点,使AA基因型多出一条带;A等位基因在国外猪品种中占优势,国内猪品种以B等位基因为主,香猪的BB基因型频率最高(79.4%),糯谷猪和柯乐猪均较低(30%、29.8%)。说明贵州地方猪品种的杂合度较高,应加强选育,B等位基因可能与低繁殖率相关。
【英文摘要】无
【语种】中文
【第一作者】冉雪琴
【通讯作者】王嘉福
【期刊名称、卷期、页码】山地农业生物学报,2009,28(3):230-234
【论文发表时间】2009-06-30 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】畜牧、兽医科学基础学科

【题目】不同饲料组合对高寒山区杂交猪育肥及屠宰性能的影响

【中文关键词】苦荞; 苜蓿; 葛根; 育肥性能; 屠宰测定; 肉质品质
【英文关键词】F.tataricum; Medicago sativa; Radix Puerariae Lobatae; Fattening Performances; slaughtered Performances
【中文摘要】选取大白猪(加×美)二元杂种猪32头,仔猪3~4周龄断奶,保育到8周龄。随机分为Ⅰ、Ⅱ、Ⅲ、Ⅵ组,分别饲喂基础日粮、基础日粮+12%苦荞、基础日粮+3%苜蓿、基础日粮+6%苜蓿+1%葛根,试验期内在同一条件下进行饲养试验对其育肥性能、屠宰测定及肉质品质进行测定。试验结果表明:12%苦荞能有效提高外二元猪育肥效果,提高饲料报酬,有助于提高猪的瘦肉率,显著提高猪肉间脂肪沉积;3%的苜蓿能提高猪育肥效果,节省饲料成本,对猪的背膘厚和皮厚略有降低作用,但会降低猪肉的脂肪沉积水平;添加1%葛根有助于提高生猪对饲料中营养物质的吸收与利用。 更多还原
【英文摘要】无
【语种】中文
【第一作者】钱龙
【通讯作者】林家栋
【期刊名称、卷期、页码】贵州畜牧兽医,2012,35(2):9-12
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【引文索引类型】其他
【引文索引号】null
【学科分类】畜牧学

【题目】紫花苜蓿对高寒山区杂交猪育肥性能的影响
【中文关键词】苜蓿; 杂交猪; 育肥性能; 屠宰测定; 肉质品质
【英文关键词】Medicago sativa; Hybrid Pig; Fattening Performances; Slaughtered Performances
【中文摘要】试验选择大白猪(加×美)二元杂种猪24头(仔猪3~4周龄断奶,保育到8周龄),随机分为对照组、苜蓿Ⅰ组和苜蓿Ⅱ组,每组8头,分别饲喂基础日粮、基础日粮+3%苜蓿、基础日粮+6%苜蓿,试验期内在同一条件下进行饲养试验对其育肥性能、屠宰测定及肉质品质进行测定。试验结果表明:苜蓿Ⅰ组能够提高外二元猪育肥效果,苜蓿Ⅰ组和苜蓿Ⅱ组对背膘厚和皮厚也略有降低,添加3%和6%的苜蓿对其他屠宰性能及肉质品质影响不显著(P>0.05)。由试验结果得出,在毕节高寒地区可以利用添加3%苜蓿比例的饲料对外二元杂交猪进行育肥。 更多还原
【英文摘要】无
【语种】中文
【第一作者】钱龙
【通讯作者】林家栋
【期刊名称、卷期、页码】贵州畜牧兽医,2012,35(1):4-7
【论文发表时间】2012-02-28 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】畜牧学

【题目】苦荞对高寒山区杂交猪育肥及屠宰性能的影响
【中文关键词】苦荞; 杂交猪; 育肥性能; 屠宰测定
【英文关键词】F.tataricum; Hybrid Pig; Fattening Performance; Slaughter Performance
【中文摘要】为研究12%、24%苦荞代替育肥猪日粮中部分玉米和麸皮对猪育肥及屠宰性能的影响,试验选取体重20 kg左右健康大白猪(加×美)二元杂种猪仔猪24头(3~4周龄断奶,保育到8周龄)随机分为3组,即对照组、苦荞Ⅰ组和苦荞Ⅱ组,每组8头。试验结果表明,12%苦荞组能提高外二元猪育肥效果,且对眼肌面积与大理石纹指标也有提高,与对照组相比差异显著(P<0.05);24%苦荞组会降低外二元猪育肥效果与肉质品质。
【英文摘要】无
【语种】中文
【第一作者】钱龙
【通讯作者】林家栋
【期刊名称、卷期、页码】贵州畜牧兽医,2011,35(6):5-7
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【引文索引类型】其他

【引文索引号】null
【学科分类】畜牧学

【题目】Glutathione Fermentation Process Modeling Based on CCTSK Fuzzy Neural Network
【中文关键词】谷胱甘肽,模糊神经网络, 鲁棒性, 正交试验
【英文关键词】Glutathione,CCTSK fuzzy neural network, robustness, orthogonal experiment
【中文摘要】作为一个重要的智能建模方法,BP神经网络可以有效地用于谷胱甘肽发酵过程建模。然而,它通常缺乏更好的解释和它的性能。为了解决这些弊端,运用CCTSK模糊神经网络对谷胱甘肽发酵过程进行建模,并与BP 神经网络进行对比。实验证明:CCTSK模糊神经网络具有更高的可解释性和良好的鲁棒性。
【英文摘要】As one of the important intelligent modeling methods, BP neural network can be effectively used for GSH fermentation process modeling. However, it usually lacks the nicer interpretation and its performance is often deteriorated by noise existing in the sample data. In order to circumvent theses weaknesses, a robust and interpretable syllogistic-fuzzy-inference based modeling method, called CCTSK (Cascade Centralized TSK)fuzzy neural network, is introduced for GSH fermentation process modeling. Present experimental results demonstrate that the proposed method really has better robustness compared with the traditional BP neural network.
【语种】英文
【第一作者】谭左平
【通讯作者】王士同
【期刊名称、卷期、页码】Biotechnology 7(1): 73-79
【论文发表时间】2008-10-03 00:00:00
【引文索引类型】SCI
【引文索引号】ISSN 1682-296X
【学科分类】生物化学工程

【题目】Autoregressive-model Based Dynamic Fuzzy Clustering for Time-course Gene Expression Data
【中文关键词】自回归模型,模糊聚类,基因表达的时间过程,动态模糊聚类,自关系
【英文关键词】Autoregressive model, fuzzy clustering; time-course gene expression, dynamic fuzzy clustering, self- relationship
【中文摘要】在这项研究中,一种新的称为动态模糊聚类(DFC)算法被聚类时间基因表达数据。该方法结合自回归(AR)模型和传统的模糊聚类算法(FCM)。在这种方式下,一个时间过程的基因表达数据进行分析,为一组动态的时间序列AR模型,以更有效地利用的重要动态信息和AR模型的预测过程中,可以使用相应的模糊隶属度,调整可以得到更好的聚类结果。在一个合成和两个真实情况下的基因表达数据集同样表明和其他一些传统的聚类算法如FCM和简单的动态模型为基础的聚类算法相比,这种方法能够更有效。
【英文摘要】In this study, a novel algorithm called Dynamic Fuzzy Clustering (DFC) is proposed for clustering time-course gene expression data. The proposed method combines Autoregressive (AR) model and conventional Fuzzy Clustering Algorithm (FCM). Under this approach, a time-course gene expression data can be analyzed as a set of dynamic time series with AR model in order to utilize the important dynamic information more efficiently and the forecast process in AR model can be adjusted using the corresponding fuzzy membership such that better clustering results can be obtained. Experiments performed on a synthietic and two real-world time-course gene expression datasets also indicates that this proposed approach can be more effective than some other conventional clustering algorithms such as FCM and simple dynamic model-based clustering algorithm
【语种】英文
【第一作者】Xu Honglin
【通讯作者】Wang Shitong
【期刊名称、卷期、页码】Biotechnology. 2008. 7 (1): 59-65
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【引文索引号】ISSN 1682-296X
【学科分类】生物化学工程

【题目】Optimization of amino acids addition for efficient production of glutathione in Candida utilis

【中文关键词】氨基酸,谷胱甘肽,假丝酵母,优化发酵,葡萄糖
【英文关键词】Amino acids,Glutathione (GSH),Candida utilis,Optimization Fermentation,Glucose
【中文摘要】还原型谷胱甘肽(GSH)合成的前体氨基酸此外战略进行了优化,在这项研究中。 半胱氨酸和甘氨酸的加入显示出显着的对谷胱甘肽(GSH)的积累。半胱氨酸增加 胞内GSH含量很大,但抑制细胞的生长,在相同的时间。一个两步骤的氨基酸 此外strategywas。首先,在4 h的6个mmol / L的glycinewas附加,谷氨酸的混合物, 甘氨酸和半胱氨酸溶液中加入在固定相的细胞生长在12 h。的最佳浓度 三个氨基酸(谷氨酸,6 mmol / L的甘氨酸,5.5 mmol / L的半胱氨酸,6.5毫摩尔/升),通过以下方式获得 响应面法。 随着两个步骤加法策略,生物量和GSH产量达到11.65克/ L和241.4 mg / L的烧瓶 实验中,增加了10.5%和69.5%,分别与对照相比,无氨基酸 酸加成。 通过应用这种氨基酸添加策略在7 L发酵罐),谷胱甘肽过氧化物酶(GSH产量进一步分批发酵 达到383.3毫克/升,这是比对照高出78.1%。
【英文摘要】Strategy of precursor amino acids addition for glutathione (GSH) synthesis was optimized in this study.The addition of cysteine and glycine showed a significant effect on GSH accumulation. Cysteine increasedintracellular GSH content greatly but inhibited cell growth at the same time. A two-step amino acidsaddition strategywas developed. First, 6 mmol/L glycinewas added at 4 h, and a mixture of glutamic acid,glycine and cysteine was added at 12 h at stationary phase of cell growth. The optimum concentrations ofthree amino acids (glutamic acid, 6 mmol/L; glycine, 5.5 mmol/L; cysteine, 6.5 mmol/L) were obtained byresponse surface methodology.With the two-step addition strategy, biomass and GSH yield reached 11.65 g/L and 241.4 mg/L in flaskexperiments, increased by 10.5% and 69.5%, respectively, as compared with the control without aminoacids addition.By applying this amino acid addition strategy further to batch fermentation in 7 L fermentor, GSH yieldreaches 383.3 mg/L, which is 78.1% higher than the control.
【语种】英文
【第一作者】Liang Guobin
【通讯作者】Du Guocheng
【期刊名称、卷期、页码】Biochemical Engineering Journal,41 (2008) 234 – 240
【论文发表时间】2008-04-28 00:00:00
【引文索引类型】SCI
【引文索引号】ISSN: 1369-703X
【学科分类】生物化学工程

【题目】A novel strategy of enhanced glutathione production in high cell density
【中文关键词】产朊假丝酵母谷胱甘肽(GSH),高密度培养;半胱氨酸此外,溶解氧(DO)
【英文关键词】Candida utilis; Glutathione (GSH); High cell density cultivation; Cysteine addition; Dissolved oxygen (DO)
【中文摘要】对高细胞密度发酵中溶解氧(DO)的浓度对谷胱甘肽(GSH)的生产和半胱氨酸氧化 产朊假丝酵母的培养的影响进行了调查。 低溶氧利于半胱氨酸的吸收但阻碍的谷胱甘肽的合成了。 高溶氧促进谷胱甘肽的积累,但加速的半胱氨酸氧化发酵液中。一个两步骤的控制策略开发的潜力,提高GSH相比, 生产和半胱氨酸的吸收。通过使用两个步骤的,DO控制策略,减少了40%半胱氨酸此外,13%的增加GSH 生产相比,观察到与在恒定溶氧 40%。
【英文摘要】Effects of dissolved oxygen (DO) concentration on glutathione (GSH) production and cysteine oxidation were investigated in high cell densitycultivation of Candida utilis. LowerDOconcentration favors cysteine absorption but retards GSHproduction. HigherDOpromotes GSHproductionbut accelerates cysteine oxidation in the broth. A two-step DO control strategy was developed and compared for the potential in enhancing GSHproduction and cysteine absorption. By using the two-step DO control strategy, a 40% decrease in cysteine addition and a 13% increase in GSHproduction are observed as compared with that at constant DO of 40%.
【语种】英文
【第一作者】Liang Guobin
【通讯作者】堵国成
【期刊名称、卷期、页码】Enzyme and Microbial Technology 42 (2008) 284 – 289
【论文发表时间】2007-10-09 00:00:00
【引文索引类型】SCI
【引文索引号】ISSN: 0141-0229
【学科分类】生物化学工程

【题目】Expression profile of early responsive genes under salt stress in upland cotton (Gossypium hirsutum L.)

【中文关键词】Expression profile of early responsive genes under salt stress in upland cotton (Gossypium hirsutum L.)
【英文关键词】Expression profile of early responsive genes under salt stress in upland cotton (Gossypium hirsutum L.)
【中文摘要】Expression profile of early responsive genes under salt stress in upland cotton (Gossypium hirsutum L.)
【英文摘要】Expression profile of early responsive genes under salt stress in upland cotton (Gossypium hirsutum L.)
【语种】英文
【第一作者】Xi Zhang
【通讯作者】华金平
【期刊名称、卷期、页码】Plant Molecular Biology Reporter,20101109, accepted for publication
【论文发表时间】2010-11-09 00:00:00
【引文索引类型】SCI
【引文索引号】Plant Molecular Biology Reporter
【学科分类】农业基础学科

【题目】Functional expression of LZ-8, a fungal immunomodulatory protein from Ganoderma lucidum in Pichia pastoris,
【中文关键词】灵芝;免疫调节蛋白;LZ-8;功能表达
【英文关键词】express; immunomodulatory activity; LZ-8 protein; Pichia pastoris
【中文摘要】LZ-8蛋白是从灵芝菌丝中分离到的真菌免疫调节蛋白,具有多种免疫调节功能,然而这一蛋白的作用机制尚不清楚。
【英文摘要】LZ-8, a fungal immunomodulatory protein found in Ganoderma lucidium, has been proposed to have therapeutic effects on cancer and autoimmune diseases. To develop an efficient and facile expression system supplying of rLZ-8 of high purity and stable activity for further study and applications, a full-length cDNA of lz8 gene was cloned into the pPIC9K to construct a yeast expression vector pPIC9K-lz8, then transformed to Pichia pastoris strain GS115. The molecular weight of the rLZ-8 was about 17 kDa. The yield of rLZ-8 reached up to 270 mg L(-1) at optimal culture conditions. In vitro, the rLZ-8 was capable of hemagglutinating mouse red blood cells, but no such activity was observed toward human red blood cells, which were similar to the native LZ-8. The mouse splenocyte proliferation activity of rLZ-8 expressed in P. pastoris was much higher than the rLZ-8 expressed in E. coli. All these results suggested that the active rLZ-8 protein can be expressed efficiently in the P. pastoris expression system. This report may supply a new economic and convenient way for the application of LZ-8 protein.
【语种】英文
【第一作者】薛芹
【通讯作者】赵明文
【期刊名称、卷期、页码】Journal of General and Applied Microbiology 2008, 54(6), 385-392
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【引文索引类型】SCI
【引文索引号】2.6334110001e+011
【学科分类】分子生物学

【题目】Effect of polysaccharide from Auricularia auricula on blood lipid metabolism and lipoprotein lipase activity of ICR mice fed a cholesterol-enriched diet
【中文关键词】木耳多糖;血脂代谢;脂蛋白酶;胆固醇
【英文关键词】polysaccharide;Auricularia auricula ;lipoprotein lipase
【中文摘要】无
【英文摘要】Polysaccharides from Auricularia auricula (AAP) extracted in hot water and precipitated by ethanol were chemically well defined, including 42.5% total carbohydrate, 19.6% uronic acids, 15.8% sulfate groups, 1.7% N, and 20.3% ash. Gas chromatography analysis demonstrated that the neutral sugars were mainly composed of rhamnose, xylose, and glucose and smaller amounts of mannose, galactose, and arabinose. The present study was designed to investigate the antioxidant capacity of AAP on blood lipid metabolism and lipoprotein lipase (LPL) activity in ICR mice fed cholesterol-enriched diet (CED) for the 1st time. Furthermore, the relationship between the atherosclerotic index (AI) and LPL activity to total antioxidant capacity (TAC) was studied. Thirty-six ICR mice were randomly assigned to 3 groups (n=12). The mice in control group (NG) received regular diet and the mice in model group (MG) received CED; these 2 groups were provided with distilled water by oral gavage. The experimental group (EG) was fed CED with oral gavage of AAP (120 mg/kg/d body weight) for an 8-wk period. After 2, 4, 6, and 8 wk, total cholesterol (TC), high-density

lipoprotein cholesterol (HDL-C), low-density lipoprotein cholesterol (LDL-C), and triglyceride (TG) levels of the serum were determined by enzymatic methods. The results indicated that the polysaccharides significantly lowered the concentrations of serum TC and LDL-C compared with the CED control group (P<0.05). Moreover, oral administration of polysaccharides significantly improved TAC, LPL activity, and decreased MDA level, as well as AI. These conclusions revealed the beneficial effects ofAAP on the preventive actions against hypercholesterolemia.

【语种】英文
【第一作者】陈钢
【通讯作者】陈钢
【期刊名称、卷期、页码】Food Science,2008,73(6):103-108
【论文发表时间】2008-08-15 00:00:00
【引文索引类型】SCI
【引文索引号】2.5861880006e+011
【学科分类】药效学

【题目】响应曲面优化超声波提取灵芝多糖工艺研究
【中文关键词】灵芝多糖;响应面;超声提取
【英文关键词】Ganoderma lucidum polysaccharides; response surface methodology; ultrasonic extraction
【中文摘要】采用响应曲面法对影响灵芝多糖提取得率的3个主要影响因素即超声功率、超声时间和水料比进行优化。利用Design Expert软件分析表明:灵芝多糖提取在超声功率680W、超声时间17min、水料比28:1的最佳工艺条件下,得率达(20.79±0.11)mg/g,实测结果与响应面拟和所得方程的预测值符合良好。
【英文摘要】Three key factors affecting the extraction yield of Ganoderma lucidum polysaccharides such as ultrasonic power, ultrasonic extraction time and ratio of water to solid were optimized by response surface methodology. Design Expert analysis indicated that the best ultrasonic power, ultrasonic extraction time and the ratio of water to solid were 680 W, 17 min and 28:1, respectively. Under these conditions, the yield of polysaccharide was (20.79 ± 0.11) mg/g, which was consistent with the predicted value..
【语种】中文
【第一作者】董艳红
【通讯作者】赵立艳
【期刊名称、卷期、页码】食品科学, 2009, 30(16): 98-101
【论文发表时间】2009-08-30 00:00:00
【引文索引类型】其他
【引文索引号】1002-6630(2009)16-0098-04
【学科分类】食品加工技术

【题目】Application of Box-Behnken design in optimisation for polysaccharides extraction from cultured mycelium of Cordyceps sinensis
【中文关键词】虫草多糖;相关性分析;提取
【英文关键词】Cordyceps sinensis; Polysaccharides; Box-Behnken design; Canonical analysis; Ridge analysis
【中文摘要】无
【英文摘要】AbstractA three-level Box-Behnken design, combined with the canonical and ridge analyses, was employed to optimise the process parameters for polysaccharide extraction from cultured mycelium of Cordyceps sinensis, one of the most valued traditional Chinese medicines and health foods. The critical factors selected for the investigation were extraction temperature, duration of time and number of times. The experimental results were fitted with a second-order polynomial equation by a multiple regression analysis and more than 96% of the variation could be predicted by the models. The canonical analysis of surface responses revealed that the three eigenvalues had different signs, indicating a saddle stationary surface. The optimal conditions for extraction of polysaccharides from the cultured mycelium of C. sinensis were determined, using the ridge analysis, as extracting 110 min at 88.9 ° C for three times. Under the optimal conditions the corresponding response value predicted for polysaccharide production was 15.85%, which was confirmed by validation experiments.
【语种】英文
【第一作者】董彩虹

【通讯作者】姚一健
【期刊名称、卷期、页码】Food and Bioproducts Processing 87(2): 139-144.
【论文发表时间】2008-12-01 00:00:00
【引文索引类型】SCI
【引文索引号】2.6753390001e+011
【学科分类】食品科学技术基础学科

【题目】食用菌呈味物质研究进展
【中文关键词】食用菌;呈味物质;研究进展
【英文关键词】edible fungus;tasty nucleotides; research progress
【中文摘要】食用菌营养丰富,味道鲜美,具有独特的风味(包括香味和滋味),利用食用菌风味物质开发天然调味料是食用菌深加工的重要方向。对食用菌的呈鲜味物质氨基酸、核苷酸和呈香味成分的研究状况以及食用菌调味品的开发现状和发展趋势进行了综述。
【英文摘要】Because of its nourishment and peculiar flavor, that utilizing flavor substance in edible fungus to making natral condiments is the important processing aspects, In this paper, advances in the studies on the flavor amine acids and nucleotides, volatile components in edible fungus and its condiments were reviewed.
【语种】中文
【第一作者】王小红
【通讯作者】赵伯涛
【期刊名称、卷期、页码】中国野生植物资源,2009,28(1):5-8
【论文发表时间】2009-02-25 00:00:00
【引文索引类型】其他
【引文索引号】1006-9690(2009)01-0005-04
【学科分类】食品科学技术基础学科

【题目】Dietary intervention with AHP, a functional formula diet, improves both serum and hepatic lipids profile in dyslipidemia mice.
【中文关键词】饮食干预;功能性配方;降血脂
【英文关键词】Dietary intervention;functional formula diet;serum ;hepatic lipids
【中文摘要】无
【英文摘要】Aurricularia aurricula, hawthorn (Crataegus pinnatifida), and Pueraria radix are well known for both traditional food and folk medicine. Each of the above 3 plants possesses a distinct pathway contributing to treat dyslipidemia. To develop a health-promoting diet against dyslipidemia, the polysaccharides from A. aurricula, polyphenol from hawthorn, and P. radix were combined to postulate as a functional formula diet (AHP) in the present study and its pharmaceutical effects and underlying mechanisms were elucidated in vivo. The dyslipidemia model associated with fatty liver was induced by cholesterol-enriched diet (CED) for up to 12 wk in male ICR mice. Mice were randomly divided into 5 groups, that is, regular diet (RD), CED, Xuezhikang treatment (positive control group, PG), low and high (150 or 450 mg/kg/d) of AHP treatment groups. Compared with the CED group, AHP groups maintained lipid profiles through lowering serum total cholesterol (TC) and low-density lipoprotein-cholesterol (LDL-C), inhibiting the accumulation of hepatic TC and triglyceride (TG). AHP could also improve both serum and hepatic biochemical activity profiles including antioxidant status, serum nitric oxide (NO), and hepatic 3-hydroxy-3-methylglutary CoA (HMG-CoA) reductase levels. Hepatic histopathological examinations showed markedly decreased fatty deposits in the liver of AHP-treated mice, illustrating the ability to reverse a condition of fatty liver. Our study indicated that this functional formula diet would be a potent alternative as a health-promoting diet, simultaneously targeting on the complexity and redundancy of dyslipidemia.
【语种】英文
【第一作者】罗阳超
【通讯作者】籍保平
【期刊名称、卷期、页码】J Food Sci,2009,74(6):189-195
【论文发表时间】2009-08-01 00:00:00
【引文索引类型】SCI

【引文索引号】2.6863440003e+011
【学科分类】药理学

【题目】黑木耳多糖抑制平滑肌细胞增生的研究
【中文关键词】黑木耳多糖;平滑肌细胞;动脉粥样硬化
【英文关键词】Black fungus polysaccharides; smooth muscle cells; atherosclerosis
【中文摘要】通过兔胸血管平滑肌细胞(vascular smooth muscle cell,VSMC)的体外细胞培养模型,研究黑木耳多糖对VSMC增生及其NO生成能力的影响。研究结果显示:黑木耳多糖具有抑制血管平滑肌细胞的异常增殖和提高NO生成量的作用,其作用机制可能与其预防动脉粥样硬化的功能有关。
【英文摘要】The effects of Auricularia auricular polysaccharide (AAP) on in vitro proliferation and NO level of rabbit thoracic artery vascular smooth muscle cells (VSMC) were studied. Our results indicate that AAP is able to significantly inhibit the proliferation of VSMC induced by ox-LDL and elevate the NO level. The functional mechanism may be related to the prevention of atherosclerosis
【语种】中文
【第一作者】陈钢
【通讯作者】陈钢
【期刊名称、卷期、页码】食品科学,2009,17: 282-284.
【论文发表时间】2009-09-15 00:00:00
【引文索引类型】其他
【引文索引号】1002-6630(2009)17-0282-03
【学科分类】药效学

【题目】Adulteration identification of some fungal polysaccharides with SEM, XRD, IR and optical rotation: A primary approach
【中文关键词】扫描电镜;X射线衍射;红外光谱;菌多糖;鉴别
【英文关键词】Adulteration identification ;fungal polysaccharides ;SEM, XRD, IR
【中文摘要】无
【英文摘要】..Edible mushrooms have been consumed in Asian countries for healthy functions historically with polysaccharides, which have been manufactured as ending products, as one of the major bioactive components. Driven by profits, some inglorious manufacturers conducted adulteration using cheap carbohydrates. The extracted polysaccharides from Agaricus blazei Murill, Ganoderma lucidum and Lentinus edodes were chosen as products and maltodextrin, carboxymethyl cellulose (CMC), water soluble corn starch and guar gum as adulterants for adulteration investigation. Scanning electron microscope (SEM) observation implied regular granular shapes of fungal polysaccharides different significantly from the adulterants. Infrared spectra revealed alpha- and beta-anomeric types of polysaccharides and carbohydrates. X-ray diffractometry (XRD) suggested different diffraction patterns of polysaccharides from adulterant carbohydrates, the former were amorphous while the later somewhat crystalline of different crystallinity. Chiral properties of polysaccharides and carbohydrates showed big differences in specific rotation with good correlation between the content of "pure" fungal polysaccharides and adulterants.
【语种】英文
【第一作者】钱建亚
【通讯作者】钱建亚
【期刊名称、卷期、页码】Carbohydrate Polymers 78 (2009) 620-625
【论文发表时间】2009-10-20 00:00:00
【引文索引类型】SCI
【引文索引号】2.6999180004e+011
【学科分类】食品科学技术基础学科

【题目】真菌多糖提取液脱色方法的比较研究
【中文关键词】菌类多糖;脱色;离子交换树脂;活性炭
【英文关键词】myeetes; polysaccharide; decolouratio; ion-exchange resin; active carbon
【中文摘要】本文使用4种离子交换树脂和4种活性炭对灵芝、云芝多糖提取液进行了脱色效果的比较试验。结果表明,弱碱性交换树脂更有利于灵芝、云芝多糖提取液的脱色处理,离子交换树脂D314(游离胺型,质量全交换容量≥7.0mmol/g)和活性炭4(粉状,200目通过〉95%,碘值≥850mg/g)具有较好的脱色效果,其脱色率均达到78.8%以上,为同类物质中最高。

【英文摘要】In this study, 4 kinds of ion-exchange resin and 4 kinds of active carbon were used for the decolouratio effect for myeetes polysaccharide. The results showed that the weak alkali ion-exchange resins were more suitable to the decolouratio of myeetes polysaccharide. And theion-exchange resin 4 and the active carbon 4 showed the best decoloouratio effects, with the decolouratio yield of more than 78.8%
【语种】中文
【第一作者】莫树平
【通讯作者】吴清平
【期刊名称、卷期、页码】现代食品科技,2009,25(12)1462-1463,1461
【论文发表时间】2009-12-30 00:00:00
【引文索引类型】其他
【引文索引号】1673-9078(2009)12-1462-03
【学科分类】食品加工技术

【题目】Evaluation of antioxidative and hypolipidemic properties of a novel functional diet formulation of Auricularia auricula and Hawthorn
【中文关键词】黑木耳;山楂;功能性配方;低密度脂蛋白氧化;血脂;氧化应激
【英文关键词】Auricularia auricula; Hawthorn; Functional diet formulation; LDL oxidation; Hypolipidemic; Oxidative stress
【中文摘要】无
【英文摘要】Auricularia auricula and hawthorn are well known for both traditional food and folk medicine. To develop a novel healthy functional diet (FD), the formulation of A. auricula polysaccharide (AAP) and hawthorn flavones were postulated in present study. In vitro, FD significantly increased the radical-scavenging effects and inhibited LDL oxidation, compared with AAP. In vivo, the hyperlipidemic mice, induced by cholesterol-enriched diet, were provided either 150, 300, 450 mg/kg day of FD or 300 mg/kg day of AAP for 12 weeks to evaluate their expected hypolipidemic activity. Compared with CED, both FD and AAP groups could lower serum TC and atherogenic index (AI), improve serum and hepatic antioxidant status. Especially, formulating with hawthorn could enhance hepatic antioxidant status in dose-dependent manner, compared with AAP. Thus, it can be concluded that FD may act as a potent hypolipidemic and powerful antioxidant formulation via improving serum lipid profile and inhibiting lipid peroxidation in mice.
【语种】英文
【第一作者】罗阳超
【通讯作者】籍保平
【期刊名称、卷期、页码】Innov Food Sci Emerg Technol, 2009, 10:215-221
【论文发表时间】2009-04-20 00:00:00
【引文索引类型】SCI
【引文索引号】2.6441740001e+011
【学科分类】食品加工技术

【题目】Methyl jasmonate induces Ganoderic acid biosynthesis in the Basidiomycetous Fungus Ganoderma lucidum,
【中文关键词】灵芝;茉莉酸甲酯;灵芝酸;诱导
【英文关键词】Ganoderma lucidum;Methyl jasmonate; induce;Ganoderic acid
【中文摘要】无
【英文摘要】This is the first time study to assess the novel use of methyl jasmonate (MeJA) to elicit ganoderic acid (GA) biosynthesis in Ganoderma lucidum and the resulting experiments demonstrated that MeJA was indeed a potent inducer of GA biosynthesis. To maximize GA synthesis, a statistical methodology called uniform design (UD) was used to optimize inducement conditions, which were determined to be 254 microM MeJA solubilized in Tween-20 that was added to the culture on day 6. The resulting GA yield was 4.52 mg/100mg dry weight (DW), which was 45.3% higher than the untreated control sample. To characterize the effect of MeJA on GA biosynthesis, quantitative real-time PCR was used to measure transcription levels of several genes in the synthesis pathway including hydroxy-3-methylglutaryl-Coenzyme A synthase (hmgs), hydroxy-3-methylglutaryl-Coenzyme A reductase (hmgr), mevalonate-5-pyrophosphate decarboxylase (mvd), farnesyl pyrophosphate synthase (fps), squalene synthase (sqs) and oxidosqualene cyclase (osc). Quantification of transcription levels determined that MeJA significantly induced expression of these genes.

【语种】英文
【第一作者】任昂
【通讯作者】赵明文
【期刊名称、卷期、页码】Bioresource Technology, 2010, 101:6785-6790
【论文发表时间】2010-09-15 00:00:00
【引文索引类型】SCI
【引文索引号】2.7888240003e+011
【学科分类】生物学其他学科

【题目】双孢蘑菇中核酸提取的研究
【中文关键词】双孢蘑菇;核酸;微波;定磷法
【英文关键词】Agaricus bisporus;nucleic acid;microwave;phoophate determination method
【中文摘要】通过对酶解法、热回流法、超声波和微波法提取双孢蘑菇中核酸效果进行了比较,结果表明微波法优于其它方法。最终,确立采用微波破壁提取双孢蘑菇中核酸。经单因素(时间、功率、NaCl%、pH)实验和正交实验,得最佳提取条件为:30min、300W、4%NaCl、pH为11。用定磷法测得双孢蘑菇核酸提取率为2.78%。
【英文摘要】Four methods of extracting nucleic acid from Agaricus bisporus by enzymatic, heat reflux, ultrasonic and microwave were compared there.Through the experiment it was found that microwave method is better to break Agaricus bisporus for extracting nucleic acid.So the microwave method was chosen in the end.By means of single factor (time, power, NaCl%, pH value) experiment and orthogonal test, it got the best extraction condition ;30 min, 300W,4% NaCI, pH value of 11. The nucleic acid content of Agaricus bisporus was 2.78% by phosphate determination method..
【语种】中文
【第一作者】王小红
【通讯作者】赵伯涛
【期刊名称、卷期、页码】食品工业科技2010,29(4):216-219
【论文发表时间】2011-04-01 00:00:00
【引文索引类型】其他
【引文索引号】1002-0306(2010)04-0216-04
【学科分类】食品加工技术

【题目】酶解法提取香菇水不溶性膳食纤维技术研究
【中文关键词】香菇;酶解;水不溶性膳食纤维
【英文关键词】The mushrooms; enzymolysis; water insoluble dietary fiber
【中文摘要】试验采用酶处理的方式提取香菇水不溶性膳食纤维,优化条件为:淀粉去除条件为pH6.0,温度55°C时,添加香菇浆0.4%的淀粉酶,酶解时间60min;蛋白质去除条件为在pH为7.0,温度50°C时,添加香菇浆0.4%中性蛋白酶,酶解时间90min。
【英文摘要】无
【语种】中文
【第一作者】葛邦国
【通讯作者】吴茂玉
【期刊名称、卷期、页码】食用菌;2010(3)64-66
【论文发表时间】2010-05-23 00:00:00
【引文索引类型】其他
【引文索引号】1000-8357(2010)03-0064-03
【学科分类】食品加工技术

【题目】Extraction, purification, characterization and antitumor activity of polysaccharides from Ganoderma lucidum
【中文关键词】灵芝多糖、纯化、抗肿瘤、特征
【英文关键词】Ganoderma lucidum polysaccharides; Purification; Characterization; Antitumor activity
【中文摘要】无

【英文摘要】Ultrasonic-aid extraction (UAE) was applied to the extraction of polysaccharides from Ganoderma lucidum and then the crude polysaccharides were purified by filtration, DEAE cellulose-52 chromatography and Sephadex G-100 size-exclusion chromatography in that order. Two main fractions, GP-1 and GP-2, were obtained through the extraction and purification steps. The characterizations, such as molecular weight, monosaccharides composition, ultraviolet spectrum and infrared spectrum of the two fractions were analyzed in this study. Furthermore, the influence of G. lucidum polysaccharides fractions upon activation of macrophage cell (RAW 264.7) and antitumor activities to the human breast cancer cell (MDA-MB-231) in vitro were evaluated by MTT (3-(4,5-dimethylthiazol-2-yl)-2,5-diphenyl tetrazolium bromide) assay. The results indicated that GP-1 and GP-2 can increase the proliferation and pinocytic activity of macrophage significantly and play an inhibited effect on the cancer cell, moreover, the antitumor activity of the GP-1 and GP-2 increased with the participation of the antitumor factors induced from macrophage by polysaccharides fractions.
【语种】英文
【第一作者】赵立艳
【通讯作者】赵立艳
【期刊名称、卷期、页码】Carbohydrate Polymers, 2010, 80, 783-789.
【论文发表时间】2010-05-15 00:00:00
【引文索引类型】SCI
【引文索引号】2.7698780002e+011
【学科分类】食品加工技术

【题目】双孢蘑菇中核苷酸的测定及酶解条件条件的研究
【中文关键词】高效液相色谱;核苷酸;双孢蘑菇;5′-磷酸二酯酶
【英文关键词】HPLC; nucleotides; Agaricus bisporus; 5'-phosphodicsterase
【中文摘要】通过对酶解法、热回流法、超声波和微波法提取双孢蘑菇中核酸效果进行了比较,结果表明微波法优于其它方法。最终,确立采用微波破壁提取双孢蘑菇中核酸。经单因素(时间、功率、NaCl%、pH)实验和正交实验,得最佳提取条件为:30min、300W、4%NaCl、pH为11。用定磷法测得双孢蘑菇核酸提取率为2.78%。
【英文摘要】Four methods of extracting nucleic acid from Agaricus bisporus by enzymatic, heat reflux, ultrasonic and microwave were compared there.Through the experiment it was found that microwave method is better to break Agaricus bisporus for extracting nucleic acid.So the microwave method was chosen in the end.By means of single factor (time, power, NaCl%, pH value) experiment and orthogonal test, it got the best extraction condition ;30 min, 300W,4% NaCI, pH value of 11. The nucleic acid content of Agaricus bisporus was 2.78% by phosphate determination method..
【语种】中文
【第一作者】王小红
【通讯作者】赵伯涛
【期刊名称、卷期、页码】食品工业科技,2010,29(9)171-174
【论文发表时间】2010-09-01 00:00:00
【引文索引类型】其他
【引文索引号】1002-0306(2010)09-0171-04
【学科分类】食品加工技术

【题目】灵芝多糖的提取及生理活性研究进展
【中文关键词】灵芝;多糖;生理活性
【英文关键词】Ganoderma lucidum; polysaccharide; biological activity
【中文摘要】综述了灵芝多糖的提取纯化方法,简要介绍灵芝多糖的在免疫调节、抗肿瘤、抗氧化和降血糖等方面的生理活性,并对灵芝多糖未来的研究、生产做出展望。
【英文摘要】Summ无ary the extraction and the purification of Polysaccharides from Ganoderma Lucidum, and introduce the important uses about immunoregulation, antitumor, antixidation and hypoglycemic of physiological activity of Polysaccharides from Ganoderma Lucidum simply. Prospect on research and production..
【语种】中文
【第一作者】于洪涛

【通讯作者】吴茂玉
【期刊名称、卷期、页码】食品研究与开发;2011,32(5):159-162
【论文发表时间】2011-05-30 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】食品加工技术

【题目】转基因抗虫陆地棉与优质品系杂交铃重、衣分的遗传及其F1杂种优势分析
【中文关键词】转基因抗虫陆地棉与优质品系杂交铃重、衣分的遗传及其F1杂种优势分析
【英文关键词】转基因抗虫陆地棉与优质品系杂交铃重、衣分的遗传及其F1杂种优势分析
【中文摘要】转基因抗虫陆地棉与优质品系杂交铃重、衣分的遗传及其F1杂种优势分析
【英文摘要】转基因抗虫陆地棉与优质品系杂交铃重、衣分的遗传及其F1杂种优势分析
【语种】中文
【第一作者】李俊文
【通讯作者】袁有禄
【期刊名称、卷期、页码】棉花学报,2010,22(2):163-168
【论文发表时间】2010-12-01 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农业基础学科

【题目】禾谷镰刀菌对多菌灵抗性的监测及其演变规律
【中文关键词】无
【英文关键词】无
【中文摘要】调查了江苏省1994—2007年小麦赤霉病的危害程度,监测了江苏省1985—2007年禾谷镰刀菌对多菌灵的田间抗性菌株频率,分析了禾谷镰刀菌对多菌灵的抗药性与小麦赤霉病发生程度及气象因子的相关。 结果表明:小麦赤霉病在江苏省的苏南江浦等县中发生以上的年份占30.8%,而在江苏北部赣榆、高邮等县,小麦赤霉病中发生以上的年份占7.7%~15.4%。 抗药性菌株频率的增减率与小麦赤霉病的发病程度、病情指数和小麦抽穗期4月中下旬的雨日呈极显著的相关关系。 研究表明在农业生产上多菌灵防治小麦赤霉病仍然具有使用价值。
【英文摘要】无
【语种】中文
【第一作者】张雁南
【通讯作者】周明国
【期刊名称、卷期、页码】禾谷镰刀菌对多菌灵抗性的监测及其演变规律. 农药, 2009, 48(8): 603-613.
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【引文索引号】null
【学科分类】植物保护学

【题目】高养分富集植物凤眼莲的农田利用研究
【中文关键词】养分富集植物;凤眼莲;农田利用;小麦;出苗率;生长;土壤速效养分
【英文关键词】Nutrient-accumulating plant,Hyacinth,Application in field,Wheat,Seedling emergence rate,Growth,Soil available nutrient
【中文摘要】研究不同凤眼莲施用量条件下土壤养分变化以及小麦生长情况的结果表明:当凤眼莲施用量低于8.1kg·m-2、小麦出苗数不受影响;但当凤眼蓬施用量超过8.1 kg·m-2时,小麦出苗率显著降低。凤眼莲施用量为13.5 kg·m-2时,尽管小麦出苗率显著降低,但由于具有较多的分蘖数和较高的每穗粒数,小麦最终产量与常规单施化肥处理间无显著差异。不同凤眼莲施用处理的土壤速效氮苗期差异显著,但分蘖期后处理间无显著差异:而速效磷和速效钾总体表现为随凤眼莲施用量增加而升高。此外,凤眼莲施用还可促进小麦茎秆对N、P、K的吸收和籽粒粗蛋白含量的增加。由此可见,凤眼莲是一种经济有效的农田有机肥料,其施用量以10.8~1 3.5 kg·m-2为宜,施用后土壤N、P、K、有机质含量较高,且对产量影响不大,当季还可节约施用化学N 141.75 kg·hm-2、P 36~45 kg·hm-2,K可免施。

【英文摘要】The effect of different application doses of hyacinth on the dynamic of soil available NPK,wheat seedling emergence rate,yield and its components were studied.The results show no obvious effect of hyacinth on wheat seedling emergence rate when applied at less than 8.1 kg • m-2.However,when it is applied at higher than 8.1 kg • m-2,wheat seedling emergence rate significantly decreases.Due to high tiller number and grain number per spike,treatment at 1 3.5 kg • hm-2 has no significant difference in grain yield from that of normal chemical fertilization treatment.There is also no significant difference in soil available N among the treatments during the entire growth period,except for the seedling stage,Soil available P and K increase with increasing dose of hyacinth.The findings suggest that hyacinth promotes both NPK absorption in stem and protein content in grain of wheat.Hence hyacinth is a potential high quality organic fertilizer.Its use increases soil NPK and organic matter content,while reducing the application of N by 141.75 kg • hm-2,P by 36~45 kg • hm-2,and K by 100%.Its optimum application dose is therefore in the range of 10.8~13.5kg • hm-2.
【语种】中文
【第一作者】盛婧
【通讯作者】盛婧
【期刊名称、卷期、页码】中国生态农业学报,2010,18(1):46-49
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【学科分类】农业基础学科

【题目】水葫芦富集水体养分及其农田施用研究
【中文关键词】水葫芦;富营养化水体;养分;有机肥;小麦
【英文关键词】Water hyacinth;Eutrophicated water;nutrient;Organic fertilizer;Wheat
【中文摘要】采用自然水体养殖及农田施用试验方法,对水葫芦(Eichhornia crassipes)的N、P、K吸收能力及其在农田施用效果进行了研究。结果表明,在研究试验条件下,水葫芦对N、P、K的富集系数分别达到N 6 641倍、P 16 667倍、K 6 560倍,42 d对N、P、K的吸收量可高达40.57、6.95和81.14 g • m-2。与常规施肥处理相比,施用水葫芦处理(等量的N、P投入)的土壤速效N除了苗期显著降低外,其他各时期无显著差异,而速效P和速效K从苗期开始一直表现为不同程度的升高,说明施用水葫芦可促进土壤速效P、K的增加。但要获得较高的产量水平,应适当增加前中期氮肥施用水平。采用水葫芦控制性种养既可实现养分在水体与农田间的循环,还可减少农田化肥的施用量和农业面源污染,是一种良性的循环模式。
【英文摘要】Water hyacinth(Eichhornia crassipes)has been widely used in recovery of eutrophicated waters.However,few studies have been focused on use of the harvested hyacinth and its integrated technologies.The objectives of this paper were to study hyacinth ’s ability to adsorb N P K and the effects of hyacinth as an organic fertilizer on wheat production.The results showed that hyacinth had high growth and N P K absorption rates in eutrophicated water.At our experimental conditions,hyacinth could absorb 40.57 g • m-2 N,6.95 g • m-2 P and 81.14 g • m-2 K from the water during a 42-day period.Compared with pure chemical fertilizer treatment,the combination of the hyacinth mulching and chemical fertilizer treatment did not cause significant difference in soil available N concentration,except that it caused a significant decrease at wheat seedling stage(56 days after the application of hyacinth mulching).The soil treated with combination of hyacinth mulching and chemical fertilizer showed higher available P and K concentrations during the entire growth period.Our results suggested that more chemical nitrogen should be applied at the early and middle stages of wheat growth to achieve high yield.The nutrient translocation from eutrophicated water to agricultural fields can be realized by controlled cultivation of hyacinth in eutrophicated water and its direct application as organic fertilizer in crop fields.This mode can also decrease amount of fertilizer applicated,thus reduce the non-point pollution and alleviate water eutrophication.
【语种】中文
【第一作者】盛婧
【通讯作者】郑建初
【期刊名称、卷期、页码】农业环境科学学报,2009,28(10):2119—2123
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【学科分类】农业基础学科

【题目】水葫芦去除不同富营养化水体中氮、磷能力的比较

【中文关键词】水葫芦;富营养化水体;氮;磷;去除率
【英文关键词】water hyacinth;eutrophic water;nitrogen;phosphorous;removal rate
【中文摘要】采用人工模拟试验方法,在20O7年l1月至20O8年10月期间比较研究了水葫芦(Eichhornia CraSSipes)对4种不同程度富营养化水体氮、磷的净化效果和去除能力。结果显示,水葫芦在4种富营养化水体中均可正常生长,全年的平均生物量增长率为0.096-0.262 kg/(m2·d),且明显受温度的影响。经过21 d的净化,水葫芦对4种富营养化水体氮、磷均表现出良好的净化效果。4种富营养化水体的TN(总氮)、NH4+-N(铵态氨)、TP(总磷)平均浓度分别由初始的2.06-20.08 mg/L、0.27~10.98 mg/L和0.14-1.43 mg/L降至0.27-8.87 L、0.06-0.71 mg/L和0.03-0.47 mg/L。水葫芦对TN的平均去除率随初始TN浓度的增加而降低,对TP的去除率则相反;水葫芦对4种不同程度富营养化水体的TN、NH4+-N、TP的平均去除率分别为55.82%-86.55%、78.15%-93.54%和76.01%-92.53%。水葫芦对TN、NH4-N、TP的单位面积负荷去除速率则均随水体初始氮、磷浓度的增加而升高,平均分别为84.69~533.70 mg/(m2·d)、12.94~478.70 mg/(m2·d)和5.01~63.06 mg/(m2·d)。
【英文摘要】From November in 2007 to October in 2008,the purification effect and removal ability of nitrogen and phosphorous from differently eutrophic water by water hyacinth were comparatively studied by simulation experiments.The results showed that water hyacinth were able to grow normally in four eutrophic water,in which biomass growth rate during experimental period was between 0.096 kg/(m2·d)and 0.262 kg/(m2·d).The water hyacinth displayed great ability to remove nitrogen and phosphorous from eutrophic water.After purification for 21 d,the average concentrations of TN,NH4+-N and TP in eutrophic water decreased from 2.06-20.08 mg/L, 0.27-10.98 mg/L and 0.14—1.43 mg/L to 0.27—8.87 mg/L,0.06—0.71 mg/L and 0.03—0.47 mg/L,respectively.The average removal rate of TN by water hyacinth droped with the increase of initial concentration of TN,while the average removal rate of TP increased with the increase of initial concentration of TP.The removal rates of TN.NH4+-N and TP by water hyacinth from four eutrophic water were 55.82%-86.55%,78.15%-93.54%,and 76.01%-92.53%,respectively.And the average load removal rates of TN,NH4+-N and TP by water hyacinth from four eutrophic water were 84.69-533.70 mg/(m2·d),12.94-478.70mg/(m2·d)and 5.01-63.06 mg/(m2·d),respectively,which increased with the increase of initial concentrations of nitrogen and phosphorous.
【语种】中文
【第一作者】张志勇
【通讯作者】严少华
【期刊名称、卷期、页码】江苏农业学报,2009,25(5):1039~1046
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【学科分类】农业基础学科

【题目】Transcriptome and Gene Expression Analysis of the Rice Leaf Folder, Cnaphalocrosis medinalis
【中文关键词】稻纵卷叶螟,转录组,基因表达
【英文关键词】Cnaphalocrosis medinalis,transcriptome,gene expression
【中文摘要】稻纵卷叶螟(鳞翅目:螟蛾科)是在亚洲水稻上的一种主要害虫。虽然在稻纵卷叶螟的生态学和生理学方面进行了较多的研究,但是对于它在发育调控、行为及抗药性等方面的分子机理还不清楚。目前,还没有稻纵卷叶螟的基因组信息,因此该害虫转录组表达研究能够帮助我们从分子水平上理解它的生物学功能。 我们用第二代测序技术(Illumina)进行了稻纵卷叶螟转录组测序,测出了2.3×107个短序列,经Trinity软件组装成44,941个基因,平均长474 bp。在NCBI蛋白质数据库中经过相似性比对发现有25,281(56.82%)个基因能与已知的蛋白质序列匹配。用基因本体论(GO)、蛋白质直系同源簇(COG)、京都基因与基因组百科全书直系同源(KO)进一步对这些基因进行注释。另外,我们用数字基因表达(DGE)系统分析了稻纵卷叶螟在发育过程中的基因表达谱。我们构建了5个DGE库,比较下列样本之间的基因表达差异:卵和3龄幼虫;3龄幼虫和蛹;蛹和成虫。研究结果显示在稻纵卷叶螟的不同发育阶段有数千个基因显著差异表达。许多差异表达基因进一步通过荧光定量PCR方法验证。稻纵卷叶螟转录组数据和数字基因表达数据提供了一个综合的、全面的基因表达谱信息,这将进一步促进我们对该虫不同生物学特征背后的分子机理的理解,这些生物学特征包括发育、高繁殖力、迁飞、性别分化、嗅觉行为及杀虫剂抗性等。这些结果能够帮助我们阐明稻纵卷叶螟为害水稻的内在机制,为该虫的可持续治理奠定基础。
【英文摘要】Background: The rice leaf folder (RLF), Cnaphalocrocis medinalis (Guenee) (Lepidoptera: Pyralidae), is one of the most destructive pests affecting rice in Asia. Although several studies have been performed on the ecological and physiological aspects of this species, the molecular mechanisms underlying its developmental regulation, behavior, and insecticide resistance remain largely unknown. Presently, there is a lack of genomic information for RLF; therefore, studies aimed at profiling the RLF transcriptome expression would provide a better understanding of its biological function at the molecular level.Principal Findings: De novo assembly of the RLF transcriptome was performed via the short read sequencing technology (Illumina). In a single run, we produced more than

23 million sequencing reads that were assembled into 44,941 unigenes (mean size = 474 bp) by Trinity. Through a similarity search, 25,281 (56.82%) unigenes matched known proteins in the NCBI Nr protein database. The transcriptome sequences were annotated with gene ontology (GO), cluster of orthologous groups of proteins (COG), and KEGG orthology (KO). Additionally, we profiled gene expression during RLF development using a tag-based digital gene expression (DGE) system. Five DGE libraries were constructed, and variations in gene expression were compared between collected samples: eggs vs. 3rd instar larvae, 3rd instar larvae vs. pupae, pupae vs. adults. The results demonstrated that thousands of genes were significantly differentially expressed during various developmental stages. A number of the differentially expressed genes were confirmed by quantitative real-time PCR (qRT-PCR). Conclusions: The RLF transcriptome and DGE data provide a comprehensive and global gene expression profile that would further promote our understanding of the molecular mechanisms underlying various biological characteristics, including development, elevated fecundity, flight, sex differentiation, olfactory behavior, and insecticide resistance in RLF. Therefore, these findings could help elucidate the intrinsic factors involved in the RLF-mediated destruction of rice and offer sustainable insect pest management.

【语种】英文

【第一作者】李尚伟

【通讯作者】金道超

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【学科分类】分子生物学

【题目】江苏地区凤眼莲叶片光合作用对光照度和温度的响应

【中文关键词】凤眼莲; 光合特性; 环境影响因子

【英文关键词】Eichhornia crassi es; photosynthetic characteristic; environmental influencing factor

【中文摘要】为太湖地区凤眼莲高产栽培技术提供技术支持, 以江苏地区人工围养生长的凤眼莲群落为研究对象,在8月份其旺盛生长季节, 采用L I 6400光合作用测定系统, 以开放式气路测定了其不同叶位的净光合速率, 以及功能叶片在不同光照度和温度时的光合曲线。结果发现, 倒3~ 倒6叶都是成熟的光合功能叶片, 其中倒4叶的最大光合速率(Pmax)、光补偿点(LCP) 和表观量子效率(AQE)分别为(34. 50±0.72) mmol/(m2 s)、(20.25±3.6) mmo l/(m2 s)和0.0532±0.0014,均显著高于水稻和玉米;凤眼莲光饱和点为(2458±69) mmol/(m2 s),也明显高于水稻,与玉米接近; 凤眼莲光饱和点为(2458±69) m mo l/(m2 s) , 也明显高于水稻, 与玉米接近。认为江苏地区光合有效辐射和大气温度是限制凤眼莲生物量的重要环境因子。

【英文摘要】Photosynthetic characteristics o fE ichhornia crassipes with artificial culture w ere monitored using LI-6400 portable photosynthesis system in Jiangsu Province in August, 2009. N et photosynthetic rate (Pn) in the leaves at different positions and Pn ’s response to light and temperature in the fourth leaf from top were measured in an open-circuit gas channel system. The third to sixth leaves from top w ere all mature leaves with high Pn. The values of the maximum net photosynthesis(Pmax), light component point(LCP) and apparent quantum efficiency (AQE) of the fourth leaf from top leaves in Eichhornia crassipes were (34.50±0. 72) mmo l/(m2 s), (20.25±3. 60) mm o l/(m2 s) and 0. 053 2±0. 0014, respectively, which were both higher significantly than those in r ice and maize. Moreover, light saturation point of the leaves in Eichhornia crassipes was 2 458±69 mm o l/(m2 s), which was significantly higher than tha t in r ice and close to that in maize. It came to a conclusion that air temperature and photosynthetic active radiation (PAR) in Jiangsu Province are important environmental factors restricting dry matter accumulation in Eichhornia crassipes.

【语种】中文

【第一作者】李霞

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【学科分类】农学其他学科

【题目】江苏省现代循环农业发展研究

【中文关键词】现代循环农业;发展模式;关键措施
【英文关键词】Modern circular agriculture;development model;key measure
【中文摘要】现代循环农业是通过现代技术的耦合,循环生产中工程与装备相配套,实现农业生产资源充分利用、生态效益和劳动生产率协同提高的农业模式。本文分析概括了在现代生产条件下循环农业的内涵,结合江苏省农业生产特点和农业发展需求,论述了江苏省发展现代循环农业的必要性,并在此基础上提出了4种现代循环农业发展模式和3大关键措施。
【英文摘要】Modern circular agriculture is an agricultural model to make full use of agricultural production resources,improve eco-efficiency and labor productivity.It is realized through coupling of modem technology,matching of engineering and equipment in circular production.In the article the connotation of circular agriculture under modem agricultural production is summarized.Based on the agricultural production characteristics and development requirement in the future,in this paper the needs to develop modern circulation agriculture in Jiangsu Province are discussed.Finally,four patterns of circular agriculture and relevant key measures in Jiangsu are put forward.
【语种】中文
【第一作者】郑建初
【通讯作者】郑建初
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【学科分类】农业基础学科

【题目】Oriental bamboo delphacid planthoppers: three new species of genus Kakuna
【中文关键词】蜡蝉总科,飞虱,竹子害虫,东洋区
【英文关键词】Fulgoroidea, planthopper, bamboo pests, Oriental region
【中文摘要】本文记述采自中国西南地区的东洋区竹子飞虱——飞虱长跗飞虱属3个新种,即李氏长跗飞虱(贵州:江口,绥阳,道真)、无刺长跗飞虱(贵州:江口,雷山)、中突长跗飞虱(贵州:雷山,绥阳,道真,荔波)。文中重新描述属的特征,并提供该属种类列表和检索表。
【英文摘要】Three new species of the Oriental bamboo delphacid planthopper genus Kakuna Matsumura (Hemiptera: Fulgoromorpha: Delphacidae: Delphacinae: Delphacini), K. lii sp. nov. (Guizhou: Jiangkou, Suiyang, Daozhen), K. nonspina sp. nov. (Guizhou: Jiangkou, Leishan) and K. zhongtuana sp. nov. (Guizhou: Leishan, Suiyang, Daozhen, Libo), are described and illustrated from southwestern China. The generic characteristics are redefined. A checklist and a key to species of genus Kakuna are provided.
【语种】英文
【第一作者】陈祥盛
【通讯作者】陈祥盛
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【学科分类】昆虫学

【题目】氯虫苯甲酰胺对黑肩绿盲蝽捕食作用的影响
【中文关键词】氯虫苯甲酰胺;黑肩绿盲蝽;捕食作用;功能反应;寻找效应
【英文关键词】chlorantraniliprole; Cyrtorhinus lividipennis (Reuter); predation; functional response; searching efficiency
【中文摘要】为协调褐飞虱Nilaparvata lugens (St å l) 的化学防治和生物防治提供参考,本文采用稻茎浸渍法研究了氯虫苯甲酰胺对黑肩绿盲蝽Cyrtorhinus lividipennis (Reuter) 捕食褐飞虱功能反应的影响。结果显示,在氯虫苯甲酰胺的推荐剂量下,黑肩绿盲蝽功能反应模型的结构没有改变,但影响到了模型的各项参数;在推荐剂量下氯虫苯甲酰胺可降低黑肩绿盲蝽的瞬时攻击率,黑肩绿盲蝽若虫的处理猎物时间比对照分别增加163.03%、104.21%和95.11%,成虫则分别增加81.97%、102.45%和99.52%;药剂处理后黑肩绿盲蝽日最大捕食量降低,其寻找效应也被减弱。研究表明氯虫苯甲酰胺对黑肩绿盲蝽捕食褐飞虱存在着不良影响。
【英文摘要】For providing a reference to coordination of chemical and biological control on Nilaparvata lugens (St å l), the effects of the chlorantraniliprole on the functional response of Cyrtorhinus lividipennis (Reuter) preying on N. lugens were studied with rice

stemdipping method. Results revealed that the functional response models of C. lividipennis preying on N. lugens were all still conformed to Holling ’s type Ⅱ curve in spite of pretreated with the labeled dose of chlorantraniliprole(LDC). However, the parameters in the models changed. The instantaneous attacking rate of C. lividipennis pretreated with the insecticide declined. The handling time extended by 163.03%、104.21% and 95.11% in the C. lividipennis nymph pretreated with LDC and 81.97%、102.45% and 99.52% in the C. lividipennis adults pretreated with LDC, respectively. The maximal predatory capacities of C. lividipennis pretreated with the insecticide reduced. The searching efficiency of C. lividipennis pretreated with LDC reduced than that of untreated predators. These results suggested that the chlorantraniliprole at labeled dose had harmful influence on the predation of C. lividipennis.

【语种】中文

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【学科分类】植物保护学

【题目】Enhanced glutathione production by using low-pH stress coupled with cysteine addition in treatment of high cell density culture of Candida utili

【中文关键词】假丝酵母,半胱氨酸添加,分批发髻

【英文关键词】Candida utilis, cysteine addition, fed-batch

【中文摘要】目的:研究在pH压力的情况下添加半胱氨酸对高密度培养假丝酵母生产谷胱甘肽(GSH)产量的影响。方法和结果:我们观察到,大部分假丝酵母细胞在胞外pH值在1-2 情况下维持3 h就会产生细胞内谷胱甘肽泄漏分泌到培养基中。一个半胱氨酸添加策略应用于生产谷胱甘肽分批发酵过程中。无pH压力情况下,单独添加半胱氨酸方法较两次调价半胱氨酸产生的谷胱甘肽浓度高。细胞内谷胱甘肽含量的增加对γ-谷胱甘肽合成酶(γ-GCS)产生抑制作用。一个策略相结合的半胱氨酸添加以及低pH值控制用来缓解胞内谷胱甘肽对γ-GCS酶的抑制作用。结论:没有pH压力情况下,单次添加以及两次添加半胱氨酸产生的谷胱甘肽分别为1423 mg/L和1325 mg/L。相比之下,在低pH值压力情况下产生的谷胱甘肽分别为1542 mg/L和1730 mg/L。在低pH压力情况下,谷胱甘肽分泌到培养基中的分别为673mg/L与1 558毫克同时增加γ-GCS酶活力分别为1.2倍和1.5倍,。特定的谷胱甘肽的生产收益率从1.76%上升到1.91%(w/w)(单次添加),由1.64%至2.14%(两次添加)。这项研究的意义和影响:低pH值压力应用到缓解反馈抑制细胞内谷胱甘肽在γ-GCS分泌谷胱甘肽的介质。这个策略是通过添加半胱氨酸提高假丝酵母生产谷胱甘肽。

【英文摘要】Aims: To investigate the effects of pH stress coupled with cysteine addition onglutathione (GSH) production in the treatment of high cell density culture ofCandida utilis.Methods and Results: We have previously observed that most Candida utiliscells remained viable after being subjected to pH at 1.2 for 3 h and that someintracellular GSH leaked into the medium. A cysteine addition strategy wasapplied in fed-batch production of GSH. A single cysteine addition resulted inhigher GSH yield than two separate additions without pH stress. An increasein intracellular GSH content triggered inhibition of γ-glutamylcysteine synthetase(γ-GCS). A strategy that combines cysteine addition with low-pH stresswas developed to relieve the inhibition of γ-GCS.Conclusion: Without pH stress, single shot and double shot cysteine additionyielded a total GSH of 1423 and 1325 mg l)1. In comparison, a low-pH stresscounterpart resulted in a total GSH of 1542 and 1730 mg l)1, respectively.With low-pH stress, we observed GSH secretion into the medium at 673 and558 mg l-1) and an increase in the γ-GCS activity by 1.2- and 1.5-fold, respectively.The specific GSH production yield increased from 1.76% to 1.91%(w / w) for single shot, and 1.64% to 2.14% for double shots.Significance and Impact of the Study: Low-pH shift was applied to alleviatethe feedback inhibition of intracellular GSH on γ-GCS activity by secretingGSH into the medium. This strategy is coupled with cysteine addition toenhance GSH production in Candida utilis.

【语种】英文

【第一作者】Liang Guobing

【通讯作者】Du Guocheng

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【学科分类】生物化学工程

【题目】Elevated glutathione production by adding precursor amino acids coupled with ATP in high cell density cultivation of Candida utilis

【中文关键词】三磷酸腺苷添加,假丝酵母,发酵,谷胱甘肽,前提氨基酸,响应面方法

【英文关键词】Adenosine triphosphate addition, Candida utilis, fermentation, glutathione, precursor amino acids, response surface methodology.

【中文摘要】目的:三个前体氨基酸和三磷酸腺苷(ATP)是发酵生产的谷胱甘肽必要的。在这项研究中,我们的目标是开发一个策略通过在高细胞密度培养假丝酵母中添加三个前体氨基酸结合ATP以提高谷胱甘肽的生产。方法与结果:08年一株高产高谷胱甘肽的假丝酵母酵母WSH 02 被用在这项研究。整个发酵过程对谷胱甘肽的生产被分为两个阶段:细胞生长和合成谷胱甘肽。细胞浓度增加通过高细胞密度培养。与此同时,细胞内谷胱甘肽浓度的增加是通过三个额外的前体氨基酸的添加来提高谷胱甘肽的产量。通过响应面方法对三前体氨基酸添加进行了优化。研究表明在 加入三个氨基酸15小时后添加ATP可以进一步增强谷胱甘肽的生产。基于上述的现象,一个策略添加三个前体氨基酸以及添加ATP用来增强谷胱甘肽生产。结论:没有添加三个前体氨基酸和ATP,发酵60 h总谷胱甘肽的1123 mg/L。相比之下,添加三种前体氨基酸谷胱甘肽的1841 mg/L。此外,通过结合添加氨基酸以及ATP,发酵72 h总谷胱甘肽的2043 mg/L,分别增加了81.9%与11%。这项研究的意义和影响:这是第一次在高细胞密度生产谷胱甘肽的发酵研究细胞内三前体氨基酸和ATP,谷胱甘肽合成酶活性。一个策略相结合的三种前体氨基酸和ATP被应用与假丝酵母谷胱甘肽的生产。

【英文摘要】Aims: Three precursor amino acids and adenosine triphosphate (ATP) are necessary for fermentative production of glutathione. In this study, our aims were to develop a strategy to enhance glutathione production by adding three precursor amino acids coupled with ATP in high cell density (HCD) cultivationof Candida utilis.Methods and Results:A high-glutathione yeast strain, C. utilis WSH 02-08,was used in this study. Whole fermentative process for glutathione production was divided into two phases of cell growth and glutathione synthesis. Cells concentration was increased by HCD cultivation. Meanwhile, intracellular glutathionecontent was enhanced by the addition of three precursor amino acids.on centrations of three precursor amino acids added at stationary phase were optimized by response surface methodology. Moreover, the addition of ATP 15 h after the addition of the three amino acids can further enhance glutathione production. Based on aforementioned phenomenon, a strategy of adding three precursor amino acids coupled with ATP was developed to enhance glutathione production.Conclusion: Without the addition of three precursor amino acids and the ATP, a total glutathione of 1123 mg l)1 was achieved after 60-h cultivation. In comparison, addition of three precursor amino acid counterparts resulted in a total glutathione of 1841 mg l)1. Moreover, by adding amino acids combined with ATP, a total glutathione of 2043 mg l)1 was achieved after 72-h cultivation,increased by 81.9% and 11%, respectively, as compared with the control and the one without ATP addition.Significance and Impact of the Study: This is the first report on investigating changes of the intracellular three precursor amino acids and ATP, and c-glutamylcysteine synthase activity in HCD cultivation of C. utilis for glutathione production. A strategy of combining addition of three precursor amino acids with ATP was developed to enhance glutathione production in C. Utilis.

【语种】英文

【第一作者】Liang Guobing

【通讯作者】Du Guocheng

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【学科分类】生物化学工程

【题目】A new strategy to enhance glutathione production by multiple H2O2-induced oxidative stresses in Candida utilis

【中文关键词】分批发酵,假丝酵母,谷胱甘肽,过氧化氢胁迫,CAT

【英文关键词】Batch fermentation,Candida utilis,Glutathione (GSH),H2O2-induced oxidative stress, Catalase (CAT)

【中文摘要】假丝酵母H2O2诱导氧化应激对谷胱甘肽(GSH)生产的影响研究。基于该研究结果,过氧化氢可以有效地刺激谷胱甘肽积累但抑制细胞生长同时,多中策略进行添加不同浓度H2O2不同时期(4 h 1 mmol/L,8 h 2 mmol/L,12 h 4mmol/L)被用于提高谷胱甘肽的生产。结果:谷胱甘肽最高产量为218 mg/L,对应的细胞内谷胱甘肽含量为2.15%,分别较对照提高了54.6%和58.1%。通过进一步应用此策略在7 L发酵罐发酵谷胱甘肽产量和细胞内谷胱甘肽含量328 mg / L和2.30%。此外,提高过氧化氢酶活性和谷胱甘肽还原酶(GR)活性表明,谷胱甘肽和CAT都直接参与保护细胞抵抗过氧化氢氧化影响。

【英文摘要】Effect of H2O2-induced oxidative stress on glutathione (GSH) production in Candida utilis was investigated.Based on the results that H2O2 can effectively stimulate GSH accumulation but inhibit cell growth simultaneously, a novel strategy of multiple H2O2 stresses with different concentrations (1 mmol/L at 4 h,2 mmol/L at 8 h, and 4 mmol/L at 12 h) were developed to maximize GSH production. As a result, a maximal GSH yield of 218 mg/L was achieved and a corresponding intracellular GSH content was 2.15%, which were 54.6% and 58.1% higher than the control. By further applying this strategy to 7 L fermentor,GSH yield and intracellular GSH content were 328 mg/L and 2.30%. Moreover, increased activities of catalase (CAT) and GSH reductase (GR) indicated that GSH and CAT were directly involved in protecting cell against oxidative stress by H2O2.
【语种】英文
【第一作者】Liang Guobing
【通讯作者】Du Guocheng
【期刊名称、卷期、页码】Bioresource Technology, 2009, 100 (1): 350-355.
【论文发表时间】2008-03-10 00:00:00
【引文索引类型】SCI
【引文索引号】doi:10.1016/j.biortech.2008.06.012
【学科分类】生物化学工程

【题目】Enhancement of glutathione production with a tripeptidase-deficient recombinant Escherichia coli
【中文关键词】谷氨酰胺转氨酶,三肽酶,大肠杆菌,谷胱甘肽降解,生物催化
【英文关键词】Glutamyltranspeptidase ,Tripeptidase ,Escherichia coli, Glutathione degradation, Biocatalysis
【中文摘要】谷胱甘肽(GSH)降解酶法合成中存在对谷胱甘肽的大肠杆菌,然而,其降解途径不是很清楚。本文回顾了关键酶降解反应谷胱甘肽大肠杆菌,目的是改善谷胱甘肽的生产。这些酶,很可能与谷胱甘肽研究有关降解打乱了他们的基因。结果表明,伽马谷氨酰转肽酶(GGT)和tripeptidase(PepT)是关键酶的谷胱甘肽的退化,GGT做出了更多贡献比PepT谷胱甘肽退化。此外,活动的影响大、培养温度的作用,并对谷胱甘肽退化GGT可以消除缩短文化时间在30摄氏度和延长感应时间在42度 .然而,PepT谷胱甘肽的影响在退化可能消除只有扰乱PepT基因。最后,谷胱甘肽退化是未观测到由大肠杆菌JW1113合成谷胱甘肽(pepT(-),pBV03),它是在30摄氏度培养3 h和42摄氏度5 h。谷胱甘肽浓度达到了15.60毫米,这是2.19倍的控制。据我们所知,这是第一个关于禁止谷胱甘肽的恶化与PepT-deficient重组大肠杆菌。这个结果对谷胱甘肽代谢途径和研究构建一个谷胱甘肽的生物合成系统。
【英文摘要】Glutathione (GSH) degradation exists in the enzymatic synthesis of GSH by Escherichia coli, however, its degradation pathway is not very clear. This paper examines the key enzymes responding to GSH degradation in E. coli with the purpose of improving GSH production. The enzymes that are probably associated with GSH degradation were investigated by disrupting their genes. The results suggested that gamma-glutamyltranspeptidase (GGT) and tripeptidase (PepT) were the key enzymes of GSH degradation, and GGT contributed more to GSH degradation than PepT. Furthermore, GGT activity was affected greatly by culture temperature, and the effect of GGT on GSH degradation could be eliminated by shortening the culture time at 30 degrees C and extending the induction time at 42 degrees C. However, the effect of PepT on GSH degradation could be eliminated only by disrupting the PepT gene. Finally, GSH degradation was not observed in GSH biosynthesis by E. coli JW1113 (pepT(-), pBV03), which was cultured at 30 degrees C for 3 h and 42 degrees C for 5 h. GSH concentration reached 15.60 mM, which was 2.19-fold of the control. To the best of our knowledge, this is the first report of prohibiting GSH degradation with PepT-deficient recombinant E. coli. The results are helpful to investigate the GSH metabolism pathway and construct a GSH biosynthesis system.
【语种】英文
【第一作者】Lin Jun
【通讯作者】Du Guocheng
【期刊名称、卷期、页码】J Ind Microbiol Biotechnol. 2009 Dec;36(12):1447-52.
【论文发表时间】2008-03-10 00:00:00
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【引文索引号】doi: 10.1007/s10295-009-0631-y
【学科分类】生物化学工程

【题目】Enhancement of glutathione production in a coupled system of adenosine deaminase-deficient recombinant Escherichia coli and Saccharomyces cerevisiae

【中文关键词】腺腺嘌呤,脱氨酶,谷胱甘肽脱氨酶,大肠杆菌,谷胱甘肽的生产,酿酒酵母菌
【英文关键词】Adenosine deaminase,Adenine deaminase,ATP,Escherichia coli,Glutathione production,Saccharomyces cerevisiae
【中文摘要】三磷酸腺苷(ATP)是必要的酶生产的谷胱甘肽(GSH)。我们的目的是提高生产效率的谷胱甘肽通过增加ATP的再生在一个耦合系统。以前的研究结果建议低谷胱甘肽的生产在耦合系统是由于不可逆变换的腺苷(Ado)次黄嘌呤(Hx)通过肌苷(间接宾语)途径在大肠杆菌JM109(pBV03)。在这项研究中,阻止转换成Hx和增强的Ado谷胱甘肽的生产,一个耦合ATP再生系统是由腺苷脱氨酶缺乏重组大肠杆菌JW1615(pBV03)和酿酒酵母WSH2。谷胱甘肽的生产是改进(2.94倍的控制),和ATP再生反应成立于耦合系统。结果适用于ATP再生在其他微生物过程。
【英文摘要】Adenosine triphosphate (ATP) is necessary in the enzymatic production of glutathione (GSH). Our aim was to improve GSH production by increasing the efficiency of ATP regeneration in a coupled system. Previous results suggested that low GSH production in the coupled system is due to the irreversible transformation of adenosine (Ado) to hypoxanthine (Hx) via inosine (Ino) pathway in Escherichia coli JM109 (pBV03). In this study, to block the transformation of Ado into Hx and enhance GSH production, a coupled ATP regeneration system was constructed with adenosine deaminase-deficient recombinant E. coli JW1615 (pBV03) and Saccharomyces cerevisiae WSH2. GSH production was improved (2.94-fold of the control), and ATP regeneration reaction was established in the coupled system. The results are applicable to ATP regeneration in other microbial processes.
【语种】英文
【第一作者】Lin Jun
【通讯作者】Du Guocheng
【期刊名称、卷期、页码】Enzyme and Microbial Technology, 2009,44 : 269 – 273.
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【引文索引号】doi.org/10.1016/j.enzmictec.2009.01.003,
【学科分类】生物化学工程

【题目】Salt-induced osmotic stress for glutathione overproduction in Candida utilis
【中文关键词】氯化钠诱导渗透压力,假丝酵母,谷胱甘肽,半胱氨酸, γ -谷胱甘肽合成酶、谷胱甘肽还原酶
【英文关键词】NaCl-induced osmotic stress,Candida utilis,Glutathione,Cysteine, γ -Glutamylcysteine synthetase,Glutathione reductase
【中文摘要】氯化钠诱导的影响渗透压力对谷胱甘肽(GSH)的生产是在假丝酵母utilis调查。基于事实,氯化钠应激可以增强谷胱甘肽的生产但抑制细胞增长同时,小说策略的多个渗透压力的不同的生理盐水添加(0.2摩尔/ l在4 h,0.4摩尔/ l在8小时,和0.6摩尔/ l在12至16小时)对谷胱甘肽开发生产过剩。经过30 h栽培,谷胱甘肽的产量达到238 mg / l和细胞内谷胱甘肽含量为2.34%,分别增加了66.4%和70.7%比控制。进一步的应用策略7 l发酵罐,谷胱甘肽的产量356 mg / l是达到30小时,65.6%高于控制。此外,氯化钠应力导致增加细胞内半胱氨酸含量和活动的 γ -glutamylcysteine合成酶,谷胱甘肽还原酶、谷胱甘肽合成酶和解释机制参与诱导细胞谷胱甘肽积累。
【英文摘要】The effect of NaCl-induced osmotic stress on glutathione (GSH) production was investigated in Candida utilis. Based on the fact that NaCl stress can enhance GSH production but inhibit cells growth simultaneously, the novel strategies of multiple osmotic stresses with different NaCl additions (0.2 mol/l at 4 h, 0.4 mol/l at 8 h, and 0.6 mol/l at 12 and 16 h) were developed for GSH overproduction. After 30 h cultivation, GSH yield reached 238 mg/l and intracellular GSH content was 2.34%, increased by 66.4% and 70.7% respectively compared to the control. Further applying the strategies to 7 l fermentor, GSH yield of 356 mg/l was achieved at 30 h, which was 65.6% higher than the control. Moreover, NaCl stress led to an increase in intracellular cysteine content and activities of γ -glutamylcysteine synthetase, GSH synthetase and GSH reductase, explaining the mechanism involved in inducing cellular GSH accumulation.
【语种】英文
【第一作者】Liang Guobing
【通讯作者】Du Guocheng
【期刊名称、卷期、页码】Enzyme znd Microbial Technology, 2009, 45(4): 324-329.
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【学科分类】生物化学工程

【题目】过氧化氢胁迫促进产朊假丝酵母合成谷胱甘肽
【中文关键词】过氧化氢,胁迫,产朊假丝酵母, 谷胱甘肽
【英文关键词】H2O2, stress, Candida utilis, glutathione
【中文摘要】谷胱甘肽(GSH)在生物细胞抵御外界环境条件的刺激和胁迫时起到非常重要的作用。考察了不同时间不同浓度过氧化氢胁迫和过氧化氢连续胁迫对产朊假丝酵母合成GSH的影响, 发现低浓度过氧化氢的连续胁迫对GSH的合成有明显促进作用。进一步在发酵罐上应用了低浓度过氧化氢(36 mmol/L)持续胁迫策略, 最终GSH产量为922 mg/L, 胞内GSH含量为1.64%, 比对照分别提高了7%和35%。
【英文摘要】Glutathione (GSH) plays an important role in the responses of microorganisms to the environmental stimulation and stress. The effect of H2O2 stress under different fermentation time and H2O2 concentration as well as continuous stress on GSH fermentation of Candida utilis were investigated in this paper. It was found that low concentration of H2O2 accelerated GSH production. When treated by low concentration of H2O2 (36 mmol/L), the final concentration of GSH reached 922 mg/L and the intracellular GSH content reached 1.64%, which increased by 7% and 35% than the controls, respectively.
【语种】中文
【第一作者】廖鲜艳
【通讯作者】堵国成
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【学科分类】生物化学工程

【题目】基于熵准则的鲁棒的RBF谷胱甘肽发酵建模
【中文关键词】谷胱甘肽, 相对熵, RBF 神经网络, Parzen 窗法, 鲁棒性
【英文关键词】GSH, relative entropy, RBF neural network, Parzen window, robustness
【中文摘要】在谷胱甘肽的发酵过程建模中,当试验数据含有噪音时,往往会导致模型预测精度和泛化能力的下降。针对该问题,提出了一种新的基于熵准则的RBF神经网络建模方法。与传统的基于MSE准则函数的建模方法相比,新方法能从训练样本的整体分布结构来进行模型参数学习,有效地避免了传统的基于MSE准则的RBF网络的过学习和泛化能力差的缺陷。将该模型应用到实际的谷胱甘肽发酵过程建模中,实验结果表明:该方法具有较高的预测精度、泛化能力和良好的鲁棒性,从而对谷胱甘肽的发酵建模有潜在的应用价值。
【英文摘要】The prediction accuracy and generalization of GSH fermentation process modeling are often deteriorated by noise existing in the corresponding experimental data. In order to avoid this problem, we present a novel RBF neural network modeling approach based on entropy criterion. It considers the whole distribution structure of the training data set in the parameter learning process compared with the traditional MSE-criterion based parameter learning, and thus effectively avoids the weak generalization and over-learning. Then the proposed approach is applied to the GSH fermentation process modeling. Our results demonstrate that this proposed method has better prediction accuracy, generalization and robustness such that it offers a potential application merit for theGSH fermentation process modeling.
【语种】中文
【第一作者】谭左平
【通讯作者】堵国成
【期刊名称、卷期、页码】生物工程学报.2008,24(5):829-836.
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【引文索引类型】其他
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【学科分类】生物化学工程

【题目】基于能量因子的基因调控网络重构
【中文关键词】基因表达, 能量因子, 调控网络, DNA 修复
【英文关键词】gene expression, energy factor , regulator netw ork, DNA repair

【中文摘要】重构基因调控网络有助于探索生命系统的本质问题。线性组合模型以其形式简单和易于求解的特点被成功应用于基因网络的重构过程中。作者针对线性组合模型只考虑了基因之间的线性调控关系的缺陷,引入了能量因子的概念,从而使得模型具备了分析基因间的非线性调控关系的特性。将模型应用于大肠杆菌(Escherichia coli)的SOS DNA修复过程中,实验证明:该模型能较好地拟合大肠杆菌的SOS DNA修复过程,进一步提高了调控网络的构建精度。

【英文摘要】Reco nst ruct io n of g ene regulatory netw ork can help to explore the essence o f life. T heLinear Combinat ion Mo del has been successfully applied to the reconstruction o f the generegulato r netw ork, since it is v ery simple and can be easily solv ed. How ever, the linearrelationships betw een genes w er e only considered in the model. In order to circumvent thispr oblem, energ y factor has been added in the Linear Combinat ion Model, thus the new model can be used to analysis the nonlinear relationships betw een g enes. T hen the present model has been applied to reconst ruct the gene regulato ry netw ork of E scher i chia coli o n SOS DNA repair pr ocess. Our result demonstr ated that the pr opo sed model can be reco nst ruct SOS DNA repair pr ocess w ell and also improve the accur acy.

【语种】中文

【第一作者】谭左平

【通讯作者】堵国成

【期刊名称、卷期、页码】食品与生物技术学报. 2010, 29(1) :134-138.

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【引文索引号】doi:10.1016/j.enzmictec.2009.06.004

【学科分类】生物化学工程

【题目】半胱氨酸添加与溶氧控制及pH胁迫相结合促进产朊假丝酵母合成谷胱甘肽

【中文关键词】谷胱甘肽,产朊假丝酵母,溶氧控制,pH 胁迫

【英文关键词】Glutathione, producing protein candida, dissolved oxygen control, pH stress

【中文摘要】采用产朊假丝酵母,在细胞高密度培养基础上,考察了半胱氨酸添加与溶氧控制及低pH胁迫对谷胱甘肽(GSH)合成的影响.结果表明,细胞高密度培养结束时(45h),一次性添加50mmol/L半胱氨酸,第60h时GSH产量达1534mg/L.添加半胱氨酸后的3h内溶氧控制在5%,之后的12h将溶氧控制在20%,可减少半胱氨酸添加量,而GSH产量却提高13%.将30mmol/L半胱氨酸分2次添加并与pH胁迫和溶氧控制相组合,发酵结束时(78h),GSH终产量达1936mg/L.

【英文摘要】The production protein candida, in cell density based on training, the effects of the cysteine add and dissolved oxygen control and low pH stress on glutathione (GSH) synthesis. The results show that the influence of high density culture cells at the end (45 h), one-time add fifty mmol/L cysteine, h GSH when output reached 1534 mg/L. Add cysteine after 3 h in dissolved oxygen control at 5%, after the 12 h will be dissolved oxygen control at 20%, can reduce the adding amount of cysteine, and GSH yield was increased by 13%. Will be 30 mmol/L cysteine points 2 times add and pH stress and dissolved oxygen control phase combination, at the end of the fermentation (78 h), GSH final output reached 1936 mg/L.

【语种】中文

【第一作者】梁国斌

【通讯作者】堵国成

【期刊名称、卷期、页码】过程工程学报. 2009, 9(4): 786-790.

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【学科分类】生物化学工程

【题目】Network traffic prediction based on error advanced DGM (1,1) model

【中文关键词】网络流量,灰色模型,先进的GM(1,1)模型,预测;谷胱甘肽

【英文关键词】Network traffic,Grey model, Advanced GM(1,1) model, Prediction;Glutathione

【中文摘要】网络流量是重要参数,措施的负担,网络运动和网络外观。它也发挥了重要作用,在网络布局、交通管理。在交通管理、交通模型是用来评估机制的联合控制和预测网络性能。灰色模型具有很好的效果www.lw20.comThe在反映数据的变化趋势。这一理论的发展,广泛用于应用程序。许多改进和新一代的方法被提出。在本文中,我们使用更远的先进的GM(1,1)模型来预测网络流量别人的基础上。

【英文摘要】The network traffic is the important parameter that measures the burden of network movement and network appearance .It also plays an important role in network layout, traffic management. In traffic management, traffic model is used to evaluate the mechanism of joint control and predict network performance. www.lw20.comThe Grey Model has good effect in reflecting the variable trend of data. With the development of this theory, it is widely used in applications .Many improved and new generation methods have been proposed. In this paper, we use farther advanced GM(1,1) model to predict network traffic on the basis of others.
【语种】英文
【第一作者】liang Guobin
【通讯作者】Du Guocheng
【期刊名称、卷期、页码】2007 International Conference on Wireless Communications, Networking and Mobile ComputingNetworking and Mobile Computing. Shanghai, China. Page:6353-6356
【论文发表时间】2007-09-09 00:00:00
【引文索引类型】EI
【引文索引号】doi:10.1109/WICOM.2007.1558
【学科分类】生物化学工程

【题目】稻纵卷叶螟 P450 基因 CYP6K1 的克隆与序列分析
【中文关键词】稻纵卷叶螟;细胞色素P450;基因克隆;序列分析
【英文关键词】Cnaphalocrocis medinalis;cytochrome P450;gene cloning;sequence analysis
【中文摘要】为探讨稻纵卷叶螟产生抗药性的机制,防止或延缓稻纵卷叶螟抗药性的产生,从稻纵卷叶螟 (Cnaphalocrocis medinalis)4龄幼虫中肠提取总RNA,用反转录一聚合酶链式反应(RT-PCR)扩增稻纵卷叶 螟P450基因CYP6KI,将其克隆到pMD18-T载体上进行序列测定。结果表明,该基因的cDNA片段长度为 1005 bp,编码334个氨基酸残基,包含昆虫细胞色素P450的4个保守结构域。同源性分析表明,稻纵卷叶 螟CyP6Kj与已报道的印度跳蚊(Harpegnathos saltator)和佛罗里达弓背蚁(Camponotus floridanus)的 CyP6KI氨基酸序列同源性分别为52%和51% 。
【英文摘要】The total RNA was extracted from the midgut of the fourth larva of Cnaphalocrocis medinalis.The cDNA fragment of cytochrome P450 gene CYP6K1 was amplified bv RT—PCR and then was inserted into pMD 1 8-T vector to deterrnine its sequence for probing the drug fast mechanism of Crlaphalocrocis medinalis and preventing and delaying drug-fast formation of Cnaphalocrocis medinalis. The results show that the cDNA fragment of cytochrome P450 gene CyP6K1 with 1005 bp contains 334 amino acid residues and four conserved domains.The amino acid sequence homology of Cnaphalocrocis medinalis CYP6K1 to Harpegnathos saltator and Camponotus floridanus is 52% and 51% respectively.
【语种】中文
【第一作者】刘月锋
【通讯作者】李尚伟
【期刊名称、卷期、页码】贵州农业科学,39(5)119-122
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【引文索引类型】其他
【引文索引号】null
【学科分类】植物保护学

【题目】水葫芦的生物学特征
【中文关键词】水葫芦; 生物学特征; 有效积温; 分株; 出叶速度
【英文关键词】water hyacinth; biologicalcharacteristic; effective accumulated temperature; tiller; leaf growthrate
【中文摘要】长期观测水葫芦的生长情况, 以探明水葫芦的生物学特征。结果表明, 水葫芦在适宜条件下属无限生长型, 每生长1张叶片平均需要有效积温52 0 ,在有效积温达544. 4 时叶片衰老死亡;单株水葫芦的分株生长与叶龄存在n 3的同伸关系,群体分株生长随有效积温的增加呈多项式曲线型增长;水葫芦从幼苗至第1次开花需要至少13张叶片的基本营养生长期,营养生长低于13张叶片时水葫芦不开花, 花后植株在经过一段时间营养生长后, 条件适宜时会再次开花。
【英文摘要】The growth characteristics of the water hyacinth were studied through long-term observation on the growth of certificated water hyacinth plants. The results show that: water hyacinth kept growing indefinitely in suitable conditions, the growth of each leaf needed an average effective accumulated temperatures of 52°C and the consenescence death of 544.4°C. There was an n-3 stretch relationship between the single tillers and the leaf-age of water hyacinth, with the increase of effective accumulated temperatures the population tillers had a polynomial curve type growth. Water hyacinth needed an at least 13 leaves of the vegetative growrh stage

from seedling to first flowering, it would not blossom before the basic nutritional growth arriving the thirteenth leaf. When conditions are right, the blossomed-plant will blossom again after a period of vegetative growth.
【语种】中文
【第一作者】王子臣
【通讯作者】郑建初
【期刊名称、卷期、页码】江苏农业学报, 2011, 27(3): 531~536
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【引文索引类型】其他
【引文索引号】6
【学科分类】农学其他学科

【题目】不同覆盖度水葫芦对水体环境的影响
【中文关键词】水葫芦; 覆盖度; 环境效应
【英文关键词】Water hyacinth;degree of coverage;environmental influence
【中文摘要】通过设置不同覆盖度放养水葫芦的处理试验, 分析其综合的环境效应,结果显示:在水面固定的情况下,水葫芦生物净产量和水体水分蒸腾量随放养覆盖度的增加而显著增加, 但水体沉积物、pH值、溶解氧及叶绿素含量均随放养覆盖度的增加而降低; 综合考虑各因素水葫芦放养以水面的1/3覆盖度较为合理。
【英文摘要】With the experimentation of environmental influence by degree of coverage of water hyacinth to water, the results is: the quantity of water hyacinth and transpiration of water were rised significantly with the rising of the coverage degre of water hyacinth , contrarily, the sediment,PH,DO and chlorophyll of water were reduced. 1/3 coverage degre of water hyacinth is suitable.
【语种】中文
【第一作者】朱普平
【通讯作者】郑建初
【期刊名称、卷期、页码】江苏农业科学, 2011, 39(2): 471-472
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【引文索引类型】其他
【引文索引号】7
【学科分类】农学其他学科

【题目】稻麦两熟农田稻季养分径流流失特征
【中文关键词】氮;磷;径流;养分流失
【英文关键词】Nitrogen; Phosphorus; Runoff; Nutrient loss
【中文摘要】采用田间小区定位试验研究了自然降雨条件下江苏稻麦两熟农田稻季养分径流流失规律。结果表明:稻季径流水量可达5705.55 m3·hm-2;常规施肥(T0)条件下,稻田径流流失全N(TN)、全P(TP)和速效K(AK)的总量分别为11.29、0.19 和13.22kg·hm-2,流失率分别为3.8%、0.21%和9.8%;径流水中全N 和速效K 质量浓度随距施肥时间的延长而呈逐渐下降趋势;较常规施肥处理而言,秸秆还田(T1)和还田减肥(T2)处理不仅能够有效降低径流水中TN、TP 和AK 质量浓度,而且能够减少稻季养分径流流失总量,分别减少13.48%、17.55%,25.00%、31.25%和22.69%、53.48%,并降低养分流失率,分别达13.16%、-2.63%,23.81%、14.29%和22.45%、41.84%。
【英文摘要】Field plot experiment was carried out to study the characteristics of surface runoff of nutrients losses during the paddyseason of intensive rice-wheat double-cropping season of Jiangsu province under natural rainfall conditions. The results showed thatthe total volume of runoff water reached 5 705.55 m3 · hm-2 during the whole paddy season. Under conventional fertilization conditions(T0), the total runoff losses of TN, TP and AK reached 11.29, 0.19 and 13.22 kg · hm-2, and the rates of nutrients losses reached3.8%, 0.21% and 9.8%, respectively. The concentrations of TN and AK in the runoff water showed a gradual downward trend alongwith the extension of time from the fertilizer. Compared with T0 treatment, wheat straw returning (T1), wheat straw returning andreducing fertilizer (T2) not only effectively reduced the concentrations of TN, TP and AK, but also reduced the quantities of TN, TPand AK losses in the runoff water during the paddy season, decreased 13.48%, 17.55% (TN), 25.00%, 31.25% (TP) and 22.69%,53.48% (AK), respectively; furthermore, these treatments reduced the rate of nutrients losses, which decreased 13.16%, -2.63% (TN),23.81%, 14.29% (TP) and 22.45%, 41.84% (K), respectively.
【语种】中文

【第一作者】郭智
【通讯作者】郑建初
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【论文发表时间】2010-07-01 00:00:00
【引文索引类型】其他
【引文索引号】8
【学科分类】环境科学技术基础学科

【题目】稻田径流侵蚀泥沙对磷素流失的影响
【中文关键词】磷;径流;侵蚀泥沙;养分流失
【英文关键词】Phosphorus; Runoff; Erosive soil; Nutrient loss
【中文摘要】采用田间小区定位试验研究了自然降雨条件下稻田径流泥沙流失规律及其对磷素流失的影响。结果表明:常规施肥(T0)条件下,稻季径流侵蚀泥沙量可达5113.63 kg·hm-2,秸秆还田(T1)和还田减肥(T2)处理均显著降低侵蚀泥沙量,分别达6.02%和7.18%。T1、T2处理能降低侵蚀泥沙中全磷(TP)和速效磷(AP)的平均浓度,分别达6.23%,22.16%和3.99%,13.40%。同时,T0处理的稻季侵蚀过程中由泥沙流失的磷素总量达1115.34 g·hm-2,T1、T2和T3(肥料运筹)处理均能显著降低侵蚀泥沙TP流失量,分别达18.14%,23.93%和15.21%,磷素流失率也显著地降低。
【英文摘要】Field plot experiment was carried out to study the characteristics of erosive soil by surface runoffand its effect on phosphorus loss in the paddy field under natural rainfall conditions.The results showed that the total quantity of runoff soils reached 5 113.63kg/hm2 during the whole paddy season,compared with the treatment of conventional fertilization conditions(T0),wheat straw returning(T1)and wheat straw returning and reducing fertilizer(T2)significantly reduced 6.02% and 7.18% of the quantity of runoff soils. And,T1,T2decreased the concentrations of total phosphorus(TP)and available phosphorus(AP),which reached 6.23%,22.16%and 3.99%,13.40%.Furthermore,the total quantity of TP loss reached 1 115.34 g/hm2(T0)during the whole paddy season,T1,T2and fertilizer application(T3)treatments not only significantly reduced the quantity of TP loss by the erosive soils,decreased 18.14%,23.93%and 15.21%,respectively; furthermore,these treatments significantly reduced the rate of phosphorus loss.
【语种】中文
【第一作者】郭智
【通讯作者】郑建初
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【引文索引类型】其他
【引文索引号】9
【学科分类】环境科学技术基础学科

【题目】稻田径流侵蚀泥沙对氮素流失的影响
【中文关键词】氮;径流;侵蚀泥沙;养分流失
【英文关键词】Nitrogen; Runoff; Sediment; Nutrient loss
【中文摘要】采用田间小区定位试验研究了自然降雨条件下稻田径流侵蚀泥沙对氮素流失的影响。结果表明:常规施肥(T0)条件下,稻季径流侵蚀泥沙量可达5113.63 kg hm-2,秸秆还田(T1)和还田减肥(T2)处理均显著降低侵蚀泥沙量达6.02%和7.18%。T1、T2和肥料运筹(T3)处理均能降低侵蚀泥沙全氮(TN)和速效氮(AN)平均浓度,分别达0.46%、6.46%、0.47%和5.57%、18.67%、13.98%。同时,就稻季侵蚀泥沙流失氮素总量而言,T0处理TN流失达14.24 kg hm-2,T1和T2处理均能显著降低侵蚀泥沙TN流失量,分别达7.58%和14.10%。同时,T1处理能够显著降低TN流失率7.58%,而T2处理则显著增加TN流失率7.37%。
【英文摘要】Field plot experiment was carried out to study the effects of sediment by surface runof on nitrogen loss inthe paddy field under natural rainfaU conditions.The results showed that total quantity of the sediment reached5 1l 3.63 kg hm-2 during the whole paddy season in the treatment of conventional fertilization conditions).Whilewheat straw returning (T1)and wheat straw returning and reducing fertilizer (T2)significantly reduced 6.02% and7.1 8%of the sediment compared to TO.And,T1,T2 and fertilizer application (T3)treatments decreased the averageconcentrations of total nitrogen (rN)and available nitrogen (AN)by 0.46%,6.46%,0.47% and 5.57%,1 8.67%,13.98%,respectively.Furthermore,the total quantity of TN loss reached 14.24 kg hm之(T0)during the whole paddyseason.while T1 and T2 treatments significantly reduced the quantity of TN loss compared to T0 by 7.58% and14.10% ,respectively.Meanwhile,in comparison with TO,T1 treatment significantly decreased 7.58% TN loss;however,T2 treatment sign

ificantly increased 7.37% TN loss.
【语种】中文
【第一作者】郭智
【通讯作者】郑建初
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【引文索引号】10
【学科分类】环境科学技术基础学科

【题目】稻秸还田对稻麦两熟农田麦季养分径流流失的影响
【中文关键词】氮;磷;径流;秸秆还田;养分流失
【英文关键词】Nitrogen;Phosphorus;Runoff;Rice straw return;Nutrient loss
【中文摘要】采用田间小区定位试验研究了自然降雨条件下稻秸全量还田对稻麦两熟农田麦季养分径流流失特征的影响。结果表明:麦季径流水量可达2185.05 m3/hm2,秸秆还田(T1)处理可降低径流水量4.43%(p>0.05);常规施肥 (T0) 条件下,每公顷麦田径流流失全N (TN)和全P (TP)总量分别为30.90和3.00 kg,流失率分别达13.73%和3.34%;较T0处理而言,T1、T2(秸秆还田减肥)处理不仅减少TN和TP流失量分别达15.95%,33.50%和13.98%,15.71%(p<0.05),也能降低TN流失率分别达15.95%,16.87%(p<0.05)。同时,T1处理能够显著降低TP流失率达13.98%(p<0.05)。
【英文摘要】Field plot experiment was carried out to study the effects of rice straw return on surface runoff ofnutrients losses during the wheat growing season of intensive rice。‘wheat double。’cropping season under natu。。ral rainfall conditions.The results showed that the tota1 volume of surface runoff water reached 2 185.05m3/hm。during the whole wheat growing season,rice straw application(T1)decreased by 4.43 9/6 of the vol—ume of surface runoff water,compared with the conventional fertilization(T0)treatment(P>0.05);UnderTO conditions.the total quantities of TN and TP losses by surface runoff reached 30.90,3.00 kg/hm。,therates of nutrients losses reached 13.73 9/6 and 3.34 9/6,respectively.Compared with TO treatment,T1 and T2(wheat straw return and reducing fertilizer)not only significantly reduced the quantities of TN and TP losses in therunoff water during the wheat growing season,decreased by 15.95% ,33.50% (TN)and 13.98% ,15.71 9,6(TP),respectively,but also significantly decreased by 15.95% and 16.87 of the rate of TN losses(<O.05);Fur—thermore,T1 treatment significantly reduced the rate of TP lOSS,which decreased by 13.98 (< 0.05).
【语种】中文
【第一作者】郭智
【通讯作者】郑建初
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【学科分类】环境科学技术基础学科

【题目】氮肥运筹和少免耕对麦田氮素径流流失的影响
【中文关键词】氮肥运筹;少免耕;氮;养分流失;径流侵蚀泥沙
【英文关键词】Nitrogen fertilizer application;No tillage;Nitrogen;Nutrient losses;Erosive soils by surface runoff
【中文摘要】采用田间小区定位试验研究了自然降雨条件下氮肥运筹和少免耕措施对稻麦两熟农田麦季氮素径流流失特征的影响。结果表明:自然降雨后麦田耕层土壤平均水分质量分数26.34%为径流事件发生的临界土壤水分质量分数。常规施肥(T0)条件下,麦季径流水量达2185.05 m3·hm-2,径流侵蚀泥沙量达716.08 kg·hm-2,少免耕(T2)处理增加麦田径流水量达29.67%,减少径流侵蚀泥沙量达13.96%,而肥料运筹(T1)与T0处理差异不显著;就整个麦季而言,T0处理条件下,径流水全氮(TN)平均质量浓度和径流侵蚀泥沙TN平均质量分数分别为10.51 mg·L-1和1.19 g·kg-1,T1处理显著降低径流水TN质量浓度和侵蚀泥沙TN质量分数分别达11.63%和5.93%,T2处理显著降低径流侵蚀泥沙TN质量分数达7.95%;麦季氮素径流流失主要集中在小麦生育前期,包括径流水氮素流失量和径流侵蚀过程中由泥沙流失的氮素量。T0处理条件下,氮素流失总量达31.76 kg·hm-2,其中,径流水氮素流失量占麦季氮素总流失量95%以上,T1处理减少麦季氮素总流失量达9.25%,而T2处理则增加麦季氮素总流失量达16.75%。

【英文摘要】Field plot experiment was carried out to study the efects of nitrogen fertilizer application and no tillage treatments onnitrogen loss by surface runof during the wheat growing season of intensive rice--wheat double--cropping system under naturalrainfall conditions.The results showed that 26.34% of average water content in the plough layer soils of wheat field was thethreshold of surface runof events.The total volume of surface runof water and the total quantity of erosive soils by surface runofreached 2185.05 m3 · hm" and 716. 08 kg ’ hm—during the whole wheat growing season.no significan t diferences were found betweenthe conventional fertilization(TO)and nitrogen fertilizer application(T1)treatments.However,no tillage(T2)treatment significantlyincreased the total volum e of surface runof water by 29.67%,and it significantly reduced the total quantity of erosive soils bysurface runof,decreased by 13.96% .Under TO condition,average TN concentrations of runof water and erosive soils by surfacerunof reached 10.51 mg · Lll and 1.19 g ’ kg~ during the whole wheat growing season,T1 treatment sign ificantly reduced them byI1.63% an d 5.93% ,respectively.Furthermore,T2 treatm ent significan tly reduced the TN concentration of erosive soils by surfacerunof by 7.95%;Nitrogen losses by surface runof(runof water and erosive soils by surface runoff)were mainly distributed in theearlier wheat growing stage,including overwintering period and regeneration period.Under TO condition,the total quantity of TNloss by surface runofreached 31.76 kg · hm .in which the percentage ofTN loss by surface runofwater reached 95%,T1 treatm entsignificantly reduced the quantity of nitrogen loss by 9.25%,T2 treatment increased it by 1 6.75% during the whole wheat growingseason.

【语种】中文

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【学科分类】环境科学技术基础学科

【题目】稻田流失养分循环利用系统构建研究数据库

【中文关键词】稻田;地表径流;流失养分;养分拦截;循环利用

【英文关键词】rice paddy; overland runoff; nutrient loss; nutrient hold up; recycling

【中文摘要】针对长江三角洲经济发达地区集约化农田化肥投入超量、稻区水体N、P、K富集度超高,农田生态环境遭到严重破坏等现状,该文系统研究了农田流失养分从农田到水体,再由水体回到农田的循环利用过程,并构建农田养分流失循环利用系统工程,为我国农田流失养分循环利用和农业生态环境健康提供科技支撑。研究结果表明:本区域农田面积为18.6 hm2,水稻季农田化肥N、P、K投入量分别为305.7、44.9、150.8 kg · hm-2;整个水稻季本区域农田地表径流量为4 518.0 kg · hm-2,其中N、P、K流失量分别为16.6、0.5、9.6 kg · hm-2,占水稻季N、P、K肥投入量的5.45%、1.07%和6.37%;农田周围净化池塘中水生植物的N、P、K拦截量分别为67.8、8.1、99.7 kg,分别占本研究区域N、P、K流入量的21.84%、90.31%和55.73%。将水生植物还田,晒干水葫芦(Halerpestes cymbalaria)按4 500 kg · hm-2 农田施用,可分别减少农田化肥N、P、K的投入量106.2、9.5、105.8 kg · hm-2。该研究成果对于减轻农业生产面源污染,推进农业生产可持续发展具有积极意义。

【英文摘要】As intensive agriculture in economically developed Yangtze River Delta areas inputs excess fertilizer and N, P, Kenrichments of rice water are ultrahigh, agricultural ecological environment has been seriously damaged. Field experiment wasconducted by measuring the loss of nutrients from rice paddy to the water and back to the rice paddy from water, to build recyclingsystems engineering of rice paddy loss nutrient and supply technologic support for recycling systems engineering and healthyagricultural ecological environment. The results show that: The area of rice paddy area of 18.6 hm2, chemical fertilizer N, P, K in riceseason inputs were 305.7, 44.9, 150.8 kg · hm-2; the rice season overland runoff water was 4 518.0 kg · hm- 2, in which N, P, K losseswere 16.6, 0.5, 9.6 kg · hm-2, accounting for N, P, K fertilizer inputs of 5.45%, 1.07%, 6.37% respectively; N, P, K hold-up of the pondaquatic purification plant around rice paddy are 67.8, 8.1, 99.7 kg, accounting for the study area N, P, K inflows of 21.84%, 90.31%,55.73% respectively. Using dried water hyacinth back to rice paddy under 4 500 kg · hm-2 can reduce chemical fertilizer N, P, K inputsby 106.2, 9.5, 105.8 kg · hm-2. The research achievement is of positive significance to reduce pollution on agricultural production andpromote sustainable development of agricultural production.

【语种】中文

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【学科分类】环境科学技术基础学科

【题目】苏南稻麦两熟制农田循环清洁生产模式评价
【中文关键词】循环农业;指标体系;评价
【英文关键词】circular agriculture; index system; evaluation
【中文摘要】立足于国内循环农业模式的发展现状,分析了苏南地区稻麦两熟制农田循环清洁生产模式的特征,开展了生态经济调查、资料收集与整理,构建了评价指标体系;根据试验获得的评价数据,从农业的高产高效、生态环保、物质再利用3个准则层入手,运用专家调研法、层次分析法和加权求和法,评价了常规农业生产模式和循环农业生产模式。评价结果显示,与常规农业生产模式相比较,循环农业生产模式具有明显的优越性,但循环农业生产模式中甲烷排放量大于常规农业生产模式.
【英文摘要】Based on the developmentstatus ofdomestic circularagriculture, clean production in rice wheatcroppingfarmlandswas characterized, the data ofecological economywere collected and sorted, and the system ofevaluating indica torwas designed. According to the evaluating data and the criteria ofhigh yieldwith high efficiency, environmentalprotec tion andmaterial reuse, themodels ofcommon agriculturalproduction and circularagriculturalproductionwere evaluated byexpert investigation, analyticalhierarchy process andweighted sum. The evaluation results showed that circular agriculturalproduction modelwas superior to the common agriculturalproduction, however theCH4emission ofcircularagriculturalpro duction was higher than that of the common agricultural production, which should be resolved in the future.
【语种】中文
【第一作者】刘华周
【通讯作者】刘华周
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【学科分类】农业基础学科

【题目】不同土壤类型下Cd和Pb在水稻籽粒中累积特征 及其环境安全临界值
【中文关键词】Cd;Pb;植物富集;土壤类型;安全临界值
【英文关键词】Soil Cd; Soil Pb; accumulation in plant; Soil type; Security threshold
【中文摘要】研究水稻籽粒对土壤重金属的累积特征和水稻产地土壤重金属安全临界值,可为水稻安全生产和产地安全适宜性评价提供重要参考。 以杂交籼稻KU818作为材料, 通过外源添加不同质量分数的Cd 和Pb,于2008年在南京采用盆栽试验方法,研究不同土壤类型下水稻籽粒对土壤重金属 Cd 和 Pb 的累积特征及其环境安全临界值。结果显示,水稻籽粒对重金属的累积量总体上随着外加重金属质量分数的增加而呈现增多趋势, 籽粒中重金属含量与处理水平及盆栽土壤中重金属有效态含量呈现显著或极显著正相关。籽粒对Cd、Pb 的累积特征呈现出土壤类型之间的显著差异,水稻土栽培下,籽粒对重金属的累积高于潮土栽培下的。根据国家《食品中污染物限量(GB 2762-2005)》标准中重金属的限量标准和水稻籽粒重金属的累积特征推算出水稻产地(潮土和水稻土)安全临界值:Cd为1.63 mg·kg-1和0.74 mg·kg-1,Pb为230 mg·kg-1和110 mg·kg-1,均高于国家《食用农产品产地环境质量评价标准(HJ 332-2006)》的指标。结果表明,由于临界值在土壤类型之间差异较大,制定统一的农产品产地重金属限量标准还需结合当地土壤性质加以评价。
【英文摘要】Increasing publics attentions have been paid to the concerns of toxic heavy metals contamination of human food. Rice isthe most important staple food in China, and the highway construction has developed quickly during the last decades, implying acontamination high risk of rice sown around the roadsides. To learn the accumulation characteristics of toxic heavy metals in ricegrain growing around the highway and their safety threshold will contribute a great to rice cropping with high safety and environmentalsecurity assessment of paddy field. Therefore, we conducted pot cultivation experiments with two exogenous heavy metals ofCd and Pb and one hybrid Indica rice(KU 818) under two typical soil types (Alluvial soil and Paddy soi) in Nanjing, Jiangsu province,in 2008. Our objectives were to investigate the accumulation characteristics of soil Cd and Pb in rice grain and their environmentalsecurity threshold. Results showed that the contents of Cd and Pb in rice grain increased along with the treatments level, andthat the contents were significantly positively correlated with the treatments level and the effective contents of Cd and Pb in

soils(P<0.05). The accumulation characteristics of Cd and Pb in rice grain indicated significant differences between the two soil types.The contents of Cd and Pb in rice grain were significantly higher in the paddy soil than in the alluvial soil. According to the NationalStandards of “ Codex General Standard For Contaminants And Toxins In Foods (GB2762-2005) ” and the accumulation characteristicsof Cd and Pb in rice grain, we calculated the security threshold values of Cd (1.63 mg · kg-1) and Pb (230 mg · kg-1) for Alluvial soil,and Cd (0.74 mg · kg-1) and Pb (110 mg · kg-1) for Paddy soil. These threshold values are higher than the National Standards of “ Farmlandenvironmental quality evaluation standards for edible agricultural products (HJ332-2006) ”. Since the threshold varies widelybetween soil types, this study suggests that local soil properties should be paid more attentions to make uniform standards of heavymetals in agricultural produce.

【语种】中文
【第一作者】范中亮
【通讯作者】张卫建
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【题目】不同土壤类型下杂交籼稻地上部器官对重金属镉和铅的富集特征
【中文关键词】水稻; 重金属; 富集; 镉; 铅; 水稻土; 潮土
【英文关键词】rice; heavy metal; accumulation; cadmium; plumbum; paddy soil; alluvial soil
【中文摘要】于2008年选用江苏省两种典型土壤(潮土和水稻土) ,采用盆栽试验研究杂交籼稻 K 优818地上部不同器官对土壤重金属镉(Cd)和铅(Pb)的富集特征。结果显示,水稻地上部不同器官对土壤 Cd和 Pb的富集特征差异显著, 总体上呈现茎鞘> 叶片> 大米的趋势。水稻土栽培下重金属对水稻株高、 单穗重等的抑制效应显著强于潮土,且抑制效应随土壤重金属浓度的升高而增强。与对照相比,当外源 Cd和 Pb的浓度为 7 mg / kg 和 900 mg/ kg 时,单穗重降幅最大, 分别下降了 28. 4%和36. 6%。不同土壤类型下,重金属的生物有效性差异明显,水稻土栽培下水稻各器官的 Cd与 Pb含量显著高于潮土。
【英文摘要】Pot experiments were conducted to investigate the accumulation characteristics of Cd and Pb in abo vegr ound organsof indica hybr id rice(K you 818) in two ty pical soils (paddy soil and alluvial soil) in 2008. T here were significant differences inthe concentr ations of Cd and Pb in different abov egr ound organs, fo llow ing an order of stem and sheath> leaves> milled r ice(P< 0. 05) . T he inhibitor y effects o f the two heavy metals on plant height and single panicle w eight w er e significantly greater inthe paddy soil than those in the alluvial soil. In addition, the inhibitory intensity increased with the rising concentrations of theheavy metals. In comparison to the control, the sing le panicle w eight show ed the lar gest declines of 28. 4% and 36. 6% whilethe concentrations of ex ogenous Cd and Pb r eached 7 mg/ kg and 900 mg/ kg, respectively. T he bioavailability of the heavymetals exhibited significant differ ences between the tw o soil types. Consequently, the concentrations of Cd and Pb in variousrice org ans were significantly hig her in the paddy soil than those in the alluv ial soil (P< 0. 05) .

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【第一作者】范中亮
【通讯作者】张卫建
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【题目】不同土壤类型下重金属 Cd 对水稻剑叶光合特性和产量构成的影响
【中文关键词】水稻;Cd;剑叶;光合作用;产量构成
【英文关键词】rice; Cd; flag leaf; photosynthesis; yield components
【中文摘要】以杂交籼稻(K 优 818)为材料,设置不同 Cd 浓度水平,采用盆栽试验,研究了不同土壤类型下(潮土和水稻土)重金属 Cd对剑叶光合特性和水稻产量及其构成的影响。结果显示,在3 mg · kg-1浓度水平下,与对照相比,两种土壤类型下 Cd 处理均提高了水稻剑叶净光合速率(Pn),其中潮土条件下 Pn 提高了 6.4%;而当 Cd 处理浓度达到 7 mg · kg-1时,两种土壤条件下 Pn 均显著下降,其中水稻土条件下Pn 与对照相比下降了 13.8%。 Cd 在低浓度水(1~3 mg · kg-1)时,两种土壤类

型下水稻结实率和单穗重均略有下降;但在高浓度水平(5~7 mg• kg-1)下,水稻结实率和单穗重均显著下降(P<0.05)。不同土壤类型下,Cd 的毒害效应差异显著,相同处理水平下水稻土 Cd 对水稻Pn 和单穗重的抑制效应显著高于潮土。

【英文摘要】Increasing attentions have been paid to the food safety along with people ' s living improvement. Cd is one of the most deadly heavymetal to human healthy. Due to unreasonable use and management, a considerable area of farmland soil has been contaminated by Cd. In orderto understand the impacts of soil Cd on rice production, a pot culture experiment was conducted with one rice variety of hybrid Indica KU818 under two soil types(alluvial soil and paddy soil)in 2008, Nanjing City. Five soil treatment levels(0、1、3、5、7 mg Cd · kg-1 soil)were selectedwith three replicates. The effects of soil Cd on flag leaf photosynthesis, chlorophyll fluorescence characteristics and grain yield componentswere tested in this experiment. The results showed that below the Cd treatment level of 3 mg · kg-1, the net photosynthesis rates(Pn)ofrice flag leaf significantly increased in the two soil types, and the increment was 6.4% in the alluvial soil. Above the level of 3 mg · kg-1, thevalues of Pn significantly decreased in the two soil types, and the reduction was 13.8% at the level of 7 mg · kg-1 compared to the CK in thepaddy soil. Also, below the level of 3 mg · kg-1(1~3 mg · kg-1), the single spike weight and seed-setting rates of rice slightly reduced relative tothe control, but the reduction was significant compared to the CK when the treatment level increased(5~7 mg · kg-1). There were significantdifferences in the inhibitory effects of Cd on the Pn, SPAD values, and single panicle weight between soil types, significant higher inhibitoryeffects existed in the paddy soil. These results suggest that soil Cd may stimulate rice growth under low level, and the mechanism need to furtherstudy. Moreover, different practices should be executed for crop production with high quality and safety in different field condition due tothe soil condition differences.

【语种】中文

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【学科分类】农业基础学科

【题目】土壤重金属Pb和Cd在小白菜中的富集特征及产地环境安全临界值

【中文关键词】小白菜;土壤重金属;Pb;Cd;富集;临界值

【英文关键词】pakchoi (Brassica chinensis L.); soil heavy metal; Pb; Cd; accumulation; critical value

【中文摘要】探究蔬菜对土壤重金属的富集特征及植株重金属含量与土壤环境含量的关系,对无公害蔬菜生产及其安全产地适宜性评价至关重要。通过盆栽方法,研究了不同土壤条件下(水稻土和潮土)小白菜可食部分对Pb和Cd的富集特征,并探讨了Pb与Cd在产地土壤环境中的安全临界值。结果表明,不同土壤条件下,小白菜可食部分对Pb和Cd的累积量均随处理浓度的增加呈递增趋势。和对照相比,2种土壤中小白菜可食部分Pb的最高含量分别提高了18.31倍和9.49倍, Cd的最高含量分别提高了15.4倍和10.04倍。同一处理水平下,水稻土中的Pb和Cd比潮土中的更易被植物富集。水稻土中小白菜可食部分Pb含量是潮土中的2.54倍,Cd含量则是潮土中的1.92倍。依据国家食品污染物限量标准(GB2762—2005)进行方程拟合,得出种植小白菜的水稻土中Pb和Cd的安全临界值分别为36.54 mg/kg和0.30 mg/kg,低于或等于国家土壤环境安全标准限制的临界值(HJ 332—2006)。潮土中Pb和Cd的安全临界值分别为110.21 mg/kg和1.09 mg/kg, 高于国家土壤环境安全标准限制的临界值(HJ 332—2006)。

【英文摘要】It is very important to explore the enrichment characteristics of soil heavy mental by vegetable and the relationship between heavy metal content in vegetable and in soil. The experiment was conducted to study the dose-response relationship of soil lead (Pb) and cadmium (Cd) concentration with their uptakes by Pakchoi (Brassica chinensis L.), as well as their environmental critical values in Pakchoi production area for food security. The results showed that: generally, the contents of Pb and Cd in the edible parts of Pakchoi increasedalong with the concentrations of soil Pb and Cd in two soils (alluvial soil and paddy soil). Compared with the control, the highest contents of Pb in the edible parts of Pakchoi increased by 18.31 and 9.49 times, and the highest contents of Cd increased by 15.4 and 10.04 times in the two types of soil, respectively. Pb and Cd in the paddy soil were easily enriched by the crop than in the alluvial soil. Pb and Cd concentrations in the edibleparts of Pakchoi in the paddy soil were 2.54 and 1.92 times higher than those in the alluvial soil, respectively,under the same treatment level. Based on the national standards for maximum levels of heavy metal contaminants in foods (GB 2762-2005), the environmental critical values of soil Pb and Cd in the paddy field were calculated as 36.54 mg/kg and 0.3 mg/kg, respectively, which were equal or lower than those in National standards of soil security (HJ 332-2006). The environmental critical values of soil Pb and Cd in the alluvialfield were calculated as 110.21 mg/kg and 1.09 mg/kg, respectively, which were higher than those in national standards of soil security (HJ 332-2006).

【语种】中文
【第一作者】杨菲
【通讯作者】张卫建
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【学科分类】农业基础学科

【题目】土壤重金属 Pb和 Cd在小萝卜中的富集特征及产地环境安全临界值
【中文关键词】小萝卜; 土壤重金属; Pb ; Cd ; 富集; 临界值
【英文关键词】Radish; soil heavy metal; Pb; Cd; accumulation; critical value
【中文摘要】通过盆栽试验研究江苏 2种不同理化性质的典型土壤 (潮土和水稻土)下,小萝卜对 Pb、Cd吸收、积累及分配的影响,探讨了Pb与Cd在产地土壤环境中的安全临界值。结果表明:(1)2种土壤中小萝卜Pb、Cd含量与土壤添加量均呈正相关,根部含量显著高于叶的。水稻土中小萝卜根的 Pb平均含量是叶的60.88倍, Cd平均含量在水稻土和潮土中则分别是叶的3.20倍和1.85倍;(2)同一处理水平下,水稻土中的Pb、Cd比潮土中更易被小萝卜富集。水稻土中小萝卜根的Pb含量是潮土中的21.58倍,Cd含量是潮土中的2.26倍;(3)依据国家食品污染物限量标准(GB2762-2005),进行方程拟合,得出种植小萝卜的水稻土的Pb、Cd安全临界值分别为139.99、3.43 mg /kg , 潮土的安全临界值分别为220.25 mg /kg和6.11mg/kg,均显著高于国家土壤环境安全标准限制的临界值(HJ332-600)。
【英文摘要】no
【语种】中文
【第一作者】吴琦
【通讯作者】张卫建
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【学科分类】农业基础学科

【题目】沪宁高速沿线土壤和水稻铅含量空间分布差异分析
【中文关键词】铅; 土壤; 大米; 空间分布; 高速公路
【英文关键词】Pb; soil; rice; spatial distribution; highway
【中文摘要】以沪宁高速公路为例, 对沪宁高速沿线3个典型路段两侧土壤和大米中 Pb含量的空间分布特征进行了分析。结果表明,受风向的影响,3个路段路南土壤 Pb含量高于路北土壤Pb含量, 而路南大米Pb含量低于路北大米Pb含量;不同路段两侧土壤和大米Pb含量随着与公路距离的增加先提高后逐渐降低, 土壤和大米的污染范围随着车流量的增加而扩大。
【英文摘要】no
【语种】中文
【第一作者】赵健
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【题目】土壤铅和镉胁迫对空心菜生长及抗氧化酶系统的影响
【中文关键词】空心菜;土壤重金属; Pb ; Cd ;生物量; 抗氧化酶
【英文关键词】Swamp cabbage(Ipomoea aquatica Forsk.); soil heavy metal; lead; cadmium; biomass; anti-oxidative enzyme
【中文摘要】研究了不同浓度水平的土壤铅和镉胁迫对空心菜生长及抗氧化酶系统的影响。结果表明:低浓度的Pb胁迫会提高空心菜的生物量,但高浓度胁迫下空心菜的生长受到抑制,在900mg/kg Pb处理下空心菜生物量仅为对照的32.4%。土壤

Cd胁迫下,空心菜的生长受到一定程度的抑制,在7mg/kg Cd处理下植株生物量为对照的83.6 %。空心菜叶片中丙二醛(MDA)含量随着Pb和Cd浓度的增加而增加,在最高浓度Pb和Cd胁迫下,MDA含量分别比对照提高了12.9%和29. 5%,说明Cd对空心菜生长的胁迫作用大于Pb。空心菜叶片中超氧化物歧化酶(SOD)、过氧化物酶(POD)和过氧化氢酶(CAT)活性均随Pb浓度的增加先上升后下降, 说明在低浓度下三种抗氧化酶有较好的协同效应,空心菜表现出较强的自我调节能力。Cd胁迫下, 随着处理浓度的增加,空心菜叶片中SOD和CAT的活性也是先上升后下降,而POD的活性变化不明显。

【英文摘要】The effects o f s ing le p lum bum (Pb) and cadm ium (Cd) stresses on the grow th, lipid perox idation and antiox idant enzym e system o f sw am p cabbage (Ip om oea aqua tica Forsk.) were investiga ted by pot exper im ent. The resu lts showed that low Pb concentrations stress could slightly increase the b iom ass o f sw am p cabbage, w hereas itsg row th w ou ld be significantly inh ib ited under high concentrations. The b iom ass in 900 m g /kg Pb trea tm ent was on ly 32. 4% of tha t in the contro .l Its g row th w as also inh ib ited under Cd stress. The biom ass in 7 mg / kg Cd treatment was 83. 6% of tha t in the contro.l The lea f content ofm a londialdehyde (MDA) increased w ith increasing Pb and Cdconcentrations. TheMDA contents under the h ighest concentrations of Pb and Cd increased by 12. 9% and 29. 5%,respectiv ely com pa red to the con tro ,l indicating that sw am p cabbagew as m ore res istan t to Pb than Cd. The ac tiv itieso f superox ide d ism utase (SOD), perox idase (POD), and ca talase (CAT) in its leaves increased in itia lly and thendeclined w ith the increasing o f Pb concen tration. The results ind ica ted that the three anti ox idative enzym es hadrem arkab ly synerg istic effects under low concentrations o f Pb than Cd, and could increase sw am p cabbag e adaptationto heavy me tal stresses

【语种】中文
【第一作者】吴琦
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【题目】Study on Mass and Thickness Measurement of Chicken Meat Using X-ray Image
【中文关键词】鸡肉;质量;厚度;X射线
【英文关键词】Chicken meat, Mass, Thickness, X-ray image

【中文摘要】本研究以以鸡胸脯肉为研究对象,利用X射线图像技术来测量鸡胸脯肉的质量和厚度。利用指数拟合建立了X射线图像像素值与鸡肉厚度的关系模型,指数拟合方程为 ;利用指数拟合建立X射线图像像素值与鸡肉质量的关系模型,指数拟合方程为 。实验结果表明:厚度测量建模回归系数和模型预测回归系数分别为0.9604和0.976。质量测量建模回归系数和模型预测回归系数分别为0.844和0.881。

【英文摘要】The mass and thickness measurement of chicken meat were investigated using X-ray imagein the paper. The relation model between pixel value of X-ray image and thickness of chicken breast was established using the exponential fitting and the exponential fitting equation is y = 2610.2e-0.0283x.The relation model between pixel value of X-ray image and average mass of chicken breast was established using the exponential fitting and the exponential fitting equation is y =0.3575e-0.0308x. The experimental results showed that the modeling regression coefficient and predicted regression coefficient for thickness measurement were 0.9604 and 0.976, respectively. The modeling regression coefficient and predicted regression coefficient for mass measurement were 0.844 and 0.881, respectively.

【语种】英文
【第一作者】赵进辉
【通讯作者】刘木华
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【学科分类】农业工程

【题目】Preliminary study on quantification of duck color based on Fuzzy k - nearest neighbor method

【中文关键词】鸭肉;肉色;模糊K近邻;BP神经网络;数字图象处理
【英文关键词】Duck, Fleshcolor, Fuzzy K-nearest neighbor, BP neural network, Digital image processing
【中文摘要】为了迅速准确地量化鸭肉肉色,在本研究中开发了一种可见光图像采集系统。首先,使用过阈值分割法从原始图像中提取鸭胸肉;然后通过颜色空间转换提取包括L*,a* 和b*的平均值的图像肉色特性;最后,肉色特性被作为特征参数去建立基于F-KNN和BP的鸭肉肉色的量化模型,并对这两种方法得到的实验数据进行了对比分析。试验结果表明F-KNN法的测试样本的准确率高于BP神经网络,它们的准确率分别为83.78% 和78.38%,因此,在本研究中选择F-KNN法来量化鸭颜色。
【英文摘要】In order to quantify duck color quickly and accurately, a visible light image acquisitionsystem was developed in this study. Firstly, duck breast meat was extraced from the original image using over-threshold segmentation method; and then image fleshcolor features including average value of L*,a* and b* were extracted through color space conversion; finally, shcolor features were used as characteristic parameters to establish quantification model for duck color based on the method of Fuzzy k-nearest neighbor (F KNN) and BP neural network and the experimental datas gotten from the two methods were analyzd in contrast. The results showed the accuracy rate of test samples by F KNN method was higher than that of BP neural network, the accuracy rate was 83.78% and 78.38% respectively. Therefore, F KNN method was selected for quantification of duck color in this research.
【语种】英文
【第一作者】涂冬成
【通讯作者】刘木华
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【学科分类】农业工程

【题目】Design of poultry meat edible quality detection device using multiple image sensors
【中文关键词】禽肉;食用品质;X射线;CCD;检测装置
【英文关键词】Poultry meat, Edible quality, X-ray, CCD, Detection device
【中文摘要】一个检测装置被设计用来检测禽肉的食用品质。这个检测装置是一种结合X射线技术、可见光技术和荧光诱导技术的机电一体化设备。这种装置不仅能够克服传统的测量方法会破坏样本和检测时间长等缺点,而且可以同时进行多个质量指标检测。这个检测装置由框架、变速器控制系统、X射线检测系统、可见光探测系统和荧光诱导检测系统等组成。该设备能大大提高禽肉综合质量的判断能力和实现快速、无损检测禽肉的食用品质。
【英文摘要】A detection device was designed to detect the poultry meat edible quality. The detection device is the electromechanical integration equipment which is integrated with x-ray technology, visible light technology and induced fluorescence technology. The device not only can overcome the disadvantages that the conventional measure methods have destructiveness to the samples, and consume the long time of the detection, etc, but also can detect the multiple quality indexes simultaneously. The detection device is composed of the frames, the transmission control system, the X-ray detection system, the visible light detection system and the induced fluorescence detection system, etc. The device can greatly increase the judging ability for comprehensive quality of poultry meat and realize the fast and non-destructive testing to poultry meat edible quality.
【语种】英文
【第一作者】赵进辉
【通讯作者】刘木华
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【引文索引号】2.0110113546e+013
【学科分类】农业工程

【题目】Feasibility study on prediction of springiness of goose meat using laser-induced fluorescence spectroscopy
【中文关键词】激光诱导荧光光谱;鹅肉;弹性
【英文关键词】laser-induced fluorescence (LIF);goose meat;Springiness

【中文摘要】本研究的目的是为了评价激光诱导荧光光谱(LIFS)在预测鹅肉弹性的能力。校正集和预测集的相关系数r,校正集均方根误差RMSEC,预测集均方根误差RMSEP被用来评价模型的好坏。用偏最小二乘法法(PLS)建立了原始值与激光诱导荧光光谱(LIFS)光谱值之间的校正模型。校正集和预测集的相关系数r分别为0.8982和0.8296;RMSEC和RMSEP分别为0.0238和0.0236。这表明了激光诱导荧光可用于鹅肉弹性的预测。

【英文摘要】The present work aimed to evaluate the ability of laser-induced fluorescence spectroscopy (LIFS) in predicting the springiness of goose meat. Correlation coefficient of calibration (r) and validation (r) standard error of calibration (RMSEC) and error of prediction (RMSEP) were used to evaluate the quality of the model The calibration models between original value and LIF spectra were developed using partial least squares (PLS) regression The correlation coefficient (r) of the calibration and prediction sets were 0.8982 and 0.8296, respectively; RMSEC and RMSEP were 0.0238 and 0.0236, respectively. It is confirmed that LIF is feasible to predict the springiness goose meat.

【语种】中文

【第一作者】沈杰

【通讯作者】刘木华

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【学科分类】农业工程

【题目】Preliminary study of laser-induced fluorescence spectroscopy detect chicken meat tenderness

【中文关键词】激光诱导荧光光谱;鸡胸脯肉;嫩度

【英文关键词】laser-induced fluorescence; chicken breast meat;Tenderness

【中文摘要】本研究主要讨论了一种使用激光诱导荧光光谱技术检测鸡肉嫩度的新方法。首先获得了鸡胸肉的荧光光谱。然后,通过对鸡胸肉进行物理化学实验得到鸡肉的嫩度数据。最后,应用PLS法来建立鸡肉嫩度和荧光光谱之间的预测模型。试验结果表面PLS回归模型能够预测鸡肉的嫩度。PLS模型能够定量分析鸡肉嫩度的预测值和实际值之间的关系,试验得到其预测相关系数为 0.8704。这说明了结合激光诱导荧光光谱和PLS的可以用来实现鸡肉嫩度的简便、快速分析。

【英文摘要】A new method of detecting tenderness of the chicken using laser-induced fluorescence (LIF) spectroscopy was discussed in this study First of all the fluorescence spectrum of chicken breast meat was obtained. Than, through the physical and chemical experiments of chicken breast meat to get the chicken tenderness data The PLS algorithm was used to establish the prediction model between meat tenderness and Fluorescence spectrum. PLS regression model was able to predict tenderness of chicken. The relationship between predictive value and actual value of meat tenderness was quantitative predicted by the PLS model and a correlationcoefficient of 0.8704 was found. It is concluded that the combination of LIF and PLS methods can be used to provide a technique of convenient, versatile, and rapid analysis for tenderness of chicken

【语种】中文

【第一作者】吁芳

【通讯作者】刘木华

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【学科分类】农业工程

【题目】氮钾肥用量对杂交粳稻常优1号米质性状及淀粉黏滞谱特征的影响

【中文关键词】施氮量; 施钾量; 稻米品质; 淀粉黏滞谱; 杂交粳稻

【英文关键词】n itrogen application ra te; potassium applica tion ra te; rice qua lity; RVA pro file; jap on ica hybrid rice

【中文摘要】以杂交晚粳稻常优1号为材料, 研究氮钾肥用量对稻米品质性状及淀粉黏滞谱(RVA 谱) 特征的影响, 为杂交粳稻品质调优及肥料合理施用提供参考。试验采用裂区设计, 在大田条件下研究不同施氮量(N, 0kg /hm2、90 kg / hm2、180 kg /hm2、270 kg /hm2、360 kg /hm2) 和施钾量(K2O, 0 kg /hm2、45 kg /hm2、90 kg /hm2、135kg /hm2、180 kg /hm2)对稻米加工品质、外观品质、营养品质、蒸煮食味品质及淀粉RVA 谱特征值的影响。结果表明: 氮肥用量对常优1号的稻米加工、外观、营养、蒸煮食味品质及RVA 谱的各项特征值均有极显著影响, 钾肥用量对各项米质性状及RVA 谱曲线峰值

(峰值黏度、热浆黏度和冷胶黏度)和回复值有显著或极显著影响, 氮钾交互效应对精米蛋白质含量、食味值和RVA谱的峰值黏度和回复值的影响达显著或极显著水平。随着施氮量的增加,稻米的加工品质和营养品质提高, 而外观品质、直链淀粉含量、胶稠度和食味值下降; 随着施钾量的增加, 稻米加工品质、外观品质、营养品质和直链淀粉含量提高, 稻米食味值下降; 与不施肥相比, 施用氮肥或钾肥总体上有使稻米淀粉黏滞性变劣的趋势。

【英文摘要】Effects of n itrog en and potassium fertilizer app lication rates on r ice quality and starch RVA pro file parameters o f late jap onica hybr id r ice Changyou No. 1 we re investiga ted to prov ide scientific instruc tions for im prov ing ricequality and appropr ia te nutr ient m anagem ent. Rice milling quality, appearance quality, nutritional quality, cook ing andtast quality, and sta rch RVA profile param eters w ith different treatm ents w ere investiga ted in this sp lit-plot field experiment. Twenty five treatm ents from the comb inations o f five n itrogen app lication rates (N, 0 kg /hm2, 90 kg /hm2, 180kg / hm2, 270 kg /hm2, 360 kg /hm2) and five po tassium application rates (K2O, 0 kg /hm2, 45 kg /hm2, 90kg / hm2, 135 kg / hm2, 180 kg / hm2) were set. The results showed that therew ere significant or extremely significantly differences am ong the nitrogen treatments in rice quality characters and all starch RVA profile parameters. The rice qua lity charac ters, peak v isco sity, ho t v iscosity, coo l v iscosity and consistence of RVA profile we re sign ificantly influencedby po tassium treatments. The interac tion betw een n itrogen and po tassium treatm ents on pro tein content, taste va lue, peakv iscosity and consistence o fRVA pro file we re sign ificant. As nitrogen applica tion rate was ra ised, m illing qua lity and nutr-itiona l quality increased, w hile appearance quality, amy lase content, g el consistency and taste value o f r ice decreased. Increasing po tassium application ra tew ould result in im prov ing of m illing qua lity, appearance quality, nutritional quality andamy lase content, and decreasing r ice taste va lue. Com pared w ith no fertilizer app lication, e ither em ploy ing nitrogen fe rtilizer and or po tassium fertilizer genera lly decreased sta rch v iscosity.

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【第一作者】王子臣
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【题目】稻麦两熟制农田不同土壤耕作方式对稻季CH4 排放的影响
【中文关键词】稻麦两熟;土壤耕作;CH4 排放
【英文关键词】rice-wheat double cropping; soil tillage; CH4 emission
【中文摘要】【目的】研究稻麦两熟制农田不同土壤耕作方式对水稻生长季CH4 排放的影响,为长江下游稻麦两熟制农田温室气体减排提供对策。【方法】采用裂区设计,利用静态暗箱-气相色谱法研究麦季土壤耕作方式(免耕、旋耕和翻耕)和稻季土壤耕作方式(旋耕和翻耕)对水稻生长季CH4 排放的影响。【结果】稻麦两熟制农田不同土壤耕作方式下水稻生长季CH4 排放呈先升高后降低的变化趋势,移栽至有效分蘖临界叶龄期CH4 累积排放量占全生育期排放总量的比例为64.73%—86.84%。水稻生长季CH4 排放总量麦季免耕极显著高于麦季旋耕和麦季翻耕,平均增加53%和24%;稻季翻耕较稻季旋耕平均增加CH4 排放量10%,差异达显著水平。不同土壤耕作处理稻季CH4 排放总量为:麦季免耕+稻季翻耕>麦季免耕+稻季旋耕>麦季翻耕+稻季翻耕>麦季翻耕+稻季旋耕>麦季旋耕+稻季翻耕>麦季旋耕+稻季旋耕,“ 单位产量的CH4 排放量 ”表现趋势相同。水稻生长期内CH4 排放通量的季节变化和土壤Eh呈极显著负相关,CH4 排放总量与0—5 cm 耕层土壤有机质含量呈极显著正相关。【结论】麦季土壤耕作方式和稻季土壤耕作方式对水稻生长季CH4 排放总量有显著或极显著影响,在长江下游稻麦两熟制农田采用周年旋耕措施能有效减少水稻生长季CH4 的排放。

【英文摘要】【Objective】 CH4 emission during paddy season under different soil tillages in a rice-wheat double cropping systemwere investigated for providing scientific instructions to develop rational measures of reducing greenhouse gas emission in the lowerreaches of the Yangtze River. 【Method】 A split plot experiment was conducted to study the effects of soil tillage before wheatsowing and soil tillage before rice transplanting on CH4 emission during paddy season by using the method of static chamber-gaschromatographic techniques. Soil tillage before wheat sowing was designed as no tillage before wheat sowing (NTW), rotary tillagebefore wheat sowing (RTW) and plow tillage before wheat sowing (PTW). Soil tillage before rice transplanting was designed asrotary tillage before rice transplanting (RTR) and plow tillage before rice transplanting (PTR) for each soil tillage before wheatsowing just before rice transplanting. 【Result】 The seasonal variation characteristics of CH4 emission under different soil tillages ina rice-wheat double cropping system were defined, and represented an increasing at the beginning and declining later on. CH4accumulative emissions from transplanting stage to critical stage of productive tillering accounted for 64.73%-86.84% of the totalemission during paddy season. Under NTW, average CH4 emission during paddy season was 53% and 24% higher than under RTWand PTW,

respectively, and they were significantly different. Average CH4 emission during paddy season under PTR wassignificantly higher than under RTR. Total CH4 emissions and total CH4 emissions per unit area yield under different soil tillagefollowed the same order: NTW+PTR>NTW+RTR>PTW+PTR>PTW+RTR>RTW+PTR>RTW+RTR. Correlation analysisshowed that CH4 emission flux under different soil tillages was negatively related to soil Eh during paddy season, and a significantlypositive correlation between total CH4 emissions and soil organic matter content at 0-5 cm soil layer was also found.【Conclusion】Total CH4 emissions during paddy season were significantly influenced by soil tillage before wheat sowing and soil tillage beforerice transplanting. Annual rotary tillage is one of the effective measures to reduce total CH4 emissions during paddy season fromrice-wheat double cropping system in the lower reaches of the Yangtze River.

【语种】中文

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【学科分类】环境科学技术基础学科

【题目】稻麦轮作条件下机插水稻CH4和N2O的排放特征及温室效应

【中文关键词】机插水稻;CH4 和N2O 排放;温室效应;稻麦轮作

【英文关键词】mechanical transplanting rice; CH4 and N2O emissions; greenhouse effect; rice-wheat rotation

【中文摘要】于2008 年采用静态暗箱-气相色谱法对人工手插和机插2 种水稻种植方式下CH4和N2O 排放进行田间观测,研究稻麦轮作条件下机插水稻CH4和N2O 的排放特征及其温室效应。结果表明,水稻生长季CH4排放通量人工手插水稻和机插水稻均呈先升高后降低的变化趋势,N2O 仅在水稻搁田期间有明显排放,机插和人工手插水稻CH4平均排放通量分别为4.68、4.39 mg · m-2 · h-1,N2O 平均排放通量为92.80、111.33 μg · m-2 · h-1。与人工手插水稻相比,机插水稻增加CH4 排放总量14%,减少N2O 排放总量11%,使稻季排放CH4 和N2O 所产生的全球增温潜势(GWP)和“单位产量的GWP”分别提高8%和10%。在稻麦轮作条件下采用机插水稻种植方式,水稻生长期间排放的CH4 和N2O 所形成的温室效应有提高的趋势。

【英文摘要】CH4 and N2O play important role in global warming and climate change, the emissions of CH4 and N2O in rice fields are affected bymany factors, such as climate, soil properties, water regime, fertilizers et al. However, the emissions of CH4 and N2O in rice fields under variouscultivation patterns are currently poorly understood. By using the method of static chamber-gas chromatographic techniques, a field experimentwas conducted in 2008 to study the characteristics of CH4 and N2O emissions and greenhouse effects of mechanical transplantingrice in a rice-wheat rotation system. The results showed that, the seasonal variation of CH4 emission in two different rice cultivation patternswas defined, an increasing of CH4 emission at the beginning and declining in later season were observed. A N2O emission peak was observedduring the midseason drainage period. The seasonal CH4 emission averaged at 4.68 mg · m-2 · h-1 in mechanical transplanting rice, and 4.39mg · m-2 · h-1 in manual transplanting rice. Seasonal N2O emission averaged at 92.80 μg · m-2 · h-1 and 111.33 μg · m-2 · h-1 in mechanical transplantingrice and manual transplanting rice, respectively. Compared with manual transplanting rice, total CH4 emissions was 14% higher inmechanical transplanting rice, while total N2O emissions was 12% lower. In contrast with manual transplanting rice, mechanical transplantingrice increased total global warming potential(GWP)of CH4 and N2O emissions during paddy season and GWP per yield by 8% and 10%, respectively.These results indicated that mechanical transplanting rice would mildly intensify the radiative forcing during paddy season inrice-wheat rotation system relative to manual transplanting rice cultivation pattern.

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【学科分类】环境科学技术基础学科

【题目】麦秸还田与土壤耕作对稻季CH4和N2O排放的影响
【中文关键词】麦秸还田;土壤耕作;CH4;N2O;温室效应
【英文关键词】wheat straw returning;soil tillage;CH4;N20;greenh ouse efect
【中文摘要】2008年在大田试验条件下,设置麦秸还田旋耕、麦秸不还田旋耕、麦秸还田翻耕、麦秸不还田翻耕4个处理,采用静态暗箱.气相色谱法田间原位观测稻麦两熟制农田水稻生长季CH4和N20排放通量,研究小麦秸秆全量还田与土壤耕作两项技术措施对稻季CH4和N2O排放的影响及其温室效应,以期为稻麦两熟制农田温室气体减排提供对策。结果表明:麦秸还田对稻季cn4排放总量的影响达极显著水平,麦秸还田与耕作方式的互作效应对CHa排放总量有显著影响,麦秸还田和耕作方式对N:0排放总量的影响均达极显著水平;不同麦秸还田与土壤耕作处理稻季cn4排放总量为:麦秸还田旋耕>麦秸还田翻耕>麦秸不还田翻耕>麦秸不还田旋耕,N20的排放总量为:麦秸不还田翻耕>麦秸不还田旋耕>麦秸还田翻耕>麦秸还田旋耕;与麦秸不还田相比,相同耕作措施下麦秸还田排放cI-h和N2O所产生的全球增温潜势(GWP)明显提高,麦秸还田条件下旋耕处理的GWP高于翻耕处理,而“单位产量的GWP”无明显差异,麦秸不还田条件下采用旋耕措施较翻耕可减轻温室效应。
【英文摘要】A field experiment was conducted in 2008 to investigate the efects of wheat straw returning and soil tillage on CH4 andN20 emissions in paddy season in a wheat-rice double cropping system by using the method of static chamber-gas chromatographictechniques.Four treatments(i.e.wheat straw returning+rotary tillage,SRT;wheat straw returning+conventional tillage,SCT;nowheat straw returning+rotary tillage,RT;no wheat straw returning+conventional tillage,CT)were implemented in this experiment.Results showed total CH4 emissions were significantly influenced by wheat straw returning treatments,the interaction between wheatstraw returning and soil tillage treatments on total CH4 emissions was significant.The total N20 emissions within four treatmentswere significantly diferent.The order of the total CU4 emissions was SRT>SCT>CT>RT.and the order of the total N20 emissions was SCT>SRT>CT>RT.As comparing with no wheat straw returning treatments under the same soil tillage.wheat strawreturning significantly increased the total global wanning potential(GWP)of CH4 and N20 emissions.Relative to SCT,SRT increased GW but there is no obvious diference in GWP per yield between SCT and SRT.In contrast with CT,RT efectively decreased greenhouse efect
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【学科分类】环境科学技术基础学科

【题目】施氮量对南粳44氮素吸收运转及氮肥利用效率的影响
【中文关键词】优质粳稻;施氮量;氮素吸收;氮素运转;氮肥利用效率
【英文关键词】Fine quality japonica rice;Nitrogen application rate;Nitrogen absorption;Nitrogen translocation;Fertilizer nitrogen use eficiency
【中文摘要】在大田人工插秧和机械插秧条件下,研究了氮肥施用量对优质粳稻新品种南粳44氮素吸收、运转及氮肥利用效率的影响。结果表明,施氮量对南粳44氮素吸收运转及氮肥利用效率的影响达显著水平;施氮量的增加显著提高抽穗前和成熟期的氮素累积量及结实期植株的氮素运转量,但明显降低了氮素收获指数、氮肥吸收利用率、氮肥生理利用率、氮肥农学利用率和氮肥偏生产力,人工插秧和机械插秧的表现趋势基本相同;相同施氮量条件下人工插秧较机械插秧更有利于提高抽穗后氮素累积量和累积比例、结实期氮素运转量和运转率、氮素收获指数、氮肥生理利用率及氮肥偏生产力,而抽穗前和成熟期氮素累积量、氮素运转贡献率和氮肥吸收利用率低于机械插秧。
【英文摘要】This article studied the characteristics of nitrogen absorption.translocation and fertilizer—nitrogen use emciency in japonicarice euhivar Nanjing 44 under diferent seedling transplanting methods and nitrogen application rates.Results showed that N absorption,translocation and fertilizer—N use eficiency in Nanjing 4 were significantly influenced by nitrogen application rates.Manual-transplanted seedlings and machine-transplanted seedlings showed the same trend of the N accumulation before heading and atmaturity stage,the amount of N translocation in grain—filling period increased significantly along with the increase of N applicationrate,while N harvest index(NHI),recovery eficiency(RE),physiological eficiency(PE),agronomic eficiency(AE)and partialfactor productivity(PFP)showed obvious reduction as N application rate increased.In comparison with machine—transplanted

seed—lings,manual —transplanted seedlings had more N accumulation and higher ratio of N accumulation after heading,had more amount ofN translocation and higher rate of N translocation at grain—filling stage,and had higher NHI,PE and PFP,while had fewer N accumulationbefore heading and at ma turity stage,lower contribution to grain—N and RE under the same N application rate.
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【题目】基于激光诱导荧光技术的鹅肉嫩度初步研究
【中文关键词】激光;荧光光谱;嫩度;偏最小二乘法;鹅肉
【英文关键词】Laser;Fluorescence spectra;Tenderness;PLS;Goose
【中文摘要】嫩度是评价禽肉食用品质的一项重要指标。本文研究了采用激光诱导荧光技术检测鹅肉嫩度的无损检测方法。通过激光诱导荧光采集系统获取38 个鹅肉样本荧光光谱图。以模型相关系数(R)、校正均方根误差(RMSEC)、预测均方根误差(RMSEP)和偏差(Bias)为模型精度评价指标,采用偏最小二乘法(PLS)对荧光光谱信息与样品剪切力值进行拟合。结果表明:波长范围在460-999nm 时,搭建的鹅肉嫩度模型精度最高,R 为0.8857,RMSEC 为0.3381,Bias 为0,用该模型对预测组的13个鹅肉样本进行预测,预测值与实测值的相关系数R、RMSEP 和Bias 分别为0.8726、0.4756 和0.1127。研究表明应用激光诱导荧光无损检测技术预测鹅肉嫩度是可行的。
【英文摘要】The tenderness is an important index for evaluating edible quality of poultry.The nondestructive measurement of the goose tenderness by laser induced fluorescence technique was discussed in this study.Fluorescence spectra of 38 goose samples were captured by Laser induced fluorescence acquisition system.Partical least squares(PLS) algorithm was used to build the modelbetween the shear force value of the goose tenderness and fluorescence spectra.Correlation coefficients (R),root mean square error of calibration (RMSEC),root mean square error of prediction (RMSEP),and bias obtained by Correction model were used as evaluation indicators to judge the model accuracy.The result showed that,when the spectral region is from 460nm to 999nm,we can get the highest accuracy for the goose tenderness model whose evaluation indicators were 0.8857(R),0.3381(RMSEC) and 0(BIAS),respectively. Using the model to predict validation group with 13 samples, Correlation ciefficient(R),RMSEP and Bias were 0.8726, 0.4756 and 0.1127.This study suggests that laser induced fluorescence technique is capable of predicting goose tenderness.
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【第一作者】涂冬成
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【题目】基于激光诱导荧光技术快速测定鸡肉弹性的可行性研究
【中文关键词】弹性;激光诱导荧光;PLS;无损检测
【英文关键词】Elasticity;Laser induced fluorescence(LIF) ;PLS;Non-destructive testing
【中文摘要】弹性是鸡肉新鲜度的重要指标之一。 本文选择激光诱导荧光技术来检测鸡肉的弹性,建立激光诱导荧光光谱与鸡肉弹性之间的预测模型。对采集到的光谱采用归一化预处理,利用万能试验机测得鸡肉的弹性(以恢复距离表示),应用偏最小二乘法进行数学建模。在460nm-999nm 的光谱范围内,PLS 校正组模型的相关系数为0.8944,样本均方根误差为0.1011;模型对预测组的相关系数为0.8897,预测样本均方根误差为0.1083。结果表明,采用激光诱导荧光技术快速检测鸡肉弹性是可行的。
【英文摘要】Elasticity is one of important indicator to the judgment of the freshness of chicken. The present work aimed to evaluate the ability of Laser induced fluorescence(LIF) in predicting the The prediction models of partial least squares(PLS) elasticity were established using the spectral pretreatment method of normalized.The actual values of elasticity were obtained by universal testing

machine.In the spectral range of 460nm to 999nm ,Rc and Rv are 0.8944 and 0.8897 respectively .And RMSEC and RMSEP are 0.1011 and 0.1083,respectively. It is confirmed that LIF is feasible to predict the elasticity of chicken.
【语种】中文
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【题目】基于荧光高光谱图像检测鸭肉嫩度的初步研究
【中文关键词】嫩度;荧光高光谱;偏最小二乘法;鸭肉
【英文关键词】tenderness; hyperspectral laser-induced fluorescence; partial least square (PLS); duck meat
【中文摘要】嫩度是肉类内部品质的重要指标之一。本文采用激光诱导荧光高光谱成像技术对鸭肉的嫩度值进行定量分析。利用405 nm 的二极管激光器作为激发光,先将该激光照射到鸭肉样品上,后用高光谱图像采集系统收集诱导出的荧光散射图像,对所采集的荧光图像进行感兴趣区域(ROIs)提取,最后用偏最小二乘法(PLS)建立荧光高光谱图像数据预测鸭肉嫩度值的最佳预测模型。结果表明,偏最小二乘法最佳预测模型的预测值和真实值之间的相关系数和预测均方根误差分别为0.8618和0.1994。研究结果表明,荧光高光谱技术对鸭肉嫩度的检测是可行的。
【英文摘要】The tenderness is an important indicator of the meat internal quality.In this research hyperspectrallaser-induced fluorescence imaging technology was used to detecting tenderness in duck meat.A continuous beam was produced by the use of 405nm Laser.First the laser irradiate to the duck sample;then the induced fluorescence scattering images were acquired by Hyperspectral image acquisition system.The region of interest was collected from the acquired image.The partial least square regression(PLS) was used to establish the optimal model of tenderness in duck meat.The results show that the correlation coefficients of the prediction and root mean squared error of prediction are 0.8618 and 0.1994,respectively.This study results show that the Hyperspectral Laser-induced Fluorescence Imaging technology is a feasible method for detecting tenderness in duck meat.
【语种】中文
【第一作者】罗春生
【通讯作者】刘木华
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【题目】基于支持向量机的鹅肉肉色客观评定研究
【中文关键词】鹅肉;肉色;过阈值分割;支持向量机;客观评定
【英文关键词】goose meat;fleshcolor;over-threshold segmentation;SVM;objective evaluation
【中文摘要】为了对鹅肉肉色进行更加快速、客观的评定,搭建了可见光图像采集系统,获取了98 个新鲜鹅肉RGB 图像。首先应用过阈值分割方法去除背景,获取颜色的有效判别部位,鹅胸脯肌肉区域的图像,然后通过对该图像进行颜色空间转换提取肉色参数(L*、a*、b*),最后以归一化后的肉色参数作为特征向量,应用支持向量机建立了肉色评定模型。结果表明,训练集和测试集的准确率分别为89.0625%和79.4118%,为鹅肉肉色快速、客观的在线评定打下了良好的基础。
【英文摘要】In order to realize a more objective and fast eveluation of goose color, a visible image acquisition system was built to capture 98 RGB images of goose samples. Firstly, Over-threshold segmentation method was applied to eliminate background for extracting effective discrimination area of color, then the fleshcolor features (L*、a*、b*) were extracted through color space conversion, finally the fleshcolor features which had been normalized were used as feature vector to build goose color evaluation model based on Support vector machine (SVM).The results showed that the accuracy rate of traning set and test set are 89.0625% and 79.4118%, respectively, which is a good base for making the on-line evaluation of goose color objectivity and fast .
【语种】中文

【第一作者】涂冬成
【通讯作者】刘木华
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【题目】灯光诱集白背飞虱种群发生动态及变化规律研究
【中文关键词】白背飞虱;灯光诱集;发生动态;变化规律
【英文关键词】white-backed planthopper,light trap,trap;population dynamic,change law
【中文摘要】为得出白背飞虱灯下种群在惠水县的动态变化规律,更有效地进行白背飞虱的预报及防治。采用普通白炽灯灯诱法对惠水县白背飞虱进行诱集,根据近五年灯诱数据分析了该县白背飞虱灯下始见日、始盛日、高峰及末见日。结果表明:惠水县白背飞虱始见日为4月中、下旬,始盛日出现在4月下旬至5月上旬,末见日为8月中、下旬或9月下旬。始见日、末见日的早晚与各年气候差异有关;通过对贵州和邻近相关省份始见日、末见日的比较分析认为,惠水县为我国白背飞虱春夏随西南气流向北迁飞及秋末随偏北气流向南回迁的经由地,但回迁途中并不在惠水降落。
【英文摘要】In order to know dynamic change law of white—back planthopper under light.provide effective occurrence and control countermeasure,the white-back planthopper was trapped by using ordinary incandescent from 2006 to 2010 in HuiShui Country to analyze the first and last appearance dates,occurrence peak and initial out break dates of the pest.The results showed that first appearance date was in the middle and late ten days of April and the initial outbreak date was in late April and the first ten days of May.The last appearance date was in the middle and late ten days of August or in the last ten days of September.The first and the last appearance dates of the white-back planthopper could advance or later due to the climate differences in different years.By comparing the first and the last appearance dates with that of related provinces, the result indicated that Huishui might he a key area for white—back pLanthopper migration flora south to north in spring and summer with south-west airstreams and then from north to south in late autumn with northerly airstreams in China, but not a landing area in cause of the latter.
【语种】中文
【第一作者】温冬梅
【通讯作者】金道超
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【题目】水稻白背飞虱灯诱种群数量动态研究
【中文关键词】白背飞虱 灯诱数量 发生动态
【英文关键词】Sogota furcifera light trapped number occurrence dynamic
【中文摘要】从贵州省思南县 1990~2009 年白背飞虱灯诱数据可以看出 该地区白背飞虱各年的始见期集中在4 月中 下旬 高峰期多出现在 7 8 月份 年种群消长动态以单峰型和双峰型混合出现 但以单峰型为主导 达 85% 运用灯诱白背飞虱数量季节性消长及年度间虫量的变化特点来分析其发生动态 可见总体虫害以 20 世纪 90 年代中后期发生较轻 进入 21 世纪呈现出加重发生趋势。
【英文摘要】According to the data of light trapped Sogota furcifera in Sinan county from 1990 to 2009 the beginning occurrence stage of was concentrated in the mid. and late April while the peak season often appeared in July and August. The annual dynamic trend was mixed bimodal and unimodal pattern but unimodel was the dominant mode and contributed to 85%. If using the seasonal and year prevalence of light trapped to analysis the dynamic characteristics the pest occurred lighter in 1990s and had been more and more serious since the beginning of 21st century.
【语种】中文
【第一作者】邵先强
【通讯作者】邵先强

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【题目】利用高光谱图像技术检测鸡胴体内部粪便污染物
【中文关键词】高光谱图像; 粪便污染物; 鸡胴体; 检测
【英文关键词】hyperspectral imaging; fecal contaminants; chicken carcasses; detection
【中文摘要】以鸡胴体为研究对象,探讨基于高光谱图像技术的鸡胴体内部粪便污染物检测方法。首先采集400 ~1 000 nm的鸡胴体高光谱图像; 然后应用主成分分析(PCA) 获得主成分图像,由第1 主成分图像得到3 个特征波长518. 59,562. 64,700. 67 nm,并以700. 67 nm 特征波长下的图像作为鸡胴体内部粪便污染物检测特征图像; 最后构建掩膜以消除特征图像背景噪声并将其置为白色,并运用阈值分割和数学形态学完成粪便污染物的提取。试验结果表明,对100 个鸡胴体样本进行检测,检测总正确率为93%。应用高光谱图像技术结合主成分分析等数据处理方法能较好地完成对鸡胴体内部粪便污染物检测,为鸡胴体内部粪便污染物在线快速检测提供重要的理论依据。
【英文摘要】Using chicken carcasses as the research subject,the detection method for internal fecal contaminants of chicken carcasses based on hyperspectral imaging technology was investigated. Firstly,hyperspectral images of chicken carcasses from 400 nm to 1 000 nm were acquired. Secondly,the principal component images were obtained by the principal component analysis (PCA) ,three characteristic wavelengths (518. 59,562. 64 and 700. 67 nm) were found according to the first principal component (PC1) image,and 700. 67 nm wavelength images were selected as the detection images of the internal fecal contaminants of chicken carcasses. Lastly,the masks were constructed to eliminate the the background noise of characteristic images,and the fecal contaminants were extracted by the threshold segmentation and morphological imaging processing. The experimental results showed that the total accurate rate of the detection was 93% using 100 samples of chicken carcasses. The principal component analysis and yperspectral imaging technology can meet the requirement for detecting internal fecal contaminants of chicken carcasses ’ which provides a theoretical basis for the on-line rapid detection of internal fecal contaminants of chicken carcasses.
【语种】中文
【第一作者】赵进辉
【通讯作者】刘木华
【期刊名称、卷期、页码】江西农业大学学报,2011,33(3): 0573 – 0577
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【题目】基于分段主成分分析与波段比的鸡胴体表面粪便污染物检测
【中文关键词】光谱学; 分段主成分分析; 波段比; 粪便污染物; 鸡胴体; 检测
【英文关键词】spectroscopy; segmented principal component analysis; band ratio algorithm; fecal ntaminants; chicken carcasses; detection
【中文摘要】以鸡胴体为研究对象, 应用高光谱图像技术结合分段主成分分析和波段比等数据处理方法来检测鸡胴体表面粪便污染物。首先采集400~ 1000 nm 的鸡胴体表面高光谱图像; 然后应用分段主成分分析获得7 个特征波长(520. 64, 542. 12, 561. 61, 577. 04, 595. 6, 703. 82 和852. 1 nm) , 并以577. 04/ 520. 64 nm 波段比图像和852. 1/ 703. 82 nm波段比图像进行一次波段加运算后的图像作为检测鸡胴体表面粪便污染物的特征图像; 最后运用阈值分割和数学形态学完成粪便污染物的提取。实验结果表明, 对60 个鸡胴体样本进行检测, 盲肠、直肠和十二指肠粪便污染物检测正确率分别为100%, 100%和96%, 检测总正确率为93. 3%。
【英文摘要】Using chicken carcasses as the research subject, fecal contaminants on chicken carcasses are detected by using hyperspectral imaging technology and combining segmented principal component analysis and band ratio algorithm. Firstly, hyperspectral images of chicken carcasses from 400 to 1000 nm are collected. Secondly, seven characteristic wavelengths (520. 64, 542. 12, 561. 61, 577. 04, 703. 82, 595. 6 and 852. 1 nm) are obtained bysegmented principal component analysis, and the images obtained using 577. 04/ 520. 64 nm band ratio image added by 852. 1/ 703. 82 nmband ratio image are selected as the characteristic images of the detection of fecal contaminants on chicken carcasses. Lastly, the fecal contaminants on chicken carcasses are extracted using the

thresholdsegmentationand mathematical morphology. The experimental results show that the accuracy rates of the detection for the fecal contaminants of ceca, colon and duodenum are 100% , 100% and96% respectively, and the total accuracy rate of the detection is 93. 3% using 60 samples of chicken carcasses.
【语种】中文
【第一作者】赵进辉
【通讯作者】刘木华
【期刊名称、卷期、页码】激光与光电子学进展,2011,48(7): 073001
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【学科分类】农业工程

【题目】稻虱红螯蜂触角感受器的扫描电镜观察
【中文关键词】稻虱红螯蜂 触角 感受器 扫描电镜
【英文关键词】Haplogonatopus japonicus Esaki et Hashimoto,antennal,sensillum,scanning electron microscopy
【中文摘要】扫描电镜观察表明,稻虱红螯蜂Haplogonatopus japonicus Esaki et Hashimoto触角上存在6种感受器,其中刺形感器、锥形感器IV型、柱形感器Ⅱ型和B hm氏鬃毛雌、雄都有,仅数量和分布上存在差异;毛形感器Ⅱ型、Ⅲ型,锥形感器Ⅰ型、Ⅱ型、Ⅲ型,柱形感器Ⅰ和锥形乳头状感器仅分布于雌蜂触角;而毛形感器Ⅰ型,锥形感器Ⅴ型仅见于雄蜂触角。对触角感受器的形态进行了描述,并对部分感器功能进行了讨论。
【英文摘要】Six types of sensillum on the antenna of Haplogonatopus japonicus Esaki et Hashimoto were found by scanning electron microscopy. Chaetic, basiconic sensillum IV,cylindric Ⅱ and B ö hm ’ s bristles occurred in both sexes, but each sensilla differed in number and location between male and female. Trichoid Ⅱ,Ⅲ, basiconic sensillum Ⅰ, Ⅱ,Ⅲ, cylindric Ⅰ and basiconic mastoid sensillum were only found on female ’ s antenna. Trichoid sensillum Ⅰ and basiconic sensillum Ⅴ were only found on emale ’ s antenna. The shapes of these described and parts of their function were discussed in the article.
【语种】中文
【第一作者】李帅
【通讯作者】金道超
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【题目】三都县稻纵卷叶螟灯下蛾量变化动态与田间发生情况调查
【中文关键词】稻纵卷叶螟;灯下蛾量;田间发生;
【英文关键词】Cnaphalocrocis medialis,trap lamp catchs,dynamic change,field occrrrence
【中文摘要】为了对三都县稻纵卷叶螟的监测和防治预报提供参考,对贵州省三都县2009年、2010年稻纵 卷叶螟灯下诱集蛾量动态及2010年 田间发生情况进行 了调查和分析。结果表明:三都县稻纵卷叶螟灯下始见期年 际间不同,2009年始见期是5月11日,2010年是4月30日;灯下诱集蛾量与田间虫害的发生程度存 在关联性,可利用诱 集蛾量对稻纵卷叶螟的发生进行辅助预测预报;灯下诱集第 1代蛾量极低,从第2代开始,灯下诱集蛾量迅速增加,以第2、第3代居多,这与田间稻纵卷叶螟幼虫以第3、第4代为主害代的实际情况符合 。
【英文摘要】Dynamic change and field occurrence situation of trap lamp catches of Cnaphalocrocis medialis in Sandu county in 2009 and 2010 were investigated and analyzed to provide a reference for monitoring, forecast and control of Cnaphalocrocis medialis, The results showed that there was difference of trap lamp catches of Cnaphalocrocis medialis in first emergence stage between 2009 and 2010, the first emergence date was May 11 in 2009 and April 30 in 2010, respectively, there was a correlation between trap lamp catches of Cnaphalocrocis medialis and fiel occurrence degree, which can bu used to forecast increases from the second moth generation rapidly, which accords with the real damage status of Cnaphalocrocis medialis larvae with the third and fourth generation in rice field.
【语种】中文
【第一作者】林秀秀

【通讯作者】陈祥盛
【期刊名称、卷期、页码】贵州农业科学,2011,39(7):123-125.
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【题目】不同水稻品种对稻纵卷叶螟的抗耐性
【中文关键词】稻纵卷叶螟,水稻品种,抗(耐)性,贵州
【英文关键词】rice leaf roller ; rice variety ; resistance ; Guizhou
【中文摘要】针对贵州省生产上大面积栽培的5个水稻品种进行稻纵卷叶螟抗(耐)性研究。结果表明:5个品种对稻纵卷叶螟的抗(耐)性存在显著差异,试验条件下T优618和黔优568的长势最好,卷叶率低,抗性级别表现为抗(R);B优811和奇优894表现为中抗(MR);金优431卷叶率最高,抗性级别为感虫(S)。对5个品种叶片和叶鞘等进行了物理性状的测定及对比,发现稻纵卷叶螟趋于危害植株低矮、主脉狭窄、叶片含水量高、硅化细胞含量低的品种。
【英文摘要】The result s f rom st udying leaf roller resistance of 5 main cultivation rice varieties showed that t here was significant difference in rice leaf roller resistance between 5 tested varieties. Tyou618 and Qianyou568 wit h best growth vigor and lower leaf roll rate are of high resistance to rice leaf roller . B you 811 and Qiyou 894 are of middle resistance to rice leaf roller and J inyou431 wit h highest leaf roll rate is susceptible to rice leaf roller . The varieties wit h short plant height , narrow main vein , high water content of leaf and lower silicification cell content were easily damaged by rice leaf roller in t he light of determining and comparing p hysical character s of leaf and leaf sheat h of 5 tested varieties.
【语种】中文
【第一作者】皑薇
【通讯作者】杨茂发
【期刊名称、卷期、页码】贵州农业科学,38(2):85-88
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【题目】稻纵卷叶螟发生期及发生程度预测模型的建立与应用
【中文关键词】稻纵卷叶螟 发生期 发生程度 预测模型
【英文关键词】Cnaphalocrocis medinalis;outbreak period;occurrence degree;prediction model
【中文摘要】为提高稻纵卷叶螟发生期和发生量预测的准确率,减少稻纵卷叶螟发生对水稻生产造成的损失,应用回归分析方法,对贵州省惠水县1993~2006年稻纵卷叶螟第三代及第四代发生期和发生程度进行分析,建立预测模型。结果表明,第三、四代稻纵卷叶螟2~3龄幼虫盛发期预测模型分别为y=30.76-5.185x和y=10.128+0.837x,发生程度模型分别为y=0.02x-0.169和y=0.000 175x1+0.004 393x2+1.494 365。
【英文摘要】In order to enhance the prediction accuracy of outbreak period and occurrence degree of C.medinalis,reduce the 1OSS of rice production caused by C.medinalis,regressive analysis models were used to predict the outbreak period and the occurrence degree of the third larva and fourth 1arva of C.medinalis in Huishui Country during 1993-2006,and the prediction model was established at the same time.The expected regressive models for the outbreak period of the third stage larva and forth stage larva are:Y=130.76-5.185 and y=l0.128+0.837x separately.The expected regression models for the occurrence degree of the third larva and forth larva are:Y=0.02x-0.169 and y=0.000l75x1+0.004393x2+1.494365 respectively.
【语种】中文
【第一作者】金曙光
【通讯作者】杨茂发
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【题目】水稻矮缩病媒介昆虫及其传毒机制的研究进展
【中文关键词】水稻矮缩病;传毒媒介;传毒机制
【英文关键词】Rice dwarf disease; virus vector; virus transmission mechanism
【中文摘要】水稻矮缩病是由几种不同病毒引发植株矮缩症状的总称。笔者综述了水稻普通矮缩病毒、水稻黑条矮缩病毒、南方水稻黑条矮缩病毒、锯齿叶矮缩病毒和草状矮化病毒引发的水稻矮缩病的媒介昆虫及其传毒机制的研究进展,并对未来的研究方向进行了分析和讨论。
【英文摘要】Rice dwarf disease is the general name of dwarf disease that caused by several different virus. This review summaried the researchful results about the virus vector and virus transmission mechanism which of rice dwarf virus, rice black-streaked dwarf virus, southern rice black-streaked dwarf virus, rice ragged stunt virus and rice grass stunt virus. Furthermore, we analyzed and discussed the future research fields in this paper.
【语种】中文
【第一作者】蒋德春
【通讯作者】杨洪
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【题目】褐飞虱迁飞路线研究进展
【中文关键词】褐飞虱 迁飞路线 研究进展
【英文关键词】Nilaparvata lugens, migration route, research progress
【中文摘要】褐飞虱是一种危害严重并具有迁飞性的水稻害虫,对其迁飞路线的研究有利于褐飞虱的综合防治。综述了褐飞虱的迁飞性及迁飞路线的相关研究,并对其研究前景进行了展望。
【英文摘要】Nilaparvata lugens is a migration pest with serious damage to rice and studying its migration route is beneficial to its integrated control. The paper reviews research progress in migration and migration routes of Nilaparvata lugens, and forecasts its research prospects.
【语种】中文
【第一作者】谢佳楠
【通讯作者】郭建军
【期刊名称、卷期、页码】贵州农业科学,39(1):114-117
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【学科分类】植物保护学

【题目】贵州省灯诱稻飞虱种类和数量动态变化
【中文关键词】稻飞虱 种类 动态变化 贵州
【英文关键词】rice planthopper,species,population dynamic,Guizhou
【中文摘要】对贵州省稻飞虱主要迁入、迁出地(盘县、锦屏、惠水、三都、道真)稻区的灯诱稻飞虱种类及其种群数量变化进行了分析。结果表明,稻区灯诱稻飞虱主要有白背飞虱(Sogatella furcifera)、褐飞虱(Nila-parvata lugens)、拟褐飞虱(N.bakeri)、伪褐飞虱(N.muiri)、灰飞虱(Laodelphgax striatellus)5种;灯下稻飞虱种群以白背飞虱所占比例最高,为47.86%,其次是褐飞虱,所占比例为43.90%,伪褐飞虱、拟褐飞虱及灰飞虱的数量都较少,分别占7.26%、0.43%和0.55%;在各地的比例也存在差异,伪褐飞虱以盘县较多,而拟褐飞虱较少;灰飞虱以道真最多,比例达到0.99%,比盘县、锦屏多1倍,是三都的20多倍;正确辨别灯下飞虱种类有助于提高稻飞虱预测预报的准确性。
【英文摘要】Species and population dynamics of rice planthopper under light trap from five counties of Guizhou Province,Panxian,Jinping,Huishui,Sandou and Daozhen, where were the main emigrated and immigrated sites of rice planthopper,were studied. The results showed that there were five rice planthoppers species under light trap in those rice regions,

namely Sogatella furcifera, Nilaparvata lugens, N. bakeri,N.muiri and Laodelphgax striatellus.The percentage of the above five rice phanthoppers were 47.86%,43.90%,7.26%,0.43% and 0.55% respectively.The percentage of the last three rice planthoppers was smaller and varied in five counties.The number of N. muir was the highest, but N. baker was the least.It was important to identify exactly planthopper species under light trap for improving the veracity of rice planthopper forecsat.

【语种】中文
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【题目】Characterization, phylogeny, alternative splicing and expression of Sox30 gene
【中文关键词】Sox30基因;选择性剪切;RACE
【英文关键词】Sox30 gene;alternative splicing;RACE;
【中文摘要】结果:Sox30 cDNA来源于用RT-PCR和RACE方法克隆尼罗罗非鱼基因。经过一系列可用的基因组和EST数据库以及生物信息学分析表明Sox30也存在于非哺乳动物的脊椎动物和非脊椎动物中,相同的观点也由共线性分析可得。此外,从罗非鱼性腺中分离出4种不同的选择性剪切体。用RT—PCR以及原位杂交的方法来研究它们的时间和空间性表达方式在普通以及性别逆转的性腺发育过程。我们的数据说明Sox30同种型的表达与性腺的阶段和表型有关,在雄性精巢细胞以及雌性精巢体细胞均能观察到。结论:我们的生物信息学以及系统发生和共线性分析均支持了Sox30基因不仅存在于哺乳动物中也广泛存在于整个动物门这个观点。Sox30很大可能广泛存在于性腺中。表达分析显示Sox30也可能依靠选择性剪切在雌性和雄性性腺发育不同阶段中起作用。
【英文摘要】Background: Members of the Sox gene family isolated from both vertebrates and invertebrates have been proved to participate in a wide variety of developmental processes, including sex determination and differentiation. Among these members, Sox30 had been considered to exist only in mammals since its discovery, and its exact function remains unclear. Results: Sox30 cDNA was cloned from the Nile tilapia by RT-PCR and RACE. Screening of available genome and EST databases and phylogenetic analysis showed that Sox30 also exists in non-mammalian vertebrates and invertebrates, which was further supported by synteny analyses. Tissue expression in human, mouse and tilapia suggested that Sox30 was probably a gonad-specific gene, which was also supported by the fact that Sox30 EST sequences were obtained from gonads of the animal species. In addition, four alternatively spliced isoforms were isolated from tilapia gonad. Their temporal and spatial expression patterns during normal and sex reversed gonadal development were investigated by RT-PCR and in situ hybridization. Our data suggest that expressions of Sox30 isoforms are related to stage and phenotypic-sex, observed in the germ cells of male gonad and in somatic cells of the female gonad. Conclusions: Sox30 is not a gene only existed in mammals, but exists widely throughout the animal kingdom as supported by our bioinformatic, phylogenetic and syntenic analyses. It is very likely that Sox30 is expressed exclusively in gonads. Expression analyses revealed that Sox30 may be involved in female and male gonadal development at different stages by alternative splicing.
【语种】英文
【第一作者】韩非
【通讯作者】王德寿
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【学科分类】分子生物学

【题目】转录因子GATA-2在脊椎动物发育过程中的作用
【中文关键词】GATA-2;转录调控机制;脊椎动物
【英文关键词】GATA-2; transcription; vertebrates
【中文摘要】GATA-2是对外胚胎层和胚层发育至关重要的转录因子,它属于具有保守锌指结构的GATA转录因子家族。GATA家族包括6个成员:分别命名为GATA-1至GATA-6.最新研究表明,GATA-2不仅存在于胚胎器官,还对成体造血细胞系

、神经系统、垂体和泌尿生殖系统中细胞的功能和维持都必不可少。本文旨在通过对GATA-2的功能研究进展进行综述,探讨GAT-2在生殖系统中的作用机制,以期更广泛地了解GATA-2基因在生物发育过程中的作用及对相关基因的调控机制,从而为攻克人类相关疾病提供理论依据。

【英文摘要】GATA-2 transcription factor plays a critical role in the development of the ectoderm and mesoderm. It belongs to the GATA family, which contains 2conserved zinc finger DNA-binding domains and is composed of six members, termed from GATA-1to FATA-6.GATA-2 is presend in embryonic tissues and organs and is found in hematopoictic lineage cells, the nervous system, pituitary and genitourinary system, and is essential for the maintenance of their function in adults. The present review focuses on the critical roles of GATA-2 during the developmental process in vertebrates and tries to explore the molecular mechanism of its regulation in the reproductive system, so as to provide a theoretical basis for the human diseases related to GATA-2.

【语种】中文

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【通讯作者】王德寿

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【学科分类】分子生物学

【题目】尼罗罗非鱼微阵列Fosmid基因组文库的构建及基因筛选

【中文关键词】尼罗罗非鱼;基因组文库;微阵列;基因筛选

【英文关键词】Oreochromis niloticus; genomic library;Fosmid librarray; gene screening

【中文摘要】以pCC2FOS为载体构建尼罗罗非鱼fosmid基因组文库,共挑选115200个单菌落,保存在300块384孔样品板中,构建4800个行池、7200个列池、300个板池和25个超级池,形成微阵列,并对其进行复制备份。该文库插入片段平均长度约为40kb,覆盖约罗非鱼基因组的3倍。连续传代实验研究表明,文库具有良好的稳定性。由于构建超级池-板池-行、列池三级池系统形成的微阵列,有助于快速、准确、有效地筛选目的基因,仅需77个PCR反应(超级池25+板池12+行池16+列池24)就能筛选到含有目的基因的一个单克隆,解决了普遍存在的文库筛选难题。通过文库尝试筛选18个与性别分化和生长相关基因,均获得2~5个阳性克隆,说明文库具有较好的实用性。

【英文摘要】transferred into individual wells of 384-well plates, each well with 300 mL culture medium. After overnight incubation at 37°C, 100 mL medium was transfered from each of the 24 wells of every row of the of 384-well plates into one well of the 96-well plate to construct row-pools. Totally 16 row-pools were constructed for each 384-well plate. Similarly, 100 mL medium was transfered from each of the 16 wells of every column of the 384 well plate into one well of the 96-well plate to construct column-pools. Totally 24 column-pools were constructed for each 384-well plate. Raw- and column-pools of two 384-well plates were arrayed in one 96-well plate. Plate-pools were constructed by pooling the 16 column-pools and 24 row-pools (200 mL from each column- and row-pool) from the same 384-well plate. The library was further arranged into 25 super-pools, each including a mixture of culture medium from 12 plate-pools (500 mL from each plate-pool). Finally, All 384-well plates, constructed super-, plate-, row- and column-pools were replicated, one copy kept at －80°C for long-term storage, another copy kept at －20°C for routine use. The constructed tilapia Fosmid library encompasses 115200 clones. All clones were arrayed in 300 plates of 384-well plate. For each plate, column-, row- and plate-pools were constructed, and therefore, totally 4 800 column-pools, 7 200 row-pools and 300 plate-pools were constructed and arrayed. Finally, 25 super-pools were made with each covering twelve 384-well plates. Any gene of interest can be screened only by 3 rounds of minimally 77 (25+12+40) colony PCR due to the array of super-, plate-, row- and column-pools. Fosmid stability assays were performed for the constructed library with 9 randomly picked clones by serial culture for 100 generations over a period of 6 days. The electrophoretic patterns of each clone digested with Hind Ⅲ and EcoR Ⅰ were identical from day 1 to day 6. No loss or rearrangement of the inserted DNA fragment was found during the continuous passage, demonstrating that the Nile tilapia Fosmid library was stable. 10 clones were randomly selected from the library and plasmids of these clones were prepared, digested with Not I and visualized by electrophoresis. All the 10 clones contained insert with an average size of around 40 kb, ranging from 38 to 42 kb. Therefore, the coverage rate of this library is about 3 genome equivalents, leading to a 98.7% probability of recovery of any specific sequences of interest. 18 genes related to tilapia sex differentiation and growth genes were screened to test the quality of the library. All of them were successfully isolated from this library, with each having 2-5 positive clones, confirming the 3 genome equivalents coverage rate and the availability of the library. In summary, a high-quality Fosmid library of the Nile tilapia with large insert (~40 kb) was successfully constructed, microarrayed and characterized using the vector pCC2FOS. This Fosmid library provides a useful tool for functional genomics and genetic breeding of the Nile tilapia.

【语种】中文
【第一作者】李明辉
【通讯作者】王德寿
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【学科分类】分子生物学

【题目】贵州省稻作植保情况调查
【中文关键词】水稻 植保 农药 调查
【英文关键词】rice; plant protection; pesticide; survey
【中文摘要】为了解贵州省水稻种植中植保农事现状,科学指导农户正确有效地防治水稻病虫害,于2010年在贵州省6县开展了水稻种植植保农事调查。调查以户为单位,调查内容包括水稻品种、播种移栽及收割时间、施肥情况、施药时期、施药方式、防治对象、药剂种类、施药次数等,调查发放问卷300份,回收193份,回收率为64.33%。结果显示:贵州省水稻种植品种多样化;不同地区农业耕作发展水平不一致,施肥水平差异较大;在田间防治时,农户不能准确掌握防治时期,防治目标不明确,在水稻生育时期,施药次数为4~6次,国家禁用农药仍有施用。贵州省水稻种植过程中主要存在从事植保农事人员文化水平较低;农户盲目、滥用农药现象突出;缺乏有效的信息指导技术等问题。
【英文摘要】To understand the status of plant protection in rice of Guizhou Province,so as to provide a reference for the control of rice disease and pests,the plant protection in rice planting period was surveyed for individual household in six counties of Guizhou in 2010,including rice cultivar,time of seeding and harvest,fertilizer use,times and frequency of spraying,controlling target,sorts of pesticides,methods of pesticides application etc. The questionnaires of 300 copies were provided,193 copies were retrieved and the recovery ratio was 64.33% in the survey . The results indicated that cultivars and fertilizers used varied highly,and agriculture development level also diversified among the investigated regions. In the paddy control,the optimal time could not be grasped accurately by the farmers,the control target wasn ’ t explicit. During rice growth period,the spraying times focused on 4-6 times,and illegal pesticides was still used. Additionally,there were some social problems affecting rice cultivation,including low education background,blindfold and abusing of pesticides,the lack of effective information and techniques etc. Some suggestions were also put forward for improvement of plant protection activities.
【语种】中文
【第一作者】王召
【通讯作者】杨洪
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【题目】贵州省锦屏县近年稻纵卷叶螟发生规律
【中文关键词】稻纵卷叶螟 发生规律 锦屏县
【英文关键词】Cnaphalocrocis medinalis,occurrence regulation; Jinping County
【中文摘要】对贵州省锦屏县2006~2010年稻纵卷叶螟的迁入时期、迁入量、田间成虫及幼虫发生动态进行了分析,以研究该虫在当地的发生规律。结果表明:锦屏县2006~2010年稻纵卷叶螟为害盛期与水稻分蘖期、拔节期、孕穗期吻合,但不同年份稻纵卷叶螟发生程度不同。2006~2010年田间最高蛾量分别达到8 874、1 648、4 367、2 817和1 222头/667m2。高蛾量的发生天数在不同年份间差异明显,2006~2008年田间蛾量≥400头/667m2的天数分别达到27、30和35 d,而2009年和2010年只有7 d。田间蛾量高且高蛾量发生时间长是造成稻纵卷叶螟暴发成灾的原因。
【英文摘要】To summarize the regularities of Cnaphalocrocis medinalis,the time and quantity of immigration as well as the dynamics of adult and larva in rice fields in Jinping County,Guizhou Province were analyzed from 2006 to 2010 in the present work.The results showed that peak of C.medinalis population was in accordance with tillering stage,jointing stage and booting stage,however the damages considerably varied during the past years.The adult peaks in the fields were 8874,1648,4367,2817,and 1222 / 666.7 m2,consecutively during 2006- 2010.Further,the accumulated days of peak adults were significantly different during the investigated

year,and the accumulated days that adult number more than 400 /666.7 m2 were 27 d,30 d and 35 d consecutively from 2006 to 2008,however,only 7 d in both 2009 and 2010.The main reasons caused serious outbreak of C. medinalis were the large number of C.medinalis and its longer time of duration.
【语种】中文
【第一作者】马恒
【通讯作者】郅军锐
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【学科分类】植物保护学

【题目】Molecular cloning of two isoforms of 11b-hydroxylase and their expressions in the Nile tilapia, Oreochromis niloticus
【中文关键词】P450(11 b);选择性剪切;精巢; 性类固醇;尼罗罗非鱼;
【英文关键词】P450(11 b); Alternative splicing; Testis; Sex steroids; Nile tilapia;
【中文摘要】 β)-1和P450(11β)-2),通过RT-PCR、Northern blot、原位杂交和免疫组化的方法初步阐明了P450(11)在合成11-KT和cortisol以及精子生成中的作用(张未丽“ 罗非鱼GATA-2和P450(11β)基因克隆、表达及在性腺分化和配子发生中作用的初步研究
【英文摘要】P450 11b-hydroxylase, encoded by P450(11b) gene, is a key mitochondrial enzyme to produce 11bhydroxytestosterone, substrate for the production of 11-ketotestosterone (11-KT), which has beenshown to be potent androgen in several fish species. In the present work, two alternative splicing isoformsi.e. P450(11b)-1 and P450(11b)-2 cDNAs were cloned from the Nile tilapia, Oreochromis niloticus.They were 1614 and 1227 bp in length with open reading frames encoding proteins of 537 and 408 aminoacids, respectively. In contrast to P450(11b)-1, which derived from 9 exons of the P450(11b) gene, the 7thand 8th exons were absent in P450(11b)-2. Tilapia P450(11b)-1 shares the highest homology with that ofmedaka, Oryzias latipes. Expressions of P450(11b)-1 and -2 were detected in the kidney and head kidneyof both sexes, and in the testis but not in the ovary, with P450(11b)-2 lower than P450(11b)-1. Ontogenicexpressions of both isoforms were detected in testis from 50dah onwards. P450(11b)-1 and -2 werestrongly expressed in sex reversed XX testis after fadrozole and tamoxifen treatment, but completelyinhibited in 17b-estradiol induced XY ovary. The existence of two alternatively spliced isoforms andthe sexual dimorphic expression of P450(11b)s were further confirmed by Northern blot. Strong expressionsignals in Leydig cells and weak signals in spermatogonia were detected by in situ hybridization andimmunohistochemistry. Taken together, our data suggest a role for P450(11b) in the spermatogenesis oftilapia through the production of 11-KT in testis, in addition to cortisol production in head kidney.
【语种】法文
【第一作者】张未丽
【通讯作者】王德寿
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【学科分类】分子生物学

【题目】稻纵卷叶螟的室内饲养观察
【中文关键词】稻纵卷叶螟,饲养,行为
【英文关键词】Cnaphalocrocis medinalis,feeding,behavior
【中文摘要】研究稻纵卷叶螟成虫产卵行为,记录每天的产卵数量,成虫每天的产卵数有1个高峰期。观察稻纵卷叶螟幼虫、蛹的行为,包括争斗、蜕皮、做茧等行为。不同水稻生育时期对稻纵卷叶螟幼虫的影响进行初步研究,结果表明,以分蘖期水稻饲养幼虫最合适,以水稻幼苗、抽穗期水稻饲养均无法很好地完成世代。
【英文摘要】无
【语种】中文
【第一作者】林秀秀

【通讯作者】陈祥盛
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【题目】Duplication and distinct expression patterns of two thrombospondin-2 isoforms in teleost fishes
【中文关键词】血小板反应蛋白- 1;重复表达式;性分化;卵泡合成;产卵循环;骨骼合成;硬骨鱼
【英文关键词】Thrombospondin-1;Duplication Expression;Sex differentiation;Folliculogenesis;Spawning cycle;Skeletogenesis;Teleost
【中文摘要】本研究从罗非鱼和青鳉卵巢中克隆了由两个不同基因编码的凝血酶敏感素TSP-1a和-1b。对脊椎动物TSP-1进行系统发生分析发现,两种TSP-1仅存在于硬骨鱼类。组织分布显示TSP-1a和TSP-1b在罗非鱼多个组织表达。TSP-1b从孵化后5天就开始在罗非鱼雌雄性腺表达,暗示其在性腺形成过程中起着重要作用。TSP-1a 从孵化后120天开始特异性表达于卵巢的颗粒细胞,这一结果表明TSP-1a可能参与了卵黄发生。在罗非鱼14天产卵周期中,TSP-1a和-1b都在产卵后5天(卵黄发生期)和12天(卵子成熟期)出现两个峰值。原位杂交和RT-PCR结果发现TSP-1a表达于颗粒细胞,而TSP-1b在鞘膜细胞表达。此外,TSP-1a和TSP-1b还在骨骼组织中表达,但具有不同的时空表达模式,仅TSP-1b在肌膈中表达。TSP-1a和TSP-1b都在心脏和脾脏表达,TSP-1a也在脑和肠表达。
【英文摘要】Two types of thrombospondin-1 (named TSP-1a and TSP-1b) were cloned from two species of teleosts, theNile tilapia and medaka. Phylogenetic analysis of these TSP-1 sequences, together with those availablefrom other vertebrates further demonstrated that two types of TSP-1 exist only in teleosts, extendingthe finding in fugu and tetraodon to two additional fish species. The expression of both genes was examinedusing tilapia at various developmental stages. Tilapia TSP-1a and TSP-1b were each expressed in awide range of tissues examined. The early expression of TSP-1b in both XX and XY gonads from 5 dah(day after hatching) onwards suggested an important role in the formation of gonads, while the expressionof TSP-1a only in ovaries during later stages of development (from 120 dah onwards) may suggestthat TSP-1a is involved in oogenesis. During the 14-day spawning cycle, the expression of both typesof TSP-1 exhibited distinct peaks at day 5 (peak of vitellogenesis) and day 12 (oocyte maturation). In situhybridization analyses revealed differential expression, with TSP-1a occurring in granulosa cells and TSP-1b in theca cells. Furthermore, both TSP-1a and -1b were expressed in skeletal tissues but with clear temporaland spatial differences. In contrast, only TSP-1b was found in the myosepta. The positive signals ofboth TSP-1a and TSP-1b were also detected in the heart and spleen, and TSP-1a in brain and intestine byboth RT-PCR and in situ hybridization.
【语种】英文
【第一作者】吴风瑞
【通讯作者】王德寿
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【学科分类】分子生物学

【题目】Discovery of a gonad-specific IGF subtype in teleost
【中文关键词】cDNA 克隆; 基因表达; 新 IGF; 精巢
【英文关键词】cDNA cloning; Gene expression; Novel IGF; Teleost
【中文摘要】本文主要报道了在硬骨鱼类中发现的一个与传统胰岛素样生长因子IGF-1和IGF-2不同,且由不同基因编码的新型IGF——IGF-3。从罗非鱼和斑马鱼中克隆了IGF-3的cDNA序列,并从青鳉的基因组和EST 数据库中预测出青鳉的IGF-3的cDNA序列。尽管IGF-3与IGF-1和IGF-2序列同源性较低,但它们都有B、C、A、D、E 5个结构域和相似的三级蛋白结构。系统进化分析表明IGF-3聚类于不同于IGF-1和IGF-2单独的一支。IGF-3的表达是性腺特异的,且在性腺发育的早期就开始表达。原位杂交表明IGF-3表达于卵巢的体细胞和后期的颗粒细胞以及精巢的间质细胞。这些发现表明IGF-3在硬骨鱼类性腺发育与生殖中有重要作用。
【英文摘要】Distinct from the conventional IGFs (IGF-1 and IGF-2), here we report the identification of a novel IGF (herein called IGF-3)encoded by a separate gene from teleost species. The IGF-3 cDNA sequences were cloned from tilapia and zebrafish, and

predicted fromthe medaka genome and EST databases. Similar to IGF-1 and IGF-2, IGF-3 is also comprised of five domains (B, C, A, D, E) with asimilar tertiary protein structure, despite a low sequence homology among them. Phylogenetic analysis reveals that the IGF-3 sequencesfrom different teleosts cluster to form a distinctive clade separate from IGF-1 and IGF-2. The expression of this novel IGF-3 is gonadspecificand starts early in fish development. In situ hybridization revealed that IGF-3 is expressed in the somatic cells and later in granulosacells of the ovary, and in the interstitial cells of the testis. These findings highlight the importance of this novel IGF in teleost gonadaldevelopment and reproduction.

【语种】英文

【第一作者】王德寿

【通讯作者】王德寿

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【学科分类】分子生物学

【题目】nsulin-Like Growth Factor 3 Is Involved in Oocyte Maturation in Zebrafish

【中文关键词】cyclic adenosine monophosphate, follicle, human chorionic gonadotropin, Igf3, oocyte maturation, ovary, regulation of gene expression

【英文关键词】cyclic adenosine monophosphate, follicle, human chorionic gonadotropin, Igf3, oocyte maturation, ovary, regulation of gene expression

【中文摘要】最近在斑马鱼的研究中,我们检测了胰岛素样生长因子3(IGF-3)在卵巢中的基因表达模式和生理作用。在斑马鱼中发现两个IGF-3选择性剪切转录本,转录本1特异表达于性腺,转录本2只表达于发育的早期。IGF-3的前多肽和IGF-3成熟多肽都显著地表达于卵巢中。实时定量PCR和原位杂交表明IGF-3在早期的滤泡细胞中表达相对较低,但在卵黄中期显著上升,而在充分发育的滤泡细胞中有高的表达量。在充分发育的滤泡细胞中,IGF-3主要存在于滤泡细胞中而低水平的表达于卵母细胞。用人绒毛膜促性腺激素对卵巢部分和分离的滤泡处理发现IGF-3都被显著上调。对滤泡细胞进行8-溴腺苷3 ’,5"-环单磷酸钠盐和3-异丁基-1-甲基黄嘌呤的处理发现IGF-3的表达明显上调。用斑马鱼的IGF-3重组蛋白孵育滤泡显著促进了卵母细胞的成熟。这些结果表明IGF-3对斑马鱼卵母细胞的成熟具有重要作用。

【英文摘要】The gonad-specific expression of a recently discovered Igf subtype (Igf3) in teleost has indicated the important role of this novel Igf in the reproductive functions of fish. In the present study using zebrafish as the model organism, we have further examined the gene expression patterns and the physiological role of Igf3 in the ovary. The igf3 gene in zebrafish was found to be alternatively spliced into two transcripts, with transcript variant 1 exclusively expressed in the gonads, and transcript variant 2 only expressed during early development. Using specific antibodies developed for zebrafish Igf3, both the Igf3 prepropeptide and the mature peptide forms of Igf3 were found to be predominantly expressed in the zebrafish ovary. Real-time PCR and in situ hybridization revealed that igf3 mRNA is relatively low in the early follicles, but is significantly increased after the mid-vitellogenic stage (midstage III), and is high in the full-grown follicles. In the full-grown follicles, igf3 mRNA was detected mainly in the somatic follicular cells with a low level of expression in the oocytes. Igf3 immunoreactivity was confined to the follicular cells only. The expression of igf3 was significantly up-regulated in both ovarian fragments and isolated follicles upon treatment with human chorionic gonadotropin in dose- and time-dependent manners. Treatment with 8-bromoadenosine30,50-cyclic monophosphate or 3-isobutyl-1-methylxanthinealso up-regulated the expression of igf3 in full-grownfollicles. Incubation of follicles with recombinant zebrafish Igf3significantly enhanced oocyte maturation in time-, dose-, andstage-dependent manners. The actions of Igf3 could be blockedby cycloheximide, but not by actinomycin D. Taken together,these results support an important role of Igf3 in the ovarianfunctions of zebrafish, especially in oocyte maturation.

【语种】英文

【第一作者】Jianzhen Li

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【学科分类】分子生物学

【题目】维甲酸和Cyp26 基因家族与生殖细胞分化
【中文关键词】成熟分裂; 维甲酸; Cyp26基因家族; Stra8; 生殖细胞分化
【英文关键词】meiosis; retinoic acid; Cyp26 family gene; Stra8; germ cell differentiation
【中文摘要】在哺乳动物胚胎期, 成熟分裂首先在雌性生殖细胞启动, 雄性生殖细胞则停滞于有丝分裂的G0/G1 阶段。在小鼠的研究发现, 成熟分裂启动时间很可能决定着生殖细胞的分化方向。另一方面, 达到一定阈值浓度的维甲酸(RA)能够启动生殖细胞从有丝分裂到成熟分裂的过渡。体内RA 的水平由其合成和降解速率调节, 而Cyp26 是调节体内RA 水平最关键的酶。因此, 这种由Cyp26调节的RA水平的变化可能从根本上调控着哺乳动物生殖细胞的分化方向(形成精原细胞或卵原细胞), 最终影响性别的分化。本文主要综述RA、Cyp26基因家族在哺乳动物性腺分化过程中的作用, 并探讨了低等脊椎动物特别是鱼类成熟分裂启动及生殖细胞分化的分子机制。
【英文摘要】During mammalian fetal development, meiosis is initiated in female germ cells only, while male germ cells undergoing G0/G1 mitotic cell cycle arrest. Further study reveals that timing of meiotic initiation during embryonic development probably determines the direction of germ cell differentiation in mammals. In addition, the proper concentration of retinoic acid (RA) can initiate the mitosis to meiosis transition in vivo. Homeostasis of the RA level is maintained by regulation of its rate of synthesis (ADHs and RALDHs are the key enzyme for RA synthesis) and by controlling its rate of degradation (Cyp26s are the most effective enzyme for RA degradation), which decides the direction of germ cell differentiation (spermatogonia or oogonia), and affects the sex differentiation of mammals ultimately. This review focuses on the physiological roles of RA and Cyp26s during the process of gonadal differentiation in mammalian and trying to explore the molecular mechanism of meiosis and germ cells ’ differentiation in the lower vertebrate, especially fish.
【语种】中文
【第一作者】韩非
【通讯作者】王德寿
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【学科分类】分子生物学

【题目】oublesex- and Mab-3-Related Transcription Factor-2 Repression of Aromatase Transcription, a Possible Mechanism Favoring the Male Pathway in Tilapia
【中文关键词】Dmrt1;Cyp19a1a;estradiol-17 ;aromatase;
【英文关键词】Dmrt1;Cyp19a1a;estradiol-17 ;aromatase;
【中文摘要】逆转等现象。本研究表明芳香化酶是Dmrt1直接作用的靶基因,Dmrt1通过抑制编码芳香化酶编码基因的转录和雌激素的合成来抑制雌性通路,这种机制也可能存在于其它脊椎动物。
【英文摘要】Doublesex- and Mab-3-related transcription factor-1 (Dmrt1) is an important transcription factor implicated in early testicular differentiation in vertebrates, but its target genes are largely unknown. In the Nile tilapia, estrogen is the natural inducer of ovarian differentiation. Our recent studies haveshownthat Forkhead-l2 up-regulated transcription of the Cyp19a1a gene (aromatase) in the gonads in a female-specific manner. However, the upstream factor(s) down-regulating Cyp19a1a expression during testicular differentiation remains unclear. In the present study, we used in vitro (promoter analysis) and in vivo (transgenesis and in situ hybridization) approaches to examine whether Dmrt1 inhibits Cyp19a1a ’s transcriptional activity. The in vitro analysis using luciferase assays revealed that Dmrt1 repressed basal as well as Ad4BP/SF-1-activated Cyp19a1a transcription in HEK 293 cells. Luciferase assays with various deletions of Dmrt1 also showed that the Doublesex and Mab-3 domain is essential for the repression. In vitro-translated Dmrt1 and the nuclear extract from tilapia testis could directly bind to the palindrome sequence ACATATGT in the Cyp19a1a promoter, as determined by EMSAs. Transgenic overexpression of Dmrt1 in XX fish resulted in decreased aromatase gene expression, reduced serum estradiol-17_ levels, retardation of the ovarian cavity ’s development, varying degrees of follicular degeneration, and even a partial to complete sex reversal. Our results indicate that aromatase is one of the targets of Dmrt1. Dmrt1 suppresses the female pathway by repressing aromatase gene transcription and estrogen production in the gonads of tilapia and possibly other vertebrates.

【语种】英文
【第一作者】王德寿
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【学科分类】分子生物学

【题目】尼罗罗非鱼Orexin前体基因的克隆、组织分布及其在摄食调控中的表达
【中文关键词】尼罗罗非鱼; Orexin; 克隆; 表达; 摄食
【英文关键词】Nile tilapia (Oreochromis niloticus); Orexin; Cloning; Expression; Food intake
【中文摘要】该文采用RT-PCR和cDNA末端快速扩增技术(rapid-amplification of cDNA ends, RACE)的方法, 从尼罗罗非鱼(Oreochromis niloticus)下丘脑总RNA中获得了尼罗罗非鱼Orexin前体基因的cDNA全长序列。该 cDNA全长648 bp, 其中开放阅读框的长423 bp,编码Orexin前体蛋白为140个氨基酸, 包括37个氨基酸的信号肽、43个氨基酸的Orexin-A、28个氨基酸的Orexin-B和末尾32个氨基酸组成的功能不详的多肽。采用Real-time PCR 技术对尼罗罗非鱼Orexin 前体基因的组织表达模式以及在摄食前后、饥饿和再投喂状态下的表达量变化进行了研究。 结果显示, 在脑部和外周等18个组织中都检测到了Orexin前体基因的表达, 其中在下丘脑中表达量最高; 在摄食前后, 尼罗罗非鱼Orexin前体基因的表达量显著低于在摄食状态中; 饥饿2、4、6和8 d后, Orexin前体基因在下丘脑中的表达量与正常投喂组相比均显著升高, 饥饿4 d再投喂后,表达量又恢复至正常水平。这些结果表明, Orexin在尼罗罗非鱼摄食中可能有着重要的调节作用。
【英文摘要】We cloned the full length of tilapia prepro-orexin cDNA using RT-PCR and rapid-amplification of cDNA ends (RACE). The full-length of prepro-orexin cDNA was 648 bp containing an open reading frame of 423 bp. The 140 amino acid prepro-orexin protein included a 37 AA signal peptide, a 43 AA Orexin-A and, and 28 AA Orexin-B and the end of the 32 AA peptide of unknown function. The expression of prepro-orexin on tissue distribution, peri-prandial changes, starvation and re-feeding were quantified by real-time PCR. We found that prepro-orexin mRNA was present in all tissues tested and that the highest level was observed in hypothalamus. Expression levels were significantly higher at mealtime (0 h) than before (− 2 h, − 1 h) and after (+1 h, +2 h) mealtime. Fasting for 2, 4, 6 and 8 d caused significant increases in prepro-orexin mRNA expression in the hypothalamus, and after re-feeding, expression levels of prepro-o rexin mRNA returned to the same level compared to that in the fed group.
【语种】中文
【第一作者】陈文波
【通讯作者】李文笙
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【题目】冷碱处理条件与龙须菜琼胶强度的关系
【中文关键词】龙须菜;琼胶;凝胶强度
【英文关键词】Gracilaria sjoestedtii Kylin;agar;gel strength
【中文摘要】为研究龙须菜冷碱处理条件与琼胶凝胶强度(Gel strength, GS)的关系,采用均匀设计法,研究了温度T、碱液浓度M和处理时间t三因素与龙须菜琼胶凝胶强度的定量关系。通过多元线性回归拟合出回归模型:GS=27.72×T+19.69×M+2.75×t-488.62,P<0.0001。由回归模型可知,3因素对龙须菜凝胶强度的贡献大小为:T>M>t。在3因素的水平范围内,再经验证试验表明,试验测定值与回归预测值均无显著性差异(P>0.05)。这表明,该回归模型对龙须菜凝胶强度具有较好的预测性,为龙须菜冷碱法处理的最佳工艺条件、提高龙须菜琼胶加工质量、降低生产成本提供了重要科学依据。
【英文摘要】In order to study the relationship between the condition of cold alkali processing on Gracilaria sjoestedtii Kylin and gel strength of agar, it was studied that the quantitative relation between the three factor : temperature (T), alkali concentration (M), processing time (t) and gel strength(GS) of agar from Gracilaria sjoestedtii Kylin by using orthogonal and uniform design. Regression equation,GS=27.72×T+19.69×M+2.75×t-488.62,P<0.0001, was fitted by multiple linear regressing. From the regression equation,

among the three factors, the effect on the GS of agar was T>M>t. The validating test was carried under the three factors level, and the result showed that there was no significant difference between the test-value and the forecasting-value(P>0.05).Therefore, the regression equation could highly forecast the GS of agar from Gracilaria sjoestedtii Kylin, and it could provide scientific basis for optimizing process conditions, improve quality and reducing cost on the agar from Gracilaria sjoestedtii Kylin.
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【题目】琼脂的物化特性及其在食品工业中的应用
【中文关键词】琼脂; 性质; 食品; 应用
【英文关键词】agar; p roperties; food; app lication
【中文摘要】琼脂是由红藻类植物提取的亲水性胶体, 是最早应用于食品工业、目前世界上用途最广泛的海藻胶之一。琼脂经过全世界几百年来的应用, 已证明其食用安全性, 联合国世界卫生组织已批准琼脂用于食品工业, 同时也被中、英、美、法等多个国家以规章认可。它在食品工业、医药工业、日用化工、生物工程等许多方面有着广泛的应用。在食品中工业中, 琼脂被用作胶凝剂、增量剂、增稠剂、乳化剂、稳定剂、赋形剂、助悬剂、水分保持剂, 能明显改变食品的品质, 提高食品的档次, 成为一种重要的食品添加剂。本文分别就琼脂的化学结构、提取原料、提取方法、理化性质和在食品中的应用现状及发展前景等方面做了综述。本文旨在为今后进一步开展琼脂在食品中的应用研究提供理论参考。
【英文摘要】Agar is a kind of hydrophile colloid extracted from red alga, and which is the earliest app lied in food industry and one of the mostwidely used alga colloid in the world. of agar have been p roved byworldwide app lication for hundred years, app lication of agar in food industry have achieved WHO app roval and been accredited in regulations by some countries, such as china, , america, france, et al. Agar has been app lied in many industries, such as medicine, chemical, biological engineering etc. In food industries, agar, as an important food additive, which can be used as gelling agent, extender, thickener, emulsifier, stabilizer, excip ient, suspending agent, water retention agent, et al, and can imp rove the character and class of food clearly. In this paper, it was summarized that the chemic structure, material, extracting method, physicochemical p roperties, app lication status and development p rospect aboutagar. This paper aims at p roviding theory reference for the future study of the app lication on agar in the food industry.
【语种】中文
【第一作者】李琴梅
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【学科分类】水产品贮藏与加工

【题目】琼胶中硫酸基的离子色谱法测定
【中文关键词】离子色谱法; 琼胶; 硫酸基
【英文关键词】ion chromatography; agar; sulfate group
【中文摘要】确立离子色谱法检测琼胶中硫酸基含量的样品处理方法和检测条件。样品前处理采用灰化降解琼胶粉中的有机成分,超纯水溶解定容、过膜后测定;检测时利用戴安ICS-3000型离子色谱仪、电导检测器、ASRS 4mm抑制器、IonPac ® AS23型分离柱,淋洗液组成为9.0mmol · L-1 Na2CO3溶液和1.6mmol · L-1 NaHCO3溶液,流速1.0 mL · min-1。此方法硫酸根在1.0~15.0 mg · L-1浓度范围内呈良好的线性关系(R2=0.9995),检出限为0.01mg · L-1,样品加标回收率为89.0%~102.0%,分析快速准确。与传统方法相比,离子色谱法操作快速简便,灵敏度高,重现性好。
【英文摘要】To establish an ion chromatography method for the determination of sulfate content in agar. The ashing method was used in this test to degrade the organic components of agar, and the ash was dissolved in ultrapure water, then the test solution was filtrated by a 0.45 μ m membrane. DIONEX ICS-3000 ion chromatography, conductivity detector,ASRS 4mm suppressor and IonPac

AS23 column were selected with 9.0mmol · L-1 Na2CO3 and 1.6mmol · L-1 NaHCO3 as eluent, the flow rate of eluent was 1.0ml • min-1. The results showed that the detection of sulfate has better linearity in the range of 1.0 to 15.0 mg · L-1 (R2=0.9995). The detection limit of this method is 0.1mg · L-1, the recovery of standard addition is from 89.0%to102.0%. Compared with the traditional methods, ion chromatography is a simple, rapid, accurate and sensitive method.

【语种】中文
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【学科分类】分析化学

【题目】改良DEAE- 纤维素法制备龙须菜琼胶糖研究
【中文关键词】琼胶糖; DEAE- 纤维素;DNA 凝胶电泳
【英文关键词】agarose;DEAE-cellulose;DNA gel electrophoresis
【中文摘要】以龙须菜琼胶为原料,分别采用KMnO4-H2C2O4法漂白、乙醇处理和DEAE-纤维素纯化等工艺制备生化级琼胶糖,并对工艺参数进行了正交优化,对琼胶糖的理化指标和电泳性能进行测定。结果表明:漂白试验的最佳工艺条件为:KMnO4浓度0.10%、pH 6.0、漂白时间5min、H2C2O4浓度0.30%,漂白后琼胶白度(HW值)为82.98、凝胶强度为1083 g/cm2;乙醇处理的最佳工艺条件为:料液比1:40,乙醇浓度60%,处理时间6h,处理后琼胶透明度(透光率)为50.2%。制备的琼胶糖灰分含量为0.25%、凝胶强度为1127g/cm2、硫酸基含量为0.24%;结晶紫电泳、电内渗测定和基因组DNA电泳试验表明:改良DEAE-纤维素法制备的琼胶糖具有优异的电泳性能,适用于生物化学和分子生物学的凝胶电泳研究。
【英文摘要】The Gracilaria lemaneiformis agarose was prepared by KMnO4-H2C2O4 bleaching , ethanol immersion and DEAE-cellulose purification , respectively. Orthogonal test was carried out to optimize the process parameters, the physical and chemical index, electrophoretic performance of agarose was determined . The results showed that the optimum conditions of bleaching assay are concentration of KMnO4 0.10%, pH 6.0, bleaching time 5min, concentration of H2C2O4 0.30%, after bleaching assay, the whiteness (HW value) of agar is 82.98, the gel strength is 1083 g/cm2; the optimum conditions of ethanol immersion assay are solid-liquid ratio 1:40, concentration of ethanol 60%, treatment time 6h, after immersion by ethanol, the transparency of 1.0% agar(transmittance value) is 50.2%. The ash content, gel strength and sulfate group content of the agarose prepared by the optimal method are 0.25%, 1127g/cm2, 0.24%, respectively. Gentian violet electrophoresis, electroendosmosis and genome DNA gel electrophoresis are also performed in this study, which is showed that the agarose prepared by modified DEAE-cellulose method was suitable for biochemistry and molecular biology electrophoresis.

【语种】中文
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【学科分类】水产品贮藏与加工

【题目】麒麟菜膳食纤维的降血脂功能
【中文关键词】麒麟菜;膳食纤维;降血脂
【英文关键词】Eucheuma ;dietary fi ber ;serum lipid reducing
【中文摘要】以3 种麒麟菜(Eucheuma spp.) 膳食纤维为研究对象,给予SD 大鼠10% 膳食纤维的高脂饲料进行6 周的动物实验,分别于0 周、3 周、6 周末眼底采血、收集实验末期3 d 粪便,通过分析血清总脂(TL)、总胆固醇(TC)、甘油三酯(TG)、低密度脂蛋白胆固醇(LDL-C)、高密度脂蛋白胆固醇(HDL-C)、粪便胆固醇(FC)、粪便胆汁酸(FBA) 和计算动脉硬化指数(AI),研究了麒麟菜膳食纤维降低血脂的功能活性。结果显示:实验至3 周、6 周末,喂饲高脂饲料的阳性对照组和3 个麒麟菜膳食纤维实验组的大鼠血清TL、TC、TG、LDL-C 水平较阴性对照组显著升高(P<0.05),3 种膳食纤维组TL、TC、TG、LDL-C 水平显著低于阳性对照组(P<0.05),HDL-C 水平显著低于阴性对照组而高于阳性对照组(P<0.05)。6 周末,3 种膳食纤

维粪便胆固醇FC 和粪便胆汁酸FBA 含量显著高于阴性和阳性对照组(P<0.05)。结果表明,本实验高脂饲料可成功形成高脂动物模型,3 种膳食纤维具有显著抑制TL、TC、TG、LDL-C 水平升高,促使HDL-C 水平升高和粪便胆固醇、粪便胆汁酸排泄的功能。因此,麒麟菜膳食纤维显示出降低血脂的效果,将有可能在预防高血脂症等疾病方面具有应用价值。

【英文摘要】It was reported that the dietary fiber(DF)had preventive effects on coronary heart diseases. There abundant dietary fi ber in seaweed of Eucheuma,especially soluble dietary fi ber. In this research,the functionaleffect of three kinds of dietary fiber from Eucheuma,which was soluble dietary fiber(SDF),insoluble dietary fiber(IDF)and total dietary fi ber(TDF),on reducing serum lipids was studied by giving SDrats high lipid diets with 10% of DF supplementation. During the test,serum samples from eye socket were analyzed for TL,TG,LDL-C and HDL-C at 0 week,3 rd week and 6 th week,respectively,and the atherosclerosis index (AI) was calculated. In the end of the experiment,faecal matter of the last 3 days was collected continuously and analyzed for the faecal cholesterol and faecal bile acid content. The results showed that :at the end of 3 rd week and 6 th week,the serum TL,TC,TG and LDL-C levels of positive control and DF group were signifi cantly higher than those of the negative control(P<0.05),and the TL,TC,TG and LDL-C levels of DF groups were signifi cantly lower than positive control(P<0.05).However the HDL-C level of DF test group was significantly lower than those of the negative control(P<0.05),and higher than those of the positive control(P<0.05). At the end of the experiment,the DF groups had significantly higher FC and FBA levels compared with negative control and positive control(P<0.05). The results above demonstrate that the test diets with high lipid can form the hyperlipidemia-model rat. The increase of TL,TC,TG and LDL-C levels in rat serum could be restrained by DF from Eucheuma. In addition,DF from Eucheuma had a function of triggering higher HDL-C level and accelerating the excretion of FBA and FC. Therefore,DF from Eucheuma has an effect on reducing lipids and may be applied in preventing hyperlipidaemic diseases.

【语种】中文

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【学科分类】食品科学技术基础学科

【题目】离子色谱法与硫酸钡比浊法测定琼胶糖中硫酸基含量的比较研究

【中文关键词】琼胶糖;硫酸基;离子色谱法;硫酸钡比浊法

【英文关键词】agarose;sulfate group;ion chromatography;barium sulfate turbidimetry

【中文摘要】以琼胶糖为原料,样品用干法灰化法处理后分别以超纯水和1.0mol/L 盐酸溶解定容,利用离子色谱法和硫酸钡比浊法测定其硫酸基含量(以SO42-计)。结果表明,离子色谱法SO42-在1.0~15.0mg/L范围内线性关系良好(R2=0.9996),硫酸钡比浊法SO42-在6.0~30.0mg/L范围内线性关系良好(R2=0.9991);对同种琼胶糖样品进行6次重复测定,离子色谱法相对标准偏差RSD=1.40%(n=6),具有较高的精密度,硫酸钡比浊法相对标准偏差RSD=3.51%(n=6);对2种不同的琼胶糖样品分别进行两个水平的加标回收率实验,离子色谱法回收率为86.33%~97.40%,硫酸钡比浊法回收率为84.17%~96.67%。因此,离子色谱法和硫酸钡比浊法均能准确测定样品中硫酸基含量。

【英文摘要】Using agarose as experimental materials, after degrading the organic components in agarose by ashing method, we use ultrapure water and 1.0mol/L hydrochloric acid solution to dissolve the ash, then detected by Ion Chromatography (IC) and barium sulfate turbidimetry (BST) respectively. When sample detected by IC, in the SO42- content range of 1.0~15.0mg/L, the linearity is good with R2=0.9996.The precision of detecting results by IC is good with RSD=1.40%(n=6), which recovery of standard addition is from 86.33% to 97.40%; As well as sample detected by BST, in the SO42- content range of 6.0—30.0mg/L, the linearity is good with R2=0.9991. The precision of detecting results by BST is good with RSD=3.51%(n=6), which recovery of standard addition is from 84.17% to 96.67%.The results show that both IC and BST could detect the sulfate content accurately.

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【学科分类】分析化学

【题目】琼胶流变学性质和胶凝性质的研究
【中文关键词】琼胶;流变性质;贮能模量;损耗模量;凝胶强度;胶凝点;熔化点
【英文关键词】agar ; rheological properties ; storage modulus ; loss modulus ; gel st rength ; gelling point; melting point
【中文摘要】琼脂是由红藻类植物提取的亲水性胶体, 是最早应用于食品工业、目前世界上用途最广泛的海藻胶之一。琼脂经过全世界几百年来的应用, 已证明其食用安全性, 联合国世界卫生组织已批准琼脂用于食品工业, 同时也被中、英、美、法等多个国家以规章认可。它在食品工业、医药工业、日用化工、生物工程等许多方面有着广泛的应用。在食品中工业中, 琼脂被用作胶凝剂、增量剂、增稠剂、乳化剂、稳定剂、赋形剂、助悬剂、水分保持剂, 能明显改变食品的品质, 提高食品的档次, 成为一种重要的食品添加剂。本文分别就琼脂的化学结构、提取原料、提取方法、理化性质和在食品中的应用现状及发展前景等方面做了综述。本文旨在为今后进一步开展琼脂在食品中的应用研究提供理论参考。
【英文摘要】Agar is a kind of hydrophile colloid extracted from red alga, and which is the earlist app lied in food industry and one of the mostwidely used alga colloid in the word. of agar have been p roved byworldwide app lication for hundred yeas, app lication of agar in food industry have achieved WHO app roval and been accredited in regulations by some countries, such as china, , america, france, et al. Agar has been app lied in many industries, such as medicine, chemical, biological engineering etc. In food industries, agar, as an important food additive, which can be used as gelling agent, extender, thickener, emulsifier, stabilizer, excip ient, suspending agent, water retention agent, et al, and can imp rove the character and class of food clearly. In this paper, it was summarized that the chemic structure, material, extracting method, physicochemical p roperties, app lication status and development p rospect about agar. This paper aims at p roviding theory reference for the future study of the app lication on agar in the food industry.
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【题目】响应曲面法优化琼胶的酸水解条件
【中文关键词】琼胶;酸水解;响应曲面法
【英文关键词】agar;acid hydrolysis;response surface methodology
【中文摘要】采用酸水解法对琼胶进行降解并结合苯酚-硫酸法测定琼胶低聚糖的含量。在单因素试验的基础上,利用响应曲面法优化水解工艺,建立盐酸浓度(X1)、水解时间(X2)和固液比(X3)与水解率(Y)之间的数学模型:Y =81.5933+0.7175X1+1.8938X2+2.7313X3-3.1567X12-3.3042X22-3.3092X32-0.6625X1X2+0.0475X1X3-0.8000X2X3,确定琼胶水解的最佳工艺条件,即盐酸浓度0.105mol/L、水解时间96min、固液比4.5:100(g/mL),在此最佳工艺条件下进行水解,琼胶水解率为81.43%。
【英文摘要】Agar was subjected to acid hydrolysis and the content of agar oligosaccharides was determined by hydrochloric acidand phenol-sulfuric acid method. On the basis of single factor experiments, the hydrolysis procedure was optimized usingresponse surface methodology, and a mathematical regression model (Y= 81.5933+0.7175X1+1.8938X2+2.7313X3-3.1567X12-3.3042X22-3.3092X32-0.6625X1X2+0.0475X1X3-0.8000X2X3) was established for predicting the yield of agaroligosaccharides (Y) at different levels of hydrochloric acid concentration (X1), hydrolysis time (X2), and solid/liquid ratio (X3).The optimal hydrolysis conditions were determined to be hydrochloric acid concentration of 0.105 mol/L, solid/liquid ratio of4.5:100 (g/mL) and hydrolysis time of 96 min. The yield of agar oligosaccharideswas up to 81.43% under the optimal hydrolysisconditions, which was in good agreement with the predicted value.
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【学科分类】水产品贮藏与加工

【题目】栉孔扇贝♀×虾夷扇贝♂单对杂交子一代的ISSR分析
【中文关键词】栉孔扇贝;虾夷扇贝;杂种鉴定;ISSR
【英文关键词】Chlamys farreri;Patinopecten yessoensis;Hybrid Identification;ISSR
【中文摘要】利用ISSR-PCR(Inter Simple Sequence Repeats PCR)技术对栉孔扇贝♀和虾夷扇贝♂及其单对杂交子一代担轮幼虫进行分析,探讨该技术在扇贝杂种鉴定及亲缘关系分析中的应用。从20个ISSR引物中筛选出4个引物对栉孔扇贝♀、虾夷扇贝♂及其单对杂交子一代担轮幼虫进行PCR扩增,共得到153个清晰稳定的扩增位点,其中母本栉孔扇贝的特异位点有38个,父本虾夷扇贝的特异位点有32个。对ISSR扩增图谱的分析结果证实所研究的杂交子代是栉孔扇贝和虾夷扇贝的杂交种。杂交子代与母本栉孔扇贝的平均遗传相似性系数为0.6086,与父本虾夷扇贝的平均遗传相似性系数为0.4402,结果表明杂交子代在遗传上偏向于母本栉孔扇贝。
【英文摘要】ISSR-PCR(Inter Simple Sequence Repeats PCR)technique was used to analyse scallop Chlamys farreri(♀) and Patinopecten yessoensis(♂) and their hybrids in order to probe into the application of this technique in scallop hybrid identification and verifying the sibship between parents and hybrids. Four primers screened out from twenty ISSR primers were employed to amplify the genome DNA of Chlamys farreri(♀) and Patinopecten yessoensis(♂) and their hybrids.153 distinct and highly reproducible ISSR bands were detected, in which 38 bands were the special bands of Chlamys farreri(♀) and 32 bands were the special bands of Patinopecten yessoensis(♂). The results of analyzing the ISSR electrophoretogram confirmed that the filial generation do was the hybrids of Chlamys farreri(♀) and Patinopecten yessoensis(♂). The average genetic similarity coefficient between hybrids and Chlamys farreri(♀) was 0.6086, and the average genetic similarity coefficient between hybrids and Patinopecten yessoensis(♂) was 0.4402, which indicated that the hybrids were genetically closer to their maternal stock Chlamys farreri(♀).
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【题目】The quanti fi cation of tomato microRNAs response to viral infection by stem-loop
【中文关键词】番茄
【英文关键词】tomato
【中文摘要】番茄
【英文摘要】MicroRNAs (miRNAs) are RNA molecules consisting of 20 – 24 nucleotides that play important roles inregulating plant's gene expression for growth and development, cell viability and stress responses. Viralinfection often has a noticeable in fl uence on host gene expression, which may result in a range ofdevelopmental abnormalities. To investigate the molecular mechanisms underlying viral infection, miRNApathway and host gene expression, we report herein the application of the novel miRNAs quanti fi cationmethod in tomato, using a stem-loop reverse transcription followed by SYBR Green PCR assay. For the seventested miRNAs of Solanum lycopersicum, which are related to the regulation of plant development, hormoneresponse, and their own biogenesis, this quanti fi cation method showed high sensitivity, speci fi city, and widedynamic range. Precise quanti fi cation could be achieved with as little as 0.01 ng of total RNAs for most cases.Additionally, their target mRNAs could be quanti fi ed from the same RNA sample simultaneously, by theconventional real-time RT-PCR assay. In comparison with mock inoculation, accumulation levels of the testedmiRNAs and target mRNAs were found obviously altered in tomato seedlings, indicating that the miRNApathway was interrupted by Cucumber mosaic virus and Tomato aspermy virus infection
【语种】英文
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【学科分类】植物保护学

【题目】Identi fi cation of conserved microRNAs and their targets from
【中文关键词】microRNA鉴定
【英文关键词】Identi fi cation of conserved microRNAs
【中文摘要】microRNA鉴定
【英文摘要】MicroRNAs (miRNAs) are a class of highly conserved endogenous non-coding small RNAs crossing kingdomsof organisms. By searching known miRNAs identi fi ed from plant species against tomato nucleotidesequences, 13 pre-miRNAs of the nine mature miRNAs were found, amongst, six had been cloned. To con fi rmour prediction, a miRNA-detecting microarray was designed with probes complementary to all non-redundant mature plant miRNAs documented to date. After hybridizing with small RNAs extracted fromtomato leaf tissue, 78 highly expressed mature miRNAs were detected, including all the miRNAs predictedabove. Conformation of some miRNAs expression by Northern hybridization indicated that they were highlyaccumulated not only in leaf tissues but also in roots and stems. Additional BLAST searches with newlyrecognized miRNAs against tomato mRNAs from NCBI yielded 23 potential targets mainly associated with thephase change from vegetative to generative growth, with fl ower development and with responding to planthormone and virus stress.
【语种】英文
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【题目】微卫星评价栉孔扇贝雌核发育二倍体纯合性
【中文关键词】栉孔扇贝; 雌核发育;微卫星; 纯合性
【英文关键词】Chlamys farreri; Gynogenesis; Microsatellite marker; Homozygosity
【中文摘要】用5个微卫星座位分别对栉孔扇贝减数分裂雌核发育二倍体家系A和家系B、有丝分裂雌核发育二倍体家系A和家系B的纯合性进行检验。电泳结果表明,5对引物在减数分裂雌核发育和有丝分裂雌核发育个体中均能稳定重复地扩增出相应的序列。随引物不同,各等位基因数为6~13个,大小在125~251bp之间。有丝分裂雌核发育二倍体在所有检测座位全部纯合。减数分裂雌核发育二倍体在部分座位纯合,未发现所有座位全部纯合的个体,在CFMSP007、CFMSP075、CFMSM009、CFMSM014和CFMSM020座位,杂合子比例分别为0.3400、0.3611、0.4884、0.4750和0.7500,平均杂合子比例为0.4829。研究结果显示,栉孔扇贝有丝分裂雌核发育二倍体一代即可形成纯合子;减数分裂雌核发育二倍体由于具有较高的重组率,使其与母本的遗传同质性略高。
【英文摘要】Gynogenesis was thought to be a valuable genetic tool for the rapid production of inbred lines in scallop. In this study, analysis of 5 heterozygous loci in Chlamys farreri was used to measure the increment of homozygosity in meiogynogenetic diploid (Meiotic-A and Meiotic-B) and mitogynogenetic diploid (Mitotic-A and Mitotic-B). Electrophoretic patterns showed that the 5 pairs of microsatellite primers all produced well-identifiable DNA fragments. The number of alleles per marker varied from 6 to 13, and the size of alleles ranged from 125bp to 251bp. The results showed all homozygosity in Mitotic-A and Mitotic-B, while a high percentage of heterozygosity in Meiosis-A and Meiosis-B. The rate of heterozygosity in meiogynogenetic progenies at the locus of CFMSP007, CFMSP075, CFMSM009, CFMSM014 and CFMSM020 were 0.3400, 0.3611, 0.4884, 0.4750 and 0.7500, respectively. The average heterozygous rate of these 5 loci was 0.4829. The high proportion of heterozygosity for 5 loci demonstrates that it is not a practical method for producing homozygous inbred lines in the gynogenetic scallop produced by retention the second polar body; and treatments of suppressing the first cell division were more promising for this purpose.
【语种】中文

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【题目】Molecular characterization and evolutionary analysis
【中文关键词】大豆花叶病毒
【英文关键词】Soybean mosaic virus
【中文摘要】大豆花叶病毒
【英文摘要】Twenty-nine Pinellia ternata specimens werecollected from representative areas in China, including themajor production provinces of Zhejiang, Henan, Shanxi,Hunan, Shandong and Hubei. Seven isolates related tosoybean mosaic virus (SMV), which could be pathogenicon P. ternata and some soybean [Glycine max (L.) Merr.]cultivars, were detected using double antibody sandwichimmunosorbent assay (DAS-ELISA) and RT-PCR ampli- fi cation performed with degenerate primer of potyviruses.It is revealed that the common potyvirus infecting P. ter-nata is, indeed, only SMVs rather than Dasheen mosaicvirus (DsMV) as previously reported. Further molecularphylogenetic analysis of the coat protein (CP) genes ofthese SMV isolates from P. ternata and G. max, along withsome other potyvirus members, such as DsMV andWatermelon mosaic virus (WMV) reconstructed the evo-lutionary route on both nucleotide and amino acid levels.Similarity and homology of nucleotide sequences for SMVCP genes demonstrated high host correlation and lowpartial habitat correlation, while those of amino acidsequences also showed that the host correlation was morenotable than the habitat correlation. The amino acidsequence of conserved region within CP determines themain function, which shows high homology between spe-cies. This study outspreaded from the viruses themselvesand their relationship to the infected hosts and revealed theevolutionary strategies, especially the rapid variation orrecombination of SMV of P. ternata, in order to adapt itselfnaturally to the special host.
【语种】英文
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【学科分类】植物保护学

【题目】扇贝精子及卵子的受精生物学特性
【中文关键词】扇贝 精子 卵子 卵水 顶体反应 皮层反应
【英文关键词】scallop sperm egg egg water
acrosome reaction cortical reaction
【中文摘要】采用扫描电子显微镜和普通光学显微镜观察方法,以及全光谱扫描分析方法,对栉孔扇贝和虾夷扇贝的精子及卵子的受精生物学特性进行了详细的观察,包括精卵产出后形态学变化、卵水的特性、精子顶体反应、卵子皮层反应以及精子分级分离组分对卵子的作用等5个方面。结果表明,这两种扇贝精卵生物学特性没有本质的区别,扇贝精子排入海水中10min以内,外形没有太大的变化,但30min以后约有1/4的精子出现头部膨大变成圆球形的现象,受精能力明显下降;扇贝卵子产入海水中1h以内受精能力没有变化,但2h以后,约1/3的卵子出现卵裂现象,未见极体的排放,且卵裂多停止在2细胞期,少数达到4细胞期,基本属于均等卵裂,并失去受精能力;滴入卵水中的精子极易发生自溶解体,未解体的精子发生凝集,10min之后的卵水中基本上检测不到完整的精子,卵水和钙离子载体 A23187 均能诱导精子发生顶体反应;精子分级分离组分分别为精浆、精子头部和精子尾部,这三部分除了少数精子头部能够附着在卵子表面外,其他都不具备激活卵子的作用。对扇贝精子和卵子的生物学特性的研究将为解释不同种扇贝的精卵相互识别并受精的现象提供基础资料。
【英文摘要】By the way of spectrum scanning analysis and insemination, biology characteristic of eggs and sperms in two scallop species Patinopecten yessoensis and Chlamys farreri were observed amply by using both electronic microscopes and optical microscopes, consist of the following five parts: morphological changes of gametes after spawn or spermiation, egg water characteristic,

sperm acrosome reaction, egg cortical reaction and the effect to the eggs of the sperm fractional separation products. The results indicated that: There were no significant biology characteristic difference between Patinopecten yessoensis and Chlamys farreri, and no significant appearances changes in the scallop sperms within 10min after spermiation into the seawater; 30 minutes later, 1/4 of the sperms became head-enlargement going near to sphericity and the fertilization ability declined. While the fertilization ability of scallop eggs had no changes within 1 hour after spawning into the seawater; 2 hours later, about 1/3 of eggs became cleavage but with no polar body appearing. Most of eggs cleavage stoped at 2-cell stage and few to 4-cell stage, which belonged to equal cleavage and had lost the fertilization ability already. Most sperms dropped into the egg water were easy to autolyze, yet the disintegration sperms presented agglutination.There were no complete form individuals after the sperms were dropped into the egg water for 10 minutes, in that both the egg water and calcium ionophone A23187 can induce the sperm acrosome reaction. The sperm fractional separation products, including seminal plasma, sperm head and sperm tail, couldn ' t activate the eggs except of that few sperm heads could adhere itself to the surface of eggs. The research on biology characteristics of eggs and sperms in scallops provided the basic data for explanation why sperms and eggs from different species of scallops can recognize each other and fertilize.

【语种】中文
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【题目】栉孔扇贝和虾夷扇贝通用微卫星引物的筛选及其在杂种鉴定中的应用
【中文关键词】栉孔扇贝 虾夷扇贝 通用性 SSR 杂种鉴定
【英文关键词】Chlamys farreri;Patinopecten yessoensis;SSR;Universal Primers;Hybrid identification
【中文摘要】将25对在虾夷扇贝中PCR扩增具多态性的微卫星引物对栉孔扇贝基因组DNA上进行PCR扩增,筛选出6对(约占24%)引物获得扩增产物,其中2对(约占8%)表现为多态性。将这6对具有属间通用性的微卫星引物对栉孔扇贝(♀)×虾夷扇贝(♂)进行PCR扩增,均能扩增出特异性条带,其中引物P13F449和KMY134的扩增产物中可以明显的分辨出来自父母本群体的特有条带,从而确定了杂交子代的杂种身份。这些结果表明,虾夷扇贝和栉孔扇贝间通用微卫星标记是存在的,而且部分引物可以直接用于属间杂种的鉴定。
【英文摘要】The study aimed to provide the base for hybrid identification of patinopecten yessoensis×Chlamys farreri population and paternity testing in family in great scale. Twenty-five pairs of reported microsatellite primers from P. yessensis were made for PCR amplification on the genome DNA of C. farreri and hybrid identification of C. farreri(♀)×P. yessoensis(♂) were made by using the selected universal microsatellite primers. Through PCR amplification, six pairs of primers were selected and their amplifying products were obtained, with 2 pairs being polymorphic. when C. farreri(♀)×P. yessoensis(♂) were tested by using 6 pairs of microsatellite primers which could be applied to both the two kinds of scallops, the specific bands could be amplified from each one of the 6 pairs,among which, the specific bands from both agnate and maternal colony could be distinguished obviously in the amplified products of P13F449 and KMY134,and accordingly the hybrid identity of hybrid generations could be affirmed. It was proved that there was certain microsatellite primers that could be applied to both C.farreri and P. yessoensis and some of the primers could be directly used for the identification of intergeneric hybrid.
【语种】中文
【第一作者】杨璞
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【题目】虾夷扇贝精子形态结构和超低温冷冻损伤的电镜观察

【中文关键词】虾夷扇贝 精子 冷冻损伤 超微结构
【英文关键词】Patinopecten yessoensis Spermatozoa Cryodamge Ultrastructure
【中文摘要】应用透射电镜和扫描电镜技术,研究了超低温冷冻保存前后虾夷扇贝精子超微结构和形态的变化。结果显示,虾夷扇贝精子由头部、中段和尾部三部分组成,外被光滑质膜;顶体位于头部最前端,呈倒“v”形,细胞核近似圆柱状,电子密度较高;4个线粒体和2个相互垂直的中心粒构成了精子的中段;鞭毛细长,轴丝为典型的“9+2”结构。经超低温冷冻保存后,冷冻损伤的精子表现为:精子被膜肿胀、被膜与核膜分离、丢失;顶体破裂、内容物流出;线粒体解体、线粒体嵴变形;鞭毛被膜肿胀、部分精子鞭毛脱落。可以推测,超低温冷冻保存对精子膜、顶体、线粒体和鞭毛的损伤导致了冻精活力和受精能力的下降。
【英文摘要】Electron microscopy was used to investigate the changes in morphology and ultrastructure of Patinopecten yessoensis (Jay.) sperm after cryopreservation. The fresh sperm covered with the smooth plasma membrane, consists of head, mid-piece and tail. The acrosome takes a shape of upside-down V and locates at the top of the head. Under the acrosome, the nucleus is column-shaped with a high electron density. Four mitochondria and tow upright centrioles form the mid-piece. The flagellum is thin and long with a typical “9+2” microtubular structure. Cryodamages on post-thaw sperm were embodied as follows: the plasma membrane swelled, separated from nuclear membrane, and the acrosome disrupted and its inclusion lost, and some mitochondria lost external membrane, accompanied by the disaggregation of mitochondria or the deformation of mitochondria cristae. Furthermore, flagellum’s absence and its membrane swelling were also observed in post-thaw sperm. Cryodamages on plasma membrane, acrosome, mitochondria and flagellum probably caused the decrease in motility and fertility of the cryopreserved sperm.
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【第一作者】杨培民
【通讯作者】杨爱国
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【题目】虾夷扇贝精子的主要生理特性与低温保存
【中文关键词】虾夷扇贝 栉孔扇贝 低温保存 杂交
【英文关键词】Patinopecten yessoensis Chlamys farreri short-term storage hybrid
【中文摘要】对虾夷扇贝精子的生理特性和低温保存进行了研究。结果表明,虾夷扇贝精子的最适盐度范围为23.2~32,最适酸碱度范围为pH7.0~8.5。在4℃环境下,未稀释精液样品保存5d后,精子仍有26±4%的活力,而经海水稀释后的精液保存70h后,最高活力仅为11±1.41%,用抗冻液稀释的精液,4℃保存5小时后,得到最高的精子活力仅为24.7±4.16%。添加抗冻剂后在-18℃的保存效果明显低于4℃保存的未稀释样品。用4℃保存的未稀释精液与栉孔扇贝卵子进行杂交试验,保存3d内的精子获得的授精率与对照组相比差异不显著(p>0.05)。杂交组的幼虫可以正常发育至D形幼虫,与自交组没有区别。
【英文摘要】In the present paper ,main physiological characteristics and short-term storage of Patinopectern yessoensis sperm were studied. The results indicated that:the optimum salinity and pH values of spermatozoa wre 23.2~32 and 7.0~8.5 respectivity. The undiluted sperm was extended for 5 days of cold storage, On the contrast, the highest motility of diluted sperm by seawater preserved for 70h at 4°C was only 11±1.41% ;After 5h in 4°C refrigeratory ,the sperm diluted by cryoprotectend-extenders lost all most motily (only 24.7±4.16%).The effect of -18 °C on short-term storage of P. yessoensis sperm were significantly lower than that of 4 °C(undiluted sperm)(p<0.05). In fertilization trails of C. farreri eggs with P. yessoensis sperm preserved for 3 days at 4°C, 59.7±5.1% fertilization rate was obtained, which was similar to controls(71.8±3.4% and 68.1±11%)(p>0.05). No siginificant difference was found between larve of hybridized group and that of controls.
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【第一作者】杨培民
【通讯作者】杨爱国
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【题目】不同繁育方式蟹苗对1龄蟹种培育效果的影响
【中文关键词】选育亲蟹;蟹苗;蟹种培育
【英文关键词】breeding crab, crab fry, crab seedling, crab seedling rearing
【中文摘要】采用♀亲蟹平均规格分别为158.9g、132.8g,♂亲蟹平均规格为180g、150g两种群体繁育的蟹苗培育的1龄蟹种.其群体规格分别为128只/kg、160只/kg。在面积相同、放养密度相同、饲养条件相同的条件下,采用天然海水土池繁育的蟹苗培育的1龄蟹种成活率为5.1%、亩产蟹种8064只;而采用天然海水工厂化繁育的蟹苗,育种成活率为2.24%、亩产蟹种3609只;在蟹苗来源相同、饲养管理相同,培育池面积为19亩的培育池蟹种产量低于面积5亩的池塘。
【英文摘要】Abstract: The results showed that the average size of seedling grown from fry was 128 and 160 seedlings per kilogram, respectively, when the average body weights of crab parents were 158.9g and 132.8g for female, and 180g and 150g for male. Under the same conditions of area, stocking density and rearing method, survival rate from fry to seedling was 5.1%, which the fry was produced in natural seawater pond, and 8064 seedlings per mu were obtained. And survival rate was 2.24%, which the fry was produced in natural seawater factory, and 3609 seedlings per mu were obtained. Under the same conditions of fry and breeding management the seedling production in 19 mu of culturing pond was lower than that one in 5 mu.
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【题目】不同湖泊养殖中华绒螯蟹脂肪酸组成比较分析
【中文关键词】中华绒螯蟹;湖泊养殖品牌;可食部分;脂肪酸组成
【英文关键词】Eriocheir sinensis, Brand crabs produced in lakes, Edible portions, Fatty acid
【中文摘要】为探明在不同生态环境条件下养殖中华绒螯蟹的品质,采用气相色谱法对江苏境内八大湖泊养殖品牌河蟹可食部分脂肪酸组成进行比较分析,结果表明,八大湖泊养殖中华绒螯蟹可食部分含18种脂肪酸,其中饱和脂肪酸(SFA)5种,单烯酸(MUFA)3种,多烯酸(PUFA)10种。雌蟹SFA含量,以大纵湖蟹最高,与阳澄湖蟹、洪泽湖蟹差异达显著水平($p<0.05$);雄蟹SFA含量,以长荡湖蟹最高,与阳澄湖蟹差异达极显著水平($p<0.01$)。MUFA含量,雌蟹以大纵湖蟹最高,与长荡湖蟹、阳澄湖蟹、洪泽湖蟹差异达显著水平($p<0.05$);雄蟹以大纵湖蟹最高,与阳澄湖蟹、洪泽湖蟹差异达显著水平($p<0.05$)。PUFA含量,雌蟹以固城湖蟹最高,与洪泽湖蟹差异达极显著水平($p<0.01$);雄蟹以固城湖蟹最高,与阳澄湖蟹差异达极显著水平($p<0.01$)。
【英文摘要】Abstract: The proximate composition and fatty acid composition of crabs (Eriocheir sinensis) cultured in different ecological conditions were analyzed and compared with capillary gas chromatography. The results showed that 18 kinds of fatty acids were present in the edible part of the crabs cultured in different lakes of Jiangsu Province. Saturated fatty acids (SFA) five, single acid (MUFA)3, Polyunsaturated fatty acids (PUFA)10.SFA content in female, Dazhonghu, crab with the highest, was significantly ($p<0.05$) greater than that of Yangcheng, and Hongze , crab; in male, Changdang, crab with the highest level, was significantly ($p<0.01$) greater than that of Yangcheng, crabs. MUFA content in female, Dazhonghu, crab with the highest, was significantly ($p<0.05$) greater than that of Changdang, crab、 Yangcheng lake crab and Hongze, crab; in male, Dazhonghu, crab with the highest, was significantly ($p<0.05$) greater than that of Yangcheng, and Hongze, crab. PUFA content in female, Guchenghu, crab with the highest level, was significantly ($p<0.01$) greater than that of Hongze, crab; in male, Dazhonghu, crab with the highest, was significantly ($p<0.01$) greater than that of Yangcheng, crab.
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【题目】6-DMAP诱导栉孔扇贝二倍体诱导机理研究
【中文关键词】栉孔扇贝;6-DMAP;免疫荧光染色;纺锤体
【英文关键词】Chlamys farreri , 6-DMAP, Immunofluorecence staining,Spindle
【中文摘要】采用多聚甲醛固定、免疫荧光染色的方法,在荧光显微镜下对栉孔扇贝(Chlamys farreri)正常发育受精卵和6-DMAP第二极体抑制型雌核发育卵受精过程中纺锤体变化以及雌雄原核的移动过程进行了观察。结果显示,正常发育受精卵内微管能聚合形成纺锤体并牵引中期染色体移向两极,依次排出第一极体、第二极体,雌雄原核融合为合子核,进行第一次卵裂。雌核发育受精卵内,随6-DMAP处理时间的延长,星体微管消失,纺锤体被拉长变得扁平,最终导致中期纺锤体解散,第二极体的形成被抑制;6-DMAP处理过程中,受精卵中的精核始终处于皮层区域,不能形成雄原核,雌原核和精核几乎不移动,去除6-DMAP后,雌原核和精核恢复移动,但移动速度与对照组相比要慢。
【英文摘要】The effects of 6-DMAP on assembly of microtubules and pronuclear migration between normal and gynogenetic fertilized eggs of Chlamys farreri were studied carefully by direct immunofluorescence with anti-tubulin. According to observation, chromosomes were segregated by spindle, the first and the second polar bodies were emitted and the female and the male pronuclei fused into zygotonuceus in normal eggs. Treatment of eggs at metaphase-anaphase stages caused drastic modifications of the spindle organization. The anti-tubulin staining revealed that soon after addition of 60ug/mL 6-DMAP, outwards astral fibers were no longer detected, whereas the spindle showed elongation and flattening. Finally 6-DMAP induced a significant disorganization of the spindle at the metaphase of meiosis II, the formation of the second polar body was inhibited effectively. The fertilized eggs raised in the presence of 6-DMAP did not show any further pronuclear movements. when the treated eggs were washed and further maintained in fresh water ,migration resumed at a slower rate than in normal eggs.
【语种】中文
【第一作者】杨凤影
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【题目】2种壳色虾夷扇贝的形态学指标比较分析
【中文关键词】虾夷扇贝; 壳尺寸性状; 壳色; 通径分析; 回归方程
【英文关键词】Patinopecten yessoensis; shell traits; shell colors; path analysis; regression equation
【中文摘要】本文通过测定白/褐两种壳色虾夷扇贝的壳尺寸性状指标:壳长(X1)、壳宽(X2)、壳高(X3)及其和活体重(W),比较了两种壳色之间的壳尺寸性状差异,并分析两者的壳尺寸性状与活体重间的相关关系,从而确定壳性状对活体重的直接影响和间接影响,最后建立了壳性状和活体重的最优多元回归方程。结果表明,白色贝和褐色贝的壳宽之间存在显著差异(P<0.05),活体重之间存在极显著的差异(P<0.01),两者的壳长、壳高、壳宽与活体重均有极显著的相关关系(P<0.01)。白色贝的壳宽对活体重的直接影响最大,褐色贝的壳长对活体重的直接影响最大,白色贝和褐色贝的壳性状对活体重的回归方程分别为:Y= -0.154+0.008X1+0.011X2+0.033X3和Y=-0.190+0.022X1+0.033X3,可为虾夷扇贝的定向选育提供理论依据。
【英文摘要】The shell length(X1),the shell height(X2),the shell width(X3),and the live body weight(W) of two kinds of shell colors of Japanese Scallop Patinopecten yessoensis were measured. The traits between white scallops and brown scallops were compared, the correlation between shell traits and live body weight was calculated, and the direct and indirect effect on the live body weight was analyzed in each group, and the optimum regression equations were established respectively. The results showed that the shell width had significant difference between white scallops and brown scallops(P<0.05), and the live body weight had very significant difference between them(P<0.01). The correlations between shell traits and live body weight were all very significant difference(P<0.01). The shell width gave predominant direct effect on the live body weight in white scallops, the shell length gave predominant direct effect on the live body weight in brown scallops. Finally, the multiple regression equations of white scallops and brown scallops were established to estimate the live body weight by shell traits, Y= -0.154+0.008X1+0.011X2+0.033X3 and Y=-0.190+0.022X1+0.033X3. Those will provide theoretical evidences for further directional selection of Japanese Scallop.

【语种】中文
【第一作者】孙秀俊
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【题目】侵染白菜的黄瓜花叶病毒分离物基因组的全序列分
【中文关键词】黄瓜花叶病毒; 白菜; 基因组序列; 系统进化树分析
【英文关键词】Cucum berm osaic virus ; B rassica cam pestris L. ss p. chinensis var . comm uis Tsen et Lee . ; genomic sequence; phyl ogenetic tree analysis
【中文摘要】对浙江省杭州地区白菜 (B rassica cam pestris L. ss p. chinensis var . comm uis Tsen et Lee .) 上获得的 CMV分离物 (CMV2 CT L) 进行了全长克隆和基因组序列分析。结果显示: CMV2 CT L的 RNA1 (Gen2Bank序列号: EF213023) 全长为 3 357个核苷酸 (nt) , 编码 993个氨基酸 (aa) 的 1a蛋白; RNA2 (Gen2Bank序列号: EF213024) 全长为 3 047 nt, 编码 858 aa的 2a蛋白和 111 aa的 2b蛋白; RNA3 (GenBank序列号: EF213025) 全长为 2 217 nt, 编码 278 aa的 MP蛋白和 218 aa的 CP蛋白。序列相似性分析表明 ,CMV2 CT L与 CMV亚组 B中株系 I A相似性最高 , RNA1、RNA2和 RNA3与该株系的相似性分别为 9113%、9113%和 9316%。CP基因和 RNA3的 5′ NTR核酸序列系统发生树分析表明 , CMV2 CT L与中国大多数 CMV分离物一样 , 属于 CMV亚组 I B。
【英文摘要】Is olate CMV2 CT L was obtained fr om B rassica cam pestris L. ss p. chinensis var . comm uis TsenetLee . , in Hangzhou, Zhejiang Pr ovince . The full2length cDNA sequence of genomic RNAs of the is olate wasdeter mined by RT2 PCR and sequencing . The results showed that CMV2 CT L RNA1 (GenBank accessi on No .EF213023) consists of 3 357 nucleotides (nt) , encoding 1a p r otein of 993 amino acids residues (aa) . RNA2(GenBank accessi on No . EF213024) consists of 3 047 nt, encoding 2a p rotein of 858 aa and 2b p r otein of111 aa . RNA3 (GenBank accessi on No . EF213025) contains of 2 217 nt, encoding 3a p rotein of 278 aa andCP of 218 aa . CMV2 CT L showed the highest sequence identities with strain I A which bel ongs t o CMV sub2group I B. The sequence identities of RNA1, RNA2 and RNA3 bet ween CT L and I A strains were 9113% ,9113% and 9316% , res pectively . Phyl ogenetic analysis of CP and 5′ NTR of RNA3 suggested that CMV2 CT Lbel ongs t o CMV subgr oup I B.
【语种】中文
【第一作者】曾蓉
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【题目】A reusable method for construction of non-marker large fragment deletion yeast auxotroph strains: A practice in Torulopsis glabrata
【中文关键词】Fusion PCR,Nystatin enrichment,Auxotroph screening,Gene knockout,Candida glabrata
【英文关键词】Fusion PCR,Nystatin enrichment,Auxotroph screening,Gene knockout,Candida glabrata
【中文摘要】A reusable method for construction of yeast auxotrophic mutants with large deletions that do not contain markers was developed and successfully applied to a pyruvate overproducing yeast strain, Torulopsis glabrata CCTCC M202019. A URA3 knockout fragment with a large deletion of the open reading frame and long homologous arms was constructed by fusion PCR and transformed into the parent strain by high-ef fi ciency electroporation. A high concentration of transformed yeast was achieved by subsequently culturing in rich medium for 24 h and in nitrogen-free minimal medium for 4 h. Potential Δura3 auxotrophic mutants were enriched by treatment with nystatin and selection on uracil-limited medium. Mutants were con fi rmed by streaking cultures and colony PCR. Δarg8 and Δura3Δarg8 double auxotroph mutants were also successfully constructed using this method.
【英文摘要】A reusable method for construction of yeast auxotrophic mutants with large deletions that do not contain markers was developed and successfully applied to a pyruvate overproducing yeast strain, Torulopsis glabrata CCTCC M202019. A URA3

knockout fragment with a large deletion of the open reading frame and long homologous arms was constructed by fusion PCR and transformed into the parent strain by high-ef fi ciency electroporation. A high concentration of transformed yeast was achieved by subsequently culturing in rich medium for 24 h and in nitrogen-free minimal medium for 4 h. Potential Δura3 auxotrophic mutants were enriched by treatment with nystatin and selection on uracil-limited medium. Mutants were con fi rmed by streaking cultures and colony PCR. Δarg8 and Δura3Δarg8 double auxotroph mutants were also successfully constructed using this method.

【语种】英文
【第一作者】周景文
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【题目】ATP in current biotechnology: Regulation, applications and perspectives
【中文关键词】ATP synthase,Metabolic engineering,Cofactor engineering,Biotechnology process optimization,Energy metabolism
【英文关键词】ATP synthase,Metabolic engineering,Cofactor engineering,Biotechnology process optimization,Energy metabolism
【中文摘要】Adenosine tri-phosphate (ATP), the most important energy source for metabolic reactions and pathways, plays a vital role in the growth of industrial strain and the production of target metabolites. In this review, current advances in manipulating ATP in industrial strains, including altering NADH availability, and regulating NADH oxidation pathway, oxygen supply, proton gradient, the electron transfer chain activity and the F0F1-ATPase activity, are summarized and discussed. By applying these strategies, optimal product concentrations, yields and productivity in industrial biotechnology have been achieved. Furthermore, the mechanisms by which ATP extends the substrate utilization spectra and enhances the ability to challenge harsh environmental stress have been elucidated. Finally, three critical issues related to ATP manipulation have been addressed.
【英文摘要】Adenosine tri-phosphate (ATP), the most important energy source for metabolic reactions and pathways, plays a vital role in the growth of industrial strain and the production of target metabolites. In this review, current advances in manipulating ATP in industrial strains, including altering NADH availability, and regulating NADH oxidation pathway, oxygen supply, proton gradient, the electron transfer chain activity and the F0F1-ATPase activity, are summarized and discussed. By applying these strategies, optimal product concentrations, yields and productivity in industrial biotechnology have been achieved. Furthermore, the mechanisms by which ATP extends the substrate utilization spectra and enhances the ability to challenge harsh environmental stress have been elucidated. Finally, three critical issues related to ATP manipulation have been addressed.
【语种】英文
【第一作者】周景文
【通讯作者】陈坚
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【学科分类】生物化学

【题目】Enhancement of pyruvate productivity by inducible expression of a F0F1-ATPase inhibitor INH1 in Torulopsis glabrata CCTCC M202019
【中文关键词】ATP synthase inhibitor,Candida glabrata,EGFP,INH1,Glycolytic pathway
【英文关键词】ATP synthase inhibitor,Candida glabrata,EGFP,INH1,Glycolytic pathway
【中文摘要】The aim of this study is to establish a controllable intracellular ATP content regulation system applied to the enhancement of pyruvate production in Torulopsis glabrata. The INH1 gene, which encodes a F0F1-ATPase inhibitor from Saccharomyces cerevisiae, was expressed under a copper ion inducible promoter in the pyruvate producer Torulopsis glabrata CCTCC M202019. The resultant strain was designated as T. glabrata INH1. The induction ef fi ciency was measured by the inducible expression of an enhanced green fl uorescence protein. The copper inducible INH1 gene could control the intracellular ATP content (24 h) in an extensive range between 0.192mmol/mg protein and 0.642mmol/mg protein in a fl ask culture. With T. glabrata INH1, induction with

30 μ M of Cu2+ at 12 h in a 3 L fermentor improved pyruvate yield from glucose on biomass by 29% and its yield by 20%, respectively.
【英文摘要】The aim of this study is to establish a controllable intracellular ATP content regulation system applied to the enhancement of pyruvate production in Torulopsis glabrata. The INH1 gene, which encodes a F0F1-ATPase inhibitor from Saccharomyces cerevisiae, was expressed under a copper ion inducible promoter in the pyruvate producer Torulopsis glabrata CCTCC M202019. The resultant strain was designated as T. glabrata INH1. The induction ef fi ciency was measured by the inducible expression of an enhanced green fl uorescence protein. The copper inducible INH1 gene could control the intracellular ATP content (24 h) in an extensive range between 0.192mmol/mg protein and 0.642mmol/mg protein in a fl ask culture. With T. glabrata INH1, induction with 30 μ M of Cu2+ at 12 h in a 3 L fermentor improved pyruvate yield from glucose on biomass by 29% and its yield by 20%, respectively.
【语种】英文
【第一作者】周景文
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【学科分类】生物化学

【题目】Improved ATP supply enhances acid tolerance of Candida glabrata during pyruvic acid production
【中文关键词】acid tolerance, citrate, pH gradient, Torulopsis glabrata.
【英文关键词】acid tolerance, citrate, pH gradient, Torulopsis glabrata.
【中文摘要】Aims: A major problem in industrial fermentation of organic acids with microorganisms is to ensure a suitable pH in the culture broth. To circumvent this problem, we investigated the effect of citrate, which is a widely used auxiliary energy co-substrate, on cell growth, organic acid production and pH homeostasis among extracellular environment, cytoplasm and vacuole, in the pyruvic acid production by Candida glabrata CCTCC M202019 under different pH conditions.Methods and Results: Analysis of intracellular ATP regeneration, cytoplasmic and vacuolar pH values under different culture conditions points towards a relief of stress when C. glabrata is exposed to lower pH, if citrate is added. When 50 mmol/L citrate was added to the culture medium, the intracellular ATP concentrations increased by 20.5% (pH 5.5), 20.4% (pH 5.0) and 39.3% (pH 4.5), and higher pH gradients among the culture broth, cell cytoplasm and vacuoles resulted. As a consequence, the cell growth and pyruvic acid production of C. glabrata CCTCC M202019 were signi fi cantly improved under pH 5.0 and 4.5.Conclusions: The acid tolerance of yeast can be improved by enhancing the ATP supply, which helps to maintain higher pH gradients in the system. Signi fi cance and Impact of the Study: The results presented here expand our understanding of the physiological characteristics in eukaryotic micro-organisms under low pH conditions and provide a potential route for the further improvement of organic acids production process by process optimization or metabolic engineering.
【英文摘要】Aims: A major problem in industrial fermentation of organic acids with microorganisms is to ensure a suitable pH in the culture broth. To circumvent this problem, we investigated the effect of citrate, which is a widely used auxiliary energy co-substrate, on cell growth, organic acid production and pH homeostasis among extracellular environment, cytoplasm and vacuole, in the pyruvic acid production by Candida glabrata CCTCC M202019 under different pH conditions.Methods and Results: Analysis of intracellular ATP regeneration, cytoplasmic and vacuolar pH values under different culture conditions points towards a relief of stress when C. glabrata is exposed to lower pH, if citrate is added. When 50 mmol/L citrate was added to the culture medium, the intracellular ATP concentrations increased by 20.5% (pH 5.5), 20.4% (pH 5.0) and 39.3% (pH 4.5), and higher pH gradients among the culture broth, cell cytoplasm and vacuoles resulted. As a consequence, the cell growth and pyruvic acid production of C. glabrata CCTCC M202019 were signi fi cantly improved under pH 5.0 and 4.5.Conclusions: The acid tolerance of yeast can be improved by enhancing the ATP supply, which helps to maintain higher pH gradients in the system. Signi fi cance and Impact of the Study: The results presented here expand our understanding of the physiological characteristics in eukaryotic micro-organisms under low pH conditions and provide a potential route for the further improvement of organic acids production process by process optimization or metabolic engineering.
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【题目】Method to purify mitochondrial DNA directly from yeast total DNA
【中文关键词】Candida glabrata Yeast Mitochondrial DNA Puri fi cation
【英文关键词】Candida glabrata Yeast Mitochondrial DNA Puri fi cation
【中文摘要】During the puri fi cation of total DNA from yeast, both nuclear and mitochondrial DNA (mtDNA) molecules are obtained. Here, we describe a simple enzymatic method using acombination of k exonuclease and RecJf to obtain pure and intact mtDNA by removing linear DNA from total DNA isolated from yeast cells. The combination of the two enzymes ef fi ciently removed linear DNA from the total DNA of Candida (Torulopsis) glabrata, leaving the mtDNA intact. The purity and integrity of mtDNA was assayed by PCR ampli fi cation of ARG1/2/5/8, URA3 and COX1, and by RFLP analysis, respectively. This method can be used to prepare mtDNA for PCR ampli fi cation or RFLP analysis without the need for puri fi cation of mitochondria by gradient ultracentrifugation or fractional precipitation. The method was also successfully applied to the yeast species Saccharomyces cerevisiae, Candida utilis, Pichia pastoris and Yarrowia lypolytica.
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【语种】英文
【第一作者】周景文
【通讯作者】陈坚
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【题目】Proline Enhances Torulopsis glabrata Growth during Hyperosmotic Stress
【中文关键词】Torulopsis glabrata, osmotic stress, proline, compatible solute, organic acid
【英文关键词】Torulopsis glabrata, osmotic stress, proline, compatible solute, organic acid
【中文摘要】This study investigated that the importing of compatible solute proline could enhance the growth of the yeast Torulopsis glabrata under hyperosmotic stress. Osmolarity progressively increased from 860 to 2,603 mOsmol/kg by accumulation of sodium pyruvate in the culture broth, leading to a significant decrease in cell growth. When 1.0 g/L of proline as a compatible solute was added to the culture medium, it was imported and enhanced cell growth by 59.0% at 2,603 mOsmol/kg. By addition of proline during pyruvate production, the concentration, productivity, and yield of pyruvate increased 22.1, 38.4, and 14.3%, respectively. These results suggested that T. glabrata can import proline as an osmoprotectant against high osmotic stress, thus enhance pyruvate productivity. The improvement of yeast growth and viability under hyperosmotic stress by the addition of proline provided an alternative approach to enhance the organic acids production by yeast.
【英文摘要】This study investigated that the importing of compatible solute proline could enhance the growth of the yeast Torulopsis glabrata under hyperosmotic stress. Osmolarity progressively increased from 860 to 2,603 mOsmol/kg by accumulation of sodium pyruvate in the culture broth, leading to a significant decrease in cell growth. When 1.0 g/L of proline as a compatible solute was added to the culture medium, it was imported and enhanced cell growth by 59.0% at 2,603 mOsmol/kg. By addition of proline during pyruvate production, the concentration, productivity, and yield of pyruvate increased 22.1, 38.4, and 14.3%, respectively. These results suggested that T. glabrata can import proline as an osmoprotectant against high osmotic stress, thus enhance pyruvate productivity. The improvement of yeast growth and viability under hyperosmotic stress by the addition of proline provided an alternative approach to enhance the organic acids production by yeast.

【语种】英文
【第一作者】徐莎
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【题目】Water-forming NADH oxidase protects Torulopsis glabrata against hyperosmotic stress
【中文关键词】Torulopsis glabrata; hyperosmotic stress; NADH oxidase; intracellular water
【英文关键词】Torulopsis glabrata; hyperosmotic stress; NADH oxidase; intracellular water
【中文摘要】A heterologous water-forming NADH oxidase was introduced into Torulopsis glabrata and the effect on cell growth under hyperosmotic conditions was investigated.Expression of the noxE gene from Lactococcus lactis NZ9000 in T. glabrata resulted in a marked decrease in the NADH:NAD+ ratio and higher activities of key enzymes in water-regenerating pathways, leading to an increase in intracellular water content. NaCl-induced reactive oxygen species production was also decreased by the introduction of NADH oxidase, resulting in a signi fi cant increase in the growth of T. glabrata under hyperosmotic stress conditions (3824 mOsmol/kg). The results indicated that the osmotolerance of cells can be enhanced by manipulating water- production pathways.
【英文摘要】A heterologous water-forming NADH oxidase was introduced into Torulopsis glabrata and the effect on cell growth under hyperosmotic conditions was investigated.Expression of the noxE gene from Lactococcus lactis NZ9000 in T. glabrata resulted in a marked decrease in the NADH:NAD+ ratio and higher activities of key enzymes in water-regenerating pathways, leading to an increase in intracellular water content. NaCl-induced reactive oxygen species production was also decreased by the introduction of NADH oxidase, resulting in a signi fi cant increase in the growth of T. glabrata under hyperosmotic stress conditions (3824 mOsmol/kg). The results indicated that the osmotolerance of cells can be enhanced by manipulating water- production pathways.
【语种】英文
【第一作者】徐莎
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【学科分类】生物化学

【题目】Enhancement of [alpha]-ketoglutarate production in Torulopsis glabrata: Redistribution of carbon flux from pyruvate to [alpha]-ketoglutarate
【中文关键词】α-ketoglutarate; Torulopsis glabrata; pyruvate
【英文关键词】α-ketoglutarate; Torulopsis glabrata; pyruvate
【中文摘要】This manuscript aimed at increasing the production of α-ketoglutarate by the multi-vitamin auxotrophic yeast Torulopsis glabrata CCTCC M202019. The carbon flux was redistributed from pyruvate to α-ketoglutarate node by manipulating the specific activity of pyruvate dehydrogenase complex (PDH), pyruvate carboxylase (PC), pyruvate decarboxylase (PDC), and α-ketoglutarate dehydrogenase complex (KGDH). By proper increase of PDH, PC, and PDC activities, α-ketoglutarate in fermentation broth could be accumulated to the levels of 17.1 g/L, 21.6 g/L, and 31.2 g/L, respectively. In addition, decrease in the specific activity of KGDH also resulted in an enhanced α-ketoglutarate synthesis. With a proposed combinational enzymes regulation strategy, the highest α-ketoglutarate concentration of 37.7 g/L was achieved.
【英文摘要】This manuscript aimed at increasing the production of α-ketoglutarate by the multi-vitamin auxotrophic yeast Torulopsis glabrata CCTCC M202019. The carbon flux was redistributed from pyruvate to α-ketoglutarate node by manipulating the specific activity of pyruvate dehydrogenase complex (PDH), pyruvate carboxylase (PC), pyruvate decarboxylase (PDC), and α-ketoglutarate dehydrogenase complex (KGDH). By proper increase of PDH, PC, and PDC activities, α-ketoglutarate in fermentation broth could be accumulated to the levels of 17.1 g/L, 21.6 g/L, and 31.2 g/L, respectively. In addition, decrease in the specific activity of KGDH also resulted in an enhanced α-ketoglutarate synthesis. With a proposed combinational enzymes regulation strategy, the

highest α-ketoglutarate concentration of 37.7 g/L was achieved.
【语种】英文
【第一作者】张丹丹
【通讯作者】陈坚
【期刊名称、卷期、页码】Biotechnology and Bioprocess Engineering 2009; 14: 134-139
【论文发表时间】2009-02-14 00:00:00
【引文索引类型】SCI
【引文索引号】SCI
【学科分类】生物化学

【题目】Mitochondrial DNA Heteroplasmy in Candida glabrata after Mitochondrial Transformation
【中文关键词】Mitochondrial DNA Heteroplasmy; Candida glabrata; α-ketoglutarate
【英文关键词】Mitochondrial DNA Heteroplasmy; Candida glabrata; α-ketoglutarate
【中文摘要】Genetic manipulation of mitochondrial DNA (mtDNA) is the most direct method for investigating mtDNA, but until now, this has been achieved only in the diploid yeast Saccharomyces cerevisiae. In this study, the ATP6 gene on mtDNA of the haploid yeast Candida glabrata (Torulopsis glabrata) was deleted by biolistic transformation of DNA fragments with a recoded ARG8m mitochondrial genetic marker, flanked by homologous arms to the ATP6 gene. Transformants were identified by arginine prototrophy. However, in the transformants, the original mtDNA was not lost spontaneously, even under arginine selective pressure. Moreover, the mtDNA transformants selectively lost the transformed mtDNA under aerobic conditions. The mtDNA heteroplasmy in the transformants was characterized by PCR, quantitative PCR, and Southern blotting, showing that the heteroplasmy was relatively stable in the absence of arginine. Aerobic conditions facilitated the loss of the original mtDNA, and anaerobic conditions favored loss of the transformed mtDNA. Moreover, detailed investigations showed that increases in reactive oxygen species in mitochondria lacking ATP6, along with their equal cell division, played important roles in determining the dynamics of heteroplasmy. Based on our analysis of mtDNA heteroplasmy in C. glabrata, we were able to generate homoplasmic atp6 mtDNA strains.
【英文摘要】Genetic manipulation of mitochondrial DNA (mtDNA) is the most direct method for investigating mtDNA, but until now, this has been achieved only in the diploid yeast Saccharomyces cerevisiae. In this study, the ATP6 gene on mtDNA of the haploid yeast Candida glabrata (Torulopsis glabrata) was deleted by biolistic transformation of DNA fragments with a recoded ARG8m mitochondrial genetic marker, flanked by homologous arms to the ATP6 gene. Transformants were identified by arginine prototrophy. However, in the transformants, the original mtDNA was not lost spontaneously, even under arginine selective pressure. Moreover, the mtDNA transformants selectively lost the transformed mtDNA under aerobic conditions. The mtDNA heteroplasmy in the transformants was characterized by PCR, quantitative PCR, and Southern blotting, showing that the heteroplasmy was relatively stable in the absence of arginine. Aerobic conditions facilitated the loss of the original mtDNA, and anaerobic conditions favored loss of the transformed mtDNA. Moreover, detailed investigations showed that increases in reactive oxygen species in mitochondria lacking ATP6, along with their equal cell division, played important roles in determining the dynamics of heteroplasmy. Based on our analysis of mtDNA heteroplasmy in C. glabrata, we were able to generate homoplasmic atp6 mtDNA strains.
【语种】英文
【第一作者】周景文
【通讯作者】陈坚
【期刊名称、卷期、页码】Eukaryotic Cell 2010; 5: 806-814
【论文发表时间】2010-05-09 00:00:00
【引文索引类型】SCI
【引文索引号】SCI
【学科分类】生物化学

【题目】Enhancement of pyruvate production by osmotic-tolerant mutant of Torulopsis glabrata
【中文关键词】Torulopsis glabrata; pyruvate; NaCl-tolerance
【英文关键词】Torulopsis glabrata; pyruvate; NaCl-tolerance
【中文摘要】Pyruvate production by Torulopsis glabrata was used as a model to study the mechanism of product inhibition and the strategy for enhancing pyruvate production. It was found that the concentration of cell growth and pyruvate deceased with the increase of NaCl and sorbitol concentrations. To enhance the osmotic stress resistance of the strain, an NaCl-tolerant mutant RS23 was screened

and selected through a pH-controlled continuous culture with 70 g/L NaCl as the selective criterion. Compared with the parent strain, mutant RS23 could grow well on the medium containing 70 g/L NaCl or 0.6 mol/L sorbitol. Pyruvate concentration by the mutant strain RS23 reached 94.3 g/L at 82 h (yield on glucose 0.635 g/g) in a 7-l fermentor with 150 g/L glucose as carbon source. Pyruvate concentration and yield of mutant RS23 were 41.1% and 11.1% higher than those of the parent strain, respectively. The strategy for enhancing pyruvate production by increasing osmotic stress resistance may provide an alternative approach to enhance organic acids production with yeast.

【英文摘要】Pyruvate production by Torulopsis glabrata was used as a model to study the mechanism of product inhibition and the strategy for enhancing pyruvate production. It was found that the concentration of cell growth and pyruvate deceased with the increase of NaCl and sorbitol concentrations. To enhance the osmotic stress resistance of the strain, an NaCl-tolerant mutant RS23 was screened and selected through a pH-controlled continuous culture with 70 g/L NaCl as the selective criterion. Compared with the parent strain, mutant RS23 could grow well on the medium containing 70 g/L NaCl or 0.6 mol/L sorbitol. Pyruvate concentration by the mutant strain RS23 reached 94.3 g/L at 82 h (yield on glucose 0.635 g/g) in a 7-l fermentor with 150 g/L glucose as carbon source. Pyruvate concentration and yield of mutant RS23 were 41.1% and 11.1% higher than those of the parent strain, respectively. The strategy for enhancing pyruvate production by increasing osmotic stress resistance may provide an alternative approach to enhance organic acids production with yeast.

【语种】英文

【第一作者】刘立明

【通讯作者】陈坚

【期刊名称、卷期、页码】Biotechnology and Bioengineering 2007. 97(4): 825-832

【论文发表时间】2006-07-25 00:00:00

【引文索引类型】SCI

【引文索引号】SCI

【学科分类】生物化学

【题目】Redistribution of carbon fl ux in Torulopsis glabrata by altering vitamin and calcium level

【中文关键词】Torulopsis glabrata; Carbon flux; Cofactor; α-ketoglutaric acid

【英文关键词】Torulopsis glabrata; Carbon flux; Cofactor; α-ketoglutaric acid

【中文摘要】Manipulation of cofactor (thiamine, biotin and Ca2+) levels as a potential tool to redistribute carbon flux was studied in Torulopsis glabrata. With sub-optimization of vitamin in fermentation medium, the carbon flux was blocked at the key node of pyruvate, and 69 g/L pyruvate was accumulated. Increasing the concentrations of thiamine and biotin could selectively open the valve of carbon flux from pyruvate to pyruvate dehydrogenase complex, the pyruvate carboxylase (PC) pathway and the channel into the TCA cycle, leading to the over-production of α-ketoglutarate. In addition, the activity of PC was enhanced with Ca2+ present in fermentation medium. By combining high concentration's vitamins and CaCO3 as the pH buffer, a batch culture was conducted in a 7-L fermentor, with the pyruvate concentration decreased to 21.8 g/L while α-ketoglutarate concentration increased to 43.7 g/L. Our study indicated that the metabolic flux could be redistributed to overproduce desired metabolites with manipulating the cofactor levels. Furthermore, the manipulation of vitamin level provided an alternative tool to realize metabolic engineering goals.

【英文摘要】Manipulation of cofactor (thiamine, biotin and Ca2+) levels as a potential tool to redistribute carbon flux was studied in Torulopsis glabrata. With sub-optimization of vitamin in fermentation medium, the carbon flux was blocked at the key node of pyruvate, and 69 g/L pyruvate was accumulated. Increasing the concentrations of thiamine and biotin could selectively open the valve of carbon flux from pyruvate to pyruvate dehydrogenase complex, the pyruvate carboxylase (PC) pathway and the channel into the TCA cycle, leading to the over-production of α-ketoglutarate. In addition, the activity of PC was enhanced with Ca2+ present in fermentation medium. By combining high concentration's vitamins and CaCO3 as the pH buffer, a batch culture was conducted in a 7-L fermentor, with the pyruvate concentration decreased to 21.8 g/L while α-ketoglutarate concentration increased to 43.7 g/L. Our study indicated that the metabolic flux could be redistributed to overproduce desired metabolites with manipulating the cofactor levels. Furthermore, the manipulation of vitamin level provided an alternative tool to realize metabolic engineering goals.

【语种】英文

【第一作者】刘立明

【通讯作者】陈坚

【期刊名称、卷期、页码】Metabolic Engineering 2007. 9(1): 21-29

【论文发表时间】2006-08-12 00:00:00

【引文索引类型】SCI
【引文索引号】SCI
【学科分类】生物化学

【题目】Biochemical characterization of GDP-l-fucose de novo synthesis pathway in fungus Mortierella alpine
【中文关键词】Mortierella alpina; GDP-l-fucose; Fucosylation; GDP-d-mannose 4,6-dehydratase; GDP-keto-6-deoxymannose 3,5-epimerase/4-reductase
【英文关键词】Mortierella alpina; GDP-l-fucose; Fucosylation; GDP-d-mannose 4,6-dehydratase; GDP-keto-6-deoxymannose 3,5-epimerase/4-reductase
【中文摘要】Mortierella alpina is a filamentous fungus commonly found in soil, which is able to produce large amount of polyunsaturated fatty acids. l-Fucose is an important sugar found in a diverse range of organisms, playing a variety of biological roles. In this study, we characterized the de novo biosynthetic pathway of GDP-l-fucose (the nucleotide-activated form of l-fucose) in M. alpina. Genes encoding GDP-d-mannose 4,6-dehydratase (GMD) and GDP-keto-6-deoxymannose 3,5-epimerase/4-reductase (GMER) were expressed heterologously in Escherichia coli. The recombinant enzymes were produced as His-tagged fusion proteins. Conversion of GDP-mannose to GDP-4-keto-6-deoxy mannose by GMD and GDP-4-keto-6-deoxy mannose to GDP-l-fucose by GMER were analyzed by capillary electrophoresis, electro-spray ionization-mass spectrometry, and nuclear magnetic resonance spectroscopy. The km values of GMD for GDP-mannose and GMER for GDP-4-keto-6-deoxy mannose were determined to be 0.77 mM and 1.047 mM, respectively. Both NADH and NADPH may be used by GMER as the coenzyme. The optimum temperature and pH were determined to be 37 ° C and pH 9.0 (GMD) or pH 7.0 (GMER). Divalent cations are not required for GMD and GMER activity, and the activities of both enzymes may be enhanced by DTT. To our knowledge this is the first report on the characterization of GDP-l-fucose biosynthetic pathway in fungi.
【英文摘要】Mortierella alpina is a filamentous fungus commonly found in soil, which is able to produce large amount of polyunsaturated fatty acids. l-Fucose is an important sugar found in a diverse range of organisms, playing a variety of biological roles. In this study, we characterized the de novo biosynthetic pathway of GDP-l-fucose (the nucleotide-activated form of l-fucose) in M. alpina. Genes encoding GDP-d-mannose 4,6-dehydratase (GMD) and GDP-keto-6-deoxymannose 3,5-epimerase/4-reductase (GMER) were expressed heterologously in Escherichia coli. The recombinant enzymes were produced as His-tagged fusion proteins. Conversion of GDP-mannose to GDP-4-keto-6-deoxy mannose by GMD and GDP-4-keto-6-deoxy mannose to GDP-l-fucose by GMER were analyzed by capillary electrophoresis, electro-spray ionization-mass spectrometry, and nuclear magnetic resonance spectroscopy. The km values of GMD for GDP-mannose and GMER for GDP-4-keto-6-deoxy mannose were determined to be 0.77 mM and 1.047 mM, respectively. Both NADH and NADPH may be used by GMER as the coenzyme. The optimum temperature and pH were determined to be 37 ° C and pH 9.0 (GMD) or pH 7.0 (GMER). Divalent cations are not required for GMD and GMER activity, and the activities of both enzymes may be enhanced by DTT. To our knowledge this is the first report on the characterization of GDP-l-fucose biosynthetic pathway in fungi.
【语种】英文
【第一作者】任燕
【通讯作者】陈卫
【期刊名称、卷期、页码】Biochemical and Biophysical Research Communications 2010, 391(4): 1663-1669
【论文发表时间】2009-11-24 00:00:00
【引文索引类型】SCI
【引文索引号】SCI
【学科分类】生物化学

【题目】Improvement of arachidonic acid and eicosapentaenoic acid production by increasing the copy number of the genes encoding fatty acid desaturase and elongase
【中文关键词】Arachidonic acid; Eicosapentaenoic acid; Fatty acid desaturases and elongase;Pichia pastoris; Polyunsaturated fatty acids
【英文关键词】Arachidonic acid; Eicosapentaenoic acid; Fatty acid desaturases and elongase;Pichia pastoris; Polyunsaturated fatty acids
【中文摘要】Genes encoding Δ6 desaturase, Δ6 fatty acid elongase, and Δ5 desaturase from the alga, Phaeodactylum tricornutum, were co-expressed in Pichia pastoris to produce arachidonic acid (ARA; 20:4 Δ5, 8, 11, 14) and eicosapentaenoic acid (EPA; 20:5 Δ5,

8, 11, 14, 17). A panel of Pichia clones carrying progressively increasing copies of the heterologous gene expression cassette was created using an in vitro multimerization approach. ARA and EPA accumulated up to 0.3 and 0.1% of total fatty acids, respectively, in the recombinant P. pastoris carrying with double copies of these three heterologous genes, as compared to 0.1 and 0.05%, respectively, in the recombinant P. pastoris with single copy

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【语种】英文

【第一作者】李云涛

【通讯作者】余龙江

【期刊名称、卷期、页码】Biotechnology letters 2009,31: 1011-1017

【论文发表时间】2009-03-22 00:00:00

【引文索引类型】SCI

【引文索引号】SCI

【学科分类】生物化学

【题目】Asymmetric biosynthesis of (1S, 2S)-ephedrine by Morganella morganii CMCC(B)49208

【中文关键词】Ephedrine, stereoselective reduction, Morganella morganii, bioconversion

【英文关键词】Ephedrine, stereoselective reduction, Morganella morganii, bioconversion

【中文摘要】(1S, 2S)-Ephedrine, one of the four ephedrine isomers, is a common pharmacological agent; however, it is difficult to synthesize in a stereospecific manner using traditional organic synthesis. In this paper, a novel enzymatic process was developed for the stereoselective synthesis of (1S, 2S)-ephedrine. Morganella morganii CMCC(B)49208 was found to asymmetrically reduce the prochiral carbonyl compound 1-phenyl-1-oxo-2-methylaminopropane (MAK) to optically pure (1S, 2S)-ephedrine which was measured with thin layer chromatography (TLC) and high performance liquid chromatography (HPLC) technologies. In addition, a conversion process using air-dried M. morganii CMCC(B)49208 cells was developed to produce (1S, 2S)-ephedrine at a final concentration of 0.852 gL-1 (>99% ee) and 84.4% molar yield.

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【语种】英文

【第一作者】张梁

【通讯作者】石贵阳

【期刊名称、卷期、页码】African Journal of Biotechnology 2009 8 (4), 694-698

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【引文索引类型】SCI

【引文索引号】SCI

【学科分类】分子生物学

【题目】根癌土壤杆菌产辅酶 Q10 的补料分批发酵工艺

【中文关键词】根癌土壤杆菌;辅酶Q10;补料分批发酵

【英文关键词】根癌土壤杆菌;辅酶Q10;补料分批发酵

【中文摘要】以根癌土壤杆菌(Agrobacterium tumefaciens Q14)为生产菌株,在15 L发酵罐内对补料分批发酵生产辅酶Q10的工艺进行优化. 通过逐步添加限制性营养物质,考察其对发酵的影响,获得了较优的补料分批发酵工艺,即流加葡萄糖和

KH2PO4 溶液,将葡萄糖和磷浓度分别控制在5　15 g/L和50　120 mmol/L,同时,在30和50 h各加入5%(φ)新鲜发酵培养基. 在此工艺条件下,发酵周期为84 h,菌体量达87.2 g/L,辅酶Q10 产量高达2166.2 mg/L,生产强度为25.8 mg/(L　h),比分批发酵提高了7.8倍.

【英文摘要】以根癌土壤杆菌(Agrobacterium tumefaciens Q14)为生产菌株,在15 L发酵罐内对补料分批发酵生产辅酶Q10的工艺进行优化. 通过逐步添加限制性营养物质,考察其对发酵的影响,获得了较优的补料分批发酵工艺,即流加葡萄糖和KH2PO4 溶液,将葡萄糖和磷浓度分别控制在5　15 g/L和50　120 mmol/L,同时,在30和50 h各加入5%(φ)新鲜发酵培养基. 在此工艺条件下,发酵周期为84 h,菌体量达87.2 g/L,辅酶Q10 产量高达2166.2 mg/L,生产强度为25.8 mg/(L　h),比分批发酵提高了7.8倍.

【语种】中文

【第一作者】金赛

【通讯作者】石贵阳

【期刊名称、卷期、页码】过程工程学报 2011,11,113-116

【论文发表时间】2010-10-08 00:00:00

【引文索引类型】其他

【引文索引号】null

【学科分类】微生物学

【题目】利用分子蒸馏技术分离共扼亚油酸的研究

【中文关键词】分子蒸馏; 共扼亚油酸; 气相色谱

【英文关键词】分子蒸馏; 共扼亚油酸; 气相色谱

【中文摘要】利用刮膜式分子蒸馏仪对原料中共扼亚油酸的提纯进行研究。分析蒸馏温度、蒸馏压力、进料速度、刮膜器转速对共扼亚油酸产品纯度和得率的影响。气相色谱分析得出最佳工艺条件, 当温度130oC、压力1 mbar、进料速度25(滴/min)、转速650 r/min时, 得率95. 56% , 纯度达91. 37%。

【英文摘要】利用刮膜式分子蒸馏仪对原料中共扼亚油酸的提纯进行研究。分析蒸馏温度、蒸馏压力、进料速度、刮膜器转速对共扼亚油酸产品纯度和得率的影响。气相色谱分析得出最佳工艺条件, 当温度130oC、压力1 mbar、进料速度25(滴/min)、转速650 r/min时, 得率95. 56% , 纯度达91. 37%。

【语种】中文

【第一作者】刘秋云

【通讯作者】李开雄

【期刊名称、卷期、页码】食品工业 2010,4,11-13

【论文发表时间】2010-04-17 00:00:00

【引文索引类型】其他

【引文索引号】null

【学科分类】细胞生物学

【题目】尿素包合法富集红花油中亚油酸的工艺优化

【中文关键词】尿素包合法;亚油酸;红花油

【英文关键词】尿素包合法;亚油酸;红花油

【中文摘要】尿素包合法分离提纯脂肪酸成本低,操作简单,纯度高,已被广泛使用。红花籽油经皂化水解、尿素包合富集亚油酸,通过正交试验得出尿素包合亚油酸的最佳工艺条件为:尿素甲醇比例3/10(M/V)、温度时间条件-18℃ 12 h,5℃ 12 h、尿素甲醇溶液与脂肪酸的比例100/10(V/M)。在此条件下,亚油酸得率可达85.67%,纯度达89.98%。

【英文摘要】尿素包合法分离提纯脂肪酸成本低,操作简单,纯度高,已被广泛使用。红花籽油经皂化水解、尿素包合富集亚油酸,通过正交试验得出尿素包合亚油酸的最佳工艺条件为:尿素甲醇比例3/10(M/V)、温度时间条件-18℃ 12 h,5℃ 12 h、尿素甲醇溶液与脂肪酸的比例100/10(V/M)。在此条件下,亚油酸得率可达85.67%,纯度达89.98%。

【语种】中文

【第一作者】李开雄

【通讯作者】李开雄

【期刊名称、卷期、页码】食品工业 2010,1,74-77

【论文发表时间】2010-01-02 00:00:00

【引文索引类型】其他
【引文索引号】null
【学科分类】生物化学

【题目】生物转化共轭亚油酸的研究现状
【中文关键词】共轭亚油酸;生物转化;菌种
【英文关键词】共轭亚油酸;生物转化;菌种
【中文摘要】生物异构体共扼亚油酸(CLA)已成近几年的研究热点。共轭亚油酸主要是由瘤胃细菌、乳酸菌、丙酸菌异构化亚油酸生物合成,特别是利用乳酸菌进行生物转化,具有比瘤胃细菌更强的生物转化CLA的能力。因此,近年来关于利用微生物合成共轭亚油酸在菌种、转化机理及转化条件方面的研究得到了科学家们的广泛关注。
【英文摘要】生物异构体共扼亚油酸(CLA)已成近几年的研究热点。共轭亚油酸主要是由瘤胃细菌、乳酸菌、丙酸菌异构化亚油酸生物合成,特别是利用乳酸菌进行生物转化,具有比瘤胃细菌更强的生物转化CLA的能力。因此,近年来关于利用微生物合成共轭亚油酸在菌种、转化机理及转化条件方面的研究得到了科学家们的广泛关注。
【语种】中文
【第一作者】刘秋云
【通讯作者】李开雄
【期刊名称、卷期、页码】农产品加工 2010,2,13-16
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【学科分类】生物化学

【题目】微生物合成共轭亚油酸机理的研究进展
【中文关键词】共轭亚油酸, 亚油酸, 蓖麻油酸, 微生物合成机理
【英文关键词】共轭亚油酸, 亚油酸, 蓖麻油酸, 微生物合成机理
【中文摘要】相比于共轭亚油酸(CLA)的化学合成,微生物合成CLA与化学法具有培养灵活、对设备要求低、产物分离简单等优势。主要讨论了微生物合成CLA的研究进展,亚油酸(LA)能被微生物转化的原因,以及微生物合成CLA的机理。CLA的合成机理从微生物在动物瘤胃内混合发酵代谢LA和单一微生物在体外合成CLA两方面进行阐述。
【英文摘要】相比于共轭亚油酸(CLA)的化学合成,微生物合成CLA与化学法具有培养灵活、对设备要求低、产物分离简单等优势。主要讨论了微生物合成CLA的研究进展,亚油酸(LA)能被微生物转化的原因,以及微生物合成CLA的机理。CLA的合成机理从微生物在动物瘤胃内混合发酵代谢LA和单一微生物在体外合成CLA两方面进行阐述。
【语种】中文
【第一作者】周 倩
【通讯作者】何国庆
【期刊名称、卷期、页码】食品工业科技 2010,11,468-474
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【学科分类】生物化学

【题目】影响腐霉发酵培养中菌丝形态的因素及其与EPA含量的关系
【中文关键词】腐霉; 菌丝形态; EPA(二十碳五烯酸)
【英文关键词】腐霉; 菌丝形态; EPA(二十碳五烯酸)
【中文摘要】研究了发酵培养中影响腐霉菌丝形态的因素及其与EPA(二十碳五烯酸)含量的关系。结果表明, 接种量、起始pH值、温度、添加物对腐霉菌丝形态影响较大, 接种量3%~10%, 培养温度25~30 ℃, 起始pH 4及pH 6.5~9, 添加植物油能使菌丝保持直径小于5 mm的分散小球状态。同时, 起始pH值及培养温度显著影响EPA含量. 较低pH值和低温培养均有利于菌丝内EPA积累。
【英文摘要】研究了发酵培养中影响腐霉菌丝形态的因素及其与EPA(二十碳五烯酸)含量的关系。结果表明, 接种量、起始pH值、温度、添加物对腐霉菌丝形态影响较大, 接种量3%~10%, 培养温度25~30 ℃, 起始pH 4及pH 6.5~9, 添加植物油能使菌丝保持直径小于5 mm的分散小球状态。同时, 起始pH值及培养温度显著影响EPA含量. 较低pH值和低温培养

均有利于菌丝内 EPA积累。
【语种】中文
【第一作者】卢美欢
【通讯作者】余龙江
【期刊名称、卷期、页码】生命科学研究 2008,12(3),238-41
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【引文索引号】null
【学科分类】微生物学

【题目】植物乳杆菌 ZS2058的亚油酸异构酶基因在乳酸克鲁维酵母中的克隆表达
【中文关键词】共轭亚油酸,亚油酸异构酶,乳酸克鲁维酵母,分泌表达,气相检测
【英文关键词】共轭亚油酸,亚油酸异构酶,乳酸克鲁维酵母,分泌表达,气相检测
【中文摘要】目的:将植物乳杆菌 ZS2058(Lactobacillus plant arum ZS2058)的亚油酸异构酶基因在乳酸克鲁维酵母(Kluyveromy ceslactis)中进行克隆表达。方法: 根据 NCBI中已报道亚油酸异构酶(lino leateisomerase, LA I)基因的序列特征,设计引物对筛得的植物乳杆菌 ZS2058进行 PCR扩增,得到亚油酸异构酶全基因序列, 克隆至乳酸克鲁维酵母表达载体 pKLAC1, 电转化得重组菌pKLAC1-LAI/Kluyveromy ces lactis GG799。结果: SDS-PAGE检测,重组菌进行分泌表达获得目的蛋白,大小约为 67 kDa ; 气相色谱 (Gas Chromatogram, GC)检测到共轭亚油酸 (conjugated linoleic acids , CLA)典型峰。结论: 植物乳杆菌 ZS2058中的亚油酸异构酶基因在乳酸克鲁维酵母中得到分泌表达,重组酶转化效率约为 26 %。
【英文摘要】目的:将植物乳杆菌 ZS2058(Lactobacillus plant arum ZS2058)的亚油酸异构酶基因在乳酸克鲁维酵母(Kluyveromy ceslactis)中进行克隆表达。方法: 根据 NCBI中已报道亚油酸异构酶(lino leateisomerase, LA I)基因的序列特征,设计引物对筛得的植物乳杆菌 ZS2058进行 PCR扩增,得到亚油酸异构酶全基因序列, 克隆至乳酸克鲁维酵母表达载体 pKLAC1, 电转化得重组菌pKLAC1-LAI/Kluyveromy ces lactis GG799。结果: SDS-PAGE检测,重组菌进行分泌表达获得目的蛋白,大小约为 67 kDa ; 气相色谱 (Gas Chromatogram, GC)检测到共轭亚油酸 (conjugated linoleic acids , CLA)典型峰。结论: 植物乳杆菌 ZS2058中的亚油酸异构酶基因在乳酸克鲁维酵母中得到分泌表达,重组酶转化效率约为 26 %。
【语种】中文
【第一作者】朱敬华
【通讯作者】张 灏
【期刊名称、卷期、页码】中国生物工程杂志 2010 , 30(4): 65-70
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【学科分类】分子生物学

【题目】植物乳杆菌ZS2058生物转化产物共辘亚油酸的分析方法的研究
【中文关键词】亚油酸,共辘亚油酸,生物转化,分析方法
【英文关键词】亚油酸,共辘亚油酸,生物转化,分析方法
【中文摘要】研究了紫外分光光度法、G C、Ag+、H P LC 和 G C-MS 四种分析方法对植物乳杆菌ZS2058 生物转化亚油酸(L A)产生的共轭亚油酸(CL A)检测时的异同点。结果表明,这4种分析方法在对CL A 进行检测时各有特色,应用范围也有不同。紫外分光光度法检测成本最低,操作最快速,但检测结果为转化产物中各种CLA异构体的总和,而G C、A g + 、H PLC和G C-MS能将产物中的各类CLA异构体分开,可对复杂的生物转化产物进行分析。其中,GC的最大优点在于可以检测到转化底物LA ,A g+、HPLC可将转化产物中c9,tll-CL A 和 t 8,C 10-CLA很好的分离,而GC-MS可以将各种异构体与其它副产物明确区分开来。总之,在检测生物转化法产生的CLA时,根据不同的实验需求来选择不同的检测方法,并需将这几种方法灵活的结合起来应用。
【英文摘要】研究了紫外分光光度法、G C、Ag+、H P LC 和 G C-MS 四种分析方法对植物乳杆菌ZS2058 生物转化亚油酸(L A)产生的共轭亚油酸(CL A)检测时的异同点。结果表明,这4种分析方法在对CL A 进行检测时各有特色,应用范围也有不同。紫外分光光度法检测成本最低,操作最快速,但检测结果为转化产物中各种CLA异构体的总和,而G C、A g + 、H PLC和G C-MS能将产物中的各类CLA异构体分开,可对复杂的生物转化产物进行分析。其中,GC的最大优点在于可以检测到转化底物LA ,A g+、HPLC可将转化产物中c9,tll-CL A 和 t 8,C 10-CLA很好的分离,而GC-MS可以将各种异构体与其它副产物明确区分开来。总之,在检测生物转化法产生的CLA时,根据不同的实验需求来选择不同的检测方法,并需将这几种方

法灵活的结合起来应用。
【语种】中文
【第一作者】许庆炎
【通讯作者】陈卫
【期刊名称、卷期、页码】食品与发酵工业 2008,34,110-115
【论文发表时间】2007-12-05 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】生物化学

【题目】植物乳杆菌 ZS2058 生物转化共轭亚油酸的反应动力学
【中文关键词】共轭亚油酸;生物转化; 植物乳杆菌;速度方程;底物抑制
【英文关键词】共轭亚油酸;生物转化; 植物乳杆菌;速度方程;底物抑制
【中文摘要】【目的】对本实验室从泡菜中筛选到的植物乳杆菌ZS2058 完整细胞生物转化共轭亚油酸的反应动力学进行研究。【方法】探讨底物浓度、细胞浓度、反应体系 pH 值等因素对生物转化共轭亚油酸反应速度的影响,并通过双倒数和Hanes -Woolf作图法拟合反应初始阶段的速度方程。 结果 生物转化共轭亚油酸时存在明显的底物抑制现象, 当亚油酸浓度为 0.4 mg/ mL 时产 c9, t11 -共轭亚油酸的反应速度达最大值15.99 μg/(mL.h) ;反应速度随细胞浓度增加而上升,当细胞浓度为5×1010cfu/mL时反应速度达到最高;最适pH值和最适反应温度分别为 6.5 和40oC。利用双倒数和Hanes -Woolf作图法求得米氏常数和最大反应速度,在低底物浓度下, 反应初始阶段的反应规律与经典的米氏方程相符, 而在高底物浓度下,存在明显的底物抑制现象。【结论】通过对植物乳杆菌ZS2058 完整细胞催化合成共轭亚油酸各因素的考察,在得到最佳反应条件的同时建立了不同底物浓度范围内的反应速度方程,这对于实现共轭亚油酸的生产和研究其生理功能具有十分重要的理论价值。
【英文摘要】【目的】对本实验室从泡菜中筛选到的植物乳杆菌ZS2058 完整细胞生物转化共轭亚油酸的反应动力学进行研究。【方法】探讨底物浓度、细胞浓度、反应体系 pH 值等因素对生物转化共轭亚油酸反应速度的影响,并通过双倒数和Hanes -Woolf作图法拟合反应初始阶段的速度方程。 结果 生物转化共轭亚油酸时存在明显的底物抑制现象, 当亚油酸浓度为 0.4 mg/ mL 时产 c9, t11 -共轭亚油酸的反应速度达最大值15.99 μg/(mL.h) ;反应速度随细胞浓度增加而上升,当细胞浓度为5×1010cfu/mL时反应速度达到最高;最适pH值和最适反应温度分别为 6.5 和40oC。利用双倒数和Hanes -Woolf作图法求得米氏常数和最大反应速度,在低底物浓度下, 反应初始阶段的反应规律与经典的米氏方程相符, 而在高底物浓度下,存在明显的底物抑制现象。【结论】通过对植物乳杆菌ZS2058 完整细胞催化合成共轭亚油酸各因素的考察,在得到最佳反应条件的同时建立了不同底物浓度范围内的反应速度方程,这对于实现共轭亚油酸的生产和研究其生理功能具有十分重要的理论价值。
【语种】中文
【第一作者】陈海琴
【通讯作者】陈卫
【期刊名称、卷期、页码】微生物学报 2009,49(2),174-179
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【学科分类】生物化学

【题目】植物乳杆菌 ZS2058中亚油酸异构酶的定位研究
【中文关键词】共轭亚油酸, 植物乳杆菌, 亚油酸异构酶, 膜结合酶
【英文关键词】共轭亚油酸, 植物乳杆菌, 亚油酸异构酶, 膜结合酶
【中文摘要】植物乳杆菌 ZS2058是本实验室从泡菜中筛选到的一株具有亚油酸异构酶活性的乳酸菌。本文对植物乳杆菌ZS2058中亚油酸异构酶的部分粗酶性质进行了考察, 建立了初酶活性检测方法, 在此基础上对此亚油酸异构酶在细胞中的定位进行了研究,这将为后续分离纯化此亚油酸异构酶提供理论依据与指导。考察的结果是超声波破碎获得亚油酸异构酶初酶液的最佳条件为破碎功率 400W,破碎时间 7.5min(破碎 5s , 间歇 9s)。初酶活性测定时的最适亚油酸底物浓度为 0.08mg/mL; EGTA等金属螯合剂及 Ca2+对亚油酸异构酶活性的影响均不显著; 粗酶液经超高速离心分级沉淀和加入去垢剂 Triton X-100提取的实验结果表明,该亚油酸异构酶为细胞膜结合酶。

【英文摘要】植物乳杆菌 ZS2058是本实验室从泡菜中筛选到的一株具有亚油酸异构酶活性的乳酸菌。本文对植物乳杆菌ZS2058中亚油酸异构酶的部分粗酶性质进行了考察, 建立了初酶活性检测方法, 在此基础上对此亚油酸异构酶在细胞中的定位进行了研究,这将为后续分离纯化此亚油酸异构酶提供理论依据与指导。考察的结果是超声波破碎获得亚油酸异构酶初酶液的最佳条件为破碎功率 400W,破碎时间 7.5min(破碎 5s , 间歇 9s)。初酶活性测定时的最适亚油酸底物浓度为 0.08mg /mL; EGTA等金属螯合剂及 Ca2+对亚油酸异构酶活性的影响均不显著; 粗酶液经超高速离心分级沉淀和加入去垢剂 Triton X-100提取的实验结果表明,该亚油酸异构酶为细胞膜结合酶。
【语种】中文
【第一作者】顾思天
【通讯作者】张灏
【期刊名称、卷期、页码】食品工业科技,2008,29(12),57-60
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【题目】丙酮酸发酵过程中光滑球拟酵母过程功能的强化
【中文关键词】光滑球拟酵母,过程功能,强化策略
【英文关键词】光滑球拟酵母,过程功能,强化策略
【中文摘要】对不同葡萄糖浓度下光滑球拟酵母分批发酵生产丙酮酸的动力学模型分析发现,葡萄糖浓度是影响光滑球拟酵母发酵生产丙酮酸过程功能的关键因素。在发酵初始阶段,低浓度葡萄糖可维持较高的菌体比生长速率;对数生长中前期葡萄糖快速进料使菌体浓度接近最大值,并实现碳流从菌体生长转向丙酮酸积累;对数生长后期葡萄糖浓度控制在33.4g/l以维持高丙酮酸对葡萄糖产率系数(0.71g/g)。采用奇异控制的葡萄糖流加方式,在7L发酵罐上控制不同发酵阶段葡萄糖浓度处于最佳水平以强化光滑球拟酵母过程功能,丙酮酸产量(83.1g/L)、产率(0.621g/g)、生产强度[1.00g/(L.h)]与分批发酵对比,分别提高了21.3%、21.6%和29.9%。
【英文摘要】对不同葡萄糖浓度下光滑球拟酵母分批发酵生产丙酮酸的动力学模型分析发现,葡萄糖浓度是影响光滑球拟酵母发酵生产丙酮酸过程功能的关键因素。在发酵初始阶段,低浓度葡萄糖可维持较高的菌体比生长速率;对数生长中前期葡萄糖快速进料使菌体浓度接近最大值,并实现碳流从菌体生长转向丙酮酸积累;对数生长后期葡萄糖浓度控制在33.4g/l以维持高丙酮酸对葡萄糖产率系数(0.71g/g)。采用奇异控制的葡萄糖流加方式,在7L发酵罐上控制不同发酵阶段葡萄糖浓度处于最佳水平以强化光滑球拟酵母过程功能,丙酮酸产量(83.1g/L)、产率(0.621g/g)、生产强度[1.00g/(L.h)]与分批发酵对比,分别提高了21.3%、21.6%和29.9%。
【语种】中文
【第一作者】许庆龙
【通讯作者】陈坚
【期刊名称、卷期、页码】生物工程学报 2008,24(1),95-100
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【学科分类】细胞生物学

【题目】产共轭亚油酸植物乳杆菌的筛选、鉴定与诱变
【中文关键词】共轭亚油酸;植物乳杆菌;鉴定;诱变;气相色谱
【英文关键词】conjugated linoleic acid (CLA);Lactobacillus plantarum;identification;mutation;gas chromatography(GC)
【中文摘要】:从传统泡菜中筛选得到1株乳酸菌lp15能够合成共轭亚油酸(CLA),经16S rRNA全序列分析法和API系统鉴定法鉴定为植物乳杆菌(Lactobacillus plantarum)。利用人工诱变方法,以lp15 为出发菌株,采用紫外线、硫酸二乙酯(DES)依次诱变处理,经进一步液体发酵复筛获得多株突变菌株,CLA合成能力较出发菌株提高了29.3%~52.2%。其中lp15-2-1突变菌株为CLA生成能力最高菌株,MRS培养液中添加0.2mg/mL LA培养48h,CLA产量达30.13 μg/mL。经气相色谱(GC)检测分析,产物中cis9, trans11-共轭亚油酸(c9, t11-CLA)占76.5%,trans10, cis12-共轭亚油酸(t10,c12-CLA)占23.5%。
【英文摘要】A lactic acid bacterial strain, lp15, having the ability to synthesize conjugated linoleic acid (CLA) was isolated from pickle juice samples. The strain lp15 was identified as Lactobacillus plantarum based on full-length 16S rRNA sequenceanalysis and API system. This strain was treated by ultraviolet and DES to obtain several mutant strains, which exhibited29.3%-52.2% enhancement for

CLA production. The strain lp15-2-1 exhibited the highest CLA productivity, which was upto 30.13 μg/mL after 48 h culture in the MRS medium added with LA at 0.2 mg/mL level. According to gas chromatographic analysis,cis9, trans11-CLA was the predominant compound in the fermentation product, with a relative content of up to 76.5%. trans10,cis12-CLA approximately accounted for 23.5% of the fermentation product.

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【第一作者】刘 佩
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【学科分类】微生物学

【题目】共轭亚油酸的生理学功能及健康意义
【中文关键词】共轭亚油酸,癌症,心血管疾病,糖尿病,免疫调节,生物合成
【英文关键词】conjugated linoleic acid (CLA) ,cancer, cardiovascular health, diabetes, immune response, biosynthesis
【中文摘要】主要讨论了共轭亚油酸(CLA) 混合物和单一异构体在癌症、 心血管疾病、 糖尿病以及免疫调节等各种疾病预防方面的一些最新动物或体外试验研究;一些最新临床研究结果也表明CLA 对人体健康有着积极的作用。鉴于食物来源的CLA 含量较低、 化学合成法副产物较多, 微生物合成目前成为获得CLA 的有效途径之一。
【英文摘要】This review comprehensively covers the recent studies on the effect of conjugated linoleic acid (CLA) and its individual isomers on different types of cancer, cardiovascular disease, and mediators of inflammatory response, obtained from both in vitro and animal experiments. Moreover, the latest available information from clinical studies in this field suggests that CLA and i ts two isomers may have positive effect on human health. As there is rather less CLA in food source, microorganism synthesis turns into an important approach of producing CLA from linoleic acid.
【语种】中文
【第一作者】刘佩
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【学科分类】生理学

【题目】响应面法优化植物乳杆菌lp15-2-1产共轭亚油酸发酵条件
【中文关键词】共轭亚油酸;植物乳杆菌;响应面法
【英文关键词】conjugated linoleic acid (CLA);Lactobacillus plantarum;response surface methodology
【中文摘要】对植物乳杆菌(Lactobacillus plantarum)lp15-2-1转化亚油酸生成共轭亚油酸(CLA)发酵工艺进行研究。通过单因素试验确定最佳接种量、培养温度、初始pH 值、培养时间、亚油酸添加时间、亚油酸质量浓度。采用响应面Box-Benhnken试验设计,建立初始pH值、培养温度和亚油酸质量浓度的二次多项式回归方程模型,所得植物乳杆菌发酵产共轭亚油酸的最佳参数为:温度30℃、亚油酸质量浓度0.21mg/mL、初始pH6.3,此条件下,CLA得率为44.77 μg/mL,CLA理论得率为45.326 μg/mL,转化率为21.32%,与优化前转化率7.78%相比,有了很大提高。
【英文摘要】In this work, the fermentation conditions for converting linoleic acid into conjugated linoleic acid (CLA) by Lactobacillus plantarum lp15-2-1 were studied. Single factor experiments were done to understand the effects of inoculum amount,incubation temperature, pH, incubation time and initial level of linoleic acid on CLA production. Using response surface Box-Benhnken design, a quadratic polynomial regression model was established. The results indicated that the optimal levels of incubation temperature, initial level of linoleic acid and pH were30 ℃, 0.21 mg/mL and 6.3, respectively. Under these optimal fermentation conditions, the yield and conversion rate of CLA were 44.77 μg/mL and 21.32 %, which were higher than the predictedvalues of 45.326 μg/mL and 7.78 %, respectively.
【语种】中文

【第一作者】周 倩
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【学科分类】生物化学

【题目】c9t11-和t10c12-共轭亚油酸抗癌和影响脂质代谢的异同
【中文关键词】c9t11-共轭亚油酸;t1Oc12-共轭亚油酸;抗癌作用;机体构成;脂肪代谢
【英文关键词】c9t11 - CLA;t10c12-CLA;anticancer;body composition;fat metabolism
【中文摘要】共轭亚油酸(CLA)是一组位置和构象异构体的总称,异构体c9tl1 - CLA和tlOcl2- CLA或二者的协同作用赋予了CLA的许多生理功能,比如抗癌、降低体脂含量、预防糖尿病的发生、降低血脂抑制动脉粥样硬化等;异构体c9tl1-CLA和t10c12。CLA在结构及来源上存在一定差别——由于双键位置的不同,tlOcl2-CLA异构体比c9tl1-CLA异构体更容易氧化;而在生理功能上二者也有差异——c9tl1-CLA异构体的主要作用是抗癌,而t10c12-CLA则是降低体脂、血脂等,大量单一异构体的体外实验研究表明二者在抗癌及脂肪代谢的调节上作用机制也不尽相同。
【英文摘要】Conjugated linoleic acid(CLA)is a mixture of positional and geometric isomers, and numerous biological functions such as anticancer,reduction of body fat content,diabetes prevention,lower blood lipids and inhibition of arteriosclerosisare duetoindividualor synergistica ctionofmostisomersincludingc9tll-andt10c12-CLA.Becauseofdifferentpositionsofdouble bounds between c9tl1-and tl0cl2-CLA isomers,high oxidization possibility of c9tl1-CLA isomer was observed. Therefore,c9tl1-CLA isomer exhibited a major responsibility for anticarcinogenic effect,whereas,tl0cl2-CLA isomer exhibitedsongerreduction effectonbodyfatandbloodlipids. Increasing studies suggestedthattheme chanismsofbothisomersoncancerandfat metabolismwere different
【语种】中文
【第一作者】刘 佩
【通讯作者】何国庆
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【学科分类】免疫学

【题目】三角褐指藻Δ6脂肪酸脱饱和酶基因克隆及其表达分析
【中文关键词】Δ6脂肪酸脱饱和酶; 三角褐指藻; γ-亚麻酸; 毕赤酵母
【英文关键词】Δ6-fatty acid desaturase ; Phaeodactylum tricornutum; γ-linolenic acid ; Pichia pastoris
【中文摘要】γ-亚麻酸在人类的健康与营养中具有重要的功能,利用基因工程手段提高其产量是满足其需求日益增大的途径之一。Δ6脂肪酸脱饱和酶是γ-亚麻酸合成途径中的关键酶,催化亚油酸(C18:2Δ9,12)到γ-亚麻酸(C18:2Δ6,9,12)的反应。通过克隆三角褐指藻的Δ6脂肪酸脱饱和酶基因,并连入酵母表达载体pPIC3.5K中,在毕赤酵母中进行了表达,结果表明:重组酵母经甲醇诱导后表达转入的外源基因,气-质联用分析显示重组毕赤酵母中含有γ-亚麻酸和SDA(18:4Δ6,9,12,15),其含量分别为2.5%和0.8%。
【英文摘要】γ-linolenic acid plays importan t roles in human nutrition and health . Genetic manipulati on is one o f preferable alternatives to increase production that meets the needs of increasing demand of γ-linolenic acid . Δ6-fatty acid desaturase is the rate limiti ng enzyme of the desaturation from the linoleic aci d (C18:2 Δ9, 12) to γ-linolenic acid . In this study, the Δ6-fatty acid desaturase genein the Phaeodactylum tricornutum was cloned ; the recombinant Pichia pastorisexpressi on vector of pPIC3 5KD6 which contains the cloned genewas constructed and expressed i n P.pastoris strain . The results showed t hat the recombinant P. pastoris was induced by methanol for expression . TheGC-MS analysis indicated tha tintracellular fatty acid composed γ-linolenic acid and stearidonic aci d (SDA, C 18:4Δ6, 9 , 12, 15) in the recombinant y east, the contents were 2 . 5% and 0 . 8%, respectively .
【语种】中文

【第一作者】李运涛
【通讯作者】余龙江
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【引文索引号】null
【学科分类】分子生物学

【题目】三角褐指藻Δ6脂肪酸延长酶基因的克隆与序列分析
【中文关键词】Polyunsaturated fatty acids play an important role in human physiological and health. Producing polyunsaturated fatty acids in plant and microbe by geneticmanipulation is being the focus of current research . The Δ6 fatty acid elongase is a key enzyme in
【英文关键词】Polyunsaturated fatty acids Phaeodactylum tricornutum Δ6 fatty acid elongase Sequence analysis
【中文摘要】多不饱和脂肪酸具有重要的生理和保健功能。利用基因工程手段在植物和微生物中生产多不饱和脂肪酸是研究的热点。Δ6脂肪酸延长酶是多不饱和脂肪酸合成中的关键酶, 克隆了三角褐指藻的Δ6脂肪酸延长酶基因的cDNA和DNA序列, 并对该基因的基因结构、翻译后修饰及起源进化进行了分析。结果显示,三角褐指藻的Δ6脂肪酸延长酶基因有两个内含子, 该酶属于ELO系列延长酶,具有磷酸化及N-乙酰葡萄糖胺(O-Glc NAc)修饰等翻译后修饰。BLAST结果表明, 在三角褐指藻中很有可能存在两个Δ6脂肪酸延长酶基因。
【英文摘要】多不饱和脂肪酸 三角褐指藻 Δ6脂肪酸延长酶 序列分析
【语种】中文
【第一作者】李运涛
【通讯作者】余龙江
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【学科分类】分子生物学

【题目】20种食用辛香料抗氧化性及其与黄酮和多酚的相关性研究
【中文关键词】食用辛香料; 抗氧化; 黄酮; 多酚;
【英文关键词】edible spicy herbs;antioxidant capacity;flavonoid;phenol
【中文摘要】利用DPPH法测定20种食用辛香料的抗氧化活性,结果显示大部分食用辛香料具有一定的抗氧化活性,其中花椒抗氧化性最强,其次是丁香、桂皮、香叶、良姜。分别采用铝盐显色法和福林-酚法测定样品的总黄酮和总酚含量,并与抗氧化性做相关性分析,结果表明辛香料的抗氧化性与黄酮和多酚具有一定的相关性,其中与黄酮的相关性最大(R2=0.8111)。20种辛香料中,花椒的抗氧化性最强,黄酮含量也最高,花椒黄酮有望被开发成为新的抗氧化原料。
【英文摘要】DPPH radical scavenging assay was used to evaluate the antioxidant activities of ethanol extracts from twenty ediblespices, and the results showed that most of them had antioxidant effect and Zanthoxylum bungeanum was the strongestantioxidant among them, followed by clove, cinnamon, bay leaf and lesser galangal.Meanwhile, the contents of total flavonoidsand total phenols in twenty spices were determined by aluminium chloride and Folin-Ciocalteu colorimetric assays, respectively,and their correlations with DPPH radical scavenging effectwere analyzed. Itwas found that DPPH radical scavenging effect wascorrelated with the contents of total flavonoids or total phenols, especially with the content of total flavonoids (R2 = 0.8111).Furthermore, Zanthoxylum bungeanum was found to contain the highest amount of total flavonoids among twenty spices. Hence,the spice is expected to be exploited as a new source of antioxidant.
【语种】中文
【第一作者】石雪萍
【通讯作者】张卫明
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【学科分类】食品加工技术

【题目】FD香葱生产中的危害分析与关键环节控制
【中文关键词】真空冷冻干燥(FD) ;危害分析与关键点控制(HACCP) ;香葱;过程控制
【英文关键词】freeze2dried (FD) ; hazard analysis and critical control point; chives; p rocess control
【中文摘要】将HACCCP体系引入FD(真空冷冻干燥)香葱生产过程中,经危害分析找出关键控制点,通过过程控制提高产品合格率,降低危害发生的风险,形成一套行之有效的食品安全管理体系。
【英文摘要】In this article HACCP system was introduced to the chivesmanufacture p rocess and by analy2zing the hazard of the p rocess, selecting the critical control points and setting p rocess control, the qualifi2cation rate was increased and the risk of hazard sufferingwas decreased aswell, a food safetymanagementsystem has been setting effectively
【语种】中文
【第一作者】王波
【通讯作者】孙晓明
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【引文索引号】1006-9690(2007)06-0061-04
【学科分类】食品加工技术

【题目】花椒挥发油的超临界CO2萃取法与水蒸气蒸馏法提取的比较
【中文关键词】花椒; 挥发油; 超临界CO2 萃取法; 水蒸气蒸馏法; GC - MS
【英文关键词】Zanthoxy lum bungeanum M ax im. ; essential o i;l supercritical flu id ex traction; hydrod isti-l lation; GC - MS
【中文摘要】采用超临界萃取法与水蒸气蒸馏法从花椒中提取花椒挥发油,用GC-MS方法测定各种提取方法得到挥发油的化学成分及相对含量。结果表明,水蒸气提取挥发得率为3.8%(W/W),主要成分为柠檬烯(22.75%)、沉香醇(21.70%)、罗勒烯(3,7-二甲基-1,3,7-辛三烯)(14.27%)等。超临界CO2萃取法挥发油得率为5.9%(W/W),主要成分为柠檬烯(14.01%)、沉香醇(13.18%)、罗勒烯(3,7-二甲基-1,3,7-辛三烯)(26.23%)等。两种方法所得到的挥发进行比较,水蒸气蒸馏法分离法得到的挥发油中分离出78个峰,其中含量和相似度高的成分有31种,占86.31%。超临界CO2萃取法提取的花椒挥发油中分离出了152个峰,含量和相似度高的成分有36种,占74.72%。两种提取方法所得到的主要挥发油中有27种成分相同。
【英文摘要】In th is paper, essential o ils w ere abstracted from Zan thoxy lum bungeanum M ax im. by supercritical fluid ex tract ion (SFE) and hydrodist illation (HD) . Their components and contentsw ere ana lyzed by gas chromatography- m ass spectrom etry and compared. The results show ed that the extraction yie ld based on the HD w as 3. 8% (w /w) . The main components w ere (+) - Limonene (22. 75%); 1, 6-O ctad ien- 3- o ,l 3, 7- d imethy l- (21. 70%) and 1, 3, 7 - Octatriene, 3, 7- d imethy l- (14. 27%),The ex traction y ield based on the SFE w as 5. 9% (w /w). The main components w ere (+) - L imonene(14. 01%) ; 1, 6- Octadien- 3- o,l 3, 7- dimethyl- (13. 18%) and 1, 3, 7- Octatriene, 3, 7- dim ethyl-(26. 23%) . Comparing w ith the essential o il obta ined by SFE extraction and HD methods, there ere 78 and 152 peaks were iso lated and 31and 36 compounds w ere ident ified from the o il extracted w ith HD and SFE, respective ly. Among themain compounds, there were 27compounds found in these tw o oils.
【语种】中文
【第一作者】石雪萍
【通讯作者】张卫明
【期刊名称、卷期、页码】中国野生植物资源,2009,(28)6:46-51
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【学科分类】食品加工技术

【题目】花椒精油研究进展
【中文关键词】花椒精油; 研究进展

【英文关键词】Zanthoxylum bungeanum oil; research progress
【中文摘要】花椒在我国栽培面积大,产量高。近年来研究发现花椒精油具有多种药理作用和临床功能,现就20年来花椒精油的提取方法、化学组分和药理作用等研究作一综述。
【英文摘要】Cultivated area of Zanthoxylum bungeanum in China is large,and yield is high. The recentresearches showed that the Zanthoxylum bungeanum oil had many pharmacological effects and clinicalfunctions. In this paper,the extraction,composition and pharmacological effects and other researches in20 years on Zanthoxylum bungeanum oil were summarized.
【语种】中文
【第一作者】狄科
【通讯作者】石雪萍
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【学科分类】食品加工技术

【题目】苦参总生物碱提取工艺优化及杀蚜虫活性研究
【中文关键词】苦参; 总生物碱; 提取工艺; 正交设计; 杀虫活性
【英文关键词】Sophora f lavescens A i.t ; to tal alka lo id; extract ion process; orthogonal design; b io log ica l activ i ty
【中文摘要】目的:研究苦参总生物碱的提取工艺及杀虫生物活性。方法:以总生物碱含量为指标考察乙醇冷浸、乙醇渗漉、乙醇回流三种提取方法的提取效率差异,同时用正交设计对乙醇回流工艺条件进行优化,并以蚕豆蚜虫为供试靶标,探讨苦参总生物碱的杀虫生物活性。结果:乙醇回流提取效果较好,液料比、乙醇浓度、提取次数对提取效果均有影响,其最佳提取条件为:液料比12?1,乙醇浓度为60%,提取次数3次;苦参总生物碱对蚕豆蚜虫有一定的杀虫活性,其中氯仿直接提取物对蚜虫杀虫活性最好,随着总生物碱浓度降低,杀虫活性有下降。
【英文摘要】To study ex traction process and b io log ica l activ ity of total alka lo ids from SophoraflavescensA i.t to pests. Method: Several extraction processes w ere used, such as co ld maceration, there flux ing method, leakag ing method, and the content of a lkalo id as quantitative est imation standard. Theorthogonal experimental design w as used for the dom inant selection. B io log ica l activ ity of the ex tracts tobean aph id w ere studied. Resu l:t reflux ing method w as the best ex tract ion process. The concentrationand quantity of ethano l and tim e of extraction were the influence factors. The best process w as set as fo l low: Sophora f lavescens A i.t w asm arina ted 3 times w ith 60% ethano,l and the amount o f ethano lw as 12t imes (V /V) ofmed icinalmateria ls. The resu lts ind icated that the a lkalo ids from Sophora f lavescensA i.tw ere efficiency to bean aphid. And the insecticida l act iv ity o f ex tracts in ch loro form w as best than others.The insecticida l activ ity gradua lly decreased as total alka lo id concentration decreased
【语种】中文
【第一作者】赵伯涛
【通讯作者】赵伯涛
【期刊名称、卷期、页码】中国野生植物资源,2008,27(1):43-46
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【学科分类】生物学其他学科

【题目】生物技术在几种植物生物活性物质生产中的应用
【中文关键词】生物技术;紫杉醇;肉苁蓉苯乙醇苷;怀槐异黄酮;石斛多糖
【英文关键词】biotechnology; taxol; phenylethanoid glycosides from Cistanche; isoflavone from Maackia amurensis; polysaccharide from Dendrobium candidum
【中文摘要】近年来肉苁蓉、红豆杉、铁皮石斛、怀槐等植物生物活性物质的研究已成热点。综述生物技术在这几种植物生物活性物质生产中的应用,展示了植物生物活性物质在医药、保健食品和化妆品等方面的广阔应用前景。
【英文摘要】In recent years, researches have been focused on bioactive components from such plants as Cistanche, Taxus, Dendrobium candidum Wall.ex Lindl and Maackia amurensis Rupr. et Maxim. Biotechnology applications in the production of bioactive components from these plants were summarized and the bright application prospects of these substances in medicine, health

foods and cosmetics were displayed.
【语种】中文
【第一作者】张广伦
【通讯作者】张卫明
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【学科分类】生物学其他学科

【题目】不同产地孜然风味物质和黄酮等成分分析
【中文关键词】不同产地;孜然;化学成分;呈味氨基酸;分析
【英文关键词】different areas;Cuminum cyminum L;chemical ingredient;flavor of amino acid;analysis
【中文摘要】对8个不同产地孜然的一些化学成分含量进行分析,精油、粗脂肪和总黄酮含量范围分别为2.608 ~4.062 、14.87 ~23.25 和4.147 ~5.746 。巴依阿瓦提乡孜然品质较好,其精油含量4.062 位居第一,粗脂肪22.84 、总黄酮含量5.372 二者都位居第二,经对其氨基酸的组分分析,其总氨基酸含量为17.54 ,氨基酸种类有17种,含必需氨基酸7种,谷氨酸和天门冬氨酸这两种呈味氨基酸含量特别高,占了总氨基酸的34 ,说明孜然是非常好的增鲜辛香调味料。
【英文摘要】Some chemical compositions of Cumi n seeds from eight different producing areas were analyzed.Scope of essential oils content was 2.608 ~4.062 ,and crude fat content was 14.87 9,6~23.25 ,and totalflavonoid content was 4.147 ~5.746%.Quality of cumin from Bayawat Township was the best withhigher content of these chemi cal ingredients.The results of analysis of amino acid composition showed thattotal amino acid content in cumi n was 17.54 ,containing 17 kinds of amino acids including 7 kinds of essentialamino acids.Content of glutamate and aspartate was particularly high,accounting for 34 of the total a—mino acids,indicating cumi n is a very good spicy seasoning.
【语种】中文
【第一作者】吴素玲
【通讯作者】孙晓明
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【学科分类】食品加工技术

【题目】红花椒和青花椒的挥发性化学成分比较研究
【中文关键词】青花椒; 红花椒; 精油; 气质联用
【英文关键词】Zanthox y lum bungeanum max in; Zanthox y lum schini f olium Sieb. et Zucc; essent ial o il;
GC-MS
【中文摘要】研究对两种常见的花椒精油成分进行了分析比较。用水蒸气蒸馏法从红花椒和青花椒中提取精油,红花椒和青花椒的产油率分别为6.8%和10%。用气相色谱-质谱(GC-MS)方法分别对两树种的针叶精油进行了定量和定性分析,从红花椒精油中分离出78种化学成分。鉴定了其中匹配度在80以上的31种成分,占挥发油总量的86.31%;青花椒精油中分离出60种化学成分。鉴定了其中匹配度在80以上的37种成分,占挥发油总量的92.88%。两种花椒精油的主要化学成分也有很大的不同。相同成分含量上也有较大差别。两种精油中,红花椒的主要成分及含量为:柠檬烯22.75%;芳樟醇,21.70%;3,7-二甲基-,3,7-辛三烯(罗勒烯)14.27%。青花椒中的主要成份及含量为:芳樟醇63.33%;D-柠檬烯5.75%;4-甲基-1-异丙基-3-环己烯-1-醇(萜烯醇)3.82%。其中青花椒芳樟醇的含量是红花椒中芳樟醇含量的3倍左右。两种精油中,主要的成分为烯类和醇类。
【英文摘要】In this paper, essent ial oils were abstracted from Zanthox ylumbungeanum Maxin and Zanthox y lumschinif olium Sieb. et Zucc by hydrodistillat ion (HD) extraction. The yield of the essential oil w ere 6. 8%10% respectively Their component s and content s w ere analyzed by g as chromatography-mass spect rometryand compared. The results showed that 78 component s were separated from Zanthox y lum bungeanum Maxinamong w hich 31 compounds were ident if ied w hich account for 86. 31% of the total essential oil. 60 componentswere separated from Zanthox y lum schinif ol ium Sieb. et Zucc among which 37 compounds w ere identified which account for 92. 88% of the total essential oil. The main component s of the Zanthox ylum bungeanumMaxin w ere (+)-

Limonene (22. 75%) ; 1, 6-Octadien-3-ol, 3, 7-dimethy-l (21. 70%) and 1, 3, 7-Octatriene,3, 7-dimethy-l (14. 27%) . Three main components of the Zanthoxy lum schinif ol ium Sieb. et Zuccwere 1, 6- Octadien-3-ol, 3, 7-dimethy-l (63. 33%) , D-Limonene) 5. 75% and 3-Cyclohexen-1-o-l 4-methy-l 1-(1-methylethy-l) , 3. 82%. The content of 1, 6-Octadien-3-ol, 3, 7-dimethy-l of Zanthox y lum schinif oliumSieb. et Zucc w as three t imes of the content of Zanthoxy lum bungeanum Maxin. Among the essential oil ofthese two Zanthoxy lum, the main component s were alkene and alcohol.

【语种】中文
【第一作者】石雪萍
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【学科分类】食品加工技术

【题目】新疆野葱挥发油中化学成分的测定
【中文关键词】新疆野葱; 挥发油; 气相色谱-质谱联用分析; 硫化合物
【英文关键词】w ild green onio n fr om Xinjiang; v olatile o il; GC-MS
【中文摘要】采用水蒸气蒸馏法提取新疆野葱中的挥发油,得率为0.31%;应用毛细管柱气相色谱-质谱(GC-MS)技术定性鉴别了挥发油中的27种化学成分,其中含硫化合物有16种,约占总量的75.27%,二硫化合物和三硫化合物各有4种,含量较高的依次为C6H12S3(21.095%),C6H12S3(19.2642)等。研究为新疆野葱资源的开发利用提供了理论依据。
【英文摘要】V olatile o il of w ild g reen onion from Xinjiang w as ex t racted by dist illat io n and thecontent of volat ile o il w as 0. 31% . 27 o f chemical const ituent s w ere ident if ied by capillary g aschromatog raphy-mass spect romet ry (GC-MS) . 16 compo nents w ere sulfur-containing compoundsand their total content s w ere 75. 27%. The main component s w ere Pro penyl npr opy ltr isulfide, cis et t rans (21. 095%) , Propeny l propyl t risulfide, cis et t rans(19. 2642%) etc.This research w ould provide theory basis for the ex ploitat ion and use of w ild g reen onion resourcein Xinjiang .

【语种】中文
【第一作者】刘艳
【通讯作者】张卫明
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【学科分类】食品加工技术

【题目】兴化香葱加工废弃物葱白多糖的单糖组成分析
【中文关键词】葱白多糖; 单糖组成; 柱前衍生; 高效液相色谱
【英文关键词】Fistular Onion Stalk poly saccharides; mono saccharide composition; pre-column derivat izat ion; hig h performance liquid chromatography
【中文摘要】文章采用柱前衍生化高效液相色谱(HPLC) 法测定兴化香葱加工废弃物葱白多糖的单糖组成及摩尔比。采用Eclipse XDB-C18 柱, 以0. 1 mol/ L 磷酸盐缓冲液(pH6. 7)-乙腈(体积比为83 B17) 为流动相, DAD 二极管阵列检测器检测, 检测波长为254 nm。柱前衍生剂为1-苯基-3-甲基-5-吡唑啉酮(PMP) 。结果表明葱白多糖主要由甘露糖(Man) 、葡萄糖(Glc) 、半乳糖(Gal) 、阿拉伯糖(Ara) 组成, 它们的摩尔比约为0. 10 B 3. 15 B2. 26 B 0. 51。柱前衍生化HPLC 分析葱白多糖中的单糖组成方法简便、快速、准确。
【英文摘要】A hig h per formance liquid chr omatogr aphy(HPLC) method w ith pre-column derivatizat ionw as established for the determination of the monosaccharides of Fistular Onion Stalk poly saccharidesfrom the processing w astes in Xinhua and their molar ratio. Eclipse XDB-C18 column w as used w iththe mobile phase of 0. 1 mol/ L phosphate buf fer (pH6. 7) -acetonitr ile(V B V= 83 B 17) at the detection w aveleng th of 254 nm. 1-Pheny-l 3-methy-l 5-Pyrazo lone w as used as der iv at ion reag ent . The resultshow ed that Fistular Onion Stalk polysaccharides w ere composed of manno se, glucose, g alactoseand arabinose and their molar rat io w as about 0. 10 B 3. 15 B2. 26 B 0. 51. The HPLC method w ith pr ecolumnderivat izat ion is simple, quick and accurate for the analysis o f monosacchar ide compo sit io ns ofFistular Onion Stalk poly sacchar ides1

【语种】中文
【第一作者】张英
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【学科分类】食品加工技术

【题目】均匀设计法姜油树脂提取工艺的优化研究
【中文关键词】乙醇;姜油树脂;均匀设计;偏最小二乘回归
【英文关键词】ethanol; oleoresin ginger; uniform design; partial least-square regression
【中文摘要】应用超声波辅助乙醇提取姜中的姜油树脂,运用均匀设计方法、偏最小二乘回归分析方法研究优化姜油树脂的提取工艺。结果表明:最佳提取条件为乙醇浓度60%,料液比1∶15,姜粉粒度40目,超声作用波时间50 min,温度45℃,姜油树脂提取率为33.39%。
【英文摘要】The optimal conditions of extracting oleoresin ginger from ginger by ethanol were investigated using uniform design and partial least-squareregression analysis method. The optimum reconditions were as followed: ethanol concentration 60%, the ration of solid and liquid 1∶15, granularity40, ultrasound time 50 min and temperature 45°C. Under these conditions, the yield of extraction reached 33.93%.
【语种】中文
【第一作者】宋明军
【通讯作者】顾林
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【引文索引号】0254-5071(2009)07-0044-03
【学科分类】食品加工技术

【题目】不同种类木瓜样品的总有机酸含量测定
【中文关键词】木瓜;总有机酸;电位滴定
【英文关键词】fructus chaenomelis;total organic acids;potentiometric titration
【中文摘要】建立木瓜中总有机酸含量的测定方法,并测定和比较皱皮木瓜和光皮木瓜共5个不同样品中的总有机酸含量。结果显示:24h内同一样品的测定结果稳定,RSD为1.28%,平均回收率为99.59%(n=6),RSD为1.548%;5个不同木瓜样品的总有机酸含量(以苹果酸酸计)在2.09%~3.47%之间。其中以皱皮木瓜1号的总有机酸含量最高(3.47%),皱皮木瓜4号最低(2.09%)。
【英文摘要】To establish a method for determination the content of total organic acids in fructus chaenomelis, andthen to determine the content of total organic acids in 5 different samples of fructus chaenomelis belonging to twospecies. Using the method of direct potentiometric titration. The content of the same sample was stable within 24 h,RSD was 1.28 %. Moreover, the average recovery was 99.59 %, RSD was 1.548 %(n=6).The values of totalorganic acids content in 5 different samples of fructus chaenomelis were in the range of 2.09 %-3.47 %. Thehighest was No.1 of Chaenomeles speciosa (Sweet)Nakai (3.47 %),and the lowest was No.4 of Chaenomelesspeciosa(Sweet)Nakai(2.09 %).
【语种】中文
【第一作者】刘晓棠
【通讯作者】张卫明
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【学科分类】食品加工技术

【题目】花椒总黄酮提取技术研究及黄酮成分分析
【中文关键词】花椒;总黄酮;提取工艺;HPLC—DAD;薄层色谱
【英文关键词】Zanthoxylum bungeanum;total flavonoids;extraction technology;HPLC-DAD;TLC
【中文摘要】花椒总黄酮提取技术研究及黄酮成分分析。
【英文摘要】The objective of this study was to optimize extraction technology of total flavonoids from Zanthoxylumbungeanum with orthogonal test.The results showed that the optimal extraction conditions of total flavonoidswere determined to be:ethanol concentration 60%,extraction temperature 70 oC,solid to liquid ratio 1:40(g/mL),and extraction time 1 h.The crude flavonoids extract was analysized by high performance liquid chromatographydiodearray detection(HPLC—DAD),assisted by thin layer chromatography(TLC).The results showed that thereare at least five flavonids in the 60% alcohol extraction of Zanthoxylum bungeanum.
【语种】中文
【第一作者】吴亮亮
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【学科分类】生物学其他学科

【题目】香水莲花挥发油的气相色谱-质谱分析
【中文关键词】香水莲花; 热带睡莲; 挥发油; 气相色谱- 质谱联用分析
【英文关键词】Nymphaea hybrida; Tropical Waterlilies; essential oil; GC-MS analysis
【中文摘要】采用水蒸气蒸馏法分别从红、紫罗兰两种颜色的香水莲花Nymphaea hybrida 的全花中提取挥发油, 用气相色谱- 质谱对挥发油的化学成分进行了分析。从两个样品挥发油中共鉴定出37 种化学成分。研究结果表明, 来自两种不同颜色的香水莲花挥发油, 其主要成分相同, 分别为苄醇、6,9- 十七碳二烯、8- 十七碳烯、2- 十七酮、正十五烷等, 但含量有别。其次要组分存在一定差异。
【英文摘要】The essential oils from the flowers of two kinds of color in Nymphaea hybrid were extracted and itschemical constituents were analyzed by GC-MS.37 compounds of essential oils were separated and identified.The main compounds of essential oils in two samples were Benzyl Alcohol,6,9- Heptadecadiene ,8- Heptadecene,2- Heptadecanone, pentadcane,etc.Main compounds of the two samples were same, but there were some differencesin the secondary compounds.
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【第一作者】徐辉
【通讯作者】张卫明
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【学科分类】生物学其他学科

【题目】紫苏全草营养成分测定
【中文关键词】紫苏;营养成分;测定
【英文关键词】Perilla; nutritional contents; determination
【中文摘要】对紫苏全草的营养成分做详细的研究, 结果表明: 紫苏叶子富含优质蛋白质, 其中含有8 种人体必需氨基酸。紫苏叶子含有丰富的矿物质和维生素,其中β-胡萝卜素含量尤为丰富,达24.7 mg/kg。紫苏子油是一种优质的植物油,富含60 %以上亚麻酸和10 %左右的亚油酸。试验为进一步开发紫苏这种野生植物提供理论基础。
【英文摘要】The nutritional contents of whole Perilla were investigated. The content of high quality protein is richin the tender leaves of Perilla , and there are eight essential amino acid in Perilla. There are also much mineraland vitamin in Perilla, among which the content of β-carotene amount to 24.7 mg/kg. The Perilla seed oil is ofhigh quality. It consist of more than 60 % linolenic acid and more than 10 % linoleic acid. This paper willprovide a theoretic foundation for the researcher to develop this wild plant.

【语种】中文
【第一作者】张卫明
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【学科分类】食品加工技术

【题目】花椒总黄酮的抗氧化作用
【中文关键词】花椒;黄酮;抗氧化作用
【英文关键词】Zanthoxylum bungeanum;flavonoids;antioxidant activity
【中文摘要】采用60% 乙醇提取花椒总黄酮并用AB-8 型大孔吸附树脂纯化。通过DPPH 自由基实验、总还原力实验、总抗氧化能力实验和脂质抗氧化实验研究花椒总黄酮的体外抗氧化作用。结果表明:的花椒总黄酮纯化样对DPPH自由基清除效果强于同质量浓度的BHT,略低于VC;花椒总黄酮初提物和纯化样的还原能力都随其质量浓度的增加而明显增大;初提物和纯化样的总抗氧化能力与其质量浓度都呈正相关性,随着质量浓度增大,总抗氧化能力也增加;花椒总黄酮初提物和纯化样对Fe2+ 引发的卵磷脂脂质体过氧化有抑制作用,抑制率随着质量浓度的增加而缓慢增大;另外,纯化后的样品要比初提物的样品抗氧化作用更强。
【英文摘要】The antioxidant effect of crude total flavonoid extract from Zanthoxylum bungeanum seeds obtained by extractionwith 60% ethanol aqueous solution and its purified counterpart obtained by adsorption on type AB-8 macroporous resin wasevaluated by DPPH radical scavenging, total reducing power, total antioxidant capacity and anti-lipoperoxidation assays. Theresults showed that purified total flavonoids from Zanthoxylum bungeanum seeds had stronger antioxidant effect than BHT atthe same concentrations. Crude and purified total flavonoids from Zanthoxylum bungeanum seeds indicated a noticeable increasewith increasing concentration and a positive correlation between their total antioxidant activity and concentration. Crude andpurified total flavonoids from Zanthoxylum bungeanum seeds could inhibit lecithin phospholipid liposome peroxidation inducedby Fe2+ in a concentration-dependent fashion. In addition, crude total flavonoid extract from Zanthoxylum bungeanum seedsshowed higher antioxidant effect than its purified counterpart.
【语种】中文
【第一作者】张宇思
【通讯作者】石雪萍
【期刊名称、卷期、页码】食品科学,2011,32(5):70-73
【论文发表时间】2011-06-08 00:00:00
【引文索引类型】其他
【引文索引号】1002-6630(2011)15-0070-04
【学科分类】食品加工技术

【题目】花椒总生物碱提取条件研究
【中文关键词】花椒;生物碱;提取
【英文关键词】Zanthoxylum bungeanum;total alkaloids;extraction
【中文摘要】通过L9(34)正交试验对花椒总生物碱的最佳提取工艺条件进行了优化。结果表明:花椒生物碱最佳提取条件为:使用7 0 % 的乙醇做提取剂,p H 3 ,使用花椒总量2 0 倍的溶剂量,提取4 h 。验证实验表明:花椒生物碱在此条件下的平均提取率为0.938%。
【英文摘要】The extraction technology of total alkaloids from Zanthoxylum bungeanum was optimized by orthogonal design.The optimal extraction are determined as: 70% alcohol as extraction solvent, pH 3, extraction time conditions 4 h, and materialliquidratio 1:20. The extraction rate of total alkaloids 0.938% under these conditions.
【语种】中文
【第一作者】王如平
【通讯作者】石雪萍
【期刊名称、卷期、页码】食品科学,2008,29(10):273-276

【论文发表时间】2008-05-07 00:00:00
【引文索引类型】其他
【引文索引号】1002-6630(2008)10-0273-04
【学科分类】食品加工技术

【题目】喷雾干燥条件对姜油树脂微胶囊的影响
【中文关键词】姜辣素;微胶囊:喷雾干燥;工艺
【英文关键词】gingerol;microencapsulation;spray drying;technology
【中文摘要】研究了姜油树脂喷雾干燥微胶囊化的工艺,通过选取参数、正交试验,获得姜油树脂微胶囊的喷雾干燥最佳工艺条件。结果表明:最佳工艺条件为进风温度190℃、进料流量500L/h、出风温度80℃。经进一步研究姜油树脂微胶囊品质,验证产品姜辣素含量为0.835%,微胶囊化效率为90.5%。说明在此条件下姜辣素损失较小,微胶囊化效果很好。
【英文摘要】In this study, gingerol microencapsulation was prepared by spray drying technology. The optimal preparationprocessing was investigated through orthogonal experiments. Results indicated that the optimal preparation processing was 190 ℃of inlet temperature, 500 L/h of flow rate and 80 ℃ of outlet temperature. The content of gingerol in final product was 0.835%and microencapsulation efficiency was 90.5% under this optimal condition.
【语种】中文
【第一作者】顾林
【通讯作者】汪志君
【期刊名称、卷期、页码】食品科学,2009,30(24):193-196
【论文发表时间】2009-12-06 00:00:00
【引文索引类型】其他
【引文索引号】1002-6630(2009)24-0193-04
【学科分类】食品加工技术

【题目】生姜盐坯脱盐工艺研究
【中文关键词】生姜盐坯;姜辣素; 盐;脱盐
【英文关键词】ginger salt blank;gingerol;salt;desalination
【中文摘要】生姜通常采用盐渍保存,但在加工时需要将盐脱除到3%~5.5%。本实验通过浸泡方法脱盐,研究其最佳脱盐工艺。通过正交试验分析,以姜辣素和盐分含量为指标,确定了最佳脱盐工艺为料水比1:4、温度在30℃、浸泡时间40min。
【英文摘要】Ginger is usually by preserved salting, but in the processing, salt needs removing to between 3% and 5.5%. In thisstudy, the immersion method was used to desalt and the desalination process was optimized by orthogonal test with contentsof gingerol and salt as test indexes.The results showed that the best conditions of desalination technology are as follows: solidliquidratio 1:4, temperature 30 ℃, and soaking time 40 min.
【语种】中文
【第一作者】顾林
【通讯作者】汪志君
【期刊名称、卷期、页码】食品科学,2008,29(10):320-322
【论文发表时间】2008-05-07 00:00:00
【引文索引类型】其他
【引文索引号】1002-6630(2008)10-0320-03
【学科分类】食品加工技术

【题目】水溶性花椒生物碱及精油同时提取工艺研究
【中文关键词】花椒;水溶性生物碱;精油;耦合提取
【英文关键词】Zanthoxylum bungeanum;water soluble alkaloids;essential oil;simultaneous extraction
【中文摘要】通过L9(34)正交试验对花椒水溶性生物碱和精油最佳提取工艺条件进行了优化。结果表明:花椒水溶性生物碱和精油同时提取的最佳提取条件为:即浸泡时间3h,pH2,料液比1:15,提取3h。在此条件下得到的花椒精油得率为3.25ml/g,生物碱得率为 4.36%。
【英文摘要】In the present study, the simultaneous extraction technology of water soluble alkaloids and essential oil fromZanthoxylum bungeanum was optimized by L9(34) orthogonal test. The results showed that the optimal extraction conditions

wereas follows: soaked time of Zanthoxylum bungeanum seed in deionized water 2 h, pH 2, ratio of material to deionized water 1:15(W/V), and extraction time 3 h. Under these conditions, the yields of water soluble alkaloids and essential oil were 4.36% and3.25%, respectively.

【语种】中文
【第一作者】石雪萍
【通讯作者】张卫明
【期刊名称、卷期、页码】食品科学,2009,30(10):74-76
【论文发表时间】2009-05-08 00:00:00
【引文索引类型】其他
【引文索引号】1002-6630(2009)10-0074-03
【学科分类】食品加工技术

【题目】微波辅助水蒸汽蒸馏法和无溶剂微波萃取法提取孜然精油工艺的研究
【中文关键词】微波;精油;枯茗醛
【英文关键词】microwave;essential oil;cuminaldehyde
【中文摘要】采用微波蒸馏法提取孜然精油,考察微波溶剂提取和无溶剂提取孜然精油工艺中微波提取时间、微波功率、粒度和液料比等因素对孜然精油提取率的影响。同时以枯茗醛含量作为精油品质的评价指标,并通过GC 对孜然精油进行分析。研究结果表明,微波溶剂提取孜然精油的最佳工艺条件为:液料比6:1、微波提取时间90min、微波功率300W,此条件下精油提取率为3.501%,精油中枯茗醛含量为19.121%。微波无溶剂提取孜然精油的最佳工艺条件为:浸泡时间30min、微波提取时间45min、微波功率200W,此条件下精油提取率为2.461%,精油中枯茗醛含量为23.910%。
【英文摘要】The microwave-assisted hydrodistillation (MAHD) and solvent-free microwave extraction (SFME) processes ofessential oil from cumin seed were optimized through orthogonal test respectively, and the quality of essential oil was analyzedby GC with the content of cuminaldehyde as the evaluation index. Results showed that the optimum conditions of MAHDextraction are as follows: extraction time 90 min, microwave power 300W, ratio of solvent to raw material 6:1, and under theseconditions the extraction yield and the content of cuminaldehyde are 3.501% and 19.121%, respectively. The optimumconditions of SFME extraction are as follows: extraction time 45 min, soaking time 30 min, microwave power 200 W, and underthese conditions the extraction yield and the content of cuminaldehyde are 2.461% and 23.910%, respectively.

【语种】中文
【第一作者】杨艳
【通讯作者】张卫明
【期刊名称、卷期、页码】食品科学,2009,30(8):42-46
【论文发表时间】2009-04-06 00:00:00
【引文索引类型】其他
【引文索引号】1002-6630(2009)08-0042-05
【学科分类】生物学其他学科

【题目】反相高效液相色谱法测定花椒的3种黄酮苷元的含量
【中文关键词】反相高效液相色谱法; 花椒; 料皮素; 山李酚; 异鼠李素
【英文关键词】R P一H p L C ; z anth ox ylum b un g ean mu ; Q ueree tin ; K a em p ferol; Iso rh am n etin
【中文摘要】提出了反相高效液相色谱法测定花椒的3种水解黄酮苷元槲皮素、山柰酚、异鼠李素的含量。采用Zorlbax Eclipse C18色谱柱(4.6mm×150mm,5μm),以甲醇-0.4%(体积分数)磷酸溶液(1+1)混合溶液为流动相,在360nm波长处进行测定。槲皮素的质量浓度在2.19~109.6mg·L-1,山柰酚的质量浓度在2.28~114.0mg·L-1,异鼠李素的质量浓度在2.80~140.0mg·L-1时分别与其峰面积呈线性关系。槲皮素、山柰酚和异鼠李素的加标回收率分别为95.6%,104.4%,103.8%,相对标准偏差(n=5)分别为2.98%,3.97%,4.30%。
【英文摘要】R P一H P L C w as ap plied to th e detemr in ation o f 3 flav on oid ag ly eo nes , in elud in g qu ereetin ,k aem p fe or l an d isorhamn etin in zan th ox ylmu bu ng eanu饥T h e sam ple so lu tion w as sep aar ted by usin g Zo rba xEelipse Cl,!olunt (4.6 m m 又 150 m m , s 拌m) as Stationary phase and a m ixture !f m ethan ol and 0. 4% (甲)p hos pho ir e aeid so lu tion (m ixed 1 to 1 b y v ol.) as mo b ile ph ase. T h e eon ten ts o f th e 3 flaov no id 眼ly eo nes ew red ete刚ned at the w av eleng th 360 n-m L in ear relatio nsh ip s b etw een av lues of peak aer a and am ss eo neen art tio n ofqu ereetin , ka em p feor l and isorh am netin w e er k ep t in ran ges of 2 . 19一10 9. 6 m g L 一1 , 2 .28一114 .0 毗 L 一1 an d2. 80一14 0. 0 m g L 一1 , respeetively. T ests fo r reeov ery an d p

reeisio n w ere m ade b y stand ard ad dition m eth o.dv alues of :eeove斗and R SD S (∀= s) found w ere 95. 6% and 2. 98% for quereetin , 104.4% and 3. 97% fo rkaem pfeor l, 103.8% an d 4.30% fo r isoht am netin , respeetively.

【语种】中文
【第一作者】吴亮亮
【通讯作者】张卫明
【期刊名称、卷期、页码】理化检验-化学分册,2010,46(2):12-14
【论文发表时间】2010-02-07 00:00:00
【引文索引类型】其他
【引文索引号】1001-4020(2010)12-1441-03
【学科分类】生物学其他学科

【题目】洋葱多糖不同提取工艺的提取效果研究
【中文关键词】洋葱 微波 超声波 紫外分光光度法 总黄酮
【英文关键词】onion microwave uv-spectrophotometry ultrasonic wave
total flavones
【中文摘要】本文采取热水浸提法、微波辅助冻融法、超声波法及乙醇溶液浸提法从新鲜洋葱和洋葱皮干粉中提取总黄酮,用紫外分光光度法进行含量测定和比较。结果表明:不管是新鲜洋葱还是洋葱皮干粉,其热水浸提法所提黄酮量最多,而超声波提取法黄酮得率最低。本实验用热水浸提法提得新鲜洋葱中总黄酮含量为0.376%(干计),洋葱皮干粉中总黄酮含量为3.965%(干计)。
【英文摘要】In this paper, we extract onion total flavones with hot water extraction, microwave assisted freeze-thaw extraction, ultrasonic extraction and ethanol extraction. Compared these methods with the flavones content of UV detection. The result show that: whether no matter the fresh onion or the dry powder of onion skin, the hot water extraction method have the highest content, and the microwave extraction method have the lowest content. In this study, the hot water extraction method is the best way to extract onion flavones. The total flavones content in fresh onion is 0.376%, and in dry onion skin is 3.965%.
【语种】中文
【第一作者】张锋伦
【通讯作者】张卫明
【期刊名称、卷期、页码】时珍国医国药,2009,20(2):793-794
【论文发表时间】2009-02-05 00:00:00
【引文索引类型】其他
【引文索引号】1008-0805(2009)04-0793-02
【学科分类】生物学其他学科

【题目】大孔吸附树脂分离纯化花椒总黄酮的研究
【中文关键词】花椒;黄酮;大孔吸附树脂;纯化
【英文关键词】Zanthoxylum bungeanum;flavonoid;macroporous resin;purification
【中文摘要】通过比较了6种大孔吸附树脂D4006、NKA-9、X-5、HPD450、HPD600和AB-8对花椒总黄酮的吸附及脱附性能,筛选出最佳树脂进行动态实验研究,得到优化的纯化条件。结果表明:AB-8型大孔树脂纯化效果最好,其最佳工艺为:上样浓度3.0~4.0mg/mL,上柱pH4.5左右,上柱速度2.5mL/min,洗脱剂最适宜体积分数与洗脱剂用量分别为70%和3BV(柱体积bed volume)。经AB-8型大孔吸附树脂纯化后,花椒黄酮的纯度由51.46%提高到90.25%,总黄酮回收率81.65%。对经AB-8大孔树脂纯化后的花椒黄酮进行高效液相色谱(HPLC)分析发现,黄酮纯度显著提高,其中芦丁含量较高。
【英文摘要】With the aim to improve the purity of total flavonoids of Zanthoxylum bungeanum, the suitable resin for separating and purifying total flavonoids of Zanthoxylum bungeanum and the optimum parameters of purification were studied. The optimal techniques of separation and purification of flavonoid were obtained by static adsorption and elution tests, and the separation techniques were evaluated by measuring the concent ration of total flavonoids of Zanthoxylum bungeanum with ultraviolet spectrophotometer. The results showed that the AB-8 macroporous resin gave the best effect of separation with concent ration 3.0-4.0mg/mL; the feed solutionpH 4.5 and the sampling rate 2.5mL/min, respectively , and the concent ration of elution was 70% alcohol , with eluant volume 3 BV. By this technology the flavonoid content was increased from 51.46 % of the crude extract to 90.25% of the purified product and the yield was 81.65 %. In conclusion, AB-8 resin could be applied to purify total flavonoids of Zanthoxylum bungeanum.

【语种】中文
【第一作者】吴亮亮
【通讯作者】张卫明
【期刊名称、卷期、页码】食品工业科技,2011,7:260-263
【论文发表时间】2011-07-02 00:00:00
【引文索引类型】其他
【引文索引号】1002-0306(2011)07-0260-04
【学科分类】生物学其他学科

【题目】利用抑制消减杂交技术分离辣椒细胞质雄性不育育性恢复相关 EST
【中文关键词】辣椒; 细胞质雄性不育; 恢复基因; 抑制消减杂交; 差异表达
【英文关键词】pepper; cytoplasm ic male ster ility; restorer gene; suppression subtractive hybr idizat ion; d ifferent ia l expression
【中文摘要】以辣椒(Capsicum annuum L.)细胞质雄性不育系23A、121A,和其相应的近等基因恢复系23C、121C为试验材料,利用抑制消减杂交(SSH)技术成功构建了CMS恢复基因诱导表达的消减cDNA文库。结合高密度点阵膜杂交差异筛选,获得了282个阳性克隆。通过测序,除去重复序列共得到175个Unique ESTs。在GenBank上进行BLAST分析,55个EST片段未找到对应的同源序列,可能代表了新基因;120个EST片段找到了对应的同源序列,包括103个已知功能基因和17个未知功能基因。按照MIPS功能分类法,将其分为14个功能组,涉及代谢、胁迫应答、蛋白活性、转录因子、信号转导等多方面的功能。
【英文摘要】To iso late fert ility restoration re lated genes in pepper cytop lasm ic ma le sterility (CMS) lines, a fo rw ard subtracted cDNA libraryw as constructed using suppression subtractive hybrid ization (SSH) .The cDNA of pepper CMS line 23A and 121A w ere used as driver and near isogenic restorer line 23C and 121C as tester. Genes differentially expressed w ere screened using do t b lo t hybrid ization. A to tal of 175 non redundant expressed sequence tags (ESTs) w ere iden tified. The genes potential function ana lysis show ed that 103 o f these genes w ere homo logous to known genes, and 55 cou ld be new genes. The ESTs w ere sorted into 14 funct iona l categories according to theMunich In format ion Center for Prote in Sequences (M IPS) method
【语种】中文
【第一作者】郭爽
【通讯作者】沈火林
【期刊名称、卷期、页码】园艺学报,2009,(10):1443-1449
【论文发表时间】2009-10-14 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】园艺学

【题目】利用雄性不育系育成大果型甜椒新品种“ 冀13号 ”
【中文关键词】甜椒;雄性不育两用系;品种
【英文关键词】sweet pepper;male sterile line;cultivar
【中文摘要】‘ 冀研13号 ’是利用甜椒雄性不育两用系AB91-ZH4-7-2为母本,以优良自交系DL-1-1-4H为父本配制成的大果型一代杂种。植株生长势较强,中熟,果实灯笼形,深绿色,果大肉厚,果长11~12cm,宽9~10cm,果肉厚0.65~0.75cm,单果质量220~350g,商品性好,抗CMV,耐TMV和疫病,适宜保护地栽培,一般产量60000kg·hm-2。
【英文摘要】Jiyan 13 ’ is a hybrid of sweet pepper selected from the crossing the genic male sterile lineJiyan 13 ’ is a hybrid of sweet pepper selected from the crossing the genic male sterile line AB91-ZH4-7-2 with inbred line DL-1-1-4H. The mid-maturity cultivar has healthy growth. It is resistant to CMV,tolerant to TMV and phytophthora blight. It has large fruit size and good quality. The fruit is lantern-like with green,and is 11 – 12 cm in length,9 – 10 cm in width,and 0.65 – 0.75 cm in flesh thickness. The single fruit weight is 220 – 350 g. The cultivar is suitable for protected field cultivation. The yield is about 60 000 kg·hm-2
【语种】中文
【第一作者】范妍芹
【通讯作者】范妍芹
【期刊名称、卷期、页码】园艺学报,2010, 37,(8):1367-1368

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【引文索引类型】其他
【引文索引号】null
【学科分类】园艺学

【题目】辣椒抗黄瓜花叶病毒 (CMV) 基因的 ISSR 标记
【中文关键词】辣椒, 黄瓜花叶病毒, ISSR 标记, 遗传距离
【英文关键词】Hot pepper (Capicum annuum L.), CMV, ISSR marker, Genetic distance
【中文摘要】辣椒(Capicum annuumL.)抗黄瓜花叶病毒(CMV)一直是辣椒育种的主攻目标之一。本研究以辣椒抗CMV品种VC16a和感CMV品种SS69杂交的F2群体60个单株材料,通过人工接种鉴定,采用高抗单株和高感单株分别构建抗、感基因池,利用BSA法筛选了40条ISSR引物,其中引物I-34在抗感病池中扩增出450bp多态性片段,通过F2单株验证后证明I-34450与抗CMV基因紧密连锁,其遗传距离为27.3cM,为辣椒抗CMV分子标记辅助育种奠定了基础。
【英文摘要】Resistance to cucumber mosaic virus (CMV) is an important objective in pepper breeding program. ISSR analysis was conducted using BSA (bulked segregant analysis) of a segregating F2 population which has 60 individuals from a cross between VC16a (resistant) and SS69 (susceptible). After performing in ISSR-PCR analysis with 40 primers and PAGE, only one ISSR marker I-34450 was identified to be linked to the resistant gene and was determined to be 27.3 cM from the resistant gene. In present research it would provide the basis for the resistant to CMV gene tagging in modern pepper breeding.
【语种】中文
【第一作者】王述彬
【通讯作者】王述彬
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【题目】辣椒细胞质雄性不育基因的 AFLP 分析
【中文关键词】辣椒; 细胞质雄性不育(CMS); 扩增片段长度多态性(AFLP); 序列分析
【英文关键词】Hot pepper (L.), Cytoplasmic male sterility (CMS), Amplified fragment length polymorphism(AFLP), Sequence analysis
【中文摘要】本文采用AFLP(amplified fragment length polymorphism)技术对辣椒(Capsicum annuum L.)细胞质雄性不育系21A及其相应的保持系21B基因组DNA进行多态性比较,筛选了64对AFLP选择性引物Pst Ⅰ-NNN+Mse Ⅰ-NNN组合,有60对引物组合均在两系间扩增出5447条带,多态性位点为4个,其中在不育系材料中仅有2个多态性片段AGC/CGC378和ATC/GAG446,对特异片段进行克隆、测序,其序列全长分别为340bp和408bp,它们编码的氨基酸序列与烟草基因组线粒体DNA序列同源性达94%和96%。
【英文摘要】AFLP technique with 64 pairs of primer combinations Ⅰ-NNN Ⅰ-NNN were employed to find the polymorphisms between the genomic DNAs of cytoplasm male sterile line 21A and its maintainer line 21B in hot pepper. It was shown that 5 447 bands were amplified in two lines with 60 pairs of primer combinations. There were 4 polymorphic loci in two lines and only 2 polymorphic fragments AGC/CGC378 and ATC/GAG446 were found in cytoplasm male sterile line. These specific AFLP fragments were cloned and sequenced. Sequencing analysis indicated that the length of the sequence were 340 bp and 408 bp, with 94% and 96% identities of its amino acid sequence with a part of the mitochondrial DNA genome.
【语种】中文
【第一作者】刘科伟
【通讯作者】王述彬
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【题目】辣椒雄性不育材料 H9A 小孢子败育机理
【中文关键词】生化特性;细胞形态学;雄性不育;小孢子;辣椒
【英文关键词】biochemical characteristics, cytomorphology, male sterile, microspore, pepper
【中文摘要】运用光学、电子显微技术及生化指标测定法,对辣椒(Capsicum annuum)雄性不育材料H9A及其保持系H9B小孢子不同发育时期进行细胞形态学观察及生化特性分析。结果表明,雄性不育材料H9A的小孢子败育发生在单核前期,由于绒毡层细胞极度膨胀,四分体受挤压后破裂并降解,无法形成正常的单核花粉粒,属于孢子体败育。不育材料花蕾中的过氧化物酶活性从四分体时期开始明显高于保持系,保持系游离脯氨酸含量从单核小孢子期开始明显高于不育材料;不育材料小孢子发育各时期的可溶性蛋白含量都明显低于保持系,但丙二醛含量均高于保持系。
【英文摘要】The study involved cell morphological observation and comparison of biochemical characteristics of the newmale sterile materials H9A and its maintainer H9B by means of optical and electron microscopy and measurement ofbiochemical indexes. Microspore abortion of H9A occurred in the early uninucleate stage. The tapetum cells were in extremehypertrophy so that tetrads were extruded to crack and break down and could not form normal uninucleate pollengrains; the abortion type was sporophyte. During this period, the buds were 0.526 – 0.572 cm long and 0.318 – 0.372 cm indiameter; the corolla was about one quarter the length of the calyx. The peroxidase activities in the flower buds of H9Awere significantly greater than that in the maintainer line beginning at the tetrad stage, and the content of free proline inthe flower bud of the maintainer line H9B was significantly higher than that of H9A in the mononuclear microspore stage.The soluble protein content during the stages of microspore development in H9A was significantly lower than that in H9B,but malonaldehyde (MDA) content was higher than that in the maintainer line.
【语种】中文
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【学科分类】园艺学

【题目】色素辣椒品种资源色价评估及育种潜力分析
【中文关键词】色素辣椒; 色价; 品种资源; 育种
【英文关键词】paprika red chilli, color value unite, variety resources, breeding potential
【中文摘要】为了对现有色素辣椒品种资源进行色价的评估,以便于为其专用品种育种提供参考依据,采用类平均法对109份色素辣椒的色价聚类分析,依据遗传距离将其可划分为5类群:极高型、优型、较高型、普通型和极低型;109份辣椒的色价介于4.72~33.34,当前主栽品种的色价均值近12;不同遗传型色价极差为5~23.95,变异系数13%~29%,表明品种资源中色价存在着丰富的差异性和多样性;甜色素椒是高色价育种的优势类群;杂优利用中须重视筛选高特殊配合力的组合。
【英文摘要】In order to assess the color value unite of the Paprika red chilli resources, and provide a reference for its special varieties of breeding grounds, by using group average method the hierarchical cluster was made on 109 dry chilli materials based on the color value unite. The results showed that the 109 materials could be divided into five categories: the extreme high content group(G1), the excellent group(G2), the high content group (G3), the normal group(G4) and the low content group(G5). The color value unite of 109 materials was between 4.72-33.34, the range of different gene types was 5-23.95 and the variation coefficient was 13%-29%. It showed that variety resources that exist in the rich color value differences and diversity; sweet pepper were important materials for breeding high color value unite chilli variety; heterosis utilization of screening must pay attention to a combination of high specific combining ability.
【语种】中文
【第一作者】尹成刚
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【题目】3个辣椒花药培养再生株群体主要农艺性状及苗期抗病性 研究
【中文关键词】辣椒; 花药培养; DH群体; 农艺性状; 抗病性
【英文关键词】Capsicum annuum L . ; Ant her cul ture ; D H populati on ; Agronomic t ra i ts ; V i r us r esi stance
【中文摘要】对3个辣椒花药培养再生株DH-R2群体的主要农艺性状,包括株高、株幅、首花节位、叶色、单果质量、商品果横径、商品果纵径、果形指数、老熟果色等进行了较详细的测量和统计分析。结果表明:辣椒花药培养再生株群体的农艺性状存在基因型偏性;再生株群体的单果质量、商品果纵径、果形指数这3个性状都表现为低于供体,株高、株幅、首花节位、商品果横径这4个性状都表现为近似于供体;通过单倍体培养途径可以得到不同颜色层次的老熟果色的辣椒纯系,证明了该途径是多基因控制性状育种的有效途径;对耐TMV和CMV的亲本与感病亲本的杂种进行花药培养,获得了兼具TMV和CMV抗性的株系,证明了单倍体培养途径可以创造新的超亲抗病种质
【英文摘要】M easurement and stat istic analysis w ere taken for themain agronom ic traits and v i rus resistance in 3 doub le hap loid (DH) populat i on derived f rom anther cu l ture ofCap sicum annuum L . Results showed that genotype lean i ng w as ex isted for thema i n agronom ic tra i ts i n the DH population. D ata o f si ng le fr u i t w eigh, t long i tud i nal d- I ameter of f ru i , t fr u i t shape i ndex w ere l o w er than that o f donor plan. t Data o f plant he i gh, t p lant breadth , the nu mber of leaves belo w the f i rst fl ower bud , transverse diameter of fr u i t w ere close to the donor p lan. t It w as proved that ho mozygous li nesw i th vari ous hiberarchy co loredmature f ruits could be obta i ned byDH i nduc i ng , and t h is is a po w erf u l path w ay in t he ne w variety breed i ng for multi gene cont ro lli ng traits . One DH li ne w it h h i gh resistance to both TMV and C MV was screened out fr om the popu lation derived fr om t he hybrid donor p lantwhose parents w ere sens- it i ve or toleran t to the both vi ruses . Th is resu l t proved that ideal l ines w i th exce lled traits could be go t in the DH popu lation . These resu l tsw ere ut l izab le for reversely guiding the choice of donor p lan, t predicting the pheno type of t he regenera ted plan ts , increasi ng the ratio o f a i med p lants and so on, wh ich w as very sign i ficant for the application of anther cult ure i n the breed i ng of pepper .
【语种】中文
【第一作者】陈斌
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【题目】干旱胁迫下不同茸毛性状辣椒植株抗旱性比较
【中文关键词】干旱胁迫; 辣椒; 茸毛; 抗旱性
【英文关键词】drought stress; pepper; hairs; drought resistance
【中文摘要】干制辣椒种子经60Co γ射线辐照后种植,获得一株茸毛变异株。以多年自交的多茸毛系及其姊妹系无茸毛系和少茸毛系为试验材料,研究干旱胁迫条件下辣椒体表不同茸毛状态与抗旱性的关系。结果表明:在干旱胁迫下多茸毛系植株抗萎蔫的能力显著优于无茸毛系和少茸毛系;干旱胁迫前期主要表现为抑制植株生长,多茸毛系的株高,茎粗和节间数分别比对照降低3.38%,7.25%和2.7%,降低幅度显著低于其他系;持续到结果期,多茸毛系的抗旱能力优势表现在产量降低量较少,为22.94%,而无茸毛系降低69.91%,少茸毛系降低42.94%,表明辣椒体表茸毛性状在干旱胁迫下能有效降低辣椒经济产量的损失率,耐旱能力与茸毛多少有关。
【英文摘要】Dry pepper seeds was irradiated by 60 Co - rays,a hairiness mutant was selected. After many years self- cross,the numberous hair line,glabrous line and less hair line were developed and used to study the relationship between different hairiness character and drought- resistance under drought stress. The results showed,the wilting resistance ability of numberous hair line was significantly higher than that of glabrous line and less hair line under drought stress.The major influence of earlier period of drought stress was to inhibit the plant height,stem diameter and number of joint,which of the numberous hair line was decreased 3. 38%, 7. 25% and 2. 7%,respectively,the decrease range was obviously lower than other two lines. When drought stress applied at fruiting stage,the numberous hair line showed drought- resistance and its yield decreased only 22. 94%,the yield of glabrous line and the less hair line decreased 69. 91% and 72. 94% . It is indicated that the ability of drought resistance was associated to the density of the hairs and hairiness character of pepper could decrease the loss rate of pepper economic yield effectively.
【语种】中文

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【题目】长江江苏段中华绒螯蟹资源现状及保护对策初探
【中文关键词】长江;中华绒螯蟹;资源;保护对策
【英文关键词】Yangtze River; Chinese mitten-handed crab; resource; countermeasure for protection
【中文摘要】根据2004年7月~2006年3月间对长江江苏段靖江江段渔获中中华绒螯蟹的比例分析,结果显示:江段中中华绒螯蟹在渔获中比例的数量峰值主要集中在上半年度,以3月份为最高,达到渔获数量的14.38%。重量比例峰值主要集中在05年的3月份和9月。11月份,以05年10月份最高,达27.17%,11月份次之。在04年秋季至05年冬季间,05年渔获中中华绒螯蟹的数量比例和重量比例都比04年同季节的值要高,江段中华绒螯蟹资源正处于恢复阶段。
【英文摘要】Abstract: According to the analysis on the proportion of Chinese mitten-handed crab by fishing in the Jingjiang section of the Yangtze River in Jiangsu province between July 2004 to February 2006,the results showed that the volume peak of Chinese mitten-handed crab in fishing is mainly concentrated in the first half of every year, the maximum volume for Chinese mitten-handed crab fishing is in March, reaching 14.38%in total fishing volume. The Weight peakis mainly concentrated in March and September to November in 2005, the maximum Weight for Chinese mitten-handed crab fishing is in October 2005, reaching 27.17%, it's slightly lessin September 2005. Between summer in 2004 to winter in 2005, the volume and weight or Chinese mitten-handed crab fishing in 2005 ale more than the same period in 2004. showing the resource of Chinese mitten-handed crab is in a stage of restoration.
【语种】中文
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【题目】长江水系中华绒螯蟹种质资源研究进展
【中文关键词】长江水系;中华绒螯蟹;种质
【英文关键词】Eriocheir sinensis;germplasm
【中文摘要】综述了近年来长江水系中华绒螯蟹种质资源研究现状及其进展,以中华绒螯蟹种质鉴定、系统发生、遗传多样性以及生物入侵等研究内容为重点,阐述了当前长江水系中华绒螯蟹种质资源的最新研究成果,并探讨了当前研究中所存在的一些问题。
【英文摘要】Abstract: Germplasm resources research achievements of Eriocheir sinensis originated from the Yangtze River were summarized in present article. Focusing on the directions of germplasm identification,phylogeny,genetic diversity and biological invasions. The paper elaborated the latest progress of the research work of Eriocheir sinensis. The paper also discussed the problems that existed in the current research.
【语种】中文
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【题目】池塘养殖的中华绒螯蟹与长江野生中华绒螯蟹生物学特性比较
【中文关键词】中华绒螯蟹;可食部分;生物学特性;池塘养殖;野生
【英文关键词】Eriocheir sinensis;edible part;biological characteristic;pond culture;wild
【中文摘要】通过分析池塘养殖与长江野生中华绒螯蟹的生物学指数、可食部分比例、营养成分组成,以比较两者的品质。结果表明:与长江野生中华绒螯蟹相比,池塘养殖的中华绒螯蟹的肌肉指数、肝脏指数、可食部分总和无显著变化(P>0.05);雌性的性腺指数、性肝指数高于野生中华绒螯蟹,差异显著(P<0.05),但雄性群体差异不显著(P>0.05);雄性的粗蛋白质含量显著高于野生的雄性中华绒螯蟹(P<0.05),但雌性群体差异不显著(P>0.05);粗脂肪含量、无氮浸出物高于野生中华绒螯蟹,但雌雄群体之间差异不显著(P>0.05);氨基酸总量高于野生中华绒螯蟹,差异达显著水平(P<0.05);鲜味氨基酸总含量显著大于野生中华绒螯蟹(P<0.05);饱和脂肪酸含量、单烯酸含量与野生中华绒螯蟹差异不显著(P>0.05);多不饱和脂肪酸含量低于野生中华绒螯蟹,其中雌性群体之间差异显著(P<0.05),雄性群体之间差异不显著(P>0.05)。
【英文摘要】Abstract:The composition, the proportion of edible part, and thea minoacidcontent, the fatty acid content and Mineral contentin theediblepartofcrab (Eriocheir sinensis) were analyzed andc ompared between pond cultured type and Wild typefound in the Yangtze river.The differences in the muscle index (muscle weight/body weight), liver index (liver Weight/body weight) and the proportion of edible part between the two crab types were not significant (P>0.05).The gonad index (gonad weigh/body weight) and weresignificantly higher (P<0.05) in female cultured crab than those in female wild type crab. Higher crube protein content was observed in the male pond cultured crab. Crude lipidcontent, extract without N, anino acid content were singificantly higher in cultured crab.
【语种】中文
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【题目】养殖中华绒螯蟹风味品质比较研究
【中文关键词】养殖品牌;中华绒整蟹;可食部分;氨基酸组成
【英文关键词】Eriocheir sinensis; Brand crabs; Edible part; Amino acid composition
【中文摘要】通过对江苏太湖、阳澄湖、漏湖、长荡湖、固城湖、洪泽湖、高宝湖、大纵湖八大养殖品牌河蟹测试分析。结果表明:平均体重120.2009的商品蟹,可食部分总指数>30%,最高的太湖蟹达35.71%,最低的漏湖蟹为30.01%,各品牌河蟹之间差异不显著(p>0.05)。肥满度以漏淘蟹最高,阳澄湖蟹最低,各品牌河蟹之间差异不显著(p>0.05)。固城湖蟹的粗蛋白含量显著高于阳澄湖蟹(p<0.05),虽高于其它品牌河蟹,但差异不显著(p>O.05)。可食部分17种氨基酸总量依次为:17.48、15.90、17.31、18.21、19.42、16.62、17.85、17.25;固城湖蟹与阳澄湖蟹的差异达极显著水平(p<O.01),与洪泽湖蟹的差异达显著水平(p<0.05)。长荡湖蟹与阳澄湖蟹的差异迭显著水平(p<O.05),其它品牌河蟹之间的差异不显著(p>0.05)。固城湖蟹鲜味氨基酸含量显著高于阳澄湖蟹(p<0.05),其它品牌河蟹差异不显著(p>0.05)。必需氨基酸指数依次为:77.29,75.80,83.12,78.73,77.33,70.55,75.91,73.93。必需氨基酸含量分另q占总氨基酸的47.99%、47.80%、48.01%、43.95%、47.35%、48.23%、47.81%、49.47%。低于全鸡蛋白质模式,但均明显高于FAO/WHO模式。
【英文摘要】Abstract: The eight brand crabs produced in Taihu lake, Yangchenghu lake, Gehu lake, Changdonghulake, Guchenghu lake, Hongzhehu lake, Gaobaohu lake, Dazhonghu lake of Jiangsu Province, were analysed. The results showed that the average weight:120-200 g crab products, the edible part of the overall average, made up 30%of body weight, the highest in Taihu crabs reached 35. 71%, the lowest Gehu crabs 30. 01%. no significant difference between various brands of crabs (p>0.05). Fatness high in Gehu crabs highest minimum Yangcheng lake crabs, crab brand difference between not significant (p>0.05). the crude protein content of Guchenghu crabs, was significantly (p<0.05)greater than that of Yangcheng, crabs, though higher than other brands crab, but the difference was not significant (p>0.05). Total quality of 17 kinds of amino acids and essential amino acids indices(EAAI)were in turn 17.48, 15.90, 17.3 1, 18.2l, 19.42, 16.62, 17.85, 17.25 and 77.29, 75.80, 83.12, 78.73, 77.33, 70.55, 75.91, 73.93, respectively, Guchenghu crab was significantly (p<0.01) greater than that of Yangchenghu crabs, significant difference with the level of Hongzhehu crab (p<0.05), Changdanghu crab was significantly (p<0. 05) greater than that of Yangcheng crabs, no significant difference with other brands (p>0.05). Flavor amino acids of Guchenghu crab was significantly (p<0.05) greater than that of Yangcheng crabs, no significant

difference with other brands (p>0.05). The quality of essential amino acids were 47. 99%, 47. 80%, 48. 01%, 43. 95%, 47. 35%, 48. 23%, 47. 81%, 49. 47%, lower than chickdn or protein patterns, but were significantly higher than international model.
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【第一作者】朱清顺
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【题目】中华绒螯蟹Eriocheir sinensis两个地理种群的微卫星DNA多态性分析
【中文关键词】中华绒螯蟹Eriocheir sinensis;微卫星DNA;遗传多态性
【英文关键词】Chinese mitten crab, Eriocheir sinensis, microsatellite DNA, genetic polymorphism
【中文摘要】为了获取中华绒螯蟹群体遗传多态性的基本数据,寻找合适的遗传标记区分不同种类及不同水系的河蟹种群,采用微卫星DNA分型技术,对江苏地区两个地理种群(本地种与荷兰种)的中华绒螯蟹共计140个样本,通过DNA提取、PCR扩增、聚丙烯酰胺凝胶电泳、银染检测的方法,进行了两个微卫星基因座(Esin 67和Esin 87)的遗传多态性分析.结果表明:中华绒螯蟹本地种与荷兰种的两个微卫星基因座均有较好的多态性;在Esin 67基因座中,本地种和荷兰种绒螯蟹均有8个等位基因,两组的最高频率等位基因均为8重复序列;在Esin 87基因座中,本地种绒螯蟹有9个等位基因,荷兰种有7个等位基因,两组的最高频率等位基因均为9重复序列.同时中华绒螯蟹荷兰种这两个基因座的杂合度和多态性信息含量均高于本地种.这些结果提示了江苏本地的绒螯蟹可能受到其它地区河蟹的种质污染,基因多态性下降,因此需要加强对种质资源遗传变异的深入研究,以便采取措施对河蟹资源进行合理的管理、保护和开发利用.
【英文摘要】Abstract: To obtain the data of genetic polymorphism in Chinese mitten crab Eriocheir sinensis and find suitablegenetic markers to distinguish different varieties of crab, the genetic polyrnorphism comparison of Chinese mittencrabs from Jiangsu, China and Holland was made.After extracting genomic DNA, allele and genotype frequenciesfor two microsatellite loci (Esin 67 and Esin 87) were established by using locus-specific prime polymerase chainreactions, followed by electrophoresis of the PCR products in denaturing polyacrylamide gels and subsequentdetection by silver staining.Both Esin 67 and Esin 87 loci exhibited a good degree of polymorphism in Chinesemitten crabs from Jiangsu and Hollan&In locus Esin 67, Chinese mitten crabs both from Jiangsu and Holland hadeight alleles.The highest frequency allele in the two groups was the eight-repeat sequence.In locus Esin 87, Chinese mitten crabs from Jiangsu province had nine alleles. Chinese mitten crabs from Holland had seven alleles. The highest frequency of allele in the two groups was the nine-repeated sequence. The heterozygosities of both loci Esin 67 and Esin 87 of crabs from Holland were higher than those of crabs from Jiangsu. These results indicated that Chinese mitten crabs in Jiangsu might be intermixed by crabs from other geography. It is necessary tO protectthe Chinese mitten crab germ plasm resource in Jiangsu province.
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【题目】中华绒螯蟹人工选育群体的遗传多样性
【中文关键词】中华绒螯蟹;人工选育;遗传多样性;微卫星
【英文关键词】Eriocheir sinensis, selective breeding, genetic diversity, microsatellite
【中文摘要】利用10 对微卫星引物对中华绒螯蟹(Eriocheir sinensis)长江水系天然群体、人工选育F4A 级群体、F4B 级群体以及江苏射阳群体共95 个体进行遗传多样性分析。F4A、F4B 选育起始群体均来源于固城湖国家级长江水系中华绒螯蟹原种场,射阳群体为江苏省河蟹养殖普遍采用的苗种,其亲本为当地养殖河蟹。结果表明,中华绒螯蟹4 个群体的平均观察杂合度(Ho)分别为0.805 3、0.819 7、0.810 5、0.810 0,平均期望杂合度(He)分别为0.714 9、0.716 1、0.726 2 、0.728 6。其中,人工选育F4A 级以及B 级群体的遗传多样性指数均高于天然群体,但是无显著性差异(P>0.05)。总体而言,本研究中4 个群

体的遗传多样性均处在较高水平,其中射阳群体的平均期望杂合度最高,天然群体最低,各群体间遗传多样性亦无显著性差异(P>0.05)。聚类分析结果发现,天然群体、F4A 级和F4B 级选育群体聚为一支,而射阳群体单独聚为一支,表明人工选育中华绒螯蟹群体与长江水系天然群体间没有发生显著性遗传分化。

【英文摘要】Abstract: Genetic diversity of Chinese mitten crabs (Eriocheir sinensis) were analyzed using 10 pairs of microsatellite primers. Ninety-five samples were collected from wild stock in the Yangtze River, selective breeding stocks (F4A, F4B) and Sheyang cultured stock in Jiangsu Province. F4A and F4B stocks were originated from the animals of national original stock farm of E. sinensis in Gucheng Lake, Jiangsu. Sheyang cultured stock were offspring of local culturedcrabs. The results showed that the average observed heterozygosities (Ho) of four stocks were 0.8053, 0.8197, 0.8105 and 0.8100 respectively, and the average expected heterozygosities (He) were 0.714 9, 0.716 1, 0.726 2 and 0.728 6respectively. The genetic diversities of selective breeding stocks (F4A and F4B) were higher than that of the wild stock, but there were no significant difference among them (P>0.05). Furthermore, the four stocks in the present study hadrelatively higher genetic diversities, Sheyang cultured stock had the highest He, while the wild stock from Yangtze Riverhad the lowest value, but there were no significant difference among the four stocks (P>0.05). Cluster analysis showed that the wild, F4A and F4B stocks were allocated in the same cluster, and Sheyang cultured stock was allocated in another cluster. It revealed that there was no significant difference in genetic differentiation among selective breeding stocks and wild stock..

【语种】中文

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【学科分类】水产学基础学科

【题目】中华绒螯蟹幼蟹群体遗传多样性的RAPD分析

【中文关键词】中华绒螯蟹;群体遗传多样性;RAPD分析

【英文关键词】无

【中文摘要】利用RAPD技术对江苏省及上海地区的中华绒螯蟹(Eriocheir sinensis)10个幼蟹群体的遗传多样性进行了研究,结果表明:加个随机引物共扩增出115个谱带(200~2000 bp),其中77个表现出多态性,占66.96%,遗传多态度在0.039 6~0.115 3之间,说明该蟹类遗传变异水平较低;遗传距离在0.0647~0.2707之间,说明各群体间发生了一定的遗传分化。

【英文摘要】无

【语种】中文

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【学科分类】水产学基础学科

【题目】中华绒螯蟹种质特性研究-江苏主要产区养殖河蟹可食部分矿物质元素特性的比较研究

【中文关键词】江苏品牌河蟹;可食部分;矿物质元素

【英文关键词】Chinese mitten crab; eatable parts; mineral

【中文摘要】测试分析结果表明:江苏主要产区八大养殖品牌河蟹可食部分矿物质元素主要由Na、P、K、Ca、Mg、Fe、Mn、Cu、Zn九种元素组成。其含量高低顺序为,雌性河蟹群体:固城湖蟹>高宝湖蟹>阳澄湖蟹>长荡湖蟹>太湖蟹>大纵湖蟹>洪泽湖蟹>滆湖蟹,分别为12619.1mg/kg、11095.4 mg/kg、9983 mg/kg、8668 mg/kg、7599.3 mg/kg、7470.2 mg/kg、7178.7 mg/kg、7111.2 mg/kg;雄性河蟹群体:高宝湖蟹>长荡湖蟹>固城湖蟹>大纵湖蟹>洪泽湖蟹>阳澄湖蟹>滆湖蟹>太湖蟹,分别为13069.4 mg/kg、11929.1 mg/kg、10917.6 mg/kg、8721.2 mg/kg、8719.5 mg/kg、7833.24 mg/kg、7617.15 mg/kg、7501 mg/kg。

【英文摘要】Abstract: The analytic results indicated that the minerals of eight big brands Chinese mitten crab in Jiangsu were composed of nine elements (Na, P, K, Ca, Mg, Fe, Mn, Cu, Zn). The level in idioplasm for female crab producede in different lake was

Guchenghu Lake (12619.1mg/kg) >Gaobao Lake (11095.4 mg/kg) > Yangcheng Lake (9983 mg/kg) > Changdang Lake (8668 mg/kg) > Taihu Lake (7599.3 mg/kg) > Dazong Lake (7470.2 mg/kg) > Hongze Lake (7178.7 mg/kg) > Gehu Lake (7111.2 mg/kg) and for male was Gaobao Lake (13069.4 mg/kg) > Changdang Lake (11929.1 mg/kg) > Gucheng Lake (10917.6 mg/kg) > Dazong Lake (8721.2 mg/kg) > Hongze Lake (8719.5 mg/kg) > Yangcheng Lake (7833.24 mg/kg) > Gehu Lake (7617.15 mg/kg) > Taihu Lake (7501 mg/kg) from high to low.

【语种】中文
【第一作者】柏如发
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【题目】中华绒螯蟹种质特性研究—江苏主要产区养殖河蟹生物学特性的比较
【中文关键词】江苏产区;品牌河蟹;生物学特性
【英文关键词】Jiangsu production area, brand river crab, biological characteristics
【中文摘要】研究结果表明:江苏主要产区八大养殖品牌河蟹,雌蟹平均体重130.3 g,雄性体重170.59,符合农业行业标准大规格等级要求,呈现长江水系河蟹特征。10月下旬的养殖河蟹雌性群体可食部分占体重的34.16%。雄性群体为32.70%;雌蟹肥满度、肌肉指数、性腺指数、肝脏指数分别为:0.48、18.47%、7.57%、8.12%,性肝比达到96.77%;雄性分别为0.56、22.49%、2.07%、8.14%、26.33%。雌蟹可食部分平均水分含量68.68%,蛋白质含量20.37%、脂肪含量10.97%;雄蟹分别为61.27%、16.55%、8.37%。
【英文摘要】Abstract: The results showed that female crab average body weight was l30.3g and male, 170.5g in eight main crab culitivation areas of Jiangsu province. The eatable part accounted for 34.16%of the female body weight and 32.7%of the male one in late October. The female crabs ponderal index, the muscle index, the germ cell index and the liver index was 0.48, 18.47%, 7.57%, and 8.12%, respectively and the sexual gland and liver ratio was 96.77%;The male was 0.56, 22.49%, 2.07%, 8.14%and 26.33%, respectively. The average moisture was 68.68%.protein was 20.37%, and fat was 10.97%of eatable part of female crab; The one of male was 61.27%, 16.55%, and 8.37%, respectively.
【语种】中文
【第一作者】朱清顺
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【题目】中华绒螯蟹家系定向构建与定向育苗技术研究
【中文关键词】中华绒螯蟹,家系构建,坑配,笼配
【英文关键词】Eriocheir sinensis, family construction, selective breeding community
【中文摘要】利用中华绒螯蟹3个群体:“苏蟹一号”F4代选育群体、长江野生群体和沿海河口野生群体及其4大类杂交组合,通过笼式和坑式定向交配设计,实现了规模化定向构建中华绒螯蟹全同胞家系和父系半同胞家系。坑式交配采用亲蟹l雌l雄,共定向构建9个全同胞交配土坑;笼式交配采用亲蟹3雌l雄,共设置交配网笼17个。至2009年4月,经过越冬暂养,其中坑配亲蟹的抱卵率及越冬成活率达100%,笼配49只雌蟹获抱卵蟹亲蟹为45只,越冬成活30只。为尽量减少由于繁育条件不一致造成的各家系间的环境偏差,使每个家系幼体培育阶段的条件尽量保持一致,共选择抱卵蟹26只进行育苗。采用面积2×667㎡室外土池6只,选择6只坑配抱卵蟹,按照一池一只设计,进行室外天然海水土池生态定向育苗;采用3 m×2 m×l.5 m聚乙烯网箱20只,选择20只笼配抱卵蟹按照一箱一只设计,进行室外土池网箱定向育苗。通过规模化培育,最终成功构建20个中华绒螯蟹家系,其中父系半同胞6个,共培育家系蟹苗280万只。
【英文摘要】Abstract: The experiment on large-scale family construction of Eriocheir sinensis was done for the fourgroups derived from “Su Xie 1” the F4 generation of selective breeding community, the Yangtze River wild population, the coastal river mouth wild

population and 4 broad heading hybrid combination. The Long pei matingand the Keng pei mating design were used to construct full-sib families and paternal haf-sib families. The kengpei were used to mate the crab 1 female to 1 male, altogether the direction detection constructs 9 entire sib mating pit;The long pei were used to mate the crab 3 female to 1 male, altogether establishes copulation net cage 30. To April, 2009, the process was survived the winter raises temporarily, the pit matches the crab to hold the egg rate and survives the winter the survival rate to reach 100%, the cage matches 49 female crabs to attainhugs the egg crab to mate the crab respectively was 45, overwintering survival percentage was 30. To reduce environment deviation, as far as possible, breeding condition during each stage of cultivation were standardized. Adopt outside local 6 area 2×667㎡ pool the pit choosing 6 mates oogenesis crab, pool one Was designed that according to one, pool organism ′ s habits orientation carrying out outside natural sea natural environment and climate grow seedlings. Adopting 20 3m×2m×1.5m polyethylene net cages the crab choosing 20 single steamers matching oogenesis was designed that according to a box of one, carrying out outside countrified pool net cageorientation growing seedlings. Through the formalization cultivation, finally 20 families were established, inchding 6 paternal haf-sib families;the seedling 2,500,000 were obtained. The results of this study set up a foundation for selective breeding E. sinensis form the Yangtze River especially the material and provided the technical support.

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【题目】辣椒新型质核互作雄性不育材料H9A不育机理 研究

【中文关键词】辣椒; 小孢子; 雄性不育; DDRT-PCR

【英文关键词】pepper ; microspore ; male sterility; DDRT-PCR

【中文摘要】为研究辣椒雄性不育的机理,在花期,采用常规的石蜡切片法,对新型辣椒雄性不育材料H9A及其保持系H9B小孢子不同发育时期进行细胞形态学观察;采用DDRT-PCR技术对H9A与H9B小孢子发育过程进行mRNA差异显示,筛选差异表达的基因。切片观察发现:供试雄性不育材料的小孢子败育发生在单核前期,此时花蕾纵径0.526~0.572 cm,横径0.318~0.372 cm,花冠和花萼之比约为1∶4;通过DDRT-PCR,共获得27条差异表达的cDNA片段,其中在H9A中获得12条,在H9B中获得15条。结果说明新型辣椒雄性不育材料H9A的小孢子败育发生在单核前期,败育原因可能是绒毡层细胞程序性死亡异常并极度液泡化膨胀,四分体受挤压后破裂降解,不能形成正常的单核花粉粒。败育时期与花蕾外部形态相关。在败育期表达的27条差异cDNA片段为研究辣椒雄性不育机理的候选基因奠定了基础。

【英文摘要】To observe the abortio n proc ess dur ing the dev elo pment o f micros po re a nd to isola te the g ene s re lated to ma le sterility in the new cy to pla smic nucle ar male ste r ile material H9A, to further reve al the male sterile me chanism in pe ppe r . The ce ll mo rpholo gic al obse rv ation betwe en the new male sterile material H9A and its ma intaine r H9B was conduc te d by means of no rmal pa ra ffin sectio n me tho d. The DDRT PCR w as us ed to isola te the differentia lly ex pres sed ge nes during the dev elo pment of micro spore be twee n H9A and H9B. The re sults s howe d that the microspore a bo r tion of H9A occ urre d in the e arly uninuc lea te sta ge , dur ing this period, the buds we re 0. 526- 0. 572 cm in he ight and 0. 318-0. 372 cm in diameter, the le ngth wa s approxima te ly in the ra tio of 1 4 betwe en co ro lla a nd c alyx; Twenty se ve n differe ntia lly e xpre ssed cDNA fragme nts we re iso lated by DDRT PCR, including 12 cDNA fra gments in H9A and 15 in H9B. The re ason for the abortion w as possibly that the tapetum cells w ere subje cted to hypertro phy v ia va cuo lation so tha t the te trads we re ex truded and bro ken into pie ces, so the no rmal uninucle ate polle n grains could no t fo rm. The micros po re abortion stag e was re lated to the exte rna l shape of the flowe r bud. The 27 cDNA fra gments ac quire d in this study could be c andida te g ene s rela te d to male sterility and their function ne eds fur ther study.

【语种】中文

【第一作者】王建军

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【学科分类】园艺学

【题目】辣椒AFLP技术体系的建立与优化
【中文关键词】辣椒; AFLP; 优化
【英文关键词】Pepper ; AFLP ; Opti m izati on
【中文摘要】以辣椒细胞质雄性不育系21A及其相应的保持系21B为材料,通过对影响辣椒AFLP技术体系的若干关键因素,如提取DNA的方法、酶切与连接、预扩增和选择性扩增以及电泳和染色条件等的研究,建立了经优化的适合于辣椒的AFLP分子标记技术体系。采用该体系,对辣椒进行AFLP分析,能够得到清晰稳定的分子标记图谱,为今后利用AFLP技术进行辣椒细胞质雄性不育基因的定位奠定了技术基础。
【英文摘要】An optimized AFLP technological syste m was established with pepper cytop l asm icmale steril e li ne “ 21A ” and its corresponding maintainer “ 21B ” by optimizing severa lm ai n factors a ffecti ng t he res u lts of AFLP fingerpr i nts , wh ich included the method of genom ic DNA extracti on , enzy m e d i gesti on and ligati on , pre- amplifi cation and se l ective- amplifi cati on , electrophoresi s , dyeing cond itions etc . By mean o f this opti m ized system, a c l ear and cred i bleAFLP fi nge rpri nt coul d be obta i ned for gene l o cation of pepper cytop l asm icm a l e ster ility .
【语种】中文
【第一作者】刘科伟
【通讯作者】王述彬
【期刊名称、卷期、页码】江西农业学报,2009,21(7):1-3
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【学科分类】园艺学

【题目】不同浓度聚乙二醇处理对辣椒幼苗形态的影响
【中文关键词】辣椒幼苗; 干旱胁迫; PEG-6000
【英文关键词】Dry pepper seedl i ngs ; Drought stress ; PEG 6000
【中文摘要】[目的]研究聚乙二醇(PEG-6000)对辣椒幼苗株高和叶面积的影响。[方法]以干制辣椒杂种一代种子为试材,PEG-6000按重量比(W/V)设0%(CK)、5%、10%和15%4个水平模拟干旱环境,对辣椒幼苗进行处理。[结果]随PEG-6000浓度增加,辣椒幼苗株高呈现出先增加后降低的趋势:与对照相比,5%和10%浓度胁迫下株高分别增加了13.8%和8.8%,15%浓度胁迫下株高则降低了17.4%。辣椒幼苗叶面积随着PEG-6000浓度的递增而递减:与对照相比,5%、10%和15%PEG-6000胁迫下叶面积分别降低了33.8%、58.7%和78.5%。[结论]5%PEG-6000胁迫对辣椒幼苗株高有促进作用;大于10%PEG-6000胁迫对幼苗植株高度有抑制作用;各种PEG-6000浓度均抑制辣椒幼苗叶面积的提高。
【英文摘要】[Obj ect i ve] T he am i w as t o research the effects of polyet hy lene g l ycol(PEG-6000) on t he plant hei ght and leaf area of ho t pepper seedl i ngs . [Method] W ith the seeds of dry- m aki ng hot pepper F1 hybri ds as the testedm ateri a, l t he sm i ul at i on dry environmentw as sm i ulated by PEG 6000 at 4 l evels o f 0 % (CK) , 5 %, 10 % and 15 % acco rdi ng tow ei ght rate (W /V) to dealw i th t he hot pepper seedlings . [Result] W it h the i ncreasi ng of PEG-6000 concn . , t he plant hei ght o f hot pepper seedli ngs showed a tendency o f first i ncreasi ng and t hen decreasi ng :compared w ith t he CK, the p l ant he i ght were i ncreased by 13 . 8 % and 8 . 8% resp . under 5 % and 10% concn . stress and t he p l ant hei ght was decreased by 17 . 4 % under 15 % concn . stress . The leaf area o f hot pepper seedli ng swas decreasedw ith the risi ng of t he PEG-6000 con cn . : compared w ith t he CK, the lea f area w ere decreased by 33 . 8%, 58 . 7 % and 78 . 5 % resp . under 5 % , 10% and 15 % PEG-6000stress . [Concl usi on] 5% PEG-6000 stress had a pro mot i ng effect on t he pl ant he i ght of ho t pepper seedling ; more than 10% PEG-6000 stress had a restraini ng effect on t he plant height of seedli ngs ; all k i nds o f PEG-6000 concn . restra i ned t he i ncrease of l eaf area o f seedli ngs .
【语种】中文
【第一作者】易晓华
【通讯作者】刘建萍
【期刊名称、卷期、页码】安徽农业科学,2010,38(3),1196-1197
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【学科分类】园艺学

【题目】色素辣椒种子可溶性糖及可溶性蛋白含量的测定分析
【中文关键词】辣椒; 种子; 可溶性糖; 可溶性蛋白
【英文关键词】Pepper ; Seed ; Soluble sugar ; So l ub le pr o te i n
【中文摘要】以常规方法对9个辣椒品种(品系)种子中的可溶性糖和可溶性蛋白含量进行测定和比较分析,结果表明,辣椒种子中可溶性糖含量较高,不同品种间差异较大;可溶性蛋白含量亦较高,不同类别材料间差异较大,同类别品种差异不大。
【英文摘要】he so luble sugar and so l ub le pr o te i n contents i n seeds of 9 pepper varieties (li nes) spec i a l for p i gmentw ere deter m ined and analyzed by convent i ona lm ethods The resu l ts i nd icated t hat t he conten ts o f soluble sugar and prote i n i n pepper seedsw ere both h igher The d i fferences of so luble sugarw ere lar ger a mong var i et ies , wh i le t hose of protein contentw ere larger among the classes and less a mong t he varieties be l ong i ng to t he same class.
【语种】中文
【第一作者】刘淑梅
【通讯作者】刘建萍
【期刊名称、卷期、页码】山东农业科学,2009,10:32-34
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【学科分类】园艺学

【题目】辣椒育性恢复相关基因消减文库的质量 分析
【中文关键词】辣椒; 恢复基因; 抑制消减杂交; 消减文库
【英文关键词】Pepper; Restorer genes; Suppression subt ractive hybridization(SSH) ; Subtracted l ibrary
【中文摘要】本试验对构建的辣椒育性恢复相关基因的消减cDNA文库进行质量分析。通过对文库构建过程中的各个环节,包括总RNA的提取,mRNA的分离纯化,Ras Ⅰ酶切,接头连接,消减效率检测以及菌落PCR等,进行分析和评估,证明利用抑制消减杂交技术(SSH)所构建的消减文库是准确可靠的,富集了大量与辣椒育性恢复相关的基因,为进一步精确筛选、克隆、分析辣椒育性恢复相关基因奠定了基础。
【英文摘要】To evaluate the subtrac ted library of fert i li ty restora t ion related genes in pepper, a quali ty analysis was conducted, including total RNA extraction, mRNA puri fication, Ras diges tion, adaptor ligat ion ef ficiency analysis, PCR analysis of subtraction efficienc y, and colony PCR.The resul t was that the subtracted library constructed using suppres sion subtractive hybridization(SSH) was accurate and reliable, and had the large number of pepper ferti li ty restoration related genes.
【语种】中文
【第一作者】郭爽
【通讯作者】沈火林
【期刊名称、卷期、页码】华北农学报,2009,24(6):161-164
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【学科分类】园艺学

【题目】辣椒胞质雄性不育系和保持系内源激素含量的比较
【中文关键词】辣椒; 雄性不育; 内源激素
【英文关键词】pepper(Cap si cum annuum L.) ; male ster i lity; endo geno us hormones
【中文摘要】以2 个辣椒品系(199807、199803) 的胞质雄性不育系和相应保持系为实验材料, 采用酶联免疫吸附法(ELISA) 测定IAA、(Z+ ZR) 、GA3 和ABA 等内源激素含量, 用气相色谱分析仪测定乙烯(ETH) 释放量, 对辣椒胞质雄性不育系和相应保持系内源激素含量变化规律进行研究. 实验结果表明: 在四分小孢子之前, 花药中的IAA 含量不育系显著高于保持系, 在四分小孢子时期花药和花蕾中的IAA 含量出现转折, 到花粉粒成熟期的花蕾和花药以及开花期叶片中的IAA 含量均是不育系显著低于保持系; 小孢子各发育时期花药以及花期叶片中GA3 含量均是不育系高于保持系, 但花粉粒成熟期花蕾中GA3 含量为不育系低于保持系; 小孢子不同发育时期的花药以及花期叶片中ABA 含量始终是不育系显著高于保持系, 而花粉粒成熟期花蕾中ABA 含量不育系与保持系没有显著差异; 花粉粒成熟期的花蕾和花期叶片中ET H 释放量表现

为不育系显著高于保持系. 同时, 花粉粒成熟期的花蕾、花药和叶片中IAA/ ABA、(Z+ ZR) / ABA、GA3 / ABA、IAA/ GA3、(Z+ ZR) / GA3 等5 个激素的比值均有不育系低于保持系的趋势. 本实验结果说明辣椒的育性表现与花器和叶片等组织中内源激素的含量变化有关, 花药和花期叶片中IAA 亏缺、GA3 和ABA 增加以及花蕾和叶片中ETH 过度产生, 都有可能导致辣椒雄性不育。

【英文摘要】In this paper, the cytoplasmic male ster ile lines and their maintainer lines w ere cho sen as experimental material to study the chang e o f endog enous hormo nes in pepper. T he contents of endog enous hormones, including IAA, (Z+ ZR) , GA3 and ABA w ere measured by ELISA and the Ethylene product ion w as studied using gas chromato graphy . Before the stage o f micr osporog enesis, the content o f IAA in anthers is great ly higher in male ster i le lines than that in the maintainer lines. But at the stag e of micr osporog enesis,the content of IAA is chang ed in f low er buds and anther s. A t the maturing stag e o f po llen gr ain, the concent rat io n of IAA is rev er sed, and IAA in the male ster ile lines are r emar kably low er than that of the maintainer lines at f low er ing stage. At the every development stage of microspo rogenesis, the concentrat ions of GA3 in anthers and in leaves are higher in male sterile lines than that in the maintainer lines. How ever, at the maturing stage o f pollen grain, the GA3 content is o n the cont rary. The concent rat ion of ABA is alw ays hig her in male sterile lines than that in the maintainer lines at each development stage of microsporo genesis of anther s and at the f low ering stag e of leav es. While there is no markable difference of po llen grain in the flower buds at the maturing stag e. The productions of ethy lene in po llen g rain o f f low er buds at the matur ing stag e and leaves at the f low ering stag e are g reat ly higher in the ster i le lines than that in the maintainer lines. The rat ios of IAA/ ABA, (Z+ ZR) / ABA, GA3 / ABA, IAA/ GA3 and(Z+ ZR) / GA3 all have the tr ends that are low er in male sterile lines than that in the maintainer lines in the f low er buds, nthers and leaves at the maturing stag e of pollen g rain. In co nclusion, the results indicate that there is a relat ivity betw een ster ili ty and content veriety of endog enous hormones in leaves and f loral organs. The deficiency o f IAA , the increase of GA3 and ABA in anthers and leaves at the f low ering stage, and ov er product io n of ethylene in flower buds and leav es all w o uld lead to cytoplasmic male ster i lity.

【语种】中文
【第一作者】沈火林
【通讯作者】沈火林
【期刊名称、卷期、页码】西北植物学报,2008,28(9):1751-1756
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【学科分类】园艺学

【题目】辣椒细胞质雄性不育恢复基因的AFLP标记
【中文关键词】辣椒; 细胞质雄性不育(CMS); 恢复基因; 扩增片段长度多态性(AFLP)
【英文关键词】H o t pepper ; Cy top l asm icm a l e sterility (CM S); Restor i ng gene ; Amplifi ed fragment l eng t h po l ymo rph i sm (AFLP)

【中文摘要】采用AFLP技术对辣椒细胞质雄性不育系21A及其相应的恢复系湘紫基因组DNA进行多态性比较,筛选了64对AFLP选择性引物Pst Ⅰ-NNN+Mse Ⅰ-NNN组合,有58对引物组合在两系间扩增出5156条带,多态性位点为4个,主要表现为条带数目、条带位置和条带强弱的差异。其中在恢复系材料中仅有3个多态性片断,找到了辣椒细胞质雄性不育恢复系湘紫基因组DNA特异的AFLP片段ACA/CGC300、AGT/GGT375和AGC/CGC380,并对这些特异片段的来源及其在细胞质雄性不育恢复系中的作用进行了讨论。

【英文摘要】AFLP techn i quew it h 64 pa i rs of pri m er co mb i nati onsPst - NNN + M se - NNN were employed to fi nd t he poly m or ph i sm s be t w een the genom ic DNAs o f cy top l asm m ale steril e li ne 21A and its restor i ng li ne X i angzi i n hot pepper . It was shown that 5156 bands w ere a m plifi ed i n t w o li nes w ith 58 pa ir s of pr i m er co mb i nati ons . The re w ere 4 po ly m orph ic l oc i i n t w o lines , and t heir d ifferences appeared i n the numbe r , locati on and dept h o f bands . On l y 3 poly m orphic fragm ents w ere found i n cy t op l asm m ale sterile restor i ng li ne . These spec ifi c AFLP fragments o f the genom ic DNAs o f the restoring li ne w ere ACA /CGC300, AGT /GGT375 and AGC /CGC380. And the source of t hese frag m ents and t he ir e ffect on the cytoplas m i c ma le ster ile restor i ng li new ere also discussed .

【语种】中文
【第一作者】刘科伟
【通讯作者】王述彬
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【学科分类】园艺学

【题目】Sowing Date, Plant Density, Fruits per Plant and Harvest Time Influenced Yield and Quality of Hybrid Seed of Bitter Gourd (Momordica charantia)
【中文关键词】无
【英文关键词】seed production, 1000-seed weight, sowing date, plant spacing, fruit set
【中文摘要】无
【英文摘要】Seed yield of bitter gourd (Momordica charantia L.) is influenced by many factors. This study was conducted to explain hybrid seed yield variation induced by either environmental conditions or cultivation practices. The parental seeds were sown five times with a 15-days interval from February 22 to April 22; plant spacing was 100×30 cm, 100×40 cm and 100×50 cm; fruits per plant were kept as 3-fruit, 6-fruit and no limited. Plant density was the controlling factor of seed yield; higher plant density produced remarkably higher seed yield than those with low density. Sowing date had significant effects on seed yield, the highest seed yield (551.42 g plot-1) was obtained when seeds were sown on March 23, which was 155.44% higher than the lowest seed yield produced by sowing on April 22 (215.87 g plot-1). Seed yield per plot were closely correlated to fruit yield per plot (r=0.9428) and plant number per plot (r=0.6072). Although no variation on germination percentage among seeds harvested in different harvest phase were observed, the 1-15 d harvested seeds shown significantly greater in 1000-seed weight than those harvested in the 16-45 d period of the harvest phase. These results suggest the optimum sowing date (late February to late March), plant density (30,000-35,000 plants ha-1) and fruit set per plant (3 fruits) for seed production of bitter gourd in spring season. Moreover, seed harvest should be scheduled in the early harvest stage to achieve large seed size.
【语种】英文
【第一作者】Rukui Huang
【通讯作者】Rukui Huang
【期刊名称、卷期、页码】Acta Horticulturea,871:395-402
【论文发表时间】2010-08-30 00:00:00
【引文索引类型】其他
【引文索引号】无
【学科分类】园艺学

【题目】不同加速老化条件对苦瓜种子发芽的影响
【中文关键词】加速老化;苦瓜种子;发芽
【英文关键词】accelerated aging ; Momordica charantia seed ; germination
【中文摘要】以苦瓜种子为对象,研究不同的老化温度和时间条件对种子发芽的影响,旨在筛选出适宜苦瓜种子的加速老化处理条件,探讨建立用加速老化法测定苦瓜种子活力及耐贮性的操作标准。结果表明,随着老化温度的提高和老化时间的延长,苦瓜种子的发芽率呈下降趋势,与 CK(100%)相比,45°C处理效果最为显著,处理 144h 后发芽率下降到 53%,41°C处理效果最差,处理 144h 后发芽率仍达到 85%;发芽速度和整齐度随着老化温度和时间的增加而降低。本试验结果表明,45°C处理 144h 为苦瓜种子加速老化的适宜处理条件。
【英文摘要】Seeds of Momordica charantia were subjected to accelerate aging test (AA test) under different conditions to verify the optimal AA test condition. The result demonstrated that the germination rate declined associated with the increase of aging temperature and duration. After aging under 45°C for 144 h, the germination rate decreased to 53%, while those of the control was 100%. However, seeds aged under 41°C for 144h remained relatively high germination rate of 85%. Both germination rate and uniformity were reduced after aging. This experiment indicated that 45°C and 144 h could be the optimal AA test condition for M. charantia seeds.
【语种】中文
【第一作者】 庄福升
【通讯作者】黄如葵
【期刊名称、卷期、页码】广西农业科学,2009,40(1):67-70
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【引文索引类型】其他
【引文索引号】1002-8161(2009)01-0067-04
【学科分类】园艺学

【题目】苦瓜新品种桂农科一号和桂农科二号的选育
【中文关键词】苦瓜; 桂农科一号; 桂农科二号; 选育; 栽培;
【英文关键词】bitter gourd; Guinongke 1; Guinongke 2; selective breeding; cultivation technique
【中文摘要】根据华南地区对苦瓜春提早和秋延后栽培的需求选育出2个早熟、耐冷凉气候的苦瓜新品种,分别命名为桂农科一号和桂农科二号。2个品种表现为早熟,强雌性,第1雌花节位低,连续结瓜能力强,主侧蔓均可结瓜;在气温为12~23℃条件下,能正常开花结果;瓜皮油绿色;瓜型圆筒形,肩平蒂圆,大直瘤,商品性好。桂农科一号瓜长约35.0cm,横径8.0~9.0cm,肉厚1.2~1.4cm,平均单瓜重380g,产量约49500kg.ha-1;桂农科二号瓜长约30.0cm,横径8.0~10.0cm,肉厚1.3~1.5cm,平均单瓜重450g,味甘微苦,产量约52500kg.ha-1。2个品种均适宜在华南地区春秋露地和大棚种植。
【英文摘要】Two new early-maturing and cold tolerant bitter gourd varieties, viz., Guinongke 1 and Guinongke 2, were bred to meet the requirement of cultivation in cold season of late autumn and early spring in south China. Both the varieties possessed similar characteristics such as early maturity, low first female flower node, strong gynoecious species, well flowering and fruiting at lower temperatures ranged from 12°C to 23°C, and consecutive fruit setting. The fruit was cylindrical in shape, flat in pedicle side, big and straight wart with glossy green skin and good merchandise. Guinongke 1 was about 35.0cm in length, 8.0-9.0 cm in diameter, 1.2-1.4 cm in flesh thickness and 380 g per melon in average weight, its yield was about 49500 kg · ha-1. The variety Guinongke 2 was about 30.0 cm in length, 8.0-10.0 cm in diameter, 1.3-1.5 cm in flesh thickness and 450 g per melon in average weight, its yield was about 52500 kg · ha-1. Both varieties were suitable for cultivation in open field or greenhouse in south China in spring and autumn periods.
【语种】中文
【第一作者】黄如葵
【通讯作者】黄如葵
【期刊名称、卷期、页码】广西农业科学,2010,41(3):207-209
【论文发表时间】2010-03-30 00:00:00
【引文索引类型】其他
【引文索引号】1002-8161(2010)03-0207-03
【学科分类】园艺学

【题目】苦瓜遗传多样性的形态学性状聚类分析
【中文关键词】苦瓜; 种质资源; 遗传多样性; 形态学性状; 聚类分析;
【英文关键词】Momordica char antia; germplasm; genetic diversity; mor pho logical trait; cluster analysis
【中文摘要】对苦瓜的33个种质资源的植株、果实和种子等28类形态学性状进行聚类分析,结果表明:供试资源可划分为3个组群,即野生型组群(组群I)、密瘤小果型组群(组群II)及长大果型组群(组群III);其中组群III又可以进一步分为3个亚组群。各组群间存在明显的地域性差异,野生型及密瘤小果型主要分布于东南亚及印度、孟加拉、斯里兰卡等地区,长大果型则主要分布在中国大陆及泰国。各地域范围内的种质遗传距离较近,而地域间的种质遗传距离较远,特别是中国大陆的苦瓜种质与发源地印度的热带区域和东南亚热带地区的种质资源间有很远的遗传距离,因此,通过从东南亚及印度、孟加拉等区域引进苦瓜种质资源是拓宽我国苦瓜资源遗传背景,在育种工作上获取突破性进展的快捷有效途径。
【英文摘要】Cluster analysis based on morpholog ical 28 tr aits w as carried out on 33 Momor dica charantia g ermplasm accessions. T he results indicated that these 33 accessions could be g rouped into three major clusters, namely wild type (cluster I) , small fruit type (cluster I I) and larg e fruit type (cluster I II) and cluster II could be further separated into thr ee subclusters. Diversity differ ences based on eco logical zones w ere observed among three clusters, w ild type and small fr uit type M . char antia mostly distr ibuted in the tropical r eg ion of Southeast Asia, India, Bangladesh and Sri Lanca, whereas largefruit type M . char antia mainly distr ibuted in mainland China and Thailand. The genetic distances among the accessions obtained from t he same ecological zone ar e small, w hile wide genetic distances could be observed among the germplasm from differ ent ecolog ical zones, especially among the g ermplasm from mainland China and those from India and Sout heast Asia,w hich indicated that introducing germplasm from I ndia and Southeast Asia could be an efficient method for broadening the genetic base o f M . char antia in China.
【语种】中文
【第一作者】黄如葵

【通讯作者】黄如葵
【期刊名称、卷期、页码】广西农业科学,2008,(39)3:351-356
【论文发表时间】2008-05-30 00:00:00
【引文索引类型】其他
【引文索引号】1002- 8161(2008) 03- 0351- 06
【学科分类】园艺学

【题目】茄子良种繁育技术规程
【中文关键词】茄子良种; 繁育; 技术规程
【英文关键词】无
【中文摘要】从选地及隔离要求,育苗、定植、大田管理、病虫害防治等栽培措施,以及除杂去劣、父本花粉采集、母本去雄和授粉,种果的选留与采收标准、采后处理等保证种子纯度和发芽率的技术要求等多个方面,详细描述了包括亲本种子繁育、杂交一代种子生产以及种子质量检验要求在内的茄子良种繁育技术规程,为茄子的良种生产提供技术规范,以确保生产的杂交一代种子的质量达到国家一级良种标准。
【英文摘要】无
【语种】中文
【第一作者】李植良
【通讯作者】李植良
【期刊名称、卷期、页码】广东农业科学,2011(1):55-57
【论文发表时间】2011-01-10 00:00:00
【引文索引类型】其他
【引文索引号】1004-874X(2011)01-0055-03
【学科分类】园艺学

【题目】利用cDNA-AFLP技术分析苦瓜纯雌系统AgNO3诱导分化完全花的基因差异表达
【中文关键词】苦瓜;纯雌系;完全花;AgNO3;cDNA-AFLP
【英文关键词】Bitter melon; gynoecious line; complete flower; AgNO3; cDNA-AFLP
【中文摘要】本研究以苦瓜纯雌系X-黑-d-d为材料,于三叶一心期用300mg/L AgNO3诱导其分化完全花,并利用cDNA-AFLP技术研究AgNO3 处理后72h内花蕾基因差异表达情况。结果表明:300mg/L AgNO3能成功诱导苦瓜纯雌系连续性转化为完全花,平均为11.83朵/株;以128对选择性扩增引物扩增对照和处理后不同时期花蕾的cDNA,其中8对引物可获得较多分布均匀的清晰条带,这些条带大部分是组成型表达,少部分是抑制表达或诱导表达的差异条带。对这些差异条带的研究,将可揭示AgNO3诱导苦瓜纯雌系分化完全花的分子机理。
【英文摘要】The transition of flower was observed after 300mg/L AgNO3 application on bitter melon gynoecious line X-Hei-d-d at three-leaf-one-apices stage, and the differential gene expression during bud development after the treatment in 72h was studied by using cDNA-AFLP technology. The results indicated that 300mg/L AgNO3 could continuously induce complete flower, in average 11.83 flowers per plant. Eight of 128 pairs of AFLP primer combinations could get evenly distributed and distinct fragments in the amplification of cDNA of the control and treatment at different time, and most of these fragments were constitutive expression and some were depressive and up-regulatedly differential. Further study on the differential fragments could reveal the male-induction mechanism of gynoecious bitter melon treatd with AgNO3.
【语种】中文
【第一作者】王日升
【通讯作者】李杨瑞
【期刊名称、卷期、页码】江苏农业学报,2009,25(3):616-620
【论文发表时间】2009-06-30 00:00:00
【引文索引类型】其他
【引文索引号】100024440(2009) 0320616205
【学科分类】园艺学

【题目】纯雌系苦瓜花经AgNO3诱雄后的雄蕊发育和基因表达

【中文关键词】苦瓜; 纯雌系; 诱雄处理; cDNA-AFLP; 差异基因表达
【英文关键词】bitter melon; gynoecious line; male-induced treatment; cDNA-AFLP; differential gene expression
【中文摘要】为了研究AgNO3诱导下纯雌系苦瓜花蕾发育过程中的差异基因表达,本文运用形态学观察、cDNA-AFLP、RT-PCR和反向Northern杂交等技术在形态学和转录组学水平上对花蕾转雄进行了研究。结果显示:(1)花蕾在AgNO3处理后第6天出现雄蕊,第14天形成两性花,而且两性花中的花粉具有完全生活力,第22天后恢复全雌花;(2)从128对引物组合中筛选出可获得丰富清晰条带的引物组合36对,它们从AgNO3处理的花蕾中分离到11个高度表达的差异片段,经克隆、测序和在线比对,有2个未知基因,9个已知基因,其中1个与植物性别分化有关的CYP450家族基因有高度同源性,命名为McCYP72A1;(3)McCYP72A1在AgNO3处理后2~12h内的花蕾中表达,而且在第8h时表达丰度最高,但在处理的根、茎和叶以及对照的各个器官中不表达。结果表明,AgNO3处理可诱导纯雌系苦瓜花蕾中与雄性分化相关基因表达,进而可能导致处理后14天内雌花发育为两性花。
【英文摘要】To elucidate the differential gene expression during the development of stamens in female flower buds of bitter melon gynoecious line induced with AgNO3, in the present study, it was studied at the levels of morphology and transcription genomics using morphologic observations, cDNA-AFLP, RT-PCR and reverse-Northern hybridization. The results showed as follows: (1) After treated with AgNO3, stamens were generated at the 6th day,and bisexual flowers with viable pollen grains were observed at the 14th day, and gynoecious flowers were recovered since the 22th day. (2) Thirty-six primer combinations could amplify many distinct bands, among them, 11 bands which were strongly expressed only in the AgNO3-treated buds were cloned, sequenced and aligned on line,resulting in discovery of 2 unknown genes and 9 known genes. The sequence showing high similarity with CYP450 gene super family which related to plant sex differentiation was named as McCYP72A1. (3) McCYP72A1 was expressed in the flower buds during the period of 2 12 h after treated with AgNO3, and expressed most strongly at 8 h, but not expressed in the roots, stems, leaves of treatment and the mixed samples of buds, roots, stems, leaves of the control. It suggested that genes related to male differentiation in the flower buds of bitter melon gynoecious line were expressed after treated with AgNO3, which might make female flowers develop into bisexual flowers within 14 days.
【语种】中文
【第一作者】王日升
【通讯作者】李杨瑞
【期刊名称、卷期、页码】细胞生物学杂志,2009,31(4):547-552
【论文发表时间】2009-08-15 00:00:00
【引文索引类型】其他
【引文索引号】无
【学科分类】园艺学

【题目】AgNO3诱导的苦瓜纯雌系完全花分化与幼叶和花蕾中内源激素的关系
【中文关键词】苦瓜; 纯雌系; 完全花; 内源激素; AgNO3;
【英文关键词】bitter melon (Momordica charantia); gynoecious; complete flower; endogenous hormone; AgNO3
【中文摘要】本文用酶联免疫检测(ELISA)技术研究三叶一心期喷施AgNO3诱导苦瓜纯雌系完全花分化过程中花蕾与幼叶中内源激素含量变化。结果显示:喷施AgNO3后幼叶中IAA、GA3、ZR和ABA含量与喷水的相比,都是先下降后增加。AgNO3处理的花蕾中这4种激素含量在72h内没有一致变化规律,但变化幅度大于幼叶的,表明生殖器官的内源激素对苦瓜性别分化影响比营养器官的大。AgNO3处理后24~48h内,花蕾中这4种激素的含量明显低于喷水的,而其余时间则高于喷水的。此外,AgNO3处理的花蕾中ABA/IAA、ZR/IAA和GA3/IAA比值也在24~48h发生剧烈的变化,48h之后这些激素比值与喷水的相差不大。这些结果说明了AgNO3处理后24~48h是苦瓜纯雌系性别分化的关键时期,IAA可能是诱导纯雌系苦瓜雄性分化的关键激素。
【英文摘要】Four endogenous hormones in flower buds and young leaves of gynoecious bitter melon (Momordica charantia) were measured by enzyme-linked immunosorbent assay (ELISA) during differentiation of complete flower induced by AgNO3 at three-leaf-one-apical stage. The results showed that contents of ABA, IAA, GA3 and ZR in young leaves decreased firstly then increased after being sprayed with 300 mg · L-1 AgNO3. Contents of the 4 endogenous hormones in flower buds treated with AgNO3 didn ’ t show the same change in 72 h, but which changed more greatly than those in young leaves, indicating that the endogenous hormones in reproductive organs had greater influence on sex differentiation than those in vegetative organs. Contents of the 4 endogenous hormones in flower buds during 24 – 48 h after treatment with AgNO3 were significantly lower than those of the control, but higher in the rest time. Furthermore, the ratios of ABA/IAA, ZR/IAA and GA3/IAA in flower buds treated with AgNO3 changed intensively in 24 – 48 h, but they were similar with the control after 48 h. It suggested that 24 – 48 h after AgNO3 treatment was the important period for the sex differentiation in gynoecious bitter melon induced by AgNO3 , and IAA may be the leading hormone for male

differentiation in gynoecious bitter melon induced by AgNO3.
【语种】中文
【第一作者】王日升
【通讯作者】李杨瑞
【期刊名称、卷期、页码】植物生理学通讯,2009,45(5):469-472
【论文发表时间】2009-05-20 00:00:00
【引文索引类型】其他
【引文索引号】无
【学科分类】园艺学

【题目】苦瓜种子发育过程中果实形态学性状变化与种子质量演进的关系
【中文关键词】苦瓜; 种子发育; 形态学性状; 种子成熟度
【英文关键词】Momordica char a tia ; seed development ; morphological trait; seed maturation
【中文摘要】以12个不同类型苦瓜资源为研究对象,对其种子发育进程中的果实及种子的形态学性状变化及种子生活力、干重及含水量的变化进行调查,研究发现苦瓜种子发育过程可分为3个时期:快速膨大阶段、干物质积累阶段及成熟脱水阶段。苦瓜种子在12DAA(Date after anthesis)后开始具备生活力,充实成熟期在花后22DAA左右,此时具有最高的发芽率,而在此后的时期却略有下降。果皮颜色在22DAA左右从浅绿色转为黄色,假种皮颜色也在22DAA转红色,种壳完全转为褐色,种子达到充实成熟期和果实外部形态性状的明显变化基本同步。因此,可通过果实的外部形态特征、假种皮的颜色变化来确定种子的最佳采收时间,从而获得高质量的种子。
【英文摘要】Twelve germplasm accessions of Momor dica char antia were used in this experiment to study the r elationship between the changes of fruit morphological traits and the stages of seed maturity1 Germination per centage, seed dry weight and seed moisture content at different seed developing stages were determined1 The results indicated that seed development of Momordica char atia could be classified into three stages: the rapid enlarging, the dr y matter accumulation and the dehy2 dration1 Seeds start showing viability in 12 days after ant hesis (DAA) , and the filling matures in approximate 22 DAA when the highest viability is observed1 T he fruit color changed from light green to yellow and aril color changed into red in approx1 22 DAA, which indicated that these two morphological traits could be used as t he indicators of seed maturation1
【语种】中文
【第一作者】孙德利
【通讯作者】黄如葵
【期刊名称、卷期、页码】广西农业科学,2008,39(2):210-214
【论文发表时间】2008-03-30 00:00:00
【引文索引类型】其他
【引文索引号】1002- 8161(2008) 02- 0210- 05
【学科分类】园艺学

【题目】菜心种子扩大繁殖生产技术规程
【中文关键词】菜心种子; 原种; 良种; 一级标准
【英文关键词】无
【中文摘要】详细描述了菜心种子扩大繁殖的生产技术规程,包括原种生产基地的选择、隔离措施,原种生产的方法,原种单株、株行圃、株系圃、原种圃选择标准和选择方法,以及对收获后种子的质量、检测规则等要求,为菜心种子生产扩大繁殖提供依据,确保生产出来的菜心种子达到国家一级标准。
【英文摘要】无
【语种】中文
【第一作者】陈汉才
【通讯作者】陈汉才
【期刊名称、卷期、页码】广东农业科学,2009,12:54-55
【论文发表时间】2009-12-10 00:00:00
【引文索引类型】其他
【引文索引号】1004-874X(2009)12-0054-02

【学科分类】园艺学

【题目】种植季节对超甜玉米产量及主要农艺性状的影响
【中文关键词】季节影响; 超甜玉米; 产量; 农艺性状
【英文关键词】sweet corn; season; yield; agronomic trait
【中文摘要】研究6个超甜玉米品种在春季和秋季种植的产量和主要农艺性状的表现。结果表明:不同种植季节对产量、生育期及株高、穗位、单穗重、行粒数、穗粗、籽粒可溶性固形物含量等性状产生显著影响。其中,秋季种植的产量、单穗重、穗粗、籽粒可溶性固形物含量显著或极显著高于春季种植的,而生育期、株高、穗位则显著低于春季种植的;穗位比例、穗长、秃顶等性状则较少受到种植季节因素的影响,能够稳定显示出品种的特征;多数超甜玉米品种秋季种植产量高且品质优良。
【英文摘要】Six varieties of sweet corn were planted in spring and autumn to observe their yield and several agronomic traits. The results showed that planting season had significant effects on agronomic traits such as yield, growth stage, plant height, ear height, weight per ear, grain number per row, ear diameter, grain soluble solid content,etc. The yield, ear weight, ear diameter, grain soluble solid content of the sweet corn planted in autumn were significantly or highly significantly higher than those in spring, whereas the growth stage or the days from sowing to harvest,plant height and ear height of the sweet corn planted in autumn were significantly lower than those in spring. Ear height/plant height, ear length and barren tip/ear were less affected by planting season, indicating these traits are stable in the varieties. Most of the sweet corn varieties planted in autumn yielded higher with better quality.
【语种】中文
【第一作者】何晓明
【通讯作者】何晓明
【期刊名称、卷期、页码】热带作物学报,2009,30(2):142-146
【论文发表时间】2009-02-15 00:00:00
【引文索引类型】其他
【引文索引号】无
【学科分类】园艺学

【题目】杠果营养袋育苗嫁接方法比较试验
【中文关键词】杠果; 营养袋育苗; 嫁接方法; 成活率; 生长
【英文关键词】无
【中文摘要】以杠果营养袋苗木为试材,研究了5种嫁接方法对苗木生长的影响。结果表明:劈接法和双芽切接法的嫁接成活率分别达99%和98%,接后102d苗高分别达31.2cm和30.3cm,长势最好,育苗周期缩短,从砧木播种到出圃定植一年完成。
更多还原
【英文摘要】无
【语种】中文
【第一作者】黄凤珠
【通讯作者】黄凤珠
【期刊名称、卷期、页码】福建果树,2009(4):31-32
【论文发表时间】2009-12-15 00:00:00
【引文索引类型】其他
【引文索引号】无
【学科分类】园艺学

【题目】Genetic diversity analysis and transferability of cereal EST-SSR markers to orchardgrass (Dactylis glomerata L.)
【中文关键词】Dactylis glomerata L.;Genetic diversity;SSR;AMOVA;Transferability
【英文关键词】Dactylis glomerata L.;Genetic diversity;SSR;AMOVA;Transferability
【中文摘要】The diversity and genetic relationships among 74 orchardgrass accessions were analyzed using cereal EST-SSRs and orchardgrass SSR markers in order to estimate genetic variability and compare the level of diversity. In total, 190 polymorphic bands were detected with an average of 6.3 alleles per SSR loci. The average polymorphic rate (P) for the species was 84.63%, suggesting a high degree of genetic diversity. The molecular variance analysis(AMOVA) showed that the proportion of variance explained by within and among geographical groups diversity was74.87% and 25.13%, respectively. The distinct geographical divergence of orchardgrass was

revealed between Americas and Oceania. The ecogeographical conditions such as climate and soil, genetic drift and mating system could be the crucial factors for genetic divergence. Furthermore, the study also indicated that northern Africa, Europe and temperate Asia might be the diversity differentiation center of orchardgrass. The result will facilitate the breeding program and germplasm collection and conservation.

【英文摘要】The diversity and genetic relationships among 74 orchardgrass accessions were analyzed using cereal EST-SSRs and orchardgrass SSR markers in order to estimate genetic variability and compare the level of diversity. In total, 190 polymorphic bands were detected with an average of 6.3 alleles per SSR loci. The average polymorphic rate (P) for the species was 84.63%, suggesting a high degree of genetic diversity. The molecular variance analysis(AMOVA) showed that the proportion of variance explained by within and among-geographical groups diversity was74.87% and 25.13%, respectively. The distinct geographical divergence of orchardgrass was revealed between Americas and Oceania. The ecogeographical conditions such as climate and soil, genetic drift and mating system could be the crucial factors for genetic divergence. Furthermore, the study also indicated that northern Africa, Europe and temperate Asia might be the diversity differentiation center of orchardgrass. The result will facilitate the breeding program and germplasm collection and conservation.

【语种】英文

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【学科分类】畜牧学

【题目】紫花苜蓿建植期四种刈割频次下的产量、品质及再生性研究

【中文关键词】紫花苜蓿 ;刈割频次;再生性;持久性

【英文关键词】:Medicago sativa;cut frequen y;regrowth;persistence

【中文摘要】收获制度是苜蓿生产管理的关键环节。为明确不同刈割制度下建植期苜蓿生长规律,本研究利用盆栽试验,通过人工控制苜蓿生长温度、水肥条件,完善测定指标体系,进行苜蓿刈割频次的研究,分析连续生产情况下不同收获制度对不同类型苜蓿建植期产量、品质、再生能力及持续生产力的影响。研究结果表明,高频刈割会显著降低苜蓿的生产力和持久性。连续高频刈割后延长收获间隔可以恢复苜蓿茎密度和再生能力,但不能恢复到适宜刈割频次的水平。不同品种间生育期、耐刈性与再生性、产量分布以及营养价值存在显著差异,并导致相同收获频次下饲草产量、饲草品质以及持续生产力的差异。在建植期及低龄草地,维克多(Vector)和得龙(Durango)2个国外引进品种适于间隔为25~35d高频度刈割;我国东北地区育成低休眠级苜蓿品种公农1号适于间隔为35~45d的刈割频度

【英文摘要】

Harvest schedule is the key point of Medicago sativa production management. This study measured the r esponse of M. sativa yield, hay quality, regrowth, and persistence to four harvest schedules of three cult ivars potted in an appropriate growth environment. A high cutting frequency (20 days) reduced M. sativ a pro-

ductivity and persistence but stem densities and regrowth ability recovered after a prolonged cutting inte rval, although they did not reach the same level as those under a proper cutting schedule. There were considerable differences in M. sativa growth stage, cut resistance, regrowth, yield distribution, and feed v alue of the three cultivars, which resulted in differences of yield, quality and persistence under the same cut frequency. Two foreign M. sativa cultivars, 'Vector' and 'Durango', which have high fall dormancy grades, should be cut at intervals of 25--

35 days for establishing stands, while M. sativa ‘ Gongnong No. 1' (which was bred in the North-East of China) was best suited to a cut schedule of 35--45 days.

【语种】中文

【第一作者】戚志强

【通讯作者】胡跃高

【期刊名称、卷期、页码】草业学报,2010,19(1):134-142

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【学科分类】畜牧学

【题目】遮荫条件下9个紫花苜蓿品种苗期形态及生长响应
【中文关键词】紫花苜蓿;苗期;遮荫;形态;生长响应
【英文关键词】Medicago sativa; seedling;shading;morphology; growth response
【中文摘要】采用遮荫试验,研究了光对9个苜蓿品种苗期形态特征及生长动态的影响。结果表明,不同遮荫处理下苜蓿品种间株高变化有较大的差异,游客表现出最弱的耐阴性;随光照减弱,各品种根颈分枝数、主根粗、二级侧根数、根瘤数、叶片厚度和叶片数均显著下降,表现出较强光环境下更强的形态可塑性;各品种主根长无显著变化,总叶面积动态中新疆大叶、苜蓿王和德宝变化不显著,其他品种显著下降。各品种生物量随遮荫强度增加而显著下降,弱光下各品种生物量对根系的分配明显下降,对茎和叶的分配增加,叶面积比随光强减弱明显增大,相对生长速率随光强减弱显著下降。不同品种同一器官对光环境变化的反应程度不一致,反映了苜蓿各品种耐阴机制的差异。
【英文摘要】
The seedling morphological characteristics and growth dynamics of nine Medicago sativa varieties under shade were studied.The height of Eureka showed significantly less plasticity than other varieties under different levels of shading.All varieties showed a larger morphological plasticity at lower light intensities than at higher intensities:They developed distinctly fewer crown ramus,root nodes,leaves and secondary lateral roots,thinner leaves and taproots at lower intensities.Light intensity had little effect on the taproot length of all varieties.The leaf area of Xinjiangdaye,Alfaking,and Derby showed no obvious difference when other varieties significantly decreased.With decreasing light intensity,both the gross and root biomass allocation significantly decreased while stem and leaf biomass allocation increased.The leaf area ratio significantly increased but the relative growth ratio was significantly reduced with an increase in shading.The different sensitivity to shading of the same organ of different varieties indicated that there were different mechanisms for shade-tolerance among M.sativa varieties.
【语种】中文
【第一作者】覃凤飞
【通讯作者】沈益新
【期刊名称、卷期、页码】草业学报,2010,19(3):204-211
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【引文索引号】1004-5760
【学科分类】畜牧学

【题目】16个引进多花黑麦草品种苗期耐盐评价
【中文关键词】多花黑麦草;耐盐性;生物产量;聚类分析
【英文关键词】Italian ryegrass ; Salt tolerance ; Biomass yield ; Cluster analysis
【中文摘要】采用盆栽实验,对多花黑麦草(Lolium multi flourum Lam.)苗期盐胁迫的各项耐盐指标进行综合研究评价,为筛选适宜盐碱地种植的多花黑麦草品种提供理论依据。设置0%、0.2%2个NaCl盐浓度水平,系统地测定和分析了16个引进多花黑麦草品种苗期植物学指标和生理生化指标。结果表明:0.2%NaCl处理下16个多花黑麦品种平均植株高度、根长、地下部生物量分别显著低于0%NaCl处理(P〈0.05);平均地上部生物量低于0%NaCl处理,平均单株茎蘖数略多于0%NaCl处理,但差异不显著;7个品种的可溶性糖含量显著低于0%NaCl处理,11个品种的相对电导率显著高于0%NaCl处理(P〈0.05)。对相关的植物学指标和生理生化指标聚类分析得出,相对耐盐品种8个,中度耐盐品种4个,相对盐敏感品种4个
【英文摘要】Salt tolerance indicator s of Italian ryegrass (L ol i um mul t i f lourum Lam.) at seedling stage were integrated evaluated in order to identify and utilize the suitable germplasm for alkaline soil. Under salt stress at 0 % and 0. 2 % NaCl , t he botanical , physiological , and biochemical indicators of Italian ryegrass were determined and analyzed for salt tolerance comparison. The results show t hat t he average plant height , root length , and underground biomass of 16 varieties at 0. 2 % NaCl were significant ly lesser than those at 0 % NaCl (P < 0.05) , the average aboveground biomass was lower t han t hat at 0 % NaCl , and the average tiller no. per plant was slight ly more t han t hat at 0 % NaCl wit hout significant difference. Soluble sugar content s of 7 varieties at 0. 2 % NaCl were significant ly lower t han t hose at 0 % NaCl and relative electrical conductivity rate of 11 varieties were significant ly higher t han t hose

at 0 % NaCl (P< 0.05). According to the clustering analysis based on t he botanical , physiological , and biochemical indicator s , the tested 16 varieties were divided into t hree group s as 8 varieties were relatively salt tolerant , 4 varieties moderately salt tolerant , and 4 varieties relatively susceptive to salt st ress.
【语种】中文
【第一作者】许能祥
【通讯作者】丁成龙
【期刊名称、卷期、页码】草地学报,2010,18(3):223-227
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【学科分类】畜牧学

【题目】鸭茅杂交种SRAP分子标记鉴定及遗传分析
【中文关键词】鸭茅;SRAP标记;杂交种鉴定;遗传多样性分析
【英文关键词】orchardgrass (Dactylis glomerata L.); SRAP markers; hybrid identification; genetic diversity analysis
【中文摘要】【目的】利用分子标记技术对鸭茅杂交种进行快速鉴定和遗传分析,建立鸭茅杂交种的快速鉴定体系,揭示鸭茅杂交种群体遗传信息,为鸭茅资源保护利用及新品种选育提供科学依据。【方法】利用SRAP标记技术对140个鸭茅杂交种单株及其亲本(01996、YA02-103)DNA进行扩增,分析杂交种与其亲本间扩增谱带的多态性,以鉴别真假杂交种,并结合形态标记对杂交后代的遗传变异进行分析。【结果】从192对SRAP引物中筛选出64对引物在杂交种和双亲间存在扩增多态性,多态性百分比为33.33%。利用能扩增出父本特征带的引物鉴定了140个杂交种,其中106个具有父本的特征带,可鉴定为真杂交种。选择16对多态性引物对亲本和106个真杂交种进行扩增,获得151条条带,其中多态性条带71条,平均每对引物扩增出4条多态性条带,多态性位点百分比为47.24%。【结论】SRAP用于鸭茅杂交种鉴定及多态性分析是可行的
【英文摘要】【Objective】
Molecular markers were used to identify orchardgrass hybrids and analyze genetic diversity for forming orchardgrass hybrid identification system,detecting genetic information and conservation and utilization of orch ardgrass germplasm resources. 【Method】 The sequence-
related amplified polymorphism (SRAP) were assessed to analyze 140 orchardgrass hybrid individuals and th eir parental lines (01996,YA02-
103) for detecting true or false hybrids according to polymorphism,and the genetic variation among hybrid individuals were detected using molecular markers and morphological markers. 【Result】 Sixty-
four pairs of primers that generated clear,reproducible and polymorphic bands were selected from 192 pair s of SRAP primers with an average of 33.33%. 106 progenies with the special male bands compared w ith the female bands were identified from 140 progenies,which were therefore recognized as true hybrids. Sixteen primer pairs produced a total of 151 bands,of which 71 bands were polymorphic bands and the average polymorphic bands was four per primer pair. The average percentage of polymorphic bands was 47.24%. 【Conclusion】
These results suggested that SRAP technique has wide prospective in hybrid identification and diversity analysis of orchardgrass.
【语种】中文
【第一作者】谢文刚
【通讯作者】张新全,刘伟
【期刊名称、卷期、页码】中国农业科学,43(16):3288-3295
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【学科分类】畜牧学

【题目】水分胁迫下扁穗牛鞭草根系保护酶活性变化
【中文关键词】扁穗牛鞭草; 保护酶 ; 根系; 抗旱性

【英文关键词】Hemarthria compressa ; protective enzyme ; root ; drought resistance
【中文摘要】在水分胁迫下,以国审扁穗牛鞭草品种广益和重高为材料,研究2种牧草根系超氧化物歧化酶(SOD)、过氧化物酶(POD)、过氧化氢酶(cAT)活性和丙二醛(MDA)含量变化情况。结果表明,在水分胁迫期间,广益和重高扁穗牛鞭草根系MDA含量和SOD、POD、CAT活性迅速升高,在14d时达到最大值,之后MDA含量和3种保护酶活性均出现大幅度下降。研究还表明,初期MDA含量上升主要是由水分胁迫引起的,而3种保护酶活性的上升则主要是MDA含量上升所致。14d后MDA含量和3种保护酶活性的下降可能是由于2种扁穗牛鞭草在渡过干旱阈值期后,表现出一定耐受性和适应性。在研究期间,重高扁穗牛鞭草根系MDA含量始终高于广益,综合2种扁穗牛鞭草萎蔫和枯萎状况,表明广益扁穗牛鞭草抗旱能力大于重高扁穗牛鞭草
【英文摘要】
Two national varieties "Guangyi" and "Chonggao" were used to study the changes of superoxide dismutase (SOD), peroxidase isoenzyme (POD), catalase (CAT) and malondialdehyde (MDA) in roots. The results showed that the MDA content and the activities of superoxide dismutase, peroxidase isoenzyme, and catalase in the roots increased during water stress, with a peak at 14 days. After that, the content of malondi-
aldehyde and the activities of the three kinds of protective enzymes declined significantly. The study also showed that the initial rise in the content of malondialdehyde was mainly caused by drought stress. However, the rises in the three kinds of protective enzymes activities may result from the rise of malondialdehyde. After 14 days of drought stress, the reduction in content of the three protective enzymes may due to their tolerance and adaptability after experiencing the droughtthreshold period. During the study, the roots of "Chonggao" always had a higher MDA than "Guangyi". Based on the drooping and wilting status of the two grasses, we conclude that "Guangyi" has a greater drought resistance than "Chonggao"
【语种】中文
【第一作者】桂世昌
【通讯作者】张新全
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【学科分类】畜牧学

【题目】野生新麦草种质醇溶蛋白遗传变异分析
【中文关键词】新麦草; 种质;醇溶蛋白;遗传变异;资源保护
【英文关键词】Psathyrostachys juncea;germplasm;gliadin;genetic variation;resources conservation
【中文摘要】采用酸性聚丙烯酰胺凝胶电泳技术(A-PAGE)对来自中国新疆、俄罗斯西伯利亚及蒙古等地的35份野生新麦草种质进行醇溶蛋白的遗传变异分析,获得如下结果,1)电泳共检测到37条醇溶蛋白条带,多态性条带比率高达100%;2)种质间遗传相似系数变幅为0~0.827 6,平均值为0.450 9,表明供试材料具有丰富的醇溶蛋白遗传多样性;3)聚类分析将供试材料分成5类,相同或者相似生态地理来源的材料能够聚在一起,表明醇溶蛋白带谱与其地理分布具有一定的相关性;4)种质间的Shannon多样性指数Ht=0.579 6,类群平均多样性指数Hgroup=0.483 5,其中类群内和类群间的遗传变异分别为83.42%和16.58%,这可能与新麦草异花授粉的繁育方式有关。本研究结果将为新麦草种质资源的保护和利用提供理论依据
【英文摘要】
Acid polyacrylamide gel electrophoresis(APAGE) was used to analyse the gliadin genetic variation among thirty
five wild accessions of Psathyrostachys juncea collected from Xinjiang in China,the Siberia region in Russia,and from Mongolia.1) A total of 37 bands were obtained from the accessions and all were polymorphic;2) The Dice genetic similarity coefficient of the tested materials ranged from 0-
0.827 6,with a mean of 0.450 9.There was rich genetic polymorphism among the tested wild materials of P.juncea;3) The 35 wild accessions can be divided into five groups and can be clustered with the same or similar eco-
geographical origins.Results also showed some relationship between the patterns of gliadin bands and geographical distribution;4) Genetic differentiations between and within groups were estimated by Shannon's diversit

y index.The results showed Ht=0.579 6 and Hgroup=0.483 5,which indicated that 83.42% genetic variance existed within groups,and 16.58% genetic variance was between the groups.This might be related to the cross-
pollinated breeding system of P.juncea.The results of the study will supply more information for germplasm resources,conservation and breeding of P.juncea.
【语种】中文
【第一作者】陈仕勇
【通讯作者】张新全
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【题目】不同产地白三叶种质遗传多样性的SRAP分析
【中文关键词】白三 叶;S RAP;遗传多样性
【英文关键词】white clover(Trifolium repens); SRAP; genetic diversity
【中文摘要】采用SRAP分子标记技术,对不同产地的41份白三叶材料进行遗传多样性分析,筛选出20对随机引物组合,获得以下结果:1)20对随机引物组合共扩增出479条清晰可辨的条带,每对引物组合PCR扩增出13~44条带纹,平均为23.95条,多态性条带411条,多态性位点百分率(PPB)占85.16%,多态性信息含量(PIC)范围为0.182~0.334,平均为0.268,表明供试白三叶种质具有丰富的遗传多样性;2)材料间遗传相似系数(GS)范围为0.5866~0.9896,平均GS值为0.7307;表明供试白三叶种质在分子水平具有相对较远的亲缘关系;3)对所有材料进行聚类分析和主成分分析发现,在GS=0.71的水平上,可将41份白三叶材料分成3大类,大部分来自相同或相似生态地理环境的材料能聚为一类,呈现出一定的生态地理环境分布规律
【英文摘要】SRAP(sequence-
related amplified polymorphismmarkers were used to analyze genetic diversity of 41 white clover(Trifolium repens)accessions using 20 pairs of random primers.The results were:1)The primer pairs amplified 479clear bands,including 411 polymorphic bands,which ranged from 13 to 44 bands per primer pair with an average of 23.95 bands.The percent of polymorphic loci was 85.16%,and the polymorphism information content ranged from 0.182to 0.334 with an average of 0.268,which showed that the tested white clover had a rich genetic diversity of germplasm.2)Genetic similarity ranged from 0.586 6to 0.989 6 among all accessions with an average of 0.730 7,which also suggested that there was a rich genetic variation among the white clover germplasms.3)Cluster analysis and principal component analysis of 41white clover accessions divided them into 3 groups on the genetic similarity of 0.71 and most of the accessions from the same or similar ecologic geographical environment clustered in one group,showing a certain degree of eco-
geographical distribution.
【语种】中文
【第一作者】张婧源
【通讯作者】彭燕
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【学科分类】畜牧学

【题目】转柠檬酸合成酶基因苜蓿耐铝性研究
【中文关键词】苜蓿;转基因;柠檬酸合成酶;耐铝性
【英文关键词】Medicago sativa L. ; transgenic ; citrate synthase ; aluminum tolerance
【中文摘要】【目的】通过对渝苜 1号转柠檬酸合成酶 (C S) 基因和对照株的根尖进行耐铝性试验,旨在找到转基 因苜蓿耐铝性的适宜条件,明确转基 因株较对照株表现出来的耐铝效果。【 方法】以对照株和转 C S基因 4号苜蓿 为材料,设计 0、5 、15、30和 50umol.L-1个氯化铝浓度梯度,每个处理3个重复,测量前3d根尖的伸长情况。 【结果】在 5个氯化铝浓度

下,对照株和转基因株在第1天的根尖伸长都显著的高于第2天和第3天;转基因株第2天在15、30和50umol.L-1 3个氯化铝浓度下的根尖伸长显著高于第3天,而对照株的根尖在第2天和第3天基本停止伸长。随着铝浓度升高,根尖伸长受阻越严重。对照株在15umo1.L-1铝处理的第1天根尖还能基本正常伸长,但在第2天即使5umo1.L-1铝处理,根尖伸长已严重受阻,这说明对照株耐铝浓度低于15umo1·L-1。而转基因株当氯化铝浓度达到30umo1.L-1时,根尖伸长才开始明显受阻(P<0.05)。【结论】渝苜1号CS转基因苜蓿的耐铝条件为氯化铝浓度15-30umo1.L-1,处理2d;转基因苜蓿相对于对照株表现出明显的耐铝性。

【英文摘要】【Objective】 An experiment on root tip tolerance of non-transgenic control (CK) and citrate synthase (CS) transgenic plants from Medicago sativa L. cv. Yumu No.1 was conducted to find out the suitable conditions for Al-tolerance and to examine the Al-tolerance of the transgenic plants relative to the control plants. 【Method】 Using CS transgenic alfalfa No.4 and the control plant as materials,five AlCl3 concentration gradients were designed which were 0,5,15,30,and 50 μmol·L-1,each with three replicates,the root tip elongation in the first three days was measured. 【Result】 The root tip elongation of transgenic and control plants on the first day was significantly higher than on the second and the third day in all five AlCl3 concentrations. The root tip elongation of transgenic plants at 15,30,and 50 μmol·L-1 AlCl3 concentrations on second day was significantly higher than on the third day,while the root tip of control plant almost stopped elongating on the second and third day. With increased Al concentrations,the root tip elongation was inhibited seriously. The root tip of control plants in 15 μmol·L-1 Al treatment could elongate normally on the first day,while the elongation was seriously suppressed even if in 5 μmol·L-1 Al treatment on second day,indicating that the Al concentration the control plants could be tolerant of was less than 15 μmol·L-1. When the AlCl3 concentration increased to 30 μmol·L-1,the root tip elongation of transgenic plants was significantly suppressed (P0.05). 【Conclusion】 Al-tolerance conditions of transgenic alfalfa in Medicago sativa L. cv. Yumu No.1 were 15-30 μmol·L-1 AlCl3 concentrations for 2 days. Compared to the control,the transgenic alfalfa showed a significant resistance to Al.

【语种】中文

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【学科分类】农学其他学科

【题目】Dynamics of the Evolution of the Genus of Agrostis Revealed by GISH/FISH

【中文关键词】BSA, bovine serum albumin; FISH, l uorescence in situ hybridization; FITC, l uorescent isothiocyanate; GISH, genomic in situ hybridization.

【英文关键词】BSA, bovine serum albumin; FISH, l uorescence in situ hybridization; FITC, l uorescent isothiocyanate; GISH, genomic in situ hybridization.

【中文摘要】Genomic changes in related species undergoing human-driven and natural selection are important and biologically interesting. The genus Agrostis is an ideal model for studying the evolution of plants since it has not undergone artii cial selection for the past thousands of years. Fluorescence in situ hybridization (FISH) or genomic in situ hybridization (GISH) technology is an effective method for analyzing genome homology and organization, detecting genomic rearrangements, and karyotyping based on visual features. In this study, GISH was performed on two tetraploid species, A. capillaris (2n = 4x = 28, A1A1 A2A2) and A. stolonifera (2n = 4x = 28, A2A2 A3A3), using genomic DNA from a putative ancestral diploid species A. canina (2n = 2x = 14, A1A1) as a probe. Genomic in situ hybridization results revealed that the two tetraploid species underwent intergenomic translocations and genomic rearrangements and demonstrated that the A1 genome is highly homologous to the A2 genome. We discovered the phenomenon of concentric parental genome separation in the nucleus of A. stolonifera in which the two parental genomes (A2 and A3) were spatially separated with limited intermixing and were of concentric arrangements. The FISH results showed that the

distribution of 45S rDNA loci varied among the three species. The results of our study suggest that substantial genomic alterations occurred during the evolution of the genus of Agrostis.

【英文摘要】Genomic changes in related species undergoing human-driven and natural selection are important and biologically interesting. The genus Agrostis is an ideal model for studying the evolution of plants since it has not undergone artii cial selection for the past thousands of years. Fluorescence in situ hybridization (FISH) or genomic in situ hybridization (GISH) technology is an effective method for analyzing genome homology and organization, detecting genomic rearrangements, and karyotyping based on visual features. In this study, GISH was performed on two tetraploid species, A. capillaris (2n = 4x = 28, A1A1 A2A2) and A. stolonifera (2n = 4x = 28, A2A2 A3A3), using genomic DNA from a putative ancestral diploid species A. canina (2n = 2x = 14, A1A1) as a probe. Genomic in situ hybridization results revealed that the two tetraploid species underwent intergenomic translocations and genomic rearrangements and demonstrated that the A1 genome is highly homologous to the A2 genome. We discovered the phenomenon of concentric parental genome separation in the nucleus of A. stolonifera in which the two parental genomes (A2 and A3) were spatially separated with limited intermixing and were of concentric arrangements. The FISH results showed that the distribution of 45S rDNA loci varied among the three species. The results of our study suggest that substantial genomic alterations occurred during the evolution of the genus of Agrostis.

【语种】英文

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【学科分类】畜牧学

【题目】Visualization by atomic force microscopy and FISH of the 45S rDNA gaps in mitotic chromosomes of Lolium perenne

【中文关键词】Lolium, 45S rDNA, Chromosome gap and break, Chromatin decondensation, AFM, Fluorescence in situ hybridization
【英文关键词】Lolium, 45S rDNA, Chromosome gap and break, Chromatin decondensation, AFM, Fluorescence in situ hybridization

【中文摘要】The mitotic chromosome structure of 45S rDNA site gaps in Lolium perenne was studied by atomic force microscope (AFM) combining with fluorescence in situ hybridization (FISH) analysis in the present study. FISH on the mitotic chromosomes showed that 45S rDNA gaps were completely broken or local despiralizations of the chromatid which had the appearance of one or a few thin DNA fiber threads. Topography imaging using AFM confirmed these observations. In addition, AFM imaging showed that the broken end of the chromosome fragment lacking the 45S rDNA was sharper, suggesting high condensation. In contrast, the broken ends containing the 45S rDNA or thin 45S rDNA fibers exhibited lower density and were uncompacted. Higher magnification visualization by AFM of the terminals of decondensed 45S rDNA chromatin indicated that both ends containing the 45S rDNA alsoexhibited lower density zones. The measured height of a decondensed 45S rDNA chromatin as obtained from the AFM image was about 55 – 65 nm, composed of just two 30-nm single fibers of chromatin. FISH in flow-sorted G2 interphase nuclei showed that 45S rDNA was highly decondensed in more than 90% of the G2/M nuclei. Our results suggested that a failure of the complex folding of the chromatin fibers occurred at 45S rDNA sites, resulting in gap formation or break.

【英文摘要】The mitotic chromosome structure of 45S rDNA site gaps in Lolium perenne was studied by atomic force microscope (AFM) combining with fluorescence in situhybridization (FISH) analysis in the present study. FISH on the mitotic chromosomes showed that 45S rDNA gaps were completely broken or local despiralizations of the chromatid which had the appearance of one or a few thin DNA fiber threads. Topography imaging using AFM confirmed these observations. In addition, AFM imaging showed that the broken end of the chromosome fragment lacking the 45S rDNA was sharper, suggesting high condensation. In contrast, the broken ends containing the 45S rDNA or thin 45S rDNA fibers exhibited lower density and were uncompacted. Higher magnification visualization by AFM of the terminals of decondensed 45S rDNA chromatin indicated that both ends containing the 45S rDNA alsoexhibited lower density zones. The measured height of a decondensed 45S rDNA chromatin as obtained from the AFM image was about 55 – 65 nm, composed of just two 30-nm single fibers of chromatin. FISH in flow-sorted G2 interphase nuclei showed that 45S rDNA was highly decondensed in more than 90% of the G2/M nuclei. Our results suggested that a failure of the complex folding of the chromatin fibers occurred at 45S rDNA sites, resulting in gap formation or break.

【语种】英文
【第一作者】Jing Huang
【通讯作者】S.-z. Fei
【期刊名称、卷期、页码】Protoplasma
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【学科分类】农学其他学科

【题目】苜蓿总皂甙含量的遗传变异及其与农艺性状的相关分析
【中文关键词】苜蓿;总皂甙;遗传力;农艺性状;相关分析
【英文关键词】Medicago sativa L.; saponins; heritability; agronomic characters; correlation analysis
【中文摘要】【目的】通过对苜蓿总皂甙含量与农艺性状的相关分析找出一个能快速标记总皂甙含量高低的性状,探索总皂甙含量的遗传变异规律。【方法】以耐湿热苜蓿新品种渝苜一号为材料,测定100个苜蓿单株,从中选出5个高皂甙植株和5个低皂甙植株。【结果】通过各单株后代系的试验确定了这10个植株的总皂甙遗传力在0.118到0.745之间变化,后代系的变异系数在15.54%到28.81%之间变化,高低皂甙群体的遗传力分别为0.636和0.208,高皂甙群体的遗传力明显高于低皂甙群体。苜蓿总皂甙含量与株高、叶色、虫害程度、干重和干物质率的相关分析及通径分析的结果表明:叶色与总皂甙含量呈极显著负相关(r=-0.405**),且叶色与总皂甙含量的的相关关系主要是直接效应(P=-0.422**);干重与总皂甙含量的相关主要是通过株高、叶色和干物质率的间接作用。【结论】通过常规育种方法要育成低皂甙苜蓿品种较为困难,而一些高皂甙含量的后代系可作为高皂甙苜蓿品种的育种材料;苜蓿的叶色可以作为快速识别苜蓿总皂甙含量高低的标记。
【英文摘要】
[Objective] Through correlation analysis between saponins content and agronomic characters in alfalfa, the authors try to find out one trait which can sign saponins content quickly and explore the rule about heritability and variation of saponins content. [Method] A new cultivar of Hotwet alfalfa named Yumu No. 1 was used as materials in this research, one hundred alfalfa plants were determined, five high saponin plants and five low saponin plants were selected. [Result] Saponins heritability of these 10 alfalfa plants changed from 0.118 to 0.745 through experiments on the lines of offsprings of every plant, and variation coefficient of the lines of offsprings changed from 15.54% to 28.81%, the heritability of high and low saponin groups was 0.636 and 0.208, respectively, and the heritability of high saponin group was obviously higher than low saponin group. The result of correlation and path analysis between the saponins content and plant height, leaf color, pest extent, dry weight as well as the dry matter content showed that there was an extremely significant relationship (r=-0.405**) between leaf color and saponins content, and the saponins content was affected by leaf color directly (P=-0.422**). The correlation between dry weight and saponins content was affected by plant height, leaf color and dry matter indirectly. [Conclusion] It is difficult to breed low saponin cultivar in alfalfa through general breeding method, but some lines of offsprings with high saponin content can be used as materials for breeding of high saponin content alfalfa cultivar. Leaf color of alfalfa can be used as a marker to identify saponins content in alfalfa quickly.
【语种】中文
【第一作者】甘智才
【通讯作者】玉永雄
【期刊名称、卷期、页码】中国农业科学
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【学科分类】畜牧学

【题目】象草产量及生物学性状的品系间差异及聚类分析

【中文关键词】象草;产量;生物学性状;聚类分析
【英文关键词】Pennisetum purpureum;Yield;Biological characters;Cluster analysis
【中文摘要】以17个象草实生苗株系以及杂交狼尾草共18份材料为研究对象,对产量、叶/茎比、株高、分蘖数、叶长、叶宽以及茎粗等生物学性状进行了方差分析、相关分析和聚类分析。结果表明:所有调查性状品系间存在显著差异,两次刈割时第二次刈割产量显著高于第一次刈割,一次性刈割产量 极显著高于两次刈割之和。根据产量、株高 以及叶/茎比等生物学性状将供试材料分为矮生多蘖、较高中蘖、较高少蘖以及高大少蘖共四种类型。
【英文摘要】
Variance analysis, correlation analysis and cluster analysis of some important biological characters including yield, leaf/stem ratio, plant height, tillering number, leaf length, leaf width, stem diameter of seventeen lines of Penniseturn purpureum and hybrid pennisetum were conducted. The results showed that the differences were significant in investigated characters among these lines and cultivars; dry yields of the second harvest were significantly higher (P〈
0.01) than that of the first harvest, dry yields of one harvest per season were significantly higher than the sum of two harvest per season. The napier grass lines and hybrid pennisetum were divided into four types by cluster analysis based on dry yield, leaf/stem ratio, plant height etc. : dwarf and numerous tillers type, semi-
dwarf and more tillers type, intermediate height and less tillers type, tall and less tillers type.
【语种】中文
【第一作者】张霞
【通讯作者】顾洪如
【期刊名称、卷期、页码】中国草地学报
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【学科分类】畜牧学

【题目】红三叶苗期抗旱性指标筛选及综合评价
【中文关键词】红三叶; 抗旱性; 苗期; 综合评价
【英文关键词】Red clover; Drought resistance; Seedling stage; Comprehensive evaluation
【中文摘要】应用主成分分析、通径分析及隶属函数分析法对国内外12份红三叶材料进行抗旱性评价,结果表明:比根长、最长根长、可溶性糖、地下生物量、游离脯氨酸、相对持水量、叶绿素持有率和丙二醛8个指标是评价红三叶苗期抗旱性的重要指标;抗旱性综合评价得出材料的抗旱性由强到弱依次为: CQ9>CQ7>CQ3>瑞德(Red)>多丽(Dory)>CQ2>CQ8>CQ6>巫溪红三叶>CQ5>CQ4>CQ1。
【英文摘要】
The drought resistance of twelve red clover accessions was evaluated by principal components analysis, path analysis and subordinate function analysis. The results showed that the eight indexes were important in drought resistance. The sequence of drought resistance of 12 accessions from strong to weak was:CQ9 〉 CQ7 〉 CQ3 〉 Red 〉 Dory 〉 CQ2 〉 CQ8 〉 CQ6 〉 Wuxi 〉 CQ5 〉 CQ4 〉 CQ1.
【语种】中文
【第一作者】何玮
【通讯作者】范彦
【期刊名称、卷期、页码】植物遗传资源学报,200910(4):572-577
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【引文索引类型】其他
【引文索引号】1672-1810
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【题目】象草若干生物学性状与产量的关系分析

【中文关键词】象草;产量;生物学性状;相关分析;通径分析;聚类分析
【英文关键词】Pennisetum purpureum Schum.;Yield; Morpho1ogical traits; Correlation analysis; Path analysis ;Cluster analysis
【中文摘要】为研究不同类型象草(Pennisetumpurpureurn Schum.)产量与形态特征之间的关系,以杂交狼尾草(Pennisetum americanum×P. purpureurn)为对照,于2007年对16个象草实生苗株系以及紫象草(11 4)进行研究,对产量、叶/茎比、株高、分蘖数、叶长、叶宽以及茎粗等生物学性状进行了分析。结果表明:所有调查性状品系间存在显著差异(P<O.05);株高、分蘖数与产量成极显著正相关(P<0.O1);叶长、叶/茎比与产量成极显著负相关(P<0.O1);通径分析认为株高、叶/茎比对产量的直接作用最大;根据产量、株高以及叶/茎比等生物学性状可将参试材料分为矮生多蘖、较高中蘖、较高少蘖以及高大少蘖共4种类型。
【英文摘要】
In order to study the relationship between yield and morphological traits in napier grass,some important morphological traits including yield,leaf/stem ratio,plant height,tillers plant-1,leaf length,leaf width,and stem diameter of 16 lines of napier grass and one purple napier grass and hybrid penisetum(pearlmillet×napier grass) as control were investigated in 2007.The results were as follows: The differences were significant for investigated traits among tested lines.There were significantly positive cor relations between yield and plant height,tillers plant-1(P < 0.01) and significantly negative correlations between yield and leaf length,leaf/stem ratio(P < 0.01).Plant height and leaf/stem ratio had the most important contribution to yield.The tested lines were divided into four groups by clustering analysis based on dry yield,leaf/stem ratio,plant height,etc.The four g roups were dwarf and numerous tillers type,semi-dwarf and more tillers type,intermediate height and less tillers type,and high plant and less tillers type.
【语种】中文
【第一作者】张霞
【通讯作者】顾洪如
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【引文索引号】1007-0435
【学科分类】畜牧学

【题目】干旱胁迫下两种钝叶草的生长和生理响应差异
【中文关键词】钝叶草;干旱胁迫;SOD;叶片含水量;叶绿素含量
【英文关键词】augustinegrass;drought stress;SOD activity;leaf water content;chlorophyll concentration
【中文摘要】采用盆栽法,研究了2个来源不同的钝叶草在干旱胁迫条件下的生长和生理响应差异。结果表明:① 持续干旱30 d后,两个材料均出现表征死亡现象,但复水3 d后仍有部分钝叶草返青;②不同干旱处理显著抑制了钝叶草的生长,但宫崎钝叶草能保持较强的匍匐茎生长势;③持续干旱胁迫下,钝叶草的叶片含水量和叶绿素含量显著下降,但宫崎钝叶草能维持较高且稳定的叶片含水量和叶绿素含量;④轻度干旱和中度干旱处理能提高钝叶草的叶片SOD活性;⑤宫崎钝叶草具有较强的旱后恢复能力,抗旱性强于匈容钝叶草。
【英文摘要】
A greenhouse experiment was designed to investigate the effects of drought stress on augustinegrass (Stenot aphrum secundatum) and to determine the drought tolerance through four water treatments, well-watered (control) slight water deficit (rewatered 400 ml everyday) , moderate water deficit (rewatered 250 ml everyday) , and severe water deficit (well-rewatered after 30 d of water holding). The leaf water content, whole chlorophyll content, stolon growth rate and single stolon biomass declined remarkably, however, leaf SOD activity rose under drought stres s. The results also revealed variety Miyazaki had higher leaf water content, whole chlorophyll content, an d stolon growth rate than those of augustine grass from Jurong. Miyazaki had higher SOD activity und er severe drought stress and recovered more quickly than Jurong augustinegrass after rewatering. As a res ult, Miyazaki was more drought tolerant than augustine grass from Jurong.
【语种】中文
【第一作者】周海军

【通讯作者】顾洪如
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【学科分类】园艺学

【题目】南京地区冬闲田播种紫花苜蓿生产性能的品种间差异
【中文关键词】紫花苜蓿;冬闲田;速生栽培;产量影响因子;干物质积累
【英文关键词】lfalfa ;winter2 fallow farmland; seasonal utilization;yield component; dry mat ter accumulation
【中文摘要】为了筛选适宜我国南方农区冬闲田种植的高产速生紫花苜蓿 Medicago sat i va 品种 ,试验在南京冬闲田播种条件下对 8 个半秋眠和非秋眠型紫花苜蓿品种的产量影响因子与干物质积累特性进行了比较。结果表明:在春季收获两茬的短期栽培利用时 ,紫花苜蓿干物质产量可达 730. 26~1 460. 25 g/ m2。植株生长性状中 ,株高、 一级分枝数和干物质生长速率对两茬草干物质产量的贡献率均较大。其中 ,第 1 茬草的干物质产量与株高、 主茎节数、 一级分枝数和干物质生长速率呈显著正相关(P < 0. 05) ,再生草的干物质产量依次与干物质生长速率、 单株叶面积、 单茎茎粗、 一级分枝数、 株高、 株高生长速度和单茎分枝数呈显著正相关(P<0.05) 。WL2414、 WL2525HQ、 四季旺和德宝 4 个品种因在株高、 一级分枝数和干物质生长速率方面表现优异 ,产量较高 ,在南方农区冬闲田有较大的栽培利用潜力。
【英文摘要】
In order to select high yield and quick growth of alfalfa cultivars used in south China, the yield co mponents and dry matter of 8 weak fall dormancy alfalfa cultivars were studied in a winter-fallow farmland in Nanjing. Dry matter yields of 8 alfalfa cultivars were 730.26-1 460.25 g/m^2 determined by harvesting 2 times in next spring. Plant height,primary shoot number and crop growth rate are ted important factors in dry matter yield. At the first significantly with plant h eight, internode growth rate. At the plant leaf area, stem second cutting, dry matter number per yield was po diameter, primary shoot number, plan g,dry matter yield was positively correlacaulis, primary shoot number and crop sitively correlated with crop growth rate, t height, growth rate of plant height and branch number. Four cultivars including WL-414, WL-525HQ, Siriver and Derby had high potential that would to be used in south China as higher dry matter yield resulted from more plant height, pri- mary shoot number and crop growth rate.
【语种】中文
【第一作者】张艳娟
【通讯作者】沈益新
【期刊名称、卷期、页码】草业科学,2010,17(3):93-98
【论文发表时间】2010-04-25 00:00:00
【引文索引类型】其他
【引文索引号】1001-0629
【学科分类】畜牧学

【题目】紫花苜蓿品种间耐湿性的比较研究
【中文关键词】紫花苜蓿 ;品种 ;耐湿性 ;种子发 芽期 ;幼苗生长期
【英文关键词】Mgdicago sativa L;variety;waterlogging resistance;geminating period;seedling period
【中文摘要】对14个紫花苜蓿品种进多湿处理,观察其对种子萌发和幼苗生长的影响.结果表明:在种子发芽期和幼苗生长期进行多湿处理后,种子发芽率、种子根长、幼芽长、幼苗成活率和幼苗株高均比对照有所下降,品种间的差异具有统计学意义.综合评价表明 ,渝 苜 1号 、新疆 火焰 山和陇 东苜蓿等 3个品种表现 出较 强的耐湿力.
【英文摘要】
The waterlogging tolerance of 14 alfalfa (Medicago sativa L.) varieties in the geminating and the seedli ng periods was investigated. The results showed that germination rate, seed root length, bud length, the survival rate of seedlings and seedling height under waterlogging stress decreased compared with the con trol and significant inter-varietal differences were observed. Comprehensive evaluation indica- ted that of the varieties studied, Yumu No. 1, Huoyanshan and Longdong were fairly waterlogging resi

st- ant.
【语种】中文
【第一作者】全瑞兰
【通讯作者】玉永雄
【期刊名称、卷期、页码】西南大学学报(自然科学版),2012,34(4):14-19
【论文发表时间】2012-08-15 00:00:00
【引文索引类型】其他
【引文索引号】1673-9868
【学科分类】畜牧学

【题目】紫花苜蓿抗菌核病基础材料筛选的研究
【中文关键词】苜蓿;菌核病;离体叶片分离法
【英文关键词】苜蓿;菌核病;离体叶片分离法
【中文摘要】苜蓿(Medicagos alivaL) 是我国重要的牧草, 其营养价值和蛋白质含量非常高, 被称为“ 牧草之王 ”。苜蓿菌核病在世界各主产发生非常广泛, 尤其是在南方高湿地区, 且有危害加重之势, 造成非常严重的经济损失, 给牧畜生产带来了巨大的损失, 严重威胁着苜蓿的种植业和畜牧业的发展。 为了选育出优良的抗菌核病的品种, 采用离体叶片分离法对西南大学牧草实验地的苜蓿接种实验, 在人工培养箱内2 2℃条件下培养7 天, 观察接种叶片每天的感染情况, 得出 1 2 0、 1 2 5、 1 2 6、 1 3 4、 1 3 7 具有较强的抗病性。
【英文摘要】
The alfalfa (Medicagos aliva L.clover is an important herding grass of our country, its nourishment value and the protein content are very high, was become king who herd the grass.The Sclerotinia sclerotiorum disease to produce the occurrence in each lord of world very, is in the southern and high and wet region particularly, and have endanger to aggravate it power, result in very serious economy lose, give herding beast to produce to bring the huge great damage, threaten the clover to plant seriously and livestock farming also of development.For choosing to use to compare good of to the species that the germ checks the disease anti-
disease to like, the adoption leaves the body leaf the slice separate the method experiments the ground to the southwest university herding grass of clover inoculate the experiment, develop 7 days under the condition that artificial develops the box inside 20°C, observe to infect with the circumstance everyday, of 120,125,126,134 and 137 have the stronger resistance to the disease.
【语种】中文
【第一作者】张鹏
【通讯作者】玉永雄
【期刊名称、卷期、页码】吉林农业
【论文发表时间】2010-03-01 00:00:00
【引文索引类型】其他
【引文索引号】1674-0432
【学科分类】畜牧学

【题目】紫花苜蓿中的活性物质及其对畜禽的营养作用
【中文关键词】紫花苜蓿; 活性物质; 营养作用
【英文关键词】紫花苜蓿; 活性物质; 营养作用
【中文摘要】紫花苜蓿是畜禽的一种重要饲料原料。随着科学的不断发展 , 对苜蓿认识的不断深入 , 人 们逐渐发现苜蓿中含有多种生物活性物质 : 皂甙、 多糖、 异黄酮、 天然色素等。这些活性物质对畜禽有一 定的营养作用, 并且对畜禽的生长和生产产生影响。
【英文摘要】紫花苜蓿是畜禽的一种重要饲料原料。随着科学的不断发展 , 对苜蓿认识的不断深入 , 人 们逐渐发现苜蓿中含有多种生物活性物质 : 皂甙、 多糖、 异黄酮、 天然色素等。这些活性物质对畜禽有一 定的营养作用, 并且对畜禽的生长和生产产生影响。
【语种】中文

【第一作者】甘智才
【通讯作者】玉永雄
【期刊名称、卷期、页码】江西饲料,2009,3:20-25
【论文发表时间】2009-03-10 00:00:00
【引文索引类型】其他
【引文索引号】1008-6137
【学科分类】畜牧学

【题目】18个三叶草品种耐热性综合评价
【中文关键词】三叶草; 耐热性; 综合评价
【英文关键词】trifolium;heat tolerance;comprehensive appraisal
【中文摘要】对18个三叶草品种耐热性进行了比较.并结合芽期和成苗试验,综合评价了各品种的耐热性强弱。结果表明:发芽率、发芽指数随温度的升高而降低,在40℃时种子不发芽;叶片灼伤率、植株存活率和叶片相对含水量在各品种之间差异较大。对耐热性综合评价表明.18个品种中特特里红三叶属强耐热品种;新西兰白三叶耐热性较强;海法白三叶、胡依阿白三叶、Gl8白三叶、戈伦红三叶、雷托白三叶、巴东红三叶、帕韦拉红三叶、鄂牧1号白三叶、罗汤地红三叶、新西兰杂三叶、2—2—1杂三叶为中等耐热品种;克劳白三叶、皮陶白三叶、奥罗拉杂三叶和蒂特拉杂三叶品种耐热性较弱,耐热性最弱的是路易斯安娜白三叶。建议在长江流域及长江以南地区选择耐热性较强的几个品种进行推广示范。
【英文摘要】
The heat tolerance of 18 trefoil varieties were compared and evaluated comprehensively combined with germination and seedling field experiment. The results showed that the germination rate and the germination index declined with the temperature increasing. The seeds from all trefoil varieative water content were different cated that the variety' Tetri' was tolerant, and the varieties ' Haifa' greatly in all varieties. the highest tolerant to ,' Huia', 'G18', 'Goll The results of comprehensive appraisal indiheat, the variety 'New Zealand' was higher um',' Retor', ' Badong', ' Pawera', 'Emu No 1 ' and so on were mid-tolerant to heat, ' Crau', ' Pitau', ' Aurora', ' Tetra' were the varieties with lower tolerance to heat, while the tolerance to heat of variety 'Louisiana' was the lowest. It was suggested that the varieties with higher heat tolerance should be planted in Yangtze River and its south region of China.
【语种】中文
【第一作者】张鹤山
【通讯作者】刘洋
【期刊名称、卷期、页码】草业科学2009,26(7):44-49
【论文发表时间】2009-07-25 00:00:00
【引文索引类型】其他
【引文索引号】1001-0629
【学科分类】畜牧学

【题目】双穗雀稗对猪场污水的净化效果
【中文关键词】双穗雀稗;污水净化;氮;磷
【英文关键词】Paspalum distichum L.;Wastewater purification;Nitrogen;Phosphor US
【中文摘要】于2009年5月以双穗雀稗(Paspalum distichum L.)为供试材料、河砂为基质开展其为期30 d的静态水培试验,研究在25%、50%、75%、100%共4种猪场养殖污水浓度下,双穗雀稗的生长状况及对污水的净化效果,选择适宜的猪场养殖污水浓度以提高双穗雀稗的净化效率和生产效率。结果表明,污水浓度增加对双穗雀稗的株高影响不显著,但对生物量具有显著影响(P<O.05),高浓度污水对根长的生长具有明显阻碍作用;与不栽种植株的静置组相比,双穗雀稗水培对污水中的总氮(TN)、总磷(TP)具有较好的去除效果,TN的去除率为98.75-99.3l,TP的去除率为96.54-99.79。100污水时,TN、TP的去除量最大,分别为507mg·L-1和32 mg·L-1;而对C0D和NH4+-N的去除效果并不显著。
【英文摘要】
Nutrient removal is essential for swine wastewater treatment to protect receiving waters from eutrophication and for potential reuse of the treated water.The study was conducted to examine the growth status of

knotgrass(Paspalum distichum L.) and the wastewater purification effects under various swine wastewater concentration(25%,50%,75%,and 100%) in order to choose the proper swine wastewater concentration for enhanced purification efficiency and productivity.The results show that knotgrass biomass increased significantly and root length decreased significantly with swine wastwater concentration increasing(P0.05).But there was no significant difference in plant height of knotgrass.Knotgrass had excellent nitrogen and phosphorus removal efficiencies with removal percentage of 98.75 to 99.31 % for TN and 96.54 to 99.79 % for TP.The highest nitrogen and phosphorus removal amounts were achieved for 100% concentration of swine wastewater at the rate of 507 mg · L-1 for TN and 32 mg · L-1 for TP,respectively.Knotgrass had no significant removal effects on COD and NH+4-N.

【语种】中文
【第一作者】莫负恩
【通讯作者】顾洪如
【期刊名称、卷期、页码】草地学报,2010,18(3):469-472
【论文发表时间】2010-05-25 00:00:00
【引文索引类型】其他
【引文索引号】1007-0435
【学科分类】畜牧学

【题目】遮光对白三叶新品系花色的影响
【中文关键词】白三叶;花 色;光照
【英文关键词】白三叶;花 色;光照
【中文摘要】通过遮光处理 , 研究了光照对 白三叶新品系和红三叶花朵颜色的影响。结果表明,遮光对植物花色有明显影响。遮光后花朵颜色消失, 但恢复光照后花色又变回原来的颜 色;白三叶新品系在遮光处理后3 d花色开始变化,红三叶在4d后花色转变。
【英文摘要】通过遮光处理 , 研究了光照对 白三叶新品系和红三叶花朵颜色的影响。结果表明,遮光对植物花色有明显影响。遮光后花朵颜色消失, 但恢复光照后花色又变回原来的颜 色;白三叶新品系在遮光处理后3 d花色开始变化,红三叶在4d后花色转变。
【语种】中文
【第一作者】张鹤山
【通讯作者】刘洋
【期刊名称、卷期、页码】湖北畜牧兽医,2010,8:8-9
【论文发表时间】2010-08-10 00:00:00
【引文索引类型】其他
【引文索引号】1007-273X
【学科分类】畜牧学

【题目】夏季黄海南部沿海表层流刺网渔获组成分析
【中文关键词】三层表层流刺网 渔获物 灰鲳(Stomateoides nozawae Ishikawa) 银鲳(Stromatecoides argenteus)
【英文关键词】float-trammel net Catches Stomateoides nozawae Ishikawa Stromatecoides argenteus
【中文摘要】结合银鲳和小黄鱼流刺网网目选择性试验,对夏季黄海南部沿海三层表层流刺网渔获物组成进行了调查分析。总共鉴定出渔获品种25种,其中优势种为梭子蟹(Portunus triuberbuculatus)、灰鲳(Stomateoides nozawae Ishikawa)和银鲳(Stromatecoides argenteus),分别占总渔获量的59.2%,21.5%和11%,灰鲳体长分布范围为17~30cm,优势体长范围为21~24cm,占71.6%;银鲳体长分布范围为13~23cm,优势体长范围为15~21cm,占95.8%。数据分析表明,三重流刺网作业网具选择性较差,渔具兼捕种类多,捕获量大,占总渔获量的66.5%;渔获的灰鲳和银鲳处于生长型捕捞期,不利于资源的可持续利用,建议适当改良渔具,避免对其资源造成过度破坏。
【英文摘要】Combining with the selectivity research of gill—net,the authors investigated the catches ’ components of floated—trammel net used by gill—net fishery in the south region of the Yellow Sea,and discriminated 25 species from catches,the dominant species is swim ming crab,silver butter—fish and Silvery pomfret ,the weights of the three species take account for 59.2 ,21.5 and 11 of the total production respectively.The length ranges of silver butter-fish are among 17~ 30 cm 。 the dominant ranges are 21~ 24 cm and take account for 71.6 of all the sample;the length range of silver butter—fish are 13~ 23 cm ,the dominant range is 15~21 cm

and takes account for 95.8% of all the sample.Based on the datebase,the selectivity of the tramme1 net fishery is poorver,the species number and the am ount of by—catch are too lager.It was suggested to take some feasible modification on fishery nets for protecting fishery resource.

【语种】中文
【第一作者】李灵智
【通讯作者】黄洪亮
【期刊名称、卷期、页码】海洋科学.2009(3)
【论文发表时间】2009-07-01 00:00:00
【引文索引类型】其他
【引文索引号】1000—3096(2009)03~0036—0
【学科分类】捕捞学

【题目】东黄海区银鲳流刺网网目尺寸选择性研究
【中文关键词】银鲳流刺网 网目尺寸 选择性 极大似然法
【英文关键词】Silvery Pomfret gillnet Mesh size Selectivity Maximum likelihood
【中文摘要】通过对90mm、100mm、110mm和120mm四种网目尺寸的银鲳流刺网进行选择性试验,利用Nomal、Lognomal、Gamma和Bi-nomal模型,进行银鲳渔获数据拟合,采用极大似然法估算模型参数。结果表明:(1)银鲳流刺网具有较好的捕捞对象和尺寸选择性;(2)银鲳流刺网网目尺寸选择性最适表达曲线为Gamma曲线;(3)分别利用选择性曲线和体周两种方法,推算最适捕获银鲳叉长与网目尺寸的线性关系,获得关系式为a=0.2528L;(4)参照目前银鲳开捕叉长的最新研究结果,东黄海区银鲳流刺网最小网目尺寸标准建议调整为100mm。
【英文摘要】Based on the selectivity research of the four mesh sizes(including 90 mm,1 00 mm,1 1 0 mm and 1 20 mm),Normal,Log—normal,Gamma and Bio—normal models were used to fit the silvery pomfret catches data,and model parameters were estimated by maximum likelihood method.The rational analysis showed :(1)The target and size selectivity of silvery pomfret gillnet is better than that of trammel net;(2)Gamma curve provided the best fit for gillnet selectivity;(3)The ratio between the fork length of optimum capture and mesh size was estimated by selectivity curve and girth,and the relational expression is:a=0.252 8L;(4) According to the current research on the first landing fork length of silvery pomfret,the minimum mesh size of silvery pomfret gillnet in Yellow and East China Sea should be adjusted to 100 mm.
【语种】中文
【第一作者】李灵智
【通讯作者】黄洪亮
【期刊名称、卷期、页码】海洋渔业 2010,32(1)
【论文发表时间】2010-02-01 00:00:00
【引文索引类型】其他
【引文索引号】1004—2490(2010)01—0089—06
【学科分类】捕捞学

【题目】桁杆虾拖网捕捞脊腹褐虾网囊网目选择性试验
【中文关键词】桁杆虾拖网 网囊网目 脊腹褐虾 套网 选择性
【英文关键词】Beamshrimptrawl Cod-endmesh Crangonaffinis Cover net Selectivity
【中文摘要】采用套网试验法在长江口渔场对25 mm桁杆虾拖网网囊网目的选择性进行了试验。结果表明:当网囊网目内径为25 mm时,网囊与套网内脊腹褐虾的体长范围在30~80 mm之间,其中网囊内虾的优势体长在46~70 mm之间,套网内虾的优势体长在41~60 mm之间;50%选择体长L0.5为50.53 mm,选择范围SR为9.86 mm;逃逸虾的平均存活率为96.25%。
【英文摘要】Bymeans of using thecovernet experiment method, the selectivity of cod-end mesh with 25mm of beam shrimp trawl has been tested on the Yangtze Estuary fishing ground. It came to the conclusions that when the cod-end mesh size is25mm, the range of body length of Japaneses and shrimp (Crangonaffinis deHaan) is30-80 mm between covernet and cod-end, in which the dominant body length was ranged from 46 mm to 70 mm in cod-end and from 41 mm to 60 mm incoverne.t The fifty percent of selective length was 50. 33mm and the selectivity range(SR) was9. 86mm. The average survival ratio of escaped shrimp was 96. 25%.
【语种】中文
【第一作者】徐宝生

【通讯作者】陈雪忠
【期刊名称、卷期、页码】海洋渔业 2008,30(3)
【论文发表时间】2008-08-01 00:00:00
【引文索引类型】其他
【引文索引号】1004-2490(2008) 03- 0233-06
【学科分类】捕捞学

【题目】鱼类行为研究在捕捞中的应用
【中文关键词】鱼类行为 渔具 渔业;
【英文关键词】Fishbehavior Fishing gears Fisheries
【中文摘要】鱼类行为除了自身的摄食、生殖、呼吸行为外,还包括逃避敌害、洄游、集群等行为,同时鱼类行为也受到一些环境因子(如潮汐和水温)的影响。作者总结了鱼类行为学研究的主要内容和方法以及在捕捞实际中的应用,指出鱼类行为学研究未来的发展方向主要是根据不同鱼类的行为特点,研制开发高效节能、环境友好型渔具,从而保持渔业资源的可持续利用。
【英文摘要】Fishbehaviors aswell as feeding, reproduction and respiration include other acts including evading predators, migration, clusteringandareaffectedby someenvironmental factorssuchastideandwater temperature.Thispapersummarizesthemainfishbehaviorresearchmethods, and application in fishing as the future main developmental trend isbasedonthecharacteristicsof different fishesanddevelopment of highlyefficient energy-saving andenvironment- friendly fishing gears. Thereby, we canmaintainthe fishery resources ina sustainableutiliza-tion.
【语种】中文
【第一作者】冯春雷
【通讯作者】陈雪忠
【期刊名称、卷期、页码】大连水产学院学报 2009,24(2)
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【学科分类】捕捞学

【题目】3种网箱用网片的阻力性能与运动变化比较
【中文关键词】网片阻力 缩结系数 水平位移 垂直位移
【英文关键词】Netting resistance Hanging ratio Horizontal displacement Vertical displacement
【中文摘要】采 用 模 型 试 验,3种不同网片分别为六角形目经编网片RHN、菱形目无结经编网片KRNDM、菱形目有结绞捻网片KTNDM,规格均为1.7 mm(水平缩结长度)×1.7 mm(垂直缩结高度)。在不同流速下,通过改变网片的水平缩结系数(Et,分别为0.65、0.707、0.60),对网片的阻力性能和运动变化(水平位移和垂直位移)进行研究。结果如下: (1)网片固定时,菱形目网片的阻力在水平缩结范围(Et=0.60 ~ 0.707)内,随着缩结增大而逐渐减小。六角形目网片阻力在3 者中最大,有结绞捻网片阻力最小,六角形目网片阻力与缩结关系不明显。3种网片之间的阻力差值随流速的增加而增大。(2)缩 结 系 数 对 于水平位移和垂直位移的影响随网片的结构差异而不同。缩结系数相同时,六角形目网片的水平和垂直位移均为最大,有结绞捻网片均最小。(3)网片的阻力与水平垂直位移受迎流面积的影响。在缩结系数范围内(Et=0.60 ~ 0.707)设计网片时首先应考虑网片结构和网线粗度,其次考虑结节,最后考虑缩结系数。
【英文摘要】 The Raschel Hexagonal Net(RHN), the Knotless Raschel Netting in Diamond Mesh(KRNDM)and the Knotted Twisting Netting in Diamond Mesh(KTNDM), with each of horizontal length of hanging and vertical length of hanging being 1.7 m, were studied by the model test in the flume tank. Based on the comparison through change of hanging ratios under different velocity of flow (Et as 0.65, 0.707,0.60 respectively), the results of netting resistance characteristics and motion change (horizontal displacement and vertical displacement)were obtained: (1)T h e resistance of Netting in Diamond Mesh was inversely proportiona l to the hanging ratio between the range 0.60 and 0.707 during fixation. The netting res istance of RHN was the highest of the three under the test conditions. The RHN was not well correlated with the hanging ratio. The difference value be tween every two nets increased with the velocity of flow. (2)The variation of Horizontal Displacement(HD)and Vertical Displacement(VD)influenced by hanging ratios differs with kinds of net. The HD and VD was inversely proportional to the hanging ratio between the range 0.60 and 0.707 during fixation. Under the same hanging ratios, the HD and VD of RHN was the highest, the next was for KRNDM, and the lowest was for KTNDM. The netting resistance, HD and VD were correlated with the line area. Within the range of 0.60 to 0.707 during the net designing

process, the net structure and line thickness should be paid the most a ttention, the next is for net node, and the last is for hanging ratio.
【语种】中文
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【学科分类】水产工程学

【题目】混凝土人工渔礁选型的初步分析
【中文关键词】人工鱼礁 礁体材料 性能参数
【英文关键词】Artificial reef Reef material Capability paramete
【中文摘要】人工鱼礁的选型优化包括对礁体材料和礁体构造的选择。参考目前现有人工鱼礁结构类型,选取混凝土为设计礁体材料,计算各礁体实体体积、空方体积、表面积及其重量,通过计算找出礁体各性能参数之间的关系。引入礁体每体积混凝土产生的空方体积(s)和表面积( )两个优化参数,来衡量礁体的性能。结果表明:框架形礁s值相对较高,而异体形或组合鱼礁叼值相对较高,说明框架形礁体单位体积混凝土产生流态效应最好,异体形或组合结构礁体单位混凝土附着面积较多。同时引入有效空方体积概念,进一步说明礁体结构与流态的关系。
【英文摘要】The model selection of artificial reefs includes the selection of reef materials and reef structure.Basea on the present structures of artificial reefs,concrete is chosen as the representative material for designing.This paper computes reef parameters,including reef physical volume,side air volume,surface area and reef weight,and then analyzes the relations between each capability parameter,Two optimized values ε and η are brought forward to demonstrate the reef capability, ε denoting the side air volume per unit concrete physical volnme,and η meaning the surface area produced by per unit concrete physical volume.Results show that the value of frame reef is higher,which means the flow efect made by unit volume concrete frame reef is the best.While the value η of variant or combination reef is relatively higher,demonstrating that it produce more attachment area per unit concrete.The concept of effective side air volume is introduced to further clarify the relation between reef structure and flow capacity.
【语种】中文
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【学科分类】水产工程学

【题目】六角形目和无结菱形目经编网片阻力性能与运动变化的比较
【中文关键词】六角形目 无结菱形目 经编网片 阻力 位移
【英文关键词】Hexagonalmesh Knotlessdiamondmesh Raschel net Netting resistance Displacement
【中文摘要】通过水槽模型实验, 对六角形目经编网片(RHN)和无结菱形目经编网片(KRNDM)不同流速(V,0. 5、0. 75、1. 0、1. 25、1. 5、1. 75、2. 0kn)、不同横向缩结系数(Et, 0. 60、0. 65、0. 707)下的网片阻力性能和运动变化进行了比较分析。结果如下: (1)网片固定时, 六角形目网片阻力较大, 无结菱形目网片阻力较小。在横向缩结系数范围(0. 60~0. 707)内,无结菱形目网片的阻力随着Et 增大而逐渐减小, 六角形目网片阻力则与Et 变化无明显相关。(2)相同Et 时, 六角形目网片阻力始终较无结菱形目网片阻力大, 且与无结菱形目网片之间的阻力差值随流速的增加逐渐增大。(3)Et 对于水平位移和垂直位移的影响随网片的结构差异而不同。相同Et 时, 六角形目网片的水平位移均较大, 无结菱形目网片较小。在设计选用网箱网片时(Et, 0160~01707), 首先应考虑网片网目结构和网线粗度, 其次考虑横向缩结系数。
【英文摘要】TheRaschelHexagonal Net(RHN), theKnotlessRaschel Netting inDiamondMesh(KRNDM) were studiedby themodel test inthe flume tank. Basedonthecomparisonthroughchange of hanging ratios (Et, 0. 60、0. 65、0. 707) under different velocity of flow(V, 0. 5、0. 75、1. 0、1. 25、1. 5、1. 75、2. 0kn), the results of netting resistance characteristics and motion change (horizontal displacement and vertical displacement) wereobtained: (1) Thenetting resistanceofRHNwashigher thanthat of theKRNDMunder the test conditionsof fixation. The resistance of Netting inDiamondMeshwas inversely proportional to the hanging ratiobetweentherange0.

60and0. 707during fixation, thisfunctionrelationshipisnot significant in RHN. (2) Thenetting resistanceof RHNwashigher thanthat of KRNDMunder thesameEt, andthevalue differencebetweenRHNandKRNDMincreasedwith the increase of velocity of flow. (3) The variation of HorizontalDisplacement(HD) is influencedbyhangingratiosdifferedwithnet type. Under thesamehangingratios, theHDofRHNwashigher thanthat ofKRNDM. whendesigning thenet(Et , 0. 60~0. 707), attention shouldfirst bepaidto thenet structureand linethicknessthento thehanging ratio.

【语种】中文
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【题目】渔用高强度聚乙烯和普通聚乙烯编织线的拉伸力学性能比较试验
【中文关键词】渔用编织线 高强度聚乙烯(HSPE) 普通聚乙烯(PE) 拉伸力学性能
【英文关键词】Braided netting twine for fishing High-strengthpolyethylene(HSPE) Commonpolyethylene(PE) Tensilemechanical property
【中文摘要】渔用高强度聚乙烯编织线(以下简称HSPE编织线) 和普通聚乙烯编织线(以下简称PE编织线) 的拉伸力学性能比较试验结果表明, 在同等编线工艺(编织线捻距为27mm、线股结构为3×16、线芯用丝数量为7和线芯为不加捻的平行丝束) 条件下, 规格为/ HSPE- 37tex ×3×16+ 70HSPE编织线断裂强力、单线结强力分别比规格为/ PE-37tex×3×16+ 70PE编织线增加了1010%和911%, 而前者的断裂伸长率比后者减少了1113%; 在同等编线工艺(编织线捻距为30mm、线股结构为4×16、线芯用丝数量为18和线芯为不加捻的平行丝束) 条件下, 规格为/ HSPE-37tex×4×16+180HSPE编织线断裂强力、单线结强力分别比规格为/ PE- 37tex×4×16+180PE编织线增加了811%、611%, 而前者的断裂伸长率比后者减少了1313%; HSPE编织线较PE编织线具有强力优势,HSPE编织线在渔具或网箱上推广应用具有可行性。
【英文摘要】Comparisons between tensile mechanical properties of high-strengthpolyethy-lenebraided netting twine (HSPEbraided netting twine) and common polyethylene braided netting twine(PEbraidednetting twine) for fishing havebeenmadeby applying theSC5005 fisheries tradestandardandSC110fisheries tradestandard. Theresults revealedthat under the samecondition(thepitchof twist of twinewas 27mm, thestructureof strandwas 3@16, the twinecorewas aparallel threadwhichwas madefrom7monofilaments without twining), the HSPE braided netting twine (whose specification nwas HSPE37tex×3×16+7) was 1010% and 911% higher than common polyethylene braided netting twine (PE braided netting twine PE 37tex@3@16+7) in breaking strength and overhand knot strength, respectively, while in percentage of breaking elongation, the former was 1113% smaller than the latter1 Under the same condition(thepitchof twist of twinewas 30mm, thestructureof strandwas 4×16, the twine corewasaparallel threadwhichwasmadefrom18monofilamentswithout twining), theHSPE braidednettingtwine(HSPE- 37te×@4×16+18) was 811% and 611% higher thancommon polyethylene braided netting twine(PE braided netting twine, PE- 37tex×4×16+ 18)) in breaking strength and overhand knot strength, respectively, while in percentage of breaking elongation, the former was 1313% smaller than the latter. Under the prerequisite of strength of braided netting twine, the HSPE braided netting twine, if usedinfishing gear or fishcage, is more feasible than the same structure PE braided netting twine.

【语种】中文
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【题目】鳕科鱼类行为研究进展
【中文关键词】视觉 化学感觉 发声 洄游 繁殖行为

【英文关键词】Visual Chemical Senses Xoice Migratory Breeding behavior
【中文摘要】鱼类行为学是渔业技术发展的重要理论基础,基于近年来鳕科鱼类(Gadidae)的行为学研究及其应用,从视觉、化学感觉、发声、洄游和繁殖五个方面对鳕科鱼类的行为规律和机制进行阐述,并论述未来研究的主要方向,以期为我国鱼类行为学的研究及应用起到促进作用。
【英文摘要】无
【语种】中文
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【学科分类】捕捞学

【题目】编线工艺对渔用高强度聚乙烯编织线拉伸性能的影响
【中文关键词】编线工艺 编织线 高强度聚乙烯 拉伸性能 渔用材料
【英文关键词】Nittingtechnology Braided nettingtwine High-strength polyethylene(HSPE) Tensileproperty Fishing materials
【中文摘要】2007年3月~2008年12月在东海水产研究所开展了编线工艺对渔用高强度聚乙烯(HSPE)编织线拉伸性能的影响研究。结果表明,在试验捻距范围(公称直径3.0mm和3.9mm编织线的试验捻距范围分别为11.1~29.2mm、16.4~48.5 mml)内,若其它条件(包括线股结构、线芯用丝数量和线芯结构等)相同,则以不同捻距编织的相同公称直径渔用HSPE编织线的断裂强力及单线结强力均随捻距的增加而增加,而断裂伸长率及线密度则随捻距的增加而减小;多项式回归方程显示,断裂强力与捻距、单线结强力与捻距均显示较好的相关性(R2≥O.9877)。在线芯用丝数量范围(公称直径3.0mm和3.9mm编织线的试验用线芯用丝数量范围分别为0~36、0~64)内,若其它条件(包括线股结构、捻距和线芯结构等)相同,则以不同线芯用丝数量编织的相同公称直径渔用HSPE编织线的断裂强力、单线结强力及线密度均随线芯用丝数量的增多而增加,而断裂伸长率则随线芯用丝数量的增加而减小;多项式回归方程显示,断裂强力与线芯用丝数量、单线结强力与线芯用丝数量均显示较好的相关性(R2≥0.9695)。若其它条件(包括线股结构、捻距和线芯用丝数量等)相同,则将线芯结构由不加捻的平行丝束改为捻度为32T/m的线股后,公称直径2.5 mm渔用HSPE编织线的断裂强力、单线结强力、断裂伸长率和线密度均有一定的增加。捻距、线芯用丝数量及线芯结构对渔用HSPE编织线拉伸性能的影响较大。
【英文摘要】The effects of knitting technology on the tensile properties of braided hig}I-strength polyethylene neaing twine(braided HSPE netting twine) for fishing have been studied in East China Sea Fisheries Research Institute from March 2007 to December 2008.The results showed that within the testing pitch of twist.Whose range of the braided 3.0mm and 3.9 mm HSPE netting twines were 11.1—29.2 mm and 16.4—48.5mm respectively,if other conditions (including the structure of strand,the amount of monofilaments used in twine core and the structure of twine core,et al.) being the same,breaking strength and overhand knot strength of the braided HSPE netting twines increased with the pitch of twist,while linear density and percentage of breaking elongation of braided netting twines decreased with testing pitch of twist.Within the testing pitch of twist mentioned above,polynomial regression showed that there were positive correlations between the breaking strength and the pitch of twist,or between the overhand knot strength and the pitch of twist,the correlation R2≥0.987 7.Withinthe amountofmonofilaments used in twine core,whose range of the braided3.0 mm and 3.9 mm HSPE netting twines ere0—36 and0—64 respectively.If other conditions (including the structure of strand,the pitch of twist and the structure of twine core,et a1.) being the same, breaking strength,overhand knot strength and linear density of the braided HSPE netting twines increased with the amount of monofilaments used in twine core,while percentage of breaking elongation of braided netting twines decreased with the amount of monofilaments used in twine core.Within the amount of monofilaments used in twine core mentioned above,polynomial regression equation showed that there were positive correlations betweenthe breaking strength and the amount of monofilaments used in twine core,or between the overhand knot strength and the amount of monofilaments used in twine core,the correlation R2≥0.9695.If other conditions(including the structure of strand,the pitch of twist used in twine.The amountmonofilaments used in twine core,etc) being the same,breaking strength,overhand knot strength, percentage of breaking elongation and linear density of the braided 2.5 mm HSPE netting twines call be improved bychange of the structure of twine core,which is from a parallel thread without twining to a netting twinestrand whoseamountoftwist is 32T/m.We cometothe conclusion that the pitch of twist,the amount ofmonofilaments used in twine core and the structure oft wine core have a very positive influence on the tensile properties of braided HSPE netting twine.
【语种】中文

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【题目】浙江舟山灯光敷网渔用利用资源的调查分析
【中文关键词】灯光敷网 渔场 渔期 渔获组成 资源状况;
【英文关键词】Light-lift net Fishing ground Fishing period Catch composition Resources status;
【中文摘要】根据2007-2008年的调查监测资料,对浙江省舟山市灯光敷网渔业利用资源状况进行了分析,结果表明:灯光敷网渔业的作业渔场范围为27°~32°30'N、123°~128°E之间海域,渔获量较高的海区集中在舟外渔场、鱼外渔场和鱼山渔场;渔期一般为每年的4-12月,盛渔期为5月、6月和9月;渔获组成以鲹鳀、头足类、鲐鱼、带鱼与单角革鲀为主,合计占总渔获量的93.58%;针对灯光敷网作业实际情况提出了休渔时间调整的建议。
【英文摘要】The fishery resources status was analyzed according to the investigative data of light-lift net fishing vessel in Zhoushan of zhejiang province during 2007-2008.The results showed that the fishing ground distributed in 27°-31°N,124°-128°E,The major distributing area were Zhouwai,Yuwai and Yushan fishing grounds.Fishing period was usually April to December,best fishing period was May-June and September.Catch composition were Auxis Cuvier,Loliginidae,Scomber Linnaeus,Trichiurus haumela,Aluterus monoceros,accounting for 93.58% of total catch. And suggestion of reasonable closed fishing period were bring forward.
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【题目】东海区底拖网方形目与菱形目网囊对小黄鱼的选择性研究
【中文关键词】东海 底拖网 小黄鱼 选择性 方形网目 菱形网目
【英文关键词】East China Sea Bottom trawl
【中文摘要】通过东海区底拖网方形目和菱形目(网目尺寸40,50,60,65mm)网囊对小黄鱼等东海区主捕鱼类的套网法选择性实验,对不同结构、不同尺寸的网目网囊选择性进行了比较分析。结果表明:1.网囊网目尺寸小于50mm,小黄鱼的逃逸率极低,网目结构没有选择性。大于50mm时,方形目网囊逃逸率均较高。方形目与菱形目逃逸率差异并不显著(P>0.05),两种结构网囊的鱼获效益并无差别。2. 网目尺寸为40,50,60,65mm时,方形目结构网囊的50%选择体长(L0.5)比相应的菱形目网囊的大2.2%,3.5%,10.1%,11.8%;而选择范围(SR)和选择尖锐系数均小于菱形目网囊,方形目网囊对于小黄鱼具有较好的选择性。3.根据小黄鱼的50%选择体长(L0.5),结合现行可捕标准以及渔业生产,确定小黄鱼底拖网网囊应调整为方形目结构,网目大小为60mm。
【英文摘要】The covered net method was used to compare the selectivity of diamond- and square-mesh cod-ends (mesh size 40,50,60,65;mm) on Larimichthys polyactis in the bottom-trawl fishery of East China Sea Region.The results were obtained based on the experiment for the selectivity of different mesh sizes and mesh configurations.1. The escapement ratio with 40- and 50-mm mesh size on P.polyactis were both slow for diamond and square mesh. For 60- and 65-mm mesh size,the escapement ration with square mesh were higher than with diamond mesh,but the difference were not significant(P>0.05), and the capture efficiency was no different between them.2. For the mesh size 40,50,60,65mm,the square-shaped mesh displayed the higher 50% Retention lengths(L0.5) compared to diamond mesh(2.2%,3.5%,10.1%,11.8% respectively), while selection range(SR),selection index of square mesh were lower than that of diamond mesh.Square mesh was more selective than diamond for similar size P.polyactis.3. Based on the L0.5,lengths at the first capture and fisheries investigation,the square mesh size cod-end were recommended,and the optimum mesh size of cod-end should be between 60-65mm.

【语种】中文
【第一作者】许永久
【通讯作者】黄洪亮
【期刊名称、卷期、页码】水产科技论坛 2009
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【学科分类】捕捞学

【题目】基于同步荧光光谱法的鸭肉中西维因残留含量检测研究
【中文关键词】西维因;同步荧光光谱;遗传算法　支持向量回归;鸭肉
【英文关键词】Carbaryl;Synchronousfluorescencespectroscopy;GA　SVR;Duckmea
【中文摘要】为了快速测定鸭肉中西维因残留含量,提出应用同步荧光光谱法检测鸭肉中西维因残留含量,同时运用遗传算法　支持向量回归(GA　SVR)建立了鸭肉中西维因残留含量的回归预测模型。首先,通过荧光分光光度计分别采集了西维因水解物和含有西维因的鸭肉的三维同步荧光光谱图,经过分析确定了最佳波长差Δλ都为140nm;其次,分析了鸭肉中西维因的浓度猝灭现象;最后采用GA进行同步荧光光谱的优化和选择,根据交互验证均方根误差(RMSECV)选择出了21个特征波长,并分别用全波长和21个特征波长作为SVR回归预测模型的输入特征变量,发现通过GA选择的特征波长可以得到更好的预测效果,并且其预测集的相关系数(r2)达到0.9764,均方根误差(RMSECP)为12.2322。试验结果表明利用同步荧光技术结合GA　SVR方法能有效、快速的检测鸭肉中西维因残留含量。
【英文摘要】For the rapid detection of carbaryl residue in duck meat, synchronous fluorescence spectroscopy was used, and GA combined with SVR was used to establish regression forecasting mode for the application of forecasting carbaryl residue in duck meat . Firstly, fluorescence spectrophotometer was used to get the 3D synchronous fluorescence spectra of carbaryl hydrolysate and duck solution containing carbaryl, and 140 nm was selected as the optimum wavelength difference Δλ; Secondly, some concentration quenching was analysed. Finally, GA was used to optimize and choose the 3D synchronous fluorescence spectra. According to the root mean square error of cross-validation (RMSECV) 21 characteristic wavelengths were chosen, then the full wavelength and 21 characteristic wavelengths were used as input characteristic variables of SVR regression forecasting model respectively. At last the results showed that characteristic wavelengths chosen by GA can get better forecasting results, and the correlation coefficient of the prediction samples set and the root mean squared error (RMSEP) were 0.9764 and 12.2322, respectively. The results of experiments showed that the synchronous fluorescence spectroscopy could be used to detect carbaryl residue in duck meat efficiently and rapidly when combined with GA-SVR.
【语种】中文
【第一作者】肖海斌
【通讯作者】赵进辉
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【学科分类】农业工程

【题目】内生拮抗细菌BEB2的分子鉴定及其对香蕉枯萎病菌的抑制作用
【中文关键词】内生芽孢杆菌 16S rDNA 香蕉枯萎病菌 抑制作用
【英文关键词】endophytic Bacillus; 16S rDNA; banana wilting disease; inhibition reacti
【中文摘要】利用聚合酶链式反应(PCR)方法对细菌 BEB2 做进一步的分子鉴定,并研究不同温度、pH 值和培养基下BEB2发酵液对香蕉枯萎病菌生长的抑制能力,以及应用BEB2对香蕉枯萎病进行防治测试,结果发现,香蕉内生拮抗细菌BEB2为枯草芽孢杆菌;不同温度pH值和培养基下的BEB2发酵液对香蕉枯萎病菌生长的抑制能力具显著差异。在 King B2培养基上抑菌作用最强 最适抑菌温度为32,最适抑菌pH值为9.0。香蕉枯萎病盆栽防治实验结果发现,菌株接种离体叶片和植株均表现出一定的抑制活性,防治效果良好。该菌株连续 20 次转接培养,遗传稳定性高,抑菌谱较宽,具一定的生防应用价值
【英文摘要】The strain BEB2 of endophytic Bacillus isolated from banana was identified as Bacillus subtilis according to its homology analysis of 16S rDNA sequence. The temperature, pH and medium had a significant impact to the inhibition of BEB2 to the banana wilt disease. The inhibitory effect was strongest in King B2 medium, the optimum temperature for the highest antimicrobial

activity was 33 , and the optimal pH9.0. In the antagonistic test of BEB2 to the banana wilt disease, the inhibition was obvious with different in vitro methods, and the control effect of pot experiment was good. The inhibition of BEB2 to the banana wilt disease did not change obviously even if the BEB2 was cultured 20 times in artificial medium. The BEB2 has a wide antibacterial spectrum to plant pathogens, and hence has a potential application value for biocontrol of other crop diseases as well as the banana wilt disease.
【语种】中文
【第一作者】付业勤
【通讯作者】黄贵修
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【题目】16SrDNA序列分析法对香蕉根部内生细菌种群多样性初析
【中文关键词】香蕉;16S rDNA 序列分析法;内生细菌
【英文关键词】Banana(Musa paradisiaca) ; 16S rDNA sequences analysis; Endophytic bacteria
【中文摘要】采用16S rDNA序列分析法对香蕉根部内生细菌种群多样性进行初步研究。随机选择12个阳性克隆测序遥结果表明。该序列与未培养及可培养的芽孢杆菌、雷尔氏菌、伯克氏菌、戴尔福特菌、肠杆菌等细菌的序列同源性在97%~100%之间。说明香蕉根部存在大量未培养及可培养的内生细菌。
【英文摘要】The diversity of endophytic bacteria living in banana(Musa paradisiaca) root was studied with 16S rDNA sequence analysis method. 12 positive clones of randomly selected were sequenced, the results showed they had the homology of 99%~100% with Bacillus sp, Ralstonia sp, Burkholderia sp, Delftia sp,Enterobacter sp, which were uncultured and cultured bacteria. It was confirmed that lots of endophytic bacteria living in the banana root.
【语种】中文
【第一作者】潘羡心
【通讯作者】黄贵修
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【题目】甜辣椒花药培养胚状体诱导与植株再生
【中文关键词】甜(辣)椒;花药培养;胚状体;植株再生
【英文关键词】pepper(Capsicum annuum L.);anther culture; embryoid; plant regeneration
【中文摘要】以10份不同基因型甜(辣)椒为试材进行花药培养,通过对基因型、取蕾时期、低温预处理、热激处理、碳源及外源激素浓度配比等因素的研究,建立有效的甜(辣)椒花药培养胚状体发生体系。结果表明:基因型是限制甜(辣)椒花药培养胚状体诱导的关键因素,不同品种间出胚率差异显著,其中品种003出胚率最高,为10. 8%;处于盛花期的花蕾最适于甜(辣)椒花药培养;4℃低温预处理1一3d有利于胚状体的诱导,以处理2d的胚状体产率最高;以2%的麦芽糖代替3%的蔗糖能显著提高出胚率和子叶形胚的比率,筛选出适于甜(辣)椒花药培养胚状体诱导的最佳培养基为MS+0.5 mg/ L NAA+1.0 mg/ L KT十2%麦芽糖,能有效地提高出胚率并促进植株再生;获得了6个基因型的了叶形胚和再生植株。
【英文摘要】Ten varieties of pepper were used to study the effects of genotype,flower buds harvest time,cold-pretreatment,hot-shock treatment, carbon source and combination of hormones on the anther culture in Capsicum annuum L. Through these tests,an effective system of emhryoid production was established. Cotyledonary emhryoids and plantlels were obtained from six genotypes. The results showed that genotype was the key factor in embryoid induction, The embryoid for-mation frequency was different significantly among different genotypes. The variety 003 had the highest embryoid formation frequency which was 10.8%.The flower buds at full-bloom stage were found to optimum for anther cuhure in pepper. Cold-loretreatment (4℃)for I一3 d also promoted embryoid induction,while the highest embryoid formation frequency was obtained from author pretreatrd at 4℃for 2 d .Emhryoid and cotyledonary enrbryoid formation frequency could be more remarkably improved by 2% maltose than 3% sucrose. The optimal culture medium which could effectively improve embryoid and regenerated plantlets formation was MS+0. 5 mg/ L NAA+1.0 mg/ L KT+2%

maltose.
【语种】中文
【第一作者】孙少霞
【通讯作者】王述彬
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【题目】基于P2P的网络视频教学系统的设计与实现
【中文关键词】P2P、MPG4、G.722
【英文关键词】P2P、MPG4、G.722
【中文摘要】本文首先介绍了P2P技术,然后从系统的功能、架构、流程实现和技术实现几个方面介绍了一个基于P2P的网络视频教学系统。
【英文摘要】This paper introduces the P2P technology, then from the system's functions, structure, process implementation and technology, the paper introduces a P2P network based on video teaching system.
【语种】中文
【第一作者】裘锋
【通讯作者】裘锋
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【学科分类】计算机软件

【题目】香蕉嗜铁内生细菌 BEB99的分离鉴定及其抗病促生能力评价
【中文关键词】香蕉;内生细菌;铁载体;抗病促生能力
【英文关键词】Banana; Endophytic bacteria; Siderophore; Growth-promoting ability
【中文摘要】从健康的香蕉根组织内分离获得一株对香蕉枯萎病菌(Fusarium oxysporum f.sp. cubense)有拮抗作用的内生细菌菌株BEB99。经形态学、生理生化特征及 16S rDNA 序列同源性分析等方面的研究,鉴定该菌为劳尔氏菌渊Ralstonia sp.。铁载体检测结果发现,该菌株属于极高产铁载体菌株。盆栽试验结果发现,该菌株对香蕉枯萎病的防治效果达 62.52%,并对香蕉植株具有显著的促生作用。
【英文摘要】Strain BEB99, an endophytic bacterium exhibited strong inhibitory activity in vitro against banana wilt fungus, was isolated from the root of Musa AAA, cv. Baxi. This strain was identified as Ralstonia sp. based on its morphological, physiological and biochemical characteristics and its 16S rDNA sequences analysis. Strain BEB99 could produce siderophore and significantly promoted the growth of banana. Pot experiments indicated that thestrain could suppress Fusarium wilt disease , with an inhibitory rate of 62.52%.
【语种】中文
【第一作者】戴英葵
【通讯作者】黄贵修
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【学科分类】植物保护学

【题目】绿僵菌致病力的制约因素研究
【中文关键词】绿僵菌; 抑制因素; 菌落生长; 孢子萌发
【英文关键词】Metarhizium sp. ; Restraining factor; Mycelia growth; Sporegermination

【中文摘要】研究影响绿僵菌生长以及分生孢子萌发的因子, 为绿僵菌的制剂化应用过程提供理论依据。[方法]分别对温度、pH 值、紫外线以及杀虫剂等对绿僵菌的影响进行试验。[结果]绿僵菌最适生长温度为26~ 28 e , 且在pH值为6. 2~ 6. 6的环境中孢子萌发率最高, 其在30W 的紫外灯下20 cm 处, 被照射15 m in后失去活力,杀虫剂敌百虫对绿僵菌的生长几乎没有影响, 但辛硫磷严重抑制绿僵菌的生长, 要避免同时使用。[结论]温度、pH值、紫外线以及常用杀虫剂对绿僵菌生长过程均有影响。

【英文摘要】The theoretica l basis o f applica tion o fMetarhiz ium sp. w as prov ided through the research on the factors affecting itsgrow th and spore germ ination. to pathogenic ity o,f [M ethod] The expermi ent in the factors such as temperature, pH value, ultrav io let radiationand pestic ide that a ffectedMetarhizium sp. . [Result] The optmi al temperature ofMetarhiz ium sp. grow th was 26- 28 e and the optmial pH value for its spore germ ination was 6. 2- 6. 6. The activ ity ofMetarhiz ium sp. w as gonewhen itw as treated under 30W ultrav io le t lamp at the distance of 20 cm for 15 m inutes; the pestic ide such as Dipterex could hardly affect itsmycelia grow th, but Phoxmi restra ined themyceliagrow th deep ly. [Conclusion] The tem perature, pH value, ultrav io let rad iation and pestic ide affectedMetarhiz ium sp. grow th.

【语种】中文

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【期刊名称、卷期、页码】安徽农业科学,第六期,38卷,2815-2816

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【学科分类】植物保护学

【题目】香蕉内生细菌分离、 活性评价及数量分布

【中文关键词】香蕉 内生细菌 活性评价 数量分布

【英文关键词】banana endophytic bacteria; activity evaluation; quantity distribution

【中文摘要】从香蕉健康植株的根、假茎、叶柄、叶片等组织中分离获得386份内生细菌分离物 。通过体外活性评价筛选出对9种常见的植物病原真菌具有一定抗性的内生细菌分离物 2 8份,占总分离物的7.25%,其中对香蕉枯萎病菌抑制率达到 8 O%~ 100%的分离物有9份。初步测定结果表明,这些分离物的基础生物学特性的分 类地位初步归属为不动杆菌属(Acinetobacter)、芽孢杆菌属(Bacillus)、短杆菌属(Brevibacteriu m) 、产碱杆菌属(Alcaligefte8) 和伯克霍尔德菌属(Burkholderia)细菌。9份分离物与病原真菌菌丝体对峙培养镜检结果表明,供试的9种病原真菌菌丝体均出现不同程度的肿胀与断裂。内生细菌在香蕉植株体内的数量分布分析发现,内生细菌在根、假茎、叶柄、叶片等组织中的数量分布呈递减趋势。

【英文摘要】There were 386 isolates of endophytic bacteria obtained from the tissues of healthy banana,such as roots, pseudo-stems,petioles and leaves.Among them 28 isolates were screened out and found to show an antagonistic ability against 9 common fungus pathogens tested.And,among the antagonistic isolates 9 isolates were observed to inhibit the growth of Fusarium oxysporium,a causal agent of banana wilt,and the inhibition rates were from 80% to 100%.According to the fundamental biological characteristics,the 9 endophytic bacteria belong to The genera,Acinetobacter,Bacillus,Brevibacterium,Alcaligenes and Burkholderia.The tests showed that the hyphae of pathogen had different degrees of tumefaction and rupture.The analysis of the quantity distribution of endophytic bacteria in banana demonstrated a decreasing trend in the tissues from roots,pseudostems,petioles,and leaves,respectively.

【语种】中文

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【学科分类】植物保护学

【题目】Effects of nitrogen forms on carbon and nitrogen accumulation in tomato seedling

【中文关键词】番茄,无机氮,有机氮,C和N的积累,增长

【英文关键词】tomato (Solanum lycopersicum), inorganic nitrogen, organic nitrogen, C and N accumulation, growth
【中文摘要】植物氮同化和利用的有机氮(N)是一个重要的方面,在农业可持续发展中具有潜在的应用。本研究的目的是研究植物的生长,C和N的积累番茄幼苗叶片和根无机(NH4-N,NO3 - N)和有机氮(甘氨酸-N)。两个番茄品种(Shenfen918和虎英932)采用水培系统提供了不同形式的氮(NH4-N,NO3 - N,甘氨酸-N)。在种植植物生物量,叶绿素含量,根系活力,测定总碳和氮的含量在根和叶,总氮素的吸收,等。我们的研究结果表明,三种治疗没有显著差异在株高,生物量干重和全氮含量被发现在第16天,但显着差异,24天,32天的治疗,观察,和顺序为NO3--N>甘氨酸-N> NH4-N。也观察到两个番茄品种之间的显着差异。在这两个品种的叶绿素含量显着增加的Gly-N处理,根系活力表现出显着的下降,NH4-N处理。番茄叶总碳含量略有不同形态氮素的影响,但在根和叶根和总氮,总碳推动在施N形式的无机和有机氮,NH4-N处理日益增加的影响显着均大于的Gly-N。总之,不同的N个资源导致西红柿中的不同的生理效应。有机氮(例如,甘氨酸-N)是植物氮营养适当的资源。番茄不同基因型有不同的反应,在有机氮(如甘氨酸-N)用品。
【英文摘要】Utilization of organic nitrogen (N) is an important aspect of plant N assimilation and has potential application in sustainable agriculture. The aim of this study was to investigate the plant growth, C and N accumulation in leaves and roots of tomato seedlings in response to inorganic (NH4+-N, NO3--N) and organic nitrogen (Gly-N). Different forms of nitrogen (NH4+-N,NO3--N, Gly-N) were supplied to two tomato cultivars (Shenfen 918 and Huying 932) using a hydroponics system. The plant dry biomass, chlorophyll content, root activity, total carbon and nitrogen content in roots and leaves, and total N absorption, etc. were assayed during the cultivation. Our results showed that no significant differences in plant height, dry biomass, and total N content were found within the first 16 d among three treatments; however, significant differences in treatments on 24 d and 32 d were observed, and the order was NO3--N > Gly-N > NH4+-N. Significant differences were also observed between the two tomato cultivars. Chlorophyll contents in the two cultivars were significantly increased by the Gly-N treatment, and root activity showed a significant decrease in NH4+-N treatment. Tomato leaf total carbon content was slightly affected by different N forms; however, total carbon in root and total nitrogen in root and leaf were promoted significantly by inorganic and organic N. Among the applied N forms, the increasing effects of the NH4+-N treatment were larger than that of the Gly-N. In a word, different N resources resulted in different physiological effects in tomatoes. Organic nitrogen (e.g., Gly-N) can be a proper resource of plant N nutrition. Tomatoes of different genotypes had different responses under organic nitrogen (e.g., Gly-N) supplies.
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【学科分类】生态学

【题目】CO2 emission in a subtropical red paddy soil (Ultisol) as affected by straw and N-fertilizer applications-A case study in Southern China
【中文关键词】CO2通量,水稻,红壤,根际土壤诱导呼吸,施氮肥,N-诱导呼吸
【英文关键词】CO2 fluxes; Paddy; Red soil; Rhizosphere-induced respiration; N fertilization; N-induced respiration
【中文摘要】作为一项战略,以抵消大气中的二氧化碳的浓度的增加,土壤封存大气CO2通过无机氮化肥以及有机残留物的的土地应用程序的可能产生有益的影响。进行的实地研究的施用氮,磷的效果进行评估肥料和油菜(甘蓝型油菜)稻草在水田。为了理解水稻,根际和N-诱导的CO2通量,CO2通量被测水稻水稻(Oryza sativa L)的生长阶段期间从行,列间和裸土在贺胜桥,在曼宁,湖北,中国实验站的。
【英文摘要】Soil Sequestration Of atmospheric CO2 through land application of inorganic N fertilizer along with organic residues may have beneficial effects as a strategy to offset the increase in the concentration of CO2 in the atmosphere. A field Study was conducted to assess the effect of application of N fertilizer and rapeseed (Brassica napus L.) straw in a paddy field. To understand rice-, rhizosphere- and N-induced CO2 flux, CO2 flux Was measured during the growth stages of rice (Oryza sativa L) from row, inter-row and bare soil at the experimental station of Heshengqiao at Manning, Hubei, China. The study included seven treatments: (CK) control, (NO) fertilizer PK, (N1) fertilizer NPK (50% N). (N2) fertilizer NPK (100% N). (M) fertilizer NPK (200% N), (NO + S) fertilizer NP + traw, (N2 + S) fertilizer NPK (100% N) + straw. There was a distinct variation ill Soil CO2 fluxes, With the higher Values being observed during the reproductive stage of crop growth while the lower fluxes were observed during the Maturity stage. Soil CO2 fluxes from row (797-1214 g C m(-2) season(-1)) were significantly higher than front inter-row (289-403 g C m(-2) season(-1)) and bare soil (148-241 g C m(-2) season(-1)), due to the contribution of rhizosphere respiration. Among different treatments, N

fertilization significantly increased the CO2 flux from row with the highest being observed from N2 + S and lowest from NO + S treatment. No significant differences among different treatments were observed from inter-row and bare soil. From bare soil, soil CO2 flux was decreased in response to N fertilizer application; this suggested Suppression in microbial activity in response to increased N fertilizer application. Soil temperature accounted for 68 and 38% of CO2 flux variability from row and inter-row, respectively, while no significant correlation was found from bare soil. Soil temperature explained 69% of N-induced CO2 flux variability from row, while no effect was observed from inter-row and bare soil. Soil temperature was also significantly correlated with rice- and rhizosphere-induced CO2 flux accounting for 42 and 31% Of CO2 flux Variability, respectively. The amount Of soil carbon sequestration was estimated by taking the difference between net primary Production (NPP) and the amount of carbon in harvested rice. The values ranged from -176 to 89 g C m(-2) season(-1) with the highest value observed from N2 + S treatment: this suggested that N fertilizer application with straw his the potential to mitigate the global carbon budget. The current findings indicate that N addition increases the CO2 flux. However, integrated use of N fertilizer along with rapeseed straw may be a preferred strategy in Sequestering C in red soil. (C) 2009 Elsevier B.V. All rights reserved.

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【学科分类】生态学

【题目】Carbon dioxide emissions from Ultisol under different land uses in mid – subtropical China
【中文关键词】CO2通量,土地利用,红壤,有机碳库,土壤温度,土壤孔隙
【英文关键词】CO2 fluxes; Land use; Red soil; Organic pools; Soil temperature; Soil moisture
【中文摘要】土壤有机碳(SOC)库和周转时间到现场变量和土地利用变化是高度敏感的。以确定的土地利用类型评估碳矿化和不同的土壤性质之间的关系,一个62天的实验室培养下的不同水分(20%至100%的持水能力)和温度范围(5-45摄氏度)的有机碳库的质量进行测量CO2的演变过程,从4个土地利用类型和从培养试验的数据进行了拟合,三库一阶模型的土壤有机碳的矿化。结果表明:(1)活性碳库包括1.2-3.5%的SOC平均停留时间为49-65天,(2)缓慢碳库包括25.3-60%的SOC平均停留时间为2-27年,(3)耐库的SOC占36.5-73.9%,在4个土地利用类型。林地碳库具有最高和最低耐性,这表明它比其他的土地利用类型更稳定。土壤碳衍生呼吸与所有的有机碳库以及C:N比率和土壤衍生的呼吸。 SOC与慢,耐碳库和土壤的衍生呼吸呈正相关,。 CO2排放量增加(R(2)= 0.273-0.544,P <0.0001),随着温度的升高(40 ° C),在最低和最高的土壤水分含量减少的排放量。 Q(10)值(10 ° C增加温度,呼吸速率增加的因素)(5 ° C至45 ° C,60%的持水能力)为1.9 + / - 0.2,2.2 + / - 0.3。 2.3 + / - 0.3。和3.2 + / - 0.5稻田,果园,林地和山地,分别下降,降低水分含量,土壤含水量小于其最佳值,但相反的趋势表明,当土壤保持水的含量高于最佳含水量。包含在多个多项式模型的湿度和温度导致更好地预测CO2排放比预测得到(R(2)= 0.70-0.78,P <0.0001)使用温度(R(2)= 0.27-0.54,P < 0.01)或:水分(R(2)= 0.29-0.45,P <0.01)。我们的研究表明,植被类型/管理做法,控制土壤生物和生物化学特性,是重要的碳交换的预测,在这个短期的实验。
【英文摘要】Soil organic carbon (SOC) pools and turnover time are highly sensitive to site variables and land-use change. In order to ascertain mass distributions of different SOC pools influenced by land use and evaluate their relationships with carbon mineralization and different soil properties, a 62-day laboratory incubation under a range of moisture (20 to 100% of water-holding capacity) and temperature conditions (5-45 degrees C) was conducted to measure CO2 evolution from four land-use types, and data from the incubation study were fitted to a three-pool first-order model that separated mineralizable soil organic carbon into active, slow and resistant carbon pools. The results indicate that: (1) The active carbon pool comprised 1.2-3.5% of SOC with a mean residence time of 49-65 days, (2) The slow carbon pool comprised 25.3-60% of SOC with a mean residence time of 2-27 yr, (3) The resistant pool accounted for 36.5-73.9% of SOC in four land-use types. The woodland had the highest resistant carbon pool and lowest active carbon pool, which indicates it to be more stable than other land-use types. Soil carbon derived respiration was well correlated with all the organic carbon pools as well as C:N ratio and soil derived respiration. SOC was positively correlated with slow and resistant carbon pool, and soil derived respiration. CO2 emissions increased (r(2) = 0.273-0.544, P < 0.0001) with increasing temperature (up to 40 degrees C), with emissions reduced at the lowest and highest soil moisture contents. The Q(10) values (the factor by which respiration rate increase for a 10 degrees C increase in temperature) (from 5 degrees C to 45 degrees C, at 60% of water-holding capacity) of 1.9 +/- 0.2, 2.2 +/- 0.3. 2.3 +/- 0.3. and 3.2 +/- 0.5 were observed for paddy, orchard, woodland and upland, respectively, and decreased with decreasing moisture content when soil water content was less than its optimum value, but an opposite trend was shown when soil

retained water at contents higher than the optimum water content. Inclusion of both moisture and temperature in our multiple polynomial models resulted in much better predictions of CO2 (r(2)=0.70-0.78, P<0.0001) emissions than predictions obtained using temperature (r(2)=0.27-0.54, P<0.01) or moisture (r(2)=0.29-0.45, P<0.01) alone. Our study indicates that vegetation type and/or management practices which control soil biological and biochemical properties, were important predictors of C fluxes in this short-term experiment. (C) 2009 Elsevier B.V. All rights reserved.
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【学科分类】生态学

【题目】Temporal variability of soil-atmospheric CO2 and CH4 fluxes from different land uses in mid-subtropical China
【中文关键词】土地利用,季节变化,土壤C通量,土壤无机氮,亚热带
【英文关键词】Land use; Seasonal difference; Soil C fluxes; Soil inorganic N; Subtropical
【中文摘要】这项研究包括7个处理:(CK)的控制,(NO)化肥PK,NPK复合肥(50%N)(N1)。 (N2),NPK化肥(100%N)。(M)NPK化肥(200%N),(NO + S)化肥NP + traw,(N2 + S)化肥NPK(100%N)+稻草。有一个明显变化不良土壤CO2通量,使用过程中观察到生殖生长阶段的作物生长过程中观察到成熟阶段,而低通量更高的价值。土壤CO2通量的行(797-1214克C M(-2),季节(-1))均显着高于前行间(289-403克C M(-2),季节(-1))和裸土(148-241克C M(-2),季节(-1)),由于根际呼吸的贡献。在不同的治疗方法,施用氮肥显着增加了CO2排放通量行被观察到N2 + S的最高和最低的NO + S处理。无显着差异,不同的治疗方法,观察从行间和裸露的土壤。裸土,土壤CO2通量下降氮肥施用此建议应增加氮肥施用抑制微生物的活动。
【英文摘要】Different land uses in subtropics play an important role in regulating the global environmental changes. To reduce uncertainties of greenhouse gas (GHG) emissions of agricultural soils in subtropical ecosystem, a four years campaign was started to determine the temporal GHG (CO2 and CH4) fluxes from seven sites of four land use types (1 vegetable field, 3 uplands, 2 orchards, I pine forest). The mean annual budgets of CO2, and CH4 were 6.5 similar to 10.5 Mg CO2 ha(-1) yr(-1), and +0.47 similar to -2.37 kg CH4 ha(-1) yr(-1), respectively. Pine forest had significantly lower CO2 emission and higher CH4 uptake than agriculture land uses. Tilled orchard emitted more CO2 and oxidized less CH4 than non-tilled orchard. Upland crops had higher CO2 emissions than orchards, while abrupt differences of CH4 uptake were observed between upland crops and orchards. Every year, the climate was warm and wet from April to September (the hot-humid season) and became cool and dry from October to March (the cool-dry season). Driven by seasonality of temperature and WFPS, CO2 fluxes were significantly higher in the hot-humid season than in cool-dry season. Soil temperature, WFPS, NO3--N and NH4+-N contents interactively explained CH4 uptake which was significantly higher in cool-dry season than in hot-humid season. We conclude that soil C fluxes from different land uses are strongly under control of different climatic predictors along with soil nutrient status, which interact in conjunction with each other to supply the readily available substrates.
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【题目】Quantitative structure-retention relationship for polychlorinated dibenzofurans based on molecular interaction field analysis
【中文关键词】多氯代二苯并呋喃,分子间的相互作用场,定量结构 - 保留关系;保留指数
【英文关键词】polychlorinated dibenzofurans; molecular interaction field; quantitative structure-retention relationship; retention index

【中文摘要】一种新的定量结构 - 保留的关系(OSRR)模型的建立多氯二苯并呋喃(PCDFs)分子间的相互作用场(MIF)分析的基础上。 MIF的所有135多氯二苯并呋喃的计算采用干法,C1和C3探头特征的疏水性和stric的的多氯二苯并呋喃和固定相的不同群体之间的互动。 QSRR模型构建多嵌段偏最小二乘的正方形(MBPLS),并评价每个块的块在的预测(MBPLS)方法的重要性的意义。用于预测的模型,在统计学上显着的,校准和交叉验证的相关系数分别为0.9990和0.9980,相对误差小于1.0%。和BIP MBPLS的结果表明,具有支配性影响上的保留行为多氯代二苯并呋喃,然后的疏水性的效果的立体属性。

【英文摘要】A new quantitative structure-retention relationship (OSRR) model is developed for polychlorinated dibenzofurans (PCDFs) based on molecular interaction field (MIF) analysis. The MIF of all 135 PCDFs is calculated using DRY, C1= and C3 probe, characterizing the hydrophobic and stric interaction between PCDFs and different groups of stationary phase. Then QSRR model is constructed by multiblock partial least squares (MBPLS), and the significance of each block is evaluated by the block importance in the prediction (MBPLS) method. The model used for prediction is statistically significant, with calibration and cross-validation correlation coefficients 0.9990 and 0.9980 respectively, and relative error less than 1.0%. The results of MBPLS and BIP show that the steric properties have dominant influence on the retention behavior of PCDFs, and then the hydrophobic effects.

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【学科分类】生态学

【题目】Separation, purification and characterization of three endo-polygalacturonases from a newly Isolated penicillum oxalicum

【中文关键词】分离,表征,草酸青霉,内切多聚半乳糖醛酸酶

【英文关键词】separation;characterization;Penicillum oxalicum; endo-polygalacturonase

【中文摘要】土壤温度,分别占68和38%的CO2通量行与行间的变化,而没有显着的相关性,发现从裸露的土壤。土壤温度解释的69%的N-诱导的CO2通量变异从行从行间和裸土,而没有观察到效果。水稻根际引起的CO2通量占42和31%的CO2通量变异,土壤温度也显着相关。

【英文摘要】Three endo-polygalacturonases (endoPGs) from a newly isolated Penicillum oxalicum (CGMCC 0907) capable of utilizing waste biomass as growth substrate were separated and purified to homogeneity by ultra-filtration, affinity adsorption chromatography, CM-cellulose column chromatography, and Sephadex G-100 gel filtration chromatography with the overall yield of 64.5% from the crude enzyme. The specific activities and recovery rates of endoPG-1, endoPG-2 and endoPG-3 were 1120 U/mg and 21.6%, 1350 U/mg and 25.9%, and 1 560 U/mg and 17.0%, respectively. The three purified endoPGs had a close molecular weight to 41 kDa as estimated by SDS-PAGE. The optimum temperature and pH for the function of them were 65°C and 5.0, 55°C and 5.0, 50°C and 5.5, respectively. Their pI and Km values were 5.9 and 0.78 mg/mL, 6.0 and 1.2 mg/mL, and 6.1 and 2.0 mg/mL, respectively.

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【学科分类】生态学

【题目】Contamination and congener profiles of polychlorinated biphenyls from different agricultural top soils in a county of the Tailake Region, China

【中文关键词】多氯联苯;农业土壤,不同土地利用类型

【英文关键词】PCBs; Agricultural soils; Different land use types

【中文摘要】从太湖区域的一个县采集了在不同土地利用类型下数百个表层土壤(0-20厘米)样品,分析了18多氯联苯(PCBs),包括5类二恶英多氯联苯。所有样品的总PCBs的平均含量为 1.071亩克公斤(-1),干重(DW)的范围是0.016亩克/公斤到4.050亩克/公斤,总的二恶英类多氯联苯的浓度为0.352亩克/公斤包含大约33%的Sigma PCBs。稻田土壤中Sigma PCBs平均

含量为1.637微克/公斤高于菜地土壤中平均浓度0.882微克/公斤, 而稻田土壤中二恶英含量低于菜园土的。
【英文摘要】Hundred topsoil (0-20 cm) samples under different land use types were collected from a county in the Tailake Region, China and analyzed for 18 polychlorinated biphenyls (PCBs) including five dioxin-like PCBs. The mean concentration of total PCBs (Sigma PCBs) for all sites was 1.071 mu g kg(-1) dry weight (dw) with a range of 0.016 mu g kg(-1) to 4.050 mu g kg(-1), and the concentration of total Dioxin-like PCBs (Sigma Dioxin-like PCBs) was 0.352 mu g kg(-1) about 33% of Sigma PCBs. The concentration of Sigma PCBs in paddy field (PF) soils with a mean of 1.637 mu g kg(-1) was higher than that in vegetable soil with a mean of 0.882 mu g kg(-1), but the concentration of Dioxin-like PCBs in PF soil was lower than that in commercial vegetable production soil. The concentration of heavier weighted molecular PCB congeners (>= penta-PCBs) in vegetable soil accounted for 98% of EPCBs, while that in Paddy field soil for 65% of Sigma PCBs.
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【学科分类】生态学

【题目】Improving fertility and productivity of a highly-weathered upland soil in subtropical China by incorporating rice straw
【中文关键词】高度风化的土壤,水稻秸秆还田,土壤有机质,氮,磷,土壤微生物生物量,作物产量
【英文关键词】Highly-weathered soil; Rice straw incorporation; Soil organic matter; Nitrogen; Phosphorus; Microbial biomass; Crop yield
【中文摘要】土壤固碳量的估计净初级生产力(NPP)和收获的大米中的碳含量之间的差异。值的范围从-176到89克C M(-2)的季节(-1),观察到N2 + S处理的最高值,这表明,施用氮肥,必先利其潜力,以缓解全球碳预算。目前的研究结果表明,施氮增加的CO2通量。然而,氮肥与油菜秸秆,综合运用螯合C的红色土壤中可能是首选的策略。 (C)2009爱思唯尔B.V.保留所有权利。“
【英文摘要】The transfer of rice straw from paddy fields to upland areas was proposed in our study as an innovative practice to improve the fertility of the highly-weathered and poor upland soils, as well as to mitigate environmental impacts from rice production system (e.g., the large application of chemical fertilizers, straw burning, CH(4) emission from decomposed straw) in the subtropical China. Data from an 8-year field experiment with sweet potato and rapeseed show that, the contents of organic matter and total nitrogen (N) in the surface soil (0-20 cm) with rice straw incorporation were increased by 13%, and the amounts of soil microbial biomass carbon (C), N, and phosphorus (P) by 18-43%, compared with the values when chemical fertilizers (NPK) were applied alone. Physical conditions and crop productivity of the test soil were effectively promoted with the straw incorporation, as indicated in significant changes in soil field water-holding capacity, total porosity, and bulk density in the 10-15 cm soil layer, and the rise (about 10% and 20%, respectively) of sweet potato and rapeseed yields. In conclusion, these results suggest that the practice shift from conventional rice straw management ('on the spot' incorporation) to upland incorporation is effective in improvement in fertility and productivity of the upland soil, which has potentials to reduce the amounts of chemical fertilizers applied and to increase soil C storage in farmlands in the region.
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【题目】Microbial biomass, and dissolved organic carbon and nitrogen strongly affect soil respiration in different land uses-A case study at Three Gorges Reservoir Area, South China

【中文关键词】CO2通量; 溶解有机碳和氮; 土地利用; 微生物生物量; 亚热带; 三峡库区
【英文关键词】CO(2) fluxes; Dissolved organic carbon and nitrogen; Land use; Microbial biomass; Subtropical; Three Gorges Reservoir Area
【中文摘要】为了更好地理解影响土壤CO2通量的限制因素和机制,我们测定了三峡库区四种土地利用类型(1菜地,3个高地,2个果园,松树林1)下七种土壤总有机碳(TOC),微生物量碳(MBC),微生物生物量氮(MBN),溶解有机碳(DOC)和溶解有机氮(DON)的含量。目的是:(1)评价TOC,MBC,MBN,DOC,DON与土壤CO2通量的独立性和关联性以及环境变量(土壤温度和水分)的关系,2)调查不同的土地利用方式的季度和年度的CO2通量。每年CO2通量为5.4至9.5毫克CO2/公顷.年。菜地最高,而松树林显着低于耕地。不同土地利用方式的CO2通量随着不同量的 MBC和MBN显着相关,与DOC相关,与DON不相关。然而,在一个变化模型中,全部的土地利用方式下的CO2通量的波动受MBC,MBN,DOC和DON的影响显著。但是,当把所有的变量用多元逐步回归分析,可以观察到有不同的主导趋势土壤温度(两个点),MBC(一个点),MBN(一个点),DOC(两个点)和DON(1个点)。我们的研究结果表明:(1)土壤微生物生物量随着土地利用改变有明显的变化,这反过来又造成CO通量变化.(2)除了土壤温度,微生物生物量和溶解有机物质也是解释土壤CO通量时空变化的重要组成部分。
【英文摘要】In order to better understand the limiting factors and substrate affecting soil CO(2) flux, we measured total organic carbon (TOC), microbial biomass carbon (MBC), microbial biomass nitrogen (MBN), dissolved organic carbon (DOC), and dissolved organic nitrogen (DON) from seven sites of four land-use types (1 vegetable field, 3 uplands, 2 orchards, 1 pine forest) of subtropical soils in Three Gorges Reservoir Area, China. Objectives were to (1) evaluate the separate and interactive relationship of TOC, MBC, MBN, DOC, and DON with soil CO(2) flux, in addition to the relationship obtained by environmental variables (soil temperature and moisture), and (2) investigate the seasonal and annual CO(2) fluxes from different land uses. Annual CO(2) fluxes ranged from 5.4 to 9.5 Mg CO(2) ha(-1) year(-1). Vegetable field had the highest CO(2) emission, while pine forest had significantly lower CO(2) emission than cultivated land uses. Different quantities of MBC and MBN significantly regulated the CO(2) emission among different land uses, relatively weakly correlated with DOC, while not being correlated with DON. However, temporal fluctuations of CO(2) flux were significantly regulated by MBC, MBN, DOC and DON, in one model of variation, in all land uses. But, when all the variables were included in the multiple stepwise regression analysis, different trend of dominancy was observed for soil temperature (two sites), MBC (one site), MBN (one site), DOC (two sites) and DON (one site). Our results indicate that (1) there can be a significant shift of microbial biomass with land-use change, which in turn, caused to shift in CO(2) flux, and (2) apart from the soil temperature, microbial biomass and dissolved organic substances must be considered in a warming future as these can explain a major part of temporal variation of soil CO(2) fluxes.
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【题目】N2O emissions from different land uses in mid-subtropical China
【中文关键词】土地利用,N2O排放通量,季节性差异,土壤无机氮,亚热带;三峡库区
【英文关键词】Land use; N2O fluxes; Seasonal difference; Soil inorganic N; Subtropical; Three Gorges Reservoir Area
【中文摘要】由于过度使用氮肥农业土壤成为全球一氧化二氮(N2O)排放量的重要源头。随着化肥施用,它也表现出明显的季节性降水分布在我国南方的季风气候。估计三峡大坝周围的亚热带生态系统的本地和农业土壤中的N2O排放量,对4种土地利用类型的七种土地(菜地,三个高地,两个果园和一个松森林)的氧化亚氮排放进行了4年的观测。N2O的排放量平均每年为0.13-5.27公斤N2O-N公顷(-1)的年(-1)。松树林N2O排放量显着低于农田土壤的,耕种果园的显着低于非耕种果园。一般情况下,农业土地利用方式下,N2O排放量顺序是菜地>果园>旱地。在所有的土地利用方式下,N2O排放量与氮肥施用量都呈显着相关。每年,气候变得温暖湿润,从四月到九月(湿热的季节里),并变得凉爽和干燥,从10月至3月(凉爽的旱季)。N2O排放通量和环境变量(土壤温度,充水孔隙空间(WFPS),土壤NO3 - N和NH4 +-N含量)有显着的季节变化。由于土壤温度,WFPS,,土壤NO3 - N和NH4 +-N含量的季节性,N2O排放通量在湿热的季节显著高于在阴凉干燥的季节。N2O排放通量和所有的环境变量之间的关系,提出了一个线性模型,解释了在不同的土地利用方式系下72-97%的N2O排放通量的变化。我们的结论是不同的土地利用方式下的N2O排放通量被不同的气候和土壤性质主导,亚热带土壤的N2O排放通量与土壤养分状况相互影响。

【英文摘要】Agricultural soils are primarily responsible for the global anthropogenic nitrous oxide (N2O) emissions due to excessive use of N fertilizers. Along with fertilizer, it may also be excelled by the seasonal precipitation pattern of monsoon climate in Southern China. To estimate N2O emissions of native and agricultural soils in subtropical ecosystem surrounding Three Gorges Dam, a 4 years campaign was started to determine the temporal N2O fluxes from seven sites of four land use types (one vegetable field, three uplands, two orchards and one pine forest). The mean annual budget of N2O emissions was 0.13-5.27 kg N2O-N ha(-1) year(-1). Pine forest had significantly lower N2O emissions than agriculture land uses. Tilled orchard had significantly lower N2O emissions than non-tilled orchard. Generally, among agriculture land uses, maximum N2O emissions were observed from vegetable field followed by orchards and uplands. Among all land uses, N2O emissions were significantly correlated with amount of N fertilizer applied. Every year, the climate was warm and wet from April through September (the hot-humid season) and became cool and dry from October through March (the cool-dry season). N2O fluxes and environmental variables (soil temperature, water-filled pore space (WFPS), soil NO3--N and NH4+-N contents) had significant seasonal variabilities. Driven by seasonality of soil temperature, WFPS, soil NO3--N and NH4+-N contents, N2O fluxes were significantly higher in the hot-humid season than in the cool-dry season. The relationship between N2O fluxes and all the environmental variables were presented in one linear model of variation which explained 72-97% of N2O flux variability among different land uses. We conclude that N2O fluxes from different land uses are strongly under control of different climatic predictors along with soil nutrient status, which interact in conjunction with each other to supply the readily available substrates for the N2O flux from the subtropical soils.
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【题目】Assessing the impact of fungicide enostroburin application on bacterial community in wheat phyllosphere
【中文关键词】杀菌剂; 叶面;微生物群落;16S rDNA克隆文库,PCR-DGGE;
【英文关键词】fungicide;phyllosphere; microbial community; 16S rDNA clone library; PCR-DGGE;
【中文摘要】杀真菌剂已被广泛使用,用于控制植物病原真菌。然而,很少有人知道有关的影响,杀菌剂在植物叶面后,土著细菌群落。本研究的目的是评估后细菌群落的小麦叶面的杀菌剂enostroburin的影响。文化独立的方法,16S rDNA克隆库和16S rDNA的指示聚合酶链反应 - 变性梯度凝胶电泳(PCR-DGGE),用于监测细菌群落的变化。 16S rDNA克隆文库和PCR-DGGE分析均证实小麦植株叶面微生物群落,主要由γ -变形菌门中的。 PCR-DGGE分析结果表明:叶面内的细菌群落结构的一个显着变化,后,杀菌剂enostroburin应用。内部控制文化带测序主要是假单胞菌属,但这些频段主要是处理后的样品进行测序的Pantoea属,假单胞菌属的菌株。感兴趣的是杀真菌剂处理之后的2 DGGE的频带,其中之一的序列相似性(98%)的外观的Pantoea属。这可能是植物病原真菌的竞争对手。这项研究表明小麦叶面细菌群落组成和转变中的细菌群落杀菌剂enostroburin应用。
【英文摘要】Fungicides have been used extensively for controlling fungal pathogens of plants. However, little is known regarding the effects that fungicides upon the indigenous bacterial communities within the plant phyllosphere. The aims of this study were to assess the impact of fungicide enostroburin upon bacterial communities in wheat phyllosphere. Culture-independent methodologies of 16S rDNA clone library and 16S rDNA directed polymerase chain reaction with denaturing gradient gel electrophoresis (PCR-DGGE) were used for monitoring the change of bacterial community. The 16S rDNA clone library and PCR-DGGE analysis both confirmed the microbial community of wheat plant phyllosphere were predominantly of the gamma-Proteobacteria phyla. Results from PCR-DGGE analysis indicated a significant change in bacterial community structure within the phyllosphere following fungicide enostroburin application. Bands sequenced within control cultures were predominantly of Pseudomonas genus, but those bands sequenced in the treated samples were predominantly strains of Pantoea genus and Pseudomonas genus. Of interest was the appearance of two DGGE bands following fungicide treatment, one of which had sequence similarities (98%) to Pantoea sp. which might be a competitor of plant pathogens. This study revealed the wheat phyllosphere bacterial community composition and a shift in the bacterial community following fungicide enostroburin application.
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【题目】Influence of land use on nitrate concentrations in baseflow in a rural watershed of Three Gorges Reservoir Area, China
【中文关键词】硝酸盐的浓度;土地利用;基流,农村小流域,三峡库区
【英文关键词】Nitrate concentration; land use; baseflow; rural watershed; Three Gorges Reservoir Area
【中文摘要】在本文中,我们与2004年至2006年对三峡库区流域硝酸盐(NO3--N)浓度和土地利用之间的关系进行了研究。结果表明,NO(3)(-)-N浓度为0.4～14.6毫克的L(-1),秋,冬显著较高。方差分析表明,NO(3)(-)-N浓度随季节和采样点有显着性差异。此外,有明显的年际增长趋势。此外,回归分析表明,NO(3)(-)-N浓度与水田和果园在流域中所占的比例呈显著相关,而林地有积极防止NO(3)(-)-N损失的作用。水田比其他土地利用类型对NO(3)(-)-N的浓度有更大的贡献。结果表明,基流是NO(3)(-)-N损失的主要途径之一,在三峡库区农业流域,农业土地利用方式对NO(3 -)-N浓度有强烈地影响。 因此,在三峡库区,调整土地利用结构和农业活动对水源保护是不可或缺的。
【英文摘要】In this paper, the relationships between nitrate (NO(3)(-)-N) concentrations in baseflow and land use were studied in a rural watershed of Three Gorges Reservoir Area from 2004 to 2006. The results indicated that NO(3)(-)-N concentrations ranged from 0.4 to 14.6 mg L(-1) and were significantly higher in autumn and winter. Analysis of variance indicated that there was significant difference in NO(3)(-)-N concentrations among seasons and sampling points. In addition, an interannual increasing trend was found in the study period. Moreover, regression analysis revealed that NO(3)(-)-N concentrations significantly correlated with the proportions of paddy field and orchard in the subwatersheds, while woodland had positive effect for preventing NO(3)(-)-N loss. Paddy field has more contribution to NO(3)(-)-N concentrations compared to other land use types. The results indicted that the baseflow is one of major pathways of NO(3)(-)-N losses, and agricultural land use strongly influences NO(3-)-N concentration in stream water in rural watersheds of Three Gorges Area. Therefore, it is indispensable to adjust land use structure and agricultural activities for water source protection in Three Gorges Reservoir Area, China.
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【题目】Production of a newly isolated Paenibacillus polymyxa biocontrol agent using monosodium glutamate wastewater and potato wastewater.
【中文关键词】叶面;多粘类芽孢杆菌;废水;磷脂脂肪酸;生物控制剂
【英文关键词】phyllosphere; Paenibacillus polymyxa; wastewater; phospholipid fatty acids; biocontrol agent
【中文摘要】一个叶面EBL-06菌株是从小麦叶片中　　分离。的形态,培养特性,磷脂脂肪酸,生理和拮抗菌的活动,这株进行了调查。与已公布的有关细菌的16S rDNA序列的系统发育树的构建。结果表明,分离EBL-06是多粘芽孢杆菌的菌株,该菌株的拮抗真菌活性进行了高水平朝向一种广谱植物病原菌,如灰葡萄孢,黑星病,镰刀菌。隔离EBL-06可以使用味精废水(MGW)和马铃薯废水(PW)为培养基,生长良好。培养15小时,在28°C,pH值6.0-7.5的最高产量达到6.5×10(9)CFU/ mL的隔离EBL-06抗真菌生物控制剂,使用混合的MGW和PW(1:9)。
【英文摘要】A phyllosphere bacterial strain EBL-06 was isolated from wheat leaves. The morphology, cultural characteristics, phospholipid fatty acids, physiological and antagonistic fungus activities of this strain were investigated. A phylogenetic tree was constructed by comparing with the published 16S rDNA sequences of the relevant bacteria. The results showed that the isolate EBL-06 was a strain of Paenibacillus polymyxa; this strain performed a high level of antagonistic fungus activity toward a broad spectrum of phytopathogens, such as Botrytis cinerea, Cladosporium cucumerinum, Fusarium spp. The isolate EBL-06 can grow well using monosodium glutamate wastewater (MGW) and potato wastewater (PW) as culture medium. The maximum yield of 6.5 x 10(9)

CFU/mL of the isolate EBL-06 anti-fungus biocontrol agent was reached in 15 hr cultivation at 28 degrees C, pH 6.0-7.5 using the mixture of MGW and PW (1:9).
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【题目】The effect of the first heavy rainfall events on soil and nitrogen losses in different slope gradient new ploughed fields
【中文关键词】强降雨,坡度,领域,土壤流失,氮的损失
【英文关键词】Heavy rainfall; slope gradient; newploughed field; soil losses; nitrogen losses
【中文摘要】三峡库区为主的山区或丘陵。因为水和肥料的土壤保持能力已遭到严重破坏,大量的土壤和养分的暴雨事件将是不可避免的。在本文中,我们研究的特点,土壤和氮的损失,在第一次强降雨事件后拨,在5个试验田进行实验。结果表明,土壤径流中氮的浓度变化与降雨过程中不同的治疗方法,发现重大损失和坡度的对数之间的关系,提出了随坡度的损失;沉积物氮的损失和总可溶性氮的损失几乎平等,占到总损失的40%左右,可溶性氮,硝酸盐氮为优势种,达到了60%以上。休耕没有耕作的大坡度相比,这是很好理解的表面覆盖率和农民活动有明显的影响,对土壤和氮的损失。于是,它是非常重要的,选择合理的种植结构和耕作时间,在三峡库区的土壤和养分转化。
【英文摘要】Three Gorges Reservoir Area is dominated by mountains or hills. Because the retention capability of soil for water and fertilizer has been seriously damaged, huge amount of soil and nutrients will be inevitable at the heavy rainfall events. In this paper, we studied the characteristics of soil and nitrogen losses at the first heavy rainfall event after ploughed; experiment was carried in five experimental plots. The results indicated that soil and nitrogen concentration in runoff varied with different treatments in the process of rainfall, significant logarithmic relationships between losses and slope gradient were found, and the losses increased with slope gradient raised; Sediment nitrogen losses and total dissoluble nitrogen losses were almost equal, accounted for approximately 40% of total losses, nitrate nitrogen was the dominated species of dissoluble nitrogen, reached more than 60%. Compared to large slope gradient fallow without tillage, it is well understood that surface coverage and farmer activities have distinct effect on soil and nitrogen losses. Thereupon, it is very important to select reasonable planting structure and farming time for soil and nutrients conversion in Three Gorges Reservoir Area.
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【题目】Variation of soil respiration from different land uses in Subtropical agricultural soils, Central China
【中文关键词】CO2通量,溶解有机碳和氮;土地利用微生物生物量;亚热带
【英文关键词】CO2 fluxes; dissolved organic carbon and nitrogen;
land use ; microbial biomass; subtropical
【中文摘要】为了更好地理解影响土壤CO2通量的限制因素和机制,我们测定了三峡库区四种土地利用类型(1菜地,3个高地,2个果园,松树林1)下七种土壤总有机碳(TOC),微生物量碳(MBC),微生物生物量氮,溶解有机碳和溶解有机氮的含量。目的是:(1)评价TOC,MBC,MBN,DOC,DON与土壤CO2通量的独立性和关联性以及环境变量(土壤温度和水分)的关系,2)调查不同的土地利用方式的季度和年度的CO2通量。每年CO2通量为5.4至9.5毫克CO2/公顷.年。菜地最高,而松树林显着低于耕地。不同土地利用方式的CO2通量随着不同量的 MBC和MBN显着相关,与DOC相关,与DON不相关。然而,在一个变化模型中,全部的土地利用方式下的CO2通量的波动受MBC,MBN,DOC和DON的影响显著。但是,当把所有的变量用多元逐步回归分析,可以观察到有不同的主导趋势土壤温度,MBC,MBN,DOC和DON。我们的研究结果表明:(1)土壤微生物生物量

随着土地利用改变有明显的变化,这反过来又造成CO通量变化.(2)除了土壤温度,微生物生物量和溶解有机物质也是解释土壤CO通量时空变化的重要组成部分。
【英文摘要】In order to better understand the limiting factors and substrate affecting soil CO2 flux, we measured total organic carbon, microbial biomass carbon, microbial biomass nitrogen, dissolved organic carbon, and dissolved organic nitrogen from seven sites of four land use types of subtropical agriculture soils. Objectives were to (1) evaluate the relationship of MBC, MBN, DOC, and DON with soil CO2 flux, in addition to the relationship obtained by usually used environmental variables (soil temperature and moisture), and (2) investigate the seasonal and annual CO2 fluxes from different land uses. Annual CO2 fluxes ranged from 5.4 to 9.5 Mg CO2 ha-1 yr-1. Vegetable field had the highest CO2 emission, while pine forest had significantly lower CO2 emission than cultivated land uses. Different quantities of MBC, MBN and DOC significantly regulated the CO2 emission among different land uses. Our results indicate that microbial biomass and dissolve organic substances must be considered in a warming future as these can explain a major part of temporal variation of soil CO2 fluxes.
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【学科分类】生态学

【题目】Species Sensitive Distribution for Aquatic Biota Exposed to DDT
【中文关键词】SSD; DDT; HC5; PAF.
【英文关键词】SSD; DDT; HC5; PAF.
【中文摘要】暴露于DDT的水生生物的物种敏感性分布(SSD)的开发使用对数转换L(E)C50值的98种水生一个物流配送的基础上。危险的浓度的5%的物种(HC5),是基于对SSD。 HC5 DDT0.5494微克/升。可能受影响的部分(PAF)暴露于DDT在1995年和2008年在珠江口的地表水的种类分别为0.36%和0.06%。潜在生态风险依然存在,但不断下降。
【英文摘要】A species sensitivity distributions (SSD) for aquatic life exposed to DDT is developed using a logistic distribution based on the log-transformed L(E)C50 values of 98 aquatic species. The hazardous concentration for 5% of species (HC5) is derived based on the SSD. The HC5 for DDT is 0.5494 μg/L. The potentially affected fraction (PAF) of species exposed to DDT in the surface water of the Pearl River Estuary in 1995 and 2008 are 0.36% and 0.06% respectively. The potential ecological risks still exist, but decline continuously.
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【学科分类】生态学

【题目】Wet Nitrogen Deposition in the Three Gorges Reservior Area, China
【中文关键词】氮沉降;三峡库区;小流域
【英文关键词】nitrogen deposition; Three Gorges Reservoir Area; small watershed
【中文摘要】在本文中,湿沉降氮在一个小流域,三峡库区(TGRA)研究了2004至2008年。这些结果表明,平均TN雨水中的浓度为2.02毫克L-1,超过阈值的富营养化。TN浓度较高,在干燥的季节,在潮湿的季节,但在雨季氮沉降的关键时期。每年的平均湿沉降的TN是14.36千克的HA-1 YR-1,其中NO3 - N占约50%,而NH4+-N和DON约25%。 TN沉积脆弱的陆地生态系统达到临界负载值。预计占主导地位氮沉降的来源,在这方面的农业活动。此外,这些结果还暗示,过量的氮沉降的TGRA豆状核变性引起的水质,以及对生态环境的严重影响。因此,它有必要采取一些措施对氮沉降的控制和生态保护。
【英文摘要】In this paper, wet deposition of nitrogen in a small watershed of the Three Gorges Reservoir Area (TGRA) was investigated from 2004 to 2008. These results indicated that average TN concentration in rainwater was 2.02 mg L-1, which exceeded

the threshold of eutrophication. TN concentrations were higher in the dry season than that in the wet season, but the wet season was the key period for N deposition. The annualaverage wet deposition of TN was 14.36 kg ha-1 yr-1, among which NO3--N accounted for approximately 50%, while NH4+-N and DON were about 25%. TN deposition reached the critical load value for vulnerable terrestrial ecosystems. Expected dominantsources for nitrogen deposition were the agricultural activities in this area. In addition, these results also implied that excessive N deposition could induce the water quality of TGRA degeneration as well as severely effect on ecological environment. Therefore, itis necessary to take some measures for nitrogen deposition control and ecosystems protection.
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【学科分类】生态学

【题目】用水平土柱和修正的Green-Ampt模型确定土壤的入渗性能
【中文关键词】入渗; 模型; 误差分析; 估计; 土壤; 修正Green-Ampt模型; 水平土柱;
【英文关键词】infiltration,models, error analysis, estimation, soils,modifiedGreen-Ampt model, horizontal soil column
【中文摘要】土壤入渗能力和降雨产流过程及地下水密切相关。土壤入渗过程决定了灌溉/降雨过程中水分进入土壤的过程,影响了化肥、农药及其他污染物随水分迁移过程以及坡面水文与土壤侵蚀过程等。该研究根据水流在水平土柱中运动的能量要求以及实际测量得到的土壤水分分布,对Green-Ampt模型中含水率分布呈活塞运动推进(即湿润锋内部土壤水分为恒定值)的假定进行了修正。采用更符合实际的呈线性分布的土壤水分分布模型,基于水量平衡和土壤水动力学原理,提出了对应的土壤入渗性能的计算模型。给出了利用修正模型估计土壤入渗性能的方法,计算模型以及计算过程。结果表明,利用修正模型估算得到的土壤入渗性能回归的入渗水量与实际供水量的相对误差为0.66%,说明该修正模型和计算方法具有很高的精度。该文提出的修正模型很好地描述了水分在土壤中的分布,较Green-Ampt入渗模型中的活塞模型更符合土壤水动力学中关于土壤水分运动的分析。将该修正模型与水平土柱试验结合,可以大大地提高土壤入渗性能计算的精度,为以后的土壤水分运动,地表产流计算以及土壤侵蚀等方面的研究提供非常有效的工具。 更多还原
【英文摘要】The soil infiltrability has a close relationship withoverland flow and groundwater, determining the fraction of theirrigation or rain water entering the soil, the transportation of chemicals such as fertilizers, herbicides/pesticides as well asotherpollutants,and,thus, affecting the amount of runoff responsible for subsequent soil erosion. Based on the energyprinciple ofwater movement in saturated/unsaturated soils and the measured soil water distribution in horizontal soil column,modifications weremade to thepistonassumptionof the soil water distributionin theGreen-Ampt infiltration model. The soilwater distribution was described bya more realistic linear distributionmodel.Based on the water/mass balance and the soilwater dynamics, amodifiedmathematic model for soil infiltrability estimation was advanced. The measurement method,algorithm models and procedures were given for estimating soil infiltrability with measured data from horizontal soil column.Comparisons of the cumulative infiltrationcomputedfrom the estimated infiltrability with the modified method and the totalsupplied water indicated that the relative error was 0.66%, which demonstrateda very high accuracy of the model and thecomputational method.The modified model can describe the distribution of the soil water very well which is more suitable tothe analyzationsin the soil water dynamics than the piston assumption in the Green-Ampt infiltration model.The accuracy canbe greatly improved by applying the modified model to the horizontal soil column experiment. This can supply a veryusefultool to the relative studies such as the soil water movement analysis, overland flow estimation and soil erosion analysis.
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【题目】无机氮和氨基酸态氮处理对番茄幼苗木质部和韧皮部汁液中矿质养分的影响
【中文关键词】番茄; 无机氮; 氨基酸态氮; 木质部; 韧皮部; 养分运输;
【英文关键词】tomato; Solanum lycopersicum; inorganic N; amino acid-N; xylem sap; phloem sap; nutrient translocation
【中文摘要】溶液培养条件下研究了番茄幼苗木质部和韧皮部汁液中氮及其它矿质养分运输对无机氮(NH4+-N、NO3--N)和氨基酸态氮(Gly-N)处理的不同响应。结果表明,不同氮素处理8d后,‘申粉918’和‘沪樱932’番茄木质部和韧皮部汁液中全氮含量表现为NH4+-N>Gly-N>NO3--N处理,而氮溢出量则以Gly-N处理的最多,其次为NH4+-N或NO3--N处理。两个品种木质部汁液中K、Ca、Mg以及‘沪樱932’木质部汁液中Cu含量表现为NO3--N>Gly-N>NH4+-N处理,而‘申粉918’中的Cu含量则表现为NO3--N>NH4+-N>Gly-N处理。两个品种木质部汁液中K、Ca、Mg、Cu、Zn、Mn溢出量均表现为NO3--N>Gly-N>NH4+-N处理;韧皮部汁液中K、Ca、Cu、Mn溢出量表现为Gly-N>NO3--N>NH4+-N处理;而其Mg、Zn溢出量则表现为NO3--N>Gly-N>NH4+-N处理,且‘沪樱932’的变化幅度较‘申粉918’的小。NH4+-N处理抑制番茄木质部养分向上运输的能力远大于Gly-N,‘申粉918’受抑制的程度更为明显
【英文摘要】Utilization of organic nitrogen (N) is an important aspect of plant N assimilation and has potential application in sustainable agriculture. In this study, contents and exudation rates of mineral nutrients in Xylem and phloem sap were compared between two tomato cultivars (‘Shenfen918’ and ’Huying932’) treated with nitrate (NO3--N), ammonium (NH4+-N) or glycine(Gly-N) for 8 days. For both cultivars, the N content in the xylem and phloem sap was in the order of NH4+-N> Gly-N> NO3--N, while the N exudation rate ranked with the highest in the Gly-N and followed by the NO3—N or NH4+-N treatment In the xylem sap, the highest contents of potassium(K), calcium(Ca), and magnesium(Mg) for both cultivars and the highest copper (Cu) content in ’Huying932’ cultivar were found in the NO3--N, and followed by the Gly-N and NH4+-N treatments. Although the highest Cu content in ’Shenfen918’ cultivar was also recorded in the NO3--N, the Cu content in the NH4+-N was higher than that in the Gly-N treatment On the other hand, the highest zinc(Zn) and manganese (Mn) contents were found in the NH4+-N, and followed by the NO3—N and Gly-N treatments, for both cultivars. The exudation rates of K, Ca, Mg, Cu, Zn and Mn in the xylem sap ranked with the highest in the NO3--N, the lowest in the NH4+-N, and the Gly-N treatment in between, for both cultivars. The degree of decline in the exudation rates was larger in the NH4+-N than in the Gly-N treatment, and it was greater in ’Shenfen918’ than in ’Huying932’ cultivar. The highest exudation rates of K, Ca, Cu, and Mn in phloem sap were found in the Gly-N and followed by the NO3—N and NH4+-N treatments. The order for exudation rates of Mg and Zn in phloem sap and the degrees of decline in their exudation rates were similar to the results on the xylem sap. Our results suggested that the different responses of nutrient translocation in the xylem and phloem sap to organic N supply might relate to genotypes of tomato plants
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【学科分类】生态学

【题目】1株类球红细菌及其降解敌敌畏的特性
【中文关键词】类球红细菌; 敌敌畏; 降解; 16SrDNA; 白菜;
【英文关键词】Rhodobacter sphaeroides; dichlorvos; degradation; 16SrDNA; Chinese cabbage
【中文摘要】类球红细菌具有广泛的代谢方式,它能够发酵生产5-氨基乙酰丙酸、辅酶Q10、类胡萝卜素、氢气等,已经成为一种非常有工业化开发潜力的微生物.从土壤中分离、筛选了1株类球红细菌(编号为EBL0706),分析了它的培养和遗传特性,测定了水溶液的pH、温度、敌敌畏浓度、类球红细菌浓度对其降解敌敌畏速率的影响,结果表明,该菌株在水溶液中能够快速矿化敌敌畏,在pH 6.9~7.5、温度20~50℃条件下,在5×108CFU/mL的类球红细菌稀释液中,400 mg/L的敌敌畏在12 h内降解率达到98%以上.该菌株发酵液的稀释液喷洒到幼苗期的白菜叶片上,能够显著加快残留敌敌畏降解速度,显示出其在无公害农产品生产中的应用潜力. 更多还原
【英文摘要】Rhodobacter sphaeroides possesses an extensive range of energy acquiring mechanisms including photosynthesis, lithotrophy, aerobic and anaerobic respiration. It can produce 5-aminolevulinic acid, CoQ10, carotenoids, hydrogen, etc. by fermentation. A Rhodobacter sphaeroides strain was isolated, designated as EBL0706, from soil. The degradation of dichlorvos(DDVP) by the Rhodobacter sphaeroides was investigated. 98% of DDVP could be degraded in water solution in 12h when 5*108 CFU/mL Rhodobacter sphaeroides was added to 400mg/L DDVP solution under pH6.9-7.5 and 20-50 ° C. This strain could also

degrade the DDVP residues on Chinese cabbage leaves effectively.
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【学科分类】生态学

【题目】长期不同施肥对稻田土壤微生物群落功能多样性的影响
【中文关键词】长期施肥;稻田土壤;微生物功能多样性;BIOLOG
【英文关键词】long-term fertilization; paddy soil; functional diversity; BIOLOG
【中文摘要】微生物群落功能多样性对土壤管理具有重要指示作用,施肥措施对土壤微生物群落功能多样性产生重要的影响,从而影响土壤有机质的含量,引起土地碳贮量变化,进而影响到陆地生态系统的碳汇。以位于湖南省桃江县国家级稻田肥力长期定位试验点的土样为研究对象,采用BIOLOG测试板对不同施肥处理下土壤微生物功能多样性进行了研究。研究结果显示,土壤微生物的碳源利用率因长期不同的施肥处理而发生分异。Shannon和Simpson指数的结果显示所有施肥处理均有利于维持微生物群落多样性,但秸秆还田和习惯施肥使群落均匀度(McIntosh指数)降低。主成分分析表明,试验点土壤微生物群落利用的主要碳源为氨基酸类和糖类,但不同施肥处理碳源利用类型有差异。结果可以得出,不同的施肥对土壤微生物功能多样性产生了不同影响,从而影响土壤有机质中碳、氮含量。这些信息可以为深入研究施肥对全球碳氮循环以及全球气候变迁提供依据。 更多还原
【英文摘要】Microbial community functional diversity is a sensitive indicator of soil management, such as fertilization, especially long-term fertilization. In this paper, the functional diversity of soil microbial community was detected by BIOLOG system. The Average Well Color Development (AWCD) in BIOLOG plates indicated the ability of carbon Utilization of microbial community. The indices of Shannon, Smipson and McIntosh were calculated to show the richness, dominance and evenness of the functional diversity, while the principal component analysis of substrate reactions reflected the main carbon sources utilized by microbial community. The results showed that all the treatments exhibited the elevation of AWCD during the first 72 hours of incubation, but the differences among the treatments were obvious. Both applications of organic manure mixed with chemical fertilizer and chemical fertilizer caused high increase of the AWCD while applying straw-incorporation and local traditional fertilization had less affection on the AWCD, which was even lower than the treatment without fertilizer. It was miplicated that long-termfertilization resulted in the variation of the carbon utilization efficiency of soil microbial communities. The microbial community diversity indices were calculated based on the AWCD data at 72h and the differences among the treatments were significant. The treatments of organicm anuremixed w ith chem ical fertilizer and chem ical fertilizer rem arkably mi proved the richness, dom inance and evenness of so ilm icrob ial comm unity in comparison w ith the other treatm ents. Both treatm ents ofstraw- incorporation and local trad itional fertilizat ion induced increase of the richness and the dom inance except the evenness wh ich decreased compared to the treatm ent w ithout fertilization. The nine principal com ponents w ere extracted from the principal component ana lysis and their cum ulat ive contribution of variance accounted to 85. 73 percent. The variance contribution rate of PC1 and PC2 were 34. 21% and 13. 73%, respectively. T he correlation coefficients between ma in substrates and PC1 or PC2 indicated that them ain carbon sources for soilm icrobesw ere carbohydrates and am ino acids in all treatments and there w ere significant differences of carbon substrate ut ilization patterns in different treatm ents.T herefore, long- term fertilization had significant affect ions on the functional diversity of so ilm icrob ial community, wh ich, in turn, could induce variations of carbon and nitrogen com pos ition of soil organicm atter.
【语种】中文
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【学科分类】生态学

【题目】曝气生物滤池处理农村污水的中试研究
【中文关键词】曝气生物滤池 农村污水处理 陶粒填料
【英文关键词】biological aerated filter(BAF); rural sewage treatment; ceramics filterm edium;
【中文摘要】采用研制的曝气生物滤池对农村污水进行处理,研究其性能特点和影响因素。结果表明:在气水比为5∶1,水力停留时间(HRT)为15 h,进水COD浓度在250 mg/L以下时,COD和氨氮的去除率分别在80%和90%以上,出水COD和氨氮值达到国家《城镇污水处理厂污染物排放标准》一级A标准;反应器在冬季水温12°C以上运行时出水COD和氨氮值比在夏季运行时有所上升,但去除率仍在80%和90%以上,可以达到排放标准。
【英文摘要】The sew age in rural areas w as treated by a p ilot scale b io log ical aerated filter (BAF) , to studyits performance characteristics and in fluencing facto rs. The experimental results show ed that the removal efficiencyof COD and NH3-N in BAF system w ere above 80% and 90% respect ive ly at the hydrau lic retent ion t ime(HRT) of 15 h, a ir-w ater rat io o f 5B1 and influent COD concen trat ion [250mg /L. The treated effluentm eetsthe GB18918-2002 1A d ischarge standard of po llutants fo rmun icipal w astew ater treatment plan.t The po llutantconcentrations of the treated effluentw ere increased w hen the BAF run in w inter compar ing w ith in summer. Butthe removal rates of COD and NH3-N in the BAF system w ere st illmeet the discharge standard.
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【题目】敌敌畏对鲫鱼的急性毒性及类球红细菌的解毒作用
【中文关键词】敌敌畏; 鲫鱼; 急性毒性; 类球红细菌; 解毒作用;
【英文关键词】dichlorvos;Carassius auratus;acute toxicity;Rhodobacter sphaeroides;detoxification
【中文摘要】敌敌畏是使用最为广泛的有机磷农药之一,具有较高的水溶性,对水生动物的危害较大.为初步探讨水体中敌敌畏降解菌对中毒鱼类的解毒作用,测定了敌敌畏对鲫鱼(Carassius auratus)幼鱼的急性毒性,调查了一株敌敌畏高效降解菌——类球红细菌(Rhodobacter sphaeroides)的解毒作用.结果表明:敌敌畏对鲫鱼幼鱼48、72、96h的LC50分别为45.1、30.4、23.3mg·L-1,安全浓度为2.3mg·L-1,属低毒农药.在不同敌敌畏暴露浓度的养鱼水中添加类球红细菌(5×107CFU·mL-1)可以显著降低鲫鱼的死亡率,20mg·L-1和35mg·L-1敌敌畏暴露浓度下,鲫鱼96h死亡率分别由40%和100%降低至0和15%;利用液相色谱检测了敌敌畏在添加和不添加类球红细菌的养鱼水中的降解规律,发现类球红细菌的解毒作用主要是对水中敌敌畏的快速降解,降解过程中没有积累有毒代谢产物. 更多还原
【英文摘要】Dichlorvos(DDVP)is one of the most widely used organophosphate insecticides, with high water -solubility andhigh risk to aquatic animals. In order to explore the detoxification of DDVP by degrading strain to poisoned fish, theacute toxicity of DDVP to Carassius auratus was determined, and the detoxifcation by a strain of Rhodobactersphaeroides, which has high degradation capability to DDVP was investigated. Results showed that the half lethalconcentration (LC50)of DDVP to C. auratus at 48, 72 and 96h were 45.1, 30.4 and 23.3mg · L-1, respectively. The safeconcentration was 2.3mg · L -1. R. sphaeroides (5 ×107CFU · mL -1)could reduce the mortality of C. auratus significantly.Adding R. sphaeroides (5 ×107CFU · mL -1)to 20mg · L -1 and 35mg · L -1 DDVP treatments reduced C. auratus mortalitysignificantly from 40% and 100% to 0 and 15%, respectively at 96h. The degradation of DDVP was detected by HPLCin fish water with and without R. sphaeroides, respectively. The result showed that the detoxification by R. sphaeroideswas mainly due to the rapid degradation of DDVP by R. sphaeroides. There were no toxic degradation products indegradation process.
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【学科分类】生态学

【题目】不同园艺生产系统土壤可溶性有机氮差异
【中文关键词】可溶性有机氮; 溶解性有机氮; 游离氨基酸; 土壤溶液; 园艺土壤;
【英文关键词】so lub le organ ic n itrogen; d isso lved organic nitrogen; free am ino ac id; so il so lution; ho rticu ltura l so i.l
【中文摘要】运用超速离心技术和KCl浸提法测定了不同园艺生产系统(有机(OS)、转换期(TS)、常规(CS)生产系统)土壤中可溶性有机氮(SON)、溶解性有机氮(DON)、游离氨基酸(FAA)等含量及其与土壤其他性质之间的关系.结果表明:供试土壤SON含量表现为OS>CS>TS,SON含量分别为土壤可溶性总氮(TSN)的42.9%、24.5%和18.4%,分别为土壤全氮的11.1%、11.9%和7.4%;OS、TS、CS生产系统土壤DON含量分别为4.38、1.68和3.26mg.kg-1,分别占TSN的47.9%、22.1%和26.1%,占土壤全氮的2.9%、2.3%和3.6%;而FAA含量则表现为CS>TS>OS,分别占TSN和SON的1%~3%和2%~10%.相关分析表明,TSN、SON及FAA与全氮、全碳、硝态氮、铵态氮等各养分之间均有极显著相关关系(P<0.01).因此,不同园艺生产系统的管理方式改变了土壤SON的含量及其特性. 更多还原
【英文摘要】By using ultra-centrifugal technique and KC l ex tract ion, the contents o f soil solub le organic n itrogen (SON), d isso lved organ ic nitrogen (DON), and free am ino acid (FAA) in threeho rticu ltura l production systems, i. e. , organic (OS), transitiona l (TS), and conventional (CS),w ere determ ined, and the ir corre lations w ith some other so il properties w ere investigated. The resultsshow ed that SON con tent in the three production systems w as in the order o f OS> CS > TS,and the ratios of SON to so il to tal so luble N (TSN) and to tal N (TN) in OS, CS, and TS w ere4219% , 2415% , and 1814%, and 1111%, 1119% , and 714%, respectively. The DON contentin OS, TS and CS w as 4138, 1168 and 3126mg# kg- 1, occupy ing 4719% , 2211% and 2611%o f TSN, and 219%, 213% and 316% ofTN, respectively. FAA con tent occup ied 1%- 3% o fTSNand 2%- 10% o f SON, and decreased in the order o f CS > TS> OS. C orre lation ana lysis show edtha tTSN, SON and FAA w ere significan tly correlated w ith so il totalN, total carbon, NO3- -N andNH4+ -N. D ifferentmanagementm easures o f horticu ltura l production system changed the SON contentand its characters.
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【学科分类】生态学

【题目】柴达木地区城市绿地盐碱治理思路与实践探讨-以海西化建公司绿地为例
【中文关键词】柴达木地区 城市绿地 盐碱治理
【英文关键词】The Qaidam region, urban green, space salinization governance
【中文摘要】以海西化建公司绿地建设为例,对柴达木地区城市绿化盐碱发生特点以及活动规律作了简要分析,提出治理的具体途径是从土地适应性、灌排机制、营养供给、土壤肥力培育4个方面入手,并要齐头并进,综合治理。
【英文摘要】Hercynian based construction company green construction, for example, occur characteristics and activity patterns of the Qaidam region urban greening salinity made a brief analysis of the specific way of governance from the land adaptability, irrigation and drainage mechanism of nutrient supply, soil fertility nurturingfour aspects to go hand in hand in a comprehensive way.
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【题目】长期施肥对水稻土活性有机碳的影响
【中文关键词】长期施肥;水稻土;易氧化有机碳;微生物生物量碳;水溶性有机碳
【英文关键词】Long- term fertilization; Paddy soil; Easy oxidation organic carbon; Microbial biomass carbon; Water- soluble organic carbon
【中文摘要】以湖南省3 个国家级稻田肥力变化长期定位监测点的土壤作为研究材料,测定了不施肥、单施化肥、化肥配施有机肥等施肥处理的土壤总有机碳、水溶性有机碳、易氧化有机碳及微生物量碳的含量及其相互关系。结果显示,3 个监测点化肥配施有机肥处理土壤总有机碳、易氧化有机碳、微生物量碳和水溶性有机碳的含量均显著高于不施肥的对照处理,增幅分别为12.59%~82.84%、15.33%~103.95%、35.33%~97.54%、15.89%~73.73%;易氧化有机碳、微生物量碳和水溶性有机碳占总有机碳比中的变化范围分别为49.02%~58.31%、1.93%~3.46%和0.10%~0.15%,处理间差异性不太显著,其中桃江点的微生物量碳和水溶性有机碳占总有机碳的比率显著低于其它两监测点;总有机碳、易氧化有机碳、微生物量碳及水溶性有机碳之间相关性均达到极显著水平。
【英文摘要】Soil samples from 3 long- term experiments in Xinhua, Ningxiang and Taojiang counties of Hunan Provincewere analyzed to investigate the effect of different fertilization treatments on the contents of soil total organic carbon(TOC), easy oxidation organic carbon (EOOC), microbial biomass carbon (MBC), water- soluble organic carbon (WSOC)and the relationship among TOC, EOOC, MBC and WSOC. The results showed that: Compared to CK, NPK plusmanure or straw significantly increased the contents of TOC, EOOC, MBC and DOC by 12.59% - 82.84% , 15.33%- 103.95%, 35.33%- 97.54% and 15.89%- 73.73%, respectively; The percentages of WSOC、 MBC and EOOC in totalorganic carbon (TOC) were 49.02%- 58.31%, 1.93%- 3.46% and 0.10%- 0.15%, respectively. There was no significantdifference among the above percentages in different treatments. The proportions of MBC and WSOC in soil TOC forTaojiang site were much lower than those for Ningxiang and Xinhua sites. There were highly significant correlationsamong TOC, EOOC, MBC and WSOC.
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【题目】水分控制下的湿地沉积物氧化还原电位及其对有机碳矿化的影响
【中文关键词】水分; 氧化还原电位; 有机碳矿化; 湿地
【英文关键词】water content; redox potential; organic C mineralization; wetland
【中文摘要】为探讨水分与氧化还原电位之间的内在关系及其对沼泽湿地有机碳分解矿化的影响, 采用室内培养(25 e , 155 d) 实验研究了不同水分条件(24%~ 232% WHC) 下三江平原3 类湿地(泥炭沼泽、腐殖质沼泽和沼泽化草甸) 沉积物氧化还原电位(Eh) 变化以及有机碳的矿化特征. 结果表明, 不同水分条件对湿地沉积物氧化还原电位的影响有较大差异, 在低于100% WHC(最大持水量) 水分范围时, 氧化还原电位随着水分的增加而降低, > 100% WHC(至积水2 cm) 时, 水分含量变化对泥炭沼泽和腐殖质沼泽沉积物氧化还原电位影响作用降低. 泥炭沼泽、腐殖质沼泽和沼泽化草甸沉积物有机碳矿化最适宜水分含量存在较大差异, 分别为32%、48%和76%~ 100% WHC. 湿地沉积物有机碳矿化速率与氧化还原电位之间存在二次函数关系(p <0105) , 在还原态下(Eh 值< 300 mV) , 有机碳矿化速率和矿化量随氧化还原电位的升高而升高, 在氧化态(Eh 值> 300 mV) 下则逐渐降低. 较低的氧化还原电位是三江平原湿地有机碳得以积累的重要原因.
【英文摘要】To better understand the effect of soil water contents on redox potential (Eh) , and their impacts on C mineralization in naturalwetland, sediment samples from 3 types of wetlands (fen, humus marsh and marshy meadow) in the San- jiang Plate region of North China wereincubated (25e) for 155 d under a range of reducing and oxidizing conditions by controlling water contents (varied from 24% to 232% ofwater holding capacity) (WHC) . CO2-C evolved during incubation was measured at different time intervals. Results showed that Eh ofsediments decreased significantly as water content increased from 24% WHC (lighted moisturized) to about 100% WHC, then decreasedslightly as water content increased further to a level of submersed (about 2 cm water- depths) . The accumulative amount of CO2-C evolved fromthe sediments indicated that the optimum water contents for mineralization of organic C are 32%, 48% and 76%- 100% WHC for sediments offen, humus marsh, and marshy meadow, respectively. The relationship between mineralization rates and redox potentials (Eh) were well fittedwith second order parabola equations (p< 0105) . Mineralization rates

and accumulative amount of organic C displayed a positive correlationwith Eh up to 300 mV. However, a significant negative correlation was observed when Eh increased above 300 mV. Results demonstrated thatlow redox potential is the controlling factor of carbon accumulation of wetland in San- jiang Plate reg ion.

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【题目】有机磷酸酯类化合物定量结构-色谱保留关系及稳健性分析
【中文关键词】有机磷化合物; 定量结构2色谱保留关系; 拓扑指数; 蒙特卡洛模拟
【英文关键词】organop hosp hate compounds ; quantitative st ruct ure2retention relationship s ; topological indices ; Monte Carlo simulation
【中文摘要】以分子拓扑指数作为结构描述符,采用最佳子集回归方法,建立了35 种有机磷酸酯类化合物在3 种不同极性固定相上的定量结构2色谱保留关系(QSRR) 模型。3 个QSRR 模型均具有良好的拟合能力,对QSRR模型分别进行了交叉验证及外部数据集验证,结果表明各模型具有较强的预测能力。对QSRR 模型的系数、标准误差及相关系数均进行了蒙特卡洛模拟,结果证实蒙特卡洛方法可用于QSRR 模型的稳健性分析。
【英文摘要】Using the best subset regression technique ,t he quantitative st ructure2retention relation2ship s (QSRR) of 35 organop hosp hate compounds on t hree different polar stationaries were establishedwith topological indices as st ruct ural descriptor s. All t hree QSRR model s had good calibration ability.The cross2validation and external2validation showed that t he corresponding QSRR model had st rong pre2dictive power . Monte Carlo simulation on R2 , S E and coefficient s of different QSRR model s demonst ratedt hat Monte Carlo met hod can be used to analyze t he robust ness of QSRR model s.

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【题目】不同温度对黑碳表面官能团的影响
【中文关键词】黑碳;温度;表面官能团;种类;数量
【英文关键词】black carbon; pyrolytic temperature; surface functional group; types; quantities
【中文摘要】在200~800 ℃热解水稻秸秆制备BC,以Boehm 滴定和FTIR 表征BC 表面官能团种类和数量,研究了不同温度对BC表面官能团的影响。结果表明:温度对BC 表面官能团种类和数量都将产生影响。秸秆碳化后官能团会发生一定变化,表现为醚键(C-O-C)、羰基(C-O)、甲基(-CH3)和亚甲基(-CH2)消失,仍存有羟基(-OH)和芳香族化合物。BC 有相同的化学结构,都以芳环骨架为主,但所含官能团种类有一定差异,同种官能团振动形式也不同。酸性和碱性官能团数量都随温度升高先升高后降低,高温和低温不利于官能团的形成,300~600 ℃对应的碱性官能团含量高于酸性官能团含量。
【英文摘要】Black carbon (BC) is a product of weathering of graphitic carbon in rocks and of incomplete combustion of fossil fuelsand vegetation. BC adsorption has been paid great attention. Pyrolyzing rice straw in the range of 200~800 °C, the effects of differenttemperature on BC surface functional groups were studied by Boehm titration and Fourier transform infrared spectroscopy (FTIR).The results showed that temperature had an effect on the types and quantities of the BC surface functional groups. The change offunctional groups of rice straw after the carbonization was that the ether(C-O-C), carbonyl(C-O), methyl(-CH3) and methylene(-CH2)groups disappeared, but the hydroxyl(-OH), alkene(C-C) and aromatic compounds still existed. BC had same chemical structure, wasmainly of aromatic ring skeleton-based, but the types of BC functional groups and the vibrations of same functional group were different.The numbers of acidic and basic functional groups firstly increased and then decreased with increasing temperature, to a

greatextent this implied that higher temperature and lower temperature was not conducive to the formation of functional groups. Thenumbers of basic functional groups at 300~600 °C were higher than the acidity.
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【题目】长期施肥对稻田土壤有机氮、微生物生物量及功能多样性的影响
【中文关键词】长期施肥;稻田土壤;有机氮;微生物生物量;功能多样性
【英文关键词】long-term fertilization; paddy soil; organic nitrogen; microbial biomass; functional diversity
【中文摘要】以位于湖南省新化和宁乡县两个稻田肥力长期定位试验点的土样为材料,研究了不同施肥处理对稻田土壤有机氮组分、微生物生物量及功能多样性的影响. 结果表明:与不施肥处理(CK)相比,化肥配施有机肥处理提高了稻田土壤酸解总氮(TAHN)及其组分中氨基糖氮(ASN)、氨基酸氮(AAN) 和酸解氨态氮(AN) 的含量,不同施肥处理对组分中酸解未知氮(HUN)的影响不尽相同. 与CK 相比,单施化肥处理对土壤微生物生物量碳、氮(MBC、MBN)含量的影响较小,化肥配施有机肥处理则显著提高了土壤MBC 和MBN 的含量. 采用BIOLOG法对土壤微生物群落功能多样性进行测定,结果表明:中、高量有机肥处理提高了稻田土壤微生物的碳源利用率和微生物群落功能多样性;土壤微生物碳源利用的类型因长期不同施肥处理而产生差异.
【英文摘要】Soil samples were collected from the plow layers at two long-term experiment sites inXinhua and Ningxiang counties of Hunan Province, China to study the effects of long-term fertilization on organic nitrogen, microbial biomass, and microbial functional diversity of paddy soils. Longterm fertilization showed great effects on the soil N content. Compared with CK, treatments NPKplus manure or straw increased the contents of soil total acid鄄hydrolysable N and its fractions aminosugar N, amino acid N, and ammonium N. Treatment NPK had no significant effects on soil micro鄄bial biomass C and N, but treatments NPK plus manure increased the contents of soil microbial bio鄄mass C and N significantly. BIOLOG test showed that treatments NPK plus manure enhanced thecarbon utilization efficiency of soil microbes, and improved the functional diversity of soil microbialcommunities, compared with CK. Long-term different fertilizer treatments resulted in the differencesof carbon substrate utilization patterns of soil microbial communities
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【题目】三峡库区小流域农户氮循环和排放特征
【中文关键词】三峡库区; 氮负荷; 农田氮盈余; 农户
【英文关键词】Three Gorges Reservo irA rea; n itrog en load; fie ld surp lus n itrogen; farm
【中文摘要】中国农业生产是以农户为单位进行的, 农户氮素利用及平衡对农业生产和农村环境有非常重要的影响. 本研究选择三峡库区秭归县张家冲小流域, 对农户农田氮肥施用量、农户购买的饲料与食物、人畜粪便排放等进行了调查, 并对农户氮素循环特征进行了分析. 结果表明, 根据该流域农户氮素流动的特点, 可将其分为养殖型农户、柑橘种植户、茶叶种植户、蔬菜种植户、传统种植户5种类型; 其氮素负荷大小顺序为养殖型农户> 蔬菜种植户> 柑橘种植户> 茶叶种植户U 传统种植户, 以氮计分别为(363 ? 129)、(355 ? 127)、(345 ? 107)、(152 ? 60)和(151 ? 73) kg# (hm2 # a) - 1; 不同农户农田氮素循环分析表明, 单位面积农田氮盈余变化在(102 ? 68) ~ (303 ? 134) kg# (hm2# a) - 1之间, 大小顺序为蔬菜种植户> 柑橘种植户> 茶叶种植户> 养殖型农户U 传统种植户, 分别为(303 ? 134)、(262 ? 100)、(111 ? 46)、(102 ? 68)和(103 ? 67) kg# (hm2# a) - 1; 在农户氮负荷中, 居民生活排放的氮占28%, 农田氮盈余占72%, 说明农田是主要的氮污染源, 生活污染也是不可

忽视的. 该地区的养殖型农户、蔬菜种植户和柑橘种植户对水体质量威胁较大, 是氮素污染重点防治对象; 实地调查农户生产与生活的方法能清晰地明确农业生态系统中氮循环的不同环节和估算循环流量, 有利于揭示区域氮素循环特征.

【英文摘要】In Ch ina, the agr icu ltura l activ ities are often carried out by sing le fam ily, and the balance of n itrogen in every farm m ay hav eg reat effec t on agr icu ltura l production and env ironm ent. A farm survey w as carried out on the am ounts o f chem ica l fertilize rs consum ed,the amoun ts o f food and feed purchased, and the livestock m anures used in Zhang jiachong wa tershed o fThree Go rges Rese rvo irArea fo reach farm er. A cco rding to the charac teristics o f nitrogen flow, farm s in this wa tershed could be divided in to 5 types: breed ingspec ia lized farm s, orange-grow ing farm s, tea-grow ing farm s, veg etab le-g row ing farm s and trad itional fa rm s. D iffe rences inenv ironm enta l n itrog en load w ere observed am ong the five farm types in the fo llow ing o rder: breed ing specia lized fa rm s > veg etab legrow ing farm s > o range-g row ing farm s > tea-grow ing fa rm s U traditiona l farm s, be ing (363 ? 129) , (355 ? 127), (345 ? 107),(152 ? 60) and (151 ? 73) kg# (hm2 # a) - 1 respective ly by n itrogen. N itrogen cyc le fo r d ifferen t farm fie lds showed tha t fieldsurplus nitrogen ranged from (102 ? 68) to (303 ? 134) kg# (hm2# a) - 1 among d ifferen t farm s. Among the fiv e farm types, thefie ld surp lus n itrogen fo llowed the order o f vege tab le-g row ing farm s > c itrus-g row ing farm s > tea-g row ing farm s > breed ingspec ia lized fa rm s U trad itiona l farm s, be ing (303 ? 134) , (262 ? 100) , (111 ? 46), (102 ? 68) and (103 ? 67)kg# (hm2 # a) - 1. The n itrog en from farm life activ ities accounted fo r 28% of the to ta lN lo ad, w hile the fie ld surplus nitrogen w as72%. It w as estim ated that fie ld n itrogen consum ption w as the predom inated n itrog en po llution source in the w atershed. H ow eve r, thefarm erps daily life po llution should not to be neg lected. B reeding spec ia lized farm s, vegetable-grow ing fa rm s and o range-g row ing farm sw ere the h igh po tential po llution sources fo r the wa ter env ironm ent in the wa tershed, and them a jo r attention should be pa id to thesetypes o f farm s. Field survey on fa rm n itrogen cyc le is of significance in eva luating the n itrogen flow s in the agro-ecosystem s andrevea ling the cha racte ristics o f n itrogen cyc ling in the reg ion

【语种】中文

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【学科分类】生态学

【题目】土壤入渗性能线源测量方法的近似算法研究

【中文关键词】入渗性能;线源;数值方法;平均值

【英文关键词】infiltrability; linear source; numerical method; average

【中文摘要】土壤入渗性能的确定对于水文过程模拟,如地表产流、土壤侵蚀以及降雨向土壤水和地下水的转换等均具有十分重要的意义。本文提出了一种土壤入渗性能线源入流测量方法的快速近似算法。该方法在水量平衡原理的基础上,将各时刻的土壤入渗率在湿润地表的空间范围内进行平均,确定土壤入渗性能随时间的变化过程;所提出的新的计算模型可以简单地计算土壤入渗性能。文中利用3 组土壤入渗性能线源入流测量方法得到的试验数据,将该近似算法得到的结果与之前提出的数值解法计算得到的结果进行比较,并基于水量平衡原理估计了数值方法和该近似算法的误差。结果表明,该近似算法得到的结果比数值解法得到的结果偏大,比实际供水量偏大25. 3% ;该近似算法的计算结果稳定,可以作为试验过程中数值计算得到的土壤入渗性能的参照值。

【英文摘要】The determination of soil infiltration capacity is of great importance for modeling hydrologicalprocesses such as overland flow,soil erosion and the transformation of rainfall into soil water or groundwater. A new method is proposed for the fast approximation of soil infiltrability. The new method wasderived using the mass balance when the soil infiltration rates at different locations within the wetted areawere averaged to quantify the temporal infiltration process. The proposed new mathematic model providesa simple but useful method for determining infiltrability. Data from three linear source experiments wereused to compare the results from this new approximation method with those estimated with the numericalmethod. The errors of the infiltrated water as computed with the numerical method and this new approachwere estimated with water balance method. The results indicate that the soil infiltration rates estimatedwith the approximation method are very stable though to some extend it is higher than those estimated withthe numerical method,with an estimate error of 25. 3% higher than the supplied water. This new method can also be used as a necessary reference for the results estimated with numerical method in the linearsource experiments.

【语种】中文

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【学科分类】生态学

【题目】小青菜对不同施肥模式的响应及其生态化学计量学特征
【中文关键词】小青菜; 有机无机肥配施模式; 氨基酸; 生长; 品质; 生态化学计量学
【英文关键词】greengrocery; organic fertilizer p lus inorganic fertilizer; amino acid; growth; quality; ecological stoichi2ometry
【中文摘要】在大田小区试验条件下,研究了小青菜(3茬)对不同施肥模式的响应及其生态化学计量学特征。试验共设5个处理:不施肥对照、有机无机肥配施模式1 (含氨基酸肥料) 、有机肥施肥模式、无机肥施肥模式和有机无机肥配施模式2。结果表明,与其他处理相比,有机无机肥配施模式1能够提高小青菜产量,光合速率,可溶性总糖、蔗糖、维生素C和游离氨基酸含量,且这些指标与其地上部C /N和C /P比值之间存在显著正相关关系,而与施肥模式所提供肥料中C /N和C /P比值之间存在正相关趋势,但相关性未达显著水平。此外,有机无机肥配施模式1能够降低小青菜地上部硝酸盐含量,且该指标与其地上部和施肥模式所提供肥料中N /P、C/N、C /P和P /K比值之间均不存在相关关系。可见,在田间试验条件下,有机无机肥配施模式1能够促进小青菜地上部生长,改善小青菜品质;合理搭配肥料可提高小青菜的光合固碳能力,进而提高小青菜体内C/N、C /P比值,有利于提高小青菜的产量和品质。
【英文摘要】A field experimentwas carried out on response of greengrocery to fertilization patterns and its ecological stoichi2ometry. The experimentwas designed to have five treatments, i. e. CK, Pattern 1 (organic manure p lus inorganic fertiliz2ers including amino acid fertilizer) , Pattern 2 (organic manure p lus inorganic fertilizers) , organic manure, and inorganicfertilizers. Results show that compared with all the other treatments, Pattern 1 got better responses from the crop in yield,photosynthetic rate, soluble sugar, sucrose, vitamin C and free amino acids. And significant positive relationship s of theseindexes were observed with the C/N and C /P ratios in the shoots of the p lant, and a similar trend was found too with theC /N and C /P ratios in the fertilizer app lied, but not significant. Moreover, the treatment lowered nitrate content in green2grocery and the effect had nothing to do with the N /P, C /N, C /P and P /K ratios in shoots orwith the fertilizer app lied.In conclusion, Pattern 1 imp roved the growth and quality of greengrocery under field conditions. Furthermore, the reasona2ble combination fertilizer could imp rove the photosynthetic carbon on fixation, the C/N and C /P ratios and the yield andquality in the shoots of greengrocery.
【语种】中文
【第一作者】袁伟
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【学科分类】生态学

【题目】一株产铁载体香蕉拮抗内生细菌的分离及鉴定
【中文关键词】香蕉; 内生细菌; 拮抗作用; 铁载体; 枯草芽孢杆菌
【英文关键词】banana; endophytic bacteria; antagonistic efficacy; siderophore; Bacillus subtilis
【中文摘要】从健康的香蕉组织内分离内生细菌,以香蕉枯萎病菌(Fusariumoxysporum f.sp. cubense)4号小种为指示菌,通过初筛、复筛,得到一株分离自根的有较好拮抗作用的细菌,编号为BEB4。结合该菌菌落、菌体特征生理生化指标及16S rDNA序列分析,初步鉴定该内生菌为枯草芽孢杆菌。经检测,该菌株能产生铁载体
【英文摘要】Endophytic bacteria were isolated from the healthy tissues of banana A single strain ofantagonist bacteria named BEB4 was isolated from the roots with Fusariumoxysporum f.sp.cubense race 4 as bacterial indicator Observation of morphological physiological and biochemical characteristics and 16S rDNA sequences analysis showed the BEB4 was Bacillus subtilis The BEB4 was tested to produce siderophore
【语种】中文

【第一作者】潘羡心
【通讯作者】黄贵修
【期刊名称、卷期、页码】热带农业工程,2009,33(4):4-8
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【学科分类】植物保护学

【题目】A CBR Based Prediction Method for Web Aquatic Products Prices
【中文关键词】水产品价格,预测,面向属性的归纳,基于案例推理
【英文关键词】Aquatic products prices, Forecasting,
Attribute-oriented induction, Case-based reasoning
【中文摘要】能够科学地预测价格在水产品养殖业健康持续发展中起着重要的作用。本文介绍的方法预测水基于实例推理的产品价格。
【英文摘要】The ability to scientifically forecast the price of aquatic products plays an important role in the healthy and sustainable development of aquaculture. This paper presents a method for forecasting aquatic product prices using Case-Based Reasoning. Some key processes include automatic extraction of web data, attribute-oriented induction based on concept hierarchy, generation and representation of cases, cases matching and similarity calculation, case evaluation and revision. An application has been implemented using these processes. Experiments have shown that the system can automatically extract web data from multiple websites with information on aquatic product prices and can effectively analyze and forecast prices accordingly.
【语种】英文
【第一作者】HongchunYuan
【通讯作者】Jinling Ju
【期刊名称、卷期、页码】International Conference on Intelligent Systems and Knowledge Engineering, Chengdu, 15-16 October 2007
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【学科分类】信息科学与系统科学基础学科

【题目】A Web Based Product Price Forecast Using Fuzzy CBR
【中文关键词】产品价格
【英文关键词】CBR
【中文摘要】养殖业健康持续发展,本文介绍的方法是一种预测水基于CBR的产品价格。
【英文摘要】A healthy and sustainable development of aquaculture requires an accurate forecast of aquatic product prices. This paper presents an experiment with a web-based application to perform product price prediction. It integrates three key technologies: automatic data extraction algorithms to retrieve aquatic product prices from various related websites, attribute-oriented induction algorithms to capture varied time granularity data and Case-Based Reasoning (CBR) as its reasoning logic to deal with a focus on fuzzy matching. Test results of the experiment have shown that the application can successfully extract the web-based data as designed and effectively analyze the data leading to a reliable forecast of aquatic product prices.
【语种】英文
【第一作者】HongchunYuan
【通讯作者】Ming Chen
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【学科分类】信息科学与系统科学基础学科

【题目】An Expert System for Fish Disease Tele-Diagnosis Based on 3I Fuzzy Reasoning Mechanism
【中文关键词】专家系统,鱼病诊断
【英文关键词】Expert system. Fish disease diagnosis. 3I fuzzy
reasoning. XF6.2.
【中文摘要】模糊推理的专家系统可用于描述和过程的模糊性鱼病诊断症状。编码模型的模糊推理知识库,结合了专家系统和模糊技术的鱼疾病诊断
【英文摘要】Fuzzy reasoning in expert systems is a recurrent issue on which little research has been done or reported. This paper proposes a fuzzy reasoning model of characteristic expansion based on 3I method which can be applied to describe and process the fuzziness of diagnosed symptoms of fish diseases. This strategy to code the model of fuzzy reasoning in the knowledge base rather than the inference engine largely increases the flexibility of reasoning. This is also the first research that combines an expert system and the fuzzy technology for fish disease diagnosis. An expert system for fish disease tele-diagnosis has been implemented using XF6.2, an expert system development tool.
【语种】英文
【第一作者】HongchunYuan
【通讯作者】Ming Chen
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【学科分类】信息科学与系统科学基础学科

【题目】GIS技术在病虫害管理中的应用
【中文关键词】GIS,病虫害管理
【英文关键词】GIS,D isease and pest m anagement
【中文摘要】:GIS作为一种重要的技术工具,应 用于测绘、资源管理、城乡规划 、灾害监测 、环境保护等各个方面, 并且在农业 的各个领域都有较广泛的应用。综述了 GIS在病虫害管理 中的应用现状,并展望 了其发展趋势 。
【英文摘要】As an im portant technical tool,GIS has been applied to survey,resource m anagem ent, town and country planning,disaster monitoring and environment protection,and also broadly applied to various fields of agriculture.This paper reviews the present situation of the application of GIS to disease and pest management,and sets forth its developmental trend.
【语种】中文
【第一作者】张 帅
【通讯作者】李琳一
【期刊名称、卷期、页码】上海农业学报 2008,24(3):109-112
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【学科分类】农业基础学科

【题目】GIS在农业中的应用研究进展
【中文关键词】地理信息系统,农业应用,精准农业
【英文关键词】GIS,Application in agriculture,Precision agriculture
【中文摘要】对地理信息系统(GIS)在农业资源调查与管理,农业土地适宜性评价、农业气候与生产区划、农作物估产、农业施肥管理、农业病虫害管理以及精准农业等方面的应用现状进行了综述,对GIS在农业中的应用的重要性和必要性进行了探讨,并且对GIS在农业中应用的发展趋势进行了展望。
【英文摘要】This paper has summarized the application of GIS in agriculture,
【语种】中文
【第一作者】张 帅
【通讯作者】李琳一
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【题目】GRASS COVER CHANGE MODEL BASED ON CELLULAR AUTOMATA
【中文关键词】元胞自动机,草覆盖变化
【英文关键词】cellular automata
grass cover change
【中文摘要】本研究试图建立一个草覆盖变化的元胞自动机模型。
【英文摘要】This research attempt to establish a grass cover change model based on cellular automata. It took the relationship between elevation, slope, aspect, settlement, road, water system and grass cover change as the foundation of the model, the dynamic progress of grass cover change was expressed by using cellular automata, the grass cover change model based on the basic geographical control condition which has been mentioned in above paragraph was constructed. The grass cover state of Madoi County in 2003 was simulated, and has been compared with the actual state of Madoi County in 2003. It was found that the grass cover change model has a high precision. The value of kappa index has reach 0.8801.
【语种】英文
【第一作者】Shuai Zhang
【通讯作者】Linyi Li
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【学科分类】信息科学与系统科学基础学科

【题目】RFID在农业中的应用与展望
【中文关键词】射频识别技术(RFID) 农业领域 应用价值 展望 电子标签 数据管理系统 读写器 存在问题 射频信号 目标对象
【英文关键词】RFID(Radio Frequency Identification) ;Agriculture; Application; Prospects
【中文摘要】RFI(D Radio Frequency Identification)是一种非接触式的自动识别技术,通过射频信号自动识别目标对象并获取相关数据。作为一种突破性的技术,由于其巨大的应用前景而广受关注。本文在介绍RFID概念、内涵和一些代表性农业应用研究项目的基础上,阐述了RFID应用于农业的现状、存在问题和解决方法,并对其发展进行了展望。
【英文摘要】RFID is a contactless automatic identification technique. It can identify target object automatically via radio frequencysignal and obtain related data. As a disruptive technique, it has drawn extensive attention due to its broad application prospects.Based on the introduction of its concept and representative RFID agricultural application projects, this paper describes its presentsituation, problems and solutions and forecasts its future development.
【语种】中文
【第一作者】黄 杰
【通讯作者】万常照
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【学科分类】信息科学与系统科学基础学科

【题目】Spatial Variability of Soil Nutrient in Chongming of ShangHai,China by Using GIS and Kriging Method
【中文关键词】统计学,地理信息系统,崇明岛,土壤重金属
【英文关键词】geostatistics GIS Chongming Island soil heavy metal Kriging

【中文摘要】空间变异性和分布的土壤重金属元素包括,镉,铬,锌,铜,汞,铅和镍在表土估计在崇明岛(上海)的基础上结合地统计学和地理信息系统(地理信息系统)

【英文摘要】The spatial variability and distributions of the soil heavy metal elements including As, Cd, Cr, Zn, Cu, Hg, Pb and Ni in the topsoil were estimated in Chongming Island (Shanghai) based on the combination of Geostatistics and Geographic Information System (GIS). The spatial sampling site with the extra-bigger (smaller) measuring value of heavy metal elements were specially considered and treated in this study because these data of the sampling sites can reflect the status of contamination of the local regions, meanwhile may unfortunately be impractive to the estimation of statistic parameters and the spatial variability. In addition, Probability Kriging was performed for predicting the possibility of polluted area. The results indicate that Cd is extremely high on the whole island, while other heavy metals are distributed acceptably. The most probably as well as the most seriously polluted extensions are discerned in the following four regions: nearby Xinhe Dock and Liuyao River, the east of Qianjin Farm and the northwest part of the island.

【语种】英文

【第一作者】Guangrong Shen

【通讯作者】Guangrong Shen

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【学科分类】信息科学与系统科学基础学科

【题目】Study on Digital Agricultural Supporting Platform Construction in Fengxian District, Shanghai

【中文关键词】数字农业平台建设,系统框架

【英文关键词】Digital agriculture, Platform Construction, System framework

【中文摘要】上海作为我国沿海经济最发达的地区之一,高度重视数字农业研究,将“数字农业若干关键技术”列为2003年度重大科研攻关课题,本论文即是在该课题01子课题“数字农业空间信息管理平台开发”(课题编号:03DZ19301)支撑下完成的。

【英文摘要】The significance of digital agriculture has been discussed, and this paper reviews the current situation of digital agricultural platform in China. The construction of digital agricultural supporting platform in Fengxian District has been studied and discussed, the research content, system framework and technical rout has been discussed.

【语种】英文

【第一作者】Shuai Zhang

【通讯作者】Zhao Jingyin

【期刊名称、卷期、页码】2008 International Conference on Infomatization, Automation and Electrification in Agriculture

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【引文索引号】2008

【学科分类】信息科学与系统科学基础学科

【题目】UBAP认证协议的逻辑设计与研究

【中文关键词】身份 认证;USB Key;CHAP;认证协议;UBAP

【英文关键词】lD authentica~on;USB Key;CHAP;Authentication Protocol;UBAP

【中文摘要】该文对CHAP认证协议进行了阐述,并对其安全缺陷进行了分析。针对CHAP协议的安全缺陷,将它进行了改进,结合密码学、身份认证技术以及USBKey技术,设计了一种基于USBKey网络环境下的身份认证协议,即UBAP(USB Key-based Authentication Protocol)协议,它采用软硬件相结合的一次一密的强双因子认证模式,实现了服务器和用户双方可靠的双向身份验证,并对该协议进行非形式化的分析,证明其能够低御重放攻击、服务器欺骗、网络监听、插入信道攻击、中间人攻击以及暴力攻击。

【英文摘要】This paper has a thorough analysis to CHAP and points out its security flaws. By using cryptology, ID authentication technique and USB Key technique, it has been improved. Then designs UBAP protocol which is an]D authentication protocol under environment based on USB Key. It is a one-time password authentication mode with double factors combining software with hardware, which guarantees reliable bidirectional ID authentication to both server and user. Lastly, this paper has a non-formalization analysis to UBAP, it has proved that the protocol can resist the replay attack, server-impersonated, the snoop attack, the inserting channel attack,

the middle-man attack and the brute-force attack.
【语种】中文
【第一作者】印 润远
【通讯作者】钟振鸿
【期刊名称、卷期、页码】《计算机安全》 2008年第8期 45-47页
【论文发表时间】2008-01-01 00:00:00
【引文索引类型】其他
【引文索引号】200808
【学科分类】计算机科学技术基础学科

【题目】基于Fuzzy推理的鱼病诊断专家系统
【中文关键词】专家系统;Fuzzy推理;模型;三 I算法
【英文关键词】expert$ystem;Fuzzy reasoning;m0del;three implication reas0ning alg0rithm
【中文摘要】鱼病诊断过程中存在大量的Fuzzy性问题,通过对三I算法的分析,提出一个基于 蕴涵算子的三I 算法 ,并就FMP(fuzzy modus pr0nens)问题,运用该算法 ,研究基于多维,多重以及多维多重规则时的解。该 算法在研究鱼病诊断系统的过程中结合鱼病专家知识库,提取出鱼病诊断规则,抽象出鱼病诊断Fuzzy推理 的一般性模型,并给出了基于该模型的算法 ,在该算法中,应用的Fuzzy推理是基于 算子的三 I算法。
【英文摘要】We adVance an impmVed three implication reasoning alg0rithm based on尺M thmetic 0pemtors. As f0r FMP (fuzzy modus pr0nens) pr0blem, we pmvide tIle soluti0n f0r multidimensi0nal, multiple and muItidimensi0nal and multiple l1Jles with this alg0rithm. And we the0retically analyze its compute pedorrnance,and think it more excellent than general three implieati0ns reasoning one.In the end, 0n the basis of analyzing the chaI.acters of 6sh disease diagn0sis and c0mmunication with 6sh disease expert, we extract the rules f0r fish disease diagn0sis,put f0rward a general m0del f0r nsh disease fuzzy diagn0sis and sh0w up 0ur alg0rithm f0r this mode1. In our alg0rithm fuzzy lo cal reasoning that we used is just the thI1ee implicati0n reas0ning based 0n尺 thmetical 0perators we advanced.
【语种】中文
【第一作者】尹银平
【通讯作者】印润远
【期刊名称、卷期、页码】上 海 海 洋 大 学 学 报 VoI.18.No.1
【论文发表时间】2009-01-01 00:00:00
【引文索引类型】其他
【引文索引号】004-7271(2009)01-0077-06
【学科分类】海洋科学

【题目】基于RFID技术的食用菌工厂化生产管理系统方案
【中文关键词】食用菌;工厂化生产;管理信息系统;RFID
【英文关键词】Edible fungi,factory production,management information system, RFID
【中文摘要】:针对食用菌工厂化生产中食用菌产量和质量不高的情况,分析了食用菌工厂化生产管理的现状,得出实时获取在制品状况、生产进度和生产过程监控的需求,提出基于RFID(Radio Frequency Identification)技术的食用菌工厂化生产管理信息系统解决方案,采用三层架构,包括业务管理层 ERP、生产过程管理系统和 RFID 应用层。设计出生产管理信息系统的主要模块结构和功能,包括有:基础数据管理模块、采集的数据处理模块、RFID 管理模块、生产过程控制模块、在制品管理模块、系统扩展接口等。最后对食用菌工厂RFID应用方案进行了比较分析。
【英文摘要】Based on the RFID technology in edible fungus production management system
【语种】中文
【第一作者】王运圣
【通讯作者】赵京音
【期刊名称、卷期、页码】农业工程学报Vol.24 Supp. 2
【论文发表时间】2008-01-01 00:00:00
【引文索引类型】EI
【引文索引号】1002-6819(2008)-(Supp.2)-0206-05

【学科分类】农业基础学科

【题目】基于SOA的区县级农业资源信息数据管理和共享平台设计与实现
【中文关键词】农业资源管理;3S;SOA ;Web Service
【英文关键词】Agriculture resource management ;3S;SOA (Service Oriented Architecture) ;Web Service
【中文摘要】农业资源信息管理系统对农业资源的有效利用与农村经济的快速发展有着深远的影响。本平台是结合3S技术、Web Service及其扩展技术、大型空间数据库技术、组件技术和. Net 技术,基于 SOA(Service Oriented Architecture)构建农业资源信息数据共享和服务平台,实现对农业资源数据的高效管理、科学分析和辅助决策。平台采用全开放的架构,不同层次,不同应用的业务系统可以通过平台所提供的服务纳入平台体系。介绍了平台的总体结构、功能设计、数据库设计以及平台在设计和开发过程中的创新点。
【英文摘要】Agriculture resource information management system takes a good effect on agriculture resourceutilization and rural economic development. The SOA based Agriculture Resource Data Management andShare platform in this article built with 3S ,web service ,spatial database ,components and . Net technology ,can be used to manage and analyze agriculture data effectively and also make agricultural decision of thecounty. Systems at different administrative levels and in different fields could be connected to the platformthrough the platform ’s components and service interfaces. The platform structure ,function ,database designand innovations in the process of platform design and development are also introduced.
【语种】中文
【第一作者】戎恺
【通讯作者】黄禧亮
【期刊名称、卷期、页码】遥感技术与应用Vol.24 No. 4
【论文发表时间】2009-01-01 00:00:00
【引文索引类型】其他
【引文索引号】1004-0323(2009) 04-0507-05
【学科分类】地理学

【题目】基于WebGIS的设施土壤养分管理系统设计和实现
【中文关键词】土壤养分管理;专家系统;决 策系统;GIS;设施蔬菜
【英文关键词】Soil nutrition management;Expert system;Decision—making system;W ebOlS;Pro.
tected culture of vegetables
【中文摘要】:针对 目前设施 栽培蔬菜 土肥管理 多沿用 大 田管理方式 造成设 施内土壤 理化性状 和营养平衡 遭到 破坏 、蔬 菜产量品质下降、设 施土壤 可持续 性利用 困难 的现状,设计 开发 了设施蔬 菜土壤 养分管 理决 策系统 ,采 用 Java Applet模式构建 了基 于 WebGIS的设 施土壤 养分管理子系统;根据设 施环境条件和蔬菜需 肥规律,建立 设施蔬菜施肥模型 和设 施土壤施肥决策子系统;根据蔬 菜营养障碍的症状表现,采用基 于案例 的推理机制 ,建立 设施蔬菜营养诊断专家 系统 ,并实现 了子 系统 的集成 。系统 主要 帮助蔬 菜种植基 地 、种植场 和种植 户实现 设施 土壤养分有效管理并提 供蔬 菜营养诊断和测土配方施肥决策。本 文对 系统结 构和功能作了详细介绍。
【英文摘要】This paper details a soil nutrition management and decision.making system for protected culture of vegetables.This system is designed in order to solve the problems existing in protected vege. table cultivation such as the decline of vegetable yield and quality,deterioration of soil environment, and unbalance of soil nutrition caused by improper fertilization.It includes four subsystems,i.e。,a soil nutrition management subsystem by using Java Applet model and W ebGIS technology,a fertiliza—tion recommendation subsystem based on a vegetable fertilizing model,a vegetable nutrition diagnosis expert system by CBR (Case—Based Reasoning)and a soil fertilizing technology query subsystem.The system can help vegetable producers to effectively manage soil nutrition and provide soil nutrition di. agnosis and recommended rates of fertilizer application SO as to increase the producers ’income and realize the sustainable utilization of protected culture soil.
【语种】中文
【第一作者】李琳 一
【通讯作者】吕卫光
【期刊名称、卷期、页码】上海农业学报 2008,24(2):5—8
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【引文索引类型】其他

【引文索引号】1000-3924(2008)02-05-04
【学科分类】农业基础学科

【题目】切割生菜的HACCP管理及质量控制
【中文关键词】切割生菜,加工,质量,HACCP
【英文关键词】Fresh cut lettuce, Processing, Quality, HACCP
【中文摘要】分析了切割果蔬的发展现状,针对切割生菜的市场需求和生产加工管理过程的质量要求,运用HACCP体系对切割生菜的生产和加工过程进行管理,及时识别、分析可能发生危害的环节,并制订质量控制措施,防止危害的发生,保障生菜的食用安全,建立了切割生菜HACCP管理和质量控制体系。
【英文摘要】The development of fresh cut fruit and vegetable production was described. According to the consumption analysisand quality control in procedure of fresh cut lettuce production and procession, recognizing and analyzing the critical points with haz-ard possibility promptly, using the suitable control measurement to prevent from these harmful points in order to keep the food securi-ty of fresh cut lettuce, the HACCP management and quality control system of fresh cut lettuce were established.
【语种】中文
【第一作者】许深
【通讯作者】黄丹枫
【期刊名称、卷期、页码】长江蔬菜2007.6
【论文发表时间】2007-01-01 00:00:00
【引文索引类型】其他
【引文索引号】200706
【学科分类】园艺学

【题目】上海崇明农田土壤微量元素空间变异特征
【中文关键词】地统计学;空闻变异;Kriging;微量元素;GIS
【英文关键词】eostatistics;spatialvariability;Kriging;micro-element;GIS
【中文摘要】采用地统计学与地理信息系统(GIs)相结合的方法,研究了上海崇明岛表层土壤有效铜、有效硼、有效铁、有效钼、有效锰、有效锌等微量元素的空间变异特征及分布规律。根据研究区土地利用背景的区域性差异及数据的各向异性.针对每个指标分别进行详细的试验分析取得空间相关性最强的步长和分析尺度,并由此选择不同的拟合模型对各因子进行泛克里格插值.获得相关微量元素的空间变异分布图。结果表明,6个指标均表现出强变异性。研究区农田土壤有效铜、有效铁含量过高,有效硼含量基本属于正常范围,有效锌含量偏低,有效锰、有效钼的含量过低。较高的铜含量位于研究区的西北部。主要集中在三星镇及其边缘地区。研究区两端的西北部、东南部地区有效铁含量相对较高,中部含量较低。详细的探索性空间数据分析、合适步长的试验分析,对获得准确描述各指标空间变化的插值理论模型,进而保证所选模型的插值精度具有重要的意义。
【英文摘要】The spatial variability and distributions of the micro-element including Available Cu,Available B,Available Mo,Available
【语种】中文
【第一作者】徐敬敬(
【通讯作者】申广荣
【期刊名称、卷期、页码】上海交通大学学报(农业科学版)V01.27 No.1
【论文发表时间】2008-01-01 00:00:00
【引文索引类型】其他
【引文索引号】1671-9964(2009)01-0013-06
【学科分类】土壤学

【题目】上海农村信息化低成本解决方案初探
【中文关键词】农村信息化;低成本;解决方案;上海
【英文关键词】Rural informatization;Cost—reduction;Scheme;Shanghai
【中文摘要】低成本信息化是中国农村信息化发展的必由之路,是建设社会主义新农村的重要突破口。本文分析了上海新农村信息化建设存在的问题,并针对上海农村信息化提出一套低成本解决方案。

【英文摘要】Low cost informatization is the only way to develop rural informatization of China and also an im portant breakthrough in developing the new rural areas.This paper analyzes the problems of rural informatization of Shanghai and sets forth a low—cost solution of rural informatization.
【语种】中文
【第一作者】陈建林
【通讯作者】赵京音
【期刊名称、卷期、页码】上海农业学报 2008,24(2):91—94
【论文发表时间】2008-01-01 00:00:00
【引文索引类型】其他
【引文索引号】1000-3924(2008)02-91-04
【学科分类】农业基础学科

【题目】上海市青村镇黄桃生产经营情况调查分析
【中文关键词】上海青村镇;黄桃;生产经营;调查
【英文关键词】Shanghai village green; peach; production management; survey
【中文摘要】目前研究者针对黄桃的研究都是站在信息提供者的角度进行,而基于需求者 自身需求视角的研究却一直缺乏。通过对调查问卷的统计和分析,笔者从黄桃种植户的角度出发,讨论 了在黄桃生产经营中遇到的问题并分析其 原因,发现黄桃生产经营中所遇到的最大困难是销售,而桃农获取知识的主要渠道仍然是 自己在实践中摸索和桃农 间相互交流,桃农最喜欢的信息提供方式是农业技术宣传单。
【英文摘要】Shi Qing village Shanghai town of Huang Tao production and operation situation investigation and analysis
【语种】中文
【第一作者】袁涛
【通讯作者】李琳一
【期刊名称、卷期、页码】安徽农学通报,Anhui Agri.Sei.Bul1.2009,15(1)
【论文发表时间】2009-01-01 00:00:00
【引文索引类型】其他
【引文索引号】2009151
【学科分类】农业基础学科

【题目】上海新农村信息化建设发展的思考
【中文关键词】上海;新农村信息化;发展思考
【英文关键词】shanghai,new rural informatization
【中文摘要】信息化在解决"三农"问题上发挥着重要作用,是建设社会主义新农村的重要突破口。本文分析了上海新农村信息化建设的现状及存在问题,并提出新农村建设下发展农村信息化的几点建议。
【英文摘要】Informatization plays an important role in resolvingthe problem of teh "agriculture,ruralregion and farmers"
【语种】中文
【第一作者】陈建林
【通讯作者】赵京音
【期刊名称、卷期、页码】社会主义新农村信息化建设的发展与前景学术研讨会论文选
【论文发表时间】2007-01-01 00:00:00
【引文索引类型】其他
【引文索引号】20070801
【学科分类】农业基础学科

【题目】我国农业资源管理研究现状及展望
【中文关键词】农业资源管理;3S技术;展望
【英文关键词】Agricultural resources management;3S technology;Prospect
【中文摘要】农业资源管理是人们为了保持资源处于良好状态和提高资源整体利用效率,实现资源的永续利用,而对农业资源及其运用采取一系列的行动。本文介绍了农业资源管理研 究从利用传统人工的方式到利用现代信息技术的发展过程,并展望了农业资源管理研究的发展前景。

【英文摘要】Agricultural resources management is a series of actions which have been taken on the agricultural resources to keep the resources with a good state and improve the utilization eficiency of the whole resources.This paper introduced the change process of agricultural resources management from the usage of tradition artificial to the usage of modern information technology,and put forward the prospect of development of agricultural resources management.
【语种】中文
【第一作者】张 帅
【通讯作者】余立云
【期刊名称、卷期、页码】《农业网络信 ~,}2008年第9期
【论文发表时间】2008-01-01 00:00:00
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【引文索引号】1672—6251(2008)09—0110-02
【学科分类】农业基础学科

【题目】无线网格关键技术及其在农业相关领域的应用
【中文关键词】网格;无线网格;传感器网格
【英文关键词】rid;Wirelessgrid;Sensorgad
【中文摘要】介绍了无线网格技术的研究现状,探讨了有线网格和无线网格的协作,利用无线网格扩展现有的有线网格应用,讨论了无线网格中研究热点以及无线网格在农业相关领域的应用。
【英文摘要】This paper describes the current situation of theWirelessGrid Technology Research,studies the wire grid andwirelessgridcollaboration and the extension ofexistingwiregad by usingwireless mesh,and discusses the research of hottopicsinwirelessgrid,aswellasapplicationof the wirelessgridinagriculture-relatedfields.
【语种】中文
【第一作者】王运圣
【通讯作者】赵京音
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【学科分类】农业基础学科

【题目】信息技术在科技兴农中的应用
【中文关键词】科技兴农;信息技术;应用
【英文关键词】Agrotechnical extending for rural area;Inform ation technology;Practical use
【中文摘要】本 文 侧重 阐述 现代 信 息技 术在 科技 兴农 中的主 要 应用, 解现代信息技术,并更好地在科技兴农中得到应用。
【英文摘要】This paper mainly expounds the major practical use of modern information technology in Agrotechnical Extending for Rural Area in order to comprehend agriculture information technology system in the whole form on the macroscopic,and let more people understand the agriculture information technology and use them.
【语种】中文
【第一作者】陈建林
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【期刊名称、卷期、页码】《农业网络信息)2008年第9期
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【学科分类】信息科学与系统科学基础学科

【题目】烟粉虱若虫在甘蓝和花椰菜莲座期不同叶位层上的分布
【中文关键词】烟粉虱,种群数量,叶菜叶位层分布,统计方法

【英文关键词】Bemisia tabaci,population size,po sitions distribution on vegetables.statistical methods
【中文摘要】对 烟 粉虱 Bemisia tabaci(Gennadius)若虫在花椰菜 Brassica oleracea var.italica和 甘蓝 Brassicn oleracea var.capitata不 同叶位层 的分布调查结果显示,烟粉 虱若虫 在菜株各 部位均 有分布,但各部位间 极不均匀。统计分析表明:其若虫 的种群数量在 同种蔬菜 的菜株各部位间均存在极显著 的差异 。但在 2 种叶菜寄主间同一部位 上烟粉虱若虫的种群数量差异不明显 。通过对菜株各部位烟粉虱若虫 量与整株 总量的回归分析,建立 了叶菜植株不 同部位烟粉虱虫 量与全株总虫 量的回归方程及多元 回归模 型。
【英文摘要】Based on the investigation of distribution of the nymph of&m ia tabac (Gennadius)on leaves of aabbage and broccoli in roseset,the nymph of B .tabaci can be found in all parts of the plants,with greatly uneven density. Further statistical analysis indicated that the density was significantly different among diferent parts in the same host. however,the density in the same part had no diference between two vegetable hosts.The regression equation on the amount of the nymph of B.tabaci in each part and whole plant was built.
【语种】中文
【第一作者】王 红
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【期刊名称、卷期、页码】昆虫知识2007445
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【学科分类】昆虫学

【题目】一种基于 CBR的网络水产品价格预测方法
【中文关键词】水产品价格 预测 面向属性归纳 基于案例推理
【英文关键词】Aquatic product price Forecasting Attribute2oriented induction Case2based reasoning
【中文摘要】水产品价格的科学预测对水产业健康可持续发展具有重要作用。提出了一种基于案例推理 CBR (Case2Based Reason2ing)的水产品价格预测方法,其包括网络数据自动获取、基于概念树的面向属性归纳、案例的生成与表示、案例匹配及相似性计算、案例评价与修正等关键过程。在关键过程研究基础上实现了预测系统,并对网络水产品价格数据进行预测实验。结果表明,该系统能自动采集权威网站水产品价格数据,并能对水产品价格进行有效的分析与预测。
【英文摘要】It plays an important role to scientifically forecast the prices of aquatic products for the healthy and sustainable development ofaquaculture. In this paper it presents a method for forecasting aquatic products ’ prices based on Case2Based Reasoning (CBR) and its keyprocesses, such as automatic web data acquisition, attribute2oriented induction based on concept tree, generation and representation of cases,casesmatching and similarity calculation, case evaluation and revision, etc. A prediction system based on the keyprocesses study has been im2plemented, and forecasting experiments forprice data ofweb aquatic products have been conducted. Results show that the system can automati2cally collectweb data from authoritativewebsites that issue aquatic products ’ prices and can effectively analyze and forecast the aquatic prod2
【语种】中文
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【学科分类】计算机科学技术基础学科

【题目】鱼病远程诊断模糊专家系统
【中文关键词】专家系统;鱼病诊断;模糊推理;XF6.2
【英文关键词】expert system; fish disease diagnosis; fuzzy reasoning; XF6.2
【中文摘要】在结合鱼病诊断学和鱼病专家的知识与经验基础上,提出采用基于三 I(Triple Implication)机制的特征展开糊推理模型,并用特征系数与规则支持度作为不精确性的描述和传递参量,对鱼病诊断过程中存在的模糊性进行描述和处理,最后利用XF6.2专家系统开发工具,研制开发了鱼病远程诊治专家系统。结果表明,将专家系统与模糊技术相结合应用于鱼病远程诊断能解决鱼病症状的模糊性问题,同时将模糊推理模型在知识库而非推理机中实现,推理过程具有更大的灵活性,更符合人类专家的推理思想。

【英文摘要】On the basis of fish disease diagnostics and domain experts ’ knowledge and experience, the fuzzy reasoning model of characteristic expansion based on triple I method is proposed to describe and process the fuzziness of diagnosed symptoms by using two parameters, characteristic coefficient and rule support. An Expert System for Fish Disease Tele-Diagnosis based on the model has been implemented by using an expert system development tool—XF6.2. The results show that this model can deal with the fuzzy information, and also prove that the strategy that the model of fuzzy reasoning is coded in knowledge base instead of inference engine can increase the flexibility of reasoning and is more suitable to simulate expert thinking.
【语种】中文
【第一作者】袁红春
【通讯作者】池 涛
【期刊名称、卷期、页码】中南大学学报(自然科学版) 第38卷增刊1
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【学科分类】计算机科学技术基础学科

【题目】专家系统在植物保护领域中的应用
【中文关键词】专家系统 植物保护 应用
【英文关键词】Expert system,Plant protection,Application
【中文摘要】简述了专家系统概念、结构及特征,综述了近年来专家系统在植物保护领域中的应用现状,分析了其存在的问题,概述了其未来的发展趋势。
【英文摘要】This paper Introduces the conception ,composition and trait of expert system,
【语种】中文
【第一作者】李琼玉
【通讯作者】赵京音
【期刊名称、卷期、页码】《农业网络信息)2009年第4期
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【学科分类】信息科学与系统科学基础学科

【题目】上海崇明岛土壤重金属含量空间变异特征研究
【中文关键词】地统计学;GIS;崇明岛;土壤重金属:Kriging
【英文关键词】geostatistics; GIS; Chongming Island; soil heavy metal; Kriging
【中文摘要】采用地统计学与GIS相结合的方法,研究分析了上海崇明岛土壤重金属砷(As)、镉(Cd)、铬(Cr)、锌(Zn)、铜(Cu)、汞(Hg)、铅(Pb)、镍(Ni)的空间变异特征并比对国家标准分析了各元素超标概率分布状况。样本数据中的离群值是反应区域局部污染状况的重要信息,但同时离群值又对样本统计量的估计或空间插值造成一定的影响。本文尝试采用去离群值样本的插值模型与包含离群值样本数据进行插值的方式对重金属空间分布特征进行分析。另外,采用概率克立格法对研究区各元素超标概率状况进行了预测。结果表明:基于对离群值特殊处理的重金属含量的空间插值精度明显提高。研究区重金属分布特征为:崇明岛部分区域Cd含量较高;分布相对均匀,但空间向异性较大;新河码头附近、前进农场东、六滧港附近、崇明岛西北角这四大区域大部分重金属元素含量较高、且超标概率也较高。
【英文摘要】The spatial variability and distributions of the soil heavy metal elements including As, Cd, Cr, Zn, Cu, Hg, Pb and Ni in thetopsoil were estimated in Chongming Island (Shanghai) based on the combination of Geostatistics and Geographic Information System(GIS). The spatial sampling site with the extra-bigger (smaller) measuring value of heavy metal elements were specially considered andtreated in this study because these data of the sampling sites can reflect the status of contamination of the local regions, meanwhile mayunfortunately be impractive to the estimation of statistic parameters and the spatial variability. In addition, Probability Kriging was per-formed for predicting the possibility of polluted area. The results indicate that Cd is extremely high on the whole island, while otherheavy metals are distributed acceptably. The most probably as well as the most seriously polluted extensions are discerned in the follow-ing four regions: nearby Xinhe Dock and Liuyao River, the east of Qianjin Farm and the northwest part of the island.
【语种】中文

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【期刊名称、卷期、页码】上海交通大学学报(农业科学版)第28卷 第4期
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【学科分类】农业基础学科

【题目】Population genetic structure of the tiger prawn (Penaeus monodon) in the coastal waters of South China, based on mitochondrial DNA control region sequences
【中文关键词】对虾,太平洋群体,多样性,野生型
【英文关键词】SHRIMP PENAEUS; PACIFIC POPULATIONS; DIVERSITY; WILD;
【中文摘要】利用线粒体DNA控制区序列检测中国南方沿海水域斑节对虾的遗传变异和群体结构;收集三亚,深圳,湛江、北海的80个条对虾,157个多态性位点显示有69种单倍型。样品的核苷酸多样性(pi)为6.16 +/- 3.01%,高于中国海域的其他物种,如日本对虾,三疣梭子蟹,黑鲷。北海与三亚间的种群差异为 (pairwise F(ST) = 0.09836, P < 0.05),北海和深圳的差异为 (pairwise F(ST) = 0.12153, P < 0.05)。所有的种群间的遗传距离显著 (F(ST) = 0.053, P = 0.037 < 0.05)。利用UPGMA聚类分析四个种群间的遗传距离,显示三亚和深圳的最接近,北海最远。因此在斑节对虾增殖养殖过程中应避免近亲繁殖或杂交。根据本研究显示北海的斑节对虾为一个资源群体,三亚和深圳是另一个资源群体。
【英文摘要】Genetic variation and population structure of Penaeus monodon in the coastal waters of South China were detected using mitochondrial DNA control region sequences. Eighty individuals were collected at Sanya, Shenzhen, Zhanjiang and Beihai; 69 haplotypes with 157 polymorphic sites were detected. Nucleotide diversity (pi) of the combined samples (6.16 +/- 3.01%) was much higher than many other species in Chinese seas, such as Penaeus japonicus, Portunus trituberculatus, and Acanthopagrus schlegeli. Genetic differentiation was significant between Beihai and Sanya (pairwise F(ST) = 0.09836, P < 0.05), and between Beihai and Shenzhen (pairwise F(ST) = 0.12153, P < 0.05). Significant genetic differentiation among all populations was found by analysis of molecular variance (amova) (F(ST) = 0.053, P = 0.037 < 0.05). The upgma dendrogram of the four populations showed Sanya and Shenzhen as the closest to each other, with Beihai having the greatest genetic distance from Sanya and Shenzhen. The tiger prawn of the coastal waters of South China should therefore be bred as two separated stocks, avoiding inbreeding or outbreeding selection of P. monodon in the captive breeding program. According to our results one source population is Beihai, and the others are from Sanya and Shenzhen.
【语种】英文
【第一作者】邱丽华
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【期刊名称、卷期、页码】Journal of Applied Ichthyology;Volume 25, Issue 4, pages 411 – 416, August 2009
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【学科分类】水产学基础学科

【题目】Molecular cloning and mRNA expression of cyclophilin A gene in black tiger shrimp (Penaeus monodon)
【中文关键词】分子克隆,亲环素A,实时定量,斑节对虾
【英文关键词】Cloning; Cyclophilin A; RT expression; Black tiger shrimp (Penaeus monodon)
【中文摘要】利用同源克隆技术和RACE方法克隆获得斑节对虾亲环素A(CypA)基因。全长基因包含81bp的5'非编码区,495bp开放阅读框编码164个氨基酸序列,分子量为17.68KDa,3'非编码区为308bp。推测氨基酸序列与其他物种的亲环素A一致性高。实时定量PCR实验显示亲环素A在不同组织的表达分布,主要在肝胰腺和血淋巴中表达;LPS诱导后肝胰腺的亲环素A表达上调。表明亲环素A是一种组成型和诱导性表达的蛋白。
【英文摘要】The techniques of homology cloning and anchored PCR were used to clone the cyclophilin A (CypA) gene from black tiger shrimp (Penaeus monodon). The full-length cDNA of black tiger shrimp CypA (btsCypA) contained a 51 untranslated region (UTR) of 81 bp, an ORF (open reading frame) of 495 bp encoding a polypeptide of 164 amino acids with an estimated molecular mass of 17.68 kDa and a 3' UTR of 308 bp. The predicted amino acid sequence of btsCypA shared high identity with CypA in other organisms. A quantitative reverse transcriptase Real-Time PCR (qRT-PCR) assay was developed to assess the mRNA expression of

btsCypA in different tissues and the temporal expression of btsCypA in the hepatopancreas challenged by lipopolyssacharide (LPS). Higher-level mRNA expression of btsCypA was detected in the tissues of hepatopancreas and blood. The expression of btsCypA in the hepatopancreas was up regulated after stimulated by LPS. The results indicated. that btsCypA was a constitutive and inducible expressed protein and could be induced by LPS. (C) 2008 Elsevier Ltd. All rights reserved.
【语种】英文
【第一作者】邱丽华
【通讯作者】江世贵
【期刊名称、卷期、页码】Fish & Shellfish Immunology;Volume 26, Issue 1, January 2009, Pages 115 – 121
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【引文索引号】416OP
【学科分类】水产学基础学科

【题目】1. A SCAR marker linked to the N gene for resistance to root knot nematodes (Meloidogyne spp.) in pepper (Capsicum annuum L.)
【中文关键词】未
【英文关键词】Pepper;Capsicum annuum L.;Disease resistance;Root-knot nematode;Meloidogyne spp.;SCAR;N gene;Marker assisted selection
【中文摘要】未
【英文摘要】The root-knot nematodes (Meloidogyne spp.) are important nematode pests and cause serious diseases in pepper in the world. No molecular markers linked to the nematodes resistance N gene have been reported. In this paper, ‘ Carolina Wonder ’ (Capsicum annuum L.), a sweet pepper line resistant to root-knot nematode with N gene, ‘ 20080-5-29 ’ (C. annuum L.), an inbred line susceptible to root-knot nematode with good horticultural characteristics, and their F2 progeny with 320 individuals were used as materials. Evaluation of resistance and susceptibility of parental lines, F1 and F2 progeny inoculated with root-knot nematodes (Meloidogyne incognita) were carried out. ‘ Bulked segregant analysis ’ method was used to search for polymorphicmarkers from512 pairs of AFLP primers. Based on the assessment ofresistance and susceptibility and polymorphismof the AFLPmarker in F2 population, the genetic linkage distance between the AFLP marker and the N gene was estimated. One AFLP marker E39/M41-339 was obtained and transferred to a SCAR marker amplifying a 315 bp DNA fragment linked to the N resistant allele and a 331 bp fragment linked to the N+susceptible allele. The distance between the molecular marker and the nematodes resistance N gene is 6.3 cM. This research delivered a valuable tool for the marker assisted selection of nematodes resistance in pepper.
【语种】英文
【第一作者】L.H. Wang
【通讯作者】B.X. Zhang
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【学科分类】园艺学

【题目】胡椒瘟病田间发生规律观察
【中文关键词】胡椒;胡椒瘟病;发病规律
【英文关键词】Pepper;Pepper Phytophthora foot rot;Occurrence regularity
【中文摘要】研究胡椒瘟病的发生与气象因子、土壤pH、土壤质地、地形地势、种植年限等之间的关系。结果表明:气象因子是胡椒瘟病发生流行的丰要因素;土壤pH和种植年限与病害的发生没有显著的相关性,但是土壤质地、地形地势、农业措施对病害的发生有着显著的影响。
【英文摘要】The effect of weather condition,soil type,soil pH,plant age and landform on occurrence of the pepper Phytophthora foot rot was investigated in this paper.The results showed that the weather condition was an important effect factor to the pepper Phytophthora foot rot epidemic.The soil pH and plant age had no significant effect on the occurrence of Pepper Phytophthora foot rot.However,the soil type,landform and plant measure had effect on the occurrence of pepper Phytophthora foot rot.

【语种】中文
【第一作者】桑利伟
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【期刊名称、卷期、页码】热带作物学报、第31卷第11期、1996-1999
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【学科分类】植物保护学

【题目】海南省胡椒主要病害现状初步调查
【中文关键词】胡椒;主要病害;调查
【英文关键词】pepper;main disease;survey
【中文摘要】明确海南省胡椒主要病害种类及发生情况,对海南省琼海、文昌、万宁、海口、定安、临高、儋州、澄迈、屯昌等9个市(县)进行了调查,结果表明:(1)目前危害海南胡椒生产的主要病害有9种,其中真菌病害5种,为胡椒瘟病、胡椒枯萎病、胡椒根腐病、胡椒炭疽病和胡椒煤烟病;细菌病害1种,为胡椒细菌性叶斑病;病毒病害1种,为胡椒花叶病;其他病害2种,为胡椒根结线虫病和胡椒藻斑病。(2)分布广且危害严重的有胡椒瘟病、胡椒花叶病、胡椒根结线虫病和胡椒枯萎病。
【英文摘要】A survey on the status of main pepper diseases was carded out during 2007--2009 in Hainan Province,including Wanning,Qionghai,Haikou,Wenchang,Chengmai,Danzhou,Lingao,Tunchang,Ding ’an in Hainan Province,China.The results showed that there were nine kinds of pepper diseases including five kinds of fungal diseases such as pepper Phytophthora foot rot,pepper wilt disease,pepper foot rot,pepper anthracnose and pepper sooty moulds,and one kind of pepper bacterial disease such as pepper bacterial leaf spot.
【语种】中文
【第一作者】桑利伟
【通讯作者】刘爱勤
【期刊名称、卷期、页码】植物保护:2010,36(5):133-137
【论文发表时间】2010-05-13 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】植物保护学

【题目】23种植物提取物对胡椒瘟病病原菌的抑制作用
【中文关键词】植物提取物; 胡椒瘟病菌;抑菌活性
【英文关键词】plant extraction;Phytophthora capsici;inhibitory activity
【中文摘要】为了筛选对胡椒瘟病菌具有较好抑菌活性的植物提取物。采用菌丝生长速率法测试了23种热带特有植物提取物对胡椒瘟病菌的抑菌作用。结果表明,供试植物干样提取物浓度为10 mg/mL时,圆滑番荔枝、黄皮、蔓马缨丹、益智、假筠和酸豆提取物的抑菌活性较好,其中圆滑番荔枝提取物的抑菌率高达100%;当浓度为5 mg/mL时,圆滑番荔枝、黄皮和蔓马缨丹提取物的抑菌率仍超过50%,分别为82.94%、78.39%和74.19%,其对病原菌菌丝生长的EC50分别为1.647 1、2.966 2、2.953 4 mg/mI。。
【英文摘要】To screen the plant extracts against Phytophthora capsici,the inhibitory activity of 23 tropic plant extracts were tested using mycelial growth rate method.The results showed that the inhibition rate of 10 mg/mL Annona glabra Linn..Artabotrys hexapetalus(Linn.f.)Bhandari · Clausena lansium(Lout.)Skeets,Lantana montevidensis Briq.,Alpinia oxyphylla Miq.,Piper sarrnentosum Roxb.and Tamarindus indica Linn.extracts had high inhibition rate to P.capsici,among which A.glabra had an inhibition rate up tO 100%.When the con—centration was 5 mg/mL,the inhibition rates of A.glabra,C.1ansium and L.montevidensis extracts were 82.94%。78.39%and 74.19%,respectively.The ECs0 values of them were 1.647 l,2.966 2 and 2.953 4 mg/mL,respectively.
【语种】中文
【第一作者】苟亚峰
【通讯作者】苟亚峰
【期刊名称、卷期、页码】植物保护,2010,36(6):128—131

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【引文索引类型】其他
【引文索引号】null
【学科分类】植物保护学

【题目】Expression, purification and antibacterial activity of bovine lactoferrampin- lactoferricin in Pichia pastoris
【中文关键词】Agriculture
【英文关键词】Bovine lactoferricin . Bovine lactoferampin . Antimicrobial peptides . Antibacterial activity . Pichia pastoris . Pigs . Nutrition . Amino acids
【中文摘要】Amino Acid
【英文摘要】Bovine lactoferrampin (LFA) and bovine lactoferricin (LFC) are two antimicrobial peptides located in the N(1) domain of bovine lactoferrin. The bactericidal activity of the fused peptide LFA-LFC is stronger than that of either LFA or LFC. The high cost of peptide production from either native digestion or chemical synthesis limits the clinical application of antimicrobial peptides. The expression of recombinant peptides in yeast may be an effective alternative. In the current study, the expression, purification, and antibacterial activity of LFA-LFC using the Pichia pastoris expression system are reported. The linearized expression vector pPICZaA-LFA-LFC was transformed into P. pastoris KM71 by electroporation, and positive colonies harboring the target genes were screened out and used for fermentation. The recombinant LFA-LFC peptide was purified via two-step column chromatography and identified by tricine-sodium dodecyl sulfate-polyacrylamide gel electrophoresis and matrix-assisted laser desorption/ionization time-of-flight mass spectrometry. The results indicate that P. pastoris is a suitable system for secreting LFA-LFC. The fermentation supernate and the purified LFA-LFC show high antimicrobial activities. The current study is the first to report on the expression and purification of LFA-LFC in P. pastoris and may have potential practical applications in microbial peptide production.
【语种】英文
【第一作者】X.S. Tang
【通讯作者】Yulong Yin
【期刊名称、卷期、页码】Process Biochemistry. 2010
【论文发表时间】2012-07-08 00:00:00
【引文索引类型】SCI
【引文索引号】524
【学科分类】畜牧、兽医科学其他学科

【题目】Dietary bovine lactoferricin improved gut microflora, benefited intestinal mucosal morphology and inhibited circular cytokines delivery in 21-day weaned piglets
【中文关键词】Agriculture
【英文关键词】Nutrition
【中文摘要】Amino Acid
【英文摘要】To study the effect of feeding pharmacological level of bovine lactoferricin (LFcin), 20 weaned piglets (5.29±0.19 kg) were randomly assigned to four treatment groups and fed a maize-soyabean meal diet containing either no addition (C), 100 mg/kg of cipB (C + B), 100 mg/kg of cipB-LFcin (C + L) or 100 mg/kg of colistin sulphate (C + CS) for 3 weeks. Compared with C and C + B, dietary LFcin reduced faecal score ($P < 0.05$), decreased the concentration of Escherichia coli in the duodenum, jejunum and ileum ($P < 0.05$), increased the concentration of lactobacillus and bifidobacterium in the duodenum, jejunum and ileum ($P < 0.05$), and promoted development of the villus-crypt architecture of the jejunum and ileum. Dietary supplementation with LFcin decreased serum levels of cytokines (interleukin-1,6 [IL-1,6], tumour necrosis factor-α [TNF-α]) ($P<0.05$) and glucagon ($P<0.05$), and increased growth hormone ($P<0.05$). Thus LFcin could relieve the weanling stress in 21-day weaned piglets.
【语种】英文
【第一作者】Zhiru Tang
【通讯作者】Yulong Yin
【期刊名称、卷期、页码】Journal of Applied Animal Research. 2010
【论文发表时间】2010-07-08 00:00:00
【引文索引类型】SCI

【引文索引号】524
【学科分类】畜牧、兽医科学其他学科

【题目】Tryptophan metabolism in animals: important roles in nutrition and health
【中文关键词】Agriculture
【英文关键词】Nutrition
【中文摘要】Amino Acid
【英文摘要】L-Tryptophan is a nutritionally essential amino acid for monogastric animals and preweaning ruminants because it cannot be synthesized in the body. Besides serving as a building block for proteins, tryptophan is a critical nutrient for the functions of nervous and immune systems. Over the past decades, much attention has been directed to study the role of tryptophan as a limiting amino acid in mammalian and avian nutrition. However, emerging evidence from recent studies shows that tryptophan and its metabolites (e.g., serotonin (5-hydroxytryptamine, 5-HT) and melatonin)) can regulate feed intake, reproduction, immunity, neurological function, and anti-stress responses. Additionally, tryptophan may modulate gene expression and nutrient metabolism to impact whole-body homeostasis in organisms. Thus, adequate intake of this amino acid from the diet is crucial for growth, development, and health of animals and humans.
【语种】英文
【第一作者】Kang Yao
【通讯作者】Yulong Yin
【期刊名称、卷期、页码】Amino Acid. 2010
【论文发表时间】2010-07-08 00:00:00
【引文索引类型】SCI
【引文索引号】524
【学科分类】畜牧、兽医科学其他学科

【题目】Dietary protein, energy and arginine affect LAT1 expression in forebrain white matter differently. Animal
【中文关键词】Agriculture
【英文关键词】L-type amino acid transporter 1, dietary protein, energy, arginine, brain
【中文摘要】Amino Acid
【英文摘要】L-type amino acid transporter-1 (LAT1) transports large, branched-chain, aromatic and neutral amino acids. About 64Duroc3Landrace3Yorkshire pigs were used to study the effects of dietary crude protein (CP), energy and arginine on LAT1expression in forebrain. The results showed that LAT1 expression in forebrain was sensitive to different levels of CP, energy andarginine. On the basis of Western blot analysis, a lower level of LAT1 presented in the brain tissues of pigs fed the low dietary CPdiet (P,0.05), a higher level were found in pigs fed the higher CP diet, with moderate to intense staining seen in pigs fed thediet plus 1% arginine. In contrast, pigs fed the control-energy diet had weak LAT1 expression, and those fed the dietsupplemented with 1% arginine showed lowest LAT1 expression (P,0.05). These results showed that LAT1 was highly expressedin the forebrain, and expression of LAT1 was affected by dietary protein, energy and arginine differently.
【语种】英文
【第一作者】Xin Wu
【通讯作者】Yulong Yin
【期刊名称、卷期、页码】Animal. (2010), 4(9): 1518-1521.
【论文发表时间】2010-07-08 00:00:00
【引文索引类型】SCI
【引文索引号】524
【学科分类】畜牧、兽医科学其他学科

【题目】Dietary supplementation with L-arginine or N-carbamylglutamate enhances intestinal growth and heat shock protein-70 expression in weanling pigs fed a corn- and soybean meal-based diet.
【中文关键词】Agriculture
【英文关键词】L-Arginine N-carbamylglutamate
Growth performance Diarrhea Intestinal morphology

Weaned pigs
【中文摘要】Amino Acid
【英文摘要】This study determined effects of dietary supplementation with L-arginine (Arg) or N-carbamylglutamate (NCG) on intestinal health and growth in early-weaned pigs. Eighty-four Landrace x Yorkshire pigs (average body weight of 5.56+/-0.07 kg; weaned at 21 days of age) were fed for 7 days one of the three isonitrogenous diets: (1) a corn- and soybean meal-based diet (CSM), (2) CSM+0.08% NCG (0.08%), and (3) CSM+0.6% Arg. There were four pens of pigs per diet (7 pigs/pen). At the end of a 7-day feeding period, six piglets were randomly selected from each treatment for tissue collections. Compared with the control group, Arg or NCG supplementation increased (P<0.05): (1) Arg concentrations in plasma, (2) small-intestinal growth, (3) villus height in duodenum, jejunum and ileum, (4) crypt depth in jejunum and ileum, (5) goblet cell counts in intestinal mucosae, and (6) whole-body weight gain in pigs. Real-time polymerase chain reaction and western blotting analyses revealed that both mRNA and protein levels for heat shock protein-70 (HSP70) were higher (P<0.05) in the intestinal mucosae of Arg- or NCG-supplemented pigs than in the control group. Furthermore, the incidence of diarrhea in the NCG group was 18% lower (P<0.01) than that in the control group. Collectively, these results indicate that dietary supplementation with 0.6% Arg or 0.08% NCG enhances intestinal HSP70 gene expression, intestinal growth and integrity, and the availability of dietary nutrients for whole-body weight gain in postweaning pigs fed a CSM-based diet. Thus, Arg or NCG is a functional ingredient in the weaning diet to improve nutrition, health, and growth performance of these neonates.
【语种】英文
【第一作者】Xin Wu
【通讯作者】Yulong Yin
【期刊名称、卷期、页码】Amino Acids, 2010, 39: 831-839
【论文发表时间】2010-07-08 00:00:00
【引文索引类型】SCI
【引文索引号】524
【学科分类】畜牧、兽医科学其他学科

【题目】Functions of microbiota in monogastric gastrointestinal tract and new practices in animal production
【中文关键词】Agriculture
【英文关键词】Nutrition
【中文摘要】Amino Acid
【英文摘要】The mammalian gastrointestinal (GI) tract harbors a complex micro-ecosystem consisting of countless bacteria. As an essential 'organ', the gut microbiota plays an important role in host nutrition and health by promoting supply, digestion and absorption of nutrient, preventing pathogen's colonization, and shaping and maintaining normal mucosal immunity. Antibiotics used as dietary additive not only interrupt the commensal microbiota in animal GI tract, but also lead to microbial resistance and antibiotics residues in animal products, which has become a worldwide problem to the health of human being and animals. So antibiotics have been banned as feed additives in many countries. Therefore, animal nutritionists and feed manufacturers are becoming increasingly interested in the topic. This paper mainly focuses on the development and important functions of microbes in monogastric GI tract as well as the factors affecting them. Applications of some novel alternatives in practice to keep GI tract ecosystem healthy, such as probiotics, prebiotics, Chinese herbal additives and exogenous enzymes, and their mechanisms were also introduced. The new alternatives to keep health of GI tract have great ecological, environmental issues and economic social effects. It may lead to the rational design of supplementation for animal production to study the functions of the microbiota, which has profound implications to support continuous development in livestock production in the future
【语种】英文
【第一作者】Xin Wu
【通讯作者】Yulong Yin
【期刊名称、卷期、页码】Journal of Food, Agriculture & Environment. 2010, 8(2):695-702
【论文发表时间】2010-07-08 00:00:00
【引文索引类型】SCI
【引文索引号】524
【学科分类】畜牧、兽医科学其他学科

【题目】High-level expression, purification and antibacterial activity of bovine lactoferricin and lactoferrampin in Photorhabdus luminescens.
【中文关键词】Agriculture
【英文关键词】Bovine lactoferricin; Bovine lactoferampin; Photorhabdus luminescens TZR001; ET recombination; Anti-microbial peptides
【中文摘要】Amino Acid
【英文摘要】Bovine lactoferricin (LFC) and bovine lactoferrampin (LFA) are two active fragments located in the N1-domain of bovine lactoferrin. Recent studies suggested that LFC and LFA have broad-spectrum activity against Gram-positive and Gram-negative bacteria. To date, LFC and LFA have usually been produced from milk. We report here the high-level expression, purification and characterization of LFC and LFA using the Photorhabdus luminescens expression system. After the cipA and cipB genes were deleted by ET recombination, the expression host P. luminescens TZR001 was constructed. A synthetic LFC-LFA gene containing LFC and LFA was fused with the cipB gene to form a cipB-LFC-LFA gene. To obtain the expression vector pBAD-cipB-LFC-LFA, the cipB-LFC-LFA gene was cloned on the L-arabinose-inducible expression vector pBAD24. pBAD-cipB-LFC-LFA was transformed into P. luminescens TZR001. The cipB-LFC-LFA fusion protein was expressed under the induction of L-arabinose and its yield reached 12 mg L^{-1} bacterial culture. Recombinant LFC-LFA was released from cipB by pepsin. The MIC of recombinant LFC-LFA toward E. coli 0149, 0141 and 020 was 6.25, 12.5 and 3.175 $\mu g\ ml^{-1}$, respectively.
【语种】英文
【第一作者】Zhiru Tang
【通讯作者】Yulong Yin
【期刊名称、卷期、页码】Protein Expression and Purification.2010, 73:132-139.
【论文发表时间】2010-07-08 00:00:00
【引文索引类型】SCI
【引文索引号】524
【学科分类】畜牧、兽医科学其他学科

【题目】Dietary supplementation with Chinese herbal powder enhances ileal digestibilities and serum concentrations of amino acids in young pigs
【中文关键词】Agriculture
【英文关键词】Ultra-fine Chinese herbal powder
Amino acids Digestion Piglets
【中文摘要】Amino Acid
【英文摘要】This study was designed to determine the effect of ultra-fine Chinese herbal powder as a dietary additive on serum concentrations and apparent ileal digestibilities (AID) of amino acids (AA) in young pigs. In Experiment 1, 60 Duroc x Landrace x Yorkshire piglets weaned at 21 days of age were randomly assigned to one of three treatments, representing supplementation with 0 or 2 g/kg of the powder, or 0.2 g/kg of colistin (an antibiotic) to corn- and soybean meal-based diets (n = 20 per group). Blood samples from five piglets per group were collected on days 7, 14, and 28 to determine serum AA concentrations. In Experiment 2, 12 barrows with an average initial body weight of 7.64 kg were randomly assigned to one of the three dietary treatments, followed by surgical placement of a simple T-cannula at the terminal ileum. All of the diets contained 0.1% titanium oxide as a digestibility marker. The samples of terminal ileal digesta were collected on day 7 for determining AID of AA. Results show that dietary supplementation with the herbal powder increased ($P < 0.05$) serum concentrations and AID of most AA by 10-50% and 10-16%, respectively. As an indicator of improved intestinal function, AID values of calcium were also enhanced in piglets supplemented with the herbal powder. Dietary supplementation of colistin increased serum concentrations and AID values of some AA by 8-44% and 10-15%, respectively, in comparison with the non-supplemented group. These novel findings demonstrate that the herbal powder can enhance the digestibility of dietary protein and the intestinal absorption of AA into the systemic circulation in post-weaning pigs, therefore providing a new mechanism for its growth- and immunity-promoting efficacy.
【语种】英文
【第一作者】X. F. Kong
【通讯作者】Yulong Yin

【期刊名称、卷期、页码】AMINO ACIDS. 2009,37(4),573-582.
【论文发表时间】2009-05-04 00:00:00
【引文索引类型】SCI
【引文索引号】524
【学科分类】畜牧、兽医科学其他学科

【题目】Molecular cloning, tissue distribution and ontogenetic expression of the amino acid transporter b0,+ cDNA in the small intestine of Tibetan suckling piglets
【中文关键词】Agriculture
【英文关键词】Chemerin Xiang pig Expression Akt
ERK1/2
【中文摘要】Amino Acid
【英文摘要】Chemerin, as a new member of adipokinesfamily, is highly expressed in adipose tissue in rodent andits expression increases with obesity. Moreover, chemerinhas been reported to have significant relationship withmetabolic syndrome and insulin sensitivity. Here, the geneencoding chemerin from Xiang pig was cloned. The openreading frame of this cDNA encodes 163 deduced aminoacid residues. The putative protein has a N-terminal signalingpeptide and a nuclear localization signal profilewhich are highly conserved among the vertebrate orthologs.Both chemerin and chemerinR are highly expressed inlung, kidney and small intestine in adult Xiang pig. Besidesthese tissues, chemerin is abundant in liver and backfat,and chemerinR is abundant in spleen and skeletal muscle.We also investigated the age-dependent expression ofchemerin in suckling Xiang piglets in various tissues,which showed an interaction between age and segments inabundance of chemerin and chemerinR from day 1 to day21. For chemerinR, it was abundant in skeletal muscle ofboth adult and fetal Xiang pig. Further, we treated differentiatedC2C12 cells with chemerin. The result showed thatchemerin regulated energy metabolism partly through Aktand ERK1/2 signaling pathway. Taken together, our findingsprovide basic molecular information for the deeperinvestigation on the function of chemerin.
【语种】英文
【第一作者】Wence Wanga
【通讯作者】Yulong Yin
【期刊名称、卷期、页码】Comparative Biochemistry and Physiology, Part B 154 (2009) 157-164
【论文发表时间】2009-05-04 00:00:00
【引文索引类型】SCI
【引文索引号】524
【学科分类】畜牧、兽医科学其他学科

【题目】Effect of dietary supplementation of chitosan and galacto-mannan-oligosaccharide on serum parameters and the insulin-like growth factor-I mRNA expression in early-weaned
【中文关键词】Agriculture
【英文关键词】Oligosaccharides; Insulin-like growth factor-I; Growth hormone; mRNA expression level; Early-weaned piglets
【中文摘要】Amino Acid
【英文摘要】The study was to determine effects of dietary supplementation of chitosan (COS) and galacto-mannan-oligosaccharides (GMOS) on some serum biochemical indices, serum growth hormone (GH) and insulin-like growth factor-I (IGF-I) levels, and hepatic and long gissimus muscle IGF-I mRNA expression in early-weaned piglets. Twenty six Duroc x Landrace x Yorkshire piglets at the age of 15 days were used. The piglets had access to creep feed during the suckling. Six piglets were sacrificed for sampling at the beginning of the study. The other 20 piglets were individually housed in metabolic cages and randomly allotted to four corn and soybean meal-based diets including the control group, the antibiotic group with 110 mg lincomycin/kg diet, the COS group containing 0.025% COS, and the GMOS group with 0.20% GMOS, respectively, in a 2-week feeding experiment. Blood urea nitrogen (BUN) level was reduced whereas serum total protein concentration was increased ($P<0.05$) in responses to the COS and GMOS supplementation. Dietary supplementation of COS and GMOS also increased ($P<0.05$) the serum GH and IGF-I levels along with enhanced hepatic and the muscle IGF-I mRNA abundance. Dietary supplementation of oligosaccharides such as COS and GMOS may improve growth and feed conversion efficiency by increasing plasma GH and IGF-I levels, in the early-weaned piglets.
【语种】英文

【第一作者】Sun　Z.H.
【通讯作者】Yulong Yin
【期刊名称、卷期、页码】Journal of Applied Animal Research. 2009, 36: 0971-2119
【论文发表时间】2009-05-04 00:00:00
【引文索引类型】SCI
【引文索引号】524
【学科分类】畜牧、兽医科学其他学科

【题目】Metabolomic analysis of the response of growing pigs to dietary l-arginine supplementation
【中文关键词】Agriculture
【英文关键词】Arginine　Metabolomics　Serum
Pigs　Nuclear magnetic resonance spectroscopy
【中文摘要】Amino Acid
【英文摘要】Arginine plays an important role regulating nutrient metabolism, but the underlying mechanisms are largely unknown. This study was conducted to determine the effect of dietary arginine supplementation on the metabolome in serum of growing pigs using (1)H nuclear magnetic resonance spectroscopy. Sixteen 120-day-old pigs (48 +/- 1 kg) were randomly assigned to one of two groups, representing supplementation with 0 or 1.0% L: -arginine to corn- and soybean meal-based diets. Serum was collected after a 46-day period of treatment. Dietary arginine supplementation decreased fat deposition and increased protein accretion in the body. Principal component analysis showed that serum concentrations of low density lipoprotein, very low density lipoprotein, and urea were lower, but concentrations of creatinine, tricarboxylic acid cycle metabolites, ornithine, lysine and tyrosine were greater in arginine-supplemented than in control pigs. Additionally, the arginine treatment affected serum concentrations of nitrogenous and lipid signaling molecules (glycerophosphorylcholine and myo-inositol) and intestinal bacterial metabolites (formate, ethanol, methylamine, dimethylamine, acetate, and propionate). These novel findings suggest that dietary arginine supplementation alters the catabolism of fat and amino acids in the whole body, enhances protein synthesis in skeletal muscle, and modulates intestinal microbial metabolism in growing pigs.
【语种】英文
【第一作者】He QH
【通讯作者】Yulong Yin
【期刊名称、卷期、页码】Amino Acids 2009: 37(1):199-208
【论文发表时间】2009-05-04 00:00:00
【引文索引类型】SCI
【引文索引号】524
【学科分类】畜牧、兽医科学其他学科

【题目】Effects of dietary supplementation with an expressed fusion peptide bovine lactoferricin-lactoferrampin on performance, immune function and intestinal mucosal morphology in piglets weaned at age 21 d
【中文关键词】Agriculture
【英文关键词】Nutrition
【中文摘要】Amino Acid
【英文摘要】Animal Nutrition
【语种】英文
【第一作者】Zhiru Tang
【通讯作者】Yulong Yin
【期刊名称、卷期、页码】British Journal of Nutrition. 2009, 101, 998-1005
【论文发表时间】2009-05-04 00:00:00
【引文索引类型】SCI
【引文索引号】524
【学科分类】畜牧、兽医科学其他学科

【题目】牛乳铁蛋白素及其衍生物的研究进展
【中文关键词】乳铁蛋白素; 突变; 色氨酸; 抗菌肽
【英文关键词】lactofe rr icin; m utan t; tryptophan; ant-i m icrob ia l peptides
【中文摘要】牛乳铁蛋白素是牛乳铁蛋白经胃蛋白酶水解后释放出来的一段小肽, 是牛乳铁蛋白的活性中心。通过对不同动物来源乳铁蛋白素活性的研究发现牛乳铁蛋白素的抗菌活性最强。进一步的丙氨酸突变实验研究表明, 在牛乳铁蛋白素活性最强的15个氨基酸序列中, 色氨酸在抗菌过程中起着重要作用。牛乳铁蛋白素正是因为含有两个色氨酸, 其活性才会比只含有一个色氨酸的其它来源的乳铁蛋白素活性要高。很多实验室围绕着牛乳铁蛋白素中的色氨酸、碱性氨基酸和其他一些芳香族氨基酸展开了一系列的突变研究, 本文综述了这些研究及在氨基酸改变后活性的变化, 为以后研究及开发牛乳铁蛋白素提供理论基础。
【英文摘要】Lactoferr ic ins are a class o f antibacter ia l peptides iso lated after gastric-pepsin digest o f the m amm a lian ironchelating-prote in lacto ferrin. They are the active cen ter o f the lactofe rr in. Inv estig ation o f antibacte rial activ ity found thepeptides der ived from the bovine had the h ighest antim icrob ia l ac tiv ity. An a lan ine- scan of themo st active 15-residue bovine lactoferr ic in de riv ative w as pe rfo rm ed that tryptophan w as im po rtant for the antibacter ia l activ ity. The bov ine lactoferric in had two tryptophans, so it had h igher active than o ther peptides wh ich contained on ly one tryptophan. W ide investigations around the tryptophan, the basic am ino acid and o ther arom atic residuesw ere deployed. In th is pape r, w e analyzedand rev iew ed chang e o f the antibacte rial activ ity a fter the replacem en t o f the am ino ac id in the 15- residue bov inelacto ferricin, in order to establish the rationa le o f investigation and deve lopm ent o f the bov ine lac to ferr ic in.
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【第一作者】涂强
【通讯作者】印遇龙
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【题目】5种发光光状杆菌生长速度、抗药性、晶体蛋白量和电转化条件的比较
【中文关键词】发光光状杆菌; 生长速度; 抗药性; 晶体蛋白
【英文关键词】Photorhabdus luminescens ; growth rate; antibiotic resistance; crystal protein
【中文摘要】对发光光状杆菌(Photorhabdus luminescens) 5 个菌株的生长速度、抗药性、晶体蛋白量和电转化条件进行了比较研究。结果表明: 5 菌株生长速度基本一致, 对几种抗生素的抗药性不一致。5 菌株晶体蛋白cipA和cipB 主要在细胞内表达且不分泌到胞外, 培养时间对晶体蛋白cipA 和cipB 的产量影响较大, 其随培养时间的延长而增加, 菌株DSM15138、DSM15139、DSM3368 中晶体蛋白cipA 和cipB 产量高于DSM12190 和DSM3369。分别将DSM15138 和DSM15139 的30 LL 过夜菌分别接种于114 mL LB 中, 30e 下1 050 r/ min 振摇3 h 后, 采用缓冲液(10%甘油+ 2 mmol/ L HEPES) 制备感受态细胞, 在1 100 V/ cm 条件下转化效果最好, 且相同条件下DSM15138 转化效率高于DSM15139。
【英文摘要】Comparison of growth rate, antibiotic resistance, crystal protein expression level and transformationcondition among 5 Photorhabdus luminescens strains was made1 The results showed that growth rateof 5 P . luminescens strains was much the same and antibiotic resistance of 5 Photorhabdus luminescensstrains was different1 Crystal protein cipA and cipB of 5 P . luminescens strains were expressed in cellbut did not secrete to the outside of cell1 The output of crystal protein cipA and cipB of 5 Photorhabdusluminescens strains increased with t ime going by1 The output of crystal protein cipA and cipB of P1 luminescensDSM15138, DSM15139 and DSM3368 was higher than that of P1 luminescens DSM12190 andDSM33691 It achieved the best transformation rate after 30 LL over night cultured P1 luminescensDSM15138 and DSM15139 were inoculated in 114 mL fresh LB, shaken at 30 e (1 050 r/ min) , transformedat 1 100 V/ cm using wash buffer (10% glycerin+ 2mmol/ L HEPES) to prepare competent cell1Transformation rate of P1 luminescens DSM15138 was better than that of P1 luminescens DSM151391
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【第一作者】唐志如
【通讯作者】印遇龙
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【学科分类】畜牧、兽医科学其他学科

【题目】营养组学研究体系及其在家养动物上的应用
【中文关键词】营养组学; 家养动物; 应用
【英文关键词】g razing behaviour; g rassland ecosystem; herbivore; foraging, ruminat ing
【中文摘要】家养动物的营养代谢与其生长性能、产品品质和排泄物的数量及成分密切相关。营养组学整合了基因组学、转录组学、蛋白质组学、代谢组学和微生物组学的研究方法, 在家养动物营养代谢研究中具有传统营养研究方法无法比拟的优点。应用营养组学研究体系改善家养动物的生长性能和产品品质, 有利于家养动物养殖业健康持续发展。本文就营养组学研究体系及其在家养动物的应用作一阐述
【英文摘要】Grazing behaviour including behaviour of for ag ing , w alking, r uminat ing, drinking, rest ing,ex cr et ing is mainly composed of foraging and ruminat ing behaviour . T he interrelat ionship betw een g razinganimals and forag e w as illuminated in this paper. Grazing may af fect the grow th and development of forageby decreasing leaf ar ea index (LAI) . Grazing is an art if icial disturbance, w hich affect s sw ard composit ionand community structure. High sto cking rate may result in g rassland deg radat ion. Under g razing cond-it ions, forages hav e tw o kinds o f surv iving tact ics: grazing avoidance and g razing to ler ance. Grazing an-imals select forages or the part w ith hig h appet ite because of the hig h mult-i variate species in the sw ard.Many kinds of metho ds for calculat ing intake w ere int roduced, including the mag nitude of the dif ferencebetw een pre- and post-grazing herbag e mass and the durat ion betw een the measurements, through internalor ex ternal markers to calculate faecal output or through grazing t ime, bite rate and bite mass to calculateintake. Measurement of botanical composit ion of herbag e eaten is the nodus all the t ime. Many methodshave been tr ied, such as manual observat ion, rumen ex tr ude o r faeces detection, ex aminat ion of oesophagea-l ex tr usa samples and n-alkane technique.
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【第一作者】唐志如
【通讯作者】印遇龙
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【学科分类】畜牧、兽医科学其他学科

【题目】重组牛乳铁蛋白素在大肠杆菌中的表达
【中文关键词】牛乳铁蛋白素基因;原核表达系统;Tricine-SDS-PAGE;抑菌活性
【英文关键词】lactoferricin B gene;prokaryotic expression system;Tricine-SDS-PAGE;functional test
【中文摘要】将牛乳铁蛋白素(lactoferricin B)基因克隆到表达载体pET28a 后,转化到BL21 大肠杆菌表达系统,筛选表达温度和诱导剂IPTG 的浓度,使其在原核表达系统中表达,将诱导表达的产物进行Tricine-SDS-PAGE 蛋白电泳及抑菌活性检测,证明该表达产物是乳铁蛋白素。实验结果表明,Lactoferricin B基因能够在原核表达系统中表达,表达量约占细菌总蛋白的21%,而且表达的蛋白质具有生物学活性。
【英文摘要】After cloning into the expression vector pET28a, the lactoferricin B gene was transformed into BL-21 E.coliprokaryotic expression system. By selecting expression temperature and IPTG concentration, lactoferricin B gene was expressedat high level in prokaryotic cells. The expression of lactoferricin B was detected by tricine-SDS-PAGE protein electrophoresisand functional test, and it was proved to be the lactoferricin B. The result also showed that the gene of lactoferricin B can be highlyexpressed in prokaryotic expression system, and the expression product accounts for about 21% of total bacterial proteins withbiologyactivity.
【语种】中文
【第一作者】邢芳芳
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【学科分类】畜牧、兽医科学其他学科

【题目】RED同源重组法敲除发光光状杆菌晶体蛋白基因cipA和cipB
【中文关键词】发光光状杆菌, RED 同源重组, 敲除, 晶体蛋白
【英文关键词】P. luminescens subsp. Akhurstii, RED homologous recombination, Knockout, Crystalline protein
【中文摘要】RED 同源重组法敲除发光光状杆菌晶体蛋白基因cipA 和cipB,为发光光状杆菌基因敲除提供方法。采用TOPO 克隆方法将基因cipA 和cipB 克隆到质粒pTA 上,获得质粒pTA-cipA 和pTA-cipB;采用Red/ET 方法分别将Gentar 基因和Aprar 基因分别插入pTA-cipA 和pTA-cipB 的cipA 和cipB 基因中,并替换cipA 和cipB 基因部分序列,获得pTA-GentaIncipA 和pTA-ApraIncipB;pTA-GentaIncipA 通过BamH Ⅰ酶切,从0.7%琼脂糖胶上回收获得GentaIncipA,将GentaIncipA 导入带有质粒pASK-αβγA 的P. luminescenssubsp. Akhurstii 中,通过的RED 同源重组敲除发光光状杆菌晶体蛋白cipA;pTA-ApraIncipB 用EcoR Ⅰ酶切,从0.7%琼脂糖胶上回收获得ApraIncipB,将ApraIncipB 导入带有质粒pASK-αβγA 的P. luminescenssubsp. Akhurstii 中,通过的RED 同源重组敲除发光光状杆菌晶体蛋白cipB;42℃下热激去除突变菌中的质粒pASK-αβγA。克隆PCR 和SDS-PAGE 电泳结果表明发光光状杆菌晶体蛋白基因cipA 和cipB 均被敲除。采用RED 同源重组法成功地敲除了发光光状杆菌晶体蛋白基因cipA 和cipB。
【英文摘要】Study on the knockout of the crystalline inclusion protein gene cipA and cipB in Photorhabdus luminescenssubsp. Akhurstii by RED homologous recombination provide a gene knockout method for P. luminescenssubsp. Akhurstii . pTA-cipA and pTA-cipB were acquired via cipA and cipB amplified from P. luminescens subsp.Akhurstii genome DNA and cloned on pTA by TOPO Cloning; pTA-GentarInCipA or pTA-AprarInCipB wasgained via the gentamycine resistant gene (Gentar) or apramycin resistant gene (Aprar) with two homology arms wasamplified and exchanged with a part of cipA or cipB of pTA-cipA or pTA-cipB by ET reconbination; GentarInCipADNA fragment was purificated from 0.7% agarose gel after pTA-GentaIncipA was digested by BamH Ⅰ, tansformedinto P. luminescens subsp. Akhurstii horbaring pASK-αβγA and exchanged with the cipA gene from P.luminescens subsp. Akhurstii by ET recombination; AprarIncipB DNA fragment was purificated from 0.7% agarosegel after pTA-AprarInCipB digested by EcoR Ⅰ, tansformed into P. luminescens subsp. Akhurstii withoutcipA horbaring pASK-αβγA was exchanged with the cipB gene from P. luminescens subsp. Akhurstii by ET recombination;P. luminescens TZR001 was acquired after pASK-αβγA was removed from P. luminescens subsp.Akhurstii mutant. The results of coloning PCR and SDS-PAGE analysis were shown that the crystalline inclusion
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【第一作者】唐志如
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【题目】Effects of 2-hydroxy-4methylthiobutyrate on portal plasma flow and net portal appearance of amino acids in piglets
【中文关键词】无
【英文关键词】Amino acids;Portal plasma flow;Proglucagon _ Short-chain fatty acids;2-Hydroxy-4-methylthiobutyrate
【中文摘要】无
【英文摘要】To determine whether portal plasma flow (PPF) and net portal appearance of amino acids (AA) could be affected by 2-hydroxy-4-methylthiobutyrate (HMB), six barrows (35-day-old, 8.6 ± 1.4 kg), implanted with arterial, portal and mesenteric catheters, were fed a DL-methionine (as the control) or HMB-supplemented diet once hourly and infused intramesenterically with 1% p-amino hippurate. PPF was numerically 9% higher (P = 0.09) in HMBfed pigs than in controls over a 4 – 6 h period. Compared with controls, pigs fed the HMB diet had increased (P\ 0.05) net portal balance and/or appearance of leucine, isoleucine, histidine, arginine and alanine, but had decreased (P\0.05) portal appearance of glutamate over a 6-h period. The concentration of acetate in the lumen of the distal small intestine was higher (P = 0.01) in HMB-fed pigs than in controls (25.14 vs. 7.64 mmol/kg). mRNA levels for proglucagon and endothelial nitric-oxide synthase (eNOS) in stomach and proximal small intestine, and mRNA levels for GLP-2 receptor (GLP-2R) in stomach were higher (P\0.05) in HMB-fed pigs compared with those in controls. Collectively, HMB supplementation increased concentrations of short-chain fatty acids in intestinal lumen, expression of proglucagon, GLP-2R, and eNOS genes, and net portal absorption of AA. These novel findings from the study with pigs may also have important implications for

intestinal nutrition and health in humans.
【语种】英文
【第一作者】Fang ZF
【通讯作者】彭健
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【题目】Effects of DL-2-hydroxy-4-methylthiobutyrate on the first-pass intestinal metabolism of dietary methionine and its extra-intestinal availability
【中文关键词】无
【英文关键词】DL-2-Hydroxy-4-methylthiobutyrate: First-pass intestinal metabolism: Extra-intestinal availability
【中文摘要】无
【英文摘要】The present study was conducted in a one-factorial arrangement to determine the effects of dl-2-hydroxy-4-methylthiobutyrate (dl-HMTB) on the first-pass intestinal metabolism of dietary methionine and its extra-intestinal availability. Barrows (n 6; aged 35 d; weight 8.6 kg), implanted with arterial, portal, mesenteric and gastric catheters, were fed a diet containing dl-methionine (dl-MET) or dl-HMTB once hourly and infused intramesenterically with 1 % p-aminohippurate and intragastrically with [1-13C]methionine at 7.0 mumol/kg body weight per h. Arterial and portal blood samples were taken at hourly intervals until 6 h of tracer infusion and pigs was then killed for collection of muscle, intestine, liver and kidney samples. The net portal appearance of methionine, expressed as the fraction of ingested directly available l-methionine, was higher ($P < 0.05$) in the dl-HMTB than in the dl-MET diet, and there was no difference ($P = 0.26$) in the fractional portal balance of [1-13C]methionine between the diets. [1-13C]methionine enrichment (tracer:tracee ratio; mol/100 mol amino acid) in the jejunum, arterial and portal plasma, liver, kidney and muscle was also not different ($P>0.05$) between the groups. Over the 6 h period after the start of feeding, the average concentration of citrulline both in the arterial and portal plasma was higher ($P < 0.05$) in the dl-HMTB than in the dl-MET group, and arterial plasma ornithine and taurine concentration was also higher ($P < 0.05$) in the dl-HMTB than in the dl-MET group. However, plasma urea concentration both in the arterial and portal vein was lower ($P < 0.05$) in the dl-HMTB than in the dl-MET group. These results suggested that the potential difference in the first-pass use of methionine by the intestine between the dl-HMTB and dl-MET diets might affect intestinal and systemic metabolism of other amino acids, which may provide new important insights into nutritional efficiency of different methionine sources.
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【第一作者】Fang ZF
【通讯作者】彭健
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【学科分类】畜牧、兽医科学基础学科

【题目】Duration of dietary linseed feeding affects the intramuscular fat, muscle mass and fatty acid composition in pig muscle
【中文关键词】无
【英文关键词】Barrows; Intramuscular fat; Linseed; Muscle mass; n-3 PUFA
【中文摘要】无
【英文摘要】The aim of the study was to investigate the effect of duration of dietary linseed feeding on subcutaneous fat, intramuscular fat depot and muscle mass of growing – finishing barrows. Two isoenergetic and isonitrogenous diets were formulated, and one of which was the basal diet and another one was the linseed diet including linseed at the level of 10%. Twenty-four Landrace × Yorkshire barrows weighing 35 ± 3.7 kg were randomly assigned to four treatments with six replications per treatment. Pigs in treatment 1 (T1) fed the control diet throughout the experimental period, while pigs in T2, T3, and T4 fed the control diet except for 30, 60, and 90 d prior to slaughter when the linseed diet were fed. The experiment was conducted for 90 d. Carcass

quality and meat quality data were collected and analyzed. The longissimus muscle mass, posas minor mass and each muscle mass in the hind leg were weighted. Additionally, fatty acid composition (%) of the diet, the longissimus dorsi muscle and the backfat were analyzed by gas chromatography method. No significant difference (P > 0.05) was observed for average backfat thickness, lean meat percentage, loin muscle area, whereas the intramuscular fat content increased linearly (P < 0.01) as prolonged the time of feeding linseed diet. As prolonged the time of feeding linseed diet, the longissimus dorsi muscle mass, quadriceps femoris muscle mass and semitendinosus muscle mass increased linearly (P < 0.01). Duration of feeding linseed diet linearly increased (P < 0.01) the C18:3n-3, C20:5n-3 and C22:5n-3 concentrations in the longissimus muscle and backfat. There was significant quadratic relation between the intramuscular fat content and the n-3 polyunsaturated fatty acids (PUFA) enrichment (R2 = 0.87, P < 0.01), or C18:3n-3 enrichment (R2 = 0.91, P < 0.01) in the longissimus dorsi muscle. Likewise, the longissimus dorsi muscle mass was also quadratically related to the n-3 PUFA enrichment (R2 = 0.89, P < 0.01), or C18:3n-3 enrichment (R2 = 0.86, P < 0.01) in the longissimus dorsi muscle. These results indicated that duration of feeding linseed diet may stimulate intramuscular fat accumulation, and promote the hypertrophy of the longissimus dorsi muscle, quadriceps femoris muscle mass and semitendinosus muscle by increasing the n-3 PUFA enrichment, especially C18:3n-3 enrichment in the longissimus dorsi muscle

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【第一作者】Huang, F.R.
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【学科分类】畜牧、兽医科学基础学科

【题目】Duration of feeding linseed diet influences peroxisome proliferator-activated receptor γ and tumor necrosis factor gene expression, and muscle mass of growing-finishing barrows
【中文关键词】无
【英文关键词】Linseed; Muscle mass; Pig; PPARγ; TNF-α
【中文摘要】无
【英文摘要】The aim of the study was to investigate the effect of duration of feeding linseed (rich in n-3 PUFA) on peroxisome proliferator-activated receptor γ (PPARγ) and tumor necrosis factor (TNF-α) gene expression, and muscle mass of growing – finishing barrows. Two isoenergetic and isonitrogenous diets were formulated, and one of which was the basal diet and another one was the linseed diet including linseed at the level of 10%. Twenty-four Landrace × Yorkshire barrows weighing 35 ± 3.7 kg were randomly assigned to four treatments with six individuals per treatment. Pigs in treatment 1 (T1) fed the control diet throughout the experimental period, while pigs in T2, T3 and T4 fed the control diet except for 30, 60, and 90 d prior to slaughter when the linseed diet were fed. The experiment was conducted for 90 days. The longissimus muscle mass and each muscle mass in the hind leg were weighted. PPARγ and TNF-α mRNA expression levels in muscle, spleen and adipose tissue, and plasma concentrations of TNF-α data were measured and analyzed. The results showed that the longissimus muscle mass, quadriceps femoris muscle mass and semitendinosus muscle mass increased linearly (P < 0.01) as prolonged the time of feeding linseed diet. The expression of PPARγ in longissimus muscle and spleen increased (P < 0.01) linearly as prolonged the time of feeding linseed diet, while the expression of PPARγ in adipose tissue were not affected (P = 0.095). Duration of linseed addition linearly decreased (P < 0.01) TNF-α gene expression levels in the longissimus dorsi muscle, adipose and spleen, and serum concentration of TNF-α as well. The expression levels of PPARγ negatively correlated with the expression of TNF-α in muscle (R2 = 0.70, P < 0.001) and spleen (R2R2 = 0.77, P < 0.001) respectively. Likewise, PPARγ expression level in spleen (R2R2 = 0.59, P < 0.01) or muscle (R2R2 = 0.52, P < 0.05) negative correlated with serum TNF-α concentration, while there were significant quadratic relation between muscular PPARγ (R2R2 = 0.80, P < 0.01) or muscular TNF-α (R2R2 = 0.87, P < 0.01) expression and the longissimus dorsi muscle mass. These data suggested that duration of feeding linseed diet lead to a linear decrease of TNF-α gene expression, which may increase the muscle mass in growing – finishing barrows, at least in part, through a PPARγ-dependent mechanism.
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【第一作者】Huang, F.R.
【通讯作者】彭健

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【题目】Acavthopanax senticosus extract as a dietary additive enhances the apparent ileal digestibility of amino acids in weaned piglets
【中文关键词】无
【英文关键词】Acanthopanax senticosus extract; Weaned piglets; Amino acids; Apparent ileal digestibility
【中文摘要】无
【英文摘要】The present study was conducted to determine the effects of Acanthopanax senticosus (AS) extract as a dietary additive on serum contents and apparent ileal digestibility (AID) of amino acids (AA) in weaned piglets. In Exp. 1, 60 piglets with an average body weight (BW) of 5.64 kg were randomly assigned into 3 treatment groups who received maize-soybean-based diets supplemented with 0 or 1 g/kg of AS extract or 0.2 g/kg of colistin (n = 20 in each group). Blood samples were randomly collected from 5 piglets per group on days 7, 14 and 28 after the initiation of supplementation to determine the serum contents of free AA. In Exp. 2, 12 barrows with an average initial BW of 7.64 kg were also randomly assigned into 3 dietary treatment groups after being surgically fitted with a simple T-cannula at the terminal ileum. Samples of terminal ileal digesta were collected on day 7 for analysis of the AID of AA. The data showed that the serum contents and AID of most AA in the AS extract-supplemented group gradually increased by 15.3 – 80.8% and 4.1 – 30.8%, respectively, as the experiment proceeded in comparison with the colistin-supplemented group and/or control group. In conclusion, these findings indicated that AS extract could enhance the digestion and absorption of AA, which may be a potential mechanism of growth promotion.
【语种】英文
【第一作者】Kong XF
【通讯作者】印遇龙
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【学科分类】畜牧、兽医科学基础学科

【题目】Molecular cloning, tissue distribution and ontogenetic expression of the amino acid transporter b(0,+) cDNA in the small intestine of Tibetan suckling piglets
【中文关键词】无
【英文关键词】Amino acid transporter; b(0,) AT; Tibetan piglet; Tissue Expression;
【中文摘要】无
【英文摘要】The small intestine is the main absorption place of peptides and free amino acids in mammals. The amino acid transporter system b(0,+) mediates apical uptake of basic amino acids, especially lysine, arginine and cysteine. The aim of the current study was to clone Tibetan porcine amino acid transporter b(0,+)AT (SLC7A9) for comparing the sequences of Tibetan and common (Sus scrofa) pigs, and investigating the tissue distribution and ontogenetic expression in the small intestine of Tibetan suckling piglets. The Tibetan porcine SLC7A9 gene was first cloned from the porcine small intestine and found to encode the amino acid transporter b(0,+)AT. The entire open reading frame (ORF) of the SLC7A9 is 1464 bp and codes for 487 amino acid residues, with a higher degree of sequence similarity with common pig (99.59%) and horse counterparts (91.2%) than with monkey (89.5%) or human (88.7%). The deduced protein has 12 putative transmembrane domains. In this study, SLC7A9 mRNA was detected in brain, kidney, duodenum, jejunum, ileum, heart, liver, lung and muscle from Tibetan pigs at 7 and 21 days by PCR. We also investigated the age-dependent expression of b(0,+)AT in Tibetan suckling piglets in duodenum, anterior jejunum, posterior jejunum, ileum and kidney from day 1 to 35. The abundance of SLC7A9 mRNA in duodenum and jejunum was highest and lowest, respectively. Expression patterns were similar in duodenum and anterior jejunum, where the mRNA level was decreased before the suckling period and increased until day 35. Posterior jejunum expression was increasing steadily with age, except on day 7. The ileum has the highest expression at day 14 and became steady after day 28. The mRNA abundance in the kidney is opposite to duodenum, increasing until day 14 and reducing thereafter. Our results showed the pattern of b(0,+)AT expressed in small intestine of Tibetan pig and lay the foundation for in depth

investigations of the regulation of b(0,+)AT in vivo.
【语种】英文
【第一作者】Wang WC
【通讯作者】印遇龙
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【学科分类】畜牧、兽医科学基础学科

【题目】Molecular cloning, distributiob and ontogenetic expression of the oligopeptide transporter PepT1 Mrna in Tibetan suckling piglets
【中文关键词】无
【英文关键词】Amino acid transporter;PepT1;Tibetan pig;Expression
【中文摘要】无
【英文摘要】The gene encoding the oligopeptide transporter PepT1 (HGMW-approved gene symbol SLC15A1) from Tibetan porcine intestine was cloned. The open reading frame of this cDNA encodes 708 deduced amino acid residues that show high sequence similarity with its ovine and bovine counterparts. The putative protein has 12 putative transmembrane domains, including many structural features that are highly conserved among the vertebrate orthologs. PepT1 mRNA expression can be detected in duodenum, jejunum and ileum from Tibetan pigs at 28 days by RT-PCR. Real-time PCR analysis indicated that the jejunum had the highest expression of PepT1 when compared with the duodenum and ileum. PepT1 mRNA expression in the duodenum and proximal jejunum increases continuously from day 1 to day 14: expression was highest at day14 ($P < 0.01$) and then decreased gradually from day 21 to day 35. Our findings show that PepT1 mRNA expression in the distal jejunum increased gradually with age in suckling Tibetan piglet, and this may have important implications for amino acid and protein nutrition in young animals.
【语种】英文
【第一作者】Wang WC
【通讯作者】印遇龙
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【学科分类】畜牧、兽医科学基础学科

【题目】A method for obtaining DNA from compost
【中文关键词】无
【英文关键词】Compost;Cell lysis;DNA extraction;16S rRNA
【中文摘要】无
【英文摘要】An effective cell lysis method for extraction of bacterial genomic DNA from compost was developed in this study. Enzymatic disruption method, physical – chemical combination method, and commercial kit method were used to extract DNA from compost samples and were compared by analyzing DNA yield and efficient cell lysis. The results showed that all the three methods can be used to extract high-quality DNA from compost, but the enzymatic method had better cell lysis efficiency and DNA yields than others without the use of special equipment and expensive spending. Comparison of different methods for lysing gram-positive bacteria Bacillus subtilis indicated that the enzymatic cell lysis is superior for destroying the gram-positive cell wall. Spin-bind DNA column was used for DNA purification, and the purity of the purified sample was checked by polymerase chain reaction to amplify a region of the 16S rRNA. Results indicated that the part of 16S rRNA were amplified from all the purified DNA samples, and all the amplification products could be digested by the restriction enzyme HhaI
【语种】英文
【第一作者】Wu Liang
【通讯作者】Deng Changyan

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【学科分类】畜牧、兽医科学基础学科

【题目】Comparison of different methods for determination of the duodenal and ileal flows of endogenous nitrogen and amino acids in growing goats
【中文关键词】无
【英文关键词】isotope dilution, methodology, comparison, endogenous protein, amino acids, goats
【中文摘要】无
【英文摘要】The objective of the present study was to compare the isotope dilution, the difference and the amino acid profile (AAP) methods for the quantification of duodenal and ileal flows of endogenous nitrogen (N) and amino acids (AA) in growing goats. Nine growing goats were fed the same diet containing maize stover, ground corn and soybean meal. The duodenal flow of endogenous N determined by the isotope dilution method was significantly ($p < 0.01$) higher than that determined by the difference and AAP methods, while there was no difference between the difference and the AAP methods. The duodenal flows of individual endogenous AA determined by the isotope dilution method exceed those determined by the difference and the AAP method by 10 to 106%. The endogenous flow at the ileum determined by the isotope dilution method was not significantly different to those determined by the water-soluble method, but tended to be lower for N and all amino acids. It is concluded that the difference method and AAP method underestimate the duodenal flow of endogenous N and AA compared to the isotope dilution method.
【语种】英文
【第一作者】周传社
【通讯作者】谭支良
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【学科分类】畜牧、兽医科学基础学科

【题目】Dietary starch source influences in growing goats: the intestinal losses of endogenous nitrogen and amino acids
【中文关键词】无
【英文关键词】Starch urce: Endogenous nitrogen: Endogenous amino acids: Goats
【中文摘要】无
【英文摘要】Four goats (20 (SD 2.5) kg) fitted with ruminal, duodenal and ileal cannulae were used in a 4 x 4 Latin square design to estimate the effects of a dietary starch source on the duodenal and ileal flows of endogenous N (EN) and endogenous amino acids (EAA) in growing goats. Goats were fed total mixed rations containing four starch sources (mainly from maize (MR), wheat (WR), paddy (PR) and sorghum (SR) treatments). There were no significant ($P>0.05$) effects of the dietary starch source on the intestinal flows of EN and EAA. The duodenal flows of EN were 2.40, 2.39, 2.18 and 1.56 g/d for the MR, WR, PR and SR treatments, respectively, as determined by the difference method, and the duodenal flows of EAA were 10.76, 11.29, 10.95 and 10.96 g/d by estimation with the amino acid profile method. The flows of EN and EAA at the ileum were 1.17, 1.12, 1.01, 0.70 and 4.87, 4.95, 4.94, 4.99 g/d, respectively, as estimated by the water-soluble method. The average intestinal reabsorption of EN and EAA was 57.5 %, and the endogenous Leu by the MR treatment was significantly ($P < 0.05$) lower than that of the other three treatments. The present results indicate that losses of endogenous protein in the intestine were not affected by the dietary starch source.
【语种】英文
【第一作者】周传社
【通讯作者】谭支良
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【学科分类】畜牧、兽医科学基础学科

【题目】日粮添加精氨酸对肥育猪免疫功能的调节作用
【中文关键词】无
【英文关键词】肥育猪;精氨酸;免疫功能
【中文摘要】以杜×(大×长)三元杂种猪为研究对象,将其分为2组,分别饲喂基础日粮和添加1%精氨酸日粮,测定试验猪血液白细胞分类计数、血清免疫球蛋白和细胞因子水平、淋巴细胞增殖活性以及脾脏IL-2、TNF-α和IFN-γ的mRNA表达水平,探讨日粮添加精氨酸对肥育猪免疫功能的调节作用。结果表明:日粮中添加1%精氨酸可显著增加单核细胞数和百分比、淋巴细胞百分比和增殖活性及血清IgG和IL-2水平,显著降低中性粒细胞数和百分比及血清TNF-α水平;明显增加脾脏IL-2和IFN-γ表达水平,降低TNF-α表达水平。结果提示,精氨酸可通过调节肥育猪的细胞和体液免疫水平,从而增强机体免疫功能
【英文摘要】无
【语种】中文
【第一作者】柏美娟
【通讯作者】印遇龙
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【学科分类】畜牧、兽医科学基础学科

【题目】黄连提取物对耐药金黄色葡萄球菌的体外抑菌试验
【中文关键词】金黄色葡萄球菌; 细菌生长; 黄连碱; 抑菌圈直径; 水提取物; 抑菌作用; 耐药菌; 小檗碱; 抑菌效果; 醇提取物;
【英文关键词】无
【中文摘要】黄连为毛茛科植物黄连Coptis chinensisFranch,三角叶黄连Coptis deltoideaC.Y.Chenget Hsiao或云连Coptis teetaW all.的干燥根茎。多年生草本,苦,寒。归心、脾、胃、肝、胆、大肠经。具有清热燥湿,泻火解毒等功效。用于湿热痞满,呕吐吞酸,泻痢,黄疸,高热神昏,心火亢盛,心烦不寐,血热吐衄,目赤,牙痛,消渴,痈肿疔疮;外治湿疹,湿疮,耳道流脓。化学成分含小檗碱(berberine)、黄连碱(coptisine)、巴马亭(palm atine)、药根碱(jatrorrh izine)、木兰碱(m agnoflorine)等。
【英文摘要】无
【语种】中文
【第一作者】李俊超
【通讯作者】刘湘新
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【学科分类】畜牧、兽医科学基础学科

【题目】蚯蚓粪作为土壤重金属污染修复剂的潜力分析
【中文关键词】土壤重金属污染; 重金属生物有效性; 蚯蚓粪; 钝化; 活化;
【英文关键词】heavy metal;soil contamination;bioavailability;earthworm feces;immobility;activation
【中文摘要】随着工农业的发展,重金属对土壤和农作物的污染问题越来越突出,对土壤重金属的修复研究也越来越重要。蚯蚓作为土壤环境中最常见的无脊椎动物在生活过程中的摄食、做穴、移动、排便等行为都会对土壤重金属产生影响。通过对蚯蚓粪作为土壤重金属污染修复剂的潜力进行总结、分析,对蚯蚓粪修复土壤重金属污染的研究方向提出了建议与展望。
【英文摘要】With the development of industry and agriculture,heavy metal contamination of soil and cropper is more and more erious.And the studies about the remediation of soils become more and more important.Earthworm as one of universal invertebrates in soil,its acts including food intake,burrow and excretion can influence the activity of heavy metals.In this review,we consider whether the earthworm cast can change heavy metal bioavailability and make some proposals on the remediation of soils.

【语种】中文
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【学科分类】土壤学

【题目】产肠毒素大肠杆菌987P菌毛fasG亚单位的优化表达
【中文关键词】肠毒素大肠杆菌; 987P fasG; 克隆; 优化表达
【英文关键词】enterotoxigenic E.coli(ETEC);987P;fasG;cloning;optimizing expression
【中文摘要】选用两种对稀有密码子效应不同的表达宿主菌大肠杆菌(Escherichia coli)BL21(DE3)和Rossetta(DE3),和两种不同的表达载体pET28a(+)和pGEX-KG,构建出4种重组表达菌(pET-fas GBL21(DE3)、pET-fas GRossetta(DE3)、pKG-fasGBL21(DE3)和pKG-fas GRossetta(DE3))来考查稀有密码子对fasG基因表达的影响。对重组表达菌进行诱导表达的结果表明,不管是pET-fasG质粒还是pKG-fasG质粒,目的蛋白在Rossetta(DE3)中的表达量都要比在BL21(DE3)中的高。使用补充了额外的稀有密码子tRNA的表达菌Rossetta(DE3),提高了目的蛋白的表达量。
【英文摘要】Four bioengineered bacteria of fasG gene were constructed using Two Escherichia coli expression sn~ams(BL2 1(DE31 and Rossetta (DE3))with diferent tRNA profiles and two E.coli expression vectors(pET28a(+)and pGEX-KG)to examine the influence of the rare codons on the expression of fasG gene.The result of inducing expression of the bioengineered bacteria showed that the expression levels oftarget proteins in Rossetta(DE3)were higher than that in BL21(DE3),either using pET-fasG or pKG-fasG.And the expression levels of target proteins were enhanced using the expression strain Rossetta 09E3)which conmined the tRNA of rare codons.
【语种】中文
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【期刊名称、卷期、页码】农业生物技术学报
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【学科分类】微生物学

【题目】β-1,3-葡聚糖对感染沙门菌鸡免疫功能和肠道菌群数量的影响
【中文关键词】肉鸡; β-1,3-葡聚糖; 鸡白痢沙门菌; 免疫机能; 肠道微生物;
【英文关键词】broilers; β-1,3-glucan;Salmonella pullorum;immune function;intestinal microflora
【中文摘要】为探讨β-1,3-葡聚糖对感染鸡白痢沙门菌鸡免疫机能和肠道微生物菌群的影响。选择120只1日龄AA肉公鸡,随机分成4个处理组,每个处理组30只鸡。处理组C1和C2饲喂基础日粮;处理组T1和T2饲喂基础日粮+0.01%β-1,3-葡聚糖。在10日龄,处理组C2和T2鸡口服感染0.5 mL鸡白痢沙门菌(浓度为1×109CFU/mL),试验到21日龄结束。结果表明,与对照组相比,日粮添加β-1,3-葡聚糖有促进肉鸡生长,阻止沙门菌感染引起的肉鸡死亡率升高的趋势;日粮添加β-1,3-葡聚糖对沙门菌感染鸡(T2组)可显著下降外周血T淋巴细胞增殖活性(P<0.05)和小肠sIgA分泌量(P<0.05),显著降低回肠和盲肠沙门菌和大肠杆菌数量(P<0.05)。
【英文摘要】One hundred and twenty 1 -day -age male commercial AA broilers were randomly distributed into four treatments with thirty broilers per treatment to evaluate the efficacy of dietary β-1,3-glucan against Salmonella pullorum (SP) in broilers. Each treatment was respectively reared in an environmentally controlled isolator. Treatments were:C1 (negative control,no SP challenge,basal diet),C2(positive control,SP challenge,basal diet),T1(no SP challenge+basal diet supplemented with 100 mg/kg β-1,3-glucan)and T2 (SP challenge+basal diet supplemented with 100 mg/kg β-1,3-glucan). The broilers in treatment 2 and 4 were challenged SP at 10-day-age. The results showed that dietary β-1,3-glucan could hold back the trend of body reducing and mortality increasement due to the challengement of SP. Significantly lower peripheral blood T lympocytes proliferation index and intestinal sIgA levels were detected in T2(P<0.05). In addition,T2 had lower Salmonella and E.coli levels in ileum and caecum compared to C2(P<0.05).
【语种】中文

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【学科分类】微生物学

【题目】基于温度-含氧量的全自动堆肥通风控制系统设计
【中文关键词】堆肥; 通风; 温度; 含氧量; 控制系统;
【英文关键词】无
【中文摘要】采用工业计算机和下位机的监测控制方式,开发了基于温度-含氧量的全自动堆肥通风控制系统,并实现了软硬件的配套设计。运行试验表明:采用该工艺堆肥,时间一般为2周,高温期(55~65℃)可维持9 d以上,能有效杀灭病原微生物,产品稳定性好;可在整个堆肥过程中实现自动在线监控堆体温度、含氧量和湿度,运行稳定。
【英文摘要】无
【语种】中文
【第一作者】徐德全
【通讯作者】徐德全
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【学科分类】农学其他学科

【题目】蛋氨酸对山羊十二指肠内源氮和氨基酸流量的影响
【中文关键词】蛋氨酸;内源氮;内源氨基酸;流量;同位素稀释法;山羊
【英文关键词】Methionine; Endogenous nitrogen; Endogenous amino acids; Flows; Isotope dilution method; Goats
【中文摘要】本试验研究了日粮添加蛋氨酸(Met)对山羊十二指肠内源氮(EN)和内源氨基酸(ENAA)流量的影响。采用3X3拉丁方试验设计,选用3头安装有永久性瘤胃、十二指肠近端瘘管和颈静脉插管、平均体重为(20±2.5)kg的健康湘东黑山羊为试验动物,饲喂3种Met水平分别为0.15%、0.25%和0.35%的试验Et粮,采用同位素方法测定Met水平对山羊EN和ENAA流量的影响。结果显示:当Met添加水平为0.15%时,十二指肠EN和ENAA流量均最低,但是无显著性差异(P〉0.05)。以上结果表明:日粮直接添加蛋氨酸对山羊十二指肠EN和ENAA流量没有显著影响作用(P〉0.05),同位素稀释法测定反刍动物EN流量较为稳定。
【英文摘要】The experiment was designed to study the effect of dietary methionine (Met) levels on duodenal flows of endogenous nitrogen (EN) and endogenous amino acids (ENAA) in growing goats fed normal protein-containing diets. Three goats with an average body weight of (20 ± 2.5) kg were fitted with ruminal, duodenal cannulae and jugular veins polyvinyl catheters, and allocated to three dietary treatments in a 3 × 3 Latin square design. The dietary treatments consisted of a total mixed diet containing three levels of Met which were 0.15%, 0.25% and 0.35%, respectively. EN and ENAA were determined using isotope dilution method. The results showed that the duodenal flows of EN and ENAA were the lowest when the dietary Met level was supplemented at 0.15%, and there were no significant differences on duodenal flows of EN and ENAA (P〈0.05). In conclusion, the duodenal flows of EN and ENAA were not significantly affected by the dietary direct supplementation of Met (P〈0.05), and the isotope dilution method was relatively stable in determination of EN flow.[
【语种】中文
【第一作者】周传社
【通讯作者】谭支良
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【学科分类】畜牧、兽医科学基础学科

【题目】蛋氨酸对山羊内源氮和氨基酸流量影响的测定方法比较
【中文关键词】蛋氨酸; 差量法; 同位素稀释法; 内源氮; 内源氨基酸; 流通量; 山羊;
【英文关键词】无
【中文摘要】采用3×3拉丁方试验设计,选用3头安装有永久性瘤胃、十二指肠近端瘘管和颈静脉插管,平均体重为20kg±2.5kg的健康湘东黑山羊为试验动物,饲喂Met水平分别为0.15%、0.25%和0.35%的3种试验日粮,旨在研究Met水平对山羊内源氮(EN)和内源氨基酸(ENAA)流量的影响,同时比较差量法和同位素稀释法测定山羊十二指肠EN和ENAA流量的差异。结果显示:日粮Met水平对山羊十二指肠EN和ENAA流量没有显著影响(P>0.05);当日粮Met水平为0.15%时,差量法和同位素稀释法测定十二指肠EN和ENAA流量均最低,且2种测定方法之间无显著差异(P>0.05);差量法测定EN和ENAA流量均低于同位素稀释法测定结果(P>0.05)。结果表明:山羊十二指肠EN和ENAA流量不受日粮Met水平影响;差量法测定的十二指肠EN和ENAA流量低于同位素稀释法。
【英文摘要】无
【语种】中文
【第一作者】周传社
【通讯作者】谭支良
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【学科分类】畜牧、兽医科学基础学科

【题目】海南槟榔黄化病病原物的分子鉴定
【中文关键词】槟榔黄化病 植原体 16S rDNA 分子鉴定
【英文关键词】arecanut yellow leaf disease phytoplasma 16S rDNA Molecular identification
【中文摘要】槟榔黄化病是槟榔上的一种重要病害,本研究利用植原体16S rDNA通用引物对海南感染黄化病的槟榔花苞总DNA进行巢式PCR扩增,获得约1.2 kb的特异片段,并对扩增产物进行核苷酸序列测定。通过BLAST程序比较、系统进化树构建及iPhyClassifier分析表明,引起海南槟榔黄化病病原植原体属于翠菊黄化植原体组(16Sr Ⅰ组),且为该组中的一个新的亚组,即G亚组,现将其暂命名槟榔黄化植原体(Arecanut yellow leaf phytoplasma,AYL)。
【英文摘要】Arecanut yellow leaf disease was an important disease. A PCR product (about 1.2 kb) was amplified by using nested-PCR assay employing phytoplasma universal 16S rRNA gene primers and total DNA sample extracted from diseased arecanut inflorescence as the amplified template.Then the amplified fragments were cloned and sequenced, The results of sequences comparison of Blast program in GenBank, construction of phylogenetic tree and analysis of iPhyClassifier indicated that the phytoplasma caused arecanut yellow leaf disease in Hainan belonged to Aster yellows group (16Sr Ⅰ group) and was a new subgroup, G. subgroup. The phytoplasma was temporarily named Arecanut yellow leaf (AYL).Key words arecanut yellow leaf disease phytoplasma 16S rDNA Molecular identification
【语种】中文
【第一作者】车海彦
【通讯作者】罗大全
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【学科分类】植物保护学

【题目】3种熏蒸剂对椰心叶甲的熏蒸效果及寄主切叶的影响
【中文关键词】熏蒸; 椰心叶甲; 效果; 散尾葵
【英文关键词】fumigation; Brontispa longissima; effect; Chrysalidocarpus lutesceus.
【中文摘要】分别利用磷化钙、 3%高效氯氰菊酯烟雾剂 (烟魁)和溴甲烷 3 种熏蒸剂熏蒸处理椰心叶甲[Brontispalongissima(Gestro)]各虫态及散尾葵切叶, 观察椰心叶甲各虫态的死亡情况和对散尾葵叶片的影响。 结果表明: 烟

魁使用时灼伤散尾葵切叶, 不适合处理散尾葵切叶。 其他 2 种熏蒸剂对切叶没有明显影响, 影响熏蒸剂对椰心叶甲各虫态致死的主要因素是熏蒸剂的浓度和熏蒸时间。 磷化钙处理而言, 其分解为磷化氢气体需要时间, 需要熏蒸 24 h, 使用 0.3 mg/m3,即可达到完全杀死椰心叶甲的目的; 而对于溴甲烷处理而言, 用量相对较大, 但熏蒸时间较短, 20 g/m3的浓度 2 h 才可以满足生产上对椰心叶甲除害的需要。 研究结果对处理棕榈植物鲜切叶或苗木有重要的借鉴意义。

【英文摘要】Three fumigants, embafume, calcium phosphide and 3% Beta cypermethrin aerosol “ Yankui ”,were used to fumigate cut leaves of Chrysalidocarpus lutesceus and the coconut leaf beetle Brontispa longissima of various stages at different doses for different durations of time. The 3% Beta cypermethrin aerosol injured all the cut leaves of C. lutesceus as well as B. longissima , and is hence not suitable for the control of the beetle, and the other 2 fumigants, embafume and calcium phosphide, killed the beetle and had no effect on the cut leaves. The mortality rate of B. longissima depended on the application rate of the fumigants and the fumigation duration. It takes quiet a long time for calcium phosphide to decompose into H3P, and B. longissima of various stages was killed only when fumigated with the calciumphosphide at a rate of 0.3 mg/m3 for 24 h, whereas the same result was achieved when embafume was applied at a higher rate (20 mg/m3) for a shorter time (2 h). These results might be of good use fortreatment of cut leaves of palm plants and production of nursery palm plants

【语种】中文

【第一作者】李朝绪

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【学科分类】植物保护学

【题目】不同椰子品种对椰心叶甲生长发育和繁殖力的影响

【中文关键词】椰心叶甲;椰子品种;生长发育;繁殖力;生命表

【英文关键词】Brontispa longissima (Gestro) ; coconut cultivar, growth and development, fecundity, life table.

【中文摘要】研究椰心叶甲在海南高种椰子(Hainan Tall)、黄矮椰子(Yellow Dwarf)、红矮椰子(Red Dwarf) 78F1y椰子(78F1)、香水椰子(Aromatica Green Dwarf)和马哇椰子(Mawa)6个椰子品种未展开心叶上的发育、存活和繁殖情况。结果表明,在取食不同椰子品种的情况下,椰心叶甲完成1个世代所需的时间差异显著,其中取食红矮椰子所需的时间最长,为(79.06±3.65)d,取食海南高种椰子所需的时间最短,(72.06±1.14)d,取食海南高种椰子的椰心叶甲平均产卵量最高,为(250.75±3.57)粒,而取食马哇椰子的最少,为(144.42±1.14)粒,取食78F1椰子的椰心叶甲成虫寿命最长,为(235.84±2.62)d,取食香水椰子的最短,为(142.15±8.25 d),椰心叶甲在6个椰子品种上的实验种群趋势指数从高到低为78F1椰子96.07、海南高种椰子82.34、黄矮椰子73.93、马哇椰子60.16、红矮椰子60.07和香水椰子55.26。

【英文摘要】The development, survivorship and reproduction of Brontispa longissima (Gestro) on six coconutcultivars were studied in laboratory. The results showed that the development duration of one generation B.longissima fed on different coconut varied significantly, with the longest (79.06 days) on Red Dwarf andthe shortest (72.06d ays) on Hainan Tall. The female B. longissima had the highest fecundity (250.75ova) on Hainan Tall while the lowest one (144.42 ova) on Mawa. The longevity of B. longissima adults fed on 78F1 was 235.84days, being significantly longer than that on the other coconut cultivars. The trendindex of experimental population of B. longissima fed on the six coconut cultivars was 96.07, 82.34, 73.93,60.07, 60.16 and 55.26 respectively.

【语种】中文

【第一作者】余凤玉

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【学科分类】植物保护学

【题目】寒流对椰心叶甲及其寄生蜂的影响

【中文关键词】寒流; 椰心叶甲; 寄生蜂

【英文关键词】Cold snap; Brontispa longissima; parasitoid
【中文摘要】经实地调查和室内解剖观察, 分析研究了2008年1月下旬至2月上旬寒流对海南、 广东椰心叶甲及其寄生蜂的影响。 研究结果表明: 椰心叶甲成虫在海南冻死率为0, 在广东冻死率为68.25% ~ 98.00%; 在海南随纬度升高椰心叶甲啮小蜂寄生率从39.88%下降为12.16%, 椰甲截脉姬小蜂随纬度升高寄生率从4.61%提高到18.42%; 在广东仅徐闻、 雷州有两种寄生蜂分布, 其中椰甲截脉姬小蜂的寄生率为2.50%和50%, 椰心叶甲啮小蜂的寄生率为34.37%和50%; 椰心叶甲啮小蜂和椰甲截脉姬小蜂在寄主体内的存活率随纬度升高而下降, 分别从89.50%下降到76.11%和46.90%下降到11.23%。
【英文摘要】The effect of cold snap on Brontispa longissima and its parasitoids in Hainan and Guangdong was researched by field survey and indoor dissection in January and February of 2008.The research showed that the rate of winterkilling of B. longissima adults in Hainan was 0 and in Guangdong it ’ s 68.25% ~ 98.00%.The parasitic rate of Tetrastichus brontispae in Hainan decreased from 39.88% to 12.16% with the ascending of latitude and Asecodes hispinarum ’ s parasitic rate increased from 4.61% to 18.42% with the ascending of latitude.In Guangdong two kinds of parasites distributed only in Xuwen and Leizhou city. The parasitic rate of A. hispinarum was 2.50% and 50% separately and B. longissima ’ s parasitic rate was 34.37% and 50% separately in Xuwen and Leizhou.The livability of T. brontispae and A. hispinarum inside the host ’ s body descended with the ascending of latitude. T. brontispae ’ s livability decreased from 89.50 to 76.11% and Asecodes hispinarum ’ s decreased from 46.90% to 11.23%.
【语种】中文
【第一作者】李科明
【通讯作者】覃伟权
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【题目】温度对椰心叶甲啮小蜂控制寄主能力的影响
【中文关键词】椰心叶甲啮小蜂;温度;贮藏时间; 寄生力
【英文关键词】T. brontispae ; Te mperature ; Storage time ; Parasitic ability
【中文摘要】在室内研究不同温度下对不同日龄的椰心叶甲啮小蜂处理不同时间对其寄生力的影响。结果表明,温度对椰心叶甲啮小蜂的雌雄性比并无明显影响。24-28 ℃ 时,椰心叶甲啮小蜂对椰心叶甲蛹的寄生力影响不明显随着温度的降低,啮小蜂的寄生率、 寄生蛹出蜂量明显下降。在一定温度范围内,较高的温度对椰心叶甲啮小蜂的寄生力有利。椰心叶甲啮小蜂在羽化交配后的 1~ 4 d内寄生力没有明显变化, 但随着日龄的增加, 椰心叶甲啮小蜂的寄生力逐渐下降。椰心叶甲啮小蜂成蜂在不同温度下贮藏 1~ 3 d时对其品质影响不大,贮藏 4 d后其寄生力急剧下降.
【英文摘要】The influences of temperature on the parasitic ability of Tetrastichus brontispae Ferrire with vari us ages were studiedin the laboratory . The results showed that temperature had no significant infuence on the sex ratio of T. brontispae . The parasitic ability of T. brontispae to the pupae of coconut leaf beetle Brontispa longissima (Gestro) was no t markedly effected by the tempe rature of24~ 28 ℃ , while when the temperature decreased further , the parasitic rate of T. brontispae and the quantity o f T. brontispae comingfrom the pupae were significantly decreased . Slightly high temperature was favorable for the parasitic ability of T. brontispae . Wihi n 1~ 4 days after emergence and m ati ng of T. brontispae , there w ere no si gnificant changes in its parasitic abilit y . However , along with the increase of age , the parasitic ability o fT. brontispae dropped gradually . The sto rage o f T. brontispae at different temperatures for 1~ 3 days had little effect on its quality , but its parasitic ability would decline sharply after 4 days storage.
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【第一作者】李朝绪
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【题目】椰心叶甲啮小蜂触角感觉器的扫描电镜观察

【中文关键词】椰心叶甲啮小蜂,触角,感器,扫描电镜
【英文关键词】Tetrastichus brontispae,antenna,sensilla,scan electron microscope
【中文摘要】应用扫描电镜(SEM)对椰心叶甲啮小蜂 Tetrastichus brontispae Ferri è re 成虫触角感器的超微结构进行观察。结果表明,在触角上共有 8 种感器,分别为毛形感器、多孔板状感器、刺形感器、锥形感器、耳形感器、乳状感器、腔形感器和 B　hm 氏鬃毛;其中毛形感器和板形感器是主要感器,数量较多分布较广;雌雄蜂触角有明显的性二型现象,表现为雌雄触角大小不同,触角感器类型、大小、数量、分布不同。
【英文摘要】The morphology of sensilla on the antennae of Tetrastichus brontispae Ferri è re adult were observed under a scanning electron microscope. Eight distinct types of sensory receptors were found,including sensilla trichodea,sensilla multiporous plate, sensilla chaetica, sensilla basiconica, sensilla auricillica, sensilla mammilliformia, sensilla coeloconica and b　hm bristles, of which sensillum trichodeum and sensillum placodeum were both the most numerous and widely distributed. Sexual dimorphism in antenna size and the shape,size,umber and distribution of sensilla,was apparent.
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【第一作者】辛星
【通讯作者】马子龙
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【题目】影响椰心叶甲啮小蜂寄主接受行为因子的探讨
【中文关键词】椰心叶甲啮小蜂; 视觉; 嗅觉; 寄主接受
【英文关键词】Tetrastichus brontispae Ferri è re; vision; olfaction; host-acceptance
【中文摘要】对椰心叶甲啮小蜂的复眼和触角分别用水溶性黑色素和液体石蜡处理以探讨其视觉、 嗅觉在其寄主接受行为过程中的作用; 分别用椰子心叶、 A4 白纸、 黑色薄膜 3 种不同方式包裹椰心叶甲蛹以探讨小蜂视觉在其寄主接受行为过程中的作用; 把椰心叶甲蛹在-81 ℃超低温冰箱下冰冻 10 min 后以探讨寄主蛹动对椰心叶甲啮小蜂寄生行为的影响。 结果表明, 椰心叶甲啮小蜂寻找寄主时嗅觉起主要作用, 视觉仅起辅助作用, 而寄主蛹动对该蜂接受寄主行为的影响不大。
【英文摘要】Compound eyes and antennae of parasitoid Tetrastichus brontispae Ferri è re were smeared withwater-soluble melanin pigment and liquid paraffin respectively to investigate the role of vision and olfactionof the parasitoid in its host acceptance behavior. Spear leaf, A4 virgin paper and black belt were used to wrap up the pupae of Brontispa longissima Gestro respectively for the purpose of investigating the effect of the parasitoid vision on its host acceptance behavior. Pupae of Brontispa longissima Gestro were cryopreserved at -81 ℃ for 10 minutes to explore the role of motion of host pupae in host acceptance behavior of the parasitoid. The results showed that the olfaction of the parasitoid played a main role whenthe parasitoid searched its host, and that the vision of the parasitoid just played an auxiliary role, whereasthe motion of pupae had little influence on acceptance of the parasitoid.
【语种】中文
【第一作者】辛星
【通讯作者】马子龙
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【题目】椰心叶甲啮小蜂复眼和触角在交配中的作用及其超微结构的扫描电镜观察
【中文关键词】椰心叶甲啮小蜂;交配行为;复眼;触角;超微结构;扫描电镜
【英文关键词】Tetrastichus bron tispae; copulation behavior; compound eye; antenna; ultrastructure; scanning electron m icroscope (SEM)
【中文摘要】对寄生蜂交配行为的了解将有助于发展对其行为调控的技术,提高寄生蜂对害虫控制的效能。为探讨椰心叶甲啮小蜂Tetrastichus bron tispae Ferri è re的复眼和触角在交配中的作用,用水溶性黑色素和液体石蜡分别涂抹该蜂复眼和触角后观察其交配行为,并利用扫描电镜 (SEM)观察其复眼和触角的超微结构分析雌、雄蜂触角感器的分布与数量差异。

结果表明:椰心叶甲啮小蜂雄蜂的复眼在交配过程中起重要作用,雌蜂复眼作用不显著。在椰心叶甲啮小蜂求偶识别和接受过程中,雄蜂触角柄节部位起主要作用,其次是棒节部位,再次是鞭节的索亚节部位,而雌蜂触角鞭节索亚节部位起主要作用,然后是棒节部位,最后是柄节部位。扫描电镜观察表明椰心叶甲啮小蜂触角上共有8种感器,其中毛形感器和板形感器是主要感器,触角有明显的性二型现象,表现为触角大小不同及触角感器类型、大小、数量、分布不同。

【英文摘要】Understanding copulation behavior of chalcids can help the development of techniques formanipulating chalcid behavior, and thereby increase the efficacy of chalcids as biological control agents in insect pest management 1The effect of compound eyes and antennae on copulation behavior of Tetrastichus brontispae Ferri è re was studied by smearing its compound eyes and antennae w ith water 2soluble melanin p igment and liquid paraffin, respectively 1The ultrastructure of compound eye and sensilla on antenna of T1bronispae was observed with scanning electron m icroscope (SEM) , and the differences of distribution and quantity of sensilla on antenna of two sexes were analyzed 1The results showed that there was asignificantdifference in the role of the compound eye of the chalcid in copulation behavior between two sexes 1 The importance of every segm ent to copulation of male chalcid decreased in the order of antennal scape,antennal club, and antennal flagellum , but for the female the order was antennal flagellum , antennal club,and antennal scape1Eight distinct types of the sensilla were found on antenna w ith scanning electronm icroscope1A s the m ajo r sensilla, both sensillum trichodeum and sensillum p lacodeum were distributed widely on the antenna 1Moreover, there was an obvious sexual dimorphism of antenna of the chalcid as shown by different size of the antenna and different shape, size, num ber and distribution of the sensilla 1Key words: Tetrastichus bron tispae; copulation behavior; compound eye; antenna; ultrastructure; scanningelectron m icroscope (SEM)

【语种】中文

【第一作者】辛星

【通讯作者】马子龙

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【学科分类】植物保护学

【题目】椰心叶甲啮小蜂复眼的扫描电镜观察

【中文关键词】椰心叶甲啮小蜂; 扫描电镜; 复眼; 形态; 感觉毛

【英文关键词】Tetrastichus brontispae ; SEM; compound eyes ; morphology ; sense hair

【中文摘要】椰心叶甲啮小蜂 Tetrastichus brontispae 是椰心叶甲Brontispa longissima 的寄生性天敌。研究该小蜂的行为发现 ,雄蜂复眼在交配过程中起重要作用 ,为此利用扫描电镜对其复眼进行观察。结果表明: 雌蜂复眼长椭圆形 ,外凸 ,小眼约 267 个; 雄蜂复眼近椭圆形 ,略外凸 ,小眼约285个。雌、 雄蜂复眼中心区域小眼排列较紧密 ,多为较规则的六边形 ,边缘区域小眼排列不紧密 ,多为不规则四至六边形 ,且少量相邻小眼的间距较大。雌、 雄蜂复眼小眼面积分别为124193、 119190 μm2。雌、 雄蜂复眼中心区域近背区小眼间着生少量感觉毛。

【英文摘要】Tetrastichus brontispae Ferri è re is an important parasitoid of the coconut leaf beetle , Brontispa longissima (G estro) at pupal stage. I t was found that the compound eyes of male chalcid of T. brontispae played an important role in copulation behavior. The compound eyes of T. brontispae were observed by scanning electron microscopy in this study. Results showed that the compound eyes of femalechalcid were long oval and outward convex , composed of about 267 ommatidia. The compound eyes of male chalcid were oval and slightly outward convex , composed of approximate 285 ommatidia. The ommatidia in the central region were in regular hexag on and lined closely , while those in the rim were in irregular quadrangle , pentag on or hexag on and not close , the space between the individual ommitidium was very big. The areas of ommatidium of female and male chalcid were 124193 μm2and 119190 μm2, respectively. There were s ome sense hairs between the ommatidia near dorsal area in the central region ofcompound eye of male and female

【语种】中文

【第一作者】辛星

【通讯作者】马子龙

【期刊名称、卷期、页码】中国生物防治26 (3) 365 - 368

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【学科分类】植物保护学

【题目】一种网站页面保护程序的设计与实现
【中文关键词】Web页面;加密;MD5;摘要
【英文关键词】Web page; crypt; MD5;digest
【中文摘要】目前许多网站经常受到攻击,其页面被篡改。本文设计和实现一种页面保护程序,使用Mac技术,监视要显示的Web页面,如果发现页面被修改,则用备份页面覆盖被修改的页面,达到防止页面被篡改的目的。
【英文摘要】At present Websites are often attracted, and the pages are always tampered. The paper designs and realizes on Web page protection program to protect the page. The program uses Mac, can monitor the Web pages and replace the tampered page by the backup page.
【语种】中文
【第一作者】张万斌
【通讯作者】张万斌
【期刊名称、卷期、页码】计算机与现代化,2009年11期,页码范围:81-91。
【论文发表时间】2009-11-09 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】计算机应用

【题目】一种Post-WIMP界面:PGIS的实现
【中文关键词】Post-WIMP;PGlS;笔式用户界面
【英文关键词】Post-WIMP; PGIS; pen-based user interface
【中文摘要】笔式用户界面作为Post—WIMP界面的一种重要形式,成为当前研究的热点之一。基于笔交互的应用程序通常有如下需求:自然统一的风格、个性化界面定制的支持,以及各种终端设备上的移植。为了支持笔交互应用程序快速稳定的开发,提出了一种新的笔交互范式PGIS,以及基于PGIS的应用程序开发平台。PGIS交互范式包含了纸、小工具等交互组件,定义了各种组件的显示及交互形式。PGIS平台采用模型驱动构架的设计方法,主要包括3个部分:界面的设计工具,PGIS交互引擎,PGIS底层核心库。目前,已经在PGIS平台上开发了几款优秀的笔式交互软件,完全满足上述笔式交互应用程序的需求。PGIS的可行性也因此得到了很好的验证。
【英文摘要】The pen-based user interface now plays an important role as a main type of Post-WIMP.It renders efficient and natural interaction between human and computer,and it is well suited to people ’s daily working habits.Applications incorporating a pen-based user interface should meet the following requirements:a uniform and natural display style;a customizable user interface;and high portability.To meet these requirements,this article describes a new paradigm:PGIS and a software development platform to implement the PGIS.The PGIS paradigm,which describes some interactive objects,such as Paper,Gadget and so,is based on the pen-paper metaphor which is analogous to the real working environment.Adopting the model driven architecture design method,the PGIS software platform has a portable core,uniform management and description of the interactive objects,and a customizable user interface design tool.Currently,under the PGIS software platform,several applications using pen-based interaction have been developed quickly and successfully.The feasibility of PGIS and the software platform therefore is well verified.
【语种】中文
【第一作者】石磊
【通讯作者】邓昌智
【期刊名称、卷期、页码】《中国图象图形学报》,2010.15(7):985-992.
【论文发表时间】2010-07-05 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】计算机应用

【题目】笔式界面软件快速开发工具
【中文关键词】笔式用户界面;基于场景的设计;形式化文档;UI编辑;代码生成
【英文关键词】pen-based user interface,scenario-based design,formal documentation,UI editor,code generating

【中文摘要】笔式界面软件快速开发工具Visual PBAP(pen—based application)Creator可以根据用户的个性化需求快速设计和开发相应软件,缩短开发周期。一方面,Visual PBAP Creator通过场景和UI编辑方便开发人员和用户确定需求;另一方面,自动生成代码可以缩短开发周期。Visual PBAP Creator以笔式操作平台为软件平台,采用基于场景设计的开发方法,设计结果形成XML格式的文档,通过解析这些XML文档最终生成C代码。实践表明,Visual PBAP Creator可以提高笔式界面软件的开发效率。

【英文摘要】Visual PBAP(Pen—based Application)Creator is a rapid development tool,which can be used to design and develop Pen-based Application according to end user ’ s specific requirement and can shorten the development cycle.On one hand,Visual PBAP Creator introduces scenario—based method and UI editor to facilitate the definition of requirement.On the other hand,it can automatically generate code to accelerate the development speed.Visual PBAP Creator is based on PBOP(Pen-based Operating Platform)and scenario-based method.The design results are saved as XML specification,and these XML files will be parsed to generator C code,which can be compiled and run on PBOP.The results of practices have shown that Visual PBAP Creator can improve the efficiency of development of Pen-based Application.

【语种】中文

【第一作者】华超

【通讯作者】邓昌智

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【学科分类】计算机应用

【题目】一种基于模型驱动的笔式界面开发框架研究

【中文关键词】模型驱动;笔式界面;软件开发方法;人机交互

【英文关键词】model driven;pen-based user interface;software development model;human-computer; interaction

【中文摘要】本文针对笔式用户界面开发的需求个性化、平台多样化和开发难度大的问题,提出了一种基于模型驱动的笔式界面开发框架.首先,提出了一种笔式用户界面开发架构,对笔式用户界面的特点进行抽象与描述;然后基于模型驱动开发方法提出了笔式界面的平台无关模型PIPIM以及笔式界面的平台相关模型PIPSM,并建立了PIPIM与PIPSM之间的转换方法;最后,给出了一个基于模型驱动的笔式界面开发工具Iris,并使用Iris开发了一个笔式个人信息管理系统.应用实例表明:该基于模型驱动的笔式界面开发框架能够有效支持笔式界面开发、降低开发复杂性。

【英文摘要】In order to make the pen-based user interface easy to develop with personalized requirements and diverse devices, we propose a model driven development framework. For a pen-based user interface, firstly we present a general development framework, then build a platform independent model and a platform specific model based on the model driven architecture.Furthermore, we introduce the transformation way from the former model to the latter one.At last, a toolkit named “ Iris ” is provided to support the development.The example application built by “ Iris ” shows that the model driven development framework can benefit the development of a pen-based interface and reduce the complexity of the development efficiently.

【语种】中文

【第一作者】陈明炫

【通讯作者】邓昌智

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【学科分类】计算机应用

【题目】农业信息服务呼叫中心的设计与实现

【中文关键词】农业信息化; 呼叫中心; CTI; J2EE

【英文关键词】agricultural informatization; call center; CTI; J2EE

【中文摘要】农业信息呼叫中心是实现农业信息化的重要途径。本文介绍一种农业信息呼叫中心的实施方案。首先介绍系统的主要组成部分和主要功能,然后介绍系统的主要实现方法和关键技术,最后对进一步扩充系统功能做了探讨。

【英文摘要】Building agricultural information call center is an important method to realize agricultural informatization.This paper introduces a realization schema for agricultural information call center,and describes main working principle and key technology in use at first. And then it introduces the main components of the system,describes the main functions of the system,explains the main implementation method for the system. This paper discusses expanding the system functions at last.
【语种】中文
【第一作者】李沐华
【通讯作者】李沐华
【期刊名称、卷期、页码】《计算机与现代化》2011(02):701-73.
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【引文索引类型】其他
【引文索引号】null
【学科分类】计算机应用

【题目】基于笔式操作平台的农村信息服务系统的研究与开发
【中文关键词】笔式交互; 跨设备; 笔式交互平台
【英文关键词】pen interaction; cross-device; pen-based interaction platform
【中文摘要】通过分析当前笔式应用开发的技术、方法和环境, 对跨设备笔式操作平台的体系结构和构建原理进行研究, 并结合当前农村信息服务的实际应用, 提出基于笔式操作平台的适合农村信息服务的应用系统开发思路。
【英文摘要】Through the analysis of the current pen application development techniques, methods and environment, this paper researches on cross-device pen operating platform ’ s architecture and construction principle. Combines with the current practice of rural information service, the paper proposes pen-based operating platform ’ s application development ideas which appropriated the rural information service.
【语种】中文
【第一作者】袁钦
【通讯作者】肖云
【期刊名称、卷期、页码】《计算机与现代化》2010.11:56-59.
【论文发表时间】2010-11-08 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】计算机应用

【题目】60Co γ辐射对秀珍菇子实体蛋白质营养水平的影响
【中文关键词】Co γ辐射;秀珍菇;营养价值;蛋白质营养
【英文关键词】Co γ radiation;Pleurotus geesteranus;nutritional value;protein nutrition
【中文摘要】采用国际上通用的非牛物评价方法,研究了不同剂量60Co γ辐射对秀珍菇子实体蛋白质营养价值的影响,以期为秀珍菇辐射育种研究提供科学依据。结果表明:在相同培养料以辐射剂量为1.00处理的栽培的秀珍菇子实体蛋白质营养价值评价的六项指标中氨基酸评分、化学评分、必需氨基酸指数、氨基酸比值系数分和生物价分别为74.3、58.5、78.3、66.9和73.6,均居5种剂量处理之首,营养指数为25.8,均居第2位。综合评价的结果显示,以辐射剂量为1.00 kGy处理的相同培养料栽培秀珍菇子实体其蛋白质营养价值最高。
【英文摘要】By using current international method of non-biological evaluation。 the effects of 60Co γ radiation with different doses on the nutritional value of protein in the fruit bodies of Pleurotus geesteranus were studied in order to provide a scientific basis for its breeding research.The results showed that,under the condition of same culture medium,the nil—tritional value of protein in the fruit bodies of Pleurotus geesteranus in the treatment with 1.00 kGy dose were at the top position among the treatments with five radiation doses.For the six indexes for evaluating the nutritional value of protein,the amino acid score(AAS)chemical SCOre(cs),essential amino acid index(EAAI),SCOre of ratio coefficient of aminoacid(SBCAA)and biological valence(BV)in t11e protein of Pleurotus geesteranus ’ s fruit bodies were 74.3、58.5、78.3、66.9 and 73.6 respectively.The nutritional index(NI)was 25.8,at second position.The comprehensive evaluation revealed that,under the same culture medium,the nutritional valRe of protein in the fruit bodies of Pleurotus geesteranus in treatment with 1.00 kGy dose Wag the highest.
【语种】中文

【第一作者】翁伯琦
【通讯作者】翁伯琦
【期刊名称、卷期、页码】激光生物学报,2010,19(2):184-188
【论文发表时间】2010-04-01 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农业基础学科

【题目】60Co γ射线辐射大杯香菇诱变效应的主成分分析
【中文关键词】食用菌;育种;农艺性状;超氧化物歧化酶;丙二醛
【英文关键词】edible fuji;crossbreeding;agronomic traits;suproxide dismutase;malonaldehyole
【中文摘要】采用主成分分析法对60Co γ射线辐射大杯香菇的诱变效应进行了研究。从10项性状指标中提取出5个诱变效应主成分,累积方差贡献率为91.85%。根据主成分对原性状的综合能力,进行生物学意义分析,5个主成分可分别解释为农艺性状与酶学效应因子,增重效应因子,盖增大效应因子,粗壮效应因子和盖厚度效应因子,并建立了主成分方程,结合辐射育种实际情况,认为第1主成分较全面反应了辐射育种目标,为期望诱变效应,是大杯香菇诱变育种的主要参考性状组合。各处理组的第l、2、3、4、5主成分值计算结果表明,1.25 kGy处理组的第l主成分最大为3.18,远高于其它处理组,为较适宜的辐射剂量。
【英文摘要】The main—component analyzing method was adopted to investigate the radio—mutation effciency of Lentinus gigantes by 60Co γ ray.5 main components with radio-mutation efficiency.which contributed the accumulative varlance by 91.85%has been picked out from 10 character indexes.According to the comprehensive function of each main component in original characters of Lentinus giganteus,their biological significance has been analyzed.The 5 main components could he explained respectively as the factor of agronomic character and enzymologie effect,the factor of weight increase,the factor of pileus—eraarging effect, the factor of thickset effect and factor of pileus-thickening effect.And the equation of main components was established.Combining the real situation in radiation breeding,it is considered that, the 1st main component(the factor of agronomic character and enzymologic effect)reflected in all around the radiation breeding target,it is a desired induction effect and the main reference character for the radiation breeding of Lentinus giganteus.The calculation of山e values of main components from 1st to 5th factors in different treatments showed that.the value of 1st main component in the treatment of 1.25 KGy dosage wag the biggest which is 3.1 8,and much bigger than other treatments.It is a relatively suitable radiation dosage.
【语种】中文
【第一作者】江枝和
【通讯作者】江枝和
【期刊名称、卷期、页码】激光生物学报,2009,18(3):309-314
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【引文索引类型】其他
【引文索引号】null
【学科分类】农业基础学科

【题目】当前食用菌制种研究概况及发展趋势分析
【中文关键词】食用菌;研究;生产;趋势
【英文关键词】null
【中文摘要】分析了当前国内外食用菌制种行业的研究现状、存在问题,在生产中的应用以及发展趋势和方向。
【英文摘要】null
【语种】中文
【第一作者】戴建清
【通讯作者】王泽生
【期刊名称、卷期、页码】福建轻纺,2008,11:26-30
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【引文索引号】null

【学科分类】农艺学

【题目】60Co γ射线辐射诱变大杯香菇的营养价值效应的主成分分析
【中文关键词】大杯香菇;营养价值相关;主成分分析
【英文关键词】Lentinus giarntenus Berk;nutritional value;principal component analysis
【中文摘要】应用多元统计成分分析法,对不同剂量∞Cot射线辐射大杯香菇诱发的蛋白质营养价值的6个主要营养指标进行了相关及主成分分析。结果表明,大杯香菇的大部分营养指标间存在极显著或显著相关。主成分分析显示,可将原6个营养指标综合为2个主成分,其累积贡献率可达96.20%。根据主成分对原性状的综合能力,进行营养价值分析.2个主成分可分别解释为生物价和必需氨基酸指数效应因子和营养指数效应因子,并建立了主成分方程,各处理组的主成分得分、综合得分计算排序第一为1.25 kGy处理组,所以为较适宜的辐射剂量。
【英文摘要】The correlation and principal component analysis were carried on to study the six major nutritional value indexes of the 60Co γ ray Radiation—induced Lentinus giganteus Berk.The results showed that most of the indexes showed significant or much significant correlation.The principle component analysis suggested that the 6 indexes could be sumarized as 2 principle component,contributing 96.20%,standing for the biology value-essential amino acids effect fator and the nutritional index factor.The 1.25 kGy treatment got the highest principle and comprehensive scOreS according to the principle equation,it wag more appropriate for the radiation dose.
【语种】中文
【第一作者】郑向华
【通讯作者】郑向华
【期刊名称、卷期、页码】激光生物学报,2010,19(2):179-183
【论文发表时间】2008-11-01 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农业基础学科

【题目】秀珍菇辐射新株系蛋白质营养价值的主成分和聚类分析
【中文关键词】秀珍菇;种质资源;主成分分析;聚类分析
【英文关键词】Pleurotus geesteranus;germplasm resources;component analysis;cluster analysis
【中文摘要】对18个秀珍菇辐射新株系子实体中的必需氨基酸指数、生物价、营养指数、氨基酸比值系数分、化学评分和氨基酸评分的6项蛋白质营养价值指标进行主成分分析。结果表明,必需氨基酸指数和生物价因子、氨基酸比值系数分和化学评分因子、营养指数因子,这3个主要因子对变异的累积贡献率达95.88%。依据主成分向量将18个秀珍菇辐射新株系聚为4类。
【英文摘要】Component analysis was conducted on the protein nutritional value, including the essential amino acid index (EAAI),biological value(BV),nutritional index(NI),scorce of ratio coefficient of amino acid(SRCAA),chemical score(CS) and amino acid score(AAS),of 18 Radiational New Strains Pleurotus geesteranus.The results showed that the EAAI and BV,SRCAA and CS,NI contributed 95.88%to the variation.The new strains can be divided into 4 types.
【语种】中文
【第一作者】江枝和
【通讯作者】翁伯琦
【期刊名称、卷期、页码】激光生物学报,2009,18(4):516-519
【论文发表时间】2009-08-01 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农业基础学科

【题目】食用菌菌渣循环利用对农田生态环境的影响与评价指标
【中文关键词】用菌渣;农田生态环境;循环利用;影响:评价指标
【英文关键词】edible fungus dregs;farmland ecology environment;recycling use;effect;aaseasnmnt index
【中文摘要】我国是食用菌第一生产大国,拥有大量的食用菌废弃物资源,但当前食用菌菌渣利用率较低,造成乡村污染的现象依然存在。因此。有必要开展菌渣等废弃物循环利用技术与合理开发模式研发,尤其要建立并完善农田秸秆菌业循环

生产体系,通过菌渣还田、有机与无机肥的科学施肥等技术提高农田生态系统生产力,是实现资源高效循环利用的有效途径之一。该文主要论述食用菌渣循环利用技术方式以及对农田生态环境影响的主要评价指标。以深入探讨菌渣回田对农田生态环境影响及实施成效。

【英文摘要】China is the largest producer of edible fungi and has alarge number of waste resouPce$.but low utilization ratio of edible fungus dregs which polluted villages.So it is necessary to early out the researches on recycling technology and reasonable development modes of edible fungi residue and establish and improve the farmland straw—edible fungi recycle production system to improve the productivity of farmland ecological system by returning residue to farmland and scientific application of organic—inorganic fertilizer, which is the effective way to realize officient resources utihzation. This paper mainly discussed the cyclic utilization technology of edible fungus dregs and the main assessment indices of farmland ecological environment in order to explore the effects and achievements of returning residue to farmland eco-environment.

【语种】中文

【第一作者】黄秀声

【通讯作者】黄秀声

【期刊名称、卷期、页码】现代农业科技,2010,22:268-271

【论文发表时间】2010-11-01 00:00:00

【引文索引类型】其他

【引文索引号】null

【学科分类】农学其他学科

【题目】“奶牛-沼气-牧草”循环型农业系统的能值分析

【中文关键词】循环型农业;能值分析;可持续发展

【英文关键词】circular agriculture;emergy analysis;sustainable development

【中文摘要】为探讨“奶牛一沼气一牧草”循环型农业模式(模式I)的结构功能和生态经济效益,应用能值分析方法对其进行研究,并与单一奶牛养殖模式(模式Ⅱ)进行比较。结果表明:模式I的净能值产出率(4.06)比模式Ⅱ(4.13)低;模式I能值可持续发展指标值为1O.27,模式Ⅱ为9.57,模式I具有更高的可持续发展能力;模式I的环境负载率(0.11)低于模式Ⅱ(0.12),并且模式Ⅱ能值废弃率为21.72%,模式I为0,因此模式I对环境的压力小;模式I产出能值反馈率达到30.63%,系统自组织能力强。模式I的净效益是模式Ⅱ的1.13倍,但产投比是模式Ⅱ的97.64%。以能值~货币价值计算的生态经济效益分析结果与实际经济效益分析结果基本一致。因此,模式I具有环境压力小、自组织能力强、可持续发展能力较强的特征,但仍需进一步优化系统内部结构,提高生产效率。

【英文摘要】To study and compare the circular agriculture system of “dairy cattle—biogas—forage” (Mode I)with the conventional dairy farm system (Mode Ⅱ)in ecological and economic benefit,emergy analysis method is used.Results show that the net energy yield ratio in Mode 1 was 4.06,lower than that(4.1 3)in Mode lI.The emergy sustainable development index was 10.27 in Mode I and 9.57 in Mode 1I,suggesting Mode I is more capable of sustaining development than Mode lI.The environmental loading ratio of Mode 1 was 0.1 1,lower than that(0.12)of Mode Ⅱ,and the emergy waste ratio was 21.72% in Mode lI but 0 in Mode I,suggesting that Mode I creates less pressure on the environment than Mode Ⅱ does.The feedback ratio of yielded emergy was 30.63% in Mode I but 0 in Mode II.suggesting that Mode I is higher in self-organizing ability.The net income of Mode 1 was 1.1 3 times that of Mode II,but the output—input ratio of Mode 1 was 97.64% of Mode II.Analysis of the eeo.economic benefit of Mode I based on the emergy—monetary value showed it was close to the actual economic benefit.Therefore,Mode I can be characterized by less environmental pressure,higher self-organizing ability and high sustainable development capability,but it still needs to further optimize its system internal structure and improve its productivity.

【语种】中文

【第一作者】李艳春

【通讯作者】黄毅斌

【期刊名称、卷期、页码】生态与农村环境学报,2010,26(2):120-125

【论文发表时间】2010-01-01 00:00:00

【引文索引类型】其他

【引文索引号】null

【学科分类】农学其他学科

【题目】3种不同性质改良剂对镉锌污染水稻土的修复效果及评价
【中文关键词】改良剂;小油菜;水稻土;吸收系数
【英文关键词】Amendment;Rape(Brassica campestris L.);Paddy(Oryza sativa)soil;Uptake coefficien
【中文摘要】采用盆栽试验,研究施用石灰、有机肥、海泡石3种不同改良剂对水稻土培养的小油菜生物量、镉锌吸收量、吸收系数的影响。结果表明:施用改良剂,小油菜(Brassica campestris Linn)连种3季的生物产量都显著提高,对镉锌的吸收量降低,其中以石灰和有机肥配施的效果最好,增产170%以上:单施改良剂降低小油菜对镉锌的吸收以石灰的效果较好,海泡石的最差。小油菜对镉的吸收系数大于锌的吸收系数.说明镉在土壤中的移动性比锌大,施用石灰降低吸收系数的效果最好;施有石灰的使小油菜中镉、锌含量达到食品卫生标准:改良剂对镉的后效好于对锌的后效。
【英文摘要】The effects of different amendments (lime, manure and sepiolite) on rape (Brassica cmnpestris L.) biomass, the uptake of cadmium and zinc by rape, and uptake coefficient were studied using pot experiments. Results showed that the yield of rape increased after amendments application. The treatment of lime and manure showed the highest increasing yield by more than 170% compared with no amendments application. The amount of absorbed Cd and Zn in rape decreased after the three amendments application. Lime application showed the best effect to decrease the heavy mental content in rape mots when amendments were separated applied. However, sepiolite could hardly decrease the content in rape after separated applied in contaminated soil. The uptake coefficient of Cd was bigger than that of Zn. It meant that Cd was easily to move from soil to plants. The uptake coefficient was decreased after adding lime especially. The amount of Cd and Zn in the rape met the the food standard requirement after adding lime. The effect of amendments to Cd was better than that to Zn.
【语种】中文
【第一作者】张青
【通讯作者】徐明岗
【期刊名称、卷期、页码】热带作物学报,2010,31(4):541-546
【论文发表时间】2010-04-01 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】生态学

【题目】剑麻叶片愈伤组织诱导及再生体系的建立
【中文关键词】剑麻叶片; 愈伤组织 ; 植物激素 ; 再生植株
【英文关键词】sisal leaves ; callus ; plant hormone ; plant regeneration
【中文摘要】以剑麻幼叶为外植体, 进行愈伤组织的诱导试验, 建立从愈伤组织到再生植株的培养体系。 结果表明 :诱导愈伤组织阶段表现最优的配方是 N6+NAA 0.2 mg/L+6-BA 3.0 mg/L, 而 后愈伤 组织转入 MS+TDZ 1.0mg/L+NAA 0.05 mg/L的培养基中 48d 便可诱导出芽, 在生根培养基 MS 中生根率可达 90%。
【英文摘要】Young leaves of Agave sisalana were used as explants and cultured on different kinds ofmediums to establish a system for callus inducing and plant regeneration. The best medium for callus inducing was N6+NAA 0.2 mg/L+6-BA 3.0 mg/L. The optimal multiplication medium for the calli was MS+TDZ 1.0 mg/L+NAA 0.05 mg/L, on which shoots were induced after 48 days of culture, and the shoots were rooted on the rooting medium with a rooting rate of 90%.
【语种】中文
【第一作者】陈鸿
【通讯作者】易克贤
【期刊名称、卷期、页码】热带农业科学,2008,(06):11~14
【论文发表时间】2008-12-22 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】植物保护学

【题目】分子标记技术在疫霉菌上的应用
【中文关键词】分子标记;疫霉菌;研究进展
【英文关键词】molecularmarkers Phytophthora spp progress
【中文摘要】对分子标记在疫霉菌遗传多样性、抗性基因、分离菌株分子鉴定、基因定位克隆及DNA指纹图谱构建、亲缘关系分析、线粒体遗传等方面的应用进行了综述。

【英文摘要】He application ofmolecularmarkers toPhytophthora genetic diversity, resistance genes, molecular identification of isolatesd strains, genemapping clone and DNA fingerprinting construction, relationship analysis, an so onwere summarized.
【语种】中文
【第一作者】郑金龙
【通讯作者】易克贤
【期刊名称、卷期、页码】安徽农学通报,2008,14(15):63~66
【论文发表时间】2008-12-30 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】植物保护学

【题目】菠菜硝酸盐含量符合安全生产的氮肥用量研究
【中文关键词】蔬菜硝酸盐; 安全氮肥用量; 非线性规划; 带约束条件优化法; 菠菜
【英文关键词】vegetable nitrate; safety N applicationrate; nonlinear planning; optimization method with constraints;spinach
【中文摘要】采用田间试验在灰垛田和灰沙泥田两种土壤类型上研究了不同氮素水平对菠菜生长的影响, 分析了土壤硝态氮的变化及氮肥用量与菜体硝酸盐含量、菠菜产量的关系, 采用非线性的带约束条件优化法进行搜索求解, 确定菠菜体内硝酸盐含量在符合安全生产标准条件下, 菠菜最高产量的适宜氮肥用量。结果表明: 两种土壤类型硝态氮含量均随氮肥用量的增加而提高, 且随着时间推移, 硝态氮含量下降, 尤其是在灰沙泥田上。菠菜硝酸盐含量和产量也均随氮肥用量的增加而增加, 前者呈直线关系(y灰垛田= 3.6813+ 5.6869x 和y灰沙泥田= 11.6640+ 7.7001x),而后者呈二次曲线关系(y灰垛田= 10.0710+ 0. 122x- 0.0002x2 和y灰沙泥田= 11.8480 + 0.1664x- 0. 0003x2) 。用非线性规划的带约束条件优化法, 以氮肥用量与菠菜硝酸盐含量关系模型为约束条件, 氮肥用量与菠菜产量关系模型为目标函数搜索求解, 得出灰垛田和灰沙泥田种植菠菜的菜体硝酸盐含量在符合无公害蔬菜生产安全的条件下,菠菜产量最高时的氮肥用量分别为210 30和154 35 kg / hm2, 且灰沙泥田的投入产出比优于灰垛田。
【英文摘要】The fie ld experiments were carried out to determ ine the effects of N applicat ion rates on spinach under two soil types, the grey sandy mud soil and coastal saline soil and to analyze the dynam ics changes of soil NO3-N and the relationship between the N rates, vegetable nitrate content and yield of spinach. The nonlinear planning optimization method with constraints was used to determine the appropriate amount of N with the highest yield of spinach under the condition which the NO3-N content of spinach should meet the safe production standard. The results show that the soil NO3-N contents are increased with the increase of N application rates, and the contents are decreased with time during the growing period of spinach, especially in the grey sandymud soil. There are linear correlations between the contents of vegetable nitrate and the N application rates, while there are quadratic correlations between the yields of spinach and the N rates. Using the relationship of the N rates and vegetable nitrate as constraint condition, and the N rates and yields of spinach as objective function, the results of the nonlinear optimization method with constraints indicate that the nitrogen fertilizer application rates for the maximum vegetable yields along with vegetable nitrate fitted pollution-free vegetable production are 154.35 and 210.30 kg /ha in coastal saline soil and grey sandy mud soil respectively.
【语种】中文
【第一作者】罗涛
【通讯作者】罗涛
【期刊名称、卷期、页码】植物营养与肥料学报2010, 16(5): 1282- 1287
【论文发表时间】2010-05-01 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】土壤学

【题目】不同pH值条件下金福菇菌丝体形态的电镜观察
【中文关键词】pH值;金福菇;茵丝体;电镜观察
【英文关键词】pH ;Trichlolma lobayense Heim;mycelium;scanning electron—microscopy
【中文摘要】应用扫描电子显微镜观察不同pH值相同培养基对金福菇茵丝体大小、锁状个数和表面结构的影响。结果表明:pH值为8处理的金福菇茵丝宽比pH值为6、7处理的金福菇茵丝宽了17.24% 和22.30% ,差异达极显著水平(P<0.01)。而金福菇茵丝锁状个数也比pH值为6和7处理的金福菇锁状个数多了75.19% 和133.00% ,差异达显著和极显著水平(P<0.05和P<0.01)。电镜观察显示,不同pH值条件下金福菇菌丝体形态发生明显改变,甚至形态严重改变;有的茵丝体扁和纹饰模糊

,表面粘着单核体或堆积花菜状。有的锁状大小均匀,有的干瘪或无纹饰。
【英文摘要】The size,lock—shaped number and surface structure of the Trichlolma Zobayense Heim mycelium under different PH were observed by the scanning electron microscopy.The results showed that the width of mycelium under pH 8 was 17.24% and 22. 30% wider than that under pH 6 and pH 7,respectively,with significant difference(P <0.0 1).The number of the lock.shaped under pH 8 was 75.19% and 133.00% more than that under pH 6 and pH 7,respectively,with difference or significant diference(P <0.05 and P <0.01).The mycelia of lobayense showed significant changes under different pH.Some myeelia became flat with flatten surface sticking monocyte together or cauliflower—like accumulation.The lock—shaped heim was uniform in size,dry or flatten.
【语种】中文
【第一作者】黄敏敏
【通讯作者】黄敏敏
【期刊名称、卷期、页码】电子显微镜学报,2010, 29(2):173-176
【论文发表时间】2010-04-01 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农业基础学科

【题目】不同栽培基质对大球盖菇产量和品质的影响
【中文关键词】大球盖菇;生物转化;营养成分
【英文关键词】Stropharia rugosoannulata; Biotransformation; Nutritional composition
【中文摘要】通过稻草和谷壳等不同培养料栽培大球盖菇试验,结果显示,利用培养料(稻草50%+谷壳50%) 栽培的大球盖菇,生物学效率极显著高于纯稻草或者纯谷壳的栽培料,同时菌丝生长快、出菇早。说明在稻草中加了谷壳的培养料比纯稻草疏松,这样既有利于提供大球盖菇生长所需的氧气,又保持了稻草的营养供给。这样使废弃物(稻草和谷壳) 得以资源化利用,实现经济与生态的可持续发展,同时也为食用菌生产开辟了新的原料来源,缓解食用菌生产发展存在的“ 菌林 ”矛盾。
【英文摘要】Stropharia rugosoannulata was cultured on different rice straw and rice hull substrates. Results indicated that the biological efficiency of mixing group (50% rice straw + 50% rice hull) was significant higher than pure rice straw group and rice hull group, as well as faster growing rate of mycelium and earlier sowing. This revealed that the culture substrate of rice hull was looser than that with pure rice straw, so it not only benefited the oxygen breathe during the mushroom growing but also kept the nutrient supply from rice straw. By using this waste, resource can be used and sustainable development of economy and ecologicalcan be realized, as well as the new material for edible fungi industry were explored. The contradiction of mushroom and forest industry development were relieved.
【语种】中文
【第一作者】陈君深
【通讯作者】陈君深
【期刊名称、卷期、页码】中国食用菌,2010,29(3):18-19
【论文发表时间】2010-04-01 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农艺学

【题目】茶树有机栽培及对土壤生态环境的影响
【中文关键词】有机栽培;茶园;土壤生态环境
【英文关键词】organic culture;tea plantation;soil ecology
【中文摘要】介绍了有机茶生产技术控制过程,并根据已有的研究文献进行综述,探讨并分析有机栽培措施对茶园土壤理化性状、土壤微生物、土壤酶活性和土壤动物的影响,提出了今后的研究方向。
【英文摘要】Focusing on the organic tea cultivation, t his paper reviews the relevant literature,introduces the production system ,and analyzes its effects on the fertility, microorganisms, enzyme activities and animals of the plantation soil.Recommendations for further research are presented.
【语种】中文

【第一作者】翁伯琦
【通讯作者】翁伯琦
【期刊名称、卷期、页码】福建农业学报,2008,23(4):429-435
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【学科分类】土壤学

【题目】大杯香菇辐射选育新株系品质性状的遗传分析
【中文关键词】大杯香菇;氨基酸;细胞保护酶;丙二醛:遗传分析
【英文关键词】Lentinus giganteus;Amino-acids;Cell protection enzyme;MDA;Genetic analysis
【中文摘要】以20个大杯香菇品种和辐射选育新株系为材料,对22个品质性状其进行了相关和主成分分析 结果表明,遗传变异系数最大的品质性状为SOD活性(47.16%),其次为胱氨酸含量(44.33%).再次为MDA含量(44.12%),第四为PPO活性(43.89%),变异系数最小为缬草氨酸含量(4.89);子实体中的各种氨基酸含量、可溶性蛋白含量、细胞保护酶活性和MDA含量之间均存在一定的相关性,部分性状间相关性达显著至极显著。主成分分析结果表明,22个性状可以缩减为7个主成分,遗传变异贡献率大小分别为37.82%、18.07%、13.14%、9.80%、6.02%、4.94%和2.67%,7个主成分累积贡献率达92.47%。由此可见。在品质性状选择上,首先对遗传变异大的性状进行选择是非常重要的。在品种和辐射选育新株系选择时,应注意选择甲硫氨酸含量、可溶性蛋白含量和CAT活性较高的品种.这样才能比较容易获得综合品质性状优良的新品种。
【英文摘要】Based on 20 strains and new radiated mutants of Lentinus giganteu,the correlations and maincomponents of 22 characters were analyzed.The results showed that SOD activity(47.16%)exhibited the highest genetic variation coeficient,followed by cystine content(44_33%),MDA content(44.1 2%)and PPO activity(43.89%),while the lowest genetic variation coeficient was observed in valine content(4.89%).A certain correlation existed among different amino acid contents,soluble protein contents,activities of eell protection enzymes and MDA contents,and the corelations in some characters reached significant or very significant levels.The main components analysis showed that the 22 characters could be divided into 7main components,of which the genetic variance contribution rates were 37.82% ,18.07% ,13.14% ,9.80% , 6.02% ,4.94% , and 2.67% respectively,and the accumulated contribution rate reached 92.47% .It means that it is critical to choose quality characters with large genetic variation in mushroom breeding.The ones with high methionine,soluble protein contents,and high CAT activity would be the potential ones with excellent comprehensive characters.
【语种】中文
【第一作者】江枝和
【通讯作者】翁伯琦
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【学科分类】农业基础学科

【题目】大杯香菇辐射选育新株系子实体蛋白质构成的多元回归与聚类分析
【中文关键词】大杯香菇;蛋白质;氨基酸;回归分析;聚类分析
【英文关键词】Lentinus giganteus; Protein, Amino acid; Regressive analysis; Cluster analysis
【中文摘要】以20 个大杯香菇品种和辐射选育新株系为材料, 分析了大杯香菇品种和辐射选育新株系蛋白质及其构成的17 种氨基酸含量间的多元相关、回归和聚类关系, 并采用生物统计方法分析品种和新株系的蛋白质及各种氨基酸间的关系。结果表明: 大杯香菇辐105 号新株系子实体中天门冬氨酸、苏氨酸、甘氨酸、丙氨酸、胱氨酸、缬氨酸、异亮氨酸、苯丙氨酸、蛋白质含量最高, 与部分品种和新株系子实体间差异显著或极显著, 且大多数氨基酸间及其与蛋白质含量之间存在显著或极显著正相关关系; 各种氨基酸与蛋白质含量之间分别有5 种呈一次曲线关系, 10 种呈二次曲线关系, 2种呈三次曲线关系; 采用系统聚类的方法可将蛋白质及17 种氨基酸含量聚为4 个大类, 对每类中的典型性状如精氨酸、亮氨酸、胱氨酸和蛋氨酸含量进行优化, 可有效提高大杯香菇品质育种中蛋白质构成的改良效率。
【英文摘要】Using 20 varieties and radiated mutants of Lentinus giganteus as materials, the multiple correlation, regression relation and cluster analysis between protein content and 17 amino acids contents were conducted to provide scientific basis for breeding of L. giganteus. The results show that among the new radiated mutants of L. giganteus, Fu105 contains the highest amounts of Asp, Thr, Gly, Ala, Cys, Val, Ile, Phe and protein in its fruit body, which is significantly higher than some tested varieties or new radiated mutants.

There exists a significant positive correlation between most amino acid content and protein content, of which 5 amino acids have a linear, 10 have conic, and 2 have cubic relationship with protein. Trough systematic cluster analysis, the protein content and 17 amino acids are divided into 4 groups. The optimization of typical characters, such contents of Arg, Leu, Cys and Met, in each group could improve the efficiency of protein composition in L. giganteus breeding.
【语种】中文
【第一作者】江枝和
【通讯作者】江枝和
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【学科分类】农业基础学科

【题目】大杯香菇引种材料的主成分和聚类分析
【中文关键词】大杯香菇;种质资源;主成分分析;聚类分析
【英文关键词】Lentinus giganteus;Germplasm;Principal components analysis;Cluster analysis
【中文摘要】对不同来源地的5份高温型大杯香菇的盖重、盖直径、盖厚度、柄长、柄重、柄直径、朵重和粗蛋白等8个性状进行测定,并对得到的各性状值进行主成分分析,以求找出适于大杯香菇品种筛选评价的综合指标。结果表明,依据主成分向量将5个高温型大杯香菇引种材料分为3类,以4号菌株产量和品质最佳;主成分可分形态和产量因子、粗蛋白因子、粗状因子,这3个主要因子对变异的累积贡献率迭97.21% ,可作为大杯香菇品种筛选评价的参考指标。
【英文摘要】The eight traits including pileus weight,pileus diameter,pileus thickness,stalk length,stalk diameter,fruit body weight and crude protein content of five introduced strains of Lertinus giganteus had been measured.consequently the principal component and cluster analysis were employed to evaluate these parameters in the current investigation.The results showed that,these characters might be divided into the morphology and yield component,crude protein component and sturdy component,which accounted for 97.21% of accumulative contributing rate to the variation.During the breeding period for Lentinus giganteus,the above principal components or their sections could he independently selected according to breeding target.Based on the vectors of principal components.tlle five introduced thermal strains of Lentinus giganteus could be clustered into three groups.
【语种】中文
【第一作者】翁伯琦
【通讯作者】翁伯琦
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【引文索引号】null
【学科分类】农业基础学科

【题目】东南地区农田秸秆菌业现状分析及研究进展
【中文关键词】循环经济;秸秆;菌渣;模式
【英文关键词】circular economy;straw;fungi residues;model
【中文摘要】阐述了我国食用菌产业的发展概况、产业地位及其重要作用。按照发展循环经济的战略要求与技术原则,重点分析了东南地区秸秆菌业的生产成效、秸秆资源、遗传育种、技术集成、菌渣利用等现状及其主要影响因素,评价了相应的技术水平及研究进展,提出了大力发展东南地区农田秸秆菌业以及农业资源高效循环利用的技术对策与管理建议。
【英文摘要】This paper expounds the development,industry status and role of edible fungi industry in China. Based on the strategic requirement and technical principles of circular economy development,this paper focuses on analyzing the straw—edible fungi industry status and main influence factors in southeast China,including production results and eficiency,straw resources,breeding,technical integration,fungi residues usage,etc.According to the evaluation of the technical level and research progresses,the technology strategies and management proposals are put forward to develop farmland straw—edible fungi industry and efficient recycling of agricultural resources in southeast China.
【语种】中文

【第一作者】翁伯琦
【通讯作者】翁伯琦
【期刊名称、卷期、页码】中国农业科技导报,2008,10(5):24—30
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【引文索引号】null
【学科分类】农学其他学科

【题目】东南地区农田秸秆菌业循环利用技术体系构建与应用前景
【中文关键词】循环经济;秸秆;菌渣;技术体系
【英文关键词】cycling economy;straw;fungi residues;technology supporting system
【中文摘要】应用循环经济的理论,依据东南地区农业发展的实际情况,重点阐述了东南地区农田秸秆茵业循环利用技术体系的构建、技术流程、体系特征、存在的问题,并分析了东南地区农田秸秆茵业生产技术体系的应用前景。
【英文摘要】Applying the theory of cycling economy,the article introduced the establishment of the technology supporting system,technical process,features and problems of the crop straw-edible fungi industry recycling on the basis of the actual situation of agricultural development in southeast China.And application of the technology supporting system of the crop straw-edible fungi industry recycling in the region was also discussed.
【语种】中文
【第一作者】翁伯琦
【通讯作者】翁伯琦
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【题目】豆科牧草羽叶决明替代麸皮栽培鸡腿菇研究
【中文关键词】鸡腿菇;羽叶决明;麸皮;木质纤维素
【英文关键词】Coprinus comatus ;Charnaecrasta nict~ans ;wheat bran ;lignocellulose
【中文摘要】研究了羽叶决明(Chamaecrasta nictitans)替代麸皮栽培鸡腿菇(Coprinus cotrtolus)对其产量、绝对生物学效率、基物失重、呼吸消耗及木质纤维素转化的影响。结果表明,羽叶决明牧草替代20%麸皮(B)栽培鸡腿菇的产量和绝对生物学效率最高,分别为235.2 g/袋和8.86%。覆土前和采收后的基物失重、呼吸消耗都以B。为最高.分别为13.50%、13.50%和35.03%、30.71%,其纤维素转化率也最高,33.61%,木质素转化率以B 为最高,达78.25%;半纤维素转化率以 为最高,为44.10%。回归分析表明,羽叶决明替代麸皮栽培鸡腿菇的产量、绝对生物学效率和半纤维素转化率与替代比例呈抛物线相关,而基物失重、呼吸消耗及木质素、纤维素转化率与替代比例呈线性相关。
【英文摘要】M ushroom Coprinus comatus was cultured on a substrate with diferent amounts of Chamaecrasta nictitans in place of widely used wheat bran to observe its effect on mushroom yield absolute biological eficiency,loss of substrate weight,respiratory consumption and lignin and cellulose conversion.The mushroom yield and absolute biological eficiency were the highest(232.2 g/bag and 8.86%.respectively) on the culture substrate with 20% nictitam in place of 20% wheat bran fTreatment B2).The treatment B2 had the highest weight loss of the substrate and the highest respiratory consum ption before covered with soil(13.50% and 13.0%,respectively)and after harvest(35.03% and 30.71% respectively), and the highest cellulose conversion(33.61%);Treatment B1 showed the highest lignin conversion (up to 78.25%);Treatment B2 was the hilghest in semi—cellulose conversion(44.10%).Regression analysis revealed the mushroom yield,absolute biological eficiency and half cellulose conversion had a significant parabolic correlation with the percentage of e nictitans in place of the wheat bran,and that the weight loss of substrate,respiratory consumption,lignin conversion and cellulose were linearly correlated with the percentage of substrate replacement.
【语种】中文
【第一作者】卢翠香
【通讯作者】翁伯琦
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【学科分类】农业基础学科

【题目】发展农田秸秆菌业的技术集成与资源循环利用管理对策
【中文关键词】循环农业;秸秆;食用菌;菌渣;资源再利用
【英文关键词】Circular agriculture; Crop straw; Edible fungi; Fungi residue; Resource reuse
【中文摘要】本文分析了我国草生菌业的生产实际, 深入探讨了农田秸秆菌业循环生产体系的主要环节和优化构建, 并详细阐述了各个环节的管理对策。通过对秸秆堆制发酵、优质高产栽培管理、菌渣循环利用和环境生态监测等关键环节的有效链接与整合优化, 建立“ 稻草(秸秆) – 食用菌 – 菌渣 – 农田(园地)再循环 – 资源再利用 ”的农田秸秆菌业循环生产新体系的运作模式, 并展望了农田秸秆菌业的推广和开发前景。
【英文摘要】This article discusses the practical production techniques of rural edible fungi, explores the main technical links and optimized structure of crop straw-edible fungi industry with detailed descriptions of a series of technical measures. On the base of the efficient links and optimized key techniques including straw fermentation through composting, high-yield cultivation technique of Agaricus bisporus, fungi residues recycling utilization technique and environmental monitoring, a new mode of action is established, which is: straw → edible fungi → fungi residues → farmland (garden) recycle → resource reuse. Consequently, efficient promotion and prospect of crop straw-edible fungi industry are envisaged.
【语种】中文
【第一作者】翁伯琦
【通讯作者】翁伯琦
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【引文索引号】null
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【题目】福建省畜禽养殖业废弃物污染风险评估
【中文关键词】畜禽粪便;耕地负荷;氮磷流失量;富营养化。
【英文关键词】animal manure;N,P cropland load;the loss amounts of N,P;eutrophication
【中文摘要】通过估算1985-2005年期间福建省畜禽养殖业粪便排放量变化,并通过耕地负荷、流失量等参数评价了福建省畜禽养殖业废弃物污染风险。评估结果表明:1985年福建省的畜禽粪便产生量为2180万t,而到了2005年达到了4249万t,翻了一番。1985年时福建省畜禽粪便耕地负荷、纯氮耕地负荷和纯磷耕地负荷分别为l5.2 t/hrn 、96 kg/hm 和45 kg/hm2;而到了2005年已分别达到了29.6 t/hm 、l81 kg/hm~和96 kg/hm2。同时,福建省畜禽粪便中氮、磷、钾流失量分别从1985年的3.26万t、0.70万t和4.47万t增长到6.05万t、1.85万t和10.53万t。2005年福建省畜禽养殖业的氮排放量分别是同期工业废水和生活污水氮排放量的7.4倍和1.9倍,已成为福建省流域水体富营养化的主要原因,其贡献已大大超过工业废水和生活污水。
【英文摘要】The pollution risk of livestock and poultry breeding industry in Fujian province from 1985 to 2005 was assessed through the production amounts of animal manure of livestock and poultry breeding industry and the parameter of cropland load and lOSS amount.Assessment results are as follows:The production amounts of animal manure of livestock and poultry breeding industry of Fujian in 1985 was 21.8 million tons,and in 2005 reached 42.5 million tons more than doubled.The average cropland load of animal manure and its N。P205 nutrient in 1985 were 15.2 t/hm。,96 kg/hm and 45 kg/hm ;but in 2005 were 29.6 t/hm。,181 kg/hm and 96 kg/hm .And the lOSS amounts of N,P205,K20 nutrient of animal manure in 1 985 were 32,600 t,7 000 t and 44700 t;but in 2005 were 60 500 t,1 8 500 t and 105 300 t.In 2005,N emissions of livestock and poultry breeding industry in Fujian are 7.4 times the amount of industrial wastewater and 1.9 times the amount of domestic sewage.Hence,the livestock and poultry breeding industry of Fujian Province has become one of the most important pollution sources of eutrophication.
【语种】中文
【第一作者】吴飞龙
【通讯作者】吴飞龙
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【题目】谷壳作代用料对金针菇生长发育及产量的影响
【中文关键词】金针菇;谷壳;培养基质;子实体产量;菌丝长势
【英文关键词】Flam mulina velutipes;rice chaff;cultivation substrate;fruit body yield;mycelial growth vigor
【中文摘要】采用随机区组试验,研究了不同梯度的谷壳代替部分甘蔗渣、木屑等对金针菇(Flammulina velutipes)生长发育和产量的影响。结果表明:不同配方培养料对金针菇的菌丝生长速度和生长势、生育期、子实体商品性状、产量及生物学效率等均有较大的影响。其中以占配方总量15%的谷壳代替常规配方中5O%的甘蔗渣效果最佳,能显著提高金针菇产量,改善金针菇品质。
【英文摘要】Bagasse and sawdust components of substrates comm only adopted for cultivating Flammulina velutipes were substituted to different extents with rice chaff,and the effects of the different formulae on mycelial growth rate,growth vigor,fruit body characteristics,growth yields and Biological Efficiency were evaluated using randomized block experiments. Significant increases in fruit body yields and quality were recorded when rice chaff was used to replace half of the bagasse component(30% of the tota1)in the basic substrate formula.
【语种】中文
【第一作者】林衍铨
【通讯作者】翁伯琦
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【题目】规模化牛场_肉牛_沼气_牧草_循环农业模式能值分析
【中文关键词】循环农业; 能值; 可持续发展
【英文关键词】circular agriculture; energy; sustainable development
【中文摘要】应用能值分析方法对规模化牛场" 肉牛-沼气-牧草"循环农业模式进行能值投入、产出分析, 并依据能值投入和产出分析资源利用效率、环境压力和可持续发展指数等。结果表明, 与单一的肉牛养殖业相比, " 肉牛-沼气-牧草"循环农业自然资源利用从0 增加至0.041% ,但系统还是以购买能值投入为主; 全系统净能值产出率和可持续发展指数分别为2.11和1.03,比单一养殖业提高10.5% 和71.05% ; 环境负载率为1.08, 降低了18.18%。表明通过增加产业链农业循环模式有利于降低环境压力, 提高系统可持续发展指数。
【英文摘要】In this paper, input and output of "beef-methane-forage" circular agriculture in scale cattlefarm were analyzed on the basis of energy theory, and then resource utilization, resource utilization and sustainable development index also were analyzed by means of input and output energy . The results showed that natural resource utilization rate increased from 0 to 0.041 percent, but purchased energy were main inputs in cicular agriculture systems. Energy yield ratio and sustainable development index were 2.11 and 1.03, increasing respect ively 10. 5% and 71. 05% compar ed w ith subsy stem breeding industry, and environmental loading ratio was 1.08, decreasing 18.18%. The results indicated circular agriculture is beneficial to decrease environmental pressure and increase the index of sustainable development for the system by means of increasing industry chain.
【语种】中文
【第一作者】钟珍梅
【通讯作者】黄勤楼
【期刊名称、卷期、页码】家畜生态学报,2009,30(6):112-116
【论文发表时间】2009-11-01 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农学其他学科

【题目】规模化养猪场粪污循环利用技术集成与模式构建研究
【中文关键词】猪粪便;循环利用模式;技术集成;循环经济
【英文关键词】feces;the recycling model;technology integration;the circular economy
【中文摘要】简述全国及福建的生猪养殖发展现状与粪污产生量,并根据循环经济的“3R”理论,构建了以规模化生猪养殖为源头,通过技术集成,拓宽粪污循环利用产业链,发展粪污治理、沼气能源、食用菌、种植业、有机肥料、养鱼等产业,解决了规模化养猪场区域内部各产业产生的“废弃物”再利用问题。福建省福清星源农牧开发有限公司应用该模式建成的粪污循环利用产业链运行结果表明,各产业充分利用上游产业排放的“废弃物”,年节省各种原料投入达105万元,并解决了规模化养猪场粪污治理,污水经过各层次利用后作为冲栏回用,最终在系统内部实现了粪污全价再利用,达到污染物“零”排放的目标。
【英文摘要】The status ofpig breeding andfeces output ofFujian Province and China was summarized. According to the circular economy “3R” theory,we constructed the recycling model of feces from large—scale pig farm,through technology integration and broadening the recycling industry chain.And then the feces pollution of the large—scale pig farm was solved by developing the industries of slurry treatment,biogas energy, edible fungus,planting,organic fertilizer and fish fanning.This recycling model was applied to Fuqing Xingyuan Agriculture and Farm Development Co.,Ltd.of Fujian Province,and the results showed that:the industries could take full advantage of the emissions from the upper-stream industry,and it could save 1.05 million yuan annually by reducing a vafieU of raw material inputs. Finally,the system achieved the full price of the slurry recycling and the pollutants “zero” emissions.
【语种】中文
【第一作者】林代炎
【通讯作者】林代炎
【期刊名称、卷期、页码】农业环境科学学报,2010,29(2):386—391
【论文发表时间】2010-01-01 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农学其他学科

【题目】褐色蘑菇透气袋栽培种制作的关键技术研究
【中文关键词】褐色蘑菇;栽培种;透气塑料袋;膨胀珍珠岩
【英文关键词】Portabella;Spawn;Breathable bag;Perlite
【中文摘要】通过对褐色蘑菇MC441透气袋栽培种不同的基质含水量、膨胀珍珠岩添加量、培养温度、冷藏温度等方面进行对比试验,并与同样冷藏3个月后的美国Sylvan公司的褐色蘑菇栽培种SB65、SB295进行出菇比较。结果表明:MC441的麦粒基质最适含水量为42%~45%;在小麦基质中添加干重比例为3%的膨胀珍珠岩(含水量预先调至72%),可使MC441经过3个月冷藏仍具有良好的外观和活力;MC441最适的培养温度在(21±1)℃;在2℃一4℃下,MC441经过3个月冷藏后出库成品率稳定在99%左右;MC441和进口的SB65、SB295之间,在产量和菇体大小方面不相上下,可以在国内替代进口菌种用于栽培褐色蘑菇。
【英文摘要】With making spawn of portabella MC441 with unicorn bags,the contrast test for moistures of wheat,scale of perlite,euhrue temperature and storage temperature were studied.The condition of producing mushroom MC44 1 were compared with SB65 and SB295 from Sylvan storaged three months.The results showed that the wheat moisture of 42% is good to make substrates of portabella spawn.and adding 3% perlite will make spawns keep good appearance and activity after cold storage for 3 months.f21±1) is the suitable temperature for incubating of portabella spawns,in which spawns will keep rate of 99% in final products.The yield and diameter of fruitbody of MC441 are almost the same with SB65 and SB295,So we can use local portabella spawn instead of import one.
【语种】中文
【第一作者】曾辉
【通讯作者】曾辉
【期刊名称、卷期、页码】中国食用菌,2010,29 (1):23-27
【论文发表时间】2010-01-01 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农艺学

【题目】姬松茸新菌株J3的细胞生物学鉴定与菌盖不同部位微量元素含量分析
【中文关键词】扫描电镜;x射线能谱;透射电境;姬松茸J3;姬松茸J1
【英文关键词】scanning electron microscope;X—ray energy spectrum;transmission electron microscope;Agaricuz blazei Murril.J3 Strain;Agaricus blaze Murril.J1 Strain
【中文摘要】利用扫描电镜和x射线能谱仪对姬松茸菌株L与原菌株J1子实体的菌盖皮、菌盖内和菌褶中常见的微量元素s、P、Ca、K、Fe、Cu和zn进行了测定,计算了它们的相对重量百分比。利用扫描及透射电境观察姬松茸菌株L与原菌株J菌丝体、子实体的表面和内部结构。结果表明菌盖皮、菌盖内和菌褶均含上述各种微量元素,但含量各不相同;姬松茸J3菌丝表面有明显竹节状,在菌丝的外部形态特征上不同于原菌株J1。此外,姬松茸J1细胞壁厚,而出现重度质壁分离;姬松茸菌株J]子实体中淀粉粒、线粒体均比原菌株J1多。由此,说明姬松茸J3与原菌株Jl在细胞学特性存在一定差异。
【英文摘要】By using scanning electron microscope and X-ray energy spectrum,the common trace elements,S,P,Ca,K,Fe,Cu and Zn contents in the pileus peel,context,and lamella were detected The relative weight percentage of these elements were calculated.The myeelium and fruit body's surface and internal structure were also observed by scanning electron microscope and transmission electron microscope.The results showed that the pileus peel,context,and lamella contain all the trace elements above,with different quantities.The mycelium surface of the J3 strain was obvious bamboo—shaped,that was diferent from the Jl strain.Besides,the J3 cell—wall was thicker,and plasmolysis appeared.Its starch grains and mitoehondria were more than in the Jl strain.Thus,the Agarieus blazei Murril.J3 Strain was diferent from the cytological characteristics of Jl strain.
【语种】中文
【第一作者】江枝和
【通讯作者】江枝和
【期刊名称、卷期、页码】电子显微学报,2009,28(5):462-466
【论文发表时间】2009-10-01 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农业基础学科

【题目】基于微生物发酵床养猪模式的生态安全探讨
【中文关键词】微生物发酵床;生态安全;垫料管理;源头控制;循环利用
【英文关键词】microbial ferm entation bed;ecological security;alternative and management technology;source control system;recycling technology
【中文摘要】针对近几年微生物发酵床养猪技术的应用发展趋势,论述了采用微生物发酵床养猪模式的生态安全问题,并结合调查和研究结果,认为微生物发酵床养猪模式生态安全问题产生的根本原因不在技术本身,而是目前缺乏相应的管理运行措施。因此,亟需建立一套资源循环利用管理体系运营体系,包括:垫料替代及管理技术,饲料源头控制制度,废弃垫料资源化循环利用技术。
【英文摘要】Based on the rapid tendency of application of microbial fermentation bed in pig farm ing in recent years,ecological security problems are investigated.The results of the study show that the ecological security problems are not merely due to the skill system but are the lack of appropriate management measures.There is therefore an urgent need to draft out a set of appropriate management measures,such systems should include alternative and management technology for bedding materials,source control system for feed,recycling technology for waste.
【语种】中文
【第一作者】蓝江林
【通讯作者】刘波
【期刊名称、卷期、页码】中国农学通报,2010,26(19):324—326
【论文发表时间】2010-06-01 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农学其他学科

【题目】集约化畜牧业污染现状分析及资源化循环利用对策思考

【中文关键词】面源污染;畜禽;粪便;循环农业
【英文关键词】non—point source pollution;livestock;faeces;cycle agriculture
【中文摘要】介绍了我国集约化畜牧养殖发展现状,测算了我国集约化畜禽养殖业所带来的废弃物总量,进而分析其区域分布与污染程度及资源化循环利用潜力。在详细阐述规模化畜禽废弃物对人类身体健康和生态环境中的土壤、水体、空气等造成危害的基础上,根据循环经济的原理并结合研究实践,提出了集约化畜禽养殖业健康发展和废弃物资源化利用的对策。
【英文摘要】This article described the development of China ’ S livestock breeding status,measured the total waste that had been brought from the intensive livestock industry and analyzed its regional distribution and the degree of pollution,and analyzed the resource—oriented recycling potential in addition.Elaborated the harms that caused by large—scale animal wastes to human health and soil,water,air in ecological environment.Finally,according to the principle of circular economy and combined the research practice of Fujian Academy of Agricultural Sciences,we put forward countermeasures of intensive livestock and poultryindustry health development and waste utilization.
【语种】中文
【第一作者】翁伯琦
【通讯作者】翁伯琦
【期刊名称、卷期、页码】农业环境科学学报,2010,29(增刊):294—299
【论文发表时间】2010-06-01 00:00:00
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【引文索引号】null
【学科分类】农学其他学科

【题目】几种禾本科牧草内生细菌的分布特性
【中文关键词】禾本科牧草;内生细菌;脂肪酸检测;分布特性
【英文关键词】forage grasses;endophytic bacteria;fatty—acid detection;distribution characteristics
【中文摘要】不同禾本科牧草植株内生细菌含量差异显著,杂交狼尾草闽牧六号内生细菌含量最高,达26.800×10^4FU/g。具体到各个部位,禾本科牧草不同部位内生细菌含量差异也显著。通过微生物鉴定系统对内生菌进行鉴定的结果表明,64株内生细菌中与MIDI数据库比较相似性指数大于0.500,可确定其菌种名称的有50株,属于19个种,隶属于12个属。以分离到的1 9种内生菌为样本,以各菌株在各部位出现与否为指标,用类平均法对数据进行系统聚类分析,当 λ =8.35时,可将19种内生细菌分为4个大类群。从聚类结果显示,内生菌与宿主植株和不同分离部位都存在相关性,与宿主植株的关系更密切。
【英文摘要】The endophytic bacteria were isolated from different forage grasses according to culture method and identified by using fatty—acid identification technology.The results showed that the contents of endophytic bacteria of hybrid pennisetum “ Minmu six ”,which was 26.800×10^4 FU/g,was higher than other forage grasses.The endophytic bacteria isolated from different forage grasses were from 1 9 species belonging to 1 2 genera.The cluster analysis results showed that the 1 9 strains could be separated into 4 groups.It was concluded thatthe distribution characterics of endophytic baceria were related to different forage grasses and different isolated parts,especially to the different forage grasses.
【语种】中文
【第一作者】车建美
【通讯作者】刘波
【期刊名称、卷期、页码】草业学报,2010,19(3):124—131
【论文发表时间】2010-06-01 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农业基础学科

【题目】几种双孢蘑菇菌株对稻草降解能力的研究
【中文关键词】双孢蘑菇Bavendamm显色;RB亮蓝平板变色;Eriksson变色圈试验;木质降解
【英文关键词】Agaricus bisporus;Bavendamm chromogenic reaction;RB bright blue flat color test;Eriksson discoloration circle test;degradation of rice straw
【中文摘要】以蘑菇属的5个菌株为试材,采用Bavendamm显色反应、RB亮蓝平板变色反应、Eriksson变色圈试验及木质降解试验等方法,研究双孢蘑菇对稻草的降解能力。结果表明:通过Bavendamm平板和RB亮蓝平板显色试验,初步判断2796及

,优于其它菌种,有较高的木质素降解相关酶系(木质素降解酶;木质素过氧化物酶;锰依赖过氧化物酶)活力;这2种菌种进一步通过变色圈和降解试验,表明2796为选择性降解纤维素的菌种,而AI为选择性降解木质素的菌种,但2796对木质素的降解率为39.82 , 仅为20.91 ,说明菌种对木质素的选择性降解与否与其降解率之间没有相关性。

【英文摘要】To promote the yield ofAgaricusbisporus and improve efficiently using of farmland straw,5 Agaricusbisporus strains(2796,A5,Az,A3 and Ar)was investigated about the function of degradation rice straw.In this experiment, Bavendamm chromogenic reaction,RB bright blue flat color reaction,Eriksson discoloration circle test and Woodiness degradation test was finished.The results showed that A5 and 2796 had higher relevant lignin degrading enzymes inelucling lignin degradation enzyme,lignin peroxidase,manganese dependence peroxidase vitality through the Bavendamm chromogenic reaction and RB bright blue flat color test;then all the strains by Eriksson discoloration circle test and Woodiness degradation test appeared that 2796 and A3 strains were selective degradation of cellulose in the beginning of the experiment,however the others was selective degradation of lignin,and the highest degradation rate of lignin of 2796 was 39.82 ,A5 was 2O.91 ust only,those results explained to US that there was no correlation between the selectivity of lignin and degradation rate of it.Finally we can selected that 2796 and A5 were the most efficient degradation ofrice straw stains.

【语种】中文

【第一作者】李燕荣

【通讯作者】胡清秀

【期刊名称、卷期、页码】北方园艺,2010(10):207-210

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【学科分类】农业基础学科

【题目】建设生态文明的哲学视阈与实践思考

【中文关键词】西方工业文明;生态文明;传统文化;哲学视闽;可持续发展

【英文关键词】Western industrial civilization;ecological civilization; traditional culture; philosophical perspective; sustainable development

【中文摘要】本文从哲学的角度审视了西方工业文明对社会可持续发展的影响,并深入分析了我国传统文化中所蕴含的生态理念与生态文明的关系,从而阐述了中华传统文化中的生态智慧是解决生态危机、建设生态文明的文化基础。基于文中所述,提出了大力弘扬传统文化、促进生态文明、建设可持续发展的“ 两型 ”社会的对策思考。

【英文摘要】From the philosophical point of view, this paper examined the impact of the Western industrial civilization on the social sustainable development, made a profound analysis 0n the inherent relationship between the ecological concept and the ecological civilization in China's traditional culture,thereby expounding that the ecological wisdom of the Chinese traditional culture is the cultural foundation t0 solve ecologIlcal crises and build an ecological civilization.At the same time, it presented countermeasures to vigorously carry forward the traditional culture,promote the ecological civilization,and construct a sustainable society.

【语种】中文

【第一作者】翁伯琦

【通讯作者】翁伯琦

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【引文索引号】null

【学科分类】农学其他学科

【题目】秸秆菌业循环利用模式与低碳农业的发展对策

【中文关键词】秸秆菌业;循环经济;低碳农业

【英文关键词】straw-edible fungi; cycle economy; low-carbon agriculture

【中文摘要】在总结和分析农田秸秆菌业发展现状与存在问题的基础上,阐述了循环农业和低碳经济框架下秸秆菌业的内涵和发展模式,分析了秸秆菌业发展的循环模式与低碳农业模式的相互关系,并进一步提出开拓发展区域低碳农业的设想与若干对策和建议。

【英文摘要】Based on the analysis and evaluation of straw-edible fungi development,the content and mode of development of straw-edible fungi is described within the framework of cycle agriculture and low-carbon economy,respectively.The paper also analyzes the relationship between cycle model and low-carbon model of straw-edible fungi industry and finally puts forward some countermeasures on the development of low-carbon agriculture.
【语种】中文
【第一作者】翁伯琦
【通讯作者】翁伯琦
【期刊名称、卷期、页码】福建农林大学学报:哲学社会科学版,2010,13(1):1-6
【论文发表时间】2010-01-01 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农学其他学科

【题目】利用猪粪渣栽培姬松茸技术的研究
【中文关键词】猪粪渣;姬松茸;产量;品质
【英文关键词】Pig manure; Agaricus blazei; Yield; Quality
【中文摘要】进行了利用猪粪渣栽培姬松茸的试验研究,并测定了产品主要营养成分和卫生标准。结果表明,利用猪粪渣培养料栽培姬松茸,平均单产达8.16 kg · m-2,比牛粪培养料栽培姬松茸增产7.23%。
【英文摘要】Agaricus blazei cultivated with the pig manure compost were studied, yield and nutrition analysis of the fruitbody were analyzed. The results showed that the pig manure and straw stalk was composted, the average yield of mushroom achieved 8.16 kg · m-2, which was higher than that in the cow manure compost, increased by 7.23%.
【语种】中文
【第一作者】杨菁
【通讯作者】林代炎
【期刊名称、卷期、页码】中国食用菌2010,29(4):20-21
【论文发表时间】2010-06-06 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农艺学

【题目】蘑菇酱油酿造工艺初探
【中文关键词】双孢蘑菇;下脚料;酿造;酱油
【英文关键词】NULL
【中文摘要】在酱油酿造过程适当的添加双孢蘑菇下脚料,可提高酱油风味品质。试验得出较佳原料配比为面粉:曲精:双孢蘑菇=1:0.02:50,双孢蘑菇比例不宜超过50,否则影响制曲,甚至导致制曲失败;成曲蘑菇:18Be浓盐水=2:5,才能得到良好的发酵结果,酿造出风味较好的蘑菇酱油。通过对成品蘑菇酱油的指标分析并和黄豆酱油等进行对比,蘑菇酱油的各项指标均达到国家一级酱油标准。
【英文摘要】NULL
【语种】中文
【第一作者】曾辉
【通讯作者】曾辉
【期刊名称、卷期、页码】福建轻纺,2010,1:42-45
【论文发表时间】2010-01-01 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农产品贮藏与加工

【题目】培养料碳氮比与猪肚菇蛋白质营养水平的关系
【中文关键词】猪肚菇;碳氮比;蛋白质;营养评价

【英文关键词】Panusgiganteus; C:N ratio; protein; nutritional value
【中文摘要】采用国际上通用的营养价值评价方法,对不同碳氮比培养料栽培的猪肚菇第二潮子实体进行蛋白质营养价值评价。结果表明,子实体蛋白质中,必需氨基酸含量以培养料III(碳氮比为35:1)的最高.之后依次为培养料IV 、 II 、I、V、VII和VI ;而蛋白质营养综合评价结果则以培养料I(碳氮比为25:1)的最高,其次为培养料III ,再次为培养料II、V、VII、VI和IV 。
【英文摘要】Protein from Panus giganteus fruit bodies cultivated using substrates with different C: N ratios was assessed in terms of essential amino acid content and six nutritional quality indices Amino Acid Score (AAS), Chemical Score (CS), Essential Amino Acid Index (EAAI), Biological Value (BV), Nutritional Index (NI) and Amino Acid Ratio Coefficient Score (AARCS). The highest content of essential amino acids was recorded in protein from fruit bodies cultivated using substrate III with a C: N ratio of 35 : 1. Protein from fruit bodies cultivated using substrate Ⅰ (C : N ratio 25 : 1) had a superior nutritional value, and was ranked highest in terms of three protein quality indices (CS, AARCS and NI), second highest in the case of EAAI and BV, and had the third highest AAS. Protein from fruit bodies cultivated using substrate III (C : N ratio 35 : 1) was ranked highest in terms of two indices (EAAI and BV) and second, third, fourth and seventh in the case of AAS, NI, CS and AARCS, respectively.
【语种】中文
【第一作者】雷锦桂
【通讯作者】翁伯琦
【期刊名称、卷期、页码】食用菌学报,2008,15(4):73-76
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【引文索引号】null
【学科分类】农业基础学科

【题目】区域特色肉牛规模养殖循环经济模式及关键技术研究
【中文关键词】肉牛;循环经济;废弃物资源;草地
【英文关键词】meat cattle; recycling economy; resource of waste materials; grassland
【中文摘要】对南安官桥金牛养殖场肉牛规模养殖循环经济模式,开展农副产品和肉牛场废弃物资源利用及对生态环境影响等技术研究。结果表明,肉牛场可充分利用啤酒糟、花生膜、豆油糟、麦糠等农作物及粮油、食品工业副产品资源,既降低了肉牛育肥饲料成本,又达到农副产品的资源化利用;收集的牛粪外售进行食用菌生产,实现肉牛场废弃物的生物转化和循环利用;利用草地消纳牛场沼液,形成了"肉牛-沼气-牧草"循环利用,浇灌沼液的杂交狼尾草地牧草叶片硝酸盐含量均未超过0.25%硝酸盐安全值,且每年杂交狼尾草草地可消纳约3 000 t的沼液,但对不同土层土壤进行硝态氮含量测定表明,草地土壤硝态氮有呈现下渗的趋势。
【英文摘要】To the recycling economic model for beef cattle scale breeding in Guanqiao Jinniu cattle farm,this project was carried on to study resource utilization of agricultural by-products and residues from cattle farm.The results showed that the by-product resource in food-oil industries,such as beer fermentation residues,peanut seed coats,bean dregs and wheat bran,could be fully utilized in cattle farm.In this way,both purposes to reduce the raising cost in meat cattle fattening process and to utilize the by-product resources could be achieved.The cattle dung was used to produce mushroom in order to realize the biological transformation and recycling utilization of cattle farm residues.By using grass land to digest the biogas liquid produced from cattle farm and form"meat cattle-biogas-forage"recycling utilization model.The nitrate content in the leaves of Pennisetum americanum×.P.pureum irrigated by biogas liquid did not excess the safety value of 0.25% nitrate.The grass land growing Pennisetum americanum×.P.pureum plants could digest 3000t biogas liquid annually.However,the determination to nitric N contents in different soil layers showed the nitric N has a leaking-down tendency.
【语种】中文
【第一作者】黄秀声
【通讯作者】黄勤楼
【期刊名称、卷期、页码】家畜生态学报,2010,31(3):61-65
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【学科分类】农学其他学科

【题目】生态系统能值理论研究进展及若干问题思考
【中文关键词】生态系统;能值理论;生态系统评价方法;能值转化率
【英文关键词】Ecological system; emergy; ecosystem evaluation; transformity
【中文摘要】能值分析理论是美国著名的系统生态学家Odum为首创立的,该理论的问世首次使生态系统的物质、能量和货币流通过能值转化率转化成太阳能值进行对比,为自然资源价值的评价、生态系统结构和功能的分析及可持续发展评估提供了崭新的思路和方法。本文试就生态系统能值理论的应用研究和理论研究现状作一概述,通过与其他几种方法对比,从能值理论的产生、难点和发展趋势进行分析,以期为能值理论的进一步完善提供借鉴与参考。
【英文摘要】Emergy analysis is a science created by H.T.Odum.Emergy,specifically,Solar Emergy,is "the available solar energy used up directly and indirectly to make a service or product".Odum pioneered the development and use of emergy.He presented it as a way of understanding the behavior of self-organized systems,valuing ecological goods and services,and jointly analyzing ecological and economic systems.This basic concept is quite straightforward,however,its implications potentially profound.This paper discusses the main progress of the science of emergy on its applications and theory,provides insight into the relationship between it and other ecological analysis methods,attempts to point out research difficulties,and suggests areas for further studies in order to promote and better understand it.
【语种】中文
【第一作者】钟珍梅
【通讯作者】翁伯琦
【期刊名称、卷期、页码】福建农业学报,2010,25(4):520-525
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【引文索引号】null
【学科分类】生态学

【题目】施氮对杂交狼尾草产量及硝酸盐的影响
【中文关键词】杂交狼尾草;氮肥水平;产量;硝酸盐
【英文关键词】nitrogen levels; Pennisetum americanumxP, purpureum; yield; nitrate
【中文摘要】采用田间小区试验,研究不同供氮水平对杂交狼尾草产量、硝酸盐含量及烘干率的影响。结果表明.随着施氮水平的提高,杂交狼尾草(Pennisetum americanum×P.purpureum)的产量也明显提高.但相同的施氮水平对不同品种的影响差异不显著,单茬最高产量出现在8月份,在N3(300kg/hm^2)水平时.闽牧6号杂交狼尾草(S16)的总产量(15.34kg/m^2)虽然比推广品种杂交狼尾草(S1)总产量(14.84kg/m2)高,但差异不显著:硝酸盐含量,也随着氮素水平的提高而提高.试验期内.8月份的硝酸盐含量最低.闽牧6号的硝酸盐含量在相同的施氮水平下均较高.说明硝酸盐更易于在闽牧6号体内积累,但在0-300kg/hm^2氮肥水平下.硝酸盐含量均处在牲畜的安全食用标准内:烘干率不受施氮水平的影响,只与生长量有关,生长量大,则烘干率高。
【英文摘要】A field plot trial was arranged to investigate the effects of different N application levels (0, 100, kg/hm^2) on yield, nitrate, and drying rate of 2 hybrids (S16 and S1) of Pennisetum americanumxP. purpureum. The results showed that the S16 and S1 yielded obviously higher with increased N levels but not significantly different at the same N level. The highest yield of single cropping occurred in August when the S16 and S1 treated with 300 kg/hm2 (N3) yielded respective biomasses of 15.34, 14.84 kg/m2. These 2 hybrids had higher nitrate content when applied with higher nitrogen levels, which was the lowest in August during the trial. The S16 contained higher nitrate than the S1 when applied with the same N level, indicating that nitrate was more readily accumulated by the S16. However, the nitrate content of these two hybrids fell within the safe food limits when these 2 hybrids were applied with the N at the levels ranging from 0-3 000 kg/hm2. The drying rate of the biomass was not affected by the N levels applied but related with the growth of the hybrids. The higher the growth the higher the drying rate.
【语种】中文
【第一作者】陈钟佃
【通讯作者】黄勤楼
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【题目】食用菌工厂化生产的节能分析
【中文关键词】食用菌;工厂化生产;保温材料;制冷设备;环境调控;运行管理
【英文关键词】NULL
【中文摘要】能源问题已是当今世界瞩目的重要课题,能源短缺促使人们节能意识提高。从节能的角度,针对食用菌工厂化生产中存在的问题,从食用菌生产冷负荷特点、建筑设计、环境调控设计、运行管理等四个方面,提出合理的设计思想和方法,以期达到减少能源消耗、降低生产成本的目的。
【英文摘要】NULL
【语种】中文
【第一作者】管道平
【通讯作者】胡清秀
【期刊名称、卷期、页码】食用菌,2010,1:1-3
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【学科分类】农学其他学科

【题目】食用菌工厂化生产的节能分析(续前)
【中文关键词】食用菌;工厂化生产;保温材料;制冷设备;环境调控;运行管理
【英文关键词】NULL
【中文摘要】能源问题已是当今世界瞩目的重要课题,能源短缺促使人们节能意识提高。从节能的角度,针对食用菌工厂化生产中存在的问题,从食用菌生产冷负荷特点、建筑设计、环境调控设计、运行管理等四个方面,提出合理的设计思想和方法,以期达到减少能源消耗、降低生产成本的目的。
【英文摘要】NULL
【语种】中文
【第一作者】管道平
【通讯作者】胡清秀
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【学科分类】农学其他学科

【题目】食用菌农药残留控制研究
【中文关键词】食用菌;病虫害;农药残留;产品质量安全
【英文关键词】Edible mushroom; The diseases and insect pests; Maximum pesticide residues limit; Product quality and safety;
【中文摘要】我国食用菌快速发展,食用菌病虫害时有发生,为控制农药残留量,确保食用菌产品质量安全,试验选择了16种农药,以喷施、覆土、拌土3种方式,在1000倍~3000倍的剂量下防治病虫害,检测试验地产品的农药残留量,均未超过国内或国际限量标准,该研究结果为菇农进行食用菌病虫害防治和出菇管理提供了技术支持。建议进一步规范农药使用方法,完善产品质量标准,确保食用菌产品质量安全。
【英文摘要】With the rapid development of edible mushroom industry, the diseases and insect pests on edible fungus takes place sometimes and the incidents of pesticide residues which exceeded maximum residues limits on edible mushrooms frequently occurred. In order to study the method of control pesticides residues in production of edible mushroom and assurance product quality and safety, 16 kinds of agricultural chemicals were chosen in this paper. It was designed that the agricultural chemicals were used in three ways (including: spraying, covering, mixing) and 1 000 ~3 000 dose. After the experiment was finished, products of the experimental land were test. The experiment showed that pesticide residues in experimental products didn ’ t exceed the maximum residues limits of Chinese standards and international standards. The results may be applied in the diseases and insect pests control and pesticide residues control. It is suggested that the standard about maximum pesticide residues limitsof edible mushroom products should be full-scale

established for improving the safety production and the product quality of edible mushroom.
【语种】中文
【第一作者】胡清秀
【通讯作者】胡清秀
【期刊名称、卷期、页码】中国食用菌,2009,28(1):55-57, 64
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【引文索引号】null
【学科分类】农业基础学科

【题目】食用菌生物降解木质素的研究现状
【中文关键词】木质素 生物降解 食用菌 木质素降解酶系
【英文关键词】Lignin; Biodegradation; Mushroom; Lignin-degrading enzymes;
【中文摘要】木质素是农作物秸秆中的主要成份之一,木质素降解直接影响秸秆等植物资源的利用效率.从降解木质素的食用菌种类、食用菌木质素降解酶系及其营养调控机理、应用前景共4个方面,综述了食用菌生物降解秸秆木质素的研究现状.
【英文摘要】Lignin is the main component of the straw, and the use efficiency of plant resources was impacted by lignin degradation directly. Research advances on the biodegradation of lignin by mushroom including lignin-degrading species of mushroom, lignin-degrading enzymes, nutrition regulation of enzymes and application of lignin-degrading mushroom were reviewed in the paper.
【语种】中文
【第一作者】李燕荣
【通讯作者】胡清秀
【期刊名称、卷期、页码】中国食用菌,2009,28(5):3-6
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【引文索引号】null
【学科分类】农业基础学科

【题目】Identification of lactobacillus casei-BDI and Streptococcus thermophilus by fluorescence spectra
【中文关键词】fluorescence spectra
【英文关键词】fluorescence spectra
【中文摘要】Fluorescence analysis applied in the study of lactic acid bacteria (LAB) provides a new method and theory to study probiotics and realize the detection and identification of the strains. It is also possible to achieve automation and computerization. In this letter, the differences between the fluorescence spectra of lactobacillus casei-BDI (Lc-BDI) and Streptococcus thermophilus (St) are shown, and the second-order derivative spectra are used to further study the diversity of these two strains. According to the results, with the excitation wavelengths of 285 and 340 nm, there are significant differences between them. The experiment is repeated for 6 times, showing good repetitiveness.
【英文摘要】Fluorescence analysis applied in the study of lactic acid bacteria (LAB) provides a new method and theory to study probiotics and realize the detection and identification of the strains. It is also possible to achieve automation and computerization. In this letter, the differences between the fluorescence spectra of lactobacillus casei-BDI (Lc-BDI) and Streptococcus thermophilus (St) are shown, and the second-order derivative spectra are used to further study the diversity of these two strains. According to the results, with the excitation wavelengths of 285 and 340 nm, there are significant differences between them. The experiment is repeated for 6 times, showing good repetitiveness.
【语种】英文
【第一作者】Hao Wu
【通讯作者】Tuo Zhu
【期刊名称、卷期、页码】Chinese Optics Letters; 2009, 7(6): 542-544
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【引文索引类型】EI

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【学科分类】食品科学技术基础学科

【题目】Antimicrobial proteinaceous compounds obtained from bifidobacteria: From production to their application
【中文关键词】Adhesion; Antimicrobial compounds; Bacteriocins; Bacteriocin-like compound; Bi fi dobacteria
【英文关键词】Adhesion; Antimicrobial compounds; Bacteriocins; Bacteriocin-like compound; Bi fi dobacteria
【中文摘要】Antimicrobial proteinaceous compounds such as bacteriocins or bacteriocin-like compounds produced by bi fi dobacteria are largely unknown but have been found to have potent antimicrobial activities toward closely related bacteria and undesirable harmful microorganisms. They are useful in the fi elds of food preservation or safety, health care, and pharmaceutical applications. The inhibition activity of these substances has been reported to be strain-dependent. Binding to the epithelial cell on the gastrointestinal surfaces is one of the important factors of resident micro fl ora to colonize the intestine. Certain Bi fi dobacterium strains are able to produce substances that compete and prevent pathogenic bacteria from adhering to the receptors on epithelial cells of intestinal surfaces. The potential probiotic effects of bi fi dobacteria is well known in the human ecosystem and their production of antimicrobial peptides can contribute to elucidate the precise mechanisms by which bi fi dobacteria can dominate the intestinal microbiota and achieve their probiotic function. This paper presents a review of the antimicrobial proteinaceous compounds produced by various Bi fi dobacterium strains, the attempts made to purify them, their characterization, identi fi cation anduseful applications.
【英文摘要】Antimicrobial proteinaceous compounds such as bacteriocins or bacteriocin-like compounds produced by bi fi dobacteria are largely unknown but have been found to have potent antimicrobial activities toward closely related bacteria and undesirable harmful microorganisms. They are useful in the fi elds of food preservation or safety, health care, and pharmaceutical applications. The inhibition activity of these substances has been reported to be strain-dependent. Binding to the epithelial cell on the gastrointestinal surfaces is one of the important factors of resident micro fl ora to colonize the intestine. Certain Bi fi dobacterium strains are able to produce substances that compete and prevent pathogenic bacteria from adhering to the receptors on epithelial cells of intestinal surfaces. The potential probiotic effects of bi fi dobacteria is well known in the human ecosystem and their production of antimicrobial peptides can contribute to elucidate the precise mechanisms by which bi fi dobacteria can dominate the intestinal microbiota and achieve their probiotic function. This paper presents a review of the antimicrobial proteinaceous compounds produced by various Bi fi dobacterium strains, the attempts made to purify them, their characterization, identi fi cation anduseful applications.
【语种】英文
【第一作者】Ahmad Cheikhyoussef
【通讯作者】Hao Zhang
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【学科分类】食品科学技术基础学科

【题目】Interaction of Bifidobacterium and Yoghurt Mixed Culture with Salmonella During Associated Cu
【中文关键词】Bifidobacterium;associated cultures;dgree of inhibition;di-associated cultures;yoghurt mixed cultures
【英文关键词】Bifidobacterium;associated cultures;dgree of inhibition;di-associated cultures;yoghurt mixed cultures
【中文摘要】The antimicrobial activity of four strains of Bifidobacterium toward Salmonella ssp. during associated cultures growth was investigated in skim milk medium. All strains showed different degrees of antagonistic action toward the indicator strain. The highest degree of inhibition (96%) was obtained with Bifidobacterium infantis and Bifidobacterium longum (92%). The combination effect of yogurt mixed culture with bifidobacterial strains (di-associated culture) toward Salmonella ssp. resulted in an enhancement of the antagonistic action for Bifidobacterium strains as a result of their production of organic acids, in particular lactic acid, which has a strong inhibitory effect against Gram-negative bacteria. The di-associated cultures all resulted in similar pH values but the degree of inhibition were different with B. infantis and B. longum; meaning that organic acids are not the sole inhibitory factors present in these cultures, but it could be another compounds which may contribute in this inhibitory effects. The combination between Bifidobacterium and YMC strains could has a great value in industrial application in resolving some problems in dairy products and pharmaceutical formulas
【英文摘要】The antimicrobial activity of four strains of Bifidobacterium toward Salmonella ssp. during associated cultures growth was investigated in skim milk medium. All strains showed different degrees of antagonistic action toward the indicator strain. The

highest degree of inhibition (96%) was obtained with Bifidobacterium infantis and Bifidobacterium longum (92%). The combination effect of yogurt mixed culture with bifidobacterial strains (di-associated culture) toward Salmonella ssp. resulted in an enhancement of the antagonistic action for Bifidobacterium strains as a result of their production of organic acids, in particular lactic acid, which has a strong inhibitory effect against Gram-negative bacteria. The di-associated cultures all resulted in similar pH values but the degree of inhibition were different with B. infantis and B. longum; meaning that organic acids are not the sole inhibitory factors present in these cultures, but it could be another compounds which may contribute in this inhibitory effects. The combination between Bifidobacterium and YMC strains could has a great value in industrial application in resolving some problems in dairy products and pharmaceutical formulas

【语种】英文
【第一作者】A. Cheikhyoussef
【通讯作者】Hao Zhang
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【引文索引号】1682-296X
【学科分类】食品科学技术基础学科

【题目】Antimicrobial activity and partial characterization of bacteriocin-like inhibitory substances (BLIS) produced by Bifidobacterium infantis BCRC 14602
【中文关键词】Bacteriocin-like inhibitory substance;Bi fi dobacterium infantis BCRC 14602;Bactericidal action
【英文关键词】Bacteriocin-like inhibitory substance;Bi fi dobacterium infantis BCRC 14602;Bactericidal action
【中文摘要】Bi fi dobacterium infantis BCRC 14602 was found to produce a bacteriocin-like inhibitory substance (BLIS) with inhibitory activities against a wide range of Gram- positive and Gram-negative bacteria. An activity level of 400 AU/ml in the middle of the exponential phase (i.e. 6 h) and maximum activity (1600 AU/ml) at the beginning of the stationary phase (i.e. 16 h) was recorded in MRS broth at 37 C. BLIS was partiallypuri fi ed by a two-step puri fi cation protocol resulting in a speci fi c activity of 31,605 AU/mg and a puri fi cation fold of 120. Based on Tricine – SDS – PAGE, the BLIS is approximately 3.0 kDa in size. Complete inactivation of BLIS activity was observed after treatment with proteolytic enzymes, but not with catalase, a-amylase and lipase. The adsorption of the BLIS to the producer cells was strongly affected by the pH of the broth culture of which 100% adsorption to the killed cells occured between pH 6.0 and 7.0, whereas at pH values below 6.0 and above 7.0, the adsorption ratio decreased to 43 and 60%,respectively. BLIS showed high temperature stability up to 121 C for 15 min with no loss in its activity, and had pH stability in the range of 4 – 10. The temperature and heat stability of BLIS makes it useful for applications in food processing technologies and food safety control applications
【英文摘要】Bi fi dobacterium infantis BCRC 14602 was found to produce a bacteriocin-like inhibitory substance (BLIS) with inhibitory activities against a wide range of Gram-positive and Gram-negative bacteria. An activity level of 400 AU/ml in the middle of the exponential phase (i.e. 6 h) and maximum activity (1600 AU/ml) at the beginning of the stationary phase (i.e. 16 h) was recorded in MRS broth at 37 C. BLIS was partiallypuri fi ed by a two-step puri fi cation protocol resulting in a speci fi c activity of 31,605 AU/mg and a puri fi cation fold of 120. Based on Tricine – SDS – PAGE, the BLIS is approximately 3.0 kDa in size. Complete inactivation of BLIS activity was observed after treatment with proteolytic enzymes, but not with catalase, a-amylase and lipase. The adsorption of the BLIS to the producer cells was strongly affected by the pH of the broth culture of which 100% adsorption to the killed cells occured between pH 6.0 and 7.0, whereas at pH values below 6.0 and above 7.0, the adsorption ratio decreased to 43 and 60%,respectively. BLIS showed high temperature stability up to 121 C for 15 min with no loss in its activity, and had pH stability in the range of 4 – 10. The temperature and heat stability of BLIS makes it useful for applications in food processing technologies and food safety control applications
【语种】英文
【第一作者】Ahmad Cheikhyoussef
【通讯作者】Wei Chen
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【学科分类】食品科学技术基础学科

【题目】Comparison of three different methods for the isolation of bacteriocin-like inhibitiory substances from bifidobacterium infantis BCRC 14602

【中文关键词】bacteriocin-like inhibitiory substances;Bifidobacterium;

【英文关键词】bacteriocin-like inhibitiory substances;Bifidobacterium;

【中文摘要】The objective of this research was to compare three different methods for the isolation of bacteriocin-like inhibitory substances (BLIS) from Bifidobacterium infantis BCRC 14602 (Bioresource Collection and Research Center) for their ease of use and reliability. Ammonium sulfate with 80% saturation of the neutralized cell-free supernatant resulted in 80% of total activity and a 4.56-fold increase in specific activity. After dialysis, the specific activity increased 76-fold, but total activity recovered decreased to 8%. In the second method, adsorption and desorption of the BLIS onto/from the producer cells, the adsorption of the BLIS to the producer cells was strongly affected by the pH of the culture broth whereby 100% adsorption to the killed cells occurred between pH 6.0 and 7.0. Desorption of BLIS from the producer cells was achieved at pH 1.5 – 2.0. This procedure increased the purification fold 120 times, which was the highest among the three methods studied with a specific activity of 31,605 AU/mg and a yield of 64%. In the adsorption and desorption of BLIS onto/from silicic acid, it was confirmed that the adsorption of the BLIS to silicic acid (5%) was strongly affected by the pH of the broth culture of which 100% adsorption occurred between pH 5.0 and 7.0, whereas at pH values below 5.0 and above 7.0, the adsorption ratio decreased to 67% and 45%, respectively. The best method in terms of purification fold and yield was the adsorption and desorption of BLIS onto/from silicic acid.

【英文摘要】The objective of this research was to compare three different methods for the isolation of bacteriocin-like inhibitory substances (BLIS) from Bifidobacterium infantis BCRC 14602 (Bioresource Collection and Research Center) for their ease of use and reliability. Ammonium sulfate with 80% saturation of the neutralized cell-free supernatant resulted in 80% of total activity and a 4.56-fold increase in specific activity. After dialysis, the specific activity increased 76-fold, but total activity recovered decreased to 8%. In the second method, adsorption and desorption of the BLIS onto/from the producer cells, the adsorption of the BLIS to the producer cells was strongly affected by the pH of the culture broth whereby 100% adsorption to the killed cells occurred between pH 6.0 and 7.0. Desorption of BLIS from the producer cells was achieved at pH 1.5 – 2.0. This procedure increased the purification fold 120 times, which was the highest among the three methods studied with a specific activity of 31,605 AU/mg and a yield of 64%. In the adsorption and desorption of BLIS onto/from silicic acid, it was confirmed that the adsorption of the BLIS to silicic acid (5%) was strongly affected by the pH of the broth culture of which 100% adsorption occurred between pH 5.0 and 7.0, whereas at pH values below 5.0 and above 7.0, the adsorption ratio decreased to 67% and 45%, respectively. The best method in terms of purification fold and yield was the adsorption and desorption of BLIS onto/from silicic acid.

【语种】英文

【第一作者】Ahmad Cheikhyoussef

【通讯作者】Wei Chen

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【学科分类】食品科学技术基础学科

【题目】In vitro comparison of probiotic properties of Lactobacillus casei Zhang, a potential new probiotic, with selected probiotic strains

【中文关键词】Probiotic properties;Lactic acid bacteria;Fermentation characterization

【英文关键词】Probiotic properties;Lactic acid bacteria;Fermentation characterization

【中文摘要】Since 2004,our research group has isolated 240 Lactobacillus strains from Koumiss, a traditional fermented alcoholic beverage prepared from mare ’ s milk in Inner Mongolia, Xinjiang of China and Mongolia. Among these Lactobacillus strains a novel strain with potential probiotic properties, Lactobacillus casei Zhang, was screened out and studied extensively for its probiotic properties, health-promoting effects and fermentation characteristics. In vitro tests indicated that L. casei Zhang had high tolerance to simulated gastric, intestine juices and bile salts, similar to commercial probiotic strains such as Lactobacillus acidophilus NCFM, Lactobacillus rhamnosus GG, L. casei Shirota and Bi fi dobacterium animalis Bb12. Higher acid-production activity and proteolytic activity was observed in the fermented milk inoculated with L. casei Zhang during the refrigerated storage than in the samples

inoculated with the selected commercial probiotics. The yogurt samples fermented with L. casei Zhang exhibited similarer viable count (1.0×109cfu/mL) as the other samples after 28 d of refrigerated storage. The results suggested that L. casei Zhang showed good potential for application in functional foods and health-related products.

【英文摘要】Since 2004,our research group has isolated 240 Lactobacillus strains from Koumiss, a traditional fermented alcoholic beverage prepared from mare ’ s milk in Inner Mongolia, Xinjiang of China and Mongolia. Among these Lactobacillus strains a novel strain with potential probiotic properties, Lactobacillus casei Zhang, was screened out and studied extensively for its probiotic properties, health-promoting effects and fermentation characteristics. In vitro tests indicated that L. casei Zhang had high tolerance to simulated gastric, intestine juices and bile salts, similar to commercial probiotic strains such as Lactobacillus acidophilus NCFM, Lactobacillus rhamnosus GG, L. casei Shirota and Bi fi dobacterium animalis Bb12. Higher acid-production activity and proteolytic activity was observed in the fermented milk inoculated with L. casei Zhang during the refrigerated storage than in the samples inoculated with the selected commercial probiotics. The yogurt samples fermented with L. casei Zhang exhibited similarer viable count (1.0×109cfu/mL) as the other samples after 28 d of refrigerated storage. The results suggested that L. casei Zhang showed good potential for application in functional foods and health-related products.

【语种】英文

【第一作者】Zhuang Guo
【通讯作者】Xiaoming Liu,Heping Zhang

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【学科分类】食品科学技术基础学科

【题目】A New Probiotic Cheddar Cheese with High ACE-Inhibitory Activity and g-Aminobutyric Acid Content Produced with Koumiss-Derived Lactobacillus casei Zhang

【中文关键词】ACE-inhibitory activity;Lactobacillus casei Zhang; γ -aminobutyric acid; probiotic Cheddar cheese; koumiss
【英文关键词】ACE-inhibitory activity;Lactobacillus casei Zhang; γ -aminobutyric acid; probiotic Cheddar cheese; koumiss

【中文摘要】Cheddar cheese has been manufactured with Lactobacillus casei Zhang as the dairy starter adjunct. L. casei Zhang had previously been isolated from koumiss collected from Xilin Guole in Inner Mongolia and characterized in detail with regard to their probiotic potential. The addition of L. casei Zhang to Cheddar cheese had no adverse effects on sensory criteria. The cheese made with 0.1, 1 and 2 % of the probiotic strain L. casei Zhang adjuncts contained high levels of the Lactobacillus after 6 months of ripening with final counts of 9.6 · 10^7, 7.7 · 10^7 and 1.02 · 10^8 CFU/g, respectively. In the ripe control cheese, without the addition of probiotic strain L. casei Zhang, the number of Lactobacillus reached 5.7 · 107 CFU/g. Enterobacterial repetitive intergenic consensus PCR (ERIC-PCR) analysis was used to distinguish the added L. casei Zhang from the natural flora of the cheese and to determine whether L. casei Zhang grew in the cheese. ACE-inhibitory activity and γ -aminobutyric acid (GABA) concentrations in the cheese were measured. Compared with control cheese, experimental cheese with 0.1, 1 and 2 % of probiotic strain L. casei Zhang revealed some increase in ACE-inhibitory activity and GABA mass fraction. In the present study, the production of both ACE-inhibitory activity and GABA in the probiotic cheese with the L. casei Zhang adjunct isolated from koumiss has been found for the first time. The results suggest that cheese with the probiotic strain L. casei Zhang showed good potential for application in the management of hypertensio
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【语种】英文
【第一作者】Hai Kuan Wang
【通讯作者】Heping Zhang
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【引文索引号】1330-9862
【学科分类】食品科学技术基础学科

【题目】Effect of probiotic Lactobacillus casei Zhang on fermentation characteristics of set yogurt
【中文关键词】Lactobacillus casei Zhang, Probiotic, Fermentation characteristics, Yogurt.
【英文关键词】Lactobacillus casei Zhang, Probiotic, Fermentation characteristics, Yogurt.
【中文摘要】The effect of four inoculation levels of Lactobacillus casei Zhang (0.001, 0.01, 0.1 and 1.0 g / 100 g) on the fermentation characteristics of set-style yogurt, and the changes in viable counts of lactic acid bacteria, pH value, syneresis, apparent viscosity, sugar and organic acid contents were determined during fermentation and storage over 21 days. The presence of 0.001 to 0.01 g / 100 g L. casei Zhang did not affect the growth of the yogurt strains, and the yogurt inoculated with 0.00 1 g / 100 g of L. casei Zhang had the highest apparent viscosity among the samples. However, a high inoculated level of L. casei Zhang(1.0 g / 100 g) resulted in yogurts with inferior quality
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【语种】英文
【第一作者】Jicheng Wang
【通讯作者】Heping Zhang
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【学科分类】食品科学技术基础学科

【题目】Proteomics Analysis of Lactobacillus casei Zhang, a New Probiotic Bacterium Isolated from Traditional Home-made Koumiss in Inner Mongolia of China
【中文关键词】Proteomics Analysis;Lactobacillus casei Zhang;
【英文关键词】Proteomics Analysis;Lactobacillus casei Zhang;
【中文摘要】Lactobacillus casei Zhang, isolated from traditional home-made koumiss in Inner Mongolia of China, was considered as a new probiotic bacterium by probiotic selection tests. We carried out a proteomics study to identify and characterize proteins expressed by L. casei Zhang in the exponential phase and stationary phase.Cytosolic proteins of the strain cultivated in de Man, Rogosa, and Sharpe broth were resolved by two-dimensional gel electrophoresis using pH 4 – 7 linear gradients.The number of protein spots quantified from the gels was 487 21 (exponential phase) and 494 13 (stationary phase) among which a total of 131 spots were identified by MALDI-TOF/MS and/or MALDI-TOF/TOF according to significant growth phase-related differences or high expression intensity proteins. Accompanied by the cluster oforthologous groups (COG), codon adaptation index (CAI),and GRAVY value analysis, the study provided a very first insight into the profile of protein expression as a refer-ence map of L. casei. Forty-seven spots were also found in the study that showed statistically significant differences between exponential phase and stationary phase.Thirty-three of the spots increased at least 2.5-fold in the stationary phase in comparison with the exponentialphase, including 19 protein spots (e.g. Hsp20, DnaK,GroEL, LuxS, pyruvate kinase, and GalU) whose intensity up-shifted above 3.0-fold. Transcriptional profiles were conducted to confirm several important differentially expressed proteins by using real time quantitative PCR. Theanalysis suggests that the differentially expressed proteins were mainly categorized as stress response proteins and key components of central and

intermediary metabolism, indicating that these proteins might play a potential important role for the adaptation to the surroundings, especially the accumulation of lactic acid in the course of growth, and the physiological processes in bacteria cell

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【语种】英文

【第一作者】Rina Wu

【通讯作者】Heping Zhang;He Meng

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【学科分类】食品科学技术基础学科

【题目】Preparation, partial characterization and bioactivity of exopolysaccharides from Lactobacillus casei LC2W

【中文关键词】Lactobacillus casei;Exopolysaccharides;Isolation;Characterization;Antihypertensive

【英文关键词】Lactobacillus casei;Exopolysaccharides;Isolation;Characterization;Antihypertensive

【中文摘要】Crude exopolysaccharides (LCP) were isolated from skim milk fermented by Lactobacillus casei LC2W and fractionated into three fractions (LCP1, LCP2 and LCP3) with the ratios of 35.74%, 12.61% and 33.34% (w/w) based on LCP, respectively. The molecular weight, polydispersity, intrinsic viscosity and radius of gyration of three fractions were determined by high-performance size exclusion chromatography, and monosaccharide compositions were analyzed by high-performance anion-exchange chromatography. The antihypertensive effects of exopolysaccharides were evaluated using spontaneously hypertensive rats(SHR). SHR were randomized into four groups (eight rats per group) and fed with the test samples(LCP1, LCP2 and LCP3) at the daily dosage of 15 mg/kg(body weight) and saline for 7 days. The results showed only LCP1 could decrease signi fi cantly the systolic blood pressure of SHR ($P < 0.01$), and LCP1,LCP2 and LCP3 had no signi fi cant effect on the heart rate of SHR.

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【语种】英文

【第一作者】Lianzhong Ai

【通讯作者】Benheng Guo

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【学科分类】食品科学技术基础学科

【题目】响应面法优化干酪乳杆菌LC2W合成胞外多糖的培养条件
【中文关键词】干酪乳杆菌, 胞外多糖,响应面法, 培养条件,优化
【英文关键词】干酪乳杆菌, 胞外多糖,响应面法, 培养条件,优化
【中文摘要】采用响应面法(RSM)对影响干酪乳杆菌 LC2W 合成胞外多糖的培养条件进行了优化。以胞外多糖产量为指标,通过单因素试验初步得到干酪乳杆菌 LC2W 合成胞外多糖的培养条件, 再根据 Box- Benhnken 中心组合实验设计原理, 在单因素试验基础上采用 3 因素 3 水平的响应面分析法, 建立了胞外多糖产量与各影响因子的回归方程, 并得到以胞外多糖产量为响应值的响应面图和等高线图, 进而得出干酪乳杆菌 LC2W 合成胞外多糖的优化培养条件: 接种量 4 %,发酵温度 31.5℃,发酵时间 32 h。验证试验结果表明,在此条件下胞外多糖的产量可达 157.46 mg / L,比优化前产量提高了 30.81 %。
【英文摘要】采用响应面法(RSM)对影响干酪乳杆菌 LC2W 合成胞外多糖的培养条件进行了优化。以胞外多糖产量为指标,通过单因素试验初步得到干酪乳杆菌 LC2W 合成胞外多糖的培养条件, 再根据 Box- Benhnken 中心组合实验设计原理, 在单因素试验基础上采用 3 因素 3 水平的响应面分析法, 建立了胞外多糖产量与各影响因子的回归方程, 并得到以胞外多糖产量为响应值的响应面图和等高线图, 进而得出干酪乳杆菌 LC2W 合成胞外多糖的优化培养条件: 接种量 4 %,发酵温度 31.5℃,发酵时间 32 h。验证试验结果表明,在此条件下胞外多糖的产量可达 157.46 mg / L,比优化前产量提高了 30.81 %。
【语种】中文
【第一作者】刘翠平
【通讯作者】郭本恒
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【学科分类】食品科学技术基础学科

【题目】植物乳杆菌ST-Ⅲ脱脂乳体系中生长限制因子的研究
【中文关键词】植物乳杆菌ST-Ⅲ,凝乳,营养因子
【英文关键词】植物乳杆菌ST-Ⅲ,凝乳,营养因子
【中文摘要】研究了维生素、碳源和氮源(蛋白胨、氨基酸)对植物乳杆菌ST-Ⅲ在脱脂乳中生长情况的影响。试验结果表明,在脱脂乳中添加维生素、氨基酸、碳源对其生长及凝乳没有显著影响,添加鱼蛋白胨可显著促进Lb.plantarum ST-Ⅲ在脱脂乳中生长和凝乳过程。鱼蛋白胨溶液经过分子截留极限为5000 ku的膜超滤的透过液也具有促进植物乳杆菌ST-Ⅲ在脱脂乳中生长和凝乳的作用,该透过液经过Sephadex G-25和Sephadex G-15凝胶柱分离后,获得1个可以促进Lb.plantarum ST-Ⅲ在脱脂乳中生长和凝乳的单一蜂,根据其洗脱体积,可以断定其主要成分为寡肽。因此,Lb.plantarum ST-Ⅲ胞内蛋白酶和肽酶活性较弱可能是限制其在脱脂乳中生长和凝乳的主要原因。
【英文摘要】研究了维生素、碳源和氮源(蛋白胨、氨基酸)对植物乳杆菌ST-Ⅲ在脱脂乳中生长情况的影响。试验结果表明,在脱脂乳中添加维生素、氨基酸、碳源对其生长及凝乳没有显著影响,添加鱼蛋白胨可显著促进Lb.plantarum ST-Ⅲ在脱脂乳中生长和凝乳过程。鱼蛋白胨溶液经过分子截留极限为5000 ku的膜超滤的透过液也具有促进植物乳杆菌ST-Ⅲ在脱脂乳中生长和凝乳的作用,该透过液经过Sephadex G-25和Sephadex G-15凝胶柱分离后,获得1个可以促进Lb.plantarum ST-Ⅲ在脱脂乳中生长和凝乳的单一蜂,根据其洗脱体积,可以断定其主要成分为寡肽。因此,Lb.plantarum ST-Ⅲ胞内蛋白酶和肽酶活性较弱可能是限制其在脱脂乳中生长和凝乳的主要原因。
【语种】中文
【第一作者】陈帅
【通讯作者】郭本恒
【期刊名称、卷期、页码】食品与发酵工业;2008,34(10):53-57
【论文发表时间】2008-03-31 00:00:00
【引文索引类型】其他
【引文索引号】1008- 2230(2008) 07- 0014- 05
【学科分类】食品科学技术基础学科

【题目】干酪乳杆菌胞外多糖LCP1的流变性研究
【中文关键词】干酪乳杆菌,胞外多糖,流变性
【英文关键词】干酪乳杆菌,胞外多糖,流变性
【中文摘要】通过对干酪乳杆菌LC2W胞外多糖LCP1溶液流变性质研究发现,高浓度LCP1溶液呈剪切变稀,低浓度时,剪切速率对黏度没有影响,溶液黏度随温度升高下降明显,pH对LCP1溶液黏度影响很小,盐可以降低LCP1溶液黏度,但黏度降低与盐浓度有关,通过黏弹性研究发现LCP1水溶液不能形成胶体,乌氏黏度计测得LCP1水溶液固有黏度(η)为1.930dL/g。
【英文摘要】通过对干酪乳杆菌LC2W胞外多糖LCP1溶液流变性质研究发现,高浓度LCP1溶液呈剪切变稀,低浓度时,剪切速率对黏度没有影响,溶液黏度随温度升高下降明显,pH对LCP1溶液黏度影响很小,盐可以降低LCP1溶液黏度,但黏度降低与盐浓度有关,通过黏弹性研究发现LCP1水溶液不能形成胶体,乌氏黏度计测得LCP1水溶液固有黏度(η)为1.930dL/g。
【语种】中文
【第一作者】艾连中
【通讯作者】郭本恒
【期刊名称、卷期、页码】食品与发酵工业;2008,34(7):51-54
【论文发表时间】2008-04-23 00:00:00
【引文索引类型】其他
【引文索引号】1008- 2231(2008) 07- 0014- 05
【学科分类】食品科学技术基础学科

【题目】植物乳杆菌ST-Ⅲ降胆固醇相关酶的研究
【中文关键词】植物乳杆菌ST-Ⅲ, 酶,降胆固醇
【英文关键词】Lactobacillus plantarum ST-Ⅲ; enzyme; cholesterol removal
【中文摘要】植物乳杆菌ST-Ⅲ菌株经验证具有降胆固醇的作用,在此基础上,对该菌株产生的和降胆固醇相关的酶进行了初步研究。实验发现,该酶为胞内酶,在培养基中加入胆固醇可诱导ST-Ⅲ合成降低胆固醇相关酶, 添加量为 2.5%时, 酶活力最大; 在粗酶液中加入Triton X-100可提高酶活力, 在添加量为 1%时达到最大值; 硫酸铵提取该酶的最适饱和度为 60%。实验还对该酶的酶活力测定方法进行了研究,确定了ATP以及底物的最适浓度分别为 2.5mg/mL以及 150μg/mL。
【英文摘要】Lactobacillus plantarum ST-Ⅲ has been proved to be able to remove cholesterol. Based on the former expermients, explorative research has been done on the effectiveness of cholesterol removal by the enzymes which ST-Ⅲ produced. Expermient showed the enzyme was intracellular enzyme. The enzyme which produced by ST-Ⅲ could be induced by cholesterol in the fermentation medium, when the addition gets 2.5%, the enzyme activity was higher. Added Triton X-100 into the crude enzyme liquid could increase the enzyme activity, the optmial addition was 1%. 60% ammonium sulphate was the optmial precipitation of enzyme. And the activity determination of the enzyme was studied, the optmial concentration of ATP and substrates was 2.5mg/mL and 150μg/mL respectively.
【语种】中文
【第一作者】刘娟
【通讯作者】郭本恒
【期刊名称、卷期、页码】食品工业科技;2008,29(11):137-139
【论文发表时间】2008-03-24 00:00:00
【引文索引类型】其他
【引文索引号】1002-0306(2008) 011-0137-03
【学科分类】食品科学技术基础学科

【题目】植物乳杆菌SP-3对干酪挥发性风味物质的影响
【中文关键词】干酪;挥发性;风味物质
【英文关键词】cheese; volatile; flavour compound
【中文摘要】采用固相微萃取(SPME)富集干酪模型中的挥发性风味物质,并以气相色谱-质谱联用仪(GC-MS)检测结果来评定植物乳杆菌SP-3对干酪挥发性风味的影响。结果表明,添加植物乳杆菌SP-3的干酪模型中2-丁酮、2-甲基-1-丙醇、3-甲基-1-丁醇、1-戊醇、4-甲基-2-戊醇、3-羟基-2-丁酮等具有坚果味、水果味和奶油味的物质明显高于对照组,而二甲基硫化物和3-甲硫基-1-丙醇的浓度则低于对照组。

【英文摘要】Volatile flavour compounds produced in ripend cheese slurries model was studied by GC-MS. And the difference of flavour compounds between slurries containing lactobacillus plantarum SP-3 and the control slurries was detected. In contrast to the control slurries, slurries containing lactobacillus plantarum SP-3 had high concentration of 2-butanone, 2-methyl -1-propanol, 3-methyl-1-butanol, 3-hydroxy-2-butanone which contribute nutty and creamy flavour.
【语种】中文
【第一作者】苗君莅
【通讯作者】刘振民
【期刊名称、卷期、页码】中国乳品工业;2010,38(3):31-33
【论文发表时间】2009-10-26 00:00:00
【引文索引类型】其他
【引文索引号】1001- 2230(2010) 03- 0031- 03
【学科分类】食品科学技术基础学科

【题目】干酪乳杆菌LC2W胞外多糖的提取
【中文关键词】干酪乳杆菌; 胞外多糖; 提取; 超滤
【英文关键词】lactobacillus casei;exopolysaccharides;extraction; ultrafiltration
【中文摘要】研究了干酪乳杆菌LC2W胞外多糖的提取工艺, 确定提取条件为: 沸水浴10 min灭酶活, 离心除去凝结蛋白和菌体; 终质量浓度为40 g/L的三氯乙酸除蛋白质;上清液超滤(滤膜MWCO为10 ku, 压力250 kPa, 温度25°C)浓缩4倍; 终体积分数为75%的乙醇沉淀多糖; 热水溶解多糖, 透析、冷冻干燥得粗多糖。粗多糖的得率为153.4 mg/L。
【英文摘要】Extraction process of exopolysaccharides (EPS) from lactobacillus casei LC2W was studied, and extraction conditions were determined. The fermentation broth was pretreated by heating to inactivate enzymes and then centrifuging to remove cells and coagulated proteins, and trichloroacetic acid was added into the supernatant to a final concentration of 40 g/L to remove proteins. The supernatant was concentrated to 1/4 of original volume by ultrafiltration (filtration membrane MWCO 10 ku, pressure 250 kPa and temperature 25 °C). The yield of EPS precipitated from the supernatant with three volumes of cold ethanol was 153.4 mg/L.
【语种】中文
【第一作者】艾连中
【通讯作者】郭本恒
【期刊名称、卷期、页码】中国乳品工业;2008,36(7): 14-18
【论文发表时间】2008-01-30 00:00:00
【引文索引类型】其他
【引文索引号】1001- 2230(2008) 07- 0014- 05
【学科分类】食品科学技术基础学科

【题目】双孢蘑菇安全高效的栽培技术
【中文关键词】双孢蘑菇 食品安全 高效 栽培技术
【英文关键词】NULL
【中文摘要】以1992年由福建省蘑菇菌种推广站推广的双孢蘑菇集约化、规范化栽培模式为基础,结合无公害化生产控制技术形成蘑菇安全高效栽培技术。通过栽培系统的改良和生产管理过程的无公害化控制操作,生产出符合国家规定的无公害农产品,满足广大消费者对健康食品的需求,且符合出口的食品标准。
【英文摘要】NULL
【语种】中文
【第一作者】卢政辉
【通讯作者】卢政辉
【期刊名称、卷期、页码】中国园艺文摘,2009,25(6):90-91
【论文发表时间】2009-05-01 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农艺学

【题目】双孢蘑菇耐热相关基因的表达载体构建及转化研究
【中文关键词】食用菌; 耐热性状; 转基因; 潮霉素抗性; 农杆菌;
【英文关键词】edible fungi; thermotolerance; transgene; hygromycin resistance; Agrobacterium;
【中文摘要】构建了双孢蘑菇Agaricus bisporus耐热相关基因028-1全长cDNA序列的双元表达载体,通过农杆菌介导转化双孢蘑菇非耐热菌株8213,经潮霉素抗性筛选和PCR鉴定,获得了一批双孢蘑菇转基因菌株。对10株转基因菌株进行了不同温度下的草管走菌试验,结果显示大部分转基因菌株的耐热性能有较为明显的提高。
【英文摘要】A binary expression vector of thermotolerance-related gene 028-1 of Agaricus bisporus was constructed and transferred into non-thermotolerance strain 8213 of A. bisporus by Agrobacterium-mediated transformation. After hygromycin resistance selection and PCR identification, dozens of transgenic strains of A. bisporus were obtained. 10 of them were put into compost running test under different temperatures, and the results showed that the thermotolerance of most of the transgenic strains increase obviously.
【语种】中文
【第一作者】陈美元
【通讯作者】王泽生
【期刊名称、卷期、页码】菌物学报,2009,28(6):797-801
【论文发表时间】2009-11-15 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农艺学

【题目】双孢蘑菇培养料堆制技术的变革和最新进展
【中文关键词】双孢蘑菇 培养料 堆制技术
【英文关键词】NULL
【中文摘要】堆制良好的培养料是栽培获得优质、高产双孢蘑菇的基本保证,随着全世界双孢蘑菇栽培技术的广泛交流和跨领域技术的集成应用,双孢蘑菇培养料堆制技术取得了飞跃发展。对双孢蘑菇培养料堆制技术的历史变革和最新进展进行了概述,希望为双孢蘑菇栽培者提供一些信息。
【英文摘要】NULL
【语种】中文
【第一作者】卢政辉
【通讯作者】卢政辉
【期刊名称、卷期、页码】中国食用菌,2009,28(1):3-5
【论文发表时间】2009-11-15 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农艺学

【题目】添加外源镧条件下姬松茸中微生素的相关性及主成分分析
【中文关键词】食用菌;镧;微生素;主成分
【英文关键词】edible and medical fungi;selenium; vitamin; principle components
【中文摘要】采用主成分分析法,对外源镧胁迫姬松茸的效应进行了研究。结果表明,姬松茸的维生素B6与烟酰胺和B2呈极显著和显著负相关;烟酰胺与B2呈显著正相关;叶酸与B2呈显著负相关;其他性状间的相关均为负或正相关。从7项微生素指标中提取出3个胁迫效应的主成分,累积方差贡献率为93.92%。根据主成分对原性状的综合能力,进行微生素系列分析,3个主成分可分别解释为叶酸和B6效应因子,Vc效应因子,B5效应因子,并建立了主成分方程分别为:y1=0.1682F1+0.1542F2+0.3570F3+0.4420F4-0.4094F5+0.4613F6-0.4947F7y2=0.6392F1-0.4636F2+0.3622F3-0.3004F5+0.3443F5+0.1855F6-0.0462F7y3=0.1380F1+0.8114F2+0.3705F3-0.1821F4+0.2739F5+0.0908F6+0.2625F7各处理组的主成分得分、综合得分计算排序第一为40mg/kg处理组,所以为较适宜的胁迫浓度。
【英文摘要】The principal components analysis was adopted to investigate the vitamin efficiency of the Agaricus blazei MURILL under the condition of exogenous addition of Se.The results showed the VC was significant positive correlated with folacin and VB2;B5 was significant negative correlated with VB6 and VB1;VB1 and VB6,folacin and VB2 were significant positive correlated;others were not significant correlated.3 main components which contributed the accumulative variance by 98.40%have been picked out from the 7 vitamin character indexes.According to the comprehensive function of each main component,the 3 main components could be

explained respectively as the factor of VB5 and VC effect,the niacinamide effect and the folacin and VB2 effect.And the equation of main components was as follows:y1=0.4112F1+0.4351F2-0.4057F3-0.3929F4+0.0270F5+0.4013F6+0.4013F7y2=0.2931F1-0.2431F2+00.2940F3+0.3314F4+0.7175F5+0.2683F6+0.2683F7y3=-0.1200F1-0.0483F2+0.3448F3+0.3341F4+-0.5962F5+0.4456F6+0.4456F7The 40 mg/kg treatment had the highest principle components and integrates scores and it was the relatively suitable concentration.

【语种】中文
【第一作者】吴少风
【通讯作者】翁伯琦
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【引文索引号】null
【学科分类】农艺学

【题目】添加外源镧条件下姬松茸中脂肪酸的相关及主成分分析
【中文关键词】镧 姬松茸 脂肪酸 相关性 主成分分析
【英文关键词】Lanthanum ; Agaricus blazei Murrill ; Fatty acids ; correlation ; principle components
【中文摘要】采用主成分分析法,对外源镧协迫姬松茸的效应进行了研究。结果表明:姬松茸的C14:0与C18:1呈显著的正相关,C18:0与C18:1呈显著的负相关,C18:2与味知脂肪酸呈显著的负相关。从脂肪酸构成比例中提取出3个协迫效应的主成分,累积方差贡献率为92.05%。根据主成分对原性状的综合能力,进行脂肪酸系列分析,3个主成分可分别解释为C18:0和C18:1效应因子、C16:0效应因子、C24:0效应因子,并建立了主成分方程,分别为:y1=0.3849F1—0.1636F2—0.3999F3+0.4346F4+0.4844F5—0.2743F6-0.4080F7;y2=0.4065F1+0.7387R+0.3158B+0.1763F4-0.1179F5+0.2107F6-0.3161F7;y3=0.1545F1+0.0368F2-0.4810F3+0.1665F4+0.0878F5+0.8409F6+0.0273F7。各处理组的主成分得分、综合得分计算排序第1为0.05mg/mL处理组,所以为较适宜的协迫浓度。
【英文摘要】The principal components analysis was adopted to investigate the fatty acid efficiency of the Agaricus blazei Murill under the exogenous addition of Lanthanum in the current work. The results showed that C14:0 was positively correlated with C18: 1, and C18:0 was negatively related to C18: 1. However, C18:2 was negatively correlated with the unknown fatty acids. Three main components which contributed to the accumulative variance by 92.05% had been picked out from the fatty acids. According to the comprehensive func- tion of each main component, the three main components could be explained respectively as the factor of C18: 1 and C18:2 effect, the C16:0 effect and the C24:0 effect. The equation of main components were as follows: y1= 0.384 9F1 - 0. 163 6F2 - 0.399 9F3 + 0.434 6F4 + 0.484 4F5 - 0.274 3F6 - 0. 408 0F7 ; y2 = 0.406 5F1 + 0.738 7F2 +0.315 8F3 +0. 176 3F4 -0. 117 9F5 +0.2107F6 - 0.316 1F7;y3 = -0. 154 5F1 + 0.036 8F2 - 0. 481 0F3 + 0. 166 5F4 + 0. 087 8F5 + 0. 840 9F6 + 0. 027 3F7. The 50 mg/Kg treatment had the highest principle components and integrate scores, which mirrors this treatment is the most suiTab, concentration.
【语种】中文
【第一作者】翁伯琦
【通讯作者】翁伯琦
【期刊名称、卷期、页码】山地农业生物学报,2010,29(4):325-329
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【引文索引号】null
【学科分类】农业基础学科

【题目】添加外源硒姬松茸主要农艺性状的主成分分析
【中文关键词】姬松茸 硒 农艺性状 主成分
【英文关键词】Agricus blazei Murrill; Se; agronomic traits; principal component
【中文摘要】对添加外源硒姬松茸主要农艺性状的主成分进行研究,从姬松茸的盖厚度、盖重、盖直径、柄长、柄直径、柄重、朵重、产量等8项农艺性状指标中确定具有影响效应的3个主成分,第1主成分为农艺性状与形态学效应因子,第2主成分为增盖重效应因子,第3主成分为盖大小效应因子.第1主成分较全面地反映了外源硒添加量对姬松茸生长的影响,为期望效应因子,是提高姬松茸品质的主要参考性状组.培养料中添加30mg/kg外源硒(亚硒酸钠溶液)的效果最佳.

【英文摘要】The effect of different Se on Agaricus blazei Murrill,s agronomic traits by principal component analysis was studied.It can simplify into three effect principle components from the eight traits:cover thickness,cover weight,cover diameter,shank length,shank diameter,shank weight,flower weight,and yield.The results showed that the first principal component of agronomic traits and morphological effects factor can reflect the goal of the effects on the growth of Agaricus bazei Murrill in the concentration selenium.It was the expected effect and was the main referenced traits of the increased of Agaricus bazei Murrill.Based on the results,the training material after adding 30 mg/kg exogenous Se could produce the best effect.
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【第一作者】翁伯琦
【通讯作者】翁伯琦
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【学科分类】农业基础学科

【题目】添加外源锌对大杯香菇子实体细胞保护酶活性的影响
【中文关键词】外源锌; 大杯香菇; 细胞保护酶; 丙二醛;
【英文关键词】exogenous Zn; Lentinus giganteus; cell protective enzyme; MDA(malondialchehyche);
【中文摘要】【目的】本实验研究了添加外源锌(Zn)对大杯香菇子实体保护酶活性的影响。【方法】以硫酸锌为外源锌,添加到培养料中,制成0、10、20、30、40、50mg/kg6个浓度。采用分光光度法测定大杯香菇子实体超氧化物岐化酶(SOD)活性、过氧化物酶(POD)活性、多酚氧化酶(PPO)活性、丙二醛(MDA)含量和可溶性蛋白含量,采用高锰酸钾滴定法过氧化氢酶(CAT)活性。【结果】添加外源Zn浓度为30mg/kg处理大杯香菇子实体内可溶性蛋白含量、SOD、POD和CAT活性极显著提高(P<0.01),PPO活性极显著减少(P<0.01),而MDA含量显著下降(P<0.05)。随着Zn 水平进一步升高, 可溶性蛋白含量、SOD、POD 和CAT 活性呈下降趋势, 而MDA 含量极显著和显著上升(P < 0 01 和P < 0 05) 。 结论 高用量的Zn 浓度能使大杯香菇子实体中的MDA 含量上升, SOD、POD、CAT 活性均下降, 对保护酶系统有破坏作用, 促进自由基的积累, 从而导致膜脂过氧化作用的加剧。适宜Zn 浓度能提高保护酶的活性, 从而抑制了大杯香菇子实体中细胞膜脂过氧化水平,减轻膜伤害。
【英文摘要】[Objective] The effects of exogenous Zn addition on cell protective enzyme activities in the fruit bodies of Lentinus giganteus were studied.[Methods] ZnSO4 was used as exogenous Zn and added into culture medium.The final Zn concentrations in culture media were 0,10,20,30,40,50 mg/kg respectively.The activities of superoxide dismutase(SOD),peroxidase(POD),polyphenol oxidase(PPO),malondialchehyche(MDA) content and soluble protein content in the fruit bodies were analyzed by spectrophotometry;catalase(CAT) was determined by potassium permanganate titration. [Results] The content of soluble protein and SOD, POD and CAT activities in the fruit bodies of L . giganteus were significantly increased (P< 0 01) , but PPO activity (P < 0 01) and MDA content (P < 0 05) was significantly decreased in the treatment of 30 mg kg Zn concentration. The content of soluble protein and SOD, POD and CAT activities showed a decreasing trend with the increase of Zn concentration, but MDA content was significantly increased (P < 0 01 and P< 0 05) . [Conclusion] High Zn concentration caused the increase of MDA contents and the decrease of SOD, POD and CAT activities in the fruit body of L. giganteus. It will destroy the protective enzyme system, cause the accumulation of free radicals and thus intensify membrane lipid peroxidation. Appropriate Zn concentration improved the protective enzyme activities, and lightened the harm of membrane from lipid peroxidat ion.
【语种】中文
【第一作者】江枝和
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【题目】添加外源锌对猪肚菇子实体蛋白质营养价值的影响

【中文关键词】猪肚菇 锌 营养价值 蛋白质营养
【英文关键词】Panus giganteus; Zn; nutritional value; nutrition of protein
【中文摘要】采用国际上通用的非生物学评价方法,研究了不同供锌水平对猪肚菇子实体蛋白质营养价值的影响,以期为猪肚菇栽培技术的改善和完善提供科学依据。结果表明,氨基酸总量以40mg·kg^-1处理的最高,其与对照差异达到显著(P〈0.05),但与其他处理差异不显著(P〉0.05);而Zn含量以10mg·kg^-1处理最高。营养综合评价结果显示,以浓度为30mg·kg^-1Zn处理的培养料栽培的猪肚菇子实体蛋白质营养价值评价的6项指标中氨基酸评分、必需氨基酸指数、氨基酸比值系数分和生物价分别为95.33、91.70、82.52和88.50,均居6种Zn处理之首,化学评分和营养指数分别为73.22和25.49,均居第3位。综合评价的结果显示,以浓度为30mg·kg^-1Zn处理的蛋白质营养价值最高。
【英文摘要】Using current international method, the effects of zinc (Zn) addition of different concentrations on nutritional value of protein of Panus giganteus's fruit bodies were studied in order to provide a scientific basis for its cultivation technology improvement. The results showed that total amino acid content in the treatment of 40 mg.kg^-1 was the highest, and lied significant difference to the control and no significant difference to the others, and that Zn content was the highest in the treatment of 10 mg.kg^-1. The results of nutritional value showed that the amino acid score(AAS), essential amino acid index(EAAI), score of ratio coefficient of amino acid(SRCAA) and biological valence (BV) in the protein of Panus giganteus's fruit bodies cultivated with medium in which middle concentration (30 mg.kg^-1) of Zn treatment applicated were the highest among six treatments, being 95.33 , 91.70, 82.5:2 and 88.50 respectively; and its chemical score (CS) and nutritional index (NI) were 73.22 and 25.49, all held the third place in six treatments with different concentration of Zn. It was seen on the basis of synthesizing evaluation that the nutritional value of protein in the treatment of 30 mg.kg^-1 Zn was the highest.
【语种】中文
【第一作者】江枝和
【通讯作者】翁伯琦
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【题目】土地利用方式和经营管理对土壤有机碳库及其组分影响的研究进展
【中文关键词】土地利用变更 经营管理 土壤有机碳 组分
【英文关键词】Land use; management soil organic carboni fraction
【中文摘要】综述了土壤有机碳分组方面的研究结果,主要讨论了在不同利用类型和不同经营方式条件下,土壤有机碳及其不同组分分解、蓄积、含量、存量、分配比例等的动态变化,为制定合理的经营管理措施以减少温室气体的排放提供理论参考。
【英文摘要】This paper reviews the research results on the fractionation of soil organic carbon. A focus was placed on the dynamics of the decomposition, accumulation, content, storage and allocation proportion of soil organic carbon and its fractions under different land uses and management. The information should aid in formulating appropriate measures to reduce greenhouse gas emission.
【语种】中文
【第一作者】王峰
【通讯作者】翁伯琦
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【学科分类】植物保护学

【题目】外源硒对巴西蘑菇子实体数量和形态特征的影响
【中文关键词】巴西蘑菇 硒 孢子 囊状体 菌丝
【英文关键词】Agaricus brasiliensis, S. Wasser; Se; Spore; Cystidium; Mycelium
【中文摘要】用扫描电子显微镜观察Se处理的巴西蘑菇的形态特征。结果表明,添加30mg kg^-1外源Se的巴西蘑菇孢子的长、宽和数量分别比对照增加20.92%、5.41%和114.13%,差异极显著(P〈0.01);10和20mg kg^-1 Se处理的囊状体最大直径、

最小直径和数量分别比对照增加34.78%、7.73%、13.40%、15.26%和27.78%、33.33%(P〈0.01),菌丝宽平均比对照增加45.90%和50.82%(P〈0.01)。扫描电镜观察到Se处理的孢子、囊状体、菌丝表面纹饰结构发生不同程度改变。

【英文摘要】The effects of exogenous Se on the topography and quantitative characters of Agaricus brasiliensis S. Wasser fruit bodies were studied under scanning electronic microscope (SEM). When exogenous Se was 30 nag kg^-1 the length, width and number of spores of Agaricus brasiliensis S. Wasser increased by 20.92%, 5.41% and 114.13%, respectively, and had significant difference (P 〈 0.01) to the control. When treated with 10-and 20 mg kg^-1 Se, the maximum and minimum diameters and number of the cystidium increased by 34.78% and 7.73%, 13.40% and 15.26%, 27.78% and 33.33% (P 〈0.01), respectively, and the minimum width of the mycelium increased by 45.90% and 50.82% (P〈0.01), respectively. The morphological structures of the spore, cystidium and mycelium varied under SEM.

【语种】中文

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【学科分类】农业基础学科

【题目】养猪场粪污治理与再利用研究进展

【中文关键词】猪粪 污水 堆肥 沼液 沼气 循环再利用

【英文关键词】pig manure, sewage, compost, biogas slurry, biogas, recycling and reuse

【中文摘要】随着养猪业向集约化、规模化发展,猪场粪污排放过度集中,超过周边环境承载负荷,造成环境污染问题日益严重。本文综述了国内外规模化猪场的粪污处理技术,为规模化养猪场粪污治理与循环再利用模式建立,实现“达标”排放或冲栏回用无排放提供参考

【英文摘要】As pig farming becomes increasingly concentrated and scaling up in size, its sewage discharge and waste disposal has overwhelmed the surrounding areas causing deepened concerns on environmental pollution. This paper reviews the related literature published in China, as well as foreign countries. It is intended to provide the pig farmers with available information on technologies for the effluent treatments and material recycling so that their operations could be improved and a pollution-free environment realized.

【语种】中文

【第一作者】陈方舟

【通讯作者】林代炎

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【学科分类】农学其他学科

【题目】常用杀菌剂及其混剂对芒果炭疽病菌的毒力测定

【中文关键词】芒果炭疽病菌;杀菌剂;毒力;增效作用

【英文关键词】Colletotrichum gloeosporioide; fungicides; toxicty; synergistic action

【中文摘要】采用生长速率法测定10种常用杀菌剂对芒果炭疽病菌的毒力。 结果表明:45%咪鲜胺EW对芒果炭疽病菌生长的抑制作用最强,其EC50值为0.01 mg/L;40%氟硅唑EC、25%丙环唑EC、95%苯醚甲环唑TC、50%扑海因WP的抑制作用相对较强,其EC50值范围为0.03~0.81 mg/L;96%睛菌唑TC、15%三唑酮WP、96%百菌清TC、30%醚菌酯WP的抑制作用较小,其EC50值范围为4~65.2 mg/L;50%代森锰锌WP抑制作用最小,其EC50值为105.0 mg/L;采用Horsfall法,将8个组合进行混配,咪鲜胺与三唑酮的混配中,其各个配比的毒力指数均大于1,于6∶4的配比达到最大,毒力指数为1.2,共毒系数(CTC)为166.61大于100,具有明显的增效作用;其余7组混配组合均没有增效作用。

【英文摘要】Toxicitis of ten fungicides to mango causal agent Colletotrichum gloeosporioides were tested using mycelial growth rate method. The results showed that prochloraz 45% EW had the strongest of toxcity with the minimum EC50 value of 0.01 mg/L among 10 fungicides. flusilazole 40% EC, propiconazole 25% EC, difenoconazole 95% TC or iprodione 50% WP had stronger toxicities with the EC50 values of 0.03 to 0.81 mg/L. myclobutanil 96% TC, triadimefon 15% WP, chlorothalonil 96% TC and kresoxim methyl 30%

WP had the low toxicities with the EC50 values of 4 to 65.2 mg/L, while mancozeb 50% WP had the lowest toxicity with the EC 50 values of 105.0 mg/L. Among 8 mix formulation of two of these fungicides, toxicity indexes of the mix of prochloraz and triadimefon in tested ratios were more then 1 with the highest index of 1.2 at the optimun ration at 6:4, its co-toxicity index (CTC) was 166.61, which was significantly higher than 100, indicating a strong synergistic action between these two fungicides. No previously synergistic action was found between other 7 mixes.

【语种】中文
【第一作者】张胡焕
【通讯作者】谢艺贤
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【题目】依靠科技进步 发展低碳农业
【中文关键词】低碳经济 温室气体 科技 循环农业 固碳减排
【英文关键词】low-carbon economy; greenhouse gases; science and technology; cycle agriculture; fixed carbon and reducing discharge
【中文摘要】在全球携手应对气候变暖、减少温室气体排放的背景下,发展低碳经济是解决气候变化与经济发展矛盾的有效途径。通过描述气候变化、固碳减排对粮食安全、土壤碳汇、森林固碳、资源循环利用等影响和促进作用,深入分析发展低碳经济与可持续发展的关系,探讨如何在农业领域内开发高效循环生产体系,从而实现农业生产过程的固碳减排目的。由此,提出发展低碳农业是实现低碳经济的目标之一,它是一个复合技术体系,涉及了绿色农业、循环农业、生态文明、可持续发展理念。必须通过科学技术的突破,改造、提升低碳农业技术,改变农业现有的"高能耗、高污染"的生产状况,实现低碳生产、生活方式的转变。最后提出发展现代的低碳农业产业经济的对策和思考。
【英文摘要】Under the background of hands to deal with global warming and reducing greenhouse gas emissions, development low-carbon economy was the effective way to solve the contradictions of climate change and economic development. By describing the influences and promotions of climate change, fixing carbon and reducing discharge on food security, soil carbon sink, forest carbon fixation, resources circulation utilization and so on, depth analysis of the relationship between the development of low-carbon economy and sustainable development, explored how to develop an efficient circulation within the field of agriculture production system, to achieve the purpose of fixing carbon and reducing discharge in the agricultural production process. As a result, proposed the development of low-carbon agriculture is one of the objectives to achieve a low carbon economy, it ’s a complex technical system, covering the concepts of green agriculture, circular agriculture, ecological civilization and sustainable development, it must be through breakthroughs in science and technology to reform and improve low-carbon farming techniques, develop low agricultural production, change the production status of "high energy consumption, high pollution" in agricultural existing, implement the transformation of low-carbon production and life style, and finally, it put forward the countermeasure and thinking of development modern low-carbon agricultural industry.
【语种】中文
【第一作者】翁伯琦
【通讯作者】翁伯琦
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【题目】羽叶决明代木栽培鸡腿菇的物质转化
【中文关键词】鸡腿菇 羽叶决明 绝对生物学效率 基物失重 呼吸消耗 木质纤维素
【英文关键词】Coprinus ovatus; Chamaecrasta nictitans; absolute biological efficiency; substrate weight loss; respiration-based consumption; lignocellulose

【中文摘要】研究羽叶决明(Chamaecrasta nictitans)代木栽培鸡腿菇(Coprinus ovatus)对其绝对生物学效率、基物失重、呼吸消耗及木质纤维素转化的影响。结果表明,羽叶决明牧草替代60%木屑(A60)栽培鸡腿菇的绝对生物学效率最高,均为10.77%。覆土前和采收后的基物失重和呼吸消耗都以A0(CK)为最高,分别为11.47%、11.47%和31.75%、25.55%,其木质素转化率也最高,为79.21%;纤维素转化率以A100(羽叶决明牧草替代100%木屑)为最高,达50.93%;半纤维素转化率以A40(羽叶决明牧草替代40%木屑)为最高,为49.74%。回归分析结果表明,绝对生物学效率和半纤维素转化率与替代比例呈抛物线相关,而基物失重、呼吸消耗及木质素、纤维素转化率与替代比例呈线性相关。

【英文摘要】Mushroom Coprinus ovatus was cultivated on a series of growth substrates in which the sawdust component was substituted with Chamaecrasta nictitans to study C. nictitans in terms of biological efficiency, substrate weight loss, respiration-based consumption and conversion of xylem cellulose. The treatment A60(C. nictitans replacing 60% of the sawdust) had the highest absolute biological efficiency (10.77%). Treatment A0(0% C. nictitans replacing the sawdust, CK) or the control had the highest substrate weight loss and respiration-based consumption either before soil covering or after harvest, which were 11.47% and 11.47%, and 31.75% and 25.55%, respectively, and the lignin conversion rate in the treatment A0 was highest(79.21%); the cellulose conversion rate in the treatment A100(100% C. nictitans substituting the sawdust) was the highest(50.93%); and the semi-cellulose conversion rate in the treatment A40 (40% C. nictitans substituting the sawdust) was the highest(49.74%) among all the treatments. Regression analysis revealed that the absolute biological efficiency and semi-cellulose conversion had significant parabolic correlation with the percentage of substitution of sawdust with C. nictitans, and that the substrate loss, respiration-based consumption, lignin conversion and cellulose conversion were linearly correlated with the percentage of substitution of saw dust with C. nictitans.

【语种】中文

【第一作者】卢翠香

【通讯作者】翁伯琦

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【题目】羽叶决明栽培对鸡腿菇子实体产量和脂肪酸组成的影响

【中文关键词】鸡腿菇 羽叶决明 子实体 产量 脂肪酸组成

【英文关键词】Coprinus comatus; Chamaecrasta nictitans; fruit body yield; fatty acid composition

【中文摘要】以羽叶决明(Chamaecrasta nictitans)牧草替代麸皮栽培鸡腿菇(Coprinus comatus),对其子实体产量和脂肪酸组成进行测定。研究结果表明,子实体产量以羽叶决明替代20%麸皮处理的最高,为每袋235.2g;所有处理鸡腿菇子实体中均含有豆蔻酸、棕榈酸、十六烯酸、硬脂酸、油酸、亚油酸、亚麻酸和二十二烷酸等8种脂肪酸,其中羽叶决明替代20%麸皮处理的鸡腿菇子实体中各种脂肪酸相对含量均接近或优于对照,综合表现较好。

【英文摘要】Coprinus comatus was cultivated on a series of growth substrates in which the wheat bran component (constituting 30% of the basal formula) was replaced to different extents with Chamaecrasta nictitans. Highest fruit body yields (235.2 g per bag) were obtained following cultivation on a substrate in which 20% of the wheat bran component had been substituted with C. nictitans. The myristic, palmitic, hexadecenoic, octadecanoic, oleic, linoleic, linolenic and docosanoic acid profiles in these fruit bodies were superior compared to the corresponding fatty acid profiles of fruit bodies cultivated on other test substrates.

【语种】中文

【第一作者】卢翠香

【通讯作者】翁伯琦

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【学科分类】农业基础学科

【题目】羽叶决明栽培鸡腿菇子实体营养价值评价

【中文关键词】鸡腿菇 蛋白质 羽叶决明 营养价值

【英文关键词】Coprinus comatus; fruit body protein; Chamaecrasta nictitans; nutritional value
【中文摘要】采用国际通用营养价值评价方法,研究了羽叶决明替代常规培养料木屑对鸡腿菇子实体蛋白质营养价值的影响。结果表明,羽叶决明替代木屑栽培鸡腿菇,其子实体蛋白质营养价值较高;在6种不同替代组合培养料栽培的鸡腿菇中,以羽叶决明100%替代木屑的蛋白质综合评价最优、营养价值最高,6项评价指标中,其中必需氨基酸指数(Essential AminoAcid Index)、生物价(Biological Value)、营养指数(Nutritional Index)3项分别为117.37、116.23和68.08,均居首位,且与对照间差异达到极显著水平(P〈0.01),氨基酸评分(Amino Acid Score)和氨基酸比值系数分(Amino Acid Ratio Coefficient Score)分别为80.39和77.56,均居第2位,化学评分(Chemical Score)为69.84,居第3位。
【英文摘要】Coprinus comatus was cultivated on a series of growth substrates in which different amounts of the sawdust component were replaccd with Chamaecrasta nictitans. Protein from C. comatus fruit bodies was assessed in terms of six nutritional quality indices - Amino Acid Score (AAS), Chemical Score (CS), Essential Amino Acid Index (EAAI), Biological Value (BV), Nutritional Index (NI) and Amino Acid Ratio Coefficient Score (AARCS). Fruit bodies cultivated using a substrate containing 66.5% sawdust, 30% wheat bran,l% sucrose, 1% CaCO3, 1% Ca(OH)2,0.3% KH2PO4 and 0.2% MgSO4 served as controls. The nutritional quality of protein from fruit bodies cultivated on substrates containing C. nictitans was superior to protein from controls. Protein from fruit bodies cultivated on a substrate in which the sawdust component had been entirely substituted with C. nictitans was ranked highest in terms of EAAI, BV and NI, second in terms of AAS and AARCS, and had the third-ranked CS value.
【语种】中文
【第一作者】卢翠香
【通讯作者】翁伯琦
【期刊名称、卷期、页码】食用菌学报,2008,15(4):77-80
【论文发表时间】2008-11-08 00:00:00
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【引文索引号】null
【学科分类】农业基础学科

【题目】杂交狼尾草茎叶解剖结构及其与主要生物学特性的联系
【中文关键词】杂交狼尾草 茎 叶 解剖结构 生物学特性
【英文关键词】Hybrid Pennisetum; Stem; Leaf; Anatomy structure; Biological characters
【中文摘要】对杂交狼尾草茎叶的解剖表明,杂交狼尾草为c1植物,具有显著的旱生结构特征;叶片为等面叶,由表皮、叶肉和叶脉等组成,具刚毛,叶脉无主侧脉之分,叶片的维管束鞘薄壁细胞较大,含有许多较大的叶绿体,叶肉中含有大量的泡状细胞,但体积较小;上下表皮均有气孔,但气孔密度不一样;输导组织发达,导管有环纹和孔纹两种类型,这种结构有利于杂交狼尾草存高温高湿环境下生长。
【英文摘要】The anatomical structure of leaf and stem of hybrid Pennisetum indicated that hybrid Pennis etum is C4- plant with a obvious xeromorphic structure characteristics. The leaf blade consists of epidermis, mesophyll and vein, which is iso-bilateral leaf. The leaf has bristle and could not be distinguishs principal vein from lateral vein. The bundle sheath cells contained many large chloroplasts and the mesophyli contained many small blister cells. The upper epidermis and lower epidermis all contained stomatal apparatuses; conductive tissue was developed, the catheter were annular vessel and pitted vessel.
【语种】中文
【第一作者】陈钟佃
【通讯作者】黄勤楼
【期刊名称、卷期、页码】中国草地学报,2009,31(6):39-43
【论文发表时间】2009-07-23 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农业基础学科

【题目】栽培料的碳氮比对猪肚菇子实体蛋白质营养评价的影响
【中文关键词】猪肚菇 碳氮比 蛋白质 营养评价
【英文关键词】Clitocybe maxima ; C/N ; protein; nutritional value
【中文摘要】采用国际上通用的营养价值评价方法,全面评价了不同碳氮比羽叶决明代木栽培料栽培的猪肚菇子实体的蛋白质营养价值.结果表明:处理C(C:N=35:1)栽培的猪肚菇子实体的必需氨基酸含量最高。达48.7%.其次是处理

D(C:N=40:1)和处理B(C:N=30:1),必需氨基酸含量分别为48.2%和45.7%;蛋白质营养价值由高到低的顺序为处理B、D、A(C:N=25:1)、C、E(C:N=45:1)、F(C:N=50:1)、G(C:N=55:1).实际生产中,栽培猪肚菇的羽叶决明代木栽培料的碳氮比应控制在35:1~40:1为宜.

【英文摘要】The protein nutrition of fruit bodies cultivated by different C/N cultivation was valued by the current international method. The results showed the content of essential amino acid in fruit body of Clitocybe maxima reached the highest of 49.7% by treatment C (C : N=35:1),then followed by treatment D (C : N=40 : 1)and B (C : N=30 : 1). The value of protein nutritional in product ordered B〉 D〉 A〉 C〉 E〉 F〉 G. According to practical production,the C/N of cultivation of Clitocybe maxima should be controlled in 35 : 1-40 : 1.

【语种】中文

【第一作者】雷锦桂

【通讯作者】翁伯琦

【期刊名称、卷期、页码】甘肃农业大学学报,2008,43(6):140-143

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【学科分类】农业基础学科

【题目】植物内生菌的研究进展

【中文关键词】植物内生菌 生物多样性 研究进展

【英文关键词】Endophyte; biodiversity; methodology; application; prospect

【中文摘要】植物内生菌生物学特性、动力学规律、群落生态组成,目前已成为国内外学者研究的热点。随着其研究领域的不断拓宽和研究方法的不断深入,植物内生菌在科研、农业生物防治、医疗卫生等领域中的应用越来越广泛。本文介绍了植物内生菌的发现过程和定义,概述了其生物多样性、动力学、研究方法、在农业和医药上的应用等方面的研究进展,并探讨了该研究领域中存在的一些问题。

【英文摘要】In recent years,the biological characteristics,kinetic factors and community ecology of endophytes have become the popular topics for bio-research. With the extension of the field of study and development of new methodologies,endophytic research has reached the areas of biological prevention and medical applications. This article describes the discovery and definition of endophytes,and discusses the future development and existing problems of endophytic research from the viewpoints of biodiversity,dynamics,research methodology,as well as the agricultural and medical applications.

【语种】中文

【第一作者】胡桂萍

【通讯作者】刘波

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【学科分类】农业基础学科

【题目】中国农业CDM发展现状及潜力研究

【中文关键词】农业 CDM 温室气体减排

【英文关键词】agriculture; CDM; reduction of GHS

【中文摘要】在分析世界农业CDM发展现状的基础上,分析了中国农业CDM的发展潜力及障碍,进而提出进一步发展中国农业CDM的策略建议:(1)加大对农业CDM项目的政策支持;(2)加快农业碳贸易方法及碳交易标准的制定;(3)加强对农业CDM项目相关问题的深入研究,加大对农业CDM的宣传力度。

【英文摘要】Based on the current situation of agricultural CDM in the world and the gap between China and the world,the development potential and obstacle of agricultural CDM in China is analyzed.Furthermore,the countermeasures and recommendations for the development of agricultural CDM in China are put forward.(1)The policy supporting should be strengthened.(2)The way and standard of carbon trading should be enacted as soon as possible.(3)The issues relating to CDM project should be researched in depth and publicity of agriculture CDM should be strengthened.

【语种】中文
【第一作者】王英姿
【通讯作者】黄毅斌
【期刊名称、卷期、页码】福建农林大学学报(哲学社会科学版),2010,13(4):26—29
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【学科分类】农学其他学科

【题目】叶绿素仪(SPAD)在茶树氮素营养诊断中的适用性研究
【中文关键词】茶树;叶绿素仪;氮素营养;影响因素
【英文关键词】Camellia sinensis L., chlorophyll meter, nitrogen nutrition, affecting factors, SPAD
【中文摘要】测定叶片氮素含量是诊断茶树氮素状况的一项重要方法。本文利用盆栽试验,通过不同的供氮水平,研究了利用叶绿素仪(SPAD-502)进行茶树氮素营养快速诊断的适用性。结果表明,茶树新梢产量与氮素用量、成熟叶氮素含量之间呈线性加平台的反应关系,成熟叶的SPAD 值与其全氮含量呈显著线性正相关,并与茶树产量存在着比较明显的关系拐点,初步显示SPAD 可以较好地表征茶树的氮素营养状况,有可能作为快速诊断方法用于指导茶树施肥,但是还需要通过大田试验进行进一步验证。本文还探讨了测定位点、叶位、天气状况、田间原位或离体测定方式、表面清洗以及样本量等因素对SPAD 测试精度的影响。
【英文摘要】Determination of nitrogen concentrations in tissues is an important diagnostic means for N status of plants. A pot experiment with tea plants applied with different amounts of N fertilizer was carried out to evaluate the usefulness of SPAD-502 as a diagnostic tool. The results showed that the yield of young shoots and N concentration of mature leaves responded to N application rates with a pattern of an initial linear increase before a platform was reached. There was a significantly positive linear relationship between the SPAD reading and total N concentration of mature leaves. The similar pattern of an initial linear increase followed by a platform was observed for the relationship between SPAD reading and the yield. These results suggested that the N status of tea plants may be characterized by the measurement of SPAD reading of mature leaves and the SPAD is a potentially useful rapid diagnostic tool in N fertilization recommendation. However, this needs further validation from field experiments. Those factors which may influence the precision of SPAD measurement, such as the point of test on a leaf, selection of leaves from twig (position), weather condition, in situ or in vitro analysis, surface cleaning and the number of leaves for a composite sample were also investigated.
【语种】中文
【第一作者】杨亦扬
【通讯作者】黎星辉
【期刊名称、卷期、页码】茶 叶 科 学 ;28(4):301-308
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【学科分类】园艺学

【题目】杧果细菌性黑斑病病原细菌室内药剂筛选
【中文关键词】杧果;Xanthomonas campestris pv.mangiferaeindicae;药剂筛选
【英文关键词】mango; Xanthomonas campestris pv.mangiferae-indicae; pharmaceutical screening
【中文摘要】杧果细菌性黑斑病是杧果生产病害之一,该病会严重影响杧果的产量和质量。采用含毒介质法,以杧果细菌性黑斑病病原细菌为对象,进行室内评价17种药剂对该菌的抑菌效果。试验结果表明:抗生素类药物对该病菌效果较好,如利福平抑菌最低有效浓度仅为0.37μg/mL,庆大霉素、盐酸四环素、卡那霉素抑菌最低有效浓度均为3.75μg/mL,100 万单位链霉素、红霉素、氨苄青霉素抑菌最低有效浓度分别为7.5、15.00、18.75μg/mL;铜制剂类药物以噻菌铜抑菌效果较好,抑菌最低有效浓度为61.90μg/mL。此外,敌磺钠对该菌也有很好的抑菌效果,抑菌最低有效浓度为8.57μg/mL,与抗生素类药剂相当。该试验得到的一些对杧果细菌性黑斑病病原细菌有良好抑菌效果的药剂,为指导田间病害防治提供了参考。
【英文摘要】Mango bacterial black spot disease is one of the important diseases of mango that may seriously reduce fruit yield and appearance quality. 17 bactericides against Xanthomonas campestris pv. mangiferae-indicae, the pathogen of mango bacterial black spot, were tested using toxic agar plate method in laboratory. The results showed that antibiotics, such as rifampicin, gentamicin, tetracycline hydrochloride and kanamycin strongly inhibited the bacterium, with the minimal inhibitory concentration (MIC) of 0.37,

3.75, 3.75, 3.75 μg/mL, respectively. Sreptomycin, erythromycin and ampicillin were in exception; with MICs were 7.50 μg/mL, 15.00 μg/mL and 18.75 μg/mL, respectively. Among copper-based bactericides tested,thiodiazole-copper had the strong toxicity to the bacterium, with the MIC of 61.90 μg/mL. In addition, fenaminosulf has a good antibacterial effect with the MIC of 8.57 μg/mL. The bactericides with good antibacterial have potentiality to be used for future control of Xanthomonas campestris pv.mangiferae-indicae in field.

【语种】中文
【第一作者】张贺
【通讯作者】蒲金基
【期刊名称、卷期、页码】中国农学通报, 2010, 26 (1): 344-347.
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【学科分类】植物保护学

【题目】杧果畸形病病原菌的生物学特性的初步研究
【中文关键词】杧果畸形病 层出镰刀菌 生物学特性
【英文关键词】mango malformation; Fusarium proliferatum; biological characteristic
【中文摘要】杧果畸形病是世界各个杧果产区的重要病害。对发生在中国的杧果畸形病病原菌的生物学特性进行了初步研究。结果表明,病原菌生长的最适温度为24°C,最适pH为10;孢子萌发最适温度为24°C, 最适pH值5。病原菌能够利用试验的各种碳源和氮源, 碳源以果糖最好,氮源以蛋白胨最好,连续光照处理菌丝生长速率高于交替光照或持续黑暗处理。 分生孢子的致死温度为55°C,20 min或者60°C,5 min。

【英文摘要】Mango malformation threatens mango production worldwide. The biological characteristics of Fusarim proliferatum causing mango malformation in China were studied. The results showed that this fungus had an optimun fungal mycelia growth and conidia germination when cultured at 24 °C with the respectiive pH values being 10 and 5. The fungus was cultured in 7 carbon sources and 10 nitrogen sourses, and the results indicated that fructose and peptone were the best carbon and nitrogen source for the fungus growth, respectively. The fungus grew better in the continuous white fluorescent light than in the light/dark light regime or in the continuous darkness. The lethal temperature for conidia was 55 °C for 20 min or 60 °C for 5 min..

【语种】中文
【第一作者】吕延超
【通讯作者】谢艺贤
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【引文索引号】null
【学科分类】植物保护学

【题目】Genetic mapping of bph20(t) and bph21(t) loci conferring brown planthopper resistance to Nilaparvata lugens St å l in rice (Oryza sativa L.)0
【中文关键词】Keywords Brown planthopper Nilaparvata
lugens (BPH) Resistance genes Mapping
Genetic map bph20(t) bph21(t)
【英文关键词】Keywords Brown planthopper Nilaparvata
lugens (BPH) Resistance genes Mapping
Genetic map bph20(t) bph21(t)
【中文摘要】Abstract Brown planthopper(BPH) is one of themost serious and destructive insect pests of rice in mostrice growing regions of the world. In this study, twomajor resistance genes against BPH have been identifiedin an Oryza rufipogon (Griff.) introgression riceline, RBPH54. Inheritance of the BPH resistance inRBPH54 was studied by screening the resistance inparents, F1, F2 and BC1 generations against BPHbiotype 2. A population of BC3F2 lines was developedand SSR markers were employed for the genemapping, and new markers were designed for finemapping of the resistance genes, while sequenceinformation of BAC/PAC clones was used to constructphysical maps of the genes. The results showed that theBPH resistance in RBPH54 was governed by

recessivealleles at two loci, tentatively designated as bph20(t)and bph21(t). The locus bph20(t) was fine mapped tothe short arm of chromosome 6 about 2.7 cM to theupper marker RM435 and 2.5 cM to lower markerRM540 and in a 2.5 cM region flanked by two new SSRmarkers BYL7 and BYL8 which were developed inthe present study. The other BPH resistance locusbph21(t) was initially mapped to a region 7.9 cM toupper marker RM222 and 4.0 cM to lower markerRM244 on the short arm of chromosome 10. Forphysical mapping, the bph20(t)-linked markers werelanded on BAC/PAC clones of the reference cv.,Nipponbare, released by the International Rice GenomeSequencing Project. The bph20(t) locus wasphysically defined to an interval of about 75 kb withclone P0514G1. Identification and location of thesetwo genes in the present study have diversified theBPH resistance gene pool, which give benefit to thedevelopment of resistant rice cultivars, and the linkagePCR-based SSR markers for the bph20(t) and bph21(t)genes would help realize the application of the genes inrice breeding through marker-assisted selection.Keywords Brown planthopper Nilaparvatalugens (BPH) Resistance genes Mapping Genetic map bph20(t) bph21(t)

【英文摘要】Abstract Brown planthopper(BPH) is one of themost serious and destructive insect pests of rice in mostrice growing regions of the world. In this study, twomajor resistance genes against BPH have been identifiedin an Oryza rufipogon (Griff.) introgression riceline, RBPH54. Inheritance of the BPH resistance inRBPH54 was studied by screening the resistance inparents, F1, F2 and BC1 generations against BPHbiotype 2. A population of BC3F2 lines was developedand SSR markers were employed for the genemapping, and new markers were designed for finemapping of the resistance genes, while sequenceinformation of BAC/PAC clones was used to constructphysical maps of the genes. The results showed that theBPH resistance in RBPH54 was governed by recessivealleles at two loci, tentatively designated as bph20(t)and bph21(t). The locus bph20(t) was fine mapped tothe short arm of chromosome 6 about 2.7 cM to theupper marker RM435 and 2.5 cM to lower markerRM540 and in a 2.5 cM region flanked by two new SSRmarkers BYL7 and BYL8 which were developed inthe present study. The other BPH resistance locusbph21(t) was initially mapped to a region 7.9 cM toupper marker RM222 and 4.0 cM to lower markerRM244 on the short arm of chromosome 10. Forphysical mapping, the bph20(t)-linked markers werelanded on BAC/PAC clones of the reference cv.,Nipponbare, released by the International Rice GenomeSequencing Project. The bph20(t) locus wasphysically defined to an interval of about 75 kb withclone P0514G1. Identification and location of thesetwo genes in the present study have diversified theBPH resistance gene pool, which give benefit to thedevelopment of resistant rice cultivars, and the linkagePCR-based SSR markers for the bph20(t) and bph21(t)genes would help realize the application of the genes inrice breeding through marker-assisted selection.Keywords Brown planthopper Nilaparvatalugens (BPH) Resistance genes Mapping Genetic map bph20(t) bph21(t)

【语种】英文

【第一作者】杨朗

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【学科分类】植物保护学

【题目】Correlation of resistance to brown planthopper with secondary metabolites of rice plants0

【中文关键词】Key words: Brown planthopper, Nilaparvata lugens St å l, field population, high performance liquid chromatography, model.

【英文关键词】Key words: Brown planthopper, Nilaparvata lugens St å l, field population, high performance liquid chromatography, model.

【中文摘要】It is very difficult and complex to distinguish and estimate rice varieties ’ resistance. Thus, it isnecessary to built up a simple, nicety, steady and speedy method of resistant appraisement. Secondarymetabolite is the important basic substance of rice resistance. The correlation of rice plant resistanceto brown planthopper (BPH), Nilaparvata lugens St å l, with 20 distinct secondary metabolite highperformance liquid chromatography (HPLC) peaks were investigated. Two resistance prediction modelswere established through multiple regression analysis. Model A was established for the resistance ofbrown planthopper (BPH) field population II, and model B was established for the resistance of fieldpopulation Bangladesh. The correlations between the BPH resistance levels (Y) of rice varieties and thepeak areas (X) were significant (R ’ = 0.961 and 0.942 for model A and model B respectively, p<0.01). Theresults showed that in model A, peak 2, 5, 6, 7, 11, 12, 13, 15, 16, 17 and 18 were the secondarymetabolites that affected the resistance to BPH. In model B, peak 1, 2, 5, 6, 7, 8, 10, 12, 13, 14, 15, 16,and 17 were the metabolite peaks that affected resistance. It was demonstrated that the resistantactivity of rice varieties to BPH was closely associated with quantitative combinations of manysecondary metabolites, which suggested that the BPH resistance of rice plants was the results ofactions of several secondary

metabolites that varied in contributions. The validation results showedthat field bioassay scores agreed with the simulated scores well, indicating that these models wereuseful and accurate. And these models can be used as fast assistant-method to evaluate the resistanceof rice plant to BPH and assist the selection of resistant rice plants for breeding.Key words: Brown planthopper, Nilaparvata lugens St å l, field population, high performance liquidchromatography, model.

【英文摘要】It is very difficult and complex to distinguish and estimate rice varieties ’ resistance. Thus, it isnecessary to built up a simple, nicety, steady and speedy method of resistant appraisement. Secondarymetabolite is the important basic substance of rice resistance. The correlation of rice plant resistanceto brown planthopper (BPH), Nilaparvata lugens St å l, with 20 distinct secondary metabolite highperformance liquid chromatography (HPLC) peaks were investigated. Two resistance prediction modelswere established through multiple regression analysis. Model A was established for the resistance ofbrown planthopper (BPH) field population II, and model B was established for the resistance of fieldpopulation Bangladesh. The correlations between the BPH resistance levels (Y) of rice varieties and thepeak areas (X) were significant (R ’ = 0.961 and 0.942 for model A and model B respectively, p<0.01). Theresults showed that in model A, peak 2, 5, 6, 7, 11, 12, 13, 15, 16, 17 and 18 were the secondarymetabolites that affected the resistance to BPH. In model B, peak 1, 2, 5, 6, 7, 8, 10, 12, 13, 14, 15, 16,and 17 were the metabolite peaks that affected resistance. It was demonstrated that the resistantactivity of rice varieties to BPH was closely associated with quantitative combinations of manysecondary metabolites, which suggested that the BPH resistance of rice plants was the results ofactions of several secondary metabolites that varied in contributions. The validation results showedthat field bioassay scores agreed with the simulated scores well, indicating that these models wereuseful and accurate. And these models can be used as fast assistant-method to evaluate the resistanceof rice plant to BPH and assist the selection of resistant rice plants for breeding.Key words: Brown planthopper, Nilaparvata lugens St å l, field population, high performance liquidchromatography, model.

【语种】英文

【第一作者】杨朗

【通讯作者】梁广文

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【学科分类】植物保护学

【题目】影响芒果炭疽病病斑扩展的因素

【中文关键词】芒果炭疽病;病斑扩展

【英文关键词】mango anthracnose;lesion expansion

【中文摘要】采用离体叶片接种法,研究分生孢子浓度、芒果抗病性、温度、相对湿度、光照条件等因素对芒果炭疽病病斑扩展的影响。 结果表明,分生孢子悬浮液浓度对病斑扩展有显著影响,接种个分生孢子就能引起侵染;不同的芒果品种抗性级别和病斑大小之间显著相关;适合病斑扩展的温度是24~33°C, 最适宜温度28°C,高湿和全黑暗条件有利于病斑的扩展。

【英文摘要】Using detached leaf inoculation method, lesion expansion of mango anthracnose was observed under the conditions of various factors such as conidiophore concentration, mango disease resistance, temperature, ralative humidity and litht condition. The results showed that conidiophore concentration had remarkable effect on lesion expansion, and that infection could occur under only 4 conidiophores of the inoculum. The mango disease resistance was obviously correlated with the lesion size of the disease. The suitable temperature for lesion expansion ranged from 24 °Cto 33°C, with the optimun being 28°C, and high humidity and complete darkness facilitated lesion ixpansion.

【语种】中文

【第一作者】张欣

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【期刊名称、卷期、页码】热带作物学报, 2009, 30 (11): 1656-1659.

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【学科分类】植物保护学

【题目】水稻对褐飞虱的抗性与挥发性次生物质总量的关系.
【中文关键词】关 键 词:水稻;褐飞虱;抗性;挥发性次生物质
【英文关键词】Key words: paddy; Nilaparvata lugens (St å l); resistance; volatiles
【中文摘要】摘 要:运用水蒸气蒸馏法提取水稻植株的挥发性次生物质,并进行GC/MS 分析,比较水稻抗、感褐飞虱植株中挥发性次生物质总量的差异。结果表明,感性植株的挥发性次生物质总量明显高于抗性植株,前者比后者高45.4%;挥发性次生物质总量随植株抗性增强而降低,1 级最低,7 级最高;挥发性次生物质总量随植株所含抗性基因数的增加而减少。
【英文摘要】Abstract: Thirty eight resistant plants and 13 susceptible plants against Nilaparvata lugens(St å l) were selected forextracting secondary volatiles by steam distillation method. The extracted compounds were analyzed by GC/MS. Theresults showed that total content of volatiles was significantly different between resistant and susceptible plants, and thetotal content of volatiles were decreasing with increasing resistance of rice and increasing number of the resistant genes toNilaparvata lugens (St å l).
【语种】中文
【第一作者】杨朗
【通讯作者】李容柏
【期刊名称、卷期、页码】湖南农业大学学报(自然科学版), 2011,37(4):403-406
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【引文索引类型】SCI
【引文索引号】SCI
【学科分类】植物保护学

【题目】食用菌病虫害危害分析与防治关键控制点
【中文关键词】食用菌 病虫害 产品质量安全 标准
【英文关键词】edible fungi,diseases and insect pests,product safety and quality,standard
【中文摘要】目前,国内有些食用菌基地使用农药现象比较严重,食用菌产品农药残留超标事件时有发生,严重影响了食用菌产品的质量安全,并成为制约中国食用菌产品出口的瓶颈。在全面分析食用菌生产中常见病虫害发生特点的基础上,从食用菌生产工艺、食用菌病虫害关键控制点、规范使用农药和食用菌安全生产全程质量控制等方面提出了食用菌病虫害综合防治的建议,为食用菌安全生产和全面提高食用菌产品质量提供参考。[
【英文摘要】At present,it is noticeable for some mushroom-farms to use pesticides to control the damages caused by insects or disease in China.The incidents of pesticide residues in edible fungus products over Maximum Residues Limits at home and abroad have happened frequently.It seriously effected on the quality and safety of edible fungus products and it became a bottleneck which constrains edible fungus products export of china.In this paper,on the basis of a comprehensive analysis of occurring disciplinarian of the common pests and diseases in the progress of edible fungus planting,it is suggested that edible fungus integrated pest management(IPM)is recommended include edible fungus production technology management,fungus diseases and insect pests critical control point,the use of pesticides Standardization and quality control throughout the edible fungi safety production and others.It is offered some advices to absolutely ensure edible fungus production safety and quality.
【语种】中文
【第一作者】胡清秀
【通讯作者】胡清秀
【期刊名称、卷期、页码】中国农学通报,2008,24(12):401-406
【论文发表时间】2008-12-01 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】植物保护学

【题目】杧果畸形病研究进展
【中文关键词】杧果畸形病;症状;病原;防治
【英文关键词】mango malformation; symptom; pathogen; control
【中文摘要】在世界各杧果产区杧果畸形病普遍发生,为害日益严重。在我国四川省攀枝花市和云南省华坪县杧果园已有杧果畸形病发生。简要介绍了杧果畸形病的症状、分布、为害、病原及其发病规律和防治措施等方面的研究进展。
【英文摘要】无

【语种】中文
【第一作者】吕延超
【通讯作者】谢艺贤
【期刊名称、卷期、页码】中国南方果树, 2009, 39 (3): 68-71.
【论文发表时间】2009-06-01 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】植物保护学

【题目】水稻挥发性次生物质对褐飞虱的寄主定向及生长的影响.
【中文关键词】关键词:褐飞虱;挥发性次生物质;抗性
【英文关键词】KeyWords: N ilaparvata lugens (St¼l) (BPH) ; secondary volatiles; resistance
【中文摘要】摘要:从褐飞虱的抗虫与感虫水稻品种植株中提取挥发性次生物质,分析其对褐飞虱的定向选择、生长发育及成虫触角电位反应影响。结果表明,感虫品种TN1挥发性次生物质对褐飞虱生物型Ⅱ若虫的取食及生长发育未表现不良作用,对其定向选择有引诱作用;而抗虫品种IR36的挥发性物质对褐飞虱为负作用,表现为褐飞虱取食添加挥发性物质的人工饲料后,其死亡率均增加,生长发育受阻,且随着浓度的增加,不良影响加大。触角电位试验结果表明褐飞虱的电位反应总的趋势是对相同浓度的TN1挥发性物质的触角电位反应值比IR36大,且触角电位值基本都随着挥发性物质浓度的升高而增大;短翅型成虫电位值强于长翅型成虫,雄性成虫的电位值强于雌性成虫。挥发性物质气质联用检测分析结果发现抗虫与感虫水稻中挥发性次生物质的化学组成及含量相差较大,从抗感两个品种的挥发性物质中共检到44种已知化合物,部分化合物对褐飞虱有引诱作用。
【英文摘要】Abstract: Rice secondary volatiles were extracted from a p lanthopper resistant variety, IR36 , and a suscep tible variety,TN1 , and the effects of extracted volatiles on the orientation, growth and EAG response of N ilaparvata lugens (St¼l) , BPHadults were tested (Homop tera: Delphacidae) . Volatiles extracted from TN1 had a positive effect on feeding and growth ofN ilaparvata lugens, and they have attraction functuion on the insects, too. In contrast, volatiles from resistant variety IR36had opposite effects on BPH mortality and growing. The EAG results showed that the response to TN1 volatileswas strongerthan to IR36 volatiles, and that responseswere positively related to volatile concentration. EAG responses of short2wingBPHwere stronger than those of long2wingBPH, and male BPH wasmore responsive than female BPH adults. GC2MS analysis ofrice secondary volatiles showed chemical large discrepancy in composition between resistant variety IR36 and suscep tiblevariety TN1. There were a total of 44 volatile compounds identified from rice leaves, some of them attractants forN ilaparvata lugens.
【语种】中文
【第一作者】杨朗
【通讯作者】梁广文
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【引文索引号】SCI
【学科分类】植物保护学

【题目】水稻品种次生化合物与与稻白叶枯病(Xanthomonas oryzaepv. oryzae)抗性的关系
【中文关键词】关键词: 水稻白叶枯病; 高效液相色谱; 次生物质; 模型
【英文关键词】K eyWords: Xanthomonas oryzae pv. Oryzae; H PLC; secondary compounds; m odel
【中文摘要】摘要: 应用高效液相色谱分析了对白叶枯病具有不同抗性水平的12个水稻品种中的19个(组)次生物质色谱峰(面积)的差异及其与白叶枯病抗性水平间关系。结果表明, 水稻品种抗性水平与谱峰面积值之间相关极显著(R = 0. 992, p < 0. 01), 被测的19个组分中, 峰1、峰2、峰8、峰10、峰12、峰14、峰16和峰18是影响水稻对稻白叶枯病抗性水平的主要抗原次生物质。建立了水稻品种对白叶枯病抗性级别与以上次生物质含量谱峰面积之间的回归模型: Y= 10. 7603+ 0. 1823X 1 - 0. 2287X2 + 01 2163X8- 2. 1975X10 + 0. 0728X 12 - 0. 7438X 14 + 1. 1484X 16 - 0. 7795X 18。研究结果表明水稻品种中起抗病作用的抗原次生物质不止一种, 而是几种的组合, 而且它们对水稻抗病性的贡献作用是不完全相同的, 这与它们的性质与含量密切相关。提出了以抗原次生物质为标记的快速分析、鉴定、预测水稻品种对稻白叶枯病抗性水平的新途径、新方法。

【英文摘要】Abstract: The relat ionship betw een levels of 19 secondary compounds in rice leaves and res istance of 12 rice varietiesres istance toX anthomonas oryzae pv. oryzae w as investigated us ing h igh-performance liquid chrom atography(HPLC) . T herelationship between level ofX. oryzae res istance am d the area values of chrom atograph ic peaks were significant (R . =01992, p < 0. 01) . A res istant predict ive mode l was established through multiple regress ion analys is: Y = 10. 7603 +011823X 1 - 0. 2287X2 + 0. 2163X8 - 2. 1975X 10 + 0. 0728X12 - 0. 7438X 14 + 1. 1484X 16 - 0. 7795X18. This m odelindicates that peak 1, peak 2, peak 8, peak 10, peak 12, peak 14, peak 16 and peak 18 aremajor secondary compoundsthatm ay influence varietal res istance toX. oryzae. The resistance of rice varieties toX. oryzae was closely assoc iated w ithqualitative and quantitative comb inations of the secondary com pounds, suggesting thatX. oryzae res istance arises from thecombined act ion of several secondary compounds that vary in contribution to resistance of the varieties. These secondarycompoundsm ay be useful asm arkers to evaluate and identify the rice varietal res istance toX. oryzae.
【语种】中文
【第一作者】杨朗
【通讯作者】梁广文
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【引文索引号】null
【学科分类】植物保护学

【题目】水稻活性成分的分离纯化及其对褐飞虱若虫的活性测定
【中文关键词】关键词 活性, 褐飞虱, 分离
【英文关键词】Key words activity, Nilaparvata lugens , isolation
【中文摘要】摘 要 水稻植株内的抗性次生物质是影响水稻生化抗性的主要因子之一。运用硅藻土系统溶剂分离法和硅胶柱层析分离方法分离纯化手段, 从水稻(Oryza sativa L.) 抗虫品种IR36 甲醇粗提物中得到一种针状晶体, 初步认为该晶体为一种糖甙黄酮类物质, 通过该物质对褐飞虱Nilap arvata lugens (St¼l) 生物型Ò若虫的活性测定, 表明该种晶体对褐飞虱若虫的存活率、体重增加和羽化均具有显著的不良影响, 不利于褐飞虱若虫的生长发育。
【英文摘要】Abstract Secondary compounds play an important role in crop resistance to pest insects. The extract from resistantvariety IR36 was purified by means of diatomite systemic-solvent and combination silica gel chromatography isolationmethod. A acicular crystal was obtained. Based on some chemical reactions and its character, the compound isolatedwas identified preliminarly as an indican flavone. The influence of the crystal on survival and grouth of Nilap arvatalugens (St¼l) biotype Ò larvae was studied.The results showed that the crystal showed negative influence on survivalrate, body-mass increase rate and molting rate of adalts of N. lugens .
【语种】中文
【第一作者】杨朗
【通讯作者】梁广文
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【学科分类】植物保护学

【题目】芒果种质对炭疽病的抗病性评价
【中文关键词】芒果种质;芒果炭疽病;抗病性评价
【英文关键词】mango germplasm; mango anthracnose; disese resistance accessment
【中文摘要】采用离体叶片抗病性鉴定法对来自国内外的189 份芒果种质进行了抗炭疽病抗性评价,结 果表明:参 试种质中未发现免疫种质, 其中高抗种质9份、中抗种质55份、中感种质90份、感病种质34份和高感种质1份.对于这64份抗病种质, 应在炭疽病流行年份继续开展田间抗病性评价工作,同时结合农艺性状评价,确定种质是否能在生产上推广或能否作为育种材料。试验结果为189份芒果种质抗炭疽病创新利用奠定了基础。
【英文摘要】The detached disease resistance identification method was used to accessions of mango germplam introduced from home and overseas in their resistance to mango anthracnose. The results showed that no mango germplasm under assessment was

found immune to mango anthracnose, and that of all the germplasm 9 accessions were highly resistang, 55 moderately resistant, 90 moderately susceptible, 34 susceptible, and 1 highly susceptible. These 64 resistant accessions are recommended for field evaluation to observe their disease resistance and agronomic traits in the years when mango anthracnose prevails in order to make sure whether these accessions of mango permplasm can be popularized in production or used as breeding materials

【语种】中文
【第一作者】刘羽
【通讯作者】谢艺贤
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【学科分类】植物保护学

【题目】食用菌菌渣利用研究现状
【中文关键词】食用菌菌渣;综合利用;研究进展
【英文关键词】Edible fungi Residue; Comprehensive Utilization; Progress
【中文摘要】随着食用菌产业的发展,食用菌菌渣的开发利用受到广泛关注。详细综述了食用菌菌渣利用的研究进展,从食用菌菌渣成份到综合利用各方面,包括食用菌栽培再利用以及用作饲料、肥料、生态环境的修复材料等方面的研究进行了系统总结和概括,并提出菌渣利用研究中存在问题和应用前景。
【英文摘要】With the vigorous development of edible fungi, the exploitation and utilization of edible fungi residue had received more and more attention. In this paper, the research progress and utilization of edible fungi residue were reviewed in detail, from the components of edible fungi residue into the various aspects of comprehensive utilization. It included the reuse of cultivating edible fungi, feed, fertilizer, eco-environment restoration materials, and at the same time, the existing problems of it ’s utilization and existing problems were also proposed.
【语种】中文
【第一作者】卫智涛
【通讯作者】胡清秀
【期刊名称、卷期、页码】中国食用菌,2010,29 (5):3-6, 11
【论文发表时间】2010-07-20 00:00:00
【引文索引类型】其他
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【学科分类】植物保护学

【题目】双孢蘑菇菌渣堆肥及其肥效的研究
【中文关键词】双孢蘑菇 菌渣 堆肥 菌剂 肥效试验
【英文关键词】Agaricus b isporus; fungi residues; compost; microbial inoculant; fertilizer efficiency experiment
【中文摘要】为了促进农业废弃物资源的循环利用,以双孢蘑菇菌渣为研究对象,通过菌渣堆肥中添加发酵剂或鸡粪的处理,分析了堆肥过程中各个时期不同处理的温度、pH值、EC值、全氮、全磷和全钾的变化趋势,并用腐熟后的堆肥菌渣进行了水稻肥效试验。结果表明,双孢蘑菇菌渣堆制过程中加入发酵菌剂可快速提高堆体温度,与未加发酵菌剂的堆肥处理A相比,在堆肥中加入发酵菌剂后,堆肥中全氮、全钾和速效钾的含量增加量分别为处理A的3倍、1.43倍和2.67倍;菌渣堆肥结束后,处理A,处理B和处理C速效磷含量分别比发酵前增加了54.5%、38.5%和58.3%。菌渣肥水稻田间试验表明,双孢蘑菇菌渣有机肥能够促进水稻增产,菌渣堆肥增产效果优于不发酵菌渣,而加于菌剂处理的堆肥增产效果最佳,按400kg · 667m-2。施肥,水稻空瘪粒数少,穗粒饱满,水稻单产553.37kg · 667m-2,与当地常规施肥方式相比较增产20.55%,与不施肥处理相比较增产44.18%。
【英文摘要】The present study was designed to promote cyclic utilization of agricultural waste resources by taking A garicus bisporus residues as investigated subject. By adding microbial inoculant or chicken manures into the Agaricus bizporus residue compost, the change trends of temperature, pH value, EC value, total nitrogen, total phosphorus and total potassium at different periods in the compost preparation and in different treatments were analyzed. The performance of the residue compost on paddy rice were studied as well. The result showed that the addition of microbial i noculant during the preparation of Agaric us bisporus residues compost could rapidly increase the compost temperature. Compared with the treatment A, the contents of total nitrogen, total phosphorus and

available potassium in the compost added with the microbial inoculant increased by 3, 1.43 times and 2.67 times, respectively. After eomposting, the content of available phosphorus in the treatment A, treatment B and treatment C increased by 54.5%, 38.5% and 58.3% respectively. The field experiment of the residue compost on paddy rice indicated that organic fertilizer ofAgaricus bisporus residues could promote yield increase of paddy rice. The residue compost had better effect on crop yield than that of non-fermented residue. The residue compost added with microbialinoculant had the best effect. With fertilizer application at 400 kg.667 m-2, the paddy rice had less empty grain per ear and the yield reaches at 553.37 kg · 667 m-2, while the yield increased by 20.55% compared with that under conventional fertilizer application treatment and by 44.18% compared with that with no fertilizer application treatment.
【语种】中文
【第一作者】胡清秀
【通讯作者】胡清秀
【期刊名称、卷期、页码】农业环境科学学报,2011,30 (9):1902-1909
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【学科分类】农业基础学科

【题目】外源重金属杏鲍菇生长发育的影响研究
【中文关键词】杏鲍菇 外源重金属 耐性指数 细胞超微结构
【英文关键词】Pleurotus eryngii; exogenous heavy metals; tolerance index; cell ultrastructure;
【中文摘要】杏鲍菇是中国等亚洲国家广泛栽培的一种食用菌,培养基中重金属影响杏鲍菇的生长和品质.采用常规袋栽培技术,通过对杏鲍菇栽培过程中添加不同水平Pb、As、Hg和Cd,研究了其毒害效应、耐受性以及对生长发育、产量的影响.结果表明,在试验设置的浓度范围内,外源添加Pb、Hg、Cd的处理对杏鲍菇菌丝生长均产生抑制作用,菌丝生长速度最低值分别比空白对照降低了24.0%、31.0%、18.7%;但浓度为5~50mg · kg<'-1>的As可能会促进菌丝生长,且添加As的处理促进杏鲍菇提早出菇.杏鲍菇对4种重金属的耐性指数排列顺序为As>Cd>Pb>Hg.添加一定浓度的重金属可导致杏鲍菇细胞变形、细胞壁溶解,且细胞质中形成大量黑色颗粒状结晶异物.因此,在杏鲍菇栽培中应控制其培养料中的重金属含量.
【英文摘要】Pleurotus eryngii is widely cultivated in China and other Asia countries,the growth and quality of P.eryngii can be affected by heavy metals in culture medium.The paper mainly studied the inhibited effects,tolerance index,growth and development of exogenous heavy metals on P.eryngii by the way to mixed different concentrations of As,Pb,Hg and Cd with culture medium during cultivated period.The results indicated that mycelium growth of P.eryngii was inhibited by the addition of exogenous Pb、Hg and Cd in medium, and the minimummycelium growth speeds under the treatments were 24.0% .31.0%. 18.7% lower than that of the control in the predetermined concentration range. However, the addition of As at the concentration of 5-50 mg-kg-' accelerated the mycelium growth and advanced the fruiting time. The tolerance of P. eryngii to the heavy metals was As>Cd>Pb>Hg. Addition of the heavy metals could cause the changes of cell ultrastructure of P. eryngii, including cytomorphosis, cell wall lysis, and formation of large amouts of black granular crystals in cytoplasm. Consequently, it was essential to control the concentrations of heavy metals in culture medium of P. eryngii.
【语种】中文
【第一作者】胡清秀
【通讯作者】胡清秀
【期刊名称、卷期、页码】农业环境科学学报,2011,30 (2):236-243
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【题目】胶孢炭疽病菌pH应转录调控因子基因的克隆与分析
【中文关键词】芒果; 胶孢炭疽菌; 环境 pH 应答转录调控因子基因
【英文关键词】mango; Colletotrichum gloeosporioides; pH-responsive transcription regulator gene
【中文摘要】参照油梨炭疽病菌(Collectrichum gloeosporioides)的环境 pH 应答转录因子基因pac1 设计1 对特异性引物,以芒果炭疽病菌(C. gloeosporioides)基因组 DNA为模板,扩增获得大小为2 625 bp 的目的基因片段。序列分析结果表明,目的片断包含完整的阅读框,与油梨炭疽病菌pac1 基因相应片段长度相同,二者碱基序列同源性达97 %. 用RT- PCR 技术获得

pac1 基因cDNA 片段,证实目的基因片段中存在3 个大小分别为59,50,71 bp 的内含子。拼接的全长cDNA 长1 755 bp ,推测编码的氨基酸序列长584 个氨基酸残基,与推测的油梨炭疽病菌 1 基因所编码的蛋白质同样大小,二者氨基酸序列相似性达99%,只有 1 个氨基酸的差异,可以肯定克隆的目的片段为 C. gloeosporioides pac1 基因,为进一步研究C. gloeosporioides侵染芒果时的pH 调控奠定了基础。

【英文摘要】According to nucleotide sequence of pac1 gene of avocado anthracnose causal agent,a pair of primers specific for pH-responsice transcription regulator gene pac1 were designed and used to ampligy a fragment homologous to pac1 gene from a strain A2 of colletotrichum gloeosporioides isolated from mango with anthracnose symptom. The amplified fragment was 2625 bp in size and covered a whole 17 bp open reading frame like pac gene, containing three putative introns,respectively.

【语种】中文

【第一作者】蒲金基

【通讯作者】蒲金基

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【学科分类】植物保护学

【题目】几种改良剂及其复合对Cd污染菜园土上油菜生长和生理代谢的影响

【中文关键词】改良剂 生理代谢 叶绿素荧光参数

【英文关键词】Amendment; Physiological metabolism; Chlorophyll fluorescence parameter

【中文摘要】用盆栽试验,研究几种改良剂及其复合对Cd污染菜园土上小油菜产量、镉吸收量、酶活性、叶绿素荧光参数的影响。结果表明:对照处理SOD、POD和CAT含量最高,叶绿素荧光参数Fo上升,B、C、Ev,和Fv/ro均下降,表明植株受到逆境胁迫,生物量显著下降,加入菌渣及复合剂后油菜的外部胁迫减小.生物量增加,高量菌渣处理比对照提高7.5倍,可能与菌渣中含有丰富的养分有关。油菜叶中Cd的含量以石灰处理最低,石灰与高量菌渣配施的处理Cd含量比对照降低81.9%.达到国家食品卫生标准.油菜叶中Cd含量低于根中含量。

【英文摘要】The effects of fungi residues and compound activity and chlorophyll fluorescence parameters were on rape biomass, the uptake of cadmium by rape, enzyme studied using pot experiments. Results showed that the control treatment concentration of SOD, POD and CAT were the highest. The chlorophyll fluorescence parameters of Fo was increased, Fm, Fv, Fv/Fm and Fv/F0 were decreased. These showed that the rape under stress and the biomass decreased. The rape stress would be reduced and the yield would be increased by adding fungi residues and compound. The high fungi residue treatment showed the highest yield by 7.5times compared with the control treatment. The amount of absorbed Cd in rape was decreased after the fungi residue and compound application. Lime application showed the best effect to decrease the Cd content in rape leaf. The treatment of lime and high fungi residue co-application wouold lead to Cd content reduction by more than 81.9% compared with the control treatment. The amount of Cd in the rape after adding lime or lime and high fungi residue co-application was within the food safety standard.

【语种】中文

【第一作者】张青

【通讯作者】罗涛

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【学科分类】农业基础学科

【题目】添加猪粪渣下竹荪中蛋白质营养价值效应的主成分分析

【中文关键词】竹荪 猪粪渣 营养价值 相关分析 主成分分析

【英文关键词】NULL

【中文摘要】应用多元统计成分分析法,对添加不同量猪粪渣竹荪中蛋白质营养价值的6个主要营养指标进行相关及主成分分析。结果表明:竹荪子实体的化学评分与生物价、营养指数和氨基酸比值系数分呈极显著正相关;生物价与营养指数和氨基酸比值系数分呈极显著正负相关。主成分分析显示,可将原6个营养指标综合为2个主成分,其累积贡献率可达99.63%。根据主成分对原性状的综合能力进行营养价值分析,2个主成分可分别解释为可称为化学评分、生物价和营养指

数效应因子及氨基酸评分和必需氨基酸指数效应因子,建立了主成分方程。并计算出各处理的主成分得分和综合得分,排序第一的为B1处理,所以B3处理为较佳的处理。
【英文摘要】NULL
【语种】中文
【第一作者】颜振兰
【通讯作者】颜振兰
【期刊名称、卷期、页码】食用菌,2012,5:50-51
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【学科分类】农艺学

【题目】菌渣对水稻生长性状、产量及土壤肥力的影响
【中文关键词】菌渣 水稻 生长性状 土壤肥力
【英文关键词】mushroom dregs ; rice ; growth traits ; soil fertility
【中文摘要】利用菌渣进行水稻生产小区试验,以探索其对水稻的增产效果及土壤肥力的影响。试验设无肥、化肥、低量菌渣、中低量菌渣、中量菌渣和高量菌渣6个处理。经过2年的小区试验表明,施用菌渣可有效增加水稻的分蘖数、有效穗数,提高稻谷产量;有效增加稻田土壤的碱解氮、速效钾和有机质含量。在水稻生产中,菌渣的直接施用量以7 180 kg/hm2较为合适。
【英文摘要】In a plot experiment, utilization of mushroom dregs for carrying on the rice production, which was to probe into the effect of rice yield and soil fertility. The experiment was designed for six treatments which were the no fertilizer control (CK1), a single application of chemical fertilizer (CK2), low quantity of mushroom dregs, medium-low quantity of mush- room dregs, medium quantity of mushroom dregs, and higher quantity of mushroom dregs. The result of two years' plot ex- periment showed that fertilizing mushroom dregs increased number of sub-lotus, effective panicles, improved rice yield and had a positive effect on the content of available nitrogen, available potassium and organic matter of paddy soil. It was concluded that the content of fertilizing mushroom dregs was 7 180 kg/hm2which was suitable relatively.
【语种】中文
【第一作者】冯德庆
【通讯作者】黄勤楼
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【学科分类】农业基础学科

【题目】姬松茸^60Co辐射诱变菌株J5与原菌株J1蛋白质营养价值比较
【中文关键词】姬松茸 ^60Co辐射菌株 潮次 营养价值
【英文关键词】Agaricus blazei; ^60Co radiated mutant strain; flush; nutrition value
【中文摘要】采用非生物学评价法对姬松茸^60Co辐射诱变菌株J5和其原菌株J1不同潮次菇蛋白质的营养价值进行评价。结果表明:J5子实体的必需氨基酸指数、生物价、营养指数、氨基酸比值系数分、化学评分和氨基酸评分分别比J1高1.02%、2.26%、2.93%、11.72%、9.35%和5.13%;以上6项蛋白质评价指标中,J5第1、第2、第3、第4潮菇分别有4、5、5、6项指标高于J1,表明J5子实体的蛋白质营养价值高于J1。
【英文摘要】The protein nutrition of ^60CoCo-radiated mutant strain J5 ofAgaricus blazei and its original strain J1 in different growing flushes were studied by non-biological evaluation. The results showed that essential amino acid index, biological value, nutritional index, score of ratio coefficient of amino acid, chemical score and amino acid score of fruit bodies of mutant strain is were 1.02%, 2.26%, 2.93%, 11.72%, 9.35% and 5.13% higher than that of strain J1 respectively. Four, five, five and six protein indexes respectively in the first, second, third and fourth growing flushes of mutant strains J5 were higher than that of its original strain J1. These results indicated that the protein nutrition of mutant strain J5 was higher than that of strain J1.
【语种】中文

【第一作者】刘朋虎
【通讯作者】江枝和
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【学科分类】农业基础学科

【题目】灰色关联分析硒镧复合作用下巴西蘑菇氨基酸含量与铅含量的关系
【中文关键词】巴西蘑菇 氨基酸 重金属铅 灰色系统理论 关联度
【英文关键词】Agaricus brasiliensis; Amino acid; Pb; Grey system theory; Relational grade
【中文摘要】用灰色系统理论分析硒镧复合作用下巴西蘑菇子实体中17种氨基酸含量与重金属铅含量的关系。结果表明:在硒镧复合作用下,巴西蘑菇子实体氨基酸含量与铅含量的关联度顺序为:异亮氨酸〉赖氨酸〉缬草氨酸〉脯氨酸〉亮氨酸〉丝氨酸〉苯丙氨酸〉天门冬氨酸〉甘氨酸〉精氨酸〉丝氨酸〉组氨酸〉胱氨酸〉酪氨酸〉苏氨酸〉丙氨酸〉甲硫氨酸。其中,异亮氨酸含量与重金属铅含量关联度最大,为0.8148。关联度越大,相似程度就越高,说明硒镧复合作用下巴西蘑菇子实体中异亮氨酸含量与重金属铅含量的关系最为密切;其次是赖氨酸和缬氨酸。关联度最小的是甲硫氨酸。各处理的关联度及排序为:B4〉B0〉B3〉B1〉B2。其中,B4处理关联度最大,B2处理关联度最小。说明硒镧浓度对巴西蘑菇子实体铅含量与各氨基酸含量有一定效应。
【英文摘要】The relationship of 17 amino acid contents and Pb content in the fruit bodies ofAgaricus brasiliensis under interaction of Se and La has been analyzed by grey system theory herein. The results showed that, under the interaction of Se and La, the order of relational grade with Pb content among 17 amino acids was Ile〉 Lys〉 Val〉 Pro〉 Leu〉 Ser〉 Phe〉 Asp〉 Gly〉 Arg〉 Trp〉 His〉 Cys〉 Tyr〉 Thr〉 Ala〉 Met. The Ile content was the biggest relational grade with Pb content among 17 amino acids, the value was 0. 814 8. The Lys and Val contents ranked the second, and the lowest was Met. The order of relational grades in different treatments was B4〉 Bo〉 B3〉 B1〉 B2, among which, B4 got the biggest relational grade and B2 got the lowest. Available data proved that the concentration of Se and La had certain effects on Pb and amino acid contents in the fruit bodies of Agaricus brasiliensis.
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【通讯作者】颜振兰
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【学科分类】农业基础学科

【题目】蘑菇渣对香蕉生长和土壤肥力的影响
【中文关键词】菌渣 香蕉 生长 土壤肥力
【英文关键词】Mushroom dreg; Banana; Growth; Soil fertility
【中文摘要】利用蘑菇渣进行香蕉小区试验,以探索其对香蕉的增产效果及对土壤肥力的影响。试验设无肥、化肥、低量菌渣、中低量菌渣、中量菌渣和高量菌渣6个处理。2年的小区试验结果表明:施用菌渣能促进香蕉生长,提高产量,特别是显著增加香蕉的果穗重量、果指总重;有效增加土壤有机质和碱解氮含量。在香蕉生产中,菌渣的直接施用量以28723 kg/hm2较为适宜。
【英文摘要】The researches on the effects of mushroom dreg on banana growth and soil fertility were conducted for 2 years through plot experiments,in which the following six treatments were designed: no fertilizer,chemical fertilizer,low quantity of mushroom dreg,medium-low quantity of mushroom dreg,medium quantity of mushroom dreg,and high quantity of mushroom dreg.The experimental results showed that applying mushroom dreg could promote the growth of banana and increase its yield,especially it could obviously enhance the fruit-cluster weight and fruit-finger total weight,and effectively increase the content of organic matter and alkali-hydrolysable nitrogen in the soil.The suitable application rate of mushroom dreg was 28723 kg/hm2 in the production of banana.
【语种】中文
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【题目】福建丘陵区循环农业发展战略与体系构建
【中文关键词】丘陵 循环农业 体系 资源
【英文关键词】hilly; recycling agriculture; system; resource
【中文摘要】从循环经济的理念出发,依据福建丘陵区农业发展面临的资源、生态环境等现状,提出了福建省丘陵区循环农业未来发展方向是现代化、高效化、安全化和产业化,应重点突破种植业、养殖业及加工业三大产业内部及产业之间的十大接口循环技术,构建起7个主要循环农业体系,促进福建省丘陵区循环农业的产业升级。
【英文摘要】According to the present situation of resources and ecological environment,base on the circular economy,this study proposed the developing direction for the future of recycling agriculture of Fujian hilly areas should be modernization,efficient,safe and industrialization.Then breakthrough in farming,aquaculture and processing industry within the three major industries and industrial interfaces between the ten cycle technologies,made a construction of seven main systems for recycling agriculture,and promoted the recycling agricultural industry of Fujian hilly areas.[
【语种】中文
【第一作者】黄秀声
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【题目】姬松茸^60Co辐射新菌株J_3营养成分与农药残留分析
【中文关键词】食用菌 氨基酸 脂肪酸 重金属 农药残留
【英文关键词】edible fungus; amino acid; fatty acid; heavy metal; pesticide residua
【中文摘要】通过常规生产床栽,对比研究姬松茸60Co辐射新菌株J3和原菌株J1在营养品质以及重金属含量和农药残留情况。结果表明,姬松茸60Co辐射新菌株J3子实体中鲜味氨基酸总量(56.5g.kg-1)、甜味氨基酸总量(52.4g.kg-1)、硫氨基酸总量(15.8g.kg-1)、支链氨基酸总量(38.1g.kg-1)、芳香族氨基酸总量(16.1g.kg-1)、儿童氨基酸总量(17.8g.kg-1)、必需氨基酸总量(95g.kg-1),分别占氨基酸总量(221.7g.kg-1)的25.48%、23.64%、7.13%、17.19%、7.26%、8.03%和42.85%,分别比姬松茸J1高28.12%、12.93%、0%、14.41%、12.59%、16.34%和11.76%。J3的多不饱和脂肪酸(76.15%)和不饱和脂肪酸(77.55%)分别比姬松茸原菌株J1高4.39%和3.82%。J3子实体含镉(3.86mg.kg-1)、汞(0.42mg.kg-1)和砷(0.09mg.kg-1),也分别比原菌株J1低45.86%、32.25%和18.18%;其铅含量符合国家食用菌卫生标准GB7096—2003;砷含量符合国家绿色食品食用菌NY/T749—2003的标准。子实体中联苯菊酯、溴氰菊酯、百菌清、六六六、多菌灵、阿维菌素、甲基托布津、甲胺磷、毒死蜱、滴滴涕和二氧化硫含量均符合国家绿色食品食用菌NY/T749—2003的标准。
【英文摘要】Agaricus blazei Murill as rare edible fungi was adored by more and more customers.But with the increasing attention of food hygiene quality,it was important guidance of the safety production of Agaricus blazei to understand the health status of Agaricus blazei in the actual cultivation.This paper studied the difference in terms of nutritional quality,heavy metal contents and pesticide residues between strain J3 and J1.The results showed that the contents of delicious amino acid(56.5 g · kg-1),sweet amino acid(52.4 g · kg-1),sulfur amino acid(15.8 g · kg-1),branched chain amino acid(38.1 g · kg-1),aromatic amino acid(16.1 g · kg-1),children amino acid(17.8 g · kg-1),necessary amino acid(95.0 g · kg-1)in the fruit bodies of Agaricus blazei J3,occupied 25.48%,23.64%,7.13%,17.19%,7.26%,8.03% and 42.85% of total amount of amino acid(221.7 g · kg-1),respectively.These values were 28.12%,12.93%,0%,14.41%,12.59%,16.34% and 11.76% respectively higher than those of Agaricus blazei J1.The content of polyunsaturated fatty acids(76.15%) and unsaturated fatty acid(77.55%) in Agaricus blazei J3 were 4.39% and 3.82% higher than Agaricus blazei J1,respectively.The contents of cadmium,mercury and arsenic in fruitbodies of Agaricus blazei J3,were 3.86 mg · kg-1,0.42 mg · kg-1 and 0.09 mg · kg-1,respectively,and decreased by 45.86%、32.25% and 18.18% than those of Agaricus blazei J1.Lead

content was lower than the limit of mushroom health standard of China(GB 7096—2003).Arsenic content was also lower than national green food standard for edible fungus(NY/T 749—2003) in China.The residues of pesticides in the fruitbodies of Agaricus blazei J3,such as bifenthrin, decamethrim, chlorothalonil, hexachlorocyclohexane,carbendazim,avermectins,thiophanate-methyl, methamidophos, chlorpyrifos,DDT and SO2,were lower than the limits of national green food standard for edible fungus(NY/T 749—2003),respectively.Therefore,strain J3 of Agaricus blazei has a higher application value.

【语种】中文
【第一作者】翁伯琦
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【题目】姬松茸辐射选育新株系数量性状的多元遗传分析
【中文关键词】姬松茸 辐射选育 各类氨基酸总量 农艺性状 多元遗传分析
【英文关键词】Agaricus blazei; Radiation breeding; Total amount of amino acids; Agronomic characters; Multivariate genetic analysis;
【中文摘要】以9个姬松茸品种和辐射选育新株系为材料,对其进行数量性状的多元遗传分析。结果表明:遗传变异系数最大的数量性状为柄重,达到25.39%;其次为朵重,变异系数为17.70%;再次为盖重,变异系数为15.29%;变异系数最小为盖厚,只有6.14%。子实体中的各类氨基酸总量和农艺各性状之间存在一定的相关性,部分性状间相关性达显著至极显著。遗传主成分分析结果表明,14个性状可以缩减为4个主成分,遗传变异贡献率大小分别为44.21%、37.70%、8.47%、5.67%,总贡献率达96.05%。
【英文摘要】Multivariate genetic analysis on the quantitative characters of 9 new radiated mutants of Agaricus blazei was conducted in order to provide a scientific basis for improving the selecting efficiency of quantitative characters in radiation breeding.Results showed that,stalk weight got the biggest genetic variation coefficient which reached 25.39%,the next was single fruit body weight which reached 17.70%,followed by pileus weight which reached 15.29%,while the most small one was pileus thick which was 6.14%.In the genetic correlation,a relative correlation in the total amounts of different kinds of amino acids and different agronomic characters existed between the original strain and new radiated mutants.The correlations in a part of characters reached significant or very significant levels.The main components analysis showed that,the 14 quantitative characters could be divided into 4 main components which the genetic variance contribution rates were 44.21%,37.70%,8.47% and 5.67% respectively,the total contribution rate reached 96.05%.In the newly selected radiated strains,the mutants with high values of stalk length,stalk diameter,pileus diameter and total amount of aramid amino acids could be chosen in order to easily obtain new mutants with excellent comprehensive characters.

【语种】中文
【第一作者】江枝和
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【题目】大球盖菇黄酮类化合物提取及抑菌性研究
【中文关键词】大球盖菇 黄酮类化合物 提取率 抑菌性
【英文关键词】Stropharia rugoso-annulata Farlow; flavonoids; extraction rate; antibacterial activity
【中文摘要】为了探讨大球盖菇黄酮类化合物提取工艺及其抑菌效果,通过正交试验确定了大球盖菇黄酮类化合物的优化提取工艺条件;采用大球盖菇黄酮类化合物对大肠杆菌、青霉菌、啤酒酵母进行抑菌试验.结果表明,优化后的提取工艺为:乙醇体积分数95%,物料比为1∶90,温度60℃,时间120 min,提取率为7.94‰.40 g/L的大球盖菇黄酮类化合物溶液对大肠杆菌和青霉菌有抑制作用;20 g/L和10 g/L的溶液只对大肠杆菌有抑制作用,对青霉菌没有抑制作用;大球盖菇黄酮类化合物对啤酒酵母没有抑制作用;对大肠杆菌的抑制作用要强于对青霉菌的抑制作用.

【英文摘要】The flavonoids were extracted from Stropharia rugoso-annulata Farlow and the antibacterial activity on E.coli,Penicillium and S.cerevisiae was studied in this paper.The extraction conditions of flavonoids were optimized by orthographic experiment.The extraction rate could get to 7.94‰ under the optimum extraction conditions including ethanol concentration of 95%,material ratio of 1∶90,60℃,and 120min.The growth of E.coli and Penicillium could be inhibited by 40g/L of the flavonoids from Stropharia rugoso-annulata Farlow.Only E.coli could be inhibited by 20g/L and 10g/L of the flavonoids.The flavonoids showed no obvious inhibition effect on S.cerevisiae.The results indicated that the flavonoids from Stropharia rugoso-annulata Farlow have stronger inhibition effects on E.coli than Penicillium.
【语种】中文
【第一作者】陈君琛
【通讯作者】陈君琛
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【题目】畜牧业发展与低碳经济
【中文关键词】畜牧业 低碳经济 污染 资源 节粮
【英文关键词】animal husbandry; low-carbon economy; pollution; resource; save food
【中文摘要】低碳经济指的是在发展中排放最少的温室气体,同时获得整个社会最大的产出经济,它是以低能耗、低排放、低污染为基础的经济模式。低碳经济既是经济问题,又是环境问题,也是社会问题。文章就中国畜牧业的发展面临养殖业环境污染和粮食安全两大难题进行了深入剖析,指出中国畜牧养殖业必须走低碳经济之路,应通过畜禽污染废弃物的资源化利用和营养调控措施,实现节能减排;合理利用农工业废弃物资源,包括合理利用秸秆、粮油食品工业等废弃物资源,实现节粮生产,并以循环经济理念指导,大力发展循环养殖模式,实现中国畜牧业的可持续发展。同时针对当前中国畜牧业实现向低碳经济型转型存在的诸多问题,提出了应突破观念创新、科技创新和管理创新,推进低碳经济发展。
【英文摘要】Low-carbon economy refers to the least greenhouse gases discharged during the development of economy, to gain the largest output of the entire social economy at the same time. It is the economic model that is based on low-power, low emissions, low pollution. Low-carbon economy not only is economic problem, but also is environmental problems and the social problems. The paper analyzed thoroughly the two difficult problems of environmental pollution and food security that the development of animal husbandry faced in our country, pointed out that the animal husbandry industry must take the road of low-carbon economy, and it should achieve energy saving and emission reduction through resource utilization of animal wastes and nutritional manipulation measures; To utilize agro-industrial wastes resources rationally, including the rational use of the waste resources of straw, food and oil industry to achieve grain-saving production, and to achieve the sustainable development of animal husbandry and vigorously develop the cycling breeding pattern in the guidance of circular economy concept. At the same time, according to many problems which exists in the transition from animal husbandry to a low carbon economy, put forward that it should breakthrough innovation, technology innovation and management innovation to promote the development of low-carbon economy.
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【题目】工厂化生产双孢蘑菇栽培种关键工艺研究
【中文关键词】双孢蘑菇 栽培种 透气塑料袋 关键工艺
【英文关键词】mushroom; spawn; breathable bag; key techniques
【中文摘要】通过对不同透气膜的透气塑料袋、不同配方的原种进行比较试验,从麦粒基质含水量、麦粒基质表面理化性状以及抗菌素添加配比等研究适合工厂化生产的双孢蘑菇栽培种。结果表明:T型透气膜的透气塑料袋更适合现有工厂化

生产工艺条件;矿物原种为生产双孢蘑菇大袋栽培种的理想用种;蒸煮后的小麦培养基含水量控制在42%~45%能保证栽培种较高成品率;小麦蒸煮时添加0.3%石灰、2%CaSO4、4%CaCO3与能使麦粒表面附着1层厚度适合的弱碱性包衣,其黏度、酸碱度等理化性质适合双孢蘑菇菌丝生长,比杂菌具有较强的竞争优势;添加0.02%苯骈咪唑44号、农用硫酸链霉素0.025%(干重浓度)能防止双孢蘑菇栽培种生长后期多种霉菌及细菌污染,且对双孢蘑菇菌丝影响微弱。

【英文摘要】By varying the breathable plastic bags,formulation of mother spawns,moisture levels of the wheat,external physical and chemical characteristics of the wheat,and antibiotics added to the wheat,the mass producing of mushroom spawns was optimized.The results showed that(a) T type breathable bags was suitable for the application;(b) the mineral mother spawn was the best;(c) moisture level should be in the range of 42% to 45% to yield the highest production rate;(d) cooking wheat with 0.3% quicklime,2% gypsum and 4% calcium carbonate resulted in a alkaline coat on the wheat, which is conducive to mycelium growth and improves its competitiveness to other mieroorganisms; and, (e) cooking wheat with 0. 02% benzimidazole 44 and 0. 025% streptomycin sulfate prevented spawns from mold and bacterial infections during incubation, while being harmless to the mycelium development.

【语种】中文

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【学科分类】农艺学

【题目】基于循环经济理论的有机农业发展及其对策思考

【中文关键词】循环经济 有机农业 发展对策

【英文关键词】circular economy; organic agriculture; countermeasures

【中文摘要】本文分析了循环经济与有机农业之间的理论联系,进而论述了有机农业的内涵和主要特点,在此基础上,探讨了发展有机农业的必要性。同时,就发展有机农业应遵循的原则、产业类型、技术支撑及保障措施等方面进行了详细的阐述,从而进一步提出了遵循循环经济规律的有机农业发展对策。

【英文摘要】This paper analyzes the theory links between the circular economy and the organic agriculture, describes the connotation and main features of the organic agriculture and furthermore discusses the necessity for its development. In addition, it states the principles, industry types, technological supports and safeguard measures to develop the organic agriculture and proposes the countermeasures of the organic agricultural development complying with the rule of the circular economy.

【语种】中文

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【学科分类】农艺学

【题目】施氮对圆叶决明生物固氮及氮肥利用效率的影响

【中文关键词】圆叶决明 15N示踪 生物固氮 氮素利用率

【英文关键词】Chamaecrista rotundifolia; biological nitrogen-fixation; nitrogen utilization efficiency;

【中文摘要】采用15N同位素示踪方法,对不同施氮水平下的圆叶决明生物固氮水平,氮肥的分配、氮素来源,以及氮肥的利用率、土壤残留、挥发损失进行研究。结果表明:圆叶决明生物固氮百分率随着施氮水平的增加呈先升高后下降的趋势,并在N2(30mg/kg)水平下达到最高,为29.50%,之后逐渐下降,且各处理间差异极显著。随着施氮量的增加圆叶决明对肥料氮的吸收增加,而对土壤氮的吸收降低。在较低(N2)施氮水平下,圆叶决明所需的氮主要来自土壤氮(56.17%)和生物固氮(29.50%);较高(N4)施氮条件下圆叶决明所需的氮主要由肥料氮(43.46%)和土壤氮(45.49%)提供。随着施氮水平的提高,圆叶决明氮肥利用率也逐渐降低,而氮素残留率逐渐升高。就氮肥损失率而言,N1(15mg/kg)、N2(30mg/kg)和N3(45mg/kg)处理间的差异不显著,N4(60mg/kg)处理损失率最小。

【英文摘要】Isotope 15N was used to analyse the biological nitrogen (N)-fixation rate and N distribution in the plant, the plant N source, N utilization efficiency, soil N residue, and N volatilization loss under different N fertilizer levels. The biological N-fixation rate of Chamaecrista rotundifolia showed a trend of increasing and then decreas- ing, climbing to the peak of 29.50% at the N2 level (30 mg/kg) and then gradually decreasing, had a highly sig- nificant difference between the treatments. At a certain N level, the N absorption of C. rotundifolia increased from the N fertilizer as the N fertilization rate increased, but the N absorption decreased from the soil. At the low N fertilization level, the main N required by C. rotundifolia was mainly supplied by soil N (56.17%) and biological N-fixation (29.50%), but at the high nitrogen fertilization level it was mainly supplied by fertilizer N (43.46%)and soil N (45.49%). As the N fertilization rate increased, the N utilization efficiency of C. rotundifolia gradually decreased, but the N residue rate increased gradually. There was no significant difference in loss of N fertilizer among the treatments N1 (15 mg/kg), N2 (30 mg/kg) and N3 (45mg/kg), and treatment N4 (60 mg/kg) had minimum loss of N fertilizer.
【语种】中文
【第一作者】李跃森
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【题目】硒镧复合作用下姬松茸氨基酸数量性状的因子分析
【中文关键词】姬松茸 因子分析 氨基酸组分 综合评价
【英文关键词】Agaricus blazei Murill; Factor analysis; Amino acid component; Comprehensive evaluation
【中文摘要】对硒镧复合作用下姬松茸氨基酸数量性状进行因子分析。结果表明,硒镧复合作用下姬松茸氨基酸的17个数量性状,可提取为2个公因子,其累积方差贡献率达93.66%,具有较好地反映这些性状所包含的信息。按照主因子所包含的性状及其所反映的营养学和药学含义,可把2个主因子命名为芳香族氨基酸、支链氨基酸因子和鲜味氨基酸因子。一个2因子的模型能够合理地解释氨基酸含量间的相关关系。其因子得分可用于对硒镧复合作用下氨基酸质量的综合评价,证实氨基酸含量与硒镧复合作用下姬松茸含量之间大部分存在着极显著相关性.这些研究为以后姬松茸的栽培及营养学和药学机理提供科学依据。
【英文摘要】The factors affecting quantitative characters of amino acids in Agaricus blazei Murill under interaction of Selenium and Lanthanum were analyzed.Results showed that,17 quantitative characters of amino acids in Agaricus blazei Murill could be induced into 2 common factors,which the contributing rates reached 93.66% and fairly reflected the information included in these characters.According to the characters included in the main factors and its meanings in nutrition and pharmacology,the 2 main factors could be named as the factor of aromatic amino acid and branched chain amino acid and the factor of flavor amino acid.A double factor model could reasonably explain the correlation among different amino acid contents.The factor scores could be used in the comprehensive evaluation on amino acid qualities under interaction of Selenium and Lanthanum.It was proved that a very significant correlation occurred between amino acid contents and yields of Agaricus blazei Murill under interaction of Selenium and Lanthanum.This study provided a scientific basis for the cultivation of Agaricus blazei Murill and the mechanism of its nutrition and pharmacology.
【语种】中文
【第一作者】江枝和
【通讯作者】翁伯琦
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【题目】镧在草-菇-土系统中的循环与生物富集效应
【中文关键词】镧; 草-菇-土系统; 循环; 生物富集; 南非马唐; 杏鲍菇;

【英文关键词】lanthanum; forage-mushroom-soil system; recycling; bioaccumulation; Digitaria smutsii; Pleurotus eryngii;
【中文摘要】利用稀土镧肥种植牧草南非马唐,采用含镧牧草栽培杏鲍菇和以菇渣作为有机肥种植牧草进行连续性试验,研究镧在草-菇-土系统中的分配与生物富集情况。结果表明:施镧处理的南非马唐和杏鲍菇各器官的镧元素含量均高于不施镧处理,其中镧在牧草南非马唐中的分布为根>叶>茎,镧在杏鲍菇中的分布为菌盖>菌柄;外源镧进入土壤以后,南非马唐不同器官的镧元素生物富集系数均随着镧施入量的增加而增大,其中以根的镧生物富集系数最大,介于0.443—0.580之间。除高剂量(M4)处理外,叶和茎的镧生物富集系数不同处理间无显著差异,但根出现明显变化;含镧牧草栽培杏鲍菇和菇渣种植南非马唐后,不同器官的镧含量无显著增加,说明镧残留在草-菇-土系统中迁移转化效率降低。
【英文摘要】Rare earth elements(REE) and their compounds have been widely applied in agronomic and medical fields for many years.The bioinorganic chemical research of REE in the past few years indicates that REE play important roles in the promotion of photosynthesis,root absorption, and regulation of hormone and nitrogen metabolism.There was an increasing interest in the bioaccumulation processes of rare earth elements(REEs) due to the wide application of REEs in a variety of non-nuclear industries and agriculture,resulting in possible environmental contamination. Investigations into the bioaccumulation characteristics of REEs have been carried out in recent years as sensitive techniques such as inductively coupled plasma-mass spectrometry (ICP-MS) and neutron activation analysis (NAA) have became available. Despiteextensive studies on REE uptake and transport in plants,few studies have been carried out on the REE fractionation in the soil plant system via laboratory experiments. However,little attention has been paid to the REE fractionation and migration in the multi-link food chain. In this study,three cultivation experiments were carried out,including the pot experiments of Digitaria smutsii cultivation with La fertilizer and mushroom residue fertilizer,and the experiment of Pleurotus eryngii cultivation using La-applied forages as medium. The distribution and biological concentration of lanthanum (La) in the forage-mushroom-soil system were discussed. The results showed that the trend of La adsorption of D. smutsii were root > leaf > stem. La concentration in all organs of forage increased with the increase of La application rate. La relative contentof roots in La application treatments rose significantly,increasing by 10. 76% - 31. 37% compared with the control. Theyield of P. eryngii fruitbodies with the La application treatment increased by 16. 10% compared with that of the no-La application treatment,but there was no significant difference between them. The trend of La adsorption of P. eryngii were pileus > stipe. There was no significant difference in the La concentration of P. eryngii between the La application treatment and the control. La concentration in fruitbodies were 0. 7 mg /kg or so,lower than the critical limit of rare plant food standards in China (2 mg /kg) . The results also showed that the bioaccumulation coefficients of La by D. smutsii increased with increasing La dose,and that the bioaccumulation coefficient of root was the highest,ranging between 0. 443 and 0. 580. Except for the high-dose La treatment (M4) ,there was no significant difference about the bioaccumulation coefficients of La by leaf and stem among the other treatments,but that of root obviously varied. The results of P. eryngiicultivation with La-applied forage showed that there was no significant difference about the bioaccumulation coefficients of La by pileus and stipe. But La bioaccumulation coefficients of the control were 2. 45 - 2. 61 times of that of the La application treatment. This explained that the La bioavailability in forage was lower to P. eryngii. The results of D. smutsii cultivation with residues showed that there were no significant difference about La bioaccumulation coefficients among different treatments. This study revealed that reuse efficiency of exogenous La gradually decreased after several biological cycles. Onlya small amount of lanthanum was absorbed by living organisms,most of the La elements still remained in the environment.
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【第一作者】翁伯琦
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【题目】花生高产优质育种与生物技术应用的研究进展
【中文关键词】花生; 育种; 生物技术; 市场; 分子标记;
【英文关键词】Peanut; Breeding; Biological technology; Market; Molecular marker;
【中文摘要】分析加入WTO之后市场需求变化对中国花生产业的挑战;结合产量性状、品质特征以及抗性类型等要素综述花生育种的产业需求与方向选择,同时简要介绍近年来中国花生新品种的选育以及花生高产优质高抗的机理和遗传研究进展,重点阐述DNA分子标记技术在花生遗传多样性和品种鉴定、分子标记辅助育种方面的应用成效,集中讨论DNA分子标记技术在花生育种中的可鉴经验与应用前景。

【英文摘要】In this paper the challenge to peanut industry of China caused by the change of market demand after China entering WTO was analyzed,the demand and orientation of China peanut breeding was summarized based on the yield,quality and resistance.In the same tine,the advance on the breeding of new peanut cultivars,the peanut principle of high-yielding,good-quality and strong resistance and genetic study in recent years were introduced briefly in this paper,and the application of molecular marker technology on peanut genetic diversity and identification of variety, molecular assistance marker were mainly summarized, and the valuable experienceand the foreground of DNA molecular marker technology using on peanut breeding was discussed intensively.
【语种】中文
【第一作者】赵婷
【通讯作者】翁伯琦
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【学科分类】农艺学

【题目】仿生态栽培姬松茸的配方筛选及其氨基酸分析
【中文关键词】姬松茸; 配方设计; 氨基酸; 仿生态栽培;
【英文关键词】Agaricus blazei Murrill; Formula design; Amino acid; Emulational culture;
【中文摘要】以稻草、五节芒和圆叶决明及羊粪为栽培姬松茸的培养料进行不同配方处理的仿生态栽培。结果表明,15个配方中以A3(即20%稻草+30%五节芒+50%羊粪)的子实体产量最高,其次为配方B(即50%五节芒+50%羊粪)和配方B1(40%五节芒+10%圆叶决明+50%羊粪)。进一步比较用这3个配方栽培姬松茸时子实体中的氨基酸组成、含量及蛋白质的营养价值,发现配方B1栽培姬松茸时,这些成分的含量均优于其他2个配方,这一结果对姬松茸的栽培模式有重要意义。
【英文摘要】With straw,Miscanthus,Cassia rotundifolia and sheep manure as composts,a emulational culture of Agaricus blazei Murrill was developed.Results showed that the highest fruit body yield was formula A3,and the next formula was B and B1.Formula A3 was consisted of 20% straw,30% Miscanthus and 50% sheep manure.Formula B was consisted of equal Miscanthus and sheep manure.Formula B1was consisted of 40% Miscanthus,10% Cassia rotundifolia and 50% sheep manure.Further analysis showed that fruit body's amino acid composition and protein level of A3 were superior to the other formulas. The result is important for the emulational culture of Agaricus blazei Murrill.
【语种】中文
【第一作者】韩海东
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【题目】大球盖菇多糖的分子质量分布及其单糖的组成
【中文关键词】大球盖菇; 多糖; 分子质量;
【英文关键词】Stropharia rugoso-annulata; polysaccharides; molecular weight;
【中文摘要】【目的】从大球盖菇(Stropharia rugoso-annulata)中提取多糖,并对其分子质量及组成糖进行研究。【方法】采用水提法提取大球盖菇多糖,利用高效液相色谱法研究大球盖菇多糖分子质量分布及提取过程中多糖分子质量的变化,并采用红外光谱、核磁共振法对其组成糖进行研究。【结果】大球盖菇多糖水溶性多糖类物质的分子质量分布于22 kD附近;大球盖菇多糖同时存在α和β糖苷键,以吡喃糖为主,由5种单糖构成,其中有D-果糖、D-葡萄糖和D-木糖。【结论】以稀盐溶液为流动相的检测手段更能真实地反映大球盖菇多糖的分子质量分布情况,大球盖菇多糖是由5 种单糖组成的杂多糖。
【英文摘要】【Objective】The aim of this paper was to extract and isolate Stropharia rugoso-annulata polysaccharides and analyze the molecular weight and component sugar of polysaccharides.【Method】In this paper,polysaccharide from Stropharia rugoso-annulata was obtained by water extraction method,which the molecular weight distribution and changes during extraction course was investigated by using high performance liquid chromatography.The component sugar of the polysaccharides were also measured by

infrared spectrum and nuclear magnetic resonance methods. 【Result】The molecular weight distribution of water soluble polysaccharides from Stropharia rugoso-annulata was about 22 kD, α and β glucosidic bonds were co-exist inpolysaccharides molecule which contain 5 kinds of monosaccharides. The main monosaccharide was pyranose. D-fructose, D-glucose and D-xylose exist in polysaccharides molecule. 【Conclusion】 The detection method with hydrochloric acid solution as the mobile phase can reflect more real molecular weight distribution of polysaccharide from Stropharia rugoso-annulata, and Stropharia rugoso-annulata polysaccharide is a heterosaccharide which is composed of five monosaccharides.
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【第一作者】陈君琛
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【题目】大杯香菇辐射选育新株系主要营养价值的遗传分析
【中文关键词】大杯香菇; 营养价值; 遗传变异; 相关分析; 主成分分析;
【英文关键词】Lentinus giganteus; nutrient value; genetic variation; correlation analysis; main component analysis
【中文摘要】对大杯香菇中20个(品种和辐射选育新株系)的蛋白质营养价值6项评价指标进行了遗传变异分析、相关性分析和主成分分析。结果表明,变异系数最大的为氨基酸比值系数分,达到22.70%;其次为氨基酸评分,变异系数为18.08%;其它变异系数较小分别为化学评分、生物价、营养指数和必需氨基酸指数为4.1 8%、3.76%、3.37%和3.24%;在相关性上,化学评分与氨基酸比值系数分呈极显著的正相关,必需氨基酸指数与生物价、营养指数和氨基酸评分呈极显著和显著正相关,生物价与营养指数和氨基酸评分呈极显著和显著正相关,营养指数与氨基酸评分呈显著正相关,氨基酸比值系数分与氨基酸评分呈极显著正相关;主成分分析结果表明, 前3 个特征根在6 个特征根中累计贡献率达% .07 % , 也就是前4 个主成分对变异的贡献率达% .07 % "在蛋白质营养价值六项指标选择上, 首先对变异大的蛋白质营养价值指标进行选择是及其重要的"在辐射选育新株系选择时,应注意选择大杯香菇氨基酸比值系数分和氨基酸评分均较高的新株系。
【英文摘要】The genetic variation,correlation and main components of six evaluation indexes for protein nutrient value in 20 original or new radiated strains of Lentinus giganteus were analyzed.The results showed that,the ratio coefficient of amino acid got the biggest variation coefficient,which was 22.70%;the second one was score of amino acid with variation coefficient value of 18.08%;The other variations,i.e.chemical score,biological value,nutrient index and necessary amino acid index were smaller,and were 4.18%,3.76%,3.37% and 3.24% respectively. In the correlation, the chemical score and amino acid ratio coefficient showed very significant positive correlation; the necessary amino acid index has significantly positive correlation and signigficantly positive correlation with biological value, nutrient index and amino acid score; the biological value has very significantly positive correlation and significantly positive correlation with nutrient index and amino acid score; the nutrient index was significantly positive related with amino acid score; the amino acid ratio coefficient was very significantly positive correlated with amino acid score.
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【第一作者】翁伯琦
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【题目】大杯香菇辐射选育新株系数量性状的因子分析
【中文关键词】大杯香菇; 辐射选育; 相关矩阵; 载荷矩阵; 主因子;
【英文关键词】Lentinus giganteus; radiation breeding; correlation matrix; loading matrix; main factors;
【中文摘要】对20个大怀香菇出种和辐射选育新株系的数量性状进行因子分析。结果表明,20个大杯香菇品种和辐射选育新株系的18个数量性状,可提取为7个公因子,其累积方差贡献率达91.85%,代表了所有性状绝大部分相关信息。按照主因子所包含的性状及其所反映的生物学、营养学和酶学含义,可把7个主因子命名并按方差贡献大小顺序排列为:促长因子1、

CAT活性因子2、营养质量因子3、MDA因子7、化学评分因子4、氨基酸比值系数分因子5、粗壮因子6。从主因子出发进行大杯香菇辐射育种,可以加大目标性状的针对性的选择效率,比较容易获得综合数量性状优良的新品种。

【英文摘要】The factors affecting quantitative characters in 20 strains or new radiated mutants of Lentinus giganteus have been analyzed.Results showed that,the 18 factors affecting quantitative characters could be divided into 7 common factors which the accumulated variance contribution rate reached 91.85%and represented most of related information.According to the included characters of main factors and their reflected meanings in biology,nutriology and zymology,these 7 common factors could be named and listed by the...

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【学科分类】农业基础学科

【题目】大杯香菇辐射新株系各类氨基酸的遗传主成分分析

【中文关键词】大杯香菇; 各类氨基酸总量; 遗传变异; 相关分析; 主成分分析;

【英文关键词】Lentinus giganteus; total amounts of amino acids; genetic variation; correlation analysis; main component analysis;

【中文摘要】对大杯香菇辐射选育新株系的各类氨基酸总量进行了遗传主成分分析。结果表明,变异系数最大的为硫氨基酸总量,达到13.39%;其次为儿童氨基酸总量,变异系数为7.00%;其它变异系数较小分别为甜味氨基酸总量、芳香族氨基酸总量、必需氨基酸总量、支链氨基酸总量和鲜味氨基酸总量为5.69%、5.64%、5.19%、5.24%和5.06%;在相关性上,鲜味氨基酸总量与甜味氨基酸总量、支链氨基酸总量、芳香族氨基酸总量、儿童氨基酸总量和必需氨基酸总量是呈极显著和显著的正相关,甜味氨基酸总量与支链氨基酸总量、儿单氨基酸总量和芳香族氨基酸总量呈极显著和显著的正相关,硫氨基酸总量与儿童氨基酸总量呈极显著负相关

【英文摘要】The main genetic components of different amino acids in new radiated strains of Lentinus giganteus have been analyzed.The results showed that,the total amount of methionine got the biggest variation coefficient,which was 13.39%;the second was the total amount of children amino acids,which was 7.00%.The other kinds of total amino acids,i.e.sweet taste amino acids,fragrant amino acids,necessary amino acids,branched chain amino acids and tasty amino acids have relative smaller variation coefficients,were 5.69%...

【语种】中文

【第一作者】江枝和

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【学科分类】农业基础学科

【题目】不同配方下姬松茸营养价值效应的主成分分析

【中文关键词】姬松茸; 营养价值; 相关分析; 主成分分析;

【英文关键词】Agaricus blazei Murrill; nutrient value; correlation analysis; main component analysis;

【中文摘要】应用多元统计成分分析法,对不同配方下姬松茸蛋白质营养价值的6个主要营养指标进行相关及主成分分析。结果表明:姬松茸的化学评分与氨基酸评分和营养指数呈极显著正相关,氨基酸评分与营养指数呈显著正相关,必需氨基酸指数与生物价呈极显著正相关。主成分分析显示,可将原6个营养指标综合为2个主成分,其累积贡献率可达93.52%。根据主成分对原性状的综合能力进行营养价值分析,2个主成分可分别解释为氨基酸评分和化学评分效应因子及营养指数效应因子,并建立主成分方程。据此计算出各配方的主成分得分和综合得分,排序第一...

【英文摘要】Using multi-factor statistical analysis for main components,the correlative and main components of six chief nutrient indexes related to the protein nutrient value of Agaricus blazei in different medium formula was analyzed in the current work.Results showed that the chemical score and amino acid score were positively significantly correlated to nutritional index,and the essential amino

acid index was positively significant correlated to biological value.The main component analysis showed that the six chief...
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【第一作者】韩海东
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【引文索引类型】其他
【引文索引号】null
【学科分类】农业基础学科

【题目】试论循环经济与现代生态农业发展
【中文关键词】循环经济 生态农业 现代农业
【英文关键词】NULL
【中文摘要】阐述现代生态农业和循环经济的内涵与内在联系,提出现代生态农业是发展乡村循环经济的基础,同时分析现代生态农业的不同技术模式与综合效益,并结合生产实际提出相关技术对策。
【英文摘要】NULL
【语种】中文
【第一作者】翁伯琦
【通讯作者】翁伯琦
【期刊名称、卷期、页码】江西农业大学学报(社会科学版),2008,7(3):21-26
【论文发表时间】2009-01-01 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农学其他学科

【题目】木薯新叶斑病病原鉴定及其生物学特性
【中文关键词】木薯;离蠕孢;生物学特性;杀菌剂
【英文关键词】Cassava; Bipolaris setariae; biological characteristics; fungicides
【中文摘要】2008和2009年在对木薯主产区病害的普查中,发现了一种新的叶斑病,命名为离孢叶斑病。形态观察结果表明病原菌分生孢子梗丛生,褐色,基细胞膨大呈半球形,成熟的分生孢子长椭圆形,两端钝园,具5~8个隔膜,表明其为狗尾草离孢。ITS序列分析表明其和一株狗尾草离孢(EF452444)的序列同源性为99 %。生物学特性研究表明,PDA培养基、28 ℃、pH 7和光暗交替是菌落生长最适条件,D-葡萄糖和硝酸钠是其最适碳氮源,孢子萌发最适温度和致死温度分别为28 ℃和55 ℃ 5 min。10种杀菌剂的室内筛选结果表明,咪鲜胺(25 %咪鲜胺EC)的EC50值最小,抑菌效果最好。
【英文摘要】A new leaf spot disease was first found during a survey made from 2008 and 2009 in cassavamain growing regions. Microscopic examination showed the conidiophores were fasciculate and brown, and that the basal cell was enlarged and hemispheric. Well-developed conidia were long-obclavate, obtuse at both ends, with five to eight transverse septa, which indicated that the pathogen was Bipolaris setaria. The ITS sequence of the pathogen had homology of 99% with a sequence of B. setaria(EF452444). The optimum condition for mycelial growth included PDA medium, 28 益, pH7 and alternative light, and optimum carbon and nitrogen sources were D-glucose and sodium nitrate, respectively. The optimum temperature for conidia germination was 28 益and the lethal temperature for conidia was 55 益for 5 min. Ten fungicides were screened in laboratory, and prochloraz 25% EC was found to have the lowest EC50 value and best inhibition activity against the pathogen.
【语种】中文
【第一作者】时 涛
【通讯作者】黄贵修
【期刊名称、卷期、页码】热带作物学报,2010,31(3):457-463
【论文发表时间】2010-03-25 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】植物保护学

【题目】木薯炭疽病菌的室内杀菌剂筛选
【中文关键词】木薯炭疽病;杀菌剂;室内筛选
【英文关键词】Cassava Anthracnose, fungicides, laboratory screening
【中文摘要】采用菌丝生长速率法对两个来自海南的木薯炭疽病菌菌株进行了13种杀菌剂的室内筛选。结果表明,必扑尔(25 %丙环唑EC)、咪鲜胺(25 %咪鲜胺EC)和国光多菌灵(50 %多菌灵WP)的EC50值最小,抑菌效果最好;敌克松(55 %敌磺钠WP)和代森锰锌(50 %代森锰锌WP)的EC50值最大,抑菌效果最差,建议生产上使用丙环唑、咪鲜胺和多菌灵等来防治木薯炭疽病。
【英文摘要】Based on two Colletotrichum gloeosporioides isolates came from Hainan province, 13 fungicides were screened in laboratory by hypha growth rate method. Propiconazol 25 % EC, prochloraz 25 % EC and carbendazim 50 % WP were found to have the lowest EC50 value and good inhibition of C. gloeosporioides isolates, whereas fenaminosulf 55 % WP and mancozeb 50 % WP had the highest EC50 value and poor inhibition, propiconazol, prochloraz and carbendazim were suggested to be applied in the field control of Cassava Anthracnose.
【语种】中文
【第一作者】时涛
【通讯作者】黄贵修
【期刊名称、卷期、页码】中国农学通报,2010,26(7):237-240
【论文发表时间】2010-03-10 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】植物保护学

【题目】杧果对细菌性黑斑病抗病性测定
【中文关键词】杧果细菌性黑斑病; 抗病性;鉴定
【英文关键词】mango; Bacterial black spot; Resistance; Identification
【中文摘要】杧果细菌性黑斑病是杧果上的三大病害之一, 近年来在我国各杧果产区造成严重的危害, 而选育抗病品种是防治植物病害最经济有效的途径,因此本试验对海南19个栽培品种进行了田间人工接种,测定了其对细菌性黑斑病的抗病性。 结果表明,杧果古铜色叶、 淡绿色叶和深绿色叶3种叶龄 叶片中,古铜色叶最抗病,病害在同一叶龄叶片上的潜育期长短在不同杧果品种之间有差异,但大部分的潜育期为6d左右;其次品种间的抗病性有明显差异;越杧较感病;封顺无核杧、金穗杧、四季杧、红杧、粤西1号、紫花杧、生紫杧、马切杧、台农、爱文杧、热杧和凯特中等抗病;香蕉杧、米杧、龙井、大白玉、红象牙杧和桂香较抗病;未发现高抗或免疫的品种。
【英文摘要】无
【语种】中文
【第一作者】刘晓妹
【通讯作者】蒲金基
【期刊名称、卷期、页码】果树学报, 2009, 26 (3): 349-352.
【论文发表时间】2009-06-01 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】植物保护学

【题目】First Report of Leaf Spot Caused by Bipolaris setariae on Cassava in China.
【中文关键词】木薯;离孢
【英文关键词】Cassava; Bipolaris setariae
【中文摘要】2009年,在海南省儋州市的木薯品种华南205上发现了一种新病害。经致病性评价、形态观察和ITS序列分析,证明该病由离孢侵染引起。
【英文摘要】Cassava (Manihot esculenta Crantz) is an important food crop in tropical regions of China. Seventy percent of the cassava output is used for starch and ethanol production and it has become the base of food and bioenergy industries. In July 2009, a new leaf spot disease was found on cv. HuaNan205 from a cassava plantation in Danzhou, Hainan Province. Disease occurred on 50% or less of the plants. Initial symptoms were elliptical, chlorotic, and water-immersion lesions of 2 to 4 mm in diameter. These lesions

became dry and yellow due to the progress of the disease. A brown halo was around the lesions, and in wet conditions, a dark gray mildew often appeared in the middle of the lesion. Diseased leaves turned yellow and the plants eventually became defoliated. The pathogen was isolated and pathogenicity was established by following Koch's postulates. Young, healthy, and fully expanded green leaves of Cassava cv. HuaNan205 were surface sterilized and then inoculated by spraying them with a suspension of conidia (1 × 105 conidia per ml) of the isolate. Sterile water was used as a control. The leaves were kept in a humid chamber at 28 ° C for 4 days, at which time similar symptoms to those described above were observed on the leaves. The pathogen was reisolated from inoculated leaves. Microscopic examination showed the conidiophores were fasciculate and brown, septate and straight, and the basal cell was enlarged and hemispherical. Well-developed conidia were long-obclavate, obtuse at both ends, straight, brown, with five to eight transverse septa, and measured 49.7 to 117.1 × 13.3 to 17.2 μ m. Genomic DNA of this isolate was extracted with a cetyltrimethylammoniumbromide protocol, and amplification and sequencing of the internal transcribed spacer (ITS) region of rDNA was performed with procedures outlined by Cooke et al. (2). The sequence of the region was deposited in GenBank (Accession No. GU290228). Comparison of the sequences available in the GenBank database revealed that the current ITS sequence differs by three base pairs from two Bipolaris setariae isolates (EF452444 and FJ606786). Morphological identification and sequence analysis of ITS rDNA showed that the pathogen was B. setariae. B. setariae is one of the most important pathogens of lawn grass, gramineous crops, and other plants (1,3). However, no leaf spot disease caused by B. setariae has been recorded previously on cassava in China or elsewhere.

【语种】英文
【第一作者】时涛
【通讯作者】黄贵修
【期刊名称、卷期、页码】Plant disease, 2010,94(7), 919
【论文发表时间】2010-07-25 00:00:00
【引文索引类型】SCI
【引文索引号】DOI: 10.1094/PDIS-94-7-0919A
【学科分类】植物保护学

【题目】Apcl基因在毕赤酵母中的表达
【中文关键词】"ApCl 基因 抗旱 抗盐 巴斯德毕赤酵母 生物抗逆
"
【英文关键词】"ApCl gene Drought-resistance Salt-resistance Pichia pastoris Biology anti-adversity
"
【中文摘要】"为了研究 ApCl 基因的功能,应用基因重组技术将 ApCl 基因片段克隆入大肠埃希菌—酵母穿梭质粒 pGAPZ α A,构建重组真核表达质粒 pGAPZ α A-ApCl,电转化巴斯德毕赤酵母 GS115,Zeocin 筛选出阳性克隆转化子。通过比较转化空载体 pGAPZ α A 和重组载体 pGAPZ α A-ApCl 的不同菌株分别在含有高盐和高山梨醇浓度的液体培养基中生长情况,发现毕赤酵母 GS115 在转化 ApCl 基因后其抗旱、抗盐能力显著提高(约 3 倍) ,进一步验证了 ApCl 基因对提高生物抗逆能力有显著作用,为将来分离该蛋白及进一步研究奠定基础。"
【英文摘要】"For research ApCl gene function,the DNA ApCl gene sequence was subcloned into yeast shuttle expression vectorpGAPZ α A,and the recombinant plasmid pGAPZ α A-ApCl was constructed. Pichia pastoris GS115 was electrotransformed withpGAPZ α A and pGAPZ α A-ApCl,and the postive transformants were selected in the medium of zeocin. Then,the two electrotransformedyeasts with different vectors were cultured in two kinds of mediums that have high levels of salt and sorbitol. Compared to Pichia pastorisGS115 with pGAPZ α A,transgenic yeast with ApCl gene grows faster,about there times of the contrast. It is proved that ApCl gene issignificant to prove biology anti-adversity. The finding settles a favourable base to study and research ApCl protein."
【语种】中文
【第一作者】江程记
【通讯作者】易克贤
【期刊名称、卷期、页码】生物技术通报,2011,9:86-89
【论文发表时间】2011-10-12 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】植物保护学

【题目】绿色荧光蛋白基因标记芒果畸形病病原菌研究
【中文关键词】芒果畸形病;层出镰刀菌;绿色荧光蛋白基因;转化
【英文关键词】mango malformation disease; Fusarium proliferatum; GFP; transformation
【中文摘要】芒果畸形病是世界性的芒果重要病害。采用介导的原生质体转化法用绿色荧光 蛋白(GFP)表达载体转化芒果畸形病病原菌,获得了表达的转化子。转化子经过单孢纯化后连续继代培养仍能发出稳定而强烈的荧光,通过特异性引物扩增转化子基因组获得预期片段,表明GFP基因已成功转入芒果畸形病病原菌基因组中且稳定遗传.GFP标记菌株生长正常,致病性和野生菌丝无差别。获得GFP标记的转化子,为应用发绿色荧光的芒果畸形病病原菌研究病原菌的侵染方式扩展过程等奠定了基础。
【英文摘要】无
【语种】中文
【第一作者】吕延超
【通讯作者】谢艺贤
【期刊名称、卷期、页码】广东农业科学, 2010, 37(8):194-195.
【论文发表时间】2010-08-01 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】植物保护学

【题目】剑麻根际联合固氮菌的分离及固氮活性测定
【中文关键词】"剑麻;根际;固氮菌;乙炔还原法"
【英文关键词】"Sisal; Rhizosphere; Nitrogen-fixing bacteria; Gas chromatography
"
【中文摘要】"通过选用NFM、 CCM、 Ashby及改良的Dobereiner培养基,利用气相色谱仪(GC)对海南省昌江县、广西扶绥县和广东雷州市三地剑麻种植基地的剑麻根际联合固氮菌进行分离、纯化及利用乙炔还原法进行固氮活性测定,获得50有固氮活性的菌株,其固氮酶活性最高的菌株是ASN004,固氮酶活性为1 765.659 0 nmol/(mL · h),具有开发利用的潜力。"
【英文摘要】"The associative nitrogen fixation bacteria in sisal rhizosphere, sampled from Changjiang County in Hainan Province, Fusui County in Guangxi Zhuang Autonomous Region and Leizhou City in Guangdong Province,were isolated and purified by Gas Chromatography on the NFM, CCM, Ashby and modified Dobereiner medium.And their nitrogen -fixing activity was measured by acetylene reduction method. The result indicated that, 50 bacterial strains had nitrogen -fixing activity. And a bacterial strain No. ASN004 with the highest nitrogenase activity of 1765.6590 nmol/(mL · h) was found and it had good exploitation potential."
【语种】中文
【第一作者】陈河龙
【通讯作者】易克贤
【期刊名称、卷期、页码】热带作物学报,2011,32(6):1097-1101
【论文发表时间】2011-12-28 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】植物保护学

【题目】绿茶中的GCG 研究
【中文关键词】茶,GCG,高温蒸汽
【英文关键词】tea, GCG, high temperature steam
【中文摘要】采用HPLC 分析技术系统研究了国内茶树种质资源的GCG 含量、GCG 在绿茶加工过程中的变化以及高温蒸汽处理对绿茶中GCG 含量的影响。结果表明,在200 份茶树种质中发现GCG 的含量大于1.5%的茶树种质有5 个;绿茶加工过程中GCG 含量有持续增加的趋势,温度是影响茶叶GCG 含量的关键因素;茶鲜叶经过高温蒸汽处理,能有效提高绿茶中的GCG 含量。
【英文摘要】The GCG content in different tea germplasms, change of GCG content during green tea processing and the tea leaf treated with high temperature steam were studied by using the HPLC determination. Results showed that the content of GCG in five tested tea cultivars was more than 1.5% among 200 tea germplasms, and it was increased continuously during the green tea processing.

Temperature was the key factor that influenced the GCG content in tea, and the high temperature steam treatment could effectively increase the GCG content in green tea.
【语种】中文
【第一作者】吕海鹏
【通讯作者】林智
【期刊名称、卷期、页码】茶 叶 科 学 ;28(2):79-82
【论文发表时间】2008-01-18 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】园艺学

【题目】剑麻茎腐病菌的rDNA-ITS序列分析
【中文关键词】"剑麻;茎腐病; rDNA-ITS;序列分析"
【英文关键词】"Sisal stem rot disease; rDNA-ITS; Sequence analysis
"
【中文摘要】"应用核糖体rDNA-ITS区的序列分析研究13个不同地区来源的剑麻茎腐病菌,测序结果表明,参试菌株的ITS扩增区约600 bp,无太大的长度变异,同时通过在GenBank中搜索其同源性序列并构建它们的系统发育树,结果表明,引起剑麻茎腐病的病原为黑曲霉菌Aspergillus niger。"
【英文摘要】"Thirteen isolates causing sisal stem rot from different regions were studied using ribosome rDNA-ITS region sequence. The sequencing results showed that the ITS amplified region of the tested isolates were about 600 bp,without too much variation in length. After sequence blast in the GenBank and constructing the phylogenetic tree,the results showed that the pathogen was identified as Aspergillus niger."
【语种】中文
【第一作者】郑金龙
【通讯作者】易克贤
【期刊名称、卷期、页码】热带作物学报,2011,32(6):1093-1096.
【论文发表时间】2011-12-12 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】植物保护学

【题目】超高压处理对红碎茶感官品质和主要化学成分的影响
【中文关键词】超高压;茶叶;茶黄素;氨基酸;香气
【英文关键词】ultrahigh pressure;tea;theaflavins;amino acids;aroma
【中文摘要】经超高压处理后的茶鲜叶加工成红碎茶,对成品茶进行感官评定,香气组分分析,茶黄素(theaflavins)含量、茶红素(thearubigins)含量、游离氨基酸含量和水浸出物含量测定。结果表明:采用鲜叶→超高压处理(550MPa,10min)→室温密闭放置4h →切碎→发酵30min →烘干工艺制得的红碎茶,汤色红艳明亮,滋味浓强带鲜,带有花香,感官品质最优。和对照相比,按照最优工艺制得的红碎茶茶黄素含量提高20.43%,茶红素含量下降10.09%,游离氨基酸总量提高24.03%,水浸出物含量提高8.70%,呈甜味氨基酸(赖氨酸、丙氨酸、丝氨酸、脯氨酸) 有所增加,芳香型醇类、酯类、醛类物质的含量增加,而部分烷类物质含量下降。
【英文摘要】CTC black tea was procuded by following process: fresh tea leaves → urtra-high pressure processing (UHPP) (550 MPa for 10 min) → withering sealedly at room temperature for 4 h → cutting → fermenting for 30 min → drying. It was found that the urtra-high pressure processing can obviously improve the aroma of CTC black tea, in which the contents of alcohols, esters and aldehydes increase, but the content of some alkanes decreases. Compared with the control, the 550- MPa pressure processing for 5 min can increase the contents of theaflavins, free amino acids and water extracts in CTC black tea by 20.43%, 24.03% and 8.70% respectively, but decrease the content of thearubigins in CTC black tea by 10.09%.
【语种】中文
【第一作者】谭俊峰
【通讯作者】林智

【期刊名称、卷期、页码】食品科学;2008, 29(09)87-91
【论文发表时间】2008-05-23 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】园艺学

【题目】龙舌兰麻种质资源抗斑马纹病鉴定研究
【中文关键词】"龙舌兰麻; 种质资源; 抗性; 斑马纹病
"
【英文关键词】"Agave; Germplasm; Resistance; Phytophthora parasitica var. nicotianae
"
【中文摘要】"通过分离培养斑马纹病病原菌,人工接种鉴定不同龙舌兰麻种质的抗斑马纹病的特性。结果表明,番麻、东368、墨引6、墨引12、墨引7、墨引5、假7、马盖麻、东109、金边弧叶龙舌和兰墨引4号11份种质为高抗种质,病斑扩展速度和病情严重度可作为龙舌兰麻抗病性快速鉴定技术手段。"
【英文摘要】"The pathogens of Phytophthora parasitica var. nicotianae from sisal was successfully isolated bypure-culture. Then 38 agave accessions were analyzed to evaluate their resistance to Phytophthora parasitica var.nicotianae through artificial inoculation. The results showed that the accessions with high resistance were A. america-na,A. hybrid D. h. No. 368,Moyin No. 6,Moyin No. 12,Moyin No. 7,Moyin No. 5,Jia No. 7,A. cantala Roxb. ,A.Potalorum Var. a. h Dongfang hong No. 109,A. attenuata var. and Moyin No. 4. And disease severity and the speedof disease spot development can be used as indexes for rapid resistance identification of agave."
【语种】中文
【第一作者】陈河龙
【通讯作者】易克贤
【期刊名称、卷期、页码】植物遗传资源学报,2011,12(4):546-550
【论文发表时间】2011-12-14 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】植物保护学

【题目】红茶中多酚类物质的抗氧化机制及其构效关系
【中文关键词】红茶; 茶黄素; 抗氧化性; 机制; 构效关系
【英文关键词】black tea; theaflavine; antioxidation activity; mechanism; structure-activity;relationship
【中文摘要】绿茶中主要多酚类物质为儿茶素。儿茶素抗氧化作用与机制已经较明确。茶黄素作为红茶中主要多酚类物质, 是衡量红茶品质的重要指标, 也是红茶中发挥生物学作用的主要物质。根据目前关于红茶中多酚类物质的研究报道, 分析了茶黄素结构对抗氧化活性的影响, 并阐明其发挥抗氧化作用的机制。
【英文摘要】无
【语种】中文
【第一作者】屠幼英
【通讯作者】东 方
【期刊名称、卷期、页码】中草药;2007,38(10)1581-1585
【论文发表时间】2007-04-09 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】园艺学

【题目】鲜茶汁浸提工艺研究
【中文关键词】鲜茶汁;浸提;感官品质;得率
【英文关键词】fresh tea juice;extraction;sensory quality;extraction rate
【中文摘要】研究鲜茶固体饮料加工的鲜茶汁制备提取工艺,以鲜茶汁浸提温度、时间及茶水比为影响因素,采用正交试验设计L9(3) 3,探讨浸提工艺对鲜茶汁的感官品质、提取得率、浓度、主要生化成分浸出量、酚氨比、外观颜色及冷后浑等的影响。结果表明,随着浸提温度的升高和时间的增加,鲜茶汁的感官品质下降,但鲜茶汁提取率、浓度增大,茶水比

1:1(W/V)时鲜茶汁提取率和浓度较高且感官品质较好。综合考虑鲜茶汁的感官风味品质、提取得率及产业化成本,鲜茶汁提取最佳工艺参数为浸提温度45℃,浸提时间10min,茶水比1:10(W/V)。

【英文摘要】Effects of extraction temperature, time and ratio of tea to water on sensory quality, extraction rate, concentration, extraction quantities of main biochemical components, TP/AA, – a/b and tea cream of fresh tea juice were studied by orthogonal test L9 (33). The results showed that with increases of extraction temperature and time, sensory quality of fresh tea juice declines, but the extraction yield and concentration increase. Higher extraction rate and concentration and better sensory quality of fresh tea juice can be obtained at the ratio of tea to water 1:10. Considering the sensory quality and extraction rate of fresh tea juice as well as the cost of industrialization, the optimum conditions of extracting of fresh tea juice are determined as fallows: extraction temperature 45 ℃, time 10 min and ratio of tea to water 1:10.

【语种】中文

【第一作者】许勇泉

【通讯作者】尹军峰

【期刊名称、卷期、页码】食品科学;2008,29(09)719-722

【论文发表时间】2008-04-11 00:00:00

【引文索引类型】其他

【引文索引号】null

【学科分类】园艺学

【题目】杀菌剂对剑麻茎腐病病原菌的室内毒力测定

【中文关键词】"剑麻;茎腐病;黑曲霉;杀菌剂;毒力测定
"

【英文关键词】"sisal;sisal stem rot;Aspergillus niger;fungicides;toxicity determination
"

【中文摘要】"由黑曲霉引起的剑麻茎腐病是一种毁灭性病害,对我国的剑麻产业造成极大的威胁。鉴于此,本研究在室内采用菌丝生长速率法测定了 14 种杀菌剂对黑曲霉病原菌的抑菌效果,同时进行药剂成本分析,结果表明:50%咪鲜胺锰盐 WP 的 EC50最小,病原菌对它的敏感性最高,抑菌效果最好;3%甲基多抗霉素 WP 和 40%五硝基多菌灵 WP 的 EC50较小,病菌对它们的敏感性也较高,抑菌效果也较好;70%甲基托布津 WP 的 EC50最大,病菌对它们的敏感性最低,抑菌效果最差。通过对药剂抑制效果和使用成本分析, 建议生产上可使用 50%咪鲜胺锰盐 WP、40%五硝基多菌灵 WP和 3%甲基多抗霉素 WP 来防治剑麻茎腐病。"

【英文摘要】"The sisal stem rot caused by Aspergillus niger is a devastating disease which seriouslythreats sisal production in China. Inhibition effect of 14 fungicides on Aspergillus niger was measured. The results showed that the EC50of 50% prochloraz manganese chloride complex WP was the smallest . Thesensitivity of pathogen to this fungicide was the highest,and its inhibitory effect was best. The EC50of 3%polyoxin WP and 40% five nitro badistan WP were smaller,the sensitivity of pathogen to them was higher,and their inhibitory effect was better. The EC50of 70% topstn- methyl WP was the largest,the sensitivity ofpathogen to it was the lowest,and its inhibition effect was the worst,and the cost analysis of thesefungicides showed that prochloraz manganese chloride complex 50% WP,3% polyoxin WP and 40% fivenitro badistan WP could be applied in the control of the sisal stem rot."

【语种】中文

【第一作者】郑金龙

【通讯作者】易克贤

【期刊名称、卷期、页码】中国麻业科学,2010,32(5)270-274

【论文发表时间】2010-09-15 00:00:00

【引文索引类型】其他

【引文索引号】null

【学科分类】植物保护学

【题目】中国剑麻种质资源的 AFLP 分析

【中文关键词】"剑麻; AFLP; 遗传多样性; 亲缘关系
"

【英文关键词】"Sisal; AFLP; Genetic diversity; Relationship.
"

【中文摘要】"利用荧光标记 AFLP 技术研究剑麻种质遗传多样性及亲缘关系。 筛选 8 个多态性高、 分辨力强的 Pst I/Mse I 引物组合对 40 份供试材料的基因组 DNA 扩 增 , 共 获得 条 带 数 785 条 , 多 态性条 带 数 507 条, 扩 增 效 率64.58%, 平均 每 对 引 物 扩 增 条 带 数 98.13 条 。 其中 , 以 P-GAC/ M-CAC 引 物的 扩 增 效 率 最 高 , 达 到 78.63%;其次是 P-GTG/M-CTC, 达到 71.28%; 扩增效率最低的引物是 P-GTA/M-CTT, 为 52.94%。 表明供试材料在DNA 水平 上, 酶 切 位 点的分布 存 在 广 泛 的变 异 。 各 供试 材 料 相似 系数 介于 0.44~0.83, 在 相 似系数 0.51 处 可将40 份种质划分为 4 大类。 8 组引物在 40 份供试材料中检测到数目不等的特异带型, 这些特异带型对供试剑麻种质具有一定的鉴别价值。"
【英文摘要】"The genetic diversity and relationship of si sal were analyzed by fluorescent AFLP technology. AFLP fingerprinting of 40 accessions with eight pairs of Pst I/Mse I primers revealed a total number of 785 unambiguous bands including 507 polymorphic bands, and the polymorphism frequency was 64.58% . Each pair of primers produced 98.13 polymorphic bands on average. The primer P-GAC/M-CAC had the highest polymorphism frequency (78.63%), followed by the primer P -GTG/M -CTC (71.28%). The primer P -GTA/M -CTT had the leastpolymorphism frequency (52.94%). These show there are abundant diversities about enzyme digestion sites in the accessions. The similarity coefficient of the 40 accessions ranged from 0.44 to 0.83. The 40 accessions were divided into 4 groups at the similarity coefficient of 0.51. Moreover, some specific bands were detected from the 40 accessions by using 8 pairs of primers, and could be used to distinguish the accessions under test."
【语种】中文
【第一作者】张世清
【通讯作者】易克贤
【期刊名称、卷期、页码】热带作物学报,2011,32(1):1-7.
【论文发表时间】2011-12-22 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】植物保护学

【题目】中草药提取物对2种芒果采后病原菌的抑菌活性
【中文关键词】中草药;杧果蒂腐病菌;炭疽病菌;植物源杀菌剂
【英文关键词】Chinese herb; mango Colletotrichum gloeosporioides; Botryodiplodia theobromae; botanical fungicides
【中文摘要】测定71 种中草药丙酮提取物对杧果炭疽病菌(Colletotrichum gloeosporioides Penz.) 和杧果蒂腐病菌(Botryodiplodia theobromae Pat.)的抑菌活性以及对杧果(Mangifiera indica L.)采后炭疽病和蒂腐病的防治效果。试验结果表明,在20 mg/mL 浓度下,丁香、肉桂、花椒、八角、肉豆蔻、山萘、益智、胡椒、荜茇等9 种中草药提取物对该2 株病原菌的平均抑制率大于70 %,EC50 的平均值为4.30 mg/mL。在该浓度下,八角、荜茇提取物能有效降低杧果采后病害的发病率和发病指数,对杧果炭疽病的防效分别为92.32 %、88.01 %,对杧果蒂腐病的防效分别为55.07 %、56.79 %。
【英文摘要】无
【语种】中文
【第一作者】高兆银
【通讯作者】胡美姣
【期刊名称、卷期、页码】热带作物学报, 2008, 29(1):83~88
【论文发表时间】2008-02-01 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】植物保护学

【题目】Biological activity of the essential oil from the leaves of Piper sarmentosum Roxb (Piperaceae) and its chemical constituents on Brontispa longissima (Gestro) (Coleoptera Hispidae)
【中文关键词】null
【英文关键词】Piper sarmentosum Roxb; Essential oil; Brontispa longissima (Gestro); Biological activity; Chemical composition; Myristicin; Enzyme activity
【中文摘要】无
【英文摘要】The results showed that the essential oil from Piper sarmentosum has strong antifeedant and toxicity effects on Brontispa longissima. The best antifeedant and contact toxicity effects were observed in the 1st – 2nd instar larvae. The essential oil also displayed

a notable fumigation effect on the eggs and pupae of B. longissima. It took the control-treated insects 43.34 d to complete one generation, while the insects treated with 2000 mg/L essential oil needed 73.58 d. The essential oil was analyzed by gas chromatography/mass spectrometry and 41 components were identi fi ed. Myristicin (65.22%) and trans-caryophyllene (13.89%) were the major components. Myristicin exhibited strong antifeedant and contact toxicity effects on both the 3rd instar larvae and the imagoes of B. longissima, when it showed a signi fi cant fumigation effect on the eggs and pupae of B. longissima. Another P. sarmentosum essential oil and myristicin all showed a strong inhibiting effect on the growth and development of B. longissima along with the activity of AChE, CarE, GSTs and Na+, K+-ATPase in B. longissima larvae.

【语种】英文

【第一作者】覃伟权

【通讯作者】覃伟权

【期刊名称、卷期、页码】Pesticide Biochemistry and Physiology, 2010, 96: 132-139

【论文发表时间】2010-02-01 00:00:00

【引文索引类型】SCI

【引文索引号】10.1016/j.pestbp.2009.10.006

【学科分类】植物保护学

【题目】芒果蒂腐病菌对多菌灵的抗药性测定及其杀菌剂筛选

【中文关键词】杧果; 蒂腐病菌; 杀菌剂; 抗药性; 筛选

【英文关键词】Mango; Botryodiplodia theobromae Pat.; Fungicide; Resistance; Screening

【中文摘要】对来自海南3 个地区的86 个杧果蒂腐病菌(Botryodiplodia theobromae Pat.)菌株进行了对多菌灵的抗药性测定,结果表明,杧果蒂腐病菌群体中存在着对多菌灵抗性的群体。采用生长速率法进行了23 种杀菌剂对4 株杧果蒂腐病菌的室内毒力测定,通过EC50值、EC90值及与多菌灵的交互抗性等的综合分析,结果表明,作为防治杧果蒂腐病的首选药剂有咪鲜胺锰盐、丙环唑、氟硅唑、咪鲜胺、异菌脲、苯醚甲环唑、戊唑醇、腈菌唑、吡唑醚菌酯和井冈霉素10种杀菌剂,可选杀菌剂还有百菌清和代森锰锌。杧果蒂腐病菌除对多菌灵产生抗性外,还对甲基硫菌灵、醚菌酯和烯唑醇3 种杀菌剂产生了抗药性。通过交互抗性分析,多菌灵、甲基硫菌灵和烯唑醇3 种杀菌剂之间存在交互抗性,而醚菌酯与井冈霉素之间存在负交互抗性。为了避免杧果蒂腐病菌对某种杀菌剂产生抗药性,建议上述可选用杀菌剂交替使用。

【英文摘要】无

【语种】中文

【第一作者】胡美姣

【通讯作者】高兆银

【期刊名称、卷期、页码】果树学报, 2009, 26(5): 671-677

【论文发表时间】2009-10-01 00:00:00

【引文索引类型】其他

【引文索引号】null

【学科分类】植物保护学

【题目】抗多菌灵的芒果炭疽病菌的杀菌剂筛选及其交互抗测定

【中文关键词】芒果; 炭疽病菌; 杀菌剂; 筛选; 交互抗性

【英文关键词】mango; Colletotrichum gloeosporioides Penz.; fungicide; screening; cross-resistance

【中文摘要】为筛选抗多菌灵的芒果炭疽病菌的杀菌剂, 采用生长速率法测定23 种杀菌剂对8 株抗、感多菌灵的芒果炭疽病菌(Colletotrichum gloeosporioides Penz.)的室内毒力。通过EC50值、EC90值及杀菌剂间的交互抗性测定等综合分析表明: 对芒果炭疽病菌毒力最强的杀菌剂是咪鲜胺, 其平均EC50值和EC90值分别为0.04、0.21 μg/mL; 苯醚甲环唑、丙环唑、吡唑醚菌酯、氟硅唑、氟硅唑·恶唑菌酮、戊唑醇、腈菌唑和多抗霉素对芒果炭疽病菌的毒力也较强, 与多菌灵不存在交互抗性, 这9 种杀菌剂均可作为防治芒果炭疽病的首选杀菌剂。另外, 三唑酮、异菌脲、三环唑和代森锰锌也有较好的抑菌效果, 可用于芒果炭疽病的防治。通过交互抗性分析, 在苯并咪唑类杀菌剂之间, 苯并咪唑类杀菌剂与烯唑醇, 嘧菌酯、醚菌酯与腈菌唑·醚菌酯, 嘧菌酯、醚菌酯与三唑酮, 苯醚甲环唑与氟硅唑·恶唑菌酮之间存在交互抗性; 而百菌清与嘧菌酯、醚菌酯和腈菌唑·醚菌酯, 恶霉灵与嘧菌酯、醚菌酯、腈菌唑·醚菌酯和三唑酮之间存在负交互抗性。

【英文摘要】无

【语种】中文

【第一作者】张令宏
【通讯作者】胡美姣
【期刊名称、卷期、页码】热带作物学报, 2009, 30(3): 347-352
【论文发表时间】2009-06-01 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】植物保护学

【题目】芒果可可球二孢蒂腐病菌生物学培养特性
【中文关键词】芒果; 可可球二孢蒂腐病菌; 生物学特
【英文关键词】mango; Botryodiplodia theobromae Pat; biological characteristics
【中文摘要】对芒果可可球二孢蒂腐病菌(Botryodiplodia theobromae Pat.)的生物学培养特性进行了研究。结果表明:菌丝生长最适温度30 ℃;孢子萌发最适温度30 ℃;菌丝生长最适pH 值5~6,孢子萌发最适pH 值7~10;菌丝生长的最佳碳源是棉子糖、葡萄糖,最佳氮源是牛肉浸膏、蛋白胨;光照及振荡培养对菌丝生长无显著影响;菌丝的致死温度为6 0℃, 30 min 或65 ℃,10 min,孢子的致死温度50 ℃,15 min。
【英文摘要】无
【语种】中文
【第一作者】李敏
【通讯作者】胡美姣
【期刊名称、卷期、页码】热带作物学报, 2009, 30 (11): 1660-1664
【论文发表时间】2009-11-01 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】植物保护学

【题目】杀菌剂对番木瓜胶孢炭疽菌的室内毒力测定
【中文关键词】番木瓜;胶孢炭疽菌;室内毒力测定
【英文关键词】papaya; Collectotrichum gloeosporioides Penz.; toxicity test in lab
【中文摘要】胶孢炭疽菌引起的炭疽病是番木瓜最主要的田间及采后病害,采用菌丝生长速率法测定了20种杀菌剂对胶孢炭疽菌的室内毒力。 结果表明:咪鲜胺、苯醚甲环唑、氟硅唑、腈菌唑+醚菌酯、丙环唑、戊唑醇、烯唑醇、吡唑醚菌酯8种药剂的抑菌效果较好,EC50值在0.01~0.47 mg/L之间;其中咪鲜胺对病菌的EC50值最低,抑菌效果明显高于对照多菌灵,成为最具潜力的替代使用药剂,氟硅唑、戊唑醇和丙环唑3种药剂EC50值也较低,抑菌效果仅次于咪鲜胺。
【英文摘要】无
【语种】中文
【第一作者】李敏
【通讯作者】胡美姣
【期刊名称、卷期、页码】农药, 2009, 48 (10): 767-768, 776.
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【引文索引类型】其他
【引文索引号】null
【学科分类】植物保护学

【题目】木薯炭疽病病原鉴定及其生物学特性研究
【中文关键词】木薯;炭疽病;生物学特性
【英文关键词】Cassava; Anthracnose; biological characteristics
【中文摘要】炭疽病是我国木薯生产中最为常见的病害之一,本研究从我国海南木薯发病叶片上分离到两株木薯炭疽病菌CCGHN01和CCGHN03,分生孢子形态观察和ITS序列分析表明其为胶孢炭疽菌。生物学特性研究表明,两个菌株生长最适培养基为PSA,最适温度分别是26 ℃和30 ℃,最适pH值为8,最适光照条件分别是光暗交替和完全黑暗。两个菌株孢子萌发最适温度分别是28 ℃和30 ℃,致死温度为55 ℃ 10 min。

【英文摘要】The Cassava Anthracnose was a kind of popular disease in China. Two isolates of CCGHN01 and CCGHN03 were isolated from the diseased leaves which were collected in HaiNan province of China, morphological identification and the sequencing analysis of ribosomal DNA internal transcribed spacer region showed the two isolates were Colletotrichum gloeosporioides. For mycelial growth, study on biological characteristics indicated that the optimum medium was PSA, the optimum temperatures were 26 °C and 30 °C respectively, the optimum pH was 8, the optimum light condition were alternative light and dark and complete darkness respectively. For conidia germination that the optimum temperatures were 28 °C and 30 °C respectively, the lethal temperature for conidia was 55 °C remaining 10 min.
【语种】中文
【第一作者】蔡吉苗
【通讯作者】黄贵修
【期刊名称、卷期、页码】安徽农业科学,2010,38(10):5435-5438,5467
【论文发表时间】2010-04-10 00:00:00
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【引文索引号】null
【学科分类】植物保护学

【题目】不同热水处理对芒果主要采后病害控制及贮藏期影响的研究.
【中文关键词】杧果; 热水处理; 采后病害; 贮藏时间
【英文关键词】Mango; Heat water treatment; Postharvest disease; Storability
【中文摘要】以海南3 个主栽杧果品种,5 种类型果实为试材,研究了3 种不同的热水处理方式对主要采后病害的控制效果及其对果皮伤害和贮藏期的影响。结果表明,51 °C、15 min 热水处理对供试果实炭疽病和蒂腐病2 种病害的控制效果最好;供试果实对热的敏感性存在差异;热水处理加速果实的后熟速度,但适宜的热水处理可大大提高好果率,且病害发生严重时,因能有效控制病害发生从而延长贮藏时间。综合分析后推荐小贵妃、大贵妃、大台农、小金煌使用51 °C、15 min 热水处理为最适宜的热处理方式。小台农使用47 °C、20 min 热水处理作为最适宜热处理方式。
【英文摘要】无
【语种】中文
【第一作者】李敏
【通讯作者】胡美姣
【期刊名称、卷期、页码】果树学报, 2010, 27 (1): 88-92
【论文发表时间】2010-01-01 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】植物保护学

【题目】褐飞虱基因组DNA的提取
【中文关键词】关键词:褐飞虱,基因组DNA,PCR
【英文关键词】关键词:褐飞虱,基因组DNA,PCR
【中文摘要】摘要:近年来分子生物学在昆虫学各领域中的广泛应用,从昆虫样品中有效地获得DNA模板是实验成功的前提,但是由于许多昆虫体形微小,较难获得高效高质量的DNA模板。本文采用DNA试剂盒提取褐飞虱基因组DNA模板的方法,该方法简单快速,效果好,可以用于PCR、酶切、文库构建等实验。
【英文摘要】摘要:近年来分子生物学在昆虫学各领域中的广泛应用,从昆虫样品中有效地获得DNA模板是实验成功的前提,但是由于许多昆虫体形微小,较难获得高效高质量的DNA模板。本文采用DNA试剂盒提取褐飞虱基因组DNA模板的方法,该方法简单快速,效果好,可以用于PCR、酶切、文库构建等实验。
【语种】中文
【第一作者】杨朗
【通讯作者】杨朗
【期刊名称、卷期、页码】.公共植保与绿色防控. 北京:中国农业科学技术出版社.2010,222-223
【论文发表时间】2010-11-18 00:00:00
【引文索引类型】其他

【引文索引号】null
【学科分类】植物保护学

【题目】22种杀菌剂对芒果蒂腐病菌(Botryodiplodia theobromae Pat.)的毒力测定
【中文关键词】杀菌剂;芒果蒂腐病菌;毒力测定
【英文关键词】fungicide; Botryodiplodia theobromae Pat.; toxicological test
【中文摘要】采用生长速率法进行了22种杀菌剂对2株芒果蒂腐病菌的室内毒力测定。 研究结果表明:同一杀菌剂对供试2株菌株的毒力无明显差异。 通过EC50值和EC75值综合分析,对芒果蒂腐病菌毒力最强的是多菌灵,其EC50、EC75值分别为0.03、0.05 mg/L,其他依次为甲基硫菌灵、咪鲜胺、丙环唑、咪鲜胺锰盐、苯醚甲环唑、氟硅唑、烯唑醇、异菌脲、吡唑醚菌酯、戊唑醇和腈菌唑,这1 2 种杀菌剂均可作为防治芒果蒂腐病的首选杀菌剂;另外,百菌清、醚菌酯和代森锰锌的EC5 0、EC7 5值均相对较低,也可作为防治芒果蒂腐病的杀菌剂。
【英文摘要】无
【语种】中文
【第一作者】胡美姣
【通讯作者】胡美姣
【期刊名称、卷期、页码】农药, 2009, 48 (3): 215-217
【论文发表时间】2009-03-01 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】植物保护学

【题目】广西褐飞虱的发生危害及其防治研究
【中文关键词】关键词:褐飞虱,发生,防治
【英文关键词】关键词:褐飞虱,发生,防治
【中文摘要】摘要 :褐飞虱Nilaparvata lugens (st å l) 是水稻生产地区最主要的水稻害虫之一。本文从广西特殊地理位置说明其在全国褐飞虱防治中的重要地位,并通过分析广西褐飞虱发生危害情况,提出利用抗性品种和化学农药的综合防治方法。
【英文摘要】摘要 :褐飞虱Nilaparvata lugens (st å l) 是水稻生产地区最主要的水稻害虫之一。本文从广西特殊地理位置说明其在全国褐飞虱防治中的重要地位,并通过分析广西褐飞虱发生危害情况,提出利用抗性品种和化学农药的综合防治方法。
【语种】中文
【第一作者】杨朗
【通讯作者】杨朗
【期刊名称、卷期、页码】. 植物保护科技创新与发展.北京:中国农业科学技术出版社.2008,633-636
【论文发表时间】2008-10-23 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】植物保护学

【题目】A study of the development of bio-energy resourcesand the status of eco-society in China
【中文关键词】Marginal land
Bio-energy
Energy plant
Ecological benefit
【英文关键词】Marginal land
Bio-energy
Energy plant
Ecological benefit
【中文摘要】Industrialization of bio-energy relies on the supply of resources on a large scale. The theoretical biomass resources could reach 2.61 – 3.51 billion tce (tons of coal equivalent)/a in China, while the available feedstock is about 440 – 640 million tce/a, however,

among this only 1.5 – 2.5% has been transferred into energy at present. Marginal land utilization has great prospects of supplying bio-energy resources in China, with co-benefits, such as carbon sequestration, water/soil conservation, and wind erosion protection. There is a large area of marginal land in China, especially in northern China, including about 263 million ha of desertification land, 173 million ha of sand-land, and 17 million ha of salinizatin land.The plant species suitable to be grown in marginal lands, including some species in Salix, Hippophae,Tamarix, Caragana, and Prunus is also abundant Biomass feedstock in marginal lands would be 100 million tce/a in 2020, and 200 million tce/a in 2050. As a result, a win – win situation of eco-society and bio-energy development could be realized, with an expected 4 – 5% reduction of total CO2 emission in China in 2020 – 2050. Although much progress has been made in the field of bio-energy research in China,yet significant efforts should be taken in the future to fulfill large-scale industrialization of bio-energy.

【英文摘要】Industrialization of bio-energy relies on the supply of resources on a large scale. The theoretical biomass resources could reach 2.61 – 3.51 billion tce (tons of coal equivalent)/a in China, while the available feedstock is about 440 – 640 million tce/a, however, among this only 1.5 – 2.5% has been transferred into energy at present. Marginal land utilization has great prospects of supplying bio-energy resources in China, with co-benefits, such as carbon sequestration, water/soil conservation, and wind erosion protection. There is a large area of marginal land in China, especially in northern China, including about 263 million ha of desertification land, 173 million ha of sand-land, and 17 million ha of salinizatin land.The plant species suitable to be grown in marginal lands, including some species in Salix, Hippophae,Tamarix, Caragana, and Prunus is also abundant Biomass feedstock in marginal lands would be 100 million tce/a in 2020, and 200 million tce/a in 2050. As a result, a win – win situation of eco-society and bio-energy development could be realized, with an expected 4 – 5% reduction of total CO2 emission in China in 2020 – 2050. Although much progress has been made in the field of bio-energy research in China,yet significant efforts should be taken in the future to fulfill large-scale industrialization of bio-energy.

【语种】英文

【第一作者】Xia Li
【通讯作者】Yongmei Huang

【期刊名称、卷期、页码】Energy 35 (2010) 4451 – 4456
【论文发表时间】2007-08-01 00:00:00
【引文索引类型】SCI
【引文索引号】0360-5442
【学科分类】农学其他学科

【题目】Above- and belowground biomass of Artemisiaordosica communities in three contrasting habitats ofthe Mu Us desert, northern China

【中文关键词】Allometric equations; Biomass allocation; Branch level; Dunes; Whole plant level
【英文关键词】Allometric equations; Biomass allocation; Branch level; Dunes; Whole plant level

【中文摘要】We developed and compared allometric equations describing leaf, branch, and fruit biomass at thebranch level, and leaf, branch, fruit and coarse root biomass at the whole plant level for Artemisiaordosica plants growing on fixed, semi-fixed and shifting dunes of the Mu Us desert. At the branchlevel, branch diameter significantly correlated with leaf, branch and fruit biomass. The allometricrelationships predicting leaf, branch and fruit biomass significantly differed among the different dune types. At the whole plant level, crown area significantly correlated with leaf, branch, fruit and coarse root biomass. The allometric relationships predicting leaf and fruit biomass significantly differed among the different dune types. Stand total biomass was 339.9, 178.8 and 25.0 gm 2 in fixed, semifixed and shifting dunes, respectively. Stand biomass of leaves, branches, fruits, coarse roots, and fine roots (1 – 2mm and o1mm in diameter) significantly decreased, while the below- to aboveground biomass ratio significantly increased from the fixed to the shifting dunes, with intermediate values for the semi-fixed dunes. Vertical distribution of fine root biomass also significantly differed among the three dune types. There was a significant and positive correlation between stand fine root biomass and stand crown area. These results will help to predict how the species will adapt to habitat changes through adjustments in morphology and biomass of different compartments under arid environmental conditions.

【英文摘要】We developed and compared allometric equations describing leaf, branch, and fruit biomass at thebranch level, and leaf, branch, fruit and coarse root biomass at the whole plant level for Artemisiaordosica plants growing on fixed, semi-fixed and shifting dunes of the Mu Us desert. At the branchlevel, branch diameter significantly correlated with leaf, branch and fruit biomass. The allometricrelationships predicting leaf, branch and fruit biomass significantly differed among the different dune types. At the whole plant level, crown area significantly correlated with leaf, branch, fruit and coarse root biomass. The allometric relationships predicting leaf and fruit biomass significantly differed among the different dune types. Stand total biomass was 339.9, 178.8 and 25.0 gm 2 in fixed, semifixed and shifting dunes, respectively. Stand biomass of leaves, branches, fruits, coarse roots, and fine roots (1 – 2mm and o1mm in diameter) significantly decreased, while the below- to aboveground biomass ratio significantly increased from the fixed to the shifting

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【语种】英文

【第一作者】C.-P. Li

【通讯作者】C.-W. Xiao

【期刊名称、卷期、页码】Journal of Arid Environments 70 (2007) 195 – 207

【论文发表时间】2007-02-01 00:00:00

【引文索引类型】SCI

【引文索引号】 0140-1963

【学科分类】农学其他学科

【题目】Belowground carbon pools and dynamics in China ’s warmtemperate and sub-tropical deciduous forests

【中文关键词】Organic matter;Microbial biomass;carbon cycling

【英文关键词】Organic matter;Microbial biomass;carbon cycling

【中文摘要】We report the first estimates of pools and dynamics of microbes, roots, plant litter and soil organic carbon (SOC) in three dominant types of China ’s vast deciduous forest area: Betula platyphylla, Quercus liaotungensis,and Quercus aliena var. acuteserrata. Organic matter degradation rates overshadowed litter inputs as the main determinant of the soil carbon stocks. Across the three forests,rates of litter decomposition were also indicative for turnover rates of SOC. Litter and SOC decay was faster in the subtropical than in the warm-temperate forests. Among the latter,SOC turnover was highest in the forest producing the higher-quality litter. Microbial biomass was, as expected,correlated with SOC content. Microbial activity, in contrast,was highest at the sub-tropical forest, despite the lower SOC availability, lower fraction of labile SOC, and lower soil microbialbiomass. These results may contribute to increased understanding of controls over belowground carbon cycling in deciduous forests.

【英文摘要】We report the first estimates of pools and dynamics of microbes, roots, plant litter and soil organic carbon (SOC) in three dominant types of China ’s vast deciduous forest area: Betula platyphylla, Quercus liaotungensis,and Quercus aliena var. acuteserrata. Organic matter degradation rates overshadowed litter inputs as the main determinant of the soil carbon stocks. Across the three forests,rates of litter decomposition were also indicative for turnover rates of SOC. Litter and SOC decay was faster in the subtropical than in the warm-temperate forests. Among the latter,SOC turnover was highest in the forest producing the higher-quality litter. Microbial biomass was, as expected,correlated with SOC content. Microbial activity, in contrast,was highest at the sub-tropical forest, despite the lower SOC availability, lower fraction of labile SOC, and lower soil microbialbiomass. These results may contribute to increased understanding of controls over belowground carbon cycling in deciduous forests.

【语种】英文

【第一作者】C.-W. Xiao

【通讯作者】C.-W. Xiao

【期刊名称、卷期、页码】Biogeosciences, 7, 275 – 287, 2010

【论文发表时间】2010-01-20 00:00:00

【引文索引类型】SCI

【引文索引号】1726-4170

【学科分类】农学其他学科

【题目】Effect of vegetation coverage on aeolian dust accumulation in a semiarid steppe ofnorthern China

【中文关键词】Land management

Organic carbon

Nutrient accumulation

Soil particle size

【英文关键词】Land management

Organic carbon

Nutrient accumulation

Soil particle size

【中文摘要】Wind erosion and sand storms are common phenomena in semiarid steppes of northern China and could have important impact on soil nutrient balances. Vegetation coverage is one of the key factors influencingwind erosion and aeolian dust accumulation.We conducted a field experiment to investigate the effects of vegetation coverage on airborne dust accumulation and evaluated effects of dust input on the contribution of nutrients to vegetationmulched fields. Five vegetation coverage treatments (15%, 35%, 55%, 75% and 95%) were constructed, with 0% coverage as a control. Vegetation coverage significantly affected dust accumulation in degenerated semiarid grasslands. Theamounts of dust trapped by the increasing coverageswere 1.7, 1.8, 2.0, 2.1 and 2.1 times of that by the control plot, respectively. The total accumulations reached a maximum of 2.5 g m − 2 day − 1 at 75% coverage and remained stable with further increasing vegetation coverage. The particles in the dust trapped by treatment without vegetation coveragewere significantly coarser than those by treatmentswith vegetation. In addition, the dust trapped by treatments with vegetation contained more organic carbon, nitrogen and phosphorus content than that by the control plot. This finding indicates that areas with higher vegetation coverage can obtain more nutrients by trapping airborne dust in semiarid steppes.
【英文摘要】Wind erosion and sand storms are common phenomena in semiarid steppes of northern China and could have important impact on soil nutrient balances. Vegetation coverage is one of the key factors influencingwind erosion and aeolian dust accumulation.We conducted a field experiment to investigate the effects of vegetation coverage on airborne dust accumulation and evaluated effects of dust input on the contribution of nutrients to vegetationmulched fields. Five vegetation coverage treatments (15%, 35%, 55%, 75% and 95%) were constructed, with 0% coverage as a control. Vegetation coverage significantly affected dust accumulation in degenerated semiarid grasslands. Theamounts of dust trapped by the increasing coverageswere 1.7, 1.8, 2.0, 2.1 and 2.1 times of that by the control plot, respectively. The total accumulations reached a maximum of 2.5 g m − 2 day − 1 at 75% coverage and remained stable with further increasing vegetation coverage. The particles in the dust trapped by treatment without vegetation coveragewere significantly coarser than those by treatmentswith vegetation. In addition, the dust trapped by treatments with vegetation contained more organic carbon, nitrogen and phosphorus content than that by the control plot. This finding indicates that areas with higher vegetation coverage can obtain more nutrients by trapping airborne dust in semiarid steppes.
【语种】英文
【第一作者】Yuchun Yan
【通讯作者】Xiaoping Xin
【期刊名称、卷期、页码】Catena,doi:10.1016/j.catena.2011.07.002
【论文发表时间】2011-07-14 00:00:00
【引文索引类型】SCI
【引文索引号】0341-8162
【学科分类】农学其他学科

【题目】Modeling Optimal Grazing Management for GrasslandRehabilitation on the Typical Steppe: A Case Study in TaipusiBanner, Inner Mongolia, China
【中文关键词】bioeconomic model, farm returns, grassland degradation, livestock productivity, stocking rate
【英文关键词】bioeconomic model, farm returns, grassland degradation, livestock productivity, stocking rate
【中文摘要】Grassland degradation is a serious production and environmental problem in China where approximately 90% of available grasslands are being degraded to some degree.Off-site impacts take the form of sandstorms and the negative impacts upon urban centers in terms of human health and damage to infrastructure. On the other hand, onsite impact is exhibited by low livestock productivity from reduced pasture quality. To evaluate optimal grazing management in China's typical steppe regions, the condition of grassland, number of animals, farm income, seasonal conditions and experimental datawere included in a bioeconomic model to analyze the public grazing system in Taipusi Banner, Inner Mongolia, China. The model solutions indicate that net farm income can be increased by reducing stocking rates from current levels, as this could result in a combination of an improvement in grassland condition and increased animal productivity. Improved grazing management through reduced grazing intensity in this region has the potential to not only rehabilitate grasslands but increase whole-farmreturns from improved livestock productivity.
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and increased animal productivity. Improved grazing management through reduced grazing intensity in this region has the potential to not only rehabilitate grasslands but increase whole-farmreturns from improved livestock productivity.
【语种】英文
【第一作者】Yang Zheng
【通讯作者】Zhu Xu
【期刊名称、卷期、页码】PHILIPP AGRIC SCIENTISTVol. 93 No. 4, 369-December 2010
【论文发表时间】2010-12-01 00:00:00
【引文索引类型】SCI
【引文索引号】0031-7454
【学科分类】农学其他学科

【题目】Modeling responses of the meadow steppe dominated byLeymus chinensis to climate change
【中文关键词】climate change;Modeling;meadow steppe
【英文关键词】climate change;Modeling;meadow steppe
【中文摘要】Grassland is one of the most widespread vegetation types worldwide and plays a significant role in regional climate and global carbon cycling. Understanding the sensitivity of Chinese grassland ecosystems to climate change and elevated atmospheric CO2 and the effect of these changes on the grassland ecosystems is a key issue in global carbon cycling.China encompasses vast grassland areas of 354 million ha of 17 major grassland types,according to a national grassland survey. In this study, a process-based terrestrial model—the CENTURY model—was used to simulate potential changes in net primary productivity (NPP) and soil organic carbon (SOC) of the Leymus chinensis meadow steppe (LCMS) under different scenarios of climatic change and elevated atmosphericCO2. TheLCMSsensitivities,its potential responses to climate change, and the change in capacity of carbon stock and sequestration in the future are evaluated. The results showed that the LCMS NPP and SOCare sensitive to climatic change and elevated CO2. In the next 100 years, with doubled CO2concentration, if temperature increases from 2.7 – 3.9 ◦ C and precipitation increases by 10%,NPP and SOC will increase by 7 – 21% and 5 – 6%, respectively. However, if temperature increases by 7.5 – 7.8 ◦ C and precipitation increases by only 10%, NPP and SOC would decrease by 24% and 8%, respectively. Therefore, changes in the NPP and SOC of the meadow steppe are attributed mainly to the amount of temperature and precipitation change and the atmospheric CO2 concentration in the future.
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【语种】英文
【第一作者】Yuhui Wang
【通讯作者】Guangsheng Zhou
【期刊名称、卷期、页码】Climatic Change (2007) 82:437 – 452DOI 10.1007/s10584-006-9145-z
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【引文索引号】0165-0009
【学科分类】农学其他学科

【题目】Modeling SOC and NPP responses of meadow steppe todifferent grazing intensities in Northeast China
【中文关键词】Meadow steppe
Grazing intensity
Soil organic carbon
NPP
【英文关键词】Meadow steppe
Grazing intensity
Soil organic carbon
NPP
【中文摘要】Grassland ecosystems play an important role in Chinese terrestrial ecosystems. However,great demand and excessive utilization of human beings on grassland resources have made it more susceptible to rapid degeneration in ecosystem properties and soil carbon levels.Among them, grazing is one of the key factors to make grassland ecosystems degraded.Therefore, it is very important to graze sustainably on grassland for preventing the degradation of grasslands. In this paper, as a case study, we simulated the potential changes of soil organic carbon (SOC) and net primary productivity (NPP) of meadow steppe dominated by Leymus chinensis under different grazing intensities based on CENTURY model (V4.0) in order to evaluate the effects of different grazing intensities and to pursue for optimal grazing intensity. The results showed that NPP and SOC of meadow steppe dominated by Leymus chinensis were very sensitive to grazing intensity. The optimal grazing intensity could beexpressed by live shoots, and it should be less than 40% of whole live shoots per month, inorder to mitigate the degradation of Leymus chinensis grassland and maintain its sustainabledevelopment.
【英文摘要】Grassland ecosystems play an important role in Chinese terrestrial ecosystems. However,great demand and excessive utilization of human beings on grassland resources have made it more susceptible to rapid degeneration in ecosystem properties and soil carbon levels.Among them, grazing is one of the key factors to make grassland ecosystems degraded.Therefore, it is very important to graze sustainably on grassland for preventing the degradation of grasslands. In this paper, as a case study, we simulated the potential changes of soil organic carbon (SOC) and net primary productivity (NPP) of meadow steppe dominated by Leymus chinensis under different grazing intensities based on CENTURY model (V4.0) in order to evaluate the effects of different grazing intensities and to pursue for optimal grazing intensity. The results showed that NPP and SOC of meadow steppe dominated by Leymus chinensis were very sensitive to grazing intensity. The optimal grazing intensity could beexpressed by live shoots, and it should be less than 40% of whole live shoots per month, inorder to mitigate the degradation of Leymus chinensis grassland and maintain its sustainabledevelopment.
【语种】英文
【第一作者】Yuhui Wang
【通讯作者】Guangsheng Zhou
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【引文索引类型】SCI
【引文索引号】0304-3800
【学科分类】农学其他学科

【题目】Seasonal Dynamics in Resource Partitioning to Growth andStorage in Response to Drought in a Perennial RhizomatousGrass, Leymus chinensis
【中文关键词】Resource partitioning Growth Storage
Biomass Gross calorific value N K+ Na+
Drought Perennial rhizomatous grass Leymus chinensis
【英文关键词】Resource partitioning Growth Storage
Biomass Gross calorific value N K+ Na+
Drought Perennial rhizomatous grass Leymus chinensis
【中文摘要】A natural grassland in northeastern China dominated by Leymus chinensis (Trin.) was subject todrought treatments to determine the seasonal dynamics in resource partitioning to shoot and storage organs in response to drought. The growing season was divided into six stages according to the phenology of L. chinensis. Plant samples of L. chinensis were collected at each stage todetermine biomass, gross calorific value, relative water content, and key mineral contents of plant parts, including rhizomes, roots, leaves, and stems. Resource partitioning to shoot and storage organs as measured by biomass, gross calorific value, and N, K+, and Na+ contents

varied significantly among phenologic stages. Drought treatment (natural precipitation, 50 – 60 % of field capacity) significantly reduced biomass, gross calorific value, relative water content of shoot, and N and K+ contents in both shoot and storage organs, but it enhanced rhizome : shoot ratio and Na+ content. A negative correlation in biomass, gross calorific value, and K+ and Na+ contents between shoot and storage organs was found throughout the growing season,which may have been accentuated by drought when soil moisture was limited. Our results indicate that resource partitioning to storage plays an important role in regulatingplant growth of L. chinensis, especially under droughtconditions.

【英文摘要】A natural grassland in northeastern China dominated by Leymus chinensis (Trin.) was subject todrought treatments to determine the seasonal dynamics in resource partitioning to shoot and storage organs in response to drought. The growing season was divided into six stages according to the phenology of L. chinensis. Plant samples of L. chinensis were collected at each stage todetermine biomass, gross calorific value, relative water content, and key mineral contents of plant parts, including rhizomes, roots, leaves, and stems. Resource partitioning to shoot and storage organs as measured by biomass, gross calorific value, and N, K+, and Na+ contents varied significantly among phenologic stages. Drought treatment (natural precipitation, 50 – 60 % of field capacity) significantly reduced biomass, gross calorific value, relative water content of shoot, and N and K+ contents in both shoot and storage organs, but it enhanced rhizome : shoot ratio and Na+ content. A negative correlation in biomass, gross calorific value, and K+ and Na+ contents between shoot and storage organs was found throughout the growing season,which may have been accentuated by drought when soil moisture was limited. Our results indicate that resource partitioning to storage plays an important role in regulatingplant growth of L. chinensis, especially under droughtconditions.

【语种】英文

【第一作者】Renzhong Wang

【通讯作者】Renzhong Wang

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【引文索引号】0721-7595

【学科分类】农学其他学科

【题目】食用菌菌渣堆肥化促进秸秆菌业良性循环

【中文关键词】食用菌菌渣; 污染; 堆肥; 生态

【英文关键词】无

【中文摘要】随着食用菌产业的蓬勃发展, 食用菌菌渣大量产生, 为了提高菌渣利用率, 防止菌渣产生二次污染,实现桔秆菌业的良性循环。本文在总结了国内外科研人员对食用菌菌渣利用研究的基础上, 针对目前食用菌菌渣利用存在的问题, 提出了堆肥化是实现食用菌菌渣无害化和资源化的一条重要途径, 并提出了食用菌菌渣堆肥化的研究重点。

【英文摘要】无

【语种】中文

【第一作者】管道平

【通讯作者】胡清秀

【期刊名称、卷期、页码】中国农作制度研究进展,2008,462-464.

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【引文索引类型】其他

【引文索引号】null

【学科分类】微生物学

【题目】外源重金属对杏鲍菇生长发育的影响研究

【中文关键词】杏鲍菇;外源重金属;耐性指数;细胞超微结构

【英文关键词】Pleurotus eryngii; exogenous heavy metals ;tolerance index; cell ultrastructure

【中文摘要】杏鲍菇是中国等亚洲国家广泛栽培的一种食用菌,培养基中重金属影响杏鲍菇的生长和品质。采用常规袋栽培技术,通过对杏鲍菇栽培过程中添加不同水平Pb、As、Hg和Cd,研究了其毒害效应、耐受性以及对生长发育、产量的影响。结果表明,在试验设置的浓度范围内,外源添加Pb、Hg、Cd的处理对杏鲍菇菌丝生长均产生抑制作用,菌丝生长速度最低值分别比空白对照降低了24.0%、31.0%、18.7%;但浓度为5~50mg.kg-1的As可能会促进菌丝生长,且添加As的处理促进杏鲍菇提早出菇。杏鲍菇对4种重金属的耐性指数排列顺序为As〉Cd〉Pb〉Hg。添加一定浓度的重金属可导致杏鲍菇细胞

变形、细胞壁溶解,且细胞质中形成大量黑色颗粒状结晶异物。因此,在杏鲍菇栽培中应控制其培养料中的重金属含量。
【英文摘要】Pleurotus eryngii is widely cultivated in China and other Asia countries,the growth and quality of P.eryngii can be affected by heavy metals in culture medium.The paper mainly studied the inhibited effects,tolerance index,growth and development of exogenous heavy metals on P.eryngii by the way to mixed different concentrations of As,Pb,Hg and Cd with culture medium during cultivated period.The results indicated that mycelium growth of P.eryngii was inhibited by the addition of exogenous Pb、Hg and Cd in medium,and the minimum mycelium growth speeds under the treatments were 24.0%、31.0%、18.7% lower than that of the control in the predetermined concentration range.However,the addition of As at the concentration of 5~50 mg · kg-1 accelerated the mycelium growth and advanced the fruiting time.The tolerance of P.eryngii to the heavy metals was AsCdPbHg.Addition of the heavy metals could cause the changes of cell ultrastructure of P.eryngii,including cytomorphosis,cell wall lysis,and formation of large amouts of black granular crystals in cytoplasm.Consequently,it was essential to control the concentrations of heavy metals in culture medium of P.eryngii.
【语种】中文
【第一作者】胡清秀
【通讯作者】胡清秀
【期刊名称、卷期、页码】农业环境科学学报,2011,30(2): 236-243
【论文发表时间】2011-02-01 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】微生物学

【题目】不同微生物菌剂对农业废弃物堆肥发酵效果的影响
【中文关键词】微生物菌剂 农业废弃物 堆肥
【英文关键词】Microbial agent; agaricus bisporus; compost
【中文摘要】3种微生物菌剂对农业废弃物双孢蘑菇土堆肥发酵效果研究表明,与不添加微生物菌剂相比,添加微生物菌剂发酵效果较好;不同微生物菌剂的比较,菌剂2(有机物料腐熟剂)堆肥效果最好,可加快堆肥的升温速度,延长高温期,同时提高堆体的pH值和水溶性铵态氮含量,增加有机肥的氮磷钾含量,提高堆肥腐熟度指标。:
【英文摘要】Effects of 3 microbial agents on fermentation efficiency of an agricultural waste,Agaricus bisporus compost was studied.The results showed that,to compare with no microbial agent treatment,addition of microbial agents had better fermentation efficiency.When comparing different microbial agents,microbial agent 2(organic maturity agent) had the best composting effect,it could accelerate the temperature-raising speed and prolong the high-temperature period,meanwhile,agent 2 could increase pH value,water-soluble NH+4-N content,maturity index of compost and increase nitrogen,phosphorus,potassium contents in organic manures.
【语种】中文
【第一作者】刘志平
【通讯作者】刘志平
【期刊名称、卷期、页码】福建农业科技,2011,5:87-90,117
【论文发表时间】2011-06-20 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农业基础学科

【题目】Cloning and sequence analysis of the polygalacturonase (PG) gene in pepper (Capsicum annuum L.)
【中文关键词】多聚半乳糖醛酸酶; 基因克隆;辣椒
【英文关键词】po lygalacturonase; cDNA cloning; pepper
【中文摘要】以耐贮辣椒品系P98为材料,采用RACE方法,首次获得辣椒果实多聚半乳糖醛酶(PG)基因的全长cD-NA,命名为CaPG,登录号为FJ596175。序列分析结果表明,该基因cDNA长1 668 bp,5′非编码区为119 bp,3′非编码区为442 bp,CDS长1 107 bp,编码368个氨基酸。Blast比对发现,该基因核苷酸序列与已报道的番茄和番木瓜PG基因具有84%和85%的相似性。聚类分析表明,该基因与番茄和番木瓜的亲缘关系较近,与拟南芥PG基因的亲缘关系较远。
【英文摘要】Pepper (Cap sicum annuum L.) line P98 w as used as material in this study. A ful- l leng th PG cDNA w as isolated by rapid amplificat ion of cDNA ends (RACE) and designated as CaPG (GenBank accession number: FJ596175) . T he ful- l length cDNA of CaPG w as 1 668 bp long. It includes the putat iv e t ranscript io n start site, a potent ial o pen r eading f rame of 1 107 bp, w

hich enco des a 369 amino acid po lypept ide,a 5 c -unt ranslated r eg io n (5c -U TR) o f 119 bp and a 3c -untr anslated reg ion (3c -U TR) of 442 bp. Homo logy analysis of amino acid sequence of CaPG show ed an 84% identity w ith PG -2a in tomato and 85% ident ity w i th PG in papay a. Phylo genet ic analysis show ed that PG g ene from pepper and f rom tomato, papaya w as clustered to gether, and then came those f rom Ar abidop si s.

【语种】英文

【第一作者】CHEN Ru-gang;

【通讯作者】GONG Zhen-hui

【期刊名称、卷期、页码】The 2nd conference on key technology of horticulture, 2010, 7:53-56. London Science Publishing.

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【引文索引类型】ISTP

【引文索引号】null

【学科分类】园艺学

【题目】不同用量长效复合肥添加剂(NAM)在茶树上的应用效果

【中文关键词】NAM 茶树 效果

【英文关键词】NAM; tea; fertilization

【中文摘要】通过2年田间小区试验研究不同用量长效复合肥添加剂(NAM)在茶树上的应用效果。结果表明,随添加剂用量的增加,土壤中铵态氮含量逐渐升高,硝态氮含量逐渐降低,表明添加剂能减慢铵态氮向硝态氮的转化。随添加剂(NAM)用量的增加,茶青产量先增加后降低,以添加7.5‰NAM处理的茶青产量和百芽重最高,2010年和2009年茶青产量分别比对照增产5.20%和2.64%。2010年茶青产量、芽头密度和百芽重增长率高于2009年,土壤中铵态氮和硝态氮含量也普遍高于2009年。可见,NAM具有抑制尿素的水解和铵态氮硝化的作用,能够节省劳动力,具有延长肥效的效果。

【英文摘要】A 2-year field experiment was conducted to study the effect of the long-term compound additives(NAM) in varying quantities on the tea trees.The results showed that increased NAM caused gradual increase on NH+4-N and reduction on NO-3-N.The additive slowed down the conversion of NH+4-N to NO-3-N.With the additon of NAM,tea yield was increased initially,and then,decreased.Both yield and hundred-bud-weight of green tea peaked when 75% NAM was applied.The yield was more than 5.20% in 2010,and 2.64% in 2009,as compared to the control.The increasing rates on tea yield,bud density and hundred-bud-weight were higher in 2010 than 2009.And,the NH+4-N and NO-3-N contents in the soil were also higher in 2010 than 2009.Thus,it was concluded that NAM application could inhibit urea hydrolysis and ammonium nitrification resulting in savings on labor fertilizer.

【语种】中文

【第一作者】张青

【通讯作者】罗涛

【期刊名称、卷期、页码】福建农业学报,2011,26(5):860-863

【论文发表时间】2011-08-11 00:00:00

【引文索引类型】其他

【引文索引号】null

【学科分类】农业基础学科

【题目】两种氮肥不同用量及添加双氰胺对蔬菜品质和土壤氮形态的影响

【中文关键词】氮肥用量;双氰胺;氮形态;蔬菜品质

【英文关键词】Dosage of nitrogenous fertilizer; Dicyandiamide; N form; Vegetable quality

【中文摘要】采用网室盆栽结合田间小区试验,研究了两种氮肥(尿素和硝酸铵)不同用量及其添加双氰胺对土壤铵态氮、硝态氮、土壤硝化细菌动态变化的影响,以及与空心菜、菠菜中硝酸盐、产量和品质关系。结果表明,2 种氮肥不同用量都与空心菜的产量呈显著或极显著的二次曲线关系,与土壤铵态氮和硝态氮、以及蔬菜中硝酸盐含量呈正相关。不论施用尿素还是硝酸铵的处理,添加双氰胺都有利于提高蔬菜产量和维生素C、降低土壤中硝化细菌数量、减缓铵态氮的转化,从而减少蔬菜对硝酸盐的吸收。不论是减少土壤硝化细菌数量、减少土壤硝态氮含量、增加土壤铵态氮含量,还是减少菜体硝酸盐含量的效果上来看,在尿素中添加双氰胺处理的效果均好于在硝酸铵中添加双氰胺的处理,证实了双氰胺作为一种硝化抑制剂,能有效抑制硝化细菌数量,从而降低土壤硝态氮含量,最终导致降低菜体硝酸盐含量。

【英文摘要】Hyocaust and field plot experiments were carried out to study effects of different dosage of two nitrogenous fertilizers and dicyandiamide (DCD) on the kinesis of NH4+-N, NO3--N and nitrobacteria on soil, as well as the relationship with the amount of nitrate, yield and quality of swamp cabbage and spinach. Results indicated that the relation between different dosage of two N fertilizers

and yields of swamp cabbage was significant and taking on the curve of second order, while the correlations of dosage of N fertilizers and the contents of NH4+-N and NO3--N or the amount of nitrate in cabbage were positive. The yield of vegetable and Vc quantum were elevated and the amounts of nitrobacteria were reduced and the translation of NH4+-N was retarded, no matter DCD was added to urea or ammonium nitrate (AN). Thereby, the absorption of NO3--N was decreased in vegetable. The effect of applying DCD to urea on reducing the numbers of nitrobacteria and retarding decreasing the content of NH4+-N and increasing that of NO3--N was better than application of DCD into AN. It confirmed the mechanism that DCD as a nitrification inhibitor could inhibit the amounts of nitrobacteria effectively, thus reduced the content of NO3--N in soil and vegetables.

【语种】中文
【第一作者】罗涛
【通讯作者】罗涛
【期刊名称、卷期、页码】土壤通报,2010,41(2):383-388
【论文发表时间】2010-04-01 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农业基础学科

【题目】Enhancing disease resistances of Super Hybrid Rice with four antifungal genes
【中文关键词】无
【英文关键词】disease resistances Super Hybrid Rice
【中文摘要】无
【英文摘要】A plant expression vector harboring four antifungal genes was delivered into the embryogenic calli of ‘ 9311 ’,an indica restorer line of Super Hybrid Rice,via modified biolistic particle bombardment.Southern blot analysis indicated that in the regenerated hygromycin-resistant plants,all the four anti-fungal genes,including RCH10,RAC22, β -Glu and B-RIP,were integrated into the genome of ‘ 9311 ’,co-transmitted altogether with the marker gene hpt in a Mendelian pattern.Some transgenic R1 and R2 progenies,with all transgenes displaying a normal expression level in the Northern blot analysis,showed high resistance to Magnaporthe grisea when tested in the typical blast nurseries located in Yanxi and Sanya respectively.Furthermore,transgenic F1 plants,resulting from a cross of R2 homozygous lines with high resistance to rice blast with the non-transgenic male sterile line Peiai 64S,showed not only high resistance to M.grisea but also enhanced resistance to rice false smut(a disease caused by Ustilaginoidea virens)and rice kernel smut(another disease caused by Tilletia barclayana).
【语种】英文
【第一作者】朱华辰
【通讯作者】李宝健
【期刊名称、卷期、页码】Science in China Ser C:Life Sciences 2007,50(1):31-39
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【引文索引类型】SCI
【引文索引号】无
【学科分类】遗传学

【题目】mRNA 差异显示技术在分离水稻抗性基因中的应用
【中文关键词】mRNA差异显示; 水稻; 抗性基因
【英文关键词】mRNA differential display; Oryza sativa L. ; Resistant gene
【中文摘要】mRNA 差异显示技术从问世至今, 在分离水稻抗性基因中得到了广泛的应用, 通过对差异表达基因进行分析, 能够进一步阐明水稻的抗性机理。对近年来mRNA 差异显示法分离水稻抗性基因的研究做了总结, 并从引物改进、PCR退火温度、dNTP 浓度的改进、胶浓度的选择、标记方法的改进和差异片段验证方法的改进7个方面对mRNA 差异显示技术的优化做了简单阐述。
【英文摘要】The technique of mRNA differential display has extensively been used in isolation of resistant genes in rice since its naissance. Through the analysis of 1the differentially expressed genes, the resistant mechanism of rice could be further clarified. The recent studies on isolating resistant genes in rice by mRNA differential display technique were summarized and the improvements of DDRT-PCRwas expounded simply from 7 aspects of improvement of primer, PCR anneal temperature, improvement of dNTP concentration, selection of glue concentration, improvement of marker method and improvement of difference segment validate.

【语种】中文
【第一作者】陈昊
【通讯作者】肖国樱
【期刊名称、卷期、页码】安徽农业科学 2007, 35(13) : 3820- 3821, 3845
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【引文索引类型】其他
【引文索引号】0517- 6611(2007) 13- 03820- 02
【学科分类】遗传学

【题目】SSR标记在水稻遗传育种中的应用
【中文关键词】SSR; 分子标记; 遗传; 育种; 水稻
【英文关键词】Molecular maker; Genetics; Breeding; Rice
【中文摘要】SSR(simp le sequence repeat)是一种基于PCR(polym erase cha in reaction)的DNA分子遗传标记, 广泛分布于整个植物基因组。笔者对SSR标记在构建水稻分子遗传图谱、基因定位和克隆、QTL(quan tita tive tra it loc i)分析、品种鉴定、分子标记辅助选择育种等方面的研究进展进行了综述。
【英文摘要】SSR (simple sequence repeat), a kind o f DNA molecular gene tic maker based on PCR (polymerase cha in reaction), existed extensively in plant genome. The applications o f SSR in rice genetics and breeding including construction o f genetic linkage map, identification o f gene, QTL (quantitative trait loci) analysis, variety dentification and maker- assisted selection breeding we re summarized in this paper.
【语种】中文
【第一作者】黄国庆
【通讯作者】肖国樱
【期刊名称、卷期、页码】江西农业学报 2007, 19(4): 20- 22
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【引文索引类型】其他
【引文索引号】1001- 8581(2007) 04- 0020- 03
【学科分类】遗传学

【题目】Strategy and utilization of a herbicide resistance gene in two-line hybrid rice
【中文关键词】无
【英文关键词】Herbicide resistance gene Purity of hybrid seed Sterility fluctuation Transgenic rice Two-line hybrid rice
【中文摘要】无
【英文摘要】Hybrid rice plays an important role in China ’s aim to improve rice production as it accounts for some 50% of rice planting area but produces about 60% of the total rice grain. However, the existing three-line system used in hybrid rice production has its limitations. The two-line system, which makes use of photoperiod-sensitive genic male-sterile (PGMS) and thermo-sensitive genic male-sterile (TGMS) lines to generate the malesterile parental line, was developed to overcome some of these limitations. The sterility of the malesterile line of two-line hybrid rice, however, fluctuates when the temperature-sensitive phase of fertility encounters abnormal low temperatures during hybrid seed production, which induces selfing and decreases the purity of hybrid. We describe here the strategy of utilizing a herbicide resistance gene in two-line hybrid rice to eliminate this fluctuation in the sterility of the P/TGMS lines during hybrid seed production and reports the development of the herbicide resistance restorer line Bar68-1 and its herbicide-resistant early season hybrid rice Xiang125s/Bar68-1. When the restorer line and its derived hybrid are herbicide resistant, the selfed seeds can be removed easily from the hybrid by herbicide spraying. A herbicide resistance gene bar was transferred into a restorer line by particle bombardment. The resulting transgenic restorer line Bar68-1 and its hybrid Xiang125 s/Bar68-1 inherited stable herbicide resistance. The purity of Xiang125s/Bar68-1 was increased by spraying the seed bed with herbicide, which resulted in a significant increase in yield, grain quality, and disease resistance in comparison to the controls in a regional trial.
【语种】英文
【第一作者】肖国樱
【通讯作者】肖国樱
【期刊名称、卷期、页码】Mol Breeding (2007) 20:287 – 292

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【引文索引类型】SCI
【引文索引号】DOI 10.1007/s11032-007-9091-0
【学科分类】遗传学

【题目】不同因素对水稻温敏核不育系香125S花药培养的影响
【中文关键词】水稻; 花药培养; 温敏核不育系; 香125S
【英文关键词】rice; anther culture; thermo-sensitive genic male sterile (TGMS) line; Xiang 125S
【中文摘要】本文研究了不同培养基、播种期和光温处理对温敏核不育系香125S 花药培养的影响。结果表明: 在M8 、N6和改良M8 三种诱导愈伤组织培养基中, 改良M8 培养基的效果最佳, 3 月下旬播种和温度敏感期短日照低温处理能显著提高香125S 花药培养力。
【英文摘要】This paper studied effects of different factors, i.e., culture mediums, seeding date, photoperiod and temperature, on anther culture ability of thermo-sensitive genic male sterile (TGMS) line Xiang 125S.The results show ed that the improved M 8 medium w as the best one for anther culture among M8, N6 and improved M8 medium , seeding at the end decade of M arch and the treatment of short day and low temperature at thermo-sensitive stage could significantly improve anther culture ability of Xiang 125S.
【语种】中文
【第一作者】冯双华
【通讯作者】肖国樱
【期刊名称、卷期、页码】农业现代化研究,2007,28(3):358-360
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【引文索引类型】其他
【引文索引号】1000- 0275(2007) 03- 0358- 03
【学科分类】遗传学

【题目】超级早稻株两优819配套栽培技术规程
【中文关键词】超级杂交稻; 株两优819; 栽培技术; 规程
【英文关键词】无
【中文摘要】株两优819 是湖南亚华种业科学院选育的两系杂交早稻组合, 2005 年通过湖南省农作物品种审定委员会审定。介绍了该组合的特征特性及高产配套栽培技术。
【英文摘要】无
【语种】中文
【第一作者】杨远柱
【通讯作者】杨远柱
【期刊名称、卷期、页码】湖南农业科学 2007, (4) : 90- 91, 95
【论文发表时间】2007-10-10 00:00:00
【引文索引类型】其他
【引文索引号】1006- 060X(2007) 04- 0090- 02
【学科分类】农学其他学科

【题目】高产杂交晚稻新组合中优272
【中文关键词】杂交晚稻; 中优272; 选育
【英文关键词】无
【中文摘要】中优272 是湖南亚华种业科学院用印水型不育系中9A 与自育恢复系华恢272配组育成的籼型杂交晚稻新组合。2004) 2005 年参加江西省早熟晚稻区试, 表现丰产稳产性好, 米质较优, 稻瘟病抗性较强, 熟期适中, 适应性广, 具有较好的应用前景, 2006 年3月通过江西省农作物品种审定委员会审定。
【英文摘要】无
【语种】中文
【第一作者】符辰健
【通讯作者】符辰健

【期刊名称、卷期、页码】杂交水稻, 2007, 22(3) : 78- 79
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【引文索引类型】其他
【引文索引号】1005- 3956 (2007) 03- 0078- 02
【学科分类】农学其他学科

【题目】光温敏核不育水稻幼穗育性转换期蛋白质组的初步分析
【中文关键词】水稻; 蛋白质组; 幼穗; 双向电泳; MOLDI- TOF 质谱分析
【英文关键词】oryza sativa, proteomics, spikelet, 2D-gel electrophoresis, MADLI-TOF mass spectrometry analysis
【中文摘要】为找寻光温敏核不育水稻幼穗与育性调控有关的蛋白质, 采用固相pH 梯度- SDS 聚丙烯酰胺双向凝胶电泳对光温敏核不育水稻(培矮64S) 育性转换期幼穗总蛋白进行了分离, 获取凝胶图像并进行重复性分析, 通过微量测序- Edman 降解方法和原位酶解及MALDI- TOF 质谱的方法鉴定了60 个蛋白质点。结果表明: 本方法可得取分辨率和重复性较好的凝胶图谱。蛋白质点在2D 胶上的重复性为: 沿等电聚焦方向偏差为1. 49 ? 0. 22 mm, 沿SDS- PAGE 方向偏差为1. 24? 0. 18 mm。37 个蛋白质点得到了准确的鉴定结果, 其中16 个是差异蛋白质点。在不育变化为可育的过程中, 明显表达上调的蛋白质点包括几丁质酶, 丙酮酸脱氢酶等; 明显下调的蛋白质包括超氧化物歧化酶, 硝酸还原酶脱辅基酶蛋白等; 金属硫蛋白RicMT 只在可育中存在。
【英文摘要】The proteins of photo-thermo-sensitive genetic mail sterile rice (ORYZASATIVA peiai64S) spikelet on fertility alternat ion stage were separated by tw o- dimensional electro phoresis with immobilized pH (3-10) gradient s as the first dimension and SDS-PAGE as the second1 2-D maps with high quality and reproducibility were obtained1Mean standard deviations of 1. 49±0. 22 mm for IPG-IEF and 1. 24±0. 18 mm for SDS-PAGE were obtained. 60 protein spots out of about 1000 detectable spot s on the 2-D gels were indentified by the follow ing tw o methods: 1) Nterminal Edman degradat ion microsequencing after the protein spots were electrot ransferred to PVDF membrane. 2) MALDI-TOF-MS peptide finger print analysis of the protein spots and protein database searching. The 2D protein maps of the rice spikelet during the sterile and fertile stages were compared. While the rice spikelet changed from sterile to fertile stages, about 16 protein spots showed variations that were significant and reproducible. Six up-regulated proteins and nine down-regulated proteins were identified. One protein only exist infertile stage.
【语种】中文
【第一作者】梁海鹰
【通讯作者】梁海鹰
【期刊名称、卷期、页码】广东海洋大学学报,2007,27(3):117-122
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【引文索引类型】其他
【引文索引号】1673- 9159(2007) 03- 0117- 06
【学科分类】农学其他学科

【题目】利用实时荧光定量PCR法检测转基因水稻外源基因拷贝数的研究
【中文关键词】SYBR Green Ⅰ实时荧光定量PCR; 烟酰胺合成酶基因; 转基因水稻; 拷贝数
【英文关键词】SYBR Green Ⅰ real-time fluorescence quantitative PCR; nicotianamine synthase gene;transgenic rice; copy number
【中文摘要】转基因植物中外源基因拷贝数是影响目的基因表达水平和遗传稳定性的重要因素, 因此外源基因拷贝数的检测成为转基因研究的关键. 利用高通量、快速、灵敏的SYBR Green Ⅰ荧光定量实时PCR 法, 检测了转大麦烟酰胺合成酶基因(NAS1) 水稻中外源基因拷贝数. 以蔗糖磷酸合成酶基因(SPS) 作为水稻的内源参照基因, 通过梯度稀释法, 分别获得了NAS1 和SPS 基因的Ct 值与起始模板数的相关性标准曲线, 相关系数分别为0.999 76 和0.995 71, 相关性高. 通过目的基因NAS1 和水稻内源参照基因SPS 起始模板数的比较, 获得了目的基因在转基因水稻中的拷贝数, 在8 株转基因株系中, 1 株为假阳性, 1 株拷贝数为1, 3 株拷贝数为2, 其余3株拷贝数分别为3、4 和7, 而阴性对照拷贝数为0. 这种方法快速、简便、准确, 可以满足转基因育种工作中对后代优良株系的选择.
【英文摘要】In transgenic plants, the number of transgene copy is an important factor that can greatly influence the level of expression and genetic stability of the target gene. Estimating the transgene copy number becomes a significant step in transgenic research. High-throughput, fast and sensitive SYBR Green Ⅰ real-time fluorescence quantitative PCR was used to estimate the copy number of nicotianamine synthase gene(NAS1) of barley in transgenic rice, and the sucrose phosphate synthase gene(SPS) in rice was used as endogenous reference gene. With a serial of dilutions, the standard curves of the threshold cycle(Ct) relative to the log of each initial template copy of NAS1 and SPS gene were obtained, and the correlation coefficients were 0.99976 and 0.99571, respectively. The

transgenic copy number was obtained by comparing the initial template copy of NAS1 with that of SPS. Among the eight putative transgenic lines, one was non-transgenic plant, one had one copy number, three had two copies, and the other had three, four and seven copies, respectively. At the same time, the negative control had zero copy. The method of estimating copy number of exogenous gene by real-time fluorescence quantitative PCR was characterized as speediness, convenience and nicety, which can satisfy the demands of elite line selection in transgenic breeding.

【语种】中文
【第一作者】王育花
【通讯作者】肖国樱
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【引文索引号】1007-7847(2007) 04-0301-05
【学科分类】分子生物学

【题目】两系杂交早稻新组合株两优611的选育与应用技术
【中文关键词】株两优611; 两系杂交早稻; 选育; 应用技术
【英文关键词】无
【中文摘要】株两优611是作者用低温敏两用核不育系株1S与优质两系父本华611选配的中熟两系杂交早稻组合, 本文阐述了该组合的选育过程、主要特征特性表现及主要栽培技术与制种技术。
【英文摘要】无
【语种】中文
【第一作者】杨远柱
【通讯作者】杨远柱
【期刊名称、卷期、页码】作物研究,2007,3:206-207
【论文发表时间】2007-03-15 00:00:00
【引文索引类型】其他
【引文索引号】1001- 5280 (2007) 03- 0206- 02
【学科分类】农学其他学科

【题目】三种野生稻候选抗病基因的克隆与分析
【中文关键词】野生稻, RT-PCR, 候选抗病基因
【英文关键词】Wild rice (Oryza rufipogon Reserve in Chaling,Oryzae sativa f spontanea, Oryza minuta),RT-PCR,Candidate desease resistance gene
【中文摘要】候选抗性基因克隆策略是克隆植物新抗性基因的重要途径。根据已知NBS-LRR 类抗病基因结构中的氨基酸保守区域,设计兼并引物,通过RT-PCR 扩增、克隆和测序,从茶陵野生稻,东乡野生稻和小粒野生稻中共获得了11 条NBS-LRR 类抗病基因同源序列。通过聚类分析可将同源序列分为3 类,其中茶陵野生稻中得到1 类,东乡野生稻中得到2 类,而小粒野生稻中得到3 类。但是小粒野生稻包含有其他两种野生稻的序列。三类序列都与水稻抗病基因RPR1 具有较高的同源性,有一类氨基酸序列同源性甚至高达88%,可能为其家族成员。利用电子定位将三类序列定位在水稻基因组11 号染色体上RPR1 附近。根据序列比对分析结果认为其中可能有1~2 个新抗病基因。
【英文摘要】The method of cloning by candidate resistance gene is an important way to clone of the resistance gene of plant. We designed degenrate oligonucleotides primers according to amino acid conserved regions of reported plant disease resistance genes which encode protein that have nucleotide-binding site and leucine-rich repeats (NBS-LRR). Amplified By RT-PCR,and the DNA fragments from amplification cloned into the vector, and sequenced, we have been obtained 11 disease resistance gene analogues from three wild rice species..The analysis of the phylogenetic tree indicated that 1 class NBS-LRR disease resistance gene analogues from Oryza rufipogon Reserve in Chaling; 2 classes from Oryzae sativa fspontanea and 3 classes from Oryza minuta.And the sequences of Oryza minuta have all the classes of sequence of the others. and the three classes of disease resistance gene analogues have highly homologous with the resistance gene RPR1. and one class was 88% homologous to the disease resistance gene RPR1 as the alignment of the amino acid, possibly as one of the member of RPR1 family. We mapped the sequences in the region near the gene RPR1 in the chromosome 11 of the rice genome by the method of electronic mapping. we think maybe there is one to two new resistance genes according to the result of the analysis of the sequence

【语种】中文
【第一作者】李强
【通讯作者】曹孟良
【期刊名称、卷期、页码】分子植物育种,2007,5 (5):704-708
【论文发表时间】2007-10-10 00:00:00
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【引文索引号】无
【学科分类】分子生物学

【题目】水稻低温敏核不育系株1S海南冬季高产稳产繁殖技术
【中文关键词】杂交水稻; 温敏核不育系; 株1S; 海南冬繁; 繁殖技术
【英文关键词】无
【中文摘要】水稻低温敏核不育系株1S 近年在海南冬繁, 产量可达3 t /hm 2 以上, 种子纯度可达99. 9%以上。介绍了其在海南冬繁的基地选择、主要栽培技术、田间小气候调节和防杂保纯技术等操作要点。
【英文摘要】无
【语种】中文
【第一作者】吴龙云
【通讯作者】石天宝
【期刊名称、卷期、页码】杂交水稻, 2007, 22(5) : 22- 24
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【引文索引类型】其他
【引文索引号】1005 - 3956(2007) 05- 0022- 03
【学科分类】农学其他学科

【题目】野生稻可转化基因组文库的构建
【中文关键词】野生稻; 可转化基因组文库; 稳定性
【英文关键词】wild r ice; transformat ion-compet ent genomic library; st ability
【中文摘要】利用广泛应用于水稻转化的双元载体pCAMBIA1301 构建了二倍体东乡野生稻和四倍体小粒野生稻可转化基因组文库, 插入片断长度分别为9. 54 kb 和13. 3 kb, 稳定性实验证明含20 kb 插入片断的文库质粒可以稳定遗传, 较长插入片断的文库质粒在农杆菌中的稳定性较差。
【英文摘要】The transformation-competent genomic libraries of Oryza rufipugon Dongxiang wild rice and O. minuta were built up by the popular plant binary vector pCAMBIA1301 with the average ins er t f ragment s of 9. 54 kb and 13. 3 kb, respectively. Stability test shows that plasmid with 20 kb insert could keep stable in the host. The construction of wild r ice transformation-competent genomic library built a strong basis for exploration of favorable genes from wild rice.
【语种】中文
【第一作者】李磊
【通讯作者】曹孟良
【期刊名称、卷期、页码】长江大学学报(自科版) 农学卷,2007,4 (4):50-53
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【引文索引类型】其他
【引文索引号】1673-1409(2007) 04-S050-04
【学科分类】分子生物学

【题目】杂交早稻株两优02配套栽培技术
【中文关键词】水稻; 栽培; 技术规程; 株两优02
【英文关键词】无
【中文摘要】介绍了超级杂交稻株两优02 的栽培特性和栽培技术规程。株两优02 株型紧散适中, 根系发达, 分蘖力中等, 成穗率较高, 生长势旺, 抽穗整齐, 成熟落色好, 生育期较稳定, 适合于在湖南作中熟早稻栽培。其技术规程是: 适时精量播种, 培育健壮秧苗; 宽行窄株插秧, 促进群体通风透光; 间歇好气灌溉, 促进根系生长和分蘖成穗; 看苗定量施肥, 提高肥料养分利用率; 综合防治病虫, 控制有害生物危害。

【英文摘要】无
【语种】中文
【第一作者】凌文彬
【通讯作者】凌文彬
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【引文索引号】1001-5280(2007) 01-0048-03
【学科分类】农学其他学科

【题目】杂交中稻新组合湘华优7号高产制种技术
【中文关键词】杂交水稻; 湘华优7 号; 制种技术
【英文关键词】无
【中文摘要】湘华优7 号是湖南亚华种业科学院用华37A 与华恢7 号配组育成的杂交中稻新组合, 具有熟期适中、高产稳产、抗稻瘟病米质较好等优点, 2006 年通过湖南省品种审定。介绍了该组合的亲本特征特性及高产制种技术。
【英文摘要】无
【语种】中文
【第一作者】唐显岩
【通讯作者】唐显岩
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【学科分类】农学其他学科

【题目】中熟两系杂交早稻新组合株两优120的选育与应用
【中文关键词】两系杂交早稻; 株两优120; 选育
【英文关键词】无
【中文摘要】株两优120 是湖南亚华种业科学院2001年用广亲和低温敏核不育系株1S 与自育父本华120配组育成的两系杂交早稻新组合。2003) 2004年参加南方稻区早籼早中熟组区试, 表现丰产稳产性好, 熟期适中, 稻瘟病抗性较强, 品质较优, 适应性较广, 具有较好的应用前景, 2005年6月通过国家品种审定。介绍了其选育经过、特征特性及栽培制种技术。
【英文摘要】无
【语种】中文
【第一作者】符辰健
【通讯作者】符辰健
【期刊名称、卷期、页码】杂交水稻(H YBRID RICE), 2007, 22(4): 15- 17
【论文发表时间】2007-08-20 00:00:00
【引文索引类型】其他
【引文索引号】1005- 3956(2007) 04- 0015 - 03
【学科分类】农学其他学科

【题目】株1S 温敏核不育基因的发现及超级杂交早稻育种研究
【中文关键词】株1S; 温敏核不育基因; 超级杂交早稻; 育种
【英文关键词】无
【中文摘要】简要介绍了水稻温敏核不育基因株1S 的发现及两用核不育系株1S、陆18S 的选育过程, 阐述了株1S、陆18S 的特征特性及利用株1S、陆18S 选育超级杂交早稻取得的重要进展, 提出选育细胞核具有部分粳稻血缘、细胞质保持完全籼型的广亲和温敏核不育系, 是实现部分利用籼粳亚种间杂种优势、选育南方广适性超级杂交早稻的有效途径之一。
【英文摘要】无
【语种】中文

【第一作者】杨远柱
【通讯作者】杨远柱
【期刊名称、卷期、页码】中国稻米,2007,6:17-22
【论文发表时间】2007-12-10 00:00:00
【引文索引类型】其他
【引文索引号】无
【学科分类】农学其他学科

【题目】转Bar基因抗除草剂两系杂交早稻恢复系Bar68-1的培育研究
【中文关键词】两系杂交水稻; 转B ar基因水稻; 抗除草剂恢复系; Bar 68 - 1; 选育
【英文关键词】two-line hybrid rice; Bar transgenic rice; herbicide resistant restorer line; Bar 68- 1; breeding
【中文摘要】通过基因枪转化方法将抗除草剂基因Bar 转入早籼稻两系恢复系D68 中, 育成了转基因抗除草剂恢复系Bar 68- 1和杂交早稻组合香125S /Bar 68 - 1; Southern 杂交检测和除草剂抗性鉴定结果显示, 它们具有抗除草剂特性并能稳定遗传。转基因抗除草剂杂交稻组合香125S /Bar 68 - 1 和对照香两优68(香125S /D68)相比, 株高显著降低, 直链淀粉含量极显著降低, 其它农艺品质和产量性状没有明显变化。
【英文摘要】A herbicide resistant gene Bar was transferred into a two-line indica restorer line D68 by particle bombardment and the developed transgenic restorer line Bar 68- 1 and its hybrid Xiang125S /Bar68- 1 showed herbicide resistance and stab le inheritance based on the Southern blotting analysis and the identification of herbicide resistance. When the transgenic hybrid rice Xiang125S /Bar68-1 was compared with the check hybrid rice Xiang125S /D68, the plant height and amy lose content o f the transgenic hybrid rice w ere decreased significantly at 5%and 1% levels, respectively, but all of the other major agronomic and yield characters were not statistically different from each other.
【语种】中文
【第一作者】肖国樱
【通讯作者】肖国樱
【期刊名称、卷期、页码】杂交水稻,2007,22(6):57- 61
【论文发表时间】2007-12-20 00:00:00
【引文索引类型】其他
【引文索引号】1005 - 3956(2007) 06- 0057 - 05
【学科分类】遗传学

【题目】Comparative analysis of young panicle proteome in thermo-sensitive genic male-sterile rice Zhu-1S under sterile and fertile conditions
【中文关键词】无
【英文关键词】Proteome Rice semi-quantitative RT-PCR Thermo-sensitive genic male-sterility Young panicle
【中文摘要】无
【英文摘要】Proteome analysis was carried out to identify the young panicle proteins during different developmental stages under sterile and fertile conditions. Based on spot quantity and quality, 50 protein spots were analyzed by matrix associated laser desorption/ionization time of flight mass spectrometry (MALDI-TOF-MS) and 20 spots were identified. Most of these proteins are closely associated with energy metabolism, protein biosynthesis, cell wall formation and stress responses, which are essential cell activities to the pollen development. Gene expression analysis of three different proteins by semi-quantitative RT-PCR showed that the mRNA level was not correlated exactly with the protein level.
【语种】英文
【第一作者】萧小鹃
【通讯作者】刘选明
【期刊名称、卷期、页码】Biotechnol Lett,2009,31:157 – 161
【论文发表时间】2009-05-10 00:00:00
【引文索引类型】SCI
【引文索引号】DOI 10.1007/s10529-008-9838-7
【学科分类】农学其他学科

【题目】创丰1号在湖南省不同地区的产量与米质表现
【中文关键词】创丰1号;产量;米质;早籼稻
【英文关键词】无
【中文摘要】为了解创丰1号在不同地区产量与米质的表现,进而研究该品种在试验区域的高产栽培技术,分别在湖南衡南、湘乡、醴陵、长沙、常德、怀化6个不同地区种植该品种,按湖南省区域试验方案进行管理、记载与测产,及时采取稻谷样品,分析稻米的品质。结果表明:创丰1号在各试验点的直链淀粉含量均超过25%,可在全省用作高直链淀粉含量的稻米原粮生产。高产栽培方面,在衡南、湘乡2试点应以增加穗平总粒数为主攻目标;在常德、怀化2试点应以增加有效穗与提高结实率为主攻目标;在醴陵、长沙2试点则应穗粒并重。
【英文摘要】无
【语种】中文
【第一作者】黎用朝
【通讯作者】黎用朝
【期刊名称、卷期、页码】湖南农业科学2008,(1):29~31
【论文发表时间】2008-01-10 00:00:00
【引文索引类型】其他
【引文索引号】1006—060X(2008)01—0029—03
【学科分类】农学其他学科

【题目】东乡野生稻NBS-LRR 类抗性基因同源序列的分离与鉴定
【中文关键词】NBS2LRR;抗性基因;菌落杂交;基因组文库
【英文关键词】NBS2LRR;resistance gene ;colony hybridization ;genomic library
【中文摘要】基于植物的抗性基因具有保守序列,根据已克隆基因的保守序列设计探针,利用菌落杂交的方法,对东乡野生稻大片段基因组文库进行筛选,得到两个候选克隆。序列比对发现其中含有NB2ARC的保守序列,可用于后续转基因鉴定。
【英文摘要】The resistant gene of plants has conservative sequence. Probes were designed in terms of the sequences of known resistance gene. With the colony hybridization method, the genomic library of Dongxiang wild rice was screened and two candidate clones were obtained. The sequences were analyzed with the blast program to the GenBank database and a conservative NB2ARC domain was found in both of the sequences. The clones would be transferred into rice for a further analysis.
【语种】中文
【第一作者】王正华
【通讯作者】曹孟良
【期刊名称、卷期、页码】国防科技大学学报,2008,30(2):56-60
【论文发表时间】2008-04-10 00:00:00
【引文索引类型】其他
【引文索引号】1001 - 2486 (2008) 02 - 0056 - 05
【学科分类】分子生物学

【题目】三系杂交稻与其亲本粒重的关系研究
【中文关键词】三系杂交稻;千粒重;线性回归分析
【英文关键词】three—line hybrid rice; 1 000一grains weight;analysis of linear regression
【中文摘要】为了探明水稻杂种一代与其亲本千粒重的遗传关系,为大粒型杂交组合选育提供参考依据,选用粒重有明显差异的三系不育系和恢复系进行杂交配组,对15个杂交组合的杂种一代与其亲本千粒重进行相关[回归分析.结果表明:1)所有组合的杂种一代千粒重普遍超过其双亲平均值,均亲优势率2.0%~5.7%,除2个组合的超亲优势率是负值,其余组合都表现一定程度的正向超亲优势;2)父母本的千粒重与杂种一代的千粒重相关达极显著水平;3)父母本与杂种一代千粒重的标准偏回归系数分别为0.426和0.624,母本千粒重对杂种一代的影响较大。
【英文摘要】To clarify the genetic relationship between hybrids and their parents in 1 000一grains weight,1 5 hybrid combinations and their parents were cultivated to investigate their 1 000一grains weight.The results showed that:1)All the combinations tested had heterosis over their parents in 1 000一grains weight.2)Th e correlations between hybrids and their parents in 1 000-grains weight were positive at significant leve1.3)The female parent had a greater standardized partial regression coeficient.

【语种】中文
【第一作者】颜庆夫
【通讯作者】颜庆夫
【期刊名称、卷期、页码】湖南农业大学学报(自然科学版),2008,34(4):393-395
【论文发表时间】2008-06-10 00:00:00
【引文索引类型】其他
【引文索引号】1007—1032(2008)04—0393—03
【学科分类】农学其他学科

【题目】水稻光温敏核不育基因表达产物初步研究
【中文关键词】水稻;光温敏核不育基因:基因芯片:蛋白质组
【英文关键词】rice;Photo—thermo—sensitive Genic Male—sterile(PTGMS);gene chip;proteome
【中文摘要】光温敏核不育基因在杂种优势利用中具有重大价值,了解其转录和翻译过程对解析温敏核不育机理和分离温敏核不育基因非常重要.利用基因芯片、蛋白质组技术结合遗传分析的方法,以不同温度条件下处理的培矮64S及两优培九自交后得到的F 群体为材料.从转录水平和翻译水平上分别筛选出可能与温敏核不育基因相关的24个特异表达基因以及6个特异表达蛋白质.并分析了这些产物的功能.
【英文摘要】The Photo—thenno—sensitive Genic Male—sterile (PTGMS) gene plays an impo~ant role in rice heterosis, and it is very important to analyze its expression for elucidating molecular basis of PTGMS and cloning the gene.By mieroarray and proteomie technology combined with genetic analysis, 24 genes and 6 proteins, expressed specially in PTGMS rice Peiai 64S and F2 population when treated with different temperature,were screened.Their functions were also analyzed by informatics.
【语种】中文
【第一作者】邢俊杰
【通讯作者】曹孟良
【期刊名称、卷期、页码】生命科学研究,2008,12(2):126-130
【论文发表时间】2008-06-10 00:00:00
【引文索引类型】其他
【引文索引号】1007—7847(2008)02—0126.0
【学科分类】遗传学

【题目】水稻叶鞘3种氧化还原酶活眭在褐飞虱胁迫中的变化
【中文关键词】水稻; 褐飞虱; 超氧化物歧化酶(SOD); 过氧化物酶(POD); 过氧化氢酶(CAT)
【英文关键词】rice; Nilaparvata lugens; superoxide dismutase(SOD); peroxidase(POD); catalase(CAT)
【中文摘要】为阐明水稻抗褐飞虱的机制,分析了褐飞虱为害对感、抗虫水稻品种叶鞘中3种保护酶活性的影响。采用苗期群体接虫方法对水稻品种进行抗性鉴定,在此基础上测定了褐飞虱为害前后水稻叶鞘中超氧化物歧化酶(SOD)、过氧化物酶(P0D)、过氧化氢酶(cAT)的活性。受褐飞虱为害后,抗虫和感虫品种叶鞘中s0D活性均上升,表明无论是抗性植株还是感性植株在清除超氧阴离子自由基方面都具有较强的能力;POD活性在抗虫品种中下降,而在感虫品种中增加,表明抗性品种较感性品种具有更强的酶促抗氧化性能,从而对褐飞虱胁迫具有更强的适应能力。cAT活性在抗虫品种中增加,而在感虫品种中大幅下降,这与其对褐飞虱抗性弱密切相关。
【英文摘要】The activities of three protective enzymes in rice sheath were analyzed before and after Nilaparvata lugens stress,so as to provide reference for clarifying the mechanism of the resistance to N.1ugens.The resistance of rice varieties to N.1ugens were appraised by the method of colonizing seedling rice plants and comparing the activities of superomde dismutase(SOD),peroxidase(POD)and catalase(CAT)in rice sheath before and after stresses of N.1ugens.After the infestation of N .1ugens,the activity of SOD increased in both resistant and susceptible varieties,which showed that both resistant and susceptible varieties have strong ability to scavenge superoxide anion radical;the activity of POD decreased in resistant varieties and increased in susceptible varieties,which showed that resistant varieties have stronger enz ymatic antioxidant function than susceptible varieties.It is suggested that the resistant varieties have stronger adapting ability under stresses of N.1ugens.The activity of CAT increased in resistant varieties and decreased greatly in susceptible varieties,which is closely related to low resistance of susceptible varieties under stresses of N.1ugens.
【语种】中文
【第一作者】罗海平

【通讯作者】蔺万煌
【期刊名称、卷期、页码】植物保护,2008,34(5):71-75
【论文发表时间】2008-10-10 00:00:00
【引文索引类型】其他
【引文索引号】无
【学科分类】农学其他学科

【题目】水稻早籼品种抗寒性研究
【中文关键词】早稻;籼稻;品种;抗寒性
【英文关键词】无
【中文摘要】用早籼稻品种(系)分期播种,露地育秧,在自然低温条件下评价苗期抗寒性,并分析了供试品种的感温指数。结果表明早籼品种的苗期抗寒性因其遗传背景不同而差异显著。湘糯1号和野生稻杂交后代的抗寒性最强,籼粳交和籼籼交后代中抗的多。早籼稻苗期抗寒性与其感温指数显著相关,抗寒性强的品种其感温指数小,抗寒性弱的品种感温指数大。经连续低温胁迫定向选择,育成抗寒、生态适应性强、高产稳产新品种湘早籼19号和湘早籼29号。利用野生稻抗寒基因,创制出HA8805、HA8807、HA88494等8个抗寒新种质。
【英文摘要】无
【语种】中文
【第一作者】李友荣
【通讯作者】李友荣
【期刊名称、卷期、页码】湖南农业科学2008,(2):3—5
【论文发表时间】2008-04-10 00:00:00
【引文索引类型】其他
【引文索引号】1006—060X(2008)02—0003一O3
【学科分类】农学其他学科

【题目】温敏核不育系水稻株1S及其矮秆突变体SV14茎的蛋白质组学比较
【中文关键词】水稻;矮秆突变体;蛋白质组学;半定量RT—PCR
【英文关键词】Rice:Dwarfing variant;Proteomics;Semi—quantitative RT—PCR
【中文摘要】采用双向凝胶电泳对温敏核不育水稻株1S和其矮秆突变体SV14的茎(穗颈下第1节和第2节)蛋白进行了分离,通过银染显色,获得了分辨率和重复性较好的双向电泳图谱.选取了26个蛋白质点采用MAL—DI—TOF—MS进行肽质谱指纹图分析,最终有12个蛋白质点得到了可靠鉴定.其中在SV14中相对于株1S上调的仅有OSJNBa0039C07.13蛋白,其它蛋白均表现为下调.这些差异蛋白按照功能可分为4类:(1)能量代谢相关蛋白;(2)次生代谢相关蛋白;(3)调控蛋白;(4)未知蛋白.对光合系统Ⅱ氧延伸复合物蛋白质前体2,果糖二磷酸醛缩酶,UDP一葡糖醛酸脱羧酶对应的基因进行了半定量RT—PCR分析,发现这几个基因与蛋白质的表达不一致,可能是RNA发生了翻译后修饰而减少了蛋白表达量的结果.这些差异蛋白很可能与水稻矮化有关,为水稻矮秆基因的寻找提供了另一个有效途径.
【英文摘要】The stem of thermo—sensitive genic male—sterile rice Zhu一1 S and its dwarfing variant SV14 were seDarated bv 2一DE.Twelve differential spots were identified by MALDI—TOF—MS.In the 2一DE protein patterns 0f SV14.one up—regulated proteins and eleven down—regulated proteins were identified.According to the functional classification of identified proteins.they were divided into the following categories:(1)energy metabolism;(2)secondary metabolism;(3)regulatory proteins;(4)proteins with unknown function.Further m0re.semi-qHantitative RT.PCR was carried out to verify the different expressions.These results shows converse changes in expression at both the RNA an ’ d protein levels.The converse changes suggest that during the process 0f stern development some kind of post—transcriptional modification of these genes occured.The results sh0w that these Droteins may be related to dwarfing rice stem and provide another pathway for finding the dwarfing gene.
【语种】中文
【第一作者】萧小鹃
【通讯作者】刘选明
【期刊名称、卷期、页码】高等学校化学学报,2008,29(1):41-45
【论文发表时间】2008-01-10 00:00:00
【引文索引类型】其他

【引文索引号】0251-0790(2008)01-04l-05
【学科分类】遗传学

【题目】小粒野生稻可转化人工染色体文库初步构建及筛选
【中文关键词】可转化人工染色体;基因组文库;小粒野生稻
【英文关键词】transformation-competent artificial chromosome;genomic library;orazy.minuta
【中文摘要】以小粒野生稻核DNA为材料构建了一个可转化人工染色体文库,获得了5OO0个克隆,平均插入片段约45l【b。稳定性检测结果表明,小粒野生稻基因组DNA能够在TAC载体中稳定存在。基于已克隆抗性基因的保守序列设计探针,利用菌落杂交的方法,对文库进行筛选。结果表明,该文库可以用于抗性基因的筛选。
【英文摘要】A transformation-competent artificial chromosome(TAC)library was construet from the genomic DNA of orazy.mimuta.This library is composed of 5,000 clones while the average insertion fragment size is 45 kb.Stability test indicated that genome DNA of orazy.mimuta was stably existence in the pYLTAC27 carrier.A probe was designed according to the sequences of cloned resistance gene.With the colony hybridization method.the genome library was screened.The result shows that resistance gene can screened in this library.
【语种】中文
【第一作者】王正华
【通讯作者】曹孟良
【期刊名称、卷期、页码】国防科技大学学报,2008,30(1):120-124
【论文发表时间】2008-02-10 00:00:00
【引文索引类型】其他
【引文索引号】1001—2486(2008)01—0120—0
【学科分类】遗传学

【题目】优质高产两系杂交晚稻新组合
【中文关键词】两系法杂交晚稻;Y两优599;选育
【英文关键词】late two-line hybrid rice;Y Liangyou 599;breeding
【中文摘要】Y两优599是湖南农业大学水稻科学研究所用光温敏核不育系Y58S为母本,与新育成的高产优质香型晚稻品系599配组育成的两系杂交晚稻新组合。该组合株叶形态好,分蘖力强,成穗率高,生育期适宜,高产稳产性好,米质优良,2008年3月通过湖南省农作物品种审定委员会审定。
【英文摘要】Y Liangyou 599 is a new late hybrid rice combination derived from the cross of Y 58S,a PTGMS line with low critical sterility-inducing temperature and good grain quality,and R599 ,a newly-developed high-yielding and fine quality late rice line.It is of good plant type,high and stable yield,and fine grain quality.It was registered and released to commercial production in Hunan Province in March,2008. The applying techniques of its cultural management and hybrid seed production were briefly introduced in this paper.
【语种】中文
【第一作者】刘建丰
【通讯作者】刘建丰
【期刊名称、卷期、页码】杂交水稻,2008,23(4):20—22
【论文发表时间】2008-08-10 00:00:00
【引文索引类型】其他
【引文索引号】1005—3956(2008)04—0020—03
【学科分类】农学其他学科

【题目】温敏核不育系株1S育性感光感温特性及繁殖条件研究
【中文关键词】水稻;温敏核不育系;育性;繁殖;温度
【英文关键词】rice(Oryza sativa L.);thermo—sensitive genic male sterile(TGMS)lines;fertility;multiply;temperature
【中文摘要】在育性敏感期,株lS经22℃处理5 d、23℃处理10 d仍稳定不育,是目前温敏核不育系中临界不育温度最低、对短期低温最钝感的不育系.对冷水灌溉繁殖该不育系的适宜条件研究表明,适宜的水温为20.5℃开始冷水灌溉的时期为雌雄蕊形成期,历期为18 d,冷水深度变幅为3~18 cm,随着幼穗的发育和伸长需逐渐增加其冷水深度.
【英文摘要】During fertility—sensitive periods,Zhu 1 S was steadily sterile with the treatment of consecutive irrigation of cold water 22 ℃ for 5 days.and 23℃ for 10 days.It had the lowest critical temperature inducing sterility and was the most insensitive sterile line to

short—term low temperature among TGMS lines.The studies on multiply conditions of TGMS Lines Zhu IS indicated that the proper temperature was 20.5 ℃,the cold water irrigation was started in the stamen and pistil formation stage and last for 18 days.The amplitude of cold water depth was 3-1 8 cm,and that the cold water depth need increase with the panicle development.

【语种】中文
【第一作者】李红
【通讯作者】陈良碧
【期刊名称、卷期、页码】生命科学研究,2008,12(2):158-162
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【引文索引号】1007.7847f2008)02-0158.05
【学科分类】农学其他学科

【题目】Bulked Segregant Analysis to Detect QTL Related to Heat Tolerance in Rice (Oryza sativa L.) Using SSR Markers
【中文关键词】无
【英文关键词】bulked segregant analysis, heat tolerance, QTL, rice (Oryza sativa L.), SSR markers
【中文摘要】无
【英文摘要】The study was undertaken to assess the genetic effect of quantitative trait loci (QTLs) conferring heat tolerance at flowering stage in rice. A population consisting of 279 F2 individuals from the cross between 996, a heat tolerant cultivar and 4628, a heat-sensitive cultivar, was analyzed for their segregation pattern of the difference of seed set rate under optimal temperature condition and high temperature condition. The difference of seed set rate under optimal temperature condition and high temperature condition showed normal distribution, indicating the polygenic control over the trait. To identify main effect of QTL for heat tolerance, the parents were surveyed with 200 primer pairs of simple sequence repeats (SSR). The parental survey revealed 30% polymorphism between parents. In order to detect the main QTL association with heat tolerance, a strategy of combining the DNA pooling from selected segregants and genotyping was adopted. The association of putative markers identified based on DNA pooling from selected segregants was established by single marker analysis (SMA). The results of SMA revealed that SSR markers, RM3735 on chromosome 4 and RM3586 on chromosome 3 showed significant association with heat tolerance respectively, accounted for 17 and 3% of the total variation respectively. The heat tolerance during flowering stage in rice was controlled by multiple gene. The SSR markers, RM3735 on chromosome 4 and RM3586 on chromosome 3 showed significant association with heat tolerance respectively, accounted for 17 and 3% of the total variation respectively. The two genetic loci, especially for RM3735 on chromosome 4, can be used in marker-assistant-selected method in heat tolerance breeding in rice.

【语种】英文
【第一作者】张桂莲
【通讯作者】陈立云
【期刊名称、卷期、页码】Agricultural Sciences in China,2009, 8(4): 482-487
【论文发表时间】2009-08-10 00:00:00
【引文索引类型】SCI
【引文索引号】Doi: 10.1016/S1671-2927(08)60235-7
【学科分类】农学其他学科

【题目】Epsps 基因为筛选标记的多基因抗虫表达载体构建
【中文关键词】Ep sps 基因; 抗虫基因; 植物表达载体; 大分子连接
【英文关键词】Epsp s gene; insect- resistant gene; plant expression vector; large fragment DNA ligation
【中文摘要】为了获得水稻的广谱抗虫性, 同时也避免由潮霉素抗性基因引起的安全性问题。构建以抗除草剂基因(Epsps 基因) 为筛选标记的多基因抗虫植物表达载体pCTSK。方法: 以双元载体pCAMBIA1300 为基础, 将潮霉素抗性基因hpt 替换成携带烟草叶绿体转运肽序列TSP 的草甘膦抗性突变基因aroAM12(编码细菌5- 烯醇式丙酮酸莽草酸- 3- 磷酸合成酶Epsps) 作为筛选标记基因, 获得中间表达载体pCTSM1300。然后再连接上3 个抗虫基因(马铃薯蛋白酶抑制剂基因Pin - Ò 、苏云金杆菌毒蛋白基因Bt cryI (A) 及雪花莲外源凝集素基因GNA) 的完整表达片段(包含各自的启动子和终止子) 。结果: 通过PCR 方法和酶切方法鉴定已成功地构建了该表达载体; 通过不同实验方案的数据分析, 得出在载体构建的大分子连接中优化的一次连接法连接效率高于二次连接法的结论。

【英文摘要】For the security of hygromycin phosphotransferase gene hpt was oppugned, the herbicide- resistant gene (Epsps gene) was used as a selection marker in construction of the plant expression vector pCTSK which contained multiple insect- resistant genes to endow rice with broad- spectrum insect resistance. Methods: Firstly, the hpt gene in binary vector pCAMBIA1300 was replaced by glyphosate resistant gene aroAM12 (a mutant of 5- enolpyruvylshikimate- 3- phosphate synthase gene) leading by chloroplast transit peptide of tobacco (TSP) for obtaining the medium vector pCTSM1300. Results: Then, the complete expression frame of potato proteinase inhibitor gene Pin Ò , Bacillus thuringiensis endotoxin gene cryI (A) and Galanthus nivalis agglutinin gene GNA were inserted into pCTSM1300 which resulted in the achievement of vector pCTSK. The ligation method of large fragment DNA was improved in construction of the vector.
【语种】中文
【第一作者】邓力华
【通讯作者】肖国樱
【期刊名称、卷期、页码】生物技术,2008,18(1):9-13
【论文发表时间】2008-02-10 00:00:00
【引文索引类型】其他
【引文索引号】1004-311X(2008)01-0009-05
【学科分类】遗传学

【题目】OsbHLH1 基因过表达载体构建及转化水稻研究
【中文关键词】O sbHLH1 基因 Bar 基因 过表达 基因枪转化 水稻 耐低温 光合速率
【英文关键词】OsbHLH1 gene Bar gene Over-expression Particle bombardment Rice Cold to lerance Photosynthetic rate
【中文摘要】OsbHLH1基因编码bHLH类转录因子, 与水稻耐寒性相关。以pCAMB IA3300为母体, 利用玉米泛素(Ub iqu itin)启动子构建了能使OsbHLH1 基因过表达且含有Bar 基因的植物表达载体p3300-Ub-i 8- OsbHLH 1。利用基因枪法将其转化到粳稻品种东稻3号中, 获得再生苗47株。选取其中9株进行PCR、Sou thern检测, 结果表明目的基因已经整合到水稻基因组中; 草铵膦叶片涂布试验结果表明, Bar基因在水稻植株中正常表达; 低温处理后, 除45号植株外, 其余8株光合速率的变化率显著低于非转基因对照, 初步证明O sbHLH1基因在水稻中过表达显著提高了水稻的耐低温能力。
【英文摘要】OsbHLH1 gene which codes one of transcription factors of the bHLH family, is involved in cold tolerance1 An over-expression vector including OsbHLH1 gene and Bar gene was constructed based on pCAMBIA33001 The target genes were transformed into Dongdao number 3 by particle bombardment1 Forty seven plantlets were regenerated. Nine of them were analyzed by PCR and Southern blot ting, and the results show ed that the target genes had been integrated into the rice genome. The spreading of glufosinate on the leaves indicated that the Bar gene had been expressed normally in r ice1 Under low temperature treatment, the changes of net photosynthetic rate of the regenerated plantlets, except plantlet number 45, were significantly lower than that of check, which showed that over-expression of OsbHLH1 gene could be able to enhance the co ld tolerance of rice.
【语种】中文
【第一作者】罗伯祥
【通讯作者】肖国樱
【期刊名称、卷期、页码】生物技术通报,2009,7:76-81
【论文发表时间】2009-07-10 00:00:00
【引文索引类型】其他
【引文索引号】无
【学科分类】遗传学

【题目】东乡野生稻RPS2 类候选抗病基因的克隆与分析
【中文关键词】东乡野生稻;液体质粒文库;长片段高保真PCR;生物信息学
【英文关键词】Dongxiang wild rice;the liquid plasmid library;LA-PCR;bioinformatics
【中文摘要】利用NBS 保守结构域获得的探针及基于RecA 文库富集方法的试剂盒筛选东乡野生稻液体pCAMBIA1301质粒文库,杂交筛选获得阳性克隆,在NCBI 上进行BLASTN 序列比对后,设计相关引物,扩增获得编码区,并利用生物信息学方法预测其编码蛋白序列,与已克隆的NBS-LRR 类抗性基因建立进化树.结果分析表明,其预测蛋白除了部分氨基酸缺失及2个氨基酸不同外,与粳稻大部分序列一致,分子进化树表明其与粳稻、拟南芥RPS2 基因的关系最近.
【英文摘要】Using the probe obtained by use of NBS Conservative Motif on the basis of kit of RecA enrichment,1 positive clone was screened from the pCAMBIA1301 liquid plasmid library of Dongxiang wild rice by hybridization method.Designed primers were used

to amplify the clone based on BLASTN of NCBI.The sequence of protein was predicted and the phylogenetic tree with other NBS-LRR resistance gene was constructed by bioinformatics method.The analysis indicated that sequence of the predicted protein was different from that of japonica rice only in some deletion amino acids and 2 amino acids.The phylogenetic tree indicated that it was closest with RPS2 of japonica rice and Arabidopsis thaliana.The function will be verified by further field identification.
【语种】中文
【第一作者】崔玲玲
【通讯作者】曹孟良
【期刊名称、卷期、页码】湖南农业大学学报(自然科学版),2008,35(2):111-115
【论文发表时间】2009-04-10 00:00:00
【引文索引类型】其他
【引文索引号】1007-1032(2009)02-0111-05
【学科分类】遗传学

【题目】干旱响应转录因子DREB1A 基因导入水稻光温敏核不育系的研究
【中文关键词】干旱响应转录因子; DREB1A 基因; 光温敏核不育系; 水稻
【英文关键词】dehydration responsive transcription factor; DREB1A gene; hoto-sensitive and thermo-sensitive genic male sterile line; rice
【中文摘要】以成熟胚诱导的愈伤组织作为农杆菌转化的受体材料, 将诱导型启动子rd29A 驱动的拟南芥DREB1A基因导入粳型光温敏核不育系水稻4008S, 共获得67 株再生苗. 再生苗经0.75 mg/ L 除草剂草铵膦涂布筛选,有62 株再生苗表现出对草铵膦抗性. PCR 检测抗性苗中DREB1A 基因, 结果全为阳性. 挑选部分进行Southern 检测, 结果表明目的基因已经整合到水稻基因组中. 在干旱胁迫下, 转基因水稻当代(T1 代) 植株的电导率显著低于非转基因对照植株(P < 0.05) , 脯氨酸含量显著高于对照植株(P < 0.05) , 证明DREB1A 基因能提高水稻对干旱胁迫的耐受性.
【英文摘要】Sixty-seven regenerated plantlets were obtained by agrobacterium-mediated transformation of Arabidopsis thaliana DREB1A gene driven by stress-inducible promoter rd29A into photo-sensitive and thermo-sensitive genic male sterile(P / TGMS) line 4008S. They were spread with 0.75 mg/L glufosinate on leaves, sixty-two of them were approved to be herbicide resistant. PCR analysis showed that all of the resistant plantlets possessed the DREB1A gene and the Southern blot confirmed that the target gene had been integrated into the rice genome. Under the drought stress, the relative conductivity of the transgenic plants were lower than that of the control plants(P<0.05) , and the content of proline in the transgenic plants were higher than that in the control plants(P<0.05) . They implied that the expression of DREB1A gene can improve the drought tolerance of rice.
【语种】中文
【第一作者】陈芬
【通讯作者】肖国樱
【期刊名称、卷期、页码】生命科学研究,2008,12(1):25-28
【论文发表时间】2008-03-10 00:00:00
【引文索引类型】其他
【引文索引号】1007-7847(2008) 01-0024-05
【学科分类】遗传学

【题目】高产优质两系杂交早稻新组合准两优143
【中文关键词】两系杂交早稻; 准两优143; 高产; 优质; 选育
【英文关键词】无
【中文摘要】准两优143 是湖南杂交水稻研究中心用光温敏核不育系准S 与常规早籼稻品系早优143配组育成的两系杂交早稻新组合, 具有高产稳产、米质优、生育期适中、适应性广等特点, 2008 年3月通过湖南省农作物品种审定。
【英文摘要】无
【语种】中文
【第一作者】杨益善
【通讯作者】武小金
【期刊名称、卷期、页码】杂交水稻, 2009, 24(1) : 86- 87
【论文发表时间】2009-02-10 00:00:00

【引文索引类型】其他
【引文索引号】1005- 3956 (2009) 01 - 0086- 02
【学科分类】农学其他学科

【题目】广适型超高产杂交早稻新组合株两优08的选育与应用
【中文关键词】两系杂交早稻; 株两优08; 广适性; 高产; 选育
【英文关键词】无
【中文摘要】株两优08 是湘潭市农科所用广亲和低温敏两用核不育系株1S[1]与新育成的高产抗病品系潭早08配组育成的两系杂交早稻新组合。该组合具有生育期短、高产稳产性突出、广适性好、米质较优等特性, 2007年2月通过湖南省农作物品种审定。
【英文摘要】无
【语种】中文
【第一作者】黄德宗
【通讯作者】黄德宗
【期刊名称、卷期、页码】杂交水稻, 2009, 24(3): 17- 19
【论文发表时间】2009-06-10 00:00:00
【引文索引类型】其他
【引文索引号】1005- 3956(2009) 03- 0017 - 03
【学科分类】农学其他学科

【题目】湖南高蛋白水稻品种选育的主要进展与思考
【中文关键词】水稻,高蛋白
【英文关键词】无
【中文摘要】总结统计了湖南省1997~2008 年间审定的蛋白质含量超过12%的品种(组合),分析了这些高蛋白品种(组合)的稻米品质、产量、生育期、抗性等特征特性,初步探讨了存在的问题,并对今后湖南省高蛋白水稻品种选育进行了探讨。
【英文摘要】无
【语种】中文
【第一作者】黎用朝
【通讯作者】黎用朝
【期刊名称、卷期、页码】中国稻米,2009,5:22-25
【论文发表时间】2009-10-10 00:00:00
【引文索引类型】其他
【引文索引号】无
【学科分类】农学其他学科

【题目】湖南省水稻品种应用生产现状调查与思考
【中文关键词】水稻;品种;生产现状;调查;对策
【英文关键词】rice; variety; status quo of production; investigation; strategy
【中文摘要】湖南是中国稻米第一生产大省,新时期下,水稻品种应用情况也呈现出新的特征。对湖南省30 个县(市、区)的3000 户农户进行调查与统计,结果表明,在水稻品种应用上,存在着农户对选用的稻种名称关注度不高、应用的品种个数多等问题,未形成“ 一村一种 ”规模化种植的局面。最后,对现阶段湖南省水稻品种应用状况进行了探讨,并提出了相关发展对策。
【英文摘要】Hunan is the larggest Province of rice production. In order to find out the new characteristics in implement of rice variety, 3 000 farmers in 30 counties (cities and districtions) of Hunan Province were investigated. The results showed that there were some problems in the implement of rice variety: farmers have low attention to the name of rice variety, there were numerous varieties to implemted and the large-scale planting of "one variety in one village" was not formed. In the end, status quo of implemented rice varieties in Hunan Province at present was analyzed and the correlating developmental stratigies were proposed.
【语种】中文
【第一作者】闵军

【通讯作者】黎用朝
【期刊名称、卷期、页码】湖南农业科学2009,(10):28-31
【论文发表时间】2009-10-10 00:00:00
【引文索引类型】其他
【引文索引号】1006-060X(2009)10-0028-04
【学科分类】农学其他学科

【题目】花药培养对水稻温敏核不育系香125S不育性的遗传纯化效果初探
【中文关键词】水稻温敏核不育系; 香125S; 花药培养; 育性; 遗传纯化
【英文关键词】rice; TGMS line; Xiang 125S; fertility
【中文摘要】在人工低温(23. 5e)和自然条件下研究了香125S DH (Double hap lo id)群体的育性变化、异交特性和重要农艺性状。结果表明, 在23. 5e 的人工低温条件下, DH 群体各株系育性不一致, 有11个DH 株系(占36. 7%)花粉不育度在99. 5% 以上, 其中5个株系(占16. 7%)花粉不育度达100%, 自交结实率为0, 是不育性稳定、不育临界温度低的DH 系。各DH 系的株高、穗长、有效穗、每穗总粒数和异交结实率与对照香125S 差异不显著, DH 系保持了原品种的优良农艺性状。花药培养技术是对水稻光温敏核不育系的不育性进行遗传纯化的有效方法。
【英文摘要】The pollen sterility, outcrossing and major agronomic characters o f the DH (Double haploid) populations of Xiang 125S were investigated under low temperature(23. 5e) in the phytotron and natural climatic conditions. The results showed that the fertility of DH populations varied from one to another under the 23. 5e low temperature conditions in phytotron. Among all tested 30 DH populations, there were 11 DH lines (36. 7%) w ith the po llen sterility over 99. 5%, and five o f them (16. 7%) had the pollen sterility as high as 100% with no selfed seed set , indicating that they are the DH lines with stable male sterility and low critical temperature. There were no significant differences between various DH populations and Xiang 125S (CK) in plant height, panicle length, effective panicles, spikelets per panicle and outcross setting percentage, indicating that the elite agronomic characters of Xiang 125S are preserved in DH populations. It is concluded that anther culture is an effective way to be applied in the genetic homogenization of TGMS lines in rice.
【语种】中文
【第一作者】冯双华
【通讯作者】肖国樱
【期刊名称、卷期、页码】杂交水稻, 2008, 23(4) : 62- 64
【论文发表时间】2008-08-10 00:00:00
【引文索引类型】其他
【引文索引号】1005- 3956 (2008) 04 - 0062- 03
【学科分类】农学其他学科

【题目】基因枪介导获得转植酸酶基因水稻研究
【中文关键词】水稻; 植酸酶基因; 遗传转化; 植酸酶
【英文关键词】r ice; phy tase gene; g enetic transform ation; phy tase
【中文摘要】植酸酶是一类能促进植酸及其盐类水解成肌醇和磷酸的酶的总称. 它能提高饲料和食品中磷的利用率, 减轻粪便中磷排放所造成的环境污染, 清除植酸与金属离子的螯合作用, 改善微量元素的吸收和利用. 本研究将马铃薯的胞外分泌信号肽(P sec) 和大肠杆菌的植酸酶基因(appA2) 结合组成融合基因导入粳稻台北309 中. PCR检测和Sou thern杂交表明, 植酸酶基因和分泌信号肽序列已经整合到水稻的基因组中. 无机磷含量分析表明, 含目的基因的转基因水稻种子及茎叶中的无机磷含量均较未转化植株有显著的提高. 图6表1参14
【英文摘要】Phytase, catalyzing the hydrolysis of phytate tomyo- inosito l and inorganic phosphate, can improve the bioavaibility of phytate phosphorus in hum an food and animal feed stuff, reduce phosphorus pollution of animal waste, eliminate chelation between phytate and m e tallic ion, and increase the absorption and utilization of nutritious substance. In this study, potato extracellular secrete signal sequence (P sec) and phytase gene (appA2) cloned from Escherichia coli were transformed into genome of rice variety Taipei 309. The results of PCR detection and Southern blot showed that the appA2 and P sec were inserted into rice genome. The analysis data of inorganic phosphorus indicated that the inorganic phosphorus content in the mature seeds, leaves and stem of the transgenic r ice we re higher than that of the contro1. Fig 6, Tab 1, Ref 14
【语种】中文

【第一作者】李进
【通讯作者】肖国樱
【期刊名称、卷期、页码】应用与环境生物学报,2008, 14(1) : 006- 010
【论文发表时间】2008-02-10 00:00:00
【引文索引类型】其他
【引文索引号】无
【学科分类】农学其他学科

【题目】基于杂交水稻种子鉴别其亲本的分子检测技术
【中文关键词】杂交水稻种子; 稻壳; SSR 分子标记; 亲本鉴别
【英文关键词】hybrid rice seed; husk; SSR marker; molecular identification of parents
【中文摘要】根据杂交水稻种子稻壳来自母本及SSR分子标记的共显性特点, 提出了一种基于杂交水稻种子鉴别其亲本的分子检测技术。首先提取杂交水稻种子稻壳的DNA, 获得母本的DNA指纹图谱, 再结合杂种带型, 推导出父本带型。这样只要建立已有亲本的DNA 指纹图谱库, 通过比对, 就可以鉴别杂交水稻的亲本是已登记亲本还是新创亲本。以金优207 及其亲本作为实验材料, 选用5对SSR引物验证了上述检测技术。
【英文摘要】According to the distinguishing features that seed husk has the same genotype as the female parent and SSR markers are co-dominant, a molecular technology was proposed to identify the parents of hybrid rice based on its hybrid seed. Firstly, the finger printing of the female parent was obtained from the husk o f hybrid seed. The fingerprinting of the male parent could be deduced by comparison o f the band patterns between the female and its F1 hybrid. On the basis of the existing fingerprinting bank of hybrid rice parents. It could be easy to identify whether a parent is a new one or not. We tested successfully the identification techno logy by using Jinyou 207 and its parents as the materials and 5 sets o f primers.
【语种】中文
【第一作者】阳志刚
【通讯作者】曹孟良
【期刊名称、卷期、页码】杂交水稻(H YBRID RICE), 2009, 24(2) : 78- 80
【论文发表时间】2009-04-10 00:00:00
【引文索引类型】其他
【引文索引号】1005- 3956 (2009) 02 - 0078- 03
【学科分类】农学其他学科

【题目】抗除草剂转基因水稻花粉漂移距离及生态风险分析
【中文关键词】转基因水稻; 抗除草剂基因; 基因漂移; 生态风险
【英文关键词】transgenic rice; herbicide resistant genes; gene flow; ecological risk
【中文摘要】以抗除草剂转基因水稻Bar68- 1及其杂种香125S /Bar68- 1 为花粉源, 探讨了转基因水稻的花粉漂移距离和漂移频率,结果表明: 在花粉源大(667m 2)、花粉受体为可育植株时转基因水稻的最大花粉漂移距离< 30 m, 最大漂移频率0. 295%; 当花粉源小(4 m2)、花粉受体为部分可育的两系不育系时, 最大花粉漂移距离< 9m, 最大漂移频率4. 518%。因此, 通常情况下, 转基因水稻向正常可育的栽培稻转移基因的可能性小。另据分析, 普通野生稻向栽培稻转移基因的可能性极低; 湖南和江西栽培稻向普通野生稻转移基因的可能性小, 两广和海南地区需要采取距离和障碍隔离防止栽培稻向普通野生稻转移基因。
【英文摘要】The pollen drift distance and gene flow percentage o f the herbicide resistant transgenic rice Bar68-1 and its F1 hybrid Xiang 125S /B ar68- 1 were studied. The results show ed that the maximal drift distance of pollen from herbicide resistant transgenic rice w as less than 30 m and the max imal gene flow percentage was 0. 295% when the pollen receptor was a normal rice variety and the pollen resources were abundant (667 m2), while the maximal drift distance of pollen from herbicide resistant transgenic rice was less than 9m and the maximal gene flow percentage was 4. 518% w hen the polen receptor was a PTGMS line with a partial fertility of about 30% and the pollen resources were small (4m2). Therefore, the probability of gene flow from transgenic rice to normally fertile cultivated rice is usually low. In addition, the analysis indicated the gene flow from common w ild rice to r ice cultivars had a very low probability. The probability of gene flow from cultivars to common wild rice in Hunan and Jiangxi was low, but in Guangdong, Guangxi and Hainan, the measures such as space or obstacle barrier isolations
【语种】中文

【第一作者】肖国樱
【通讯作者】肖国樱
【期刊名称、卷期、页码】杂交水稻, 2009, 24(4) : 78- 80
【论文发表时间】2009-08-10 00:00:00
【引文索引类型】其他
【引文索引号】1005 - 3956(2009) 04- 0078 - 03
【学科分类】农学其他学科

【题目】理想株型优质水稻恢复系华恢451的选育及应用
【中文关键词】杂交水稻; 恢复系; 华恢451; 理想株型; 优质; 选育
【英文关键词】hybrid rice; restorer line; Huahui 451, ideal plant type; high g rain quality; breeding
【中文摘要】华恢451是湖南亚华种业科学研究院用/ 明恢63 /L em on t0的F5 代株系作母本与先恢207 杂交选育而成的水稻新恢复系。该恢复系株叶型理想, 株型紧凑, 剑叶直立, 呈凹形, 分蘖力中等, 穗大粒多, 颖尖无色, 恢复力强, 配合力好, 品质优良, 中感稻瘟病, 抗高温能力强, 耐寒性好。所配组合产量高, 米质优, 其中华优451、K 优451、亚华优451、H28 优451先后通过了省或国家品种审定; H28 优451被评为湖南省2等优质米品种, 三香优451和Q优451 被评为湖南省3等优质米品种, K 优451、亚华优451区试中米质均达到国标3 级优质稻谷标准, 应用前景广阔
【英文摘要】Huahui 451, derived from the cross of (Minghui 63 /Lemont) F5//Xianhui 207, is a new rice restorer line developed by Hunan Yahua Seed Industry Research Institute. It show s ideal plant type with erect and concave flag leaves, medium tillering ability, large panic les with glume tips awn less and colorless, strong restoring ability, high combining ability, high grain quality, medium b last susceptibility, strong heat resistance and good cold tolerance. The hybrids derived from Huahui 451 show both high yield and high quality. Among them, Huayou 451, K You 451 and Yahuayou 451 have been registered and re leased to commercial product ion by national or provincial crop variety appraisal committees, H28 You 451, Sanxiangyou 451 and Q You 451 have been certified as f inequality rice varieties in Hunan Province, and the grain quality traits of both K You 451 and Yahuayou 451 can meet the third c lass o f national fine quality rice standards, which indicates a promising application prospect of its hybrids in commercial production.
【语种】中文
【第一作者】杨远柱
【通讯作者】杨远柱
【期刊名称、卷期、页码】杂交水稻, 2009, 24(5): 7- 11
【论文发表时间】2009-10-10 00:00:00
【引文索引类型】其他
【引文索引号】1005- 3956(2009) 05- 0007 - 05
【学科分类】农学其他学科

【题目】没顶淹涝早期水稻基因差异表达分析
【中文关键词】水稻 淹涝胁迫 差异表达基因
【英文关键词】Rice Submergence stress Differentially expressive genes
【中文摘要】水稻(Oryza sativa L) 耐淹品种FR13A 在分蘖期进行没顶淹涝处理。分别取淹涝0h, 2h, 4h, 8h, 16h, 32h的叶片进行mRNA 差异显示分析, 获得8 个差异表达的cDNA 片段。利用反式Northern 斑点杂交法去除4 个假阳性片段, 对4 个阳性片段(DF8、DF9、DF10、DF11) 测序后进行同源性分析, 其中一个片段(DF8) 的蛋白产物与WD-40 重复蛋白高度同源, 另一个片段(DF11) 的蛋白产物与植物生长素应答蛋白有较高同源性, 其余2 个没有找到同源蛋白质序列。
【英文摘要】should be taken to prevent gene flow from cultivated rice to common wild rice.
【语种】中文
【第一作者】陈昊
【通讯作者】肖国樱
【期刊名称、卷期、页码】生物技术通报,2008,5:98-102
【论文发表时间】2008-10-10 00:00:00
【引文索引类型】其他
【引文索引号】无
【学科分类】遗传学

【题目】拟南芥、荠菜DREB1A 基因的克隆与植物表达载体的构建
【中文关键词】DREB1A 基因 拟南芥 荠菜 基因克隆 表达载体构建
【英文关键词】DREB1A gene Arabidopsis thaliana Capsella bursa-pastoris Gene cloning Expression vector
【中文摘要】用PCR 方法从拟南芥和荠菜中分别克隆了DREB1A 基因。序列分析发现从拟南芥中克隆的AtDREB1A基因与已发表的AtDREB1A 基因序列(DQ372533) 的同源性为99.69%, 首次从荠菜中克隆的CbDREB1A 基因序列(EF156749) 与DQ372533 的同源性为99.54%。利用这两个基因分别构建了两个诱导表达载体(prd29A/AtDREB1A,prd29A/ CbDREB1A) 和两个组成型表达载体(pCaMV35S/AtDREB1A, pCaMV35S/ CbDREB1A) , 以便进一步开展植物抗旱基因工程研究。
【英文摘要】The AtDREB1A and CbDREB1A genes were isolated from Arabidopsis thaliana and Capsella bursapastor is respectively by the method of PCR. Sequencing analysis of AtDREB1A indicated that the cloned fragment showed 99.69% identity to the published sequence(DQ372533).The sequence of firstly cloned CbDREB1A gene(EF156749) shared 99.54% identity with that of DQ372533. By using of AtDREB1A and CbDREB1A genes, two induced expression vectors(prd29A/AtDREB1A, prd29A/ CbDREB1A) and two constitutive expression vectors(pCaMV35S/AtDREB1A, pCaMV35S/ CbDREB1A) in plant were constructed. The obtained expression vectors can be applied on plants genetic engineering for drought-tolerance improvement.
【语种】中文
【第一作者】杜洪伟
【通讯作者】肖国樱
【期刊名称、卷期、页码】生物技术通报,2008,4:99-103
【论文发表时间】2008-08-10 00:00:00
【引文索引类型】其他
【引文索引号】无
【学科分类】遗传学

【题目】水稻赤霉素代谢关键酶基因表达的检测分析
【中文关键词】水稻 赤霉素代谢 相对定量 RT-PCR
【英文关键词】Rice Gibberellin metabolism Comparative quantitation RT-PCR
【中文摘要】赤霉素(GA)与水稻矮化突变体的产生有密切的关系。根据GenBank数据库中水稻赤霉素代谢关键酶基因的cDNA序列, 在保守序列区域设计引物, 经过反应条件优化, 建立了相对定量RT-PCR双标准曲线检测方法, 并对中9B 及其体细胞无性系矮化突变体SV9B的相关基因表达情况进行了检测。结果表明, 该方法设计的引物特异性强, 所构建的标准曲线相关性好, 实验具有很高的可信度, 可以应用于水稻赤霉素相关突变体的研究。
【英文摘要】Gibberellin (GA) played an important part in generation of rice dwarf mutants. According to the cDNA sequences of rice gibberellin key metabolicenzyme genes from GenBank, primers were designed in conserved regions. With optimizing of reaction condition , a comparative quantitation RT-PCR detection method was established by two standard curve analysis1 Detection w as carried out on expression o f such genes of Zhong9B and SV 9B, which w as the dwarf mutant of Zhong9 B from somatic mutagenesis1 The result demonstrated that the specification of primers was strong and the correlatability of standard curves was fine1 The experiment had a high credibility, and could be promoted to the research o f rice GA relative mutants.
【语种】中文
【第一作者】梅进
【通讯作者】刘选明
【期刊名称、卷期、页码】生物技术通报,2009,6:81-85
【论文发表时间】2009-12-10 00:00:00
【引文索引类型】其他
【引文索引号】无
【学科分类】遗传学

【题目】籼型三系杂交水稻品质性状配合力与遗传力研究
【中文关键词】杂交水稻;品质性状;配合力;遗传力
【英文关键词】Hybrid rice; Quality trait; Combining ability; Heritability
【中文摘要】以3 个不育系和11 个恢复系为材料, 采用不完全双列杂交设计研究了水稻12 个品质性状配合力和遗传力的表现规律。结果表明: (1) 大部分性状特殊配合力方差极显著, 即主要受基因非加性效应作用; 少部分性状一般配合力和特

【英文摘要】3 sterile lines and 11 restoring lines were chosen for the research on combining ability and heritability of 12 quality traits by incomplete diallele cross design. The results were as follows: (1) Most of the traits were determined by non-additive effect of genes, few of the traits were determined by additive and non-additive effect of genes, and the non-additive effect was in leading position. (2) Brown rice rate, length of grain and chalky area were influenced mainly by sterile line, while head rice rate and gelatinization temperature were influenced mainly by restorer line , and the effect of male and female parents on milled rice rate, length/width and chalky rice rate was almost equal. (3) The narrow heritability of the traits were listed out from big to small as follows: protein content , head rice rate, gelatinization temperature, brown rice rate, chalky area , grain length, gel consistency , amylase content and milled rice rate. (4)Xing cheng A and Ming hui 77 were more ideal in parents, and Xing cheng A/ TO974 and Jin 23A/ R207 were better in hybrid combinations.

【语种】中文

【第一作者】黄凤林

【通讯作者】夏胜平

【期刊名称、卷期、页码】作物研究,2009,23(2):67-70

【论文发表时间】2009-12-10 00:00:00

【引文索引类型】其他

【引文索引号】1001-5280(2009)02-0067-04

【学科分类】遗传学

【题目】特矮稻ED基因的遗传定位和分析

【中文关键词】水稻; GA3鉴定; 矮秆基因; 遗传分析; 基因定位

【英文关键词】rice (Oryza sativa); GA3 identification; dwarfing gene; genetic analysis; gene mapping

【中文摘要】赤霉素(GA3)鉴定表明, 一种新型特矮稻(命名为‘特矮稻-2’)的GA3 信号转导途径正常, 施加外源GA3不能恢复到正常植株的高度, 说明此种矮稻的矮化机制与GA3无关。来源于组合‘特矮稻-2’×‘日本晴’的F2 群体的遗传分析表明,‘特矮稻-2’的特矮性状受1对隐性基因控制。采用SSR分子标记, 将该矮秆基因定位于第12 染色体上的RM519和RM235标记之间, 遗传距离分别为15.9 和22.0 cM, 该基因暂命名为ED。

【英文摘要】We investigated gibberellin (GA3) signaling in a novel dwarfing rice (Oryza sativa)‘Teaidao-2’, the results showed that exogenous GA3 could not rescue the dwarfing phenotype of‘Teaidao-2’. So GA3 was not involved in the dwarfing phenotype. The dwarfing gene was referred to as ED, a F2 population derived from cross between‘Teaidao-2’and‘Nipponbare’was constructed for mapping of the ED locus. The dwarfing phenotype of‘Teaidao-2’was regulated by a single recessive gene. Simple sequence repeat (SSR) marker analyses revealed that ED was located between RM519 and RM235 with the genetic distance of 15.9 and 22.0 cM on chromosome 12.

【语种】中文

【第一作者】梅进

【通讯作者】刘选明

【期刊名称、卷期、页码】植物生理学通讯,2009,45(3):239-243

【论文发表时间】2009-03-10 00:00:00

【引文索引类型】其他

【引文索引号】无

【学科分类】遗传学

【题目】小粒野生稻STK类抗病基因同源序列的克隆和分析

【中文关键词】小粒野生稻;抗病基因同源序列;丝氨酸/苏氨酸蛋白激酶(STK)

【英文关键词】Oryza minuta;resistance gene analog;STK motif

【中文摘要】根据丝氨酸/ 苏氨酸蛋白激酶类(serine-threonine kinase, STK) 抗病基因结构中保守结构域, 设计引物, 以小粒野生稻基因组DNA 为模板, 扩增获得10 条STK 类抗病基因同源序列. 同源性分析表明其都具有STK 保守结构域, 与已克隆的STK 类抗病基因有不同程度的相似性, 为进一步克隆小粒野生稻中的STK 类抗病基因提供依据.

【英文摘要】Designed primers,based on serine-threonine kinase (STK)motif in the plant resistance genes,were used to amplify resistance gene analogs from the genomic DNA of Oryza minuta and 10 were obtained.The analysis of homology indicated that they all have STK motifs and have different homologies to STK resistance genes that had cloned. These provided the basis for further study on cloning STK resistance gene in Oryza minuta.
【语种】中文
【第一作者】崔玲玲
【通讯作者】曹孟良
【期刊名称、卷期、页码】生命科学研究,2009,13(2):95-98
【论文发表时间】2009-04-10 00:00:00
【引文索引类型】其他
【引文索引号】1007-7847(2009)02-0095-04
【学科分类】遗传学

【题目】湘北平湖区早稻硕丰2号机械直播高产配套技术研究
【中文关键词】早稻;栽培;机械直播;硕丰2号
【英文关键词】无
【中文摘要】对湘北平湖区机械直播早稻硕丰2 号高产配套技术研究结果表明: (1) 芽谷丸化剂包衣机械直播秧苗质量高; (2)适宜大田施氮量为165 kg / hm2 ; (3) 适宜直播播种量为75 kg / hm2; (4) 直播后18 d 内用5%稻杰悬浮剂750 mL/ hm2 加10%千斤乳油600 mL/ hm2, 防除稻田杂草90%以上, 能有效控制草害; (5) 示范平均产量7. 28 t/ hm2。水稻机械直播解决了人工撒播出苗、除草、倒伏难题, 有利于实现水稻机械化生产。
【英文摘要】无
【语种】中文
【第一作者】陈恺林
【通讯作者】陈恺林
【期刊名称、卷期、页码】作物研究,2009,23(1):20-23
【论文发表时间】2009-12-10 00:00:00
【引文索引类型】其他
【引文索引号】1001-5280(2009)01-0020-02
【学科分类】农业基础学科

【题目】亚热带区域水稻耐逆境生态育种的问题和对策
【中文关键词】亚热带;水稻;耐逆境;分子设计;育种
【英文关键词】subtropical regions; rice; stress tolerance; molecular design; breeding
【中文摘要】水稻主要种植在我国亚热带地区,高温干旱、淹涝、低温、低磷是它遇到的主要非生物逆境。水稻耐逆境生态育种主要采用分子标记辅助选择和转基因技术,改良的主要对象是杂交水稻亲本。不育系侧重于耐涝、耐旱、耐寒性状的分子设计,同时兼顾抗病性状的改良。恢复系主要开展耐低磷和抗除草剂性状的分子设计,同时兼顾抗虫性状的改良。通过不育系与恢复系的合理配组,获得耐多种逆境的杂交稻组合,利用耐逆境杂种优势。
【英文摘要】Rice is mainly planted in subtropical regions of China and suffered with the mostly abiotic stress including high temperature, drought, submergence, low temperature and low phosphorus. To improve the stress tolerance of rice, marker assistant selection and genetic transformation technique are adopted firstly and the parental lines of hybrid rice are preferred to be the object for modification. The male sterile lines of hybrid rice are emphasized particularly on molecular design of the tolerance of submergence, drought and cold when disease resistances are considered. For the restorer lines of hybrid rice, improvements are focused on phosphorus uptake and herbicide resistance as insect resistances are concerned. The hybrid combinations with multi-stress tolerance are developed by suitable mating one stress tolerant male sterile line with another stress tolerant restorer line of rice, and then the heterosis of stress tolerance is utilized.
【语种】中文
【第一作者】肖国樱
【通讯作者】肖国樱
【期刊名称、卷期、页码】农业现代化研究,2008,29(6):692-695

【论文发表时间】2008-11-10 00:00:00
【引文索引类型】其他
【引文索引号】1000-0275(2008)06-0692-04
【学科分类】农业基础学科

【题目】烟酰胺合成酶基因在植物铁胁迫应答反应中的功能
【中文关键词】烟酰胺合成酶基因; 铁胁迫; 机理Ⅰ型; 机理Ⅱ型
【英文关键词】nicotianamine synthase gene;iron stress;strategy Ⅰ plants;strategy Ⅱ plants
【中文摘要】铁离子在植物的生理生化代谢中具有重要的功能. 缺铁和铁过量都会对植物造成伤害, 因此, 维持植物铁离子的动态平衡具有很重要的作用. 烟酰胺合成酶基因(NAS) 与植物铁离子的吸收转运关系非常密切,但在机理Ⅰ型和机理Ⅱ型植物中, NAS 基因的作用机理和表达模式却不同. 在双子叶和非禾本科单子叶植物中, 烟酰胺(NA) 的主要功能是铁离子的储藏和运输, NAS 基因的表达不受缺铁胁迫诱导. 而在禾本科植物中,NAS 基因的表达受缺铁胁迫诱导, 并且与铁元素的吸收关系密切.
【英文摘要】Iron ion plays important roles in plant physiological and biochemical processes. The deficiency or excessive accumulation of iron causes severe damages to plants. Thus,a precise control of iron ion homeostasis in plant is essential for normal cellular function. Nicotianamine synthase gene (NAS) is involved in iron ion absorption and transport. NAS functions differentially between strategy Ⅰ and strategy Ⅱ plants. In dicotyledonous and nongraminaceous plants,NAS synthesizes nicotianamine (NA) which is responsible for iron storage and transportation,and the expression of NAS gene is not induced by iron deficiency. Whereas in graminaceous plants,NAS gene expression is induced by iron deficiency,and is involved in iron uptake .
【语种】中文
【第一作者】王育花
【通讯作者】肖国樱
【期刊名称、卷期、页码】生命科学研究,2009,13(4):354-359
【论文发表时间】2009-08-10 00:00:00
【引文索引类型】其他
【引文索引号】1007-7847(2009)04-0354-06
【学科分类】遗传学

【题目】水稻籼爪重组自交系群体芽期耐旱性鉴定
【中文关键词】水稻; 重组自交系; 芽期; PEG 胁迫; 耐旱性
【英文关键词】rice; recombinant inbred line; germinating stage; PEG water- stress; drought tolerance
【中文摘要】以20% PEG-6000 作渗透介质, 模拟干旱条件, 芽期处理水稻籼爪重组自交系7 天, 测定处理后的胚根长、芽长、芽干重。以各性状相对值的耐旱级别而得出的耐旱总级别为指标, 筛选出8 个耐旱株系, 它们可作为耐旱资源在育种和耐旱机理研究中应用。
【英文摘要】Drought tolerance of indinca/ javanica recombinant inbred line (RIL) at germinating stage in r ice by use of 20% PEG-6000 as water-stress agent were studied. The radicle length, shoot length and the dry weight of shoot were measured after the 20% PEG treatment for 7 days. The final class of drought tolerance, der ived from the sum of the drought tolerance class of each trait, was used as index in assessing the drought tolerance of RIL. The results showed that eight lines are of drought tolerance among the 270 lines, which could be used as drought tolerance resources in rice breeding and research on mechanism of drought tolerance in r ice.
【语种】中文
【第一作者】樊庆鲁
【通讯作者】肖国樱
【期刊名称、卷期、页码】广西植物2009,29(1):74-77
【论文发表时间】2009-01-10 00:00:00
【引文索引类型】其他
【引文索引号】1000-3142(2009)01-0074-04
【学科分类】农业基础学科

【题目】转大麦烟酰胺合成酶基因提高水稻逆境胁迫耐受性的研究

【中文关键词】水稻; 烟酰胺合成酶基因; 遗传转化; 耐逆性
【英文关键词】rice; nicotianamine synthase gene; genetic transformation; stress tolerance
【中文摘要】维持铁等金属离子的动态平衡是保持植物细胞功能正常的先决条件。烟酰胺合成酶基因在单子叶禾本科的缺铁胁迫应答反应中起着关键作用, 它的催化产物烟酰胺(NA) 是铁及其他二价金属离子在体内吸收和转运的重要载体, 且能与Fe2+ 结合形成Fe2+-NA 复合物, 从而使植物在酸性土壤中免受铁毒害。利用农杆菌介导法, 将大麦烟酰胺合成酶基因NASH OR1 转入水稻台北309 中, 经PCR 及PCR- Southern 杂交检测,确定目的基因已经整合到水稻基因组中。铁、锰、铜和锌含量的检测结果显示: 与非转基因对照植株相比,转基因植株的金属元素含量都明显提高, 铜、锌、锰和铁元素含量分别增加了15%、80%、31%和44%, 但铁、锰和锌元素增量在株系间差异较大。在干旱胁迫下, 转基因植株的超氧化物歧化酶(SOD) 活性和脯氨酸含量都高于非转基因对照植株的, 暗示大麦烟酰胺合酶基因在一定程度上提高了水稻的耐旱性。
【英文摘要】Keeping Fe2+ and other ions homeostasis is essential work for plant cell. Nicotianamine synthase gene has an important function in the Fe-def iciency response of graminaceous monocots, and it catalyzes substance to nicotianamine which plays an important carrier in the internal transport of Fe2+ and other divalent metal ions. Nicotianamine can bind with Fe2+ to form Fe2+-NA complex and protect plants from toxicity in acidic soil. The transformation of nicotianamine synthase gene of barley to rice Taipei 309 was reported. The PCR and PCR-Southern blot analy sis showed that the interest gene had been integrated into rice genome. The contents of Fe, Mn, Cu and Zn in t ransgenic plants were measured and the results showed that the contents of transgenic plants were higher than those of the control respectively, i. e. Cu increased by 15% , Zn increased by 80% , Mg increased by 31%, and Fe increased by 44%. How ever , the contents of Fe, Mg and Zn in transgenic line were different between individuals. The SOD activity and proline contents of transgenic plants were higher than those of non-transgenic plants under drought stress, which hints that the barley nicotianamine synthase gene can increase the drought stress tolerance of r ice to some degree.
【语种】中文
【第一作者】王育花
【通讯作者】肖国樱
【期刊名称、卷期、页码】广西农业生物科学,2008,27(1):25-30
【论文发表时间】2008-03-10 00:00:00
【引文索引类型】其他
【引文索引号】1008-3464(2008)01-0025-06
【学科分类】遗传学

【题目】转基因抗除草剂两系杂交早稻新组合高产栽培试验初报
【中文关键词】抗除草剂;转基因;杂交早稻;栽培
【英文关键词】herbicide-resistant; transgenic; early season hybrid rice; cultivation
【中文摘要】对转Bar 基因抗除草剂两系杂交早稻株S/Bar68-1 和株S/Z003 进行高产栽培试验研究,结果表明, 供试组合各项经济性状稳定,生长整齐,抗倒伏能力比对照强,株S/Bar68-1 和株S/Z003 比对照株两优819 分别增产2.4%和8.2%。转Bar 基因抗除草剂两系杂交早稻高产栽培技术要点为:3 月下旬播种;3 叶一心期喷0.045%草铵膦(w/v)除杂;插植规格16.5 cm×16.5 cm;全生育期施肥总量为纯氮186 kg/hm2,磷47 kg/hm2,钾131 kg/hm2;按常规方法管水和防治病虫害。
【英文摘要】The studies on high-yielding cultivation techniques of herbicide-resistant two-line early season hybrid rice Zhu S/Bar68-1 and Zhu S/Z003 were reported. The results showed that the two combinations were stable in economic characters and synchronous in growth. Compared with the control hybrid rice Zhu-liang-you 819, Zhu S/Bar68-1 and Zhu S/Z003 were better in lodging resistance and their yields increased by 2.4% and 8.2% respectively. The keys of high-yielding cultivation techniques of herbicide-resistant two-line early season hybrid rice were sowing in the last ten days of March; spraying 0.045% glufosinate (w/v) at the three-leaf and one-bud stage for controlling weeds; transplanting in density of 16.5 cm×16.5 cm; and fertilizing nitrogen 186 kg/hm2, phosphorus 47 kg/hm2 and potassium 131 kg/hm2 per hectares in total. Water management and pests control were followed as routine procedures.
【语种】中文
【第一作者】侯海军
【通讯作者】肖国樱
【期刊名称、卷期、页码】湖南农业科学,2009,(3):21-23
【论文发表时间】2009-03-10 00:00:00
【引文索引类型】其他
【引文索引号】1006-060x(2009)03-0021-03

【学科分类】农业基础学科

【题目】中嘉早17在湖南种植表现及高产栽培技术
【中文关键词】中嘉早17;栽培技术
【英文关键词】无
【中文摘要】2009 年从中国水稻研究所引进超高产早稻新品种中嘉早17,在湖南省29 个县(市、区)共示范种植约100 hm2。本文主要介绍了该品种在湖南宁乡、长沙、湘潭、汨罗、湘阴、赫山等地试种示范表现,并总结了其高产栽培技术。
【英文摘要】无
【语种】中文
【第一作者】黎彬
【通讯作者】闵军
【期刊名称、卷期、页码】中国稻米,2011,17(1):68-70
【论文发表时间】2011-01-10 00:00:00
【引文索引类型】其他
【引文索引号】1006-8082(2011)01-0068-03
【学科分类】农业基础学科

【题目】荧光定量PCR检测淹涝胁迫下水稻Adh2基因的表达量变化
【中文关键词】淹涝胁迫;乙醇脱氢酶;实时荧光PCR;基因表达
【英文关键词】Submergence stress, Alcohol dehydrogenase, Real- time fluorescence quantitative PCR, Gene expression
【中文摘要】采用荧光定量PCR 方法, 应用特异性引物, 对淹涝胁迫下水稻叶片中低丰度表达的乙醇脱氢酶基因Adh2 (Alcohol dehydrogene 2)进行转录水平上的定量分析。实验得到一组基线平整、斜率大、指数区明显的S形荧光曲线。结果显示, 在淹涝胁迫前期, Adh 2基因表达持续增加, 在水淹后8 h表达量最大, 随后下降。淹涝胁迫能诱导叶片中Adh 2基因大量表达, 且呈低- 高- 低的变化趋势。
【英文摘要】Real-time fluorescence quantitative polymerase chain reaction was used to determine transcription levels of Adh2 (Alcohol dehydrogene 2) gene in submerged leaves of rice using specific primers, expressed at low abundance under normal conditions. SYBR Green real-time PCR platform was established to check low abundance genes, which gave rise to a series of S curves with flat baselines, large slopes and distinct exponential areas. The results show thatAdh2 transcription increases at the beginning of submergence and reaches the maxmium level 8 hours after submergence, and then decreases. Adh2 transcription level in r ice leaves follows a low-high-low pattern under submergence.
【语种】中文
【第一作者】赵森
【通讯作者】肖国樱
【期刊名称、卷期、页码】中国生态农业学报,2008,16(2):455-458
【论文发表时间】2008-03-10 00:00:00
【引文索引类型】其他
【引文索引号】1671-3990(2008)02-0455-04
【学科分类】遗传学

【题目】Tolerance of submergence in rice gene studies using differential display technique
【中文关键词】无
【英文关键词】mRNA differential display; Oryza sativa ssp. indica; submergence stress
【中文摘要】无
【英文摘要】Gene expression profiles between submergence rice (Oryza sativa ssp. indica) varieties, tolerant FR13A and sensitive IR39595-503-2-1-2, under submergence stress were identified using differential display reverse transcriptase-polymerase chain reaction (DDRT-PCR). A total of 1428 bands were amplified with 40 pairs of primers, of which 102 were significantly different between the two lines. The differential display ratio was 7.1%. Among 42 differential display bands derived from the submergence tolerant variety, the expression of seven fragments was confirmed by Northern blot analysis. The analysis of their sequences indicated that four of them showed high homology with genes related to a water stress response: genes encoding ATPbinding protein, isocitrate dehydrogenase,

NADH dehydrogenase and terminal acetyltransferase, respectively. The remaining three fragments were novel cDNA fragments.
【语种】英文
【第一作者】陈永华
【通讯作者】肖国樱
【期刊名称、卷期、页码】Chinese Journal of Agriculture Biotechnology,2007,4:139-144
【论文发表时间】2007-10-10 00:00:00
【引文索引类型】其他
【引文索引号】DOI:10.1017/CJAB2007142
【学科分类】遗传学

【题目】超级杂交早稻新组合株两优819的选育及应用
【中文关键词】株两优819; 超级杂交早稻; 选育; 应用
【英文关键词】无
【中文摘要】株两优819 是作者用低温敏两用核不育系株1S 与早熟优质两系父本华819 选配的早熟超级杂交早稻组合。本文阐述了该组合的选育过程和试验结果及良种良法高产配套栽培技术。
【英文摘要】无
【语种】中文
【第一作者】杨远柱
【通讯作者】杨远柱
【期刊名称、卷期、页码】农业科技通讯,2007,12:77-79
【论文发表时间】2007-12-10 00:00:00
【引文索引类型】其他
【引文索引号】无
【学科分类】农学其他学科

【题目】硫脲用量对菠菜生理指标及土壤氮素转化的影响
【中文关键词】硫脲 菠菜 硝酸盐累积 土壤氮素 叶绿体色素
【英文关键词】Thiourea; spinach; nitrate accumulation; soil N; chloroplast pigments
【中文摘要】采用盆栽法,研究了硫脲不同用量(0%、1%、3%、5%、7%)对菠菜生长、硝酸盐累积、土壤氮含量及叶绿体色素含量的影响。结果表明,不同硫脲用量对菠菜的单盆重、株高均有提高。随硫脲用量的增加,菠菜叶绿体色素含量均有提高;硫脲能显著降低菠菜硝酸盐含量,随着硫脲用量的增加,降低效果提高,其中硫脲用量为7%时,降低效果达极显著水平。硫脲对土壤硝态氮累积的抑制作用随硫脲用量的增加而增强,硫脲用量达7%时,抑制作用表现为极显著。
【英文摘要】The effects of different thiourea-applying amounts(0%, 1%, 3%, 5% and 7%) on the growth, nitrate accumulation of spinach, N content in soil and chloroplast pigment contents in plants have been studied by pot experiment. The results showed that, the application of thiourea with different dosages increased both the fresh weight of spinach in single pot and plant height. Following with the increased of thiourea-applying amounts, the chloroplast pigment contents in plants were increased. Thiourea application could significantly decrease the nitrate contents in spinach. The nitrate-decreasing efficiency has been improved following with the increase of thiourea-applying amounts. When thiourea-applying amount reached as higher as 7%, the nitrate-decreasing efficiency reached a very significant level. The depressing function of thiourea application on nitrate accumulation in soil was strengthened with the increase of thiourea-applying amounts. When thiourea-applying amount was 7%, the depressing function reached a very significant level.
【语种】中文
【第一作者】何盈
【通讯作者】罗涛
【期刊名称、卷期、页码】生态环境,2008,17(6):2413-2417
【论文发表时间】2008-06-25 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农业基础学科

【题目】茶叶中的EGCG3″Me研究
【中文关键词】茶;EGCG3″Me;含量;烘干温度
【英文关键词】Tea;EGCG3”Me;content;drying temperature
【中文摘要】设置茶鲜叶的不同采摘成熟度、不同采摘时间以及不同烘干温度等,制备茶样,研究不同成熟度、不同采摘时间以及不同烘干温度等对茶叶中表没食子儿茶素-3-O(3-O-甲基)没食子酸酯(EGCG3”Me)含量的影响。研究发现,随着茶鲜叶成熟度的增加,叶片中EGCG3”Me含量有增加的趋势,一般在第3叶(或者第4叶)含量达到最高;1d 中,茶鲜叶中EGCG3”Me含量在中午达到最高;在90°C烘干温度下,茶叶中的EGCG3”Me含量能得到有效的保持。
【英文摘要】Effects on EGCG3”Me content in the tea with different leaf maturity, different picking time and different drying temperature were investigated by HPLC.The results indicated that the content of EGCG3”Me increased with the leaf maturity, it was reached to its highest level in the third or the fourth leaf generated; the maximum content was reached at noon. The content of EGCG”Me maintained effectively when the drying temperature was kept at 90°C.
【语种】中文
【第一作者】吕海鹏
【通讯作者】林智
【期刊名称、卷期、页码】食品与发酵工业;2008,,34(10)22-25
【论文发表时间】2008-08-14 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】园艺学

【题目】六个国外水仙品种在漳州试种的植物学特征
【中文关键词】多花水仙 品种 漳州
【英文关键词】NULL
【中文摘要】介绍Avalanche、Soleil D’Or、Galilee、Ziva、Erlicheer、Golden Rain等六个从国外引进的多花水仙品种在漳州地区试种的植物学特征。
【英文摘要】NULL
【语种】中文
【第一作者】何炎森
【通讯作者】何炎森
【期刊名称、卷期、页码】福建热作科技,2011,36(2):51-53
【论文发表时间】2011-02-01 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农业基础学科

【题目】鲜茶汁不同制备工艺比较
【中文关键词】鲜茶汁; 制备; 工艺
【英文关键词】fresh tea juice; processing; technology
【中文摘要】研究了鲜茶汁制备工艺,比较了几种制备方式所得鲜茶汁的得率、浓度、色差、主要常规成分及感官品质。实践中发现加水打浆和加水榨汁制备的鲜茶汁感官品质较好,但从工业化角度考虑,加水榨汁和渣浸提两种制备工艺相结合更合适于鲜茶汁加工。
【英文摘要】The processing technology for fresh tea juice was studied, and several different technologies were compared in the yield, concentration, chromatism, main conventional compositions and organoleptic qualities of fresh tea juice obtained. It was found that the organoleptic qualities of fresh tea juice processed by beating with water and pressing with water were better, but taking industrialization into consideration, the combination of pressing with water and extracting of residue is the optimal processing technology.
【语种】中文
【第一作者】许勇泉
【通讯作者】尹军锋

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【学科分类】园艺学

【题目】污泥茶渣堆肥发酵过程酶活性变化
【中文关键词】污泥 茶渣 堆肥 酶活性
【英文关键词】sludge; tea waste; compost; enzyme activity
【中文摘要】对污泥茶渣等物料进行堆肥发酵,结果表明:不同物料配比堆肥第3d均进入高温(75°C)降解阶段,持续时间16~18d。污泥含量40%~50%处理的全氮、速效氮含量高于污泥含量30%的处理;处理D全氮含量最高,达19.17g.kg-1,各处理全氮平均值大小顺序为D〉E〉C〉B〉A;处理E速效氮含量最高,为1171mg.kg-1,各处理速效氮平均值大小顺序为E〉D〉C〉B〉A。堆肥过程中纤维素酶活性的变化与污泥或茶渣的含量无明显的相关关系,而与温度呈正相关线性关系。处理A、B、C、E的纤维素酶活性于第8d达最高值,分别为0.396、0.498、0.499、0.498mg.g-1.d-1,处理D第12d达最高值,为0.590mg.g-1.d-1。随着茶渣用量的增加,脲酶的活性有所降低;经相关关系分析,脲酶活性与茶渣用量呈负相关关系,各处理脲酶活性平均值大小顺序依次为C〉A〉D〉E〉B。
【英文摘要】Enzyme activities in compost containing various proportions of sludge and tea waste were compared.The results showed that the higher compost temperature was reached on the third day,and maintained for 16-18 days for all treatments.The total N in the compost containing 40%-50% of sludge was higher than when 30% sludge was used.The total N of Treatment D was 19.17 g · kg-1,which was the highest among all treatments.The order of total N content for the treatments was DECBA.The available N of Treatment E was 1171 mg · kg-1,which was the highest among all treatments.The order of average available N for the treatments was EDCBA.The cellulase activity increased linearly as the temperature rose.On the 8th day,the cellulase activities of the Treatment A,B,C and E reached maximum values of 0.396,0.498,0.499 and 0.498 mg · g-1 · d-1,respectively.Treatment E attained the highest value of 0.590 mg · g-1 · d-1 on 12th day.The urease activity decreased with increasing tea waste addition.The order of the average urease activity in the treatments was CADEB.
【语种】中文
【第一作者】何炎森
【通讯作者】何炎森
【期刊名称、卷期、页码】福建农业学报,2011,2(4):637-641
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【引文索引号】null
【学科分类】农业基础学科

【题目】水仙花叶病毒病研究概况
【中文关键词】水仙花 水仙花叶病毒
【英文关键词】Narcissus, Narcissus Mosaic Virus
【中文摘要】水仙花叶病是危害水仙花主要病毒病,普遍发生于世界各国水仙产地。此文综述了水仙花叶病毒(NMV)的分类、生物学特性、检测技术和防治措施的研究概况,同时建议了今后的研究方向。
【英文摘要】Narcissus mosaic virus (NMV) is one important virus disease and occurs in narcissus worldwide. The classification, biological characteristics, identification methods and prevention measures are reviewed, and the further researches of the virus are discussed.
【语种】中文
【第一作者】何炎森
【通讯作者】何炎森
【期刊名称、卷期、页码】中国农学通报,2009,25(24):378-381
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【学科分类】农业基础学科

【题目】茶叶脱咖啡因技术研究进展
【中文关键词】茶叶;脱咖啡因;技术;进展
【英文关键词】tea:decaffeination:technique;review
【中文摘要】茶叶具有许多医疗保健作用,然而咖啡因的负作用使消费者对低咖啡因茶及茶制品特别青睐。目前脱咖啡因技术主要有水脱除、溶剂萃取、吸附分离和超临界CO2 萃取等传统方法,以及后来发展的微生物和酶法降解咖啡因和培育低咖啡因茶树等。本文对茶叶脱咖啡因的研究进行综述,并讨论其可行性;水脱除法与吸附分离法相结合、微生物和酶法降解及培育低咖啡因茶树将是今后茶叶脱咖啡因技术发展的主要方向。
【英文摘要】It is reported that tea has many medical functions. However, consumers prefer decaffeinated tea and tea products due to caffeine ’s negative disadvantageous. Decaffeination is realized by different methods, including the traditional methods such as water decaffeination, solvent extraction, adsorption separating and supercritical carbon dioxide extraction. The recent developmental microbial and enzymatic degradation and breeding low caffeine tea varieties are also developed for removal of caffeine. The investigation on tea decaffeination was reviewed, and the feasibility was discussed in this paper. The techniques of water decaffeination combined with adsorption separating, microbial and enzymatic degradation as well as low caffeine tea breeding were regarded as the main developmental direction of tea decaffeination by the authors.
【语种】中文
【第一作者】许勇泉
【通讯作者】尹军峰
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【学科分类】园艺学

【题目】硝化抑制剂及其组合对小白菜产量、品质的影响与土壤残留分析
【中文关键词】小白菜 清江白 硝酸盐 硝化抑制剂组合 残留
【英文关键词】Chinese Cabbage; Brassica chinensis L. cv. ; nitrate; nitrification inhibitors'conbinations; residue
【中文摘要】采用网室盆栽试验,研究了3种不同硝化抑制剂及其组合对清江白产量和品质的影响。结果表明,尿素配施3种不同硝化抑制剂及其组合的清江白硝酸盐含量呈现相似的波动曲线,菜体硝酸盐总体呈降低的趋势,降幅在8.34%~65.60%之间。配施不同硝化抑制剂及其组合的清江白,收获时菜体硝酸盐比对照减少13.21%~70.86%。产量增加3.45%~59.42%,叶绿素总量增加0.15%~27.41%,类胡萝卜素增加2.30%~29.15%,Vc提高26.00%~131.97%,植株N、P、K也有不同程度的提高。单施3种硝化抑制剂的作用效果以硝化抑制剂Ⅰ效果最好,从组合看,整体表现为配施硝化抑制剂Ⅰ的组合效果较好,其中硝化抑制剂Ⅰ+Ⅱ+Ⅲ的硝化抑制作用效果最佳。对配施硝化抑制剂Ⅰ的残留量研究表明,硝化抑制剂Ⅰ施用67d后,降解率为89.93%。
【英文摘要】A hyocaust plot experiment was employed to study the effects of three different nitrification inhibitors and their combinations on yield and quality of Brassica chinensis. A similar fluctuant pattern on vegetable nitrate contents during the growing period of B. chinensis was observed when different nitrification inhibitors were added to urea. The nitrate in vegetable decreased, by 8.34%-65.60% on average. After harvest, it decreased by 13.21%- 70. 86%. As compared to the control, the yield and contents of nitrate, chlorophyll, carotenoid and vitamin C of B. chinensis increased by 3.45%- 59.42%, 13.21%- 70.86%, 0.15%- 27.41%, 2.30%- 29.15%, and 26.00%-131.97 %, respectively. At the same time, the nitrogen, phosphorus and potassium in the plant increased in varying degrees. The Nitrification Inhibitor Ⅰ was found to be the best among three inhibitors tested, when they were added individually to urea. The combinations of the Nitrification Inhibitor I and other inhibitors were also better than those of the others. The best combination was found to be Nitrification Inhibitors Ⅰ + Ⅱ + Ⅲ. Significant portion (i. e. , 89.93%) of the Nitrification Inhibitor Ⅰ was degraded, 67 clays after the fertilization.
【语种】中文
【第一作者】王煌平
【通讯作者】罗涛
【期刊名称、卷期、页码】福建农业学报,2009,24(5):580-58

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【题目】不同污泥肥料对水稻和大豆的肥效实验研究
【中文关键词】土壤肥料学 污泥 自机肥 生物肥 速效养分 增产效果
【英文关键词】soil and fertilizer science ; sludge ; organic fertilizer; biological fertilizer; quick result nutrient; yielding effect
【中文摘要】为探讨城市生活污泥农用效果,以莆田市城市生活污水处理厂的鲜污泥为材料,制成下污抛、有机肥及生物肥等3种不同有机肥料品种,将这3种肥料在水稻、大豆上进行肥效盆栽试验,测定作物产量,并分析不同施肥处理其土壤N,P、K养分供应能力及作物对N、P、K养分的吸收情况。试验结果表明,污泥作为肥料施用能提高土壤速效N、P,K养分供应水平和水稻、大豆对N、P、K的吸收量,并具有明显的增产效果;3种污泥肥料品种的供肥能力从高到低的顺序为生物肥、有机肥、干污泥;并就污泥农用资源化提出看法。
【英文摘要】This article is concerned with the authors' study on the effects of different kinds of sludge on the nutrient supply for rice and beans in Putian context. To test the effects of the different kinds of sludge on the soil of the paddy fields, we have taken fresh sludges supplied by a sludge processing plant in Putian as samples to test the yields of rice and beans before and after their use. Particularly,tests were done with the different effects of different kinds of sludge, such as dry sludge, organic fertilizer and biological fertilizer on the soil absorption and supply of N, P and K. The results of our experiments show that the use of sludge as a kind of fertilizer helps to increase quick absorption of N, P and K by the soil. In case of rice absorption of N, P, and K, the increase rates can be 3.74 g/plant, 0.45 g/plant and 4.83 g/plant respectively, with 4.76%, 15.4% and 14.5 % as increase rates of yields as compared with the soil without such supply. As to beans, the increase rates are 15.2%, 14.6% and 13.7% respectively. If dry sludge is taken as sample fertilizer, the increase rates of rice and bean yiekts are 56.9 g/plant and 29.4 g/plant, with an increase of 13.4% and 6.1% respectively. The resuits also prove an extra-salience in rice yield and a salience in beans' . Among the three kinds of fertilizer, biological fertilizer ranks the highest, organic fertilizer in the middle and dry sludge the lowest. This article also give some insights into how to make sludge more useful as a kind of agricultural resources and brought about the ideas of composite process of sludge when turning the sludge into organic fertilizer or biological fertilize.
【语种】中文
【第一作者】林代炎
【通讯作者】林代炎
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【学科分类】农业基础学科

【题目】固液分离机研制与应用效果
【中文关键词】固液分离机 质量标准 悬浮物
【英文关键词】solid-liquid separator; quality standard; suspended solid ramoval
【中文摘要】本文叙述了Fz-12固液分离机的设计原理与原则,详述了主要技术性能指标及其生产工艺流程,并对样机进行空载和试运行检验.结果表明各项性能和技术指标均符合Q/HXJ001-2004产品质量标准,对粪污悬浮物去除效果好,说明该机对降低粪便污水有机物浓度与促进粪渣多层次循环综合利用具有重要作用.
【英文摘要】Design principles of solid-liquid separator FZ-12 were presented in this paper with a detailed recount of its technical capability and process flow. The performance showed an effective removal of suspending materials of dung wastewater, and it was coincident to the quality standard of Q/HXJJ001-2004. The separator could effectively decrease organic content of dung wastewater and promote the comprehensive use of it.
【语种】中文
【第一作者】林代炎
【通讯作者】林代炎
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【学科分类】农学其他学科

【题目】产甲烷菌在厌氧消化中的应用研究进展
【中文关键词】厌氧消化 产甲烷菌 厌氧反应器
【英文关键词】anaerobic digestion; methanogens bacteria; anaerobic reactor
【中文摘要】简述了产甲烷菌研究史,分析了厌氧消化领域研究进展以及产甲烷菌代谢机理和生理生化特征的关系。
【英文摘要】This article briefly introduces the progress in using methanobacteria for anaerobic digestion studies. It al so analyzes the relationship between the research development in anaerobic digestion and the metabolic mechanism and the physiological and biochemical characteristics of methanobacteria.
【语种】中文
【第一作者】林代炎
【通讯作者】林代炎
【期刊名称、卷期、页码】福建农业学报,2008,23(1):106-110
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【题目】规模化养猪场污水处理工程实例分析
【中文关键词】污水处理 固液分离 厌氧发酵
【英文关键词】wastewater treatment; Solid-liquid separation ; Anaerobic fermentation
【中文摘要】本文以规模化养猪场的污水处理工程实例分析了各阶段的处理效果,结果认为,在改进规模化养猪场传统污水处理方案时,应用固液分离机进行前处理对去除SS,COD,BOD和NH,等效果好,去除率分别为75.7%,62.4%,59.9%和18.3%,且投资省、回收快,不增加企业的运行费用负担。
【英文摘要】This article briefly introduced the present state of development of large scale pig farm and the wastewater discharge in Fujian province. On the basis of a case study of wastewater treatment on a Large Scale Pig Farm, it was found that solid-liquid separators, as prctreatment, could help the removal of SS, COD, BOD and NH3, which could reach the removal rate of 75.7%, 62.4%, 59.9% and 18.3% respectively,thus greatly improving efficiency of wastewater treatment. It also has the advantage of less cost, and no financial burden of transportation.
【语种】中文
【第一作者】叶美锋
【通讯作者】叶美锋
【期刊名称、卷期、页码】中国沼气,2008,26(1):30-31,36
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【学科分类】农学其他学科

【题目】沼液综合利用研究进展
【中文关键词】沼液 综合利用 肥料 农药
【英文关键词】NULL
【中文摘要】阐述沼液综合利用的现状,重点介绍沼液作为肥料、浸种剂、农药的应用现状,并针对目前沼液研究和利用上的不足,提出今后沼液综合利用的研究方向。
【英文摘要】NULL
【语种】中文
【第一作者】吴飞龙

【通讯作者】吴飞龙
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【学科分类】农学其他学科

【题目】养猪场猪粪污治理与再利用研究进展
【中文关键词】猪粪;污水;堆肥;沼液;沼气;循环再利用
【英文关键词】pig manure;sewage,compost;biogas slurry;biogas;recycling and reuse
【中文摘要】随着养猪业向集约化、规模化发展,猪场粪污排放过度集中,超过周边环境承载负荷,造成环境污染问题日益严重.本文综述了国内外规模化猪场的粪污处理技术,为规模化养猪场粪污治理与循环再利用模式建立,实现"达标"排放或冲栏回用无排放提供参考.
【英文摘要】As pig farming becomes increasingly concentrated and scaling up in size,its sewage discharge and waste disposal has overwhelmed the surrounding areas causing deepened concerns on environmental pollution.This paper reviews the related literature published in China,as well as foreign countries.It is intended tO provide the pig farmers with available information on technologies for the effluent treatments and material recycling so that their operations could be improved and a pollution-free environment realized.
【语种】中文
【第一作者】陈方舟
【通讯作者】林代炎
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【题目】龟纹瓢虫对茶树挥发物的行为反应
【中文关键词】龟纹瓢虫;茶树挥发物;行为反应;互利素
【英文关键词】Propylaea japonica (Thunberg) ; tea plant volatiles ; behaviour responses ; synomone
【中文摘要】以洁净空气为对照,源于茶树的27个单一挥发物及其中芳樟醇、反-2-己烯醛和顺-3-己烯-1-醇的混合物和8个“绿叶组分”的混合物为味源,设10-6 ,10-4 ,10-2 g/ ml 3个剂量, 用Y形嗅觉仪测定了这29种味源对龟纹瓢虫的引诱效应。结果表明: (1) 当剂量是10-6 g/ ml 时,选择烯丙基异硫氰酸酯的瓢虫数显著高于选择对照的(P < 0. 05); (2) 当剂量是10-4 g/ml 时,选择芳樟醇、苯甲醛、水杨酸甲酯、正己醇、1-戊烯-3-醇、(+)-3-蒈烯和苯甲醇的瓢虫数分别高于选择对照的(P < 0. 05); (3)当剂量是10-2 g/ ml 时,选择所有单一挥发物的瓢虫数分别与选择对照的瓢虫数的差异均未达显著水平; (4) 龟纹瓢虫趋向2 组混合物,其数量分别与趋向对照的数量差异不显著。分析认为,茶树挥发物对该瓢虫有引诱效应,其中苯甲醛和水杨酸甲酯等互利素的引诱效应更强;该瓢虫对信息物的趋向性存在着阈值,但高剂量信息素有抑制效应;不恰当的信息物组配不能引起该瓢虫显著趋性。可供信息物调控龟纹瓢虫行为的参考。
【英文摘要】Using clean air as the control, and 27 single volatile components from tea plants and their partial mixture, ie. the mixture of linalool, E-2-hexen-1-ol and Z-3-hexen-1-ol and the mixture of 8 green leaf volatiles as tested odor resources, at the dosages of 10-6, 10-4 and 10-2 g/ml, the attraction of the 29 odor resources to Propylaea japonica was detected by Y-tube olfactometer. The results showed that: (1) when the tested dosage was 10-6 g/ml, the number of ladybug choosing allyl isothiocyanate was significantly larger than the number choosing the control (P<0.05); (2)when the tested dosage was 10-4 g/ml, the number choosing linalool, benzaldehyde, methyl salicylate, hexanol, 1-penten-3-ol, (+)-3-caren and benzyl alcohol was significantly larger than the number choosing the control (P< 0.05), respectively; (3) when the tested dosage was 10-2 g/ml, the difference between the number choosing anyone of the tested single volatile components and the number choosing the control did not reach the level of P<0.05; (4)when the dosage was 10-6, 10-4 or 10-2 g/ml, the more ladybug chose the 2 groups of mixtures than those chose the control, respectively, but the difference between the number choosing the mixture and the number chosing the control did not reach the level of P<0.05. It is considered that the ladybugs are attracted to the volatiles from tea plants, from which benzaldehyde and methyl salicylate have more attractive effect than the other components. There exist thresholds during the attractive process; however, the high dosage infochemicals reveal the depressing effect. The mixtures that composed of non-appropriate components or ingredients with nonproper ratios do not

markedly allure the ladybug. Those may be referred in the aspect for infochemicals application to mediate the behaviour of the ladybug.
【语种】中文
【第一作者】亓 黎
【通讯作者】王荣富
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【学科分类】园艺学

【题目】不同沼液施用量下象草养分利用效率和土壤养分含量的变化研究
【中文关键词】象草;养分利用效率;沼液;氮肥;磷肥;土壤养分含量
【英文关键词】biogas slurry; Pennisetum purpureum ; nutrient use efficiency; nitrogen; phosphorus
【中文摘要】本研究设置了不同沼液施用量0kg · m-2、40kg · m-2、60kg · m-2、80kg · m-2和100kg · m-2的处理,研究了象草的生物量、养分吸收利用效率以及土壤养分含量的变化。试验结果表明,适量施用沼液,促进象草分蘖,增加生物量。象草的氮利用效率在施用沼液60kg · m-2的处理上最高,为27.5%,而之后随着沼液施用量的增加,氮利用效率逐渐降低,而磷的利用效率在施用沼液40kg · m-2的处理上最高,为14.3%,而之后随着沼液施用量的增加,磷利用效率变化不大,维持在13%。施用沼液的处理0~30cm土层土壤全氮养分出现累积,而30~60cm土层土壤的全氮养分出现亏缺,但是施用沼液对不同土层土壤的碱解氮、全磷和速效磷没有影响。然而,种植象草之后土壤中的全磷和速效磷含量分别比种植象草之前降低了83%~90%和96%~98%。
【英文摘要】In this study, we set up a experiment with different application amount of biogas slurry, 0 kg · m-2、40 kg · m-2、60 kg · m-2、80 kg · m-2 and 100 kg · m-2, to study the change of biomass, nutrient use efficiency of Pennisetum purpureum and soil nutrient content. The results showed that: Pennisetum purpureum could grow well with appropriate application amount of biogasslurry. The highest nitrogen use efficiency of Pennisetum purpureum , 27.5%, was reached at 60 kg · m-2 application amount of biogas slurry. And the nitrogen use efficiency of Pennisetum purpureum declined with an increase in the application amount of biogas slurry within 60~100 kg · m-2. The highest of phosphorus use efficiency, 14.3%, was reached at 40 kg · m-2 application amount of biogas slurry and the other treatments of biogas slurry maintained 13%. Soil TN of 0~30 cm layer was accumulation with the application of biogas slurry, and Soil TN of 30~60 cm layer was deficiency with the application of biogas slurry. But there were no significant difference between the application of biogas slurry and no application on the soil alkali-N, TP and available P of different layer. However, the soil TP and available P reduced by 83%~90% and 96%~98% after Pennisetum purpureum growing contrast to before Pennisetum purpureum growing.
【语种】中文
【第一作者】吴飞龙
【通讯作者】林代炎
【期刊名称、卷期、页码】第三届全国农业环境科学学术研讨会论文集,2009,158-163
【论文发表时间】2009-10-01 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农业基础学科

【题目】规模化养猪场粪污重金属动态流向分析研究
【中文关键词】规模化养猪场 粪污 重金属
【英文关键词】NULL
【中文摘要】主要分析当前规模化养猪场粪污重金属残留及其粪污综合利用过程中的重金属污染问题,并针对规模化养猪场产生的粪污及其综合处理可作为资源再利用过程中产生的粪渣、沉渣、沼液、沼渣等产物中Cu、Zn、As重金属的含量,确定其粪污综合处理过程中的各产物中重金属含量变化,制定规模化养猪场粪污重金属动态流向表,为粪便资源化安全高效利用提供研究数据及理论基础。
【英文摘要】NULL
【语种】中文

【第一作者】叶美锋
【通讯作者】叶美锋
【期刊名称、卷期、页码】能源与环境,2010,4:15-16
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【引文索引号】null
【学科分类】农业基础学科

【题目】时间序列自回归模型预测茶园小绿叶蝉种群动态的探讨
【中文关键词】时间序列; 自回归模型; 茶园; 假眼小绿叶蝉; 预测
【英文关键词】temporal sequence; autoreg ressionmodel; tea garden; Empoasca vitis Gothe; forecast
【中文摘要】选定西湖龙井茶叶原产地的优质丰产茶园、普通丰产茶园、山林间茶园、种质资源圃和茶-林间作等5类代表性茶园, 从2007年4月20日-12月26日, 5 d 1次调查假眼小绿叶蝉种群数量, 作为时间序列自回归模型的数据源。据此对自回归模型预测假眼小绿叶蝉种群动态的可行性、建模步骤及准确性验证进行了探讨。与其他相关预测模型相比, 自回归模型显得简便易行实用。
【英文摘要】The five typical tea gardens, .i e. high eff icient fertility tea garden, common fertility tea garden, tea garden among mounta in fores,t tea plant idiop lasm resource garden, and tea and forest in tercrop tea garden, were chosen in X ihulong jing Tea provenance. The population abundance of tea green leafhopper, Empoasca vitis Gothe, was investigated at intervals of five days, from April20 to December 26 in 2007, which acted as the data source of the temporal sequence autoregression model. Based on the data source, the feasibility, the modeling procedure and the accuracy on the autoregression model to be used to forecast leafhopper dynamics, was discussed. Compared with the other correlativemodels, the autoreg ressionmodel appeared simple and practical.
【语种】中文
【第一作者】秦华光
【通讯作者】韩宝瑜
【期刊名称、卷期、页码】安徽农业大学学报;2008,35(4)564-570
【论文发表时间】2008-07-04 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】园艺学

【题目】固相萃取-气相色谱法测定茶叶中残留的92种农药
【中文关键词】固相萃取; 气相色谱法; 农药; 多残留检测; 茶叶
【英文关键词】solid-phase extraction (SPE); gas chrom atography (GC); pesticides; multiresidue determination; tea
【中文摘要】建立了茶叶中92种农药多残留的气相色谱分析方法。茶叶样品用乙腈一次性提取后, 有机磷类农药经Envi-Carb固相小柱净化, 用10 mL乙腈-甲苯(体积比为3:1)洗脱剂淋洗, 气相色谱-火焰光度检测器(GC-FPD)检测; 有机氯类和拟除虫菊酯类农药经串联Envi-Carb和NH2 固相小柱净化, 用5 mL乙腈-甲苯(体积比为3:1)洗脱剂淋洗, GC-电子捕获检测器(ECD)检测。采用外标法定量。添加回收试验的结果表明: 92种农药的平均回收率为80.3% - 117.1%, 相对标准偏差为1.5%-9.8%。方法的检出限为0.0025-0.10 mg/kg。该方法的灵敏度、准确度和精密度均符合农药残留测定的技术要求。
【英文摘要】Amultiresidue analytical method was developed for the determ ination of ninety-two pesticides in tea using solid-phase extraction (SPE) and gas chrom atographic determination. Tea samples were extracted with acetonitrile, organophosphorus pesticides were clean-up by anEnvi-Carb SPE cartridge, eluted with 10mL acetonitrile-toluene (3:1, v /v) and determined by gas chromatography-flame photometric detection (GC-FPD); organochlorine pesticides and pyrethroids pesticides were cleaned-up by Envi-Carb+ NH2 SPE cartridges, eluted with 5mL acetonitrile-toluene (3:1, v /v) and determ ined by gas chromatography-electron capture detection (GC-ECD). The recoveries of those pesticideswere ranged from 80.3% to 117.1% by fortification test with the relative standard deviations being from 1.5% to 9.8%. The limits of detection were 0.0025 – 0.10 mg /kg. The proposed method is characterized by simplicity, higher sensitivity and accuracy.
【语种】中文
【第一作者】楼正云
【通讯作者】陈宗懋

【期刊名称、卷期、页码】色谱;2008,26(5)568-576
【论文发表时间】2008-01-19 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】园艺学

【题目】新形势下中部山区农村信息化建设的意义和对策
【中文关键词】农村信息化; 中部山区; 建设; 对策
【英文关键词】Rural informationization; Central mountainous area; Construction; Thoughts and ountermeasures
【中文摘要】通过对农村信息化本质、内容、内涵的理解与认识,分析中部山区发展与推动农村信息化的必要性与可行性,并从实际出发提出思路与对策。
【英文摘要】Through studying the essence,content and connotation of rural informationization,the necessity and possibility of developing and promoting rural informationization in the central mountainous area were analyzed,furthermore,thoughts and countermeasures were put forward.
【语种】中文
【第一作者】牛鲁燕
【通讯作者】牛鲁燕
【期刊名称、卷期、页码】《安徽农业科技》2011年第32期。Journal of Anhui Agri.Sci.2011,39 I 32):20245—20246,20269
【论文发表时间】2011-04-05 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】信息科学与系统科学基础学科

【题目】Effects of Molybdenum Application on Plant Growth, Molybdoenzyme Activity and Mesophyll Cell Ultrastructure of Round Leaf Cassia in Red Soil
【中文关键词】无
【英文关键词】molybdenum, Chamaecrista rotundifolia, nodule nitrogenase, leaf nitrate reductase, mesophyll cell, ultrastructure
【中文摘要】无
【英文摘要】Round leaf cassia (Chamaecrista rotundifolia) cv.‘Wynn’, a species of leguminous forage,was introduced into China from the Australian Centre for International Agricultural Research in 1989. It possesses strong resistance to adversity and is suited for planting in the red soil area of Southern China. The purpose of this study is to investigate the effects of molybdenum (Mo) application with different concentrations on plant growth, molybdoenzyme activity and mesophyll cell ultrastructure of C. rotundifolia in red soil. The results showed that, plant height, number of branches, and dry matter weight of C. rotundifolia under varying Mo applications (0.5, 1.0, 2.0, 4.0 mg kg − 1) increased by 2.7% 11.5%, 0.92% 28.68%, and 52.9% 115.2% compared with the control group, respectively, and they all increased with the increase ofMo concentration. Molybdenum contents in plants were also increased significantly with increasing the concentration of Mo, but Mo contents in plants at 4 mg kg − 1 Mo application were lower than that at 2 mg kg − 1 Mo application. The activities of nitrate reductase in leaf and nitrogenase in root nodule both reached the maximum at 1.0 mg/kg Mo, which increased by 57.77% and 113.1% than the control group respectively. However, their activities began to decrease at 2 and 4 mg kg − 1 Mo. The observation on mesophyll cell ultrastructure showed that, Mo application could increase the number of chloroplasts, enhance the stability of lipid bilayer of chloroplast membrane and increase the density of chloroplast lamellae and grana. Simultaneously, the total number of mitochondria and the density of inner cristae were decreased, but therewas no significant influence onmitochondrial outer membrane. Moreover, the right amount of Mo fertilizer could enhance the stability of mesophyll cell wall and cell membrane. Although the molybdoenzyme activity decreased at the higher concentration (e.g., 2 and 4 mg kg − 1), the application of Mo fertilizer in this test (0.5 4 mg kg − 1) could promote the growth and development of C. rotundifolia.
【语种】英文
【第一作者】翁伯琦
【通讯作者】翁伯琦
【期刊名称、卷期、页码】Journal of Plant Nutrition,2009,32:1941 – 1955
【论文发表时间】2009-10-02 00:00:00

【引文索引类型】SCI
【引文索引号】2.7045400001e+011
【学科分类】农业基础学科

【题目】Use of biogas fluid-soaked water hyacinth for cultivating Pleurotus geesteranus
【中文关键词】无
【英文关键词】Pleurotus geesteranus;Biogas fluid;Heavy metals;Waste utilization
【中文摘要】无
【英文摘要】Experiments were carried out to test the viability of growing Pleurotus geesteranus on media containing varying amounts of crushed water hyacinth slices, which were soaked in pig farm biogas fluid and dried. The water hyacinth material was utilized to substitute sawdust in the media for mushroom cultivation. Mushroom fruiting bodies harvested were evaluated for yield, amino acid and heavy metal contents. Among the eight treatment groups, the greatest yield and highest amino acid content in the mushrooms were obtained when the proportions of water hyacinth and sawdust in the medium were equal. The concentrations of heavy metals, Hg, Pb and Cd, in most of the present mushroom samples did not exceed the maximum allowed levels according to the limits set forth by the food hygienic and safety regulations for edible mushrooms in China. The proposed waste utilization of water hyacinth could conceivably benefitthe environment in various aspects including conservation of forest by reducing the demand on natural woods for mushroom production.
【语种】英文
【第一作者】陈秀霞
【通讯作者】黄勤
【期刊名称、卷期、页码】Bioresource Technology,2010,101:2397 – 2400
【论文发表时间】2009-12-14 00:00:00
【引文索引类型】SCI
【引文索引号】2.7460990005e+011
【学科分类】农业基础学科

【题目】Water hyacinth (Eichhornia crassipes) waste as an adsorbent for phosphorus removal from swine wastewater
【中文关键词】无
【英文关键词】Water hyacinth;Eichhornia crassipes;Phosphorus;Adsorption;Swine wastewater
【中文摘要】无
【英文摘要】Both live plants and dried straw of water hyacinth were applied to a sequential treatment of swine wastewater for nitrogen and phosphorus reduction. In the facultative tank, the straw behaved as a kind of adsorbent toward phosphorus. Its phosphorus removal rate varied considerably with contact time between the straw and the influent. In the laboratory, the straw displayed a rapid total phosphorus reduction on a KH2PO4 solution. The adsorption efficiency was about 36% upon saturation. At the same time, the water hyacinth straw in the facultative tank enhanced NH3-N removal efficiency as well. However, no adsorption was evident. This study demonstrated an economically feasible means to apply water hyacinth phosphorus straw for the swine wastewater treatment. The sequential system employed significantly reduced the land use, as compared to the wastewater stabilization pond treatment, for pollution amelioration of swine waste.
【语种】英文
【第一作者】陈曦
【通讯作者】黄勤
【期刊名称、卷期、页码】Bioresource Technology,2010,101:9025 – 9030
【论文发表时间】2010-07-31 00:00:00
【引文索引类型】SCI
【引文索引号】2.8219720002e+011
【学科分类】农业基础学科

【题目】福州郊区7年生柑橘果园植被的碳吸存研究
【中文关键词】柑橘; 碳库; 凋落物; 净生产力; 碳吸存

【英文关键词】Citrus reticulate; carbon stock; litter fall ; net primary productivity; carbon sequestration
【中文摘要】果园作为一种重要农用型的植被类型, 其在中国陆地生态系统碳汇评价中占有重要的地位。本研究以福建省分布面积最大的柑橘果园植被为研究对象, 研究了果园植被碳库、碳吸存量及其分配规律　　结果表明: 7年生柑橘果园植被的碳密度为5.589 thm-2, 年固定有机碳为2.028 thm-2a-1, 其所吸存的有机碳23.82% 的有机碳以活体生物量形式存留在植被层中, 41.42% 储存于果实而被移到系统之外, 34.76% 以凋落物分解的形式进入土壤或释放到大气中.
【英文摘要】As a part of agricultural vegetation, orchard ecosystem plays an important role in the evaluation of carbon sink of terrestrial ecosystem s in China. This paper studied carbon storage and carbon sequestration with its distribution of citrus orchard, whose area is largest in orchard ecosystem in Fu jian province. The result showed that the carbon stock of a 7　　Year　　old Citrus reticulata plantation was 5.589 thm-2, and the annual net fixation carbon was 20.28 thm-2 a-1. In the a llocation of carbon sequestration, the carbon fixation of fruit accounted 41.42% which finally would bemoved out of the ecosystem, and the biomass of live plant and litterfall made up 23.82% and 34.76% ,respective ly.
【语种】中文
【第一作者】王义祥
【通讯作者】邢世和
【期刊名称、卷期、页码】亚热带资源与环境学报,2010,5(3):43-48
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【引文索引类型】其他
【引文索引号】null
【学科分类】土壤学

【题目】福建省柑橘林生态系统碳储量的时空变化
【中文关键词】柑橘林; 生态系统; 碳密度; 碳储量; 时空变化
【英文关键词】citrus forest; ecosystem; organic carbon density; o rganic carbon storage; spatiotem poral variation
【中文摘要】通过野外实地调查对福建省柑橘林生态系统碳储量及其分布特点进行研究. 结果表明: 柑橘各器官生物量回归模型显示, 柑橘各器官的相关性较好, 树干、树叶、果实的相关系数均大于0.90, 树高和基径的相关系数为0.89; 柑橘林生态系统有机碳密度为222.80 thm-2, 其中, 土壤(0-100cm)碳密度为200.21thm-2, 占总有机碳密度的89.86%, 果树碳密度为22.58thm-2, 占10.14%; 1978-2007年, 柑橘林生态系统碳储量从3. 16 @ 106 t增加到37.97 @ 106 t, 年均增加1.20 @106 t, 表现为碳汇; 在第4- 6次(1993- 2003年)森林资源连续清查期间, 柑橘林生态系统碳储量占全省森林生态系统碳储量的比重都高于2. 43%; 柑橘林生态系统碳储量在空间分布上表现出由闽东南向闽西北递增的规律, 9个设区市的柑橘林生态系统碳储量呈现出不同的消长规律, 三明市、南平市、漳州市3个地区平均柑橘林生态系统碳储量占全省的63.43%.
【英文摘要】O rganic carbon incitrus forest was detected with the field investigation and measurement in Fujian Province. The results showed that citrus organs had a positive correlation each other based on the analysis of biomass linear regression mode.l Correlation coefficient of stem, leaf and fruit both exceeded 0.90. The correlation coeffic ient be tw een he ight and base d iam eter was 0.89. The carbon density in the ecosystem was 222.80 t# hm-2, in which soil (0-100 cm) carbon densityw as 200.21t# hm-2, vegetation carbon density was of 22.58 t# hm-2, accounting for 89.86% and 10.14% of total carbon density, respectively. From 1978 to2007, the organic carbon storage in citrus forest ecosystem inc reased from 3.16 @ 106 t to 37.97 @ 106 t in Fu jian Province, which played a role of sink. During the continuous fo rest inventory from 1993 to 2003, the proportion o f carbon storage between citrus and forest ecosystem was more than 2.43% in Fu jian. The carbon storage in citrus forest ecosystem increased from southeast to northwest in Fu jian. The organ ic carbon sto rage in the 9 prefectures in Fujian showed different grow th and decline law. The organic carbonstorage in Sanming, Nanping and Zhangzhou accounted for 63.43% of the whole province.
【语种】中文
【第一作者】林清山
【通讯作者】洪伟
【期刊名称、卷期、页码】福建农林大学学报,2010,39(2):190-195
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【引文索引号】null
【学科分类】土壤学

【题目】中亚热带人工经济林土壤有机碳含量及分布
【中文关键词】有机碳含量; 垂直分布; 柑橘; 锥栗; 毛竹
【英文关键词】organic carbon content; vertical distribution; Citrus reticulata Blanco; Castanea henryi; Phyllostachys heterocycla
【中文摘要】人工经济林在中国南方种植面积大,并有不断增加的趋势. 人工经济林生态系统受人为周期性经营活动影响比较大,是重要的流动性碳库. 因此,选择福建省建瓯市万木林自然保护区内本地条件基本一致的毛竹(Phyllostachys heterocycla) 、柑橘(Citrus reticulata Blanco) 和锥栗(Castanea henryi) 作为研究对象,探讨其土壤有机碳含量及其垂直分布特征,结果表明: 3种林地土壤剖面有机碳含量的变化范围分别为毛竹林5. 91 ~ 19. 18 g · kg - 1、柑橘5. 70 ~ 13. 31g · kg - 1、锥栗3. 84 ~ 10. 78 g · kg - 1,3 种林地土壤有机碳含量随着深度的增加呈现递减趋势;3 种林地0 ~ 20 cm、20 ~ 40 cm 层土壤有机碳含量与40 ~ 60 cm、60 ~ 80 cm 、80 ~ 100 cm 各层均存在显著性差异(P < 0. 05) ; 3 种林地间土壤有机碳储量均存在显著性差异(P < 0. 05) ;使用对数方程对3 种林地土壤有机碳含量随土壤深度的变化进行拟合均达到显著水平(P <0. 05) ; 土壤有机碳含量与土壤全N、C /N 比之间存在一定的相关性,特别是3 种林地土壤有机碳含量均与土壤全N 含量的相关性最好(P < 0. 05) .
【英文摘要】The economic plantations,whose area seems to be increasing,are important composition offorest resources in the south of China. Ecosystems of economic plantations are intensively influenced by periodic management activities and their soil is the important liquidity carbon pool. Therefore,the soil organic carbon content and vertical distribution features in Phyllostachys heterocycla,Citrus reticulata Blanco and Castanea henryi were investigated under similar soil characters in Wanmulin Nature Reserve in Jian'ou City,China. The results showed that soil carbon content in the three forests decreased generally with soil depth,with a range of 5. 91 ~ 19. 18 g · kg - 1,5. 70 ~ 13. 31 g · kg - 1 and 3. 84 ~10. 78 g · kg - 1 . Significant differences were found among the three forests in the soil depth of 0 ~ 20 cm,20 ~ 40 cm,40 ~ 60 cm,60 ~ 80 cm and 80 ~ 100 cm (P < 0. 05) . Great significant differences have appeared among three forests concerning soil organic content (P < 0. 05) . The distribution of SOC content in soil profile in different forest types could be expressed as logarithmic equation with the increase of the soil depth. Soil organic carbon content was positively correlated with soil total nitrogen content and C /N ratio. Especially,in the three forests,there was significant correlation between soilorganic carbon content and total nitrogen (P<0.05)。
【语种】中文
【第一作者】王超
【通讯作者】杨智杰
【期刊名称、卷期、页码】亚热带资源与环境学报,2011,6(2):36-41
【论文发表时间】2011-06-20 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】土壤学

【题目】应对全球气候变化的低碳农业发展战略与技术对策研究
【中文关键词】海峡两岸; 低碳农业; 发展战略
【英文关键词】cross-straits; low-carbon agriculture; development strategy
【中文摘要】首届海峡两岸低碳农业发展战略与技术对策研讨会于2010 年6 月在福州市召开. 会议总结了近年来两岸在农业应对气候变化方面的战略研究、固碳增汇模式与关键技术、废弃资源利用与节能减排、微生物资源开发与应用技术等方面的成果和进展,并提出了新时期两岸低碳农业发展的战略与技术对策.
【英文摘要】The first seminar on the development strategy and technology countermeasures of crossstraitslow-carbon agriculture was held in June 2010 in Fuzhou,China. The meeting summed up the achievements and progress of agricultural strategy in response to climatic change,carbon sequestration model and key technologies,waste resources utilization and energy conservation,development and application of microbial resources,and other aspects. Based on the review,the development strategies and technical countermeasures of cross-straits low carbon agriculture were put forward.
【语种】中文
【第一作者】翁伯琦
【通讯作者】翁伯琦
【期刊名称、卷期、页码】亚热带资源与环境学报,2011,6(2):16-22
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【引文索引类型】其他

【引文索引号】null
【学科分类】土壤学

【题目】生物黑炭及其增汇减排与改良土壤意义
【中文关键词】生物黑炭;固碳减排;土壤改良;应对气候变化
【英文关键词】biochar; C stock and emission reduction; soil reclaimation; mitigation of climate change
【中文摘要】国际上对将农田废弃物制成生物黑炭施用于土壤作为农业增汇减排的一种关键途径的呼声越来越高。通过文献资料调研,介绍了生物黑炭的基本性质及其碳稳定性,对农田土壤的改良效应,并讨论其在农业增产和增汇(碳)中的作用。结果表明,作物秸秆无氧高温热解制备的生物炭具有高度的芳香化、物理的热稳定性和生物化学的抗分解性。施用于土壤大幅度提升土壤碳库,并因其结构性质有利于农田土壤固持养分,提高养分利用率,改善微生物生境,从而达到提高土壤质量而促进作物增产的双赢效果。
【英文摘要】 Abstract:There is increasing demand worldwide for application of biochar from crop residues to croplands as a key countermeasure for en-hancing soil C stock and reducing greenhouse gases emission from agriculture. This paper reviewes the basic properies and the decomposition stability of biochar, the benefial effects on soil reclaimation as well as in both enhancing crop yield and soil C stock by using biochar in crop-lands. Many works done have inidcated that the biochar produced from crop residues with pyrolysis under moderate and high temperature in absence of oxygen, has a highly aromatic chamical structure, physical and biological stability against thermal and biological decomposition, increases nutrient efficiency as well as improving soil habitat for soil biota. Thus, it is believed that application of biochar will reach a win-win effect for improving soil productivity and soil C stock in agriculture.
【语种】中文
【第一作者】张阿凤
【通讯作者】潘根兴
【期刊名称、卷期、页码】农业环境科学学报,2009,28(12):2459-2463
【论文发表时间】2009-12-20 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】土壤学

【题目】中国农业CDM的发展现状及潜力研究
【中文关键词】农业; CDM; 温室气体减排
【英文关键词】agriculture; CDM; reduction of GHS
【中文摘要】在分析世界农业CDM 发展现状的基础上, 分析了中国农业CDM 的发展潜力及障碍, 进而提出进一步发展中国农业CDM 的策略建议: (1) 加大对农业CDM 项目的政策支持; (2) 加快农业碳贸易方法及碳交易标准的制定; (3) 加强对农业CDM 项目相关问题的深入研究, 加大对农业CDM 的宣传力度。
【英文摘要】Based on the current situation of agricultural CDM in the world and the gap between China and the world, the development potential and obstacle of agricultural CDM in China is analyzed. Furthermore, the counter measures and recommendations for the development of agricultural CDM in China are put forward. (1) The policy supporting should be strengthened. (2) Theway and standard of carbon trading should be enacted as soon as possible. (3) The issues relating to CDM project should be researched in depth and publicity of agriculture CDM should be strengthened.
【语种】中文
【第一作者】王英姿
【通讯作者】黄毅斌
【期刊名称、卷期、页码】福建农林大学学报,2010,13(4):26-29
【论文发表时间】2010-04-20 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】资源科学技术

【题目】低碳农业:从理论构想到科学实践的若干问题
【中文关键词】全球变化; 温室气体; 低碳经济; 低碳农业; 发展模式

【英文关键词】global change; greenhouse gases; low carbon economy ; low carbon agriculture; development mo del
【中文摘要】全球气候变化背景下, 低碳经济已成为全球热点, 被誉为人类第四次　　技术革命　　, 温室气体排放已经深度触及了农业和粮食安全。低碳农业成为经济社会发展的必然趋势。当前, 低碳农业已由理论构想转向了科学实践, 其发展途径主要包括: (1) 发展新型能源, 推广清洁技术; (2) 优化耕作制度, 提高复种指数;(3) 培育优良品种, 延长减排链条; (4) 改进施肥技术, 优化养分管理; (5) 实施保护耕作, 减少碳素流失;(6) 合理开发草业, 保护草地资源; (7) 发展生物能源, 推行过腹还田; (8) 整治养殖污染, 实施规模养殖。发展低碳农业的保障机制主要涉及: (1) 完善相关法律法规; (2) 转变农业发展方式; (3) 大力依靠科技进步;(4) 民众广泛参与。发展低碳农业、实现资源的可持续利用, 对增强农业的基础地位、通过农业措施来缓减全球气候变化具有重要的战略意义。
【英文摘要】Low　　carbon economy has become a global hot spot, known as the Fourth Technological Rev olution under global climate change. At present, greenhouse gas emissions have already imper iled ag riculture and food security. Low　　carbon agriculture becomes the inevitable trend of economic and social development . Currently, the concept of low　　carbon agriculture has turned from scientific theory to practices, including its approach to development: (1)development of new energy resources, promoting clean technologies; (2) optimize the farming systems, raising multiple cropping index ; (3) develop and popularize fine varieties to ex tend the chain of emission reduction; (4)improve the fertilization techniques, optimize the nutrient management; (5) implementation of conservation tillage,reduce carbon loss; (6) r ational development of grass industry, protection of grassland resources; (7) development of bioenergy resources, raising the application of cattle manure; (8) farming pollution remediation and extending scale live stock breeding . Safeguard mechanisms of the lowcarbon agriculture development include: (1) improve relevant laws and regulations; (2) the adjustment of economic grow th mode; (3) rely on scientific and technological progress; (4) increase public participation. Development of low　　carbon agriculture is important for sustainable use of resources and enhanced the agricultur e foundation, through agricultural measures tomitigate global climate change has important strategic significance.
【语种】中文
【第一作者】王成己
【通讯作者】翁伯琦
【期刊名称、卷期、页码】福建农业学报,2011,26(3):470-474
【论文发表时间】2011-03-20 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】土壤学

【题目】翻耕和生草对果园土壤碳排放的影响
【中文关键词】果园; 翻耕; 生草; 土壤呼吸
【英文关键词】Orchard; Tillage; Grass intercropping; Soil respiration
【中文摘要】于2007年10月利用LI8100开路式土壤碳通量测量系统, 定位测定福州郊区柑橘果园翻耕和生草2种干扰措施下土壤呼吸的变化规律, 为农业温室气体减排和提高土壤碳固定提供参考。结果表明: 翻耕造成柑桔果园生态系统土壤呼吸速率的增加, 在试验期内翻耕使土壤CO2排放量提高了49.0% 。套种豆科牧草使土壤呼吸速率提高了26.24%, 但果园生草处理使系统有机碳库增加了3400.0kghm-2。
【英文摘要】The so il resp iration under the cond itions o f tillage and grass in tercropp ing in C itrus reticula te Orchard in Fuzhou w ere measured continuouslyw ith LI　　8100 automated soil CO2 flux system on October, 2007. It cou ld prov ide some references for research ing agricultural greenhouse. The resu lts show ed that tillage sign if icantly made so il respira　　t ion rate increase in c itrus orchard ecosystem. So il resp irat ion increased by 49.0% in the fie ld experimen.t A lthough soil resp iration increased by 26.24% by intercropp ing g rass in orchard, but carbon storage o f the ecosystem also increased by 3400.0kg ha- 1.
【语种】中文
【第一作者】王义祥
【通讯作者】翁伯琦
【期刊名称、卷期、页码】中国农业气象,2010,31(S1):20-22
【论文发表时间】2010-12-15 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】土壤学

【题目】福建发展低碳茶业的基本思路与技术对策
【中文关键词】茶业; 低碳农业; 低碳茶业
【英文关键词】tea industry; low-carbon ag ricu lture; low- carbon tea industry
【中文摘要】通过探讨低碳茶业的概念与内涵, 分析了福建发展低碳茶业面临的主要问题, 提出发展低碳茶业的基本思路与技术对策: (1)稳定面积, 提高单产、质量和效益; (2) 大力推广现有的先进、适用技术, 努力构建资源节约、环境友好的茶叶生产技术体系; (3)通过科技创新, 突破低碳茶业技术瓶颈, 为低碳茶业的发展提供技术支撑。
【英文摘要】With discussion on the concept and connotation of low-carbon tea industry, we elaborate the m ain problems to develop low-carbon tea industry in Fu jian Province. The basic ideas and technical countermeasures are proposed as follows: (1) keep stable ac reage with improvem ent of yield, quality and efficiency. (2) vigorously promote the existing advanced and applicable technologies, and make greate fforts to build resource-saving and environment-friendly technology systems of tea production. (3) break through technological restrictions and provide technical supports for developing low-carbon tea industry by technological innova tion.
【语种】中文
【第一作者】尤志明
【通讯作者】翁伯琦
【期刊名称、卷期、页码】福建农林大学学报,2010,13(6):19-23
【论文发表时间】2010-06-30 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】土壤学

【题目】土壤碳储量估算研究进展
【中文关键词】土壤碳储量; 估算方法; 研究进展
【英文关键词】soil carbon storage; estimation method; research progress
【中文摘要】估算土壤碳储量是碳循环研究中的关键问题。本文简要介绍了不同尺度土壤碳储量研究概况, 总结了估算土壤碳储量的研究方法及其存在的问题, 概述了G IS技术估算土壤碳储量的研究进展, 并针对如何提高估算精度这一问题提出几点建议。
【英文摘要】Estimating soil carbon storage is the key issue of carbon cycle. Research situation of soil carbon storage with different scales is briefly reviewed in this paper, research methods of estimating soil carbon storage and the problems existed are summarized,advances in estim ating soil carbon storage using the technology of GIS is outlined, and some advices are b rought forward to improvethe estimating accuracy.
【语种】中文
【第一作者】田娜
【通讯作者】翁伯琦
【期刊名称、卷期、页码】亚热带农业研究,2010,6(3):193-198
【论文发表时间】2010-08-30 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】土壤学

【题目】植草恢复对侵蚀红壤重组有机质的影响
【中文关键词】人工植草; 红壤; 土壤侵蚀; 有机质; 腐殖质结合形态
【英文关键词】planting forage ; red soil ; soil erosion ; organic matter ; combined forms of humus
【中文摘要】在福建中亚热带红壤区,将侵蚀经济林(油茶) 改造成人工草地(人工植草) 、封山育林(自然恢复) 进行生态恢复,11 a 后,分析A - C 层土壤的常规理化性质、土壤复合量、原土复合度、腐殖质结合形态用以评价土壤肥力变化。结果表明:不同土层各指标有明显差异,其中土壤速效养分、有机质、土壤复合量表现为A 层> B 层> C 层,原土复合度则表现为C 层> B 层> A 层。土壤腐殖质在C 层呈松结合态向紧结合态转变的趋势,其中在自然恢复区B、C 层土壤的松/ 紧比值较A 层分别下降0.149 ,0.458 个单位,人工植草区C 层土壤的松/ 紧比值较A 层下降0.292个单位,松结合态向紧结合态转变速度较自然恢复区有所减缓。人工植草区A 层土壤的有机质及有机碳总量虽低于自然恢复区,但重组有机碳含量相近,其它测定

指标亦无明显差异。
【英文摘要】The study was conducted on the effect of 2 kinds of restoring measure , planting forage (PF) , natural regradation (NR) to the quality of soil in eroded Camel iaolei fera forest in subtropical region of Fujian Province , China. The results show that layer A enjoy the best at contents of soil available nutrient , organic matter , and degree of soil organomineral complexing , second by layer B , worst by layer C. But , at content of soil complexes , the t rend is layer C > layer B > layer A. When humus of combined types of soil wastested , it seems that humus could be transferred from tightly combined type to loosely combined type on deeper soil layer . In plant forage plot , ratio of types between loosely combined and tightly combined were decreased 0.149 , 0.458 on soil of layer B and C ,compared wit h layer A. In NR plot , the ratio was decreased 0.292 on soil of layer C , compared with layer A. as analyzing on restoration effect of difference measure , it seems that humus transformation rate from tightly combined type to loosel 2combined type is slower in PF plot . No difference was found on key index , including available nutrient , carbon content of heavy soil on soil of 2 restoring plot , although organic matter content was lower in PF plot than in NR plot .
【语种】中文
【第一作者】罗旭辉
【通讯作者】黄毅斌
【期刊名称、卷期、页码】水土保持研究,2010,17(1):194-197
【论文发表时间】2010-02-28 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】地球科学其他学科

【题目】氮素对羽叶决明缩合单宁及相关酶活性的影响
【中文关键词】缩合单宁; 羽叶决明; 氮素; DFR
【英文关键词】condensed tannins; Chamaecr asta ni ct itans; nitr ogen level; DFR
【中文摘要】缩合单宁对牧草品质的影响极大, 适量的缩合单宁含量对于提高牧草的利用率和营养品质非常重要。研究以豆科牧草羽叶决明Cassia nictitoms 为材料, 分析了氮素梯度处理后茎和叶中缩合单宁的含量及其生物合成酶二氢黄酮醇还原酶(DFR) 活性的变化特征。结果表明, 羽叶决明叶片的缩合单宁含量高于茎, 随氮素的增加, 叶片中缩合单宁含量从14. 78%下降到1. 14%; 茎中从4. 62%开始降低, 达到0. 98%后趋于稳定; DFR 活性表现出与缩合单宁相似的变化规律, 二者在叶和茎中都呈显著(P< 0. 01) 的二次曲线关系。植株粗蛋白含量测定发现, 随氮素的增加粗蛋白含量无显著增加(P> 0. 05) 。因此, 适当增加氮素的使用量可以达到减少缩合单宁含量, 从而提高羽叶决明的利用率和营养品质。
【英文摘要】Co ndensed tannins (CT) affect the quality of the forage greatly. Proper amount of CT could improve the utilization rate and the nutritional quality for the forage. Content of the CT was examined with vanillic aldehyde, and the Dihydrof lavonol 4-Reductase (DFR) activity was determined with rea-l time monitor method after fertilizing different level of nitrogen on legume forage, Chamaecr astanictitans. The condensed tannins decreased as nitrogen level increased, from 14.78% to 1.14% in leaves,from 4.62% to 0.98% in stems. Chang e of DFR act ivity is similar to CT content . This implied that increase nitrogen fertilizer would decr ease CT content, which is helpful to the quality of the forage.
【语种】中文
【第一作者】王俊宏
【通讯作者】黄毅斌
【期刊名称、卷期、页码】草业科学,2010,27(2):99-103
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【引文索引号】null
【学科分类】植物学

【题目】长期植草对山地果园土壤腐殖质的影响
【中文关键词】果园;套种牧草;腐殖质;土壤胶体;红壤
【英文关键词】orchard ;interplanting grass ;humus ; soil colloids ;red soil
【中文摘要】1996年起在福建中亚热带红壤区开展山地果园套种平托花生Arachis pintoi cv. Amarillo 、圆叶决明Chamaecrista rotundifoliacv.Fuyin NO.1试验,用于治理水土流失。为了科学评价土壤质量的变化,在治理11 年后,分析土壤腐殖质及有机无机复合状况,结果表明:与对照(清耕) 相比,套种平托花生、圆叶决明区土壤表层(0~15 cm) 土壤重组有机碳含

量可提高2.56 和1.90 g/kg ,亚表层(15~30cm) 重组有机碳含量的变化弱于表层。试验区土壤表层的原土复合度达83.09%~96.75% ,高于亚表层(77. 73 %~92.14 %) 。不同垦植方式比较,土壤表层、亚表层的原土复合度均呈清耕> 套种平托花生> 套种圆叶决明的变化趋势。不同套种牧草品种比较,在土壤表层、亚表层的原土有机碳、腐殖质有机碳、原土复合度方面,平托花生均有优于圆叶决明的表现,套种平托花生对表层土壤增值复合度为83.42% ,比后者提高12.9%。

【英文摘要】Archis pintoi cv. Amarillo and Chamaecrist arot undifolia cv. Fuyinn No. 1 were interplanted in hilly orchard for water and soil conservation in subt ropical red soil region in Fujian Province in 1996. The contents of humus organic carbon and the combining between organic matter and minerals were measured in 2007. The results showed that the humus organic carbon content in surface soil (0 to 15 cm) of treatments interplanted A . pintoi cv. Amarillo and C. rotun difolia cv. Fuyuan No.1 were increased by 2.56 g/ kg and 1.90 g/kg respectively compared with the control (clean tillage) .But the change of humus organic carbon content in sub2surface soil (15 to 30 cm) was weaker than surface soil . The combining degree of original soil in surface was 83.09 % to 96.75% , higher thanthat in subsurface (77.73 % to 92.14 %) . And the increased combing degree in surface soil of interplanting t reatments was 70.52% to 83.42%. Among different treatments and control, the order of combining degree was clean tillage > interplanting A. pintoi cv. Amarillo > interplanting C. rotundi folia cv. Fuyuan No.1. The treatment of interplanting A . pintoi cv. Amarillo showed better performance than C. rot undifolia cv. Fuyuan No.1, and the increased combing degree was 83.42% which was 12.9% more than latter .

【语种】中文

【第一作者】罗旭辉

【通讯作者】黄毅斌

【期刊名称、卷期、页码】草业科学,2010,27(4):122-126

【论文发表时间】2010-04-30 00:00:00

【引文索引类型】其他

【引文索引号】null

【学科分类】土壤学

【题目】5个热带豆科牧草14个营养品质组成因子的相关性研究

【中文关键词】热带豆科牧草; 营养品质; 相关性

【英文关键词】tropical leguminous forage; nutritional quality; correlation

【中文摘要】对热研2 号柱花草(S1)、圆叶决明CP I34721 (S2)、圆叶决明CP I86134 (S3)、圆叶决明A TF3248(S4)、羽叶决明A TF2217 (S5) 等5 个热带牧草的营养成分和品质影响因子的研究表明, 随着牧草生长S2、S4、S5 的粗蛋白(CP) 质量分数呈持续下降, S3 前后变化不大, 而S1 呈低- 高- 低的趋势; 磷(P) 质量分数为S1、S4 持续下降, S2、S3、S5 呈低- 高- 低趋势; 粗脂肪(EE) 质量分数为S3 呈高- 低- 高趋势,其他4 个品种前后变化不大; 5 个品种的钙(Ca) 质量分数前后变化都不大, 钾(K) 质量分数呈持续下降,粗纤维(CF) 和洗涤纤维质量分数都为持续上升, 尤其是酸性洗涤性木质素(ADF) 质量分数在生长后期急剧上升. 对14个品质影响因素的相关性分析表明, 有63 对呈极显著相关, 7 对显著相关, 21 对相关不显著.其中叶茎比和CP、EE、P、K、Ca 为牧草品质正作用因子, 烘干率、根冠比和CF、NDF、ADF、ADL 为负作用因子.

【英文摘要】The 14 nutrient composition and quality factors of 5 tropical legumious forages, which included Stylosan the sguianensis C IA T 184 (S1) , Chamaecristarotund ifoliaCP I34721 (S2) , C. rotund if olia CP I86134 (S3) , C. rotund if olia A TF3248 (S4) and C. n ictitans A TF2217 (S5) , were investigated. The results showed that crude protein content(CP) of S2, S4 and S5 were decreased continuously, S3 had no significant changes, and S1changed from low to high, then to low as fo rage grew. P content of S1 and S4 were descending, and S2, S3 and S5 changed from low to high, then to low. Coarse fat content (EE) of S3 changed from high to low , then to high, and other four species had no significantchanges. For all five species, Ca content had no significant changes, K content was descending, crude fiber (CF) and detergent fiber content were increasing, and especially acid detergent fiber (ADF) content increased rapidly at late growth stage. Correlation analysis of 14quality factors revealed that 63 pairs of factors had extremely significant relationships, 7pairs of factors had significant correlations, and 21 pairs of factors had no significant co rrelation. Among 14 factors, CP, EE, P, K, Ca and leaf stemratio were positive effect factorsfor forages quality, but CF, NDF, ADF, ADL , oven dry rate and root canopy rat io werenegative effect factors.

【语种】中文

【第一作者】潘伟彬

【通讯作者】黄毅斌

【期刊名称、卷期、页码】福建师范大学学报(自然科学版),2009,25(5):95-101

【论文发表时间】2009-09-30 00:00:00

【引文索引类型】其他

【引文索引号】null
【学科分类】植物学

【题目】几种牧草在福建侵蚀茶园生态修复中的应用
【中文关键词】茶园; 土壤侵蚀; 生态修复; 牧草; 间作
【英文关键词】tea guarden, soil erosion,ecology modification, forage, intercrop
【中文摘要】本文分析了福建侵蚀茶园生态环境问题, 提出间作牧草的生态修复措施, 并介绍4种适生牧草百喜草(Paspalum notatum)、杜兰落花生(A rach is duranensis)、圆叶决明(Cham eacrista ro tundifolia)、白三叶(Trifoli um repens)及其在侵蚀茶园的应用成效。
【英文摘要】ecological environment was analyed, and measures were carried out in field.
【语种】中文
【第一作者】罗旭辉
【通讯作者】黄毅斌
【期刊名称、卷期、页码】亚热带水土保持,2009,21(4):45-48
【论文发表时间】2009-12-20 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】植物学

【题目】柑橘果园凋落物量及凋落叶的分解特征
【中文关键词】柑橘果园; 凋落物; 分解
【英文关键词】citrus orchard; litterfal;ldecom position
【中文摘要】对福州郊区7年生柑橘果园生态系统凋落物的发生及凋落物叶分解特征进行观测研究。结果表明, 柑橘果园年凋落物总量为1682.48 kg hm-2, 其中以叶凋落量最大, 占58.97%; 凋落物的发生呈现不规则的月变化, 以3月和7月凋落物量最大; 柑橘果园凋落物年碳、氮归还量分别为704.56、43.72 kg hm-2。凋落物叶分解过程呈现先快后慢的规律, 经过1a分解后, 凋落物叶分解残留率为21.50%, 凋落物叶分解95%所需时间为1.83a。
【英文摘要】Observation was carried out in a 7 year old citrus orchard in Fuzhou to study character istics of litter fall process and decomposition of litters. It was found that the orchard had 1682.48 kg hm- 2 of litters a year, of which 58.97% were fallen leaves. Litter fall occurred irregular ly from month to month, reaching peaks in March and July. The amounts of carbon and nitrogen returned with litters in a year in the citrus orchard was 704.56 and 43.72 kg hm- 2, respectively. Decomposition of the litters proceeded fast at the beginning and slowed down later. After 1 year of decomposition the resid ualrate was 21.50%, and it took 1.83 years to have 95% o f litters decomposed.
【语种】中文
【第一作者】吴志丹
【通讯作者】翁伯琦
【期刊名称、卷期、页码】生态与农村环境学报,2010,26(3):231-234
【论文发表时间】2010-03-20 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】土壤学

【题目】从“ Azolla Event ”论满江红在生态农业中的应用
【中文关键词】满江红事件;水生蕨类植物;生态农业;应用前景
【英文关键词】Azolla Event;aquatic fern;ecological agriculture;application prospect
【中文摘要】从分析始新世满江红在地球气候从"温室效应"向"冰室效应"转变的过程所起的作用入手,指出满江红具有在未来生态农业应用的潜力,包括作为优质农产品的生产原料、作为控制农业生态环境和重金属污染的植物、作为外太空开发的先行植物等。并提出要加强满江红在节能、环保和有机肥源、外源基因导入和满江红孢子果生产技术的研究以充分发挥满江红在未来生态农业中的作用。
【英文摘要】From the analysis the Eocene Azolla in the Earth's climate from the role played by the "greenhouse effect " to " icehouse " effect , the process of transforming paper pointed out that Azolla has potential for the future application of ecological agriculture ,

including the production of quality agricultural products raw materials , as the control of agricultural ecological environment and heavy metal pollution of the plant , as the outer space development first plant . And proposed to strengthen the Azolla in energy-saving , environmental protection , and organic fertilizer , exogenous gene into Azolla production technology in order to give full play to the role of Azolla in future ecological agriculture .
【语种】中文
【第一作者】黄毅斌
【通讯作者】唐龙飞
【期刊名称、卷期、页码】中国农业科技导报,2010,12(5):5-9
【论文发表时间】2010-05-15 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】植物学

【题目】福建良性生态茶园建设的模式选择及关键技术
【中文关键词】关键词:福建茶业;生态茶园建设;指导思想;模式选择;关键技术
【英文关键词】Fujian;tea industry;ecological tea garden;development strategies;key technology
【中文摘要】在剖析现代茶叶集约生产引发诸多生态问题的基础上,探讨了建设可持续发展的福建良性生态茶园的必要性、指导思想、指标要求、模式选择及主要技术等。
【英文摘要】Establishment of ecologically friendly tea garden is seen as the base for the development of a sustainable tea industry in Fujian.Based on the various problems on ecology induced by the concentrated tea plantation and production,this paper presents some suggestions on the planning,cultivation and management.By using differentmodes of plantation and requirements of production,ecology-friendly tea gardens in Fujian could be implemented.
【语种】中文
【第一作者】张文锦
【通讯作者】翁伯琦
【期刊名称、卷期、页码】福建农业学报,2010,25(6):792-795
【论文发表时间】2010-12-20 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农艺学

【题目】福建省茶园生态系统服务功能价值评估
【中文关键词】茶园;生态系统;服务功能价值
【英文关键词】tea garden,ecosystem,service value
【中文摘要】采用生态经济学的方法,通过市场价格替代法、机会成本法和影子工程价格法等评估方法对福建省茶园生态系统的茶叶初级产品的生产、气体调节、营养物质循环与贮存、水土保持及涵养水源等功能进行初步估算,最后预估得福建茶园生态系统服务功能的总价值为164.895 亿元。
【英文摘要】energy value of tea garden was studied in fujian province. the whole service value of ecosystem in fujian was 16489.5 million yuan.
【语种】中文
【第一作者】江福英
【通讯作者】江福英
【期刊名称、卷期、页码】茶叶科学技术,2010,(1):25-27
【论文发表时间】2010-02-28 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】生态学

【题目】福建省龙眼园天敌资源调查与研究

【中文关键词】龙眼园;天敌;调查
【英文关键词】Longan Orchards; Natural Enemy;Investigation
【中文摘要】根据田间系统调查,共发现福建省龙眼园天敌144 种,隶属于2 个纲12 目54 科,包括昆虫纲10 目43 科100 种,蛛形纲2 目11 科44 种;其中以蛛形目、膜翅目、鞘翅目和半翅目的种类数较多,分别占全部天敌种类的29.17%、24.31%、18.75%和9.03%;按作用方式分为捕食性与寄生性天敌,其中属捕食性天敌的种类有119种,寄生性天敌的有25种,分别占全部天敌种类数的82.64%和17.36%。
【英文摘要】found that 144 species of natural enemies were founded in longan orchards, which belonged to 2classes, 12 orders, and 54 families. All species of the natural enemies were included in 100 species, 43 families and 10 orders of Instecta, and were included in 44 species, 11 families and 2 orders of Arachnida. The ratioes of species of Araneida, Hymenoptera, Coleoptera and Hemiptera to all the natural enemies were 29.17%, 24.31%, 18.75%, 9.03%, respectively. All the natural enemies might be divided into 2 classes (predacious and parasitic enemy). There were 119 species belonging to predacious enemy and 25 species belonging to parasitic enemy, occupying 82.64% and 17.36% of the species of all the natural enemies.
【语种】中文
【第一作者】邱良妙
【通讯作者】占志雄
【期刊名称、卷期、页码】农学学报,2011,3,17-22
【论文发表时间】2011-06-20 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】昆虫学

【题目】侵蚀果园长期植草的生态效益分析
【中文关键词】水土保持; 侵蚀果园; 牧草; 套种
【英文关键词】Water and soil conservat ion; Ero ded fruit g arden; Fo rage; Intercrop
【中文摘要】针对山地果园不合理开发引发的土壤侵蚀和土壤退化问题, 将适生牧草套种于幼龄侵蚀果园, 开展水土流失、土壤肥力及果树生长的定位观测。结果表明: 套种平托花生(A r achis p intoi) 、圆叶决明(Chamaecr istarotundi folia) 1~ 12 年, 年地面径流系数0~ 0.0136, 均值为0.007 左右, 仅为清耕处理的1/ 10, 基本无土壤侵蚀发生; 套种11年, 套种区0~ 30cm 土层的土壤pH 值比清耕分别提高0. 25~ 0.30 个单位, 0~ 15 cm 土层土壤有机碳、碱解氮、有效磷质量分数比清耕提高7. 595~ 6. 728 g kg - 1 , 26. 84~ 31. 89 mg kg- 1 , 3. 57~ 4. 62 mg kg- 1; 轻组有机碳质量分数在0~ 30 cm 土层呈套种平托花生> 套种圆叶决明> 清耕的变化趋势, 重组有机碳质量分数在0~ 15cm 土层亦呈相同变化趋势。套种处理有助改善果肉糖酸比和商品果率, 牧草综合利用可明显提升果园建园初期的经济效益, 尽管套种处理给果树带来一定的减产。
【英文摘要】To solve problems of soil & water loss with soil degradation effects of long term intercro pping forage on erosion fruit garden was observed and studied. Results showed that runoff coefficient of intercropping plots was 0.007 equivalent to 10% that of clean tillage plots f rom 1 to 12 years. Soil erosion was not nearly found in intercropping plots. After 11 years intercropping, soil quality was obviously improved.The pH of soil (0~ 30cm) in intercro pping plots increased 0.25~ 0.30 unit more than that in clean tillage plots. The organic carbon content, available N content, available P content of soil (0~ 15 cm) in inter cropping plots increased 7.595~ 6.728 g kg-1 , 26.84~ 31.89 mg kg -1 , 3. 57~ 4.62 mg kg -1 over that in clean tillage plots, respectively. The organic carbon contents of both soil lig ht fract io n (0~ 30 cm layer) and soil heavy fr act io n (0~ 15 cm layer) in intercropping A rachis p intoi w ere hig her than that in intercr opping Chamaecr ista rotundi folia , with the low est in clean tillage. Intercropping forage in erosion fruit gardens increase commercial f ruit rate, fruit tasty value, and benef it forage comprehensive utilization,although it may cause slig ht yield loss of fruit trees.
【语种】中文
【第一作者】罗旭辉
【通讯作者】翁伯琦
【期刊名称、卷期、页码】草地学报,2011,19(5):729-734
【论文发表时间】2011-05-20 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】生态学

【题目】圆叶决明对重金属镉胁迫的响应及镉吸收效果研究
【中文关键词】圆叶决明2228;镉;保护酶;生长;生物富集
【英文关键词】Chamaecrista rotundifolia 2228; cadmium; antioxidant enzymes; growth; bioaccumulation
【中文摘要】以圆叶决明2228(Chamaecrista rotundifolia)为材料,采用土培法,研究重金属镉对圆叶决明2228 保护酶(SOD 和POD)、生长(生物量、株高、SPAD 值和含水量等)的影响,同时分析圆叶决明对镉的吸收效果。结果表明,重金属镉胁迫下圆叶决明2228 保护酶活性均随着镉处理浓度的升高呈先升后降的趋势,其中20 mg · kg-1 镉胁迫下SOD 酶活性最强,50 mg · kg-1 镉胁迫下POD 酶活性最强;镉对圆叶决明的生长抑制表现为抑制植物的生长,降低株高和生物量,但与叶绿素相关的SPAD 值无显著变化。通过镉含量。分析可知,圆叶决明2228 吸收的镉量均未超过镉临界指标含量,因此该植物不是镉超富集植物,但生物富集系数大于1,为镉耐性植物。由于圆叶决明生长过程中生物量大,在生长过程中可通过生物量带走部分重金属镉,圆叶决明2228 具有修复轻度镉污染土壤的潜能。
【英文摘要】The objective of this study is to analyze the effect of cadmium(Cd)stress on cadmium uptake of the studied plant. Chamaecrista rotundifolia 2228, growing in plastic pots(d=25 cm), was investigated in terms of changes of antioxidant enzymes(Super Oxide Dismutase,SOD and Peroxidase, POD), and growth indices (biomass, plant height, chlorophyll content-SPAD value, and water content). The results indicated that with increasing concentrations of applied Cd, the enzyme activities increased and then decreased. The strongest activities of SOD and POD were observed at a Cd stress level of 20 mg · kg-1 and 50 mg · kg-1, respectively. The results also showed that the presence of Cd significantly limited the growth of Chamaecrista rotundifolia 2228, implying by the reduced plant height and biomass, in comparison of the control. However, no significant change of SPAD value was identified at all levels of Cd stress. Cd contents of all the plants had never exceeded the critical value, which implied that Chamaecrista rotundifolia 2228 might not be a hyper-accumulator for Cd. However, the plant showed a substantial tolerance level to Cd as the bioaccumulation factor for most of the treatments was greater than one. A substantial amount of Cdcould still be taken by Chamaecrista rotundifolia 2228 from the contaminated soil considering such high biomass values of the plant accumulated during the growing process. Clearly, Chamaecrista rotundifolia 2228 has a promising remedial potential for soils with a light or middle level of Cd contamination.
【语种】中文
【第一作者】钟珍梅
【通讯作者】黄毅斌
【期刊名称、卷期、页码】农业环境科学学报,2010,29(12):2287-2292
【论文发表时间】2010-12-20 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】环境科学技术基础学科

【题目】不同垦殖方式下果园土壤有机碳的空间分布特征
【中文关键词】果园;红壤;有机碳;空间分布
【英文关键词】orchard; red soil; organic carbon; spatial distribution
【中文摘要】以福建尤溪玉池果园水土流失定位观测点为平台,研究了不同果园垦殖方式对土壤有机碳分布的影响。结果表明,不同垦殖方式下果园土壤有机碳在小生境分布和坡面再分布两个尺度上呈现出不同的分布特征,水平方向上,清耕果园土壤有机碳含量呈沿树干向外减少的分布规律,而生草果园土壤有机碳含量水平变化不明显;垂直方向上,果园土壤有机碳含量随土层加深而逐渐减少;坡面再分布上,清耕果园表现为下坡位>中坡位>上坡位,生草果园为中坡位>下坡位>上坡位。生草垦殖模式降低了果园土壤有机碳的水平分异,但促进果园土壤有机碳的垂直分异。在以上结果的基础上,提出了小生境混合取样的果园土壤采样方法。
【英文摘要】The information on the spatial distribution of soil organic carbon is critical for appropriate measurements of soil productivity, hydrology characteristics and carbon balance. A better understanding of the spatial distribution of soil organic carbon and its impact factors will increase the accuracy for estimating organic carbon storage. Thus three types of orchard soils with different reclamation modes(located at Yuchi village, Fujian Province)were chosen to study the spatial variability of soil organic carbon content. Results showed that there were different distribution characteristics of soil organic carbon in the orchard on microhabitat distribution and redistribution slope. Soil organic carbon contents in the clean-tillage orchard showed less outward along the trunk in the horizontal direction. But there was no significant difference in soil organic carbon along the trunk in the herbage interplanting orchard. Soil organic carbon under different cultivating systems decreasedwith soil depth in vertical direction. On the slope re-distribution, soil organic carbon content varied greatly with different cultivating methods, for example, the downhill bits> middle slope> upper slope

under clean tillage treatment, the middle slope> downhill bit> upperslope under herbage interplanting. Herbage interplanting reduced the horizontal heterogeneity of soil organic carbon in orchards, but increased the vertical variation. On the basis of the above results, a mixed sampling method from different niches under canopy of fruit trees waproposed.

【语种】中文
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【学科分类】土壤学

【题目】万木林保护区毛竹林土壤呼吸特征及影响因素
【中文关键词】毛竹,土壤呼吸,凋落物,土壤温度
【英文关键词】Phyllostachys edulis; soil respiration; litter fall; soil temperature
【中文摘要】2009 年1—12月,利用Li-Cor 8100 开路式土壤碳通量系统测定福建省万木林自然保护区毛竹林土壤呼吸速率,分析毛竹林土壤呼吸动态变化及其与凋落物量的关系. 结果表明: 毛竹林土壤呼吸月变化呈明显的双峰型曲线,峰值分别出现在6 月(6. 83 μmol · m- 2 · s - 1)和9 月(5. 59 μmol · m- 2 · s - 1) . 土壤呼吸速率的季节变化较明显,最大值出现在夏季,最小值出现在冬季; 土壤呼吸速率与土壤5 cm 温度呈显著正相关关系(P < 0. 05) ,与土壤含水量无显著相关性(P > 0. 05) ; 毛竹林凋落物量月变化呈单峰型曲线. 毛竹林土壤呼吸速率与当月凋落物归还量呈显著正相关(P < 0. 05) . 土壤温度和凋落物量的双因素模型可以解释土壤呼吸速率变化的93. 2%.
【英文摘要】By using Li-Cor 8100 open soil carbon flux system,the dynamic changes of soil respirationrate in Phyllostachys edulis forest in Wanmulin Natural Reserve in Fujian Province of Chinawere measured from January 2009 to December 2009,with the relationships between the dynamicchanges and related affecting factors analyzed. The monthly variation of soil respiration rate in the forest presented a double peak curve,with the peaks appeared in June 2009 (6. 83 μmol · m- 2 · s - 1) and September 2009 (5. 59 μmol · m- 2 · s - 1) ,and the seasonal variation of the soil respiration rate was significant,with the maximum in summer and the minimum in winter. The soil respiration rate had significant correlation with the soil temperature at depth 5 cm (P < 0. 05) ,but no significant correlation with soil moisture (P > 0. 05) . The monthly variation of litter fall mass in the forest was in single peak shape,and there was a significantly positive correlation between the monthly litter fall mass and soil respiration rate (P < 0. 05) . Two-factor model of soil temperatureand litter fall mass could explain 93. 2% variation of the soil respiration rate.
【语种】中文
【第一作者】王超
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【学科分类】土壤学

【题目】绿僵菌在3种不同培养基上培养时产孢量的影响因素
【中文关键词】绿僵菌; 培养基; 产孢量; 初始接种浓度; 相对湿度; 继代培养代数
【英文关键词】Metarhiziums spp.; medium; sporification; inoculation concentration; relative humidity(RH); subculture generations.
【中文摘要】分析了绿僵菌菌株在3 种不同培养基上培养时其产孢量的2 个影响因素(初始接种浓度和相对湿度),得出菌株在3 种不同培养基上培养时须分别配以适宜的接种浓度和相对湿度, 以获取最大产孢量(燕麦培养基:1×107cfu/mL, 65%; PPDA 培养基: 1×106cfu/mL, 85%; 玉米粉酵母浸膏培养基: 1×108cfu/mL, 75%)。另外,随继代培养代数增加, 菌株在这3 种培养基上前五代的产孢量比较稳定, 第七代及之后的产孢量明显下降。根据3 种培养基不同的功能, 在PPDA 培养基上培养菌株时要着重注意不同继代培养代数对产孢量的影响, 其它2种培养基培养菌株一般不超过五代, 产孢量比较稳定
【英文摘要】Metarhiziums spp. is a broad spectrum entomopathogenic fungus, and it is thus of great significance to increase sporification of this fungus. Two factors [inoculation concentrations and relative humidity (RH)]affecting the sporification of

Metarhiziums spp. strains grown in 3 different mediums were determined. The results showed that these two factors were very important for maximum sporification of this fungus on these three mediums. Maximum sporification occurred when the fungus were cultured on the oats medium at the inoculation concentration of 1×107 cfu/ml and RH 65%; on PPDA medium at the inoculation concentration of 1×106 cfu/ml and RH 85%; or on the corn powder and yeast soaking flour medium at the 1×108 cfu/ml and RH 75%. Moreover, this fungus when subcultured under these mediums and conditions had higher and stable volume of spores in the first 5 generations of the subculture but produced less spores in and after the 7th generation of subculture. According to the different functions of the 3 mediums, the subculture generation greatly affected the sporification in the PPDA medium, and lightly affected other two mediums unless the subculture overtakes the fifth generation.

【语种】中文
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【学科分类】植物保护学

【题目】绿僵菌对甘蔗螟虫的室内致病力测定
【中文关键词】绿僵菌; 甘蔗螟虫; 致病力测定
【英文关键词】Meatarhizium spp.; Sugarcane stemborer; pathogenicity bioassay.
【中文摘要】在室内用喷雾法测定了4株绿僵菌对甘蔗螟虫3~4 龄若虫的致病力。结果表明, 绿僵菌致病力强弱与菌株种类和接种剂量有密切关系。先接虫后喷施菌剂时, 菌株对甘蔗螟虫若虫致病力的强弱顺序为JF813>HS1>MA4>JF883; 先喷施菌剂后接虫时, 菌株对甘蔗螟虫若虫致病力的强弱顺序为MA4>HS1>JF813>JF883。在接种各菌株孢子浓度为1×108 个/mL 时, 菌剂对甘蔗螟虫若虫的致死率高。其中JF813 菌株对甘蔗螟虫若虫具有很强的二次侵染能力, HS1 菌株在两种处理方式中致病力稳定。
【英文摘要】The third to fourth instar nymphs of sugarcane stem borers were sprayed with solutions of 4strains of fungus Metarhiziums spp. in laboratory to observe the pathogenicity of each strain against thenymphs. The bioassay showed that the pathogenicity of the fungus was closely related with the strains andtheir inoculation rate. The pathogenicity of the fungus was in the order of the strains JF813 > HS1 > MA4 > JF883 when sugarcane was inoculated with the larvae of sugarcane stemborers first and then with the fungus,and MA4 > HS1 > JF813 > JF883 when vice versa. The mortality of sugarcane stem borers was the highestwhen sugarcane was inoculated with fungus at a concentration of 1×108 spores · ml-1. The strain JF813 had avery high ability in infecting the nymphs the second time, and the HS1 had a stable pathogenicity.

【语种】中文
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【题目】苯醚甲环唑的水解研究
【中文关键词】苯醚甲环唑;水解;活化能;活化熵
【英文关键词】difenoconazole; hydrolysis; activation energy; activation entropy
【中文摘要】研究了苯醚甲环唑在水溶液中的水化学降解行为,结果表明:(1) 苯醚甲环唑水解作用随溶液pH 值的增大而增强,25°C时其在pH 5、7 和9 的缓冲液中的水解半衰期分别为315.07、11.53 和1.33 d。(2) 苯醚甲环唑在水体中的水解速率随温度升高而加快,其在温度为15、25、35、45°C的pH 7 缓冲液中的水解半衰期分别为20.81、11.53、6.80 和2.14 d,平均温度效应系数为2.22。苯醚甲环唑水解反应的平均活化能和活化焓分别为55.53 kJ/mol 和53.01 kJ/mol,而苯醚甲环唑水解反应的活化熵随温度升高而降低,表现出明显的相关性,其平均活化熵为-92.45 kJ/mol · k。(3) 在相同的培养条件下,苯醚甲环唑在池塘水、河水和超纯水中的降解速率是不同的,其水解半衰期分别为7.31、4.47 和12.49 d。

【英文摘要】Subtropical Crop Research Institute, CATAS, Guangdong Zhanjiang 524091, China; 3. Analysis and Testing Center,CATAS, Haikou 571101, China; 4. Guangzhou Experimental Station, CATAS, Guangzhou 510140, China)Abstract: The hydrolysis kinetics of difenoconazole were studied in aqueous solutions. Results were obsevred asfollows: (1) Hydrolysis of difenoconazole increased as the pH value of the solution went up, and its hydrolysis half-livesin the buffer solutions of pH 5, pH 7 and pH 9 were 315.07, 11.53 and 1.33 d at the temperature of 25°C. (2) Hydrolysisof difenoconazole in the buffer solutions of pH 7 increased as the temperature went up. Hydrolysis half-lives were 20.81,11.53, 6.80 and 2.14 d at the temperature of 15, 25, 35 and 45°C, and the temperature coefficient of hydrolysis fordifenoconazole was 2.22. The mean activation enegry (E) and enthalpy (△H) for hydrolysis of difenoconazole was 55.53kJ/mol and 53.01 kJ/mol. The activation entropy (△S) decreased as the temperature went up, and the mean activationentropy was -92.45 kJ/mol · k. (3) Hydrolysis half-lives of difenoconazole in natural water such as pond water, river waterand ultra-pure water were 7.31, 4.47 and 12.49 d when the culture conditions were the same.
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【题目】甘蔗二点螟杀虫真菌绿僵菌的筛选与毒力测定
【中文关键词】二点螟; 绿僵菌; 致病性
【英文关键词】Chilotraea influscatellus; metarhizium; pathogenicity.
【中文摘要】从椰心叶甲僵虫上分离得到10 株对甘蔗二点螟具有较好致病性的绿僵菌, 其中MC3 的致病性最好, 校正死亡率为89.16%, 且甘蔗二点螟的校正死亡率随着MC3 菌株孢子浓度的增加而逐渐提高, 当浓度为1.0×107 个/mL时, 其死亡率为93.02%。MC3 菌株在SDAY 培养基菌丝生长及产孢效果最好, 孢子萌发的最适温度是25~28°C。
【英文摘要】Twelve Metarhizium strains were isolated from dead bodies of coconut leaf beetles (Brontispalongissina (Gestro)). Among the strains, 10 showed higher pathogenicity against Chilotraea influscatellus(Snellen), an insect pest, than the control, of which the strain MC3 was found most efficient in controllingof this insect pest. The corrected mortality rate of C. influscatellus inoculated with the strain MC3 wasincreased gradually with the spore concentration of Metarhizium. About 93.02% of the adults of the insectpest were controlled with the strain MC3 at a spore concentration of 1.0×107 conidia/mL. The strain MC3showed the best mycelial growth and sporulation on the SDAY, and the optimum temperature for the sporegermination was 25~28 °C.
【语种】中文
【第一作者】詹儒林
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【题目】AcNPV polyhedrin与cry3Aa基因重组融合蛋白在大肠菌中的初步表达
【中文关键词】BTcry3Aa AcNPVpolyhedrin 重组 表达
【英文关键词】BTcry3Aa AcNPVpolyhedrine Recombination Expression
【中文摘要】目的:将cry3Aa基因与斜纹夜蛾多角体蛋白(AcNPVPolyhedrin)基因重组,构建重组蛋白原核表达载体并在大肠杆菌中表达。方法:首先以PHT305a载体质粒DNA为模板,PCR扩增cry3Aa基因。再以PET30a ph 1a载体质粒DNA为模板,PCR扩增多角体蛋白基因。将两基因片段分别连入PMD18 T克隆载体,测序鉴定。表达载体的构建分为两步,先将SacI和XhoI双酶切下来的cry3Aa基因连入表达载体pET30a,再将PMD18T Ph经BglⅡ和SacI双酶切,所获得的ph基因片段与具有BglⅡ/SacI末端的pET30a cry3Aa相连接,构建表达载体pET30a cry3Aa ph,表达载体转化进入大肠杆菌BL21(DE3)。IPTG诱导蛋白表达并纯化,SDS PAGE分析结果。结果:cry3Aa和AcNPVPolyhedrin基因序列与报道完全一致。1mmol/LIPTG诱导4h表达的外源蛋白,经SDS PAGE分析显示在大约103kDa处有表达产物特异条带。结论:获得cry3Aa与

polyhedrine基因的重组蛋白工程菌株,为此基因应用于杀虫剂奠定了基础。
【英文摘要】
Objective:Recombinedcry3AawithAcNPVPolyhedrin,constucttheexpressvectorandmadetherecombinedproteinexpressedinE.coli.Method:First,cry3Aagenewasamplifiedfromvector PHT305a.Second,Polyhedringenewasamplifiedfrom vectorPET30a ph 1a.TwoDNA fragmentswereligasedintoPET30a cry3Aa ph:first,cry3AafragmentfromPMD18T cry3AaSacI/XhoIendonucleasedigestionswasligasedwithpET 30a,andthenPhfrom
PMD18T PhSacI/XhoIendonucleasedigestionswasinsertedintopET30a cry3Aa.ThevectorPET30a cry3Aa phwastransductedintoBL21(DE3)toexpresstherecombinantprotein.Purifiedfusionproteinwasobtainedthroughultrasonicfragmentationandpurificationusinginclusionbodywashingbuffer,andthenanalyzedwithSDS PAGE.Result:SequencingresultsshowedthatsequencesoftheDNAofcry3Aaandpolhareconsistwiththesequencereported.ResultofSDS PAGEanalyzationrevealedthattherewasabandofexprssionproductat103kDa.Conclusion:Therecombinedproteinengineeringstrainofcry3AaandAcNPVPolyhedrinwasobtained,whichlaidfoundationfortheapplicationinpesticide.
【语种】中文
【第一作者】高 博
【通讯作者】张春发
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【题目】原核表达Cry3Aa蛋白对椰心叶甲的杀虫活性研究
【中文关键词】Cry3Aa 蛋白, 椰心叶甲, 包涵体
【英文关键词】Cry3Aa protein, Brontispa longissima, Inclusion bodies
【中文摘要】椰心叶甲是近年来传入我国的危险性有害生物,严重危害了我国海南省、广东省、台湾省和香港地区的椰子、槟榔等棕榈科植物,并有蔓延趋势,。Bt Cry3Aa 毒蛋白对鞘翅目害虫有较强的杀虫活性。本研究首次发现大肠杆菌原核表达的Cry3Aa 重组蛋白对椰心叶甲成虫具有快速杀灭作用,工程菌表达的包涵体重组蛋白处理叶片,饲喂椰心叶甲成虫,浓度为2.0 mg/mL 时,24 h 内死亡率为100%。一次性饲喂处理24 h、48 h 和72 h 的LC50分别为0.751 6 mg/mL、0.475 5 mg/mL 和0.371 4 mg/mL,连续性饲喂即使低浓度也达到较高死亡率。本试验结果为cry3Aa 基因在转基因技术方面的应用或研发生物农药防治椰心叶甲害虫提供了重要的理论与技术支撑。
【英文摘要】Brontispa longissima is a new harmful insect invading in China. At present, it has spreaded to causedamage in Hainan province, Guangdong province, Taiwan province and Hongkong which feeds on the palmaceousplants. The crystal protein of cry3Aa gene have high toxic to Coleoptera. We have firstly find the protein of cry3Aagene expressed in E. coli possessed high toxicity to Brontispa longissima. The mortality of Brontispa longissimawould reach 100% in 24 h when fresh leaves treated by 2.0 mg/mL expressed-protein were provided as food foronly 12 h. The LC50 value at 24 h, 48 h, and 72 h was 0.751 6 mg/mL, 0.475 5 mg/mL, 0.371 4 mg/mL, respectively.On the other hand, after feeding the leaves treated with low concentration of expressed protein continuouslu, thehigh death rate would appear. It's indicating the great potential of this system for manufacturing novel pesticides inan efficient and cost-effective manner.
【语种】中文
【第一作者】苏震
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【题目】椰心叶甲的生物防治
【中文关键词】椰心叶甲, 生物防治, 寄生蜂, 绿僵菌

【英文关键词】Brontispa longissima, Bio-control, Parasitic wasps, Metarhizium spp.
【中文摘要】椰心叶甲是近年来传入我国的危险性有害生物。1994 年,我国内陆将椰心叶甲列为禁止入境的二类植物检疫危险性害虫。目前椰心叶甲在我国海南省、广东省、台湾省和香港地区危害严重并有蔓延趋势,严重危害了椰子、槟榔等棕榈科植物。针对椰心叶甲的危害特征,在实际防治应用中,化学防治,物理防治等方法不能起到很好的效果,生物防治是比较重要的防治方法。本文综述了对于椰心叶甲生物防治常用的几种防治方法:释放寄生蜂、病源微生物和生物农药等。椰心叶甲的生物学防治措施,关键是开发新的防治措施和提高现有方法的防治技术,达到持续有效控制
【英文摘要】Brontispa longissima is a new harmful insect invading in China, Brontispa longissima was ranked asthe second class quarantinable dangerous pest forbidden to be introduced into the mainland of China in 1994. Atpresent, it has spreaded to cause damage in Hainan, Guangdong, Tainwan and Hongkong. which feedson the palmaceousplants. For Brontispa longissima harm characteristics, applying chemical and physics for Brontispa longissimacontrol can not have a good effect, biological prevention and control is an important measure. The article reviewedthe research on biological prevention and control for Brontispa longissima, such as releasing parasiticwasps, pathogenic micro-organisms and biopesticide. It is necessary to find other measures and improve the technologyof useing control methods in order to achieve effective and sustained control.
【语种】中文
【第一作者】苏震
【通讯作者】张春发
【期刊名称、卷期、页码】基因组学与应用生物学第28卷第2 405-407
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【学科分类】植物保护学

【题目】水分影响印楝素及同系物降解动力学研究
【中文关键词】印楝素; 水分; 降解; 动力学
【英文关键词】azadirachtin ; water ; degradation ; kinetics
【中文摘要】研究水分对印楝素A、6-deacetylnimbin、6-deacetylsalannin、nimbin 和salannin 5 种同系物稳定性的影响, 并建立水分影响印楝素及同系物降解动力学模型。结果表明, 水能加快印楝素A 及同系物的降解,且降解率随着水分含量的增加而增大。
【英文摘要】Azadirachtin A and its homologues (6-deacetylnimbin, 6-deacetylsalannin, nimbin andsalannin) were added with water to determine their stability, and a kinetics model was constructed fordegradation of the azadirachtin A and its homologues when added with water. The result showed thatwater accelerated degradation of aradirachtin A and its homologues, and that the degradation rateincreased with the water content.
【语种】中文
【第一作者】严亚丽
【通讯作者】彭黎旭
【期刊名称、卷期、页码】热带农业科学 2009,29(5):30-32
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【学科分类】植物保护学

【题目】精甲霜灵在热带气候土壤中的残留及消解动态研究
【中文关键词】气相色谱法;精甲霜灵;残留;消解;土壤;热带气候
【英文关键词】gas chromatography; metalaxyl-M; residue; degradation; soil; tropical climate
【中文摘要】建立了精甲霜灵在土壤中的残留分析方法及其在热带气候下在土壤中的消解动态和最终残留。土壤样品经乙酸乙酯萃取,净化后采用毛细管气相色谱法-氮磷检测器(GC-NPD)进行测定。在0.05、0.10、1.00 mg · kg-1 3 个添加水平,平均添加回收率分别为82.7%、89.4%、95.1%,变异系数分别为7.2%、8.3%、3.2%,符合农药残留分析的要求。结果表明,精甲霜灵在土壤中消解速度较快,测得在土壤中半衰期第一次2005 年为3.49 d,第二次2006 年为2.91 d;以最大推荐施用剂量和2倍最大推荐施用剂量施用,不同处理测得在最后一次施药后2 d 残留量均小于0.5 mg · kg-1。分析结果表明精甲霜灵是一种使用安全的杀菌剂。

【英文摘要】The method for analysis of metalaxyl-M, its degradation and residue in soil under tropical climate were investedin this study. Soil samples were extracted with ethyl acetate and clean up, prior to detection by GC with NPD. Spike experimentswere carried out to determine the recovery and precision of the method. The recoveries and coefficients of variationof the metalaxyl-M were in the range of 82.7%~95.1% and 3.2%~8.3% respectively at a spiked concentration of 0.05 , 0.10and 1.00mg · kg-1. The results revealed that Metalaxyl-M degraded rapidly in soil with half-lives of 3.49d in 2005y and 2.91din 2006y. The final residues of metalaxyl-M in soils after 2 days of last treatment were both less than 0.5mg · kg-1 at the recommendedlevel and twice level, which indicated that metalaxyl-M was a safe fungicide in the soil under tropical climate.
【语种】中文
【第一作者】韩丙军
【通讯作者】彭黎旭
【期刊名称、卷期、页码】湖北农业科学2009,48(1):190-192
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【学科分类】植物保护学

【题目】气相色谱-质谱联用法测定印度楝树油中高级脂肪酸组分含量
【中文关键词】印度楝树油; 高级脂肪酸; GC-MS 联用
【英文关键词】Neem oil; Higher fatt y acid; GC-MS
【中文摘要】对印度楝树油中高级脂肪酸成分进行分析, 经甲酯化后用气相色谱-质谱联用仪鉴定了其中所含高级脂肪酸的成分, 用气相色谱法-火焰离子化检测器对其成分进行定量分析。溶剂浸泡萃取和二氧化碳超临界萃取两种不同方法得到的脂肪酸成分基本相同, 其中油酸相对含量为51. 15%, 硬脂酸相对含量为19. 13% , 棕榈酸相对含量为16. 78%, 亚油酸相对含量为9. 86%, 花生酸相对含量为1. 24% , 其他含量低于1% 的高级脂肪酸还有顺-3-辛基-环氧乙烷-辛酸, 山萮酸,9-十八(碳) 烯酸, 11-二十碳二烯酸, 9-十六碳烯酸, 十七(烷) 酸等。
【英文摘要】H ig her fatty acids wer e separat ed fr om neem o il by either the direct petro leum ether ex tractio n orthe CO2- super crit ical ex tractio n o f the powdered neem seeds. After methylat ion, methy lates of the fatty acids wer eidentif ied by GC-M S. Same compo nental fat ty acids w ere found by bo th of the 2 ex tr act ion metho ds. Quantificatio nof the fatty acids w as per formed by GC wit h FID and standard curv e metho d. T he main components found w ere the8- octadecenoic acid (51. 15%) , o ctadecano ic acid (19. 13%) , hex adecanoic acid (16. 78%) , 7, 10- o ctadecadienoicacid (9. 86%) and eicosanoic acid (1. 24%) . Some o ther fat ty acids, i. e. , cis- 3- octy-l o xirane o ct ano ic acid,doco sano ic acid, 9- octadecenoic acid, 11- eicoseno ic acid, 9- hexadecenoic acid and heptadecanoic acid w ere also fo undwit h their contents under 1%.
【语种】中文
【第一作者】韩丙军
【通讯作者】彭黎旭
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【学科分类】植物保护学

【题目】印楝种仁粗提物对植物病原菌的抑制作用研究
【中文关键词】印楝; 粗提物; 超临界CO2 萃取; 抑菌作用
【英文关键词】Azadirachta indica; Crude extract; Supercritical carbon dioxide extraction; Antifungal activities
【中文摘要】[目的]研究无公害生物农药的抑菌效果。[方法] 通过室内毒力测定, 比较印楝种仁的常规溶剂萃取物和超临界CO2 萃取物对供试的8 种病原菌的抑制作用。[结果] 印楝常规溶剂萃取物和超临界CO2 萃取物对8 种病原菌均有良好的抑制作用, 尤其对辣椒疫霉、茄子枯萎、番木瓜炭疽、西瓜蔓枯、香蕉黑星作用明显, 其中超临界CO2 萃取物抑菌效果比常规溶剂萃取物好, 具有萃取时间较短, 活性较高, 对中、低分子量和非极性化合物有较强的亲和力等特点, 但萃取率较常规溶剂低, 提取时所耗的原材料多。[结论] 印楝种仁超临界CO2 萃取物对植物病原菌抑制效果较好,但在实际应用中要根据生产效益来选择适合的萃取物。

【英文摘要】[Objective] The research aimed to study the inhibitory effects of harmless bio!pesticides. [Method] The inhibitory effects of twoextracts, common solvent extract and supercritical carbon dioxide extract from A. indica kernel, on 8 tested plant pathogens through laboratorytoxicity test. [Result] Two extracts had significant effects on 8 plant pathogens, especially on Phytophthora capsici, Fusarium oxysporum,Colletotrichum papayae, Didymella bryoniae and Phyllosticta musarum. The inhibitory effect of supercritical carbon dioxide extracts wasrelatively better. It had some good characters, such as shorter time for extraction, higher activity, stronger appetency for the compound with middleand low molecular weight and nonpolarity. But it had lower extractability than the common solvent extract and need more raw materials duringextraction. [Conclusion] The supercritical carbon dioxide extracts from A. indica kernel had better inhibitory effect on plant pathogens, but theproper extracts should be chosen on the basis of production efficiency in practical application.
【语种】中文
【第一作者】林靖凌
【通讯作者】彭黎旭
【期刊名称、卷期、页码】安徽农业科学,2008,36(11):4566-4567
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【题目】印楝农药的安全性研究进展
【中文关键词】印楝农药;毒性;影响;建议
【英文关键词】无
【中文摘要】印楝素是世界上公认最有潜力的杀虫植物,由于印楝植物源农药的研究和使用不断受到人们重视,所以对印楝植物源农药使用后安全性研究就显得十分必要。综述了印楝植物源农药制剂对脊椎动物的毒性,对生态环境和非靶标生物的影响。
【英文摘要】无
【语种】中文
【第一作者】蔡春茂
【通讯作者】彭黎旭
【期刊名称、卷期、页码】现代农业科技,2008,7:109-110,113
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【引文索引号】null
【学科分类】植物保护学

【题目】印楝6种活性成分的抑菌效果
【中文关键词】印楝; Sa lannin; 抑菌效果
【英文关键词】Neem; Salannin; Inhibit ion efficiency
【中文摘要】从印楝种仁粗提物中分离到6 种纯度较高的活性成分, 并进行了室内毒力测定和抑菌活性研究, 结果表明, 所有成分对供试菌种均有一定抑制效果, 其中对辣椒疫霉病病原菌和番木瓜炭疽病病原菌的平均抑制效果达极显著。以成分E22~E30 对6 种供试菌种的抑制效果最好, 经鉴定, 该成分为Salannin。
【英文摘要】This st udy w as under taken to a ssess t he inhibit ion efficiency of six fo rmulatio ns o f cr ude ex tr acts fr om neemkernels on six species o f patho gens. T he r esults show ed that all o f the formulat ions co uld inhibit the six pathog ens. Compared w ith other patho gens, Phy top hthor a cap sici and Colletotrichum p ap ay ae w er e sig nificantly inhibited. Fo rmulatio n E22~E30 wa s t he mo st efficient inhibitor and had been identified Salannin.
【语种】中文
【第一作者】林靖凌
【通讯作者】彭黎旭
【期刊名称、卷期、页码】甘肃农业科技,2008,7:10-12
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【学科分类】植物保护学

【题目】印楝素A降解动力学研究
【中文关键词】印楝素A 降解动力学
【英文关键词】azadirachtin A degradation kinetics
【中文摘要】研究pH、水分、紫外光、温度对印楝素A 稳定性的影响,建立在不同条件下印楝素A 的一级降解动力学模型。计算印楝素A 降解反应的反应速率常数、温度效应系数(Q)、活化能(Ea)、活化焓(ΔH)和活化熵(ΔS)。结果表明,印楝素A 的活化能为98.49 kJ/mol,活化焓为95.84 kJ/mol,活化熵为10.68 kJ/mol · K。印楝素A 在环境中的降解反应是自发反应,在环境中易自然降解。
【英文摘要】The pH val ue, temperature, water and UV light were systematically investigated to explain theirinfluence on chemical reaction grade, reaction rate coefficient, Arrhenius coefficient, temperature effect quotient(Q), activation energy(Ea), activation enthalpy(ΔH) and activation entropy(ΔS) of azadirachtin A. Degradation ofazadirachtin A was observed to follow the first- order kinetic equation. The Ea of azadirachtin A was 98.49 kJ/mol,the ΔH of azadirachtin A 95.84 kJ/mol, and the ΔS of azadirachtin A 10.68 kJ/mol · K. Azadirachtin A belonged toa group of easily degraded insecticide, and its degradation reaction was spontaneous.
【语种】中文
【第一作者】韩丙军
【通讯作者】彭黎旭
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【学科分类】植物保护学

【题目】几种农药对淡紫拟青霉E7菌株产孢量的影响
【中文关键词】淡紫拟青霉;耐药性;相容性
【英文关键词】Paecilomyces lilacinus; pesticide tolerance; compatibility
【中文摘要】测定了淡紫拟青霉E7菌株对杀菌剂苯菌灵、王铜,杀虫剂阿维菌素及除草剂草甘膦的耐药性。结果表明淡紫拟青霉对杀菌剂王铜、除草剂草甘膦和杀虫剂阿维菌素不敏感,与它们有良好的相容性,但对杀菌剂苯菌灵较敏感。
【英文摘要】Tolerances of theE7 strain ofPaecilomyces lilacinusto pesticides, including two fungicides, one insecti-cide and one herbicide, were investigated. The results showed that the E7 strain was not sensitive to copper oxychloride,nemacicide avermecti and glyphosate, and had compatibilitywith them. However, the E7 strainwas sensitive to fungicidebennomy.l
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【期刊名称、卷期、页码】江苏农业科学,2010,26(1):61-64
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【引文索引号】null
【学科分类】植物保护学

【题目】淡紫拟青霉PL04菌株抗逆性及其对香蕉根结线虫的寄生作用
【中文关键词】淡紫拟青霉;抗逆性;香蕉根结线虫;寄生作用
【英文关键词】Paecilomyces lilacinus; Stress resistance;Meloidogynespp; Parasitism effect
【中文摘要】抗逆性测定结果表明,淡紫拟青霉PL04菌株有较强的抗逆性和对化学农药的兼容性。PL04菌株在PSA培养基上菌落生长和产孢的适温为5~40°C(最适温度为29°C)。PL04菌株在pH4~13(最适pH为7)范围内的培养基上均可生长;PL04菌株在40°C和50°C条件下的LT50分别为78.8 min和40.8 min。PL04菌株有较强的耐盐碱能力;PL04菌株对氯霉素有较强的耐受性;PL04菌株对杀菌剂多菌灵、百菌清、苯醚甲环唑、除草剂百草枯以及消毒防腐剂福尔马林较敏感,其EC50分别为0.021、0.013、0.006、0.016和0.120mg/mL,PL04菌株对杀线虫剂阿维菌素和辛硫磷,杀菌剂三唑酮不敏感,其EC50分别为

0.175、0.338和0.337 mg/mL。采用双温测定法,室内测定淡紫拟青霉PL04菌株对香蕉根结线虫的寄生作用,不同处理具有显著性差异,PL04菌株孢子悬浮液处理18 d后对香蕉根结线虫卵的相对寄生率为94.3%。

【英文摘要】Stress resistance characteristics tests showed that the strain PL04 strain ofPaecilomyces li-lacinushad strong resistance ability and was compatibility with chemistry pesticide. For the growthand spore production of PL04 strain, the suitable temperature was 5~40°C(the optimum temperaturewas 29°C). The PL04 strain could grow on potato sugar agar with pH range from 4 to13(the optimumpH was 7). Tests showed that the LT50at 40°Cwas 78.8 min and at 50°Cwas 45.3 min of the PL04strain. The PL04 strain was able to endure higher concentration saline-alkali and chloramphenicol.Tests showed that the PL04 strain was sensitive to fungicide carbendazol, chlororthalonil, difenocon-azole, herbicide paraquat and formalin, EC50of them were 0.021 mg/mL, 0.013 mg/mL,0.006mgmg/mL, 0.016 mg/mL and 0.120 mg/mL respectively. But the PL04 strain was consistent to thenemacicide avermecti, phoxim and fungicide trazodone, EC50of them were 0.175 mg/mL, 0.338 mg/mL and 0.337 mg/mL respectively. The PL04 strain was demonstrated as a highly effective strain to controlMeloidogynespp. There was significantly difference among the different treatment. Results of the petridish test showed 94.3% of the eggs were parasitized by the fungus 18 d (7 days at 18°Cplus 11 days at 25°C) after inoculation.

【语种】中文

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【题目】木醋杆菌ITS序列分析及产纤维素条件的研究

【中文关键词】木醋杆菌;ITS;纤维素;产量

【英文关键词】Acetobacter xylinum; internally transcribed spacer sequencing; bacterial cellulose; production

【中文摘要】:木醋杆菌(Acetobacter xylinum)是合成纤维素能力最强的细菌,设计木醋杆菌16S-23S rDNA 转录间隔区(internally transcribed spacer ITS)序列引物,对其扩增。在GenBank 上的登陆号为GenBank EU196159。选择到合适的木醋杆菌ITS 扩增引物,PCR 扩增条件。木醋杆菌最佳培养温度28 °C,通过测定纤维素产量发现最佳接种量5 %,最佳碳源为葡萄糖,最佳碳源浓度为2.5 %。

【英文摘要】Acetobacter xylinum is a bacteria which has the most capable of synthetic fibre,this experiment designed the primers of internally transcribed spacer ITS in Acetobacter xylinum, and the generic PCR products from the ITS were cloned and sequenced. The result is compared in NCBI BLAST and analysed in DNA STAR,the landing number in GenBank is EU196159.Simultaneity have choice the appropriate primer of ITS, PCR condition. According to cellulose production we found that the optimization cultivate temperature is 28 °C,inoculability quantity is 5%, optimization carbon source is glucose , optimization carbon source density is 2.5%.

【语种】中文

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【学科分类】植物保护学

【题目】产纤维素酶菌株的分离筛选及酶活性测定

【中文关键词】纤维素降解菌; 分离; 筛选; 纤维素

【英文关键词】Cellulose- decomposing microorganisms; Isolation; Screening; Cellulose

【中文摘要】[目的] 寻找更多高效降解纤维素的新菌种及其科学利用方法。[方法] 利用(采样) 培养) 分离单菌落) 初筛) 复筛) 测OD值0的方法筛选出分解纤维素能力较强的菌株。[结果] 经反复培养和划线分离从80 份样品中初选出35 株具有分解纤维素能力的菌株。其中10 株由白转绿, 长势较好; 6 株深绿色, 长势一般; 4 株绿色, 长势较好。这20 株都产孢子, 被初步鉴定为绿色木霉。用刚果红培养基进行复筛选, 得到9 株透明圈较大的菌株。将这9 株菌株再进行发酵培养, 用DNS 法

进行酶活测定得到2 株酶活较强的菌株。这2 株菌株被鉴定为棘孢木霉。通过滤纸崩解测试筛选出20 株降解纤维素能力较强的菌种。DNS 法酶活测定结果表明采自甘蔗堆积处和甘蔗地的2 个菌株的产酶活性最高。[结论] 采自甘蔗堆积处和甘蔗地的2个菌株可以作为降解纤维素的新菌种。

【英文摘要】[Objective] The purpose was to find more new high- efficiency cellulose- decomposing strains and their utilization methods. [Method] The strains with stronger cellulose- decomposing abilitywere screened out by themethod/ sampling) culture) isolation of single colony) primary screening) secondary screening) determination of OD value0 . [Result] Thirty- five strains with cellulose- decomposing ability were isolated from 80 samples through repeated culture and streaking in primary screening. Among them, 10 strains turned fromwhite to be green and their growth potentials were better;6 strains were dark green and their growth potentials were common; 4 strains were green and their growth potentials were better; all these 20 strains produced spores and were identified to be Trichoderma viride preliminarily. The congo-red mediawere used and 9 strains with bigger transparent circles were got in secondary screening. These 9 strains were cultured by fermentation and their enzyme activities were determined by DNS method, then 2 strains with stronger enzyme activity were got. These 2 strains were identified to be Trichoderma asperellum. Twenty strains with stronger cellulose- decomposing ability were screened out through filter- paper disintegration test. The results of enzyme activity determination by DNS method showed that the inulinase-producing activities of the 2 strains collected from the stacking place of sugar cane and sugar cane field were highest. [Conclusion] The 2 strains collected from thestacking place of sugar cane and sugar cane field could be used as new cellulose- decomposing strains.

【语种】中文

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【学科分类】植物保护学

【题目】小桐子种子萌发试验

【中文关键词】小桐子; 种子; 萌发

【英文关键词】Jatrohpa curcas L. ; Seeds; Germ ination

【中文摘要】[目的]为小桐子的种植和相关研究提供参考。[方法]以成熟小桐子种子为材料, 研究种子储存时间(0、30、60、90 d)、发芽温度(10、20、27、35 e)、沙子含水量(2%、4% 、8%)、播种深度(0、0. 5、1 cm)、去皮处理(2端去皮、单端去皮、不去皮)对其发芽率和发芽势的影响。[结果]种子储存时间对小桐子种子发芽率和发芽势无显著影响; 10 e 条件下小桐子种子不能萌发, 在20~ 35 e 范围内, 种子发芽率随温度升高而升高, 27 e 时发芽率最高; 沙子含水量为2%、4%、8%时种子发芽率分别为67% 、96% 和48%; 播种深度为0、0. 5 cm时发芽率较高; 单端去皮种子发芽率和发芽势较高。[结论]小桐子种子萌发的最适温度为27 e , 最适沙子含水量为4%。

【英文摘要】[Objective] The study was to prov ide the reference fo r planting and relevant research on Jatrohpa curcas L. [Method] With mature J. curcas seeds as thematerials, the effects of seed sto rage tmi e (0, 30, 60, 90 d), germ ination temperature(10, 20, 27, 35 e), sand moisture content(2% , 4%, 8%), sow ing depth(0, 0. 5, 1 cm) and pee ling treatment(2-end pee ling, single-end pee ling, no pee ling) on the irgermination rate and germ ination v igorw ere studied. [Result] The seed storage tmi e had no significant effects on germination rate and germination v igorof J. curcas seeds. J. curcas seeds could not germ inate under 10 e , in 20- 35 e , the seed germ ination ratewas increased with the increase of temperature, and the seed germ ination ratewas the highest at 27 e . When sand mo isture contentwas 2% , 4% and 8%,the germ ination rate o fJ. curcas seeds were 67%, 96% and 48% resp. And the germ ination rate was high when sow ing depth were 0, 0.5cm. And the germ ina tion rate and germ ination vigor ofJ. curcas seeds were higher in the trea tment o f single-end peeling. [Conclusion] The optmium tem perature for J. curcas seed germ ination was 27 e , and the optmi um sand mo isture contentw as 4%.

【语种】中文

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【学科分类】植物保护学

【题目】植物内生菌研究技术及应用研究进展
【中文关键词】内生细菌 生防机制 生物防治
【英文关键词】无
【中文摘要】综述了植物内生菌的种类、研究技术及其对植物病害的生防机制和防治作用, 并对植物内生菌研究和应用中存在的问题进行了探讨
【英文摘要】无
【语种】中文
【第一作者】汪军
【通讯作者】黄俊生
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【引文索引类型】其他
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【学科分类】植物保护学

【题目】生物传感器检测主要病原微生物研究进展
【中文关键词】生物传感器; 病原菌; 微生物; 菌液浓度
【英文关键词】biosensor, pathogenic bacteria, microbion, bacterium density
【中文摘要】生物传感器是一种新兴的技术研究工程领域, 也是当今的热门领域。笔者综述了生物传感器发展状况, 对目前主要和热门的各种检测病原微生物的传感器检测技术进行总结。通过对各种技术的总结提出生物传感器技术的应用构想, 探讨了生物传感器的发展趋势。
【英文摘要】Biosensor is an emerging area of technology research projects and hot field in nowadays. Thispaper reviews the development of biological sensors, top of the current major and detection of pathogenic microorganisms technical summary. Through the various technical summary of the proposed biosensor technology applications idea, discussion on the trend of development of biological sensors.
【语种】中文
【第一作者】张艳玲
【通讯作者】黄俊生
【期刊名称、卷期、页码】农业生物技术,2008,24(9):59-62.
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【学科分类】植物保护学

【题目】绿僵菌对菠萝粉蚧的室内致病力测定
【中文关键词】绿僵菌; 菠萝粉蚧; 致病力
【英文关键词】Meatarhizium s; Dysmicoccus Brevip es; Pathogenic ity
【中文摘要】[目的]筛选对菠萝粉蚧有高毒力的菌株, 为菠萝粉蚧的田间防治提供科学依据。[方法] 以菠萝粉蚧为目标昆虫, 从自然感病虫体和土壤中分离获得3株绿僵菌菌株, 在室内用喷雾法测定这3株绿僵菌对菠萝粉蚧的致病力。[结果]在室温下, 用绿僵菌MA4、J813、J86C接种后, 菠萝粉蚧的的死亡率随着绿僵菌孢子浓度的增加而逐步提高。在同一孢子浓度(108, 107, 106)中, 绿僵菌3个菌株对菠萝粉蚧的致病力顺序均为J813 > MA4 > J86C。感病的粉蚧行动迟缓, 死亡2~ 3 d后, 形成僵虫。僵虫经保湿培养3~ 4 d后, 虫体表面长出绿色的粉状孢子。[结论]绿僵菌J813菌株在室内对菠萝粉蚧有强致死力, 拥有良好的田间应用前景。
【英文摘要】[Objective] The ami w as to screen the strain w ith high v irulence againstDy sm icoccusB revip es and provide the scientific basis for the fie ld contro l ofD. Brevip es. [Method] W ith theD. Brevip es as target insec,t 3M eatarhiziums strainsw ere separa ted from the natural infected insect and soi,l and the pathogenic ity of the 3M eatarhizium s strains aga instD . B revip es was detected by the spray method in laboratory.[Result] The mortality rate ofD . Brevip es inoculated byMeatarhiz ium sMA4, J813 and J86C were

increased gradua llyw ith the increase of spore concn. o fMeatarhiz ium s at room tempera ture. The order o f the pathogen ic ity of the 3M eatarhizium s strainsw ith the sam e spore concn. (108,107,106) againstD . Brevip esw as J813 > MA4 > J86C. The action o f the infectedD . Brevip esw as slow and it became themuscardine cadaver after being died for 2- 3 d. A fter themuscardine cadaverwere cultured for 3- 4 d under the condition o f keep ing hum id ity, g reen powder spores were grew in the surface of the insec.t [Conclusion] Meatarhiz ium s J813 stra in had strong pathogen ic ity againstD . B revipes in laboratory and had good field application prospect

【语种】中文
【第一作者】梁昌聪
【通讯作者】黄俊生
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【学科分类】植物保护学

【题目】绿僵菌菌株JF-813的抗逆性
【中文关键词】绿僵菌; 抗逆性; 菌落; 生长速度; 萌发率
【英文关键词】Metarhizium sp.; stress resistance; colony; growth rate; germination rate
【中文摘要】通过测定菌落生长速度和孢子萌发率对绿僵菌菌株JF-813抗逆性进行了研究, 结果表明: 菌株JF-813有较强的抗逆性, 在pH 值4~ 9范围内的PPDA 培养基(添加1%蛋白胨的PDA 培养基)中均可以生长, 其最适pH值为8; 在NaC l浓度为01 05~ 0125 m o l/L条件下, NaC l对菌株JF-813 的生长有一定的促进作用, 浓度越大促进越明显, 该菌株有较强的耐盐能力; 高温条件及紫外光对绿僵菌菌株JF-813孢子萌发有较强的抑制作用。
【英文摘要】The research focused on stress res istance o fM etarhiz ium sp. strain JF-813 by measur ing colony growth rate and spore germination rate. The resu lts show ed that this strain JF-813 could grow on PPDA m edium (PDA medium supplemented with 1% peptone) with pH range of 4 to 9 and them ost suitable pH was 8. N aC l a t a concen tration of 0105~01 25 mo l/L in the substrate cou ld increase the g row th sign ificantly and the tests indicated that the stra in w as able to enduresa line. High tem pera ture and UV lihgt inh ibited the con idia l ge rm ina tion o f the stain JF-813.

【语种】中文
【第一作者】黄志
【通讯作者】黄俊生
【期刊名称、卷期、页码】江苏农业学报,2009,25(5):1007-1009.
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【引文索引号】null
【学科分类】植物保护学

【题目】金龟子绿僵菌菌株生长环境变量的优化
【中文关键词】金龟子绿僵菌; 环境因子; 菌丝生长量; 次代产孢量
【英文关键词】Metarhizium anisopliae var. anisopliae; environmental factors; hypha biomass; second generation sporulation.
【中文摘要】金龟子绿僵菌(M etarhizium anisop liae var. anisop liae)是一种广谱的昆虫病原真菌, 提高菌株的生长速率及产孢量具有重要的意义。分别对2 株金龟子绿僵菌菌株MA4与MA lm1的菌丝生长及次代产孢具有影响的培养温度、培养基初始pH、装液比、光照及微量元素等环境因素进行了测定。经过优化得到2 菌株最佳培养条件分别为: MA4菌株在28、pH 7、装液比为75m l/250m l、加入微量元素Mn全光照培养时生长最好、次代产孢量最高; MA lm1菌株在28、pH 9、装液比为75 m l/250 ml、加入微量元素Cu、黑暗培养时生长最好、次代产孢量最高。
【英文摘要】Metarhizium anisop liae var. anisop liae is a k ind of broad spectrum entomopathogenicfung,i and thus, to increase its g row th rate and sporification is of important significance. In this study, the env ironmen tal factors a ffect ing hypha grow th and second generat ion sporu lation o f two M. anisop liae var. anisop liae stra insMA4 andMA lm1, such as cu lture temperature, in itia lpH of cu lture medium, entire volum e of liquid, illumnation, and m icroe lements, were determ ined.The resu lts show ed that the opt imal g row th and sporificat ion condit ions forMA4 stra in w ere 28, pH 7, 75m l /250 m l insta llmen,t 24 h light /day w ithMn addit ion; wh ile those fo rMA lm1 stra in were 28, pH 9, 75m l /250 m l insta llmen,t 0 h light/day, and Cu add ition.

【语种】中文
【第一作者】杨腊英
【通讯作者】黄俊生
【期刊名称、卷期、页码】生态学杂志,2008,27(8):1322-1326.
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【学科分类】植物保护学

【题目】茶蓑蛾寄生真菌的分离鉴定及其培养性状
【中文关键词】爪哇拟青霉; 茶蓑蛾; 寄生真菌; 形态特征; ITS
【英文关键词】Paecilomyces javanicus Clania minuscule Butler entoparasitic fungus morphologic characteristics Internal Transcribed Spacer
【中文摘要】对茶蓑蛾(Clania minuscula Butler)僵虫进行保湿培养, 分离得到一株高几丁质酶活性的菌株。通过对该菌株的形态、培养特征的观察及对其ITS 核酸序列进行扩增与分析, 确认此次发现的茶蓑蛾寄生真菌为爪哇拟青霉(Paecilomyces javanicus (Friedrichs & Bally) Brown&Smith), 并对该菌株在不同培养基下的菌丝生长、产饱量和培养特征进行初步研究。
【英文摘要】A strain of entoparasitic fungus containing high chitin enzyme activity was isolated and cultured from Clania minuscula Butler. Its ITS sequence result and the observation of its morphological and cultural characteristics on Czapek' s medium showed that this fungus was Paecilomyces javanicus. The growth of hyghae, sporulation and cultural characteristics were also observed on different mediums.
【语种】中文
【第一作者】秦涵淳
【通讯作者】黄俊生
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【题目】Biological assessment of Tetrastichus brontispae,a pupal parasitoid
【中文关键词】椰心叶甲啮小蜂;椰心叶甲;生物学特性
【英文关键词】Tetrastichus brontispae Ferrie`re; Brontispa longissima (Gestro);biological characteristic
【中文摘要】椰心叶甲啮小蜂是从台湾引进的一种椰心叶甲重要蛹寄生蜂,为有效控制椰心叶甲,本研究对椰心叶甲啮小蜂在中国海南的生物学特性进行了研究。该寄生蜂的发育历期包括卵期、三个幼虫期和三个蛹期。在温度为24±2°C和湿度为75±5%条件下,该寄生蜂从卵到成虫的发育历期为19.5±0.5天。温度对椰心叶甲啮小蜂的后代性比无显著影响,但会显著影响其对椰心叶甲的寄生率和繁殖。在28,24和 20°C温度条件下,其对椰心叶甲蛹的寄生率分别为98.07,97.97 和95.03%,而在18°C下,其寄生率仅为52.18%,在30°C下,其寄生率仅为69.48%,且在这两个温度下,其所产生的后代数量显著少于20,24和 28°C。随着温度从18°C升高到28°C,该寄生蜂的发育历期呈线性缩短趋势,从18°C时的46.19天缩短至28°C时的17.10天。湿度亦显著影响椰心叶甲啮小蜂的寄生和繁殖。随着湿度从20%升高至95%,椰心叶甲啮小蜂的发育历期从22.94天缩短至18.84天。相比之下,寄生率和平均每雌产卵量却随着湿度的增大而增加。虽然在50%和95%湿度条件下,该寄生蜂的羽化率比在20%和35%湿度下高,但其性比却无显著差异。光周期仅对椰心叶甲啮小蜂的发育历期存在影响,而对其寄生和繁殖无显著影响。补充蔗糖、蜂蜜和葡萄糖显著增加了后代成虫的寿命,寄生率和平均每雌后代产卵量,但对性比和存活无显著影响。雌蜂仅寄生4到5龄椰心叶甲幼虫和1-5天老的蛹。本研究结果表明,椰心叶甲1天蛹、24-28°C温度以及65-95%的湿度是椰心叶甲啮小蜂寄生的最佳条件。将有助于椰心叶甲啮小蜂人工繁殖体系的建立以及利用其有效防治椰心叶甲提供了前提。
【英文摘要】To control coconut leaf beetle, Brontispa longissima (Gestro), the pupal parasitoid Tetrastichus brontispae Ferrie`re was imported from Taiwan and its biology was studied in quarantine in Hainan, China. The parasitoid development includes an egg, three larval instars and three pupal stages. Its developmental time from egg to adult was 19.5±0.5 days under conditions of 24±2°C and 75±5% relative humidity (RH). Temperature had no effect on the sex ratio of offspring, but significantly affected the parasitism rate

and reproduction. The parasitism rates were 98.07, 97.97 and 95.03% at 28, 24 and 20°C, respectively, whereas the parasitism rate was 52.18% at 18°C and 69.48% at 30°C, respectively. Furthermore, the parasitoids reared at 18 and 30°C produced fewer offspring than those at 20, 24 and 28°C, respectively. With the increase in temperature, developmental time decreased linearly from 46.19 days at 18°C to 17.10 days at 28°C. RH significantly influenced development, parasitism rate and the reproduction of T. brontispa. With the decrease of RH, developmental time increased from 22.94 days at 20% RH to 18.84 days at 95% RH. In contrast, parasitism rate and the number of offspring per female increased with the increase of RH. Though emergence rates between 50 and 95% RH were much higher than those between 20 and 35% RH, the sex ratios between 20 and 95% RH were not different. Photoperiod had no effect on parasitism, the number of offspring per female, emergence and the sex ratio of T. brontispae, but developmental time was significantly different for different photoperiods. Sucrose, honey and glucose significantly enhanced adult longevity, parasitism and the number of offspring per female of T. brontispae, but had no effect on the sex ratio and survival. Females of T. brontispae only parasitized fourth to fifth larval instars and 1_5-day-old pupae, but there was a significant difference in the number of offspring per female, development time, emergence and the sex ratio of offspring in different instars. These results showed that 1-day-old pupae, a temperature of 24_28°C and 65_95% RH were optimal for T. brontispae. These findings should be helpful in developing a production system to rear and release T. brontispae in large enough quantities to effectively control coconut leaf beetle.

【语种】英文
【第一作者】陈青
【通讯作者】陈青
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【学科分类】昆虫学

【题目】绿僵菌在土壤中宿村的数量级产孢量变化研究
【中文关键词】绿僵菌; 成菌落数; 产孢量; 宿存
【英文关键词】Metarrhizium anisopliae, CFU, sporulation, survival ability
【中文摘要】研究了MA4、JF842、JF86C、JF883 和JF813E 五个绿僵菌菌株在土壤中宿存情况, 结果表明, 绿僵菌在土壤中宿存两个月内, 成菌落数呈波动状态, 下降较慢, 自第3 个月起, 成菌落数下降较快, 最终除JFJF842 外土壤中的成菌落数维持在103~104CFU/ 土样水平。其中JF86C、JF883 的宿存能力相对较强, 比较适合用于田间应用; 而绿僵菌在宿存过程中, 其产孢能力的稳定性有利于害虫的持续控制。
【英文摘要】The research on the survival ability of Metarrhizium anisopliae (MA4、JF842、JF86C、JF883、JF813E)shows that the CFUs (colony forming unit) of Metarrhizium anisopliae survived in soil decreasedslowly within the first two months, but after two months, the CFUs dropped sharply every month.The CFUs ofMetarrhizium anisopliae could be monitored in level of 103- 104CFU /sample after 1 year. JF86C and JF883have more strong survival ability in soil. Too high quantity of spores was detrimental to the long survival ofMetarrhizium anisopliae. The sporulation of Metarrhizium anisopliae kept relatively stable in soil.
【语种】中文
【第一作者】程子路
【通讯作者】黄俊生
【期刊名称、卷期、页码】中国农学通报,2008,24(7):365-368.
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【引文索引号】null
【学科分类】植物保护学

【题目】绿僵菌农药助剂的筛选及混配防治荔枝蝽蟓的研究
【中文关键词】绿僵菌;荔枝蝽蟓;相容性;孢子萌发率;增效作用
【英文关键词】Metarhizium sp. ; Tessaratoma papillosa; Compatibility; Spore germination rate; Synergistic interaction
【中文摘要】[目的]探讨化学杀虫剂与绿僵菌菌株MA4、JF2813的相容性以及菌药混用的增效作用。[方法]以荔枝蝽蟓为供试昆虫,绿僵菌MA4、JF2813为供试菌株,研究5种化学杀虫剂对绿僵菌孢子萌发的影响以及菌药混用防治荔枝蝽蟓的效果。[结果]供试的5种化学药剂对MA4、JF2813菌株孢子萌发均有一定的抑制作用。20%乳油氰戊菊酯与MA4、JF2813菌

株的相容性最好,低剂量20%乳油氰戊菊酯对菌落抑制作用明显低于其他4种化学药剂。低剂量的农药与绿僵菌混合使用对绿僵菌的致病力具有协同增效作用。绿僵菌JF2813和次亚致死剂量的2. 5%溴氰菊酯混用效果最佳,绿僵菌MA4和4. 5%高效氯氰菊酯混用效果最佳。[结论]该研究为绿僵菌混合制剂的生产应用提供了参考依据。

【英文摘要】[Objective]The aim was to discuss the compatibility between chemical pesticides and Metarhizium sp. stain JF2813 and MA4 andthe synergism combined fungus and pesticides. [Method]With Tessaratoma papillosa as tested insect andMetarhizium sp. strain JF2813 andMA4as tested stains, the influence of 5 pesticides on spore germination ofMetarhizium sp. and the effect ofmixed use of fungus and pesticides on con2trolling T. papillosa were studied. [Result]The 5 tested pesticides all had certain inhibition on spore germination ofMetarhizium sp. strainMA4and JF2813. The compatibility between 20% fenvalerate EC andMetarhizium sp. strainMA4 and JF2813 were best. The inhibition of 20% fen2valerate EC at low dosage on colony were lower obviously than that of other 4 chemical pesticides. Mixed use of pesticides at low dosage andMetarhizium sp. had synergistic interaction on Metarhizium sp. pathogenicity. The effect of mixed use of Metarhizium sp. strain JF2813 and2.5% decamethrim at low sublethal concn. was best and that ofmixed use ofMetarhizium sp. strainMA4 and 4. 5% beta cypermethrin was best.[Conclusion]The research provided reference basis for application of mixed preparation ofMetarhizium sp. .

【语种】中文

【第一作者】黄志

【通讯作者】黄俊生

【期刊名称、卷期、页码】安徽农业科学,2009,37(24):11619-11621.

【论文发表时间】2009-04-24 00:00:00

【引文索引类型】其他

【引文索引号】null

【学科分类】植物保护学

【题目】土壤中产壳聚糖酶真菌的筛选

【中文关键词】壳聚糖酶; 酶活力; 真菌; 筛选

【英文关键词】Chitosanase; Enzyme activity; Fungi; Screen ing

【中文摘要】在以壳聚糖(Chitosan)为唯一碳源和氮源的培养基上, 利用透明圈筛选法, 从不同地区采集的105 份土样中, 共分离到26株产生透明圈较大的菌株, 结合酶活力测定结果, 获得产酶能力较高的菌株HF21、H F25, 为进一步的研究提供了条件。

【英文摘要】About 26 fungi strains we re isolated from 105 soil samp les collected at d ifferent places, depending on the transparent circ le produced in spec ific med ium conta in ing ch itosan as the sole carbon and nitrogen source. Based on the results of chitosanase activity, two trains HF21 and HF25 w ith higher ch itosanase producing capac ity were obta ined. The study rovided a condition for further research.

【语种】中文

【第一作者】刘昌燕

【通讯作者】刘昌燕

【期刊名称、卷期、页码】中国微生态学杂志,2009,21(9):776-778.

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【引文索引类型】其他

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【学科分类】植物保护学

【题目】绿僵菌对荔枝蝽蟓的室内致病力测定

【中文关键词】绿僵菌; 荔枝椿象; 致病力测定

【英文关键词】Meatarhizium spp.; Tessaratoma papillosa Drury; pathogenicity; bioassay

【中文摘要】在室内用喷雾法测定了4 株绿僵菌对荔枝椿象3~4 龄若虫的致病力。结果表明, 绿僵菌致病力强弱与菌株种类和接种剂量有密切关系, 菌株对荔枝椿象若虫致病力的强弱顺序为J813 > MA4 > J86C > MA3。在接种菌株J813 孢子浓度为1×108 个/mL 的情况下, 对荔枝椿象若虫的LT50为7.63 d。J813 菌株对荔枝椿象若虫具有很强的二次侵染能力。

【英文摘要】The pathogenicity of 4 strains of Metarhiziums spp. against the third to fourth instar nymphs of Tessaratoma papillosa Drury was bioassayed in laboratory by spraying. The virulence was closely related with the strains and their inoculation rate. The pathogenicity was J813 > MA4 > J86C > MA3. The LT50 of nymphs with J813 strain at 1×108 spores/ml is 7.63 d. The J813 had a very

high secondary infection ability to the nymph.
【语种】中文
【第一作者】梁昌聪
【通讯作者】黄俊生
【期刊名称、卷期、页码】热带作物学报,2009,30(1):90-93.
【论文发表时间】2008-11-12 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】植物保护学

【题目】金龟子绿僵菌菌株培养基的改良
【中文关键词】金龟子 绿僵菌 菌丝体 干重 次代产孢量 培养基配方优化
【英文关键词】Metarhizium anisopliae dry weight of mycelia sporulation optimum cultural medium
【中文摘要】采用液体振荡与固体平板双培养的方法, 对金龟子绿僵菌MA4, MAlm1 两菌株的培养基进行改良。研究结果表明: MA4, MAlm1 菌株的最适复合碳源均为玉米粉、最适氮源为蛋白胨、最适碳氮比为4: 1(m: m,下同) 、碳浓度分别为0.5, 1.0 mol/L, 即改PPDA 培养基为: MA4 菌株以11.8 g/L 的玉米粉代替蔗糖, 17.1 g/L的酵母浸膏代替蛋白胨; 而MAlm1 菌株的则以23.6 g/L 的玉米粉代替蔗糖, 蛋白胨由10.0 g/L 更换为16.2 g/L。
【英文摘要】Metarhizium anisopliae is a broad spectrum entomopathogenic fungus. It is significant to increase the growth rate and sporulation of this fungus. So an attempt was made to conduct submerged shaking culture and solid plate culture to improve the PPDA medium. For the MA4 and MAlm1 strains, the optimal carbon sources were found to be both corn powder, the optimal nitrogen source be yeast soaking flour and peptone respectively, the optimal carbon nitrogen ratio be both 4:1, and the optimal carbon density be 0.5 mol/L and 1.0 mol/L respectively. So for the improved PPDA medium 11.8 g/L corn powder and 17.1 g/L yeast soaking flour were usedin place of sucrose and peptone for the culture of MA4 strain; 23.6 g/L corn powder was used to replace sucrose for the culture of MAlm1 strain, and the peptone was changed from 10.0 g/L to 16.2 g /L.
【语种】中文
【第一作者】杨腊英
【通讯作者】黄俊生
【期刊名称、卷期、页码】热带作物学报, 2008,29(2):210-214.
【论文发表时间】2007-12-13 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】植物保护学

【题目】淡紫拟青霉E7菌株对香蕉根结线虫的致病性和生防效果
【中文关键词】淡紫拟青霉; 香蕉根结线虫; 致病性; 防效
【英文关键词】Paecilomyces lilacinus; banana root-knot nematode; pathogenicity; control effect
【中文摘要】测定淡紫拟青霉 E7 菌株对香蕉根结线虫致病性和生防效果, 各处理间差异显著。结果表明, 利用不同浓度E7孢子悬浮液侵染香蕉根结线虫卵, 处理 18 d 后含孢子 109个/mL 的 E7 孢子悬浮液对卵的相对寄生率为 96.5%; 利用不同稀释倍数的 E7 发酵滤液处理 2 龄幼虫, 稀释 1.5 倍液处理 6 d 后相对死亡率为 98.2%。在温室盆栽试验中, 用剂量为 20、10 和 5 g/株固体菌剂处理, 90 d 后香蕉根围土壤中香蕉根结线虫 2 龄幼虫的群体密度比对照分别降低84.5%、71.1%和 66.7%, 香蕉根重分别增加 27.7%、20.6%和 8.4%, 株高分别增加 17.2%、49.6%和 16.9, 地上部鲜重分别增加 31.9%、23.9%和 21.1%。3 g/株阿维地线净处理的虫口减退率为 70.7%, 与 10 g/株和 5 g/株固体菌剂处理效果接近。高剂量的 E7 菌剂防病和促生效果均高于剂量为 3 g/株阿维地线净处理。
【英文摘要】The E7 strain of Paecilomyces lilacinus was demonstrated as a highly effective strain to control banana root-knot nematode. There was significantly difference among the different treatments. Results indicated that the petri-dish test showed 96.5% of the eggs were parasitized by the fungus 18d (7 days at 18 ℃ plus 11 days at 25 ℃) after inoculation.Using fermented filtrates of different diluted times to deal with juvenile banana root-knot nematodes, relative death rate of juveniles was 98.2% by the 1.5 times diluted solution of E7 filtrate 6d after treatment. A pot experiment was conducted in glass house to evaluate the biological control effects of the E7 strain of P. lilacinus against banana root-knot nematode on banana as compared with the nematicide. After 90 days, the fungus solid culture treatment at dosages of 20 g/stock, 10 g/stock and 5 g/stock reduced the larval population in the soil around the roots by 84.5%,

71.1% and 66.7%, increased the weight of root by 27.7%, 20.6% and 8.4%, increased the plant height by 17.2%, 49.6% and 16.9%, and increased the fresh mass weight of the above ground part of the plants by 31.9%, 23.9% and 21.1%, respectively. While in the treatment using arvertins (at dosages of 3g/stock) the population of larvae on banana plant was reduced 70.7%. The biological control effects of the high dosages E7 strain of P. lilacinus against banana root-knot nematode and promoting growth of banana are better than the arvertins(at dosages of 3g/stock).
【语种】中文
【第一作者】汪军
【通讯作者】黄俊生
【期刊名称、卷期、页码】中国植保导刊. 2008,28(10):5-8
【论文发表时间】2008-07-17 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】植物保护学

【题目】5 个油茶品种胚轴嫁接容器育苗及其年生长规律研究初报
【中文关键词】油茶;胚轴嫁接;轻基质配制;生长规律;引种
【英文关键词】Camellia oleifera; Hypocotyl grafting; Light substrate preparation; Growth pattern; Introduction
【中文摘要】:通过对长林系列油茶优良无性系3 号、4 号、18 号、27 号及166 号5 个品种的胚轴嫁接容器育苗试验,总结出油茶胚轴嫁接容器育苗技术全过程。同时,对5 个油茶品种嫁接苗苗高年生长规律进行研究与分析,为对5 个油茶品种的合理引种提供技术参考。
【英文摘要】Hypocotyl grafting container seedlings of the five Camellia varieties, namely Changlin clones No.3, No.4, No.18, No.27 and No.166, were tested, and the whole technical process was summarized. The annual height growth patterns of the five grafted seedlings were studied and analyzed, which may provide technical reference for successful introduction of the 5 Camellia varieties.
【语种】中文
【第一作者】夏尚光
【通讯作者】夏尚光
【期刊名称、卷期、页码】安徽林业科技,2011,37(3):13-17
【论文发表时间】2011-08-24 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】经济林学

【题目】安徽大别山区油茶优株选择初报
【中文关键词】油茶;大别山区;优树;选择
【英文关键词】Camellia oleifera; Dabie mountain area; Fine quality tree; Selection
【中文摘要】:油茶是我国重要的木本食用油料树种,也是世界四大木本油料树种之一。在对大别山区的舒城、潜山、太湖油茶种质资源调查发掘的基础上,通过群众报优、初选、复选和决选,筛选出皖舒21 号、皖舒23 号、皖潜11 号、皖太5 号等6 个优良单株,平均单果重10.0~24.2 g、单位面积产量1.06~2.24 kg、鲜出籽率40.0%~47.7%、干出籽率26.2%~28.7%、干籽出仁率42.8%~63.8%、出油率30.6%~43.4%、单位面积产油50~160 g/m2,各项指标均达到了油茶优树选择标准。同时兼具花期早、抗寒性强、病虫害少、丰产稳产等优良性状。
【英文摘要】Camellia oleifera is an important edible woody oil species in China, and is also one of the world's four major woody oil trees.Based on the germplasm resource investigation of C.oleifera in Shucheng, Qianshan and Taihu county, six fine quality individuals including Wanshu 21, Wanshu 23, Wanqian 11, Wantai 5 etc. were selected through preliminary, repeated and final selection. The mean fruit weight was 10.0~24.2 g; the yield was 1.06~2.24 kg/m2; fresh and dry seed- producing percentage was 40.0%~47.7% and 26.2%~28.7% respectively; dry seed kernel rate was 42.8%~63.8%; oil extraction rate was 30.6%~43.4%; the oil production was 50~160 g/m2.All of the indicators had reached the fine quality tree selection criteria, meanwhile, they had such good characters as early blooming, strong cold resistance, fewer diseases and pests, high and stable yield and so on.
【语种】中文
【第一作者】陈素传

【通讯作者】陈素传
【期刊名称、卷期、页码】安徽林业科技,2011,37(2),8-12
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【引文索引类型】其他
【引文索引号】null
【学科分类】经济林学

【题目】大别山油茶4 个优良品种光合作用特性
【中文关键词】油茶; 优良品种; 光合作用; 日变化
【英文关键词】Camellia oleifera; improved varieties; photosynthesis; daily variation
【中文摘要】2010 年9 月20 测量了大别山系列油茶优良品种1 号、2 号、3 号及4 号光合特性的日变化,结果表明: (1)4 个油茶品种的Pn日变化均为单峰曲线,大别山1 号和4 号的峰值出现在12: 00,2 号和3 号峰值出现在11: 00,不存在光合午休现象; (2) 4 个油茶品种Tr日变化均为单峰曲线,但峰值出现时间不一致; (3) eWUE的日变化总体呈逐渐下降的趋势,最高值出现在8: 00,到16: 00 以后有小幅上升,随后迅速下降; (4) 从4 个油茶的光补偿点(ELCP) 和光饱和点(ELSP) 来看,均为耐阴喜光的阳性树种。
【英文摘要】The diurnal variation of photosynthetic characteristics of four improved varieties of Camellia oleifera in Da Bie mountain were measured on Sep. 20,in 2010,which were respectively called D1,D2,D3 and D4 . The results showed that:(1) the curves of Pn diurnal variation for all four improved varieties were a single peak,among those,the peak values for D1 and D4 appeared at 12: 00,the peak values for D2 and D3 appeared at 11: 00,but the phenomenon of photosynthetic lunch break did not appear. (2) Tr daily courses of leaves for four improved varieties were obviously one-peak curve. the peak values of four improved varieties came out at different hour. (3) On the whole,eWUE daily courses of leaves from four improved varieties all presented a gradually declining trend,the maximum value came out at 8: 00. There were a slight rebound at 16: 00,and then quickly dropped. (4) Through the analysis of light compensation points (ELCP) and light saturation point(ELSP) ,four improved varieties belonged to the positive species,which can endure shade and high light.
【语种】中文
【第一作者】夏尚光
【通讯作者】夏尚光
【期刊名称、卷期、页码】林业科技开发,2011,25(4):18-21
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【引文索引号】null
【学科分类】经济林学

【题目】河南省油茶产业发展现状及对策研究
【中文关键词】河南;油茶;现状;经营;对策
【英文关键词】henan province; Camellia oleifera; The status quo ;Business ; Countermeasures
【中文摘要】:油茶为世界四大木本油料树种之一,适生范围广,品种资源丰富,结实早,产量高。其产品在医药、日化等方面具有广泛的应用。论述了河南油茶产业发展现状及其存在的问题,并提出了相应的发展对策和设想,对于开发我省生物质能源,提高油料自给能力具有一定的战略意义。
【英文摘要】Camellia oleifera are the four big supply of fuel tree,The scope and variety and rich resources,strong, high yields. Its products in the medical, household chemical and other has a wide application.Discusses the industry development status and problems in henan province Camellia oleifera, And presents the corresponding countermeasures, For the development of henan province, and improve fuel self-sufficiency Energy plants of the strategic significance.
【语种】中文
【第一作者】卜付军
【通讯作者】卜付军
【期刊名称、卷期、页码】河南林业科技,2011,31(1):20-22
【论文发表时间】2011-08-24 00:00:00
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【学科分类】经济林学

【题目】普通油茶无性系花粉离体萌发特性
【中文关键词】普通油茶; 花粉离体; 萌发特性
【英文关键词】Camellia oleifera; pollen in vitro; germination characteristic
【中文摘要】以6个普通油茶无性系花粉为试验材料, 采用正交试验研究了不同温度、硼元素用量、蔗糖浓度、琼脂用量对花粉萌发的影响, 以揭示普通油茶花粉在离体条件下的萌发特性。结果表明: 4个影响花粉萌发率的试验因素中,温度是极显著影响因素, 以25 e 最优; 蔗糖浓度也能显著影响多数无性系, 以10%最优; 硼元素用量和琼脂用量仅对个别无性系有显著影响, 分别以100 mg# kg- 1和015%最优。结合多重比较, 处理T9为试验优选组合; 花粉管的生长从开始到停止略呈/ 慢) 快) 慢0的抛物线趋势; 稍高的钙离子浓度显著抑制花粉萌发, 低浓度锌、钼离子对花粉萌发略有促进, 高浓度则效应为负。
【英文摘要】To study the characterist ics o f pollen germ inat ion in vitro of six Camellia oleif era spec ies, the o rthogonal test using sixC. oleif era species as thematerials w as a imed to exam ine the effects o f the 4 factors consist ing o f temperature,boron consumption, sucrose, and agar usage on po llen germ ination. The results indicated that temperature w as the most sign if icant factor among the 4 factors and the optimum temperaturew as 25 e , sucrosem arkedly affected the po llen germ ination ofmost spec ies and the optimum sucrosew as 10% , and bo ron consumption and agar usage marked ly impacted on indiv idual clones and the optimum w ere 100mg# kg- 1 and 0. 5% . Comb in ing multip le comparision,the opt imum extractive cond it ion is T9; the g row th of po llen tube fo llow ed the / slow-fas-t slow 0 tren.t When the concentrat ion of Ca2+ w as h igh, the po llen germ inat ion w as m arkedly inh ib ited. If the concentrations o f Zn2+ andMo6+ w ere low, the pollen tube grow th w ou ld be enhanced. Butw hen the concentrations o fZn2+ andMo6+ w ere high, the po llen germ ination o f po llen tubew as negative effected.
【语种】中文
【第一作者】李春林
【通讯作者】李春林
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【学科分类】经济林学

【题目】施肥量对油茶嫁接苗生长的影响
【中文关键词】普通油茶; 嫁接; 根系
【英文关键词】Camellia oleifera; grafting; rooting
【中文摘要】以长林系列3 号、4 号、23 号、27 号、40 号和53 号6 个品种的芽苗砧嫁接苗进行高低施肥量试验,研究品种间对施肥量的表现。试验结果表明: 品种因素对植株的根系生长具有显著的影响。施肥量也对根梢的同步生长具有一定的影响。随着增加施肥量情况下,长林53 号无显著变化,长林3、长林4、长林40 号中可以显著提高生长量; 长林23、长林27 号中高施肥量不利于植物的生长。
【英文摘要】The effect of fertilization on the growth of camellia oleifera grafting seedlings of six varieties,including Changlin 3,4,23,27,40,53 was studied. The results showed that there were differences in performance of the amount of fertilization in different varieties,and it did not necessarily promote plant growth in multiple fertilization; Besides affecting root growth,development and distribution,the impact of fertilization on the growth of root hair should not be ignored; there was different adaption ability in different species to rtilization.Changling 53 was of weak adaption ability to fertilization; enough fertilization improved the growth of Changlin 3,4, 40; increased amount of fertilizer,was unfavourable to the growth of Changlin 23,27.
【语种】中文
【第一作者】龙伟
【通讯作者】龙伟
【期刊名称、卷期、页码】江西农业大学学报2011,33(6):1122-1127
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【学科分类】经济林学

【题目】我国油茶产业现状及发展对策
【中文关键词】油茶产业;现状;问题;对策
【英文关键词】无
【中文摘要】发展油茶产业对于调整农业产业结构、促进农民增收、维护国家粮油安全、推动山区综合开发有着重要意义。近年来随着国家政策的不断出台和资金投入的不断加大,我国油茶产业快速发展并取得了显著的成效,但也存在一些问题。通过对我国油茶资源分布、种质资源、经营模式、加工利用、经济效益等现状及存在问题的分析,提出我国油茶产业发展的对策措施,研究结果可为指导我国油茶产业可持续发展提供一定的思路
【英文摘要】无
【语种】中文
【第一作者】王斌
【通讯作者】姚小华
【期刊名称、卷期、页码】林业科技开发,2011,25(2),11-15
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【题目】我国油茶良种选育工作的历史回顾与展望
【中文关键词】油茶; 良种选育; 回顾; 展望
【英文关键词】无
【中文摘要】阐述了我国油茶良种选育工作的历史过程以及取得的主要成就, 概括了油茶优良类型与优良家系选育、无性系与无性系品种选育、杂交育种、创建种质资源库、无性繁殖等方面的研究工作, 并提出了今后我国油茶良种选育的方向和任务。
【英文摘要】无
【语种】中文
【第一作者】庄瑞林
【通讯作者】庄瑞林
【期刊名称、卷期、页码】林业科技开发,2010,24(6):1-5
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【学科分类】经济林学

【题目】小果油茶种实形态变异频率 及其多样性指数分析
【中文关键词】小果油茶; 种实; 变异频率; 多样性指数
【英文关键词】Camellia meiocarpa Hu; fruits and seed; variation frequency; diversity index
【中文摘要】以采自小果油茶(Camellia meiocarpa Hu.) 分布区的18 个地理群体为材料,观测种实表观性状各项指标,分析种实形态变异频率及其多样性指数,结果表明: 各种实性状表观数据分布大多数在平均值附近,形成高窄尖峭峰。18 个地理群体及10 个种实性状的多样性指数都较大,种实的不同数量性状的多样性指数位于2. 472 6 ~3. 000 8,而不同地理群体数量性状的多样性指数为2. 543 ~ 2. 839。果实质量性状多样性指数相对较小,其中果色为2. 306 5、果型为2. 181 6 及种子为0. 927 7,均略小于数量性状的多样性指数,说明数量性状变异程度高于质量性状。从不同地理群体的多样性指数来看,它们相差不大,但仍存在一定的差异,P10 (崇仁) 最高(2. 839) ,变异程度最大,P13 (黎川) 最低(2. 543) ,变异程度最小,两者多样性指数相差0. 296。其余群体的多样性指数大小位于群体P10和P13之间。小果油茶种实表观性状多样性指数大都与生态地理因子并不相关,影响小果油茶种实表观性状多样性指数高低的主要生态因子是E、N、H、Hy、Tl 及Rfe。与生态因子相关的主要性状多样性指数为L'f /W'f、R's、W'ss、L's 及W's。在3 次趋势面分析中,W'f 和L's 和经纬度的拟合效果最好,达到显著和极显著水平。
【英文摘要】Fruits and seeds were picked from all the flora of 18 geographic population of Camellia meiocarpa Hu as the research material,all of the phenotypic traits were observed and the characteristics variation frequency and diversity index of the fruits and seeds

were analyzed. The results indicated that great majority of phenotypic data distributions were near the mean value and formed highly steep value. The diversity indexes of 18 geographic population and 10 phenotypic traits were relatively great,the diversity indexes of quantitative characters of different traits were located at 2. 472 6 - 3. 000 8,however,the diversity indexes of quantitative traits different geographical populations were located at 2. 543 - 2. 839. The diversity indexes of fruit quality traits were relatively small,those of fruit color,fruits and seeds were 2. 306 5,2. 181 6 and 0. 927 7 relatively, slightly smaller than the numbers of the diversity indexes of characters,which showed the level of quantitative trait variation was higher than that of quality traits. There was difference in the diversity indexes of different populations,but not so large. The diversity index (2. 839) of P10 was the maximum,and that of P13 (2. 543)was the minimum,there was a difference of 0. 296 between them. The indexes of the other population lied between that of P10 and P13 . The diversity indexes of phenotypic traits were not related to choreographic factors,and the major factors that affected diversity index levels of phenotypic traits were E,N,H,Hy,Tl and Rfe .The diversity indexes of main phenotypic traits were L'f /W'f,R's,W'ss,L's and W's . The fitting results of W'f and L's to longitude and latitude were the best in three times of trend surface analyses. The different levels were significant or very significant.

【语种】中文
【第一作者】黄勇
【通讯作者】姚小华
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【学科分类】经济林学

【题目】修剪对油茶采穗圃穗条生长及抗病性的影响
【中文关键词】油茶;修剪;采穗圃
【英文关键词】Camellia oleifera, pruning, cutting orchard
【中文摘要】为给油茶产业化发展提供科技技术支撑,研究了不同修剪时间、修剪强度对油茶优良无性系采穗圃穗条数量、长度和抗病性等的影响。研究结果表明,修剪强度、修剪时间对抽梢数量和长度有显著影响,中、轻度修剪能促进树枝抽梢数的增加和穗条延长,重强度修剪能抑制树枝抽梢数和穗条的生长;采穗圃最好的修剪强度是轻度修剪,最佳的修剪时间是夏冬2次联合修剪;修剪能有效防治新梢病害的发生。
【英文摘要】In order provide technological support for Camellia oleifera industrialization development, effects of different pruning time and intension on number, length and resistance of cuttings were researched in superior C. oleifera clones cutting orchard. The results showed that pruning time and intension had significant effects on number and length of new shoots, the pruning at middle and light degree could promote increasing of new shoots number and growth of new shoot, and the pruning at serious degree could control number of new shoots and growth of cuttings. The pruning at light degree in summer and winter was fit for cutting orchard. Pruning could effectively control occurrence of disease in new shoot.
【语种】中文
【第一作者】钟秋平
【通讯作者】钟秋平
【期刊名称、卷期、页码】经济林研究2011,29(3)53-57
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【学科分类】经济林学

【题目】油茶扦插繁殖育苗技术研究进展
【中文关键词】油茶;扦插;繁殖;育苗技术
【英文关键词】Camellia oleifera; cuttage; propagation; seedling nursery technique
【中文摘要】油茶是中国特有的木本食用油料树种之一,在我国南方栽培甚广。油茶扦插繁殖具有繁殖速度快,性状稳定,操作简单等优势,已成为油茶繁殖的重要技术手段。介绍了20 a 来油茶扦插繁殖在水肥温湿度、激素应用、培养基质、穗条状态、造林应用等方面的研究进展,并针对影响油茶扦插繁殖的相关问题提出了建议。

【英文摘要】Camellia oleifera is one of the unique woody edible oil tree species in China and is widely cultivated in South China. The cuttage techniques for Camellia oleifera has a lot of advantages such as quick propagation, stable characteristics and easy operation, etc., so it had became a important breeding techniques for propagation of Camellia oleifera. The advances in water, fertilizer, temperature, humidity, hormone application, culture substrates, cutting state of cuttage techniques for Camellia oleifera and its application in afforestation in recent 20 years were introduced, and then the corresponding suggestions for the problems which influenced cuttage of Camellia oleifera were proposed.
【语种】中文
【第一作者】龙伟
【通讯作者】龙伟
【期刊名称、卷期、页码】湖南农业科学,2011, (17)18-21
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【学科分类】经济林学

【题目】油茶容器育苗基质配方的研究
【中文关键词】油茶;容器育苗;轻型基质
【英文关键词】Camellia oleifera; containerized seedling; light medium
【中文摘要】以农林废弃物稻壳、锯木屑、树皮等为主要原料,经混料回归试验设计,研究了油茶容器育苗的基质配方对油茶嫁接成活率、抽梢长、生根量的影响。试验结果表明:不同配方对苗木成活率、抽梢长和生根量的影响达极显著水平,不同基质对油茶嫁接苗木的成活率、抽梢长和生根量的影响规律不同;不同基质及交互作用对苗木的影响力大小顺序为树皮>稻壳>木屑>树皮和木屑的交互作用>稻壳和树皮的交互作用>稻壳和木屑的交互作用;最佳配方范围:稻壳20%~26%,树皮28%~44%,木屑36%~52%。
【英文摘要】The experiment is to test the influences of the mixtures of light medium on the livability of engraftation, the length of the bud, and the quality of the root of Camellia oleifera in containerized seeding. The materials of the light medium are the mixtures of skins of rice, saw dust, and skins of trees. The experimental results of different proportional mixtures were analyzed by using multiple regression. The results are as follows: Firstly, the influence of the different proportional mixtures show sufficient level on the livability of engraftation, the length of bud, and the quality of root of camellia oleifera in containerized seedling. Secondly, the different light mediums also have sifferent influences on the livability of engraftation, the length of the bud, and the quality of the root of Camellia oleifera in containerized seedling. Thirdly, the influencing order is tree skin >rice skin >saw dust >the mixture of tree skin and saw dust >the mixture of rice skin and tree skin> the mixture of rice skin and saw dust. Finally, the most proportional mixtures are rice skin 20%~26%, tree skin 18%~44%, saw dust 36%~52%.
【语种】中文
【第一作者】钟秋平
【通讯作者】钟秋平
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【学科分类】经济林学

【题目】油茶籽油精炼过程中主要营养成分的变化
【中文关键词】油茶籽油; 加工; 活性物质
【英文关键词】oil - tea camellia seed oil; processing; bioactive constituents
【中文摘要】研究了碱炼、脱色、脱臭、冬化4 道加工工序对油茶籽油中的α - 生育酚、甾醇、角鲨烯含量的影响。结果表明: 在4 道加工工序中,脱臭对油茶籽油中α - 生育酚、甾醇、角鲨烯的含量影响最大,分别损失了52. 1%、34. 5%、55. 4%,而相应脱臭馏出物中3 种活性物质含量最高,分别为750. 90、2 463. 58、8 887. 47 mg /kg; 脱色对油茶籽油中α - 生育酚、甾醇、角鲨烯的含量影响次之,分别损失了11. 5%、9. 5%、8. 5%。脱色和脱臭是影响油茶籽油中活性物质含量的重要环节,碱炼和冬化对油茶籽油脂肪酸组成有很大的影响。

【英文摘要】The effects of different processing procedures(alkali refining,bleaching,deodorization,dewaxing) on the content of α - tocopherol,sterol,squalene in the oil - tea camellia seed oil were investigated.The results showed that among the four processing procedures,the effect of deodorization on the content of α - tocopherol,sterol,squalene in the oil - tea camellia seed oil was the greatest,and their content lost 52. 1%,34. 5%,55. 4%,respectively,while the content of α - tocopherol,sterol,squalene in the corresponding deodorizer distillate was the highest,and the content was 750. 90 mg /kg,2 463. 58mg /kg and 8 887. 47 mg /kg,respectively. The influence of bleaching was greater,and the content of α - tocopherol,sterol and squalene lost 11. 5%,9 . 5%,8. 5%,respectively. Bleaching and deodorization were important procedures to affect the content of bioactive constituents in oil - tea camellia seed oil.The alkali refining and dewaxing procedures affected greatly the fatty acid compositions.
【语种】中文
【第一作者】刘存存
【通讯作者】姚小华
【期刊名称、卷期、页码】中国油脂,2011,30(3):36-39
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【学科分类】经济林学

【题目】浙江红花油茶茶油中脂肪酸主要成分分析
【中文关键词】浙江红花油茶; 脂肪酸; 变异
【英文关键词】Camellia chekiangoleosa Hu; fatty acid; variation
【中文摘要】对浙江红花油茶茶油中脂肪酸性状的组成变化进行了研究,结果表明各产地油茶茶油中脂肪酸组成的单株间变异主要可分为3 类: 硬脂酸、亚油酸、亚麻酸、花生酸变异系数较大,其次为棕榈酸,油酸的变异系数最小。亚油酸、亚麻酸、花生酸在产地间差异不显著,硬脂酸和油酸在产地间差异显著,棕榈酸在产地间差异极显著。
【英文摘要】The variation of compositions with fatty acid characters variation in Camellia chekiangoleosa Hu was investigated.The results showed that,according to fatty acid contents in C. chekiangoleosa Hu,the variation coefficient in individual plant could be devided into three types,i. e.,the maximium variation coefficient for stearic acid,linoleic acid and linolenic acid and peanut acid,followed by palm acid,the minimum for oleic acid. The contents of linoleic acid,linolenic acid and peanut acid in different habitats did not show the significant differences. The composition of stearic acid and oleic acid were different due to the different habitats. But the palm acid had extremely significant differences dependent of thehabitats.
【语种】中文
【第一作者】王开良
【通讯作者】王开良
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【题目】赣南脐橙园蜘蛛优势种群发生动态及相关气象因子分析
【中文关键词】赣南脐橙园;蜘蛛;发生动态;气象因子
【英文关键词】navel orange orchard; spider; occurrence dynamics; meteorological factors
【中文摘要】在江西省赣州市章贡区蟠龙镇一个集中连片面积达32hm2且管理粗放的11年生“纽荷尔”脐橙园调查发现,脐橙园蜘蛛分属13科38种。脐橙园树冠层蜘蛛优势种有3种:草间钻头蛛Hylyphantes graminicola全年以5-6月及9-10月的发生数量最大;斑管巢蛛Clubiona deletrix在7-9月发生量较大,2-3月的数量明显减少;鳞纹螨蛸Tetragnatha squamala在4月和11-12月的种群数量较多,6-9月较少见到。脐橙园地面层蜘蛛优势种有2种:草间钻头蛛的季节消长同样具有两个高峰期,但时间跨度较短,仅在6月和10月出现;拟水狼蛛Pirata subpiraticus种群数量在3月达到最高峰,在12月处于低谷。脐橙园树冠层草间钻头蛛和斑管巢蛛的发生数量都与平均气温和日照时数呈显著或极显著正相关,鳞纹螨蛸的发生数量则与平均气温间呈显著负相关;地面层拟水狼蛛的发生数量与相对湿度和降雨量间表现出极显著的正相关性。
【英文摘要】13 families and 38 species of spiders were found in Gannan navel orange orchards. The dominant species in tree canopies were Hylyphantes graminicola, Clubiona deletrix and Tetragnatha squamata. Two main peaks of H. Graminicola population

appeared from May to June, and from September to October. C. Deletrix population was peaked from July to October, and significantly reduced from February to March. The peak of T.Squamata population was observed in April and December whereas the smallest population was observed from June to September. Hylyphants graminicola and Pirata subpiraticus were the dominant spider species on the ground of the orchards. The main peaks of H. Graminicola population appeared in June and October. The population of P. subpiraticus peaked in March and bottomed in December. There was a significant positive correlation between the seasonal changes in the populations of H. graminicola and C. deletrix in navel orange canopies and the average temperatures and sunshine hours. In contrast, a significant negative correlation was found between the seasonal changes in the population of T.squamata and the average temperatures. There were very significant positive correlations between the seasonal variations in the population of P. subpiraticus on the ground of navel orange orchards and the relative humidity and precipitation.

【语种】中文
【第一作者】罗育发
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【学科分类】植物保护学

【题目】6种杀菌剂对剑麻斑马纹病的田间药效试验
【中文关键词】剑麻; 斑马纹病; 杀菌剂; 田间药效试验
【英文关键词】Sisal; Zebra disease; Fungicide; Field efficacy trial
【中文摘要】对6种防治剑麻斑马纹病的杀菌剂的田间药效试验结果表明:68%金雷 WG 200 倍液和90%疫霜灵 WP 100 倍液的防治效果最好,防效达90%以上; 其次是 55% 敌克松 WP 200 倍液和 70% 甲基托布津 WP 500 倍液,防效在 85% ~90% 之间; 而50%烯酰吗啉 WP 150 倍液和64%克菌特 WP 100 倍液防治效果较差,防效低于50%。通过药剂防效和成本分析,建议在生产上可使用55%敌克松 WP 200 倍液和70%甲基托布津 WP 500 倍液来防治剑麻斑马纹病。
【英文摘要】The field experiments of the control effects of six kinds of fungicides on sisal zebra disease were carried out. The results showed that the 200 - times diluent of 68% Metalaxyl - M WG and 100 - times diluent of 90% Phosethyl - Al WP had the best control efficiency (more than 90%) ,followed by the 200 - times diluent of 55% Fenaminosulf WP and 500 - times diluent of 70% Thiophanate - methyl WP,whose control efficiency was 85% ~ 90% . However,the control efficiency of 50% Dimethomorph WP (150 times) and 64% Oxadixyl WP (100 times) was less than 50% . Through analyzing the control efficacy and cost of the tested fungicides,it was optimum to apply 200 - times diluent of 55% Fenaminosulf WP and 500 - times diluent of 70% Thiophanate - methyl WP to control sisal zebra disease.
【语种】中文
【第一作者】郑金龙
【通讯作者】易克贤
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【题目】13种药剂对剑麻斑马纹病病原菌的室内毒力测定
【中文关键词】剑麻斑马纹病; 烟草疫霉菌; 杀菌剂; 毒力测定
【英文关键词】zebra leaf spot of sisal; Phytophthora nicotianae; Fungicides; Laboratory screening
【中文摘要】为筛选出适合大田防治剑麻斑马纹病的高效低廉的药剂,采用菌丝生长速率法对13种药剂的抑菌效果进行室内筛选。 综合分析结果表明:55%敌克松、70%甲基托布津和68%精甲霜·锰锌的EC50和EC95最小,抑菌效果最好;10%苯醚甲环唑和66%霜霉威的EC50和 EC95最大。通过对药剂抑菌效果和使用成本的分析,建议生产上使用55%敌克松、70%甲基托布津、68%精甲霜·锰锌、72%霜脲·锰锌、50%烯酰吗啉、50%锰锌·氟吗啉和64%克菌特防治剑麻斑马纹病。
【英文摘要】To screen suitable fungicides with high efficiency and low cost to control zebra leaf spot disease of sisal caused by Phytophthora Nicotianae, the anti activity of 13 fungicides were tested in the laboratory by mycelium growth rate method.The results

showed that the best ones of bacteriostatic effect with the lowest EC 50 and EC 95 were fenaminosulf 55% , thiophanate -methyl 70% and metalaxyi • mancozeb 68% . However difenoconazole 10% and propamocarb 66% were the highest with EC 50 and EC 95 value. By analysis of inhibiting effect and cost of these fungicides, It is suggested that fenaminosulf 55%, thiophanate -methyl 70% and metalaxyi • mancozeb 68%, cymoxanil mancozeb 72% , dimethomorph 50% , flumorph • mancozeb 50% and 64% oxadixyl could be used for controlling Zebra disease effectively.

【语种】中文
【第一作者】刘巧莲
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【题目】剑麻斑马纹病病原鉴定
【中文关键词】剑麻;斑马纹病;rDNA-ITS;序列分析;病原鉴定
【英文关键词】sisal; zebra disease; rDNA-ITS; sequence analysis; pathogen identification
【中文摘要】剑麻斑马纹病是剑麻的毁灭性真菌病害,是剑麻最严重的病害之一。从海南、广东和广西的剑麻主产区共收集剑麻斑马纹病样品12份,提取其病原菌的基因组DNA 并进行rDNA-ITS 区序列扩增,序列的比对结果与形态学的鉴定结果相一致,表明参试菌株的病原菌均为烟草疫霉菌(Phytophthora nicotianae Breda);N-J 法构建的系统发育树结果表明,12个参试菌株可分为两个类群,存在一定的地域分化。以上研究将为今后对剑麻斑马纹病的发病规律、防治方法及抗病机制等方面的研究奠定基础,提供了理论依据。
【英文摘要】Zebra spot disease caused by Phytophthora nicotianae is the most serious and devastating fungi disease in sisal. 12 diseased samples were collected from the main sisal production areas in Hainan, Guangdong and Guangxi. The genomic DNA from these samples were extracted, and then rDNA-ITS were amplified. Sequence analysis of the results using morphological identification consistent (comply) with the results, indicated that the strains tested were Phytophthora nicotianae Breda; NJ phylogenetic tree was constructed the result showed that 12 tested isolates could be divided into two groups, and have some genetic differences. Future research would provie a theoretical basis for future research in sisal law zebra spot disease occurrence regularity, prevention methods and disease resistance mechanisms basis.
【语种】中文
【第一作者】郑金龙
【通讯作者】易克贤
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【题目】槟榔基因组DNA提取方法及RAPD分析体系的初步优化
【中文关键词】槟榔;DNA提取;RAPD分析;体系
【英文关键词】Arecanut;Extraction of DNA;RAPD analysis;System
【中文摘要】采用TAB法 、改良CTAB法和高盐低pH法等3种不同的方法比较了槟榔基因组DNA提取的效果,其中改良CTAB法最优,提取的DNA质量高,DNA降解少,杂质含量少。通过对退火温度、DNA模板用量、TaqDNA聚合酶浓度等因素的优化实验,建立了槟榔RAPD 分析体系,从PCR扩增程序和反应体系两个方面对槟榔RAPD分析体系进行了优化并验证了优化后的体系扩增谱带清晰、多态性强稳定性好。
【英文摘要】The three methods for extraction of genomic DNA CTAB method, improved CTAB method andHigh salts and low pH method are practical and efficient. The result showed that the improved CTAB method is the best method, because it obtains high - quality genomic DNA with less degradation and impurity. A number of factors affected the results of RAPD were studied such as annealing temperature, quantity of template DNA and concentration of DNA polymerase enzyme etc. The optimized RAPD analysis system of the areca was established. Several clear bands with better polymorphism, stability and repeatability could be obtained.

【语种】中文
【第一作者】刘慧娟
【通讯作者】罗大全
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【题目】海南岛甘蔗病害种类初步调查
【中文关键词】甘蔗;病害;调查
【英文关键词】sugarcane;disease;survey
【中文摘要】调查了海南省海口、儋州、澄迈、临高、屯昌、定安、白沙和昌江等 8 个市(县)甘蔗病害,并对病原进行了鉴定,发现海南岛甘蔗常见病害共 14 种。其中,真菌病害 9 种,病毒病害 2 种,寄生线虫病害 3 种。甘蔗鞭黑穗病、甘蔗赤腐病、弯孢霉叶斑病发生较为严重。
【英文摘要】A survey was made on sugarcane diseases in such counties as Haikou, Danzhou, Chengmai, Lingao, Tunchang, Dingan, Baisha and Changjiang in Hainan Island. A total of 15 sugarcane diseases were found, including 10 fungus diseases,2 virus diseases and 3 parasitic nematode diseases.Sugarcane smut,sugarcane red rot, Curvularia leaf spot and Nigrospora leaf spot caused by Ustilago scitaminea Syd, Colletotrichum falcatum Went and Curvularia sp were found comparatively serious.
【语种】中文
【第一作者】吴伟怀
【通讯作者】郑服丛
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【题目】甘蔗赤腐病菌对碳、氮源的利用及其室内毒力测定
【中文关键词】甘蔗赤腐病; 生物学特性; 毒力
【英文关键词】Sugarcane red rot; Biological characteristics; Toxicity
【中文摘要】选择来自海南岛不同蔗区的 4 个甘蔗赤腐病菌的有效单孢菌株用于毒力测定, 并对其代表菌株的碳、氮利用特性进行了研究。结果表明, 综合赤腐病菌生长速度及其长势 2 个指标而言, 其最适碳源是 D- 木糖, 氮源则是硝酸钠。此外, 毒力测定结果表明, 6 种常用药剂对 4 株赤腐病菌的生长有不同程度的影响。其中, 多菌灵、正品甲津托、福美双和丙环唑对甘蔗赤腐病菌毒力较强, 相比之下, 百菌清和代森锰锌两种药剂效果较差。
【英文摘要】Red rot disease caused by the fungus Colletotrichum falcatum Went is the major production constraint for sugarcane production in the world. In this study, isolates collected from Hainan provinces were identified on the morphological characteristics, 1 single spore isolates carbon and nitrogen nutrient utilization and 4 single spore isolates toxicity of sugarcane red rot were studied. The main results indicated that: xylose was the best of carbon sources, while NaNO3 was the best of nitrogen sources. Moreover, the results from 6 tested fungicides to toxicity of the pathogens showed that Carbendazim, Meroif, Thiram, Propiconazole were more effective, and both Chlorothalonil and Mancozeb were a little effective in the treatment.
【语种】中文
【第一作者】吴伟怀
【通讯作者】郑服丛
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【题目】甘蔗黑穗病菌冬孢子生物学特性及杀菌剂对其萌发的影响
【中文关键词】甘蔗黑穗病菌;生物学特性;杀菌剂
【英文关键词】sugarcane smut; Ustilago scitaminea; biological characteristics; fungicide
【中文摘要】通过对甘蔗黑穗病菌冬孢子的生物学特性研究,明确了该菌冬孢子萌发的适宜温度范围为25~30 ℃,28 ℃为最佳。中性或偏酸性、高湿度、氧气充足等条件,均有利于孢子的萌发。光照对孢子萌发的影响不大。甘油、蔗糖、葡萄糖、甘露醇、乳糖等5种碳源以及L-脯氨酸、L-酪氨酸、硝酸钠、L-天冬氨酸、硫酸铵、L-谷氨酰胺等6种氮源均有利于甘蔗黑穗菌冬孢子的萌发。2种供试药剂的各浓度中,均是三唑酮的萌发率低于五氯硝基苯的,即三唑酮的抑制效果要好于五氯硝基苯。
【英文摘要】Smut disea se in sugarcane caused by the fungus Ustilago scitaminea Sydow occurs in all sugarcane producing countries, and can cause considerable yield losses to sugarcane and reduction in cane quality. The biological characteristics of the teliospores of this fungus were studied in this context. The result indicated that the temperature favorable for teliospore germination was 25 ~30 ℃, optimum at 28 ℃. The conditions, neutral or slightly acid, highly humid and sufficient oxygen, were conducive to teliospore germination, while light almost failed to influence the germination. Five carbon sources such as glycerol, sucrose, glucose, mannitol and lactose, and 6 nitrogen sources such as L -tyrosine, sodium nitrate, L -aspartic acid, ammonium sulfate and L-glutamine were all beneficial to the germination of the teliospores. Two fungicides, triadimefon and PCNB, were applied to control the teliopsore germination at various levels, of which triadimefon gave a low teliospore germination rate of the fungus than PCNB, indicating that triadimefon was better than PCNB in inhibiting the teliospore germination of the fungus.
【语种】中文
【第一作者】吴伟怀
【通讯作者】吴伟怀
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【题目】甘蔗黑穗病菌基础生物学特性
【中文关键词】甘蔗;黑穗病菌;生物学特性
【英文关键词】Sugarcane;Ustilago scitaminea Sydow;Biological characteristics
【中文摘要】对甘蔗黑穗病病原菌的基础生物学特性研究,结果表明,该菌的最适生长培养基为马铃薯葡萄糖琼脂与马铃薯蔗糖琼脂培养基,最适生长温度范围为25~30 ℃,28 ℃最为适宜。中性或偏酸性条件下有利于菌落生长。光照对菌落生长影响不大。在碳氮源方面,蔗糖、乳糖、淀粉、L-鼠李糖、甘油等5种碳源,以及硝酸钠、L-天冬氨酸、乙酸铵等3种氮源均有利于甘蔗黑穗病菌菌落生长,碳源以甘油为最好,氮源则以L-天冬氨酸与乙酸铵为最好。该病原菌冬孢子的致死温度为55 ℃,10 min。
【英文摘要】Smut disease in sugarcane is caused by the fungus Ustilago scitaminea (H. & P. Sydow) whichoccurs in all sugarcane-producing countries and causes a lose as high as 90% of the total yield. Therefore, it is important to study on the biological characteristics. In the present study, some biological characteristics of the pathogen of sugarcane smut disease were studied. The main results are described as follows: the most suitable medium for the fungus growth was potato glucose agar medium and the suitable growth temperature was from 25 ℃ to 30 ℃ and the optimal was 28 ℃. Acidic or neutral condition was conducive to the growth of the mycelium. Light affected little to the growth of the mycelium. Among the tested carbon and nitrogen resources, sugar, lactose, starch, L -rhamnose and glycerin were better, while sodium nitrate, L -aspartic acid and ammonium acetate were better for growth of the pathogen. Lethal temperature of the teliospore was 55 ℃ for 10 minutes.
【语种】中文
【第一作者】吴伟怀
【通讯作者】贺春萍
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【题目】甘蔗眼斑病菌部分生物学特性及其室内毒力测定
【中文关键词】甘蔗眼斑病菌;生物学特性;毒力测定
【英文关键词】sugarcane eye spot; biological characteristics; virulenle
【中文摘要】研究测定了甘蔗眼斑病原菌部分生物学特性以及对杀菌剂的敏感性。结果表明,该菌的最佳生长温度为30°C,而最佳产孢温度为25°C;光照条件下有利于菌丝体生长,而黑暗则有利于孢子产生;其生长最适pH为6~7,而产生分生孢子的最适pH值为5;该菌对蔗糖、葡萄糖和麦芽糖利用效果较好,果糖和木糖次之,山梨糖效果最差。多菌灵、正品甲津托、代森锰锌、百菌清、菌核净5种供试杀菌剂对眼斑病菌的菌落生长均具有显著的抑制作用。
【英文摘要】Sugarcane eye spot caused by Bipolaris sacchari (E.J. Butler) Shoemaker (also known as Helminthosporium sacchari or Drechslera sacchari), it can cause losses as high as 40% of the total yield in some sugarcane-growing areas worldwide. Therefore, it is important to study on the biological characteristics. In the present study, some biological characteristics of the pathogen of sugarcane eye spot were studied. The main results were described as follows:The optimal of temperature for the growth and sporulation of pathogen was 30°C and 25°C, respectively. Light could promote pathogen growth and dark could promote pathogen sporulation. The optimal of pH value for the growth and sporulation of pathogen was pH 6 ~7 and pH 5, respectively. Sucrose, glucose and maltose were the best of carbon sources. The results from toxicity indoor of the pathogens suggested that carbendazim, meroif, mancozeb, chlorothalonil and dimethachlon had significant inhibitory effect on mycelial growth.
【语种】中文
【第一作者】吴伟怀
【通讯作者】贺春萍
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【题目】我国苦茶资源主要生化成分的鉴定评价
【中文关键词】茶树; 苦茶; 生化成分; 儿茶素; 聚类分析
【英文关键词】tea plant, bitter tea, biochemical component, catechins, cluster analysis
【中文摘要】苦茶是中国特有的一类茶树资源。对保存于国家种质杭州茶树圃的24份苦茶资源进行了主要化学成分的测定与评价。结果表明, 苦茶资源在影响茶叶品质的主要生化成分上与普通资源相比, 不存在本质的差异; 在体现茶类适制性的指标上, 苦茶资源具有适制红茶的特点; 在体现茶树进化程度的儿茶素组成及含量的指标上, 苦茶资源偏向于阿萨姆茶变种, 属于进化上比较原始的类型。聚类分析结果表明, 苦茶与阿萨姆茶聚为一类, 可以将苦茶类归属于阿萨姆茶。
【英文摘要】Bitter tea germplasms are a very special kind of tea germplasms in China. Major biochemical components of 24 bitter tea and other 8 Camellia sinensis var. sinensis and 8 C. sinensis var. assamica tea germplasms were analyzed. The results showed that no significant differences of the major biochemical components were found between bitter tea and common tea germplasms. At the processing suitability indices, bitter tea germplasms were suitable for black tea. At the components and contents of catechins indices, which indicate the tea plant evolutionary degree, bitter tea germplasms were similar to var. assamica tea germplasms, and they belonged to primordial type. Cluster analysis results showed that bitter teas were clustered with var. assamica tea germplasms.
【语种】中文
【第一作者】王新超
【通讯作者】陈亮
【期刊名称、卷期、页码】中国农学通报;2008,24(6):65-69
【论文发表时间】2008-04-29 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】园艺学

【题目】Supperssion of chitin synthase gene expression in Ectropis onliqua larva by dsRNAi method
【中文关键词】无
【英文关键词】chitin; chitin synthase; baculoviruse; dsRNAi
【中文摘要】无
【英文摘要】Biological control of pests is an important measure to control pesticide residues in tea products. The pests can be controlled by disfunction of chitin synthase.A conserved cDNA fragment (192bp) of chitin synthase gene from Ectropis Oblique larva was isolated by PCR. Sense and antisense strand of the gene were incorporated into pFGC5941 vector and a double strand RNA (dsRNA) recombinant named cs-intron-csr was formed, and the latter was then incorporated into a shuttle vector (pFastBac 1). The shuttle vector carried the recombined fragment into bacmid DNA, which could transfect cells in which a recombinant baculovirus, and it interfered the expression of chitin synthase gene in the infected sf9 cells and Ectropis Oblique larva, resulting growth suppression of the infected pest.
【语种】英文
【第一作者】C Lin
【通讯作者】Y.R.Liang
【期刊名称、卷期、页码】Proceedings of The 3rd International Conference on O-CHA(Tea) Culture and Science;2007
【论文发表时间】2007-12-01 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】园艺学

【题目】对江西省农村信息化建设与发展的思考
【中文关键词】农村信息化;发展环境;江西省
【英文关键词】无
【中文摘要】分析了江西省农村信息化发展的现状、存在问题及原因,阐述了当前江西省农村信息化发展的有利环境,最后提出江西省农村信息化建设的发展对策。
【英文摘要】无
【语种】中文
【第一作者】周军
【通讯作者】周军
【期刊名称、卷期、页码】《江西农业学报》2010年第6期
【论文发表时间】2010-06-15 00:00:00
【引文索引类型】SCI
【引文索引号】S126
【学科分类】信息科学与系统科学基础学科

【题目】关于新时期加快我国农村信息化建设的若干思考
【中文关键词】新时期;农村信息化;建设;思考
【英文关键词】无
【中文摘要】分析了我国农村信 息化发展现状 ,探讨 了我国农村信 息化 建设存在 的问题和不足,在此基础上,提 出了加快我国农村信息化建设的对策建议。
【英文摘要】无
【语种】中文
【第一作者】杨立新
【通讯作者】杨立新
【期刊名称、卷期、页码】《软件导刊》2011年第1期
【论文发表时间】2011-01-14 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】系统学

【题目】农村信息化推进实践中的对策研究
【中文关键词】农村信息化;误区;对策
【英文关键词】无
【中文摘要】近年来,随着党中央对“三农”问题的逐步关注,农村信息化工作日益成为各级政府建设新农村、发展现代农业的重要工作手段和建设内容,也成为信息理论界探讨的热点话题。以分析农村信息化推进实践中存在的误区作为出发点,从经济学的两个基本概念——供给和需求关系分析入手,对农村信息化进程中4个基本问题展开论述,并针,并针对性地提出破解这些误区的相关对策,在此基础上得出农村信息化最终目标就是发育完善的农村信息服务市场。
【英文摘要】无
【语种】中文
【第一作者】张鹏飞
【通讯作者】张鹏飞
【期刊名称、卷期、页码】《软件导刊》2011年第1期
【论文发表时间】2011-01-21 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】系统学

【题目】农村科技信息资源共享体系建设研究与应用
【中文关键词】农村信息化;资源共享;农村科技
【英文关键词】Rural area informnationize;Resource share;Rural area science and technology
【中文摘要】针对农村科技信息资源因不能有效共享出现“孤岛现象”,开展农村科技信息资源共享系统研究.加强基层科技信息资源建设,搭建面向基层和广大农村,提供全方位服务,促进科技资源共享和利用的平台。
【英文摘要】Specifically for rural area science and technology inf0rmation resources "iso1ared island phenomenon” appears on effecfive because of being not able to share,the information resources carrying out rural area science and technology shares system go into,sharpening grass-roots unit science and technology inform atjon resources builds,hang building be geared to the needs of grass-roots unit and extensive rural area providing all-direction service,platform, the main body of a book promoting science and technology resource share.
【语种】中文
【第一作者】郑红剑
【通讯作者】郑红剑
【期刊名称、卷期、页码】《电脑编程技巧与维护》2009年第10期
【论文发表时间】2009-10-15 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】信息科学与系统科学基础学科

【题目】Effects of UV-B on aroma formation in tea
【中文关键词】无
【英文关键词】Tea aroma; gene expression; β-primeverosidase; β-primeverosidase,quality
【中文摘要】无
【英文摘要】Tea aroma is an important factor determining tea quality. Effects of UV-B on level of volatiles and expression of genes relating to release of volatiles were investigated.Expressions of β-primeverosidase and β-primeverosidase genes were enhanced when fresh tea shoots were illuminated by 50 μW cm-2 UV-B for 5min.Concentrations of linaloxide Ⅰ, α-Terpineol, cis-linaloloxide,1,6-octadien-3-ol,3,7-dimethyl,phenylethyl alcohol,benzyl alcohol and phytol were increased after UV-B treatment for 10 min.Aromatic aldehydes increased at 5 min UV-B treatment.The study showed that short treatment of UV-B is a good method for important tea aroma during tea processing.
【语种】英文
【第一作者】Q.Ye

【通讯作者】Y.R.Liang
【期刊名称、卷期、页码】Proceedings of The 3rd International Conference on O-CHA(Tea) Culture and Science;2007
【论文发表时间】2007-11-01 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】园艺学

【题目】农村信息服务模式创新研究
【中文关键词】新农村建设;农村信息化;信息服务;模式创新
【英文关键词】无
【中文摘要】分析了当前农村信息服务需求特点;以湖北为例,从区域模式、主体模式和运营模式等三个方面阐述了农村信息服务模式创新。
【英文摘要】无
【语种】中文
【第一作者】黄志文
【通讯作者】黄志文
【期刊名称、卷期、页码】《科技创业月刊》2009年第8期
【论文发表时间】2009-08-21 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】信息科学与系统科学基础学科

【题目】农村信息化协调机制研究
【中文关键词】农村信息化;协调机制;协调原则
【英文关键词】Rural IT application;Coordination M echanisms;Coordination Principle
【中文摘要】论述了建立农村信息化协调机制的必要性,从协调原则、协调范围、协调内容、协调方法四个方面阐述了农村信息化协调机制的建立,为领导决策和制定规划提供参考。
【英文摘要】This paper discusses the need for establishing coordination mechanisms of the rural IT application,the establishment of coordination mechanisms of the rural IT application from the principle of coordination,the coordination of the scope of it, the coordination of content,coordinated approach in ofur areas,provided a reference ofr leadership decision-making and plan-ning.
【语种】中文
【第一作者】黄志文
【通讯作者】黄志文
【期刊名称、卷期、页码】《农业图书情报学刊》2010年第1期
【论文发表时间】2010-01-15 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】信息科学与系统科学基础学科

【题目】江西省科技文献信息资源共享服务平台的建设与思考
【中文关键词】科技文献;共享服务平台
【英文关键词】无
【中文摘要】江西省科技文献信息资源共享服务平台的建设,既是我省科技进步与创新的客观要求,也是新时期全省科技情报信息事业发展的自身需要。建设适应科技创新、经济建设和社会发展需要的高度组织化的科技文献保障与共享服务体系,是推进科技与创新,增强区域科技竞争力,推进经济社会发展的一项重要科技基础条件建设内容。
【英文摘要】无
【语种】中文
【第一作者】黄虹
【通讯作者】黄虹

【期刊名称、卷期、页码】《科技广场》2010年第4期
【论文发表时间】2010-04-15 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】信息科学与系统科学基础学科

【题目】ExtJS数据存储类型应用对比分析
【中文关键词】ExtJS;XML;Json;Array;数据存储
【英文关键词】ExtJS;XML;Json;Array;Data Storage
【中文摘要】:江西省科技文献信息资源共享服务平台的建设,既是我省科技进步与创新的客观要求,也是新时期全省科技情报 ExtJS是一种优秀的前端 AJAX框架,在与后台服务器之间的数据交互中,ExtJS有一套完善的数据存储体系,可以很方便地将数据应用到数据绑定组件中。本文通过实际应用,将 ExtJS使用的三种数据存储类型进行 了对比分析。
【英文摘要】ExtJS is all excellent front-end AJAX framework.In data exchange with back-end servers.ExtJS has na integral data storage system,data can be easily applied to the data—bound components.nI htis paper,three types ofdata storage used by xtJS are compared trhough their applications.
【语种】中文
【第一作者】陆小辉
【通讯作者】陆小辉
【期刊名称、卷期、页码】《科技广场》2011年第7期
【论文发表时间】2011-07-22 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】信息科学与系统科学基础学科

【题目】Decaffeination of catechins by stalk lignocellulose
【中文关键词】无
【英文关键词】camellia sinensis; caffeine; pine sawdust; bagasse; macroporous resin
【中文摘要】无
【英文摘要】Lignocellulose was prepared from woody tea stalk and used to isolate caffeine from tea catechins in tea extract by static adsorption and gradient elution using ethanol solution. The isotherm adsorption curve of the lignocellulose was consistent with Langmuir equation.The saturated adsorption of the lignocellilose to catechins, especially catachin gallate esters was higher than to caffeine, suggesting that the tea stalk lignocellulose can be used to isolating caffeine from tea catechins and specifically collecting catechin gallate esters.By isolation of lignocellulose column, product containing 97.32% total catechins and 0.64% caffeine were obtained from raw material containing 60% of catechins and 12% caffeine. IF the 20th fraction was collected separately,EGCg with 98% purity was obtained.The isolation results were confirmed to be better than that of macroporousa resin HPD600.
【语种】英文
【第一作者】J.H.Ye
【通讯作者】Y.R.Liang
【期刊名称、卷期、页码】Proceedings of The 3rd International Conference on O-CHA(Tea) Culture and Science;2007
【论文发表时间】2007-11-01 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】园艺学

【题目】江西省草面温度变化特征及与气象因子的相关分析
【中文关键词】草面温度;时间分布;地域分布;气象因子
【英文关键词】Grass land temperature,Temporal pattern ,Geographical pattenr ,Meteorologic factors
【中文摘要】日较差的大小和纬度、季节、自然地理条件、天气等因素有关。草面温度与气象因子有着重要的关系:草面温度与气温呈现明显的正相关,且草面温度的绝对值大、振幅大,累积频率也不相 同;草面温度与地面温度也为正相关,且草面温度低于地面温度 ,草面温度在不同季度的升温和降温速度与地面温度不一致;天空状况显著影响着草面温度的变化 ,而

且影响程度随着季节的变化而不同。
【英文摘要】Based on 2 years continuous observation data of grass land temperature in Jiangxi province,the change characteristics of grass land temperature and its correlation with meteorological factors were analyzed.The results indicated that the annual average of grass land temperature was 20.4°C .Diurnal changes of grass land temperature were obvious.The highest and the lowest rgass land temperature affected by latitude,season,natural and geographical conditions,weahter and other factors.Commonly,htere was a positive correlation between rgass land temperature and air tempera—ture,and the grass land temperature was higher.There was a positive correlation between rgass land temperature and non—vegetation land temperature,but the rgass land temperature was lower.Grass land temperature was greatly inlfuenced by cloud amount.
【语种】中文
【第一作者】周晓香
【通讯作者】周晓香
【期刊名称、卷期、页码】《江西科学》2009年第4期
【论文发表时间】2009-04-24 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】植物保护学

【题目】江西省地面基础气象资料质量检测
【中文关键词】地面;基础气象资料;质量检测;江西省
【英文关键词】surface;basic meteorological data;quality check;Jiangxi province
【中文摘要】地面基础气象资料的质量对气象及相关领域的研究具有重要影响。介绍了江西省地面基础气象资料质量检测情况,对我省地面基础气象资料在本次的质量检测过程中存在的问题进行了分析,总结了如何提高检测工作效率的要领。气象基础数据质量检测工作的完成,为建立完整、可靠的台站基础源数据集,提高基础资料的服务能力提供了有力保障。
【英文摘要】The quality of basic surface meteorological data has an important influence on meteorology and related areas.hT econdition of qualiyt check on surface meteorological data in Jiangxi was introduced ni the paper,and the problems existing in this process of qualiyt testing were analyzed,and the essentials for how to improve testing eifciency wen summarized.The work of qualiyt testnig ofr basic meteorological data provides a srtong guarantee for establishnig a complete and reliable station based source daat collection and improving the basic information service capaciyt.
【语种】中文
【第一作者】梁少芳
【通讯作者】梁少芳
【期刊名称、卷期、页码】《能源研究与管理》2011年第3期
【论文发表时间】2011-03-18 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】大气科学

【题目】Effects of ultrasound assisted extraction on extractability and liquor quality of tea
【中文关键词】无
【英文关键词】ready-to-drink tea; temperature;amino acids; catechins;sensory quality
【中文摘要】无
【英文摘要】“Tea cream”, a precipitate formed in cold tea liquor, dose not favor the ready-to-drink tea production.If tea is extracted at low temperature,creaming can be controlled but yield of extracted solids is low.Ultrasound-assisted extraction(UAE) was used to improve the extractability of tea at low temperature.Solids extraction yield of UAE at 50°C for 30 min was 353.8±2.6mg g-1 based dry weigh (DW) of tea, being significantly higher than that without sonication treatment (LTE) ($P<0.05$), but 2.1% lower than that extracted at 90°C(HTE).The extracted total catechins of UAE was 125.91±0.12mg g-1 (DW),being significantly higher than those of THE and LTE, but the levels of amino acids and caffeine were between THE and LTE.The sensory quality of tea liguor extracted by UAE was better than THE. The results confirmed that UAE will improved extractability of the at low temperature.

【语种】英文
【第一作者】J.J.Dong
【通讯作者】Y.R.Liang
【期刊名称、卷期、页码】Proceedings of The 3rd International Conference on O-CHA(Tea) Culture and Science;2007
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【引文索引号】null
【学科分类】园艺学

【题目】高温对椰心叶甲啮小蜂保护酶系活性的影响
【中文关键词】高温; 椰心叶甲啮小蜂; 保护酶
【英文关键词】High temperature; Tetrastichus brontispae; Protection enzymes
【中文摘要】采用分光光度法测定椰心叶甲啮小蜂(Tetrastichus brontispae)幼虫 、蛹和成蜂经 30、 33、 36、 39、 42 ℃处理后体内 3 种保护酶活性的变化。结果表明: (1)经不同高温处理后, 椰心叶甲啮小蜂幼虫、 蛹和成蜂体内过氧化氢酶(Catalase, CAT)活性随着温度升高而先升高后降低, 其中幼虫、蛹体内 CAT 活性高于对照。 39 ℃为CAT 清除 H2O2的最适温度,高于39 ℃则 CAT 活性受抑制。(2)经不同高温处理后, 椰心叶甲啮小蜂幼虫体内过氧化物酶(Peroxidase, POD)活性高于对照, 蛹和成蜂体内 POD 活性低于对照。幼虫在 33 ℃时体内 POD 活性达最大值,之后随着温度的升高逐渐下降;蛹和成蜂体内 POD 活性随温度的升高而升高。(3)经不同高温处理后,椰心叶甲啮小蜂幼虫和蛹体内超氧化物歧化酶(Superoxide dismutase, SOD)活性随温度升高而升高, 其体内 SOD活性均高于对照。 成蜂体内 SOD 活性随温度升高而先升高后降低,在 39 ℃时达到最大值,但低于对照。
【英文摘要】The activity of protective enzymes in larvae, pupa and adult of Tetrastichus brontispae was determined after exposed to 30, 33, 36, 39, 42 ℃ with spectrophotometric method. The results showed that: (1) The activity of catalase (CAT) in the larvae, pupa and adults of T. brontispae after exposed to different high temperatures increased first and decreased later while temperature rising. The activity of CAT in the treated larvae and pupa of T. brontispae were higher than that of the control. 39 ℃ was the most suitable temperature at which H2O2 was scavenged by CAT, and the activity of CAT was inhibited after the temperature was higher than 39 ℃. (2) The activity of peroxidase (POD) in the larvae of T. brontispae after exposed to different high temperatures was higher than that of the control , while that of the pupa and adult of T. brontispae were lower. The activity of POD in the larvae of T. brontispae was stimulated initially when the temperature reach to 33 ℃, and then decreased with the raise of temperature. The activity of POD in the pupa and adult of T. brontispae increased with the raise of temperature. (3) The activity of superoxide dismutase (SOD) in the larvae and pupa of T. brontispae after exposed to different high temperatures increased with the raise of temperature, and the activity of SOD were higher than that of the control. The activity of SOD in the adult of T. brontispae was the highest when the temperature reached 39 ℃ and lower than that of control. The research above layed a basis to further study the heat-tolerant mechanism of T. brontispae.
【语种】中文
【第一作者】李志明
【通讯作者】彭正强
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【题目】寄生蜂与寄主的不同配比对椰心叶甲啮小蜂子代的影响
【中文关键词】椰心叶甲啮小蜂; 椰心叶甲; 配比; 寄生; 繁殖
【英文关键词】Tetrastichus brontispae Ferri è re; Brontispa longissima(Gestro); Proportion; Parasitic; Reproduction
【中文摘要】椰心叶甲啮小蜂(Tetrastichus brontispae Ferri è re)是一种重要的椰心叶甲蛹寄生蜂。为了探讨繁育椰心叶甲啮小蜂的最佳寄主密度, 研究1 对椰心叶甲啮小蜂与椰心叶甲1 日蛹的不同配比对椰心叶甲啮小蜂寄生与繁殖的影响。结果表明, 雌蜂与椰心叶甲1 日龄蛹的不同配比对椰心叶甲啮小蜂寄生率、每寄主出蜂量和后代性比有显著影响, 当雌蜂与椰心叶甲1 日龄蛹配比为1 ： 1 时, 椰心叶甲啮小蜂的寄生率和出蜂量最高, 其寄生率为100%, 每蛹平均出蜂量为27.67 头, 显著高于其它配比, 但雌蜂与椰心叶甲1 日龄蛹配比为1 ： 6 时, 椰心叶甲啮小蜂后代性比(雌蜂的百分比)最高为88.04%, 显著高于其它配比。平均每雌怀卵量、出蜂率、羽化率在椰心叶甲啮小蜂与椰心叶甲蛹的不同配比之间无显著差异。

【英文摘要】Tetrastichus brontispae Ferri è re is a very important pupal parasitoid of Brontispa longissima (Gestro). To understand the best host density for the breeding, the influence of different proportions of parasitoid and host on parasitic and reproduction of Tetrastichus brontispae Ferri è re was studied. The results showed that, different proportion of female with 1 -day -old pupae of Brontispa longissima (Gestro) significantly influenced on parasitism, offspring per host and sex ratio of offspring. When the ratio of the female and 1-day-old pupae of Brontispa longissima (Gestro) was 1:1, the parasitism and offspring per host were the highest, the rate was 100% and offspring per pupae was 27.67, which was significantly higher than other proportions. However, the ratio of the female and 1 -day -old pupae of Brontispa longissima (Gestro) was 1: 6, the sex ratio of offspring was 88.04% , which was significantly higher than other proportion. Eggs per female, emergence of wasp and eclosion between different proportions were not significantly different .
【语种】中文
【第一作者】韦曼丽
【通讯作者】彭正强
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【题目】Study on the antioxidant activity of tea flowers
【中文关键词】无
【英文关键词】tea flower, antioxidant activity, DPPH, hydroxyl radical, chemiluminescence
【中文摘要】无
【英文摘要】Major chemical compounds in different extracts from tea flowers (Camellia sinensis) were analyzed. Distilled water or 70% ethanol extracts were then fractionated with chloroform, ethyl acetate and n-butanol, respectively. Each extract fraction was tested its scavenging activities on 2,2-diphenyl-1-picrylhydrazyl (DPPH) and hydroxyl free radicals. The results showed that ethyl acetate fraction of ethanol-extract of tea flower (EEA) exhibited the highest quenching activity to hydroxyl radicals (SC50 11.6 μg/ml), followed by ethanol-extract (EE) of tea flower (SC50 19.7 μg/ml). Same tea flower extract showed big different scavenging activities on different free radicals. EEA quenched 80% of hydroxyl radicals generated by Fenton ’ s reaction, however, only 40% of DPPH radical was scavenged in the Fe (II)-H2O2 -luminol system. The contents of flavones, polyphenols and catechins in EE and EEA fractions were higher than those in other fractions. We suggest that the stronger scavenging abilities to free radicals might be due to polyphenols, EGCG, ECG and flavones. However, the water extracts of tea flower and their fractions showed lower antioxidant activity for their inhibitory effect on hydroxyl radicals and DPPH radicals.
【语种】英文
【第一作者】Ziying Yang
【通讯作者】Youying Tu
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【题目】Effect of different extracting methods on quality ofC hrysanthemum Morifolium Ramat. Infusion
【中文关键词】无
【英文关键词】Chrysanthemum Morifolium, extraction, flavonoids, HPLC, extracted solids yield, color differences
【中文摘要】无
【英文摘要】The flower of Chrysanthemum Morifolium Ramat. (CM) is a useful food and folk medicine in China. Effects of Chrysanthemum Morifolium extracting (CME) conditions, including extraction temperature, extraction time and the ratio of flower to water on infusion quality were investigated. The extractability, liquor color differences and the major flavonoids of luteolin-7-O- β -D-glucoside and luteolin of various CME methods were evaluated. The results indicated that CME temperature was the most important factors affecting quality of CM infusion. Based on the extractability and chemical compositions, the best CME conditions were the 90~100 º C, 20-30min and the ratio of flower to water of 1:40 (w/v). High-performance liquid chromatography (HPLC) of

Chrysanthemum Morifolium chemical compositions including luteolin-7-O- β -D-glucoside and luteolin was also discussed in the present paper.

【语种】英文
【第一作者】Qian Ye
【通讯作者】Yuerong Liang
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【学科分类】园艺学

【题目】椰甲截脉姬小蜂对4种棕榈科植物挥发物的行为反应研究
【中文关键词】棕榈科植物挥发物; 椰心叶甲; 椰甲截脉姬小蜂; 行为反应
【英文关键词】Palm plant volatiles; Brontispa longissimat; Asecodes hispinarum; Behavioral responses
【中文摘要】为阐明4种棕榈科植物挥发物对椰甲截脉姬小蜂的引诱作用。本文用“Y”型嗅觉仪观测了椰甲截脉姬小蜂雌蜂对4种棕榈科植物(椰子Cocos nucifera, 大王椰子Roystonea regia, 槟榔Areca catechu和散尾葵Chrysalidocarpus lutescens)的行为反应。结果表明:4种棕榈科植物未受害心叶和机械损伤心叶挥发物对椰甲截脉姬小蜂没有明显的吸引作用; 每叶10头椰心叶甲3龄幼虫为害20~ 48 h,幼虫- 散尾葵心叶复合体、幼虫- 槟榔心叶复合体和幼虫- 椰子心叶复合体对椰甲截脉姬小蜂有明显的吸引作用; 幼虫- 大王棕心叶复合体仅在36、48 h对椰甲截脉姬小蜂有明显的吸引作用;小于或大于这些时间范围, 4种复合体对椰甲截脉姬小蜂都没有明显的吸引作用; 相比之下, 椰甲截脉姬小蜂对幼虫- 椰子心叶复合体的趋向率稍强于其他3种复合体, 但对4种复合体的行为反应没有明显差别。本文结论如下:椰心叶甲幼虫为害寄主植物心叶后, 诱导的植物挥发物可引起椰甲截脉姬小蜂的寄主栖境定向行为。
【英文摘要】The article ami ed to elucidate the attracting effects of the four palm plants volatiles toA secodes hisp inarum. The behavio ral response ofA. hisp inarum fema les to the vo la tiles em itted from 4 palm plants (Cocos nucifera, Roystonea regia, Areca catechu and Chrysalidocarpus lutescens) were studied by using a Y- tube olfactometer. The volatiles emitted from undamaged andmechanically damaged heart leaves of 4 palm plants had not attraction to A. hispinarum; the attraction of volatiles from 3L-Cocos nucifera, 3L-Areca catechu and 3L-Chrysalidocarpus lutescens com plexes to A. hispinarum females were only evident between 20 h and 48 h after infestation by 10 B. longissima 3th larvae per leaf but not before or after. The volatiles from 3L-Roystonea regia complexes had evident abstraction at 36 h and 48 h, but not at other time. T he behavioral responses of the female parasitoids to different larvae-plam complexes were not evident at 48 h; in contrast parasitoids preferred the volatiles from 3L-Cocos nucifera. The volatiles from heart leaves of host plants damaged by the larvae of B. longissima could attract A. hispinarum to locate to the host habitat.
【语种】中文
【第一作者】宋晓君
【通讯作者】唐超
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【题目】Assessing Geographic Origins of Green Teas Using Instruments
【中文关键词】无
【英文关键词】Camellia sinensis, authenticity, catechin, tea infusion, principal component analysis
【中文摘要】无
【英文摘要】Parameters of soluble solids, amino acids, catechins, and color difference of 24 green tea samples from China andKorea were determined. The levels of soluble solids, amino acids, total catechins, and infusion lightness in tea samples from Korea were higher than those from China. Concentrations of epigallocatechin galate and epigallocatechin in teas from China were higher than tea samples from Korea. Geographical origin of teas from the 2 countries was discriminated using parameters of infusion lightness, gallocatechin, and total catechins and applying principal component analysis.

【语种】英文
【第一作者】Jung Hyen Jang
【通讯作者】Yue Rong Liang
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【题目】椰甲截脉姬小蜂寄生对椰心叶甲幼虫体内几种酶活性的影
【中文关键词】椰心叶甲; 椰甲截脉姬小蜂; 酶活性
【英文关键词】Brontispa longissima; Asecodes hispinarum; catalase; peroxidase; polyphenol oxidase; esterase
【中文摘要】采用分光光度法测定被椰甲截脉姬小蜂寄生0.5~4 d 内的椰心叶甲3 龄和4 龄幼虫体内几种酶活性的变化。结果表明: 寄生后, 寄主幼虫体内过氧化氢酶(CAT)和过氧化物酶(POD)活性均高于对照; 多酚氧化酶(PPO)活性受抑制; 酯酶(EST)活性先升高后降低。结果揭示了椰心叶甲幼虫对寄生产生的生理防御反应。
【英文摘要】By using spectrophotometric method, the activities of several enzymes, including catalase (CAT), peroxidase (POD), polyphenol oxidase (PPO) and esterase (EST), were determined in Brontispa longissima larvae parasitized by Asecodes hispinarum. The results showed that the activities of CAT and POD were higher in the parasitized larvae than in the unparasitized larvae at the same stage, that the activity of PPO was inhibited in parasitized larvae, and that the activity of EST was stimulated initially and then inhibited in the parasitized larvae. The changes of the enzymatic activities were helpful to the successful development of A.hispinarum in the host larvae. This study indicated the B.longissima larvae had a physiological defensive action against A. hispinarum, which can be used to probe into the relationship between B. longissima and A. hispinarum.
【语种】中文
【第一作者】宋晓君
【通讯作者】彭正强
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【题目】禾本科植物叶片比较解剖的研究进展
【中文关键词】禾本科植物;叶片比较解剖;研究进展
【英文关键词】Poaceae ; comparative anatomy ; research p rogress
【中文摘要】禾本科是单子叶植物中的一个大科,国内对其已有多方面的研究。从分类学、生态学两个方面综述了我国禾本科植物叶片比较解剖的研究历史,意义和研究成果,禾本科植物叶片的解剖结构特征可以作为该科植物分类的重要依据,不同的叶片解剖结构反应了禾本科植物对不同环境条件的适应。综合现有的研究成果提出了禾本科植物叶片比较解剖研究中存在的问题和今后的研究方向。
【英文摘要】Poaceae is an important and big family among monocotyledon plants in China ,and it has been re-searched in many aspects. History , significance , and achievement of Poaceae leaf blade comparative anatomy from t he aspect s of taxonomy and ecology anatomy were reviewed and summarized. The anatomy st ructure of Poaceae leaf could offer important evidences to plant classified in this family. Different anatomy structure of plant leaf reflects the adaptation and response to the different environmental conditions. Fut ure research direc-tion of leaf comparative anatomy of Poaceae was offered as well.
【语种】中文
【第一作者】王海清
【通讯作者】徐柱
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【题目】冰草属植物ISSR 遗传分析与评价
【中文关键词】冰草属; ISSR; 遗传分析; 居群
【英文关键词】Agropyron. ; ISSR; Genetic analysis; Populations
【中文摘要】利用ISSR 分子标记技术,对采自内蒙古、河北、山西、宁夏、甘肃和吉林6 省区,经引种栽培筛选出的5 种12个冰草属植物居群,进行DNA 分子水平的遗传结构分析和评价。构建了国内冰草属ISSR-PCR 扩增反应体系。研究结果表明: 供试材料共检测出88 条谱带,其中多态性谱带83 条,多态性条带的比例为94. 32%,表明供试材料遗传多态性丰富。不同物种居群间遗传多样性丰富程度不同,蒙古冰草遗传多样性最大,其次为冰草,光穗冰草最小。种间遗传分化占冰草属物种遗传多样性的56. 35%,冰草物种地区间遗传多样性高于地区内遗传多样性。UPGMA 聚类结果显示,同种不同材料基本能够聚在一起,但有交叉现象,部分材料表现出地域性; 生态环境相似的物种遗传距离较近,聚类在一起。种间亲缘关系能够推测冰草属5 个种的系统关系。
【英文摘要】1The genetic structure of 12 Agropyron populations,including five species was analysed and evaluatedby inter-simple sequence repeat (ISSR) markers. These materials were collected from six provinces in China,including Inner Mongolia,Hebei,Shanxi,Ningxia,Gansu and Jilin. ISSR-PCR amplification reaction system on Agropyron was been construct in China. The results showed that: A total of 88 fragments were amplified from 7 primers,of which 83 bands (94. 32%) were polymorphic for the test materials,and there were a large amount of genetic polymorphism in the tested materials.Populations accessions of different species had different genetic richness. A. mongolicum had the most abundant genetic diversity. The second was A. cristatum. Genetic diversity of A. cristatum. var.pectinforme was relative lower than other species of Agropyron. The genetic variation found among species was 56.35% and genetic diversity among regions is higher about A. cristatum. By UPGMA clustering,different populations of inter-species can be basically clustered together,but a few different populations of inter-species can't be clustered together. The species from similar eco-geographical situations have closer genetic distance and were clustered together.The genetic relationship among species can be speculated systematic relationship of five species on Agropyron.
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【第一作者】闫伟红
【通讯作者】闫伟红
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【题目】冰草属植物醇溶蛋白遗传分析与评价
【中文关键词】冰草属; 醇溶蛋白; 遗传分析
【英文关键词】Agropyron; gliadin; genetic analysis
【中文摘要】利用A PAGE 酸性聚丙烯酰胺凝胶电泳技术, 对采自内蒙古、河北、山西、宁夏、甘肃和吉林6 省, 经引种栽培筛选出的5 种12 个冰草属植物居群醇溶蛋白进行遗传结构分析和评价研究。结果表明, 供试材料总计电泳出了37 条相对迁移率不同的醇溶蛋白带纹, 在 、 、、! 区分别有5、15、10 和7条, 4 条谱带为稳定表达带, 多态率89. 19%。不同物种居群间蛋白多样性丰富程度不同, 冰草醇溶蛋白遗传多样性指数最丰富。其次为蒙古冰草, 遗传多样性相对最低的为细茎冰草。种间遗传分化占冰草属物种遗传多样性的78. 70%; 冰草地区间的遗传多样性占总体遗传多样性的73. 31%。Jaccard 系数为0. 498 时聚为4 类, 同种不同材料基本能够聚在一起, 但有交叉现象; 地理分布相近的物种聚类在一起。
【英文摘要】Twelve populations of five kinds of A gropyron species had been used for gliadin genetic structure analysis and evaluation research by A-PAGE, which had been collected from Inner Mongolia, Hebei, Shanxi,Ning xia, Gansu and Jilin provinces in China and selected by the introduction and cultivation. The results showed that in total, 37 elect rophor et ic bands w ere observed following A PAGE, among which 5, 15, 10 and 7 allelic va-riants were separated into α , β , γ and ω fractions of prolamine. Populat io ns accessions o f different species had different gliadin diversity. A . cristatum had abundant gliadin diver sity. Its Shannon index was 1. 288, Nei's genetic diver sity was 0.281 2 and the proportion of polymor phicloci was 66.67% . The second was A . mongolicum which Shannon index was 0.884, Nei's genetic diversity was 0.2807 and the proportion of polymorphic loci was 63.16%.

A. trachy caulumg liadin diversity was relative lower thanother A gropyron species. The genetic variation found among species was 78.70% (Ho) . According to the dentrogram based on the Jaccard coefficient matrix , the Agropyron populations from different regions were distinctly classified. At Jaccard coefficient of 0.498, the populations of A gropyron were divided into four groups. The UPGMA phenogr am indicated that different populations of inter species can be basically clustered tog ether, but a few dif ferent populat ions of inter species can't be clustered together, and the species from similar ecogeographical situations were clustered to gether. More at tention should be paid to greater numbers of populations of different regions in regard to collection and in preservation of Agropyron germplasm.

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【题目】鹅观草种质资源醇溶蛋白遗传多样性研究
【中文关键词】醇溶蛋白; 遗传多样性; 鹅观草
【英文关键词】gliadin; genetic diversity; Roegneria kamoji Ohwi
【中文摘要】以8 个地理类群的90 份鹅观草野生种质材料为研究对象, 采用A- PAGE(酸性聚丙烯酰胺) 凝胶电泳技术进行蛋白质水平遗传多样性检测. 研究结果表明, 来源于不同居群的鹅观草共分离出26 条谱带, 每个材料可以分离出5~ 26 条迁移率不同的谱带, 平均谱带数为16. 39 条, 其中平均多态性谱带为12. 65 条, 多态性比例为77. 22%; 基于供试材料醇溶蛋白每个位点谱带出现的频率, 分别计算了地理类群内多样性指数(0. 345) 和总多样性指数(0. 471) , 类群间的遗传分化系数为26. 8%, 表明鹅观草变异的73. 2% 来源于类群内; 90 份供试材料醇溶蛋白的Jaccard 遗传相似系数变异范围为0. 133 3~ 1. 000, 平均遗传相似系数为0. 395 7; 利用种子醇溶蛋白可将90 份材料分为12 类, 鹅观草种质资源之间的亲缘关系呈现出一定的地域性规律; 不同地理类群间的遗传多样性指数从高到低的排列顺序依次为云南> 四川> 内蒙古> 新疆> 山西> 甘肃> 宁夏> 河北. 因此在进行鹅观草种质资源收集和原地保护时, 建议对云南和四川地区的鹅观草种质资源应给予极大关注.
【英文摘要】The genetic diversity of Gliadin among 90 materials from 8 eco-regions was tested by A- PAGE.The results showed that a total of 26 gliadin genotypes were separated through elect rophoresis, and each material could obtained different gliadin bands from 5 to 26. T he mean bands obtained from each material were 16. 39 and po lymorphic bands were 12. 65 (amount to 77.22%) . The total genetic diversity index (Ht= 0.471) and genetic diver sity index within populat ion (Hs= 0.345) were calculated based on g liadin f requency of 30 locus about 90 mater ials. T he mean gene differentiation coefficient (Gst) was 0.268, indicat ing that approx imately 73.2% of to tal g liadin variation occurred within populations. The Jaccar d ø s genetic similarity (Gs) coeff icient s rang ed f rom 0. 1333 to 1.000 w ith average of 0.3957, Clustering analy sis w as made w ith unw eighted pair gr oup method for arithmet ic averages (U PGMA) using the symmet ric mat rix of similarity co ef ficient s. T he 90 materials w ere gr ouped into 12 g roups. T he dendrogr am revealed that the relat ionships amo ng materials show ed correlat ion w ith the lo cat io ns of the materials. T he genet ic div ersity of Roeg ner ia k amoj i Ohw i g ermplasm reso urces f rom differ ent reg ions w ere differ ent , and their array sequences from high to low w er e Yunnan> Sichuan> Inner Mongo lia> Xinjiang> Shanx i> Gansu> Ning xia > Hebei. Therefore, high emphasis should be put on R . kamoji population distributed in Yunnan and S-i chuan Province for the germplasm resources collect ion.
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【题目】披碱草属4种植物叶下表皮微形态特征

【中文关键词】披碱草属;叶下表皮;微形态
【英文关键词】Elymus L.; leaf lower epidermis; micro morphology
【中文摘要】披碱草属!!"#$%& 01"是禾本科小麦族中一个重要的多年生属#借助光学显微镜对披碱草属/ 种植物的叶下表皮微形态特征进行分类鉴别$ 结果表明#脉间长细胞为近长方形#垂周壁形状为浅波状%深波状&有短细胞存在#呈椭圆形%孪生&气孔器副卫细胞呈圆屋顶形%平屋顶形&硅质乳突存在于脉间长细胞上&表皮细胞大小%垂周壁式样%气孔器大小和硅质乳突等特征在种间存在一定的差异#可以作为本属种间分类鉴别的参考依据#从而为该属种质资源的合理利用及开发提供解剖学依据$
【英文摘要】Elymus L. is an important perennial genus within the tribe Triticeae. The micro morphology of leaf lower epidermis of 4 species of Elymus L. were examined under light microscope(LM). The results show that the leaf lower epidermis of Elymus L. were characterized by long rectangle cells, sinuolate or sinuat anticlinal wall, presence of short cells in shape of an ellipse and in twins, round or plat tectiform subsidiary cells, silica bodies in intercostal long cell. But some characteristics were different among these species, including the size of surface cells and the pattern of its anticlinal wall, the size of stomas,silica cells,which can be used for their identification. The study on the micro morphology of leaf lower epidermis could provide some anatomy evidences, useful in reasonable utilization and esploitation of the germplasm resource.
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【第一作者】王海清
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【题目】披碱草与老芒麦苗期抗旱性综合评价
【中文关键词】披碱草; 老芒麦; 苗期抗旱性; 生理生化指标
【英文关键词】Elymus dahuricus Turcz. ; Elymus sibiricus L. ; Drought resistance at seedling stage; Physiological and biochemical index
【中文摘要】盆栽模拟土壤干旱条件, 对采自我国不同生境的披碱草(E lymus d ahur icus T ur cz.) 与老芒麦(Elymus s ibir i cus L.) 10 份野生种质材料苗期形态学和生理生化指标进行研究, 旨在了解干旱胁迫下苗期抗旱特征及其抗旱能力, 为披碱草属种质材料抗旱新品种选育、种质资源的开发利用提供理论依据。结果表明, 随干旱胁迫日数增加,植株高度、叶面积、相对含水量和叶绿素都明显下降, 而电导率、脯氨酸、SOD 和POD 都明显上升。经抗旱隶属度分析, 10 份材料抗旱性可分为3 类: 第一类为相对抗旱, 包括SXD1、XJD2、NMD3、NMD4、GSD5、GSS1 和JLS2 共7 份材料; 第二类为中等抗旱, 包括NMD6 和SXS3 共两份材料; 第三类NMS4 为相对易感。经相关分析筛选出对抗旱性影响显著的指标为: 相对含水量、叶面积、相对电导率和叶绿素含量。
【英文摘要】Elymus d ahur i cus T urcz. and Elymus sibir i cus L. , as the major forag es in the w orld, of ten suf fer f rom drought to some deg ree during their grow ing season. Therefor e, the dro ug ht resistant breeding and dr oug ht resistant culture of them should be paid w ith hig h attent ion. A t present , the resear ches in such f ield mainly co ncent rate on the co llect io n, identif icat io n of the materials and so on, w hile seldom on the ability of dro ug ht r esistance. In this study, the drought resistance of 10 w ild E. dahur icus and E. sibir i cus germplasms from different habitat s were inv est ig ated using pot ted plants to simulate soil drought condit ion. T he dynamic indicators related to drought resistance w er e comprehensive evaluated by the juris dict ion of funct io n law under 21 d of st ress. T he result s show that the plant height, leaf area, relat ive w a ter content and chloro phyll decreased significant ly along w ith the day s of dr oug ht st ress increased, while the r elat ive elect rical conduct ivity, pr oline content , SOD, and POD increased distinct ly. Accor ding to the values of jurisdict ion degree, the 10 germplasms were divided into the fol low ing three catego ries. The germplasms w ith st rong dro ug ht resistance included SXD1, XJD2, NMD3, NMD4, GSD5, GSS1, and JLS2; the germplasms w ith medium dro ug ht resistance included NMD6 and SXS3; the dro ug ht sensit ive one was NMS4. Co rrelation analy sis indicate the indices w hich had significant impact on drought resistance were the relat ive w ater content , leaf area, chlorophyll content , and relat iv e elect rical conduct ivity . The re sults of this ex periment could help us under stand the character ist ics and abilit ies of their drought resistance and also provide a basis for new species select ion and the ex plo itat ion and utilizat ion of E lymus germplasm.
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【第一作者】祁娟

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【题目】披碱草属六种野生牧草苗期抗旱胁迫的生理变化
【中文关键词】披碱草属; 干旱胁迫; 生理生态; 苗期; 抗旱性
【英文关键词】Elymus; Drought stress; Eco- physiological; Seedling stage; Drought resistance
【中文摘要】采用干旱胁迫处理不同来源的披碱草属六种野生牧草幼苗, 对其生长高度、相对含水量(RWC) 、丙二醛(MDA) 、脯氨酸(Pr o) 和叶绿素(Chl) 含量进行测定。结果表明: 供试材料幼苗生长明显受到干旱胁迫的抑制, 在水分条件较好情况下老芒麦株高生长迅速, 明显高于其它材料, 但随着干旱胁迫的加强, 干旱对幼苗生长的影响较大,而肥披碱草和紫芒披碱草受到的抑制较小。叶片RWC 和Chl 均随着干旱胁迫的加强呈下降趋势, 其中叶片RWC下降幅度较小的为披碱草, 下降较多的为肥披碱草和紫芒披碱草, 而Chl 含量降低较多的为麦宾草和紫芒披碱草, 降低较少的为老芒麦和垂穗披碱草。MDA 含量和Pro 含量均随胁迫的加强呈上升趋势, MDA 增加幅度较大的材料为麦宾草和紫芒披碱草, 增加幅度较小的为披碱草和垂穗披碱草; Pro 增幅较大的材料为紫芒披碱草和垂穗披碱草。恢复供水以后, 除Pro 含量持续升高外, 其它指标都有不同程度的恢复。经层次聚类分析, 6 份材料的抗旱性可分为3 类: 相对抗旱材料为垂穗披碱草, 中等抗旱的为肥披碱草和披碱草, 相对敏感的为老芒麦、麦宾草和紫芒披碱草。
【英文摘要】The seedlings of six wild species in E lymus were treated with dr ought stress, and their height,MDA, proline, and chlorophyll content were investigated1 The results showed that the height was obvi2ously reduced by dr ought stress1 T he growth rate of E1 sibir icus was higher than other s under no water stress1 Fur thermor e, the drought stress had gr eater impact on the seedling growth of E1 sibir icus and had less impact on the E1 escelsus and E1 p ur pur ar istatus1 With incr easing drought stress, the relative water content and the total chlorophyll of all the materials decreased, while the MDA and Pro content in2 creased1 T he leaf relative water content in XZD4 from Tibet decreased the lessest, E1 escelsus and E1 pur 2 p ur ar istatus from Xinjiang decreased the most; T he MDA content in E1 tang utor um and E1 p ur pura rista2 tus increased mor e, while E1 d ahur icus and E1 nutans increased less than other s1 T he Pro content in E1 purp ur ar istatus and E1 nuta ns increased more1 After r ewater ing, Pro content continued increasing, others restorated in different degrees1 Through the hier archical cluster analysis, the r elative high resistance mate2 r ial was E1 nuta ns, the moderate materials were E1 escelsus and E1 d ahur icus, the low resistance materialswere E1 sibir icus, E1 tangutorum and E1 pur pur ar ista tus1
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【题目】披碱草属四种植物主要形态特征的变异性比较
【中文关键词】披碱草属; 形态变异; 居群; 聚类分析
【英文关键词】Elymus L. ; Morphological variation; Population; Cluster analysis
【中文摘要】应用变异系数、主成分分析、系统聚类分析方法, 对披碱草属四种不同生境来源的18 个居群的180 份材料进行形态特征比较分析。变异系数分析结果表明: (1) 披碱草属4 种植物的不同居群在形态特征上具有变异性; (2)不同居群内及居群间的形态特征存在一定程度的变异; (3) 穗部形态特征中的颖及稃特征是种间和种以下分类的重要依据。主成分分析结果表明: 颖长、颖脉数、外稃长、内稃长、小穗长、小穗宽等是种间分类的重要特征指标。系统聚类分析法分析表明: 在欧式距离等于5 时可将来自不同生境的18 个居群分为3 类, 经鉴定第一类为披碱草和老芒麦, 第二类为麦宾草, 第三类是圆柱披碱草; 其中麦宾草的归类清晰。
【英文摘要】Morphological variation of Elymus L. populations which come from different environments was studied with the method of numerical statistics. The statistical methods of coefficient of variance, principal component analysis and the cluster analysis

were used. The results showed that there were some differences in the phenotypic characters within and among populations, meanwhile it was proved that the glumes and lemma took important roles in the morpholog ical identif icat io n. Thro ug h the principal compo nent analysis, the result indicated that the spike characterist ics including length of glumes and palea, glume vein, leng th of lemma and leng th and w idth o f spikelet w ere important to measure g enetic variance. Applied the hierarchical clustering analysis, w hen Euclidean distance w as f ive, the 18 different po pulations were classified into three groups: group one included tw o species Elymus d ahur icus T . and Elymus sibir i cus L. , group 2 included E lymus ex celsus T. , g roup 3 included E lymus cy lindr i cus(Franch.) Honda; a mong them the Elymus ex cel sus T. had a clear classif icat ion.

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【题目】放牧对草地植物群落的影响
【中文关键词】放牧强度;放牧制度;草地群落
【英文关键词】Grazing intensity:Grazing system;Grassland communi
【中文摘要】从放牧强度、放牧制度、家畜采食习性等方面综述了放牧对草地植物群落的影响。适宜的放牧强度可促进草地的健康发展,丰富草地的生物多棒}生;放牧制度在不同地区的应用有差别,合理的放牧制度有利于维持草地生态平衡和草地生产力的提高。
【英文摘要】The effects of grazing on grazing intensity, grazing system, livestock gather habit was analyzed in this paper.Appropriate grazing intensity can promote health development of grassland. enrich biodiversity of grassland.The application of various grazing system had difference in different regions, appropriate grazing system was helpful to improve grassland productivity and maintain ecological b~ance of grassland
【语种】中文
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【题目】冰草叶片光合日变化研究
【中文关键词】冰草;净光合速率;蒸腾速率;叶绿素;环境因子
【英文关键词】Agrogyon cristatum; Net photosynthetic rate; Transpiration rate; Chlorophyll; Environmental factors
【中文摘要】利用Li-6400便携式光合测定仪,测定旱作条件下引种栽培的3份冰草材料光合日变化。结果表明,不同来源冰草净光合速率(Pn) 日变化均为双峰型,第一峰值均出现在10：00左右,第二峰值均出现在14：00,在中午12：00,3份材料都出现不同程度的“午休”现象,“午休”现象最明显的是来自山西的冰草,而当地冰草净光合速率日均值和最大值均高于其它两种材料;蒸腾速率(Tr)、气孔导度(Gs)、叶片水压亏缺(VPD) 均为单峰曲线,峰值时间不一致,综合比较上述参数的日均值或最大值,表现为NMC3>HBC1>SXC2;3份材料叶绿素a和叶绿素b含量呈现出一致的变化趋势;对光合速率日变化影响较大的环境因子是PAR和Ca,生理因子是叶绿素b含量和VPD,对蒸腾速率日变化影响较大的环境因子是RH和Ca,生理因子是VPD和叶绿素a含量;地理来源较近的材料,引种栽培表现出较好的光合特性和较强的适应性。
【英文摘要】Photosynthetic diurnal variations of three materials of A.cristatum was determined by Li-6400 portable photosynthesis analyzer under dry conditions, which had been introduced and cultivated. The results showed that the diurnal variations of photosynthetic rates presented double peak, and the first peak of the materials were in 10:00, and the second were in 14:00, and the phenomenon on “ noon break ” were obvious, and especially the material from Shanxi had evident “ noon break ” phenomenon, while the net photosynthetic rate of the local A.cristatum was higher than the mean and the maximum of the two other materials; the

diurnal variations of transpiration rate, stomatalconductance and leaf water pressure deficit were single peak, and the peak time were not inconsistent, and the mean or maximum of these parameters expressed as NMC3> HBC1> SXC2 by comprehensive comparison; chlorophyll a and chlorophyll b among three materials showed consistent trend; PAR and Ca had the greater effect on the diurnal dynamics of Pn, and its physiological factors were chlorophyll b and VPD, while RH and Ca had the greater effect on the diurnal dynamics of Tr, and its physiological factors were VPD and chlorophyll a. The materials from similar eco-geographicalsituations, which had been introduced and cultivated, had better photosynthetic Characteristic and strong compatibility.

【语种】中文

【第一作者】闫伟红

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【学科分类】农学其他学科

【题目】肥披碱草叶片光合特性研究

【中文关键词】肥披碱草;光合作用;净光合速率;蒸腾速率;光饱和点;光补偿点

【英文关键词】Elymus excelsus ; photosynt hesis ; net photosynt hetic rate ; transpiration rate ; light saturation point ;light compensation point

【中文摘要】以大田生长的肥披碱草为试验材料,利用Li26400 型光合作用测定系统监测其叶片光合生理生态特性及其环境因子日变化,并利用相关分析和逐步回归分析法探讨了净光合速率和蒸腾速率与生理生态因子间的关系. 结果表明: (1) 肥披碱草叶片的净光合速率(Pn) 、蒸腾速率(Tr) 和气孔导度(Gs) 的日变化均呈双峰曲线,具有明显的光合“ 午休"现象;叶片水气压亏缺(V PD) 和Tr 及Gs 的峰值出现时间不同步,胞间CO2 浓度(Ci) 不随气孔的降低而减小,抑制其光合速率的因子为非气孔限制;水分利用率(WU E) 的变化呈单峰型,并且其上午WU E 明显高于下午. (2) 自然条件下,影响肥披碱草叶片Pn 的主要因子是Tr 和Ca (大气CO2 浓度) ,影响Tr 的主要因子是Gs 和Ta(气温) . (3) 在干旱与半干旱自然条件下,肥披碱草的光补偿点(12. 45 μ mol! m- 2 ! s - 1) 、光饱和点(1 750 μ mol! m- 2! s - 1) 、最大净光合速率(65. 125 μ mol! m- 2 ! s - 1) 、表观光量子效率(0. 128 9 μ mol! mol - 1)都较高,表现出较强的光环境的适应性和光能利用能力,是典型的阳性植物.

【英文摘要】The ecop hysiological p hotosynthetic characteristics of El ymus excelsus leaves and their environ2mental factor s were measured using Li26400 portable p hoto synt hesis system. The relationship between the net p hoto synt hetic rate (Pn) and leaf t ranspiration (Tr) and it s p hysio-ecological factor s were studied by correlation and stepwise regression equation. The result s showed that : (1) t he diurnal change of Pn presen-ted a bimodal pat tern ,and had a clear midday depression. The diurnal variation pat terns of Tr and stomatal conductance (Gs) were al so bimodal . The peak values of water deficit (V PD) , Gs and Tr appeared asyn-chronous. Intercellular CO2 concent ration (Ci) did not decrease wit h t he dropping of stomatal conductance.The mainly cont rolling factor of p hotosynthetic rate was non2stomatal limitation. The diurnal variation ofwater use efficiency (WU E) was one-peak curve ,and t he WU E of morning was significantly higher than that of the af ternoon. (2) Under t he nat ural condition , Tr and Ca (air CO2 concent ration) were the key fac-tors that affected t he changes of Pn and t he main factor s t hat affected Tr were Gs and Ta (air tempret ure) .(3) The light compensation point (LCP) of p hotosynthesis of El ymus e xcelsus in leaves was 12. 45 μ mol · m- 2 ! s - 1 . The light saturation point (L SP) of p hotosynt hesis was 1 750 μ mol! m- 2 ! s - 1 ,t he maximum Pnwas 65. 125 μ mol! m- 2 ! s - 1 . The apparent quant um yield was 0. 128 9 μ mol! mol - 1 . El ymus ex celsus is a-daptable widely to p hoto flux density and is a typical heliop hyte.

【语种】中文

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【学科分类】农学其他学科

【题目】两种冰草属植物光合生理特性研究

【中文关键词】蒙古冰草;沙生冰草;净光合速率;蒸腾速率
【英文关键词】Agropyron mongolicum; Agropyron desertorum; net photosynthetic rate; transpiration rate
【中文摘要】采用Li-6400 便携式光合测定系统,测定旱作条件下引种栽培的两种冰草属植物光合生理特性。结果表明,净光合速率Pn日变化均为双峰型,第1 峰值均出现在10:00 左右,第2 峰值均出现在16:00。在午后14:00,由于气孔限制因素所致,出现了不同程度的光合“ 午休 ”现象,PAR 是引起“ 午休 ”的间接因素。蒸腾速率Tr 和气孔导度Gs 日变化均为双峰曲线,峰值时间与净光合速率一致。胞间CO2浓度Ci 日变化近似V 字形,14:00 左右降至最低。两种植物叶片水压亏缺VPD 变化趋势一致,而水分利用效率WUE日变化相反。上述各光合生理参数日均值大小表现为蒙古冰草高于沙生冰草。环境因子Ca 和Ta 对蒙古冰草的Pn 日变化影响较大;Ca 和RH 对沙生冰草的Pn 日变化影响较大,同时对两种植物的Tr 日变化影响也较大;两种植物的Pn 和Tr 的主要生理影响因子是Gs 和VPD。
【英文摘要】The photosynthetic physiological characteristics of two species of Agropyron introduced and cultivated under dry conditions were measured by Li-6400 portable photosynthesis system. The results show that the diurnal variations of net photosynthetic rates have double peaks, with the first peak at 10:00, and the second at 16:00, with "noon break" at 14:00 obviously because of constraints caused by stomata, and with PAR as an indirect factor; the diurnal variations of transpiration rate and stomata conductance also have double peak,with the same peak times as the net photosynthetic rate; the diurnal variation of intercellular CO2 concentration is roughly in a V-shape,with the minimum at 14:00; the diurnal variations of leave's water pressure deficit of two species are in the same trend, while the diurnal variations of water use efficiency are in the opposite trends; the averages of these photosynthetic physiological parameters of Agropyron mongolicum are higher than those of Agropyron desertorum. Ca and Ta have a greater effect on the diurnal dynamics of Pn of A.mongolicum, Ca and RH have a greater effect on the diurnal dynamics of Pn of Agropyron desertorum, while Ca and RH have a greater effect on the diurnal dynamics of Tr of two species, Gs and the VPD have a greater physiological effect on the diurnal dynamics of Pn and Tr of two species.
【语种】中文
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【学科分类】农学其他学科

【题目】围封年限对典型草原群落结构及物种多样的影响
【中文关键词】典型草原;围封年限;群落结构;物种多样性
【英文关键词】Typical steppe;growing season exclosure;community structure;species diversity
【中文摘要】针对退化草地恢复与合理利用问题,选取生长季围封调制干草,其他时间轻度放牧利用的草地为研究对象,同时选取自由放牧草地为对照,进行不同围封年限群落结构及植物多样性的比较研究。结果表明,重度退化草地采用生长季围封措施后,群落生产力与物种多样性增加,群落结构和各物种的优势地位发生较大改变。随围封年限的延长,群落盖度与密度增加,到14年达最大,之后降低,高度和产量持续增加,围封25年达最大。草地由星毛委陵菜+冷蒿+克氏针茅演替为羊草+ 糙隐子草+ 麻花头。经5 年围封,物种的丰富度、均匀度和多样性增加。随围封年限的延长,物种丰富度继续增加,到围封14 年达最大,但由于围封14 年后形成以羊草为单优势种的群落,物种均匀度及多样性降低。之后,随围封年限的继续延长,群落逐步趋于稳定,均匀度和多样性增加。群落相似性分析证明,采用生长季围封措施后,围封样地与未围封对照间的相似性降低,表明围封在改变群落的环境条件上也具有较好的效果。生长季围封调制干草,其他时间轻度放牧利用的管理方式可保证退化草地在一定程度上得到恢复,综合考虑群落结构、产量及物种多样性,认为14年是较适宜的围封年限。
【英文摘要】To investigate the restoration process and reasonable utilization of degraded grassland. We chose as research objects natural grasslands which were esclosed during the growing season for hay production then sub-jected to light grazing for the rest of the year. Continuous grazing land was used as a control. Comparative re-search on the influence of different exclosure years on the community structure and species diversity was carried out. The plant species and diversity of dergraded grassland increased and the community structure and domi-nance of species changed greatly after seasonal exclosure. With increased periods of exclosure. Coverage and density reached a maximum at year 14 then declined. Community yield and height continued to increase up to year 25. The community changed from Potentilla acaulis+Artemisia frigida+Stipa krylovii to Leymus chinensis+Cleistogenes squarrosa+Serratula centauroides. After 5 years of exclosure, the species richness, evenness and diversity increased. With increased periods of esclosure, the species richness increased continu-ously and reached its highest after year 14. but the community was mainly dominated by L. chinensis and the species evenness and decreased. Along with the increase of exclosure year, the community gradually

stabilized, the species evenness and diversity increased, The analysis of community similarity showed that the similarity between the exclsed sites and the control decreased, which showed that seasonal exclosure had a great impact on changing the encironment of the community. We concluded that growing season exclosure for hay production followed by grazing through the rest of the year enabled the grassland to recover to some ex-tent. After comprehensive consideration of the community structure, yield and species diversity, we consider that 14 yeats of seasonal exclrsure appears a reasonable compromise.

【语种】中文
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【题目】典型草原不同演替阶段群落结构与物种多样性变化
【中文关键词】典型草原; 季节性围封; 演替阶段; 群落结构; 物种多样性
【英文关键词】typical steppe; seasona l exclosure; succession stage; commun ity structure; spec ies diversity
【中文摘要】针对退化草地恢复进程及恢复过程中的合理利用问题, 选取生长季围封(4至9月) 收获干草, 其它时间轻度放牧利用的草地为研究对象, 同时选取自由放牧草地为对照, 开展典型草原围封演替过程中群落结构与物种多样性变化的研究。研究结果表明: 典型草原不同演替阶段群落的物种组成基本一致, 但主要物种的优势地位发生了显著改变。在自由放牧草地, 以星毛萎陵菜、冷蒿、糙隐子草为优势物种, 采用生长季围封恢复措施后, 优良牧草羊草、克氏针茅的优势地位增加, 退化草地正向演替, 群落的盖度、密度、地上、地下生物量及优良牧草比例增加, 群落结构优化, 物种多样性增加。但若围封后连续多年(13年以上)刈割利用, 容易导致群落的盖度、密度、地上、地下生物量再次下降, 草地发生2次逆行演替。研究认为: 季节性围封的管理方式既可保证退化草地在一定程度上得到恢复, 也能避免全年围封禁牧所带来的饲草资源浪费。季节性围封在我国牧区是可行的草地管理方法, 但适宜的围封季节及围封后的合理利用问题(如合理的割草制度等)有待进一步研究。
【英文摘要】In order to d iscuss the restorative process and reasonable utilization of degraded typ ica l steppe, natu2ra l grasslands fenced in growing season (April to September) for hay production then light grazing in the rest of the yearwere chose as the research ob jects. At the same time open grazing landwas chose as the con trol to carry out the research on the changes of community structure and species diversity in different succession stage in typ i2 ca l steppe. The resu lts were as follows: The species composition of typ ical steppe in different succession stage was basically identica,l but the dominant position ofma in species changed sign ificantly. In open grazing land,the dominan t spec ies wereP otentilla a caulis, Artemisia frigida and Cleistogenes squa rros; after the utilization of seasonal exclosure, the dominant position of exce llent forages such as Leymus chinensis and Stipa klmenzii in2 creased, the degraded typ ical grassland developed positive, the coverage, density, biomass and proportion of pa latable forage increased, the structure of commun ity optimized and the spec ies d iversity increased. But if hay production was con tinued formany years (13 years ormore), and then the recovered grasslandmight appear the second retrogressive succession. Through the research we concluded that seasonal fenc ing cou ld ensure the resto2 ration of degraded grassland to some exten,t and it also cou ld avoid the waste of forage resources caused by com2plete ly fencing at the same time. Seasonal fenc ingwas one of the feasiblemanagementmethods in Chinese pasto2 ra l areas, but some problems such as suitable forb idd ing season and reasonable mowing systems need further study.

【语种】中文
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【学科分类】农学其他学科

【题目】围封年限对典型草原植被与土壤特征的影响

【中文关键词】典型草原;生长季围封;群落结构;土壤理化性状
【英文关键词】Typical steppe;growing season exclosure;community structure;soil physicochemical properties
【中文摘要】针对典型草原退化草地恢复与合理利用问题,选取生长季(4-9月)围封收获干草,其他时间轻度放牧利用的天然草地为研究对象,同时选取自由放牧草地为对照,进行不同围封年限草原植物群落与土壤特征的比较研究。结果表明,1)与自由放牧草地相比,重度退化草地采用生长季围封恢复措施后群落地上现存量、盖度、密度、根系生物量、地表凋落物现存量及土壤养分含量显著增加,土壤容重、紧实度及>0.25 mm 的粗颗粒含量显著降低,群落结构优化,土壤环境改善,植被与土壤间形成一个相互作用的良性循环系统,退化草地正向演替。2)草地在围封恢复过程中若连续多年刈割利用,容易导致生产性能降低,群落盖度与密度下降,草群矮化,土壤养分含量下降,草地发生2次逆行演替。3)季节性围封的管理方式既可保证退化草地在一定程度上得到恢复,也能达到充分利用草地资源的目的。季节性围封在我国牧区是可行方法之一,但适宜的围封季节及围封后的合理利用问题(如合理的割草制度等)有待进一步研究。
【英文摘要】To disuss the restoration and reasonable utilization of degraded typical steppe, we chose natural grasslands which were exclosed during the growing season(Apr. to Sep.)for hay production then lightly grazed for the rest of the year. Continuously grazed land was chosen as the control to carry out comparative research on the influence of exclosure on plant and soil characteritics in typical degraded steppe. 1)Compared with continuous grazing, the above-ground biomass, coverage, density, under-ground biomass, litter biomass, and soil nutrients of degraded steppe increased after exclosure, while the soil bulk density , soil compaction, and coarse particle(>0.25mm)content decreased. The community structure and soil encironment inproved. The plants and soil formed a reciprocal interactions benign circulatory system, and the typical degraded grass-land improved.2)If the land was used continuously for hay production over many years then the process of recovey, Productivity, coverage, density, and soil nutrients decreased, and the recovered grassland underwent a second retrogressive succession. 3)Seasonal exvlosure could allow full use of grassland resources while ensu-ring that the degraded grassland recovered to some extent. Seasonal exclosure was a feasible grassland manage-ment method in pastoral areas, but some problems such as suitable exclosure season and reasonable mowing systems require further study.
【语种】中文
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【题目】农牧交错带开垦年限对土壤理化特性的影响
【中文关键词】农牧交错带;开垦年限;土壤养分;土壤质地
【英文关键词】cropland age; soil nutrient; soil texture
【中文摘要】为研究农牧交错带天然草地转变为农田后,开垦年限对土壤理化特性的影响,按照邻近样地的取样原则,于2007年10月选择位于内蒙古东部农牧交错带太仆寺旗的天然草地和邻近的6个不同开垦年限的农田样地(垦殖年限为5、10、15、20、35、50 a)作为研究对象分析其土壤理化性状。结果表明:在0~30 cm土层中,天然草地转变为农田后,开垦年限对土壤养分含量和物理性状均有显著影响。土壤的有机碳含量、全氮含量、速效钾含量均随农田开垦年限的延长而降低,草地土壤的养分含量最高。与天然草地相比,0~10 cm土层,有机碳含量分别下降36%、47%、43%、57%、68%、68%;速效钾含量分别下降33%、55%、39%、65%、60%、40%。开垦年限对土壤物理性状也有明显影响,草地土壤的粘粒含量最高,砂粒含量最低;开垦年限越长的农田,土壤砂粒含量越高,粘粒含量越低;农田土壤的容重显著高于草地,随农田开垦年限的延长,土壤容重增加;而土壤pH值显示降低趋势。研究表明在研究区域天然草地具有较好的土壤养分保持能力,开垦年限越长越易导致土壤养分的缺乏和土壤的酸化和沙化,影响整个农牧交错带生态系统的稳定性和持续性。
【英文摘要】The study investigated the long time effect of a conversation from grasslands to croplands on soil physical-chemical properties in the farming-pastoral ecotone of Inner Mongolia using direct field samplings. We determined a land use history for the 1955—2002 from field survery. This land use history was used to build a chronosequence of cropland sites with a different age since theconversation from grassland. Results showed that 50 years of reclamation induced a reduction of soil organic carbon (SOC) content,total nitrogen (TN) content, soil available kalium content, pH levels, clay content and soil bulk density. It was founded that there was clear dependency of soil properties (dissolved organic carbon content; soil available kalium content; pH levels; clay content and soilbulk density) on cropland age. It was expected that this research would provide information for suitably using land and avoiding environmental degradation.

【语种】中文
【第一作者】焦燕
【通讯作者】焦燕
【期刊名称、卷期、页码】生态环境学报 2009, 18(5): 1965-1970
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【题目】内蒙古农牧交错带土地利用对土壤性质的影响
【中文关键词】农牧交错带;土地利用;土壤养分
【英文关键词】Farm-grazing transition belt ; Land use ; Soil nutrient
【中文摘要】为研究农牧交错带土地利用方式对土壤特性的影响,于2007 年7 月选择位于内蒙古东部农牧交错带太仆寺旗的3 种土地利用类型,野外采集土样并进行分析。结果表明:在0~30 cm 土层中,土壤有机碳含量、全氮含量、速效钾含量均表现为草地> 榆树林地> 农田;土壤水溶性有机碳含量表现为草地最高,农田次之,林地最小;土壤速效磷含量变化与上述趋势不同,为农田> 草地> 榆树林地。土地利用方式对土壤质地也有影响,与农田土壤和林地土壤相比较,草地土壤的粘粒含量最高,砂砾含量最低。本研究表明在研究区域天然草地具有较好的土壤养分保持能力,是最适合的土地利用类型,可为改善生态环境和当地的可持续发展提供依据。
【英文摘要】The effect s of grassland conver sion to cropland and woodland on soil properties were studied inJ uly 2007 in Taip usi County located in t he farm2grazing Transition Belt of t he Inner Mongolia Autonomous Region using direct field sampling methods. The result s show t hat the influence of land use types on soil properties was significant . Soil organic carbon (SOC) , total nit rogen (TN) , and available potassium (A K) in t he 0~30 cm dept h were highest in grassland and lowest in cropland. Soil dissolved organic car-bon (DOC) in t he 0~30 cm dept h was highest in grassland and lowest in elm woodland. The changing trend of available phosp horus (AP) in the 0~30 cm dept h was different from the above and highest in cropland and lowest in elm woodland. Land use had significant effect s on soil text ure too. Grassland soil contained more clay and less sand than ot her land use types. In summary , grassland in t he investigated ar-eas had better maintenance ability of soil nut rient s and should be the most appropriate land use type for lo-cal environmental amelioration and sustainable development .
【语种】中文
【第一作者】焦燕
【通讯作者】焦燕
【期刊名称、卷期、页码】草地学报,2009,17(2):234-238
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【题目】草地生态系统健康评价的研究进展与发展趋势
【中文关键词】草地生态系统;健康评价;研究进展;发展趋势
【英文关键词】Grassland ecosystem ;Grassland health evaluation;Study progress;Development direction
【中文摘要】简要阐述了草地生态系统健康的概念,提出草地生态系统健康具有自然与社会双重属性;介绍了草地生态系统健康评价的研究进展;并在当前草地生态系统健康评价及生态系统管理研究的基础上,提出了草地生态系统健康综合评价的理论框架、存在的问题及发展方向
【英文摘要】Abstract:The concept 0f grassland ecosystem health evaluation was introduced and the idea that there were natura1 and social properties of grassland ecosystem health was proposed.The study progresses was re-waviewed and the academic framework,the problems and the development directions of grass1and ecosystem hea1th evaluation were put forward.
【语种】中文
【第一作者】单贵莲
【通讯作者】徐柱
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【题目】干扰方式对典型草原土壤理化性质的影响
【中文关键词】干扰方式;典型草原;土壤理化性质
【英文关键词】Disturbance; typical steppe; soil physical and chemical properties
【中文摘要】在内蒙古太仆寺旗典型草原开展不同干扰方式对土壤理化性质影响的比较研究,结果表明:放牧地与季节性封育草地土壤的容重显著高于割草地(P<O.05),而含水量显著低于割草地(P<O.05),分析原因为放牧对草地土壤具有明显的压实作用,从而增加土壤的容重,降低土壤对水分的渗透与蓄积能力;季节性封育草地土壤的有机质、全N、全P、全K、速效P、速效K含量显著高于放牧地与割草地,说明目前普遍采用的长期重度放牧利用及连年割草利用都不利于土壤肥力的蓄积及草地资源的可持续利用,而季节性围封禁牧的管理方式能促进家畜粪便的归还及地表凋落物的分解,有利于土壤肥力的增加,但围封时间段的选择有待进一步研究。
【英文摘要】The effects of different disturbance ways on soil physics and chem ical properties.were researchedon the typical steppe of Taipusi,Inner M ongolia.The results showed:the soil bulk of grazing and season—al exclosure grassland was obviously higher than that of mowing grassland(P< 0.05),but the moisture content was on the contrary(P< 0.05).The reason is press effect of grazing,thus the sol 1 bulk was in—ceased and the ability of infiltration and accum ulation was reduced. The content of soil organic matter,tO—tal N ,total P,total K ,available P and available K in seasonal exclosure grassland was obviously higher than that in the grazing grassland and mowing grassland. It showed that the two utilization manners, heavy grazed and m owing in successive years,were bad tO grassland resource and fertility accum ulation for sustainable utilization. The management of seasona1 exclosure can promote 1ivestock excrementitious re—cession and decompose litter on soil surface and increase soil fertility.The choice of exclosure date and du—ration should be investigated further.
【语种】中文
【第一作者】宁发
【通讯作者】徐柱
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【题目】放牧强度对土_草_畜系统的影响研究进展
【中文关键词】放牧强度;草地;植物;土壤;家畜
【英文关键词】grazing intensity ; grassland ; plant ; soil ; animal
【中文摘要】针对我国草地存在严重的退化问题,重点阐述了对国内外学者关于放牧强度对草地生态系统中植物、土壤、家畜影响的研究。研究者认为,适度的放牧,有利于植物物种的延续,植物群落生产力的提高及生物多样性的增加;有利于土壤C、N 的积累;有利于家畜生产性能的提高。因此,寻求当前不同退化程度草地最适放牧强度是持续利用草地,保护草地生态、提高草地经济效益的必要措施。
【英文摘要】Aimed at status of serious grassland degradation in China , the scientific issues involved in re-search progress and conclusions related to the impacts of grazing intensity on soil ,grass and animal in grassland ecosystem were analyzed and discussed. Moderate grazing intensity was benefit to grass species development , community productivity and community diversity ,accumulation of soil C and N ,and imp rovement of animal p ro-ductivity. So ,the optimal grazing intensity in different degradation grasslands was the key to improve the ecolog-ical and economic benefit of grassland.
【语种】中文
【第一作者】郑阳
【通讯作者】徐柱
【期刊名称、卷期、页码】草原与草坪,2009,136(5):72-76
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【题目】不同天然草地开垦年限下土壤特性对CH_4吸收的影响
【中文关键词】天然草地; 开垦年限; 土壤性质; CH4 吸收
【英文关键词】Natural grassland ; Reclamation years ; Soil properties ; CH4 uptake
【中文摘要】通过培养实验,称取过2 mm 筛的风干土样50 g 于300 mL 的培养瓶中,调节含水量至25 %(W/ W) 后密封,在(25 ±1) ℃条件下恒温培养一周,探讨内蒙古锡盟太仆寺旗典型草原天然草地转变为农田后,在相同的水分温度条件下,不同开垦年限(5 、10 、50 年) 农田的土壤特性对CH4 吸收的影响。结果表明:天然草地转变为农田后降低了土壤吸收CH4 的能力,开垦年限对CH4 吸收有显著影响(F = 20. 998 , P < 0. 001) ,CH4 的吸收量随开垦年限的增加而逐渐降低,4 个样地土壤CH4 的吸收量按大小顺序为:天然草地> 开垦5 年的农田> 开垦10 年的农田> 开垦50 年的农田,以天然草地为对照,开垦5 年、10 年、50 年后农田土壤CH4 的吸收量分别降低了17. 1 %、44. 1 %、50.1%;CH4 的累积吸收量随土壤有机碳、全氮含量和微生物生物量碳、氮的降低而降低,单因子相关分析表明,土壤有机碳含量、全氮含量、土壤微生物量碳、氮是影响土壤CH4 吸收的主要因子。
【英文摘要】The effects of reclamation years (5 , 10 ,50 year s) on CH4 absorption of t he cropland convertedf rom nat ural grassland were st udied using a laboratory incubation met hod in Taip usi County of t he Inner Mongolia Autonomous Region. The CH4 uptake was reduced significantly af ter grassland was changed into cropland. Reclamation years influence significantly soil CH4 absorption (F = 20. 998 , P < 0. 001) , the lon2 ger the reclamation years , the less the absorption. Soil CH4 uptake was the highest in grassland and the lowest in 50 years cropland. Wit h natural grassland as cont rol , soil CH4 uptake of five years cropland , ten years cropland , fif ty years cropland decreased by 17. 1 % , 44. 1 % , and 50. 1 % , respectively . Cumulative CH4 uptake decreased wit h soil organic carbon (SOC) , total nit rogen (TN) , microbial biomass carbon (BC) and microbial biomass nit rogen (BN) . Correlation analysis indicated t hat t he main influencing factors of soil CH4 absorption were SOC , TN , BC and BN .
【语种】中文
【第一作者】赵江红
【通讯作者】焦燕
【期刊名称、卷期、页码】草地学报,2010,18(2):148-153
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【题目】不同放牧率对内蒙古草地土壤理化性质的影响
【中文关键词】放牧率;土壤理化性质
【英文关键词】Grazing rate; soil physical and chemical properties
【中文摘要】在内蒙古锡林郭勒盟南部太仆寺旗研究不同放牧率对草地土壤物理化学性质的影响,研究结果表明:随着放牧率的增加,土壤0~10 cm含水量减少,容重增加;土壤有机质、全磷和速效磷含量减少,全氮、碱解氮和速效钾含量增加。
【英文摘要】The effects of different grazing intensity on soil physical and chemical properties were researched in Taipusi county of Inner Mongolia. The results showed that with the grazing intensity increased,the soil moisture content of 0~10cm was decreased,and the soil bulk was increased. Organic matter,total phosphorus and available phosphorus were also decreased,the total nitrogen,available nitrogen and available potassium were increased.
【语种】中文
【第一作者】锡林图雅
【通讯作者】徐柱
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【题目】内蒙古典型草原优化放牧管理模拟研究_以内蒙古太仆寺旗为例
【中文关键词】公共放牧; 生态经济模型; 载畜率; 牧民收入
【英文关键词】Public grazing; ecological economic model; stocking rate; herdsman income
【中文摘要】针对太仆寺旗公共草地全年连续放牧的传统放牧方式, 通过控制性试验, 并结合太仆寺旗多年的草地、家畜、经济和气象等数据, 建立中国西部草地生态经济模型, 对太仆寺旗典型草原公共放牧系统进行模拟分析。以草原生态恢复和牧民收入增加为目的, 对典型草原的最适载畜率、家畜在冬春季节的合理补饲等问题进行探讨, 提出了典型草原放牧管理优化模式。研究结果表明, 从当年10月到翌年5月份, 家畜能量需求与放牧、补饲能量供给严重不平衡, 家畜体重下降; 随着载畜率的增加, 牧民年均净收入先增加后降低, 在载畜率为2. 275羊单位/hm2时, 收入达到最高; 太仆寺旗最适载畜率为每公顷1. 55- 21275羊单位。降低载畜率、加强补饲、提高草地质量都有利于提高牧民收入。
【英文摘要】The degradation of grass land in China is serious, the area of degradat ion accounting for 90% available grassland in China. Serious grassland degradation has brought great mi pact on local ecological environment, biodiversity conservation and anmi al husbandry development. In Taipusi Banner, Inner Mongolia, severe over2grazing resu lted in the area of degradat ion account ing for 90% of the 150 000 hm2 of typical steppe. To evaluate the public grazingmanagement of typical steppe in this region, the condition of grassland, anmi a,l farm income, clmi ate and some control expermi ent datawere used in th is b ioeconomicmodel ofChina to analyse public grazing system in Taipus iBanner. These analyseswere used two farm models. Onewas feeding balancemodelwhich was used to analyse the livestock product ion system and the secondwas farm systemsmodel thatwh ich was used to analyse the optmi al solution for net financial returnswith in spec ified constraints. The farm surveys resu lts showed the current practice of high stocking rates in Taipusi directly leads to grass land degradation, low anmi al productivity and net incomes. Smi ulat ions of the feed balancemodel ind icated that therewere b ig energy demand deficit from October toMay at anmi a l growth tmi e, net income of farm was inclined to decreased when stock ing rate was more than 2. 275sheep/hm2. The farm systemsmodel showed that net financial returns could be mi proved through reducing stock ing rates closer to 2. 275sheep/hm2 for the current predominatelymutton sheep system. And further ga ins cou ld result from changing to finewool sheep at the same lower stocking rate. At the same tmi e, reduce goat number could enhance the grass land product ivity, especially when combinew ith an early summer grazing ban that enables the grassland to re2establish afterw inter. Estmi ates of grass condition demonstrated that a different ratio of desirable and undes irab le grass land species has no s ignificant effect on net income and feed ing cost when stocking rate is less than 1. 55sheep/hm2. A h igher composit ion of desirable species resu lted in lower feeding costs and greater net income when the stocking rate was more than1. 55sheep /hm2. Net income can bemaintained at the highest stocking rate when des irab le species exceeded 75% of the grassland compos ition. Consequently, the optmi al stocking rate ofTaipusi Banner is between 1. 55- 2. 275sheep /hm2. Sustainable grassland and livestock production requires a systems analys is of current farm practices and options. The analys is of a typicalTaipus i farm model showed that individual farmer can adopt grazingmanagement changeswere realistic and potentially. Importantly, the potentialmanagement options are compatiblew ith current farm ing systems. The direct ions of change are usefu l for achieving benefits for grassland productivity mi provement, though further research w ill be needed to proved whether rate of change is sustainable or not. Our study tested that mi provement product ivity of farm and net farm financ ial returns could be achieved at the same tmi e by reducing stocking rates, mi proving supplement condition, mi proving des irab le grass rat ion and changing enterprise types. Our study was expected to provide meaningful data for preventing grass land from degradat ion, restoring grass land, grassland optmi al utilization, mi proving grazingmanagement and livestockproduction aswel.l
【语种】中文
【第一作者】郑阳
【通讯作者】徐柱
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【题目】内蒙古典型草原家庭牧场暖棚舍饲养羊效益分析
【中文关键词】典型草原;放牧;舍饲;生态经济模型;牧民收入
【英文关键词】public grazing; bioeconom icmodel; stock ing rate; net income

【中文摘要】对内蒙古太仆寺旗典型草原全年连续放牧的家畜饲养方式,通过绵羊冬春暖棚舍饲饲养与放牧饲养对比试验,利用中国西部草地生态经济模型对太仆寺旗家畜饲养方式进行研究和分析。结果表明:家畜能量供需不平衡是导致家畜在当年10 月至次年5 月,体重下降、生产性能降低的主要因素,而舍饲可以缓解家畜能量需求不平衡状况。从当年12 月至次年4月,暖棚日平均温度和夜平均温度分别比室外温度提高10 ℃和5 ℃,且差异显著(P <0. 05) ;在此阶段对家畜进行暖棚舍饲饲养,可减少母羊掉膘量3 kg/ 只,羔羊可增重1. 25 kg/只。冬春季节实施暖棚舍饲对提高典型草原家畜圈舍的温度,减少家畜体能消耗,减少家畜掉膘量和促进草地畜牧业可持续发展具有重要意义。

【英文摘要】A bioeconomic model and abenefit analysis on warm shed sheep breeding were used in thisexperiment to analyzse the t raditional animal breeding system in Taip usi Banner typical steppe , Inner Mon-golia. Result s showed that the big energy demand deficit from October to May is t he primary reason for de-creasing body weight and productivity of animal . The average temperat ure inside the greenhouse was 10 ℃ and 5 ℃warmer than out side in t he day time and at night , respectively (P < 0. 05) , while ewes inside the greenhouse lost on average 3. 00 kg less body weight and lambs increased 1. 25kg more body weight than those out side from Dec to April (P < 0. 05) . Warm shed sheep breeding is a bet ter management style for increasing the shed temperat ure , improving the productivity of animal and grassland.

【语种】中文

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【学科分类】农学其他学科

【题目】鹅观草表型性状变异与生境间的相关性

【中文关键词】鹅观草; 表型性状; 生态因子; 相关性

【英文关键词】Roegneria kamoji Ohwi; Phenotypic traits; Ecological and geographic factors; Correlation a-nalysis

【中文摘要】根据鹅观草(2n= 6x= 42) 资源的地理分布特点, 采用T 检验、变异系数、主成分分析、相关分析和聚类分析法对来自四川、新疆、宁夏、内蒙古、甘肃和山西的40 个居群进行表型多样性分析。结果表明, 表型性状无论在居群内还是居群间均表现出显著差异(p< 0 01) 。主成分分析显示, 株高、穗长、旗叶长、旗叶宽、小穗数、小花数穗下第一节间长和穗轴第一节长等8 个性状是引起鹅观草表型性状变异的最主要因素; 这8 个表型性状与海拔高度、年平均温度和纬度的相关程度较高。聚类分析结果表明, 以遗传距离18 72 为分界线可将40 个居群分为三类, 第一类只包括1 个居群, 其株高、穗长和穗下第一节间长为40 个居群中最高、最长的植株; 第二类包含20 个居群, 具有植株矮小、穗短、叶片窄小、小穗数少等特点; 第三类包含19 个居群, 该类植株与第二类植物相比较, 具有植株高大、叶片较长、较宽、小穗数和小花数较多、穗下节间长等特点。

【英文摘要】Based on the natural distribution of R oegneria k amoj i Ohw i in China , by means of T Test, coef f icient variat ion, principal component , UPGMA cluster and part ial co rrelation analy sis, 40 po pulations of Roegneria kamoj i Ohw i f rom Sichuan, Xinjiang, Ning xia, Inner Mongolia, Gansu and Shanx i were evalu ated by their pheno typic diversit ies The result s show ed that w hether among po pulatio ns or w ithin popula t ions, phenotypic char acters div ersities of R oegneria kamoj i Ohw i were significant dif ferent ; The eight phenoty pictrait s such as plant hig h , spike length, flag leaf leng th, flag leaf width, spikelet number, f loret number, the first internode length under spike and rachis internode leng th were the main factor s affect ingphenoty pic characters; T he correlat ions betw een the eight phenotypic t rait s and ecolo gical and geographic facto rs such as altitude, AMT and lat itude were sig nif icant The 40 populat ions were divided into 3 groups based on genet icdistance of 18 67 by cluster analysis the first cluster was composed of one population whose plant heigh, spike length and the first internode leng thunder spike were the longest of 40 populations, the second groups contained 20 populations with shor ter plants hig hand shorter spike length and fewer spikelet number, the third cluster contained 19 populations with higher plant , wider leaf width, longer leaf leng th, more spikelet number, more floret number

【语种】中文

【第一作者】肖海峻

【通讯作者】徐柱

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【学科分类】农学其他学科

【题目】鹅观草居群表型多样性的研究
【中文关键词】鹅观草; 居群生物学; 表型多样性; 多样性分布
【英文关键词】Roegneria kamoj i Ohw i; populat ion biolog y; phenotypic diversity; dist ribut ion center
【中文摘要】应用居群生物学的原理和方法, 对分布于中国7 个地区、4 0 个鹅观草(Roegner ia kamo j i Ohw i) 居群的表型多样性进行了分析。结果显示: 鹅观草15 个表型性状的总遗传多样性指数为1. 825, 表明鹅观草具有丰富的遗传多样性; 居群内多样性指数为1. 453, 居群间为0. 372, 表型分化系数为28. 38%, 表明居群内的遗传变异是引起鹅观草变异的主要因素; 在7 个不同分布区, 鹅观草的多样性存在较明显的差异, 多样性指数从大到小的顺序为四川(1. 583) > 云南(1. 392) > 新疆(1. 372) > 甘肃(1. 351) > 内蒙古(1. 284) > 宁夏(1. 235) > 山西(0. 890) 。因此在进行鹅观草种质资源收集时, 建议对四川和云南地区的鹅观草种质资源应给予较大关注。
【英文摘要】According to the populat ion bio logy theor ies and statistical metho ds, Phenotypic div er sity of 40 populat ions of R oegneria k amoj i Ohw i dist ributed in 7 r eg io ns of China w as studied. The result s show ed as fo llow s: the to tal genet ic div ersity index of 40 R. kamoj i populat ions about 15 pheno ty pic t rait s w as 1. 825,this means there was an abundant phenotypic diversity amo ng these po pulations. The diversity index amo ng and w ithin populat io ns w ere 0. 372 and 1. 453 respect iv ely . The mean phenoty pic dif ferentiat ion coef f icient (Vst= 28. 38%) show ed that the variat io n w ithin po pulation w as the main factor that resulted in the genet ic v ar iat ion of R. k amoj i; Phenotypic diversity of this specie dist ributed in the 7 r eg io ns w as dif ferent,whose or der is Sichuan r eg io n (1. 583) > Yunnan region(1. 392) > Xinjiang region(1. 372) > Gansu region(1. 351) > Inner Mongolia reg ion (1. 284) > N ingx ia reg ion (1. 235) > Shanxi region(0. 890) . So high em phasis should be put on R. kamoj i populat ion dist ributed in Sichuan and Yunnan for the germplasm re sources co llect ion.
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【第一作者】肖海峻
【通讯作者】徐柱
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【题目】披碱草属穗型下垂类种质的形态学鉴定及其聚类分析
【中文关键词】披碱草属; 分类、鉴定; 聚类分析; 生态型
【英文关键词】Elymus,classify; identify; cluster analysis; ecotype
【中文摘要】对采自8个不同地区的49份花序下垂的披碱草属种质材料进行了形态学鉴定和分类。利用25个形态学特征对其进行了系统聚类和主成分分析。结果表明, 这些种质材料属于老芒麦、垂穗披碱草和短芒披碱草3个种, 而且在同一种内不同居群间具有较大的形态变异, 根据这些形态变异, 可将老芒麦分为典型老芒麦、粗壮多花老芒麦、分枝型老芒麦和密穗老芒麦4个类群(生态型) ; 垂穗披碱草分为典型垂穗披碱草、高大多小穗垂穗披碱草和分枝型垂穗披碱草3个类群(生态型)。
【英文摘要】In this paper, 49 spike drooping E lymus germap lasm samples co llected from 8 d ifferen t re g ions w ere morpho log ically identified and c lassif ied, and 25 mo rphological characteristics w ere also stud ied by cluster ana lysis and principa l components ana lysis. The resu lt indicated that these germ plasm samples belonged to E lymus sibiricus, E lymus nu tans and E lymus breviaristatus, respect ive ly,and there w ere obv ious variations among different popu lations o f the sam e species. Therefore,E sibiricus w as div ided into 4 d ifferen t groups (eco types): typ ica lE.sibiricus, strong mu lti flower E.sibiricus, sp ike ramosed E sibiricus and spike let densing E sib iricus; E.nu tans w as div ided into 3 different groups (eco types): typica l E.nutans, h igh mu lt i spike let E.nutans and sp ike ramosed E.sibiricus base on the irmorpho log ica l variations
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【第一作者】卢红双
【通讯作者】卢红双

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【题目】胡枝子属植物40个野生居群种子蛋白谱带多样性研究
【中文关键词】胡枝子属; 种子蛋白; 多样性; 野生居群
【英文关键词】Lesp edez a; seed protein; diversity ; wild population
【中文摘要】利用SDS 聚丙烯酰胺凝胶电泳技术, 对采自内蒙古、河北、山西、宁夏和甘肃5 个省3 种2 变种的40个胡枝子属植物野生居群种子蛋白进行遗传多样性研究。结果获得32 条谱带, 有4 条谱带为稳定表达带,其余28 条谱带均有不同程度的多态性, 多态率901 6%, 分子量1081 1~ 101 3 kDa, 各居群间遗传相似系数变异范围为01 42~ 11 00, 遗传变异较大, 多态性较高。遗传相似系数为01 581 时聚为4 类: 第Ⅰ 类包括二色胡枝子Lesp ed ez a bicolor 的3 个居群; 第Ⅱ类包括23 个居群, 即牛枝子L1 p otaninii 的11 个居群和达乌里胡枝子L1 davur ica 的12 个居群; 第Ⅲ类包括牛枝子的2 个居群; 第Ⅳ类包括尖叶胡枝子L1 hedy saro ides 的4个居群和细叶胡枝子L1 hed y sar oides var1 subser icea 的8 个居群。其中第Ⅲ类的牛枝子2 个居群单聚一类,表明与其它牛枝子居群遗传差异大。从种的水平看, 绝大部分来自于相同或相似的地理生态环境的居群聚为一类。达乌里胡枝子与牛枝子亲缘关系较近, 尖叶胡枝子与细叶胡枝子亲缘关系较近, 这与形态学鉴定结果相一致。由此认为, 胡枝子属植物是种间、种内具有丰富的蛋白质多态性的种群, 可作为研究种内变异和生态型的重要依据。
【英文摘要】Genetic diversity of seed storage protein was est imated on 40 wild Lesp edez a populations (3species and 2 varied species) from Inner Mongolia, Hebei, Shanxi, Ning xia and Gansu provinces, using SDS- PAGE techniques. Total 32 bands were found varing in mo lecular weight from10. 3KDa to108. 1KDa; among which, 4 bands were shar ed by all the populat ions and other 28 showed (90. 6%) .The genet icsimilarity coeff icient varied from 0. 42 to 1.00, giving greater genetic variation and higher po lymor phism. Clustering w ith UPGMA using g enetic similarity coef ficient at 0. 581 show ed the existence of 4 different groups. Three populations of L . bicolor were classified as the first gro up. The seco nd group consisted of 23 populations, including 11 po pulations of L . p otaninii and 12 populations of L . davurica. Two populations of L . potaninii w ere included in the third group. The fourth group was made up of 4 populat ions of L . hedysaroides and 8 populations of L . hedysaroides. var. subser-icea. At species level, a majority of populations f rom the same or similar ar eas were gathered tog ether.L. davurica was genet ically close to L . potaninii ; while L . hedy saroides was close to L . hedysar-oides var. subsericea, indicat ing that cluster analy sis coincided w ith the results of morpholog icidentif-ication. Therefore, abundant protein diversity among Lesp edeza species could be an important r eference to intraspecies variation and ecological type research.
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【题目】小麦族鹅观草属植物研究进展
【中文关键词】小麦族;鹅观草属;分类
【英文关键词】Triticeae; Roegneria; classification;
【中文摘要】鹅观草属Roegneria 是小麦族中最大的一个属,对于鹅观草属的归属问题,不同时期的学者拥有各自的看法和观点。根据国内外的研究资料,综述了鹅观草属植物的分类历史及围绕这一问题而展开的有关鹅观草属形态学标记、细胞学标记、生化标记和分子标记的研究进展情况,从几方面研究的结果来看,我国的大多数学者认为披碱草属和鹅观草属植物之间遗传差异较大,应把鹅观草作为一个独立的属对待,但也有少数人认为把鹅观草属和披碱草属合为1 个属处理。此外,还对鹅观草的形态特征及地理分布进行了详细的描述。
【英文摘要】Roegneria is the biggest genus in Triticeae Damort . There were different views and pointsregarding whet her Roegneri a belonging to Elymus or not . This paper summarized taxonomy history ,research p rogress on phonological , cytological , bio-chemical and molecular markers of Roegneri a.Viewing from different aspect sresults , it was generally considered that there was a big genetic

differ-ence between Roegneria and Elymus ; Roegneri a should be regarded as aseparate genus. However ,some people still thought Roegneria and Elymus are the same genus. The phonological traits and geo-logical dist ribution of Roegneria was also described in detail.
【语种】中文
【第一作者】肖海峻
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【题目】不同利用方式对草甸草原抗风蚀能力的影响
【中文关键词】草甸草原;土壤风蚀;利用方式;风洞实验
【英文关键词】meadow grassland;soil wind erosion;land use pattems;wind tunnel experimen
【中文摘要】为了解不同利用方式对呼伦贝尔草甸草原抗风蚀能力的影响,采用植被调查结合风洞实验的方法对不同利用方式条件下的草甸草原植被变化和草甸草原原状土的抗风蚀能力进行了研究.结果表明,草甸草原不同利用强度条件下临界风蚀风速( )随植被盖度(Cover)的变化基本服从二次幂函数关系.随着利用强度的增加,植被盖度降低,在同样风速条件下(大于临界风蚀风速),风蚀率迅速增加 较轻的利用强度下,当植被盖度保持在63% 时,在风速为25 m/s条件下风蚀率也很小,而当植被盖度<35%时,在风速为20~25 m/s条件下,风蚀率随植被盖度的下降迅速上升.草甸草原区的免耕农田由于完全失去植被的保护,每分钟狂风(25 m/s)造成的土壤风蚀量达到682.1 kg/hm ,接近1 a的土壤平均生成量(1 000 kg/hm。).
【英文摘要】Abstract:In order to analyse the efects of the human disturbances to the ability of anti—wind erosion of the Hulunbuir meadow grassland.the methods of vegetation investigation and the wind tunnel experiment were made to research the changes of vegetation and the abilities of anti—wind erosion of meadow grassland under diferent using patterns of meadow grassland.The results indicate that, under diferent grazing intensities of meadow grassland,the critical wind velocity of soil erosion (υ)changes with the vegetation cover according to the relation ofsecond power function.Along with the grazing intensities increasing and the vegetation cover reducing,the velocity of soil erosion rapidly increased on the condition of similar wind velocity which is speedier than the critical wind velocity of soil erosion。 When the meadow grasslandis mildly grazed which the vegetation cover maintains 63% .the velocity of soil erosion is small even there is gale that the wind velocity reach 25 m/s.When the vegetation cover of meadow grassland reduced to less than 35% .the velocity of soil erosion rapidly increased with thevegetation cover ’S reducing on the condition of the wind velocity is among 20—25 m/s.And owing to the no—tillage cropland of meadow grassland is completely far from the protection of the vegetation,the soil wind erosion quantity achieves 682.1 kg/hm in a minute when the wind velocityis 25 m/s,which approaches the average formation quantity of soil(1 000 kg/hm)in a year.
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【通讯作者】辛晓平
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【题目】内蒙古草地NPP变化及其对气候的响应
【中文关键词】NPP;光能利用率;年际变化;气候因子;内蒙古
【英文关键词】NPP;light use eficiency;annual variation;climatic factors;In er Mongolia
【中文摘要】植被净初级生产力(Net Primary Productivity,NPP)是衡量植物群落在自然环境条件下生产能力的重要指标,NPP的变化直接反映了生态系统对环境气候条件的响应,因此可以作为生态系统功能对气候变化响应的研究指标。本文利用卫星遥感资料和地面气象观测资料,利用光能利用率模型估算了内蒙古地区1982-2003年4—10月草地NPP,并计算了与NPP密切相关的几个气候因子,分析了1982-2003年内蒙古地区草地NPP年际性变化规律、气候因子的年际变化规律,以及草地NPP对主要气候因子的响应关系。结果表明:1982-2003年内蒙古草地生长季的NPP呈波动中增加趋势,NPP的年平均递增

率为C 0.0036 g · m-2.Gr一;草地NPP的空间分布与生物温度(BT)及可能蒸散率(PER)呈显著负相关,与降雨量(RAIN)、湿润度( )及实际蒸散(AE)呈极显著正相关。内蒙古地区,草地NPP受降雨量(RAIN)及生物温度(BT)的影响较大,但NPP的变化受RAIN的影响更为明显;内蒙古地区不同草地类型的NPP变化对气候因子的响应略有不同。

【英文摘要】Net Primary Productivity is a key indicator to evaluate the productivity of vegetation community in natural environment.The variation of NPP,which directly reflects the ecosystem response to climate,could be an indicator of the ecosystem response to climate changes.Using remote sensing data and ground meteorological station data,we estimated NPP of grassland during the grow—ing season from 1 982 to 2003 in Inner Mongolia using the light use efi ciency model proposed by Montieth in 1 972,and calculated several climatic factors which are closely related to NPE We analyzed the annual NPP variations of grassland in Inner Mongolia from1982 to 2003,as the climate factors,and analyzed the relations between the NPP and climate factors.The results showed that the NPP of grassland was increased fluctuations during growing season in Inner M ongolia from 1 982 to 2003.and the average increase rate is 0.003 6 g C ‘ m-2.Gr~.The spatial correlation between NPP,Biological Temperature(BT)and Potential Evapotranspiration Rate (PER)is significant negatively,and significant positive with rainfall(RA IN),moisture humid(K)and Actual Evapotranspiration (AE).In Inner Mongolia,The NPP of grassland was most impacted by RAIN and B T,more obviously by RA IN .Diferent type grass—land ’ s NPP responded slightly diferent to climate changes in Inner Mongolia.

【语种】中文

【第一作者】李刚

【通讯作者】辛晓平

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【中文关键词】呼伦贝尔草原 MODIS 时空特征

【英文关键词】Hulunber grassland; MODIS; spatial-temporal characteristics

【中文摘要】基于2000—2008年的MODIS NDVI数据,研究了期间呼伦贝尔草原4种主要草原类型(低地草甸、温性草原、温性草甸草原和山地草甸)年NDVImax的空间变化趋势、波动程度、出现时间。结果表明:2000—2008年间,呼伦贝尔草原植被趋于恶化的形势较严峻;研究区四类草原NDVImax平均值的年际波动明显,特别是温性草原NDVImax平均值的年际最大波动接近50%;在各等级草原面积的变化上,尽管NDVImax在(0.4,1]之间的草原平均面积约占研究区总面积的91%,说明呼伦贝尔草原植被状况总体较好,但NDVImax值在(0.2,0.4]、(0.8,1]之间的草原面积趋于减少,NDVImax在(0.4,0.8]之间的中高盖度草原面积趋于增加,总体形势不容乐观;66.25%的研究区草原植被状况趋于恶化,33.75%趋于好转;62.85%研究区的NDVImax出现在每年第193天至225天期间(即7月中旬至8月初),该时期是呼伦贝尔草原植被最重要的生长季节。

【英文摘要】Time-series MODIS NDVI datasets for 2000-2008 were used in this study to investigate the characteristics of spatial-temporal changes in annual NDVImax for four typical grassland types, i.e., low-land meadow, temperate steppe, temperate meadow steppe and up-land meadow in Hulunber grassland. The analysis focused on the spatial change trends, the standard deviations and the occurrence time point of annual NDVImax for the period of 2000-2008. The results indicated that grassland vegetation in Hulunber presented an obvious degrading trend over the past several years. The mean of annual NDVImax in four grassland types showed a clear fluctuation, in particular in temperate steppe where the maximum changes in mean of annual NDVImax approximate to 50%. For the changes in grassland areas over different grades, the areas with NDVImax between 0.4 and 1 account for about 91% of the total grassland area which suggests its good vegetation coverage in Hulunber grassland. However, it should be noted that although the areas with NDVImax values in (0.4, 0.8] show an increasing trend, the areas with NDVImax values in (0.2, 0.4] or (0.8, 1] are decreased largely for the study period. Overall, the deteriorating grassland takes up about 66.25% of the total area; the restoring grassland takes the rest. The study also showed that there is about 62.85% of grassland where the NDVImax occurs between the 193rd day and the 225th day in each year, indicating that this period is the most important growing season for Hulunber grassland.

【语种】中文

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【题目】呼伦贝尔草甸草原不同土壤水分梯度下羊草的光合特性
【中文关键词】羊草;土壤水分梯度;干旱胁迫;光合作用;光响应
【英文关键词】Leymus chinensis;soil moisture grades;drought stress;photosynthesis;photosynthetic response
【中文摘要】为探索气候变化JJI起的干旱可能对呼伦贝尔草甸草原生产力造成的影响,利用Li一6400便携式光合测定系统对呼伦贝尔草原4个土壤水分梯度下羊草的光合生理指标进行测定。结果表明:羊草叶片净光合速率的日变化在土壤质量含水量为(40±1)%、(20±1)%及(10±1)%的条件下呈双峰曲线,峰值分别出现在8:00和16:0o,有明显的光合午休现象,在干旱胁迫(土壤质量含水量为(5 4-1)%)条件下变化趋势平缓,曲线双峰特征不明显,净光合速率大幅下降;叶片蒸腾速率和气孔导度的日变化趋势均呈双峰曲线;不同土壤水分梯度下羊草叶片胞间CO 浓度的日变化与净光合速率日变化趋势相反。通过光响应的研究表明,土壤水分胁迫使最大净光合速率、光饱和点、表观量子效率以及水分利用效率降低,而光补偿点升高。干旱胁迫降低了呼伦贝尔草甸草原植被的光合生产能力,从而可能导致草地生产力大幅下降。
【英文摘要】Abstract:In order to understand the influence of drought stress on hulunber grassland productivity,the photosynthetic characteristics of Leymus chinens~ with four soil moisture grades were measured with Li · 6400 Portable Photosynthesis System in hulunber prairie.The results indicated that the diurnal patterns of net photosynthetic rate(P)of Leymus chinensis presented two peaks curve under moisture treatments of(40±1)% ,(20±1)% and(10±1)%.The first peak appeared at 8:00,and the sub-peak at 16:00,with an obvious mid—depression.Under drought stress conditions((5±1)%),thenet photosynthetic rate reduced greatly with unobvious diurnal variation. The diurnal variations of transpiration rate and stomatal conductance presented double peak curves.The diurnal variation of intercellular CO2 concentration was opposite with that of net photosynthetic rate.Under soil water stress conditions,maximum photosynthetic rate,light saturation point,apparent quantum yield and water use eficiency of Leymua ch.inensis decreased,and light compensation point increased.Therefore,drought stress could reduce the photosynthetic ability of grassland vegetation,and result in a large decline of Hulunber meadow ecosystem productivity.基
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【题目】围封对草地的影响研究进展
【中文关键词】围封;群落演替;多样性;生产力;种子库;土壤;时间尺度
【英文关键词】Enclose; community succession; diversity; productivity; soil seed bank;; time scale
【中文摘要】围封是草地管理的重要手段。围封通过排除家畜的践踏、采食及排便等干扰,从而使其群落向着一定方向演替。由于草地生态系统本身的复杂性和放牧历史、环境因子等的迭加作用导致退化草地群落围封后出现3种可能的演替模式,即单稳态模式、多稳态模式和滞后模式。由于围封后种群的消长、某些种群的消失及新种的进入导致草地在围封后的植物多样性也发生变化。从“中度干扰”理论、对放牧敏感性植物种消失、以及特殊环境因子下群落恢复缓慢等方面总结了草地围封后植物多样性的3种可能变化方向。总结了围封对土壤种子库的影响及其在草地恢复中的作用。阐述了围封对草地土壤理化性质的作用机制。总之,围封对草地的作用具有两面性。对围封作用要有全面的科学认识,把握好围封的时间尺度,以充分发挥其在退化草地恢复中的作用,避免由于利用不当而对草地产生的负面影响。建议加强对已有相关研究成果的总结与分析,对不明确和有争议的课题进一步深入研究,并建立长期的围封研究项目,增加围封研究的站点建设。
【英文摘要】Exclosure plays an important role in grassland management.The effects of exclousure on grassland ecosystems were reviewed from the following aspects such as plant community diversity and productivity,seed bank and soil properties.Grassland community would change toward certain direction after exclosure by eliminating trample,feed intake,dejection of domestic animals. Degraded grassland followed three succession patterns after exclosure,that is mono-stale—state model,multi—stable-state model and lag mode1. The plant diversity of the grassland would be changed after exelosure due to population growth and decline,disappearance

of some species and immigrant of new species.Three change trends of the degraded grassland community diversity were identified as the theory of “ moderate disturbance ” .elimination of some species and the slow process of community restoration under specific environment.The effects of exelosure on the recovery ofdegraded grassland by influencing seed bank were reviewed.The effects of exclosure on soil properties were analyzed.In short,exclosure has different influence on grasslands under different situation.Therefore,we should control the exclosuretime scale well to exert its positive effects on recovery of degraded grassland and avoid the negative influences on grassland due to the improper utilization of exclosure measure.W e suggest that the summarization and analysis for present research results should be enhanced,the more intensive study should be conducted for the disputed issue,the long term exclosure research programs should be maded,and the exclosurc research station should be increased.

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【题目】基于MODIS NDVI和NOAA NDVI数据的空间尺度转换方法研究
【中文关键词】空间尺度转化;草原遥感;MODIS;NOAA
【英文关键词】Spatial scaling, grassland remote sensing, MODIS, NOAA
【中文摘要】选择内蒙古自治区的主要草原植被类型区作为研究区域,分析了2000-2003年生长季(4-10月)内月NOAA NDVI和MODIS NDVI数据之间相关性的年季变化规律。采用统计学方法,探讨了在大尺度空间范围内进行不同分辨率遥感数据之间的空间尺度转换方法,并利用2002年7、8月的NOAA NDVI和MODIS NDVI数据建立NOAA NDVI空间尺度上推模型,对该模型进行了时间尺度外推和精度验证。结果表明:针对NOAA NDVI和MODIS NDVI数据建立的空间尺度转化模型具有较好的应用效果,能够用于时间尺度外推,使MODIS和NOAA NDVI数据之间的分析比较具有科学性和有效性。
【英文摘要】The dominant grassland types in Inner Mongolia were selected as research area and and the annual variation pattern of the relationship between MODIS NDVI and NOAA NDVI was analyzed in growing seasons from 2000 to 2003. The spatial scaling methods between different resolutions datum of remote sensing in large-scale spatial extent were studied. At the same time, The MODIS NDVI and NOAA NDVI datum in july and August in 2002 were used to build the spatial scaling model and the model was applied to validate the precision of the model. The result indicated that this spatial scaling method was effective, and the model could be applied to other time quantum. This method could sci-entifically and effecticely analyze and compare the datum of NOAA NDVI and MODIS NDVI.
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【题目】基于MODIS数据的内蒙古草地光能利用率时空变化分析
【中文关键词】MODIS; 草地; 光能利用率; 内蒙古
【英文关键词】MODIS; grassland; light use efficiency (LUE) ; Inner Mongolia
【中文摘要】光能利用率(常以ε表示) 直接影响草地植被的能量分配和光合速率, 是影响NPP 形成的重要参数之一。论文以MODIS 数据及地面气象数据为数据源, 在GIS 和RS 的支持下, 研究了2003 年内蒙古地区生长季草地的光能利用率(ε) 及时空变化。结果表明, 内蒙古地区生长季草地光能利用率(ε) 在0 ~0. 292 9 gC · MJ- 1 之间, 平均值为0. 220 4 gC · MJ- 1 。该地区草地生长季光能利用率空间分布规律明显, 总体上呈由高纬度的东北部地区向低纬度的西南部地区逐渐降低的趋势, 与该地区降雨空间分布相同。内蒙古地区生长季所有草地类型的平均光能利用率(ε) 季节变化呈明显的单峰变化, 其增长速率从5 月开始为单调递减。

【英文摘要】Light use efficiency (LUE, ε is often used to express LUE) impacts on the energy distributionof grassland vegetation and photosynthetic rate directly, and it ' s one of the key essentialparameters that monitors grassland NPP using remote sensing model. In this article, with the aidof GIS and RS processing software, based on MODIS and in situ meteorological data, we studiedthe spatial distribution of ε and its spatiotemporal variations in growing season in Inner Mongoliain 2003. The results show that ε varied between 0 - 0. 2929 gC · MJ- 1 , and the average ε was0. 2204 gC · MJ- 1 in growing season in Inner Mongolia. The ε spatial distribution rule was graduallydeclining fromnortheast to southwest, which is the same as the rainfall spatial distribution.The seasonal variation of average ε was obviously in a single peak, the growth rate of ε declinedfrom May.

【语种】中文

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【题目】基于生态系统服务功能的中国北方草地及农牧交错带区划

【中文关键词】北方草地;农牧交错带;生态功能区划;“ 3S ”技术;生态系统服务功

【英文关键词】north grassland; agro-pastoral transitional zone; ecological function regionalization; “ 3S ” techniques; ecosystem service function

【中文摘要】本文以北方草地和农牧交错带草地类型区域分异为基础,重点考虑不同草地类型的生态系统服务功能,在综合分析了北方草地和农牧交错带生态环境基本特征的基础上,确定了草地生态功能区划的原则、依据、方法及命名,然后在“ 3S ”技术的支持下,将北方草地和农牧交错带分为北方草原区、北方荒漠区和农牧交错区三个一级区及10个二级区,对各个功能区的区域范围、主要生态环境问题、主要的生态服务功能及为了功能区的保护与可持续发展而需要采取的措施都进行了详细论述。区划结果对认识北方草地与农牧交错带不同草地类型生态系统服务功能的重要价值,对草地资源的合理利用和农业生产的合理布局、对生态环境保护与建设规划及对维护区域生态安全、实现区域的可持续发展都具有重大意义。

【英文摘要】With a primary consideration of the ecosystem service function of different grassland types, and basing on the principles of regional planning, methodology,nomenclature, the features of regional eco-environment, as well as “ 3S ” techniques,The grassland and agro-pastoral transitional zone in northern China was classified into 3 ecological regions and 10 eco-function regions. Then, the elaborations were carried out in detail regarding the territory of each function region, primaryeco-environment issues, core ecological service functions and means to be adopted for protection and sustainable development of each specific function region. We believe that the developed regionalization result is very helpful in understanding the ecological service function value of different grassland types, facilitating effective use of grassland resources, promoting optimal layout of agricultural production,improving the regional ecological security, as well as strengthening the regional sustainable development in the grassland and agro-pastoral transitional zone of northern China.

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【题目】塔里木河中游景观格局与生态水文过程的耦合分析

【中文关键词】景观格局;生态水文;耦合;遥感;干旱区;塔里木河中游

【英文关键词】Landscape pattern; ecological hydrology; coupling; remote sensing; arid zone; the middle reaches of Tarim River

【中文摘要】在遥感、GIS及地统计学和景观格局分析软件的支持下,处理了塔里木河中游1986、1999及2005年的三期遥感影像,而后对中游景观格局动态变化及生态水文过程的基本特征进行了系统分析。在此基础上,在生态系统耦合关系理论

与方法的指导下,重点对景观格局和生态水文过程的相互影响进行了探讨。分析表明,景观格局和径流的变化之间存在相关性。与径流相关性最大的是景观多样性指数,它们之间呈正相关关系。景观的优势度与径流量也呈正相关关系,而景观形状与流域径流之间不存在必然联系,景观破碎度与流域径流也有较大的相关性,但它们之间呈负相关关系。同时水文过程对宏观景观格局的变化起指导作用。

【英文摘要】Based on the techniques and tools of RS, GIS, geo - statistics and landscape pattern analysis software, the remote sensing images of the middle reaches of Tarim River in 1986, 1999 and 2005 were processed, and charac-teristics of landscape pattern changes and eco - hydrology p rocess were analyzed. Then under the instruction of theory and method of ecosystem coup ling relation, the mutual influence between landscape pattern and eco - hy-drology p rocesswere analyzed. The results showed that there is relativity between landscape pattern and runoff change. Landscape diversity index has the biggest relativity with the runoff. The landscape dominance index, landscape fragmentation also has correlation with runoff. There is no correlation between the landscape shape in-dex and the runoff. The eco - hydrology process also influence landscape pattern

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【题目】近5O年来呼伦贝尔草原沙漠化主要影Ⅱ向因素的定量分析

【中文关键词】呼伦贝尔草原;沙漠化;影响因素;定量分析

【英文关键词】Hulun Buir Grassland; desertification; influencing factor; quantitative analysis

【中文摘要】选取气温、降水因子以及反映人类社会经济活动的人口、耕地、牲畜等影响因子的相对指标为分析因子。利用主成分分析与相关分析相结合的方法,定量分析近50年(1953—2004)来各影响因子与综合影响因素对内蒙古呼伦贝尔草原沙漠化的作用强度。结果表明:在当地近5o年的沙漠化过程中。驱动因素 抑制因素与影响因素的综合作用力与沙漠化指数的相关系数分别为0.8899,- 0.403以及0.600 5;草原沙漠化程度呈现出随人类活动强度增加目益加剧的趋势。其中牲畜结构对草原沙漠化变化趋势的改变有着重要作用;影响因素的综合作用力与沙漠化指数的相关系数只有0.600 5。这是由于生态经济系统各因素之间存在非线性作用机制。相关分析的线性假设在一定程度上低估了其作用强度,同时人类活动和自然因子的波动对草地生态系统的影响存在一个滞后期。

【英文摘要】Looking from the present literature about the influencing factors of grassland desertification,it can be concluded that the response mechanism and sensitive degree of ecological and economic system to human activity and natural factors is diferent in diferent geography unit.Using method of principal components analysis and regression analysis,taking Hulunbeier grassland of Inner Mongolia as study region,the paper analyzed the efect intensity of main influencing factors including population density,cultivated land index,1ivestock density,livestock composition and their weights intotal livestock, average annual air temperature and rainfall and integrated influencing factor to grassland desertification 0n data in 1953—2004.The results are as follows:tl1e correlation coeficients of the promotion factor,the inhibiting factor an d the total influencing factor with the grassland desertiflcation index re.spe tively are 0.8899. -0.4030.6005.The grassland ’sdesert degree raises with the increasing human activities ’intensity.and sheep and goat weights in total livestock is~aying a comparatively major role on grassland desertion trend changing.The correlation coeficients of the total influencing factor with the grassland desertification is just 0.6005,because there is nonlinear interplay mechanism among these factors in ecology economical system,linear hypothesis of corelation analysis hasn derestimated its fun ction to a certain extent,and the emerging of grassland desertification lags the fluctuation efect of influencing factors.Key words grassland of Hulunbeier;sandy desertification;influential factors;quantitative study

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【题目】草原生物多样性保护法律法规、政策的影响及研究
【中文关键词】草原; 生物多样性; 法律; 草原生态系统; 可持续性
【英文关键词】Grassland; Biodiversity; Law ; Grassland ecosy stem; Sustainability
【中文摘要】在我国草原资源利用强度日益增加、草原生物多样性不断遭受威胁的背景下, 为确保草原生物多样性得到有效保护和持续利用, 维持人类赖以生存的生态过程和可持续性, 针对我国已颁布实施的相关法律、法规和政策,重点论述了我国草原生物多样性保护研究的现状、进展以及对草原生物多样性的影响及其作用的评价, 旨在以保证在国家、区域性水平上对草原生物多样性的研究占有最大信息量, 用来监测草原生物多样性以及它们的生存环境,并有效地策划和实施中国草原生物多样性保护的行动计划。以此为基础, 进一步研究、完善和制定草原生物多样性保护相关法律、法规和政策, 确保我国草原生物多样性及优化草原生态环境的可持续发展。
【英文摘要】On the backgro und of increasing utilizat ion intensity of g rassland resources and threateninggrassland biodiv ersity , and with the promulgatio n and implementat ion of law , rule and policy in China,aimed to insure the protect ion and sustainable ut ilizat ion of grassland biodiversity and maintain the ecosys tem and sustainability, the research status, prog ress, and evaluat ion of the ef fect and funct ion of g rassland biodiversity w ere discussed to do benef it to monitor g rassland biodiv er sity and it s env ir onment On the ba sis of this study, the law , rule and policy on grassland bio diversity should be further rev ised and estab l ished to make sure the grassland biodiversity and the sustainable development of gr assland environment in China
【语种】中文
【第一作者】徐柱
【通讯作者】徐柱
【期刊名称、卷期、页码】中国草地学报,2009,31(2):4-9
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【引文索引号】S812
【学科分类】农学其他学科

【题目】旱作条件下披碱草属植物叶的生理生化特征分析
【中文关键词】披碱草属;生理生化;渗透调节;保护酶系统;干旱与半干旱区
【英文关键词】Elymus ; physiological and biochemical ; osmotic adjustment ; antioxidative enzymes ; arid and semi-arid region
【中文摘要】在无控制的野外旱作条件下,比较了披碱草属6 种野生植物在内蒙古干旱与半干旱区生理生化特性,并对同一地区引种的不同种及分布于不同地区的同一种植物进行了对比分析。结果表明,材料XJ E1 和XJ P5 能够保持较好的水分状况,具有较高的相对含水量,而GSD4 保水能力不及其他几种材料;BJ T3 和XJ P5 叶绿素含量较高,而GSD4 叶绿素含量较低。渗透调节物质Pro 以BJ T3 、XJ P5 和GSS2 显著高于其他材料,而MDA 含量以BJ T3 相对较高,比XJ E1 高近3 倍;保护酶SOD 活性以材料GSD4 较高,其次为BJ T3 ,GSS2 较低,POD 活性以XJ P5 较高,其次为BJ T3 ,NMN6 较低。经隶属函数综合分析发现,披碱草属6 种植物中,除GSD4 和NMN6 之间隶属函数值差异不显著外,其他材料之间都比较显著,其隶属度值由大到小的顺序为XJ P5 > BJ T3 > XJ E1 > GSD4 > NMN6 >GSS2 。并且来自同一地区的披碱草属2 种不同植物的生理特征表现一定的趋同,而来自不同地区的同一种植物表现出一定适应性分化。这些结果都表明,植物为了适应不同的生态环境,各种生理生化指标都会进行相应的调节,共同起作用来保护植物免受伤害。
【英文摘要】Physiological and biochemical characteristics of t he leaves of six El ymus species were determined un-der the natural dry farming conditions of the arid and semi-arid regions of Inner Mongolia , different species f rom same regions were compared as well as t he same species f rom different regions. There were significant differences in t he p hysiological and biochemical characteristics of different El ymus. The species of XJ E1 and XJ P5 maintained a good water stat us and had a high relative water content (RWC) , whereas the RWC of GSD4 was the lowest . BJ T3 and XJ P5 had a high chlorop hyll content , while that of GSD4 was low. The osmotic con-tent of Pro of BJ T3 , XJ P5 and GSS2 was significantly (P < 0. 05) higher than that of the other species. The MDA of BJ T3 was nearly three times higher than that of XJ E1. GSD4 had the most SOD antioxidative enzymeactivity , followed by BJ T3 and then GSS2. POD activity of XJ P5 was high , followed by BJ T3 , while NMN6 was lower . Multivariate membership function analysis indicated that except for GSD4 and NMN6 , there were some significant differences in adaptation to arid and semi2arid environmens of the El ymus species. The order of subordinate function values from st rong to weak was XJ P5 > BJ T3 > XJ E1 > GSD4 > NMN6 > GSS2. We also found that there were some homologies between different species from the same region. The same species in different regions appeared

to be differentiated in their adaptability. These results indicate that the p hysiological and biochemical indexes were all adapted to different ecological environments.
【语种】中文
【第一作者】祁娟
【通讯作者】徐柱
【期刊名称、卷期、页码】草业学报,2009,18(1):39-45
【论文发表时间】2009-02-01 00:00:00
【引文索引类型】其他
【引文索引号】Q948.1
【学科分类】农学其他学科

【题目】胡枝子属植物野生种质资源及其研究进展
【中文关键词】胡枝子属; 野生种质; 遗传多样性; 研究进展
【英文关键词】Lespedeza Michx. ; Wild germplasm; Genetic diversity; Research progress
【中文摘要】概述了胡枝子属植物分类历史、形态特征及地理分布、遗传多样性研究(形态学水平、细胞学水平、生化水平、DNA 分子水平) 及该属植物其它方面研究现状, 整体认识胡枝子属植物野生种质资源的多样性, 探讨和讨论了存在问题、解决方法, 并展望其研究前景。
【英文摘要】The classification history, morphology and geographical distribution gions, genetic diversity inclu-ding morphologic level, cytological level , biochemistry level and DNA level, and other aspect research of Lespedeza Michx. were summarized. Some key problem and resolvent were discussed, and research pros-pects was looked into.
【语种】中文
【第一作者】闫伟红
【通讯作者】闫伟红
【期刊名称、卷期、页码】中国草地学报,2007,,29(2):86-93
【论文发表时间】2007-03-01 00:00:00
【引文索引类型】其他
【引文索引号】S543
【学科分类】农学其他学科

【题目】法律政策对生物多样性及草原生物多样性保护影响评估
【中文关键词】政策;法律;法规;生物多样性;草原
【英文关键词】Policy;law;regulation;biodiversity;grassland
【中文摘要】本研究针对国际国内关于生物多样性法律法规及政策的相关文件,分别进行了梳理、分析和研究,探讨了生物多样性相关法律法规的发展进程及其存在问题,深入了解和明确了生物多样性保护的国际原则、发展方向和本质。揭示了中国关于生物多样性保护特别是草原生物多样性保护法律法规发展现状及存在问题。根据中国具体国情出发,借鉴美国、欧盟和印度等国家经验,作为探寻中国制定生物多样性保护法律法规的思路和原则。基于此,对中国生物多样性保护法律政策的制定提出了几点建议。
【英文摘要】Biodiversity-related documents, including international and domestic laws, regulations and policies, have been listed systematically, for study and analysis. The development process and problems of biodiversity-related laws and regulations are discussed; the international principles, direction and essence of biodiversity peotection are in-depth and clearly understood. The development status and existing problems of laws and regu-lations on the conservation of biodiversity, especially grassland biodiversity conservation in China are persen-ted. Ideas for devdloping Chinese spevific, national conditions, were drawn from the experiences in the United States, the European Union,and India. The ideas are explored as a basis for the principles of Chinese enact-ment of laws and regulations for biodiversity conservation and several suggestions for formulation of laws and policies in Chinese biodiversity conservation are offered.
【语种】中文
【第一作者】闫伟红
【通讯作者】徐柱
【期刊名称、卷期、页码】草业学报,2010,19(5):250-259

【论文发表时间】2010-10-01 00:00:00
【引文索引类型】其他
【引文索引号】S812-05;S-01
【学科分类】农学其他学科

【题目】草原法律法规对草原资源保护的影响及作用
【中文关键词】草原;法律;法规;资源保护
【英文关键词】grassland;law;regulation;Resource protection
【中文摘要】为了保护建设和合理利用草原,改善生态环境,维护生物多样性,发展现代畜牧业,促进草原生态、经济和社会可持续发展,近年来,国家及相关部门先后颁布实施了一系列草原法律法规政策。相关法律法规及政策的制定、颁布与实施,为依法保护草原资源和生态环境,维护农牧民合法权益提供了有力的法律保障。该文就我国已颁布实施的草原法律法规及政策,重点论述了其发展状况及对草原资源的影响,并针对如何进一步有效保护草原资源提出了建议,以期促进经济和社会可持续发展,建立保护建设和合理利用草原的长效机制。
【英文摘要】no
【语种】中文
【第一作者】徐柱
【通讯作者】肖海峻
【期刊名称、卷期、页码】中国牧业通讯,2009,(8):24-26
【论文发表时间】2009-08-08 00:00:00
【引文索引类型】其他
【引文索引号】D922.64
【学科分类】农学其他学科

【题目】热胁迫对椰甲截脉姬小蜂生长发育与繁殖的影响
【中文关键词】热胁迫; 椰甲截脉姬小蜂; 生长发育; 繁殖
【英文关键词】Asecodes hispinarum Bouc ˇ ek; Heat stress; Development; Fecundity
【中文摘要】研究了30、33、36、39 和42 ℃条件下椰甲截脉姬小蜂生长发育和繁殖的情况, 结果表明:(1)椰甲截脉姬小蜂卵、幼虫和蛹在33~42 ℃范围内处理8 h 后, 发育历期延长, 羽化率下降, 每寄主出蜂数减少, 雌蜂比例增加; (2)椰甲截脉姬小蜂成虫在30~42 ℃范围内处理2 h, 随着温度的升高, 寄生率逐渐下降, 每寄主出蜂数减少, 发育历期延长, 羽化率下降, 且在39~42 ℃的范围内, 与对照相比, 雌蜂比例显著下降; (3)不同发育阶段椰甲截脉姬小蜂对高温的耐热性存在显著差异, 依次为: 蛹>幼虫>卵。
【英文摘要】The development and fecundity of A. hispinarum were studied at different temperatures (30~42 ℃).The results showed that: (1) The development duration prolonged, the rate of adult emergence decreased, the number of wasp offsprings per host decreased, the female ratio increased, when the egg, larva and pupa of A. hispinarum exposed to the range of 33 ℃ to 42 ℃ for 8 h. (2) With the increase of temperature, the parasitism rate decreased, the number of wasp offsprings per host decreased, the development duration prolonged, the rate of adult emergence decreased, when the adults of A. hispinarum exposed to the temperature of 30 ℃ to 42 ℃ for 2 h. The female ratio decreased significantly in temperature from 39 ℃ to 42℃ compared with the normal. (3) The thermal sensitivity of different development stage of A. hispinarum were significantly affected after exposed to high temperature, the order was: pupa>larva>egg.
【语种】中文
【第一作者】金化亮
【通讯作者】彭正强
【期刊名称、卷期、页码】热带作物学报,2010,31(4):631-635
【论文发表时间】2010-04-10 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】昆虫学

【题目】Genetic diversity among tea cultivars from China, Japan and Kenya revealed by ISSR markers and its implication for parental selection in tea breeding programmes

【中文关键词】无
【英文关键词】Camellia sinensis; genetic diversity; genetic relationship; inter-simple sequence repeat
【中文摘要】无
【英文摘要】Tea plant [Camellia sinensis (L.) O. Kuntze] is an important beveragecrop in the world. In recent years many clonal tea cultivars have beenreleased, and they play major roles in improving the production andquality of tea. It is important to understand the genetic diversity andrelatedness of these cultivars to avoid inbreeding and narrow geneticbasis in future tea breeding. In the present study, genetic diversity andrelationship of 48 tea cultivars from China, Japan and Kenya wereevaluated by inter-simple sequence repeat (ISSR) markers. A total of382 ISSR bands were scored, of which 381 (99.7%) were polymorphic.The ISSR primers showed high ability to distinguish between teacultivars according to their high Resolving Power (RP) with an averageof 7.4. The mean of Nei s gene diversity (H) and Shannon sinformation index (I) were 0.22 and 0.35, respectively. More abundantdiversity was revealed among cultivars in China than those in Japanand Kenya. Within Chinese populations, the level of diversity in eastChina was higher than that in other regions. The coefficient of geneticdifferentiation (GST) was 0.202, which indicates a high degree ofgenetic variation within populations. This result was further confirmedby analysis of molecular variance, which revealed the variancecomponent within the populations (92.07%) was obviously largerthan that among populations (7.93%). The level of gene flow (Nm) wasestimated to be 2.0. This could be explained by frequent natural crosspollinationand seed dispersal among tea populations. The pairwisesimilarity coefficient between the cultivars varied from 0.162 to 0.538.A dendrogram of 48 tea cultivars was constructed where all the tested cultivars were divided into two groups. Our data show that the genetic relationship among tea cultivars can be determined by the ISSR markers. This will provide valuable information to assist parental selection in current and future tea breeding programmes.
【语种】英文
【第一作者】M. Z. Yao
【通讯作者】Y. R. Liang
【期刊名称、卷期、页码】Plant Breeding;2008, 127, 166—172
【论文发表时间】2007-08-10 00:00:00
【引文索引类型】SCI
【引文索引号】无
【学科分类】园艺学

【题目】超高压对茶鲜叶的细胞结构、多酚氧化酶活性及主要化学成分的影响
【中文关键词】超高压;茶鲜叶;细胞结构;多酚氧化酶;茶多酚;氨基酸;叶绿素
【英文关键词】ultrahigh pressure;fresh tea leaves;cell structure;PPO;tea polyphenols;amino acids;chlorophyll
【中文摘要】系统研究了超高压处理对茶鲜叶的细胞结构、多酚氧化酶活性及主要化学成分的影响,结果表明:①超高压处理可导致茶鲜叶细胞形态发生变化,600MPa压力下,细胞形态溃缩明显,出现细胞液溶出;②在处理温度为37°C,处理时间为10min条件下,经500MPa以上超高压处理的茶鲜叶,多酚氧化酶比活性显著下降;③压力为600MPa,保压时间为5min时,茶多酚和游离氨基酸的总量分别为鲜叶质量的9.14%和1.35%,分别比对照样提高24%和42%;④超高压能增加叶绿素和类胡萝卜素的溶出,但压力过高和处理时间过长又会造成一定程度的减少。
【英文摘要】The effect of the ultrahigh pressur eprocessing(UHPP) on the cells tructure, PPO activity and mainchemical composition of fresh tea leaves was studied. Result sshowed that: ① Under the 600MPa pressure, the cellular structure of fresh tea leaves shrink obviously, and the cell sap over flow distinctly. ② The relative activity of PPO was remarkably decreased under the UHPP over 500MPa holding for 10min at37 °C. ③ Under the treatment of 500MPa holding for 5 min, the content of tea polyphenols and amino acids in fresh tea leaves was 9.14% and 1.35% respectively, increased 24% and 42% compared with the control. ④ UHPP can also accelerated the overflow of chlorophyll and carotenoids from the chloroplast, but the excessive high pressure and the longer process time would cause the content decrased to some extent.
【语种】中文
【第一作者】谭俊峰
【通讯作者】林智
【期刊名称、卷期、页码】食品科学;2007,28(09)78-82
【论文发表时间】2007-07-11 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】园艺学

【题目】胎儿弯杆菌表面蛋白(SapA)基因的分段表达及其免疫原性分析
【中文关键词】胎儿弯杆菌;表面蛋白基因(SapA);原核表达;纯化;ELISA
【英文关键词】Campylobacter fetus;surface layer protein gene(SapA);prokaryotic expression;purify;ELISA
【中文摘要】应用PCR方法扩增出胎儿弯杆茵表面蛋白基因(SapA) 2个基因片段SapA—N(1 398 bp)和SapA-C(1 422 bp),采用DNA重组技术,将2个基因片段分别连接于表达栽体pET32a(+),并在大肠杆菌中诱导表达(rSapA-N和rSapA.O。用金属整合层析的方法纯化蛋白。以Western blot检测重组蛋白的免疫学活性,ELISA试验分析2种蛋白用于胎儿弯杆菌病血清学诊断的可能性。结果表明,以可溶形式表达的2部分蛋白分子量大小约66 l(u。与预期大小相符。纯化的蛋白均具有良好的免疫学活性,但蛋白rSapA-N比蛋白rSapA.C的免疫学活性高,rSapA-N具有良好的胎儿弯杆菌病血清学诊断的应用价值。
【英文摘要】The S1.Lrface layer proteins SapA-N(1 398 bp)and SapA—C(1 422 bp)of Campylobacter fetus were PCR amplifiedfrom Campylobacter fetus 553 strain.cloned and expressed iIl a E.coli express system.The expressed proteins were identified bySDS.PAGE and analyzed by Western blot and ElISA.The results showed that the recombinant protein had aMW of 66 ku proteinand were mostly expressd in soluble form.SDS · PAGE and ELISA showed the protein could be recognized by sera fromcampylobacter fetus iIl佬cted bovines.The specific immunogenicity of protein SapA-N is higher than the SapA-C.
【语种】中文
【第一作者】赵海玲
【通讯作者】刘思国
【期刊名称、卷期、页码】中国预防兽医学报,30(11):842-845
【论文发表时间】2008-11-01 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】兽医学

【题目】丫-辐射与常规方法灭活产单核细胞李斯特菌对小鼠免疫原性
【中文关键词】产单桉细胞李斯特菌;7-辐射;灭活菌
中图分类号:R392 文献标识磁:A 文章
【英文关键词】/
【中文摘要】《舀的】戮产单核缁胞李斯将菌(Listeria monoe ”ogenes,脒)为模式菌,比较*辐射及常规的热灭活、甲醛灭活制备的灭瀚李斯特黼对小鼠的免疫原性。【方法】以7.辐射、热灭活和甲醛灭活法分别制备灭活的LM;疆茫浚射BALB/c冬鬣,ELISA检测各缝灭溪菌产生熬抗露寇乎;麓察辩生型LM攻击基各缠戆僚护效暴,凌态监测体内带菌情况;流式细胞仪分选免瘦小鼠T细胞,以.I ’细胞转移实验评价辐射灭活的LM产生的免疫应答。f结果l瓣龛重灭活缀、热灭滋缀和甲醚灭活缓产生的抗体水平分毋《为:l:1280,1:640,1:160;努生型缨菌攻击后这3种灭活菌产生的保护率分确为:100%、35%、30%,其中免疫辐射灭活菌的小鼠能够较侠清除攻击的细菌;辐射灭活李斯特菌熊够激发产生T细胞保护性免疫应答。【结论】较之传统的灭涵方法,利用了.辏射魏各戆灭活LM免疫夺氯麓髓够产麓较好豹缳护效果。
【英文摘要】/
【语种】中文
【第一作者】董慧
【通讯作者】焦新安
【期刊名称、卷期、页码】微生物学报49(2):269—273
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【引文索引号】null
【学科分类】兽医学

【题目】动物源性人兽共患细菌病防控生物新制剂的研究Ⅰ分泌抗大肠杆菌O157：H7单克隆抗体杂交瘤细胞株的建立
【中文关键词】肠出血性大肠杆菌0157:m;单克隆抗体(n认b);生物制剂;人兽共患病
【英文关键词】entemhem()丌hagic E∞ “ 0157:H7(EHEC · 0157:H7);monoclonal粕tibody(mAb);biological product;zoono跎s
【中文摘要】将E cofi 0157:H7(EHEC.0157:H7)用甲醛灭活、超声破碎,免疫BALB/c小鼠,制备免疫脾细胞;与sP2/0骨髓瘤细胞融合后,获得7株分泌抗E c以0157:H7单克隆抗体(mAbs)的杂交瘤细胞株,分别命名为F5、B8、E7、G9、Gll、F1和C3,Ig亚

类分别是IgG2aK、IgG2aK、lgGlK、IgMK、IgM入、IgMK和IgG2aK。用间接ELIsA检测,E7和Fl细胞培养上清液的效价为1.6 x 103,腹水效价均为1 x 10“;c3、F5、B8、G9和G11细胞培养上清液的效价为l×10—2×102,腹水效价均为l×103。相加EuSA结果显示,Fl、G9和G11 3株IInbs对应相同的抗原表位,而其它4株对应不同的抗原表位。用间接ELISA分析特异性,7株mAbs与某些其他血清型的大肠杆菌有交叉反应。w船tem blotting表明,C3、E7和Fl 3株mAb8在蛋白分子量28×103处有特异性条带,而其它4株TnAbs则未显示蛋白带。

【英文摘要】seven hy哺dom私毗ret沁m鲫ocloIlal觚tibodi船(mAbs)a鲋nst ent哪h伽ordlagic E∞如0157:H7(EHEc—0157:H7)we陀倒ablished by fu8iIlg sP2/o witlI splI搬l ceIls舶m BALB/c IllIice i舢unized诵tlI删dehyde—kmed and ult瑚帅ically.bmken E∞如0157:H7,唧niIlg耵,Fl,c3,巧,船,G9明d c11.7lk Ig isotypes of mAbswere IgG2aK,IgG2aK,IgGlK,IgMK,IgM入,I洲K釉d IgG2aK,嗍p即tively.,nIe EUSA amibody tit啪0f E7 and F1were 1.6×103锄d l×1011in sup唧岫t锄d踟itic nuid respectively,me otIIe坞were 1×10—2×102 in 8upe咖tam,锄d l×103 iIl the a∞itic nuids.Additiv竹EUSAindicated th Fl,G9明d Gll w哦。嗍po础Ilg to nlesan圮粕tigen印itope,but tlle otlIer 4 lnAbs们弛d诳b他nt印ilopeB.,11le 7 mAbs c叫ld react w汕∞me o1Ⅰer kinds0fb∞teria in dle specmc咖lysis by indirect EusA.Intlle westem-blottiIlg,Ⅱ逾bs C3,E7 and Fl di8played t}Iestained protein band of appmximate 28×103,but the other 4 mAbs didn’t show锄y stained protein band.

【语种】中文

【第一作者】夏兴霞

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【学科分类】兽医学

【题目】肠出血性大肠杆菌O157H7 rfbE与fliC基因的表达及鉴定

【中文关键词】出血性大肠杆菌;咖E;fliC;免疫活性

【英文关键词】enterohemorrhagie最co/i(EHEC);咖E;flit;immunological activity

【中文摘要】利用PCR技术将肠出血性大肠杆菌0157:H7的咖E与肛C基因片段分别克隆到pET原核表达系统,在E coli B121(DE3)中表达。结果显示ffSEJTiC以包涵体形式表达,表达产量高达总菌体蛋白的40%左右,经His·Bind镍柱纯化目的蛋白,在E eoli BL21(DE3)中表达的毋E〃iC具有良好的免疫活性。

【英文摘要】Abstract:The咖E gene(0157 antigen gene)and fliC gene(H7 antigen gene)from enterohemorrhagic E coli(EHEC)0157:H7骶陀cloned to the pET prokaryotic expression system by PCR.The objective protein Wag induced to exopressin the BL21(DE3)ceHs after transfection.The expressed protein WaS found in insoluble form,accounting for 40%0fthe total bacteria protein.These expressed protein were respectively purified by His—Bind purification kit.Recombinant rlbEand fliC protein expressed in E eoli BL21(DE3)have good immunological activity.

【语种】中文

【第一作者】潘群兴

【通讯作者】潘群兴

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【学科分类】兽医学

【题目】出血性大肠杆菌O157H7的Tir与stx12B融合基因的构建和表达

【中文关键词】:EHEC 0157:H7;转位紧密素受体;志贺毒素;融合基因

【英文关键词】words:EHEC 0157:H7;Tir;six;Fusion gene

【中文摘要】为了更好防治由出血性大肠杆茸0157:H7引起的痰痛,尝试研制基因工程疲苗,其中亚单住疫苗具有很大优势。方法:构建表达tir和stxb的融合基因.将tir基因中闻295个氨基酸残基(Tit295)与stxB亚豢基因72个氨基酸串联。构建pET28a--stx2b--Tir295-stxIb重组质拉,将其转化于BL21(DE3).用IPTG进行诱导表达,经SDS--PAGE电泳检洲.该融合蛋白获得了高效表达。结果:薄层扫描分析表明.目的蛋白表选量占茵体总蛋白含量的30%左右。结论:由于该融合蛋白由Tir、stxlb和stx2b三部分抗原组成,可刺激机体产生针对转位紧密素受体(Tir)和志贺毒素(stx)的抗体,在EHEC 0157亚单位疫苗设

计或单克隆抗体抗制备中具有重要价值。关键词:EHEC 0157:H7;转位紧密素受体;志贺毒素;融合基因-‘中田分类号:078
【英文摘要】To construct tir-stx fusion gene,the DNA fragments encoding middle 295 amino acids ffir295)of tir and 72 aminoacids(Stx72)of Stxlb and Stx2b wem fused in tm in frame with the multiple cloning sites of pET一28a,and the recombinantplasmid of pET28a—Stx2b-Tir-Stx l b Wfi8 transferred to host cells E.coli BL2l strain fDE3).Then,the protein was induced andexpressed with induction of IPTG.711Ie expression quantities and style of fusion protein were determined by SDS-PAGE and thinlayer scanning results showed that amount of expressed fusion protein WaS 30%in total of bacteria protein.Because the fusionprotein was consisted of tir295,and stxb72 antigens,it Can evoke immune responses against tit295 and stxb72.ne tir-stxbfusion protein expressed in E.coli could offer an important ingredient that should be consider in construction of recombinantEHEC 0157 vaccine or preparation of experimental matedal for the monoclonal antibody.
【语种】中文
【第一作者】张雪寒
【通讯作者】张雪寒
【期刊名称、卷期、页码】内蒙古农业科技2009(3):59-61
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【学科分类】兽医学

【题目】胎儿弯杆菌表面蛋白SapA抗原单克隆抗体的制备
【中文关键词】胎儿弯杆菌表面蛋白SapA;免疫;单克隆抗体
【英文关键词】Key words:surface layer protein(SapA)of Campylobacter fetus;immunization;monoclonal antibodies(MAb)
【中文摘要】原核表达的重组胎儿弯杆菌毒力因子表面蛋白(rSapA-N)免疫小鼠,采用细胞融合技术,共获得2株抗rSapA.N的单克隆抗体(MAb),经Ig亚类鉴定,均为IgGl,轻链为K链;Western blot证实这2株MAb均能与rSapA.N发生特异性反应,而与其它蛋白则不发生反应;以这2株MAb的杂交瘤细胞制备腹水,效价达到l:100 000和1:60 000。本研究制备的MAb,为研究和检测胎儿弯杆菌提供了一种重要的手段。
【英文摘要】Abstract:To produce monoclonal antibody(MAb)against surface layer proteins(rSapA-N)of Campylobacter fetus,BALB/cmice were immunized with the recombinant plasmid pET32a · SapA—N.Spleen cells were collected and fused with SP2/0 cells.Twohybridoma cell clones secreting antibody against rSapA—N were obtained.Both MAbs belong to IgGl subclass with K chain;Western blot analysis showed that both MAbs reacted with recombinant rSapA—N protein;The MAbs developed in this study couldserve as an important tool in the research of the Campylobacter fetus.
【语种】中文
【第一作者】赵海玲
【通讯作者】刘思国
【期刊名称、卷期、页码】中国预防兽医学报,31(5):409-411
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【引文索引号】null
【学科分类】兽医学

【题目】胎儿弯杆菌病TaqMan实时荧光定量PCR检测方法的建立
【中文关键词】C.fetus;表面蛋白基因SapA;实时荧光PCR;TaqMan水解探针
【英文关键词】Key words:Campylobacter fetus;SapA gene;real-time PCR;TaqMan probe
【中文摘要】建立胎儿弯杆菌(c.fetus)定量检测方法,本研究根据C.fetus毒力因子表面蛋白(SapA)的基因序列设计引物和一条特异的TaqMan水解探针,建立了一种敏感、特异、重复性好的快速检测C.fetus的TaqMan荧光定量PCR方法。对该方法的特异性与敏感性研究,结果显示,该方法检测C.fetus结果均为阳性,而非C.fetus均为阴性;对带有SapA基因的阳性质粒的检测敏感性为108拷贝~102拷贝/IxL范围内具有良好的线性关系,可敏感地检测到模板中13个拷贝的细菌DNA,其灵敏度是常规PCR方法的100倍。该方法具有简便、快速、特异性强、敏感性高等特点。该方法为C.fetus快速检测试剂盒的研制打下了良好的基础。
【英文摘要】Abstract:A real-time fluorescent quantitative PCR was developed for the detection of Campylobacter fetus using a pair ofprimers and a TaqMan probe specific to the SapA gene of Campylobacter fetus.The assay is highly specific and showed no

crossreactivity against other bacteria.It had a sensitivity of detecting 1 3 copies of bacterial DNA.This method was rapid,higlllysensitive and specific.The assay could provide a powerful tool for quantification of Campylobacter fetus,and could be furtherdeveloped into a commercial kit for rapid detection of Campylobacter fetus.
【语种】中文
【第一作者】赵海玲
【通讯作者】刘思国
【期刊名称、卷期、页码】中国预防兽医学报,31(11):874-877
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【引文索引号】null
【学科分类】兽医学

【题目】Changes in antimicrobial resistance among Salmonella enterica subspecies enterica serovar Pullorum isolates in China from 1962 to 2007
【中文关键词】/
【英文关键词】Salmonella enterica subspecies enterica serovar
Pullorum
Antimicrobial resistance
China
【中文摘要】/
【英文摘要】There are few data available for the trends of antimicrobial resistance of Salmonellaenterica subspecies enterica serovar Pullorum (S. Pullorum) in China and other parts ofthe world. Thus, the objective of this study was to evaluate the changes in antimicrobialresistance of S. Pullorum isolated from diseased chickens in China from 1962 to 2007. Atotal of 450 S. Pullorumisolates were tested for their susceptibility to 17 antimicrobials ina disk diffusion method. 39 – 95% of the isolates displayed a high level of resistance,particularly against ampicillin, carbenicillin, streptomycin, tetracycline, trimethoprimand sulfafurazole. Isolates exhibited increased resistance to carbenicillin, spectinomycin,trimethoprim, trimethoprim/sulfamethoxazole and nalidixic acid during the studyperiod. Moreover, 56.2% of the isolates exhibited multiple drug resistance (MDR;resistance 4 antimicrobials) and showed an increasing trend between 1970 – 1979 and2000 – 2007. Therefore, the results suggest that certain measures, including continuedsurveillance of antimicrobial resistance and the rational use of antimicrobials, arenecessary and important in order to control the rapid increase in antimicrobial resistancein S. Pullorum.
【语种】英文
【第一作者】Zhiming Pan
【通讯作者】Xinan Jiao
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【引文索引号】0378-1135/$ – see front matter 2008 Elsevier B.V. All rights reserved.
【学科分类】兽医学

【题目】Priming with a DNA vaccine delivered by attenuated Salmonella typhimurium and boosting with a killed vaccine confers protection of chickens against infection with the H9 subtype of avian influenza virus
【中文关键词】/
【英文关键词】Avian influenza virus (AIV)
DNA vaccine
Salmonella typhimurium
Prime and boost
【中文摘要】/
【英文摘要】Control of the circulation of H9 low-pathogenic avian influenza virus (LPAIV) is a major concern forboth animal and public health. To improve vaccine efficacy against H9 LPAIV, we have utilized a novelprime – boost vaccination strategy. Specific-pathogen free (SPF) chickenswere first orally immunized witha hemagglutinin (HA)DNA vaccine delivered by attenuated Salmonella

typhimurium, followed by boostingwith a killed avian influenza (AI) vaccine. Chickens in this combined vaccination group were completelyprotected against both oropharyngeal and cloacal virus shedding after intranasal challenge with H9N2AIV, while viruseswere detected from these sites in other vaccination groups. Prior to challenge, chickensin the prime – boost group also had higher ($P < 0.05$) serum hemagglutination inhibition (HI) titers andintestinal mucosal IgA ELISA titers against AIV, and higher lymphoproliferation stimulation indices thanthose from other groups. Thus, we have demonstrated the efficacy of a novel prime – boost vaccinationstrategy against H9N2 avian influenza virus, which could be also applied for the development of vaccinesagainst other mucosally infectious pathogens.

【语种】英文
【第一作者】Zhiming Pan
【通讯作者】Xinan Jiao
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【学科分类】兽医学

【题目】鼠伤寒沙门氏菌X4550 FlhD 基因缺失株的构建
【中文关键词】鼠伤寒沙门氏菌6 4550; FlhD 基因; 同源重组; 鞭毛缺失
【英文关键词】Salmonella ty p himur ium 64550; FlhD g ene; homolo gous recombinat ion; f lag ella def-i ciency
【中文摘要】为构建鼠伤寒沙门氏菌6 4550 FlhD 基因缺失所致的鞭毛缺失株, 采用PCR 技术从减毒鼠伤寒沙门氏菌64550 基因组DNA 中扩增出了鞭毛控制操纵子基因(FlhD) 两侧翼基因片段, 作为FlhD 基因敲除所需的上臂和下臂的同源序列; 以pKD4 质粒为模板, 扩增了卡那霉素(Km) 抗性基因, 并分别克隆入pMD18-T 载体中, 获得了重组质粒pMD-FlhD-U、pMD-FlhD-D 和pMD-Km。将获得的上臂和下臂基因以及卡那霉素抗性基因通过拼接, 构建重组质粒pMD- $FlhD/ Km。将重组片段$F lhD/ Km 亚克隆入pGMB151自杀质粒, 并转化大肠杆菌V 7213, 获得重组菌V 7213(pGMB151- $FlhD/ Km) 。将此细菌作为供体菌, 与受体菌鼠伤寒沙门氏菌64550 进行固相杂交, 经同源重组和抗生素筛选, 获得鼠伤寒沙门氏菌6 4550($F lhD/ Km) 鞭毛缺失株。通过PCR 扩增、动力学鉴定及电镜观察, 显示鼠伤寒沙门氏菌64550 的FlhD基因已被成功敲除。证实, 运用同源重组的方法可成功地敲除鼠伤寒沙门氏菌64550 的FlhD 基因, 并导致其鞭毛缺失, 为鼠伤寒沙门氏菌鞭毛的功能研究奠定基础。
【英文摘要】T o const ruct f lag ella mutant by knocking o ut FlhD g ene of Salmonella ty p himur ium(S . typhimur ium) 64550, tw o f lank sequences of FlhD g ene w ere amplif ied by PCR f rom the genomic DNA o f S.ty p himur ium 6 4550, w hich w ere necessary for suicide plasmid for knocked out F lhD g ene as the up anddow n arm sequences, and a kanamycin-resistant (KmR) gene w as amplif ied f rom plasmid pKD4. These amplified genes w ere subclo ned into pMD18-T vector r espect ively, and then pMD-FlhD-U , pMD-F lhD-D andpMD-Km plasmids w ere const ructed. T he up and dow n arm g ene fragment s and the KmR g ene w er e connectedthro ug h rest riction enzyme sites to co nst ruct r ecombinant plasmid pMD- $FlhD/ Km. The suicideplasmid pGMB151- $FlhD/ Km targ et ing FlhD g ene w as developed following $FlhD/ Km w as subclo ned intothe suicide plasmid pGMB151, then t ransfo rmed into Escher i chia col i V 7213, and the r ecombinant w asdesignated as V 7213 (pGMB151- $FlhD/ Km) . T he recombinant V 7213 (pGMB151- $FlhD/ Km) as do no rbacteria w as conjug ated w ith recepto r bacteria S. ty p himur ium 64550. The flagella-deficient mutants6 4550($F lhD/ Km) of S. ty p himur ium w ere o btained after tw o homolog ous recombinat ions and screeningby ant ibio tics. In result, PCR identif icat io n, mobility ident ificat ion and elect ro n microscope o bser vation ind-icated that the F lhD g ene contr olling the grow th of flagella w as successfully kno cked out, and flag el la-deficient mutant was successfully const ructed. It w as co ncluded that the FlhD g ene of S . ty p himurium6 4550 could be knocked out by homolo gous r ecombinat ion, w hich resulted in the deletant of flagella, andthese r esult s provided essent ial base for further study the funct ion of f lagella of S. ty p himurium.

【语种】中文
【第一作者】耿士忠
【通讯作者】焦新安
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【学科分类】兽医学

【题目】重组产单核细胞李斯特菌溶血素的应用研究
【中文关键词】重组LL0蛋白;ELISA;免疫;保护性
【英文关键词】/
【中文摘要】李氏杆菌溶血素(Listeriolysin,LLo)是产单核细胞李斯特菌的主要毒力因子,为探索I。I。0的免疫保护性和作为诊断抗原的可行性,本研究用重组LLO抗原和单核细胞增多性李氏杆菌(Listeria monocytogenes,LM)全菌分别免疫BAI,B/e小鼠和家兔,定期采血。ELISA检测抗LLO的抗体水平,并分别对免疫和对照动物攻毒致死剂量的LM,分析重组LLO抗原的免疫保护性。结果表明,小鼠和家兔在二免后10~20 d内LLO的抗体即可达到峰值。而且免疫动物能有效抵抗I。M的感染。因此,重组l。I。o不仅可以用作动物LM的诊断抗原,而且具有作为基凶工程疫苗的潜力。
【英文摘要】/
【语种】中文
【第一作者】赵松波
【通讯作者】骆学农
【期刊名称、卷期、页码】中国畜牧兽医,2010年第37卷第3期,105-108
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【学科分类】兽医学

【题目】出血性大肠杆菌0157:H7 Stx2B-Tir-Stxl B多价融合蛋白表达及免疫原性研究
【中文关键词】:EHEC 0157:H7;转位紧密素受体;志贺毒素;融合基因;免疫原性
【英文关键词】Key words:EHEC 0157:H7;Tir;Stx;Fusion gene;Immunogenicity
【中文摘要】:为了更好防治由出血性大肠杆菌0157:H7引起的疾病,尝试研制基因工程疫苗,其中亚单位疫苗时具有很大优势。构建表达Ifr和stxlb的融合基因,将衍基因中间295个氨基酸残基(Tir295)与stxlb亚基基因72个氨基酸串联构建pGEX·stx2b—tir-stxlb重组质粒,将其转化于BL21(DE3),用IPTG进行诱导表达,经SDS.PAGE电泳检测,该融合蛋白获得了高效表达,目的蛋白表达量占菌体总蛋白含量的30%左右。重组蛋白纯化后皮下途径免疫小鼠,能够诱导高滴度(105)的IgG,鼻腔内途径免疫小鼠不仅能够诱导高滴度(104)的IgG,还能诱导高达102的IgA。二免后攻击50LD50的EHEC 0157:H7,相对于对照组,免疫组粪便中排菌量明显降低、排菌时间明显缩短。结果表明:该融合蛋白免疫原性良好,并且由Tir、Stx2b和Stxlb三部分抗原组成,可刺激机体产生针对转位紧密素受体(Tir)和志贺毒素(Stx)的抗体,在EHEC 0157亚单位疫苗设计或单克隆抗体抗制备中具有重要价值。
【英文摘要】In order to prevent and cure EHEC 0157:H7,genetically engineering vaccine,especially subunit VflX3-cine,has significant dominance over others.To construct tir—stx fusion gene,the DNA fragments encoding middle 295 aminoacids(Tir295)of tir and 72 amino acids(stx72)of stxlb and stx2b were fused in turn in frame with the multiple cloning sites of pGEX and the recombinant plasmid of pGEX.stx2b—tir.stxl b Was transferred to host cells E.coli BL21 strain(DE3).Then,the protein Was induced and expressed with induction of IPTG.The expression quantities and style of fusion protein were determined by SDS.PAGE and thin layer scanning results showed that amount of expressed fusion protein Was 30%in total of bacteria protein.Purified recombinant Stx2B-Tir-StxlB protein can elicit high titer IsG(10 ’)by subcutaneous immunization BALB/c mice,also,elicit high titer IgG(104)and IgA(102)by intra nasal immunization.More · over,compared to non-immunized mice still shed EHEC 0157:147 on 14th day,immunized mice shed no bacteria in the fecal samples 8 day later after challenged with 0157:H7.All results shows that stx2b—tir—stxlb protein has good antigeni—city,and tir295,and stxb72 antigens can evoke immune responses against tir295 and stxb72,reseptively.The tir—stxb fusion protein expressed in E.coli could offer an important ingredient that should be consider in construction of recombinant EHEC 0157 vaccine or preparation of experimental material for the monoclonal antibody.
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【题目】大肠杆菌0157:H7抗体胶体金免疫层析检测试纸条的研制
【中文关键词】肠出血性大肠杆菌0157:H7;胶体金;免疫层析试纸条;鼠
【英文关键词】Key words:EHEC 0157:H7;colloidal gold;immunoehromatography strip;mice
【中文摘要】建立快速检测鼠感染大肠杆菌0157:H7后的抗体,本研究采用颗粒为20 nm的胶体金溶液标记纯化的羊抗鼠IgG,制备金标探针,喷涂于玻璃纤维膜上;将大肠杆菌0157:H7抗原和抗大肠杆菌0157:H7单克隆抗体F1分别包被于硝酸纤维素膜上作为检测线和质控线,组装成鼠血清0157:H7抗体胶体金免疫层析检测试纸条。实验结果表明,该试纸条仅与0157:H7阳性鼠血清发生特异性反应,用该试纸条与常规间接ELISA平行比较检测0157:H7免疫鼠血清,抗体效价分别为1×106和l X 105,两者的敏感度相当。该试纸条操作简便,10 rain可出结果,适用于调查与追溯鼠0157:H7感染状况时的现场检测。
【英文摘要】To develop a rapid and accurate test based on the inununochromatographic(IC)assay for the detection of antibodies against enterohemorrhagic E.coil 0157:H7 in mice,the probes were prepared by coupling 20 11111 gold particles in colloidal solution with purified goat anti—mouse IgG,and dispensed OB the glass fibers.The EHEC 0157:H7 antigen and mouse anti—EHEC 0157:H7 monoclonal antibody FI Wel"e separately coated on the nitrocellulose membrane as the test line fT line)and the control line(C line).1rI圮rapid IC strip Was assembled in regular sequence.Tcsts 011∞删samples showed that only 0157:H7 positive$enlm produced a positive signal on the IC strip.11地sensitivity of the strips wag similar to the indirect ELISA.111e IC strip developed in this study is specific,simple and sensitive,and suitable for the field investigation of EHEC 0157:H7 infection in mice.
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【题目】出血性大肠杆菌O157:H7 的Tir 与Hly 融合基因的构建和表达
【中文关键词】EHEC O157:H7; 转位紧密素受体; 溶血素; 融合基因
【英文关键词】EH EC O157 : H7; t ir; hly ; fusion gene
【中文摘要】构建表达T ir 和Hly 的融合基因, 将Tir 基因的C 端414 个氨基酸残基(Tir 414) 基因部分与Hly 基因的C 端300 个氨基酸残基(Hly300) 基因部分串联构建pET28a- Tir414-H ly300 重组质粒, 将其转化于BL21 (DE3) , 用IPTG 进行诱导表达, 经SDS- PAGE 电泳检测, 该融合蛋白获得了高效表达。薄层扫描分析表明, 目的蛋白表达量占菌体总蛋白含量的30%左右。由于该融合蛋白由T ir 和H ly 2 部分抗原组成, 可刺激机体产生针对转位紧密素受体(Tir) 和溶血素(H ly) 的抗体, 在EH EC O157 亚单位疫苗设计或单克隆抗体抗制备中具有重要价值。
【英文摘要】To co nstr uct t ir- hly fusion g ene, the DNA fragment s enco ding C term inal 414 amino acids (Tir 414) of tirand C t erminal 300 amino acids(H ly 300) of hly w ere fused in tur n in fr ame with the multiple clo ning sites o f pET-28a, and the recombinant plasmid of pET 28a- tir- hly w as transferr ed to host cells E. coli BL21 strain (DE3) . Then,the pro tein was induced and expressed w ith IPTG. The expressio n quantit ies and st yle o f fusion pr otein w ere determinedby SDS- PAGE and thin layer scanning r esults show ed that amo unt of expressed fusion pr otein w as 30% in totalof bacteria pr otein. Because the fusio n pr otein w as consisted of t ir414 and hly300 antig ens, it can ev oke immunerespo nses against tir414 and hly300. T he t ir- hly fusion pr otein ex pr essed in E. coli co uld o ffer an impor tant ing red-ient that sho uld be co nsider in co nstr uction of recombinant EH EC O1 57 vaccine o r pr epar atio n of ex perimental material for t he mo no clonal antibo dy .
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【题目】重组蛋白P60 与LLO对单核细胞增多性李斯特菌灭活疫苗的免疫增强效果
【中文关键词】单核细胞增多性李斯特菌; 重组蛋白P60; 白介素-4; C干扰素; 疫苗; 保护性
【英文关键词】L i st er ia monocy togenes ; recombinant pro tein P60; IL-4; IFN- C; vaccine; protect ion
【中文摘要】为增强单核细胞增多性李斯特菌(简称单增李斯特菌) 灭活疫苗的免疫效果, 对单增李斯特菌入侵相关蛋白(P60) 基因进行了克隆、表达及纯化, 分别与低剂量李斯特菌溶血素O(LLO) 、单增李斯特菌灭活菌混合, 以Mo ntanide ISA206 为佐剂制成疫苗, 皮下接种家兔, 并设灭活疫苗免疫组和PBS 对照组, 定期检测3 组家兔的血清抗体、I L-4 和IFN-C水平的变化; 二免后第21 d 每只家兔腹腔注射2 @ 108 CFU 单增李斯特活菌攻毒, 观察各组家兔的发病情况, 每隔24 h 检测一次细菌在各组家兔体内的繁殖率。结果表明, 添加P60 和低剂量LLO 重组蛋白的单增李斯特菌灭活疫苗免疫组家兔二免后抗体水平明显高于其他各组,且能诱导T h 细胞向T h1 型分化, 抑制Th2 型细胞的分化, 调节抗原特异性免疫应答, 能有效抵抗单增李斯特菌的感染, 使细菌在家兔体内(外周血、脾) 的几何增长率从64. 69%降到24. 06% , 免疫效果明显优于灭活疫苗单独免疫组。证明P60 和低剂量LLO 能增强灭活疫苗的免疫保护效果。
【英文摘要】T o enhance immune ef ficacy of the inact ivated L i ster ia monocy togenes (LM) vaccine, the invasion-associated protein p60 recombinant protein, low do ses of LLO w ere added to the inact ivated L.monocy togenes, w ith Montanide ISA206 as adjuv ant . T he inact ivated L . monocy togenes vaccine w as used asnegat ive cont ro l and PBS as blank cont ro l. T he serum ant ibodies, IL-4 and IFN- Cin rabbits w ere detectedregular ly af ter subcutaneous inoculat ion w ith the abo ve vaccines. On day 21 after the second immunizat ion,2 @ 108 CFU of L . monocy togenes w ere injected into each rabbit by int raperitoneal inject ion. The patholog-ical changes w er e observed and the grow th o f the L. Monocy togenes in vi vo w as detected ev er y 24 h. Ant-ibody level in r abbit s injected w ith P60 and the LLO-addit iv e vaccine w as sig nif icant ly hig her compar ed w iththe o ther 2 g roups, w ith induction o f conversio n fr om Th to T h1 and inhibit io n of co nv ersion f rom Th to Th2, and the ant ig en-specific immune responses were regulated. The geomet ric grow th rate(in blood andspleen) decreased f rom 64. 69% to 24. 06% , indicat ing that the immune ef fect of p60 and LLO-addit iveinact ivited v accine w as significant ly superior to others. T he study show ed that p60 and low dose o f LLOcould sig nif icant ly enhance immune effect o f inact ivated L . Monocy togenes vaccine.
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【题目】动物粪便沙门菌PCR检测技术的研究
【中文关键词】沙门菌;stn;PCR;粪便
【英文关键词】/
【中文摘要】:为了建立一种动物粪。便样品中快速、特异、敏感的沙门菌检测方法,根据沙门菌肠毒素stn基因设计一对引物,对不同血清型的沙门菌和非沙门菌进行PCR检测,并对该PCR方法进行反应的灵敏度、模拟粪便样品的最低检出限测定及粪便样品的检测。运用该方法对250份粪便样品进行检测,同时用传统方法进行验证。结果表明,设计的引物特异性好,能专一性扩增出约260 bp条带;该引物灵敏度高,能进行有效检测的核酸最低起始量为43.85 pg,纯菌检测灵敏度迭1 cfu/mL。接种沙门菌到粪便样品中,当粪便样本中菌量达103 cfu/mL以上时,不需要增菌,沙门菌可立即检出,增菌后检出限可以达到1 cfu/mL。PCR检测250份样品共检出18份阳性,同时传统细菌培养方法证明结果正确。该方法可用于粪便样品的检测。
【英文摘要】/
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【题目】大肠杆菌0157:H7单克隆抗体胶体金免疫层析检测试纸条的研制
【中文关键词】大肠杆菌0157:H7;单克隆抗体;胶体金;免疫层析试纸条;人兽共患病
【英文关键词】Key words:E coli 0157:H7;monoclonal antibody(mAb);colloidal gold;immunochromatography strip;zoonosefl
【中文摘要】用E coli 0157:H7菌体免疫BALB/c鼠,制备免疫脾细胞,与SP2/0骨髓瘤细胞融合,获得了16株分泌单克隆抗体(mAb)的杂交瘤细胞株。其中,1D3、2E7和2H7三株为0157:H7特异单克隆抗体,Ig亚类分别为IgMK、IgG2bK和IgG2bK,腹水抗体ELISA效价分别为103、105和106。用纯化的单克隆抗体2E7标记胶体金,制备金标抗体玻璃纤维素膜;将纯化的2H7和羊抗鼠IsG分别作为检测和对照捕捉抗体包被于硝酸纤维素膜(NC)上;组装成双抗夹心法0157:H7胶体金免疫层析检测试纸条。用该试纸条可特异检测0157:H7,敏感度为106 CFU/mL,与相同单克隆抗体2H7和2E7建立的0157:H7夹心ELISA检测方法的敏感度相当,试纸条简便快速,在l~5 min内可得出检测结果,便于0157:H7的临床快速诊断与现场检测样品的快速筛查。
【英文摘要】BALB/c mice we陀immunized with formaldehyde.killed E coli 0157:H7 and their splenocytes were fused withmyeloma ceUs SP2/0.As a result,16 hybridomas were generated and 3 of them(1 D3,2E7 and 2H7)were identified tosecret monoclonal antibodies(mAbs)to E.coli 0157:H7.The antibody isotypes were IgMg(1 D3),IgG2bK 92E7)andIgG2bK(2H7).The ELISA titers of aseitic fluids were 103,105 and 106,respectively.The gold particle in colloidal solutionwas coupled with purified monoelonal antibody 2E7,and then dispensed OU the glass fibers.The purified monoclonal antibody2H7 and goat anti-mouse IsG serving as capture antibody were coated separately on the nitrocellulose membmne as the test line(T line)and the control line(C line).Then the sandwich—based gold immunoehromatographic strip for the detection ofE.coli 0157:H7was assembled in regular sequence.The test reSults indicated that the strip Was specific to 0157:H7 andthe sensitivity was 106 CFU/ml,which Was equivalent to the sandwich ELISA established by using the same monoelonalantibodies 2E7 and 2H7.The strip is convenient and rapid for the clinical diagnosis and field investigation of E.coli 0157:H7infection.
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【题目】EHEC O157:H7二重PCR的建立及应用
【中文关键词】:0157:H7;二重PCR;方法建立;细菌分离;样品检测
【英文关键词】Key words:EHEC O157:H7;Duplex PCR; E; iC;Detection samples
【中文摘要】:建立用于从临床样品中检测EHEC 0157:H7的二重PCR方法。根据GenBank登录EHEC 0157:H7序列,通过对菌体和鞭毛抗原保守性核苷酸序列的比对和分析,分别设计编码0抗原 基因和编码H抗原. c基因各1对特异性引物,建立二重PCR检测方法,并以EHEC O157:H7纯培养和模拟制备的3种阳性样品为原材料,对方法的敏感性和特异性进行分析。运用成功建立的二重PCR,从带菌率最高的牛粪便中检测EHEC O157:H7,并进行菌株分离和鉴定。成功建立了咖E与 c的二重PCR方法, E与 c引物比例为2.5:1,PCR循环参数中退火温度为56℃ ,扩增片段长度 E为812 bp,fliC为625 bp。检测阳性临床样品检测敏感性可以达到10 cfu/g。检测24株非EHEC 0157:H7大肠杆菌和15株非大肠杆菌,只有EHECO157:H7能够扩增出特异性的咖E条带,EHEC 0157:H7和EPEC 055:H7能够扩增出 c。只有EHEC O157:H7能够同时扩增出咖E与 c 2条目的条带。从63份牛粪便样品中分离到4株EHEC O157:H7:生化试验表明4株EHEC 0157:H7具有典型EHECO157:H7的生化特性;药敏试验表明4株EHEC 0157:H7具有较为广谱的耐药性;帕 序列分析与GenBank序列同源性介于97.3% 一99.2% 之间, c序列与GenBank序列同源性介于97.6% ~100%之间;4株EHEC 0157:H7对Balb/c小鼠的致病性有差异,EHEC O157:H728#和EHEC O157:H738#致病性强,EHEC O157:H73#和EHEC 0157:H717#较弱。以帕E和. C为目的基因成功建立了二重PCR,敏感性和特异性良好,可用于临床样品的检测,提高细菌分离率。

【英文摘要】Abstract:Construct a duplex PCR for the detection of E.col 0157:H7 from clinica1 samples.Analyses of theavailable sequences of the two major virulence genes listed in GenBank allowed us to develop the two-gene multi・-plex PCR protocol that maintained the specificity of each primer pair.Sensitivity and specificity were verified by detectionof E.coli 0157:H7 culture and prepared E.coli 0157:H7 positive samples.Applying the duplex PCR,wedetect E.coli 0 1 57:H7 from bovine feces and isolate the positive samples.The resuhing two bands for咖E and iCwere even and distinct with product sizes of 8 1 2 and 625 bp,respectively.The proportion of E and iC of PCRamplification reaction was 2.5:1( )and the optimal PCR amplification temperature was 56~C.Sensitivity testsshowed that the procedure amplified genes from a fecal sample spiked with a minimum of 1 0 cfu/g.After a 6-h en・richment of E.coli O157一spiked samples,a sensitivity level of 10 cfu/g was achieved.The procedure was validatedwith a total of 24 E.coli strains as well as 1 5 non—E.coli strains.Specificity of the O antigen was indicated by amplificationof only E.coli O157,and not other E.coli serotypes and non—E.coli strains.Specificity of the H antigenwas indicated by amplification of only E.coli O157 and E.coli 055,and not others.From 63 bovine feces,we obtained4 isolates of E.coli O157:H7.Biochemical feature tests showed that isolated E.coli O157:H7 have the representativefeature of E.coli O157:H7.Susceptibility tests indicated that the four E.coli 0157:H7 have broad—spec.trum drug tolerance.Sequence analyses of E and iC suggested that the four isolates have homology of 97.3% 一100% .The four E.coli O157:H7 isolates showed different pathogenicity,isolate 28# and 38#were high,3}}and 17# low.W e successfully developed the duplex PCR for O157:H7 for the detection of clinical samples.

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【中文关键词】肠出血性大肠杆菌O157:H7;toxB基因;缺失株;

【英文关键词】enterohemorrhagic Eschedchia coli O157:H7;toxB gene;knockout strain;mouse;adherence

【中文摘要】为了明确肠出血性大肠杆菌(Enterohemorrhagic Escherichia coli)O157:H7大质粒p0157编码的蛋白质ToxB与O157:I-I7在肠道黏附、定殖的关系,构建含有toxB基因同源臂的重组自杀性质粒pMEG375一BN—Kan—Bc,转化SM10宿主菌获得重组SM10(pMEG375一BN—Kan—BC)。将SM10(pMEG375一BN—Kan—BC)与O157:H7进行混合培养,通过同源重组,获得杂交toxB基因缺失株。用体外接种的HEp一2细胞和体内感染链霉素处理的小鼠,明确缺失株黏附定殖能力。经PCR和Western blot鉴定,toxB基因被卡那霉素(Kan+)选择标记基因表达盒所代替。0157:H7(AtoxB)生长特性与亲本株相比无明显差异。O157:H7(AtoxB)与亲本株相比,对HEp-2细胞的黏附能力降低了2倍。 口服感染小鼠后,O157:H7(atoxB)第3 d粪便排菌量仅为3.1x10 CFU,持续排菌11 d;而亲本株排菌量高达4.03x10 CFU,持续排菌时间超过14 d。

【英文摘要】In order to definite the correlation between ToxB,a large protein encoded by pO157 of enterohemorrhagicEscherichia coli O157 :H7,and intestinal adherence and colonization of O157 :H7,the recombinant suicide plasmidpMEG375・-BN・・Kan—BC was construted by cloning homologous arnls of toxB upward and downward genes into suicide plas-・mid,and was transformed into host bacterium SM10 complement cells to obtain recombinant SMIO(pMEG375一BN—Kan—BC).The SM10(pMEG375一BN—Kan—BC)was incubated with O157:H7 to construct O157:H7(AtoxB)through homol—ogous recombination.HEp一2 cells inoculated in vitro and streptomycin—treated mice in vivo were used to identify O157:H7(AtoxB)a~herence and colonization.The resuhs from PCR and Western blotting showed that toxB gene was successfully replaced with the kanamycin gene cassette by an allelicexchange.No differences were found between the O157:H7(AtoxB)and the parent O157:H7 in growth feature.O157:H7(AtoxB)was two-times attenuated in adher—ence to HEp一2 cells.For Balb/c mice,the fecal sheddingofO157:H7 (AtoxB)was only 3.1 x10 CFU on thethird day after oral infection,whereas the parent O157 :H7 was 4.03xlO CFU.The mice infected with O157:H7(AtoxB)shed the bacteria for 11 d,while with the parentO157:H7,the mice shed for 14 d.

【语种】中文

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【题目】产单核细胞李斯特菌溶血素O基因在大肠杆菌中的优化表达及ELISA检测方法的建立
【中文关键词】产单核细胞李斯特菌; 李斯特菌溶血素O; 优化表达; 纯化; 酶联免疫吸附试验
【英文关键词】Listeria monocytogenes; listeriolysin O(LLO) ; optimized expression; purification; ELISA
【中文摘要】在克隆产单核细胞李斯特菌(LMO) hlyA 基因并构建其原核表达载体的基础上, 进一步对IPT G浓度、诱导时间、诱导温度等影响目的蛋白表达的重要条件进行了优化。根据确定的最佳诱导条件, 使目的蛋白获得了高效表达。对表达的李斯特菌溶血素O(LLO) 进行了纯化, 以其作为靶抗原, 采用间接ELISA方法检测了动物血清中的特异性LLO 抗体。结果表明, 用表达产物作为靶抗原可对LMO 感染动物进行初步诊断, 为建立基于LLO 的动物李斯特菌病血清学诊断技术奠定了基础。
【英文摘要】Based on the cloning and expression of L i steria monocy togenes (LMO) hlyA gene, the concentrat ion o f IPTG, inducing t ime and temperature, all inf luence the targ et protein ex pr ession level, w er eopt imized respect iv ely . Accor ding to the opt imal co ndit ions, the tar get protein w as hig hly ex pr essed. Withthe purif ied recombinant lister io lysin O(LLO) protein as target ant igen in an indir ect ELISA, the animalsinfected w ith LMO could be identified by detecting the serum. s specific ant ibody. The results showed that the purified-expressed LLO provided foundation for developing serological technology for diagnosis of animal listeriosis.
【语种】中文
【第一作者】赵松波
【通讯作者】骆学农
【期刊名称、卷期、页码】中国兽医科学 2009, 39(11) : 968- 972
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【学科分类】兽医学

【题目】Development and evaluation of an indirect enzyme-linked immunosorbent assay for the detection of antibodies against Campylobacter fetus in cattle
【中文关键词】/
【英文关键词】Campylobacter fetus
Enzyme-linked immunosorbent assay
Prokaryotic expression
Purification
SapA gene
【中文摘要】/
【英文摘要】Campylobacteriosis is a zoonosis that occurs worldwide. Infection with Campylobacter fetus (C. fetus)causes infertility and abortion in sheep and cattle. The current study focuses on the SapA gene of C. fetusthat encodes surface array proteins and plays an important role in the virulence of C. fetus. The SapA-N(1398 bp) and SapA-C (1422 bp) fragments were amplified from the C. fetus SapA gene using polymerasechain reaction (PCR), and the corresponding recombinant proteins rSapA-N and rSapA-C were expressedin Escherichia. coli BL21 cells. Results of Western blotting and enzyme-linked immunosorbent assay(ELISA) showed that the immunological activity of rSapA-N was higher than that of rSapA-C ($P < 0.05$).Therefore, rSapA-N was selected to establish an indirect ELISA for detecting antibodies against C. fetus.The diagnostic criteria were as follows: S/PP0.45: positive; S/P < 0.4: negative; 0.45 > S/PP0.4: suspected.The specificity and sensitivity of our method were 94.3% and 88.6%, respectively. Moreover, nocross-reactions were observed between rSapA-N and serum samples that were positive for other bovinebacterial pathogens diseases such as Mycobacterium avium subspecies paratuberculosis. One hundred andtwo serum samples from cows that had experienced abortion were tested. Four and 2 C. fetus-positiveserum samples were found among the 70 bovine brucellosis-positive samples and the 32 infectiousbovine rhinotracheitis (IBR)-positive samples, respectively. The findings suggest that the rSapA-N-basedELISA method has immense potential in future applications.
【语种】英文

【第一作者】Hailing Zhao
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【学科分类】兽医学

【题目】Subcutaneous and intranasal immunization with Stx2B-Tir-Stx1B-Zot reduces colonization and shedding of Escherichia coli O157-H7 in mice
【中文关键词】/
【英文关键词】O157:H7
Translocated intimin receptor
Shiga toxin
Zot
Vaccine
【中文摘要】/
【英文摘要】The type III secretion system of Escherichia coli O157:H7 is involved in colonization of mammalian hostsby the organism. The translocated intimin receptor (Tir) is inserted into the mammalian host cell plasmamembrane in a hairpin loop topology with the central loop of the molecule exposed to the host cell surfaceand accessible for interaction with an LEE-encoded bacterial outer membrane adhesin called intimin.Shiga toxin type 1 and 2 produced by E. coli O157:H7 are responsible for hemolytic uremic syndromeand able to promote intestinal colonization. Zonula occludens toxin (Zot) is a single polypeptide chainencoded by the filamentous bacteriophage CTX of Vibrio cholerae. Zot binds a receptor on intestinalepithelial cells and increases mucosal permeability by affecting the structure of epithelial tight junctions.Because of these properties, Zot is a promising tool for mucosal drug and antigen (Ag) delivery.In the current study, we constructed a novel fusion protein carrying both of the immunogenic B subunitsderived from the two toxins, Tir and Zot, designated Stx2B – Tir – Stx1B – Zot, expressed in the E. coliBL21 and harvested the purified protein by a simple GST · Bind Resin chromatography method. We used astreptomycin-treated mouse model to evaluate the efficacy of subcutaneous vs. intranasal administrationof the vaccine. Following immunization, mice were infected with E. coli O157:H7 and feces were monitoredfor shedding. Immune responses against Stx2B – Tir – Stx1B – Zot, Stx2B – Tir – Stx1B and control agent(GST/PBS) were also monitored. Subcutaneous immunization of mice with Stx2B – Tir – Stx1B – Zot inducedsignificant Stx2B – Tir – Stx1B – Zot-specific serum IgG antibodies but did not significantly induce anyantigen-specific IgA in feces, whereas intranasal immunization elicited significant Stx2B – Tir – Stx1B – Zotspecificserum IgG antibodies with some animals developing antigen-specific IgA in feces. Mice thatwere immunized intranasally with Stx2B – Tir – Stx1B – Zot showed dramatically decreased E. coli O157:H7shedding compared to those of Stx2B – Tir – Stx1B and control agent following experimental infection.Mice immunized subcutaneously with Stx2B – Tir – Stx1B – Zot or Stx2B – Tir – Stx1B both showedreduced shedding in feces, moreover, Stx2B – Tir – Stx1B – Zot did better. These results demonstratethe perspective for the use of Stx2B – Tir – Stx1B – Zot to prevent colonization and shedding of E. coliO157:H7.
【语种】英文
【第一作者】Xue-han Zhang
【通讯作者】Kong-wang He
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【学科分类】兽医学

【题目】肠出血性大肠杆菌O157H7鞭毛可变区基因片段的克隆、表达与免疫原性
【中文关键词】肠出血性大肠杆菌O157 颐H7; flic 基因; 表达; 小鼠
【英文关键词】enterohemorrhagic Escherichia coli O157 颐H7; flic gene; expression; immunogenicity; mouse

【中文摘要】肠出血性大肠杆菌(Enterohemorrhagic Escherichia coli, EHEC)O157 颐H7 是食源感染的人兽共患病原菌。鞭毛蛋白(H7)是EHEC O157 颐H7 重要的毒力因子,其编码基因为flic。该研究在体外克隆和表达flic 基因的可变区,并检测其免疫原性,旨在为EHEC O157 颐H7 疫苗的研制提供候选抗原。PCR 扩增到flic 基因538 ~ 1 483bp 的可变区,成功克隆入冷诱导表达载体pCold玉中,构建重组表达质粒。重组菌BL21(pCold I鄄flic)0郾5 mmol/ LIPTG 过夜诱导,SDS鄄PAGE 和Western blotting 进行鉴定。Balb/ c 小鼠免疫和攻毒试验评价重组H7 蛋白的免疫原性。结果显示:H7 基因(flic)片段945 bp 在pCold玉中成功表达,大小为31 000,能够与天然EHEC O157 颐H7 全抗血清反应;免疫小鼠存活率可以达到80%,而非免疫小鼠存活率仅为20%;免疫组粪便排菌数量显著低于对照组(P<0郾05)。以上结果说明,H7 鞭毛的可变区与菌体黏附密切相关,并且其诱导产生的抗体具有一定的抑制黏附作用,可以作为亚单位疫苗研制的候选抗原,在EHEC O157 颐H7 早期黏附时,协同芋型分泌系统蛋白降低菌体在肠道内的黏附。

【英文摘要】Enterohemorrhagic Escherichia coli O157 颐H7 (EHEC O157 颐H7) is a foodborne and zoonotic patho鄄gen. Flagella, encoded by flic gene, is one of the major virulent factor of EHEC O157 颐H7. This study aimed to clone the variable fragment of flic gene and research its expressionand immunogenicity. The 945 bp fragment located on538-1 483 of flic gene was amplified by PCR and wastransformed into pCold玉to construct a recombinant plas鄄mid, named BL21(pCold I鄄flic). The BL21(pCold I鄄flic)was induced by 0. 5 mmol/ L IPTG for 24 h, and then wasanalyzed by SDS鄄PAGE and Western blotting. Experiments of immunization and challenge to Balb/ c mice were performed to evaluate immunogenicity of recombinant H7 protein. Allthe results showed that BL21(pCold I鄄flic) successfully encoded a protein with the molecular weight of 31 000. The proteinwas able to work with natural anti鄄O157 颐H7 serum. Eighty percent of inoculated mice survived, while only twenty percentsurvived for control. The microorganism of fecal from immunized mice had a significant decrease, compared with that ofcontrol (P<0郾05). All these results indicated that the variable H7 protein had an affinity with bacterial adherence andcould induce inhibitive antibody. It might be a candidate immunity antigen to develop subunit vaccine of EHEC O157 颐H7and able to decrease early adherence.

【语种】中文

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【学科分类】兽医学

【题目】肠出血性大肠杆菌O157：H7 Intimin和Tir-Tccp蛋白质对小鼠的免疫保护性

【中文关键词】肠出血性大肠杆菌O157:H7;Intimin蛋白质;Tir—Tccp蛋白质;免疫原性;小鼠

【英文关键词】enterohaemorrhagic Escherichia coli O157:H7;intimin protein;Tit—Tccp protein;immunogenicity;mouse

【中文摘要】为了研究不同浓度的肠出血性大肠杆菌(EHEC)O157:H7 Intimin和Tir—Tccp蛋白质对接受10 CFUEHEC O157:H7dx鼠的免疫保护作用,将Intimin和Tir—Tccp蛋白质和佐剂充分乳化后,通过皮下多点注射免疫小鼠,对照组注射等量的磷酸盐缓冲液。共免疫2次,间隔14 d,末次免疫后14 d攻毒1只小鼠EHEC O157:H7 10CFU。每次免疫后的14 d通过断尾采血,用间接ELISA法检测血清抗体。攻毒后,观察小鼠精神状态,记录死亡数并检测排菌量。ELISA检测结果表明,Tir-Tccp蛋白质诱导小鼠产生IgG抗体水平明显升高,而Intimin诱导产生的IgG抗体升高不明显。攻毒后,各免疫组小鼠均死亡1只,存活l4只,存活率为93.3% ;对照组小鼠死亡4只,存活6只,存活率为60.0% 。免疫组在攻毒后6 d,粪便中检测不到EHEC O157:H7,对照组在攻毒后13 d仍有较高的排菌量。表明Intimin和Tir—Tccp蛋白质对小鼠起到了有效的免疫保护作用,能够减少EHEC O157:H7在小鼠体内的定殖。

【英文摘要】The objective w as to evaluate the protective efficacy against 10 。 CFU of enterohaemorrhagie Escherichi coli(EHEC)O157:H7 after subcutaneously immunizedwith intimin and Tir—Tccp recombinant protein at differentconcentrations. After emulsifying intimin and Tir—Tccpproteins with adjuvant,the Balb/e mice of experimentalgroups were subcutaneously immunized twice(on days 0and 14)with the protein,while the Balb/c mice of controlgroup were subcutaneously immunized twice with equiva—lent phosphate bufered saline(PBS).On the 14th day following the second immunization。 all the mice were orally infected with 10 ” CFU of EHEC O157:H7. Serum sampleswere collected via cutting of the tail on day 14 after every immunization and IgG antibody was determined by ELISA.Themental states of all the mice were observed,and the mortality and shed bacteria quantity were monitored after challenge.The result of ELISA demonstrated that the Tir-Tccp protein elicited high titrc antibody but the levels of antibody induced byintimin was low.After challenge,one mouse died in each of the immunized groups and the survival rate was 93.3% ,whilethe survival rate of the control group was 60.0% .There was no EHEC O157:H7 in the fecal samples of two immunizedgroups on the 6th day after challenged,but control group mice still shed h J gh level of the organism on 13th day.The resultsdemonstrated that

Intimin and Tir · Tccp recombinant protein significantly reduced shedding of EHEC O157:H7 from exper—imentally infected mice.
【语种】中文
【第一作者】赵攀登
【通讯作者】何孔旺
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【题目】肠出血性大肠杆菌0157:H7AhlyAstxAtoxB基因缺失株的构建
【中文关键词】:肠出血性大肠杆菌0157:H7;hly;stx;toxB;缺失株;小鼠;粘附
【英文关键词】:Enterohemorrhagic Escherichia coli O157:H7;hty,stx,toxB gene;Knockout strain;Mouse;Adherence
【中文摘要】:肠出血性大肠杆菌(Enter0hemo ” hagic Escherichia coli)O157:H7是食源感染的人兽共患病原菌。志贺毒素(Shiga toxin,Stx)、溶血素(haemolysin,Hly)和ToxB是0157:H7重要的毒力因子。选用自杀性质粒pMEG375,体外构建具有同源臂的重组自杀性质粒,借助于sml0宿主菌获得O157:H7杂交菌株,通过同源重组,依次获得O157:H7(AhlyA stxAtoxB)基因缺失株,AhlyA stxAtoxB接种HEp一2细胞和感染链霉素处理的Balb/c小鼠,明确缺失株粘附定植的能力。经PCR鉴定,hly、stx和toxB基因分别被壮观霉素(Spc+)、庆大霉素(Gm +)和卡那霉素(Kan+)基因表达盒所代替,Western blot鉴定结果显示,0157:H7(AhlyA stxAtoxB)检测不到相应的Stx、Hly和ToxB蛋白。0157:H7(AhlyA stxAtoxB)生长特性与亲本株无明显差异。对于HEp-2细胞的粘附能力明显降低。Balb/c小鼠排菌时间和排菌量明显减少和降低。本研究成功获得O157:H7(AhlyA stxAtoxB),并且明确Stx、Hly和ToxB的缺失导致了0157:H7对HEp一2细胞和Balb/c小鼠的粘附和定植能力降低。本研究旨在为研制EHEC O157:H7基因缺失疫苗奠定物质基础。
【英文摘要】Abstract:Enterohemorrhagic Escherichia coli 0157:H7 is a foodborne and zoonotic pathogen.Shiga toxin(Stx),haemolysin(Hly)and ToxB are the major virulent factors of 0157:H7.Therefore,the objective of this studyis to construct the stx,hly,toxB—knockout strain for develop O157:H7 attenuated vaccine.The 0157:H7(A hlyA stx A toxB)was constructed by choosing the smlO complement cells and the suicide plasmid pMEG375 containinghomologous arms of stx,hly and toxB upward and downward genes to study their effect on 0 1 57:H7 intestinal colo—nization of streptomycin—treated mice and adherence to HEp一2 cells.The results from PCR and W estern blottingmethods showed that stx,hly and toxB genes were successfully replaced with the Gentamicin,Spectinomycin and Ka—namycin gene cassettes by allelic exchanges.Also,the 0 1 57:H7(A hly A stx A toxB)was found to be no differencescompared with the parent 0157:H7 in growth feature.For Balb/c mice,the fecal shedding of 0157:H7(A toxB)was on1y 1.1×10 CFU on the third day after oral infection,whereas the parent 0157:H7 was 4.03×10 ’ CFU. A1一SO,the mice infected with 0157:H7(△hlyA stXAtoxB)shed the bacteria for 9days,whereas the parent O157:H7for above 14 days.O157:H7(△hly△stx△toxB)successfully constructed in this study was found to be attenuated inHEp一2 cells of adherence for four times and in mouse models of colonization for shortened and lower fecal sheddingin contrast with the parent O157:H7.
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【第一作者】张雪寒
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【题目】大肠杆菌O157：H7胶体金免疫层析检测试纸条在感染牛和小鼠排菌检测中的应用
【中文关键词】:胶体金免疫层析检测试纸条;肠出血性大肠杆菌Ol57:H7;牛;鼠;粪便
【英文关键词】colloidal gold immunochromatographic strip;enterohemorrhagic Escherichia coli O157:
H 7;cattle;m ouse;faeces
【中文摘要】为了检验大肠杆菌0157:H7胶体金免疫层析检测试纸条在感染动物排菌中的应用效果,将牛和小鼠采用灌胃攻毒方式试验感染大肠杆菌O157:H7,用大肠杆菌O157:H7胶体金免疫层析检测试纸条、细菌鉴别培养基培养计数以及PCR 3种方法检测感染动物粪便中O157:H7的排菌量和持续时间。牛在感染大肠杆菌O157:H7后的第2天开始从粪便排菌

,第4天达到峰值,排菌时间可持续28 d;小鼠在感染O157:H7后的第4小时开始从粪便排茵,第6小时达到峰值,排菌时间可持续15 d。大肠杆菌O157:H7胶体金免疫层析检测试纸条、细菌鉴别培养基培养计数以及PCR 3种方法的检测结果一致,但试纸条更简便、快捷、直观,1~5 min可得出检测结果,便于现场检测样品中O157:H7的快速筛查。

【英文摘要】To investigate the application of colloidal gold immunochromatographic strip for the detec—tion of animals inoculated with Escherichia coli 01 5 7:H7,cattle and mice were inoculated intragastricallywith E.coli 0157:H7,and their faeces were detected using three methods of colloidal gold immunochro—matographic strip,counting bacterial colony in differential medium and polymerase chain reaction(PCR).E.coli 0l57:H7 in the faeces of the inoculated cattle could be detected on 2 d after inoculation with thepeak at 4 d after inoculation and then it dropped down gradually till to 28 d.In the inoculated mice,O157:H7 could be detected in faeces at 4 h and the peak levels at 6 h after inoculation.which dropped down gra—dually till to 1 5 d.Although the results of the three methods were consistent with each other,the colloidalgold immunochromatographic strip was more convenient and rapid for the clinical diagnosis and field inves—tigation of E.coli O1 5 7:H7 infection or contamination than other tWO methods.The detection result couldbe obtained within 1 to 5 minutes.

【语种】中文

【第一作者】夏兴霞

【通讯作者】王永山

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【学科分类】兽医学

【题目】大肠杆菌O157:H7实验感染动物排菌动态检测

【中文关键词】胶体金免疫层析检测试纸条;肠出血性大肠杆菌0157:H7;牛;鼠;粪便;检测

【英文关键词】gold immunochromatographic strip;E.coli 0157:H7;cattle;mouse;faeces;detection

【中文摘要】目的检验大肠杆菌0157:H7胶体金免疫层析检测试纸条在感染动物排菌中的应用效果。方法将牛和小鼠采用灌胃攻毒方式实验感染大肠杆菌0157:H7,用大肠杆菌0157:H7胶体金免疫层析检测试纸条与细菌鉴别培养基分别培养检测感染动物粪便中的0157:H7的排菌量和持续时间。结果牛在感染大肠杆菌0157:H7后的第2天开始从粪便排菌,第4~6天达到峰值,排菌时间可持续28 d;小鼠在感染0157:H7后的第4小时开始从粪便排菌,第6小时达到峰值,排菌时间可持续15 d。结论大肠杆菌0157:H7胶体金免疫层析检测试纸条与细菌鉴别培养基培养计数的检测结果一致,试纸条更简便、快捷、直观,在1~5 min内可得出检测结果。

【英文摘要】0bjective To investigate the application of the gold immunochr0mat0graphic strip for thedetection of animals inoculated with coli 0157:H7.Methods The cattle and mice were inoculated intragas—trically with E.coli 0157:H7,and their faeces were detected by using the gold immunochromatographic strip andcounting colony.Results 最coli 0157:H7 in faeces could be detected on day 2 after inoculation in inoculatedcattle by using immunochromatographic strip of coli 0157:H7 and the method of plate culture count with differentialmedium of E coli 0157:H7 and the peak levels of 0157:H7 in faeces were attained during the forth tosixth day after inoculation and then it dropped down gradually up to day 28 following inoculation.The 0157:H7in faeces could be detected on hour 4 after inoculation in inoculated mice by using IC strip of E coli 0157:H7and the method of plate culture count with differential medium of E.coli 0157:H7 and the peak levels of 0157:H7 in faeces were attained during the sixth hour after inoculation and then it dropped down gradually up to day15 following inoculation.Conclusion The gold immunochromatographic strip for the detection of E.coli O157:H7 is convenient and rapid for the clinical diagnosis and field investigation of E.coli 0157:H7 infection or/andcontamination.

【语种】中文

【第一作者】孙茂华

【通讯作者】王永山

【期刊名称、卷期、页码】东南国防医药2012年1月第l4卷第1期5-8

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【学科分类】兽医学

【题目】肠出血性大肠杆菌O157_H7Tir基因的克隆_表达及生物学活性研究
【中文关键词】肠出血性大肠杆菌O157:H7;转位紧密素受体;表达;粘附;A/E损伤;免疫保护
【英文关键词】EHEC O157:H7;translocation intimin receptor;expression;adhesion;attaching and effacing lesion;immunization
【中文摘要】【目的】克隆、表达肠出血性大肠杆菌(EHEC)O157:H7转位紧密素受体(Tir)基因,并研究其抗原性。【方法】选用pET28原核表达载体,体外构建Tir原核表达重组菌,并在大肠杆菌中获得高效表达。选用家兔制备高滴度多克隆抗体,Western blot分析其免疫原性。选用HEp-2细胞进行粘附和粘附抑制试验,通过光镜、电镜和荧光显微镜进行观察。选用Balb/c小鼠进行免疫试验。【结果】成功获得高效表达重组Tir蛋白,并制备了兔源Tir多克隆抗体,Western blot分析此抗体能与Tir发生特异性抗原抗体反应。表达Tir蛋白能够抑制O157:H7对HEp-2细胞的粘附和A/E损伤。二免后Balb/c小鼠保护率高达75%以上。【结论】在大肠杆菌中成功克隆表达了Tir基因,所获重组Tir蛋白具有良好的抗原性,可能用于肠出血性大肠杆菌O157基因工程疫苗的研究。
【英文摘要】【Objective】The objective of the experiment is to clone,express and study the antigenicity of translocation intiminreceptor(tir)gene from EHEC O157:H7.【Method】The vector pET28 and BL21(DE3)were used to construct and overexpress therecombinant protein of tir gene by prokaryotic expression.The recombinant Tir protein was used to immunize rabbits to obtainhigh-titer polyclonal antibodies,which was used to analyze the antigenicity of Tir by Western blot.HEp-2 cell was selected forEHEC adhesion and adhesion inhibition of to EHEC by light microscopy,electron microscopy and fluorescence microscopyobservation.Balb/c mice was inoculated with purified 200 μg Tir protein subcutaneously and the protection rate was analyzed.【Result】We obtain successfully high-level expression of recombinant protein Tir was successfully obtained and the polyclonalantibodies that have good antigenicity from rabbits were successfully prepared.Tir antibody was able to inhibit EHEC O157:H7adhesion and attaching and effacing lesion(A/E)to HEp-2 cells.Balb/c mice immunized twice showed protection rate up to 87.5%.【Conclusion】Tir gene was cloned and expressed successfully in Escherichia coli,and Tir recombinant protein have goodantigenicity.The above-mentioned results indicated that tir gene could be used for EHEC O157 genetic engineering vaccines.
【语种】中文
【第一作者】张雪寒
【通讯作者】张雪寒
【期刊名称、卷期、页码】中国农业科学2010,43(12):2570-2577
【论文发表时间】2010-04-30 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】兽医学

【题目】Prevalence and antimicrobial resistance of Salmonella spp.isolated from domestic animals in Eastern China
【中文关键词】/
【英文关键词】Antimicrobial resistance, domestic animals,eastern China,Salmonella spp..
【中文摘要】/
【英文摘要】A total of 163 Salmonella spp.isolates representing 15 serotypes recovered from faecal samples of domestic animals(chicken, duck ,goose and pig) in eastern China during 2008 to 2009 were tested for antimicrobial susceptibilities.S.Senftenberg, S.Typhimurium,S.Pullorum and S.Enteritides were the most prevalent serovars.Resistance was most often observed to carbenicillin(65.4%),followed by nalidixic acid(48.8%),tetracycline(46.9%),sulfafurazole(45.7%),ampicillin(43.2%),streptomycin(38.3%)and trimethoprim/sulfamethoxazole(33.3%).With regards to the source of isolates, chicken Salmanella spp.isolates displayed the highest rate of resistance, being resistant to at least one antimicrobial(100%),followed by those recovered from pig (93.4%),goose (90.7%)and duck(80%).Serovars commonly showing multidrug resistance(MDR)to 〉 9 antimicrobials were S.Enteritidis(55.6%).S.Pullorum(17.9%)and S.Typhimurium(17.2%).This study has revealed the prevalence and antimicrobial resistance patterns of Salmonella spp. in domestic animals in eastern China and provides the important information for better controlling these pathogens.
【语种】英文
【第一作者】Z.M.Pan
【通讯作者】X.A.Jiao
【期刊名称、卷期、页码】Journal of Animal and Veterinary Advances, 2010
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【引文索引类型】SCI
【引文索引号】/
【学科分类】兽医学

【题目】Construction of a new food-grade expression system for Bacillus subtilis based on theta replication plasmids and auxotrophic complementation
【中文关键词】无
【英文关键词】Bacillus subtilis;Food-grade;Expression system
【中文摘要】无中文摘要。
【英文摘要】A new food-grade expression system was constructed for Bacillus subtilis based on replicative food-grade expression plasmids and auxotrophic complementation. The food-grade B. subtilis host FG01 was created by knockout of the dal locus from the chromosome of B. subtilis 168. Two food-grade expression plasmids pXFGT03 and pXFGT05 were constructed by combining a novel theta-type Bacillus replicon with the B. subtilis endogenous gene dal and P43 promoter; while pXFGT05 was derived from pXFGT03 by deletion of two open reading frames (ORFs) from the original replicon. Upon transformation of FG01 with pXFGT03 or pXFGT05, the host phenotype was complemented on Luria-Bertani agar plates by the plasmid-coded dal gene, which served as a food-grade selection marker for recombinants. Results showed that deletion of the two ORFs had no impact on plasmid replication. A reporter gene bgaB was cloned into pXFGT03 and pXFGT05, respectively, under control of the P43 promoter, and it was successfully expressed in this food-grade expression system. Segregational stabilities of two recombinant plasmids were investigated, and they were fully stable.
【语种】英文
【第一作者】夏雨
【通讯作者】张灏
【期刊名称、卷期、页码】Appl Microbiol Biotechnol, 2007,76:643 – 650
【论文发表时间】2007-07-30 00:00:00
【引文索引类型】SCI
【引文索引号】10.1007/s00253-007-1035-4
【学科分类】分子生物学

【题目】Production purification and characterization of a potential thermostable galactosidase for milk lactose hydrolysis from Bacillus stearothermophilus
【中文关键词】无
【英文关键词】thermostable β-galactosidase; lactose; purification; hydrolysis
【中文摘要】无中文摘要
【英文摘要】Beta-galactosidase, commonly named lactase, is one of the most important enzymes used in dairy processing; it catalyzes the hydrolysis of lactose to its constituent monosaccharides glucose and galactose. Here, a thermostable beta-galactosidase gene bgaB from Bacillus stearothermophilus was cloned and expressed in B. subtilis WB600. The recombinant enzyme was purified by a combination of heat treatment, ammonium sulfate fractionation, ion exchange, and gel filtration chromatography techniques. The purified beta-galactosidase appeared as a single protein band in sodium dodecyl sulfate-PAGE gel with a molecular mass of approximately 70 kDa. Its isoelectric point, determined by polyacryl-amide gel isoelectric focusing, was close to 5.1. The optimum temperature and pH for this beta-galactosidase activity were 70 degrees C and pH 7.0, respectively. Kinetics of thermal inactivation and half-life times for this thermostable enzyme at 65 and 70 degrees C were 50 and 9 h, respectively, and the K(m) and V(max) values were 2.96 mM and 6.62 micromol/min per mg. Metal cations and EDTA could not activate this thermostable enzyme, and some divalent metal ions, namely, Fe(2+), Zn(2+), Cu(2+), Pb(2+), and Sn(2+), inhibited its activity. Thiol reagents had no effect on the enzyme activity, and sulfhydryl group blocking reagents inactivated the enzyme. This enzyme possessed a high level of transgalactosylation activity in hydrolysis of lactose in milk. The results suggest that this recombinant thermostable enzyme may be suitable for both the hydrolysis of lactose and the production of galactooligosaccharides in milk processing.
【语种】英文
【第一作者】陈卫
【通讯作者】陈卫
【期刊名称、卷期、页码】Journal of dairy science,2008,91(5), 1751-1758

【论文发表时间】2007-08-15 00:00:00
【引文索引类型】SCI
【引文索引号】10.3168/jds.2007-617
【学科分类】分子生物学

【题目】Immobilization of recombinant thermostable beta-galactosidase from Bacillus stearothermophilus for lactose hydrolysis in milk
【中文关键词】无
【英文关键词】β-galactosidase, thermostable, immobilization, lactose hydrolysis
【中文摘要】无中文摘要
【英文摘要】A recombinant thermostable beta-galactosidase from Bacillus stearothermophilus was immobilized onto chitosan using Tris(hydroxymethyl)phosphine (THP) and glutaraldehyde, and a packed bed reactor was utilized to hydrolyze lactose in milk. The thermostability and enzyme activity of THP-immobilized beta-galactosidase during storage was superior to that of free and glutaraldehyde-immobilized enzymes. The THP-immobilized beta-galactosidase showed greater relative activity in the presence of Ca(2+) than the free enzyme and was stable during the storage at 4 degrees C for 6 wk, whereas the free enzyme lost 31% of the initial activity under the same storage conditions. More than 80% of lactose hydrolysis in milk was achieved after 2 h of operation in the reactor. Therefore, THP-immobilized recombinant thermostable beta-galactosidase from Bacillus stearothermophilus has the potential for application in the production of lactose-hydrolyzed milk.
【语种】英文
【第一作者】陈卫
【通讯作者】陈卫
【期刊名称、卷期、页码】Journal of dairy science,2009, 92(2), 491-498
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【引文索引类型】SCI
【引文索引号】10.3168/jds.2008-1618
【学科分类】分子生物学

【题目】Extracellular secretion in Bacillus subtilis of a cytoplasmic thermostable beta-galactosidase from Geobacillus stearothermophilus
【中文关键词】无
【英文关键词】Bacillus subtilis, secretion, thermostable β-galactosidase
【中文摘要】无中文摘要。
【英文摘要】Beta-Galactosidase catalyzes the hydrolysis of beta-galactosides into monosaccharides and is widely used in dairy processing. This study reports the extracellular secretion of a cytoplasmic thermostable beta-galactosidase from Geobacillus stearothermophilus IAM11001 in Bacillus subtilis. This enzyme has potential applications in the dairy industry. It was not secreted in B. subtilis by mediation of 3 general secretory signal peptides, but was secreted extracellularly when it was fused to a twin-arginine signal peptide of B. subtilis phosphodiesterase. Defined and rich culture media were used for recombinant enzyme production, and the extracellular target enzymatic activity reached about 44% of the total enzymatic activity synthesized at 18 h of cultivation in Luria-Bertani medium. As a control of secretion, when the signal peptide coding sequence was absent from the N terminus of the target gene bgaB, the extracellular target enzymatic activity obtained under the same condition of cultivation accounted for less than 7% of the total enzymatic activity synthesized. Results also showed that coexpression of the B. subtilis proteins TatAd and TatCd was indispensable for the secretion of the target enzyme.
【语种】英文
【第一作者】夏雨
【通讯作者】陈卫
【期刊名称、卷期、页码】Journal of dairy science, 2010, 93(7): 2838-2845
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【学科分类】分子生物学

【题目】不同信号肽对脂肪酶A在枯草芽孢杆菌中分泌表达的影响
【中文关键词】信号肽;脂肪酶;lipA基因;枯草芽孢杆菌;重组菌株;分泌表达
【英文关键词】signal peptide; lipase; lipA gene; Bacillus subtilis; recombinant strain; expression and secretion
【中文摘要】本文以 B. subtilis 168 来源的脂肪酶 A 为报告基因,构建一系列枯草芽孢杆菌分泌表达载体,研究不同信号肽对脂肪酶分泌效率的影响。从 B. subtilis 168 基因组 PCR 扩增带自身信号肽的 lipA 基因,克隆入载体 pUCX08,经定点突变在其信号肽与结构基因之间引入酶切位点 EcoR I,利用突变后的 lipA 序列(含信号肽)克隆入穿梭质粒 pMA5△MCS,构建分泌载体 pMA5△MCS-lipA。PCR 扩增 AprE, LipB, WapA, WprA 信号肽序列,替换pMA5△MCS-lipA 中 lipA 基因信号肽序列部分,构建一系列分泌载体,均转化枯草杆菌WB600,得到重组菌株 WB600(pMA5△MCS-lipA),WB600(pMAaprE-lipA),WB600(pMAlipB-lipA),WB600(pMAwapA-lipA),WB600(pMAwprA-lipA)。各重组菌株脂肪酶分泌表达情况有显著差异,具有自身信号肽的重组菌株 WB600(pMA5△MCS-lipA)脂肪酶分泌表达最好,摇瓶发酵 20 h,最高酶活可达 7.64 U/mL,更换信号肽的重组菌株脂肪酶分泌表达均不如原始信号肽,但仍显示不同的结果,各自最高酶活分别为 0.55 U/mL,1.38 U/mL,0.18 U/mL 和 0.77 U/mL。不同信号肽对脂肪酶 A 在枯草芽孢杆菌中的分泌表达有显著影响。
【英文摘要】In this study, we constructed a series of expression-secretion vectors for Bacillus subtilis in which thelipase A gene origining from B.subtilis 168 was used as the reporter. Then, the effects of differentsignal peptides on the secretion efficiency of lipase were investigated. lipA with its signal peptide wasamplified through PCR from B.subtilis 168 genome, and cloned into pUCX08. Then we madesite-direct mutation between the signal peptide and structural gene of lipA creating a EcoR I site. Themutated lipA gene was cloned into the shuttle plasmid pMA5△MCS generating secretion vectorpMA5△MCS-lipA. AprE, LipB, WapA, WprA signal peptides were amplified, then the signal peptideof lipA was replaced by these four in order to construct a series of secretion vectors. Finally, thesevectors were transformed into WB600, getting WB600 (pMA5△MCS-lipA) , WB600(pMAaprE-lipA) , WB600 (pMAlipB-lipA) , WB600 (pMAwapA-lipA) , WB600(pMAwprA-lipA) .There were obvious lipase secretion efficiency differences from these recombinants. The recombinant WB600 / pMA5△MCS-lipA with its own signal peptide secreted best.After culturing for 20h, the highest enzyme activity reached 7.64 U/mL, and that of WB600(pMAaprE-lipA),WB600 pMAlipB-lipA) ,WB600(pMAwapA-lipA) ,WB600(pMAwprA-lipA) showed different results, reaching 0.55 U/mL,1.38 U/mL,0.18 U/mL and 0.77 U/mL separately, no matter they could not compare with the original signal peptide.There were notable effects of different signal peptide on the secretion of lipase in Bacillus subtilis.
【语种】中文
【第一作者】曾伶俐
【通讯作者】陈卫
【期刊名称、卷期、页码】中国科技论文在线
【论文发表时间】2009-08-12 00:00:00
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【引文索引号】null
【学科分类】分子生物学

【题目】耐热乳糖酶基因bgaB的克隆及其在毕赤酵母中的 表达
【中文关键词】耐热 β-半乳糖苷酶;毕赤酵母;重组表达
【英文关键词】thermostable beta-galactosidase; Pichia pastoris; recombinant expression
【中文摘要】耐热 β-半乳糖苷酶以其良好的热稳定性和较高温度下的水解特性使之具有常温乳糖酶无法比拟的优越性。本文主要研究来源于嗜热脂肪芽孢杆菌的耐热 β-半乳糖苷酶基因在毕赤酵母真核系统中的表达。将耐热 β-半乳糖苷酶 bgaB 基因克隆到大肠杆菌-毕赤酵母穿梭质粒 pPIC9k 中,经测序证实插入的外源基因读码框正确后,电转化到毕赤酵母 GS115 中构建重组菌株 GS115-pPIC9k-bgaB,经 MD 和遗传霉素平板筛选得到 3 株阳性转化菌株,甲醇诱导后,可表达相对分子质量约为 70 kDa 的蛋白,与预期值一致。所表达的半乳糖苷酶活力最高为 0.26 U/mL。
【英文摘要】Thermostable beta-galactosidase is more attractive than normal galactosidase for its thermal stabilityand hydrolysis property under relatively higher temperature. In this work, we studied the expression ofthe thermostable beta-galactosidase gene bgaB from Bacillus stearothermophilus in Pichia pastoris.bgaB gene was inserted into the shuttle expression vector pPIC9k and the recombinant plasmid wastransformed into Pichia pastoris GS115 by electroporation. Three transformants were obtained throughMD plate and G418 plate screening. After the induction of methanol, the enzyme activity ofrecombinant Pichia pastoris strain reached 0.26 U/mL, and the SDS-PAGE showed that the molecularweight was about 70 kDa.

【语种】中文
【第一作者】王霁昀
【通讯作者】陈卫
【期刊名称、卷期、页码】中国科技论文在线
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【引文索引类型】其他
【引文索引号】null
【学科分类】分子生物学

【题目】Secretion of a heterologous cytoplasmic beta-galactosidase in Bacillus subtilis
【中文关键词】无
【英文关键词】Bacillus subtilis; protein secretion; β-galactosidase; twin-arginine translocation; signal peptide; enzymatic activity
【中文摘要】无
【英文摘要】A cytoplasmic β-galactosidase (BgaB) from Geobacillus stearothermophilus IAM11001, which can not be secreted in Bacillus subtilis by mediation of two general secretory signal peptides, was secreted in Bacillus subtilis when it was fused to atwin-arginine signal peptide. The extracellular BgaB enzymatic activity accounted for about 39% of the total enzymatic activity at 18 h of cultivation in Luria-Bertani medium. As a control of secretion, the extracellular BgaB enzymatic activity obtained at the same time of cultivation accounted for less than 3% of the total enzymatic activity when the signal peptide coding sequence was absent from the N-terminus of the target gene bgaB.
【语种】英文
【第一作者】夏雨
【通讯作者】陈卫
【期刊名称、卷期、页码】中国科技论文在线
【论文发表时间】2008-12-29 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】分子生物学

【题目】一种枯草芽孢杆菌食品级表达系统的构建
【中文关键词】枯草芽孢杆菌;食品级;表达系统
【英文关键词】Bacillus subtilis; Food-grade; Expression system
【中文摘要】枯草芽孢杆菌(Bacillus subtilis)是一个对人畜安全的菌种,通常被认为是食品发酵和酶生产菌种的良好选择。本文采用枯草芽孢杆菌的丙氨酸消旋酶基因dal构建了一种枯草芽孢杆菌食品级表达系统, 其中dal基因作为同源重组序列以及高效的重组菌筛选标记。采用来自于嗜热脂肪芽孢杆菌(Bacillus stearothermophilus)的耐热β-半乳糖苷酶(BgaB)作为报告蛋白质试验了所构建表达系统的实用性。遗传稳定性研究显示,重组片段稳定且不容易丢失,耐热β-半乳糖苷酶在这一体系中成功地实现了表达
【英文摘要】Bacillus subtilis is a natural candidate that may be utilized for production of enzymes and fermented foods becauseof its status of Generally Recognized As Safe and other advantages. In order to develop an entirely food-graderecombinant B. subtilis expression system for food industry, a food-grade integrative vector was constructed byexploiting the B. subtilis endogenous alanine racemase gene dal as both a homologous sequence for integration and anefficient complementary marker for selection of recombinant B.subtilis strain. A thermostable β-galactosidase codingsequence (bgaB) from Bacillus stearothermophilus was fused downstream to the B. subtilis endogenous promoter P43on the vector to monitor the expression of the final system. The food-grade recombinant B. subtilis expression systemwas constructed by integration of this vector into host chromosome. Results revealed that this system was geneticallystable. The thermostable β-galactosidase was expressed successfully in this system.
【语种】中文
【第一作者】曾伶俐
【通讯作者】陈卫
【期刊名称、卷期、页码】中国科技论文在线
【论文发表时间】2008-12-30 00:00:00

【引文索引类型】其他
【引文索引号】null
【学科分类】分子生物学

【题目】The extraction and purification of theanine
【中文关键词】无
【英文关键词】China,extraction,Purification,Theanine
【中文摘要】无
【英文摘要】Theanine is a unique amino acid in the tea plant, which makes up 0.4%-3% of the solid matter in a tea shoot. It was found recently that theanine has many physiological activities and can be widely used in food and beverage industries as a new type of functional food ingredient.Theanine has become a new value added product followed by the tea polyphenols in tea industy. To develop the extraction technique of theanine, the effects of several factors on extraction rate including volume of water, temperature and time of extraction have been investigated.The extraction conditions have been optimized by method of orthogonal design, then the optimal condition of extraction was determined and the purification of crude theanine was further researched. Results showed that the optimal condition of extraction was 1:20(tealeaf/water) at 90°C for 30 min. The product of theanine content >50% could be prepared by using 732 cation resin and WA-2 resin.
【语种】英文
【第一作者】LIN ZHI
【通讯作者】LIN ZHI
【期刊名称、卷期、页码】Studium Press LLC,USA,2008,pp257-264
【论文发表时间】2008-07-01 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】园艺学

【题目】培养基营养成分对香蕉枯萎病尖孢镰刀菌生长的影响
【中文关键词】香蕉枯萎病; 生物学特性; 菌落生长; 产孢量; 培养基营养成分
【英文关键词】fusarial wilt; biological characteristics; colony growth; spores; nutrients in culture medium.
【中文摘要】通过对香蕉枯萎病发病株病组织的分离、纯化,得到香蕉枯萎病病原菌———尖镰孢菌古巴专化型[Fusarium oxysporum f. sp. cubense(E. F. Smith)Snyder et Hansen]。该病原菌在不同pH 值培养基上培养4 d 后,发现尖孢镰刀菌菌落在pH 值4.0~9.0 范围内均可生长, pH 值为6.0~7.0 时最适, 菌落直径平均在3.7~3.9 cm 之间。尖孢镰刀菌在不同营养成分的培养基上培养, 结果表明, N 源对尖孢镰刀菌菌丝的生长影响大于C 源。生长到第6 天时, 全糖型培养基产孢量最大, 且小型分生孢子的产孢量也最大, 可使香蕉苗发病率达到100%。而大型分生孢子的产生最佳培养基为低氮型培养基。
【英文摘要】A specialized form race 4 of fungus Fusarium oxysporum f.sp. cubense (E.F.Smith) Snyder ETHansen was isolated and purified from the tissues of banana infected with fusarial wilt disease. The race 4 fungus was cultured in medium with different nutrients and different pH value. The colonies of the fungus grew in the medium with the pH 4.0~9.0 after 4 days of culture, and did well at the pH 6.0~7.0, withthe average colony diameter being 3.7~3.9 cm, and N source in the medium had greater impact on themycelial growth of the fungus than C source. Maximum spores of the race 4 were produced in the sugarbased medium at day 6, and also by microconidia in the same medium, which resulted in 100% of incidence of fusarial wilt. However, the best medium for producing macro conidia contained low nitrogen.
【语种】中文
【第一作者】秦涵淳
【通讯作者】黄俊生
【期刊名称、卷期、页码】热带作物学报,2009,12:1852-1857
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【引文索引类型】其他
【引文索引号】null
【学科分类】植物保护学

【题目】拮抗香蕉枯萎病镰刀菌木霉菌株的分离筛选
【中文关键词】尖孢镰刀菌古巴专化型:木霉:筛选:拮抗作用
【英文关键词】Fusurium oxysporum ,f.sp. cuben; Trichoderma spp.; screening; antagonistic.
【中文摘要】香蕉枯萎病是由尖孢镰刀菌古巴专化型引起的,目前尚缺乏有效的防治方法,木霉菌是重要的植物病害防治菌,广泛分布于自然界。木霉菌具有广泛的适应性,能杀伤多种重要的植物病原菌且作用机制多种多样。笔者从广东湛江、海南檐州等地152份土样中分离出330株木霉,通过对峙法对木霉菌进行体外拮抗作用测定及评价,选出10株对尖孢镰刀菌有较好拮抗效果的木霉菌;并测定无菌上中木霉与病原菌的种群动态变化,结果表明木霉在上壤中对病原菌有一定的抑制作用。
【英文摘要】Banana fusarium wilt disease is a soil born disease caused by the pathogen Fusarium oxysporumf.sp.cubense Owen.At present,effective control methods for this disease are not available.The fungus Trichoderma, ubiquitous in the environment, is an important microorganism in the biological control of plant diseases. As a biocontrol agent, the advantages of Trichoderma spp. lie in its excellent adaptability, broad spectrum of activity and diversified mechanisms. A total of 330 strains of Trichoderma spp. were isolated from 152 soil samples collected from Zhanjiang, Hainan and other locations. Further screened by dual-cultureand antagonistic test, 10 strains of the 330 strains were found to have strong antagonism against the pathogen of the disease. Observation of the dynamic population changes in Trichoderma spp. and the pathogen of the disease showed that Trichoderma spp. had some inhibitory effect on the pathogen of the disease in the soil.
【语种】中文
【第一作者】吴琳
【通讯作者】黄俊生
【期刊名称、卷期、页码】热带作物学报,2010,01:106-110.
【论文发表时间】2010-01-20 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】植物保护学

【题目】香蕉镰刀菌枯萎病拮抗放线菌的分离筛选及其抑制效果的初步评价
【中文关键词】香蕉枯萎病菌;拮抗放线菌;抑制效果
【英文关键词】Fusarium oxysporum f.sp. cubense; antagosnistic Antinomyces;inhibition effect
【中文摘要】香蕉镰刀菌枯萎病是一种由尖抱镰刀菌占巴专化型Fusarium axyporum f. sp. cubense侵染引起的维竹束系统性病害。本试验对从海南省东方、八所、黄流、二亚和广东省湛江、徐闻、海安等香蕉种植地采集的根际土样进行拮抗放线菌的分离纯化得到放线菌菌株139个。通过纸片扩散法,筛选出对香蕉枯萎病4号生理小种具有拮抗作用的菌株8个。进一步试验表明,其中4个菌株不仅对香蕉枯萎病生理小种4号的菌兹生长有良好稳定的抑制作用,目对另外14个不同专化型病原菌也有一定的抑制作用。另外,分别将这8株放线菌发酵上清液与香蕉枯萎病病原菌抱了悬浮液混合12h后,有6株放线菌发酵上清液对病原菌抱了萌发的抑制率超过85%.盆栽试验结果表明,2株放线菌对香蕉枯萎病防效达86%以上,极显著地高于恶霉灵药剂处理。
【英文摘要】Banana Fusarium wilt disease is one of the External Quarantine Disease, one kind of Systemic vascular disease caused by Fusarium oxysporum f.sp. cubense, also named Panama disease or Chlorosis. In this paper, 139 strains of Antagonism Antinomyces were separated and purified from the rhizosphere soil samples which collected from Dongfang, Basuo, Huangliu, Sanya in Hainan Province and Zhanjiang, Xuwen, Hai an in Guangdong province. Through Disc diffusion method,8 strains that can antagonize against F. oxysporum f.sp.cubense No.4 race were selected. Further experiments showed that 4 strains could not only stably inhibit the mycelium growth of No.4 race, but also inhibit the other 14 different F. oxysporum f.sp. glycinea. In addition, mixed the fermentation supernatant from the 8 antinomyces strains with spores of F. oxysporum for 12 h, inhibition rates of 4 strains were more than 80%.
【语种】中文
【第一作者】秦涵淳
【通讯作者】黄俊生
【期刊名称、卷期、页码】中国生物防治,2010,02:174-180
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【学科分类】植物保护学

【题目】海南岛芒果树害虫种类新名录
【中文关键词】海南岛; 芒果; 害虫; 新名录
【英文关键词】Hainan Island; mango; pest insects; new list
【中文摘要】为弄清近年来为害海南岛芒果树的新害虫种类, 笔者自2003 年11 月以来, 以海南儋州、白沙、昌江、东方、乐东、五指山、三亚等地的芒果园为重点, 对海南岛芒果树害虫进行了系统的调查。经鉴定发现海南岛芒果树新害虫种类共90 种, 分属于蜚蠊目、等翅目、直翅目、同翅目、半翅目、缨翅目、鞘翅目、鳞翅目、双翅目共9 目, 47 科。
【英文摘要】This pap er gives a new list of 90 species, 47 families, 9 orders of pest insects in mango trees in Hainan Island. They belong to the following orders: Blattaria, Isoptera, Orthoptera, Homoptera, Hemiptera,Coleoptera, Thysanoptera, Lepidoptera and Diptera.
【语种】中文
【第一作者】赵冬香
【通讯作者】赵冬香
【期刊名称、卷期、页码】热带作物学报 2009,30 (1): 75-79.
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【学科分类】植物保护学

【题目】荔枝蒂蛀虫综合防治研究进展
【中文关键词】荔枝;荔枝蒂蛀虫;综合防治;生态控制
【英文关键词】无
【中文摘要】荔枝蒂蛀虫是为害荔枝和龙眼的重要害虫。本文介绍了荔枝蒂蛀虫的生物学、生态学特性,重点阐述了当前综合防治研究进展,展望了生态控制荔枝蒂蛀虫的发展前景。
【英文摘要】无
【语种】中文
【第一作者】尹炯
【通讯作者】赵冬香
【期刊名称、卷期、页码】中国南方果树,2009,38 (5): 74-77.
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【学科分类】植物保护学

【题目】固相微萃取-气相色谱-质谱联用法分析香蕉球茎象甲虫体挥发物
【中文关键词】香蕉球茎象甲;挥发物;固相微萃取;气相色谱-质谱联用仪
【英文关键词】the banana corm weevil;Cosmopolites sordidus (Germar); volatile;solid-phase microextraction
【中文摘要】:为了探明香蕉球茎象甲虫体挥发物的各种成分,采用固相微萃取技术(SPME)提取香蕉球茎象甲的虫体挥发物,进行气质联用仪(GC-MS)分析鉴定。结果表明:香蕉球茎象甲雌虫、雄虫、雌雄虫(雌虫和雄虫等数量混合)分别鉴定出9 种、8 种和9 种成分,各占总峰面积的61.05%,39.46%和17.43%。香蕉球茎象甲雌虫、雄虫和雌雄虫三种虫体挥发物共有成分有3,7-二甲基-1,3,6-辛三烯、α-荜澄茄油烯、(1,1-二甲基乙基)-2-甲氧基苯酚、邻苯二甲酸二乙酯、3,3',5,5'-四甲基联苯和邻苯二甲酸二异丁酯6 种,而3,7-二甲基-1,3,6-辛三烯是香蕉球茎象甲雌虫、雄虫和雌雄虫三种虫体挥发物中含量最高的成分,为19.15%。香蕉球茎象甲虫体挥发物各成分种类多样,相对含量差异较大。
【英文摘要】In order to investigate body volatiles of the banana corm weevil,Cosmopolites sordidus (Germar),solid-phase microextraction (SPME) was applied to trap body volatiles ofC. sordidus , and the trapped bodyvolatiles were analyzed using gas chromatography-mass spectrometry (GC-MS). The results showed that: therewere 9, 8 and 9 body volatiles ofC. sordidus females, males, females and males(females : males = 1:1),representing 61.05%, 39.46% and 17.43% of the total peak area, respectively. The same body volatiles wereOcimene, à-Cubebene, Phenol,(1.1-dimethylethyl)-2-methoxy-, 1,2-Benzenedicarboxylic acid diethyl ester,3,3',5,5'-Tetramethylbiphenyl, Phthalic acid,diisobutyl ester, and relative content of Ocimene (19.15%) was the highest in three body volatiles. There were all kinds of constituents, and relative contents were significantly different inC. sordidus .

【语种】中文
【第一作者】尹炯
【通讯作者】赵冬香
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【引文索引号】null
【学科分类】植物保护学

【题目】云南杧果果肉象甲果实象甲发生危害及其熏蒸处理
【中文关键词】杧果果肉象甲 杧果果实象甲 发生危害 熏蒸处理 发芽率
【英文关键词】Sternochetus frigidus;Sternochetus olivieri; occurrence fumigation; germination rate
【中文摘要】杧果象是杧果的重要害虫,该类害虫的为害严重影响杧果的产量和质量,对杧果产业造成巨大的经济损失。调查发现杧果果肉象和果实象在云南发生为害严重, 发生程度不一,早熟品种较晚熟品种受害重。 采用溴甲烷对采后的杧果鲜果及新鲜果核进行熏蒸处理,结果表明:在20~25℃,常压下使用72g/m3溴甲烷熏蒸鲜果、新鲜果核3h或使用24、36g/m3溴甲烷进行熏蒸鲜果6h,可100%杀死果肉及果核内的杧果象且果实外观风味未发生改变,种子发芽率与对照差异不显著。
【英文摘要】无
【语种】中文
【第一作者】韩冬银
【通讯作者】符悦冠
【期刊名称、卷期、页码】热作学报, 2009, 10 (30): 1-5.
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【学科分类】植物保护学

【题目】固相微萃取-气质联用分析香蕉象甲为害诱导的香蕉假茎挥发性成分
【中文关键词】香蕉假茎;香蕉象甲;虫害诱导的植物挥发物;固相微萃取;气相色谱-质谱联用仪
【英文关键词】banana pseudostem;banana weevil;herbivore-induced plant volatiles;solid phase microextraction(SPME);gas chromatography-mass spectrometry(GC-MS)
【中文摘要】:采用固相微萃取-气质联用技术分析香蕉新鲜假茎与香蕉象甲为害诱导的香蕉假茎(假茎象甲+新鲜假茎、球茎象甲+新鲜假茎、假茎象甲+球茎象甲+新鲜假茎)的挥发性成分,研究香蕉象甲为害对香蕉假茎挥发性成分的影响。结果表明:香蕉新鲜假茎与球茎象甲为害诱导的新鲜假茎、假茎象甲和球茎象甲共同为害诱导的新鲜假茎三者挥发物中相同成分为十三烷,与假茎象甲为害诱导的新鲜假茎挥发物没有相同成分。香蕉象甲不同种为害诱导的香蕉假茎的相同成分为癸酸乙酯。香蕉新鲜假茎与香蕉象甲为害诱导的香蕉假茎的挥发物中均含有烃类和酯类,香蕉象甲不同种为害诱导的香蕉假茎挥发物中还含有不同的比例的醛类、酮类、醌类和酚类等
【英文摘要】Abstract:In order to investigate the effect of banana weevil-feeding on volatile components of banana pseudostem,solidphase microextraction(SPME)was applied to trap volatile components of fresh banana pseudostem and banana weevilinduced banana pseudostem including the banana pseudostem weevil+fresh banana pseudostem,the banana corm weevil+fresh banana pseudostem,the banana pseudostem weevil+the banana corm weevil+fresh banana pseudostem,and thetrapped volatile components were analyzed using gas chromatography-mass spectrometry(GC-MS).The results showedthat tridecane was the same volatile component of fresh banana pseudostem,the banana corm weevil-induced bananapseudostem,the banana pseudostem weevil and banana corm weevil-induced fresh banana pseudostem,though there wasnot the same volatile component of fresh banana pseudostem and the banana pseudostem weevil-induced fresh bananapseudostem.And decanoic acid ethyl ester was the same volatile component of banana weevil-induced banana pseudostem.There were hydrocarbons and esters in fresh banana pseudostem and banana weevil-induced banana pseudostem.And itwas different in the relative contents of aldehydes,ketones,quinones and phenols in banana weevil-induced bananapseudostem.
【语种】中文

【第一作者】尹炯
【通讯作者】赵冬香
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【引文索引类型】其他
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【学科分类】植物保护学

【题目】荔枝霜疫霉病的研究进展与综合防治
【中文关键词】荔枝霜疫霉病;综合防治
【英文关键词】Peronophythora litchi; comprehensive control
【中文摘要】荔枝霜疫霉主要为害已近成热的果实,也为害花穗、幼果、果柄、结果小枝和叶片,常引起大量落果、烂果。病原菌的侵染过程极短,荔枝结果期间又多雨,若不药防,几乎年年可能流行,只是有时早熟品种受害大,有时中熟品种受害大,主要取决于降水的次数和日数。近年来,我国在这些方面开展了研究,现将有关研究进展和综合防治现状做一简要综述。
【英文摘要】无
【语种】中文
【第一作者】陶挺燕
【通讯作者】谢艺贤
【期刊名称、卷期、页码】中国热带农业, 2008, 6: 51-52.
【论文发表时间】2008-06-01 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】植物保护学

【题目】荔枝霜疫霉病病原菌生物学特性研究
【中文关键词】荔枝霜疫霉;病原菌鉴定;生物学特性
【英文关键词】Peronophythora litchi pathogen identification biological characteristics
【中文摘要】对荔枝霜疫霉病病果进行组织分离、病原菌鉴定及其生物学特性测定。结果表明,分离所得病原菌为荔枝霜疫霉菌Peronophythora litchii Chenex Ko et al. ,菌丝生长适宜温度20~ 30℃ ,适宜pH值4~ 6, 光暗交替有利于菌丝生长。供试碳源中,可溶性淀粉、山梨酸和甘露醇较有利于该菌菌丝生长; 氮源中,酵母浸膏较有利于其菌丝生长。
【英文摘要】无
【语种】中文
【第一作者】何凡
【通讯作者】何凡
【期刊名称、卷期、页码】中国南方果树, 2010, 39 (3): 44-46.
【论文发表时间】2010-06-01 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】植物保护学

【题目】16个陆地棉染色体置换系产量与纤维品质性状遗传效应的初步分析
【中文关键词】16个陆地棉染色体置换系产量与纤维品质性状遗传效应的初步分析
【英文关键词】TM-1 CSB
【中文摘要】【目的】评估16个陆地棉染色体置换系的遗传效应。【方法】采用部分双列杂交试验,以16个陆地棉染色体置换系和TM-1为父本,中棉所41、中棉所43、SG506为母本配制51个F1杂交组合,2006年在河南安阳和山东夏津两地种植,获得产量、纤维品质性状数据。利用AD模型软件分析各性状的加性和显性效应。【结果】产量性状比较,铃重加性方差比率最大,铃数最小;显性方差比率籽棉产量最大,铃重最小。纤维长度主要表现出加性效应和显性效应,显性效应稍大于加性效应,整齐度、麦克隆值、比强度的加性方差比例较大,未检测到显性效应。CSB06和CSB12Sh对铃重的正向加性效应显著,CSB14Sh、CSB01对纤维品质的4个或3个性状加性效应显著,CSB01对产量性状的显性效应最大.纤维长度的显性均表现为

正值。【结论】CSB06和CSB12Sh可作为改良铃重的亲本利用,CSB14Sh、CSB01可作为改良纤维品质性状的亲本利用。在杂种优势利用时,CSB01可作为改良产量性状的亲本,CSB01、CSB11Sh和CSB06可作为改良纤维长度的亲本。
【英文摘要】【目的】评估16个陆地棉染色体置换系的遗传效应。【方法】采用部分双列杂交试验,以16个陆地棉染色体置换系和TM-1为父本,中棉所41、中棉所43、SG506为母本配制51个F1杂交组合,2006年在河南安阳和山东夏津两地种植,获得产量、纤维品质性状数据。利用AD模型软件分析各性状的加性和显性效应。【结果】产量性状比较,铃重加性方差比率最大,铃数最小;显性方差比率籽棉产量最大,铃重最小。纤维长度主要表现出加性效应和显性效应,显性效应稍大于加性效应,整齐度、麦克隆值、比强度的加性方差比例较大,未检测到显性效应。CSB06和CSB12Sh对铃重的正向加性效应显著,CSB14Sh、CSB01对纤维品质的4个或3个性状加性效应显著,CSB01对产量性状的显性效应最大.纤维长度的显性均表现为正值。【结论】CSB06和CSB12Sh可作为改良铃重的亲本利用,CSB14Sh、CSB01可作为改良纤维品质性状的亲本利用。在杂种优势利用时,CSB01可作为改良产量性状的亲本,CSB01、CSB11Sh和CSB06可作为改良纤维长度的亲本。
【语种】中文
【第一作者】栾明宝
【通讯作者】栾明宝
【期刊名称、卷期、页码】中国农业科学,2008,(11)
【论文发表时间】2008-01-22 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农业基础学科

【题目】番木瓜炭疽病病原菌鉴定及生物学特性研究
【中文关键词】番木瓜; 胶孢炭疽; 生物学特性
【英文关键词】Carica papaya L. Colletotrichum gloeosporioides Penz.Biological characterictics
【中文摘要】对番木瓜Carica papaya L. 炭疽病果组织进行分离、病原菌鉴定及其生物学特性测定。结果表明, 该病原菌初步鉴定为胶孢炭疽Colletotrichum gloeosporioides Penz. , 在PDA培养基上生长速度最快。菌丝生长和分生孢子萌发的适宜温度分别为20~30℃ 和25~30℃ , 适宜pH值分别为7-9和6-10。供试的9种碳源中以葡萄糖和蔗糖有利于病原菌的生长, 以蔗糖有利于该菌分生孢子的萌发; 供试的9种氮源中, 以蛋白胨和酵母浸膏最有利于菌丝生长, 以酵母浸膏最有利于该菌分生孢子的萌发。完全黑暗与光暗交替有利于菌丝生长, 光暗交替有利于孢子萌发。
【英文摘要】无
【语种】中文
【第一作者】何凡
【通讯作者】何凡
【期刊名称、卷期、页码】西南农业学报, 2010, 25(4): 36-38
【论文发表时间】2010-06-01 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】植物保护学

【题目】几种杀菌剂对荔枝霜疫霉病的室内毒力测定
【中文关键词】杀菌剂;荔枝;霜疫霉病;室内毒力测定
【英文关键词】fungicide; lichee; Peronophythora Litchi Chen et al; toxicity determination
【中文摘要】采用12种杀菌剂对荔枝霜疫霉病菌进行室内毒力测定。 结果表明:44%百菌清·精甲霜灵FW抑菌效果最好,EC50值为7.89 mg/L,EC95值为52.00 mg/L;50%多菌灵WP抑菌效果最差,EC50值为199.53 mg/L,EC95值为2626.64 mg/L。
【英文摘要】无
【语种】中文
【第一作者】陶挺燕
【通讯作者】何凡
【期刊名称、卷期、页码】农药, 2010, 49 (1): 72-73.
【论文发表时间】2010-01-01 00:00:00
【引文索引类型】其他

【引文索引号】null
【学科分类】植物保护学

【题目】利用陆地棉置换系进行海岛棉主要性状基因的染色体定位
【中文关键词】陆地棉 海岛棉 农艺性状 置换系 染色体定位 纤维品质 主要性状 减效基因 纤维长度 染色体臂
【英文关键词】no
【中文摘要】利用海岛棉染色体置换陆地棉一对染色体或染色体臂的置换系,进行主要农艺性状、抗黄萎病性和纤维品质基因染色体定位。结果表明,海岛棉1号染色体可以增加株高;16、17、18、4号染色体携带降低铃数基因;22Lo、22Sh、16、11Sh、26Lo号染色体可以提高衣分;大部分染色体降低铃重。16、26Lo染色体可以增强抗黄萎病性。对纤维品质性状分析表明,14Sh、26Lo号染色体可以提高纤维长度;14Sh、15Sh号染色体可以提高强度;4号染色体可以降低麦克隆值;22Sh、16、22Lo、11Sh号染色体可以提高伸长率。推测这些染色体上可能具有对应性状的基因。
【英文摘要】no
【语种】中文
【第一作者】栾明宝
【通讯作者】栾明宝
【期刊名称、卷期、页码】棉花学报,2008,(1)
【论文发表时间】2008-01-11 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农业基础学科

【题目】QTL遗传效应正反交差异研究
【中文关键词】QTL遗传效应正反交差异研究
【英文关键词】QTL
【中文摘要】应用改良AD模型对转基因棉花QTL突变体系进行遗传效应的正反交比较分析,结果表明,农艺性状的主要遗传方差组分分解正反交表现一致,除铃重存在显著的遗传背景加性效应(A2)外,子棉产量、皮棉产量、衣分和铃数均存在显著或极显著的dQTL加性效应(A1)和显性效应(D1),农艺性状均有显著或极显著的遗传背景显性效应(D2);棉花纤维性状的主要遗传效应正反交之间无显著差异。铃重的dQTL的加性和显性效应与环境的互作存在显著差异。对转基因系、受体及三个品系的dQTL加性效应分解结果也表明,正反交对不同材料各性状的加性效应估计也是一致的。本文还对不同组合正反交时的纯合及杂合显性效应进行预测比较。
【英文摘要】QTL遗传效应正反交差异研究
【语种】中文
【第一作者】王志伟
【通讯作者】王志伟
【期刊名称、卷期、页码】棉花学报,2007,(3)
【论文发表时间】2007-01-03 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农业基础学科

【题目】论“四级种子生产程序”在中国种业发展中的作用和地位
【中文关键词】论“四级种子生产程序”在中国种业发展中的作用和地位
【英文关键词】NO
【中文摘要】论“四级种子生产程序”在中国种业发展中的作用和地位
【英文摘要】NO
【语种】中文
【第一作者】张万松
【通讯作者】张万松
【期刊名称、卷期、页码】种子,2009,(3)

【论文发表时间】2009-01-23 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农业基础学科

【题目】大豆亚麻酸相关基因的标记和验证
【中文关键词】大豆;亚麻酸;分子标记
【英文关键词】Soybean;Linolenic acid;Molecular marker
【中文摘要】大豆油脂组分决定着大豆品质和加工特性,其中亚麻酸含量关系到大豆油加工的成本和大豆油的品质特性。以哈89016和黑河18作为杂交亲本创造遗传群体,利用BSA方法,找到与亚麻酸含量相关的标记Satt286,根据Satt286在大豆杂交后代群体中的池子个体带型和表型性状,计算得到控制亚麻酸位点的引物Satt286与控制低亚麻酸的基因连锁。分析结果表明,控制亚麻酸的位点和引物距离9.5cM;t 测验分析Satt286引物标记分组的高、低亚麻酸个体的实际亚麻酸含量,得到的平均值分别为3.91%和6.36%,二者差异达到极显著水平,说明Satt286引物作为筛选低亚麻酸品种的标记是有效的。在哈89016和黑河18后代(F4)群体中挑选出亚麻酸含量最低个体13个和最高个体9个,这些个体的带型和表型性状对亚麻酸含量控制基因符合率为82%,这表明引物Satt286与控制亚麻酸的基因是真实连锁的,可以作为群体后代的筛选标记。利用实时定量荧光PCR技术分析了大豆哈 89016和黑河18品种亚麻酸相关基因Fad3c的基因表达量,结果表明,在发育的籽粒中,低亚麻酸品种哈 89016的Fad3c的基因转录量明显低于黑河18,证实了大豆亚麻酸Fad3c基因的表达量与品种亚麻酸含量的高低有关。
【英文摘要】Oil composition is one of critical factors affecting the qualities and processing propertiesof soybean,and linolenic acid content is closely related to the processing cost and qualities of soy bean oil. In the experiment,Ha 89016 and Heihe 18 were used as parents to develop F2genera tions,and bulked segregant analysis (BSA)method was adopted to detect SSR markers conferringlinolenic acid content. Satt286 was found to closely link with genes controlling linolenic acid content,with a genetic distance of 9.5 cM. The average content of lower and higher linolenic acid individuals differentiated by Satt286 was 3. 91% and 6. 36%, respectively, and their differencereached 0.01 significant level. From the filial 4 generation of hybridization between H89016 andHeihe 18,13 individuals with lower linolenic acid content and 9 with higher linolenic acid contentwere selected and the accuracy betweenmolecular marker and phenotypic value of each individualreached 82%,which confirmed the primer Satt286 closely linked with genes controlling linolenicacid content and could be used to select individuals differed in linolenic acid content. The expres sion level of geneFad3c,which was related to linolenic acid content,were analyzed by rea l timequantitative PCR method between soybean Ha 89016(lower linolenic acid content)and Heihe 18(higher linolenic acid content),and results showed the transcription rate of Ha 89016 was signif icantly lower than that of Heihe18,which further confirmed that the expression level of theFad3cgene was related to the final linolenic acid content in different soybeans.
【语种】中文
【第一作者】刘丽君
【通讯作者】刘丽君
【期刊名称、卷期、页码】大豆科学,2007,26(6)
【论文发表时间】2007-12-06 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农艺学

【题目】大豆油份含量QTL的分析研究
【中文关键词】大豆;RIL群体;QTL;分子标记
【英文关键词】soybean; RIL population; QTL; molecular marker
【中文摘要】文章利用哈交 99- 5404- 1×哈交 99- 5448- 4 构建的 RIL群体,绘制了 RIL群体 F 连锁群图谱,检测到一个油分含量 QTL,与引物 Satt193 和 Satt259 连锁,贡献率为 6.57%。与 F2比较, RIL群体基本特征发生了一定的变化,但差异不显著,同一连锁群上的引物仍能够连锁,而且贡献率大的 QTL在 RIL群体中能够重现,但引物连锁顺序和贡献率都发生了改变。
【英文摘要】The lines Hajao 99- 5404- 1×Hajao 99- 5448- 4 were used to be contributed RIL population. Oneof oil QTL was detected in soybean F group. The QTL was linkage with primer Satt193 and Satt259, and its ratiowas 6.57%. Compared with F2population, the difference of two populations was insignificance. The QTL for theoil that was located in F2population was verified to reappear. And the primers were still in the one linked group,but the primers linked order and inheritance contribution ratio had

changed.
【语种】中文
【第一作者】薛永国
【通讯作者】刘丽君
【期刊名称、卷期、页码】东北农业大学学报,2007,(6)
【论文发表时间】2007-06-06 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农艺学

【题目】大豆接种疫霉根腐病菌后苯丙氨酸解氨酸活性变化的研究
【中文关键词】大豆疫霉根腐病;苯丙氨酸解氨酶;酶活性
【英文关键词】Phytophthora RootRot;L phenylalanin ammo nialyase;Enzymatic activity
【中文摘要】大豆疫霉根腐病是一种危害严重的疫霉病害,对于抗病性的生理生化机制研究很少。苯丙氨酸解氨酶是联系初级代谢和次级代谢的关键酶,对于植物抗病性具有重要意义。为探讨苯丙氨酸解氨酶活性变化与大豆对疫霉根腐病抗性的关系,对不同抗、感病大豆品种接种疫霉根腐菌1号生理小种前及接种24、48、72、96 h后测定叶片中苯丙氨酸解氨酶活性的变化特点进行分析,探讨苯丙氨酸解氨酶在抗大豆疫霉根腐病中所起的作用。结果表明:接种大豆疫霉菌1号生理小种后,抗、感病品种叶肉细胞中苯丙氨酸解氨酶活性都呈现出规律性变化趋势,但在抗、感病大豆品种中峰值变化幅度不同,表明大豆对疫霉根腐病的抗性与苯丙氨酸解氨酶活性有关。
【英文摘要】Soybean Phytophthora root rot is a serious Phytophthora disease. L phenylalanin ammo nialyase(PAL)as a keymetabolic enzyme that linked the primary and secondarymetabolism, is important to disease resistance of plant.To discussthe relationship between PAL activity and Phytophthora root rot resistance in soybean. Soybean cultivars resistantor sensitiveto Phytophthora root rotwere inoculatedwithPhytophthora sojaerace 1, and the PAL activity before inoculation and 24, 48,72 and 96 h after inoculationwas determined.The result showed that the PAL enzymatic activity changed regularly afterbeing inoculated byPhytophthora sojaerace 1,while the changing rangeswere different in resistantand sensitive soybean cult ivars.Therefore, there is some relationship between the PAL activity and the resistance of soybean to Phytophthora root rot.
【语种】中文
【第一作者】孙欣
【通讯作者】刘丽君
【期刊名称、卷期、页码】大豆科学
【论文发表时间】2008-08-06 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农艺学

【题目】收获期对大豆生育期高油大豆油分及产量影响
【中文关键词】大豆;收获期;油分;产量
【英文关键词】soybean, harvest time, oi1, yield
【中文摘要】利用不同生育期高油大豆品种的收获期试验,来研究收获期对不同生育期高油大豆品种油分及产量的影响。采用分期收获的方法对6个不同生育期高油大豆品种进行处理,利用近红外谷物品质分析仪进行油分分析,DPS数据处理系统进行数据处理。试验表明,收获期对大豆油分含量和产量有显著的影响。从初熟期开始,随着收获期的延迟,各品种油分含量呈先上升后下降有规律的变化趋势,6个品种的油分含量变化幅度为0.37~0.87个百分点,每个品种都有一个最佳的收获时期以获得最高的油分含量,但油分含量变化情况和品种的生育期相关性不大,是由品种本身的遗传特性决定的。播期对产量也有较明显的影响作用,四个生育期相对较长的品种黑农44、垦农19、合丰48号和合丰47号产量变化较大,达到了极显著水平,而两个早熟品种的产量变化较小,不显著,产量变化总体趋势是晚熟品种>中熟品种>早熟品种。不同生育期的高油品种适期收获能获得较高的油分和产量。
【英文摘要】The research showed that harvest time had the significant effect on oil content and yield of high-oilsoybean. With the delaying of the harvest time, the content of oil increased the maximum value at first, andthen dropped. The ranges of oil content of the six varietiesvariedfrom 0.37 to 0.87 percentage point, the oilcontent variation of Heinong44 reached very significant different level, Hefeng48 and Hefeng40 reachedsignificant different level. The harvest time had the significant effect on the yield. The yield of fourlate-

maturing varieties increased first, then decreased, and reached very significant different level, but theharvest time have little effect on the two early-maturing varieties.
【语种】中文
【第一作者】王志新
【通讯作者】王志新
【期刊名称、卷期、页码】中国农学通报,2007,(6)
【论文发表时间】2007-06-06 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农艺学

【题目】大豆油分蛋白质含量相关 QTL的实用性验证
【中文关键词】大豆, 油分含量, 蛋白质含量, QTL
【英文关键词】Soybean (Glycine max L. Merrill), Oil content, Protein content, QTL
【中文摘要】本文利用已发表的一些与油分、蛋白质含量主效 QTL 相连锁的 SSR 标记,对 72 份全国各地高油、高蛋白种质资源进行蛋白质和油分含量的分析。通过对9个SSR位点各等位变异的蛋白质和油份含量的方差分析,检测到4个与油分含量相关的等位变异,以及4个与蛋白质含量相关的等位变异。其中satt193satt491、satt030和satt331分别在DNA片段长度为210~280 bp之间检测出与油分含量相关的等位变异。Satt523、satt321、satt231和satt578在DNA片段长度为170~320 bp之间检测出和蛋白质含量相关的等位变异。实验证实了与这些位点相连锁QTL的通用性及实用性。
【英文摘要】Analysis oil and protein content of 72 different areas in China soybean cultivars by some reported SSRloci of main QTL for oil and protein content. Analysis of variance is used to detect the oil and protein content ofevery allele of 9 SSR loci, the result shows that four alleles correlative with oil content and four alleles correlativewith protein content have been found. Between the 210~280 bp of DNA fragment, satt193, satt491, satt030,satt331 indicate the representative relationship with oil content. Satt523, satt321, satt231, satt578, between the170~320 bp of DNA fragment, indicate the representative relationship with protein content. The versatility andpracticability of these main QTL for oil and protein content have been confirmed.
【语种】中文
【第一作者】孙鸿雁
【通讯作者】刘丽君
【期刊名称、卷期、页码】分子植物育种,2008,6(6)
【论文发表时间】2008-06-06 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农艺学

【题目】大豆油分含量QTL分析
【中文关键词】大豆;RIL群体;QTL;分子标记
【英文关键词】soybean; RIL population; QTL; molecular marker
【中文摘要】文章利用哈交 99- 5404- 1×哈交 99- 5448- 4 构建的 RIL群体,绘制了 RIL群体 F 连锁群图谱,检测到一个油分含量 QTL,与引物 Satt193 和 Satt259 连锁,贡献率为 6.57%。与 F2比较, RIL群体基本特征发生了一定的变化,但差异不显著,同一连锁群上的引物仍能够连锁,而且贡献率大的 QTL在 RIL群体中能够重现,但引物连锁顺序和贡献率都发生了改变。
【英文摘要】The lines Hajao 99- 5404- 1×Hajao 99- 5448- 4 were used to be contributed RIL population. Oneof oil QTL was detected in soybean F group. The QTL was linkage with primer Satt193 and Satt259, and its ratiowas 6.57%. Compared with F2population, the difference of two populations was insignificance. The QTL for theoil that was located in F2population was verified to reappear. And the primers were still in the one linked group,but the primers linked order and inheritance contribution ratio had changed.
【语种】中文
【第一作者】薛永国
【通讯作者】刘丽君
【期刊名称、卷期、页码】东北农业大学学报,2008,38(6)

【论文发表时间】2008-06-06 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农艺学

【题目】中俄大豆种质遗传多样性分析
【中文关键词】SSR;野生大豆;栽培大豆;遗传多样性
【英文关键词】SSR;W ild soybean;Cultivated soybean;Genetic diversity
【中文摘要】种质资源的扩增、改良和创新是解决大豆遗传基础狭窄的主要途径。利用SSR分子标记技术对来自俄罗斯和黑龙江省的82份野生大豆和东北四省区的39份栽培大豆材料进行遗传多样性分析,为种质资源利用和创新提供分子依据。在所合成的45对SSR引物中, 12对引物扩增结果表现出良好的多态性,多态性位点共检测50个等位基因,每个位点2~7个,平均4. 17个,平均多态性信息量为0. 595。聚类分析结果表明,在遗传相似系数0・734处,野生大豆和栽培大豆被明显的分开,与以往大豆属Soja亚属的形态学分类结果相一致,为野生大豆和栽培大豆分为两个种提供了分子水平上的依据。野生大豆和栽培大豆的平均遗传距离分别为0. 2595和0. 1895,表明野生大豆的遗传多样性比栽培大豆丰富。因此,可以利用俄罗斯和东北地区的野生大豆特有等位变异来扩大东北栽培大豆遗传多样性,进而拓宽东北大豆遗传基础。
【英文摘要】The collection, improvement and innovation of germplasm resources are main ways to enrich the genetic basis ofsoybean.The genetic diversity of84 accession ofwild soybean from Russia andHeilongjiang province,China, and 39 acces sion of cultivated soybeanfromNortheastChina,was studied by SSR technique.Forty five SSR primerswere synthesized according to published data, and 12 outof them had polymorphic alleles.A totalof50 alleleswere observed, the numberof a lleles in different loci ranged from 2 to7, averaging4. 17 per locus, the average polymorphism information content(PIC) was0. 595.Cluster analysis showed thatwild and cultivated soybean belonged to two species from the dendgrom at the site ofge netic similarity coefficient0. 734,which conformed to phenotypic results.The average genetic distance ofwild soybean andcultivated soybean were 0. 2595 and 0. 1895 respectively,which suggested thatwild soybean had more polymorphism thanthat of cultivated soybean.Hence,wild soybean from Russia andNortheastChina could be used to broaden the genetic basisof cultivated soybean in NortheastChina.
【语种】中文
【第一作者】张小明
【通讯作者】刘丽君
【期刊名称、卷期、页码】大豆科学,2008,27(1)
【论文发表时间】2008-02-06 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农艺学

【题目】大豆高蛋白基因分子标记及其在大豆育种中的应用,
【中文关键词】大豆;高蛋白;分子标记辅助育种;QTL; SSR
【英文关键词】Soybean;High protein;Molecularmarker assistantbreeding;QTL; SSR
【中文摘要】选用高蛋白大豆黑农35和高油大豆黑农45作为亲本杂交获得F2分离群体,进行大豆高蛋白基因SSR分子标记。共筛选覆盖大豆全基因组的251对SSR引物,其中40对SSR引物在亲本间具有多态性,用这40对SSR引物分别对F2分离群体进行扩增,用MapmakerExp3. 0和MapmakerQTL1. 1软件进行作图和定位分析。定位得到高蛋白QTL 1个,与satt532连锁,遗传距离为0. 2 cM,贡献率为32. 7%,位于大豆公共遗传图谱的D1a+Q连锁群。利用该引物在不同大豆材料中进行高蛋白材料检测和筛选,在56份高蛋白材料中筛选到47份,检出率达到83・93%。说明引物satt532具有一定的检测通用性,可以利用它筛选高蛋白大豆材料。
【英文摘要】Soybean protein content is a quantitative traitcontrolled bymult i genes, and tagging these genes by usingmolecu larmarkers has strong applied values. F2population made from Heinong 35×Heinong 45 were used to map high proteingenes. 251 pairofSSR primers covering thewhole soybean genomewere screened, and 40 pairof them were polymorphic between the parents.The genetic linkage map was constructed withMapmakerExp3. 0 and QTL analysiswas done by usingMapmakerQTL1. 1.One high protein QTL linkingwith satt532 in the LG D1a+Q of soybean consensusmap was tagged,the genetic distancewas 0. 2 cM, the variance ratiowas 32. 7%.The primer satt532 was used to exam and screen the highprotein soybeanmaterials, 47 shareswere screened from 56 ones, and the ratio of the examination reached 83. 93%.The result suggests that the primer of satt532 has the common identity and can be used to screen the high protein soybeans.

【语种】中文
【第一作者】杨喆
【通讯作者】刘丽君
【期刊名称、卷期、页码】大豆科学,2008.27(2)
【论文发表时间】2008-02-06 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农艺学

【题目】高产大豆新品系哈交 5337 和哈交5489再生条件的优化
【中文关键词】大豆;子叶节;分化率
【英文关键词】Soybean;Cotyldonary nodes;Rate of shooting
【中文摘要】为了拓宽大豆受体材料基因型,提高转基因大豆的应用价值,对两个综合性状较好的新品系大豆哈交5337和哈交5489进行子叶节器官发生途径再生条件的优化研究。在芽诱导培养基中添加不同浓度6　BA和IBA,采用正交法进行分析,取含6　BA(G1)萌发培养基中的大豆子叶节与不含6　BA(G2)萌发培养基中的大豆子叶节做平行对照,结果表明:哈交5337最适的萌发培养基与芽诱导培养基的组合为G1S7(萌发培养基中不添加6　BA,芽诱导培养基中添加1. 7 mg・L-16　BA和0. 1 mg・L-1IBA)和G2S4(萌发培养基中添加1. 0 mg・L-1的6　BA,芽诱导培养基中添加1. 1mg・L-16　BA和0. 1 mg・L-1IBA);哈交5489最适的萌发培养基与芽诱导培养基的组合为G1S4(萌发培养基中不添加6　BA,芽诱导培养基中添加1. 1mg・L-16　BA和0. 1mg・L-1IBA)和G2S4(萌发培养基中添加1. 0 mg・L-1的6　BA,芽诱导培养基中添加1. 1 mg・L-16　BA和0. 1 mg・L-1IBA);同时确定两个品系大豆在丛生芽分化阶段采用延迟筛选方法,草铵膦筛选浓度为3. 5 mg・L-1。
【英文摘要】Plant transformation is an importantapproach in genetic engineering breeding, greatadvances have been achievedin soybean transformation recently. In order to broaden soybean receptor genotypes and enhance the application value oftransgenic soybean, new soybean linesHajiao 5337 andHajiao 5489 were used to optimize the regeneration of the cotyledonnode organ. Differentconcentration of6　BA and IBAwere used in the shoot inductionmedium, the ratio ofshootingwas analyzed using the orthogonal analysis. The cotyledon node grown in the germinatedmedium with 6　BA(named G1)and thegerminated medium without6　BA(namedG2)were used as controls, respectively. It indicated thatG1S7 andG2S4 was theoptimum combination for the cotyledons ofHajiao 5337 in germinatingmedium and shooting inductionmedium,whileG1S4and G2S4 forHajiao 5489. The adoption of the delay screening, the optimal screening concentration ofGlufosinate　ammon　ium toHajiao 5337 andHajiao 5489 was 3. 5 mg・L-1in shooting inductionmedium.
【语种】中文
【第一作者】唐晓飞
【通讯作者】刘丽君
【期刊名称、卷期、页码】大豆科学,2008,27(2)
【论文发表时间】2008-04-06 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农艺学

【题目】大豆饱和脂肪酸组分改良研究进展
【中文关键词】大豆,棕榈酸,硬脂酸,基因修饰,遗传改良
【英文关键词】Soybean,Palmitiestearie,Genemodifieations,Genetieimprovement
【中文摘要】为了更好地满足消费者的需要,遗传改良豆油中脂肪酸含量已经取得很大进展,并有3个油分改良的大豆品种已经商品化,其油分中亚麻酸的含量已经从原来的8%降到了1%,油酸含量也已从25%增加到80%,棕榈酸从11%降到小于4%。传统育种和基因工程育种都是遗传改良大豆油的手段。阐述了遗传改良、基因型和表现型的选择等多方法对脂肪酸的影响,总结了大豆饱和脂肪酸组翻改良的主要进展。
【英文摘要】
011hasbeensueeessfulinbettermeetingtheneedsofendusersthan15possiblewitheonventional011.Three0115frommodifiedsoybeanareorhavebeensoldeommercially,inwhiehthelinolenieaeid(18:3)eontenthasbeenredueedfrom8tol%011,theoleieaeid(18:1)hasbeeninereasedfrom25to>80%,andthepalmitieaeid(16:0)redueedfrom11to<4%.Thegenetieehangesinsoybean011wereaehievedbyeonventionalbreedingandgenetieengineering.Thevaperreviewedtheinflueneeonthefattyacidsofgenetieimprovingand Phenotypieandgenot即

ieseleetion,andsurnmzedtheprogessofthemajorsaturatedfattyaeidsmodifieations.
【语种】中文
【第一作者】宋万坤
【通讯作者】宋万坤
【期刊名称、卷期、页码】生物技术通报,2008,s1
【论文发表时间】2008-12-06 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农艺学

【题目】Dissection of genetic effects of quantitative trait loci (QTL) in transgenic cotton
【中文关键词】Dissection of genetic effects of quantitative trait loci (QTL) in transgenic cotton
【英文关键词】Dissection of genetic effects of quantitative trait loci (QTL) in transgenic cotton
【中文摘要】Dissection of genetic effects of quantitative trait loci (QTL) in transgenic cotton
【英文摘要】Dissection of genetic effects of quantitative trait loci (QTL) in transgenic cotton
【语种】英文
【第一作者】ZHANG Yong-shan
【通讯作者】ZHANG Yong-shan
【期刊名称、卷期、页码】Euphytica, (2008) 159:93 – 102
【论文发表时间】2009-01-13 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农业基础学科

【题目】高产抗 SCN 大豆新品种嫩丰 20的选育及高产栽培技术
【中文关键词】高产;抗SCN;嫩丰20;选育;栽培技术
【英文关键词】High-yield; SCN-Resistant; Nenfeng20; Selection;Cultivation practices
【中文摘要】本文介绍了高产抗SCN大豆新品种嫩丰20的选育经过、主要特征特性及栽培技术。嫩丰20原代号为嫩9702-2,是黑龙江省农业科学院齐齐哈尔分院以合丰25为母本,安8711-277为父本进行有性杂交,系谱选育而成。2008年通过黑龙江省农作物品种审定委员会审定命名推广。
【英文摘要】This paper introduced the selection process, characteristic,and cultivation practices of a newhigh-yield, SCN-resistant variety Nenfeng20. The new variety Nenfeng20 was selected by QiqiharBranch Academy of Heilongjiang Academy of Agricultural Sciences from the cross of Hefeng25×An8711-277 through sexual hybridization, and adopted pedigree selection. The original code wasNen9702-2. It was examined and approved by Heilongjiang cropsvariety examination and approval committee in 2008.
【语种】中文
【第一作者】王芳
【通讯作者】王芳
【期刊名称、卷期、页码】大豆科技,2009,(1)
【论文发表时间】2009-01-06 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农艺学

【题目】Functional properties of the Maillard reaction products of rice protein with sugar
【中文关键词】Rice protein;
Maillard reaction;
Emulsifying properties;
Protein solubility;
【英文关键词】Rice protein;
Maillard reaction;

Emulsifying properties;
Protein solubility;
【中文摘要】The glycation of rice proteins with reducing sugars was investigated in an attempt to improve their solubilityand functionality. Rice proteins isolated from a Chinese milled medium-grain rice were glycatedwith glucose, lactose, maltodextrin, or dextran in 2% aqueous dispersions. The sugar that provided themost improvement of the solubility, emulsification activity (EA) and emulsification stability (ES) of theMaillard reaction products was glucose. The optimum reaction conditions were at pH 11, 100 C, andreaction time 15 min, which increased the solubility, EA and ES of rice protein from 20%, 0.46 and 11.1to 92%, 0.64 and 18.2, respectively. Extending the reaction time beyond 15 min continued the developmentof latter-stage Maillard browning products without improvements in the functional properties ofthe Maillard reaction products. SEC – HPLC analysis with light scattering detection showed a decrease ofthe weight-averaged molecular weight from 500 to 100 K during the initial 15 min.
【英文摘要】The glycation of rice proteins with reducing sugars was investigated in an attempt to improve their solubilityand functionality. Rice proteins isolated from a Chinese milled medium-grain rice were glycatedwith glucose, lactose, maltodextrin, or dextran in 2% aqueous dispersions. The sugar that provided themost improvement of the solubility, emulsification activity (EA) and emulsification stability (ES) of theMaillard reaction products was glucose. The optimum reaction conditions were at pH 11, 100 C, andreaction time 15 min, which increased the solubility, EA and ES of rice protein from 20%, 0.46 and 11.1to 92%, 0.64 and 18.2, respectively. Extending the reaction time beyond 15 min continued the developmentof latter-stage Maillard browning products without improvements in the functional properties ofthe Maillard reaction products. SEC – HPLC analysis with light scattering detection showed a decrease ofthe weight-averaged molecular weight from 500 to 100 K during the initial 15 min.
【语种】英文
【第一作者】李玥
【通讯作者】钟芳
【期刊名称、卷期、页码】Food Chemistry,2009,117,69-74
【论文发表时间】2009-03-19 00:00:00
【引文索引类型】SCI
【引文索引号】3.0955410001e+011
【学科分类】食品科学技术基础学科

【题目】高油抗线大豆嫩丰18特征特性与应用研究
【中文关键词】高油大豆;抗线;应用
【英文关键词】high oil soybean;resistant to cyst nematode;application
【中文摘要】嫩丰18是黑龙江省农科院嫩江农科所以嫩92046F1为母本,以合丰25为父本进行有性杂交选育而成的高油大豆新品种,2005年通过黑龙江省农作物品种审定委员会审定。该品种油份含量高,中抗大豆孢囊线虫3号生理小种,熟期适中,稳产丰产性好,现已推广应用种植,是一个高油抗线性状较为突出的高油大豆新品种。
【英文摘要】Nenjiang Agricultural Institute of Heilongjiang Acadamy of Agricultural Sciences bred NenfengNo.18 from Nen 92046 (female) and Hefeng 25 (male).It was examined and approved by Approval Committee of Crop Variety of Heilongjiang Province in 2005.The new variety performed high oil content,resistance to race 3 cyst nematode,medium maturing and high yield.Its prominent character was high oil contentand resistant to cyst nematode.The new variety had been largely popularized and planted.
【语种】中文
【第一作者】王连霞
【通讯作者】王连霞
【期刊名称、卷期、页码】黑龙江农业科学,2007,(5)
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【引文索引号】null
【学科分类】农艺学

【题目】高油高产多抗大豆品种合丰52的选育
【中文关键词】大豆;合丰52;高油高产多抗;选育
【英文关键词】soybean;Hefeng 52;high oil,high yield and mult i resistance;selecting and breeding

【中文摘要】合丰52是以美国品种SPRITE87为母本,与父本宝丰7号有性杂交育成,2007年由黑龙江省和国家农作物品种审定委员会同时审定推广。该品种高油(23.24%)、高产(生产试验产量2 631. 3 kg · hm-2,较对照品种增产14.5%)、多抗(抗胞囊线虫病、灰斑病、花叶病毒病SMV1号株系和疫霉病)、广适应性(适宜黑龙江省、内蒙古自治区、吉林和新疆等四省春播种植),集多种优良性状于一体,是全国育成的第一个高油、抗胞囊线虫病品种。

【英文摘要】The soybean variety Hefeng 52 was bred by sexual hybridization,its female parent was american soybeanvariety SPRITE87,and its male parent was Baofeng No.7.This variety was released by Heilongjiang province andState Crops Varieties Examining and Approving Committee in the same time in 2007,it owned many good characters,such as high oil,high yield,mult i resistance and wide adaptability.It is the first soybean variety of high oiland soybean cyst nematode resistance in china.

【语种】中文

【第一作者】郭泰

【通讯作者】郭泰

【期刊名称、卷期、页码】黑龙江农业科学,2008,(6)

【论文发表时间】2008-06-06 00:00:00

【引文索引类型】其他

【引文索引号】null

【学科分类】农艺学

【题目】Effects of Alcalase/Protease N treatments on rice starch isolation and their effects on its properties

【中文关键词】Rice starch;Starch isolation;;Alcalase/Protease N;Pasting;Rheology

【英文关键词】Rice starch;Starch isolation;;Alcalase/Protease N;Pasting;Rheology

【中文摘要】The effects of different protease treatments on rice starches and their properties were studied. The rice starches produced from protease N exhibited higher pasting viscosities than those produced from alcalase.The hot pastes of the starches produced from protease N also showed higher elastic moduli, zeroorder Newtonian viscosities and yield stresses than those produced from alcalase. No differences were found in the crystalline pattern, thermal properties, granules appearance, and average molecular weight (Mw) of the rice starches between the two protease treatments. But the Mw of the pasted starch produced from protease N was higher than that produced from alcalase. When additional protease was added to the isolated starches and the mixture pasted, the Mw of the starches pasted with added alcalase was significant lower than that of the starches pasted with added protease N. The reduction in molecular weight suggested that alcalase had modified the starch molecules during pasting.

【英文摘要】The effects of different protease treatments on rice starches and their properties were studied. The rice starches produced from protease N exhibited higher pasting viscosities than those produced from alcalase.The hot pastes of the starches produced from protease N also showed higher elastic moduli, zeroorder Newtonian viscosities and yield stresses than those produced from alcalase. No differences were found in the crystalline pattern, thermal properties, granules appearance, and average molecular weight (Mw) of the rice starches between the two protease treatments. But the Mw of the pasted starch produced from protease N was higher than that produced from alcalase. When additional protease was added to the isolated starches and the mixture pasted, the Mw of the starches pasted with added alcalase was significant lower than that of the starches pasted with added protease N. The reduction in molecular weight suggested that alcalase had modified the starch molecules during pasting.

【语种】英文

【第一作者】李玥

【通讯作者】钟芳

【期刊名称、卷期、页码】Food Chemistry,2009,114,821-828

【论文发表时间】2008-10-13 00:00:00

【引文索引类型】SCI

【引文索引号】2.6425880001e+011

【学科分类】食品科学技术基础学科

【题目】播期、密度对高油高产大豆合丰50脂肪含量及产量影响研究

【中文关键词】播期;密度;大豆;脂肪;产量

【英文关键词】Sowing date;Density; Soybean;Oil content;Yield

【中文摘要】以合丰50为材料,分7个播期、5个密度,研究不同播期及密度对其品质、产量及农艺性状的影响。结果表明:播期及密度对高油高产大豆品种合丰50的产量有较大的影响,随播期的延迟和密度的增加,该品种的产量呈先上升后下降

的变化趋势,差异达到极显著水平;播期对油份含量的影响较大,而且规律性极强,即随播期的延迟各密度处理合丰50的油份含量下降。不同密度处理对油份含量的影响较小,而且规律性也不强。合丰50的最佳播种时期为5月9日左右,而最适密度为25万株·hm-2,此时可获得最高产量和较高的含油量。

【英文摘要】New soybean varietyHefeng 50 was used to study the response of oil content and yield to different sowing dates(25thApri,l 2ndMay, 9thMay, 16thMay, 23thMay, 30thMay, 6thJune)and densities(20, 25, 30, 35 and 40 104plants · ha-1).Results showed that sowing dates and densities had great influence on yield ofHefeng 50,with the sowing date delayed anddensity increased, the yield ofHefeng 50 showed increase and then decrease trend, and significantdifferencewere observedamong treatments; sowing dates had significant influence on oil content, with the sowing date delayed, the oil content decreased regularly; planting densities had no obvious influence on oil content.Results suggest thatunder the planting densityof25×104plants · ha-1and the sowing date of9thMay, soybean varietyHefeng 50 had highestyieldwith higheroil content.

【语种】中文

【第一作者】王志新

【通讯作者】王志新

【期刊名称、卷期、页码】大豆科学,2009,28(6)

【论文发表时间】2009-12-06 00:00:00

【引文索引类型】其他

【引文索引号】null

【学科分类】农艺学

【题目】高油大豆品种合丰 47 号中试与示范

【中文关键词】高油大豆品种;合丰47;中试;示范

【英文关键词】无

【中文摘要】高油大豆新品种合丰47于2004~2006年列入农业科技成果转化资金项目和农业科技跨越计划项目。该项目主要开展品种与配套技术集成与熟化、建立品种中试与示范基地和技术培训与宣传等工作内容,示范与转化合丰47面积36万hm2,纯增产大豆0.8亿kg,创纯社会效益2.1亿元。

【英文摘要】无

【语种】中文

【第一作者】郭泰

【通讯作者】郭泰

【期刊名称、卷期、页码】黑龙江农业科学,2009,(5)

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【引文索引类型】其他

【引文索引号】null

【学科分类】园艺学

【题目】Structure-viscosity relationships for starches from different rice varieties during heating

【中文关键词】Rice starch; Viscosity; Particle size; Amylose; Short-range order

【英文关键词】Rice starch; Viscosity; Particle size; Amylose; Short-range order

【中文摘要】The effects of starch particle size and leached amylose on the viscosity of rice starch dispersions and changes of short-range structure and amylose content in starch granules of different rice varieties during heating were investigated. It was found that starch granule swelling increased rice starch dispersion viscosity during heating. The viscosities of the starch dispersions during heating were principally dependent on granular volume fraction and independent of starch variety. A distinct correlation between the amount of leached amyloseand swelling of starch granules was also found. High initial amylose concentrations in starch granules reduced swelling during heating, thereby reducing rice dispersion viscosities. Fourier-transform IR spectroscopy indicated that the loss of short-range order was significantwhen the temperature reached the pasting onset temperature. The short-range order of waxy and medium grain rice starches was higher than that of long grain rice starches before gelatinization. The loss of order of waxy and medium grain rice starches was greater than that of long grain rice starches during heating, which was due to the presence of amylose, restraining the swelling and disruption of starch granules during heating.

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starch granule swelling increased rice starch dispersion viscosity during heating. The viscosities of the starch dispersions during heating were principally dependent on granular volume fraction and independent of starch variety. A distinct correlation between the amount of leached amyloseand swelling of starch granules was also found. High initial amylose concentrations in starch granules reduced swelling during heating, thereby reducing rice dispersion viscosities. Fourier-transform IR spectroscopy indicated that the loss of short-range order was significantwhen the temperature reached the pasting onset temperature. The short-range order of waxy and medium grain rice starches was higher than that of long grain rice starches before gelatinization. The loss of order of waxy and medium grain rice starches was greater than that of long grain rice starches during heating, which was due to the presence of amylose, restraining the swelling and disruption of starch granules during heating.

【语种】英文

【第一作者】李玥

【通讯作者】钟芳

【期刊名称、卷期、页码】Food Chemistry, 2008, 160, 1105-1112

【论文发表时间】2008-07-16 00:00:00

【引文索引类型】SCI

【引文索引号】2.5459710002e+011

【学科分类】食品科学技术基础学科

【题目】The isolation of rice starch with food grade proteases combined with other treatments

【中文关键词】rice starch; proteases; proteins; isolation

【英文关键词】rice starch; proteases; proteins; isolation

【中文摘要】The efficiency of starch isolations from milled rice with six food-grade protease preparations and combinations with ellulase, high-intensity ultrasound or defatting treatments were investigated. Alcalase and protease N 'Amano' (Protease N) were found to provide for a better separation of the rice starch from protein. Protease hydrolysis of the rice flour proteins combined with cellulase and defatting treatments lower residual protein content further to values which were similar to the conventional alkaline steeping method. Protein removal by hydrolysis with the two proteases was found to be most enhanced with a Cellulase pretreatment followed by initial pH adjustments of 10.5 for the alkaline protease Alcalase, and 8.5 for the neutral protease N. There were differences between the trough to final viscosities of the starches prepared with alcalase and protease N. There were no notable differences among different treatments of the isolated starches from the differential scanning calorimetry measurements. Most rice starch granules treated with protease showed no apparent surface damage as observed from scanning electron micrographs. Particle size distribution analysis revealed that the flour displayed bi-model size distribution. The higher sized fraction (10 to 100 mu m) decreased rapidly when protease treatments were applied. The isolation of rice starch with proteases combined with other treatments could produce rice starch with native structure, limit the waste products from the separation process and provide a prospective for the design of a commercial process.

【英文摘要】The efficiency of starch isolations from milled rice with six food-grade protease preparations and combinations with ellulase, high-intensity ultrasound or defatting treatments were investigated. Alcalase and protease N 'Amano' (Protease N) were found to provide for a better separation of the rice starch from protein. Protease hydrolysis of the rice flour proteins combined with cellulase and defatting treatments lower residual protein content further to values which were similar to the conventional alkaline steeping method. Protein removal by hydrolysis with the two proteases was found to be most enhanced with a Cellulase pretreatment followed by initial pH adjustments of 10.5 for the alkaline protease Alcalase, and 8.5 for the neutral protease N. There were differences between the trough to final viscosities of the starches prepared with alcalase and protease N. There were no notable differences among different treatments of the isolated starches from the differential scanning calorimetry measurements. Most rice starch granules treated with protease showed no apparent surface damage as observed from scanning electron micrographs. Particle size distribution analysis revealed that the flour displayed bi-model size distribution. The higher sized fraction (10 to 100 mu m) decreased rapidly when protease treatments were applied. The isolation of rice starch with proteases combined with other treatments could produce rice starch with native structure, limit the waste products from the separation process and provide a prospective for the design of a commercial process.

【语种】英文

【第一作者】李玥

【通讯作者】钟芳

【期刊名称、卷期、页码】Food Science and Technology International,2008, 14(3), 215-224

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【引文索引号】2.592275e+011
【学科分类】食品科学技术基础学科

【题目】The effect of rice variety and starch isolation method on the pasting and rheological properties of rice starch pastes
【中文关键词】Rice Starch; Pasting; Rheology; Starch isolation
【英文关键词】Rice Starch; Pasting; Rheology; Starch isolation
【中文摘要】The effect of rice variety and starch isolation method on the pasting and theological properties of rice starches was evaluated. One waxy and three non-waxy rice varieties from California with a range of amylose contents of 1.6-26.5% and four methods of isolation were evaluated. A rotational rheometer (RR) was used to measure the pasting and theological properties of starch dispersions (8% w/w). The RR pasting curves had similar shapes to those from a rapid visco-analyzer (RVA). The four treatments used for isolating starch were a protease, NaOH (0.1% and 0.4%), or sodium dodecyl sulfate (SDS) (1.0%). The NaOH (0.4%) and SDS treatments were found to reduce the peak pasting temperatures of the non-waxy starches as compared with the protease and NaOH (0.1%) treatments. The same trend of the treatments was found with the elastic moduli, low shear viscosities, and yield stresses of the non-waxy starch pastes measured at 65 degrees C, immediately after pasting. The elastic moduli of the waxy starch pastes appeared to be least affected by method of starch isolation, but the low shear viscosity and yield stress of the protease starch paste was significantly higher than the paste from the other three treatments. Overall, the method of rice starch isolation was found to affect the gelatinization and theological characteristics of hot rice starch paste
【英文摘要】The effect of rice variety and starch isolation method on the pasting and theological properties of rice starches was evaluated. One waxy and three non-waxy rice varieties from California with a range of amylose contents of 1.6-26.5% and four methods of isolation were evaluated. A rotational rheometer (RR) was used to measure the pasting and theological properties of starch dispersions (8% w/w). The RR pasting curves had similar shapes to those from a rapid visco-analyzer (RVA). The four treatments used for isolating starch were a protease, NaOH (0.1% and 0.4%), or sodium dodecyl sulfate (SDS) (1.0%). The NaOH (0.4%) and SDS treatments were found to reduce the peak pasting temperatures of the non-waxy starches as compared with the protease and NaOH (0.1%) treatments. The same trend of the treatments was found with the elastic moduli, low shear viscosities, and yield stresses of the non-waxy starch pastes measured at 65 degrees C, immediately after pasting. The elastic moduli of the waxy starch pastes appeared to be least affected by method of starch isolation, but the low shear viscosity and yield stress of the protease starch paste was significantly higher than the paste from the other three treatments. Overall, the method of rice starch isolation was found to affect the gelatinization and theological characteristics of hot rice starch paste
【语种】英文
【第一作者】钟芳
【通讯作者】钟芳
【期刊名称、卷期、页码】Food Hydrocolloids,2009, 23(2), 406-414
【论文发表时间】2009-03-10 00:00:00
【引文索引类型】SCI
【引文索引号】2.6028390002e+011
【学科分类】食品科学技术基础学科

【题目】Paste viscosity of rice starches of different amylose content and carboxymethylcellulose formed by dry heating and the physical properties of their films
【中文关键词】dry heating; rice starch; rice starch-based film; pasting viscosity; particle size; physical properties
【英文关键词】dry heating; rice starch; rice starch-based film; pasting viscosity; particle size; physical properties
【中文摘要】Starch modified by combination with sodium carboxymethylcellulose (CMC) has been reported to have improved film properties. In this study, rice starches with different amylose content were heat-treated in a dry state after being impregnated with low or medium-viscosity CMC. Noticeable change was found in pasting properties of the starches after dry heat treatment with CMC. It indicated that crosslinkage occurred between the starch and CMC. The waxy starch showed significant change in viscosity throughout pasting after dry heating with CMC, suggesting that the ester bonds were mostly formed between the hydroxyl groups in amylopectin branches of rice starch and carboxylate acid groups of CMC. Particle size also increased after heat treatment with CMC. The modified starch-based films showed improvement in the tensile strength. Both water vapor and oxygen permeability reduced for the modified starch-based films. Dynamic mechanical analysis (DMA) study showed that the values of G' of modified starch-based film were higher than those of native starch-based film over the temperature range -40 to 60 degrees C. The heating process with CMC could be used as

a modification method for starch and provide desirable properties of starch-based films.
【英文摘要】Starch modified by combination with sodium carboxymethylcellulose (CMC) has been reported to have improved film properties. In this study, rice starches with different amylose content were heat-treated in a dry state after being impregnated with low or medium-viscosity CMC. Noticeable change was found in pasting properties of the starches after dry heat treatment with CMC. It indicated that crosslinkage occurred between the starch and CMC. The waxy starch showed significant change in viscosity throughout pasting after dry heating with CMC, suggesting that the ester bonds were mostly formed between the hydroxyl groups in amylopectin branches of rice starch and carboxylate acid groups of CMC. Particle size also increased after heat treatment with CMC. The modified starch-based films showed improvement in the tensile strength. Both water vapor and oxygen permeability reduced for the modified starch-based films. Dynamic mechanical analysis (DMA) study showed that the values of G' of modified starch-based film were higher than those of native starch-based film over the temperature range -40 to 60 degrees C. The heating process with CMC could be used as a modification method for starch and provide desirable properties of starch-based films.
【语种】英文
【第一作者】李玥
【通讯作者】钟芳
【期刊名称、卷期、页码】Food Chemistry,2008, 109, 616-623
【论文发表时间】2008-08-01 00:00:00
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【引文索引号】2.5532770002e+011
【学科分类】食品科学技术基础学科

【题目】大米蛋白—多糖复合产物的制备及功能性质的研究
【中文关键词】大米蛋白;多糖;美拉德反应;功能性质
【英文关键词】大米蛋白;多糖;美拉德反应;功能性质
【中文摘要】以疏水性植物蛋白—大米蛋白(RP)为研究对象,研究大米蛋白有限水解下与不同相对分子量多糖发生美拉德反应后功能特性的变化。通过对复合产物功能性质的研究,确定了以葡聚糖做为与大米蛋白发生美拉德反应的糖基供体,得到溶解性、乳化性,乳化稳定性均有较大提高的大米蛋白—葡聚糖复合产物,得到最佳工艺条件为:水解度为5%,pH 值为11,反应温度100℃,反应时间20 min。
【英文摘要】以疏水性植物蛋白—大米蛋白(RP)为研究对象,研究大米蛋白有限水解下与不同相对分子量多糖发生美拉德反应后功能特性的变化。通过对复合产物功能性质的研究,确定了以葡聚糖做为与大米蛋白发生美拉德反应的糖基供体,得到溶解性、乳化性,乳化稳定性均有较大提高的大米蛋白—葡聚糖复合产物,得到最佳工艺条件为:水解度为5%,pH 值为11,反应温度100℃,反应时间20 min。
【语种】中文
【第一作者】纪葳
【通讯作者】钟芳
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【引文索引号】null
【学科分类】食品科学技术基础学科

【题目】大米蛋白-葡聚糖接枝耦联反应的研究
【中文关键词】大米蛋白;葡聚糖;耦联反应;微波;功能性质
【英文关键词】大米蛋白;葡聚糖;耦联反应;微波;功能性质
【中文摘要】采用微波加热的方式,研究湿热条件下大米蛋白- 葡聚糖的接枝耦联反应,通过接枝度(DG)的测定,对其工艺参数进行优化。在本实验范围内,接枝度达到最大的工艺条件组合为:微波功率500W,蛋白质浓度3mg/ml,大米蛋白与葡聚糖质量配比1:6,反应时间20min。从氨基酸组成、分子量分布来看,反应后精氨酸及赖氨酸含量减少,高分子量区域增加。随着接枝度的上升,其溶解性和乳化活性等都得到明显的改善。
【英文摘要】采用微波加热的方式,研究湿热条件下大米蛋白- 葡聚糖的接枝耦联反应,通过接枝度(DG)的测定,对其工艺参数进行优化。在本实验范围内,接枝度达到最大的工艺条件组合为:微波功率500W,蛋白质浓度3mg/ml,大米蛋白与葡聚糖质量配比1:6,反应时间20min。从氨基酸组成、分子量分布来看,反应后精氨酸及赖氨酸含量减少,高分子量区域增加。

随着接枝度的上升,其溶解性和乳化活性等都得到明显的改善。
【语种】中文
【第一作者】华静娴
【通讯作者】陈正行
【期刊名称、卷期、页码】食品科学,2008,29(12),45-50
【论文发表时间】2008-12-08 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】食品科学技术基础学科

【题目】扁茎大豆材料的利用与新品种创新
【中文关键词】扁茎大豆;利用;新品种;创新
【英文关键词】fascinated stem soybean, use, new soybean variety, innovation
【中文摘要】为了改造与利用扁茎大豆材料,挖掘与转化有益基因,改良与创新品种,此研究以当地主要推广品种为核心亲本,扁茎大豆及其后代材料为改良亲本,连续进行杂交改良,充分利用杂交育种后代基因重组、累加与互补及突变等遗传效应,通过正确识别与确定扁茎大豆后代选择个体目标与连续定向选择,创新出合丰51、53号两个新品种和一批优良品系。概述了扁茎大豆材料改造与利用及创新品种的过程与试验结果,并就相关育种技术问题进行了讨论。结果表明,梯级杂交、定向选择与连续改良是改造扁茎大豆及其后代材料的有效方法。
【英文摘要】In order to reform and use fascinated stem soybean materials, mining and transforming useful genes,improving and innovating new soybean varieties, this research make the promotion of local soybean varieties asthe main core parents, and make fascinated stem soybean materialsand its future generations as the improvedparents materials, through continuous hybridization improving, making full use of geneticrecombination, cumulative and complementary effects and genetic mutations of future generations of crossbreeding, Through the correct identification and determining fascinated stem soybean future generations individual goals, two new soybean varieties Hefeng 51,53 and a number of fine lines were innovated. This study overviewed transformationand utilization of fascinated stem soybean materials and innovative varieties of process and test results, and discussed breeding techniques and related issues. The results showed that the cascade hybridization, directionalselection, transformation and continuous improvement were effective ways of reforming fascinated stem soybeanand its future generations.
【语种】中文
【第一作者】郭泰
【通讯作者】郭泰
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【引文索引号】null
【学科分类】农艺学

【题目】早熟高产优质大豆新品种黑河43
【中文关键词】早熟;优质;黑河43;特征特性;栽培技术
【英文关键词】无
【中文摘要】黑河43是黑龙江省农科院黑河农科所大豆一室选育的大豆新品种,具有早熟、高产、优质、抗病等特性。2004年和2005年黑龙江省第四积温带区域试验,平均产量分别为2 308 kg·hm-2和2 596.9 kg·hm-2,比对照品种黑河18均增产8.8%;2006年生产试验,平均产量2 111.2 kg·hm-2,比对照品种黑河18增产10.5 %;蛋白质及脂肪含量分别达到41.84%和18.98%;中抗灰斑病。2007年初通过黑龙江省农作物品种审定委员会审定。该品种适宜黑龙江省第四积温带推广应用,并可用于南部迟播救灾。
【英文摘要】无
【语种】中文
【第一作者】贾鸿昌
【通讯作者】贾鸿昌
【期刊名称、卷期、页码】黑龙江农业科学,2007,(5)

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【引文索引类型】其他
【引文索引号】null
【学科分类】农艺学

【题目】毛豆用早熟高产抗病大豆新品种黑河24
【中文关键词】大豆;黑河24;栽培要点
【英文关键词】无
【中文摘要】黑河24是黑龙江省农科院黑河农科所,经有性杂交育成的大豆新品种。具有早熟、高产、抗病、质佳、适应性强、适于机械化栽培等特点,适于内蒙南部、辽宁等地做毛豆。生育日数110 d左右,需活动积温2 100℃。本文针对黑河24大豆主要特点进行分析,提出了在栽培技术上应注意的问题。
【英文摘要】无
【语种】中文
【第一作者】闫洪睿
【通讯作者】闫洪睿
【期刊名称、卷期、页码】黑龙江农业科学,2006,(2)
【论文发表时间】2006-02-06 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农艺学

【题目】Functional properties of Maillard reaction products of rice protein hydrolysates with mono-, oligo- and polysaccharides
【中文关键词】Rice protein;Maillard reaction;Enzymatic hydrolysis;Emulsifying properties;Solubility
【英文关键词】Rice protein;Maillard reaction;Enzymatic hydrolysis;Emulsifying properties;Solubility
【中文摘要】The Maillard reaction was carried out under wet reaction conditions using rice protein product from limited hydrolysis to conjugate with various mono-, oligo- and polysaccharides. The Maillard reaction products (MRPs) prepared with rice protein hydrolysates at 5% degree (hydrolysed by Protease N) and dextran T20 (20 min at 100 _C) showed the greatest improvement in functionality. The solubility,emulsification activity (EA), and emulsification stability (ES) of the MRPs increased by factors of 3.5, 5.3 and 7.3 times, respectively as compared to MRPs formed with native rice proteins and dextran T20. Amino acid analysis indicated that lysine and arginine decreased significantly in the MRPs. Formation of MRPs reduced the surface hydrophobicity, which was in agreement with the change of solubility. However, further decreasing of the surface hydrophobicity resulted in lower EA and ES during the late stage of the reaction. Fluorescence analysis suggested that formation of late stage MRPs occurred after 20 min of the Maillard reaction. The molecular weight distributions showed that the functional properties of MRPs and the mechanisms of formation were affected by the peptide chain length.
【英文摘要】The Maillard reaction was carried out under wet reaction conditions using rice protein product from limited hydrolysis to conjugate with various mono-, oligo- and polysaccharides. The Maillard reaction products (MRPs) prepared with rice protein hydrolysates at 5% degree (hydrolysed by Protease N) and dextran T20 (20 min at 100 _C) showed the greatest improvement in functionality. The solubility,emulsification activity (EA), and emulsification stability (ES) of the MRPs increased by factors of 3.5, 5.3 and 7.3 times, respectively as compared to MRPs formed with native rice proteins and dextran T20. Amino acid analysis indicated that lysine and arginine decreased significantly in the MRPs. Formation of MRPs reduced the surface hydrophobicity, which was in agreement with the change of solubility. However, further decreasing of the surface hydrophobicity resulted in lower EA and ES during the late stage of the reaction. Fluorescence analysis suggested that formation of late stage MRPs occurred after 20 min of the Maillard reaction. The molecular weight distributions showed that the functional properties of MRPs and the mechanisms of formation were affected by the peptide chain length.
【语种】英文
【第一作者】李玥
【通讯作者】钟芳
【期刊名称、卷期、页码】Food Hydrocolloids,2013,30:53-60.
【论文发表时间】2013-08-06 00:00:00

【引文索引类型】SCI
【引文索引号】3.0955410001e+011
【学科分类】食品科学技术基础学科

【题目】限制性水解大米蛋白-不同分子量多糖复合产物的制备及功能性质的研究
【中文关键词】大米蛋白;多糖;美拉德反应;功能性质
【英文关键词】大米蛋白;多糖;美拉德反应;功能性质
【中文摘要】以疏水性植物蛋白——大米蛋白(RP)为研究对象,研究大米蛋白有限水解下与不同相对分子质量多糖发生美拉德反应后功能特性的变化。通过对复合产物功能性质的研究,确定以葡聚糖作为与大米蛋白发生美拉德反应的糖基供体,得到溶解性、乳化性、乳化稳定性均有较大提高的大米蛋白- 葡聚糖复合产物,最佳工艺条件为:pH值为11,反应温度100℃,反应时间20min。
【英文摘要】以疏水性植物蛋白——大米蛋白(RP)为研究对象,研究大米蛋白有限水解下与不同相对分子质量多糖发生美拉德反应后功能特性的变化。通过对复合产物功能性质的研究,确定以葡聚糖作为与大米蛋白发生美拉德反应的糖基供体,得到溶解性、乳化性、乳化稳定性均有较大提高的大米蛋白- 葡聚糖复合产物,最佳工艺条件为:pH值为11,反应温度100℃,反应时间20min。
【语种】中文
【第一作者】纪葳
【通讯作者】钟芳
【期刊名称、卷期、页码】食品科学,2010,31(5),30-34
【论文发表时间】2010-06-15 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】食品科学技术基础学科

【题目】俄罗斯根瘤菌对大豆黑河 17 号的增产效果
【中文关键词】大豆 根瘤菌 产量
【英文关键词】无
【中文摘要】利用从俄罗斯引进根瘤菌2号及18号,进行了田间试验研究,研究其在大豆上的增产效果,结果表明,施用根瘤菌肥后,单株鲜重、根瘤数、根瘤鲜重及其干重都有增加的趋势;在生育后期使百粒重增加,增产幅度均达10%以上,以根瘤菌18号应用效果最好。
【英文摘要】无
【语种】中文
【第一作者】张雷
【通讯作者】张雷
【期刊名称、卷期、页码】栽培与耕作,2006,(4)
【论文发表时间】2006-04-27 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农艺学

【题目】黑河市秋季热量资源及逃逸积温在大豆生产上的利用
【中文关键词】大豆;秋季活动积温;逃逸积温;逃逸积温利用
【英文关键词】无
【中文摘要】对黑河市1982~2006年秋季气温分析表明,黑河市秋季日平均气温为13·48℃,极差为3·29℃;秋季热量资源年平均为552·86℃,极差为134·7℃;秋季活动积温平均为420·05℃,极差达449·9℃。秋季热量资源呈增加趋势,但活动积温却呈减少趋势,并且年际间变幅均有加大趋势,原因是逃逸积温大幅增加。提出三点预防途径,一是加强短、中、长期气象预报;二是研制应用有效的抗低温制剂;三是做好烟雾防低温工作,要注重材料布置的科学性。
【英文摘要】无
【语种】中文

【第一作者】吴记安
【通讯作者】吴记安
【期刊名称、卷期、页码】作物杂志,2007,(2)
【论文发表时间】2007-02-21 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农艺学

【题目】黑河 38 号大豆品种的选育和遗传组成
【中文关键词】大豆;黑河38号;选育;遗传组成
【英文关键词】Soybean; Heihe38; Selective breeding; Genetic composition
【中文摘要】利用遗传基础丰富的优良中间材料为亲本,配制杂交组合,选育出早熟、高产、适应性广的大豆新品种黑河38号,审定2年种植面积即达20万hm2。分析了黑河38号的遗传组成,核基因来源于十胜长叶、阿姆索等4份国外品种,盖家屯四粒荚、金元等5份农家品种以及1份育成品种和1份当地野生大豆,细胞质来源于克山白眉。
【英文摘要】Heihe38 is an earlymaturity andwidely adapted soybean varietywith high yield, whichwas derivedfrom cross ofelite lineswith abundantgenetic bases. The planted area ofHeihe38 reached to200 thousand hectaresin two years since itpassed crop variety evaluation. Heihe38 ′ sgenetic compositionwas analyzed according itsped igree. The nucleus gene came from four introduced germplasm such asTokachinagaha and Amsoy, five landraces,one cultivar and one localwild soybeans. The cytoplasm came from Keshanbaime.i
【语种】中文
【第一作者】吴记安
【通讯作者】吴记安
【期刊名称、卷期、页码】植物遗传资源学报2007, 8(3)
【论文发表时间】2007-08-21 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农艺学

【题目】极早熟高产大豆新品种黑河 49号的特征特性及栽培技术
【中文关键词】极早熟大豆;黑河49;特征特性;栽培技术
【英文关键词】无
【中文摘要】黑河49大豆极早熟、高产优质、秆较强、不炸荚、适应性广,2005~2006年黑龙江省第6积温带区域试验10点次平均产量1 991.9 kg · hm 2,比对照品种黑河35增产9.4 %,2007年生产试验平均产量1 962.1 kg · hm-2,比对照品种黑河35增产10.6%。高产栽培产量潜力可达2 300 kg · hm 2以上。该品种因其早熟、优质、丰产较适合黑龙江省北部第6积温带及北部山区、半山区种植,推广前景广阔。
【英文摘要】无
【语种】中文
【第一作者】鹿文成
【通讯作者】鹿文成
【期刊名称、卷期、页码】黑龙江农业科学,2009,(5)
【论文发表时间】2009-05-15 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农艺学

【题目】大豆新品种黑河 50 特征特性及选育体会
【中文关键词】黑河50;特征特性;选育
【英文关键词】无
【中文摘要】大豆新品种黑河50是黑龙江省农业科学院黑河分院选育的新品种,具有熟期早、产量高、商品性好、抗性强等特点。2006~2007年参加黑龙江省第五积温带区域试验,两年区域平均产量分别为2 327.19和1 976.0 kg · hm-2比对照品种

黑河17分别增产12.1%和8.9%;2008年生产试验,平均产量2 448.5 kg · hm-2,比对照品种黑河17增产10.9%;蛋白质及脂肪含量分别达到41.10%和20.47%;中抗灰斑病。2008年初正式审定。该品种适宜在黑龙江省第五积温带上限种植,并可用于南部迟播救灾。
【英文摘要】无
【语种】中文
【第一作者】贾鸿昌
【通讯作者】贾鸿昌
【期刊名称、卷期、页码】黑龙江农业科学,2009,(3)
【论文发表时间】2009-03-06 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农艺学

【题目】大豆施用钴及硼、锌肥的增产效果
【中文关键词】钴;硼肥;锌肥;大豆;增产效果
【英文关键词】无
【中文摘要】试验证明,在黑河地区的土壤条件下施用钴及硼、锌肥能够不同程度地提高大豆的出苗率,增加株高、叶面积和叶绿素含量,增产效果明显。
【英文摘要】无
【语种】中文
【第一作者】张雷
【通讯作者】张雷
【期刊名称、卷期、页码】中国土壤与肥料,2009,(1)
【论文发表时间】2009-01-14 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农艺学

【题目】不同磷效率基因型大豆对干旱胁迫的反应
【中文关键词】大豆;干旱胁迫;基因型;磷营养
【英文关键词】无
【中文摘要】在控制水分的条件下,通过盆栽试验,研究了不同磷效率基因型大豆的根系面积、根系活力、净光合速率、渗透调节物质、产量等。结果表明:在磷和水分供应充足的情况下,两个基因型大豆生理活性表现极强;低磷和干旱胁迫下,磷高效基因型细胞膜稳定性较强,能较好地维持细胞膨压,保证其正常的生理过程。磷高效基因型在低磷和干旱胁迫下具有生长的优势,以较高的根系活力、光合作用、渗透调节物质等提高生理活性抑制和减少低磷胁迫所造成的不利影响,从而提高磷素营养和水分利用效率,启动自身的自我保护机制维持生长优势,表现出较强的抵御低磷和干旱胁迫的能力;磷低效基因型主要通过增加根系面积等形态变化来适应低磷和干旱胁迫,这就决定其适宜在供磷充分的条件下生
【英文摘要】无
【语种】中文
【第一作者】钟鹏
【通讯作者】钟鹏
【期刊名称、卷期、页码】作物杂志,2008,(5)
【论文发表时间】2008-05-13 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农艺学

【题目】大豆遗传群体选择与品质QTL获得
【中文关键词】遗传群体, QTL 定位, 等位变异

【英文关键词】Genetical population, QTL tagging, Equipotential line variation
【中文摘要】本文以高油品种哈交 97-5404-1 为母本,以哈交 99-5448-4 为父本,建立重组自交系群体。应用SSR 技术,对不同世代 F2:3、F2:6、F2:9遗传群体中的油份 QTL 定位进行了分析,不同世代大豆分离遗传群体中油份含量均接近于正态分布,油份含量性状表达偏向于母本哈交 97-5404-1,F2:3代获得了对油份贡献率较高的 QTL,F2:9代则获多个与油份相关的 QTL,大豆 F2:3和 F2:9代的遗传群体适宜用做品质性状的 QTL 定位,不同世代定位的油份 QTL,均与 SSR 位点 Satt193 有关,通过对来自全国不同品种的 SSR 进行了分析和方差分析证实,Satt193 在第一等位变异下(即 DNA 片段长度为 270 bp)做为油份的筛选标记具有实用性,而在第三等位变异下(即 DNA 片段长度为 220 bp)做为蛋白质材料的筛选标记具有应用性。
【英文摘要】In this study, the RIL population was formed from a cross between high oil content cultivar hajiao97-5404-1 as female parent and Hajiao99-5448-4 as male parent. SSR technology wasutilized, genetic maps wereconstructed and QTL tagging of oil content trait was alsoanalyzed in three different generations F2:3, F2:6, F2:9. The oilcontent in the different generations was all close to normal distribution. The expression of the oil content trait in thepopulation had trend to that of the female parent hajiao97-5404-1. We obtained the QTL spaces point from F2:3population which has high contribution rate about oil content, and multiple QTL spaces pointsabout oil content inF2:9population. The F2:3and F2:9were both suitable for genetic map study for some agronomic traits. The QTL spacespoints in different populations were all related with SSR locus Satt193. We did some analysis and variance analysisto the SSR from different nationwide cultivars. On the first equipotential line variation (the DNA fragment length270 bp), Satt 193 appeared to be a practical selective marker for oil content. However, the third equipotential linevariation (the DNA fragment length 220 bp), the satt193 was the selective marker for protein materials.
【语种】中文
【第一作者】魏峭
【通讯作者】刘丽君
【期刊名称、卷期、页码】分子植物育种,2009 ,7(4)
【论文发表时间】2009-07-15 00:00:00
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【引文索引号】null
【学科分类】农艺学

【题目】大豆新品系黑农56子叶节再生体系的优化
【中文关键词】大豆;子叶节;再生
【英文关键词】Soybean;Cotyldonary nodes;Regeneration
【中文摘要】为获得高效的大豆再生体系,选用大豆新品系黑农56子叶节进行了组织培养的研究,确定黑农56最适的萌发培养基与芽诱导培养基激素浓度。即萌发培养基为不含6　BA的MS培养基;芽诱导培养基添加6　BA和IBA的浓度分别为2. 0 mg・L-1, 0. 2 mg・L-1的B5培养基。并确定黑农56的草铵膦选择压力为4 mg・L-1。
【英文摘要】In order to acquire high efficiency soybean regeneration system, cotyledonry nodes organ ofnew soybean lineHe　inong 56 was used as explants.The effectofdifferentconcentration of6　BA and IBA on the ratio ofshootingwas investigatedin the shoot inductionmedium.The optimumconcentration of6　BA and IBA was 2. 0 mg・L-1, 0. 2 mg・L-1, respectively.Adopting themodelof late selection, the optimal concentration ofGlufosinate　ammonium was4. 0mg・L-1in phase ofshootsinduction.
【语种】中文
【第一作者】寇坤
【通讯作者】刘丽君
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【引文索引号】null
【学科分类】农艺学

【题目】大豆内源基因调控与籽粒不饱和脂肪酸的形成
【中文关键词】大豆;亚油酸;荧光定量;fad2;fad3
【英文关键词】Soybean;Linoleic acid;Rea　l time PCR;fad2;fad3
【中文摘要】大豆亚油酸主要的合成途径是在大豆内源基因fad2调控下由油酸生成亚油酸。与此同时,在内源基因fad3作用下,亚油酸又部分转化成为亚麻酸。采用7个国内外具有一定代表性的栽培品种,对大豆籽粒成熟过程中不同时期的样本

进行定量PCR分析。结果表明:不饱和脂肪酸的合成过程是一个连锁反应,单独一个基因的表达不但影响与其相关的代谢途径,而且连带影响其他脂肪酸成分的积累。fad3的高量表达,促进不饱和脂肪酸积累总量的增加。籽粒发育后期,油酸含量下降,亚油酸,亚麻酸含量稳步上升。当fad2表达受抑制时,亚油酸含量也较低。

【英文摘要】Linoleic acid is one of the helpful composition in soybean forhuman health. Itsmain synthesis approach is from o leic acid under the regulation of endogenous genefad2.At the same time,endogenous genefad3 plays some effect on thesynthesis of linoleic acid. Seven soybean cultivars(lines)were planted and soybean podswere sampled every5 days from fullflowering, and the dynamic accumulation of unsaturated fatty acid and expression offad2 andfad3 gene in soybean seedswere determined.Result suggested that the synthesis ofunsaturated fatty acidswas a chain reaction, the expression of singlegene influenced both its relatedmetabolic pathway and the accumulation ofotherunsaturated fatty acid.The high expressionoffad3 promoted thewhole synthesis process.During the final stage of seed development, oleic acid contentdecreasedwhlielinoleic and linolenic content increased steadily.The linoleic contentwas lowerwhen the expression offad2 was inhibited.

【语种】中文

【第一作者】李丽丽

【通讯作者】刘丽君

【期刊名称、卷期、页码】大豆科学,2008,27(6)

【论文发表时间】2008-12-24 00:00:00

【引文索引类型】其他

【引文索引号】null

【学科分类】农艺学

【题目】大豆高油相关QTL分子标记辅助选择研究

【中文关键词】大豆; SSR;高油QTL;分子标记辅助选择

【英文关键词】Soybean; SSR;High oilQTL; Marker assistant selection

【中文摘要】选用高产大豆品系哈交5448-4和高油大豆品种黑农45为亲本杂交获得F2分离群体,进行大豆高油基因SSR分子标记。共筛选覆盖大豆全基因组的325对SSR引物,利用筛选出的63对在亲本间具有多态性的SSR引物对F2分离群体的120个单株进行SSR扩增,经电泳检测后,所得数据用于作图和定位分析。定位到高油QTL 1个,与satt160连锁,遗传距离为26. 0cM,贡献率为23. 20%,位于大豆公共遗传图谱的F连锁群。利用该引物在24份大豆材料中进行高油材料检测和筛选,在15份高油材料中筛选到11份,检出率达到73. 33%。结果说明satt160具有一定的检测通用性,可以利用它对高油大豆材料进行分子标记辅助选择。

【英文摘要】Soybean seeds contain high level ofoilwhich is useful for human consumption. Increasing emphasis in breedingprograms to produce soybeanwith specific oil content for specialtymarketsdemands thatmore efficientmanipulation of thesetraits have be achieved.Heinong 45 andHajiao5448-4 were crossed to obtain the F2separate population in this research,and the 120 F2：3individualswere used to tag SSR molecularmarker forhigh oilgene.Threehundred and twenty-five pairofSSR primers covering thewhole soybean genomewere screened, and 63 pairofprimers have the polymorphism.CompositeIntervalMappingmethod (CIM) were used and one high oilQTL linkingwith satt160 was located on LG F, the genetic dis tancewas 26. 0 cM and the variance ratiowas 23. 20%. Satt160 was used to exam and screen the high oil content soybeanmaterials, eleven sharewere screened from 15 high oil content soybeanmaterials, the ratio of the examinationwas 73・33%.Result suggests that satt160 can be used to screen the high oil content soybeanmaterials formarker assistant selection.

【语种】中文

【第一作者】杨喆

【通讯作者】杨喆

【期刊名称、卷期、页码】大豆科学,2008,27(6)

【论文发表时间】2008-12-24 00:00:00

【引文索引类型】其他

【引文索引号】null

【学科分类】农艺学

【题目】Coordinating Control for an Agricultural Vehicle with Individual Wheel Speeds and Steering Angles

【中文关键词】略

【英文关键词】Agricultural machinery;Automatic control;Automation;Global Positioning System;Humans;Machine vision;Navigation;Prototypes;Vehicle driving;Wheels;
【中文摘要】略
【英文摘要】Automatic navigation of agricultural vehicles, such as tractors and harvesters, can increase the level of automation in the agricultural process, thereby lessening the human workload. In the agricultural environment, where vehicles move on uneven terrain, achieving maneuverability and mobility can be difficult, particularly when the path curvature is small or vehicle orientation and path tracking must be independently controlled. To obtain the desired maneuverability and mobility, one approach is to individually actuate the drive and steering functions of each wheel on a four-wheeled vehicle. For sensing and navigation, this prototype vehicle uses a combination of machine vision, a differential global positioning system (DGPS), and an inertial measurement unit (IMU). The focus of this work, however, is on path-following control. Although the vehicle is highly maneuverable due to its eight independent actuators, precise control is difficult due to the overconstrained nature of the actuation.
【语种】英文
【第一作者】刘成良
【通讯作者】刘成良
【期刊名称、卷期、页码】IEEE Control System Magazine
【论文发表时间】2008-10-01 00:00:00
【引文索引类型】其他
【引文索引号】0
【学科分类】环境工程学

【题目】Differential Gene Expression in Different Tissues of Black-Bone Sheep and Normal Sheep
【中文关键词】Sheep black-bone eumelainn DD-PCR GSTs EST
【英文关键词】Sheep black-bone eumelainn DD-PCR GSTs EST
【中文摘要】In order to investigate the molecular mechanism of black-traits in the black-bone sheep, differential mRNA fingeiprinting by prerential coding sequences amplification method was used to analyze the differential gene expression in live. hezut pancrease and lumbar muscle between the black-bone sheep and the Lanping native sheep, respectively. Seventy-one expressive sequence tags were obtained between the black-bone sheep and the Lanping native sheep. The results showed that the black-trait of black-bone sheep was controlled by maj or genes. as well as minor genes based on many differential expressive fragments. and also showed among positive expressive sequence tags in the black-bone sheep, one EST had high similarity (ggoio) to gluttathion-s-transferase of human (GSTs).
【英文摘要】In order to investigate the molecular mechanism of black-traits in the black-bone sheep, differential mRNA fingeiprinting by prerential coding sequences amplification method was used to analyze the differential gene expression in live. hezut pancrease and lumbar muscle between the black-bone sheep and the Lanping native sheep, respectively. Seventy-one expressive sequence tags were obtained between the black-bone sheep and the Lanping native sheep. The results showed that the black-trait of black-bone sheep was controlled by maj or genes. as well as minor genes based on many differential expressive fragments. and also showed among positive expressive sequence tags in the black-bone sheep, one EST had high similarity (ggoio) to gluttathion-s-transferase of human (GSTs).
【语种】英文
【第一作者】Y Chen
【通讯作者】H. Mao W. Deng
【期刊名称、卷期、页码】Asian Journal of Animal and Veterinary Advances
【论文发表时间】2011-01-01 00:00:00
【引文索引类型】SCI
【引文索引号】ISSN:1683-9919
【学科分类】畜牧、兽医科学其他学科

【题目】Dominant bacterial communities in the rumen of Gayals(Bos frontalis), Yaks (Bos grunniens) and Yunnan Yellow Cattle(Bos taurs) revealed by denaturing gradient gel electrophoresis
【中文关键词】Dominant bacterial communities Gayals Yaks Yunnan Yellow Cattle DGGE

【英文关键词】Dominant bacterial communities Gayals Yaks Yunnan Yellow Cattle DGGE

【中文摘要】The dominant rumen bacteria in Gayals, Yaks and Yunnan Yellow Cattle were investigated using PCRDGGE approach. The analysis of DGGE profiles, identification of dominant bands and phylogenetic analysis 16S rDNA sequences in DGGE profiles were combined to reveal the dominant bacterial communities and compared the differences between those cattle species. DGGE profiles revealed that Gayals had the most abundant dominant bacteria and the lowest similarity of intraspecies between individuals than other two cattle species. A total of 45 sequences were examined and sequence similarity analysis revealed that Gayals had the most sequences appeared to uncultured bacteria, accounting for 85.0% of the total sequences, Yaks and Yunnan Yellow Cattle had 44.4 and 68.8% uncultured bacterial sequences, respectively. According to phylogenetic analysis, the rumen dominant bacteria of Gayals were mainly phylogenetically placed within phyla firmicutes and bacteroidetes, and the known bacteria were mainly belonged to the genera Lachnospiraceae bacterium, Ruminococcus flavefaciens and Clostridium celerecrescens. Moreover, the dominant bacteria of Yaks were also mainly belonged to phyla firmicutes and bacteroidetes, and the known dominant bacteria were including Ruminococcus flavefaciens, Butyrivibrio fibrisolvens, Pseudobutyrivibrio ruminis, Schwartzia succinivorans and Clostridiales bacterium, most of them are common rumen bacteria. In addition, the dominant bacteria in Yunnan Yellow Cattle were belonged to phyla firmicutes, bacteroidetes and Actinobacteria, and the known dominant bacteria containing Prevotella sp., Staphylococci lentus, Staphylococcus xylosus and Corynebacterium casei. Present study first detected Staphylococcus lentus and Staphylococcus xylosus in the rumen of cattle.

【英文摘要】The dominant rumen bacteria in Gayals, Yaks and Yunnan Yellow Cattle were investigated using PCRDGGE approach. The analysis of DGGE profiles, identification of dominant bands and phylogenetic analysis 16S rDNA sequences in DGGE profiles were combined to reveal the dominant bacterial communities and compared the differences between those cattle species. DGGE profiles revealed that Gayals had the most abundant dominant bacteria and the lowest similarity of intraspecies between individuals than other two cattle species. A total of 45 sequences were examined and sequence similarity analysis revealed that Gayals had the most sequences appeared to uncultured bacteria, accounting for 85.0% of the total sequences, Yaks and Yunnan Yellow Cattle had 44.4 and 68.8% uncultured bacterial sequences, respectively. According to phylogenetic analysis, the rumen dominant bacteria of Gayals were mainly phylogenetically placed within phyla firmicutes and bacteroidetes, and the known bacteria were mainly belonged to the genera Lachnospiraceae bacterium, Ruminococcus flavefaciens and Clostridium celerecrescens. Moreover, the dominant bacteria of Yaks were also mainly belonged to phyla firmicutes and bacteroidetes, and the known dominant bacteria were including Ruminococcus flavefaciens, Butyrivibrio fibrisolvens, Pseudobutyrivibrio ruminis, Schwartzia succinivorans and Clostridiales bacterium, most of them are common rumen bacteria. In addition, the dominant bacteria in Yunnan Yellow Cattle were belonged to phyla firmicutes, bacteroidetes and Actinobacteria, and the known dominant bacteria containing Prevotella sp., Staphylococci lentus, Staphylococcus xylosus and Corynebacterium casei. Present study first detected Staphylococcus lentus and Staphylococcus xylosus in the rumen of cattle.

【语种】英文

【第一作者】J. Leng

【通讯作者】H. Mao W. Deng

【期刊名称、卷期、页码】Mol Biol Rep (2011) 38:4863 – 4872

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【引文索引类型】SCI

【引文索引号】ISSN:0301-4851

【学科分类】畜牧、兽医科学其他学科

【题目】Molecular cloning, sequence identification and tissue expression profile of three novel genes Sfxn1, Snai2 and Cno from Black-boned sheep (Ovis aries)

【中文关键词】Black-boned sheep Sfxn1,Snai3 and Cno Tissue expression analysis

【英文关键词】Black-boned sheep Sfxn1,Snai4 and Cno Tissue expression analysis

【中文摘要】The complete coding sequences of three of Black-boned sheep (Ovis aries) genes Sfxn1, Snai2 and Cno were amplified using the reverse transcriptase polymerase chain reaction (RT-PCR) according to the conserved sequence information of the cattle or other mammals and known highly homologous sheep ESTs. Black-boned sheep Sfxn1 gene encodes a protein of 322 amino acids which has high homology with the Sfxn1 proteins of five species— cattle 98%, pig 95%, human 95%, rat 93%, and mouse 93%. Black-boned sheep Snai2 gene encodes a protein of 268 amino acids that has high identity with the Snai2 proteins of six species—cattle 99%, pig 94%, human 93%, dog 93%, rat 91%, and mouse 90%. Black-boned sheep Cno gene encodes a protein of 214 amino acids that has high homology with the Cno proteins of four species—cattle 97%, human 75%, mouse 67%, and rat 65%. The phylogenetic tree

analysis demonstrated that Black-boned sheep Sfxn1, Snai2 and Cno proteins have close relationship with cattle Sfxn1, Snai2 and Cno proteins. The tissue expression analysis indicated that Black-boned sheep Sfxn1, Snai2 and Cno genes were expressed in a range of tissues including leg muscle, kidney, skin, longissimus dorsi muscle, spleen, heart and liver. Our experiment is the first to provide the primary foundation for further insight into these three sheep genes.

【英文摘要】The complete coding sequences of three of Black-boned sheep (Ovis aries) genes Sfxn1, Snai2 and Cno were amplified using the reverse transcriptase polymerase chain reaction (RT-PCR) according to the conserved sequence information of the cattle or other mammals and known highly homologous sheep ESTs. Black-boned sheep Sfxn1 gene encodes a protein of 322 amino acids which has high homology with the Sfxn1 proteins of five species— cattle 98%, pig 95%, human 95%, rat 93%, and mouse 93%. Black-boned sheep Snai2 gene encodes a protein of 268 amino acids that has high identity with the Snai2 proteins of six species—cattle 99%, pig 94%, human 93%, dog 93%, rat 91%, and mouse 90%. Black-boned sheep Cno gene encodes a protein of 214 amino acids that has high homology with the Cno proteins of four species—cattle 97%, human 75%, mouse 67%, and rat 65%. The phylogenetic tree analysis demonstrated that Black-boned sheep Sfxn1, Snai2 and Cno proteins have close relationship with cattle Sfxn1, Snai2 and Cno proteins. The tissue expression analysis indicated that Black-boned sheep Sfxn1, Snai2 and Cno genes were expressed in a range of tissues including leg muscle, kidney, skin, longissimus dorsi muscle, spleen, heart and liver. Our experiment is the first to provide the primary foundation for further insight into these three sheep genes.

【语种】英文
【第一作者】Dongmei Xi
【通讯作者】H. Mao W. Deng
【期刊名称、卷期、页码】Mol Biol Rep (2011) 38:1883 – 1887
【论文发表时间】2011-01-01 00:00:00
【引文索引类型】SCI
【引文索引号】ISSN:0301-4851
【学科分类】畜牧、兽医科学其他学科

【题目】Two Immunoregulatory Peptides with Antioxidant Activity from Tick Salivary Glands
【中文关键词】Immunoregulatory Peptides Antioxidant Activity
【英文关键词】Immunoregulatory Peptides Antioxidant Activity

【中文摘要】Ticks are blood-feeding arthropods that may secrete immunosuppressant molecules, which inhibit host inflammatory and immune responses and provide survival advantages to pathogens at tick bleeding sites in hosts. In the current work, two families of immunoregulatory peptides, hyalomin-A and -B, were first identified from salivary glands of hard tick Hyalomma asiaticum asiaticum. Three copies of hyalomin-A are encoded by an identical gene and released from the same protein precursor. Both hyalomin-A and -B can exert significant anti-inflammatory functions, either by directly inhibiting host secretion of inflammatory factors such as tumor necrosis factor-_, monocyte chemotectic protein-1, and interferon-_ or by indirectly increasing the secretion of immunosuppressant cytokine of interleukin-10. Hyalomin-A and -B were both found to potently scavenge free radical in vitro in a rapid manner and inhibited adjuvant-induced inflammation in mouse models in vivo. The JNK/SAPK subgroup of the MAPK signaling pathway was involved in such immunoregulatory functions of hyalomin-A and -B. These results showed that immunoregulatory peptides of tick salivary glands suppress host inflammatory response by modulating cytokine secretion and detoxifying reactive oxygen species.

【英文摘要】Ticks are blood-feeding arthropods that may secrete immunosuppressant molecules, which inhibit host inflammatory and immune responses and provide survival advantages to pathogens at tick bleeding sites in hosts. In the current work, two families of immunoregulatory peptides, hyalomin-A and -B, were first identified from salivary glands of hard tick Hyalomma asiaticum asiaticum. Three copies of hyalomin-A are encoded by an identical gene and released from the same protein precursor. Both hyalomin-A and -B can exert significant anti-inflammatory functions, either by directly inhibiting host secretion of inflammatory factors such as tumor necrosis factor-_, monocyte chemotectic protein-1, and interferon-_ or by indirectly increasing the secretion of immunosuppressant cytokine of interleukin-10. Hyalomin-A and -B were both found to potently scavenge free radical in vitro in a rapid manner and inhibited adjuvant-induced inflammation in mouse models in vivo. The JNK/SAPK subgroup of the MAPK signaling pathway was involved in such immunoregulatory functions of hyalomin-A and -B. These results showed that immunoregulatory peptides of tick salivary glands suppress host inflammatory response by modulating cytokine secretion and detoxifying reactive oxygen species.

【语种】英文

【第一作者】Jing Wu
【通讯作者】Haining Yu
【期刊名称、卷期、页码】THE JOURNAL OF BIOLOGICAL CHEMISTRY VOL. 285, NO. 22, pp. 16606 – 16613, May 28, 2010
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【引文索引类型】SCI
【引文索引号】ISSN:0021-9258
【学科分类】畜牧、兽医科学其他学科

【题目】Artificial selection of the melanocortin receptor 1 gene in Chinese domestic pigs during domestication
【中文关键词】coat colour domestic animal population genetics evolution
【英文关键词】coat colour domestic animal population genetics evolution
【中文摘要】Black coat colour is common in Chinese indigenous domestic pigs, but not among their wild ancestors, and it is thus presumed to be a ‘domestication trait.’ To determine whether artificial interference contributes to morphological diversification, we examined nucleotide variation from 157 Chinese domestic pigs and 40 wild boars in the melanocortin receptor 1 (MC1R) gene, which has a key role in the coat pigmentation of Sus scrofa. Compared with a pseudogene GPIP, our results showed that the joint effects of demography and selection have resulted in markedly low genetic diversity of MC1R in Chinese domestic pigs. Coalescent simulation and selection tests further suggest that the fixation of two non-synonymous substitutions associated with black colour is the result of artificial selection. In contrast, a much higher genetic diversity and only a single non-synonymous substitution were found among the wild boars, suggesting a strong functional constraint. Moreover, our conclusion is consistent with the preference for black colour in the ancient Chinese sacrificial culture. This case provides an interesting example of a molecular evaluation of artificial livestock selection and its associated cultural impact in ancient China.
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【语种】英文
【第一作者】J Li
【通讯作者】Y-P Zhang
【期刊名称、卷期、页码】Journal of Heredity (2010), 1 – 8
【论文发表时间】2009-01-01 00:00:00
【引文索引类型】SCI
【引文索引号】ISSN:0022-1503
【学科分类】畜牧、兽医科学其他学科

【题目】Isolation, nucleotide identification and tissue expression of three novel ovine genes—SLC25A4, SLC25A5 and SLC25A6
【中文关键词】Sheep SLC25A4 SLC25A5 SLC25A6 Tissue expression analysis
【英文关键词】Sheep SLC25A4 SLC25A5 SLC25A6 Tissue expression analysis
【中文摘要】The complete coding sequences of three of sheep genes SLC25A4, SLC25A5 and SLC25A6 were firstly amplified using the reverse transcriptase polymerase chain reaction (RT-PCR) according to the conserved sequence information of the cattle or other mammals and known highly homologous sheep ESTs. Sheep SLC25A4, SLC25A5 and SLC25A6 genes encode three corresponding proteins of 298 amino acids which contain the identically conserved putative mitochondrial carrier protein domain. Sheep SLC25A4 protein has high homology with the SLC25A4 proteins of six species—cattle (99%), human (95%), rat (95%), mouse (94%), dog (94%) and chicken (89%). Sheep SLC25A5 protein has high identity with the SLC25A5 proteins of five species—cattle (100%), dog

(99%), mouse (98%), rat (98%) and human (98%). Sheep SLC25A6 protein also has high homology with the SLC25A6 proteins of four species—cattle (99%), human (97%), pig (97%) and chicken (93%). The phylogenetic tree analysis demonstrated that sheep SLC25A4, SLC25A5 and SLC25A6 proteins share a common ancestor. Moreover, SLC25A4, SLC25A5 and SLC25A6 proteins present stronger interaction each other. The tissue expression analysis indicated that sheep SLC25A4, SLC25A5 and SLC25A6 genes were expressed in a range of tissues including leg muscle, kidney, skin, longissimus dorsi muscle, spleen, heart and liver. Our experiment is the first to provide the primary foundation for further insight into these three sheep genes.

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【语种】英文

【第一作者】Liangyu Yang
【通讯作者】W. Deng

【期刊名称、卷期、页码】Mol Biol Rep (2010) 37:39 – 44
【论文发表时间】2009-01-01 00:00:00
【引文索引类型】SCI
【引文索引号】ISSN:0301-4851
【学科分类】畜牧、兽医科学其他学科

【题目】Molecular cloning, sequence characterization and tissue transcription profile analyses of two novel genes: LCK and CDK2 from the Black-boned sheep (Ovis aries)

【中文关键词】Black-boned sheep LCK CDK2 Tissue transcription profile
【英文关键词】Black-boned sheep LCK CDK2 Tissue transcription profile

【中文摘要】The complete coding sequences of two sheep genes—LCK and CDK2 were amplified using the rapid amplification of cDNA ends method based on three sheep EST sequences whose translated amino acids contain the domain PTKc_Lck_BIk and S_TKc domain, respectively. The sequence analyses of these two genes revealed that the sheep LCK gene encodes a protein of 509 amino acids which has high homology with the lymphocyte-specific protein tyrosine kinase (LCK) of eight species: bovine (99%), human (96%), dog (96%), Aotus nancymaae (95%), mouse (94%), rat (91%), horse (91%) and chicken (81%). The sheep CDK2 gene encodes a protein of 298 amino acids which has high homology with the cyclin-dependent kinase 2 (CDK2) of ten species: bovine (100%), goat (100%), rat (99%), mouse (99%), Chinese hamster (99%), dog (98%), golden hamster (98%), human (98%), horse (98%) and rhesus monkey (98%). The tissue transcription profile analyses indicated that that the Black-boned sheep LCK and CDK2 genes are generally but differentially expressed in the detected tissues including in tissues including spleen, muscle, skin, kidney, lung, liver and heart. These data serve as a foundation for further insight into these two genes.

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【语种】英文
【第一作者】Hongman Yu
【通讯作者】H. Mao W. Deng
【期刊名称、卷期、页码】Mol Biol Rep (2010) 37:39 – 45
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【引文索引类型】SCI
【引文索引号】ISSN:0301-4851
【学科分类】畜牧、兽医科学其他学科

【题目】Phylogenetic analysis of 16S rRNA gene sequences reveals rumen bacterial diversity in Yaks (Bos grunniens)
【中文关键词】Yaks Rumen bacteria 16S rRNA gene Phylogenetic analysis
【英文关键词】Yaks Rumen bacteria 16S rRNA gene Phylogenetic analysis
【中文摘要】Six matured male Yaks (Bos grunniens) with a mean live weight of 450 ± 23 kg (mean ± SD), were housed indoors in metabolism cages and fed pelleted lucerne (Medicago sativum). After an adjustment period of 24 days of feeding the diet, samples of rumen content were obtained for analysis of the bacteria in the liquor. The diversity of rumen bacteria was investigated by constructing a 16S rRNA gene clone library using the general bacterial primers F27 and R1492. A total of 130 clones, comprising nearly full length sequences (approx. 1.5 kb) were sequenced and submitted to BLAST and phylogenetic analysis. Using the criterion that similarity of 97% or greater with the sequences of cultivated bacteria, 16 clones were identified as Butyrivibrio fibrisolvens, Pseudobutyrivibrio ruminis, Ruminococcus flavefaciens, Succiniclasticum ruminis, Selenomonas ruminantium and Prevotella ruminicola, respectively. A further 10 clones shared similarity ranging from 90 to 97% with cultivated bacteria but the similarity in sequences for the remaining 104 clones were less than 90% of those of cultivated bacteria. Using a phylogenetic analysis it was found that the majority of the clones identified (63.8%) were located in the Low G ? C Subdivision, with most of the remainder (35.4% of clones) located in the Cytophaga-Flexibacter-Bacteroides phylum and one clone (0.8%) was identified as a Proteobacteria. It was apparent that Yaks have a large and diverse range of bacteria in the rumen content which differ from those of cattle and other ruminants.
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【第一作者】L. Y. Yang
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【题目】Genetic diversity and origin of Gayal and cattle in Yunnan revealed by mtDNA control region and SRY gene sequence variation
【中文关键词】Cattle gayal genetic diversity mtDNA SRY
【英文关键词】Cattle gayal genetic diversity mtDNA SRY

【中文摘要】There are hump, humpless cattle and gayal distributed in Yunnan province, south-west China, but their genetic background remains unclear. To determine the origin and genetic diversity of Yunnan gayal and cattle (Diqing, Nujiang and Wenshan cattle), we analysed mtDNA control region sequences of 71 samples and SRY gene sequences of 39 samples, together with the available sequences in GenBank. The neighbour- joining phylogeny and the reduced median network analysis showed that Yunnan gayal originated from the hybridization between male Bos frontalis and female Bos taurus or Bos indicus, and that Yunnan cattle mostly originated from B. indicus, also containing some hybrids of male B. indicus and female B. taurus. The phylogenetic pattern of Yunnan cattle was consistent with the recently described cattle matrilineal pool from China and indicated more contribution to the Yunnan cattle from B. indicus than from B. taurus.
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【题目】The role of MC1R gene in buffalo coat color
【中文关键词】Buffalo coat color MC1R
【英文关键词】Buffalo coat color MC1R
【中文摘要】Melanocortin-1 receptor (MC1R) plays a major role in pigmentation in many species. To investigate if the MC1R gene is associated with coat color in water buffalo, the coding region of MC1R gene of 216 buffalo samples was sequenced, which included 49 black river buffalo (Murrah and Nili-Ravi), 136 swamp buffalo (Dehong, Diandongnan, Dechang, Guizhou, and Xilin) with white and gray body, and 31 hybrid offspring of river buffalo Nili-Ravi (or Murrah) and swamp buffalo. Among the three variation sites found, SNP684 was synonymous, while SNP310 and SNP384 were nonsynonymous, leading to p.S104G and p.I128M changes, respectively. Only Individuals carrying homozygote EBR/EBR were black. The genotype and phenotype analysis of the hybrid offspring of black river buffalo and gray swamp buffalo further revealed that the river buffalo type allele EBR or the allele carrying the amino acid p.104S was important for the full function of MC1R. The in silico functional analysis showed that the amino acid substitutions p.G104S and p.M128I had significant impact on the function of MC1R. Above results indicate that the allele EBR or the allele carrying the amino acid p.104S was associated with the black coat color in buffalo.
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【题目】Molecular cloning and characterization of two genes -PHKG2 and IRAK4 from black-boned sheep (Ovis aries)
【中文关键词】Black-boned sheep PHKG2 and IRAK4 tissue transcription profile
【英文关键词】Black-boned sheep PHKG2 and IRAK4 tissue transcription profile
【中文摘要】The complete coding sequences of two sheep genes-PHKG2 and IRAK4 were amplified using the rapid amplification of cDNA ends (RACE) method based on three sheep expressed sequence tags whose translated amino acids contain the mitochondrial carrier domain. The sequence analyses of these two genes revealed that the sheep PHKG2 gene encodes a protein of 406 amino acids which has high homology with the phosphorylase kinase, gamma 2 protein of five species: Cattle (99%), human (96%), mouse (92%), rat (91%) and chicken (63%). The sheep IRAK4 gene encodes a protein of 456 amino acids which has high homology with the interleukin-1 receptor-associated kinase 4 protein of six species: Cattle (94%), pig (88%), human (87%), mouse (79%), rat (79%) and chicken (54%). The tissue transcription profile analyses indicated that the Black-boned sheep PHKG2 and IRAK4 genes are generally but differentially expressed in the detected tissues including spleen, muscle, skin, kidney, lung, liver, heart, fat and small intestine. These data serve as a foundation for further insight into these two genes.
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【题目】Isolation, Sequence Identification and Expression Profile of Three Novel Genes Rab2A, Rab3A and Rab7A from Black_Boned Sheep (Ovis aries)
【中文关键词】Black boned sheep Rab2A Rab3A Rab7A tissue expression analysis
【英文关键词】Black boned sheep Rab2A Rab3A Rab7A tissue expression analysis
【中文摘要】Complete coding sequences of three Black_boned sheep (Ovis aries) genes Rab2A, Rab3A and Rab7A were amplified using reverse transcription polymerase chain reaction (RT_PCR) based on the con_ served sequence information of cattle or other mammals known to be highly homologous to sheep ESTs. The Black_boned sheep Rab2A gene encodes a protein of 226 amino acids which contains the conserved putative RabL2 domain and is highly homologous to the Rab2A proteins of seven other species—cattle (96%), human (83%), Sumatran orangutan (82%), rat (81%), mouse (80%), African clawed frog (72%) and zebrafish (71%). The Black_boned sheep Rab3A gene encodes a protein of 220 amino acids that contains the conserved puta_ tive Rab3 domain and is very similar to the Rab3A proteins of four species—cattle (99%), African clawed frog (99%), Western clawed frog (98%) and zebrafish (95%). And the Black_boned sheep Rab7A gene encodes a protein of 207 amino acids that contains the conserved putative Rab7 domain and has high homology with the Rab7A proteins of six other species—human (99%), dog (99%), Sumatran orangutan (99%),

zebrafish (97%), rabbit (97%) and African clawed frog (96%). Analysis of the phylogenetic tree has demonstrated that the Black_boned sheep Rab2A, Rab3A and Rab7A proteins share a common ancestor and the tissue expres_ sion analysis has shown that the corresponding genes are expressed in a range of tissues including leg muscle, kidney, skin, longissimus dorsi muscle, spleen, heart and liver. Our exp

【英文摘要】Complete coding sequences of three Black_boned sheep (Ovis aries) genes Rab2A, Rab3A and Rab7A were amplified using reverse transcription polymerase chain reaction (RT_PCR) based on the con_ served sequence information of cattle or other mammals known to be highly homologous to sheep ESTs. The Black_boned sheep Rab2A gene encodes a protein of 226 amino acids which contains the conserved putative RabL2 domain and is highly homologous to the Rab2A proteins of seven other species—cattle (96%), human (83%), Sumatran orangutan (82%), rat (81%), mouse (80%), African clawed frog (72%) and zebrafish (71%). The Black_boned sheep Rab3A gene encodes a protein of 220 amino acids that contains the conserved puta_ tive Rab3 domain and is very similar to the Rab3A proteins of four species—cattle (99%), African clawed frog (99%), Western clawed frog (98%) and zebrafish (95%). And the Black_boned sheep Rab7A gene encodes a protein of 207 amino acids that contains the conserved putative Rab7 domain and has high homology with the Rab7A proteins of six other species—human (99%), dog (99%), Sumatran orangutan (99%), zebrafish (97%), rabbit (97%) and African clawed frog (96%). Analysis of the phylogenetic tree has demonstrated that the Black_boned sheep Rab2A, Rab3A and Rab7A proteins share a common ancestor and the tissue expres_ sion analysis has shown that the corresponding genes are expressed in a range of tissues including leg muscle, kidney, skin, longissimus dorsi muscle, spleen, heart and liver. Our exp

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【题目】Matrilineal Components and Genetic Relationship of Silkies from China and Japan
【中文关键词】d-loop genetic diversity matrilineal origin mtDNA silkies
【英文关键词】d-loop genetic diversity matrilineal origin mtDNA silkies

【中文摘要】Silkie is a famous black-bone chicken breed with beautiful silky feather. The unique medical property of this chicken was recorded in Chinese traditional medicine dictionary about years ago. In this study, we analyzed the mtDNA D-loop sequence variation of Bairong Silkies from Fujian Province, China, together with reported Silkie mtDNAs from China and Japan, and studied their matrilineal components and genetic relationship. A total of haplotypes were detected, which could be assigned to six haplogroups (A-E, G). Among them, haplogroups D and G were exclusively presented in Japanese Silkies and Chinese Silkies, respectively. Chinese Silkies had higher frequency of lineages belonging to haplogroups A, B, and E, and lower frequency of haplogroup C than Japanese Silkies. For the four Chinese Silkie populations, most of samples of Taihe, Chengdu, and Hubei Silkies were grouped in haplogroups A, B, and C, whereas most of Bairong Silkies were grouped in haplogroup E. Five haplotypes were shared by Japanese and Chinese Silkies. The genetic diversity of each Silkie population varied, but the overall diversity of Chinese Silkies was similar to that of Japanese Silkies. Taken together, our results confirmed the genetic connection between Chinese and Japanese Silkies, but also clearly showed that the matrilineal genetic structures of Chinese and Japanese Silkies had some di erences.

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【语种】英文
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【题目】Bacterial diversity in the rumen of Gayals (Bos frontalis), Swamp buffaloes (Bubalus bubalis) and Holstein cow as revealed by cloned 16S rRNA gene sequences
【中文关键词】Bacterial diversity 16S rRNA gene sequences Gayals Swamp buffaloes Holstein cow
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【中文摘要】Libraries of rumen bacterial 16S rRNA gene sequences of Gayals (Bos frontalis) and Swamp buffaloes (Bubalus bubalis) were cloned and sequenced in the present work to compare the bacterial diversity with the third published library of Holstein cow. Sequence similarity of 97% was used as the definition of operational taxonomic unit (OTU). The majority of the 470 sequences retrieved fell into the phyla of low G ? C subdivision (329 sequences) and Cytophaga – Flexibacter – Bacteroides (CFB, 123 sequences) with the percentages of 70 and 26.2, respectively. The remaining clones belonged to the phyla of Proteobacter, high G ? C gram positive bacteria (HGCGPB) and Spirochaetes, accounting for 3.8% totally. Only 73 clones (25 OTUs, 15.5%) could be closely related to cultured representatives. However, a larger fraction was related to uncultured representatives. Holstein cow may have more representatives of cultural bacteria and there were more uncultured clones for Gayals. The percentage of cultural representatives was 24, 13.3 and 9.5 for Holstein cow, Swamp buffaloes and Gayals, respectively. Twentythree OTUs of the 236 ones appeared in more than one library, five of which were cultural. Selenomonas ruminantium, Ruminococcus flavefaciens and Butyrivibrio fibrisolvens were found in two different libraries, while Succiniclasticum ruminis and Pseudobutyrivibrio ruminis were found in all three libraries. Some of the animalspecific bacteria that had not been described previously in the ruminal ecosystem, e.g. Allisonella histaminiformans for Gayals and Staphylococcus sciuri for Swamp buffaloes were also recovered.
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【第一作者】Shuli Yang
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【题目】Association of FATP1 gene polymorphisms with chicken carcasstraits in Chinese meat-type quality chicken populations

【中文关键词】FATP1 gene Association analysis Carcass traits Chicken SNP
【英文关键词】FATP1 gene Association analysis Carcass traits Chicken SNP
【中文摘要】In this study, we aimed to detect the single nucleotide polymorphisms (SNPs) of the chicken FATP1 gene and discern the potential association between FATP1 SNPs and chicken carcass traits. A total of 620 meat-type quality chickens from six commercial pure lines (S01, S02, S03, S05, S06 and D99) and two cross lines (S05 9 S01 and S06 9 S01) were screened by using the single-strand conformational polymorphism analysis (SSCP) and DNA sequencing. Five SNPs [g.49360G[A, g.48195G[A, g.46847A[G, g.46818A[G, and g.46555A[G] were identified in chicken FATP1 gene. SNP g.46818 A[G was a rare variant and was not considered in the subsequent analysis. Sixteen haplotypes were reconstructed on the basis of the other four SNPs. The linear regression model analysis indicated that there were significant associations of certain diplotypes with part of carcass traits, such as live weight (LW), carcass weight (CW), and semi-eviscerated weight (SEW) (P\0.05). In particular, diplotype H2H4 had a negative effect on LW, CW, SEW, and abdominal fat weight (AW); diplotype H6H10 had the highest reducing effect on subcutaneous fat thickness (SFT). Our results suggested that FATP1gene polymorphisms were associated with chicken carcass traits or was linked with the major gene. The SNPs in this gene may be utilized as potential markers for marker-assisted selection (MAS) during chicken breeding.
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【题目】Molecular diversity of bacteria in Yunnan yellow cattle (Bos taurs) from Nujiang region, China
【中文关键词】16S rRNA Rumen bacteria Diversity Yunnan yellow cattle
【英文关键词】16S rRNA Rumen bacteria Diversity Yunnan yellow cattle
【中文摘要】The rumen content of four Yunnan Yellow Cattle (Bos taurs) were collected to determine the bacteria diversity by using 16S rRNA gene sequence analysis. A total of 129 sequences were examined and the sequences were referred as 107 OTU (Operational Taxonomy Unit) according to the similarity level of 97% in gene sequence. Similarity analysis revealed that Yunnan Yellow Cattle had 12 sequences (10 OTU) shared 97% or greater similarity with cultured rumen bacteria Butyrivibrio fibrisolvens, Succiniclasticum ruminis, Ruminococcus bromii, Clostridium proteoclasticum, Ruminococcus flavefaciens, Pseudobutyrivibrio ruminis, Jeotgalicoccus psychrophilus, and Prevotella ruminicola, which accounting for 9.3% of the total clones (9.2% of the total OTU). The further 12 sequences (9 OTU) shared 90 – 97% similarity with cultured bacteria Clostridium aminobutyricum, butyrate-producing bacterium, Schwartzia succinivorans, Prevotella ruminicola, Eubacterium ruminantium, Ruminococcus albus, and Clostridium termitidis, also accounting for 9.3% of the total sequences (8.3% of the total OTU). The remaining 105 sequences (90 OTU) shared less than 90% similarity with cultured bacteria, accounting for 81.4% of the total sequences (82.5% of the total OTU). According to the phylogenetic analysis, all sequences were phylogenetically placed within phyla of low G?C subdivision (accounting for 72.1 and 72.5% of the total clones and OTU, respectively) and CFB subdivision (Cytophaga-Flexibacter- Bacteroides; accounting for 27.9 and 27.5% of the total clones and OTU, respectively). Among the examined clones, rare bacteria Jeotgalicoccus psychrophilus was detected in the rumen of cattle.

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【学科分类】畜牧、兽医科学其他学科

【题目】Molecular cloning, sequence characteristics analysis and tissue expression profiles of three novel genes RhoB, RhoF and RhoH from the Black-boned sheep (Ovis aries)

【中文关键词】Black-boned sheep RhoB RhoF RhoH

【英文关键词】Black-boned sheep RhoB RhoF RhoH

【中文摘要】The complete coding sequences of three of the Black-boned sheep (Ovis aries) genes - RhoB, RhoF and RhoH were amplified using the reverse transcriptase polymerase chain reaction (RT-PCR) according to the conserved sequence information of the mouse or other mammals and known highly homologous sheep ESTs. The Black-boned sheep RhoB gene encodes a protein of 196 amino acids which contains the conserved putative RhoA_like domain and has high homology with the RhoB proteins of six species − cattle (100%), goat (100%), human (100%), pig (100%), mouse (100%) and chicken (97%). The Black-boned sheep RhoF gene encodes a protein of 215 amino acids that contains the conserved putative Rho4_like domain and has high homology with the RhoF proteins of five species − bovine (100%), human (94%), pig (93%), mouse (92%) and chicken (58%). The Black-boned sheep RhoH gene encodes a protein of 191 amino acids that contains the conserved putative Rho domain and has high homology with the RhoH proteins of four species − bovine (99%), human (96%), pig (96%) and mouse (96%). The phylogenetic tree analysis demonstrated that the Black-boned sheep RhoB, RhoF and RhoH proteins share a common ancestor. The tissue expression analysis indicated that the three genes were expressed in a range of tissues including small intestine, large intestine, liver, muscle, fat, lung and spleen. Our experiment is the first to provide the primary foundation for further insight into these three sheep genes.

【英文摘要】The complete coding sequences of three of the Black-boned sheep (Ovis aries) genes - RhoB, RhoF and RhoH were amplified using the reverse transcriptase polymerase chain reaction (RT-PCR) according to the conserved sequence information of the mouse or other mammals and known highly homologous sheep ESTs. The Black-boned sheep RhoB gene encodes a protein of 196 amino acids which contains the conserved putative RhoA_like domain and has high homology with the RhoB proteins of six species − cattle (100%), goat (100%), human (100%), pig (100%), mouse (100%) and chicken (97%). The Black-boned sheep RhoF gene encodes a protein of 215 amino acids that contains the conserved putative Rho4_like domain and has high homology with the RhoF proteins of five species − bovine (100%), human (94%), pig (93%), mouse (92%) and chicken (58%). The Black-boned sheep RhoH gene encodes a protein of 191 amino acids that contains the conserved putative Rho domain and has high homology with the RhoH proteins of four species − bovine (99%), human (96%), pig (96%) and mouse (96%). The phylogenetic tree analysis demonstrated that the Black-boned sheep RhoB, RhoF and RhoH proteins share a common ancestor. The tissue expression analysis indicated that the three genes were expressed in a range of tissues including small intestine, large intestine, liver, muscle, fat, lung and spleen. Our experiment is the first to provide the primary foundation for further insight into these three sheep genes.

【语种】英文
【第一作者】W. Li
【通讯作者】H. Mao W. Deng
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【学科分类】畜牧、兽医科学其他学科

【题目】Study on Association of Singe Nucleotide Polymorphism of MC3R and MC4R Gene with Carcass and Meat Quality Traits in Chichen
【中文关键词】chicken carcass traits MC3R/ MC4R meat quality polymorphism
【英文关键词】chicken carcass traits MC3R/ MC4R meat quality polymorphism
【中文摘要】Body composition, fat deposition and meat quality are important traits in chickens. Melanocortin receptor (MCR) plays an important role in central melanocortin system (CMS) and muscle cells. The purpose of the present study was to analyze association of the MC3R and the MC4R genes with chicken carcass and meat quality traits. Using eight meat-type chicken populations constructed with 5 pure lines (developed from Chinese local breeds) and 3 crossbreeds (S01×D99, S01×S05, S01×S10), the association of single nucleotide polymorphisms (SNP: MC3R – A1424G, MC4R – G923T and MC4R – C944T) of MC3R and MC4R gene with carcass and meat quality traits was studied. The results showed as follows: ( ) the -A G genotypes were significantly associated with most carcass traits except for semi-eviscerated percentage and leg muscle percentage (LMP), the MC4R-G 923T genotypes were significantly associated with live weight, carcass weight, leg muscle weight (LMW) and LMP, and the MC4R-G 923T genotypes were not significantly associated with most carcass traits except for LMW and LMP; (2) to meat quality, the MC3R – A1424G genotypes significantly a ected muscle crude protein (GP) value, and the allele A had positive additive e ects on slaughter traits. The MC4R-G 923T and the MC4R – C944T sites significantly a ected muscle GP value and glutamic acid (Glu) value; (3) the haplotypes based on the 2 SNP of MC4R gene were also significantly associated with meat quality traits, but had no significant associations with carcass traits. The research built the base for further analysis on relation between genetic variation of MC3R and MC4R genes and the carcass and meat quality traits, and molecular marker ’s application in breeding.
【英文摘要】Body composition, fat deposition and meat quality are important traits in chickens. Melanocortin receptor (MCR) plays an important role in central melanocortin system (CMS) and muscle cells. The purpose of the present study was to analyze association of the MC3R and the MC4R genes with chicken carcass and meat quality traits. Using eight meat-type chicken populations constructed with 5 pure lines (developed from Chinese local breeds) and 3 crossbreeds (S01×D99, S01×S05, S01×S10), the association of single nucleotide polymorphisms (SNP: MC3R – A1424G, MC4R – G923T and MC4R – C944T) of MC3R and MC4R gene with carcass and meat quality traits was studied. The results showed as follows: ( ) the -A G genotypes were significantly associated with most carcass traits except for semi-eviscerated percentage and leg muscle percentage (LMP), the MC4R-G 923T genotypes were significantly associated with live weight, carcass weight, leg muscle weight (LMW) and LMP, and the MC4R-G 923T genotypes were not significantly associated with most carcass traits except for LMW and LMP; (2) to meat quality, the MC3R – A1424G genotypes significantly a ected muscle crude protein (GP) value, and the allele A had positive additive e ects on slaughter traits. The MC4R-G 923T and the MC4R – C944T sites significantly a ected muscle GP value and glutamic acid (Glu) value; (3) the haplotypes based on the 2 SNP of MC4R gene were also significantly associated with meat quality traits, but had no significant associations with carcass traits. The research built the base for further analysis on relation between genetic variation of MC3R and MC4R genes and the carcass and meat quality traits, and molecular marker ’s application in breeding.
【语种】英文
【第一作者】Yan Wang
【通讯作者】Qing Zhu
【期刊名称、卷期、页码】Japan Poultry Science Association
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【题目】Sequence Characterization of the MC1R Gene in Yak (Poephagus grunniens) Breeds with Different Coat Colors
【中文关键词】MC1R Yak Coat Colors
【英文关键词】MC1R Yak Coat Colors
【中文摘要】Melanocortin 1 receptor (MC1R) gene plays a key role in determining coat color in several species, including the cattle.However, up to now there is no report regarding the MC1R gene and the potential association of itsmutations with coat colors in yak (Poephagus grunniens). In this study, we sequenced the encoding region of the MC1R gene in three yak breeds with completely white (Tianzhu breed) or black coat color (Jiulong and Maiwa breeds). The predicted coding region of the yak MC1R gene resulted of 954 bp, the same to that of the wild-type cattle sequence, with >99% identity. None of the mutation events reported in cattle was found. Comparing the yak obtained sequences, five nucleotide substitutions were detected, which defined three haplotypes (EY1, EY2, and EY3). Of the five mutations, two, characterizing the EY1 haplotype, were nonsynonymous substitutions (c.340C>A and c.871G>A) causing amino acid changes located in the first extracellular loop (p.Q114K) and in the seventh transmembrane region (p.A291T). In silico prediction might indicate a functional effect of the latter substitution. However, all three haplotypes were presented in the three yak breeds with relatively consistent frequency distribution, despite of their distinguished coat colors, which suggested that there was no across-breed association between haplotypes or genotypes and black/white phenotypes, at least in the investigated breeds. Other genes may be involved in affecting coat color in the analyzed yaks.
【英文摘要】Melanocortin 1 receptor (MC1R) gene plays a key role in determining coat color in several species, including the cattle.However, up to now there is no report regarding the MC1R gene and the potential association of itsmutations with coat colors in yak (Poephagus grunniens). In this study, we sequenced the encoding region of the MC1R gene in three yak breeds with completely white (Tianzhu breed) or black coat color (Jiulong and Maiwa breeds). The predicted coding region of the yak MC1R gene resulted of 954 bp, the same to that of the wild-type cattle sequence, with >99% identity. None of the mutation events reported in cattle was found. Comparing the yak obtained sequences, five nucleotide substitutions were detected, which defined three haplotypes (EY1, EY2, and EY3). Of the five mutations, two, characterizing the EY1 haplotype, were nonsynonymous substitutions (c.340C>A and c.871G>A) causing amino acid changes located in the first extracellular loop (p.Q114K) and in the seventh transmembrane region (p.A291T). In silico prediction might indicate a functional effect of the latter substitution. However, all three haplotypes were presented in the three yak breeds with relatively consistent frequency distribution, despite of their distinguished coat colors, which suggested that there was no across-breed association between haplotypes or genotypes and black/white phenotypes, at least in the investigated breeds. Other genes may be involved in affecting coat color in the analyzed yaks.
【语种】英文
【第一作者】Shi-Yi Chen
【通讯作者】Yi-Ping Liu
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【题目】A homogenous nature of native Chinese duck matrilineal pool
【中文关键词】duck matrilineal pool mtDNA phylogenetic tree
【英文关键词】duck matrilineal pool mtDNA phylogenetic tree
【中文摘要】Background: China, with around 30 unique breeds, has a diverse duck genetic pool. Currently, there is no systematic report which investigates the genetic diversity, phylogenetic relationship, and matrilineal genetic structure of these domestic breeds and wild mallards (Anas platyrhynchos). Results: In this study, we sequenced the mitochondrial DNA (mtDNA) control region segments in 278 domestic ducks (Anas platyrhynchos domestica) from 19 indigenous breeds/populations and 70 wild mallard samples and analyzed them together with the 101 control region sequences from published sources. Fifty-two samples were then sequenced for a cytochrome b (Cyt b) gene fragment to solidify the pattern emerged from the control region sequences. All domestic duck and wild mallard haplotypes were essentially indistinguishable and were clustered together in the phylogenetic tree. There was no geographic differentiation and breed/population-specific distribution of duck lineages. Conclusion: Our results showed that unlike other domesticated farm animals in China such as chicken, cattle, goat, and yak with multiple matrilineal components, the matrilineal pool of Chinese ducks was homogenous.

【英文摘要】Background: China, with around 30 unique breeds, has a diverse duck genetic pool. Currently, there is no systematic report which investigates the genetic diversity, phylogenetic relationship, and matrilineal genetic structure of these domestic breeds and wild mallards (Anas platyrhynchos). Results: In this study, we sequenced the mitochondrial DNA (mtDNA) control region segments in 278 domestic ducks (Anas platyrhynchos domestica) from 19 indigenous breeds/populations and 70 wild mallard samples and analyzed them together with the 101 control region sequences from published sources. Fifty-two samples were then sequenced for a cytochrome b (Cyt b) gene fragment to solidify the pattern emerged from the control region sequences. All domestic duck and wild mallard haplotypes were essentially indistinguishable and were clustered together in the phylogenetic tree. There was no geographic differentiation and breed/population-specific distribution of duck lineages. Conclusion: Our results showed that unlike other domesticated farm animals in China such as chicken, cattle, goat, and yak with multiple matrilineal components, the matrilineal pool of Chinese ducks was homogenous.
【语种】英文
【第一作者】Da-Qian He
【通讯作者】Yi-Ping Liu
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【题目】随机留种下闭锁群体近交系数和基因杂合度的世代变化
【中文关键词】近交系数 基因频率 多样性
【英文关键词】inbreeding coefficient genetic frequency divercity Strain breeding
【中文摘要】在假定不发生基因突变、群体间无个体迁移的情况下,采用Monte Carlo计算机模拟方法模拟了不同群体规模、性 别比例和初始基因频率下闭锁群体近交系数和基因杂合度的变化。10个双等位基因座位分别位于1O条不同的常染色体上, 群体内实行随机留种,随机交配,世代不重叠,且每代参与繁殖的个体数相同。模拟试验共进行了5O个世代,i00次重复。结 果表明,群体规模较大、公畜数较多时,群体近交系数上升缓慢,基因杂合度较高;当初始基因频率处于中等水平时,群体内可 保持较高的基因杂合度;群体规模太小、公畜比例过低及基因的初始频率过低或过高,均不利于群体内遗传多样性的保持。
【英文摘要】On the assumption that there was no mutation, no individual migration between populations case, using Monte Carlo computer simulation method to simulate different population size, sex ratio and initial gene frequency locking the inbreeding coefficient and gene heterozygosity changes. 10 biallelic seat at 1O different autosomal, groups within the random selection, random mating, generation do not overlap, and each generation is involved in the propagation of individual numbers of the same. Simulation tests were carried out in 5O generations, I00 repeated. The results show that, the bigger population, sire number is large, the inbreeding coefficient rises slowly, gene heterozygosity is higher; when the initial gene frequency in the middle level, groups can be maintained in a higher gene heterozygosity; population size is too small, the low proportion of males and initial gene frequency is too low or too high, is not conducive to the population genetic diversity maintain.
【语种】中文
【第一作者】鲁绍雄
【通讯作者】鲁绍雄
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【题目】崇明白山羊和徐淮山羊体重与体尺的相关和通径分析
【中文关键词】成年母羊 崇明山羊 徐淮山羊 体尺 体重 通径分析 回归分析
【英文关键词】Adult female goat Chongming White Goat Xuhuai Goat Body measurement Body weight Path analysis Regression analysis

【中文摘要】分析了崇明白山羊和徐淮山羊成年母羊的若干体尺指标与体重的相关性及其直接和间接作用,建立了体重-体尺最优回归模型。结果表明:角基周长可作为预测崇明白山羊成年母羊体重和选择的主要 体尺因素,胸深与肩宽则可作为徐淮山羊的相应体尺因素。崇明白山羊成年母羊的体尺-体重最优回归模型为Y =-14.5244+1.9162X5+0.3862X4;徐淮山羊的体尺-体重最优回归模型为Y=-47.4653+1.7264X2+ 210831X8

【英文摘要】The phenotypic correlations and direct and indirect effects between adult female goats. body weight and several body measurements of Chongming White Goat and Xuhuai Goat were analyzed by the SPSS 16.0 software,and then the optimum regression equations between their body weight and body measurements were established.The results indicated that the horn basal perimeter could be con- sidered as a major factor to predict the adult female goat body weight in the selection of Chongming White Goat,and the chest depth and shoulder width as two major factors in the selection of Xuhuai Goats.The optimal regression model of adult female goats.body measurments and body weight wasY= -14.5244+1.9162X5+0.3862X4for Chongming White Goat andY=-47.4653+117264X2+2. 0831X8for Xuhuai Goat.

【语种】中文

【第一作者】杨佩燕

【通讯作者】刘志学

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【学科分类】畜牧、兽医科学其他学科

【题目】4个黄牛群体黑素皮质素受体1(MC1 R)基因变异研究

【中文关键词】牛 云南 黑素皮质素受体1基因 毛色 PCR—RFLP

【英文关键词】Yunnan melanocortin receptor 1(M C1 R)gene coat color PCR—RFLP

【中文摘要】为了评价E(extension)座位对牛毛色性状的影响,采用DNA序列分析和PCR—RFLP技术对云南地区4 个黄牛群体(3个本地群体和1个引进品种)的黑素皮质素受体1(MC1R)基因的编码区进行了基因特征分析和群 体变异检测。结果,在文山黄牛、昭通黄牛和短角牛中发现E 和e 2种等位基因,检测到E ’。/E 、E /e和e/e 3种 基因型。在文山黄牛中E。和e等位基因的频率分别为0.54和0.46,在昭通黄牛中分别为0.70和0.30;而在迪庆 黄牛中共检测到E 、E。和e 3种等位基因,它们的频率分别为0.76、0.14和0.10,该群体存在E /E 、E。/E。、 E /E。、E /e和E。/e 5种基因型,未发现e/e型个体。与所研究个体的毛色性状相联系,发现E座位对牛的毛色 有重要影响,E 和 等位基因与黑色表型有关,而e等位基因与红色表型有关,但黄色、棕色和红色表型还与其 它座位基因相关联。

【英文摘要】In order to evaluate the influence of the extension(E)lOCUS on the color of cattle S coat, the genetic characteristic and variations of the encoding region for melanocortin一1 receptor (MC1 R)gene in four cattle populations sampled in Yunnan Province,including three indigenous populations and an imported breed,were assayed and analyzed by using DNA sequencing and PCR—RFLP techniques.The alleles E ,e and genotypes E /E ,E /e,e/e were identified in W enshan Yellow cattle,Zhaotong Yellow cattle and Shorthorn cattle.The frequencies of E and e alleles were 0.54 and 0.46 in W enshan Yellow cattle,0.70 and 0.30 in Zhaotong Yellow cattle. The alleles E ,E。and e were identified in Diqing Yellow cattle with the frequencies of 0.76, 0.14 and 0.10,respectively.The genotypes E /E ,E。/E。,E。。/E。,E。‘ /e and E。/e were iden— tifed in Diqing Yellow cattle,with the only exception of e/e.In contact with the coat color of the selected samples,it was found that E 1OCUS had an important influence on determinating the color of the cattle S coat.E and E。alleles were associated with black coat,and e allele was connected to red coat.W hereas yellow,brown and red fur were also influenced by other 1oci.

【语种】中文

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【学科分类】畜牧、兽医科学其他学科

【题目】利用微卫星DNA 标记进行黄牛的亲子鉴定
【中文关键词】DNA标记 微卫星DNA 亲子鉴定
【英文关键词】DNA markers microsatellite DNA parentage identification Parentage identification
【中文摘要】亲子鉴定在畜牧业生产中具有重要实际应用价值, 常见其用于建立准确的系谱档案和家畜归属的诉讼 案件。其中标准的三联体(即在母子关系是已知的情况下, 鉴定假设父亲与子畜是否有亲生关系) 和单亲 [即父子(女) 或母子(女) 亲生关系的确定] 两种情况下的亲子鉴定在畜牧生产中具有普遍意义。以云南 文山黄牛为试验材料, 采用10 对常染色体微卫星DNA 标记对这两种情况下的亲子关系进行了检测分析。结 果表明, 常染色体微卫星DNA 标记在标准的三联体和单亲两种情况下都能用来进行亲子鉴定, 结果较准确, 但标准三联体情况下的亲子鉴定更准确。确定的不同模式下亲子鉴定的方法, 可为家养动物亲子鉴定标准方 法和流程的建立提供依据。
【英文摘要】Parentage identification is of the important application in animal husbandry. It is normally applied in establishing accurate pedigree archives and attributive lawsuit for livestock. Standard triplet (viz. female parent, her offspring and alleged father parent) and single parent (viz. offspring and alleged female or male parent) testings are the familiar cases in the parentage identification of domestic animals. In this study, standard triplet and single parent testing cases in Wenshan cattle (Bos taurus) were carried out by using microsatellite DNA markers. The results indicated that the autosomal microsatellite DNA marker can be used to examine the parenthood in the two cases, but the triplet testing was more precise than single parent testing. The protocol and methods established in this study can be used as the reference for the parentage identification and analysis in other domestic animals in the future.
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【第一作者】钱林东
【通讯作者】苗永旺
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【题目】山东省地方鸡种质资源保存与创新利用
【中文关键词】地方鸡种 品种保存 种质评价 品系选育
【英文关键词】species conservation germplasm evaluation
【中文摘要】笔者从山东地方鸡种保存、种质特性评价、品系选育和饲料营养等方面,对近年来针对山东地方鸡种遗传资源保存及创新利用方面所开展的工作进行了综述,旨在为下一步地方鸡种的深入研究与开发利用提供参考。
【英文摘要】The author summed up in recent years in Shandong local chicken breeds genetic resources preservation and innovative use of the work from Shandong local chicken species preservation, characteristics of germplasm evaluation, strain breeding and feed nutrition and other aspects. Designed for the next local chicken research and development and utilization of reference.
【语种】中文
【第一作者】周艳
【通讯作者】逯岩
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【学科分类】畜牧、兽医科学其他学科

【题目】12个水牛群体催乳素基因第4外显子遗传特征分析
【中文关键词】河流型水牛 沼泽型水牛 催乳素 Exon 4 测序 PCR—SSCP
【英文关键词】River buffaloSwamp buffalo Prolactin Exon 4 Sequencing PCR—SSCP
【中文摘要】催乳素对水牛乳腺发育、泌乳和乳蛋白基因的表达有明显的调控作用。该研究采用直接测序并结合 PCR SSCP技术,分析沼泽型水牛和河流型水牛12个群体385个个体的催乳素基因(PRL)第4外显子(exon 4)的遗 传特征。结果表明:水牛PRLexon4由180个核苷酸组成,在不同物种中具有高度保守性。序列分析发现水牛中 该外显子的第109位碱基处有C>T替换,为沉默突变,与泌乳性状之间无显著相关性。在9个沼泽型水牛群体中 均检测到该突变位点,其中P矿基因在7个沼泽型水牛群体中为优势基因,P 基因在德宏和富钟群体中为优势基 因,沼泽型水牛群体中船 基因频率在0.400~0.917之间,群

体平均值为0.629+0.049,具有地域分布特征。在3个 河流型水牛群体中.第109位核苷酸处均为C,未检测到多态。提示河流型水牛与沼泽型水牛已有较大的遗传分化。

【英文摘要】Effect of prolactin on buffalo mammary gland development, lactation and milk protein gene expression has obvious regulation function. The study of using direct sequencing combined with PCR SSCP technology, analysis of swamp buffalo and the Buffalo River 12 groups of 385 individuals and the prolactin gene (PRL) in exon fourth (exon 4) genetic characteristics. The results showed that: Buffalo PRLexon4 is composed of 180 nucleotides, highly conserved in different species. Sequence analysis showed that the buffalo in exon 109th base with C>T replacement, as the silent mutations, and there was no significant correlation between lactation traits. In 9 swamp type buffalo populations are detected in the mutant sites, where P mine gene in 7 swamp type buffalo populations for the dominant gene, P gene in Dehong and the rich bell group advantage gene, swamp type buffalo populations ship gene frequency in 0.400~0.917 between group 0.629+0.049, the average, with regional distribution characteristics. In 3 the river buffalo groups. 109th nucleotides are C, did not detect polymorphism. Tips for river and swamp buffalo has been significant genetic differentiation.

【语种】中文

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【学科分类】畜牧、兽医科学其他学科

【题目】不同初始基因频率下闭锁群体遗传漂变的模拟

【中文关键词】群体规模 性别比例 基因频率 遗传漂变 计算机模拟

【英文关键词】population size male—female ratio gene frequency genetic drift computer simulation

【中文摘要】在假定不发生基因突变、群体间无个体迁移的情况下,群体内实行随机留种,随机交配,世代不重叠, 且每代参与繁殖的个体数相同。采用计算机模拟方法研究了不同初始基因频率、群体规模和公母比例下闭锁群体 内单个双等位基因座位的遗传漂变。模拟试验共进行了50个世代,100次重复。结果表明:群体规模较大,公畜数 较多以及初始基因频率处于中等水平时,基因频率在世代间发生随机波动的幅度较小,基因由于随机遗传漂变而 发生丢失或固定的概率也较低。群体规模太小、公畜比例过低以及基因的初始频率过低或过高,均会增加基因丢 失或固定的风险。

【英文摘要】Computer simulation was used to determine the random genetic drifts of a biallelic gene locus in closed populations under different initial gene frequencies,population sizes and male—female ratios,based on the assumption that there was no gene mutation and individual immigration between populations.Random selection and mating were implemen— ted in all generations,the generation was non—overlapping and the number of breeding animals was kept equal in each gen— eration.The simulation experiment was carried out for 50 generations and 100 replications.The results showed that the smaller random fluctuation of gene frequency,the lower probability of gene loss or fixation resulted from random genetic drift were gained for larger size population,more males and medium level of initial gene frequency.The danger of gene loss or fixation would be increased for smaller population,fewer males and lower or higher initial gene frequency.

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【学科分类】畜牧、兽医科学其他学科

【题目】鲁禽B1、B3系麻鸡体尺及屠宰性能的比较分析

【中文关键词】麻鸡 屠宰性能 体尺 表型相关

【英文关键词】Spotty plumage Carcass traits Body size Phenotypic correlation

【中文摘要】本试验以120日龄鲁禽B1系、B3系专门化品系为研究素材,测定其屠宰性能和体尺性状,分析 各性状间的相关性,并对部分指标进行产品质量分级。结果表明:除胸肌率外,鲁禽B3系在各项屠体指标和 分割性状上都高于鲁禽B1系,其中

品系间活重、半净膛重和全净膛重差异显著(P<0105),半净膛率差异极 显著(P<0101)。产品质量分级结果表明,鲁禽B3系的全净膛率、腿肌率和鲁禽B1系的全净膛率均高于 GB/T 19676-2005规定的一级标准,两品系的胸肌率和B1系的腿肌率略低于一级标准而远高于二级标准。 鲁禽B3系麻鸡的各项体尺指标均高于鲁禽B1系,其中品系间龙骨长差异显著(P<0105),体斜长和胸深差 异极显著(P<0101)。相关分析结果表明,各屠宰指标和体尺指标间呈中度或高度表型正相关,相关系数在01354~01992之间。

【英文摘要】Body size and carcass traitsweremeasured in B1 and B3 strains ofLuqin spotty plumage aged 120 days and their correlations were also analyzed1The results showed that all the carcass traits values of strain B3 chickenswere higher than those ofB1 chickens except the breastmuscle percentage; the differences between strainsB1 and B3 in liveweigh,t semi-eviscer atedweightand eviscer atedweightwere significant(P <0105), while the difference in semi-eviscerated percentage was significant (P<0101)1The eviscerated percentage and legmuscle percentage ofB3 chickens and the eviscerated percentage ofB1 chickenswere high- er than the first class standard ofGB/T 19676-2005; the leg muscle percentage of B1 chickens and the breastmuscle percentage ofbothB1 and B3 chickenswere higher than the second class standard but little low- er than the first class standard; the body size traits ofB3 chickenswere higher than B1 chickens, inwhich, the difference of fossilbone length between strainswas significant(P<0105), and the body slope length and breastdepthwere extremely significant (P<0101)。Middle or high phenotypic correlationswere found be- tween body size and carcass traits of strains B1 and B3 chicken with the correlation coefficient ranging from 01354 to 019921

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【题目】大额牛体尺性状指标与体重的主成分分析
【中文关键词】大额牛 体尺指标 主成分分析
【英文关键词】gayalbody measurement principal component analysi
【中文摘要】对半野生大额牛13个体尺性状和体重指标进行测定,选择累计贡献率达88.819% 的8个主成分进行分 析。结果表明:大额牛成年公、母牛头部和管围差异极显著(P<O.01),体重和坐骨宽选育潜力相对较大,体重 和胸围与体长显著相关,其它性状间存在不同程度的相关;各主分量的特征根分布较广,第一主成分反映出大 额牛整个体型的生长发育状况,第二、第五和第八主成分主要反映的是大额牛肉用性能方面的特征,第三主成 分有使大额牛体型变小的趋势,第四、第六和第七主成分反映的是大额牛役用方面的性能特征。

【英文摘要】Abstract:1 3 body size traits and boby weights of audit Gayal were measured and analysed by principal component analysis,to chose 8 principal components whose contributing rate accumulate up to 88.819% and study the relationships among all the traits in order.The result showed that there exists significant difference(P <0.01)in forehead width and shank circumference,there is big potential of mass selection for the boby weight and ischium width ,there exists sign ific ant correlation among boby weight,boby length and heart girth, there are direct correlations of diferent levels among the rest traits,the eigenvalue of each principal component is distributed broadly,the first principal component reflects the entire growth and development condition of Gayal,second,the fifth and eighth principal components mainly reflects the beef cattle characteristics,the third principal component cause the reducing rendency of body size of Gayal,the fourth,sixth and seventh principal components reflect draft cattle characteristics.

【语种】中文
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【题目】正交设计优化崇明白山羊SSR—PCR反应体系
【中文关键词】SSR-PCR 正交设计 体系优化 山羊
【英文关键词】SSR-PCR orthogonal design system optimization goat
【中文摘要】以崇明白山羊基因组DNA为模板,利用正交试验设计L (4s),对影响崇明白山羊SSR-PCR反应体系 的5个因素(Taq酶、M 、模板DNA、dNTP及引物的浓度)进行优化。结合单因素完全随机试验筛选各因素的最 佳水平,针对MCB3224引物建立了崇明白山羊SSR-PCR的最佳反应体系。结果表明:在20 L的反应体系中,5 个因素的最佳水平分别为Taq DNA聚合酶O.5 U、Md 2.5 InlTlo1/L、模板DNA 30 ng.dNTP O.20 mmo1/L,引物 O.8 mol/L;引物的最佳退火温度为57.3~C。利用16份崇明白山羊的DNA模板和2个微卫星引物验证此反应体 系,聚丙烯酰胺凝胶电泳,结果显示该体系稳定可靠且普适性较好。
【英文摘要】To worship that goat genomic DNA as template, using the orthogonal design L (4S), the impact of Chongming white goat SSR-PCR reaction system of 5 factors (Taq enzyme, M, DNA, dNTP template and primer concentration) were optimized. According to the single factor completely randomized trials of screening the best level of each factor, according to the MCB3224 primer set up Chongming white goat SSR-PCR optimal reaction system. The results showed that: in 20 L reaction system, the 5 factors optimum levels were Taq DNA polymerase O.5 U, Md 2.5 InlTlo1 / L, 30 ng.dNTP O.20 template DNA mmo1 / L mol / L O.8 primer, primer; the optimal annealing temperature for 57.3~C. Using 16 Chong understand goat DNA templates and 2 microsatellite primer to verify this reaction system, polyacrylamide gel electrophoresis, the result shows that the system is stable and reliable and the universal well.
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【题目】滩母羊日粮中铜水平对其羔羊裘皮品质影响的研究
【中文关键词】滩羊 日粮 铜 裘皮品质
【英文关键词】Tan sheep diet copper fur quality
【中文摘要】为了研究铜对滩羊裘皮品质的影响, 试验采用分组饲喂妊娠后期[(90 ? 10) d]滩母羊, 在基 础日粮中分别添加了0, 7, 14, 21 mg /kg 4个铜水平, 取其二毛羔羊毛样进行裘皮品质分析。结果表 明: 试验组二毛中铜的含量随日粮中铜含量的增加而增加, 二者极显著相关(r = 0. 802) ; 试验组毛股 弯曲数比对照组增加了1. 22 个弯曲; 毛股自然长度与对照组相比增加了1. 72 cm, 差异显著(P < 0. 05); 随铜含量的增加无髓毛变细。说明妊娠后期滩母羊饲粮中铜水平对其羔羊二毛裘皮品质有 显著影响(P < 0. 05); 日粮中铜含量为20. 42 mg时效果最好。
【英文摘要】To study the effect of feeding differen t levels of d ietary copper on the qualities of lamb furs, Tan sheep ewesw ere grouped and fed in late gestat ion (90 ? 10 days) . The dietary treatm en ts for different levels of copper w ere as follow s: 0, 7, 14, 21m g /kg, th e fur qu ality of E rm ao lamb sw oolw ere analyzed. The resu lts show ed that the copper content in Ermao lambs wool in creased along with the in crease of the copper content in diet, and they were sign ificant correlation(r = 0. 802) . The number of plait crim ps of experim ental group in creased by 1. 22 crim ps comparedw ith the control The experim ental groups natural length of the un it in creased by 1. 72 cm, and there was a sign ificant difference compared w ith th e con tro.l The dow ns tapering w ith the copper amount in diet. Th is ind icate that the copper in the diet ofTan sh eepw h ich is du ring the latter ha lf of gestation period, has sign ificant effect on Fur Quality of Ermao lambs wool And a ll of these suggest that dietary copper con tent of 20. 42 is the best.
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【题目】宁夏滩羊角蛋白KRT 1. 2 基因与二毛裘皮性状关联性研究
【中文关键词】滩羊 KRT 1. 2 PCR-RFLP 弯曲度 细度
【英文关键词】Tan sheep KRT 1.2 PCR-RFLP curv ature fineness
【中文摘要】采用PCR-RFLP(Po lymerase chain r eact ion) restr ictio n fr agment leng th po lymo rphisma) 分子标记技术, 研 究了292 只滩羊KRT1. 2(Ker atin 1. 2) 基因的多态性及其与裘皮品质的关联性. 检测出A 和B 两个等位基因, 基 因频率分别为85%和15%. 产生AA, AB 和BB 3 种基因型, 基因型频率分别为70. 55%, 28. 42%和1. 03%. 最小 二乘法分析表明, BB 基因型所对应的毛股弯曲数最高, 为6. 33 个, 分别高于AA 和AB 基因型5. 75 个和5. 67 个. BB 基因型所对应的毛纤维细度最高为37. 52 Lm, 分别高于AA 和AB 基因型37. 04 Lm 和36. 36 Lm. 但是, 基因型 AA, AB 和BB 之间均未达到显著差异(P> 0. 05) .
【英文摘要】The polymorphism of KRT1. 2 genes from 292 Tan sheep and their correlation with lamb fur qualities were analyzed with PCR-RFLP method. Two alleles A and B w ere detected with gene frequency of 85% and 15% respectively to generate three genotypes of AA, AB and BB with genotype frequencies of 70. 55%, 28. 42% and 1. 03% respectively. T he result s o f least squares technique show ed that the number of wool curvature corresponding to BB genotype w as 6. 33, which w as significantly higher than that of 5. 75 to AA genotype and 5. 67 to AB genotype. T he wool fineness corresponding to BB genotype w as 37. 52Lm, which w as higher than that of 37. 04Lm to AA genotype and 36. 36 Lm to AB genotype, but it w as not significant between all genotypes (P > 0. 05) .
【语种】中文
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【题目】宁夏滩羊·小尾寒羊及滩寒杂交群体BMP15基因和GDF9基因多态性
【中文关键词】滩羊 BMP15基因 GDF 9基因 PCR-RFLP PCR-SSCP
【英文关键词】Tan sheep BMP15 gene GDF9 gene PCR-FRFLP PCR-SSCP
【中文摘要】[目的]研究宁夏滩羊、小尾寒羊及杂交群体的骨形态发生蛋白15(BMP 15)和生长分化因子9(GDF9)基因多态性, 为宁夏滩羊的 保种及育种工作提供科学依据。[方法]以宁夏滩羊、小尾寒羊及滩寒杂交群体为研究对象, 分别设计2对引物, 采用PCR-RFLP方法和 PCR-SSCP检测方法, 检测BMP15基因和GDF9基因在宁夏滩羊、小尾寒羊及滩寒杂交群体中的多态性。[结果] BMP15基因的2对引 物扩增结果的RFLP分析表明, 不存在多态性位点; GDF 9基因的2对引物扩增片段的SSCP分析结果表明, 只有引物1扩增片段存在多 态性位点, 但未发现碱基序列发生改变。[结论]GDF9基因可能是控制小尾寒羊多胎性能的1个主效基因或是与之存在紧密遗传连锁 的分子标记。
【英文摘要】[Objective] To investigate the polymorphism of bone morphogenetic protein 15 (BMP15) and grow th differentiation factor 9 (GDF9) gene in Ningxia Tan sheep, Small tailHan sheep and hybrid population so as to prov idea scientific basis for breed ing and conservation. [Method] Ningxia Tan sheep, Small tailHan sheep and hybrid population were used as expermi ental anmials. Two pairs of prmiers were designed and the polymorphism of BMP15 gene and GDF9 genewere detected using PCR-RFLP and PCR-SSCP. [Results] The RFLP analysis results of BMP15 gene showed that therewas no polymorphism in three kinds of sheep. The SSCP analysis of GDF9 gene showed that only the fragment am plified by prmier I showed polymorphic sites, but base sequence changewas not found. [Conclusion] GDF 9 gene maybe a major gene controlling sheep fecundity or amolecularmarker.
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【题目】生长激素基因多态性与滩羊生长性状关联性研究
【中文关键词】滩羊; PCR-RFLP;基因型; 生长性状; 关联性
【英文关键词】Tan sheep PCR-RFLP Genotype Growth traits Relevance
【中文摘要】[目的]探讨生长激素基因多态性与滩羊生长性状关联性,以提高滩羊整体生长速度和经济效益。[方法]选取69只宁夏滩羊为 研究对象, 运用PCR-RFLP 技术, 对已证实控制绵羊生长速度的主效基因生长激素(GH)基因进行检测, 统计各基因型与滩羊初生重、二 毛重、3月龄及6月龄体重之间的关联性。[结果]共检测到2种GH 基因型, 即AB和BB型, 基因型频率分别为0. 348 1和0. 651 9, A等 位基因频率为0. 181 1, 而B等位基因频率为0. 818 9。通过关联性统计分析, AB基因型与滩羊生长性状的关联性达到极显著水平(P < 0. 01)。[结论]AB基因型是影响滩羊生长速度的优势基因型。
【英文摘要】[Objective] To explore the relevance between sheep growth horm one (GH) gene po lymorphism and growth traits, so as to mi prove the overall growth rate and economic benefits. [M ethod] A total of 69 sheep in Ningxia Provincew ere used as expermi enta l anmials. TheGH gene polymorphism s o f Tan sheep were geno typed by PCR-RFLP. The association between the GH gene and growth traits including birth weight 35-dayw eight three-month weight and the six-month weightw as also analyzed. [Result] Two kinds of GH genotypes, nam ely, AB and BB w ere detected. The genotype frequencies were 0.3481 and 0.6519, respectively. The frequencies of A and B allele were 0.1811 and 0.8189, respectively. The resu lts o f corre lation statistical ana lysis showed that the re levance between AB genotype and growth traits in Tan sheep reached a significant level (P < 0.01). [Conc lusion] AB genotype was the preponderant genotype affecting the growth rate of Tan sheep.
【语种】中文
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【题目】沼泽型与河流型水牛Y染色体性别决定基因(SRY) 编码区序列的比较分析
【中文关键词】沼泽型水牛 河流型水牛 牛科 SRY基因 编码区序列
【英文关键词】swamp buffalo riverbuffalo bovidae sex-determiningregion Y(SRY)gene coding region sequence
【中文摘要】采用PCR产物直接测序技术对56头沼泽型水牛和26头河流型水牛Y染色体性别决定基因(SRY) 的 完整编码区及部分侧翼区序列进行了测定和比较分析,结果显示所有沼泽型水牛的SRY基因编码序列一致, 所有河流型水牛的SRY基因编码序列也一致;但沼泽型水牛和河流型水牛之间SRY基因编码区序列相比在 c.202位点存在一个G>C替换,这个碱基差异属于错义突变,导致了p.G68R,即编码的第68位氨基酸在沼 泽型水牛为甘氨酸G,而在河流型水牛为精氨酸R;经群体检测确定SRY基因c.202G>C变异为沼泽型水牛 和河流型水牛之间普遍存在的现象,而其他牛科物种在此位置不存在差异。本研究使用的PCR引物可以作为水牛性别鉴定的特异性引物,而发现的差异位点也可以作为区分沼泽型与河流型水牛和水牛群体雄性介导基因流检测的分子标记。
【英文摘要】The complete coding region and partial flanking regions of the sex-determining region Y (SRY)gene from 56 swamp buffaloes and 26 river buffaloes were sequenced bidirectionally using PCR products directly. There was no polymorphism in the SRY gene with in swamp and river type buffalo populations,where as there was onec. 202 G>C nucleotide variation between swamp buffalo and river buffalo. This resulted in the p.G68R difference in the 68th amino acid,and its encoding amino acid change from glycine(G)in swamp buffalo to arginine(R)in rive rbuffalo. The population genetic de-tection proved the variation of c.202 G>C was wide spread between swamp and riverbuffaloes,but not found in other bovidae species. The primers used in this study can be employed in the sex identification of buffalo. The variation of c. 202G>C difference of the SRY gene can also be used as a molecular marker to distinguish water buffalo from river buffalo and identify the introgression of patrilineal buffalo.
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【题目】福安水牛线粒体DNA D-loop区遗传多样性分析
【中文关键词】福安水牛 mtDNAD—loop 遗传多态性 遗传分化
【英文关键词】Fu ’an buffalo mtDNA D-loop genetic diversity genetic divergence
【中文摘要】采用PCR产物直接测序的方法对20头福安水牛的线粒体DNA(mtDNA)D—LOOP区全序列进行了测定,并对所得数据进行了比对和分析。结果共检测到16种单倍型,48个核苷酸多态位点,其中单一变异位点9个,简约信息位点39个。在所分析的序列中,T,C,A和G的平均含量分别为27.9%,25.6%,31.9%和14.6%,核苷酸多样度为0.01946±0.00288,单倍型多样度为0.957±0.032,序列间平均核苷酸差异数是17.238,结果 显示福安水牛线粒体DNA遗传多样性丰富。系统发育和遗传距离分析显示:福安水牛与河流型水牛存在较大差 异,其自身聚为支持率极高的两大支,即世系A和世系B,揭示福安水牛存在两个母系血统来源。
【英文摘要】In this study,the D-loop region sequences of mitoehondrilaDNA(mtDNA)of 20Fu ’an buffalo samples were determined direct sequencing of PCR product.The seuqences were laigned and anlayzed to investigate the genetic variation and genetic divergence with in Fu ’an bfufalo population. Sixteen mitoehon- drial haplotypes and 48 polymorphic sites included 9 singleton polymorphic sites and 39 parsimony informative sites were detected. The average percentage vlaues of base composition of T,C,A and G were 27.9%,25.6%,31.9% and 14.6%,respectively.The nucleotide diversity,haplotype diversity and the average number of nucleotide differences within the population were 0.01946±0.00288. 0.957±0.032 and 17.238, respectively. The results indicated there were rich variations in Fu ’an bufflao population.Genetic distance and phylogenetic anlaysis showed that there was remarkable genetic divergence between Fu'an buffalo and river buffalo , and Fu ’an bufflao composed of two lineages,viz.lineageA and lineageB. This indicated that the re might be two matenral origins for Fu ’an buffalo.
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【题目】山东地方鸡种屠宰及体尺性状的比较分析
【中文关键词】地方鸡种 屠宰性状 体尺
【英文关键词】local chickens carcass traits body size trait
【中文摘要】本试验随机选取相同环境条件下饲养的170日龄汶上芦花鸡、济宁百日鸡和莱芜黑鸡各30只,测定其屠宰性能和 体尺性状,并进行品种间的比较分析。结果表明,170日龄的活体重济宁百日鸡为1532.03g,莱芜黑鸡为1431.20g,汶上芦花鸡为1369.83g;莱芜黑鸡的屠体率、半净膛率、全净膛率和腿比率值均为最高,且与其他品种间存在显著(P<0.05)或极显著(P<0.01)差异;3个地方鸡种的肌肉pH在宰后15min至宰后24h内均呈下降趋势,各时期pH均符合正常肌肉要求范 围。肌内脂肪含量以济宁百日鸡最高,剪切力和肌内脂肪含量均以汶上芦花鸡最低;各品种的体型特征比较接近,胫围和髋 骨宽以汶上芦花鸡最小,莱芜黑鸡最大。
【英文摘要】Chickens including 30 Wenshang luhua chickens,30 Jining bairi chickens and 30 Laiwu black chickens were used for comparative analysis on carcass performance at the age of 170d.The results showed that live body weight of the Jining bairi chickens was highest,reaching 1532.03g,Laiwu black chickens was 1431.20g and Wenshang luhua chicken was 1369.83g (P<0.01).the Laiwu black chickens had the highest carcass percentage,percentage of half-eviscerated weight,percentage of eviscerated weight,and percentage of quarter,and significantly(P<0.05)or very significantly(P<0.01).From 15min to 24 h post slaughter,the pH values of muscles displayed a declining trend,and these values were within the pH range of the normal muscles.The content of intramuscular fat of the Jining bairi chickens was the highest,the shear force of leg muscle and the content of intramuscular fat was the lowest in Jining bairi chickens.all varieties of body feature close to,the Wenshang luhua chickens had the smallest hip bone width and shank circumference,the biggest was Laiwu black chickens.

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【题目】牛k酪蛋白基因变异及其与奶用性状的关系
【中文关键词】牛k酪蛋白 变异体 多态性 生产性状
【英文关键词】Bovine K casein Variants Polymorphisms Production trai
【中文摘要】文章综述了牛k酪蛋白基因变异特征及其对生产性状的影响,并且对目前存在问题进行了讨论和展望。
【英文摘要】The paper reviewed the variation of bovine.K casein gene and its effect on milk production traits.Also the present existed problems were discussed and prospected
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【题目】鸡基因MC3R 和MC4R 的 RFLP 多态性及其与胴体性状的相关性
【中文关键词】鸡 MC3R 基因 MC4R 基因 胴体性状
【英文关键词】chicken MC3R gene MC4R gene carcass traits
【中文摘要】采用PCR-RFLP 方法,检测黑素皮质素受体3 基因(MC3R)和受体4 基因(MC4R)在济宁百日鸡、汶上芦花 鸡和莱芜黑鸡中的多态性,并分析各多态位点不同基因型与鸡胴体性状的相关性,在3 个供试群体中共检测到2 个 突变位点,分别在MC3R 基因1 424 nt 处(A→G)和MC4R 基因923 nt 处(G→T),并据此分别建立了2 个基因的Dde Ⅰ 和Fbr Ⅰ限制性内切酶检测体系.MC3R 基因多态位点对活体重(P=0.041 8)和胸肌重(P=0.012 6)有显著影响;MC4R 基因多态位点对肌间脂宽(P=0.036 6)有显著影响.多重比较结果表明,在MC3R 基因多态位点产生的3 种基因型中, MN 基因型个体的活体重和胸肌重均显著高于基因型MM 个体和NN 个体(P<0.05),屠体重和半净膛重均显著高于 MM 个体,全净膛重显著高于MN 个体;MC4R 基因多态位点产生的3 种基因型中,AB 基因型个体的屠体率和肌间 脂宽均显著高于基因型BB 个体(P<0.05).
【英文摘要】The SNPs of MC3R and MC4R genes in Jining Bairi chicken, Wenshang Luhua chicken and Laiwu Black chicken were detected by PCR-RFLP method. And the correlation between the polymorphism loci and the carcass traits were analyzed. As a result, an A/G mutation at nt 1 424 in MC3R gene and a G/T mutation at nt 923 in MC4R gene were identified,and the corresponding detection systems of Dde Ⅰ and Fbr Ⅰ were established. The statistical analysis showed that the MC3R polymorphism locus had a significant association with live weight (P=0.041 8) and breast muscle weight (P=0.012 6). The MC4R polymorphism locus had a significant association with intermuscular fat width (P=0.036 6).The multiple – range test indicated that in MC3R polymorphism locus, the LSM of live body weight, carcass weight, semi-eviscerated weight, eviscerated weight and breast muscle weight of MN chickens were significantly higher than MM chickens or NN chickens (P < 0.05). In MC4R polymorphism locus, the percentage of LSM of carcass and intermuscular fat width of AB chickens were significantly higher than BB chickens (P < 0.05).
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【题目】水牛催乳素基因第3外显子群体遗传特征分析
【中文关键词】河流型水牛 沼泽型水牛 催乳素 exon 3 PCR-SSCP
【英文关键词】river buffalo swamp buffalo prolactin exon 3 PCR-SSCP
【中文摘要】催乳素基因(PRL) 第3 外显子(exon 3) 对奶牛产奶量、乳脂产量和乳蛋白产量有显著影响,但在水 牛中该基因的遗传特征及其与产奶性状是否有遗传关联目前还不清楚。本研究采用PCR-SSCP 并结合PCR 产 物直接测序技术,分析了沼泽型水牛和河流型水牛共12 个群体275 个个体PRL exon 3 的遗传变异,结果表 明: 水牛PRL exon 3 由108 个核苷酸组成,编码36 个氨基酸,在水牛群体中未检测到单核苷酸多态性位点 (SNPs) ,PRL exon 3 与水牛产奶量之间没有直接相关性。通过序列比对发现在不同物种中PRL exon 3 具有高 度保守性。但在PRL 第2 内含子(intron 2) 的2 265 nt 和2 335 nt 分别检测到G > A 突变和C > T 突变,其中 2 335 nt 位点突变仅在2 头槟榔江水牛中检测到。
【英文摘要】The exon 3 of prolactin gene had significant effect on yield of milk,milk fat and milk protein in cow,but the genetic characteristics and the relevance between milk production traits and gene mutation on the exon 3 of prolactin gene in water buffalo are unclear. In the present study,the sequence features of the exon 3 in prolactin gene were examined in 275 individuals which came from 12 river and swamp type buffalo populations using PCR-SSCP and PCR production direct sequencing methods. The results showed that the sequence of exon 3 in prolactin gene was consists of 108 nucleotides, and the sequence coding for 36 amino acid residues,the SNPs loci wasn't detected in water buffalo, so there was irrelevance between milk yield traits and the exon 3 of prolactin gene in water buffalo. The fragment had high conservative character in different species by sequences alignment. Two substitution was detected in intron 2 of prolactin gene,one is G > A substitution at the 2 265 th nucleotide and another is C > T substitution at the 2 335 th nucleotide. Moreover,the C > T substitution at the 2 335 th nucleotide was only detected in 2 Binlangjiang water buffaloes.
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【题目】水牛β-LG基因3,4外显子遗传特征分析
【中文关键词】河流型水牛 沼泽型水牛 β-LG基因 PCR-RFLP PCR-SSCP
【英文关键词】river buffalo swamp buffalo β-LG PCR-RFLP PCR-SSCP
【中文摘要】本文通过PCR产物直接测序法得到水牛口一LG基因第3,4外显子及其旁侧序列后,采用PCR—RFLP 和PCR—SSCP方法对属于10个群体的224头水牛该基因第4外显子进行了多态性检测,又从中随机抽取属于 9个群体的69头水牛采用PCR—SSCP结合测序的方法检测了其第3外显子的遗传多态性。结果显示:河流型 水牛和沼泽型水牛B—LG基因的第3外显子均为74 bp;它们的第4外显子均为111 bp;在所研究群体中,两 类水牛第3,4外显子序列完全相同,并未发现具有多态现象。与牛科物种同源序列比较显示:水牛口一LG基 因3,4外显子在进化上比较保守,相应于普通牛的B等位基因。由于产奶量有明显差异的河流型水牛与沼泽 型水牛的 一LG基因第3,4外显子序列问无差异,提示它们对水牛产奶量无直接影响。
【英文摘要】In this study,exon 3 and exon 4 plus their flanking segments of β-LG were amplified and sequenced in buffalo firstly.The polymorphisms of exon 4 of β-LG in 224 buffaloes belonging to 10 populations were investigated by means of PCR-RFLP and PCR-SSCP.Then we selected randomly 69 individuals from the 224 buffaloes to detect their polymorphisms of exon 3 of β-LG by PCR-SSCP and sequencing.The results showed that exon 3 and exon 4 of β-LG in both river and swamp buffalo were 74 bp and 111 bp long,respectively.The sequences of exon 3 and exon 4 of β-LG had 100% identity and monomorphism were observed for the buffalo populations studied.Compared with homologous sequence of bovine species,the sequences of exon 3 and exon 4 of β-LG are conservative,and the protein sequences in buffalo is the same with those coding by B allele in Bos taurus.There was no difference in the sequences of exon 3 and exon 4 of β-LG between both kind of buffalo,but they have significant difference in milking performance,this indicates that the exon 3 and exon 4 of β-LG have no direct effect on milk yield in buffalo.
【语种】中文

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【题目】BC1和F2设计下利用单标记信息检测QTL的效率
【中文关键词】QTL检测 BC1设计 F2设计 单标记分析 检测效率
【英文关键词】QTL detection BC, design F2 design single marker analysis detection efficiency
【中文摘要】本文采用计算机模拟方法研究了BC1和F2设计不同资源群体规模、性状遗传力、QTL效应(QTL方差占加性遗传方差的比例)和标记-QTL间图距下单标记分析对QTL的检测效率。结果表明:当资源群体的规模较大,目标性状的遗传力较高,QTL效应较大,所检测的标记距离QTL的距离较近时,无论是BC1设计还是F2设计,都可获得较高的QTL检测效率。但在其他条件相同时,F2 设计对QTL的检出率明显高于BC1设计。
【英文摘要】In this paper, an experiment of quantitative trait loci (QTL) detection in BCi and F2 de- signs was simulated by computer. The QTL detection efficiencies under different sizes of resource popu- lation, trait heritabilities, QTL effect (the ratio of QTL variance to additive genetic variance) and marker-QTL map distances were analyzed. The results showed that the detecting power of QTL was higher in BC, and F2 design in the following situations: larger size of resource population, higher heri- tability of target trait, larger QTL effect and shorter distance between the detected marker and QTL. However, the QTL detected ratios of F2 design were obviously higher than those of BC, design under the same condition.
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【题目】槟榔江水牛体重及体尺生长规律的研究
【中文关键词】槟榔江水牛 生长曲线 累积生长 绝对生长 相对生长
【英文关键词】Binglangjiang buffalo growth curve cumulative growth absolute growth relative growth
【中文摘要】为了阐明槟榔江水牛的生长发育规律,分别利用Brody,Gompe~z和Logistic模型对其体重、体高、体斜 长、胸围、腹围、管围6个指标进行了累积生长曲线方程的拟合和比较分析,并利用日增重描述了该水牛的 绝对生长,进一步采用改进的计算方法对其相对生长规律作了分析。结果表明:3种曲线模型拟合的效果都 很好(r >0.95)。通过比较各个性状的拟合度,Brody模型的拟合度最大,最适合用于槟榔江水牛的生长发 育研究。由Gompertz模型计算出槟榔江水牛公牛的拐点月龄和拐点体重分别为7.1月龄和122.4 kg;母牛的 拐点月龄和拐点体重分别为6.0月龄和107.9 kg。公、母牛都在6月龄达到绝对生长高峰,而18月龄绝对生 长速度最慢。公牛的日增重呈先下降后上升的过程。母牛的臼增重出现了2个峰,一个在6月龄,另一个在 24月龄。公、母牛的相对生长曲线较一致,后期生长强度明显不如前期,整条曲线大致上呈下降趋势,表明在幼年时新陈代谢旺盛,生长发育的强度大,成年后趋于稳定。本研究提示应加强槟榔江水牛的饲养管理, 特别应重视其母牛和育成期牛的饲养管理。
【英文摘要】Abstract:To elucidate growth and development patterns of Binglangjiang buffalo,Brody,Gompertz and Logistic model were employed to fit its cumulative growth curves by using 6 experimental indexes (viz.body weight,body height,body slanting length,chest circumference,abdominal circumference, circumference of cannon bone).Meanwhile,average daily gain(ADG)was adopted to describe and analyse its absolute growth,and an improved method was used to analyse its relative growth.The re— sults revealed that three models could be fitted very well for all the indexes analyzed(r >0.95),and Brody model was the best model for studying growth and development patterns of Binglangjiang buffalo. The growth age and body height at inflection points estimated by using Gompe~z model were 7.1 months old and 122.4 kg for male,and 6.0 months old and 107.9 kg for female buffalo,respectively.Both of the male and female bufalo reached their absolute growth peak at 6 months old and their abso— lute growth rate became slowest at 1

8 months old.The ADG of male buffalo first descended,and then ascended,while the ADG of female buffalo was relatively complicated.There were two absolute growth peaks,one at their 6 months old,and the other at their 24 months old.The relative growth curve of male and female buffalo were basically similar,The growth intensity at later stage was significantly in— ferior to that of at early stage,The relative growth curve displayed generally downward trend,which in— dicated that the vigorous metabolism and the highest growth intensity for juvenile buffalo,and tending to be stable for the adult animals.The results in this study suggested that we should strengthen the feeding and management of Binglangjiang buffalo,especially its female buffalo and growing buffalo.

【语种】中文

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【学科分类】畜牧、兽医科学其他学科

【题目】黑色素皮质素受体1基因对水牛毛色遗传的影响

【中文关键词】水牛 毛色 黑色素皮质素受体1

【英文关键词】buffalo color MC1R

【中文摘要】MC1R在很多动物的色素沉积过程中发挥关键作用。 为了阐明MC1R基因是否与水牛毛色性状相关, 本研究对216头遗传背景清楚的水牛进行了该基因编码区DNA序列测定。 研究的样品包括49头黑色河流型水牛(包括摩拉水牛和尼里-拉菲水牛), 136头毛色为灰色或白色的沼泽型水牛(包括德宏水牛、滇东南水牛、德昌水牛、贵州水牛和西林水牛)和31头尼里-拉菲水牛或摩拉水牛与沼泽型水牛的杂交后代。 序列分析发现在水牛群体中存在3个单核苷酸突变位点(SNPs), 其中SNP684是同义替换, 而SNP310和SNP384为非同义替换, 并分别导致p。G104S和p。M128I氨基酸的改变。 只有基因型为河流型等位基因纯合子EBR/EBR的个体毛色表型为黑色。 对黑色河流型水牛与灰色沼泽型水牛的杂交后代基因型和毛色表型的分析进一步揭示: 河流型等位基因EBR或编码p。104S的等位基因对保证MC1R具有正常功能起重要作用。 生物信息学功能分析显示, p。G104S和p。M128I两个氨基酸替换对MC1R的功能有显著影响, 进一步支持EBR等位基因或编码p。104S的等位基因与水牛黑色性状相关。

【英文摘要】MC1R in many animal pigment deposition processes play a key role in. In order to clarify whether MC1R gene and buffalo coat colour traits related to this study, the 216 head clear genetic background for the buffalo DNA gene coding region sequence analysis. The sample consisted of 49 head of black river (including buffalo Murrah buffalo and buffalo Nili - Rafi), 136 head of hair color is gray or white swamp type buffalo (including Dehong, buffalo, buffalo, Dechang, Southeast of buffalo buffalo buffalo Guizhou and Xilin) and 31 head of Nili - Rafi or Murrah buffalo and Buffalo swamp type buffalo hybrid offspring. Sequence analysis revealed in buffalo populations in the presence of 3 single nucleotide mutation (SNPs), where SNP684 is synonymous substitutions, and SNP310 and SNP384 for nonsynonymous substitutions, and led P. G104S and P. M128I amino acid change. Only the genotypes for river type allele homozygous EBR/EBR individual coat color phenotypes in black. The black river buffalo and grey swamp type buffalo hybrid offspring genotype and coat-color analysis further revealed: River type allele of EBR or P encoding. The 104S allele of that MC1R has played an important role in normal function. Bioinformatics analysis showed, P. G104S and P. M128I two amino acid substitutions on the MC1R function have a significant effect, further supporting the EBR allele or coding P. 104S alleles associated with Buffalo black characters.

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【学科分类】畜牧、兽医科学其他学科

【题目】利用微卫星DNA标记分析槟榔江水牛群体遗传特征

【中文关键词】槟榔江水牛 微卫星DNA 标记 遗传变异 基因渗入
【英文关键词】microsatellite DNA marker genetic variation gene introgression
【中文摘要】槟榔江水牛是近年在我国云南西部发现的第一个本土河流型水牛。为了揭示其群体遗传多样性、群体遗传组成、其与河流型和沼泽型水牛的遗传关系及沼泽型水牛对该水牛的基因渗入等重要遗传背景信息,本研究采用30个微卫星DNA 标记对141份槟榔江水牛样品和对照群体24份河流型水牛(摩拉水牛)样品、41份沼泽型水牛(滇东南水牛)样品进行了检测分析。结果,在槟榔江水牛群体中共检测到253个等位基因,其中,54个为3个群体所共享的等位基因,58个为只在槟榔江水牛与摩拉水牛间共享的等位基因,73个为只在槟榔江水牛与滇东南水牛间共享的等位基因,其余68个等位基因为该群体所独有。槟榔江水牛平均等位基因数、平均表观杂合度、平均期望杂合度和多态信息含量等参数均显著高于对照组群体,分别为8.4333、0.6405、0.6009和0.5947。该水牛群体近交系数犊辋犏值为0.0619。槟榔江水牛与摩拉水牛间的犜犪犵遗传距离为最小(0.1144),在NJ树上聚为一支;而滇东南水牛与槟榔江水牛和摩拉水牛间的遗传距离较大(分别为0.3829和0.5553),其在NJ树上单独聚为一支。群体遗传结构分析显示,槟榔江水牛遗传组分为河流型与沼泽型2种类型水牛混合的模式(当犓=2时),整个群体中有相当数量的个体存在沼泽型水牛的遗传渗入(群体中沼泽型水牛遗传组分为0.0672)。结果揭示,槟榔江水牛遗传资源独特,群体遗传多样性丰富,但该群体杂合子缺乏,且存在一定沼泽型水牛的基因渗入。
【英文摘要】Binglangjiang buffalo is the first indigenous river type buffalo which has been found in western Yunnan province of China in recent years. In order to elucidate genetic background infor- mation on its genetic diversity, genetic composition, genetic relationship with typical river and swamp buffalo, and the gene introgression from swamp buffalo, 141 random samples from Binglangjiang buffalo population and 24 samples from control river buffalo population (Murrah) and 41 samples from control swamp buffalo population (Diandongnan buffalo) were genotyped by employing 30 microsatellite DNA markers. The result showed that a total of 253 alleles were identified in Binglangjiang buffalo (including 54 alleles shared among the three populations assayed, 58 alleles only shared between Binglangjiang and Murrah buffalo, 73 alleles only shared between Binglangjiang and Diandongnan buffalo, and 68 alleles unique to Binglangjiang buffalo). The genetic diversity parameters in Binglangjiang buffalo were much higher than that in the con- trol groups, its mean number of alleles per locus, mean observed heterozygosity, mean expected heterozygosity and polymorphism information content(P/C) were 8. 433 3, 0. 640 5, 0. 600 9 and 0. 594 7, respectively. Inbreeding coefficient (Fis) in Binglangjiang buffalo was 0. 061 9. Genetic distance(D,\) between Binglangjiang and Murrah buffalo was the lowest(0. 114 4) , while genetic distance(D,\) between Diandongnan and Binglangjian buffalo(0. 382 9) or between Diandongnan and Murrah buffalo(0. 555 3) was much larger than that between the two formers, which make Binglangjiang buffalo and Murrah buffalo, grouped together and Diandongnan independently clus- tered in the NJ tree. Structure analysis revealed that Binglangjiang buffalo displayed a genetic mixed pattern by river buffalo and swamp buffalo, most of the individuals having some proportion of swamp buffalo component (membership coefficients - 0. 067 2). The results indicate that Binglangjiang buffalo is of high degree of genetic diversity and is unique genetic resource, but this buffalo is under the conditions of heterozygote deficit and genetic mixture with swamp buffalo.
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【题目】水牛前脑锌指蛋白(FEZL)基因外显子1多态性研究
【中文关键词】河流型水牛 沼泽型水牛 FEZL基因 第1外显子 测序 多态性
【英文关键词】river buffalo swamp buffalo FEZL Gene Exon 1 sequence polymorphism
【中文摘要】前脑锌指蛋白(FEZL)可以通过FEZL-SEMA5A信号通路参与神经发育和先天免疫过程。已有的研究表明,在普通奶牛中FEZL基因第1外显子多个连续的甘氨酸残基编码区长度多态性与奶牛乳腺炎的抗性有关联,但关于水牛FEZL基因的研究还没有相关报道。根据已有的哺乳动物FEZL基因序列设计引物,采用PCR产物直接测序技术对河流型与沼泽型水牛共144头水牛(属于10个群体)的FEZL基因第1外显子进行了序列测定和比较分析。结果表明,水牛FEZL基因第1外显子长度为907 bp,水牛群体中FEZL基因第1外显子存在1个SNP(c.165G>A),属于同义替换,其buffaloG等位基因在群体中已接近固定;河流型和沼泽型两类水牛群体中FEZL基因第1外显子多个连续的甘氨酸残基编码区都为13G类型;水牛与普通牛、人、小鼠、马、猪和狗的FEZL基因第1外显子序列差异较大,推测水牛的FEZL在功能上可能与普通牛等其他物种存在差异;尽管两类水牛连续的甘氨酸残基编码区都为13G类型,但其可能与水牛乳腺炎易感性无直接关联。研究结果可为水牛乳腺炎的抗病育种提供遗传背景资料。

【英文摘要】Forebrain embryonic zinc finger-like (FEZL) plays an important role through the FEZL – SEMA5A signaling pathway in both neuronal development and innate immunity. Previous studies have shown that the length polymorphisms of the glycine stretch in FEZL have association with mastitis resistance in dairy cattle, but there are few studies on FEZL gene in buffalo. In the present study, the primers were designed according to the FEZL gene sequences of some mammalian Species, and the sequence variations of FEZL gene exon1 of 144 buffalo sampled from 10 populations representing river and swamp type buffalo were assayed and analyzed by the methods of PCR product direct sequencing and comparative genomics analysis. The results revealed that the FEZL gene exon1 in buffalo is composed of 907 nucleotides, which has a synonymous substitution (that is c.165G>A), and the buffaloG alleles is close to fixation in the buffalo populations. And the glycine stretch region of the FEZL exon1 is 13G type in swamp and river buffalo populations. According to the results of comparative genomics analysis, the sequence differences of FEZL exon1 are very large between buffalo and the other species, suggesting that the FEZL function in buffalo maybe different from other species. Although the glycine stretch region of the FEZL exon1 is 13G type in all 10 populations, but the glycine stretch region of the FEZL may not directly related to susceptibility to mastitis. Our results provide the genetic background information for the breeding of mastitis disease resistance in buffalo.
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【题目】中国首例本土河流型水牛——槟榔江水牛的种质特征
【中文关键词】槟榔江水牛 遗传背景 生产性能 种质特征
【英文关键词】BLJ buffalo genetic background production performance germplasm characteristics
【中文摘要】槟榔江水牛在云南西部槟榔江上游的腾冲县饲养已有500年以上的历史。该水牛经过长期闭锁繁育和风土驯化,已适应当地亚热带气候环境,是我国发掘的首例本土河流型水牛类群。具有典型的河流型水牛体型外貌特征,但体型相对较小。遗传学分析表明:槟榔江水牛体细胞核型染色体数多为2n=50;其群体内遗传变异水平较高,遗传多样性丰富;该水牛与河流型水牛表现出较近的遗传关系,与沼泽型水牛遗传关系较远;确认在群体遗传组成和血统来源上,该水牛由差异十分明显的河流型和沼泽型两个世系所构成,但河流型水牛世系在该水牛群体中占主体,揭示该水牛存在一定的沼泽型水牛基因渗入。生产性能测定结果显示:该水牛一个泌乳期泌乳量为2,452.2±553.8kg,比河流型摩拉和尼里-拉菲水牛高8.4~15.0%,比沼泽型本地乳用水牛高124.4~140.3%;且其乳质佳,乳蛋白率和乳脂率分别为4.60%和6.82%。该水牛在2008年经国家畜禽遗传资源委员会颁布为我国遗传资源的牛种之一,发展前景看好,将有望培育成中国首个河流型乳用水牛新品种。
【英文摘要】Binglangjiang buffalo (BLJ buffalo) has been raising in Tengchong county located in the upper reaches of Binglangjiang river in Yunnan province more than 500 years. This buffalo has been adapted to local sub-tropical climate and ecological environment after long time closed breeding and acclimatization. It is the first indigenous group of river type water buffalo exploited in China. It has typical body figure and appearance of river buffalo, but is relatively smaller in size than the famous river buffalo breeds. The genetic background analysis revealed that most of BLJ buffalo possess the diploid chromosome number of 50 (2n=50) and there were high genetic variability and rich genetic diversity in its population. The genetic relationship between BLJ and river type buffalo was closer than that between BLJ and swamp type buffalo. There were two big distinct lineages identified in BLJ population in which one was river buffalo lineage, another was swamp buffalo lineage, but the lineage and bloodline of river buffalo was dominant. This indicates that there is some gene introgression from swamp type buffalo in the BLJ buffalo. The testing of production performance for BLJ buffalo showed that the milk yield in a lactation is 2,452.2 ± 553.8kg, which is 8.4~15% higher than river type Murrah and Nili-Ravi and 124.4~140.3% higher than Chinese local swamp buffalo. Its milk has good quality with protein and milk fat percentage of 4.60% and 6.82%, respectively. In 2008, China National Commission on the Genetic Resource of Animal and Poultry promulgated that BLJ buffalo is one of buffalo genetic resources in China. This buffalo has a promising future and is expected to be bred as the first new breed of river type milking buffalo in China.
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【题目】叶绿体遗传转化研究中的选择标记
【中文关键词】叶绿体遗传转化 选择标记 甜菜碱醛脱氢酶 位点特异性重组
【英文关键词】Chloroplast genetic transformation Selective marker BADH Site-specific recombination
【中文摘要】与核遗传转化相同,叶绿体遗传转化研究需要有合适的选择标记作为辅助手段。多种选择标记已经在叶绿体转化中得到应用,但由于叶绿体自身的结构与遗传特点,选择标记的选择与使用与核遗传转化明显不同,所以正确的选择合适的选择标记对于成功的叶绿体遗传转化是非常重要的。目前叶绿体转化中常用的选择标记大多为抗生素选择标记,对人类存在潜在的威胁,如何摆脱对抗生素选择标记的依赖是当前研究的热点。综述了国内外叶绿体转化研究中主要使用的选择标记,并着重介绍了非抗生素选择标记——甜菜碱醛脱氢酶和选择标记的删除体系。
【英文摘要】Incorporation of a selectable marker gene during chloroplast genetic transformation is essential to obtain transformed chloroplasts, which is the same as nuclear transformation. Although many selective marker genes have been used in chloroplast transformation, it is obviously different from the nuclear transformation because of its specific structure and inheritance. Therefore, selection and utilization of the fight selectable marker genes are very important to chloroplast transformation. Since most selectable marker genes in chloroplast transformations are antibiotic resistance genes which might threaten the human beings, it is a hotspot to explore strategies for getting rid of the dependence on antibiotic resistance genes. Progress on selective marker genes of chloroplast genetic transformation is reviewed; especially the antibiotic-free selective marker--betaine aldehyde dehydrogenase (BADH) and the marker elimination system are discussed.
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【题目】猪瘟病毒E2 基因在百脉根叶绿体基因组中定点整合载体的构建
【中文关键词】猪瘟病毒E2基因;叶绿体转化;同源重组;定点整合;百脉根
【英文关键词】E2 gene of Hog Cholera Virus; Chloroplast transformation; Homologous recombination; Site-specific integration; Lotus corniculatus
【中文摘要】构建猪瘟病毒主要抗原E2基因在百脉根叶绿体基因组中定点转化载体,为百脉根叶绿体的转化及用叶绿体生产动物可直接食用疫苗奠定基础.[方法]通过用BLAST、DNAMAN等分子生物学分析软件对百脉根叶绿体基因组序列进行分析选定同源重组片段,采用PCR、分子克隆技术进行载体构建和鉴定.[结果]在百脉根叶绿体基因组中选择合适的外源基因整合位点,设计引物用PCR扩增叶绿体同源片段,将同源片段克隆后,构建百脉根特异的叶绿体转化载体;构建的百脉根叶绿体定点转化载体pAKE2以扩增的1.35 kb psbA 和1.5 kb trnK两段相邻叶绿体 DNA为定点整合外源基因的同源重组片段,包含以叶绿体基因特异强启动子Prrn和终止子TpsbA为调控序列的E2基因表达盒和aadA壮观霉素抗性基因表达盒.[结论]经PCR和酶切验证,所构建的转化载体符合预期设计.叶绿体转化及后续工作目前正在进行之中.
【英文摘要】】In order to produce edible plant vaccines in forage legume, a site-specific integration vector harboring the E2 gene which codes for main antigen of Hog Cholera Virus was constructed to transfer chloroplast genome of Lotus corniculatus.【Method】 Homologous recombination sequences was selected by analyzing the chloroplast genome sequence of Lotus corniculatus with molecular biology software BLAST (Basic Local Alignment Search Tool) and DNAMAN. Plastid transformation vector was constructed and identified via PCR and molecular cloning.【Result】 An optimal site was selected to integrate exogenous genes into chloroplast genome of Lotus corniculatus. Primers were designed to amplify chloroplast DNA fragments. A plastid transformation vector of Lotus corniculatus was constructed based on cloned fragments. The constructed vector, pAKE2, contains two neighboring

DNA fragments of 1.35 kb and 1.5 kb as targeting sequences in the region of psbA and trnK genes respectively for chloroplast transformation of Lotus corniculatus. The E2 gene cassette, which was driven by strong chloroplast promoter Prrn and terminated by psbA gene terminator in tobacco, was inserted between the two neighboring DNA fragments. pAKE2 carries the aadA cassette that was used for spectinomycin resistance selection of transformants. 【Conclusion】PCR amplification results and restriction enzyme digestion analysis showed that the constructed vector is in full accordance with what was desired. The transformation and following works are in progress.

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【题目】Recombination and expression of classical swine fever virus (CSFV) structural protein E2 gene in Chlamydomonas reinhardtii chroloplasts

【中文关键词】猪瘟病毒(CSFV);E2基因;叶绿体转化;抗体蛋白;植物基因工程

【英文关键词】Classical swine fever virus (CSFV);E2 gene;Chlamydomonas reinhardtii;Chloroplast transformation; Anti-disease protein;Biointerface; Plant gene engineering

【中文摘要】这里,我们报告一个衣藻叶绿体表达载体,P64E2,该载体含保守的猪瘟病毒E2基因结构蛋白,通过基因枪轰击法转化衣藻叶绿体。经Southern blotting杂交检测,该基因已整合到叶绿体染色体上,ELISA量化分析表明,E2蛋白质表达积累到总可溶性蛋白质的1.5 - -2%。在动物免疫检测中发现,衣藻叶绿体表达的该蛋白可以与抗原特异性结合。

【英文摘要】The expression of classical swine fever virus (CSFV) structural protein E2 in different vectors, which has been shown to carry critical epitopes, has been established. Here, we reported a Chlamydomonas reinhardtii chloroplast expression vector, P64E2, containing classical swine fever virus structural protein E2 gene, which was constructed and transferred to C. reinhardtii by biolistic bombardment method. The transformants were identified by PCR, Southern blotting, Western blotting after selecting on resistant media. ELISA quantification assay showed that the expressed E2 protein accumulated up to 1.5 – 2% of the total soluble protein. The results of the study on the immunological activity indicated that the protein E2 expressed in C. reinhardtii chloroplasts could elicit animal bodies to produce antibodies against protein E2.

【语种】英文

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【学科分类】分子生物学

【题目】The expression of classical swine fever virus structural protein E2 gene in tobacco chloroplasts for applying chloroplasts as bioreactors

【中文关键词】猪瘟病毒(CSFV);E2基因;叶绿体;免疫原性;生物反应器;植物抗体基因工程

【英文关键词】Classical swine fever virus (CSFV);E2 gene; Chloroplast; Immunogenicity; Bioreactor; Anti-disease plant-gene engineering

【中文摘要】据报道,基因编码抗原的细菌和病毒病原体可以表示在植物和显示诱导保护抗体。这个结构蛋白E2的古典猪瘟病毒(CSFV),这被证明能携带关键的抗原,已经表达了在不同的系统。这里,我们报告CFSV E2基因的表达在烟草叶绿体。老鼠注射了叶提取物引发特定抗体。这表明,蛋白质表达E2一定程度的免疫原性了。据我们所知,这是第一份显示感应的保护性抗体在回应古典猪瘟病毒(CSFV)通过免疫与抗原蛋白E2在烟草叶绿体表示,这将打开一个新方法CSFV保护由植物叶绿体作为生物反应器。

【英文摘要】It has been reported that genes encoding antigens of bacterial and viral pathogens can be expressed in plants and are shown to induce protection antibodies. The structural protein E2 of classical swine fever virus (CSFV), which has been shown to carry critical epitopes, has been expressed in different systems. Here, we report the expression of CFSV E2 gene in tobacco chloroplasts. Mice immunized with leaf extracts elicited specific antibodies. This indicated that the expressed E2 proteins had a certain degree of immunogenicity. To our knowledge, this is the first report showing induction of protective antibody in response to classical swine fever virus (CSFV) by immunization with antigen protein E2 expressed in tobacco chloroplasts, which will open a new way to protection from CSFV by plant chloroplasts as bioreactors.
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【学科分类】分子生物学

【题目】盐胁迫下棉花基因组 DNA 表观遗传变化的 MSAP 分析
【中文关键词】棉花; 盐胁迫; DNA 甲基化; 甲基化敏感扩增多态性; RT-PCR
【英文关键词】Cotton; Salt stress; DNA methylation; MSAP; RT-PCR
【中文摘要】盐胁迫是非生物逆境中对作物危害比较严重的自然灾害之一, 严重影响和制约作物的产量和种植面积。本研究以陆地棉品系 YZ1 为材料, 调查不同 NaCl 浓度下棉花幼苗生长及根基因组 DNA 的甲基化水平和变化模式。结果表明, 对棉花幼苗的株高和根长生长 100 mmol L－1 NaCl 有促进作用, 200 mmol L－1 NaCl有显著抑制作用;100~200 mmol L－1 NaCl 胁迫严重抑制棉花幼苗的侧根数量。甲基化敏感扩增多态性(methylation-sensitive amplification poly-morphism, MSAP)分析表明,经100、150和 200 mmol L－1 NaCl处理后根基因组 DNA甲基化比率分别为 38.1%、 35.2%和 34.5%, 均低于对照(41.2%),同时棉花幼苗根 DNA 的甲基化水平与 NaCl 处理浓度呈显著负相关(r= －0.986)。与对照相比, 100、150 和 200 mmolL－1 NaCl 胁迫下棉花幼苗根基因组 DNA 的甲基化和去甲基化分别为 6.4%、7.6%、11.3%和 12.7%、11.1%、8.2%。此外, 序列和 RT-PCR 分析表明, 与 MSAP 差异片段高度同源的基因的表达在处理与对照间差异显著。
【英文摘要】Salinity is one of the important limiting factors in plant production worldwide. The objectives of the study were to assess the effect of salt stress on the plant growth and to determine if DNA can be methylated in cotton plants (Gossypium hirsutum) by methylation-sensitive amplified polymorphism (MSAP) technique. The results showed that 100 mmol L－1 NaCl obviously promoted plant height and root length of cotton seedlings, but 200 mmol L－1 NaCl significantly inhibited plant growth; 100－200 mmol L－1 NaCl inhibited the number of lateral root considerably. The analysis of MSAP showed that the level of global DNA methylation decreased from 41.2% to 34.5% as the salt concentrations increased; there was a significantly negative correlation (r = －0.986) between NaCl concentrations and the level of DNA methylation in cotton roots. Under stresses of 100, 150 and 200 mmol L－1 NaCl, methylation and demethylation of DNA were 6.4%, 7.6%, 11.3% and 12.7%, 11.1%, 8.2%, respectively. In addi-tion, the analyses of sequences and RT-PCR showed that expressions of genes homologous to MSAP fragments in roots were different between control and treated plants under salt stress, suggesting that these genes would play an important role in the cot-ton adaptation of salt stress.
【语种】中文
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【学科分类】分子生物学

【题目】SNAC1基因作为筛选标记基因用于棉花的遗传转化
【中文关键词】棉花;转化;SNAC1 基因;NaCl
【英文关键词】cotton; transformation; SNAC1 gene; NaCl

【中文摘要】以 SNAC1 基因作为筛选标记基因,NaCl 作为筛选剂,通过农杆菌介导法将 SNAC1 和 GUS 基因导入棉花细胞并得到胚性愈伤组织。经过 PCR 检测证实,外源基因已经整合到棉花基因组中,GUS 染色证明 GUS 基因得到表达。 研究了 NaCl 作为棉花转化细胞的筛选剂在农杆菌介导转化中的应用浓度及方法,即 NaCl 的筛选浓度在 1.1%~1.5%(W/V)之间,在愈伤组织诱导初期适当低一点,随着愈伤组织的生长而加大筛选浓度。由于 NaCl 不利于胚的分化,经过 2~3 次继代筛选后要及时去除 NaCl 以促进胚的分化

【英文摘要】Employing SNAC1 gene as a selection marker gene and NaCl as a selection agent, SNAC1 and GUS genes were introduced into cotton genome via Agrobacterium. Transgenic calli were confirmed by PCR analysis, and expression of the GUS gene was showed with GUS staining. The oncentration and method for employing NaCl as a selection agent had been studied.The reasonable selection concentration of NaCl should be 1.1%~1.5%(W/V). The start concentration of NaCl in callus induction medium should be lower and the concentration increased as calli proliferated. Because NaCl is not beneficial for embryo differ-entiation and development, NaCl should be removed from the culture medium after the calli were subcultured for 2~3 times.

【语种】中文

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【学科分类】分子生物学

【题目】Histological and Ultrastructural bservation Reveals Significant Cellular Differences between Agrobacterium Transformed Embryogenic and Non-embryogenic,Calli of Cotton

【中文关键词】细胞组织形态;叶绿体;胚性愈伤组织;陆地棉;组织学结构;遗传转化;亚显微结构。

【英文关键词】cell organization pattern; chloroplasts; embryogenic callus; Gossypium hirsutum; histological structure; transformation; ultrastructure.

【中文摘要】农杆菌介导法可以高效的将T-DNA插入棉花基因组中并能稳定遗传,在棉花的遗传转化中应用最为广泛。但农杆菌介导的棉花遗传转化必须以高效的棉花再生体系为基础,胚性愈伤组织诱导困难、非胚性愈伤组织大量发生以及畸形胚状体(畸形苗)高比率发生等问题制约着棉花遗传转化效率的提高。有鉴于此,本研究以绿色荧光蛋白(Enhanced Green Fluorescent Protein,EGFP)为报告基因确定转化体,利用扫描电镜、透射电镜等技术,系统的研究了农杆菌介导的棉花遗传转化过程中不同阶段和不同类型愈伤组织的细胞学和组织学差异。

【英文摘要】Over the past few decades genetic engineering has been applied to improve cotton breeding. Agrobacterium medicated transformation is nowadays widely used as an ef fi cient approach to introduce exogenous genes into cotton for genetically modi fi ed organisms. However, it still needs to be improved for better transformation ef fi ciency and higher embryogenic callus induction ratios. To research further the difference of mechanisms for morphogenesis between embryogenic callus and non-embryogenic callus, we carried out a systematical study on the histological and cellular ultrastructure of Agrobacteriumtransformed calli. Results showed that the embryogenic callus developed nodule-like structures,whichwere formed by small, tightly packed, hemispherical cells. The surface of some embryogenic calluswas coveredwith a fi brilar-like structure named extracellular matrix. The cells of embryogenic calli had similar morphological characteristics. Organelles of embryogenic callus cells were located near the nucleus, and chloroplasts degraded to proplastid-like structures with some starch grains. In contrast, the non-embryogenic calli were covered by oval or sphere cells or small clusters of cells.It was observed that cells had vacuolation of cytoplasm and plastids with a well organized endomembrane system. This study aims to understand the mechanisms of embryogenic callus morphogenesis and to improve the ef fi ciency of cotton transformation in future.

【语种】英文

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【学科分类】分子生物学

【题目】Isolation and Characterization of an ERF Transcription Factor Gene from Cotton (Gossypium barbadense L.)
【中文关键词】棉花转录因子;海岛棉;棉花转基因;抗病基因;棉花黄萎病
【英文关键词】transcription factors cotton;Gossypium barbadense;binding sites DNA;conserved sequences gene expression;roots leaves Verticillium wilt mycotoxins tobacco gene overexpression plant pathogenic fungi signal transduction resistance mechanisms
【中文摘要】本研究从海岛棉中克隆出乙烯反应调控因子EREB1,其氨基酸序列有一些典型特,包括核定位信号,一种酸性激活域,一个保守的DNA结合域。该调控因子在棉花基因组中呈单拷贝,接种黄萎病菌后EREB1在根和叶中的表达水平明显上升。在烟草中,过量表达EREB1,不影响烟草的正常生长。研究结果表明:EREB1可能是生物胁迫调控途径中的一个信号转录因子,其过表达可以增强棉花的抗病性。
【英文摘要】A pathogen-inducible ethylene-responsive factor gene, EREB1, was isolated and characterized in cotton (Gossypium barbadense L.). The deduced amino acid sequence of EREB1 had some typical features of transcription factors including nuclear localization signals, an acidic activation domain, and a conserved DNA binding domain. As a single copy gene in the cotton genome, the level of expression of EREB1 in roots and leaves was significantly elevated following treatment with Verticillium wilt toxin. Presence of a GCC box-binding ability motif indicated that the EREB1 protein was capable of binding to GCC box elements in vitro as a transcriptional activator. In tobacco, overexpression of EREB1 activated pathogenesis-related genes under normal growth conditions. These results suggested that EREB1 might play an important role in biotic stress signal transduction pathways and that the overexpression of EREB1 might serve as a viable approach to enhance disease resistance t in cotton.
【语种】英文
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【学科分类】分子生物学

【题目】Construction and analysis of cotton (Gossypium arboreum L.)drought-related cDNA library
【中文关键词】亚洲棉;干旱胁迫;抑制性消减杂交。
【英文关键词】Gossypium arboreum L;drought stress;SSH。
【中文摘要】干旱缺水等环境因素越来越威胁着棉花的生长发育。由于棉花耐旱性状的复杂性和缺乏有效的选择手段,常规育种对棉花耐旱性的改良进展较慢。本研究是国内外首次利用抑制消减杂交技术构建棉花耐旱相关基因文库,从分子水平上进行了棉花耐旱EST的筛选,为分离、克隆、转化棉花耐旱基因奠定了基础。 本研究通过抑制消减杂交技术成功的构建了高质量的亚洲棉石系亚1耐旱相关cDNA文库。经过蓝白斑筛选、菌落PCR、反向Northern、生物信息学、RT-PCR等分子生物手段分析和检验库了的质量。通过对随机挑选的、经过菌落PCR初步验证的960个有效克隆做反向Northern,最终筛选出阳性克隆392个。通过EST测序得到265个单一序列(unigene),其中41个为重叠群(contigs),224个为单拷贝(singlets)。生物信息学分析结果表明:该抑制差减cDNA文库中含有大量与耐旱相关的基因,且获得的耐旱相关基因可以分为两大类:一是功能蛋白类,如光合作用相关酶类、热激蛋白、铁蛋白、糖代谢相关蛋白、蛋白酶类等,它们在细胞内可直接发挥保护功能。另一类是调控蛋白类,如转录因子、蛋白激酶等,在各种胁迫反应信号转导或基因表达中起调节作用以及间接起保护作用。同时本研究还获得未知功能的EST序列46个,说明还有更多未知功能的基因有待被发掘。这些棉花耐旱相关基因EST的发现,为进一步克隆这类耐旱相关基因提供了研究依据,同时也为研究棉花耐旱机制以及分子育种奠定了工作基础。
【英文摘要】Background: Drought is one of the most important environmental factors causing water stressfor cotton, and it greatly limits cotton growth and crop productivity. So far only a few drought-tolerance genes have been functionally characterized in details, and most efforts on this topic have been made in model organisms. Therefore, to identify more drought-related genes in cotton plays a crucial role in elucidating the underlying mechanisms of drought tolerance as well as utilizing bioengineering techniques to improve the tolerance in this organism.Findings: Here we constructed a subtractive drought-tolerance cDNA library using suppressive subtractive hybridization (SSH). Through differential screening and bioinformatics analysis, we identified 392 positive clones with differential expression, corresponding 265 unique genes. By BLAST search against Genbank, we found that more than half of these EST sequences were homologous to those previously known drought-related genes and that there were 57 sequences with unknown functions, suggesting that many more genes are involved in this complex trait.Moreover, using RT-PCR, we examined the expression of nine representative candidate genes and confirmed that their expression levels were increased at different levels under drought

stress.Conclusion: Our results show that drought tolerance is a complex trait in cotton, which involves the coordination of many genes and multiple metabolism pathways. The candidate EST sequences we identified here would facilitate further functional studies of drought-related genes and provide important insights into the molecular mechanisms of drought-stress tolerance and genetic breeding in cotton

【语种】英文
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【学科分类】分子生物学

【题目】热带特色农产品物流跟踪编码管理系统的设计
【中文关键词】热带农产品; 编码系统; RFID
【英文关键词】tropical agricultural product; encoding system; RFID
【中文摘要】在基于RFID技术的热带特色农产品物流跟踪系统的构建中, 电子标签是管理系统的枢纽, 也是重要的信息载体。在向电子标签中写入信息的过程中, 需要对产品种植、加工、仓储和物流等各环节的信息进行编码,采用人工的方式进行编码效率很低, 且错误率比较高。为此, 设计了热带特色农产品物流跟踪编码管理系统,既可以满足以上的任务需求, 又可以解决存在的问题。
【英文摘要】In the construction of RFID-based logist ic material tracking encoding and managing system of characterist ic products in tropical agricultural RFID tag is the very important component part of managing system and information carrier. In the process of writing RFID tag, we need to encode, including the in formation of implantation, processing,storage, logistics and so on. It is inefficient and mistakes often to adopt traditional artificial encoding ways. This article mainly designs a logistic material tracking encoding and managing system of characteristic products in tropical aricultural,Which can optimize the quest requirement, and also can settle existing problems.
【语种】中文
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【题目】家养水牛催乳素基因编码区结构特征
【中文关键词】家养水牛 催乳素基因 编码区 PCR-SSCP
【英文关键词】domesticated buffalo; prolactin gene; coding region; PCR-SSCP
【中文摘要】催乳素具有促进生长发育及维持泌乳、进行免疫调节等生物学功能,但目前家养水牛PRL基因的变异特征及其与水牛性状间的关系还不清楚。本研究采用PCR-SSCP及PCR产物直接测序技术,检测不同沼泽型和河流型水牛群体PRL基因各外显子的遗传变异,将各外显子序列进行拼接得到编码区序列,对其进行生物信息学分析,结果表明:水牛成熟催乳素含199个氨基酸残基,其编码蛋白呈酸性,碱基使用率为A 25.96%,T 22.95%,C 28.14%,G22.95%,平均碱基组成差异较小,偏好性密码子占密码子使用总数的48.21%。在沼泽型水牛群体中检测到c.G192A、c.C427T和c.C606T共3种核苷酸替换,均为同义替换,产生8种单倍型,在河流型水牛群体中检测到c.C606T替换,为同义替换,产生2种单倍型,不同单倍型个体未产生表达差异。序列比对分析表明,水牛PRL基因编码区序列在进化过程中未受到人工选择的影响,可能是因为功能的约束使其编码区序列表现得十分保守。
【英文摘要】The prolactin gene is considered as the important candidate genes that correlated with hastening growth,maintaining lactation and immunoregulation in water buffalo,but the structural characteristics in coding region of prolactin gene and the relationship between gene structure and production traits are still unclear.In the study,the splicing sequence variation in coding region of prolactin gene was examined in buffalo populations of swamp type and river type by using PCR-SSCP and DNA direct sequencing

methods.The results showed that the mature peptide of prolactin consisted of 199 amino acid residues and the encoded protein was acidic,the usage rate of bases of A,T,C and G is 25.96%,22.95%,28.14% and 22.95%,respectively.The optimal codon accounted for 48.21% of the total codon.The c.G192A、c.C427T and c.C606T substitution was detected in swamp buffalo populations,which was synonymous and formed eight different haplotypes.A synonymous of c.C606T was detected in river buffalo populations and formed two different haplotypes.There was no expressive discrepancy in different haplotype in buffalo populations of swamp type and river type.Sequence analysis revealed the coding region of prolactin gene was highly conservative and not influenced in artificial selection,which might because of the functional constraints.

【语种】中文
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【题目】基于RFID的热带特色农业田间信息采集研究
【中文关键词】热带特色农业,信息采集,传感器,LabVIEW, RFID
【英文关键词】tropical agricultural, information collection, sensors, LabVIEW, RFID
【中文摘要】海南的农业生产相对比较落后,主要依靠人力,生产力比较低,科技含量不高,且生产和管理不规范,直接影响消费者的权益和热带特色农业的声誉。针对这些问题,本文提出将RFID 技术应用到海南热带特色农业中,结合传感器技术、LabVIEW 虚拟仪器技术和单片机技术等,实现对热带特色农业生产过程中的环境信息和农作物自身的特征信息进行实时数据采集,将采集到的数据以编码的形式存储到电子标签中,以达到实现农业生产的高效管理,保证农产品的品质,进行农产品的质量追溯的目的。该文通过对贴有电子标签的琼中绿橙的信息的成功识别试验,验证了构建系统的可行性。
【英文摘要】Tropical agriculture in Hainan is relatively lagged behind with low level of productive forces and technology,and mainly depends on manpower. What is more, manufacturing management is non-standard. So the reputation of product may be influenced. These may also harm the interests of consumers. In order to solve the problems, RFID technology was used to develop tropical agriculture, combining with sensor technology, virtual instrument (LabVIEW)technology and microcontroller technologies. The information of environmental and crops property can be acquired in process of tropical agriculture production and the data are stored to RFID tags in binary code. The eventual aim is toreach high efficiency management and high quality in agriculture production, and retrace the production in agricultural products supply chain by RFID. The system is verified feasible through an experimental study on identifying information of RFID tags on Qiongzhong green orange.
【语种】中文
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【通讯作者】翁绍捷
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【学科分类】农业基础学科

【题目】热带特色农产品RFID标识的信息分类和编码的研究
【中文关键词】RFID; 热带农产品; 信息; 分类; 编码
【英文关键词】RFID; products of tropical agricultural; information; classify; code
【中文摘要】随着全球经济和科技的发展, RFID技术成为21世纪最具潜力的十大技术之一。本文主要介绍热带特色农产品RFID标识的信息分类和编码研究, 为RFID技术在热带农业上的应用提供基础技术和运行保证。
【英文摘要】With the development of the global economic and the technical, the RFID technology becomes to be one of ten most potential technologies in the 21st century. This article mainly introduced the research on classifying and coding of characteristic products of tropical agricultural, which is prepared for application of the RFID technology.

【语种】中文
【第一作者】王玲玲
【通讯作者】翁绍捷
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【学科分类】计算机科学技术其他学科

【题目】Differential gene expression of cotton cultivar CCRI24 during somatic embryogenesis 2
【中文关键词】中棉所24;体细胞胚胎发生;基因表达差异;
【英文关键词】CCRI24;somatic embryogenesis ;gene expression ;
【中文摘要】本文研究了中棉所24体细胞胚胎发生过程中的不同基因表达差异。
【英文摘要】
Regenerationisanessentialstepforrecoveryoftransgenicplantsfollowinggenetransfer.However,mostcottoncultivarsfailtorespondtothecurrentregenerationprotocols forcotton.Thishinderstheuseofgenetransfertechnologytoimprovethiscrop. Identificationofthegenesinvolvedincottonsomaticembryogenesis(SE)mayprovide informationthatwillhelptoimproveregenerationprotocols.Toinvestigatethe genesexpressedduringcottonSE,weconstructedasuppressionsubtractivehybridization (SSH)libraryusingcDNAfromnonembryogeniccallusasdriverandthose fromembryogeniccallusastester.Fromthislibrary,368cDNAclonesthathybridized conspicuouslytotheforward-subtractedandunsubtractedtesterprobes,but nottothereverse-subtractedorunsubtracteddriverprobes,wereobtainedandsequenced. Amongthe241putativeunigenes,thefunctionsof152genes(63%)couldbe assignedusingexistingdatabases.Inadditiontomanypreviouslyreported SE-related genes,somenewgenes,suchasmembersofethylenepathwayandauxinpathway,werediscoveredinourlibrary.Theexpressionofeightgenes,including an Aux/IAA responsive gene,wasanalyzedbyreverse-transcription-polymerasechainreaction andfoundtobeupregulatedduringtheSE.Thisisinagreementwithprevious studiesshowingthatembryogenesisinvolvesauxinsignaling.& 2009 ElsevierGmbH.Allrightsreserved.
【语种】英文
【第一作者】Xiu-Ming Wu
【通讯作者】Fu-Guang Li
【期刊名称、卷期、页码】Journal ofPlantPhysiology 166 (2009) 1275—1283
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【引文索引号】10.1016/j.jplph.2009.01.012
【学科分类】分子生物学

【题目】Histologicaland Ultrastructural Observation Reveals Significant Cellular Differences between Agrobacterium Transformed Embryogenic and Non-embryogenic Calli of Cotton
【中文关键词】无
【英文关键词】cell organization pattern;chloroplasts;embryogenic callus;Gossypium hirsutum;histological structure;transformation;ultrastructure
【中文摘要】无
【英文摘要】Over the past few decades genetic engineering has been applied to improve cotton breeding. Agrobacterium medicated transformation is nowadays widely used as an efficient approach to introduce exogenous genes into cotton for genetically modified organisms. However, it still needs to be improved for better transformation efficiency and higher embryogenic callus induction ratios. To research further the difference of mechanisms for morphogenesis between embryogenic callus and non-embryogenic callus, we carried out a systematical study on the histological and cellular ultrastructure of Agrobacterium transformed calli. Results showed that the embryogenic callus developed nodule-like structures, which were formed by small, tightly packed, hemispherical cells. The surface of some embryogenic callus was covered with a fibrilar-like structure named extracellular matrix. The cells of embryogenic calli had

similar morphological characteristics. Organelles of embryogenic callus cells were located near the nucleus, and chloroplasts degraded to proplastid-like structures with some starch grains. In contrast, the non-embryogenic calli were covered by oval or sphere cells or small clusters of cells. It was observed that cells had vacuolation of cytoplasm and plastids with a well organized endomembrane system. This study aims to understand the mechanisms of embryogenic callus morphogenesis and to improve the efficiency of cotton transformation in future.

【语种】英文
【第一作者】Shang haihong
【通讯作者】李付广
【期刊名称、卷期、页码】Journal of Integrative Plant Biology 2009, 51(5):456-465
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【学科分类】分子生物学

【题目】Differential gene expression of cotton cultivar CRI24 during somatic embryogenesis
【中文关键词】无
【英文关键词】Auxin;
Cotton;
Ethylene;
Somatic
embryogenesis;
Suppression
subtractive
hybridization
【中文摘要】无
【英文摘要】
Regenerationisanessentialstepforrecoveryoftransgenicplantsfollowinggenetransfer.However,mostcottoncultivarsfailtorespondtothecurrentregenerationprotocols forcotton.Thishinderstheuseofgenetransfertechnologytoimprovethiscrop.
Identificationofthegenesinvolvedincottonsomaticembryogenesis(SE)mayprovide
informationthatwillhelptoimproveregenerationprotocols.Toinvestigatethe
genesexpressedduringcottonSE,weconstructedasuppressionsubtractivehybridization
(SSH)libraryusingcDNAfromnonembryogeniccallusasdriverandthose
fromembryogeniccallusastester.Fromthislibrary,368cDNAclonesthathybridized conspicuouslytotheforward-
subtractedandunsubtractedtesterprobes,but nottothereverse-subtractedorunsubtracteddriverprobes,wereobtainedandsequenced.
Amongthe241putativeunigenes,thefunctionsof152genes(63%)couldbe
assignedusingexistingdatabases.Inadditiontomanypreviouslyreported SE-related
genes,somenewgenes,suchasmembersofethylenepathwayandauxinpathway,werediscoveredinourlibrary.Theexpressionofeightgenes,including an Aux/IAA responsive gene,wasanalyzedbyreverse-transcription-polymerasechainreaction
andfoundtobeupregulatedduringtheSE.Thisisinagreementwithprevious studiesshowingthatembryogenesisinvolvesauxinsignaling.
【语种】英文
【第一作者】Wu xiuming
【通讯作者】李付广
【期刊名称、卷期、页码】Journal of Plant Physiology 2009, 166(12):1275-1283
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【引文索引号】10.1016/j.jplph.2009.01.012
【学科分类】分子生物学

【题目】RFID 技术的现状与发展

【中文关键词】RFID;发展;现状;应用领域
【英文关键词】RFID;development;current situation;application
【中文摘要】随着全球经济和科技的发展, RFID技术成为21世纪最具潜力的十大技术之一。主要介绍了RFID技术的发展, RFID技术在国内外的开发和应用情况, 以及RFID技术面临的一些问题和对未来应用的展望。
【英文摘要】With rapid global economic and technical development, RFID technology will become one of the 10 most potential technologies in the 21st century. The developments and application of the RFID technology are reviewed. Some problems arising from the development and application of the RFID technology are raised and prospects for the RFID technology's application put forward.
【语种】中文
【第一作者】王玲玲
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【学科分类】电子与通信技术其他学科

【题目】基于RFID 技术的水产品供应链中信息管理的研究
【中文关键词】RFID; 水产品供应链; 信息采集; 信息编码
【英文关键词】RFID; Supply chain of sea foods; Information collection; Information coding
【中文摘要】介绍了我国水产品的发展,剖析了水产品供应链技术的发展现状。针对我国水产品供应链中存在的信息不明、滞后、失真等问题,提出将RFID 技术应用到水产品供应链中,通过电子标签记录水产品物流中生产物流、加工物流和销售物流的重要信息,包括生产、加工、仓储、运输和销售5 个环节。首先提炼出水产品物流中各环节的关键信息,对信息进行标准化编码,建立适用于电子标签编码规则的编码生成平台,实现对水产品过程中信息有效的管理,为水产品的质量安全可追溯系统提供重要的信息。
【英文摘要】The paper introduced the development of aquatic products,analyzed the development status of supply chain technology. According tothe unclear,delayed and false information in the supply chain of sea food,the paper proposed to apply the RFID technique in the sea food supply chain,the important information of production,process and sales in logistics could be recorded through RFID tags,including five links like production,process,warehousing,transportation and sales. Firstly,key message in five links could be extracted,then the message was coded,and a software platform was built for EPC encoding rules,so as to realize the effective management of information and provide important information for traceability system of food quality and safety.
【语种】中文
【第一作者】高吉
【通讯作者】翁绍捷
【期刊名称、卷期、页码】安徽农业科学,2012,40(8) : 5019- 5021
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【学科分类】农业基础学科

【题目】地理标志产品琼中绿橙的保护现状分析
【中文关键词】琼中绿橙; 地理标志产品; 保护现状
【英文关键词】Qiongzhong-lvcheng orange; Product of geographical indication; Protection situation
【中文摘要】介绍了琼中绿橙的地理标志产品保护范围、技术要求、地理标志产品专用标志使用等现状, 分析与讨论了其地理标志保护存在的主要问题, 并提出了有关琼中绿橙地理标志保护建议。
【英文摘要】The geographical scope of protection, requirements of technical and the use of special signs of geographical indication, such as the status are introduced in this paper. The main problems of its protection are also analyzed. And the corresponding proposals are put forward.
【语种】中文
【第一作者】尹桂豪

【通讯作者】尹桂豪
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【学科分类】园艺学

【题目】信息技术在农业资源管理中应用的现状与展望
【中文关键词】信息技术;农业资源管理;农业资源管理系统
【英文关键词】information technology; agricultural resources management; agricultural resource management system
【中文摘要】农业资源管理是人们为了提高资源整体利用效率和实现资源的持续利用,而采取的一系列措施。在农业资源管理上通过充分利用当代信息技术发展的最新成果,促进了农业资源管理的进一步发展。本文简述了信息技术在农业资源管理中的应用概况,分析了农业资源管理系统建设的主要特点,总结了存在的一些问题并提出相应的对策,最后展望了信息技术在农业资源管理中的应用前景。
【英文摘要】Agricultural resources management is to take a series of actions on the agricultural resources and its usage to keep them in a good status and improve the overall utilization efficiency of the resources to achieve sustainable development. Through making full use of the latest achievements in the development of contemporary information technology, and accelerating the application of information technology in agricultural resources management,it can promote the development of the research on the agricultural resources management. The overview of information technology applied in agricultural resource management was presented, and the main features of constructing agricultural resources management system were analyzed. Based on the summary of some problems and relevant countermeasures, the application prospects of information technology in agricultural resources management were advanced in the end.
【语种】中文
【第一作者】王博
【通讯作者】罗微
【期刊名称、卷期、页码】农业网络信息,2009,9:5-9
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【题目】来 源于耐旱荒漠植物蛋白CkND对棉花黄萎病的抑制作用及其抗旱性研究
【中文关键词】牛心朴子;蛋白CkND ;棉花黄萎病;抗旱性
【英文关键词】Cy nanchum komarovi i ;CkND protein ;V ert ici l l i um d ahl i ae Kleb ;drought2resistant
【中文摘要】利用蛋白组学策略分离了荒漠植物2牛心朴子(Cy nanchum komarovi i) 抗病、抗旱功能相关蛋白CkND。以棉花黄萎病菌为供试菌株,研究了蛋白CkND 对棉花黄萎病的抑制作用。结果表明:蛋白CkND 对棉花黄萎病菌菌丝生长及孢子萌发具有较好的抑制作用。离体试验中,100 mg ・L21的蛋白CkND 对棉花黄萎病菌菌丝生长抑制效果在24 h 、48 h 、72 h 分别为79. 53 %、83. 01 %、87. 50 % ,35 mg ・L21 的蛋白CkND 对孢子萌发抑制率为100 %;活体试验中,蛋白CkND 对棉花黄萎病具有显著的防治效果。另外,本研究将CkN D 基因构建到pCAMBIA1304 表达载体CaMV35S 启动子下游,将pCAMBIA13042CkN D 通过农杆菌介导转化法转入野生型拟南芥植株中。将33 个株系的转pCAMBIA1304 2CkN D 的T2 代拟南芥和21 株转pCAMBIA1304 的T2 代拟南芥,同时进行抗旱性试验。结果显示,转pCAM2BIA1304 的T2 代拟南芥14 个株系枯死,而转pCAMBIA13042CkN D 的T2 代拟南芥有24 个株系的转基因植株存活,且叶片保持绿色,植株生长良好,根系、须根发达,须根数目明显增多。转pCAMBIA13042CkN D 拟南芥株高增加了30 % ,显著提高了植物抗旱性。
【英文摘要】Protein CkND , a novel disease2resistant and drought2resistant protein , was ext racted formt he root s of Cy nanchum Komarovi i by met hod of proteomics. In this st udy , we tested the f ungicidal activities and resistance of protein CkND against V ert ici l l i um d ahl i ae. The result s showed that short protein CkND may have a good inhibition on t he spore germination and mycelial growt h of V ert ici l l i2um d ahl i ae. In vit ro test suggested that 100 mg ・L21 of protein CkND on mycelial growt h at 24 h , 48h , 72 h was 79. 53 % , 83. 01 % and 87. 50 % , respectively ,and 35 mg ・L21 of protein CkND on spore germination of V ert ici l l i um d ahl i ae was 100 %. I n vi vo test showed that protein CkND had good in2hibitory effect s against V ert ici l l i um d ahl i ae. In addition , t he CkN D gene was const ructed into t he downst ream of t he CaMV35S promoter of the pCAMBIA1304 exp ression vector and t ransfer

ofpCAMBIA13042CkN D was t ransferred into A rabi dopsis t hal i ana mediated by A g robacteri um t ume f a2 ciens . We tak e 33 pCAMBIA13042CkN D T2 t ransgenic plant s and 21 pCAMBIA1304 T2 t ransgenic plant s into drought2resistant experiment s at t he same time. The result s showed t hat 14 of the pCAM2BIA1304 T2 t ransgenic plant s died , but 24 pCAMBIA13042CkN D T2 t ransgenic plant s survived. The leaves kept green , t he plant growed well , root s and fibrous root s developed st rongly , and the number of fibrous root s increased obviously. The drought-resistant of pCAMBIA13042CkN D t ransgenic plant sincreased 30 % , which obviously enhance t he drought-tolerance of plant s.

【语种】中文

【第一作者】李付广

【通讯作者】李付广

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【学科分类】分子生物学

【题目】亚洲棉(Gossypium arboreum L.)全生育期均一化全长cDNA文库的构建和鉴定

【中文关键词】亚洲棉;全生育期;均一化;cDNA 文库;EST

【英文关键词】asian cotton; whole-life cycle; normalization; cDNA library; EST

【中文摘要】:【目的】构建二倍体亚洲棉石系亚1 号全生育期均一化全长cDNA 文库,建立亚洲棉功能基因组学研究基础平台,发掘亚洲棉发育、抗逆等相关基因。【方法】取石系亚1 号子叶期、苗期、蕾期、花铃期不同组织器官,提取总RNA并分离纯化mRNA,采用SMART 技术反转录全长双链cDNA。用DSN(duplex-specific nuclease)法对全长双链cDNA 进行均一化,均一化的cDNA 连接到λZAPⅡ载体,包装蛋白包装后构建石系亚1 号全生育期均一化全长cDNA 文库。【结果】初级文库滴度4×106 pfu · ml-1,库容2×106 个独立克隆,重组率大于95%,插入片段平均长度大于1.5 kb。随机挑取192 个克隆进行EST(expressed sequence tags)测序,冗余度仅为3.49%。BLASTN比对结果显示:78.31%的EST 为新EST。【结论】文库均一化效果良好,质量符合要求,可能包含大量新基因,是进行EST 测序、发掘新基因等棉花功能基因组学的研究平台。

【英文摘要】【Objective】 In order to develop a functional genomics platform for diploid Asia cotton (Gossypium arboreum L.)and discover novel genes related to resistance and development, a normalized full-length cDNA library of Shixiya I (Gossypiumarboreum L.) in the whole-life cycle was constructed. 【Method】 Individual plant of Shixiya I at the stages of cotyledon andseedling, leaves at the stage of seedling, flowers, buds and bolls at various stages were used for library construction. Total RNA wasextracted from them with a modified CTAB method. Purified from total RNA, mRNA was reverse transcripted to double strands fulllength cDNA with the SMART technique. The cDNA from different tissues was normalized with the DSN method, then thenormalized cDNA was linked with λZAP II vector. The normalized full length cDNA library was constructed when the ligation waspacked with Gigapack III XL packaging extract. 【Result】 The titer of primary library was 4×106 pfu · ml-1, the capacity was 2×106clones, and the recombination ratio was more than 95%. The average insertion size was above 1.5 kb. Random selected 192 cloneswere sequenced, the redundancy was 3.49%. With BLASTN, sequences were compared against online nucleotide databases, 78.31%of the sequences were not found in GenBank, and 21.69% were found in existing nucleotide databases. 【Conclusion】 It is suggestedthat the cDNA library was well normalized with high quality. Most likely containing many novel genes, the library can be well usedfor cotton functional genomics, novel gene screening and high-throughput EST sequencing.

【语种】中文

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【学科分类】分子生物学

【题目】陆地棉体细胞胚胎发生过程的cDNA-AFLP分析

【中文关键词】陆地棉;胚胎发生;cDNA2AFL P

【英文关键词】Goss y pi um hi rsut um L . ;embryogenesis ;cDNA2AFL P
【中文摘要】以陆地棉标准系TM21 未经诱导的下胚轴、下胚轴经诱导40 d 的愈伤组织和胚性愈伤组织为材料,利用cDNA2AFL P 差异显示技术对陆地棉体细胞胚胎发生过程中的cDNA 差异表达进行了初步分析. 经反转录获得3个不同时期的cDNA ,利用180 对引物组合进行AFL P 分析,结果表明,在总共显示的约3 000 条谱带中,其中38条为胚性愈伤组织中所特有的差异谱带. 对这些差异片段进行克隆、序列测定和同源性分析,其中12 个差异片段同已知陆地棉、雷蒙德氏棉和亚洲棉不同发育时期器官的EST 序列高度同源,其相似性达到90 %以上. 结果说明,棉属在形态建成早期(胚胎发育阶段) ,其特定器官的相关基因已经表达.关键词:陆地棉;胚胎发生;cDNA2AFL P
【英文摘要】We used cDNA2AFL P technique to analyze gene expression profiles during somatic embryogenesisof hypocotyl s section (explant) ,callus af ter forty days induction on medium of MS and somatic embryo incot ton (Goss y pi um hi rsut um L .) TM21. cDNA2AFL P was analyzed in double st rand cDNA af ter reverset ranscription f rom the t hree different development stages tissues of TM21. One hundred and eighty combi2nations of AFL P primers produced about 3 000 f ragment s. 38 specific bands were identified in t he somaticembryo . These cDNA f ragment s were f urther cloned and sequenced ,and sequence analysis demonst ratedt hat t here were twelve sequence2similar to cDNA sequences wit h t he different tissues of Goss y pi umraimondi i L . . Goss y pi um hi rsut um L . and Goss y pi um arboret um L. in GenBank among 38 sequenced f rag2ment s. Their identities were above ninety percent . The result s indicated t hat t he gene expression of wholeplant had already occured at t he early stage of embryogenesis.
【语种】中文
【第一作者】冷春旭
【通讯作者】李付广
【期刊名称、卷期、页码】西北植物学报 2007, 27(2): 233-237
【论文发表时间】2007-01-19 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】分子生物学

【题目】PEG 胁迫方法评价棉花幼苗耐旱性研究
【中文关键词】棉花 PEG胁迫 耐旱性 成活率
【英文关键词】无
【中文摘要】分别选用8个陆地棉、2个海岛棉、2个亚洲棉品种作为材料进行耐旱水平试验,以PEG6000作为水分胁迫剂,对棉花种子萌发期、芽期、子叶期和真叶期材料分别进行处理,得出了耐旱水平变化曲线,结果验证棉花耐旱性鉴定关键时期应在3~6片真叶幼苗。用不同浓度PEG6000对具有3~6片真叶的棉花幼苗进行12h连续处理后,统计其成活率。研究表明:PEG6000溶液浓度为17%(W/V)时,棉花幼苗的成活率与田间旱棚鉴定结果有较高的一致性。此方法简单、快速,易操作,基本可用于棉花品种的耐旱性评价与鉴定工作,并将为棉花耐旱分子生物学研究奠定基础。
【英文摘要】无
【语种】中文
【第一作者】张雪妍
【通讯作者】李付广
【期刊名称、卷期、页码】棉花学报 2007, 19(3): 205-209
【论文发表时间】2006-12-25 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】分子生物学

【题目】花 粉管通道法获得棉花转基因株系主要农艺性状变异分析
【中文关键词】棉花;花粉管通道法;转基因;农艺性状;变异
【英文关键词】cot ton (Goss y pi um hi rsut um L.) ;pollen2t ube pat hway ;t ransgenenic ;agronomic t rait s ;variations
【中文摘要】通过对花粉管通道法获得的38 个棉花转基因株系稳定后代T5 代主要农艺性状的变异进行分析发现,外源基因的导入可引起受体植株后代农艺性状可遗传的非靶标变异,且变异广泛,多个农艺性状出现了显著性变异。叶长和叶宽均有变短的趋势,但裂叶缺刻深浅变异方向不定,说明部分叶片变得更加皱缩。株高变异方向不定。与对照相比,吐絮期提前,单株结铃数增加,使皮棉和子棉产量均增加。纤维品质变异也很大,如比强度增大、麦克隆值变大、纤维长度也显著增加;短纤维指数变异方向不定。

【英文摘要】Variations of main agronomic t rait s in selected lines f rom t ransgenic cotton obtained byt ransformed insect resistant genes into cot ton line Zhong 99668 t hrough pollen t ube pathway met hodwere investigated. Int roducing of foreign genes resulted in stable hereditable non2target2gene variationof agronomic characteristics in t he descent s. The analysis of T5 generation of t ransgenic lines revealedt hat variations occurred in many agronomic t rait s. Most of the t ransgenic lines showed an increasingt rend for t he yield , t he number of plant branches and rolls. However , the rever se t rend was also ob2served. The leaves became smaller and the generational period became shorter . A lot of variations infiber qualities were al so found such as fiber st rength , micronaire value fiber length , fiber index , de2gree of uniformity etc.
【语种】中文
【第一作者】刘冬梅
【通讯作者】李付广
【期刊名称、卷期、页码】棉花学报 2007, 19(6): 450-454
【论文发表时间】2006-11-29 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】分子生物学

【题目】High-density Linkage Map of Cultivated Allotetraploid Cotton Based on SSR, TRAP, SRAP and AFLP Markers
【中文关键词】无
【英文关键词】cotton; linkage map; target region amplification polymorphism.
【中文摘要】无
【英文摘要】A high-density linkage map was constructed for an F2 population derived from an interspecific cross of cultivatedallotetraploid species between Gossypium hirsutum L. and G. barbadense L. A total of 186 F2 individuals from theinterspecific cross of “ CRI 36 × Hai 7124 ” were genotyped at 1 252 polymorphic loci including a novel marker system,target region amplification polymorphism (TRAP). The map consists of 1 097 markers, including 697 simple sequencerepeats (SSRs), 171 TRAPs, 129 sequence-related amplified polymorphisms, 98 amplified fragment lengthpolymorphisms, and two morphological markers, and spanned 4 536.7 cM with an average genetic distance of 4.1cM per marker. Using 45 duplicated SSR loci among chromosomes, 11 of the 13 pairs of homologous chromosomeswere identified in tetraploid cotton. This map will provide an essential resource for high resolution mapping ofquantitative trait loci and molecular breeding in cotton.
【语种】英文
【第一作者】Jiwen Yu
【通讯作者】Shuxun Yu
【期刊名称、卷期、页码】Journal of Integrative Plant Biology 2007,49 (5): 716 − 724
【论文发表时间】2006-07-06 00:00:00
【引文索引类型】SCI
【引文索引号】10.1111/j.1672-9072.2007.00459.x
【学科分类】分子生物学

【题目】Genotype and Planting Density Effects on Rooting Traits and Yield in Cotton(Gossypium hirsutum L.)
【中文关键词】无
【英文关键词】resource capture; root area index; root diameter; root length density.
【中文摘要】无
【英文摘要】Root density distribution of plants is a major indicator of competition between plants and determinesresource capture from the soil. This experiment was conducted in 2005 at Anyang, located in the YellowRiver region, Henan Province, China. Three cotton (Gossypium hirsutum L.) cultivars were chosen: hybrid BtcultivarCRI46, conventional Bt-cultivars CRI44 and CRI45. Six planting densities were designed, rangingfrom 1.5 to 12.0 plants/m2. Root parameters such as surface area, diameter and length were analyzed byusing the DT-SCAN image analysis method. The root length density (RLD), root average diameter and rootarea index (RAI), root surface area per unit land area, were studied. The results showed that RLD and RAIdiffered between genotypes; hybrid CRI46 had significantly higher ($P < 0.05$) RLD and RAI values than conventionalcultivars, especially under low planting densities, less than 3.0 plants/m2. The root area index(RAI) of hybrid CRI46 was 61% higher than of CRI44 and CRI45 at the flowering stage. The RLD and RAI werealso significantly different ($P = 0.000$) between planting densities. The depth distribution of RAI showed thatat

increasing planting densities RAI was increasingly distributed in the soil layers below 50 cm. The RAI ofhybrid CRI46 was for all planting densities, obviously higher than other cultivars during the flowering andboll stages. It was concluded that the hybrid had a strong advantage in root maintenance preventing prematuresenescence of roots. The root diameter of hybrid CRI46 had a genetically higher root diameter atplanting densities lower than 6.0 plants/m2. Good associations were found between yield and RAI in differentstages. The optimum planting density ranged from 4.50 plants/m2 to 6.75 plants/m2 for conventionalcultivars and around 4.0 – 5.0 plants/m2 for hybrids.

【语种】英文

【第一作者】Li-Zhen Zhang

【通讯作者】Bao-Guo Li

【期刊名称、卷期、页码】Journal of Integrative Plant Biology 2006,48(11):1-5

【论文发表时间】2006-08-10 00:00:00

【引文索引类型】SCI

【引文索引号】10.1111/j.1672-9072.2006.00367.x

【学科分类】分子生物学

【题目】Somatic embryogenesis and plant regeneration in two wild cotton species belong to G genome,

【中文关键词】无

【英文关键词】G. nelsonii . G. australe . G genome .
Somatic embryogenesis . Plant regeneration

【中文摘要】无

【英文摘要】The present work describes the plant regenerationvia somatic embryogenesis in two wild cotton speciesbelonging to G genome: Gossypium nelsonii Fryx andGossypium australe F Muell. The role of plant hormonesand carbohydrates was also evaluated for somatic embryogenesisand somatic embryo development. Normal plantswere obtained from G. nelsonii Fryx; abnormal plants andsomatic embryos were obtained from G. australe F Muell.The best medium for callus induction for these G genomewild cotton species was MSB5 supplemented with0.1 mg L − 1 KT and 0.1 mg L − 1 2,4-D. For embryogeniccallus proliferation, the best medium used was MSB5supplemented with 0.2 mg L − 1 KT and 0.5 mg L − 1 IBA.The medium MSB5 supplemented with 0.15 mg L − 1 KTand 0.5 mg L − 1 NAA was used successfully for rootinitiation and plant growth. In addition, adding CuSO4 andAgNO3 in the callus-inducing and proliferation mediumresulted in a number of somatic embryos. Glucose andmaltose, the carbon sources in somatic culture, were usedfor callus induction, but maltose worked even better thanglucose for proliferation of embryogenic callus and developmentof somatic embryos.

【语种】英文

【第一作者】Shu-Feng Yan

【通讯作者】Shui-Jin Zhu

【期刊名称、卷期、页码】in Vitro Cellular and Developmental Biology - Plant (2010) 46:298 – 305

【论文发表时间】2010-02-23 00:00:00

【引文索引类型】SCI

【引文索引号】10.1007/s11627-009-9270-2

【学科分类】分子生物学

【题目】Selection and characterization of a novel glyphosate tolerant upland cotton (Gossypium hirsutum L.) mutant (R1098)

【中文关键词】无

【英文关键词】Cotton (Gossypium hirsutum L.) — EPSPS —
glyphosate tolerance — shikimate — tissue culture

【中文摘要】无

【英文摘要】Stepwise selection approach was adopted to obtain glyphosate-tolerantupland cotton mutant (R1098) from the embryogenic calli of Coker312 (Gossypium hirsutum L.). The calli were transferred to the selectionmedium and multi-step selection pressure process was carried out untilthe calli could proliferate in the presence of 20 mM glyphosate. Theregenerated plants from the glyphosate-tolerant calli were analysed forglyphosate response, tolerance of progenies and shikimate accumulationon whole-plant basis. R1098 could tolerate 1.48 kg acidequivalent/ha glyphosate. Progeny tests demonstrated that glyphosatetolerance trait was controlled by one dominant gene. Shikimateaccumulation assay showed that significantly different amounts ofshikimate were

present between the mutant (R1098) and its wild parent(Coker 312) after glyphosate treatment. This indicates that R1098 hassufficient 5-enolpyruvylshikimate-3-phosphate synthase activity in thepresence of glyphosate, thereby maintaining normal carbon flowthrough the shikimate pathway. Moreover, R1098 offers a greaterpotential to improve the weed control system in cotton production.
【语种】英文
【第一作者】X. H. TONG
【通讯作者】S. J. ZHU
【期刊名称、卷期、页码】Plant Breeding 129, 192—196 (2010)
【论文发表时间】2009-04-19 00:00:00
【引文索引类型】SCI
【引文索引号】10.1111/j.1439-0523.2009.01673.x
【学科分类】分子生物学

【题目】Cadmium-induced ultramorphological and physiological changes in leaves of two transgenic cotton cultivars and their wild relative
【中文关键词】无
【英文关键词】Transgenic cotton
Wild relative
Leaf ultrastructure
Transmission electron microscopy
Cadmium stress
【中文摘要】无
【英文摘要】The present study describes cadmium-induced alterations in the leaves as well as at the whole plantlevel in two transgenic cotton cultivars (BR001 and GK30) and their wild relative (Coker 312) using bothultramorphological and physiological indices. With elevated levels of Cd (i.e. 10, 100, 1000 M), the meanlengths of root, stem and leaf and leaf width as well as their fresh and dry biomasses linearly decreasedover their respective controls. Moreover, root, stem and leaf water absorption capacities progressivelystimulated, which were high in leaves followed by roots and stems. BR001 accumulated more cadmiumfollowed by GK30 and Coker 312. Root and shoot cadmium uptakes were significantly and directly correlatedwith each other as well as with leaf, stem and root water absorption capacities. The ultrastructuralmodifications in leaf mesophyll cells were triggered with increase in Cd stress regime. They were moreobvious in BR001 followed by GK30 and Coker 312. Changes in morphology of chloroplast, increase innumber and size of starch grains as well as increase in number of plastoglobuli were the noticed qualitativeeffects of Cd on photosynthetic organ. Cd in the form of electron dense granules could be seen insidethe vacuoles and attached to the cell walls in all these cultivars. From the present experiment, it can bewell established that both apoplastic and symplastic bindings are involved in Cd detoxification in thesecultivars. Absence of tonoplast invagination reveals that Cd toxic levels did not cause water stress in anycultivars. Additionally, these cultivars possess differential capabilities towards Cd accumulation and itssequestration.
【语种】英文
【第一作者】M.K. Dauda
【通讯作者】Shuijin Zhu
【期刊名称、卷期、页码】Journal of Hazardous Materials 168 (2009) 614 – 625
【论文发表时间】2009-02-23 00:00:00
【引文索引类型】SCI
【引文索引号】10.1016/j.jhazmat.2009.02.069
【学科分类】分子生物学

【题目】Cadmium-induced functional and ultrastructural alterations in roots of two transgenic cotton cultivars
【中文关键词】无
【英文关键词】Transgenic cotton
Cadmium stress
Electron microscopy
Root morphology

Gossypium spp.
【中文摘要】无
【英文摘要】The toxic effect of cadmium (Cd) at increasing concentrations was studied with special attention beinggiven to the root morphological and ultrastructural changes in two transgenic cotton cultivars viz. BR001and GK30 and their wild relative viz. Coker 312. In comparison to their respective controls, low concentration(10 and 100 M) of Cd greatly stimulated seed germination, while it was inhibited by highestconcentration of Cd (1000 M) in case of two transgenic cultivars. However, in Coker 312 the seed germinationpercentage progressively decreased over the control at all Cd levels. Various physiological andmorphological parameters of the root and whole plant in both transgenic cotton cultivars and their relativewild cotton genotype respond differently towards the Cd toxicity. Bioavailability of Cdwas concentrationdependentwhere seedling root captured more Cd as compared to shoot. BR001 accumulated more Cdfollowed by GK30, while Coker 312 was less Cd accumulator. The ultrastructural modifications in the roottip cells of both the transgenic cotton cultivars and their wild relative were also dose-dependent. Withthe increase in Cd levels, the fine structures of their root cells also invariably changed. Increase in plasmolysisof the plasma membrane, greater number of nucleoli and vacuoles and enlarged vacuoles couldbe observed in both transgenic cotton cultivars. In comparison to them, Coker 312 showed relatively welldeveloped ultrastructures of the root tips except enlarged vacuoles and greater number of mitochondria.Moreover, the accumulation of Cd in the form of electron dense granules and crystals both in vacuolesand attached to cell walls were visible in both transgenic cotton cultivars and their wild relative. Theseresults suggest that both transgenic cotton cultivars and their wild relative cotton genotype respondedpositively towards Cd stress at seedling stage, the internal Cd-detoxification might be through apoplasticand symplastic binding. Moreover, as a whole BR001 proved to be sensitive whereas; GK30 and Coker 312were found as tolerant.
【语种】英文
【第一作者】M.K. Daud
【通讯作者】Shuijin Zhu
【期刊名称、卷期、页码】Journal of Hazardous Materials 161 (2009) 463 – 473
【论文发表时间】2008-04-07 00:00:00
【引文索引类型】SCI
【引文索引号】10.1016/j.jhazmat.2008.03.128
【学科分类】分子生物学

【题目】Intron-targeted intron-exon splice conjunction (IT-ISJ) marker and its application in construction of upland cotton linkage map
【中文关键词】无
【英文关键词】IT-ISJ (intron targeted intron-exon splice junction), linkage map, upland cotton (Gossypium hirsutum L.)
【中文摘要】无
【英文摘要】To develop a new DNA maker, which could be used in genetic diversity analysis and genetic map construction in plants,IT-ISJ (intron targeted intron-exon splice junction) primer combinations, which were designed according to the intronexonsplice junction conserved sequences, were used to construct cotton genetic linkage map in the present study. 49 outof 704 IT-ISJ primer combinations showed polymorphism between upland cotton high quality cultivar Yumian 1 andmultiple dominant gene line T586, and the polymorphic primer combinations accounted for 7.0% of total primer combinations.49 IT-ISJ primer combinations were used to genotype 270 F2:7 recombinant inbred lines developed from (Yumian 1 × T586)F2, and 58 IT-ISJ loci were obtained. 58 IT-ISJ, together with 150 SSR and 8 morphological loci, were used to conductlinkage analysis, and a linkage map including 22 linkage groups and 113 loci (49 IT-ISJ, 62 SSR, and 2 morphological loci)was constructed. The linkage map covered 714.5 cM with an average interval of 6.3 cM between two markers, accountingfor 16.1% of cotton genome. The present study demonstrated that the polymorphism of IT-ISJ marker is high, and it couldbe effectively applied in plant genetic map construction.
【语种】英文
【第一作者】ZHENG Jing,
【通讯作者】ZHANG Zheng-sheng,
【期刊名称、卷期、页码】Agricultural Sciences in China 2008, 7(10): 1172-1180
【论文发表时间】2008-10-14 00:00:00
【引文索引类型】SCI
【引文索引号】http://dx.doi.org/10.1016/S1671-2927(08)60161-3
【学科分类】分子生物学

【题目】Construction of a comprehensive PCR-based marker linkage map and QTL mapping for fiber quality traits in (Gossypium hirsutum L.)
【中文关键词】无
【英文关键词】Fiber quality　Genetic linkage map
QTL (Quantitative trait locus)
Upland cotton (Gossypium hirsutum L.)
【中文摘要】无
【英文摘要】To facilitate marker assisted selection,there is an urgent need to construct a saturatedgenetic map of upland cotton (Gossypium hirsutumL.). Four types of markers including SSR, SRAP,morphological marker, and intron targeted intron – exon splice junction (IT-ISJ) marker were used toconstruct a linkage map with 270 F2:7 recombinantinbred lines derived from an upland cotton cross(T586 9 Yumian 1). A total of 7,508 SSR, 740 ITISJand 384 SRAP primer pairs/combinations wereused to screen for polymorphism between the twomapping parents, and the average polymorphisms ofthree types of molecular markers represented 6.8, 6.6and 7.0%, respectively. The polymorphic primerpairs/combinations and morphological markers wereused to genotype 270 recombinant inbred lines, and amap including 604 loci (509 SSR, 58 IT-ISJ, 29SRAP and 8 morphological loci) and 60 linkagegroups was constructed. The map spanned 3,140.9cM with an average interval of 5.2 cM between twomarkers, approximately accounting for 70.6% of thecotton genome. Fifty-four of 60 linkage groups wereordered into 26 chromosomes. Multiple QTL mappingwas used to identify QTL for fiber quality traitsin five environments, and thirteen QTL weredetected. These QTL included four for fiber length(FL), two for fiber strength (FS), two for fiberfineness (FF), three for fiber length uniformity (FU),and two for fiber elongation (FE), respectively. EachQTL explained between 7.4 and 43.1% of phenotypicvariance. Five out of thirteen QTL (FL1 and FU1 onchromosome 6, FL2, FU2 and FF1 on chromosome7)were detected in five environments, and theyexplained more than 20% of the phenotypic variance.Eleven QTL were distributed on A genome, while theother two on D genome.
【语种】英文
【第一作者】Zheng-Sheng Zhang
【通讯作者】Z.-S. Zhang
【期刊名称、卷期、页码】Mol Breeding (2009) 24:49 – 61
【论文发表时间】2009-03-05 00:00:00
【引文索引类型】SCI
【引文索引号】10.1007/s11032-009-9271-1
【学科分类】分子生物学

【题目】An efficient grafting system for transgenic plant recovery in cotton (Gossypium hirsutum L.)
【中文关键词】无
【英文关键词】Gossypium hirsutum L., grafting, somatic embryo, transgenic
【中文摘要】无
【英文摘要】A successful transformation program relies on the number of survival plants in soil that can be obtained.Low recovery of transgenic plants is still a key restrictive factor for transgenic cotton production. In orderto utilize genetic transformation in cotton breeding program effectively, an efficient grafting system forrecovering plants derived from somatic embryogenesis following Agrobacterium infection and kanamycinselection was developed. Various aspects of in vitro grafting were examined in efforts to improve theefficiency of transformant recovery. Using strong seedling rootstocks was the first important step to obtainhigh rate of successful grafts. Scion size >0.6 cm and seedling rootstock at age of 6 – 12 days wereappropriate for grafting. The successful grafting ratio was higher when using hypocotyls without radicle.Shoot-tip and shoot stem with axillary bud were also suitable for in vitro grafting, which meant we couldsignificantly improve the survival ratio of transgenic plantlets, because one plantlet has a shoot-tip butseveral axillary buds. Based on our data, the period from in vitro seedling rootstock germination totransplant of grafts to field usually takes one month. Over 90% successful grafting ratio could be obtainedunder optimal conditions, which represented a significant improvement over currently available methodsfor recovery of cotton plantlet from somatic embryogenesis after transformation. Ex vitro grafting couldalso be used for plant recovery, which gave an average of successful grafting ratio of 71.9%. However, thismethod was strongly affected by environmental factors.
【语种】英文

【第一作者】Shuangxia Jin,
【通讯作者】Xianlong Zhang
【期刊名称、卷期、页码】Plant Cell, Tissue and Organ Culture (2006) 85: 181 – 185
【论文发表时间】2005-09-09 00:00:00
【引文索引类型】SCI
【引文索引号】10.1007/s11240-005-9068-9
【学科分类】分子生物学

【题目】Genes expression analyses of sea-island cotton (Gossypium barbadense L.) during fiber development
【中文关键词】无
【英文关键词】cDNA array ESTs Fiber development
Normalized cDNA library Sea-island cotton
【中文摘要】无
【英文摘要】Sea-island cotton (Gossypium barbadense L.)is one of the most valuable cotton species due to its silkiness,luster, long staples, and high strength, but its fiberdevelopment mechanism has not been surveyed comprehensively.We constructed a normalized fiber cDNA library(from − 2 to 25 dpa) of G. barbadense cv. Pima 3-79 (thegenetic standard line) by saturation hybridization withgenomic DNA. We screened Pima 3-79 fiber RNA fromfive developmental stages using a cDNA array including9,126 plasmids randomly selected from the library, and weselected and sequenced 929 clones that had different signalintensities between any two stages. The 887 high-qualityexpressed sequence tags obtained were assembled into 645consensus sequences (582 singletons and 63 contigs), ofwhich 455 were assigned to functional categories usinggene ontology. Almost 50% of binned genes belonged tometabolism functional categories. Based on subarrayanalysis of the 887 high-quality expressed sequence tagswith 0-, 5-, 10-, 15-, and 20-dpa RNA of Pima 3-79 fibersand a mixture of RNA of nonfiber tissues, seven types ofexpression profiles were elucidated. Furthermore our resultsshowed that phytohormones may play an importantrole in the fiber development.
【语种】英文
【第一作者】Li-Li Tu
【通讯作者】xianlong zhang
【期刊名称、卷期、页码】Plant Cell Rep (2007) 26:1309 – 1320
【论文发表时间】2007-03-22 00:00:00
【引文索引类型】SCI
【引文索引号】10.1007/s00299-007-0337-4
【学科分类】分子生物学

【题目】Dissection of genetic variance of fibre quality in advanced generations from an interspecific cross of Gossypium hirsutum and G. barbadense.
【中文关键词】无
【英文关键词】cotton (Gossypium) — quantitative trait loci —
advanced-generation population — fibre quality — segregation
distortion
【中文摘要】无
【英文摘要】The interspecific genetic introgression approach has been shown tofacilitate the detection and dissection of quantitative trait loci (QTL).A population consisting of 121 F6 recombinant inbred lines wasdeveloped by crossing Gossypium hirsutum cv. Handan 208 and G.barbadense cv. Pima 90 via single-seed descent. Genotyping indicatedthat the mean Pima 90 allele frequency at each locus was 21%.Phenotyping and phenotypic distribution indicated a trend of return ofindividual lines characters to Handan 208 coupled with a widevariance for each trait. Significant loci influencing fibre quality weredetected by one-way analysis of variance (ANOVA; P < 0.005) andassociation analysis [)log10(P) ‡ 3]: five and three markers for fibrelength, four and one marker(s) for uniformity, two and one marker(s)for micronaire, 13 and 15 markers for strength, six and 10 markers forelongation, respectively. Two-way ANOVA based on genotypes of allmarker loci combination showed that 807 two-locus combinationswere significant, and two-way ANOVA based on marker genotypes ofQTL markers combination showed five significant digenic interactions(P < 0.01).

【语种】英文
【第一作者】D. H. He
【通讯作者】xianlong zhang
【期刊名称、卷期、页码】Plant Breeding 127, 286—294 (2008)
【论文发表时间】2007-08-17 00:00:00
【引文索引类型】SCI
【引文索引号】10.1111/j.1439-0523.2007.01452.x
【学科分类】分子生物学

【题目】Detection of somaclonal variation of cotton (Gossypium hiesutum) using cytogenetics, flow cytometry and molecular markers.
【中文关键词】无
【英文关键词】Cotton (Gossypium hirsutum L.)
Somatic embryogenesis Somaclonal variation
Flow cytometry Cytogenetic analysis RAPD
SSR
【中文摘要】无
【英文摘要】Two protocols of plant regeneration for cottonwere adopted in this study, namely, 2, 4-D and kinetinhormone combination and IBA and kinetin hormonecombination. Twenty-eight embryogenic cell lines viasomatic embryogenesis and 67 regenerated plants fromthese embryogenic calli were selected and used for randomamplified polymorphic DNA (RAPD), simplesequence repeat (SSR), chromosomal number counting,and flow cytometric analysis. The roles of RAPD andSSR markers in detecting somaclonal variation of cotton(Gossypium hirsutum L.) were evaluated. Two clusteranalyses were performed to express, in the form ofdendrograms, the relationships among the hormonecombinations and the genetic variability. Both DNAbasedtechniques were able to amplify all of the cellclones and regenerated plantlets genomes and relativehigher genetic variation could be detected in the culturetype with 2, 4-D and kinetin hormone combination. Theresult suggested that 2, 4-D and kinetin hormone combinationcould induce relative high somaclonal variationand RAPD and SSR markers are useful in detecting somaclonalvariation of regenerated cotton plants viasomatic embryogenesis. Chromosome number countingand flow cytometry analysis revealed that the number ofchromosomes and ploidy levels were nearly stable in allregenerated plants except two regenerated plantlets (lost4 and 5 chromosomes, respectively) which meant thatcytological changes were not correlated with the frequencyof RAPD and SSR polymorphisms. This resultalso might mean that the cell lines with variation ofchromosome numbers were difficult to regenerate plants.
【语种】英文
【第一作者】Shuangxia Jin
【通讯作者】xianlong zhang
【期刊名称、卷期、页码】Plant Cell Rep (2008) 27:1303 – 1316
【论文发表时间】2008-05-27 00:00:00
【引文索引类型】SCI
【引文索引号】10.1007/s00299-008-0557-2
【学科分类】分子生物学

【题目】Molecular cloning and characterization of five genes encoding pentatricopeptide repeat proteins from Upland cotton (Gossypium hirsutum L.)
【中文关键词】无
【英文关键词】PPR Cotton Cloning Expression
【中文摘要】无
【英文摘要】The pentatricopeptide repeat (PPR) proteinfamily is one of the largest and most complex families inplants. These proteins contain multiple 35-amino acidrepeats that are proposed to form a super helix capable ofbinding RNA. PPR proteins have been implicated in manycrucial functions broadly involving organelle biogenesis andplant development. In this study, we identified many genesencoding PPR protein in Upland cotton through an extensivesurvey of the database of Gossypium hirsutum. Furthermore,we isolated five full-length cDNA of PPR genes fromG. hirsutum 0-613-2R which were named GhPPR1 – GhPPR5.Domain analysis revealed that the deduced amino acidsequences of GhPPR1 – 5 contained from 5 to 10 PPR

motifsand those PPR proteins were divided into two different PPRsubfamilies. GhPPR1 – 2 belonged to the PLS subfamily andGhPPR3 – 5 belonged to the P subfamily. Phylogenetic analysisof the five GhPPR proteins and 18 other plant PPR proteinsalso revealed that the same subfamily clustered together.All five GhPPR genes were differentially but constitutivelyexpressed in roots, stems, leaves, pollens, and fibers based onthe gene expression analysis by real-time quantitativeRT-PCR. This study is the first report and analysis of genesencoding PPR proteins in cotton.

【语种】英文

【第一作者】Luming Yang

【通讯作者】Tianzhen Zhang

【期刊名称、卷期、页码】Mol Biol Rep (2010) 37:801 – 808

【论文发表时间】2009-07-04 00:00:00

【引文索引类型】SCI

【引文索引号】10.1007/s11033-009-9610-7

【学科分类】分子生物学

【题目】Agrobacterium-mediated co-transformation of multiple genes in upland cotton

【中文关键词】无

【英文关键词】Upload cotton Agrobacterium tumefaciens
Co-transformation Transformation frequency

【中文摘要】无

【英文摘要】Two cotton genotypes, Simian 3 (SM 3) andWC, were co-transformed using a mixture of four Agrobacteriumtumefaciens cultures of strain LBA4404, eachcarrying a plasmid harboring the following genes, Bt ? sck(for Bacillus thuringenesis protein and modified Cowpeatrypsin inhibitor), bar (for glufosinate), keratin, and fibroin.The frequency of callus induction, embryogenesis, andplant regeneration were notably different between the twogenotypes. However, there were no differences between thetwo genotypes for number of plantlets carrying multiplegene copies of different gene combinations as well astransformation frequency for different gene combinations.PCR analysis indicated that more than 80% of plantletscarried the nptII gene for kanamycin resistance. Overall,the co-transformation frequency of two or more genes wasabout 35%. Southern blot analysis confirmed integration oftarget genes into the cotton genome, and the number ofcopies of the transgene(s) varied from one to four. Multipletransgene expression was confirmed by RT-PCR analysisin some transgenic lines. Further analysis of T1 plantsdemonstrated that multiple transgenes were inherited andexpressed in progenies.

【语种】英文

【第一作者】Fei-Fei Li

【通讯作者】T.-Z. Zhang

【期刊名称、卷期、页码】Plant Cell Tiss Organ Cult (2009) 97:225 – 235

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【引文索引类型】SCI

【引文索引号】10.1007/s11240-009-9521-2

【学科分类】分子生物学

【题目】Promoter of a cotton fibre MYB gene functional in trichomes of Arabidopsis and glandular trichomes of tobacco

【中文关键词】无

【英文关键词】Cotton fibre, glandular, MYB, promoter, tobacco,
trichome.

【中文摘要】无

【英文摘要】Cotton fibres are unicellular seed trichomes. Our previousstudy suggested that the cotton R2R3 MYBtranscript factor GaMYB2 is a functional homologue ofthe Arabidopsis trichome regulator GLABRA1 (GL1).Here, the GaMYB2 promoter activity is reported incotton (Gossypium hirsutum), tobacco (Nicotiana tabacum),and Arabidopsis plants. A 2062 bp promoter ofGaMYB2 was isolated from G. arboreum, and fused toa b-glucuronidase (GUS) reporter gene. In cotton, theGaMYB2 promoter exhibited activities in developingfibre cells and trichomes of other aerial organs, includingleaves, stems and bracts. In Arabidopsis thepromoter was specific to trichomes. Different fromArabidopsis and cotton that have unicellular nonglandularsimple trichomes, tobacco plants containmore than one type of trichome, including multicellularsimple and glandular secreting trichomes (GSTs).Interestingly, in tobacco plants the

GaMYB2 promoterdirected GUS expression exclusively in glandular cellsof GSTs. A series of 5#-deletions revealed that a 360 bpfragment upstream to the translation initiation codonwas sufficient to drive gene expression. A putative ciselementof the T/G-box was located at -233 to -214;a yeast one-hybrid assay showed that ArabidopsisbHLH protein GLABRA3 (GL3), also a trichome regulator,and GhDEL65, a GL3-like cotton protein, had highbinding activities to the T/G-box motif. Overexpressionof GL3 or GhDEL65 enhanced the GaMYB2 promoteractivity in transgenic Arabidopsis plants. A comparisonof GaMYB2 promoter specificities in trichomes ofdifferent plant species with different types of trichomes provides a tool for further dissection of planttrichome structure and development.

【语种】英文

【第一作者】Xiao-Xia Shangguan,

【通讯作者】xy chen

【期刊名称、卷期、页码】Journal of Experimental Botany, Vol. 59, No. 13, pp. 3533 – 3542, 2008

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【引文索引类型】SCI

【引文索引号】:10.1093/jxb/ern204

【学科分类】分子生物学

【题目】Development of Gossypium barbadense chromosome segment substitution lines in the genetic standard line TM-1 of Gossypium hirsutum

【中文关键词】无

【英文关键词】cotton
chromosome segment substitution lines
fiber qualities
leaf morphology
QTL

【中文摘要】无

【英文摘要】Chromosome segment substitution lines (CSSL) consist of a battery of near-isogenic lines that have been developed and cover the entire genome of some crops. With the exception of one homozygous chromosome segment transferred from a donor parent, the remaining genome of each CSSL line is the same as the recipient parent. It is an ideal material for genome research and particularly QTL mapping. In the present study, we first developed one set of CSSL lines using G. hirsutum acc. TM-1 (the genetic standard), as the recipient parent and G. barbadense cv. Hai7124 as the donor parent using molecular assisted-selection in BC5S1 – 3 generations. The CSSL consisted of 330 different lines, in which 1 – 4 different lines had the same or overlapping substituted segments. The genetic length of the substituted segments covered 5271.9 cM with an average segment distance of 10.9 cM, 1.5 times the total genetic length of Upland cotton (3514.6 cM). The substituted segments of each line varied in length, ranging from 3.5 cM for the shortest segment to 23.2 cM in the longest segment. Our CSSL have not yet to cover the entire tetraploid cotton genome, due to the absence of some donor parent interval segments

【语种】英文

【第一作者】Peng Wang

【通讯作者】tianzhen zhang

【期刊名称、卷期、页码】Chinese Science Bulletin Volume 53, Issue 10 , pp 1512-1517

【论文发表时间】2008-05-13 00:00:00

【引文索引类型】SCI

【引文索引号】10.1007/s11434-008-0220-x

【学科分类】分子生物学

【题目】Somatic embryogenesis and plant regeneration of recalcitrant cottons (Gossypium hirsutum)

【中文关键词】无

【英文关键词】Cotton, callus induction, somatic embryogenesis, embryogenic callus, plant regeneration.

【中文摘要】无

【英文摘要】Many restrictive factors still remain in cotton tissue culture such as long duration, unpredictability anda high degree of genotype dependence. The main objective of this study was to develop a protocolallowing consistent somatic embryogenesis and plant

regeneration from five recalcitrant cottoncultivars. Our results showed that the best medium for calli induction is MSB (MS medium + vitamineB5) supplemented with indolebutyric acid (IBA, 0.1 mg.l-1), kinetin (KIN, 0.1 mg.l-1) and 2,4-dichlorophenoxyacetic acid (2,4-D, 0.1 mg.l-1). Embryogenic calli of all the five genotypes used weresuccessfully from MSB medium supplemented with IBA (0.3 mg.l-1) and KIN (0.05 mg.l-1). Somaticembryos and transformation of somatic embryos into plants were successfully induced on MSBmedium supplemented with ½×NH4NO3 (825 mg.l-1), 2×KNO3 (3800 mg.l-1), glutamine (2.0 g/l) andasparagines (0.5 g/l). The protocol developed in this study for cotton plant regeneration could beshortened to 4 - 5 months. Furthermore, the firstly-obtained regenerated plants of above five cultivarswill broaden the range of genotypes for in vitro manipulation for cotton improvement.

【语种】英文

【第一作者】G. Y. Han,

【通讯作者】zhiying ma

【期刊名称、卷期、页码】African Journal of Biotechnology Vol. 8 (3), pp. 432-437, 4 February, 2009

【论文发表时间】2008-10-03 00:00:00

【引文索引类型】其他

【引文索引号】null

【学科分类】分子生物学

【题目】Isolation and molecular characterization of a novel homogalacturonan galacturonosyl- transferase gene (GbGAUT1) from Gossypium barbadense

【中文关键词】无

【英文关键词】Gossypium barbadense, fiber development, cDNA cloning, pectin polysaccharide, homogalacturonan galacturonosyltransferase.

【中文摘要】无

【英文摘要】A novel gene, designated as GbGAUT1 (Gossypium barbadense homogalacturonan galacturonosyltransferasegene 1), was successfully cloned from G. barbadense (GenBank accession No. EF552432)by bioinformatics methods, RT-PCR and RACE. The open reading frame (ORF) was 1797 bp long andputatively encoded a polypeptide of 598 amino acids, with a predicted molecular mass of 69 kDa.GbGAUT1 could be considered as a homogalacturonan (HG) galacturonosyltransferase protein sincethe conserved GAUT1-related supperfamily motif had been found and it was clustered into GAUT-Agroup in the phylogenetic tree. Semi quantitative RT-PCR showed that GbGAUT1 preferentiallyexpressed in the fiber secondary cell wall thickening, especially in the fibers of 35 day post anthesis(DPA). These results suggested that the novel cotton GbGAUT1 might play an important role in fiberdevelopment.

【语种】英文

【第一作者】J. N. Chi

【通讯作者】Z. Y. Ma

【期刊名称、卷期、页码】African Journal of Biotechnology Vol. 8 (19), pp. 4755-4764, 5 October, 2009

【论文发表时间】2008-05-08 00:00:00

【引文索引类型】其他

【引文索引号】null

【学科分类】分子生物学

【题目】Molecular Cloning of Three UDP-Glucuronate Decarboxylase Genes That Are Preferentially Expressed In Gossypium Fibers From Elongation to Secondary Cell Wall Synthesis

【中文关键词】无

【英文关键词】Fiber development . Gossypium .
UDP-glucuronate decarboxylase

【中文摘要】无

【英文摘要】UDP-xylose (UDP-Xyl) is a nucleotide sugarused as substrate for producing non-cellulose materials, e.g., hemicellulose and pectic polysaccharide, in the fibers ofcotton (Gossypium). Its biosynthesis is catalyzed fromUDP-glucuronic acid (UDP-GlcA) by UDP-glucuronatedecarboxylase (UXS). Here, we first cloned GhUXS1 inGossypium hirsutum and Gossypium barbadense based ona transcript-derived fragment that originated from ourcDNA – AFLP transcriptome profiling in cotton. GhUXS2and GhUXS3 were also

isolated via homology-basedcloning. GhUXS nucleotide sequences were identicalbetween the two species, and the deduced amino acidresidues had the conserved motif of the UXS family, i.e.,GxxGxxG, Ser residues, and YxxxK. GhUXS1 wasexpressed in Escherichia coli and generated UXS activitythat converted UDP-GlcA to UDP-Xyl. SemiquantitativeRT-PCR results showed that GhUXSs transcripts werepreferentially expressed during fiber development, fromelongation through the stage of secondary cell wallsynthesis. Although at the same number of days postanthesisthey were more abundant in G. hirsutum, expressionwas sustained for a longer period in G. barbadense. Thesedifferent patterns of expression may affect quality andpartially explain why the latter species has better fiberstrength.

【语种】英文
【第一作者】Yuxin Pan
【通讯作者】ZY ma
【期刊名称、卷期、页码】J. Plant Biol. (2010) 53:367 – 373
【论文发表时间】2010-08-18 00:00:00
【引文索引类型】SCI
【引文索引号】10.1007/s12374-010-9124-9
【学科分类】分子生物学

【题目】Mining cotton fiber strength candidate genes based on transcriptome mapping
【中文关键词】无
【英文关键词】cotton
fiber strength
candidate gene
cDNA-AFLP
transcriptome mapping
quantitative trait loci
【中文摘要】无
【英文摘要】Cotton fiber strength is mainly determined during the secondary cell wall (SCW) thickening stage. In 24 – 25 days post anthesis (DPA) of SCW thickening stage, cDNA-amplified fragment length polymorphism (AFLP) was carried out to construct fiber transcriptome groups. Based on these groups, cotton fiber strength candidate genes were detected by composite interval mapping (CIM) through quantitative trait locus (QTL) scanning. The mapping population was the interspecific backcross BC1 of Gossypium hirsutum × G. barbadense. One hundred and fifteen BC1 plants were used for group construction with 102 qualified absence/presence polymorphic transcript-derived fragments (TDFs) from G. barbadense, and 78 TDFs were assigned into eight transcriptome groups that gave a total length of 462.63 centimorgans (cM). Two significant QTLs, FS1 and FS2, were detected and explained 16.08% and 15.87% of fiber strength variance, respectively. Of the six TDFs co-segregating with FS1 and FS2, except one encoding an unknown protein, five targeted putative phosphatidylinositol kinase, trehalose-6-phosphate synthase, MADS transcription factor, cellulose synthase-like protein and phenylalanine ammonia lyase, respectively. These functional genes were involved in plant cell wall morphogenesis or cellulose synthesis metabolism processes, and were considered as the candidate genes controlling cotton fiber strength.
【语种】英文
【第一作者】HengWei Liu
【通讯作者】zy ma
【期刊名称、卷期、页码】Chinese Science Bulletin Volume 54, Issue 24 , pp 4651-4657
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【学科分类】分子生物学

【题目】鲁棉研21号高产稳产的生物学特性研究
【中文关键词】棉花;鲁棉研21 号;高产稳产;生物学特性
【英文关键词】cot ton ; SCRC 21 ; high and stable yield ; biological characteristic

【中文摘要】以生产上大面积推广的4 个不同类型的转基因抗虫棉品种为材料,研究了常规转Bt 基因抗虫棉鲁棉研21 号的生物学特性。结果表明,鲁棉研21 前期营养生长速度快,干物质积累量大,初花期单株干物重比鲁棉研15 高2. 2 %,比中棉所41 、99B 分别高59. 0 %和62. 0 %,开花后发育进程快,开花结铃集中,全生育期比中棉所41 、99B 短3~5 d。铃重分别比鲁棉研15 、中棉所41 和99B 高0. 20 g、0. 56 g 和0. 55 g ,衣分高。鲁棉研21 营养生长与生殖生长协调,先建源后扩库,源大库大。这些特性为其高产、稳产、适应性广奠定了生物学基础。关键词:棉花;鲁棉研21 号;高产稳产;生物学特性

【英文摘要】The biological character s of Bt t ransgenic cot ton variety SCRC 21 were studied by comparingwith different type of cot ton varieties —B t t ransgenic hybrid variety SCRC 15 ,t ransgenic double genes(B t + Cp T I) variety CCRI 41 and US B t t ransgenic variety 99B. The result s showed t hat bot h t henut rition growt h speed and dry weight per plant of SCRC 21 were higher during the early stage. Thedry weight per plant of SCRC 21 was 2. 2 % higher than t hat of SCRC 15 ,59. 0 % and 62. 0 % highert han that of CCRI 41 and 99B , respectively. The reproductive growth speed of SCRC 21 speeded up af2ter blooming ,and bolls were set up rapidly. The f ull growt h period of SCRC 21 was 3~5 d shortert han that of CCRI 41 and 99B. SCRC 21 had a larger boll size ,as well as higher lint percentage and lar2ger boll number per plant than t hat of ot her varieties. Therefore , t he yield component s of SCRC 21were improved simultaneously. SCRC 21 could set up source rapidly fir st and t hen enlarge sink and hadabundant source wit h broad sink finally ,and al so early mat ure wit hout premat ure senescence. The re2sult s indicated t hat t he nut rition growt h harmonized wit h reproductive growth well on SCRC 21. Thesebiological characters of SCRC 21 establish a foundation for higher and it ’ s stable yield and wide adapta2bility.

【语种】中文

【第一作者】李汝忠

【通讯作者】李汝忠

【期刊名称、卷期、页码】棉花学报 Cotton Science 2009 ,21 (3) :230~235

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【引文索引号】null

【学科分类】分子生物学

【题目】棉花分子遗传图谱构建和纤维品质性状QTL分析

【中文关键词】棉花, 遗传图谱, 分子标记 , 纤维品质

【英文关键词】无

【中文摘要】分子遗传图谱是进行棉花分子遗传和育种研究的有力工具。以海陆种间杂交BC1为作图群体,利用SSR、SRAP标记技术构建了四倍体栽培棉种高密度分子图谱。图谱具有802个标记位点, 总长4347.5 cM,基因组覆盖率为79.01%(Lacape et al,2003),标记间的平均距离5.4 cM.用涉及 52对引物的重复标记位点为四倍体棉花的13个同源转化群中的12个建立了联系。有52个偏分离标记构建到图谱上。偏分离标记只分布于部分染色体或连锁群上,而且存在明显的聚集现象。通过复合区间作图,在11条染色体或连锁群上检测到28个纤维品质性状的QTL,其中12个QTL的LOD ≥3.0。本研究为利用分子标记辅助选择向陆地棉杂交渗透海岛棉的优良纤维品质基因奠定了基础。

【英文摘要】无

【语种】中文

【第一作者】宋宪亮

【通讯作者】张天真

【期刊名称、卷期、页码】《山东省棉花学会第五届代表大会、山东省优质棉基地建设管理协会第三届代表大会论文汇编》2006年

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【引文索引类型】其他

【引文索引号】null

【学科分类】分子生物学

【题目】农杆菌介导法转化泗棉3号的研究

【中文关键词】泗棉3号 农杆菌介导法转化 再生

【英文关键词】Simian 3 Agrobacterium-mediated transformation Regeneration

【中文摘要】泗棉3号农艺性状优良,是20世纪90年代长江流域棉区的主栽品种,利用基因工程导入外源基因进行直接改良,可以迅速获得新的品种或育种材料。以陆地棉泗棉3号的下胚轴为外植体,建立了高效的转化体系,得到了大量的转基因植

株。泗棉3号的出愈率和分化率显著高于模式品种Coker 312,同时它出现分化中心的主要形态不同于Coker 312,其胚性愈伤组织主要来源于两类初生愈伤组织。对泗棉3号的胚性愈伤组织进行GUS检测,以及对再生植株叶片进行PCR检测后,阳性植株嫁接于温室。在温室用2 063.98 μmol L-1的卡那霉素点涂叶片检测nptⅡ基因的表达和取叶片进行gus基因的组织化学检测,同时通过Southern blot分析检测,证明目的基因成功地整合到泗棉3号基因组中。

【英文摘要】Simian 3 is one of major cultivars at the cotton-growing district in Yangtze River Valley in the 1990s. New breeding materials or varieties can be rapidly developed through direct transformation of exogenous genes. In this study, we generated transgenic plants from hypocotyl segments of Simian 3 by Agrobacterium-mediated transformation. The rates of callus induction and differentiation were higher in Simian 3 than those in Coker 312. And the major callus morphological characters of Simian 3 from which differentiation center could be formed differed from Coker 312. Histochemical GUS (β-glucuronidase) assay and PCR for nptⅡ (neomycin phosphotransferase) gene were carried out with the transgenic embryogenic callus and leaves of transgenic plantlets. The plantlets proved by histochemical GUS assay and PCR for nptⅡ were grafted and then cultivated in greenhouse. The application of kanamycin at the level of 2 063.98 μmol L-1 and Southern blot also proved that the target gene was successfully integrated into the genome of Simian 3.

【语种】中文

【第一作者】吴慎杰

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【学科分类】分子生物学

【题目】长江和黄河流域棉区棉花品种体细胞胚胎发生和植株再生比较研究

【中文关键词】棉花; 基因型; 体细胞胚胎发生; 再生能力

【英文关键词】Cotton (Gossypium hirsutum L) ; Genotype; Somatic embryogenesis; Regenerability

【中文摘要】选用我国长江和黄河流域棉区各10 个棉花品种以及珂字201 和YZ1 共22 个基因型, 研究和优化棉花体细胞胚胎发生的相关条件参数。在此基础上, 比较了两生态区棉花品种的体细胞再生能力。结果表明, 在IBA+ KT 的激素组合下, 多数基因型有较强再生能力; 在愈伤组织诱导时期, 铵态氮是必需的, 而在愈伤组织继代分化时期, 一定浓度的硝态氮则能促进分化; 没有铁盐不能诱导出愈伤组织, 而铁盐浓度为56 mg L- 1 时有利于胚分化; 长江流域和黄河流域棉花品种的植株再生潜力没有明显差别, 但长江流域的品种体细胞胚胎发生所需的时间长。本文首次获得了鄂抗棉3 号、5号、鄂棉20、鄂棉23、豫棉9 号、豫早73、豫棉12、豫棉1221 等8 个品种的体细胞胚胎发生和植株再生。

【英文摘要】Many restrict factors still remain in cotton genetic transformat ion, which requires appropriate culture programfollowed by regeneration Long tissue culture duration, unpredictability of tissue culture, and a high degree of genotypedependence are more troublesome in plant regeneration of cotton The objectives of this study were to examine some factors(including hormone combination, salts of ammonium, Fe2+ content and genotypes) significantly affecting the efficiency ofregeneration and transformation in cotton and optimize the somatic embryogenesis of upland cotton using 22 cultivarsincluding 10 cultivars from Yellow River valley, 10 cultivars from Yangtze River valley, and two highly responsiblegenotypes Coker 201 and YZ 1 Most of the genotypes showed high regenerability under the IBA KT hormone regime NH+4was necessary during the callus induct ion and subculture, but it should be omitted and replaced by NO-3 during somaticembryogenesis The content of Fe2+ was the key factor for callus induction and differentiation The differentiation mediumcould significantly improve the conversion from the fast growing callus to embryogenic callus with the FeSO4 concentrat ion of56 mg L- 1 Under the opt imized culture procedure, most of the genotypes collected from the two valleys showed the similarregeneable abilities, except a relative longer time taken during the somatic embryogenesis of cultivars from the YangtzeRiver valley The somatic embryogenesis and plant regenerations of eight genotypes(i e Ek3, Ek5, Em20, Em23, Ym9,Ym12, Yz73, and Ym1221)were firstly obtained

【语种】中文

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【学科分类】分子生物学

【题目】棉花胚性愈伤组织的转化及转基因胚状体的有效萌发与成苗技术研究
【中文关键词】棉花; 农杆菌; 遗传转化; 植株再生; 移栽
【英文关键词】Cotton (Gossypium hirsutum L.) ; Agrobacterium; Genetic transformation; Plant regeneration; Transplanting
【中文摘要】以棉花胚性愈伤组织作受体, 用农杆菌介导法(农杆菌菌株为A1) 将质粒载体pSG529 上的异戊烯基转移酶(ipt)基因导入4 个陆地棉品种, 研究了不同基因型的遗传转化效率并建立了转基因再生植株的有效成苗技术体系。结果表明, 在相同的转化条件下, 不同基因型的转化效率差异较大, 豫早1 号和珂字201 的遗传转化效率及植株再生能力显著高于豫棉4 号和鄂棉23。降低培养基无机盐浓度, 用Phytagel 固化, 能够提高胚萌发成苗率, 降低畸形苗频率, 在生根培养中添加少量活性炭提高了根系活力。再生植株长到3~ 5 片真叶时, 可以切除发褐根系, 转移到新鲜的低盐培养基中,重新生根。在试管苗移栽过程中, 采用逐步揭开封口膜进行炼苗的措施, 可以提高试管苗的环境适应能力, 显著提高移栽成活效率。
【英文摘要】To study the effect of genotypes on the efficiency of genetic transformation. The embryogenic calli of fourcultivars YZ 1, Coker 312, Ym 4, and Em 23 were transformed by Agrobacterium strain A1 harbouring pSG 529 carryingisopentenyl transferase gene (ipt) . The results showed that the transgenic efficiency was different in four cultivars under thesame transgenic procedure. YZ 1 and Coker 201 showed higher genetic transformation and plant regeneration efficienciesthan Ym 4 and Em 23. To optimize the procedure of somatic embryos germination, rooting and transplant, several factorswere studied using somatic embryos of YZ 1 as material. The results showed that low concentration of inorganic salt in theembryo germination media, namely 1 2 MS inorganic salts, could increase the ratio of normal regenerated plant and helpbuild stronger root systems. Phytagel was a better for solidifying the medium than Agar. Activated carbon added in rootingmedium was proved to be helpful for root regenerat ion of somatic embryos. When the roots of some regenerated plantlets with3- 5 true leaveswere brown due to a long culturing period in solid medium. They could rebuild stronger after the brown rootswere removed and the plantlets were inoculated on fresh medium with low concentration of inorganic salt. The plantlets werestepwise opening the lids of culture bottles helped the regenerated plantlets accommodate the open circumstances.
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【第一作者】谢德意
【通讯作者】张献龙
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【学科分类】分子生物学

【题目】山西省转基因抗虫棉发展现况与趋势
【中文关键词】转基因抗虫棉; 单价; 双价; 多价; 安全评价
【英文关键词】T ransg enosis pest- res istan t cotton; Univalent; B iva lent; Mu ltiva lent; Sa fe ty assessm ent
【中文摘要】山西省是第一个国产转基因抗虫棉诞生的省份。转基因抗虫棉从无到有, 从单价到双价、多价, 从抗棉铃虫到抗蚜虫、多抗。农杆菌介导法转化技术在不断完善。转基因抗虫棉的产量水平、产量因素、纤维品质已达到一定的水平。应加快转基因抗虫棉的安全评价审报程序; 注重选育的品种质量; 良种良法配套; 研究与开发一体化
【英文摘要】Shanx i is the first prov ince to ge t transg enosis pest- resistaut cotton in China. G rea t achievem en t for transg enosispest resistant co tton has been go t. Nam ely, from the univalen t to the b iva lent and to them ultivalent and from resistance onlyto cotton bo llwo rm deve loped to res istance to aphid or even m ultires istance. In addition, techn ique o f agr icultural rod- shapedbacter ia introduc tion is be ing im proved step by step. The y ield leve ,l y ield factors and fibre qua lity a ll reaches considerable leve.l It is important to speed up safe ty assessment process, to system fine spec ies and good w ethod and to com b ine sc ientific researchand production c lose ly.
【语种】中文
【第一作者】李燕娥
【通讯作者】李燕娥
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【学科分类】分子生物学

【题目】沿江棉区棉花用种的思考
【中文关键词】市场分析　　品种应用　　林花　　沿江神区
【英文关键词】无
【中文摘要】本丈分析了以犯　　年我国饰花市场发展动态以及柿花育种的发展方向,针对我国棉花生产上普连存在的一些问通　　提出了沿江棉区选用林花品种值得注意的有关问题,并介绍了沿江饰区杂交棉配套栽培技术。
【英文摘要】无
【语种】中文
【第一作者】路曦结,
【通讯作者】何团结
【期刊名称、卷期、页码】江西棉花2006年6月第28卷第3期
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【学科分类】分子生物学

【题目】高衣分转Bt+GNA双价基因抗虫棉新种质的选育与利用
【中文关键词】Bt 和GNA 双价抗虫棉, 新种质, 选育与利用
【英文关键词】Transgenic Bt+GNAinsect-resistant cotton, New germplasm, Selection and utilization
【中文摘要】本研究对转Bt 和GNA 双价基因后代植株,经南繁加代、抗虫检测、自交、单株和株系选择、纤维品质测定和产量比较试验,选育出双价转基因抗虫棉种质系BGsm16。该种质系高抗棉铃虫等鳞翅目害虫,对蚜虫有一定的抑制作用,抗虫性稳定且不随世代的增加而减弱,衣分高(48.0%左右),配合力好,结铃性强,通风透光,皮棉产量比受体材料苏棉16 号增产11.1%,品质两者相当。与其配置的杂交棉组合衣分高,丰产性好,品质高于对照南农8 号,有着很强的杂种优势。转Bt 和GNA 双价基因抗虫棉种质系BGsm16 的成功选育,加强转基因棉花的抗虫能力,拓宽了抗虫谱,并有助于延缓害虫对抗虫棉产生抗(耐)性;同时改变了传统对常规抗虫棉衣分低的认识,丰富了抗虫棉种质资源,对选育高衣分杂交抗虫棉有良好的应用前景。关键词Bt 和GNA 双价抗虫棉, 新种质, 选育与利用
【英文摘要】In the article, transgenic Bt+GNA insect-resistant cotton plants were studied and new transgenic Bt+GNA insect-resistant cotton germplasm line “ BGsm16 ” with high lint percentage was derived by speeding up generationin Hainan province, insect-resistant tests, selection of individual plants and lines, determination of fiberquality and comparative experiment of yield. It showed high resistance against bollworm larvae (Helicoverpaarmigera), inhibition effect on the development of aphid populations, and stability of insect resistance; it had highlint percentage (48%), good combining ability,many bolls, and good ventilation and light penetration; its lint yield was11.1% higher than Sumian16 (CK) and its quality showed on difference with Sumian16. F1 had high lint percentage,high yield and high heterosis. Cultivation of the newgermplasmline “ BGsm16 ” of transgenic Bt+GNAinsect-resistantcotton strengthened insect resistance, extended different insect resistance ranges, prolonged insect resistance timesof insect-resistant cotton, changed the cognitive idea of insect-resistant cotton with low lint percentage, enrichedgermplasm resources of insect-resistant cotton, and had well applied foreground in selecting hybrid insect-resistantcotton with high lint percentage.
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【第一作者】丁业掌
【通讯作者】张天真
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【题目】棉花叶绿素含量和光合速率的QTL定位
【中文关键词】棉花; 叶绿素含量; 光合速率; QT L 作图
【英文关键词】cot to n; leaf chloro phyll co ntent ; photosy nthet ic rates; QT L mapping
【中文摘要】为了探讨棉花光合作用及相关生理性状的遗传规律, 利用四交分离作图群体泗棉3 号/苏12/ / 中4133/ 8891 的273 个F2: 3 家系为材料, 用MAPQ TL5. 0 软件及区间作图方法(IM) ,对棉花叶绿素含量及光合速率进行了QTL 分析。检测到3 个与叶绿素含量相关的QT L, 分别位于染色体D6、D8 和A10, 解释性状表型变异的4. 3% , 4. 5% 和5. 2%。检测到3 个与光合速率相关的Q TL, 位于D5、D6 和A11 染色体, 解释性状表型变异的3. 8%, 7. 4% 和8. 4% 。两个性状所有Q TL 的遗传效应均以加性效应为主。本研究定位的棉花叶绿素含量和光合速率QT L 均是首次报道, 可尝试应用于高光效育种的分子标记辅助选择。
【英文摘要】In order to ex plor e the genet ic basis for pho to synthesis and it s r elated physiolog ical t rait ofcot ton, a mapping populat ion of 273 F2: 3 inbr ed lines derived f rom a four-w ay cross o f Simian 3/ Sum-ian 12/ / Zhong 4133/ 8891 was employed to map quant itat ive t rait lo ci (QT L) of leaf chloro phyl l contentand photosynthet ic rates in co t to n by interval mapping metho d w ith MA PQT L5. 0. The resultsshow ed that a total of three QT Ls w er e detected fo r leaf chloro phyll content o n chr omosome D6, D8and A10, respect ively, w hich explained 4. 3% , 4. 5% and 5. 2% o f the phenotypic variance, and a totalof thr ee QT Ls w ere detected for photosy nthetic rates o n chromosome D5, D6 and A11, respect ively,w hich ex plained 3. 8% , 7. 4% and 8. 4% of the phenotypic variance. Addit iv e ef fects w ere mainlygenet ics effect s fo r all QTLs of tw o t rait s. T hese QT Ls co ncer ned w ith leaf chlorophy ll co ntent andphotosynthet ic rates in co tton w ere f ir st repo rted, and these results sho uld be v ery useful for markerassistedselect ion in cot ton hig h pho to synthet ic rates breeding progr am.
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【第一作者】秦鸿德,
【通讯作者】张天真
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【题目】新疆陆地棉主栽品种部分产量性状QTL的标记与定位
【中文关键词】陆地棉;遗传图谱;SSR;产量性状;QTL
【英文关键词】Upland cotton; Molecular linkage map; SSR; Yield traits; QTL
【中文摘要】:【目的】在新疆特有的“ 矮密早 ”陆地棉栽培技术体系下,利用不同主栽品种(Gossypium hirsutum L.)组配F2 组合筛选产量及其构成因素的QTL,为利用分子标记辅助选择提高新疆陆地棉育种效率提供理论依据。【方法】用新陆中10 号、中棉所35 号、军棉1 号和新陆早7 号4 个品种构建了3 个F2 作图群体,连锁群构建及QTL定位使用MAPMAKER/EXP(Version 3.0b)、MapQTL5 和WinQTLCartV2.5。【结果】3 个作图群体图谱覆盖了除D4和D12 外的棉花所有染色体,将筛选出皮棉产量、单铃重、衣分、籽指、结铃数等性状在位置、效应一致的QTL认为是一个QTL,共鉴定、筛选出产量构成因子QTL 11 个。其中与籽指有关的QTL 共3 个,分别位于A1、A5 和A7 上;与衣分有关的QTL 3 个,分别位于A7、A13 和连锁群6 上;与铃重有关的QTL 4 个,定位在A7 上有3 个、D3 上1 个;与皮棉产量有关的QTL1 个,定位在D3 上。涉及到单铃重、衣分和籽指等与产量性状相关的QTL 大部分都分布在A7 染色体上的同一区域。【结论】产量相关性状的QTL 分布在棉花染色体同一区域,并在不同群体或两年环境中稳定表达,这些QTL 可能有助于今后新疆陆地棉分子标记辅助育种的提高。部分籽指QTL 在染色体水平上的定位(A1 和A5)与前人研究相同,其余QTL 在染色体水平上的定位(A7、D3 和A13)与前人研究不同。
【英文摘要】【Objective】Four Xinjiang main upland cotton (Gossypium hirsutum L.) cultivars were used to construct threemolecular linkage maps for characterizing quantitative trait loci (QTL) determining cotton yield-related traits under the technology ofshort plant height, dense populations and earlier maturity (Short, Dense and Early), which can provide DNA molecular markers forusing in cotton improvement in the future. 【Method】 Four cultivars (Zhongmiansuo35, Xinluzhong10, Junmian1 and Xinluzao7)were employed to construct three F2 populations. Based on these populations three linkage maps were respectively constructed byMapmaker/Exp3.0. Possible QTL/loci were identified by composite interval mapping method on WinQTLcart V2.50 and MapQTL5software. 【Result】 The three molecular linkage maps covered all of the cotton chromosome except D4 and D12. Under thecondition of planting of Short, Dense and Early, ten possible QTL of yield related traits (lint yield, lint percentage, boll size, seedindex) were suggested with LOD>2.0. Three seed index QTL were located on A1, A5 and A7; Three lint percentage QTL werelocated on A7, A13 and LG6; Three boll size QTL were located on A7 and D3; One lint yield QTL was located on D3. As a

greaterpart of the yield related QTL were located on A7, it was clear that these correlated QTL were distributed on same or neighborchromosomal domain and would play important roles in breeding.【Conclusion】In this research some correlated QTL were clearlyassigned on same position, which could provide valuable information for marker assisted selection (MAS). The QTL of seed indexwere assigned to the chromosomes (A1 and A5) in this paper were the same as previously published reports. In addition, it was alsofound that the rest QTL on the level chromosomes (A7, A13 and D3) were different from previously published reports.

【语种】中文
【第一作者】王沛政
【通讯作者】张天真
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【学科分类】分子生物学

【题目】利 用四交群体构建陆地棉栽培品种间的SSR标记遗传图谱
【中文关键词】陆地棉; 四交群体; 遗传作图
【英文关键词】up land cotton (G ossyp ium hirsutum L.); four way cross popu la tion; genetic m apping
【中文摘要】作物遗传作图与QTL定位常应用在源于两自交系的单交群体上, 是利用2个亲本之间的遗传多态信息; 而育种实践中经常用到的四交群体却很少用于遗传作图。本研究将异交物种中F1分离群体的作图方法应用于常异花授粉作物棉花上, 以4个陆地棉栽培品种泗棉3号、苏棉12、中4133和8891为亲本, 构建陆地棉品种间四交作图群体泗棉3号/苏棉12/ /中4133 /8891, 利用JoinM ap3 0构建了1张陆地棉栽培品种间的SSR标记遗传图谱。该图谱由56个连锁群组成,总长为2 113 3 cM, 含有286个SSR 多态位点, 覆盖率达42 3%; 单个连锁群的标记数2~ 24个, 平均5 2个; 长度为0 37~ 125 cM, 平均38 4 cM; 标记间的平均距离为7 4 cM。这是目前报道的第1张覆盖率达40%的陆地棉栽培品种间的分子标记遗传图谱。
【英文摘要】Linkage and QTL mapp ing in crops have been app lied m ainly to sing le cro ss popu lation der ived from two inb red lines,and only po lymo rph ism inform ation be tw een two parents w as em ployed to deve lop linkag em ap. Four w ay cross population w as rarelyused to construc t linkage m ap in crops. In th is paper, the m ethod of linkag em app ing used in he tero zygous F1 w as applied to co t ton, an o ften cro ssed po llination crop, and four upland co tton cultivars (G ossyp ium hirsutum L.), S im ian 3, Sum ian 12, Zhong4133 and 8891 w ere used to deve lop a four w ay cross population, Sim ian 3 /Sum ian 12 / /Zhong 4133 /8891. A linkage m ap w asconstructed based on SSR m arkers w ith Jo inM ap3 0. The linkage m ap w as compr ised o f 56 linkag e groups spann ing a d istance o f0 37 cM to 125 cM w ith 286 m apped loc.i These loc i cov ered 2 113 3 cM, w hich was estim ated as 42 3% o f the to tal recomb ina tion leng th o f the co tton genom e. The average genetic distance betw een two loc iw as 7 4 cM. This is the first linkagem ap w ith d is tance beyond 40% of the to ta l recom b ina tion leng th o f the co tton g enom e.

【语种】中文
【第一作者】秦鸿德
【通讯作者】张天真
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【学科分类】分子生物学

【题目】一个新的棉花MYB类基因(GhTF1)的克隆及染色体定位分析
【中文关键词】棉花; MYB 基因; 克隆; 表达; 基因定位
【英文关键词】Gossypium; MYB gene; cloning; expression; gene tagging
【中文摘要】MYB类转录因子是指含有MYB结构域的一类转录因子, 广泛参与植物发育和代谢调节。含2 个MYB结构域的R2R3 类MYB转录因子在植物体内主要参与次生代谢的调节和控制细胞的形态发生。从优质材料7235 不同发育时期的棉纤维混合cDNA文库中克隆了一个棉花MYB转录因子基因GhTF1(GenBank登录号: EF651783)。该cDNA序列长1 115 bp, 其开放读码框长度为771 bp, 编码256 个氨基酸。表达特征分析表明, 该基因在陆地棉7235 不同组织中均表达, 但表达量不

同, 特别在开花前1 d, 开花后8 d和11 d的纤维细胞中优势表达。该基因在二倍体棉种非洲棉和雷蒙德氏棉中开放读码框区的序列较保守, 但在非编码区差异较大, 在内含子区存在大片段插失和碱基替换现象。Southern杂交结果表明该基因在陆地棉基因组中存在2 个拷贝, 推测A、D亚组中各有1 个拷贝。利用海7124 和TM-1两亲本配置的BC1作图群体, 将GhTF1 定位在染色体10 上。

【英文摘要】Plant MYB transcription factors are characterized by containing a structurally conserved MYB domain, they playimportant roles in the regulation of plant development and metabolism. Of them, the R2R3 MYB proteins with two MYB domainsare involved in regulating secondary metabolism and cellular morphogenesis. Cotton fibers are single-celled seed trichomes. Sofar, the molecular process of fiber initiation is poorly understood. However, some transcriptional factors such as MYB genes areresponsible to fiber cell initiation. Just like in Arabidopsis, leaf trichome formation is mediated through positive and negativeregulators such as GL1 and GL2 encoding MYB transcription factors.In cotton, several MYB transcription factors have been cloned. Expression of type I genes (GhMYB1, 2, and 3) was detectedin all tissues tested, while type II genes (GhMYB4, 5, and 6) process involving many other pathways such as signal transductionand transcriptional regulation. Moreover, GhMYB109, a gene encoding a R2R3 MYB transcription factor, was expressed specificallyin fiber initials and elongating fibers. And over-expression of GaMYB2 complemented gl1 phenotype as well as inducedseed trichome development in Arabidopsis, suggesting a role of MYB-like transcription factors in cotton fiber cell differentiation.The objective of the study was to clone new MYB genes, further put a foundation to illustrate these genes function in cotton fiberdevelopmental stages. In this paper, a MYB transcription factor gene, GhTF1 was isolated from developmentally different cottonfiber pools of elite material 7235 library. GhTF1 (GenBank No.: EF651783) is a 1 115 bp cDNA, its open reading frame is 771 bp,and encodes a polypeptide containing 256 amino acids. GhTF1 was expressed constitutively in every tissue with different expressionlevels, e.g. with higher levels in fiber cells at initiation and elongations stages. GhTF1 had conserved coding region in A andD diploid cotton species, G. herbaceum and G. raimondii, however, there existed a large DNA fragment insertion/deletion and basesubstitutions in their corresponding intron region. Southern blotting analysis showed that there were two copies of GhTF1 in thegenome of upland cotton, deducing that the sub-genome A and sub-genome D contain each of them. Using the BC1 mappingpopulation derived from the hybridization between the upland cotton standard line TM-1 and G. barbadense cultivar Hai7124, andTM-1 as recurrent parent, GhTF1 was located on the chromosome 10.

【语种】中文

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【学科分类】分子生物学

【题目】陆地棉抗黄萎病性状的遗传及分子标记研究

【中文关键词】棉花; 黄萎病; 遗传; QT L 定位

【英文关键词】cot ton; Vert i cil l ium w ilt ; inherence; QTL mapping

【中文摘要】以陆地棉抗黄萎病品系常96 和感病品种军棉1 号为研究材料, 构建了一个含有138 个F2 单株的作图群体。利用强致病力菌株VD8 对P1、P2、F1、F2: 3 群体进行营养钵接种, 估算各世代的相对病指。应用主基因-多基因混合遗传模型分析得出该组合的最适遗传模型为C-0模型, 即加性-显性-上位性多基因模型。对1998 对SSR 引物和230 对SRAP 引物进行筛选,获得148 个SSR 和6 个SRAP 多态性标记位点, 进一步利用MAPMAKER 作图软件, 构建了一张含122 个标记位点的陆陆杂种遗传连锁图。利用复合区间作图法在第9 染色体NAU462-JESPR114 区间内, 检测到1 个抗黄萎病QT L, 可解释的表型变异为13. 8%。

【英文摘要】Mo lecular marker-assisted select io n w as effect ive to quickly br eeding cult ivar s resistant toVer t ici l lium w ilt. In this research, the upland co tton str ain Chang 96, w hich is resistant against Vertici ll ium w ilt, and the suscept ible v ar iety, Junmian 1, w ere used as exper imental materials, a tagg ingpopulat ion w ith 138 F2 indiv idual plants w as developed. By art ificially inoculating the str ong ly pathogenic fungi st rain to the po pulations P1 , P2 , F1 , F2: 3 , the relative disease index es of each gener at ionw as est imated. Using the method of the major g ene plus po lygene mix ed g enet ic mo del analy sis between major g ene and mult iple g enes, the o pt imum genet ic model of that combinat ion w as disco veredto be C-0 mo del, i. e. , the mult iple gene mo del among additiv e-dominant-epistat ic genes. A total of1998 pair s o f SSR pr imer s, and 230 pairs of SRA P primers w ere scr eened, 148 SSR and 6 SRAP polymorphismmarker lo ci w er e obtained. Fur thermor e, by ut ilizing Mapmaker so ftw are, a g enetic linkagemap based on int raspecific F2 populat io ns w ith 122 marker loci w as const ructed. Acco rding to thecompo site interval principle to scan total cot ton g

enome by Mapmaker/ QTL pr ogr am, one resistanceQTL was detected and lo calized on chromosome nine betw een the interv al of the NAU 462 and JESPR114,13. 8% phenotypic variance in F2: 3 of w hich mig ht be ex plained.
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【第一作者】葛海燕,
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【题目】陆 地棉优质纤维QTL的分子标记筛选及优质来源分析
【中文关键词】陆地棉; 纤维品质; QTL; 来源
【英文关键词】Gossypium hirsutum; Fiber quality; QTL; Source
【中文摘要】利用陆地棉优质品系7235、渝棉1 号做亲本, 以7235 × 渝棉1 号的F2 与F2:3 分离群体为材料, 开展不同来源棉花高强纤维QTL 微卫星标记筛选, 为进一步进行优质纤维QTL 聚合育种提供基础。通过5 514 对SSR 引物对亲本进行多态性筛选, 获得117 个多态性标记, 用其中80 个标记构建了总长为1 147.8 cM 的遗传图谱; 应用复合区间作图法分析了该组合的F2 单株和F2:3 家系纤维品质性状, 共检测到36 个纤维品质数量性状基因座(QTL), 其中与纤维长度、比强度、细度、伸长率及整齐度相关的QTL 各6、8、7、8 和7 个, 分别解释各性状表型变异的3.4%~14.4%、5.0%~42.4%、6.5%~11.7%、5.1%~19.4%和6.9%~14.0%。通过分析来源于7235 和渝棉1 号高强QTL 的染色体分布,表明两亲本在D7、D8、D9 染色体上都存在控制纤维比强度的QTL, 其中存在于D7 和D8 染色体上来自双亲的QTL紧密连锁, 成簇分布在染色体上的一定区间内。而在D7 和D9 染色体上也发现双亲完全相同的优质QTL, 其优质供体可能来自陆地棉优质品系PD4381。进一步分析了获得的QTL 在聚合育种中的应用潜力。
【英文摘要】With the development and application of molecular biology technology in recent years, several genetic maps developedfrom different combinations have been constructed and lots of QTL controlling fiber quality or yield components detected,which makes the breeding procedure more effective, immediate and time-saving. In this paper, both F2 and F2:3 populations wereconstructed using two elite upland cotton (Gossypium hirsutum L.) strains (variety), 7235 and Yumian 1 as parents. Linkageanalysis with SSR molecular markers revealed that 80 loci were mapped into 19 linkage groups that covered 1 147.8 cM geneticdistance. A total of 36 QTLs were detected by composite interval mapping method, including 6 for fiber length, 8 for fiberstrength, 7 for micronaire value, 8 for fiber elongation and 7 for fiber uniformity; and explained 3.4% – 14.4%, 5.0% – 42.4%,6.5% – 11.7%, 5.1% – 19.4%, and 6.9% – 14.0% of the corresponding phenotypic variations, respectively. Analysis of QTL distributionindicated that D7, D8, and D9 chromosomes were enriched with QTLs controlling fiber strength in both parents, among themthose existed in D7 and D8 chromosomes were closely linked and two QTLs controlling fiber strength located respectively in D7and D9 chromosomes were in the complete same position, which could be related with that both 7235 and Yumian 1 bear thepedigree of elite fiber accession PD4381. The utilization potential of the QTL of super quality in the pyramiding breeding wasalso discussed.
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【题目】棉花腺苷高半胱氨酸水解酶cDNA的克隆、表达及染色体定位
【中文关键词】棉花; 腺苷高半胱氨酸水解酶; 克隆; 表达; 定位
【英文关键词】Gossypium hirsutum L.; Adenosyl-homocysteine hydrolase; Cloning; Expression; Localization
【中文摘要】腺苷高半胱氨酸水解酶是调节细胞内甲基反应的一个关键酶。通过对高品质纤维陆地棉品系7235 的棉纤维混合cDNA 文库随机测序, 得到一个棉花腺苷高半胱氨酸水解酶(编号: g073a03a,GhSAHH)的cDNA 序列。该cDNA序列长1

598 bp, 利用5′RACE 技术得到上游318 bp 的片段,序列拼接获得全长为1 916 bp 的cDNA 序列, ORF 为1 458bp, 编码485 个氨基酸, 其理论上的等电点pI=5.69, 分子量MW=53.2 kD。该基因在不同组织、器官中均表达, 在根、下胚轴和纤维发育早期优势表达。根据Southern 杂交结果推测GhSAHH 基因在陆地棉基因组中为单拷贝。利用本实验室陆地棉遗传标准系TM-1 和海岛棉海7124 培育的含140 个单株的BC1 作图群体, 将GhSAHH 基因定位在第20 号染色体上。

【英文摘要】S-adenosyl-L-homocysteine hydrolase (SAHH) is a key enzyme in the regulation of intracellular methylation reactions.Though the SAHH function has already been elucidated in various living creature bodies, it is still not explicit in growth and developmentof cotton fiber. Therefore, research of SAHH may provide effectively basis to clarify the mechanism of cotton growthand development. In this paper, we obtained a full length cDNA fragment of SAHH in cotton and further finished its expression,mapping and Southern blotting analyses. A cDNA clone encoding S-adenosyl-homocysteine hydrolase (Library No. g073a03a,GhSAHH) was isolated from cotton fiber cDNA library of 7235 germplasm line with elite fiber quality in Gossypium hirsutum L.The length of this cDNA clone was 1 598 bp. Further, a 318 bp-long-upstream fragment was obtained via 5′RACE technique. Thefull length of the cDNA clone was 1 916 bp with its open reading frame encoded 485 amino acids. The putative protein of thisgene had an isoelectric point of 5.69 and a calculated molecular weight of 53.2 kD. Judging from its expression characters,GhSAHH is expressed in cotton cells, especially in root, hypocotyl and at early stage of fiber developmental period. Southernblotting analyses showed there was only one copy of GhSAHH in the genome of upland cotton. Using the BC1 mapping populationwith 140 individuals derived from the hybridization between the upland cotton standard line TM-1 and the sea-island cottoncultivar Hai7124, and TM-1 as recurrent parent, GhSAHH was localized on the chromosome 20. We have already constructedplant express vector and RNAi vector of GhSAHH, the transgenic research on cotton is undertaking.

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【学科分类】分子生物学

【题目】亚洲棉纤维品质和产量性状的主基因与多基因遗传分析

【中文关键词】亚洲棉; 纤维品质; 产量; 主基因; 多基因; 遗传

【英文关键词】G ossyp ium arboreum; F iber quality; Y ie ld; M ajor gene; Po lygene; Inheritance

【中文摘要】利用亚洲棉农家品种中长纤维、高强度的江陵中棉和短纤维、低强度的浙江萧山绿树构建的F2 3家系, 利用主基因与多基因混合遗传模型分析方法, 对主要纤维品质和产量性状进行4世代联合分析, 得到有关纤维品质和产量性状的最适遗传模型。除伸长率之外, 长度、马克隆值、比强度、整齐度、短纤维指数均没有检测到主基因; 产量性状中铃重和单株铃数最适遗传模型为两对加性- 显性- 上位性主基因+ 加性- 显性多基因混合遗传模型(E- 1), 衣分的最适遗传模型为两对主基因的加性模型(B- 3), 子指的最适遗传模型为无主基因的加性- 显性- 上位性多基因模型(C), 单株皮棉产量的最适遗传模型为两对加性- 显性- 上位性主基因+ 加性- 显性- 上位性多基因混合遗传模型(E)。利用主基因与多基因混合遗传模型分析方法对亚洲棉纤维品质和产量性状进行遗传分析, 有助于阐明棉花品质和产量性状的遗传规律。

【英文摘要】The method ofma jor gene plus polygenem ixed inheritancemode lw as used to analyze the genet ic o ffiber quality and yie ld tra its in the crosses Jiang lingzhongm ian Zhejiangx iaoshanl shu, wh ich are landrace ofGossypium arboreum L , and one w ith long fiber leng th, h igh fiber strength, and the other w ith short f iber length andlow fiber strength. The analysis ofmultiple generations o fP1, P2, F1 and F2 3 of the crosses show ed the optimum inheritancemodelin six ma jor f iber qua lities and five y ield traits characters. The opt imum inheritancemodels of fiberleng th, fiber streng th, m icronaire, f iber uniform ity and sho rt fiber index are all po lygenes models w ithout ma jorgene; w hile the optimum inher itance models of bo lls per plant and bo ll w eight fit tw o additive-dom inance-epistasisma jo r genes p lus add it ive-dom inance po lygenes (E-1), lint index f its two additivem ajor genes (B-3); seed indexfits the inheritance model of additive-dom inance-epistasis po lygenes (C); lint y ield per p lant fits the inheritancemode l o f two add itive-dom inance-epistasis major genes plus additive-dom inance-epistasis po lygenes(E). Geneticanalysis o f fiber quality and y ield traits w ithmajor gene plus po lygenem ixed inheritancemode l in Gossyp ium arboreumL. w ill help to elucidate the genet icmechanism of co tton fiber and y ield tra its

【语种】中文

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【题目】陆地棉衣分差异群体产量及产量构成因素的QTL标记和定位
【中文关键词】陆地棉; 衣分; 产量性状; 遗传图谱; QT Ls
【英文关键词】upland cot to n; lint percentage; y ield t rait s; genet ic linkage map; QTLs
【中文摘要】以衣分差异较大的陆地棉品种为材料, 构建了包含188 个F2 单株的作图群体, 应用6111 对SSR 引物对亲本进行了分子标记筛选, 结果仅获得了123 个多态性位点, 其中88 个位点构建了总长为666. 7 cM、平均距离为7. 57 cM 的遗传图谱, 覆盖棉花基因组的14. 9%。通过复合区间作图法对F2 单株和F2: 3家系进行QTL 检测, 共鉴定出了18 个控制产量及产量构成因素变异的Q TLs, 包括2 个衣分QT Ls、4 个子棉产量Q TLs、4 个皮棉产量Q TLs、2 个衣指QT Ls、3 个单株铃数Q TLs、2 个铃重QT Ls 和1 个子指Q TL。解释的表型变异分别为6. 9%~ 16. 9%、5 . 6% ~ 16. 2%、4. 8% ~ 15. 6%、7. 7%~ 13. 3%、8 . 2% ~ 11. 6%、6. 1%~ 7%和6. 6%。不同Q TLs 在相同染色体区段上的成簇分布表明与产量性状相关的基因可能紧密连锁或一因多效。产量及产量构成因素Q TLs 的遗传方式主要以显性和超显性效应为主。检测到的主效QTLs 可以用于棉花产量及产量构成因素的分子标记辅助选择。
【英文摘要】A g enetic linkage map w ith 88 loci f rom 6111 pair SSR primers w as const ructed using 188 F2plant s obtained from a cr oss betw een tw o upland co tton cult ivars, w hich differ remarkably in lint percentage and hav e relat ively high levels of DNA mar ker po lymo rphism. T he map covered 666. 7 cMw ith an average distance of 7. 57 cM betw een tw o markers, o r approx imately 14. 9% of the recombination leng th of the cot ton genome. Compo site inter val mapping w as used to ident ify the quantitat iv et rait loci (QT L) in F2 and F2: 3 family lines. Eighteen QTLs for yield and it s components w ere ident-if ied including tw o QT Ls for lint percentage, four Q TLs fo r seed yield, four QT Ls for lint yield, tw oQT Ls for lint index , three QT Ls for bolls per plant , tw o QT Ls fo r bol l size, and one QT L for seedindex. T hese QTLs separ ately ex plained 6. 9% ~ 16. 9%, 5. 6% ~ 16. 2% , 4. 8% ~ 15. 6% , 7. 7% ~13. 3% , 8. 2%~ 11. 6% , 6. 1%~ 7% , and 6. 6% of the phenotypic variance. Different QTLs af fectingy ield t raits w ere detected w ithin the same chromosome region, suggesting that genes co nt ro lling yieldt raits may be linked closely or the result of pleiot ropy. T he QT Ls co nt rol ling y ield and it s component sw ere mainly dominant and overdominant . T he molecular markers linked closely to the major QT Lsmay be used in MAS (marker-assisted selectio n) to impro ve co tton yield and its component s.
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【第一作者】李成奇,
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【中文关键词】棉花; 胚珠; 纤维; 蛋白质; 质谱
【英文关键词】cot to n; ovule; fiber; protein; mass spect rometr y
【中文摘要】以陆地棉T M-1 开花后6 d 的胚珠为对照, 比较开花后6、10、14、18、22 d 纤维的蛋白质组双向电泳图谱, 从中选取了编号为37 的差异表达的蛋白质点。胶内胰蛋白酶酶切的多肽,用AB 4700 蛋白质组学分析仪进行MALDI-TOF/ TOF 分析, 获得了该点内蛋白质的高品质肽质量指纹图谱(PMF) , 从中挑出质量为1517. 9 的肽离子进行串联质谱分析, 获得碰撞后断裂片段离子的串联质谱(FFP) 。将获得的PMF 分别用MASCOT、ProFound、Aldente 和MSFit等常用软件对NCBInr 和UniProt 数据库中的绿色植物蛋白质数据库进行搜索, 并用MASCOT 搜索本地棉属EST 数据库。将获得的FFP 用MASCOT 软件的离子搜索模式和序列查询模式搜索数据库结合手工质谱解析推断序列, 最后确认该蛋白质是羟甲基转移酶。本文着重讨论了蛋白质组学研究中质谱分析和生物信息学软件的应用, 评价常用蛋白质组学PMF 检索工具及其检索结果。

【英文摘要】Using ovules of 6 days postanthesis (DPA) of the upland cot to n cult ivar T M-1 as the contro l, w e compared 2-dimensional electr ophoresis g el prof iles of the proteins f rom the f ibers at 6, 10,14, 18, and 22 DPA, and dug one of the different ial ly ex pr essed spot s of NO37 to digest-in-gel withtr ypsin, and subjected the recovered pept ides to AB4700 Proteomics Analyzer for MA LDI-TOF/ T OFmass spect rometry (MS) analy sis. We obtained a pept ide mass fingerprint (PMF) of hig h quality, accordingto the peak abundance and quality of this PMF, w e selected a peptide peak w ith mass of1517. 9 for tandem MS (MS/ MS) analysis, and acquired a fragment f ingerprint (FFP) in high quality.The PMF w as used to search against NCBInr viridiplantae protein database w ith MASCOT , Pro-Found, and MS-Fit engines, and ag ainst UniPro t v iridiplantae pro tein database w ith A ldente program, respectiv ely , this PMF w as also searched against a local Gossy p ium EST database dow nlo adedfrom N CBInr w ith MASCOT in-house versio n. Furthermore, the MS/ MS data w ere used to sear chNCBInr viridiplantae protein database w ith MASCOT in io n search and sequence query mode respectively, follow ed by manual MS interpr etatio n for de novo sequencing. T he protein in No 37 spot w as -ident ified as hydroxmethy lt ransferase. In this paper w e focus our discussion on MS analy sis and theapplication of bio informat ic to ols, w e also prov ide our comments on the typical PMF alignment toolsin pro teomics and their searching r esult s.

【语种】中文

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【学科分类】分子生物学

【题目】棉花6个小分子质量热激蛋白基因的序列、表达与定位

【中文关键词】棉花; 小分子质量热激蛋白; 表达; 基因定位

【英文关键词】Cotton; Low-molecular-weight heat-shock protein; Expression; Gene mapping

【中文摘要】利用棉花纤维cDNA 文库, 分离到6 个小分子质量的热激蛋白基因。序列结构分析发现, 它们分别属于3种不同类型的小热激蛋白。RT-PCR 分析表明, 它们在棉花体内具有不同的转录表达特征, 可能行使不同的功能, 它们的转录与棉花特定的发育阶段相关, 线粒体小热激蛋白和细胞质I 类小热激蛋白基因受纤维启始和分化的调控,而细胞质II 类小热激蛋白与棉花叶片的生长发育相关。利用本实验室的四倍体棉花遗传图谱, 对这6 个小热激蛋白基因进行定位, 其中3 个被定位在A4、D8 和A6 染色体上。

【英文摘要】Heat-shock proteins (HSPs), known as stress proteins, are created when cells are exposed to elevated temperatures, orto other kinds of environmental stress. Although HSPs were first characterized because their expression increased in response toelevated temperature, some of them are found in normal, nonstressed cells. HSPs have many biochemical functions in cell metabolismduring plant developmental process. The objective of the study was to isolate low-molecular-weight HSP genes, furtherput a foundation to illustrate them function in cotton fiber developmental stages. Six low-molecular-weight HSP genes were isolatedfrom cotton fiber cDNA library. Sequence analysis showed that they belong to three different types of low-molecular-weightHSP. RT-PCR analysis revealed that they exhibit different transcripional profile in cotton. The mitochondrial and cytoplasmic IHSP genes were regulateded by the fiber initiation; however, cytoplasmic II HSP genes were more closely correlated with thegrowth and development of cotton leaf. Using genetic map of the tetraploid cotton constructed by our laboratory, three of thesegenes, LMWHSP1, LMWHSP2, and LMWHSP3, were mapped on the cotton chromosomes A4, D8, and A6, respectively.

【语种】中文

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【题目】与棉纤维发育相关基因GhSAMS、GhNLP的克隆、鉴定与定位

【中文关键词】:陆地棉;基因芯片;S-腺苷甲硫氨酸合成酶;结瘤素
【英文关键词】Gossypium hirsutum; Genechips; S-adenosylmethionine synthetase; Nodulin
【中文摘要】:【目的】克隆陆地棉纤维伸长发育相关的基因,并做初步功能验证。【方法】以陆地棉李氏超短纤维突变体Li1li1 自交后代野生型li1li1 和超短纤维突变体Li1li1 开花后4 d 的胚珠纤维复合体为探针,通过基因芯片筛选优质材料7235 棉纤维伸长、次生壁加厚不同发育时期混合cDNA 文库,分离出两个在两种材料中差异表达的cDNA序列。【结果】测序结果表明,两个cDNA 均为完整的基因序列,分别命名为GhSAMS(GenBank 登录号:EF643509),GhNLP(GenBank 登录号:EF643508)。RT-PCR 分析表明:开花后4 d,GhSAMS、GhNLP 在陆地棉李氏野生型li1li1纤维中的表达量低于无纤维突变Li1li1。Southern 杂交结果表明两个基因在陆地棉基因组中都存在少数拷贝。利用本实验室陆地棉遗传标准系TM-1 和海岛棉海7124 培育的140 个BC1 作图群体,将GhSAMS 和GhNLP 分别定位在染色体14(D2)和19(D5)上。【结论】克隆了两个棉纤维伸长发育相关基因GhSAMS 和GhNLP,推测其高表达阻止纤维伸长生长,为进一步分析功能和用于分子育种打下基础。
【英文摘要】【Objective】The objective of this study was to clone new genes related with fiber development in upland cotton.【Method】Genechips were performed with wild line li1li1 and the Ligon lintless mutant line Li1li1 segregated from the self-crossingprogenies of the Ligon lintless mutant line Li1 to isolated genes preferentially expressed during elongating for providing themechanism of cotton fiber rapid elongation. Two cDNA clones differently expressed were separated from cotton fiber library of elitequality material 7235 during fiber elongation and the second wall synthesis by genechips with probes of the 4 DPA ovule-fibercompound from the wild line li1li1 and the Ligon lintless mutant line Li1li1.【Result】RT-PCR analysis indicated that the expressionquantity of two genes which named GhSAMS (GenBank accession: EF643509) and GhNLP (GenBank accession: EF643508) wereless in the wild line li1li1 than that in the Ligon lintless mutant line Li1li1 at 4 DPA. The result of Southern blotting indicated that thereare a few copies of both genes in the genome of upland cotton. The authors used the BC1 mapping population derived from thehybridization between the upland cultivar TM-1 and the island cultivar Hai7124, further TM-1 as recurrent parent. GhSAMS andGhNLP were localized on the chromosome D2 and D5, respectively.【Conclusion】 Two genes related with fiber development inupland cotton were cloned and characterizated with trancription level, genomic copies and genetic location. Future studies includinganalyses of these proteins function may shed light on the puzzles about the mechanism of cell elongation and excellent qualityformation for cotton fibers.
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【题目】兔角蛋白基因转化棉花及其纤维品质的改良
【中文关键词】棉花　　转基因　　兔角蛋白基因　　纤维品质
【英文关键词】Cotton, T ransgene, R abb it keratin gene, F iber quality
【中文摘要】利用农杆菌介导转化法, 将棉纤维特异表达启动子GAE 6- 3A 驱动的兔角蛋白基因(KAP) 转入常规棉花冀合713　　中。PCR及Sou thern杂交分析表明, 兔角蛋白基因已整合进棉花基因组。6 个转基因株系中,4个为单拷贝插入, 转基因后代的分离符合孟德尔3　　1的1对基因的分离规律, 外源基因在这些转基因后代中能稳定遗传。对这4个转基因株系T3 代纤维检测结果表明, 兔角蛋白基因对棉花纤维品质的影响主要是纤维强度的提高, 其中3个株系纤维强度提高率达10% 以上。
【英文摘要】ThroughAgrobacterium-mediated transformation, a rabb it keratin gene dr iven by a fiber-specific promoterGAE6-3A,was in troduced in to up land cotton cu ltivar　　Jihe 713　　. PCR analys is and Southern bolt ind icate integration of exogenous rabb itkeratin gene into　　J ihe 713　　genome. The inserted exogenous gene aremono-cop ies in fou r of the six cases, and the separation oftransgen ic p rogen ies of the four lines follow Mendelian pattern of 3　　1 in the inheritance of one pair of genes. The foreign gene canbe inherited stab ly through res istance screening by generation. Analyses of fiber quality trait show that the main function of rabb itkeratin gene is enhancement of fiber strength. F iber strength of all the fou r transgen ic lines increases sign ificantly compared w iththe contro,l w ith incremental ratio of the th ree lines su rpassing 10% .
【语种】中文

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【题目】棉花纤维发育的分子机理及品质改良研究进展
【中文关键词】棉花; 纤维发育; 分子机理; 品质改良
【英文关键词】cot ton; f iber dev elo pment ; mo lecular mechanism; quality impro vement
【中文摘要】棉花纤维细胞的分化与发育是一个复杂有序的过程, 在不同的发育时期均有大量的基因表达, 参与纤维细胞发育的调控。转录因子和植物激素在棉纤维细胞分化起始过程中起重要的作用。纤维细胞壁结构、细胞骨架和糖类、脂类代谢相关的基因以及激素信号分子与纤维细胞的伸长密切相关。棉纤维次生壁合成时期主要是纤维素的合成及沉积过程, 蔗糖合成酶和纤维素合成酶等基因在这一时期起关键的调节作用。在棉纤维发育分子生物学研究的基础上, 利用基因工程改良棉花纤维品质也取得了一些研究进展。
【英文摘要】Co t to n fiber development usually consist s of four overlapping stag es: f iber init iat ion, cel l e long ation, seco ndar y cell w all fo rmat io n, and maturat ion. Fiber length and st reng th are bo th keytr ait s of it s quality, and mainly depends o n tw o biolog ical pro cesses: fiber elongat ion, secondary cellw al l format ion, respect ively. T ranscript io n factors and plant hormone play very impor tant roles in thestage of f iber differ ent iat ion and init iat io n. The R2R3 MYB t ranscription factor GaMYB 2 and WRKYtr anscript ion factors G hT TG 1, GhTT G3, have been demonst rated play ing significant roles in cont ro lcell fate determinat io n. T he g enes encoding predicted proteins inv olved in aux in, brassinosteriod(BR) , g ibberellin acid (GA) , abscisis acid (ABA) and ethylene signaling pathw ay are up reg ulated inthe period of f iber cell init iat io n. During f iber cell elongat io n period, many genes that represent threemajors funct ional g roups, including: cell w all st ructure and bio genesis, cytoskeleton, lipid and carbo hy drate metabolism, show higher ex pression level. Plant hormones also play some regulato ry r oles incot ton f iber elongat io n. BR and ethylene can promo te the f iber cell elongat io n in v it ro cultur e. T he in it iatio n and rapid elongat ion of f iber r equires the expression of sucrose synthase (SuSy) , suppr essionof this g ene repr esses fiber and seed dev elo pment. Cellulose synthesis is a predominant event in f ibercells during in the seco ndar y cell w all synthesis stage, cel lulose sy nthase genes and SuSy are key regu latory and play sig nif icant ro le in this per io d. Based on the research of cot ton fiber dev elo pment at mo lecular level, impr ovement of f iber quality through genet ic engineering has made some pr ogress. Fo rinstance, over producing spinach sucro se pho sphate sy nthase to enhance f iber quality; t ransformingthe acsA and acsB genes from A cetobact er x y l inum, w hich are involved in cellulose synthesis, intocot ton to improve the cot ton fiber st reng th, etc. Color is also a main t rait of cot ton f iber and somepro gress has been made in produce color fiber through g enetic engineering .
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【第一作者】上官小霞
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【题目】海岛棉遗传多样性的SRAP标记分析
【中文关键词】海岛棉; SRAP; 遗传多样性
【英文关键词】Sea-island cotton; SRAP; Genetic diversity
【中文摘要】利用SRAP 标记, 选用132 对带型清晰的多态性引物, 对我国引入海岛棉以来培育的36 个国内品种及20 个国外品种进行遗传多样性分析。共检测到419 个多态性位点, 每组合的多态性条带数从2~9 不等, 平均为3.17。利用NTSYS-pc 2.10e 软件采用Jaccard ’s 相似系数和UPGMA 方法进行聚类分析。结果表明, 大部分具有亲缘关系的品种聚在同类中, 说明其结果与系谱具有一定的相符性; 56 个品种的平均遗传相似系数为0.497, 变化范围在0.312~0.876之间, 说明我国海岛棉品种在分子水平上存在较大差异; 我国3 个育种时期育成品种的平均相似系数依次为0.501、0.507 和0.548, 表明我国现在育

成的品种相对于早期品种遗传多样性在逐渐降低。这些结果为我国海岛棉育种提供了有益的参考。
【英文摘要】Sea-island cotton (Gossypium barbadense) is important due to its fine fiber quality. However, genetic diversity analysisof this specie is still poorly documented, which is important for in situ and ex situ germplasm conservation and useful forbreeding programs. Using 132 out of 238 SRAP markers, genetic diversity of 56 sea-island cotton cultivars including 20 introducedfrom other countries was assessed, 419 polymorphism loci were detected. The number of polymorphic loci per primerranged from 2 to 9 with an average of 3.17. Jaccard ’s genetic similarity coefficients were calculated and dendrograms were constructedby the unweighted pair group method of arithmetic average (UPGMA) using the NTSYS-pc version 2.10. The most of theaccessions with relative relationship in their pedigrees were clustered into the same group. The genetic similarity coefficient of 56accessions ranged from 0.312 to 0.876, with an average of 0.497, indicating that there was high level of genetic variation in the G.barbadense collections. The average genetic similarity coefficients of the domestic accessions in the first, second and third breedingperiods were 0.501, 0.507, and 0.548, respectively, which implied that the genomic difference among the modern accessionshas been gradually decreasing compared to that among the early accessions. These results suggest an overview of the genetic diversityof the sea-island cotton accessions, and provide a reference for breeders to develop new cultivars efficiently.
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【通讯作者】林忠旭
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【题目】棉花杂交授粉液的研制及其应用
【中文关键词】棉花; 授粉液; 研制; 杂交制种; 应用
【英文关键词】无
【中文摘要】为了提高棉花杂交制种效率, 我们试图研制出一种棉花杂交授粉液, 发展棉花机械化授粉。在改良1/2MS 无机盐基液中, 研究蔗糖、硼酸、GA3 对促进棉花花粉萌发的影响。找到了最适合花粉萌发的棉花授粉液: 改良1/2MS 无机盐基液+40%蔗糖+100 μg/ml 硼酸+2 μg/mlGA3。通过田间验证, 用此授粉液授粉结铃率同新鲜花粉, 但结实率较新鲜花粉偏低。棉花花粉目前在授粉液中能保持2~2.5h 最好活力状态。
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【语种】中文
【第一作者】吕淑平
【通讯作者】谢德意
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【题目】陆 地棉产量相关性状的QTL定位
【中文关键词】棉花; 产量性状; QTL 定位
【英文关键词】Upland cotton; Yield traits; QTL mapping
【中文摘要】中棉所28 和湘杂棉2 号分别是以中棉所12×4133 和中棉所12×8891 配制而成的两个陆地棉强优势杂交种。以其F2 为作图群体, 筛选6 000 多对SSR 引物, 利用两群体间27 个共有多态位点, 通过JoinMap 3.0 软件整合了一张包含245 个多态位点、全长1 847.81 cM 的遗传图谱。利用Win QTLCart 2.5 复合区间作图法分别对两群体8 个产量相关性状在F2 和F2:3 中进行QTL 定位, 在中棉所28 群体多环境平均值的联合分析中检测到16 个QTL, 三环境分离分析中检测到43 个QTL; 在湘杂棉2 号群体分别检测到20 个和66 个QTL。在A3、D8、D9 等染色体上有QTL 成簇分布现象, 同时在两个群体中发现一些不受环境影响且稳定遗传的QTL。对考察的8 个性状在两个群体中发现12 对共有QTL, 控制果枝数、衣分和籽指的QTL 增效基因位点均来源于共同亲本中棉所12。综合分析推测中棉所12 的育种价值主要是通过提高后代的结铃性来实现的。研究结果为棉花产量性状的分子设计育种提供了有用的信息。

【英文摘要】As a major source of fiber and the world ’ s second-most important oil-seed crop after soybean, cotton plays an importantrole in the global economy. With the development of textile technology and social demand, it is urgent to breed and plant cottonvarieties with high yield and super fiber quality. If the marker tightly linked with major gene controlling desired traits was identified,the efficiency of selection for agronomic traits might improve greatly. To date, high-identity genetic linkage map derivedfrom upland cotton cultivars was lack because of their narrow genetic basis. Increasing the map density and tagging QTLs relatedwith agronomic traits in Upland cotton will accelerate the process of marker assisted selection (MAS) breeding. CRI28 and XZM2 are two cotton hybrids with high heterosis, which were bred by crossing CRI12, 4133, and 8891, respectively, with CRI12 asmutual parent. In this paper, two F2 mapping populations were respectively assembled by using the parents of CRI28 hybrid(CRI12 and 4133, their corresponding population named as Pop1) and the parents of XZM 2 hybrid (CRI12 and 8891, their correspondingpopulation named as Pop2), further, a joinmap linkage map which contained 245 loci and covered 1 847.81 cM wasintegrated with 27 mutual polymorphic loci in the two mapping populations by JOINMAP 3.0 software, after screening about6 000 SSR primers. By the composite interval mapping method (CIM), the QTLs for eight yield-related traits in F2 and F3 populationswere mapped. Of them, 43 QTLs were identified in the three environments by separating analysis and 16 QTLs by the jointanalysis in Pop1; similarly, 66 and 20 QTLs in Pop2 respectively. Some QTLs on chromosome A3, D8, and D9, and some stableQTLs not influenced by environment were also detected. Twelve QTLs for eight traits could be found simultaneously in the twopopulations, and additive QTLs for fruit branches per plant, lint percentage and seed index all were offered by CRI12, suggestingthat the value of CRI12 in breeding is mostly contributed by increasing the offspring ’ s bolls. These results will provide very importantinformation in Upland cotton breeding for yield by MAS.
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【题目】棉花新品种银山7号适密度及施氮量研究
【中文关键词】棉花; 品种; 银山7 号; 密度; 施氮量
【英文关键词】无
【中文摘要】对棉花新品种银山7 号的适宜种植密度及施氮量进行了研究, 结果表明: 在中等肥力水平下, 银山7 号棉花新品种最适种植密度为5. 1 万株/ hm2。在此密度条件下, 施纯氮337. 5 kg/ hm2或施鸡粪1 500. 0 kg / hm2+ 纯氮225. 0 kg/ hm2更有利于发挥银山7 号的增产潜力。
【英文摘要】无
【语种】中文
【第一作者】唐中杰
【通讯作者】谢德意
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【题目】新 疆棉花纤维品质性状的QTL分析
【中文关键词】陆地棉; 纤维品质; SSR; QT L
【英文关键词】upland cot ton; fiber quality; SSR; QT L
【中文摘要】以自育高品质中长绒棉品种(新陆中9 号提高系) 9-1696 为母本, 与主栽品种中棉所35为父本配置单交组合, 筛选出12 对SSR 引物在F2 群体和B1 群体进行纤维长度、整齐度、比强度和伸长率4 个纤维品质性状的Q TL 分析, 采用区间作图法(LOD> 2. 0) , 在F2 群体中检测到6 个与纤维品质性状连锁的QT L 位点。其中, 检测到纤维长度、纤维整齐度、伸长率各1个QTL 位点, 比强度检测到3 个QT L。在B1 群体中检测到2 个QT L, 分别与比强度和纤维长度连锁。

【英文摘要】T he parent s used ar e 9-1696 and CCRI 35, that 9-1696 is high quality mid-length fiber cotton by ow er-breeding and CCRI 35 is major- plant in Xinjiang. Based on the cross and 12 SSR makersinformat ion of 180 plant s o f F2 populat ion and 135 plant s o f B1 populat ion, the inheritance of 4 f iberquality t rait s w ere studied by the methods of QTLs . The major result s are as fo llow s: Six QTLs w eredetected and linked to four f iber quality t raits by using F2 populat io n and interv al mapping method (atthe level of LOD> 2) . One Q TL w as linked to Fiber length; three QTLs were linked to st reng th; o neQTL was linked to uniformity, one QTL w as linked to elongat io n. T w o QTLs w ere ident ified basedon B1 populat ion, and linked to f iber length and st reng th respectively.
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【第一作者】艾先涛
【通讯作者】艾先涛
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【题目】南 疆棉花主栽品种优势研究
【中文关键词】南疆棉区; 棉花; 品种; 优势; 筛选
【英文关键词】无
【中文摘要】2 。。8 年以南疆生产上主要种植的9 个棉花品种进行比较试验, 进行生育进程、营养器官和生殖器官的发育动态、生理指标、蕾铃脱落等动态量化指标的研究, 目的是筛选适宜南疆棉区种植的棉花优势品种, 为生产推荐高产、优质、抗病品种。研究结果表明: 4 个棉花新品种在生育期、农艺性状、经济性状、产量、纤维品质和抗病性等方面都优于其它材料。这为推荐南疆棉区示范推广种植提供了理论依据。
【英文摘要】无
【语种】中文
【第一作者】买买提 · 莫明
【通讯作者】,艾先涛
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【题目】陆地棉产量、品质相关性状主效QTL和上位性互作分析
【中文关键词】陆地棉;产量;纤维品质;主效QTL;上位性
【英文关键词】upland cotton; yield; fiber quality; major QTL; epistasis
【中文摘要】:【目的】为了能够较为全面地了解陆地棉产量和纤维品质相关性状的遗传基础,利用包含471 个标记、总长3 070.2 cM、覆盖棉花基因组65.88%左右的遗传图谱对其进行主效QTL 定位和上位性互作分析。【方法】以DH962×冀棉5 号的F2:3 家系为分析群体,用WinQTLCartV2.5 进行复合区间作图定位主效QTL,利用EPISTACY 软件对共显性标记进行两位点的上位性互作分析。【结果】共检测到9 个与产量相关性状的主效QTL,和5 个与纤维品质相关性状的主效QTL,整齐度和比强度在显著LOD 阈值下没有检测到相关QTL。共检测到75 对互作位点,大多数互作属于非QTL 位点与非QTL 位点之间的互作,互作类型以加性显性互作和显性加性互作为主。所涉及的性状中,影响衣分和纤维长度的互作位点最多,单株铃数和衣指的最少。在LG1 上检测到1 个同时控制单株籽棉重、单株皮棉重和籽指主效QTL。在两位点的互作对中也发现了同时影响单株籽棉重、单株皮棉重和马克隆值的互作位点1 对,同时影响衣分和纤维长度的互作位点4 对。【结论】除了主效QTL 外,上位性是陆地棉产量和纤维品质性状的重要遗传基础。主效QTL 的效应小和上位性互作将会使得棉花分子标记辅助育种更加困难和复杂。表型相关的性状是由相同的QTL/互作位点所控制,这有助于多个性状的同时选择。
【英文摘要】【Objective】 The aim of this investigation was to better understand the genetic base of yield and fiber quality traitsin upland cotton. Major quantitative trait loci (QTL) associated with yield and fiber quality and epistasis interaction in controllingthese traits were mapped using a genetic linkage map which comprised 471 loci, spanned 3 070.2 cM and covered 65.88% of thewhole cotton genome. 【Method】 An F2:3 population from DH962 × Jimian5 was used to evaluate yield and fiber quality. MajorQTLs were identified by composite interval mapping method on WinQTLCartV2.5. Two-way digenic interactions analysis wasconducted using

EPISTACY. 【Result】 Nine major QTLs were detected for six yield traits and five for fiber quality traits. No QTLswere detected for fiber uniformity ratio and fiber strength under the significant threshold LOD scores. A total of 75 significantdigenic interactions were detected, most of them were non-QTL × non-QTL interaction; most of the interaction types were additive ×dominance interaction and dominance × additive interaction. Many digenic interactions were detected for lint percentage and fiberlength, and only few for boll number and lint index. One common major QTL for SCW, LW and SI was detected on LG1. Commondigenic interactions were also found for some correlated traits: one for SCW, LW and MV; four for LP and FL. 【Conclusion】 Except for major QTLs, epistasis played an important role in the genetic basis of yield and fiber traits in upland cotton. The loweffect of major QTLs and the digenic interactions will make it more difficult and more complex for maker-assisted selection in cottonbreeding. Correlated traits were controlled by same QTLs/digenic interactions, which will be helpful to select these traits simultaneously.
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【第一作者】林忠旭
【通讯作者】张献龙
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【题目】棉花细胞初始脱分化的基因差异表达分析。
【中文关键词】棉花
脯氨酸丰富蛋白
SAM-dependent转甲基
抑制差减杂交
细胞脱分化
【英文关键词】无
【中文摘要】植物激素诱导初期是体细胞胚胎发生的关键时期, 它包含了一个通过细胞脱分化获得细胞全能性的过程. 为了揭示棉花细胞脱分化的分子机制, 利用抑制差减杂交方法建立了一个cDNA文库. 共有286个差异表达的cDNA克隆测序并鉴定, 112个独立的EST在激素诱导初期明显地上调表达, 其中有40.2%的EST是第一次被分离鉴定. GST在植物激素诱导初期的6~24 h高度表达, PRPs在不同的处理中优势表达并表现出不同的表达模式, 表明它们与棉花细胞脱分化关系密切. 棉花SAM代谢途径中假定的GhSAMS, GhSAMDC, GhSAHH和GhACO3被鉴定, qRT-PCR分析表明, 它们的表达水平在激素诱导初期出现两次明显的上升/下降过程, 且GhSAMS和GhSAHH表现出高度正相关, 高表达水平的GhSAMS可能与脱分化细胞重新进入细胞周期密切相关. 组织形态学观察进一步表明, 2,4-D处理条件下的部分细胞在72 h内完成脱分化和分裂过程, SAM-dependent转甲基途径可能通过两次转甲基活性的改变调控棉花细胞脱分化过程. 此外, 差异表达基因在不同处理中的表达模式表明了2,4-D和激动素之间存在着复杂互作关系.
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【语种】中文
【第一作者】朱华国
【通讯作者】张献龙
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【题目】草棉EST-SSRs的遗传评价
【中文关键词】草棉; 表达序列标签; 简单序列重复; 多态性信息含量; 遗传作图
【英文关键词】Gossypium herbaceum; EST; SSR; Polymorphism information content (PIC); Genetic map
【中文摘要】根据GenBank 中公布的247 条草棉EST 序列, 搜索SSR 并进行引物设计。其中的25 条序列含有27 个SSR,1~6 碱基重复类型都存在, 二碱基和三碱基重复的频率较高。为了明确在A、D 和AD 基因组中的可转移性, 依据25条序列共设计25 对EST-SSR 引物, 其中22 对引物扩增出清晰可辨的DNA 条带, 产生92 个多态性片段, 平均每对引物产生3.64 个多态性

片段。引物的多态性信息含量(PIC)在0.49~0.91 之间, 平均为0.81。6 对引物在BC1 种间作图群体[(鄂棉22 × Pima3-79) ×鄂棉22]中表现多态性, 产生7 个多态性位点, 其中5 个为共显性, 2 个为显性。除HAU230b 标记在BC1 分离群体中不符合孟德尔式分离比例, 其余引物表现正常分离。6 个位点被整合到陆地棉和海岛棉种间BC1 遗传连锁图谱上的6 条染色体: 有4 个位于A 亚基因组的4 条染色体上(Chr.6、10、11 和12), 2 个位于D 亚基因组的2 条染色体(Chr.19 和20)。

【英文摘要】Gossypium herbaceum (A genome) is generally regarded as the most closely relative of the progenitor at subgenomesof allotetraploid cotton, of which the evolution is necessary to study. In order to investigate the contribution of G. herbaceum tothe tetraploid genome, EST-SSRs were isolated from 247 EST sequences of G. herbaceum documented in GenBank.Twenty-seven perfect SSRs were identified from twenty-five unique ESTs. These SSRs contained 1 − 6 bp nucleotide motifs withhigh frequency for 2-bp and 3-bp nucleotide motifs. A total of 25 primers were developed and 22 of them could amplify 24 cottonaccessions including 7 diploids of A genome, 11 diploids of D genome and 6 allotetraploids of AD genome; only HAU217 couldspecifically amplified A genome and the other 21 primers could amplified both A and D genomes. The number of polymorphicfragments generated by each primer ranged from 1 to 9 with an average of 3.64. The PIC values ranged from 0.49 to 0.91 with anaverage of 0.81. Among the 25 EST-SSR primers, six primers revealed polymorphism between Emian 22 and Pima 3-79, andyielded seven polymorphic loci (five were codominant and two dominant) in the BC1 [(Emian22 × Pima3-79) × Emian22] population.Only HAU230b showed distorted segregation in the BC1 population. Six polymorphic loci were integrated into six chromosomesof our interspecific BC1 backbone genetic linkage map among which, four loci were mapped on four chromosomes of Asub-genome (Chr. 6, 10, 11, 12), and two loci on two chromosomes of D sub-genome (Chr. 19 and 20).

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【题目】海岛棉EST-SSR引物的开发与应用研究

【中文关键词】海岛棉 表达序列标签(EST) 简单序列重复(SSR) 遗传多样性 遗传连锁图

【英文关键词】无

【中文摘要】现有的棉花EST-SSR 引物大都开发于中棉和陆地棉, 尚没有海岛棉EST-SSR 开发研究的报道.本研究从实验室构建的海岛棉纤维发育的cDNA 文库中先取98 条EST 序列设计了119 对EST-SSR 引物. 在这些SSR 中, 三核苷酸重复基序AAG 含量最为丰富, 达11.76%. 用36 份材料(13 份A 基因组二倍体材料, 11 份D 基因组二倍体材料和12 份AD 基因组异源四倍体材料)评价新EST-SSR 引物, 119 对引物中有76 对成功扩增, 共产生313 条多态性条带, 平均每对引物产生4.11 条. 这些引物的多态性信息含量(PIC)变化在0.17~0.95 之间, 平均0.53. 根据Jaccard ’ s 遗传相似系数对所用36 份材料进行了聚类分析, 聚类结果为3 大类, 分别为A 基因组材料、D 基因组材料和AD 基因组材料. 此外, 有21 对引物在本实验室的种间回交群体((鄂棉22 × Pima3-79) × 鄂棉22) DNA 中表现多态性扩增, 产生24 个多态性位点, 其中22 个被锚定于该遗传连锁图的12 条染色体. 本研究不仅详细地概括了这批新的EST-SSR 引物的特征, 而且有力地证明了其在遗传多样性分析及遗传连锁图构建方面的应用价值.

【英文摘要】无

【语种】中文

【第一作者】张艳欣

【通讯作者】张献龙

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【学科分类】分子生物学

【题目】陆地棉遗传图谱构建及产量和纤维品质性状QTL定位

【中文关键词】陆地棉; 遗传连锁图谱; 产量; 纤维品质; QTL
【英文关键词】Upland cotton; Genetic linkage map; Yield; Fiber quality; QTL
【中文摘要】利用3 458 对SSR 引物筛选陆地棉中棉所35 和渝棉1 号间的多态性引物, 获得173 对。以多态性引物检测(渝棉1 号×中棉所35)F2 群体180 个单株的标记基因型, 共获得178 个标记位点。构建的遗传连锁图谱包括148 个标记, 36 个连锁群, 总长1 309.2 cM, 标记间平均距离8.8 cM, 覆盖棉花基因组的29.5%。36 个连锁群中的28 个分别被定位于20 条染色体, 8 个连锁群未定位于染色体。以渝棉1 号×中棉所35 的F2、F2:3 群体的产量、纤维品质性状鉴定结果, 利用区间作图方法, 检测到4 个产量性状QTL, 即2 个衣分(LP)、1 个铃重(BW)、1 个籽指(SD); 5 个纤维品质性状QTL, 即1 个纤维长度(FL)、2 个纤维比强度(FS)和2 个纤维细度(FF)。LP1、BW、SD、FL 和FS1 被定位于第7 染色体, LP2、FS2、FF1 和FF2 被分别位于第15、21、9 和20 染色体。5 个纤维品质QTL 的有利等位基因均来源于渝棉1 号。
【英文摘要】Cotton is the world ’s most important natural textile fiber. With the changes in spinning technology, the improvementof cotton fiber quality is becoming extremely important. The combination of conventional breeding techniques with MAS (molecular-assisted selection) will become a basic approach for cotton fiber improvement. In the present study, 3 458 SSR primerpairs were used to screen the polymorphic primers between Zhong 35 and Yumian 1, and 173 polymorphic primer pairs were obtained.The polymorphic primer pairs were used to genotype the 180 individual plants of F2 population derived from (Zhong 35 ×Yumian 1), and 178 loci were obtained. A genetic linkage map with 148 SSR loci and 36 linkage groups was constructed, and thelinkage map covered a whole length of 1 309.2 cM with an average interval of 8.8 cM between two markers, accounting for29.5% of the cotton genome. 28 out of 36 linkage groups were located on 20 chromosomes, and 8 linkage groups were not locatedon any chromosomes. The data of yield and fiber qualities of the 180 F2 plants and F2:3 family lines were used to detect QTLs byinterval mapping, and 9 QTLs controlling yield and fiber quality were identified, including two QTLs for lint percent (LP), one forboll weight (BW), one for seed index (SD), one for fiber length (FL), two for fiber strength (FS), and two for fiber fineness (FF). Thefive QTLs, LP1, BW, SD, FL, and FS1, were located on chromosome 7, and the other four QTLs, LP2, FS2, FF1, and FF2, on chromosome15, 21, 9, and 20, respectively. The favorable alleles of all five QTLs for fiber qualities originated from Yumian 1.
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【第一作者】陈利
【通讯作者】张正圣
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【题目】近红外反射光谱法(NIRS)测定棉仁粉中蛋白质和棉酚含量的研究
【中文关键词】近红外反射光谱(NIRS) ; 棉仁粉; 棉酚含量; 蛋白质含量
【英文关键词】无
【中文摘要】选用49 份不同蛋白质和棉酚含量的陆地棉种质资源和188 份陆地棉重组近交系为材料, 以多年份、多地点种植收获的种子材料组成原始样品集, 分别对棉仁粉中蛋白质含量和棉酚含量进行化学测定, 采用改进的偏最小二乘法(M odified PLS) 和(2, 4, 4, 1) 的数学转换方法建立近红外反射光谱(NIRS) 定标模型, 以寻找棉籽蛋白质含量和棉酚含量的快速测定方法。结果表明, 蛋白质含量的定标决定系数(RSQ=0 933) 和交叉检验决定系数(1-VR= 0 929) 较高, 定标标准误差(SEC= 0 623) 和交互校验标准误差(SECV= 0 638) 较小, 预测模型的建模效果较好, 可替代化学分析。棉酚含量预测模型的RSQ, 1-VR, SEC 和SECV 分别为0 836, 0 811, 0 074 和0 079, 模型预测效果略差于蛋白质模型, 但仍可用于棉仁粉中棉酚含量的测定。
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【语种】中文
【第一作者】秦 利
【通讯作者】祝水金
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【学科分类】分子生物学

【题目】扩增共有序列遗传标记(ACGM)及其在植物中的应用价值
【中文关键词】ACGM; 基因组进化; 基因定位
【英文关键词】amplified consensus genetic markers (ACGM); genome evolution; gene mapping
【中文摘要】扩增共有序列遗传标记(Amplified consensus genetic markers, ACGM)是建立在亲缘关系较近的物种间同源基因中编码序列(外显子)存在高度保守性, 而非编码区(内含子)存在潜在多态性基础之上的一种基于PCR的新型DNA分子标记技术。随着比较基因组学和生物信息学的迅猛发展, ACGM技术已成为物种间同源基因比较、系统发生关系分析和感兴趣基因定位的有效工具。文章就ACGM技术尤其是它在芸薹属和禾本科物种中的应用研究做详细介绍。同时, 对ACGM技术可能的应用前景进行了展望。
【英文摘要】Amplified consensus genetic markers (ACGM) is a novel PCR-based DNA molecular marker technique, which is based on the conservation of coding sequences and the potential polymorphism within non-coding sequences in homolo-gous genes among closely related species. Along with the rapid development of comparative genomics and bioinformatics, the ACGM technique has already become a powerful tool for comparing homologous genes, analyzing phylogenetic rela-tionships among species, and mapping of genes of interest. Here, an introduction to ACGM technique, especially its appli-cation in Brassica genera and Gramineae, was presented in detail. The prospects of ACGM were also discussed.
【语种】中文
【第一作者】何俊平
【通讯作者】祝水金
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【学科分类】分子生物学

【题目】转基因抗虫棉种子品质性状的遗传效应及相关性分析
【中文关键词】陆地棉 种子品质性状 遗传效应 遗传率 遗传相关分析 转基因抗虫棉 蛋白质含量 油分含量 棉酚含量 相关性分析
【英文关键词】无
【中文摘要】采用二倍体种子数量性状遗传模型和统计分析方法,分析了陆地棉9个亲本和30个杂交组合的子指、种仁率、仁壳比、蛋白质含量、油分含量和棉酚含量等种子物理性状和营养品质性状的遗传效应、遗传率和遗传相关性。结果表明,所有棉子品质性状均受种子直接遗传效应和母体遗传效应的共同控制,种仁率还受到细胞质效应的影响。子指和仁壳比以母体显性效应为主,蛋白质含量以显性效应为主,油分含量和棉酚含量以母体加性效应为主。遗传相关性分析表明,棉子物理性状和营养品质性状间的显性遗传相关均达到极显著水平,其中子指与蛋白质含量呈极显著显性正相关,子指与油分含量和棉酚含量呈显性负相关。种仁率和仁壳比与3个棉子营养品质性状间的母体遗传相关均达到了极显著水平。
【英文摘要】无
【语种】中文
【第一作者】秦利
【通讯作者】祝水金
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【学科分类】分子生物学

【题目】不同凝固剂对陆地棉体细胞胚胎发生和植株再生的影响
【中文关键词】陆地棉;体细胞培养;凝固剂;植株再生
【英文关键词】upland cotton; somatic culture; gelling agent; plant regeneration
【中文摘要】以陆地棉种质系珂字312 和陆地棉标准系TM-1 为材料,结合优化的陆地棉体细胞培养体系,系统地研究了琼脂、Gelrite 和Phytagel 3 种培养基凝固剂对愈伤组织的诱导、胚性愈伤的增殖、体细胞胚状体的发生和植株再生的影响。结果表明,用Phytagel 作为培养基的凝固剂,可显著改善陆地棉体细胞培养过程中的褐化问题,并具有提高胚性愈伤组织增殖

速度、体细胞胚胎发生和植株再生频率等作用。Gelrite 虽也能改善棉花体细胞培养中的褐化问题, 但因水化现象严重而影响胚性愈伤组织增殖和体细胞胚状体发生, 其效果不如Phytagel。因此,在陆地棉体细胞培养过程中的胚性愈伤组织诱导、体细胞胚状体发生和植株再生过程中,宜用Phytagel 作为培养基的凝固剂,而无菌苗培养和愈伤组织诱导仍可以选用琼脂凝固剂。

【英文摘要】The effects of the three different gelling agents, agar, gelrite and Phytagel, on callus inducing, embryogenic callus amplification,the somatic embryogenesis and plant regeneration of upland cotton (Gossypium hirsutum L.) germplasms, Coker 312and TM-1, were studied systematically, using the system of upland cotton somatic culture developed in our laboratory. The resultsshowed that the phytagel which used as the gelling agent for the medium of somatic culture could improve the browningproblem during the somatic culture, increase the amplification of embryogenic callus, and improve the quality of the callus andembryogenic callus, which led to significantly increasing in somatic embryogenesis and plant regeneration. So the phytagel is agood gelling agent for medium of somatic culture in upland cotton. Although the gelrite also can solve the problem of the browningduring the somatic culture, due to its hydrating process during the culture which may affect the amplification of embryogeniccallus and somatic embryogenesis seriously, the results of gelrite is not as good as phytagel. Combination with the method of somaticculture system optimized by our laboratory recently, the regeneration plants from 10 upland cotton genotypes, included thegenotypes called the recalcitrant nature in plant regeneration, were obtained in a relative short period of culture, using the Phytagelas the gelling agent. Therefore, it is suggested that Phytagel should be used as the gelling agent in the media for inducingembryogenic callus, somatic embryogenesis, and plant regeneration during the somatic culture of upland cotton, especially forthe genotypes with recalcitrant nature in plant regeneration. While for the culture of germ-free seedlings and callus inducing, theagar is still a good gelling agent because of the economic reason.

【语种】中文

【第一作者】张巧

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【学科分类】分子生物学

【题目】转基因抗虫棉纤维品质性状的遗传效应分析

【中文关键词】转基因抗虫棉; 纤维品质; 杂种优势; 遗传率; 遗传相关

【英文关键词】t ransgenic insect resistant cot ton; fiber quality; hetero sis; heritability; g enetic cor relat ion

【中文摘要】根据ADAA 遗传模型分析了7 个转基因抗虫棉亲本、两个非转基因抗虫亲本和36 个半双列杂交F1 的纤维品质性状的两年资料, 估算各项遗传方差和成对性状间的遗传相关性。结果表明, 转基因抗虫棉纤维品质的5 个性状受加性、显性和上位性的共同控制, 其中麦克隆值、2. 5% 纤维长度和纤维比强度以基因显性效应为主, 麦克隆值和纤维整齐度以上位性效应为主。除纤维比强度外, 其余4 个纤维品质性状都受到环境互作效应的影响, 且影响较大。遗传相关分析表明, 纤维比强度与2. 5%纤维长度的基因型相关和表型值相关达极显著水平, 其中加性相关未达显著水平, 显性相关达极显著水平。比强度与麦克隆值的基因加性相关也达极显著水平, 但表型相关未达显著水平。利用亲本和F1 的资料预测了F2 的基因型值和杂种优势。结果表明, F2 代的麦克隆值、伸长率、2. 5% 纤维长度、整齐度、纤维比强度的中亲优势分别为1. 0%, 8. 5% , 0. 8%, 0 和 2. 9%, 无超亲优势。

【英文摘要】Nine parents w hich seven of them w ere t ransgenic insect r esistant co tton cult ivars w ith Btdeveloped in China and USA, and their 36 F1 combinat io ns w ere analy zed fo r five t rait s of f iber qualityin tw o years by a genet ic model of addit ive dominance w ith interact ion ef fect s, and genet ic v ariancecompo nent s and cor relat ions w ere est imated as w ell. The results show ed that the f ive characters relat ed f iber quality w ere contr olled by addit ive effect s, dominant effect s and addit iv e addit ive ef fect s.The main effect s in micr onaire, 2. 5% staple st rength w er e dominant ef fects, w hile elongat ion and u nifo rmity were addit iv e addit ive ef fect s. T here w ere some interactio n effect s w ith large values be tw een g enotypes and environments for all five f iber t rait s ex cept for fiber st rength. T he g enotype andphenoty pe correlat io n co ef ficient betw een f iber str ength and 2. 5% staple leng th w ere sig nif icant , inw hich the dominant correlat io n w ere hig h, but ther e w ere no addit ive correlatio n betw een them. Inthe meanw hile, the additive genotype co rrelation betw een f iber strength and micronaire w er e sig nif i cant , and their pheno ty pe co rrelation w as undetected. The F2 geno ty pic value and their hetero sis w ereanalyzed and for ecasted f rom the data o f parents and their F1 . T he result indicated that the heterosisin F2 over mid parent w er e 1. 0% , 8. 5% , 0. 8% , 0, 2. 9% in av erag e for micronaire, elongat ion,2. 5% staple length, uniformity and fiber str ength, respect iv ely . There w as no heterosis o

ver thebet ter parent.
【语种】中文
【第一作者】沈晓佳
【通讯作者】祝水金
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【题目】新 型陆地棉细胞质雄性不育系花器形态学和细胞学观察
【中文关键词】陆地棉; 细胞质雄性不育; 解剖学; 细胞学
【英文关键词】anatomy; cytoplasmic male sterility; cytolo gy; Gossy p ium hi rsutum
【中文摘要】采用石蜡切片法, 对一种来源于陆地棉的新型细胞质雄性不育材料的3 份转育材料(G22A, H109A 和1793A) 的花药发育过程进行了花器形态及细胞学观察。花器形态和细胞学观察结果表明, G22A, H109A 和1793A 三个不育系均花瓣小, 花丝短, 柱头明显外露, 败育彻底, 无花粉。败育时期主要发生在造孢细胞增殖时期至小孢子母细胞减数分裂前, 表明这3份不育材料不育性状不受细胞核基因的影响。对不育材料与其保持系细胞学观察发现, 不育材料与正常花药发育细胞学形态上主要差别是绒毡层发育。不育系绒毡层的着色不明显, 大小与中层细胞相似且在整个花药发育过程中不降解, 而保持系绒毡层的着色深, 在小孢子发育过程中逐渐降解。因此, 根据细胞学研究结果可以说明花药中绒毡层发育异常是该来源于陆地棉的新型细胞质雄性不育材料败育的细胞学基础。
【英文摘要】Morpholog ical and anatomic char acters of the f low ers and anthers in a new kind of cy toplas mic male sterile (CMS) of three accessions, named G22A, H109A, and 1793A , w ere studied in thispaper . As the results show n that all the thr ee new CMS accessio ns w ere completely male sterile, theirflowers w ere the characters of smaller petals, shorter f ilament s, and no pollens, w ithout any differ ence amo ng them. T he anatomical and cytolog ical observat ion show ed that the abor tio n o f auxo cytecells in the three CMS lines took place betw een the spo rogneous cell divisio n to the beg inning of PMCmeiosis. The most signif icant difference in anatomical and cytolog ical characters betw een the newCMS lines and their fert ile genet ic background lines, named G22B, H109B, and 1973B, w as the de v elo pment o f the tapetum cells. Comparing w ith the tapetal cells o f the fert ile lines, those o f the ster ile anthers w ere much smaller w ith lig ht ly stained af ter dyeing. The size of those cells w as almo st asbig as that o f middle layer cel ls. There w as no abort ion pro cess for the CMS tapetum cells during theanther development , w hile those of their fert ile g enetic backgr ound lines w ere darkly stained, big gerin size, and degener ated g radually during the anther development , w hich w as important for the devel o pment o f anther to pr oduce fer tile pollens. So the abnormal dev elo pment of tapetum cel ls w as proba bly the reason led to the sterility o f po llens fo r the new CMS lines.
【语种】德文
【第一作者】童旭宏(
【通讯作者】祝水金
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【题目】陆地棉EPSPS基因的克隆及其组织特异性表达分析
【中文关键词】陆地棉; EP SP S; 草甘膦; 表达序列标签
【英文关键词】upland cot to n; EPSP synthase; gly phosate; EST
【中文摘要】5 烯醇式丙酮莽草酸 3 磷酸合成酶(EPSPS) 是莽草酸途径中的一个重要酶, 它是非选择性除草剂草甘膦的靶标酶, 在高等植物中定位于叶绿体质膜上。根据EST 拼接的序列设计引物, 从陆地棉品种珂字棉312 中获得了全长为1834 bp 的cDNA 序列, 其最大可读框为1565bp, 编码521 个氨基酸。陆地棉E PS PS 基因与其它植物中同类酶在氨基酸水平上有广泛的同源性。通过与已知的其它高等植物叶绿体转运肽剪切位点比对, 推断棉花EP SP S 基因含有74 个氨基酸叶绿体运输肽和447 个氨基酸组成的熟蛋白。该酶具有保守的PEP 结合位点及催化位点的特征序列。半定量分析表明, 该基因产物广泛存在于棉花根、茎和叶等各组织中, 在叶片中表达量较高。进一步扩增棉花核基因组获得了3344 bp 的

DNA 序列, 它包含8个内含子和7 个外显子。棉花E PS PS 基因的克隆为抗草甘膦棉花种质资源的创制提供了理论基础。
【英文摘要】5 Enolpyruvy lshikimate 3 phosphate (EPSP) sy nthase is an enzyme of the shikimate path w ay. It is the targ et enzyme of nonselect ive herbicide g lypho sate. This enzyme is located in the chlo r oplast s of the higher plants. Pr imer s w ere desig ned according to the assembled EST s of Gossy p iumhi r sutum, and a 1834 bp cDNA f ragment of G. hi rsutum cv. Coker 312 was obtained in this experi ment . T he f rafment co ntains an ORF compr ising of 1565 nucleot ides w hich encodes 521 amino acid. Acompariso n of the deduced amino acid sequences of cot ton and other hig her plant s genes rev eals hig hlyhomolo gy o ver the length of the ent ire mature protein. T he site of t ransit pept ides cleavage is deducedfrom a comparison to the know n cleavage site in other plants. T he enzyme, including 74 amino acidchloro plast t ransit pept ides and 447 amino acid mature proteins, comprises co nserv ed region of PEPbinding sites and the characterist ic sequence o f catalyt ic activity sites. Semi quant itat ive analy sis ofEPSP sy nthase expressio n show ed that the gene expressed ex tensively in cot ton root s, stems, leaves,and other org ans, and leaf is the most highly ex pressed t issue. A genomic DNA sequence w ith 3344bp clone co ntaining an EPSP synthase w as isolated fr om the upland co tton in this ex periment, and theEP SP S g ene contains eight int rons and seven exo ns.
【语种】中文
【第一作者】童旭宏
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【题目】中棉所12的黄萎病抗性遗传与育种应用研究
【中文关键词】棉花品种 中棉所 黄萎病性 遗传与育种 陆地棉 海岛棉 黄萎病抗性 杂交组合 正反交 分离规律
【英文关键词】无
【中文摘要】以2个海岛棉品种和5个陆地棉品种为材料与中棉所12进行正反交,配制14个杂交组合的F1和F2。采用纸钵育苗,撕底伤根接种方法对14个组合的F1和F2群体进行黄萎病抗性鉴定。结果表明,以中棉所12作父本与海岛棉抗黄萎病品种或陆地棉抗黄萎病品种进行杂交,F2抗(耐)病株与感病株的分离符合3:1的分离规律,说明海岛棉的抗黄萎病性对于中棉所12的耐黄萎病性为显性,中棉所12的耐黄萎病性对于陆地棉的感黄萎病性为显性,控制黄萎病抗性的基因为一个显性主基因。然而,以中棉所12为母本与海岛棉品种、抗病陆地棉品种和感病陆地棉品种进行杂交,F2群体中90%以上的个体为抗病类型,说明中棉所12的细胞质中存在着抗黄萎病的遗传成分,具有细胞质母体遗传的特点,在棉花抗黄萎病育种中具有重要的利用价值。
【英文摘要】无
【语种】中文
【第一作者】吴大鹏
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【题目】中 棉所48的SSR数字指纹图谱的构建
【中文关键词】中棉所48;SSR;数字指纹图谱
【英文关键词】Zhongmiansuo 48; SSR; digital fingerprint
【中文摘要】:利用25 对核心引物对中棉所48 及其亲本进行多态性检测,共有16 对引物在2 个亲本间具有多态性,其中,有14 对引物在两亲本间扩增出大小不同的带,且这些标记位点在F1中均表现为杂合带,为共显性标记;另外2 个引物的F1带型与母本或父本一致,为显性标记。以这25 对引物在不同材料间扩增得到的01(二进制)数据转换成十进制数据,构建了中棉所48的数字指纹图谱,为杂交种的真伪鉴定和纯度检测提供了方法。为了构建准确、稳定和实用的棉花DNA指纹图谱,指出了需要规范分子标记类型和数量,DNA、Taq 酶等试剂数量和质量,统一PCR反应,电泳和染色条件,统一提供标准品种和标准DNA,标准化电泳条带的识别、数据处理方式和编码方式

【英文摘要】Zhongmiansuo 48 and its parents were amplified with 25 pairs of core primers. Out of them, 16 pariswere detected to be polymorphic between the two parents. 14 pair ’s primers of the 16 pairs were codominantmarkers since they amplified the different fragments between the two parents and heterozygosis bands in F1.The other 2 pairs of primers generated the same bands between one of parents and F1, so they were dominantmarkers. Digital fingerprint of Zhongmiansuo 48 were constructed with the amplification result by changingbinary system into decimal system. It provides a method for seed genuineness and purity detection of hybrids.In order to construct the correct, high efficient, stable and practical fingerprint, it is necessary to make astandard criterion for the types and numbers of the molecule markers, the reagent quality of DNA, Taq enzymeet al.; to uniform the conditions of PCR reaction, electrophoresis and staining; to offer standard check varietiesand DNAs; and to standardize data treatment and the coding pattern of the electrophoresis bands.
【语种】中文
【第一作者】潘兆娥
【通讯作者】杜雄明
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【学科分类】分子生物学

【题目】棉花不同铃重种质主要纤维性状遗传及其变异
【中文关键词】棉花;大铃;中棉所48;纤维
【英文关键词】cotton; big boll; CCRI 48; fiber
【中文摘要】以中棉所48 的母本S9708 与不同铃重大小的父本杂交,配置6 个F2群体,采用SAS 8.0 软件对各组合亲本、F1和F2的铃重和衣分及纤维品质等数量性状进行统计分析。结果表明:在所有F2群体中纤维性状都有极显著差异。铃重和麦克隆值的变异系数较大,其次是衣分和纤维强度,而纤维长度、伸长率和整齐度变异系数较小。在杂交早代群体中,仍然表现亲本的铃大、衣分高、纤维长、强度高、整齐度好等优良特性。这表明,在杂种优势利用选择亲本时,选择大铃、高衣分、优质纤维材料仍较为重要
【英文摘要】Six F2 populations with same female parent S9708 as that of CCRI 48 and different male parents with different bollweight were made. Their parents, F1 and F2 populations were planted in 2006 while the F2 population of CCRI 48 was also grownin 2005. Traits of boll weight, lint percentage and fiber quality in these populations were analyzed by using SAS 8.0 software.The result showed: All fiber traits were highly significant in all F2 populations. The coefficients of variation for boll weight andmicronaire were higher among the six populations. It indicated boll weight and fiber micronaire had a greater degree of geneticvariation. The variation coefficients of lint percentage and fiber strength were 6%~9%. While the variation coefficients of fiberlength, elongation and fiber uniformity were less. So the selection method for offspring of boll weight, lint percentage and fiberquality should be different. It is important to select the germplasm with big boll, high lint percentage, better fiber quality duringthe procession of parent selection in the heterosis.
【语种】中文
【第一作者】潘兆娥
【通讯作者】杜雄明
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【学科分类】分子生物学

【题目】中棉所59栽培技术
【中文关键词】中棉所 农作物品种审定委员会 栽培技术 中国农业科学院 品种区域试验 棉花研究所 新品种 种子公司
【英文关键词】无
【中文摘要】中棉所59是中国农业科学院棉花研究所培育的高产、优质、多抗杂交棉新品种。2002—2003年由浙江省种子公司引种,在海盐、宁海等地示范。2004—2005年参加该省杂交棉品种区域试验,2006年参加生产试验,并在金华、上虞等地试种。结果表明,该品种出苗好,生长势强,整齐度高,铃较大,丰产性好,纤维品质较优,高抗枯萎病,适宜在该省植棉区种植

。2007年通过该省农作物品种审定委员会审定。
【英文摘要】无
【语种】中文
【第一作者】严根土
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【题目】油 脂形成期棉花种子全长cDNA文库的构建
【中文关键词】棉花; 胚; 油脂; cDNA 文库; EST
【英文关键词】cot ton; embry o; lipid; cDNA library; EST
【中文摘要】提取海岛棉7124 开花后25~ 35 d 胚的总RNA, 利用SMART 技术, 经21 轮LD PCR扩增获得全长双链cDNA, 经Sf i 酶切、层析柱分离后, 收集500 bp 以上的片段与pDNR Lib载体连接并转化到感受态DH10B 细胞, 构建了棉花种子全长cDNA 文库。所构建的原始文库库容为5 106 , 文库滴度为1. 5 108 cfu mL 1。在文库中随机挑取180 个克隆进行PCR检测, 结果显示, 文库中插入片段长度为0. 5~ 2. 5 kb, 将挑取的180 个单克隆进行EST 测序,无空载序列, 说明文库重组率为100% ; 序列分析结果表明, 其中与油脂形成相关的EST 有13条。以上数据说明构建的文库质量较高, 为进一步从文库中分离棉花脂肪酸代谢关键基因, 提高棉花含油量奠定了基础。
【英文摘要】SMART technique w as used to construct the full length cDNA library o f cot ton seed. T otalRNA w as iso lated fr om sea..island cot ton embry o about 25~ 35 day s. Full leng th ds..cDNA (Double..st rained complement DNA) w as amplified by using 21 round LD..PCR(Long..distance PCR) . Af ter Sf i..dig est io n and Chroma spin..400 fr act io nat ion, cDNAs (> 500 bp) w ere ligated to pDNR..Lib vecto rand t ransfo rmed to DH10B af terw ard. T he total clones of the libr ary w as measur ed to be 5 .. 106 witha t iter of 1. 5 .. 108cfu ..mL..1 . T he inserted fragment s r anged from 0. 5 kb to 2. 5 kb, and the recombi..nant rate of the libr ar y w as about 100%. 180 monoclones w ere selected to sequence, and 13 EST con..cerned w ith lipid metabolism w ere ident ified. T hese r esult s show that the cDNA library can be usedfo r screening genes of fatty acid metabolism.
【语种】中文
【第一作者】王德龙
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【题目】棉 花纤维发育相关基因表达谱的比较分析
【中文关键词】棉花, 基因芯片, 差异表达基因, 实时荧光定量PCR
【英文关键词】Cotton, Affymetrix microarray, Differential expressed genes, Quantitative RT-PCR
【中文摘要】本研究通过3 年4 环境的田间试验,在BIL (backcross inbred lines)群体中选取断裂比强度最大的材料NMGA-062 (32.5 cN/tex)和断裂比强度最小的材料NMGA-144 (26.67 cN/tex),利用Affymetrix 棉花基因芯片,比较分析NMGA-062 和NMGA-144 纤维发育10 d 时的基因表达谱。在24 029 条转录本中,两个基因型中差异表达的转录本6 504 条,占筛选转录本总数的27.07%;其中差异表达倍数在2 倍或2 倍以上的转录本有3 461 条,占筛选转录本总数的14.41%,对其进行功能分类。对8 个差异表达明显的基因(Ghi.10655.1.S1_s_at, ACO1, ARF1, SAHH, TUA6, TUA7, β -tub1, β -tub10)进行实时荧光定量PCR的检测,发现表达模式均与芯片结果一致,说明芯片数据具有生物学意义上的可重复性,结果是可信的。本研究为以后克隆及功能验证纤维发育相关基因提供了重要参考。
【英文摘要】In this research, we selected two extremely cultivars in backcross inbred lines through 3-year fieldtrial in 4 environment and variance analysis, NMGA-062 has the best breaking tenacity of 32.5 cN/tex and NMGA-144 has the lowest breaking tenacity of 26.67 cN/tex. Then, compared the gene expression profiling of NMGA-062 and NMGA-144 at 10 d by using Affymetrix microarrays. In the 24 029 transcripts, 6 504 transcriptsshowed significant differential expression (DE) and 3461 transcripts showed 2-fold or higher

levels of expressionchanges, occupied the total transcripts 27.07% and 14.41%, respectively. Classification of gene function wasdone of the transcripts which showed 2-fold or higher levels of expression changes. Through fluorescent quantitationRT-PCR analyses on different plant tissues and developing fibers of 10 d, of 8 selected DE genes includingGhi.10655.1.S1_s_at, ACO1, ARF1, SAHH, TUA6, TUA7, β-tub1, β-tub10, we found that all had similar results tothe microarray analysis. The results indicated that the comparative microarray results were biologically reproducible,and the results were bilievable. It provided important reference for further studies in cloning and identifyinggenes responsible for fiber-related genes.

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【第一作者】李龙云
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【题目】利用基因芯片技术筛选棉纤维伸长相关基因
【中文关键词】基因芯片; 纤维伸长相关基因; 差异表达基因; 实时荧光定量PCR
【英文关键词】Affymetrix microarray; Fiber length-related genes; Differential expressed genes; Quantitative RT-PCR
【中文摘要】从回交近交系(backcross inbred lines, BIL)群体中选取纤维长度差异较大的两个系NMGA-062 (33.03 mm)和NMGA-140 (25.87 mm), 利用Affymetrix 棉花基因芯片, 分析其开花后10 d (DPA, days post anthesis)棉纤维伸长相关基因表达谱。在24 029 条转录本中, 两材料间差异表达的转录本有7 282 条, 占总数的30.31%; 其中差异表达倍数在2 倍或2 倍以上的转录本有3 993 条, 占筛选转录本总数的16.62%, 功能分类表明这些转录本主要包括功能预测基因(15.57%), 翻译、核糖体结构相关基因(13.54%)和翻译后修饰、蛋白质转换相关基因(9.29%) 3 大类。为了验证芯片数据的可信性, 8 个差异表达显著的基因(Ghi.10655.1.S1_s_at, ACO1, ARF1, SAHH, TUA6, TUA7, β-tub1, β-tub10)被用于实时荧光定量PCR。两种检测手段表现出一致性。随后, 利用实时荧光定量PCR 对3 个与棉纤维相关基因(ARF1, β-tub1, β-tub10)在纤维发育不同时期(5、10、15、20 和25 DPA)的表达模式进行了研究, 结果表明, 3 个基因在纤维伸长发育时期(10 和15 DPA)大量表达, 推测这3 个基因可能与棉纤维伸长有重要关系。
【英文摘要】Gossypium barbadense L. is known for its superior fiber quality including long fiber and their quantitative trait loci(QTL) have been reported. However, little is known about the molecular genetic basis of fiber quality traits. The objective of thepresent study was to identify differentially expressed genes in the rapid fiber elongation stage (10 days post-anthesis, 10 DPA)using a comparative microarray analysis between two backcross inbred lines (BIL) with contrasting fiber lengths. The two BILlines, NMGA-062 (33.03 mm) and NMGA-140 (25.87 mm), were selected based on a 3-year field trial in four environments.The Affymetrix Cotton GeneChip was then used to perform a transcriptome analysis of 24 029 transcripts in developingfibers (10 DPA). Among the transcripts 7 282 (30.31%) showed a significant differential expression (DE) and 3 993 (16.62%)showed 2-fold or higher levels of expression changes between the two BIL lines. Through quantitative RT-PCR analyses on differentplant organs and developing fibers of 10 DPA, eight selected DE genes, including Ghi.10655.1.S1_s_at, ACO1, ARF1,SAHH, TUA6, TUA7, β-tub1, and β-tub10, all displayed similar results to theses of the microarray analysis. This indicated that thecomparative microarray results were biologically reproducible. Quantitative RT-PCR analyses were also performed at five fiberdevelopment stages from 5 to 25 DPA on ARF1, β-tub1, and β-tub10. The results indicated that they were all highly expressed in aperiod of fast fiber elongation and primary cell wall synthesis (at 10 – 15 DPA), implicating their roles in fiber elongation. Thisstudy represents the first investigation using a microarray analysis to compare differential gene expressions between near-isogeniclines with contrasting fiber quality. It provided a list of putative candidate genes for further studies in identifying genes responsible for fiber traits and developing molecular markers for marker-assisted breeding.

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【题目】陆海杂交回交近交系产量性状的QTL分析研究
【中文关键词】回交近交系(ba e k e r o s s in b r e d lin e s ,
B IL) ; 产量; Q T L
【英文关键词】无
【中文摘要】以陆地棉S G 7 47 与海岛棉G iza 75 为杂交亲本, 并以陆地棉S G 7 47 为轮回亲本, 构建BC Z F、: , 回交近交系(b a e k e ro s s in b r e d lin e s , BIL) 群体, 选用2 0 4 1 对S S R 引物进行亲本间多态性的检测, 共筛选出在双亲间表现多态性的SS R 引物4 31 对(占21.17 %) , 用于进行BC Z F; 6 群体扩增, 并产生了4 7 6 个多态性位点。根据前人研究, 定位到各染色体上有3 97 个位点, 图谱总长3 6 7 7.1 cM, 标记间的平均距离为9.21 c M。利用B CZ F、: 6 和BC Z F 电: : 家系4 个环境下的产量性状数据, 共定位到4 9 个Q T L 位点, 有4 4 个的增益基因来自陆地棉。2 个环境以上且效应方向一致的Q T L 3 个, 其中, 铃重的1 个, 子棉产量1 个, 皮棉产量1 个。可以进一步用于分子标记辅助选择。
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【题目】转基因抗虫棉产量相关性状QTL的分子标记及定位
【中文关键词】转基因抗虫棉; 陆地棉; 产量性状; QTL
【英文关键词】tr ansg enic insect-resistant cot to ns; G ossy p ium hir sutum L. ; yield t rait ; QT L
【中文摘要】采用亚洲棉渐渗的纤维强度突出的陆地棉优质新品系0-153 与陆地棉转基因抗虫新品系sGK9708 为亲本, 构建了F2 及F2: 3分离群体。利用3869 对SSR 引物筛选亲本, 得到125对多态性引物。进一步对183 个F2 群体单株分析得到150 个多态性标记位点, 其中100 个标记位点连锁, 构建20 个连锁群, 共覆盖660 cM, 占棉花总基因组的14. 67% , 每个连锁群平均包含5 个标记位点, 标记间平均相距6. 6 cM, 其中13 个连锁群确定了对应的染色体。利用F2和F2: 3数据, 通过复合区间作图, 共检测到28 个产量及相关因素的QT Ls。这些控制产量性状的QT Ls 只存在于5 个连锁群上, 成簇分布。与皮棉产量性状有关的2 个QTLs, 均与其它多个产量相关性状的Q TLs 在同一个连锁区段内, 增效基因遗传效应方向一致, 有必要研究其在标记辅助选择中的效果。本研究没有检测到在多世代表现稳定的QTL。因此, 需要培育重组自交系, 进一步明确产量性状有关QT L 的遗传效应。
【英文摘要】The cross of sGK9708 @ 0-153 w as made, w hich included one parent w ith hig h f iberstr ength, 0-153, originating fr om crossing of G. hi rsutum L. w ith G. ar bor eum L. , and backcrossingw ith G. hir sutum L. as the recurrent parent, and the other commercial t ransgenic variety w ith resistanceto budw orm, sGK9708. A total of 3869 pair SSR primers w ere used to screen po lymo rphism amongtw o parent s and their F1 , w hich resulted in 150 polymorphic loci fr om 125 pair primers in F2populat ion. Linkage test indicated that 100 loci could be mapped to 20 linkag e groups, w hich covereda total genet ic distance of 660 cM, approx imately 14. 67% o f cot ton genome. The average distance o fneig hbor markers w as 6. 6 cM. 13 linkag e gro ups w ere assigned to corr esponding chromosome, respectively. Based on Composite Interval Mapping (CIM) method, the result show ed that 28 QT Ls forf iber yield related t rait s w ere detected in F2 and F2: 3 populat io ns. These QTLs of y ield-related tr ait existedin the five linkage g roups only, clustered on the same locus in dif ferent chr omosomes. Tw oQT Ls of lint yield clustered w ith many QT Ls of other y ield r elated tr ait s in tw o dif ferent linkag eg roup segment s w ith same dir ect io n of genet ic effect s. So it is necessary to study the ef fect of themarker-assisted select ion for the tw o QT Ls in the future. No same QTL fo r the yield-related t raitcould be detected in different generat ions, w hich show s multiple self-cr ossing lines sho uld be deve-loped for QTL analysis o f yield-related tr ait s.
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【题目】棉花纤维长度主效 QTLs 的分子标记辅助选择及聚合效果研究
【中文关键词】棉花; 纤维长度; QTL; 分子标记; 育种
【英文关键词】cot ton; fiber leng th; QT L; mo lecular marker; breeding
【中文摘要】以2 个品种(系) T G41 和sGK156 以及3 个纤维品质优异的种质系7235、HS427 10 和0 153 为亲本, 配制了(sGK156 HS427 10) (0 153 7235) 、(TG41 HS427 10) (0 153 7235) 和(sGK156 0 153) (sGK156 HS427 10) 3 套组合的双交F1 及F2 群体, 利用3 个纤维长度不同QT Ls 相关的SSR 标记进行辅助选择。结果, 用3 个标记分别进行单标记辅助选择时, 有/ 无标记单株平均纤维长度之间的差异在3 个群体的F1 世代中都可以达到显著或极显著水平, 并且在F2 世代株行中也表现出一定差异, 可以稳定表达。当用2 个或3 个标记同时进行聚合选择时, 随着聚合到QTL 个数的增多, 单株平均纤维长度值增大, 选择效果越来越好, 但在不同群体中表现有差异。可见, 用分子标记辅助选择的方法对棉花纤维长度进行改良是有效的, 聚合多个QTLs 时, 可以达到更好的效果。有必要培育多个基因聚合并纯合的高代重组自交系材料, 进一步研究多基因聚合的遗传效应。
【英文摘要】T G41 and sGK156, tw o commercial cot ton cult ivars (lines) , and HS427 10, 7235 and 0 153, thr ee elite fiber quality g ermplasm lines, w ere used as par ent s to develop three double cr oss com binat ions, (sGK156 HS427 10) (0 153 7235) , (TG41 HS427 10) (0 153 7235) and(sGK156 0 153) (sGK156 HS427 10) . T hr ee SSR markers, NAU 1043, MUSS497 and CM67,w hich w ere linked w ith QT Ls of fiber leng th and derived fr om 7235 or 0 153, w er e used to study theef fect of molecular marker assisted select ion and py ramiding breeding in the three combinat ions, re spectively. As a r esult , the fiber leng th show ed significant dif ferences betw een plant s w ith and w ith o ut marker in the three combinat ions. T his indicated that the effect s o f the three QT Ls for f iberleng th w ere stable in dif ferent genet ic backgr ounds and dif ferent g enerat io ns. When selected theplants w ith tw o or three markers, the fiber leng th of plant s w ith tw o or three markers w ere bet terthan that of the plants w ith only one marker, and the f iber leng th w as the best in the plant s w ith allthe three marker s. In conclusion, it is effect iv e to increase f iber length through molecular marker as sisted select ion and the ef fect may be increased w hen mo re QTLs ar e pyr amided in plant s. It is neces sary to develop stable recombinant inbred lines of advanced generat ions w hich pyramid several f iber related genes to study the ef fect for pyramiding mor e genes.
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【题目】陆海杂种高代回交自交系纤维细度性状相关性分析
【中文关键词】陆地棉; 海岛棉; 高代回交自交系; 纤维细度; 相关分析
【英文关键词】G . hir sutum L. ; G. bar badense L. ; advanced backcross lines; f iber fineness; cor relat ion analysis
【中文摘要】利用陆地棉34B 与海岛棉Giza70 杂交所得的稳定的高代回交自交系BC2F4: 6、BC2F4: 7家系, 开展了三个环境下纤维细度等品质性状的相关分析。结果表明: 1) 纺纱均匀指数与长度、整齐度、比强度呈极显著正相关, 与伸长率呈极显著负相关。纤维长度和比强度间均存在极显著的正相关, 与伸长率呈极显著负相关。2) HVI 900 测定的麦克隆值与比强度和纺纱均匀指数呈极显著负相关; 成熟度比率与麦克隆值呈显著或极显著正相关, 与线密度呈极显著负相关, 与其它性状间的相关性三个环境下都不一致; 线密度与纺纱均匀指数呈极显著正相关,与长度、比强度均达到极显著或显著负相关, 与整齐度不相关, 与伸长率为负相关。相对而言,线密度与各性状的相关性要比HVI 900 测定的麦克隆值和成熟度比率稳定, 受环境影响小,有必要进一步加强对线密度的选择及深入研究。
【英文摘要】T he stable BC2F4: 6 , BC2F4: 7 lines, which w ere obtained fr om combinat ion betw een 34B andGiza70 and backcrossed with 34B as r ecurr ent par ent , w ere used to analyse the correlatio n of f iberfineness related t rait s under three

environment s. T he result s show ed: first ly, spinning uniformity in dex w as sig nif icantly po sit iv e correlated w ith fiber length, uniformity and st rength; significant ly nega t ive corr elated w ith elongat ion. Fiber length w as signif icant ly po sit ive corr elated w ith strength, sig nificant ly neg at ive correlated w ith elo ng at ion. And the corr elat ion analysis indicated that it w as possi ble to pr oduce long , st rong and go od elongat ion f iber. Seco ndly, micronaire tested by HVI 900 w assignificant ly neg at ive correlated w ith st rength and spinning uniformity index, maturity rat io w as sig nificant ly posit ive corr elated w ith micronaire, sig nif icantly negat ive w ith fiber linear density and matu r ity rat io w ere inconsistent ly correlated w ith other f iber t rait s under three environment s. Fiber lineardensity w as significant ly posit ive co rrelated w ith spinning uniformity index , signif icant ly neg at ive co r r elated w ith length and st reng th, no t significant w ith fiber uniformity, and negat iv e w ith elongat ion.These indicated that linear density w as mo re stable than micro naire and maturity rat io, so it is necessary to str engthen the study o f linear density.

【语种】中文

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【学科分类】分子生物学

【题目】利用陆海杂种BC1群体构建棉花遗传连锁图谱并并初步定位产量性状相关的QTL

【中文关键词】陆海回交群体;遗传图谱;产量性状;QTL

【英文关键词】G. hirsutum×G. barbadense backcross populations, genetic map, yield traits, QTL

【中文摘要】:利用陆地棉推广品种中棉所36 和海1 配制杂交组合,并用中棉所36 为轮回亲本构建回交群体(BC1F1,BC2F1和BC1S1)。用亲本和F1对新开发的2102 对SSR 引物进行多态性筛选,共筛选到317 对含有海1 显性带的引物,占筛选引物总数的15.08%;最终对其中的275 对引物进行了BC1F1群体扩增,获得306 个SSR标记差异位点。连锁分析表明(LOD=6.5),有254 个标记位点连锁,分布在42 个连锁群中,覆盖2252.36 cM,约占棉花基因组的50.05%;平均每个连锁群有6.08 个标记,覆盖53.63 cM;标记间平均间距为8.87 cM。利用BC1F1、BC2F1和BC1S1三个不同世代分离群体产量性状数据,共定位16 个产量性状QTL,解释表型变异5.77%~19.86%。其中,衣分6 个,铃重6 个,籽指4 个。有9 个增效基因来自陆地棉亲本中棉所36,7 个增效基因来自海岛棉亲本海1,说明了表型性状较差的品种同样可能含有可用于性状改良的增效基因。控制衣分的3 个QTL可在不同的世代稳定检测到,效应稳定,增效基因均来自高值亲本陆地棉,为进一步分子标记辅助选择奠定了基础。

【英文摘要】The G. hirsutum ZMS36 and the G. barbadense Hai1 were crossed to construct backcross populations(BC1F1, BC2F1, and BC1S1) with ZMS36 as recurrent parent. A total of 2102 pairs of SSR primer were used toscreen polymorphism among the parents ZMS36, Hai 1 and their F1, which resulted in 317 pairs of polymorphicprimer with the special band for Hai 1, and the polymorphism primer accounted for 15.08% of the total primer,and 275 of them were used to screen the BC1F1 population. Linkage test(LOD=6.5)indicated 254 of 306polymorphic locus derived from 275 pairs of primer could be mapped into 42 linkage groups and covered a totalThe G. hirsutum ZMS36 and the G. barbadense Hai1 were crossed to construct backcross populations(BC1F1, BC2F1, and BC1S1) with ZMS36 as recurrent parent. A total of 2102 pairs of SSR primer were used toscreen polymorphism among the parents ZMS36, Hai 1 and their F1, which resulted in 317 pairs of polymorphicprimer with the special band for Hai 1, and the polymorphism primer accounted for 15.08% of the total primer,and 275 of them were used to screen the BC1F1 population. Linkage test(LOD=6.5)indicated 254 of 306polymorphic locus derived from 275 pairs of primer could be mapped into 42 linkage groups and covered a totalThe G. hirsutum ZMS36 and the G. barbadense Hai1 were crossed to construct backcross populations(BC1F1, BC2F1, and BC1S1) with ZMS36 as recurrent parent. A total of 2102 pairs of SSR primer were used toscreen polymorphism among the parents ZMS36, Hai 1 and their F1, which resulted in 317 pairs of polymorphicprimer with the special band for Hai 1, and the polymorphism primer accounted for 15.08% of the total primer,and 275 of them were used to screen the BC1F1 population. Linkage test(LOD=6.5)indicated 254 of 306polymorphic locus derived from 275 pairs of primer could be mapped into 42 linkage groups and covered a totalThe G. hirsutum ZMS36 and the G. barbadense Hai1 were crossed to construct backcross populations(BC1F1, BC2F1, and BC1S1) with ZMS36 as recurrent parent. A total of 2102 pairs of SSR primer were used toscreen polymorphism among the parents ZMS36, Hai 1 and their F1, which resulted in 317 pairs of polymorphicprimer with the special band for Hai 1, and the polymorphism primer accounted for 15.08% of the total primer,and 275 of them were used to screen the BC1F1 population. Linkage test(LOD=6.5)indicated 254 of 306polymorphic locus derived from 275 pairs of primer could be mapped into 42 linkage groups and covered a totalgenetic distance of 2252.36cM, approximately 50.05% of cotton genome. The number of the marker locus perlinkage

group was 6.08, which spanned 53.63cM of the cotton genome. And the average distance of theneighboring marker locus were 8.87cM. 16 QTLs for yield-related traits were detected from the threegenerations of BC1F1, BC2F1, and BC1S1 using CIM. QTL numbers for lint percentage, boll weight and seedindex were 6, 6 and 4, respectively, which accounted for 5.77%~19.86% of phenotypic variance. Among the 16QTLs, 9 with positive additive effect derived from ZMS36 and 7 QTLs with negative additive effect from Hai1,which indicates the materials with poor phenotypic characteristics, may contain the useful gene for improvingthe same traits. 3 QTLs for lint percentage could be stably detected in the different generations, and fromhigh-value parent of ZMS36, which should be useful for the marker-assisted selection.

【语种】中文
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【学科分类】分子生物学

【题目】陆 地棉重组近交系群体纤维品质及产量性状遗传变异分析
【中文关键词】陆地棉曰重组自交系曰产量曰品质曰遗传变异
【英文关键词】Upland cotton(L.); recombinant inbred line; yield; fiber quality; genetic variation
【中文摘要】以陆地棉优质品系0-153 和大面积推广的双价转基因抗虫棉品系sGK9708 为亲本构建了含有196 个F6院8家系的重组自交系群体遥在4 个环境中袁纤维长度尧纤维强度尧麦克隆值尧伸长率尧整齐度指数尧单株结铃数尧铃重尧衣分尧子指尧单株子棉产量及单株皮棉产量等性状均呈正态分布袁且存在双向超亲分离遥多环境下变异分析表明袁各性状家系间及环境间存在极显著差异遥除纤维伸长率外袁其余各纤维品质及产量性状都具有较高的遗传力袁在0.75 以上遥共有6个家系在纤维长度尧细度和强度性状上均超过高亲袁可作为优质纤维种质遥相关分析显示袁有些家系可能打破了纤维品质和产量性状间的负相关遥通过聚类分析得出袁该群体各系分在了不同的组袁表明存在着一定的遗传差异遥该群体是进行优异纤维品质相关基础研究的良好材料遥
【英文摘要】A RIL population with 196 F6院8 lines was developed from an F2 population of Upland cotton (L.)cross of sGK9708伊0-153. sGK9708 is the commercial transgenic variety with + genes resistant to budworm, and 0-153with high fiber quality. The RIL population were normally distributed for fiber quality and yield related traits and the range ofdistribution exceeded the two parents. Analysis of genetic variability indicated that the effects of the genotypes and environmentswere significant for the fiber quality and yield related traits. With the exception of fiber elongation, heritability estimated for fiberquality and yield related traits measured in the RIL population were high with above 0.75. Six lines could be considered as excellentgermplasm with high fiber quality. A number of phenotypic correlations were observed among the fiber quality and yieldrelated traits of the RIL population, some lines may be with positive correlation between fiber quality and yield traits. The differentgenetic units for the RIL population were indicated by analysis of cluster. This RIL population will be the good materials forthe basic research related to fiber quality.

【语种】中文
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【学科分类】分子生物学

【题目】编码棉花胞质铜锌超氧化酶基因的克隆与表达分析
【中文关键词】棉花;铜锌超氧物歧化酶;基因;克隆
【英文关键词】Upland cotton; Copper/zinc superoxide dismutase; Gene; Cloning
【中文摘要】:【目的】克隆编码棉花胞质铜锌超氧化物岐化酶基因并分析其表达特性。【方法】采用 RACE 技术克隆基因,Northern blotting 检测基因的表达谱;采用氮蓝四唑(NBT)光下还原法测定不同生育期的酶活性。【结果】获得了棉花胞质铜锌超氧化物岐化酶基因cDNA 全长序列(GenBank 注册号:DQ445093);该基因cDNA 全长共682 bp,开放阅读框456 bp,编

码152 个氨基酸。分子结构预测结果:酶蛋白理论分子量约为15.03 kD,理论等电点为6.09,与其它植物的蛋白质氨基酸序列同源性在82%~87%之间。Southern blotting 显示不同棉种该基因的拷贝数基本一致,均属于低拷贝基因。Northern blotting 显示该基因在不同的组织、不同的生育期表达量不同;酶活性测定显示盛花期最高。【结论】棉花胞质铜锌超氧化物岐化酶基因在陆地棉中属于低拷贝数基因;在整个生育期中mRNA 的含量呈规律性动态变化,前期较低,后期较高,在盛花期达到顶峰;变化曲线与不同时期的酶活性变化一致;不同器官的基因表达检测结果显示:基因在根中表达量最高,叶片次之,花中的表达最低。

【英文摘要】【Objective】A gene encoding superoxide dismutase (SOD) was cloned from senescent leave of cotton (Gossypiumhirsutum), and its expressing profile was analyzed. 【Method】The gene was cloned by Rapid Amplification of cDNA Ends (RACE)method. Northern blotting was used to show the profile of the gene expression, and the enzyme activity was mensurated by NBTdeoxidization method in different growth periods. 【Result】The full length of the gene of cytosolic copper/zinc superoxide dismutaseCu/Zu-SODwas isolated from cotton (GenBank accession number.DQ445093). The sequence of cDNA contained 682 bp, theopening reading frame 456 bp, and encoded polypeptide 152 amino acids. The molecular construction was predicted includingmolecular mass of 15.03 kD and theoretical PI of 6.09, and amino sequence similarity with the other plants of 82% to 87%. Southernblotting showed that the gene had different number of copies in different cotton species. Northern blotting suggested that the genehad different expression in different tissues and development stages. The enzyme activity was the highest in peak flowering stage.【Conclusion】The cotton cytosolic copper/zinc superoxide dismutase had lower copies in the upland cotton. The copper/zincsuperoxide dismutase mRNA expressing level showed regular changing in the whole development stages: lower in the former stages,higher in latter stages and highest at the peak flowering stage. The curve of the copper/zinc superoxide dismutase mRNA expressinglevel was consistent with that of the copper/zinc superoxide dismutase enzyme activity. The copper/zinc superoxide dismutasemRNA expressing levels of different organs showed that the gene expression was high in root, medium in leaf, low in flower.

【语种】中文

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【学科分类】分子生物学

【题目】棉花 纤维品质功能基因组学研究与分子改良研究进展

【中文关键词】棉花 纤维品质 功能基因组 分子改良 进展

【英文关键词】无

【中文摘要】本项目基于基因组学、功能基因组学、蛋白质组学和生物信息学等多学科交叉研究了棉花纤维品质发育的分子机制:利用辐射诱变、杂交、回交、系谱选择等技术培育、挖掘出优异纤维资源384份;利用徐州142棉纤维无长绒、无短绒突变体筛选出纤维伸长相关基因;用体外培养方法验证了乙烯、油菜素(BR)的生物合成途径及部分次生物质在纤维生长过程中的作用;构建了海岛棉品种Pi2ma90253和陆地棉7235的BAC文库;利用蛋白质组学研究了棉纤维发育过程中的一些重要蛋白质的变化,构建了棉纤维细胞蛋白质表达谱;利用抑制扣除杂交方法、基因芯片技术或从纤维cDNA文库中筛选等共获得棉纤维发育相关基因199个,并用模式系统和棉花对基因的功能进行了分析和验证;建立了高效农杆菌介导、花粉管通道、基因枪轰击3种规模化的快速基因功能验证技术体系;开发了新标记,构建了陆海、陆陆高密度分子标记遗传连锁图谱,并选择有用分子标记和生化辅助育种相结合,初步建立了棉花纤维品质分子改良育种体系。

【英文摘要】无

【语种】中文

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【学科分类】分子生物学

【题目】中国短季棉遗传改良研究进展及发展方向
【中文关键词】短季棉; 遗传改良; 进展; 方向
【英文关键词】short- season cotton, genetic improvement, research progress, direction
【中文摘要】短季棉品种遗传改良是实现麦棉两熟棉区粮棉双丰收的有效途径。从早熟种质资源金字棉的引进, 早熟短季棉品种中棉所10 号的育成, 抗枯萎病品种中棉所16、辽棉10 号的选育, 生化辅助育种技术育成早熟不衰品种中棉所24、27 和36, 转单价Bt 基因抗虫棉中棉所30、中棉所42 和鲁棉研19, 转双价Bt+CpTI 基因抗虫棉中棉所50、中棉所58 的培育, 到航天诱变特早熟品种中棉所64, 综述了中国短季棉品种选育的主要研究进展; 提出了短季棉育种应加强抗黄萎病材料创制、克服产量和早熟性负相关和解决特早熟品种早衰等遗传改良重点; 指出借助分子育种与常规育种技术相结合, 培育麦后直播特早短季棉和杂交短季棉是今后短季棉遗传育种的方向。
【英文摘要】The genetic improvement of short- season cotton is important for high yield of cotton and wheat inthe region of wheat - cotton double crop. Main research achievements were showed from the introduction ofearly mature King germplasm from America to the successful selection of the first short- season cotton varietyof CCRI10, the resistance to Fusarium wilt variety of CCRI16, the high yield, fine fiber quality and resistanceto disease varieties of CCRI24, CCRI27 and CCRI36 by biochemical assisted breeding technology and thetransgenic short- season cotton varieties CCRI30, CCRI42 and Lumianyan19 with Bt gene resistance to cottonboll worm, the transgenic CCRI50 and CCRI58 with double genes Bt+CpTI, the variety of CCRI64 by thespace mutation. Some important genetic improvement studies should be done in the future to increase the resistanceto Verticillium wilt, to improve the genetic negative correlation between lint yield and earliness andto select the special early mature varieties without premature senescence. The developing directions of shortseasoncotton were pointed out, which were the breeding of specially early short- season cotton varieties forsowing directly after the harvest of wheat, the usage of the heterosis to breed the hybrid cotton to increasecotton yield and the combination molecular breeding and conventional selection to improve yield, quality andmaturity of short- season cotton.
【语种】中文
【第一作者】范术丽
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【题目】中棉所36均一化全长cDNA文库的构建与鉴定
【中文关键词】花发育; 均一化; cDNA 文库
【英文关键词】Flower development; Normalization; cDNA library
【中文摘要】以短季棉中棉所36 (CCRI36)顶端分生组织和花蕾为材料, 以DSN (duplex-specific nuclease)均一化技术与SMART(switching mechanism at 5 ′ end of RNA transcript)建库技术相结合, 构建CCRI 36 花发育期均一化全长cDNA文库。经检测原始文库滴度为1.7×106 cfu mL－1。随机挑取100 个克隆, 利用PCR 方法测得文库重组率达100%, 插入片段平均长度为1.2 kb。以两个高丰度表达基因Histon3 和UBQ7 为探针, 进行虚拟Northern blot 检测显示, 其丰度在均一化cDNA中均明显降低, 说明均一化效果显著, 为节约筛库成本和EST 有效测序奠定了基础; 同时, 利用常规PCR 扩增技术从cDNA 文库中筛选阳性信号, 获得了花发育相关蛋白基因。初步证实CCRI36 花发育期均一化全长cDNA 文库构建成功, 为深入研究棉花花发育机理及发掘与早熟相关的功能基因奠定了基础。
【英文摘要】Short season cotton (SSC) breeding plays an important role in solving the competition for more growing area betweencotton and food crops. To explore the premature mechanism of SSC, to clone genes that have a close relation with prematureflowering, and to speed process of premature cultivar breeding, we established a normalized full-length cDNA library using theflower and bud of CCRI 36 by DSN (duplex-specific nuclease)-normalization method combined with SMART (switching mechanismat 5' end of RNA transcript) technique. The titer of un-amplified cDNA library was about 1.7×106 cfu mL－1. The average sizeof cDNA inserts was 1 200 bp with a recombination rate of 100%. The abundance of transcripts Histon3 and UBQ7 decreasedobviously in normalized cDNA library comparing with that in non-normalized samples detected by Virtual Northern Blot. Meanwhile,protein genes associated with flower development were obtained on the basis of the positive signal of cDNA library byPCR. These results indicated that the normalized full-length cDNA library has been established successfully, which is convenientfor further study on the molecular mechanism and gene cloning of flower development.

【语种】中文
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【题目】棉花MADS-box蛋白基因(GhMADS-13)的克隆和表达分析
【中文关键词】棉花, MADS-box 基因, 表达分析
【英文关键词】Upland cotton (Gossypium hirsutum L.), MADS-box gene, Expression analysis
【中文摘要】一组具有MADS-box 结构域的转录因子在控制花器官的诱导与发育中起着重要作,以中棉所36(CCRI)均一化全长cDNA 文库为基础,结合EST 测序分析,分离获得一个棉花的MADS-box 基因全长cDNA。该基因cDNA 全长1 079 bp,包含一个732 bp 的完整的开放阅读框,编码234 个氨基酸,具有典型的MADS-box 结构域和完整的K 区,命名为GhMADS-13 (GenBank: FJ409870)。与拟南芥、葡萄等植物的AGL6类基因具有高度的同源性。实时定量RT-PCR 分析表明,GhMADS-13 在CCRI36 的花器官发育中早期表达量逐步增加,后期有下降趋势。推测GhMADS-13 可能在开花诱导和花器官发育过程中起着重要作用。
【英文摘要】A group of regulatory factors containing the MADS-box domain plays an important role in controllingfloral organ formation and development. A new cotton flowering-related MADS-box gene cDNA was isolatednamed as GhMADS-13 (GenBank accession number: FJ409870) on this basis of a normalized full-length cDNA libraryof CCRI 36 combination with the sequencing and analysis of expressed sequence tags (ESTs). The fragmentwas 1 079 bp long and contained an open reading frame of 732 bp coding a polypeptide of 234 amino acids. Thededuced protein contained conservative MADS domain and semi-conservative K domain. Homology analysisshowed that the deduced GhMADS-13 protein was highly homologous to the MADS-box genes AGL6 of Arabidopsisthaliana. Expression of GhMADS-13 was analyzed by the method of real-time PCR. Result showed thatGhMADS-13 was more highly expressed in flower buds than apical meristem, and then expressed as a downwardtendency after inflorescence, suggesting that the GhMADS-13 might play an important role in the transition fromthe juvenile to the adult stage.
【语种】中文
【第一作者】吴东
【通讯作者】喻树迅
【期刊名称、卷期、页码】基因组学与应用生物学　2009,28(2):223-228
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【引文索引号】null
【学科分类】分子生物学

【题目】Studies of new EST-SSRs derived from Gossypium barbadense
【中文关键词】无
【英文关键词】Gossypium barbadense
expressed sequence tag (EST)
simple sequence repeat (SSR)
genetic diversity
genetic linkage map
【中文摘要】无
【英文摘要】Existing cotton EST-SSR markers are mostly derived from Gossypium arboreum and Gossypium hirsutum, but EST-SSR markers from Gossypium barbadense are scarce. One hundred and nineteen EST-SSRs were developed based on 98 unique ESTs from a cDNA library constructed in our laboratory using developing fibers from G. barbadense cv. Pima3 – 79. Among the SSRs, trinucleotide AAG appeared at a high frequency of 11.76%. 36 accessions (consisting of 13 diploids of the A genome, 11 diploids of the D genome and 12 allotetraploids of the AD genome) were employed to test new EST-SSRs. 76 EST-SSRs were successfully amplified, and 313 polymorphic fragments were yielded, with an average of 4.11 fragments per primer pair. The PIC ranged from 0.17 to 0.95 with

an average of 0.53. Based on Jaccard ’ s genetic similarity coefficient, these 36 accessions were clustered into three groups. 21 EST-SSRs exhibited polymorphisms in BC1 population ((Emian22 × Pima3 – 79) × Emian22), 24 polymorphic loci were generated, while 22 of the 24 polymorphic loci were integrated with our interspecific BC1 backbone genetic linkage map, and anchored in 12 chromosomes. This study effectively proved that EST-SSRs from G. barbadense are valuable for genetic diversity analysis and genetic mapping.
【语种】英文
【第一作者】YanXin Zhang
【通讯作者】xl zhang
【期刊名称、卷期、页码】Chinese Science Bulletin Volume 52, Issue 18 , pp 2522-2531
【论文发表时间】2007-09-12 00:00:00
【引文索引类型】SCI
【引文索引号】10.1007/s11434-007-0399-2
【学科分类】分子生物学

【题目】新 疆棉花生产发展回顾与可持续发展探讨
【中文关键词】新疆棉花 栽培演变 品种演变 可持续发展
【英文关键词】无
【中文摘要】本文重点分析了新疆棉花栽培技术的演变和品种演变规律,新疆棉花育种技术发展回顾与现状,新疆棉花生产中存在的问题,提出了新疆棉花可持续发展的关键技术措施。
【英文摘要】无
【语种】中文
【第一作者】吐尔逊江
【通讯作者】艾先涛
【期刊名称、卷期、页码】《中国棉花学会2009年年会论文汇编》2009年
【论文发表时间】2009-08-08 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】分子生物学

【题目】A new furanoid toxin produced by Curvularia lunata, the causal agent of maize Curvularia leaf spot
【中文关键词】玉米弯孢叶斑病, 呋喃毒素
【英文关键词】furanoid toxin, Curvularia lunata
【中文摘要】玉米弯孢叶斑病菌产生的一种新的呋喃毒素
【英文摘要】A new furanoid toxin produced by Curvularia lunata, the causal agent of maize Curvularia leaf spot
【语种】英文
【第一作者】Tong Liu
【通讯作者】Jie Chen
【期刊名称、卷期、页码】Canadian Journal of Plant Pathology, 2009, 31: 22-27
【论文发表时间】2009-01-05 00:00:00
【引文索引类型】SCI
【引文索引号】7.0606609095e+015
【学科分类】植物保护学

【题目】Accumulation of copper in Trichoderma reesei transformants, constructed with the modified Agrobacterium tumefaciens-mediated transformation technique
【中文关键词】木霉菌
【英文关键词】Agrobacterium tumefaciens-mediated transformation Copper accumulation Internet resource.
【中文摘要】木霉菌
【英文摘要】A modified Agrobacterium tumefaciens-mediated transformation method was established for the construction of mutants with improved copper tolerance and accumulation capability in Trichoderma reesei. One transformant, AT01, exhibited the highest copper accumulation capability. With copper at 0.7 mM, AT01 removed 13 mg copper/g biomass (removal rate of 96%),

whereas the wild-type strain removed only 6 mg copper/g biomass (removal rate of 50%). Optimal conditions were a pH of 5.0 at 28pC. The pigment change of Trichoderma mycelia was a potential indicator of copper accumulation. Electron microscopy revealed that copper was mainly accumulated in cell vacuoles.

【语种】英文
【第一作者】Kehe Fu
【通讯作者】Jie Chen
【期刊名称、卷期、页码】BIOTECHNOLOGY LETTERS 卷: 32 期: 12 页: 1815-1820
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【引文索引类型】SCI
【引文索引号】s10529-010-0365-y
【学科分类】植物保护学

【题目】Agrobacterium-mediated transformation as a useful tool for the molecular genetic study of the phytopathogen Curvularia lunata
【中文关键词】遗传变异 色素沉着 毒素
【英文关键词】Genetic variance,Germination,Pigmentation,Toxin
【中文摘要】农杆菌介导转化为分子创一个有用的工具
【英文摘要】In order to explore themolecularmechanisms of virulence and genetic variance of Curvularia lunata in maize, an ATMT (Agrobacterium tumefaciensmediated transformation) system was established in order to create a wide range of insertional transformants of C. lunata. Our results showed that the germinating conidia were the ideal starting material for transformation.Based on our optimised transformation condition, the transformation efficiency of C. lunata with T-DNA was improved greatly, and the average transformation frequency was as high as 84±5 transformants per 1× 106 germlings. Southern blotting results of 39randomly-selected transformants showed a unique hybridisation pattern and predominant single-copy insertions. An ATMT library containing approximate 3000 transformants was generated, and four types of transformants were screened in terms of growth rate, sporulation, mycelial pigmentation, and toxin production in vitro. This library will be used to identify genesinvolved in the virulence of the pathogen.

【语种】英文
【第一作者】Tong Liu
【通讯作者】Jie Chen
【期刊名称、卷期、页码】European Journal of Plant Pathology, 2010, 126: 363-371
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【引文索引号】DOI 10.1007/s10658-009-9541-0
【学科分类】植物保护学

【题目】2007年吉林省玉米主要病害调查及发生流行趋势预测
【中文关键词】玉米病害 发生趋势预测 预测预报 吉林省 玉米大斑病菌 玉米灰斑病 主要病害 叶斑病 病株率 生理小种
【英文关键词】Corn diseases; Catastrophic tendency; Forecast
【中文摘要】2007年8~9月对吉林省的长春、四平、延边和白城等9个地区25个市(县)、乡(镇)的生产田、吉林省区试和生试试验田玉米主要病害发生情况进行了调查和病样采集。结果表明,吉林省大部分玉米产区大斑病和灰斑病普遍发生,白城和松原地区部分玉米产区大斑病发病率高达100%,灰斑病发病率高达90%,未来几年可能成为吉林省主要玉米病害。2007年许多地区玉米弯孢叶斑病、茎腐病、纹枯病、瘤黑粉病、小斑病和丝黑穗病等病害发生也较为普遍,甚至在某些玉米产区成为主要病害。
【英文摘要】The August to September 2007, researched and collected the stylebook of main corn diseases of the districts in Jilin province including Changchun, Siping, Yanbian, Baicheng etc. The research showed that northern corn leaf blight and gray leaf spot occurred in large in Jilin province. Partly corn production- areas of Baicheng and Songyuan district northern corn leaf blight occurrence reached 100%, and gray leaf spot reached 90%, and will probably grew up main corn diseases years in the future. Some areas eyespot, maize stalk rot, corn sheath blight, common smut, southern corn leaf blight, heat smut, etc, will occur also widely, and even grewup the main corn disease in some corn production- areas in this year.

【语种】中文
【第一作者】苏前富
【通讯作者】晋齐鸣
【期刊名称、卷期、页码】玉米科学, 2008, 16(5): 135-137
【论文发表时间】2008-12-26 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】植物保护学

【题目】6种染色方法对玉米丝黑穗病菌不同发育阶段的染色效果比较
【中文关键词】玉米叶片 丝黑穗病 染色 组织学观察 真菌原位检测 玉米丝黑穗病菌 染色方法 组织透明 苯胺蓝 生长发育阶段 染色法
【英文关键词】Maize; Head smut; Staining; Histology observation; Detection fungi in situ
【中文摘要】比较了姬姆萨氏色素(Giemsa)、苯胺蓝-乳酚油、番红O-KOH、苯胺蓝-甘油、曲利苯兰酒精-乳酚酸和考马斯亮兰组织透明染色法对玉米丝黑穗病菌不同生长发育阶段的染色效果。结果表明,在一定的染液浓度条件下,6种染色方法均可进行冬孢子、芽管、先菌丝、担子、担孢子等寄主组织内部菌体的原位染色。曲利苯兰组织透明染色方法更稳定、简捷和易于观察,能观察玉米丝黑穗病菌的整个生长发育阶段,因此适宜胞间菌丝的染色。
【英文摘要】Fluorescence staining methods of Giemsa, aniline blue- lactophenol, SafraninO- KOH, aniline blue- glycerin, trypan blue and coomassie brilliant blue for different phases in life cycle of Sporisorium relianum were compared. The results showed that three kinds of fluorescence techniques can be used to stain teliospore, germ tube, promycelium, basidium and basidiophore of Sporisorium relianum in situ on the leaf internal. But staining with trypan blue was easier to handle, faster, and more reliable than the other two. Trypan blue was appropriate for staining of the intercellular hypha.
【语种】中文
【第一作者】张宝艳
【通讯作者】高增贵
【期刊名称、卷期、页码】玉米科学, 2008, 16(1): 129-132
【论文发表时间】2007-07-05 00:00:00
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【引文索引号】null
【学科分类】植物保护学

【题目】Ht2背景下玉米对大斑病菌1号小种抗性基因的表达差异研究
【中文关键词】玉米大斑病菌 cDNA-AFLP Ht基因 差异显示
【英文关键词】Exserohilum turc icum; cDNA-AFLP; Ht2 gene; d ifferent ia l expression
【中文摘要】以玉米自交系黄早四和黄早四Ht2近等基因型系为材料,利用cDNA-AFLP差异显示方法,分析玉米抗大斑病Ht2相关基因受大斑病菌1号小种胁迫后的差异表达情况。用筛选的70对引物在黄早四Ht2中扩增出76个差异显示片段,对差异条带回收、克隆和测序,并在NCBI上进行BLAST分析,有52个在GenBank中发现相似性较高、功能已知的EST序列,按其功能分为以下8类:基础能量代谢、跨膜运输蛋白、抗逆或抗病相关蛋白、蛋白质代谢、染色体组成蛋白及DNA复制和转录中的蛋白、信号传导、生长发育调控因子和转录因子,而其中以参与基础能量代谢的基因和抗逆或抗病相关基因所占比例较大。功能已知的52个差异表达片段在玉米1~9号染色体上均有分布,且在非亲和互作前期(6h)主要是一些信号相关基因的表达,12h表达的基因多属于抗病反应初期阶段的相关基因,与防卫有关的基因主要在48~72h表达,生长发育类基因在所检测的非亲和互作的不同阶段均表现作用,在非亲和互作后期主要是蛋白质代谢基因的表达。
【英文摘要】cDNA amplified fragment leng th po lym orph ism (cDNA-AFLP) w as conducted to ana lyze different tial expression o fH t2-re la ted genes be tw een near-isog enic lines (N ILs) Huangzao si (HZS) andHuangzao siHt2 (HZ SHt2) after ino culat ion w ith race 1 o fExseroh ilum turcicum. Seven ty-six transcrip-t derived f ragm ents (TDFs), designa ted Ex01 to Ex76, w ere specif ically expressed in HZSH t2. BLA ST analy sis show ed that 52 o f them w ere hom o logous to the genes in theG enBank database. The TDFs w ith sign if icant pro te in homo lo gy w ere classif ied into e igh t functiona l ca tego ries: basa l energy m etabo lism, transm embrane transpo rt protein, defense / resistance pro te in, pro te in m etabo lism, pro tein o f chromo some and pro te ins o f DNA rep lication and transcription, signa l transduction, g row ing developmentm ed iato r and transcript ion facto r. M o st o f these genes w ere assoc ia ted w ith basa l energy me tabo lism and defence / resistance gene. Ana ly zing the space-tim e tra it o f 52 TDFs show ed tha t they w ere

ranged from chromo some 1 to 9. Signa l tran sduct ion genes expressed at 6 h after inoculation and defense / resistance genes started to expre ss at 48- 72 h. Ht2-related gene expressions pro f iling in response to inocu lation o fE. turcicum w ere ana ly zed by means of cDNA-AFLP. The identif ication ofH t2-re la tedgenes in the study are important for further study o fH t2 gene and themechanism o f resistance toE. turcicum inm a ize.

【语种】中文
【第一作者】王会伟
【通讯作者】王晓鸣
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【引文索引号】null
【学科分类】植物保护学

【题目】mtDNA COⅡ基因序列应用于赤眼蜂分子鉴定的研究
【中文关键词】赤眼蜂 mtDNA COⅡ基因序列 分子鉴定 分子系统学
【英文关键词】Trichogramma spp.; mtDNA; COⅡ sequence; Molecular identification; Molecular systematics
【中文摘要】赤眼蜂(Trichogrammaspp.)是全世界害虫生物防治中研究最多、应用最广的一类卵寄生性天敌,赤眼蜂蜂种的正确鉴别是取得良好防治效果的关键。【方法】通过对松毛虫赤眼蜂(Trichogrammadendrolimi)、玉米螟赤眼蜂(T.ostriniae)、螟黄赤眼蜂(T.chilonis)、短管赤眼蜂(T.pretiosum)、卷蛾赤眼蜂(T.cacoecia)5种赤眼蜂,及松毛虫赤眼蜂(T.dendrolimi)、玉米螟赤眼蜂(T.ostriniae)、螟黄赤眼蜂(T.chilonis)的不同地理种群的细胞色素氧化酶Ⅱ(mtDNACOⅡ)基因序列片段的测定,并调用GenBank中微小赤眼蜂T.minutum、T.plantneri的同源序列,对不同种赤眼蜂的mtDNACOⅡ序列进行了多重排比和聚类,探讨了mtDNACOⅡ用于赤眼蜂不同种系统进化分析及分子鉴定的可行性。【结果】序列分析结果表明,不同地理种群赤眼蜂的遗传距离均小于0.66%,不同种赤眼蜂间的遗传距离在2%~7.6%之间。【结论】COⅡ基因序列在赤眼蜂种内非常保守,而种间存在明显的遗传差异,可以用作赤眼蜂种的分子鉴定。
【英文摘要】【Objective】Trichogramma spp. is the most widely studied and used egg parasitoids for biological control of insectpests in the world. Correct Trichogramm species identification is the first step for a successful biological control program. 【Method】The mitochondrial cytochrome oxidase Ⅱ(mtDNA COⅡ) of five Trichogramma species, i.e. Trichogramma dendrolimi, T. ostriniae, T. chilonis, T. pretiosum, T. cacoeciae and different populations of T. dendrolimi, T. ostriniae, T. chilonis were sequenced, and the homological sequences available in GenBank were retrieved for DNA alignment and clustering. Research focused on feasibility of the application of COⅡ sequences to the phylogenetic and molecular identification of different Trichogramma species and different geographical populations of the same Trichogramma species. 【Result】 Alignment of sequenced COⅡ showed genetic distanceswere less than 0.66% with Trichogramma speices and 2%-7.6% between Trichogramma speices. 【Conclusion】It can be concluded that COⅡ gene sequences were highly conserved within intraspecific taxa, but significant genetic difference existed between interspecific taxa, and COⅡ is suitable for molecular identification at the species level.
【语种】中文
【第一作者】付海滨
【通讯作者】丛斌
【期刊名称、卷期、页码】中国农业科学, 2006,39(9): 1927-1933
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【引文索引号】null
【学科分类】植物保护学

【题目】成团泛菌对玉米自交系PS056致病性基因fK的克隆
【中文关键词】成团泛菌 Tn转座子 玉米 细菌性干茎腐病 yhfK
【英文关键词】Pantoea agglomerans; Tn5 transposon; maize; bacterial dry stalk rot; yhfK
【中文摘要】【目的】通过克隆和鉴定成团泛菌(Pantoea agglomerans)的致病相关基因,阐明该种土壤习居细菌在玉米自交系PS056上引起细菌性干茎腐病的原因。【方法】利用转座子Tn5的随机插入突变特点,构建致病性菌株P.agglomerans XJ1突变体库;经对Tn5插入位点的侧翼扩增,确认突变体PA121的致病力相关基因;通过基因互补试验,证明yhfK与致病力的关系。【结果】通过对突变菌株的接种筛选,获得11个致病力丧失的突变体。Southern杂交和PCR扩增结果表明,Tn5在突

变体PA121中为单拷贝插入,插入位点为细菌编码内膜蛋白的yhfK(Tn5插入在yhfK的1 082 bp处)。将yhfK克隆到质粒pBBR1MCS上,并导入突变体PA121中进行互补,生物测定结果显示转化子完全恢复了正常的细菌生理功能,并能够在玉米自交系PS056上恢复致病力。RT-PCR试验证明,yhfK调控hrpA的转录【。结论】成团泛菌XJ1中yhfK是调控其对植物致病性的基因之一,具有在玉米自交系PS056上引起细菌性干茎腐病的功能。

【英文摘要】【Objective】 The purpose of this study was to clone and identify a pathogenicity gene of Pantoea agglomeranscausing bacterial dry stalk rot on maize.【Method】 A transposon mutant library was constructed in P. agglomerans by Tn5transposon mutagenesis. The mutants with defective pathogenicity were screened using the stalk-injecting inoculation on thesusceptible maize inbred line PS056. One mutant lost pathogenicity was obtained and designated as PA121.【Result】Southernblotting analysis indicated that the mutant PA121 had a single-copy Tn5 transposon which inserted into the yhfK at the site of 1 082bp upstream. The yhfK encodes a conserved inner membrane protein, identified by bi-directional sequencing based on Tn5 sequence.Phenotypic analysis indicated a complementary plasmid retained the pathogenicity on host PS056. The activities of extracellularenzymes, such as protease, amylase and cellulase, were not affected in mutant PA121. RT-PCR analysis demonstrated that the yhfKregulated the transcription of hrpA.【Conclusion】This study demonstrates that the yhfK affects pathogenicity of P. agglomerans,which is a critical element in the pathogenesis of P. agglomerans causing bacterial dry stalk rot on maize.

【语种】中文

【第一作者】曹慧英

【通讯作者】王晓鸣

【期刊名称、卷期、页码】中国农业科学, 2010, 44(2):299-306

【论文发表时间】2010-06-08 00:00:00

【引文索引类型】其他

【引文索引号】null

【学科分类】植物保护学

【题目】不同赤眼蜂品系ISSR-PCR条件优化及分子鉴定

【中文关键词】赤眼蜂品系 ISSR-PCR 品系鉴定和筛选 分子鉴定 优良品系 不同品系 引物 扩增程序 生物学特性 反应体系

【英文关键词】Trichogramma, ISSR- PCR, identification and screening of strain

【中文摘要】赤眼蜂Trichogramma不同品系在寄生能力等生物学特性上存在差异,而这些差异可能被用于优良品系的筛选。通过优化影响赤眼蜂不同品系ISSR-PCR的主要参数,建立适于鉴别赤眼蜂不同品系的ISSR-PCR反应体系和扩增程序。在20 μL反应体系中,各反应物的最适含量为10×PCR Buffer 2.0 μL,MgCl22.0 μL(25mmol/L),dNTPs1.6 μL(2.5mmol/Leach),正反向引物各1 μL(25 μmol/L),DNA模板1.0 μL,Taq酶0.4 μL(2.5U/ μL),和ddH2O。ISSR-PCR的扩增程序为:95℃预变性5min,94℃变性50s,52℃退火1min,72℃延伸1min20s,35个循环,72℃延伸10min。结果表明,在上述优化条件下,采用ISSR-PCR可实现对7个赤眼蜂优良品系的分子鉴定。该研究对于赤眼蜂优良品系的筛选具有潜在的应用价值。

【英文摘要】Different Trichogramma strains are differentiated from each other in biological characteristics, such asparasitic capability, which might be used for screening of superior Trichogramma strains. Here Inter- Simple SequenceRepeats (ISSR)- PCR was used to investigate the genetic variation of 7 candidate strains, and the molecular markersspecific to different strains were subsequently identified. By optimizing the main parameters, the optimal ISSR-PCRreaction conditions for Trichogr amma were firstly established. The results showed that the optimum concentrations ofdifferent reagents in a total of 20 L volume were: 2 0 L MgCl2 (20 mmol L) , 1 6 L dNTPs (2 5 mmol L each) ,1 L ISSR primer (10 mmol L) , 1 5 L genomic DNA and 0 4 L Taq DNA polymerase (2 5 U L) . The suitable 388 昆虫知识 Chinese Bulletin of Entomology 2009 46(3)PCR procedures were determined to be: pre- denaturing at 95 for 5 min, followed by 35 cycles of denaturing at94 for 50 s, annealing at 52 for 1min and extension at 72 for 1 min 20 s, with a final extension at 72 for 10min. Under the optimal conditions, the 7 Trichogramma strains tested could be discriminated by using ISSR- PCR. Itis therefore suggested that this technique is helpful in identification and screening of Trichogramma strains.

【语种】中文

【第一作者】裴毅夫

【通讯作者】李正西

【期刊名称、卷期、页码】昆虫知识, 2009, 46(3): 388-393

【论文发表时间】2008-09-22 00:00:00

【引文索引类型】其他

【引文索引号】null

【学科分类】植物保护学

【题目】不同地理种群玉米螟赤眼蜂对极端温湿度条件的反应
【中文关键词】玉米螟赤眼蜂 地理种群 亚洲玉米螟 高温 低温 低湿
【英文关键词】Trichogramma ostrinia ; geographic po pulation; Ostrinia furnacalis ; high temperature; low temperature; low humidity
【中文摘要】在高温低湿(31°C,45%RH和34°C,45%RH)和低温低湿(16°C,45%RH和19°C,45%RH)不同温湿组合条件下,以亚洲玉米螟卵为寄主,研究了不同地理种群玉米螟赤眼蜂的寿命、生殖力和性比情况。结果表明,在31°C,45%RH条件下,北京种群和日照种群平均每雌分别寄生(17.60±1.70)粒和(17.44±1.46)粒,显著高于其他种群(p0.05)。在19°C,45%RH条件下,广东广州种群寄生寄主卵数最多,平均每雌寄生(26.65±2.17)粒,与其他种群差异显著(p0.05)。北京种群、日照种群和广州种群分别可以作为高温低湿和低温低湿条件下防治亚洲玉米螟的候选种群。
【英文摘要】Longe vity of female , f ecundity a nd sex rat io o f diff erent geo gr aphic po pulations of Trichogramma o striniae w ere inv estigated w hen rea red o n eggs of the Asian co rn bo rer , Ostr inia fu rnacalis, at low temperature with low humidity (19 , RH45%) and hig h temper atur e w ith low humidity (31 , RH45%) . The results showed that the Beijing and Rizhao po pulations para sit ized 17. 60 1. 70 and 17. 44 1. 46 eg gs pe r fem ale , respectiv ely , sig nificantly higher tha n o ther populat io ns (p < 0. 05) a t 31 and RH45%. Guangzho u po pulation para sitized 26. 65 2. 17 eggs per fem ale, sig nif icantly hig her tha n o ther s (p < 0. 05) at 19 a nd RH45%. These populatio ns wo uld be as candidates fo r c ontr olling Asian co rn bo rer a t low temper ature with low humidity o r hig h tem per at ure with low humidity co nditions.
【语种】中文
【第一作者】袁佳
【通讯作者】王振营
【期刊名称、卷期、页码】植物保护, 2010, 36(1): 51-54
【论文发表时间】2009-08-02 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】植物保护学

【题目】不同抗性玉米自交系对玉米弯孢菌侵染应答反应差异蛋白分析
【中文关键词】玉米弯孢菌叶斑病 预分离技术 蛋白质组学 玉米自交系 差异蛋白 抗性相关基因 表达量 蛋白质图谱 反应差异 防御反应
【英文关键词】Curvularia lunata
【中文摘要】采用Mg/NP-40及PEG预分离技术,在去除叶片高丰度表达蛋白主要是Rubisco的基础上,研究了鲁原92(高抗),78599-1(抗),E28(感)和黄早4(感)4个玉米自交系苗期叶片对玉米弯孢菌(Curvularia lunata)强致病株系CX-3侵染应答反应差异蛋白质图谱.接种病菌后抗、感自交系蛋白质点总数均明显增加;抗性自交系表达丰度上调二倍的蛋白点数多于感病自交系.对可能与抗、感病性明显相关的8个差异蛋白点进行了质谱鉴定,发现玉米萌发素类似蛋白GLP和翻译起始因子eIF-5A与玉米对玉米弯孢菌叶斑病的抗性关系密切.
【英文摘要】Curvularia lunata(Wakker)Boed
【语种】中文
【第一作者】黄秀丽
【通讯作者】陈捷
【期刊名称、卷期、页码】自然科学进展, 2008, 18(10): 1169-1173
【论文发表时间】2008-10-02 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】植物保护学

【题目】不同抗性种质资源对玉米弯孢霉叶斑病菌产生的细胞壁降解酶活性的影响
【中文关键词】Curvularia lunata;cell-wall-degrading enzyme;pathogenicity
【英文关键词】Curvularia lunata;cell-wall-degrading enzyme;pathogenicity

【中文摘要】It w as found that activ ities o f ce llu lase and pecto ly tic enzyme pro duced f rom C urvu la ria luna ta,w ere sign if icant ly af fected w hen the pathogen inocu la ted on vario us m aize g ermp la sm s w ith dif ferent resistantleve ls. Iso late 98-07, w h ich ino culated on resistan t germ plasm s for sing le generation, w as induced re la tiv elyh igher av erage ce llulase activ ity (7. 99 U /mL) than that induced on susceptib le germplasm s (4. 91 U /mL) .B y consecut ive ly ino cu la ting low pa thogen icity iso la tes C107 andW S18 on re sistant inbred line Shen135 fo r 5generations, w e found tha t the ir patho gen ic ity im pro ved genera lly as the increase o f generations, and sim ultaneouslythe ir ce llulase activ ities w ere also enhanced (C107 32. 0%; W S18 72. 2%). The da ta indicated thatthere is a sign if icant co rre lation betw een iso la te cellulase ac tiv ities and the chang es of its pa thogen icity (C 107 r= 0. 916; W S18 r= 0. 905) induced spec if ica lly on resistant germ plasm s

【英文摘要】It w as found that activ ities o f ce llu lase and pecto ly tic enzyme pro duced f rom C urvu la ria luna ta,w ere sign if icant ly af fected w hen the pathogen inocu la ted on vario us m aize g ermp la sm s w ith dif ferent resistantleve ls. Iso late 98-07, w h ich ino culated on resistan t germ plasm s for sing le generation, w as induced re la tiv elyh igher av erage ce llulase activ ity (7. 99 U /mL) than that induced on susceptib le germplasm s (4. 91 U /mL) .B y consecut ive ly ino cu la ting low pa thogen icity iso la tes C107 andW S18 on re sistant inbred line Shen135 fo r 5generations, w e found tha t the ir patho gen ic ity im pro ved genera lly as the increase o f generations, and sim ultaneouslythe ir ce llulase activ ities w ere also enhanced (C107 32. 0%; W S18 72. 2%). The da ta indicated thatthere is a sign if icant co rre lation betw een iso la te cellulase ac tiv ities and the chang es of its pa thogen icity (C 107 r= 0. 916; W S18 r= 0. 905) induced spec if ica lly on resistant germ plasm s

【语种】中文

【第一作者】姜雪

【通讯作者】陈捷

【期刊名称、卷期、页码】植物病理学报, 2010, 40(3): 325-328

【论文发表时间】2009-12-14 00:00:00

【引文索引类型】其他

【引文索引号】null

【学科分类】植物保护学

【题目】不同温度对麦蛾茧蜂实验种群生长发育的影响

【中文关键词】麦蛾茧蜂 温度 成虫寿命 生殖力 发育

【英文关键词】Habrobracon hebetor , temperature, adult longevity, fecundity, development

【中文摘要】在15,20,25和30°C4个温度梯度下,测定了麦蛾茧蜂Habrobracon hebetor(Say)成蜂寿命、生殖力、发育历期等生物学参数。结果表明,在实验温度范围内,卵期在15°C最长,为(9.50±1.39)d;幼虫发育历期在20°C最长,为(6.60±1.41)d;蛹期在15°C最长,为(23.71±2.63)d。雌蜂的寿命在15°C时最长,为(50.15±6.9)d;30°C时最短,为(9.20±3.12)d雄蜂的寿命在15°C时最长,为(11.45±3.52)d;30°C时最短为(5.90±1.62)d。产卵量在25°C最大,为(208.50±40.12)粒;羽化数、羽化率在30°C最高,分别为(23.60±9.33)%和(35.87±13.87)%;温度变化对麦蛾茧蜂雌成蜂生物学参数具有显著影响。

【英文摘要】The adult longevity, development and fecundity of Habrobr acon hebetor (Say) were observed at 15, 20,25 and 30 in laboratory. The results showed that developmental rate increased with the temperature increasing from15 to 30 . The longest duration of egg stage was (9. 50 1. 39) days observed at 15 . The longest duration oflarval stage was (6. 60 1. 41) days at 20 ; The longest duration of pupal stage was (23. 71 2. 63) days at 15 ; 666 昆虫知识 Chinese Bulletin of Entomology 2006 43(5)The longest longevity for female adult was (50. 15 6. 96) days observed at 15 and the shortest was (9. 20 3. 12)days at 30 . The longest longevity for male adult was (11. 45 3. 52) days observed at 15 , the shortest was(5. 90 1. 62) days at 30 . In general, the adult longevity of female was longer than that of male. The max imumnumber of egg aid per female was 208. 50 40. 12 at 25 . The maximum emergence rate was (35. 87 13. 87) %observed at 30 . It could be concluded from the results that temperature shows a significant effect on biologicalparameters of H . hebetor .

【语种】中文

【第一作者】田秋

【通讯作者】丛斌

【期刊名称、卷期、页码】昆虫知识, 2006, 43(5): 666-669

【论文发表时间】2006-12-02 00:00:00

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【学科分类】植物保护学

【题目】常用土壤杀菌剂和肥料对绿色木霉菌T23的影响
【中文关键词】木霉菌 杀菌剂 肥料 定殖
【英文关键词】Trichoderma; fung icide; fert ilizer; co lonizat ion
【中文摘要】采用常规土壤微生物分离和真菌生物量测定等方法,检测6种常用土壤杀菌剂:多菌灵、甲基托布津、福美双、代森锰锌、百菌清和五氯硝基苯;3种肥料:尿素、过磷酸钙和硫酸钾;以及8种营养元素:铜、锌、铁、钼、钙、锰、镁和钾对绿色木霉菌菌株T23菌丝生长、产孢及其在土壤中定殖的影响。不同杀菌剂、肥料和营养元素及其不同处理浓度处理对木霉菌株T23菌丝生长、产孢和定殖的影响差异显著,多菌灵和甲基托布津、尿素、硫酸锌和硫酸镁具有明显的抑制作用,20μg/mL多菌灵、甲基托布津原药对菌株T23菌丝生长抑制率分别为100.0%和79.0%;0.23%尿素处理土壤21天后对根际定殖抑制率为35.6%;100mg/L硫酸锌和1000mg/L硫酸镁处理土壤21天后对木霉菌定殖的抑制率分别为31.1%和15.9%。适量应用代森锰锌、硫酸钾及二钼酸铵、硫酸钙、磷酸二氢钾等有利于木霉菌根际定殖。
【英文摘要】The effects o f six fung icides, includ ing carbendazism, thiophanate-m ethy,l thiram, mancozeb,chlorothalon il and qu intozene, three fertilizers, inc luding carbam ide (CO (NH2) 2) , calc ium superphosphate(Ca(H2PO4) 2 H2O), potassium su lfa te (K2 SO4), e ightm icronu trient elements, includingcopper, zinc, iron, mo lybdenum, calc ium, manganese, m agnesium, and potassium, on myce liumgrow th and sporulation o f stra in T23 o fTrichod erma viride, and on its co lonization in rhizosphere of sw ee tme lon w ere invest igated by means of conventional techn ics o f so ilm icrob ial iso lat ion, biomass determ ination of fung,i etc. The results suggested that significant difference of effects of six fung icides, three ferti-lizers, eightm icronutrient elements, and their treated concentrations ex isted onmycelium grow th, spo ru lation, rh izosphere colonization o f stra in T23 ofT richoderma viride, respective ly. Carbendazism and th iophanate-methy,l carbam ide, zinc sulfate and magnesium sulfate exh ib ited a stronger inh ib it ion to stra inT23. A t concentra tion of 20 g /mL, tw o fung icides, carbendazism, thiophana te-m ethy,l inhibitedmyceliumg row th o f strain T23 on PDA p lates by 100. 0% and 79. 0% respectively. A t 21 days a fter adding,基金项目: 国家 十一五 科技支撑课题(2006BAD08A06), 辽宁省科技攻关项目(2006215004), 沈阳农业大学博士后研究项目作者简介: 高增贵, 男, 1966年生, 研究员, 主要从事植物微生态学和病害生物防治研究, ema i:l gaozenggu@i sina. com* 通讯作者(Author for correspondence), em ai:l lt@l syau. edu. cn收稿日期: 2007- 10- 29第35卷 第1期2008年 2 月植 物 保 护 学 报ACTA PHYTOPHYLACICA SINICAVo.l 35 No. 1Feb. 2008 carbam ide at 0. 23% inh ib ited the rhizosphere co lonization of stra in T23 by 35. 6% . The inh ib itionrate of 100mg /L zinc sulfate and 1 000mg /L magnesium sulfate on co lonization o f strain T23 in so ilw as31. 1% and 15. 9%, respective ly. Rh izosphere co lon izat ion of stra in T23 w ere st imu lated by add ing someamounts of ammonium, calcium su lfate, potassium d ihydrogen phosphate to med ium or app ly ingmycozoband po tassium sulfate to soil
【语种】中文
【第一作者】高增贵
【通讯作者】高增贵
【期刊名称、卷期、页码】植物保护学报, 2008, 35(1): 74-80
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【学科分类】植物保护学

【题目】赤眼蜂SSR反应体系的建立
【中文关键词】赤眼蜂 简单序列重复 反应体系
【英文关键词】Trichogramma spp.; SSR; reaction system
【中文摘要】以松毛虫赤眼蜂为试材,研究了单头赤眼蜂DNA的提取方法以及SSR反应体系的的主要成分对SSR扩增结果的影响。结果表明:在20μL PCR反应体系中,Mg2+的最适浓度为2.0mmol.L-1,dNTP的最适浓度为2.0mmol.L-1,引物的最适浓度为0.8μmol.L-1,Taq聚合酶的最适浓度为1.0U。利用此反应体系,对13个松毛虫赤眼蜂地理品系进行SSR反应,用6%变性聚丙烯酰胺凝胶电泳检测PCR扩增产物,不同品系间DNA谱带多态性丰富。
【英文摘要】Method of DNA extraction and factors influencing SSR- PCR reaction, including the concentration of Mg2+, dNTP,primer and Taq in Trichogramma spp. were studied. The optimal reaction conditions were as follows: Mg2+ 2.0mmol · L-1,dNTP2.0mmol · L- 1, primer 0.8 μmol/L, Taq DNA polymerase 1.0 U. The total volume of reaction was 20 μL. Using the SSR-PCRreaction system,SSR fragments of 13 different geographical populations of Trichogramma dendrolimi were obtained.

Polymorphismbetween different geographical populations was abundant detected by 6% Polyacrylamide gel.
【语种】中文
【第一作者】付海滨
【通讯作者】丛斌
【期刊名称、卷期、页码】沈阳农业大学学报, 2006, 37(1): 99-101
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【引文索引号】null
【学科分类】植物保护学

【题目】赤眼蜂防治玉米螟的持续效果分析
【中文关键词】赤眼蜂 玉米螟 危害率
【英文关键词】Trichogramma ostriniae; Ostrinia furnacalis; Damage rate
【中文摘要】利用松毛虫赤眼蜂连续3年进行大面积防治玉米螟研究。结果表明:放蜂对当代玉米卵平均寄生率为75.1%,平均防效62.8%,玉米平均被害率减少62.3%。对二代玉米螟的持续效果为蛀孔率下降44.6%,折茎率下降51.9%,平均防效为48.3%。秋末虫量下降幅度在40.8%~49.0%,平均下降率为46.2%。在玉米螟一般发生年份,利用一代放蜂的持续效果可以控制玉米螟的危害。
【英文摘要】Mass reared Trichogramma dendrolimi was released in a large area of corn in to control Asian cornborer, Ostrinia furnacalis. The results showed that the parasitic rate of T.d. on the first generation of corn borer eggs,which increased 62.8% than control, reached to 75.1%; meanwhile, the damage rated of corn reduced 62.3%. Thesustained effect of T.d. on the second generation of corn borer showed that the borer rate decreased 44.6%, the broken-stem rate decreased 51.9%, and the average control effect was 48.3%. At the end of autumn, the amount of cornborer decreased 46.2% at the average and restored the loss of 8.5% from 40.8%-49.0%. At the general year that cornborer damaged, the corn borer was controlled by the sustained effect of T.d. on the first generation of corn borer.
【语种】中文
【第一作者】杨长成
【通讯作者】杨长成
【期刊名称、卷期、页码】玉米科学, 2010, 已接收
【论文发表时间】2010-02-10 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】植物保护学

【题目】赤眼蜂种间沃尔巴克氏体水平人工转染供体蜂种的筛选
【中文关键词】沃尔巴克氏体 赤眼蜂 产雌孤雌生殖
【英文关键词】wolbachia
【中文摘要】实验室条件下以感染沃尔巴克氏体的引进种卷蛾赤眼蜂、食胚赤眼蜂、短管赤眼蜂为材料,比较分析3种赤眼蜂连续3代喂食抗生素后子代雄蜂率、寄生和羽化情况。除卷蛾赤眼蜂F_2代外,取食四环素后3种赤眼蜂各世代寄生率均降低,其中食胚赤眼蜂的寄生率与对照相比明显下降;3种赤眼蜂间寄生率没有明显差异。随着取食抗生素世代的增加,3种赤眼蜂子代雄蜂率逐渐增大,短管赤眼蜂F_1代开始出现雄蜂,F_3代雄蜂率高达54.54%,明显高于卷蛾赤眼蜂(20.58%)和食胚赤眼蜂(13.94%);食胚赤眼蜂3个世代羽化雄蜂率均最低,说明其产雌孤雌生殖方式比较稳定,较适合作为赤眼蜂种间沃尔巴克氏体水平人工转染的供体。
【英文摘要】screening of Trichogramma species
【语种】中文
【第一作者】张海燕
【通讯作者】丛斌
【期刊名称、卷期、页码】中国生物防治, 2009, 25(3): 281-284
【论文发表时间】2008-12-24 00:00:00
【引文索引类型】其他

【引文索引号】null
【学科分类】植物保护学

【题目】低温胁迫下戊唑醇和苯醚甲环唑种子包衣对玉米种子出苗和幼苗的影响
【中文关键词】戊唑醇 苯醚甲环唑 种子包衣 低温胁迫 玉米幼苗 种子出苗 叶绿素含量 幼苗生长 玉米种子 抑制作用
【英文关键词】tebuconazo le; difenoconazo le; seed trea tm en;t ch illing stre ss; m aize
【中文摘要】为研究低温胁迫下种子包衣对玉米种子出苗和幼苗生长的影响,以适宜温度(25℃/20℃,白天/晚上,下同)处理为对照,对不同剂量包衣的玉米种子进行低温胁迫。研究结果表明,戊唑醇和苯醚甲环唑种子包衣在适宜温度下对玉米种子出苗具有促进作用,能提高玉米幼苗植株的叶绿素含量,对玉米幼苗的株高和鲜重没有抑制作用。但在17℃/6℃、15℃/0℃、10℃/0℃低温胁迫下,戊唑醇和苯醚甲环唑均能抑制种子出苗和幼苗生长,加剧低温胁迫导致的膜脂质过氧化作用和对叶绿体的分解。但用苯醚甲环唑处理玉米种子比用戊唑醇更安全,前者能抑制低温胁迫导致的叶片细胞内电解质外渗,后者却会加剧电解质的外渗。比较玉米幼苗根系的呼吸作用也可以发现,苯醚甲环唑比戊唑醇更有利于玉米幼苗补偿和修复低温胁迫所致的伤害。
【英文摘要】In o rder to study the ef fects o f seed treatm ent on the em erg ence o f m a ize seeds and thegrow th o f m aize seedling s at ch illing stress, active ing red ient co ated ma ize seeds at dif ferent do sagew ere chilling stre ssed, using optim um tem perature (25 /20 , day /n igh t) as contro .l A t 25 /20 ,the seed treatm en t o f tebuconazo le and d ifeno conazo le cou ld improv e the em ergence o f ma ize seeds,increase the con tents o f chlo rophy ll in the seedlings. and hav e no negat iv e effect on seedling height andf resh w e igh.t B ut at ch illing tempera ture 17 /6 , 15 /0 , 10 /0 , the seed trea tm ent o ftebuconazo le and d ifeno conazo le cou ld inhibit the em ergence o f ma ize seeds and the deve lopm ent o fseed lings. D eteriora tion o f perox idat ion to m embra in lip ids and deg rada tion o f ch lo roplasts induced bych illing stress w ere observ ed in seed ling s tha t seed coa ted by tebuconazo le and difenoconazo le. Theresults show ed that trea tm ent of d ifenoconazo le w as relative ly safer than tebuconazo le to m aize seedsbecause d ifenoconazo le cou ld inhibit the leakage o f e lectro ly tes f rom leaves, but tebuconazo le w orsenedthe leakag e of e lectro ly tes. M o reo ver, difeno conazo le cou ld enhance the resp iration o f roo ts w hichbenef it the recovery o f ch illing stre ssed seedling s, but tebuconazo le inh ib ited the re spirat ion instead.
【语种】中文
【第一作者】王雅玲
【通讯作者】杨代斌
【期刊名称、卷期、页码】农药学学报, 2009, 11: 59-64
【论文发表时间】2008-12-20 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】植物保护学

【题目】东北春玉米区大斑病菌生理小种鉴定
【中文关键词】玉米大斑病菌 生理小种 鉴定
【英文关键词】S etos p haer ia tur cica; phy siolog ical r ace; identificatio n
【中文摘要】对2005年采自东北玉米主产区的大斑病叶标样进行分离,经单孢纯化后获得56个菌株。通过Ht单基因鉴别寄主接种鉴定,结果表明:东北地区玉米大斑病菌生理分化已呈现复杂化,0号生理小种和1号生理小种分别占35.7%和17.9%,为优势小种,其次为123号生理小种,占12.5%,另外还存在2、3、23、123N、12和23N号生理小种。
【英文摘要】The phy siolog ical r aces of Setos p haer ia tur cica w ere identified among 56 iso lates on five cor n inbr ed linesw ith different resistant genes (H t1 , H t2 , H t3 and H tN) co llect ed fr om the cor n planting r eg io ns o f northeasternChina in 2005. T he results showed t hat the r aces w ith hig her frequency w ere race 0, r ace 1 and race 123, account ingfor abo ut 35. 7%, 17. 9% and 12. 5% o f the to tal isolates collected, respectively . Races 2, 3, 23, 123N, 12 and23N wer e a lso identified. T he physio log ical differ ent iatio n o f Setosp haer ia tur cica was complicat ed.
【语种】中文
【第一作者】赵辉
【通讯作者】高增贵
【期刊名称、卷期、页码】植物保护, 2007, 33(6): 31-34
【论文发表时间】2007-05-08 00:00:00

【引文索引类型】其他
【引文索引号】null
【学科分类】植物保护学

【题目】东华北春玉米区玉米品种对主要病害和玉米螟的抗性评价1
【中文关键词】春玉米 病害 玉米螟 抗性评价 参试品种 玉米品种 丝黑穗病 杂交品种 抗灰斑病 抗弯孢菌叶斑病
【英文关键词】Spring corn; Diseases; Corn borer; Evaluation of resistance
【中文摘要】对东华北春玉米区24份玉米主栽品种进行玉米大斑病、弯孢菌叶斑病、灰斑病、丝黑穗病、茎腐病和玉米螟的抗性鉴定。高抗和抗大斑病品种11份,占参试品种的45.83%;高抗和抗灰斑病品种11份,占参试品种的45.83%;高抗和抗玉米弯孢菌叶斑病品种16份,占参试品种的66.67%;高抗和抗丝黑穗病品种10份,占参试品种的41.67%;高抗和抗茎腐病品种18份,占参试品种的75.0%;高抗和抗玉米螟品种6份,占参试品种的25.0%。综合抗性评价筛选出广谱抗性品种9份,占所有参试品种的37.5%。
【英文摘要】Evaluated for resistance of corn leaf blight, curvularia leaf spot, gray leaf spot, stalk rot, head smut andAsia corn borer in the spring areas of northeast and north China. 11 corn varieties showed high- level resistance tonorthern corn leaf blight, 16 varieties to curvularia leaf spot with the frequency of 45.83%, 11 varieties to gray leafspot with the frequency of 45.83%, 10 varieties to head smut with the frequency of 41.67%, 18 corn varieties to stalkrot with the frequency of 75.0%, 6 corn varieties to corn borer with the frequency of 25.0%, 9 corn varieties belong tobroad- spectrum resistance with the frequency of 37.5% by systemevaluation and analysis.
【语种】中文
【第一作者】苏前富
【通讯作者】晋齐鸣
【期刊名称、卷期、页码】玉米科学, 2009, 17(6): 121-123
【论文发表时间】2009-01-13 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】植物保护学

【题目】短期高温对感染Wolbachia 的松毛虫赤眼蜂发育和繁殖的影响
【中文关键词】松毛虫赤眼蜂子代 沃尔巴克氏体 高温冲击 生物防治 生殖方式 柞蚕卵 羽化 感染 繁殖 单卵
【英文关键词】Trichogramma dendrolimi , Wolbachia , heat shock, biological control
【中文摘要】感染了沃尔巴克氏体Wolbachia的松毛虫赤眼蜂Trichogramma dendrolimi Matsumura营孤雌产雌生殖方式,但高温可能影响这一特性。为了模拟该赤眼蜂在田间遇到短期高温后的受影响情况,研究了柞蚕卵繁殖的Wolbachia感染了Wolbachia的松毛虫赤眼蜂孤雌产雌品系,于蛹中期和蛹后期经历6h32,35,38°C高温单次冲击处理,对当代羽化出蜂率、单卵出蜂数、单卵雌蜂率、寿命4个指标和处理子代羽化出蜂率、有效繁殖个体、单卵出蜂数、单卵雌蜂率4个指标的影响。结果表明,短期高温刺激会对孤雌产雌的松毛虫赤眼蜂产生不利影响,尤其是38°C高温不利影响明显,主要表现在羽化出蜂率和单卵出蜂数两指标明显降低;高温冲击对子代蜂各指标影响不明显。2代赤眼蜂均未有雄峰出现,表明短期高温冲击不能对Wolbachia调控其宿主生殖方式的作用产生影响。
【英文摘要】Trichogramma dendrolimi Matsumura infected by Wolbachia has a character thelytokous reproduction.However, high temperature may affect this character. To simulate this condition in field, a test single heat shocks(32, 35 and 38) for 6 hours was applied to middle stage and late stage of pupae of T. dendrolimi infected byWolbachia. A series of data was recorded including the percentages of adult emergence rate, number of wasps per hostegg, female ratio and longevity as well as the number of wasps with parasitization, percent emergence, number ofwasps per host egg and female ratio in the next generation. The results showed the high temperature shocks hadnegative effect to both middle stage and late stage of pupae, especially at 38 . At this temperature, emergence rateand number of wasps per host egg were remarkably reduced. The sensitive level between middle stage and late stage ofpupae has no remarkable difference. For the progeny generation, all parameters as a whole seem to be little affectedby the heat shock experienced in the parent generation. In the two generations wasps, there is no male emergence.This indicates that short high temperature shocks can not influence the action of Wolbachia manipulating reproductionof their hosts.
【语种】中文
【第一作者】崔宝玉
【通讯作者】丛斌

【期刊名称、卷期、页码】昆虫知识, 2007, 44(5): 694-697
【论文发表时间】2006-12-06 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】植物保护学

【题目】分子标记与玉米遗传育种
【中文关键词】玉米 分子标记 遗传育种
【英文关键词】Maize;Molecular mark; Heredity breeding
【中文摘要】建立在分子遗传学基础上的分子标记技术的快速发展,推动了玉米研究在各个领域的发展。本文从分子标记图谱的构建、自交系亲缘关系和遗传多样性评价、QTL分析及分子标记辅助选择等方面介绍了分子标记技术在玉米遗传育种中的应用。
【英文摘要】The fast development of molecular mark technology establishment in the molecular genetics foundation,impelled the development of the corn research in each domain. This article from the molecular mark maps construction,the blood relationship of inbred line, heredity multiplicity appraisal, QTL analysis and molecular mark assistancechoice introduced the molecular mark technology in the corn heredity breeding application.
【语种】中文
【第一作者】钱海涛
【通讯作者】丛斌
【期刊名称、卷期、页码】玉米科学, 2007, 15(2): 53-57
【论文发表时间】2006-06-20 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】植物保护学

【题目】钙在糖调控玉米抗茎基腐病防御反应中的作用
【中文关键词】钙离子 可溶性糖 玉米 茎基腐病 防御酶系
【英文关键词】Calcium; Soluble sugar;Maize; Pythiuminflatum; Defensive enzymes
【中文摘要】在玉米与茎腐病菌-肿囊腐霉菌互作中,外源补充钙离子显著提高了感病玉米品种茎部可溶性糖含量和防御酶系活性;减钙处理则显著降低抗病品种茎部可溶性糖含量和防御酶系的活性。同时,可溶性糖含量与玉米防御酶系活性也存在着极显著的相关性。钙离子和可溶性糖在玉米与病菌互作中,协同调节寄主的防御反应。
【英文摘要】The content of sugar and activities of defensive enzymes in susceptible cultivars could be increased inthe interaction of host - pathogen when host was treated with Ca2+, the same result was also supported by removing Ca2+from resistant cultivars, in which contents of sugar and activities of defensive enzymes were parallel decline as decreaseof Ca2+ content in the host plants. Furthermore, there was very significant correlation between soluble sugarcontent and defensive enzyme activity in different cultivars. Ca2+ and soluble sugar operated collectively the defensivereaction in corn against Pythiuminflatum.
【语种】中文
【第一作者】高增贵
【通讯作者】高增贵
【期刊名称、卷期、页码】玉米科学, 2007, 15(4): 89-92
【论文发表时间】2006-11-24 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】植物保护学

【题目】高产纤维素酶木霉REMI突变株的构建与筛选
【中文关键词】木霉菌 REMI转化 纤维素酶活性 突变株 出发菌 原生质体产量 质粒 菌株 透明圈 潮霉素抗性基因
【英文关键词】Trichoderma; REMI transformation; cellulase
【中文摘要】利用限制性内切酶介导的基因整合技术(REMI)转化T.koningii CICC 40144,共获得23个稳定的突变株。PCR检测结果表明质粒pV2已成功导入突变株中。此外,从已获得的木霉REMI突变株(178个T.atroviride T23的突变株、64个

T.koningii T30的突变株和23个T.koningii CICC 40144的突变株)中筛选具有高纤维素酶活性的突变株,其中明显高于出发菌的菌株10余株(TK-2R-3、TK-2R-9、TK-2R-11、TK-2R-14、T30-B3、T30-C7、T23-A2H等)。研究发现出发菌纤维素酶活越高,其突变株纤维素酶活提高幅度越小。筛选获得了1株高产纤维素酶木霉突变株TK-2R-14,其CX酶活达37.6 U · mL-1,比出发菌提高8.05%,FPA酶活达16.9 U · mL-1,比出发菌提高19.01%。

【英文摘要】Trichoderma koningii strain CICC40144 was transferred with linear pV2 DNA by restriction enzyme mediated integration,and 23 mutants were obtained and further identified by conventional PCR technique. Among 178 mutants from T. atroviridestrain T23, 64 mutants from T. koningii strain T30 and 23 mutants from T. koningii strain CICC40144, over 10 mutants werescreened for improved cellulase activity as compared with their parent strains. Moreover one mutant among all screened mutants,TK- 2R- 14, was found with the highest CX(37.6 U · mL- 1) and FPA (16.9 U · mL- 1) activities, which were increased by 8.05% and19.07%, respectively.

【语种】中文

【第一作者】胡仕凤

【通讯作者】陈捷

【期刊名称、卷期、页码】上海交通大学学报(农业科学版), 2008,25(6): 513-518

【论文发表时间】2007-09-08 00:00:00

【引文索引类型】其他

【引文索引号】null

【学科分类】植物保护学

【题目】根系内生细菌与玉米抗纹枯病关系研究

【中文关键词】玉米品种 纹枯病抗性 拮抗内生细菌 抗病性鉴定 成株期 病情指数 细菌种群 苗期 差异显著性 不同品种

【英文关键词】m aize; Rhizoctonia solani; an tagonistic endophy tic bacter ia; resistance

【中文摘要】通过对辽宁省14个玉米主栽品种抗性和内生细菌相互关系的研究,明确了苗期不同品种间内生细菌总量差异显著性达到α=0.05水平,而抽丝期品种间差异不显著,苗期与成株期的互作差异亦不显著;品种苗期与成株期内生细菌种群总量不相关;不同品种苗期和成株期纹枯病抗性均存在显著差异(α=0.01);玉米纹枯病品种抗性与内生细菌总量不相关,而与拮抗内生细菌百分率呈显著正相关。

【英文摘要】14 m ajor ma ize hyb irds in L iaoning prov ince we re stud ied to understand relation betw een of corn endophy tic bacte riaand resistance to Rhizoctonia solani. The results show ed that there we re s ignificant d ifference (= 0. 05) am ong the tota l endophyticbac teria iso lated of 14 m a ize cultiva rs at seed ling, no t at silking stage, and the tota l endophytic bacter ia in seedling w asnot corre la ted w ith in silking stage. There w ere sign ifican t difference (= 0. 01) among the resistance o f 14 ma zie vu ltivars inseed ing stag e and silk ing stage respectively. It w as found tha t the resistance toRh izoctonia solani o f the different cu ltivars w as significan tly correlated w ith percentage of antagonistic endophy tic bac teria inside roots, no t w ith the tota l endophytic bacteria iso lated.

【语种】中文

【第一作者】付东强

【通讯作者】高增贵

【期刊名称、卷期、页码】杂粮作物, 2008, 28(4): 274-276

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【学科分类】植物保护学

【题目】共生菌毒素对亚洲玉米螟和玉米小斑菌杀虫抑菌活性的测定

【中文关键词】共生菌毒素 亚洲玉米螟 玉米小斑菌 生物防治 抑菌活性 昆虫病原线虫 高毒力菌株 抑菌圈直径 校正死亡率 杀虫毒素

【英文关键词】Symbiotic bacteria toxin; Ostrinia furnacalis; Bipolaris maydis; Biological control

【中文摘要】利用从全国采集的土样中收集到的28个品系的昆虫病原线虫,分离并筛选出28株高毒力共生菌菌株,对高毒力菌株的杀虫毒素进行初步提取,并以亚洲玉米螟和玉米小斑菌作为供试昆虫和供试真菌,对其杀虫抑菌活性进行测定。结果表明:共生菌毒素对两种病虫害均有一定的胃毒活性和抑菌作用,其中菌株5-5B毒素的杀虫抑菌活性最为明显,处理后120 h对亚洲玉米螟的平均校正死亡率为43.70%,抑菌圈直径为34.00 mm。

【英文摘要】Twenty- eight highly virulent strains of symbiotic bacteria were isolated from 28 entomopathogenic nematodesin the soil samples collected from different regions of China. The crude toxins were extracted from the 28symbiotic bacteria strains. Bioassay results showed that all crude extracts had virulent stomach poison activity and antimicrobialeffect to the first instar larvae of Ostrinia furnacalis and Bipolaris maydis to some extent, among which5- 5B strain was the best one. The average corrected mortalities to Ostrinia furnacalis was 43.70% and the diameter ofantibiotic circle to Bipolaris maydis was 34.00 mm.
【语种】中文
【第一作者】王欢
【通讯作者】丛斌
【期刊名称、卷期、页码】玉米科学, 2009, 17(6): 109-111
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【学科分类】植物保护学

【题目】共生菌对两种玉米病虫害杀虫抑菌活性的测定
【中文关键词】昆虫病原线虫 共生菌 亚洲玉米螟 玉米小斑菌 抑菌活性 发酵液 玉米小斑病菌 校正死亡率 高毒力菌株 杀虫
【英文关键词】Entomopathogenic nematode; Symbiotic bacteria; Ostrinia furnacalis; Bipolaris maydis
【中文摘要】利用40株昆虫病原线虫共生菌菌株,以亚洲玉米螟和玉米小斑病菌作为供试昆虫和供试真菌,对其杀虫抑菌活性进行测定。结果表明,共生菌发酵液对两种病虫害均有一定的活性。其中菌株A24-2的杀虫抑菌活性最为明显,处理后120h对亚洲玉米螟的平均校正死亡率为44.25%,抑菌圈大小为15.00mm。
【英文摘要】Forty strains of symbiotic bacteria were isolated from entomopathogenic nematodes. Bioassay resultsshowed that all strains had virulent activity to the first instar larvae of Ostrinia furnacalis and Bipolaris maydis to someextent, among which A24- 2 strain was the best one. The average corrected mortalities to Ostrinia furnacalis was44.25% and the antibiotic activities to Bipolaris maydis was 15.00 mm.
【语种】中文
【第一作者】王欢
【通讯作者】丛斌
【期刊名称、卷期、页码】玉米科学, 2007, 15(6): 109-110
【论文发表时间】2007-04-13 00:00:00
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【引文索引号】null
【学科分类】植物保护学

【题目】孤雌产雌品系松毛虫赤眼蜂的遗传稳定性
【中文关键词】孤雌产雌 松毛虫赤眼蜂 遗传稳定性 世代 沃尔巴克氏体
【英文关键词】thelytoky; Trichogramma dendrolimi ; genet ic stability; generation; Wolbachia
【中文摘要】在20、25和30℃三个恒温与78%恒湿条件下,于室内比较了20代、80代的人工转染含沃尔巴克氏体的孤雌产雌品系和未感染的两性生殖品系松毛虫赤眼蜂的卵寄生数、羽化数、羽化率、成虫寿命、单雌产卵量,并对松毛虫赤眼蜂体内共生菌沃尔巴克氏体进行分子检测,以研究两个不同世代的孤雌产雌品系松毛虫赤眼蜂体内共生菌的遗传稳定性。结果表明,在20℃时,20代的孤雌产雌品系松毛虫赤眼蜂的羽化率低于两性品系松毛虫赤眼蜂;80代的孤雌产雌品系松毛虫赤眼蜂的羽化数和成虫寿命低于两性品系松毛虫赤眼蜂;在25℃时,80代的孤雌产雌品系松毛虫赤眼蜂的羽化率低于两性品系松毛虫赤眼蜂;其余温度条件下羽化数、羽化率、成虫寿命和单雌产卵量均无显著差异。在20和25℃时,两个不同世代的孤雌产雌品系松毛虫赤眼蜂羽化数、羽化率等指标均高于30℃时的孤雌产雌品系松毛虫赤眼蜂,但3个温度条件下各生物学指标差异均不显著。PCR分子检测显示20代和80代的孤雌产雌品系松毛虫赤眼蜂检测结果均为阳性。经室内数代繁殖生殖方式稳定。
【英文摘要】The parasitic eggs, emergence number, emergence rate, longevity and fecundity of Trichogrammadendrolimi Matsumura were compared between Wolbachia infected (T. d (w)) and not infected(T. d) lines under temperatures of 20, 25 and 30 . T. d (w) lines had been bred for about 20 and80 generations in laboratory. Moreover, the Wolbachia wsp gene of thelytokous line of T . dendrolimi wasdetected by PCR to test the genetic stability of symbiot ic bacteria between different generations. At 20

,the emergence rate of T. d (w) bred for 20 generat ions was lower than that of T. d; for 80 generations,the emergence number and longevity of T. d (w) were lower than that of T. d. At 25 , for 80 genera-tions, the emergence rate of T. d (w) was lower than that of T. d; at 30 , no significant differenceswere found. The emergence number, emergence rate and other parameters of T. d (w) bred for 20 and 80generat ions at 20 and 25 were higher than those at 30 , but differences were not significant. Thethelytokous line of T. dendrolimi bred for 20 and 80 generat ions were posit ive by PCR.

【语种】中文
【第一作者】张莹
【通讯作者】丛斌
【期刊名称、卷期、页码】中国生物防治, 2008, 24(2): 103-107
【论文发表时间】2007-08-21 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】植物保护学

【题目】挥发性信息化合物对赤眼蜂寄生行为的影响及其利用
【中文关键词】挥发性信息化合物 赤眼蜂 人造卵 寄生行为
【英文关键词】volatile application
【中文摘要】本文简述了挥发性物质对赤眼蜂寄生行为的调控作用以及其在生防中的应用,并探讨了挥发性信息化合物对赤眼蜂行为调控的研究意义与应用前景。
【英文摘要】volatile application
【语种】中文
【第一作者】练永国
【通讯作者】王素琴
【期刊名称、卷期、页码】中国生物防治, 2007, 23(1): 89-92
【论文发表时间】2006-02-22 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】植物保护学

【题目】基于线粒体DNA COⅡ基因的亚洲玉米螟中国不同地理种群遗传分化及基因流研究
【中文关键词】亚洲玉米螟 地理种群 线粒体COⅡ基因 单倍型 遗传分化 基因流
【英文关键词】O strin ia furnacalis; geographic population; m itochondrial CO gene; haplotype; genetic differentiation; gene flow
【中文摘要】本文通过对中国亚洲玉米螟Ostrinia furnacalis(Guen é e)17个地理种群的线粒体COⅡ基因进行序列分析,对中国亚洲玉米螟种群间的遗传分化程度和基因流水平进行了初步研究。在获得的413条序列样本中共发现了34个变异位点、35种单倍型。总体单倍型多样性指数Hd为0.811,种群内单倍型多样度在0.424~0.862范围内。17个种群间的平均基因流(Nm)为2.02。总群体的固定系数Fst为0.234。AMOVA分子方差分析结果表明中国玉米螟的遗传分化主要来自种群内部(76.45%)。各种群的TajimasD值中性检验符合中性突变,说明中国亚洲玉米螟在历史上没有出现群体扩张,群体大小稳定。各地理种群的遗传距离与地理距离间不具有显著的相关性。各地理种群中的单倍型在系统发生树上散布在不同的分布群中,缺乏明显的地理分布格局。
【英文摘要】To invest igate the genet ic d ifferen tiation and gene flow among d ifferen t popu lations o f the A siancorn borer, O strinia furnacalis (Guen e) , in Ch ina, w e analyzed CO sequences ofm itochondrialDNA in17 geographical populat ions. In the tota l 413 CO gene sequences obta ined, 34 variable sites and 35hap lo types w ere observed. The mean haplotype diversity of a ll popu lations w as 0. 811, whereas it variedfrom 0. 424 to 0. 862 w ithin popu lation. The average gene flow (Nm) among the 17 popu lationsw as 2. 02.The overa llF st valuew as 0. 234. Mo lecular variance (AMOVA) ana lysis ind icated that a h igh proport ion o fthe tota l genetic variance was attributable to variationsw ith in popu lations (76. 45%) . The Tajima sD valueneutrality test results suggest that for theA sian co rn borer, therem ight be no populat ion expansion, so the irpopu lation sizes w ere steady. The genetic d istance w as no t significan tly co rrelated w ith the geographicaldistance betw een populat ions. The phylogenet ic tree revea led no obvious geographical pattern for theprevalence and distribution o f the hap lo types.

【语种】中文
【第一作者】李菁
【通讯作者】王振营
【期刊名称、卷期、页码】昆虫学报, 2010,53(10) : 1135- 1143
【论文发表时间】2010-03-19 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】植物保护学

【题目】吉林省玉米大斑病菌生理小种的组成变异与动态预测
【中文关键词】玉米大斑病菌 变异频率 吉林省 生理小种组成 抗性基因 鉴别寄主 毒力 病菌分离 分离物 中晚熟
【英文关键词】Exserohihun turcicum; Interspecific variability; Jilin province
【中文摘要】通过1套鉴别寄主对2006~2007年采自吉林省7个地区100份玉米大斑病病菌分离物的致病性进行分析。结果表明,共鉴定出15个类型的生理小种:0、1、2、3、12、13、1N、23、2N、3N、12N、13N、123N、123、23N;吉林省玉米大斑病菌的小种组成十分复杂,在中晚熟玉米产区已没有明确优势小种的存在;1号生理小种虽然是主要小种类群,但所占比例仅为18%,并且出现了能够克服4个抗性基因的强毒力小种。不同玉米熟区的大斑病生理小种的分布与种间变异频率也趋于复杂。
【英文摘要】Using routine technique, one hundred isolates of Exserohihun turcicum, collected from7 farming areasof Jilin province from2006 to 2007, were identified in pathogenic variation to different Ht resistance gene by the groupof hosts. The results showed that 15 physiological races including 0, 1, 2, 3, 12, 13, 1N, 23, 2N, 3N, 12N, 13N, 123N,123, 23N were found. It was quite complex race component in Jilin province, and there were not dominant races aswell as in mid- serotinous production areas of maize. Race 1 was also the main races but its frequency was only about18% respectively. The virulence of the race 123N was so stronger that it could infect all the maize with single Ht gene.Races of Exserohihun turcicum distribution and interspecific variability in different maturity corn varieties areas alsobecame complex.
【语种】中文
【第一作者】苏前富
【通讯作者】晋齐鸣
【期刊名称、卷期、页码】玉米科学, 2008, 16(6): 123-125
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【引文索引号】null
【学科分类】植物保护学

【题目】寄主选择压力下玉米弯孢菌叶斑病菌致病性分化及生物学特性研究
【中文关键词】玉米弯孢菌叶斑病菌 致病性分化 生物学特性
【英文关键词】Curvularia lunata ; pathogenic differential; biological characteristics
【中文摘要】采用寄主选择压力下得到的玉米弯孢叶斑病菌菌株作为研究对象,对其进行致病力分化测定,同时比较其在温度、pH、碳源、氮源利用和光照等条件下的差异。结果表明:经继代培养得到的菌株存在致病性差异,并且在相同寄主上能产生不同类型的病斑,病斑大小、形状存在差异,说明经继代培养得到的菌株有致病性分化现象。不同致病类型的菌株的菌落形态、最适碳氮源、最适pH和最适的光照条件有所不同。
【英文摘要】Different host pressure ofCurvularia lunata on temperature, pH carbon source, nitrogen source andlight condition were studied and determined the pathogenic heterogeneity to the strains of maizeCurvularia .The results showed that there were obvious differences of pathogenesis among the different strains, and thedifferent strains could produce different types of disease spots on the same differential host. There weredifferences of disease spots in their size, shape. That explained why there was distinct phenomenon ofpathogenic heterogeneity among the strains. The colony features optimum carbon, nitrogen source and pH ofdifferent pathogenic type of Curvularia lunata were difference.
【语种】中文
【第一作者】隋鹤
【通讯作者】高增贵

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【题目】寄主诱导下的玉米弯孢叶斑病菌致病性分化相关蛋白的动态变化研究
【中文关键词】玉米弯孢叶斑病菌 致病性分化 寄主植物 动态变化 相关蛋白 诱导 玉米主产区 寄主选择性
【英文关键词】maize;Curvularia lunata;pathogenicity differentiation;proteomics
【中文摘要】玉米弯孢叶斑病是我国玉米主产区的主要玉米病害之一,严重年份发病率达到100%。关于该病的发生规律、品种资源抗性鉴定、病害流行已有较多研究,然而对于该病原菌致病性分化尚缺少深入研究。至今没有研究表明该病菌在自然界是如何发生致病性分化的。根据病菌-寄主植物平行进化的原理,病菌的致病性分化可能与寄主选择性有一定关系。
【英文摘要】Reinoculation and two.dimensional eleclxophoresis were performed to an alyze the pathogenicitydifferentiation of Curvularia lunata.Resistant host inbred lines Shen135,Mo17,an d 78599—1 were reinoculat—ed f six generations)with low virulent isolate W S18.Results showed that the disease index had no significantchan ge for the first 2 generations of inoculation.At the third generation,the incidence of disease was increasedan d the number of differential expressed proteins of mycelia were more than that in the first 2 generations.More than 100 differential expressed proteins were found in the mycelia of fifth generation when comparedwith the original one.In the experiment,10 differentially expressed proteins were identified by MALDI-TOFMS an alysis.Three proteins were related directly to the differentiation of virulence,2 were related to allergen,4 were related to the membolism of carbon or signaling pathway an d 1 was unkonwn to Curvularia lunata.
【语种】中文
【第一作者】刘力行
【通讯作者】陈捷
【期刊名称、卷期、页码】植物病理学报, 2008, 19: 203-207
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【引文索引号】null
【学科分类】植物保护学

【题目】昆虫病原线虫共生细菌的分子生物学鉴定
【中文关键词】昆虫病原线虫 共生菌 S rDNA 鉴定
【英文关键词】Xenorhabdus, Photorhadbus , 16SrDAN, determine
【中文摘要】对来自全国各地的23个未鉴定的共生菌菌株和本室保存的5个菌株的部分16S rDNA序列进行PCR扩增和测序,与GenBank中已知种的共生菌及4个其它肠杆菌的同源序列比较,利用DNAstar软件绘制系统树,初步确定了这28个共生菌的分类地位。其中品系0396Y与Xenorhabdus bovineii的相似值为100%,可能是该种的一个品系;品系0312-4与X.beddingii的相似值为100%,可能是该种的一个品系。
【英文摘要】Partial 16S rDNA genes sequences of 23 isolates and 5 reference strains of the genera Xenorhabdus andPhotorhabdus were determined by direct sequencing of PCR products. Aligned sequences against those from describedspecies were subjected to phylogenetic analysis by DNAstar software. The results showed that 0396Y belonged to X .bovinei; 0312_4 belonged to X . beddingii .
【语种】中文
【第一作者】王欢
【通讯作者】丛斌
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【学科分类】植物保护学

【题目】利用ISSR技术分析禾谷镰孢菌群体遗传多样性的研究
【中文关键词】玉米茎腐病 禾谷镰孢菌 ISSR标记 遗传多样性
【英文关键词】Maize stalk rot; Fusarium graminearum; ISSR; Genetic diversity
【中文摘要】采用ISSR标记对采自我国11个省的玉米茎腐病相关禾谷镰孢的遗传多样性进行分析。利用筛选出的14个ISSR引物对供试的115株禾谷镰孢菌株进行扩增,共获得63条扩增清晰、重复性高的条带,其中多态性条带为60条,占95.2%。扩增条带分子量为150~2000bp,平均每个引物扩增出4.5条带。遗传多样性分析表明,在地理种群水平上,基因多样性指数在0~0.2919之间,平均为0.1591;Shannon‘s多样性指数在0~0.4252之间,平均为0.2360,表明不同地理种群间存在一定的遗传变异。多样性指数、等位基因数的增大与各种群内样本数量增加有关。遗传相似性分析证明,山东省种群与河南省种群间的遗传相似性最高,内蒙古种群与河北省种群间遗传相似性最低。在相似性系数为0.682时,可将115个菌株区分为2个聚类组,各组下又可分为3个亚组,分组结果与菌株的地理来源有一定相关性,表明禾谷镰孢的遗传分化与生态地理有关。
【英文摘要】The genetic diversity of F. graminearum population collected from eleven provinces was determinedusing technique of inter- simple sequence repeat (ISSR). A total of 63 reproducible ISSR fragments were scored among115 individuals, of which 60 (95.2%) were polymorphic. The size of the amplified fragments ranged from 150 bp to2 000 bp and average number of bands per primer was 4.5. At geographic population level, Nei's gene diversity andShannon's information index were 0.159 1 and 0.236 0, respectively, that meant there was genetic variation betweengeographic population of F. graminearum. By analysis of genetic similarity coefficient the F.graminearum populationsof Shandong and Henan were closest and populations of Inner Mongolia and Hebei were the farthest. Based on geneticdistances all isolates were clustered into two groups at the similarity of 0.682 and three subgroups in each group. Thegrouping results indicated that genetic variation of F.graminearum was related with its geographic distribution.
【语种】中文
【第一作者】何婧
【通讯作者】王晓鸣
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【题目】利用伏马毒素合成基因对玉米种子寄藏镰刀菌的分子检测
【中文关键词】镰刀菌 伏马毒素 fum基因 分子检测
【英文关键词】Fusarium; fumonisins; f um1 gene; molecular detection
【中文摘要】我国玉米种子普遍受到拟轮生镰刀菌(Fusariumverticillioides)的侵染,该菌产生的伏马毒素对国家种质库中玉米种质的安全保存有着潜在的影响。fum1基因是F.verticillioides等镰刀菌中伏马毒素生物合成的必需基因。选用3对已知引物Fum5F/Fum5R、P1/P2和P3/P4分别对从玉米种子中分离出的9株镰刀菌和1株阴性对照菌链格孢菌进行PCR扩增检测,在F001和F003菌株中扩增出相应的特异性表达片段。测序表明,这些片段的长度分别为846bp、888bp和703bp,与已知fum1基因(AF155773)的同源性达99%以上。3对引物的检测灵敏度达到88pg/mL。结果表明,这3对引物都能够有效地检测产生伏马毒素的镰刀菌菌株,但引物Fum5F/Fum5R所扩增片段完全来自fum1基因内部,具有更强的特异性。在此定性检测基础上,需要进一步研究定量检测方法并进一步研究伏马毒素对农作物种质保存的影响。
【英文摘要】In this st udy, t hr ee pair s o f prev iously published primers, Fum5F/ Fum5R, P1/ P2 and P3/ P4, wer e usedto detect FB in nine Fusar ium strains. In str ain F001 and F003, 846 bp, 888 bp and 703 bp fragment s w ere ampl-ified by Fum5F/ Fum5R, P1/ P2 and P3/ P4, r espectively, w hich wer e then sequenced. The nucleot ide sequences ofthe three segments amplified from both str ains w ere compar ed with the f um1 sequence r etrieved from GenBank (acc.no. AF155773) . The r esult s demonst rated that they had a high ident ity (> 99%) . The detection sensitivit y was88 pg / L w ith the three primer s. The results show ed that all of the three primers could be used to effectiv ely detectFusar ium strains producing fumonisins. And Fum5F/ Fum5R w as the best pair because the pr oduct amplified wascompletely fr om w ithin the g ene f um1 .
【语种】中文
【第一作者】孙东亚
【通讯作者】王晓鸣
【期刊名称、卷期、页码】植物保护, 2007, 33(5): 58-63
【论文发表时间】2007-04-25 00:00:00
【引文索引类型】其他

【引文索引号】null
【学科分类】植物保护学

【题目】辽宁省部分主栽玉米品种对大斑病菌不同生理小种的抗性
【中文关键词】玉米大斑病菌 生理小种 抗性鉴定 遗传背景 玉米品种 旅大红骨 感病品种 辽宁省 品种抗病性鉴定 致病力
【英文关键词】Exserohilum turcicum; physio log ical race; resistance ident ification; genetic backg round
【中文摘要】本文完成了辽宁省部分主栽玉米品种对玉米大斑病菌生理小种的抗性鉴定。各品种对不同生理小种的抗病性存在明显差异,其中高抗品种占17.86%,中抗至抗的品种占53.57%。抗病性鉴定与品种系谱相关性分析表明,品种对不同生理小种的抗性与品种血缘关系相关。另外,气候条件对抗病性鉴定结果影响较大。
【英文摘要】Resistance identificat ion o f some maize cu ltivars in Liaoning prov ince to physiological races ofExse roh ilum turcicum w as studied. Therew as obvious differeces in different physio log ica l races to the cult ivars. Therat io o f high ly resistant cu lt ivarsw as 17. 86, andmoderate resistant cu lt ivars was 53. 57% . Ident ification o f dis ease resistance and ped igree ana lysis show ed that the cu ltivars resistance to d ifferent physio log ica l races hadcorrelation w ith the consanguin ity o f the cultivars. In addition, c lim atic condit ions impacted on the resu lts of theidentificat ion of resistance
【语种】中文
【第一作者】高增贵
【通讯作者】高增贵
【期刊名称、卷期、页码】种子, 2010, 29(2): 1-3, 8
【论文发表时间】2009-10-26 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】植物保护学

【题目】辽宁省春玉米主要病虫为害损失之研究
【中文关键词】玉米 丝黑穗病 弯孢叶斑病 玉米大斑病 玉米螟 复合经济阈值
【英文关键词】Maize, Sphacelotheca reiliana, Curvularia lunata, Exserohilum turcicum, Ostrinia furnacalis,
Mixed economic threshold
【中文摘要】采用在植株上接种不同浓度的丝黑穗病菌、弯孢菌叶斑病菌和玉米大斑病菌,以及不同玉米螟虫量,研究不同病级和虫量对玉米的产量构成因素及产量损失的影响,同时对玉米螟(A)、弯孢菌叶斑病(B)、大斑病(C)、丝黑穗病(D)的复合发生为害(ABCD)损失和经济阈值进行简单探讨。研究表明,病虫为害主要影响穗粗、行粒数和百粒重产量构成因素,病级和虫量与产量损失呈显著正相关;病虫之间存在复合为害关系,复合产量损失率占四者单独造成产量损失率之和的41.48%,其大小依次为:ACBDABCD(A+B+C+D),并组建了复合为害损失及复合经济阈值模型。
【英文摘要】The thesis adopt the inoculation method, studied the maize yield loss and component influenceof different grade of diseases and the amount of worm, and studied the mixed damage of maize Ostrinia furnacalis(A), Curvularia lunata (B), Exserohilum turcicum (C), Sphacelotheca reiliana (D) and economicthreshold. The result showed that the main damage influence of diseases and worm was thick of ear, grainsof row and the weight of one hundred grains, the grade of disease and the amount of worm had significantpositive correlation to yield loss; the relationship of diseases and worm was complex, the yield loss ofmixed damage was occupied 41.48% of the total damage of the single, the sequence was A<C<B<D<ABCD<(A+B+C+D), the simulated models of mixed damage and economic threshold were developed.
【语种】中文
【第一作者】刘亚臣
【通讯作者】丛斌
【期刊名称、卷期、页码】中国农学通报, 2006, 22(6): 297-300
【论文发表时间】2006-03-03 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】植物保护学

【题目】卵液成分改变及卵表涂施引诱剂对玉米螟赤眼蜂产卵发育的影响

【中文关键词】亚洲玉米螟 玉米螟赤眼蜂 人造卵 引诱剂
【英文关键词】Ostrinia furnacalis , Trichogramma ostriniae, artificial host eggs, attractant agent
【中文摘要】试验通过部分改变人造卵卵液成分和在人造卵表涂施引诱剂2种途径来试图提高人造卵繁育玉米螟赤眼蜂Trichogramma ostriniae Panget Chen的成功率。结果表明,不同比例的亚洲玉米螟OstriniafurnacalisGuen é e幼虫和蛹匀浆替代部分柞蚕蛹匀浆后,对赤眼蜂寄生率有明显提高,但赤眼蜂在人造卵内的化蛹率和羽化率均较低,赤眼蜂发育至老熟幼虫因卵液过剩而被淹死;在原卵液卵表涂施亚洲玉米螟卵和鳞片正己烷提取液后,评价繁蜂成功率的各项参数都有明显提高,赤眼蜂可以完成发育,羽化成蜂,但繁蜂成功率还较低。综合上述试验结果,应用人造卵繁殖玉米螟赤眼蜂研究重点要解决卵液过剩以及其它相关的营养学问题。
【英文摘要】In order to improve rearing of Trichogramma ostriniae wasps on artificial host eggs, two methods wereconducted, i. e. 1) partial substitution of the materials from pupae of the tussah moth (Antheraea p ernyi) withmaterials form larvae and pupae of Asia corn borer (ACB, Ostriniaf urnacalis Guen e) as the major ingredients of theartificial host eggs, and 2) applying hexane extraction of eggs and scales of ACB on the surface of artificial host eggs.The results showed that the substitution of artificial eggs significantly improved the parasitism rate. However, the rateof pupation and adult emergence were greatly reduced because mature larvae were drowned by the ex cessive nutrition(egg contents) in artificial eggs. Surface treatment of artificial host eggs resulted in significantly increasing in allparameters for evaluating successful parasitism by the wasp. Although the wasp was able to complete the developmentfrom egg to adult emergence, the rate of success remained comparatively low. Therefore, future study should befocused on resolving problems associated with excessive nutrition in artificial host eggs.
【语种】中文
【第一作者】练永国
【通讯作者】王素琴
【期刊名称、卷期、页码】昆虫知识, 2009, 46(4): 551-556
【论文发表时间】2009-03-19 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】植物保护学

【题目】木霉菌REMI变异株对部分生态因子的影响
【中文关键词】木霉菌 REMI变异株 根际微生物 生物安全性
【英文关键词】Trichoderma; REM Imutants; rh izosphere m icroorgan ism; b io logy security
【中文摘要】采用常规微生物分离和植物生物量测定等方法,将木霉菌REMI变异菌株的孢子进行种子接菌、土壤接菌、水中接菌,研究木霉菌REMI变异菌株对农作物甜瓜和玉米及杂草等生长性状、甜瓜根际土壤微生物和鱼苗生长以及在水中存活等的影响,检测其生物安全性。结果表明,除Ttrm53外,其余木霉菌变异株和出发菌株T21对甜瓜和玉米种子安全,并且能够显著提高种子的出苗率、增加须根数和促进幼苗生长;部分变异菌株对杂草具有抑制作用;供试木霉菌变异株对甜瓜根际土壤真菌有抑制作用,对细菌和放线菌群体数量无显著影响;木霉菌孢子在河水及自来水中均不能萌发,分生孢子在水中存活约12~18天,厚垣孢子约18~27天,菌体自行消解;对鱼苗生长没有不良影响。
【英文摘要】To detect bio safety ofTrichoderma REM I (restrict ion enzymem ediated integrat ion) mutants,spores ofTrichoderma REM Imutantsw ere inoculated into seeds, so il and w ater by means o f conventiona ltechnics o fm icrob ia l iso lation, biomass determ ination o f plan,t etc, its surv ival in w ater and its effects onrhizospherem icroorgan isms and grow th ofm elon, ma ize, and w eeds, as w ell as tox ic ity on fish fry w eredetected. The results show ed that the majority ofTrichoderma REM Imu tants, ex cept T trm53, w ere safetom elon andma ize seeds and cou ld increase sign ificantly germ ina tion ratio, the number of f ibrous roo tsand improve the g row th o fm elon andma ize seedling. Some REM Imutants expressed stronger inhib it ion tow eeds. A ll tested REM Imutants show ed sign ificant e ffects on the number o f fung i in rhizosphere so il o fme lon, but did not on bacteria and act inomyces. Spores ofTrichoderma REM Imutan ts cou ld not germ i nate in river and tap w ater. Con id ia l spores and ch lamydospores cou ld surv ive in w ater for 12- 18 daysand 18- 27 days, respective ly. T richoderma REM Imutants were not harm ful to the grow th of f ish fry.M ost ofTrichoderma REM Imu tants w ere in nox ious.
【语种】中文
【第一作者】高增贵
【通讯作者】高增贵
【期刊名称、卷期、页码】植物保护学报, 2007, 34(5): 524-528
【论文发表时间】2007-07-19 00:00:00

【引文索引类型】其他
【引文索引号】null
【学科分类】植物保护学

【题目】木霉菌REMI变异株与不同宿主的专化性互作研究
【中文关键词】木霉菌 高羊茅草 稗草 互作 宿主植物 变异株 野生株 抑制作用 专化性 显著差异
【英文关键词】T r ichoderma; ta ll fescue; barnyar d g rass; inter action; ho st plant
【中文摘要】比较了木霉菌野生株及不同木霉REMI变异株与宿主植物间的相互关系。试验结果表明,供试木霉菌均不能促进黄瓜生长;Trm31对高羊茅草生长有抑制作用,其他菌株对高羊茅草生长无明显影响;T21、Trm47、Trm55对稗草的生长有促进作用,Trm31、Trm34对稗草的生长有明显的抑制作用。
【英文摘要】This paper focused on t he interactions between Tr ichoderma transformants and different ho st plants. Theresults show ed that the g rowt h o f cucumbers w as not pr omoted by any of the transformants. St rain Trm31 impo seda neg ativ e effect o n the g row th of ta ll fescue, but t he latter co uld not ev idently influenced by ot her strains. StrainsT21, Trm47 and T rm55 ex erted a positive effect on the g rowth o f barnyar d g r ass, wher eas str ains Trm31 andTrm34 neg atively affected the g rowth o f bar ny ard g rass.
【语种】中文
【第一作者】黄玉茜
【通讯作者】陈捷
【期刊名称、卷期、页码】植物保护, 2007, 33(4): 35-37
【论文发表时间】2006-12-20 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】植物保护学

【题目】深松土壤病原真菌数量分布对玉米病害发生趋势的影响
【中文关键词】深松土壤 土壤病原菌 玉米病害 发生趋势
【英文关键词】Subsoiling; Soil pathogenetic fungi;Maize diseases; Occur tendency
【中文摘要】取玉米深松田10~40cm4个土层深度的土样,分析玉米病原菌变化对玉米病害的影响。结果表明,深松田土壤中的玉米致病菌、非致病菌和有益菌数量较常规耕作农田有大幅度增加。玉米病原菌数量在耕层中呈上下两层少中间多的纵向分布趋势。深松年限越长,致病菌数量越多,使玉米病害呈逐年加重趋势,增幅在23.0%~36.8%。
【英文摘要】Maize soil environments were changed by practicing the soil subsoiling technique for more years continuously.The types and numbers of the pathogenetic fungi of the stratified sampling from 10 cm to 40 cm in the subsoilingfields were analyzed. The results showed that the numbers of the maize pathogenetic fungi, non- pathogeneticfungi and useful fungi were increased significantly in the subsoiling soil than the conventional tillage. The distributiontendency in depth of the maize pathogenetic fungi numbers fromthe middle- level in the subsoiling soil were more thanthe top and bottom soil layers. The longer subsoiling time, the more the pathogenetic fungi numbers will be, and maizediseases were made or become heavier. The increased range of the maize diseases were in between 23.0% - 36.8%.
【语种】中文
【第一作者】宋淑云
【通讯作者】晋齐鸣
【期刊名称、卷期、页码】玉米科学, 2007, 15(3): 130-132
【论文发表时间】2007-02-06 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】植物保护学

【题目】生防木霉菌生物安全性评价
【中文关键词】木霉菌 分生孢子 厚垣孢子 根际微生物 生物安全性
【英文关键词】Trichoderma; Conidiaspores; Chlamydospores; Rhizosphere microorganism; Biology security
【中文摘要】目的检测木霉菌(Trichodermasp.)的生物安全性,评价木霉菌应用后对部分生态因子的影响。方法采用常规试验方法,将木霉菌孢子进行种子接菌、土壤接菌、水中接菌,研究木霉菌对瓜类作物生长性状的影响,在水中的存活及对根

际土壤微生物的影响,对大白鼠、大白兔的毒性。结果大多数木霉菌对甜瓜种子安全,并且能够显著提高种子的出苗率、增加须根数和促进瓜苗生长;绿色木霉菌T23菌株对甜瓜及西瓜根际土壤真菌、细菌和放线菌群体数量无显著影响;木霉菌孢子在河水、井水、雨水及自来水中均不能萌发,分生孢子在水中存活约12~20d,厚垣孢子约20~30d,菌体自行消解;对鱼苗生长没有不良影响;对大鼠的急性经口和经皮毒性均属低毒类,对兔皮肤和兔眼粘膜无刺激性。结论与其它微生物农药一样木霉菌无毒、无污染,用于作物土传病害的生物防治无明显性风险。

【英文摘要】【Objective】To detect bio-safety of Trichoderma, to evaluate the impact on partial ecological factor after theapplication of Trichoderma.【Method】Inoculate spores of Trichoderma into seeds, soil and water by means of conventional testmethods, to detect its survival in water and its effects on rhizosphere microorganisms and growth of melon, as well as toxicity onmice and white rabbits.【Result】The majority of Trichoderma were safe to sweet-melon seeds and could increase significantlygermination ratio, the number of fibrous roots and improve the growth of melon seedling. Trichoderma viride T23 did not showsignificant effects on the number of fungi, bacteria and actinomyces in rhizosphere soil of sweet-melon and water-melon. Spores ofTrichoderma could not germinate in river, well water, rainwater and tap water. Conidiaspores and chlamydospores could survive inwater for 12-20 days and 20-30 days, respectively. Trichoderma had no harm on the growth of fish. Meanwhile, it had low toxicity onrats in both stomach and skin toxicity experiments, and no allergic reaction to rabbit skin and mucous membrane of eyes.【Conclusion】Trichoderma is in-noxious and has no pollution , as same as other microbial pesticide. It is no risk using Trichodermato control soil-spreading diseases.

【语种】中文

【第一作者】庄敬华

【通讯作者】陈捷

【期刊名称、卷期、页码】中国农业科学, 2006, 39(4): 715-720

【论文发表时间】2005-10-28 00:00:00

【引文索引类型】其他

【引文索引号】null

【学科分类】植物保护学

【题目】松毛虫赤眼蜂连代近亲繁殖对种群性状的影响

【中文关键词】松毛虫赤眼蜂 近亲繁殖 寄生率 羽化率 寿命 种群退化

【英文关键词】none

【中文摘要】采用半同胞姊妹交的方法,对松毛虫赤眼蜂在柞蚕卵上连续进行30代近亲繁殖试验,测定各子代寄生率、羽化率、雌蜂寿命、弱蜂率等8项指标,结果与对照无明显差别,平均羽化正常蜂率比对照提高5.5百分点,平均遗卵蜂率下降5.7百分点。随着繁殖代数的增多,近亲繁殖和对照组的卵粒寄生率都呈提高的趋势。说明近亲繁殖不会引起松毛虫赤眼蜂种群退化。

【英文摘要】none

【语种】中文

【第一作者】杨长成

【通讯作者】杨长成

【期刊名称、卷期、页码】江苏农业科学, 2010 (3): 131-132

【论文发表时间】2009-12-01 00:00:00

【引文索引类型】其他

【引文索引号】null

【学科分类】植物保护学

【题目】松毛虫赤眼蜂两性生殖品系与孤雌产雌品系生物学特性的比较

【中文关键词】松毛虫赤眼蜂 沃尔巴克氏体 温度 湿度 生物学特性 孤雌产雌生殖

【英文关键词】Trichogramma dendrolimi ; Wolbachia; bionomics; temperature; relative humidity

【中文摘要】于不同温度与不同相对湿度组合条件下,比较了两性生殖品系及人工转染含沃尔巴克氏体的孤雌产雌品系松毛虫赤眼蜂的羽化率、寿命、繁殖力等生物学特性,以及高温和滞育贮藏对其生殖行为的影响。结果表明,在20℃与RH45%、78%、92%,以及25℃与RH45%、92%的组合下两性生殖品系松毛虫赤眼蜂的羽化率高于孤雌产雌品系松毛虫赤眼蜂;在20℃与RH45%及30℃与RH92%的组合下两性生殖品系松毛虫赤眼蜂的寿命高于孤雌产雌品系松毛虫赤眼蜂;其余温湿度组合下羽化率、寿命和繁殖力二者均无显著差异。高温和滞育贮藏均会使已获及沃尔巴克氏体的孤雌产雌品系松

毛虫赤眼蜂在第二代中出现少量雄性个体,但继续培养仍会恢复

【英文摘要】Under combinations of temperature (20, 25 and 30 e) and relative humidity (45%, 78%and 92%) , eclosion, longevity and fecundity between Trichogramma dendrolimi Matsumura (T. d) andT. dendrolimi infected by Wolbachia (T. d. (w)) were compared in laboratory. And effects of hightemperature and dispause storage on the reproduct ion behavior of the T. d (w) linewere determined. Resultsshow that under the combinations of 20 e (RH45%, 78% and 92%) and 25 e (RH45% ,92%) , eclosion of T. d was significantly higher than T. d (w) ; in the combinations of 20 e andRH45%, 30 e and RH92%, longevity of T. d was significantly longer than T. d (w) ; but no significantdifferences were found in eclosion, longevity and fecundity between the two lines in other combinations.Under high temperature and dispause storage, a small number of male offspring occurred in the secondgenerat ion in thelytoky line, but disappeared under continous rearing.

【语种】中文

【第一作者】王翠敏

【通讯作者】丛斌

【期刊名称、卷期、页码】中国生物防治, 2006, 22(2): 96-100

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【学科分类】植物保护学

【题目】桃蛀螟研究的历史、现状与展望

【中文关键词】桃蛀螟 生物学 信息素 生态型 人工饲养 综合防治

【英文关键词】Conogethes punctiferalis; bio logy; sex pheromone; ecotype; mass rear ing; integr ated management

【中文摘要】本文就国内外对桃蛀螟[Conogethes puncti feralis(Guen e)]的研究历史与现状进行了综述,涉及桃蛀螟的生物学和生态学特性、性信息素组成、交尾行为、分类学、人工饲养及综合防治技术等方面。提出了今后有待进一步深入研究的问题。

【英文摘要】This paper re viewed the r esea rch histo ry and pr og resses in the ye llow pe ach mo th Co nogethes punct ife r alis (Guen e) , inc luding the biolog y, eco log y, se x phe romo ne compo ne nts, ma ting behav io r, t axo nom y, ma ssre ar ing a nd integ ra ted mana gement techniques. Se ver al to pics fo r f ur ther r esear ch on this inse ct pest we re also dis cussed.

【语种】中文

【第一作者】鹿金秋

【通讯作者】王振营

【期刊名称、卷期、页码】植物保护, 2010, 36(2): 31-38

【论文发表时间】2009-05-04 00:00:00

【引文索引类型】其他

【引文索引号】null

【学科分类】植物保护学

【题目】桃蛀螟越冬老熟幼虫过冷却点测定

【中文关键词】桃蛀螟 越冬幼虫 过冷却点 抗寒能力 寄主植物 显著差异 向日葵盘 老熟 不同地理种群 结冰点

【英文关键词】Dichocr ocis p unctif er alis ; o verwinter ing larvae; supercoo ling points; co ld har diness

【中文摘要】通过对桃蛀螟(Dichocrocis punctiferalis Guen é e)越冬老熟幼虫和蛹过冷却点的测定,初步明确了寄主植物、幼虫体重、性别等因素对其越冬幼虫和蛹抗寒性的影响。取食玉米、高粱和向日葵不同寄主植物的桃蛀螟越冬幼虫的过冷却点差异不显著;幼虫体重与其过冷却点没有显著相关性;幼虫进入越冬状态越早,过冷却点越低;雌、雄越冬幼虫的过冷却点没有显著差异;蛹与越冬幼虫的过冷却点无显著差异;采自不同地区玉米植株上的5个地理种群的越冬幼虫过冷却点差异不显著。

【英文摘要】T he effects of host plants, weight, sex and differ ent sampling t ime on co ld har dness o f o verwinter ing la r vae of the y ellow peach moth, Dichocr ocis p unctif eralis Guen e wer e compared by measuring it s superco oling po ints(SCP) and f reezing points (FP) . The r esults show ed that the mean SCP and FP o f ov erw intering larvae feeding o ndiffer ent hosts w ere not sig nificant ly different . No sig nificant cor relat ion w as observ ed betw een the SCP and lar valw eig ht , and also amo ng t he lar vae feeding o n corn, sor ghum and sunflow er. T he mean SCP and FP w ere significant ly differ ent between the ov erw intering larv ae

co llected in September and October, r espectively. No significant differ ence w as found bet ween the male and female larv ae. The SCPs of 5 geo gr aphic populatio ns (Beijing, Langfang o fH ebei Pr ov ince, Jiaozho u o f Shando ng Prov ince, Anqing o f Anhui Pro vince and H uaihua of H unan Pro vince) fromco rn plant s w ere also tested w ithout sig nificant differences.
【语种】中文
【第一作者】鹿金秋
【通讯作者】王振营
【期刊名称、卷期、页码】植物保护, 2009, 35(2): 44-47
【论文发表时间】2008-11-28 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】植物保护学

【题目】桃蛀螟在玉米上危害加重原因与控制对策
【中文关键词】桃蛀螟 玉米 危害 控制对策
【英文关键词】none
【中文摘要】近年来桃蛀螟危害玉米趋于严重,本文结合田间调查对其现状进行了评述,分析了危害加重的原因,并提出了控制对策,为进一步深入研究桃蛀螟的发生危害规律和防治对策提供参考。
【英文摘要】none
【语种】中文
【第一作者】王振营
【通讯作者】王振营
【期刊名称、卷期、页码】植物保护, 2006, 32(2): 67-69.
【论文发表时间】2006-09-12 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】植物保护学

【题目】天敌体内玉米蚜的COⅡ标记检测
【中文关键词】玉米蚜 细胞色素氧化酶Ⅱ基因 捕食性天敌 消化道内容物检测 DNA标记
【英文关键词】Rhopalosiphum maidis , cytochrome oxidase subunit gene, predatory natural enemy, gut content analysis, DNA marker
【中文摘要】以玉米蚜Rhopalosiphum maidis Fitch及玉米田的捕食性天敌为研究对象,筛选1对特异扩增玉米蚜细胞色素氧化酶Ⅱ(COⅡ)基因序列片段的引物。种特异性检验表明,该引物只对玉米蚜基因组DNA具有扩增效果,对与其同域发生的其他种类不具扩增作用;室内以该引物检测喂食单头玉米蚜的异色瓢虫Harmonia axyridis(Pallas)成虫和大草蛉Chrysopa pallens(Rambur)成虫腹内靶标食物的衰变情况,结果表明,异色瓢虫成虫和大草蛉成虫阳性比率的半衰期分别为喂食后2·814和2·441h;对玉米田间捕食性天敌的检测结果表明,在所检测的6类群13种捕食性天敌中,大灰食蚜蝇幼虫、草蛉幼虫、异色瓢虫成虫和幼虫、龟纹瓢虫成虫和幼虫对玉米蚜的捕食作用检出率较高,大于40%。
【英文摘要】One pair of sequence- characterized primer of Rhop alosiphum maidis Fitch was selected to detect theremains of R. maidis in the gut of Harmonia axyridis (Pallas) and Chrysopa p allens (Rambur) reared in laboratoryand various predators collected in maize fields. The specificity tests showed the presence of the band only in R.maidis . Using this pair of primer, the hal-f lives of DNA detectability from a single R . maidis consumed by adult H.axyridis and C . p allens were 2 814 h and 2 441 h, respectively, after feeding. The positive responses of R . maidisDNA in predators collected in corn fields, such as the larvae of Syrphus corollae Fabricius, Chrysopas , H . axyridis,Propylaea japonica (Thunberg) , and adult H . axyridis and P. japonica were over 40%.
【语种】中文
【第一作者】宋新元
【通讯作者】丛斌
【期刊名称、卷期、页码】昆虫知识, 2008, 45(3): 389-393
【论文发表时间】2008-03-18 00:00:00
【引文索引类型】其他

【引文索引号】null
【学科分类】植物保护学

【题目】甜玉米田玉米螟发生危害及防治措施
【中文关键词】农业昆虫学 甜玉米 玉米螟 发生危害 防治
【英文关键词】ag ricultur al entomo lo gy ; sw eet co rn; cor n bo rers; damag e; contr ol
【中文摘要】甜玉米在我国大面积种植历史较短,对甜玉米田亚洲玉米螟发生危害和防治技术研究较少。本文对国内外甜玉米上玉米螟成虫产卵习性、幼虫危害和防治技术研究和应用现状进行了综述,为我国甜玉米田亚洲玉米螟的研究和防治提供参考。
【英文摘要】With the incr ease of the planting a rea o f sw eet co rn in China, the damag e caused by Asian co rn bor er, Ostrinia f ur nacalis (Guen e) ser iously affects the y ield and qualit y of sweet corn. T he studies on occur rence and damageof Asian cor n bor er and its co nt rol measur es ar e relatively scarce as its planting histo ry is sho rt. This paper r eviewed the ov ipositio n behavio r, lar val damag e of cor n bor ers and the related co ntr ol measures in the wo rld so as toprov ide references fo r Chinese r esear cher s o f Asian co rn bo rer .
【语种】中文
【第一作者】汪洋洲
【通讯作者】王振营
【期刊名称、卷期、页码】植物保护, 2006, 32(1): 13-18
【论文发表时间】2006-01-11 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】植物保护学

【题目】外界生态因子对感染Wolbachia的松毛虫赤眼蜂生殖稳定性影响
【中文关键词】Wolbachia 松毛虫赤眼蜂 孤雌生殖 稳定性
【英文关键词】Wolbachia; Trichogramma dendrolimi; parthenogenesis; stability
【中文摘要】【目的】明确水平人工转染沃尔巴克氏体(Wolbachia)获得营产雌孤雌生殖松毛虫赤眼蜂生殖方式在环境条件改变时的遗传稳定性,探索Wolbachia与其宿主间的相互适应性。【方法】采用喂食抗生素、持续高温处理、与雄蜂交配等方法,观察产雌孤雌松毛虫赤眼蜂寄生和羽化等情况。【结果】抗生素诱导下,从F2代开始出现雄蜂,经诱导获得的雄性与正常雌性、诱导获得雌性交配可以产生后代,且20个后代群体都有雄性个体出现;25°C恒温下,与雄性交配的产雌孤雌松毛虫赤眼蜂寄生数和未交配的相比显著降低,到F7代恢复正常,只有交配的F2、F4后代出现个别雄蜂,其它世代和未交配所有世代均未出现雄蜂。而32°C高温下,交配与未交配至F5代所有羽化个体全为雄蜂。【结论】不同温度下与雄蜂交配不会改变Wolbachia感染引起的松毛虫赤眼蜂产雌孤雌生殖方式,抗生素处理和持续至少20d的32°C高温是改变感染Wolbachia的松毛虫赤眼蜂生殖方式的决定因素。
【英文摘要】【Objective】 To clarify the genetic stability of thelytokous line of Trichogramma dendrolimi (Matsumura) infectedwith Wolbachia by horizontal transfer under abnormal circumstance, and adaptation between Wolbachia and its host. 【Method】 Parasitic, reproductive and several other biological characteristics of thelytokous line of Trichogramma dendrolimi were investigatedin treatments of feeding with tetracycline, continuance of high temperature and mating. 【Result】 After treatment with tetracycline,male Trichogramma emerged in the F2 generation of the thelytokous line, the males induced by tetracycline mated with femalesinduced to produce offspring, and male individuals appeared in all 20 descendant families. At normal temperature of 25°C, themating of thelytokous line of Trichogramma dendrolimi reduced the number of parasitic compared to non-mating markedly until theF7 generation. However individual males presented incidentally in generations F2 and F4, not found in other generation with matingand all generation without mating. At relative higher temperature of 32 °C, individual males presented in whole generation of F5including mating and non-mating. 【Conclusion】 Stability of thelytokous line of Trichogramma dendrolimi infected with Wolbachiacan not be affected by mating at 25°C and 32°C, antibiotic treatment and higher temperature of 32°C lasting at least 20 d are the keyfactors to eliminate Wolbachia to alter thelytokous of Trichogramma dendrolimi .
【语种】中文
【第一作者】张莹
【通讯作者】丛斌

【期刊名称、卷期、页码】中国农业科学, 2009, 42(7): 2366-2372
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【引文索引类型】其他
【引文索引号】null
【学科分类】植物保护学

【题目】温度对感染沃尔巴克氏体的松毛虫赤眼蜂种群参数的影响
【中文关键词】松毛虫赤眼蜂 沃尔巴克氏体 温度 生命表参数 发育历期 有效积温 种群参数 感染 赤眼蜂品系 实验种群生命表
【英文关键词】Trichogramma dendrolimi ; Wolbachia; temperature; life table parameters; developmental durat ion; effective accumulated temperature
【中文摘要】在16°C、20°C、24°C、28°C和32°C恒温下,观察了温度对感染沃尔巴克氏体的松毛虫赤眼蜂发育、存活和繁殖的影响,组建了相应温度下的实验种群生命表。结果表明,在实验温度范围内,感染沃尔巴克氏体的松毛虫赤眼蜂的发育历期随着温度的升高而逐渐缩短,5个温度下感染沃尔巴克氏体的松毛虫赤眼蜂世代的发育历期分别为23・2、17・8、13・2、11・1和7・8天,世代的发育起点温度和有效积温分别为7・40°C和212・69日・度,内禀增长率(rm)和净生殖力(R0)分别介于0・2448~0・4584和28・00~84・03之间。结果提示温度24°C~28°C为繁殖感染沃尔巴克氏体的松毛虫赤眼蜂的理想温度条件。
【英文摘要】Development and parasit ization of Trichogramma dendrolimi infected by Wolbachia were observed at16 , 20 , 24 , 28 and 32 respectively. The results showed that the developmental duration of T.dendrolimi infected by Wolbachia was affected by temperature. The higher the temperature, the shorter thedurat ion. The whole developmental duration was 23 2 d, 17 8 d, 13 2 d, 11 1 d, and 7 8 d at 16 ,20 , 24 , 28 and 32 , respectively. The thermal threshold, the effective accumulated temperature,the innate capacity of increase (rm) and the net reproduction rate (R0) of T. dendrolimi infected byWolbachia were estimated as 7 40 , 212 69 degree-day, 0 2448 - 0 4584 and 28 00 - 84 03,respectively. The results suggested that the optimal reproduction temperature of T. dendrolimi infected byWolbachia was 24 - 28 .
【语种】中文
【第一作者】张海燕
【通讯作者】丛斌
【期刊名称、卷期、页码】昆虫学报, 2006, 49(3): 433-437
【论文发表时间】2006-02-27 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】植物保护学

【题目】中国桃蛀螟不同地理种群的遗传多样性
【中文关键词】桃蛀螟 ISSR 遗传多样性 基因流 地理种群 中国
【英文关键词】Conogethes punctif eralis; ISSR; genetic d iversity; gene flow; geograph ic popu lation; Ch ina
【中文摘要】本文应用ISSR分子标记技术对中国桃蛀螟Conogethes punctiferalis11个地理种群的基因组DNA进行了遗传多样性和遗传分化分析。从34条引物中筛选出6条用于ISSR多态性分析,共扩增出211条带,其中209条具多态性,总的多态性条带百分率为99.05%。11个种群的遗传距离在0.0059~0.0237之间,Nei氏基因多样性指数为0.1750,Shannon信息指数为0.2966,遗传分化系数为0.053,基因流高达8.8724。结果提示中国桃蛀螟地理种群因基因流水平较高而种群遗传分化水平保持较低。
【英文摘要】G enet ic diversity among eleven geograph ic populat ions o fC onogethes punctif eralis in China w asinvest igated using Inter Simp le Sequence Repeat (ISSR) m arkers in th is study. S ix of the 34 used primersw ere chosen for our ISSR po lymo rph ic ana lysis. The resu lts show ed that 209 bands w ere po lymorphic,mak ing up 99. 05% of the tota l 211 amplified bands. The genetic d istances betw een d ifferen tC. punctif eralis populat ions w ere 0. 0059- 0. 0237. The N ei s index, Shannon info rmation index, andcoeffic ient o f genet ic (gene) d ifferen tiation among populations (G st) w as 0. 1750, 0. 2966 and 0. 053,respective ly, and the estimated value o f gene flow from G st w as 8. 8724. The results suggest thatC. punctif eralis popu lations in China keep a low level of populat ion genetic differentiation due to aconsiderab le gene flow.
【语种】中文

【第一作者】张颖
【通讯作者】王振营
【期刊名称、卷期、页码】昆虫学报 2010, 53(9) : 1022 - 1029
【论文发表时间】2010-02-24 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】植物保护学

【题目】我国桃蛀螟四个地理种群感染Wolbachia的研究
【中文关键词】桃蛀螟 Wolbachia 感染率 wsp基因 系统发生
【英文关键词】Conogethes punctif eralis; Wolbachia; infection frequency; w sp; phylogenetic ana lysis
【中文摘要】Wolbachia是一类广泛分布于节肢动物体内的细胞内共生菌,能参与调控寄主的多种生殖活动。桃蛀螟Conogethes punctiferalis(Guen晴e)可危害多种粮食作物和经济作物,近年来已成为我国玉米生产的重要害虫之一。本研究对通过对16SrRNA、ftsZ以及wsp基因片断的PCR扩增,对我国桃蛀螟4个地理种群进行了Wolbachia感染检测,并对感染个体中wsp基因片断克隆测序,初步探究了我国桃蛀螟种群中Wolbachia的感染率和感染类群。研究结果表明我国4个桃蛀螟种群中Wolbachia感染率在2.0%~8.0%,平均感染率为4.5%。通过对不同种群感染的Wolbachia中wsp序列比对及系统树构建分析,在桃蛀螟中发现了5种Wolbachia亚型,分别命名为wPun1-wPun5,分属于A组的Uni、Dro亚组,以及B组的Div、Con亚组。此外,本研究在采自河北保定的桃蛀螟种群中发现了Wolbachia的超感染现象。
【英文摘要】Wolbachia are maternally inherited endosymb io tic bacteria infecting a w ide range of arthropods.They can induce various reproduction a lterations in their hos.t Y ellow peach moth, Conogethespunctiferalis (Guen e), w hich in fests various o f food crops and econom ic crops, becomesmore serious inma ize recently in China. In this study, w e invest igated preva lence and diversity ofWolbachia in fect ion infour geographical popu la tions ofC. punctif eralis in Ch ina by PCR detection o f 16S rRNA, f tsZ and w sp.F ive stra ins o fWolbach ia (w Pun1- w Pun5) w ere iden tif ied based on w sp sequences iso lated in populations o fC. punctif eralis w ith infection frequency ranged from 210% - 810% (average ra te = 415%) .Phy logenetic ana lysis suggested that theseWolbachia variants belong to subgroup Un,i Dro in G roup A,and subg roup D iv, C on in Group B. In addition, superinfection w as found in Baoding population collec-ted inHebe iProvince.
【语种】中文
【第一作者】李菁
【通讯作者】王振营
【期刊名称、卷期、页码】环境昆虫学报, 2010, 32(3) : 322- 328
【论文发表时间】2010-02-11 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】植物保护学

【题目】沃尔巴克氏体感染对松毛虫赤眼蜂生殖力、发育历期和存活的影响
【中文关键词】松毛虫赤眼蜂 沃尔巴克氏体 产雌孤雌生殖 生殖力 发育历期 存活率 两性生殖 产卵量 赤眼蜂品系 感染
【英文关键词】Trichogramma dendrolimi ; Wolbachia; thelytokous parthenogenesis; fecundity; develop mental duration; survival rate
【中文摘要】在恒温恒湿条件下,比较研究了感染沃尔巴克氏体的产雌孤雌生殖品系和未感染正常两性生殖品系松毛虫赤眼蜂的单雌产卵量、发育历期、存活率。结果表明,感染和未感染沃尔巴克氏体的两种品系松毛虫赤眼蜂单雌产卵量分别为101.2和101.7粒,差异不显著;松毛虫赤眼蜂产雌孤雌生殖品系在预蛹期和蛹后期的发育历期极显著长于两性生殖品系,分别为1.9、0.9d和1.4、0.5d;沃尔巴克氏体感染使宿主松毛虫赤眼蜂卵和幼虫的存活率显著降低。
【英文摘要】Under constant temperature and humidity conditions, fecundity, developmental duration andsurvival rate were compared between Trichogramma dendrolimi infected and uninfected with Wolbachiausing the staining method by Safranin in egg of Antheraea pernyi . Results show that the fecundity was notsignificantly reduced by infection with Wolbachia. Developmental durat ions of pre pupal and late pupalstages (1 9 and 1 4 d, respectively) of T. dendrolimi infected with Wolbachia were significant ly longerthan those of uninfected wasps (0 9 and 0 5 d, respectively) . Wolbachia infection significant ly de creased survival rates of eggs and larvae of T. dendrolimi .

【语种】中文
【第一作者】杨克冬
【通讯作者】丛斌
【期刊名称、卷期、页码】中国生物防治, 2008, 24(3): 210-214
【论文发表时间】2007-11-08 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】植物保护学

【题目】戊唑醇和苯醚甲环唑种子处理对玉米幼苗生长的影响比较
【中文关键词】戊唑醇 苯醚甲环唑 种子处理 玉米安全性
【英文关键词】Tebuconazole; D ifenoconazole; Seed treatmen;t Ma ize security
【中文摘要】采用药液浸种法研究了两种药剂对玉米种子萌发和幼苗生长的影响。结果表明,在试验浓度下,戊唑醇和苯醚甲环唑处理种子对出苗率没有影响,但对玉米幼苗的株高都表现出了一定的抑制作用,戊唑醇处理明显抑制玉米幼苗株高,但戊唑醇处理浓度低于300 μg/mL时,其显著增加了玉米幼苗的叶绿素含量,并明显增加了玉米幼苗的可溶性糖的含量。与戊唑醇相比,苯醚甲环唑处理浓度大于300 μg/mL时才表现出对玉米幼苗的抑制作用,苯醚甲环唑处理更有利于玉米幼苗的生长,苯醚甲环唑处理提高了玉米幼苗根系的呼吸作用。以上结果说明,苯醚甲环唑处理对玉米幼苗生长的安全性好于戊唑醇。
【英文摘要】E ffects of seed treatment w ith tebuconazo le and d ifenconazole on the emergence o fma ize seeds and thegrow th o fmaize seed lings w ere stud ied. The results show ed that although the emergence rate o fm aize seeds were notdifferen,t the maize seedling he ightw ere inhibited sign ificantly by seed treatm entw ith tebuconazole and d ifenocon azo le, especially treated w ith tebuconzaole. The contents of ch lorophy ll and soluble sugar w ere sign ificant ly in creased inma ize seedlings asma ize seeds treated w ith tebuconazole low er than 300 g /mL. Compared w ith tebucon azo le treatm en,t the inhibition of ma ize seed lings height w ere show ed w hen the d ifenoconazo le concentration w ashigher than 300 g /mL, the e ffects of difenoconazole on seedlings development w ere more benef icial than tebu conzao le, and the respiration ofm aize seedling roots w ere enhanced as ma ize seeds treated w ith difenoconazole. A llabove results ind icated that the safety o fmaize seedlings deve lopmentw ith d ifenoconazo le treatmentw as be tter thanthatw ith tebuconazo le.
【语种】中文
【第一作者】王雅玲
【通讯作者】袁会珠
【期刊名称、卷期、页码】作物杂志, 2009, 4: 60-62
【论文发表时间】2009-03-10 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】植物保护学

【题目】亚洲玉米螟化型的主要特性及其遗传稳定性
【中文关键词】亚洲玉米螟 化型 遗传稳定性
【英文关键词】asian corn borer
【中文摘要】吉林省发生的亚洲玉米螟O strinia furnacalis(Guen e)在不同生态区存在一化型和二化型种群结构,两个群体的滞育后发育历期存在较大差异。
【英文摘要】none
【语种】中文
【第一作者】鲁 新
【通讯作者】鲁 新
【期刊名称、卷期、页码】植物保护学报, 2009, 36(2): 183-184
【论文发表时间】2008-09-10 00:00:00
【引文索引类型】其他
【引文索引号】null

【学科分类】植物保护学

【题目】亚洲玉米螟为害程度与产量损失研究
【中文关键词】亚洲玉米螟 为害 产量损失 人工模拟
【英文关键词】Ostrinia furnacalis ; damag e; yield lo ss; artificial simulatio n
【中文摘要】在春玉米上人工模拟亚洲玉米螟自然发生情况,玉米螟为害主要影响单穗净重、百粒重。结果表明,不同品种、不同生育期接虫和不同接虫量对产量的影响不同。沈单16号玉米1代接虫为害最重,产量损失为17.72%;丹玉39号玉米1、2代复合接虫为害最重为14.61%。接卵0、0.5、1、2、4块/株之间单穗净重差异显著。
【英文摘要】The damag e caused by t he Asian co rn bo rer, Ostr inia f ur nacalis (Guen e) w as simulat ed by artificial in festat ions on spr ing cor n during the w hor l and silking stage, respectively . The damag e by Asian co rn bo rer o n y ieldmainly affected the net weig ht per ear and per hundred seed w eig ht. The results showed that the yield losses causedby Asian co rn bo rer differed in cor n hybrids, development stages o f cor n and t he numbers o f eg g masses infested.The yield loss in Shendan No . 16 w as t he heav iest (17. 22%) , w hen the co rn plants w ere infested at w hor l stag e.Fo r Danyu No. 39, the yield loss w as t he heaviest (14. 61%) , w hen infested both at w hor l and silking stages. Sig nificant differ ences in weight per ear wer e obser ved amo ng different number s o f eg g masses infested (0, 0. 5, 1, 2 and4 eg g masses/ plant) .
【语种】中文
【第一作者】王志春
【通讯作者】丛斌
【期刊名称、卷期、页码】植物保护, 2008, 34(1): 112-115
【论文发表时间】2007-05-20 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】植物保护学

【题目】亚洲玉米螟与串珠镰孢菌复合侵染对玉米产量损失的影响
【中文关键词】玉米 亚洲玉米螟 串珠镰孢菌 复合侵染 产量损失
【英文关键词】corn; O strinia furnacalis; Fusarium verticillioides; infestation together; y ie ld loss
【中文摘要】在玉米吐丝、灌浆和乳熟期,以亚洲玉米螟Ostrinia furnacalis(Guen é e)为试虫,以串珠镰孢菌Fusarium verticillioides为供试菌种,研究玉米雌穗不同发育期亚洲玉米螟与串珠镰孢菌复合侵染对玉米产量的影响。结果表明:串珠镰孢菌与玉米螟复合侵染危害后玉米雌穗穗长缩短、籽粒数减少、穗粒腐病加重,使得玉米的产量性状发生改变,导致玉米产量和品质下降;接虫处理和复合处理均以玉米吐丝期对玉米产量构成因素影响最大,吐丝期复合处理单穗损失率为40.84%,在灌浆和乳熟期分别为27.92%和11.10%;在单独接菌条件下以灌浆期危害最重,单穗损失率为6.62%,而在吐丝和乳熟期分别为4.13%和0.65%。
【英文摘要】E ffect o f theA sian corn borer, O strinia furnacalis (Guen e), and Fusarium verticillioid es infestationon the corn yie ld w as investigated. The co rn ears w ere inocu la ted w ith neonate larvae of A siancorn borer, F. verticillioides, respect ive ly, orAsian corn borer larvae and F. verticillioides together at si-lk ing, b lister and m ilk stage of corn ear deve lopmen.t Resu lts show ed that it resu lted in the corn earleng th sho rtened, the number o f the corn seed decreased and the ear ro t became more ser ious, and alsoother co rn y ield components w ere a ffected, such as the number per row, 100-seed w e ight yie ld o f singleear, when inocu la ted w ith Asian corn bo rer neonate larvae and F. verticillioides, separately or together.The y ie ld o f sing le ear significant ly decreased at silk ing stage, w ith 40. 84% , 27. 92% and 11. 10% a tb lister andm ilk stage, respect ively, when inoculated w ith theO. furnacalis neonate larvae and theF. verticillioidestogether. H ow ever, the y ield of sing le ear sign ificantly decreased at blister stage, w ith 6. 62%,4. 13% and 0. 65% at silk ing, m ilk stages, respect ive ly, when inoculated w ith theF. verticillio ides only.
【语种】中文
【第一作者】宋立秋
【通讯作者】王振营
【期刊名称、卷期、页码】植物保护学报, 2009, 36(6): 487-490
【论文发表时间】2009-04-16 00:00:00
【引文索引类型】其他
【引文索引号】null

【学科分类】植物保护学

【题目】玉米不同种植方式对玉米螟的控制作用研究
【中文关键词】玉米螟 种植方式 不同作物 不同品种 向日葵 玉米品种 混种 间种 发生情况 作用研究
【英文关键词】Maize; Asian corn borer; Plantingmethods
【中文摘要】对玉米不同品种清种、混种和间种不同作物后玉米螟的发生情况进行了初步研究。通过玉米清种区与混种区的玉米螟发生情况比较、分析得出,混种对降低一代玉米螟卵量有明显作用,比清种一代玉米螟卵降低幅度在13%~45%。通过玉米间种不同作物后玉米螟发生情况分析得出,间种向日葵的小区中玉米螟的蛀孔数和活虫数明显低于其它处理,认为向日葵可能对玉米螟具有一定的驱避作用。
【英文摘要】The occur of Asian corn borer(ACB), Ostrinia furnacalis(Guenee), had been studied in this paper afternormal, mixed planting with different corns alternation planting with other corps. The study showed that the mixedplanting with different corns could evidently decrease the number of one generation ACB eggs for comparison with thenormal planting. The mixed planting could decrease the number of one generation ACB eggs about 13% - 45% thannormal planting. Through the study on alternation planting with other corps, we found that the numbers of wormholeand live larvae in area of alternation planting with sunflowers were lower than with the other corps. So we confirmedsunflower had avoidance effect to ACB.
【语种】中文
【第一作者】鲁 新
【通讯作者】鲁 新
【期刊名称、卷期、页码】玉米科学, 2007, 15(6): 114-117
【论文发表时间】2007-10-10 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】植物保护学

【题目】玉米几种重要病害蛋白质组学研究进展
【中文关键词】蛋白质组学 玉米病害 致病性分化 质谱分析
【英文关键词】pro teom ics; m a ize disease; pathog enic ity different ia tion; m ass spectrum analy sis
【中文摘要】本文介绍了玉米镰孢菌和黄曲霉穗腐病、腐霉菌苗期病害抗性相关蛋白,以及在我国曾严重发生的玉米弯孢霉叶斑病菌致病性相关蛋白质组和寄主抗性相关蛋白质组的研究进展,探讨了利用蛋白质组学技术深入研究玉米-病原菌互作的优势和重要方向。
【英文摘要】Prog ress in resistance-related pro tein s of severa lma ize diseases including ear ro t caused by Fusariumoxyspo rum, Asperg illus fla vusa andA. pa ra sit icus, seed ling damp ing-o f f caused by Pyth ium u ltimum w asintroduced asw e ll as in v iru lence-re lated pro teins and ho st resistance-related pro te ins o fCurvu lar ia leaf spo t inducedbyCu rvu la ria luna ta. M o reov er the advan tage s andm a jo r areas o f pro teom ics techn ique to dealw ith theinteract ion o f m aize-patho gen w ere deep ly discussed.
【语种】中文
【第一作者】陈捷
【通讯作者】陈捷
【期刊名称、卷期、页码】植物病理学报, 2007, 37(5): 449-455
【论文发表时间】2006-11-10 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】植物保护学

【题目】玉米田种植诱集作物对降低二代玉米螟危害的作用
【中文关键词】二代玉米螟 诱集作物 玉米田 玉米品种 晚播 引诱作用 播种 危害 产卵 卵粒数
【英文关键词】Maize; Attracting crop; The second- generation Asia corn borer
【中文摘要】在正常播种的玉米田两侧晚播相同玉米品种或甜玉米品种,通过对正常播种区与晚播区二代玉米螟发生情况的系统调查分析得出,在正常播种的玉米田内局部晚播相同品种玉米或甜玉米能够明显降低二代玉米螟的发生和危害,二代玉米螟卵降低幅度在58%~76%。晚播的同品种玉米或甜玉米对二代玉米螟成虫产卵有较强的引诱作用,因而减轻了二代玉米螟在正常播种玉米田的发生和危害。

【英文摘要】This paper study that the occurrence of the second- generation Asia corn borer between the area ofnormal planting and late sowing in the maize field. The result shows that it can distinctly lower impairing of the second-generation Asia maize borer in the part of corn field to late sowing the same breed common corn or sweet corn.The extent of the second- generation Asia maize borer was decreased about 58% to 76%. We found that there wasmore powerful attracting actions to the imago of the second- generation Asia maize borer in the area of late sowing thesame breed common corn or sweet corn, so it decrease the impairing of the second- generation Asia maize borer in thenormal planting corn field.
【语种】中文
【第一作者】刘宏伟
【通讯作者】鲁新
【期刊名称、卷期、页码】玉米科学, 2008, 16(6): 130-131, 135
【论文发表时间】2008-06-20 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】植物保护学

【题目】Study on the Treatment for High Concentration of Ammonia Nitrogen in Piggery Wastewater by MAP
【中文关键词】张颖
【英文关键词】magnesium-ammonium-phosphate;ammonia nitrogen;
piggery wastewater
【中文摘要】本书由环境专家张颖教授组织,污染监测的深入研究将对农业环境可持续的发展,有着重大的意义
【英文摘要】Magnesium-ammonium-phosphate precipitation method (MAP) is a newly-developed technique to remove ammonia nitrogen from wastewater. In this study, MAP method has been studied by using MgCl 2 · 6H 2 O and Na 2 HPO 4 · 12H 2 O as precipitators for treating highly concentrated ammonia nitrogen wastewater. The effect of pH value, formulas of precipitation and precipitator ratio on MAP precipitation efficiency has been examined. A lab scale study is conducted to optimize the reaction conditions by single factor experimentation and cross experimentation. The experimental results indicates that the effluent ammonia nitrogen and removal rate reaches 36.66mg/L and 95.15% respectively when pH is 9.5,the mole ratio n(PO 43-)∶n(NH 4+)∶n(Mg 2+) is controlled at 1∶1∶1.2 and the reaction time is controlled at 10 minutes.
【语种】英文
【第一作者】杨阳
【通讯作者】张颖
【期刊名称、卷期、页码】iCBBE
【论文发表时间】2009-05-01 00:00:00
【引文索引类型】EI
【引文索引号】9.53E+10
【学科分类】农学其他学科

【题目】Mechanism of Cu(Ⅱ) biosorption by Saccharomyces Cerevisiae
【中文关键词】张颖
【英文关键词】Saccharomyces Cerevisiae;Copper ion;Chemical
modification;FTIR;Adsorption mechanism
【中文摘要】本书由环境专家张颖教授组织,污染监测的深入研究将对农业环境可持续的发展,有着重大的意义
【英文摘要】This paper studies how chemical modification influences the Saccharomyces Cerevisiae adsorption on copper ion and the desorption of nitric acid, and carries out infrared spectrum analysis of native, adsorbing and desorbing Saccharomyces Cerevisiae. Results show that carboxyl and amino group in Saccharomyces Cerevisiae play an important role in the process of adsorbing Cu(Ⅱ). The adsorption on Cu(Ⅱ) by Saccharomyces Cerevisiae is mainly the process of surface adsorption. The process of biosorption on heavy metals is mainly reversible adsorption; however, there still exists irreversible adsorption. FTIR analysis further indicates that carboxyl and hydroxyl adsorption on Cu(Ⅱ) is reversible adsorption, which amino group adsorption on Cu(Ⅱ) is irreversible adsorption.
【语种】英文

【第一作者】董丽敏
【通讯作者】张颖
【期刊名称、卷期、页码】iCBBE
【论文发表时间】2009-05-01 00:00:00
【引文索引类型】EI
【引文索引号】9.53E+10
【学科分类】农学其他学科

【题目】Cleaning Process Selection and Mechanism of Membrane Pollution in the Membrane Bioreactor
【中文关键词】张颖
【英文关键词】MBR technology; cleaning technology of membrane
pollution; mechanism of membrane pollution
【中文摘要】本书由环境专家张颖教授组织,污染监测的深入研究将对农业环境可持续的发展,有着重大的意义
【英文摘要】Membrane pollution and its cleaning technology in MBR water treatment process were tested. Membrane of short-term(22d) experiment and membrane of long-term(210d) experiment were cleaned separately by cold water → hot water → sodium hypochlorite → ethanol, membrane fluxes came back to the 94.4% and 70.3% of the new membranes, respectively. Another membrane of long-term(210d) experiment was cleaned with different process by cold water → hot water → sodium hypochlorite →sulfuric acid, membrane flux came back to the 61.4% of the new membrane. The cleaning test of membrane module showed: different cleaning process might bring different cleaning effect. Membrane pollution can be divided into biological pollution, organic pollution and inorganic pollution. They often occur simultaneously, and one kind of pollution can exacerbate another.
【语种】英文
【第一作者】马淑燕
【通讯作者】张颖
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【学科分类】农学其他学科

【题目】Study on the Growth and Degradation Characteristics of Atrazine Degradation Strain J 6
【中文关键词】张颖
【英文关键词】degradation strain; growth characteristics; degradation characteristics
【中文摘要】本书由环境专家张颖教授组织,污染监测的深入研究将对农业环境可持续的发展,有着重大的意义
【英文摘要】This paper mainly studies the growth and degradation characteristics of the Atrazine degradation strain J 6 which is isolated from the soil, collected from the corn field in northern China with a long history of atrazine application. The growth and the degradation characteristics at different pHs and temperatures are also studied. Adding J 6 into the medium by the ratio of 1 %(v/v), J 6 is able to degrade the atrazine completely in 84h whose concentration in medium is 100mg/L. When the medium was cultured at 30°C with a pH of 7, the growth and the degradation ability of J 6 become best.
【语种】英文
【第一作者】姜昭
【通讯作者】张颖
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【引文索引号】9.53E+10
【学科分类】农学其他学科

【题目】A Simulated Experimental Research on Treating Domestic Sewage by Using CASS Technique

【中文关键词】张颖
【英文关键词】CASS technique; domestic sewage treatment; analysis on sludge characteristics
【中文摘要】本书由环境专家张颖教授组织,污染监测的深入研究将对农业环境可持续的发展,有着重大的意义
【英文摘要】In accordance with the requirements of the treatment system in municipal sewage plants and of influent and effluent quality, this experiment studies the effect of domestic sewage treatment through the design of a CASS miniature-testing device. In the stable test operation phase, the average removal rate of COD, NH 3 -N, and TP is respectively 93.16%, 86.95%, and 91.09%. Effluent quality meets the requirements the GB 18918-2002 Standard for Discharge of Pollutants from Sewage Treatment Works in Towns and Cities IB.
【语种】英文
【第一作者】李晶
【通讯作者】张颖
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【学科分类】农学其他学科

【题目】Planktonic Algae Community Distribution and Eutrophication Assessment of Xi Quanyan Reservoir
【中文关键词】张颖
【英文关键词】Xi Quanyan reservoir, planktonic algae, Comprehensive Trophic State Index, eutrophication assessment
【中文摘要】本书由环境专家张颖教授组织,污染监测的深入研究将对农业环境可持续的发展,有着重大的意义
【英文摘要】The distribution and composition of the planktonic algae community in Xi Quanyan reservoir was investigated, it showed the dominant species were diatom and chlorophyta. According to the comprehensive trophic state of the multiple monitoring results of the different sampling points in the entrance, centre and exit of the Xi Quanyan reservoir, calculate the Comprehensive Trophic State Index to gain the average of the whole year: the entrance is 56.2077, the centre is 54.4001, and the exit is 55.1305, which means that the reservoir is in the slight condition. And to analysis of variance for the different sampling points, the F value is 3.548, less than F0.05, which means that the difference of the eutrophication level is not significant among the each sampling points. By the matched data t test, the differences of eutrophication level among the 3 water periods are very significant: wet season>common season>dry season.
【语种】英文
【第一作者】刁卓
【通讯作者】张颖
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【学科分类】农学其他学科

【题目】Research on How to Determine the Residue of Atrazine in the soil
【中文关键词】张颖
【英文关键词】atrazine; soil; gas chromatography; analysis method
【中文摘要】本书由环境专家张颖教授组织,污染监测的深入研究将对农业环境可持续的发展,有着重大的意义
【英文摘要】Studies on the residue of atrazine in the soil have recently aroused great concern. This article studies the methods of determining the residue of atrazine in the soil, and thus helps solve the problems of pesticide residue. Use methanol aqueous solutions (9:1) to extract the atrazine in the soil. Concentrate the methanol, then chloroform extracted. After concentrating to a defined volume, use GC-14C gas chromatographic and FID detector to determine the residue of atrazine in the soil. This research has found that the recovery rate of residue atrazine in the soil reaches 85%-90%, and the relative standard difference

(RSD) is 2.3%-4.9%.
【语种】英文
【第一作者】王荣娟
【通讯作者】张颖
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【学科分类】农学其他学科

【题目】寒地黑土中阿特拉津降解菌的筛选及降解特性
【中文关键词】寒地黑土 阿特拉津 筛选 鉴定 降解特性
【英文关键词】black soil in cold area; atrazine; isolation; identification; degradation characteristi
【中文摘要】从长期施用阿特拉津的寒地黑土耕层(0~10 cm)取样。利用富集培养的方法,筛选到2株阿特拉津降解菌,编号Z9和Z42。Z9以阿特拉津为惟一碳氮源生长, Z42以阿特拉津为惟一氮源生长, 15 d对阿特拉津的降解率分别为77·7%和65·6%。对其初步鉴定并对降解特性进行研究,结果表明,细菌Z9为微杆菌属(Microbacteriumsp.),细菌Z42为节杆菌属(Arthrobactersp.)。在室内进行降解条件优化实验,得出2株降解菌对100 mg/L阿特拉津的最佳降解条件为:温度30℃, Z9pH值为7, Z42pH值为8。
【英文摘要】Two bacteria named Z9and Z42were isolated from black soil in cold area (0~10 cm) of long-term applying atrazine by enrichment culture. Z9grew in medium with atrazine as sole carbon and nitrogensource, Z42grew inmedium with atrazine as sole nitrogen source. After15 days, the degradation rates ofZ9andZ42were 77. 7% and 65·6% respectively. Based on theirphysiologic and biochemicalcharacteristics, Z9and Z42were identified asMicrobacteriumsp. andArthrobactersp. By studying on degradation characteristics, the opti-mum degradation condition of two bacteria for100mg/L atrazinewas established: the temperaturewas30℃, pHofZ9and Z42were 7 and 8 respectively.
【语种】中文
【第一作者】周 宁
【通讯作者】张颖
【期刊名称、卷期、页码】环境工程学报
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【学科分类】农学其他学科

【题目】Quantitative Calculation Models and the Application of Ecological Carrying Capacity
【中文关键词】张颖
【英文关键词】carrying capacity; AHP; ecological footprint; model
【中文摘要】本书由环境专家张颖教授组织,污染监测的深入研究将对农业环境可持续的发展,有着重大的意义
【英文摘要】carrying capacity; AHP; ecological footprint; model
【语种】英文
【第一作者】徐台海
【通讯作者】张颖
【期刊名称、卷期、页码】iCBBE
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【学科分类】农学其他学科

【题目】绿色替代技术———稻糠除草技术的应用研究
【中文关键词】稻糠;除草效果;产量

【英文关键词】rice chaff;weed controlling effect;yield
【中文摘要】:稻糠施入稻田具有防除杂草、增加肥效和增产的综合效应。对化学除草、稻糠+化学除草和稻糠除草下水稻的除草效果和产量进行了研究。结果表明:单用稻糠除草的处理前期除草效果明显,后期效果不佳,不如化学除草,稻糠+化学处理除草效果最佳,产量最高。
【英文摘要】Rice chaff has the function of controlling weeds and increasing fertility and yields.The weed control-ling effect and yield were studied under three treatments (chemical weeding,rice chaff and chemical weeding,rice chaff weeding).The results showed that the effect of rice chaff treatment was good in early stage,not asgood as weed chemical weeding in late stage,the weed controlling and yield with rice chaff and chemical wee-ding treatment was the best.
【语种】中文
【第一作者】张磊
【通讯作者】王玉峰
【期刊名称、卷期、页码】黑龙江农业科学
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【引文索引号】1
【学科分类】农学其他学科

【题目】生物型水稻专用肥在白浆土上的应用效果
【中文关键词】生物型水稻专用肥;水稻;白浆土
【英文关键词】no
【中文摘要】本试验以白浆土为供试土壤,对黑龙江省农科院土壤肥料与环境资源研究所研制的生物型水稻专用肥应用效果进行研究,为在白浆土上施用水稻专用肥配方提供依据。结果表明:施用生物肥不仅促进了水稻分蘖的早生快发,增加了有效穗数,而且提高了叶绿素含量,更有利于光合产物的积累和子粒的充实,从而提高了水稻的产量。其中生物型Ⅰ和生物型Ⅱ俩处理比常规施肥分别增产14.5%和10.1%。
【英文摘要】no
【语种】中文
【第一作者】张磊
【通讯作者】王玉峰
【期刊名称、卷期、页码】世界农业
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【引文索引号】1
【学科分类】农学其他学科

【题目】不同来源水溶性有机物光谱学特性研究
【中文关键词】堆肥 水溶性有机物 紫外光谱 荧光光谱
【英文关键词】compost;dissolved;organic matter;ultraviolet spectra;fluorescence sopctra
【中文摘要】利用紫外光谱法和荧光光谱法研究了鸡粪 、厨余垃圾、落叶、污泥堆肥60天水溶性有机物(Dissolved Organic Matter ,DOM)的光谱特性,结果表明,四个样品的紫外SUVA254值由大到小依次为鸡粪(14.13)、厨余(6.53)、植物(6.50)、污泥(3.97);四个样品的ABS285值由大到小依次为鸡粪(116)、厨余(59.67)、植物(54)、污泥(40.33);在同步荧光光谱图中鸡粪主峰位于389nm、厨余位于382nm、植物位于355nm、污泥样品没有明显的主峰,其278nm处类蛋白峰的荧光强度与348nm、382nm两处腐殖质峰荧光强度相似,紫外光谱和荧光光谱均得出腐殖化程度最高的为鸡粪,其次为厨余和植物,腐殖化程度最低的为污泥。荧光激发光谱图表明,鸡粪和厨余样品中羟基为主要官能团;三维光谱图(three-dimensional excitation emission matrix fluorescence spectroscopy, 3DEEM)表明,四个样品均出现了紫外区类富里酸和可见区类富里酸。
【英文摘要】This study applied ultraviolet
【语种】中文
【第一作者】王威
【通讯作者】魏自民
【期刊名称、卷期、页码】东北农业大学学报

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【引文索引号】1
【学科分类】农学其他学科

【题目】生物型水稻专用肥在黑土上应用效果研究
【中文关键词】生物型水稻专用肥;黑土;肥料利用率
【英文关键词】biotype rice specific fertilizer; black soil; fertilizer using efficiency
【中文摘要】黑土作为供试土壤,采用盆栽的方法,对生物型水稻专用肥应用效果进行初步研究,为完善在黑土上水稻专用肥配方提供依据。结果表明,生物型肥料有效的促进水稻在整个生育期内对钾的吸收,提高水稻植株的生物量,抽穗期生物型水稻专用肥处理的水稻植株干重比等养分化肥处理高4.3%~8.1%。生育后期生物型肥料处理的土壤中速效养分含量仍高于等养分化肥处理,表现出良好的长效机制。减少化肥用量的生物型肥处理与常规施肥相比,氮、磷、钾的利用率分别提高11.8%、18.9%和26.6%。生物型I处理产量显著高于其他处理,水稻品质好于其他处理,但未达到显著水平。关键词:生物型水稻专用肥;黑土;肥料利用率
【英文摘要】Pot experiments were conducted to preliminary study the effects of biotype rice specific fertilizers inblack soil, supplying according for biotype rice specific fertilizers more completely. The results indicated thatall biotype rice specific fertilizers could promote potassium absorption and increase plant biomass in all growthstages. Plant dry weights of using biotype rice specific fertilizers treatment were 4.3%-8.1% higher thanchemical fertilizer treatments contain equal nutrient contents at heading stage. The content soil availablenutrients at the later growth stage was also higher in biotype rice specific fertilizers treatment than that inchemical fertilizer treatments, indicating the better effects of bio-fertilizers. Compared with common fertilizertreatment, the using efficiency of nitrogen, phosphorus and potassium for biotype fertilizer I treatmentincreased 11.8% , 18.9% and 26.6% , respectively. The yield of biotype fertilizer I treatment was highersignificantly than other treatments. The quality of biotype fertilizer I treatment rice better than other treatments,but didn ’ t reach notable leave.
【语种】中文
【第一作者】陈雪丽
【通讯作者】王玉峰
【期刊名称、卷期、页码】中国农学通报
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【引文索引类型】其他
【引文索引号】1
【学科分类】农学其他学科

【题目】生物型水稻专用肥在草甸土上的应用效果研究
【中文关键词】生物型水稻专用肥;草甸土;肥料利用率
【英文关键词】:biotype rice specific fertilizer;meadow soil;fertilizer use efficient
【中文摘要】:以草甸黑土作为供试土壤,对生物型水稻专用肥应用效果进行小区试验。结果表明:生物型肥料有效的提高水稻植株的生物量,抽穗期生物型水稻专用肥处理的水稻植株干重比等养分化肥处理高13.36%~23.28%。生物菌肥的施入能够提高水稻产量,在常规施肥基础上增施生物菌肥和减量化肥增施生物菌肥两个处理分别比常规施肥产量提高5.5%和7.9%。
【英文摘要】Plots experiments were conducted to preliminary study the effects of biotype rice specific fertilizers inmeadow soil.The results indicated that all biotype rice specific fertilizers could increase plant biomass in allgrowth stages.Plant dry weights of using biotype rice specific fertilizers treatment were 13.36%~23.28%,higher than that of chemical fertilizer treatments contain equal nutrient contents at heading stage.The yields ofbiotype fertilizer treatments were higher than that of the equal nutrient contents treatments 5.5% and 7.9%,respectively.
【语种】中文
【第一作者】陈雪丽
【通讯作者】王玉峰
【期刊名称、卷期、页码】黑龙江农业科学
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【题目】生防菌代谢物质种类及其研究进展
【中文关键词】生防菌; 代谢物质; 抗菌肽
【英文关键词】biocontrol strains; metabolites; peptide
【中文摘要】从目前用于植物病害生物防治的生防菌代谢物质种类方面,综述了生防菌代谢物质活性成分的国内外研究进展,代谢物质活性成分主要包括抗菌肽、抗生素及其次生代谢产物和一些酶类等。
【英文摘要】This paper summarized the research progress of active ingredients metabolized by biocontrol strains in the respect of metabolites species which has been utilized in plant diseases biocontrol.The active ingredients mainly include anti-peptides,antibiotics and its secondary metabolites and some kinds of enzyme.
【语种】中文
【第一作者】陈雪丽
【通讯作者】王玉峰
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【学科分类】农学其他学科

【题目】保护性耕作条件下土壤物理性状的研究
【中文关键词】保护性耕作;土壤温度;土壤水分;土壤容重
【英文关键词】conservation tillage;soil temperature;soil moisture;soil bulk density
【中文摘要】设置留茬覆盖、留茬无覆盖、旋耕3种处理,研究大豆田的土壤温度、土壤水分、土壤容重的动态变化。结果表明,留茬覆盖处理保水、保土、保肥的效果越好,对地表温度影响也越大。留茬无覆盖处理在耕作层(15 cm以上)温度要高于旋耕处理,对种子萌发和出苗有利,但是其土壤水分较留茬覆盖处理低。不同耕法条件下0~20 cm土层容重:留茬无覆盖>留茬覆盖>旋耕,但在20~30 cm土层3种处理容重差距不大。
【英文摘要】This work was conducted in order to study the dynamics of soil temperature,soil moistureand soil bulk density underthree treatments:straw-mulching(ST),remaining stubble without cover(RSC)androtary tillage(RT).The results showed that ST treatment increased soil moisture,but decreased the soiltemperature more effectively than other treatments.The soil temperature under RSC treatment was higher,but the soil moisture was lower than those of RT treatment(above 15 cm).Soil bulk density within 20 cmdepth followed the order of RSC>ST>RT;however,there was no significant difference in soil bulk densitybetween 20 and 30 cm among three treatments.
【语种】中文
【第一作者】张磊
【通讯作者】王玉峰
【期刊名称、卷期、页码】东北农业大学学报
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【题目】硅钙肥在玉米上的应用效果研究
【中文关键词】玉米;硅钙肥;叶绿素含量;倒伏;产量
【英文关键词】humic acid compound fertilizer;tomato;yield;qualit
【中文摘要】:以硅钙肥为供试肥料,进行田间小区试验,对玉米生长发育及产量进行研究。结果表明:施用硅钙肥提高了玉米叶绿素含量,增强光合作用,促进了玉米生长。并且,随着硅钙肥用量增加,玉米抗倒伏性增强。处理5(硅钙肥用量150 kg · hm-2)产量最高,比不施硅钙肥处理高14.39%,达到显著水平。

【英文摘要】:Humic acid compound fertilizer as base fertilizer was taken to study the effect of yield and quality ofthe tomato.The results showed that acid compound fertilizer could increase the yield and improve the quality ofthe tomato.It could increase the stem height,stem diameter,leaf area and chlorophyll value.But It lowered theeffect beyond a certain amount.It could coordinate the mutual relation among forming factors of yield,improvethe nutrition level in later stage of the tomato,therefore,increase the yield of tomato.It could increase the con-tents of soluble solid,crude protein,Vc,soluble sugar,and the ratio of sugar and acid.It could lower the contentof nitrate.
【语种】中文
【第一作者】张磊
【通讯作者】王玉峰
【期刊名称、卷期、页码】黑龙江农业科学
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【学科分类】农学其他学科

【题目】不同接种方式对生活垃圾堆肥水溶性有机物荧光特性影响
【中文关键词】生活垃圾堆肥;复合菌剂;接种方式;水溶性有机物;荧光光谱
【英文关键词】solid waste composting; compound microorganisms; inoculation methods; dissolved organic matter; fluorescence spectroscopy
【中文摘要】为了筛选生活垃圾堆肥过程中最佳的复合菌剂接种方式,试验对堆肥起始接种、高温期接种、高温后期接种、后腐熟接种和不接种菌剂5种不同接种方式下的生活垃圾堆肥过程中水溶性有机物(DOM)进行光谱分析,考察了生活垃圾堆肥中DOM组成随堆肥时间的变化规律。DOM荧光光谱解析表明:随着堆肥时间的增加,5个不同处理堆体中的DOM光谱学特性呈现出一定规律的变化趋势,结构复杂的大分子物质和腐殖质类物质不断增多,DOM性质逐渐趋于稳定化。从DOM的荧光图谱及相关参数综合比较而言,堆肥起始和越过高温期的高温后接种微生物复合菌剂,能够明显地加速堆肥的腐殖化进程。
【英文摘要】In order to determine the best inoculation methods of compound microorganisms in solid waste composting, dissolved organic matter (DOM) during the process of composting under five different inoculation methods, which were inoculation at the start time, at the high-temperature phase, after the high-temperature phase, at the maturity phase and without inoculation, was tested through spectral analysis to investigate the time variations of DOM components in solid waste composting. Fluorescence spectra analysis of DOM indicated that the spectral characteristics of DOM in the composting piles of the five treatments exhibited a certain trend with composting time increasing, in which macromolecules with complex structures and humic substances gradually increased, and the heap materials became more and more stabilized. The synchronous fluorescence spectrometry maps showed that after composting there were new absorption peaks near 341nm and 373nm, and red shifts were observed near 277nm, in which the absorption peaks in the treatment of inoculating at the start time and at the high-temperature phase right shifted to 285nm and 284nm, respectively, indicating notable red shifts. Meanwhile, the three dimensional fluorescence spectroscopy maps of DOM in the five treatments also undergo significant changes during the composting process, in which the protein-like fluorescent peak intensities increased gradually, and new fluorescence peaks of fulvic acid formed, with notably enhanced intensities and the disappearance of the transition peaks, which indicated increasing aromatization and complexity of the DOM. According to the comparisons of the fluorescence spectroscopy maps and related parameters, the treatment of inoculating compound microorganisms at the start time or after the high-temperature phase could notably speed up the humification process in solid waste composting.
【语种】中文
【第一作者】姚波
【通讯作者】席北斗
【期刊名称、卷期、页码】光谱学与光谱分析
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【学科分类】农学其他学科

【题目】pH及离子强度对渗滤液水溶性有机物同步荧光光谱的影响
【中文关键词】填埋渗滤液,水溶性有机物,pH值,离子强度,同步荧光光谱
【英文关键词】landfill leachate;dissolved organic matter(DOM);pH value;ionic strength; synchronous fluorescence spectra
【中文摘要】研究了填埋场不同填埋时期渗滤液水溶性有机物(DOM)在三个代表性pH值和不同离子强度下的同步荧光特性。结果表明,DOM的荧光特性受pH影响显著,填埋前、中、后期DOM在不同pH下的荧光峰位置与强度均不一致。离子强度对于DOM荧光特性影响相对较小,由于盐析等作用,随离子强度的增加,各DOM的荧光强度一般都在降低。填埋前、中期DOM在pH13时随离子强度的变化较显著,而填埋后期DOM在pH3时随离子强度的变化较显著。这可能是各不同组成成分的DOM在强酸、碱性条件下的物质结构不同,各DOM上的官能团和阳离子反应所导致的。
【英文摘要】Due to it's sensitivity, good selectivity and nondestructivity nature, fluorescence technique is suitable to the study of dissolved organic matter. In this paper, dissolved organic matter in leachate with different landfill ages in pH3, pH7, pH13 and different ionic strength from 0 to 0.4mol/L KCl was investigated using synchronous fluorescence spectra technology. Our experiment shows that in pH3, pH7 and pH13 synchronous fluorescence spectra changes as plain as salisbury, synchronous fluorescence peak for dissolved organic matter in leachate from young, medium and old landfill age are in different intensity and positions in pH3, pH7 and pH13. It is mainly because the different composition for each dissolved organic matter in leachate with three different landfill ages. Compared with the effect of pH 收稿日期:基金项目:国家重点基础研究发展计划项目(973)(2005CB724203);国家国家科技支撑计划(2007BAD87B03) 作者简介:耿春茂,男,1984年8月生,东北农业大学硕士研究生,主要研究方向为生物工程。*:通讯作者,weizm691120@163.comvalue on synchronous fluorescence spectra of dissolved organic matter in leachate with different landfill ages, ionic strength has a slight influence to synchronous fluorescence peak for each dissolved organic matter in leachate with different landfill ages. Generally speaking, as the increaseing of ionic strength, most synchronous fluorescence peaks of both three kind dissolved organic matter decrease slightly. That is mainly due to the salting-out effect to dissolved organic matter in leachate with different landfill ages under high ionic strength. Dissolved organic matter from young and medium landfill leachate change distinctly in pH13 with different ionic strength, whereas dissolved organic matter from old landfill leachate change distinctly in pH3. It may be because the different composition for these three dissolved organic matter. So the structure of them in pH3 and pH13 change differently, besides the adding cation may react with eletrophilic substituent on dissolved organic matter surface in leachate from three landfill ages in pH13 or pH3, that may results the intensity change on fluorescence peak of dissolved organic matter in leachate from three landfill ages.
【语种】中文
【第一作者】耿春茂
【通讯作者】魏自民
【期刊名称、卷期、页码】东北农业大学学报
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【学科分类】农学其他学科

【题目】大豆应用有机无机复混肥效果的研究
【中文关键词】有机无机复混肥;大豆;产量
【英文关键词】OIF, soybean, yield
【中文摘要】本书由环境专家王玉峰研究员组织,污染监测的深入研究将对农业环境可持续的发展,有着重大的意义
【英文摘要】A soybean elite cultivar Heinong48 was chosen to analysis the effect of soybean growth , agronomy characters and yield by organic-inorganic fertilizer (OIF) , with two different amounts of OIF to treat and do contrast with local ordinary compound fertilizer. The result showed that the plant height , dry matter accumulation and leaf chlorophyll were increased respectively by using OIF. Soybean yield was increased by increasing application of OIF, 6.67% and 13.67% output increase respectively.
【语种】中文
【第一作者】张磊
【通讯作者】王玉峰
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【学科分类】农学其他学科

【题目】Study on the Growth and Degradation Characteristics of Atrazine Degradation Strain J6
【中文关键词】王玉峰
【英文关键词】degradation strain, growth characteristics, degradation characteristics
【中文摘要】本书由环境专家王玉峰研究员组织,污染监测的深入研究将对农业环境可持续的发展,有着重大的意义
【英文摘要】this paper mainly studies the growth and degradation characteristics of the atrazine degradation strain J2 isolated from the soil collected from the cornfield in northern China with a long history of atrazine application.The growth and the degradation characteristics at different pHs,temperatures and in mediums with different salinity are also studied.The results indicate that:when J2 is inoculated 1%into the medium,it can degrade the atrazine,whose concentration in the medium is 100mg/L,completely within 72h.When the medium is cultured at 30°Cwith a pH of 7,the growth and the degradation ability of J2 become best.When the salinity of the medium is increases,the growing and degrading abilities of J2 get worse gradually,this indicates that J2 can not endure high salinity.
【语种】英文
【第一作者】王玉峰
【通讯作者】王玉峰
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【引文索引号】X172
【学科分类】环境工程学

【题目】黑龙江省玉米氮肥适宜用量研究
【中文关键词】玉米;氮肥;适宜用量
【英文关键词】maize;nitrogen;optimum
【中文摘要】:针对玉米主产区农民长期盲目施肥现象严重,导致氮素在土壤中积累,肥料利用率不高,造成资源浪费和环境污染,开展了玉米氮肥肥效和适宜用量试验研究。结果表明:玉米生产氮肥仍然是高产的关键因素,氮肥对玉米生长发育和产量有明显的促进作用;黑龙江省玉米生产施氮的适宜用量为N 100~180 kg · hm-2,可增产24.3%~72 · 9%,平均增收1 624~3 088元 · hm-2;从产量和经济效益考虑,黑龙江省玉米生产氮肥最佳用量为150 kg · hm-2。
【英文摘要】Aiming at the phenomenon of long-term blind using the fertilizer,which leading to accumulation of nitrogen in the soil,low fertilizer utilization,resulting in waste of resources and environmental pollution,optimum application of nitrogen on maize was initiated.The results indicated that nitrogen fertilizer had the improve function yield on maize growth,it still was the key to high yield of maize.The appropriate amount of nitrogen in Heilongjiang province was 100~180 kg • hm-2,could increase the yield by 24.3%~72.9%,increase income 1 624~3 088 yuan • hm-2.Taking the yield and the economic benefit into account,the optimal dosage of nitrogen was 150 kg • hm-2
【语种】中文
【第一作者】张明怡
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【期刊名称、卷期、页码】黑龙江农业科学
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【引文索引号】1002-2767(2010)01-0039-0
【学科分类】土壤学

【题目】丝兰提取物对采食含尿素日粮绵羊瘤胃尿素氮及氨态氮浓度的影响
【中文关键词】青贮饲料;营养价值;反刍动物生产
【英文关键词】silage;nutrition;ruminant productio
【中文摘要】青贮饲料作为一种发展反刍动物生产必需的优质粗饲料来源,其营养价值的高低直接影响到动物的生产水平及经济效益,在论述青贮饲料的营养价值、影响因素的基础上,对其在反刍动物生产中的应用情况予以综述。
【英文摘要】The silage is one of the most important resource of high quality coarse fodder on ruminantproduction. Its nutrition level directly affects animal production level and economy benefit. In this paper ,the author introduced the silage nutrition, infection factors and the application of it on ruminant produc-tion.

【语种】中文
【第一作者】李忠秋
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【期刊名称、卷期、页码】中国饲料
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【学科分类】畜牧、兽医科学基础学科

【题目】青贮饲料营养价值及其在反刍动物生产中的应用
【中文关键词】青贮饲料;营养价值;反刍动物生产
【英文关键词】silage;nutrition;ruminant productio
【中文摘要】青贮饲料作为一种发展反刍动物生产必需的优质粗饲料来源,其营养价值的高低直接影响到动物的生产水平及经济效益,在论述青贮饲料的营养价值、影响因素的基础上,对其在反刍动物生产中的应用情况予以综述。
【英文摘要】The silage is one of the most important resource of high quality coarse fodder on ruminantproduction. Its nutrition level directly affects animal production level and economy benefit. In this paper ,the author introduced the silage nutrition, infection factors and the application of it on ruminant produc-tion.
【语种】中文
【第一作者】李忠秋
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【期刊名称、卷期、页码】家畜生态学报
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【学科分类】畜牧、兽医科学基础学科

【题目】两种育苗技术对秧苗素质及产量和品质的影响
【中文关键词】水稻;新基质盘育苗;产量;品质
中
【英文关键词】rice;new matrix disk seedling;yield;quality
【中文摘要】以龙粳18为试验材料,在齐齐哈尔市依安县新合村进行水稻新基质(稻壳)盘育苗与常规土壤育苗(对照)的对比试验。结果表明:新基质盘育苗的秧苗素质整体上要略好于对照,尤其是发根力方面(新生根数),这更加有利于秧苗移栽后迅速缓苗;产量略高于对照;品质性状方面也略好于对照。从整体而言,新基质育苗可以替代土壤育苗,为水稻栽培提供一项新的育苗技术。
【英文摘要】Comparison of new matrix(rice husk)disk seedling(NMDS)and conventional soil seedling(control)was investigated by using of Longjing 18 in Xinhe village in Qiqihar city.The results showed that the seedlingquality was better in NMDS than that of the control,especially rooting capacity,which could promote seedlinggrowth after transplanting · Otherwise,yield in NMDS was slightly higher than that of the control;quality traitsin NMDS were slightly better than that of the control · Therefore,NMDS was better than soil seedling,andcould replace soil seedling for rice cultivation as a new seedling technology ·
【语种】中文
【第一作者】张忠臣
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【期刊名称、卷期、页码】黑龙江农业科学
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【学科分类】农业基础学科

【题目】寒地水稻施肥新技术对产量和品质的影响

【中文关键词】寒地水稻;施肥;产量;品质
【英文关键词】japonicarice in cold region;fertilization;yield;quality
【中文摘要】以龙粳18为试验材料,在齐齐哈尔市依安县新合村,对新施肥技术和常规施肥技术进行对比试验。结果表明:新施肥技术比常规施肥方法降低施肥量22%,增产634·5 kg·hm-2,增产率达6·1%。与常规施肥方法相比,新施肥方法的稻谷加工品质和蒸煮食味品质性状没有明显差异。说明新施肥方法不仅能提高产量,而且对稻米品质没有明显影响。
【英文摘要】:Comparison of the new fertilization techniques and the conventional fertilization procedure(CK)wasstudied by Longjing 18 in Xinhe village in Qiqihar city· The results showed that the application amount in thenew fertilizer technology was 22% less than the CK,while an increase of 634·5 kg·hm-2and increase produc-tion rate of 6·1% were produced· Compared to the conventional fertilization,the processing quality of rice cook-ing and eating quality traits of the new fertilization techniques were not significantly different· Therefore,thenew fertilization techniques can not only increase yield,but also has no obviously effect on quality·
【语种】中文
【第一作者】张忠臣
【通讯作者】金正勋
【期刊名称、卷期、页码】黑龙江农业科学
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【引文索引号】1002-2767(2010)08-0053-03
【学科分类】农业基础学科

【题目】长期培肥对农田暗棕壤土壤微生物量的影响
【中文关键词】暗棕壤; 大豆生育期; 长期施肥; 土壤微生物量碳、氮
【英文关键词】dark brown soils; soybean growth period; long-term fertilization; soil microbial biomass C N
【中文摘要】以黑龙江省农业科学院黑河分院“土壤肥力与肥效长期定位试验”的农田暗棕壤为研究对象,测定不同施肥制度下大豆土壤微生物量C、N 动态变化,探讨长期不同施肥处理对暗棕壤的培肥效应。结果表明,与不施肥、单施化肥、单施有机肥处理相比,化肥配施有机肥能显著增加大豆各生育期土壤微生物量C、N 量及qMB 值,增强了农田暗棕壤土壤养分容量的供应强度,有利于农田暗棕壤的培肥。
【英文摘要】The effects of long-term fertilization treatments on the soil microbial biomass for dark brown soil in farmland were investigated,based on the long-term site-specific trial of dark brown soils fertility and fertilizers effects set up by Heilongjiang Academy of AgriculturalSciences. Results showed that: Compared with no fertilizer, only applied organic fertilizer and chemical fertilizer, the compoundorganic and chemical N,P,K fertilizer application could enhance the soil microbial biomasses greatly in the whole soybean growth periods,and also increased the supplies of the soil organic matter and total nitrogen,which benefit to the fertility of dark brown soil.
【语种】中文
【第一作者】隋跃宇
【通讯作者】隋跃宇
【期刊名称、卷期、页码】农业系统科学与综合研究
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【学科分类】土壤学

【题目】旱地玉米抗旱保苗增产综合技术
【中文关键词】抗春旱;保苗;技术对策
【英文关键词】Resist spring drought; Keep seedlings survival; Technology countermeasure
【中文摘要】齐齐哈尔市春季大部分农区处于干旱、重干旱状况,经常出现播期干旱、底墒严重缺乏,154万hm2 耕地受影响。针对春旱严重影响齐齐哈尔市74 万hm2 玉米种植,提出积极预防、主动出击、合理耕作、抗旱节水综合技术,达到旱地玉米保苗增产。
【英文摘要】It is in spring in major part agricultural district in Qiqihar that the drought is very frequentand serious. The drought appears in sowing period, and the soil moisture of ridge is lackly, and the 1.54million hectares cultivated land is affected. Be aimed at the

spring drought affects 740,000 hectarescorn cultivation ,we should take synthetic measures such as active precautions, initiative actions, rationalcultivations, drought-resist and water-saving technical measures ,to achieve keeping seedlings survivaland increasing corn yield in semi-arid area.

【语种】中文
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【引文索引号】1002-2767(2011)10-0016-02
【学科分类】农业基础学科

【题目】平衡施肥对松嫩平原黑土玉米产量效益的影响
【中文关键词】平衡施肥;农学效率;玉米;产量
【英文关键词】balanced fertilization;agronomic efficienc;maize;yield
【中文摘要】研究了平衡施肥对松嫩平原黑土区玉米生长发育状况和产量效益的影响。结果表明:平衡施肥对双城、海伦和依安玉米生长发育及产量、效益有明显的正效应。黑龙江省黑土玉米产量限制因子依次为氮、磷、钾。与最佳施肥处理(OPT)相比,不施氮肥平均减产23·4%,少收入2 514元·hm-2;不施磷肥平均减产15·9%,少收入1 699元·hm-2;不施钾肥平均减产16·3%,少收入1 646元·hm-2;不施肥处理平均减产35·3%,少收入2762元·hm-2;农民习惯施肥(FP)平均减产4·9%,少收入458元·hm-2。说明最佳施肥处理设计合理。双城氮磷钾肥农学效率分别为23·9、48·2和31·5 kg·kg-1;海伦氮磷钾肥农学效率分别为11·4、16·9和21·7 kg·kg-1;依安氮磷钾肥农学效率分别为13·1、29·6和13·1 kg·kg-1。从肥料农学效率方面考虑,应该在所设定的最佳处理氮钾肥的基础上适当提高磷肥和钾肥用量,以使最佳处理不断优化,达到玉米高产、优质和高效的目的。
【英文摘要】:Experiment was conducted to evaluate the effects of balanced fertilization on yield and benefit of maizein the black soil of Songnen Plain· The results showed that balanced fertilization had a significant positive effectto maize yield and benefit of Shuangcheng and Hailun and Yi ’an· Limiting factor on yield of maize in the blacksoil of Heilongjiang province was N P K· Compared with optimum treatment,the maize yield and profit of nonitrogen fertilization treatment were decreased by 23·4% and 2 514 yuan·hm-2;no phosphate fertilization treat-ment by 15·9% and 1 699 yuan·hm-2;no potassium fertilization treatment by 16·3% and 1 646 yuan·hm-2;nofertilization treatment by 35·5% and 2 762 yuan·hm-2; farmer fertilization treatment by 4·9% and 458yuan·hm-2·The yield and benefit of optimum treatment was better than any other treatments,it means that thedesign of optimum treatment was reasonable· Nitrogen, phosphate and potassium agronomic efficiency ofShuangcheng was 23·9,48·2and 31·5 kg·kg-1and Hailun was 11·4,16·9and 21·7 kg·kg-1and Yi ’an was13·1,29·6and 13·1 kg·kg-1,respectively·Considering nutrient ’s balance and fertilizer utilization,the amount ofphosphate and phosphate fertilizer should be improved on the basis of the amount of nitrogen fertilizer,whichwould make the optimum treatment more reasonable to reach maize high-yield,high-quality and efficiency·

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【学科分类】土壤学

【题目】钾肥不同施用量对玉米产量效益及钾素平衡的影响
【中文关键词】钾肥;养分收支;玉米;产量
【英文关键词】potassium;nutrient s balance;maize;yield
【中文摘要】研究了黑龙江省玉米主产区双城地区不同钾肥施用量条件下,玉米产量、养分吸收规律以及土壤—作物系统中钾素投入—产出平衡状况。结果表明:施钾可明显增加玉米植株各部分含钾量,对秸秆钾含量的提高尤其明显。在一定范围内施用钾肥可显著提高玉米籽粒产量,随着施钾量增加,籽粒产量没有进一步提高,从而使钾肥效益降低。施钾肥的

K1、K2、K3、K4处理分别比K0产量增加1 190、1 460、1 070和729 kg · hm-2;各处理钾含量大小顺序为:籽粒K4>K3>K2>K1>K0;秸秆K4>K3>K1>K2>K0;各处理钾表观盈亏量均为负值,其中K1和K2处理钾的亏缺程度最大。双城地区钾的平衡系数均小于1。从产量、效益及平衡系数看,该地区钾肥用量以K2O 100 kg · hm-2为宜,可使土壤钾素趋于动态平衡,达到玉米的高产、优质和高效。

【英文摘要】:Maize yield and the nutrient ’ s absorption characteristic of potassium input-output balance in soil-cropsystem were studied under the condition of different potassium application rates in the main maize productionareas of Heilongjiang province.The results showed that K fertilizer could increase potassium content of differ-ent organs in plant distinctly,especially in straw.Application of K fertilizer could increase yield of grain butyield didn t increase with K fertilizer quantity s increasing and then K fertilizer s efficiency decreased.The aver-age yields of the maize under the K1,K2,K3,K4 treatments were increased by 1 190,1 460,1 070 and729 kg · hm-2compaerd with the K0 treatment;The order of the potassium content of the treatments was:grainK4>K3>K2>K1>K0;strawK4>K3>K1>K2>K0.The apparent budget of Potassinm was negative,the extent of K1 and K2 were the most.Potassium balance coefficient was less than 1.According to yield,bene-fit and balanced coefficient,the best application of K fertilizer was K2O 100 kg · hm-2,which would make thefertilizer application more reasonable to reach high-yield,high-quality and efficient maize.

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【学科分类】土壤学

【题目】平衡施肥对松嫩平原黑土区大豆产量效益的影响
【中文关键词】平衡施肥;黑土;大豆;产量效益;农学效率
【英文关键词】Balanced fertilization; Black soi;l Soybean; Yield and profit; Agronomic use efficiency

【中文摘要】根据土壤养分状况,设定最佳(OPT)施肥处理,并在此基础上做减素处理、喷施叶面肥、加种衣剂等,研究了平衡施肥对黑龙江省松嫩平原黑土区大豆生长发育、产量效益的影响。结果表明:平衡施肥对海伦、庆安和依安大豆生长发育、产量和效益有明显的正效应。海伦、庆安和依安3个地区推荐施肥分别比农民习惯施肥增产7. 4%、7. 6%和9. 5%,增效476、1089和836元 · hm-2。OPT+叶面肥处理有助于大豆产量的提高,而OPT+种衣剂处理未表现出显著增产效果。钾是黑土区限制大豆产量的主要土壤养分因子,其次是磷和氮。从肥料农学效率看,大豆增产肥料贡献率表现为氮肥>钾肥>磷肥。松嫩平原黑土区大豆生产农民习惯施肥中磷肥用量偏高,而钾肥用量不足,微肥重视程度不够。

【英文摘要】According to the content of soil nutrient, the optimal treatment(OPT), nutrient omission treatments, the optimaltreatmentplus foliar fertilizer treatment, the optimal treatment plus seed coating agent treatmentwere designed. Under thecondition ofbalanced fertilization, soybean growth and development, yield and profitwere studied in the black soil areas ofsongnen plain inHeilongjiang Province. The results showed thatbalanced fertilization had a significantpositive effect to soy-bean yield ofHailun, Qing an, Yi an. Compared with farmer usual practice treatment(FP), yield of soybean was increasedby 7. 4%, 7. 6%, 9. 5%, profitwas enhanced to 476, 1089 and 836 yuan · ha-1respectively underOPT conditions. Yieldof soybean was increased byOPT plus foliar fertilizer treatment, while notby the OPT plus seed coating agent treatment. Kwas the key limiting factorofblack soi,l followed byP andN, which restricts yield ofsoybean. Seen from agronomic efficien-cy ofapplied nutrient, the orderof contribution of fertilizer to soybean yieldwasN>K> P. The amountofPwas higher, Kwas not enough andmicroelementwas ignored in farmer practicewhen planted soybean in black soil ofSongnen plain

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【学科分类】土壤学

【题目】黑龙江省大豆磷肥适宜用量研究
【中文关键词】黑龙江;大豆;磷肥用量;产量;效益
【英文关键词】Heilongjiang; soybean; rate of phosphoric fertilizer; yield; benefits
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【中文摘要】在黑龙江省北部黑土和东部白浆土大豆主产区设置大豆磷肥用量试验,以明确该地区大豆施磷效果和适宜的磷肥用量。结果表明:黑龙江省大豆磷肥适宜用量为P2O590 kg · hm-2,平均增产775 kg · hm-2,平均增产率为36.2%,平均增收2 260元 · hm-2。在施磷量为(P2O5)45、90、135、180 kg · hm-2条件下,磷肥利用率分别为19.33%、18.85%、13.46%和9.58%;磷肥农学效率分别为8.90、8.61、5.72和3.57 kg · kg-1,适量施用磷肥是大豆高产高效的重要措施。
【英文摘要】Field experiments of phosphoric fertilizer application on soybean were conducted in the main region ofsoybean production in Heilongjiang province to determine the effect and the optimum rate of it to soybean. Theresults showed that the optimum rate of phosphorus (P2O5) was 90 kg · hm-2; with it application the yield in-creased 775 kg · hm-2, the percentage was 36.2%, the benefits was 2 260 yuan · hm-2,on average. When thephosphorus (P2O5) applied at the rate 45, 90, 135 and 180 kg · hm-2, the recovery of phosphorus fertilizerwere 19.33%、18.85%、13.46% and 9.58%,respectively; the agronomic efficiency of them were 8.90、8.61、5.72 and 3.57 kg · kg-1respectively. It ’ s an important measure to obtain high yield and high efficiency soy-bean production by appropriate rate application of phosphorus fertilizer
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【学科分类】土壤学

【题目】依安县农田土壤速效养分空间变异特征初探
【中文关键词】农田土壤;速效养分;空间变异
【英文关键词】farmland soil; available nutrient; spatial variability
【中文摘要】采用全球卫星定位系统(GPS)和地理信息系统(GIS)技术,对黑龙江省依安县农田土壤速效养分进行了空间变异特征研究。结果表明:黑龙江省西部依安县土壤中氮、磷、钾的含量比较丰富,土壤缺硫和锌。土壤中硫、磷、硼、锰的空间分布具有明显的变异性。土壤中硫空间分布的偏斜程度较大。pH与有机质、有效锰、有效硼和有效锌都极显著相关;有机质与有效锰极显著相关。
【英文摘要】Spatial variability in Yi'an county of Heilongjiang province was studied using the technology of Glob-al Positioning System(GPS)and Geography Information System(GIS). The results showed that the black soil in the west of Heilongjiang province was relatively rich in fertilities; the content of nitrogen, phosphorus and potassium was fairly abundant,but the content of sulfur and zinc was lacking. The variation of spatial distribu-tion of sulfur, phosphorus, boron, manganese was obvious. "the declining degree of the spatial distribution of sulfur was fairly high. pH and organic matter,effective boron,efficient manganese and effective zinc were extremely significant correlative. Organic matter and effective manganese was significant correlative.
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【题目】丝兰提取物对体外模拟条件下绵羊瘤胃脲酶活性的影响
【中文关键词】青贮饲料;营养价值;反刍动物生产

【英文关键词】silage;nutrition;ruminant productio
【中文摘要】青贮饲料作为一种发展反刍动物生产必需的优质粗饲料来源,其营养价值的高低直接影响到动物的生产水平及经济效益,在论述青贮饲料的营养价值、影响因素的基础上,对其在反刍动物生产中的应用情况予以综述。
【英文摘要】The silage is one of the most important resource of high quality coarse fodder on ruminantproduction. Its nutrition level directly affects animal production level and economy benefit. In this paper ,the author introduced the silage nutrition, infection factors and the application of it on ruminant produc-tion.
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【学科分类】畜牧、兽医科学基础学科

【题目】6种药剂防治马铃薯免疫病药效试验
【中文关键词】马铃薯;晚疫病;杀菌剂;防效
【英文关键词】potato; late blight; fungicide; control
【中文摘要】为减轻马铃薯晚疫病在生产过程中带来的减产、品质差等问题,特选择10%科佳悬浮剂等6 种杀菌剂对马铃薯晚疫病进行药效比较试验。结果表明:不同药剂处理对马铃薯晚疫病都有防治效果和保产效果,其中10%科佳和72%克露对马铃薯晚疫病的防治和保产效果最显著,其次是抑快净和杀毒矾,再次是副帅得和可杀得。
【英文摘要】Six fungicides and one control were evaluated for their late blight control efficacy in order to select out the effective chemicals to prevent yield loss and poor quality of potatoes. All fungicides tested were effective for late blight control, of which Cyazofamid (10% SC) and Cymoxanil Mancozeb (72% WP) showed the best results for late blight control and yield prevention, followed by Famoxadone + Cymoxanilm (52.5%) and Sandofan M8 WP, and then by Fluazinam (50% SC) and copper hydroxide.
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【学科分类】畜牧、兽医科学基础学科

【题目】长期施肥对黑土和暗棕壤土壤酶活性及土壤养分的影响
【中文关键词】长期施肥;土壤酶活性;土壤养分;黑土;暗棕壤
【英文关键词】Long- term fertilization; Soil enzyme activities; Soil nutrients; Black soil; Dark brown soils
【中文摘要】:为阐明长期施肥对黑土和暗棕壤土壤酶活性的影响、土壤酶活性与土壤养分的关系,探讨土壤持续利用的培肥模式,采集了施用不同肥料28 年后的黑土和暗棕壤,对黑土和暗棕壤土壤酶活性以及土壤养分因子进行了测定和分析。结果表明,与不施肥对照相比,各施肥处理均可显著增加黑土和暗棕壤有机质和氮磷钾养分含量,提高土壤脲酶、磷酸酶、转化酶、过氧化氢酶活性,其中以化肥配施有机肥效果最为明显。土壤酶活性与土壤养分之间有很好的相关性,土壤脲酶、磷酸酶、转化酶、过氧化氢酶活性与土壤有机质、全氮、全磷、碱解氮、速效磷含量呈显著相关,黑土对施肥比暗棕壤对施肥更敏感。对不同土壤长期化肥配施有机肥均可为作物生长创造良好的土壤环境
【英文摘要】The soil enzyme activities and their corresponding nutrients of the black and dark brown soils under thesame fertilizer applications of twenty- eight years were measured, and their relationships were analyzed. The objectivewas to clarify the effects of long-term fertilization on the soil enzyme activities and to figure out sustainablemanagement of the black and dark brown soils. The results showed, compared to non- fertilization treatment, all thefertilization treatments could significantly increase the soil organic matter and total NPK contents of the black and darkbrown soils, and enhance the soil urease, phosphatase, invertase and catalase activities, especially for the chemicalfertilizer application combined with manure. There were good correlations among the soil enzyme activities and soilnutrients. Soil urease, phosphatase, invertase and catalase activities had a significant correlation with soil organicmatter, total

nitrogen, total phosphorus, nitrogen and available phosphorus contents. The effects of fertilizer applicationson the black soil enzyme activities were more sensitive than those of the dark brown soil. The long- term chemicalfertilizer application combined with manure could provide a good soil environment for the crop growth.
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【学科分类】土壤学

【题目】半干旱区玉米高产栽培限制因子的研究
【中文关键词】玉米 产量 限制因子 半干旱区
【英文关键词】Maize Yield Limiting factors Semiarid region
【中文摘要】根据吉林省西部半干旱地区气象资料和玉米生产现状的调查,分析了半干旱地区玉米高产栽培的限制因子,并提出了提高该地区玉米产量的有效技术措施.
【英文摘要】The current situation of maize production in west of Jilin province was investigated according to the meteorological data in this semiarid region.The limiting factors of high-yield maize production were evaluated in this review.Additionally,the effective techniques for increasing maize yield in the semiarid region were summarized in the paper.
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【题目】吉林省超高产玉米田土壤理化环境特征的研究
【中文关键词】玉米 超高产 土壤理化环境 传统耕作
【英文关键词】Corn; Super high- yield; Physiochemical environment of soil; Conventional tillage
【中文摘要】对吉林省超高产玉米田与农民传统耕作玉米田土壤理化性质比较分析,研究超高产条件下玉米田土壤的理化环境特征。研究结果表明,超高产玉米田土壤物理肥力特性较高,主要表现在耕层较深厚,土壤容重变化存1.01~1.26g/cm^3,土壤的结构破坏率较低;在土壤的化学环境特征方面,土壤碱解氮、速效磷、速效钾等均未表现出明显的变化规律;所有超高产田的土壤阳离子交换量(CEC)均不同程度地高于普通生产田,这与超高产田的定向培育有直接关系;一些超高产田有机质低于普通生产田,其原因与超高产田氮素施用量较高、促进了土壤有机质矿化有关。
【英文摘要】Through comparing analysis of soil physiochemical character of super high production cornfield andtradition cultivation cornfield in Jilin Province, we had initially understood the cornfield soil physiochemical characterunder the super high- production condition. The results indicated that the soil physical fertility characteristic of superhigh- production cornfield was high, mainly display in the topsoil was deep, soil bulk density changed between1.01- 1.26 g/cm3, disarrangement rate of soil structure was low. In soil chemical environment characteristic aspect, thesoil alkali- hydrolyzable nitrogen, the rapidly available phosphorus, the rapidly available potassium and so on hadn'tdisplayed the obvious change rule. All super high- yield field's CEC varying degree was higher than the ordinary productionfield, and this had the direct relation with the super high- yield field's directed cultivating. Some superhigh- yield field organic matter was lower than the ordinary production field. The reason had related with the superhigh- yield field high employment quantity of nitrogen.
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【学科分类】土壤学

【题目】吉林玉米带黑土水分渗透机理研究
【中文关键词】吉林玉米带; 黑土; 水分渗透
【英文关键词】Corn belt of Jilin; Black soil; Water permeability
【中文摘要】通过田间调查和模拟构型试验, 探讨了影响吉林省玉米连作黑土水分渗透的原因和机理。结果表明, 现行的以小四轮拖拉机为主要动力的耕作制度下, 土壤剖面中耕层与犁底层的界面为“ 波浪形 ”, 每年进行秋翻的玉米田, 其耕层与梨底层的界面为“ 平面形 ”。通过模拟构型, 研究了不同剖面构型的水分特征及对土壤肥力的影响。“ 平面形 ”剖面构造改善了土壤的通透性, 增加了土壤水分渗透的速率, 减少了雨水径流。“ 波浪形 ”剖面耕层土壤的耗水量比“ 平面形 ”剖面的大, 特别是后期, 易发生水分亏缺现象。因此, 现行的不合理的耕作是导致吉林玉米带黑土肥力退化的主要原因。
【英文摘要】By field investigation and imitate experiment, causes and mechanism of permeability of black soilin Songliao plain were studied. The results showed that the surface of the cultivated profiles and plough sole underthe cropping system and soil management motivated mainly by small four- wheeled tractor was wavy type while thesurface of the plowing layer and plough sole of the corn field under the cropping system of annual autumn plowingwas flat type. This paper systemically studied moisture characteristics and influences under different profilemorphological characteristics. And revealed that “ flat type ” section has better soil structure and appropriate poreratio, which improved the soil permeability, reduced soil erosion. The corn water- consumption of “ wavy type ” section cultivated horizon was bigger than that of “ flat type ” section. Soil water could appear shortage in “ wavytype ” section, especially in the post period. It thus follows that the present systems of improper cultivation is themain causes of fertility degradation of black soil in corn belt of Songliao plain.
【语种】中文
【第一作者】王鸿斌
【通讯作者】王鸿斌
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【学科分类】土壤学

【题目】吉林玉米带现行耕作制度对黑土肥力退化的影响
【中文关键词】退化 环境影响 土壤条件 肥力 耕作制度 吉林玉米带 黑土
【英文关键词】no
【中文摘要】该文从"体质"和"体型"两个方面探讨了吉林玉米带现行耕作制度对土壤肥力退化的影响。结果表明,现行的耕作制度下,土壤剖面中耕层与犁底层的界面为"波浪型",而每年进行秋翻的玉米田,其耕层与梨底层的界面为"平面型"。"波浪型"犁底层的土壤容重、三相组成与"平面型"剖面相比有明显差异,而耕层中有机无机复合体及其有机碳分布特征无明显差异,与底层土壤有较大差异。但由于"平面型"剖面耕层的有效土量是"波浪型"有效土量的2倍,因此,在生产上"平面型"剖面土壤保水性能、玉米产量等多方面都普遍优于"波浪型"土壤。吉林玉米带黑土肥力退化的主要原因是耕层有效土量过少。
【英文摘要】no
【语种】中文
【第一作者】王鸿斌
【通讯作者】赵兰波
【期刊名称、卷期、页码】农业工程学报,2009,25(9):301-305
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【引文索引号】null
【学科分类】土壤学

【题目】不同施肥方式下黑土有机碳的变化规律研究
【中文关键词】黑土;施肥方式;有机碳;腐殖质; Kos值
【英文关键词】Black soil; Fertilization model; Organic carbon; Humus; Kos value
【中文摘要】通过长期定位试验研究了施肥对黑土有机碳总量、组成、品质的影响。试验设不施肥(CK)、单施化肥(NPK)、有机肥与化肥配施(NPKM)和秸秆与化肥配施(NPKS)4个处理。结果表明:施肥有利于土壤有机碳及有机碳各组分含量的增加。各处理有机碳及各组分含量的高低表现为:NPKM>NPKS>NPK>CK。单施化肥使土壤的HA/FA比值降低,胡敏酸的E4/E6比值提高,使各形态碳含量增加,Kos值降低,但变化较小。有机物质与化肥配施能使土壤的HA/FA比值和E4/E6比值都有所提高,显著地增加土壤中活性有机碳的含量,降低土壤有机碳的Kos值,其中NPKM处理效果更好。长期有机肥与化肥配施,对改善土壤腐殖质的腐殖化程度和提高其活性,降低土壤有机碳的抗氧化能力,提高土壤养分供应能力具有良好的作用,是保持土壤肥力的最优施肥方式。
【英文摘要】A long-term field experiment was carried out in Jilin province to study the effect of fer-tilization on the total content of soil organic carbon fractions and the soil Kos value in black soil.The experiment included four treatments: Zero fertilization (CK), chemical fertilizers alone(NPK),Combining application of organic manure and chemical ertilizers(NPKM),and combina-tion use of straw and chemical fertilizers(NPKS).The results showed that the fertilization couldincrease the contents of soil organic carbon and its components,with a quantity order of NPKM>NPKS>NPK>CK.The application of chemical fertilizers alone could decrease the HA/FA valueand the Kos value,but increase the E4/E6value of HA and the contents of different available car-bons.The combination of chemical fertilizers with organic matters could enhance the HA/FA,theE4/E6of HA and the contents of active organic carbon,while reduce the value of Kos,the treat-ment NPKM being the best.A long-term combinition of organic manure with chemical fertilizerscould improve the humification of soil humus,enhance the activity of humus,reduce the antioxi-dization ability of soil organic carbon,and increase the nutrient-supplying capacity,so was the bestfertilization model for maintaining the soil fertility.
【语种】中文
【第一作者】刘淑霞
【通讯作者】赵兰坡
【期刊名称、卷期、页码】河南农业科学,2008,(2):48-56
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【学科分类】土壤学

【题目】吉林黑土区玉米田土壤真菌的多样性
【中文关键词】黑土;农田;真菌区系;施肥
【英文关键词】Black soil; Farmland; Fungal flora; Fertilization
【中文摘要】在2003年4月—2004年10月,在吉林黑土区采集玉米田土壤,采用稀释平板法、土粒淋洗法和土壤平板法,选用马丁氏、查氏和PDA 3种不同培养基进行真菌的分离和培养,共分离出131个土壤真菌菌株,在查氏培养基上经形态鉴定确定25属、55种、4变种,其中吉林省新记录种14个,即点枝顶孢(Acremonium strictumW.Gams)、华丽节丛孢(Arthrobotrys superbaCorda.)、扁豆枝孢(Cladosporium herbarum(Pers.) Link ar.lablabSacc.)、肉色曲霉(Aspergillus carnus(v. Tiegh.) Thom.)、蜂蜜曲霉AspergillusmelleusYukawa.)、桔黑青霉(Penicillium cit-reonigrumDierckx.)、桔青霉(Penicillium citrinumThom.)、顶青霉(Penicil lium corylophilumDierckx.)、微紫青霉(Penicillium anthinellumBiourge.)、托姆青霉(Penicillium thomiiMaire.)、瓦克青霉(Penicillium waksmaniiZa.l)、马昆德拟青霉(Paecilomycesmarquandii(Mass.) Hughes.)、节状镰孢(Fusarium merismoidesCorda.)和棕黑腐质霉(Humicola fuscoatraTraaen.)。结果表明,青霉属(Penicillium)和曲霉属(Aspergillus)为吉林黑土区玉米田土壤真菌的优势种群;土壤真菌区系与土壤剖面层次、施肥方式和种植作物种类有关;正常施肥土壤中真菌种类多于不施肥土壤及休闲土壤,耕层土壤真菌种类多于犁底层土壤。
【英文摘要】A total of131 strainswere separated from soil samples from black soilplantedwith corn in Jilin Province duringApril 2003 and December2004. Then the strainswere culturedwithMatins, czapek, and PDA culturemedia by themethods of dilution plate, soil particle leaching, and soil plate. Through the observation ofmorphological characteristics under light microscope, 25 fungal genera, 55 species and 4 varieties isolated from the soilwere identified, among which 14 species were recorded for the first time in Jilin of China, namelyAcremonium strictumW. ams,Arthrobotrys superbaCorda.,Cladosporium herbarum(Pers.) Link var.lablabSacc.,Aspergillus

carnus(v. Tiegh.) Thom,AspergillusmelleusYuka-wa.,Penicillium citreonigrumDierckx.,Penicillium citrinumThom.,Penicillium corylophilumDierckx.,Penicillium jan-thinellumBiourge.,Penicillium thomiiMaire.,Penicillium aksmaniiZa.l,Paecilomycesmarquandii(Mass.) Hughes.,Fusarium merismoidesCorda., andHumicola fuscoatraTraaen. Results show hatPenicilliumandAspergillusare dominant genera in the black soil in Jilin. Soil fungal flora is closely related to soil layer, fertilizationmethod and crop species. The fungal species in normal fertilization soil aremore than those in non-fertilization soil and fallow soi,l and the fungal species in upper layer soil aremore than those in plow layer soil.

【语种】中文
【第一作者】刘淑霞
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【期刊名称、卷期、页码】东北林业大学学报,2008,36(7):42-46
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【引文索引号】null
【学科分类】土壤学

【题目】几种纤维素分解菌在有机质转化中的作用
【中文关键词】纤维素分解菌; 玉米秸秆; 土壤有机质; 转化
【英文关键词】cellulose- decomposingmicroorganisms; corn straw; soil organic matter; transformation
【中文摘要】采用培养实验, 研究了在添加有机物料的条件下几种纤维素分解菌在土壤有机质转化中的作用。目的在于探讨黑土有机质变化的微生物机理, 并从中筛选出活性较高的菌株及其组合, 以期将之用于秸秆还田, 提高土壤肥力, 充分发挥微生物在生态系统中的作用。结果表明, 在添加有机物料培养条件下土壤有机质的转化与纤维素分解菌的种类与数量有一定的相关性, 不同的纤维素分解菌在有机质转化中的作用不同, 多种菌株联合接种比单一接种对有机质转化的作用要强。所选择的 4 株菌株中哈茨木霉(Trichoderma harziamum Rifai, Mycol) 比绿色木霉(Trichoderma atroviride .karsten,Finl.) 、桔青霉(Penicillium citrinum Thom.) 和黑曲霉(Aspergillus niger v.Tiegh.) 在有机质转化中的作用大。
【英文摘要】In order to investigate the microbial mechanism of organic matter transformation and to screen higher active strain and the combi-nation fromall the isolated strain in black soils for pplying the strawreturn to fields, increasing soil fertility and exerting the function of mi-croorganismon agricultural ecological system. The incubation experiment was carried out to study the effect of several cellulose- decomposingmicroorganisms on the soil organic matter transformation. Firstly, 14 genera, 27 species were identified and three of themwere recorded in Jilin ofChina from181 black soil samples from April in 2003 to December in 2004. There were 14 genera and 24 species in upper layer soil (0~20 cm) and 11 genera and 19 species in the sub- upper layer soil (20~40 cm). 11 genera and 19 species were the same in tested soil.Penicilliumand aspergillus were dominant amongcellulose- decomposingmicroorganisms with the relative amount 33.33% and 25.93%, respectively. The capability for decomposing cellulose was different, Penicillium citrinum Thom., Aspergillus niger v.Tiegh., Trichoderma harziamum Rifai, Mycol and Trichoderma atroviride P.karsten, Finl were stronger than Rhizopus stolonifer (Ehrenb.)Lind. and Geotrichum candidum Link. The application of fertilizer, especially chemical- organic fertilizer, can increase the number of cellulose- decomposing mi-croorganisms. Four strains were selected fromall the isolated strains in black soils in an incubation experiment. The effect of cellulose- de-composingmicroorganisms on soil organic matter transformation was prominent, which varied with different cellulose- decomposing icroor-ganisms. The interaction effect between different cellulose-decomposing microorganisms in mixed incubation was stronger than the effect of different cellulose- decomposing microorganisms in separate incubation in organic matter transformation. Among the selected four strains,Trichoderma harziamumRifai, Mycol had more effect on soil organic matter transformation than Trichoderma atroviride P.karsten, Finl, Peni-cilliumcitrinumThomand Aspergillus niger v.Tiegh.

【语种】中文
【第一作者】刘淑霞
【通讯作者】赵兰坡
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【引文索引号】null
【学科分类】土壤学

【题目】东北黑土耕层土壤黏粒矿物组成的区域差异及其演化
【中文关键词】黑土;黏粒矿物;空间差异;演化机制
【英文关键词】no
【中文摘要】在东北黑土耕层土壤小于2μm黏粒的化学组成和X衍射分析基础上,对不同纬度的15个黑土的黏粒矿物组成和空间差异进行研究,并探讨了其影响因素及演化机制。结果表明:东北黑土耕层土壤黏粒矿物属伊利石—蒙伊混层矿物类型,但其组合因区域不同有所差异,高纬度黑土为伊利石—蒙伊混层型,低纬度黑土则为蒙伊混层—伊利石—蛭石型。影响黏粒矿物的空间差异主要因素有降水、温度、作物类型。由于这些因素在空间上的显著差异,使黑土黏粒矿物演化序列处于伊利石向蒙伊混层或蛭石的不同阶段,导致东北黑土黏粒矿物组成在纬度上形成显著区域差异。
【英文摘要】no
【语种】中文
【第一作者】郑庆福
【通讯作者】赵兰坡
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【引文索引号】null
【学科分类】土壤学

【题目】长期地膜覆盖与不同施肥处理对棕壤活性有机碳的影响
【中文关键词】地膜覆盖;施肥处理;活性有机碳
【英文关键词】Mulching; Fertilization; Active organic carbon
【中文摘要】[目的]研究长期地膜覆盖与不同施肥处理对土壤活性有机碳的影响。[方法]采用KMnO4氧化法对沈阳农业大学棕壤长期定位实验站2003年玉米整个生长季内土壤活性有机碳含量的剖面变化进行了研究。试验设覆膜与裸地2种土壤。每种土壤设4个施肥水平,分别为CK、N、M、MNP。其中,CK为对照。N为单施氮肥处理,年施尿素N 270.0 kg/hm2。M为单施有机肥处理,施用的有机肥为厩肥,其有机肥含量为100.0 kg/g左右,全氮含量为10.0 kg/g左右,折合年施N量为270.0 kg/hm2。MNP为有机肥化肥配施处理,年施有机肥N270.0 kg/hm2,化肥N135.0 kg/hm2,P2O567.5 kg/hm2。[结果]土壤活性有机碳含量随着季节的变化而变化,剖面分布随深度的增加而下降。长期地膜覆盖使表层土壤活性有机碳显著增加,而对深层影响不显著。无论覆膜与否,不同施肥处理土壤活性有机碳含量变化趋势为:M>MNP>CK>N。有机肥化肥配施和单施有机肥处理都能显著提高土壤表层活性有机碳含量,而单施氮肥则对土壤活性有机碳影响不显著。[结论]地膜覆盖与施用有机肥是提高土壤活性有机碳含量的有效途径。
【英文摘要】[Objective] The research aimed to clarify the effects of long-termplastic mulching and ifferent fertilization treatments on the changes of soil active organic carbon. [Method] The changes of soil active organic carbonwere determined by using KMnO4 as oxidant in long-term located experimentstation at ShenyangAgricultural niversity in 2003. The soil typewas plastic filmmulching soil and uncovering soil, and 4 fertilizer treatments was designed persoil type, CK,N,M,MNPtreatmentrespectively. CKwas ntrol.NtreatmentwasNfertilizerapplicationtreatment, andtheyearapplication amount of ureawas 270.0 kg/hm2. Mtreatmentwasmanure application treatment, and the year application amount ofmanurewas 270.0 kg/hm2. MNPtreatmentwas inorganic and organic fertilizers treatment, and the year application amount of manure, N fertilizer and P2O5was 270.0, 135.0, 67.5kg/hm2respectively. [Result] The soil active organic carbon changed inthe corngrowthperiod and decreasedwith soil depth. Surface soil active organic carbon increased remarkablewith long-termplasticmulchingwhilenosignificant changehadbeenfound indeeperdepth.Whetherplasticmulchingornot,the change tendency of soil active organic carbonwas as follow: M>MNP>CK>N. The content of active organic carbon in soil surface could be enhanced both under application of inorganic and organic fertilizers treatment and under manure pplication treatment. [Conclusion] Mulching and organicmanurewere effective to increase the content of soil active organic carbon.
【语种】中文
【第一作者】崔志强
【通讯作者】崔志强
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【学科分类】土壤学

【题目】Bacterial Community Structure and Diversity in a Black Soil as Affected by Long-Term Fertilization
【中文关键词】无
【英文关键词】bacteria community black soil chemical fertilizer diversity manure
【中文摘要】无
【英文摘要】Black soil(Mollisol) is one of the main soil types in northeastern China. Biolog and polymerase chain reactiondenaturing gradient gel electrophoresis(PCR-DGGE) methods were used to examine the infiuence of various fertilizer combinations on the structure and function of the bacterial community in a black soil collected from Harbin,Heilongjiang Province. Biolog results showed that substrate richness and catabolic diversity of the soil bacterial community were the greatest in the chemical fertilizer and chemical fertilizer+manure treatments. The metabolic ability of the bacterial community in the manure treatment was similar to the control. DGGE fingerprinting indicated similarity in the distribution of most 16S rDNA bands among all treatments,suggesting that microorganisms with those bands were stable and not infiuenced by fertilization. However,chemical fertilizer increased the diversity of soil bacterial community. Principal component analysis of Biolog and DGGE data revealed that the structure and function of the bacterial community were similar in the control and manure treatments,suggesting that the application of manure increased the soil microbial population,but had no effect on the bacterial community structure. Catabolic function was similar in the chemical fertilizer and chemical fertilizer+manure treatments,but the composition structure of the soil microbes differed between them. The use of chemical fertilizers could result in a decline in the catabolic activity of fast-growing or eutrophic bacteria.
【语种】英文
【第一作者】weidan
【通讯作者】weidan
【期刊名称、卷期、页码】Pedosphere, 2008,18(5):582-592
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【引文索引类型】SCI
【引文索引号】ISSN 1002-0160/CN 32-1315/P
【学科分类】土壤学

【题目】长期定位施肥对土壤生理转化菌群的影响
【中文关键词】黑土;生理转化菌群;土壤肥力;长期定位
【英文关键词】no
【中文摘要】:针对哈尔滨黑土28 a 长期定位施肥现状进行土壤生理转化菌群测试分析,采用稀释平板法和MPN 法测定不同施肥处理土壤的微生物各生理群的数量。结果表明:施肥处理的土壤微生物多样性指数最高,微生物种类多,群落结构较复杂,同不施肥处理之间的土壤微生物群落结构组成存在显著差异。
【英文摘要】no
【语种】中文
【第一作者】王英
【通讯作者】王英
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【学科分类】土壤学

【题目】不同浓度沼液叶面肥对黄瓜品质及产量的影响
【中文关键词】黄瓜 品质 Vc 可溶性糖
【英文关键词】Cucumber, Quality, Vitamin C, Soluble sugar
【中文摘要】研究了以不同浓度的沼液与叶面肥的配比,在大棚黄瓜上的应用。对各处理的黄瓜品质及产量分析结果表明:施用沼液叶面肥可有效提升黄瓜Vc含量和可溶淀粉含量,试验设置的以30%沼液配比的叶面肥表现出在品质和产量上与

对照的显著差异。
【英文摘要】Applications of different concentration of biogas slurry and foliar fertilizer on cucumber in greenhouse were researched, and the quality and yields of cucumber were analyzed. Results showed that application of biogas slurry and foliar fertilizer could increase the contents of vitamin C and soluble sugar effectively. Compared with the control, 30% ratio of biogas slurry and foliar fertilizer could improve quality and yield of cucumber significantly.
【语种】中文
【第一作者】李伟群
【通讯作者】李伟群
【期刊名称、卷期、页码】北方园艺, 2009,第12期
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【学科分类】土壤学

【题目】PGPR根圈促生菌复合生物肥应用效果的研究
【中文关键词】PGPR根圈促生菌 复合生物肥 大豆 玉米 水稻
【英文关键词】no
【中文摘要】将PGPR根圈促生菌与我们已获得研究成果的大豆基因工程根瘤菌、固氮螺菌、解磷菌、解钾菌等生物肥菌种进行重新组装,同时引进了俄罗斯菌种,研制了以PGPR促生菌为主的复合生物肥,经盆栽、田间小区试验证明,该生物肥能促进植物发芽和出苗,能促进豆科植物结瘤、可抑制作物一些病害,它能提高作物产量和改善其品质。
【英文摘要】no
【语种】中文
【第一作者】王英
【通讯作者】王英
【期刊名称、卷期、页码】世界农业, 2009,第12期
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【引文索引号】null
【学科分类】土壤学

【题目】黑土质量演变初探V.东北主要黑土区表层土壤有机碳密度分布及碳库估算
【中文关键词】土壤有机碳密度; 有机碳储量; 空间分布; 黑土; GIS
【英文关键词】soil organic carbon density; organic carbon storage; GIS; northeast
【中文摘要】探讨土壤有机碳空间分布规律, 估算其碳库量, 对于提高土壤质量、保护黑土资源, 维持农业经济的可持续发展意义重大。基于配准完备的1:10 万或20 万的地形图和土壤图, 运用地理信息系统技术, 对东北主要黑土区共7 个市县的土壤表层有机碳密度及储量做出估算, 并对其空间分布差异进行了分析。结果表明: 全区的平均有机碳密度为6.27kg · m- 2, 变幅为2.43~11.36kg · m- 2, 土壤表层有机碳储量为2.92×108 t; 土壤有机碳密度具有高度的空间变异性, 从北向南呈逐渐递减的趋势, 且东北高、西南低。密度较高的土壤有机碳主要集中在北部的嫩江和五大连池的大部分地区, 吉林省中西部的公主岭地区的土壤有机碳密度较低。
【英文摘要】Studying the distribution rule of soil organic carbon and estimating its storage are valuable for improving the quality of soil, protecting land resource and agricultural economy. Based on soil map of Northeast main black soil area (1:100000 or 1:200000), topsoil organic carbon density and storage were estimated using GIS technology. Carbon density of different soil types ranged from 2.43 kg · m- 2 to 11.36 kg · m- 2, with average of 6.27 kg · m- 2. In total, about 2.92×108t was stored in topsoil. The amount of carbon varied significantly among different districts in the study area. The value decreased from north to south gradually,and there was higher carbon density in northeast, especially in Nenjiang and Wudalianchi, but lower in southwest, for instance Gongzhuling.
【语种】中文
【第一作者】吴彦军
【通讯作者】汪景宽
【期刊名称、卷期、页码】沈阳农业大学学报,2007,38(4):535-539

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【引文索引号】null
【学科分类】土壤学

【题目】水热梯度变化及不同施肥措施对东北地区土壤有机碳、氮影响
【中文关键词】水热梯度; 施肥; 有机碳; 全氮
【英文关键词】radient of precipitation and temperature; fertilization; SOC; TN
【中文摘要】基于样区的野外观察、土壤实测数据和20年气象资料的统计,分析了东北样区内土壤有机碳含量、储量和土壤全氮含量的空间分布格局及其与年均温(t)、降雨量(p)、有效积温(s)和降雨量/年均温p/t之间的关系。分析了相同水热条件下长期施肥措施对土壤有机碳含量和土壤全氮含量的影响,以及不同水热条件下相同施肥措施间的差异。结果表明:样区内土壤有机碳含量、储量和土壤全氮沿纬度呈现出南低北高的分布趋势;有机碳含量、有机碳储量与气候因素之间存在良好的相关性,土壤全氮含量与p/t间存在良好的相关性。长期施肥处理表明,在相同水热条件下外源有机肥的加入,以及合理施肥都能提高土壤碳含量;相同施肥处理土壤有机碳、氮在不同水热梯度条件下差异显著。
【英文摘要】The spatial distribution patterns of the soil organic carbon (SOC), total nitrogen (TN) and the stock of SOC were studied in Northeastern China. The relationships among the SOC and TN with and mean annual tem-perature(MAT), and precipitation(p), effective accumulation temperature(s) andp/t (the ratio of precipitation to mean annual temperature) were also analyzed. The effects of long term fertilization on the content of SOCand TN in areas with different gradients of rainfall and temperature. The results showed that the contents of SOCand TN and the stock of SOC enhanced with the increase of latitude, and the significant relationships were foundamog the contents and stock of SOC and TN and the precipitation and temperature. The addition of manure andreasonable chemical fertilizers could increase the content of SOC under the same precipitation and temperature.The differences of the contents of SOC and TN and the stock of SOC were significant under the same fertilization and the different precipitation and temperature.
【语种】中文
【第一作者】曹宏杰
【通讯作者】曹宏杰
【期刊名称、卷期、页码】水土保持学报,2007,21(4):122-125
【论文发表时间】2007-08-01 00:00:00
【引文索引类型】其他
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【学科分类】土壤学

【题目】20 年来东北典型黑土地区土壤肥力质量变化
【中文关键词】黑土地区 土壤肥力 地统计学 空间变异
【英文关键词】Black soil area ,Soil fertility ,Geostatistics ,Spatial variability
【中文摘要】通过大量样品分析和数据收集,研究了最近20 年来东北典型黑土地区土壤肥力质量主要指标———pH、有机质、速效磷、速效钾和黏粒的变化情况,并在地理信息系统和地统计分析的辅助下,研究了该5 项肥力指标以及综合肥力指数的时空变异规律。结果表明:20 年中该地区土壤pH、有机质和速效钾平均含量明显降低,速效磷平均含量有较大增加;速效磷的变异系数变化最大,pH 变化最小;20 世纪80 年代该地区土壤肥力综合指数以一、二级为主(80 %以上) ,但21 世纪初土壤肥力质量几乎被二、三级地所占据(98 %以上) 。该地区土壤肥力质量明显降低可能与长期以来重种轻养有关。
【英文摘要】Geographical information system(GIS) combined with Geostatistics were applied to reveal the spatial and tem2 poral variability of soil fertility quality in the topsoil (0~20cm) in the northeastern area of China during last two decades.Soil fertility quality indices in this study include pH ,organic matter ,available P ,available Kand clay. The results show thatsoil pH ,organic matter and available K significantly decrease during the past 20 years while the available P increases withthe biggest variation coefficient . The areas with the first and second grade of soil ertility quality were over 80 % in 1980 ,whereas nearly 98 % belonged to the second and third grade in 2000. So the soil fertility quality has declined in this area due to the intensive cultivation in the past 20 years.
【语种】中文
【第一作者】汪景宽
【通讯作者】汪景宽

【期刊名称、卷期、页码】中国农业生态学报,2007,15(2):26-31
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【引文索引号】null
【学科分类】土壤学

【题目】施用有机肥对黑土团聚体有机碳的影响
【中文关键词】颗粒有机碳 团聚体有机肥黑土 固碳机制
【英文关键词】particulate organic carbon;aggregate;manure;black soil;mechanism of carbon sequestration.
【中文摘要】采用湿筛法对不同处理下的黑土进行分离,得到4种不同大小(>2 000、2 000—250、250—53、<53 m)的团聚体,利用密度分组法分离出游离的轻组(free LF)和团聚体内的颗粒有机质(iPOM),以评价有机肥对黑土团聚体有机碳的影响.结果表明:与对照相比,施用有机肥显著增加了土壤的团聚化作用,可在一定程度上抵消耕作对团聚体的破坏作用,减缓团聚体的周转.团聚体内细颗粒有机碳(fine iPOM—C)含量显著高于粗颗粒有机碳(coarseiPOM.C)含量,说明施用有机肥有利于团聚体内细颗粒有机碳的积累,是施用有机肥条件下黑土团聚体内碳固定的主要形式.
【英文摘要】In this paper,black soil samples were separated into four sizes(>2 000,2 000-250,250-53,and <53 m)of aggregates by wet sieving,and their free light fraction(free tar)andintra-aggregate particulate organic matter(iPOM)were isolated by density fractionation,aimed to evaluate the efects of manure application on the organic carbon in diferent sizes of aggregates in black soil.The results showed that compared with the control,applying manure improved soil aggregationsignificantly,and compensated the disturbance of tillage and slowed down the turnover of aggregates to some degree. After applying manure,the content of fine iPOM—C was significantlyhigher than that of coarse iPOM—C.suggesting that manure application was beneficial to the accumulationof fine iPOM-C,which is the main form of carbon sequestration in the aggregates of black soil.
【语种】中文
【第一作者】安婷婷
【通讯作者】汪景宽
【期刊名称、卷期、页码】应用生态学报,2008,29(2):369-373
【论文发表时间】2008-02-01 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】土壤学

【题目】长期施肥与地膜覆盖对土壤微生物量碳氮的影响
【中文关键词】施肥;地膜覆盖;微生物量碳、氮
【英文关键词】no
【中文摘要】通过田间定位试验研究长期施肥与地膜覆盖对土壤微生物量C、N的影响。结果表明,长期施肥与地膜覆盖提高了土壤微生物量C、N含量,长期施有机肥和有机无机肥配施,土壤微生物量C、N显著高于单施化肥和不施肥。相关分析表明,土壤微生物量C、N与土壤有机C、全N均呈极显著的正相关。土壤微生物量C、N可作为指示土壤肥力的重要指标。本试验土壤微生物量C占有机C的比例平均为9195%,微生物量N占全N的比例平均为10.78%。
【英文摘要】no
【语种】中文
【第一作者】薛菁芳
【通讯作者】汪景宽
【期刊名称、卷期、页码】中国土壤与肥料,2007,第3期
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【学科分类】土壤学

【题目】土壤微生物量碳氮作为土壤肥力指标的探讨
【中文关键词】微生物量碳氮;土壤肥力;指标

【英文关键词】no
【中文摘要】通过对不同肥力水平黑土、棕壤、黄棕壤、红壤土壤微生物量碳氮的比较,研究和探讨土壤微生物量碳氮与土壤肥力的关系。结果表明:有机肥或无机肥施入土壤均能增加土壤微生物量C、N的含量,且有机肥与无机肥配合有显著的正交互作用。土壤微生物量C、N从北到南的地带性变化规律不强。BC /BN及TC/TN从北到南逐渐减小, BC /TC及BN /TN从北到南逐渐增加。相关分析结果表明:土壤微生物量C、N与全C、全N均呈极显著相关,可以作为指示土壤肥力的重要指标。
【英文摘要】no
【语种】中文
【第一作者】薛菁芳
【通讯作者】汪景宽
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【引文索引号】null
【学科分类】土壤学

【题目】不同肥力土壤各级微团聚体中主要营养元素含量的变化
【中文关键词】不同肥力土壤; 微团聚体; 营养元素
【英文关键词】soil of different fertility; m icro2aggregates; nutrient elements
【中文摘要】为了探讨不同肥力土壤团聚体中主要营养元素含量的变化情况, 以我国东部3种地带性土壤(黑土、棕壤和红壤) 为研究对象, 分别测定了其全量营养元素的含量, 并进行了比较分析。结果发现, 各营养元素在不同类型土壤中呈地带性分布。由北向南, 有机碳、全氮、全磷、全钾、全钙、全镁的含量呈逐渐降低的趋势, 全铁、全铝的变化趋势则相反; 施用有机肥能明显增加土壤中各种营养元素的含量。无论哪个粒级的微团聚体, 有机碳、全氮含量呈北高南低的趋势; 钾素的变化呈北高南低分布。除了硅素外, 其余营养元素在< 2 Lm 粒级内富集。对于不同肥力的土壤而言, 各营养元素在高肥力土壤中含量较高; 在不同肥力的各级团聚体中, 也是主要分布在< 2 Lm 粒级范围内。
【英文摘要】In order to discuss the change on main nutrient element contents in m icro2aggregates of different fertility soils, th is paper determ ined and analyzed the contents of main nutrients in soil of the eastern Ch ina (black soil, brow n earth and red soil). The results are as follow s: the total nutrient element appeared to be distributed basing on zones. The content of organic C, total N , P, K, Ca, M g decreased gradually, but total Fe and A lincreased from north to south. App lying organic manure could significantly increase the contents of nutrientelements. No matter w h ich levels of m icro2aggregates in nature soils, the contents of organic C, totalN appearthe decreased trend from north to south, but the trend of total K reverse. Excep t Si, the other elements enriched in < 2 Lm m icro2aggregate. A ccording to different fertility levels, therew ere h igh contents in h igh fertility level.In different m icro2aggregates of different fertility levels, themain nutrient elementsw eremostly distributed in <2 Lm m icro2aggregate.
【语种】中文
【第一作者】汪景宽
【通讯作者】汪景宽
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【学科分类】土壤学

【题目】应用PLFA方法分析长期不同施肥处理对玉米地土壤微生物群落结构的影响
【中文关键词】长期不同施肥处理;土壤微生物群落结构;磷脂脂肪酸
【英文关键词】long-term fertilization;soil microbial community structure;PLFA
【中文摘要】土壤微生物群落被认为是土壤生态系统变化的预警及敏感指标,指示土壤质量变化,决定着土壤的生态功能。为了探讨长期施肥处理(1987~2004年)对土壤微生物群落结构的影响,采用磷脂脂肪酸(PLFA)法测定了沈阳农业大学棕壤长期定位试验站玉米地不同施肥土壤微生物生物量的活性部分及群落结构的变化情况。结论:长期施肥处理都能提高土壤微生物总生物量、细菌生物量及真菌生物量,特别是有机肥和有机无机肥配施在整个生育期对微生物总生物量的增加作用比较明显。真菌的生长与季节变化和玉米生育的关系较为密切,各施肥处理土壤真菌含量在抽雄期都明显降低。长期不同

施肥处理可以改变土壤微生物群落结构,单施氮肥处理土壤微生物群落结构与长期不施肥处理较为相似,没有明显的优势种群。施用有机肥和有机无机配施的土壤微生物群落均以含a15:0,i15:0,cyl7:0,i16:0,16:1w7t,10Mel8:0和15:0的微生物为优势种群。土壤有机质、碱解氮、速效磷和速效钾是微生物生长和活性的主要能源和营养因子。

【英文摘要】Abstract:Soil microbial community which indicates soil quality changes and controls the soil ecosystem functions has been regarded as the early warning and the sensitive indicator of soil ecosystem. In order to study the effects of long—term fertilization(1 987—2004)on soil microbial community structures,active microbial biomass and community structure were etermined by phospholipid fatty acid(PLFA)in the long—term located experiment with different fertilization treatments on brown earth in Shengyang Agricultural University.The results showed that total soil microbial biomass,bacterial biomassand fungal biomass were enhanced significantly with long—term fertilization treatments,especially in manure or manure withchemical fertilizers teatments. Fungal biomass in all fertilization treatments decreased during corn heading stage. Soilmicrobial community structure had been changed due to long—term fertilization,but no predominant group in single nitrogenapplied treatment.The microorganisms containing the PLFA of a15:0,i15:0,cyl7:0,i16:0,16:1w7t,lOMel8:0 and15:0 were dominance in microbial community in the treatments applied with manure. In addition,soil organic matter,alkali—hydrolyzable—N,available potassium and available phosphorus were main factors of energy and nutrition for growth and activities of microorganism.

【语种】中文

【第一作者】于树

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【学科分类】土壤学

【题目】连续施肥 20 年后棕壤团聚体分布和碳储量变化

【中文关键词】施肥; 棕壤; 团聚体分布; 有机碳

【英文关键词】no

【中文摘要】利用两种不同分离方法(干筛法与湿筛法) 对耕作施肥 20 年后棕壤的团聚体组成、团聚体有机碳含量以及有机碳储量进行了研究。结果表明: 棕壤团聚体以 0.25~1mm 团聚体为主。与长期不施肥比较,除 0.25~1mm 粒级外长期施用氮磷化肥使风干团聚体和水稳性团聚体中较大团聚体和微团聚体数量下降,降低了各级风干团聚体中有机碳积累,增加了水稳性团聚体中有机碳积累; 长期施用有机肥较大团聚体和微团聚体数量增加及其相连的有机碳含量和储量均增加; 长期有机无机肥配施大团聚体数量下降,微团聚体数量增加,有机碳含量均增加,大团聚体碳库储量下降,微团聚体碳库储量增加。由此可见长期施有机肥土壤结构改善,固 C 潜力增加。长期高量有机肥与无机肥配施可能有利于土壤固碳,但不利于作物生长。

【英文摘要】no

【语种】中文

【第一作者】冷延慧

【通讯作者】汪景宽

【期刊名称、卷期、页码】土壤通报,2008,39(4),743-747

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【引文索引类型】其他

【引文索引号】null

【学科分类】土壤学

【题目】吉林省半干旱地区春玉米连作体系氮素平衡研究

【中文关键词】黑龙江;粮食增产;制约因素;对策

【英文关键词】Heilongjiang;inereasinggrainyield;restrietingfaetor.eountermeasure

【中文摘要】分析了影响黑龙江省旅食增产的6个因素,揭示了黑龙江省作为商品旅基地对国家旅食安全的重要性,提出了保护黑土资源的重要意义和黑土区粮食持续增长的对策。

【英文摘要】

SixrestrietingfaetorsofgrainyieldinHeilongjiangprovineewereanaled,andtheirsignifieaneetograinsafetyaseommoditybasewasputforward.F

inally,signifieanceofproteeti blaek resoureeandeontinuallyinereasinggrainstrateginblaek5011regionwerepeintedout.
【语种】中文
【第一作者】魏丹
【通讯作者】魏丹
【期刊名称、卷期、页码】黑龙江农业科学,2007,171(3):7-10
【论文发表时间】2007-03-01 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】土壤学

【题目】不同有机质含量农田黑土的水热效应
【中文关键词】有机质; 含水量; 温度; 农田黑土
【英文关键词】soil organic matter; soil moisture; temperature; black farmland
【中文摘要】本文通过田间长期定位试验, 研究经空间移位后农田黑土有机质含量与土壤温度、含水量的关系。结果表明: 在土壤有机质含量低于60 g/kg 时, 土壤表层温度随有机质含量的增加而升高; 各处理土壤温度相差最高可达6.8℃; 10cm深处的土壤温度在夜间也存在较大差异; 在玉米全生育期内各处理之间土壤温度变化有明显的规律性, 在气温高时差异显著; 土壤有机质含量与土壤含水量呈显著正相关, 土壤有机质与土壤温度呈负相关, 但不显著。
【英文摘要】Based on a long-term field experiment established by soil removal, the relationships among soil organic matter, soil moisture and temperature were studied. The results showed: the top soil temperatures increased with the organic matter content increase when the soil organic matter content was less than 60 g/ kg, the highest difference of the top soil temperatures amongfive soil organic matter soils was 6.8°C. There were a big difference of soil temperature at the depth of 10 cm during night;during corn growth period, the five soil temperatures changed regularly, the differences among the five soils were large whenair temperature was high. There was a significant positive relationship between the black soil organic matter content and soilmoisture, a negative relationship between the black soil organic matter content and soil temperature, but it was not significant.
【语种】中文
【第一作者】程伟
【通讯作者】程伟
【期刊名称、卷期、页码】农业现代化研究,2007,28(4):501-503
【论文发表时间】2007-07-01 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】土壤学

【题目】长期施用化肥和有机肥料对黑土酸度的影响
【中文关键词】化肥　有机肥料　黑土酸度
【英文关键词】no
【中文摘要】利用1979年在哈尔滨设立的"黑土肥力与肥效长期定位试验"的试验处理,分析了长期施肥条件下,黑土pH值变化规律.结果表明,氮肥(尿素)的长期施用能够使耕层(0~20cm)黑土pH值下降,施二倍量氮肥(尿素)使耕层黑土的pH值下降最明显,由1979年的7.22.下降到2006年的5.70,是导致黑土酸化的主要原因.然而施用化肥的同时配合施用有机肥料黑土pH值下降缓慢,比单独施用化肥对黑土pH值造成的影响要小的多.这说明有机肥料可以降低土壤酸化的速度,避免土壤酸化现象的加重.
【英文摘要】no
【语种】中文
【第一作者】张喜林
【通讯作者】张喜林
【期刊名称、卷期、页码】土壤通报,2008,39(5):1121-1223
【论文发表时间】2008-05-06 00:00:00
【引文索引类型】其他
【引文索引号】null

【学科分类】土壤学

【题目】不同培肥措施对水毁耕地修复作用
【中文关键词】风沙土; 水毁耕地; 培肥措施
【英文关键词】Wind-sand soil; Water erosion land; Amelioration measure;
【中文摘要】1998年松嫩流域洪涝灾害致使松嫩平原西部风沙土受到洪水冲刷、淤积和长期侵蚀,原本为中低产田的风沙土产量进一步降低。在遭受不同程度洪水侵蚀的风沙土上进行定点定位研究,以探明风沙土水毁耕地土壤理化性质及养分库容的动态变化规律。将黑龙江省松嫩平原西部风沙土遭受洪涝灾害的耕地按照淹水后土体平均含水量划分为轻度、中度、重度3级;在淹水地块进行了3年大豆培肥定位试验。探明了有机肥料的施入可以提高土壤持水性能、土壤养分以及可溶性盐含量,同时培肥地力能够改善大豆产量和品质。提出了风沙土水毁耕地以秸秆有机和鸡粪有机肥为主的培肥措施,建立了风沙土水毁耕地良性施肥体系。
【英文摘要】The flooding disaster in 1998 resulted in wind-sand soil scoured,deposited and long-term eroded in western of Songnen plain,and the yield of medium and low areas became further lower.This study research on different eroded sand soil located,in order to state the dynamics of the soil physical and chemical properties and nutrient sink.The wind-sand soil eroded by flooding disaster in Heilongjiang Songnen plain is classified into three degrees:flooding light,flooding middle and flooding heavily
【语种】中文
【第一作者】魏丹
【通讯作者】魏丹
【期刊名称、卷期、页码】大豆科学,2008,27(4):624-628
【论文发表时间】2008-04-01 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】土壤学

【题目】黑龙江典型县域农田黑土土壤有机质现状分析
【中文关键词】黑土, 有机质, 地统计学
【英文关键词】no
【中文摘要】应用地统计学分析技术, 对黑龙江典型县域的农田黑土土壤有机质进行了空间异质性分析。结果表明, 土壤有机质平均含量以五大连池市和北安市最高, 高于70g kg- 1 , 宾县和阿城市最低, 低于20g kg- 1, 有机质含量变化范围在11.8-128.9g kg- 1。土壤有机质最佳空间变异符合高斯模型, 主要受结构因素的影响, 占84.1%。
【英文摘要】no
【语种】中文
【第一作者】隋跃宇
【通讯作者】隋跃宇
【期刊名称、卷期、页码】土壤通报,2008,39(1):186-188
【论文发表时间】2008-02-01 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】土壤学

【题目】黑龙江南部黑土区土壤重金属空间分异规律研究
【中文关键词】黑土区;重金属;空间分异; GIS;地统计学
【英文关键词】black soil area;heavy metals;spatial variability;GIS;geostatistics
【中文摘要】采用地理信息系统(GIS)技术和地统计学相结合的方法,研究了黑龙江南部典型黑土区双城市土壤全量铜(Cu)、锌(Zn)、铅(Pb)、镍(Ni)、镉(Cd) 5种主要重金属元素的空间分异规律。结果表明:研究区土壤各重金属的半方差函数模型均可用球状模型和指数模型较好地拟合。其中Zn、Ni和Cd具有强烈的空间相关性,表明这3种重金属元素受土壤内在属性影响较大。而Cu和Pb具有中等强度的空间相关性,表明这2种重金属元素由土壤内在属性和人为因素共同起作用。Cd、Pb和Cu较Zn和Ni的变程小,说明研究区土壤前3种重金属元素含量可能主要受到较小尺度因子的影响。研究区土壤各重金属元素空间分异规律如下: Cu和Ni呈东高西低的趋势, Pb呈南高北低的趋势,而Zn和Cd分别表现为块状分布和岛状分布的特点。图3,表2,参8。

【英文摘要】Geographical information system (GIS) combined with geostatistics was applied to reveal the spatial variability of heavy metals including Cu, Zn, Pb, Ni and Cd in soils of Shuangcheng in the southern black soil area ofHeilongjiang Province1The results showed that theoretical semivariogrammodels of 5 heavymetalswere best describedwith spherical or exponential models1The spatial correlations of Zn, Ni and Cd were strong, which were affected by intrinsic characters of soils, whereas the spatial correlations of Cu and Pb were moderate, indicating that they were affected by intrinsic characters of soil and randomfactors together1The ranges of Cd, Pbwere nearerthan Cu, Zn and Ni, ind-icating that the 3 former heavy metals were affected by shorter range factors1The spatial variability characters of heavy metals in studied areasoil were as follows1The contents of Cu and Ni were decreased from east to west, and contents of Pb were decreased from south to north,whereas the distribution of Zn was blocked and Cd was insularl.
【语种】中文
【第一作者】魏丹
【通讯作者】魏丹
【期刊名称、卷期、页码】农业系统科学与综合研究,2007,23(1):65-68
【论文发表时间】2008-02-01 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】土壤学

【题目】黑龙江省耕地黑土酸化的治理措施研究
【中文关键词】黑土 酸化 治理措施
【英文关键词】no
【中文摘要】文章针对黑龙江省耕地黑土发生酸化的现象,分别采取不同的治理措施,发现在白浆化黑土、草句黑土中施用有机肥料和草木灰、生石灰后大豆株高、荚数均有增加;白浆化黑土中施用有机肥料增产效果最显著,与对照相比增产428.4 kg · hm-2,增产百分率为19.87%;其次是施用草木灰,增产14.81%.施用生石灰增产效果不明显,在草甸黑土中施用草木灰时大豆增产效果要好于生石灰,与对照处理相比,施用草木灰处理增产7.77%.施用有机肥料和草木灰、生石灰都能使土壤的pH提高,对治理土壤酸化具有一定意义.
【英文摘要】no
【语种】中文
【第一作者】张喜林
【通讯作者】张喜林
【期刊名称、卷期、页码】东北农业大学学报,2008,39(5):48-51
【论文发表时间】2008-05-01 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】土壤学

【题目】东北中低产田现状与综合治理对策
【中文关键词】东北中低产田;现状;对策
【英文关键词】Northeast mid2low yield land ;current situation ; st rategy
【中文摘要】就东北黑土区中低产田的等级、类型划分以及治理措施进行了简要综述。东北黑土区中低产田可划分为高中低三个等级,其划分标准为高产田:粮食产量> 6 000 kg · hm- 2 ,中产田:粮食产量4 000~6 000 kg · hm- 2 ,低产田:粮食产量< 4 000 kg · hm- 2 。中低产田包括7 种类型:侵蚀型、易涝型、干旱型、盐碱型、风沙型、瘠薄型和低温及其它类型。提出了中低产田的治理对策与措施,分析了中低产田的增产潜力为112. 4 亿kg (2010 年)~161. 8 亿kg (2030 年) 。
【英文摘要】The degree ,types and comprehensive cont rol st rategies of mid2low yield land in northeast mollisols were mainly int roduced. Mid2low yield land of northeast mollisols could be classified to high ,middle and low three de2 grees. The standards of classification was that high yield land yield > 6 000 kg · hm- 2 ,middle yield land was 4 000~6 000 kg · hm- 2 ,low yield land was < 4 000 kg · hm- 2 . Mid2low yield land could be classified in to 7 types in2cluding erosion type ,flooding type ,drought type ,saline2alkali type ,aeolian type ,impoverish soil type and low tem2perature and other types. Appropriate comprehensive cont rol st rategies were used and nalyzed the potential yield of mid2low yield land would be f rom 1 1240 million per hactare (2010 year) to 16180 million per hactare (2030year) .

【语种】中文
【第一作者】郭文义
【通讯作者】魏丹
【期刊名称、卷期、页码】黑龙江农业科学,2008(6):52-55
【论文发表时间】2008-06-01 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】土壤学

【题目】作物秸秆与城市污泥高温好氧堆肥产物对土壤氮矿化的影响
【中文关键词】秸秆,污泥处理,堆肥,氮矿化,土壤
【英文关键词】straw, sludge disposal, composting, nitrogen mineralization, soil
【中文摘要】为揭示不同作物秸秆与污泥堆肥产物对土壤氮素矿化特征的影响,为科学施用城市污泥堆肥提供参考依据,通过室内培养试验研究了城市污泥与4 种秸秆(小麦、水稻、玉米和油菜)高温好氧堆肥产物施入酸性紫色土、黄壤、石灰性紫色土后土壤氮矿化的差异。结果表明,4 秸秆污泥堆肥均可显著提高3 种土壤氮的潜在矿化势(N0)和矿化速度(k),促进土壤氮的矿化,提高土壤NH4-N、NO3-N 质量分数,其中石灰性紫色土以油菜秸秆污泥堆肥和小麦秸秆污泥堆肥处理、黄壤以油菜秸秆污泥堆肥处理、酸性紫色土以小麦秸秆污泥堆肥处理提高幅度最大。作物秸秆与污泥堆肥施入土壤后,黄壤、酸性紫色土在培养60 d 和30 d 后趋于稳定,石灰性紫色土在培养60 d 后仍有增高的趋势,但不同秸秆污泥堆肥对土壤氮矿化速度的影响无明显规律。结果说明秸秆污泥堆肥对土壤氮矿化的效应因土壤及秸秆类型的不同而异,根据研究结果提出了4 种作物秸秆与城市污泥堆肥施用的建议。
【英文摘要】An incubation experiment was conducted to investigate the differences of nitrogen mineralization among three soils amended with four sewage sludge composted with the straws of wheat(XMC), rice(SDC), corn(YMC) and rape(YCC). The purpose was to understand the effect of sewage sludge composted with different crop straws on nitrogen mineralization in soils and establish a scientific way for sewage sludge compost application in agriculture. The soilstested included an acidic purple soil, a yellow soil and a calcareous purple soil. All the compost treatments could significantly improve the values of potentially mineralizable nitrogen(N0), promoted nitrogen mineralization,and consequently increase the NH4-N and NO3-N concentrations in soils. The optimal amounts of nitrogen mineralized and the N0 values were found in the treatments of YCC and XMC for the calcareous purple soil, in the treatment of XMC for the acidic purple soil and in the treatment of YCC for the yellow soil. The amount of nitrogen mineralized increased after 90 days incubation in the compost treated calcareous purple soil, while it became stable at 60 days and 30days incubation in the compost treated- acidic purple soil and yellow soil, respectively. However, no obvious tendency of the mineralization rate constant (k) values was found in the three soils treated with the four composts. The results illustrated that the effect of sewage sludge compost on the mineralization of nitrogen varied with soils and the properties of crop straws. Based on the results of the present study, some advices on the application of sewage sludge compost were put forward.
【语种】中文
【第一作者】唐淦海
【通讯作者】赵秀兰
【期刊名称、卷期、页码】农业工程学报
【论文发表时间】2011-01-10 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】土壤学

【题目】香石竹GA 20-oxidases基因的克隆及RNA 干扰载体的构建
【中文关键词】香石竹;GA 20-oxidase基因;RNAi
【英文关键词】carnation; GA 20-oxidase; RNAi
【中文摘要】:根 据已发表的菠菜、烟 草等植物 基因序列在保守区设计简并引物,通过RT-PCR和RACE 的方法克隆了Marster香石竹(L. cv. Marster)GA 20-oxidases 基因的全长cDNA(1 179 bp),命名为(Dc20ox 。同源性分析表明该基因与其它作物上发表的 e 基因的氨基酸序列同源性为 66%~75%。在此基础上选用香石竹基因同源性相对较高的400 bpDNA 片段,构建了RNA 干扰(RNAi)载体pART400。

【英文摘要】A pair of degenerate primers was designed based on a conserved domain of GA 20-oxidasereported in other plants. The full-length (1179 bp) carnation (Dianthus caryophyllus L. cv.Master) GA 20-oxidase cDNA (named Dc20ox) was cloned by reverse transcriptase-polymerasechain reaction (RT-PCR) and rapid amplification of cDNA ends (RACE). BLAST analysisrevealed that the deduced amino acid sequence had high homology (66 – 75%) with the GA20-oxidase sequences from other plants. An RNAi vector (pART400) was constructed from a400 bp fragment representing a highly conserved region of GA 20-oxidase.
【语种】中文
【第一作者】金亮
【通讯作者】李天红
【期刊名称、卷期、页码】农业生物技术学报,17 (1): 107~113
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【引文索引号】null
【学科分类】农艺学

【题目】库车白杏有机生产技术要点
【中文关键词】:库车白杏;有机生产;果园管理;综合防治
【英文关键词】无
【中文摘要】杏是新疆地区广泛栽培的经济树种,适应性强、经济效益较高。现从有机白杏生产基地条件、苗木栽植、果园土壤管理、整形修剪、花果管理、病虫害综合防治、果实采收和贮藏等方面,对库车县有机白杏的果园管理关键技术进行了论述,以期为新疆白杏的有机生产提供参考。
【英文摘要】无
【语种】中文
【第一作者】塞买提·于素甫
【通讯作者】张文
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【学科分类】农艺学

【题目】秸秆-膨润土-PAM改良材料对沙质土壤磷素吸附解吸的影响
【中文关键词】秸秆,膨润土,PAM改良材料,沙质土壤,磷,吸附解吸
【英文关键词】straw-bentonite-PAM;improved material;sandy soil;phosphorus;adsorption-desorption
【中文摘要】为了提高沙质土壤保肥能力,降低磷素流失风险,以重庆市分布面积较大的冷沙黄泥为研究对象,将生物预处理后的作物秸秆与膨润土、聚丙烯酰胺(PAM)结合,配制成秸秆改良材料,探究了改良材料种类、添加量及配比等因素对沙质土壤磷吸附解吸的影响。结果表明:采用Langmuir方程能很好地反映沙质土壤对磷的吸附。施加秸秆改良材料可以显著提高沙质土壤对磷的吸附率,降低解吸率;显著增加吸附常数(K)和最大缓冲容量(MBC),减小磷的最大吸附量(Xm)。油菜秆改良材料的改良效果比小麦秆更好。改良材料施用量越大或PAM水平越高,改良效果越明显。培养90天后,添加油菜改良材料(添加量为10g/kg,配方中PAM水平为3%)对沙质土壤的改良效果最明显。试验为秸秆应用于改良沙质土壤提供了科学依据。
【英文摘要】Abstract:In order to improve the fertilizer retention and reduce the risk of phosphorus leaching of sandy soils that distributes widely in Chongqing City,improved materials confected by biological pretreatment straw,bentonite and PAM were used,the influences on phosphorus adsorption and desorption of the sandy soil result from different materials.dose and ratio were studied.The results showed that:Langmuir equation could reflect the adsorption reaction wel1.Improved materials could significantly increase the phosphorus adsorption rate of sandy soil,while reduce the desorption rate.The maximum adsorption capacity(Xm)was reduced obviously,while the adsorption constant(K) and maximum buffering capacity of phosphorus(MBC)of the sandy soil was significantly increased.The improvement materials made of rape stalk was better than that of wheat straw.With the increasing amount of application and PAM level,the improvement effect of sandy soil increased gradually.After 90 days in culture,the improvement materials of rape stalk(dose of 10g/kg,PAM level of 3%)showed the most obvious improvement effect to the sandy soil.This research provided theoretical basis of applying modified straw materials into sandy soil.

【语种】中文
【第一作者】贺春风
【通讯作者】王定勇
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【学科分类】土壤学

【题目】秸秆改良剂对沙质土有机质和阳离子交换量的影响
【中文关键词】秸秆;膨润土;PAM;土壤有机质;阳离子交换量
【英文关键词】straw modified material; bentonite; PAM; cation exchange capacity; soil organic matter
【中文摘要】通过盆栽实验,探究秸秆、膨润土和PAM的共同作用对沙质土壤有机质和阳离子交换量的影响,寻找改良剂的最佳配方,为秸秆沙质土壤改良剂与产业化示范提供数据基础。结果表明,秸秆、膨润土和PAM共同作用显著提高了沙质土的有机质的含量、腐殖化系数以及阳离子交换量。当秸秆预产物、膨润土和PAM的比例按900:100:30,施加量为10 g/kg时,处理60天后达到了最好的效果,使沙质土有机质、腐殖质含量以及阳离子交换量分别较对照提高了28%、25%、36%。
【英文摘要】In order to provide the data foundation for the demonstration of the straw stalk modified material, the pot experiments used to inquire into the interacted function of the straw stalk and Bentonite and PAM (Polyacrylamide) were designed. The results indicate that it obviously raises the content of the soil cation exchange capacity and the contents of the soil organic matter and humus. The best formula respectively improves the content of the soil cation exchange capacity and the contents of the soil organic matter and humus by 36%, 28%, 25% compared with the contrast in 60 days.
【语种】中文
【第一作者】王训
【通讯作者】王定勇
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【引文索引号】null
【学科分类】土壤学

【题目】秸秆改良材料对沙质土壤钾素抗淋溶的效应
【中文关键词】秸秆改良材料; 沙质土壤; 钾; 淋溶
【英文关键词】straw-modified material; sandy soil; potassium; leaching
【中文摘要】通过淋溶试验, 研究了沙质土壤在加入不同施加量和配比的秸秆改良材料后钾素的淋溶状况. 结果表明: 秸秆改良材料对沙质土壤钾素的淋溶有明显的抑制作用. 在一定范围内, 施加量大和配方中聚丙烯酰胺(PAM) 含量高的处理效果最好, 添加秸秆:膨润土:PAM为900:100:30的改良材料(处理T10-3) 的土壤钾素累积淋溶量较CK 减少了48%. 此外, 施用秸秆改良材料能有效抑制沙质土壤钾素的垂直迁移, 处理T10-3上层土壤中速效钾的含量较CK 提高了102%, 下层则降低了58%, 说明沙质土壤中施用秸秆改良材料具有抗钾素淋失的效应.
【英文摘要】In an experiment reported in this paper, the effect of straw-modified material on the leaching of potassium in the sandy soil was studied. The results showed that straw-modified materials had a significant inhibitory effect on potassium leaching in the sandy soil.Generally, a treatment with high rate of strawmodified material which contained much PAM (polyacrylamide) gave good results. Compared with CK,the treatment T10, 3 (the straw-modified material contained straw, bentonite and PAM with a ratio of 900:100:30) decreased cumulative leaching amount of potassium by 48%. The vertical migration of potassium in the sandy soil was restr ained by applying straw-modified material. In comparison with that of CK,the content of available potassium of the treatment T10, 3 increased by 102% in the upper layer of the soil and decreased by 58% in the lower layer of the soil, suggesting that application of straw-modified material may help reduce the leaching loss of potassium in sandy soil.
【语种】中文
【第一作者】宋丽

【通讯作者】王定勇
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【学科分类】土壤学

【题目】秸秆改良材料对沙质土壤饱和含水量的影响
【中文关键词】改良材料;沙质土壤;饱和含水量
【英文关键词】straw-bentonite-PAM improved material;sandy soil;saturated water content
【中文摘要】:为提高沙质土壤饱和含水量,以作物秸秆为主材,以膨润土和聚丙烯酰胺(PAM)为添加剂配制沙质土壤改良材料,采用模拟试验研究秸秆改良材料不同配比、施用量与时间等因素对沙质土壤饱和含水量的影响。结果表明:施加秸秆改良材料可以增加沙质土壤饱和含水量,不同秸秆改良材料改良效果不同,且随着改良材料施用量、配方中PAM含量(<2%)的增加、土培时间(<60天)的延长,沙质土壤饱和含水量呈现增加趋势;添加剂量为10g/kg,配方中PAM含量为2%的麦秆改良材料的土样,在土培60天后,饱和含水量为52.6%,是对照的2.32倍,对沙质土壤团粒结构改良效果最为明显。可见,添加秸秆改良材料可以增加沙质土壤饱和含水量。
【英文摘要】A simulation experiment was carried out to increase sandy soil ’s saturated water contents.Wedesigned the improved material which was made of straw,bentonite and PAM,and investigated the efects of different improved materia1.the content of PAM in improved material and the cultivated time.The results indicated that:the saturated water contents of sandy soil increased in the presence of improved materia1.and would be different with different improved materials,and also increased with the content of improved material,PAM (<2%)and the cultivated time(<60 days)approximately.Compared with the others,the treatments amended by wheat straw(the amount was 10 g/kg,the proportion of PAM was 2%),with 60 days cultivated time,its saturated water contents became 52.6%f2.32 times as the contro1),showed the optimal results.
【语种】中文
【第一作者】何熙
【通讯作者】王定勇
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【学科分类】土壤学

【题目】PAM对潮土水分蒸发量的影响
【中文关键词】聚丙烯酰胺(PAM);潮土;土壤蒸发量
【英文关键词】polyacrylamide (PAM); alluvial soil; soil water evaporation capacity
【中文摘要】地表蒸发引起土壤水的散失是造成作物低产的重要原因之一。PAM是众多保水剂中一种,具有超强的吸水和保水能力,能够抑制土壤水分的蒸发,增加土壤含水量,增强土壤持水功能,对沙质土壤水分的调控具有重要作用。以分布于重庆三峡库区的潮土为研究对象,研究不同剂量、不同剂型的PAM对土壤蒸发量的影响,以期为农业灌溉上PAM的推广应用提供理论依据。研究结果显示:PAM能抑制土壤水分的蒸发。对不同剂量的PAM处理,潮土累计蒸发量较对照减少2.37%~12.459%;以200mg/kg抗蒸发效果最为明显。对同分子量不同水解度剂型的PAM处理,冷沙黄泥累计蒸发量较对照减小7.34%~17.81%,以30%抗蒸发效果最好,对同水解度不同分子量剂型的PAM处理,潮土累计蒸发量分别较对照减小12.25%~18.53%;以1000万的PAM抗蒸发效果最为明显。
【英文摘要】One of the major reasons of low-yield crops is dissipation of surface soil water evaporation. PAM is one of the insurance agents, it ’s a super-absorbent and water-retention capacity, which can inhibit the evaporation of soil evaporation, increase soil evaporation, enhance soil water retention function, it plays an important role on the regulation of sandy soil evaporation. In this study, the alluvial soil collected from the Three Gorges Reservoir Region was chosen to figure out the effect of different doses and dosage forms of PAMon the water preserving capacity, so as to provide theoretical evidence for the spread and exploitation of PAM on the agricultural irrigation. The results showed that PAM could inhibit the evaporation of soil evaporation.Compared with the control, the accumulated evaporation of alluvial soil was decreased by 2.37%-12.45%; the difference between different doses of PAM was significant and 200mg/kg was the most prominent dose. PAM with the same molecular weight but different charge density was treated, the

accumulated evaporation of alluvial soil was decreased by 7.34%-17.81%, while 40% was the most prominent dosage of alluvial soil, WhenPAM with the same charge density but different molecular weight was treated, the accumulated evaporation of alluvial soil was decreased by 12.25%-18.53%, while 10 million was the most prominent dosage.

【语种】中文
【第一作者】张莹莹
【通讯作者】王定勇
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【题目】PAM对潮土水稳性团聚体的影响
【中文关键词】聚丙烯酰胺(PAM);水稳性团聚体;分形维数
【英文关键词】PAM; water stable aggregates; fractal dimension
【中文摘要】:通过室内土柱培养,研究4 种不同浓度聚丙烯酰胺(PAM)对潮土水稳性团聚体的改良效果。结果表明,加入不同浓度PAM均可促使>0.25 mm水稳性团聚体的形成,并有效降低团聚体分形维数,改善土壤结构。随着PAM浓度的增加,改良效果逐渐增强。在加入浓度为1 g/kg 时达到最好的效果,较对照,>0.25 mm水稳性团聚体增加了42.69%,分形维数降低了10.11%。
【英文摘要】PAM was applied in soil column to study the effects of PAM on water stable aggregates of thealluvial soil. The results showed that PAM improved the structure of the studied soils by promoting the formation and reducing the fractal dimension of the >0.25 mm water stable aggregates effectively, and the effects were enhanced as the concentration of PAM increased. The best effect was found at the 1g/kg concentration, compared with the blank control, the >0.25 mm water stable aggregates increased 42.69%, while its fractal dimension decreased 10.11%.
【语种】中文
【第一作者】王永敏
【通讯作者】王定勇
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【学科分类】土壤学

【题目】PAM 对沙质土壤持水性能影响的模拟研究
【中文关键词】聚丙烯酰胺(PAM) ; 冷沙黄泥; 土壤持水性能; 抗蒸发
【英文关键词】polyacrylamide (PAM) ; sandy yellow soil ; water-holding capacity of t he soil; antievaporation
【中文摘要】通过试验模拟, 研究了不同剂量聚丙烯酰胺(PAM) 施入沙质土壤后对土壤持水性能的影响. PAM 设置0(对照) ,50 ,100 ,200 ,400 和1 000 mg/ kg 6 个水平. 实验结果表明, 与对照相比, 经PAM 处理后的土壤累积蒸发量减小了4112 %~14146 %; 平均含水量增加了1140 %~5164 %; 田间持水量增加20168 %~33171 % , 毛细管持水量增加18141 %~29104 % , 最大持水量增加18162 %~29170 %; 方差分析在5 %水平上各处理间存在显著差异, 最大差异出现在PAM 施加量为200 mg/ kg 时. 表明了PAM 能够改善土壤的持水性能, 其改良效果因PAM 施入浓度而异. 在改良该沙壤土保水性时, 其适宜PAM 施用量为200 mg/ kg.
【英文摘要】In a simulated experiment, sandy yellow soil was supplemented with polyacrylamide (PAM) at0,50,100,200,400 and 1000mg/kg to evaluate its effect on water-holding capacity of the soil. The results indicated that PAM rest rained the evaporation of soil moisture. Compared with the control treatment(CK), PAM treatments decreased the evaporation capacity of soil moist ure by 4.12%~14.46% and increased the average water contents of the soil by 1.40%~5.64% , field capacity by 20.68%~33.71%,capillary capacity by 18.41%~29.04% and maximum water-holding capacity by 18.62%~29.70%. Analysis of variance showed that significant differences existed among the treatments , indicating that t he effect of PAM application varied with it s rate. Under the conditions of the experiment, the treatment of 200 mg/kg PAM gave the best result of rest raining soil moisture evaporation.

【语种】中文
【第一作者】李佳佳
【通讯作者】王定勇
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【题目】不同剂型聚丙烯酰胺对冷沙黄泥土壤持水性能的影响
【中文关键词】聚丙烯酸酯类,土壤,分子质量,土壤含水率,蒸发,聚丙烯酰胺(PAM),冷沙黄泥,水解度
【英文关键词】polyacrylates, soils, molecular weight, soil moisture, evaporation, polyacrylamide, sandy yellow soil,hydrolysis degree
【中文摘要】为筛选用于提高沙质土壤保水能力的最佳保水剂型,以重庆市分布面积较大的冷沙黄泥为研究对象,采用模拟试验,研究了不同水解度和不同相对分子质量的聚丙烯酰胺(PAM)对沙质土壤的持水效应。结果表明,不同剂型的PAM均能在一定程度上抑制沙质土壤水分的蒸发,提高土壤的保水能力。施用质量分数为0.02%,相同相对分子质量(800 万),不同水解度(10%、20%、30%、40%)PAM 的处理,冷沙黄泥累计蒸发量分别较对照减小7.76%~20.17%,平均含水率分别较对照增加2.65%~5.96%,以水解度为40%(高水解度)的PAM 持水效果最好。相同水解度(40%),不同相对分子质量(400万、600万、800万、1000万)PAM 的处理,冷沙黄泥累计蒸发量分别较对照减小14.37%~20.74%,平均含水率分别较对照增加4.85%~6.11%,以相对分子质量为1 000 万的PAM 持水效果最好。可见施用质量分数为0.02%,水解度为40%,相对分子质量为1 000 万的PAM 对冷沙黄泥持水效果最好, 是有效提高冷沙黄泥吸水和保水能力最佳PAM 剂型。
【英文摘要】A simulation experiment was carried out to identify the optimal polyacrylamide (PAM) formulations (hydrolyis degree, HD; molecular weight, MW) for increasing the water holding capacity of sandy yellow soil distributing widely in Chongqing City. The results indicated that different formulations of PAM could maintain the soil moisture and reduce soil water evaporation rate to some extent. Compared with the control, the treatments amended byPAMs having a MW of 8 million but with different HDs of 10%, 20%, 30%, and 40% reduced the cumulative evaporation rate from sandy yellow soil by a range of 7.76% to 20.17%, while increased the mean soil moisture by a range of 2.65% to 5.96%, with the PAM having a HD of 40% showing the maximum water holding capacity. On the other hand, the treatments amended by PAMs having a HD of 40% but with different MWs of 4, 6, 8, 10 million reduced the cumulative evaporation rate from sandy soils by 14.37% to 20.74%, but increased the mean soil moisture by 4.85% to 6.11% when compared to the control, with the PAM of 10 million MW showing the maximum capacity to hold soil water. Therefore, with the dosage of 0.02% the PAM product with a HD of 40% and a MW of 10 million can be recommended as the optimal formulation for increasing water retention in sandy yellow soil.
【语种】中文
【第一作者】王永敏
【通讯作者】王定勇
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【题目】黄孢原毛平革菌对不同粒径的玉米秸秆氮磷钾释放效果比较
【中文关键词】黄孢原毛平革菌; 玉米秸秆; 氮; 磷; 钾
【英文关键词】Phanerochaete chrysosporium; corn straw ; nitrogen; phosphorus; potassium
【中文摘要】秸秆还田是改良土壤的有效途径之一, 秸秆的有效降解可以增强还田效果. 利用黄孢原毛平革菌对玉米秸秆进行处理, 分析不同粒径秸秆对N, P, K 的释放情况, 筛选出玉米秸秆还田的最佳预处理条件. 结果看出, 不同粒径秸秆在黄孢原毛平革菌的作用下, 对N, P, K 等营养元素的释放存在明显差异. 粒径4-5 cm 秸秆全N, P, K含量增长趋势明显, 在第35 d 时, 全N, P, K 含量分别为13.13, 2.05 和26.24g/kg, 增长率达到了103.70%,147.90%和62.90%. 粒径0.5cm 秸秆的速效N, P, K 含量增长趋势明显, 在第35d 时, 速效N, P, K 含量分别为2.71, 1.75 和22.80g/kg, 增长率达到了289.52%, 72.50%和37.71%.
【英文摘要】Straw returning is an effective way of soil amendment and effective degradation of the straw can enhance its effect. In a study reported in this paper, corn straw was pretreated with Phanerochaet echrysosporium, the release of nitrogen, phosphorus and

potassium of corn straw of different granularity was analyzed and the optimum pretreatment conditions were screened. The release of N, P and K differed significantly in corn straw of different granularity under the influence of Ph chry sosporium. Determined 35d after Phchrysosporium pretreatment, the content of total N, P and K had a significant growth with the particle size of 4-5 cm, being 13.13, 2. 05 and 26. 24 g/kg, with a growth rate of 103.70%, 147.90% and 62.90%, respectively; and the content of available N, P and K showed a significant increase with the particle size of 0.5 cm, being 2.71, 1.75 and 22.80 g/kg, with a growth rate of 289.52%, 72.50% and 37.71%, respectively.

【语种】中文
【第一作者】申源源
【通讯作者】王定勇
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【学科分类】土壤学

【题目】Growth and Heavy-Metal Uptake by Lettuce Grown in Soils Applied with Sewage Sludge Compost
【中文关键词】化学肥料,重金属,生菜,污泥堆肥
【英文关键词】Chemical fertilizer, heavy metal, lettuce, sewage sludge compost
【中文摘要】通过盆栽试验研究了污泥堆肥的影响,单独施用化学磷肥对两种生菜重金属的积累的影响。处理包括空白、氮磷钾(NPK)肥、污水污泥堆肥率分别为27.45(SSC),82.62(3SSC),165.24(6ssc)t/公顷;其中N,P,K和氮磷钾化肥处理和混合使用归一化到当地的推荐率。SSC的应用增加了生物量,铜,锌,铅含量生菜。混合使用的处理取得了较大的生物量,NPK化肥并没有增加土壤和植物中重金属的积累。结果表明,SSC可以于化学肥料的土壤。
【英文摘要】A pot experiment was conducted to investigate the effect of sewage sludge compost(SSC) alone and applied with chemical fertilizer on growth and heavy-metal accumulations in lettuce grown on two soils, a Xanthi-Udic Ferralosol and a Typic Purpli-Udic Cambosol. The treatments included control; nitrogen – phosphorus – potassium (NPK) fertilizer; sewage sludge compost applied at the rates of 27.54 (SSC), 82.62 (3SSC),165.24 (6SSC) t hm – 2; and coapplication treatment (1/2 SSC + 1/2 NPK), where the N, P, and K inputs from NPK fertilizer, SSC, and coapplication treatments were normalized to the local recommend rates. The SSC application increased the biomass; copper,zinc, and lead contents in lettuce; and soil total and diethylenetriaminepentaacetic acid (DTPA) – extractable metals. However, SSC alone at the recommended rate caused less plant biomass than NPK fertilizer alone. Coapplication treatment obtained greater or similar biomass to NPK fertilizer alone and did not increase heavy-metal accumulation in soils and plants. The results demonstrated that SSC should be applied to soils with chemical fertilizers.
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【第一作者】赵秀兰
【通讯作者】赵秀兰
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【学科分类】土壤学

【题目】秸秆改良材料对冷沙黄泥中速效磷含量的影响
【中文关键词】冷沙黄泥; 秸秆; 膨润土; 聚丙烯酰胺; 速效磷
【英文关键词】sandy yellow soil; straw ; bentonite; polyacrylamide (PAM) ; available phosphorus
【中文摘要】以重庆分布面积较大的沙质土壤冷沙黄泥为研究对象, 将秸秆进行生物预处理后与膨润土、聚丙烯酰胺(PAM) 按比例配制成土壤改良材料, 采用盆栽土培试验方法, 研究了水稻、小麦、玉米和油菜4 种秸秆改良材料对冷沙黄泥速效磷含量的影响. 结果表明: (1)4 种秸秆改良材料均能明显提高冷沙黄泥的速效磷含量, 其顺序由高到低为油菜、玉米、水稻和小麦, 它们施入土壤后速效磷的平均含量分别增长了约39.4%-55.7%,38.9%-54.8%, 34.5%-46.1%和28.1%-42.5%. (2) 相同秸秆条件下不同分处理对土壤速效磷的增磷效果有所差异, 其中秸秆:膨润土: PAM = 900:100:30 的T3 处理对提高土壤有效磷含量的效果最好.

【英文摘要】Crop straws (rice straw , wheat straw , maize straw and rape straw) were mixed with bentonite and polyacrylamide (PAM) to make straw based soil conditioners, which were used in a pot experiment to investigate their effects on available phosphorus(P) content in a sandy yellow soil widely distributed in Chong qing. The results indicated that all the 4 materials significantly increased the content of available P in the soil, the order of increment being rape straw (39.4%-55.7%) > maize straw(38. 9% - 54.8%) > wheat straw (34.5% - 46.1%) > rice straw (28.1% -42.5%) . With the same straw, Treatment 3 (straw:bentonite:PAM = 900:100:30) showed the greatest soil amelioration effect by increasing available phosphorus (P) in the sandy yellow soil.
【语种】中文
【第一作者】赵蕾
【通讯作者】王定勇
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【学科分类】土壤学

【题目】秸秆-膨润土-PAM 改良材料对砂质土壤饱和导水率的影响
【中文关键词】秸秆,砂,土壤,秸秆-膨润土-PAM 改良材料,饱和导水率
【英文关键词】straw, sand, soil, straw-bentonite-PAM improved material, saturated hydraulic conductivity
【中文摘要】为改善砂质土壤持水状况,设计了由作物秸秆、膨润土和聚丙烯酰胺(PAM)配制的改良材料,以重庆市分布面积较大的冷沙黄泥为研究对象,采用恒定水头入渗双环法,研究了秸秆改良材料对砂质土壤饱和导水率的影响。结果表明,施用秸秆改良材料能增加砂质土壤的饱和导水率,并且随着施用剂量的增大,土壤饱和导水率逐渐增加;随土培时间的延长土样饱和导水率均出现了先增大后减小的趋势,当土培时间为60 d 时土样饱和导水率达到最大值;添加麦秆改良材料(质量分数为10 g/kg,配方中PAM 质量分数为2%)的土样,在培养60 d 后其饱和导水率是对照组的4.97 倍,对砂质土壤改良效果最明显。可见,秸秆改良材料可以改善砂质土壤持水状况,对砂质土壤具有改良作用。
【英文摘要】In order to improve the water holding capacity of sandy soil, the improved material that was confected by crop straw, bentonite and polyacrylamide (PAM) was applied. The effect of straw improved material on saturated hydraulic conductivity of sandy soil was studied using the double rings method of constant waterhead infiltration. The tested soil was the sandy yellow soil that is wildly distributed in Chongqing. The results showed that the saturated hydraulic conductivity of sandy soil increased with straw improved materials applying. The saturated hydraulic conductivity of sandy soil increased gradually with the increasing amount of application. The saturated hydraulic conductivity of sandy soil which increased at first and then decreased with the cultivated time reached maximum when the soil cultivated time was 60 d; The improved material of wheat straw (dose of 10 g, PAM content of 2%) worked best whose saturated hydraulic conductivity reached maximum (4.97 times as the control) when the soil cultivated time was 60d. Therefore, the modified straw material is able to improve sandy soil, and this research can provide theoretical basis for applying modified straw materials into sandy soil.
【语种】中文
【第一作者】孙荣国
【通讯作者】王定勇
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【学科分类】土壤学

【题目】秸秆- 膨润土- PAM 改良材料对沙质土壤团粒结构的影响
【中文关键词】秸秆- 膨润土- PAM 改良材料; 沙质土壤; 团粒结构
【英文关键词】straw-bentonite-PAM improved material; sandy soil; aggregate structure
【中文摘要】为改善沙质土壤团粒结构, 以重庆市分布面积较大的冷沙黄泥为研究对象, 将作物秸秆、膨润土和聚丙烯酰胺(PAM) 按一定比例配制后作为改良材料, 研究秸秆改良材料种类、改良材料剂量与配比、土培时间等因素对改良材料改良效应的影响。结果表明: 秸秆改良材料可以增加沙质土壤1-5 mm 团聚体的含量, 不同秸秆改良材料改良效果不同, 且随着改良材料剂量、PAM 含量(< 2%) 的增加、土培时间(< 60 d)的延长, 沙质土壤1-5 mm 团聚体含量呈现增加趋势; 添加

麦秆改良材料(添加量为10g/kg 土, 配方中PAM 含量为2%) 的土样, 在培养60 d 后, 1-5 mm 团聚体含量为45.1%, 为CK的2.12倍, 自然条件下的1.9倍, 对沙质土壤团粒结构改良效果最为明显。可见, 秸秆改良材料可以改善沙质土壤团粒结构。
【英文摘要】A simulation experiment was carried out to improve aggregate structure of sandy yellow soil that dist ributes widely in Chong qing city. We designed the material made of straw,bentonite and PAM and detected its effects on improving the aggregata sturcture of sandy soil. The results indicated that: The proportion of 1-5 mm sandy soil aggregate increased in the presence of improved material, and would be different with different improved material, and also increased with the content of improved material and PAM(< 2%) and with the cultivated time. In the presence of improved material of wheat straw(the amount was 10g/kg, the proportion of PAM was 2% and the cultivated time was 60 d) , The proportion of 1-5 mm sandy soil aggregate was 45.1%(2.12 times as the control and 1.9 times as the nature soil) , which show ed the best results.
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【第一作者】孙荣国
【通讯作者】王定勇
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【题目】秸秆-膨润土-PAM改良材料对不同类型土壤田间持水能力的影响
【中文关键词】秸秆-膨润土-PAM 改良材料;土壤;持水能力
【英文关键词】traw-bentonite-PAMimprovedmaterial;soil;water-holdingcapacity
【中文摘要】为了提高土壤的田间持水能力并对农业废弃物秸秆进行资源化利用,设计了以秸秆、膨润土及PAM 按照不同的配比开发出新型复合改良材料,通过田间试验研究了改良材料对四川省宜宾市三种主要土壤类型的田间持水能力的影响.结果表明,复合改良材料能有效提高三种土壤持水能力,添加秸秆改良材料后,土壤持水性能都比对照显著增大(p<0.05).但是各配比间的差别较大,根据各配比的改良效应不同,筛选了改良材料配方,研究结果为改良材料改良效果评估提供科学依据.
【英文摘要】Soil water is one of the material bases for plant growth and water holding capacity of soil is an important indicator of soil productivity. To improve water holding capacity of soil and find a way to reuse the straw, a novel ameliorant was designed with straw, bentonite, polyacrylamide (PAM) and fertilizer. The influence of the ameliorant on the water holding capacity of the three main types of soil in Yibin city was estimated. The result showed that water holding capacity of the three types soils was increased significantly (P<0.05). Compared with the control check, the water content in soil was increase respectively. This result is of some importance to estimate the improvement effect of the ameliorant.
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【第一作者】何熙
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【题目】秸秆-膨润土-聚丙烯酰胺对砂质土壤吸附氮素的影响
【中文关键词】土壤,秸秆,膨润土,聚丙烯酰胺,NH4-N,等温吸附
【英文关键词】soils, straw, bentonite, polycrylamide, NH4-N, isothermal adsorption
【中文摘要】为提高土壤对氮素的吸附能力,减少土壤氮素流失,通过土壤培养试验和等温吸附试验研究了经堆腐的玉米秸秆、膨润土和聚丙烯酰胺(PAM)配制成的复合改良材料对砂质土壤NH4-N 吸附特性的影响。结果表明,复合改良材料对土壤NH4-N 吸附的影响随土培时间的延长呈先增大后减小的趋势,60d 时最大。各处理NH4-N 的等温吸附曲线可用Langmuir 方程很好地拟合。提高复合改良材料用量使砂质土壤NH4-N 的最大吸附量Qmax提高,吸附常数(k)降低,表明复合改良材料可以提高土壤对NH4-N 的吸附容量,但不能增加其吸附强度。同一用量下,Qmax 随改良材料中PAM比例的提高呈先增大后减小的趋势,以PAM 比例为0.99%时为最大,k 则最低。提高复合改良材料用量使砂质土壤NH4-N的最大缓冲

容量(MBC)减小,改良材料中PAM 添加比例对MBC 无明显的影响规律。结果说明复合改良材料对土壤NH4-N 的保持量具有明显的促进作用,改良材料中PAM 的添加比例以0.99%最佳。

【英文摘要】In order to improve soil adsorption ability and decrease nitrogen loss, soil conditioners composited with cron straw, bentonite and polyacrylamide(PAM) were applied in sandy soil and incubated for 90 d. The effects of incubation time, proportion of PAM and rate of composite soil conditioners on soil nitrogen adsorption characteristics were investigated using isothermal adsorption experiments. The results showed that the quantity of NH4-N adsorpted bycomposite soil increased with incubation time but then decreased, which reached the maximum level at 60 d. The curves of isothermal adsorptions could be well fitted by Langmuir equation models. The maximum amount of NH4-N absorption (Qmax) increased with increasing composite proportion, but the absorption constant (k) decreased, which implied that the soil conditioners could improve the absorption capacity but reduce the strength of NH4-N adsorption by soils. Meanwhile, the adsorption amount of NH4-N increased then decreased as the proportion of PAM in the soil conditioner increased, with the highest Qmax value and the lowest k value being observed at the proportion of 0.99% for PAM. The maximum buffer capacity (MBC) for NH4-N of soils decreased significantly with the increasing rate of soil conditioners, but remained constant as the proportion of PAM changed. From the present study, it is concluded that straw-bentonite-PAM composite soil conditioner can improve the ability of nitrogen fixation, consequently decrease the loss of nitrogen from soils by increasing the NH4-N adsorption capacity of soils. The best proportion of PAM in the composite soil conditioner was 0.99%.

【语种】中文

【第一作者】李映廷

【通讯作者】赵秀兰

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【学科分类】土壤学

【题目】秸秆改良材料对冷沙黄泥土壤钾素吸附解吸的影响

【中文关键词】秸秆改良材料;钾;吸附-解吸;冷沙黄泥

【英文关键词】straw modified materials; potassium; adsorption-desorption; sandy yellow soil

【中文摘要】为了研究秸秆改良材料对沙质土壤钾素的调控作用,采用土培试验,研究作物秸秆、膨润土和聚丙烯酰胺(PAM)配制的秸秆改良材料,对冷沙黄泥土壤钾素吸附、解吸的影响。结果表明,秸秆改良材料能够显著提高沙质土壤对钾的吸附性能,增强固钾能力,随秸秆改良材料中PAM用量的增大,钾吸附量增加,不同土培时期,相比F0(900:100:0),F3(900:100:30)处理土壤钾素总平均吸附量达最大,10、30、60、90 天的F3(900:100:30)处理土壤钾素总平均吸附量分别增加6.1%、9.2%、10.9%、13.9%。施用秸秆改良材料促使土壤钾素解吸量提高,但低于吸附量,随秸秆改良材料中PAM所占比例提高,土壤中钾解吸率显著提高,与F0相比,10、30、60、90 天的F3 处理使土壤中钾解吸率分别提高6.1%、18.2%、17.2%、15.4%。秸秆改良材料能提高沙质土壤固钾能力,是适合修复沙质土壤的改良材料。

【英文摘要】In order to evaluate the regulative ability of modified materials on the adsorption and desorption of potassium in sandy soil, the effect of straw modified materials which were made of straw, bentonite and PAM,on the adsorption and desorption of potassium in sandy yellow soil was carried out. The results showed that the straw modified material significantly improved the adsorption property to potassium in the sandy soil, and enhanced the fixed ability to potassium of soil. With the adding amount of PAM increasing, the adsorption amount of potassium raised. Compared to treatment F0, during 10 days, 30 days, 60 days and 90 days, the average adsorption of F3 treatment reached the highest degree, which increased by 6.1%, 9.2%, 10.9% and 13.9%. Straw modified material promoted potassium to lose from soil, but the desorption still was lower than adsorption. While the proportion of PAM in straw modified material increased, the desorption rate of potassium also was improved significantly. Compared to F0, F3 treatment in 10 days, 30 day, 60 days and 90 days experiments, potassium desorption rate increased by 6.1% , 18.2% , 17.2% and 15.4% . Straw modified materials could improve the capacity to potassium of soil, which could be applied in restoration of degraded soil.

【语种】中文

【第一作者】李萍

【通讯作者】王定勇

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【题目】秸秆还田对土壤改良的研究进展
【中文关键词】秸秆;秸秆还田;土壤改良
【英文关键词】straw stalk, straw returning, soil improvement
【中文摘要】农作物秸秆中含有大量的碳、氮、磷等多种营养元素,同时富含纤维素、半纤维素和一定数量的木质素、蛋白质和糖等有机物质,是一种可以资源化利用的固体废弃物。秸秆还田可以改善土壤结构及保水、肥、气、热的能力,使土壤容重降低、孔隙度增加、有机质含量提高,养分结构趋于合理;秸秆还田能够节约化肥用量,降低生产成本,减少环境污染,确保农业生产的良性循环,保护农村生态环境,促进农业的生态化发展。
【英文摘要】Crop stalks are a resource utilization of solid waste, which contain a large number of carbon, nitrogen, phosphorus, and other nutrients. At the same time, they are rich in cellulose, hemicelluloses, and a certain amount of lignin, protein and sugar and other organic substances. Stalks can improve the structure of soil and keep the ability of water, fertilizer, gas and heat, decrease soil bulk density, increase porosity, improve the content of organic matter, make nutritional structure tend to reasonable. Straw returning can save the amount of chemical fertilizers, reduce production costs. It also can reduce the environmental pollution, ensure the agricultural production in virtuous cycle, protect rural ecological environment, and promote the development of ecological agriculture.
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【题目】农作物秸杆改良土壤的方式与应用现状
【中文关键词】秸秆; 秸秆还田; 土壤改良
【英文关键词】straw stalk, straw residue returned, soil amelioration
【中文摘要】农作物秸秆中含大量的碳、氮、磷、钾、钙、镁、硫和硅等多种营养元素, 同时富含纤维素、半纤维素、木质素和蛋白质等有机物质, 是一种可以资源化利用的固体废弃物资源。秸秆还田可以改良土壤, 具体表现在秸秆还田是氮素的重要来源; 秸秆还田可以提高土壤的保蓄性和缓冲性; 秸秆还田能够改善土壤物理性质, 改良土壤耕性; 秸秆还田具有消除农药残毒和重金属污染的作用。此外秸秆还田还可以提高农作物品质、保护农村生态环境、促进农业的生态化发展。
【英文摘要】Crop stalks is rich in carbon, nitrogen, phosphorus, potassium, calcium, magnesium, sulfur and silicon etc, it also contains a lot of organic matter such as cellulose, hemicellulose, lignin and protein, crop stalk is a kind of solid waste that can be utilized as resource. Straw residue returned can improve soil, it`s concrete features are that: important source of soil nitrogen; enhance soil retention and buffer capacity; mend physical property of soil; improve the ploughed quality of soil; eliminate pesticide residue and heavy metal pollutions. Further more, the returning can also improve crop quality, protect rural ecological environment,promote the development of ecological agriculture.
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【第一作者】姜洁
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【题目】黄孢原毛平革菌对玉米秸秆木质素的降解研究

【中文关键词】黄孢原毛平革菌; 玉米秸秆; 木质素
【英文关键词】Phanerochaet echrysosporium; corn straw ; lignin
【中文摘要】农作物秸秆还田是目前合理利用秸秆资源的有效方法之一, 但不经预处理直接还田存在着许多不足之处.笔者通过分析玉米秸秆在黄孢原毛平革菌处理条件下木质素的降解情况, 筛选出黄孢原毛平革菌对玉米秸秆木质素降解的最佳粒度与时间, 为今后经济高效的还田产业提供理论基础. 研究结果表明, 黄孢原毛平革菌对大粒度的玉米秸秆(4~ 5 和1~ 3 cm) 较小粒度(0-5 cm) 的降解效果好. 在动态降解过程中, 玉米秸秆的降解速率出现了两个高峰期, 但不同粒度高峰期出现的时间略有不同. 3 种粒度的玉米秸秆分别在接菌35,40 和35 d 后累计降解率达到最大, 其值分别为21.6%, 351.6%和45.2%. 综合比较, 粒度为4~ 5 cm 的玉米秸秆接种黄孢原毛平革菌35 d 后,玉米秸秆达到最佳降解效果.
【英文摘要】Crop straw returning is one of the effective methods to reuse straw resources reasonably at present.How ever, direct returning crop straw to the field without pret reatment has many defects. Solid culture of Phanerochaete chrysosporium by using corn straw as the medium w as studied in this experiment . It focused on screening the best pretreatment conditions for lignin degr adation, in an attempt to provide theoret ical support for effective and economical straw returning in practice. The results showed that P1chrysospor iumino culation had better effect on the degradation of corn straw in large granularity (4-5cm and1- 3 cm) than that in small granularity (0.5 cm) . In the dynamic degradation process, the degradation rate of corn straw showed two peaks, whose occurrence time differed with different granularity. The cumulative degradation rate of the three different granularities reached the maximum about 35, 40 and 35days after P1 chrysosporium inoculation, being 21.6% , 35.6% and 45.2%, respectively . Of the treatments in this study, subculturing P1chrysosporium for 35 days on the corn straw with a particle size of 4- 5 cm gave the optimum degradat ion result.
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【第一作者】黄慧
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【题目】黄孢原毛平革菌处理玉米秸秆的腐解特征
【中文关键词】黄孢原毛平革菌;玉米秸秆;腐解特征;生物氧化
【英文关键词】Phanerochaete chrysosporium; corn stalks; decomposing characteristics; biological oxidation
【中文摘要】通过完全试验在固态培养条件下研究了黄孢原毛平革菌处理不同粒度玉米秸秆的腐解特征,测定了秸秆降解率、木质素降解率、有机质、H/F、羧基和酚羟基含量变化。结果表明,在秸秆腐解过程中,有机质、木质素、酚羟基含量总体呈下降趋势,秸秆降解率、H/F、羧基含量总体呈上升趋势。培养35 天后,0.5 cm、1~3 cm 和4~5 cm 秸秆降解率分别为39.54%、49.91%和55.17%,木质素的降解率分别为42.73%、48.74%和52.23%,有机质含量分别由初始的78.75%、79.51%、79.62%下降到65.17%、62.51%、59.62%,H/F 则由初始的1.11、1.05、0.94 提高为1.35、1.43、2.08,羧基含量分别由最初的0.34、0.22、0.19mmol/g 上升到0.66、0.56、0.7 mmol/g,酚羟基含量分别由最初的0.84、0.80、0.76 mmol/g 下降到0.66、0.56、0.51 mmol/g。说明黄孢原毛平革菌处理可有效降解玉米秸秆,其分解率和分解时间与秸秆粒度具有相关性。酚羟基含量逐渐降低,羧基含量逐渐升高,表明秸秆的腐解过程为氧化过程。
【英文摘要】Through the complete test, decomposing characteristics of various granular sizes of corn stalks treated byPhanerochaete chrysosporium was studied in the solid-state cultural condition. Degradation rates of straws and lignin, and changes of organic matter, H/F, carboxyl and phenolic hydroxyl groups were all determined. The results showed that the contents of organic matter, lignin, phenolic hydroxyl overall decreased in the process of decomposition, with increasing trend of straw degradation, H/F, carboxyl. After 35 daysculture, from the 0.5 cm, 1-3 cm, and 4-5 cm granular size, the straw decomposition rate were 39.54%,49.91% and 55.17%, and lignin degradation rates were 42.73%, 48.74% and 52.23%, respectively. Meanwhile organic matter content decreased to 65.17%, 62.51%, 59.62% from the initial 78.75%, 79.51%, 79.62%, and phenolic hydroxyl decreased to 0.66, 0.56, 0.51 mmol/g from the initial 0.84,0.80,0.76 mmol/g, respectively.However, H/F ratio increased to 1.35, 1.43, 2.08 from the initial 1.11, 1.05, 0.94, and carboxyl increased to 0.66, 0.56, 0.7 mmol/g, respectively. In addition, phenolic hydroxyl from the initial 0.84, 0.80, 0.76 mmol/gdropped to 0.66, 0.56, 0.51 mmol/g. Thus these results suggestedPhanerochaete chrysosporium could be used to degrade corn stalk effectively, and the decomposition rate and time was related to stalk granular sizes significantly. Meanwhile, the decomposition is a oxidation process, because of Phenolic hydroxyl decreased and carboxyl increased gradually.

【语种】中文
【第一作者】卢松
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【题目】PAM对沙质土壤持水性的效应研究
【中文关键词】聚丙烯酰胺(PAM) 沙质土壤 土壤持水性能 抗蒸发
【英文关键词】Polyacrylamid(PAM),Sandy Soil, Water holding capacity, Anti-evaporation
【中文摘要】重庆市位于中国内陆西南部,地形复杂。近些年耕地面积减少速度快,人均耕地数量严重不足。重庆沙质土壤占一定比例,开发利用这些低肥力沙土地资源作为占用耕地补偿,一定程度上可以缓解重庆耕地资源缺乏带来的压力。而且重庆近些年来气候异常,夏天持续高温少雨,干旱发展迅速,农作物生长受到极大的威胁。除合理利用水资源外,还必须开发节水技术,改善土壤水分条件,为现代农业的发展和生态环境的恢复提供技术支撑。本文以重庆沙质土壤冷沙黄泥和潮土为研究对象,研究不同剂量、不同剂型的PAM对土壤持水性的调控效应,以期为农业灌溉上PAM的推广应用提供理论依据。研究结果如下:PAM 能抑制土壤水分的蒸发。对不同剂量的PAM处理,冷沙黄泥累计蒸发量分别较对照减少2.55%~12.59%;潮土累计蒸发量分别较对照减小2.37%~12.45%。两种土壤不同剂型PAM处理组间差异均显著,均以200mg/kg抗蒸发效果最为明显。对同分子量不同电荷密度剂型的PAM处理,冷沙黄泥累计蒸发量分别较对照减小7.76%~20.17%,潮土累计蒸发量分别较对照减小7.34%~17.81%。两种土壤PAM处理组间差异均显著,前者以40%抗蒸发效果最好,后者以30%抗蒸发效果最佳。对同电荷密度不同分子量剂型的PAM处理,冷沙黄泥累计蒸发量分别较对照减小14.37%~20.74%;潮土累计蒸发量分别较对照减小12.25%~18.53%。两种土壤PAM处理组间差异均显著,均以1000万的PAM抗蒸发效果最为明显。冷沙黄泥与潮土PAM所有处理的抗蒸发效果均差别不大,前者略好于后者。PAM 能增加土壤的含水量。对不同剂型的PAM处理,冷沙黄泥平均含水量分别较对照增加1.40%~5.64%;潮土平均含水量分别较对照增加1.23%~4.59%。两种土壤不同剂型PAM处理组间差异均显著,均以200mg/kg蓄水效果最为明显。对同分子量不同电荷密度剂型的PAM处理,冷沙黄泥平均含水量分别较对照增加2.65%~5.96%,潮土平均含水量分别较对照增加2.14%~5.38%。两种土壤PAM处理组间差异均显著,前者以40%抗蒸发效果最好,后者以30%抗蒸发效果最佳。对同电荷密度不同分子量剂型的PAM处理,冷沙黄泥平均含水量分别较对照增加4.85%~6.11%;潮土平均含水量分别较对增加4.49%~5.49%。两种土壤PAM处理组间差异均显著,均以1000万的PAM蓄水效果最佳。冷沙黄泥与潮土PAM所有处理的平均含水量均差别不大,前者作用效果相对好些。PAM 能提高土壤的持水量。对不同剂量的PAM处理,冷沙黄泥田间持水量分别较对照增加20.66%~33.67%,毛细管持水量分别较对照增加18.42%~29.06%;最大持水量分别较对照增加18.60%~29.69%。潮土田间持水量分别较对照增加8.43%~13.42%,毛细管持水量分别较对照增加3.55%~9.83%;最大持水量分别较对照增加3.91%~10.26%。两种土壤PAM处理组间差异均显著,均以200mg/kg持水性能最好。
【英文摘要】Chongqing is in the southwest inland of China, whose terrain is complicated. In recent years, the cultivated land decreased rapidly, so the per capita arable land is in acute shortage. The sandy soil in Chongqing is in a certain percentage, whose exploitation, as the compensation for the occupied farmland, would relieve the pressure from the shortage of farmland in Chongqing somehow. And the growth of crops is threatened by the abnormal climate in Chongqing, such as the hige temprature and the lack of rainfall. Besides the rational use of water resources, water resources conservation are also needed to improve the soil quality and the technical supply for the development of modern agriculture, as well as the recovery of the ecological environment. In this study, the cold sandy yellow clayer soil and alluvial soil were chosen to figure out the effect of different doses and dosage forms of PAM on the water preserving capacity, so as to provide theoretical envidence for the spread and exploitation of PAM on the agricultural irrigation.The conclusions as follows:PAM did restrain the soil water evaporation. Compared with the control, the accumulated evaporation of cold yellow clayer soil was decreased by 2.55%~12.59%, while that of alluvial soil was decreased by 2.37%~12.45% after being treated different doses of PAM. The difference between different doses of PAM was significant and 200mg/kg was the most prominent dose. When PAM with the same molecular weight but different charge density was treated, the accumulated evaporation of cold sandy yellow clayer soil was decreased by 7.76%~20.17%, while that of alluvial soil was decreased by 7.34%~17.81%, compared with the control. And the difference between them was also significant, while 40% was the most prominent dosage of cold sandy yellow clayer soil and 30% was the most prominent one of alluvial soil。 When PAM with the same charge density but different molecular weight was treated, the accumulated evaporation of cold sandy yellow clayer soil was decreased by 14.37%~20.74%, while that of alluvial soil was decreased by 12.25%~18.53%, compared with the control. And the difference between them was also sinificant, while

10 million was the most prominent dosage. The difference of anti-evaporation between all the processes of those two kinds of soil was not marked, but the cold sandy yellow clayer soil was slightly better than alluvial soil。PAM did increase the soil water content. Compared with the control, the average water content of cold sandy yellow clayer soil was increased by 1.40%~5.64%, while that of alluvial soil was increased by 1.23%~4.59% after being treated with different doses of PAM. The difference between different doses of PAM was significant and 200mg/kg was the most prominent dose. When PAM with the same molecular weight but different charge density was treated, the average water conten of cold sandy yellow clayer soil was increased by 2.65%~5.96%, while that of alluvial soil was increased by 2.14%~5.38%, compared with the control. And the difference between them was also prominent, while 40% was the most prominent dosage of cold sandy yellow clayer soil and 30% was the most prominent one for alluvial soil. When PAM with the same charge density but different molecular weight was treated, the average water conten of cold sandy yellow clayer soil was increased by 4.85%~6.11%, while that of alluvial soil was increased by 4.49%~5.49%%, compared with the control. And the difference between them was also significant, while 10 million was the most prominent dosage. The difference of average soil water content between all the processes of those two kinds of soil was not marked, but cold sandy yellow clayer soil was slightly better than alluvial soil。Compared with the control, all treatments amended with PAM showed an increase in water holding capacity. The field capacity and capillary capacity were increased by 20.66%~33.67% and 18.42%~29.06% for cold sandy yellow clayer soil, and 8.43%~13.42% and 3.55%~9.83% for alluvial soil. In the same way, the maximum moisture capacity was incerased by 18.60%~29.69% fo cold sandy yellow clayer soil, and 3.91%~10.26% for alluvial soil. The water holding capacity of tested soils was also significantly different with different application doses of PAM, with the dose of 200mg/kg being the most prominent one.

【语种】中文
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【题目】秸秆改良材料对沙质土壤理化性质的影响
【中文关键词】秸秆、改良材料、沙质土壤、理化性质
【英文关键词】straw straw; modified material material; sandy soil soil; physicochemical
【中文摘要】本试验选择小麦、玉米、水稻、油菜等大宗秸秆为研究对象,秸秆经粉碎后,分别设计添加不同量的PAM和膨润土,形成系列配方的小麦、玉米、水稻、油菜秸秆改良材料,再利用盆栽试验,在沙质土壤上施用不同量的秸秆改良材料,经过3个月的培养试验,分别于第10天d、30天d、60天d和90天d取样分析土壤pH、容重、孔隙度、有机质、腐殖质、阳离子交换量等理化指标,考察不同秸秆改良材料对沙质土壤理化性质的作用效应,并由此来选择秸秆改良材料的最佳配方组合。结果表明:所设定的各配方秸秆(小麦、玉米、水稻、油菜)改良材料对沙质土壤的理化性质均有较为明显的影响效应。
【英文摘要】In this test, wheat, corn, rice and rape straw is selected as the research objects, after being crushed, add different amounts of PAM and bentonite, forming series formula of wheat, corn, rice and rape straw modified materials, then different amount of straw modified materials are applied with pot experiment, after 3 months of culture test, physical and chemical index such as pH, bulk density, porosity, organic matter, humus, cation exchange capacity are analyzed at 10 days, 30 days, 60 days and 90 days. The action effect of different straw modified materials and soil physical and chemical properties are studied, in order to select the best formula of modified materials.
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【第一作者】闫飞
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【题目】秸秆改良材料对沙质土壤磷的活化作用及供磷特征的影响
【中文关键词】秸秆 沙质土壤 磷素活化 供磷
【英文关键词】Straw, Sandy Soil, Phosphorus activation, Phosphorus Supplying Capacity
【中文摘要】本研究利用小麦、油菜秸秆与膨润土和PAM配制改良材料,运用模拟土培试验、等温吸附试验等综合试验研究方法,探讨小麦和油菜两种秸秆改良材料对沙质土壤磷素的活化作用对及土壤供磷特征的影响,并对其作用机理进行了初步分析。由此得出保持土壤磷素最佳效果的秸秆改良材料配方与施用量,为将秸秆改良材料应用于沙质土壤的改良,提高沙质土壤磷素的有效性提供科学依据。
【英文摘要】Simulated soil culture experiment and isothermal adsorption were conducted to investigate the activation of phosphorus (P) under the influence of straw amelioration materials, and its impact on providing P in soil. To improve phosphorus-holding capacity of soil, the best ratio and amount of various substances in the straw amelioration materials were obtained. This research provided scientific basis for improving P effectiveness and sandy soil by applying straw amelioration materials.
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【题目】秸秆-膨润土-PAM对土壤理化性质和作物生长的调控效应
【中文关键词】秸秆 PAM 膨润土 土壤肥力 油菜 产量
【英文关键词】Straw; Bentonite; PAM; Soil Fertility; Rape; Yields
【中文摘要】秸秆是农作物生产中的主要副产品,其中含有丰富的有机物、氮、磷、钾等微量元素等,具有极大开发与利用的潜力。膨润土具有良好的粘结性、吸附性、阳离子交换性能、催化活性、触变性和悬浮性、保水保肥性等一系列优良理化性质,并含有动植物所需的常量和微量元素,是较好的土壤改良剂。聚丙烯酰胺(PAM)作为土壤改良剂可有效改善土壤结构,使土壤大团聚体数目增加,增大土壤表面粗糙度,降低土壤容重,使土壤总孔隙率和毛管孔隙度上升,进而使土壤颗粒和孔隙结构保持稳定,使土壤入渗率明显提高,增加土壤含水量。本研究将秸秆、与膨润土、PAM配施成秸秆改良材料,通过大田试验,探讨三者协同作用对土壤肥力和作物生长的调控效应,探求其改良与调控作用机理。
【英文摘要】Straw which includes abundance of organic matter, nitrogen, phosphorus, potassium and lots of microelements is the main by-production of agricultural activities with huge potential of exploration and utilization. Bentonite is one kind of soil modifier with capability of adherence, absorption, cation exchange, catalysis, moisture retention etc. Polyacrylamide(PAM) is able to improve soil structure, add the quantity of soil aggregate, enlarge surface roughness of soil, reduce bulk density, as well as improve the grass porosity and the pipe porosity of soil. Also, It could stabilize aggregate and soil structure so that to increase the water infiltration rate and the water content of soil. Straw, bentonite and PAM were made into amelioration materials by different ratio. Field experiments were carried out for finding out how different ratio of straw – bentonite – PAM in amelioration materials impact on soil fertility and crop yields.
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【第一作者】李佳佳
【通讯作者】王定勇
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【学科分类】土壤学

【题目】秸秆改良材料对沙质土壤结构和水分特征的影响
【中文关键词】秸秆 改良材料 土壤结构 水分特征

【英文关键词】straw, modified material, soil structure, water characteristics
【中文摘要】近年来,各种土壤改良剂相继问世,并为改良沙化土壤取得很好成效。但土壤改良剂大多属于化学产品,成本较高,而且极易产生化学二次污染。为进一步研究退化土壤改良对策,并充分利用可再生资源、尽可能减少二次污染,本研究通过盆栽试验,试图配施秸秆预处理产物与膨润土、PAM,探讨三者协同作用对沙质土壤结构(团粒结构和容重)和水分特征(饱和含水量、田间持水量和饱和导水率)的改良与调控效应,揭示改良与调控作用机理.
【英文摘要】In recent years, a variety of soil modifiers have been come out, and achieved certain results in the modification of desertification soil. However, most of the soil modifiers belong to chemical product. They ’re cost and produce secondary pollution easily. In order to study further about the improvement measures of degeneration soil, make full use of renewable resources, and minimize secondary pollution, this paper tries to use straw pretreatment product, bentonite and PAM in the pot experiment, explore the synergy effect of the three on the improvement and control effect of the sandy soil structure (aggregates and bulk density) and water characteristics (saturated water content, field moisture capacity, and saturated hydraulic conductivity), and reveal the mechanism of improvement and control.
【语种】中文
【第一作者】韦武思
【通讯作者】王定勇
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【学科分类】土壤学

【题目】海南香蕉条斑病毒的检测
【中文关键词】香蕉条斑病毒;海南;整合;检测
【英文关键词】Banana streak virus (BSV); Hainan Island; integration; detection
【中文摘要】香蕉条斑病毒(Banana streak virus, BSV)是香蕉上一种重要的病毒。本文运用血清学检测法和PCR检测法对海南主栽巴西蕉(Musa Cavendish, AAA)、粉蕉(Musa Pisang Awak, ABB)进行了BSV的调查检测。结果表明,参试无症状或症状各异的样品血清学检测结果均为阴性,说明这些被测品中可能不含有游离BSV粒子;上述样品中部分样品的PCR检测结果却为阳性,将PCR扩增的特异条带回收、测序和比对,显示确实扩增到BSV部分基因组序列。结合血清学检测结果,说明海南部分香蕉的基因组已经整合了BSV的基因组序列。
【英文摘要】Banana streak virus (BSV) is a sidely distributed pathogen of worldwide. In this study, numbers of Musa Cavendish (AAA) and Musa Pisang Awak (ABB) in hainan Island were preliminarily surveyed for BSV infection by both serology method and PCR technique. The results showed that all the samples were negative in serology, which indicated that perhaps no episomal BSV existed in all of the samples. The specific band was amplified by PCR from some of the samples, which was then sequenced. The results demonstrated that BSVgenome has been integrated into ghe genomes of the genomes of the two banana species in Hainan.
【语种】中文
【第一作者】陈善辉
【通讯作者】刘志昕
【期刊名称、卷期、页码】植物保护、2010,36(2):112-115
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【学科分类】植物保护学

【题目】香蕉束顶病毒海口分离物NSP基因的原核表达
【中文关键词】香蕉束顶病毒;Gateway 重组技术; NSP; 原核表达
【英文关键词】Banana bunchy top virus; geteway recombinant technology; NSP; prokaryotic expression.,
【中文摘要】应用PCR方法从感染香蕉束顶病毒的香蕉植株幼嫩假茎和叶片总DNA中克隆NSP(Nuclear shuttle protein)基因的编码区,并通过Gateway技术定向重组到原核表达载体pDEST-17的6×His标签下游,经菌落PCR和测序鉴定结果表明,成功构建了原核表达载体pDEST-17-NSP 。阳性克隆转化E.coli BL21 (DE3),经IPTG诱导表达、SDS-PAGE分析和western blot检测,结果显示,融合蛋白以包涵体的形式稳定表达,分子量约为20 ku,与预计值相符。通过诱导条件的优化,确定了最佳

的融合蛋白表达条件为25°C、0.1 mmol/L IPTG条件下诱导4 h。从而为制备NSP多克隆抗体和进一步研究NSP的功能奠定了基础。

【英文摘要】The opening reading frame of NSP gene of banana bunchy top virus was cloned by plymerase chain reaction (PCR) using total DNA isolated from tender pseudostem and leaf of banana plant infected with the virus as a template, and directionally cloned to the downstream of 6 His tag by the Gateway technology. The construction of prokaryotic expressive vector, pDESTTM-17-NSP have been identified by the colony PCR and sequencing, and transformed into E.coli BL21(DE3). Transformants were cultured and induced by IPTG, and then anlyzed by SDS-PAGE and Western blot. The results showed that the fusion protein of approximately 20 ku was expressed steadily as an inclusion body and accorded with the predicted size. The expression of NSP gene was optimized nuder the conditions that the transformants were indeuced with 0.1 mmol/L IPTG at 25°C for 4 hours. This result might provide a foundation for preparation of the plyclonal antibody against NSP and further functional study of NSP.

【语种】中文

【第一作者】冯团诚

【通讯作者】刘志昕

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【学科分类】植物保护学

【题目】槟榔叶片总蛋白质提取及双向电泳条件初探

【中文关键词】槟榔;蛋白提取;二维电泳

【英文关键词】Areca catechu Linn.;protein extraction; two-dimensional electrophoresis

【中文摘要】采用3种提取植物组织蛋白的方法(TCA/丙酮法、E-TCA法、酚法)提取槟榔叶片总蛋白,在蛋白产量,一维和二维电泳图谱等方面对3种方法的提取效果进行比较。结果表明,TCA/丙酮沉淀法效果较好,是槟榔叶片总蛋白提取的可选方法,同时优化了双向电泳的条件和上样量。

【英文摘要】Proteins from betel nut (Areca catechu Linn.) were extracted by using three methods[Trichloroacetic acid (TCA)/acetone prcipitation, trichloroacetic acid precipitation (E-TCA);and phenol extraction],and their productivity and profiles were assessed by means of SDS-PAGE and two-dimensional electrophoresis.Of these 3 methods the TCA/acelone precipitation method was found most effective for the extraction and two-dimensional electrophoresis of proteins from Areca leaves. The conditions of two-dimensional electrophoresis and protein loading volume were optimized.

【语种】中文

【第一作者】李涛

【通讯作者】刘志昕

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【引文索引类型】其他

【引文索引号】null

【学科分类】植物保护学

【题目】牦牛hepcidin 基因编码区的克隆和原核表达

【中文关键词】牦牛; hepcidin 基因; 克隆; 表达

【英文关键词】yak; hepcidin gene; cloning ; expressio n

【中文摘要】采用RT PCR 从牦牛肝中扩增到了hepcidin 基因, 将其克隆至pGEM T 载体, 转化DH5 感受态细胞, 获得了阳性重组质粒, 牦牛hepcidin 基因编码区长289 bp, 编码82 个氨基酸(GenBank:EU 863791) ; 与黄牛相比, 牦牛hepcidin 基因编码区序列存在1 个碱基的变异, 但未引起氨基酸的改变; 将牦牛hepcidin 基因编码区连接至pGEX 4T 1 表达载体, 成功构建了原核表达载体pGEX 4T hepcidin; IPTG诱导后, SDS PAGE 电泳显示, 35 ku 处有特异性蛋白条带, 表明牦牛hepcidin 抗菌肽基因成功实现了原核表达。

【英文摘要】A hepcidin gene w as amplified from the liver o f y ak by RT PCR, and the pro duct w as clonedinto pGEM T vector and t ransformed into the DH5 competent cells. Thus, the po sit ive r ecombinant w asobtained. The w hole enco ding region o f the hepcidin gene w as 289 bp in size, enco ding a pept ide w ith 82amino acid residues(GenBank: EU 863791) . Sequence

alignment indicated that there w as one mutat io n in theenco ding region compar ed w ith the hepcidin g ene of cat t le, but the mutat ion did not result in amino acidmutat ion in hepcidin pro tein. The encoding region o f the hepcidin g ene w as cloned into pGEX 4T 1 vecto rto const ruct an expressio n plasmid pGEX 4T hepcidin. SDS PAGE analysis show ed that a band w ith 35 kuin molecular mass w as ex pr essed by pGEX 4T hepcidin after inducat ion w ith IPT G.

【语种】中文

【第一作者】厍 睿

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【学科分类】畜牧学

【题目】牛繁殖性状候选基因的研究进展

【中文关键词】繁殖性状;功能基因;研究进展

【英文关键词】ropagation traits;functional gene;research progres

【中文摘要】:繁殖性状是牛的重要性状之一,繁殖性能高低直接关系到生产成本和生产效率,因此,提高牛的繁殖效率是目前国内外养牛业研究的热点课题。作者综述了牛繁殖性状相关功能基因的研究进展,并对其应用前景进行了展望。

【英文摘要】Propagation traits are one of the important traits in callte,reproduction performance directly related to production cost and production efficiency.Therefore,it is hot topic to improve the efficiency of cattle propagation traits at home andabroad.This article summarizes recent progress of propagation traits candidate genes in cattle and its application prospect

【语种】中文

【第一作者】梁春年

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【学科分类】畜牧学

【题目】天祝白牦牛 LF 基因克隆及分子特征

【中文关键词】牦牛;LF 基因;克隆;分子特征

【英文关键词】yak; LF gene; clone; molecular characteristic

【中文摘要】【目的】哺乳动物乳铁蛋白(Lactoferrin,LF)在抗菌、抗病毒、抗肿瘤、调节免疫等方面起着重要作用。本试验对天祝白牦牛乳铁蛋白基因的编码区进行克隆和分子特征分析。【方法】以处于干乳期的天祝白牦牛乳腺组织为材料,通过 RT-PCR 克隆了包含 LF 基因编码区的 cDNA 序列(GenBank 收录号为 EU547252);将克隆获得的天祝白牦牛LF基因的cDNA与奶牛相应序列进行比对;对天祝白牦牛LF蛋白(GenBank收录号为ACB29795)与其它物种 LF 蛋白进行序列比对和进化树分析;对牦牛 LF 蛋白的特性和结构进行预测。【结果】克隆获得天祝白牦牛 LF 基因 cDNA 片段长度为 2 344 bp,其中 LF 基因编码区全长 2 124 bp,编码 708 个氨基酸;序列分析显示,克隆获得的牦牛 cDNA 序列与奶牛该序列存在 15 个碱基的变异,其中位于 LF 基因编码区的变异有 12 个,这些突变造成 4 个氨基酸变异;天祝白牦牛 LF 蛋白与奶牛、人、小鼠、山羊、绵羊、猪、狗、马、骆驼、猩猩、鸡LF 蛋白氨基酸相似度分别为 99.4%、69.5%、63.5%、92.4%、91.5%、72.9%、69.1%、72.6%、75.3%、69.5%和 50.9%;各物种 LF 蛋白进化树符合物种进化规律;同源建模预测 LF 3D 模型显示,LF 为多肽链在二级结构基础上折叠形成 2 个极相似的、对称的球状叶,即 N 叶和 C 叶,中间由 1 段对蛋白酶敏感的 α -螺旋连接,呈“二枚银杏叶型”结构。【结论】从天祝白牦牛克隆获得 LF 基因编码区全长序列并揭示了其分子特征,为牦牛 LF 蛋白基因工程和蛋白质功能的研究奠定了基础

【英文摘要】【Objective】 Lactoferrin play a very important role in antibiosis, antivirus, antitumor and immunomodulation formammal. The coding region of LF gene of Tian Zhu white yak was cloned, and it ’ s molecular characteristics were analyzed in thestudy. 【Method】 Using mammary tissue of Tian Zhu white yak as material, the cDNA sequence containing coding region of LFgene was cloned by RT-PCR. The cDNA of LF gene of Tian Zhu white yak obtained by cloning was compared to correspondingsequence of cow. Sequence alignment and evolutionary tree were analyzed on Tian Zhu white yak and other species. The

structureand properties of LF gene of yak were predicted.【Result】The 2 344 bp length cDNA of LF gene of Tian Zhu white yak was clonedfor the first time, and the length of coding region of LF gene is 2 124 bp, coding 708 amino acids. There are 15 mutations in thecDNA between yak and cow, 12 mutations being in coding region of LF gene, causing 4 amino acid mutations in LF protein. There ishigh homeology of LF protein among different species. Amino acid similarities of LF protein compared yak to cow, human, mouse,goat, sheep, pig, dog, horse, camel, chimpanzee and chicken are 99.4%, 69.5%, 63.5%, 92.4%, 91.5%, 72.9%, 69.1%, 72.6%, 75.3%,69.5% and 50.9%, respectively. The evolutionary tree of all species complies with laws of evolution. Homogenous 3D model of LFobtained by predict shows that LF protein forms two similar and symmetrical leaves, namely N-leaf and C-leaf, connected by anAlpha helix impressionable to prolease, and LF protein presents“ two-folium-ginkgo-shaped ” structure.【Conclusion】 The codingregion of LF gene in Tian Zhu white yak was cloned for the first time, and its molecular characteristics were shown. This work haslaid an important foundation for researches of genetic engineering and protein function of LF protein of yak.

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【第一作者】裴杰
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【学科分类】畜牧学

【题目】不同地方品种牦牛IGF 1 基因的PCR SSCP 分析
【中文关键词】牦牛; IGF 1; 基因多态性; PCR SSCP
【英文关键词】yak; insulin like gr ow th facto r 1(IGF 1) g ene; genetic polymo rphism; PCR SSCP
【中文摘要】为了检测高原地区4 个不同地方牦牛品种I GF 1 基因第1 外显子和第2 外显子的多态性, 采用PCR SSCP 分析了牦牛IGF 1 基因在天祝白牦牛、甘南牦牛、青海高原牦牛及培育品种大通牦牛4 个品种中的遗传多态性。结果表明: 牦牛IGF 1 基因的第1 外显子不存在遗传多态性; 第2 外显子在4 个品种中检测到了AA、AB 和BB 基因型, 而且A 等位基因为4 个牦牛群体的优势等位基因, 分布较高。在4 个品种中, 天祝白牦牛AA 基因型频率最高, 达到0. 855 9, 而大通牦牛、甘南牦牛和青海高原牦牛则相对较低, 分别为0. 833 3、0. 697 0 和0. 568 9。大通牦牛和天祝白牦牛, 青海高原牦牛和甘南牦牛基因和基因型相近, 其它牦牛群体之间基因和基因型存在差异。
【英文摘要】In or der to detect t he polymor phism o f fo ur yak br eeds in plateau reg io n. The polymo rphism of the insulin likegr ow th facto r 1 (IGF 1) g ene in T ianzhu whit e y ak, Gannan yak, Qing hai plateau y ak and breeding Datong yak w as ana lyzed by PCR SSCP. The r esult s show ed that there were no polymo rphism detected by the exo n 1 of the yak IGF 1, andther e wer e three genoty pes (AA, AB and BB) detected by the ex on 2 o f the yak IGF 1 in fo ur br eeds. The frequency of Aallele w as hig her than that o f B allele in four breeds. T he frequency of AA g eno type o f T ianzhu w as t he highest in fo urbr eeds, w hich w as 0. 855 9, but Datong yak was 0. 833 3, Gannan yak w as 0. 697 0 and Qinghai plateau yak w as 0. 568 9 re spect ively. The Gene frequencies and Genety pe frequencies of Dato ng yak and T ianzhu yak are similar, ther e ar e o bv iousdifference among the o thers.

【语种】中文
【第一作者】姚玉妮
【通讯作者】阎萍
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【学科分类】畜牧学

【题目】槟榔黄化病研究综述
【中文关键词】槟榔;黄化病
【英文关键词】Arecanut; Yellow leaf diseases
【中文摘要】从槟榔黄化病的症状、病因学、生理生化研究及其防治的角度,阐述了国内外槟榔黄化病的研究进展。并分析了槟榔黄化病研究中存在的问题。

【英文摘要】Arecanut Yellow leaf diseases
【语种】中文
【第一作者】李涛
【通讯作者】刘志昕
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【题目】STATs家族基因多态性在奶牛育种中的研究进展
【中文关键词】STATs; 基因多态性; 奶牛;
【英文关键词】Signal transducer and activator of transcription
【中文摘要】信号转导及转录激活因子家族(Signal transducer and activator of transcription,STAT)是信号转导途径JAK-STAT的重要组成部分,该家族蛋白被激活以后和相应的受体相结合,随后穿过核膜与相应的靶基因位点结合,从而调控基因的转录。诸多研究表明,该家族部分成员与奶牛的泌乳性能有密切的关系。本文将近几年该家族基因多态性的研究进展加以综述。
【英文摘要】Fo r the rejuvenescence of yak, we applied PCR- SSCPto analyze t he polymor phisms of GHR g ene in Gannan y ak,T ianzhu white y ak and Qinghai plateau y ak. The r esult s showedthat tw o allele genes A, B w ere detected in GH R gene in Gannany ak, T ianzhu w hite yak and Plateau yak at seco nd pr imer,the fir st and third primer had not po lymor phism. The fr equen-cies o f A and B w ere in Tianzhu white yak 0. 368 2 and 0. 631 8 respect ively; The f requencies of A and B in Gannan yakwer e 0. 159 6 and 0. 840 4 respect ively; The f requencies of A and B in Qinghai platean y ak w ere 0. 070 0 and 0. 930 0 respectively. The po pulat ion of Qinghai plateau y ak w as at H ardy-Weinberg equilibr ium in the lucus, T ianzhu y ak and Gannan yakwer e no t at Har dy-Weinberg equilibrium.We can r einforce to select this gene in the breeding o f yak.
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【第一作者】褚梅
【通讯作者】阎萍
【期刊名称、卷期、页码】中国畜牧兽医学会动物繁殖学分会第十五届学术研讨会
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【学科分类】畜牧学

【题目】牦牛远缘杂交雄性不育机理研究进展
【中文关键词】牦牛; 远缘杂交; 雄性不育;
【英文关键词】yak
【中文摘要】我国是世界上饲养牦牛最多的国家,牦牛产业对当地经济社会发展具有重要作用,但是由于牦牛远缘杂交种雄性不育,给品种改良带来了极大的不便,虽前人已经进行了不少有价值的研究探索,但是对这一问题形成的机理始终没有定论,本文就牦牛远源杂交种雄性不育的研究进展进行综述。
【英文摘要】yak
【语种】中文
【第一作者】包鹏甲
【通讯作者】阎萍
【期刊名称、卷期、页码】中国畜牧兽医学会动物繁殖学分会第十五届学术研讨会
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【学科分类】畜牧学

【题目】海南胡椒中黄瓜黄叶病毒分离物的分子鉴定
【中文关键词】胡椒;黄瓜花叶病毒,血清学;CP基因,序列分析
【英文关键词】Piper nigrum Linn.; cucumber mosaic virus; serology; coat protein gene; sequence analysisy
【中文摘要】通过间接酶联免疫法,从海南罹病胡椒植株中检测到黄瓜花叶病毒(Cucumber mosaic virus, CMV)。从病叶中提取总RNA,用巢氏RT-PCR方法扩增获得657 bp的CMV CP基因片段,并与pMD18-T载体连接和转入大肠杆菌克隆,然后进行测序。序列分析结果表明,该分离物与CMV亚组Ⅰ、亚组Ⅱ之间的核苷酸序列同源性分别为92.54%-99.09%和76.97%-77.42%,推导氨基酸序列同源性分别为98.17-100%和81.74%-82.65%。该分离物CP基因与印度分离物同源性相对较低,应属不同株系。
【英文摘要】Cucumber mosaic virus was detected from infected piper nigrum Linn. in Hainan by using the indirect enzyme-liked immunosorbent assay. Total RNA was extracted from infected leaves and the cDNA fragment of the coat protein (CP) gene obtained by nested RT-PCR was 657 bp in length. The amplified CP fragment was linked with pMD18-T vector, cloned in E.coli cells, and then sequenced. The sequence analysis between the CMV-China CP fragment and those of the subgroup Ⅰ and subgroup Ⅱ shows that the CMV-China CP shares 92.54%-99.09% and 76.97%-77.42% nucleotide sequence identity and 98.17-100% and 81.74%-82.65% deduced amino acids identity, respectively, and that homology between CMV-China and Cmv isolated from Piper nigrum Linn. in India is relatively low by comparison. This suggests that CMV-China isolate fall within the CMV subgroup Ⅰ.
【语种】中文
【第一作者】牛立霞
【通讯作者】刘志昕
【期刊名称、卷期、页码】热带作物学报、2008,29(4):511-513
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【学科分类】植物保护学

【题目】侵染落葵的黄瓜花叶病毒分离物CP基因序列分析
【中文关键词】落葵;黄瓜花叶病毒,血清学;CP基因,序列分析
【英文关键词】Basella rubra L.; cucumber mosaic virus; coat protein gene; sequence analysisy
【中文摘要】通过间接酶联免疫法(ID-ELISA)检测到染病落葵病样中存在黄瓜黄叶病毒(Cucumber mosaic virus, CMV)。从病叶中提取总RNA,用巢氏RT-PCR方法扩增获得657 bp的CMV CP基因片段,将扩增产物与T载体连接并进行测序。用DNAMAN将得到的CP基因序列与GenBank收录的黄瓜花叶病毒两亚组部分株系或分离物的CP基因序列进行比较,结果表明该CP基因与CMV亚组Ⅰ、亚组Ⅱ之间的核苷酸序列同源性分别为91.17%-95.43%和75.3%-75.76%,推导氨基酸序列同源性分别为95.41-97.71%和81.28%-81.71%。该CMV-Ba与亚组Ⅰ同源关系密切。
【英文摘要】Cucumber mosaic virus was detected from infected Basella rubra L.with the indirect enzyme-liked immunosorbent assay. Total RNA was extracted from infected leaves and the cDNAs of the coat protein of CMV-Ba were obtained by RT-PCR. The amplified cDNA fragments were then cloned into pMD18-T vector and sequenced. The result showed that the CP gene was 657 nuclecotides in length. This sequence was aligned with the obtained CP gene and some CMV strains or isoloates of the subgroup Ⅰ and subgroup Ⅱ in GenBank using DNAMAN software. The results shows that the CMV-Ba CP shares 91.17%-95.43% and 75.3%-75.76% identity with the known CP genes of the subgroup Ⅰ and subgroup Ⅱ respectively in nucleotide leve,onthe otherhand,amino acids deduced from CMV-Ba CP gene shared 95.41-97.71% and 81.28%-81.71% identity with the known CP of the subgroup Ⅰ and subgroup Ⅱ, respectively. This suggested that CMV-Ba CPgene belongs to CMV subgroup Ⅰ.
【语种】中文
【第一作者】牛立霞
【通讯作者】刘志昕
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【学科分类】植物保护学

【题目】牦牛LPL 基因外显子7 多态性与生长性状相关性的研究
【中文关键词】牦牛; LPL 基因; 多态性; 性状标记; PCR-SSCP
【英文关键词】Yak; LPL gene; Polymorphism; Genetic marker; PCR-SSCP
【中文摘要】采用PCR-SSCP 技术对5 个牦牛品种共398 头牦牛脂蛋白脂肪酶基因(LPL) 外显子7 进行了多态性研究,分析了该基因与牦牛生长性状的相关性。结果表明,牦牛LPL 基因外显子7 存在2 个等位基因3 种基因型。各群体在该基因座上呈Hardy-Weinberg 平衡状态。三种基因型与牦牛部分生长性状的最小二乘法分析表明,该位点多态与牦牛的体重、体高、胸围存在显著相关(P < 0. 05) ,BB 型个体体重、体高、胸围显著高于AA 和AB 型个体。初步推断牦牛LPL 基因第7 外显子可作为牦牛标记辅助选择的遗传标记之一。
【英文摘要】The PCR-SSCP polymorphism of Lipoprotein lipase(LPL) gene sequence of part extron 7 and its correlationwith growth traits were studied in 398 individuals from five breeds yak. The results showed that there were twoalleles and three genotypes in the locus of LPL gene extron 7. They were at Hardy-Weinberg equilibrium state in thislocus. The least square analysis showed that the different genotype of LPL extron 7 had a significant effect on partialtraits of growth including body weight,heart girth,body height(P < 0. 05) ,and the genotype did not affected on bodyslanting length significantly(P > 0. 05) . Therefore,these results imply that the mutation at the extron 7 of yak LPLgene could be used as the molecular genetic marker for yak breeding.
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【第一作者】梁春年
【通讯作者】阎萍
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【题目】家畜H - FABP基因的研究进展
【中文关键词】家畜; 心型脂肪酸结合蛋白; 候选基因
【英文关键词】Livestock; heart-type fatty acid binding protein; candidate genes
【中文摘要】肌内脂肪含量与肉的风味和嫩度等有关, 心型脂肪酸结合蛋白基因作为影响肌内脂肪含量的候选基因之一, 已经引起国内外研究人员的关注。本文就心型脂肪酸结合蛋白的生物学功能、心型脂肪酸结合蛋白基因的结构、性质及其在家畜中的相关研究进展等作一详细阐述, 并提出今后的研究前景, 为深入研究该基因提供参考。
【英文摘要】无
【语种】中文
【第一作者】曾玉峰
【通讯作者】阎萍
【期刊名称、卷期、页码】黑龙江畜牧兽医科技版,2011,1(21)
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【题目】牛主要抗病基因研究进展
【中文关键词】抗病基因　牛　阮蛋白　主要组织相容复合体　干扰素
【英文关键词】To resistant gene　bovine　Nguyen the protein　major histocompatibility complex　Interferon
【中文摘要】现代集约化和规模化养殖为养牛业带来规模效益的同时, 牛的疾病防治也面临着巨大挑战,虽然传统的疾病防治技术起了不小作用, 随着分子生物学及分子辅助育种技术的发展, 从遗传角度寻找控制疾病的有效途径, 开展杭病基因的研究, 已经逐渐成为研究的热点, 本文拟以牛主要杭病基因的研究进行阐述
【英文摘要】无
【语种】中文
【第一作者】包鹏甲
【通讯作者】阎萍

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【题目】牦牛生长激素基因及其受体基因的PCR-SSCP研究
【中文关键词】牦牛,gh,PCR-SSCP
【英文关键词】YAK,GH
【中文摘要】本研究以GH及GHR基因为候选基因,利用PCR-SSCP技术研究了大通牦牛、甘南牦牛、天祝白牦牛品种的遗传变异,并以牦牛的体尺和体重性状作为衡量牦牛生长发育性能的指标,运用最小二乘拟合线性模型,分析GH基因和GHR基因上的多态位点与牦牛生长发育性状的关系,寻找可用于标记辅助选择的分子标记,为选种选配提供理论依据。
【英文摘要】无
【语种】中文
【第一作者】阎萍
【通讯作者】阎萍
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【题目】牦牛数量性状基因的研究进展
【中文关键词】牦牛; 生产性能; 基因; 数量性状
【英文关键词】YAK
【中文摘要】牦牛在青藏高原具有广泛分布,对高寒、高海拔地区有较好的适应性,集肉、乳、毛、皮、役等生产性能于一身,是青藏高原上特有家畜和“ 全能家畜 ”; 但是牦牛是比较原始的品种,饲养管理粗放,生产性能没有完全发挥出来。为提高牦牛生产性能已开展了一系列的研究,并取得了一些成果。随着现代生物技术研究的深入,如何从基因角度诠释和高效利用牦牛,已经成为近年牦牛研究的热点,文章仅就牦牛生产性能相关数量性状基因的研究进展作一综述。
【英文摘要】无
【语种】中文
【第一作者】包鹏甲
【通讯作者】阎萍
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【题目】大通牦牛无角新品系培育的意义及思路
【中文关键词】牦牛; 无角品系
【英文关键词】YAK
【中文摘要】大通牦牛新品种是以野牦牛为父本, 采用低代牛横交方法和控制近交方式, 有计划地建立横交固定育种核心群、闭锁繁育、选育提高、推广验证等主要阶段, 获得了高生产性能(特别是产肉性能、繁殖性能和抗逆性能远高于家牦牛) , 体型外貌、毛色高度一致, 遗传性能稳定的含野牦牛基因的牦牛新品种。大通牦牛新品种主要用于改良家牦牛的生产速度、体重、产肉性能、产奶性能和繁殖性能, 遏止牦牛的退化, 增加牦牛的抗逆性及生活力, 能有效地利用高山草原, 是现行条件下加速牦牛品种改良和牦牛产品更新换代的有效途径[3] 。然而, 由于导入野牦牛血液,大通牦牛野性增加, 有角的大通牦牛在生产过程中伤人事件时有发生, 在生产性能提高的同时也给饲养管理带来困难。因此, 在现有大通牦牛的基础上, 培育生产性能高、易于生产管理的牦牛新品系显得极为重要。

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【语种】中文
【第一作者】梁春年
【通讯作者】阎萍
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【题目】牦牛SRY基因克隆与分子特征
【中文关键词】牦牛; SRY 基因; 克隆; 分子特征
【英文关键词】Yak; SRY gene; Clone;Molecular characterist ics
【中文摘要】SRY(Sex- determining region on the Y chromosome, SRY) 基因位于哺乳动物的Y 染色体, 对性别形成起着决定性作用。对高原牦牛SRY 基因的编码区进行克隆和分子特征分析, 以期从分子水平了解牦牛的性别形成机制。以雄性高原牦牛血液为材料, 从基因组DNA 中扩增SRY 基因编码区(单外显子) 序列, 将其克隆至pGEM- T easy 载体并测序。同时, 将牦牛SRY 基因编码区与奶牛进行序列比对; 对牦牛SRY 蛋白与其他物种SRY 蛋白进行序列比对; 采用在线生物软件对牦牛SRY 蛋白的特性和结构进行预测。牦牛SRY 基因(GenBank: EU547257) 编码区长687 bp, 编码229 个氨基酸。克隆获得的牦牛SRY 基因编码区与奶牛该序列存在2 个碱基的变异, 造成1 个氨基酸的变异; 各物种SRY蛋白具有较高的同源性; 牦牛SRY 蛋白(GenBank: ACB 29799) 主要由亲水性氨基酸构成, 同源建模预测的SRY HMG 区域的3D 模型显示, SRY HMG 区域三维结构呈由三个A- 螺旋组成的/ L0 型。首次从高原牦牛基因组中克隆了SRY 基因, 并进一步揭示了其分子特征, 为从分子水平人为的控制牦牛性别奠定了重要基础。
【英文摘要】SRY(Sex-determining Region on the Y Chromosome, SRY) gene is located on Y chromosome of mammaland plays a key role of sex determination. Aiming at discovering the mechanism of sex determination in yak, the SRY genewas cloned and its Bioinformatics characterization was analyzed. Taking the blood of Plateau yak as material, the SRYgene was amplified from Yakcs genome.The product was cloned to pGEM-T easy vector and was sequenced. At the samet ime, the coding region of SRY gene of yak was compared to cowcs. The SRY protein of yak and other speciesc wasaligned.Through bioinformatics software, the characterist ics and structure was predicted for the SRY protein of yak. Thetotal coding region of Yakcs SRY gene (GenBank: EU547257) is 687 bp, encoding a pept ide with 229 amino acidresidues.Through sequences aligned, it was discovered that there are 2 mutat ions in the coding protein of yak. There ishigh homology among different species.The SRY protein of yak is mainly constructed by hydrophilicity amino acids. Homogenous3D model of HMG of SRY obtained by predicting shows that HMG of SRY including three Alpha helixes, emergingdLd shape.The coding region of SRY gene in Plateau yak was cloned for the first time and its molecular characteristicswas shown.This work laid an important foundation for controlling sex format ion of yak.
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【题目】大通牦牛IGF-I 基因多态性及其与生长性能相关性的研究
【中文关键词】大通牦牛; IGF I 基因; PCR SSCP; 多态性
【英文关键词】yak; IGF I g ene; PCR SSCP; polymorphism
【中文摘要】通过PCR SSCP 技术检测了大通牦牛I GF I 基因的遗传多态性, 对具有SSCP 多态性的片段进行克隆和测序, 找出等位基因的多态位点, 将该位点多态性与大通牦牛生长性状进行相关性分析. 结果显示: PCR SSCP 检测到大通牦牛具有AA、AB、BB 3 种基因型, A(B) 等位基因频率分别为0. 902 8(0. 097 2) ; 对IGF I 基因第1 内含子进行序列比对, 发现一处单碱基C 的缺失/ 插入, 造成了该位点多态性的出现; 6 月龄和12 月龄基因型为AA 的大通牦牛的体质量和体斜长最小二乘均值显著高于AB 和BB 基因型(P< 0. 05) ; 18 月龄基因型为AB 的大通牦牛的体高最小二乘均值显著高于BB

型(P< 0. 05) , 说明大通牦牛品种中基因型为AA 的个体生长性状有高于AB 和BB 基因型的趋势, 可以作为大通牦牛品种选育的目标基因型.

【英文摘要】T he polymorphism of IGF I gene o f Datong yak w as detected by using PCR SSCP technolo g y, and the PCR pr oduct s w ith po lymo rphism fragment s w ere clo ned and sequenced to detect single nucleo t ide po lymor phism; the relat ionship betw een the polymorphism and Datong yak's g row th t rait s w as ana lyzed. Result s indicated that the fr equences of allele genes A(B) is 0. 902 8(0. 097 2) in Dato ng yaks; the C base deletion in int ron1 of IGF I gene w as detected by sequence align, causing polymorphism in Dato ngyaks; the body w eight and body leng th of individuals w ith g enotype AA at 6 and 12 mo nths of age were sig nificant ly hig her than those w ith g enotype BB, AB(P< 0. 05) ; the body height of indiv iduals w ith g enoty peAB at 18 months of age were significant ly higher than tho se w ith genotype BB(P < 0. 05) . T he grow thtr ait s of individuals w ith genotype AA w ere significant ly higher than those w ith geno ty pe BB, AB in Da to ng yaks. This geno ty pe could be selected as target g enotype in Datong y ak.

【语种】中文

【第一作者】潘和平

【通讯作者】潘和平

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【题目】牦牛IGF2 内含子的遗传多态性及其遗传效应分析

【中文关键词】IGF2; 内含子; 遗传多样性; 牦牛

【英文关键词】IGF2 ; Intron; Genetic polymorphisms; Yak

【中文摘要】采用PCR SSCP 方法检测牦牛胰岛素样生长因子2(Insulin like growth factor 2, IGF2) 基因内含子2, 7, 8 的多态性, 并分析其对体重、体高、胸围和体斜长的遗传效应。用BioEdit 软件对牛、羊、人、猪等相关序列同源性比对以后, 主要依据牛(NW 001494548) DNA 序列设计3 对引物。结果在intron7 和intron8 引物扩增的片段上发现多态性, 并对纯合子进行测序, 发现intron7 引物扩增片段91 位存在C T 转换, intron8 引物扩增片段存在330 位G C 和358 位A G 转换, 且在该两对引物扩增产物均检测到3 种基因型(AA、AB、BB) 。统计结果表明, intron7 的3 种基因型在大通牦牛、青海高原牦牛和新疆巴州牦牛群体中的分布处于平衡状态, 而在甘南牦牛和天祝白牦牛群体中则处于极端不平衡状态。intron8 的3 种基因型仅在新疆牦牛群体中处于不平衡状态, 最小二乘分析结果表明, AA 和AB 基因型同BB 基因型相比有较大体重(P< 0. 01) , 但在体高、体长和胸围性状上AA 与BB 基因型均不显著, 说明IGF2 基因有不赖于骨骼增长而增加体重的作用机制。

【英文摘要】无

【语种】中文

【第一作者】王丁克

【通讯作者】阎萍

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【学科分类】畜牧学

【题目】中国牦牛遗传资源现状分析

【中文关键词】牦牛; 遗传资源; 开发利用; 科技创新; 产业化

【英文关键词】Yak; genetic resources; development and utilization; technological innovation; industrialization

【中文摘要】在分析我国牦牛遗传资源现状的基础上, 提出了牦牛遗传资源开发利用的技术途径。利用品种改良及高效繁殖技术、营养调控与高效利用技术、畜产品深加工技术、新型产业开发技术等, 逐步实现牦牛规模化养殖, 专业化生产, 集约化经营, 规范化管理, 不断促进牦牛生产向优质、高产、高效和持续性的产业化方向发展。

【英文摘要】无

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【学科分类】畜牧学

【题目】哺乳动物精子超微结构研究进展
【中文关键词】哺乳动物,精子,超微结构
【英文关键词】Ultrastructure , Spermatozoa in Mammals
【中文摘要】在精子超微结构研究是检验精液品质,揭示精子发生机制,开展受精生物学研究的一项重要内容。文章首先从哺乳动物的精子形态结构出发总述了不同情况下的精子变化特征,然后主要将国内近些年来在哺乳动物上的一些研究进展进行了详细论述,并概述了开展本项研究的意义。
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【语种】中文
【第一作者】曾玉峰
【通讯作者】曾玉峰
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【学科分类】畜牧学

【题目】香蕉束顶病毒CP基因的克隆、原核表达及抗血清制备
【中文关键词】香蕉束顶病毒;CP基因;原核表达;纯化;抗血清
【英文关键词】Banana bunchy top virus; CP gene; Prokaryotic expression; purification; antiserum
【中文摘要】用PCR方法从感染香蕉束顶病毒(Banana bunchy top virus, BBTV)的香蕉植株幼嫩假茎和叶片总DNA中扩增外壳壳白(coat protein, CP)基因。回收目的片段,经Xho Ⅰ和BamH Ⅰ双酶切后与同样酶切的质粒载体pET30a(+)相连接,酶切验证及测序结果获得了含BBTV CP基因的重组质粒pET30a-CP。将重组质粒转化Codon plus表达菌,在25℃0.4mmol/L IPTG条件下诱导6h或过夜,经12%SDS-PAGE电泳分析可知,该重组菌表达了一个与预期分子量大小一致的His-CP融合蛋白,约为30ku,且主要以包涵体的形式存在。多次洗涤包涵体后得到高纯度的融合蛋白,用其免疫家兔,获得BBTV CP蛋白抗血清。间接ELISA法测定抗血清效价大于51200。Western blot分析表明,抗血清能与融合蛋白特异性结合。
【英文摘要】The coat proteins gene (CP) was amplified from total DNA isolated from young pseudostems and leaves of banana (mUsa paradisiaca) plants infected with Banana bunchy top virus by polymerase chain reaction (PCR). The CP gene was digested by Xho Ⅰ and BamH Ⅰ ,and inserted into the prokaryotic expression vector pET30a(+). The recombinant plasmid pET30a-CP was identified by enzymatic digestion and gene sequencing. Esherichia eoli codon plus containing the recombinant plasmid was induced at 25°C with 0.4mmol/L IPTG for 6 h or over night. And the result was that an expected 30ku His-CP fusion protien was expressed as inclusion body analyzed with 12% SDS-PAGE electrophoresis. Inclusion body was wased several times and obtained high purity of fused protein. The purified recombinant protein was used to immunize rabbits for production of antiserum against BBTV CP.The titer of the antiserum was higher than 1:51200 determined with indirect enzyme-linked immunosorbent assay (ID-ELISA). Western blot analysis revealed that antiserum specifically binded the fused protein.
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【第一作者】余乃通
【通讯作者】刘志昕
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【题目】香蕉束顶病毒海口分离物核穿梭蛋白(NSP)的纯化及抗血清制备
【中文关键词】香蕉束顶病毒;核穿梭蛋白;纯化;抗血清
【英文关键词】BBTV(Banana bunchy top virus);NSP (nuclear shuttle protein);Purification,Antiserum prokaryotic expression
【中文摘要】本研究以本实验室保存的含重组载体pDEST17-NSP的原核表达菌株E.coli BL21 (DE3)为材料,于25℃、0.lmmol/L IPTG条件下诱导4h,集菌后超声波破碎,获得以包涵体形式表达的约20KD的融合蛋白。实验结果表明,将沉演的融合蛋白溶于含6mol/L尿素的Binding Buffer中,再经Ni2+-NTA新和层析纯后,可获得高纯高的融合蛋白。将纯化融合蛋白经12% SDS-PAGE电泳,切胶回收目的带,液氮研研磨并按1:1(w/v)混合佐剂,4次免疫家兔,获得BBTV病毒核穿梭蛋白的特异性抗血清。以融合蛋白作抗原,间接ELISA法测定其抗血清效价为1:5000。田间检测样品的最佳抗血清工作浓度为1:500。Western Blot 鉴定结果表明抗血清能与目的蛋白特异性结合。本研究的结果将为下一步NSP基因转录调控和蛋白功能研究奠定一定基础。
【英文摘要】Prokaryotic expression strain E.coli Bl21(DE3) of the recombinant vector pDEST17-NSP was stored in our laboratory, and was induced at 25°C with 0.lmmol/L IPTG for 4 hours.Fusion protein of approximately 20KD was expressed steadily as an inclusion body. The results showed that precipitation of fused protein was dissolved in Binding Buffer containing 6 mol/L urea, then fused protein solution was obtained by purifing of Ni2+-NTA agarose affinity chromatography. The purified fusion protein was extracted by 12% SDS-PAGE, and was triturated with liquid nitrogen, finally was mixed with adjuvant of 1:1(W/V). The rabbits was immunized for 4 times, and the specific antiserum of NSP of BBTV was acquired from the immunized rabbits later. The titer of the antiserum was higher than 1:5000 by indirect enzyme-linked immunosorbent assay (ID-ELISA), and the best work of concentratio nof 1:500 was determined in field testing. Western Blot analysis revealed that antiserum had the capability of specifical binding with the target protein. These investigations work should be establish basis for the research of transcription regulation of NSP gene and its protein function.
【语种】中文
【第一作者】余乃通
【通讯作者】刘志昕
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【题目】槟榔黄化病叶片差异表达蛋白筛选与鉴定
【中文关键词】槟榔; 槟榔黄化病; 蛋白质; 双向电泳
【英文关键词】Areca catechu Linnaeus; Yellow-leaf disease; Differentially expressed proteins; Two-dimensional electrophoresis
【中文摘要】以相同品种, 树龄、 长势一致的黄化病槟榔和健康槟榔叶片为试材, 采用 TCA(三氯乙酸)/丙酮法制备蛋白质样品, 结合双向电泳-质谱结合技术, 分析病原菌-槟榔互作后差异表达蛋白。 结果表明, 双向电泳 SDS-PAGE 胶中黄化病槟榔叶片与健康叶片平均蛋白质点数分别为 1 081 个和 960 个 , 其中差异明显的点 34 个 。 选择 5 个差异蛋白点进行质谱(MALDI-TOF-MS)鉴定, 并进行数据库查询, 结果鉴定了 2 个蛋白质, 分别为核酮糖-1, 5-二磷酸羧化/加氧酶和蕈状支原体高同源蛋白, 这些蛋白质可能参与了槟榔黄化病发生和发展过程。 另外 3 个蛋白点在数据库中未检索到同源性和匹配率较高的蛋白质, 认为是未知蛋白。
【英文摘要】Preparation of protein samples of the leaves by the method of TCA (trichloroacetic acid)/acetone,taking leaves of yellowing-leaf disease and healthy areca as material which was consistent with species, age and growth. Differentially expressed proteins after interaction of pathogen and host was analyzed bytwo-dimensional electrophoresis combined to mass spectrometry technology. The results showed that average of protein point was of 1 081 and 960 on two-dimensional electrophoresis SDS-PAGE for yellow leaf disease and health of betel leaf, respectively, of which differentially expressed proteins are of 34. Five differentiallyexpressed proteins spots identified through spots mass spectrometry (MALDI-TOF-MS) and atabase queries.Two proteins was identified, namely, ribulose 1,5-bisphosphate carboxylase of/oxygenase and the mushroom-shaped mycoplasma high homologous proteins, the proteins may be involved in taking place and development of yellow disease of areca. Another three samples were not retrieved in the database and matching higher homology protein, considered to be unknown proteins.

【语种】中文
【第一作者】曾莉娟
【通讯作者】刘志昕
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【题目】槟榔基因组DNA的高效提取方法
【中文关键词】槟榔;基因组DNA; SDS-CTAB
【英文关键词】Areca catechu; Gnomic DNA; SDS-CTAB
【中文摘要】以槟榔叶片为植物材料,采用改良的SDS-CTAB方法提取其基因组DNA。结果表明,以水饱和酚代替Tris饱和酚对样品进行抽提的SDS-CTAB法可以获得纯度高(OD260/OD280在1.7~1. 9、OD260/OD230大于2)、一级结构完整、分子量大于23 kb的DNA,产率在50~120Lg/g。该法所提DNA成功用于后续的分子生物学研究,并在花生、香蕉等植物上得到应用。
【英文摘要】The extraction ofgenomic DNA from the leaves ofAreca catechuLinnaeuswas researched by optimized SDS-CTAB method in order to obtain high-quality genomic DNA for subsequentmolecular biological experiment. The results showed that high-quality DNA was isolated,theOD260/OD280 of the sampleswas between 1. 7 and 1. 9, the OD260/OD230 of the sampleswasmore than 2, itsprimary structurewas perfect, itsmolecularweightwasmore than 23 kb, and its yield was in ange of50~120Lg/g. The DNA extracted by this method was successfully applied in the mecularbiological experiment. Themethodwas also applied to the extraction of DNA from peanut, banana and so on.
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【第一作者】曾莉娟
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【题目】海南兰花病毒病调查及病原检测
【中文关键词】海南; 兰花 ; 病毒病 ; 调查 ; 血清学
【英文关键词】Hainan ; orchid ; virus diseases ; investigation ; DAS-ELISA
【中文摘要】2007~2008 年, 对海南主要兰花种植基地进行病毒病危害情况调查 。 结果表明 , 海南兰花病毒病症状复杂, 以斑驳花叶型和坏死型最为普遍。 调查还发现, 兰花的病毒病发病率与龄期呈正相关, 文心兰、 石斛兰的发病率显著高于蝴蝶兰。 病原血清学检测表明, 海南兰花病原病毒主要为建兰花叶病毒、 齿兰环斑病毒, 以及二者复合感染, 检出率分别为 29.5%、 2.3%、 15.9%。 其中文心兰和蝴蝶兰带毒率较高, 石斛兰带毒率最低,石斛兰上未检出齿兰环斑病毒。
【英文摘要】Abstract Virus diseases of orchids in major orchid gardens were investigated in Hainan Province during 2007 to 2008. The investigation showed that symptoms of virus diseases in the orchid were considerably complicated, with the mild mottle and the necrosis being the most common in orchid. The investigation also showed that the virus infection rate was positively related to the age of orchids, and that the infection rates were obviously higher in Oncidium and Dendrobium than in Phalaenopsis. The double antibody sandwich enzyme-linked immunosorbent assay (DAS-ELISA) revealed that Cymbidium mosaic virus (CymMV), Odontolossum ring spot virus (ORSV) and their mixed infections were more common, with the infection rates being 29.5% , 2.3% and 15.9% , respectively. Oncidium and Phalaenopsis were more sensitive to viruses than Dendrobium, and ORSV was not found in the Dendrobium orchid.
【语种】中文
【第一作者】曾燕君
【通讯作者】王健华
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【题目】兰花两种主要病毒双重 RT- PCR 检测方法的建立
【中文关键词】海南; 兰花 ; 病毒病 ; 调查 ; 血清学
【英文关键词】Duplex RT - PCR; Cymbibium mosaic virus; Odontoglussm ring spot v irus; Detection
;
【中文摘要】根据建兰花叶病毒 (Cymb idium m osa ic v irus, CymMV)和齿兰环斑病毒 (Odontog lossum ringspot virus ORSV)这两种主要兰花病毒的保守序列设计特异引物,在 CymMV 和 ORSV 单一 RT - PCR 优化体系的基础上, 建立了同时检测 CymMV和 ORSV 的双重 RT - PCR 检测 方法。此方法可特 异性地从感 染 CymMV 和 ORSV 的样品 中扩增 出 2条目的带, 即CymMV(781 bp)和 ORSV (588 bp)。 扩增产物测序表明,CymMV扩增产物与 GenBank中登陆的分离物核苷酸同源性为 84 ~ 97% , ORSV扩增产物与 GenBank中其它分离物的核苷酸序列同源性为 98% ~ 99% 。运用该方法对随机抽取的田间样品及组培苗样品进行检测, 都得到了特异性扩增条带, 其灵敏度达到了 10-5。
【英文摘要】A duplex reverse transcr iption- po ly erase cha in reaction (RT - PCR) techn ique w as successfu lly adopted to detec cymbidium mosa ic v irus (CymMV) and odontoglossum ring spot virus (ORSV) at the saeme time Based upon the establishment of the optiized RT - PCR detection of CymMV and ORSV, the duplex RT - PCR which can siultaneously detect the two viruses in orchid was developed. The results showed that all samples infected by CymMV and ORSV could be amplified simultaneously by duplex RT - PCR, and yield two spec ific bands of CymMV (781 bp) and ORSV (588 bp) visualized by agarose gel electrophoresis. Sequence analysis of the amplified products showed high homology of CymMV (84% ~ 97%) and ORSV (98% ~ 99%) with the sequences of CymMV and ORSV in GenBank. The rando samples collected from field and tissue culture were researched and amplified specifically by this method and its sensitivity was up to 10-5.
【语种】中文
【第一作者】曾燕君
【通讯作者】王健华
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【题目】香蕉束顶病毒海南分离物 DNA2 编码区的克隆及抗血清的制备
【中文关键词】香蕉束顶病毒, BBTV DNA2, 编码区, 融合表达
【英文关键词】banana bunchy top virus; BBTV DNA2; encoding zone; fusing expression
【中文摘要】利用 PCR 方法克隆香蕉束顶病毒海南分离物(Banana bunchy top virus,BBTV- HN)DNA2 编码区,将其插入到原核表达载体 pGEX- 6p- 1 谷胱苷肽- S- 转移酶(GST)基因下游。所得克隆 pGEX- HN- B2 测序结果表明,插入的 DNA2 片段为 267 bp,且表达相位和理论上设计的完全一致。把此重组质粒转化到 E.coli Rosetta(DE3)中,经过异丙硫代半乳糖苷(IPTG)诱导后出现约 33 Ku 融合蛋白质表达条带。为获得特异的血清,切下目的表达条带并免疫兔子。经 Western- blotting 检测,获取的血清可以和表达的 33 Ku 融合蛋白特异结合,表明已成功获得 DNA2 编码蛋白的血清。
【英文摘要】The Opening Reading Frame fragment of Hainan isolate(BBTV- HN) DNA2 of banana bunchy top virusin Hainan Island was cloned by PCR and fused to the downstream of gulutathion- S- transferase gene in the expression vector pGEX- 6p- 1. After the correct encoding region was confirmed by sequencing, the recombinant plasmid pGEX- HN- B2 was induced by isopropyl- B- D- thiogalaotopyranoside (IPTG) in E.coli Rosetta (DE3). Compared to the control without inducing, a new protein band of 33 Ku was found in the induced products after running theSDS- PAGE. To prepare antiserum against the fused protein, the 33 Ku protein was used to immunize rabbit.Western blot analysis revealed that the antiserum against DNA2 encoding protein was obtained. This will help usunderstand the role of DNA2 encoding protein in the infected tissues.
【语种】中文
【第一作者】赵焕阁

【通讯作者】刘志昕
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【题目】红棕象甲为害调查与诱集监测
【中文关键词】红棕象甲; 为害调查; 诱集监测
【英文关键词】Rhynchophorus ferrugineus (Oliver); Damage survey; Trapping monitoring
【中文摘要】2006~2008 年, 累积多次在海南省多个县市开展实地调查, 发现红棕象甲[Rhynchophorus ferrugineus (Oliver)]的寄主植物 15 种, 常见受害寄主植物有椰子、 霸王棕、 美丽针葵、 酒瓶椰子等, 并对采集的红棕象甲虫源标本及为害特征进行观察。 在海南 8 个市县的椰子种植区及棕榈园共设 30 个监测点, 各个监测点均能诱到红棕象甲成虫。 田间实时诱集监测的 3 年积累试验数据显示: 全年均能诱集到红棕象甲成虫, 6~8 月份能诱到较多的红棕象甲成虫, 说明这时期是红棕象甲成虫活动的一个高峰期。
【英文摘要】From 2006 to 2008, the damage survey of Rhynchophorus ferrugineus (Oliver) was conducted inmany cities in Hainan. It was detected that there were 15 host plants for Rhynchophorus ferrugineus (Oliver). And Cocos nucifera, Bismarckia nobilis, Phoenix roebeleni, Hyophorbe lagenicaulis were among the most common ones. The insect samples and the damages caused by Rhynchophorus ferrugineus (Oliver) were also studied. Adult Rhynchophorus ferrugineus (Oliver) could be captured in all 30 monitoring stations in 8 cities of Hainan year around, while more adult insects could be captured in June and July, which meant that these two months were the occurrence peak.
【语种】中文
【第一作者】黄山春
【通讯作者】覃伟权
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【学科分类】植物保护学

【题目】红棕象甲外形态特征及生殖器官结构观察
【中文关键词】Rhynchorusferrugineus; Morphology;Reproductive organ
【英文关键词】Rhynchophorus ferrugineus (Oliver); Damage survey; Trapping monitoring
【中文摘要】描述了红棕象甲的外形态特征及生殖系统。结果表明,红棕象甲体长19~34 mm,宽8~15 mm,身体红褐色。雄性成虫内生殖器官包括一对睾丸、输精管、贮精囊、射精管、附腺组成;雌性成虫内生殖器官由一对卵巢、一对侧输卵管、中输卵管、受精囊等部分组成。
【英文摘要】Themorphology and reproductive system inRhynchorus ferrugineuswas described. The results showed that the body length of Rhynchorus ferrugineusis from 19mm to34mm, the bodywidth is from 8mm to15mm andRhynchorusferrugineusis reddish brown.The male internal reproductive organ is composed of two testicles, vasa deferentia, seminalvesicle, ejaculatory and accessory glands; the female internal reproductive organ includes in two ovaries, two lateral oviducts, one common oviduct, spermatheca etc.
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【第一作者】黄山春
【通讯作者】覃伟权
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【学科分类】植物保护学

【题目】一种简便分离香蕉枯萎病菌的选择性培养基
【中文关键词】香蕉枯萎病菌; 选择性培养基; 检测
【英文关键词】Fusarium oxysporum f. sp. cubense; selective medium; detection.
【中文摘要】摘要 为探寻在非无菌操作下能从土壤中快速且大量分离检测香蕉枯萎病菌, 研制了一种用于检测香蕉枯萎病病原菌的选择性培养基-PCEA, 其成分为: 马铃薯 200 g, CuSO4 · 5H2O 0.5 g, MgSO4 · 7H2O 0.6g, KH2PO40.1 g,敌克松结晶粉(75%)3 g, 硫酸链霉素 0.75 g, 95%酒精 10 mL, 水 1 000 mL, pH5.8, 琼脂 18~20 g。 该培养基与其它常见分离培养基相比, 无需无菌操作, 且成分简单、 检测率显著, 抑菌效果好, 病菌在其上生长快、 菌落典型, 是一种较为理想的选择性培养基。
【英文摘要】A new selective medium, PCEA, for simple mass isolation of Fusarium oxysporum f. sp. cubense(FOC) from the soil was developed for daily detection. The medium consisted of the following ingredients per liter distilled water: Potato 200 g, CuSO4.5H2O 0.5 g, MgSO4.7H2O 0.6g,KH2PO40.1 g, 75% fenaminosulf3 g, streptomycin sulfate 0.75 g, 95% ethanol 10mL, pH adjusted to 5.8, and agar 18~20 g. Compared to other selective mediums, this medium was simple and quick to isolate spores from naturally infested soil while rarely contaminated by other microorganisms. The colonies of FOC on the medium were large and white colored, and the mean recovery rate of FOC inoculated in the soil was upto 89.5% . In fact,supplemented with various antibiotics, antifungal substance and nutrients, this selective medium wasprepared easily but not necessarily in sterilized conditions. It was simple in ingredients, high in recoveryrate and better in inhibitory effect. The FOC grew fast with typical colonies on this medium and is hence believed a better selective medium for daily detection of FOC.
【语种】中文
【第一作者】景晓辉
【通讯作者】黄俊生
【期刊名称、卷期、页码】热带作物学报,2009,30(11):1671-1673
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【学科分类】植物保护学

【题目】香蕉枯萎病菌fga1基因的克隆与序列分析
【中文关键词】尖孢镰刀菌古巴专化型; 生理小种; fga1; 致病性; G 蛋白 α 亚基
【英文关键词】Fusarium oxysporum f.sp. cubense; race; fga1; pathogenicity; α subunit of G protein.
【中文摘要】为了解fga1 基因在尖孢镰刀菌古巴专化型侵染香蕉过程中的作用 , 及其与尖孢镰刀菌古巴专化型生理小种 1 号和生理小种 4 号之间的致病力差异的关系, 采用 PCR 和 RT-PCR 方法扩增了 2 个生理小种的 fga1 基因,并对扩增产物进行了测序及相似序列搜索和比对, 还对基因编码的蛋白进行了氨基酸序列比对和功能分析。 研究结果表明 2 个理小种 fga1 基因开放阅读框均为 1 062 bp, 编码 353 个氨基酸, 基因同源性为 99.5%, 氨基酸序列相同。 推测 fga1 基因可能与香蕉枯萎病菌自身繁殖和附着胞的形成有关。 从 fga1 基因序列及其编码蛋白的氨基酸序列看, 2 个生理小种致病力的差异与 fga1 基因并无明显对应关系, 这为进一步研究 fga1 基因功能奠定了基础。
【英文摘要】Fusarium oxysporum f. sp. cubense (FOC) is the pathogen of the Panama disease. In order toknow the roles of fga1 gene in invasion process of FOC into banana and its relationship in pathogenic difference between the races 1 and 4 of FOC attacking the same banana cultivar, the fga1 genes were amplified by Polymerase Chain Reaction and Reverse Transcription Polymerase Chain Reaction, and the amplification products were then sequenced and aligned with DNAStar Meglignment software. The functions of the encoded protein by fga1 genes were also analyzed. The results revealed that the open reading frames of fga1 genes from both races of Fusarium oxysporum f.sp.cubense were 1 062 bp, and encoded 353 amino acids. The fga1 gene from FOC race 1 showed 99.5% similarity to FOC race 4, but their amino acid sequences were the same. These indicated that the fga1 gene probably controlled the reproduction andappressorium formation of FOC, but it seemed there was no relation between fga1 gene and the difference in pathogenicity to the same banana cultivar between FOC race 1 and race 4. These results would help to understand the function of fga1 genes in the follow-up research activities.
【语种】中文
【第一作者】羊玉花
【通讯作者】黄俊生
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【学科分类】植物保护学

【题目】香蕉枯萎病菌cyp1基因的克隆与序列分析
【中文关键词】尖孢镰刀菌古巴专化型; 生理小种; 亲和蛋白基因; 寄主选择性
【英文关键词】Fusarium oxysporum f sp. cubense; race; Cyclophilin A gene (cyp1); host selective preference
【中文摘要】为了解亲环素基因(cyp1, 其编码亲和蛋白)在尖孢镰刀菌古巴专化型生理小种 1 号和生理小种 4 号之间及与其他镰刀菌之间的差异, 分析 cyp1 基因与两生理小种之间的寄主选择性差异的关系, 通过比对现有镰刀菌属的亲环素基因序列, 设计并合成引物, 采用 PCR 和 RT-PCR 方法扩增了尖孢镰刀菌古巴专化型生理小种 1 号和生理小种 4 号 2 个生理小种的 cyp1 基因, 并测序进行比较分析, 同时对编码蛋白进行了氨基酸序列比对和功能分析。 结果表明, 2 个生理小种 cyp1 基因全长均为 1 066 bp, 开放阅读框均为 675 bp, 编码 224 个氨基酸, 基因序列间差异为 0.8%, 编码蛋白间仅存在 1 个氨基酸的差异; 两生理小种的 cyp1 基因序列与镰刀菌属其他专化型或不同种间存在差异性, 与不同属之间其他种间的差异最大达 50%, 比对蛋白序列发现仅存在 0.85%的差异,这进一步证明亲和蛋白在真菌中较保守。 从 cyp1 基因序列及其编码蛋白的氨基酸序列在两生理小种之间的差异性分析结果推测, 2 个生理小种寄主选择性差异与 cyp1 基因并无明显对应关系, 这为进一步研究 cyp1 基因功能奠定了基础。
【英文摘要】In order to know the differences of cyp1 gene between Fusarium oxysporum f sp. cubense (Foc)race 1 and race 4 and other Fusarium, and analyze whether the host selective difference between the races 1and 4 were related with Cyclophilin A (cyp1) gene, the cyp1 genes of races 1 and 4 were amplified by Polymerase Chain Reaction and Reverse Transcription Polymerase Chain Reaction and sequenced, and the gene sequences and the encoded protein sequences were aligned by using the DNAStar software. The results revealed that the full length of cyp1 from Foc races 1 and 4 were both 1 066 bp, with their open reading frames being 675 bp, encoding 224 amino acids. The sequences of the cyp1 gene of Foc race 1 showed 99.2% similarity to that of Foc race 4 and there was only one amino acid different in the sequences. The cyp1 gene sequences of these two races were different from those of other specialized forms or species of Fusarium or from those of other species of different genera (the highest being 50.9% byalignment), and the protein blast result showed only 0.85% difference. This proved that the cyp1 protein was conserved in fungi,. It was inferred from the differences of the cyp1 gene sequence and protein sequences from FOC1 and FOC4 isolates that there was no obvious relation between the cyp1 gene and the host selective preference of FOC1 and FOC4. These results would help to know the function of the cyp1 gene from FOC1 and FOC4 in the future researches.
【语种】中文
【第一作者】杨腊英
【通讯作者】黄俊生
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【学科分类】植物保护学

【题目】香蕉枯萎病菌pgx4基因的克隆与序列分析
【中文关键词】尖孢镰刀菌古巴专化型; 生理小种; pgx4 基因; 序列比对
【英文关键词】Fusarium oxysporum f. sp. cubense; race; pgx4 gene; cloned and sequenced.
【中文摘要】为了解pgx4 基因在尖孢镰刀菌古巴专化型侵染香蕉过程中的作用, 及其与尖孢镰刀菌古巴专化型生理小种 1 号和生理小种 4 号之间的致病力差异的关系, 以尖孢镰刀菌古巴专化型 1 号生理小种和 4 号生理小种的基因组 DNA 和 cDNA 为材料, 采用 PCR 和 RT-PCR 方法扩增了 2 个生理小种的 pgx4 基因, 并对扩增产物进行克隆测序后再用生物信息学软件对序列进行比对分析。 结果表明: 2 个生理小种 pgx4 基因的开放阅读框均为 1 395 bp,编码 465 个氨基酸, 且前 17 个氨基酸均构成该基因的信号肽。 通过 DNAStar7.1 比对发现, 尖孢镰刀菌古巴专化型 2 个生理小种 pgx4 基因的核苷酸序列存在 25 个碱基的差异, 而其编码的 465 个氨基酸中, 也有 3 个氨基酸不同, 分析这些核苷酸序列和氨基酸序列的差异可能与尖孢镰刀菌古巴专化型 1 号生理小种和 4 号生理小种在侵染蕉类不同栽培种时的识别专性寄主机制有一定关系。
【英文摘要】In order to understand the role of pgx4 gene in the invasion process of Fusarium oxysporum f.sp. cubense (Foc) which causes Panama disease in banana, and the relation of pgx4 with the athogenic difference between race one and race four of F. oxysporum f. sp. cubense infecting the same banana variety. Races one and four of F. oxysporum f. sp. cubense were used as materials to extract genomic DNA and cDNA from which pathogenicity -related genes pgx4 of F. oxysporum f. sp. cubense were amplified by

using Polymerase Chain Reaction and Reverse Transcription Polymerase Chain Reaction. The amplified products were cloned and sequenced, and sequence alignments were done by using the biological softwares. The results revealed that the open reading frames of pgx4 genes from both races one and four were 1 395 bp and encoded 465 amino acids and that the first 17th amino acids consisted of signal peptides of these genes. Alignment with DNAStar7.1 found that These 2 races had 25 different bases innucleotides of the gene pgx4 between each other, and also contained 3 different amino acids among the amino acids encoded in these genes. The sequences alignment result and the amino acid sequence showed that the difference in nucleotide and amino acid sequences between races one and four might had some relationship with host specific recognition of races one and four in attacking different banana varieties.
【语种】中文
【第一作者】杨歆璇
【通讯作者】黄俊生
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【题目】砂田的发展及其在宁夏的应用研究
【中文关键词】砂田;种植形式;种植模式;研究进展
【英文关键词】:desulp hurized coal2burning residue ; calcium ; saline2alkali st ress ; mechanism
【中文摘要】砂田栽培是一种具有综合效能的旱作覆盖技术,是适应干旱、半干旱地区气候、地理、土壤条件的产物,具有明显改良和调节农田小环境的功效.综述砂田的生态效应及国内外对砂田的研究现状.分析宁夏砂田的发展现状、栽培作物、种植形式和种植模式,提出宁夏砂田发展中存在的问题及解决对策.
【英文摘要】The major component s of desulp hurized coal2burning residue are CaSO4 · 2H2O , desulp hurizedcoal2burning residue is rich in S , Ca , and Si etc. which are essential and usef ul for crop s. The calciumcompound which the desulp hurized coal2burning residue includes is benefit for plant growth anddevelopment and enhances it s resistance. Applying desulp hurized coal2burning residue properly can reducesoil bulk density , improve soil st ructure , increase soil permeability and improve t he p hysical properties ofsoil moisture , reduce p H , ESP , TDS and promote crop growth. So as to improve t he sodic soil p hysicaland chemical properties and crop yields. This paper summarizes t he effect s of calcium of desulp hurizedcoal2burning residue on st ress2resistant ability under saline2alkali st ress of plant .
【语种】中文
【第一作者】赵 燕
【通讯作者】许强
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【学科分类】农学其他学科

【题目】三亚市主要景观植物阅览室种类与危害情况调查
【中文关键词】三亚;景观植物;病虫害;调查
【英文关键词】无
【中文摘要】调查了三亚市鱼尾葵、椰子、假槟榔、凤凰木、三角梅、酸豆树、印度紫檀、苏铁、小叶榕、高山榕、刺桐等主要景观植物病虫害的发生与危害情况,初步了解了各种病虫害的种类和危害寄主。
【英文摘要】无
【语种】中文
【第一作者】孔祥义
【通讯作者】李劲松
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【题目】海南省刺桐姬小蜂危害情况调查及防治药剂初筛
【中文关键词】刺桐姬小蜂; 危害调查 ; 药剂 ; 筛选
【英文关键词】erythrina gall wasp (Quadristichus erythrinae Kim) ; damage survey ; pesticide ; screening
【中文摘要】调查海南省 18 个市县刺桐姬小蜂的危害情况, 发现除东方县 、 白沙县外 , 其余市县均有不同程度的危害; 选用 6 种不同杀虫剂对刺桐姬小蜂进行室内药效试验。 结果表明, 室内药效大小顺序为: 48% 毒死蜱 EC>70% 吡虫啉 WP 和 25% 噻虫嗪 WDG>20% 啶虫脒 WP>乙酰甲胺磷 EC 和 1.65% 阿维菌素高效氯氰菊酯 WP。
【英文摘要】A survey to erythrina gall wasp (Quadristichus erythrinae Kim) infesting Erythrina spp. wasmade in 18 cities of Hainan Province. The results showed that the erythrina gall wasp (Quadristichus erythrinae Kim) caused damages to Erythrina spp. in various degrees in all the cities except in Dongfang and Baisha cities. Six pesticides were then selected to control the erythrina gall wasp. The result showed that the pesticides had different controlling effect in the order of chlorpyrifos 48% EC > imidacloprid 70%WP and thiamethoxam 25% WDG > cetamiprid 20% WP > acephate 40% EC and (Avermectins + β -Cypermethrin) 1.65% WP.
【语种】中文
【第一作者】孔祥义
【通讯作者】李劲松
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【学科分类】植物保护学

【题目】海南省刺桐姬小蜂监测模型研究
【中文关键词】刺桐姬小蜂; 出孔数 ; 回归分析 ; 监测模型
【英文关键词】erythrina gall wasp (Quadristichus erythrinae Kim) ;hole number ; regression analysis ;
monitoring model
【中文摘要】通过对海南省刺桐姬小蜂(Quadrastichus erythrinae Kim)出孔数调查, 并结合 6 个关键气候因子运用SAS9.0 进行回归分析, 得到刺桐姬小蜂监测模型 y=4261.76-39.21x1+35.44x3-32.35x4+0.23x6。 该模型表明, 刺桐姬小蜂出孔数与月平均温度、 月平均最低气温、 月平均相对湿度与月日照时数合计有极显著相关性,而与其他气候因子无显著相关性。
【英文摘要】The hole number of erythrina gall wasp (Quadristichus erythrinae Kim) in Hainan Province wasinvestigated. A monitoring model for erythrina gall wasp was established with six key climatic factors for regression analysis of SAS9.0 program. It was y=4261.76-39.21x1+35.44x3-32.35x4+0.23x6. The model showed that there was a significant correlation between hole number of erythrina gall wasp and four climatic factors, i.e. monthly average temperature, monthly average lowest temperature, monthly average relative humidity and monthly total sunlight time, but not significant correlation between the hole number and the other climatic factors.
【语种】中文
【第一作者】孔祥义
【通讯作者】李劲松
【期刊名称、卷期、页码】热带农业科学,2010,30(5):26-28
【论文发表时间】2010-05-19 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】植物保护学

【题目】海南省外来物种入侵及防控对策初探
【中文关键词】外来物种; 生物入侵; 危害; 防控对策
【英文关键词】alien species; invasion; harmfulness; preventive measure

【中文摘要】海南省目前已发现 200 多种外来入侵生物,对海南省生物物种的生存构成了很大的威胁,给当地经济社会发展以及生态环境造成严重损失。 针对外来有害生物入侵问题,分析了海南省外来物种入侵的途径、现状和危害,并提出了防控生物入侵的相关对策。

【英文摘要】At present, in Hainan 200 species of invasive alien species were found, It threaten native species and effected on economy, society and ecology in Hainan Province. The article analyzed the approaches, present situation, harmfulness of Alien Species in Hainan, thus put forward the measures of dealing with the Alien Species.

【语种】中文

【第一作者】李劲松

【通讯作者】刘香玲

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【论文发表时间】2008-05-06 00:00:00

【引文索引类型】其他

【引文索引号】null

【学科分类】植物保护学

【题目】宁夏砂田辣椒引种与品种比较研究

【中文关键词】砂田; 西瓜; 辣椒; 经济效益

【英文关键词】Sandy fie ld; w aterm e lon; Ho t pepper; Econom ic effic iency

【中文摘要】为探寻辣椒对砂田环境的适应性和丰产性, 筛选新型替代和轮作作物, 进行了砂田辣椒引种品比试验。结果表明: 参试辣椒品种中, 吉星保加利亚、中椒22号、中椒8号、中椒4号、茄门甜椒比对照银川大羊角增产达极显著, 增幅分别为111 9%、106 2%、123 7%、171 1%、120 6%。其中吉星保加利亚、中椒22号整个生育期内未发生病虫害,且植株个体矮、扩张幅度大, 利于果实充分受光、通风透气, 避免病菌侵染适于砂田种植。经济效益分析表明, 参试辣椒品种经济价值明显, 效益最高达2728 77元/667m2。

【英文摘要】The exper im ent o fH o t pepper introduction and Variety com parison on the sandy fe ild in the Zhongwe i o fN ingx iaw as conducted to inqu ire about that compatib ility and the y ie ld ing ab ility o f the ho t pepper on the sandy filed and to screennew substitution and the crop ro tation crops for sandy fie ld , The results ind ica ted that lucky star Bulgar ia, pepper 22, pepper8, pepper 4, the eggp lant gate green peppers com pared to compare the Y inchuan b ig sheep s' ho rn production inc rease toreach ex trem ely obv iously in the ho t pepper variety of takes part in a test , the increased range respective ly is 111 9%,106 2%, 123 7%, 171 1%, 120 6% Lucky star Bu lgar ia and pepper 22 has not had plant d isease in the entire periodso f duration, and the adult p lant indiv idual is short, The expansion scope is big, so it is advantageous in favors the fru it thelight, to ventilate fully the ventilation, avo ids the germ invad ing dyes Indicated from E conom ic e ffic iency analysis that the economic va lue of the ho t pepper var ie ty w hich take part in a test to be obv ious, the h ighest benefit am ounts to 2728 77Yuan /666 7m2

【语种】中文

【第一作者】赵燕

【通讯作者】许强

【期刊名称、卷期、页码】宁夏砂田辣椒引种与品种比较研究. 安徽农学通报, 2009,15(5):125-127.

【论文发表时间】2009-11-18 00:00:00

【引文索引类型】其他

【引文索引号】null

【学科分类】农艺学

【题目】砂田水热及减尘效应研究

【中文关键词】砂田; 生态效应; 保护性耕作

【英文关键词】sandy-field; ecological effection; protect ing t illage

【中文摘要】2007 年对宁夏中卫市香山地区的砂田进行了有关生态效应研究. 结果表明, 砂田具有明显的保墒、增温、减蒸、减尘效果, 在4~ 6 月期间, 砂田0~ 40 cm 土层中土壤含水量比裸田提高32. 5%, 砂层下地表蒸发量减少28. 7%,0~ 20 cm土壤平均每天增温0. 96 , 地表以上1. 5 m 高度减少扬尘量43. 9%.

【英文摘要】Study on sandy-f ield ecosystem effection w as carried in Zhongwei Xiangshan aera of Ningxia in 2007. Theresult showed that sandy- field had an obvious effect on keeping soil water, heightening temperature, reducingevaporat ion and dust ; Between April and June, the water content in 0~ 40 cm of sandy-field was increased by 32. 5%than naked land and the soil w ater

evaporation in surface under sandy-f ield is reduced by 28. 7% than in naked land,the soil temperature in 0~ 20 cm in sandy-field was increased by 0. 96 , the content of dust in the surface above1. 5m w as reduced by 43. 9%.
【语种】中文
【第一作者】许强
【通讯作者】许强
【期刊名称、卷期、页码】宁夏大学学报(自然科学版), 2009,30(2):180-182.
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【引文索引类型】其他
【引文索引号】null
【学科分类】农业基础学科

【题目】旱区砂田肥力演变特征研究
【中文关键词】砂田; 土砂比; 土壤含水量; 土壤养分
【英文关键词】sandy-field; soi-l sand rat io; soil w ater content; soil nut rient
【中文摘要】以宁夏香山地区种植1~ 17 a 砂田及撂荒砂田为研究对象, 对砂土比例、耕层土壤含水量(0 ~ 20cm) 、有机质含量、全盐量、速氮、速磷、速钾的变化进行了分析。结果表明, 连续种植可使砂田覆砂层含土量(由9. 24%增加到36. 15%) 、土砂比(由0. 09 增加到0. 57) 不断提高, 含砂量(由90. 76%降低到63. 85%) 、土壤含水量(由25. 30%降低到13. 70%) 、全盐含量(由0. 21 g / kg降低到0. 05 g / kg) 、速磷(由2. 42 mg/ kg 降低到2. 26 mg / kg) 、速钾(由172 mg/ kg 降低到109 mg / kg) 不断降低, 而有机质、全氮、速氮则先升后降, 在连续种植4~ 5 a 后达到最高(有机质: 12. 5 g/ kg; 全氮: 0. 32 g/ kg; 速氮: 15. 10 mg/ kg) , 此后不断下降。因此砂田连续种植4~ 5 a 必须人工补肥, 连续种植若干年后休闲1~ 2 a 有利于砂田性能的恢复。
【英文摘要】The test ing of the mix ed (rat io) of sand and soil, the water content of topsoil, the organic mattercontent , the total salt content, N, P & K of sandy-f ield planted for 1~ 17 years and abandoned sandy-field atXiangshan Mountain area of Ningx ia indicated that the loess content of the sandy-f ield (f rom 9. 24% to36. 15%) and the rat io of soi-l sand(f rom 0. 09 to 0. 57) improved gradually, w hile the sand content of thesandy-f ield(from 90. 76% to 63. 85%) , the w ater content of topsoil(f rom 25. 30% to 13. 70%) , the total saltcontent (f rom 0. 21 g / kg to 0. 05 g/ kg) , available P(f rom 2. 42 mg / kg to 2. 26 mg / kg) & K(f rom 172 mg / kgto 109 mg/ kg) decreased gradually. The org anic mat ter, total nit rogen, available N increased f irst and decreasedafterw ards, reached its peak (the organic mat ter: 12. 5 g/ kg, total nit rogen: 0. 32 g / kg, available N:15. 1 mg/ kg) at 4~ 5 years and then began to decrease. It is suggested that the sandy-field must be art if iciallyfert ilized af ter 4~ 5 years and leave in fallow for 1~ 2 years, w hich may be benef icial to improve the sandy-fieldperformance.
【语种】中文
【第一作者】许强
【通讯作者】许强
【期刊名称、卷期、页码】干旱地区农业研究, 2009,27(1):37-41.
【论文发表时间】2009-01-21 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】土壤学

【题目】不同覆盖物下的农田地温和蒸发量对比
【中文关键词】不同覆盖物;地温;蒸发量;对比
【英文关键词】Different cover; Ground temperature; Evaporation capacity; Contrast
【中文摘要】为了进一步搞清不同覆盖物的保温效果以及农田水分利用率,特别以裸地为对照,对“ 砂石+地膜 ”、砂石、“ 裸地+地膜 ”3 种覆盖方式进行了对比研究。试验结果表明,3 种覆盖方式中“ 砂石+地膜 ”覆盖的保温效果最好,且水分利用率最高;其次是砂田,“ 裸地+地膜 ”。因此,建议在有充足的砂石来源基础上的干旱地区或有限灌溉地区,甚至是在低温年份应推广应用“ 砂石+地膜 ”覆盖,对保证作物出苗以及作物的正常生长都有重要意义。
【英文摘要】In order to find out the insulation effect of different cover further, as well as the extent of water use efficiency,especially for this problem this paper + plastic film on the sand and gravel, gravel, bare ground + three kind of plasticfilm mulching, as well as bare controls were compared. The results showed that: three ways gravel cover + plastic film coveringthe thermal insulation effect of the best and the highest water use efficiency, followed by sand fields, and bare land+ followed by plastic film mulch. So, it is recommended

adequate sources of sand and on the basis of limited irrigation inarid regions or areas, or even years at low temperatures should promote the use of sand and gravel + plastic mulching,crop emergence, as well as for ensuring the normal growth of crops are important.
【语种】中文
【第一作者】丁秀玲
【通讯作者】许强
【期刊名称、卷期、页码】长江蔬菜, 2010(20):27-32.
【论文发表时间】2010-03-17 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农业基础学科

【题目】不同覆盖方式下的西瓜地养分对比研究
【中文关键词】:不同覆盖方式;西瓜地;养分;对比
【英文关键词】different mulching methods;soil of watermelon;nutrient;contrast
【中文摘要】:对不同覆盖方式下的西瓜地土壤养分进行了对比研究。结果表明:地面增加覆盖物后可以减轻耕层的含盐量使盐分由上层转移到下层,而灌水能使土壤容重增加,其中抑盐效果最好的是地膜覆盖,其次是砂田+地膜覆盖、砂石覆盖次之;在无灌溉水的条件下,养分利用率依次是砂石+地膜覆盖>砂石覆盖>地膜覆盖,并且0~20cm和20~40cm土层土壤碱解氮和全氮含量最高的覆盖方式是地膜覆盖,最低的是砂石+地膜覆盖。因此,在干旱地区推广发展砂石+地膜覆盖并适当增施肥料,有助于增产增收,保持干旱地区农业的持续发展。
【英文摘要】Abstract:The watermelon soil nutrients in different mulching methods were studied.The results showed that increaseground cover will relieve the salinity of topsoil to make the transfer of salt from the upper to the lower deck,While irrigation can increase soil bulk density,which was the best salt inhibition plastic film mulch,followed by Sunada+plasticfilm mulch,gravel covering second;In the absence of irrigation water under the conditions of nutrient utilization followedby sand and gravel+mulching “ sand and gravel covered ” plastic film mulch,and the 0~20cm and 20~40cm layer ofsoil nitrogen and nitrogen content in the highest form of plastic film covering coverage,the lowest sand+mulching.Thus,in arid regions to promote the development of sand and gravel+by mulching and appropriate fertilizer to help increase production and maintain the sustainable development of agriculture in arid regions.
【语种】中文
【第一作者】丁秀玲
【通讯作者】许强
【期刊名称、卷期、页码】北方园艺, 2010(18):23-26.
【论文发表时间】2010-09-08 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】土壤学

【题目】瓜实蝇的有效积温及其在中国的年发生代数预测
【中文关键词】瓜实蝇;有效积温;适生性;年发生代数
【英文关键词】melon fly; effective accumulated temperature; viability; annual number of genera
【中文摘要】瓜实蝇Bactrocera cucurbitae Coquillett是世界上重要的检疫性害虫,通过在14、18、22、26、30、34℃温度下孵化和饲养实验,测定该虫卵、幼虫、蛹、产卵前期、世代的发育起点温度和有效积温分别是8.0982℃、4.5245℃、4.5245℃、7.4751℃、10.0019℃和28.8506、162.7462、145.7249、166.5126、503.8343日度。根据该虫的致死温度和有效积温模型,运用数学分析和地理信息系统技术,预测了瓜实蝇在中国的适生区和年发生代数,结果表明:该虫可在中国48.96%地区发生(气象站点所代表的地区),1年发生2一12代,以4-6代为主。
【英文摘要】The melon fly, Bactrocera cucurbitae Coquillett, is an important quqrantine pest in the world. The3 developmental threshold temperature of this pest's egg, larva, pupa, preoviposition period and generation were 8.0982℃、4.5245℃、4.5245℃、7.4751℃、10.0019℃ respectively, and effective accurenulated temperature were 28.8506、162.7462、145.7249、166.5126、503.8343day-degree respectively, by the hatch and breeding expermentation under the temperature of 14、18、22、26、30、34℃. Based on the fatal temperature and the model of effective accumulated temperature, using themathermatical analysis and the technology of the Geographic Infrormation System,the suitable regions and annual number of generation ofBactrocera cucurbitae were predieted in China. The result showed that its potential suitable regions were about 48.96% of sites in China,it would complete 2-12 generations,

mainly 4-6 generations in one year in China.
【语种】中文
【第一作者】李伟东
【通讯作者】周卫川
【期刊名称、卷期、页码】华东昆虫学报2008,17(3):188-193
【论文发表时间】2008-09-22 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】植物保护学

【题目】西瓜根系浸提物对不同作物种子萌发的化感效应
【中文关键词】西瓜根浸提物;种子萌发;化感效应
【英文关键词】Extraction from root of watermelon; Seed germination; Allelopathy
【中文摘要】以黄瓜、西瓜、南瓜、西葫芦、番茄、萝卜、小麦、胡麻、芝麻、蓖麻、花豆、绿豆为受试作物。研究了西瓜根系水浸提物对各个受试作物的发芽、根质量及苗质量的化感作用。结果表明,西瓜根系浸提物对不同作物的各个器官均有影响,其中对黄瓜和小麦种子的发芽和苗质量的增加均有促进作用,但效应不显著;对花豆种子的发芽和根质量的增加以及对辣椒根质量的增加也表现出促进作用,但效应不显著;对绿豆根质量的增加有显著的促进作用,对萝卜苗质量的增加表现为促进作用,而对其他受试作物均表现出抑制作用。
【英文摘要】Cucumber, watermelon, pumpkins, squash, tomato, radish, wheat, flax, sesame, castor, flower bean, green beanare used to study the effect of extract from root of watermelon on seeds germination, weight increasing of root and seedlingof different crop. The results showed that extract from root of watermelon on different crops in various organs are affected,cucumber and wheat seed's sprouting and weight of seedling increased, the effect is not significant; Flower beangermination and root weight as well as in pepper root weight also increased, but the effect is not significant; green beanroot weight had significant increase; Radish seedlings weight also increased, and other crops have inhibitory effect.
【语种】中文
【第一作者】丁秀玲
【通讯作者】许强
【期刊名称、卷期、页码】长江蔬菜, 2010(22):29-31.
【论文发表时间】2010-06-24 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农艺学

【题目】压砂地西瓜适宜补水量研究
【中文关键词】压砂地; 西瓜; 补水量
【英文关键词】grave-l mulched f ield; w atermelon; amount of complementar y irrig ation
【中文摘要】在压砂地条件下研究不同补灌量对西瓜的影响. 结果表明, 随着补灌量的增加, 西瓜生育期延长, 叶面积指数增加,补水量为20 m3/ 666. 7 m2 时叶面积指数最大,为2. 17, 水分利用效率(WUE) 在10 m3 / 666. 7 m2 ~ 20 m3 / 666. 7 m2 较高, 光合速率增加, 气孔导度下降, 胞间CO2 浓度下降, 西瓜产量增加, 当补灌量增加到15 m3 / 666. 7 m2 ~ 20 m3/ 666. 7 m2 时, 产量和产值达到最大.考虑到砂田补充水分的能力有限, 初步得出砂田西瓜的适宜补水量为15 m3 / 666.7 m2~ 20 m3 / 666.7 m2.
【英文摘要】The studies were carried on w atermelon with different amount of supplementary irrigation under grave-lmulched field condit ion. The result s show ed that with increase in the number of supplementary irrigation, watermelonreproductive period, leaf area index increased to make up for w ater 20 m3 / 666. 7 m2 w hen the largest leaf area index(to 2. 17) , WUE at higher 10~ 20 m3 / 666. 7 m2 . Photosynthetic rate as the amount of supplementary irrigat ionincreased, decreased stomata conductance, intercellular CO2 concent rat ion decreased, watermelon production, when toyield and output value reached 15~ 20m3 / 666. 7 m2 the largest. Taking into account the ability of the added moistureis limited, the preliminary draw of the appropriate w ater supplement in grave-l mulched field w atermelon is 15~ 20m3 /666. 7 m2 .
【语种】中文
【第一作者】康建宏

【通讯作者】康建宏
【期刊名称、卷期、页码】农业科学研究, 2010,31(2):1-5.
【论文发表时间】2010-08-18 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农艺学

【题目】螺旋粉虱在中国的适生区预测与风险区划
【中文关键词】螺旋粉虱;适生性;风险区划;预测模型;中国
【英文关键词】Aleurodicus disperses; viability; risk subdivisions; predictivemodel China
【中文摘要】螺旋粉虱AleurodicusdispersusRussell是新入侵中国海南的危险性害虫。根据制约螺旋粉虱分布的关键气候因子临界值、有效积温和生物气候相似距,选用Access设计数据库、MapInfoMapX和VisualBasic设计程序,构建螺旋粉虱地理分布模型(geographic distributionmodel forA.dispersus,GDMAD),并以我国670个气象站点30年的气象资料运行该模型。结果表明:螺旋粉虱在中国的适生区主要包括以广东、广西为中心的1个大区和以四川盆地为中心的1个小区。螺旋粉虱在上述适生区可以安全越冬,1年发生4~12代,以6~9代为主。其中,高度危险区主要包括台湾、海南、广东、广西的大部、福建东南部以及江西、云南的个别地区,面积约38. 84万km2;危险区主要包括浙江南部、江西中南部、湖南南部、福建大部、广西北部、云南中南部、四川东南部、贵州南部以及广东、湖北、台湾的个别地区,面积约85. 70万km2;轻度危险区主要包括四川、云南、贵州、湖南、江西、浙江等气温较低的部分地区和广东、海南、台湾等降水量过大的个别地区,面积约35.12万km2。
【英文摘要】The spiralling whitefly,Aleurodicus dispersusRussell, is a newly discovered invasive pest in Hainan Province of China. A geographic distribution model for A.dispersus(GDMAD) is established with Access Database Design, Map Info MapX and Visual Basic Design Process, based on the criticalvalue of key climatic factors of the pest distribution, effective accumulated temperature and bioclimate analogical distance (BAD). The meteorological data of 30 years duration from 670 stations in China were used to run GDMAD. The model predicts that the suitable areas for the survivalofA.dispersesin China containeda large area centered on Guangdong and Guangxi and a small area on Sichuan Basinwhere the spiralling whitefly can over winter. Of which, high-risk regions include the major areas (about 388 400 km2) of Hainan, Guangdong, Taiwan and Guangx,i and part of the Fujian, Jiangxi and Yunnan. Risk regions (about857000km2) include southern Zhejiang, central and southern Jiangx,i southernHunan, most of Fujian, northernGuangx,i centraland southernYunnan, southeastern Sichuan, southernGuizhou, and a small portion of Guangdong, Hubei and Taiwan. Low-risk regions (about351200km2) include coollocations in Sichuan, Yunnan and Guizhou, Hunan, Jiangxi and Zhejiang and a few locations of rich rainfall in Guangdong, Hainan and Taiwan. The predictions also indicate that the spiralling whitefly would complete 4-12 generations annually in suitable survival regions though 6-9 generations annually aremore likely.
【语种】中文
【第一作者】李伟东
【通讯作者】周卫川
【期刊名称、卷期、页码】植物保护学报2009,36(3):193-199
【论文发表时间】2009-09-24 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】植物保护学

【题目】压砂地不同间作模式下土壤水分变化研究
【中文关键词】间作; 土壤水分; 容重; 产量
【英文关键词】intercropping; soil moisture content ; bulk densities; yield
【中文摘要】以西瓜| | 辣椒(T1) 、西瓜| | 绿豆(T2) 、西瓜| | 花豆(T3) 、西瓜| | 葱(T4) 等4 种间作模式为研究对象, 并以当地的西瓜单作(T5) 模式为对照(CK) , 研究不同间作模式对压砂地土壤水分变化的影响。结果表明: 间作对水平方向(50、100 cm) 和垂直深度(0~ 80 cm) 土壤水分分布影响较大, 使得土壤耗水量加剧, 在生长发育后期作物表现出水分亏缺; 处理T4 的土壤水分含量和产量均高于对照T5 与其它处理, 西瓜| | 葱是非常适宜的间作模式。
【英文摘要】The studies were carried on w atermelon with different amount of supplementary irrigation Four intercropping patterns of watermelon | | pepper (T1) , watermelon | | mung beans (T2) , watermelon | |pinto beans (T3) and watermelon | | onions (T4) , the local watermelon (T5) monoculture as cont rol (CK) w ere used astest object. The impact of different intercropping patterns on

soil moisture of grave-l mulched land was investigated. Theresult s showed that intercropping had greater effects on the horizontal direction (50 cm, 100 cm) and the vert ical depth(0~ 80 cm) soil moisture distribut ion, actuated soil water consumpt ion increased, in the lat ter part of crop growthshow ed that w ater deficit in crops; the soil moisture contents and yields of T4 w ere higher than the T5 and othertreatment s, therefore it w as one of the most suitable crops for intercropping patterns.666. 7 m2 .
【语种】中文
【第一作者】张战胜
【通讯作者】许强
【期刊名称、卷期、页码】北方园艺, 2011(7):4-7.
【论文发表时间】2011-07-13 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】农艺学

【题目】壳聚糖对6株植物枯萎病菌的室内抑菌活性测定
【中文关键词】壳聚糖; 植物枯萎病菌; 抑菌活性
【英文关键词】chitosan; plant Fusarium oxysporum; antifungal activity
【中文摘要】以6株植物枯萎病菌为实验材料,测定了不同含量壳聚糖对植物枯萎病菌抑菌活性的影响。结果表明: 壳聚糖对 6 种植物枯萎病菌都有抑制作用,经壳聚糖处理后,植物枯萎病菌的形态出现畸变。在一定含量范围内,随着壳聚糖含量的增加,抑制作用增强,且在壳聚糖的 φ = 0.4% 时,对 6 种植物枯萎病菌的菌丝生长、产孢量以及孢子萌发的抑制作用均达到最大; 但是随着壳聚糖含量的继续增加,其抑制作用反而下降,这可能与高含量时壳聚糖分子之间通过氢键自相聚集造成有效含量的下降有关。
【英文摘要】The effects of different concentrations of chitosan on the antifungal activity against six different plant Fusarium oxysporum were investigated. The results indicated that the chitosan have antifungal activities within certain concentration range,and the distortion of morphology of plant Fusarium oxysporum treated with chitosan is found. With the increasing of chitosan concentration,the inhibitory activity of it increased ,and at 0.4% ,the antifungal activity was strongest,while the antifungal activities decreased with the chitosan concentration increased continuously,which might be due to the reduction of the chitosan effective concentration through aggregation by hydrogen bond.
【语种】中文
【第一作者】刘昌燕
【通讯作者】黄俊生
【期刊名称、卷期、页码】热带生物学报2010,1(2):125-129
【论文发表时间】2010-06-30 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】植物保护学

【题目】2008年宁夏枣树冻害调查
【中文关键词】宁夏　　枣　　灵武长枣　　冻害
【英文关键词】n/a
【中文摘要】2008年1月中旬至2月中旬, 宁夏出现长达40天的积雪、低温和冰冻天气, 枣树发生严重冻害。当年3　　6月, 对宁夏灵武、中宁、同心、中卫、平罗等地枣园和苗圃进行了调查研究。分析了形成枣树冻害的气象因子和影响冻害危害程度的其他主要因子。
【英文摘要】无
【语种】中文
【第一作者】魏天军
【通讯作者】魏天军
【期刊名称、卷期、页码】中国果树, 2009(2):62-64.
【论文发表时间】2009-03-17 00:00:00
【引文索引类型】其他

【引文索引号】null
【学科分类】经济林学

【题目】宁夏旱砂地适宜发展的枣树品种初步研究
【中文关键词】旱砂地;枣树品种;适应性;宁夏
【英文关键词】N/A
【中文摘要】:通过对中卫环香山不同海拔高度地区的水地、旱地和旱砂地种植的中卫大枣、同心圆枣、小口枣和中宁大红枣等品种的丰产性、抗裂性、果实经济形状、鲜食品质、制干率、干枣品质的调查与测定分析,结果表明:中卫大枣、同心圆枣在海拔1300~1700m 的所有地区均表现出了较好的抗旱性、耐瘠薄性,良好的丰产性,抗裂果,平均单果重15.5g,果实制干率40%~45%,干枣含总糖60.0%左右,是旱砂地应该大力示范、推广应用的一个优良品种。中宁大红枣果实成熟期遇雨易裂果,造成浆烂损失,是目前急待解决的一个问题。靖远小口枣、骏枣、星光、敦煌大枣和金昌1号等品种还需继续研究,方能正确评价其适应性。
【英文摘要】无
【语种】中文
【第一作者】魏天军
【通讯作者】魏天军
【期刊名称、卷期、页码】宁夏农林科技, 2010(1):4-6.
【论文发表时间】2010-01-14 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】经济林学

【题目】抗旱龙在旱砂地枣树上的应用效果研究
【中文关键词】旱砂地;枣树;抗旱龙微肥;土壤养分;土壤含水量
【英文关键词】N/A
【中文摘要】2008-2009年,调查了宁夏中卫市香山乡红圈子村的西瓜间作枣树旱砂地土壤理化性质、养分状况和含水量,并对1~2年生枣树进行了叶面喷布抗旱龙试验,结果表明:旱砂地土壤严重缺乏磷、锌、铁,锰,氮素缺乏,钾和有机质含量较低,全盐含量达0.127%,比灌区丰产枣园相应土层的全盐含量高.在80cm的深度内,土壤舍水量随着土层深度的加大而逐渐下降,8月中旬之前,土层较厚的土壤含水量在8%~10%之间小幅波动;随着秋雨量的增加,土壤含水量逐渐加大,最高达12.64%;土层较浅的含水量仅6%左右.在枣树生长的前中期,叶面喷布3次800倍抗旱龙可使单叶面积增加46.5%~50.4%,百叶干重增加50.2%~57.2%,坐果率和单株坐果量大幅度提高,树体的营养生长也有不同程度提高.抗旱龙是旱砂地枣园值得大力推广的一种新型、经济和高效的抗旱微肥.
【英文摘要】无
【语种】中文
【第一作者】魏天军
【通讯作者】魏天军
【期刊名称、卷期、页码】宁夏农林科技, 2010(4):1-3.
【论文发表时间】2010-04-14 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】经济林学

【题目】红棕象甲在中国的风险性分析
【中文关键词】红棕象甲;检疫;有害生物;风险分析;中国
【英文关键词】Rhyncnophorus ferrugineus(Red palm weevil); Quarantine; Pest; Risk analysis; China
【中文摘要】红棕象甲是我国林业检疫性害虫。运用国际植物检疫措施实施标准(ISPM)的有害生物风险分析(PRA)程序,建立红棕象甲传入风险分析评估模型,采用定性分析和多指标综合评估相结合的方法进行分析。结果显示,国内分布情况,风险值为2;潜在的经济危害性,风险值为2.4;寄主植物的经济重要性,风险值为3;传播扩散的可能性,风险值为1. 89;风险管理难度,风险值为2.33。红棕象甲的综合风险性值为2.29,符合高风险检疫性害虫条件,在我国很多地区易定殖,对我国的棕榈科植物威胁很大。

【英文摘要】Rynchophorus ferrugineusOlivier is a quarantine pest in the forestry ofour country. Based on the international standards for pestmeasurements (ISPM), pest risk analysis (PRA) model ofRynchophorusferrugineushas been established in this paper. The risk levelofR. ferrugineusin Chinawas comprehensively evaluated by the following five indexes: the distribution, the potentialdegree of damage, the economic value of the infected hostplants, the possibility of transmission and spreading, and the difficulty of riskmanagement. The risk values of the five indexeswere calculated as 2, 2.4, 3, 1.89 and 2.33, respectively. The overall risk value ofR.ferrugineuswas 2.29, which has reached the leve1 ofhigh-risk quarantine pests in China. The weevil can easily settle down in the many areas ofChina and will pose a great threat on palm trees.
【语种】中文
【第一作者】覃伟权
【通讯作者】1覃伟权
【期刊名称、卷期、页码】江西农业学报 2009, 21(9): 79~82
【论文发表时间】2009-09-24 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】植物保护学

【题目】中国椰子害虫调查
【中文关键词】害虫;椰子;名录;调查;中国
【英文关键词】pests, coconut palm, directory, research, China
【中文摘要】为了弄清楚中国椰子害虫的种类及其分布情况,采用直接观察法、扫网法、拍打法、诱捕法和吸虫器法等调查方法,调查了中国海南、广东、广西、云南和福建等省区椰子园害虫,并将其整理成害虫名录。结果表明,中国椰子害虫共有64种,分属7目25科,其中新发现中国椰子害虫31种。
【英文摘要】The survey methods of observe directly, netting,flapping,ensnaring and suction trap were used to find out species and distribution of pests of coconut palm in Hainan, Guangdong, Guangxi, Yunnan and Fujian provinces. The results showed that there were 64 species pests of coconut palm in China; they belong to 7 orders and 25 families in Insecta. There were 31 species pests to discover new in coconut plantation of China.
【语种】中文
【第一作者】覃伟权
【通讯作者】1覃伟权
【期刊名称、卷期、页码】中国农学通报 2010,26(01):200-204
【论文发表时间】2010-01-20 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】植物保护学

【题目】虫害诱导植物挥发物的释放机制及应用
【中文关键词】HIVs;释放机制;应用
【英文关键词】HIVs, releasing mechanism, application
【中文摘要】虫害诱导的植物挥发物(HIVs)是植物受到害虫为害时产生和释放的,并且是植物进行通讯和保护自身的挥发性物质。HIVs能调节植物、植食性昆虫和天敌之间的关系,对昆虫的行为调控有非常重要的作用,近年来已引起人们的广泛关注。从HIVs的释放机制和应用两方面进行综述,有助于开发和利用HIVs保护植物,降低植食性害虫的危害水平,实施保护植物的新策略。
【英文摘要】Herbivor-induced plant volatiles (HIVs) from plants damaged by pest can communicate amongplants and can protect plants. They can manipulate relationships among plants, herbivores and their natural enemies, and it was very important for herbivor-induced plant volatiles to manipulate insect behavior. In recent years, herbivor-induced plant volatiles have attracted attention of people. In the paper, the releasing mechanism and the application of herbivor-induced plant volatiles were reviewed. It was helpful to exploit and use herbivor-induced plant volatiles for protecting plants and to carry out the new strategy of protecting plants.
【语种】中文
【第一作者】宋晓君

【通讯作者】覃伟权
【期刊名称、卷期、页码】中国农学通报 2009,25(13):161-165
【论文发表时间】2009-10-14 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】植物保护学

【题目】1椰甲截脉姬小蜂对4种棕榈科植物挥发物的行为反应研究
【中文关键词】棕榈科植物挥发物;椰心叶甲;椰甲截脉姬小蜂;行为反应
【英文关键词】Palm plantvolatiles;Brontispa longissimat; Asecodeshispinarum; Behavioral responses
【中文摘要】[目的]阐明4种棕榈科植物挥发物对椰甲截脉姬小蜂的引诱作用。[方法]用/Y0型嗅觉仪观测了椰甲截脉姬小蜂雌蜂对4种棕榈科植物(椰子Cocos nucifera,大王椰子Roystonea regia,槟榔Areca catechu和散尾葵Chrysalidocarpus lutescens)的行为反应。[结果]4种棕榈科植物未受害心叶和机械损伤心叶挥发物对椰甲截脉姬小蜂没有明显的吸引作用;每叶10头椰心叶甲3龄幼虫为害20~48 h幼虫-散尾葵心叶复合体、幼虫-槟榔心叶复合体和幼虫-椰子心叶复合体对椰甲截脉姬小蜂有明显的吸引作用;幼虫-大王棕心叶复合体仅在36、48 h对椰甲截脉姬小蜂有明显的吸引作用;小于或大于这些时间范围,4种复合体对椰甲截脉姬小蜂都没有明显的吸引作用;相比之下,椰甲截脉姬小蜂对幼虫-椰子心叶复合体的趋向率稍强于其他3种复合体,但对4种复合体的行为反应没有明显差别。[结论]椰心叶甲幼虫为害寄主植物心叶后,诱导的植物挥发物可引起椰甲截脉姬小蜂的寄主栖境定向行为。
【英文摘要】[Objective] The article amied to elucidate the attracting effects of the four palm plants volatiles to Asecodeshispinarum. [Method] The behavioral response of A. hispinarum females to the volatiles emitted from 4 palm plants (Cocosnucifera, Roystonea regia, Areca catechuandChrysalidocarpus lutescens) were studied by using a Y-tube olfactometer. [Result]The volatiles emitted from undamaged and mechanically damaged heart leaves of 4 palm plants had not attraction to A. hispinarum; the attraction of volatiles from 3L-Cocosnucifera, 3L-Areca catechu and 3L-Chrysalidocarpus lutescenscomplexes to A.hispinarum females were only evident between 20 h and 48 h after infestation by 10 B.longissima 3th larvae per leaf, but not before or after. The volatiles from 3L-Roystonea regiacomplexes had evidentabstraction at 36 h and 48 h, but not at other tmie. The behavioral responses of the female parasitoids to different larvae-plam complexeswere not evident at 48 h; in contras,tparasitoids preferred the volatiles from 3L-Cocosnucifera. [Conclusion] The volatiles from heart leaves of host plants damaged by the larvae of B. longissimacould attractA.hispinarumto locate to the host habitat.
【语种】中文
【第一作者】宋晓君
【通讯作者】唐超
【期刊名称、卷期、页码】安徽农业科学,2009,37(22):10554-10556
【论文发表时间】2009-11-25 00:00:00
【引文索引类型】其他
【引文索引号】null
【学科分类】植物保护学

【题目】红棕象甲成虫对5种植物发酵挥发物的行为反应
【中文关键词】红棕象甲; 植物发酵挥发物; Y 型嗅觉仪; 行为反应
【英文关键词】Rhynchophorus ferrugineus; volatiles of plant fermented; Y-tube olfactometer; behavioral response.
【中文摘要】利用Y 型嗅觉仪测定了红棕象甲 (Rhynchophorus ferrugineus)成虫对甘蔗 (Saccharum officinarum)、 椰子 (Cocos nucifera)、 假槟榔(Archontophoehix alexandra)、 槟榔(Areca catechu)和菠萝(Ananas comosus)等 5 种植物发酵挥发物的选择行为。 结果表明, 红棕象甲成虫对不同植物发酵挥发物敏感性不同, 对寄主植物的选择性显著高于非寄主植物菠萝, 依次排序: 甘蔗≈椰子>假槟榔≈槟榔>菠萝。 雌成虫和雄成虫对椰子和甘蔗的行为反应同其他 3 种植物相比有更强的趋性, 但雄成虫对假槟榔、 槟榔和菠萝 3 种植物发酵挥发物的选择性无显著差异。 甘蔗、 椰子、 假槟榔 3 种植物食物诱饵的田间诱捕试验结果表明, 植物挥发物对红棕象甲聚集信息素具有极显著的增效作用($P < 0.01$), 3 种植物田间诱捕效果差异显著($P < 0.05$), 依次为: 甘蔗>椰子>假槟榔。 不同食物诱饵诱捕的雌成虫数均多于雄成虫。
【英文摘要】Behavior response of red palm weevil [Rhynchophorus ferrugineus (Olivier)] adult to volatilecompounds from fermented plants of 5 species, Saccharum officinarum, Cocos nucifera, Archontophoehix Alexandra, Areca catechu and Ananas comosus veterans, was tested by using Y -tube olfactometer in laboratory. The result indicated the R. ferrugineus adults had different

sensitivities to volatile compounds from different species of fermented plants, and had a higher preference to the volatiles from the host plants than to the non-host plants in the order of S. officinarum ≈ C.nucifera > A. alexandra ≈ A. catechu > A. comosus. Adult females and males have a significantly higher preference to the S. officinarum and C.nucifer than to the other three species of plants fermented, but no significant difference was found in behavior response of the adult males to A. Alexandra, A. catechu and A. comosus veterans. Field trapping experiment with Saccharum officinarum, Cocos nucifera, Archontophoehix Alexandra as baiting feed showed that the plant volatiles produced significant synergism to insect aggregation pheromone (P <0.01). The red palm weevil showed the strongest host preference to S. officinarum, followed by C. nucifera, and then A.alexandrae. However, more adult females than adult males were trapped by different species of plants fermented.

【语种】中文
【第一作者】魏娟
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【题目】红棕象甲危害现状和主要防治措施研究进展
【中文关键词】红棕象甲;危害现状;防治措施
【英文关键词】Red Palm Weevil ;occurrent status; main control measures
【中文摘要】介绍了红棕象甲在国内外的危害状况,阐述了近年来其主要防治措施的研究进展 ,对该虫在我国的进一步研究有一定参考价值,同时对该虫综合防治策略和方案的制定也具有实用意义。
【英文摘要】This paper definitely reportsits occurrent status of Rhynchophorus ferrugineus (Olivier) both at home and abroat ,then to expound its research advvance on main control measures. There is some reference value to future research on it, and has significance to establish strategy and project of IPM-controlling this pest.

【语种】中文
【第一作者】魏娟
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【题目】室内饲养红棕象甲的行为观察
【中文关键词】红棕象甲,交配,产卵,行为
【英文关键词】Rhynchophorusferrugineus, mating, ovipositing, behavior
【中文摘要】报道红棕象甲RhynchophorusferrugineusFab.成虫交配、产卵行为,描述在交配和产卵过程中发生的多种行为。红棕象甲整日均可见其交配行为,但在暗光周期开始015 h左右明显有一个交配高峰期。其交配持续时间、交配几率不受虫体大小的影响。在无外界因子干扰的条件下,交配持续时间均可达1min。红棕象甲卵为单产,一处1粒,主要是通过口喙蛀孔辅助完成;观察红棕象甲幼虫、蛹的行为,例如取食、争斗、蜕皮、做茧等行为。且随着低龄幼虫向高龄幼虫的过渡,幼虫的取食和钻蛀行为从棕榈植物中心向外围扩散。通过摇动或震动茧后红棕象甲在其中表现的行为,并结合茧的颜色和质地可准确判断茧中存在的3种虫态。
【英文摘要】The mating and oviposition behavior of red palmweevil,RhynchophorusferrugineusFab. was observed in laboratory. Mating behavior may be observed in the whole day, but a peak of mating occurred in the half hour of the beginning of the dark period. Moreover, mating duration and probability were not influenced by body size. Without external interference, mating duration may be more than 1 minute. After the copulation, females bored a hole, andlaid one egg each hole. In addition, larval and pupal behaviors were also studied, such as feeding, fighting,exuviating and cocooning. Withthe development from youngto old larvae, the feeding and drillingwere from centre to periphery of palms. Through the behavior of red palmweevil in shaking of cocoon and combinationwith observation of the color and texture of the cocoon, the three stages of cocoon could be distinguished.

【语种】中文
【第一作者】李磊
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【题目】Effect of temperature on the population growth of Rhynchophorus ferrugineus (coleoptera: Curculionidae) on sugarcane.
【中文关键词】无
【英文关键词】Rhynchophorus ferrugineus, developmental time, temperature, population, life table
【中文摘要】无
【英文摘要】The effect of temperature on the developmental time, survival, and reproduction of Rhynchophorus ferrugineus (Olivier) reared on sugarcane was studied at seven constant temperatures (16, 20, 24, 28, 32, 36, and 40 degrees C). The developmental threshold temperatures and effective accumulated temperatures for the whole generation were 17.41 degrees C and 1,590.72 DD, respectively. One generation had the highest survival rate (26.67%) at 28 degrees C. The egg failed to survive at 16 and 40 degrees C. The population trend index (I = 38.22) and net reproductive rate (R(o) = 38.3) were highest at 28 degrees C. The net reproductive rate (R(o) = 3.36), intrinsic rate of increase (r(m) = 0.0028), and finite capacity of increase (lambda = 1.0028) were lowest at 20 degrees C. The mean generation time (T(o) = 85.82) was shortest at 36 degrees C. The population double time (PDT = 27.08) was shortest at 32 degrees C. Based on these studies, we concluded that the temperatures from 28 to 32 degrees C were the most suitable temperatures for the development of R. ferrugineus.
【语种】英文
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